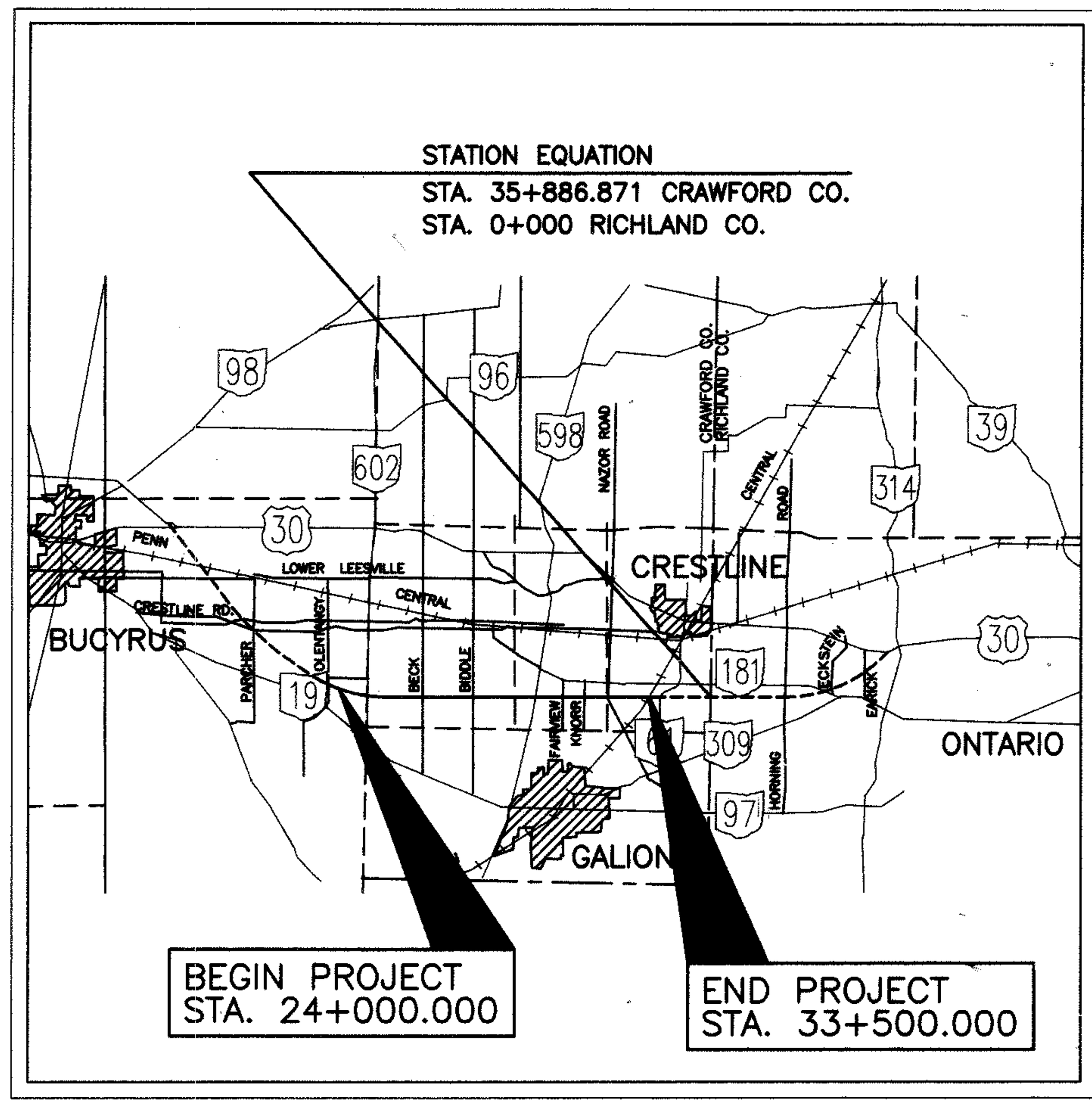
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
WHETSTONE TOWNSHIP
JEFFERSON TOWNSHIP
JACKSON TOWNSHIP
CRA-30-24.000
CRAWFORD COUNTY

metric units



LOCATION MAP

LATITUDE: N 40°46'00" LONGITUDE: W 82°47'30"

SCALE IN KILOMETERS

0 0.5 1 2

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES (30) (20)
OTHER ROADS
DETOUR ROUTE

DESIGN DESIGNATION
SEE SCHEMATIC
DESIGN EXCEPTION: NONE

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

McCOY/FOK ASSOCIATES, INC.
367 Ghent Rd.
Akron, Ohio 44333

Thomas D. Y. Fok *4-19-01*
THOMAS D. Y. FOK, P.E., P.S. DATE
CHAIRMAN

STATE OF OHIO THOMAS D.Y. FOK 24370 REGISTERED PROFESSIONAL ENGINEER

Bryan E. McCoy *4-19-01*
BRYAN E. McCOY, P.E., P.S. DATE
VICE CHAIRMAN

STATE OF OHIO BRYAN E. McCOY E-27739 REGISTERED PROFESSIONAL ENGINEER

CRA-USR 30-24.000
020036 PID #16283
DIST 03 01-30-02

INDEX OF SHEETS

SHEETS NOT USED:
86, 87, 88, 506 AND 591

STRUCTURES OVER 6 m SPAN

SPECIAL PROVISIONS

WATERWAY PERMIT *(B)96-493-001(3)* DATE: *8-23-01*

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS			
BP-3.1	07-28-00	F-3.3	07-28-00	TC-12.30	01-19-01	HW-2.1M	07-12-95	MH-1.1M	10-21-98				
BP-4.1	07-28-00	F-3.4	07-28-00	TC-21.20	01-19-01	HW-2.2M	07-12-95	RM-1.1	04-29-99			825	07-11-00
BP-5.1	07-28-00			TC-22.10	01-19-01			RM-4.2M	10-21-97	806	09-09-97	842	01-06-99
		GR-1.1M	10-21-97	TC-41.10	01-19-01	LA-1.1	07-28-00	AS-1-81M	10-25-94	814	06-02-98		
CB-2.3	07-20-01	GR-1.2M	01-03-96	TC-41.20	01-19-01			ICD-1-82M	03-20-95	816	04-21-97	864	07-11-00
CB-3.1	07-20-01	GR-1.3M	11-30-94	TC-41.50	01-19-01	HL-10.11M	05-01-95	GSD-1-96M	11-21-97	830	10-21-98		
CB-3.2	07-20-01	GR-2.1M	04-14-98	TC-42.10	01-19-01	HL-10.12	07-20-01	SBR-1-99M	01-12-99	844	01-06-99	880	11-07-00
CB-3.4	07-20-01	GR-3.1M	10-21-97	TC-42.20	04-20-01	HL-10.13M	05-01-95	SICD-1-96M	02-12-97	846	09-09-97		
		GR-4.1M	11-30-94	TC-52.10	04-20-01	HL-20.11M	03-31-95	MT-95.3 M	04-25-94	863	10-12-99	894	10-12-99
DM-1.1	07-20-01	GR-4.2M	10-21-97	TC-52.20	04-20-01	HL-30.11	07-20-01	MT-95.40M	04-25-94	870	03-27-01	899	10-21-98
DM-1.2	07-20-01	GR-4.3M	10-21-97	TC-61.10	01-19-01	HL-30.21M	05-01-95	MT-99.10M	01-30-95	877	04-13-99		
DM-4.2	07-20-01	GR-4.4M	11-30-94	TC-65.10M	11-01-95	HL-30.22	07-20-01	MT-99.50M	03-01-96			908	11-07-00
DM-4.3	07-20-01	GR-5.1M	04-21-95	TC-65.11M	11-01-95	HL-40.10	07-20-01	MT-99.51M	03-01-96	905	04-01-98		
DM-4.4	07-20-01	GR-5.2M	11-30-95	TC-65.12M	11-01-95	HL-60.11	07-20-01	MT-101.60M	04-25-94	906	05-05-98	925	09-14-99
F-2.1	07-28-00	GR-6.1M	01-03-96	TC-72.20	01-19-01	HL-60.31	07-20-01	MT-105.11M	04-25-94	910	07-11-00		
F-3.1	07-28-00	GR-6.2M	01-03-96							954	09-09-97		

PROJECT DESCRIPTION

RELOCATION OF U.S. ROUTE 30 THROUGH CRAWFORD COUNTY. BEGINNING APPROXIMATELY 0.80 KM WEST OF S.R. 602 AND ENDING 0.75 KM WEST OF S.R. 61. THE TOTAL LENGTH OF THIS PROJECT IS APPROXIMATELY 9.50 KM. THE PROJECT CONSISTS OF CONSTRUCTING A FOUR-LANE DIVIDED, LIMITED ACCESS HIGHWAY ON NEW ALIGNMENT, CONSTRUCTION OF TWO FULL DIAMOND INTERCHANGES, CROSSROAD GRADE SEPARATIONS AND RELOCATIONS, STRUCTURES OVER MAINLINE, AND TRAFFIC CONTROL.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO

1997 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

MAINTENANCE OF TRAFFIC ENDORSEMENT

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF THE HIGHWAY TO TRAFFIC EXCEPT AS NOTED ON SHEET 29-36 ,AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED *Thomas M. O'Leary*
DATE *9-17-01* DISTRICT DEPUTY DIRECTOR

APPROVED *Gordon Proctor Jr.*
DATE *11-5-01* DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. TE21-G010(476)

PID NO. 16283

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\General\Schematic\G699c02.dwg February 06 2001 12:15pm By:smhetler

DESIGN DESIGNATION: U.S. 30

CURRENT ADT (2000)	9400
DESIGN YEAR ADT (2020)	13880
DESIGN HOURLY VOLUME (2020)	1388
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 hrs. B&C)	28%
DESIGN SPEED	110 km/hr
LEGAL SPEED	100 km/hr
DESIGN FUNCTIONAL CLASSIFICATION	FREEWAY

DESIGN DESIGNATION: S.R. 602

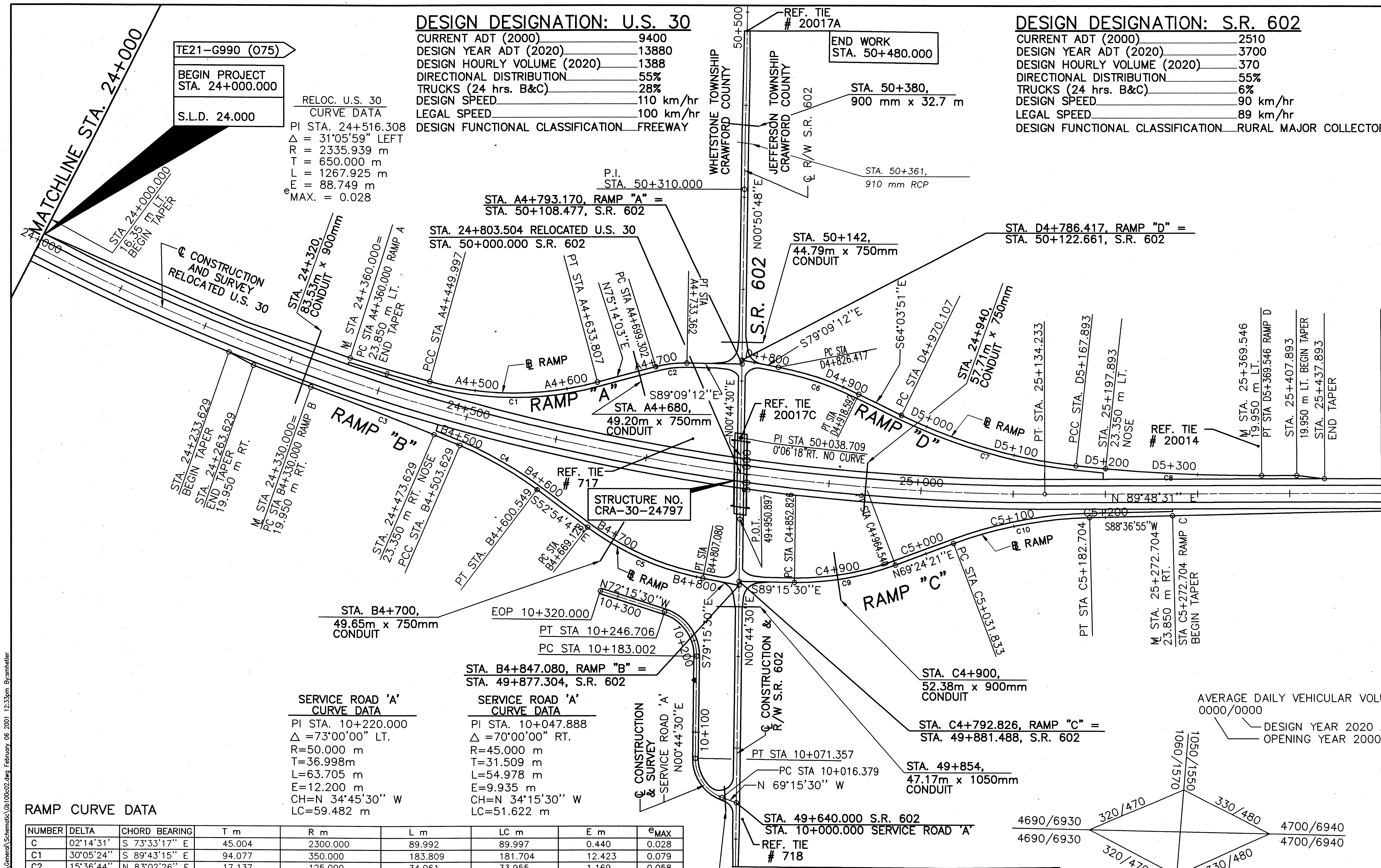
CURRENT ADT (2000)	2510
DESIGN YEAR ADT (2020)	3700
DESIGN HOURLY VOLUME (2020)	370
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 hrs. B&C)	6%
DESIGN SPEED	90 km/hr
LEGAL SPEED	89 km/hr
DESIGN FUNCTIONAL CLASSIFICATION	RURAL MAJOR COLLECTOR

TE21-G990 (075)

BEGIN PROJECT
STA. 24+000.000

S.L.D. 24.000

RELOC. U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ = 31°05'59" LEFT
R = 2335.939 m
T = 650.000 m
L = 1267.925 m
E = 88.749 m
e_{MAX} = 0.028



SERVICE ROAD 'A'
CURVE DATA
PI STA. 10+220.000
Δ =73°00'00" LT.
R=50.000 m
T=36.998m
L=63.705 m
E=12.200 m
CH=N 34°45'30" W
LC=59.482 m

SERVICE ROAD 'A'
CURVE DATA
PI STA. 10+047.888
Δ =70°00'00" RT.
R=45.000 m
T=31.509 m
L=54.978 m
E=9.935 m
CH=N 34°15'30" W
LC=51.622 m

RAMP CURVE DATA

NUMBER	DELTA	CHORD BEARING	T m	R m	L m	LC m	E m	e_{MAX}
C	02°14'31'	S 73°33'17" E	45.004	2300.000	89.992	89.997	0.440	0.028
C1	30°05'24"	S 89°43'15" E	94.077	350.000	183.809	181.704	12.423	0.079
C2	15°36'44"	N 83°02'26" E	17.137	125.000	34.061	33.955	1.169	0.058
C3	03°40'15"	S 68°37'47" E	86.844	2710.000	173.629	173.600	1.391	0.024
C4	13°52'58"	S 59°51'10" E	48.698	400.000	96.920	96.683	2.954	0.075
C5	26°20'49"	S 66°05'06" E	70.218	300.000	137.952	136.740	8.108	0.045
C6	15°05'21"	S 71°36'31" E	46.356	350.000	92.175	91.909	3.056	0.040
C7	19°42'30"	S 73°55'06" E	99.880	575.000	197.786	196.812	8.610	0.062
C8	06°25'08"	S 86°58'55" E	100.932	1800.000	201.652	201.547	2.828	0.034
C9	21°20'09"	N 80°04'25" E	56.512	300.000	111.714	111.070	5.276	0.045
C10	19°12'34"	N 79°00'38" E	76.150	450.000	150.871	150.165	6.398	0.071

AVERAGE DAILY VEHICULAR VOLUMES
0000/0000
DESIGN YEAR 2020 ADT
OPENING YEAR 2000 ADT

1050/1550
1060/1570
330/480
320/470
4690/6930
4690/6930
4700/6940
4700/6940
320/470
330/480
1260/1860
1250/1840

HORIZONTAL SCALE: 1:2000
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

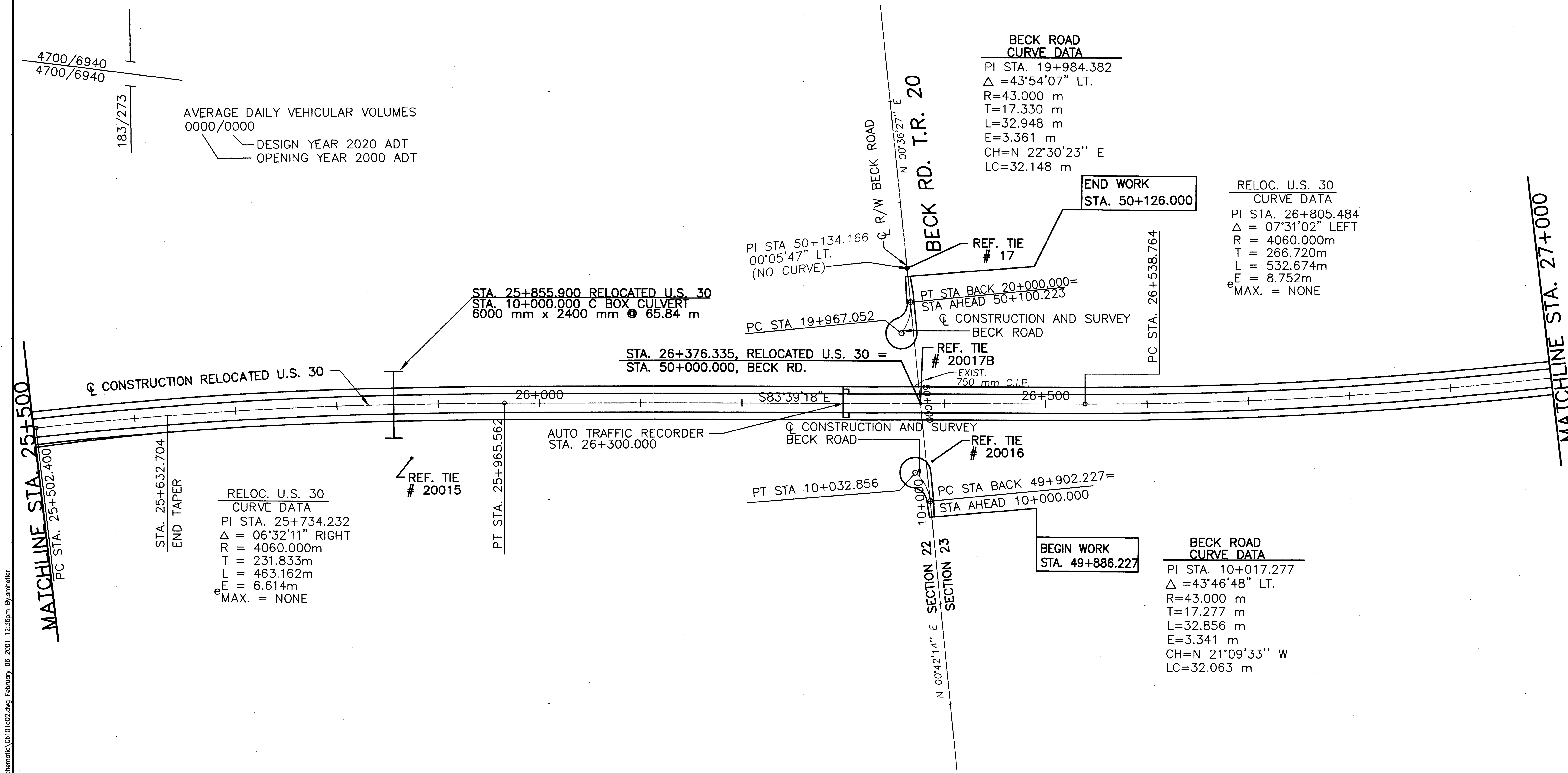
SCHEMATIC PLAN – RELOCATED U.S. 30
STA. 24+000 TO STA. 25+500

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\General\Schematic\Gb100c02.dwg February 06 2001 12:33pm Bycsmiefer

DESIGN DESIGNATION: BECK RD.

CURRENT ADT (2000)	183
DESIGN YEAR ADT (2020)	273
DESIGN HOURLY VOLUME (2020)	27
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 hrs. B&C)	3%
DESIGN SPEED	90 km/hr
LEGAL SPEED	89 km/hr
DESIGN FUNCTIONAL CLASSIFICATION	LOCAL ROAD



HORIZONTAL SCALE: 1:2000
0 25 50 100
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN – RELOCATED U.S. 30
STA. 25+500 TO STA. 27+000

CRA-30-24.000

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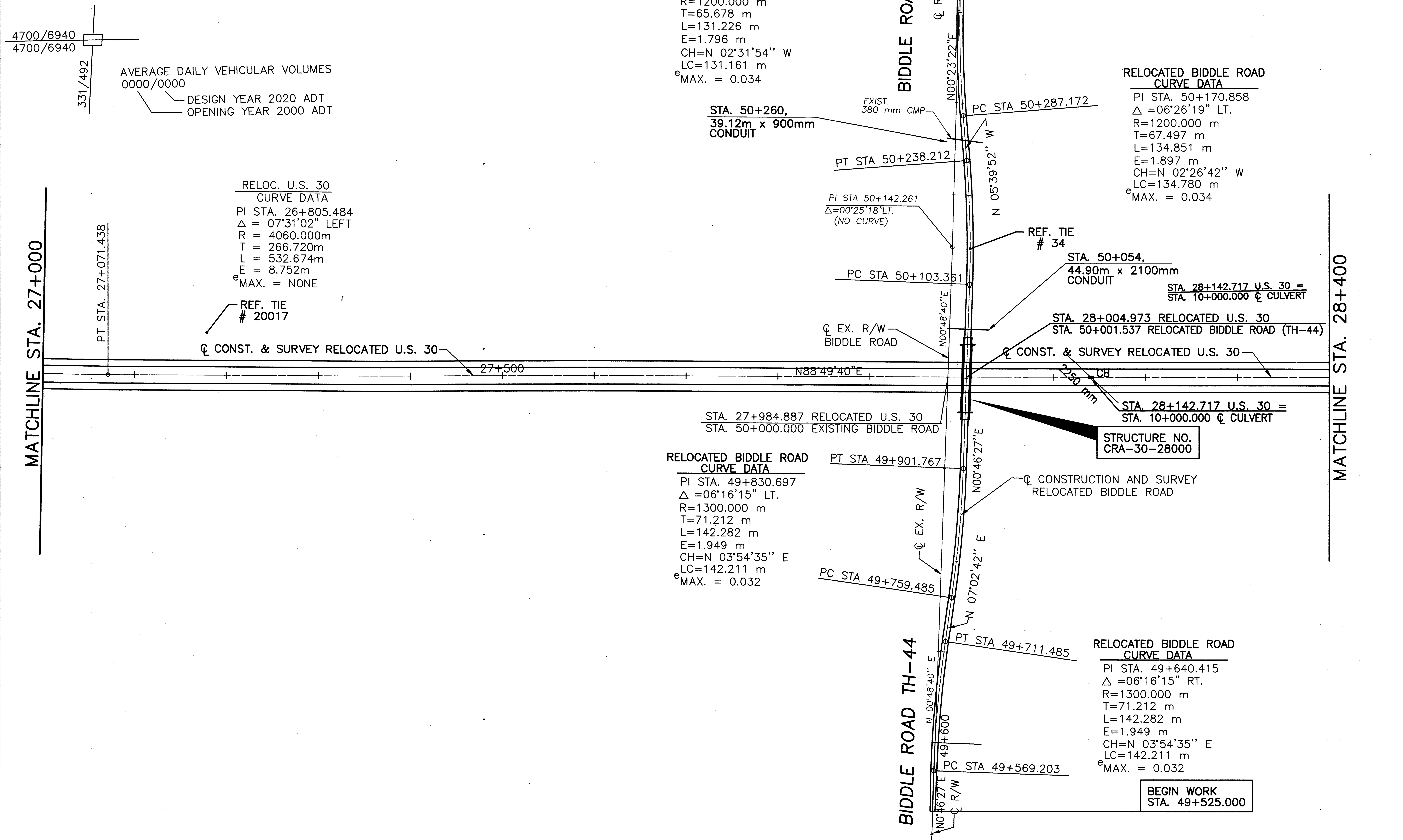
DESIGN DESIGNATION: BIDDLE RD.

CURRENT ADT (2000)	331
DESIGN YEAR ADT (2020)	492
DESIGN HOURLY VOLUME (2020)	49
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 hrs. B&C)	3%
DESIGN SPEED	90 km/hr
LEGAL SPEED	89 km/hr
DESIGN FUNCTIONAL CLASSIFICATION	LOCAL ROAD



HORIZONTAL SCALE: 1:2000
SCALE IN METERS
0 25 50 100

CALCULATED PSB
CHECKED LBD

SCHEMATIC PLAN – RELOCATED U.S. 30
STA. 27+000 TO STA. 28+400

CRA-30-24.000

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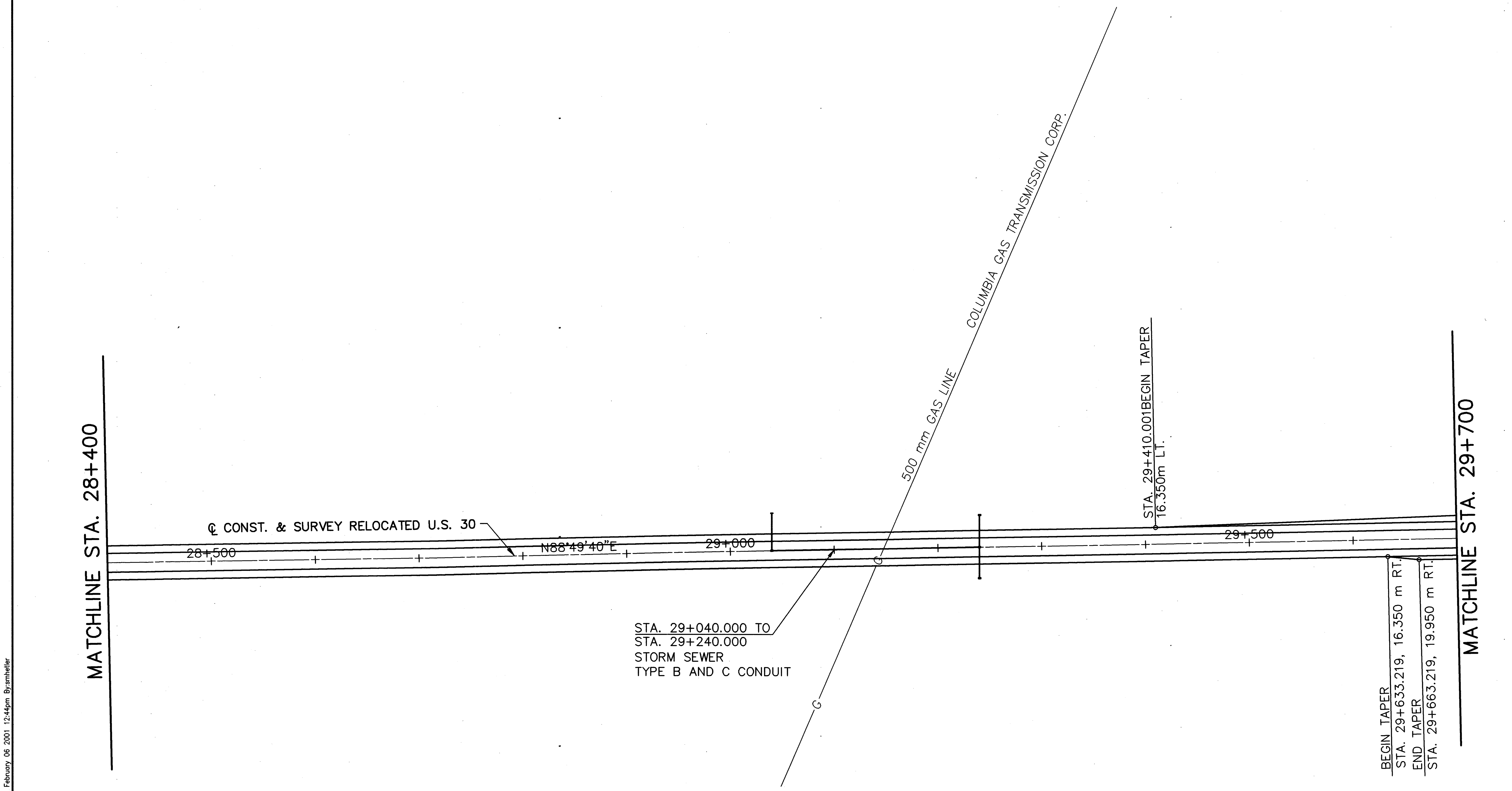

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HORIZONTAL SCALE: 1:2000
0 25 50 100
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

SCHEMATIC PLAN – RELOCATED U.S. 30
STA. 28+400 TO STA. 29+700

CRA–30–24.000

6
677

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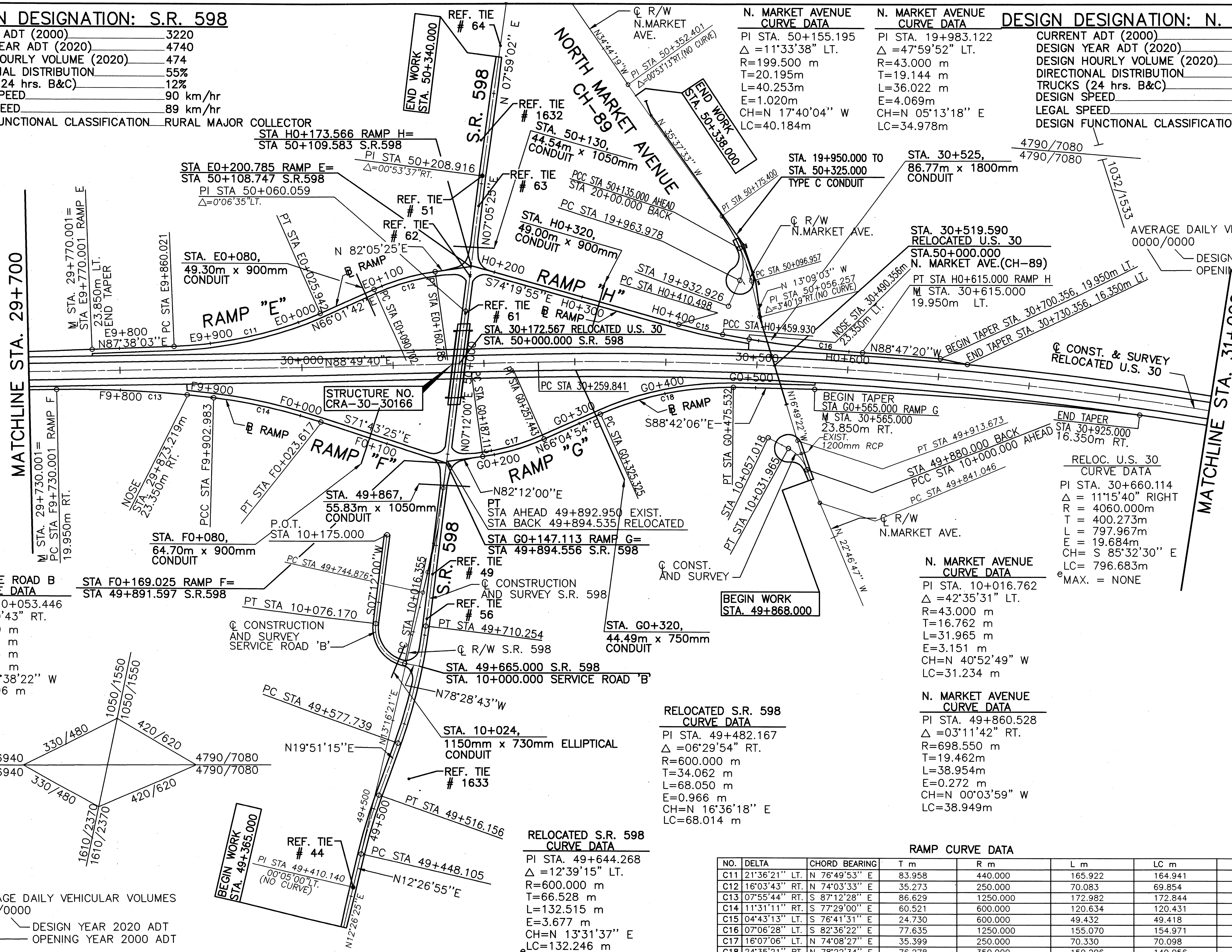
DESIGN DESIGNATION: S.R. 598

CURRENT ADT (2000) 3220
DESIGN YEAR ADT (2020) 4740
DESIGN HOURLY VOLUME (2020) 474
DIRECTIONAL DISTRIBUTION 55%
TRUCKS (24 hrs. B&C) 12%
DESIGN SPEED 90 km/hr
LEGAL SPEED 89 km/hr
DESIGN FUNCTIONAL CLASSIFICATION RURAL MAJOR COLLECTOR

DESIGN DESIGNATION: N. MARKET ST.

CURRENT ADT (2000) 1032
DESIGN YEAR ADT (2020) 1533
DESIGN HOURLY VOLUME (2020) 153
DIRECTIONAL DISTRIBUTION 55%
TRUCKS (24 hrs. B&C) 3%
DESIGN SPEED 90 km/hr
LEGAL SPEED 89 km/hr
DESIGN FUNCTIONAL CLASSIFICATION LOCAL ROAD



AVERAGE DAILY VEHICULAR VOLUMES
0000/0000
DESIGN YEAR 2020 ADT
OPENING YEAR 2000 ADT

N. MARKET AVENUE CURVE DATA

PI STA. 50+155.195
△ =11°33'38" LT.
R=199.500 m
T=20.195m
L=40.253m
E=1.020m
CH=N 17°40'04" W
LC=40.184m

N. MARKET AVENUE CURVE DATA

PI STA. 19+983.122
△ =47°59'52" LT.
R=43.000 m
T=19.144 m
L=36.022 m
E=4.069m
CH=N 05°13'18" E
LC=34.978m

RELOC. U.S. 30 CURVE DATA

PI STA. 30+660.114
△ = 11°15'40" RIGHT
R = 4060.000m
T = 400.273m
L = 797.967m
E = 19.684m
CH= S 85°32'30" E
LC= 796.683m
e_{MAX} = NONE

N. MARKET AVENUE CURVE DATA

PI STA. 10+016.762
△ =42°35'31" LT.
R=43.000 m
T=16.762 m
L=31.965 m
E=3.151 m
CH=N 40°52'49" W
LC=31.234 m

N. MARKET AVENUE CURVE DATA

PI STA. 49+860.528
△ =03°11'42" RT.
R=698.550 m
T=19.462m
L=38.954m
E=0.272 m
CH=N 00°03'59" W
LC=38.949m

SERVICE ROAD B CURVE DATA

PI STA. 10+053.446
△ =85°40'43" RT.
R=40.000 m
T=37.091 m
L=59.815 m
E=14.551 m
CH=N 35°38'22" W
LC=54.396 m

RELOCATED S.R. 598 CURVE DATA

PI STA. 49+482.167
△ =06°29'54" RT.
R=600.000 m
T=34.062 m
L=68.050 m
E=0.966 m
CH=N 16°36'18" E
LC=68.014 m

RELOCATED S.R. 598 CURVE DATA

PI STA. 49+644.268
△ =12°39'15" LT.
R=600.000 m
T=66.528 m
L=132.515 m
E=3.677 m
CH=N 13°31'37" E
LC=132.246 m
e_{MAX} = 0.060

AVERAGE DAILY VEHICULAR VOLUMES
0000/0000
DESIGN YEAR 2020 ADT
OPENING YEAR 2000 ADT

RAMP CURVE DATA

NO.	DELTA	CHORD BEARING	T m	R m	L m	LC m	E m	e_{MAX}
C11	21°36'21" LT.	N 76°49'53" E	83.958	440.000	165.922	164.941	7.939	0.062
C12	16°03'43" RT.	N 74°03'33" E	35.273	250.000	70.083	69.854	2.476	0.051
C13	07°55'44" RT.	S 87°12'28" E	86.629	1250.000	172.982	172.844	2.998	0.033
C14	11°31'11" RT.	S 77°29'00" E	60.521	600.000	120.634	120.431	3.045	0.051
C15	04°43'13" LT.	S 76°41'31" E	24.730	600.000	49.432	49.418	0.509	0.051
C16	07°06'28" LT.	S 82°36'22" E	77.635	1250.000	155.070	154.971	2.409	0.033
C17	16°07'06" LT.	N 74°08'27" E	35.399	250.000	70.330	70.098	2.494	0.051
C18	24°35'21" RT.	N 78°22'34" E	76.278	350.000	150.206	149.056	8.215	0.071

HORIZONTAL SCALE: 1:2000
SCALE IN METERS
CALCULATED PSB
CHECKED LBD

SCHEMATIC PLAN - RELOCATED U.S. 30
STA. 29+700 TO STA. 31+000

CRA-30-24.000

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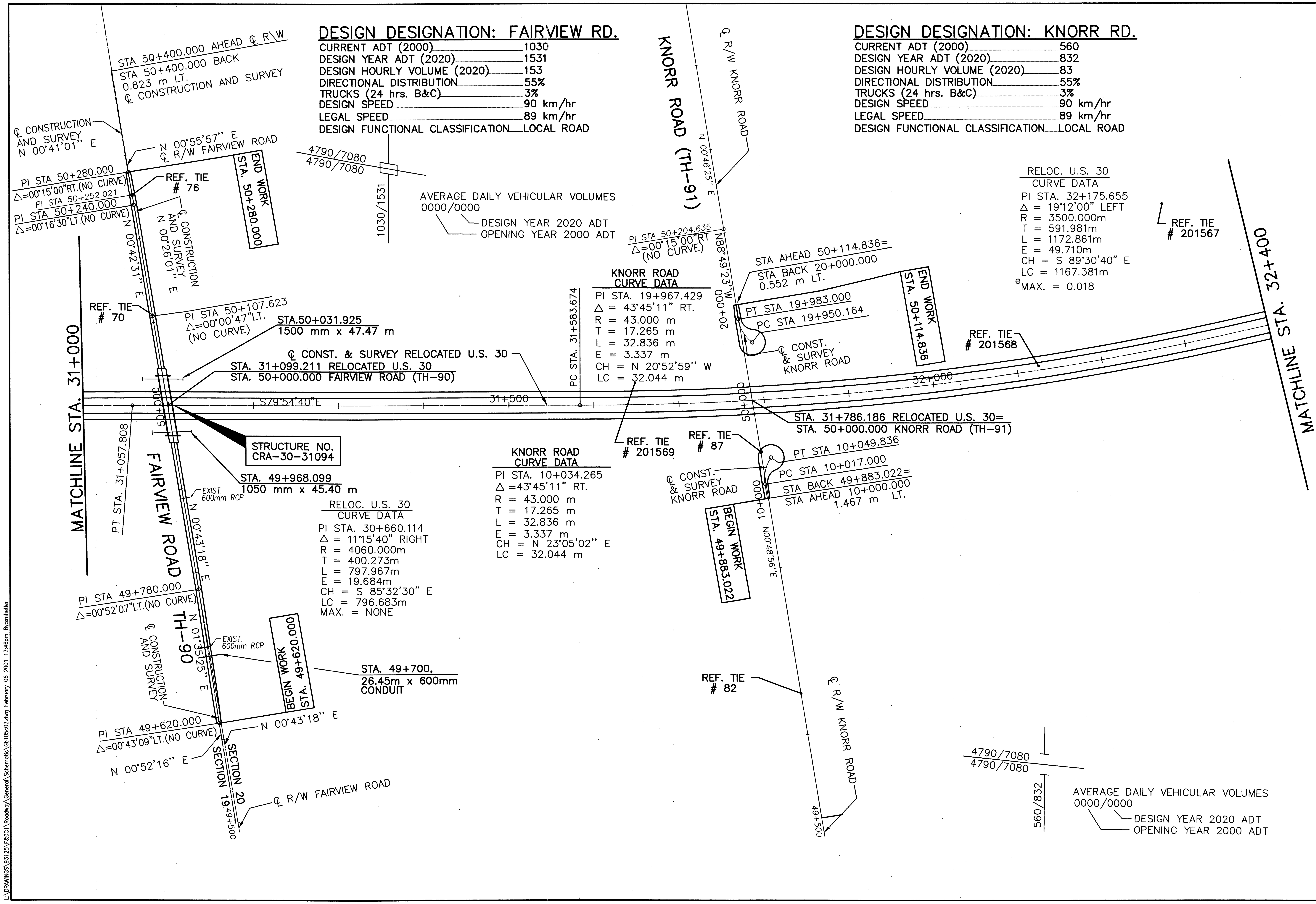


HORIZONTAL SCALE: 1:2000

0 25 50 100

SCALE IN METERS

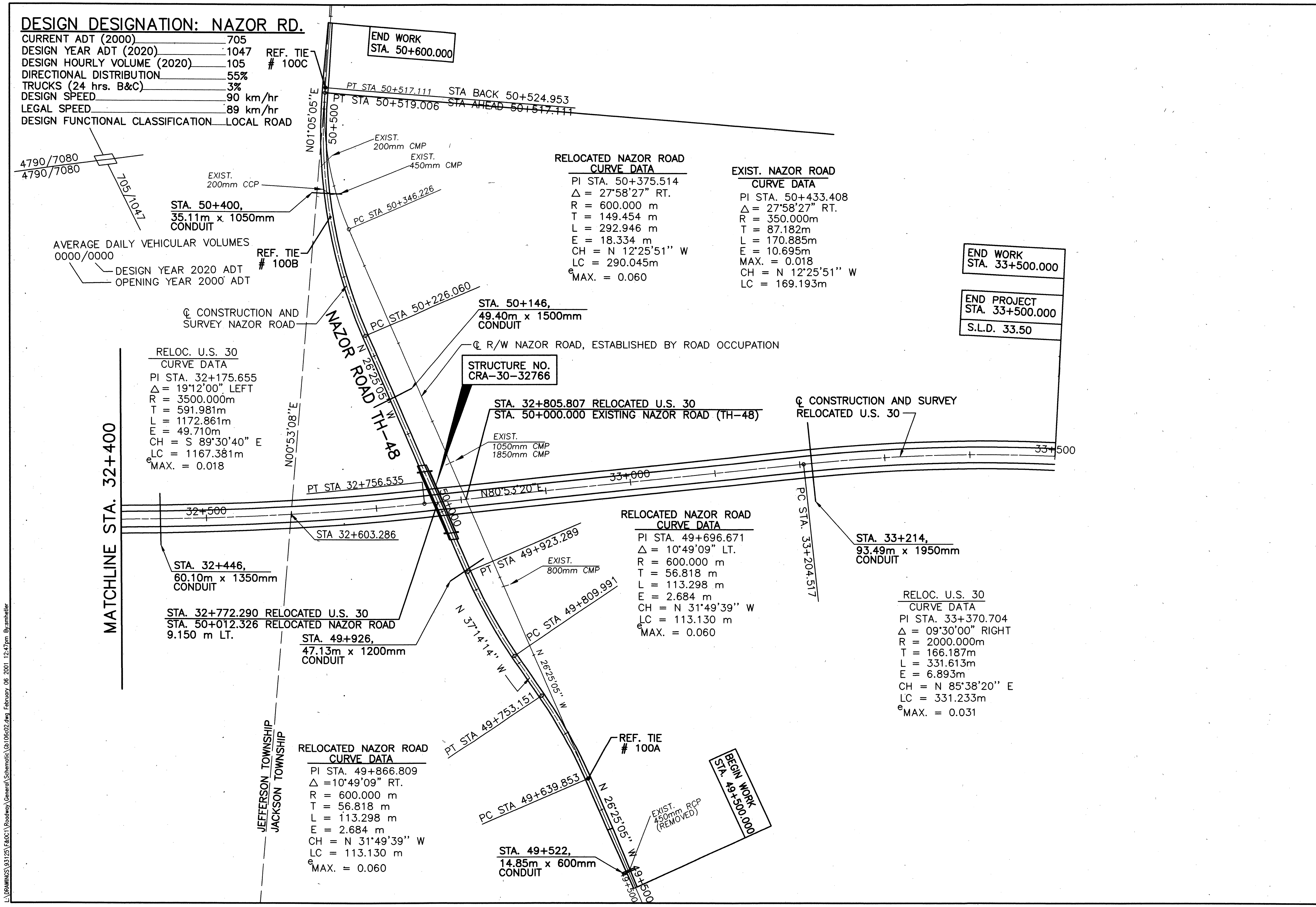
CALCULATED PSB

CHECKED LBD

SCHEMATIC PLAN – RELOCATED U.S. 30

STA. 31+000 TO STA. 32+400

CRA-30-24.000



HORIZONTAL SCALE: 1:2000
SCALE IN METERS 0 25 50 100

CALCULATED PSB CHECKED LBD

SCHEMATIC PLAN – RELOCATED U.S. 30
STA. 32+400 TO STA. 33+500

CRA-30-24.000

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REFERENCE TIES AND ELEVATIONS

	LOCATION					SURFACE COORDINATES			
SHEET	NUMBER	STATION	OFFSET	SIDE	ROAD	NORTHING	EASTING	ELEVATION	DESCRIPTION
3	1	49+234.244	0.000	CL	S.R. 602	121035.0893	569810.9677	0.000	RRSF
3	12	50+757.134	0.000	CL	S.R. 602	122557.8328	569831.9969	0.000	RRSF
4	13	49+324.433	0.000	CL	BECK ROAD	121033.9762	571380.9464	0.000	RRSF
4	17	50+134.165	0.000	CL	BECK ROAD	121843.6481	571390.8947	0.000	RRSF
4	25	50+934.894	0.000	CL	BECK ROAD	122644.3315	571399.3845	0.000	RRSF
5	26	49+343.091	0.000	CL	BIDDLE ROAD	121029.3655	572986.3890	0.000	RRSF
5	34	50+142.261	0.000	CL	BIDDLE ROAD	121828.4560	572997.7009	0.000	IPF
5	42	50+945.093	0.000	CL	BIDDLE ROAD	122631.2695	573003.1586	0.000	RRSF
7	43	49+244.223	0.000	CL	S.R. 598	120992.0005	575028.0430	0.000	IPMBF
7	44	49+410.020	0.000	CL	S.R. 598	121153.3139	575066.3419	0.000	RRSF
7	49	49+768.086	0.000	CL	S.R. 598	121501.8169	575148.5419	0.000	RRSF
7	51	50+208.935	0.000	CL	S.R. 598	121938.2681	575208.8108	0.000	RBF
7	55	50+868.746	0.000	CL	S.R. 598	122591.7132	575300.2465	0.000	RRSF
7	56	49+718.035	0.000	CL	N. MARKET STREET	121465.4036	575627.0573	0.000	RBF
7	61	50+056.257	0.000	CL	N. MARKET STREET	121783.6036	575513.5719	0.000	RBF
7	62	50+096.975	0.000	CL	N. MARKET STREET	121823.2538	575504.3079	0.000	RBF
7	63	50+175.394	0.000	CL	N. MARKET STREET	121894.2181	575472.1321	0.000	RBF
7	64	50+352.401	0.000	CL	N. MARKET STREET	122038.0961	575369.0279	0.000	RRSF
8	70	50+107.625	0.000	CL	FAIRVIEW ROAD	121771.1834	576106.5558	0.000	IPPF
8	76	50+252.021	0.000	CL	FAIRVIEW ROAD	121915.5686	576108.3416	0.000	IPPF
8	80	50+909.107	0.000	CL	FAIRVIEW ROAD	122572.5677	576119.0368	0.000	RRSF
8	82	49+649.245	0.000	CL	KNORR ROAD	121198.2928	576777.4757	0.000	RRSF
8	87	49+938.091	0.000	CL	KNORR ROAD	121487.1091	576781.5874	0.000	RRSF
8	92	51+011.021	0.000	CL	KNORR ROAD	122559.9389	576796.2710	0.000	IPPF
9	100A	49+639.853	0.000	CL	NAZOR ROAD	121254.0043	577958.3977	0.000	RRSS
9	100B	50+346.226	0.000	CL	NAZOR ROAD	121886.6124	577644.1198	0.000	RRSS
9	100C	50+517.111 AH	0.000	CL	NAZOR ROAD	122051.8388	577607.6989	0.000	RRSS
9	100D	51+009.356	0.000	CL	NAZOR ROAD	122543.9022	577621.0673	0.000	RRSS
3	717	50+037.530	6.222	LT	S.R. 602	121838.3882	569815.1444	326.162	FENO 46
3	718	49+621.609	6.979	RT	S.R. 602	121422.3309	569822.9601	324.974	FENO 47
7	1632	50+247.776	6.899	LT	S.R. 598	121977.6910	575207.3610	348.855	FENO 28
7	1633	49+543.122	24.776	RT	S.R. 598	121277.1725	575121.0114	350.146	FENO 29
2	20009	22+374.305	101.074	LT	RELOC. U.S. 30	122963.2287	567715.4260	322.517	FENO 9
2	20010	22+773.259	44.053	LT	RELOC. U.S. 30	122709.4006	568028.4021	320.305	FENO 10
2	20011	22+955.093	68.637	RT	RELOC. U.S. 30	122519.3313	568126.5189	321.037	FENO 11
2	20012	23+310.274	116.478	LT	RELOC. U.S. 30	122495.7172	568526.3081	322.233	FENO 12
2	20013	23+802.134	101.634	LT	RELOC. U.S. 30	122230.3577	568940.6534	323.850	FENO 13
3	20014	25+366.100	52.075	LT	RELOC. U.S. 30	121831.3566	570382.2747	324.889	FENO 14
4	20015	25+871.935	53.336	RT	RELOC. U.S. 30	121711.0315	570883.1541	323.788	FENO 15
4	20016	26+388.147	57.221	RT	RELOC. U.S. 30	121651.3171	571394.6619	326.301	FENO 16
5	20017	27+177.212	46.546	LT	RELOC. U.S. 30			328.450	FENO 17
3	20017A	50+000.000	0.000	CL	S.R. 602	121800.7807	569820.8797	0.000	RRSS
4	20017B	50+000.000	0.000	CL	BECK ROAD	121709.4927	571389.2464	0.000	PKSS
3	20017C	50+038.709	0.000	CL	S.R. 602	121839.4860	569821.3808	0.000	RRSS
8	201569	31+648.330	26.144	LT	RELOC. U.S. 30	121593.7835	576650.0338	356.126	FENO
8	201568	32+125.448	5.298	LT	RELOC. U.S. 30	121530.6711	577120.8854	355.637	FENO
8	201567	32+306.920	166.382	LT	RELOC. U.S. 30	121692.5187	577297.1394	353.952	FENO

LEGEND

IPS: IRON PIN SET
PKSS: PK SPIKE SET
RRSS: RAILROAD SPIKE SET
IPPF: IRON PIPE FOUND
IPF: IRON PIN FOUND
PKSF: PK SPIKE FOUND
RBF: REBAR FOUND
RRSF: RAILROAD SPIKE FOUND
RWF: R/W MONUMENT FOUND
CMF: CENTERLINE MONUMENT FOUND
IPMBF: IRON PIN IN MON. BOX FOUND
FENO SET *

* FENO = FENO SURVEY MONUMENT BY BERNTSEN INTERNATIONAL, INC.

metric units

PID NO. 16283

REFERENCE TIES

CRA-30-24.000

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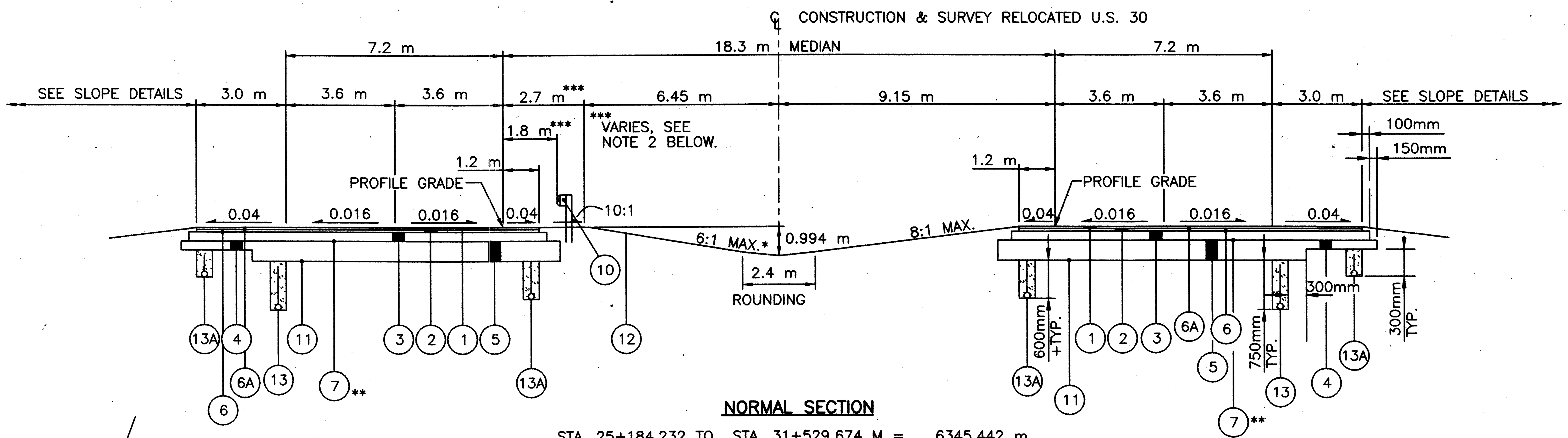
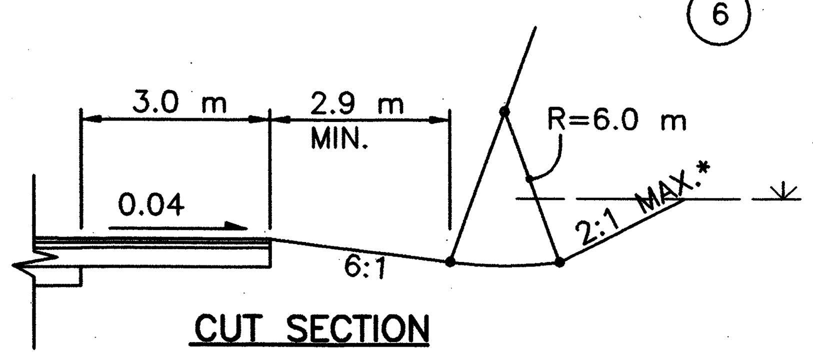
LEGEND
IRON PIN SET
R/W MONUMENT FOUND
FENO SET *
PK SPIKE SET
PK SPIKE FOUND
RAILROAD SPIKE FOUND
IRON PIN FOUND
CENTERLINE MONUMENT FOUND
* FENO = FENO SURVEY MONUMENT BY BERNTSEN INTERNATIONAL, INC.
metric units
RELOCATED U.S. 30
PT. No. 20009 STA. 22+374.305 101.074m LT.
PT. No. 20010 STA. 22+773.259 44.053m LT.
PT. No. 20011 STA. 22+955.093 68.637m RT.
PT. No. 20012 STA. 23+310.274 116.478m LT.
PT. No. 20013 STA. 23+802.134 101.634m LT.
PT. No. 20014 STA. 25+366.100 52.075m LT.
PT. No. 20015 STA. 25+871.935 53.336m RT.
PT. No. 20016 STA. 26+388.147 57.221m RT.
PT. No. 20017 STA. 27+177.212 46.546m LT.
PT. No. 717 STA. 50+037.530 6.222m LT.
PT. No. 718 STA. 49+621.609 6.979m RT.
PT. No. 1632 STA. 50+247.776 6.899m LT.
PT. No. 1633 STA. 49+543.123 24.776m RT.
S.R. 602
PT. No. 20017C P.I. STA. 50+038.709
PT. No. 20017A P.I. STA. 50+000.000
PT. No. 1 P.I. STA. 49+234.244
PT. No. 12 P.I. STA. 50+757.134
BIDDLE RD.
PT. No. 26 P.I. STA. 49+343.091
PT. No. 34 PI STA 50+142.261 P.I. STA. 50+142.261
PT. No. 42 STA. 50+945.094 P.I. STA. 50+945.094
S.R. 598
PT. No. 55 STA 50+868.746 P.I. STA. 50+868.746
PT. No. 51 PI STA 50+208.935 P.I. STA. 50+208.935
PT. No. 49 P.O.T. STA. 49+768.086
PT. No. 44 PI STA 49+410.021 P.O.T. STA. 49+410.021
PT. No. 43 STA. 49+244.223 P.I. STA. 49+244.223
FAIRVIEW RD.
PT. No. 70 P.O.T. STA. 50+107.625
PT. No. 76 P.I. STA. 50+252.021
PT. No. 80 P.I. STA. 50+909.107
NAZOR RD.
PT. No. 100A P.C. STA. 49+639.853
PT. No. 100B P.C. STA. 50+346.226
PT. No. 100C STATION EQUATION P.T. STA. 50+517.111 AHEAD P.O.T. STA. 50+524.953 BACK
PT. No. 100D P.I. STA. 51+009.356
KNORR RD.
PT. No. 82 P.O.T. STA. 49+649.245
PT. No. 87 P.O.T. STA. 49+938.091
PT. No. 92 P.I. STA. 51+011.021
N. MARKET ST.
PT. No. 56 P.O.T. STA. 49+718.035
PT. No. 61 P.O.T. STA. 50+056.257
PT. No. 62 P.C. STA. 50+096.975
PT. No. 63 P.T. STA. 50+175.394
PT. No. 64 P.O.T. STA. 50+352.401
BECK RD.
PT. No. 20017B P.I. STA. 26+376.335
PT. No. 13 P.I. STA. 49+324.433
PT. No. 17 P.I. STA. 50+134.165
PT. No. 25 P.I. STA. 50+934.894
PID NO. 16283
REFERENCE TIES
CRA-30-24.000
11
677



NORMAL SECTION

STA. 25+184.232 TO	STA. 31+529.674 M =	6345.442 m
STA. 32+810.535 TO	STA. 33+154.517 M =	343.982 m
	TOTAL =	6689.424 m



CUT SECTION

* UNLESS OTHERWISE SHOWN ON CROSS SECTION

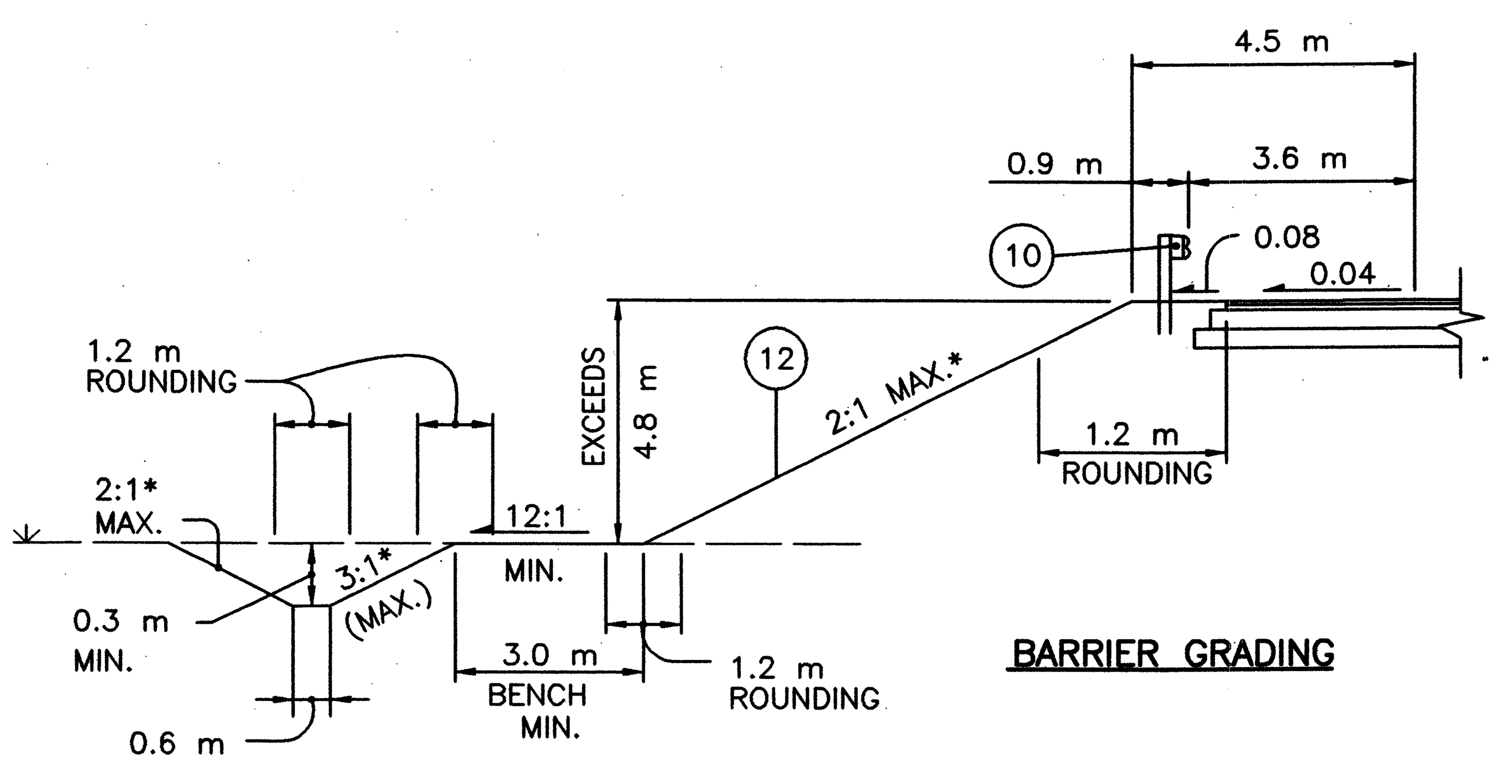
NOTE: MAINLINE U.S. 30 AND RAMPS PAVEMENT WARRANTY
THE MAINLINE ON U.S. 30 AND THE RAMPS PAVEMENT BUILDUP SHOWN ON THE TYPICAL SECTIONS AS REFERENCES 1, 2, 3, 6 AND 6A ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE REPLACED BY ITEM 880 ASPHALT CONCRETE (7 YEAR WARRANTY).

* UNLESS OTHERWISE SHOWN ON CROSS SECTION

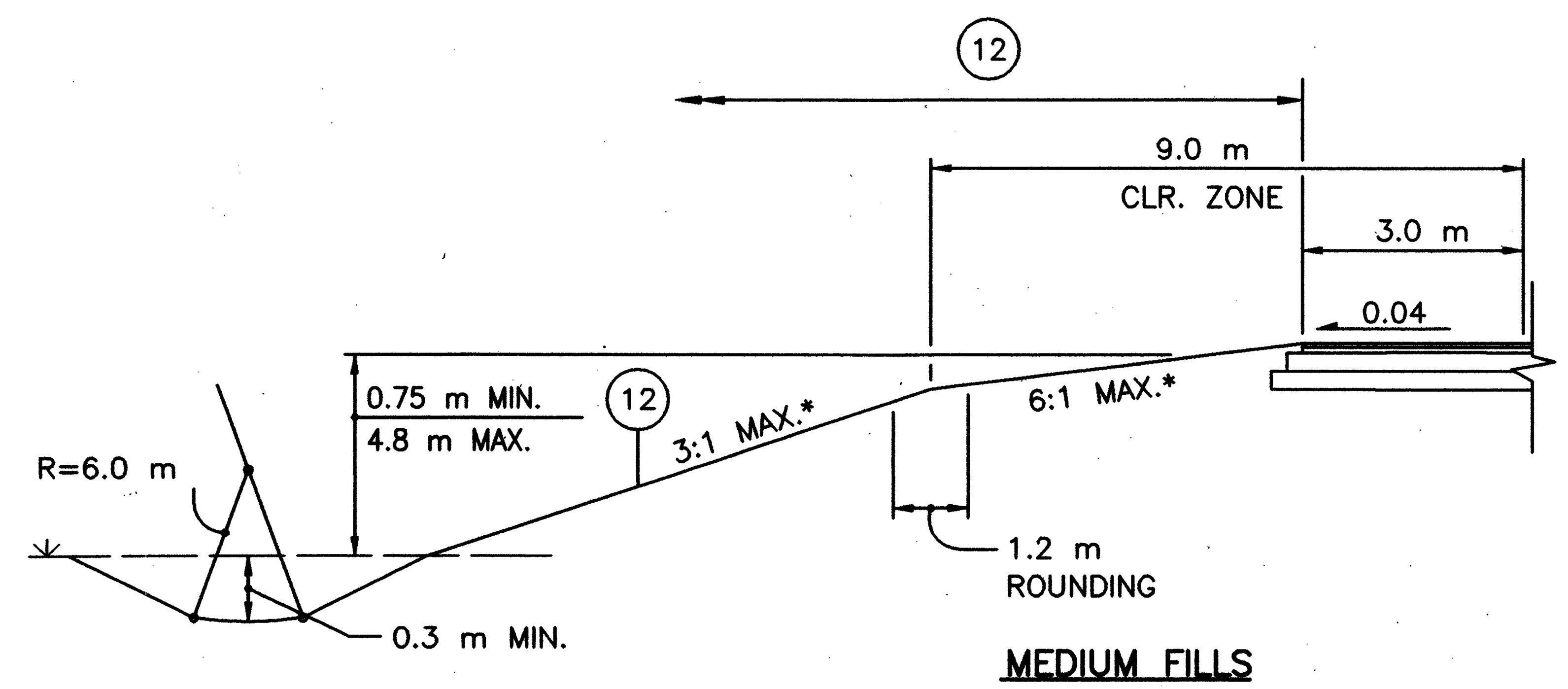
** NOT TO BE PLACED WITHIN 300mm OF THE UNDERDRAIN SYSTEM (13A)

*** VARIES SEE NOTE 2 BELOW

\+ UNLESS OTHERWISE SHOWN ON UNDERDRAIN QUANTITY SHEETS.

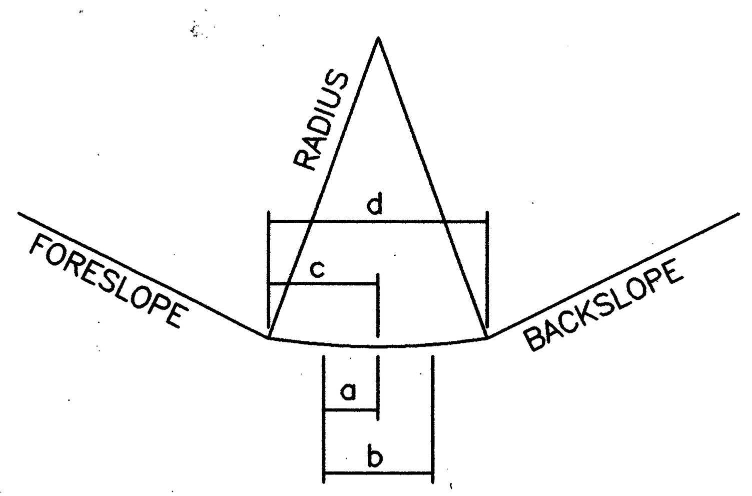


BARRIER GRADING



MEDIUM FILLS

SEE BARRIER GRADING DETAIL FILLS OVER 4.8 m



FORESLOPE	6 m R		BACKSLOPE 6:1		4:1		3:1		2:1	
	a	c	b	d	b	d	b	d	b	d
8:1	0.40	0.75	0.90	1.75	1.15	2.25	1.35	2.70	1.85	3.50
6:1	0.50	1.00	1.00	2.00	1.25	2.50	1.50	2.90	1.95	3.75
4:1	0.75	1.45	1.25	2.50	1.50	2.95	1.75	3.40	2.20	4.20
3:1	1.00	1.95	1.50	2.90	1.75	3.40	2.00	3.85	2.45	4.65

NOTES:

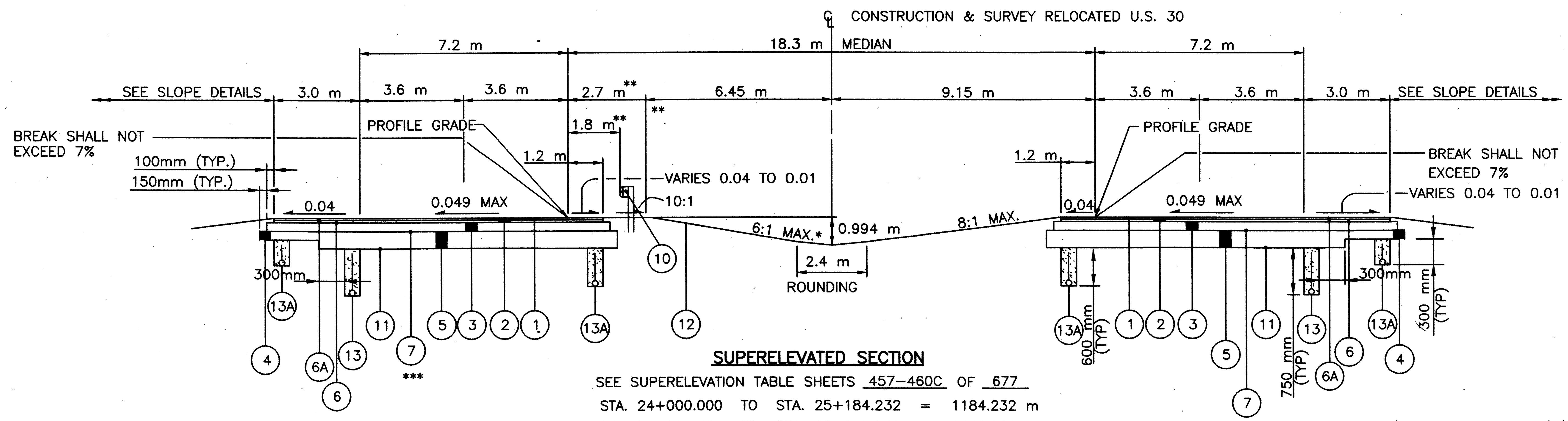
1. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
2. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY.
3. FOR APPROACH SLAB DETAILS. SEE SHEET 23 OF 677.

LEGEND

- (1) ITEM 446 – 38 mm ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- (1A) ITEM 448 – 32 mm ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64–22
- (1B) ITEM 448 – 38mm ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG. 64–22
- (1C) ITEM 448 – 32mm ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
- (2) ITEM 446 – 45 mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64–28
- (2A) ITEM 448 – 45 mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64–22
- (2B) ITEM 448 – 45 mm ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64–28
- (3) ITEM 302 – 205 mm BITUMINOUS AGGREGATE BASE, PG 64–22
- (3A) ITEM 301 – 150 mm BITUMINOUS AGGREGATE BASE, PG 64–22
- (3B) ITEM 301 – 100 mm BITUMINOUS AGGREGATE BASE, PG 64–22
- (3C) ITEM 302 – 200 mm BITUMINOUS AGGREGATE BASE, PG 64–22
- (4) ITEM 304 – 150 mm AGGREGATE BASE
- (5) ITEM 304 – 250 mm AGGREGATE BASE
- (5A) ITEM 304 – 200 mm AGGREGATE BASE
- (6) ITEM 407 – TACK COAT, AS PER PLAN (SEE GENERAL NOTES)
- (6A) ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTES)
- (7) ITEM 408 – BITUMINOUS PRIME COAT (APPLIED AT THE RATE OF 1.8 L PER m)
- (8) ITEM 409 – SEAL COAT BITUMINOUS MATERIAL (APPLIED AT THE RATE OF 1.36 L PER m^2) AND SEAL COAT COVER AGGREGATE NO. 8 (APPLIED AT THE RATE OF 0.007 m^3 PER m)
- (9) ITEM 605 – AGGREGATE DRAINS
- (10) ITEM 606 – GUARDRAIL, TYPE 5
- (11) ITEM 203 – SUBGRADE COMPACTION
- (12) ITEM 870 – SEEDING AND MULCHING (SEE GENERAL NOTES)
- (13) ITEM 605 – 150mm SHALLOW PIPE UNDERDRAIN
- (13A) ITEM 605 – 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN (DETAIL ON SHEET NO. 26 OF 677.)
- (14) ITEM 611 – REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN

TYPICAL SECTIONS – MAINLINE

CRA–30–24.000

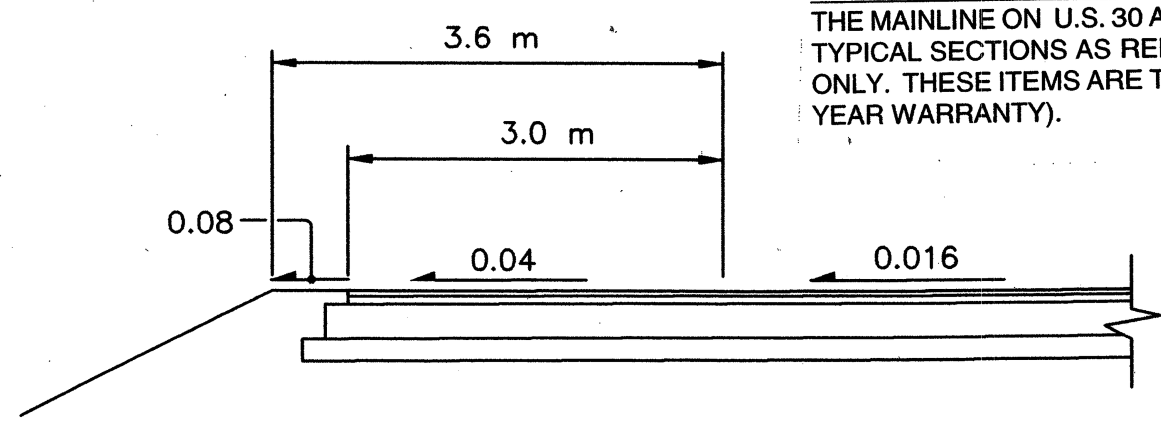


SUPERELEVATED SECTION

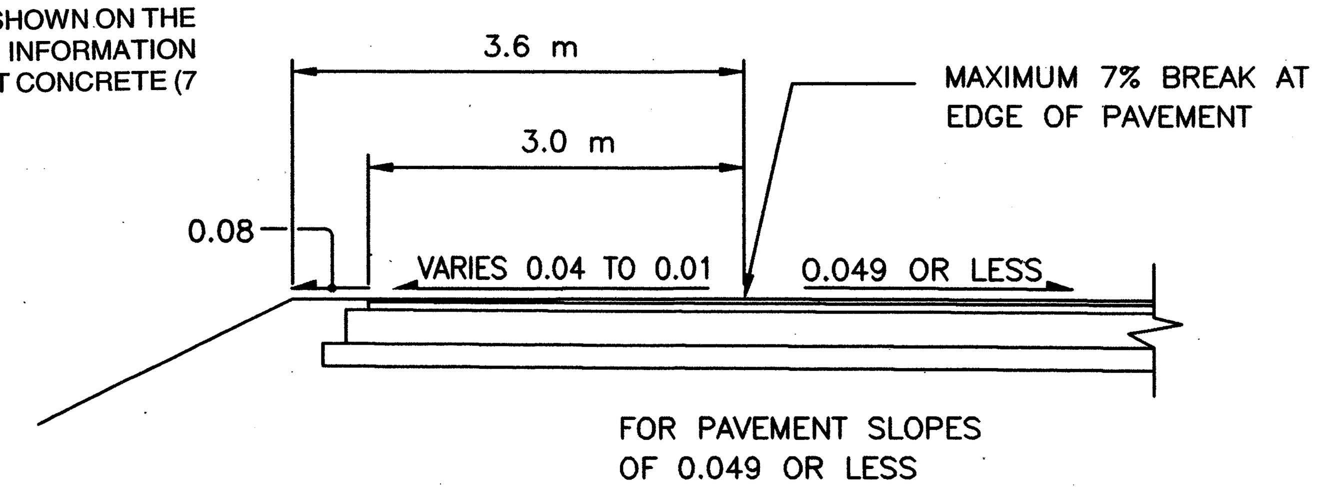
SEE SUPERELEVATION TABLE SHEETS 457-460C OF 677

STA. 24+000.000	TO	STA. 25+184.232	=	1184.232	m
STA. 31+529.574	TO	STA. 32+810.535	=	1280.861	m
STA. 33+154.517	TO	STA. 33+500.000	=	345.483	m
		TOTAL	=	2810.576	m

NOTE: MAINLINE U.S. 30 AND RAMPS PAVEMENT WARRANTY
THE MAINLINE ON U.S. 30 AND THE RAMPS PAVEMENT BUILDUP SHOWN ON THE TYPICAL SECTIONS AS REFERENCES 1, 2, 3, 6 AND 6A ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE REPLACED BY ITEM 880 ASPHALT CONCRETE (7 YEAR WARRANTY).



NORMAL AND LOW SHOULDER DETAIL



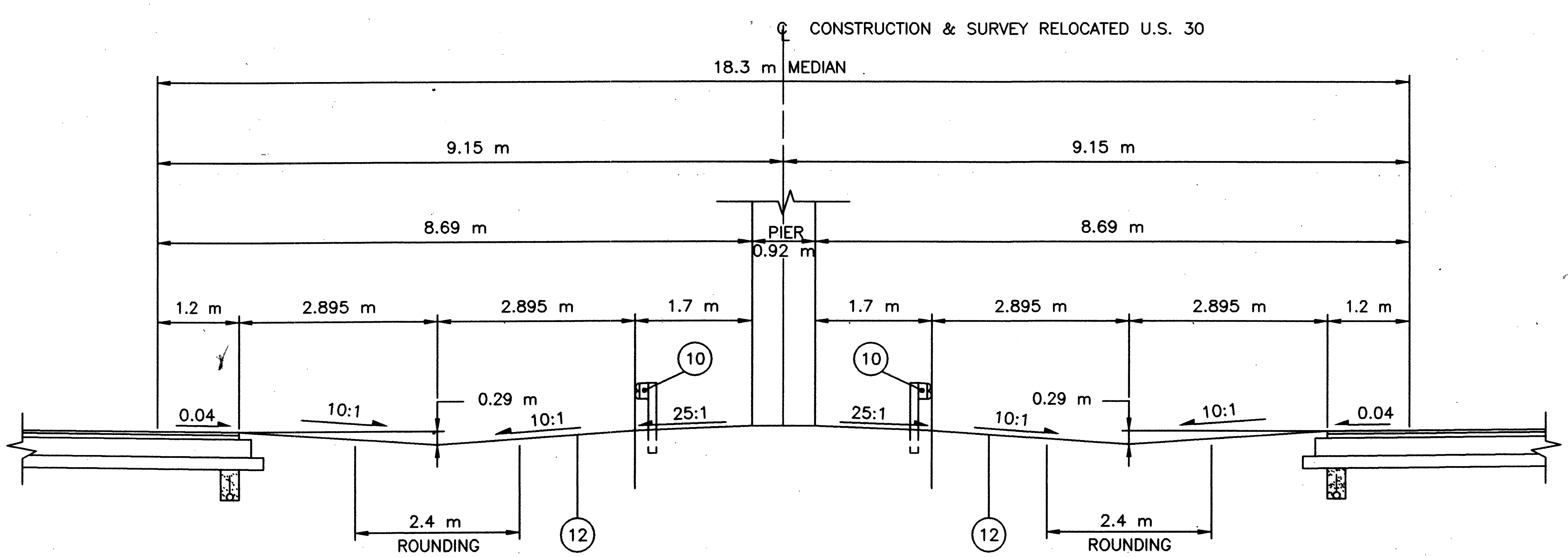
SUPERELEVATED SHOULDER DETAIL

* UNLESS OTHERWISE SHOWN ON CROSS SECTION

** VARIES SEE NOTE 2 BELOW

*** NOT TO BE PLACED WITHIN 300mm OF THE UNDERDRAIN SYSTEM (13A)

\+ UNLESS OTHERWISE SHOWN ON UNDERDRAIN QUANTITY SHEETS.



MEDIAN DETAIL AT PIERS

NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. FOR SLOPE DETAILS, SEE SHEET 12 OF 677.
4. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY

metric units

TYPICAL SECTIONS – MAINLINE

CRA-30-24.000

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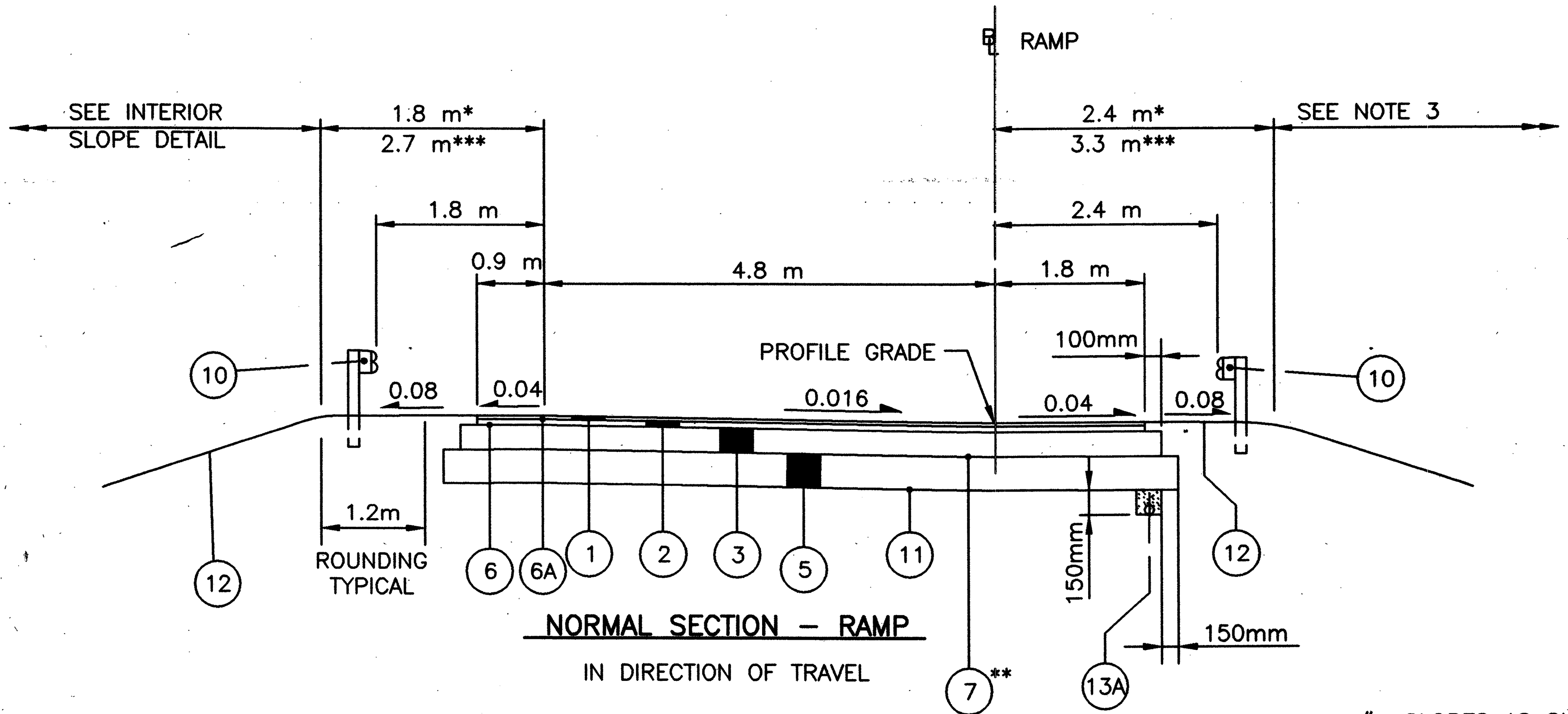
metric units



NORMAL SECTION – RAMP

IN DIRECTION OF TRAVEL

RAMP A	STA. A4+760.340	TO	STA. A4+771.029 =	10.689 m
RAMP F	STA. F0+046.284	TO	STA. F0+160.000 =	113.716 m
RAMP H	STA. H0+180.000	TO	STA. H0+378.498 =	198.498 m
			TOTAL	=322.903 m

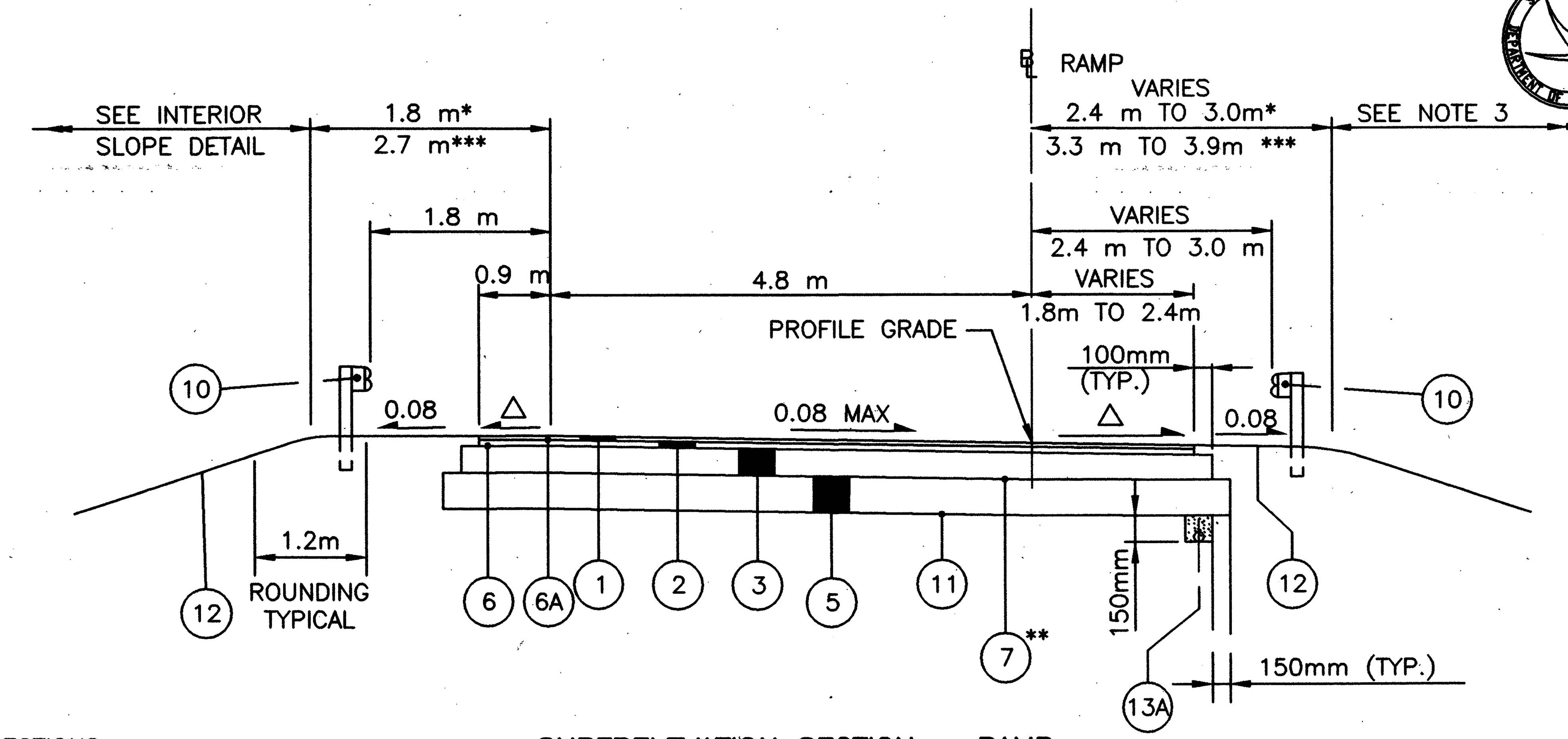
SLOPES AS SHOWN ON CROSS SECTIONS

* WHEN FORESLOPE IS 6:1 OR FLATTER

** NOT TO BE PLACED WITHIN 300mm OF THE UNDERDRAIN SYSTEM (13A)

*** FOR GUARDRAIL SECTIONS AND NON–GUARDRAIL SECTIONS WITH FORESLOPE STEEPER THAN 6:1

△ SEE DETAILS "A" AND "B"

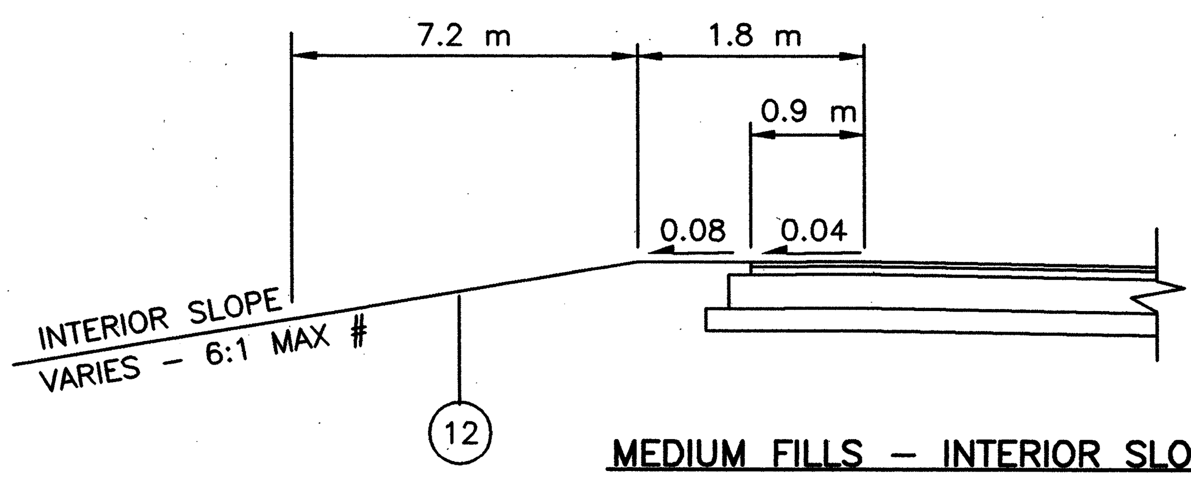


SUPERELEVATION SECTION – RAMP

IN DIRECTION OF TRAVEL

SEE SUPERELEVATION TABLE SHEET 461 TO 463 OF 677.

RAMP A	STA. A4+669.855 TO STA. A4+422.997 =	246.858 m
RAMP B	STA. B4+476.629 TO STA. B4+643.115 =	166.486 m
RAMP C	STA. C4+990.743 TO STA. C5+220.704 =	229.961 m
RAMP D	STA. D4+938.886 TO STA. D5+194.893 =	256.007 m
RAMP E	STA. E0+061.590 TO STA. E9+830.021 =	231.569 m
RAMP F	STA. F9+875.983 TO STA. F0+046.284 =	170.301 m
RAMP G	STA. G0+285.631 TO STA. G0+513.532 =	227.901 m
RAMP H	STA. H0+378.498 TO STA. H0+486.930 =	108.432 m
	TOTAL =	1637.515 m

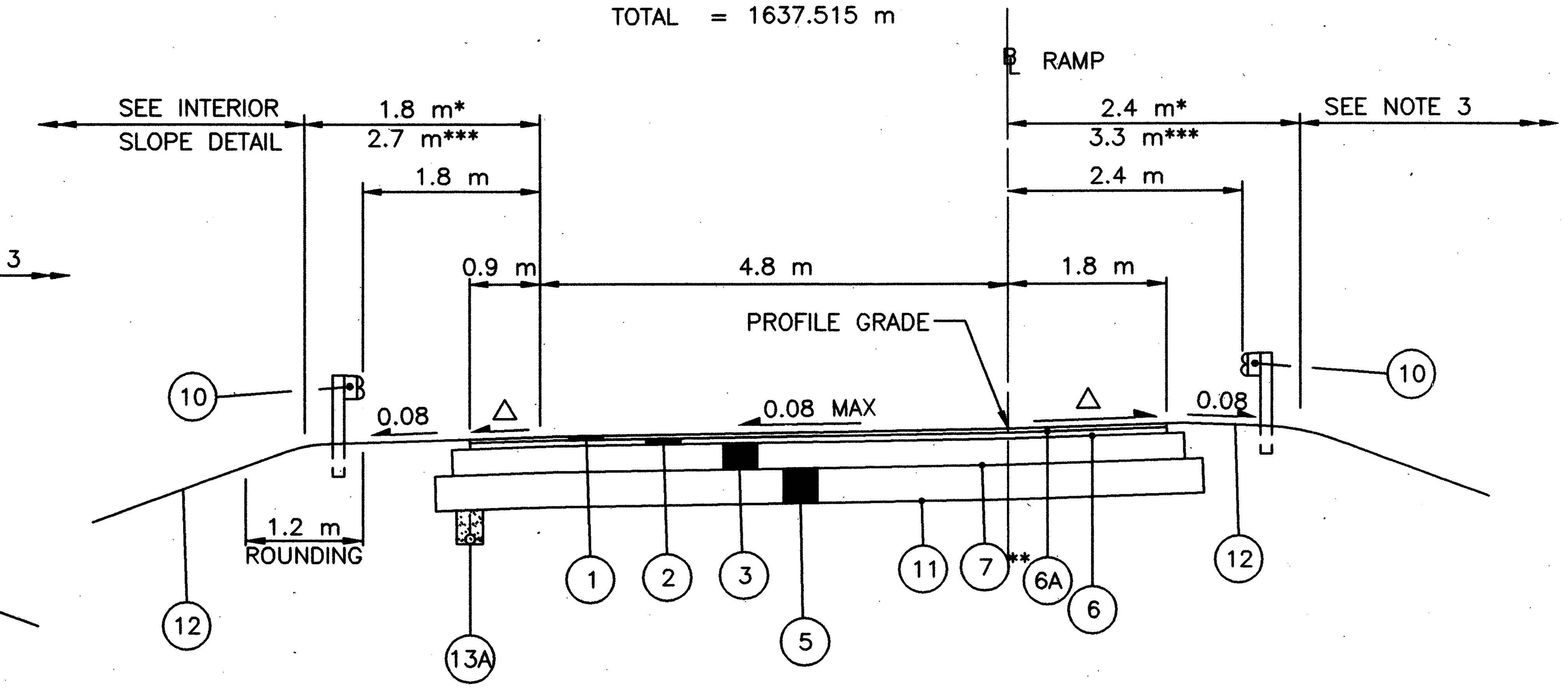


MEDIUM FILLS – INTERIOR SLOPES

SEE BARRIER GRADING DETAIL FOR FILLS OVER 4.8 m

A	B *	B ***
VARIES 3.0 m – 2.4 m	VARIES 3.6 m – 3.0 m	VARIES 4.5 m – 3.9 m
VARIES 2.4 m – 1.8 m	VARIES 3.0 m – 2.4 m	VARIES 3.9 m – 3.3 m

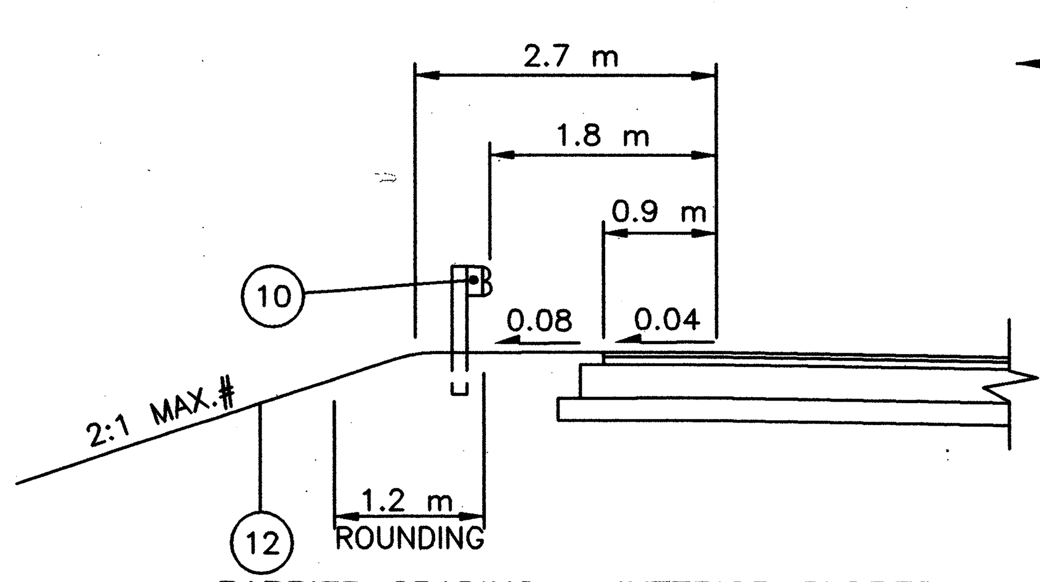
NOTE: FOR STATION LIMITS, SEE RAMP TERMINAL PLAN DETAIL SHEETS No. 465–482.



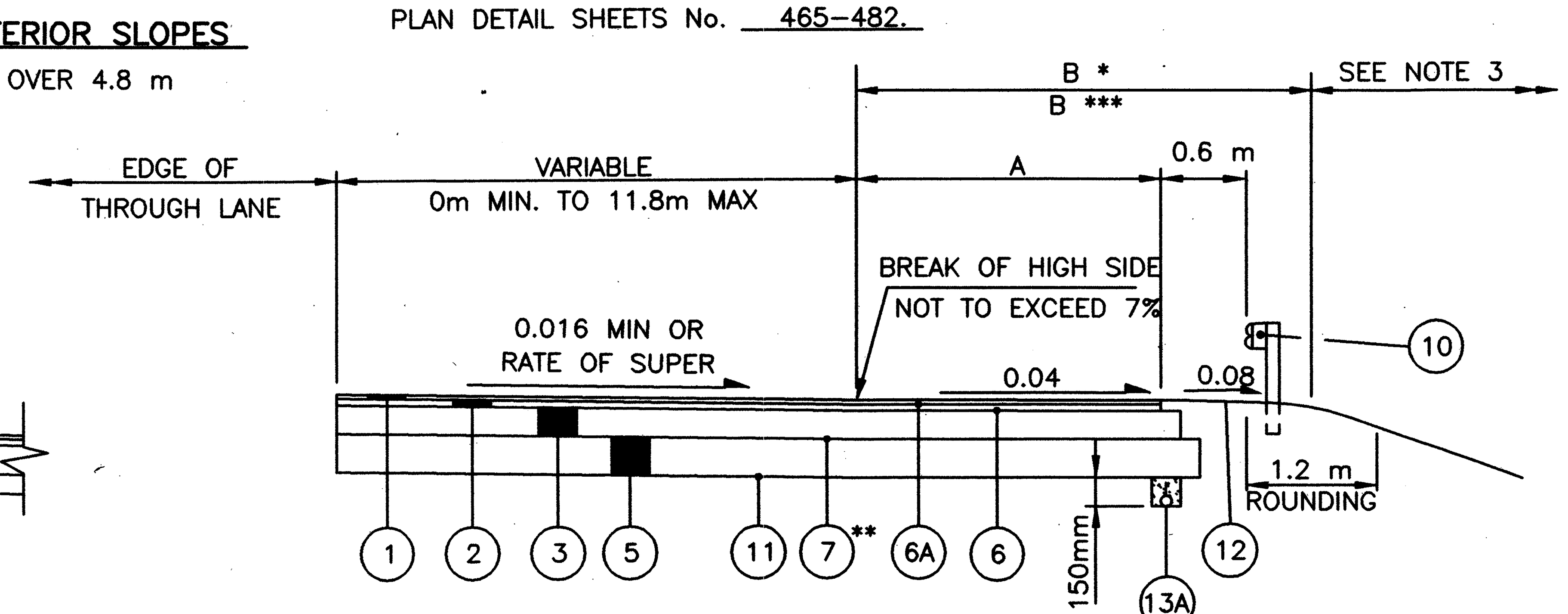
SUPERELEVATION SECTION – RAMP

IN DIRECTION OF TRAVEL

RAMP A	STA. A4+771.029 TO STA. A4+669.855 =	101.174 m
RAMP B	STA. B4+643.115 TO STA. B4+829.080 =	185.965 m
RAMP C	STA. C4+818.826 TO STA. C4+990.743 =	171.917 m
RAMP D	STA. D4+800.000 TO STA. D4+938.886 =	138.886 m
RAMP E	STA. E0+186.118 TO STA. E0+061.590 =	124.528 m
RAMP G	STA. G0+160.000 TO STA. G0+285.631 =	125.631 m
	TOTAL =	848.101 m



BARRIER GRADING – INTERIOR SLOPES

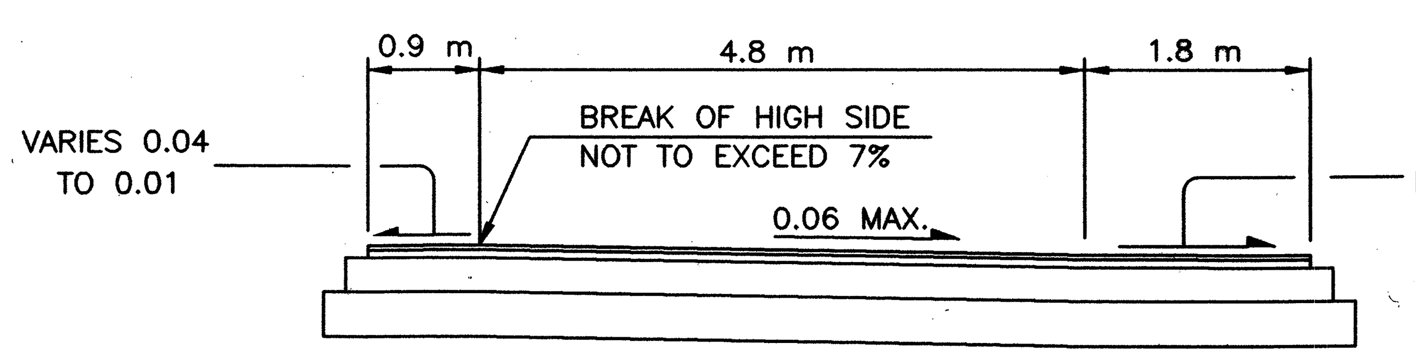


SPEED CHANGE LANES

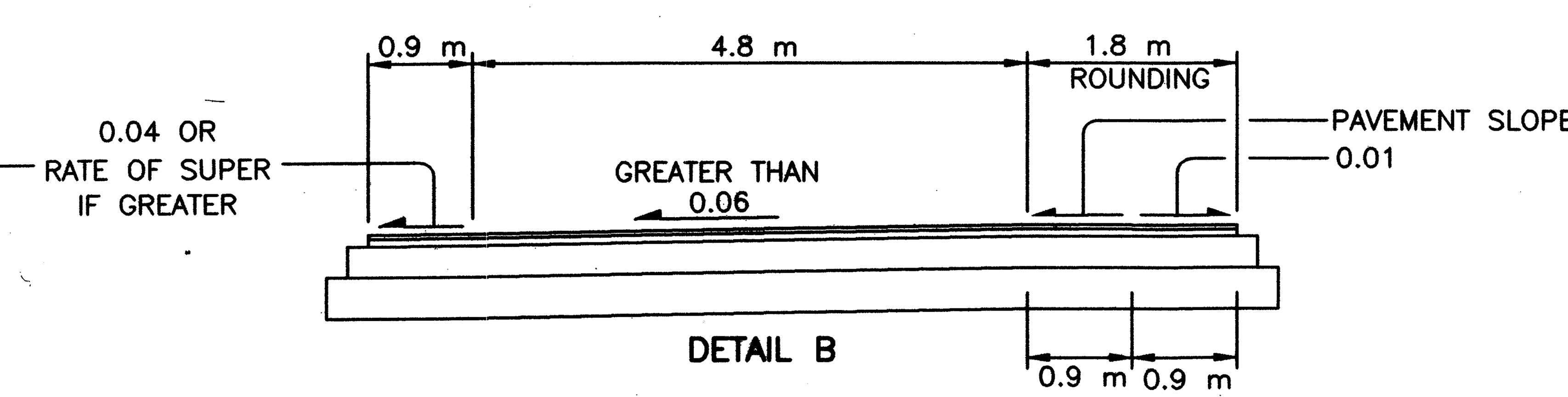
IN DIRECTION OF TRAVEL

(APPLIES TO ALL INTERCHANGE, ENTRANCE, AND EXIT RAMPS)

NOTE: MAINLINE U.S. 30 AND RAMPS PAVEMENT WARRANTY
THE MAINLINE ON U.S. 30 AND THE RAMPS PAVEMENT BUILDUP SHOWN ON THE TYPICAL SECTIONS AS REFERENCES 1, 2, 3, 6 AND 6A ARE FOR INFORMATION ONLY. THESE ITEMS ARE TO BE REPLACED BY ITEM 880 ASPHALT CONCRETE (7 YEAR WARRANTY).



DETAIL A



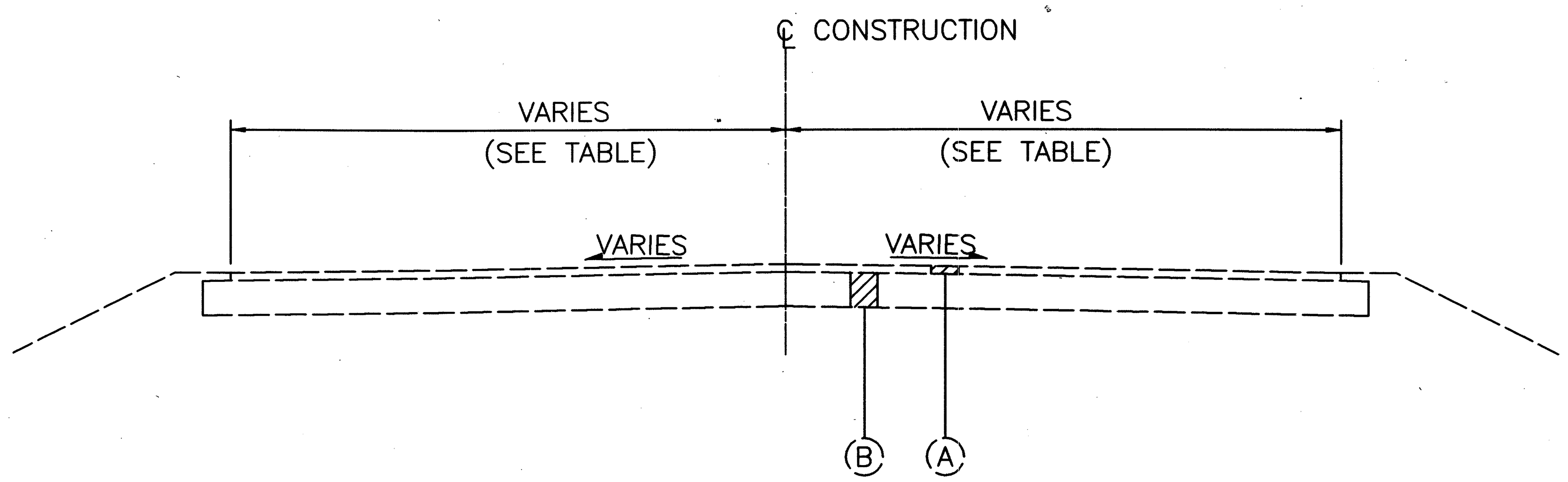
DETAIL B

NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. FOR SLOPE DETAILS, SEE SHEET 12 OF 677.
4. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY
5. THE FIRST DIGIT HAS BEEN REPLACED WITH THE LETTER NAME OF THE RAMP IN THE STATION DESIGNATION.

TYPICAL SECTIONS – RAMPS A,B,C,D,E,F,G,H

CRA–30–24.000



EXISTING TYPICAL SECTION SIDEROADS

(SEE TABLE)

EXISTING PAVEMENT TABLE

LOCATION	STATION		SOUTH/WEST WIDTH m		NORTH/EAST WIDTH m		(A) mm	(B) mm
	FROM	TO	LT.	RT.	LT.	RT.		
S.R. 602	49+570.000	50+480.000	2.92	2.93	2.98	2.91	100±	150±
BECK ROAD (T.R. 20)	49+886.227	50+126.000	2.39	2.15	2.39	2.29		
BIDDLE ROAD (T.R. 44)	49+525.000	50+505.000	2.49	2.81	2.62	2.68		
S.R. 598	49+365.000	50+340.000	3.05	3.05	3.05	3.05	100±	150±
NORTH MARKET AVE. (C.R. 89)	49+860.000	50+338.000	2.63	3.23	3.20	2.99		
FAIRVIEW ROAD (T.R. 90)	49+620.000	50+280.000	2.88	2.66	2.69	2.69		
KNORR ROAD (T.R. 91)	49+883.022	50+114.836	2.57	3.00	2.53	3.03		
NAZOR ROAD (T.R. 48)	49+500.000	50+600.000	2.35	1.93	2.60	2.22		

LEGEND

(A) ASPHALT CONCRETE

(B) AGGREGATE BASE

metric units

EXISTING TYPICAL SECTIONS – SIDE ROADS

CRA-30-24.000

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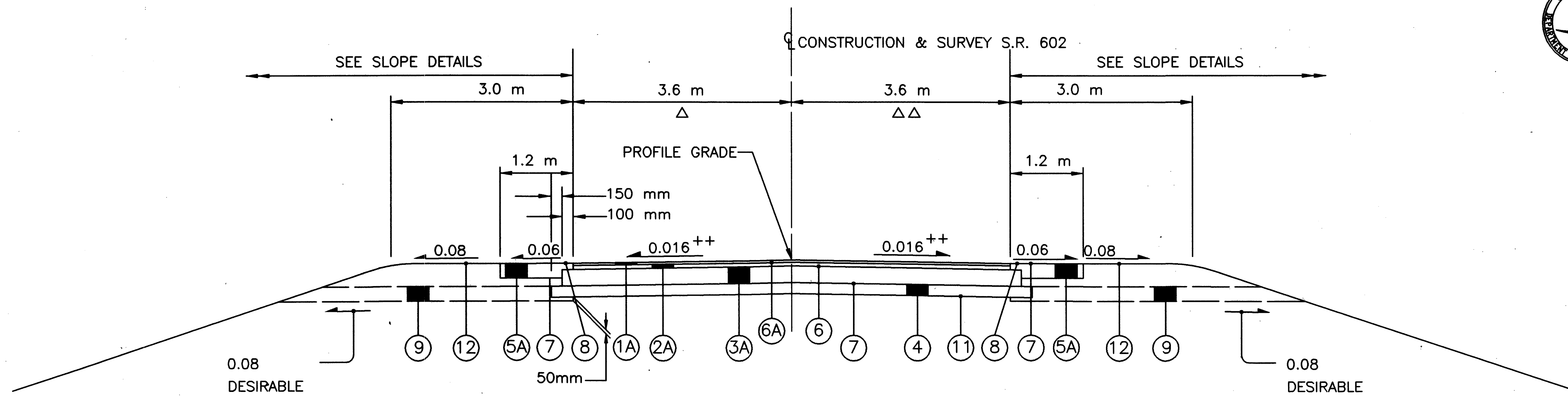
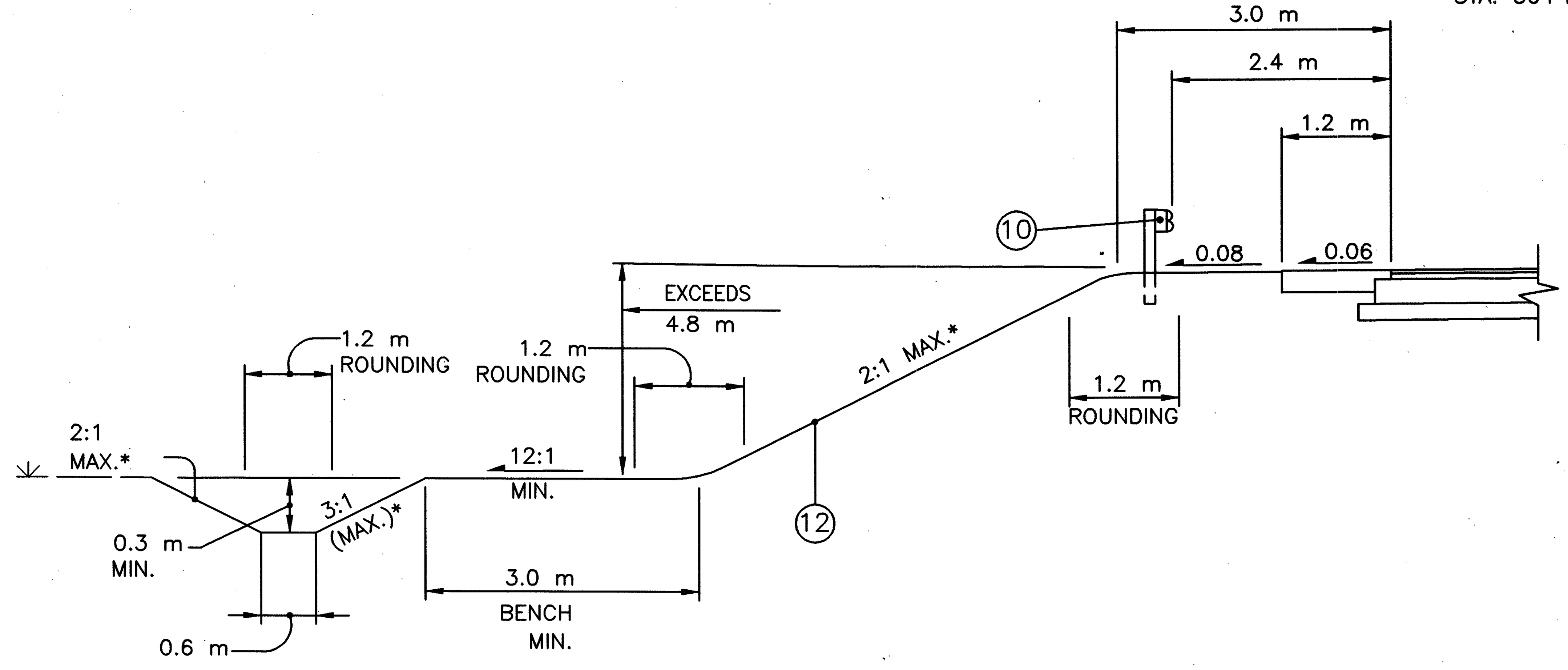


NORMAL SECTION – S.R. 602

STA. 49+570.000 TO STA. 49+608.000 = 38.000 m(Δ=VARIES FROM 2.916 ± m(0.03) TO 3.6 m(0.016),ΔΔ=VARIES FROM 2.927 ± m(0.010) TO 3.6 m(0.016))
STA. 49+608.000 TO STA. 49+955.498 = 347.498 m
STA. 50+044.502 TO STA. 50+442.000 = 397.498 m
STA. 50+442.000 TO STA. 50+480.000 = 38.000 m(Δ=VARIES FROM 3.6 m(0.016) TO 2.98 m(0.027) ±,ΔΔ=VARIES FROM 3.6 m(0.016) TO 2.913 ± m(0.035))

TOTAL= 820.996 m

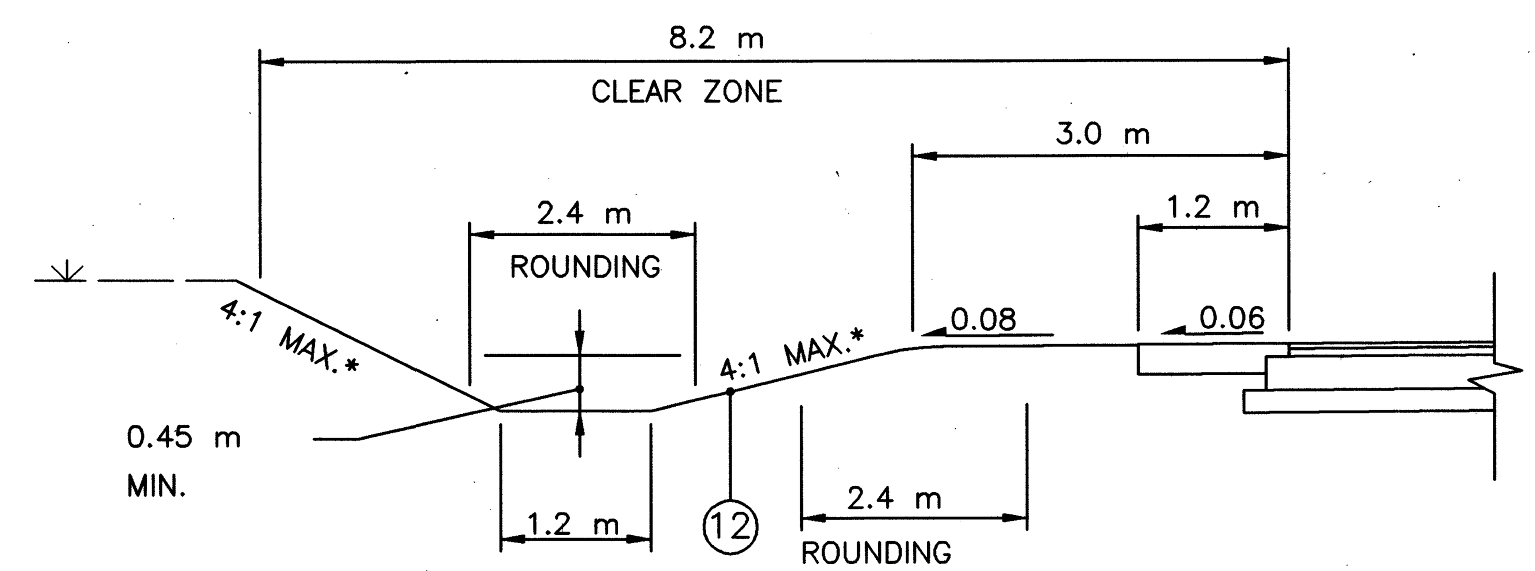
(___) – CROSS SLOPE



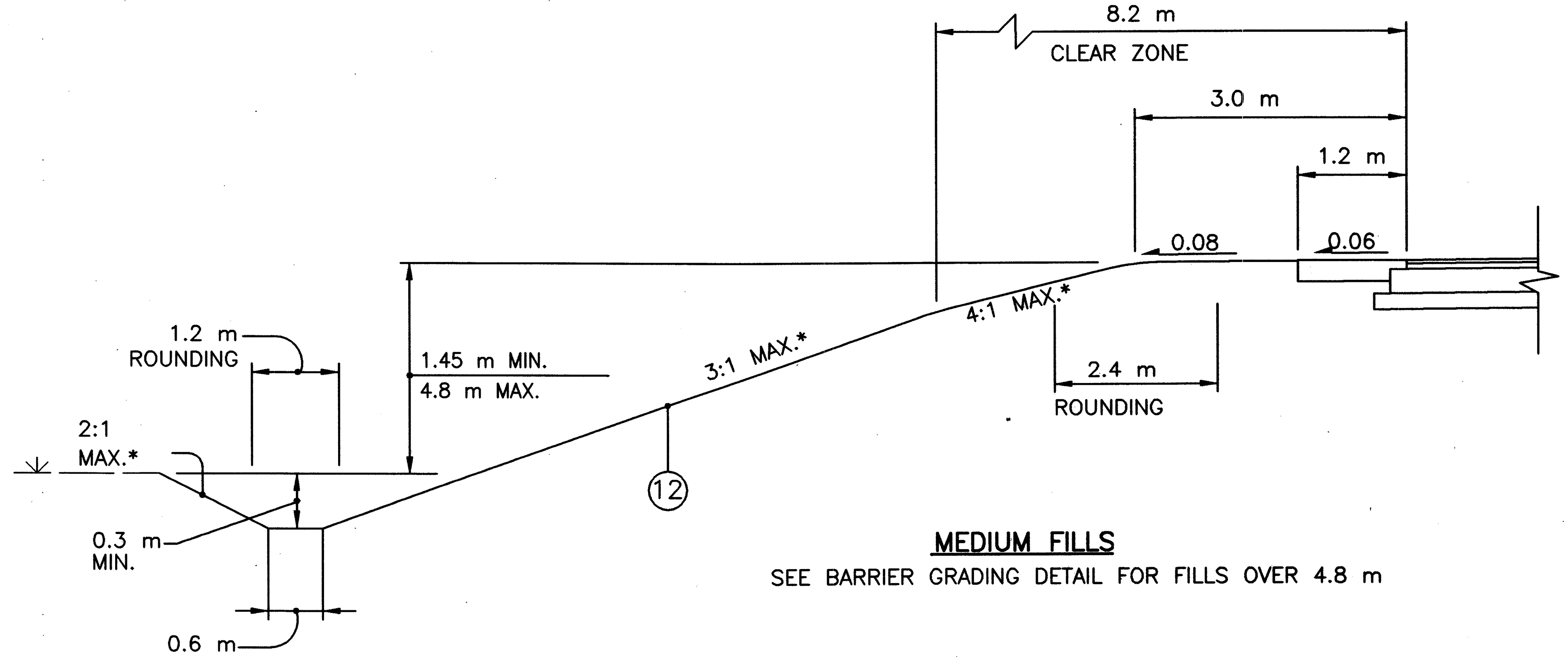
BARRIER GRADING

* SLOPE AS SHOWN ON CROSS SECTION

++ EXISTING CROSS SLOP VARIES



CUT SECTION



MEDIUM FILLS

SEE BARRIER GRADING DETAIL FOR FILLS OVER 4.8 m

NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY.

metric units

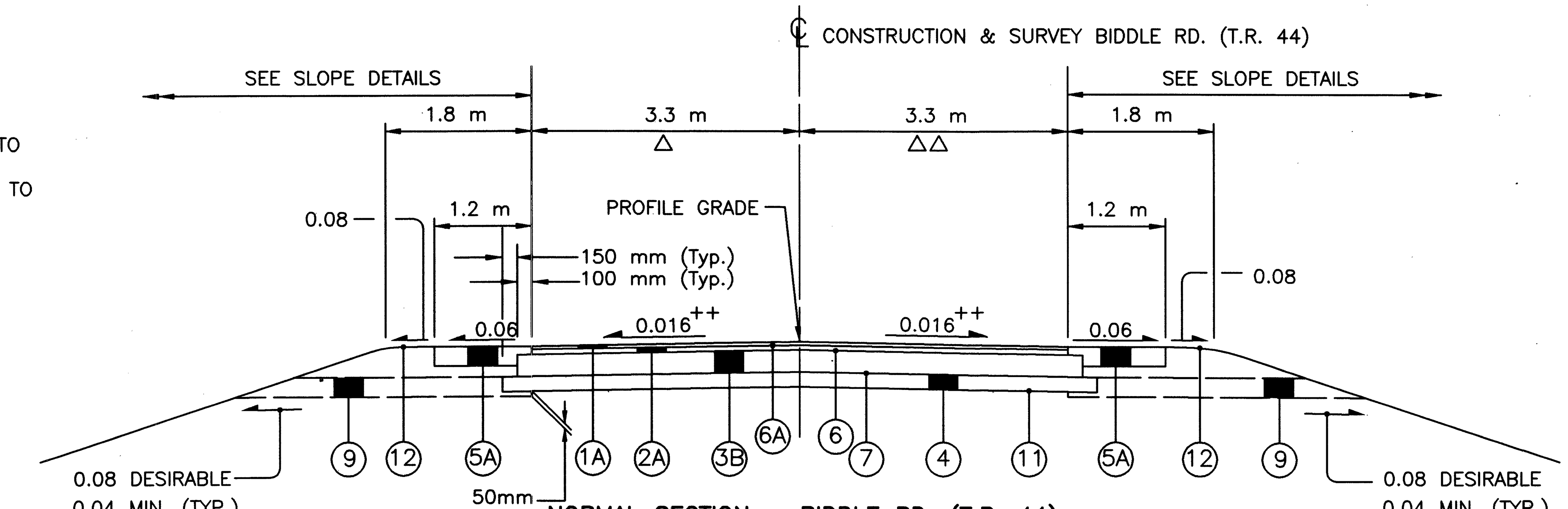
TYPICAL SECTIONS – S.R. 602

CRA-30-24.000

metric units

△ = VARIES FROM 2.485 m @ STA. 49+525.000 (0.027)± TO 3.3 m @ STA. 49+570.000 (0.016)
△△ = VARIES FROM 2.806 m @ STA. 49+525.000 (0.0157)± TO 3.3 m @ STA. 49+570.000 (0.016)
△ = VARIES FROM 3.3 m @ STA. 50+468.000 (0.016) TO 2.623 m @ STA. 50+505.000 (0.018)±
△△ = VARIES FROM 3.3 m @ STA. 50+486.000 (0.016) TO 2.677 m @ STA. 50+505.000 (0.021)±

(___) = CROSS SLOPE



NORMAL SECTION – BIDDLE RD. (T.R. 44)

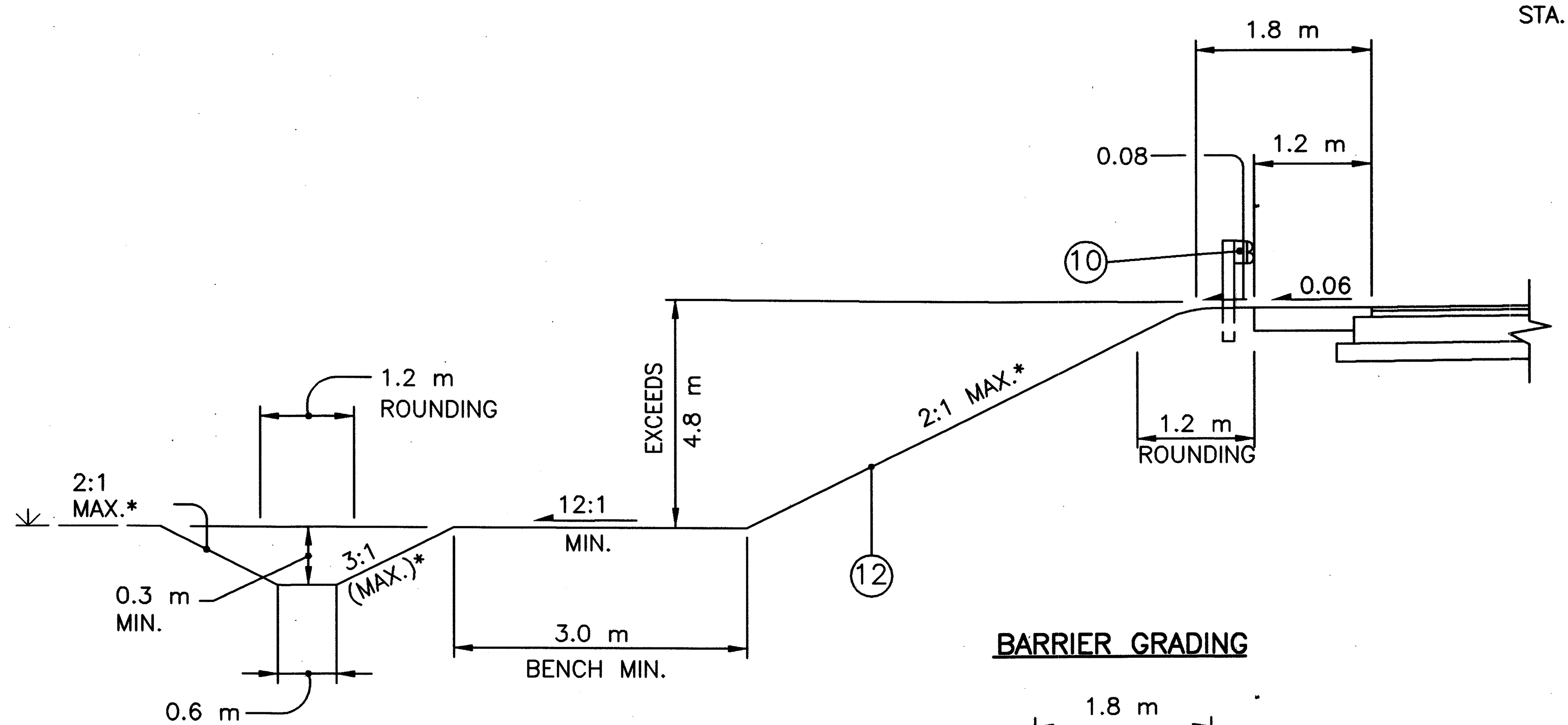
STA. 49+525.000	TO	STA. 49+527.203	=	2.203 m
STA. 49+943.767	TO	STA. 49+957.637	=	13.870 m
STA. 50+045.437	TO	STA. 50+061.601	=	16.164 m
STA. 50+460.158	TO	STA. 50+505.000	=	44.842 m
		TOTAL	=	77.079 m

NOTES:

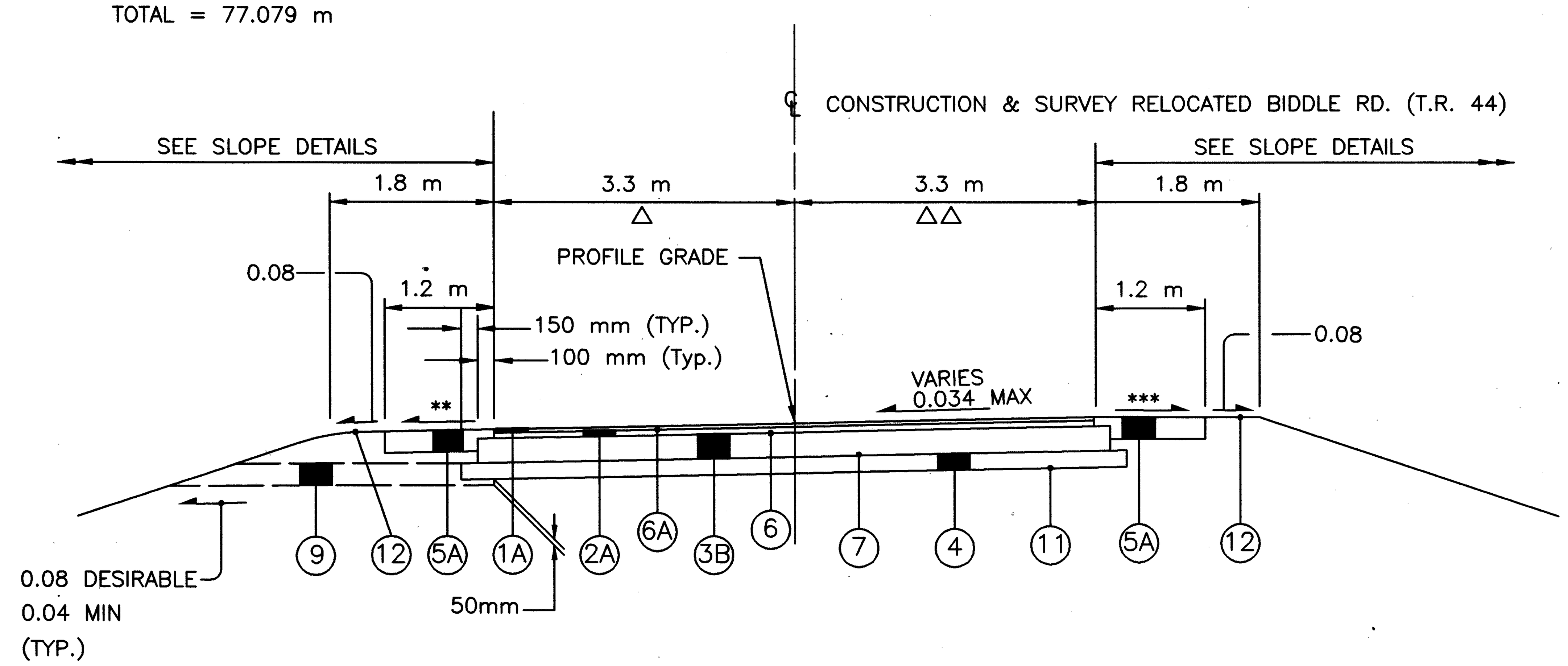
1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY.

(___) – CROSS SLOPE

++ EXISTING CROSS SLOPE VARIES



BARRIER GRADING

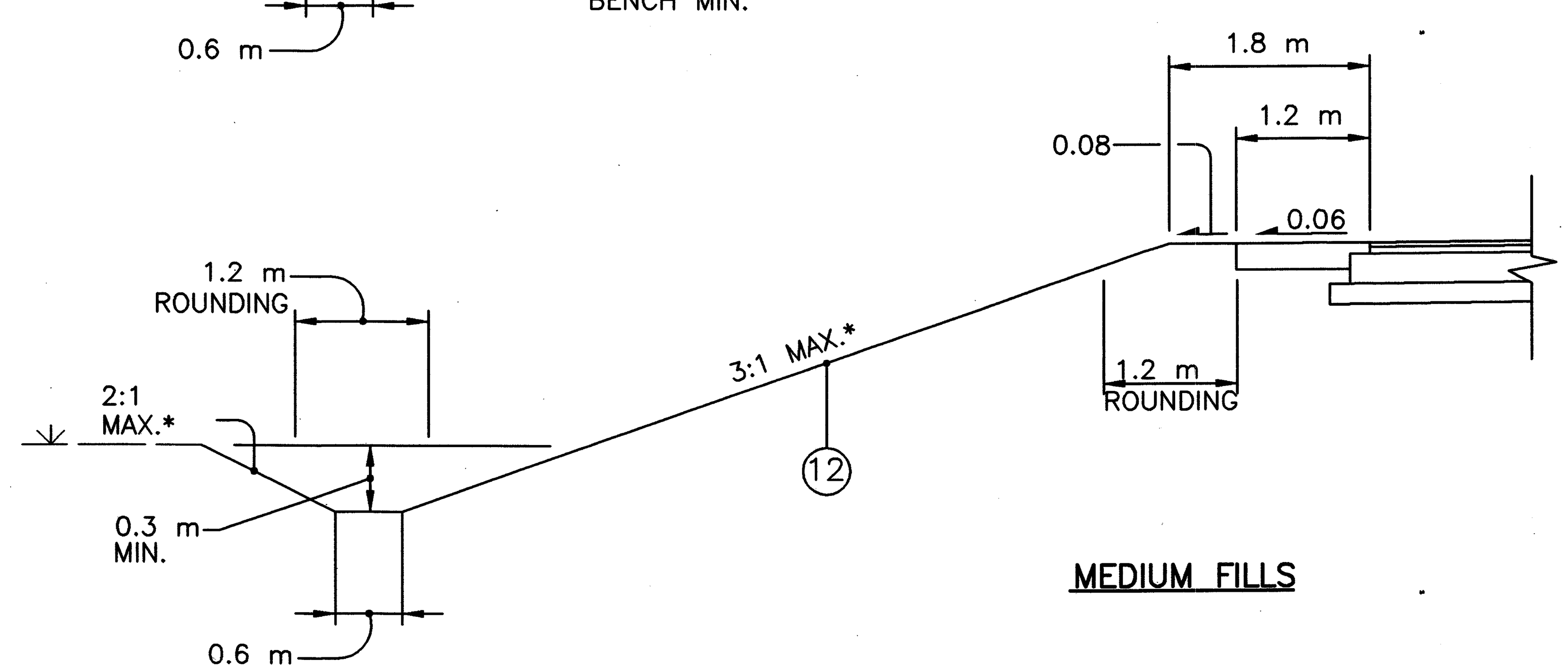


SUPERELEVATION SECTION – RELOCATED BIDDLE RD. (T.R. 44)

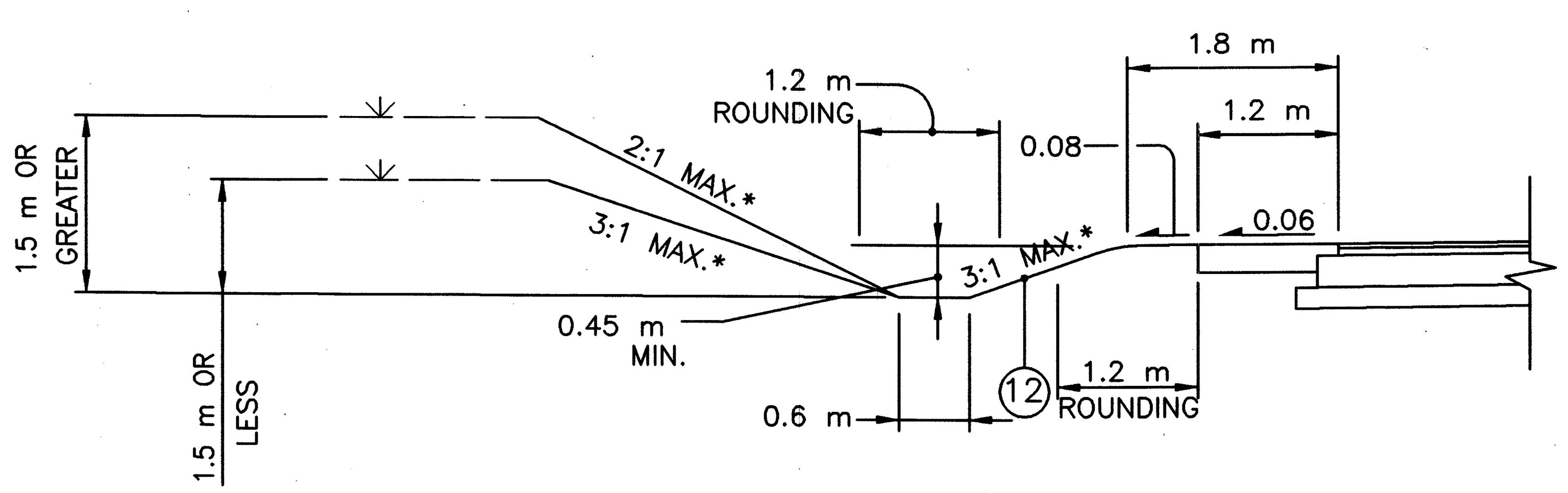
(REVERSE FOR OPPOSITE SUPERELEVATION)
SEE SUPERELEVATION TABLE ON SHT. 464 OF 677.

STA. 49+527.203	TO	STA. 49+943.767	=	416.564 m
STA. 50+061.601	TO	STA. 50+460.158	=	398.557 m
		TOTAL	=	815.121 m

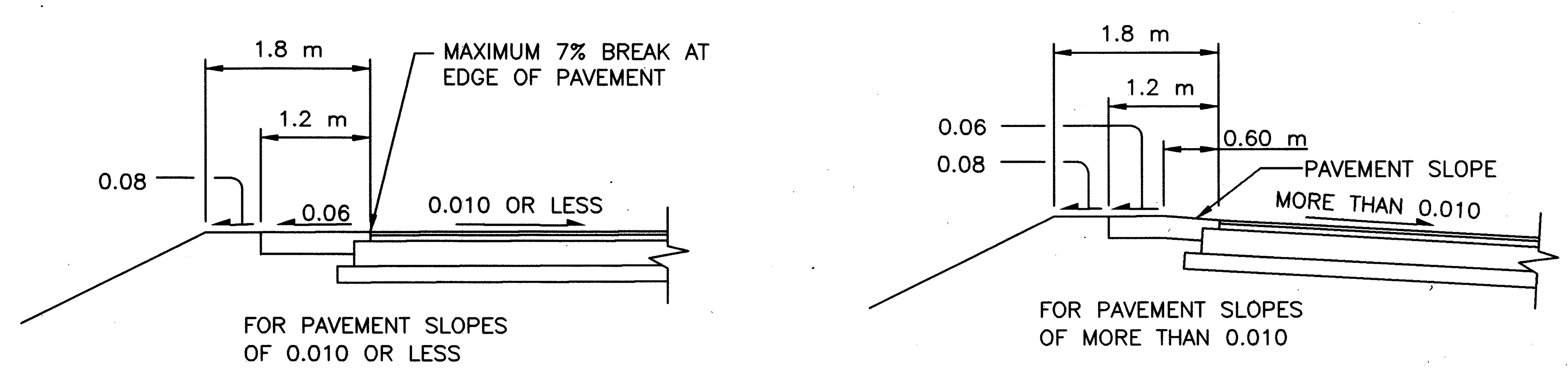
* SLOPES AS SHOWN ON CROSS SECTIONS
** 0.06 OR RATE OF SUPER IF GREATER
*** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS
++ EXISTING CROSS SLOPE VARIES



MEDIUM FILLS



CUT SECTION



SUPERELEVATED SHOULDER DETAILS

TYPICAL SECTIONS – BIDDLE RD. (T.R. 44)

CRA–30–24.000

L:\DRAWINGS\3125\FBDC\1Roadway\General\Typicals\ty007c02.dwg February 06 2001 1:00pm Bryanheller

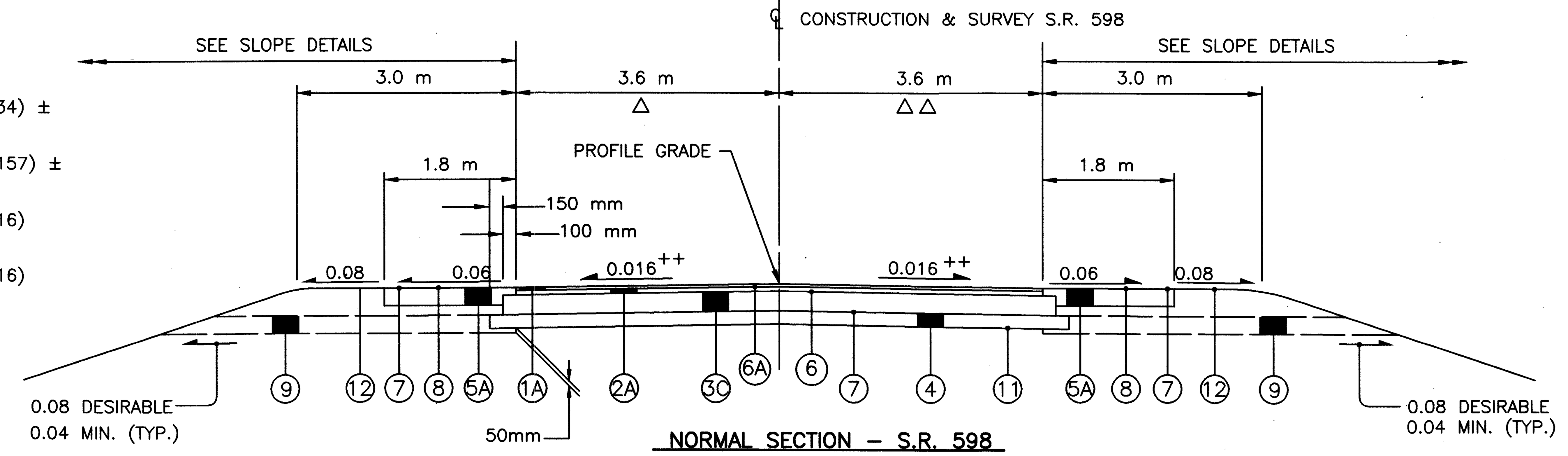
$\triangle$ = VARIES FROM 3.050 m @ STA. 49+365.000(0.034) ± TO 3.600 m @ STA. 49+395.000(0.016)

$\triangle\triangle$ = VARIES FROM 3.050 m @ STA. 49+365.000(0.0157) ± TO 3.600 m @ STA. 49+395.000(0.016)

$\triangle$ = VARIES FROM 3.600 m @ STA. 50+310.000(0.016) TO 3.050 m @ STA. 50+340.000(0.000) ±

$\triangle\triangle$ = VARIES FROM 3.600 m @ STA. 50+310.000(0.016) TO 3.050 m @ STA. 50+340.000(0.053) ±

(___) - CROSS SLOPE



NORMAL SECTION – S.R. 598

STA. 49+365.000 TO STA. 49+405.164	=	40.164 m
STA. 49+753.195 TO STA. 49+894.535 BACK	=	141.340 m
STA. 49+892.950 AHEAD TO STA. 49+954.597	=	60.062 m
STA. 50+045.403 TO STA. 50+340.00	=	294.597 m
TOTAL	=	536.163 m

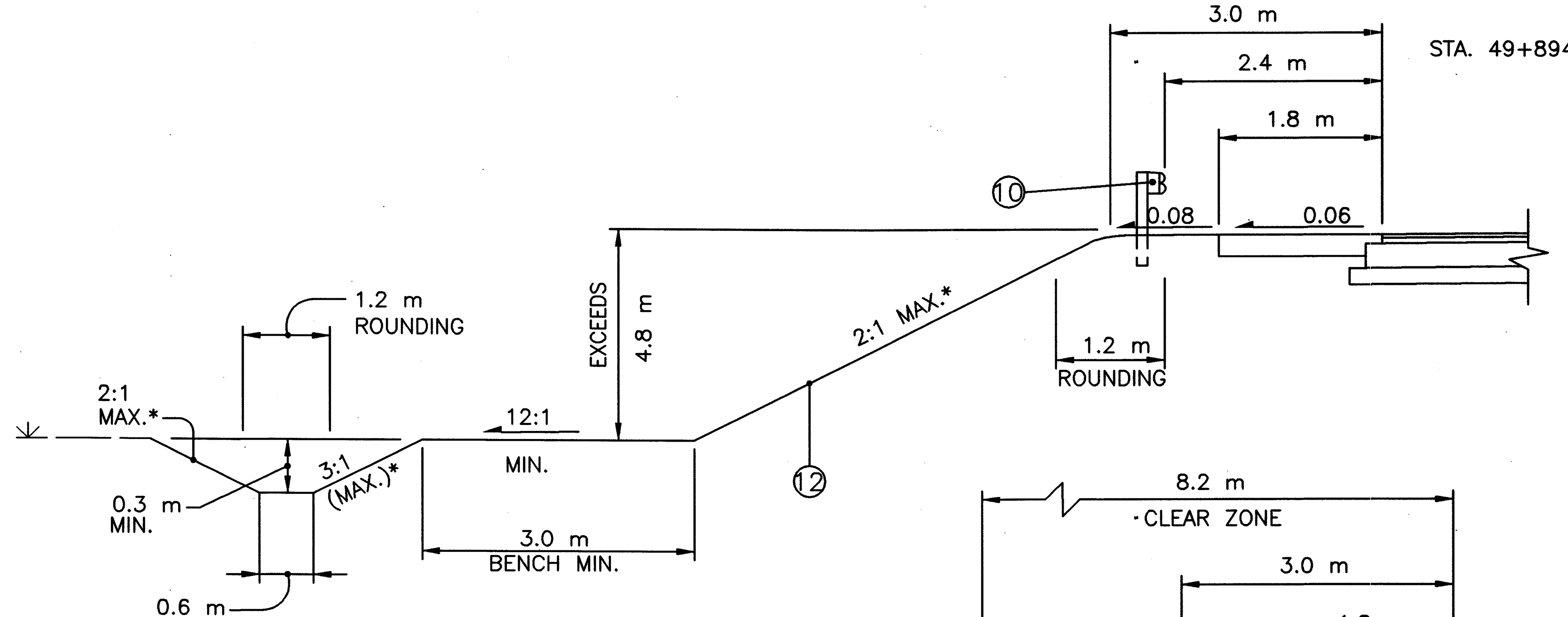
STATION EQUATION
STA. 49+894.535 BACK = STA. 49+892.950 AHEAD

* SLOPES AS SHOWN ON CROSS SECTIONS

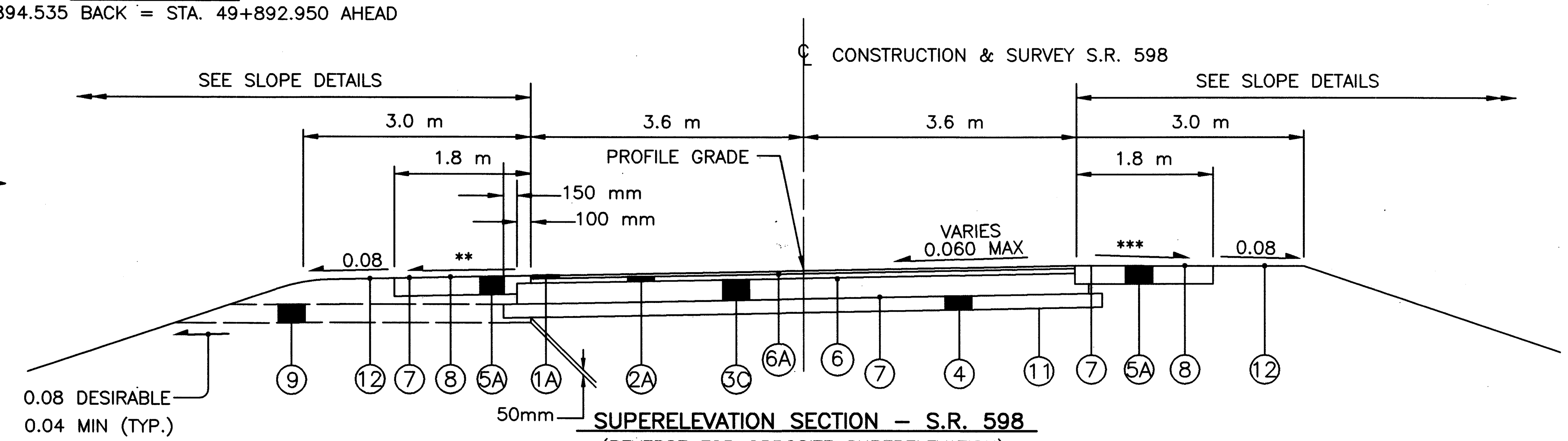
** 0.06 OR RATE OF SUPER IF GREATER

*** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS

++ EXISTING CROSS SLOPE VARIES



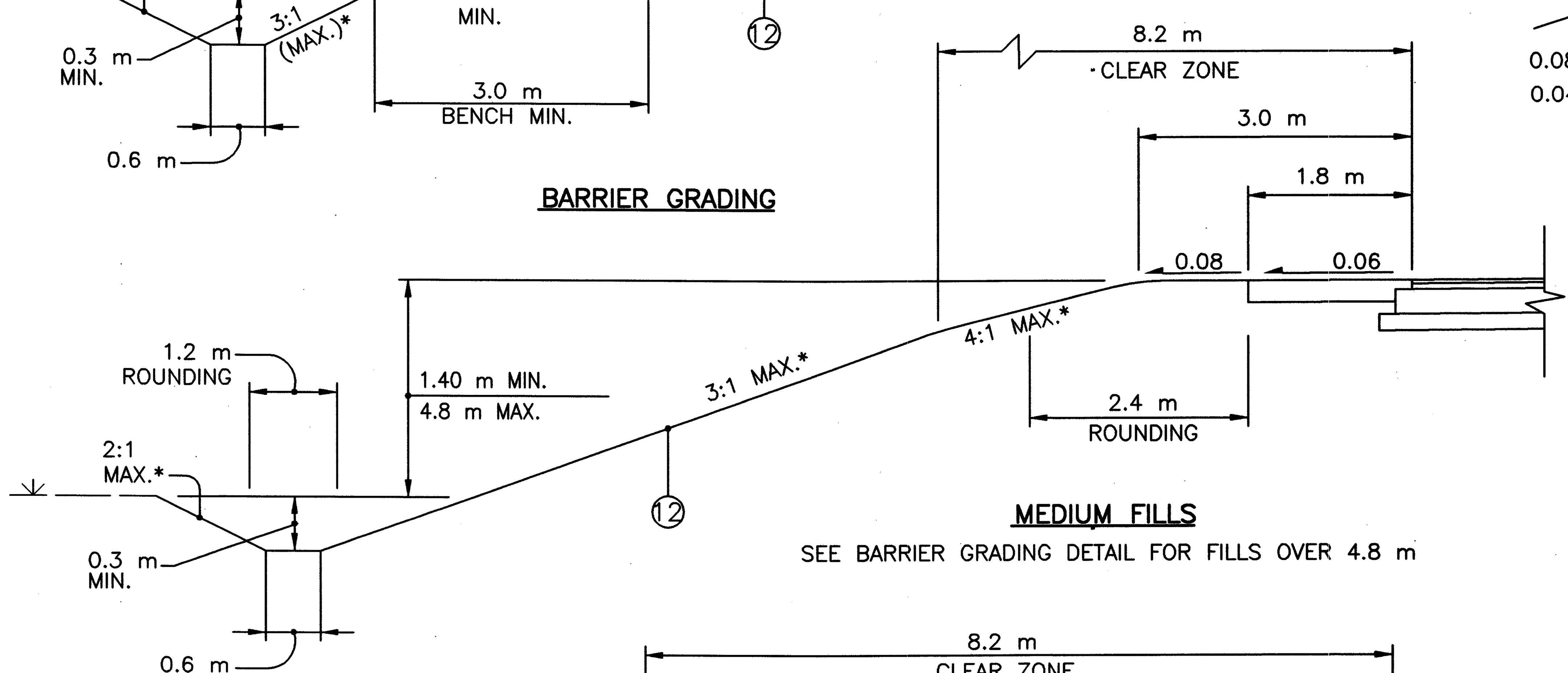
BARRIER GRADING



SUPERELEVATION SECTION – S.R. 598

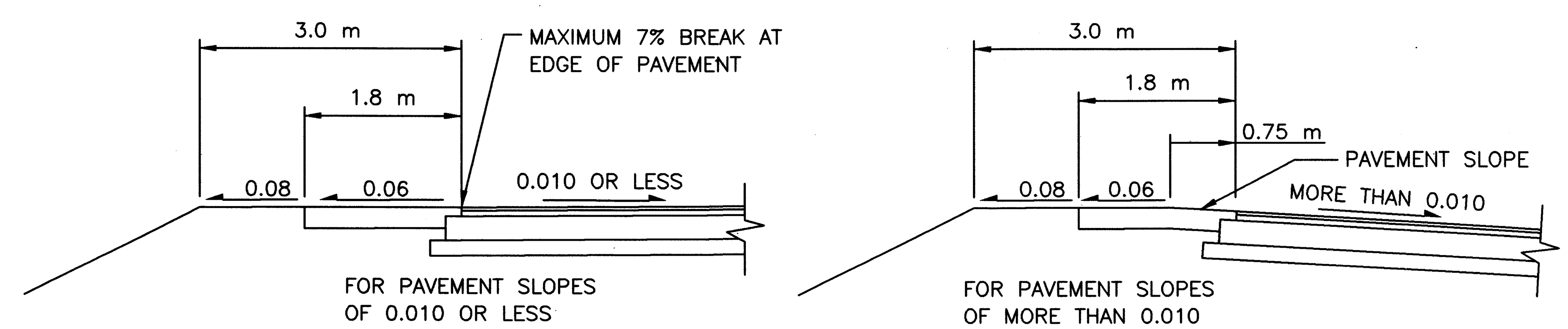
(REVERSE FOR OPPOSITE SUPERELEVATION)
SEE SUPERELEVATION TABLE ON SHT. 464A OF 677.

STA. 49+405.164 TO STA. 49+753.195 = 348.031 m

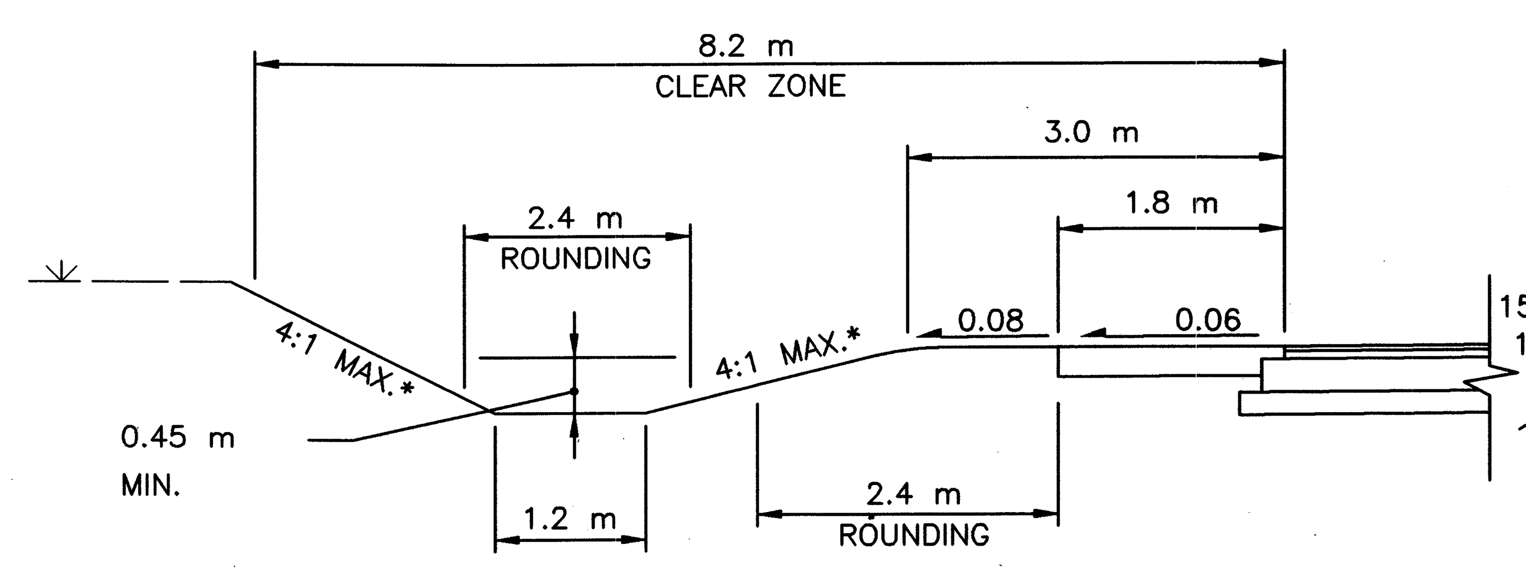


MEDIUM FILLS

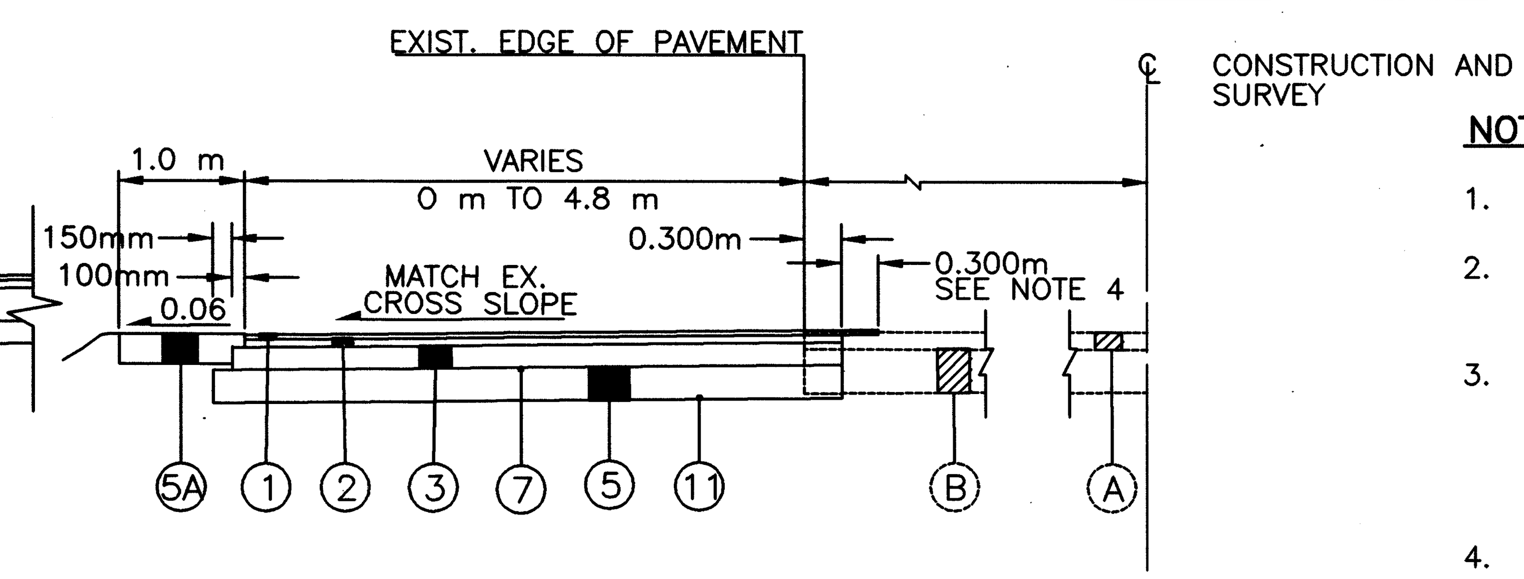
SEE BARRIER GRADING DETAIL FOR FILLS OVER 4.8 m



SUPERELEVATED SHOULDER DETAILS



CUT SECTION



PAVEMENT WIDENING DETAIL

INTERSECTION OF EX. U.S. 30 AND S.R. 598

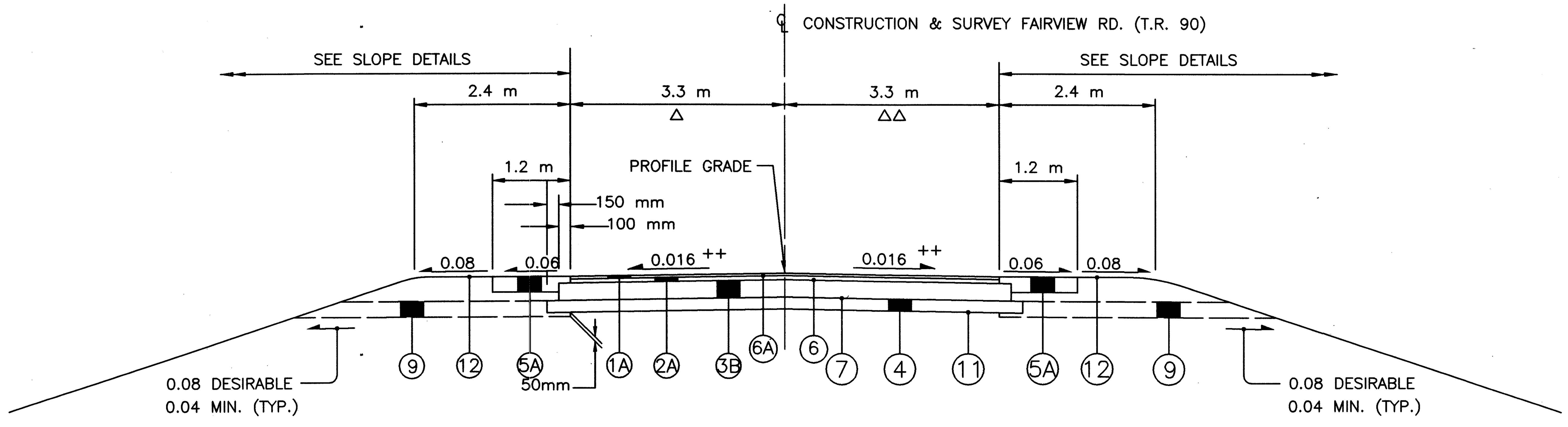
NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECITONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY.
4. WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. WIDTH MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

metric units

TYPICAL SECTIONS – S.R. 598

CRA-30-24.000



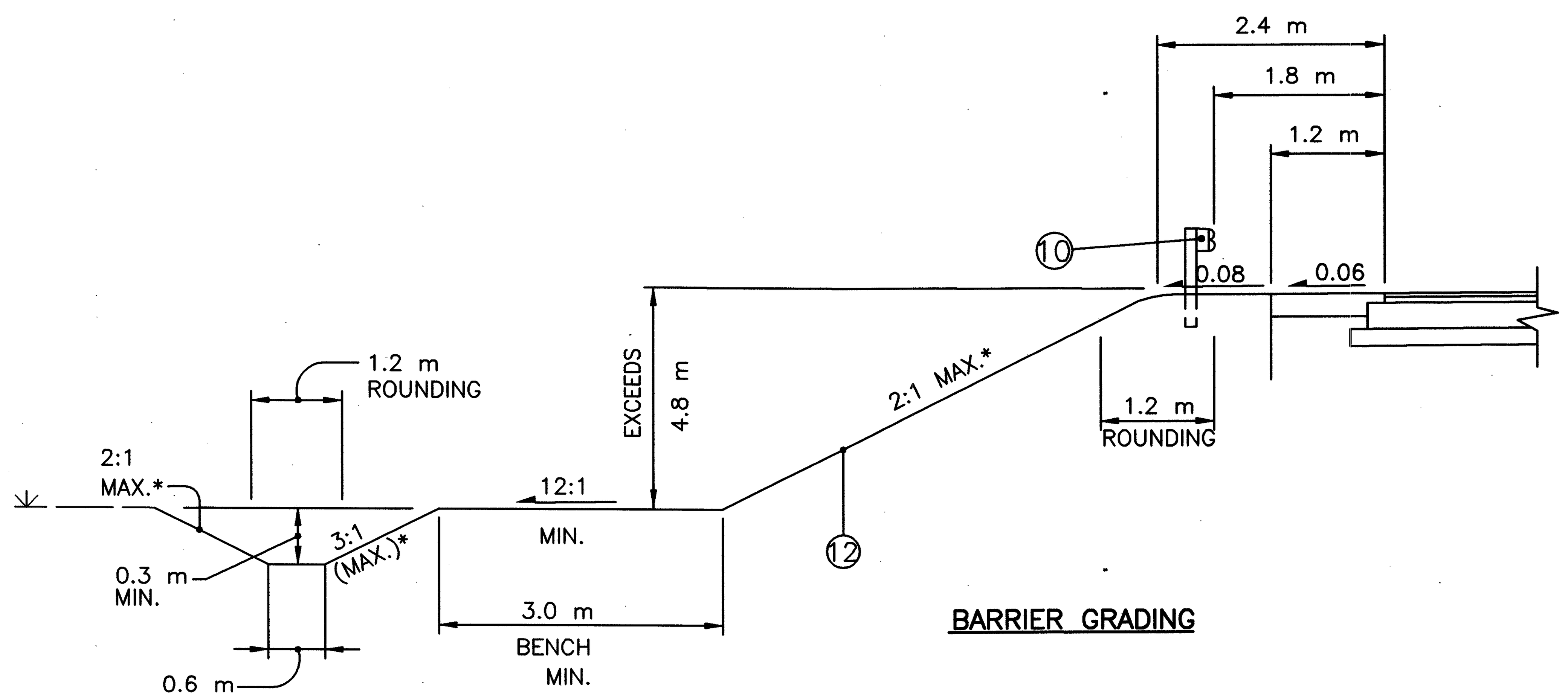
FAIRVIEW RD. (T.R. 90)

STA. 49+620.000 TO STA. 49+665.000 = 45.000 m (Δ=VARIES FROM 2.88 m(0.046) ± TO 3.3 m(0.016), ΔΔ=VARIES FROM 2.66 m(0.065) ± TO 3.3 m(0.016))
STA. 49+665.000 TO STA. 49+956.096 = 291.096 m
STA. 50+043.904 TO STA. 50+240.000 = 196.096 m
STA. 50+240.000 TO STA. 50+280.000 = 40.000 m (Δ=VARIES FROM 3.3 m(0.016) TO 2.69 m(0.024±), ΔΔ=VARIES FROM 3.3 m(0.016) TO 2.69 m(0.024±)
TOTAL = 572.192 m

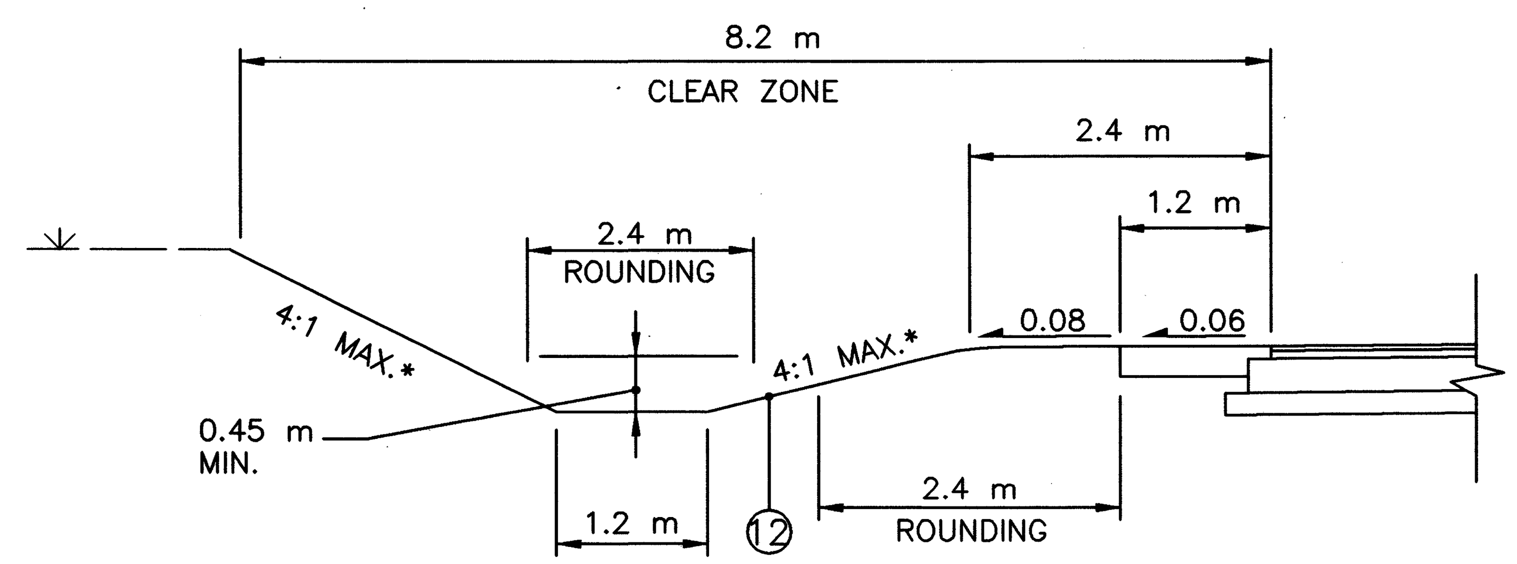
(___) – CROSS SLOPE

* SLOPES AS SHOWN ON CROSS SECTIONS

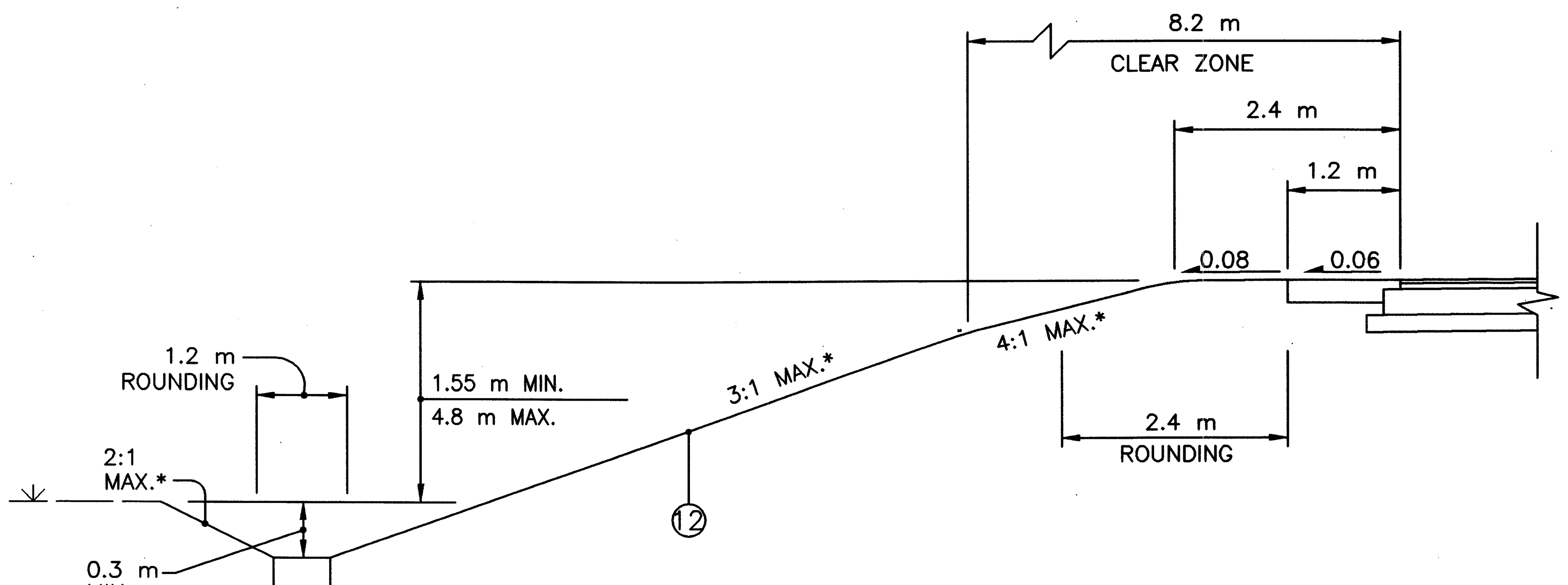
++ EXISTING CROSS SLOPE VARIES



BARRIER GRADING



CUT SECTION



MEDIUM FILLS
SEE BARRIER GRADING
DETAIL FOR FILLS OVER 4.8 m

NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY.

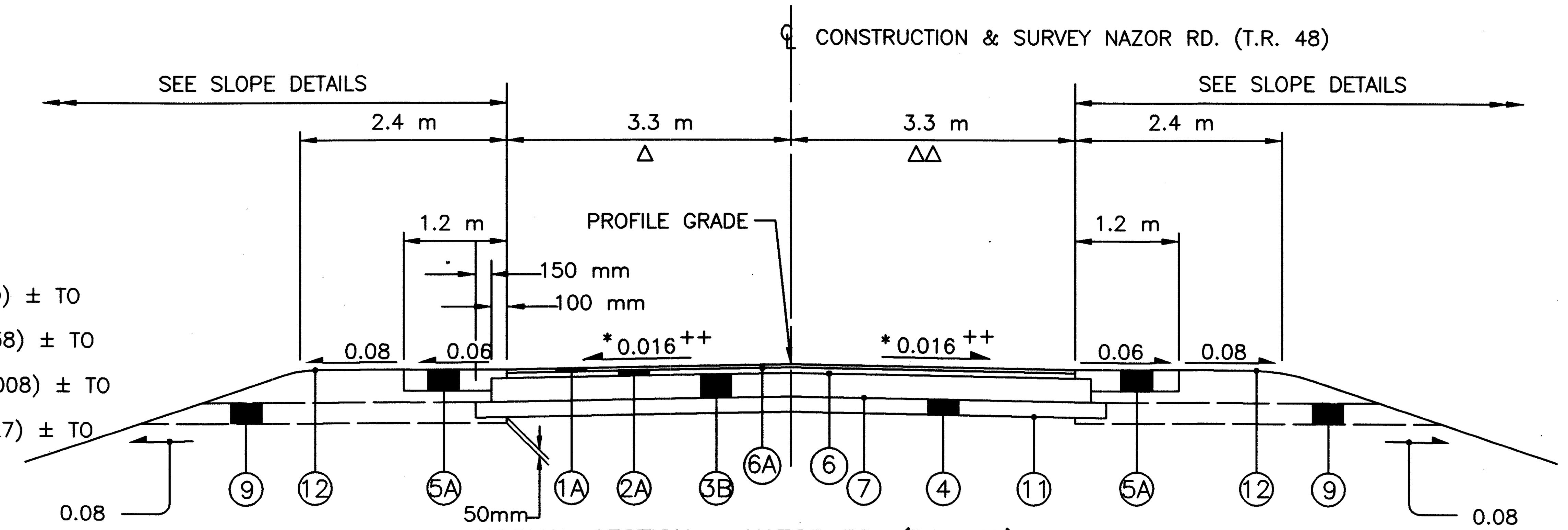
metric units

TYPICAL SECTIONS – FAIRVIEW RD. (T.R. 90)

CRA-30-24.000

Δ = VARIES FROM 2.345 m @ STA. 49+500.000 (0.00) ± TO 3.300 m @ STA. 49+575.000 (0.016)
ΔΔ = VARIES FROM 1.933 m @ STA. 49+500.000 (0.038) ± TO 3.300 m @ STA. 49+575.000 (0.016)
Δ = VARIES FROM 3.300 m @ STA. 50+540.000 (−0.008) ± TO 2.601 m @ STA. 50+600.000 (0.016)
ΔΔ = VARIES FROM 3.300 m @ STA. 50+540.000 (0.027) ± TO 2.224 m @ STA. 50+600.000 (0.016)

(___) – CROSS SLOPE

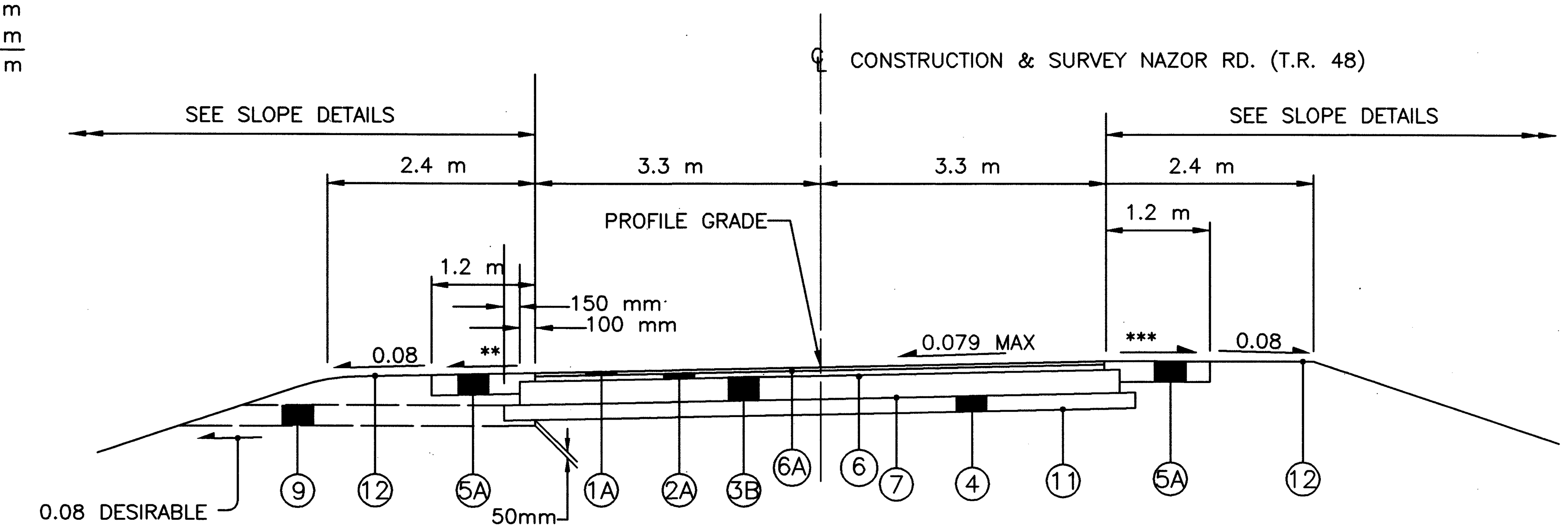


NORMAL SECTION – NAZOR RD. (T.H. 48)

STA. 49+500.000 TO STA. 49+600.064 = 100.064 m
STA. 49+963.078 TO STA. 49+966.912 = 3.8341 m
STA. 50+057.740 TO STA. 50+186.060 = 128.320 m
STA. 50+551.164 TO STA. 50+600.000 = 48.836 m
TOTAL = 281.054 m

STATION EQUATION

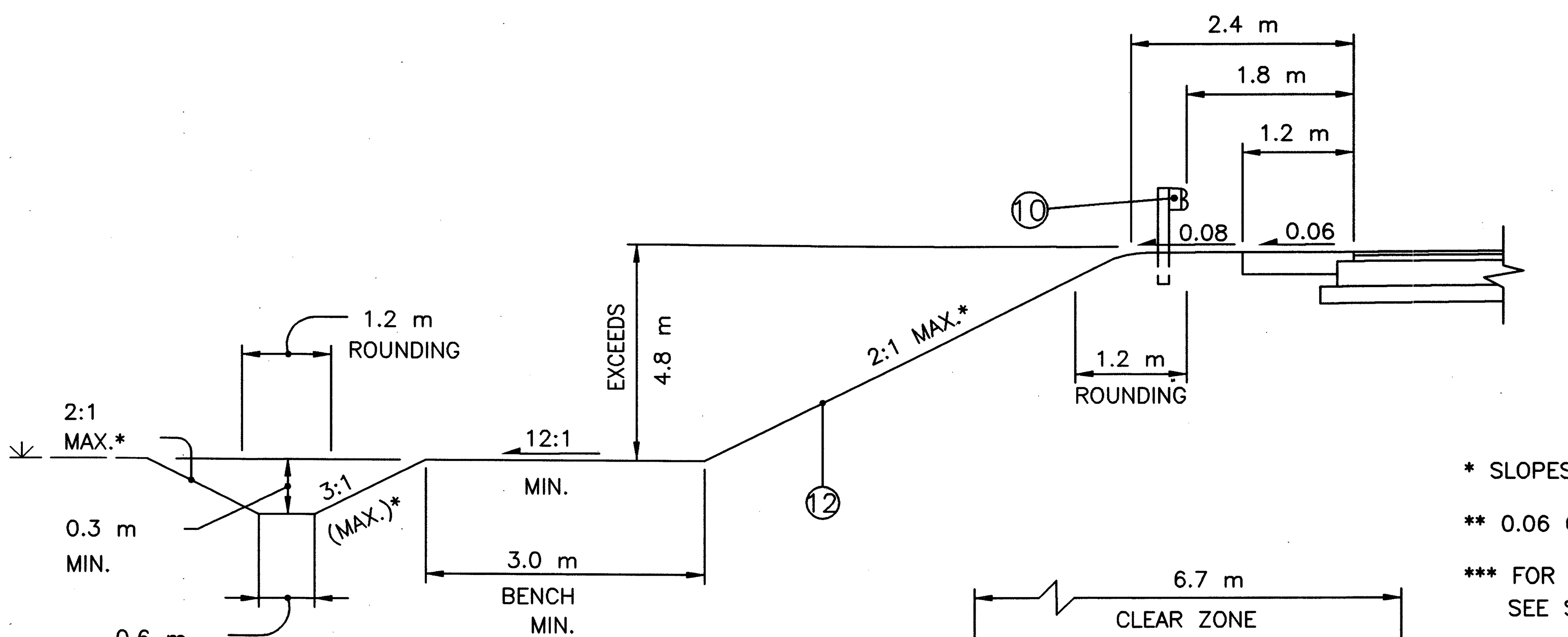
STA. 50+524.953 BACK = STA. 50+517.111 AHEAD



SUPERELEVATION SECTION – NAZOR RD. (T.H. 48)

(REVERSE FOR OPPOSITE SUPERELEVATION)
SEE SUPERELEVATION TABLE SHT. 464B OF 677.

STA. 49+600.064 TO STA. 49+963.078 = 363.014 m
STA. 50+186.060 TO STA. 50+524.953 BK = 338.893 m
STA. 50+517.111 AHD TO STA. 50+551.164 = 34.053 m
TOTAL = 735.960 m



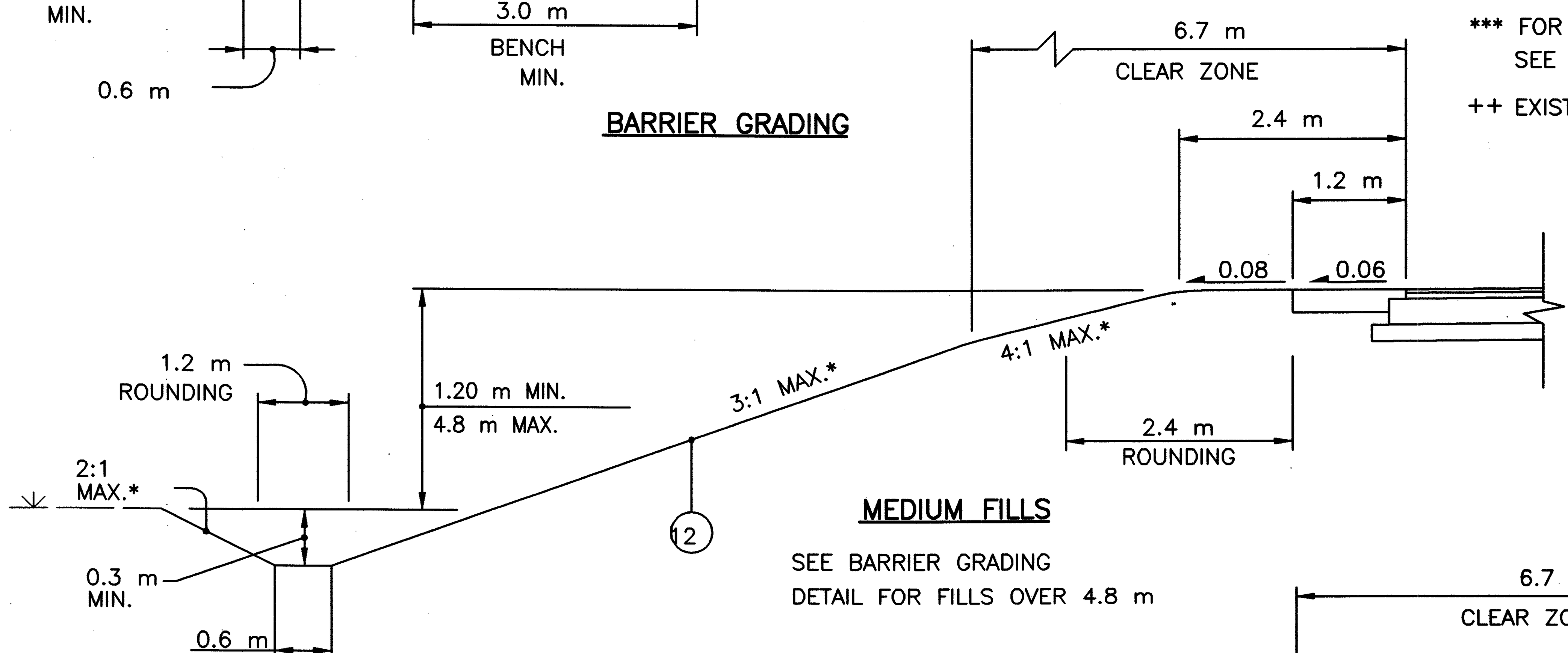
BARRIER GRADING

* SLOPES AS SHOWN ON CROSS SECTIONS

** 0.06 OR RATE OF SUPER IF GREATER

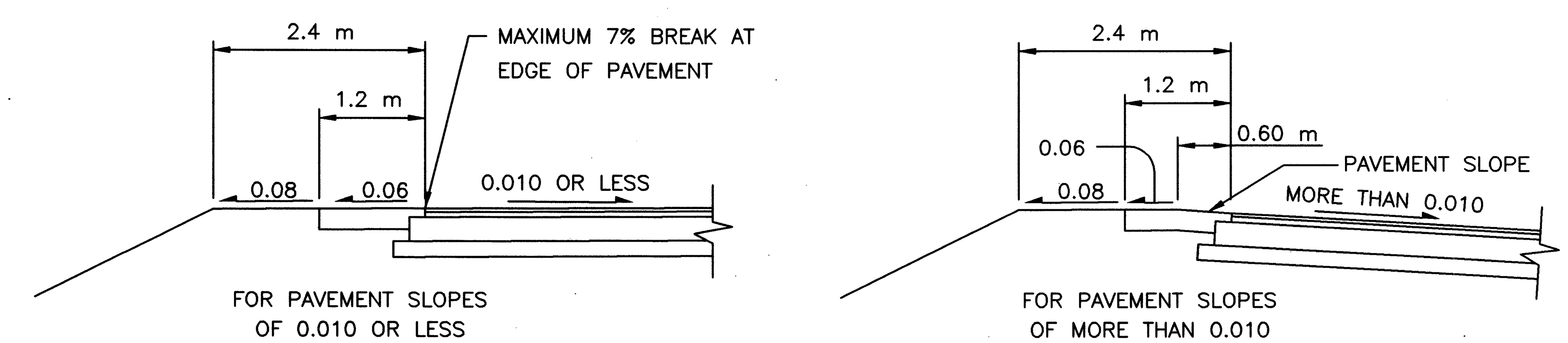
*** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS

++ EXISTING CROSS SLOPE VARIES

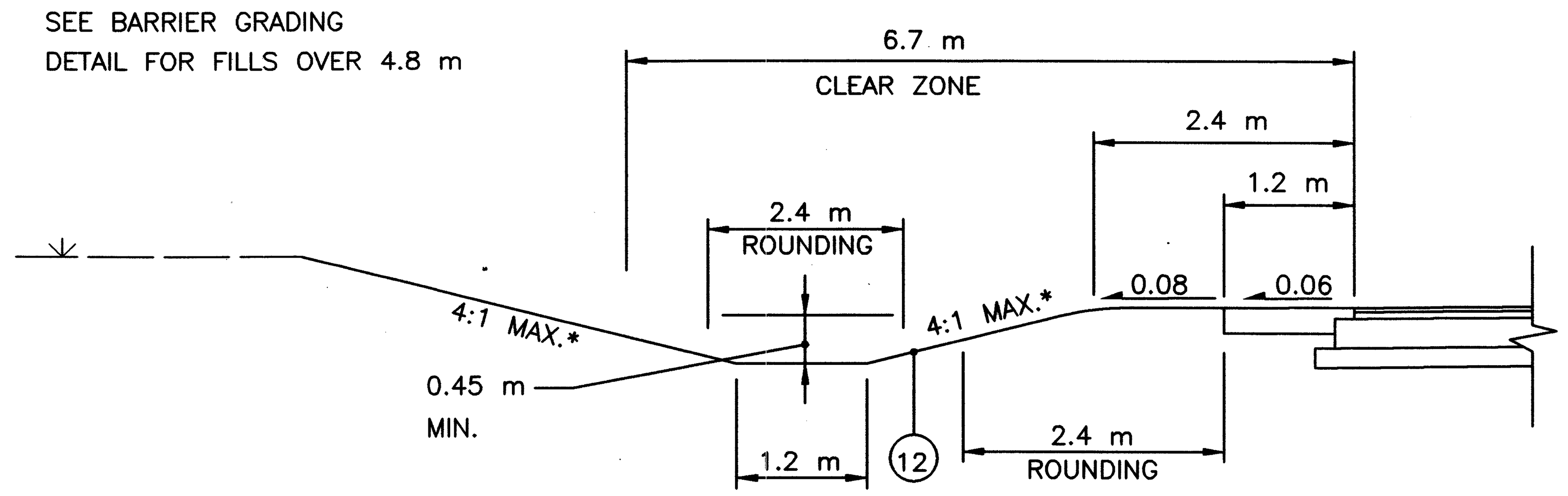


MEDIUM FILLS

SEE BARRIER GRADING DETAIL FOR FILLS OVER 4.8 m



SUPERELEVATED SHOULDER DETAILS



CUT SECTION

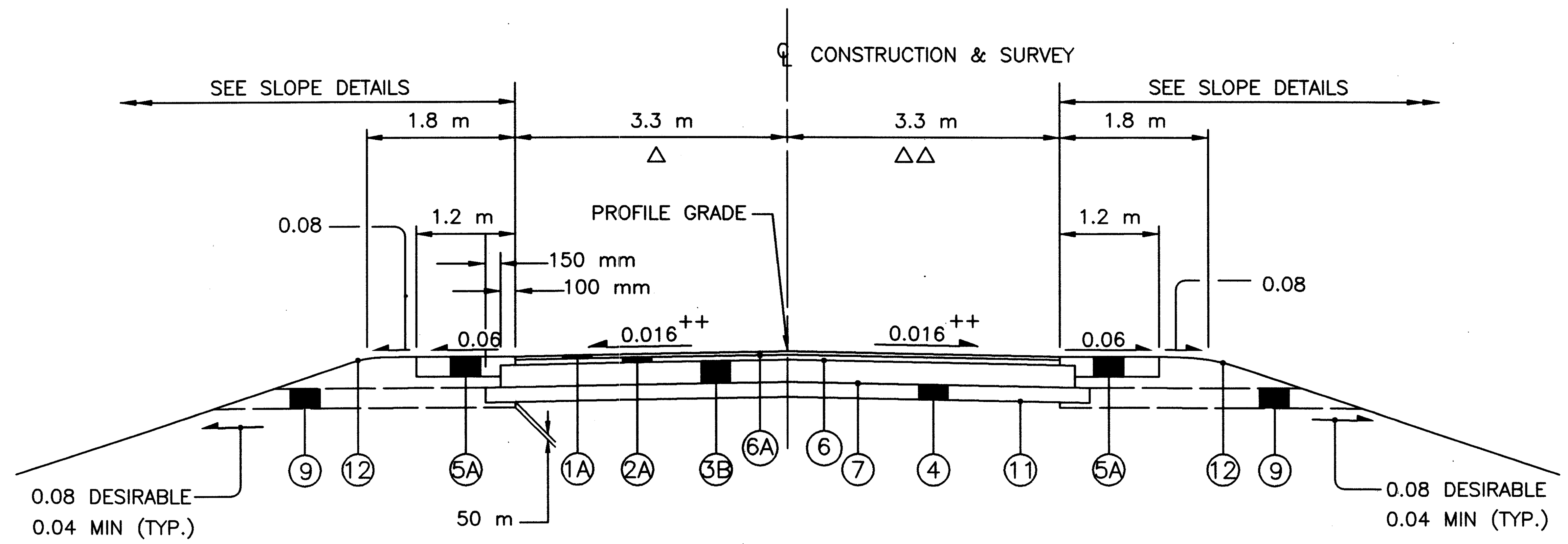
NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY

metric units

TYPICAL SECTIONS – NAZOR RD. (T.H. 48)

CRA-30-24.000



BECK RD. (T.R. 20)

STA. 49+886.227 TO STA. 49+902.227 = 16.000 m
△ VARIES 2.39 m(0.059) TO 3.30 m(0.016)
△△ VARIES 2.15 m(0.043) TO 3.30 m(0.016)

STA. 50+100.223 TO STA. 50+110.000 = 9.777 m
STA. 50+110.000 TO STA. 50+126.000 = 16.000 m

△ VARIES 3.30 m(0.016) TO 2.39 m(0.057)
△△ VARIES 3.30 m(0.016) TO 2.29 m(0.024)

TOTAL = 41.777 m

STATION EQUATION

STA. 49+902.227 BACK = STA. 10+000.000 AHEAD
STA. 20+000.000 BACK = STA. 50+100.223 AHEAD

(___) – CROSS SLOPE

NORTH MARKET RD. (C.R. 89)

STA. 49+868.000 TO STA. 49+880.000 = 12.000 m
△ VARIES 2.82 m(0.0258) TO 3.30 m(0.016)
△△ VARIES 3.20 m(0.019) TO 3.30 m(0.016)
STA. 50+135.000 TO STA. 50+155.00 = 20.000 m
△ VARIES 3.30 m(0.016) TO 2.84 m(0.049)
△△ VARIES 3.30 m(0.016) TO 3.25 m(0.020)

TOTAL = 32.000 m

STATION EQUATION

STA. 49+880.000 BACK = STA. 10+000.000 AHEAD
STA. 20+000.000 BACK = STA. 50+135.000 AHEAD

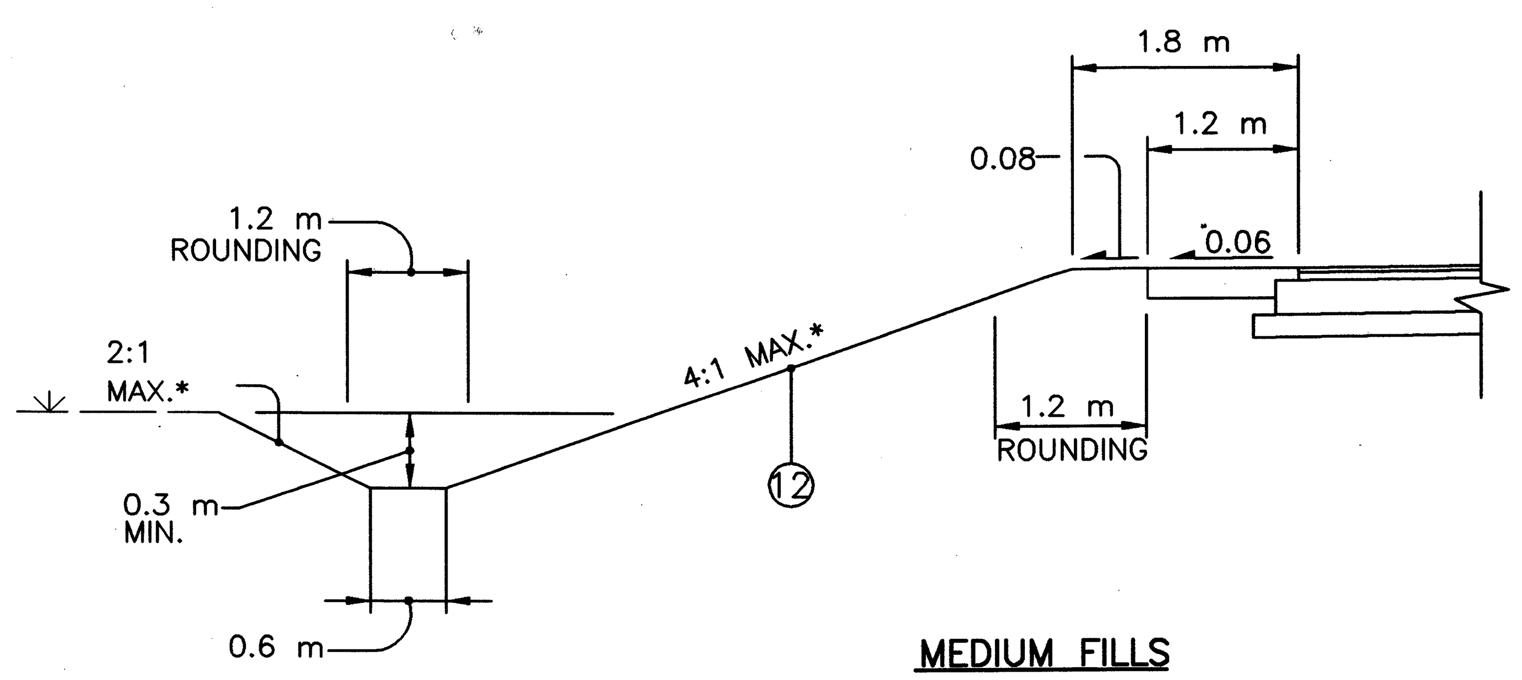
KNORR RD. (T.R. 91)

STA. 10+000.000 TO STA. 10+017.000 = 17.000 m
△ VARIES 2.57 m(0.0311) TO 3.30 m(0.016)
△△ VARIES 3.00 m(0.0366) TO 3.30 m(0.016)
STA. 19+983.000 TO STA. 20+000.000 = 17.000 m
△ VARIES 3.30 m(0.016) TO 2.53 m(0.0098)
△△ VARIES 3.30 m(0.016) TO 3.03 m(0.031)

TOTAL = 34.000 m

STATION EQUATION

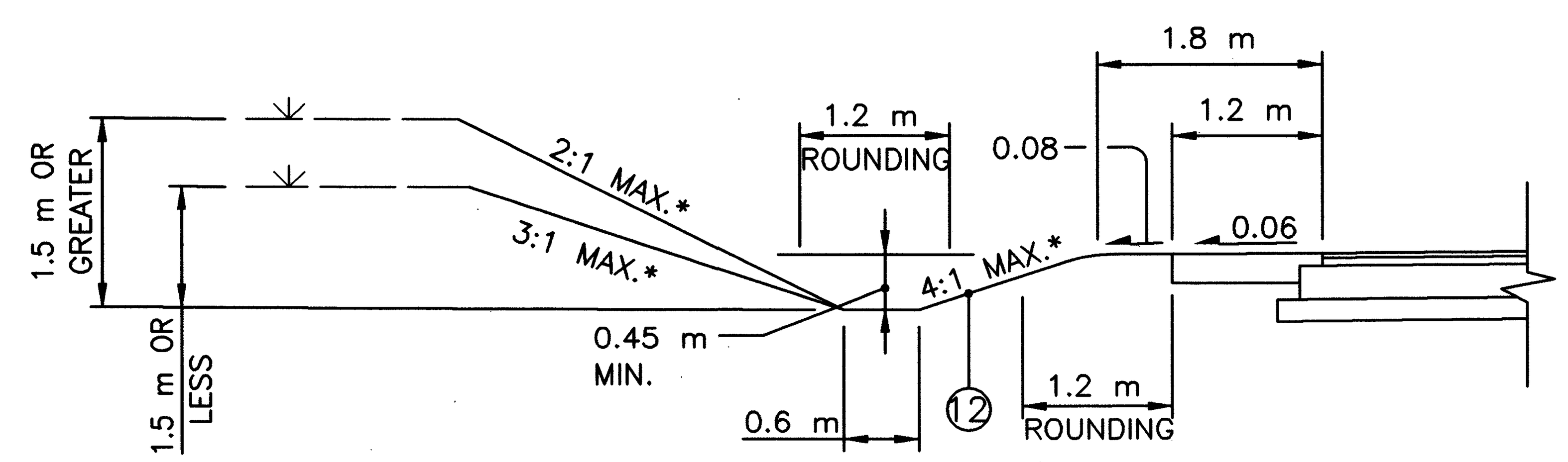
STA. 49+883.022 BACK = STA. 10+000.000 AHEAD
STA. 20+000.000 BACK = STA. 50+114.836 AHEAD



MEDIUM FILLS

* SLOPE AS SHOWN ON CROSS SECTION

++ EXISTING CROSS SLOPE VARIES



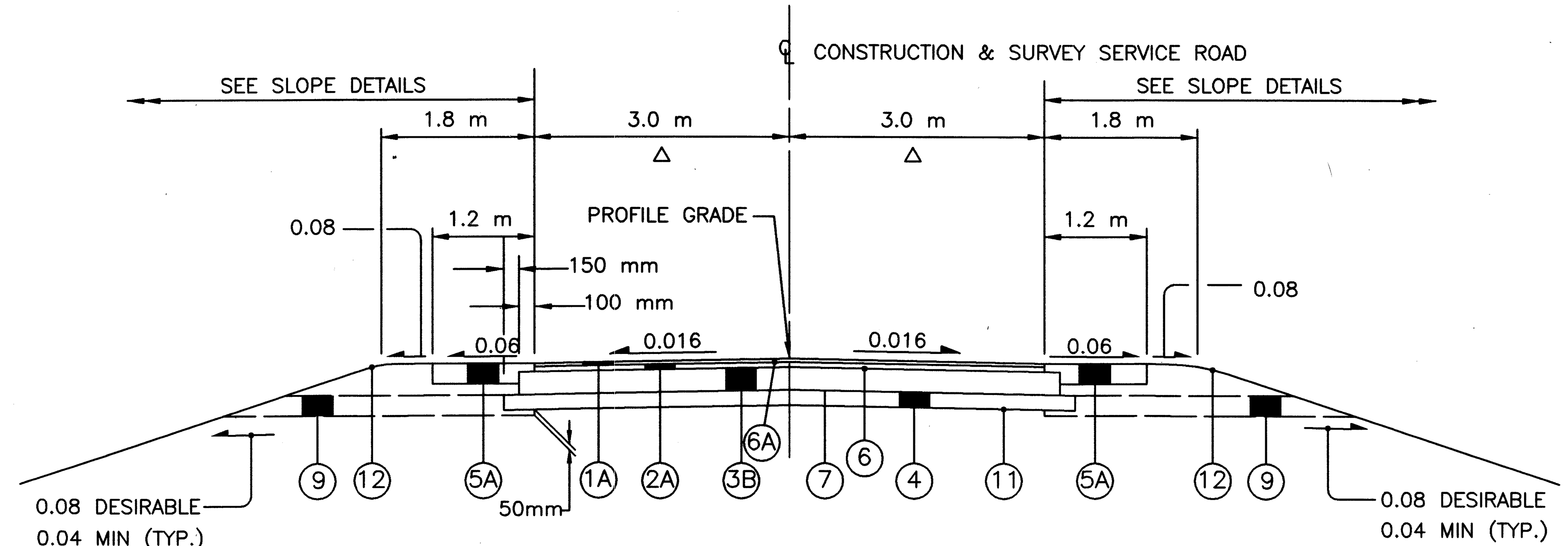
CUT SECTION

NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.

TYPICAL SECTIONS – BECK RD. (T.R. 20), NORTH MARKET (C.R. 89), & KNORR RD. (T.R. 91)

CRA-30-24.000

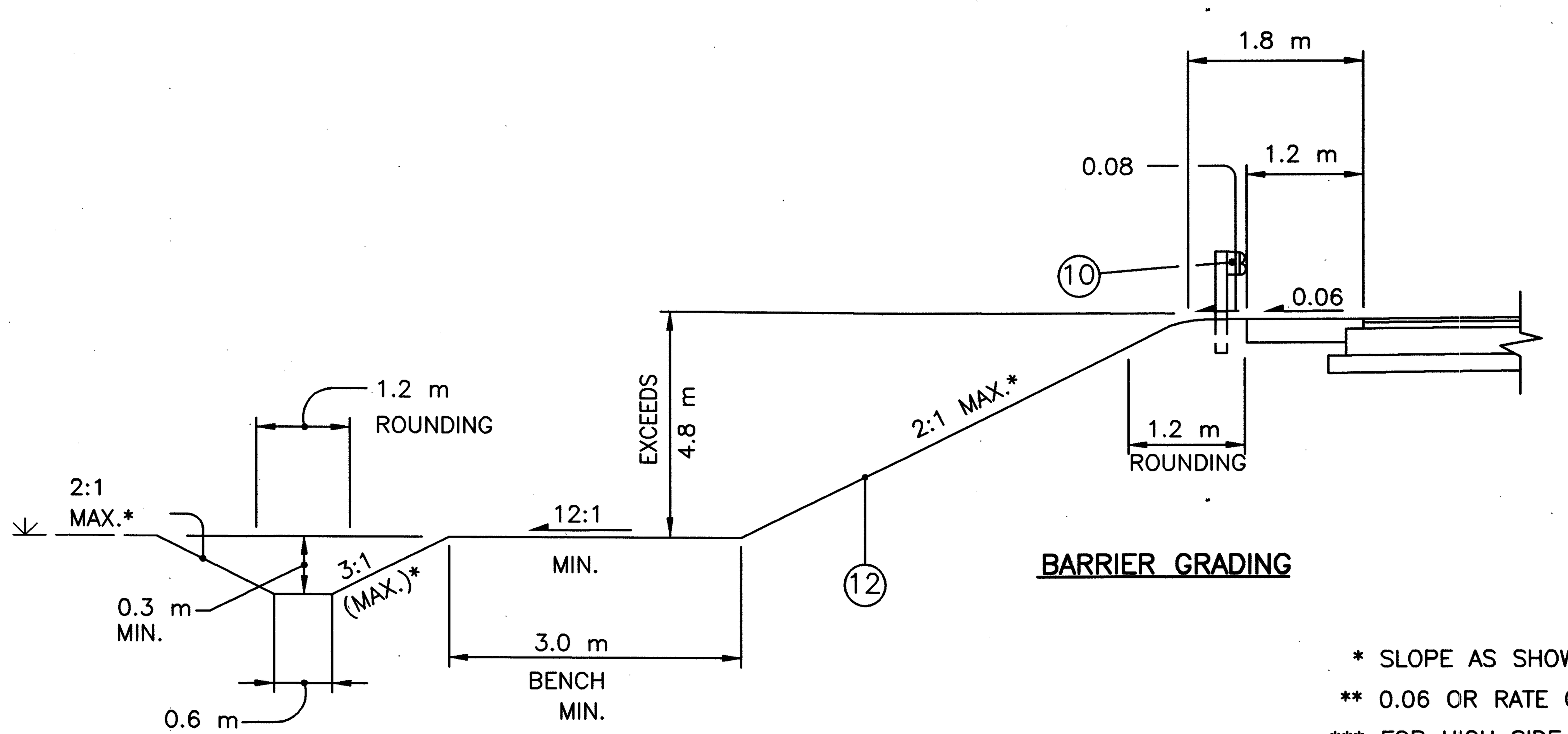


NORMAL SECTION – SERVICE ROAD A

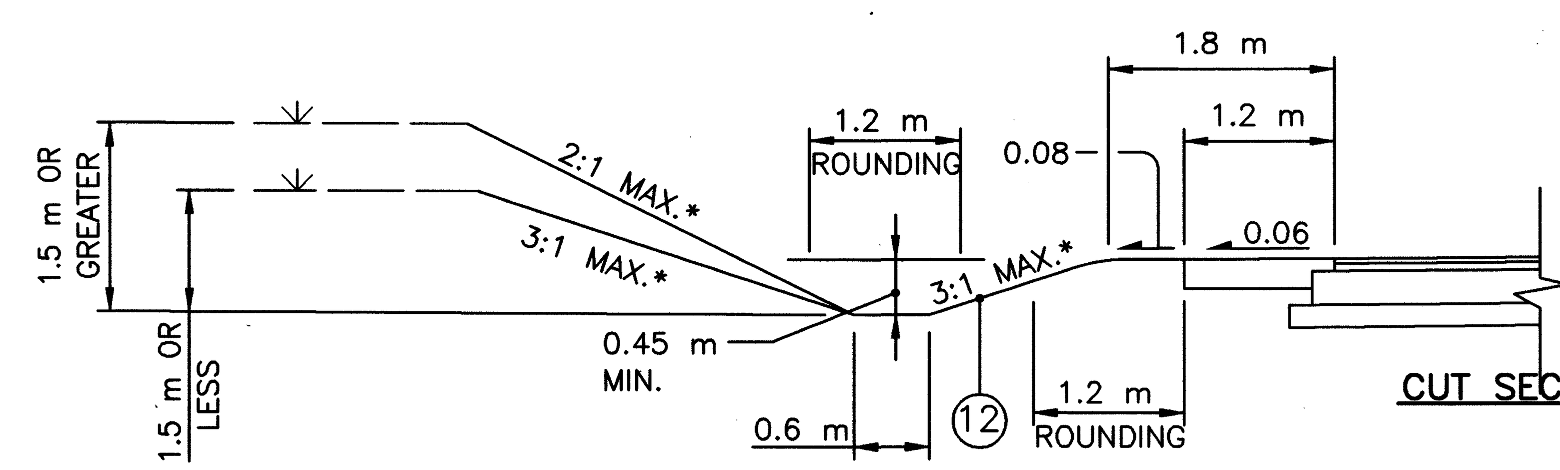
STA. 10+000.000 TO STA. 10+034.788 = 34.788 m (Δ=VARIES SEE INTERSECTION PAVEMENT DETAIL SHT. 465 OF 677.)
STA. 10+034.788 TO STA. 10+320.000 = 285.212 m
TOTAL = 320.000 m

NORMAL SECTION – SERVICE ROAD B

STA. 10+000.000 TO STA. 10+020.962 = 20.962 m (Δ=VARIES SEE INTERSECTION PAVEMENT DETAIL SHT. 465 OF 677.)
STA. 10+020.962 TO STA. 10+175.000 = 154.038 m
TOTAL = 175.000 m

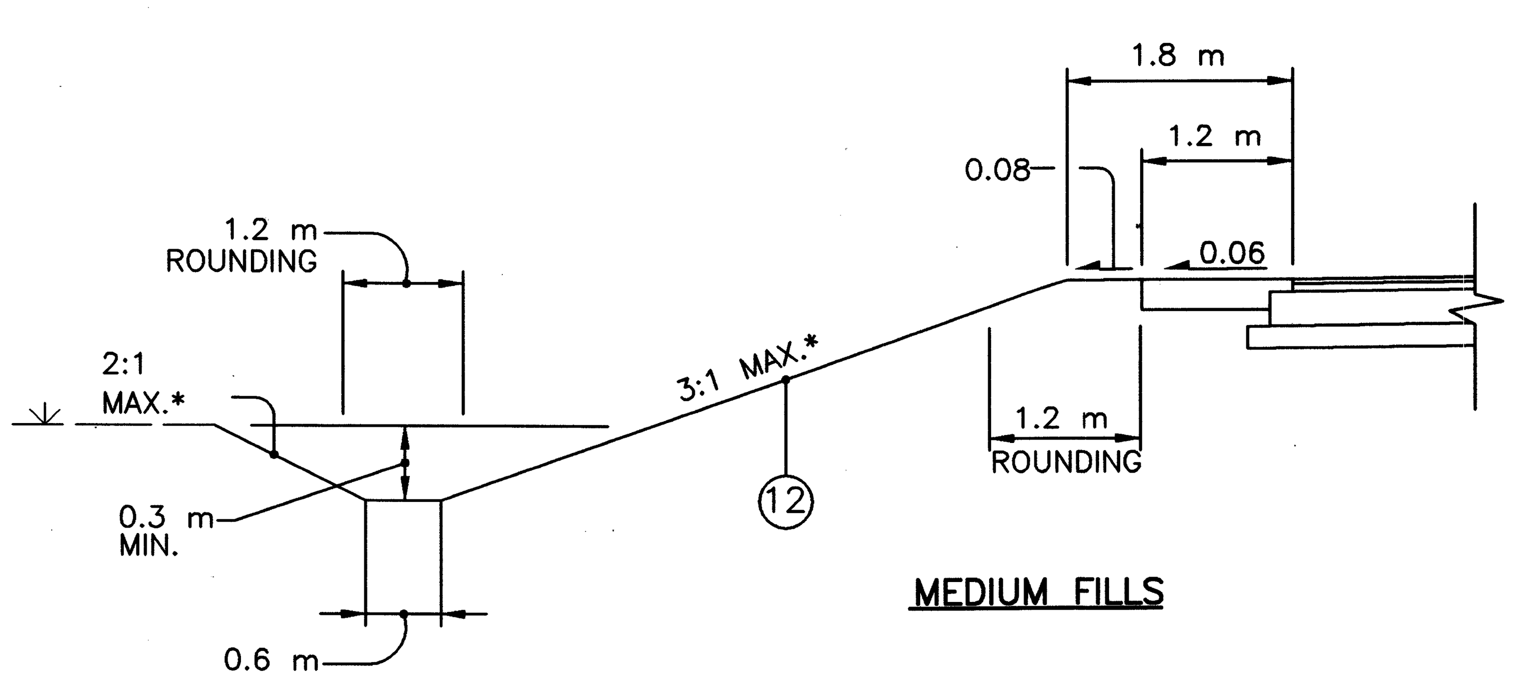


BARRIER GRADING



CUT SECTION

* SLOPE AS SHOWN ON CROSS SECTION
** 0.06 OR RATE OF SUPER IF GREATER
*** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS



MEDIUM FILLS

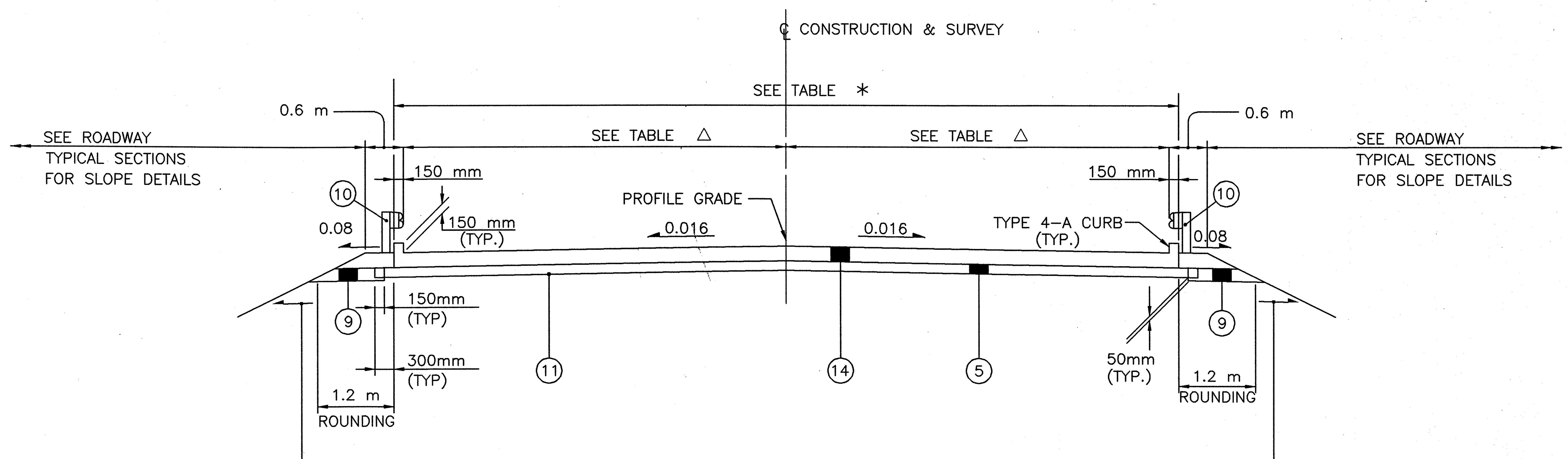
NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. ALL SLOPE BREAKS TO HAVE MIN. 1.2 m ROUNDING EXCEPT AS OTHERWISE NOTED.
3. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY

metric units

TYPICAL SECTIONS – SERVICE ROAD A & B

CRA-30-24.000



APPROACH SLAB TYPICAL SECTION

SIDE ROADS

(SEE TABLE)

NOTES:

1. FOR LEGEND, SEE SHEET 12 OF 677.
2. THE GRADING ALONG THE GUARDRAIL SHALL BE AS PER THE CROSS SECTIONS AND THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS FOR THE CORRESPONDING ANCHOR ASSEMBLY

APPROACH SLAB TABLE								ITEM 304			⑤
LOCATION	STATION FROM	STATION TO	LENGTH m	WIDTH m △	TOTAL WIDTH m *	T mm	AREA SQ. m.	LENGTH	WIDTH	T mm	CM
MAINLINE											
S.R. 602	49+955.498	49+963.098	7.6	6.00	12.30	380	93.48	7.6	12.9	250	24.51
	50+036.902	50+044.502	7.6	6.00	12.30	380	93.48	7.6	12.9	250	24.51
BIDDLE RD. (TR 44)	49+957.637	49+965.237	7.6	4.50	9.30	380	70.68	7.6	9.9	250	18.81
	50+037.837	50+045.437	7.6	4.50	9.30	380	70.68	7.6	9.9	250	18.81
S.R. 598	49+954.597	49+962.197	7.6	6.00	12.30	380	93.48	7.6	12.9	250	24.51
	50+037.803	50+045.403	7.6	6.00	12.30	380	93.48	7.6	12.9	250	24.51
FAIRVIEW AVE. (TR 90)	49+956.096	49+963.696	7.6	5.10	10.50	380	79.80	7.6	11.1	250	21.09
	50+036.304	50+043.904	7.6	5.10	10.50	380	79.80	7.6	11.1	250	21.09
NAZOR RD. (TR 48)	49+966.912	49+974.512	7.6	5.10	10.50	380	79.80	7.6	11.1	250	21.09
	50+050.140	50+057.740	7.6	5.10	10.50	380	79.80	7.6	11.1	250	21.06
TOTAL							834.48*				**220.02

* 834 SQUARE METERS CARRIED TO GENERAL SUMMARY SHEET 37 AND 42.

** 220 CU. METERS CARRIED TO GENERAL SUMMARY SHEET 42.

ADDED ITEM 304 QUANTIY TABLE 6-30-02

TYPICAL SECTIONS – APPROACH SLAB

CRA-30-24.000

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AMERICAN ELECTRIC POWER
fka OHIO POWER COMPANY
2738 N. MAIN STREET
P.O. BOX 944
FINDLAY, OHIO 45839
PHONE: 419-749-3617

MEDIA ONE
3157 FERN ROAD
WILLARD, OHIO 44890
PHONE: 419-465-4661

COLUMBIA GAS TRANSMISSION CORP.
REGIONAL DIVISION
3151 LINCOLN WAY WEST
P.O. BOX 758
WOOSTER, OHIO 44691
PHONE: 330-287-6630

OHIO EDISON COMPANY
MANSFIELD DIVISION
1717 ASHLAND ROAD
MANSFIELD, OHIO 44905
PHONE: 419-521-6188

GTE TELEPHONE OPERATIONS
83 TOWN SEND AVENUE
NORWALK, OHIO 44857
PHONE: 419-744-3619

CITY OF GALION ELECTRIC DIVISION
700 PRIMROSE LANE
GALION, OHIO 44833
PHONE: 419-468-5520

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM; NAVD 1988

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEANOUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

CURBING AND APPROACH SLABS

THE SHAPE OF THE CURBING ON APPROACH SLABS SHALL BE TRANSITIONED, FROM THE STANDARD SECTION OF THE APPROACHES TO THE SECTION USED ON THE BRIDGE, WITHIN THE LIMITS OF THE APPROACH SLAB.

CLEARING AND GRUBBING

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
0.5 m	6270	50	6320
0.8 m	1150	10	1160
1.2 m	40	0	40
1.5 m	0	0	0

ALL TREES WITH CAVITIES OR EXFOLIATED BARK SHALL NOT BE CUT BETWEEN APRIL 15 AND SEPTEMBER 15 WHITHOUT FIRST CONDUCTING A MIST SURVEY (OR OTHER ACCEPTABLE SURVEY) FOR THE INDIANA BAT. TREES WITH CAVITIES OR EXFOLIATING BARK MAY PROVIDE POTENTIAL ROOSTING HABITAT FOR THIS FEDERALLY LISTED ENDANGERED SPECIES. ADDITIONAL INFORMATION MAY BE OBTAINED BY CONTACTING MR. BUDDY FAZIO OF THE U.S. FISH AND WILDLIFE SERVICE AT (614) 469-6923.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.09

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 592 & 593.

ITEM 203 - PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 203 PROOF ROLLING 125 HRS.

REMOVAL OF UNDERGROUND STORAGE TANK

THE CONTRACTOR SHALL REMOVE TWO HEATING OIL UST LOCATED AT 89.000m EAST OF STA. 50+146 ON S.R. 602 IN ACCORDANCE WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATION (CMS) ITEM 202. THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK ABOVE.

ITEM 202 - REGULATED UNDERGROUND STORAGE TANK REMOVED 2 EACH

PRIOR TO DEMOLITION THE CONTRACTOR SHALL OBTAIN REQUIRED PERMIT(S) FROM THE STATE FIRE MARSHALL FOR REMOVAL OF USTS OR OTHER STORED PETROLEUM PRODUCTS.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES SHALL BE MADE IN ACCORDANCE WITH ITEM 607.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR IS ADVISED OF THE PRESENCE OF ANOTHER CONSTRUCTION CONTRACT WITHIN THE WORK LIMITS OF THE VICINITY OF THIS PROJECT. THE CONTRACT, CRA/RIC-30-33.500, MAY BE GOING ON CONCURRENTLY WITH THIS PROJECT, AND CLOSE COOPERATION IS REQUIRED BETWEEN CONTRACTORS TO ENSURE THAT TRAFFIC MAINTENANCE OPERATIONS FOR EACH PROJECT ARE AT ALL TIMES COMPATIBLE. ANY CONFLICTS SHALL BE RESOLVED BY THE ENGINEERS.

CALCULATED JBH CHECKED LBD

ITEM SPECIAL – DRILLED WATER WELL ABANDONED

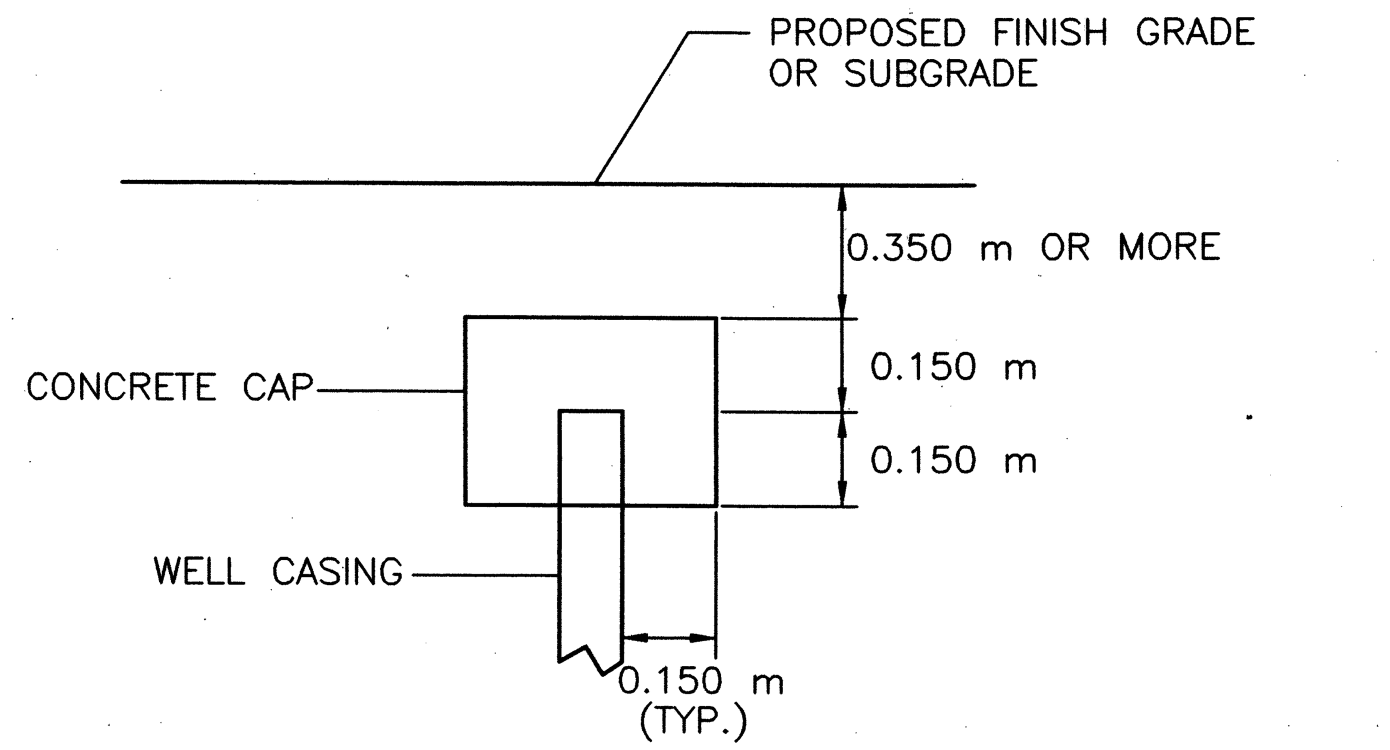
THE EXISTING CONCRETE OR STONE SLAB WELL COVER AND PUMPING EQUIPMENT SHALL BE REMOVED AND DISPOSED. THE CASING SHALL BE CUT OFF AT LEAST 500 MILLIMETERS BELOW THE PROPOSED FINISHED GRADE OUTSIDE PROPOSED PAVEMENT AREAS OR AT LEAST 500 MILLIMETERS BELOW THE PROPOSED SUBGRADE ELEVATION INSIDE PROPOSED PAVEMENT AREAS. THE WELL SHALL BE FILLED FROM BOTTOM TO TOP WITH BENTONITE SLURRY PELLETS, CHIPS OR CONCRETE MEETING ASTM C 150 TYPE 1 PORTLAND CEMENT WITH NO AIR ENTRAINMENT, AND THEN CAPPED IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.

THE CONTRACTOR SHALL FILE WELL LOG AND ABANDONMENT FORMS WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) AS REQUIRED BY THE OHIO REVISED CODE. ANY ADDITIONAL MATERIALS REQUIRED BY ODNR SHALL BE CONSIDERED INCIDENTAL . ODNR'S ADDRESS IS AS FOLLOWS:

Ohio Department of Natural Resources
Division of Water
1939 Fountain Square, Building E
Columbus, Ohio 43224
Telephone (614) 265–6739

A COUNTY ISSUED PLUGGING PERMIT MAY ALSO BE REQUIRED.

THE CONTRACT UNIT PRICE FOR ITEM SPECIAL, DRILLED WATER WELL ABANDONED, SHALL INCLUDE PAYMENT FOR ALL LABOR, TOOLS, MATERIALS, PERMITS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.



NOTE: THE CONTRACTOR MAY WELD A CAP ON THE CASING OR OTHER APPROVED METHOD IN LIEU OF USING THE CONCRETE CAP AS SHOWN.

WATER WELL CAP DETAIL

ITEM 880 - ASPHALT CONCRETE WITH WARRANTY
LIFT THICKNESSES AND STEP WIDTHS SHOWN IN THE PLAN ARE FOR QUANTITY ESTIMATION ONLY AND ARE NOT REQUIRED LIFT THICKNESSES FOR ACTUAL CONSTRUCTION.

ITEM SPECIAL – MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER–SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 100 mm BY 100 mm (S4S) OR 115 mm DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 51 mm I.D. , AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL–GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION. HARDWARE SHALL BE COMMERCIAL GRADE GALVANIZED STEEL.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

GROUP MAILBOX SUPPORTS SHALL BE PLACED ON 1.0m CENTERS AND THE TURN OUT LENGTHENED TO ACCOMMODATE THE GROUPING.

WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL. SUPPORT MUST STILL MEET THE BREAKAWAY REQUIREMENTS LISTED ABOVE.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.12. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT, SINGLE.

FILLING OF EXISTING POND

THE DEWATERING PROCESS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING OF WORK. THE SOUTH POND AT STA. 31+700 SHALL BE DEWATERED USING HIGH VOLUME SUBMERSIBLE PUMPS. PUMPING WELLS SHALL BE INSTALLED IMMEDIATELY AROUND THE POND IF NECESSARY TO DRAW DOWN THE GROUNDWATER AND MINIMIZE THE INFLOW OF GROUNDWATER AND SECURE A SOLID BOTTOM. THE WATER LEVEL IN THE NORTH POND AT STA. 31+700 SHALL BE MEASURED AND DOCUMENTED IMMEDIATELY PRIOR TO PERFORMING ANY DEWATERING OPERATIONS. DURING THE DEWATERING PROCESS, THE WATER LEVEL OF THE NORTH POND SHALL BE CONTINUOUSLY MONITORED TO DETECT ANY FLUCTUATIONS IN ITS LEVEL. THE WATER FROM THE SOUTH POND SHALL BE DIRECTED TO THE NORTH POND TO REPLACE ANY WATER LOSS. AFTER THE SOUTH POND IS DEWATERED, THE ORGANIC MUD THAT HAS COLLECTED AT THE BOTTOM SHALL BE REMOVED BEFORE FILLING. IF DURING DEWATERING IT IS OBSERVED THAT THE LEVEL OF THE NORTH POND IS DROPPING, THE CONTRACTOR SHALL CEASE DEWATERING OPERATIONS IMMEDIATELY. THE SITUATIONS SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE THE APPROPRIATE SOLUTION.

ITEM 407 – TACK COAT, AS PER PLAN AND ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT, AS PER PLAN AND THE TACK COAT FOR INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER.
FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

407, TACK COAT, AS PER PLAN	0.48 LITER PER SQ. METER
407, TACK COAT, AS PER PLAN	0.2 LITER PER SQ. METER
407, TACK COAT FOR INTERMEDIATE COURSE	0.2 LITER PER SQ. METER

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AND EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OF UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OR THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OF UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

ITEM 604 – CATCH BASIN NO.4A, AS PER PLAN

CATCH BASIN NO. 4A, AS PER PLAN SHALL BE CONSTRUCTED AT THE LOCATIONS DESIGNATED WITHIN THIS PLAN AND SHALL BE CONSTRUCTED AS PER STANDARD CONSTRUCTION DRAWING CB-3.4 BUT USING THE FOLLOWING DIMENSIONS:

A = 2850	C = 2850
B = 1825	D = 1000

TREATED SEPTIC CONNECTIONS

TREATED SEPTIC FLOW MAY BE DISCHARGED INTO THE HIGHWAY DRAINAGE SYSTEM PROVIDED THE OWNER HAS ACQUIRED AN OFFICIAL PERMIT FROM THE COUNTY OR LOCALAUTHORITY.

IN EACH CASE WHERE A PERMIT HAS BEEN ISSUED FOR MAKING A TREATED SEPTIC CONNECTION INTO A HIGHWAY DRAINAGE CONDUIT, AN INSPECTION WELL SHALL BE PROVIDED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING DM-3.1.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE CONNECTIONS:

603, 150 mm CONDUIT, TYPE C	120 METER
604, INSPECTION WELL	10 EACH

ITEM 870 – SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 870, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

870, SEEDING AND MULCHING	1,067,485	SQ. METER
870, SOIL ANALYSIS TEST	14	EACH
870, TOPSOIL	106,466	CU. METER
870, COMMERCIAL FERTILIZER	159,700	KILOGRAM
870, AGRICULTURAL LIME	479,098	KILOGRAM
870, WATER	12,989	CU. METER
870, MOWING	266,166	SQ. METER

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT OF WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT OF WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

SPRING DRAINS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR DRAINING ANY SPRINGS SHOWN IN THE PLAN OR ENCOUNTERED DURING CONSTRUCTION. THE FOLLOWING TYPES OF PIPES MAY BE USED: 707.33, 707.41, 707.42 or 707.45 PERFORATED PER 707.31.

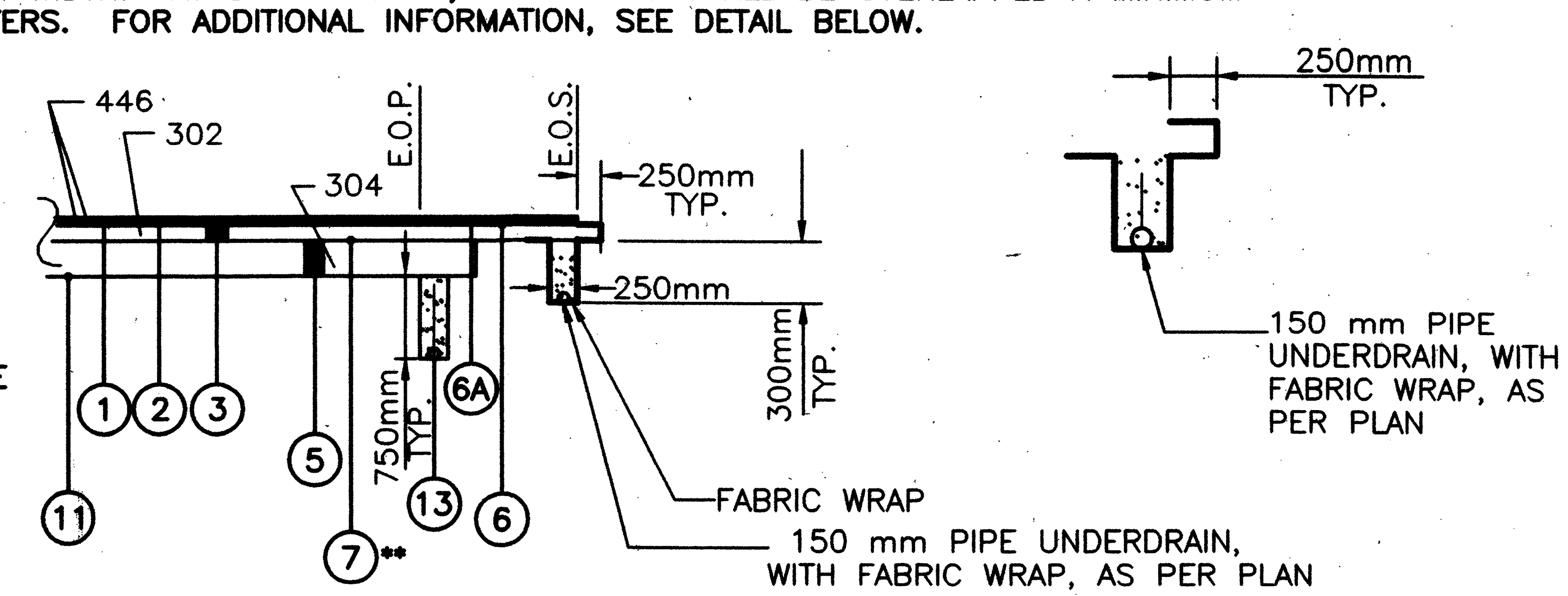
SPRING DRAINS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD CONSTRUCTION DRAWING DM-1.1 AND PAID FOR AT THE CONTRACT PRICE FOR:

605, 150 mm UNCLASSIFIED PIPE UNDERDRAIN FOR SPRINGS	120 METER
605, AGGREGATE DRAIN FOR SPRINGS	120 METER

ITEM 605 – 150 mm PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN

ITEM 605 – 150 mm PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN, SHALL BE CONSTRUCTED AS PER SECTION 605.03 CONSTRUCTION AND MATERIAL SPECIFICATION, LATEST EDITION. THE UNDERDRAIN TRENCH SHALL BE LINED WITH FILTER FABRIC. THE FABRIC SHALL COMPLETELY SURROUND THE GRANULAR FILTER MATERIAL. THE FABRIC SHALL BE OVERLAPPED AT THE TOP OF THE TRENCH. THE OVERLAP SHALL MATCH THE TRENCH WIDTH. AT OTHER SEAMS, THE FABRIC SHALL BE OVERLAPPED A MINIMUM OF 0.3 METERS. FOR ADDITIONAL INFORMATION, SEE DETAIL BELOW.

FOR LEGEND, SEE SHEET 12.



metric units

CALCULATED	JBH
CHECKED	LBD

GENERAL NOTES

CRA-30-24.000

ITEM 606, ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET-2000 (1997) MANUFACTURED BY SYRO, INC.,
1170 N. STATE STREET, GIRARD, OHIO 44420
(TELEPHONE: 330.545.4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 15.24 M, INCLUSIVE OF TWO 7.62 M LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV.DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997)PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL 60423 (TELEPHONE: 815.464.5917).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 15.24 M, INCLUSIVE OF FOUR 3.81 M LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS.

DWG. #	DRAWING NAME	DWG./REV.DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 450 MM X 450MM.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606, ANCHOR ASSEMBLY, TYPE B-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330.545.4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 11.43 M, INCLUSIVE OF THREE 3.81 M LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS444 SS444M	SLOTTED RAIL TERMINAL POST LAYOUT AND ERECTION DETAILS SRT - 350 (12.5,8 POST)	7/12/99 REV. 1 7/12/99	8-27-99

DWG.#	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS(12.5,9 POST)	6/21/97 REV. 1	3/6/98

ITEM 606, ANCHOR ASSEMBLY, TYPE B-98 (CONTINUED:)

2) THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 7631 NEW CASTLE DRIVE, FRANKFORT, IL 60423 (TELEPHONE: 815.464.5917).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 11.43 M, INCLUSIVE OF THREE 3.81 M LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT-350) ASSEMBLY	4/16/98	7/31/98

GRADING SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-4.3.

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 915 MM W X 305 MM H FOR THE SRT-350 AND 350 MM W X 500 MM H FOR THE FLEAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR IS ADVISED OF THE PRESENCE OF ANOTHER CONSTRUCTION CONTRACT WITHIN THE WORK LIMITS OF THE VICINITY OF THIS PROJECT, THE CONTRACT, CRA/RIC-30-33.500/0.000, MAY BE GOING ON CONCURRENTLY WITH THIS PROJECT AND CLOSE COOPERATION BETWEEN CONTRACTORS IS REQUIRED TO ENSURE THAT TRAFFIC MAINTENANCE OPERATIONS FOR EACH PROJECT ARE AT ALL TIMES COMPATIBLE. ANY CONFLICTS SHALL BE RESOLVED BY THE ENGINEERS.

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 10 METER INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 5 METERS FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE AND AT 5 METER INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 [(UNIDIRECTIONAL OR BIDIRECTIONAL)]

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1) THE C-A-T MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 9525 mm LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 [(UNIDIRECTIONAL OR BIDIRECTIONAL)] CONTINUED:

DWG. NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS245M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4/10/97 Rev. 4	3/6/98
SS224M	C-A-T TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION & SECTIONS	4/26/96	3/6/98
SS226M	C-A-T TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION & SECTIONS	4/26/96	3/6/98

2) THE BRAKEMASTER MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE BRAKEMASTER SYSTEM IS CONSIDERED TO BE 9957 mm LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
92-00-01	BRAKEMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3/6/97 Rev. K	3/6/98
92-00-81	BRAKEMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
92-00-02	BRAKEMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3/10/97 Rev. K	3/6/98
92-00-82	BRAKEMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
9202024	ANCHOR ASSEMBLY, FOUNDATION TUBE, 6 1/2 FT., BRS	6/12/97 Rev. D	3/6/98

THE FACE OF THE TYPE 1-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 915 mm W X 305 mm H. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1-98 [(UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.#

EROSION CONTROL

ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENT OF 108.04.

ITEM 611, REINFORCED CONCRETE APPROACH SLAB (T=380 mm), AS PER PLAN

TWO SEPARATE THICKNESS OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB. MATERIALS, LABOR AND INSTALLATION SHALL BE INCLUDED FOR PAYMENT IN THIS ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=380 mm), AS PER PLAN.

UNSUITABLE SOIL CONDITIONS

IF UNSUITABLE FOUNDATION SOILS ARE ENCOUNTERED IN THE AREAS OR THE PROPOSED ROADBED, THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.08. THE LOCATIONS AND DIMENSIONS SHALL BE AS DETERMINED BY THE ENGINEER.

A CONTINGENCY QUANTITY OF 50 CUBIC METERS HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER. IN ADDITION TO THE CONTINGENCY QUANTITY, UNSUITABLE SOILS ARE ANTICIPATED AT THE FOLLOWING LOCATIONS: RELOCATED U.S. 30 STA. 30+720 TO STA. 30+750 (30m X 83m X 4.5m DEEP = 11,205 CUBIC METERS) AND RELOCATED S.R. 602 STA. 50+345 TO STA. 50+375 (30m X 33.4m X 2.6m AVERAGE DEPTH = 2,605 CUBIC METERS). TOTAL QUANTITY IS 13,860 CUBIC METERS.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 203 13,860 CUBIC METERS EMBANKMENT
ITEM 203 13,860 CUBIC METERS EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

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STORM WATER POLLUTION PREVENTION PLAN

THE CONDITIONS OF THE NPDES CONSTRUCTION STORM WATER GENERAL PERMIT (SEE PROPOSAL) SHALL BE MET DURING ALL STAGES OF CONSTRUCTION. THE LOCATION AND TIMING OF ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE FIELD ADJUSTED TO PREVENT SIGNIFICANT IMPACTS ON RECEIVING WATERS. IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONTINUE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT THE UPSLOPE DISTURBED AREAS ARE STABILIZED.

INSTALLATION OF SEDIMENT BASINS/DAMS, PERIMETER FILTER FABRIC FENCE, AND DITCH CHECKS SHALL BE CONCURRENT WITH CLEARING AND GRUBBING AND/OR GRADING OPERATIONS.

ALL REASONABLE ATTEMPTS SHOULD BE MADE TO MINIMIZE THE TOTAL AREA OF DISTURBED LAND.

AREAS TO REMAIN DORMANT FOR MORE THAN 45 DAYS SHOULD BE IMMEDIATELY STABILIZED WITH TEMPORARY SEEDING AND MULCHING, EROSION CONTROL MATTING OR OTHER APPROPRIATE EROSION CONTROL MEASURES.

ADDITIONAL QUANTITIES OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL ITEMS ARE GIVEN BELOW.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE PLACED BY THE CONTRACTOR WITH THE ENGINEER'S CONCURRENCE FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 601	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	2050	CU. METERS
ITEM 601	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	4369	CU. METERS
ITEM 870	COMMERCIAL FERTILIZER	50.04	KILOGRAM
ITEM 870	REPAIR SEEDING AND MULCHING	53,233	SQ. METER
ITEM 870	WATER	2129	CU. METER
ITEM 877	TEMPORARY SEEDING AND MULCHING	212,933	SQ. METER
ITEM 877	TEMPORARY DITCH PROTECTION	14,439	SQ. METER
ITEM 877	TEMPORARY SLOPE DRAINS	90	METERS
ITEM 877	TEMPORARY SEDIMENT BASINS AND DAMS	932	CU. METERS
ITEM 877	TEMPORARY PERIMETER FILTER FABRIC FENCE	6152	METERS
ITEM 877	TEMPORARY DITCH CHECK FILTER FABRIC FENCE	132	METERS
ITEM 877	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	336	METERS
ITEM 877	TEMPORARY DIKES	1401	CU. METERS
ITEM 877	SEDIMENT REMOVAL	5124	CU. METERS

ENVIRONMENTAL SENSITIVE AREAS

ENVIRONMENTAL SENSITIVE AREAS WILL BE FENCED TO ELIMINATE DISTURBANCE BY CONSTRICTION ACTIVITIES AND EQUIPMENT. TEMPORARY FENCING SHALL BE PLACED WITHIN THE LIMITS OF THE PROPOSED CONSTRUCTION AND/OR RIGHT-OF-WAY LIMITS, AS INDICATED ON THE PLANS. FENCE TO BE PLACED SUCH AS TO PROTECT THE SENSITIVE AREA SUBJECT TO APPROVAL OF THE ENGINEER.

THESE AREAS WILL INCLUDE:

A) WETLANDS AND CULTURAL SITES ADJACENT TO THE CONSTRUCTION LIMITS.

B) POTENTIAL ARCHAEOLOGICAL SITES DEEMED TO REQUIRE FENCING. FOR LOCATIONS, SEE MAPPING AVAILABLE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICES.

FENCING SHALL BE A BRIGHT ORANGE PLASTIC/NYLON CONSTRUCTION FENCE. IT SHALL BE SECURELY FASTENED TO WOOD OR METAL POSTS AT NOT MORE THAN 1.8 m SPACING. IT SHALL BE NOMINALLY 1087 MM HIGH AND THE TOP EDGE SHALL NOT SAG BELOW 782 MM (305 MM SAG). HOLES GREATER THAN 305 MM X 305 MM SHALL BE REPAIRED OR REPLACED.

FENCING HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 607	FENCE, SNOW	1185 METER

ARCHAEOLOGICAL SENSITIVE AREAS

STUDIES PERFORMED HAVE NOT IDENTIFIED ANY ARCHAEOLOGICAL SENSITIVE AREAS WITHIN THE PROJECT LIMITS. SHOULD AN UNANTICIPATED DISCOVERY OF ARCHAEOLOGICAL RESOURCES OCCUR WITHIN THE PROJECT AREA, CONSTRUCTION RELATED ACTIVITY WILL BE TEMPORARILY DISCONTINUED AND THE OHIO HISTORIC PRESERVATION OFFICE CONTACTED WITHIN 48 HOURS. ODOT WILL CONSULT WITH THE OHIO HISTORIC OFFICE IN ORDER TO EVALUATE THE SIGNIFICANCE OF THE HISTORIC RESOURCE, ACCESS POTENTIAL EFFECTS AND DEVELOP MITIGATION STRATEGIES AS NECESSARY. ALL ACTIVITIES WILL BE IN ACCORDANCE WITH THE "SECRETARY OF INTERIOR'S STANDARDS AND GUIDELINES FOR ARCHAEOLOGICAL DOCUMENTATION AND DATA RECOVERY (48 CFR 44716-44740)"; TAKE INTO ACCOUNT THE ADVISORY COUNCIL ON HISTORIC PRESERVATION'S PUBLICATION, "TREATMENT OF ARCHAEOLOGICAL PROPERTIES: A HANDBOOK (1980)", AND WILL BE APPROVED BY THE OHIO STATE HISTORIC PRESERVATION OFFICE PRIOR TO IMPLEMENTATION.

ALL ARCHAEOLOGICAL WORK WILL BE CARRIED OUT UNDER THE DIRECT SUPERVISION OF INDIVIDUALS MEETING, AT A MINIMUM, THE APPROPRIATE FEDERAL PROFESSIONAL QUALIFICATIONS PER (36 CFR PART 61) AND THE OHPO ARCHAEOLOGY GUIDELINES (1994), AND BE PRE-QUALIFIED BY ODOT FOR SUCH WORK.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE RIGHT OF WAY LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE 300 mm ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1 , EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ARE KNOWN LOCATIONS OF PROPOSED FARM DRAIN ROADWAY CROSSINGS:

STATION	LT. ELEV.	RT. ELEV.	CONDUIT
23+410	320.15	321.3	375mm, TYPE B
24+060	322.4	321.25	375mm, TYPE B
24+300	322.3	321.15	375mm, TYPE B
26+060	322.15	323.3	375mm, TYPE B
26+260	322.55	323.7	375mm, TYPE B
22+820	317.8	319.0	375mm, TYPE B
26+480	319.0	317.8	375mm, TYPE B
26+900	326.25	327.4	375mm, TYPE B
30+740	344.4	343.25	375mm, TYPE B
32+880	350.8	349.65	375mm, TYPE B
33+100	351.8	350.6	375mm, TYPE B
50+420 (NAZOR)	348.63	347.48	375mm, TYPE B

THE FARM DRAIN ON NAZOR ROAD AT STATION 50+420 SHALL BE INSTALLED PRIOR TO CONSTRUCTING THE PROPOSED 1050mm CONDUIT, TYPE A AT STATION 50+400.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603	200 mm CONDUIT, TYPE B, 707.33	200 METER
603	300 mm CONDUIT, TYPE B, 707.33	200 METER
603	375 mm CONDUIT, TYPE B, 707.33	1500 METER
603	150 mm CONDUIT, TYPE E	200 METER
603	200 mm CONDUIT, TYPE E	200 METER
603	300 mm CONDUIT, TYPE E	200 METER
603	150 mm CONDUIT, TYPE F	200 METER
603	200 mm CONDUIT, TYPE F	200 METER
603	300 mm CONDUIT, TYPE F	200 METER
603	375 mm CONDUIT, TYPE F	200 METER
601	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	30 CU.M.

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ITEM 614 – MAINTAINING TRAFFIC

GENERAL

TRAFFIC SHALL BE MAINTAINED AS PER SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION WITH THE LATEST REVISIONS.

THROUGH TRAFFIC FOR S.R. 602, BIDDLE RD (T.R. 44), S.R. 598, FAIRVIEW R.D. (T.R. 90) AND NAZOR ROAD (T.R. 48), SHALL BE DETOURED AS PER PLAN SHEET 32 THRU 35. LOCAL TRAFFIC SHALL BE MAINTAINED FOR ALL CROSSROADS. BECK ROAD (T.R. 20), NORTH MARKET STREET, AND KNORR ROAD (TR 48) SHALL BE CLOSED. INTERIM COMPLETION DATES HAVE BEEN ESTABLISHED AND ARE SHOWN ON SPECIFIC DETOURS SHEETS. ACCESS FOR LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.

IN ADDITION THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE DIRECTOR AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL.

THE CONTRACTOR SHALL DESIGNATE A QUALIFIED INDIVIDUAL, OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO PERIODICALLY INSPECT, DOCUMENT, REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL INSPECT, DOCUMENT, REPAIR AND/OR REPLACE ALL TRAFFIC CONTROL DEVICES AT THE BEGINNING AND END OF EACH WORK DAY, AND AT LEAST ONCE EVERY TWO (2) HOURS WHILE WORK IS BEING CONDUCTED ON THE PROJECT.

THE ABOVE DESIGNATED INDIVIDUAL, OR ANOTHER QUALIFIED INDIVIDUAL SUBJECT ON THE APPROVAL OF THE ENGINEER, SHALL BE AVAILABLE AND ON CALL DURING THE NON–WORKING PERIODS THAT TRAFFIC IS DIVERTED FROM ITS NORMAL PATH. THIS INDIVIDUAL SHALL AT A MINIMUM OF ONCE EVERY CALENDAR DAY INSPECT, DOCUMENT, REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. IN ADDITION, THIS INDIVIDUAL SHALL BE ABLE TO RESPOND AND BE ON THE PROJECT WITHIN SIXTY (60) MINUTES AFTER A CALL AND HAVE SUFFICIENT INVENTORY ON HAND TO REPAIR OR REPLACE THE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

1520 mm

900 mm

ROAD WILL BE
CLOSED DATE *
FOR DAYS
OHIO DEPT OF TRANSPORTATION

OC–60B

1520 mm

900 mm

ROAD WILL BE
CLOSED DATE *
FOR DAYS
INFO:

OC–60A

* TO BE SUPPLIED BY CONTRACTOR

THE NOTICE OF CLOSURE SIGNS SHALL BE LOCATED AT THE FOLLOWING POINT OF CLOSURE LOCATIONS:

S.R. 602, BECK R.D. (T.R. 20), BIDDLE RD (T.R. 44), S.R. 598, NORTH MARKET ST., FAIRVIEW (T.R. 90), KNORR R.D. (T.R. 91), AND NAZOR R.D (T.R. 48).
THE CLOSURE DURATION PORTION OF THE NOTICE OF CLOSURE SIGN SHALL REMAIN BLANK FOR BECK ROAD, NORTH MARKET ST. AND KNORR ROAD (T.R. 91).

ACCESS TO ADJACENT PROPERTY WITHIN THE WORK LIMITS ON THE VARIOUS CROSS–ROADS SHALL BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES AS PER 614.02(a).

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF LOCAL TRAFFIC.

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	200	CU. METER
614 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	40	CU. METER
304, AGGREGATE BASE	300	CU. METER

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

metric units

CALCULATED WJS CHECKED FLD

MAINTENANCE OF TRAFFIC GENERAL NOTES

CRA–30–24.000

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11–06–2000 1:33 PM
1:1M

ITEM 614–TEMPORARY WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARYFOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS 614.04 AND 614.10

ITEM	UNIT	DESCRIPTION
614	16 EACH	NO EDGE LINES, OW–197

ITEM 614–TEMPORARY PAVEMENT MARKINGS CROSS–ROADS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, SHEET 43 .

ITEM 614 – TEMPORARY CENTER LINE, CLASS II

S.R. 602	=	STA. 49+570.00 – STA. 50+480.000	=	910.000m
BECK RD. (T.R. 20)	=	STA. 49+886.227 – STA. 49+902.227	=	16.000m
BECK RD. (T.R. 20)	=	STA. 50+100.223 – STA. 50+126.000	=	25.777m
BIDDLE RD (T.R. 44)	=	STA. 49+525.000 – STA. 50+505.000	=	980.000m
S.R. 598	=	STA. 49+365.000 – STA. 50+340.000	=	975.000m
NORTH MARKET ST.	=	STA. 49+886.491 – STA. 49+897.991	=	11.500m
NORTH MARKET ST.	=	STA. 50+110.000 – STA. 50+116.250	=	6.250m
FAIRVIEW RD. (T.R. 90)	=	STA. 49+620.000 – STA. 50+280.000	=	660.000m
KNORR RD. (T.R. 91)	=	STA. 49+883.022 – STA. 10+017.000	=	17.000m
KNORR RD. (T.R. 91)	=	STA. 19+983.000 – STA. 20+000.000	=	17.000m
NAZOR RD. (T.R. 48)	=	STA. 49+500.000 – STA. 50+600.000	=	1100.000m
				4718.527m USE 4.72Km

ITEM 614 – TEMPORARY CENTER LINE, CLASS II   4.72   KILOMETER

THESE ITEMS MAY BE NON–PERFORMED IF THE 642 PAVEMENT MARKINGS ARE IN PLACE PRIOR TO THE OPENING OF THE ROAD TO TRAFFIC.

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN WILL BE PUT INTO EFFECT UNTIL THE APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 70 MILLIMETERS BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (7.5 METERS OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

PROJECT DETOUR LIMITATION

THE ROADWAY SHALL NOT BE CLOSED TO TRAFFIC FOR THE REMOVAL OR MODIFICATION OF THE EXISTING STRUCTURE OF CONDUIT UNTIL ALL NEW STEEL BEAMS AND\OR PRECAST STRUCTURE MATERIALS (EG.:PRESTRESSED BOX BEAMS, PRECAST BOX CULVERTS, CONDUITS, ETC.) NECESSARY TO PLACE THE ROADWAY BACK INTO SERVICE HAVE BEEN TESTED, APPROVED AND ARE READY FOR DELIVERY TO THE PROJECT SITE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CMS.

MAINTENANCE OF TRAFFIC REQUIREMENTS

THE FOLLOWING IS A LIST OF GENERAL REQUIREMENTS AND INTENTS THAT MUST BE COMPLIED WITH DURING THE SEQUENCE OF CONSTRUCTION FOR THIS PROJECT.

1) THE CONTRACTOR SHALL SCHEDULE THE BRIDGE WORK AND ROADWAY WORK IN SUCH A MANNER AS TO MAXIMIZE THE AMOUNT OF WORK THAT CAN BE ACHIEVED TO MINIMIZE THE TIME OF LANE CLOSURES AND THE DISTRUPTION TO TRAFFIC.

2) NO TWO (2) ADJACENT CROSS–ROADS SHALL BE CLOSED AT THE SAME TIME. THE CONTRACTOR SHALL SCHEDULE THE WORK SO THAT LOCAL TRAFFIC IS MAINTAINED ON ALTERNATE CROSS–ROADS AT ALL TIMES.
S.R. 598 AND BIDDLE ROAD SHALL NOT BE CONSTRUCTED AT THE SAME TIME AS S.R. 602. ALSO, FAIRVIEW ROAD SHALL NOT BE CONSTRUCTED AT THE SAME TIME AS S.R. 598.

3) THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL DETOUR SIGNING DURING THE DURATION THAT THE DETOURS ARE IN EFFECT. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES (AT THE APPROXIMATE WORK LIMITS) AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT–101.6M. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, FOR ADDITIONAL REQUIREMENTS, SEE SHEETS 31 THRU 35 .

4) MAINLINE CONSTRUCTION SHALL PROCEED WITH NO INTERFERENCE TO THE PROPOSED MAINTENANCE OF TRAFFIC PHASING OF THE SIDEROAD OVERPASSES.

5) PAVEMENT SHALL BE CONSTRUCTED UP THROUGH THE 301 BITUMINOUS AGGREGATE BASE DURING EACH PHASE. THIS SHOULD APPLY TO ALL OVERPASS SITES THAT ARE CONSTRUCTED IN PHASES.

6) THE TIE–IN PORTIONS OF THE OVERPASS STRUCTURE ASSOCIATED EMBANKMENT FROM THE BEGIN/END WORK LIMITS TO THE SPILL THROUGH SLOPES WHICH INCLUDES THE EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 60 METERS BEHIND EACH ABUTMENT. FOR MINIMUM WAITING PERIODS FOR THE EXCAVATION OF THE ABUTMENT FOOTINGS, THE INSTALLATION OF THE ABUTMENT PILES, AND ADDITIONAL INFORMATION, SEE GENERAL STRUCTURE NOTE "PILE DRIVING CONSTRAINTS" ON PLAN SHEET 535 OF 677 .

7) THE FORESLOPES ON THE OVERPASS STRUCTURE ROADWAYS MAY BE CONSTRUCTED WITH TEMPORARY 2:1 SLOPES WHEN RESIDENTIAL TRAFFIC IS MAINTAINED VIA TEMPORARY ACCESS DRIVES PARALLEL TO THE PROPOSED ROADWAY AT THE TOE OF SLOPES. THESE SLOPES SHALL THEN BE CONSTRUCTED TO THE ORIGINAL PROPOSED TYPICAL SECTION WHEN COMPLETED. THIS SHALL REQUIRE BENCHING AS PER THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATION MANUAL AND MANUAL OF PROCEDURES, CURRENT EDITION.

8) FOR MAINTENANCE OF TRAFFIC DETAILS FOR THE MAINLINE AT THE S.R. 598 INTERCHANGE, SEE SHEET 36 .

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR IS ADVISED OF THE PRESENCE OF ANOTHER CONSTRUCTION CONTRACT WITHIN THE WORK LIMITS OF THE VICINITY OF THIS PROJECT. THE CONTRACT, CRA/RIC–30–33.500/0.000, MAY BE GOING ON CONCURRENTLY WITH THIS PROJECT AND CLOSE COOPERATION BETWEEN CONTRACTORS IS REQUIRED TO ENSURE THAT TRAFFIC MAINTENANCE OPERATIONS FOR EACH PROJECT ARE AT ALL TIMES COMPATIBLE . ANY CONFLICTS SHALL BE RESOLVED BY THE ENGINEERS.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

616, CALCIUM CHLORIDE	60	METRIC TON
616, WATER	800	CU. METER

DESIGNATED LOCAL MAINTENANCE ROUTE

A LOCAL MAINTENANCE ROUTE, OTHER THAN THE OFFICIAL SIGNED ODOT DETOUR ROUTE, WILL BE DESIGNATED BY AGREEMENT BETWEEN ODOT AND LOCAL GOVERNMENTAL AGENCIES PRIOR TO THE HIGHWAY CLOSURE.

DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL MAINTENANCE ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL MAINTENANCE ROUTE:

ITEM 253 PAVEMENT REPAIR (100mm AVE. THICKNESS)	75	CU.M.
ITEM 614 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	100	CU.M.
ITEM 616 WATER	200	CU.M.
ITEM 616 CALCIUM CHLORIDE	15	METRIC TON

WARNING SIGNS

HEAVY EQUIPMENT CROSSING WARNING SIGNS SHALL BE PROVIDED AT LOCATIONS THROUGHOUT THE PROJECT WHERE REQUIRED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

metric units

CALCULATED WJS CHECKED FLD

MAINTENANCE OF TRAFFIC GENERAL NOTES

CRA–30–24.000

MN002.DWG
03–28–2001 1:34 PM
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CONSTRUCTION ACTIVITIES	TRAFFIC MAINTAINED

BECK ROAD, NORTH MARKET STREET & KNORR ROAD

CONSTRUCT PROPOSED PAVEMENT SLOPES, BENCHES & DITCHES, DRAINAGE AND ROADWAY ITEMS.	CLOSE EXIST. TRAFFIC. TO THROUGH TRAFFIC. MAINTAIN INGRESS/EGRESS TO LOCAL RESIDENTS. THE NOTICE OF CLOSURE SIGNS (OC-60A) SHALL BE INSTALLED AT THE LOCATION AS INDICATED ON SHEET 29 WITH STAGGERED TYPE III BARRICADES. AT THE TIME OF ERECTION OF THE PORTABLE TYPE III BARRICADES AND R-76A SIGNS, THE PERMANENT TRAFFIC CONTROL NO OUTLET (W-48-750) SIGNS SHALL ALSO BE INSTALLED. THE CLOSURE DURATION PORTION OF THE NOTICE OF CLOSURE SIGN SHALL REMAIN BLANK.

S.R. 602, BIDDLE ROAD, S.R. 598, FAIRVIEW ROAD & NAZOR ROAD

CONSTRUCT PROPOSED ROADWAY PAVEMENT, SLOPES AND STRUCTURES.	CLOSE THROUGH TRAFFIC. DETOUR PER DETOUR PLAN. CLOSE EXIST. TRAFFIC. TO THROUGH TRAFFIC. MAINTAIN INGRESS/EGRESS TO LOCAL RESIDENTS. FOR DETAILS, SEE SHEET 32-35 .

metric units

CALCULATED WJS
CHECKED FLD

MAINTENANCE OF TRAFFIC GENERAL NOTES

CRA-30-24.000

MN003.DWG
06-15-1999 1:34 PM
1:1M

MAINTENANCE OF TRAFFIC NOTES

614 MAINTAINING TRAFFIC

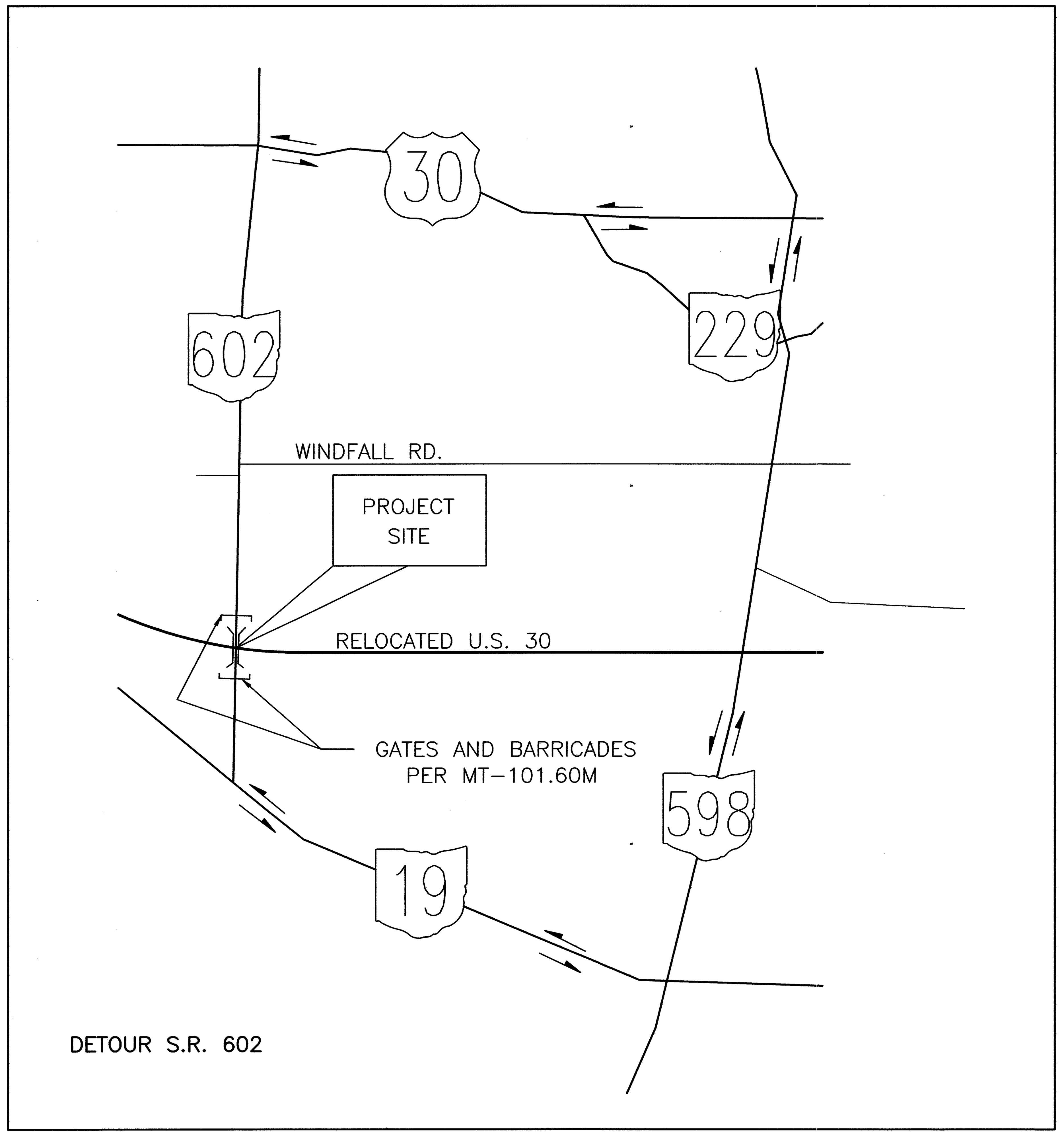
DETOUR LIMITATION AND INTERIM COMPLETION DATE:
TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 270 CONSECUTIVE CALENDAR DAYS. THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

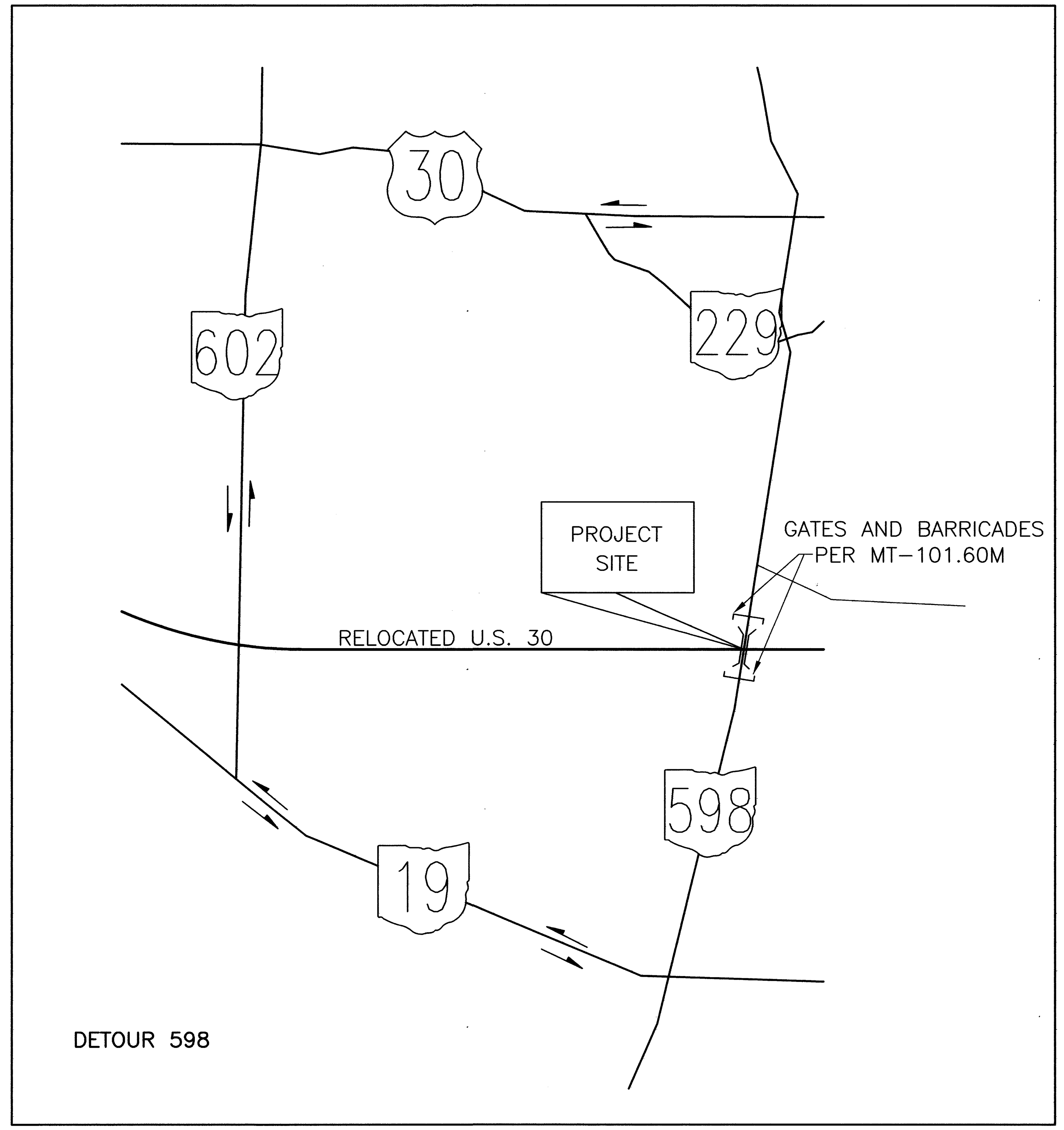
THE CONTRACTOR SHALL NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER (419-281-0513 EXT. 341) IN WRITING A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN, AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES (AT THE APPROXIMATE WORK LIMITS OF THE PROJECT) AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60M.
THE 270 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 270 CONSECUTIVE CALENDAR DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

LEGEND

INDICATED DETOUR ROUTE





metric units

CALCULATED FLD
CHECKED WJS

MAINTENANCE OF TRAFFIC
DETOUR S.R 602 AND S.R. 598

CRA-30-24.000

32
677

MP001.DWG
03-28-2001 1:35 PM
1:1000M

MAINTENANCE OF TRAFFIC NOTES

614 MAINTAINING TRAFFIC:

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 270 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

THE CONTRACTOR SHALL NOTIFY THE CRAWFORD COUNTY ENGINEER IN WRITING A MINIMUN OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS ERECTED. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES (AT THE APPROXIMATE WORK LIMITS OF THE PROJECT) AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60M.

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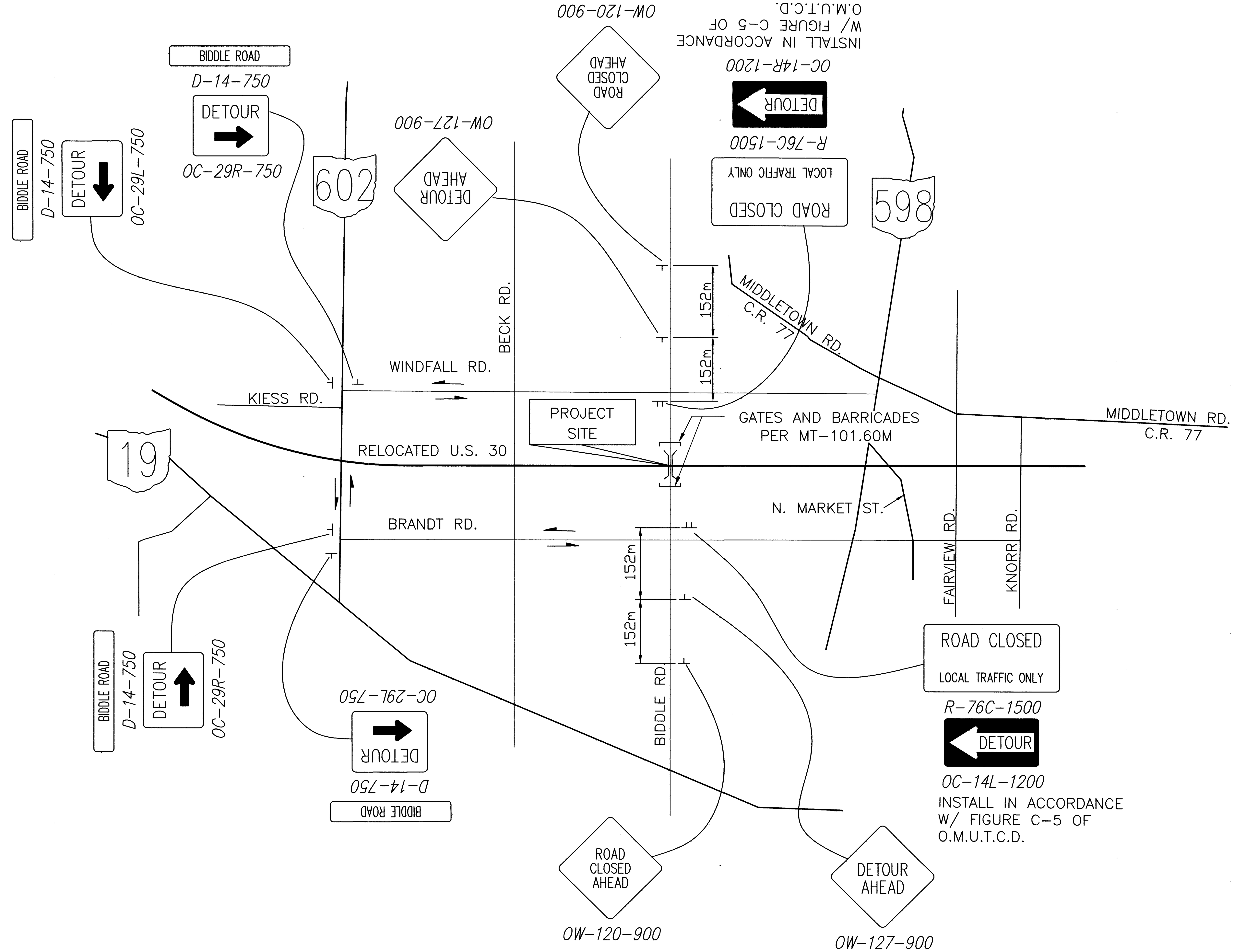
LEGEND

INDICATED DETOUR ROUTE



MAINTENANCE OF TRAFFIC DETOUR BIDDLE ROAD

CALCULATED FLD CHECKED WJS

CRA-30-24.000

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11-06-2000 1:36 PM
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MAINTENANCE OF TRAFFIC NOTES

614 MAINTAINING TRAFFIC:

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 270 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

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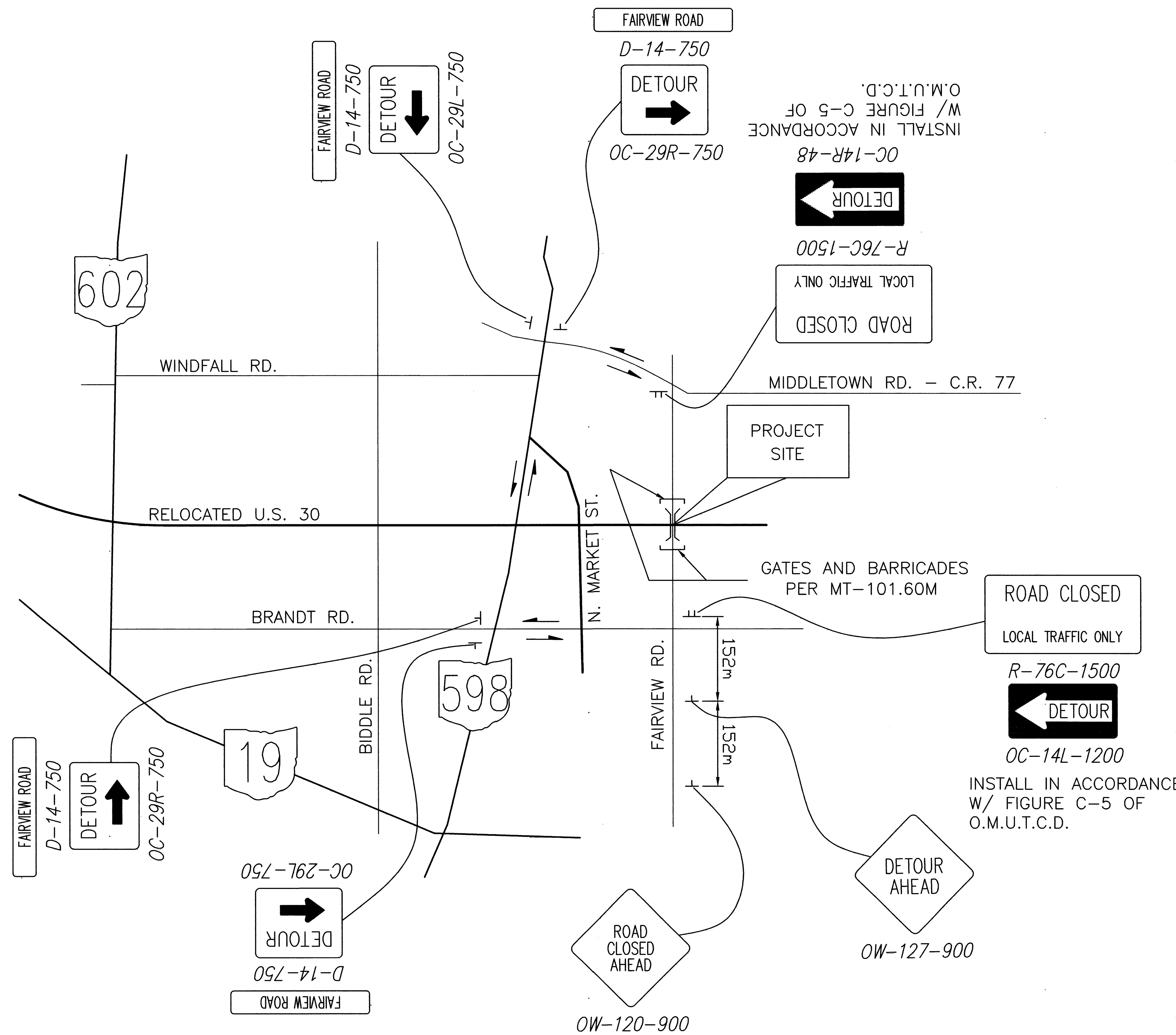
LEGEND

INDICATED DETOUR ROUTE



MAINTENANCE OF TRAFFIC
DETOUR FAIRVIEW RD.

CALCULATED FLD
CHECKED WJS

CRA-30-24.000

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11-06-2000 1:37 PM
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MAINTENANCE OF TRAFFIC NOTES

614 MAINTAINING TRAFFIC:
DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 270 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

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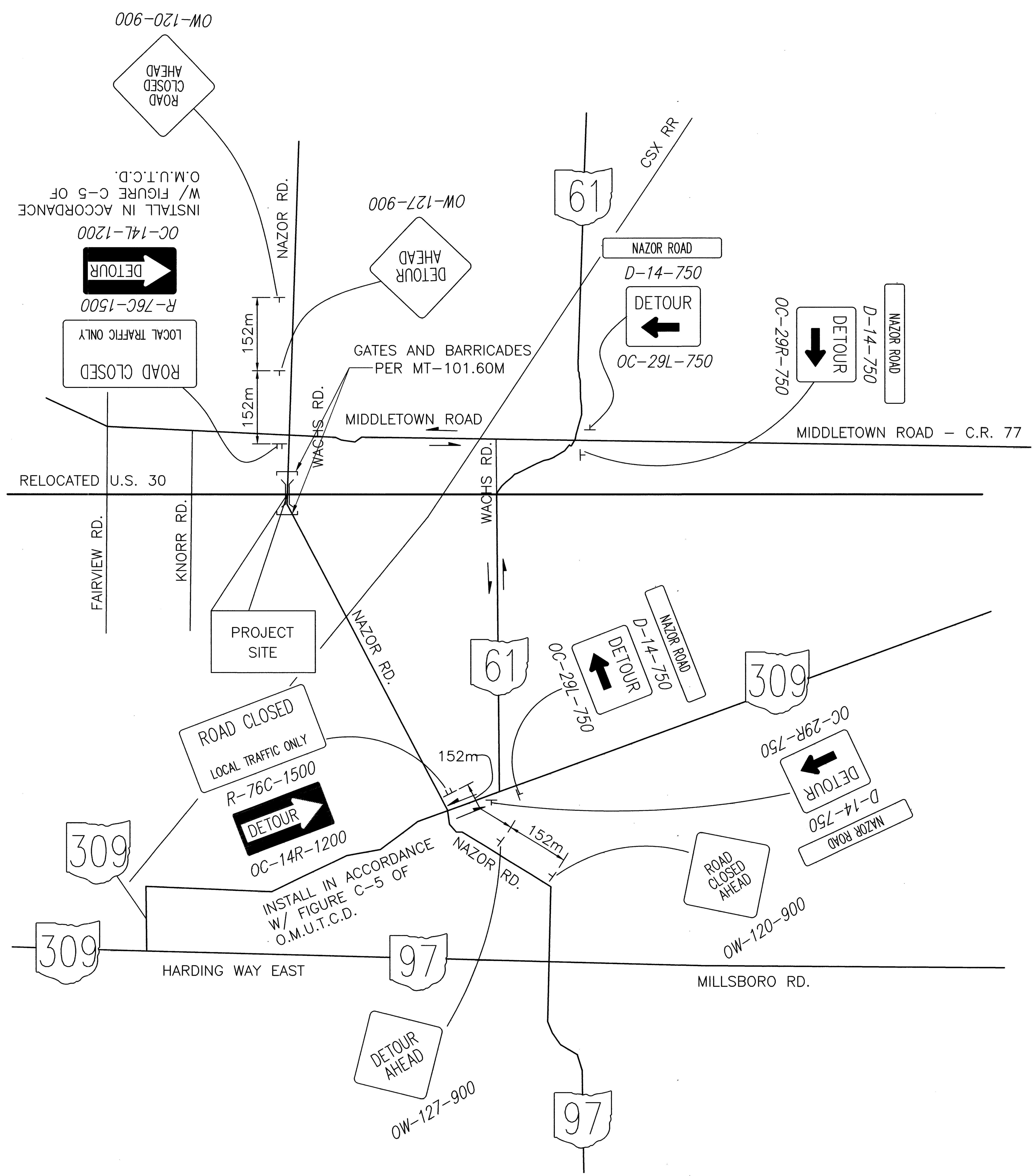
LEGEND

INDICATED DETOUR ROUTE



CALCULATED FLD
CHECKED WJS

MAINTENANCE OF TRAFFIC DETOUR NAZOR ROAD

CRA-30-24.000

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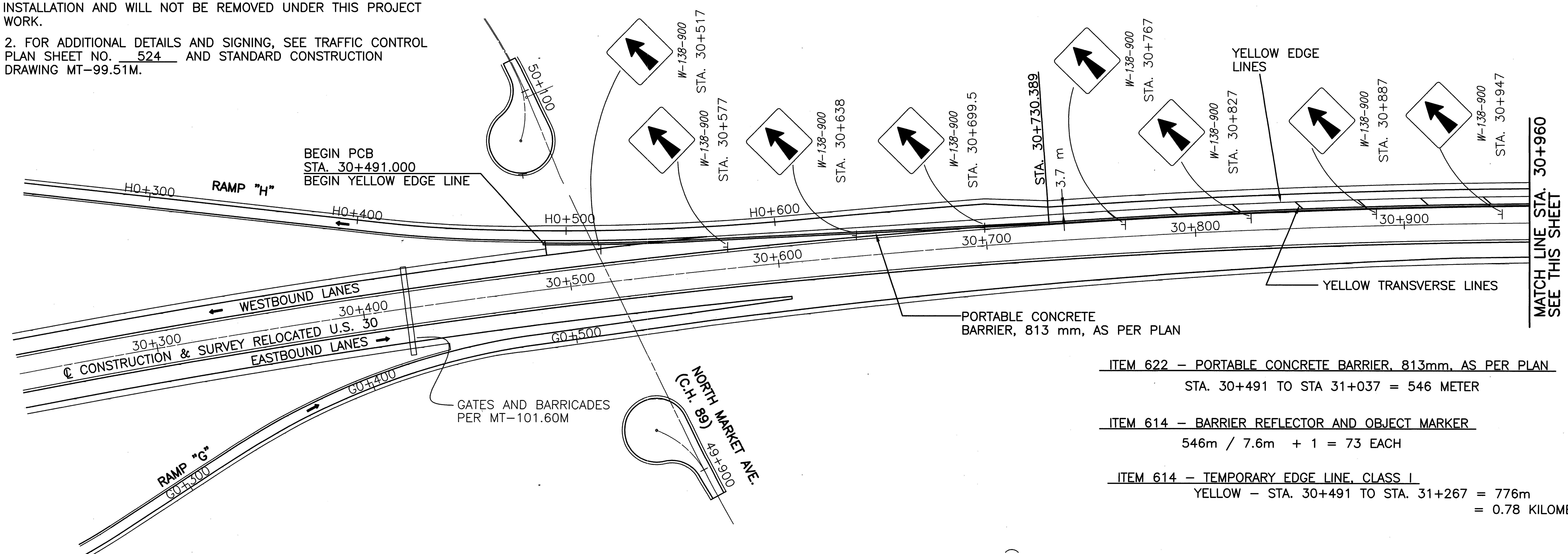
NOTES:
1. LOCATE THE TEMPORARY PORTABLE CONCRETE BARRIER AS SHOWN. INSTALL REQUIRED TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS ACCORDINGLY. THE PORTABLE CONCRETE BARRIER, 813mm AS PER PLAN SHALL REMAIN IN PLACE AFTER INSTALLATION AND WILL NOT BE REMOVED UNDER THIS PROJECT WORK.
2. FOR ADDITIONAL DETAILS AND SIGNING, SEE TRAFFIC CONTROL PLAN SHEET NO. 524 AND STANDARD CONSTRUCTION DRAWING MT-99.51M.
3. ITEM 614 - TEMPORARY EDGE LINE, CLASS I MATERIAL SHALL BE AS PER 740.06 . TEMPORARY PREFORMED PAVEMENT MARKING, TYPE 1.

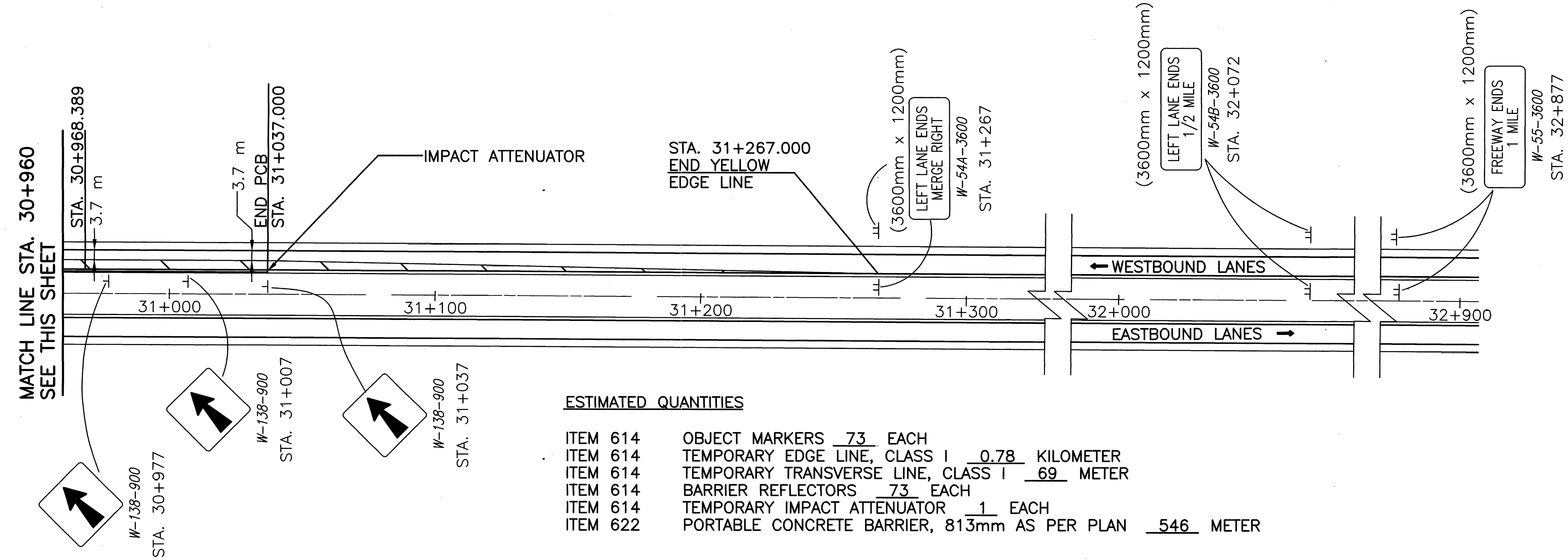
metric units



ITEM 622 - PORTABLE CONCRETE BARRIER, 813mm, AS PER PLAN
STA. 30+491 TO STA 31+037 = 546 METER

ITEM 614 - BARRIER REFLECTOR AND OBJECT MARKER
546m / 7.6m + 1 = 73 EACH

ITEM 614 - TEMPORARY EDGE LINE, CLASS I
YELLOW - STA. 30+491 TO STA. 31+267 = 776m
= 0.78 KILOMETER



ESTIMATED QUANTITIES

ITEM 614	OBJECT MARKERS	73 EACH
ITEM 614	TEMPORARY EDGE LINE, CLASS I	0.78 KILOMETER
ITEM 614	TEMPORARY TRANSVERSE LINE, CLASS I	69 METER
ITEM 614	BARRIER REFLECTORS	73 EACH
ITEM 614	TEMPORARY IMPACT ATTENUATOR	1 EACH
ITEM 622	PORTABLE CONCRETE BARRIER, 813mm AS PER PLAN	546 METER

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NO. 43

MP005.DWG
01-26-2001 8:56 AM
1:1000 M

SCALE 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MJT
CHECKED FLD

MAINTENANCE OF TRAFFIC
STA. 30+240 - STA. 32+900

CRA-30-24.000

36
677

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
24	28	44	45	46	47	48	49			63B		491	498						
																		ROADWAY	
LUMP														201	11000	LUMP		CLEARING AND GRUBBING	
						1138						530 ⊕		202	23000	1668 ⊕	SQ. M.	PAVEMENT REMOVED	
										436				202	23500	436	SQ. M.	WEARING COURSE REMOVED	
		347	27	338										202	35100	712	METER	PIPE REMOVED, 600 mm AND UNDER	
		11		69										202	35200	80	METER	PIPE REMOVED, OVER 600mm	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 13 WL, FRAME GARAGE BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 13 WL, 2 STORY FRAME BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 13 WL, FRAME BARN BUILDING	
						4								202	56100	4	EACH	BUILDING DEMOLISHED, PARCEL No. 13 WL, FRAME FARM BUILDING	
					1									202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 14 WL, 1 STORY BRICK BUILDING	
					1									202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 14 WL, FRAME SHED BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 17 E, FRAME GARAGE BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 17 E, FRAME BARN BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 17 WL, 1 STORY BRICK BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL NO. 17WL, FRAME SHED BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 39 WL, 2 STORY FRAME BUILDING	
						2								202	56100	2	EACH	BUILDING DEMOLISHED, PARCEL No. 39 WV, FRAME SHED BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 44 WD, 2 STORY FRAME BUILDING	
					1									202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 44 WL, FRAME BARN BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 44 T, FRAME GARAGE BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 57 WL, 1 STORY FRAME BUILDING	
					1	1								202	56100	2	EACH	BUILDING DEMOLISHED, PARCEL No. 57 WL, FRAME GARAGE BUILDING	
					3									202	56100	3	EACH	BUILDING DEMOLISHED, PARCEL No. 57 WL, FRAME SHED BUILDING	
					1									202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 57 T 1, 2 STORY FRAME BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 66 WV, 2 STORY FRAME BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 67 WV, 2 STORY FRAME BUILDING	
						1								202	56100	1	EACH	BUILDING DEMOLISHED, PARCEL No. 67 WV, FRAME GARAGE BUILDING	
				2										202	58100	2	EACH	CATCH BASIN REMOVED	
					1	4								202	62700	5	EACH	SEPTIC TANK REMOVED	
					3	10								SPEC.	20266000	13	EACH	DRILLED WATER WELL ABANDONED	
1														202	67000	1	EACH	REGULATED UNDERGROUND STORAGE TANK REMOVED	
					811	730								202	75000	1541	METER	FENCE REMOVED	
						1								202	98100	1	EACH	REMOVAL MISC.: DOCK	
					1	1								202	98100	2	EACH	REMOVAL MISC.: BUILDING FOUNDATION	
					1									202	98100	1	EACH	REMOVAL MISC.: PUMP PIT	
						5								202	98100	5	EACH	REMOVAL MISC.: BRICK COLUMN OR PLANTER	
						2								202	98100	2	EACH	REMOVAL MISC.: CISTERN	
						14								202	98200	14	METER	REMOVAL MISC.: CONCRETE WALL	
	13860						441,784 ⊕						211	203	12000	460,066 ⊕	CU.M.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
	13860						1,472,695 ⊕							203	20000	1,475,580 ⊕	CU.M.	EMBANKMENT	
125														203	45000	125	HR.	PROOF ROLLING	
										288,543				203	50000	288,543	SQ. M.	SUBGRADE COMPACTION	
																		⊕ QUANTITY REVISED 04-23-03	

CALCULATED MRD
CHECKED FJB

GENERAL SUMMARY

CRA-30-24.000

37
677

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
28	28A		44	45	46	47	48				592	593							
																		ROADWAY CON'T.	
												53		604	38500	53	EACH	MONUMENT ASSEMBLY	
											29			604	40500	29	EACH	REFERENCE MONUMENT	
						1956.435	3900.01							606	13000	5856.445	METER	GUARDRAIL, TYPE 5	
						243.840	60.960							606	15500	304.800	METER	GUARDRAIL, BARRIER DESIGN, TYPE 5	
						10	15							606	22010	25	EACH	ANCHOR ASSEMBLY, TYPE E-98	
						16	16							606	26500	32	EACH	ANCHOR ASSEMBLY, TYPE T	
						8	12							606	35000	20	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
						8	2							606	60010	10	EACH	IMPACT ATTENUATOR, TYPE 1-98, (BIDIRECTIONAL)	
			11,826	7,511	679									607	15000	20,016	METER	FENCE, TYPE 47	
	1185													607	30000	1185	METER	FENCE, SNOW	
						4								625	32000	4	EACH	GROUND ROD	
						24	34							626	00100	58	EACH	BARRIER REFLECTOR, TYPE A	
						67	111							626	00300	178	EACH	BARRIER REFLECTOR, TYPE A2	
						16	28							626	00400	44	EACH	BARRIER REFLECTOR, TYPE B2	
						5	9							SPEC.	69050100	14	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	

CALCULATED MRD
CHECKED FJB

GENERAL SUMMARY

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\General\GenSum\Gg002.dwg April 19 2001 1:34pm Byamheller

SHEET NUMBER 26	28A	44	45	46	49	50	85	444	445	446	447	448	449	456	494	501	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																					EROSION CONTROL	
															163		601	10000	163	SQ. M.	RIPRAP	
		93	18	145				18	157	99	48	3	3			100	601	11000	684	SQ. M.	RIPRAP USING 150 mm REINFORCED CONCRETE SLAB	
						1726											601	20000	1,726	SQ. M.	CRUSHED AGGREGATE SLOPE PROTECTION 300 MM	
											159						601	32000	159	CU. M.	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
																76	601	32004	76	CU. M.	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER	
		248	12	55					10	164		6	11				601	32100	506	CU. M.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
															96		601	32104	96	CU. M.	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
30	3163	221	30	15			1,873							20			601	32200	5352	CU. M.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
	3514																601	34200	3514	CU. M.	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
		43,722⊕	10,157⊕	3897													670	40000	57,776	SQ. M.	DITCH EROSION PROTECTION	
					1,067,485												870	10000	1,067,485	SQ. M.	SEEDING AND MULCHING	
	53,233																870	14000	53,233	SQ. M.	REPAIR SEEDING AND MULCHING	
	50.04					1,60,122.75											870	20000	160,172.79	KILOGRAM	COMMERCIAL FERTILIZER	
10,658	2129					26,047											870	35000	38,834	CU. M.	WATER	
266,452						1,067,485											870	40000	1,333,937	SQ. M.	MOWING	
	212,933																877	10000	212,933	SQ. M.	TEMPORARY SEEDING AND MULCHING	
	6152						12,303										877	30100	18,455	METER	TEMPORARY PERIMETER FILTER FABRIC FENCE	
	132						264										877	30200	396	METER	TEMPORARY DITCH CHECK FILTER FABRIC FENCE	
	336						671										877	30300	1,007	METER	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	
	540						903										877	40000	1,443	METER	TEMPORARY SLOPE DRAINS	
	15,816						9,316										877	50000	25,132	CU. M.	TEMPORARY SEDIMENT BASINS AND DAMS	
	2717						14,012										877	55000	16,729	METER	TEMPORARY DIKES	
	14,364																877	55500	14,364	SQ. M.	TEMPORARY DITCH PROTECTION	
	7908						4,671										877	60000	12,579	CU. M.	SEDIMENT REMOVAL	
																					⊕ QUANTITY REVISED 04-23-03	

CALCULATED MRD CHECKED FJB

GENERAL SUMMARY

CRA-30-24.000

26	44	45	46	444	445	446	447	448	449	456	502G	503G	504A	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
SHEET NUMBER																			
																		DRAINAGE	
	17.6	16.3⊕	30.2	4.9	3.7	33.0	13.6	2.4	1.9	2.2				602	20000	125.8⊕	CU. M.	CONCRETE MASONRY	
120.0														603	01100	120	METER	150 mm CONDUIT, TYPE C	
200.0														603	01400	200	METER	150 mm CONDUIT, TYPE E	
200.0											1331.0	1755.0	220.0	603	01500	3,506	METER	150 mm CONDUIT, TYPE F	
200.0														603	02500	200	METER	200 mm CONDUIT, TYPE E	
200.0														603	02600	200	METER	200 mm CONDUIT, TYPE F	
		8.0												603	04200	8.0	METER	300 mm CONDUIT, TYPE A, 706.02	
200.0														603	04400	200.0	METER	300 mm CONDUIT, TYPE B	
		53.0	274.8⊕											603	04900	327.8	METER	300 mm CONDUIT, TYPE D	
200.0														603	05100	200.0	METER	300 mm CONDUIT, TYPE E	
200.0														603	05200	200.0	METER	300 mm CONDUIT, TYPE F	
	1516.5	437.9⊕	15.4							107.5				603	05900	2,077.3 ⊕	METER	375 mm CONDUIT, TYPE B	
	156.0	0.0⊕												603	06100	156.0 ⊕	METER	375 mm CONDUIT, TYPE C	
			210.5											603	06400	210.5	METER	375 mm CONDUIT, TYPE D	
200.0		41.5								224.0				603	06700	465.5	METER	375 mm CONDUIT, TYPE F, 707.05 TYPE C	
		15.0												603	07200	15.0	METER	450 mm CONDUIT, TYPE A, 706.02	
		150.0⊕												603	07600	150.0⊕	METER	450 mm CONDUIT, TYPE C, 706.02	
		34.5	91.0											603	07900	125.5	METER	450 mm CONDUIT, TYPE D	
	160.0⊕	110.0⊕	65.0											603	09100	335.0 ⊕	METER	525 mm CONDUIT, TYPE C, 706.02	
			28.0											603	10200	28.0	METER	600 mm CONDUIT, TYPE A 706.02; 600mm 707.01 ALUMINUM	
																		COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
			41.5											603	10200	41.5	METER	600 mm CONDUIT, TYPE A 706.02; 675mm 707.01 ALUMINUM	
																		COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
	66.7⊕													603	10400	66.7⊕	METER	600mm CONDUIT, TYPE B, 706.02 (D-LOAD 75); 707.12, 707.33	
			15.0											603	10600	15.0	METER	600 mm CONDUIT, TYPE C, 706.02	
			24.0											603	10900	24.0	METER	600mm CONDUIT, TYPE D	
			45.0											603	13200	45.0	METER	750mm CONDUIT, TYPE A, 706.02 (D-LOAD 110); 750mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
		94.5												603	13200	94.5	METER	750mm CONDUIT, TYPE A, 706.02 (D-LOAD 75); 750mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
	58.0													603	13200	58.0	METER	750mm CONDUIT, TYPE A, 706.02 (D-LOAD 62.5); 900mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
		49.5												603	13200	49.5	METER	750mm CONDUIT, TYPE A, 706.02 (D-LOAD 75); 900mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
			39.5											603	16200	39.5	METER	900mm CONDUIT, TYPE A, 706.02 (D-LOAD 75); 900mm 707.02	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
	83.5	98.5												603	16200	182.0	METER	900mm CONDUIT, TYPE A, 706.02 (D-LOAD 87.5); 900mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
		65.0												603	16200	65.0	METER	900mm CONDUIT, TYPE A, 706.02 (D-LOAD 110); 900mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
		52.5												603	16200	52.5	METER	900mm CONDUIT, TYPE A, 706.02 (D-LOAD 100); 1050mm 707.01	
																		ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
	30.0													603	16400	30.0	METER	900mm CONDUIT, TYPE B, 706.02 (D-LOAD 75); 707.12, 707.33	
			33.0											603	16400	33.0	METER	900mm CONDUIT, TYPE B	
			30.5											603	16900	30.5	METER	900mm CONDUIT, TYPE D	
																		⊕ QUANTITY REVISED 04-23-03	

CALCULATED MRD CHECKED FJB

GENERAL SUMMARY

CRA-30-24.000

26	44	45	46	50	444	445	446	447	448	449	456	494	501	502G	503G	504A	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																					DRAINAGE CON'T.	
			35.5														603	19200	35.5	METER	1050mm CONDUIT, TYPE A, 706.02 (D-LOAD 87.5); 1050 mm 707.01	
																					ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
										44.6							603	19200	44.6	METER	1050mm CONDUIT, TYPE A, 706.02 (D-LOAD 100); 1050 mm 707.01	
																					ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
			47.5														603	19200	47.5	METER	1050mm CONDUIT, TYPE A, 706.02 (D-LOAD 110); 1200 mm 707.01	
																					ALUMINUM COATED (1.63), 707.02 ALUMINUM COATED (1.63),	
																					707.04 (1.63), 707.08 (1.63)	
									56.0								603	19200	56.0	METER	1050mm CONDUIT, TYPE A, 706.02 (D-LOAD 120); 1200 mm 707.01	
																					ALUMINUM COATED (2.01), 707.02 ALUMINUM COATED (2.01),	
																					707.04 (2.01), 707.08 (2.01)	
	239.5																603	19400	239.5	METER	1050mm CONDUIT TYPE B, 706.02 (D-LOAD 75), 707.12 707.33	
	46.0																603	19600	46.0	METER	1050mm CONDUIT, TYPE C	
			71.5														603	20700	71.5	METER	1200mm CONDUIT, TYPE A , 706.02 (D-LOAD 110); 1200mm 707.01	
																					ALUMINUM COATED (2.01), 707.02 ALUMINUM COATED (2.01),	
																					707.04 (2.01), 707.08 (2.01)	
						60.5											603	22200	60.5	METER	1350mm CONDUIT, TYPE A, 706.02; 1500mm 707.02	
																					ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
	45.5																603	23600	45.5	METER	1500mm CONDUIT, TYPE A, 707.01 OR 707.02	
			49.5														603	23600	49.5	METER	1500mm CONDUIT, TYPE A, 706.02 (D-LOAD 140); 1500mm 707.02	
																					ALUMINUM COATED (2.01), 707.04 (2.01), 707.08 (2.01)	
	48.0		252.5														603	24000	300.5	METER	1500mm CONDUIT, TYPE C, 706.02	
					87.0												603	25000	87.0	METER	1650mm CONDUIT, TYPE A, 706.02; 1800mm 707.02	
																					ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)	
								45.0									603	28000	45.0	METER	2100mm CONDUIT, TYPE A, 706.02 (D-LOAD 110); 2700mm 707.02	
																					ALUMINUM COATED (2.77), 707.04 (2.77), 707.08 (2.77)	
							96.5										603	38000	96.5	METER	3600mm CONDUIT, TYPE A, 706.02 (D-LOAD 140)	
		39.0															603	52700	39.0	METER	730mm x 1150mm CONDUIT, TYPE A, 706.04 (HE-111);	
																					970mm x 1440mm 707.01 ALUMINUM COATED (2.77);	
																					707.04 (2.77), 707.08 (2.77)	
													80.5				603	94901	80.5	METER	2400mm x 1500mm CONDUIT, TYPE A, 706.05, AS PER PLAN	501
												54.5					603	96499	54.5	METER	6000mm x 2400mm CONDUIT, TYPE A, 706.05, AS PER PLAN	494
											20						604	00800	20	EACH	CATCH BASIN, NO. 3A	
	53	16															604	01201	69	EACH	CATCH BASIN, NO. 4, AS PER PLAN	456A
	3					1											604	01401	4	EACH	CATCH BASIN, NO. 4A, AS PER PLAN	26
	1																604	02800	1	EACH	CATCH BASIN, NO. 8	
	1																604	02906	1	EACH	CATCH BASIN, NO. 8A	
			1														604	04500	1	EACH	CATCH BASIN, NO. 2-2B	
			1														604	05300	1	EACH	CATCH BASIN, NO. 2-4	
			1														604	06100	1	EACH	CATCH BASIN, NO. 2-6	
			3														604	31500	3	EACH	MANHOLE, NO.3	
														16		22	604	36600	38	EACH	PRECAST REINFORCED CONCRETE OUTLET	
10.0																	604	37000	10	EACH	INSPECTION WELL	
														8142.0	9055.0		605	11100	17,197.0	METER	150 mm SHALLOW PIPE UNDERDRAIN	
														18562.0	18,559.0	3665.0	605	11111	40,786.0	METER	150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN	26
120.0																	605	13402	120.0	METER	150 mm UNCLASSIFIED PIPE UNDERDRAIN FOR SPRINGS	
				2,692.0													605	31100	2,692.0	METER	AGGREGATE DRAIN	
120.0																	605	32200	120.0	METER	AGGREGATE DRAIN FOR SPRINGS	

(The 26 through 504A columns are printed under the spanning heading SHEET NUMBER.)

CALCULATED MRD CHECKED FJB

GENERAL SUMMARY

CRA-30-24.000

SHEET NUMBER 23			29	30		50			63B		445A	456	491	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																		PAVEMENT	
				75										253	01000	75	CU.M	PAVEMENT REPAIR	
													23⊕	255	20000	23⊕	METER	FULL DEPTH PAVEMENT SAWING	
									3521				351⊕	301	46000	3872⊕	CU. M.	BITUMINOUS AGGREGATE BASE, PG64–22	
									1320					302	46000	1320	CU. M.	BITUMINOUS AGGREGATE BASE, PG64–22	
			300						67,783				904⊕	304	20000	68,987⊕	CU. M.	AGGREGATE BASE	
									209					407	10000	209	LITER	TACK COAT	
									7701					407	10001	7,701	LITER	TACK COAT, AS PER PLAN	26
									7544					407	14000	7,544	LITER	TACK COAT FOR INTERMEDIATE COURSE	
									493,750					408	10000	493,750	LITER	BITUMINOUS PRIME COAT	
									36					409	12000	36	CU. M.	SEAL COAT COVER AGGREGATE, NO. 8	
									2,680					409	20000	2,680	LITER	SEAL COAT BITUMINOUS MATERIAL	
									553					446	46040	553	CU. M.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64–28	
									1146					448	46050	1146	CU. M.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64–22	
									1033					448	47020	1033	CU. M.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64–22	
													115⊕	448	48020	115⊕	CU. M.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64–22 (DRIVEWAYS)	
									189					448	50000	189	CU. M.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	
													886⊕	452	09990	886⊕	SQ. M.	150 mm PLAIN CONCRETE PAVEMENT	
834														611	25001	834	SQ. M.	REINFORCED CONCRETE APPROACH SLAB (T=380mm), AS PER PLAN	28
						38,000								618	40100	38,000	METER	RUMBLE STRIPS, TYPE 2 (ASPHALT)	
												140		830	26001	140	METER	CURB, TYPE 6, AS PER PLAN	456
									72,443					880	15000	72,443	CU. M.	ASPHALT CONCRETE (7 YEAR WARRANTY)	
																		LANDSCAPING	
											11			601	28001	11	CU. M.	DUMPED ROCK FILL, TYPE D, AS PER PLAN	445A
											6.0			601	34200	6.0	CU. M.	ROCK CHANNEL PROTECTION TYPE C WITHOUT FILTER; 300mm	
											27			SPECIAL	69098000	27	EACH	MISC: BOULDER (0.3m–1m)	
											275			661	99900	275	EACH	PLANTING, MISC: SALIX SERICEA (SILKY WILLOW), MIN. 1.829m	
											12			661	99900	12	EACH	PLANTING, MISC: SALIX NIGRA (BLACK WILLOW), 1 GALLON	
											75			661	99900	75	EACH	PLANTING, MISC: CORNUS AMONUM (SILKY DOGWOOD), 1 GALLON	
											21			661	99900	21	EACH	PLANTING, MISC: LIRIODENDRON TULIPIFERA (TULIP TREE) 1 GALLON	
											10			661	99900	10	EACH	PLANTING, MISC: ACER RUBRUM (RED MAPLE) 1 GALLON	
											257			661	99900	257	EACH	PLANTING, MISC: CORNUS RACEMOSA, (GRAY DOGWOOD) 1 GALLON	
											257			661	99900	257	EACH	PLANTING, MISC: VIBURNUM LENTAGO, (NANNYBERRY) 1 GALLON	
																		⊕ QUANTITY REVISED 04-23-03	

CALCULATED MRD
CHECKED FJB

GENERAL SUMMARY

CRA–30–24.000

L:\DRAWINGS\93125\F80C1\Roadway\General\GenSum\Gg006.dwg April 25 2003 4:45pm By:Phil

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									29	30	36	494	501						
																		MAINTENANCE OF TRAFFIC	
									200					410	12000	200	CU.M	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
											1			614	12350	1	EACH	TEMPORARY IMPACT ATTENUATOR	
										16				614	12460	16	EACH	WORK ZONE MARKING SIGN	
									40	100				614	13000	140	CU.M	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
											73			614	13300	73	EACH	BARRIER REFLECTOR, TYPE B	
											73			614	13350	73	EACH	OBJECT MARKER	
										4.72				614	21400	4.72	K. METER	TEMPORARY CENTER LINES, CLASS II	
											0.78			614	22000	0.78	K. METER	TEMPORARY EDGE LINE, CLASS I	
											69			614	25000	69	METER	TEMPORARY TRANSVERSE LINE, CLASS I	
										1,000				616	10000	1000	CU.M.	WATER	
										75				616	20000	75	METRIC TON	CALCIUM CHLORIDE	
											546			622	40021	546	METER	PORTABLE CONCRETE BARRIER, 813 mm, AS PER PLAN	36
																		STRUCTURES	
												LUMP	LUMP	503	21300	LUMP		UNCLASSIFIED EXCAVATION	
												883	591	512	33000	1,474	SQ. METER	TYPE 2 WATER PROOFING	
													2	516	13600	2	SQ. METER	25MM PREFORMED EXPANSION JOINT FILLER	
												LUMP	LUMP	518	21231	LUMP		POROUS BACKFILL WITH FABRIC FILTER, AS PER PLAN	494/501
													14.5	842	46501	14.5	CU. METER	CLASS C CONCRETE, FOOTING, AS PER PLAN	501
												82.5		842	47001	82.5	CU. METER	CLASS C CONCRETE, CULVERT, AS PER PLAN	494
													1.4	842	51101	1.4	CU. METER	CLASS C CONCRETE, MISC: HEADWALL, AS PER PLAN	501
													13.1	842	51101	13.1	CU. METER	CLASS C CONCRETE, MISC: WINGWALL, AS PER PLAN	501
												61	33	864	10100	94	SQ. METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
																		FOR TRAFFIC CONTROL GENERAL SUMMARY	508
																		FOR STRUCTURE CRA-30-24797 GENERAL SUMMARY	537
																		FOR STRUCTURE CRA-30-28000 GENERAL SUMMARY	548
																		FOR STRUCTURE CRA-30-30166 GENERAL SUMMARY	559
																		FOR STRUCTURE CRA-30-31094 GENERAL SUMMARY	570
																		FOR STRUCTURE CRA-30-32766 GENERAL SUMMARY	581
														614	11000	LUMP		MAINTAINING TRAFFIC	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	
														806	16020	33	MONTH	FIELD OFFICE, TYPE C	

MRD
CHECKED FJB

GENERAL SUMMARY

CRA-30-24.000

* 750mm 706.02 (D-LOAD 62.5)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

** 900mm 706.02 (D-LOAD 87.5)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

*** 706.02 (D-LOAD 75),
707.12,707.33

metric units

DRAINAGE – EROSION PROTECTION – FENCE

SHEET No.	202 PIPE REMOVED OVER 600mm	202 PIPE REMOVED 600mm AND UNDER	601 ROCK CHANNEL PROTECTION, TYPE B W/FILTER	601 ROCK CHANNEL PROTECTION, TYPE C W/FILTER	601 RIPRAP USING 150mm CONCRETE SLAB	602 CONCRETE MASONRY	603 ***600mm CONDUIT TYPE B	603 375mm CONDUIT TYPE B	603 1500mm CONDUIT TYPE A 707.01 OR 707.02	603 ** 900mm CONDUIT TYPE A	603 375mm CONDUIT TYPE C	603 * 750mm CONDUIT TYPE A	603 ***900mm CONDUIT TYPE B	603 ***1050mm CONDUIT TYPE B	603 1050mm CONDUIT TYPE C	603 1500mm CONDUIT TYPE C	603 525mm CONDUIT TYPE C	604 CATCH BASIN NO. 4A, AS PER PLAN	604 CATCH BASIN NO. 8A	604 CATCH BASIN NO. 4 AS PER PLAN	604 CATCH BASIN NO. 8	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION	SHEET No.
	METER	METER	C.M.	C.M.	S.M.	C.M.	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	EACH	EACH	EACH	EACH	METER	S.M.	
MAINLINE																								
89																							138	89
90																							1560	90
91																							1680	91
92																							1560	92
93						1.7			45.5														1286	93
94																							1560	94
95																							960	95
96				3		0.4		79.5												2		480	1540	96
97			5		3	1.8		49.5		83.5										1		210	540	97
98				3		0.4		60.0												2			200	98
99		9	3	2		1.6		29.5				58.0								2			116	99
100				3		0.4		67.0												2		161	64	100
101				3		0.4		71.5												2		237	100	101
102				2		0.2		32.5												1		480		102
103			101	2		0.2		34.0			6.0									3		508	775	103
104				3		0.4		67.0												2		480	2884	104
105	11	278		3		0.4		65.0												2		480	2884	105
106		50		3		0.4		65.0												2		480	2028	106
107				2		0.2		30.5												1		480	1588	107
108				3		0.4		60.5												2		480	1588	108
109				2		0.2		29.5												1		480	1868	109
110				3		0.4		58.5												2		480	1472	110
111				3		0.4		62.5												2		480	1296	111
112		10		2		0.2		31.0			100.0									2		459	792	112
113			123	3	90	0.4		61.0												2		438	972	113
114				145.5		0.2		30.0												1		480	1396	114
115				3		0.4		62.0												2		480	2264	115
116				4		1.0		34.5										1		1		480	2164	116
117							33.5						30.0	239.5				1	1			480	601	117
118				3		0.4		62.5												2	1	480	620	118
119				3		0.4		68.5												2		480	460	119
120																						254		120
121				3		0.4		60.0												2			100	121
122				3		0.4		62.5			5.0									3		23	110	122
123				3		0.4		84.0			45.0							1		2		446	2119	123
124				3		0.4		65.5												2		480	2488	124
125			16	3		3.1		66.0							46.0	48.0				2		450	1578	125
126				2		0.2	33.2⊕	32.0									160.0⊕			1		480	1336⊕	126
TOTAL	11	347	248	220.5	93	17.6	66.7⊕	1516.5	45.5	83.5	156.0	58.0	30.0	239.5	46.0	48.0	160.0⊕	3	1	53	1	11,826	43,722⊕	

TOTALS CARRIED TO GENERAL SUMMARY SHEETS 37 – 41

⊕ QUANTITY REVISED 04-23-03

CALCULATED MRD
CHECKED DLK

DRAINAGE – EROSION PROTECTION – FENCE SUB-SUMARY

CRA-30-24.000

+900mm 706.02 (D-LOAD 87.5)
900mm 707.01 ALUMINUM COATED (1.63),
707.08 (1.63), 707.08 (1.63)

++900mm 706.02 (D-LOAD 110)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

+++730mmx1150mm 706.04 (HE-111),
970mmx1440mm 707.01 ALUMINUM COATED (2.77),
707.04 (2.77), 707.08 (2.77)

*750mm 706.02 (D-LOAD 75)
750mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

**750mm 706.02 (D-LOAD 75)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

*** 900mm 706.02 (D-LOAD 100)
1050 707.01 ALUMINUM COATED (1.63),
707.02 (1.63), 707.08 (1.63)

⊕ QUANTITY REVISED/ADDED 04-23-03

metric units

DRAINAGE – EROSION PROTECTION – FENCE

SHEET No.	202 PIPE REMOVED 600mm AND UNDER	601 ROCK CHANNEL PROTECTION, TYPE C W/FILTER	601 ROCK CHANNEL PROTECTION, TYPE B W/FILTER	601 RIPRAP USING 150mm CONCRETE SLAB	602 CONCRETE MASONRY	603 300mm CONDUIT TYPE D	603 375mm CONDUIT TYPE B	603 +900mm CONDUIT TYPE A	603 375mm CONDUIT TYPE F 707.05 TYPE C	603 450mm CONDUIT TYPE D	603 *750mm CONDUIT TYPE A	603 ++900mm CONDUIT TYPE A	603 ** 750mm CONDUIT TYPE A	603 450mm CONDUIT TYPE A, 706.02	603 ***900mm CONDUIT TYPE A	603 300mm CONDUIT TYPE A, 706.02	603 +++TYPE A CONDUIT	603 375mm CONDUIT TYPE C	603 450mm CONDUIT TYPE C	525mm CONDUIT TYPE C		604 CATCH BASIN NO. 4, AS PER PLAN	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION	SHEET No.
	METER	C.M.	C.M.	S.M.	C.M.	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER	METER		EACH	METER	S.M.	
MAINLINE																									
127					0.2														130.0⊕	110.0 ⊕		1	480	1324⊕	127
128		3			0.3⊕		30.2⊕											0 ⊕	20.0 ⊕			3	480	804 ⊕	128
129		3			0.4		61.2⊕															2	480	200 ⊕	129
130		2			0.2		33.0⊕															1	480	200 ⊕	130
131		3			0.4		61.5															2	520	100	131
132		3			0.4		67.5															3	510	130	132
133		2			0.2		139.0		15.5													2	532	263	133
134																									134
135		3			0.4		45.5		26.0													2	520	1396	135
RAMP A																									
275																							91		275
276			3	2	1.6								49.5										164		276
RAMP B																									
280																							241	1250	280
281		2		2	1.2						50.0												236	1225	281
RAMP C																									
286		3		3	1.9										52.5								229	400	286
287																							224		287
RAMP D																									
291																							193		291
292																							358		292
RAMP E																									
297																							59		297
298			3	3	1.6			49.5															184		298
RAMP F																									
302																							134		302
303			3	3	1.6							65.0											151		303
RAMP G																									
307		2		2	1.2						44.5												167	840	307
308																							105	1080	308
RAMP H																									
312			3	3	1.6			49.0															192	696	312
313	10																						88	483	313
BECK ROAD																									
337	7																								337
S.R. 598																									
360	10					23.0				34.5															360
361		2			2.8												39.0						304		361
362																							60		362
363						30.0																	347		363
364					0.4									15.0		8.0									364
TOTAL	27	28⊕	12	18	16.3⊕	53.0	437.9⊕	98.5	41.5	34.5	94.5	65.0	49.5	15.0	52.5	8.0	39.0	0 ⊕	150.0⊕	110.0 ⊕		16	7529	10,157⊕	

TOTALS CARRIED TO GENERAL SUMMARY SHEET 37 – 41

CALCULATED MRD
CHECKED DLK

DRAINAGE – EROSION PROTECTION – FENCE
SUB-SUMARY

CRA-30-24.000

* 1200mm 706.02 (D-LOAD 110), 1200mm 707.01 ALUMINUM COATED, (2.01), 707.02 ALUMINUM COATED, (2.01), 707.04 (2.01), 707.08 (2.01)

** 600mm 706.02 TYPE A, 675mm 707.01 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

⊕ QUANTITY REVISED/ ADDED 04-23-03

*** 1050mm 706.02 (D-LOAD 87.5), 1050mm 707.01 ALUMINUM COATED (1.63), 707.02 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

+1500mm 706.02 (D-LOAD 140), 1500mm 707.02 ALUMINUM COATED, (2.01), 707.04 (2.01), 707.08 (2.01)

++600mm 706.02 TYPE A, 600mm 707.01 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

+++1050mm 706.02 (D-LOAD 110), 1200mm 707.01 ALUMINUM COATED (1.63), 707.02 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

750mm 706.02 (D-LOAD 110), 750mm 707.01 ALUMINUM COATED, (1.63), 707.04 (1.63), 707.08 (1.63)

900mm 706.02 (D-LOAD 75), 900mm 707.02 ALUMINUM COATED, (1.63),707.04 (1.63), 707.08 (1.63)

metric units

DRAINAGE – EROSION PROTECTION – FENCE

SHEET No.	202 PIPE REMOVED OVER 600mm METER	202 PIPE REMOVED 600mm AND UNDER METER	202 CATCH BASIN REMOVED EACH	601 ROCK CHANNEL PROTECTION, TYPE B W/FILTER C.M.	601 ROCK CHANNEL PROTECTION, TYPE C W/FILTER C.M.	601 RIPRAP USING 150mm CONCRETE SLAB S.M.	602 CONCRETE MASONRY C.M.	603 ##900mm CONDUIT TYPE A METER	603 300mm CONDUIT TYPE D METER	603 1500mm CONDUIT TYPE C 706.02 METER	603 375mm CONDUIT TYPE D METER	603 #750mm CONDUIT TYPE A METER	603 **600mm CONDUIT TYPE A METER	603 ++600mm CONDUIT TYPE A METER	603 600mm CONDUIT TYPE D METER	603 ++1050mm CONDUIT TYPE A METER	603 900mm CONDUIT TYPE B METER	603 ***1050mm CONDUIT TYPE A METER	603 *1200mm CONDUIT TYPE A METER	603 900mm CONDUIT TYPE D METER	603 +1500mm CONDUIT TYPE A METER	604 CATCH BASIN NO. 2-6 EACH	604 MANHOLE NO. 3 EACH	604 CATCH BASIN NO. 2-2B EACH	604 CATCH BASIN NO. 2-4 EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.	603 375 mm CONDUIT TYPE B METER	603 450 mm CONDUIT TYPE D METER	604 CATCH BASIN NO. 2-3 EACH	603 525mm CONDUIT TYPE C, 706.02 METER	603 600mm CONDUIT TYPE C, 706.02 METER	SHEET No.
N. MARKET ROAD																																	
383	16					99	2.4			95.5													2				511						383
383A		76		24		5	9.5		37.5	157.0												1	1										383A
FAIRVIEW ROAD																																	
386		23			2	2	1.1		17.5				26.5		12.0				24.0								204						386
387	12		1																								106						387
388		18									65.0																192						388
KNORR ROAD																																	
402																											170						402
NAZOR ROAD																																	
405		18			2	2	1.1				34.0		15.0																				405
406		9									22.8																		91.0				406
407	11	38		17		8	6.1												47.5		49.5												407
409		82		5		3	1.9											35.5									230						409
410									19.0																		183						410
SERVICE ROAD 'A'																																	
430					1	11	0.5		26.8																			15.4					430
SERVICE ROAD 'B'																																	
436						2			27.0																								436
S.R. 602																																	
317					1	2	0.8							28.0	12.0											261							317
318				6		3	2.4									47.5										105							318
319					2	2	1.2					45.0														254	24						319
320	30		1		5	3	1.3				40.0						33.0			7.0					1	59	562						320
BIDDLE ROAD																																	
340		26			2		0.44				33.2									23.5							547			1	65	15	340
341									17.0⊕																		846						341
342		42		3		3	1.5	39.5	70.0⊕																		180						342
343		6							60.0⊕		15.5													1			142						343
TOTAL	69	338	2	55	15	145	30.24	39.5	274.8⊕	252.5	210.5	45.0	41.5	28.0	24.0	47.5	33.0	35.5	71.5	30.5	49.5	1	3	1	1	679	3897	15.4	91.0	1	65	15	

TOTALS CARRIED TO GENERAL SUMMARY SHEET 37 – 41

CALCULATED MRD CHECKED DLK

DRAINAGE – EROSION PROTECTION – FENCE SUB-SUMMARY

CRA-30-24.000

metric units

GUARDRAIL AND MISCELLANEOUS ITEMS

	202	202	202	202	606	606	606	606	606	606	625	626	626	626	SPEC.	SPEC	SPEC	
SHEET No.	REMOVAL MISC. BUILDING FOUNDATION	BUILDING DEMOLISHED	SEPTIC TANK REMOVED	FENCE REMOVED	GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEMBLY, TYPE 1	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	GUARDRAIL BARRIER DESIGN, TYPE 5	GROUND ROD	BARRIER REFLECTOR TYPE A	BARRIER REFLECTOR TYPE A2	BARRIER REFLECTOR TYPE B2	REMOVAL MISC. : PUMP PIT	MAILBOX SUPPORT SYSTEM, SINGLE	DRILLED WATER WELL ABANDONED	SHEET No.
	EACH	EACH	EACH	METER	METER	EACH	EACH	EACH	EACH	METER	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
S.R. 602																		
317				72												1		317
318					701.040	4		5	3				26	8			1	318
319					472.440			3	1				17					319
320				6												1		320
BIDDLE ROAD																		
340				10												1		340
341					308.610	2			2				12	8				341
342					306.705	2		2	2				12			1		342
343															1	1	1	343
MAINLINE																		
89				39														89
90				90														90
91																		91
92																		92
93																		93
94																		94
95																		95
96																		96
97																		97
98																		98
99		2	1	234	45.720		2		2	60.960		6					1	99
100																		100
101				92														101
102																		102
103																		103
104																		104
105																		105
106																		106
107				90														107
108																		108
109				90							4							109
110																		110
111																		111
112					38.100		2		2	60.960		6						112
113																		113
114				88														114
115																		115
116																		116
117																		117
118																		118
119																		119
120																		120
121					45.720		2		2	60.960		6						121
122	1	1																122
123																		123
124																		124
125					38.100		2		2	60.960		6						125
126		5																126
TOTAL	1	8	1	811	1956.435	8	8	10	16	243.840	4	24	67	16	1	5	3	

TOTAL CARRIED TO GENERAL SUMMARY SHEET 37 – 38

CALCULATED MRD
CHECKED DLK

GUARDRAIL AND MISCELLANEOUS ITEMS SUBSUMARY

CRA-30- 24.000

metric units

GUARDRAIL AND MISCELLANEOUS ITEMS

SHEET No.	202 PAVEMENT REMOVED (S.M.)		202 REMOVAL MISC.: BRICK COLUMN OR PLANTER (EACH)	202 REMOVAL MISC.: CONCRETE WALL (METER)	202 BUILDING DEMOLISHED (EACH)	202 SEPTIC TANK REMOVED (EACH)	202 FENCE REMOVED (METER)	202 REMOVAL MISC.: CISTERN (EACH)	202 REMOVAL MISC. BUILDING FOUNDATION (EACH)	606 GUARDRAIL BARRIER DESIGN, TYPE 5 (METER)	606 IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) (EACH)	606 GUARDRAIL, TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 (EACH)	606 ANCHOR ASSEMBLY, TYPE E-98 (EACH)	606 ANCHOR ASSEMBLY, TYPE T (EACH)	626 BARRIER REFLECTOR TYPE B2 (EACH)	626 BARRIER REFLECTOR TYPE A (EACH)	626 BARRIER REFLECTOR TYPE A2 (EACH)	SPEC DRILLED WATER WELL ABANDONED (EACH)	SPEC MAILBOX SUPPORT SYSTEM, SINGLE (EACH)	SHEET No.
MAINLINE																					
127																					127
128																					128
129																					129
130																					130
131																					131
132										60.960	2	38.100			2		6				132
133																					133
134																					134
135												817.720		1	1		28				135
RAMP B																					
281							82														281
RAMP C																					
286					7	1	46	1											2		286
287																					287
RAMP D																					
291	755				3	1	255	1											1		291
292																					292
S.R. 598																					
360	117				2				1										3	1	360
361					3	1						483.870		2	2			19	1	1	361
362												678.180	4	5	3	8		29			362
363																					363
364																					364
FAIRVIEW ROAD																					
386	266		4									358.140	2	1	2			14	1	3	386
387					2							137.160	2	2		12		6			387
388																				1	388
KNORR ROAD																					
402							148														402
NAZOR ROAD																					
405			1	14	1														1	1	405
406							165		1			472.440	2	2	4			19	1		406
407												914.400	2	2	2	8		24			407
409																					409
410																					410
SERVICE ROAD 'A'																					
430							34													1	430
SERVICE ROAD 'B'																					
436																				1	436
NORTH MARKET ROAD																					
383																					383
TOTAL	1138		5	14	18	3	730	2	2	60.960	2	3900.010	12	15	16	28	34	111	10	9	

TOTAL CARRIED TO GENERAL SUMMARY SHEET 37 – 38

CALCULATED MRD CHECKED DLK

GUARDRAIL AND MISCELLANEOUS ITEMS SUBSUMARY

CRA-30- 24.000

EARTHWORK AND SEEDING SUBSUMMARY

metric units

SHEET No.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. (CU. M.)	203 EMBANKMENT (CU. M.)	870 SEEDING & MULCHING (S.M.)
MAINLINE (W.B.)			
137	130	4285	2764
139	721	10121	6076
141	1436	11942	6748
143	1037	7336	6042
145	259	2821	2430
147	2836	1738	3668
149	1374	0	1861
151	1709	710	3296
153	101	2651	3302
155	380	3713	3450
157	1186	7053	5152
159	1341	5636	5380
161	1158	9467	4628
163	3414	893	6695
165	1382	7984	4634
167	2109	6611	5372
169	680	7080	3996
171	554	5303	5300
173	1154	3333	5294
175	881	2617	5286
177	1321	1427	3965
179	968	3898	5192
181	486	4379	5176
183	682	1622	5158
185	691	904	3864
187	1452	523	5206
189	4492	15	5426
191	2862	31	4549
193	1350	1481	4115
195	1279	3811	5634
197	1062	2692	5310
199	828	3596	5276
201	1320	1196	3932
203	4462	1462	5336
205	6520	1668	5490
207	357	2208	2615
209	357	6348	5352
211	409	5337	4021
213	481	7114	5066
215	1083	3156	4522
217	2062	1790	3930
219	646	2864	2774
221	662	1869	2243
223	362	4947	2880
225	946	7459	8136
227	5468	3005	5301
229	2867	12710	5109
231	828	11131	4676
233	1135	7841	5492
235	1050	4386	4018
237 **	4429	871	5260
239 **	13736	0	4776
SUB TOTAL ABOVE	90,495	207,035	241,174

SHEET No.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. (CU. M.)	203 EMBANKMENT (CU. M.)	870 SEEDING & MULCHING (S.M.)
MAINLINE (W.B.)			
241 **	6452	32	4172
243 **	2387	2179	2830
245 **	1182	1420	3896
247 **	971	1955	3084
249 **	6408	820	5758
251 **	5388	1974	5314
253	1189	3197	3233
255	289	6925	4362
257	253	2561	3914
259	1034	1597	5450
261	4724	3551	7352
263	1919	18631	6104
265	76	10673	2278
267	116	26973	4534
269	14	21781	4486
271	393	5075	1042
273	434	0	150
MAINLINE (E.B.)			
138	2680	4655	5355
140	4703	10424	7036
142	3985	12832	7260
144	1653	7114	5064
146	206	4290	2344
148	1776	3048	4336
150	3429	0	2619
152	1152	1063	2555
154	742	3347	3696
156	2102	3622	4070
158	832	6464	5092
160	1122	6553	5322
162	587	9861	4728
164	924	6249	3364
166	1379	7236	5434
168	901	7931	5398
170	398	6619	4111
172	714	4884	5272
174	781	3767	5266
176	897	3602	5250
178	1031	1517	3917
180	1340	3044	5300
182	511	4311	5264
184	676	2642	5210
186	926	1379	3901
188	3141	848	5272
190	9539	7	5470
192	3387	18	4355
194	1817	1061	3630
196	710	3654	5222
198	3252	808	5278
200	2960	2297	5322
202	637	1405	3901
204	544	2965	5204
SUB TOTAL ABOVE	94,663	248,461	228,777

SHEET No.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. (CU. M.)	203 EMBANKMENT (CU. M.)	870 SEEDING & MULCHING (S.M.)
MAINLINE (E.B.)			
206	710	1585	5216
208	188	1041	2594
210	492	4155	5286
212	418	3892	4003
214	573	4910	5316
216	423	3630	4899
218	2273	739	3368
220	940	1702	2882
222	264	4440	2696
224	895	4768	3826
226	1076	9140	4294
228	2180	5540	4353
230	513	13924	4519
232	801	8878	4128
234	1357	7512	5470
236	1057	4123	4018
238 **	3805	661	5022
240 **	12728	14	4832
242 **	4314	24	4082
244 **	930	9892	4755
246 **	2308	718	3682
248 **	3274	599	3257
250 **	8732	668	6130
252 **	4631	1870	4799
254	550	7914	3404
256	750	11386	5360
258	299	6109	3916
260	619	5204	6412
262	2284	5174	7330
264	1260	18728	6116
266	0	13534	2269
268	0	26256	4526
270	0	21381	4492
272	286	4909	1042
274	434	0	150
FAIRVIEW ROAD			
389	67	60	343
390	134	464	947
391	75	1341	1179
392	289	3609	3137
393	390	6477	3390
394	406	9860	2323
395	207	10577	3614
396	248	6137	1088
397	812	9175	3338
398	1142	6505	3736
399	1014	7169	4347
400	bridge	bridge	bridge
401	142	3468	5914
DRIVEWAY SUB-SUMMARY			
491	20	18080	
SUB TOTAL ABOVE	66,310	297,942	181,800

SHEET No.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. (CU. M.)	203 EMBANKMENT (CU. M.)	870 SEEDING & MULCHING (S.M.)
S.R. 602			
321	196	48	682
322	206	21	433
323	625	306	1742
324	701	3192	3223
325	861	7713	4241
326	476	6819	2402
327	311	8920	3405
328	154	3657	1301
329	352	6172	2276
330	219	7236	2590
331	395	6458	2588
332	715	9974	4756
333	736	5473	3939
334	797	2087	3208
335	566	149	1280
336	387	80	1115
NAZOR ROAD			
411	134	33	425
412	1136	26	1238
413	3142	14	1743
414	780	3860	3782
415	499	9730	4040
416	577	11999	3367
417	356	12794	3996
418	222	9882	2760
419	93	3653	1072
420	272	5434	729
421	756	15458	4450
422	488	10839	2866
423	385	7447	4069
424	682	9942	4968
425	585	8851	4185
426	467	9014	4150
427	400	6868	3168
428	282	3491	2604
429	18	6	185
S.R. 598			
365	37	5	66
366	1191	23	1998
367	1601	79	2038
368	1103	3233	3181
369	539	7438	3145
370	470	5525	2212
371	1207	9151	3734
372	1377	11522	4198
373	948	11771	3596
374	427	7520	3108
375	811	13379	3685
376	162	2131	578
377	880	9049	3041
SUB TOTAL ABOVE	29,724	278,472	127,558

SHEET No.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. (CU. M.)	203 EMBANKMENT (CU. M.)	870 SEEDING & MULCHING (S.M.)
378	707	6928	2803
379	712	7499	4956
380	905	2658	3431
381	678	0	1164
382	126	2	364
BIDDLE ROAD			
344	68	6	172
345	300	28	801
346	1129	85	1921
347	890	1810	2970
348	859	5891	3799
349 **	705	11070	4626
350	606	7780	2825
351	347	3985	1388
352	1025	9438	3420
352A**	282	13926	4779
353	478	3710	1260
354	1077	7313	4348
355	865	6066	4222
356	647	2681	3397
357	1108	114	2008
358	302	11	600
359	8	5	68
RAMP A			
277	1149	2289	4475
278	1038	16318	8189
279	989	17442	7711
RAMP B			
282	3052	5049	2696
283	3098	10141	8639
284	1392	5036	3789
285	2039	12562	8818
RAMP C			
288	999	2856	1205
288A	2420	4618	3822
289	2708	3563	3076
290	1687	2812	4582
RAMP D			
294	3513	9376	7599
295	4031	12906	10539
296	339	4058	5168
RAMP E			
299	2626	3353	3161
300	2587	11661	8260
301	710	7062	2568
RAMP F			
304	4962	338	2641
305	4571	11223	6778
306	1833	24405	5606
SUB TOTAL ABOVE	59,567	257,774	164,644

SHEET No.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. (CU. M.)	203 EMBANKMENT (CU. M.)	870 SEEDING & MULCHING (S.M.)
RAMP G			
309	81	2021	554
310	3578	124186	11584
311	4257	781	3292
RAMP H			
314	1275	9344	2750
315	3734	17421	10008
316	1180	4275	3746
SERVICE ROAD 'A'			
431	236	517	1145
432	81	1622	2902
433	251	1026	2413
434	241	155	1228
435	319	3	900
SERVICE ROAD 'B'			
437	112	2362	1181
438	179	4587	3062
439	46	1195	1258
BECK ROAD			
338	311	154	1125
338A	72	209	403
339	590	112	1256
339A	122	19	315
NORTH MARKET STREET			
384	254	249	786
384A	613	177	936
385	230	628	287
385A	791	607	1003
385B	90	17	305
385C	346	2	823
385D	130	4	94
KNORR ROAD			
403	455	15	1108
403A	217	0	260
404	436	325	1381
404A	94	23	310
CHANNEL DETAILS			
445D	839	0	727
445E	180	0	316
447A	275	0	0
447B	157	0	0
450	3575	0	2660
451	16967	0	9360
452	24076	0	16508
453	22114	0	16352
454	13852	0	13488
455	2880	0	3128
SUB TOTAL ABOVE	105,236	172,036	118,954

TOTAL

203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTR. = 445,995*,**

203 EMBANKMENT = 1,461,720*,**

870 SEEDING & MULCHING = 1,062,907**

*TOTALS INCLUDE THE FOLLOWING EARTHWORK ADJUSTMENTS DUE TO REMOVAL OF THE FREE DRAINING BASE
** QUANTITIES REVISED 04-23-03
203 EMBANKMENT = 4406

203 EXCAVATION = −704
NOT INCLUDING EMBANKMENT CONST.

SUBTOTALS CARRIED TO GENERAL SUMMARY SHEET NO 37,39

CALCULATED FJB
CHECKED DLK

CRA/RIC-30-24.000

metric units

CALCULATED MSC | CHECKED LBD

ITEM 870 – WATER

(1,064,663 SQ.M. x 12.2 CU.M./1000 SQ.M.) = 12,988.889
USE 12,989 CU. METER

ITEM 870 – COMMERCIAL FERTILIZER

1,064,663 SQ.M. x 0.15 KG/SQ.M. =159,699.450
USE 159,871 KILOGRAMS

870 – MOWING

1,064,663 SQ.METERS X .25 = 266,166 SQ. METERS

ITEM 601 – CRUSHED AGGREGATE SLOPE PROTECTION

STRUCTURE	REAR AND FORWARD ABUTMENT TOTAL	
S.R. 602 (CRA–30–24797)	195 SQ. M. + 198 SQ. M. =	393 SQ. METERS
BIDDLE ROAD (CRA–30–28000)	154 SQ. M. + 144 SQ. M. =	298 SQ. METERS
S.R. 598 (CRA–30–30166)	201 SQ. M. + 194 SQ. M. =	395 SQ. METERS
FAIRVIEW ROAD (CRA–30–31094)	158 SQ. M. + 158 SQ. M. =	316 SQ. METERS
NAZOR ROAD (CRA–30–32766)	162 SQ. M. + 162 SQ. M. =	324 SQ. METERS

TOTAL = 1,726 SQ. METERS

ITEM 618– RUMBLE STRIPS, TYPE 2 (ASPHALT)

STA. LIMITS

24+000.000 – 33+5000.000 9,500 m x 4 = 38,000 m

USE 38,000 m

ITEM 605– AGGREGATE DRAINS

S.R. 602
AGGREGATE DRAIN LENGTH PER LOCATION = 4.7 m

STA. LIMITS	SIDE	SPACING (m.)	
49+570.000 – 49+955.498	L/R	15	2x26x4.7m = 244.4m
50+044.502 – 50+480.000	L/R	15	2x29x4.7m = 272.6m
			TOTAL = 517.0 m

SERVICE ROAD "A"
AGGREGATE DRAIN LENGTH PER LOCATION = 2.2 m

STA. LIMITS	SIDE	SPACING (m.)	
10+000.000 – 10+320.000	L/R	15	2x22x2.2m = 96.8m
			TOTAL = 96.8 m

BECK RD.
AGGREGATE DRAIN LENGTH PER LOCATION = 3.3 m

STA. LIMITS	SIDE	SPACING (m.)	
49+886.227 – 49+902.227 BK	L/R	15	2x2x3.3m = 13.2m
10+000.000 AH –10+032.856	L/R	15	(2x2+2)x3.3m = 19.8m
19+967.052 –20+000.000 BK	L/R	15	(2x2+2)x3.3m = 19.8m
50+100.223 AH –50+126.000	L/R	15	2x2x3.3m =13.2m
			TOTAL = 66.0 m

BIDDLE RD.
AGGREGATE DRAIN LENGTH PER LOCATION = 3.3 m

STA. LIMITS	SIDE	SPACING (m.)	
49+525.000 – 49+545.203	L/R	15	2x2x3.3m = 13.2m
49+545.203 – 49+735.485	R	7.5	1x26x3.3m = 85.8m
49+735.485 – 49+925.767	L	7.5	1x26x3.3m = 85.8m
49+925.767 – 49+957.637	L/R	15	2x2x3.3m = 13.2m
50+045.437 – 50+078.881	L/R	15	2x2x3.3m = 13.2m
50+078.881 – 50+262.692	L	7.5	1x25x3.3m = 82.5m
50+262.692 – 50+442.878	R	7.5	1x25x3.3m = 82.5m
50+442.878 – 50+506.728 BK	L/R	15	2x4x3.3m = 26.4m
			TOTAL = 402.6 m

S.R. 598
AGGREGATE DRAIN LENGTH PER LOCATION = 4.7 m

STA. LIMITS	SIDE	SPACING (m.)	
49+365.000 – 49+417.433	L/R	15	2x4x4.7m = 37.6m
49+417.433 – 49+547.067	R	7.5	1x18x4.7m = 84.6m
49+547.067 – 49+740.926	L	7.5	1x26x4.7m = 122.2m
49+740.926 – 49+954.597	L/R	15	2x15x4.7m = 141.0m
50+045.403 – 50+340.000	L/R	15	2x20x4.7m = 188.0m
			TOTAL = 573.4 m

SERVICE RD. "B"
AGGREGATE DRAIN LENGTH PER LOCATION = 2.2 m

STA. LIMITS	SIDE	SPACING (m.)	
10+000.000 – 10+175.000	L/R	15	2x12x2.2m = 52.8m
			TOTAL =52.8 m

N. MARKET AVENUE
AGGREGATE DRAIN LENGTH PER LOCATION = 3.3 m

STA. LIMITS	SIDE	SPACING (m.)	
49+868.000 – 49+880.000 BK	L/R	15	2x1x3.3m = 6.6m
10+000.000 AH –10+031.965	L/R	15	(2x2+2)x3.3m = 19.8m
19+963.978 – 20+000.000 BK	L/R	15	(2x3+2)x3.3m = 26.4m
50+135.000 AH – 50+146.000	L/R	15	2x1x3.3m = 6.6m
			TOTAL = 59.4 m

FAIRVIEW ROAD
AGGREGATE DRAIN LENGTH PER LOCATION = 3.9 m

STA. LIMITS	SIDE	SPACING (m.)	
49+620.000 – 49+956.096	L/R	15	2x23x3.9m = 179.4m
50+043.904 – 50+280.000	L/R	15	2x17x3.9m = 132.6m
			TOTAL = 312.0 m

KNORR ROAD
AGGREGATE DRAIN LENGTH PER LOCATION = 3.3 m

STA. LIMITS	SIDE	SPACING (m.)	
10+000.000 – 10+049.836	L/R	15	(2x4+2)x3.3m = 33.0m
19+950.164 – 20+000.000	L/R	15	(2x4+2)x3.3m = 33.0m
			TOTAL = 66.0 m

NAZOR ROAD
AGGREGATE DRAIN LENGTH PER LOCATION = 3.9 m

STA. LIMITS	SIDE	SPACING (m.)	
49+500.000 – 49+611.432	L/R	15	2x8x3.9m = 62.4m
49+611.432 – 49+781.572	L	7.5	1x23x3.9m = 89.7m
49+781.572 – 49+951.710	R	7.5	1x23x3.9m = 89.7m
49+951.710 – 49+966.912	L/R	15	2x2x3.9m = 15.6m
50+057.740 – 50+197.428	L/R	15	2x10x3.9m = 78.0m
50+197.428 – 50+539.796	R	7.5	1x46x3.9m = 179.4m
50+539.796 – 50+600.000	L/R	15	2x4x3.9m = 31.2m
			TOTAL = 546.0m

GRAND TOTAL = 517.0 + 96.8 + 66.0 + 402.6 + 573.4 + 52.8 + 59.4 +

312.0 + 66.0 + 546.0 = 2,692.0m

TOTALS CARRIED TO GENERAL SUMMARY

ITEM 601 – CRUSHED AGGREGATE SLOPE PROTECTION =	1,726 SQ. METERS
ITEM 605 – AGGREGATE DRAINS =	2,692 METERS
ITEM 618 – RUMBLE STRIPS, TYPE 2 (ASPHALT) =	38,000 METERS
ITEM 870 – WATER =	12,989 CU. METERS *
ITEM 870 – COMMERCIAL FERTILIZER =	159,700 KILOGRAMS *
ITEM 870 – MOWING =	266,166 SQ. METERS *

* TOTALS CARRIED TO SHEET 26

CALCULATIONS

CRA–30–24.000

ITEM 206 – LIME STABILIZED SUBGRADE – SLURRY METHOD (SQ. METER)

RELOCATED US. 30

RANGE	L	AVG. WIDTH	AREA
STA. 24+000.00 TO STA. 24+780.00	780.00m	94m	73,320.00
STA. 27+880.00 TO STA. 31+680.00	2800.00m	↑	263,200.00
STA. 30+800.00 TO STA 31+340.00	540.00m		50,760.00
STA. 31+520.00 TO STA. 31+640.00	120.00m		11,280.00
STA. 31+660.00 TO STA. 32+160.00	500.00m	↓	47,000.00
STA. 32+220.00 TO STA. 33+500.00	1280.00m	94m	120,320.00
		SUB TOTAL	565,880.00 SQ. METER

SIDE ROADS

RANGE	L	AVG. WIDTH	AREA
SR. 602			
STA. 49+570.00 TO STA. 49+840.00	270.00m	65m	17,550.00
STA. 50+160.00 TO STA. 50+480.00	320.00m	65m	20,800.00
		SUB TOTAL	38,350.00 SQ. METER
SERVICE ROAD A			
STA. 10+080.00 TO STA. 10+200.00	120.00m	45m	5,400.00
SERVICE ROAD B			
STA. 10+030.00 TO STA. 10+175.00	145.00m	45m	6,525.00
		SUB TOTAL	11,925.00 SQ. METER
BECK RD.			
STA. 9+985.00 TO STA. 10+060.00	75.00m	45m	3,375.00
STA. 19+940.00 TO STA. 20+026.00	86.00m	45m	3,870.00
		SUB TOTAL	7,245.00 SQ. METER
BIDDLE RD.			
STA. 49+525.00 TO STA. 49+965.00	440.00m	65m	28,600.00
STA. 50+087.00 TO STA. 50+420.00	338.00m	65m	21,970.00
STA. 50+420.00 TO STA. 50+505.00	85.00m	65m	5,525.00
		SUB TOTAL	56,095.00 SQ. METER
SR. 598			
STA. 49+365.00 TO STA. 49+860.00	495.00m	65m	32,175.00
STA. 50+130.00 TO STA. 50+340.00	210.00m	65m	13,650.00
		SUB TOTAL	45,825.00 SQ. METER
NORTH MARKET AVE.			
STA. 9+988.00 TO STA. 10+060.00	72.00m	55m	3,960.00
STA. 19+935.00 TO STA. 20+011.00	76.00m	55m	4180.00
		SUB TOTAL	8,140.00 SQ. METER
FAIRVIEW RD.			
STA. 49+620.00 TO STA. 49+963.00	343.00m	65m	22,295.00
STA. 50+036.00 TO STA. 50+290.00	254.00m	65m	16,510.00
		SUB TOTAL	38,805 SQ. METER
NAZOR RD.			
STA. 49+500.00 TO STA. 49+977.60	477.60m	70m	33,432.00
STA. 50+050.00 TO STA. 50+600.00	550.00m	70m	38,500.00
		SUB TOTAL	71,932.00 SQ. METER

RAMPS

RANGE	L	AVG. WIDTH	AREA
STA. A4+500.00 TO STA. A4+710.00	210.00m	35m	7,350.00
STA. B4+520.00 TO STA. B4+760.00	240.00m	↑	8,400.00
STA. C4+820.00 TO STA C5+070.00	250.00m		8,750.00
STA. D4+840.00 TO STA. D5+100.00	260.00m		9,100.00
STA. E9+980.00 TO STA. E0+160.00	180.00m		6,300.00
STA. F9+940.00 TO STA. F0+130.00	190.00m		6,650.00
STA. G0+180.00 TO STA. G0+360.00	180.00m	↓	6,300.00
STA. H0+220.00 TO STA. H0+370.00	150.00m	35m	5,250.00
		SUB TOTAL	58,100.00 SQ. METER

TOTAL 565,880.00 + 57,800.00 + 38,350.00 + 11,925.00 +7,245.00 + 56,095.00 +
45,825.00 + 8,140.00 + 38,805.00 + 71,932.00 =
901,997.00 ⟶ 902,000 SQ. METER

ITEM 206 LIME (M. TON)

902,000 SQ. METER x 0.025 = 22,550 METRIC TONS

TOTAL = 22,550 METRIC TONS

ITEM 206 WATER (CU. m)

902,000 SQ METER x 0.009 = 8,118 CU. METER

TOTAL = 8,118 CU. METER

ITEM 206 TEST ROLLING(HRS.)

902,000 / 2,500 => 360.8
TOTAL 361 HRS.

TOTALS CARRIED TO SHEET 28 OF 677

ITEM 206 – LIME – STABILIZED SUBGRADE – SLURRY METHOD = 902,000 SQ. METERS
ITEM 206 – LIME = 22,550 METRIC TONS
ITEM 206 – WATER = 8,118 CU. METER
ITEM 206 – TEST ROLLING = 361 HRS.

metric units

CALCULATED FJB/JBH
CHECKED BAC

CALCULATIONS

CRA–30–24.000

J:\DRAWINGS\93125\F&OC1\Roadway\General\Quantity\Gc002.dwg April 17, 2001 2:30pm By:smbetler

NOTE–FOR LEGEND, SEE SHEET NO.12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 (205 mm) 0.205A BITUMINOUS AGGR. BASE	(4) 304 (150 mm) 0.15A AGGR. BASE	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.		REMARKS * WIDTH–U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER		
RELOC. U.S. 30, WB		WB														
24+000.000	24+485.500		485.500	7.850	3811.175							6860.115				
24+000.000	24+485.500		485.500	8.400	4078.200					815.640	815.640		154.972	183.519		
24+000.000	24+485.500		485.500	8.500	4126.750		845.984									
24+000.000	24+485.500		485.500	8.650	4199.575											
24+000.000	24+485.500		485.500	2.700	1310.850			196.628								
24+000.000	24+485.500		485.500	5.950	2888.725				722.181							
24+000.000	24+485.500		485.500	8.400	4078.200	4078.200										
24+485.500	25+197.893		712.393	10.300	7337.648							13,207.767				
24+485.500	25+197.893		712.393	11.400	8121.280					1624.256	1624.256		308.609	365.458		
24+485.500	25+197.893		712.393	11.600	8263.759		1694.071									
24+485.500	25+197.893		712.393	11.900	8477.477											
24+485.500	25+197.893		712.393	2.700	1923.461			288.519								
24+485.500	25+197.893		712.393	9.200	6554.016				1638.504							
24+485.500	25+197.893		712.393	11.400	8121.280	8121.280										
25+197.893	25+437.893		240.000	7.850	1884.000							3391.200				
25+197.893	25+437.893		240.000	8.400	2016.000					403.200	403.200		76.608	90.720		
25+197.893	25+437.893		240.000	8.500	2040.000		418.200									
25+197.893	25+437.893		240.000	8.650	2076.000											
25+197.893	25+437.893		240.000	2.700	648.00			97.200								
25+197.893	25+437.893		240.000	5.950	1428.000				357.000							
25+197.893	25+437.893		240.000	8.400	2016.000	2116.000										
25+437.893	29+410.000		3972.107	10.300	40912.702							73642.864				
25+437.893	29+410.000		3972.107	11.400	45282.020					9056.404	9056.404		1720.717	2037.691		
25+437.893	29+410.000		3972.107	11.600	46076.441		9445.670									
25+437.893	29+410.000		3972.107	11.900	47268.073											
25+437.893	29+410.000		3972.107	2.700	10724.689			1608.703								
25+437.893	29+410.000		3972.107	9.200	36543.384				9135.846							
25+437.893	29+410.000		3972.107	11.400	45282.020	45282.020										
29+410.000	29+898.121		488.121	7.850	3831.750							6897.150				
29+410.000	29+898.121		488.121	8.400	4100.216					820.043	820.043		155.808	184.510		
29+410.000	29+898.121		488.121	8.500	4149.029		850.551									
29+410.000	29+898.121		488.121	8.650	4222.247											
29+410.000	29+898.121		488.121	2.700	1317.927			197.689								
29+410.000	29+898.121		488.121	5.950	2904.320				726.080							
29+410.000	29+898.121		488.121	8.400	4100.216	4100.216										
29+898.121	30+490.356		592.235	10.300	6100.021							10,980.038				
29+898.121	30+490.356		592.235	11.400	6751.479					1350.296	1350.296		256.556	303.817		
29+898.121	30+490.356		592.235	11.600	6869.926		1408.335									
29+898.121	30+490.356		592.235	11.900	7047.597											
29+898.121	30+490.356		592.235	2.700	1599.035			239.855								
29+898.121	30+490.356		592.235	9.200	5448.562				1362.141							
29+898.121	30+490.356		592.235	11.400	6751.479	6751.479										
30+490.356	30+730.356		240.000	7.850	1884.000						403.200	3391.200				
30+490.356	30+730.356		240.000	8.400	2016.000								76.608	90.720		
30+490.356	30+730.356		240.000	8.500	2040.000		418.200			408.000						
30+490.356	30+730.356		240.000	8.650	2076.000											
30+490.356	30+730.356		240.000	2.700	648.000			97.2000								
30+490.356	30+730.356		240.000	5.950	1428.000				357.000							
30+490.356	30+730.356		240.000	8.400	2016.000	2016.000										
30+730.356	33+500.000		2769.644	10.300	28527.333						6314.788	51,349.200				
30+730.356	33+500.000		2769.644	11.400	31573.942								1199.810	1420.827		
30+730.356	33+500.000		2769.644	11.600	32127.870		6586.213			6425.574						
30+730.356	33+500.000		2769.644	11.900	32958.764											
30+730.356	33+500.000		2769.644	2.700	7478.039			1121.706								
30+730.356	33+500.000		2769.644	9.200	25480.725				6370.181							
30+730.356	33+500.000		2769.644	11.400	31573.942	31573.942										
TOTALS						103,939.137	21,667.224	3,847.500	20,668.932	20,787.827	20,787.82	169,719.534	3,949.688	4677.262		
TOTALS CARRIED TO SUB–SUMMARY, SHEET NO. 63B						103,939	21,667	3,848	20,669	20,788	20,788	169,720	3,950	4677		

CALCULATED FJB
CHECKED LBD

PAVEMENT CALCULATIONS

CRA–30–24.000

NOTE–FOR LEGEND, SEE SHEET NO.12

CALCULATED FJB CHECKED LBD

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 (205 mm) 0.205A BITUMINOUS AGGR. BASE	(4) 304 (150 mm) 0.15A AGGR. BASE	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.		REMARKS * WIDTH–U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER		
RELOC. U.S. 30, EB		EB														
24+000.000	24+233.629		233.629	10.300	2406.379							4331.482				
24+000.000	24+233.629		233.629	11.400	2663.371						532.674		101.208	119.852		
24+000.000	24+233.629		233.629	11.600	2710.096		555.570			542.019						
24+000.000	24+233.629		233.629	2.700	630.798			94.620								
24+000.000	24+233.629		233.629	9.200	2149.387				537.347							
24+000.000	24+233.629		233.629	11.400	2663.371	2663.371										
24+233.629	24+473.629		240.000	7.850	1884.000							3391.200				
24+233.629	24+473.629		240.000	8.400	2016.000						403.200		76.608	90.720		
24+233.629	24+473.629		240.000	8.500	2040.000		418.200			408.000						
24+233.629	24+473.629		240.000	2.700	648.000			97.200								
24+233.629	24+473.629		240.000	5.950	1428.000				357.000							
24+233.629	24+473.629		240.000	8.400	2016.000	2016.000										
24+473.629	25+182.704		709.075	10.300	7303.473							13146.251				
24+473.629	25+182.704		709.075	11.400	8083.455						1616.691		307.171	363.755		
24+473.629	25+182.704		709.075	11.600	8225.270		1686.180			1645.054						
24+473.629	25+182.704		709.075	9.200	1914.503			287.175								
24+473.629	25+182.704		709.075	9.200	6523.49				1630.873							
24+473.629	25+182.704		709.075	11.400	8083.455	8083.455										
25+182.704	25+632.704		450.000	7.850	3532.500							6358.500				
25+182.704	25+632.704		450.000	8.400	3780.000						756.000		143.640	170.100		
25+182.704	25+632.704		450.000	8.500	3825.000		784.125			765.000						
25+182.704	25+632.704		450.000	2.700	1215.000			303.750								
25+182.704	25+632.704		450.000	5.950	2677.500				669.375							
25+182.704	25+632.704		450.000	8.400	3780.000	3780.000										
25+632.704	29+633.219		4000.515	10.300	41205.305							74169.548				
25+632.704	29+633.219		4000.515	11.400	45605.871						9121.174		1733.023	2052.264		
25+632.704	29+633.219		4000.515	11.600	46405.974		9513.225			9281.195						
25+632.704	29+633.219		4000.515	2.700	10801.391			1620.209								
25+632.704	29+633.219		4000.515	9.200	36804.738				9201.185							
25+632.704	29+633.219		4000.515	11.400	45605.871	45605.871										
29+633.219	29+873.534		240.315	7.850	1886.473							3395.650				
29+633.219	29+873.534		240.315	8.400	2018.646						403.729		76.709	90.839		
29+633.219	29+873.534		240.315	8.500	2042.678		418.749			408.536						
29+633.219	29+873.534		240.315	2.700	648.851			97.328								
29+633.219	29+873.534		240.315	5.950	1429.874				357.469							
29+633.219	29+873.534		240.315	8.400	2018.646	2018.646										
29+873.534	30+438.698		565.164	10.300	5821.189							10478.141				
29+873.534	30+438.698		565.164	11.400	6442.870						1288.574		244.829	289.929		
29+873.534	30+438.698		565.164	11.600	6555.902		1343.960			1311.180						
29+873.534	30+438.698		565.164	2.700	1525.943			228.891								
29+873.534	30+438.698		565.164	9.200	5199.509				1299.877							
29+873.534	30+438.698		565.164	11.400	6442.869	6442.869										
30+438.698	30+925.000		486.302	7.850	3817.471							6871.447				
30+438.698	30+925.000		486.302	8.400	4084.937						816.987		155.228	183.822		
30+438.698	30+925.000		486.302	8.500	4133.567		847.381			826.713						
30+438.698	30+925.000		486.302	2.700	1313.015			196.952								
30+438.698	30+925.000		486.302	5.950	2893.497				723.374							
30+438.698	30+925.000		486.302	8.400	4084.937	4084.937										
30+925.000	33+500.000		2575.000	10.300	26522.500							47740.500				
30+925.000	33+500.000		2575.000	11.400	29355.000						5871.000		1115.490	1320.975		
30+925.000	33+500.000		2575.000	11.600	29870.000		6123.350			5974.000						
30+925.000	33+500.000		2575.000	2.700	6952.500			1042.875								
30+925.000	33+500.000		2575.000	9.200	23690.000				5922.500							
30+925.000	33+500.000		2575.000	11.400	29355.000	29355.000										
TOTALS						104,050.141	21,690.740	3,969.00	20,699.000	21,161.697	20,810.029	169,882.719	3,953.906	4,682.256		
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						104,050	21,691	3,969	20,699	21,162	20,810	169,883	3,954	4,682		

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE-FOR LEGEND,SEE SHEET NO.12

CALCULATED FJB CHECKED LBD

PAVEMENT CALCULATIONS

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 BITUMINOUS AGGREGATE BASE (205 mm) 0.205A	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	REMARKS * WIDTH-U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	
RAMP A														
24+000.000	24+031.064		31.064	2.700	83.873				16.775	16.775		3.187	3.774	
24+000.000	24+031.064		31.064	2.800	86.979		17.831							
24+000.000	24+031.064		31.064	2.950	91.639						164.950			
24+000.000	24+031.064		31.064	2.950	91.639			22.910						
24+000.000	24+031.064		31.064	2.950	91.639	91.639								
shoulder														
24+031.064	24+360.000		328.936	2.400	789.446				157.889	157.889		30.000	35.525	
24+031.064	24+360.000		328.936	2.500	822.340		168.580							
24+031.064	24+360.000		328.936	2.650	871.680						1569.025			
24+031.064	24+360.000		328.936	2.800	921.021									
24+031.064	24+360.000		328.936	2.650	871.680	871.680		217.920						
pavement														
24+000.000	24+360.000		360.000	3.750	1350.000				270.000	270.000		51.300	60.750	
24+000.000	24+360.000		360.000	3.750	1350.000		276.750							
24+000.000	24+360.000		360.000	3.750	1350.000						2430.000			
24+000.000	24+360.000		360.000	3.750	1350.000									
24+000.000	24+360.000		360.000	3.750	1350.000	1350.000		337.500						
24+360.000	24+449.997		89.997	10.838	975.388				195.068	195.068		37.063	43.890	
24+360.000	24+449.997		89.997	10.938	984.342		201.790							
24+360.000	24+449.997		89.997	11.088	997.888						1796.115			
24+360.000	24+449.997		89.997	11.238	1011.386									
24+360.000	24+449.997		89.997	11.088	997.887	997.887		249.470						
shoulder & pavement														
24+449.997	24+464.997		15.000	6.900	103.500				20.700	20.700		3.933	4.658	
24+449.997	24+464.997		15.000	7.000	105.000		21.525							
24+449.997	24+464.997		15.000	7.150	107.250						193.050			
24+449.997	24+464.997		15.000	7.300	109.500									
24+449.997	24+464.997		15.000	7.150	107.250	107.250		26.813						
shoulder & pavement														
24+464.997	24+485.500		20.503	6.600	135.320				27.064	27.064		5.142	6.089	
24+464.997	24+485.500		20.503	6.700	137.370		28.161							
24+464.997	24+485.500		20.503	6.850	140.446						252.802			
24+464.997	24+485.500		20.503	7.000	143.521									
24+464.997	24+485.500		20.503	6.850	140.446	140.446		35.111						
nose														
24+449.997	24+485.500		35.503	5.788	205.491				41.098	41.098		7.809	9.247	
24+449.997	24+485.500		35.503	5.788	205.491		42.126							
24+449.997	24+485.500		35.503	5.788	205.491						369.884			
24+449.997	24+485.500		35.503	5.788	205.491									
24+449.997	24+485.500		35.503	5.788	205.491	205.491		51.373						
24+485.500	24+793.170		307.670	7.300	2245.991						4042.784			
24+485.500	24+793.170		307.670	7.500	2307.525				461.505	461.505		87.686	103.839	
24+485.500	24+793.170		307.670	7.700	2369.059		485.657							
24+485.500	24+793.170		307.670	8.000	2461.360									
24+485.500	24+793.170		307.670	8.300	2553.661									
24+485.500	24+793.170		307.670	8.000	2461.360	2461.360		615.340						
RAMP B														
24+233.629	24+263.629		30.000	4.500	135.000				27.000	27.000		5.130	6.075	
24+233.629	24+263.629		30.000	4.600	138.000		28.290							
24+233.629	24+263.629		30.000	4.750	142.500						256.500			
24+233.629	24+263.629		30.000	4.900	147.000									
24+233.629	24+263.629		30.000	4.960	148.800	142.500		35.625						
24+263.629	24+330.000		66.371	6.000	398.226				79.645	79.645		15.132	17.920	
24+263.629	24+330.000		66.371	6.100	404.863		83.000							
24+263.629	24+330.000		66.371	6.250	414.819						746.674			
24+263.629	24+330.000		66.371	6.400	424.774									
24+263.629	24+330.000		66.371	6.250	414.819	414.819		103.700						
TOTALS						6783.072	1353.710	1695.762	1296.744	1296.744	11821.784	246.381	291.767	
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						6783	1354	1696	1297	1297	11822	246	292	

CRA-30-24.000

NOTE–FOR LEGEND,SEE SHEET NO.12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 BITUMINOUS AGGREGATE BASE (205 mm) 0.205A	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	REMARKS * WIDTH–U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	
RAMP B (cont.)														
24+330.000	24+473.629		143.629	6.600	947.951				189.590	189.590		36.022	42.658	
24+330.000	24+473.629		143.629	6.700	962.314		197.274							
24+330.000	24+473.629		143.629	6.850	983.859						1770.946			
24+330.000	24+473.629		143.629	7.000	1005.403			245.965						
24+330.000	24+473.629		143.629	6.850	983.858	983.858								
nose														
24+384.000	24+473.629		89.629	3.500	313.702				62.740	62.740		11.920	14.117	
24+384.000	24+473.629		89.629	3.500	313.702		64.309							
24+384.000	24+473.629		89.629	3.500	313.702						564.663			
24+384.000	24+473.629		89.629	3.500	313.702			78.426						
24+384.000	24+473.629		89.629	3.500	313.702	313.702								
24+473.629	24+488.629		15.000	7.800	117.000						210.600			
24+473.629	24+488.629		15.000	8.000	120.000				24.000	24.000		4.446	5.265	
24+473.629	24+488.629		15.000	8.300	124.500		25.520							
24+473.629	24+488.629		15.000	8.600	129.000									
24+473.629	24+488.629		15.000	7.800	129.000			32.250						
24+473.629	24+488.629		15.000	8.600	129.000	131.400								
24+488.629	24+847.080		358.451	7.300	2616.692						4710.046			
24+488.629	24+847.080		358.451	7.500	2688.383				537.677	537.677		102.159	120.977	
24+488.629	24+847.080		358.451	7.700	2760.073		565.815							
24+488.629	24+847.080		358.451	8.000	2867.608									
24+488.629	24+847.080		358.451	8.300	2975.143			716.902						
24+488.629	24+847.080		358.451	8.000	2867.608	2867.608								
RAMP C														
24+792.826	25+144.750		351.924	7.300	2569.045						4624.281			
24+792.826	25+144.750		351.924	7.500	2639.430				527.886	527.886		100.298	118.774	
24+792.826	25+144.750		351.924	7.700	2709.815		555.512							
24+792.826	25+144.750		351.924	8.000	2815.392									
24+792.826	25+144.750		351.924	8.300	2920.969			703.848						
24+792.826	25+144.750		351.924	8.000	2815.392	2815.392								
nose														
25+144.750	25+182.704		37.954	5.788	219.678				43.936	43.936		8.348	9.885	
25+144.750	25+182.704		37.954	5.788	219.678		45.034							
25+144.750	25+182.704		37.954	5.788	219.678						395.420			
25+144.750	25+182.704		37.954	5.788	219.678			54.919						
25+144.750	25+182.704		37.954	5.788	219.678	219.678								
pavement &	shoulder													
25+144.750	25+167.765		23.015	6.600	151.899				30.380	30.380		5.772	6.835	
25+144.750	25+167.765		23.015	6.700	154.201		31.611							
25+144.750	25+167.765		23.015	6.850	157.653						283.775			
25+144.750	25+167.765		23.015	7.000	161.105			39.413						
25+144.750	25+167.765		23.015	6.850	157.653	157.653								
pavement &	shoulder													
25+167.765	25+182.704		14.939	6.900	103.079				20.616	20.616		3.917	4.639	
25+167.765	25+182.704		14.939	7.000	104.573		21.437							
25+167.765	25+182.704		14.939	7.150	106.814						192.265			
25+167.765	25+182.704		14.939	7.300	109.055									
25+167.765	25+182.704		14.939	7.150	106.814	106.814		26.579						
25+182.704	25+272.704		90.000	10.838	975.420				195.084	195.084		37.066	43.894	
25+182.704	25+272.704		90.000	10.938	984.420		201.806							
25+182.704	25+272.704		90.000	11.088	997.920						1796.256			
25+182.704	25+272.704		90.000	11.238	1011.420			249.480						
25+182.704	25+272.704		90.000	11.088	997.920	997.920								
pavement														
25+272.704	25+632.704		360.000	3.750	1350.000				270.000	270.000		51.300	60.750	
25+272.704	25+632.704		360.000	3.750	1350.000		270.000							
25+272.704	25+632.704		360.000	3.750	1350.000						2430.000			
25+272.704	25+632.704		360.000	3.750	1350.000			337.500						
25+272.704	25+632.704		360.000	3.750	1350.000	1350.000								
TOTALS						9,944.025	1977.398	2485.282	1901.909	1901.909	16,972.852	361.248	427.794	
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						9,944	1977	2485	1902	1902	16,973	361	428	

CALCULATED FJB
CHECKED LBD

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE–FOR LEGEND, SEE SHEET NO. 12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 BITUMINOUS AGGREGATE BASE (205 mm) 0.205A	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.				REMARKS * WIDTH–U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER				
RAMP C (cont.)																	
shoulder																	
25+272.704	25+603.907		331.203	2.400	794.887				158.977	158.977		30.206	35.770				
25+272.704	25+603.907		331.203	2.500	828.008		169.742										
25+272.704	25+603.907		331.203	2.650	877.688						1579.838						
25+272.704	25+603.907		331.203	2.800	927.368												
25+272.704	25+603.907		331.203	2.650	877.687	877.687		219.428									
shoulder																	
25+603.907	25+632.704		28.797	2.700	78.243				15.649	15.649		2.973	3.521				
25+603.907	25+632.704		28.797	2.800	81.141		16.634										
25+603.907	25+632.704		28.797	2.950	85.488						153.878						
25+603.907	25+632.704		28.797	3.100	89.835												
25+603.907	25+632.704		28.797	2.950	84.951	84.951		21.338									
RAMP D																	
24+786.417	25+182.893		396.476	7.300	2894.275						5209.695						
24+786.417	25+182.893		396.476	7.500	2973.570				594.714	594.714		112.996	133.811				
24+786.417	25+182.893		396.476	7.700	3052.865		625.837										
24+786.417	25+182.893		396.476	8.000	3171.808												
24+786.417	25+182.893		396.476	8.300	3290.751												
24+786.417	25+182.893		396.476	8.000	3171.808	3171.808		792.952									
25+182.893	25+197.893		15.000	7.600	114.000						205.200						
25+182.893	25+197.893		15.000	7.800	117.000				23.400	23.400		4.446	5.265				
25+182.893	25+197.893		15.000	8.000	120.000		24.600										
25+182.893	25+197.893		15.000	8.300	124.500												
25+182.893	25+197.893		15.000	8.600	129.000												
25+182.893	25+197.893		15.000	8.300	124.500	124.500		31.125									
nose																	
25+197.893	25+280.000		82.107	3.500	287.375				57.475	57.475		10.920					
25+197.893	25+280.000		82.107	3.500	287.375		58.912						12.932				
25+197.893	25+280.000		82.107	3.500	287.375						517.274						
25+197.893	25+280.000		82.107	3.500	287.375												
25+197.893	25+280.000		82.107	3.500	287.375	287.375		71.844									
25+197.893	25+369.546		171.653	6.600	1132.910				226.582	226.582		43.051	50.981				
25+197.893	25+369.546		171.653	6.700	1150.075		235.765										
25+197.893	25+369.546		171.653	6.850	1175.823						2116.481						
25+197.893	25+369.546		171.653	7.000	1201.571												
25+197.893	25+369.546		171.653	6.850	1175.823	1175.823		293.955									
25+369.546	25+407.893		38.347	6.000	230.082				46.016	46.016		8.743					
25+369.546	25+407.893		38.347	6.100	233.917		47.953										
25+369.546	25+407.893		38.347	6.250	239.669						431.404		10.354				
25+369.546	25+407.893		38.347	6.400	245.421												
25+369.546	25+407.893		38.347	6.250	239.669	239.669		59.918									
25+407.893	25+437.893		30.000	4.500	135.000				27.000	27.000		5.130	6.075				
25+407.893	25+437.893		30.000	4.600	138.000		28.290										
25+407.893	25+437.893		30.000	4.750	142.500						256.500						
25+407.893	25+437.893		30.000	4.900	147.000												
25+407.893	25+437.893		30.000	4.750	142.500	142.500		36.625									
TOTALS						6104.313	1207.733	1527.085	1149.813	1149.813	10470.270	218.465	258.709				
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						6104	1208	1527	1150	1150	10470	218	259				

CALCULATED FJB
CHECKED LBD

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE–FOR LEGEND,SEE SHEET NO.12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 BITUMINOUS AGGREGATE BASE (205 mm) 0.205A	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.				REMARKS * WIDTH–U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER				
RAMP E																	
29+410.000	29+438.800		28.800	2.700	77.760				15.552	15.552		2.955	3.499				
29+410.000	29+438.000		28.800	2.800	80.640		16.531										
29+410.000	29+438.000		28.800	2.950	84.960						152.928						
29+410.000	29+438.000		28.800	2.950	84.960			21.240									
29+410.000	29+438.000		28.800	3.160	91.008	91.008											
shoulder																	
29+438.800	29+770.001		331.201	2.400	794.882				158.976	158.976		30.206	35.770				
29+438.800	29+770.001		331.201	2.500	828.003		124.200										
29+438.800	29+770.001		331.201	2.650	877.683						1579.829						
29+438.800	29+770.001		331.201	2.800	927.363												
29+438.800	29+770.001		331.201	2.650	877.683	877.683		219.421									
pavement																	
29+410.000	29+770.001		360.001	3.750	1350.004				270.001	270.001		51.300	60.750				
29+410.000	29+770.001		360.001	3.750	1350.004		202.501										
29+410.000	29+770.001		360.001	3.750	1350.004						2430.007						
29+410.000	29+770.001		360.001	3.750	1350.004												
29+410.000	29+770.001		360.001	3.750	1350.004	1350.004		337.501									
29+770.001	29+860.000		89.999	10.838	975.364				195.073	195.073		37.064	43.891				
29+770.001	29+860.000		89.999	10.938	984.364		147.655										
29+770.001	29+860.000		89.999	11.088	997.864						1796.155						
29+770.001	29+860.000		89.999	11.238	1011.364												
29+770.001	29+860.000		89.999	11.088	997.909	997.909		249.227									
shoulder & pavement																	
29+860.000	29+875.021		15.021	6.900	103.645				20.729	20.729		3.939	4.664				
29+860.000	29+875.021		15.021	7.000	105.147		15.772										
29+860.000	29+875.021		15.021	7.150	107.400						193.320						
29+860.000	29+875.021		15.021	7.300	109.653												
29+860.000	29+875.021		15.021	7.150	107.400	107.400		26.850									
shoulder & pavement																	
29+875.021	29+898.121		23.100	6.600	152.460				30.492	30.492		5.793	6.861				
29+875.021	29+898.121		23.100	6.700	154.770		23.215										
29+875.021	29+898.121		23.100	6.850	158.235						284.823						
29+875.021	29+898.121		23.100	7.000	161.700												
29+875.021	29+898.121		23.100	6.850	158.235	158.235		39.559									
nose																	
29+860.000	29+898.121		38.121	5.788	220.644				44.129	44.129		8.384	9.929				
29+860.000	29+898.121		38.121	5.788	220.644		33.097										
29+860.000	29+898.121		38.121	5.788	220.644						397.160						
29+860.000	29+898.121		38.121	5.788	220.644												
29+860.000	29+898.121		38.121	5.788	220.644	220.644		55.161									
29+898.121	30+200.785		302.664	7.300	2209.447						3977.005						
29+898.121	30+200.785		302.664	7.500	2269.980				453.996	453.996		86.259	102.149				
29+898.121	30+200.785		302.664	7.700	2330.513		349.577										
29+898.121	30+200.785		302.664	8.000	2421.312												
29+898.121	30+200.785		302.664	8.300	2512.111												
29+898.121	30+200.785		302.664	8.000	2421.312	2421.312		605.328									
TOTALS						6224.91	912.548	1554.287	1188.948	1188.948	10811.227	225.898	267.513				
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						6225	913	1554	1189	1189	10811	226	268				

CALCULATED FJB CHECKED LBD

PAVEMENT CALCULATIONS

CRA-30-24.000

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NOTE–FOR LEGEND, SEE SHEET NO. 12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 BITUMINOUS AGGREGATE BASE (205 mm)	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.				REMARKS * WIDTH–U.D. WRAP
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER				
RAMP F																	
29+633.219	29+663.219		30.000	4.500	135.000				27.000	27.000		5.130	6.075				
29+633.219	29+663.219		30.000	4.600	138.000		28.290										
29+633.219	29+663.219		30.000	4.750	142.500						256.500						
29+633.219	29+663.219		30.000	4.900	147.000												
29+633.219	29+663.219		30.000	4.750	142.500	142.500		36.625									
29+663.219	29+730.001		66.782	6.000	400.692				80.138	80.138		15.226	18.031				
29+663.219	29+730.001		66.782	6.100	407.370		83.511										
29+663.219	29+730.001		66.782	6.250	417.388						751.298						
29+663.219	29+730.001		66.782	6.400	427.405												
29+663.219	29+730.001		66.782	6.250	417.388	417.388		104.347									
29+730.001	29+873.534		143.553	6.600	947.450				189.490	189.490		36.549	42.635				
29+730.001	29+873.534		143.553	6.700	961.805		197.170										
29+730.001	29+873.534		143.553	6.850	983.338						1770.008						
29+730.001	29+873.534		143.553	7.000	1004.871												
29+730.001	29+873.534		143.553	6.850	983.338	983.338		245.834									
nose																	
29+790.000	29+873.534		83.534	3.500	292.369				58.474	58.474		11.110	13.157				
29+790.000	29+873.534		83.534	3.500	292.369		59.936										
29+790.000	29+873.534		83.534	3.500	292.369						526.264						
29+790.000	29+873.534		83.534	3.500	292.369												
29+790.000	29+873.534		83.534	3.500	292.369	292.369		73.092									
29+873.534	29+888.534		15.000	7.600	114.000						205.200						
29+873.534	29+888.534		15.000	7.800	117.000				23.400	23.400		4.446	5.265				
29+873.534	29+888.534		15.000	8.000	120.000		24.600										
29+873.534	29+888.534		15.000	8.300	124.500												
29+873.534	29+888.534		15.000	8.600	129.000												
29+873.534	29+888.534		15.000	8.300	124.500	124.500		31.125									
29+888.534	30+169.025		280.491	7.300	2047.584						3685.652						
29+888.534	30+169.025		280.491	7.500	2103.683				420.737	420.737		79.940	94.666				
29+888.534	30+169.025		280.491	7.700	2159.781		442.755										
29+888.534	30+169.025		280.491	8.000	2243.928												
29+888.534	30+169.025		280.491	8.300	2328.075												
29+888.534	30+169.025		280.491	8.000	2243.928	2243.928		560.982									
RAMP G																	
30+147.113	30+438.698		291.585	7.300	2128.571						3831.427						
30+147.113	30+438.698		291.585	7.500	2186.888				437.378	437.378		83.102	98.410				
30+147.113	30+438.698		291.585	7.700	2245.205		460.267										
30+147.113	30+438.698		291.585	8.000	2332.680												
30+147.113	30+438.698		291.585	8.300	2420.156												
30+147.113	30+438.698		291.585	8.000	2332.680	2332.680		583.170									
nose																	
30+438.698	30+475.532		36.834	5.788	213.195				42.639	42.639		8.101	9.594				
30+438.698	30+475.532		36.834	5.788	213.195		43.705										
30+438.698	30+475.532		36.834	5.788	213.195						383.751						
30+438.698	30+475.532		36.834	5.788	213.195												
30+438.698	30+475.532		36.834	5.788	213.195	213.195		53.299									
pavement & shoulder																	
30+438.698	30+460.532		21.834	6.600	144.104				28.821	28.821		5.559	6.485				
30+438.698	30+460.532		21.834	6.700	146.288		29.989										
30+438.698	30+460.532		21.834	6.850	149.563						269.213						
30+438.698	30+460.532		21.834	7.000	152.838												
30+438.698	30+460.532		21.834	6.850	149.563	149.563		37.391									
TOTALS						6,899.460	1,370.223	1,724.865	1,308.077	1,308.077	11,679.313	249.163	294.318				
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						6899	1,370	1,725	1,308	1,308	11,679	249	294				

CALCULATED FJB CHECKED DLK

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE-FOR LEGEND,SEE SHEET NO. 12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3) 302 BITUMINOUS AGGREGATE BASE (205 mm)	(5) 304 (250 mm) 0.25A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A* BITUMINOUS PRIME COAT	(1) 446 (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	REMARKS
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	* WIDTH-U.D. WRAP
RAMP G (cont.)														
30+460.532	30+475.532		15.000	6.900	103.500				20.700	20.700		3.933	4.658	
30+460.532	30+475.532		15.000	7.000	105.000		21.525							
30+460.532	30+475.532		15.000	7.150	107.250						193.050			
30+460.532	30+475.532		15.000	7.300	109.500									
30+460.532	30+475.532		15.000	7.150	107.250	107.250		26.813						
30+475.532	30+565.000		89.468	10.838	969.654				193.931	193.931		36.847		
30+475.532	30+565.000		89.468	10.938	978.601		200.613						43.634	
30+475.532	30+565.000		89.468	11.088	992.021						1785.638			
30+475.532	30+565.000		89.468	11.238	1005.441									
30+475.532	30+565.000		89.468	11.088	992.021	992.021		248.005						
pavement														
30+565.000	30+925.000		360.000	3.750	1350.000				270.000	270.000		51.300	60.750	
30+565.000	30+925.000		360.000	3.750	1350.000		276.750							
30+565.000	30+925.000		360.000	3.750	1350.000						2430.000			
30+565.000	30+925.000		360.000	3.750	1350.000									
30+565.000	30+925.000		360.000	3.750	1350.000	1350.000		337.500						
shoulder														
30+565.000	30+896.200		331.200	2.400	794.880				158.976	158.976		31.464	35.770	
30+565.000	30+896.200		331.200	2.500	828.000		169.740							
30+565.000	30+896.200		331.200	2.650	877.680						1579.824			
30+565.000	30+896.200		331.200	2.800	927.360									
30+565.000	30+896.200		331.200	2.650	877.680	877.680		219.420						
shoulder														
30+896.200	30+925.000		28.800	2.700	77.760				15.552	15.552		3.064	3.499	
30+896.200	30+925.000		28.800	2.800	80.640		16.531							
30+896.200	30+925.000		28.800	2.950	84.960						152.928			
30+896.200	30+925.000		28.800	3.100	89.280									
30+896.200	30+925.000		28.800	2.950	84.960	84.960		21.240						
RAMP H														
30+173.566	30+475.356		301.790	7.300	2203.067						3965.521			
30+173.566	30+475.356		301.790	7.500	2263.425				452.685	452.685		88.304	101.854	
30+173.566	30+475.356		301.790	7.700	2323.783		476.376							
30+173.566	30+475.356		301.790	8.000	2414.320									
30+173.566	30+475.356		301.790	8.300	2504.857									
30+173.566	30+475.356		301.790	8.000	2414.320	2414.320		603.580						
30+475.356	30+490.356		15.000	7.600	114.000						205.200			
30+475.356	30+490.356		15.000	7.800	117.000				23.400	23.400		4.446	5.265	
30+475.356	30+490.356		15.000	8.000	120.000		24.600							
30+475.356	30+490.356		15.000	8.300	124.500									
30+475.356	30+490.356		15.000	8.600	129.000									
30+475.356	30+490.356		15.000	8.300	124.500	124.500		31.125						
nose														
30+490.356	30+560.000		69.644	3.500	243.754				48.751	48.751		9.263	10.969	
30+490.356	30+560.000		69.644	3.500	243.754		49.970							
30+490.356	30+560.000		69.644	3.500	243.754						438.757			
30+490.356	30+560.000		69.644	3.500	243.754									
30+490.356	30+560.000		69.644	3.500	243.754	243.754		60.939						
30+490.356	30+615.000		124.644	6.600	822.650				164.530	164.530		31.261	37.019	
30+490.356	30+615.000		124.644	6.700	835.115		171.199							
30+490.356	30+615.000		124.644	6.850	853.811						1536.861			
30+490.356	30+615.000		124.644	7.000	872.508									
30+490.356	30+615.000		124.644	6.850	853.811	853.811		213.453						
30+615.000	30+700.356		85.356	6.000	512.136				102.427	102.427		19.461	23.046	
30+615.000	30+700.356		85.356	6.100	520.672		106.738							
30+615.000	30+700.356		85.356	6.250	533.475						960.255			
30+615.000	30+700.356		85.356	6.400	546.278									
30+615.000	30+700.356		85.356	6.250	533.475	533.475		133.368						
30+700.356	30+730.356		30.000	4.500	135.000				27.000	27.000		5.130	6.075	
30+700.356	30+730.356		30.000	4.600	138.000		28.290							
30+700.356	30+730.356		30.000	4.750	142.500						256.500			
30+700.356	30+730.356		30.000	4.900	147.000									
30+700.356	30+730.356		30.000	4.750	142.500	142.500		35.625						
TOTALS						7724.27	1542.332	1931.068	1477.952	1477.952	13504.034	284.473	332.539	
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						7724	1542	1931	1478	1478	13504	284	333	

CALCULATED FJB CHECKED DLK

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE–FOR LEGEND, SEE SHEET NO.12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3A) 301 BITUMINOUS AGGREGATE BASE (150 mm) 0.15A	(3B) 301 BITUMINOUS AGGREGATE BASE (100 mm)	(4) 304 (150 mm) 0.15A AGGR. BASE	(5A) 304 (200 mm) 0.2A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A BITUMINOUS PRIME COAT	(8) 409 .007A SEAL COAT, BITUMINOUS MAT'L./ COVER AGGR. NO. 8	(8) 409 1.36A SEAL COAT, BITUMINOUS MAT'L./ COVER AGGR. NO. 8	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	(1A) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	(1C) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	(2A) 448 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	202 WEARING COURSE REMOVED	407 TACK COAT 0.48A
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	LITER	CU. METER	CU. METER	CU. METER	CU. METER	CU. METER	CU. METER
S.R. 602		L/R																			
49+565.000	49+570.000		5.000	5.843	29.215												0.935			29.215	14.023
49+570.000	49+608.000		38.000	6.522	247.836							49.567					7.931		11.153		
49+570.000	49+608.000		38.000	6.722	255.436		38.315				51.087										
49+570.000	49+608.000		38.000	6.722	255.436				38.315												
49+570.000	49+608.000		38.000	6.522	247.836	247.836															
49+570.000	49+608.000		38.000	2.400	91.200					18.240			164.160	0.638	124.032						
49+608.000	49+955.498		347.498	7.200	2501.986							500.397					80.064		112.589		
49+608.000	49+955.498		347.498	7.400	2571.485		385.723				514.297										
49+608.000	49+955.498		347.498	7.400	2571.485				385.723												
49+608.000	49+955.498		347.498	7.200	2501.986	2501.986															
49+608.000	49+955.498		347.498	2.400	833.995					166.799			1501.191	5.838	1134.233						
bridge																					
50+044.502	50+442.000		397.500	7.200	2862.000							572.400					91.584		128.790		
50+044.502	50+442.000		397.500	7.400	2941.500		441.225				588.300										
50+044.502	50+442.000		397.500	7.400	2941.500				441.225												
50+044.502	50+442.000		397.500	7.200	2862.000	2862.000															
50+044.502	50+442.000		397.500	2.400	954.000					190.800			1717.200	6.678	1297.440						
50+442.000	50+480.000		38.000	6.547	248.786							49.757					7.961		11.195		
50+442.000	50+480.000		38.000	6.747	256.386		38.458				51.277										
50+442.000	50+480.000		38.000	6.747	256.386				38.458												
50+442.000	50+480.000		38.000	6.547	248.786	248.786															
50+442.000	50+480.000		38.000	2.400	91.200					18.240			164.160	0.638	124.032						
50+480.000	50+485.000		5.000	5.893	29.465												0.943			29.465	14.143
Service Road A																					
10+000.000	10+034.788		34.788		365.291							73.058					11.689		16.438		
					373.156			37.316			74.631										
areas were	measured				385.025				57.754												
from autocad					365.291	365.291															
					88.625					17.725											
10+034.788	10+320.000		285.212	6.000	1711.272							342.254					54.760		77.000		
10+034.788	10+320.000		285.212	6.200	1768.314			176.831			353.663										
10+034.788	10+320.000		285.212	6.200	1768.314				265.247												
10+034.788	10+320.000		285.212	6.000	1711.272	1711.272															
10+034.788	10+320.000		285.212	2.400	684.509					136.902											
TOTALS						7937.171	903.721	214.147	1226.722	548.706	1633.255	1587.433	3546.711 Ⓐ	13.792	2679.737	0 Ⓐ	255.867 Ⓐ	0 Ⓐ	357.162 Ⓐ	58.680	28.166
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						7937	904	214	1227	549	1633	1587	3547 Ⓐ	14	2680	0 Ⓐ	256 Ⓐ	0 Ⓐ	357 Ⓐ	59	28

Ⓐ QUANTITY REVISED 06-30-03

CALCULATED PSB CHECKED DLK

PAVEMENT CALCULATIONS

CRA-30-24.000

L:\DRAWINGS\93125\F80C1\Roadway\General\Quantity\0602.dwg July 01 2003 1:12pm By:Donna

NOTE–FOR LEGEND, SEE SHEET NO.12

REMARKS
∗ WIDTH–U.D. WRAP

FROM STATION	TO STATION	SIDE	DISTANCE D (METER)	AVERAGE WIDTH W (METER)	SURFACE AREA A A=DxW (SQ. METER)	(11) 203 SUBGRADE COMPACTION (SQ. METER)	(3B) 301 BITUMINOUS AGGREGATE BASE (100 mm) 0.10A (CU. METER)	(3C) 302 BITUMINOUS AGGREGATE BASE (200 mm) 0.20A (CU. METER)	(4) 304 (150 mm) 0.15A AGGR. BASE (CU. METER)	(5A) 304 (200 mm) 0.2A AGGR. BASE (CU. METER)	(6) 407 0.2A TACK COAT, AS PER PLAN (LITER)	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS. (LITER)	(7) 408 1.8A∗ BITUMINOUS PRIME COAT (LITER)	(8) 409 .007A∗ SEAL COAT, BITUMINOUS MAT'L./ COVER AGGR. NO. 8 (CU. METER)	(8) 409 1.36A∗ SEAL COAT, BITUMINOUS MAT'L./ COVER AGGR. NO. 8 (LITER)	(2) 446 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS. (CU. METER)	(1A) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS. (CU. METER)	(2A) 448 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS. (CU. METER)	202 WEARING COURSE REMOVED (SQ. METER)	407 0.48A TACK COAT (LITER)
S.R. 598 (△)		L/R																		
49+360.000	49+365.000		5.000	6.100	30.500												0.976		30.500	14.640
49+365.000	49+395.000		30.000	6.650	199.500							39.900					6.384	8.978		
49+365.000	49+395.000		30.000	6.850	205.500			41.100			41.100									
49+365.000	49+395.000		30.000	7.150	214.500				32.175 (△)											
49+365.000	49+395.000		30.000	6.650	199.500	199.500														
49+365.000	49+395.000		30.000	3.600	108.000					21.600			194.400	0.756	146.880					
49+395.000	49+405.164		10.164	7.200	73.181							14.636					2.342	3.293		
49+395.000	49+405.164		10.164	7.400	75.214			15.043			15.043									
49+395.000	49+405.164		10.164	7.700	78.263				11.739 (△)											
49+395.000	49+405.164		10.164	7.200	73.181	73.181														
49+395.000	49+405.164		10.164	3.600	36.590					7.318			65.863	0.256	49.763					
49+405.164	49+753.195		348.031	7.200	2505.823							501.165					80.186	112.762		
49+405.164	49+753.195		348.031	7.400	2575.429			515.086			515.086									
49+405.164	49+753.195		348.031	7.700	2679.839				401.796 (△)											
49+405.164	49+753.195		348.031	7.200	2505.823	2505.823														
49+405.164	49+753.195		348.031	3.600	1252.912					250.582			2255.241	8.770	1703.960					
49+753.195	49+894.535		141.340	7.200	1017.648							203.530					32.565	45.794		
49+753.195	49+894.535		141.340	7.400	1045.916			209.183			209.183									
49+753.195	49+894.535		141.340	7.700	1088.318				163.248 (△)											
49+753.195	49+894.535		141.340	7.200	1017.648	1017.648														
49+753.195	49+894.535		141.340	3.600	508.824					101.765			915.883	3.562	692.001					
49+892.950	49+954.597		61.647	7.200	443.858							88.772					14.203	19.974		
49+892.950	49+954.597		61.647	7.400	456.188			91.238			91.238									
49+892.950	49+954.597		61.647	7.700	474.682				71.202 (△)											
49+892.950	49+954.597		61.647	7.200	443.858	443.858														
49+892.950	49+954.597		61.647	3.600	221.929					44.386			399.473	1.554	301.824					
BRIDGE																				
50+045.403	50+310.000		264.597	7.200	1905.098							381.020					60.963	85.729		
50+045.403	50+310.000		264.597	7.400	1958.018			391.604			391.604									
50+045.403	50+310.000		264.597	7.700	2037.397				305.609 (△)											
50+045.403	50+310.000		264.597	7.200	1905.098	1905.098														
50+045.403	50+310.000		264.597	3.600	952.549					190.510			1714.589	6.668	1295.467					
50+310.000	50+340.000		30.000	6.650	199.500							39.900					6.384	8.978		
50+310.000	50+340.000		30.000	6.850	205.500			41.100			41.100									
50+310.000	50+340.000		30.000	7.150	214.500				32.175 (△)											
50+310.000	50+340.000		30.000	6.650	199.500	199.500														
50+310.000	50+340.000		30.000	3.600	108.000					21.600			194.400	0.756	146.880					
50+340.000	50+345.000		5.000	6.100	30.500												0.976		30.500	14.640
Service Road B																				
10+000.000	10+020.962		20.962		207.310							41.462					6.634	9.329		
					211.908		21.191				42.382									
					218.784				32.817											
areas were	measured				230.038	230.038														
from	autocad				89.816					17.963										
10+020.947	10+175.000		154.053	6.000	924.318							184.864					29.578	41.594		
10+020.947	10+175.000		154.053	6.200	955.129		95.513				191.026									
10+020.947	10+175.000		154.053	6.500	1001.345				150.202											
10+020.947	10+175.000		154.053	6.000	924.318	924.318														
10+020.947	10+175.000		154.053	2.400	369.727					73.945										
EXIST. U.S. 30 AND 598 PAVEMENT WIDENING																				
					72.047												2.738			
28+589.289	8+215.865				72.047													3.242		
EXIST. US 30	EXIST. 598				72.047			15.416												
					72.047															
areas were	measured				72.047				10.807											
from	autocad				72.047	72.047				6.142										
					30.709															
TOTALS						7071.011	116.704	1319.769	1211.950 (△)	735.811	1537.762	1495.249	5739.849 (△)	22.322	4336.775	0 (△)	243.929	339.671	61.000	29.28
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						7071	117	1320	1212 (△)	736	1538	1495	5740 (△)	22	4337	0 (△)	244 (△)	340 (△)	61	29

(△) QUANTITY REVISED 06-30-03

CALCULATED PSB
CHECKED LBD

PAVEMENT CALCULATIONS

CRA-30-24.000

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FAIRVIEW/BIDDLE

NOTE–FOR LEGEND, SEE SHEET NO.12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3B) 301 BITUMINOUS AGGREGATE BASE (100 mm) .1A	(4) 304 (150 mm) 0.15A AGGR. BASE	(5A) 304 (200 mm) 0.2A AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A BITUMINOUS PRIME COAT	(1A) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	(2A) 448 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	202 WEARING COURSE REMOVED	407 0.48A TACK COAT	REMARKS
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	SQ. METER	LITER	
		L/R															
FAIRVIEW ROAD																	
49+615.000	49+620.000		5.000	5.540	27.700								0.886		27.700	13.296	
49+620.000	49+665.000		45.000	6.070	273.150						54.630		8.741	12.292			
49+620.000	49+665.000		45.000	6.270	282.150		28.215			56.430		507.870					
49+620.000	49+665.000		45.000	6.570	295.650			44.347									
49+620.000	49+665.000		45.000	6.070	273.150	273.150											
49+620.000	49+665.000		45.000	2.400	108.000				21.600								
49+665.000	49+956.096		291.096	6.600	1921.234						384.247		61.479	86.456			
49+665.000	49+956.096		291.096	6.800	1979.453		197.945			395.891		3563.015					
49+665.000	49+956.096		291.096	7.100	2066.782			310.017									
49+665.000	49+956.096		291.096	6.600	1921.234	1921.234											
49+665.000	49+956.096		291.096	2.400	698.630				139.726								
bridge																	
50+043.904	50+240.000		196.096	6.600	1294.234						258.847		41.415	58.241			
50+043.904	50+240.000		196.096	6.800	1333.453		133.345			266.691		2400.215					
50+043.904	50+240.000		196.096	7.100	1392.282			208.842									
50+043.904	50+240.000		196.096	6.600	1294.234	1294.234											
50+043.904	50+240.000		196.096	2.400	470.630				94.126								
50+240.000	50+280.000		40.000	5.990	239.600						47.920		7.667	10.782			
50+240.000	50+280.000		40.000	6.190	247.600		24.760			49.520		445.680					
50+240.000	50+280.000		40.000	6.490	259.600			38.940									
50+240.000	50+280.000		40.000	5.990	239.600	239.600											
50+240.000	50+280.000		40.000	2.400	96.000				19.200								
50+280.000	50+285.000		5.000	5.380	26.900								0.861		26.900	12.912	
BIDDLE ROAD																	
49+520.000	49+525.000		5.000	5.291	26.455								0.847		26.455	12.698	
49+525.000	49+570.000		45.000	5.946	267.570						53.514		8.562	12.041			
49+525.000	49+570.000		45.000	6.146	276.570		27.657			55.314		497.826					
49+525.000	49+570.000		45.000	6.446	290.070			43.511									
49+525.000	49+570.000		45.000	5.946	267.570	267.570											
49+525.000	49+570.000		45.000	2.400	108.000				21.600								
49+570.000	49+943.767		373.767	6.600	2466.862						493.372		78.940	111.009			
49+570.000	49+943.767		373.767	6.800	2541.616		254.162			508.323		4574.909					
49+570.000	49+943.767		373.767	7.100	2653.746			398.062									
49+570.000	49+943.767		373.767	6.600	2466.862	2466.862											
49+570.000	49+943.767		373.767	2.400	897.041				179.408								
49+943.767	49+957.637		13.870	6.600	91.542						18.308		2.929	4.119			
49+943.767	49+957.637		13.870	6.800	94.316		9.432			18.863		169.769					
49+943.767	49+957.637		13.870	7.100	98.477			14.772									
49+943.767	49+957.637		13.870	6.600	91.542	91.543											
49+943.767	49+957.637		13.870	2.400	33.288				6.658								
bridge																	
50+045.437	50+061.601		16.164	6.600	106.682						21.336		3.414	4.801			
50+045.437	50+061.601		16.164	6.800	109.915		10.992			21.983		197.847					
50+045.437	50+061.601		16.164	7.100	114.764			17.215									
50+045.437	50+061.601		16.164	6.600	106.682	106.682											
50+045.437	50+061.601		16.164	2.400	38.794				7.759								
50+061.601	50+460.158		398.557	6.600	2630.476						526.095		84.175	118.371			
50+061.601	50+460.158		398.557	6.800	2710.188		271.019			542.038		4878.339					
50+061.601	50+460.158		398.557	7.100	2829.755			424.463									
50+061.601	50+460.158		398.557	6.600	2630.476	2630.476											
50+061.601	50+460.158		398.557	2.400	956.537				191.307								
50+460.158	50+486.000		25.842	6.600	170.557						34.111		5.458	7.675			
50+460.158	50+486.000		25.842	6.800	175.726		17.573			35.145		316.307					
50+460.158	50+486.000		25.842	7.100	183.478			27.522									
50+460.158	50+486.000		25.842	6.600	170.557	170.557											
50+460.158	50+486.000		25.842	2.400	62.021				12.404								
50+486.000	50+505.000		19.000	5.950	113.050						22.610		3.618	5.087			
50+486.000	50+505.000		19.000	6.150	116.850		11.685			23.370		210.330					
50+486.000	50+505.000		19.000	6.450	122.550			18.383									
50+486.000	50+505.000		19.000	5.950	113.050	113.050											
50+486.000	50+505.000		19.000	2.400	45.600				9.120								
50+505.000	50+510.000		5.000	5.300	26.500								0.848		26.500	12.720	
TOTALS						9574.958	986.785	1546.074	702.908	1973.568	1902.292	17762.111	309.840	430.874	107.555	51.626	
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						9575	987	1546	703	1974	1902	17762	310	431	108	52	

CALCULATED PSB CHECKED DLK

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE-FOR LEGEND,SEE SHEET NO.12

CALCULATED PSB CHECKED DLK

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3B) 301 BITUMINOUS AGGREGATE BASE (100 mm)	(4) 304 (150 mm) 0.15A AGGR. BASE	(5A) 304 (200 mm) AGGR. BASE	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A BITUMINOUS PRIME COAT	(1A) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	(2A) 448 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	202 WEARING COURSE REMOVED	407 0.48A TACK COAT	REMARKS
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	SQ. METER	LITER	
		L/R															
49+495.000	49+500.000		5.000	4.278	21.390								0.684		21.390	10.267	
49+500.000	49+575.000		75.000	5.439	407.925						81.585		13.054	18.357			
49+500.000	49+575.064		75.000	5.639	422.925		42.293			84.585		761.265					
49+500.000	49+575.064		75.000	5.939	445.425			66.814									
49+500.000	49+575.064		75.000	5.439	407.925	407.925											
49+500.000	49+575.064		75.000	2.400	180.000				36.000								
49+575.000	49+600.064		25.064	6.600	165.422						33.084		5.294	7.444			
49+575.000	49+600.064		25.064	6.800	170.435		17.044			34.087		306.783					
49+575.000	49+600.064		25.064	7.100	177.954			26.693									
49+575.000	49+600.064		25.064	6.600	165.422	165.422											
49+575.000	49+600.064		25.064	2.400	60.154				12.031								
49+600.064	49+963.078		363.014	6.600	2395.892						479.178		76.669	107.815			
49+600.064	49+963.078		363.014	6.800	2468.495		246.850			493.699		4443.291					
49+600.064	49+963.078		363.014	7.100	2577.399			386.609									
49+600.064	49+963.078		363.014	6.600	2395.892	2395.892											
49+600.064	49+963.078		363.014	2.400	871.234				174.247								
49+963.078	49+966.912		3.834	6.600	25.304						5.061		0.810	1.139			
49+963.078	49+966.912		3.834	6.800	26.071		2.607			5.214		46.928					
49+963.078	49+966.912		3.834	7.100	27.221			4.083									
49+963.078	49+966.912		3.834	6.600	25.304	25.304											
49+963.078	49+966.912		3.834	2.400	9.202				1.840								
bridge																	
50+057.740	50+186.060		128.320	6.600	846.912						169.382		27.101	38.111			
50+057.740	50+186.060		128.320	6.800	872.576		87.258			174.515		1570.637					
50+057.740	50+186.060		128.320	7.100	911.072			136.661									
50+057.740	50+186.060		128.320	6.600	846.912	846.912											
50+057.740	50+186.060		128.320	2.400	307.968				61.594								
50+186.060	50+524.953		338.893	6.600	2236.694						447.339		71.574	100.651			
50+186.060	50+524.953		338.893	6.800	2304.472		230.447			460.894		4148.050					
50+186.060	50+524.953		338.893	7.100	2406.140			360.921									
50+186.060	50+524.953		338.893	6.600	2236.694	2236.694											
50+186.060	50+524.953		338.893	2.400	813.343				162.669								
50+517.111	50+540.000		22.889	6.600	151.067						30.213		4.834	6.798			
50+517.111	50+540.000		22.889	6.800	155.645		15.565			31.129		280.161					
50+517.111	50+540.000		22.889	7.100	162.512			24.377									
50+517.111	50+540.000		22.889	6.600	151.067	151.067											
50+517.111	50+540.000		22.889	2.400	54.934				10.987								
50+540.000	50+600.000		60.000	5.713	342.780						68.556		10.969	15.425			
50+540.000	50+600.000		60.000	5.913	354.780		35.478			70.956		638.604					
50+540.000	50+600.000		60.000	6.213	372.780			55.917									
50+540.000	50+600.000		60.000	5.713	342.780	342.780											
50+540.000	50+600.000		60.000	2.400	144.000				28.800								
50+600.000	50+605.000		5.000	4.825	24.125								0.772		24.125	11.580	
TOTALS						6571.996	677.542	1062.075	488.168	1314.398	1336.245	12195.718	211.761	295.740	45.515	21.847	
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						6572	678	1062	488	1314	1336	12196	212	296	46	22	

PAVEMENT CALCULATIONS

CRA-30-24.000

NOTE—FOR LEGEND, SEE SHEET NO. 12

CALCULATED PSB CHECKED DLK

PAVEMENT CALCULATIONS

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3B) 301 BITUMINOUS AGGREGATE BASE (100 mm) 0.10A	(4) 304 (150 mm) 0.15A AGGR. BASE	(5A) 304 (200 mm) AGGR. BASE 0.20A	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A BITUMINOUS PRIME COAT	(1A) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	(2A) 448 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	202 WEARING COURSE REMOVED	407 0.48A TACK COAT	REMARKS
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	SQ. METER	LITER	
		L/R															
BECK ROAD																	
49+881.227	49+886.227		5.000	4.540	22.700								0.726		22.700	10.896	
49+886.227	49+902.227		16.000	5.570	89.120						17.824		2.852	4.010			
49+886.227	49+902.227		16.000	5.770	92.320		9.232			18.464		166.176					
49+886.227	49+902.227		16.000	6.070	97.120			14.568									
49+886.227	49+902.227		16.000	5.570	89.120	89.120											
49+886.227	49+902.227		16.000	2.400	38.400				7.680								
49+570.000					916.522						183.304		29.329	41.243			
	areas were measured from autocad				928.344		92.834			185.669		1671.019					
					946.267			141.940									
					852.665	852.665											
					144.894				28.979								
50+100.223					917.127						183.425		29.348	41.271			
	areas were measured from autocad				929.047		92.905			185.809		1672.285					
					946.986			142.048									
					853.275	853.275											
					145.113				29.023								
50+100.223	50+110.000		9.777	6.600	64.528						12.906		2.065	2.904			
50+100.223	50+110.000		9.777	6.800	66.484		6.648			13.297		119.671					
50+100.223	50+110.000		9.777	7.100	69.417			10.413									
50+100.223	50+110.000		9.777	6.600	64.528	64.528											
50+100.223	50+110.000		9.777	2.400	23.465				4.693								
50+110.000	50+126.000		16.000	5.640	90.240						18.048		2.888	4.061			
50+110.000	50+126.000		16.000	5.840	93.440		9.344			18.688		168.192					
50+110.000	50+126.000		16.000	6.140	98.240			14.736									
50+110.000	50+126.000		16.000	5.640	90.240	90.240											
50+110.000	50+126.000		16.000	2.400	38.400				7.680								
50+126.000	50+131.000		5.000	4.680	23.400								0.749		23.400	11.232	
KNORR ROAD																	
9+995.000	10+000.000		5.000	5.570	27.850								0.891		27.850	13.368	
10+000.000	10+017.000		17.000	6.085	103.445						20.689		3.310	4.655			
10+000.000	10+017.000		17.000	6.285	106.845		10.685			21.369		192.321					
10+000.000	10+017.000		17.000	6.585	111.945			16.792									
10+000.000	10+017.000		17.000	5.570	94.690	94.690											
10+000.000	10+017.000		17.000	2.400	40.800				8.160								
10+017.000					916.533						183.307		29.329	41.244			
	areas were measured from autocad				928.435		92.843			185.687		1671.183					
					946.347			141.952									
					852.681	852.681											
					144.898				28.980								
19+983.000					916.389						183.278		29.324	41.238			
	areas were measured from autocad				928.287		92.829			185.657		1670.917					
					946.193			141.929									
					852.539	852.539											
					144.853				28.971								
19+983.000	20+000.000		17.000	6.080	103.360						20.672		3.308	4.651			
19+983.000	20+000.000		17.000	6.280	106.760		10.676			21.352		186.048					
19+983.000	20+000.000		17.000	6.580	111.860			16.779									
19+983.000	20+000.000		17.000	6.080	103.360	103.360											
19+983.000	20+000.000		17.000	2.400	40.800				8.160								
20+000.000	20+005.000		5.000	5.560	27.800								0.890		27.800	13.344	
TOTALS						3853.098	417.996	641.157	152.326	835.992	823.453	7517.812	135.009	185.277	101.750	48.840	
TOTALS CARRIED TO SUB-SUMMARY, SHEET NO. 63B						3853	418	641	152	836	823	7518	135	185	102	49	

CRA-30-24.000

NOTE–FOR LEGEND,SEE SHEET NO.12

FROM STATION	TO STATION	SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A A=DxW	(11) 203 SUBGRADE COMPACTION	(3B) 301 BITUMINOUS AGGREGATE BASE (100 mm) 0.10A	(4) 304 (150 mm) 0.15A AGGR. BASE	(5A) 304 (200 mm) AGGR. BASE 0.2A	(6) 407 0.2A TACK COAT, AS PER PLAN	(6A) 407 0.2A TACK COAT, INTERMEDIATE CRS.	(7) 408 1.8A BITUMINOUS PRIME COAT	(1A) 448 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	(2A) 448 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	202 WEARING COURSE REMOVED	407 0.48A TACK COAT	REMARKS
			METER	METER	SQ. METER	SQ. METER	CU. METER	CU. METER	CU. METER	LITER	LITER	LITER	CU. METER	CU. METER	SQ. METER	LITER	
		L/R															
49+863.000	49+868.000		5.000	5.860	29.300								0.938		29.300	14.064	
49+868.000	49+880.000		12.000	6.230	74.760						14.952		2.392	3.364			
49+868.000	49+880.000		12.000	6.430	77.160		7.716			15.432		138.888					
49+868.000	49+880.000		12.000	6.730	80.760			12.114									
49+868.000	49+880.000		12.000	6.230	74.760	74.760											
49+868.000	49+880.000		12.000	2.400	28.800				5.760								
49+897.991					910.421						182.084		29.133	40.969			
	areas were measured from autocad				922.189		92.219			184.438		1659.940					
					939.902			140.985									
					843.477	843.477											
					143.361				28.672								
50+110.000					947.348						189.470		30.315	42.631			
	areas were measured from autocad				959.857		95.986			191.971		1727.743					
					978.677			146.802									
					878.720	878.720											
					152.051				30.410								
50+135.000	50+146.000		11.000	6.395	70.345						14.069		2.251	3.166			
50+135.000	50+146.000		11.000	6.595	72.545		7.255			14.509		130.581					
50+135.000	50+146.000		11.000	6.895	75.845			11.827									
50+135.000	50+146.000		11.000	6.395	70.345	70.345											
50+135.000	50+146.000		11.000	2.400	26.400				6.190								
50+146.000	50+151.000		5.000	6.190	30.950								0.990		30.950	14.856	
TOTALS						1867.302	203.176	311.728	71.032	406.350	400.575	3657.152	66.019	90.130	60.250	28.920	
TOTALS CARRIED TO SUB–SUMMARY, SHEET NO. 63B						1867	203	312	71	406	401	3657	66	90	60	29	

CALCULATED PSB

CHECKED DLK

PAVEMENT CALCULATIONS

CRA–30–24.000

NOTE – FOR LEGEND, SEE SHEET NO. 12

TOTALS CARRIED FROM PAVEMENT CALCULATIONS	1	1A	1C	2	2A	3	3C	3A	3B	4	5	5A	6	6A	7	8	8	11	202	407
	446 TYPE 1H (38 mm) 0.038A ASPHALT CONCRETE SURFACE CRS.	448 TYPE 1 PG 64–22 (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	448 TYPE 1H (32 mm) 0.032A ASPHALT CONCRETE SURFACE CRS.	446 TYPE 2 PG 64–28 (45 mm) 0.045A ASPHALT CONCRETE INTERMEDIATE CRS.	448 TYPE 2 PG 64–22 (45 mm) 0.032A ASPHALT CONCRETE INTERMEDIATE CRS.	302 BITUMINOUS AGGREGATE BASE (205 mm) 0.205A	302 BITUMINOUS AGGREGATE BASE (200 mm) (200 mm)	301 BITUMINOUS AGGREGATE BASE (150 mm) 0.15A	301 BITUMINOUS AGGREGATE BASE (100 mm)	304 (150 mm) 0.150A AGGRE. BASE	304 (250 mm) 0.25A AGGRE. BASE	304 (200 mm) 0.2A AGGRE. BASE	407 0.2A TACK COAT, AS PER PLAN	407 0.2A TACK COAT, INTERMEDIATE CRS.	408 1.8A BITUMINOUS PRIME COAT	409 .007A SEAL COAT, BITUMINOUS MAT'L./ COVER AGGR. NO. 8	409 1.36A SEAL COAT, BITUMINOUS MAT'L./ COVER AGGR. NO. 8	203 SUBGRADE COMPACTION	WEARING COURSE REMOVED	TACK COAT (0.48L/SQ.M.)
	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	LITER	LITER	LITER	LITER	CU. M.	SQ. M.	SQ. M.	LITER
TOTALS CARRIED FROM SHT. 51	3950*			4677*		21667*				3848	20669		20788*	20788*				103939		
TOTALS CARRIED FROM SHT. 52	3954*			4682*		21691*				3969	20699		21162*	20810*				104050		
TOTALS CARRIED FROM SHT. 53	246*			292*		1354*					1696		1297*	1297*				6783		
TOTALS CARRIED FROM SHT. 54	361*			428*		1977*					2485		1902*	1902*				9944		
TOTALS CARRIED FROM SHT. 55	218*			259*		1208*					1527		1150*	1150*				6104		
TOTALS CARRIED FROM SHT. 56	226*			268*		913*					1554		1189*	1189*				6225		
TOTALS CARRIED FROM SHT. 57	249*			294*		1370*					1725		1308*	1308*				6899		
TOTALS CARRIED FROM SHT. 58	284*			333*		1542*					1931		1478*	1478*				7724		
TOTALS CARRIED FROM SHT. 59		256 Δ	0 Δ	0 Δ	357 Δ			904	214	1227		549	1633	1587	3547 Δ	2680 Δ	14	7937	59	28
TOTALS CARRIED FROM SHT. 60		244		0 Δ	340 Δ		1320		117	1212 Δ		736	1538	1495	5740 Δ	4337 Δ	22	7071	61	29
TOTALS CARRIED FROM SHT. 61		310			431				987	1546		703	1974	1902				9575	108	52
TOTALS CARRIED FROM SHT. 62		212			296				678	1062		488	1314	1336				6572	46	22
TOTALS CARRIED FROM SHT. 63		135			185				418	641		152	836	823				3853	102	49
TOTALS CARRIED FROM SHT. 63A		66			90				203	311		71	406	401				1867	60	29
						0	1320	904	2617	13816 Δ	52286	2699								
TOTALS CARRIED TO GENERAL SUMMARY	0	1223 Δ	0 Δ	0 Δ	1699 Δ	1320		3521		68801 Δ			7701	7544	9287 Δ	7017 Δ	36	288543	436	209

*FOR IMFORMATION ONLY. REPLACED WITH ITEM 880 ASPHALT CONCRETE (7 YEAR WARRANTY). WHICH ADDS UP TO 72,443 CU.M.

Δ REVISED QUANTITIES ON SHEETS 59 AND 60 6-30-03

CALCULATED FJB CHECKED LBD

PAVEMENT SUB-SUMMARY

CRA-30-24.000

L:\DRAWINGS\93125\F&GC1\Roadway\General\Quantity\PAVSUBSM.dwg July 01 2003 1:19pm ByDonna

STORM WATER POLLUTION PREVENTION PLAN STA. 22+500 TO STA. 23+220

STORM WATER POLLUTION PREVENTION PLAN

THE CONDITIONS OF THE NPDES CONSTRUCTION STORM WATER GENERAL PERMIT (SEE PROPOSAL) SHALL BE MET DURING ALL STAGES OF CONSTRUCTION. THE LOCATION AND TIMING OF ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE FIELD ADJUSTED TO TO PREVENT SIGNIFICANT IMPACTS ON RECEIVING WATERS. IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONTINUE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT THE UPSLOPE DISTURBED AREAS ARE STABILIZED.

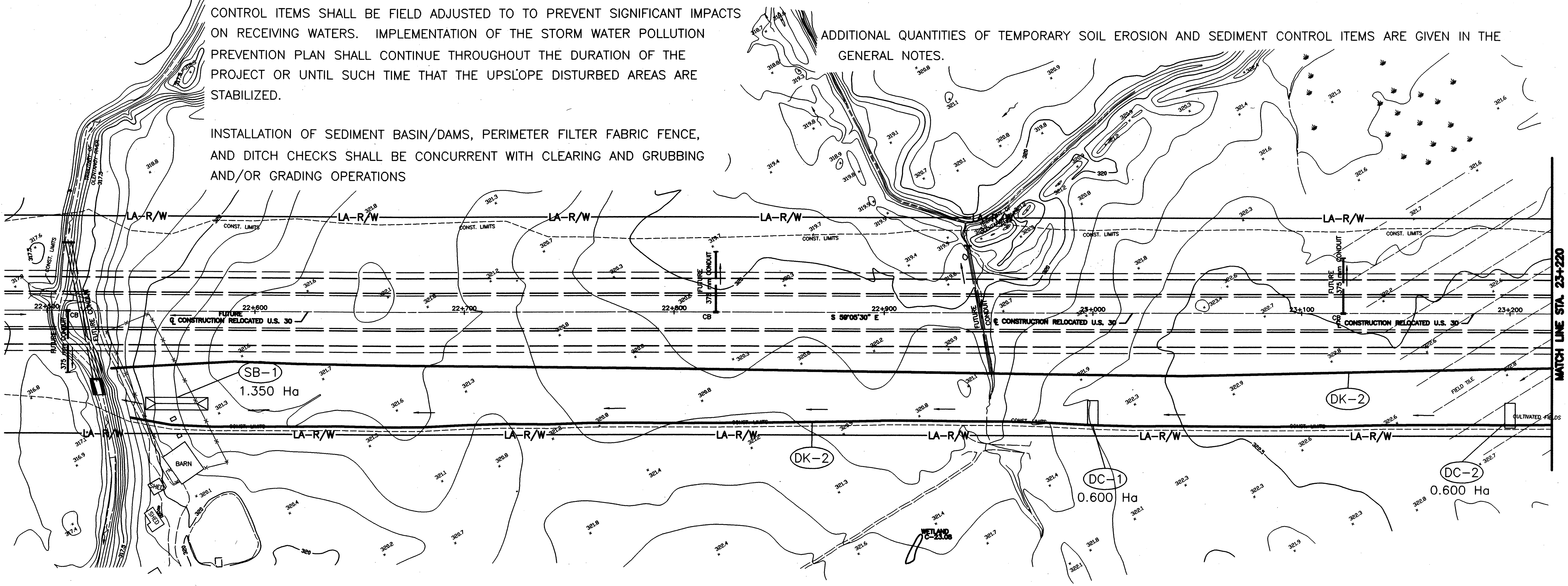
INSTALLATION OF SEDIMENT BASIN/DAMS, PERIMETER FILTER FABRIC FENCE, AND DITCH CHECKS SHALL BE CONCURRENT WITH CLEARING AND GRUBBING AND/OR GRADING OPERATIONS

ALL REASONABLE ATTEMPTS SHOULD BE MADE TO MINIMIZE THE TOTAL AREA OF DISTURBED LAND.

AREAS TO REMAIN DORMANT FOR MORE THAN 45 DAYS SHOULD BE IMMEDIATELY STABILIZED WITH TEMPORARY SEEDING AND MULCHING, EROSION CONTROL MATTING OR OTHER APPROPRIATE EROSION CONTROL MEASURES.

ADDITIONAL QUANTITIES OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL ITEMS ARE GIVEN IN THE GENERAL NOTES.

metric units



PROJECT DESCRIPTION

THE PROJECT CONSISTS OF CONSTRUCTING A 9.500 KM. FOUR-LANE DIVIDED. LIMITED ACCESS HIGHWAY ON NEW ALIGNMENT, CONSTRUCTION OF TWO FULL DIAMOND INTERCHANGES, CROSSROAD GRADE SEPARATIONS, WITH STRUCTURES OVER VARIOUS ROADS.

PROJECT DATA	
TOTAL AREAS (RIGHT OF WAY)	126.53 Ha
AREAS TO UNDERGO EXCAVATION FILLING OR GRADING	139.83 Ha
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.55 AVG.
SOIL DATA	SEE SOIL PROFILE
IMMEDIATE RECEIVING WATERS	SANDUSKY RIVER OLENTANGY RIVER
SUBSEQUENT RECEIVING WATERS	LAKE ERIE OHIO RIVER
PROJECT LOCATION	LATITUDE 40°-45'-30" LONGITUDE 82°-52'-00"

ITEM 877 - TEMPORARY BENCHES, DAMS AND SEDIMENT BASINS

THE SEDIMENT BASIN QUANTITIES LISTED ON THIS STORM WATER POLLUTION PREVENTION PLAN ARE THE STORAGE VOLUMES REQUIRED FOR THE SEDIMENT BASIN.

THE PAY QUANTITY FOR EACH BASIN SHALL BE DETERMINED AS THE ACTUAL AMOUNT OF EXCAVATION OR EMBANKMENT REQUIRED TO PROVIDE THAT STORAGE VOLUME.

LEGEND

DC = DITCH CHECK

SB = SEDIMENT BASIN

DK = TEMPORARY DIKE

—FF— FF = FILTER FABRIC FENCE

TOTALS CARRIED TO SUBSUMMARY SHEET 85

ESTIMATED QUANTITIES

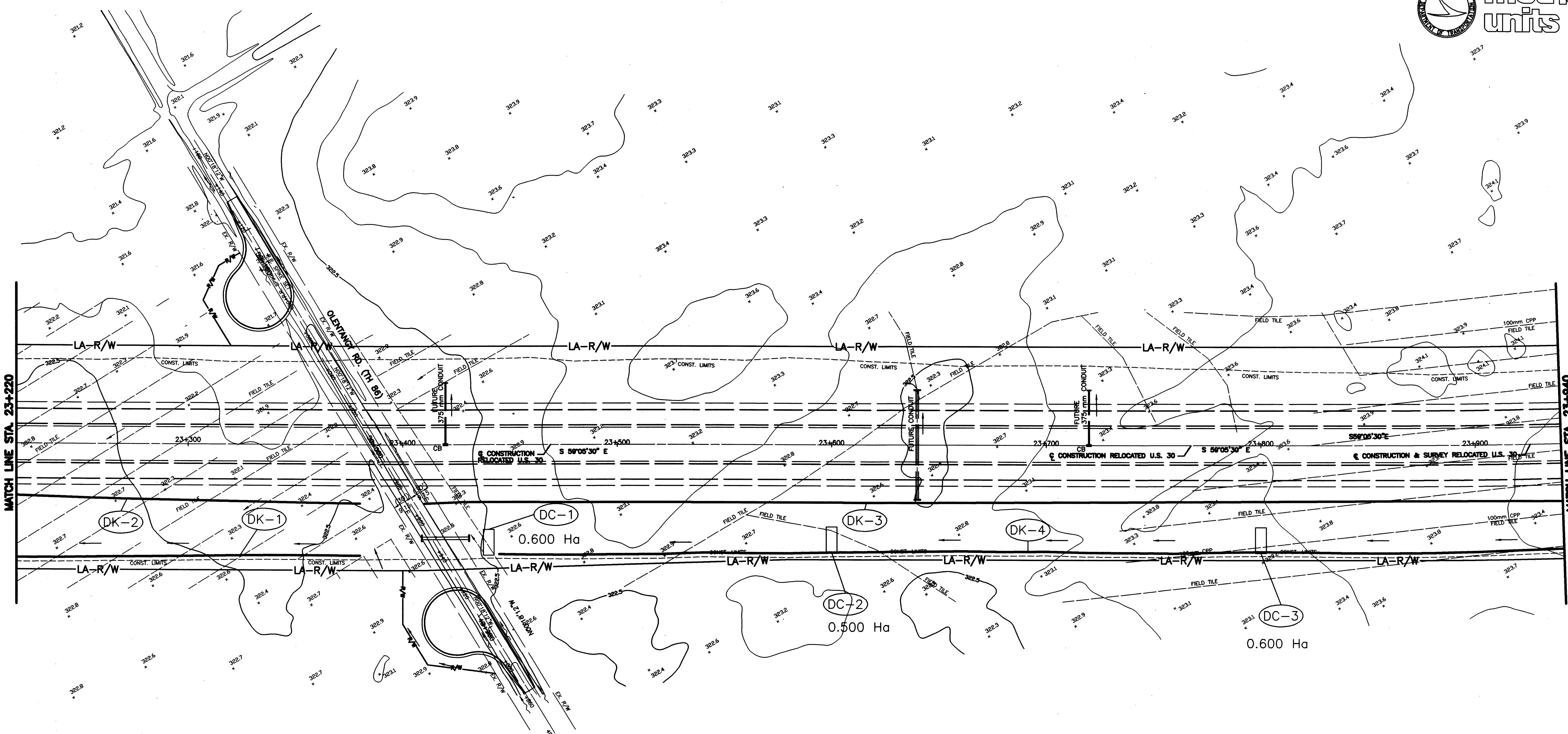
REF. No.	LOCATION	SIDE	877 TEMP. DITCH CHECK FILTER FABRIC FENCE	877 TEMPORARY DIKES	877 TEMPORARY SEDIMENT BASINS AND DAMS	877 SEDIMENT REMOVAL	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			METER	C.M.	C.M.	C.M.	C.M.
DC-1	23+000	RT.	4				
DC-2	23+200	RT.	4				
DK-1	22+530 - 23+220	RT.		345			
DK-2	22+540 - 23+220	RT.		340			
SB-1	22+560	RT.			169	85	34
TOTAL			8	685	169	85	34

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN
STA. 22+500 TO STA. 23+220

CRA-30-24.000



metric units

RATIO 1:1000

HORIZONTAL SCALE IN METERS

CALCULATED MRD

CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 23+220 TO STA. 23+940

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	TEMP. DITCH CHECK FILTER FABRIC FENCE (METER)	877 TEMPORARY DIKES (C.M.)
DC-1	23+440	RT.	4	
DC-2	23+600	RT.	4	
DC-3	23+800	RT.	4	
DK-1	23+220 - 23+380	RT.		80
DK-2	23+220 - 23+380	RT.		80
DK-3	23+410 - 23+940	RT.		265
DK-4	23+445 - 23+940	RT.		248
	TOTAL		12	673

TOTALS CARRIED TO SUBSUMMARY SHEET 85

FOR LEGEND SEE SHEET 64

CRA-30-24.000

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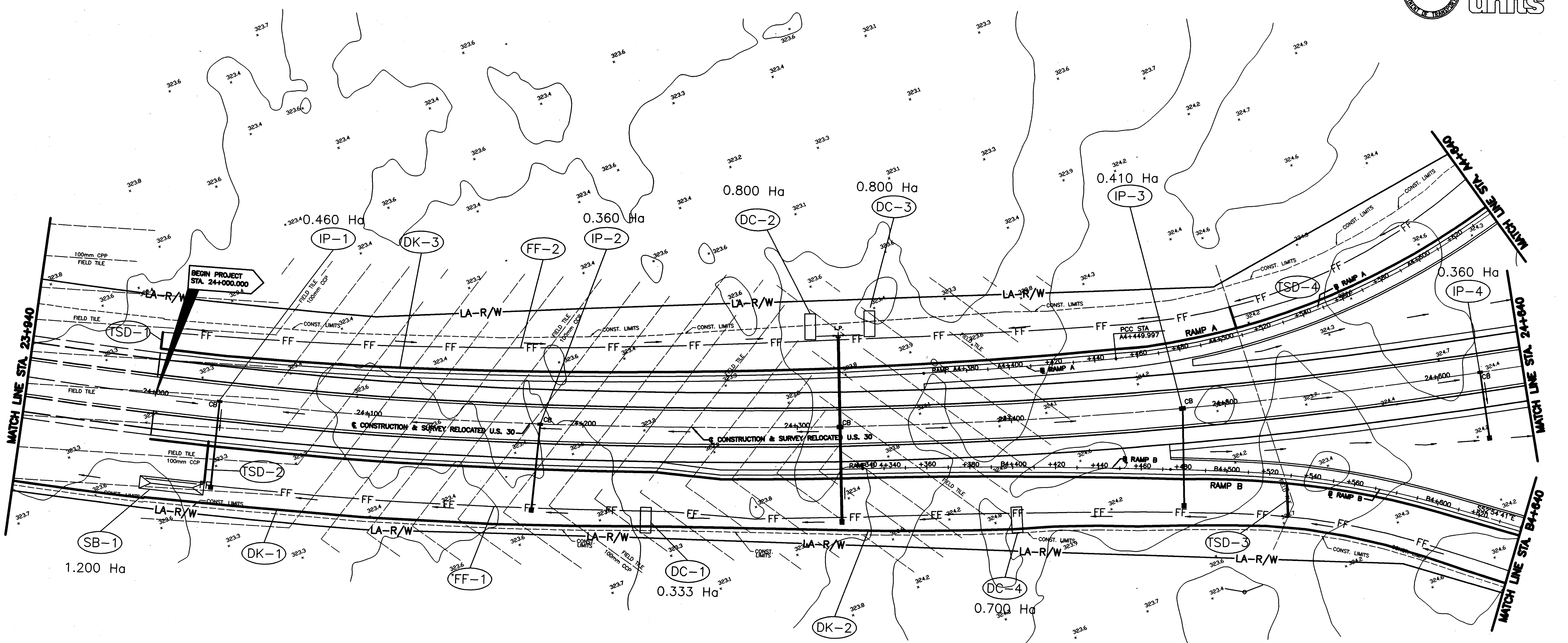

REF. No.	LOCATION	SIDE	877 TEMPORARY SEDIMENT BASINS AND DAMS	877 SEDIMENT REMOVAL	877 TEMPORARY SLOPE DRAINS	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			C.M.	C.M.	METER	C.M.
SB-1	24+030	RT.	150	75		30
TSD-1	24+000	LT.			10	
TSD-2	24+025	RT.			25	
TSD-3	B4+530	RT.			18	
TSD-4	A4+510	LT.			15	
TOTAL			150	75	68	30

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. PERIMETER FILTER FABRIC FENCE	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE	877 TEMP. DITCH CHECK FILTER FABRIC FENCE	877 TEMPORARY DIKES
			METER	METER	METER	C.M.
DC-1	24+230	RT.			4	
DC-2	24+310	LT.			4	
DC-3	24+340	LT.			4	
DC-4	24+400	RT.			4	
DK-1	23+940 – B4+640	RT.				350
DK-2	24+000 – B4+640	RT.				320
DK-3	24+000 – A4+640	LT.				320
FF-1	24+000 – B4+640	LT.	640			
FF-2	24+000 – A4+640	RT.	640			
IP-1	24+030			9		
IP-2	24+180			9		
IP-3	24+480			9		
IP-4	24+620			9		
TOTAL			1280	36	16	990

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 23+940 TO 24+640

CRA-30-24.000

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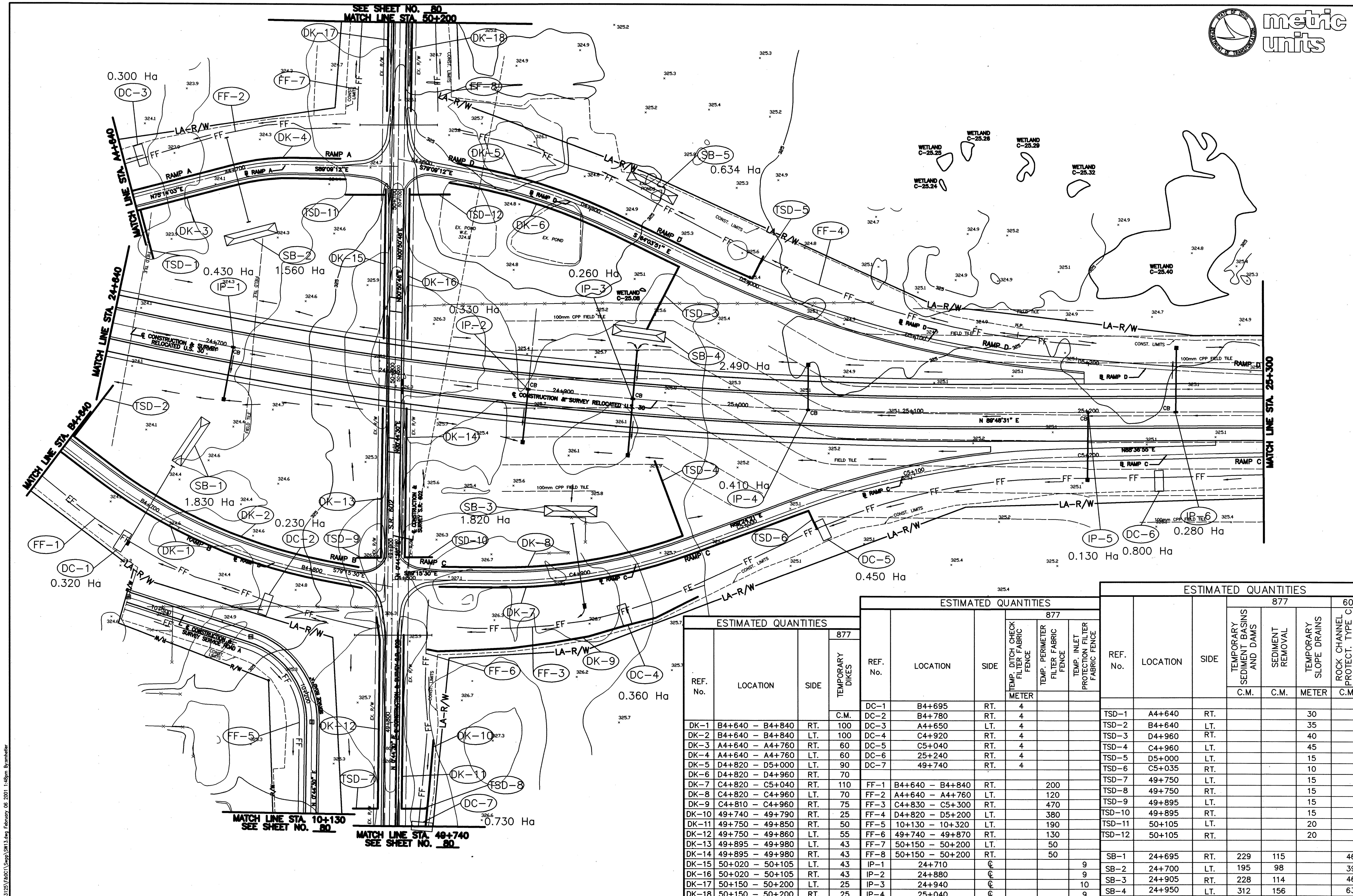


TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMPORARY DIKES
			C.M.
DK-1	B4+640 – B4+840	RT.	100
DK-2	B4+640 – B4+840	LT.	100
DK-3	A4+640 – A4+760	RT.	60
DK-4	A4+640 – A4+760	LT.	60
DK-5	D4+820 – D5+000	LT.	90
DK-6	D4+820 – D4+960	RT.	70
DK-7	C4+820 – C5+040	RT.	110
DK-8	C4+820 – C4+960	LT.	70
DK-9	C4+810 – C4+960	RT.	75
DK-10	49+740 – 49+790	RT.	25
DK-11	49+750 – 49+850	RT.	50
DK-12	49+750 – 49+860	LT.	55
DK-13	49+895 – 49+980	LT.	43
DK-14	49+895 – 49+980	RT.	43
DK-15	50+020 – 50+105	LT.	43
DK-16	50+020 – 50+105	RT.	43
DK-17	50+150 – 50+200	LT.	25
DK-18	50+150 – 50+200	RT.	25
	TOTAL		1087

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. DITCH CHECK FILTER FABRIC FENCE	877 TEMP. PERIMETER FILTER FABRIC FENCE	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE
			METER		
DC-1	B4+695	RT.	4		
DC-2	B4+780	RT.	4		
DC-3	A4+650	LT.	4		
DC-4	C4+920	RT.	4		
DC-5	C5+040	RT.	4		
DC-6	25+240	RT.	4		
DC-7	49+740	RT.	4		
FF-1	B4+640 – B4+840	RT.		200	
FF-2	A4+640 – A4+760	LT.		120	
FF-3	C4+830 – C5+300	RT.		470	
FF-4	D4+820 – D5+200	LT.		380	
FF-5	10+130 – 10+320	LT.		190	
FF-6	49+740 – 49+870	RT.		130	
FF-7	50+150 – 50+200	LT.		50	
FF-8	50+150 – 50+200	RT.		50	
IP-1	24+710	℄			9
IP-2	24+880	℄			9
IP-3	24+940	℄			10
IP-4	25+040	℄			9
IP-5	25+200	℄			9
IP-6	25+250	℄			9
	TOTAL		28	1590	55

ESTIMATED QUANTITIES

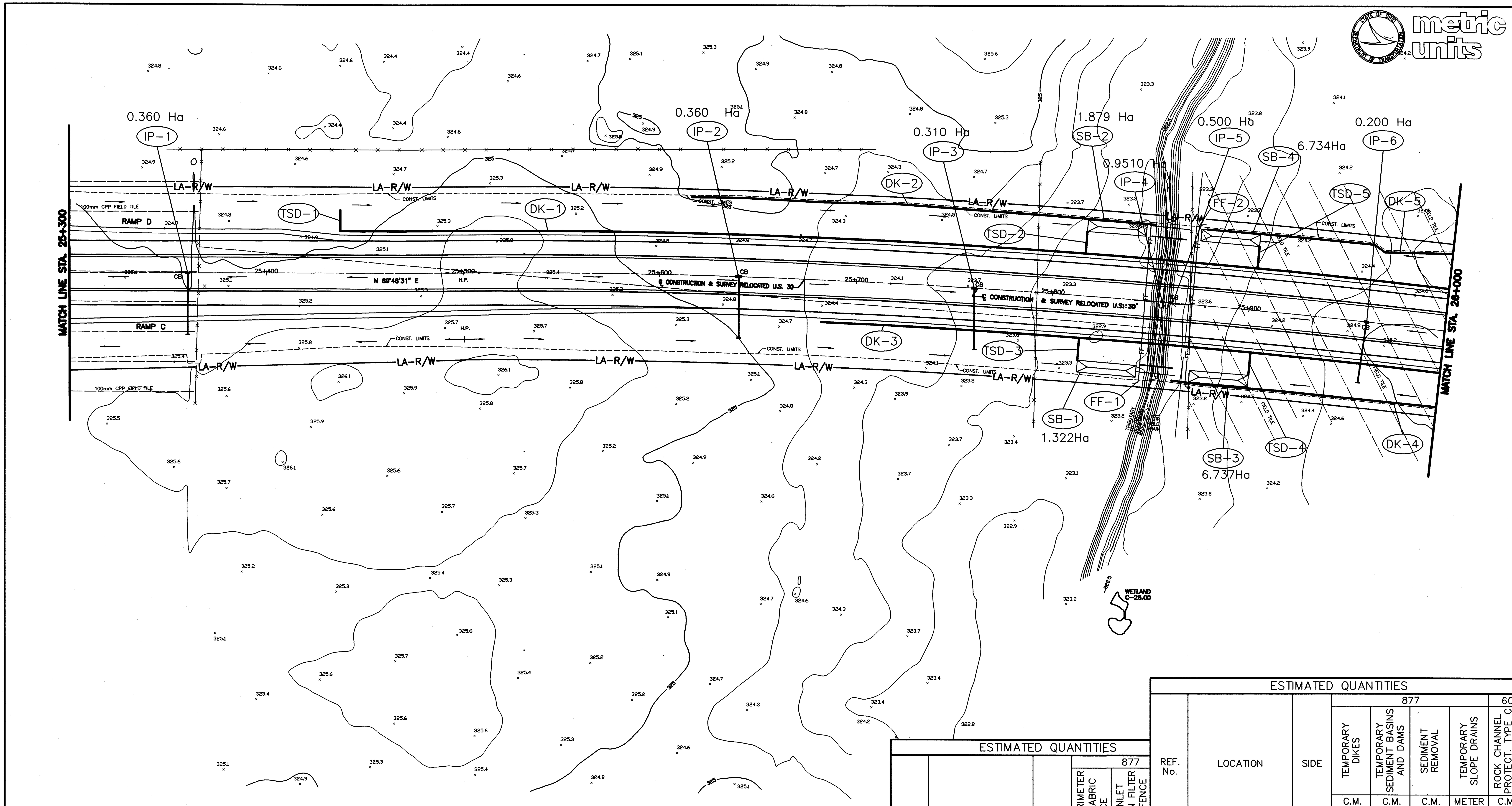
REF. No.	LOCATION	SIDE	877 TEMPORARY SEDIMENT BASINS AND DAMS	877 SEDIMENT REMOVAL	877 TEMPORARY SLOPE DRAINS	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			C.M.	C.M.	METER	C.M.
TSD-1	A4+640	RT.			30	
TSD-2	B4+640	LT.			35	
TSD-3	D4+960	RT.			40	
TSD-4	C4+960	LT.			45	
TSD-5	D5+000	LT.			15	
TSD-6	C5+035	RT.			10	
TSD-7	49+750	LT.			15	
TSD-8	49+750	RT.			15	
TSD-9	49+895	LT.			15	
TSD-10	49+895	RT.			15	
TSD-11	50+105	LT.			20	
TSD-12	50+105	RT.			20	
SB-1	24+695	RT.	229	115		46
SB-2	24+700	LT.	195	98		39
SB-3	24+905	RT.	228	114		46
SB-4	24+950	LT.	312	156		63
SB-5	D4+940	LT.	80	40		16
	TOTAL		1044	523	235	210

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN
STA. 24+640 TO STA. 25+300

CRA-30-24.000



REF. No.	LOCATION	SIDE	TEMP. PERIMETER FILTER FABRIC FENCE (877)	TEMP. INLET PROTECTION FILTER FABRIC FENCE (877)
			METER	METER
IP-1	25+360	℄		9
IP-2	25+640	℄		9
IP-3	25+760	℄		9
IP-4	25+856	℄		9
IP-5	25+860	℄		9
IP-6	25+960	℄		9
FF-1	25+845	LT/RT	90	
FF-2	25+870	LT/RT	90	
	TOTAL		180	54

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	TEMPORARY DIKES (877)	TEMPORARY SEDIMENT BASINS AND DAMS (877)	SEDIMENT REMOVAL (877)	TEMPORARY SLOPE DRAINS (877)	ROCK CHANNEL PROTECT. TYPE C WITH FILTER (601)
			C.M.	C.M.	C.M.	METER	C.M.
DK-1	25+440 - 26+000	LT.	280				
DK-2	25+620 - 25+850	LT.	115				
DK-3	25+680- 26+000	RT.	160				
DK-4	25+860 - 26+000	RT.	70				
DK-5	25+875- 26+000	LT.	63				
TSD-1	25+440	LT.				10	
TSD-2	25+815	LT.				10	
TSD-3	25+815	RT.				10	
TSD-4	25+900	RT.				10	
TSD-5	25+900	LT.				10	
SB-1	25+830	RT.		166	83		34
SB-2	25+830	LT.		235	118		47
SB-3	25+890	RT.		843	422		169
SB-4	25+890	LT.		842	421		169
	TOTAL		688	2086	1049	50	419

TOTALS CARRIED TO SUBSUMMARY SHEET 85

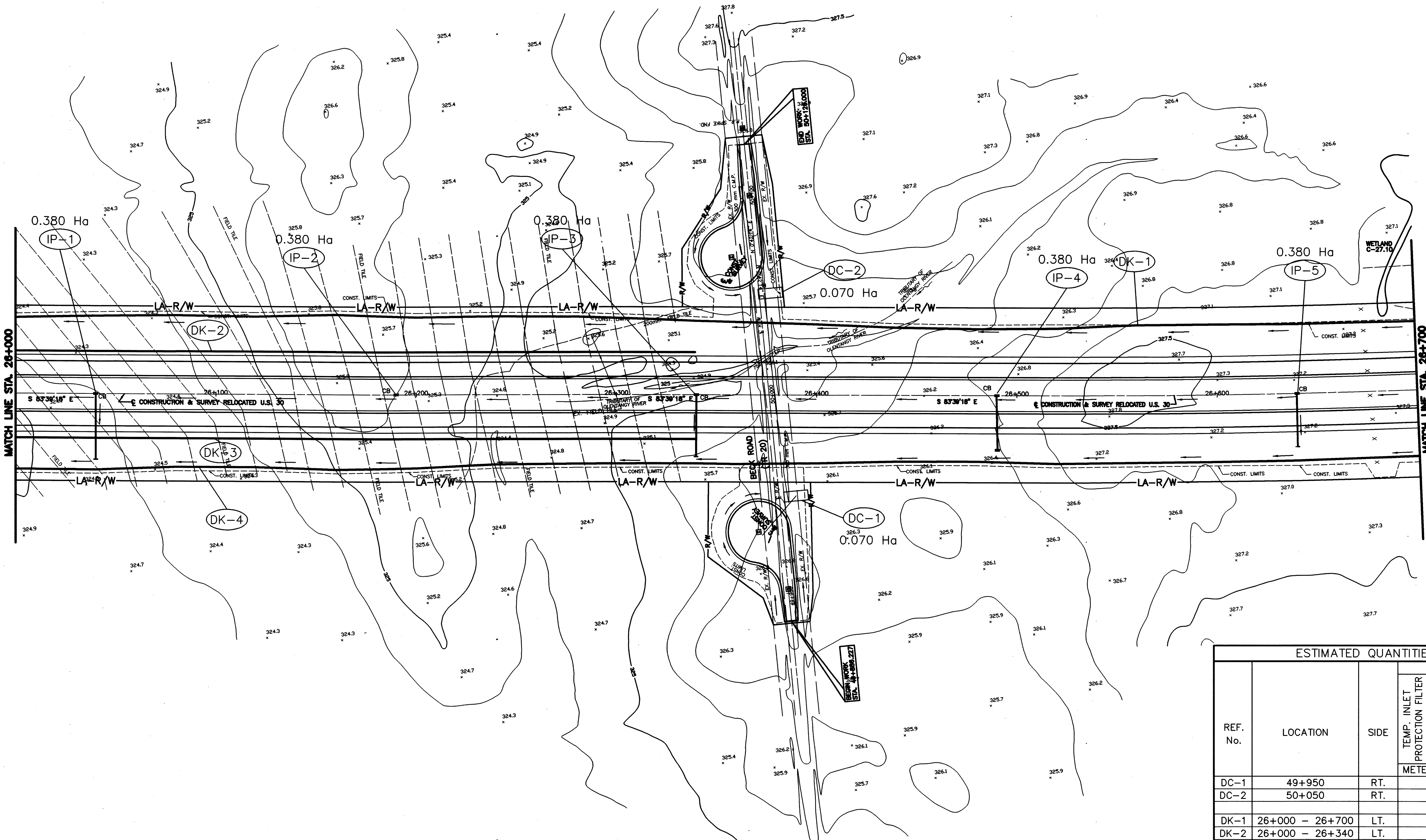
FOR LEGEND SEE SHEET 64

STORM WATER POLLUTION PREVENTION PLAN STA. 25+300 TO STA. 26+000

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

CRA-30-24.000



TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE	 TEMP. DITCH CHECK FILTER FABRIC FENCE	TEMPORARY DIKES
			METER	METER	C.M.
DC-1	49+950	RT.		4	
DC-2	50+050	RT.		4	
DK-1	26+000 - 26+700	LT.			350
DK-2	26+000 - 26+340	LT.			170
DK-3	26+000 - 26+340	RT.			170
DK-4	26+000 - 26+700	RT.			350
IP-1	26+040	℄	9		
IP-2	26+190	℄	9		
IP-3	26+340	℄	9		
IP-4	26+490	℄	9		
IP-5	26+640	℄	9		
TOTAL			45	8	1040

metric units

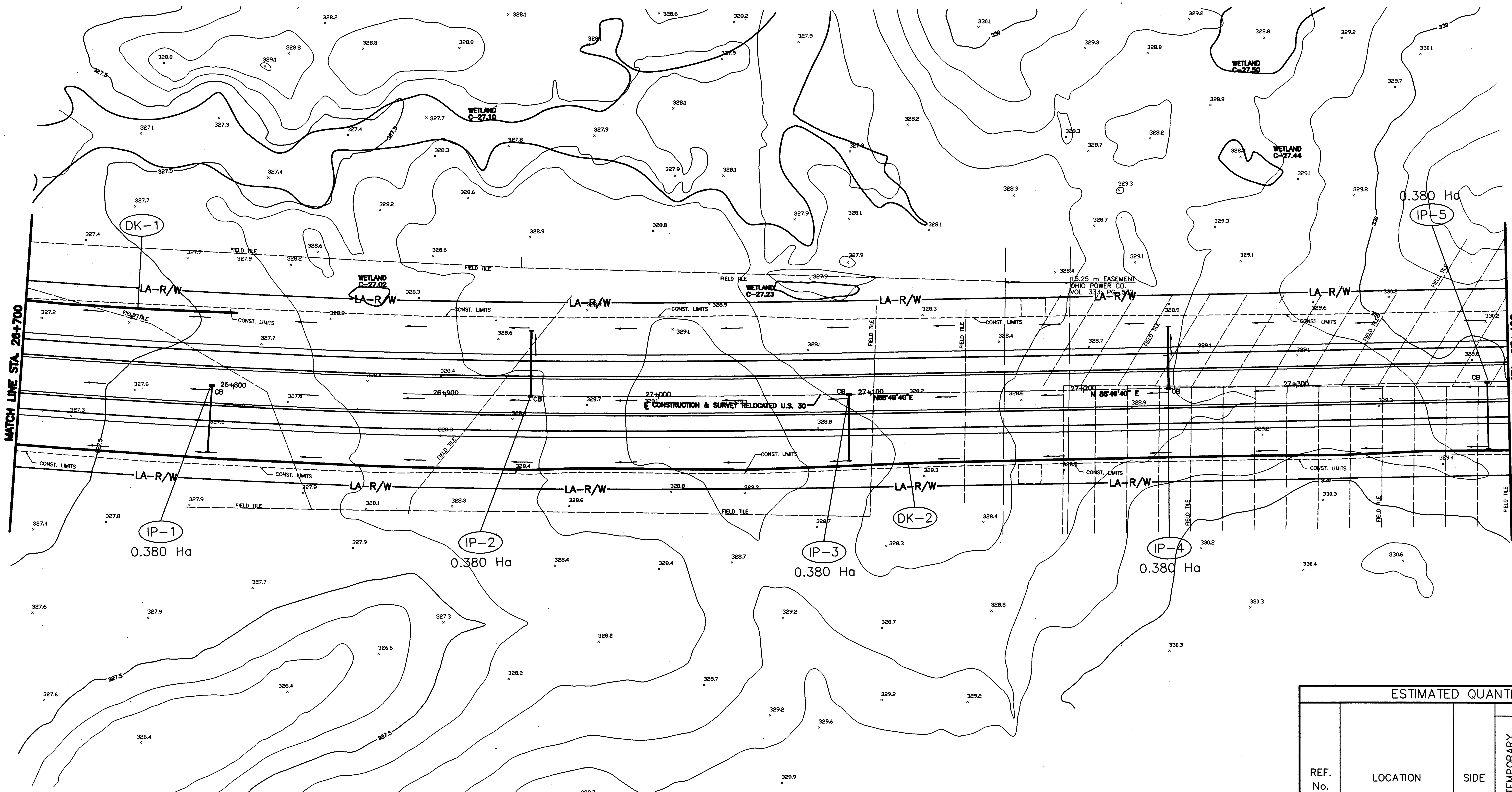
RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN
STA. 26+000 TO STA. 26+700

CRA-30-24.000

L:\DRAWINGS\93125\F&DC1\Swpp\SW11.dwg February 06 2001 1:50pm By:smhetler



REF. No.	LOCATION	SIDE	877 TEMPORARY DIKES (C.M.)	TEMP. INLET PROTECTION FILTER FABRIC FENCE (METER)
DK–1	26+700 – 26+800	LT.	50	
DK–2	26+700 – 27+400	RT.	350	
IP–1	26+790	℄		9
IP–2	26+940	℄		9
IP–3	27+090	℄		9
IP–4	27+240	℄		9
IP–5	27+390	℄		9
TOTAL			400	45

ESTIMATED QUANTITIES

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

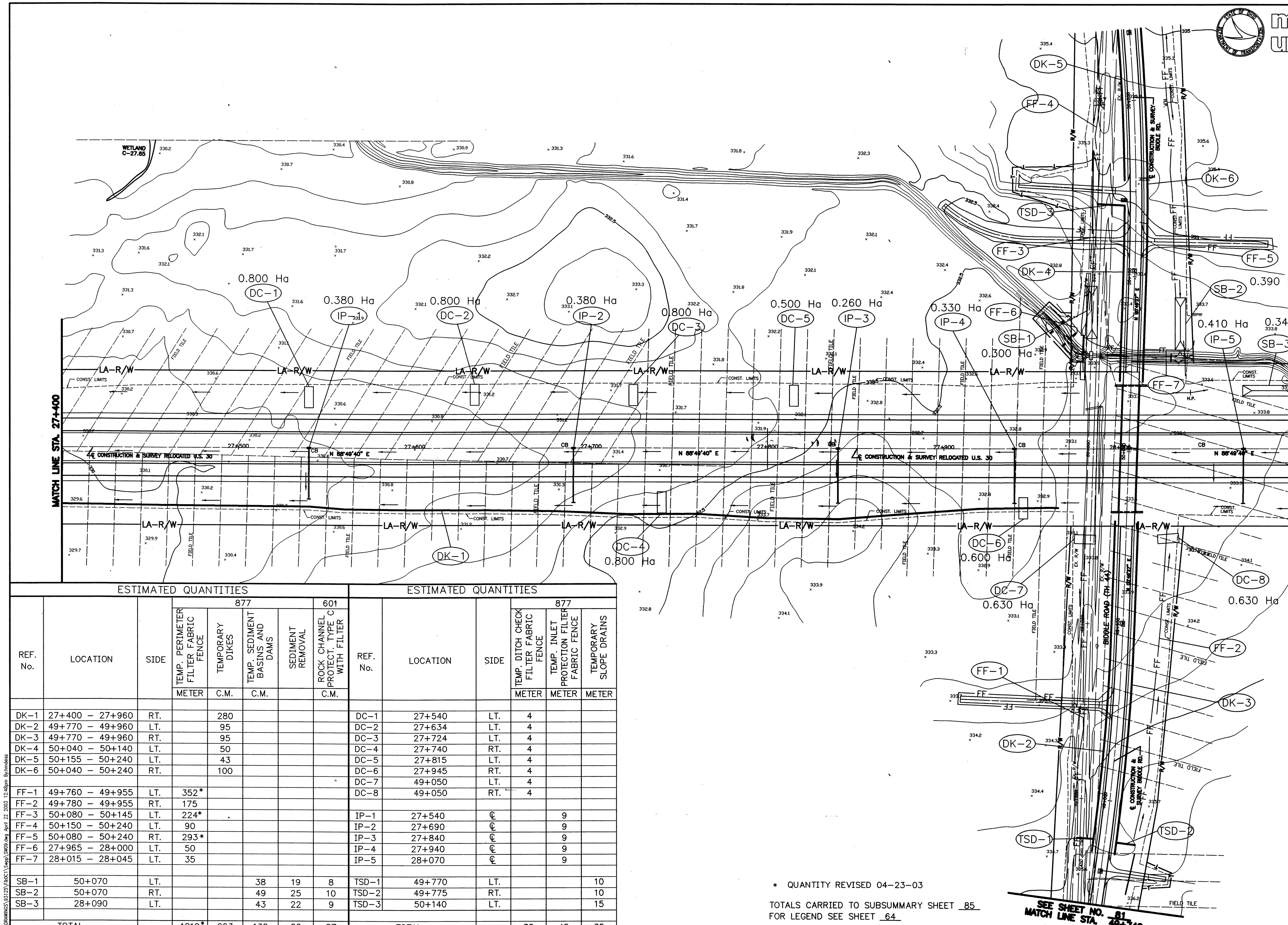
metric units

RATIO 1:1000
HORIZONTAL SCALE IN METERS
0 10 20 40

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 26+700 TO STA. 27+400

CRA-30-24.000



ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. PERIMETER FILTER FABRIC FENCE	877 TEMPORARY DIKES	877 TEMP. SEDIMENT BASINS AND DAMS	877 SEDIMENT REMOVAL	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			METER	C.M.	C.M.		C.M.
DK-1	27+400 – 27+960	RT.		280			
DK-2	49+770 – 49+960	LT.		95			
DK-3	49+770 – 49+960	RT.		95			
DK-4	50+040 – 50+140	LT.		50			
DK-5	50+155 – 50+240	LT.		43			
DK-6	50+040 – 50+240	RT.		100			
FF-1	49+760 – 49+955	LT.	352*				
FF-2	49+780 – 49+955	RT.	175				
FF-3	50+080 – 50+145	LT.	224*				
FF-4	50+150 – 50+240	LT.	90				
FF-5	50+080 – 50+240	RT.	293*				
FF-6	27+965 – 28+000	LT.	50				
FF-7	28+015 – 28+045	LT.	35				
SB-1	50+070	LT.			38	19	8
SB-2	50+070	RT.			49	25	10
SB-3	28+090	LT.			43	22	9
TOTAL			1219*	663	130	66	27

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. DITCH CHECK FILTER FABRIC FENCE	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE	877 TEMPORARY SLOPE DRAINS
			METER	METER	METER
DC-1	27+540	LT.	4		
DC-2	27+634	LT.	4		
DC-3	27+724	LT.	4		
DC-4	27+740	RT.	4		
DC-5	27+815	LT.	4		
DC-6	27+945	RT.	4		
DC-7	49+050	LT.	4		
DC-8	49+050	RT.	4		
IP-1	27+540	℄		9	
IP-2	27+690	℄		9	
IP-3	27+840	℄		9	
IP-4	27+940	℄		9	
IP-5	28+070	℄		9	
TSD-1	49+770	LT.			10
TSD-2	49+775	RT.			10
TSD-3	50+140	LT.			15
TOTAL			32	45	35

* QUANTITY REVISED 04-23-03

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

L:\DRAWINGS\93125\F&OC1\Swpp\SW09.dwg April 22 2003 12:48pm By:hmdeisz

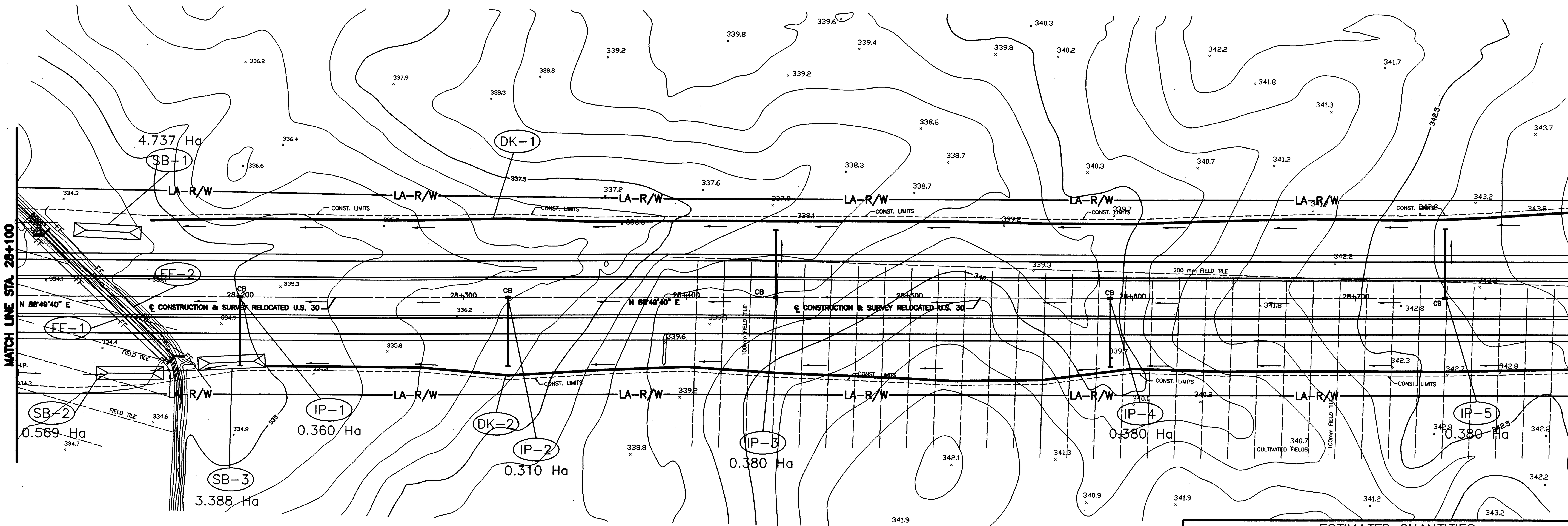
REVISED 04-23-03 CALCULATED JMB CHECKED LBD

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 27+400 TO STA. 28+100

CRA-30-24.000



ESTIMATED QUANTITIES								
			877					601
REF. No.	LOCATION	SIDE	TEMP. PERIMETER FILTER FABRIC FENCE	TEMP. INLET PROTECTION FILTER FABRIC FENCE	TEMPORARY DIKES	TEMPORARY SEDIMENT BASINS AND DAMS	SEDIMENT REMOVAL	ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			METER	METER	C.M.	C.M.	C.M.	C.M.
DK-1	28+160 - 28+800	LT.			320			
DK-2	28+210 - 28+800	RT.			295			
IP-1	28+200	℄		9				
IP-2	28+320	℄		9				
IP-3	28+440	℄		9				
IP-4	28+590	℄		9				
IP-5	28+740	℄		9				
FF-1	28+130	LT/RT	115					
FF-2	28+145	LT/RT	115					
SB-1	28+140	LT.				593	297	119
SB-2	28+150	RT.				72	36	15
SB-3	28+190	RT.				424	212	85
TOTAL			230	45	615	1089	545	219

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

metric units

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 28+100 TO STA. 28+800

CRA-30-24.000

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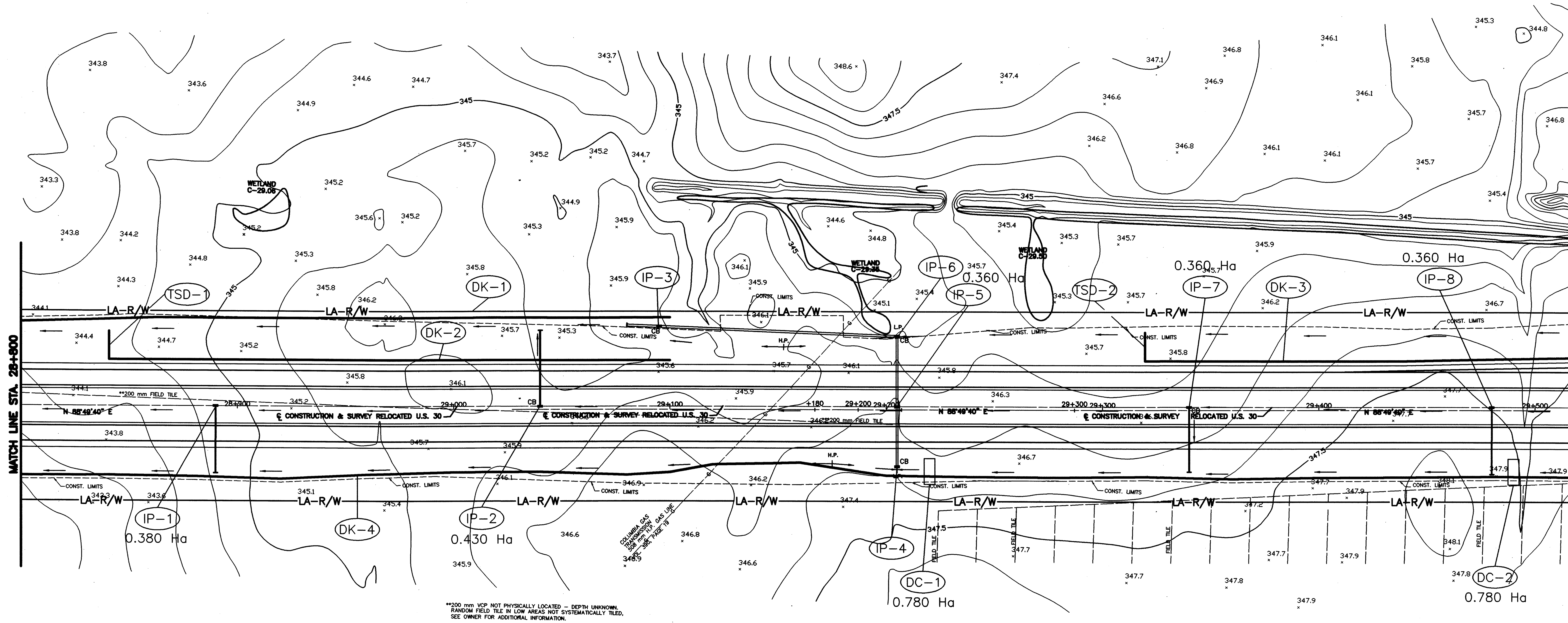


**200 mm VCP NOT PHYSICALLY LOCATED – DEPTH UNKNOWN. RANDOM FIELD TILE IN LOW AREAS NOT SYSTEMATICALLY TILED, SEE OWNER FOR ADDITIONAL INFORMATION.

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE (METER)	TEMP. DITCH CHECK FILTER FABRIC FENCE (METER)	TEMPORARY DIKES (C.M.)	TEMPORARY SLOPE DRAINS (METER)
DC-1	29+220	RT.		4		
DC-2	29+490	RT.		4		
DK-1	28+800 – 29+100	LT.			150	
DK-2	28+840 – 29+100	LT.			130	
DK-3	29+320 – 29+520	LT.			100	
DK-4	28+800 – 29+520	RT.			360	
IP-1	28+890	℄	9			
IP-2	29+040	℄	9			
IP-3	29+095	LT.	9			
IP-4	29+205	RT.	9			
IP-5	29+205	℄	9			
IP-6	29+205	LT.	9			
IP-7	29+340	℄	9			
IP-8	29+480	℄	9			
TSD-1	28+840	LT.				15
TSD-2	29+320	LT.				15
TOTAL			72	8	740	30

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 28+800 TO STA. 29+520

CRA-30-24.000

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

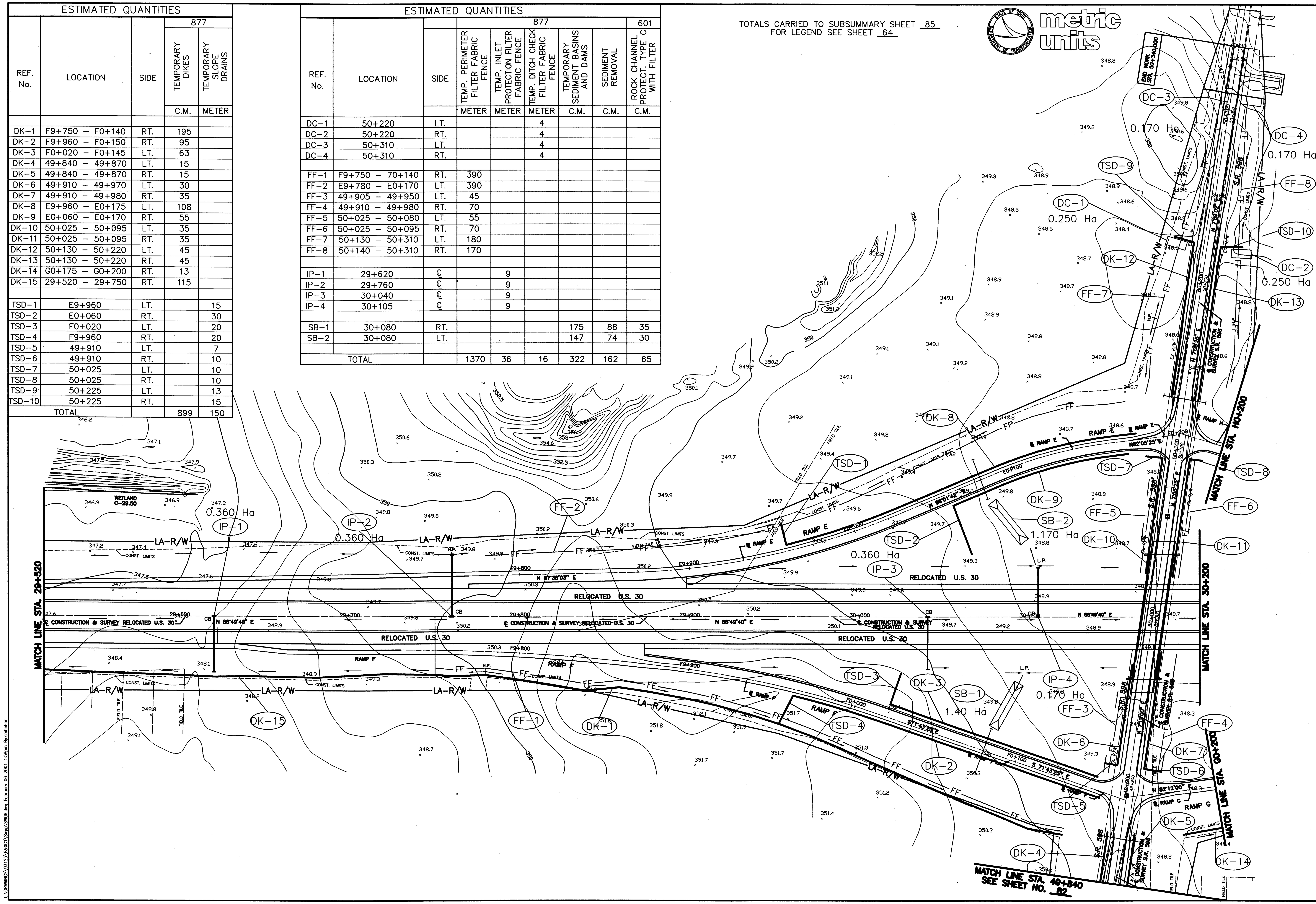
metric units

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	TEMPORARY DIKES (877)	TEMPORARY SLOPE DRAINS (877)
			C.M.	METER
DK-1	F9+750 – F0+140	RT.	195	
DK-2	F9+960 – F0+150	RT.	95	
DK-3	F0+020 – F0+145	LT.	63	
DK-4	49+840 – 49+870	LT.	15	
DK-5	49+840 – 49+870	RT.	15	
DK-6	49+910 – 49+970	LT.	30	
DK-7	49+910 – 49+980	RT.	35	
DK-8	E9+960 – E0+175	LT.	108	
DK-9	E0+060 – E0+170	RT.	55	
DK-10	50+025 – 50+095	LT.	35	
DK-11	50+025 – 50+095	RT.	35	
DK-12	50+130 – 50+220	LT.	45	
DK-13	50+130 – 50+220	RT.	45	
DK-14	G0+175 – G0+200	RT.	13	
DK-15	29+520 – 29+750	RT.	115	
TSD-1	E9+960	LT.		15
TSD-2	E0+060	RT.		30
TSD-3	F0+020	LT.		20
TSD-4	F9+960	RT.		20
TSD-5	49+910	LT.		7
TSD-6	49+910	RT.		10
TSD-7	50+025	LT.		10
TSD-8	50+025	RT.		10
TSD-9	50+225	LT.		13
TSD-10	50+225	RT.		15
TOTAL			899	150

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	TEMP. PERIMETER FILTER FABRIC FENCE (877)	TEMP. INLET PROTECTION FILTER FABRIC FENCE (877)	TEMP. DITCH CHECK FILTER FABRIC FENCE (877)	TEMPORARY SEDIMENT BASINS AND DAMS (877)	SEDIMENT REMOVAL (877)	ROCK CHANNEL PROTECT. TYPE C WITH FILTER (601)
			METER	METER	METER	C.M.	C.M.	C.M.
DC-1	50+220	LT.			4			
DC-2	50+220	RT.			4			
DC-3	50+310	LT.			4			
DC-4	50+310	RT.			4			
FF-1	F9+750 – 70+140	RT.	390					
FF-2	E9+780 – E0+170	LT.	390					
FF-3	49+905 – 49+950	LT.	45					
FF-4	49+910 – 49+980	RT.	70					
FF-5	50+025 – 50+080	LT.	55					
FF-6	50+025 – 50+095	RT.	70					
FF-7	50+130 – 50+310	LT.	180					
FF-8	50+140 – 50+310	RT.	170					
IP-1	29+620	℄		9				
IP-2	29+760	℄		9				
IP-3	30+040	℄		9				
IP-4	30+105	℄		9				
SB-1	30+080	RT.				175	88	35
SB-2	30+080	LT.				147	74	30
TOTAL			1370	36	16	322	162	65

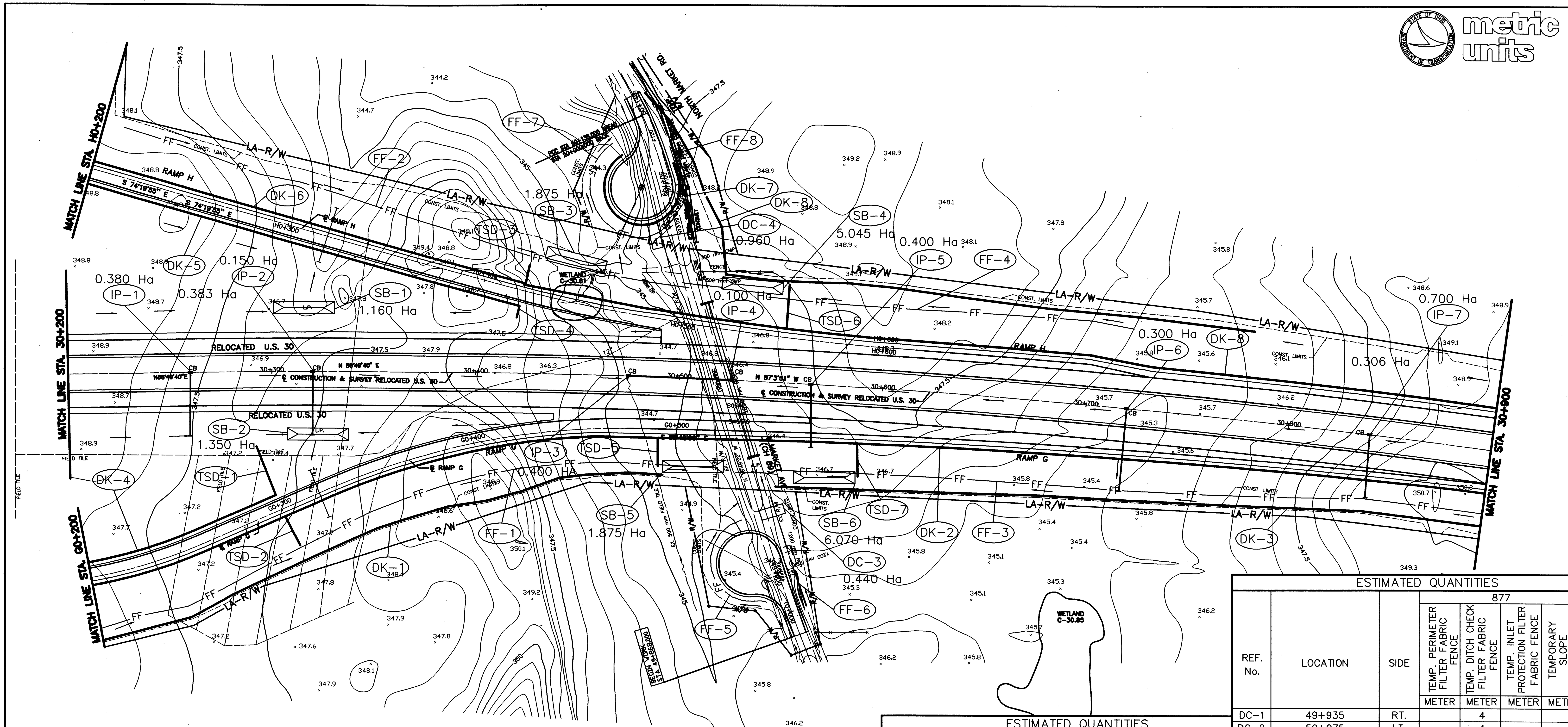


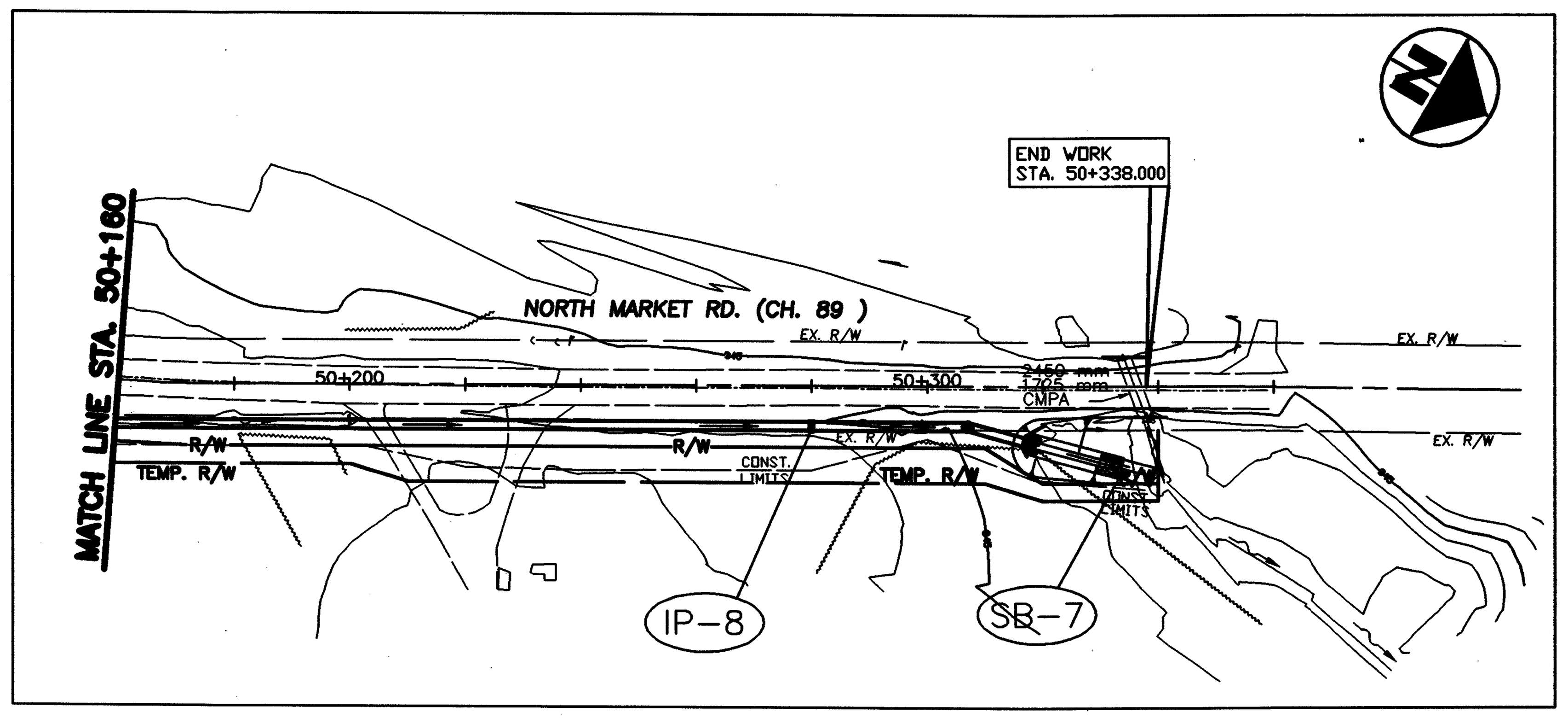
RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 29+520 TO STA. 30+200

CRA-30-24.000





TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

REF. No.	LOCATION	SIDE	877 SEDIMENT REMOVAL	877 TEMPORARY DIKES	877 TEMPORARY SEDIMENT BASINS AND DAMS	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			C.M.	C.M.	C.M.	C.M.
DK-1	G0+200 - G0+500	RT.		140		
DK-2	G0+200 - 30+900	RT.		350		
DK-3	30+550 - 30+900	RT.		225		
DK-4	G0+200 - G0+300	LT.		50		
DK-5	H0+200 - H0+420	RT.		110		
DK-6	H0+200 - 30+900	LT.		350		
DK-7	50+085 - 50+120	LT. & RT.		45		
DK-8	50+050 - 50+150	RT.		50		
SB-1	30+315	LT.	73		145	29
SB-2	30+320	RT.	85		169	34
SB-3	30+450	LT.	117		234	47
SB-4	30+530	LT.	316		631	127
SB-5	30+510	RT.	117		234	47
SB-6	30+570	RT.	380		759	152
SB-7	50+335	RT.	135		270	54
TOTAL			1223	1320	2442	436

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. PERIMETER FILTER FABRIC FENCE	877 TEMP. DITCH CHECK FILTER FABRIC FENCE	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE	877 TEMPORARY SLOPE DRAINS
			METER	METER	METER	METER
DC-1	49+935	RT.		4		
DC-2	50+075	LT.		4		
FF-1	G0+200 - G0+520	RT.	320			
FF-2	H0+210 - H0+420	LT.	210			
FF-3	30+550 - 30+900	RT.	450			
FF-4	30+540 - 30+720	LT.	180			
FF-5	49+890 - 49+925	LT.	65			
FF-6	49+880 - 49+920	RT.	43			
FF-7	50+084 - 50+127	LT.	85			
FF-8	50+092 - 50+116	RT.	25			
IP-1	30+260	℄			9	
IP-2	30+320	℄			9	
IP-3	30+475	℄			9	
IP-4	30+525	℄			13	
IP-5	30+565	℄			9	
IP-6	30+720	℄			9	
IP-7	30+840	℄			9	
IP-8	50+280	RT.			11	
TSD-1	G0+300	LT.				25
TSD-2	G0+300	RT.				15
TSD-3	H0+420	LT.				10
TSD-4	H0+420	RT.				5
TSD-5	G0+490	RT.				15
TSD-6	30+545	LT.				20
TSD-7	30+580	RT.				15
TOTAL			1378	8	78	105

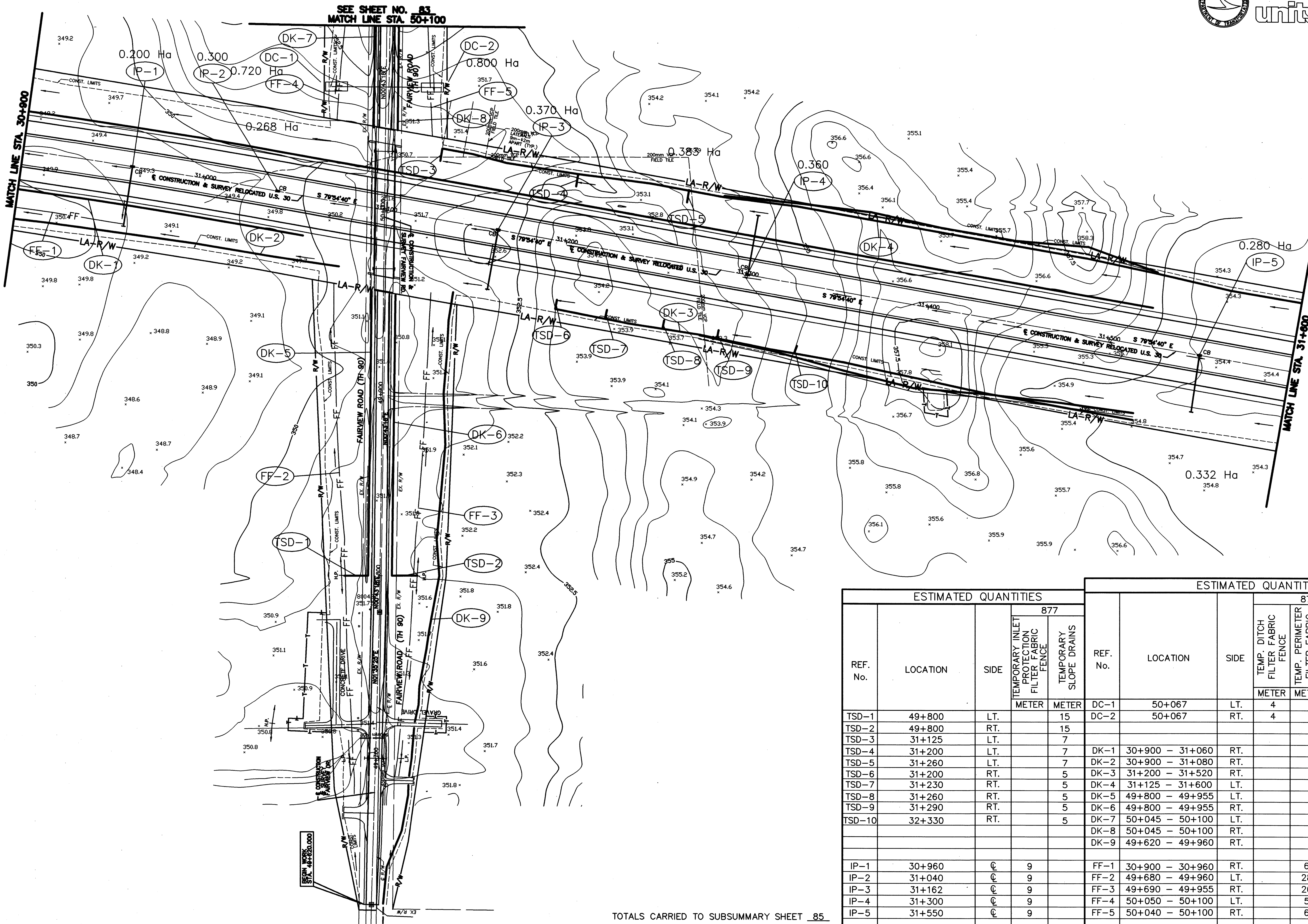
RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 30+200 TO STA. 30+900

CRA-30-24.000

STORM WATER POLLUTION PREVENTION PLAN
STA. 30+900 TO STA. 31+600



ESTIMATED QUANTITIES				
			877	
REF. No.	LOCATION	SIDE	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	TEMPORARY SLOPE DRAINS
			METER	METER
TSD-1	49+800	LT.		15
TSD-2	49+800	RT.		15
TSD-3	31+125	LT.		7
TSD-4	31+200	LT.		7
TSD-5	31+260	LT.		7
TSD-6	31+200	RT.		5
TSD-7	31+230	RT.		5
TSD-8	31+260	RT.		5
TSD-9	31+290	RT.		5
TSD-10	32+330	RT.		5
IP-1	30+960	℄	9	
IP-2	31+040	℄	9	
IP-3	31+162	℄	9	
IP-4	31+300	℄	9	
IP-5	31+550	℄	9	
	TOTAL		45	76

ESTIMATED QUANTITIES					
			877		
REF. No.	LOCATION	SIDE	TEMP. DITCH FILTER FABRIC FENCE	TEMP. PERIMETER FILTER FABRIC FENCE	TEMPORARY DIKES
			METER	METER	C.M.
DC-1	50+067	LT.	4		
DC-2	50+067	RT.	4		
DK-1	30+900 – 31+060	RT.			80
DK-2	30+900 – 31+080	RT.			90
DK-3	31+200 – 31+520	RT.			160
DK-4	31+125 – 31+600	LT.			238
DK-5	49+800 – 49+955	LT.			78
DK-6	49+800 – 49+955	RT.			78
DK-7	50+045 – 50+100	LT.			28
DK-8	50+045 – 50+100	RT.			28
DK-9	49+620 – 49+960	RT.			170
FF-1	30+900 – 30+960	RT.		60	
FF-2	49+680 – 49+960	LT.		280	
FF-3	49+690 – 49+955	RT.		265	
FF-4	50+050 – 50+100	LT.		50	
FF-5	50+040 – 50+100	RT.		60	
	TOTAL		8	715	950

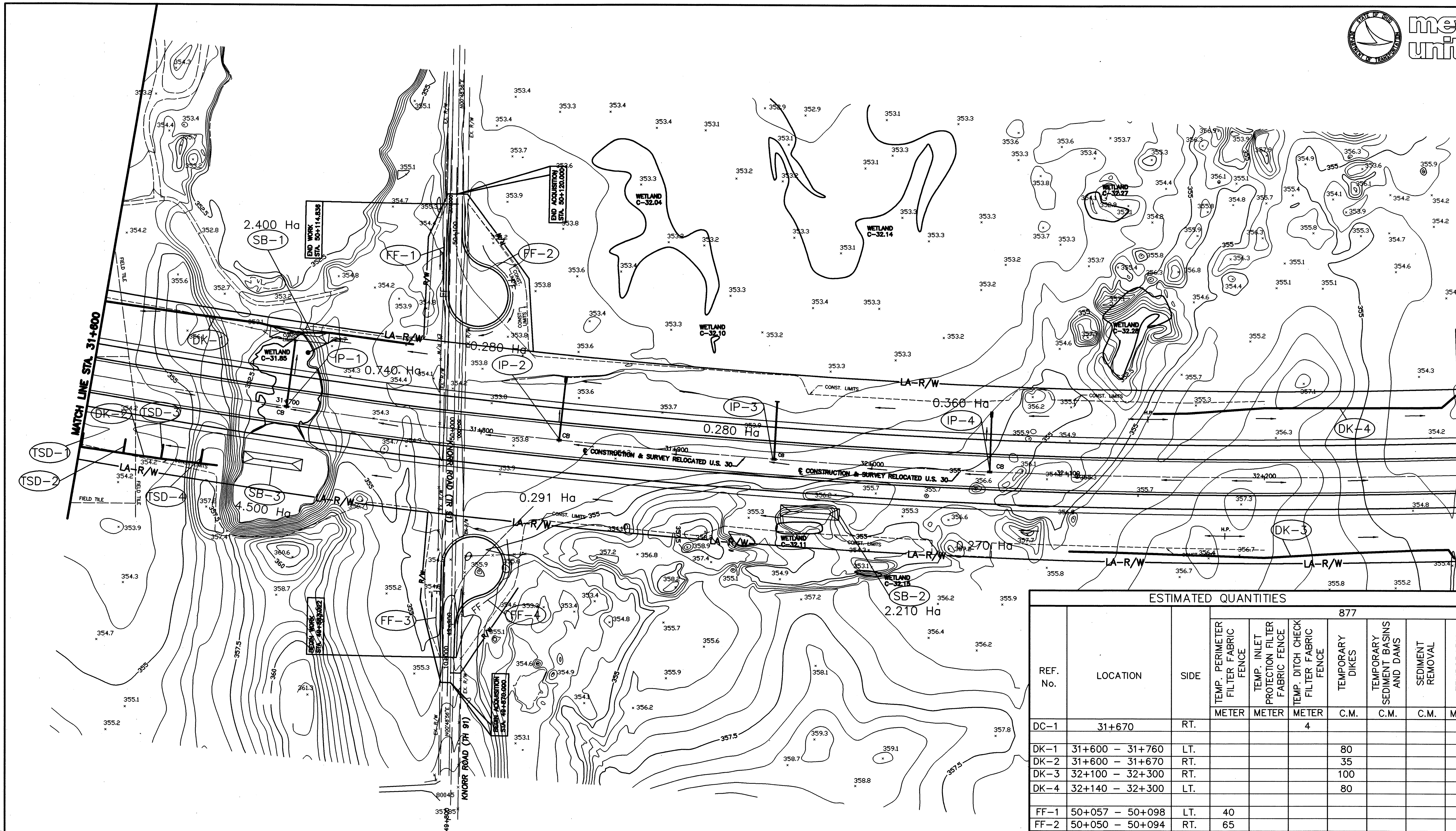
TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

metric units

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

CRA-30-24.000



STORM WATER POLLUTION PREVENTION PLAN
STA. 31+600 TO STA. 32+300

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

ESTIMATED QUANTITIES

REF. No.	LOCATION	SIDE	877 TEMP. PERIMETER FILTER FABRIC FENCE (METER)	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE (METER)	877 TEMP. DITCH CHECK FILTER FABRIC FENCE (METER)	877 TEMPORARY DIKES (C.M.)	877 TEMPORARY SEDIMENT BASINS AND DAMS (C.M.)	877 SEDIMENT REMOVAL (C.M.)	877 TEMPORARY SLOPE DRAINS (METER)	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER (C.M.)
DC-1	31+670	RT.			4					
DK-1	31+600 - 31+760	LT.				80				
DK-2	31+600 - 31+670	RT.				35				
DK-3	32+100 - 32+300	RT.				100				
DK-4	32+140 - 32+300	LT.				80				
FF-1	50+057 - 50+098	LT.	40							
FF-2	50+050 - 50+094	RT.	65							
FF-3	49+883 - 49+937	LT.	55							
FF-4	49+883 - 49+944	RT.	70							
IP-1	31+700	℄		9						
IP-2	31+840	℄		9						
IP-3	31+950	℄		9						
IP-4	32+060	℄		9						
SB-1	31+700	LT.					300	150		60
SB-2	31+970	RT.					277	139		56
SB-3	31+690	RT.					563	282		113
TSD-1	31+600	RT.							7	
TSD-2	31+620	RT.							7	
TSD-3	31+640	RT.							7	
TSD-4	31+660	RT.							7	
TOTAL			230	36	4	295	1140	571	28	229

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

CRA-30-24.000

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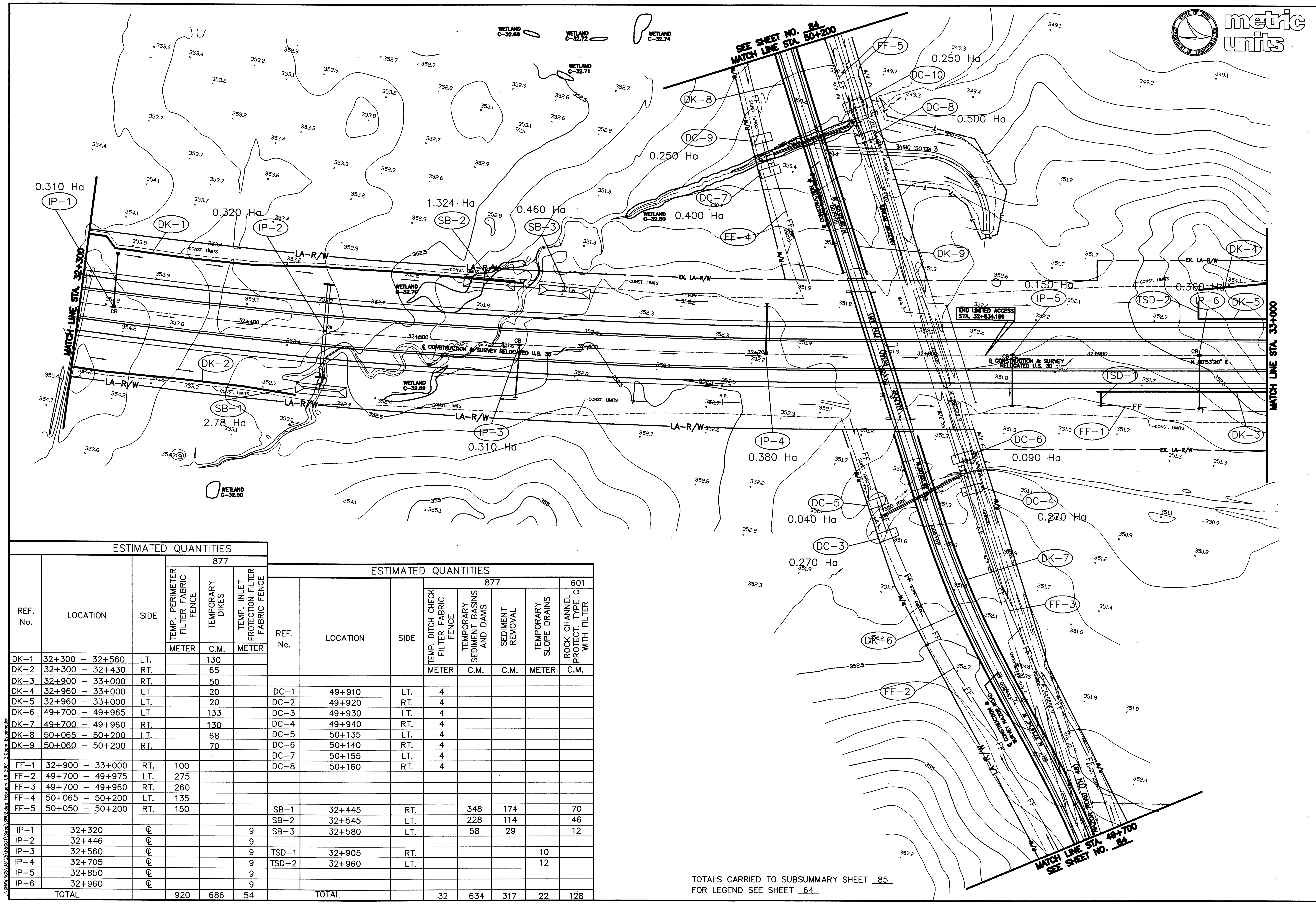


REF. No.	LOCATION	SIDE	877 TEMP. PERIMETER FILTER FABRIC FENCE (METER)	877 TEMPORARY DIKES (C.M.)	877 TEMP. INLET PROTECTION FILTER FABRIC FENCE (METER)
DK–1	32+300 – 32+560	LT.		130	
DK–2	32+300 – 32+430	RT.		65	
DK–3	32+900 – 33+000	RT.		50	
DK–4	32+960 – 33+000	LT.		20	
DK–5	32+960 – 33+000	LT.		20	
DK–6	49+700 – 49+965	LT.		133	
DK–7	49+700 – 49+960	RT.		130	
DK–8	50+065 – 50+200	LT.		68	
DK–9	50+060 – 50+200	RT.		70	
FF–1	32+900 – 33+000	RT.	100		
FF–2	49+700 – 49+975	LT.	275		
FF–3	49+700 – 49+960	RT.	260		
FF–4	50+065 – 50+200	LT.	135		
FF–5	50+050 – 50+200	RT.	150		
IP–1	32+320	℄			9
IP–2	32+446	℄			9
IP–3	32+560	℄			9
IP–4	32+705	℄			9
IP–5	32+850	℄			9
IP–6	32+960	℄			9
TOTAL			920	686	54

REF. No.	LOCATION	SIDE	877 TEMP. DITCH CHECK FILTER FABRIC FENCE (METER)	877 TEMPORARY SEDIMENT BASINS AND DAMS (C.M.)	877 SEDIMENT REMOVAL (C.M.)	877 TEMPORARY SLOPE DRAINS (METER)	601 ROCK CHANNEL PROTECT. TYPE C WITH FILTER (C.M.)
DC–1	49+910	LT.	4				
DC–2	49+920	RT.	4				
DC–3	49+930	LT.	4				
DC–4	49+940	RT.	4				
DC–5	50+135	LT.	4				
DC–6	50+140	RT.	4				
DC–7	50+155	LT.	4				
DC–8	50+160	RT.	4				
SB–1	32+445	RT.		348	174		70
SB–2	32+545	LT.		228	114		46
SB–3	32+580	LT.		58	29		12
TSD–1	32+905	RT.				10	
TSD–2	32+960	LT.				12	
TOTAL			32	634	317	22	128

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

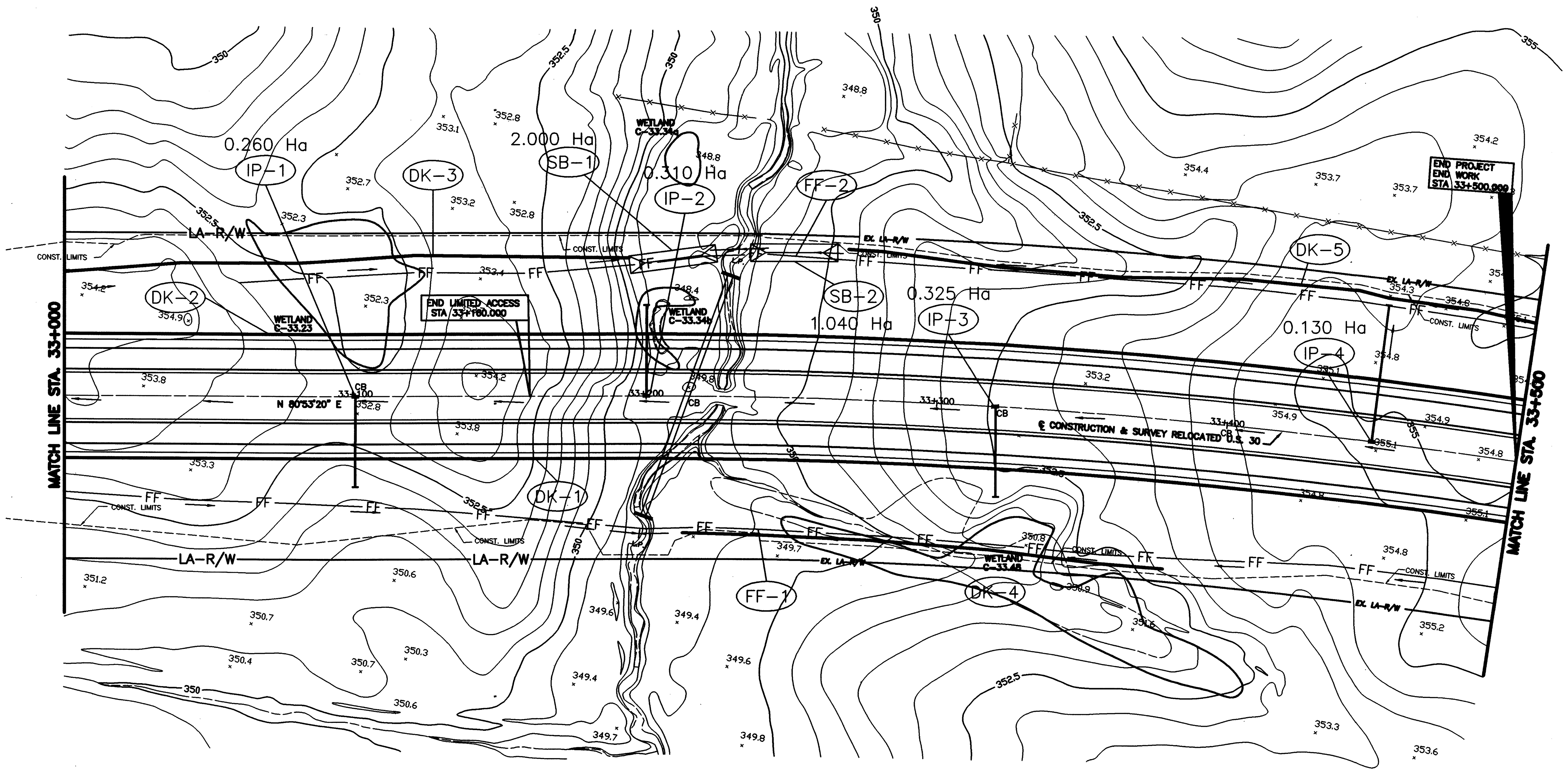
L:\DRAWINGS\93125\F&OC1\Swpp\SW02.dwg February 06 2001 2:05pm By:smhetler

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN
STA. 32+300 TO STA. 33+000

CRA–30–24.000



ESTIMATED QUANTITIES								
			877					601
REF. No.	LOCATION	SIDE	TEMP. PERIMETER FILTER FABRIC FENCE	TEMP. INLET PROTECTION FILTER FABRIC FENCE	TEMPORARY DIKES	TEMPORARY SEDIMENT BASINS AND DAMS	SEDIMENT REMOVAL	ROCK CHANNEL PROTECT. TYPE C WITH FILTER
			METER	METER	C.M.	C.M.	C.M.	C.M.
DK-1	33+000 – 33+500	RT.			250			
DK-2	33+000 – 33+500	LT.			250			
DK-3	33+000 – 33+194	LT.			194			
DK-4	33+210 – 33+380	RT.			85			
DK-5	33+268 – 33+500	LT.			237			
FF-1	33+000 – 33+500	RT.	500					
FF-2	33+060 – 33+500	LT.	440					
SB-1	33+210	LT.				250	125	50
SB-2	33+250	LT.				130	65	26
IP-1	33+100	℄		9				
IP-2	33+200	℄		9				
IP-3	33+320	℄		9				
IP-4	33+450	℄		9				
TOTAL			940	36	1016	380	190	76

TOTALS CARRIED TO SUBSUMMARY SHEET 85

FOR LEGEND SEE SHEET 64

metric units

RATIO 1:1000

HORIZONTAL SCALE IN METERS

CALCULATED MRD

CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 33+000 TO STA. 33+500

CRA-30-24.000

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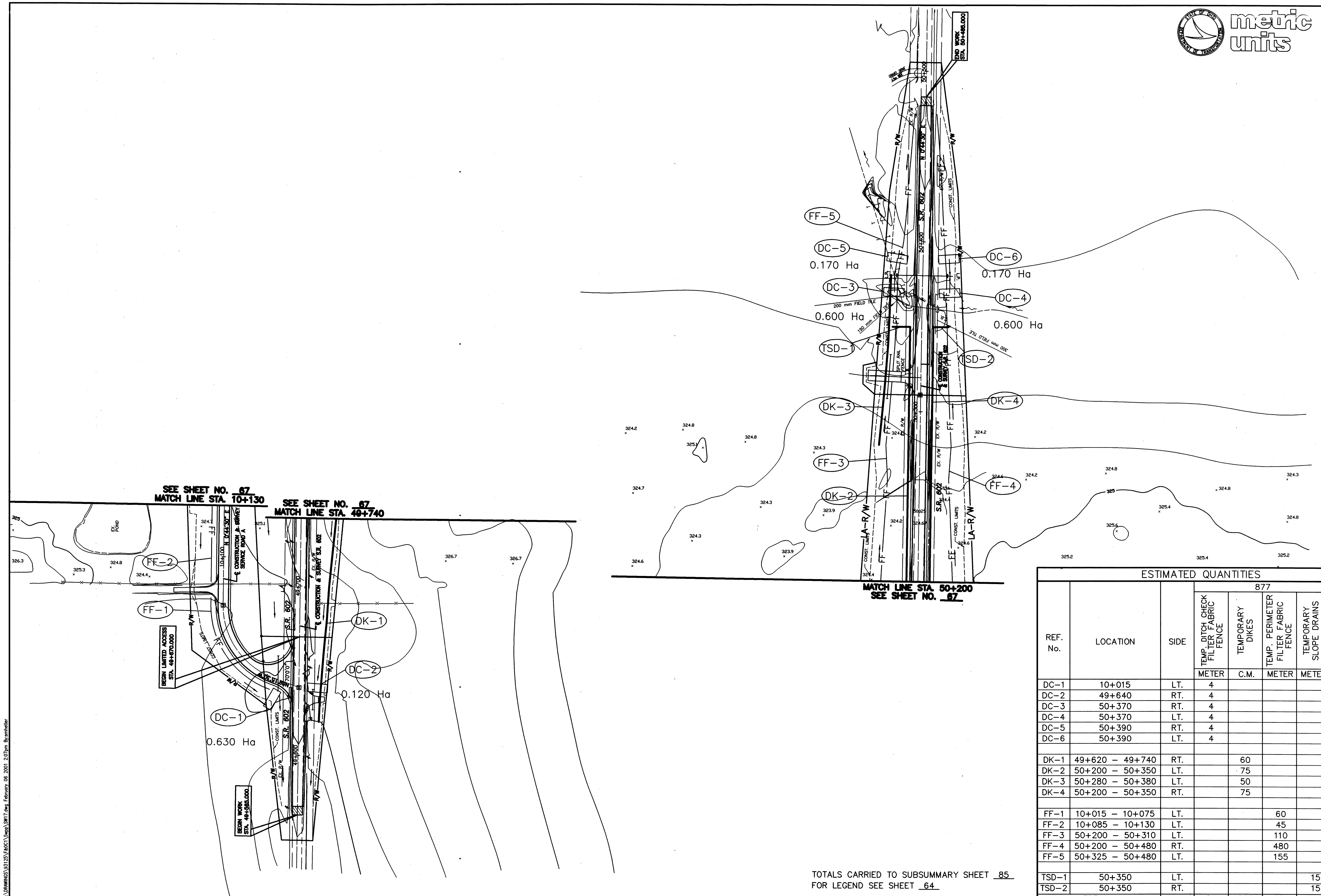


REF. No.	LOCATION	SIDE	TEMP. DITCH CHECK FILTER FABRIC FENCE (877)	TEMPORARY DIKES (877)	TEMP. PERIMETER FILTER FABRIC FENCE (877)	TEMPORARY SLOPE DRAINS (877)
			METER	C.M.	METER	METER
DC–1	10+015	LT.	4			
DC–2	49+640	RT.	4			
DC–3	50+370	RT.	4			
DC–4	50+370	LT.	4			
DC–5	50+390	RT.	4			
DC–6	50+390	LT.	4			
DK–1	49+620 – 49+740	RT.		60		
DK–2	50+200 – 50+350	LT.		75		
DK–3	50+280 – 50+380	LT.		50		
DK–4	50+200 – 50+350	RT.		75		
FF–1	10+015 – 10+075	LT.			60	
FF–2	10+085 – 10+130	LT.			45	
FF–3	50+200 – 50+310	LT.			110	
FF–4	50+200 – 50+480	RT.			480	
FF–5	50+325 – 50+480	LT.			155	
TSD–1	50+350	LT.				15
TSD–2	50+350	RT.				15
TOTAL			24	260	850	30

ESTIMATED QUANTITIES

TOTALS CARRIED TO SUBSUMMARY SHEET 85

FOR LEGEND SEE SHEET 64

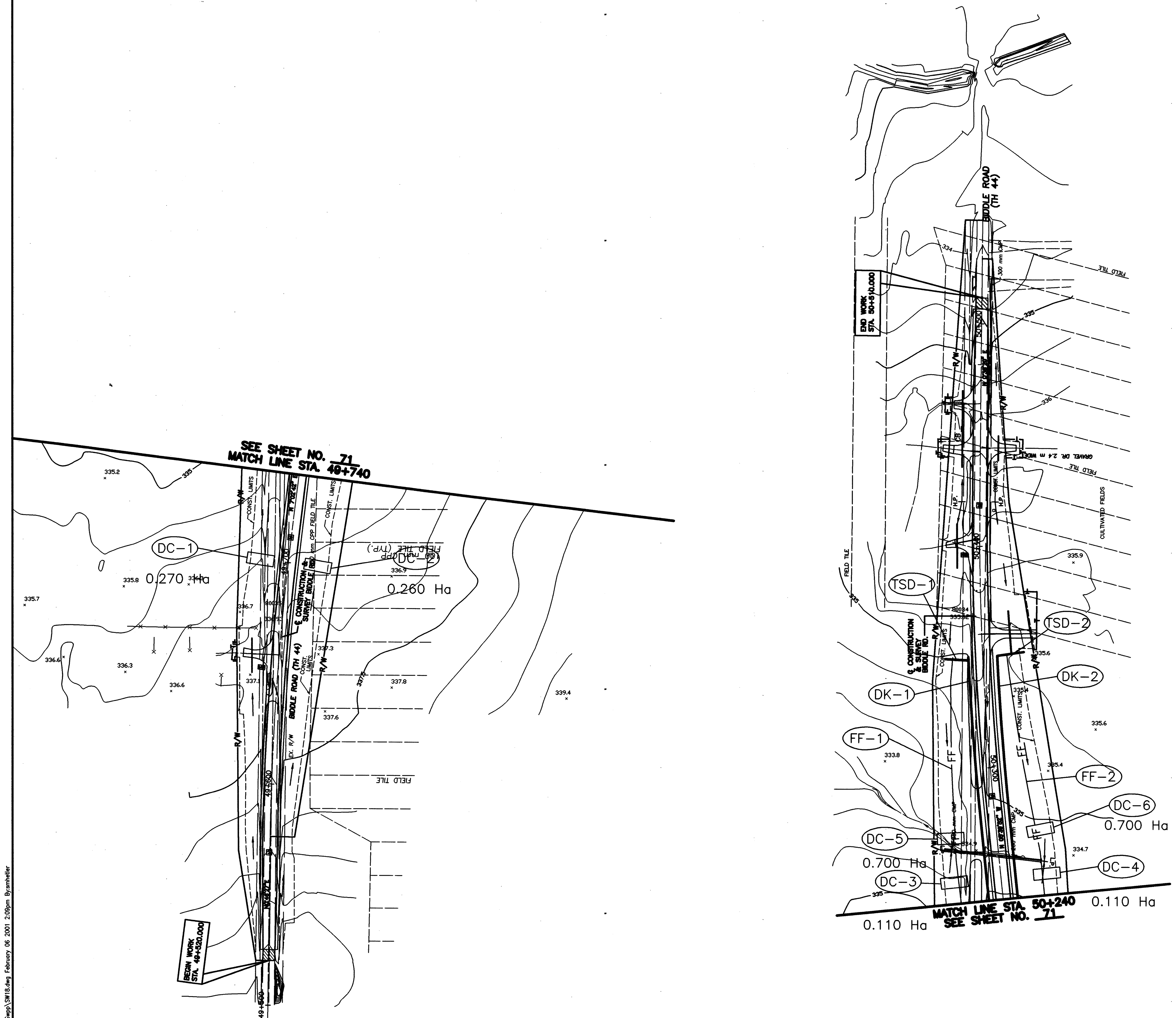
RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

S.W.P.P.P. – S.R. 602
STA. 49+565 TO STA. 49+740/STA. 50+200 TO STA. 50+485

CRA–30–24.000

L:\DRAWINGS\93125\FAOC1\Swpp\SW17.dwg February 06 2001 2:07pm Bryamheller



metric units

TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

ESTIMATED QUANTITIES

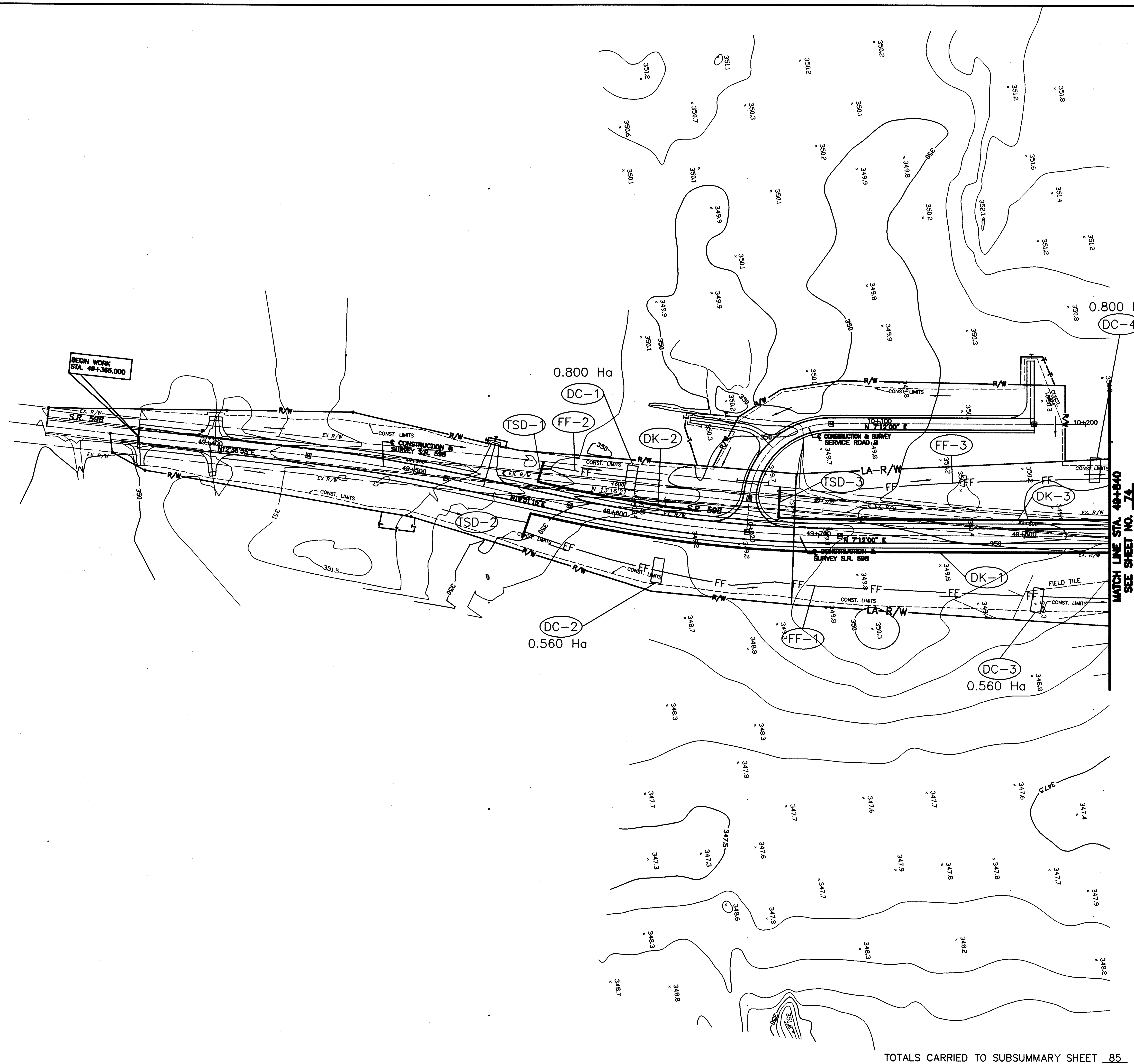
REF. No.	LOCATION	SIDE	877 TEMP. PERIMETER FILTER FABRIC FENCE	TEMP. DITCH CHECK FILTER FABRIC FENCE	TEMPORARY DIKES	TEMPORARY SLOPE DRAINS
			METER	METER	C.M.	METER
DC-1	49+700	LT.		4		
DC-2	49+700	RT.		4		
DC-3	50+250	LT.		4		
DC-4	50+250	RT.		4		
DC-5	50+270	LT.		4		
DC-6	50+270	RT.		4		
DK-1	50+240 – 50+350	LT.			110	
DK-2	50+240 – 50+350	RT.			110	
FF-1	50+240 – 50+350	LT.	210			
FF-2	50+240 – 50+350	RT.	210			
TSD-1	50+350	LT.				12
TSD-2	50+350	RT.				12
TOTAL			420	24	220	24

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

S.W.P.P.P. – BIDDLE RD.
STA. 49+520 TO STA. 49+740/STA. 50+240 TO STA. 50+510

CRA-30-24.000



TOTALS CARRIED TO SUBSUMMARY SHEET 85

FOR LEGEND SEE SHEET 64

ESTIMATED QUANTITIES						
			877			
REF. No.	LOCATION	SIDE	TEMP. PERIMETER FILTER FABRIC FENCE	TEMPORARY SLOPE DRAINS	TEMP. DITCH CHECK FILTER FABRIC FENCE	TEMPORARY DIKES
			METER	METER	METER	C.M.
DC-1	49+605	LT.			4	
DC-2	49+625	RT.			4	
DC-3	49+810	RT.			4	
DC-4	49+830	LT.			4	
DK-1	49+560 – 49+840	RT.				140
DK-2	49+560 – 49+640	LT.				40
DK-3	49+680 – 49+840	LT.				80
FF-1	49+550 – 49+840	RT.	290			
FF-2	49+560 – 49+620	LT.	60			
FF-3	49+720 – 49+840	LT.	120			
TSD-1	49+560	LT.		10		
TSD-2	49+560	RT.		12		
TSD-3	49+680	LT.		15		
TOTAL			470	37	16	260

metric units

RATIO 1:1000

HORIZONTAL SCALE IN METERS

CALCULATED MRD

CHECKED JFB

S.W.P.P.P. – S.R.598
STA. 49+365 TO STA. 49+840

CRA-30-24.000

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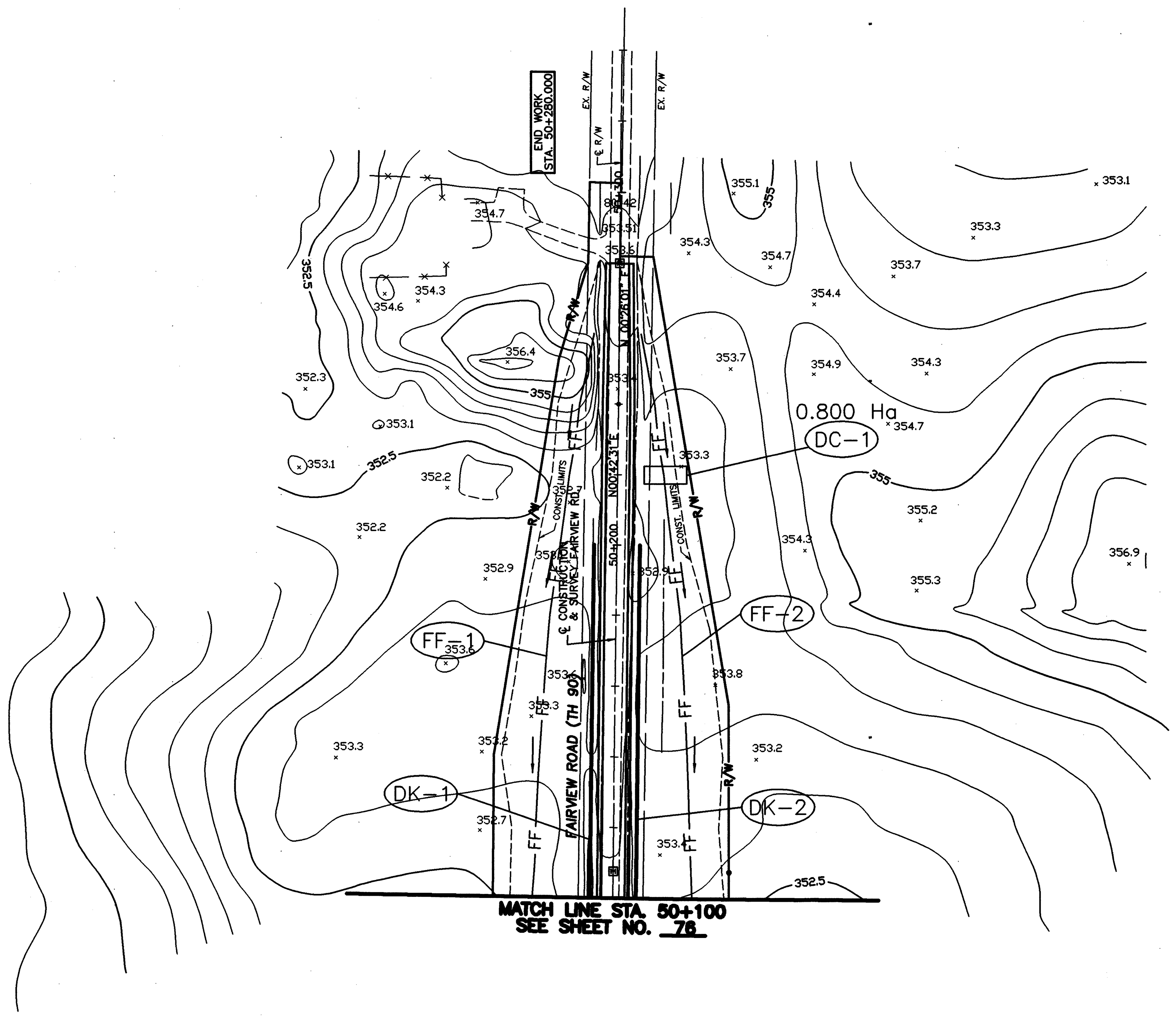


TOTALS CARRIED TO SUBSUMMARY SHEET 85
FOR LEGEND SEE SHEET 64

ESTIMATED QUANTITIES					
			877		
REF. No.	LOCATION	SIDE	TEMP. PERIMETER FILTER FABRIC FENCE	TEMPORARY DIKES	TEMP. DITCH CHECK FILTER FABRIC FENCE
			METER	C.M.	METER
DC-1	50+220	RT.			4
DK-1	50+100 - 50+200	LT.		50	
DK-2	50+100 - 50+200	RT.		50	
FF-1	50+100 - 50+260	LT.	160		
FF-2	50+100 - 50+260	RT.	160		
TOTAL			320	100	4

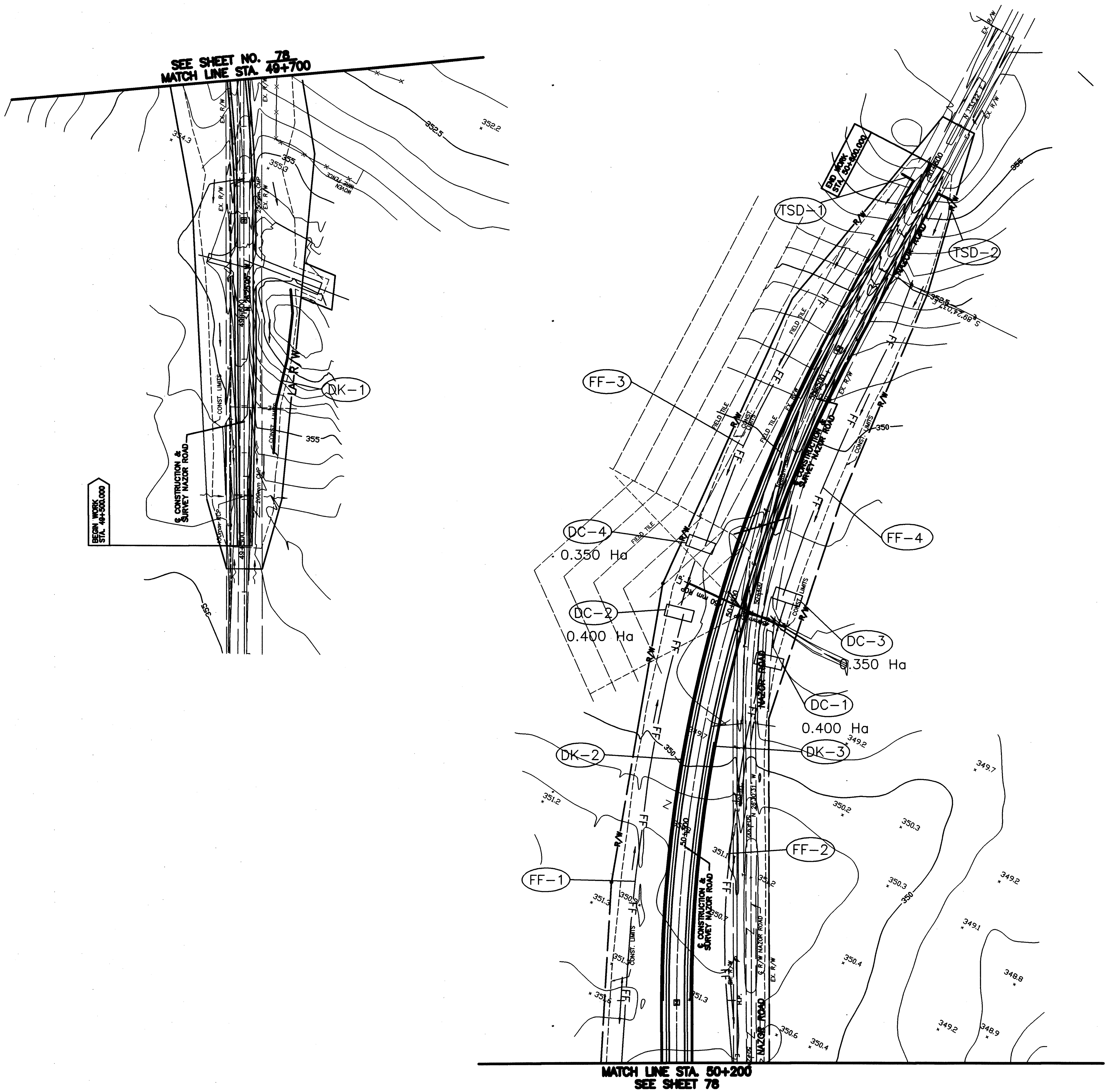
metric units

RATIO 1:1000
HORIZONTAL
SCALE IN METERS

CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN STA. 50+100 TO STA. 50+280

CRA-30-24.000



TOTALS CARRIED TO SUBSUMMARY SHEET 85

ESTIMATED QUANTITIES						
			877			
REF. No.	LOCATION	SIDE	TEMPORARY DITCH CHECK FILTER FABRIC FENCE	TEMPORARY DIKES	TEMP. PERIMETER FILTER FABRIC FENCE	TEMPORARY SLOPE DRAINS
			METER	C.M.	METER	METER
DC-1	50+380	RT.	4			
DC-2	50+390	LT.	4			
DC-3	50+410	RT.	4			
DC-4	50+420	LT.	4			
DK-1	49+540 - 49+610	RT.		35		
DK-2	50+200 - 50+590	LT.		195		
DK-3	50+200 - 50+590	RT.		195		
FF-1	50+200 - 50+390	LT.			190	
FF-2	50+200 - 50+380	RT.			180	
FF-3	50+420 - 50+550	LT.			130	
FF-4	50+410 - 50+550	RT.			140	
TSD-1	50+590	LT.				6
TSD-2	50+590	RT.				7
TOTAL			16	425	640	13

metric units

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED JFB

S.W.P.P.P. – NAZOR RD.
STA. 49+00 TO STA. 49+700/STA. 50+200 TO STA. 50+600

CRA-30-24.000

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metric units

	877							601
SHEET No.	TEMPORARY PERIMETER FILTER FABRIC FENCE	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	TEMP. DITCH CHECK FILTER FABRIC FENCE	TEMPORARY DIKES	TEMPORARY SEDIMENT BASINS AND DAMS	SEDIMENT REMOVAL	TEMPORARY SLOPE DRAINS	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
	METER	METER	METER	C.M.	C.M.	C.M.	METER	C.M.
64			8	685	169	84		34
65			12	673				
66	1280	36	16	990	150	75	68	30
67	1590	55	28	1087	1044	523	235	210
68	180	54		688	2086	1049	50	419
69		45	8	1040				
70		45		400				
71	770	45	32	663	130	66	35	27
72	230	45		615	1089	545		219
73		72	8	740			30	
74	1370	36	16	899	322	162	150	65
75	1378	78	8	1320	2442	1223	105	490
76	715	45	8	950			76	
77	230	36	4	295	1140	571	28	229
78	920	54	32	686	634	317	22	128
79	940	36		1016	380	190		76
80	850		24	260			30	
81	420		24	220			24	
82	470		16	260			37	
83	320		4	100				
84	640		16	425			13	
SUB TOTAL	12,303	671	264	14,012	9,316	4,671	903	1,873

SUBTOTALS CARRIED TO GENERAL SUMMARY SHEET NO. 39

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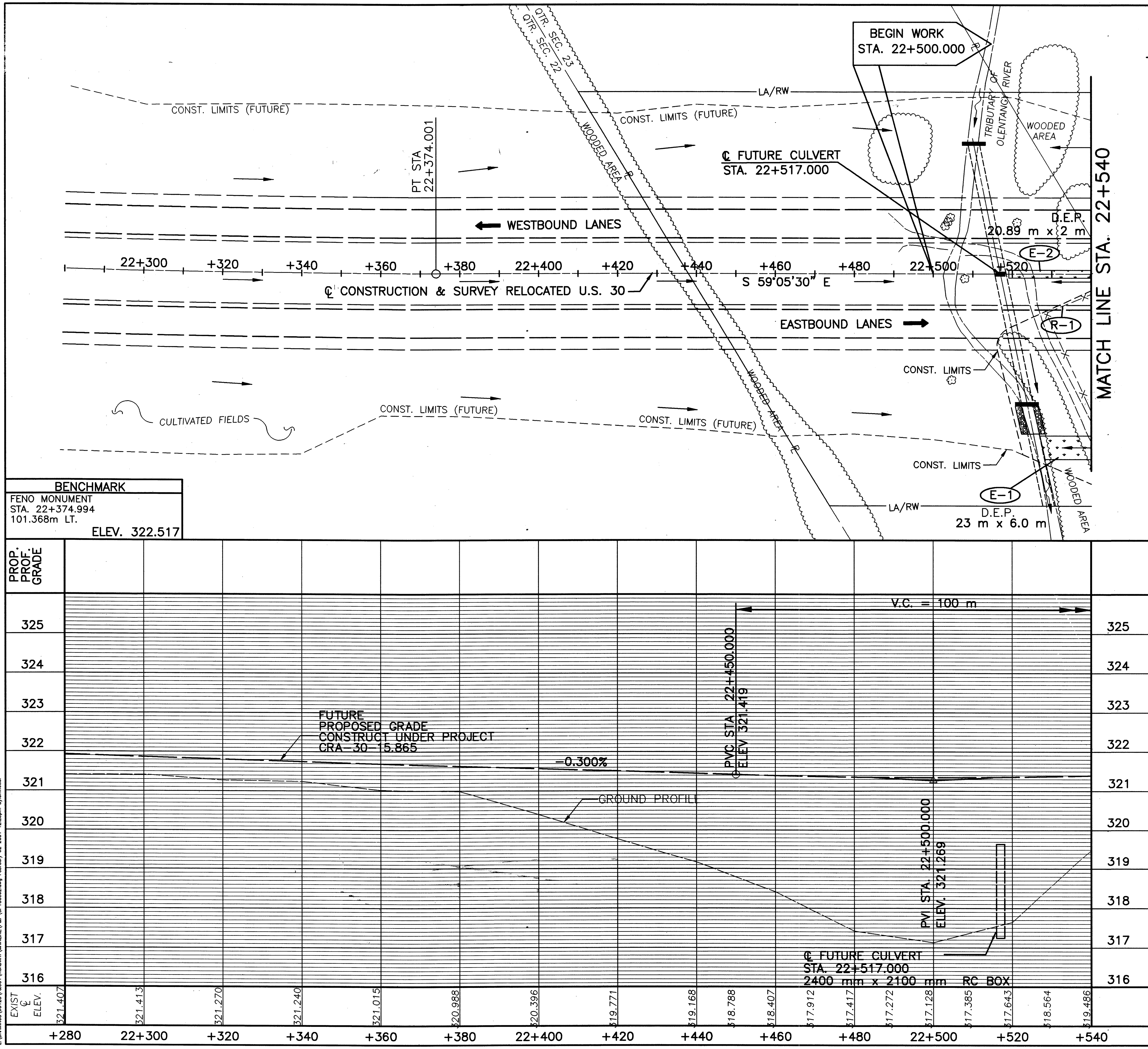
CALCULATED MRD
CHECKED JFB

STORM WATER POLLUTION PREVENTION PLAN SUBSUMMARY

CRA-30-24.000



CURVE DATA
RELOCATED U.S. 30

PI STA 22+005.038
Δ=10°26'34" LT.
R=4060.000 m
T=371.018 m
L=739.981 m
E=16.917 m
CH=S 1°24'40" E
LC=738.957 m

metric units

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

RATIO 1:500
HORIZONTAL SCALE IN METERS

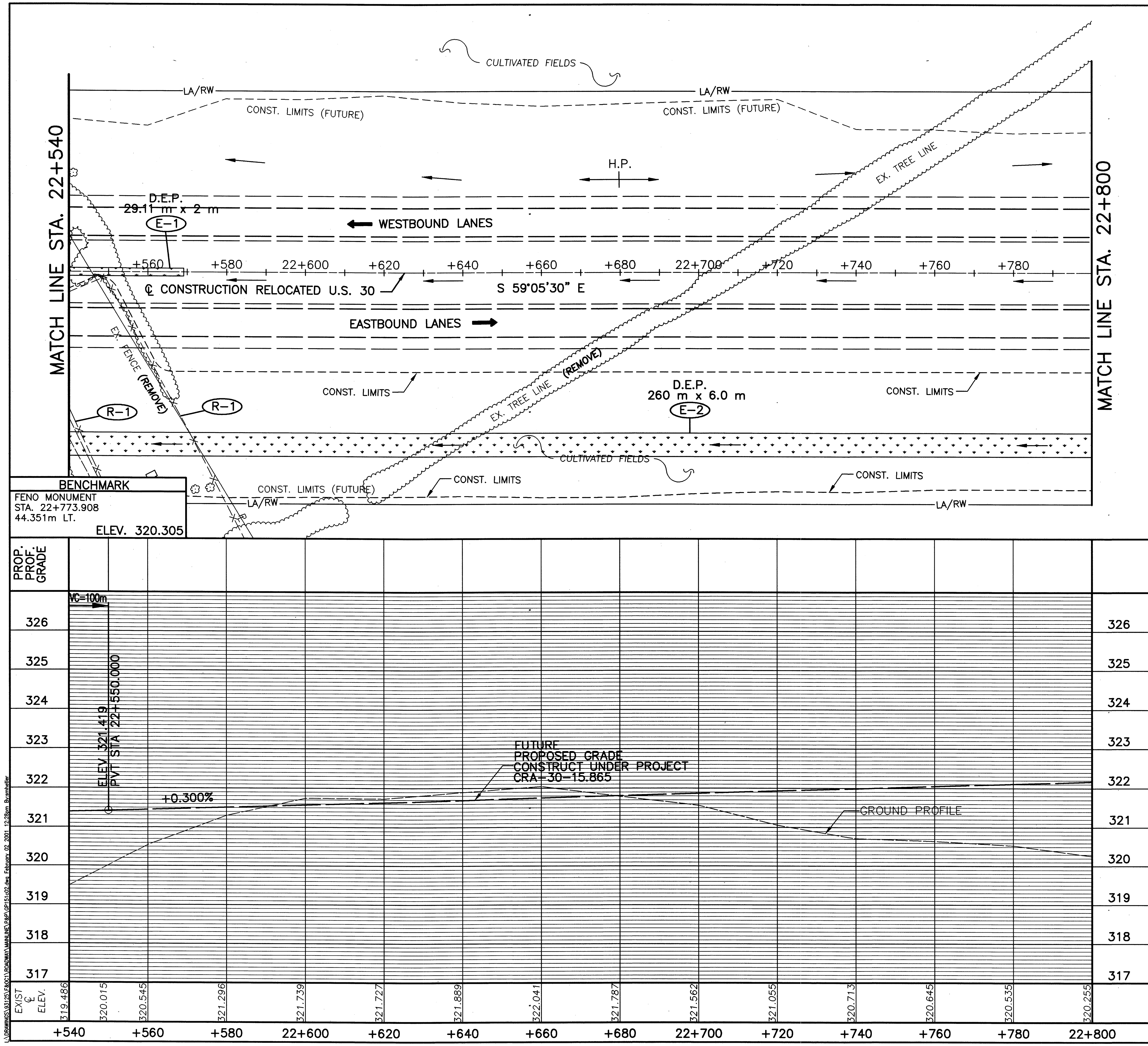
ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	670 DITCH EROSION PROTECTION (S.M.)
E-1	RT.	22+517	22+540		138
E-2	℄	22+519.110	22+540.000		41.8
R-1	RT.	22+528	22+540	39	
TOTALS CARRIED TO SUB-SUMMARY				39	179.8

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 22+280 TO STA. 22+540

CRA-30-24.000



LEGEND

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	670 DITCH EROSION PROTECTION (S.M.)
E-1	℄	22+540.000	22+569.110		58.2
E-2	RT.	22+540	22+800		1560
R-1	RT.	22+540	22+550	90	
TOTALS CARRIED TO SUB-SUMMARY				90	1618.2

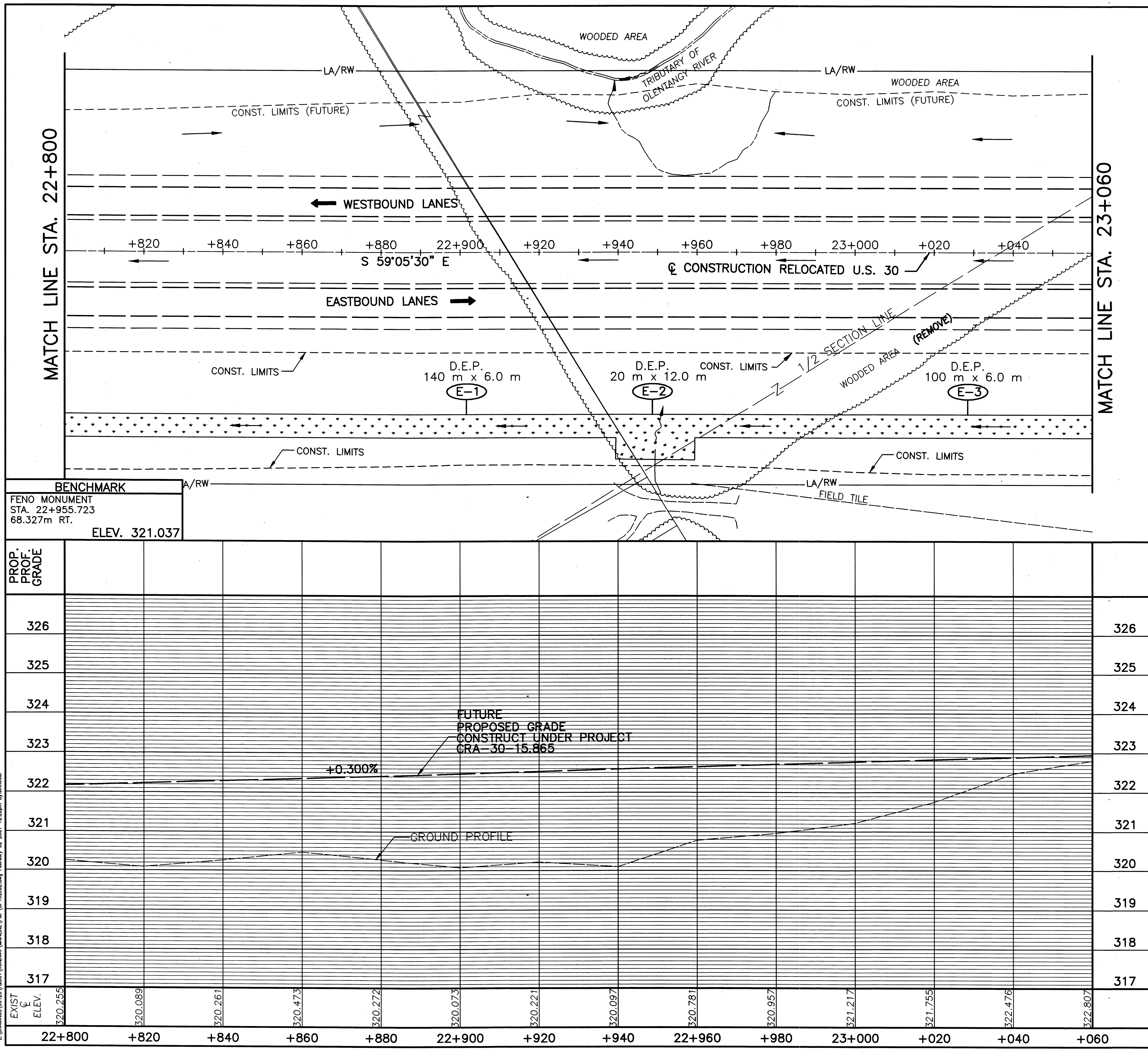
metric units

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 22+540 TO STA. 22+800

CRA-30-24.000



LEGEND

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	670 DITCH EROSION PROTECTION S.M.
E-1	RT.	22+800	22+940	840
E-2	RT.	22+940	22+960	240
E-3	RT.	22+960	23+060	600
TOTALS CARRIED TO SUB-SUMMARY				1680

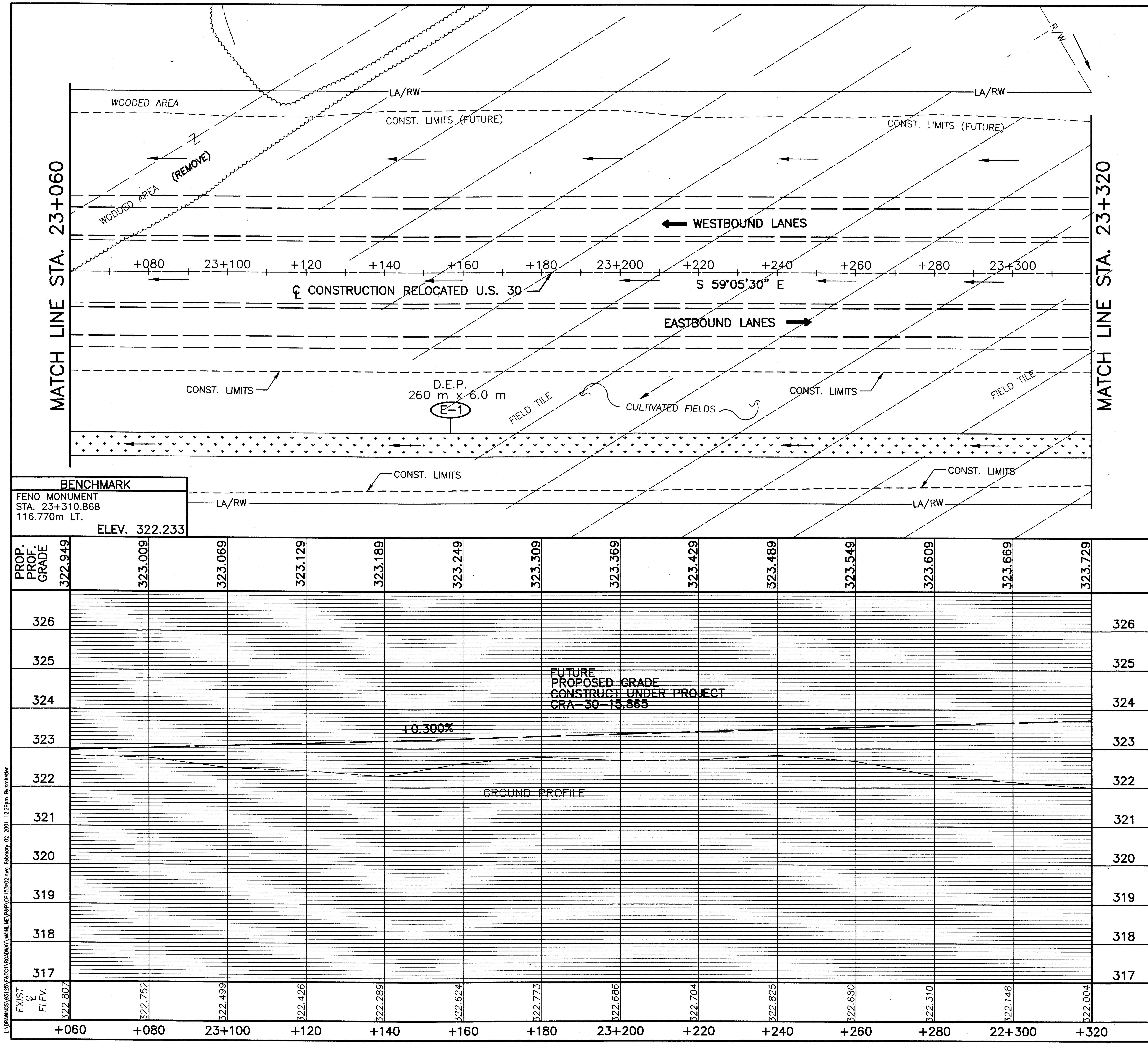
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 22+800 TO STA. 23+060

CRA-30-24.000



LEGEND

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	670 DITCH EROSION PROTECTION S.M.
E-1	RT.	23+060	23+320	1560
TOTALS CARRIED TO SUB-SUMMARY				1560

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 23+060 TO STA. 23+320

CRA-30-24.000

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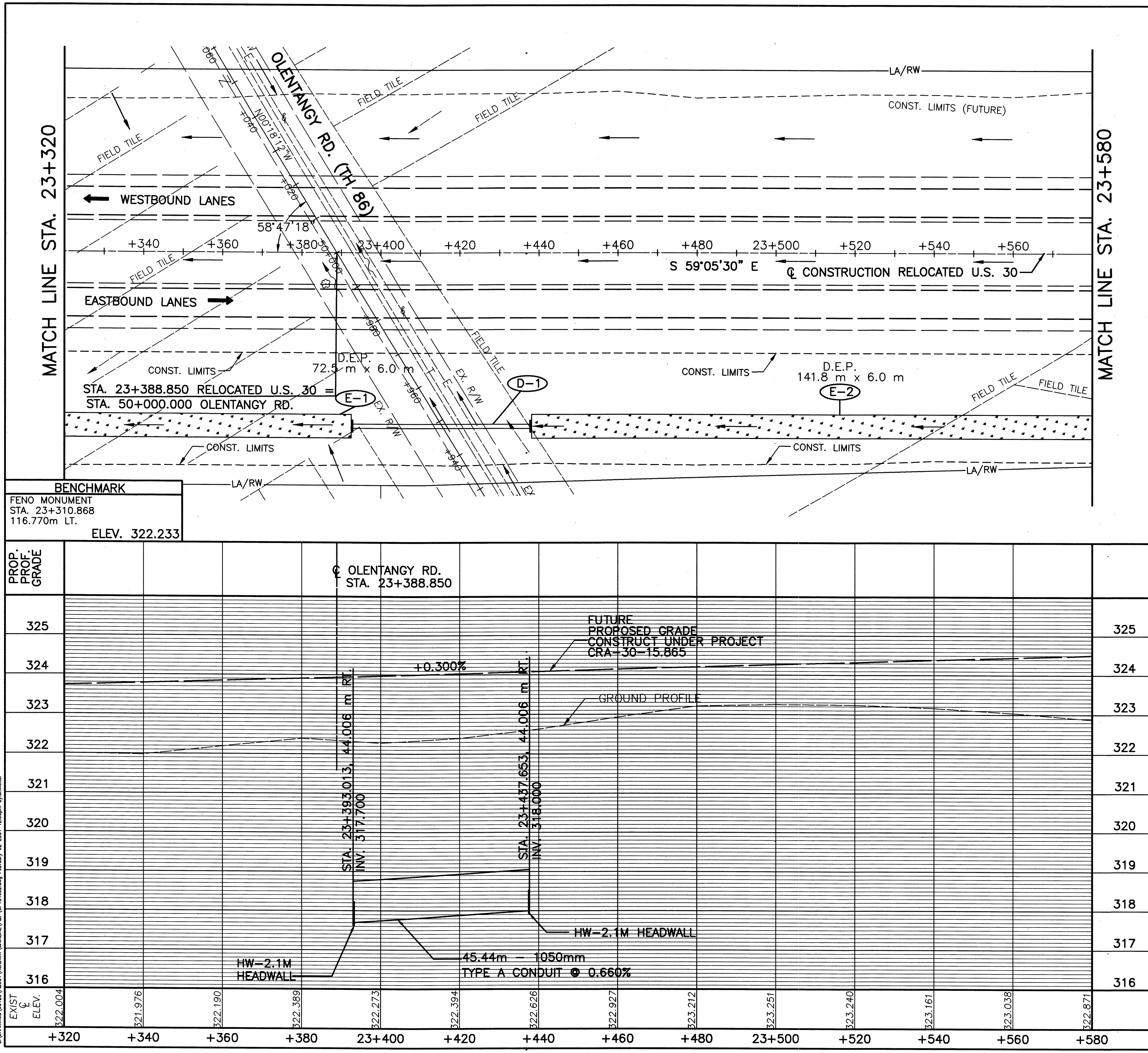
metric units



BENCHMARK
FENO MONUMENT
STA. 23+310.868
116.770m LT.
ELEV. 322.233

LEGEND

DITCH EROSION PROTECTION

** 1500mm 707.01 OR 707.02

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	602 CONCRETE MASONRY	603 CONDUIT TYPE A **		670 DITCH EROSION PROTECTION		
				CU. METER	METER		S.M.		
D-1	RT.	23+392.600	23+438.04	1.66	45.4				
E-1	RT.	23+320	23+392.513				435		
E-2	RT.	23+438.153	23+580				851		
TOTALS CARRIED TO SUB-SUMMARY				1.66	45.4		1286		

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 23+320 TO STA. 23+580

CRA-30-24.000

93
677

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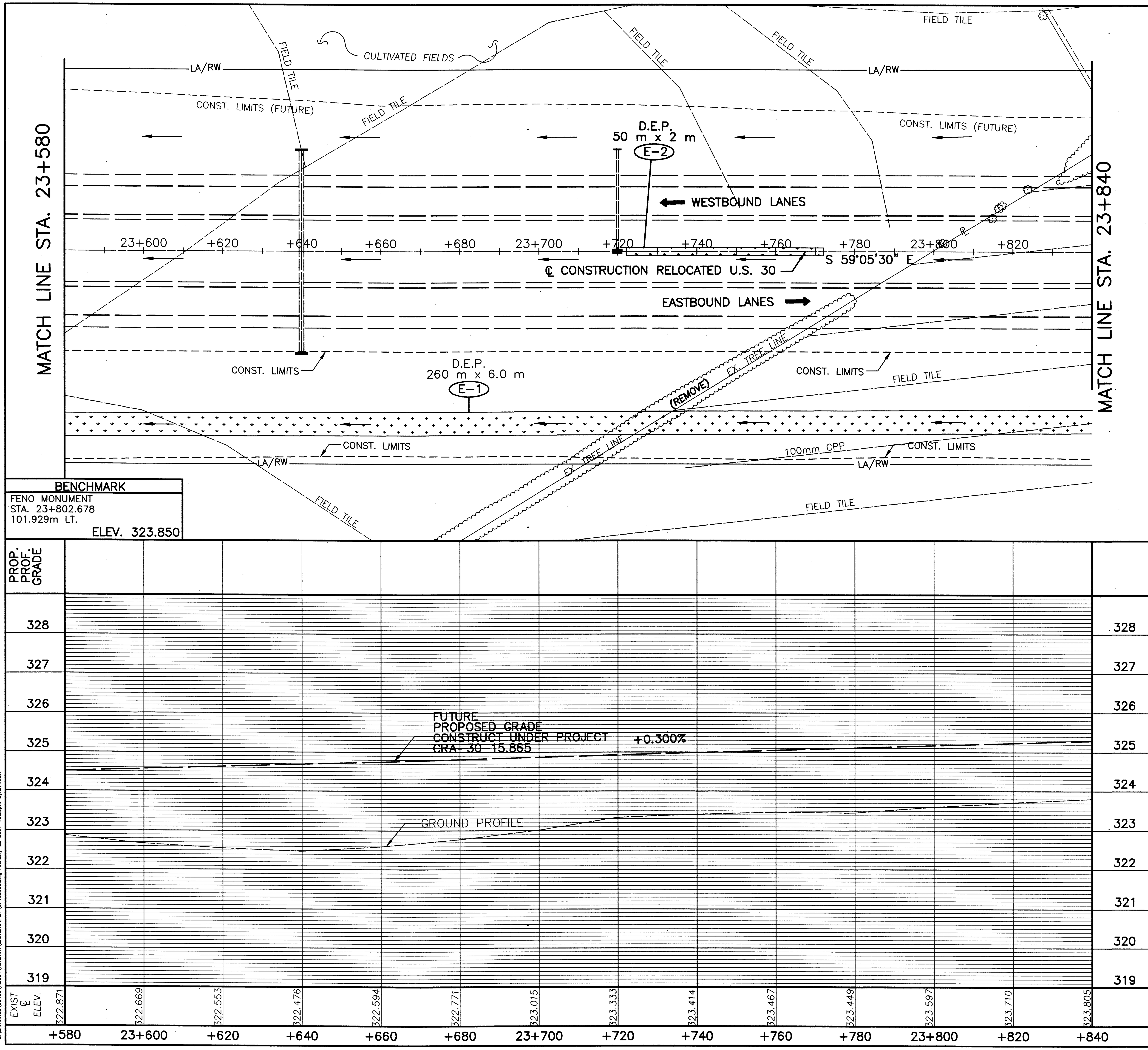

LEGEND

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	670 DITCH EROSION PROTECTION S.M.
E-1	RT.	23+580	23+840	1560
E-2	℄	23+722.110	23+772.110	100
TOTALS CARRIED TO SUB-SUMMARY				1660

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 23+580 TO STA. 23+840

CRA-30-24.000

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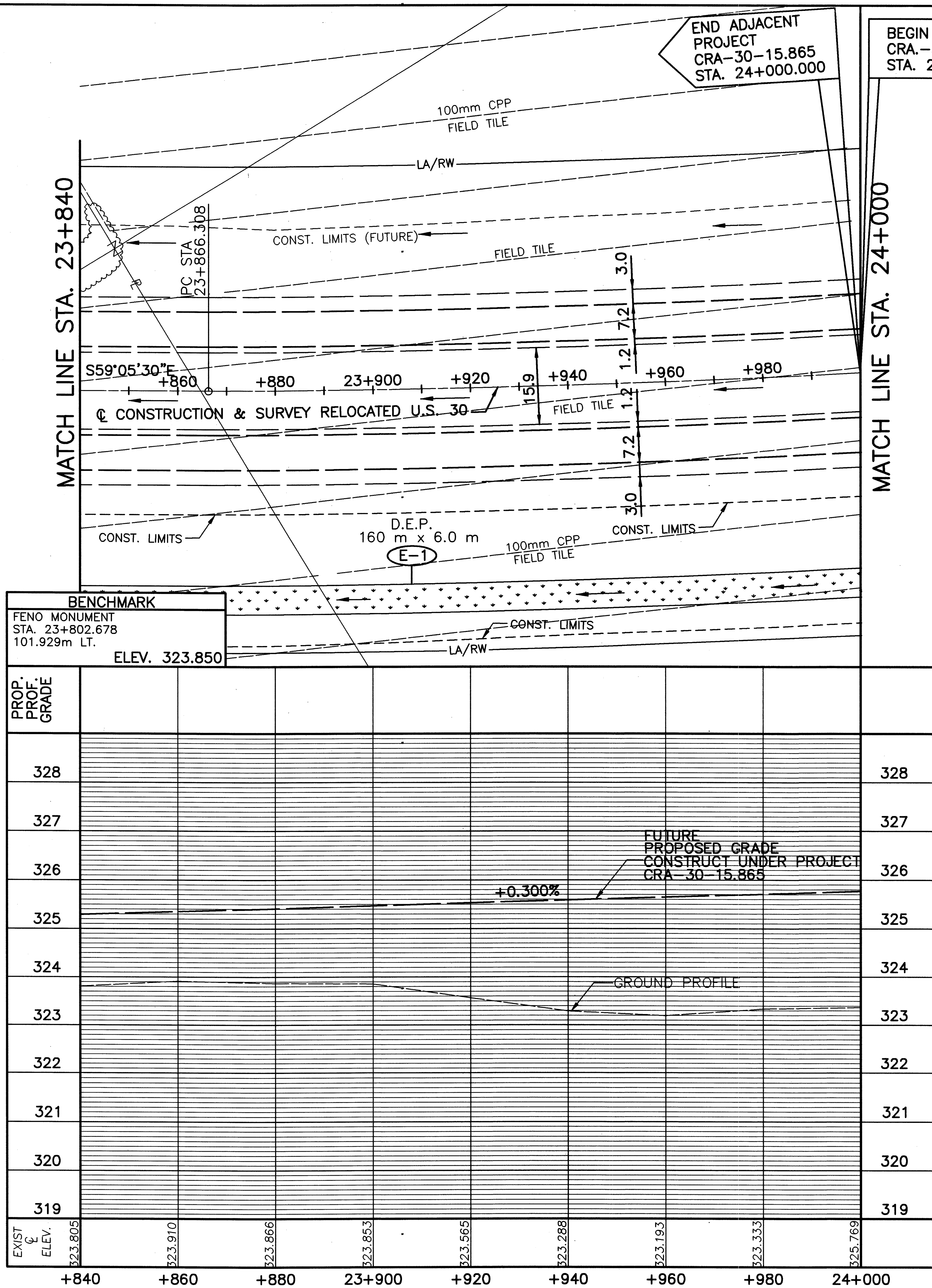


CURVE DATA
RELOCATED U.S. 30

PI STA 23+933.172
Δ=3°16'45" LT.
R=2335.939 m
T=66.864 m
L=133.692 m
E=0.9568 m
CH=S 2°27'10" E
LC=133.674 m

LEGEND

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	670 DITCH EROSION PROTECTION S.M.
E-1	RT.	23+840	24+000	960
TOTALS CARRIED TO SUB-SUMMARY				960

metric units

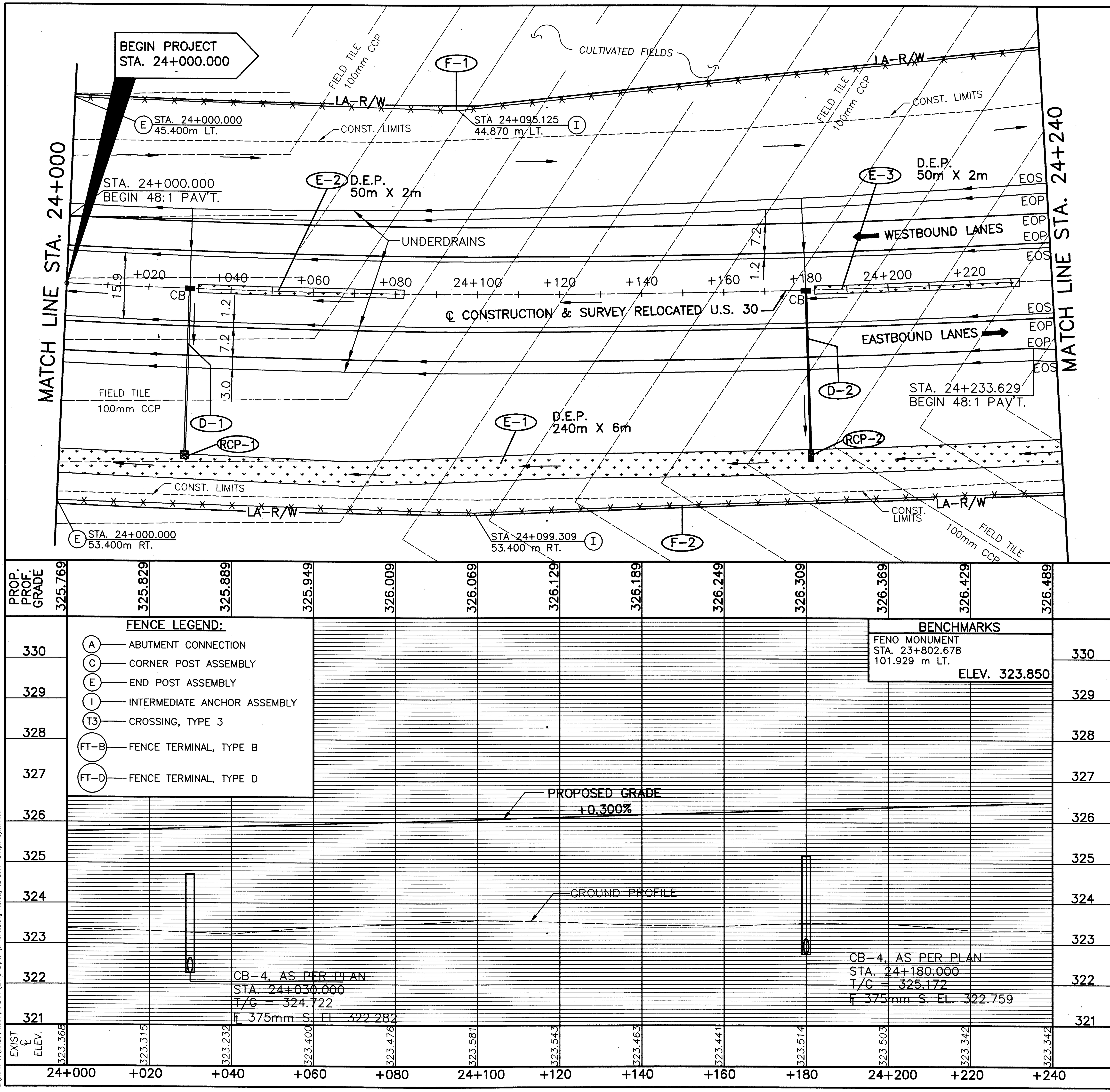
RATIO 1:500
HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 23+840 TO STA. 24+000

CRA-30-24.000

95
677



RELOCATED U.S. 30 CURVE DATA

PI STA. 24+516.308
Δ =31°05'59" LT.
R=2335.939 m
T=650.000 m
L=1267.925 m
E=88.749 m
CH =S 74°38'29" E
LC=1252.417 m

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.

LEGEND

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

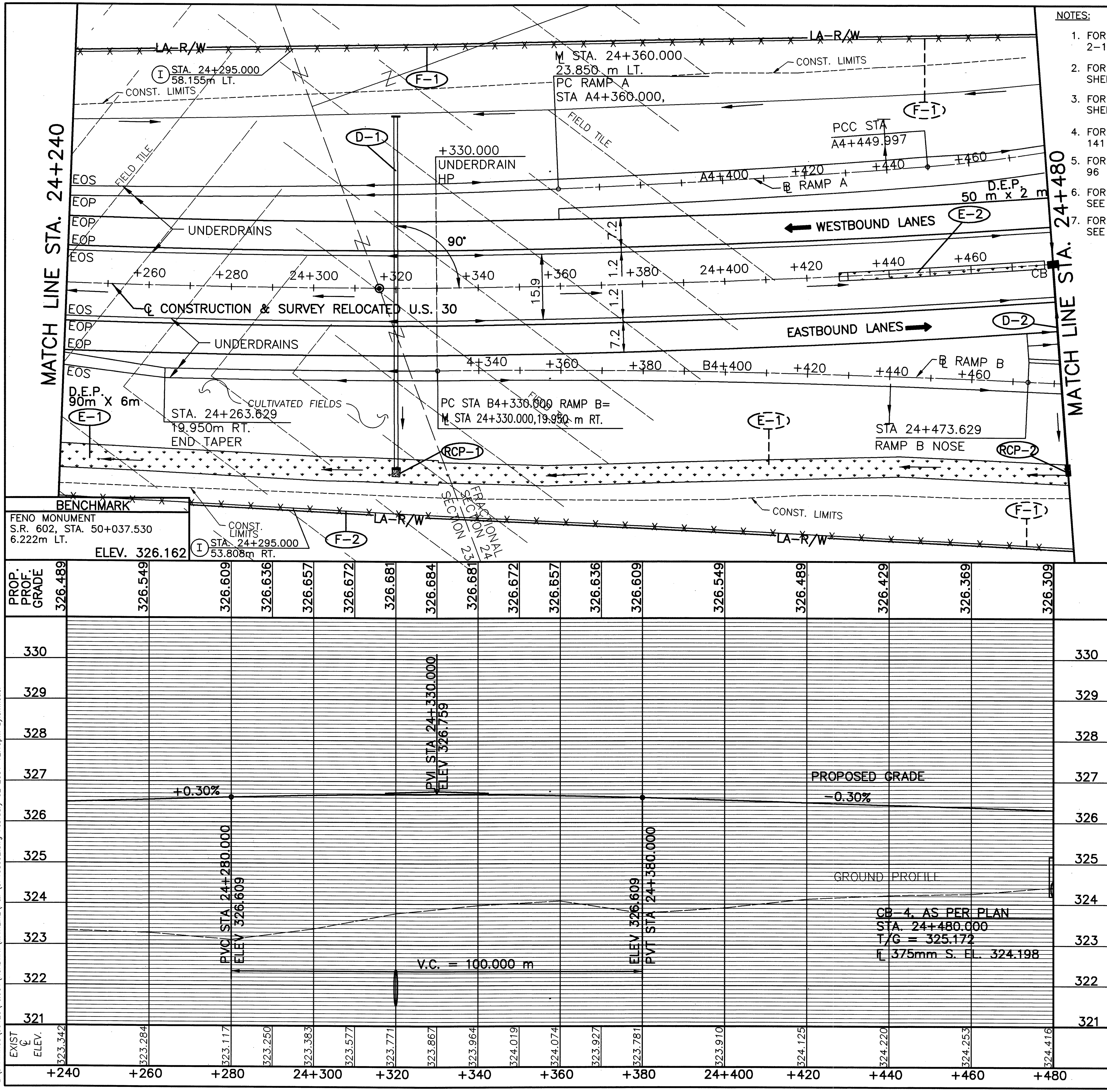
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/RT.	24+030			0.22	40.0	1		
D-2	℄/RT.	24+180			0.22	39.5	1		
E-1	RT.	24+000	24+240						1440
E-2	℄	24+032.11	24+082.11						100
E-3	℄	24+182.11	24+230.11						100
F-1	LT.	28+000	28+240					240.000	
F-2	RT.	28+000	28+240					240.000	
RCP-1	RT.	24+030		1.5					
RCP-2	RT.	24+180		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	79.5	2	480.000	1640

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 24+000 TO STA. 24+240

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEETS 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 141 & 142 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR RAMP A RELATED QUANTITIES SEE SHEETS 275-276 OF 677.
7. FOR RAMP B RELATED QUANTITIES SEE SHEETS 280-281 OF 677.

RELOCATED U.S. 30 CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT
R=2335.939 m
T=650.000 m
L=1267.925 m
E=88.749 m
CH=S 74°38'29" E
LC=1252.417 m

RAMP A ~ CURVE DATA
PI STA. A4+405.004
=02°14'31" RT.
R=2300.000 m
T=45.004 m
L=89.997 m
E=0.440 m
CH=S 73°33'17" E
LC=89.997m

RAMP B ~ CURVE DATA
PI STA. B4+416.844
Δ=03°40'15" RT.
R=2710.000 m
T=86.844 m
L=173.629 m
E=1.391 m
CH=S 68°37'47" E
LC=173.600 m

metric units

LEGEND
ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

** 900mm 706.02, (D-LOAD 87.5)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63).

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER C.M.	601 RIPRAP USING 150mm CONC. SLAB S.M.	602 CONCRETE MASONRY C.M.	603 ** CONDUIT TYPE A METER	603 375 mm CONDUIT TYPE B METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
D-1	LT./RT.	24+320			2.73	1.54	83.5				
D-2	℄/RT.	B4+481.842				0.22		49.5	1		
E-1	RT.	24+240	24+330								540
E-2	℄	24+427.89	24+477.89								100
F-1	LT.	24+240	24+360.000							120	
F-2	RT.	24+240	24+330.000							90	
RCP-1	RT.	24+320		3.42							
RCP-2	RT.	B4+481.842		1.5							
TOTALS CARRIED TO SUB-SUMMARY				4.92	2.73	1.76	83.5	49.5	1	210	640

RATIO 1:500
HORIZONTAL SCALE IN METERS
CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30 STA. 24+240 TO STA. 24+480

CRA-30-24.000

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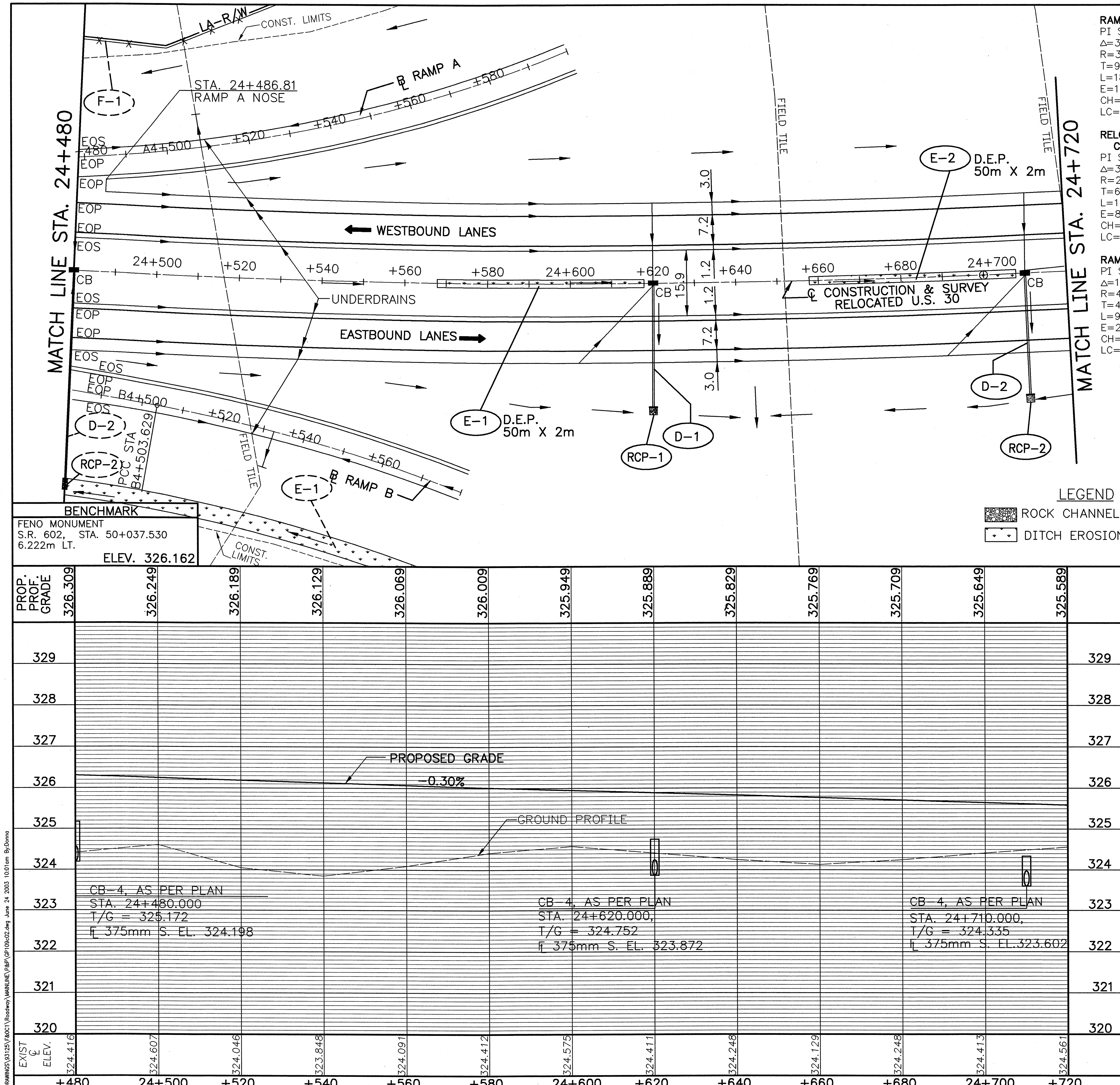


RAMP A ~ CURVE DATA
PI STA. A4+544.074
Δ=30°05'24" LT.
R=350.00 m
T=94.077 m
L=183.809 m
E=12.423 m
CH=S 89°43'15" E
LC=181.704 m

RELOCATED U.S. 30 CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
R=2335.939 m
T=650.000 m
L=1267.925 m
E=88.749 m
CH=S 74°38'29" E
LC=1252.417 m

RAMP B ~ CURVE DATA
PI STA. B4+552.327
Δ=13°52'58" RT.
R=400.00 m
T=48.698 m
L=96.920 m
E=2.954 m
CH=S 59°51'10" E
LC=96.683 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR DRAINAGE DETAILS SEE SHEET 456 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR RAMP A RELATED QUANTITIES SEE SHEETS 275-276 OF 677
7. FOR RAMP B RELATED QUANTITIES SEE SHEETS 280-281 OF 677

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	604 CATCH BASIN NO. 4 AS PER PLAN	670 DITCH EROSION PROTECTION
				C.M.	C.M.	METER	EACH	S.M.
D-1	℄/RT.	24+620			0.22	30.0	1	
D-2	℄/RT.	24+710			0.22	30.0	1	
E-1	℄	24+567.890	24+617.890					100
E-2	℄	24+657.890	24+707.890					100
RCP-1	RT.	24+620.000		1.5				
RCP-2	RT.	24+710.000		1.5				
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	60.0	2	200

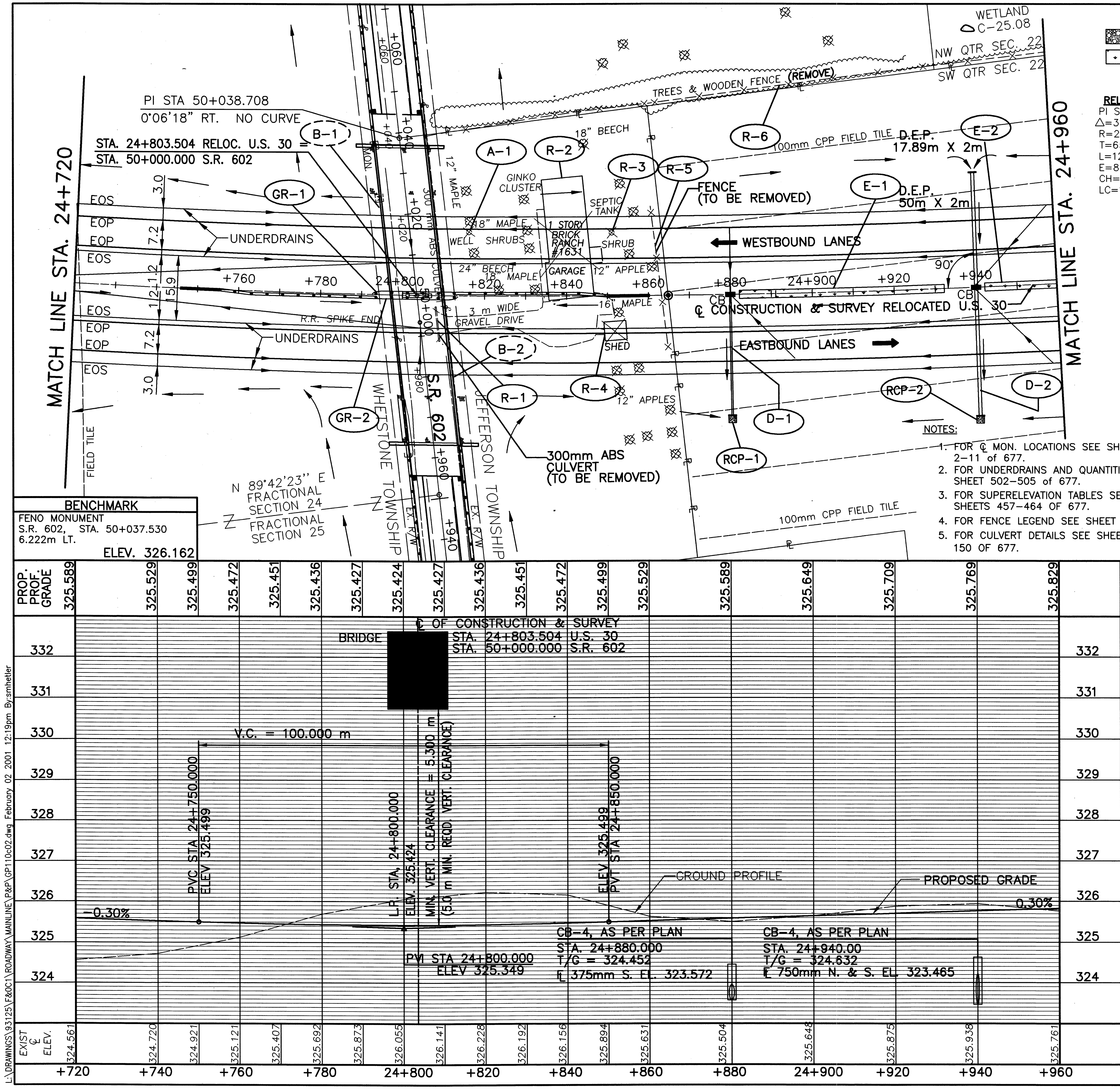
RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 24+480 TO STA. 24+720

CRA-30-24.000

L:\DRAWINGS\31125\FAOC1\Roadway\MAINLINE\P&P\GP109c02.dwg June 24 2003 10:01am ByDorna



ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 BUILDING DEMOLISHED EACH	202 SEPTIC TANK REMOVED EACH	202 PIPE REMOVED 600mm AND UNDER METER	202 FENCE REMOVED METER	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER C.M.	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER C.M.	602 CONCRETE MASONRY C.M.	603 375 mm CONDUIT TYPE B METER	603 ** CONDUIT TYPE A METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	606 IMPACT ATTENUATOR BIDIRECTIONAL EACH	606 GUARDRAIL BARRIER DESIGN TYPE 5 METER	606 GUARDRAIL TYPE-5 METER	606 ANCHOR ASSEMBLY TYPE-T EACH	626 BARRIER REFLECTOR TYPE-A EACH	670 DITCH EROSION PROTECTION S.M.	SPECIAL DRILLED WATER WELL ABANDONED EACH
A-1	LT.																			1
D-1	℄/RT.	24+880								0.22	29.5		1							
D-2	LT/RT.	24+940								1.34		57.7	1							
E-1	℄	24+882.110	24+932.110																100	
E-2	℄	24+942.110	24+960.000																35.8	
GR-1	LT.	24+793.514	24+860.264											1	30.480	22.860	1	3		
GR-2	RT.	24+745.824	24+812.514											1	30.480	22.860	1	3		
R-1	RT.	24+809				9														
R-2	LT.	24+840		1																
R-3	RT.	24+841			1															
R-4	LT.	24+863		1																
R-5	LT./RT.	24+863					35													
R-6	LT.	24+806.051	25+072.204				199													
RCP-1	RT.	24+880							1.5											
RCP-2	LT.	24+940						3.42												
TOTALS CARRIED TO SUB-SUMMARY				2	1	9	234	3.42	1.5	1.56	29.5	57.7	2	2	60.960	45.720	2	6	135.8	1

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 24+720 TO STA. 24+960

CRA-30-24.000

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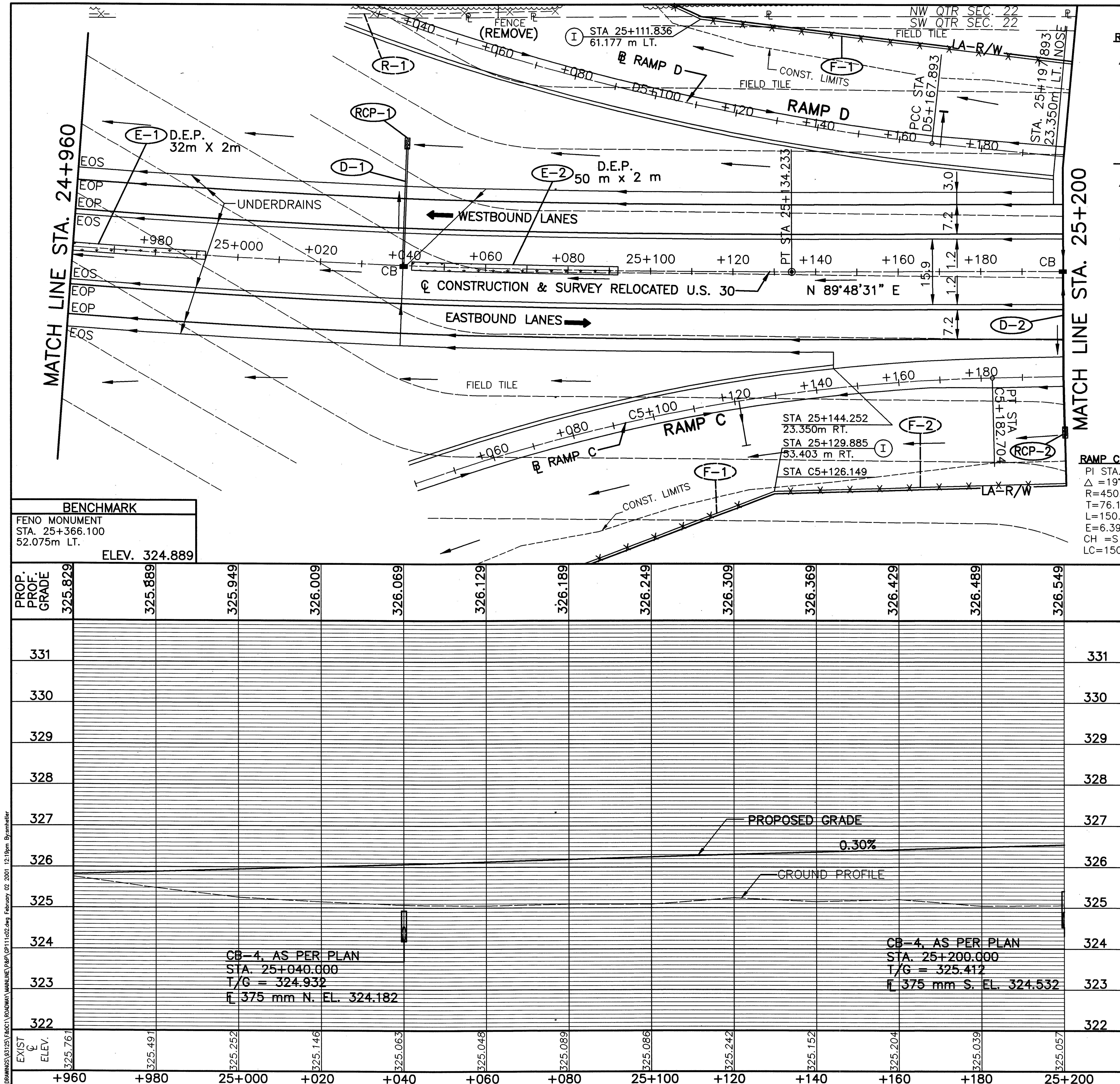


BENCHMARK
FENO MONUMENT
STA. 25+366.100
52.075m LT.
ELEV. 324.889

RAMP D ~ CURVE DATA
PI STA. D5+268.825
△ =06°25'08" LT.
R=1800.00 m
T=100.932 m
L=201.652 m
E=2.828 m
CH =S 86°58'55' E
LC=201.547 m

RELOCATED U.S. 30 CURVE DATA
PI STA. 24+516.308
△ =31°05'59" LT.
R=2335.939 m
T=650.000 m
L=1267.925 m
E=88.749 m
CH =S 74°38'29" E
LC=1252.417 m

RAMP C ~ CURVE DATA
PI STA. D5+107.983
△ =19°12'34" RT.
R=450.000 m
T=76.150 m
L=150.871 m
E=6.398 m
CH =S 79°00'38" E
LC=150.165 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR RAMP C RELATED QUANTITIES SEE SHEETS 286-287 OF 677.
6. FOR RAMP D RELATED QUANTITIES SEE SHEETS 291-293 OF 677.

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

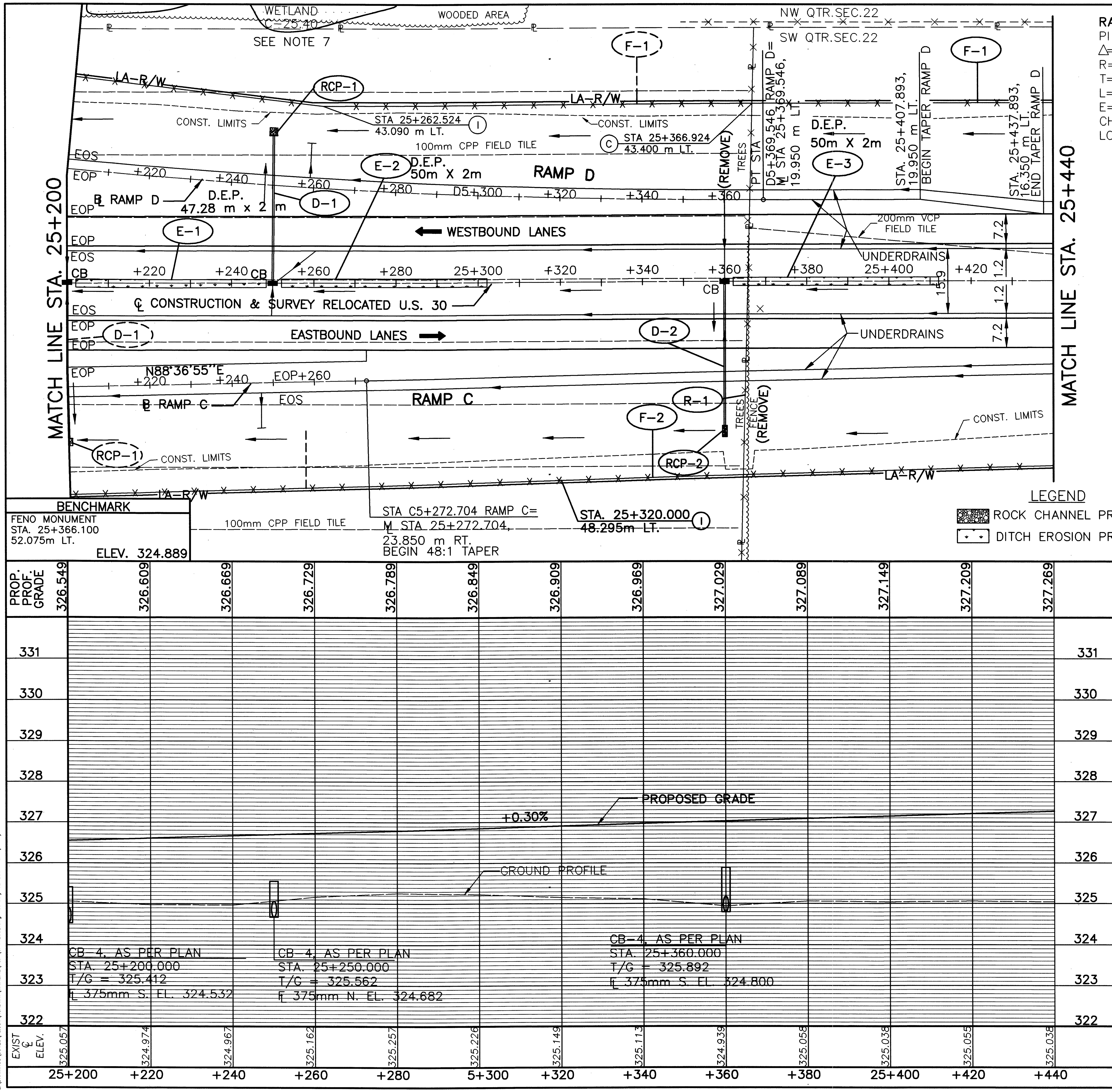
ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/LT.	25+040			0.22	29.0	1		
D-2	℄/RT.	25+200			0.22	38.0	1		
E-1	℄	24+960.000	24+992.110						64.2
E-2	℄	25+042.110	25+092.110						100
F-1	LT.	25+111.836	25+200					90.608	
F-2	RT.	25+129.885	25+200					70.753	
RCP-1	LT.	25+040		1.5					
RCP-2	RT.	25+200		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	67.0	2	161.361	164.2

RATIO 1:500
HORIZONTAL SCALE IN METERS
CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 24+960 TO STA. 25+200

CRA-30-24.000



LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

RAMP D~ CURVE DATA
PI STA. 25+268.825
Δ=06°25'08" LT.
R=1800.00 m
T=100.932 m
L=201.652 m
E=2.828 m
CH=S 86°58'55" E
LC=201.547 m

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR RAMP C RELATED QUANTITIES SEE SHEETS 286-287 OF 677.
6. FOR RAMP D RELATED QUANTITIES SEE SHEETS 291-293 OF 677.
7. FOR NOTES CONCERNING PROTECTION OF WETLANDS SEE SHEET 25 OF 677.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄ LT.		25+250			0.22	36.0	1		
D-2	℄ RT.		25+360			0.22	35.5	1		
E-1	℄	25+202.110	25+249.390							94.6
E-2	℄	25+252.110	25+302.110							100
E-3	℄	25+362.110	25+412.110							100
F-1	LT.	25+369.546	25+440						70.454	
F-2	RT.	25+272.704	25+440						166.676	
RCP-1	LT.		25+250		1.5					
RCP-2	RT.		25+360		1.5					
R-1	℄		25+367	92						
TOTALS CARRIED TO SUB-SUMMARY				92	3.0	0.44	71.5	2	237.130	294.6

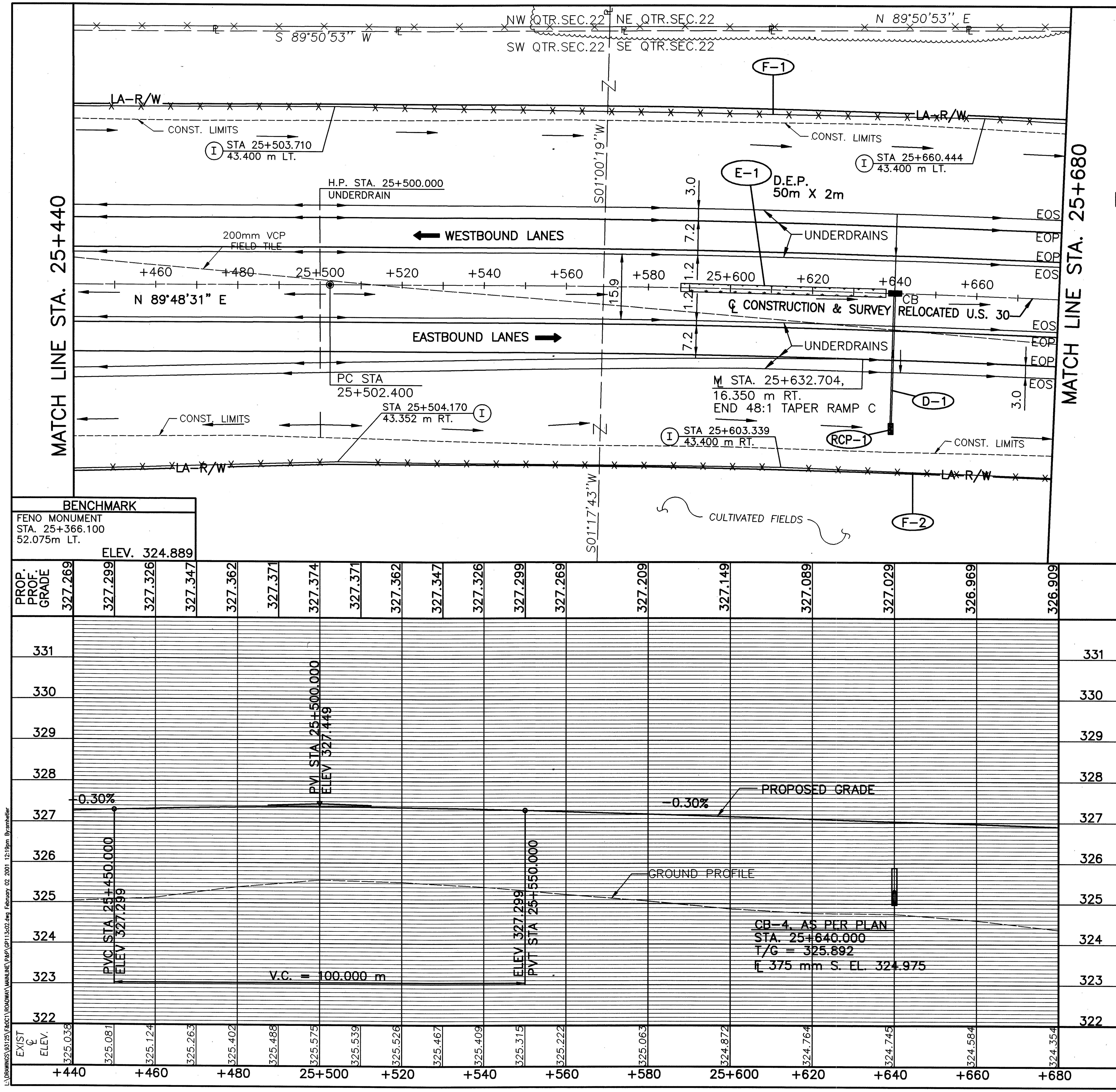
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 25+200 TO STA. 25+440

CRA-30-24.000



RELOCATED U.S. 30 CURVE DATA

PI STA. 25+734.232
Δ =06°32'11" RT.
R=4060.000 m
T=231.833 m
L=463.162 m
E=6.614 m
CH=S 86°55'23" E
LC=462.911 m

metric units

LEGEND

ROCK CHANNEL PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

RATIO 1:500
HORIZONTAL SCALE IN METERS

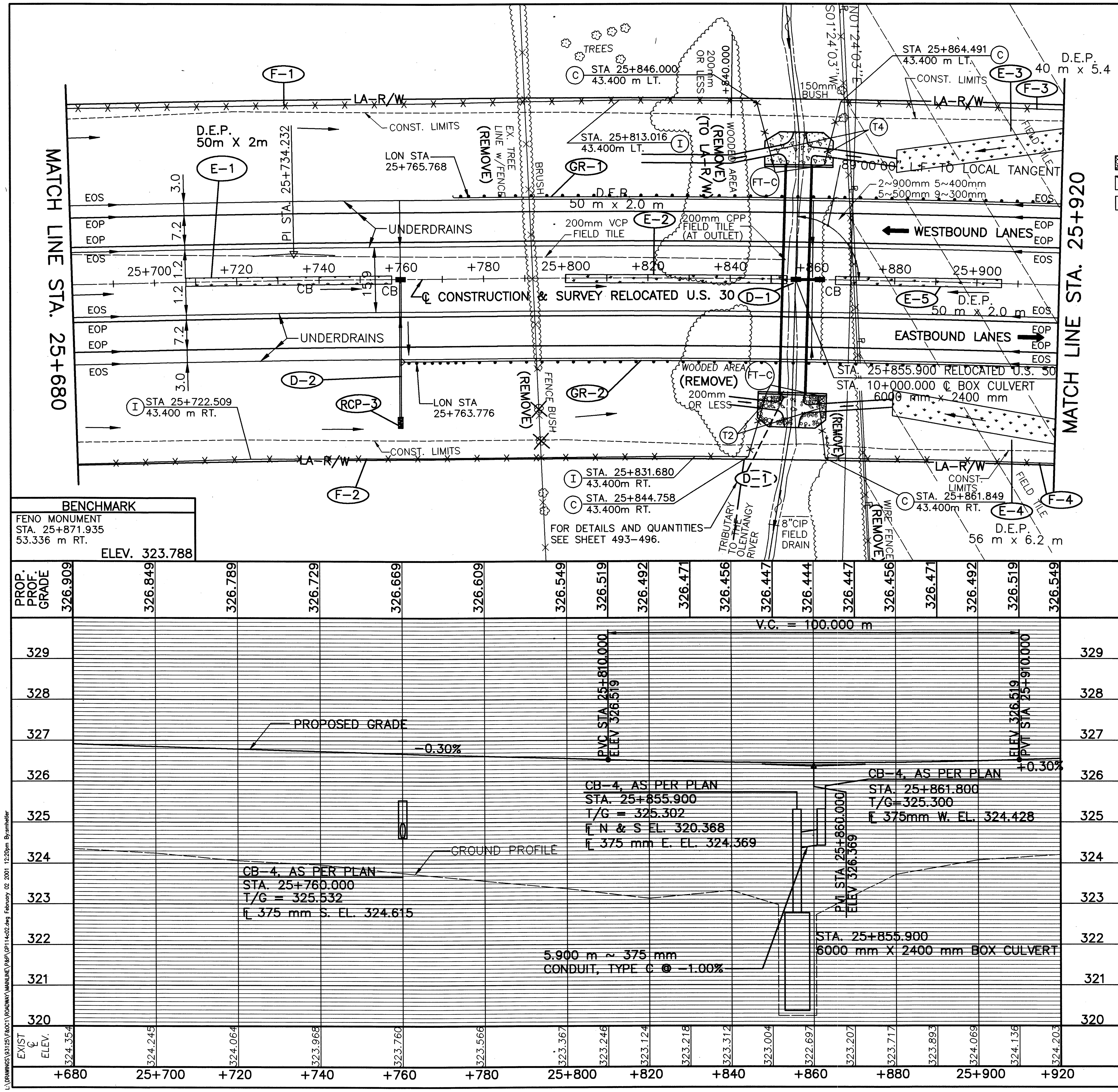
CALCULATED PSB
CHECKED LBD

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/RT.	25+640			0.22	32.5	1		
E-1	℄	25+587.890	25+637.890						100
F-1	LT.	25+440	25+680					240.000	
F-2	RT.	25+440	25+680					240.000	
RCP-1	RT.	25+640		1.5					
TOTALS CARRIED TO SUB-SUMMARY				1.5	0.22	32.5	1	480.000	100

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 25+440 TO STA. 25+680

CRA-30-24.000



RELOCATED U.S. 30 CURVE DATA

PI STA. 25+734.232
Δ =06°32'11" RT.
R=4060.000 m
T=231.833 m
L=463.162 m
E=6.614 m
CH=S 86°55'23" E
LC=462.911 m

LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION
- RIPRAP

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR PREFABRICATED STRUCTURE DETAILS SEE SHEET 493-496 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

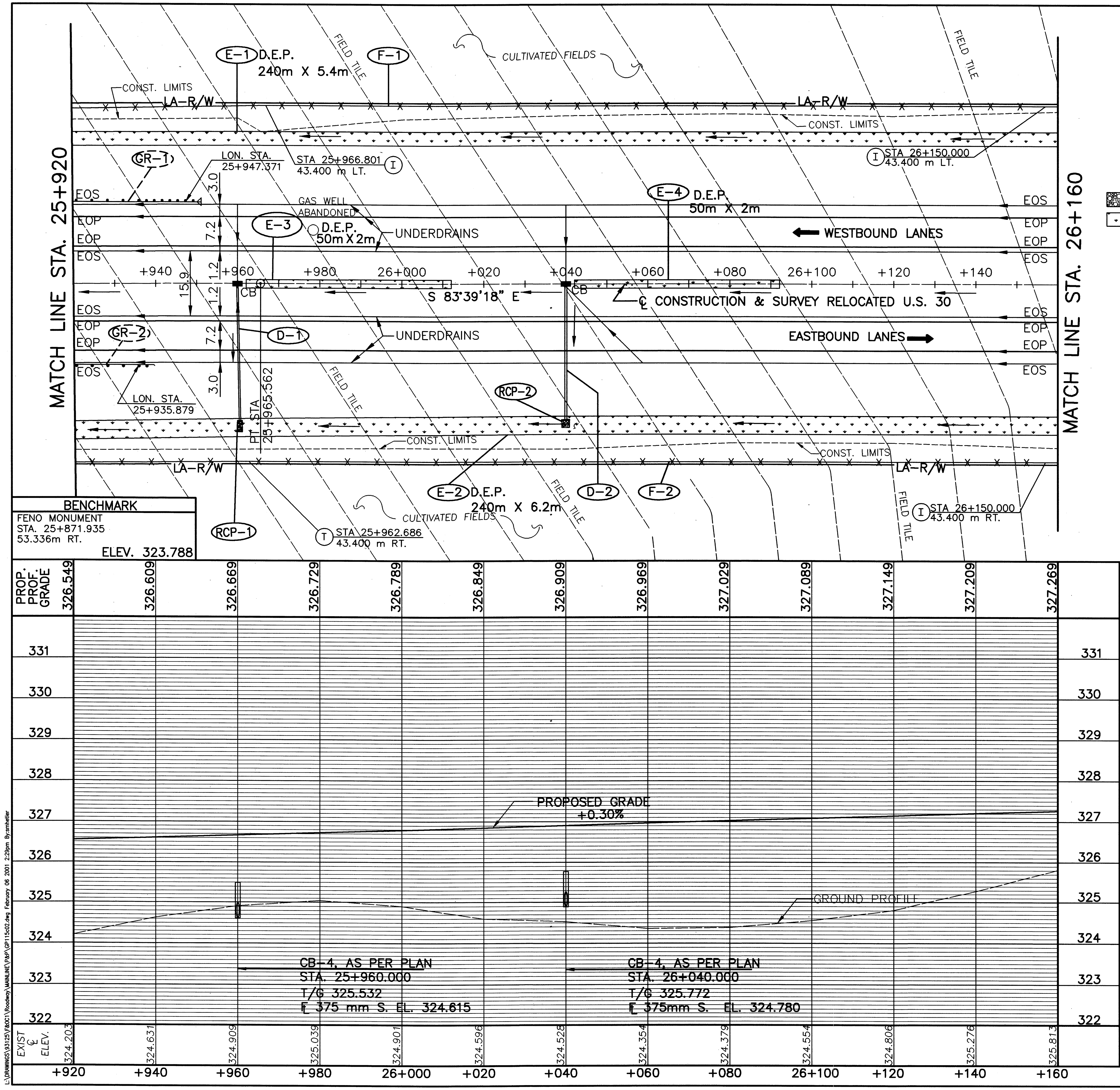
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B, WITH FILTER (C.M.)	601 ROCK CHANNEL PROTECTION TYPE C, WITH FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	603 375 mm CONDUIT TYPE C (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)
D-1	℄	25+850.000	25+855.900					5.9	2					
D-2	℄/RT.	25+760				0.22	34.0		1					
E-1	℄	25+707.890	25+757.890								100			
E-2	℄	25+803.790	25+853.790								100			
E-3	LT.	25+880.000	25+920.000								216			
E-4	RT.	25+864.000	25+920.000								347			
E-5	℄	25+863.910	25+913.910								100			
F-1	LT.	25+680.000	25+853.000							179				
F-2	RT.	25+680.000	25+853.000							191				
F-3	LT.	25+859.000	25+920.000							69				
F-4	RT.	25+859.000	25+920.000							69				
GR-1	LT.	25+765.768	25+947.371									160	1	1
GR-2	RT.	25+763.776	25+935.879									160	1	1
RCP-1	LT.	25+840.000	25+848.400	37.8										
RCP-2	LT.	25+866.000	25+880.000	63										
RCP-3	RT.	25+760			1.5									
TOTALS CARRIED TO SUB-SUMMARY				100.8	1.5	0.22	34.0	5.9	3	508	863	320	2	2

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 25+680 TO STA. 25+920

CRA-30-24.000



RELOCATED U.S. 30 CURVE DATA
PI STA. 25+734.232
Δ =06°32'11" RT.
R=4060.000 m
T=231.833 m
L=463.162 m
E=6.614 m
CH=S 86°55'23" E
LC=462.911 m

metric units

LEGEND
ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄\RT.	25+960			0.22	34.0	1		
D-2	℄\RT.	26+040			0.22	33.0	1		
E-1	LT.	25+920.000	26+160.000						1296
E-2	RT.	25+920.000	26+160.000						1488
E-3	℄	25+962.110	26+012.110						100
E-4	℄	26+042.110	26+092.110						100
F-1	LT.	25+920.000	26+160.000					240.000	
F-2	RT.	25+920.000	26+160.000					240.000	
RCP-1	RT.	25+960.000		1.5					
RCP-2	RT.	26+040.000		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	67.0	2	480.000	2884

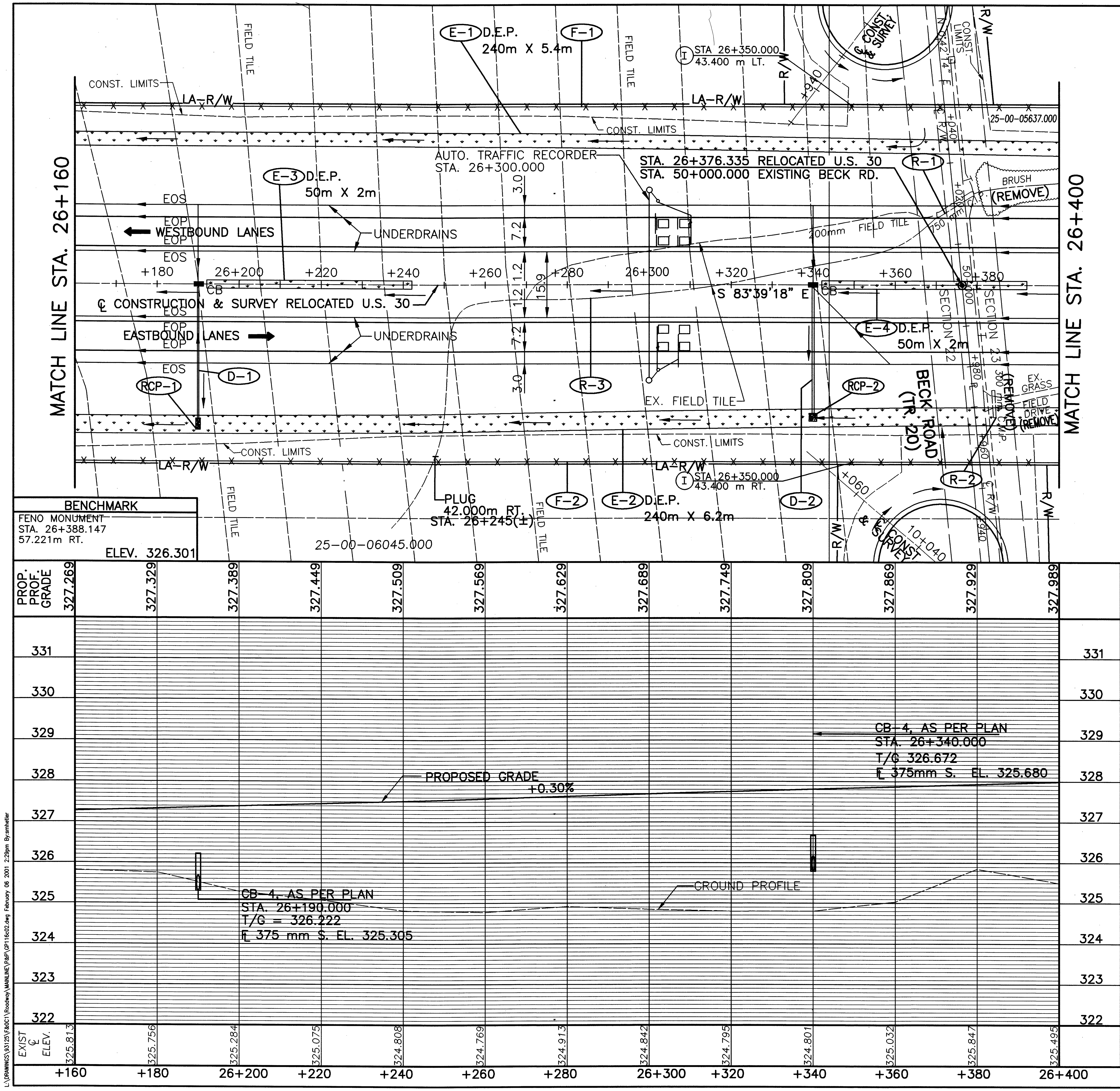
RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 25+920 TO STA. 26+160

CRA-30-24.000

104 / 677



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR AUTOMATIC TRAFFIC RECORDER DETAILS SEE SHEET 534A OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

metric units

RATIO 1:500 — HORIZONTAL SCALE IN METERS

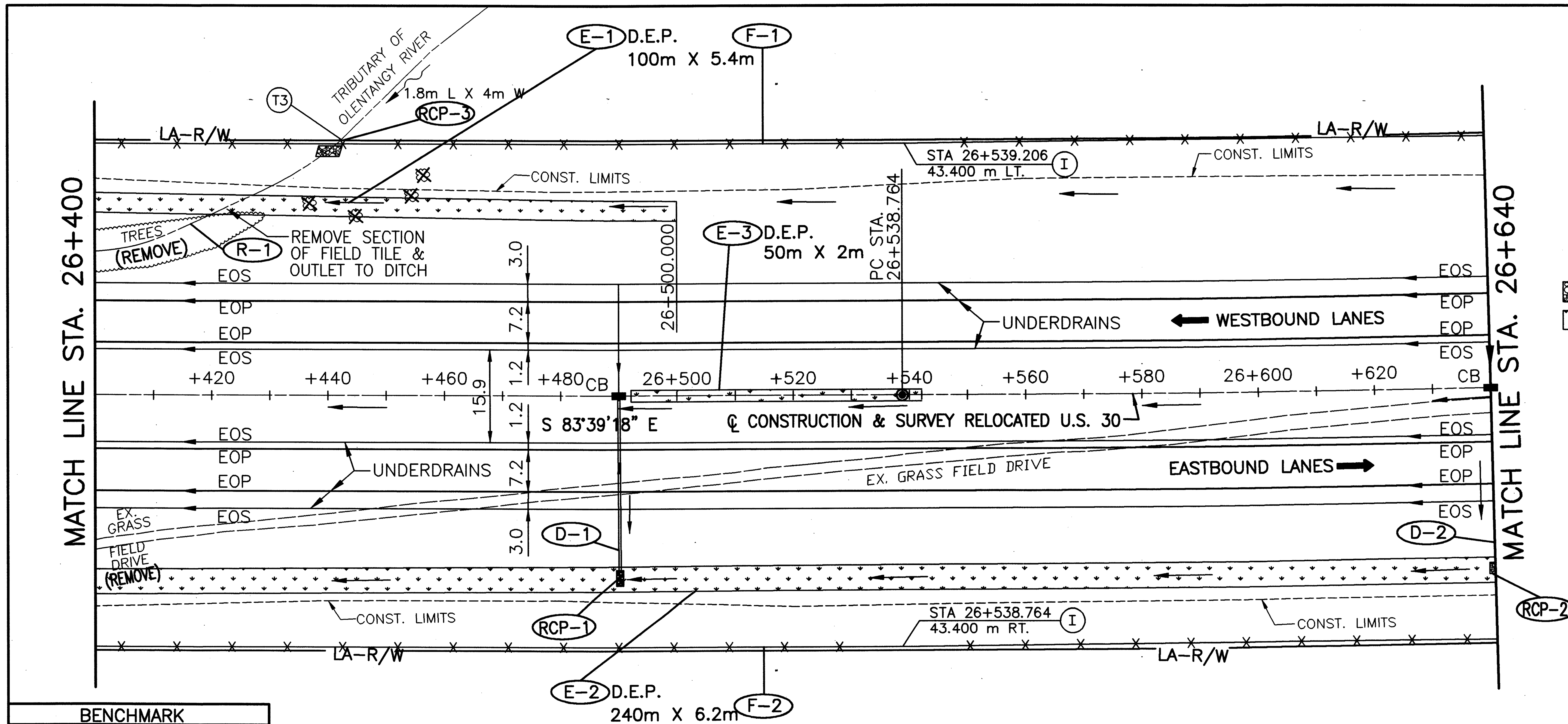
CALCULATED PSB — CHECKED LBD

ESTIMATED QUANTITIES

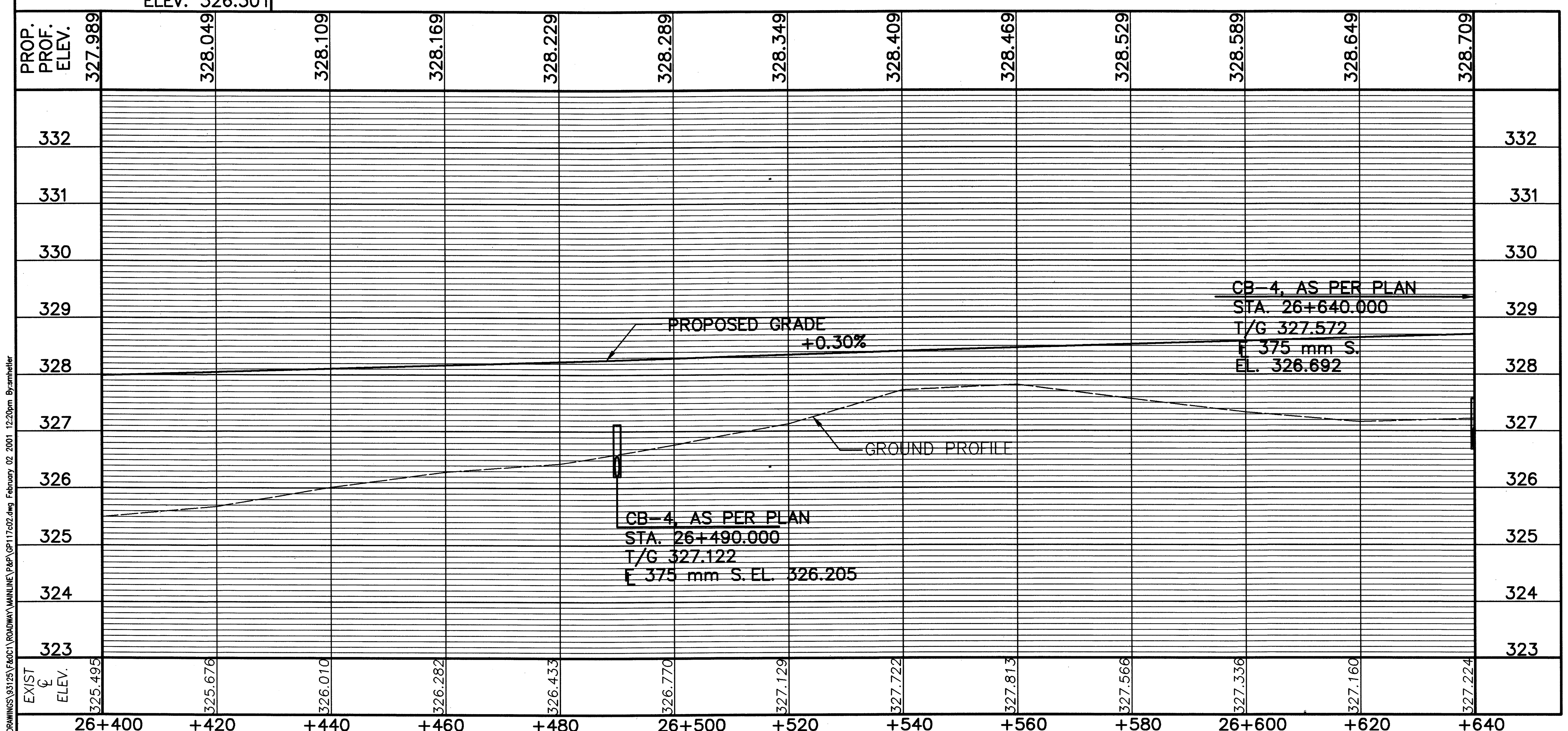
REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	202 PIPE REMOVED OVER 600mm (METER)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄ RT.	26+190					0.22	33.5	1		
D-2	℄ RT.	26+340					0.22	31.5	1		
E-1	LT.	26+160.000	26+400.000								1296
E-2	RT.	26+160.000	26+400.000								1488
E-3	℄	26+192.110	26+242.110								100
E-4	℄	26+342.110	26+392.110								100
F-1	LT.	26+160.000	26+400.000							240.000	
F-2	RT.	26+160.000	26+400.000							240.000	
R-1	LT.	26+376.000			11						
R-2	RT.	26+386.000		8							
R-3	℄	26+245.000	26+370.000	270							
RCP-1	RT.	26+190.000				1.5					
RCP-2	RT.	26+340.000				1.5					
TOTALS CARRIED TO SUB-SUMMARY				278	11	3.0	0.44	65.0	2	480	2984

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 26+160 TO STA. 26+400

CRA-30-24.000



BENCHMARK
FENO MONUMENT
STA. 26+388.147
57.221m LT.
ELEV. 326.301



RELOCATED U.S. 30
CURVE DATA
PI STA. 26+805.484
Δ =07°31'02" LT.
R=4060.000 m
T=266.720 m
L=532.674 m
E=8.752 m
CH=S 87°24'49" E
LC=532.292 m

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

metric units

ESTIMATED QUANTITIES

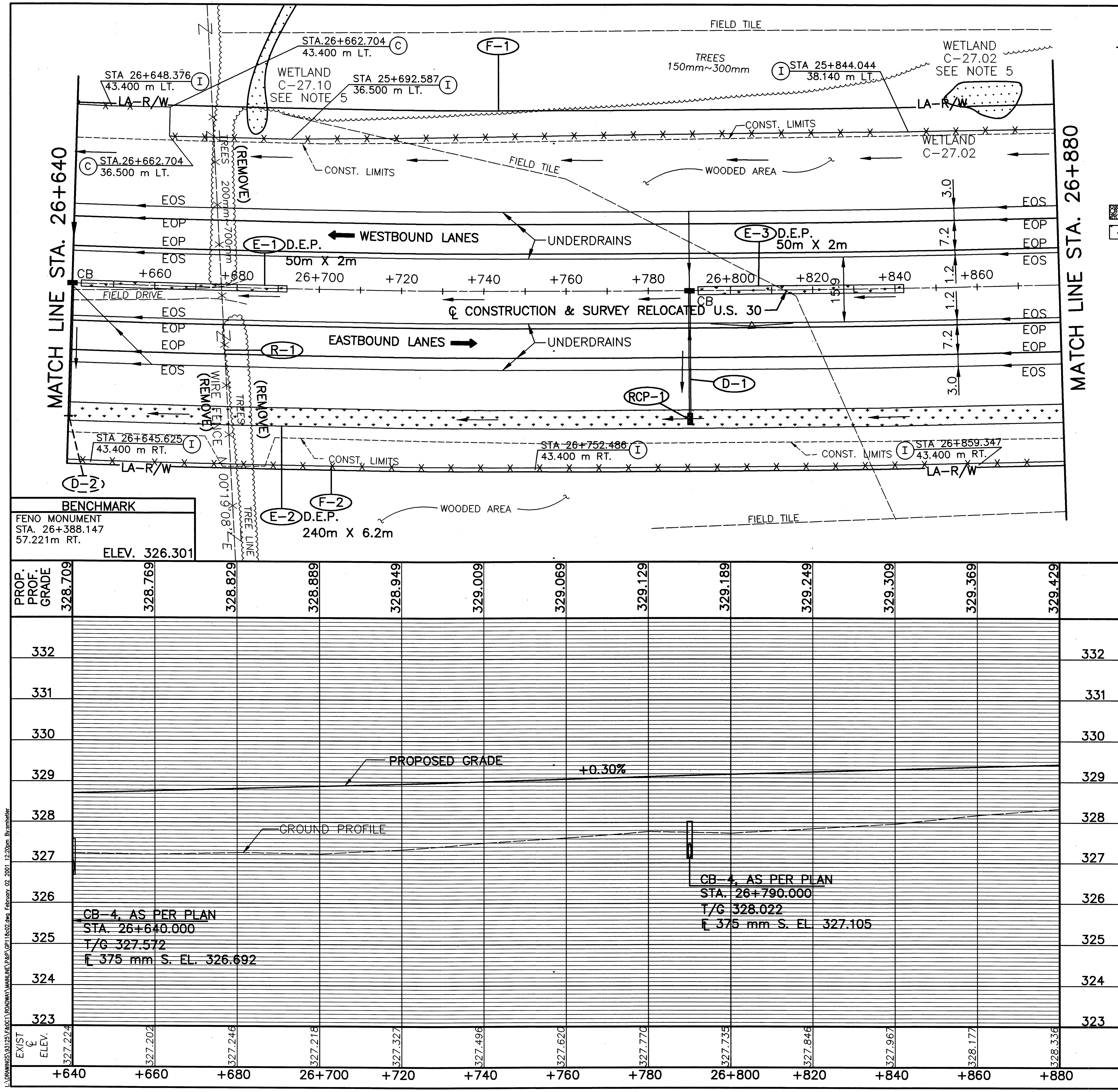
REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER (C.M.)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/RT.		26+490				0.22	30.5	1		
D-2	℄/RT.		26+640				0.22	30.0	1		
E-1	LT.	26+400	26+500								540
E-2	RT.	26+400	26+400								1488
E-3	℄	26+492.110	26+542.110								100
F-1	LT.	26+400	26+640							240.000	
F-2	RT.	26+400	26+640							240.000	
R-1	LT.	26+400	26+445	50							
RCP-1	RT.		26+490			1.5					
RCP-2	RT.		26+640			1.5					
RCP-3	LT.		26+440		3.6						
TOTALS CARRIED TO SUB-SUMMARY				50	3.6	3.0	0.44	60.5	2	480.000	2128

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 26+400 TO STA. 26+640

CRA-30-24.000



RELOCATED U.S. 30 CURVE DATA

PI STA. 26+805.484
Δ =07°31'02" LT.
R=4060.000 m
T=266.720 m
L=532.674 m
E=8.752 m
CH=S 87°24'49" E
LC=532.292 m

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR NOTES CONCERNING PROTECTION OF WETLANDS SEE SHEET 25 OF 677.

ESTIMATED QUANTITIES

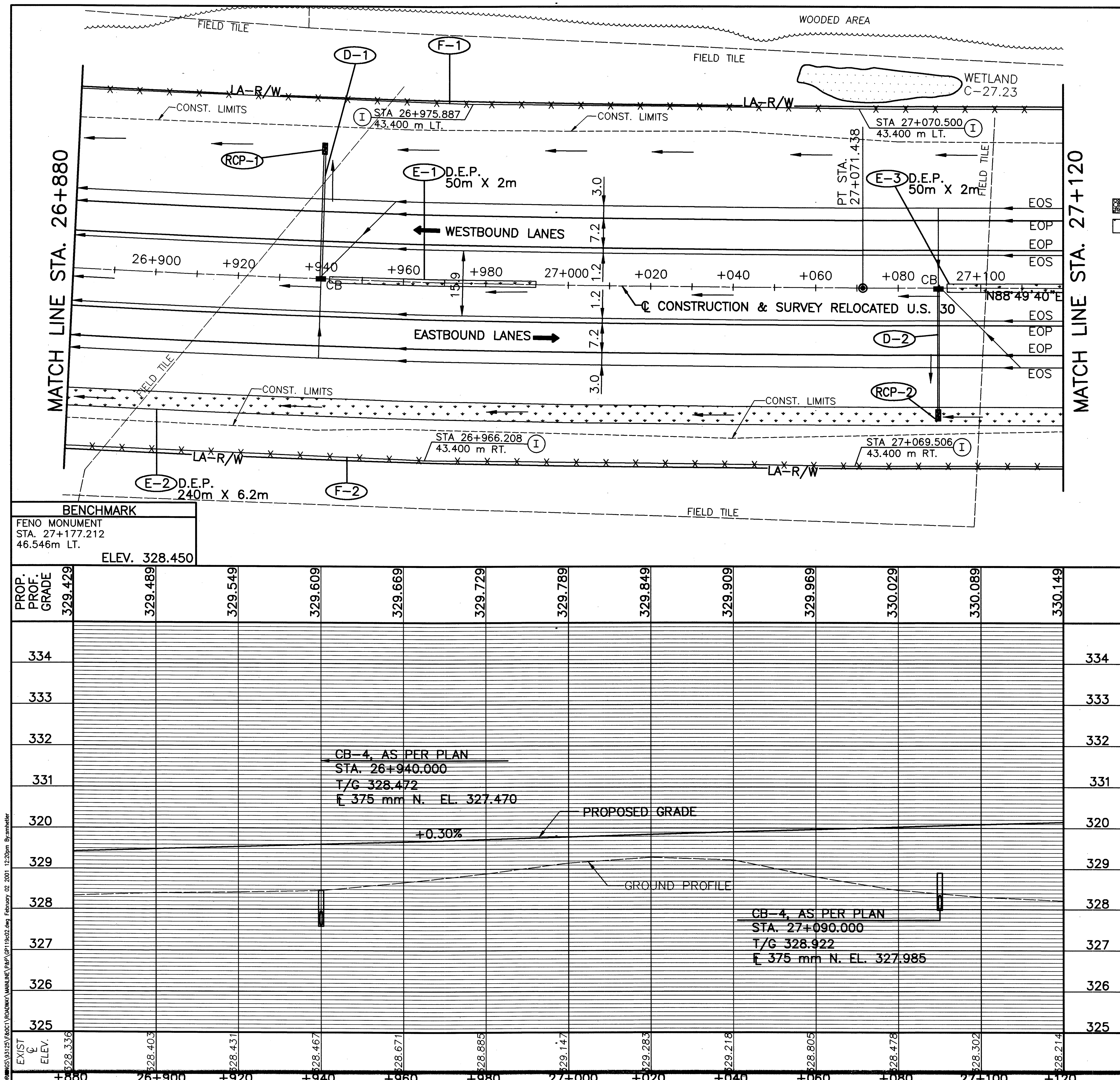
REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)	
D-1	℄/RT.	26+790				0.22	30.5	1			
E-1	℄	26+642.110	26+692.110							100	
E-2	RT.	26+640	26+880							1488	
E-3	℄	26+792.110	26+842.110							100	
F-1	LT.	26+640	26+880						240.000		
F-2	RT.	26+640	26+880						240.000		
R-1	LT./RT.	26+676		90							
RCP-1	RT.	26+790			1.5						
TOTALS CARRIED TO SUB-SUMMARY				90	1.5	0.22	30.5	1	480.000	1688	

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 26+640 TO STA. 26+880

CRA-30-24.000



RELOCATED U.S. 30 CURVE DATA

PI STA. 26+805.484
Δ =07°31'02" LT.
R=4060.000 m
T=266.720 m
L=532.674 m
E=8.752 m
CH=S 87°24'49" E
LC=532.292 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

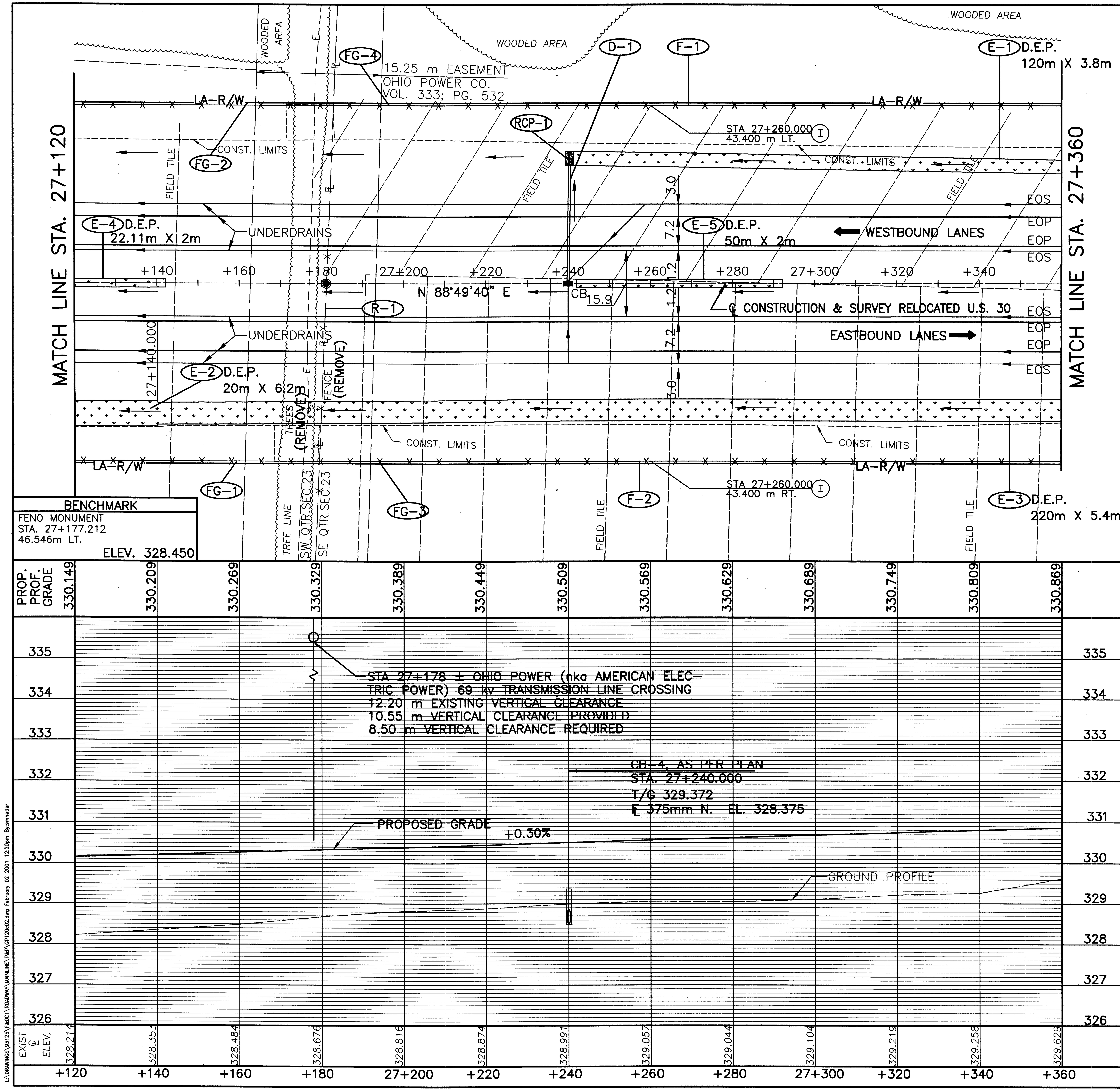
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	604 CATCH BASIN NO. 4 AS PER PLAN	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION
				C.M.	C.M.	METER	EACH	METER	S.M.
D-1	℄/LT.		26+940		0.22	30.5	1		
D-2	℄/RT.		27+090		0.22	30.0	1		
E-1	℄	26+942.110	26+992.110						100
E-2	RT.	26+880	27+120						1488
E-3	℄	27+092.110	27+120.000						55.8
F-1	LT.	26+880	27+120					240.000	
F-2	RT.	26+880	27+120					240.000	
RCP-1	LT.		26+940	1.5					
RCP-2	RT.		27+090	1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	60.5	2	480.000	1588

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 26+880 TO STA. 27+120

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

metric units

LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	604 CATCH BASIN NO. 4 AS PER PLAN	607 FENCE TYPE 47	625 GROUND ROD	670 DITCH EROSION PROTECTION
				METER	C.M.	C.M.	METER	EACH	METER	EACH	S.M.
D-1	℄/LT.	27+240				0.22	29.5	1			
E-1	LT.	27+240	27+360								456
E-2	RT.	27+120	27+140								124
E-3	RT.	27+140	27+360								1188
E-4	℄	27+120.000	27+142.110								44.2
E-5	℄	27+242.110	27+292.110								100
F-1	LT.	27+120	27+360						240.000		
F-2	RT.	27+120	27+360						240.000		
R-1	LT./RT.	27+181		90							
FG-1	RT.	27+159.450								1	
FG-2	LT.	27+162.073								1	
FG-3	RT.	27+193.945								1	
FG-4	LT.	27+196.550								1	
RCP-1	LT.	27+240			1.5						
TOTALS CARRIED TO SUB-SUMMARY				90	1.5	0.22	29.5	1	480.000	4	1912.2

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 27+120 TO STA. 27+360

CRA-30-24.000

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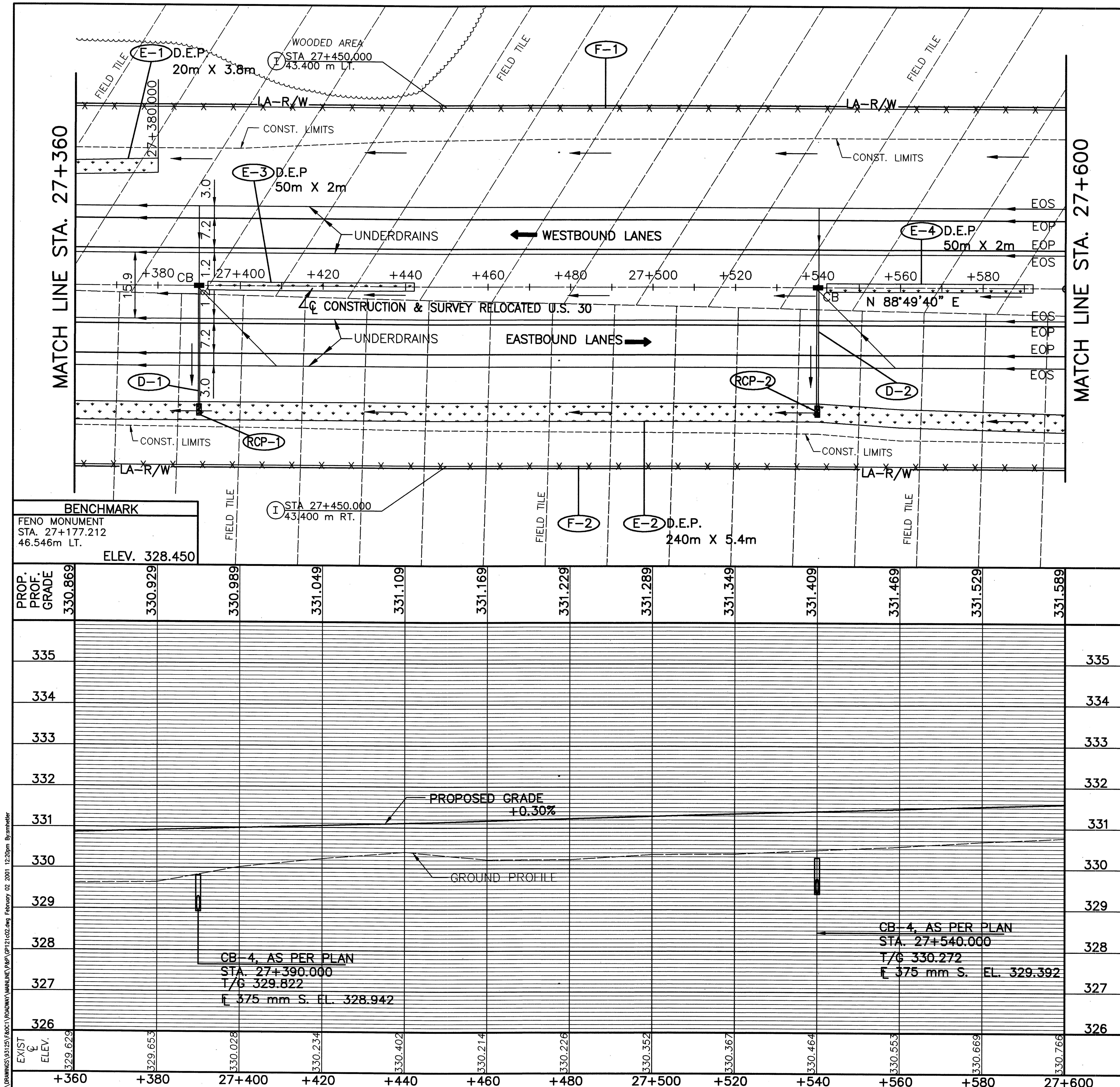


BENCHMARK
FENO MONUMENT
STA. 27+177.212
46.546m LT.
ELEV. 328.450

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

metric units

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

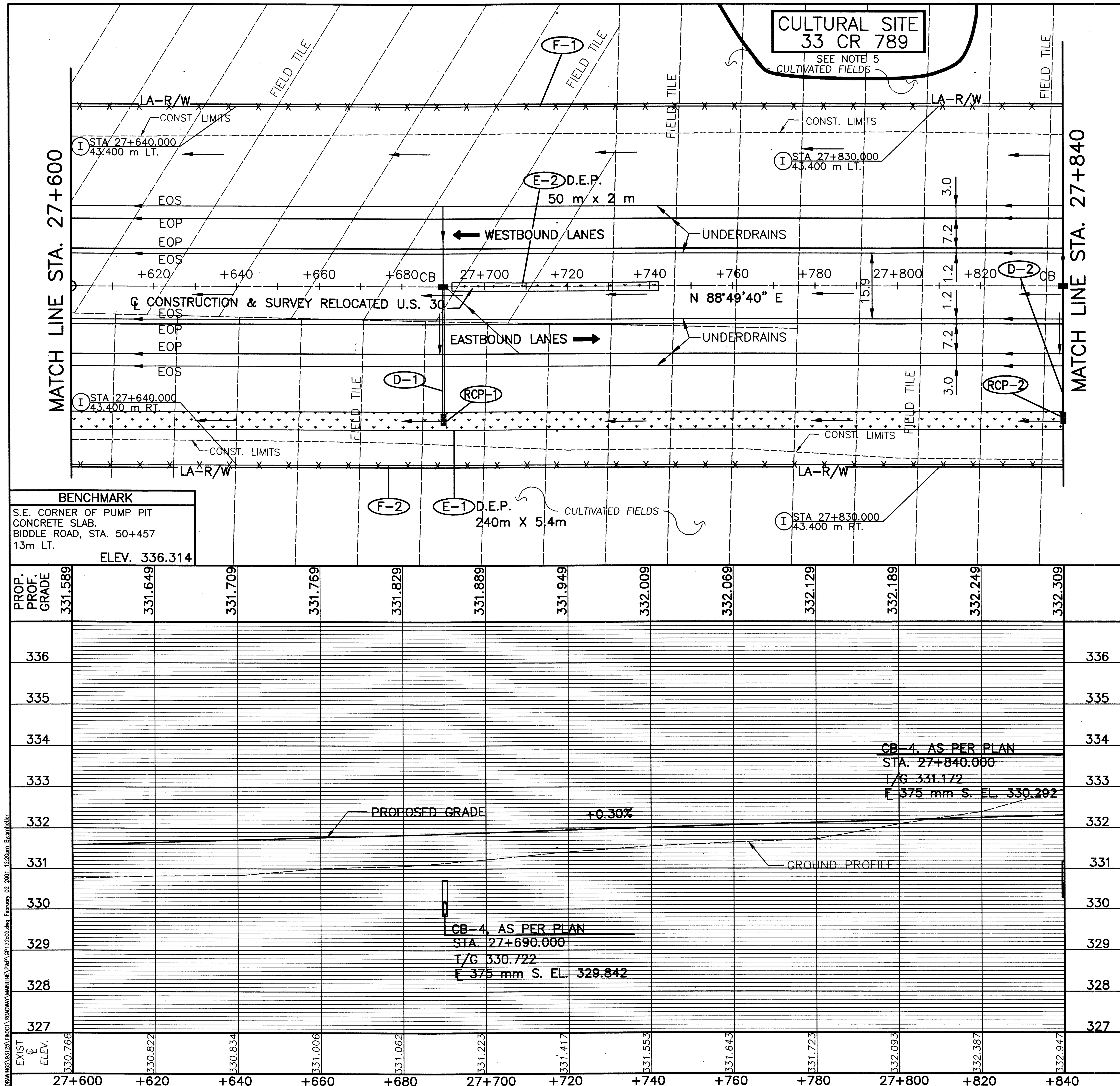
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER C.M.	602 CONCRETE MASONRY C.M.	603 375 mm CONDUIT TYPE B METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
D-1	℄/RT.	27+390			0.22	29.5	1		
D-2	℄/RT.	27+540			0.22	29.0	1		
E-1	LT.	27+360	27+540						76
E-2	RT.	37+360	27+600						1296
E-3	℄	27+392.110	27+442.110						100
E-4	℄	27+542.110	27+592.110						100
F-1	LT.	26+400	26+640					240.000	
F-2	RT.	26+400	26+640					240.000	
RCP-1	RT.	27+390		1.5					
RCP-2	RT.	27+540		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	58.5	2	480.000	1572

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 27+360 TO STA. 27+600

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR NOTES CONCERNING PROTECTION OF CULTURAL SITE SEE SHEET 25 OF 677.

metric units

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	604 CATCH BASIN NO. 4 AS PER PLAN	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION	
				C.M.	C.M.	METER	EACH	METER	S.M.	
D-1	℄/RT.		27+690		0.22	31.5	1			
D-2	℄/RT.		27+840		0.22	31.0	1			
E-1	RT.	27+600	27+840						1296	
E-2	℄	27+692.110	27+742.110						100	
F-1	LT.	27+600	27+840					240.000		
F-2	RT.	27+600	27+840					240.000		
RCP-1	RT.		27+690	1.5						
RCP-2	RT.		27+840	1.5						
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	62.5	2	480.000	1396	

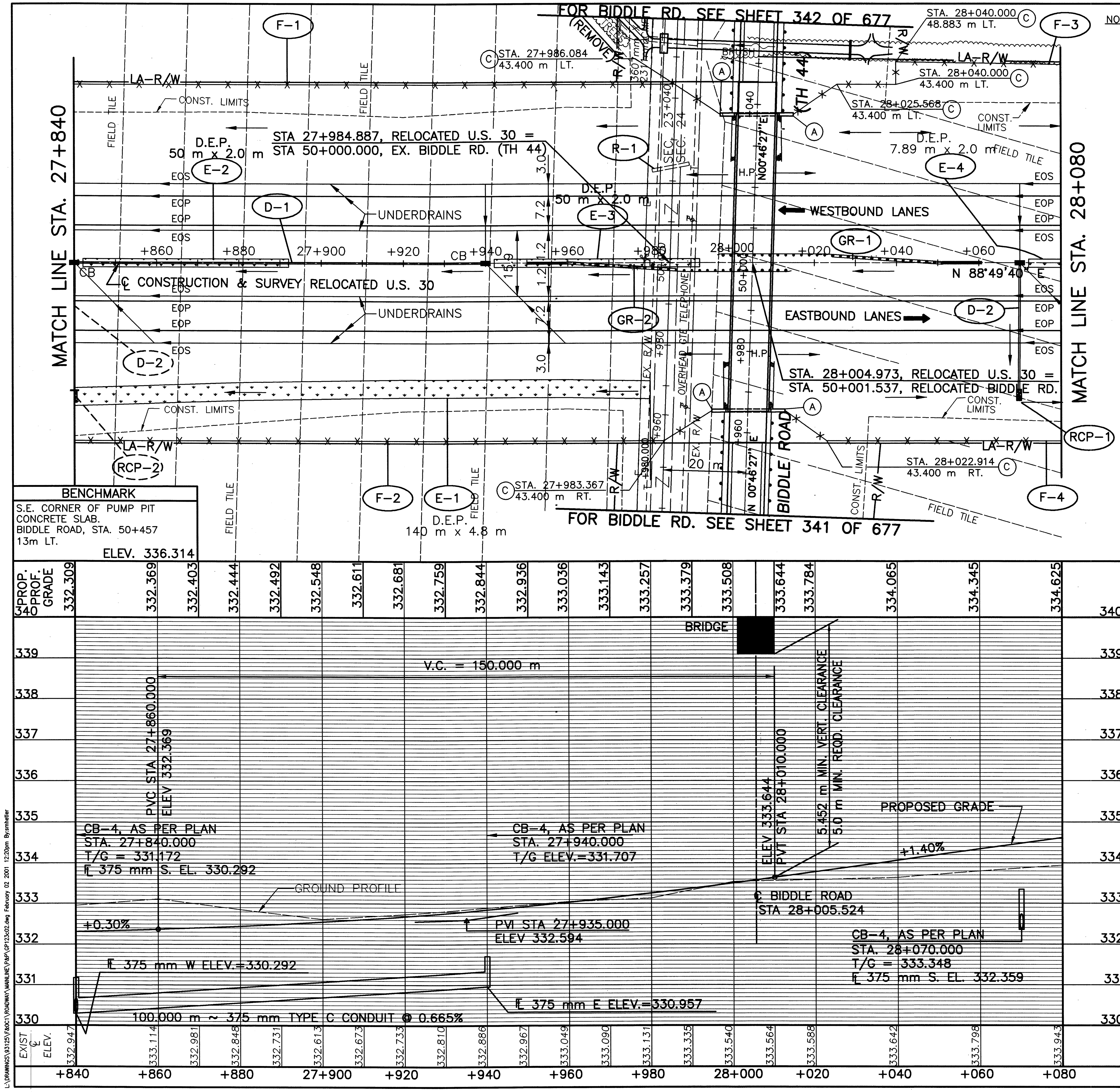
N

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 27+600 TO STA. 27+840

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

metric units

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

RATIO 1:500 HORIZONTAL SCALE IN METERS

ESTIMATED QUANTITIES

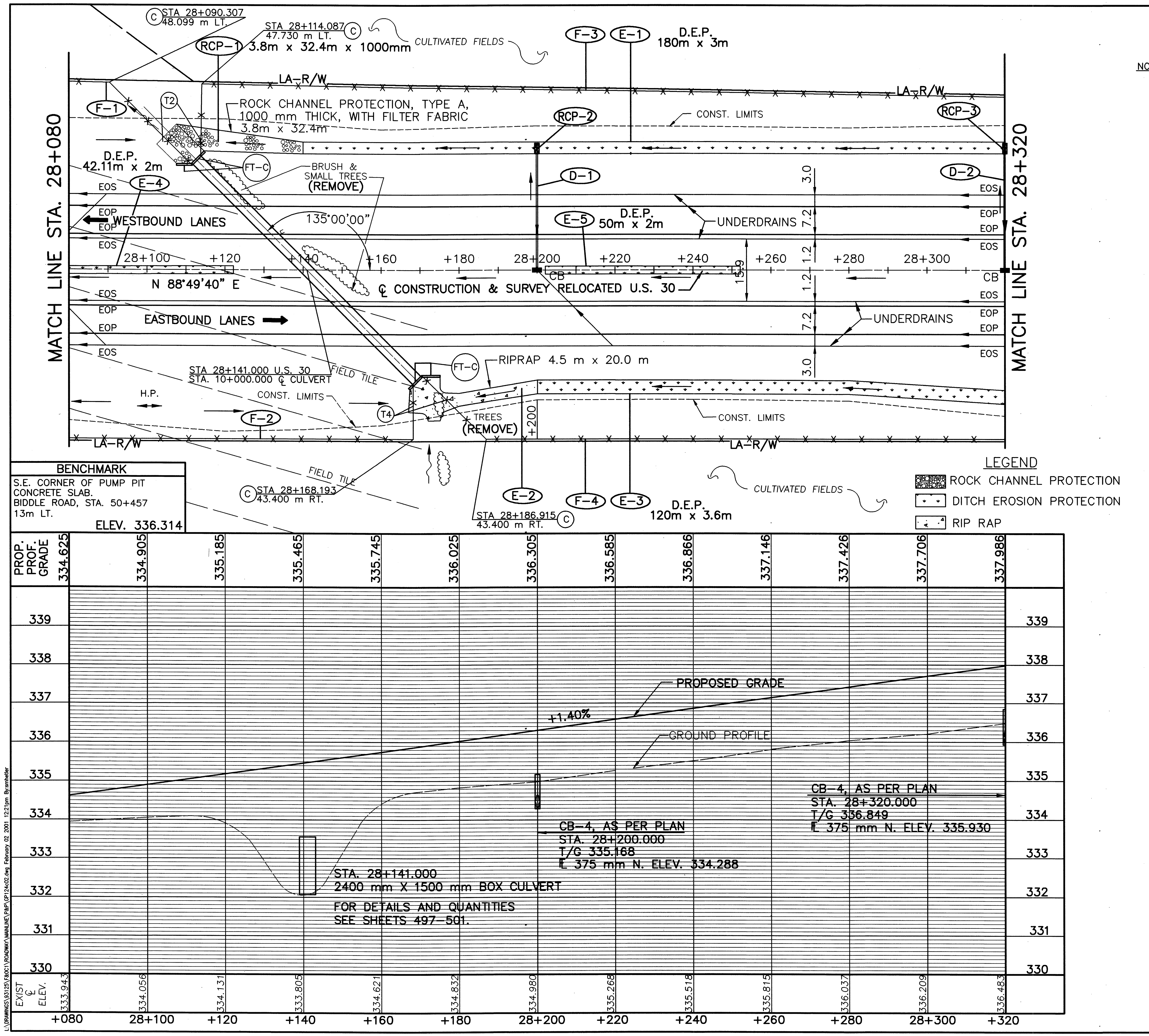
REF. No.	SIDE	STATION FROM	STATION TO	670 DITCH EROSION PROTECTION (S.M.)	607 FENCE TYPE 47 (METER)	606 BARRIER REFLECTOR TYPE A (EACH)	606 GUARDRAIL BARRIER DESIGN TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE T (EACH)	606 GUARDRAIL TYPE 5 (METER)	606 IMPACT ATTENUATOR BIDIRECTIONAL (EACH)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	603 375 mm CONDUIT TYPE C (METER)	603 375 mm CONDUIT TYPE B (METER)	602 CONCRETE MASONRY (C.M.)	601 PROTECTION TYPE C WITH FILTER (C.M.)	202 PIPE REMOVED 600 mm AND UNDER (METER)
D-1	℄	27+840	27+940								1	100.0				
D-2	℄/RT.	28+070									1		31.0	0.22		
E-1	RT.	27+840	27+980	672												
E-2	℄	27+842.110	27+892.110	100												
E-3	℄	27+942.110	27+992.110	100												
E-4	℄	28+072.110	28+080.000	15.8												
F-1	LT.	27+840	27+997.174		159.400											
F-2	RT.	27+840	27+994.965		157.083											
F-3	LT.	28+014.979	28+080		72.789											
F-4	RT.	28+012.772	28+080		69.624											
GR-1	LT.	27+997.797	28+060.737			3	30.480	1	19.050	1						
GR-2	RT.	27+950.105	28+013.045			3	30.480	1	19.050	1						
R-1	LT.	27+980	27+990													10.0
RCP-1	RT.	28+070													1.5	
TOTALS CARRIED TO SUB-SUMMARY				887.8	458.896	6	60.960	2	38.100	2	2	100.0	31.0	0.22	1.5	10.0

CALCULATED PSB

CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 27+840 TO STA. 28+080

CRA-30-24.000



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR PREFABRICATED STRUCTURE DETAILS SEE SHEETS 497-501 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

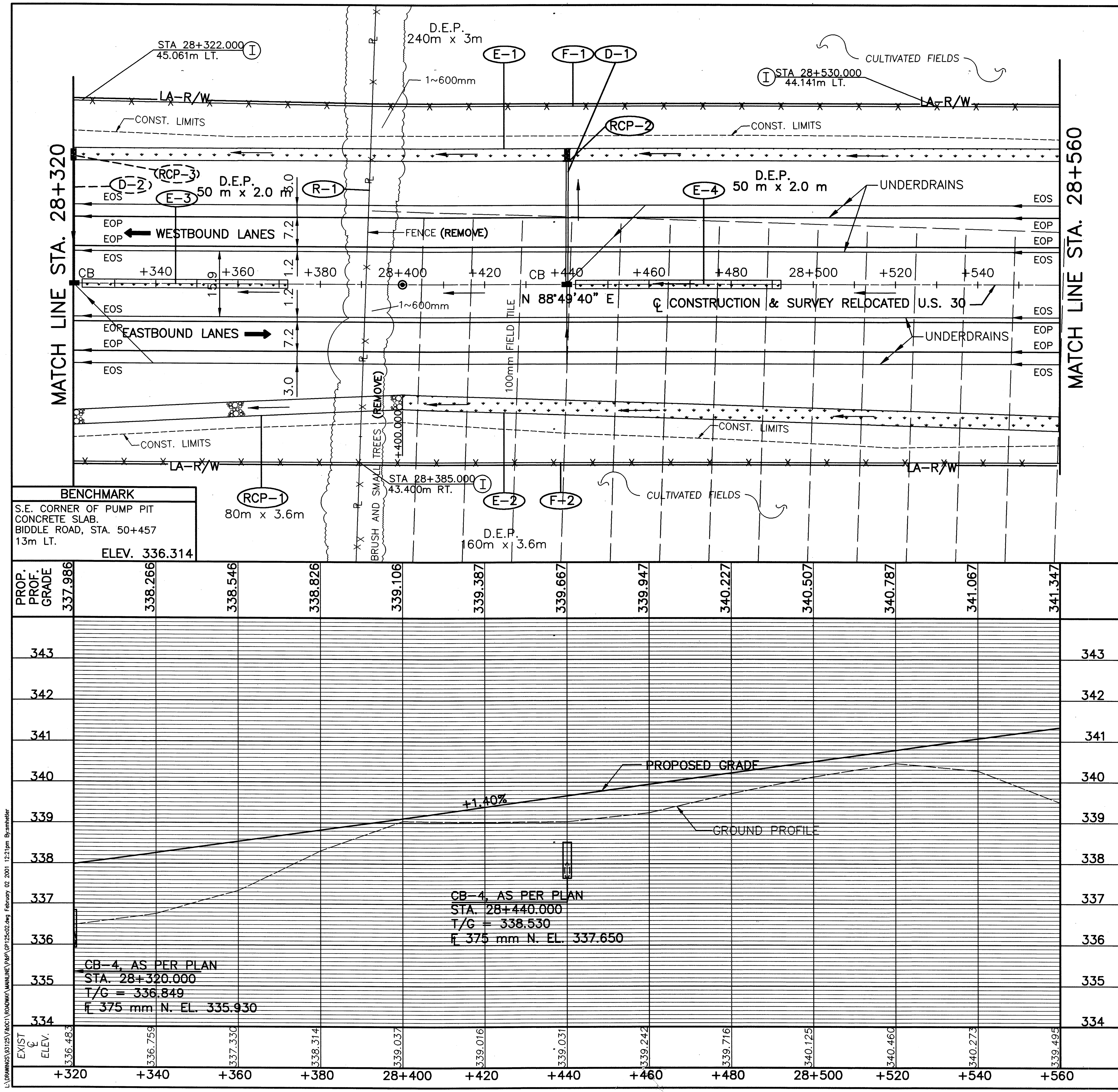
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B, WITH FILTER (C.M.)	601 RIPRAP USING 150 mm CONCRETE SLAB (S.M.)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/LT.	28+200					0.22	30.5	1		
D-2	℄/LT.	28+320					0.22	30.5	1		
E-1	LT.	28+140	28+320								540
E-2	LT.	28+180	28+200		90						
E-3	RT.	28+200	28+320								432
E-4	℄	28+080.000	28+122.110								84.2
E-5	℄	28+202.110	28+252.110								100
F-1	LT.	28+080	28+090.387							10.343	
F-2	RT.	28+080	28+168.193							88.148	
F-3	LT.	28+114.087	28+320							205.938	
F-4	RT.	28+186.915	28+320							133.085	
RCP-1	LT.	28+107.600	28+140	123							
RCP-2	LT.	28+200				1.5					
RCP-3	LT.	28+320				1.5					
TOTALS CARRIED TO SUB-SUMMARY				123	90	3.0	0.44	61.0	2	437.514	1156.2

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 28+080 TO STA. 28+320

CRA-30-24.000



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/LT.		28+440			0.22	30.0	1		
E-1	LT.	28+320	28+560							720
E-2	RT.	28+400	28+560							576
E-3	℄	28+322.110	28+372.110							100
E-4	℄	28+442.110	28+492.110							100
F-1	LT.	28+320	28+560						240.000	
F-2	RT.	28+320	28+560						240.000	
RCP-1	RT.	28+320	28+400		144					
RCP-2	LT.	28+440			1.5					
R-1	LT.&RT.	28+392		88						
TOTALS CARRIED TO SUB-SUMMARY				88	145.5	0.22	30.0	1	480.000	1496

RATIO 1:500

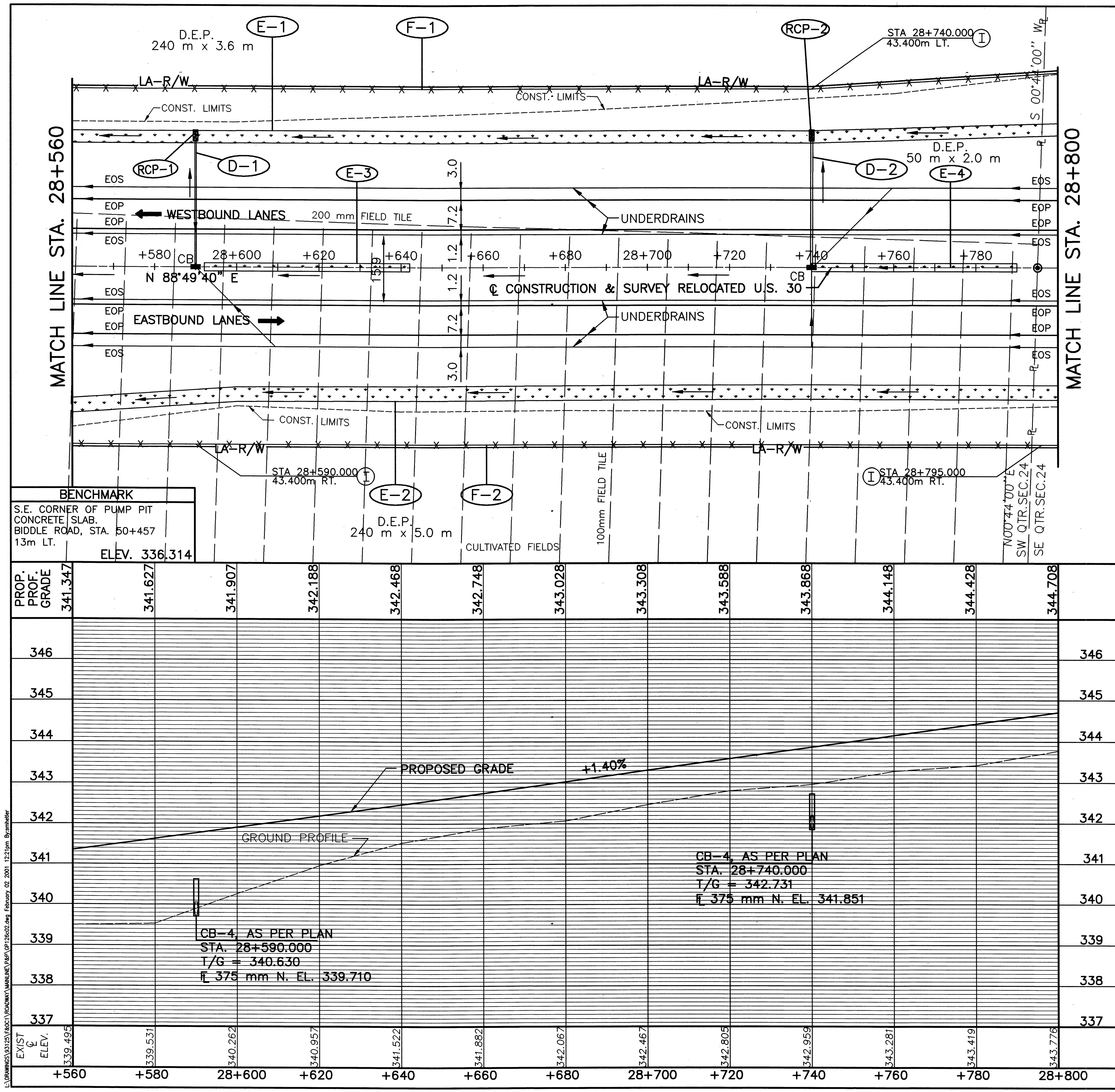
HORIZONTAL SCALE IN METERS 0 5 10 20

CALCULATED PSB

CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 28+320 TO STA. 28+560

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

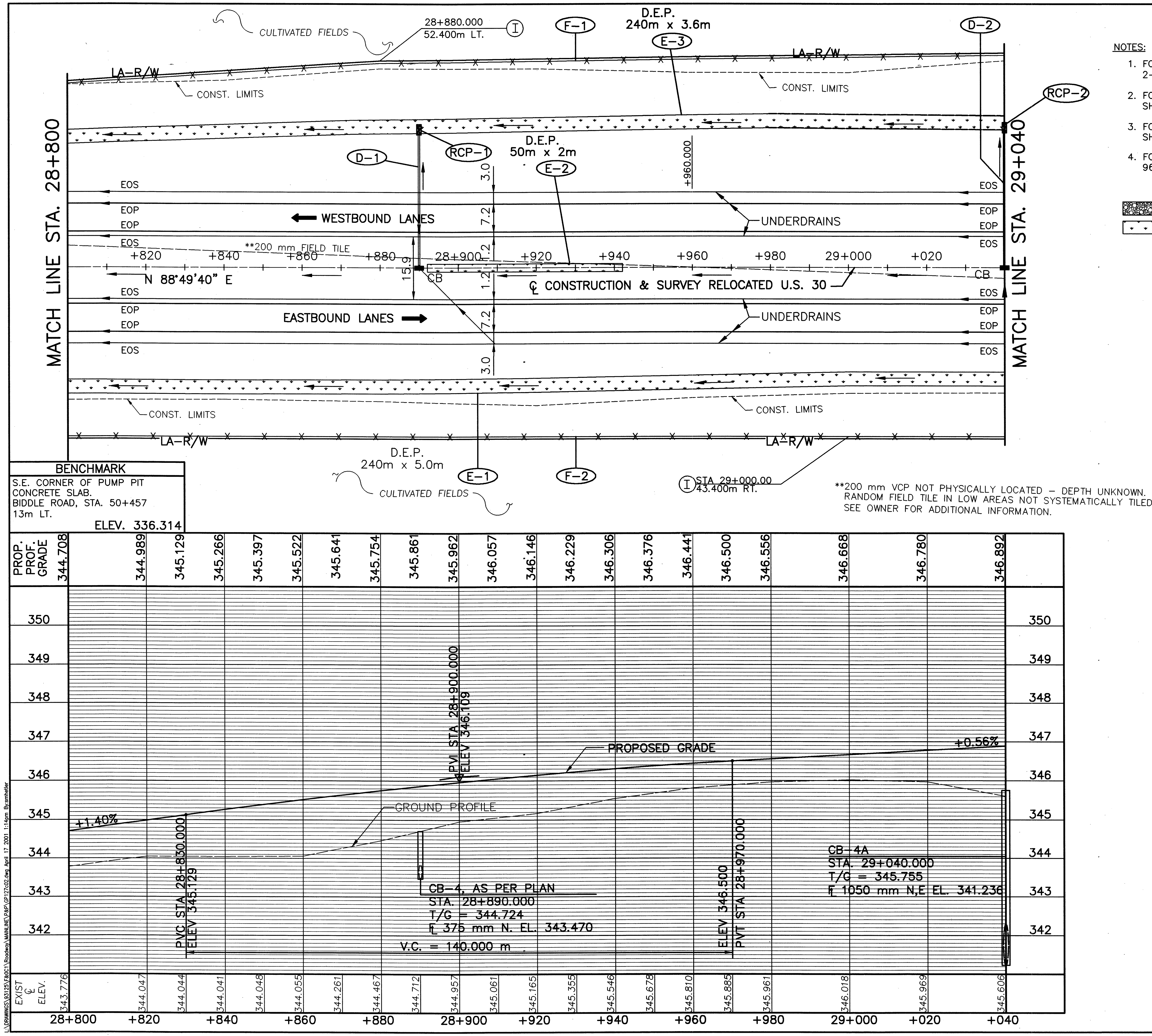
CALCULATED PSB
CHECKED LBD

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)	
D-1	℄/LT.	28+590			0.22	31.0	1			
D-2	℄/LT.	28+740			0.22	31.0	1			
E-1	LT.	28+560	28+800						864	
E-2	RT.	28+560	28+800						1200	
E-3	℄	28+592.110	28+642.110						100	
E-4	℄	28+742.110	28+792.110						100	
F-1	LT.	28+560	28+800					240.000		
F-2	RT.	28+560	28+800					240.000		
RCP-1	LT.	28+590		1.5						
RCP-2	LT.	28+740		1.5						
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	62.0	2	480.000	2264	

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 28+560 TO STA. 28+800

CRA-30-24.000



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	603 1050mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4A AS PER PLAN (EACH)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/LT.	28+890			0.22	34.5			1		
D-2	℄/LT.	29+040			0.75		39.3	1			
E-1	RT.	28+800	29+040								1200
E-2	℄	28+892.110	28+942.110								100
E-3	LT.	28+800	29+040								864
F-1	LT.	28+320	28+560							240	
F-2	RT.	28+320	28+560							240	
RCP-1	LT.	28+890		1.5							
RCP-2	LT.	29+040		2.93							
TOTALS CARRIED TO SUB-SUMMARY				4.43	0.97	34.5	39.3	1	1	480	2164

RATIO 1:500

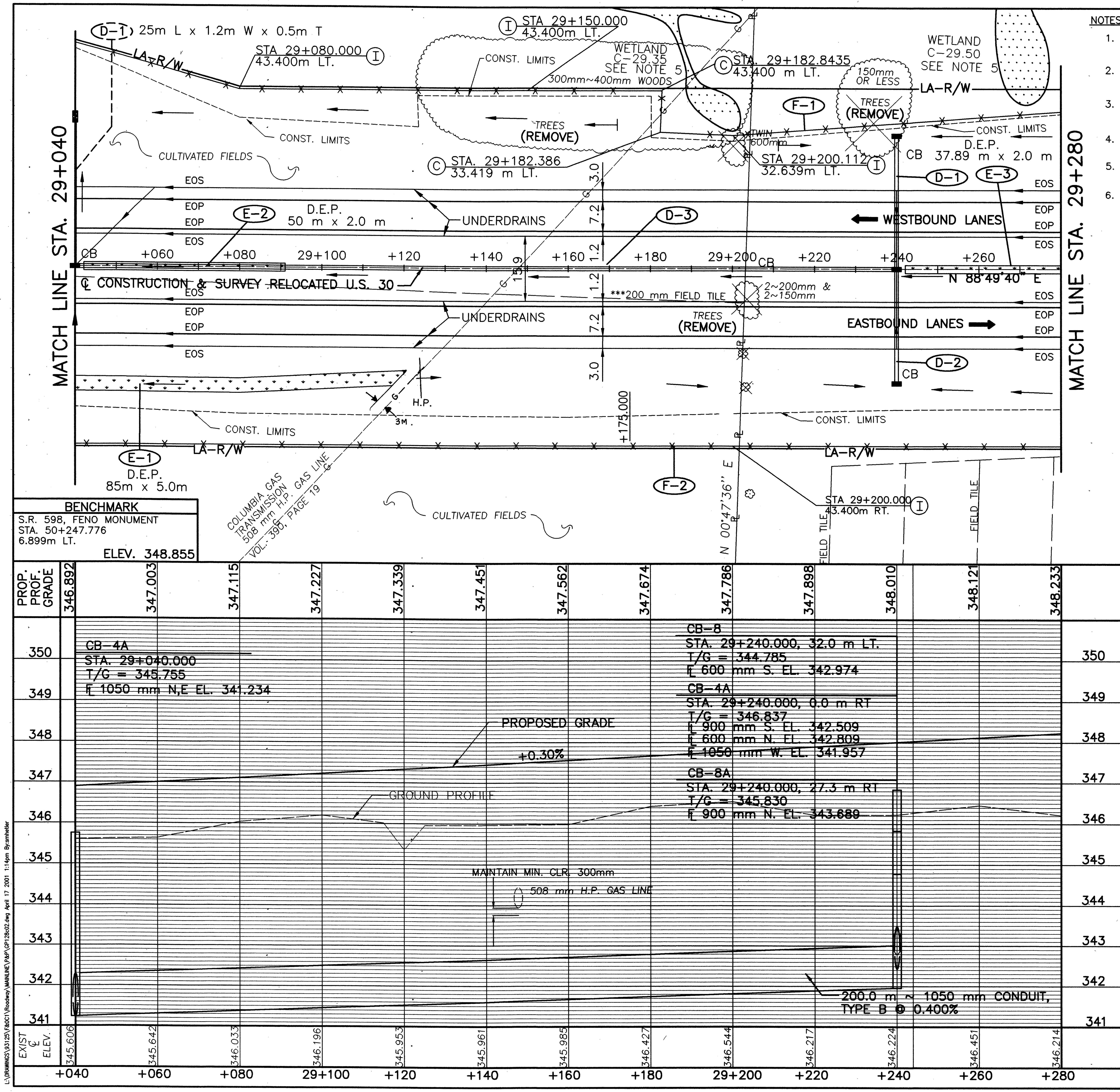
0 10 20 HORIZONTAL SCALE IN METERS

CALCULATED PSB

CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 28+800 TO STA. 29+040

CRA-30-24.000



NOTES:

1. FOR C MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR NOTES CONCERNING PROTECTION OF WETLAND SEE SHEET 25 OF 677.
6. EXISTING GROUND ELEVATIONS AT DITCH HIGH POINT LOCATION (LT. & RT.) OVER THE 508 mm GAS LINE SHALL BE MAINTAINED. NO DITCH SECTION SHALL BE CUT AT THESE HIGH POINT LOCATIONS.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

***200 mm VCP NOT PHYSICALLY LOCATED – DEPTH UNKNOWN. RANDOM FIELD TILE IN LOW AREAS NOT SYSTEMATICALLY TILED. SEE OWNER FOR ADDITIONAL INFORMATION.

** 706.02, (D-LOAD 75), 707.12, 707.33

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	603 600 mm CONDUIT TYPE B **	603 900 mm CONDUIT TYPE B **	603 1050 mm CONDUIT TYPE B **	604 CATCH BASIN, NO. 4A AS PER PLAN	604 CATCH BASIN, NO.-8	604 CATCH BASIN, NO.-8A	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION
				METER	METER	METER	EACH	EACH	EACH	METER	S.M.
D-1	LT./℄	29+240	29+240	33.2				1			
D-2	RT./℄	29+240	29+240		30.0				1		
D-3	℄	29+240	29+040			200.0	1				
E-1	RT.	29+040	29+125								425
E-2	℄	29+042.110	29+092.110								100
E-3	℄	29+242.110	29+280.000								75.8
F-1	LT.	29+040	29+280							240.000	
F-2	RT.	29+040	29+280							240.000	
TOTALS CARRIED TO SUB-SUMMARY				33.2	30.0	200.0	1	1	1	480.000	600.8

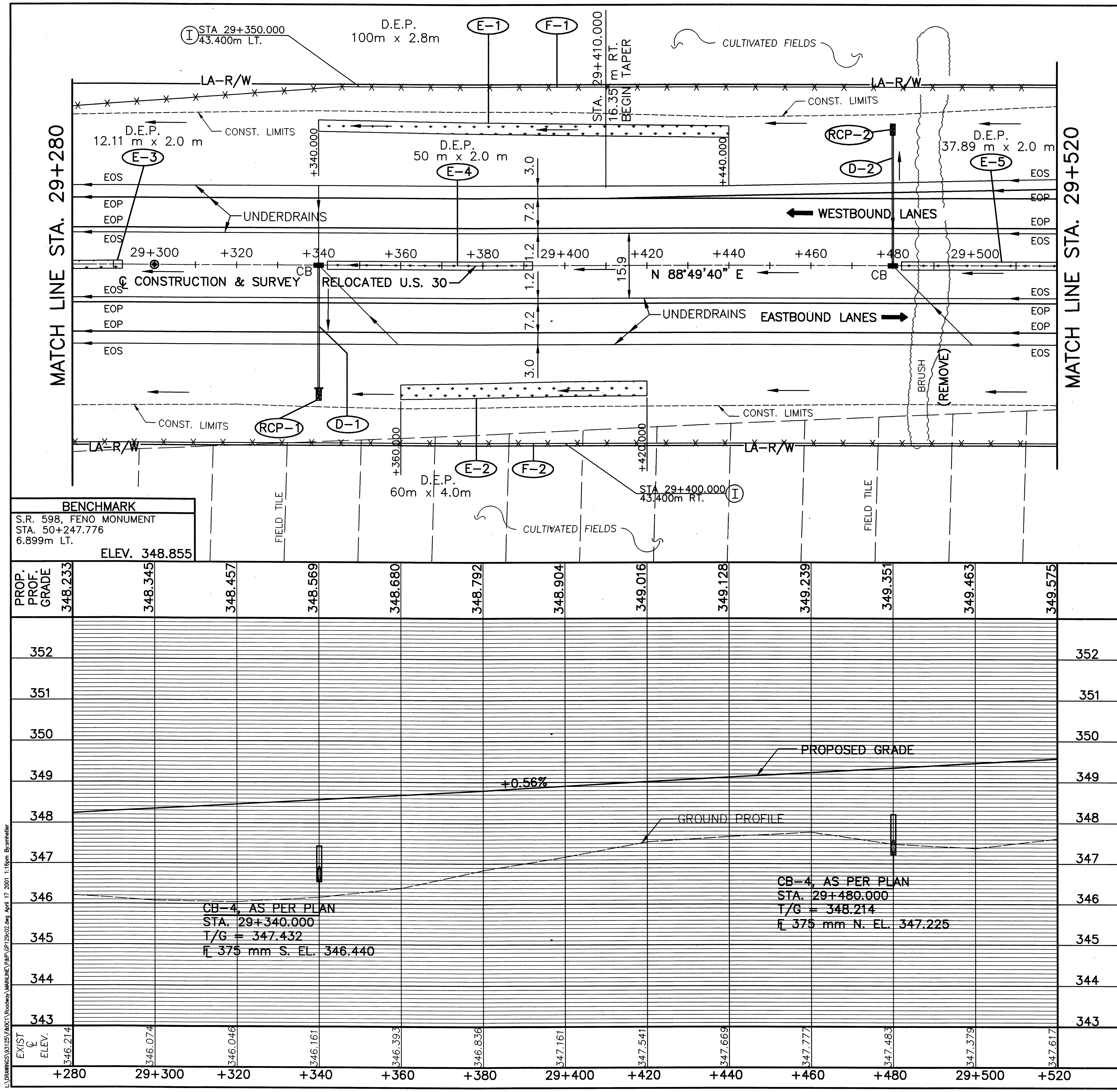
metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 29+040 TO STA. 29+280

CRA-30-24.000



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	604 CATCH BASIN NO. 4 AS PER PLAN	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION
				C.M.	C.M.	METER	EACH	METER	S.M.
D-1	℄/RT.	29+340			0.22	30.0	1		
D-2	℄/LT.	29+480			0.22	32.5	1		
E-1	LT.	29+340	29+440						280
E-2	RT.	29+360	29+420						240
E-3	℄	29+280.000	29+292.110						24.2
E-4	℄	29+342.110	29+392.110						100
E-5	℄	29+482.110	29+520.000						75.8
F-1	LT.	29+280	29+520					240.000	
F-2	RT.	29+280	29+520					240.000	
RCP-1	RT.	29+340		1.5					
RCP-2	LT.	29+480		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	62.5	2	480.000	720

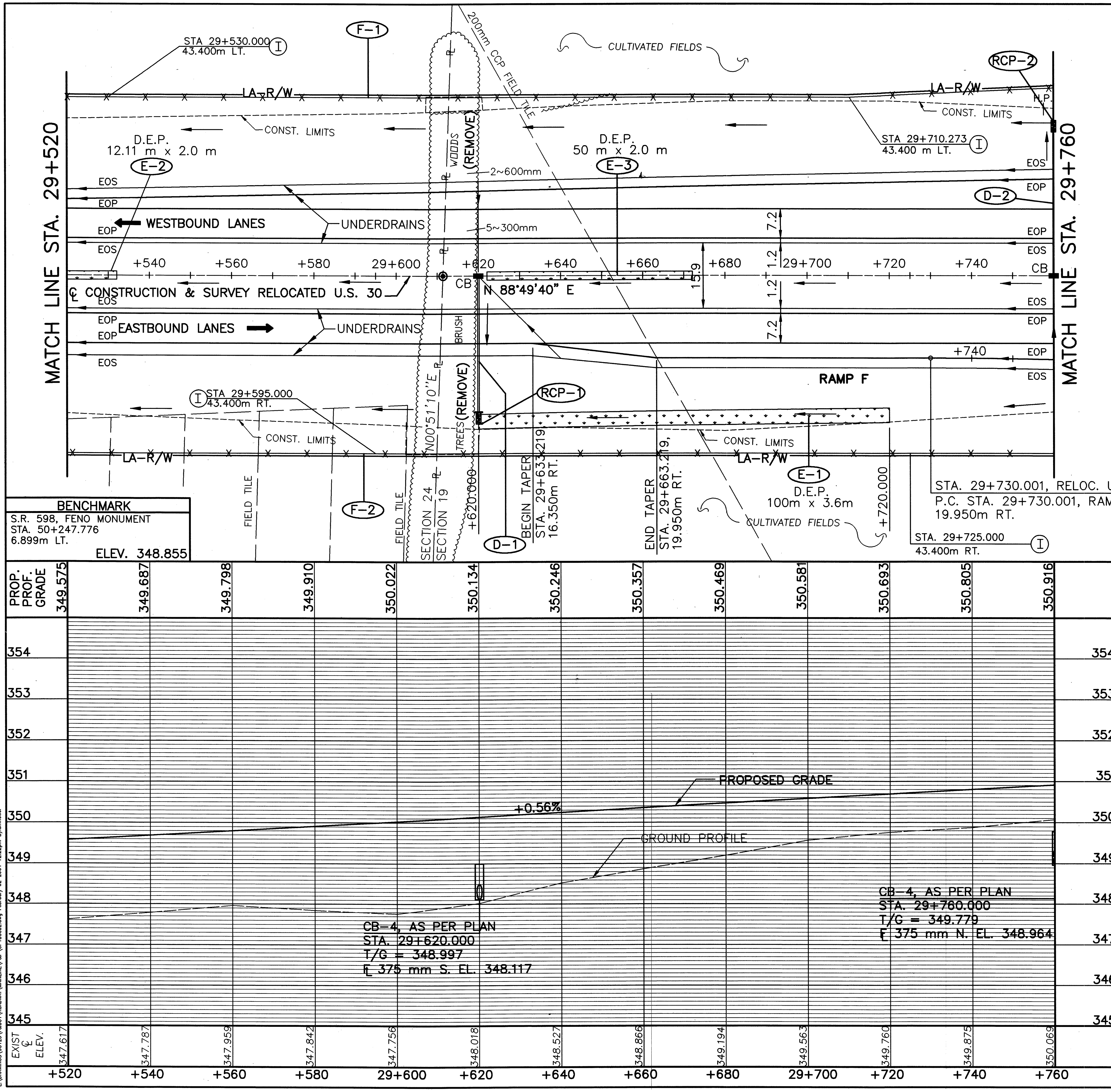
RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 29+280 TO STA. 29+520

CRA-30-24.000

118
677



metric units

RAMP F CURVE DATA

PI STA. F9+816.603
Δ =07°55'44" RT.
R=1250.000 m
T=86.629 m
L=172.982 m
E=2.998 m
CH =S 87°12'28' E
LC=172.844 m

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

NOTES:

1. FOR ₵ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

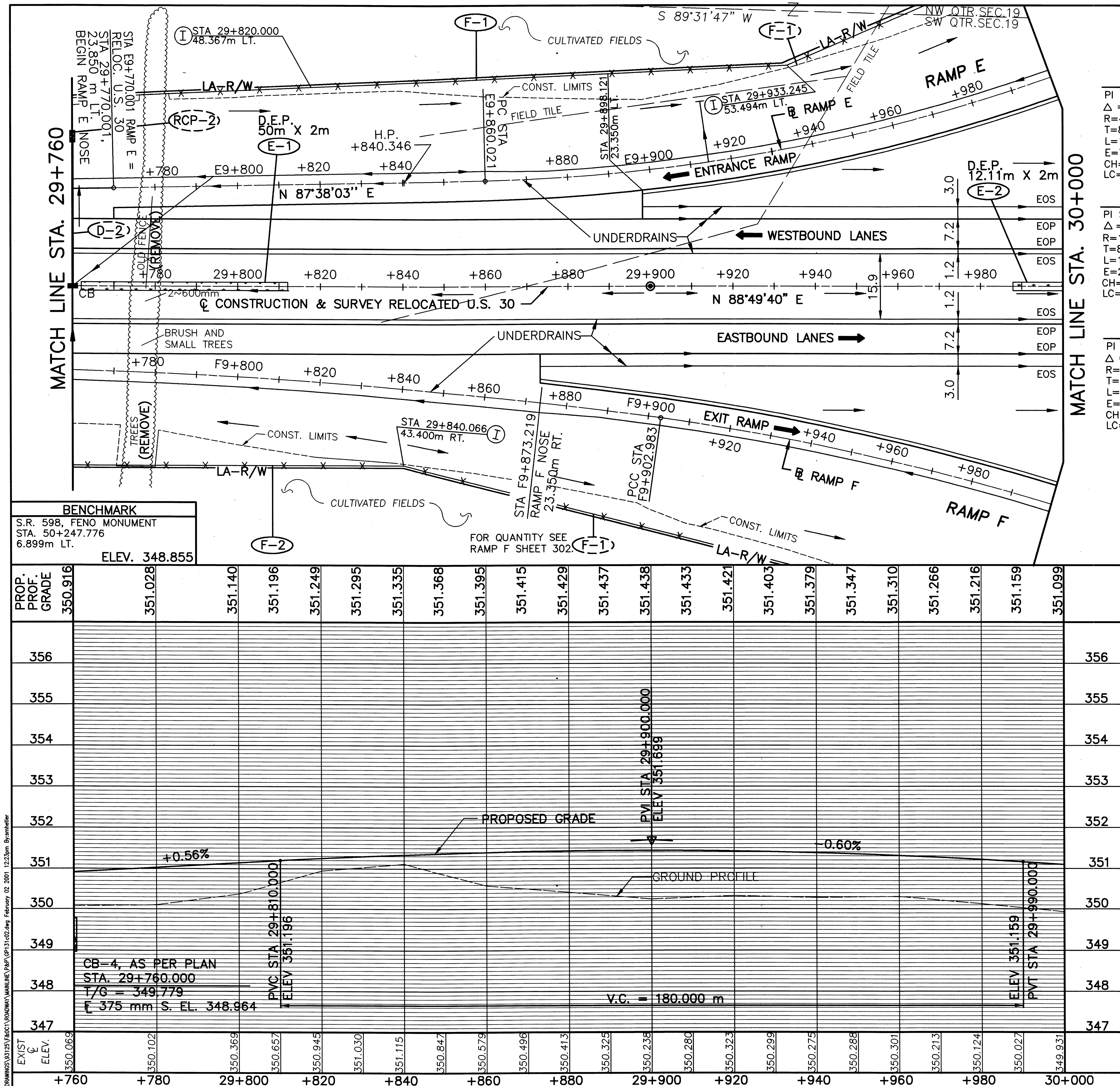
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	₵/RT.	29+620	29+620		0.22	33.0	1		
D-2	₵/LT.	29+760	29+760		0.22	35.5	1		
E-1	RT.	29+620	29+720						360
E-2	₵	29+520.000	29+532.110						24.2
E-3	₵	29+622.110	29+672.110						100
F-1	LT.	29+520	29+760					240.000	
F-2	RT.	29+520	29+760					240.000	
RCP-1	RT.	29+620	29+620	1.5					
RCP-2	LT.	29+760	29+760	1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	68.5	2	480.000	504.2

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30 STA. 29+520 TO STA. 29+760

CRA-30-24.000



RAMP E CURVE DATA
PI STA. E9+943.979
Δ =21°36'21" LT.
R=440.000 m
T=83.958 m
L=165.922 m
E=7.939 m
CH=N 76°49'53" E
LC=164.941 m

RAMP F CURVE DATA
PI STA. F9+816.630
Δ =07°55'44" RT.
R=1250.000 m
T=86.629 m
L=172.982 m
E=2.998 m
CH=S 87°12'28" E
LC=172.844 m

RAMP F CURVE DATA
PI STA. F9+963.504
Δ =11°31'11" RT.
R=600.000 m
T=60.521 m
L=120.634 m
E=3.045 m
CH=S 77°29'00" E
LC=120.431 m

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR RAMP E RELATED QUANTITIES SEE SHEETS 297-298 OF 677.
6. FOR RAMP F RELATED QUANTITIES SEE SHEETS 302-303 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (C.M.)
F-1	LT.	29+760	29+933.245	173.245	
F-2	RT.	29+760	29+840.066	80.066	
E-1	℄	29+762.110	29+812.110		100
E-2	℄	29+987.890	30+000.000		24.2
TOTALS CARRIED TO SUB-SUMMARY				253.311	124.2

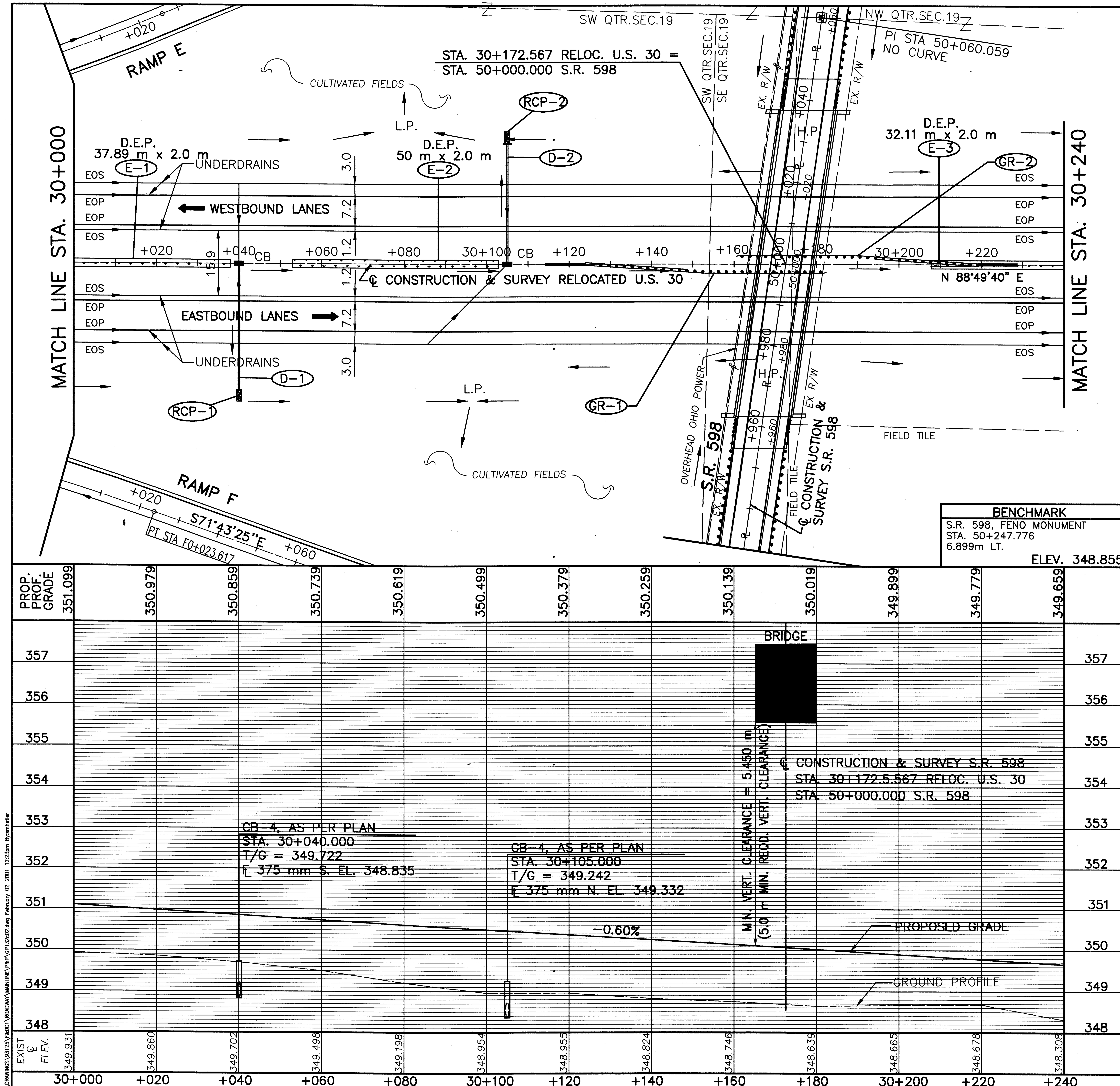
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 29+760 TO STA. 30+000

CRA-30-24.000



BENCHMARK

S.R. 598, FENO MONUMENT
STA. 50+247.776
6.899m LT.
ELEV. 348.855

LEGEND

ROCK CHANNEL PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	606 IMPACT ATTENUATOR BIDIRECTIONAL (EACH)	606 GUARDRAIL BARRIER DESIGN TYPE 5 (METER)	606 BARRIER REFLECTOR TYPE A (EACH)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE T (EACH)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/RT.	30+040			0.22	31.0	1						
D-2	℄/LT.	30+105			0.22	29.0	1						
E-1	℄	30+000.000	30+037.890										75.8
E-2	℄	30+057.890	30+107.890										100
E-3	℄	30+207.890	30+240.000										64.2
GR-1	RT.	30+114.257	30+181.007					1	30.480	3	22.860	1	
GR-2	LT.	30+161.947	30+228.697					1	30.480	3	22.860	1	
RCP-1	RT.	30+040		1.5									
RCP-2	LT.	30+105		1.5									
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	60.0	2	2	60.960	6	45.720	2	240

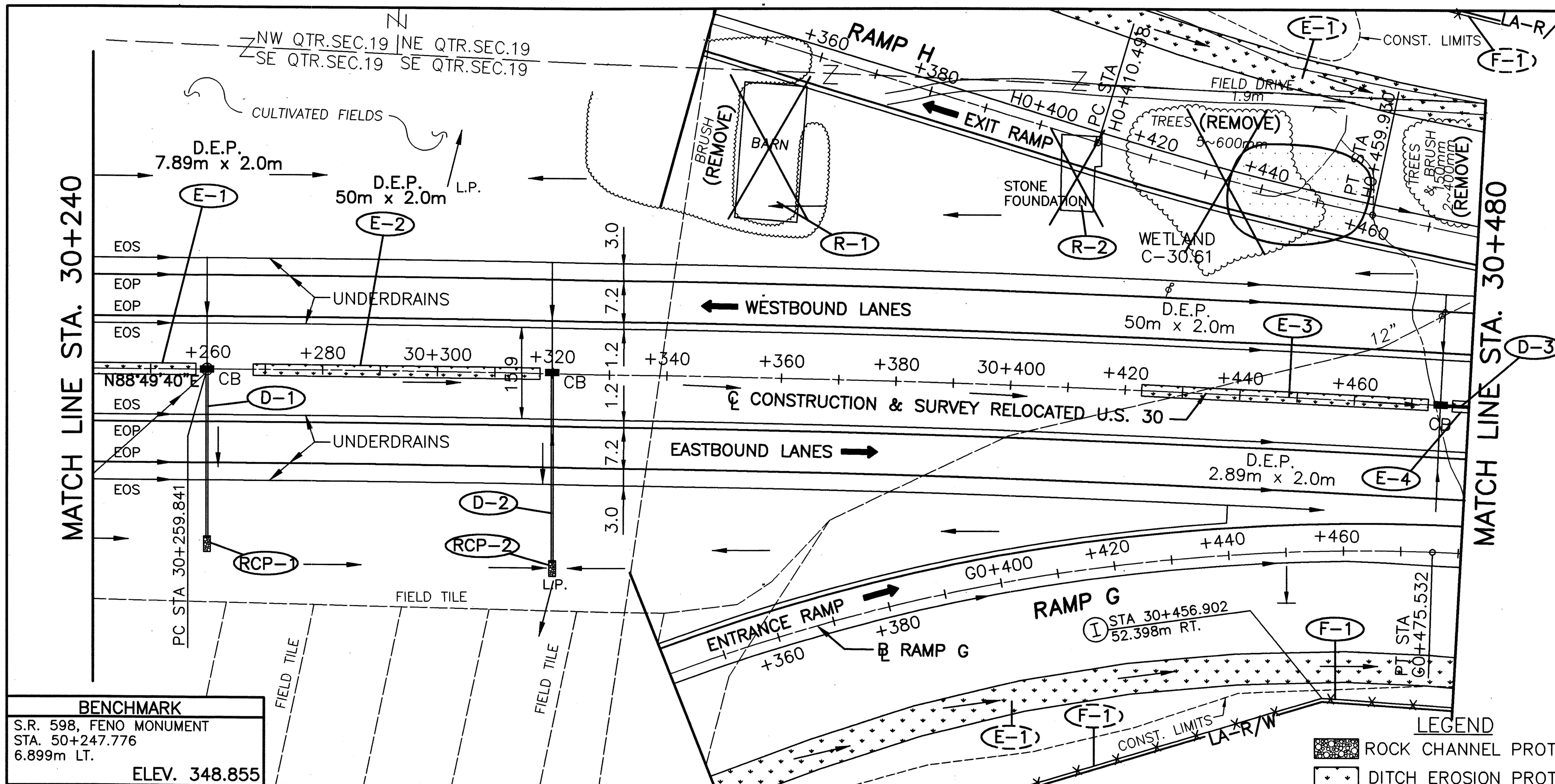
metric units

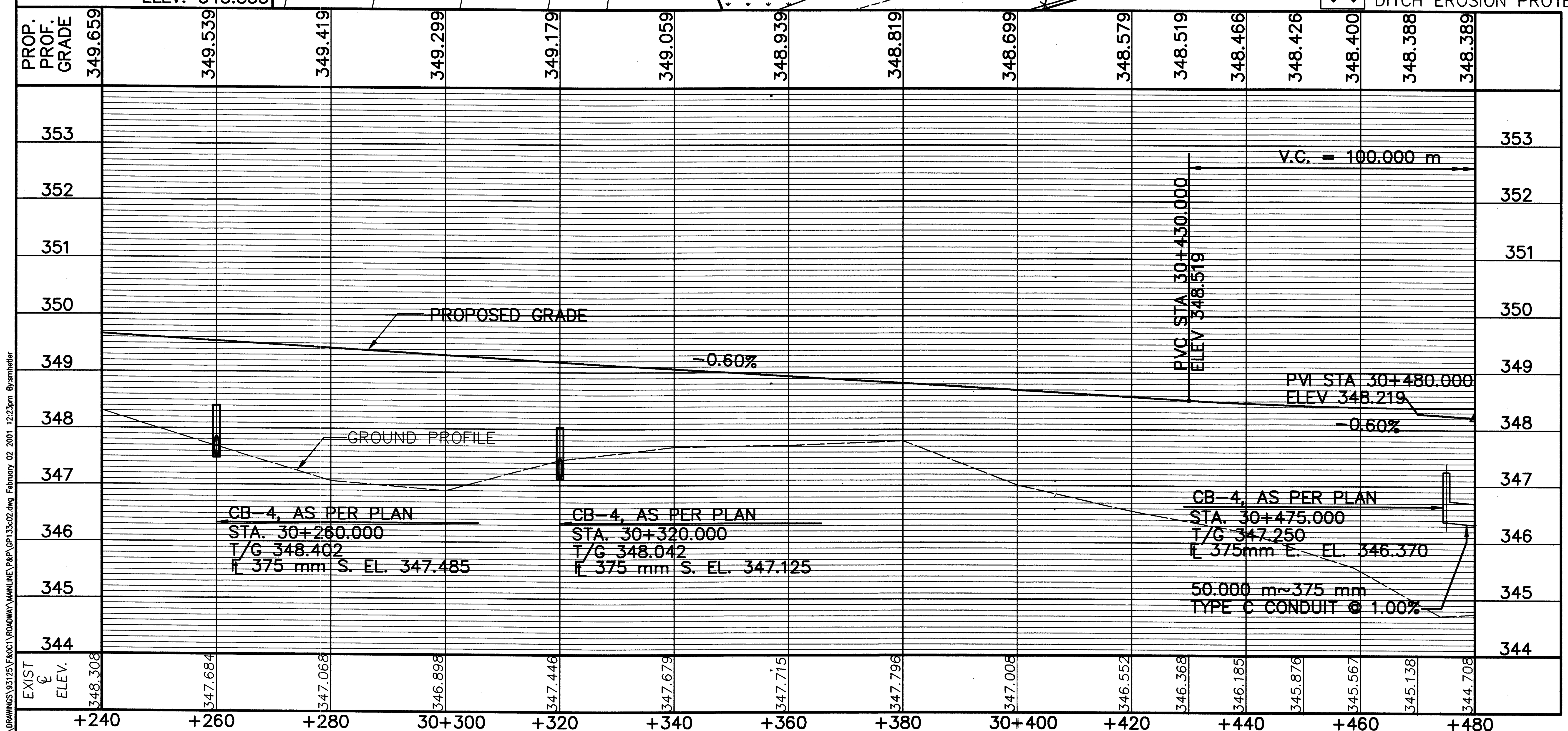
RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 30+000 TO STA. 30+240

CRA-30-24.000





RELOCATED U.S. 30 CURVE DATA
PI STA. 30+660.114
Δ =11°15'40" RT.
R=4060.000 m
T=400.273 m
L=797.967 m
E=19.684 m
CH=S 85°32'30" E
LC=796.683 m
eMAX= NONE

RAMP H CURVE DATA
PI STA. H0+435.200
Δ =04°43'13" LT.
R=600.000 m
T=24.730 m
L=49.432 m
E=0.509 m
CH=S 76°41'31" E
LC=49.418 m
eMAX= NONE

RAMP G CURVE DATA
PI STA. G0+401.603
Δ =24°35'21" RT.
R=350.000 m
T=76.278 m
L=150.206 m
E=8.215 m
CH=N 78°22'34" E
LC=149.056 m
eMAX= NONE

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR RAMP G RELATED QUANTITIES SEE SHEETS 307-308 OF 677.
6. FOR RAMP H RELATED QUANTITIES SEE SHEETS 312-313 OF 677.

ESTIMATED QUANTITIES

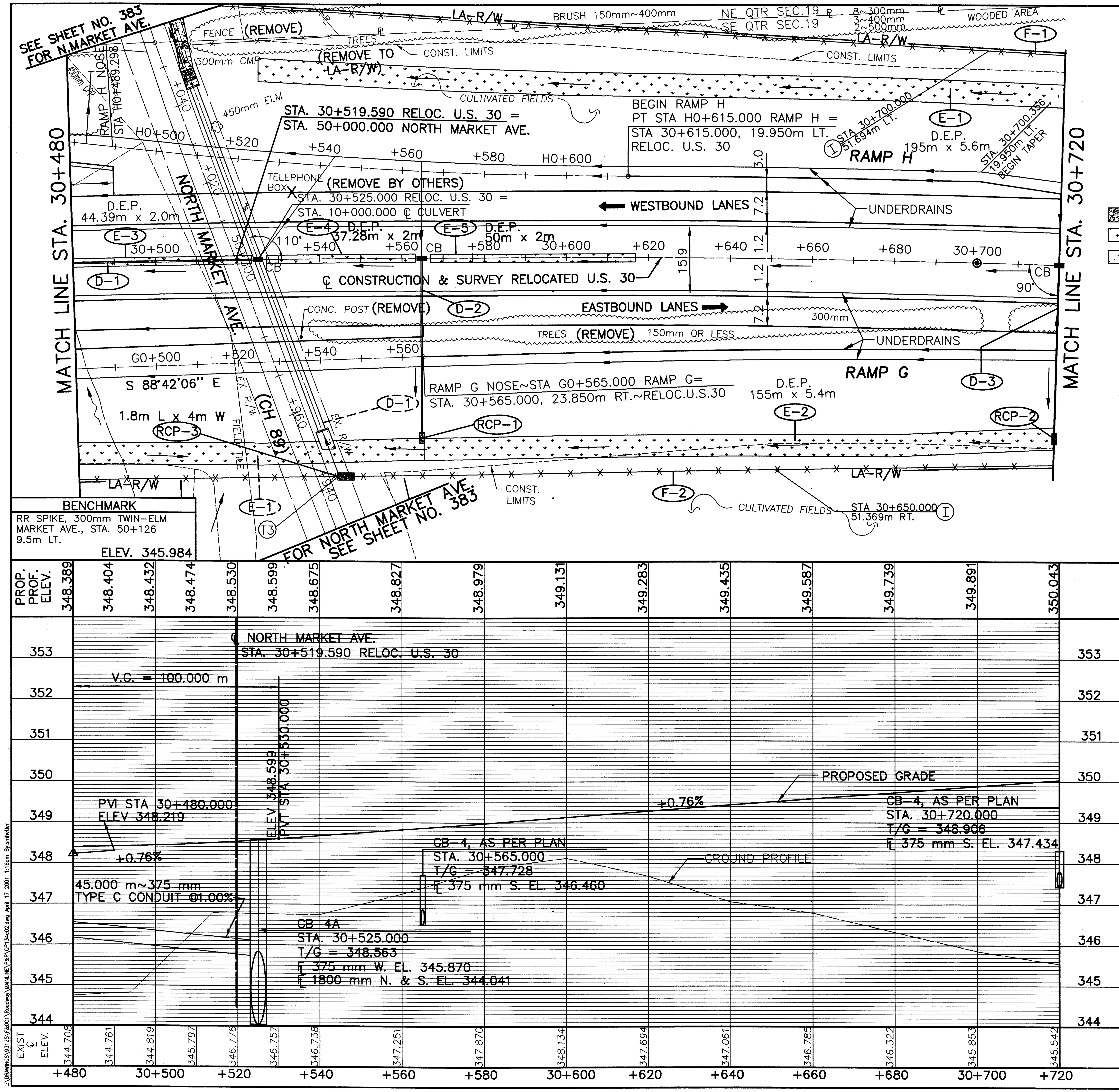
REF. No.	SIDE	STATION FROM	STATION TO	202 BUILDING DEMOLISHED	202 STONE FOUNDATION REMOVED	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	603 375 mm CONDUIT TYPE C	604 CATCH BASIN NO. 4 AS PER PLAN	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION
				LUMP	LUMP	C.M.	C.M.	METER	METER	EACH	METER	S.M.
D-1	℄/RT.		30+260				0.22	29.5		1		
D-2	℄/RT.		30+320				0.22	33.0		1		
D-3	℄	30+475	30+480						5.0	1		
E-1	℄	30+240.000	30+257.890									35.8
E-2	℄	30+267.890	30+317.890									100
E-3	℄	30+422.890	30+472.890									100
E-4	℄	30+477.110	30+480.000									5.8
F-1	RT.	30+456.902	30+480								23.098	
R-1	LT.	30+360		1								
R-2	LT.	30+410			1							
RCP-1	RT.		30+260			1.5						
RCP-2	RT.		30+320			1.5						
TOTALS CARRIED TO SUB-SUMMARY				1	1	3.0	0.44	62.5	5.0	3	23.098	241.6

RATIO 1:500 HORIZONTAL SCALE IN METERS 0 5 10 20

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 30+240 TO STA. 30+480

CRA-30-24.000



RELOCATED U.S. 30
CURVE DATA
PI STA. 30+660.114
Δ =11°15'40" RT.
R=4060.000 m
T=400.273 m
L=797.967 m
E=19.684 m
CH=S 85°32'30" E
LC=796.683 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502–505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
4. FOR CULVERT DETAILS AND QUANTITIES SEE SHEET 444 OF 677
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR RAMP G RELATED QUANTITIES SEE SHEET 307–308 OF 677.

LEGEND
ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION
RIP RAP

ESTIMATED QUANTITIES

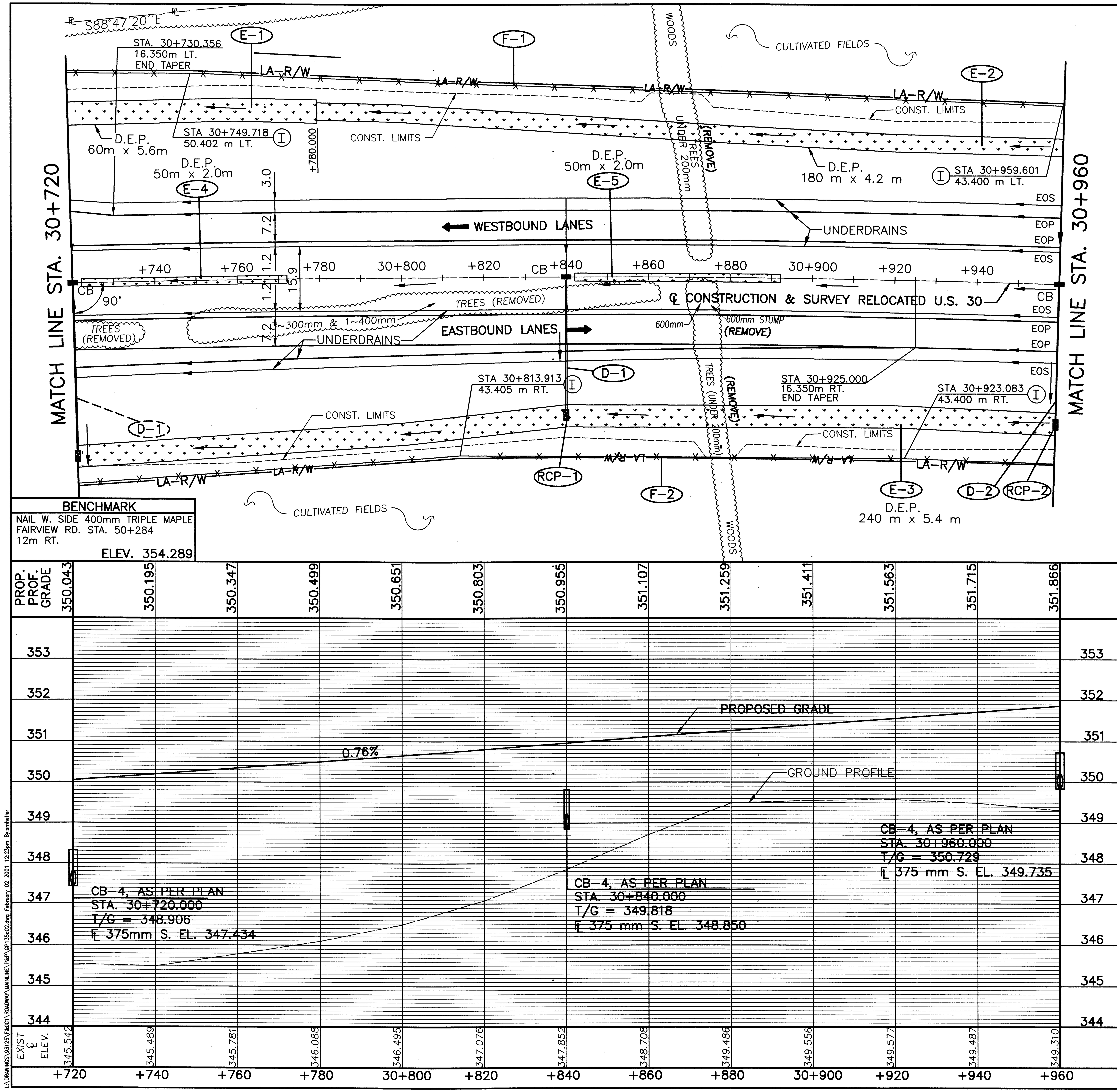
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/ FILTER C.M.	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER C.M.	602 CONCRETE MASONRY C.M.	603 375 mm CONDUIT TYPE B METER	603 375 mm CONDUIT TYPE C METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	604 CATCH BASIN NO. 4A AS PER PLAN EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
D-1	℄	30+480	30+525					45.0		1		
D-2	℄ RT.	30+565				0.22	43.0		1			
D-3	℄ RT.	30+720				0.22	41.0		1			
E-1	LT.	30+525	30+720									1092
E-2	RT.	30+565	30+720									837
E-3	℄	30+480.000	30+524.390									88.8
E-4	℄	30+527.110	30+564.390									74.6
E-5	℄	30+567.110	30+617.110									100
F-1	LT.	30+517.036	30+720								206.068	
F-2	RT.	30+480	30+720								240.000	
RCP-1	RT.	30+565			1.5							
RCP-2	RT.	30+720			1.5							
RCP-3	RT.	30+545		3.6								
TOTALS CARRIED TO SUB-SUMMARY				3.6	3.0	0.44	84.0	45.0	2	1	446.068	2192.4

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 30+480 TO STA. 30+720

CRA–30–24.000



RELOCATED U.S. 30 CURVE DATA

PI STA. 30+660.114
Δ =11°15'40" RT.
R=4060.000 m
T=400.273 m
L=797.967 m
E=19.684 m
CH=S 85°32'30" E
LC=796.683 m

LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

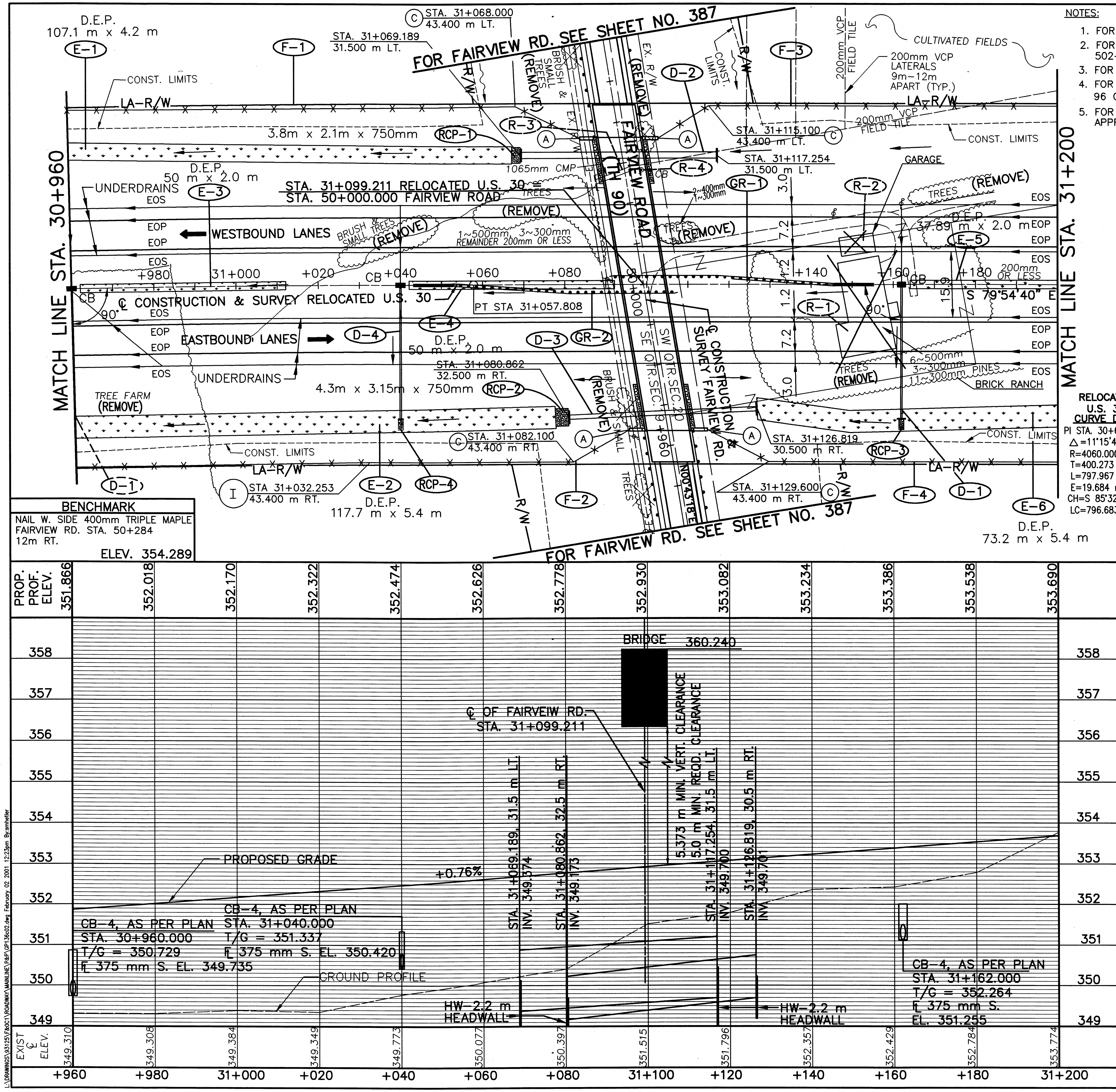
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/RT.	30+840			0.22	32.5	1		
D-2	℄/RT.	30+960			0.22	33.0	1		
E-1	LT.	30+720	30+780						336
E-2	LT.	30+780	30+960						756
E-3	RT.	30+720	30+960						1296
E-4	℄	30+722.110	30+772.110						100
E-5	℄	30+842.110	30+892.110						100
F-1	LT.	30+720	30+960					240.000	
F-2	RT.	30+720	30+960					240.000	
RCP-1	RT.	30+840		1.5					
RCP-2	RT.	30+960		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	65.5	2	480.000	2588

RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 30+720 TO STA. 30+960

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEETS 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR PIPE AND CATCH BASIN QUANTITIES AT BRIDGE APPROACHES SEE SHEET 456 OF 677.

metric units

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B, WITH FILTER (C.M.)	601 ROCK CHANNEL PROTECTION TYPE C, WITH FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	603 1050 mm CONDUIT TYPE C (METER)	603 1500 mm CONDUIT TYPE C (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	606 IMPACT ATTENUATOR BIDIRECTIONAL (EACH)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE T (EACH)	606 GUARDRAIL BARRIER DESIGN TYPE 5 (METER)	606 BARRIER REFLECTOR TYPE A (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄ RT.	31+162				0.22	33.0			1							
D-2	LT.	31+069.189	31+117.254			1.85			48.0								
D-3	RT.	31+080.862	31+126.819			0.82		46.0									
D-4	℄ RT.	31+040				0.22	33.0			1							
E-1	LT.	30+960.000	31+067.089														446
E-2	RT.	30+960.000	31+077.712														637
E-3	℄	30+962.110	31+012.110														100
E-4	℄	31+042.110	30+092.110														100
E-5	℄	31+162.110	31+200.000														75.8
E-6	RT.	31+126.819	31+200.000														395
F-1	LT.	30+960.000	31+083.721													126.539	
F-2	RT.	30+960.000	31+102.723													136.740	
F-3	LT.	31+095.697	31+200.000													99.533	
F-4	RT.	31+114.699	31+200.000													87.233	
GR-1	LT.	31+092.318	31+155.258								1	19.050	1	30.480	3		
GR-2	RT.	31+043.165	31+106.105								1	19.050	1	30.480	3		
RCP-1	LT.	31+069.089	31+069.189	6													
RCP-2	RT.	31+077.712	31+080.862	10													
RCP-3	RT.	31+162			1.5												
RCP-4	RT.	31+040			1.5												
TOTALS CARRIED TO SUB-SUMMARY				16	3.0	3.11	66.0	46.0	48.0	2	2	38.100	2	60.960	6	450.045	1753.8

RATIO 1:500

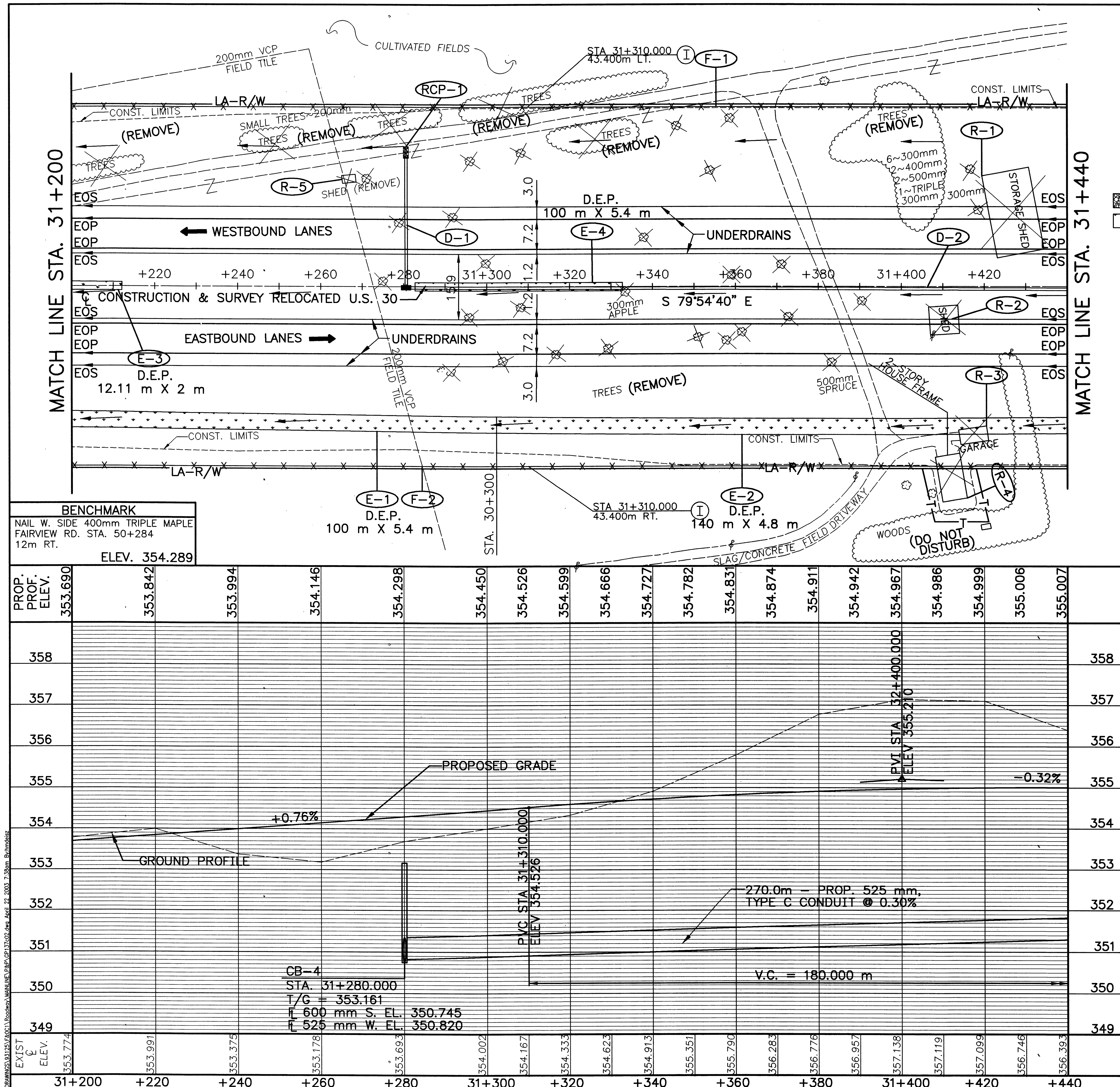
HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED PSB

CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 30+960 TO STA. 31+200

CRA-30-24.000



BENCHMARK
NAIL W. SIDE 400mm TRIPLE MAPLE
FAIRVIEW RD. STA. 50+284
12m RT.
ELEV. 354.289

metric units

NOTES:

1. FOR ₵ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

REVISIONS 04-23-03
MEDIAN STORM SEWER ADDED TO PLANS.
DITCH FLOW ARROWS REVISED.
QUANTITIES REVISED ARE INDICATED WITH *

ESTIMATED QUANTITIES

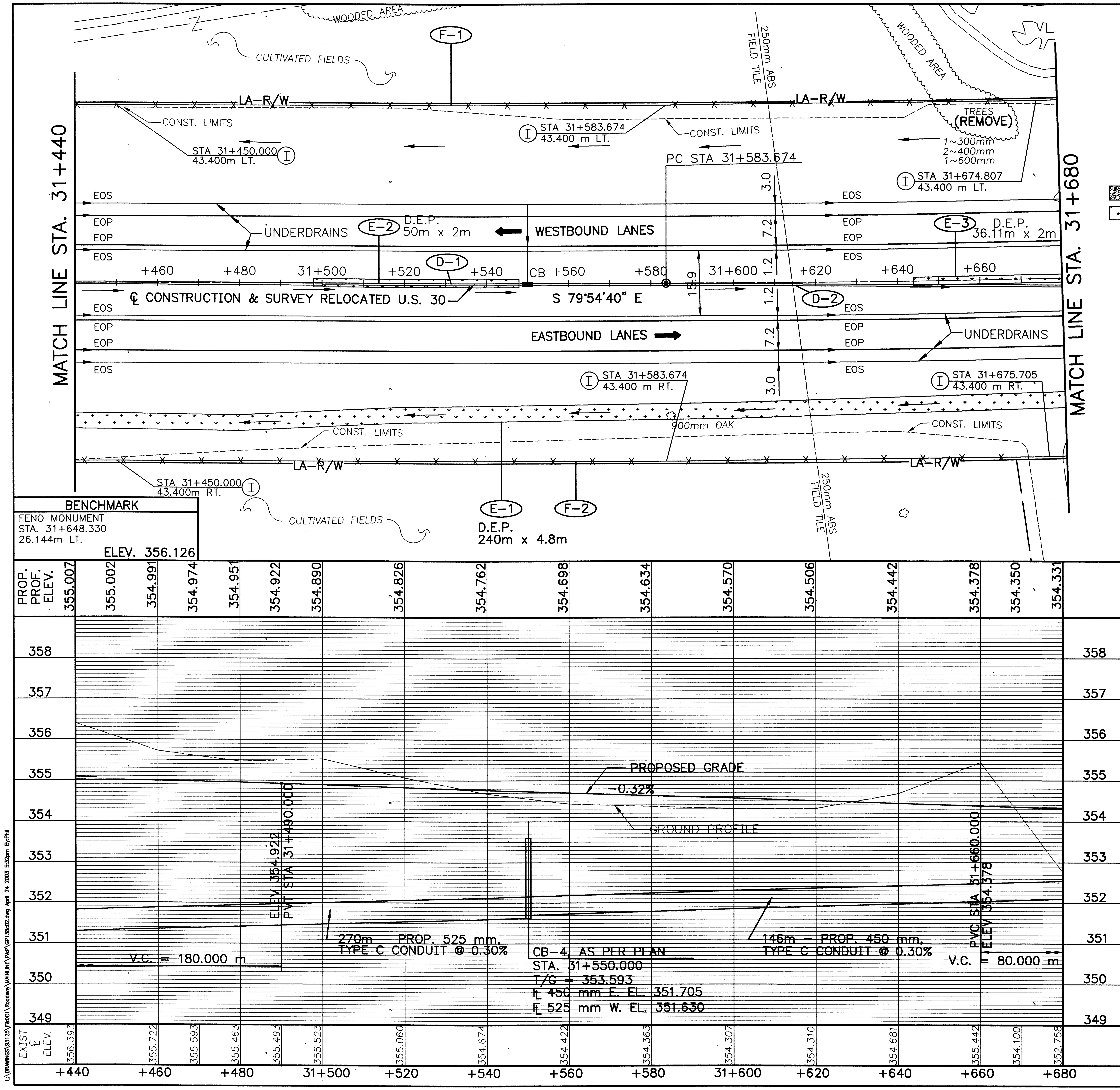
REF. No.	SIDE	STATION FROM	STATION TO	202 DEMOLISH BUILDING (LUMP)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 525 mm CONDUIT TYPE C (METER)	603 600 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	₵/LT.	31+280				0.35*		33.2*	1		
D-2	₵	31+280	31+440				160.0*				
E-1	RT.	31+200	31+300								540
E-2	RT.	31+300	31+440								672
E-3	₵	31+200.000	31+212.110								24.2
E-4	₵	31+282.110	31+332.110								100
F-1	LT.	31+200	31+440							240.000	
F-2	RT.	31+200	31+440							240.000	
R-1	LT.	31+430		1							
R-2	RT.	31+410		1							
R-3	RT.	31+415		1							
R-4	RT.	31+410		1							
R-5	RT.	31+267		1							
RCP-1	RT.	31+280			1.5						
TOTALS CARRIED TO SUB-SUMMARY				5	1.5	0.35*	160.0*	33.2*	1	480.000	1336.2

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 31+200 TO STA. 31+440

CRA-30-24.000



RELOCATED U.S. 30
CURVE DATA
PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m

LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502–505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

REVISIONS 04-23-03
MEDIAN STORM SEWER ADDED TO PLANS.
DITCH FLOW ARROWS REVISED.
QUANTITIES REVISED ARE INDICATED WITH *

ESTIMATED QUANTITIES

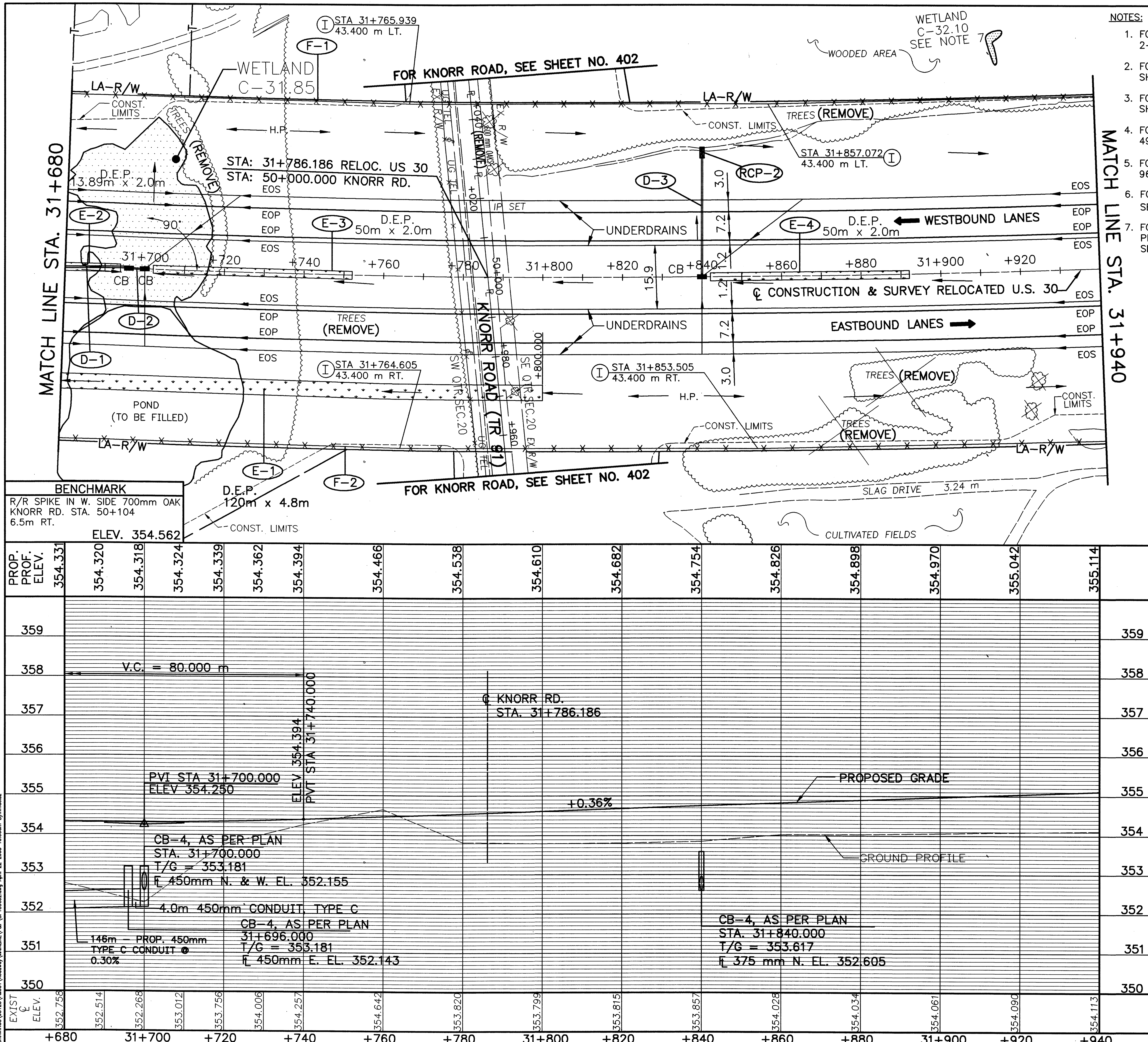
REF. No.	SIDE	STATION FROM	STATION TO	602 CONCRETE MASONRY C.M.	603 450 mm CONDUIT TYPE C METER	603 525 mm CONDUIT TYPE C METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
D-1	℄	31+440	31+550			110.0*	1		
D-2	℄	31+550	31+680		130.0*				
E-1	RT.	31+440	31+680						1152
E-2	℄	31+497.890	31+547.890						100
E-3	℄	31+643.890	31+680.000						72.2
F-1	LT.	31+440	31+680					240.000	
F-2	RT.	31+440	31+680					240.000	
TOTALS CARRIED TO SUB-SUMMARY				0.22	130.0*	110.0*	1	480.000	1324.2

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE – RELOCATED U.S. 30
STA. 31+440 TO STA. 31+680

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 497-501 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR NOTES ON FILLING POND SEE SHEET 25 OF 677.
7. FOR NOTES CONCERNING PROTECTION OF WETLAND C-32.10 SEE SHEET 25 OF 677.

metric units

RELOCATED U.S. 30 CURVE DATA

PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

REVISIONS 04-23-03
MEDIAN STORM SEWER ADDED TO PLANS.
DITCH FLOW ARROWS REVISED.
QUANTITIES REVISED ARE INDICATED WITH *

ESTIMATED QUANTITIES

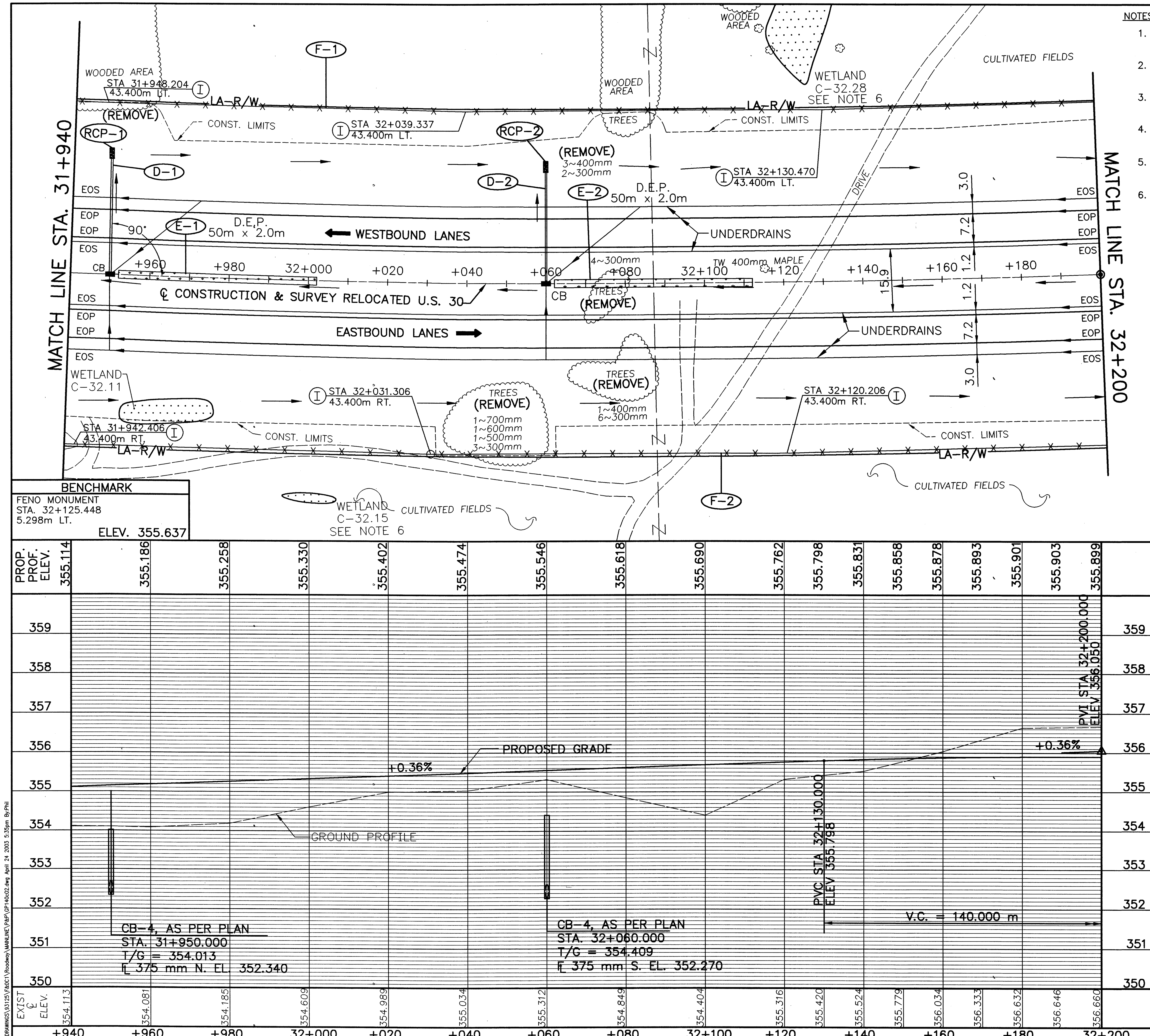
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER C.M.	602 CONCRETE MASONRY C.M.	603 375mm CONDUIT TYPE B METER	603 450mm CONDUIT TYPE C METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
D-1	℄	31+680	31+696				16*	1		
D-2	℄	31+696	31+700				4	1		
D-3	℄/LT.	31+840			0.22	30.18*		1		
E-1	RT.	31+680	31+800							576
E-2	℄	31+680.000	31+693.890							27.8
E-3	℄	31+702.110	31+752.110							100
E-4	℄	31+842.110	31+892.110							100
F-1	LT.	31+680	31+940						240.000	
F-2	RT.	31+680	31+940						240.000	
RCP-1	LT.	31+700		1.5						
RCP-2	LT.	31+840		1.5						
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.22	30.18*	20*	3	480.000	803.8

RATIO 1:500
0 5 10 20 HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 31+680 TO STA. 31+940

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 497-501 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR NOTES CONCERNING PROTECTION OF WETLANDS C-32.15 AND C-32.28 SEE SHEET 25 OF 677.

metric units

RELOCATED U.S. 30 CURVE DATA

PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

REVISIONS 04-23-03

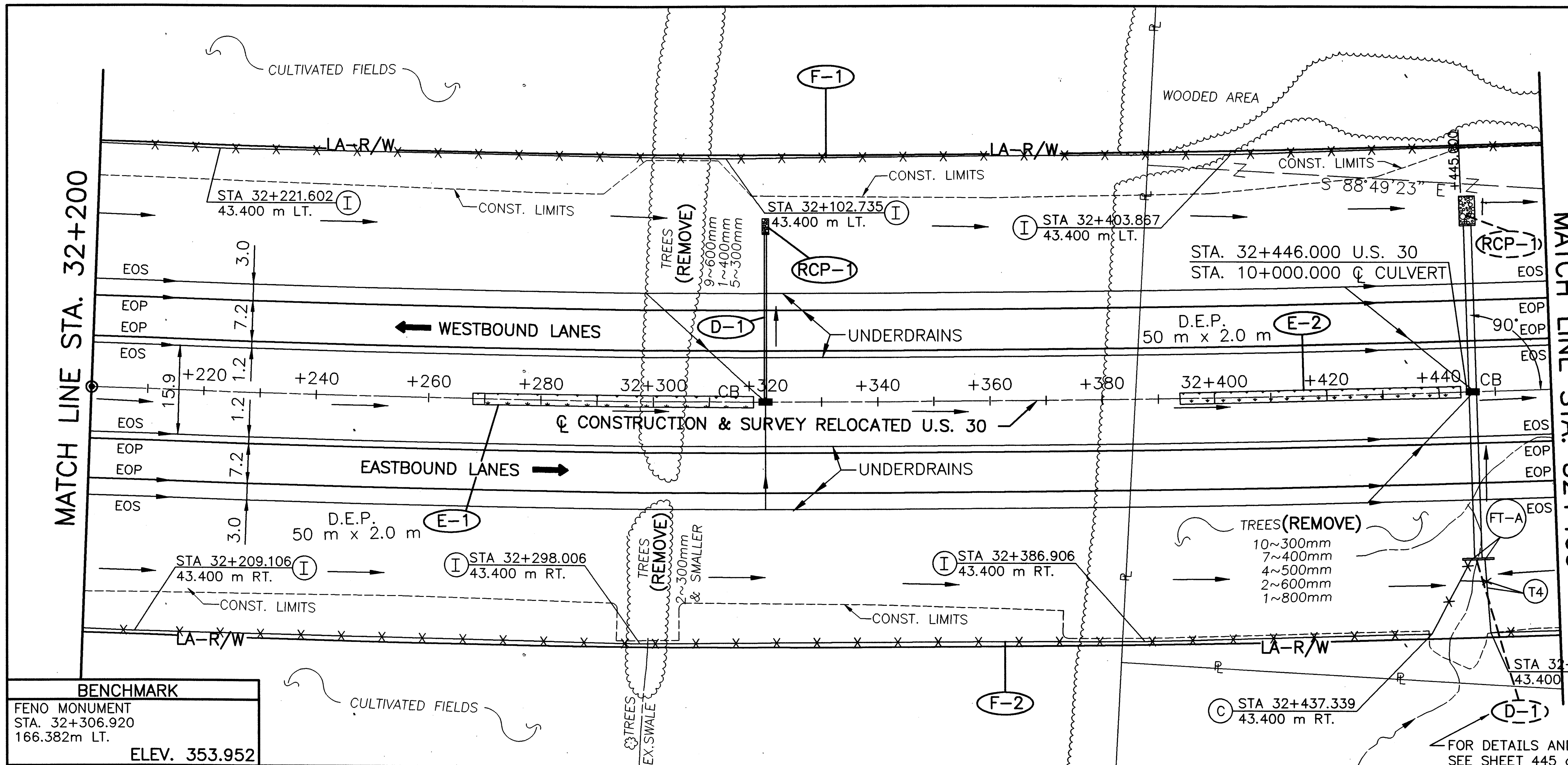
DITCH FLOW ARROWS REVISED.
QUANTITIES REVISED ARE INDICATED WITH *

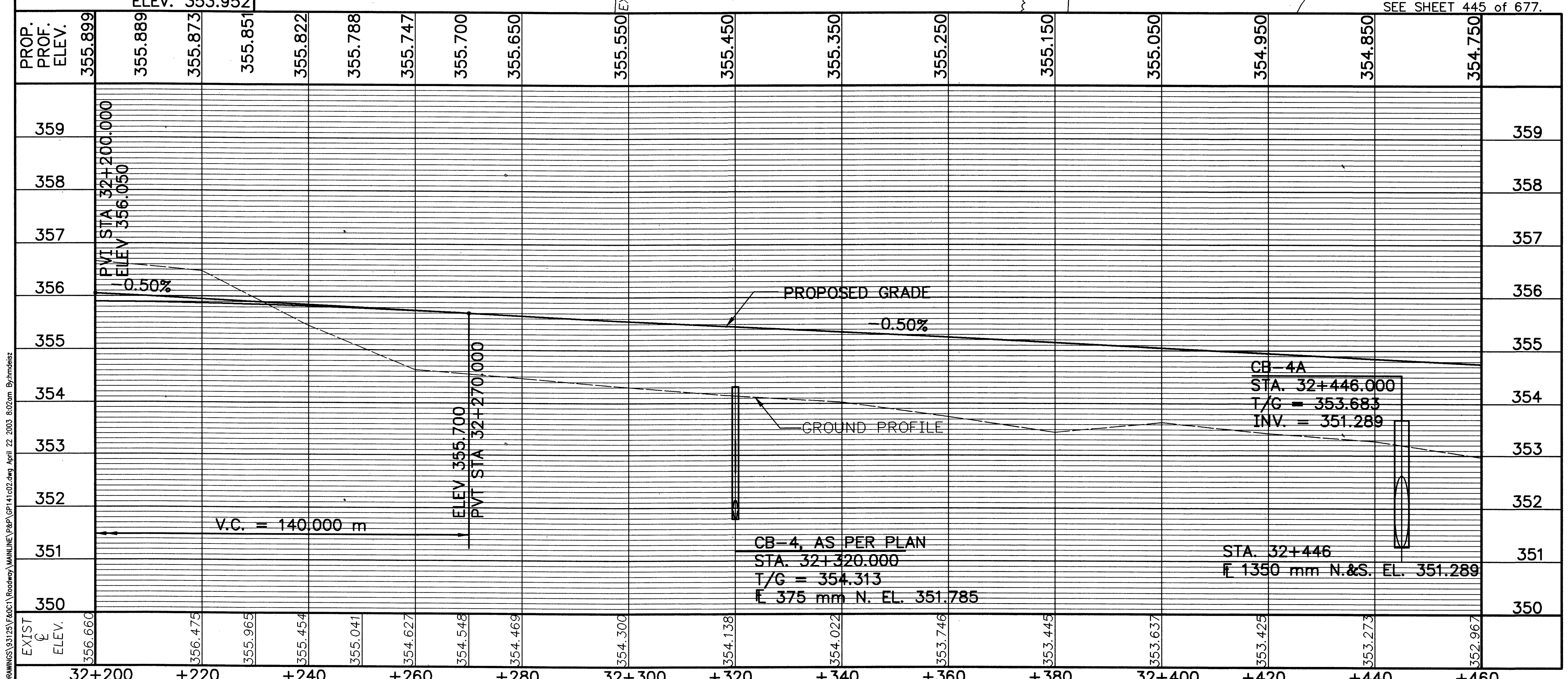
ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/LT.	31+950			0.22	30.50*	1		
D-2	℄/LT.	32+060			0.22	30.68*	1		
E-1	℄	31+952.110	32+202.110						100
E-2	℄	32+062.110	32+112.110						100
F-1	LT.	31+940	32+200					240.000	
F-2	RT.	31+940	32+200					240.000	
RCP-1	LT.	31+950		1.5					
RCP-2	LT.	32+060		1.5					
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	61.18*	2	480.000	200

PLAN AND PROFILE – RELOCATED U.S. 30 STA. 31+940 TO STA. 32+200

CRA-30-24.000





NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS AND QUANTITIES SEE SHEET 445 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR DITCH WORK STA. 32+450 TO STA. 32+560 LT. SEE MITIGATION PLAN SHEETS 445A-445E.

metric units

RELOCATED U.S. 30
CURVE DATA
PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m

LEGEND
ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

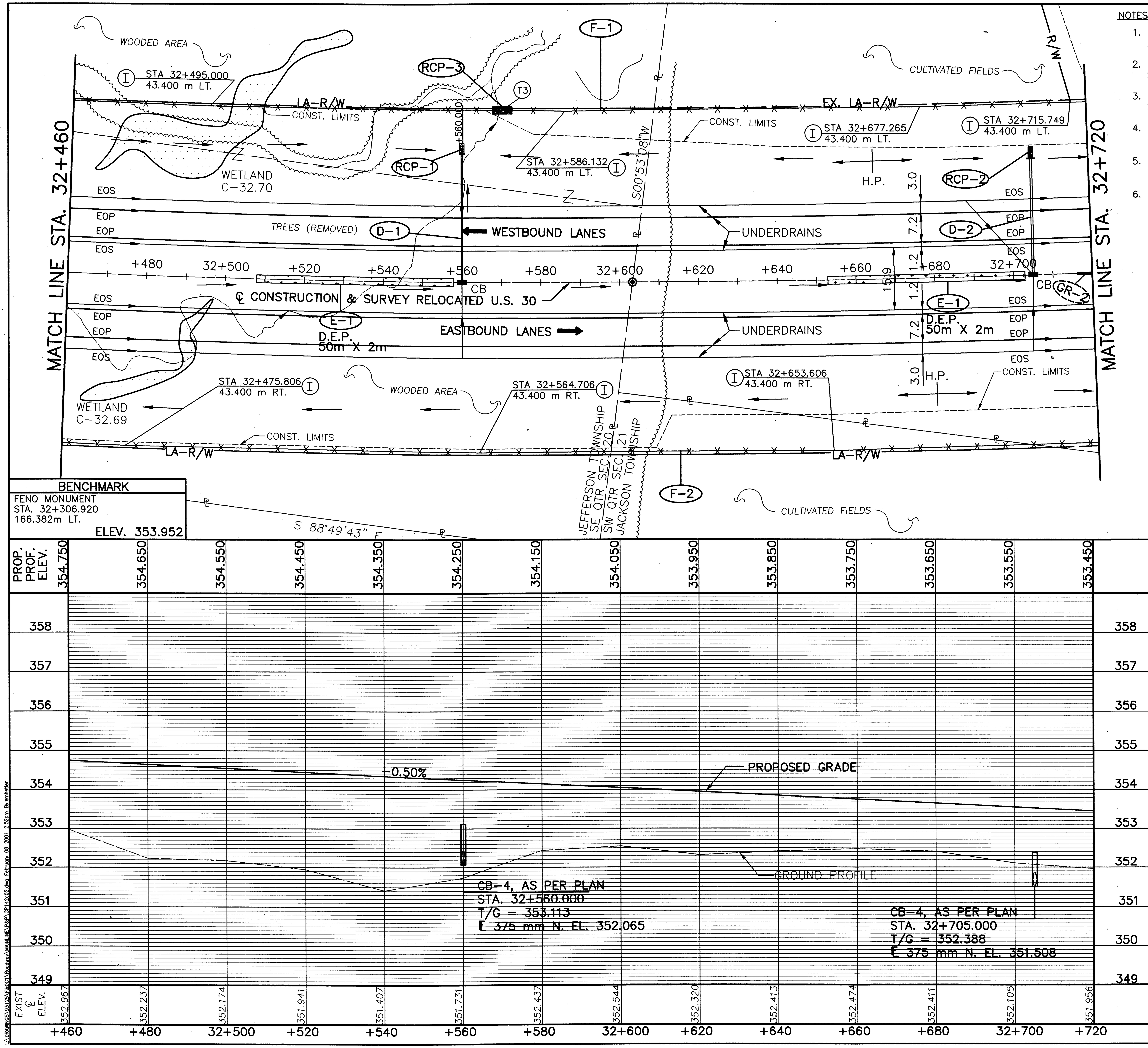
REVISIONS 04-23-03
DITCH FLOW ARROWS REVISED.
QUANTITIES REVISED ARE INDICATED WITH *

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER C.M.	602 CONCRETE MASONRY C.M.	603 375 mm CONDUIT TYPE B METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
D-1	℄/LT.	32+320			0.22	33*	1		
E-1	℄	32+267.890	32+317.890						100
E-2	℄	32+393.890	32+443.890						100
F-1	LT.	32+200	32+460					240.000	
F-2	RT.	32+200	32+460					240.000	
RCP-1	LT.	32+320		1.5					
TOTALS CARRIED TO SUB-SUMMARY				1.5	0.22	33*	1	480.000	200

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 32+200 TO STA. 32+460

CRA-30-24.000



BENCHMARK

FENO MONUMENT
STA. 32+306.920
166.382m LT.
ELEV. 353.952

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 497-501 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR DITCH WORK STA. 32+450 TO STA. 32+560 LT. SEE MITIGATION PLAN SHEET 445A-445E.

metric units

RELOCATED U.S. 30 CURVE DATA

PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

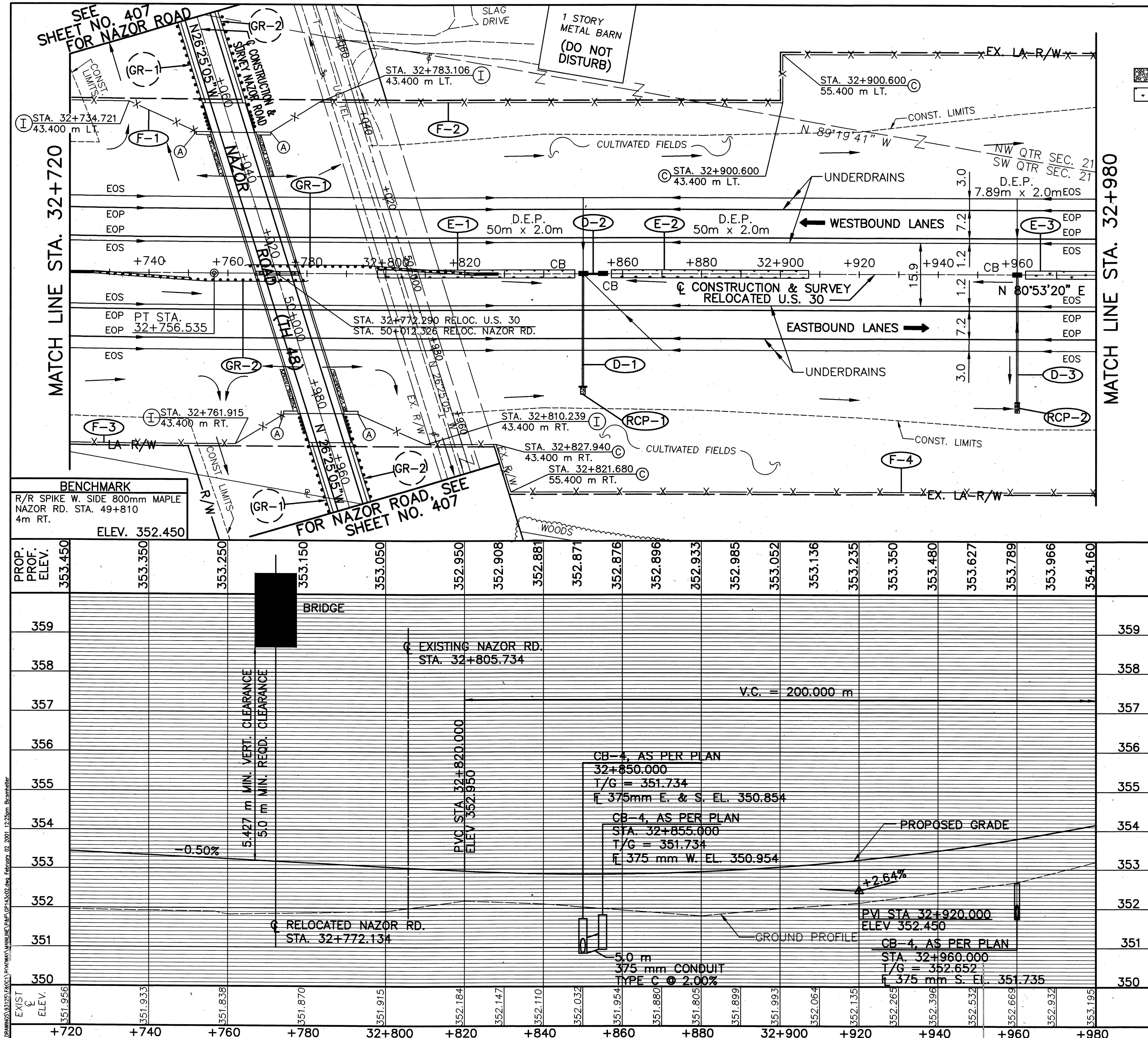
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/ FILTER (C.M.)	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO.4 AS PER PLAN (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)		
D-1	℄/LT.	32+560				0.22	33.7	1				
D-2	℄/LT.	32+705				0.22	28.5	1				
E-1	℄	32+507.890	32+557.890							100		
E-2	℄	32+647.890	32+697.890							100		
F-1	LT.	32+460	32+720						260.000			
F-2	RT.	32+460	32+720						260.000			
RCP-1	LT.	32+560			1.5							
RCP-2	LT.	32+705			1.5							
RCP-3	LT.	32+570		4.5								
TOTALS CARRIED TO SUB-SUMMARY				4.5	3.0	0.44	61.2	2	520.000	200		

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30 STA. 32+460 TO STA. 32+720

CRA-30-24.000



metric units

LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 375 mm CONDUIT TYPE B (METER)	604 CATCH BASIN NO. 4 AS PER PLAN (EACH)	606 GUARDRAIL TYPE-5 (METER)	606 ANCHOR ASSEMBLY TYPE T (EACH)	606 IMPACT ATTENUATOR BIDIRECTIONAL (EACH)	606 GUARDRAIL BARRIER DESIGN TYPE-5 (METER)	606 BARRIER DEFLECTOR TYPE-A (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	℄/RT.	32+850.000			0.22	29.9	1							
D-2	℄	32+850.000	32+855.000			5.0	1							
D-3	℄/RT.	32+960.000			0.22	32.6	1							
E-1	℄	32+797.890	32+847.890											100
E-2	℄	32+857.110	32+907.110											100
E-3	℄	32+962.110	32+980.000											15.8
F-1	LT.	32+720.000	32+751.742										32.932	
F-2	LT.	32+770.585	32+980.000										223.593	
F-3	RT.	32+720.000	32+773.873										56.220	
F-4	RT.	32+792.699	32+980.000										197.549	
GR-1	LT.	32+765.512	32+828.452					19.050	1	1	30.480	3		
GR-2	RT.	32+716.129	32+779.069					19.050	1	1	30.480	3		
RCP-1	RT.	32+850.000		1.5										
RCP-2	RT.	32+960.000		1.5										
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	67.5	3	38.100	2	2	60.960	6	510.294	215.8

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RELOCATED U.S. 30
STA. 32+720 TO STA. 32+980

CRA-30-24.000

LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION
- RIPRAP, 150 mm REINFORCED CONCRETE SLAB

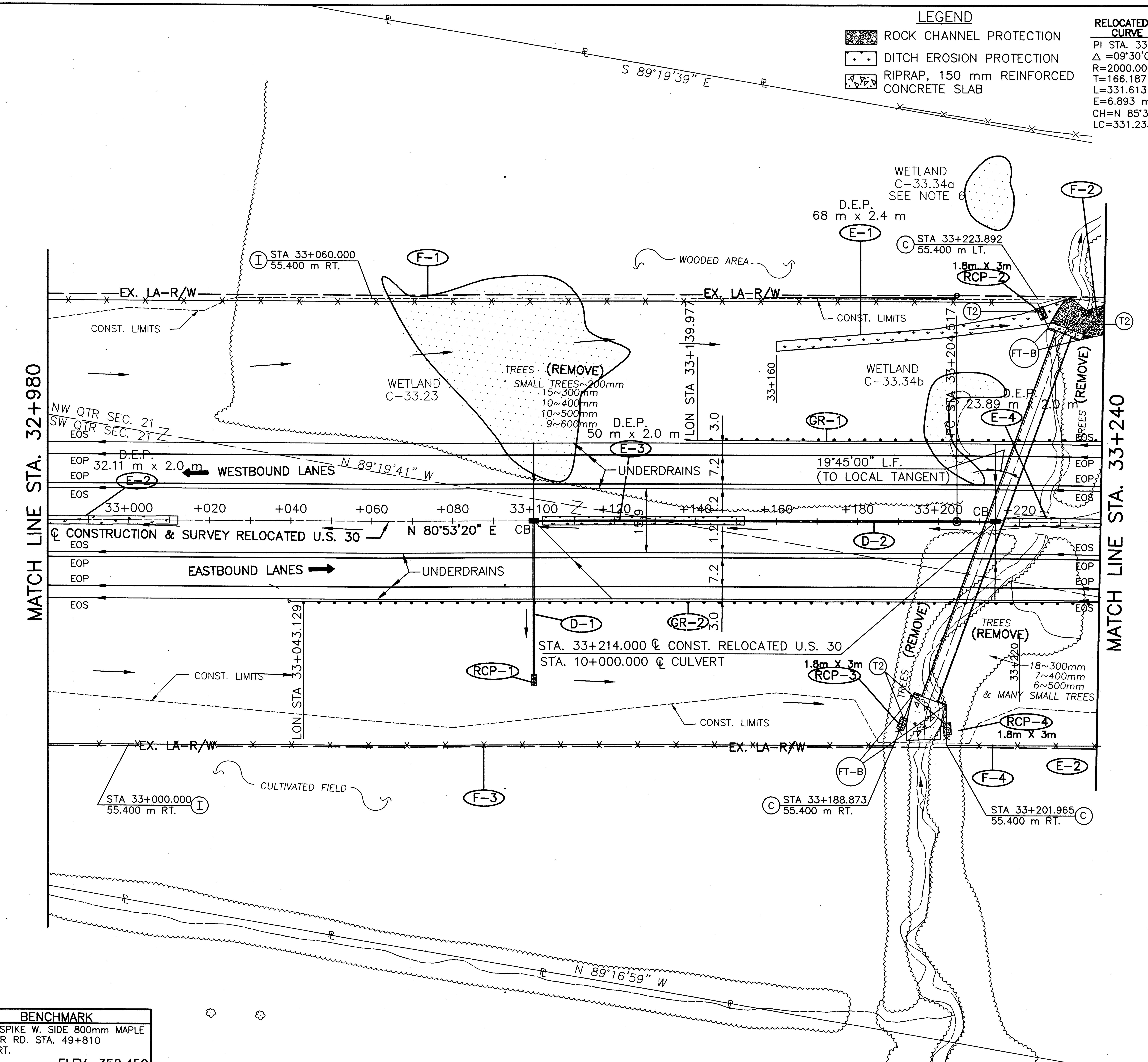
RELOCATED U.S. 30 CURVE DATA

PI STA. 33+370.704
Δ =09°30'00" RT.
R=2000.000 m
T=166.187 m
L=331.613 m
E=6.893 m
CH=N 85°38'20" E
LC=331.233 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS AND QUANTITIES SEE SHEET 446 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR NOTES CONCERNING PROTECTION OF WETLAND C-33.34a SEE SHEET 25 OF 677.



BENCHMARK
R/R SPIKE W. SIDE 800mm MAPLE NAZOR RD. STA. 49+810 4m RT.
ELEV. 352.450

ESTIMATED QUANTITIES

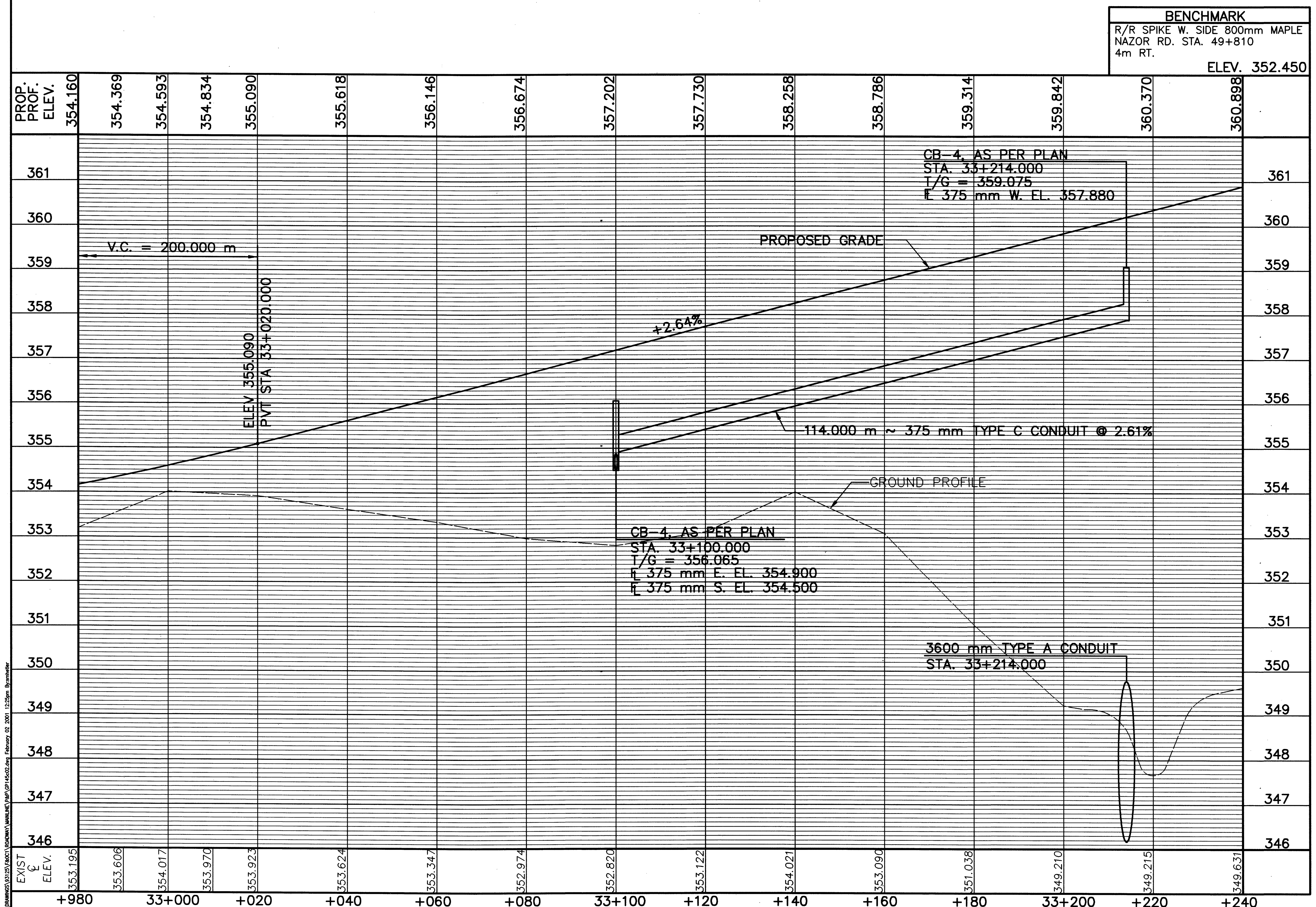
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER C.M.	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER C.M.	602 CONCRETE MASONRY C.M.	603 375 mm CONDUIT TYPE B METER	603 375 mm CONDUIT TYPE F, 707.05 TYPE C METER	604 CATCH BASIN NO. 4 AS PER PLAN EACH	604 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION METER
D-1	℄/RT.	33+100	33+100			0.22	24.8	15.5	1		
D-2	℄	33+100	33+214				114.0		1		
E-1	LT.	33+160	33+228								163
E-2	℄	32+980.000	33+012.110								64.2
E-3	℄	33+102.110	33+152.110								100
E-4	℄	33+216.110	33+240.000								47.8
F-1	LT.	32+980	33+226.526							252.007	
F-2	LT.	33+234.312	33+240							9.541	
F-3	RT.	32+980	33+194.073							222.834	
F-4	RT.	33+201.965	33+240							47.139	
RCP-1	RT.	33+100			1.5						
RCP-2	LT.	33+225		2.7							
RCP-3	RT.	33+190		2.7							
RCP-4	RT.	33+200		2.7							
TOTALS CARRIED TO SUB-SUMMARY				8.1	1.5	0.22	138.8	15.5	2	531.521	375

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN - RELOCATED U.S. 30
STA. 32+980 TO STA. 33+240

CRA-30-24.000



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PROFILE - RELOCATED U.S. 30
STA. 32+980 TO STA. 33+240

CRA-30-24.000

134
677

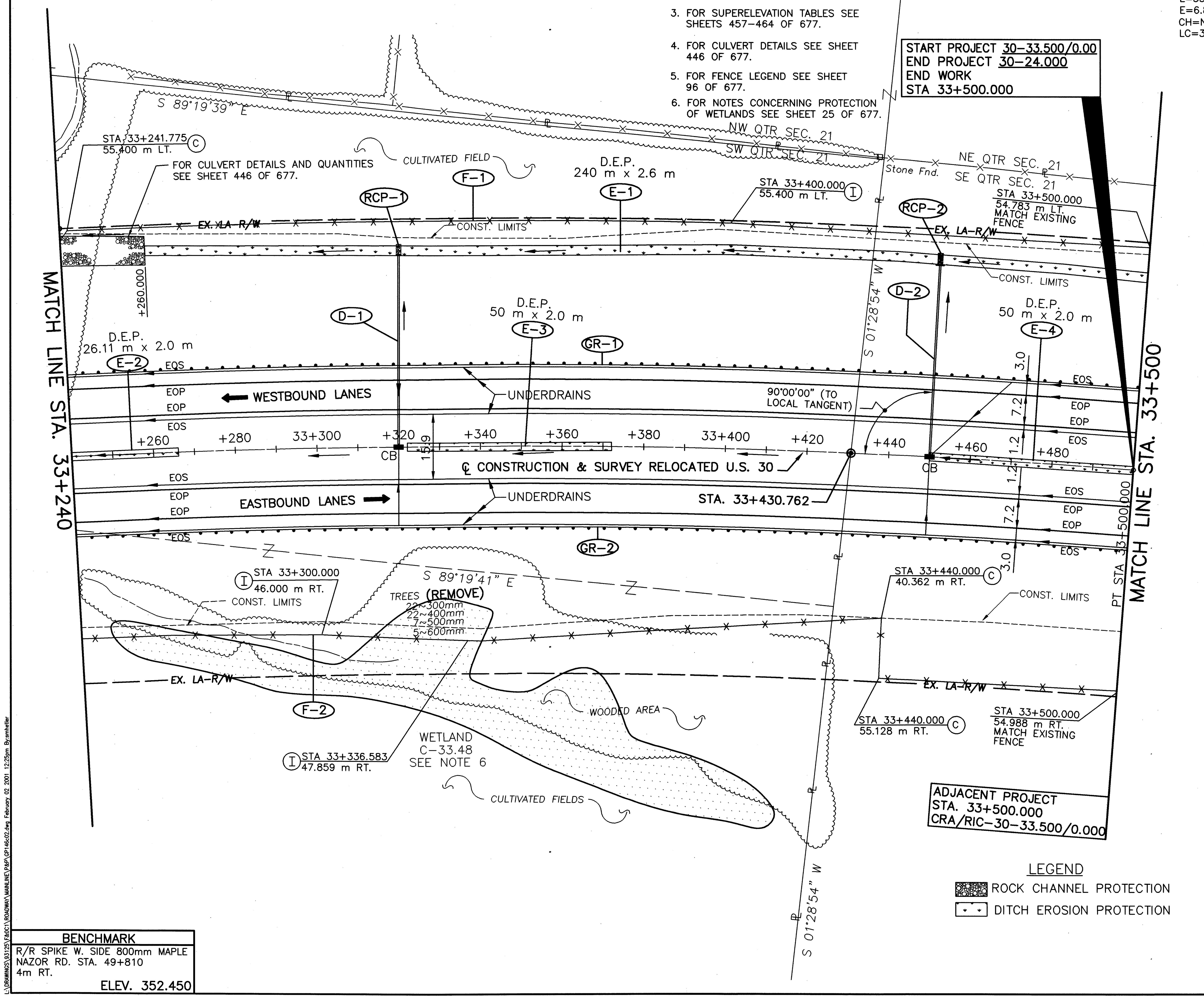
NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 446 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR NOTES CONCERNING PROTECTION OF WETLANDS SEE SHEET 25 OF 677.

RELOCATED U.S. 30
CURVE DATA
PI STA. 33+370.704
Δ =09°30'00" RT.
R=2000.000 m
T=166.187 m
L=331.613 m
E=6.893 m
CH=N 85°38'20" E
LC=331.233 m

metric units

START PROJECT 30-33.500/0.00
END PROJECT 30-24.000
END WORK
STA 33+500.000



LEGEND
ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

BENCHMARK
R/R SPIKE W. SIDE 800mm MAPLE
NAZOR RD. STA. 49+810
4m RT.
ELEV. 352.450

ESTIMATED QUANTITIES

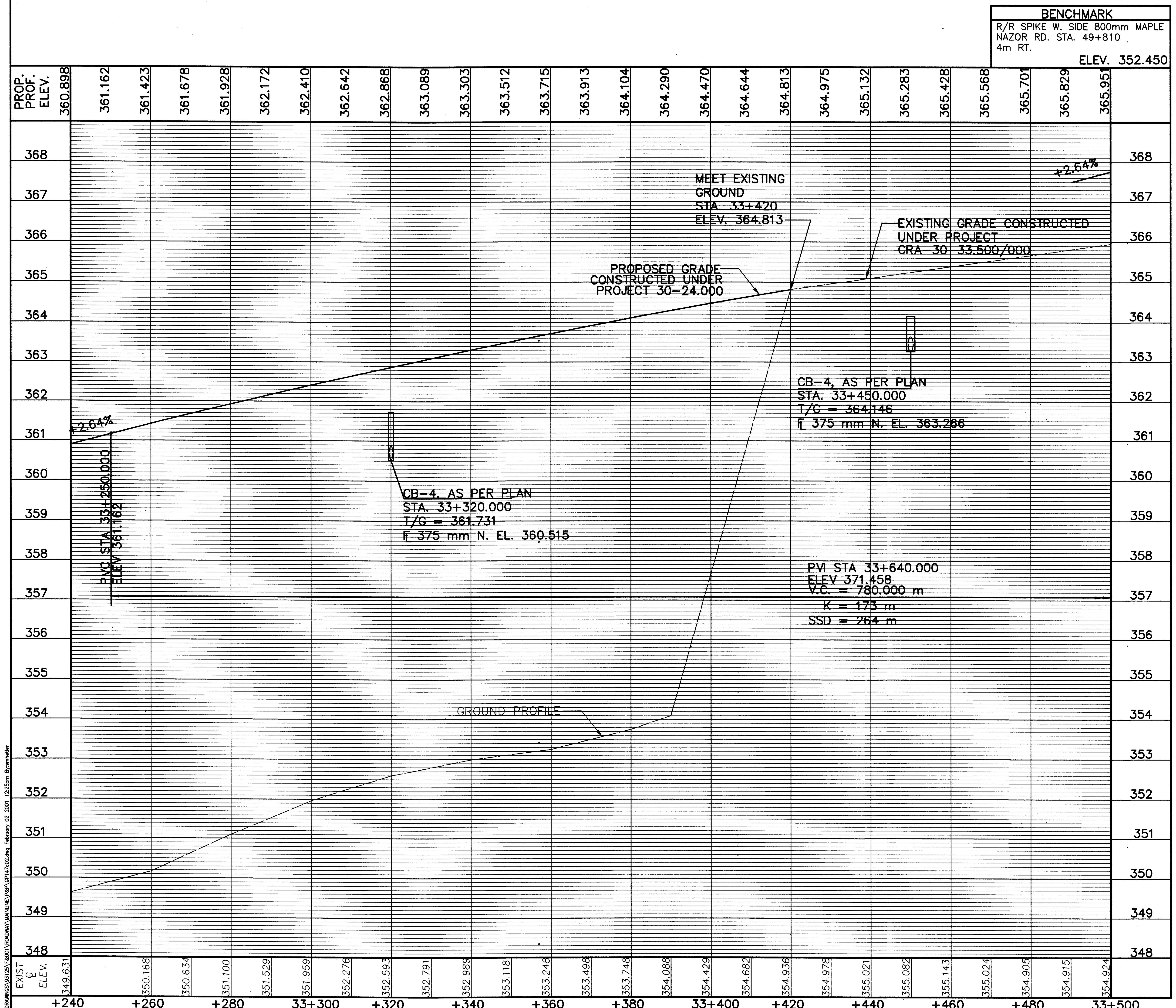
REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 375 mm CONDUIT TYPE B	603 375 mm CONDUIT TYPE F, 707.05 TYPE C	604 CATCH BASIN NO. 4 AS PER PLAN	606 GUARDRAIL TYPE 5	606 ANCHOR ASSEMBLY TYPE T	606 ANCHOR ASSEMBLY TYPE E-98	607 FENCE TYPE 47	626 BARRIER REFLECTOR TYPE A	670 DITCH EROSION PROTECTION
				C.M.	C.M.	METER	METER	EACH	METER	EACH	EACH	METER	EACH	S.M.
D-1	℄/LT.	33+320			0.22	23.5		1						
D-2	℄/LT.	33+450			0.22	22.0	26.04	1						
E-1	LT.	33+260	33+500											624
E-2	℄	33+240.000	33+266.110											52.2
E-3	℄	33+322.110	33+372.110											100
E-4	℄	33+452.110	33+502.110											100
F-1	LT.	33+240	33+500									260.000		
F-2	RT.	33+240	33+500									260.000		
GR-1	LT.	33+139.977	33+501.927						361.950	1			13	
GR-2	RT.	33+639.319	33+500.329						455.77		1		15	
RCP-1	LT.	33+320		1.5										
RCP-2	LT.	33+450		1.5										
TOTALS CARRIED TO SUB-SUMMARY				3.0	0.44	45.5	26.04	2	817.72	1	1	520.000	28	876.2

RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN - RELOCATED U.S. 30
STA. 33+240 TO STA. 33+500

CRA-30-24.000



metric units

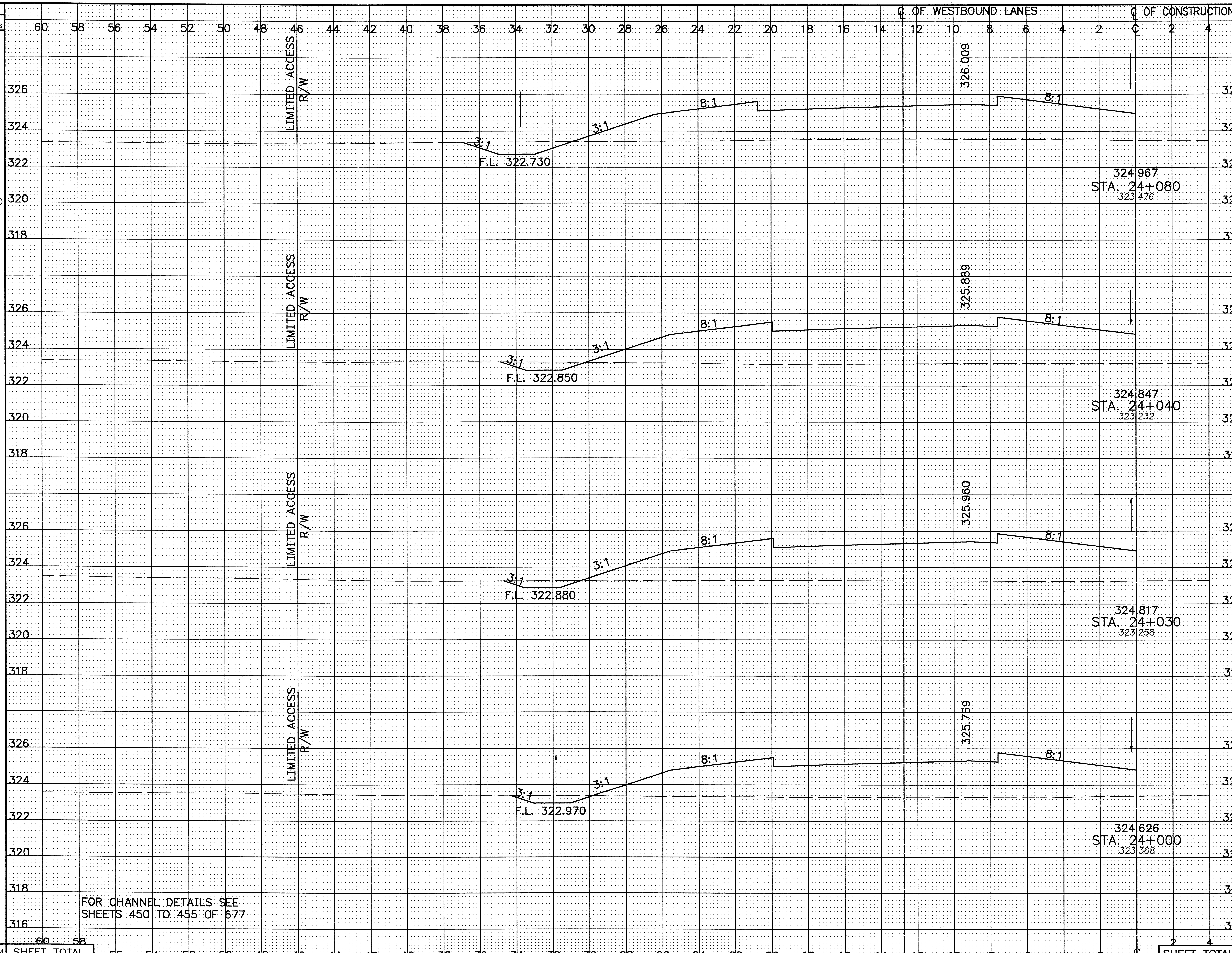
RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PROFILE – RELOCATED U.S. 30
STA. 33+240 TO STA. 33+500

CRA-30-24.000

136
677

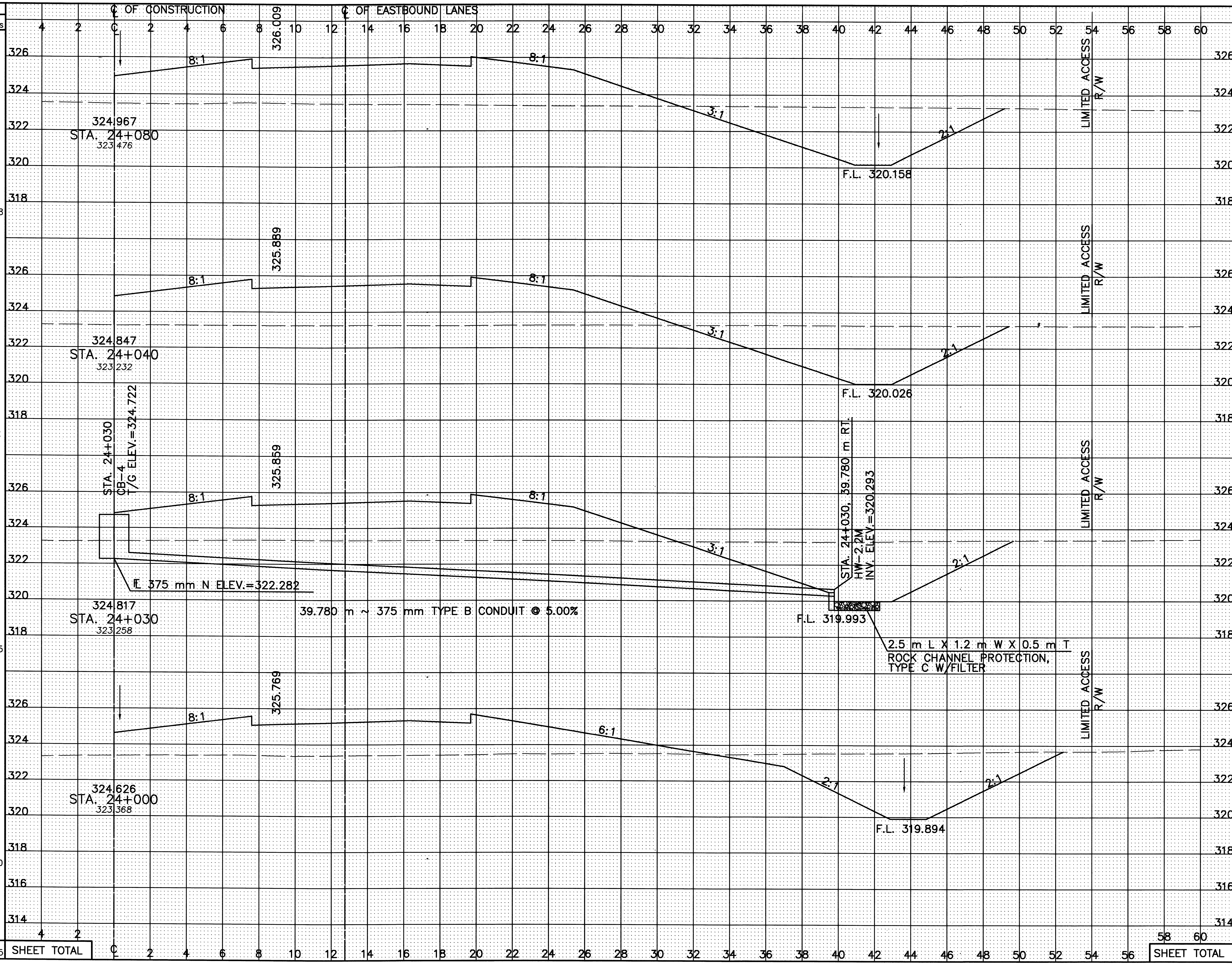


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34.1		2.7	51.6		
	1380			81	2120
34.9		1.5	55.0		
	348			13	553
34.6		1.1	56.2		
	1036			36	1612
34.5		1.3	51.9		
	0			0	0
SHEET TOTAL	2764			130	4285

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+000 TO STA. 24+080 LEFT ℄

CRA-30-24.000

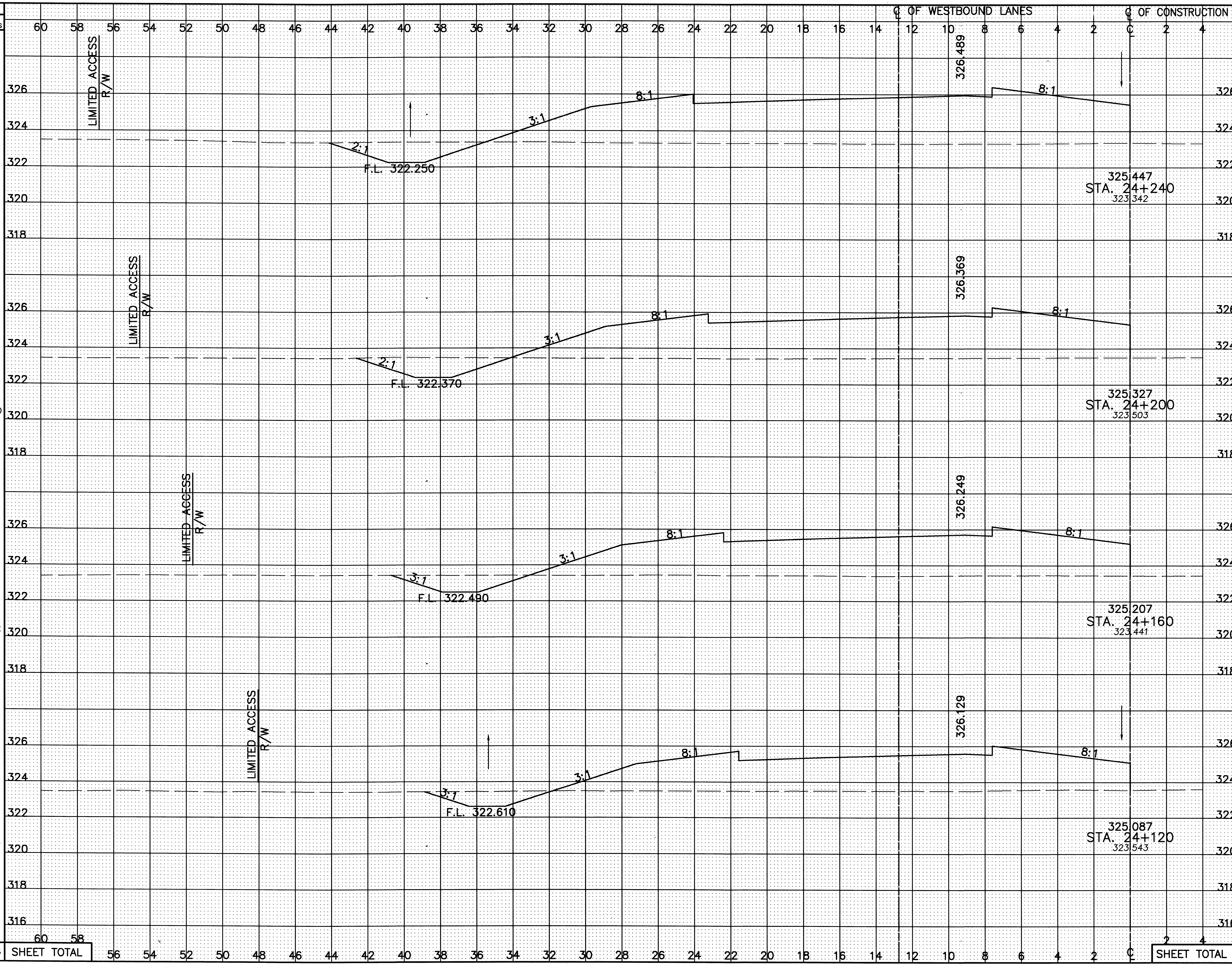


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
24+080	44.5		31.6	59.1		
		1778			1310	2423
24+040	44.4		32.7	61.3		
		442			338	604
24+030	44.0		33.7	58.8		
		1335			1032	1628
24+000	45.0		35.1	49.0		
		1800			0	0
SHEET TOTAL		5355			2680	4655

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+000 TO STA. 24+080 RIGHT ℄

CRA-30-24.000



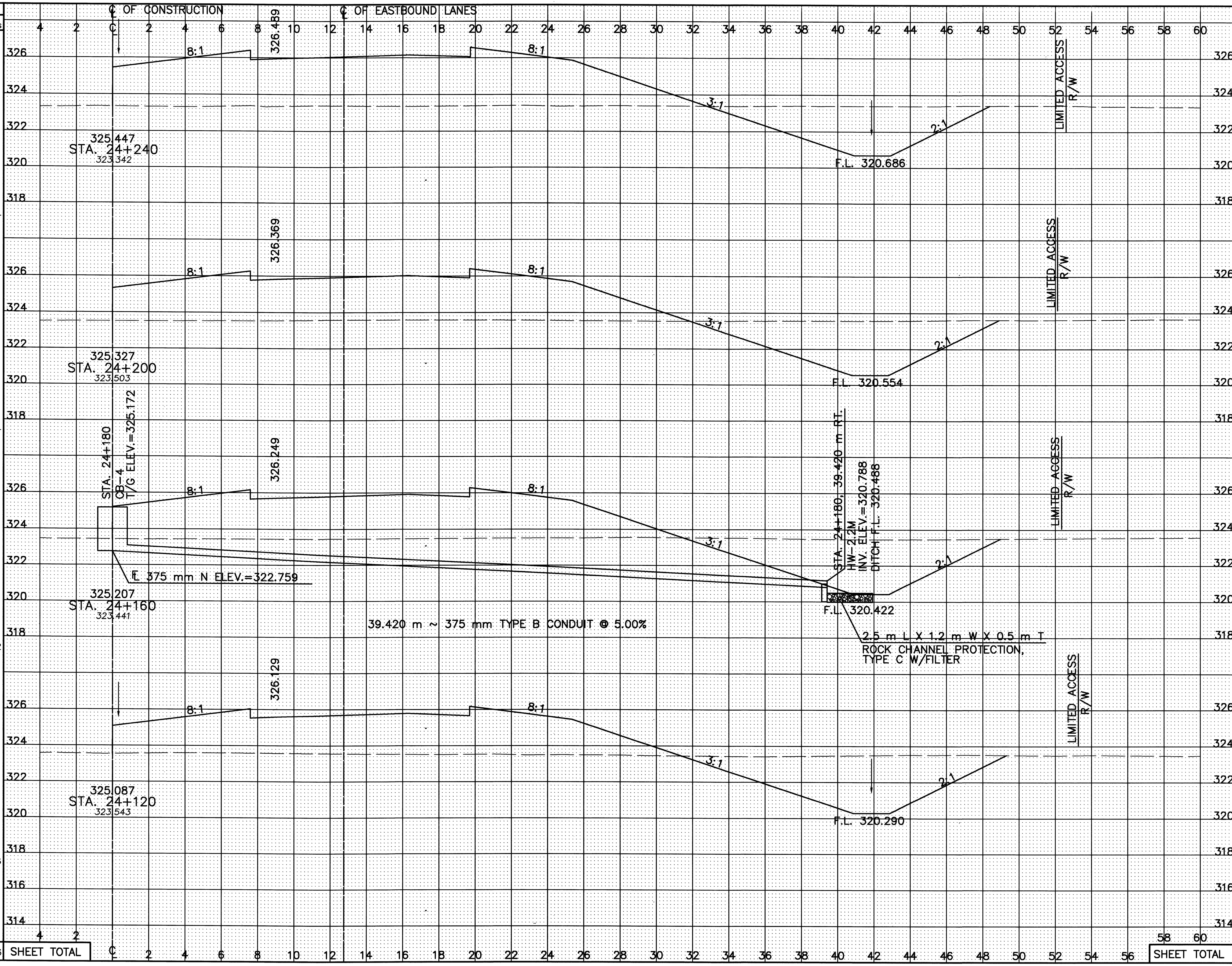
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 24+240	41.9		5.9	79.1		
		1644			230	2935
STA. 24+200	40.3		5.8	68.6		
		1570			203	2637
STA. 24+160	38.2		4.5	64.1		
		1472			162	2398
STA. 24+120	35.4		3.8	56.6		
		1390			126	2151
SHEET TOTAL		6076			721	10 121

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+120 TO STA. 24+240 LEFT ℄

CRA-30-24.000

139
677



SEEDING END WIDTH	SEEDING SQ. METERS
44.2	
	1754
43.5	
	1744
43.7	
	1762
44.4	
	1776
SHEET TOTAL	7036

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
23.7	77.4		
		1047	2889
28.6	67.1		
		1164	2648
29.6	65.3		
		1226	2505
31.7	60.0		
		1266	2382
SHEET TOTAL		4703	10424

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+120 TO STA. 24+240 RIGHT ℄

CRA-30-24.000

140
677

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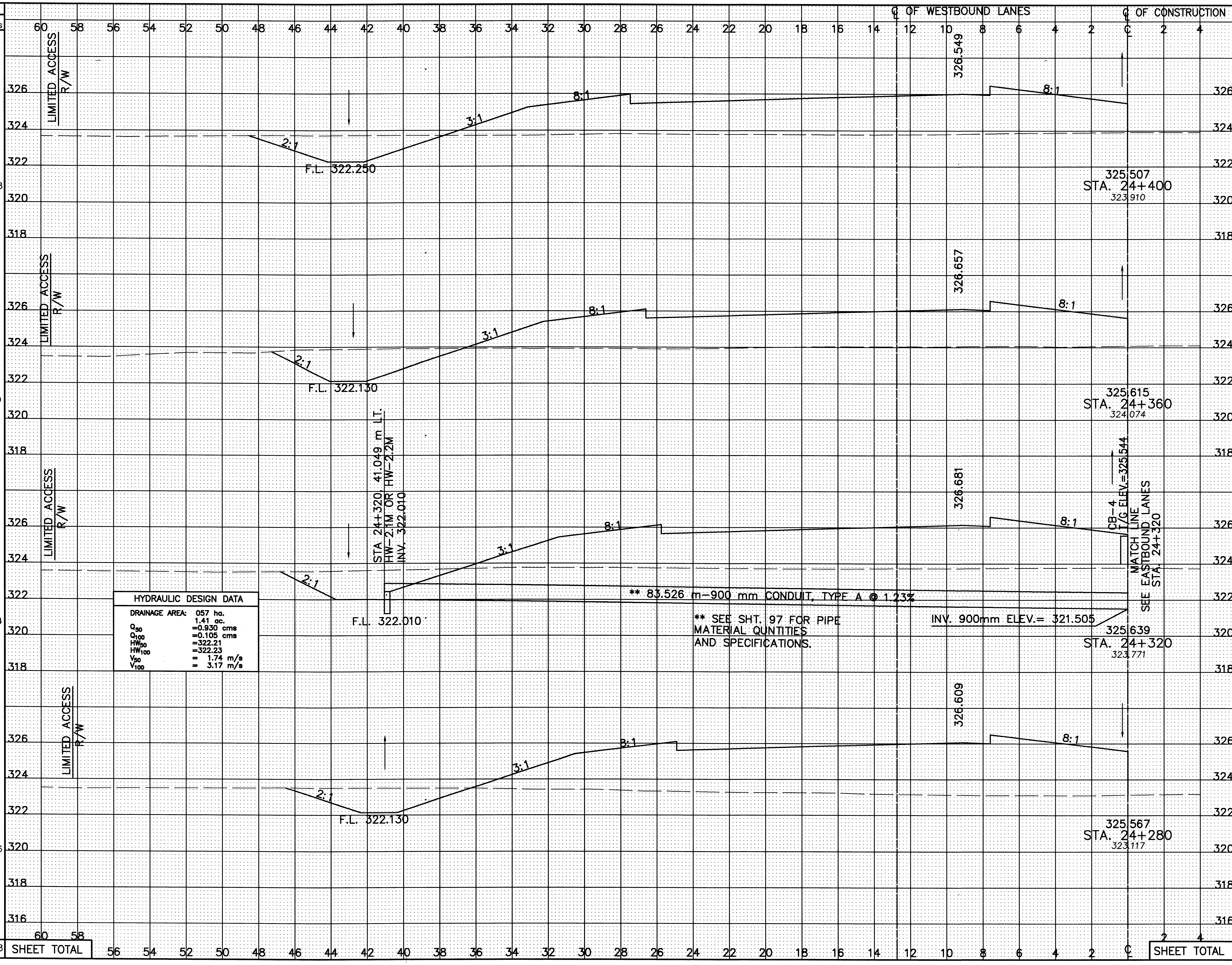

Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
40.7		9.4	69.2		
	1658			401	2668
42.2		11.1	65.1		
	1700			406	2754
42.8		9.6	73.6		
	1704			351	3205
42.4		8.3	87.7		
	1686			278	3315
SHEET TOTAL	6748			1436	11 942

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 24+280 TO STA. 24+400 LEFT ℄

CRA-30-24.000

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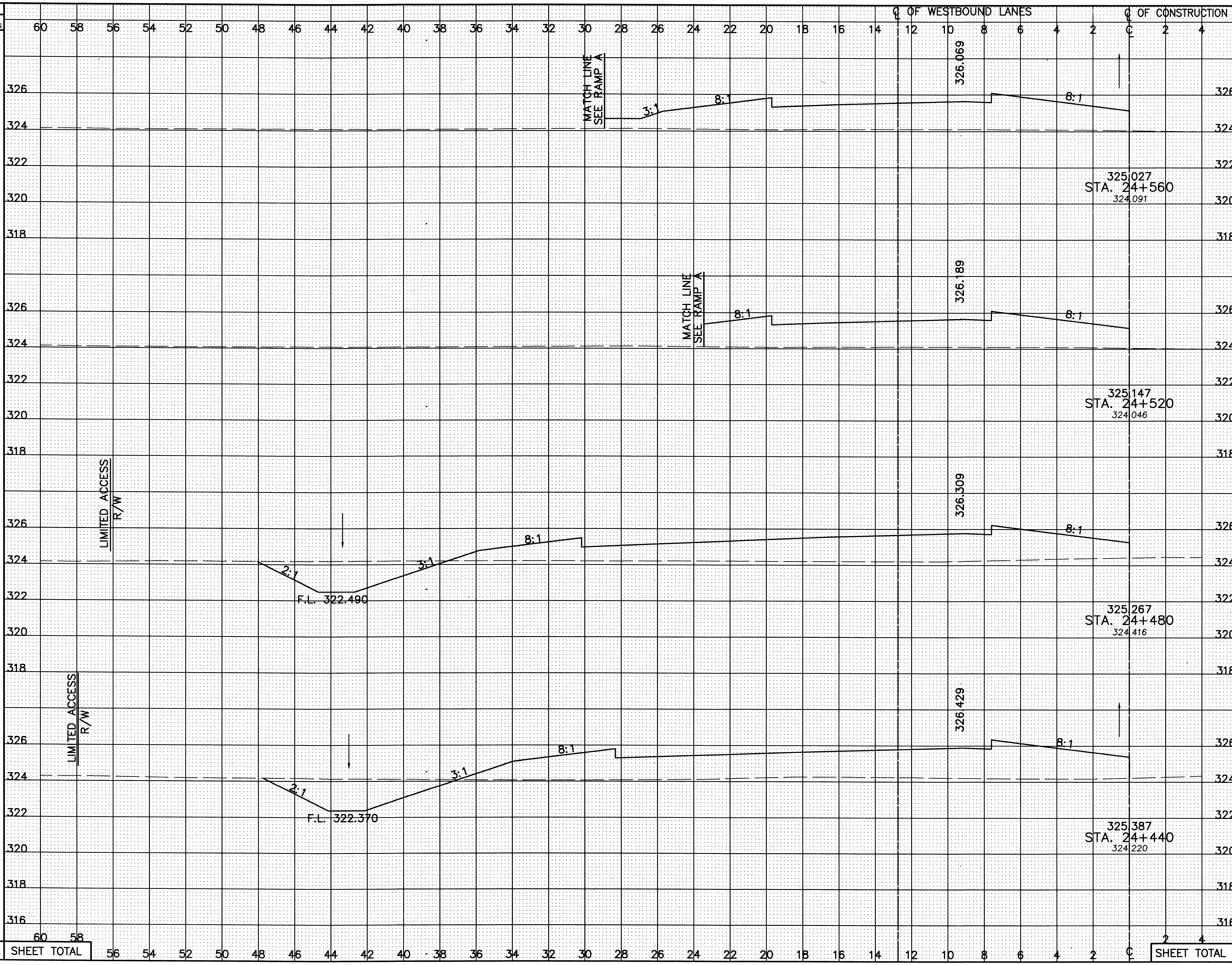
SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
61.5 M
LIMITED ACCESS R/W
8:1
3:1
2:1
326.549
325.507
STA. 24+400
323.910
F.L. 321.214
45.2
32.2
61.3
1824
1201
2647
326.657
325.615
STA. 24+360
324.074
F.L. 321.082
46.0
27.9
71.1
1846
969
3123
326.681
CB-4
T/G ELEV.=325.544
SEE MATCH LINE WESTBOUND LANES STA. 24+320
STA. 24+320, 42.477 m RT.
HW-2.1M OR HW-2.2M
INV. 320.984
℄ ELEV. 320.972
ROCK CHANNEL PROTECTION, TYPE B 1825 mm WIDE x 2500 mm LONG x 750 mm THICK WITH FILTER
** 83.526m-900 mm CONDUIT, TYPE A @ 1.23%
INV. ELEV.=321.505
F.L. 320.950
** SEE SHT. 97 FOR PIPE MATERIAL QUANTITIES AND SPECIFICATIONS.
150 mm REINF. CONC. SLAB
CUTOFF WALLS AS PER DM-1.1M
325.639
STA. 24+320
323.771
46.3
20.6
85.1
1816
876
3608
326.609
325.567
STA. 24+280
323.117
F.L. 320.818
44.5
23.2
95.3
1774
939
3454
SHEET TOTAL
7260
3985
12832
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 24+280 TO STA. 24+400 RIGHT ℄
CRA-30-24.000
142
677



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 24+560	18.2		0.0	39.1		
		1316			0	1464
STA. 24+520	47.6		0.0	34.5		
		1654			207	1562
STA. 24+480	35.1		10.6	44.0		
		1480			427	1905
STA. 24+440	38.9		11.2	51.9		
		1592			403	2405
SHEET TOTAL		6042			1037	7336

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+440 TO STA. 24+560 LEFT ℄

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
326.069
8:1
8:1
MATCH LINE RAMP B
14.6
0.0
43.3
325.027
STA. 24+560
324.091
544
0
1726
326.89
8:1
8:1
MATCH LINE RAMP B
12.6
0.0
43.0
325.147
STA. 24+520
324.046
498
0
1451
STA. 24+480
CB-4
T/G ELEV.=325.172
326.309
8:1
8:1
MATCH LINE RAMP B
12.3
0.0
29.5
℄ 375 mm N ELEV.=324.198
325.267
STA. 24+480
324.416
49.250 m ~ 375 mm TYPE B CONDUIT @ 5.00%
1682
505
1651
326.429
8:1
8:1
3:1
2:1
71.8
25.2
53.0
325.387
STA. 24+440
324.220
F.L. 321.346
2340
1148
2286
5064
SHEET TOTAL
SHEET TOTAL
1653
7114
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 24+440 TO STA. 24+560 RIGHT ℄
CRA-30-24.000
144
677
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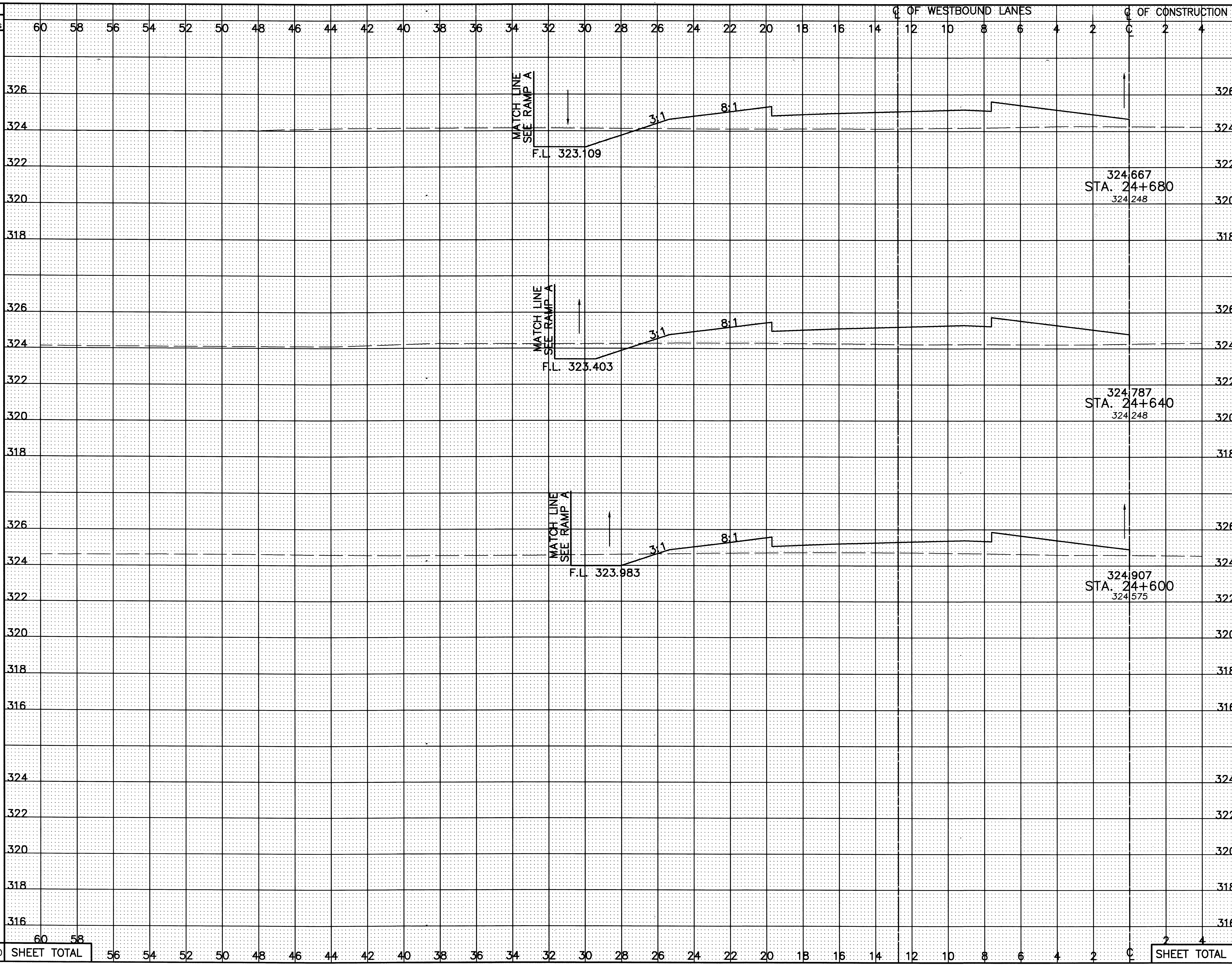
SEEDING END WIDTH	SEEDING SQ. METERS
21.9	
	862
21.2	
	814
19.5	
	754
	2430



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3.6	23.1		
		128	934
2.8	23.9		
		93	789
1.9	15.8		
		38	1098
		259	2821

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+595 TO STA. 24+680 LEFT ℄

CRA-30-24.000

145/677

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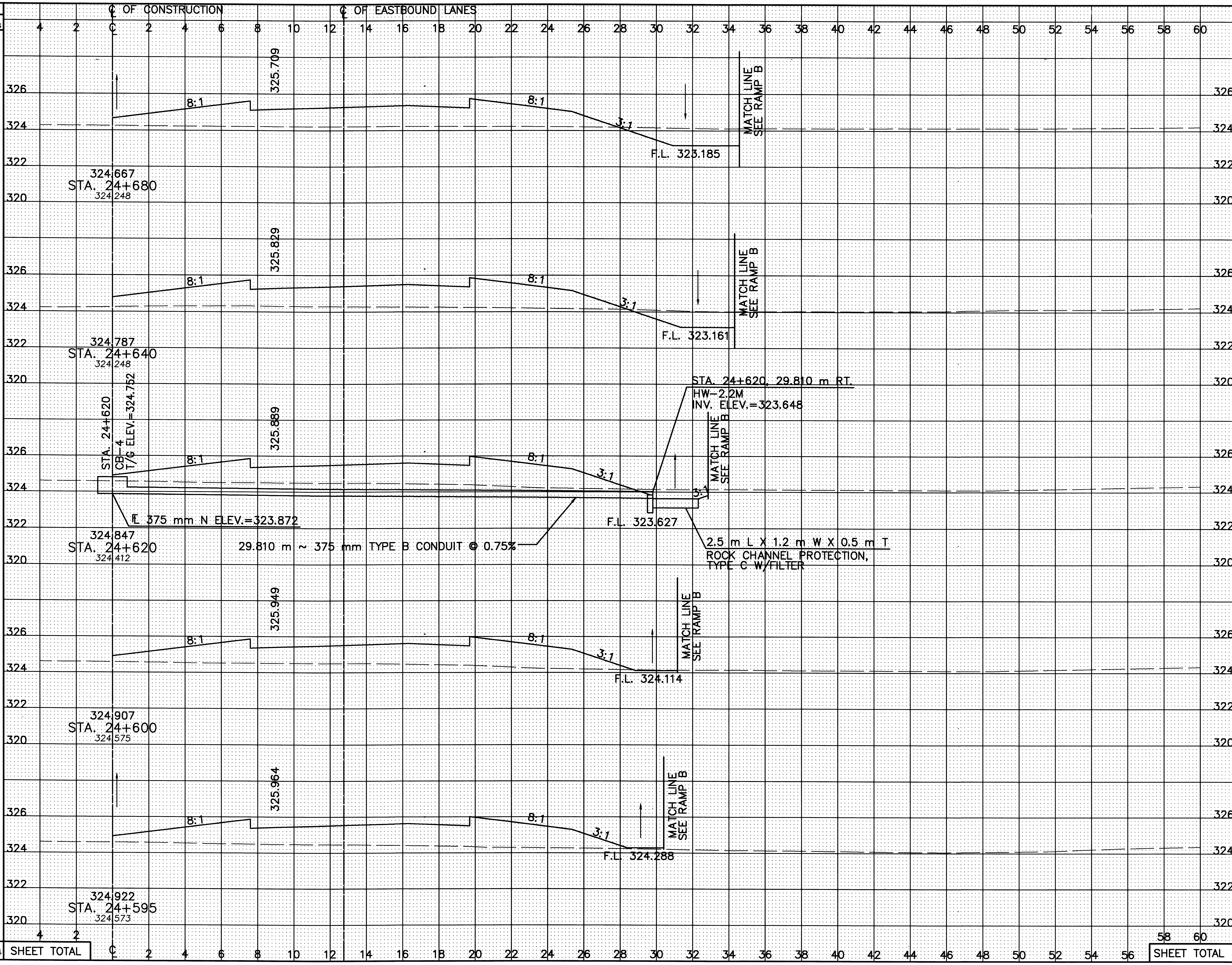
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21.7		3.3	27.4		
	878			127	1143
22.2		3.0	29.8		
	404			62	1162
18.2		1.6	29.1		
	376			17	574
19.4		0.1	28.3		
	96			0	144
19.1		0.0	29.1		
	590			0	1267
SHEET TOTAL	2344			206	4290



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+595 TO STA. 24+680 RIGHT ℄

CRA-30-24.000

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SEEDING
END WIDTH
SQ. METERS
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
MATCH LINE SEE RAMP D
48:1
7:1
6:1
6:1
25:1
F.L. 324.498
FL. 324.991
325.096
STA. 24+840
326.156
FACE OF ABUTMENT
2:1
8:1
10:1
10:1
25:1
F.L. 324.696
FL. 325.116
325.238
STA. 24+800
326.055
MATCH LINE SEE RAMP A
24:1
8:1
6:1
6:1
25:1
F.L. 324.598
FL. 324.991
325.096
STA. 24+760
325.121
MATCH LINE SEE RAMP A
16:1
3:1
8:1
8:1
7:1
F.L. 323.636
FL. 324.636
324.777
STA. 24+720
324.561
17.1
858
39.6
0
1526
376
25.8
992
36.7
18.8
886
404
23.8
928
7.6
1.4
252
262
22.6
890
5.0
11.7
172
696
3668
SHEET TOTAL
SHEET TOTAL
2836
1738
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+720 TO STA. 24+840 LEFT ℄
CRA-30-24.000
147
677
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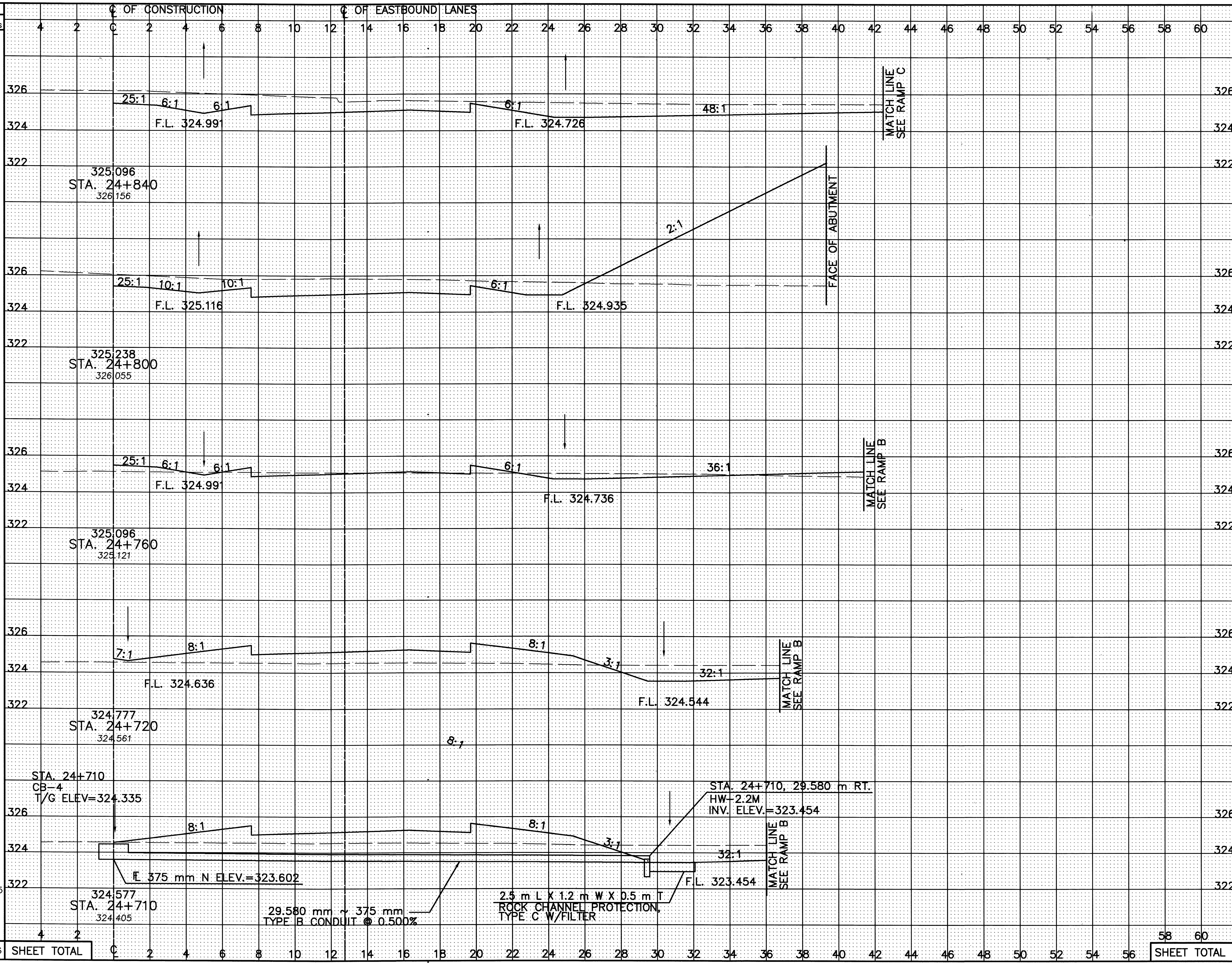

SEEDING END WIDTH	SEEDING SQ. METERS
30.5	
	1190
29	
	1170
29.5	
	1090
25	
	234
21.8	
	652.5
SHEET TOTAL	4336

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27.5	0		
		918	902
18.4	45.1		
		430	962
3.1	3.0		
		202	378
7.0	15.9		
		70.5	158.5
7.1	15.8		
		156	648
SHEET TOTAL		1776	3048

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+710 TO STA. 24+840 RIGHT ℄

CRA-30-24.000

148
677

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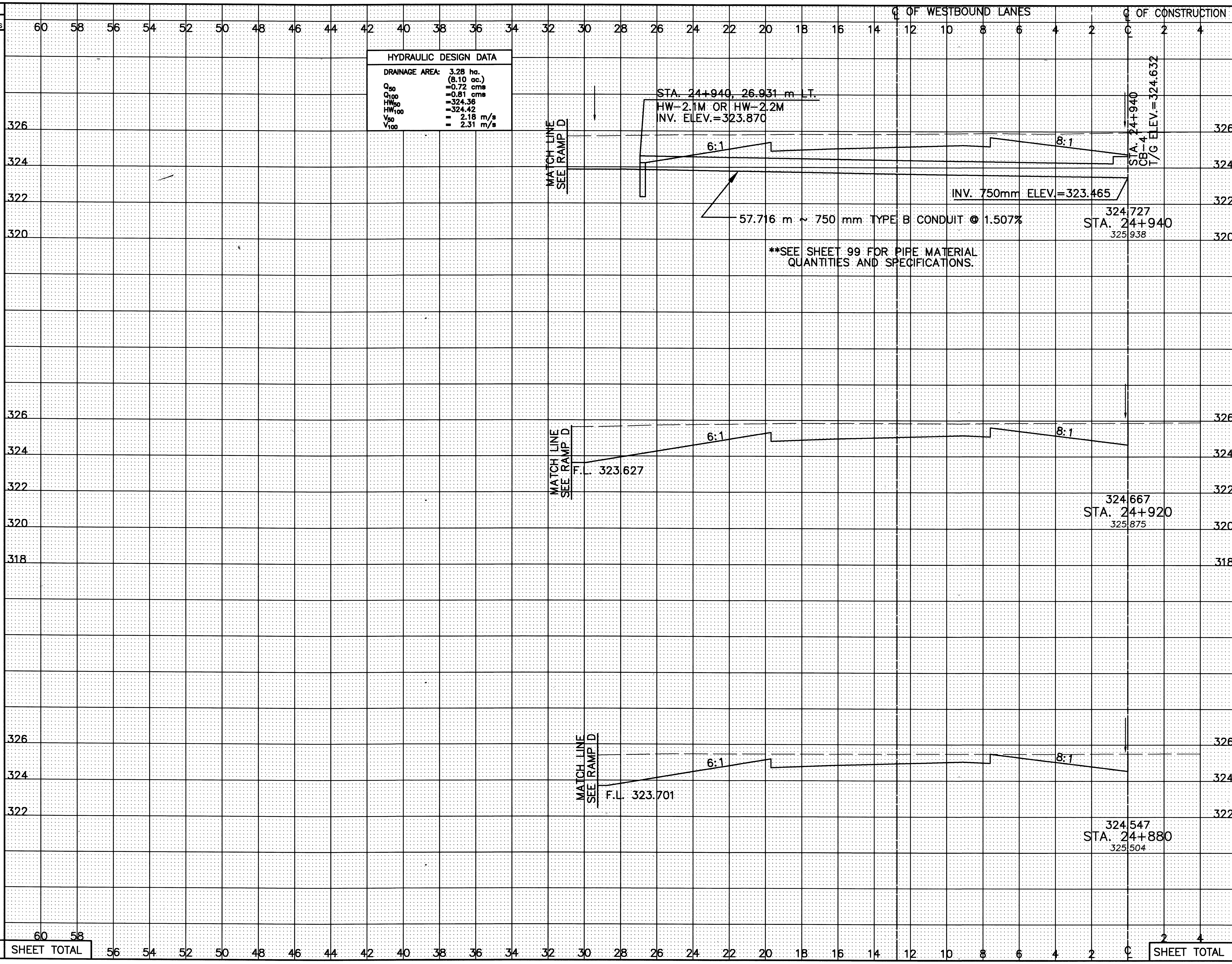
SEEDING END WIDTH	SEEDING SQ. METERS
18.7	
	387
20.0	
	766
18.3	
	708
	1861 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
28.9	0		
		586	0
29.7	0		
		1000	0
20.3	0		
		1888	0
SHEET TOTAL		3474	0

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 24+880 TO STA. 24+940 LEFT ℄

CRA-30-24.000

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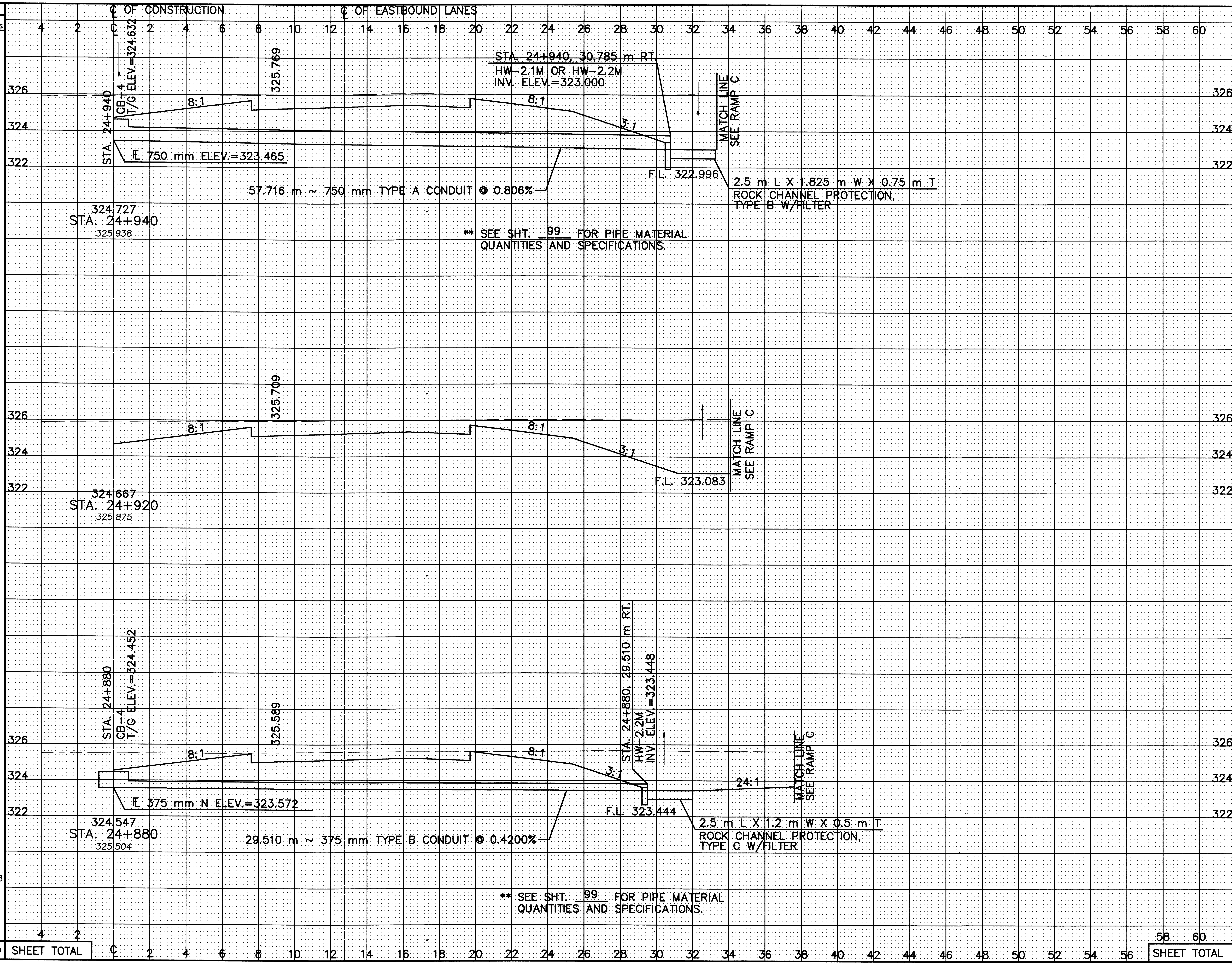

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18.8		35.0	0		
	425			737	0
23.7		38.7	0		
	936			1458	0
23.1		34.2	0		
	1258			1234	0
SHEET TOTAL	2619			3429	0

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+880 TO STA. 24+940 RIGHT ℄

CRA-30-24.000

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SEEDING
END WIDTH
SQ. METERS
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
MATCH LINE SEE RAMP D
326.189
8:1
F.L. 324.764
325.147
STA. 25+080
325.089
19.0
804
0.8
12.3
105
424
STA. 25+040, 28.640 m LT.
HW-2.2M
INV. ELEV.=324.061
326.069
STA. 25+040
CB-4
T/G ELEV.=324.932
6:1
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
℄ 375 mm S ELEV.=324.182
28.640 m ~ 375 mm TYPE B CONDUIT @ 0.42%
325.027
STA. 25+040
325.063
21.2
804
4.5
8.9
294
232
325.949
F.L. 323.819
324.907
STA. 25+000
325.252
19.0
804
10.2
2.7
749
54
325.829
F.L. 323.690
324.787
STA. 24+960
325.761
21.2
884
27.2
0.0
561
0
3296
SHEET TOTAL
1709
710
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 24+960 TO STA. 25+080 LEFT ℄
CRA-30-24.000
151
677
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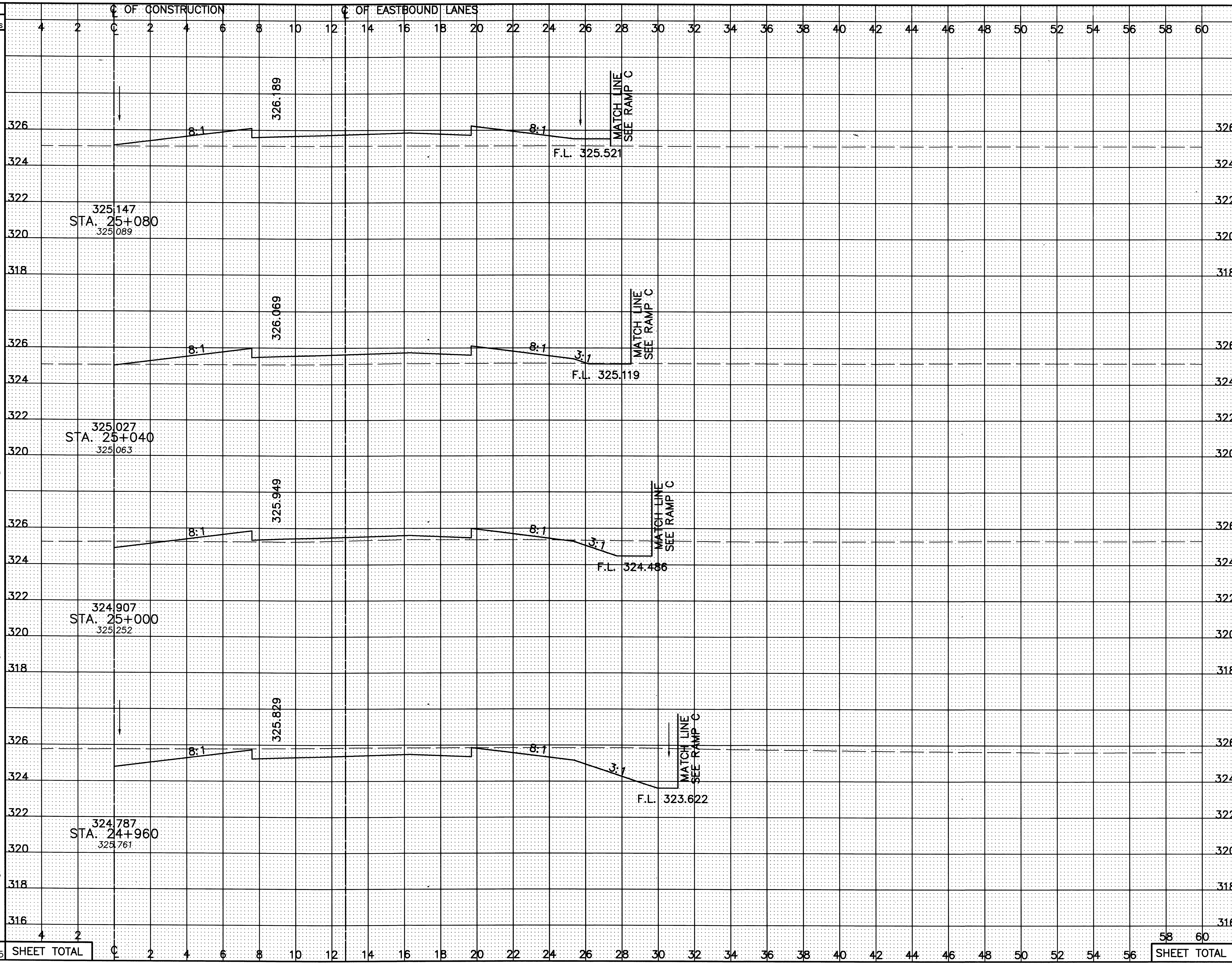
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 25+080	15.4		0.0	16.5		
		634			1	592
STA. 25+040	16.3		0.1	13.0		
		690			66	366
STA. 25+000	18.2		3.2	5.2		
		788			513	105
STA. 24+960	21.2		22.4	0.0		
		443			572	0
SHEET TOTAL		2555			1152	1063



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 24+960 TO STA. 25+080 RIGHT ℄

CRA-30-24.000

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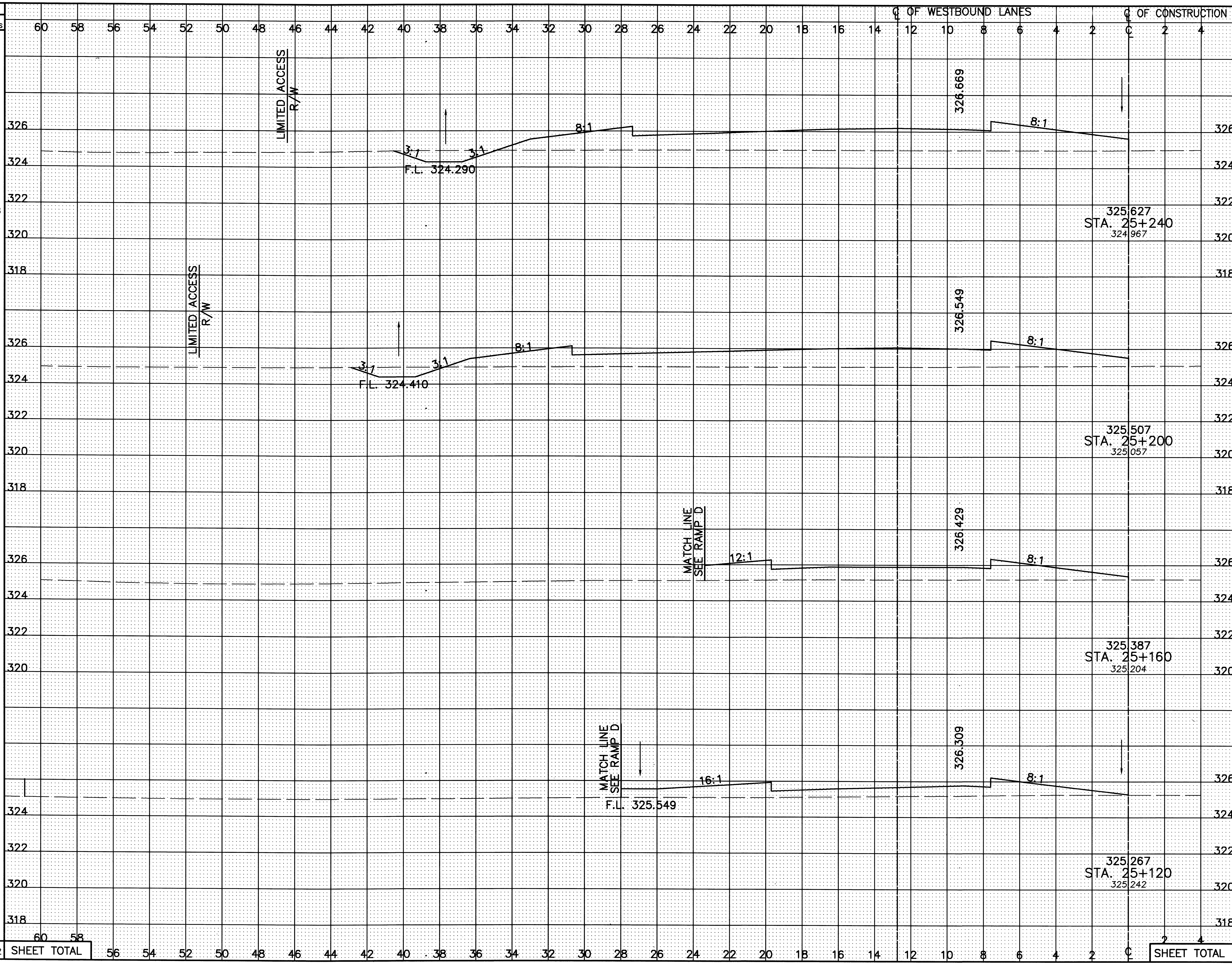
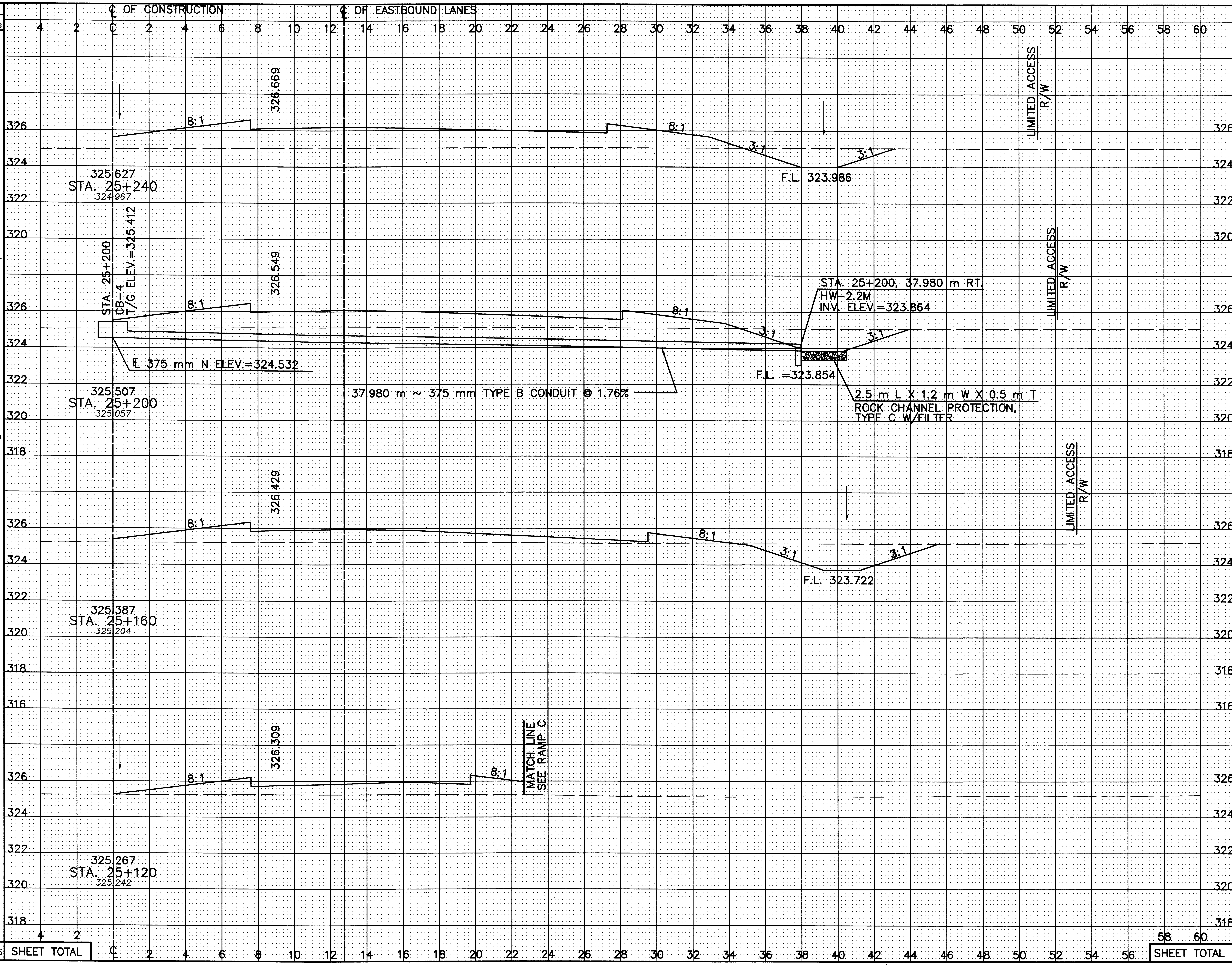


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 25+240	27.7		2.3	36.1		
		1138			84	1389
STA. 25+200	29.2		1.8	33.4		
		842			2	62
STA. 25+160	12.9		0.0	17.1		
		600			0	648
STA. 25+120	17.1		0.0	15.3		
		722			15	552
SHEET TOTAL		3302			101	2651

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+120 TO STA. 25+240 LEFT ℄

CRA-30-24.000



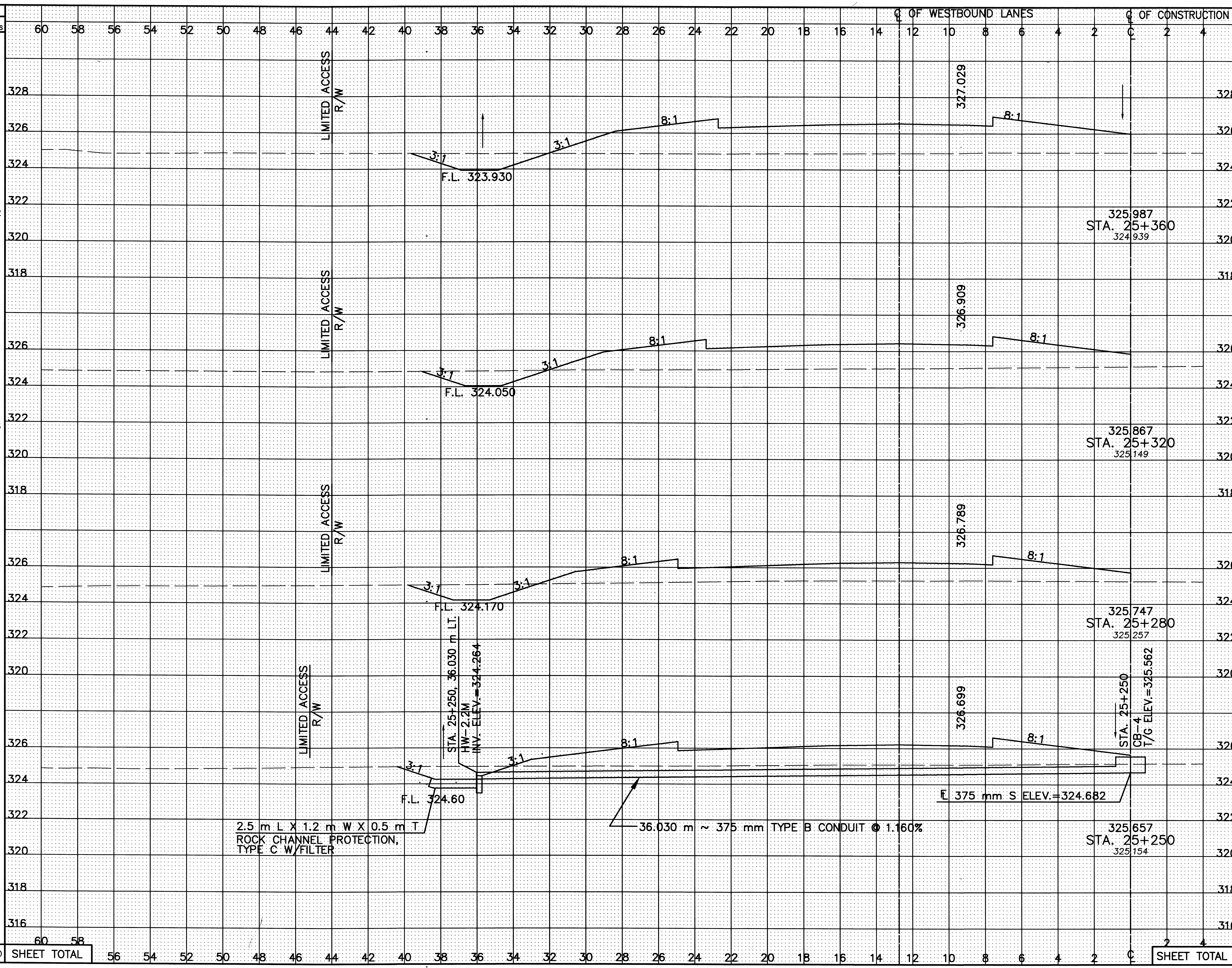
SEEDING END WIDTH	SEEDING SQ. METERS
32.6	
	1304
32.6	
	1140
24.4	
	716
11.4	
	536
SHEET TOTAL	3696

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5.5	34.7		
		246	1223
6.8	26.4		
		316	883
9.0	17.7		
		180	632
0.0	13.9		
		0	609
SHEET TOTAL		742	3347

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+120 TO STA. 25+240 RIGHT ℄

CRA-30-24.000



SEEDING

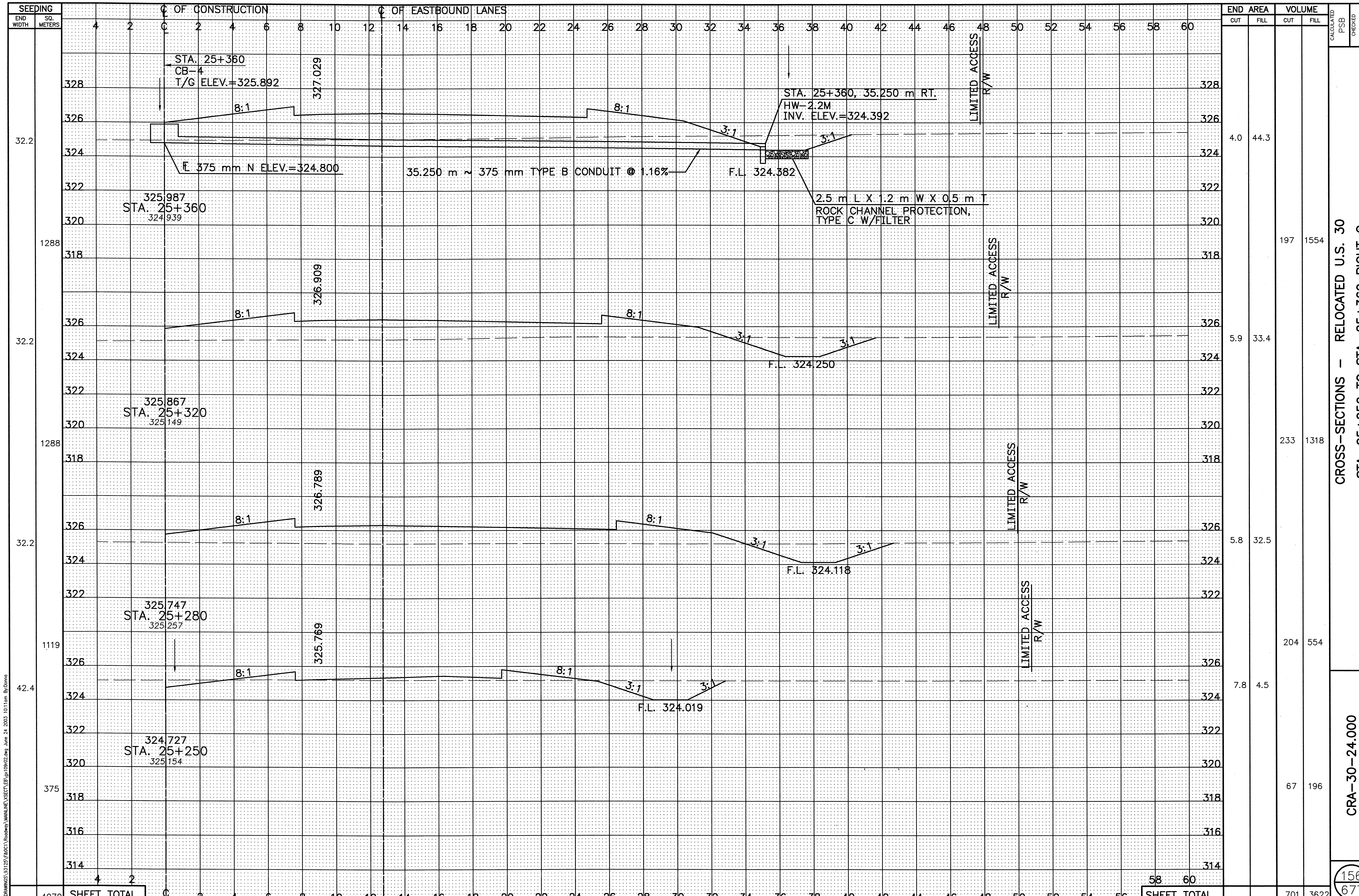
END WIDTH	SQ. METERS
30.2	
	1192
29.4	
	1146
27.9	
	1112
SHEET TOTAL	3450

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4.4	46.7		
		160	1717
3.6	39.1		
		150	1373
3.9	29.5		
		58	443
0	0		
		12	180
SHEET TOTAL		380	3713

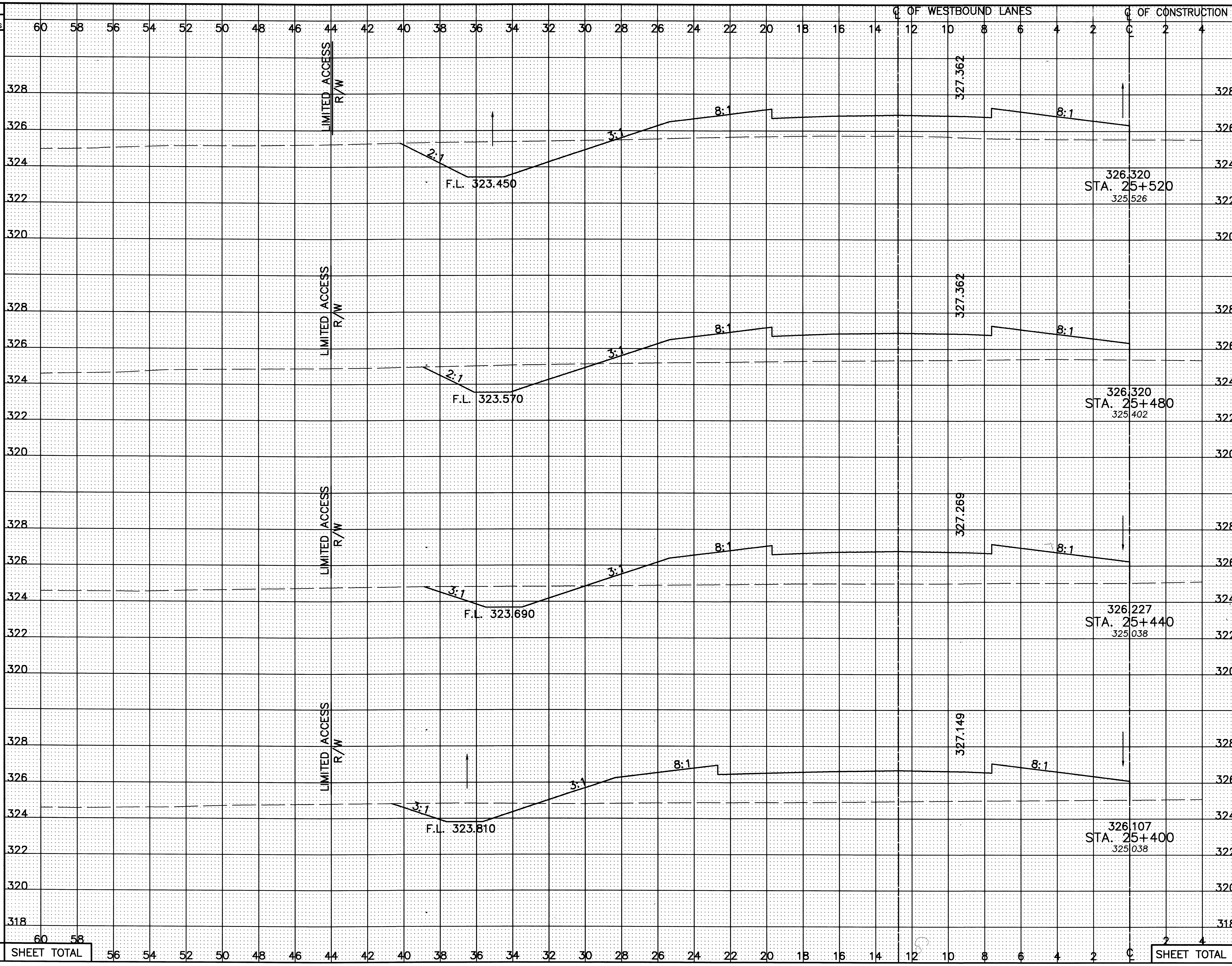
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+250 TO STA. 25+360 LEFT ℄

CRA-30-24.000



SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
STA. 25+360
CB-4
T/G ELEV.=325.892
327.029
8:1
8:1
3:1
3:1
STA. 25+360, 35.250 m RT.
HW-2.2M
INV. ELEV.=324.392
LIMITED ACCESS R/W
℄ 375 mm N ELEV.=324.800
35.250 m ~ 375 mm TYPE B CONDUIT @ 1.16%
F.L. 324.382
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
325.987
STA. 25+360
324.939
32.2
4.0
44.3
1288
197
1554
326.909
F.L. 324.250
325.867
STA. 25+320
325.149
32.2
5.9
33.4
1288
233
1318
326.789
F.L. 324.118
325.747
STA. 25+280
325.257
32.2
5.8
32.5
1119
204
554
325.769
F.L. 324.019
324.727
STA. 25+250
325.154
42.4
7.8
4.5
375
67
196
SHEET TOTAL
4070
701
3622
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+250 TO STA. 25+360 RIGHT ℄
CRA-30-24.000
156
677

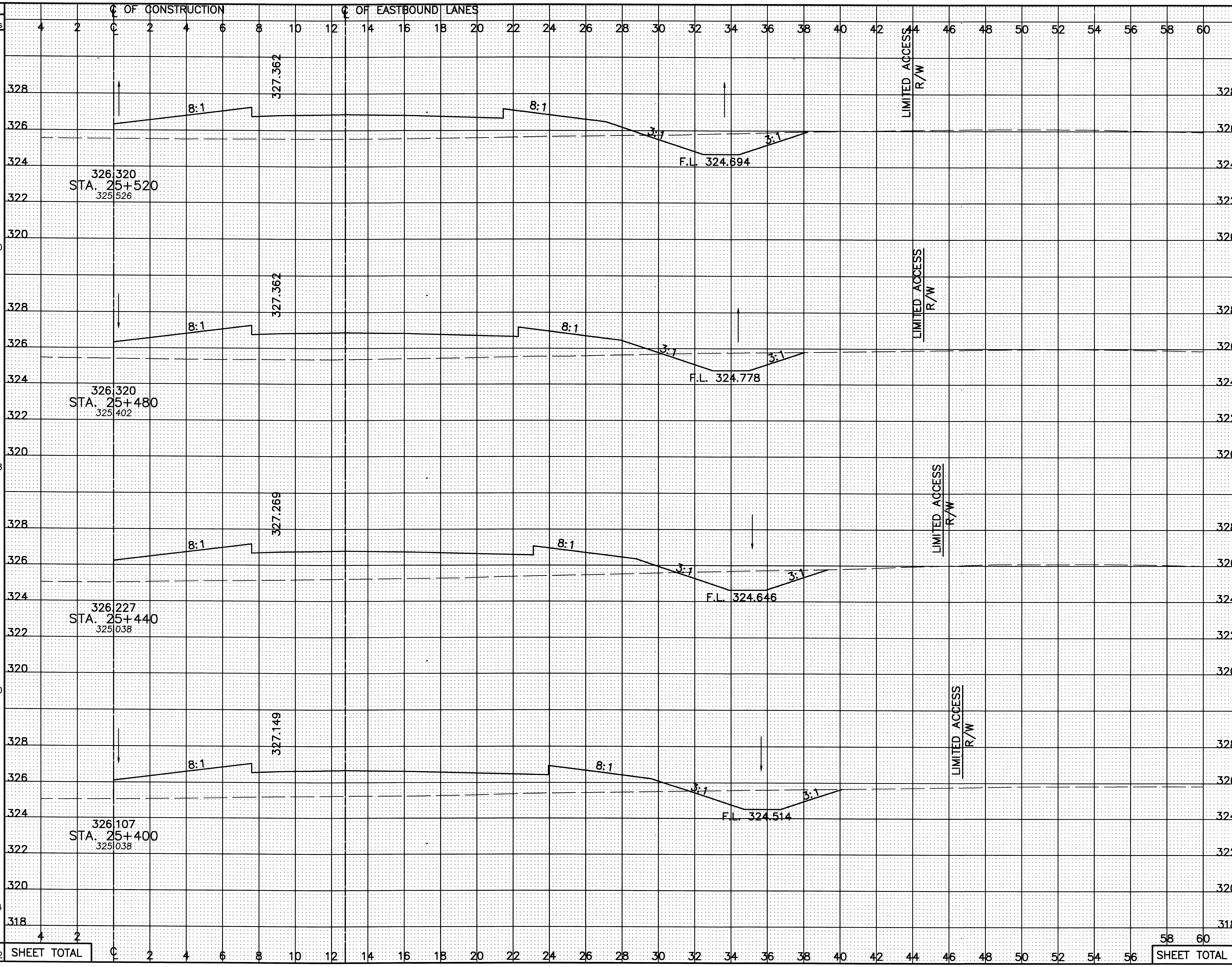


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 25+520	33.6	1340	13.3	31.4	456	1425
STA. 25+480	33.4	1334	9.5	39.9	314	1747
STA. 25+440	33.3	1270	6.2	47.5	226	1948
STA. 25+400	30.2	1208	5.1	49.9	190	1933
SHEET TOTAL		5152			1186	7053

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+400 TO STA. 25+520 LEFT ℄

CRA-30-24.000

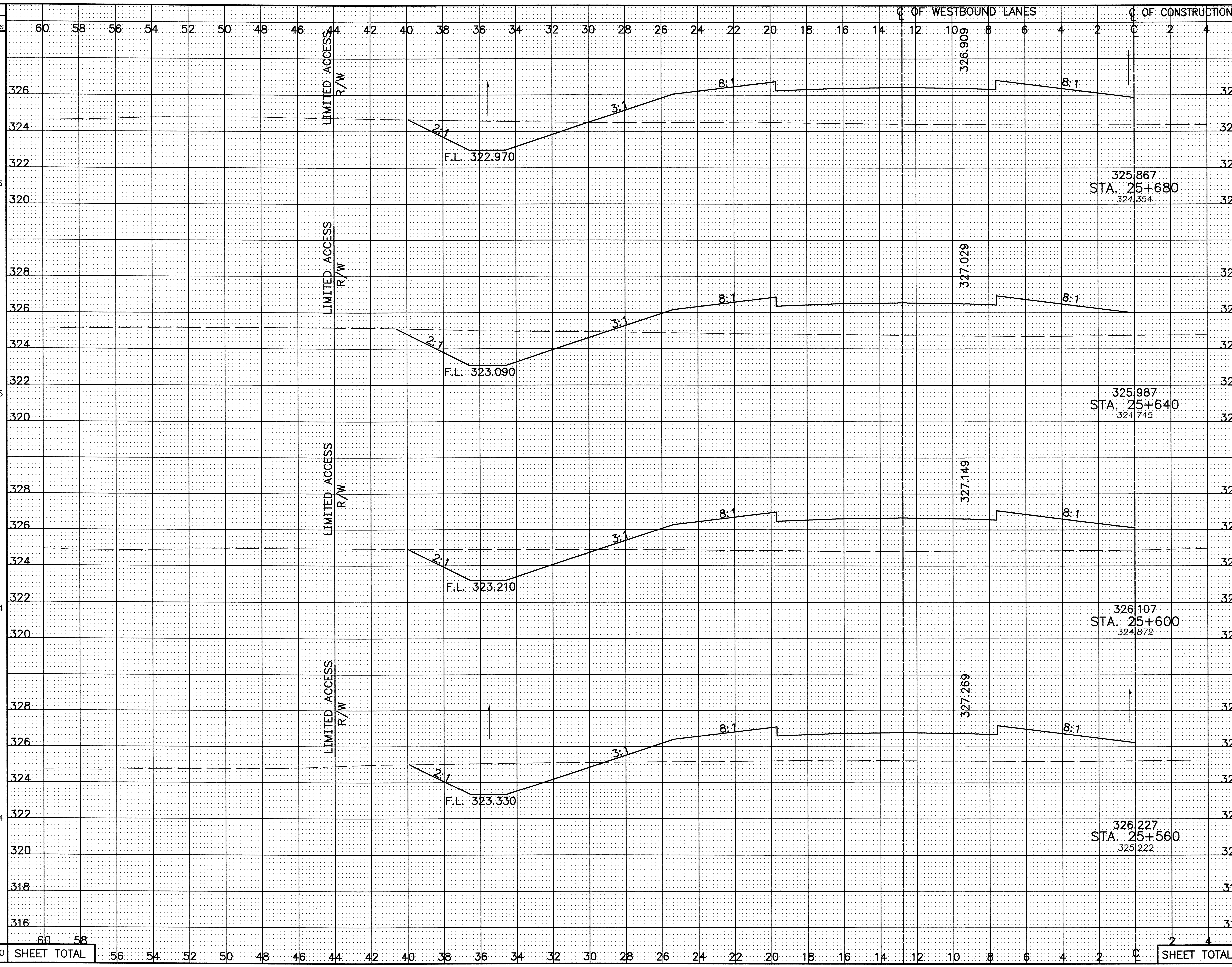


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
31.6		6.2	34.6		
	1260			219	1477
31.4		4.8	39.3		
	1268			204	1635
32.0		5.4	42.5		
	1280			219	1658
32.0		5.5	40.4		
	1284			190	1694
SHEET TOTAL	5092			832	6464

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+400 TO STA. 25+520 RIGHT ℄

CRA-30-24.000



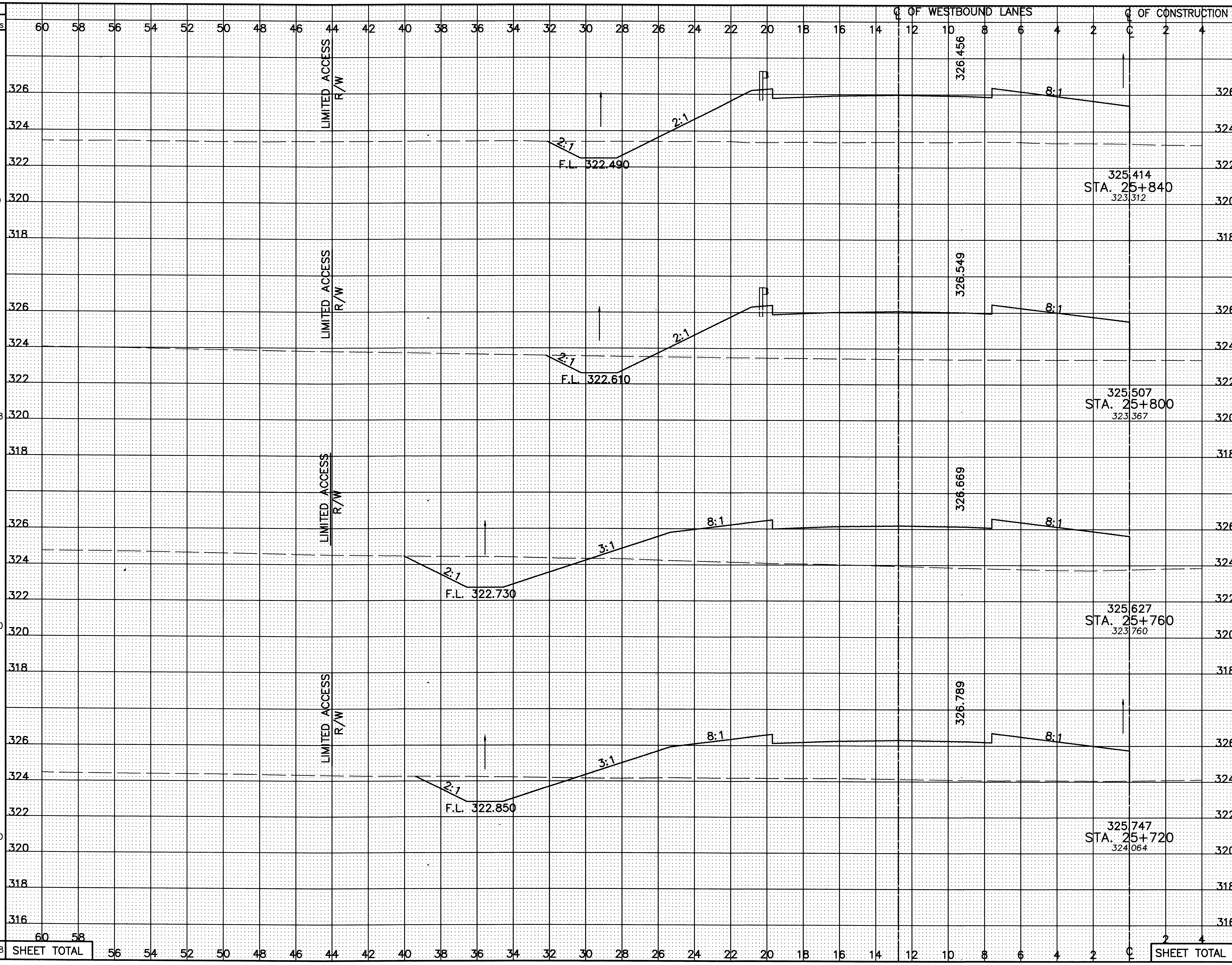
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 25+680	33.6		9.4	53.2		
		1346			445	1985
STA. 25+640	33.7		12.9	46.1		
		1346			467	1879
STA. 25+600	33.6		10.5	47.9		
		1344			429	1772
STA. 25+560	33.6		11.0	40.7		
		1344			486	1442
SHEET TOTAL		5380			1827	7078

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+560 TO STA. 25+680 LEFT ℄

CRA-30-24.000


CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+560 TO STA. 25+680 RIGHT ℄
CRA-30-24.000
160
677
CALCULATED PSB
CHECKED LBD
SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
STA. 25+680
325.867
324.354
326.909
F.L. 323.494
LIMITED ACCESS R/W
34.1
4.4
54.1
1358
233
1967
STA. 25+640
325.987
324.745
327.029
STA. 25+640 CB-4 T/G ELEV.=325.892
℄ 375 mm N ELEV.=324.975
32.080 m ~ 375 mm TYPE B CONDUIT @ 3.65%
STA. 25+640, 32.0080 m RT
HW-2.2M
INV. ELEV.=323.804
F.L. 323.794
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
33.8
7.3
44.2
1352
297
1681
STA. 25+600
326.107
324.872
327.149
F.L. 324.094
33.8
7.6
39.8
1328
310
1505
STA. 25+560
326.227
325.222
327.269
F.L. 324.394
32.6
7.9
35.4
1284
282
1400
SHEET TOTAL
5322
1122
6553
8:1
3:1



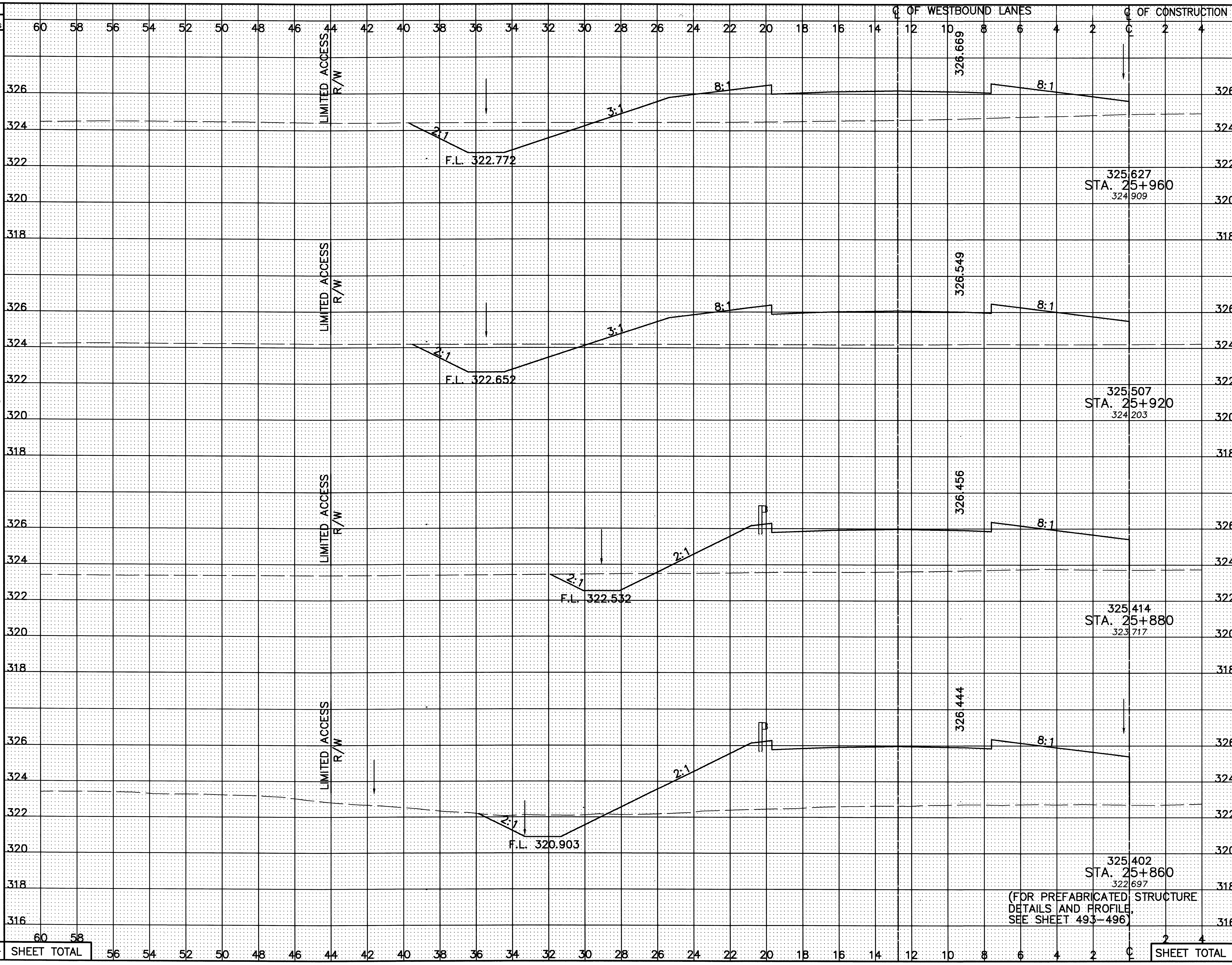
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21.2	850	3.5	61.0	142	2468
21.3	1098	3.6	62.4	280	2424
33.6	1340	10.4	58.8	378	2344
33.4	1340	8.5	58.4	358	2231
SHEET TOTAL	4628			1158	9467

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+720 TO STA. 25+840 LEFT ℄

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
326.456
LIMITED ACCESS R/W
2:1
3:1
F.L. 322.474
22.1
3.0
66.7
325.414
STA. 25+840
323.312
872
114
2632
326.549
F.L. 322.594
21.5
2.7
64.9
325.507
STA. 25+800
323.367
STA. 25+760
CB-4
T/G ELEV.=325.532
1118
144
2546
326.669
8:1
STA. 25+760, 33.640 m RT.
HW-2.2M
INV. ELEV.=322.933
34.4
4.5
62.4
℄ 375 mm N ELEV.=324.615
325.627
STA. 25+760
323.760
33.640 m ~ 375 mm TYPE B CONDUIT @ 5.00%
F.L. 322.894
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
1372
165
2425
326.789
F.L. 323.194
34.2
3.8
58.8
325.747
STA. 25+720
324.064
1366
164
2258
4728
SHEET TOTAL
SHEET TOTAL
587
9861
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 25+720 TO STA. 25+840 RIGHT ℄
CRA-30-24.000
162
677

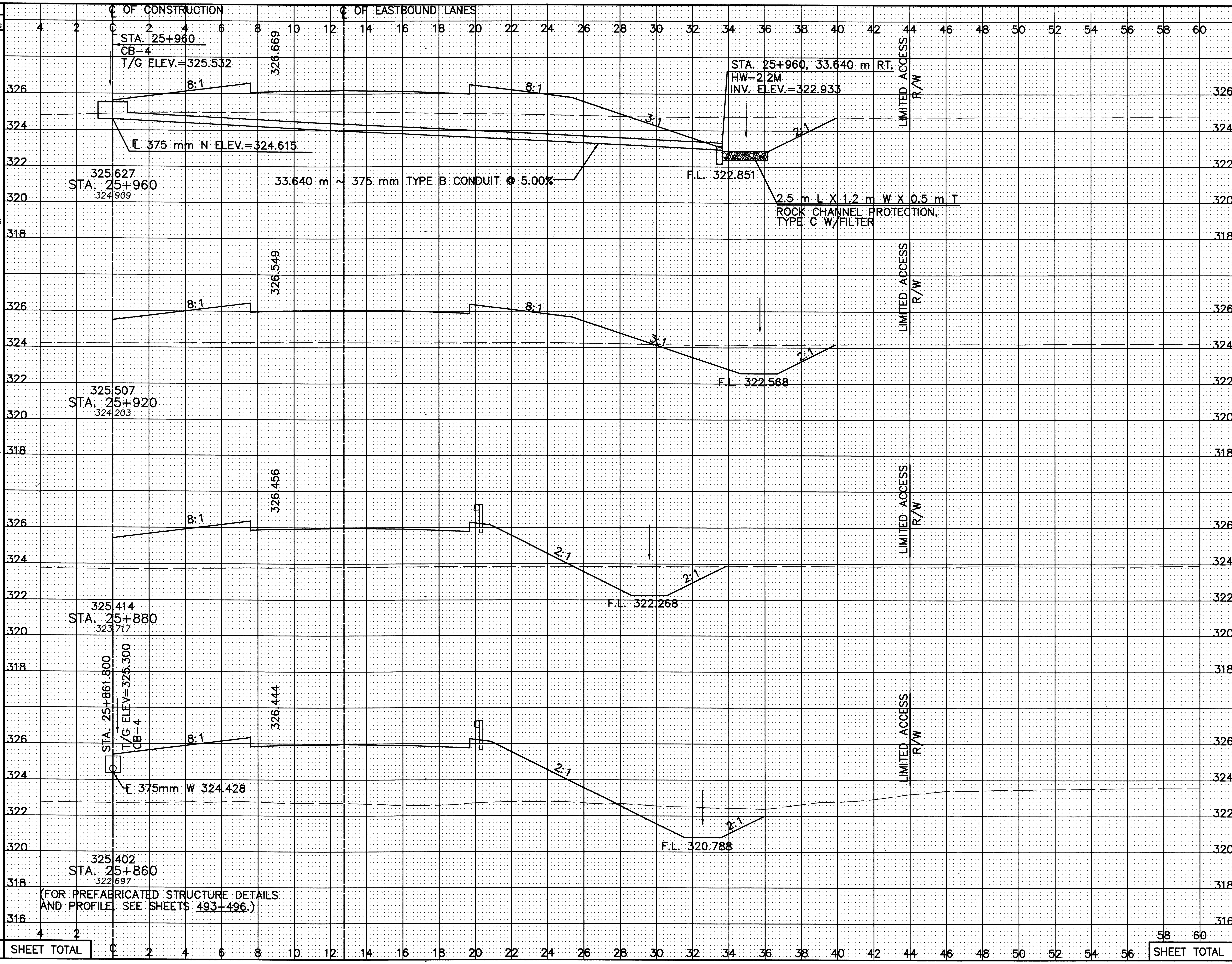


Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
33.6		10.1	41.0		
	1342			379	1808
33.5		8.9	49.4		
	1090			252	2070
21		3.7	54.1		
	490			132	1374
28		9.5	83.3		
	492			130	1443
SHEET TOTAL	3414			893	6695

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 25+860 TO STA. 25+960 LEFT ℄

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.7		12.6	31.1		
	1356			438	1569
34.1		9.3	47.3		
	1144			350	1940
23.1		8.2	49.7		
	437			94	1285
20.6		1.2	78.8		
	427			42	1455
SHEET TOTAL	3364			924	6249

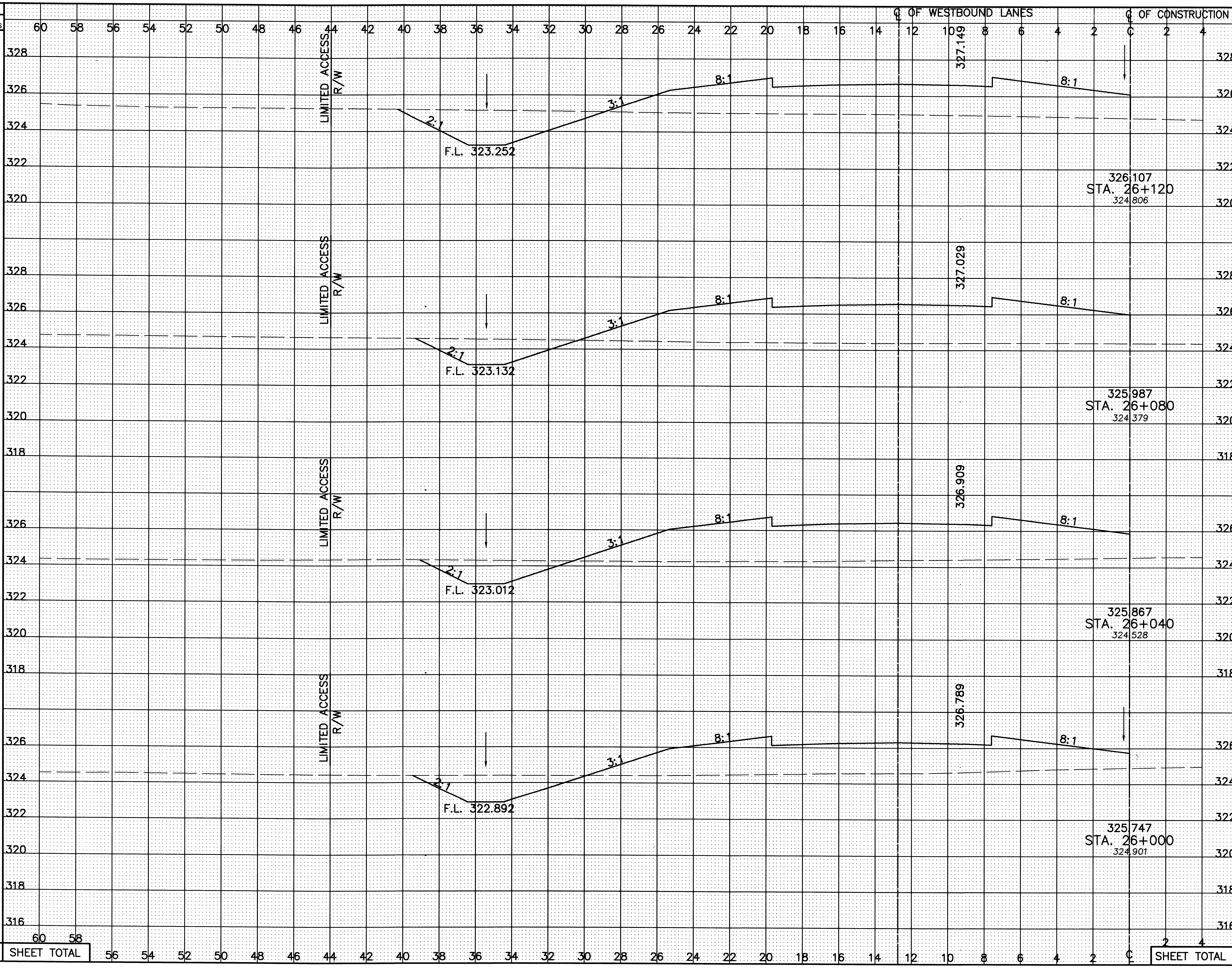
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 25+860 TO STA. 25+960 RIGHT ℄

CRA-30-24.000

164
677

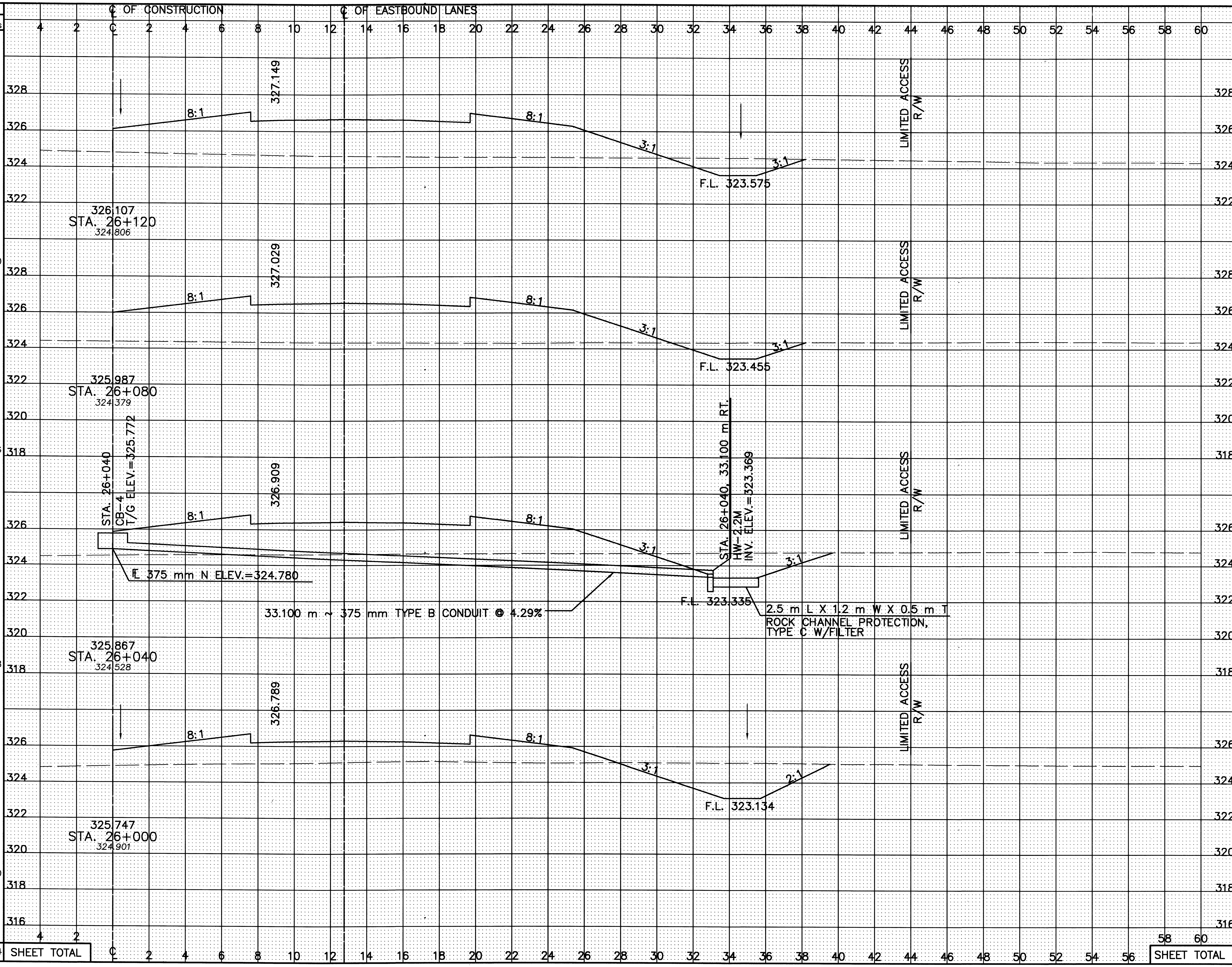
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+000 TO STA. 26+120 LEFT ℄



STA.	SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
26+120	29.3		12.7	43.8		
		1150			408	2025
26+080	28.2		7.7	57.4		
		1122			288	2254
26+040	27.9		6.7	55.2		
		1124			308	1995
26+000	28.3		8.7	44.5		
		1238			378	1710
SHEET TOTAL		4634			1382	7984

CALCULATED PSB
CHECKED LBD

CRA-30-24.000



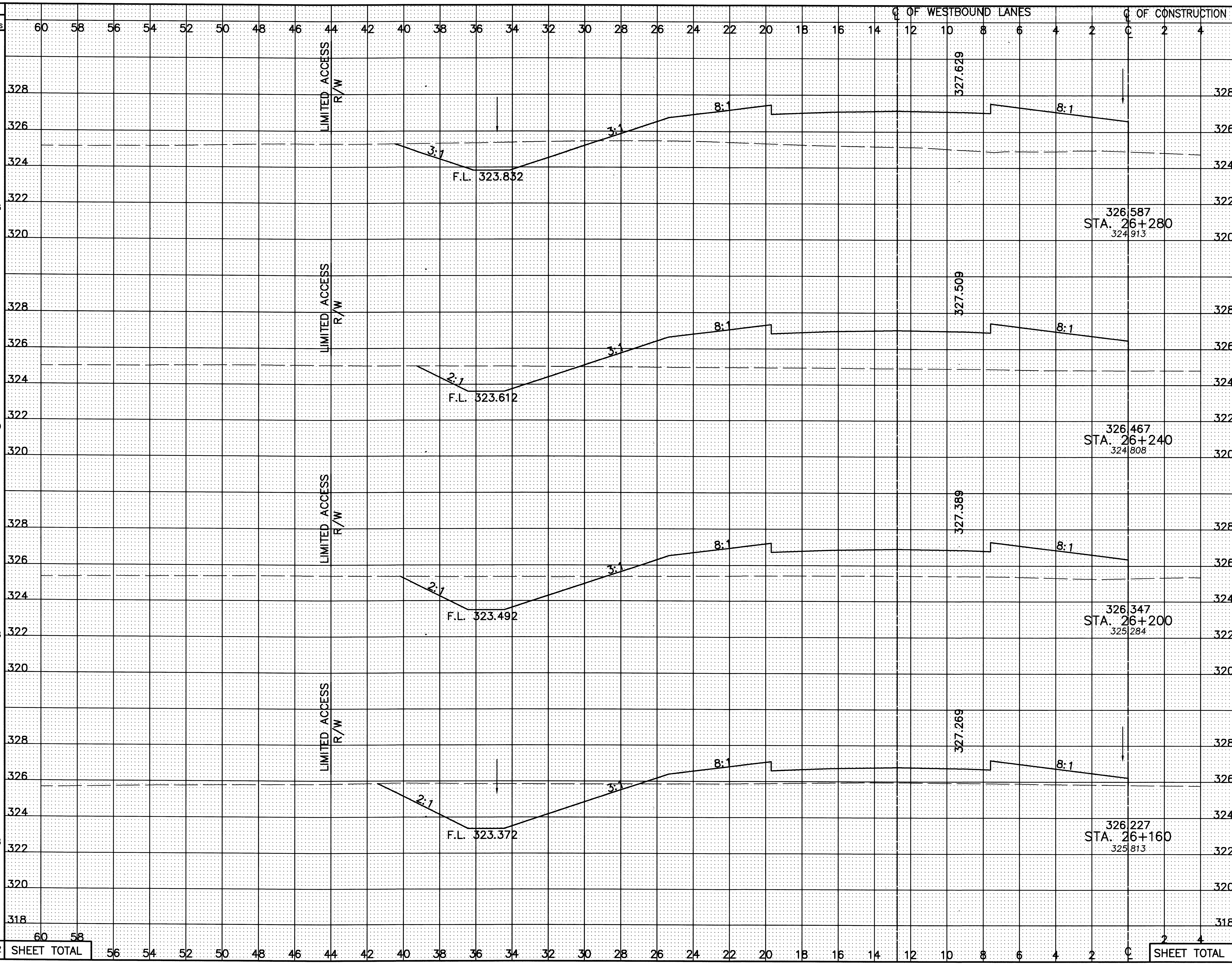
SEEDING END WIDTH	SEEDING SQ. METERS
33.8	
	1360
34.2	
	1366
34.1	
	1358
33.8	
	1350
SHEET TOTAL	5434

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4.5	54.6		
		174	2283
4.2	59.5		
		250	2138
8.3	47.4		
		435	1571
13.4	31.1		
		520	1244
SHEET TOTAL		1379	7236

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+000 TO STA. 26+120 RIGHT ℄

CRA-30-24.000



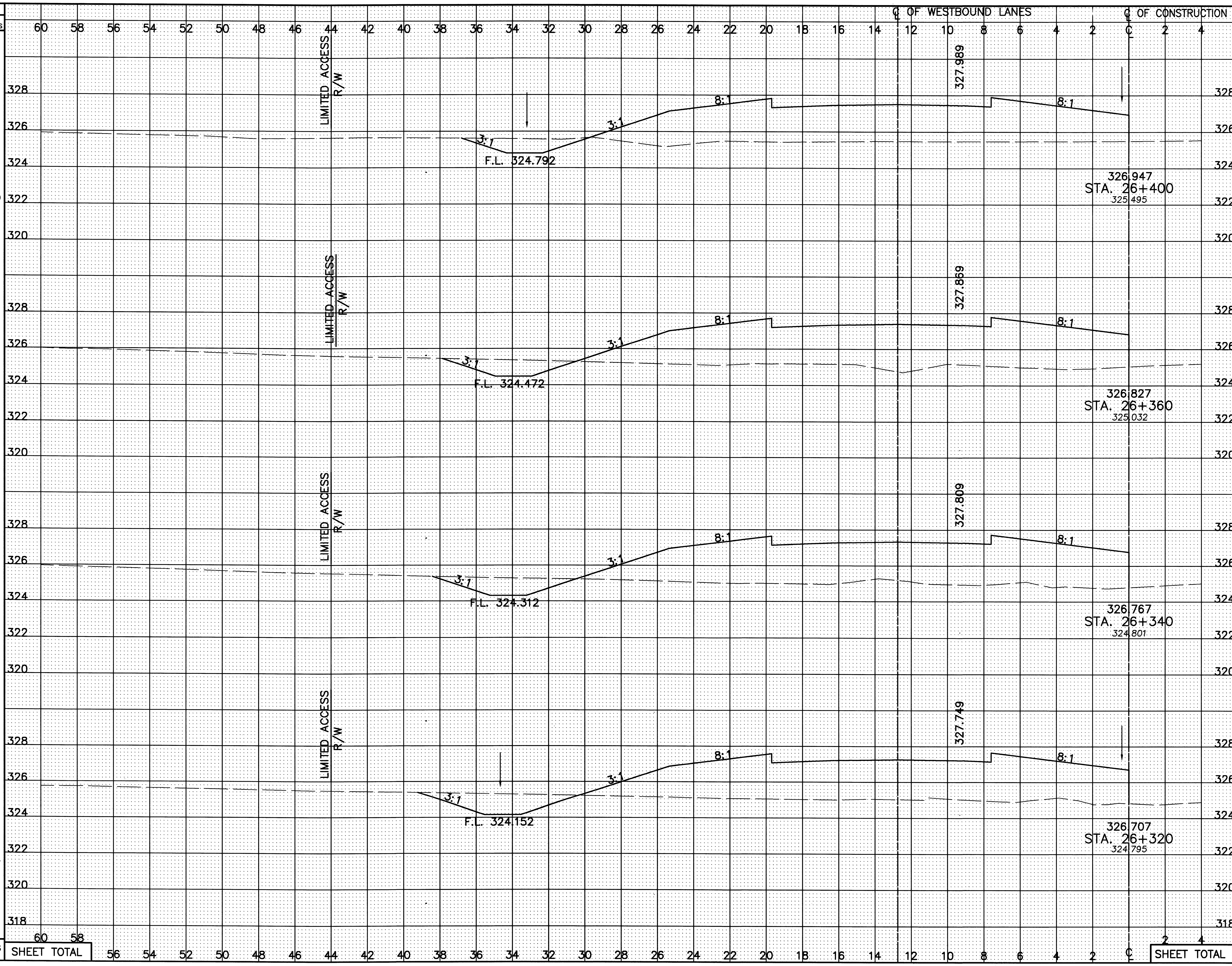
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.4		10.1	52.0		
	1336			375	2171
33.4		8.7	56.5		
	1340			419	1915
33.6		12.3	39.2		
	1348			653	1217
33.8		20.4	21.6		
	1348			662	1308
	5372			2109	6611

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+160 TO STA. 26+280 LEFT ℄

CRA-30-24.000

Seeding end width	Seeding sq. meters	End area cut	End area fill	Volume cut	Volume fill
34.1		2.0	62.0		
	1366			73	2550
34.2		1.6	65.5		
	1360			209	2161
33.8		8.8	42.5		
	1336			352	1489
33.0		8.8	31.9		
	1336			267	1731
SHEET TOTAL	5398			901	7931

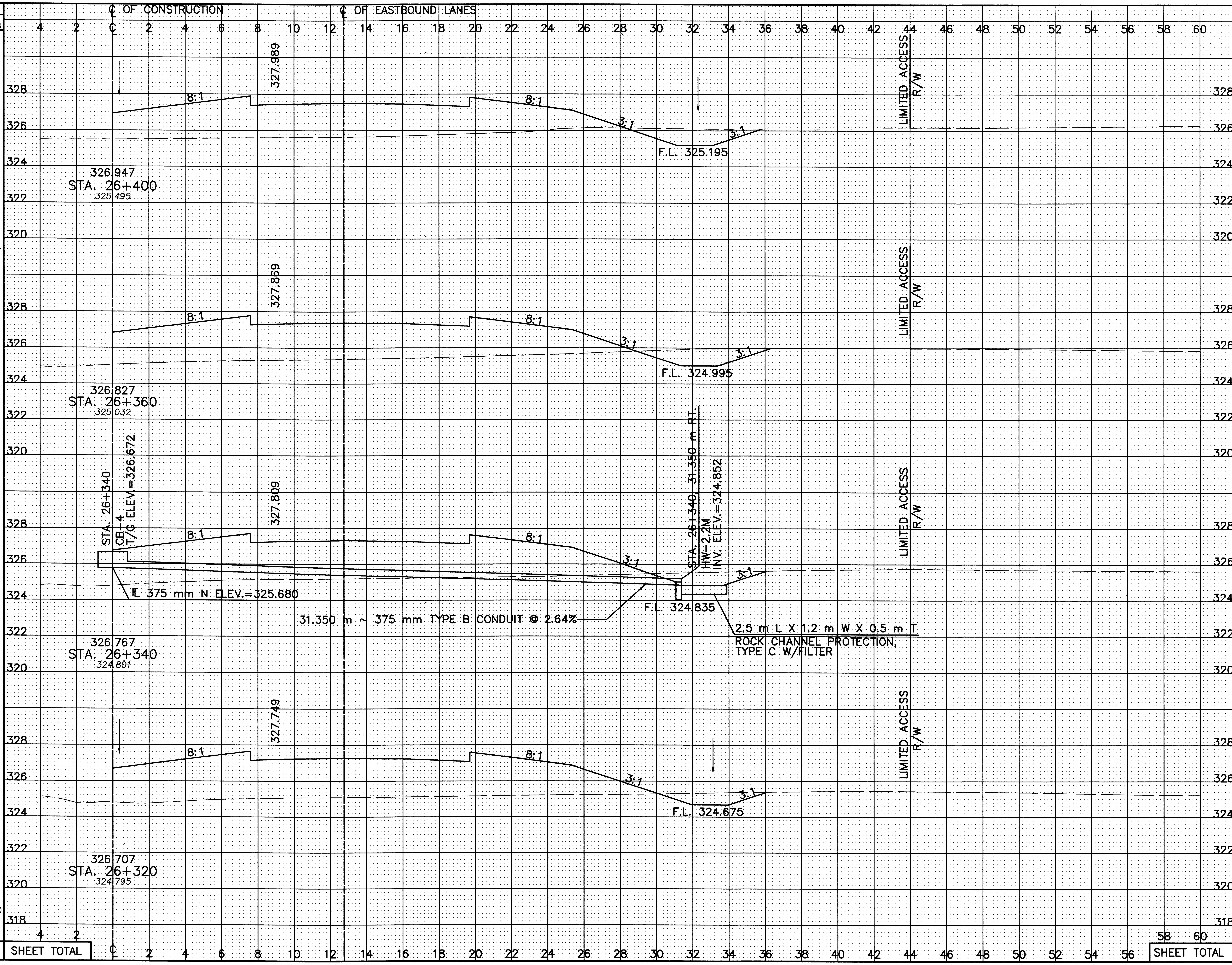


Station	Seeding: End Width	Seeding: Sq. Meters	End Area: Cut	End Area: Fill	Volume: Cut	Volume: Fill
STA. 26+400	33.2		3.5	54.8		
		1330			154	2346
STA. 26+360	33.3		4.2	62.5		
		666			90	1248
STA. 26+340	33.3		4.8	62.4		
		666			110	1231
STA. 26+320	33.3		6.2	60.7		
		1334			326	2255
SHEET TOTAL		3996			680	7080

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+320 TO STA. 26+400 LEFT ℄

CRA-30-24.000



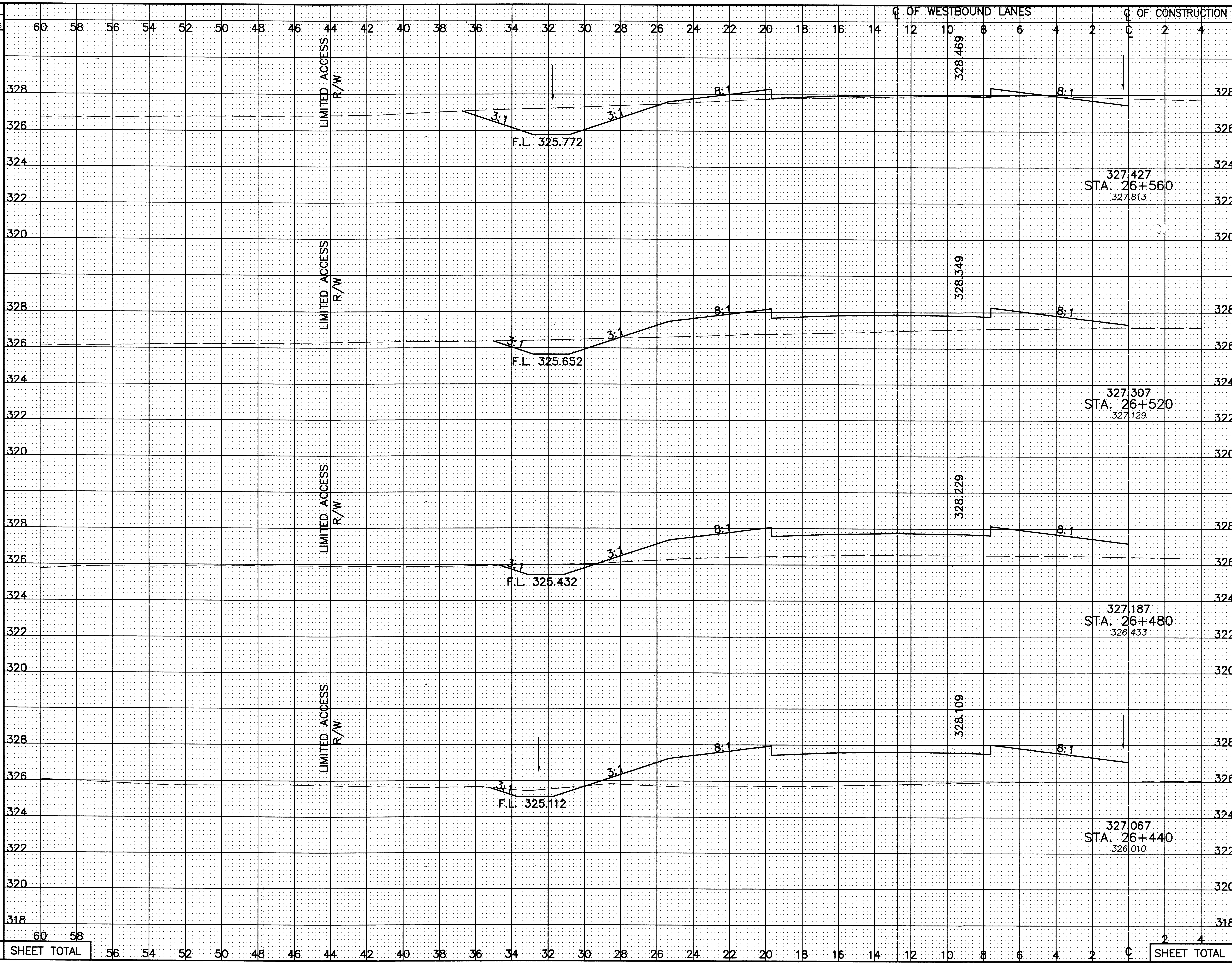
SEEDING END WIDTH	SEEDING SQ. METERS
33.9	
	1364
34.3	
	688
34.5	
	689
34.4	
	1370
SHEET TOTAL	4111

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4.3	45.9		
		174	1960
4.4	52.1		
		75	1088
3.1	56.7		
		57	1155
2.6	58.8		
		92	2416
SHEET TOTAL		398	6619

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+320 TO STA. 26+400 RIGHT ℄

CRA-30-24.000

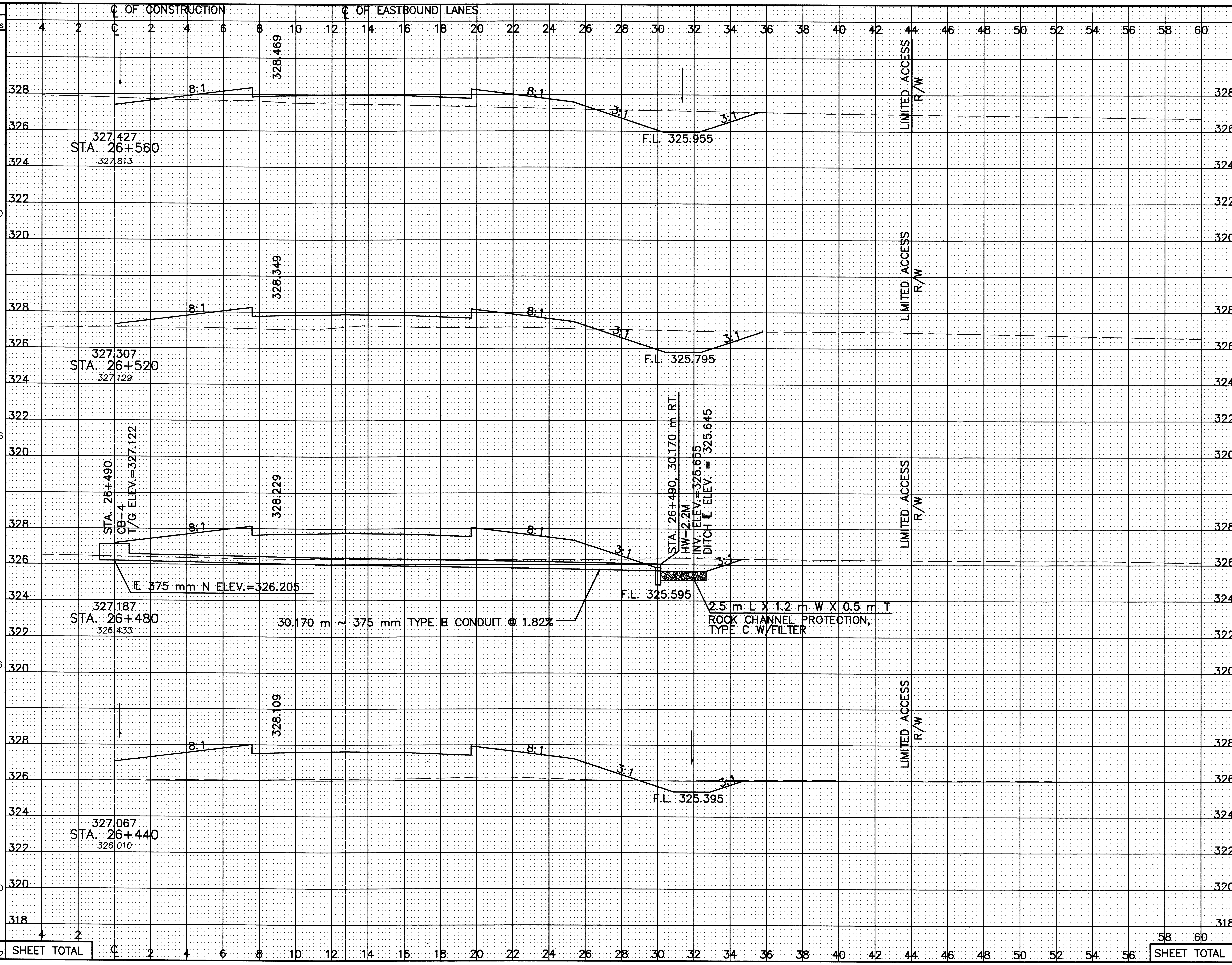


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 26+560	33.2		10.3	3.5		
		1326			275	540
STA. 26+520	33.1		3.5	23.5		
		1324			111	1127
STA. 26+480	33.1		2.1	32.8		
		1324			69	1598
STA. 26+440	33.1		1.4	47.1		
		1326			99	2038
SHEET TOTAL		5300			554	5303

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+440 TO STA. 26+560 LEFT ℄

CRA-30-24.000



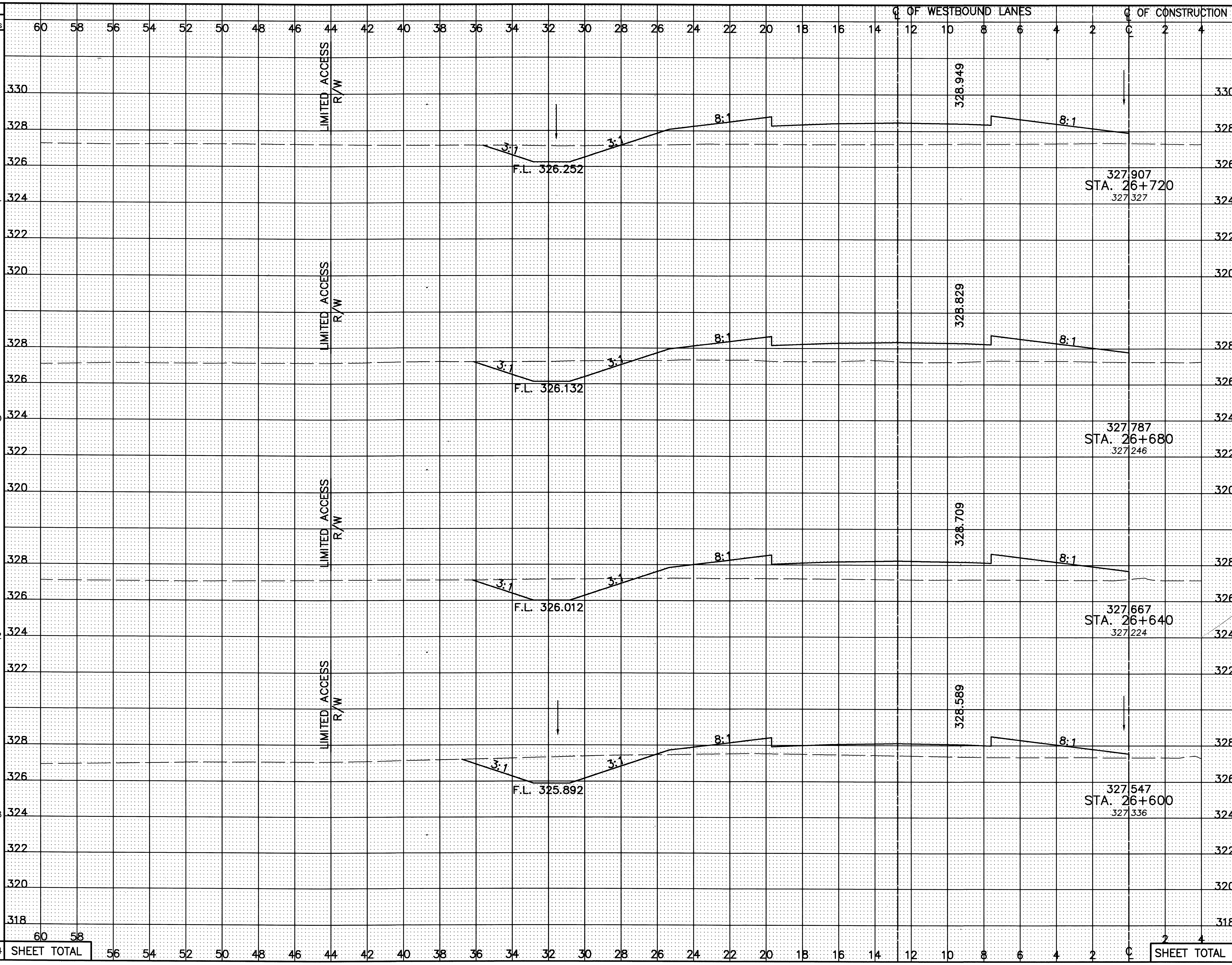
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 26+560	32.9		6.9	11.3		
		1310			270	575
STA. 26+520	32.6		6.6	17.4		
		1296			193	1082
STA. 26+480	32.2		3.0	36.7		
		1316			113	1521
STA. 26+440	33.6		2.6	39.4		
		1350			138	1706
SHEET TOTAL		5272			714	4884

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+440 TO STA. 26+560 RIGHT ℄

CRA-30-24.000

172/677



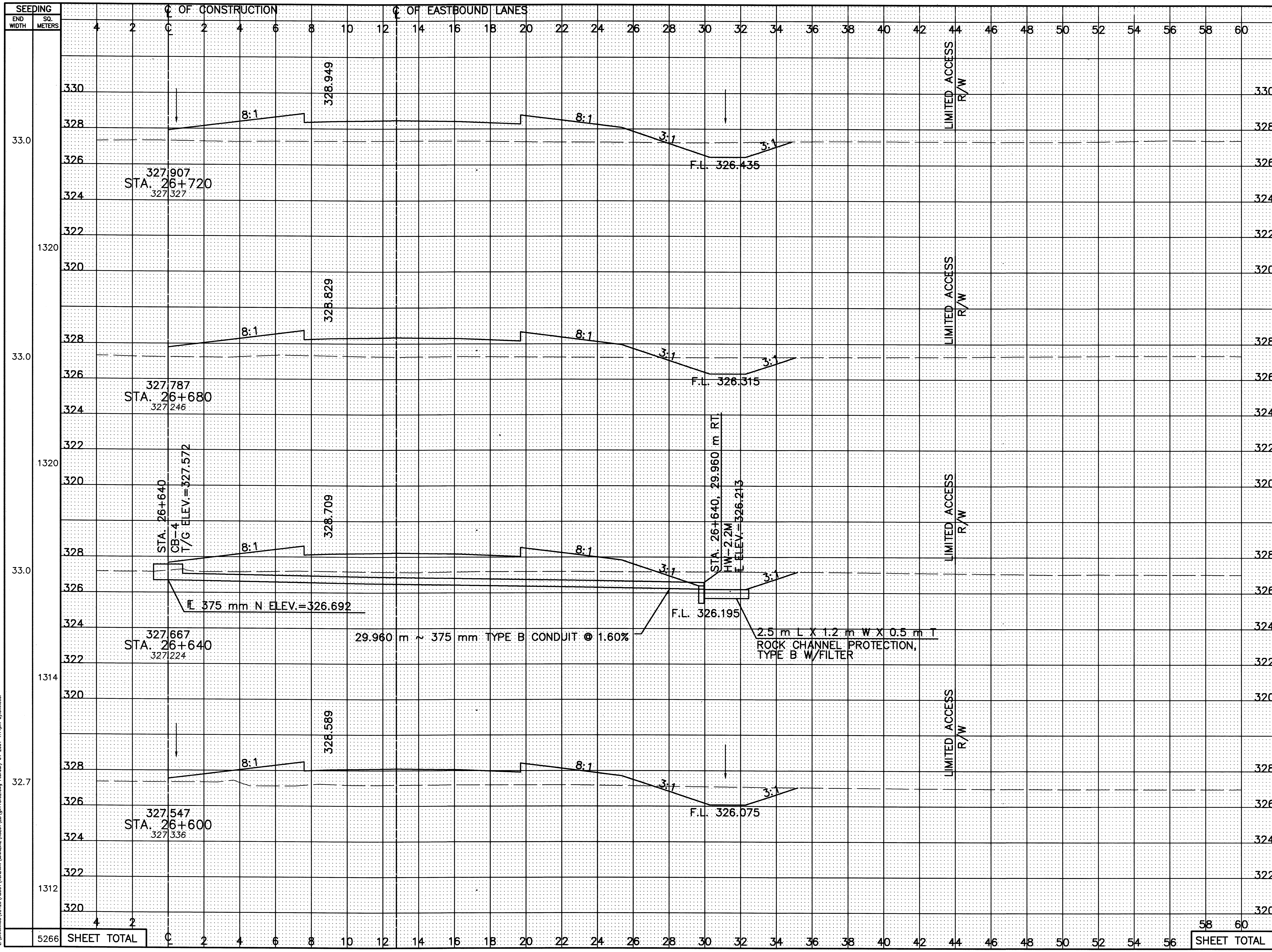
SEEDING END WIDTH	SEEDING SQ. METERS
33.1	1324
33.1	1320
32.9	1322
33.2	1328
	5294

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4.3	29.7	207	1112
6.0	25.9	249	1017
6.4	25.0	310	817
9.1	15.9	388	387
		1154	3333

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+600 TO STA. 26+720 LEFT ℄

CRA-30-24.000

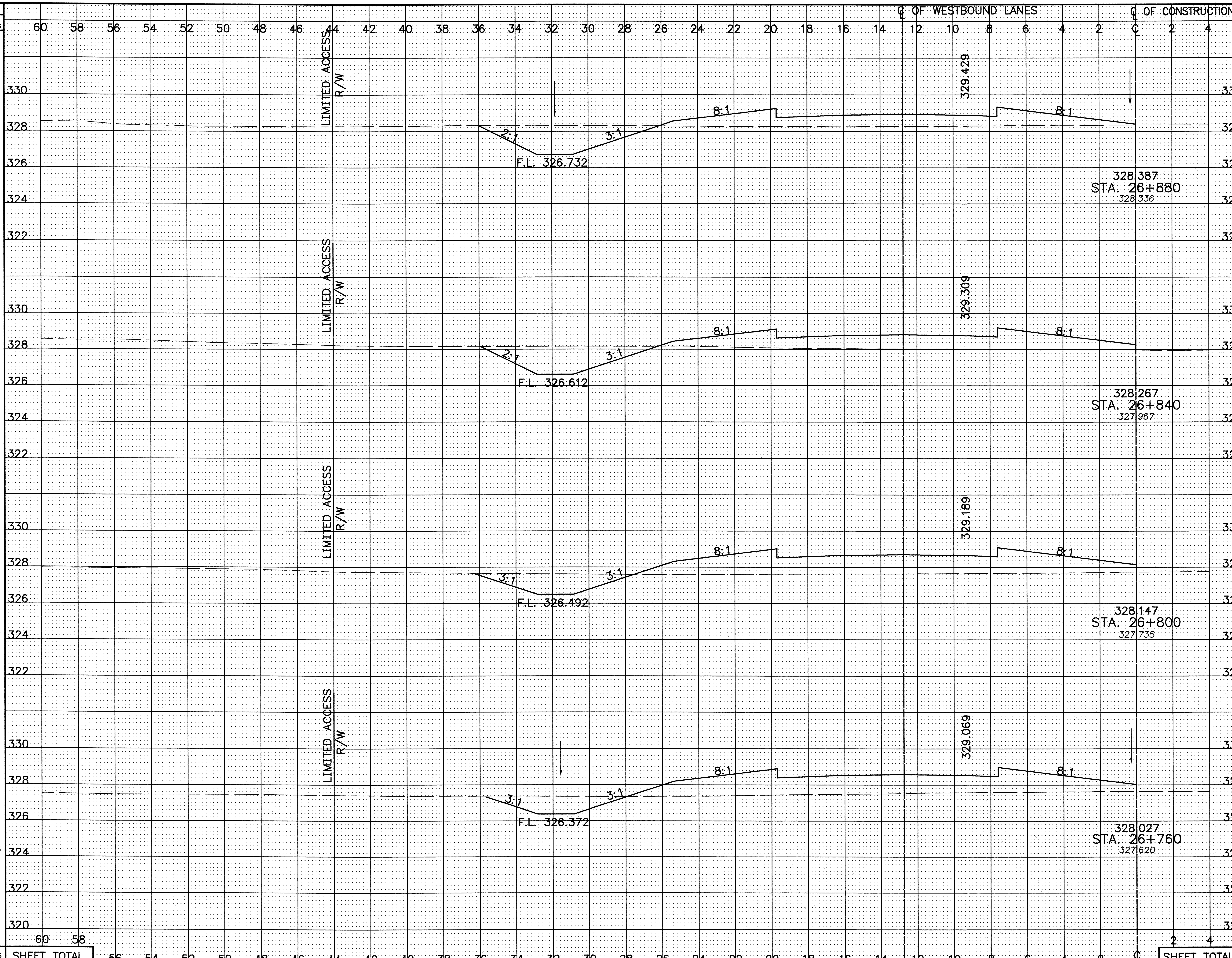


Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
33.0		3.7	29.0		
	1320			162	1109
33.0		4.4	26.4		
	1320			184	1043
33.0		4.8	25.7		
	1314			197	952
32.7		5.0	21.9		
	1312			238	663
SHEET TOTAL	5266			781	3767

CALCULATED PSB
CHECKED LBD

CROSS–SECTIONS – RELOCATED U.S. 30
STA. 26+600 TO STA. 26+720 RIGHT ℄

CRA–30–24.000

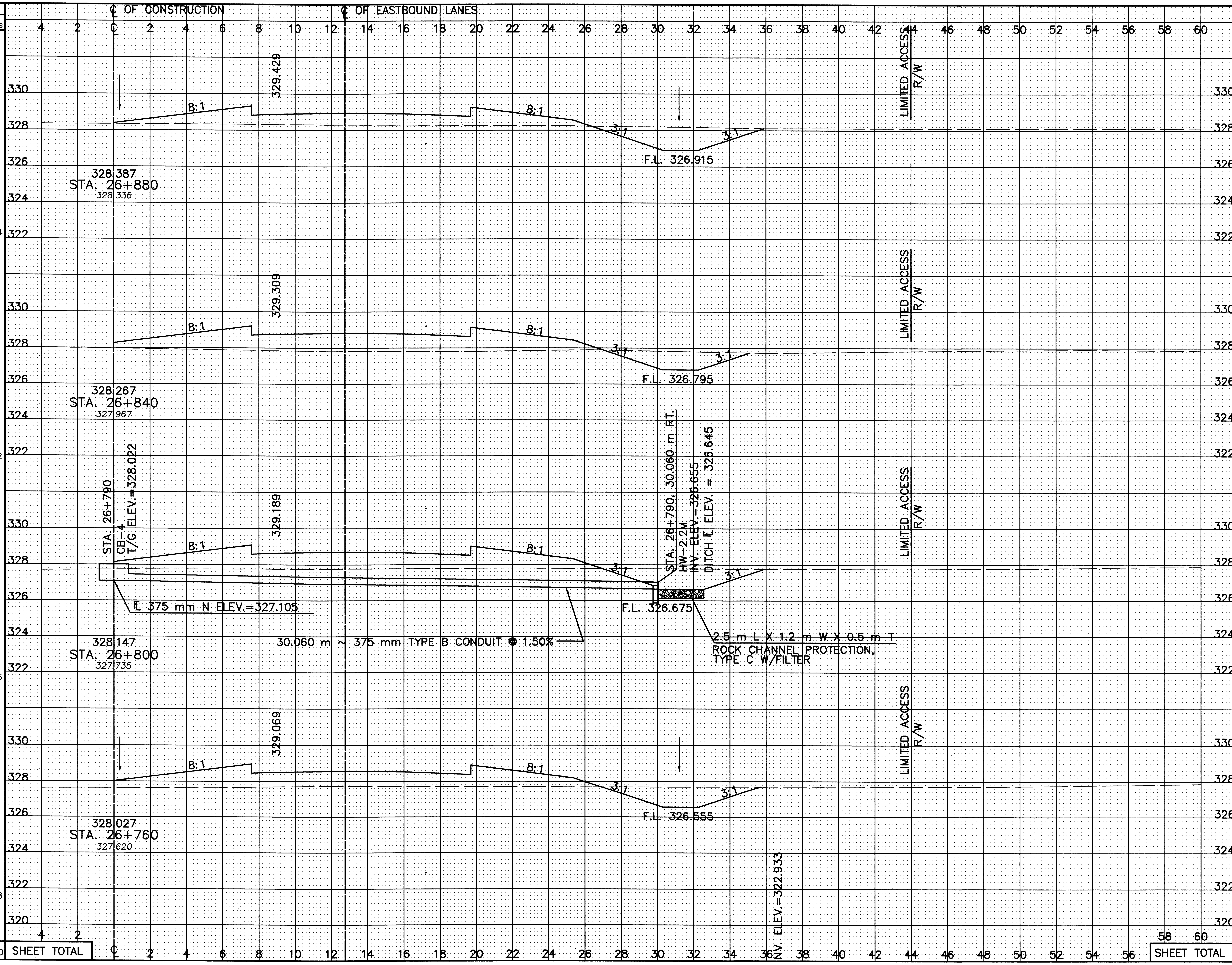


SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.0		STA. 26+880	9.3	15.0		
	1320				366	668
33.0		STA. 26+840	9	18.4		
	1308				302	890
32.4		STA. 26+800	6.1	26.1		
	1322				213	1059
33.7		STA. 26+760	4.6	26.8		
	1336				178	1130
	5286	SHEET TOTAL			1059	3747

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+760 TO STA. 26+880 LEFT ℄

CRA-30-24.000



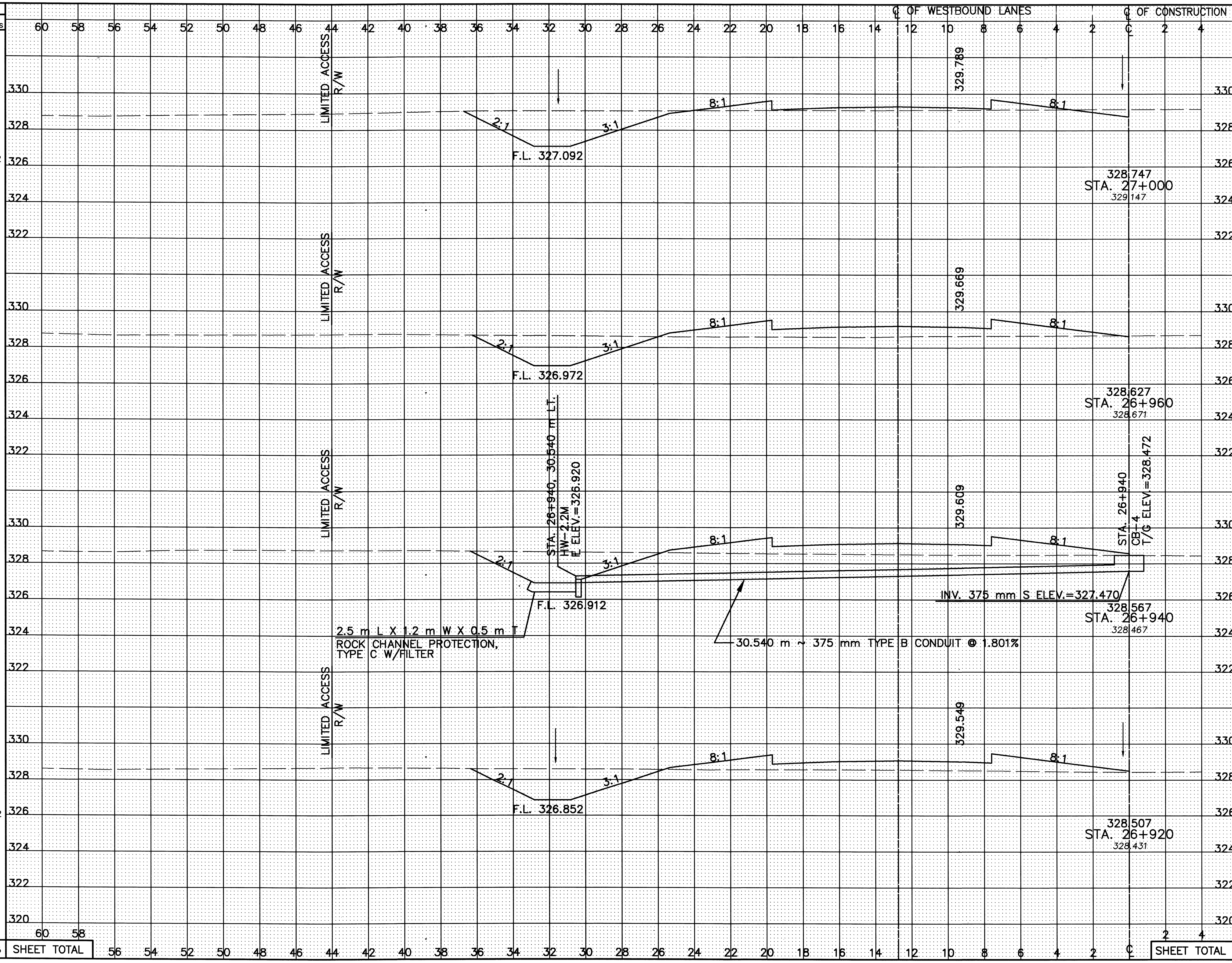
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.5		7.2	15.2		
	1304			246	777
32.7		5.1	23.7		
	1312			219	923
32.9		5.8	22.5		
	1316			237	886
32.9		6.0	21.8		
	1318			195	1016
SHEET TOTAL	5250			897	3602

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+760 TO STA. 26+880 RIGHT ℄

CRA-30-24.000

176
677



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.1		14.1	4.3		
	1322			487	346
33.0		10.2	13.0		
	660			210	271
33.0		10.8	14.1		
	661			218	264
33.1		11.0	12.3		
	1322			406	546
SHEET TOTAL	3965			1321	1427

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+920 TO STA. 27+000 LEFT ℄

CRA-30-24.000

177/677

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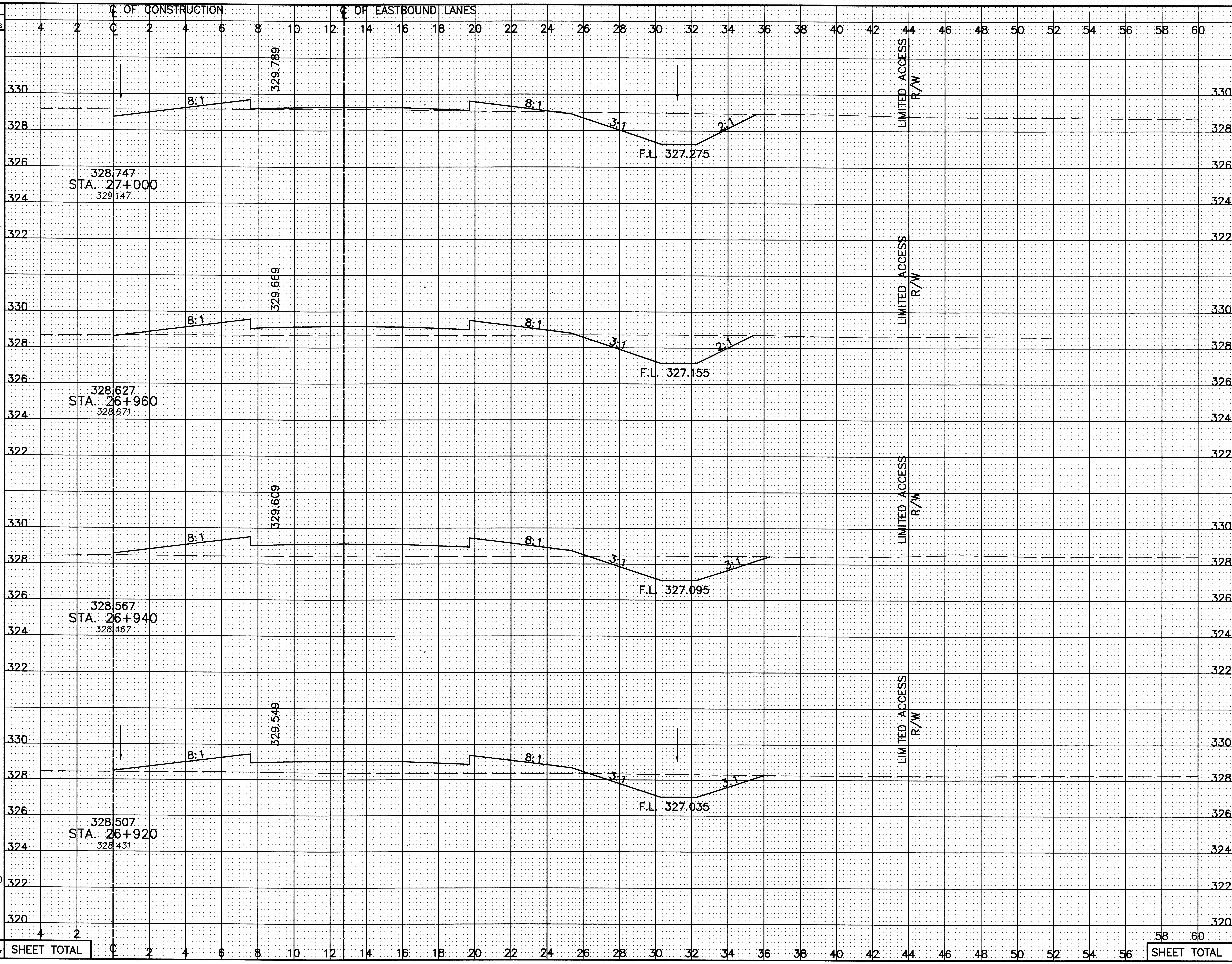
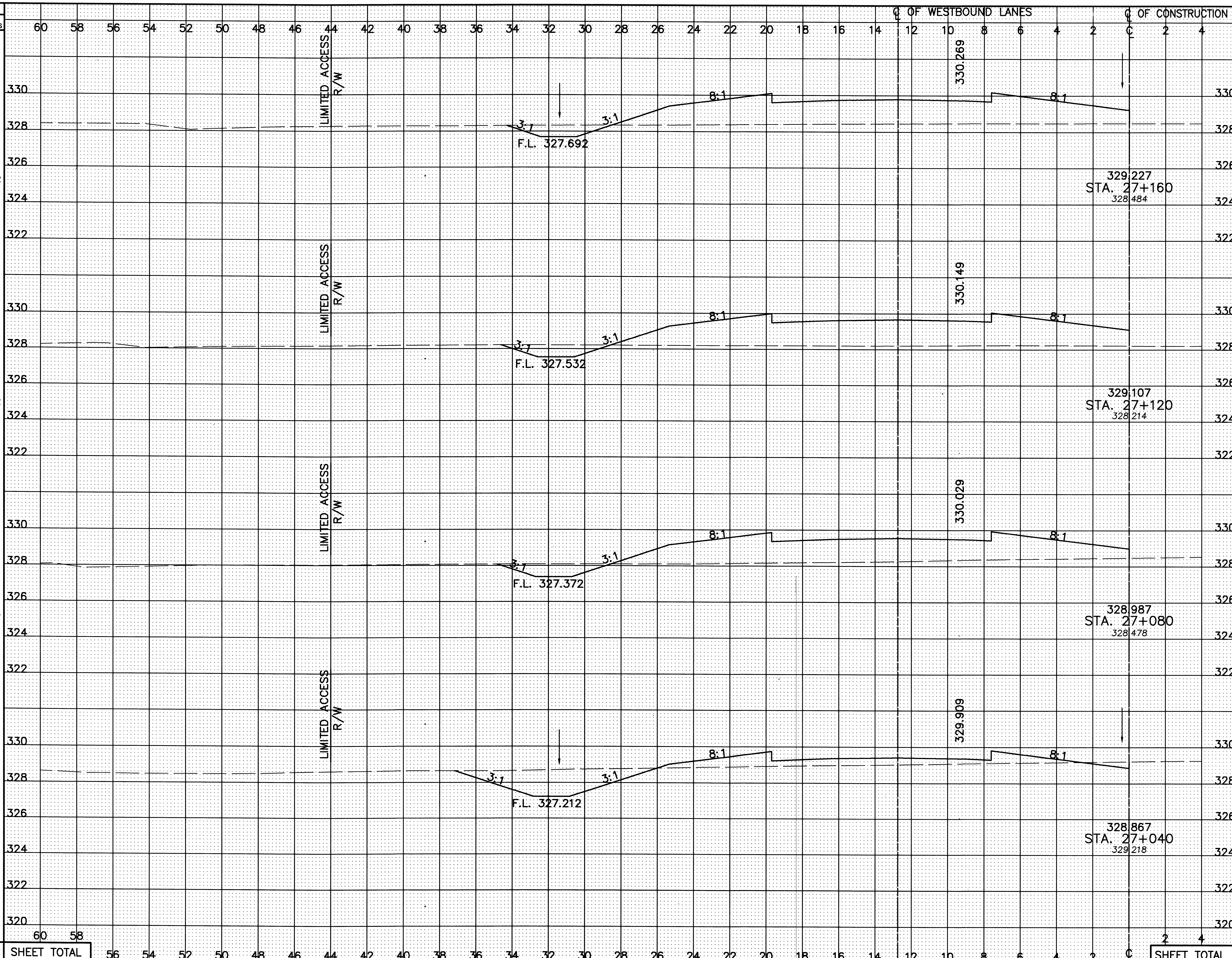


STA.	SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27+000	33.1		11.3	3.7		
		1314			410	301
26+960	32.6		9.2	11.3		
		652			173	277
26+940	32.6		8.2	16.3		
		651			156	321
26+920	32.5		7.4	15.7		
		1300			292	618
SHEET TOTAL		3917			1031	1517

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 26+920 TO STA. 27+000 RIGHT ℄

CRA-30-24.000



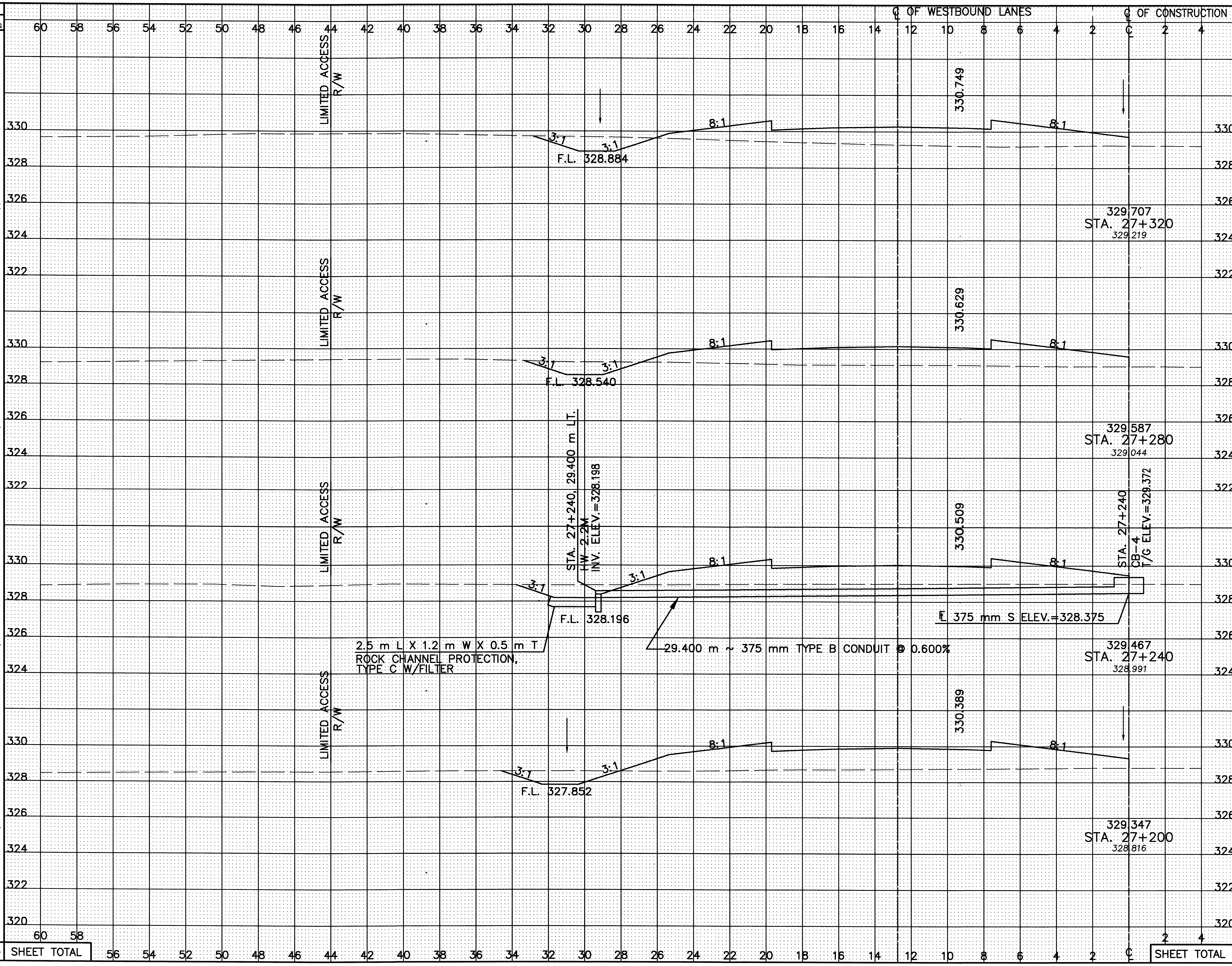
Station	SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 27+160	32.3		2.5	34.2		
		1292			103	1427
STA. 27+120	32.3		2.7	37.1		
		1292			113	1387
STA. 27+080	32.3		3.0	32.2		
		1296			264	821
STA. 27+040	32.5		10.2	8.8		
		1312			488	263
SHEET TOTAL		5192			968	3898

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+040 TO STA. 27+160 LEFT ℄

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
330.269
8:1
8:1
3:1
3:1
LIMITED ACCESS R/W
F.L. 327.823
329.227
STA. 27+160
328.484
33.1
2.5
32.6
1328
107
1352
330.149
F.L. 327.635
329.107
STA. 27+120
328.214
33.3
2.9
35.0
1326
224
1114
STA. 27+090
CB-4
T/G ELEV.=328.922
330.029
STA. 27+090, 29.880 m RT.
HW-2.2M
INV. ELEV.=327.555
DITCH ℄ ELEV. = 327.545
℄ 375 mm N ELEV.=327.985
F.L. 327.515
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
29.880 m ~ 375 mm TYPE B CONDUIT @ 1.44%
328.987
STA. 27+080
328.478
33.0
8.3
20.7
1322
475
459
329.909
F.L. 327.395
328.867
STA. 27+040
329.218
33.1
15.4
2.2
1324
534
119
5300
SHEET TOTAL
SHEET TOTAL
1340
3044
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 27+040 TO STA. 27+160 RIGHT ℄
CRA-30-24.000
180
677

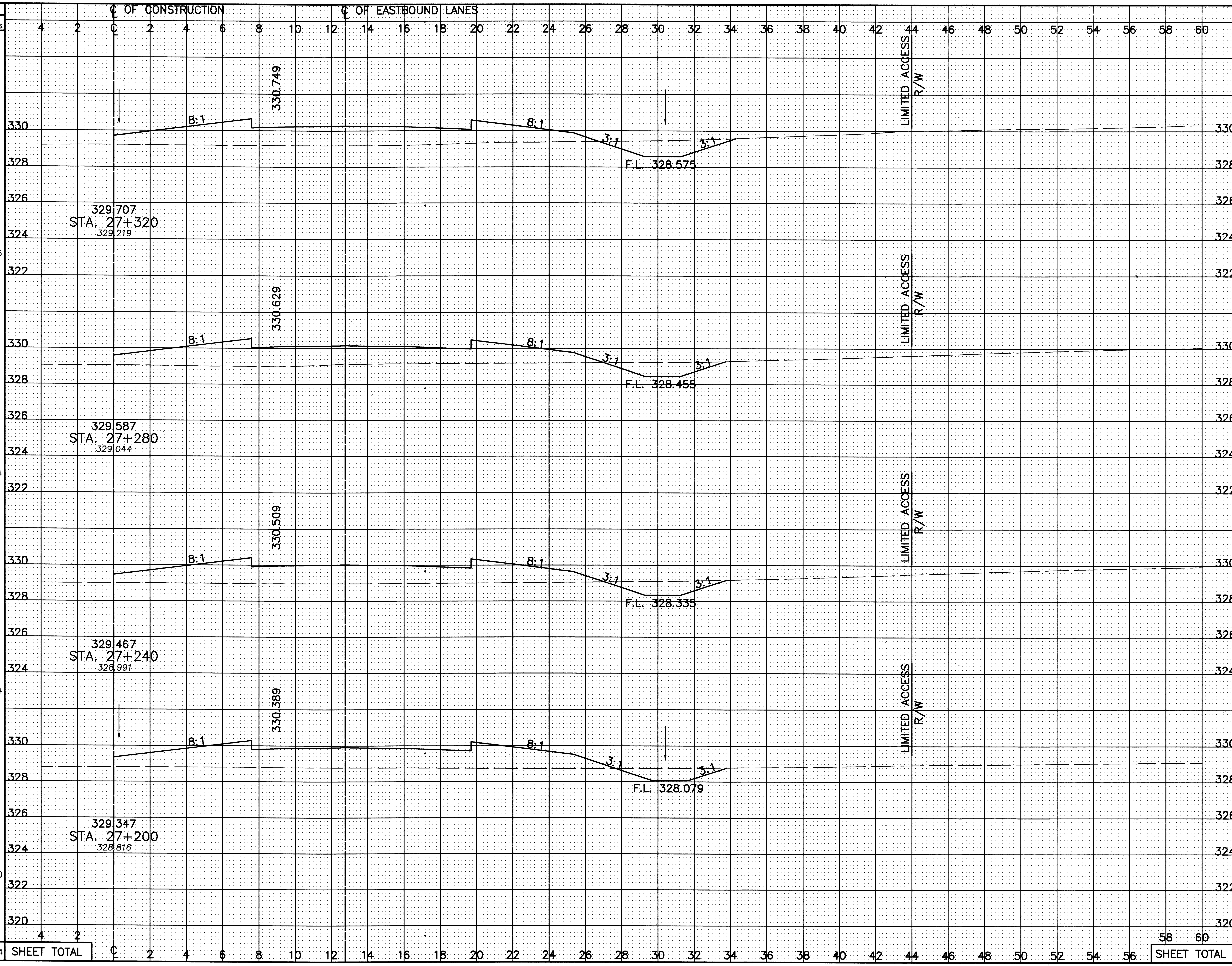


Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
32.3		3.5	22.8		
	1292			131	957
32.3		3.1	25.1		
	1294			119	1023
32.4		2.9	26.1		
	1296			122	1118
32.4		3.2	29.8		
	1294			114	1281
SHEET TOTAL	5176			486	4379

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+200 TO STA. 27+320 LEFT ℄

CRA-30-24.000



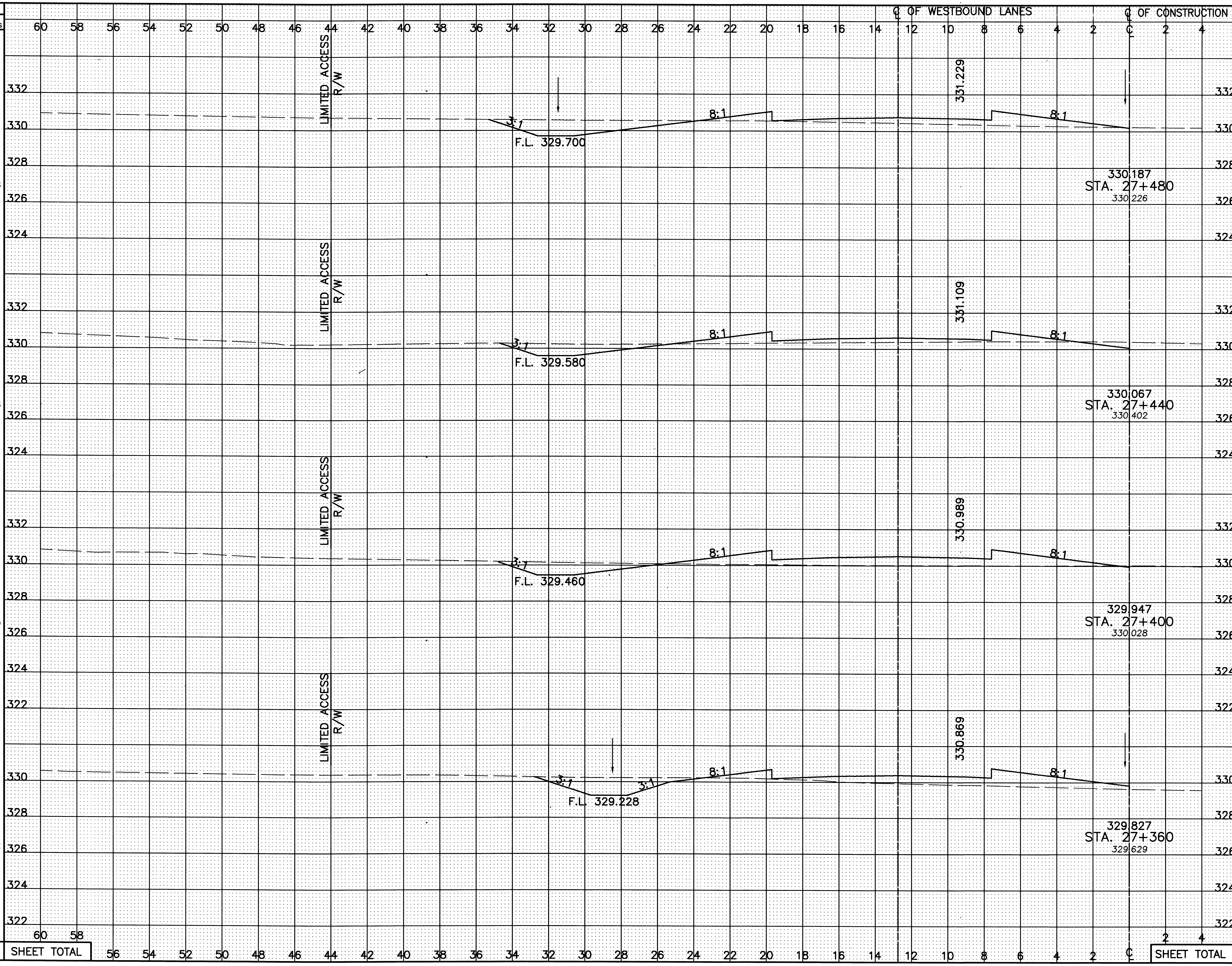
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.9		4.2	24.9		
	1316			152	1014
32.9		3.4	25.8		
	1314			134	1023
32.8		3.3	25.3		
	1314			121	1064
32.9		2.7	27.9		
	1320			104	1210
SHEET TOTAL	5264			511	4311

CALCULATED PSB
CHECKED LBD

CROSS–SECTIONS – RELOCATED U.S. 30
STA. 27+200 TO STA. 27+320 RIGHT ℄

CRA–30–24.000

L:\DRAWINGS\93125\Feb01\ROADWAY\MAINLINE\XSECT\EB\gx12092.dwg February 01 2001 1:12pm By:smheller



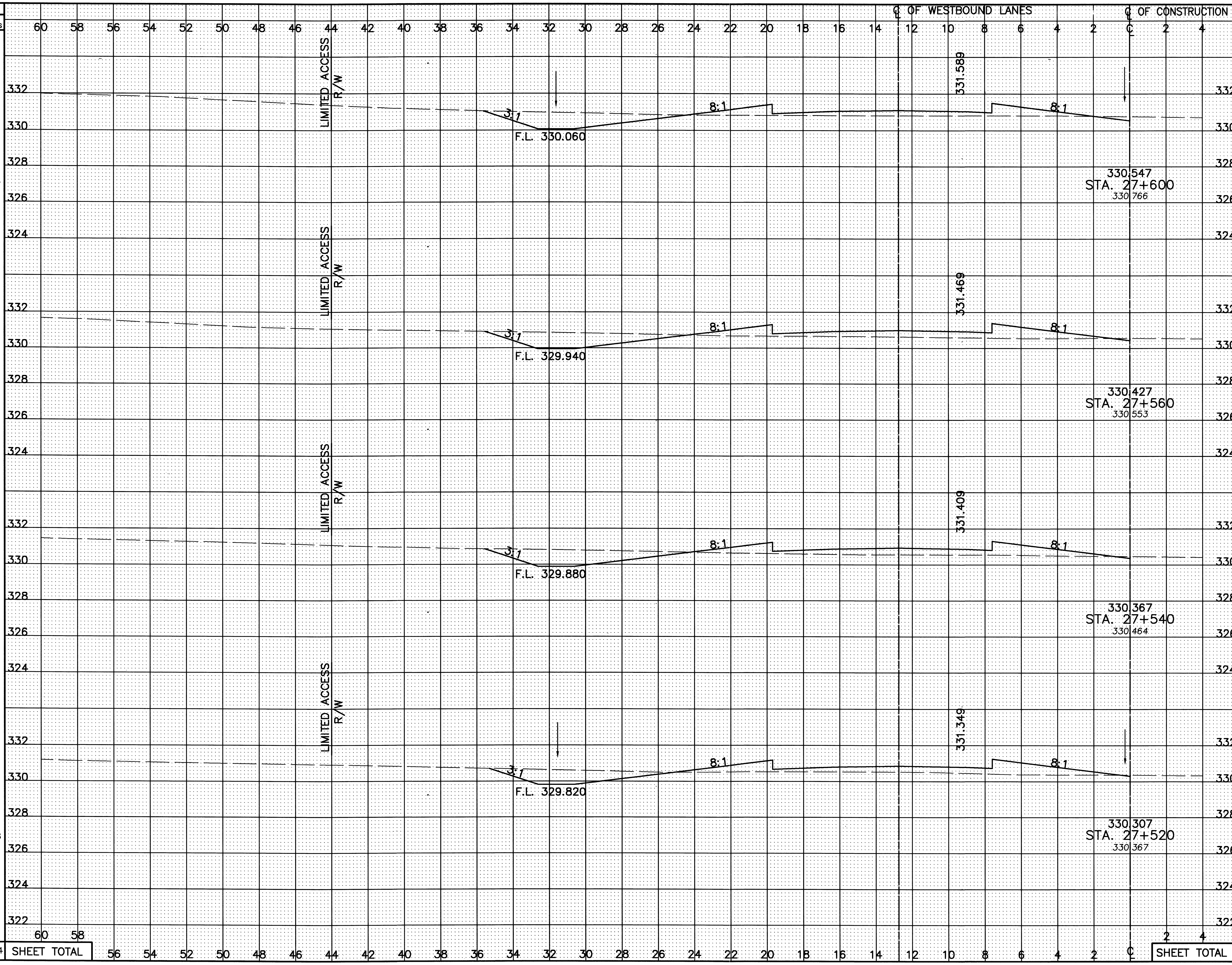
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 27+480	32.2		5.8	7.0		
		1288			200	251
STA. 27+440	32.2		4.2	5.6		
		1288			145	322
STA. 27+400	32.2		3.0	10.5		
		1290			164	402
STA. 27+360	32.3		5.2	9.6		
		1292			173	647
SHEET TOTAL		5158			682	1622

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+360 TO STA. 27+480 LEFT ℄

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
331.229
8:1
8:1
3:1
3:1
LIMITED ACCESS R/W
F.L. 329.055
330.187
STA. 27+480
330.226
32.4
5.8
14.0
1300
225
460
331.109
F.L. 328.935
330.067
STA. 27+440
330.402
32.6
5.4
9.0
1300
180
506
STA. 27+390
CB-4
T/G ELEV.=329.822
330.989
STA. 27+390, 29.050 m RT.
HW-2.2M
INV. ELEV.=328.795
DITCH ℄ ELEV. = 328.785
℄ 375 mm N ELEV.=328.942
F.L. 328.815
29.050 m ~ 375 mm TYPE B CONDUIT @ 0.50%
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
329.947
STA. 27+400
330.028
32.4
3.6
16.3
1300
129
752
330.869
F.L. 328.695
329.827
STA. 27+360
329.629
32.6
2.9
21.3
1310
142
924
5210
SHEET TOTAL
SHEET TOTAL
676
2642
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+360 TO STA. 27+480 RIGHT ℄
CRA-30-24.000
184
677



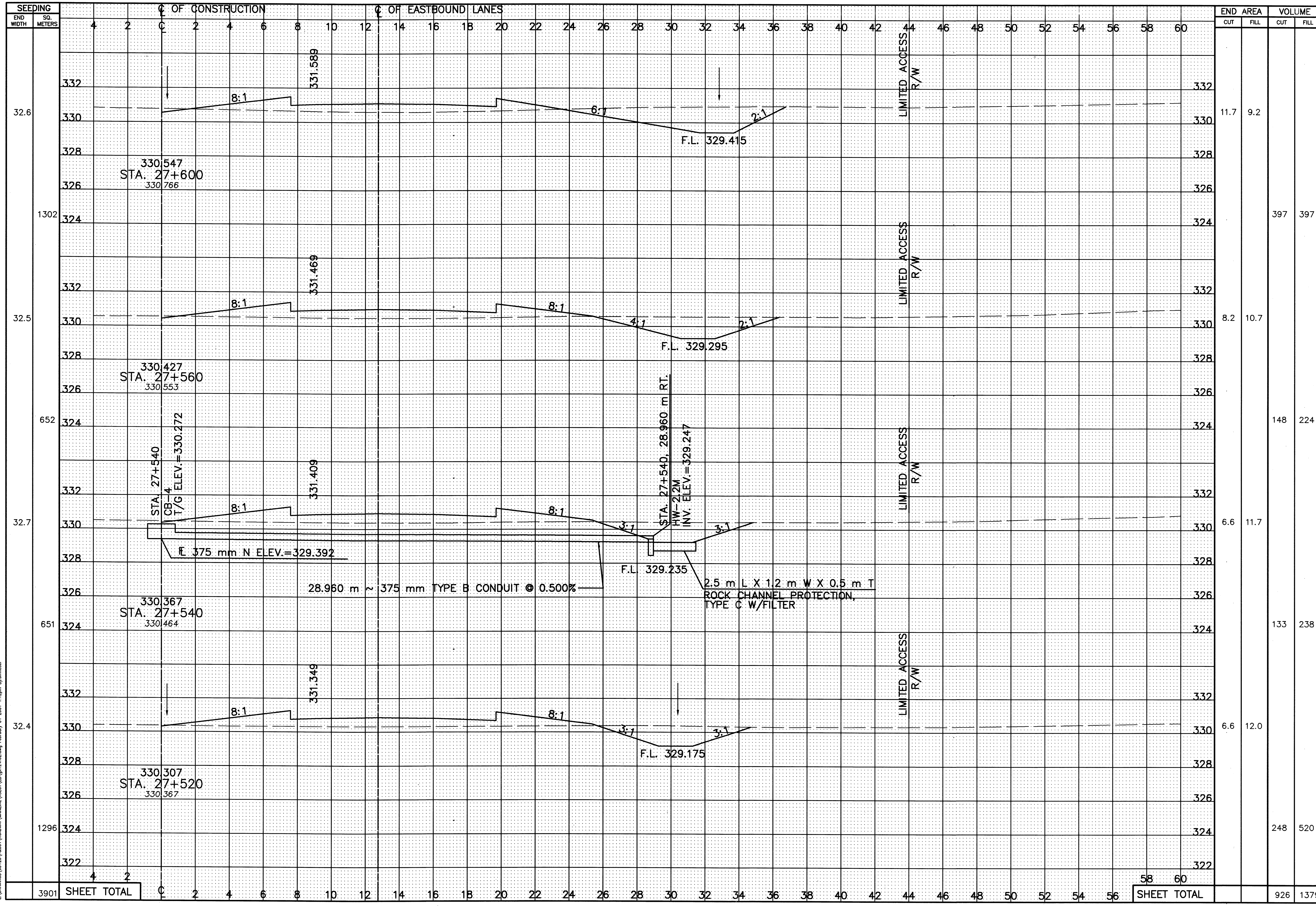
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 27+600	32.2		6.1	6.0		
		1288			244	280
STA. 27+560	32.2		6.0	8.0		
		644			122	158
STA. 27+540	32.2		6.2	7.8		
		644			111	161
STA. 27+520	32.2		4.9	8.3		
		1288			214	305
SHEET TOTAL		3864			691	904

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+520 TO STA. 27+600 LEFT ℄

CRA-30-24.000

185
677

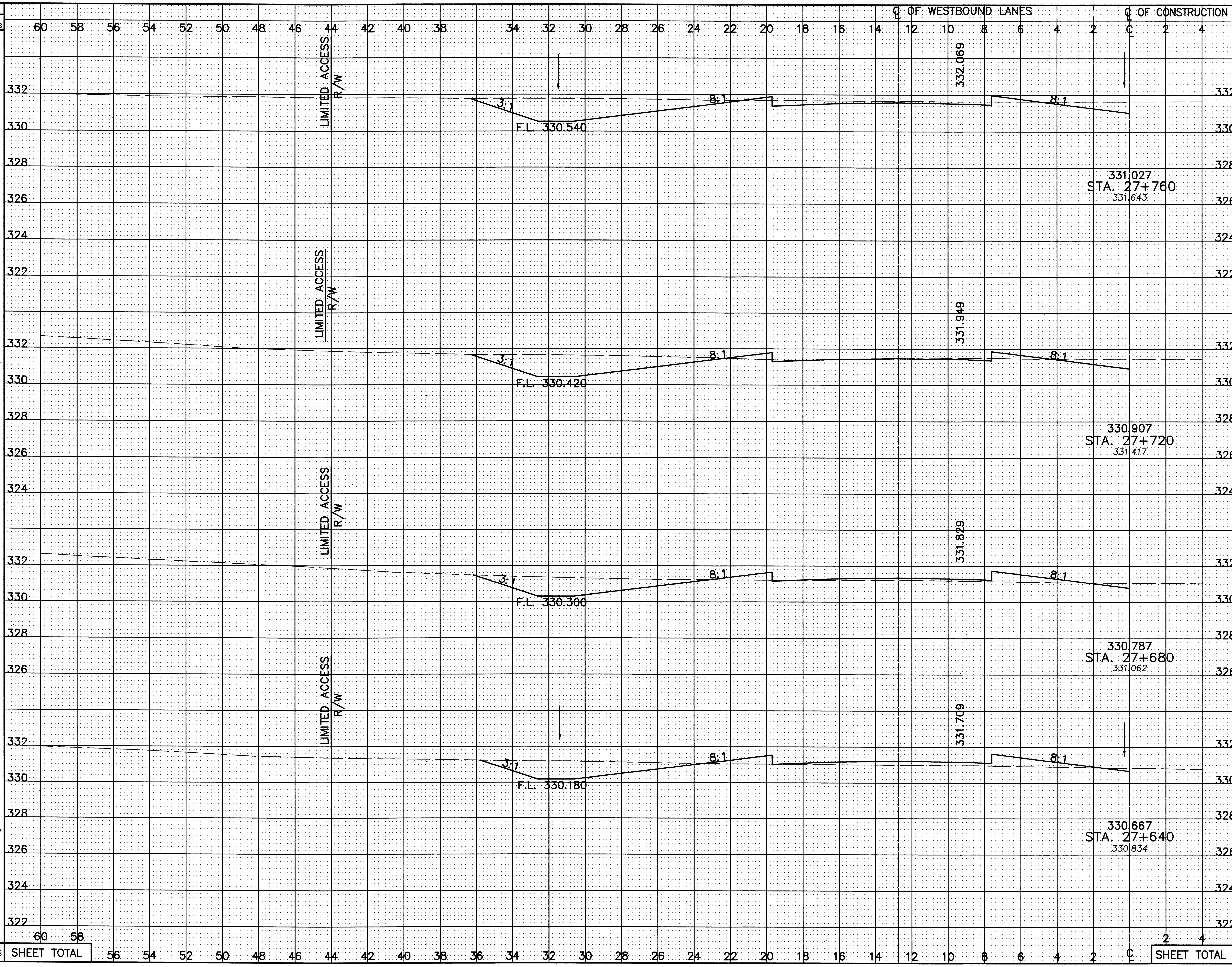


CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+520 TO STA. 27+600 RIGHT ℄

CRA-30-24.000

186
677

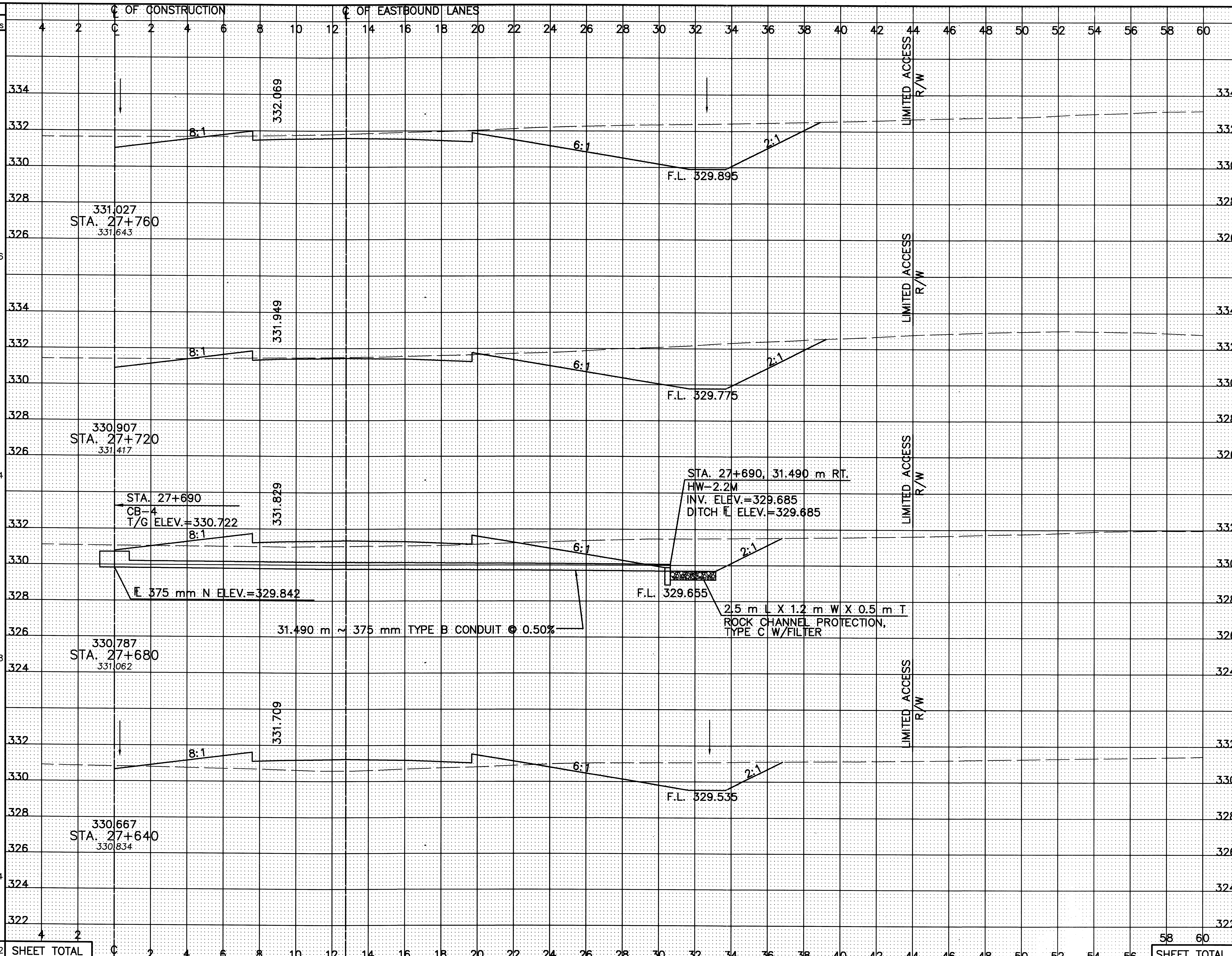


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
27+760	32.9		13.7	0.6		
		1314			497	39
27+720	32.8		11.1	1.3		
		1306			382	96
27+680	32.5		8.0	3.5		
		1296			305	169
27+640	32.3		7.3	4.9		
		1290			268	219
SHEET TOTAL		5206			1452	523

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+640 TO STA. 27+760 LEFT ℄

CRA-30-24.000



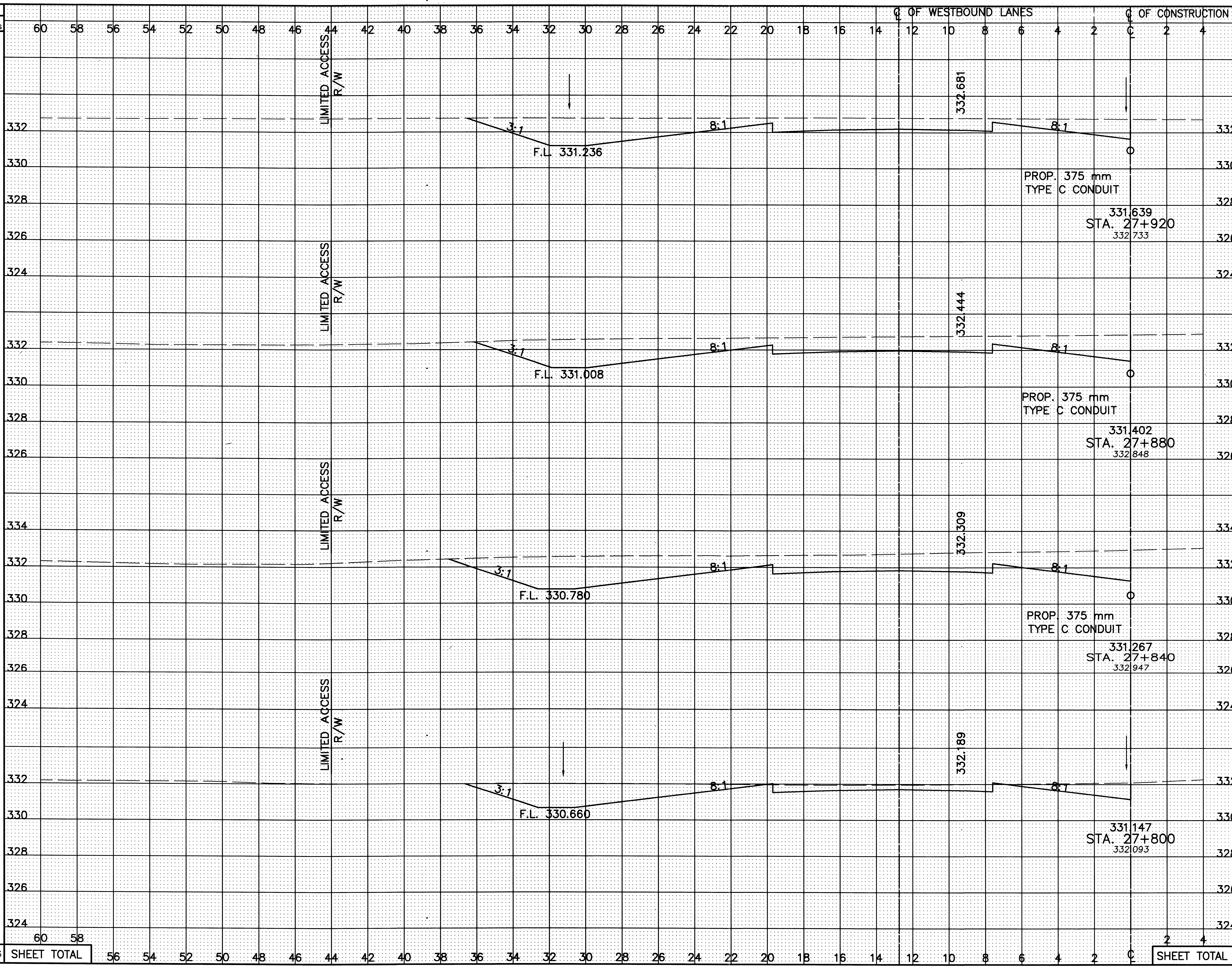
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
27+760	33.4		32.8	0.4		
		1336			1212	22
27+720	33.4		27.7	0.7		
		1324			878	124
27+680	32.8		16.1	5.5		
		1308			570	314
27+640	32.6		12.4	10.2		
		1304			481	388
SHEET TOTAL		5272			3141	848

CALCULATED PSB
CHECKED LBO

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+640 TO STA. 27+760 RIGHT ℄

CRA-30-24.000

188
677

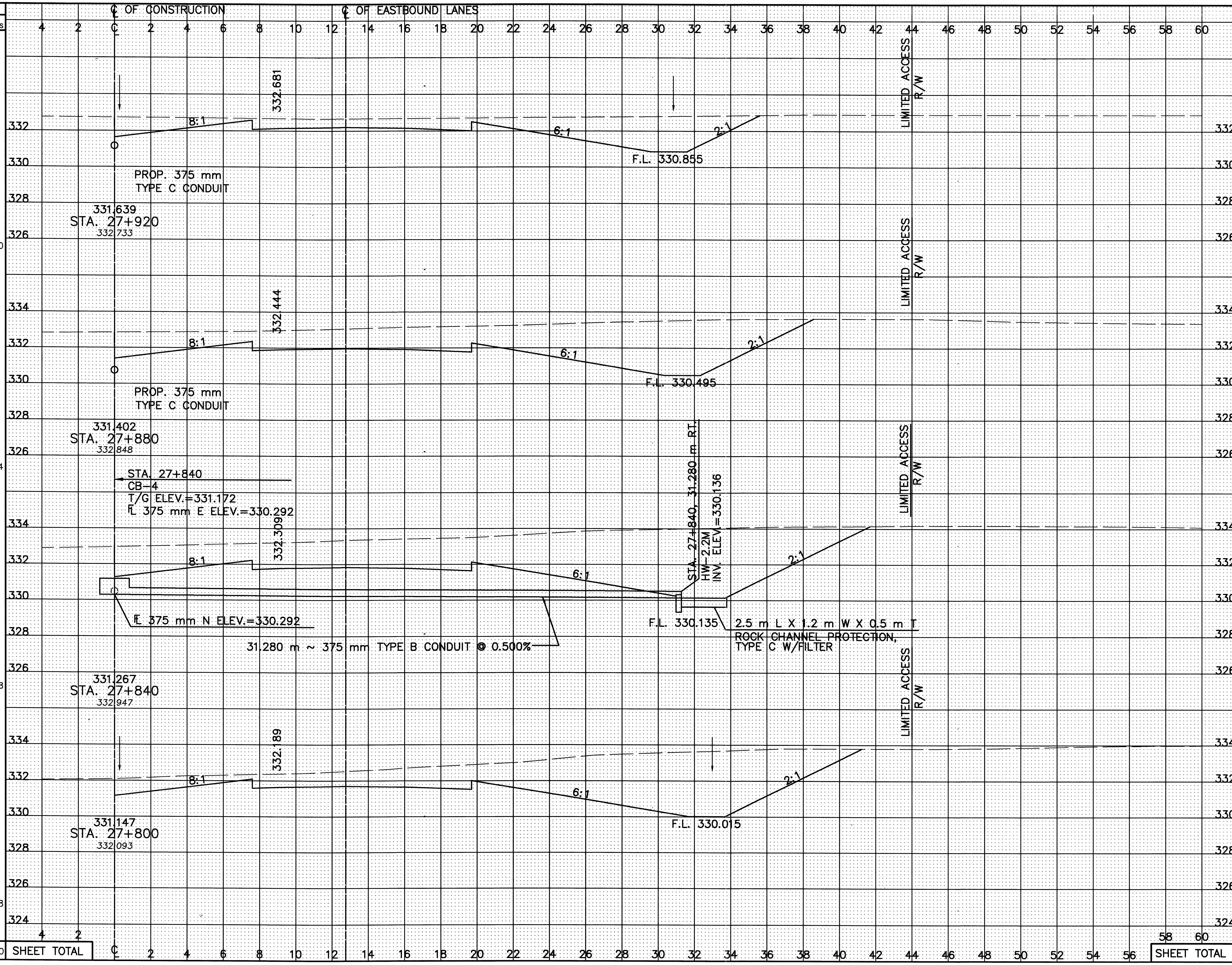


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36.4		27.2	0.0		
	1402			1213	0
33.7		33.5	0.0		
	1356			1446	0
34.1		38.8	0.0		
	1346			1167	1
33.2		19.6	0.1		
	1322			666	14
SHEET TOTAL	5426			4492	15

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+800 TO STA. 27+920 LEFT ℄

CRA-30-24.000



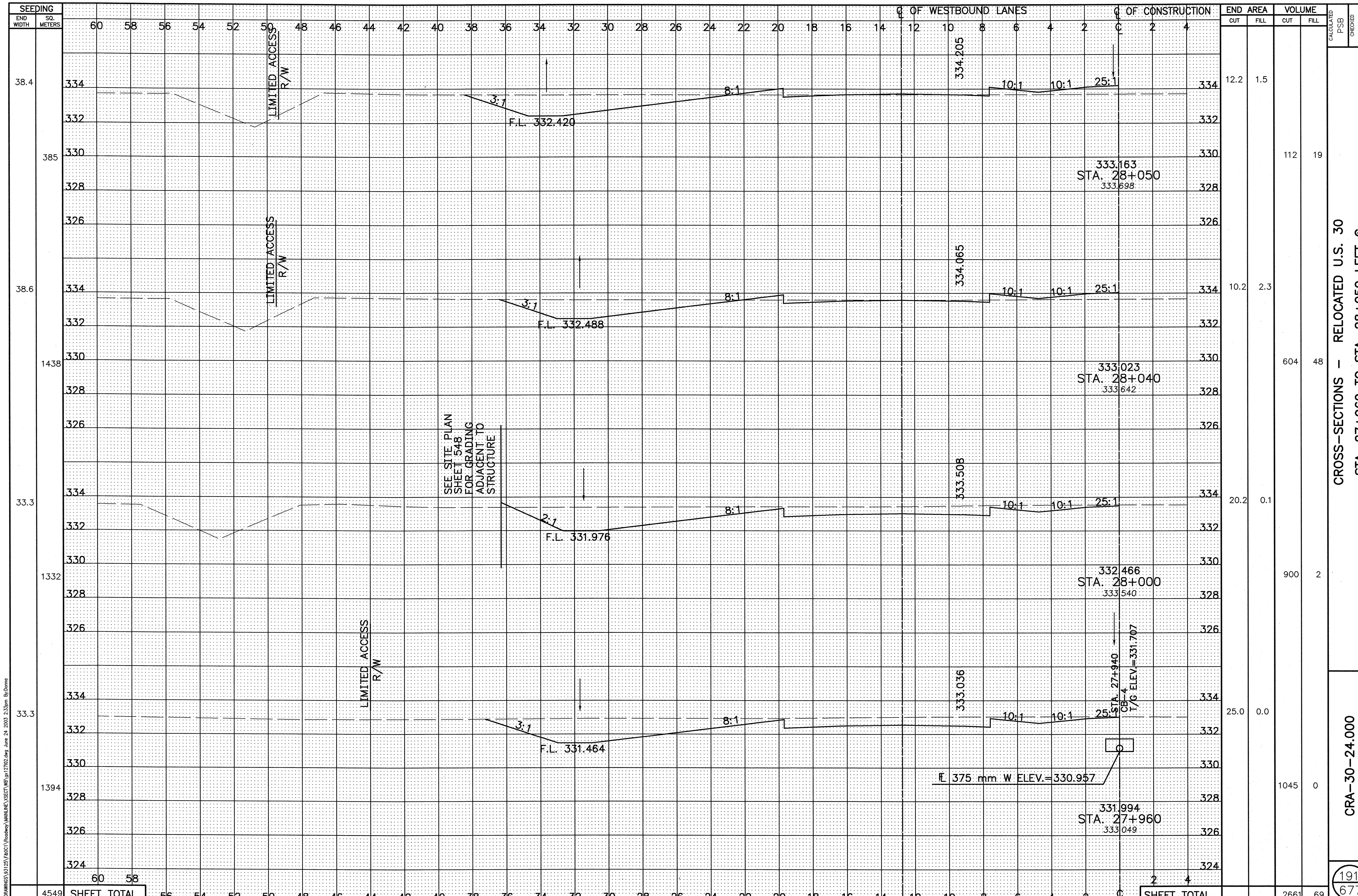
Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
33.7		29.5	0.0		
	1360			1758	0
34.3		58.4	0.0		
	1384			2854	0
34.9		84.3	0.0		
	1378			2978	0
34.0		64.6	0.0		
	1348			1949	7
Sheet Total	5470			9539	7

CALCULATED PSB CHECKED LBD

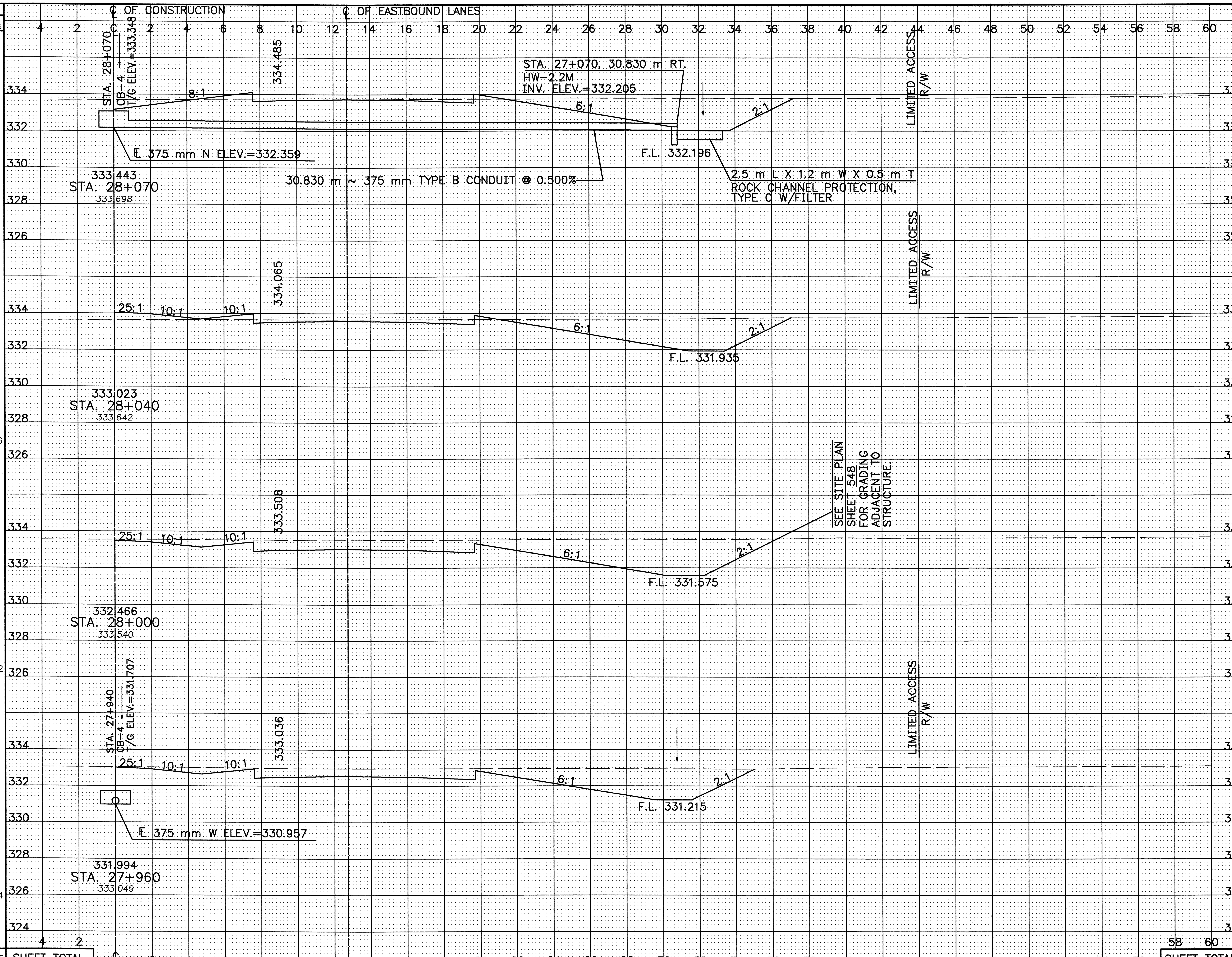
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+800 TO STA. 27+920 RIGHT ℄

CRA-30-24.000

L:\DRAWINGS\33125\F80C1\ROADWAY\MAINLINE\XSECT\EB\gs126r02.dwg February 01 2001 1:13pm By:smhetler



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38.4		12.2	1.5		
	385			112	19
38.6		10.2	2.3		
	1438			604	48
33.3		20.2	0.1		
	1332			900	2
33.3		25.0	0.0		
	1394			1045	0
SHEET TOTAL	4549			2661	69



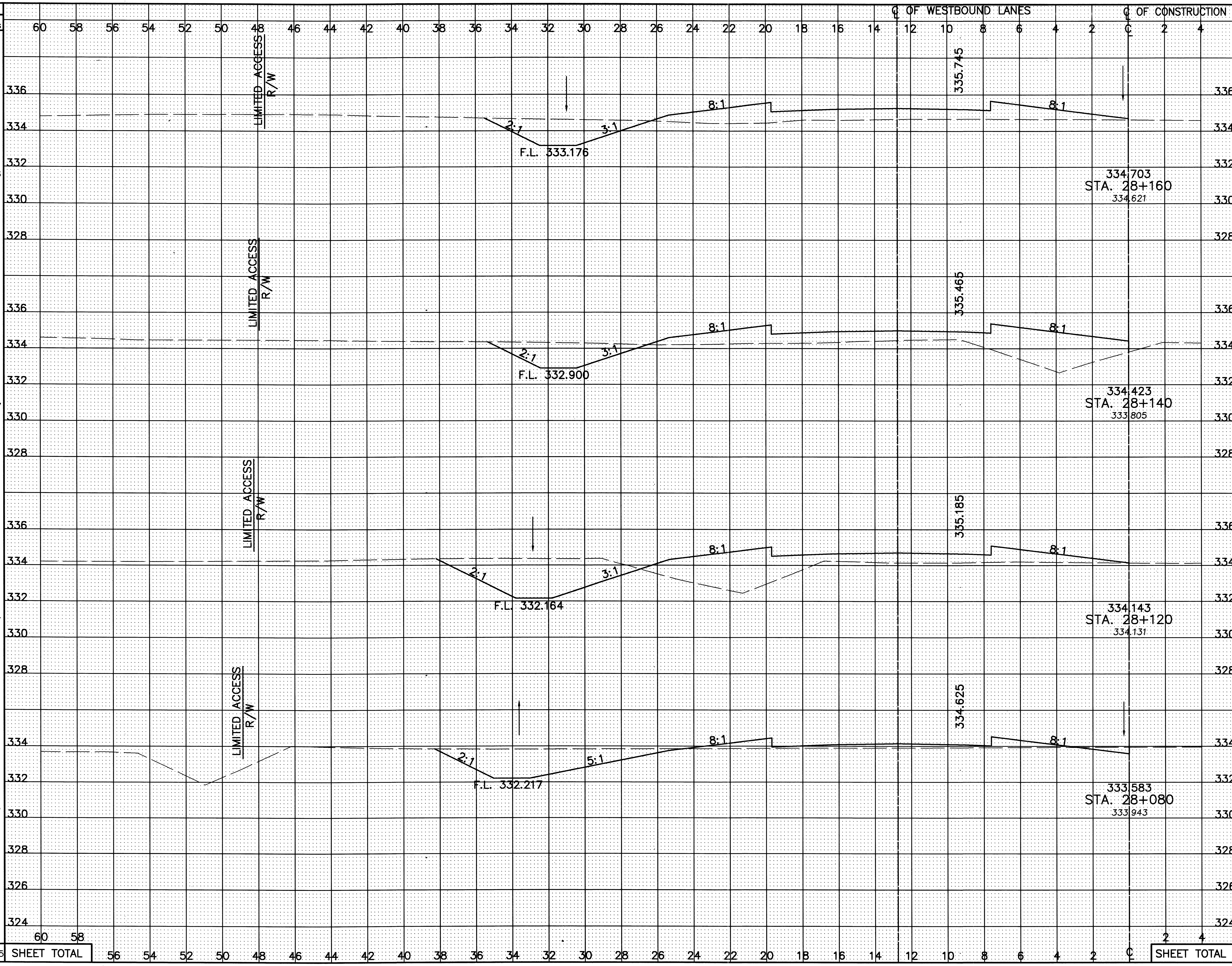
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.3		17.3	0.9		
	333			543	21
33.2		19.0	0.6		
	1336			991	11
33.6		30.5	0.0		
	1342			1118	0
33.5		25.4	0.0		
	1344			1097	0
	4355	SHEET TOTAL		3749	32

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 27+960 TO STA. 28+050 RIGHT ℄

CRA-30-24.000

L:\DRAWINGS\93125\FA0C1\Roadway\MAINLINE\XSECT\ER\pr127r02.dwg June 24 2003 10:35am ByDonna



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36.3		8.1	15.7		
	728			168	390
36.5		8.6	23.3		
	737			240	452
37.2		15.3	21.8		
	1504			565	539
38.0		12.9	5.1		
	1146			377	100
SHEET TOTAL	4115			1350	1481

CALCULATED PSB

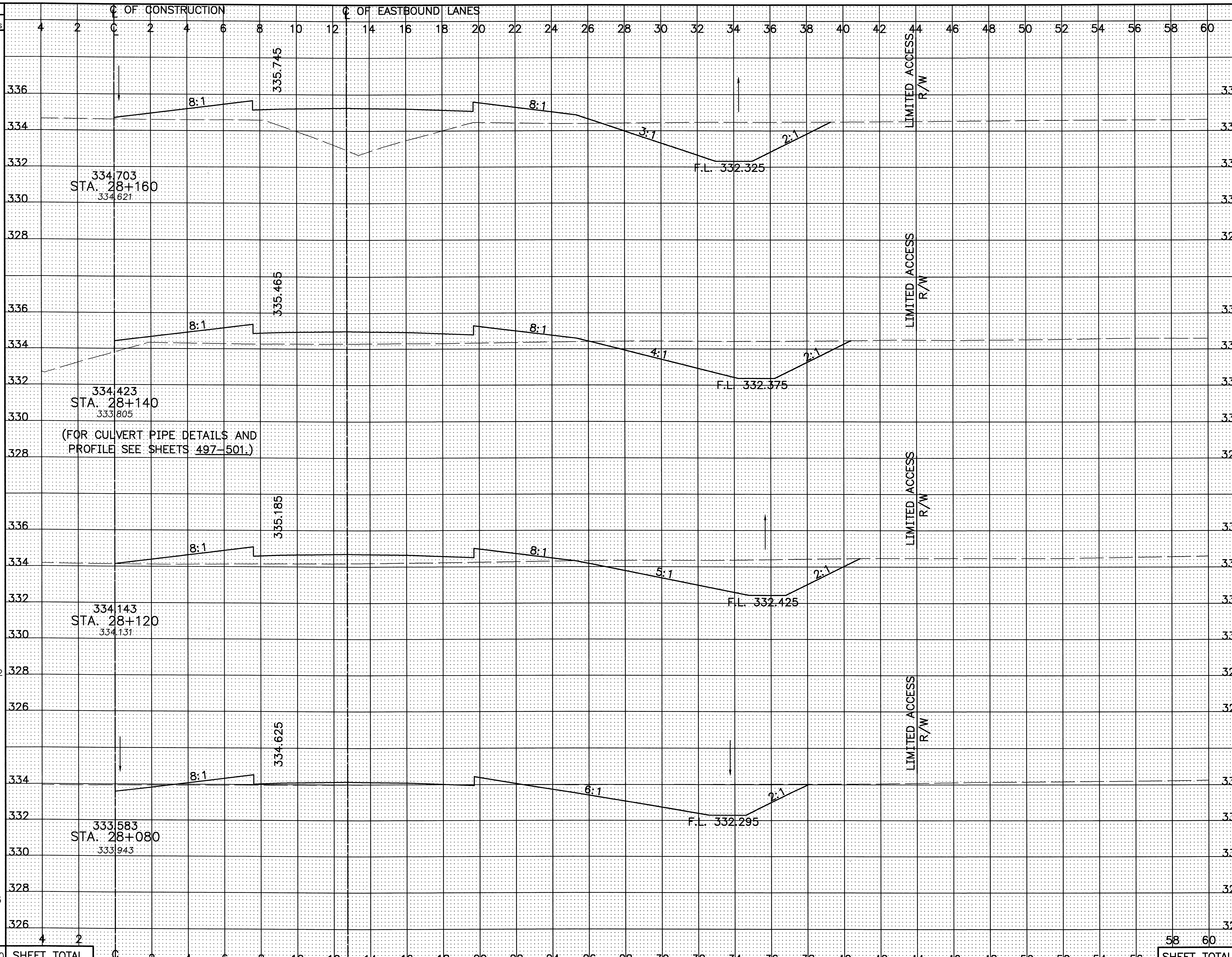
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30

STA. 28+080 TO STA. 28+160 LEFT ℄

CRA-30-24.000

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+080 TO STA. 28+160 RIGHT ℄



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
28+160	33.0		15.6	27.8		
		664			324	438
28+140	33.4		16.8	16.1		
		661			340	274
28+120	32.7		17.3	11.3		
		1312			659	288
28+080	32.9		15.7	3.1		
		993			161	20
SHEET TOTAL		3630			1484	1020

CALCULATED PSB
CHECKED LBD

CRA-30-24.000

194/677

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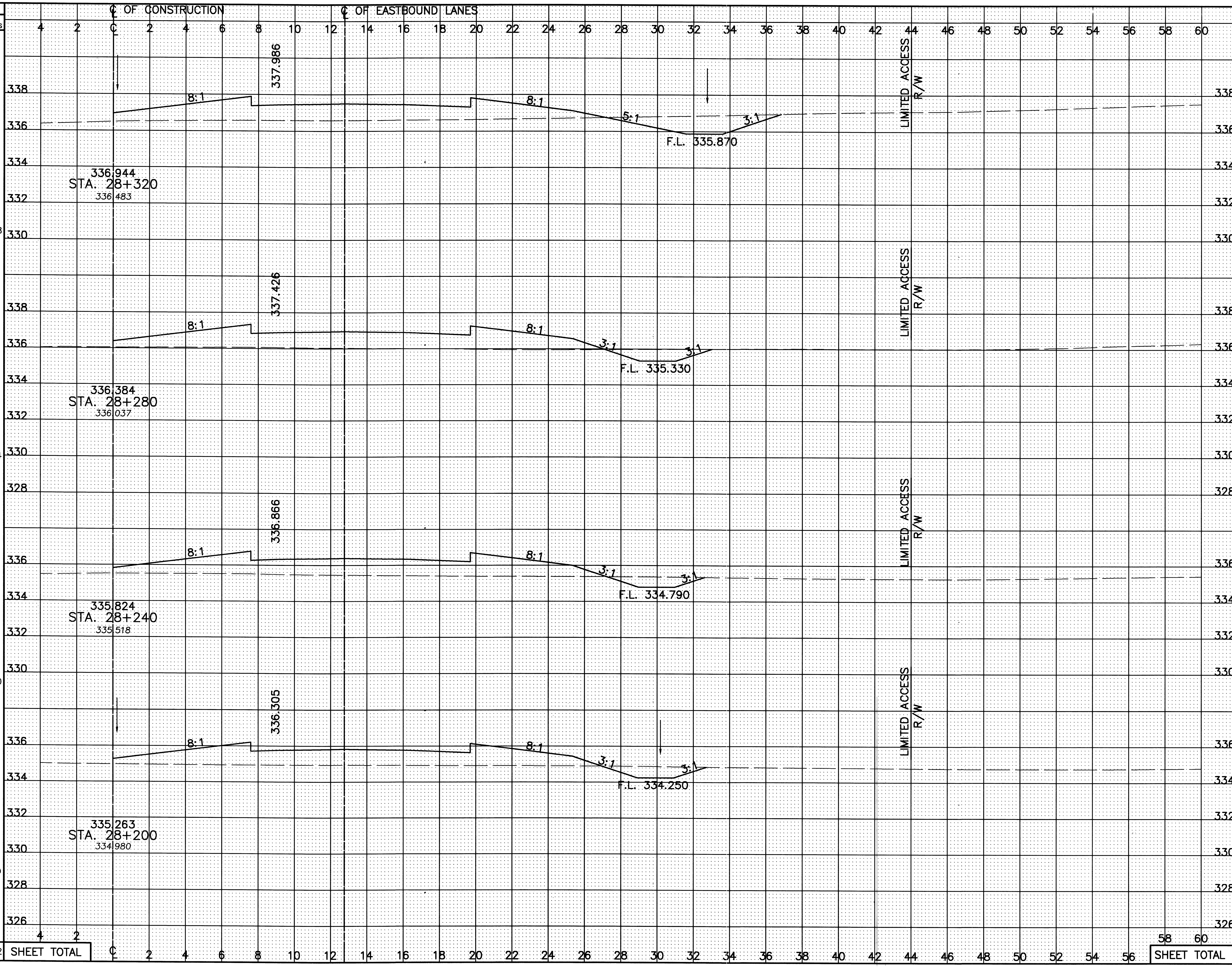
SEEDING
END WIDTH
SQ. METERS
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
STA. 28+320, 30.220 m LT.
HW-2.2M
INV. ELEV.=335.394
STA. 28+320
CB-4
T/G ELEV.=336.849
LIMITED ACCESS R/W
337.986
F.L. 335.384
℄ 375 mm S ELEV.=335.930
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
30.220 m ~ 375 mm TYPE B CONDUIT @ 1.77%
336.944
STA. 28+320
336.483
34.0
1372
7.9
30.8
286
1174
337.426
F.L. 334.832
336.384
STA. 28+280
336.037
34.6
1394
6.4
27.9
270
1048
336.866
F.L. 334.280
335.824
STA. 28+240
335.518
35.1
1422
7.1
24.5
351
883
STA. 28+200, 30.150 m LT.
HW-2.2M
INV. ELEV.=333.738
336.305
STA. 28+200
CB-4
T/G ELEV.=335.168
F.L. 333.728
℄ 375 mm S ELEV.=334.288
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
30.150 m ~ 375 mm TYPE B CONDUIT @ 1.82%
335.263
STA. 28+200
334.980
36.0
1446
10.4
19.6
372
706
5634
SHEET TOTAL
SHEET TOTAL
1279
3811
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+200 TO STA. 28+320 LEFT ℄
CRA-30-24.000
195
677

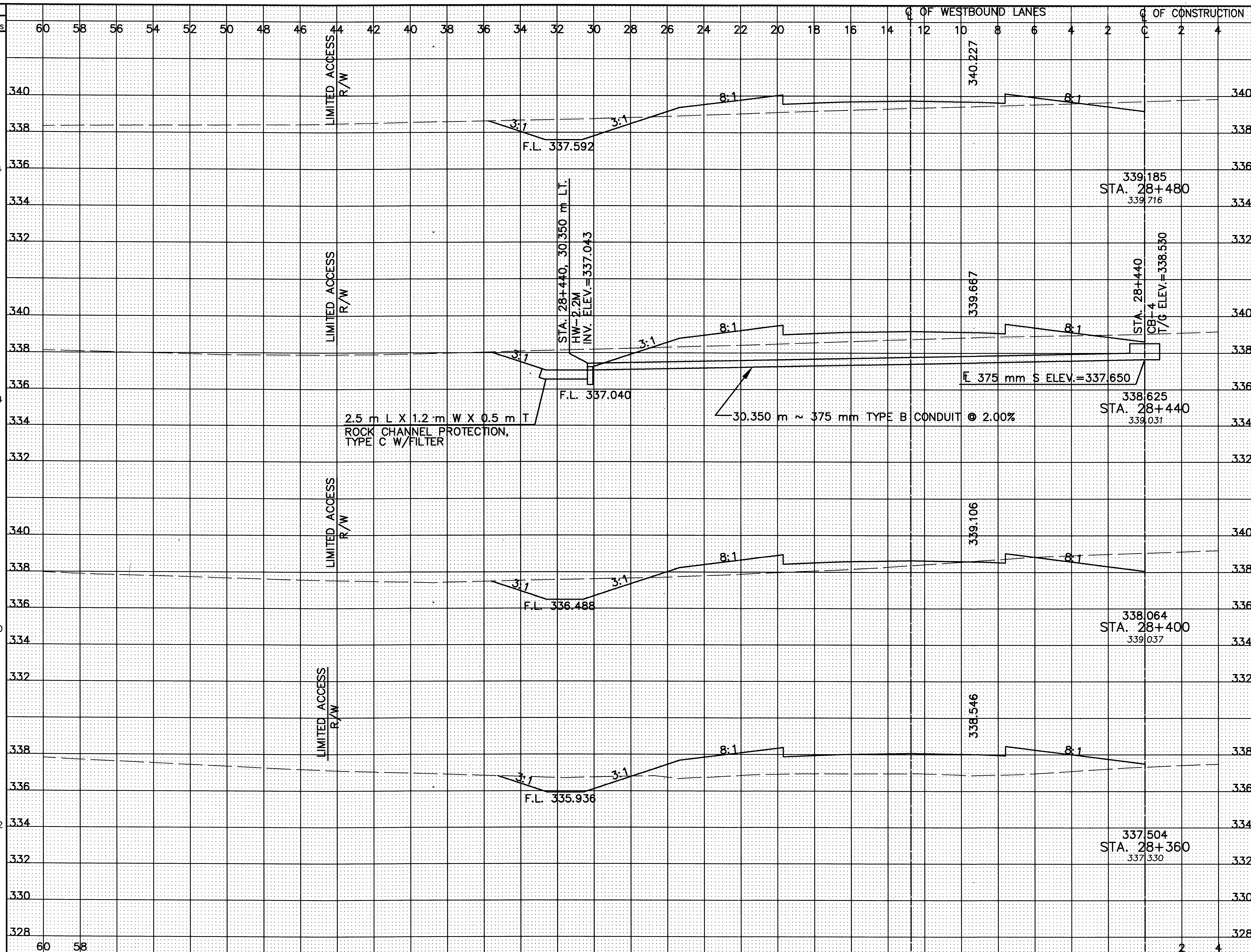


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 28+320	32.7		5.7	22.0		
		1308			165	891
STA. 28+280	32.7		2.5	22.6		
		1304			93	904
STA. 28+240	32.5		2.1	22.6		
		1300			91	878
STA. 28+200	32.5		2.4	21.3		
		1310			361	981
SHEET TOTAL		5222			710	3654

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+200 TO STA. 28+320 RIGHT ℄

CRA-30-24.000



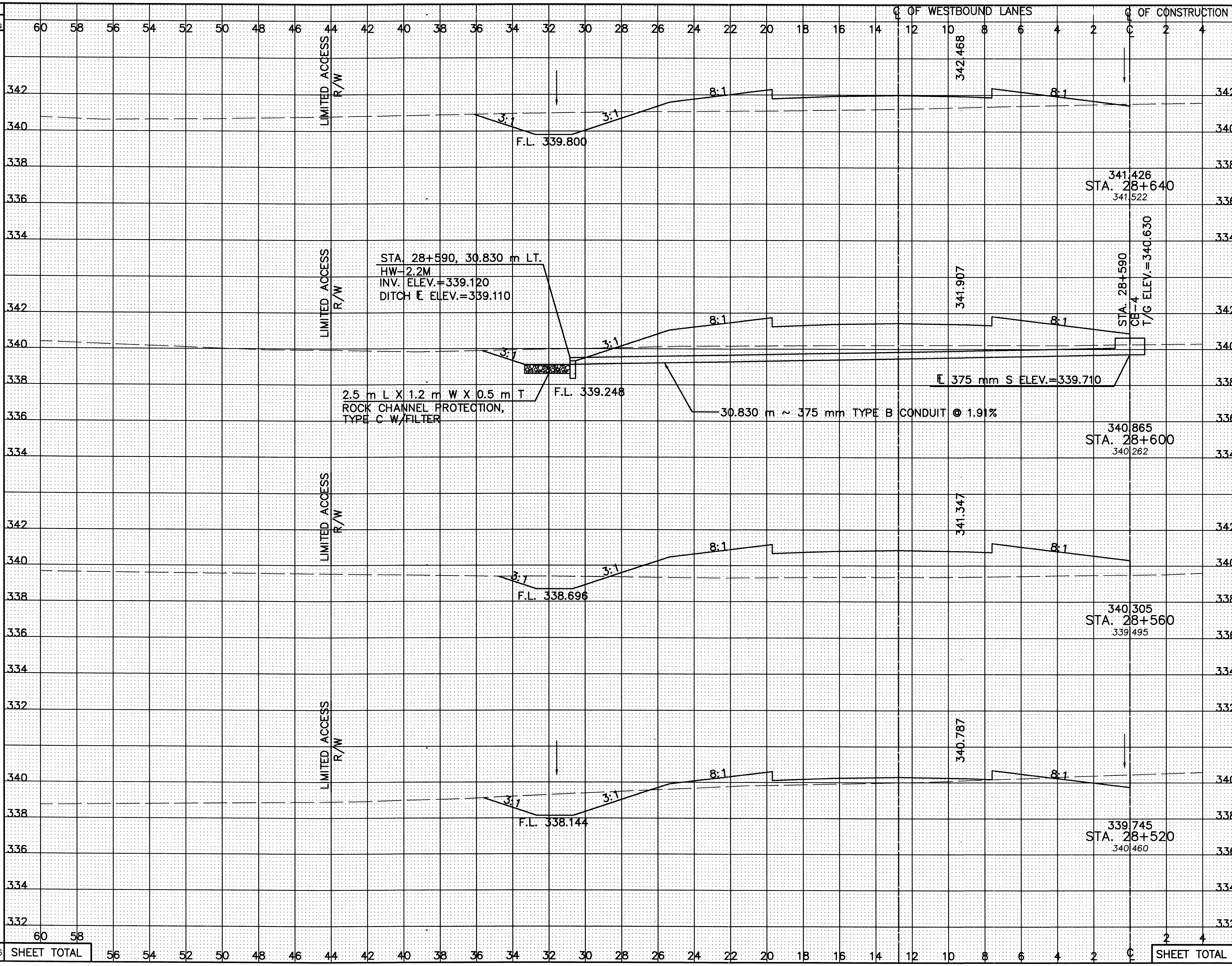
SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.9	1314	STA. 28+480	6.9	10.3	267	431
32.8	1324	STA. 28+440	6.4	11.3	308	384
33.4	1330	STA. 28+400	9.0	7.9	254	710
33.1	1342	STA. 28+360	3.7	27.5	233	1167
	5310	SHEET TOTAL			1062	2692

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 28+360 TO STA. 28+480 LEFT ℄

CRA-30-24.000


SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
LIMITED ACCESS R/W
340.227
8:1
6:1
2:1
F.L. 338.290
339.185
STA. 28+480
339.716
33.2
31.1
0.2
1324
1129
13
339.667
F.L. 337.946
338.625
STA. 28+440
339.031
33.0
25.4
0.5
1328
1060
10
339.106
F.L. 337.602
338.064
STA. 28+400
339.037
33.4
27.6
0.0
1320
751
173
338.546
F.L. 336.736
337.504
STA. 28+360
337.330
32.6
9.9
8.6
1306
312
612
5278
SHEET TOTAL
SHEET TOTAL
3252
808
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+360 TO STA. 28+480 RIGHT ℄
CRA-30-24.000
198
677



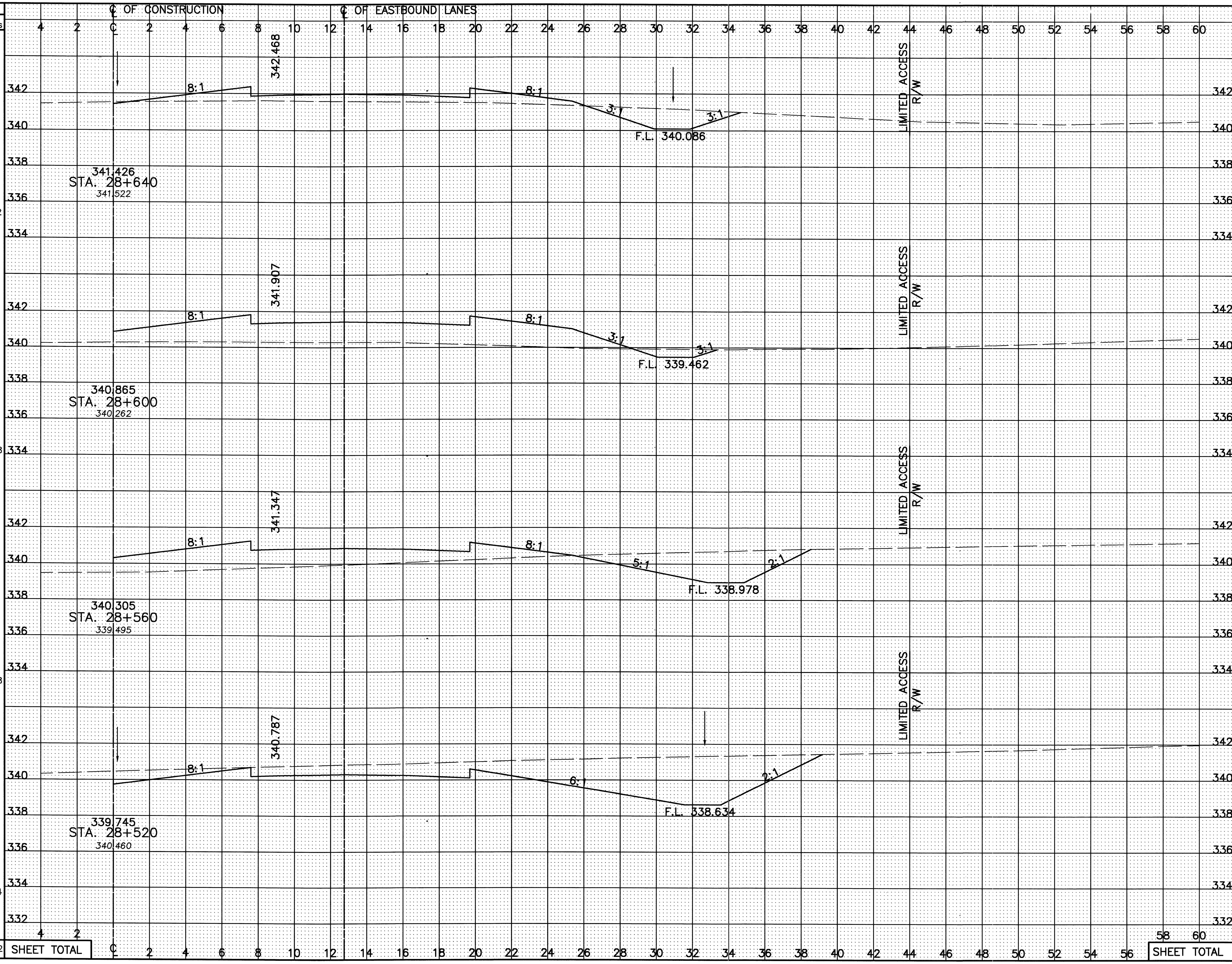
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.5		6.7	17.1		
	1304			195	961
32.7		3.0	30.9		
	1320			116	1380
33.3		2.8	38.1		
	1330			217	906
33.2		8.1	7.2		
	1322			300	349
SHEET TOTAL	5276			828	3596

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+520 TO STA. 28+640 LEFT ℄

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
32.6	
	1312
33.0	
	1328
33.4	
	1338
33.5	
	1344
	5322



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5.8	9.7		
		145	809
1.5	30.7		
		289	1050
13.0	21.8		
		1082	435
41.1	0.0		
		1444	3
		2960	2297

CALCULATED PSB
CHECKED LBD

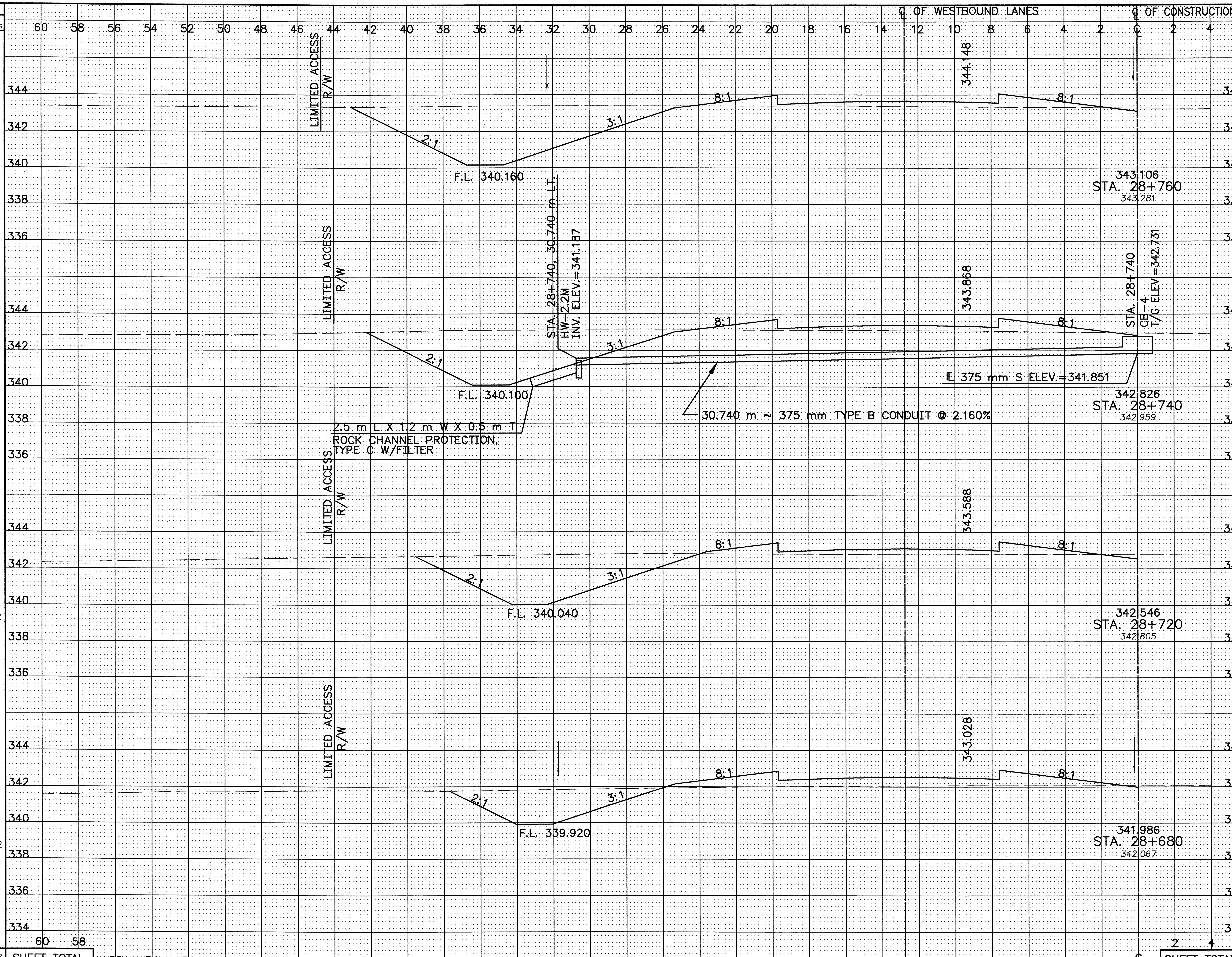
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+520 TO STA. 28+640 RIGHT ℄

CRA-30-24.000

200/677

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+680 TO STA. 28+760 LEFT ℄

CALCULATED PSB
CHECKED LBD



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
28+760	33.0	659	31.8	5.6	598	131
28+740	32.9	659	28.0	7.6	517	133
28+720	33.0	1312	23.7	5.8	730	344
28+680	32.6	1302	12.8	11.4	390	571
SHEET TOTAL		3932			2235	1179

CRA-30-24.000

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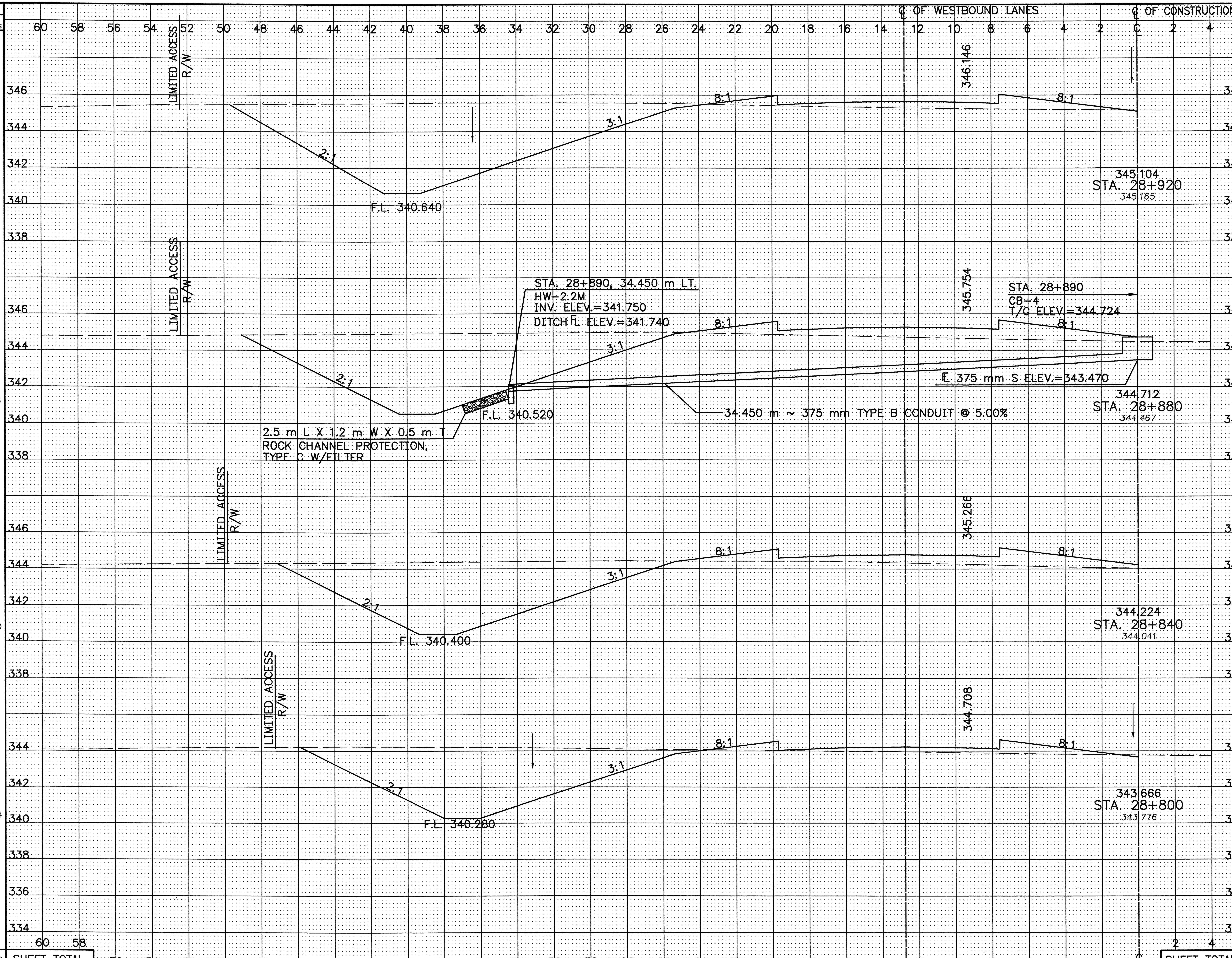
SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
344.148
LIMITED ACCESS R/W
8:1
8:1
3:1
3:1
F.L. 341.910
343.106
STA. 28+760
343.281
32.5
4.9
12.2
650
105
255
343.868
F.L. 341.646
342.826
STA. 28+740
342.959
32.5
5.6
13.3
651
113
227
343.588
F.L. 341.334
342.546
STA. 28+720
342.805
32.6
5.7
9.4
1300
208
458
343.028
F.L. 340.710
341.986
STA. 28+680
342.067
32.4
4.7
13.5
1300
211
465
3901
SHEET TOTAL
SHEET TOTAL
637
1405
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+680 TO STA. 28+760 RIGHT ℄
CRA-30-24.000
202
677

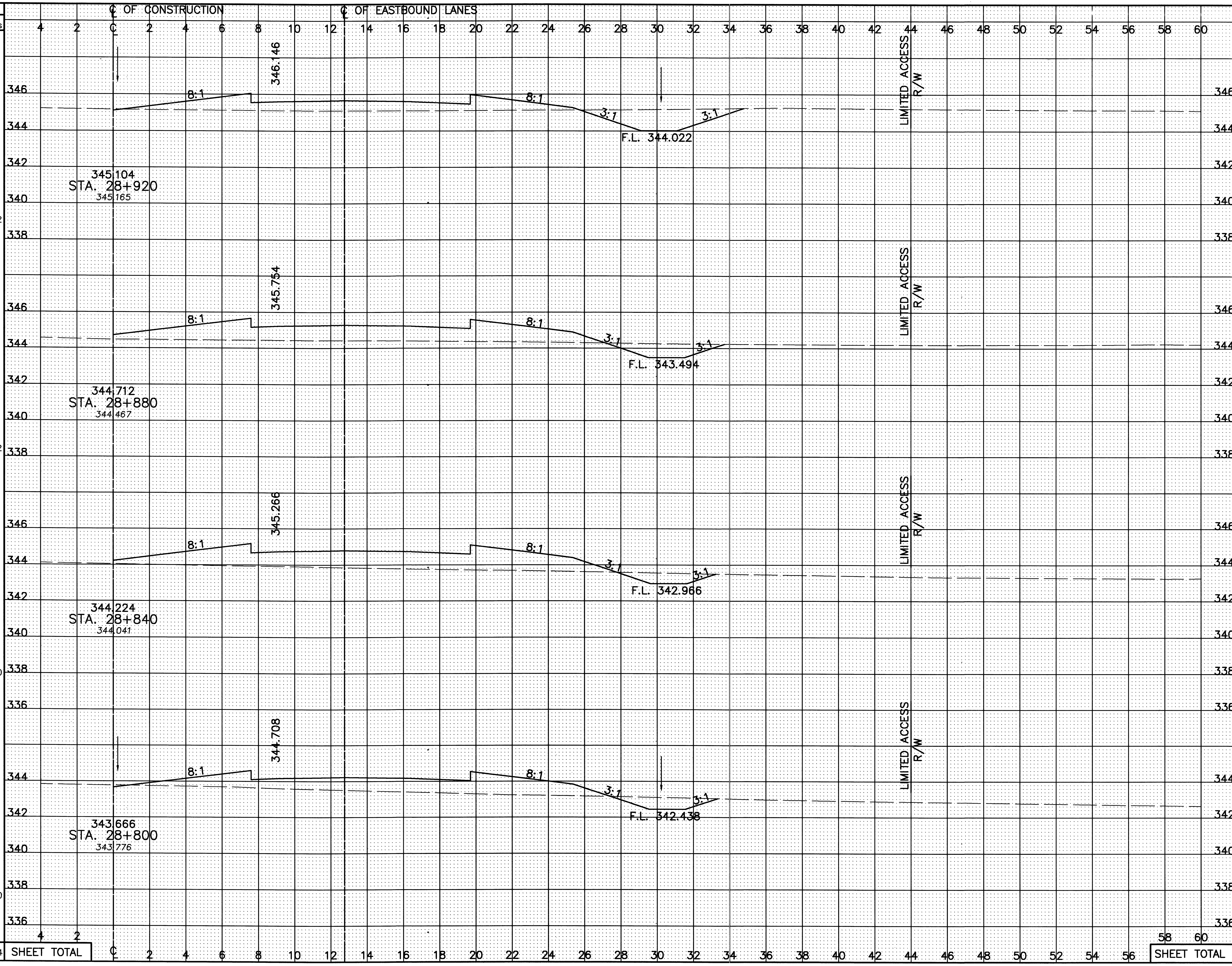


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.8		64.5	6.9		
	1346			2426	298
33.5		56.8	8.0		
	1336			1164	424
33.3		46.4	13.2		
	1330			1812	390
33.2		44.2	6.3		
	1324			1520	238
SHEET TOTAL	5336			6922	1350

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+800 TO STA. 28+920 LEFT ℄

CRA-30-24.000



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 28+920	32.5		6.4	12.3		
		1302			192	664
STA. 28+880	32.6		3.2	20.9		
		1302			107	884
STA. 28+840	32.5		2.1	23.3		
		1300			95	820
STA. 28+800	32.5		2.6	17.7		
		1300			150	597
SHEET TOTAL		5204			544	2965

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+800 TO STA. 28+920 RIGHT ℄

CRA-30-24.000

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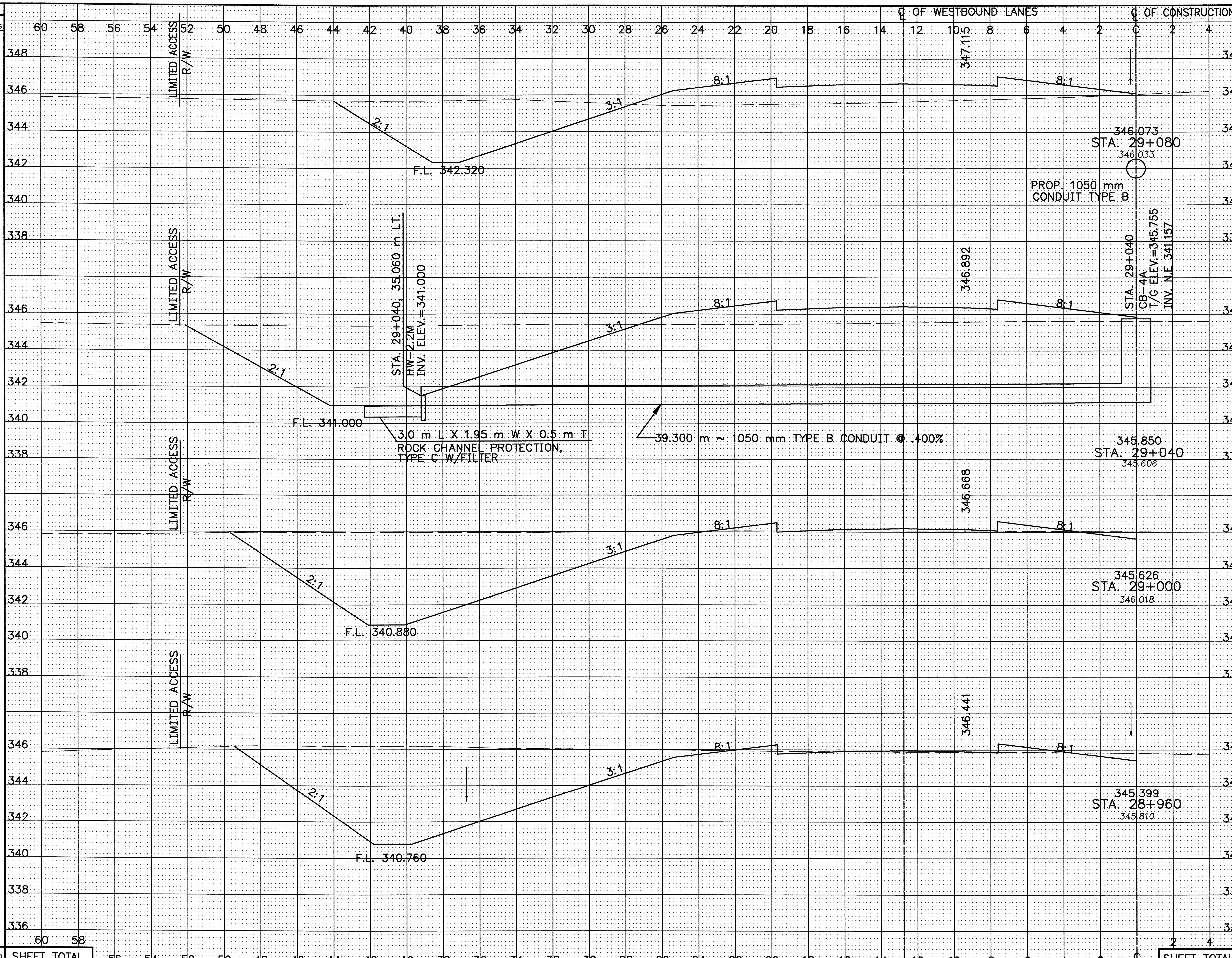
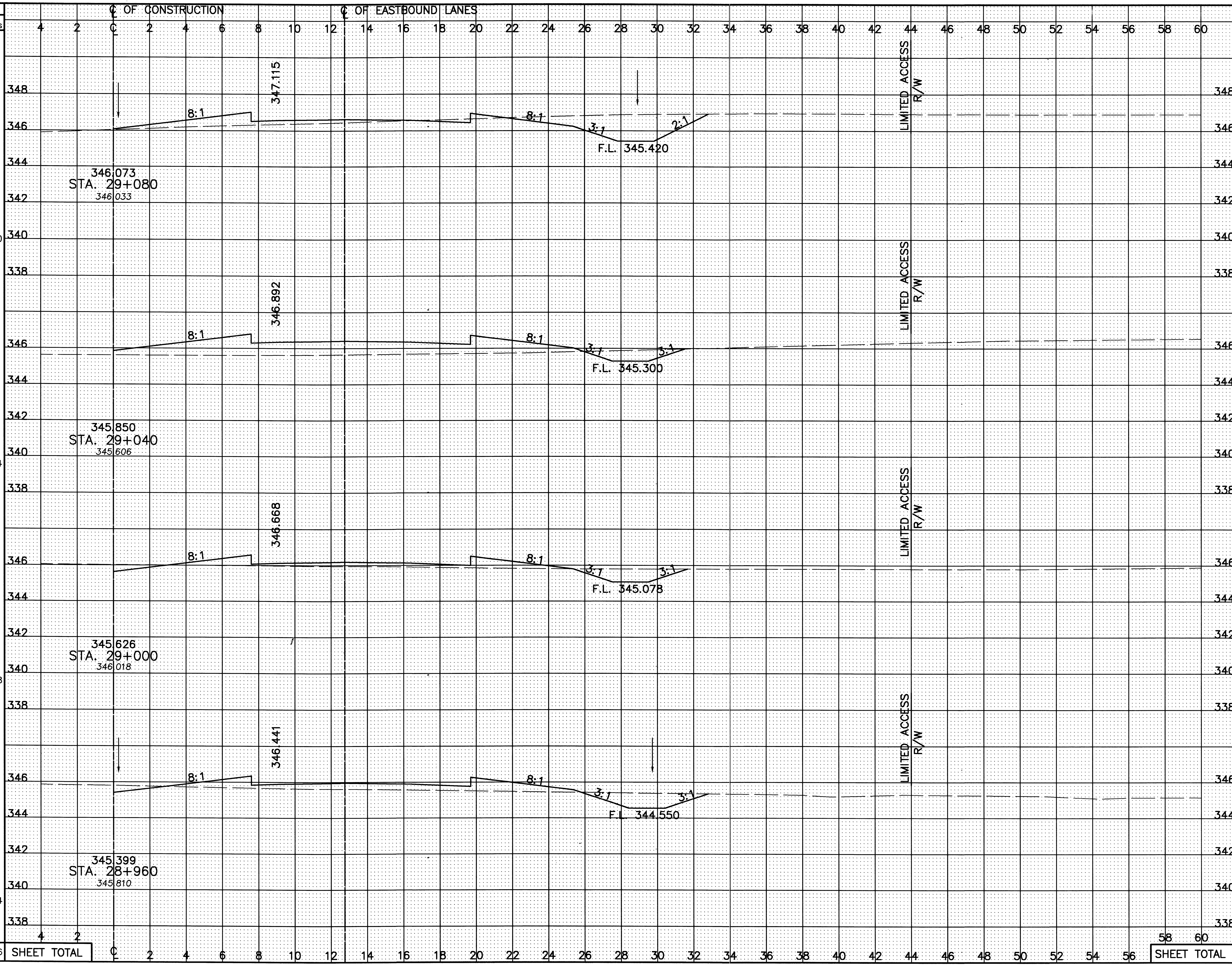


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.9		28.8	19.8		
	1354			1814	826
33.8		61.9	21.5		
	1370			2616	485
34.7		68.9	2.8		
	1392			2858	92
34.9		74.0	1.9		
	1374			2770	176
SHEET TOTAL	5490			10,058	1579

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+960 TO STA. 29+080 LEFT ℄

CRA-30-24.000

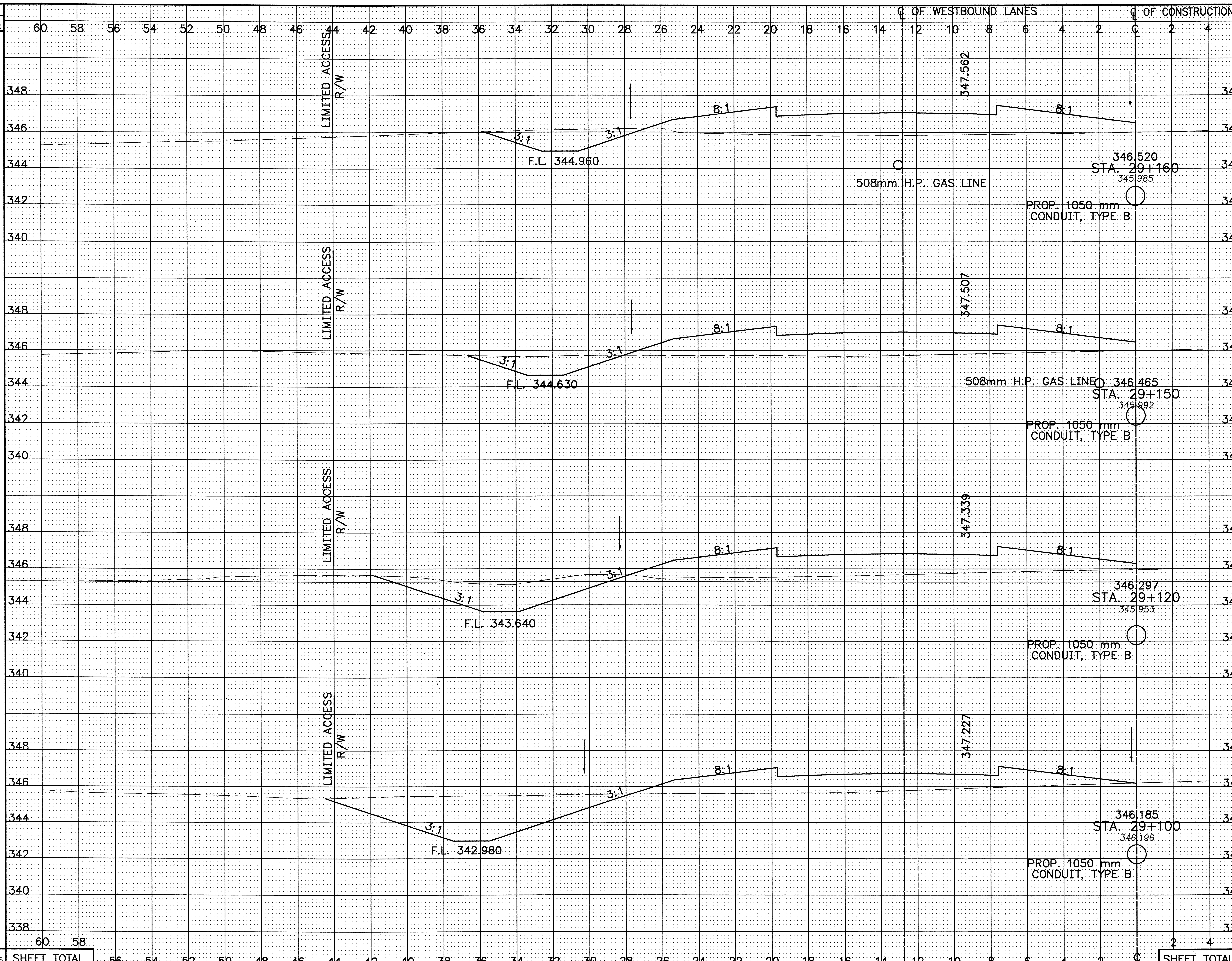


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 29+080	32.5		9.0	4.6		
		1300			224	443
STA. 29+040	32.5		2.2	17.6		
		1304			115	463
STA. 29+000	32.7		3.5	5.6		
		1308			157	272
STA. 28+960	32.7		4.3	8.0		
		1304			214	407
SHEET TOTAL		5216			710	1585

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 28+960 TO STA. 29+080 RIGHT ℄

CRA-30-24.000



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
29+160	32.6		5.0	29.2		
		326			50	305
29+150	32.6		5.0	31.8		
		978			255	918
29+120	32.6		12.0	29.3		
		649			345	520
29+100	32.3		22.5	22.7		
		662			513	425
SHEET TOTAL		2615			1163	2168

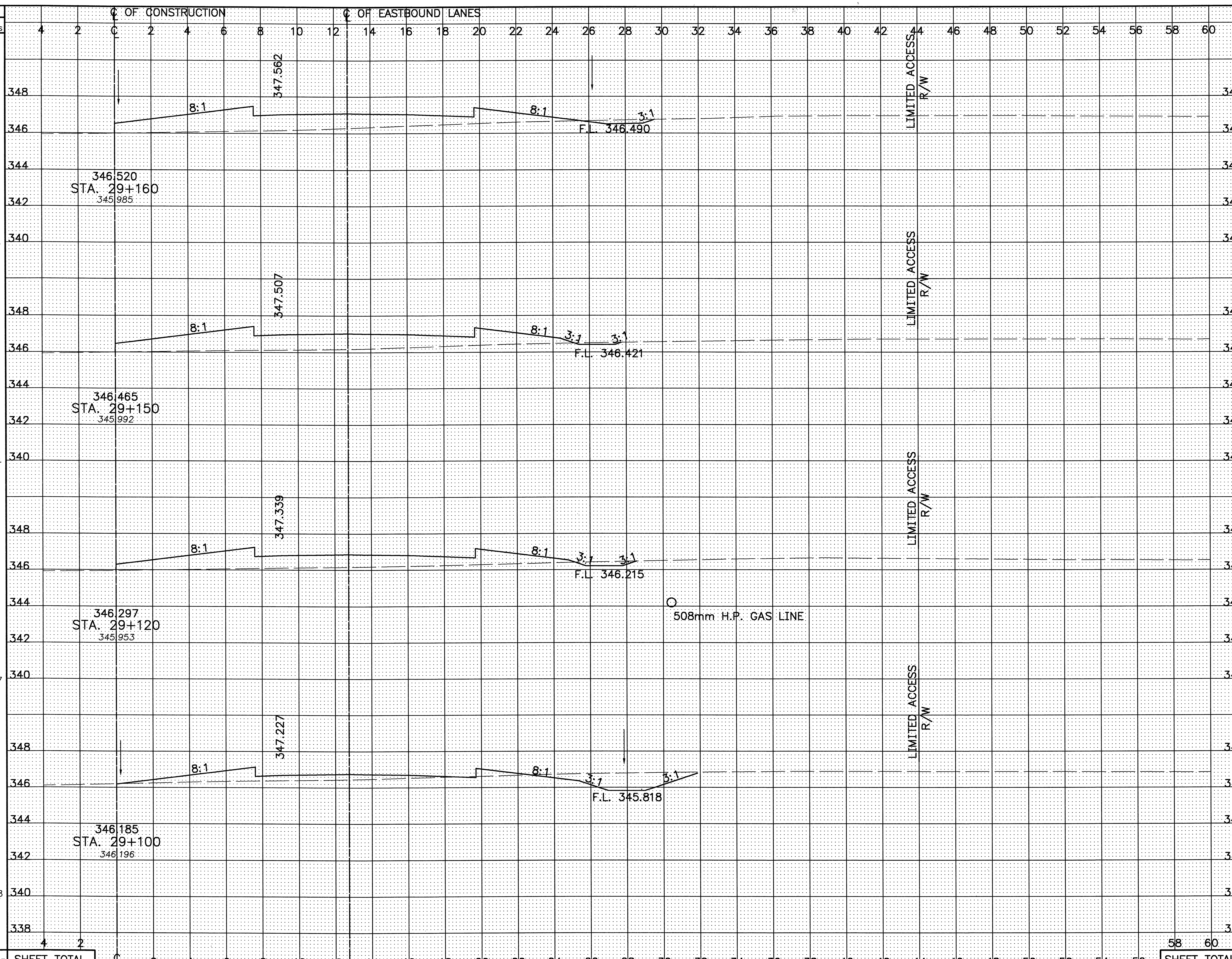
CALCULATED PSB
CHECKED LBD

REVISED 5-28-03 GRADING QUANTITIES

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+100 TO STA. 29+160 LEFT ℄

CRA-30-24.000

207/677



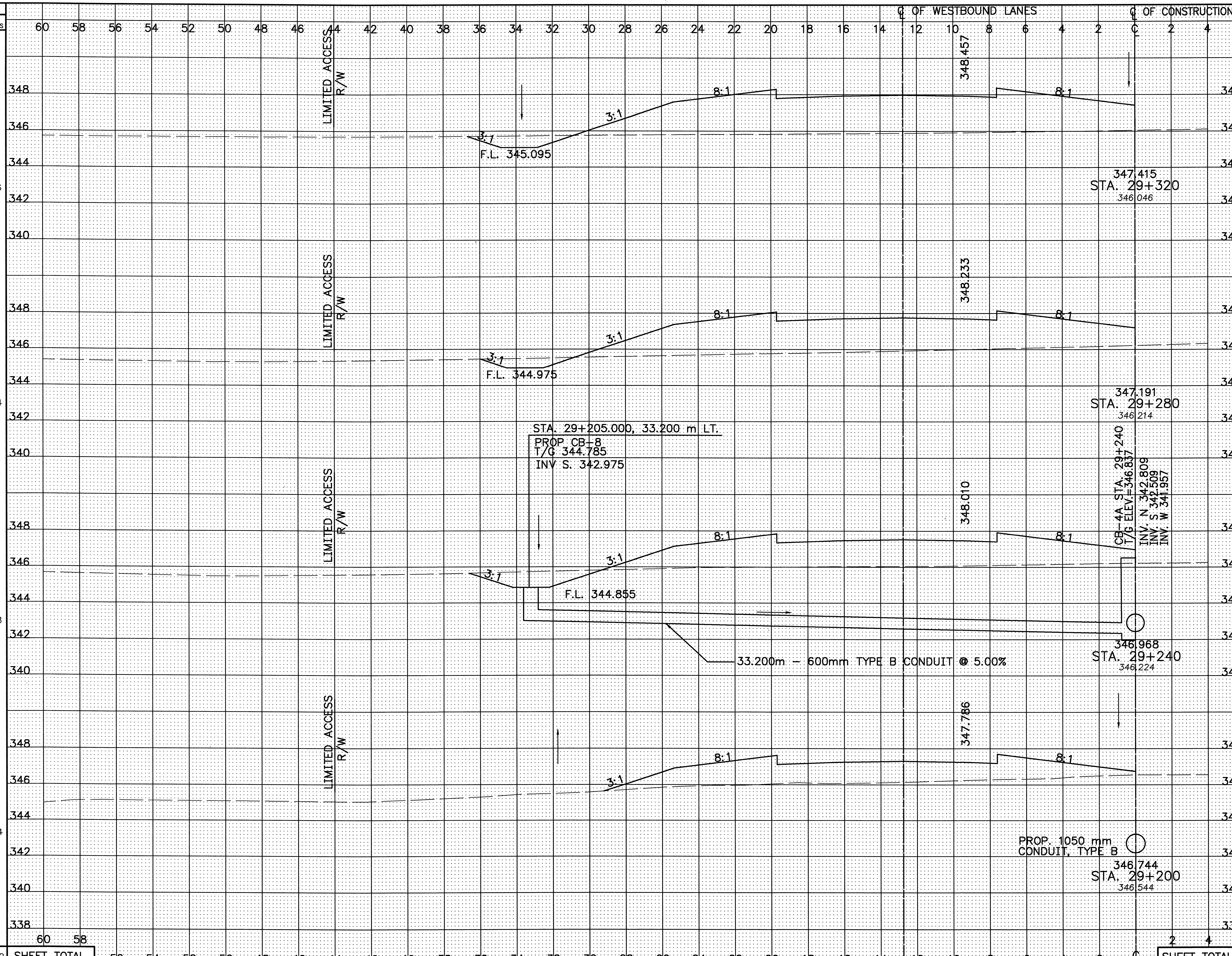
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 29+160	32.6		0.6	18.3		
		326			4	187
STA. 29+150	32.5		0.2	19.2		
		974			12	527
STA. 29+120	32.4		0.6	15.9		
		647			59	220
STA. 29+100	32.3		5.3	6.1		
		648			143	107
SHEET TOTAL		2595			218	1041

CALCULATED PSB
CHECKED LBD

REVISED 5-28-03 GRADING QUANTITIES

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+100 TO STA. 29+160 RIGHT ℄

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.9		2.5	55.8		
	1346			86	2107
33.4		1.8	49.5		
	1384			118	1748
33.3		4.1	37.9		
	1318			82	1333
32.6		0.0	28.8		
	1304			100	1160
SHEET TOTAL	5352			386	6348

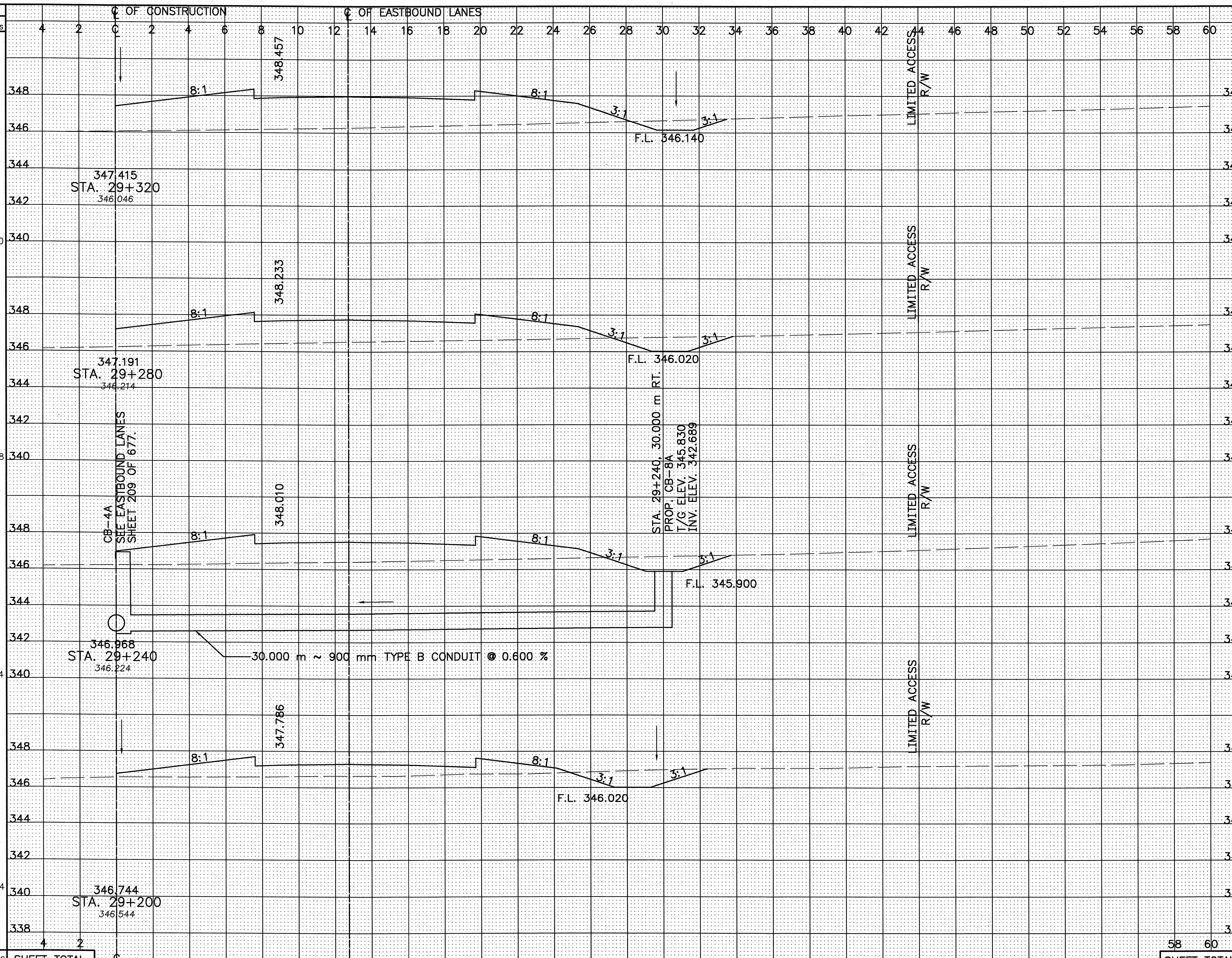
CALCULATED PSB
CHECKED LBD

REVISED 5-28-03 GRADING QUANTITIES

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+200 TO STA. 29+320 LEFT ℄

CRA-30-24.000

209
677



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
29+320	33.7		1.9	43.1		
		1340			104	1483
29+280	33.3		3.3	31.0		
		1328			138	1163
29+240	33.1		3.6	27.1		
		1314			161	843
29+200	32.6		4.4	15.0		
		1304			100	666
SHEET TOTAL		5286			503	4155

CALCULATED PSB
CHECKED LBD

REVISED 5-28-03 GRADING QUANTITIES

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+200 TO STA. 29+320 RIGHT ℄

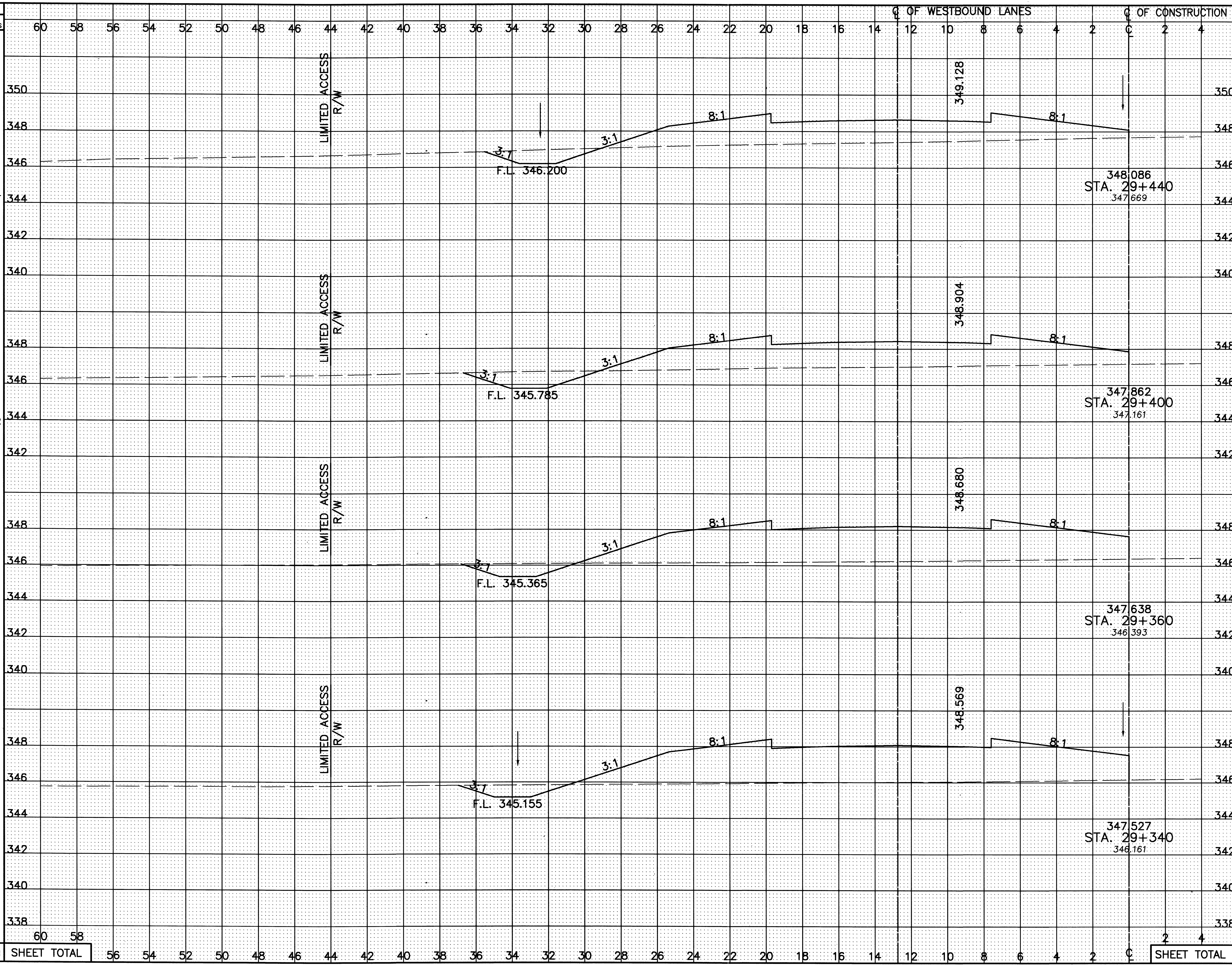
CRA-30-24.000

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+340 TO STA. 29+440 LEFT ℄

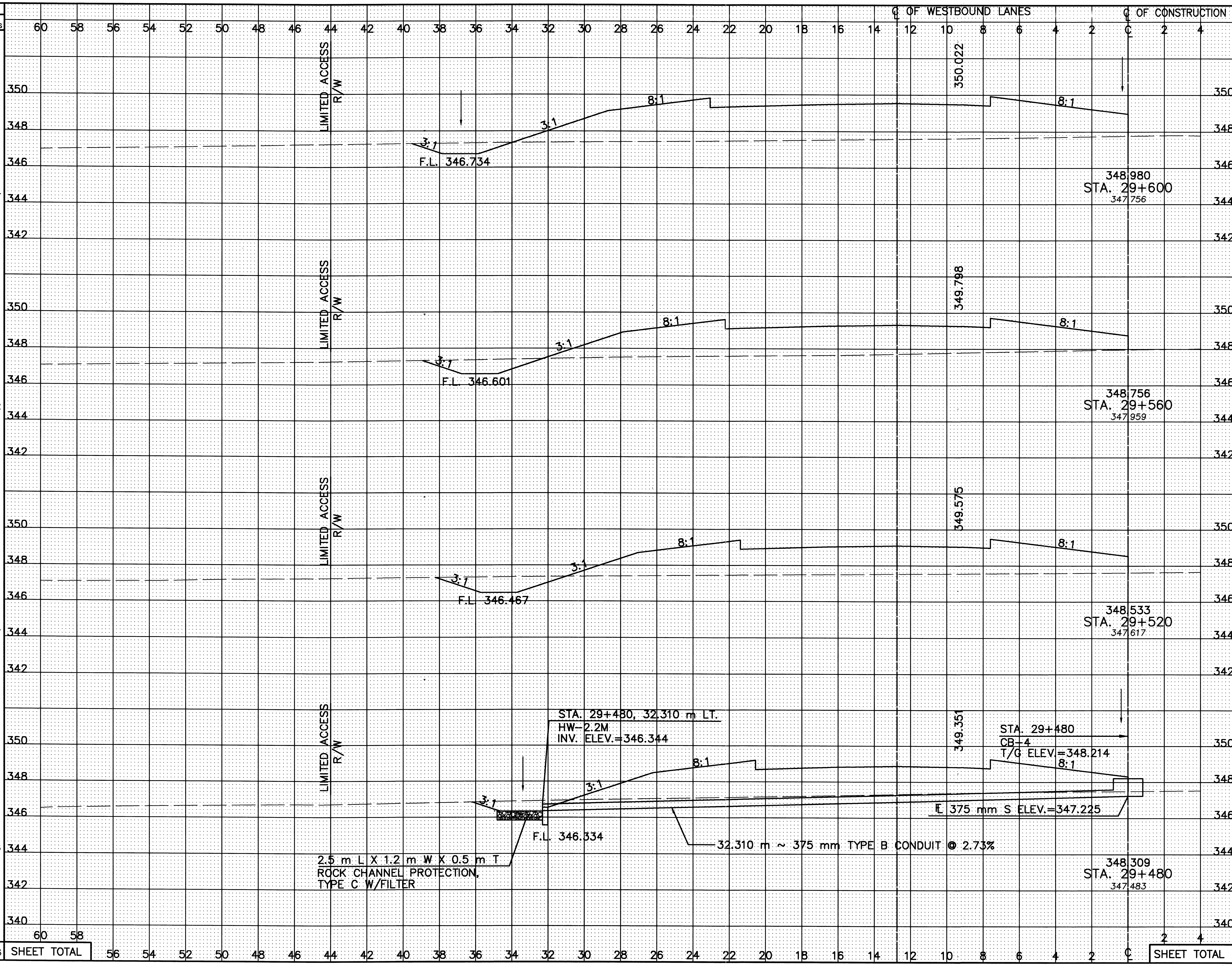
CRA-30-24.000

CALCULATED PSB
CHECKED LBD

Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
29+440	32.9		3.1	31.9		
		1324			150	1372
29+400	33.3		4.4	36.7		
		1342			149	1772
29+360	33.8		3.0	51.9		
		677			58	1077
29+340	33.9		2.7	55.8		
		678			52	1116
SHEET TOTAL		4021			409	5337



SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
STA. 29+440
348.086
347.669
349.128
8:1
3:1
F.L. 347.064
LIMITED ACCESS R/W
32.8
4.4
19.4
1318
168
896
STA. 29+400
347.862
347.161
348.904
F.L. 346.756
33.1
4.1
25.4
1334
147
1308
STA. 29+360
347.638
346.393
348.680
F.L. 346.260
33.6
3.3
40.0
675
58
828
STA. 29+340
347.527
346.161
348.569
STA. 29+340
CB-4
T/G ELEV.=347.432
STA. 29+340, 29.560 m RT.
HW-2.2M
INV. ELEV.=346.209
℄ 375 mm N ELEV.=346.440
29.560 m ~ 375 mm TYPE B CONDUIT @ 0.78%
F.L. 346.200
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
33.9
2.6
42.8
676
45
860
4003
SHEET TOTAL
SHEET TOTAL
418
3892
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+340 TO STA. 29+440 RIGHT ℄
CRA-30-24.000
212
677



SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30.4		STA. 29+600	2.2	59.2		
	1224				110	2098
30.8		STA. 29+560	3.3	45.7		
	1252				146	1783
31.8		STA. 29+520	4.0	43.4		
	1284				122	1732
32.4		STA. 29+480	2.1	43.2		
	1306				103	1501
	5066	SHEET TOTAL			481	7114

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+480 TO STA. 29+600 LEFT ₵

CRA-30-24.000

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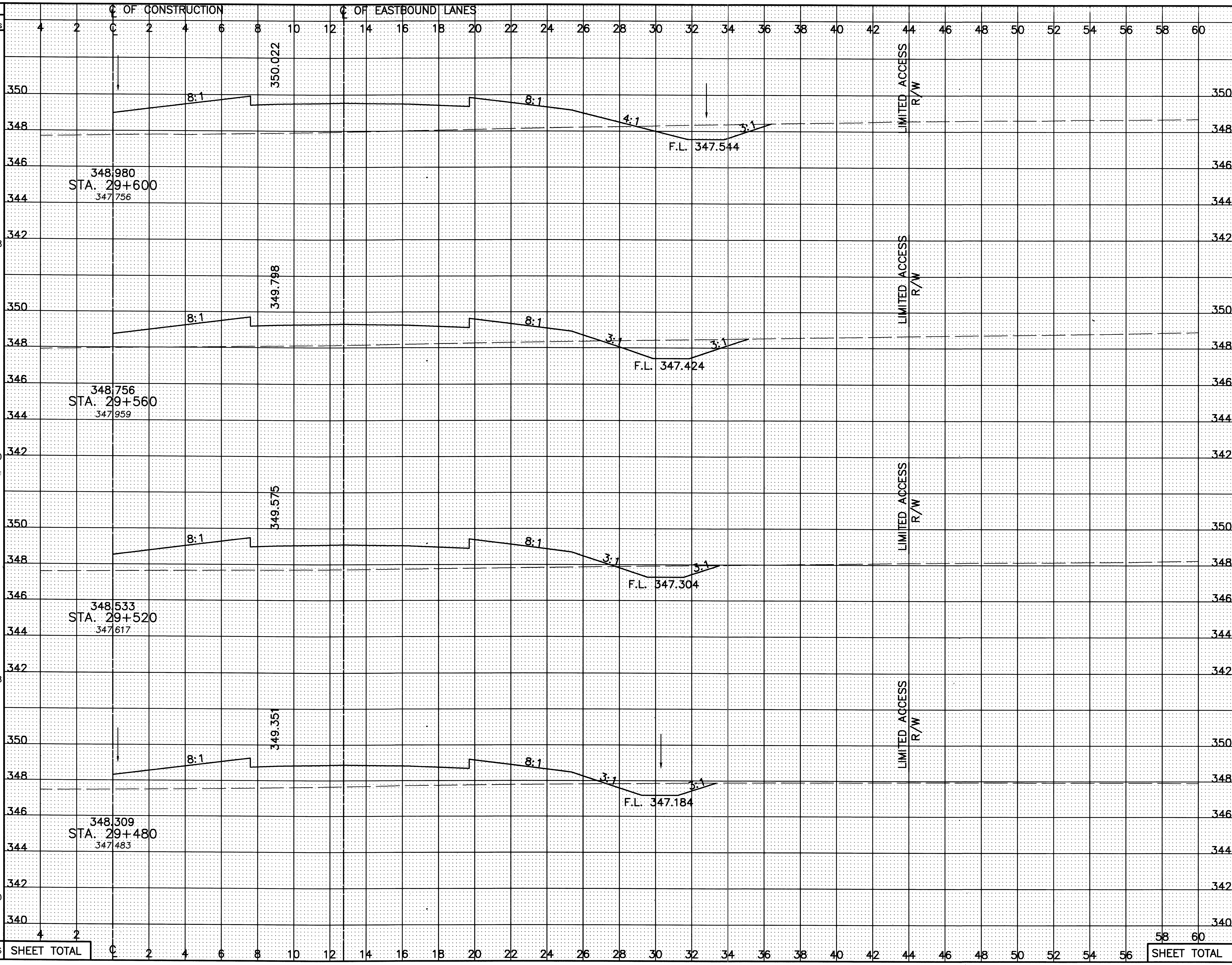
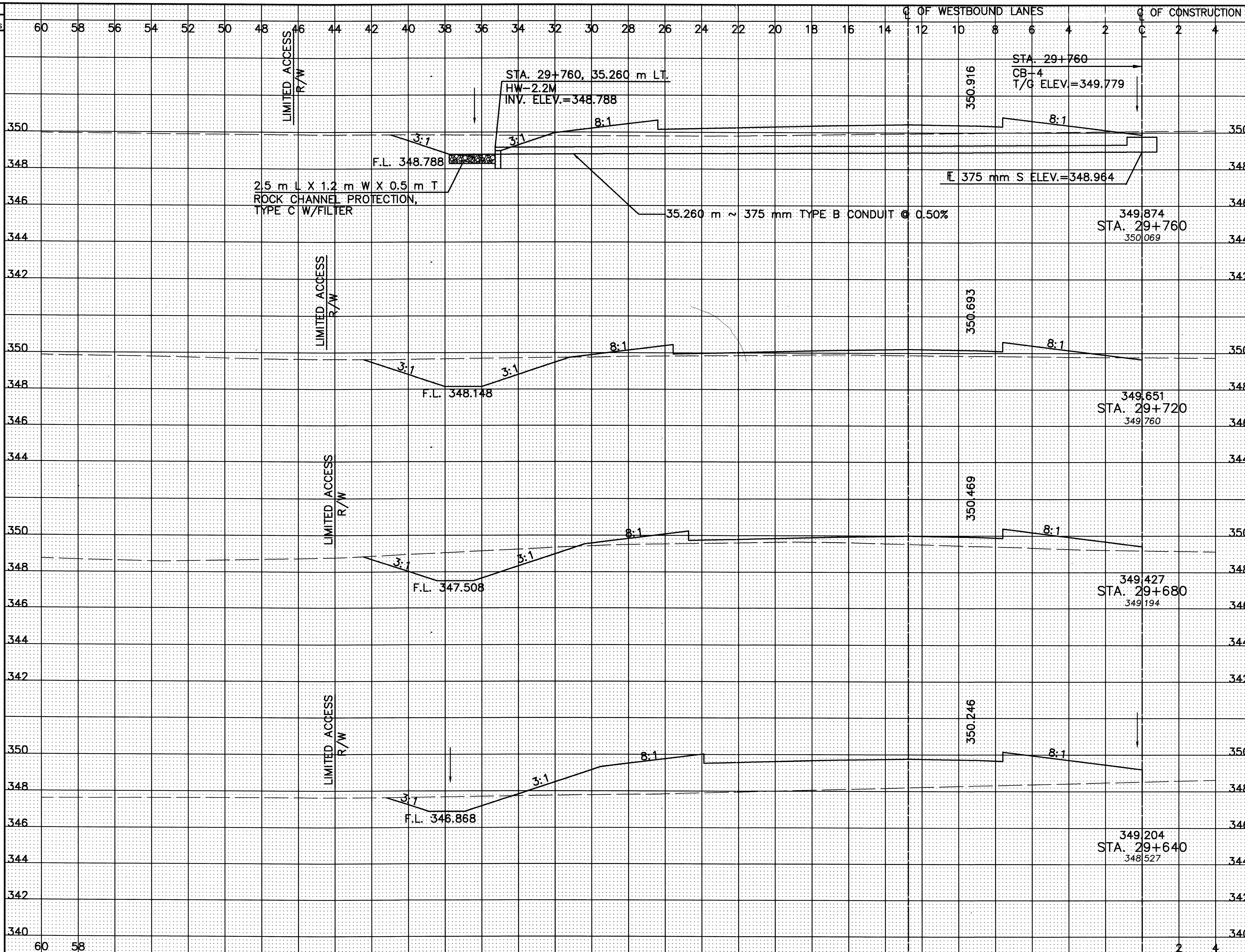


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
29+600	33.6		3.8	40.4		
		1338			179	1382
29+560	33.3		5.2	28.7		
		1330			151	1257
29+520	33.2		2.4	34.2		
		1328			102	1283
29+480	33.2		2.7	30.0		
		1320			141	988
SHEET TOTAL		5316			573	4910

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+480 TO STA. 29+600 RIGHT ℄

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27.9		5.5	13.9		
	1100			312	453
27.1		10.1	8.7		
	1098			418	426
27.8		10.8	12.6		
	1136			288	1228
29.0		3.6	48.8		
	1188			65	1049
SHEET TOTAL	4522			1083	3156

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+640 TO STA. 29+760 LEFT ℄

CRA-30-24.000

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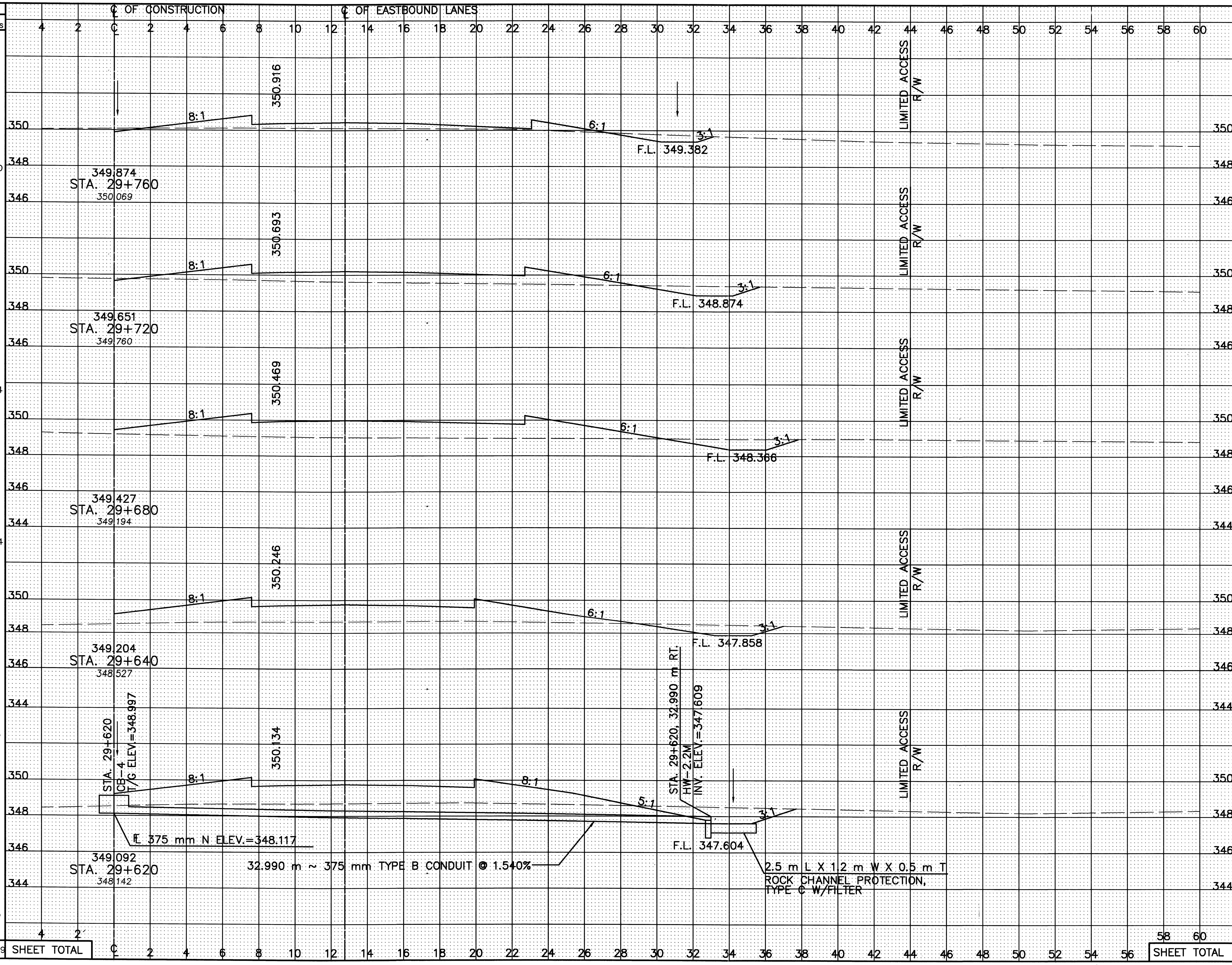

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
28.8		1.6	7.0		
	1160			79	421
29.2		2.4	14.1		
	1174			102	762
29.5		2.7	24.0		
	1244			118	1013
32.7		3.2	26.7		
	656			59	648
32.9		2.7	38.2		
	665			65	786
SHEET TOTAL	4899			423	3630

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+620 TO STA. 29+760 RIGHT ℄

CRA-30-24.000

216/677

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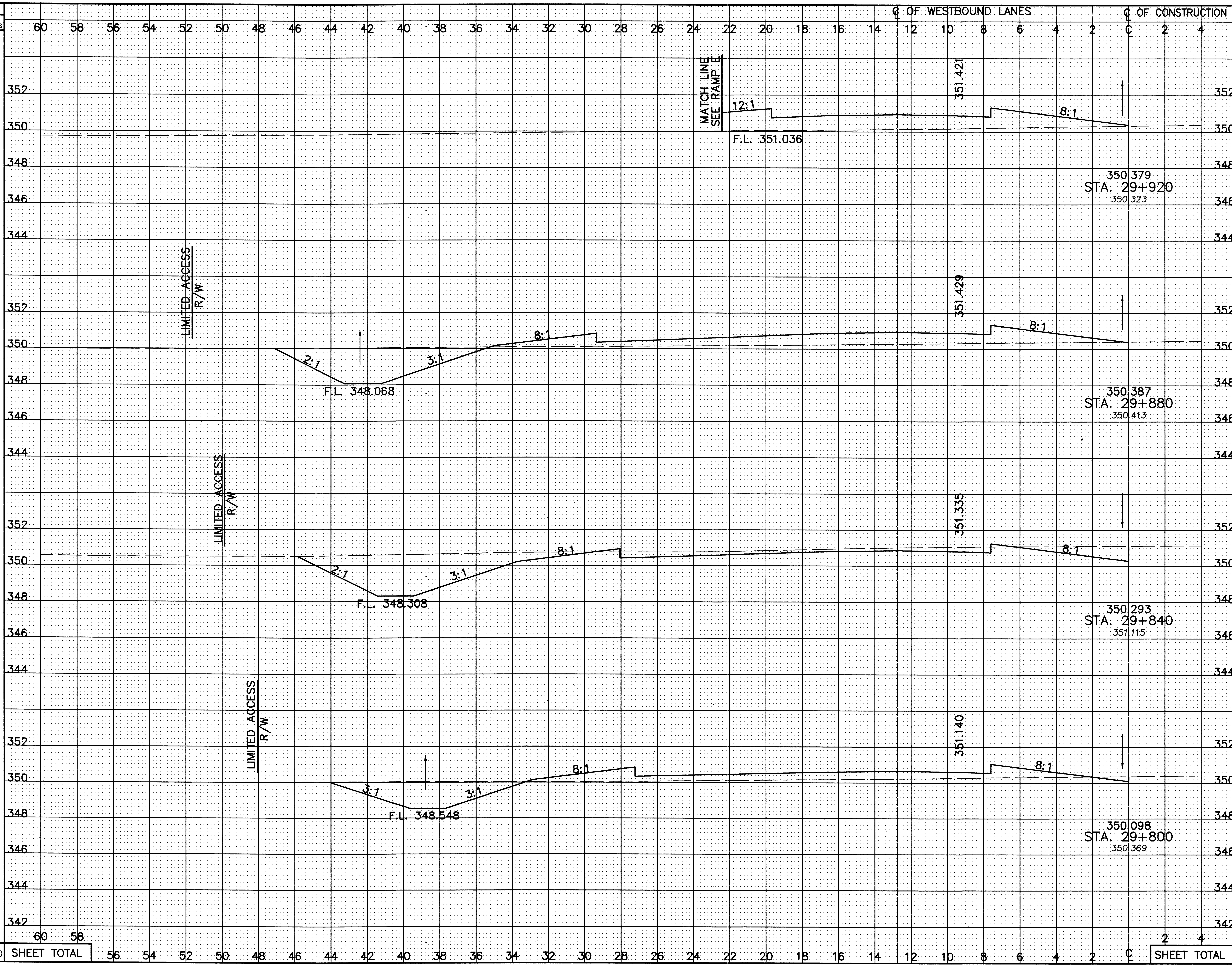
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.4		0	16.6		
	720			272	678
25.6		13.6	17.3		
	1076			776	350
28.2		25.2	0.2		
	1070			704	244
25.3		10.0	12.0		
	1064			310	518
	3930	SHEET TOTAL		2062	1790



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 29+800 TO STA. 29+920 LEFT ℄

CRA-30-24.000

217/677

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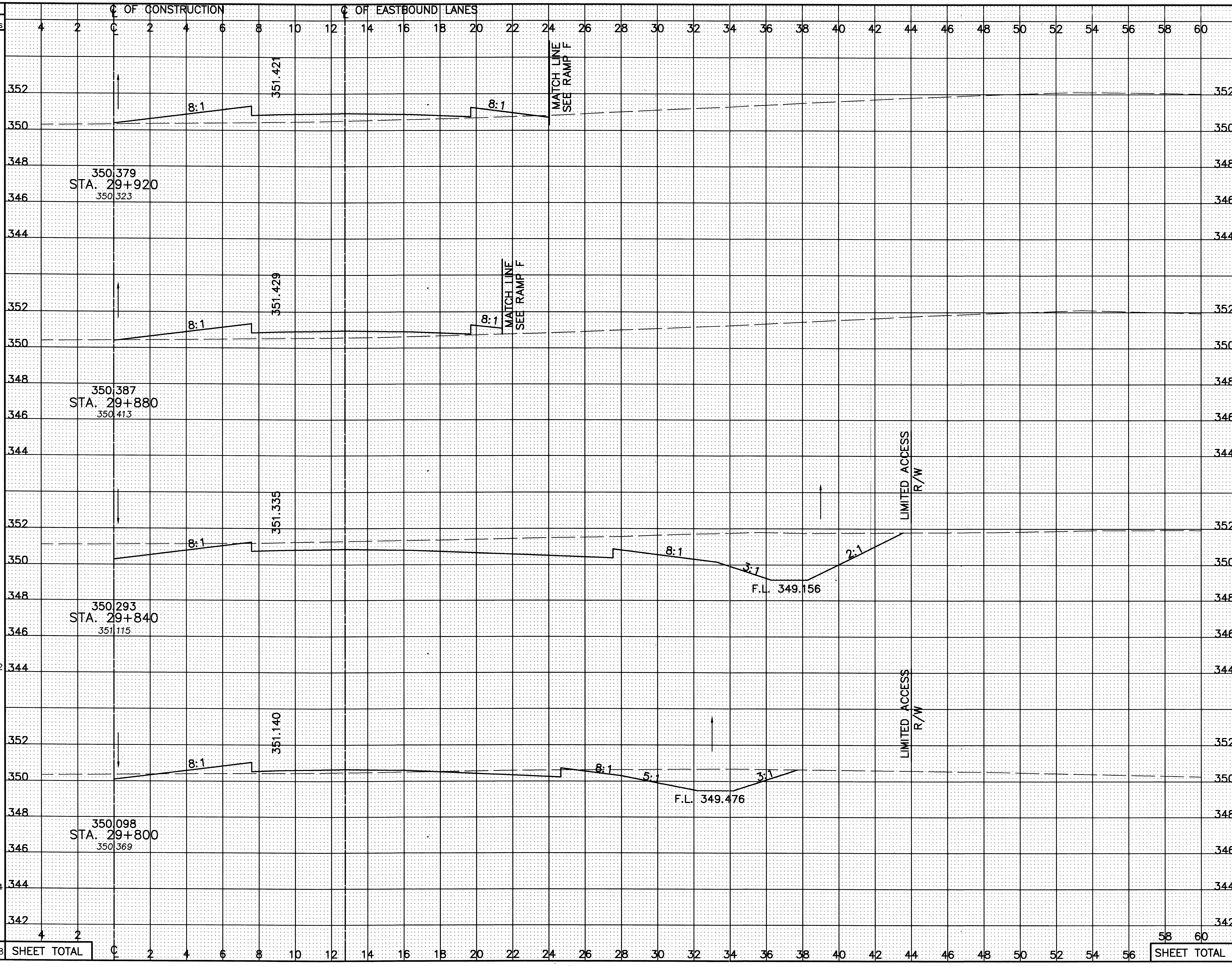
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.7		0.0	8.8		
	402			1	328
9.4		0.0	7.5		
	700			913	151
25.6		45.7	0.0		
	1062			1120	61
27.5		10.3	3.0		
	1204			239	199
	3368			2273	739



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+800 TO STA. 29+920 RIGHT ℄

CRA-30-24.000

218
677

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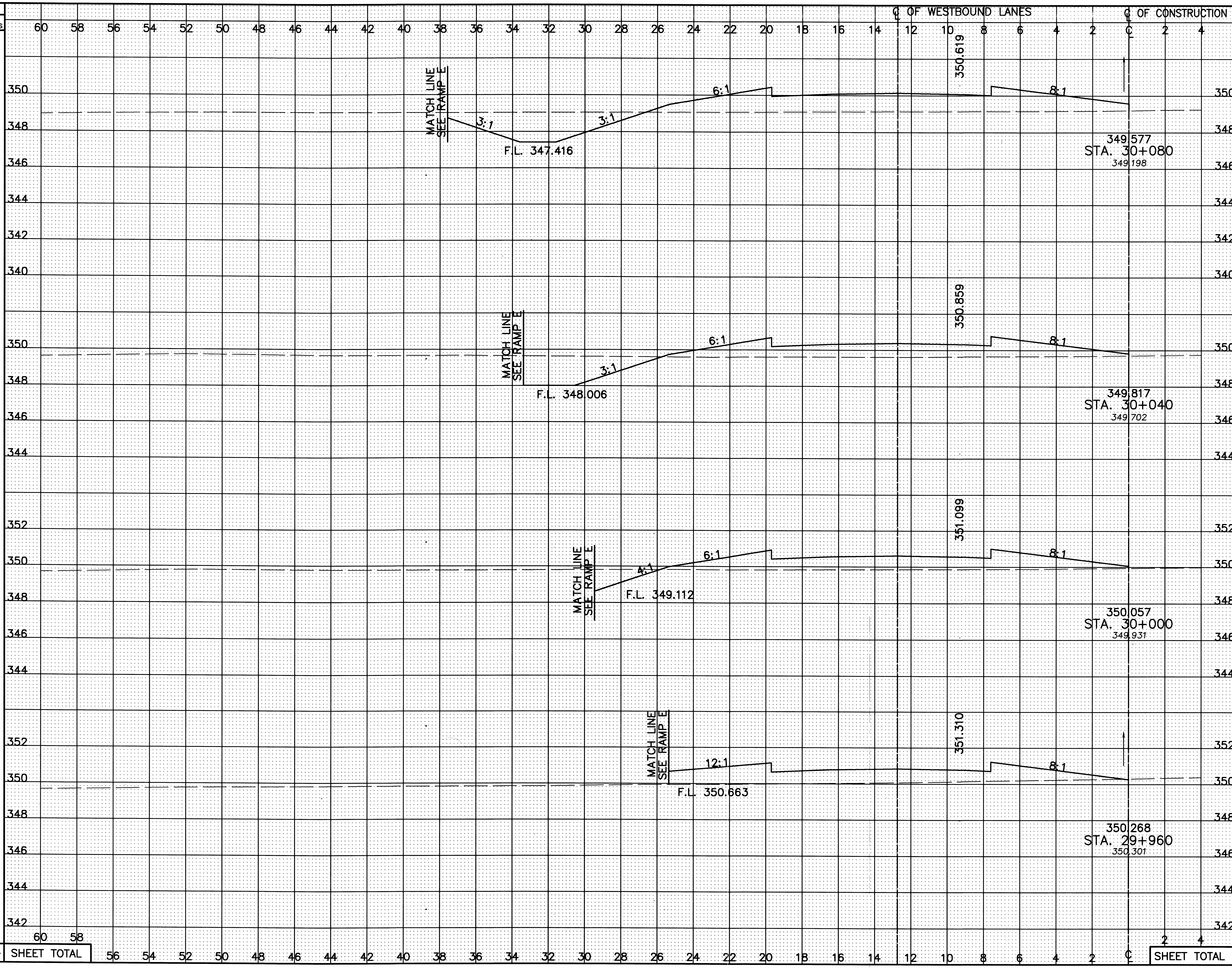

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22.9		30+080	11.1	23.6		
	892				392	806
21.7		30+040	8.5	16.7		
	788				212	676
17.7		30+000	2.1	17.1		
	620				42	696
13.3		29+960	0	17.7		
	474				0	686
SHEET TOTAL	2774				646	2864

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 29+960 TO STA. 30+080 LEFT ℄

CRA-30-24.000

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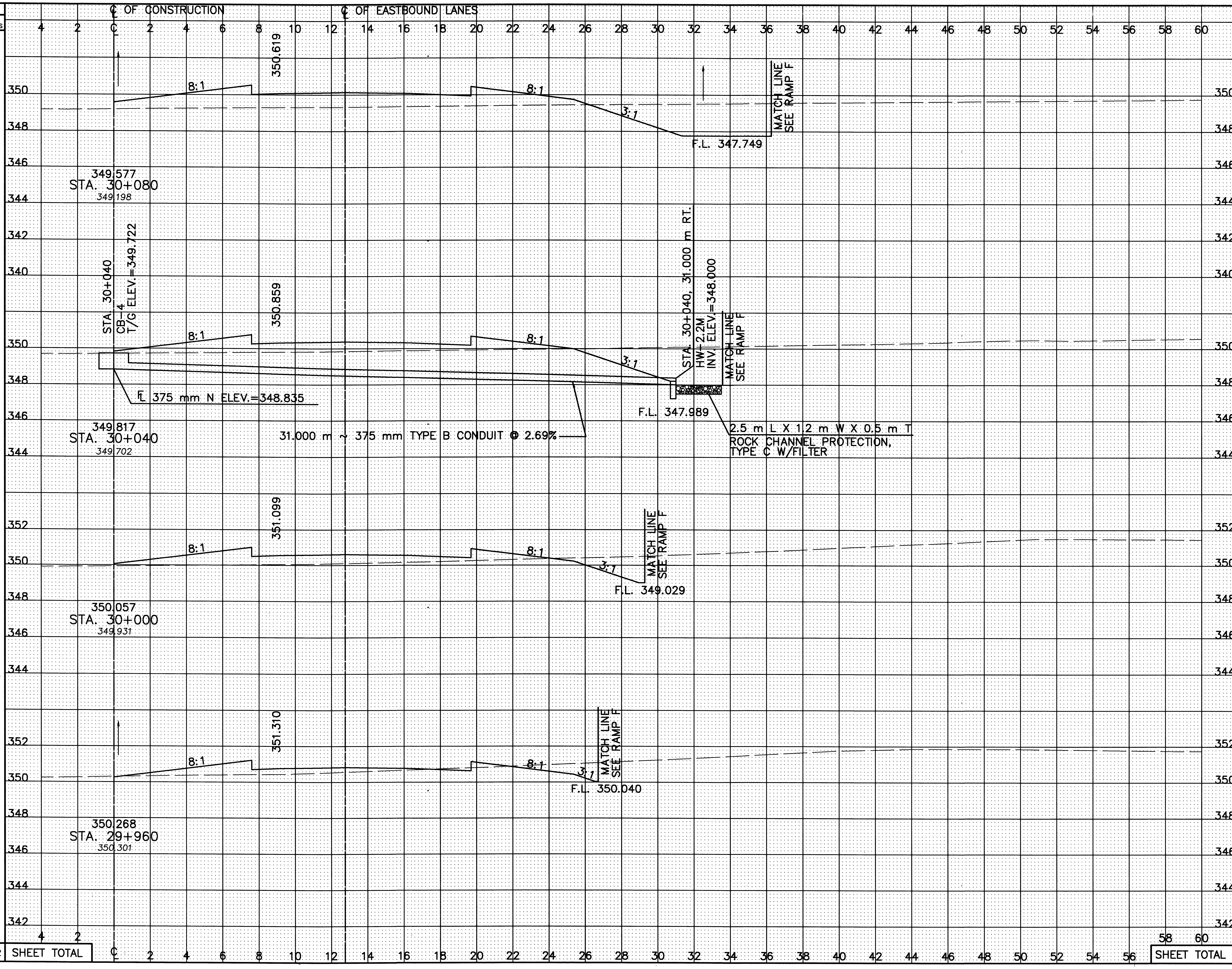

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24.6		13.2	19.1		
	932			482	624
22.0		10.9	12.1		
	792			290	462
17.6		3.6	11.0		
	648			120	330
14.8		2.4	5.5		
	510			48	286
SHEET TOTAL	2882			940	1702

CALCULATED PSB
CHECKED LBD

CROSS SECTIONS – RELOCATED U.S. 30
STA. 29+960 TO STA. 30+080 RIGHT ℄

CRA-30-24

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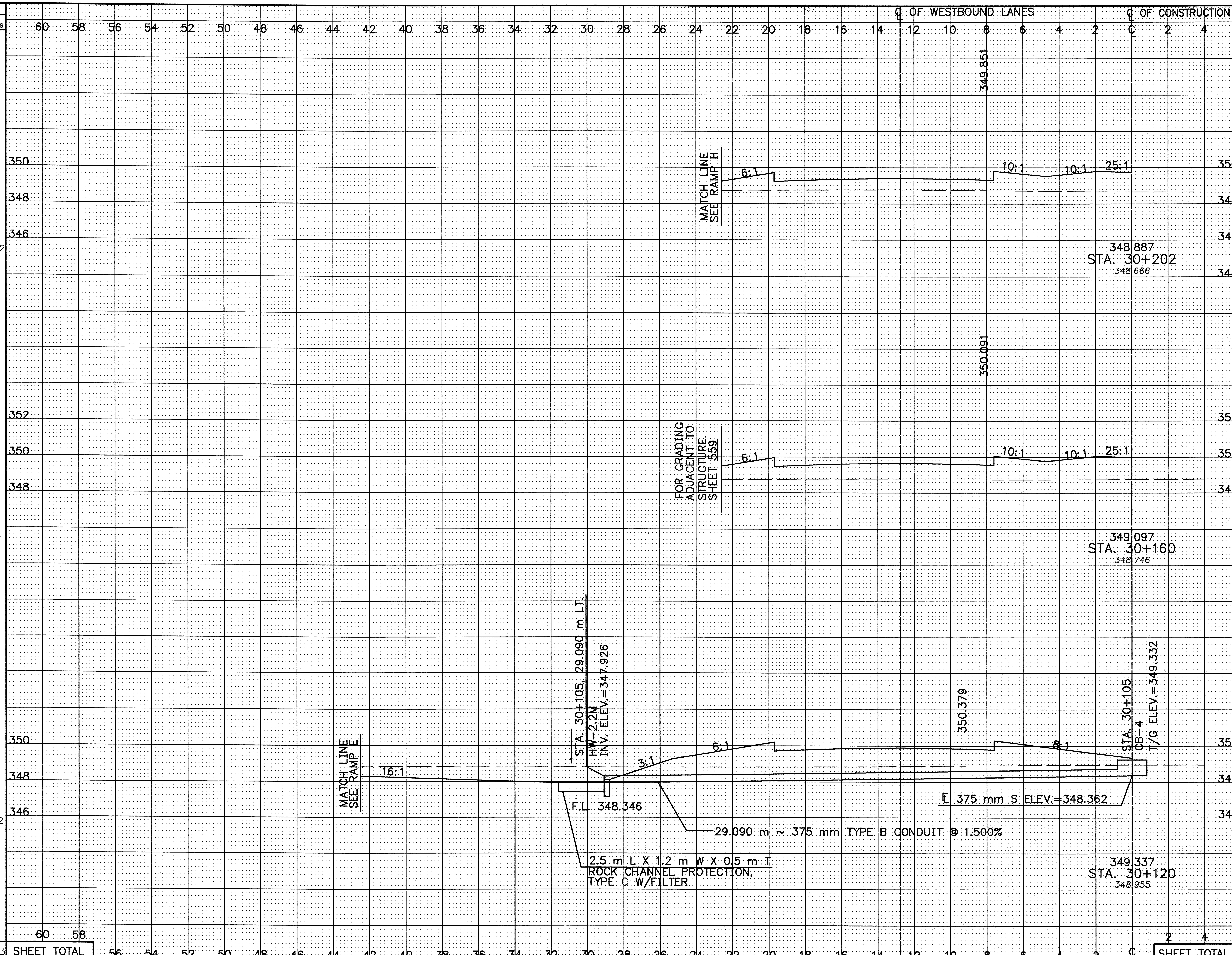


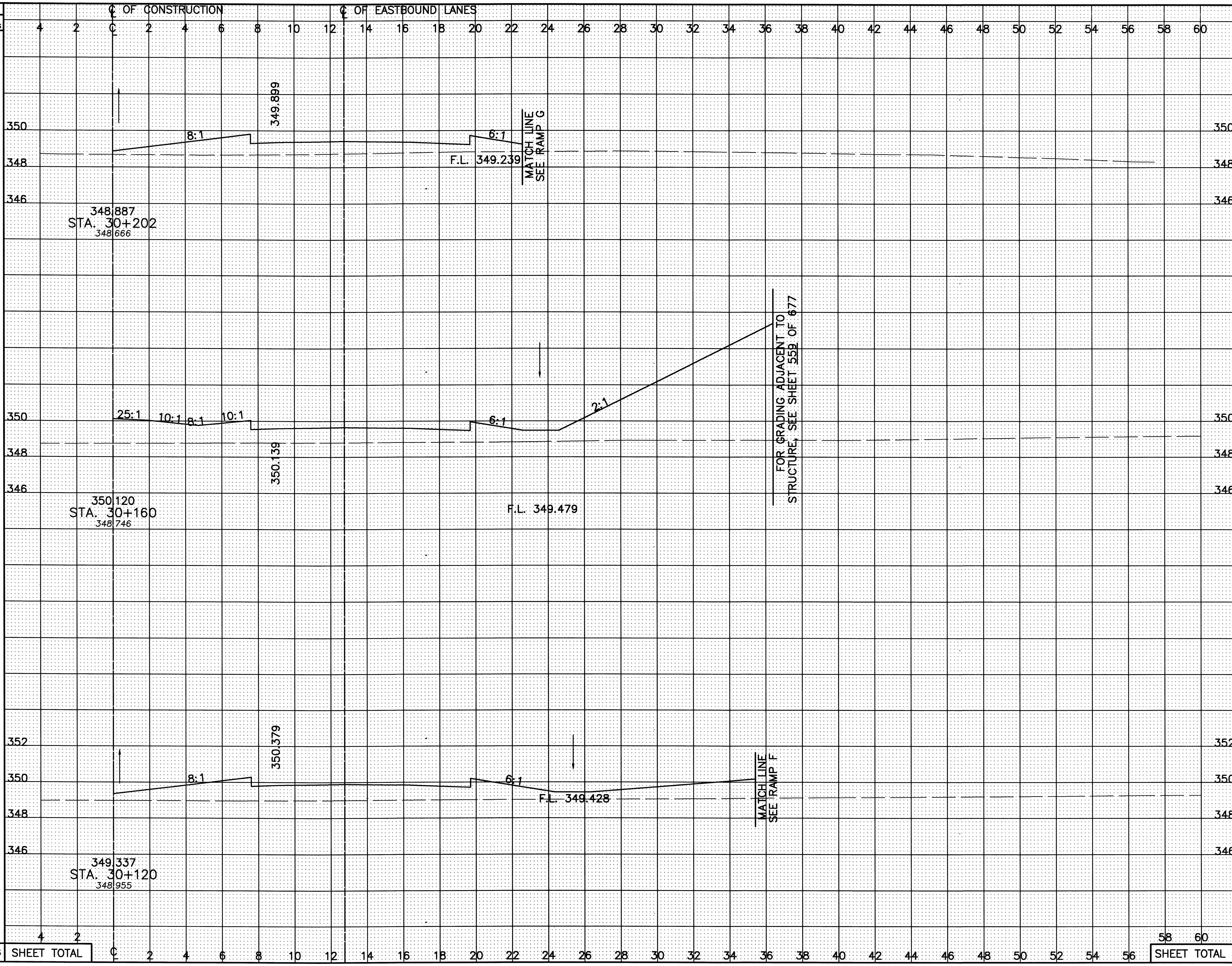
SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.6		STA. 30+202	0	16.9		
	445.2				0	407.4
10.6		STA. 30+160	0	2.5		
	776				220	520
28.2		STA. 30+120	11.0	23.5		
	1022				442	942
	2243	SHEET TOTAL			662	1869

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+120 TO STA. 30+200 LEFT ℄

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\MAINLINE\XSECT\WB\gx14202.dwg June 24 2003 10:53am By:Donna



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.6		0	14.6		
	756			0	1646
25.4		0	63.8		
	978			0	1844
23.5		0	28.4		
	962			264	950
SHEET TOTAL	2696			264	4440

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+120 TO STA. 30+200 RIGHT ℄

CRA-30-24.000

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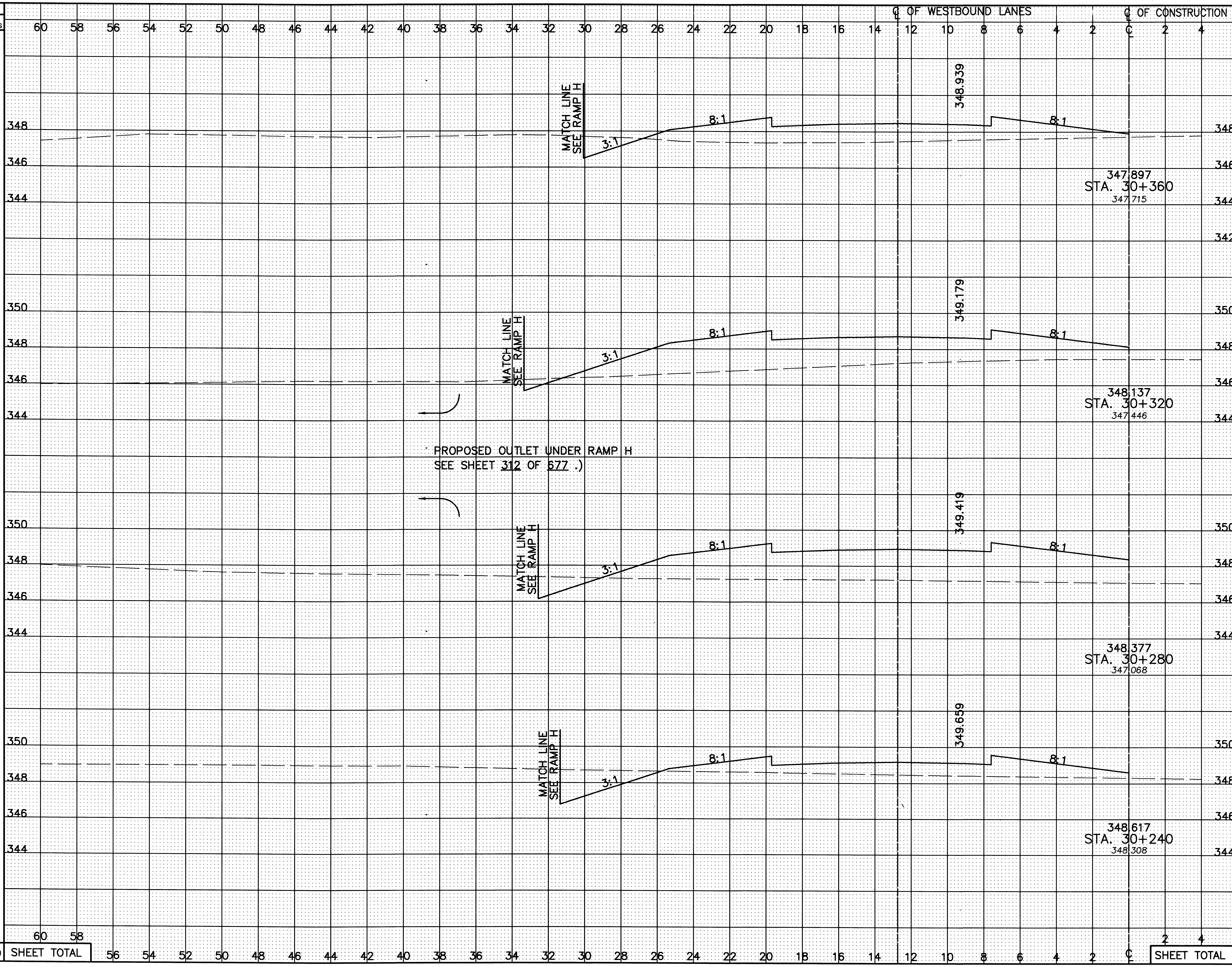


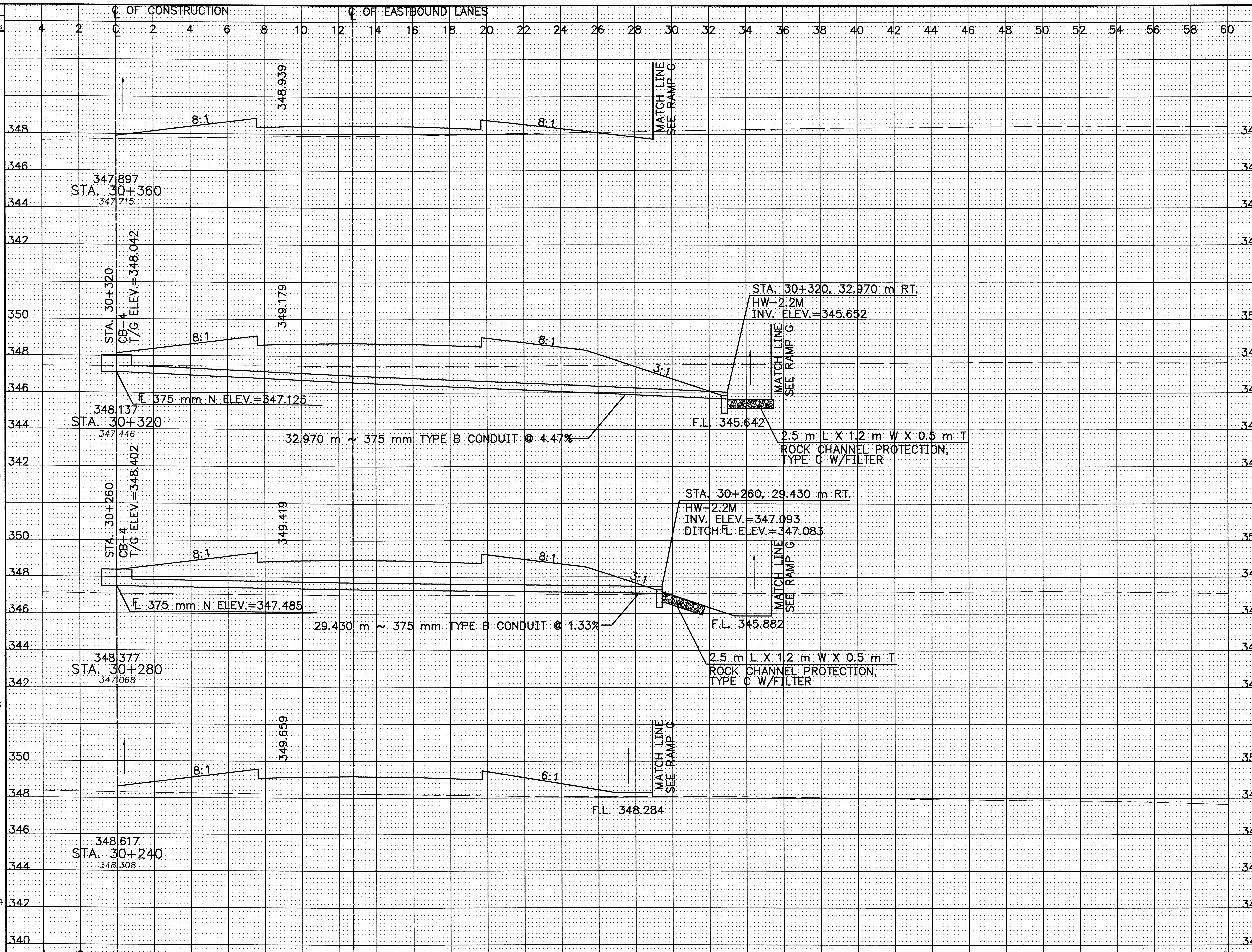
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 30+360	18.4		2.0	23.3		
		816			54	1328
STA. 30+320	22.4		0.7	43.1		
		868			56	1764
STA. 30+280	21.0		2.1	45.1		
		818			150	1226
STA. 30+240	19.9		5.4	16.2		
		378			102.6	629
SHEET TOTAL		2880			362	4947

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+240 TO STA. 30+360 LEFT ℄

CRA-30-24.000

L:\DRAWINGS\93125\(60c1\ROADWAY\MAINLINE\XSECT\WB\gx14302.dwg January 31 2001 4:48pm By:smhelter

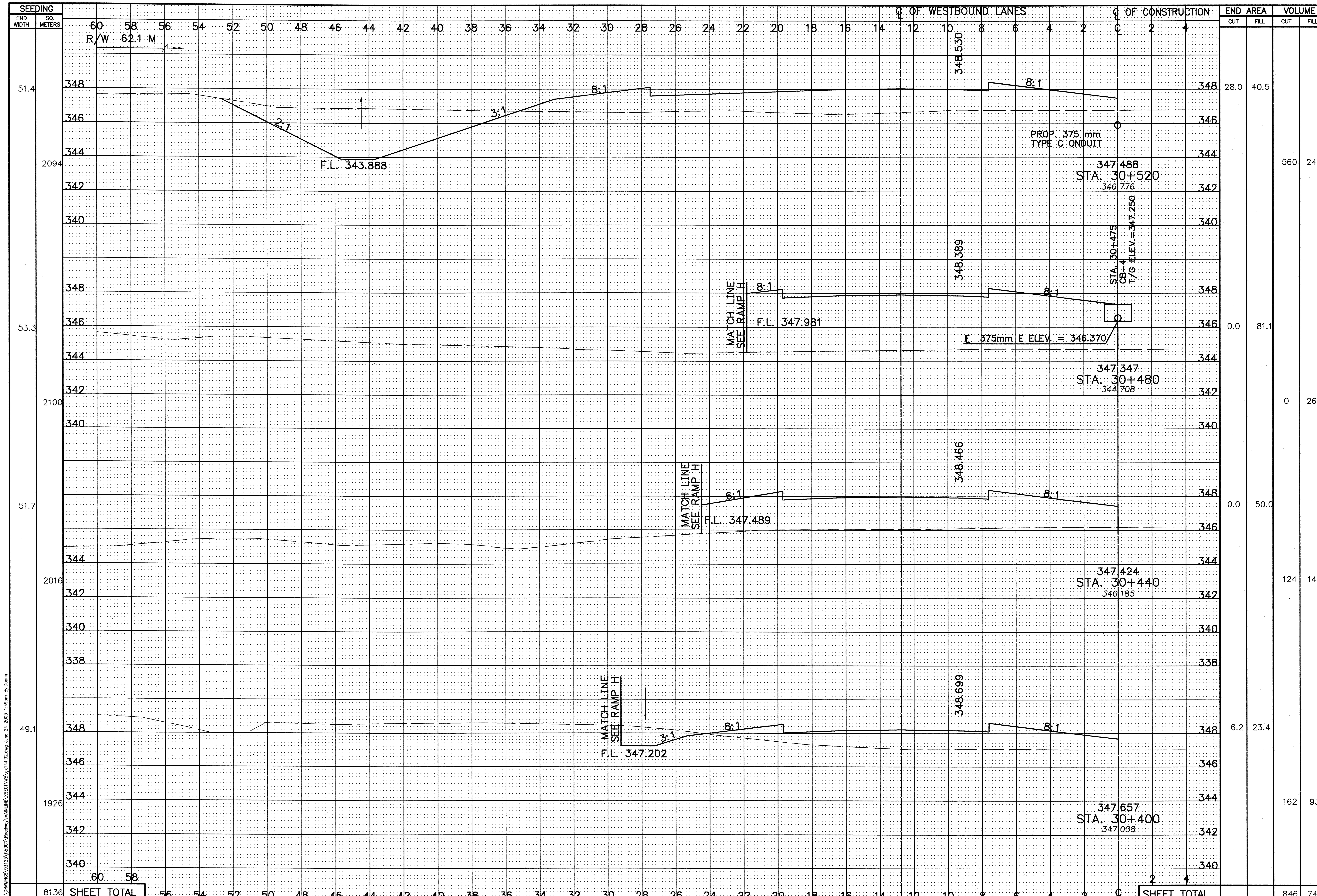


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
17.2		5.0	12.6		
	834			360	870
24.5		13.0	31.0		
	990			397	1630
25.0		6.9	50.6		
	848			138	1485
17.4		0.0	23.7		
	1154			0	782
SHEET TOTAL	3826			895	4713

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 30+240 TO STA. 30+360 RIGHT ℄

CRA-30-24.000



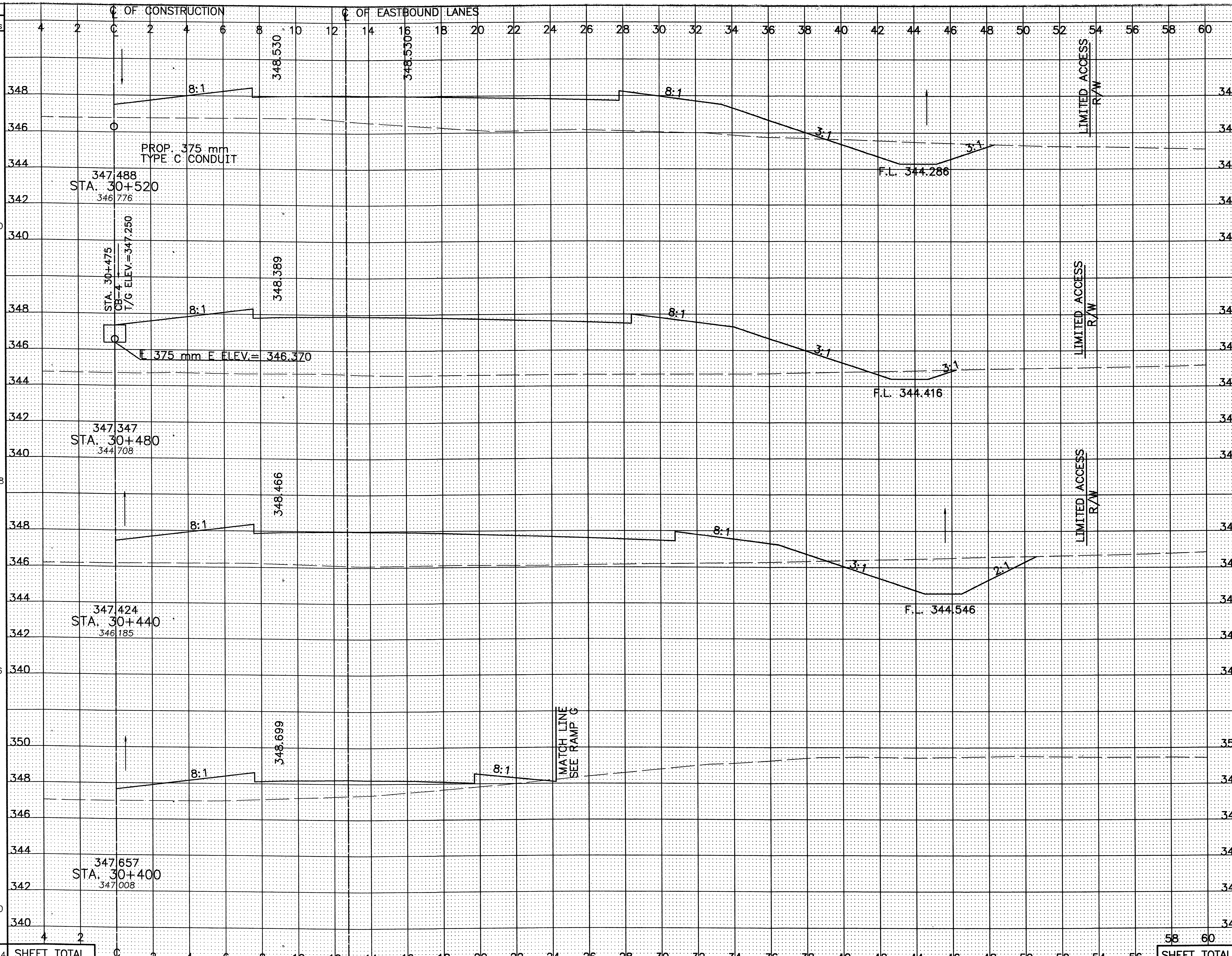
CALCULATED PSB

CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30

STA. 30+400 TO STA. 30+520 LEFT ℄

CRA-30-24.000



Seeding

End Width	Sq. Meters
35.1	1420
35.9	1368
32.5	906
12.8	600
SHEET TOTAL	4294

End Area / Volume

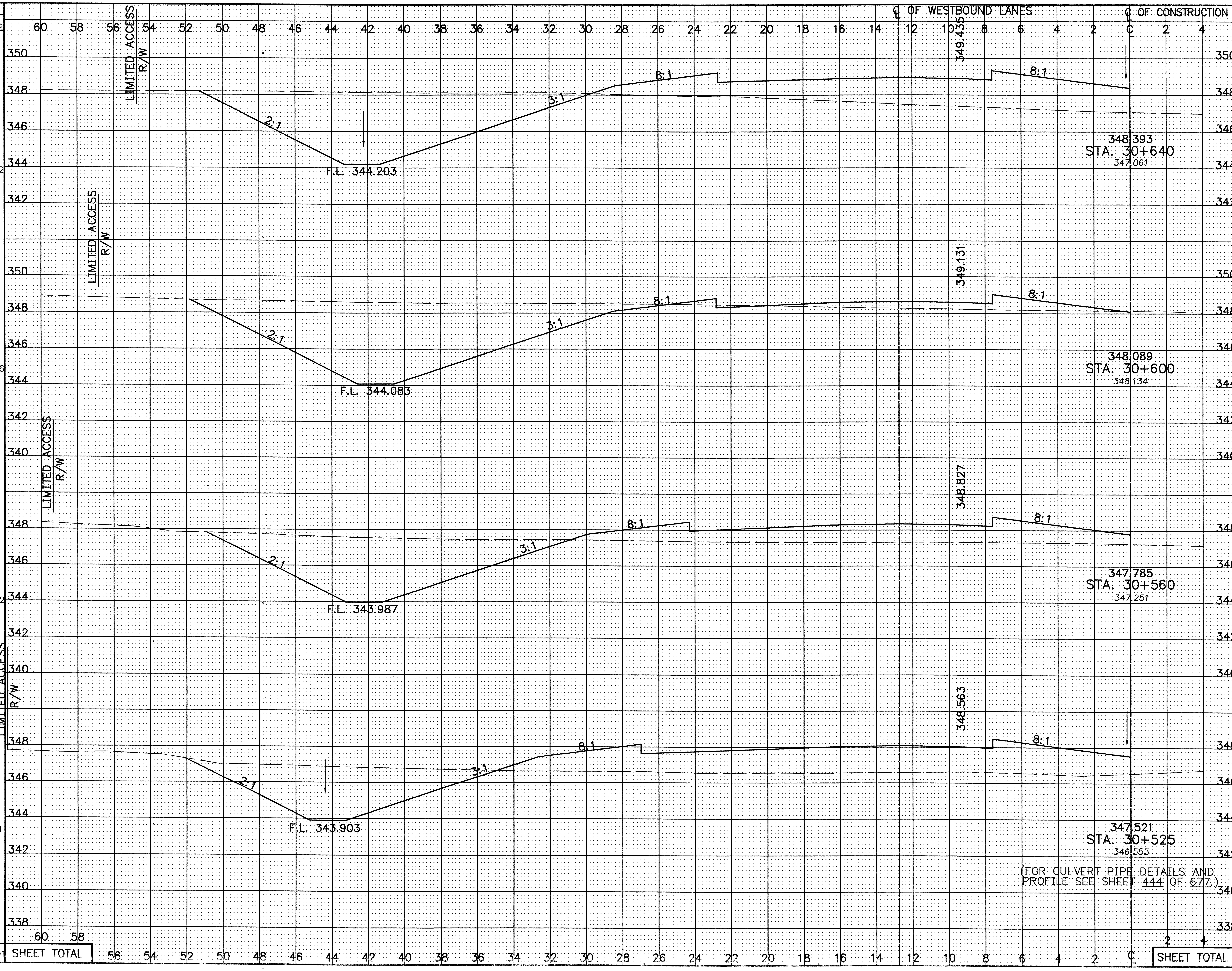
End Area Cut	End Area Fill	Volume Cut	Volume Fill
10.6	55.5		
		279	3408
3.4	114.8		
		379	3506
15.6	60.5		
		314	1592
0.0	19.3		
		104	634
SHEET TOTAL		1076	9140

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+400 TO STA. 30+520 RIGHT ℄

CRA-30-24.000

REVISED 3-27-03



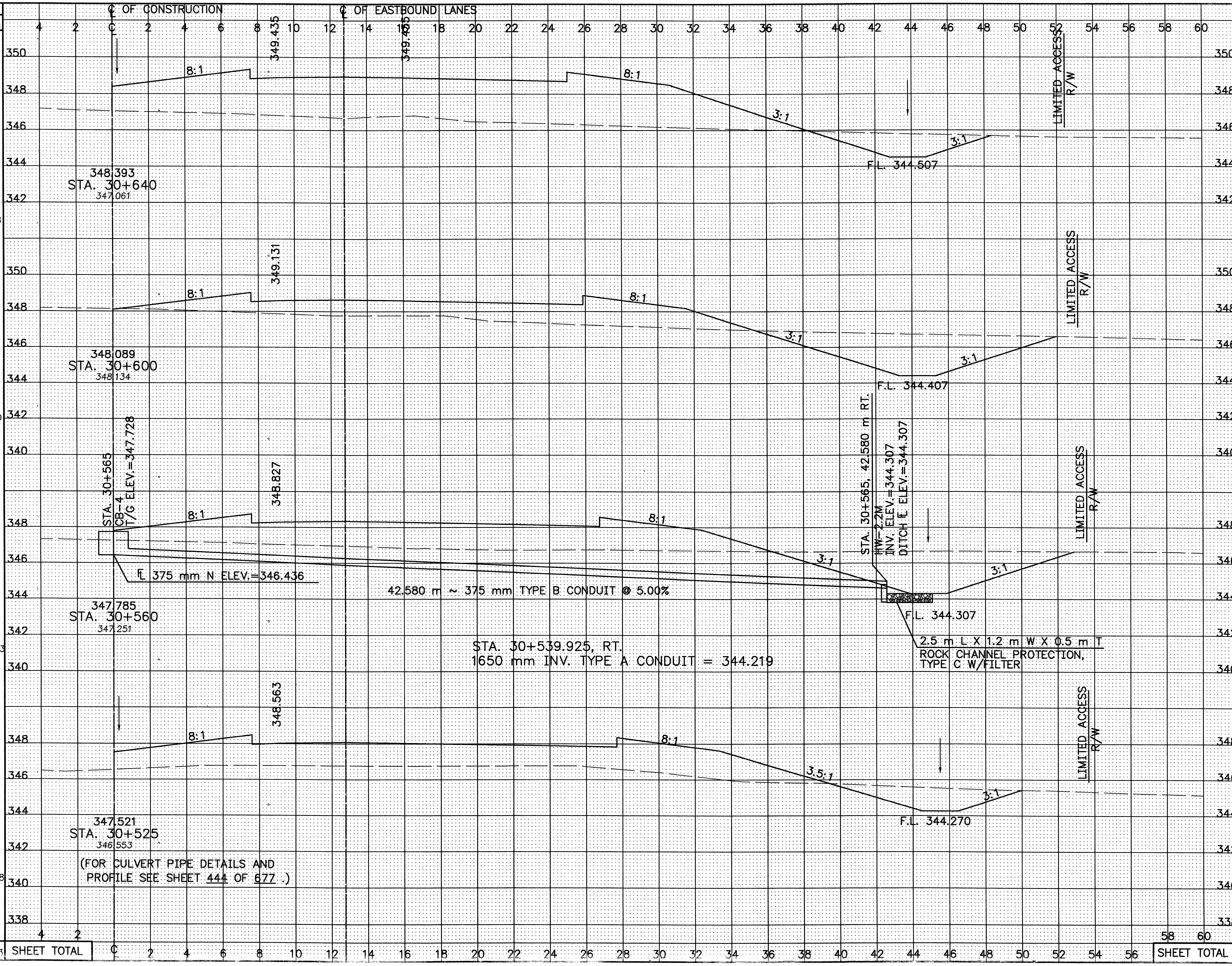
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42.6		46.5	37.3		
	1722			2133	885
43.5		60.1	7.0		
	1766			1995	665
44.8		39.7	26.3		
	1572			1198	1242
45.0		28.8	44.7		
	241			142	213
SHEET TOTAL	5301			5468	3005

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+525 TO STA. 30+640 LEFT ℄

CRA-30-24.000

REVISED 3-27-03



SEEDING END WIDTH	SEEDING SQ. METERS
37.2	
	1468
36.2	
	1450
36.3	
	1258.3
35.6	
	176.8
	4353

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8.1	76.5		
		578	2133
20.8	30.1		
		863	1513
22.3	45.5		
		583	1635
11.0	47.9		
		57	259
		2081	5540

CALCULATED PSB CHECKED LBD

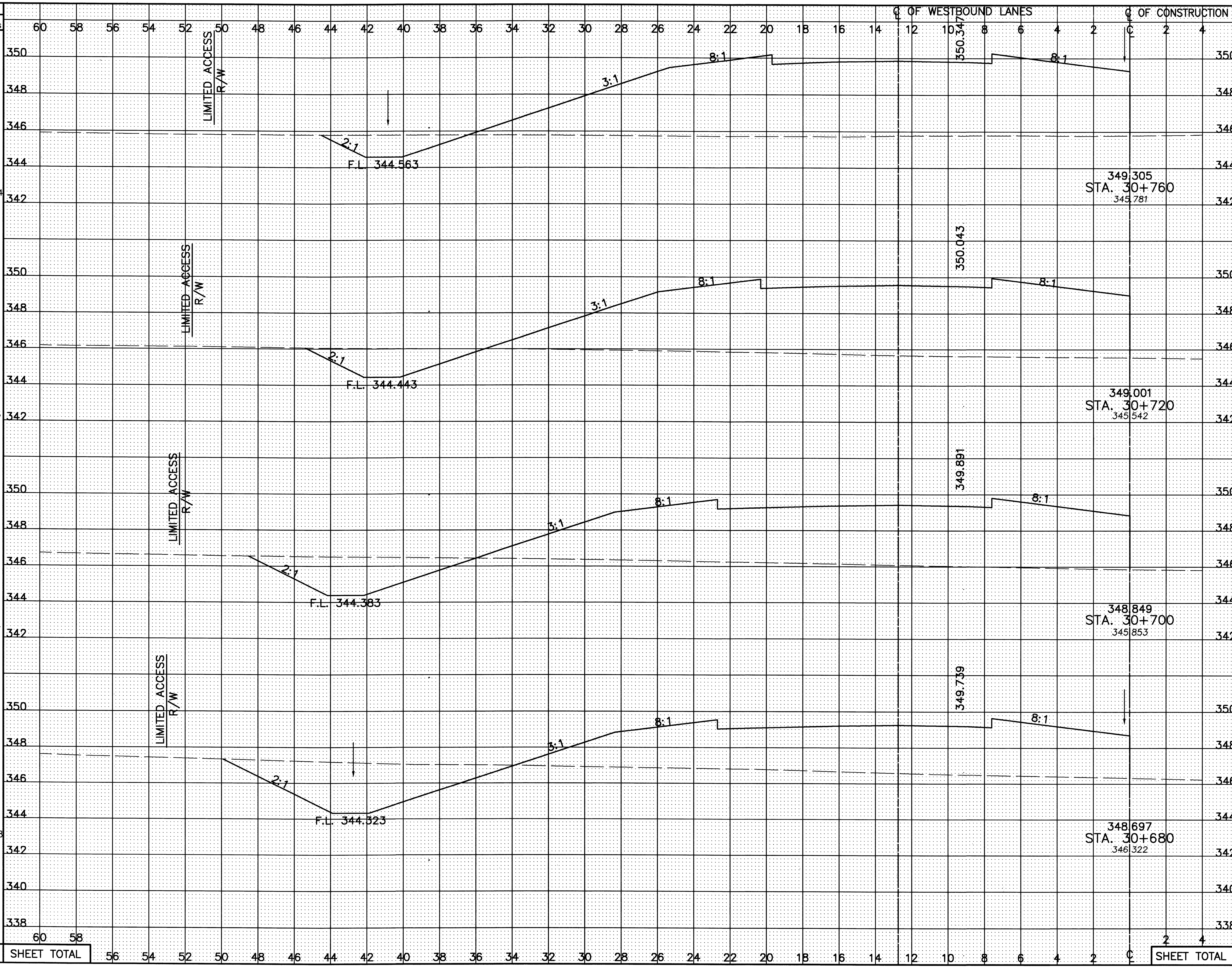
CROSS-SECTIONS – RELOCATED U.S. 30

STA. 30+525 TO STA. 30+640 RIGHT ℄

CRA-30-24.000

228/677

REVISED 5-27-99



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
43.0		6.8	123.6		
	1734			322	4762
43.7		9.3	114.5		
	853			694	3846
41.6		15.5	101.6		
	834			413	1801
41.8		25.4	77.8		
	1688			1438	2301
SHEET TOTAL	5109			2867	12710

CALCULATED PSB
CHECKED LBD

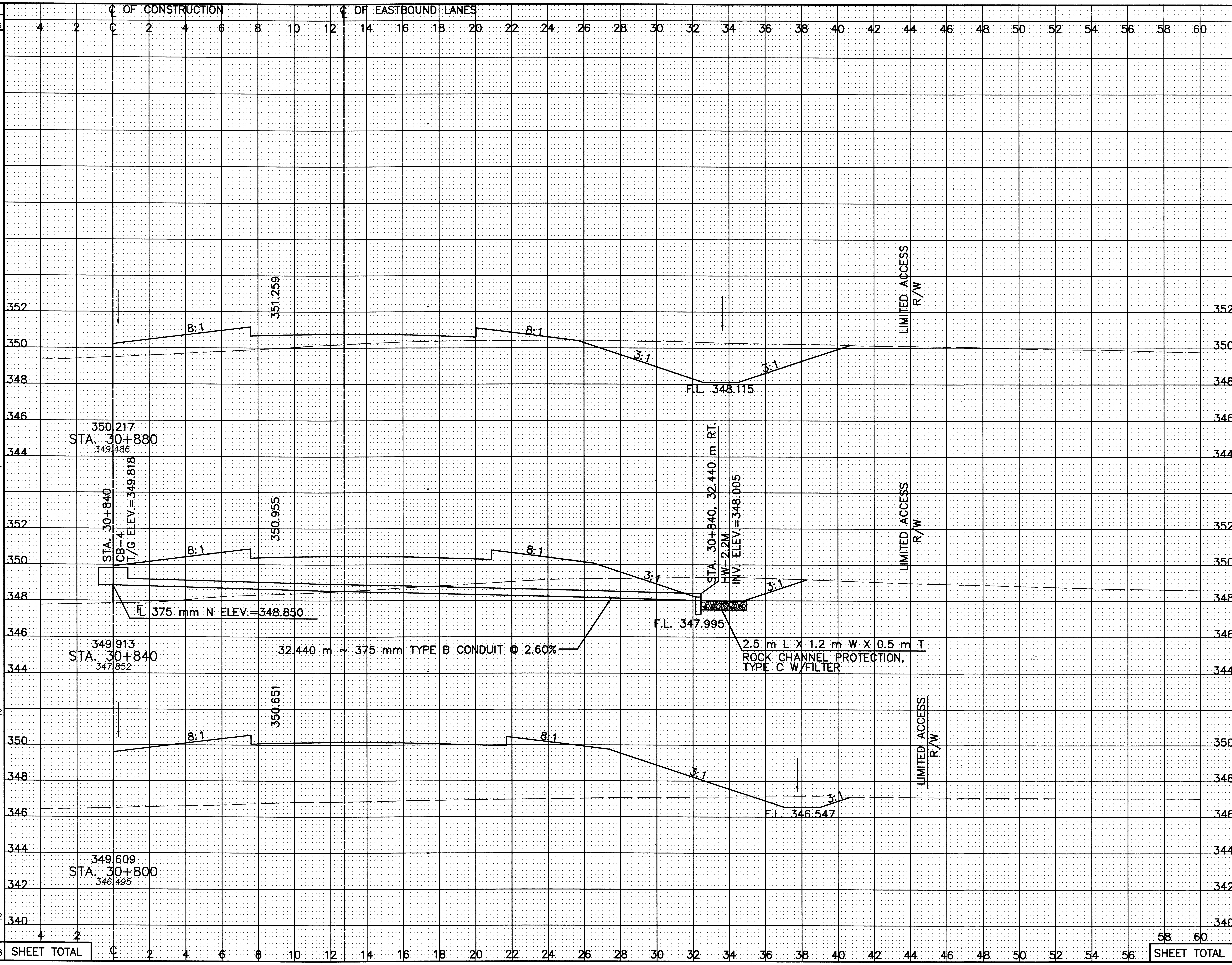
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+680 TO STA. 30+760 LEFT Ⴀ

CRA-30-24.000

L:\DRAWINGS\93125\Vdc\ROADWAY\MAINLINE\XSECT\WB\xs14602.dwg January 31 2001 4:49pm By:smheller

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
350.347
8:1
8:1
3:1
3:1
LIMITED ACCESS R/W
349.305
STA. 30+760
345.781
F.L. 345.099
36.9
4.7
126.4
1502
146
5268
STA. 30+720
CB-4
T/G ELEV.=348.906
350.043
STA. 30+720, 41.000 m RT.
HW-2.2M
INV. ELEV.=344.974
LIMITED ACCESS R/W
℄ 375 mm N ELEV.=347.434
41.000 m ~ 375 mm TYPE B CONDUIT @ 6.00%
F.L. 344.887
349.001
STA. 30+720
345.542
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
38.2
2.6
137.1
762
49
2645
349.891
LIMITED ACCESS R/W
F.L. 344.781
348.849
STA. 30+700
345.853
38.0
2.3
127.4
757
67
2343
349.739
LIMITED ACCESS R/W
F.L. 344.675
348.697
STA. 30+680
346.322
37.7
4.4
106.9
1498
251
3668
SHEET TOTAL
4519
SHEET TOTAL
513
13924
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+680 TO STA. 30+760 RIGHT ℄
CRA-30-24.000
230
677

SEEDING
END WIDTH
SQ. METERS
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
LIMITED ACCESS R/W
351.259
8:1
3:1
F.L. 347.623
350.217
STA. 30+880
349.486
34.8
1448
6.9
44.2
301
2485
350.955
F.L. 346.423
349.913
STA. 30+840
347.852
37.6
1560
8.1
80.1
277
3888
350.651
F.L. 345.223
349.609
STA. 30+800
346.495
40.4
1668
5.7
114.3
250
4758
SHEET TOTAL
4676
828
11131
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+800 TO STA. 30+880 LEFT ℄
CRA-30-24.000
231
677

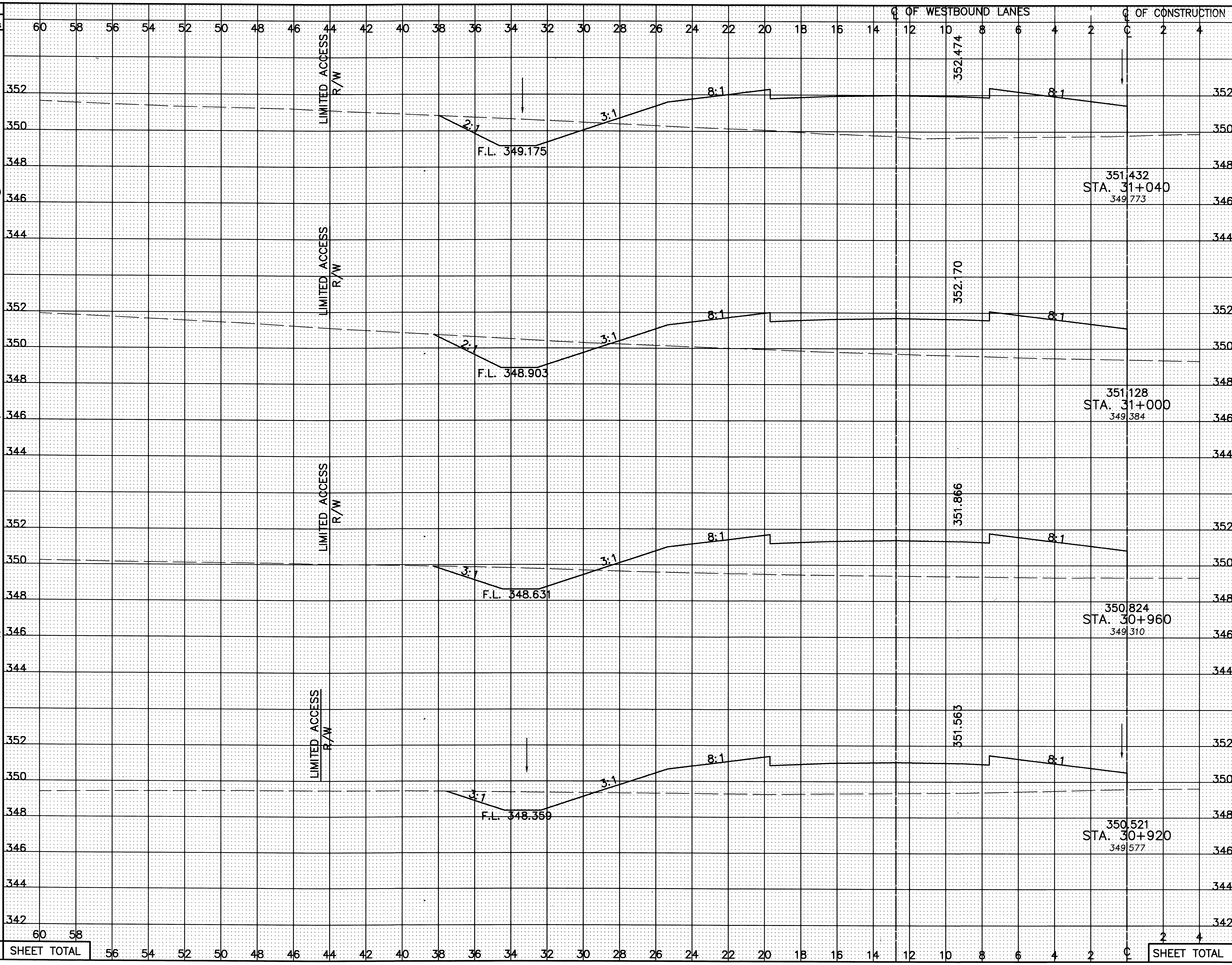


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.3		16.5	15.9		
	1334			475	1324
33.4		7.3	50.3		
	1362			189	3016
34.7		2.2	100.5		
	1432			137	4538
SHEET TOTAL	4128			801	8878

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+800 TO STA. 30+880 RIGHT ℄

CRA-30-24.000

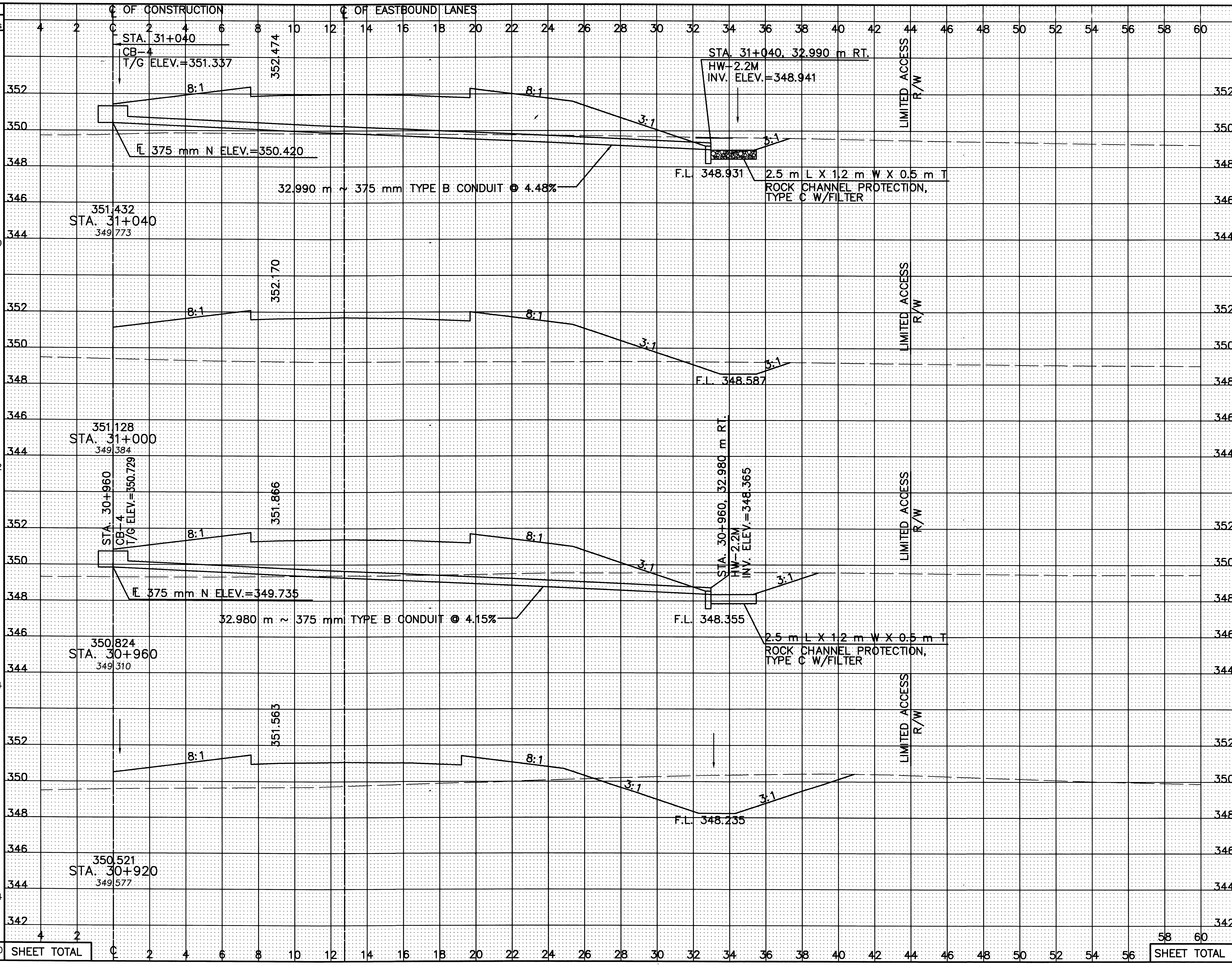


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+040	34.4	1380	8.1	55.3	348	2111
STA. 31+000	34.6	1374	9.3	50.3	315	2033
STA. 30+960	34.1	1362	6.5	51.4	232	1921
STA. 30+920	34.0	1376	5.1	44.7	240	1776
SHEET TOTAL		5492			1135	7841

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+920 TO STA. 31+040 LEFT ℄

CRA-30-24.000

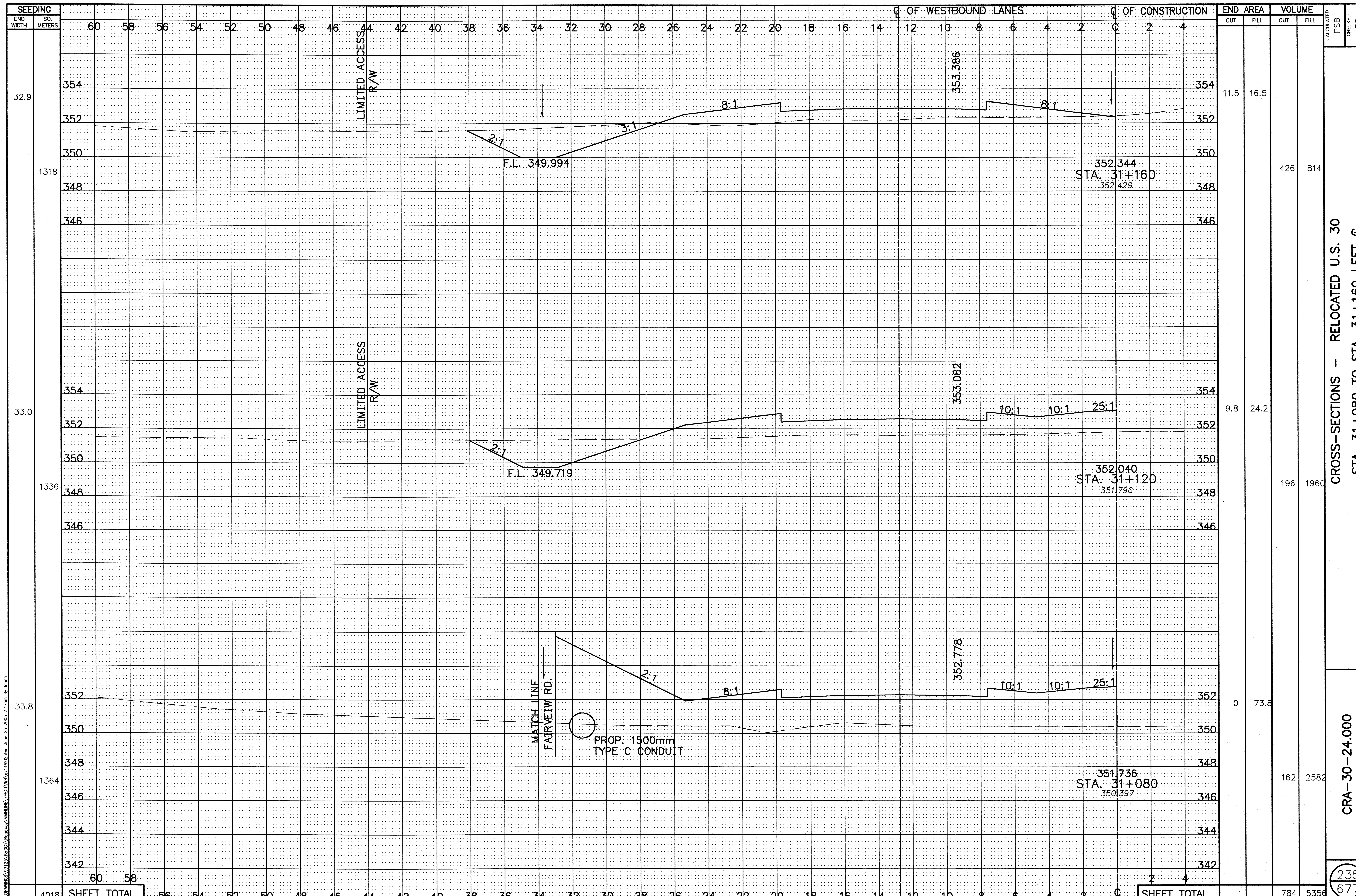


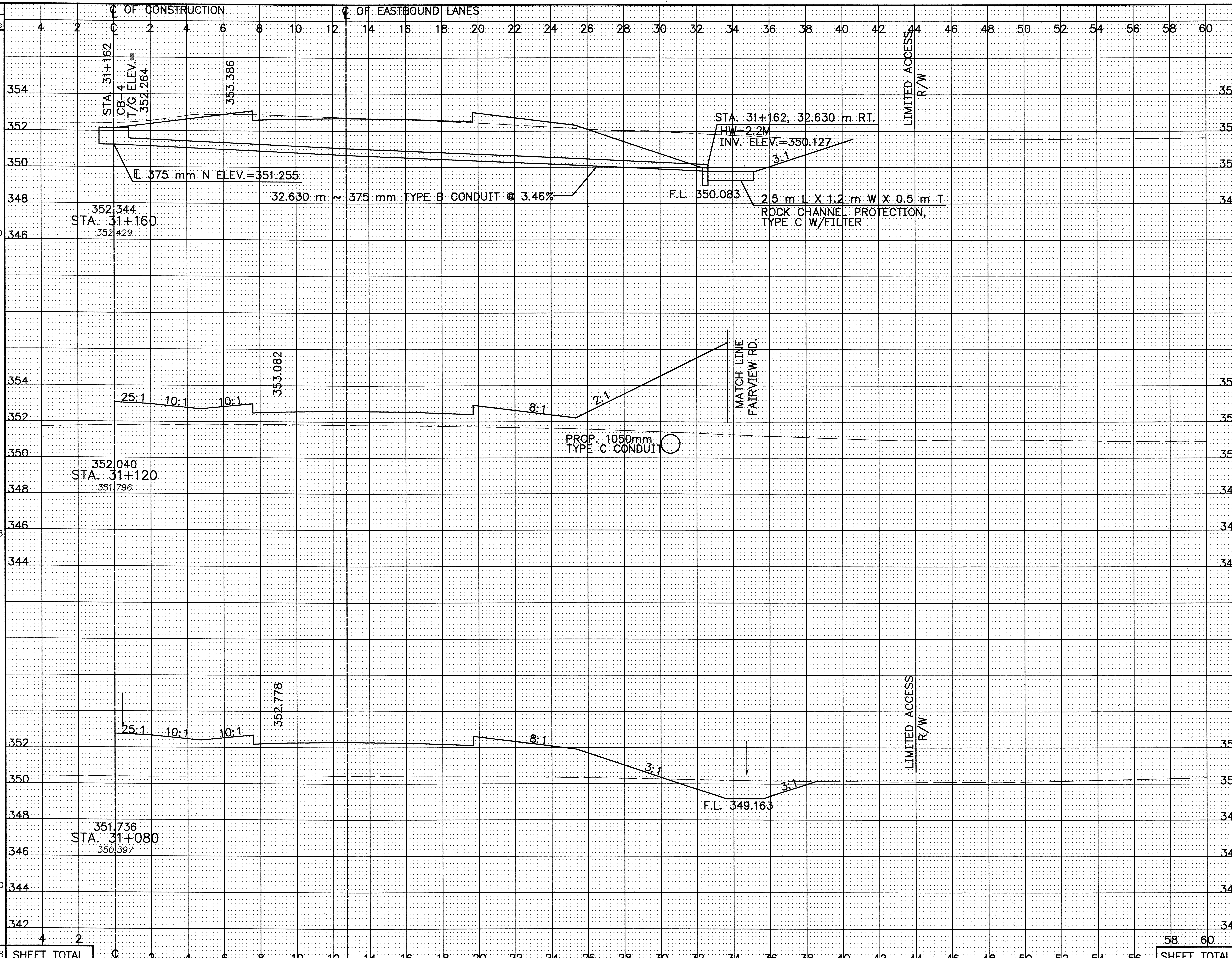
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34.2		2.8	59.2		
	1370			106	2514
34.3		2.5	66.5		
	1372			186	2373
34.3		6.8	52.2		
	1374			436	1675
34.4		15.0	31.6		
	1354			629	950
SHEET TOTAL	5470			1357	7512

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 30+920 TO STA. 31+040 RIGHT ℄

CRA-30-24.000


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
LIMITED ACCESS R/W
353.386
8:1
8:1
3:1
2:1
F.L. 349.994
352.344
STA. 31+160
352.429
32.9
1318
11.5
16.5
426
814
LIMITED ACCESS R/W
353.082
10:1
10:1
25:1
2:1
F.L. 349.719
352.040
STA. 31+120
351.796
33.0
1336
9.8
24.2
196
1960
352.778
MATCH LINE
FAIRVEIW RD.
2:1
8:1
10:1
10:1
25:1
PROP. 1500mm
TYPE C CONDUIT
351.736
STA. 31+080
350.397
33.8
1364
0
73.8
162
2582
4018
SHEET TOTAL
SHEET TOTAL
784
5356
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+080 TO STA. 31+160 LEFT ℄
CRA-30-24.000
235
677

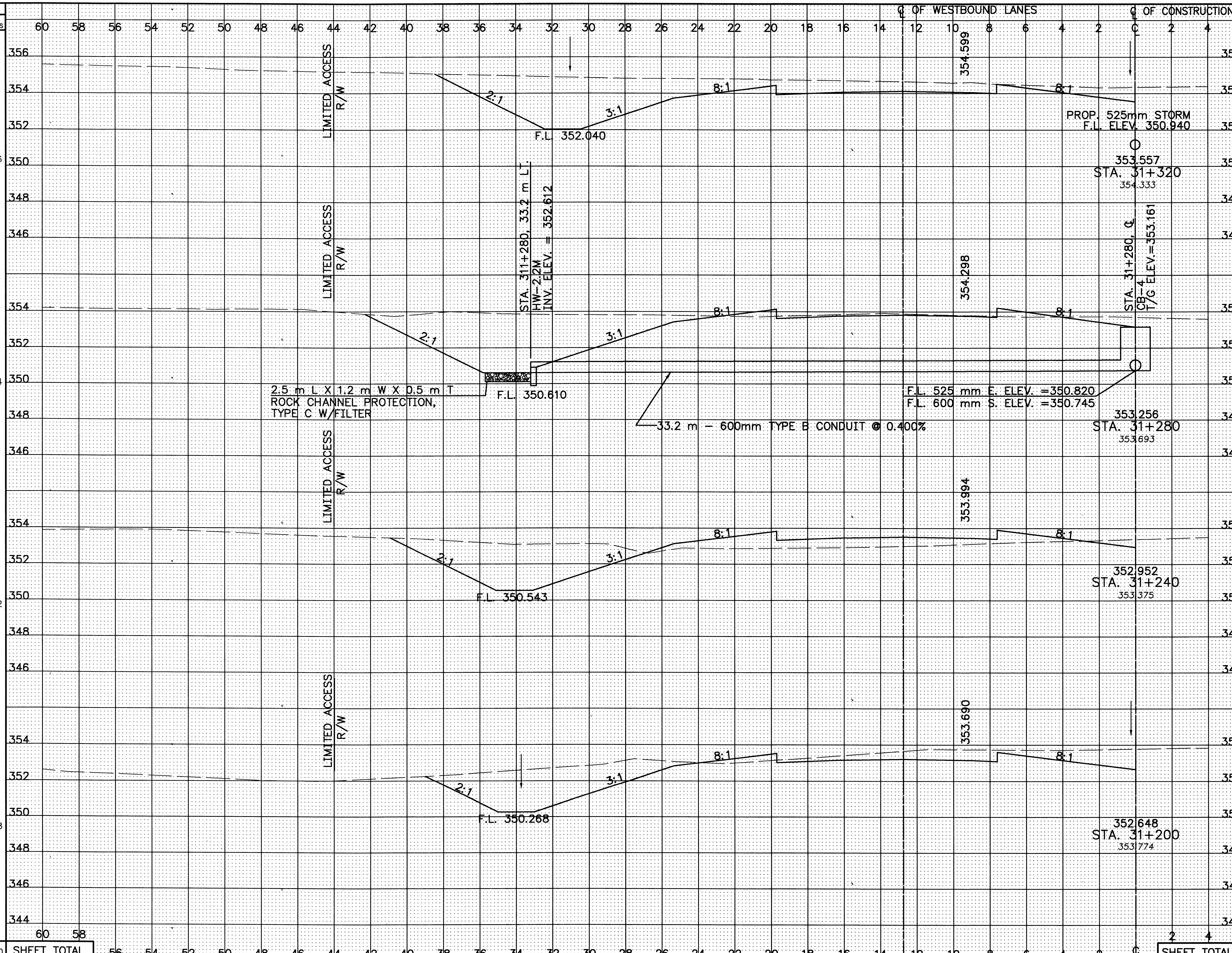


Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
32.9		11.4	6.1		
	1320			228	1048
33.1		0	46.3		
	1338			104	1996
33.8		5.2	53.5		
	1360			161	2254
SHEET TOTAL	4018			493	5298

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 31+080 TO STA. 31+160 RIGHT ℄

CRA-30-24.000

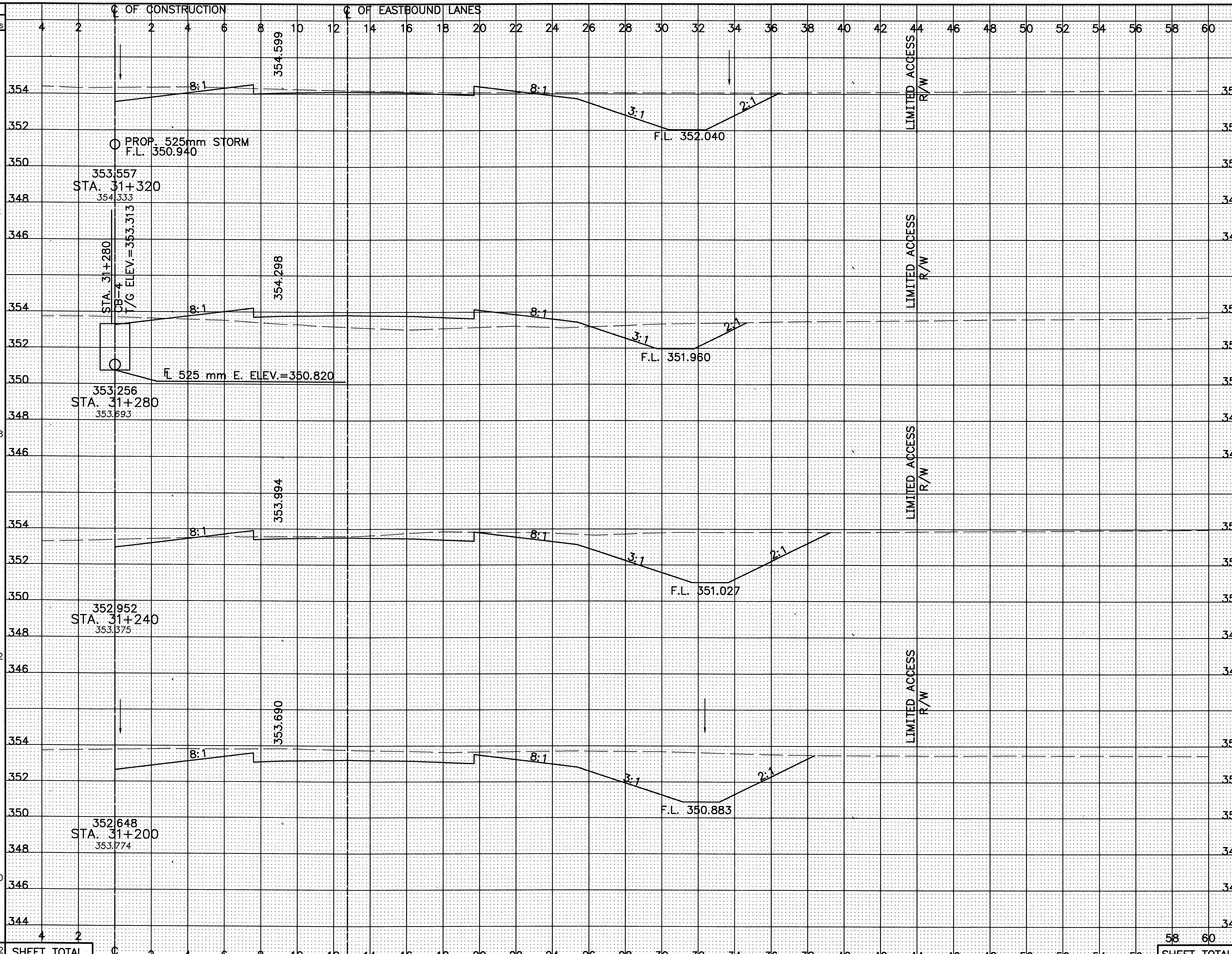


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+320	27.7		37.8	0.0		
		1226			1448	30
STA. 31+280	33.6		34.6	1.5		
		1344			1138	250
STA. 31+240	33.6		22.3	11.0		
		1352			1030	240
STA. 31+200	34.0		29.1	1.0		
		1338			813	351
SHEET TOTAL		5260			4429	871

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 31+200 TO STA. 31+320 LEFT ℄

CRA-30-24.000



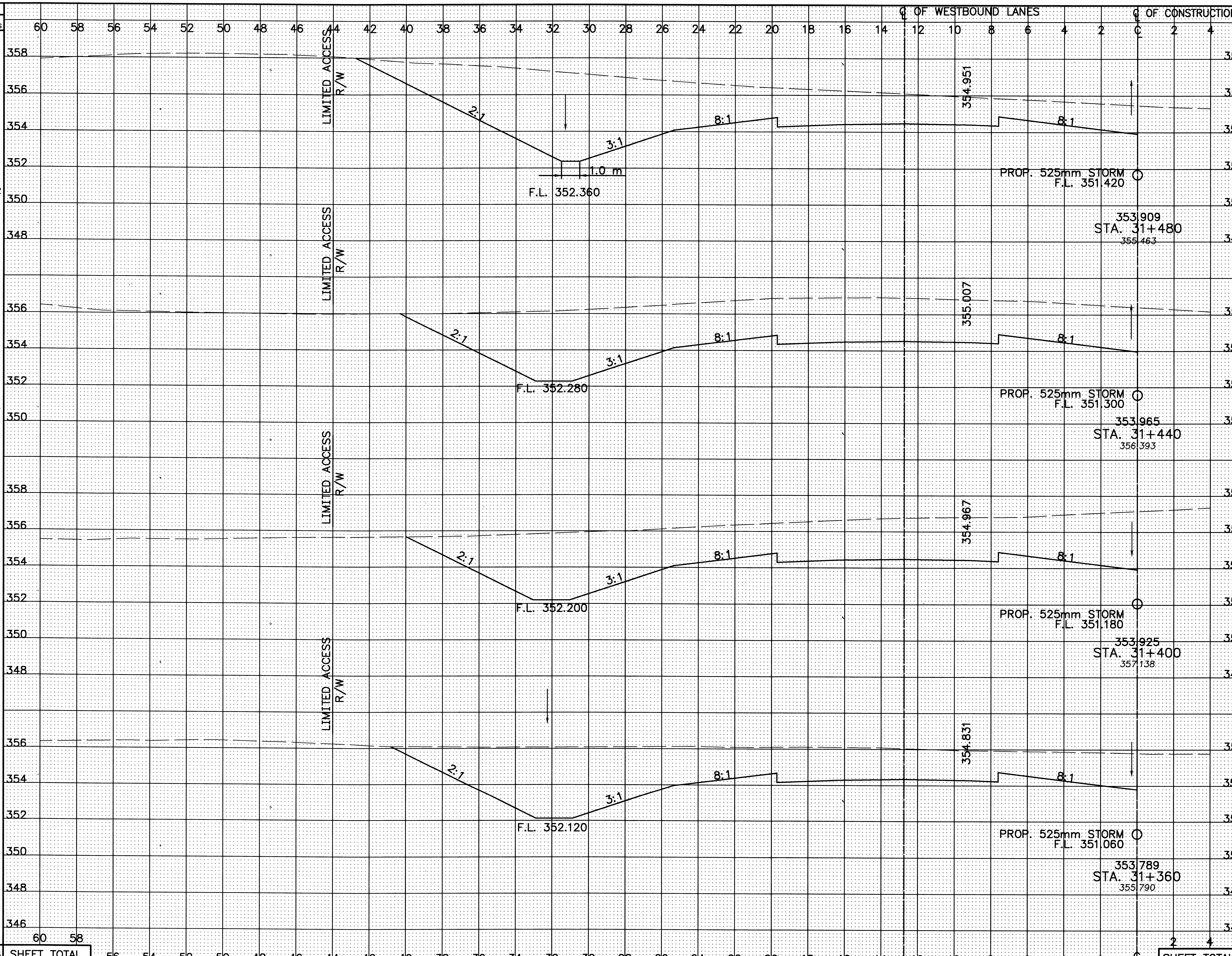
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
31+320	25.8		18.6	0.7		
		992			530	266
31+280	23.8		7.9	12.6		
		1338			920	263
31+240	33.5		29.1	0.5		
		1352			1354	11
31+200	34.1		38.6	0.0		
		1340			1001	121
SHEET TOTAL		5022			3805	661

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+200 TO STA. 31+320 RIGHT ℄

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.5		STA. 31+480	99.6	0.0		
	1262				3938	0
29.6		STA. 31+440	97.3	0.0		
	1174				3814	0
29.1		STA. 31+400	93.4	0.0		
	1184				3548	0
30.1		STA. 31+360	84.0	0.0		
	1156				3496	0
	4776	SHEET TOTAL			13 736	0



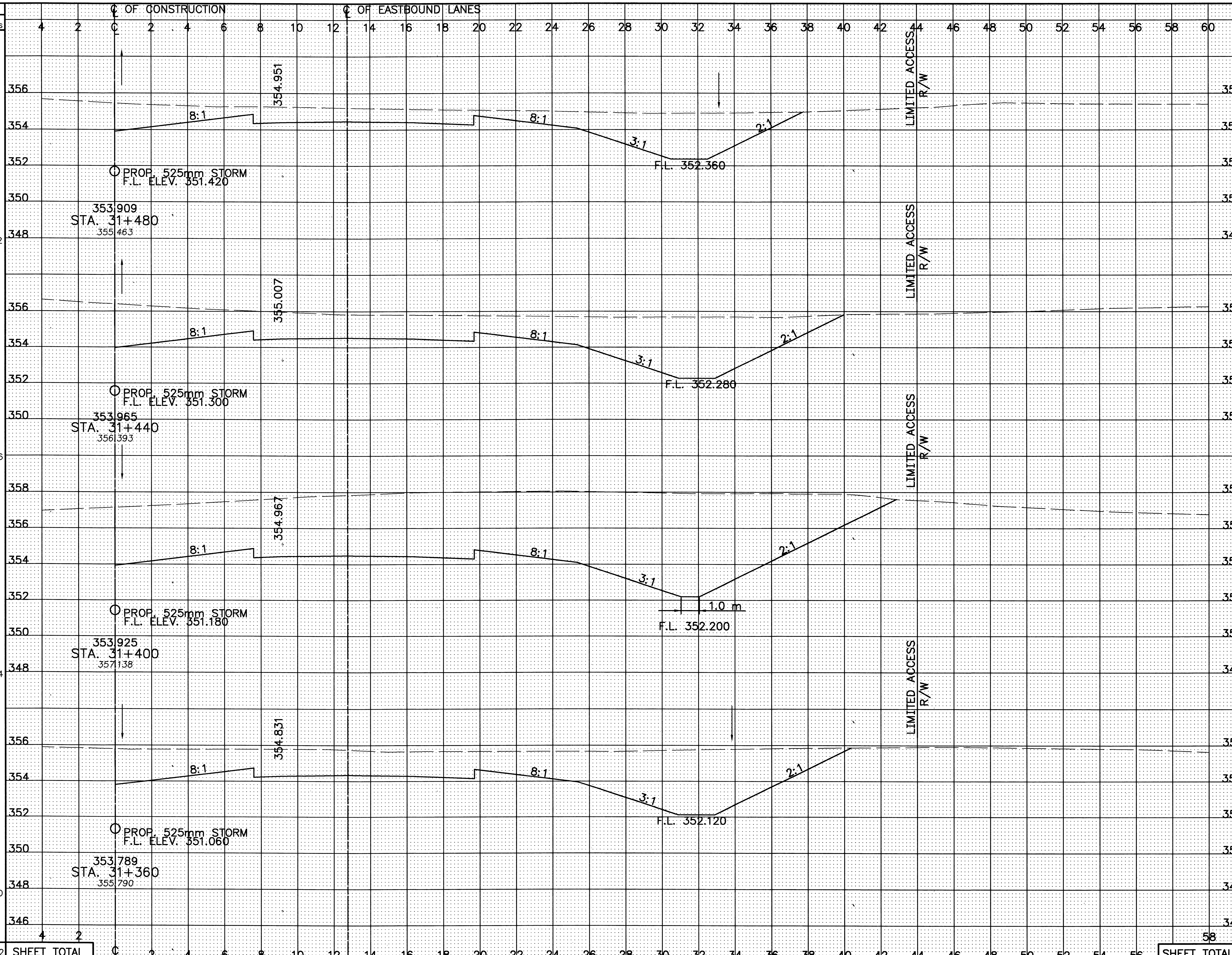
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+360 TO STA. 31+480 LEFT ℄

CRA-30-24.000

239
677

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+360 TO STA. 31+480 RIGHT ℄

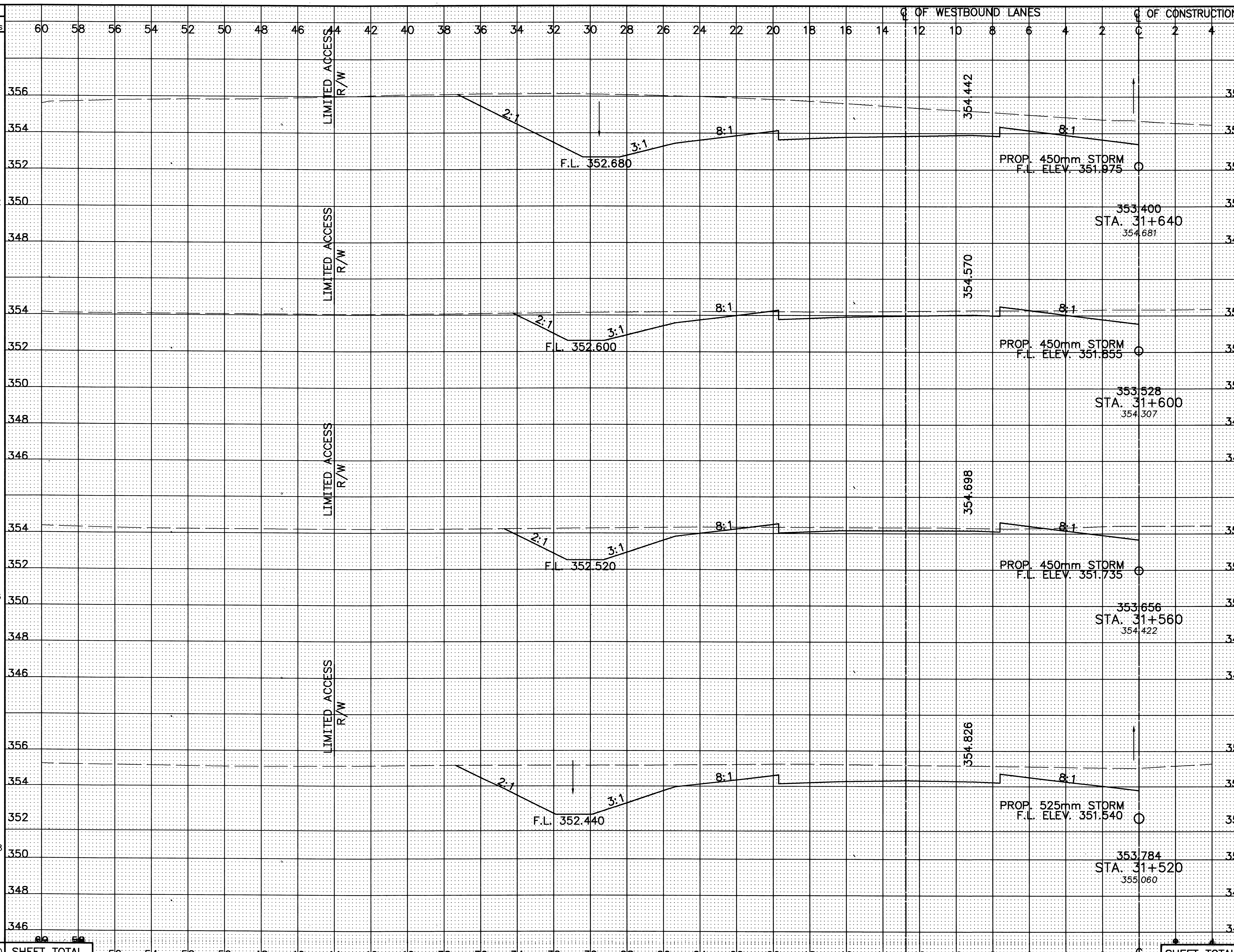


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
31+480	27.8		48.3	0.0		
		1152			2194	0
31+440	29.8		69.1	0.0		
		1276			4334	0
31+400	34.0		147.6	0.0		
		1284			4390	0
31+360	30.2		71.9	0.0		
		1120			1810	14
SHEET TOTAL		4832			12728	14

CALCULATED PSB
CHECKED LBD

CRA-30-24.000

L:\DRAWINGS\93125\TABOC1\Roadway\MAINLINE\XSECT\EB\ps151t02.dwg April 21 2003 11:14am By:hmdeinz



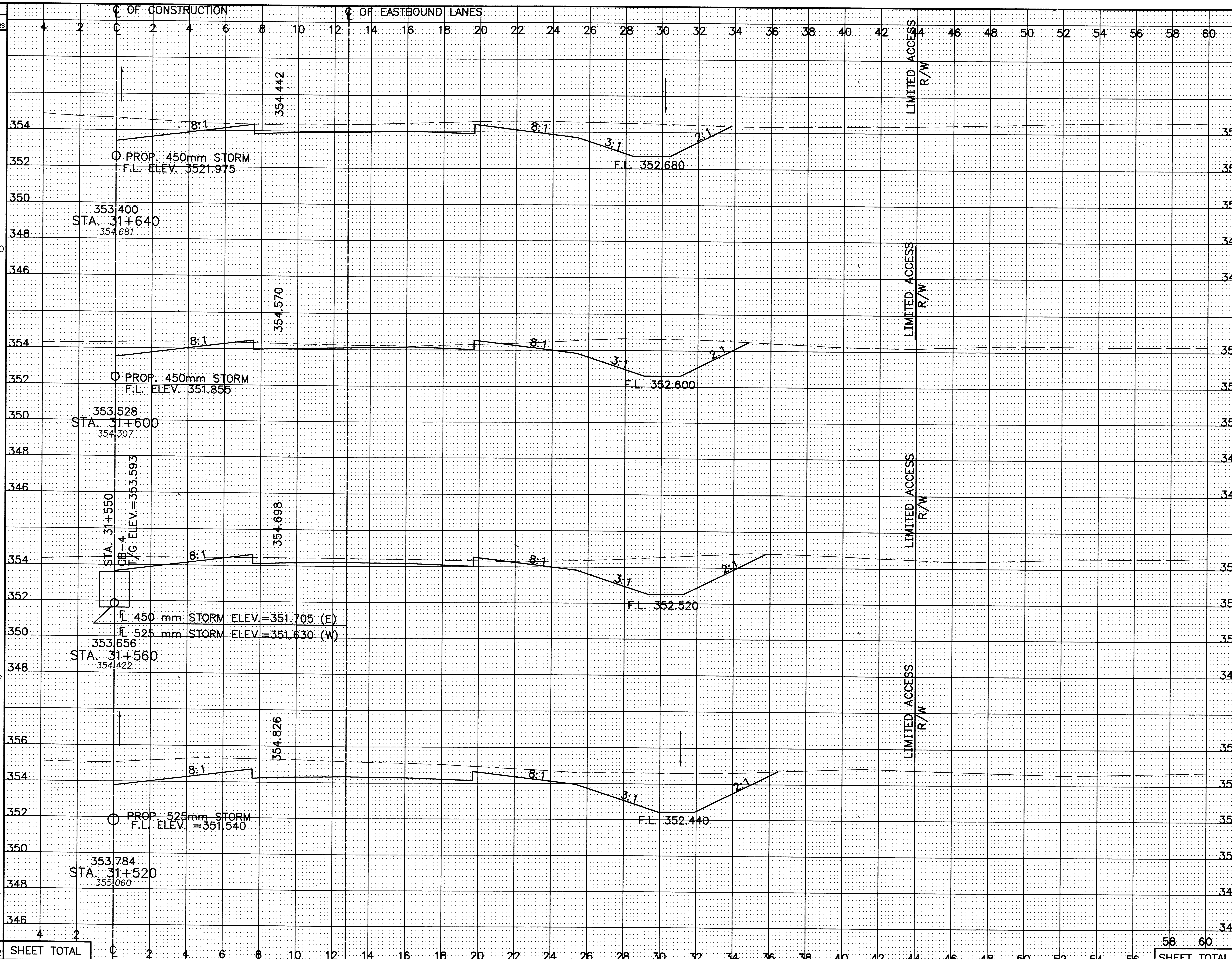
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+640	26.8		67.8	0.0		
		1002			1692	4
STA. 31+600	23.3		16.8	0.2		
		944			658	16
STA. 31+560	23.9		16.1	0.6		
		1016			1216	12
STA. 31+520	26.9		44.7	0.0		
		1208			2886	0
SHEET TOTAL		4170			6452	32

CALCULATED PSB CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+520 TO STA. 31+640 LEFT ℄

CRA-30-24.000

L:\DRAWINGS\93125\F80C1\Roadway\MAINLINE\XSECT\WB\gx152l02.dwg April 21 2003 12:36pm By:hmdeisz

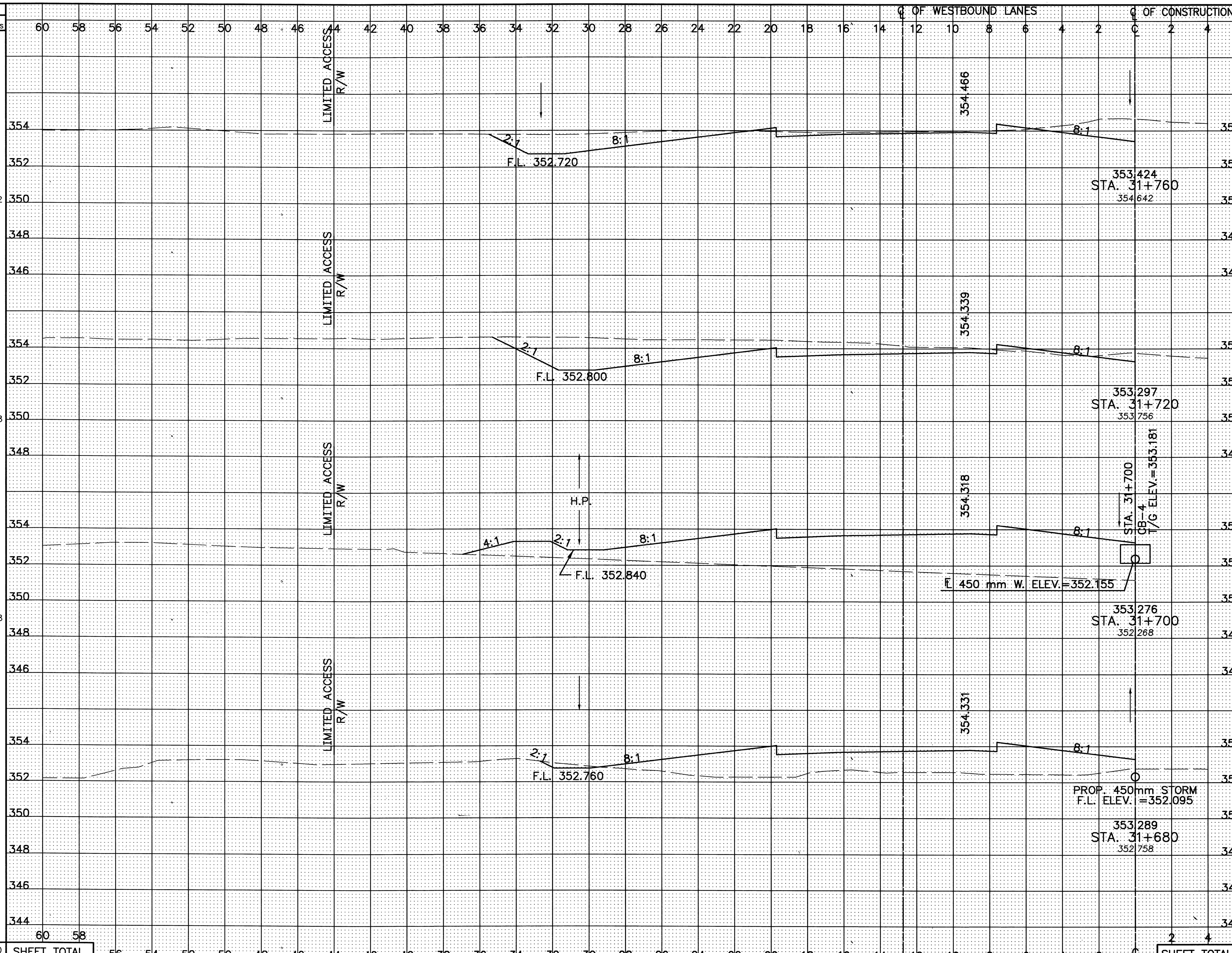


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
25.9		23.7	0		
	1000			856	6
24.1		19.1	0.3		
	986			788	12
25.2		20.3	0.3		
	1022			1132	6
25.9		36.3	0.0		
	1074			1538	0
SHEET TOTAL	4082	SHEET TOTAL		4314	24

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+520 TO STA. 31+640 RIGHT ℄

CRA-30-24.000



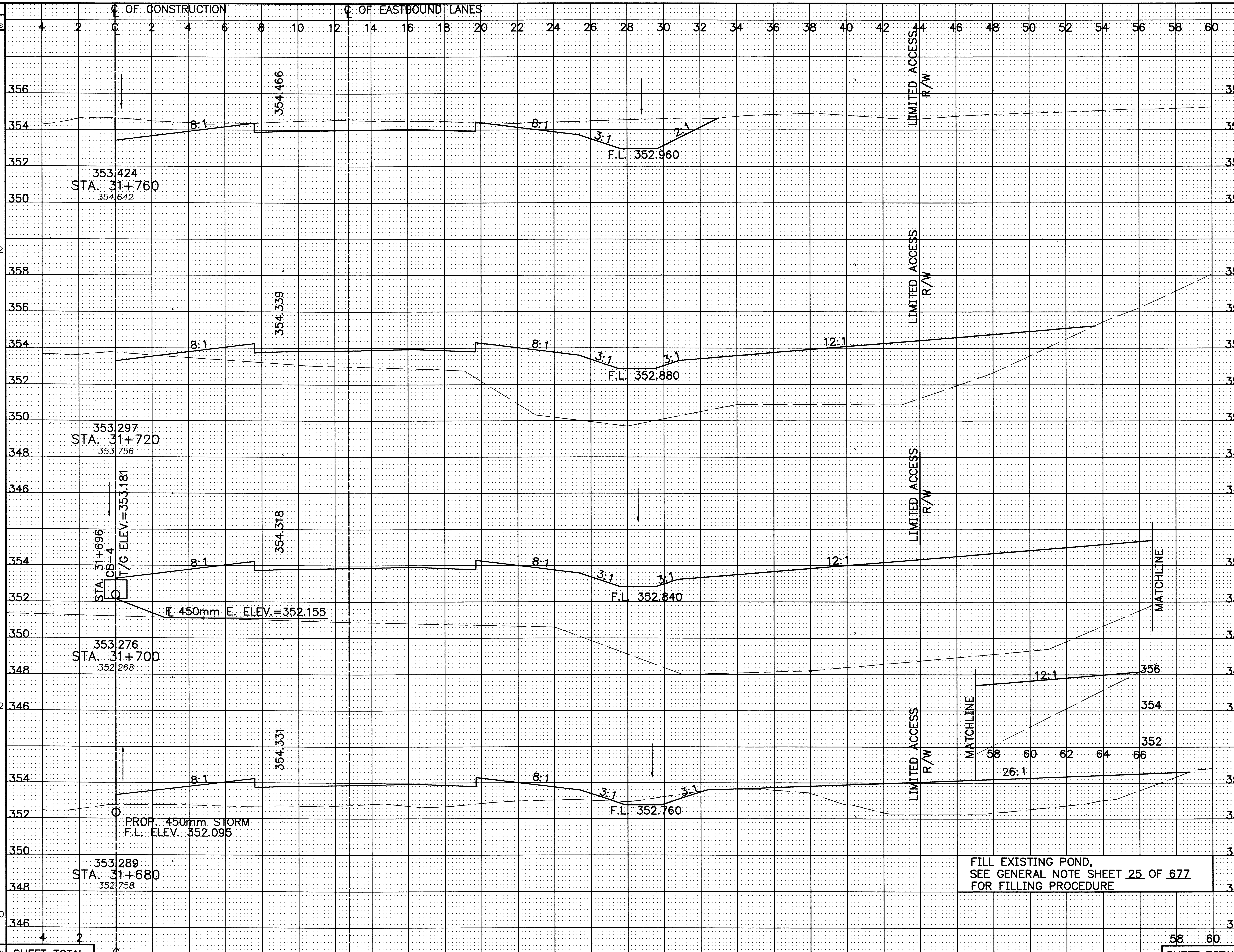
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+760	23.8		14.1	0.6		
		952			768	28
STA. 31+720	23.8		24.3	0.8		
		478			243	583
STA. 31+700	24.0		0	57.5		
		448			10	906
STA. 31+680	20.8		0.5	33.1		
		952			1366	662
SHEET TOTAL		2830			2387	2179

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+680 TO STA. 31+760 LEFT ℄

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\MAINLINE\XSECT\WB\gx153102.dwg April 21 2003 1:35pm By:hmdeisz



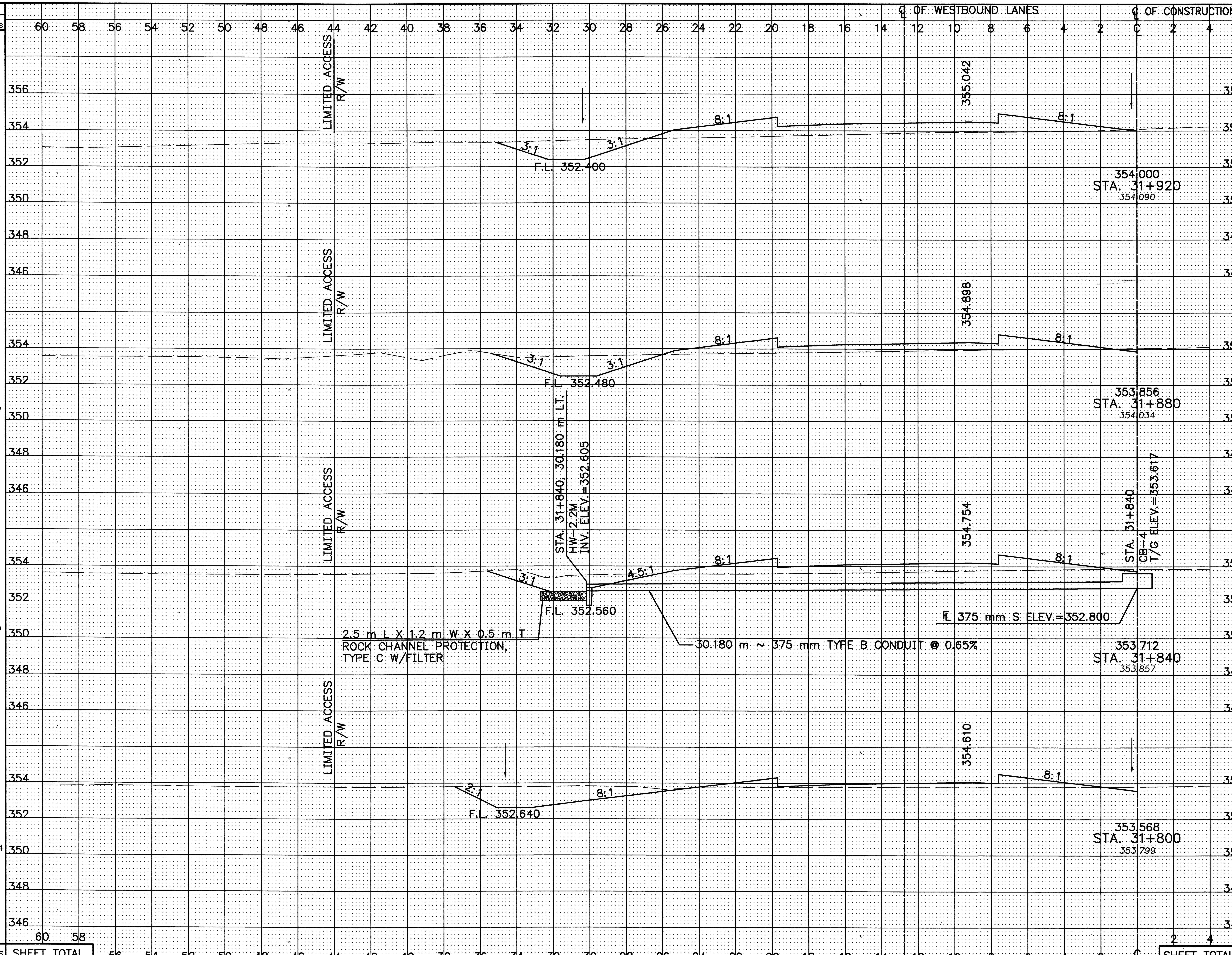
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+760	22.1		20.4	0		
		1292			418	2098
STA. 31+720	42.5		0.5	104.9		
		971			5	3559
STA. 31+700	54.6		0	251.0		
		1022			11	3085
STA. 31+680	47.6		1.1	57.5		
		1470			496	1150
SHEET TOTAL		4755			930	9892

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+680 TO STA. 31+760 RIGHT ℄

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\MAINLINE\XSECT\EB\gx153r02.dwg April 21 2003 1:54pm By:hmdeisz

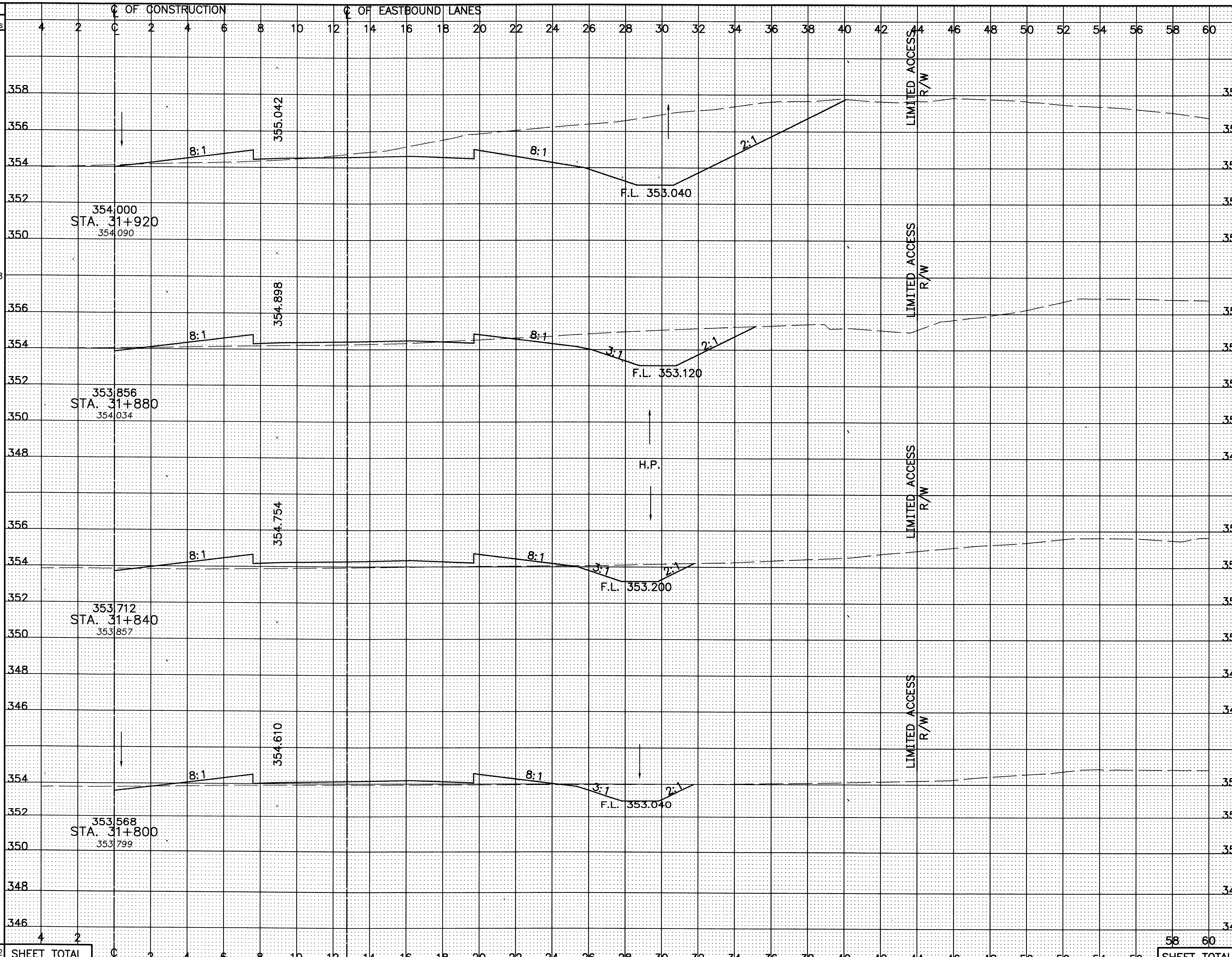


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+920	24.2	972	5.4	15.2	228	512
STA. 31+880	24.4	940	6.0	10.4	218	434
STA. 31+840	22.6	980	4.9	11.3	276	344
STA. 31+800	26.4	1004	8.9	5.9	460	130
SHEET TOTAL		3896			1182	1420

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+800 TO STA. 31+920 LEFT ℄

CRA-30-24.000

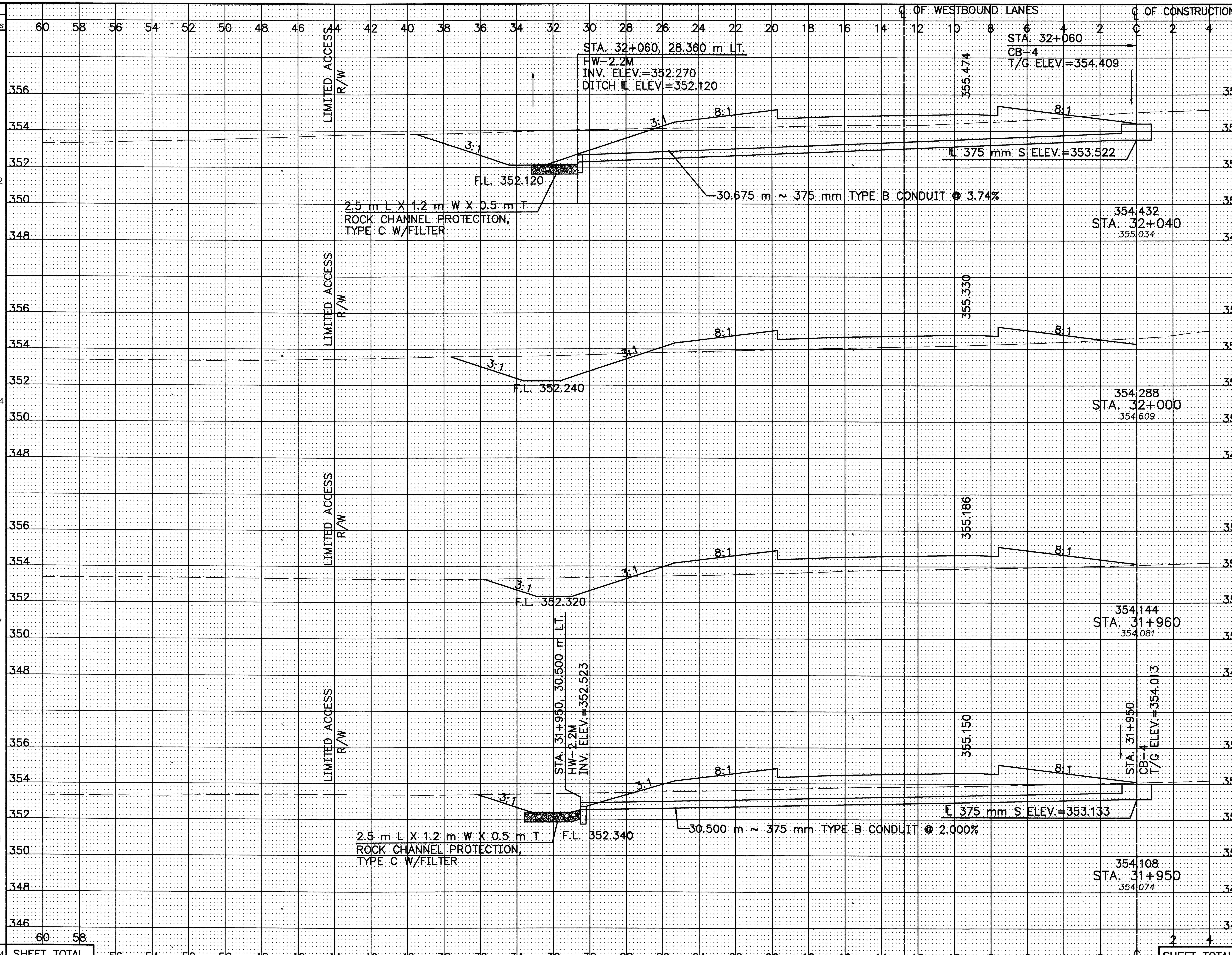


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 31+920	30.0		50.1	2.3		
		1088			1282	122
STA. 31+880	24.4		14.0	3.8		
		904			360	244
STA. 31+840	20.8		4.0	8.4		
		832			168	240
STA. 31+800	20.8		4.4	5.6		
		858			498	112
SHEET TOTAL		3682			2308	718

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+800 TO STA. 31+920 RIGHT ℄

CRA-30-24.000



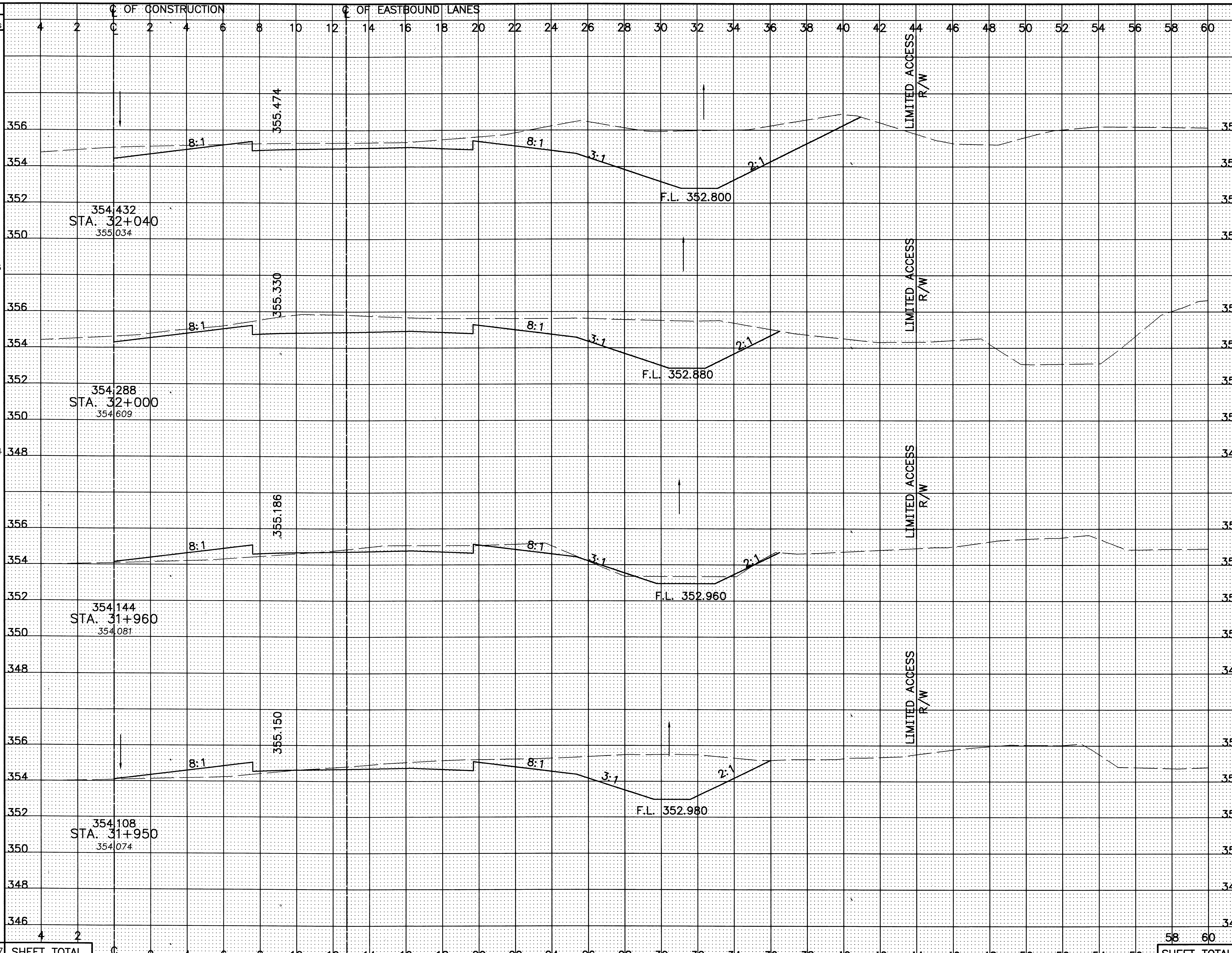
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
32+040	28.8		14.8	11.8		
		1112			474	534
32+000	26.8		8.9	14.9		
		1034			282	710
31+960	24.9		5.2	20.6		
		237			53	198
31+950	22.5		5.4	19.0		
		701			162	513
SHEET TOTAL		3084			971	1955

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+950 TO STA. 32+040 LEFT ℄

CRA-30-24.000

L:\DRAWINGS\93125\CRA0C1\Roadway\MAINLINE\XSECT\WB\gx155602.dwg April 21 2003 2:52pm By:hmdeiez

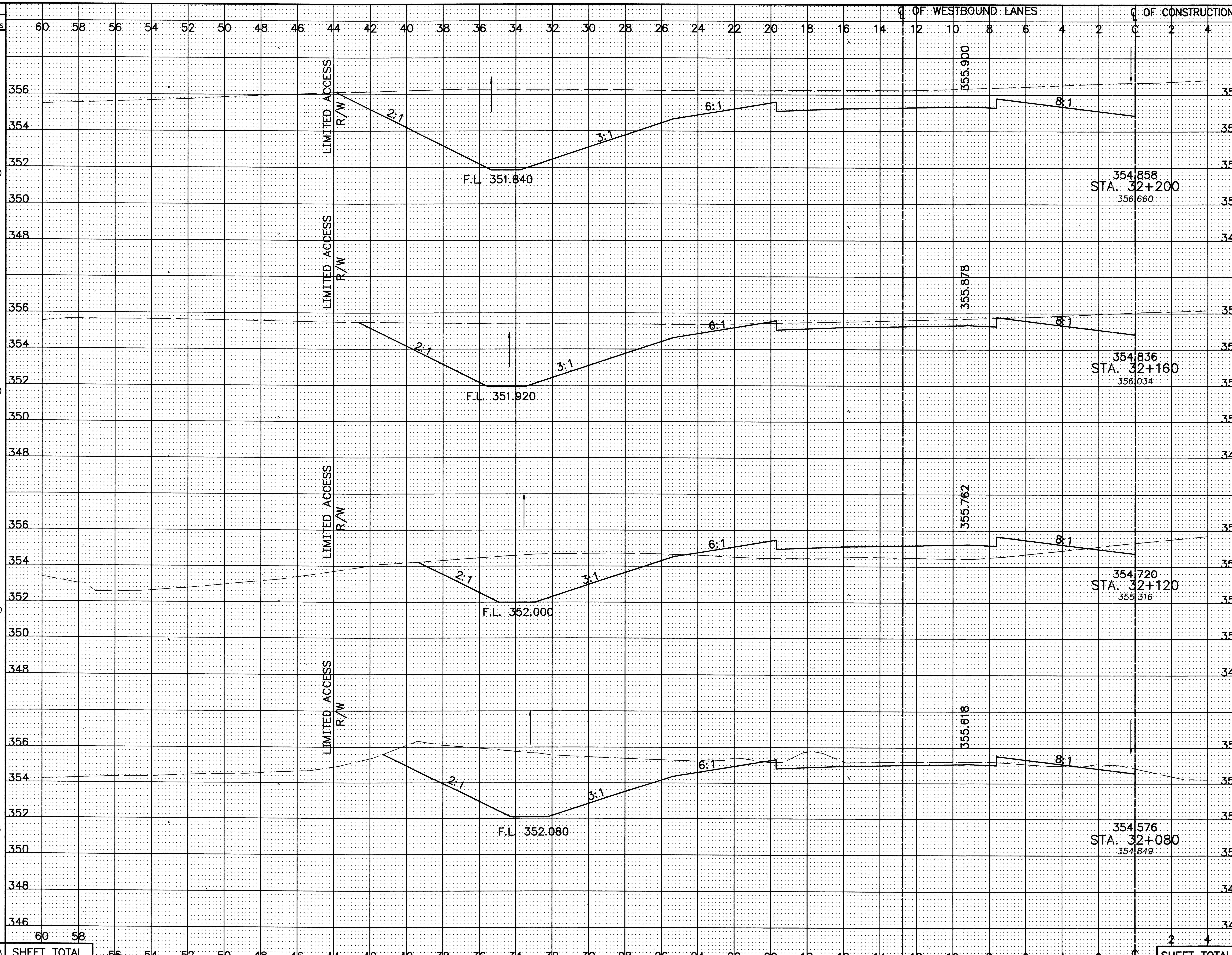


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30.9		44.4	0.1		
	1136			1608	2
25.9		36.0	0		
	1034			824	74
25.8		5.2	3.7		
	256			42	136
25.4		3.2	23.5		
	831			800	387
SHEET TOTAL	3257			3274	599

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+950 TO STA. 32+040 RIGHT ℄

CRA-30-24.000

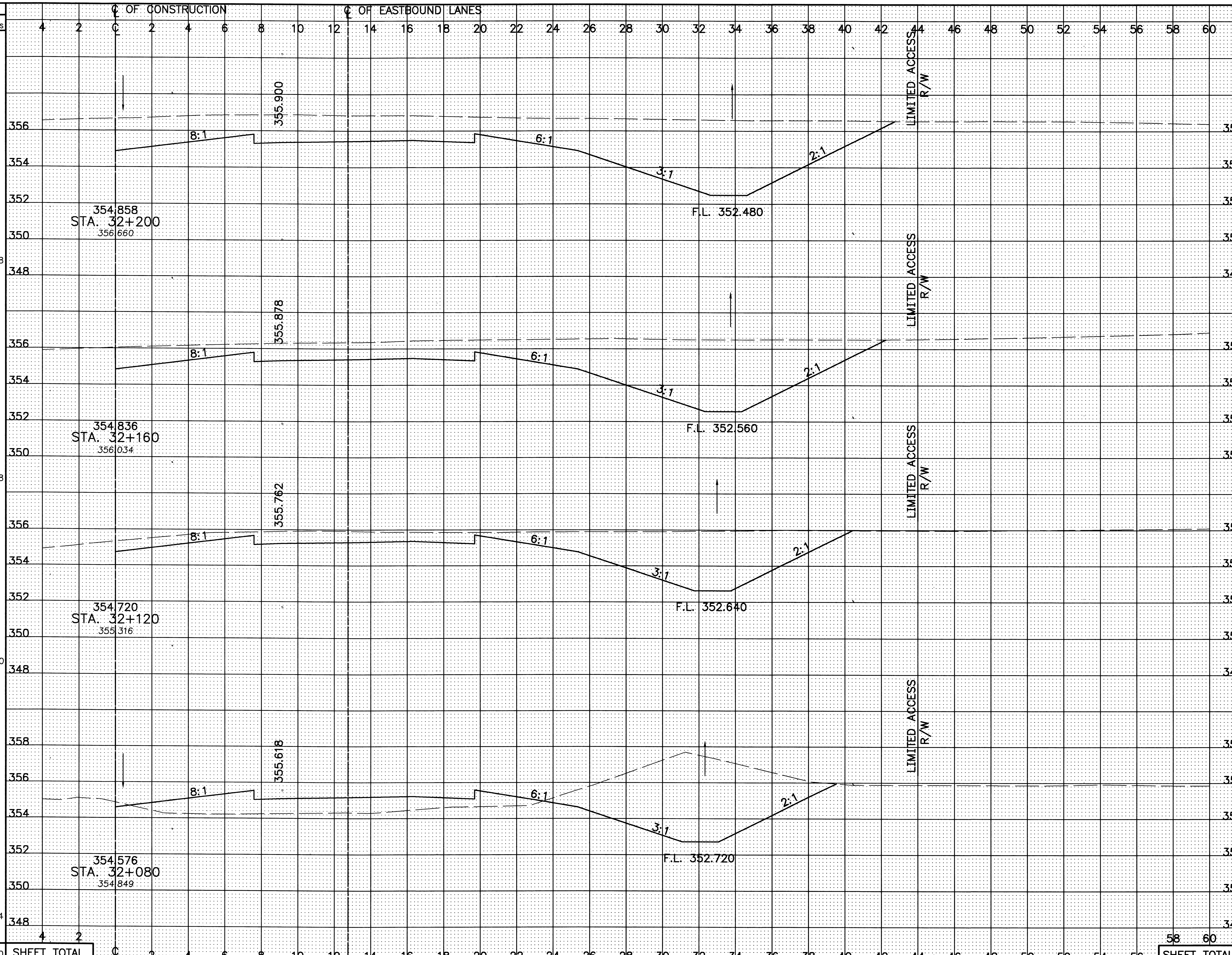


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 32+200	33.9		78.6	0.0		
		1330			2504	2
STA. 32+160	32.6		46.6	0.1		
		1230			1380	274
STA. 32+120	28.9		22.4	13.6		
		2000			1338	290
STA. 32+080	31.1		44.5	0.9		
		1198			1186	254
SHEET TOTAL		5758			6408	820

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+080 TO STA. 32+200 LEFT ℄

CRA-30-24.000



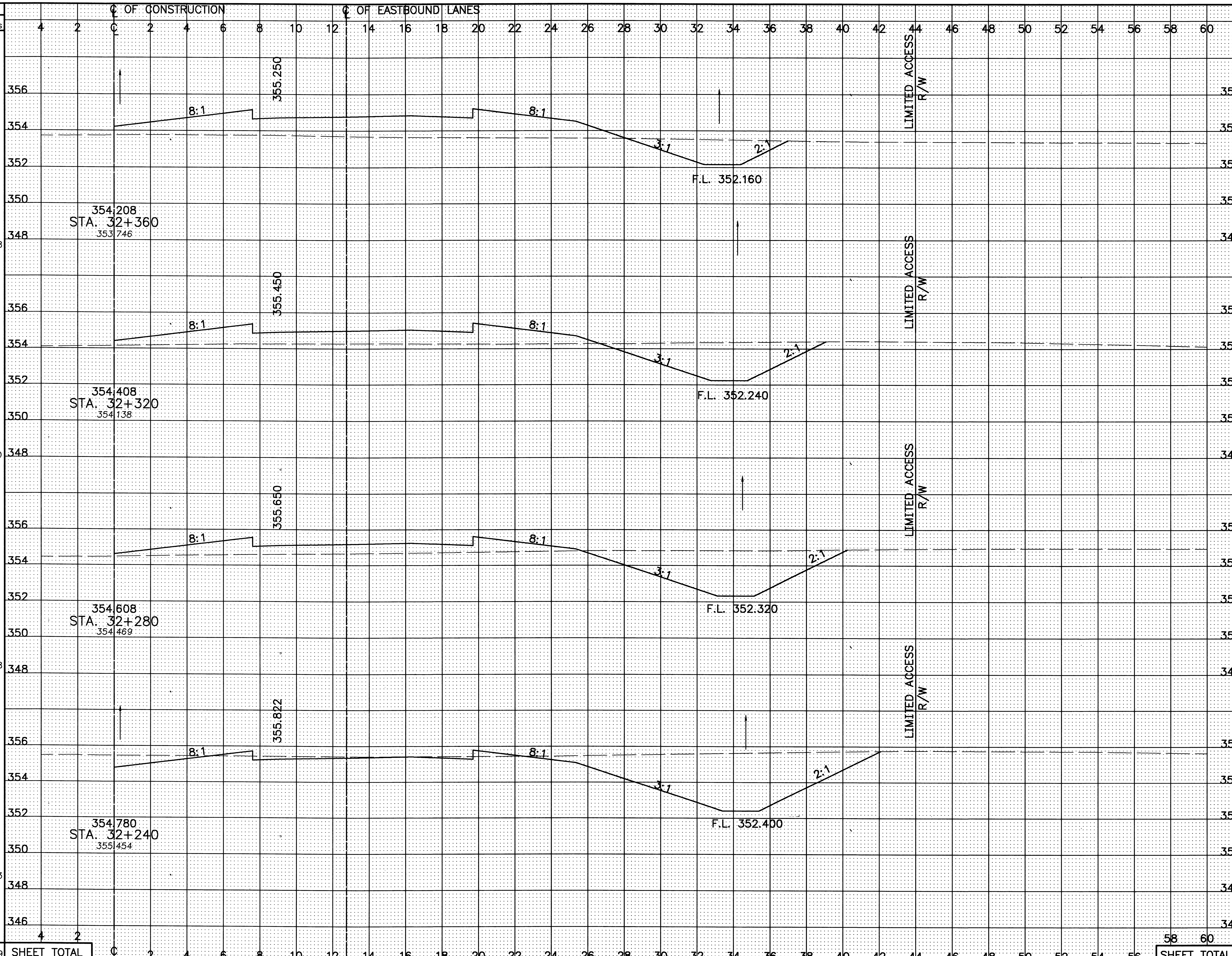
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.7		82.2	0		
	1298			2996	0
32.2		67.6	0		
	1248			2272	0
30.2		46.0	0		
	2380			1748	333
29.3		41.4	16.6		
	1204			1716	335
SHEET TOTAL	6130			8732	668

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+080 TO STA. 32+200 RIGHT ℄

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
LIMITED ACCESS R/W
355.250
8:1
3:1
3:1
F.L. 351.520
354.208
STA. 32+360
353.746
30.8
1164
15.8
25.1
684
918
STA. 32+320, 33.000 m LT.
HW-2.2M
INV. ELEV.=351.785
355.450
STA. 32+320
CB-4
T/G ELEV.=354.313
2:1
F.L. 351.600
E 375 mm S. ELEV.=352.775
33.000 m ~ 375 mm TYPE B CONDUIT @ 3.00%
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION,
TYPE C W/FILTER
354.408
STA. 32+320
354.138
27.4
1330
18.4
20.8
834
722
355.650
6:1
F.L. 351.680
354.608
STA. 32+280
354.469
39.1
1462
23.3
15.3
1382
320
355.822
F.L. 351.760
354.780
STA. 32+240
355.454
34.0
1358
45.8
0.7
2488
14
5314
SHEET TOTAL
5388
1974
CALCULATED PSB
CHECKED LBD
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 32+240 TO STA. 32+360 LEFT ℄
CRA-30-24.000
251
677



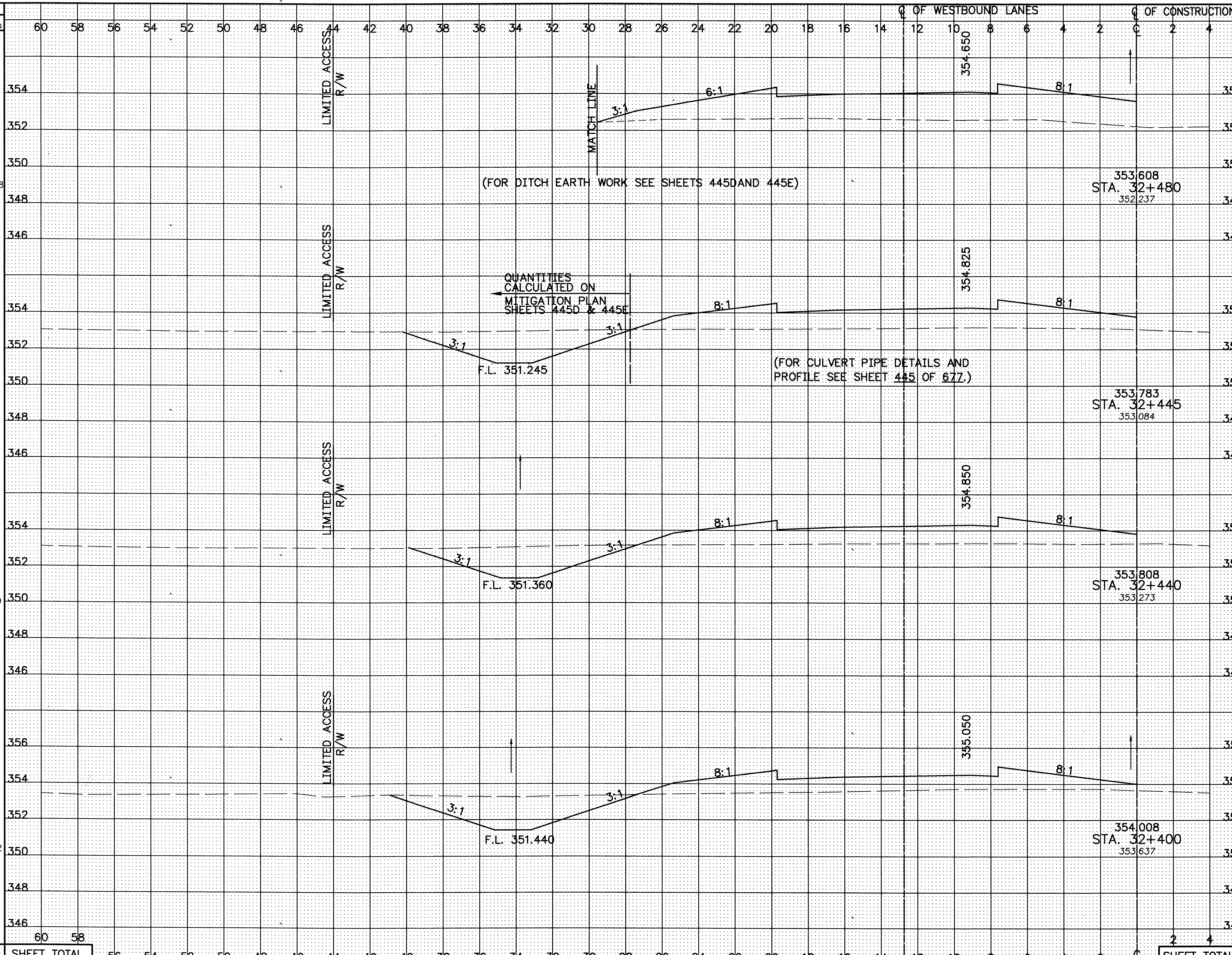
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
26.3		7.3	28.5		
	1098			449	940
28.6		15.1	18.5		
	1170			718	634
29.9		20.8	13.2		
	1238			1118	280
32.0		35.1	0.8		
	1293			2346	16
SHEET TOTAL	4799			4631	1870

CALCULATED PSB | CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+240 TO STA. 32+360 RIGHT ℄

CRA-30-24.000

252/677

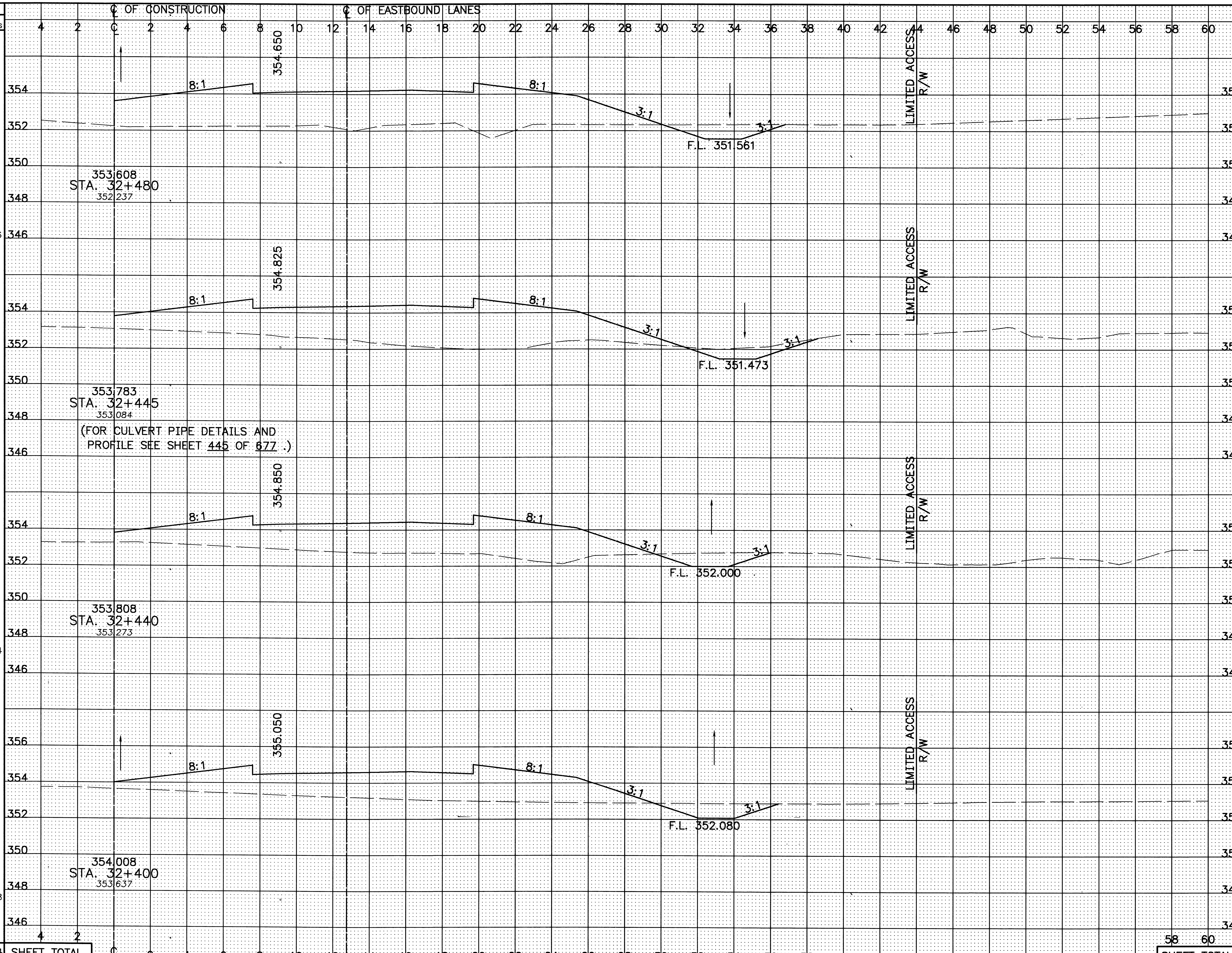


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
17		–	39.4		
	652.8			–	1181.2
20.3 (AHEAD) 33.6 (BACK)		0 (AHEAD) 11.8 (BACK)	28.1		
	168			61	134
29.2		12.4	25.5		
	1190			530	945
30.3		14.1	21.8		
	1222			598	937
SHEET TOTAL	3233			1189	3197

CALCULATED FJB
CHECKED MRD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+400 TO STA. 32+480 LEFT ℄

CRA-30-24.000

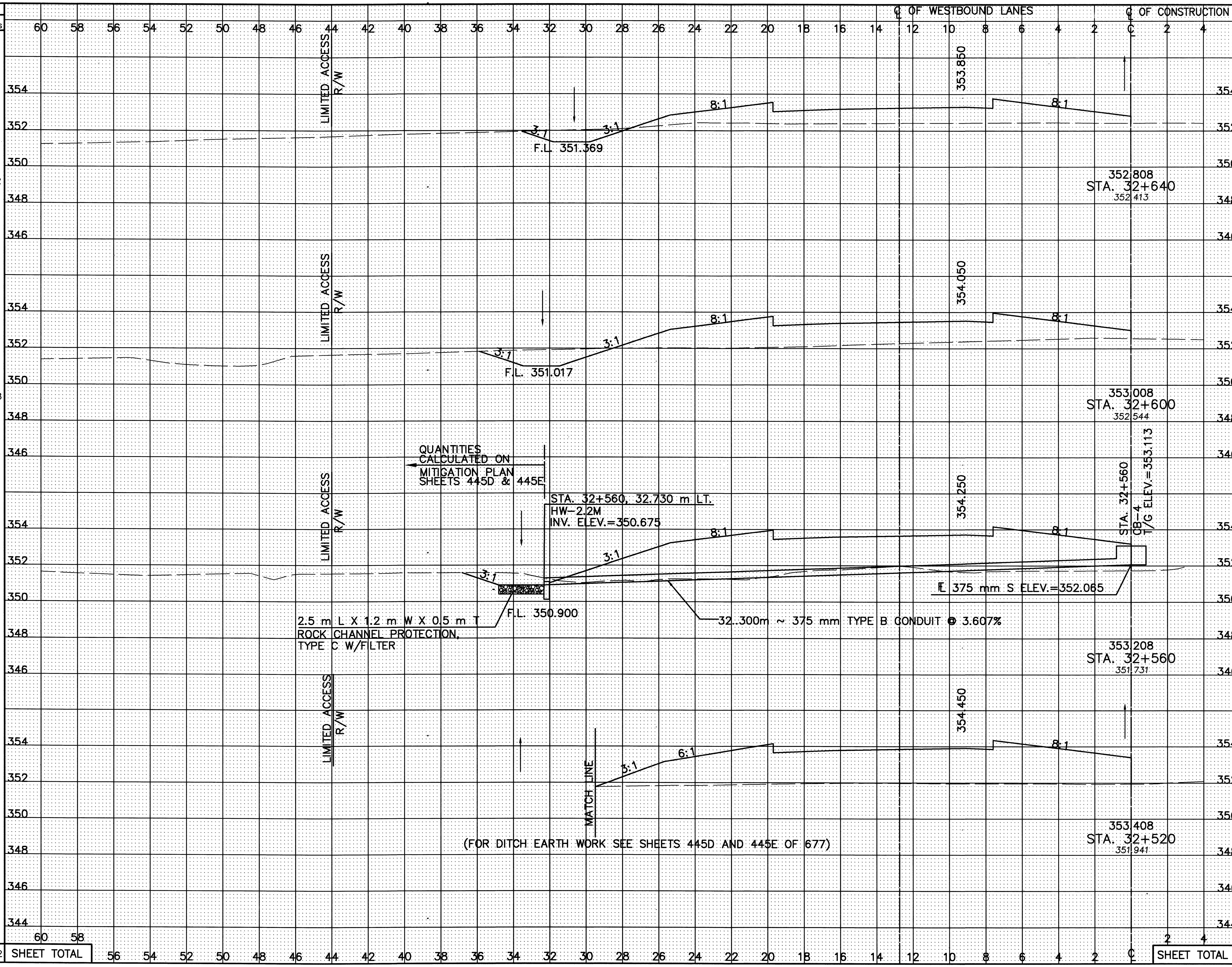


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.9		4.0	86.1		
	1176			171	3004
33.3		5.8	85.5		
	166			31	402
25.6		3.1	42.8		
	1024			132	3196
25.6		3.5	37.1		
	1038			134	1312
SHEET TOTAL	3404			550	7914

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+400 TO STA. 32+480 RIGHT ℄

CRA-30-24.000



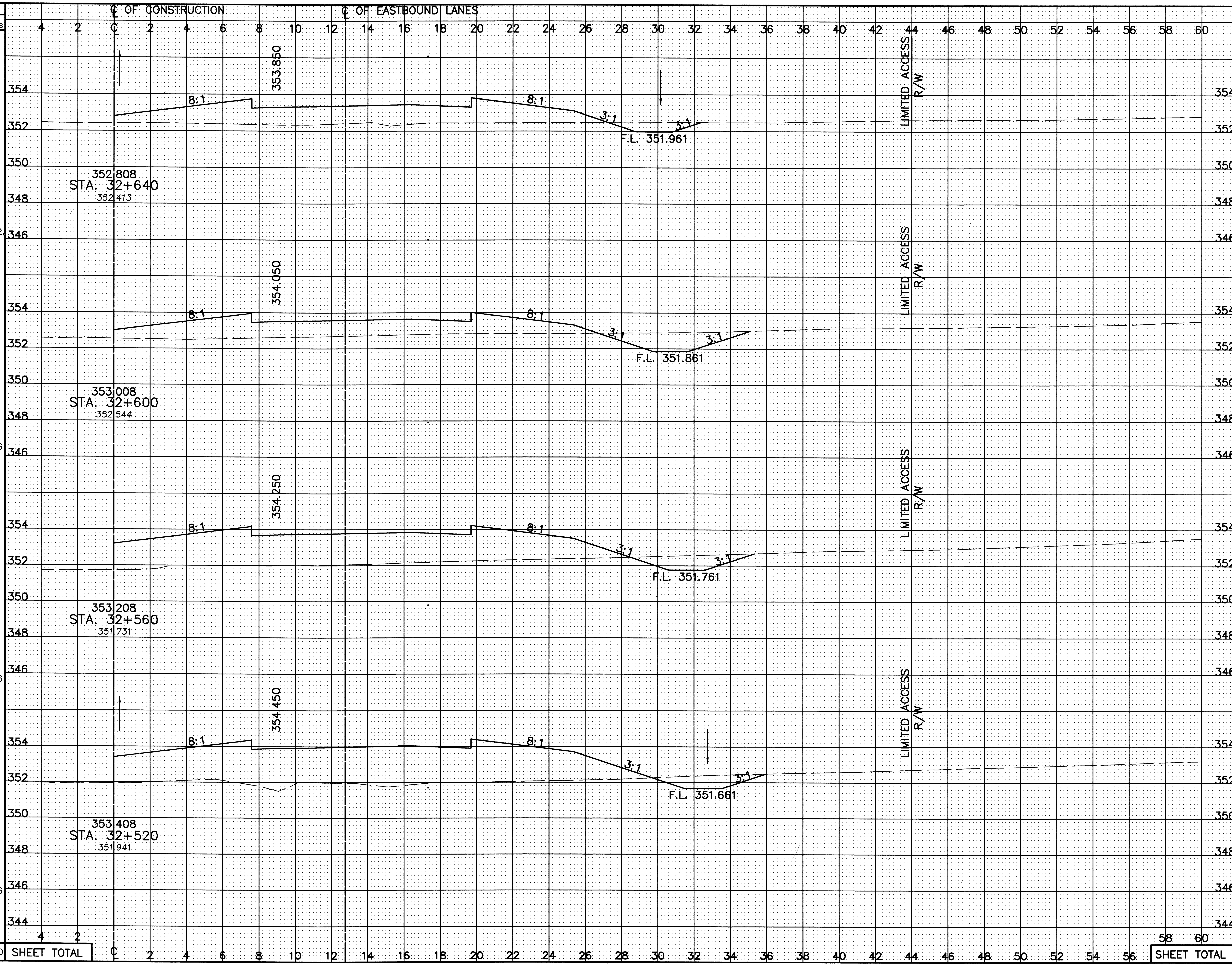
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
32+640	32.7		2.6	21.6		
		1312			134	1053
32+600	32.9		4.2	31.0		
		1338			155	1770
32+560	34.0 (AHEAD) 28.6 (BACK)		3.6 (AHEAD) 0 (BACK)	57.5		
		972			–	2232
32+520	20.0		–	54.1		
		740			–	1870
SHEET TOTAL		4362			289	6925

CALCULATED FJB
CHECKED MRD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+520 TO STA. 32+640 LEFT ℄

CRA-30-24.000

255/677

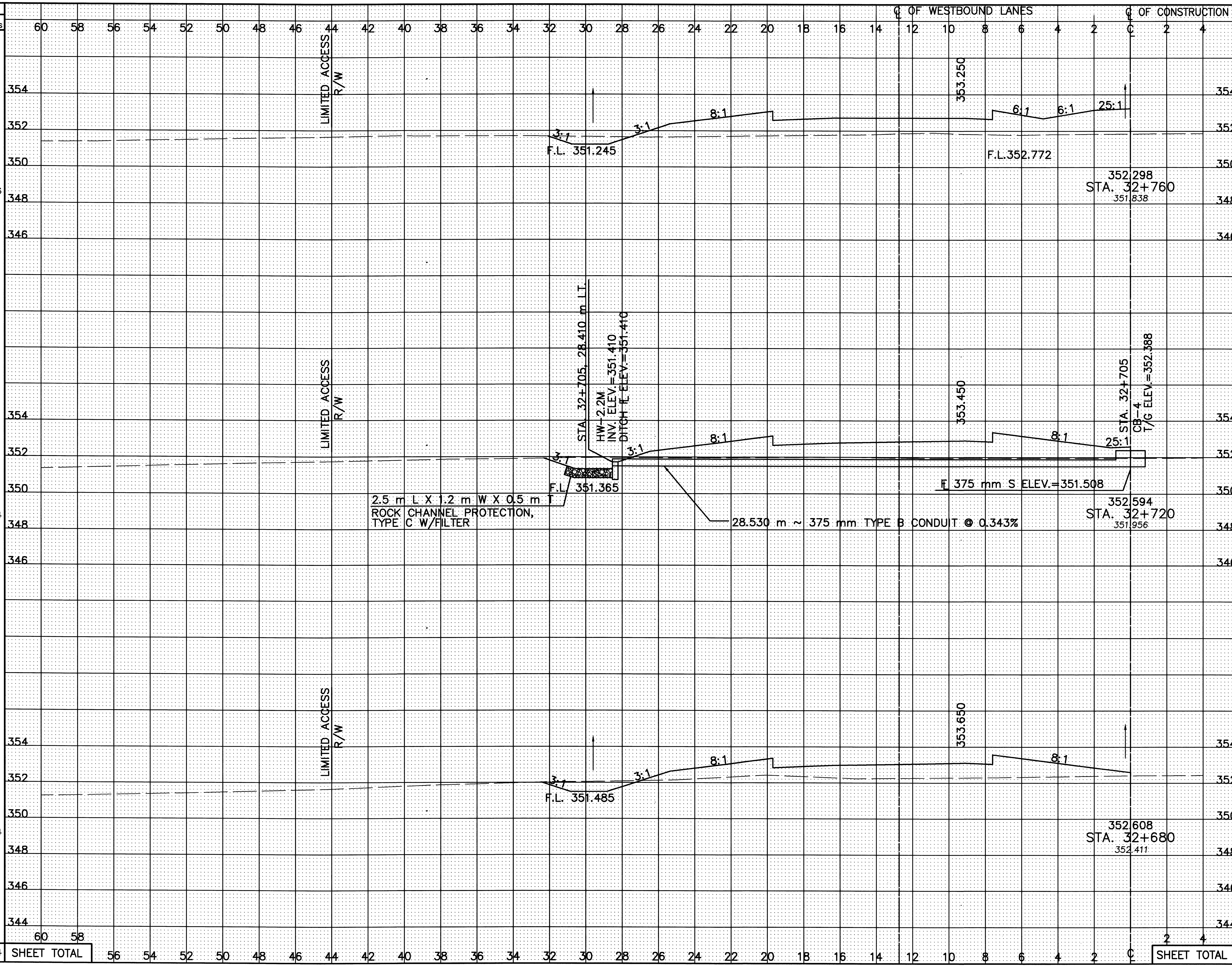


SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.7		STA. 32+640	2.3	54.9		
	1312				177	2138
32.9		STA. 32+600	6.6	52.0		
	1336				228	2552
33.9		STA. 32+560	4.8	75.6		
	1356				181	3242
33.9		STA. 32+520	4.2	86.6		
	1356				164	3454
	5360	SHEET TOTAL			750	11386

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+520 TO STA. 32+640 RIGHT ℄

CRA-30-24.000



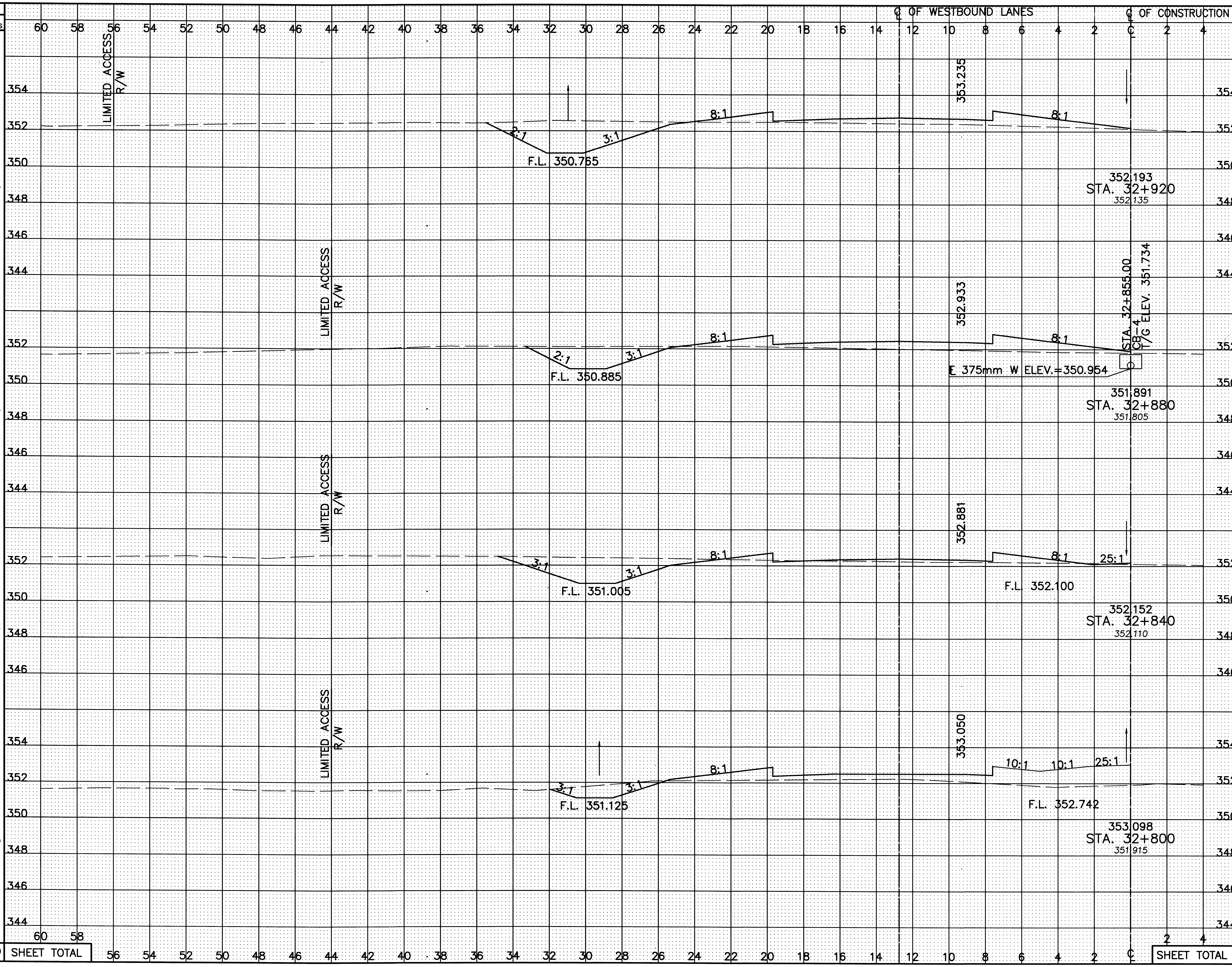
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.6	1306	1.4	24.1	72	930
32.7	1304	2.2	22.4	87	823
32.5	1304	2.1	18.8	94	808
SHEET TOTAL	3914			253	2561

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+680 TO STA. 32+760 LEFT ℄

CRA-30-24.000


SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
LIMITED ACCESS R/W
353.250
25:1
6:1
6:1
8:1
3:1
3:1
F.L. 352.772
F.L. 351.244
352.298
STA. 32+760
351.838
32.7
2.8
51.7
1308
110
2092
353.450
25:1
8:1
8:1
3:1
3:1
F.L. 352.550
F.L. 351.653
352.594
STA. 32+720
351.956
32.7
2.7
52.9
1304
99
1988
353.650
8:1
8:1
3:1
3:1
F.L. 352.061
352.608
STA. 32+680
352.411
32.5
2.3
46.6
1304
90
2029
3916
SHEET TOTAL
SHEET TOTAL
299
6109
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 32+680 TO STA. 32+760 RIGHT ℄
CRA-30-24.000
258
677



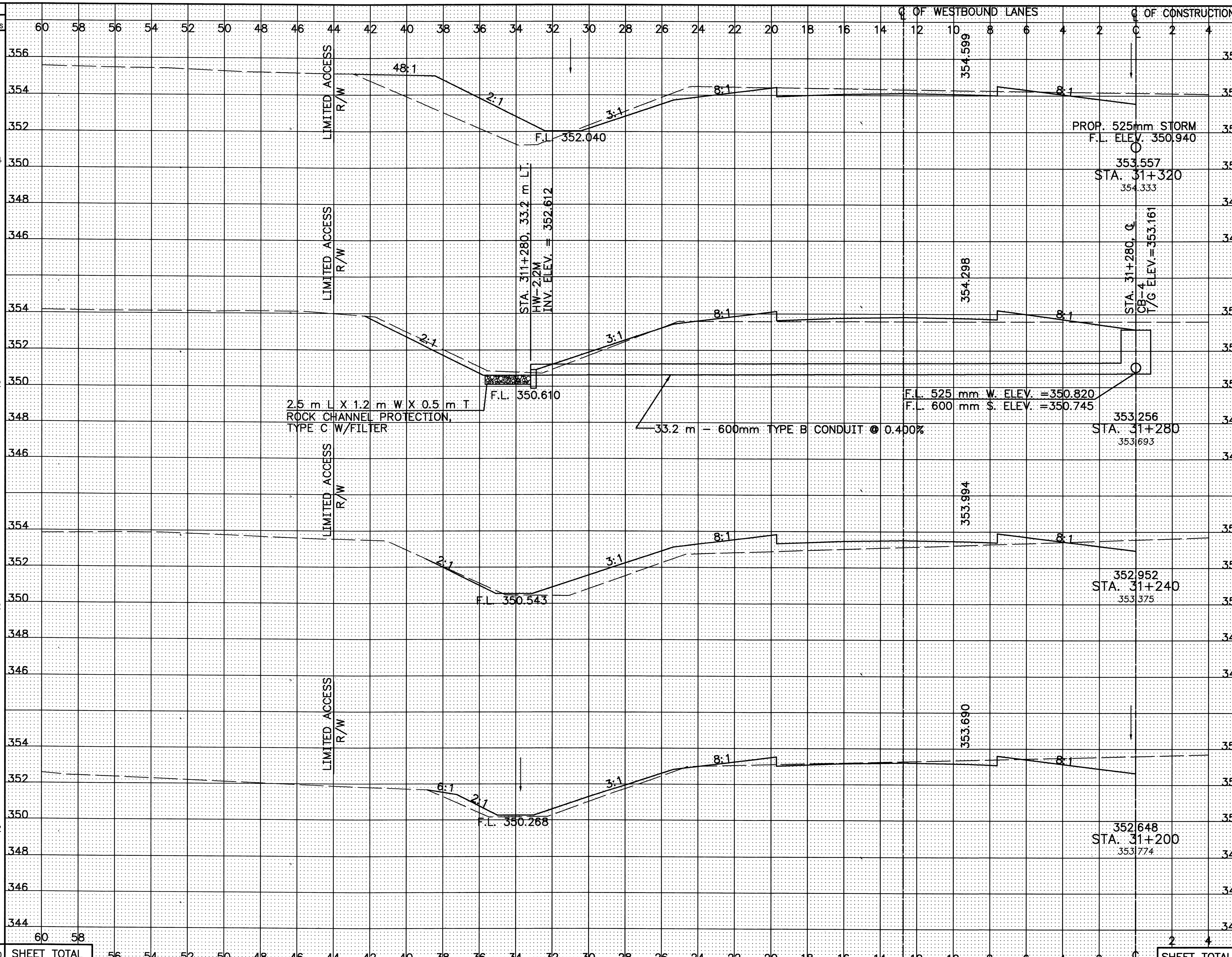
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44.7		11.2	7.5		
	1544			363	351
32.5		6.9	10.1		
	1304			331	266
32.7		9.6	3.2		
	1302			252	281
32.4		3.0	10.8		
	1300			88	699
SHEET TOTAL	5450			1034	1597

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 32+800 TO STA. 32+920 LEFT ℄

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
353.235
8:1
8:1
3:1
3:1
LIMITED ACCESS R/W
F.L. 350.476
352.193
STA. 32+920
352.135
44.5
5.1
22.5
892
180
836
353.052
352.010
STA. 32+900
351.970
44.7
4.5
20.9
892
84
402
STA. 32+850
CB-4
T/G ELEV.=351.734
352.933
STA. 32+850, 29.970 m RT.
HW-2.2M
INV. ELEV.=350.705
DITCH ℄=350.686
℄ 375 mm E. & S ELEV.=350.854
29.970 m ~ 375 mm TYPE B CONDUIT @ 0.497%
F.L. 350.596
2.5 m L X 1.2 m W X 0.5 m
ROCK CHANNEL PROTECTION, TYPE C W/FILTER
351.891
STA. 32+880
351.805
44.5
3.9
19.3
1782
152
637
352.881
25:1
F.L. 352.100
F.L. 350.716
352.152
STA. 32+840
352.110
44.6
3.7
12.6
1542
111
1273
353.050
25:1
10:1
10:1
F.L. 352.742
F.L. 350.836
353.098
STA. 32+800
351.915
32.5
1.8
51.1
1304
92
2056
SHEET TOTAL
6412
619
5204
CROSS-SECTIONS - RELOCATED U.S. 30
STA. 32+800 TO STA. 32+920 RIGHT ℄
CRA-30-24.000
260
677



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32.5		8.3	14.2		
	1274			228	394
31.2		3.1	5.5		
	1192			92	396
28.4		1.5	14.3		
	1132			110	372
28.2		4.0	4.3		
	1222			310	416
SHEET TOTAL	4820			740	1578

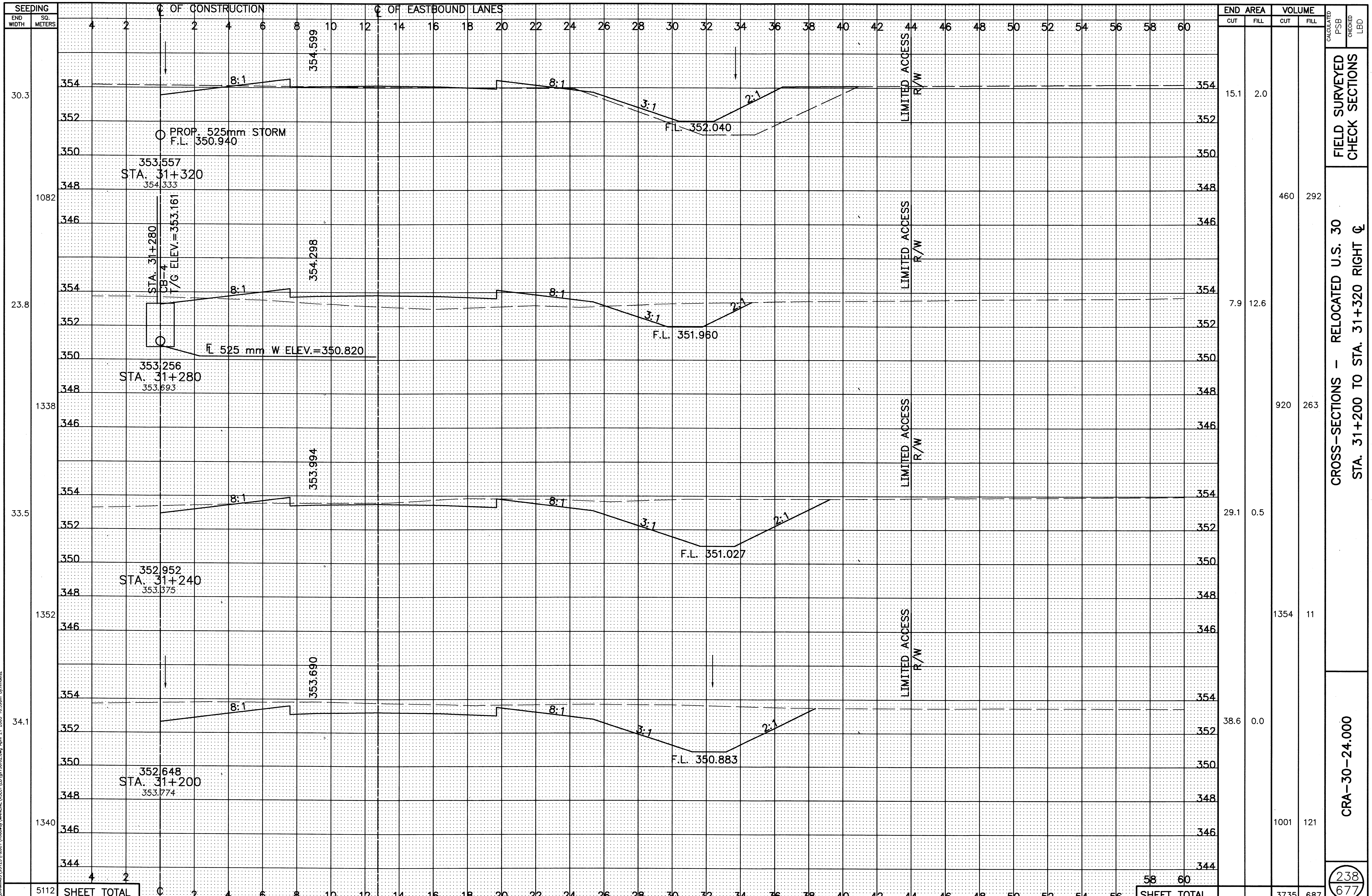
CALCULATED PSB
CHECKED LBD

FIELD SURVEYED CHECK SECTIONS

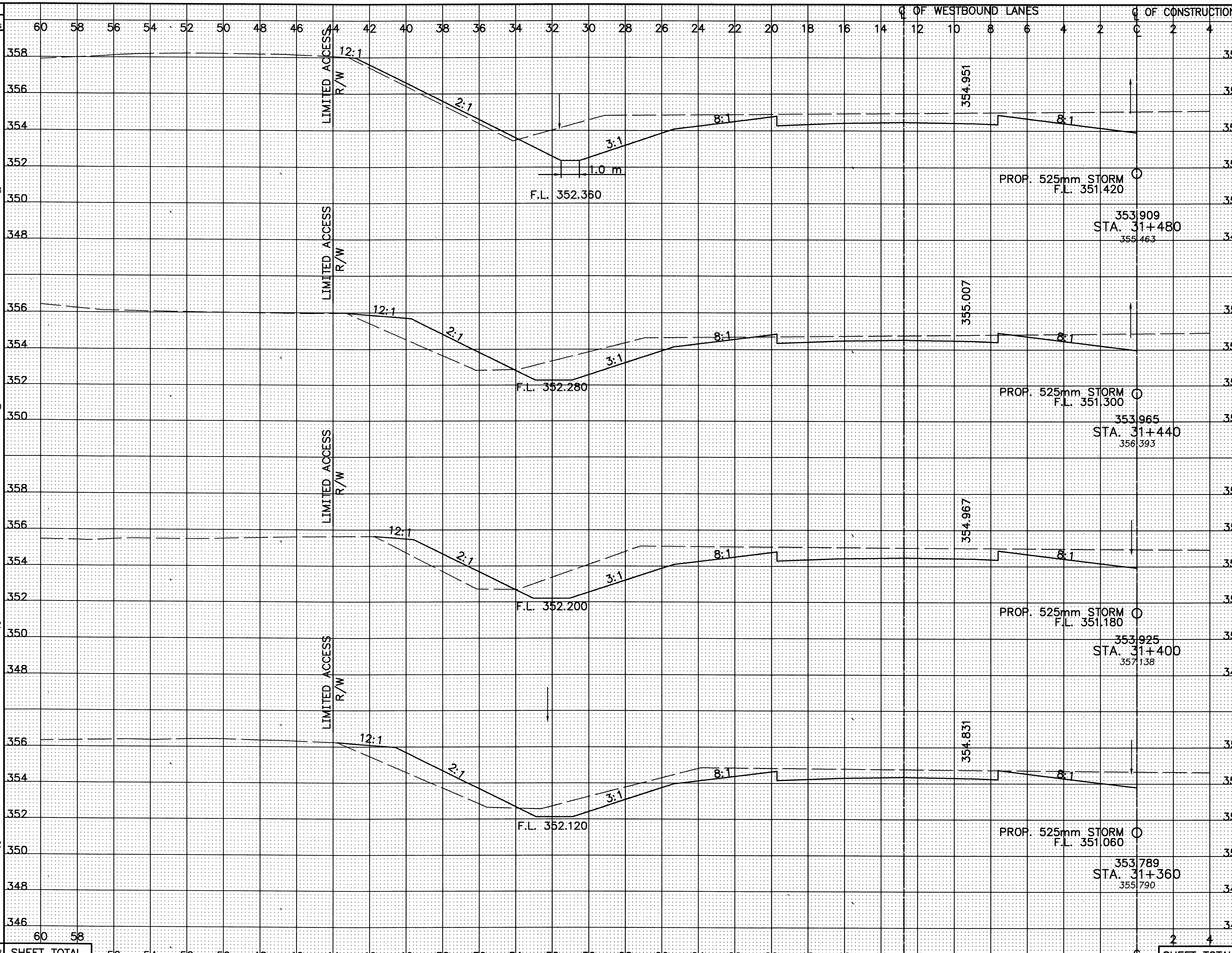
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+200 TO STA. 31+320 LEFT ℄

CRA-30-24.000

237/677



SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
FIELD SURVEYED CHECK SECTIONS
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+200 TO STA. 31+320 RIGHT ℄
CRA-30-24.000
238
677
354.599
8:1
3:1
2:1
LIMITED ACCESS
R/W
F.L. 352.040
PROP. 525mm STORM
F.L. 350.940
353.557
STA. 31+320
354.333
30.3
15.1
2.0
1082
460
292
STA. 31+280
CB-4
T/G ELEV.=353.161
354.298
F.L. 351.960
F.L. 525 mm W ELEV.=350.820
353.256
STA. 31+280
353.693
23.8
7.9
12.6
1338
920
263
353.994
F.L. 351.027
352.952
STA. 31+240
353.375
33.5
29.1
0.5
1352
1354
11
353.690
F.L. 350.883
352.648
STA. 31+200
353.774
34.1
38.6
0.0
1340
1001
121
5112
SHEET TOTAL
3735
687



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.4		29.8	0.0		
	1328			922	152
33.0		16.3	7.6		
	1290			854	262
31.5		26.4	5.5		
	1302			874	258
33.6		17.3	7.4		
	1322			512	284
SHEET TOTAL	5242			3162	956

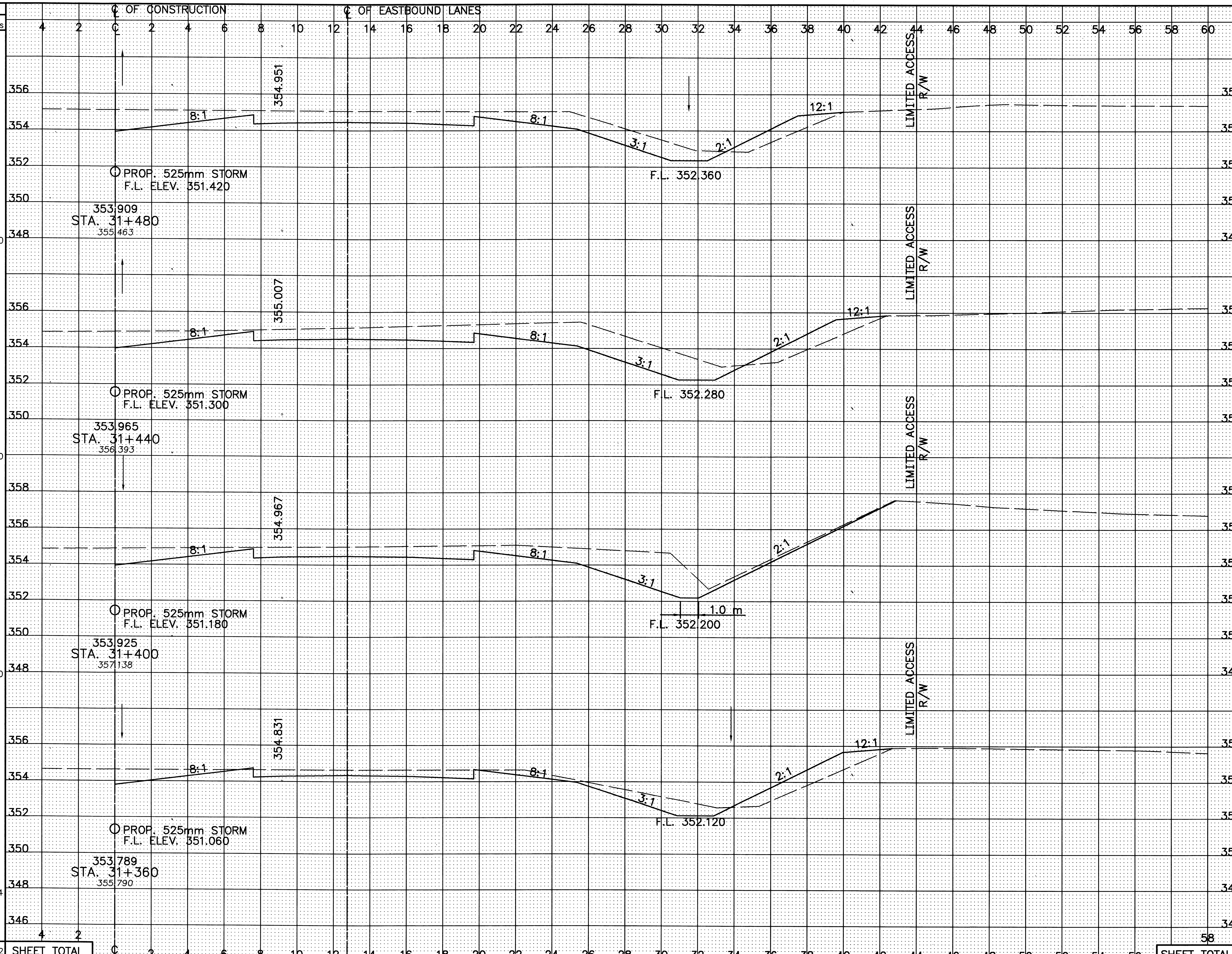
CALCULATED PSB
CHECKED LBD

FIELD SURVEYED CHECK SECTIONS

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 31+360 TO STA. 31+480 LEFT ℄

CRA-30-24.000

239/677



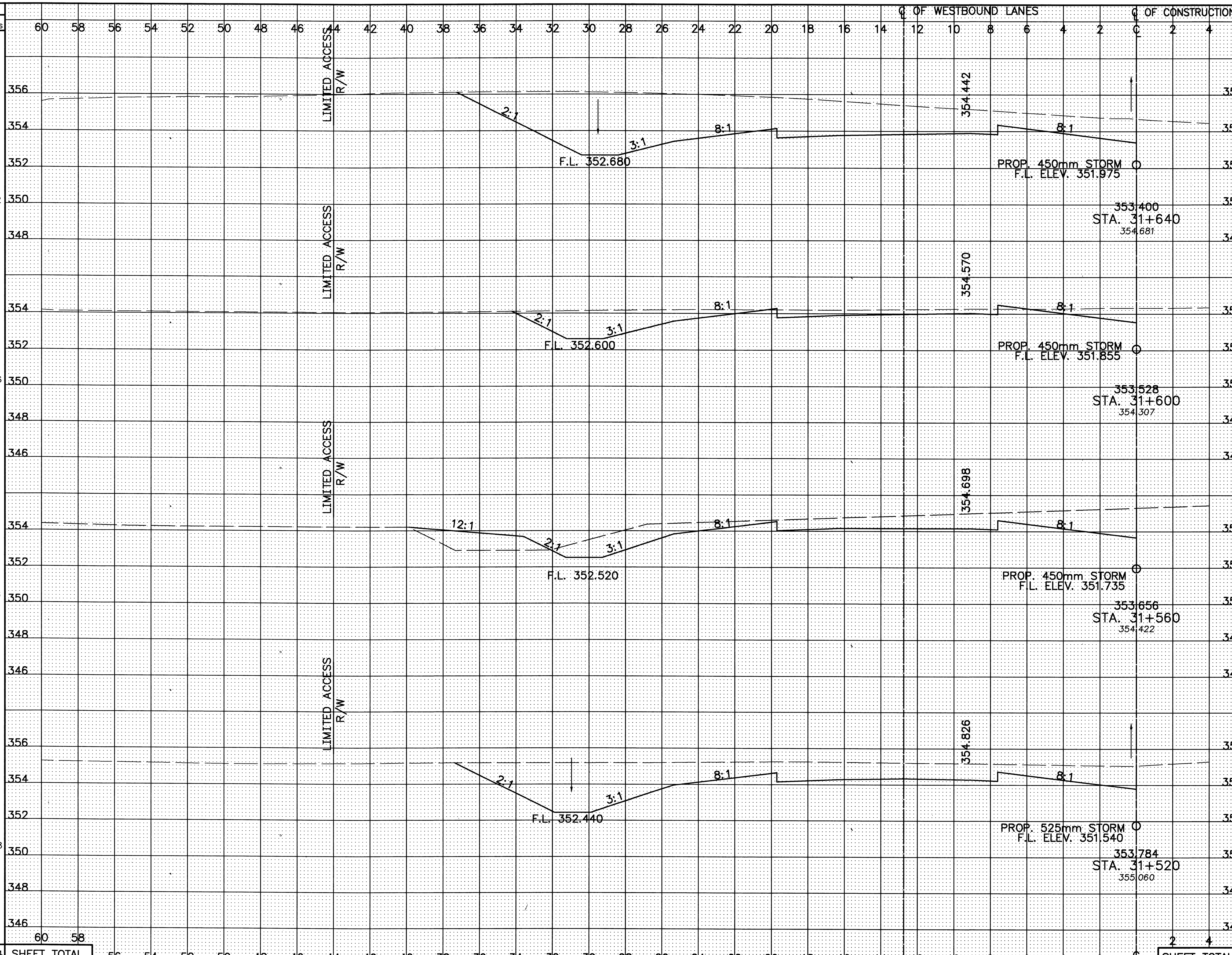
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30.0		23.5	3.4		
	1240			1022	162
32.0		27.6	4.7		
	1320			1192	94
34.0		32.0	0.0		
	1330			894	114
32.5		12.7	5.7		
	1064			556	154
SHEET TOTAL	4292			3664	524

CALCULATED PSB
CHECKED LBD

FIELD SURVEYED CHECK SECTIONS

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+360 TO STA. 31+480 RIGHT ℄

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
26.8		67.8	0.0		
	1002			1692	4
23.3		16.8	0.2		
	1046			658	112
29.0		24.0	5.4		
	1118			1374	108
26.9		44.7	0.0		
	1208			2886	0
SHEET TOTAL	4374			6610	224

CALCULATED PSB CHECKED LBD

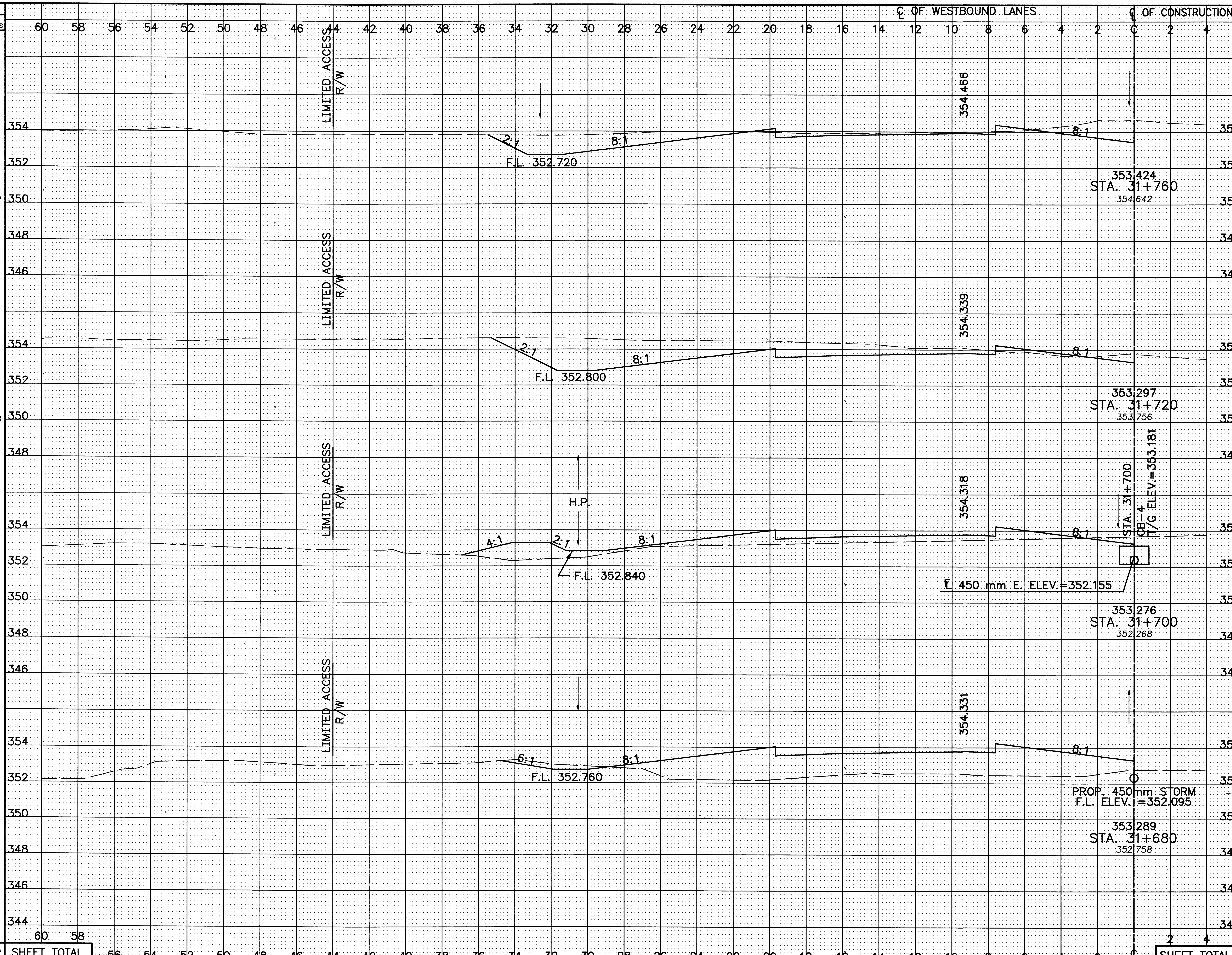
FIELD SURVEYED CHECK SECTIONS

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+520 TO STA. 31+640 LEFT ℄

CRA-30-24.000

241/677

L:\DRAWINGS\93125\F&OC1\Roadway\MAINLINE\XSECT\WB\gx152102_asbuilt.dwg April 24 2003 4:25pm By:Phil



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
23.8		14.1	0.6		
	952			768	28
23.8		24.3	0.8		
	478			243	583
24.7		0.6	13.0		
	461			17	474
23.5		1.1	34.4		
	1006			1378	688
SHEET TOTAL	2897	SHEET TOTAL		2406	1773

CALCULATED PSB
CHECKED LBD

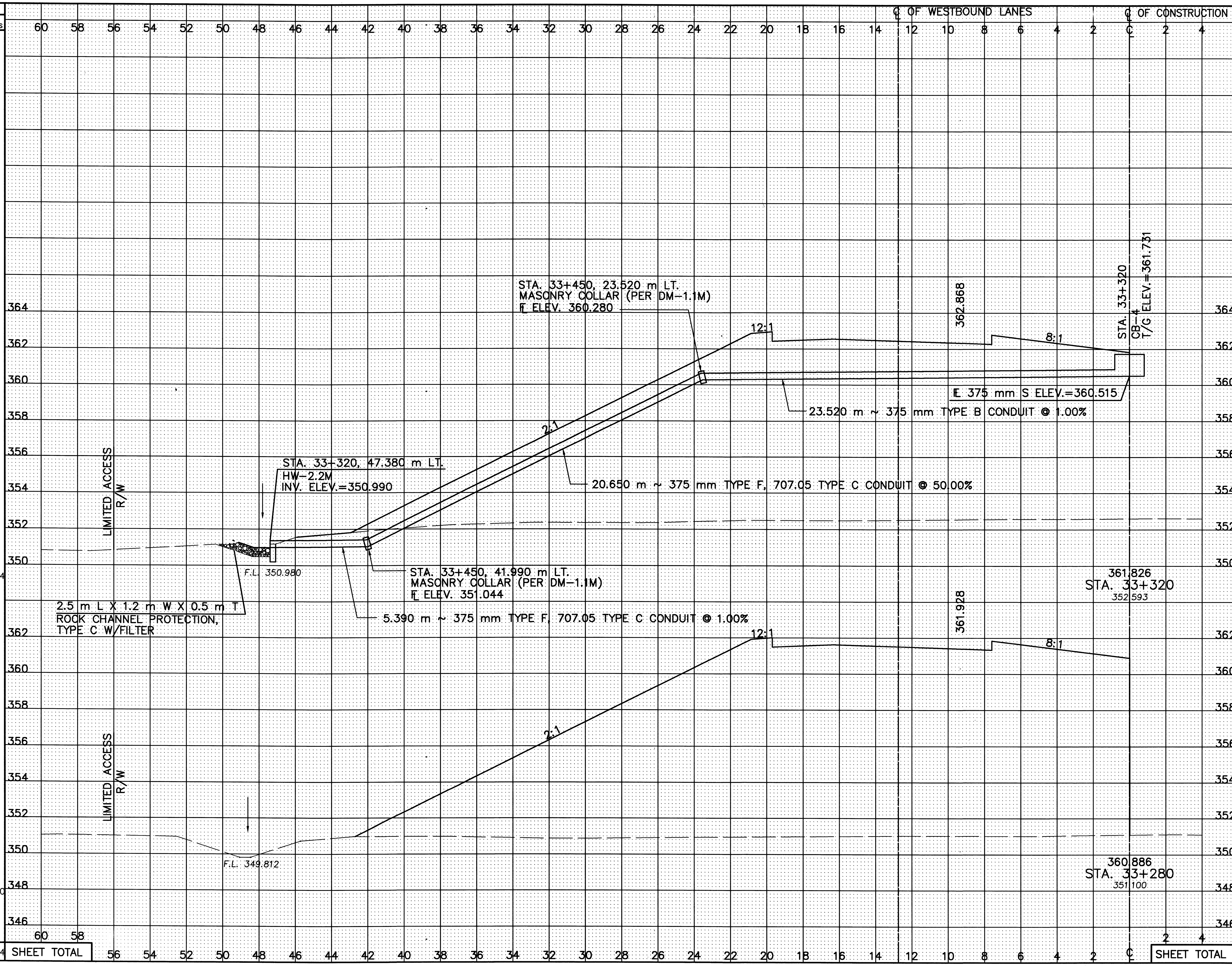
FIELD SURVEYED CHECK SECTIONS

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 31+680 TO STA. 31+760 LEFT ℄

CRA-30-24.000

243
677

L:\DRAWINGS\93125\F&OC1\Roadway\MAINLINE\XSECT\WB\gx153102asbuilt.dwg April 25 2003 12:27pm By:Phil



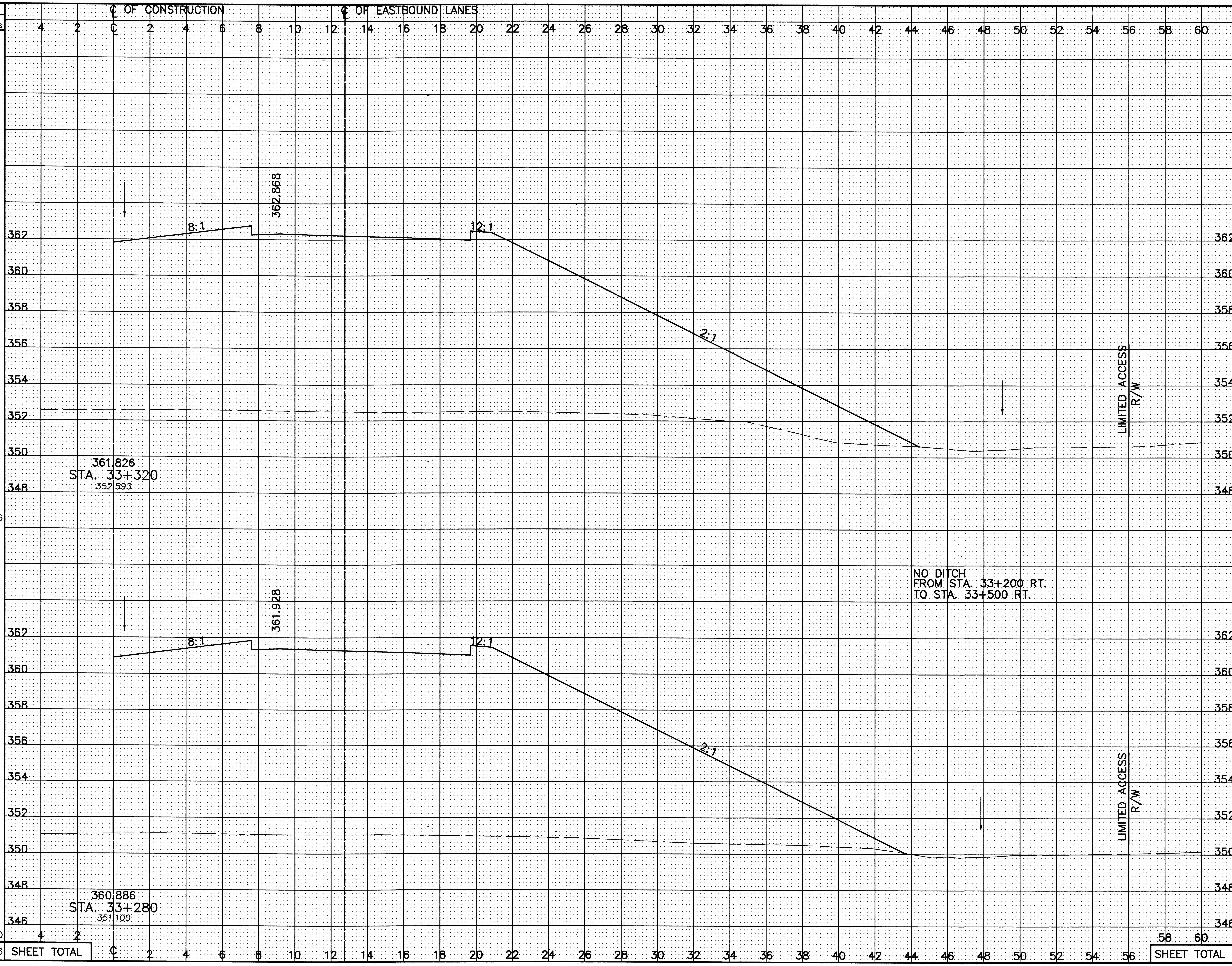
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
56.0		0.2	317.8		
	2254			8	13124
56.7		0.2	338.4		
	2280			108	13849
SHEET TOTAL	4534			116	26973

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RELOCATED U.S. 30
STA. 33+280 TO STA. 33+320 LEFT ℄

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
56.2		0	312.9		
	2256			0	12877
56.6		0	331.0		
	2270			0	13379
SHEET TOTAL	4526			0	26256



CALCULATED PSB
CHECKED LBD

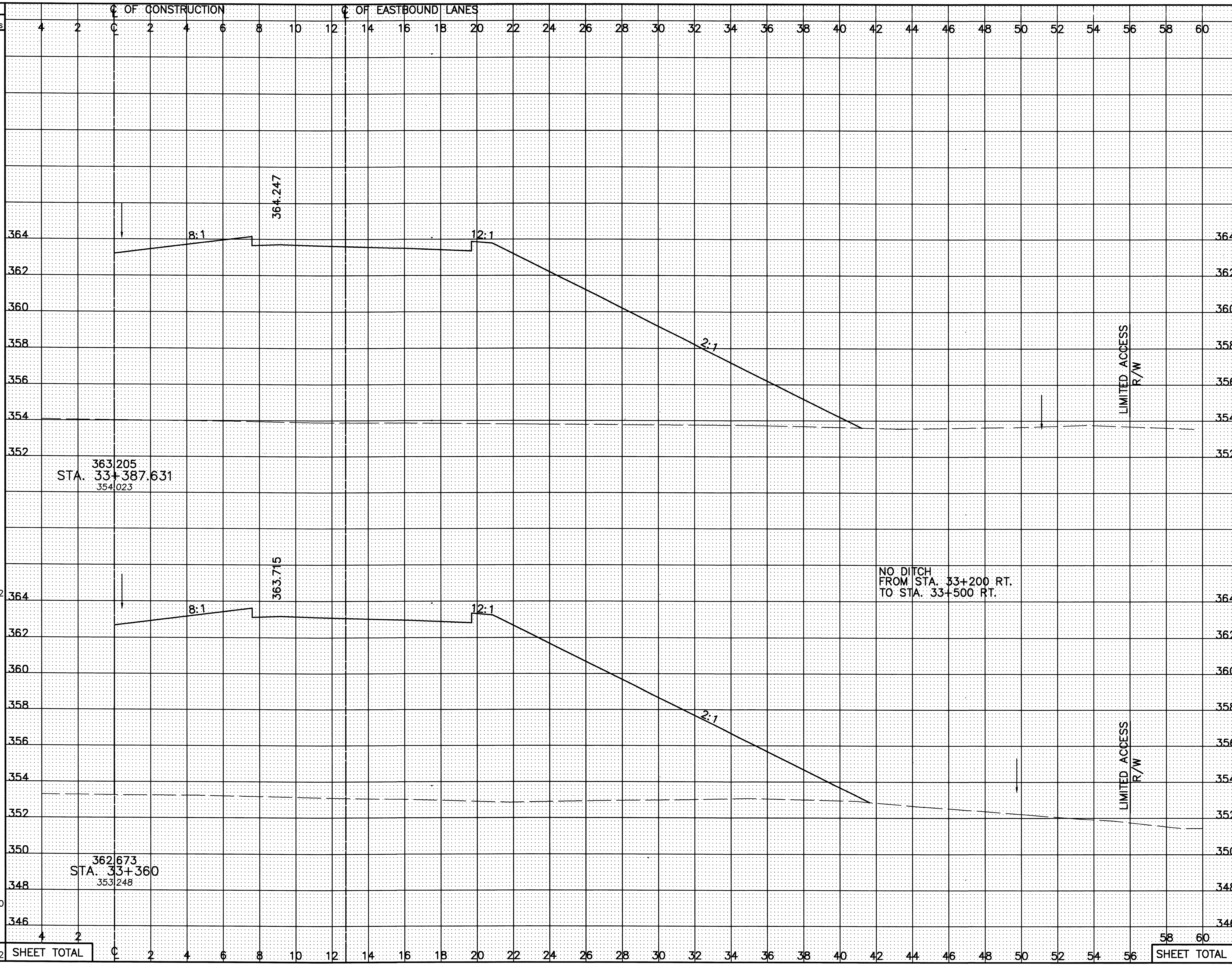
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 33+280 TO STA. 33+320 RIGHT ℄

CRA-30-24.000

268
677

SEEDING
END WIDTH
SQ. METERS
℄ OF WESTBOUND LANES
℄ OF CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
364.247
12:1
8:1
2:1
LIMITED ACCESS R/W
12:1
F.L. 351.800
55.9
0.2
313.6
2242
6
9052
363.205
STA. 33+387.631
354.023
363.715
12:1
8:1
2:1
LIMITED ACCESS R/W
12:1
F.L. 351.740
56.2
0.2
318.7
362.673
STA. 33+360
353.248
2244
8
12729
4486
SHEET TOTAL
SHEET TOTAL
14
21781
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 33+360 TO STA. 33+400 LEFT ℄
CRA-30-24.000
269/677

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55.8		0	303.3		
	2242			0	8840
56.3		0	314.2		
	2250			0	12541
SHEET TOTAL	4492			0	21381



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30

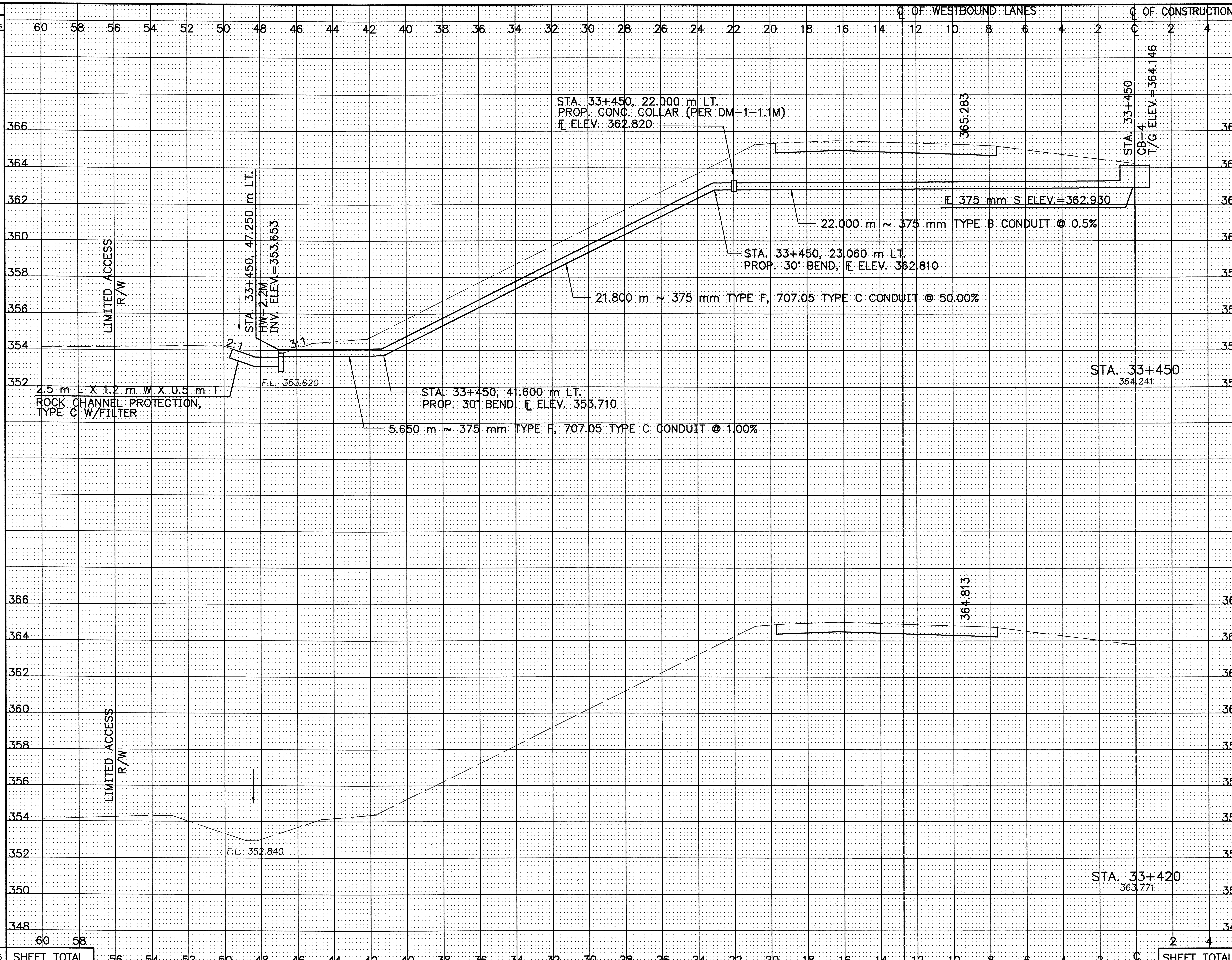
STA. 33+360 TO STA. 33+400 RIGHT ℄

CRA-30-24.000

270
677

SEEDING END WIDTH	SEEDING SQ. METERS
3	90
3	953
	1043

SHEET TOTAL



SHEET TOTAL

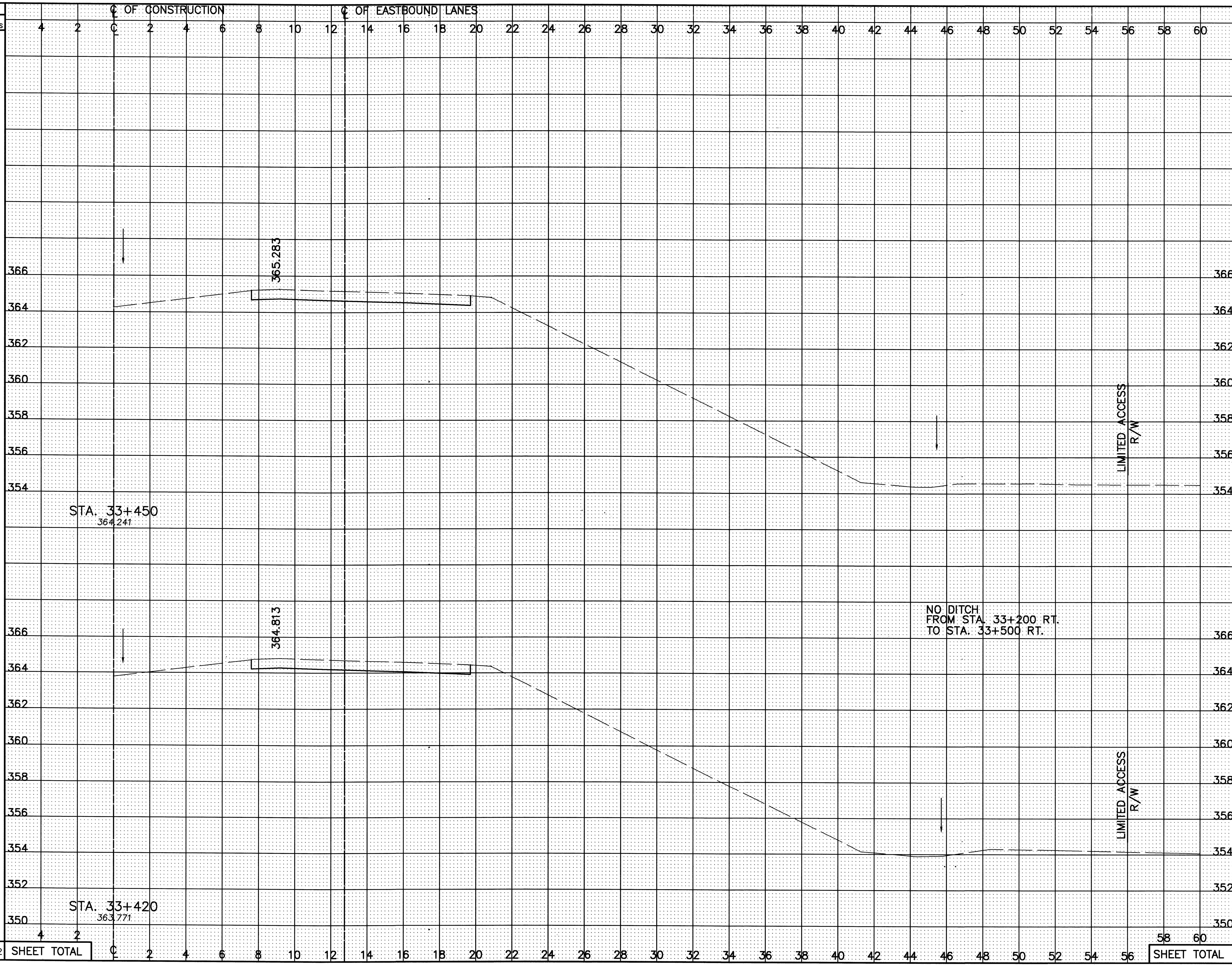
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6.2	0	186	0
6.2	0	104	5075
		290	5075

SHEET TOTAL

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30
STA. 33+440 TO STA. 33+450 LEFT ℄

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3		6.2	0		
	90			186	0
3		6.2	0		
	952			100	4909
SHEET TOTAL	1042	SHEET TOTAL		286	4909

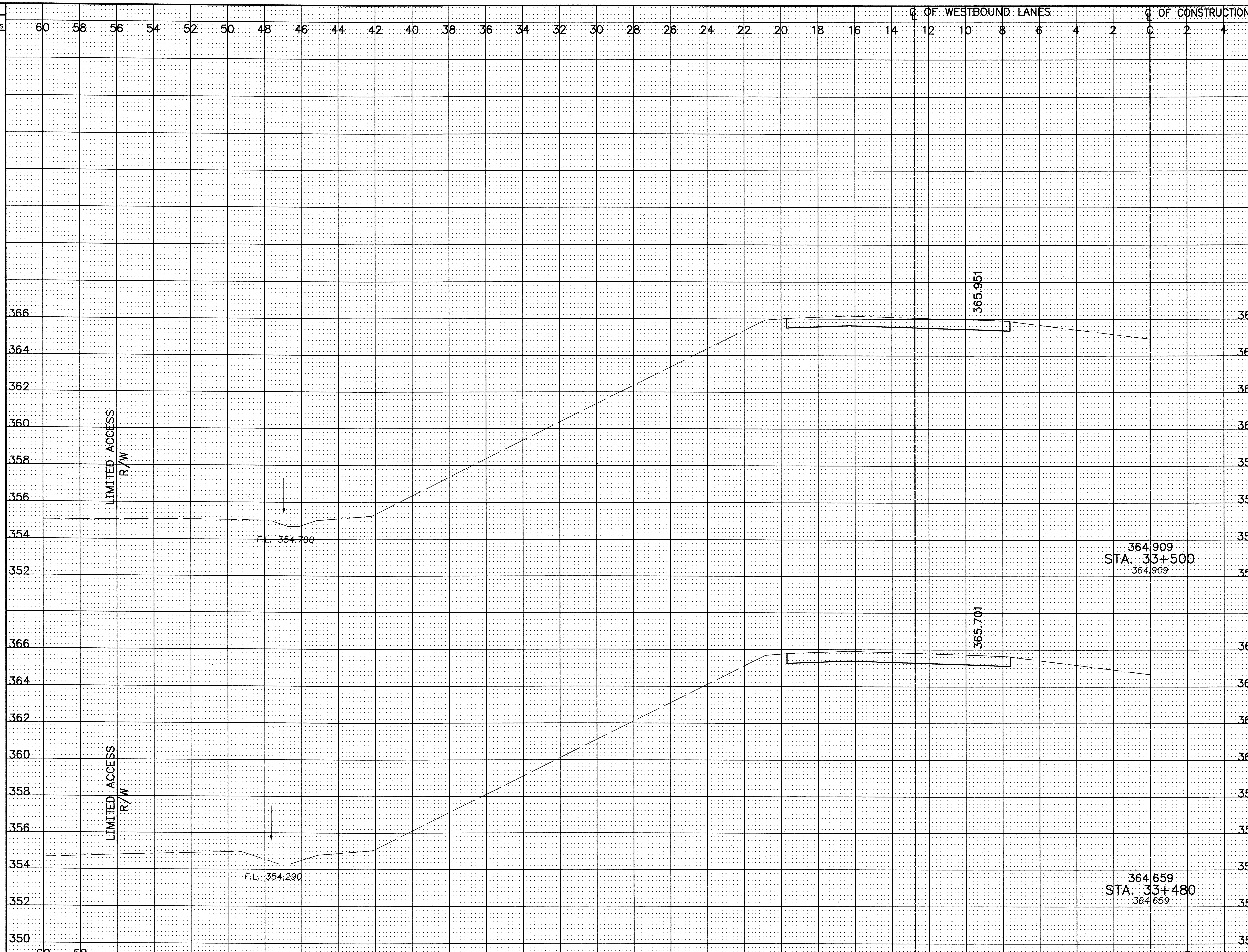
CALCULATED PSB

CHECKED LBD

CROSS-SECTIONS – RELOCATED U.S. 30

STA. 33+440 TO STA. 33+450 RIGHT ℄

CRA-30-24.000



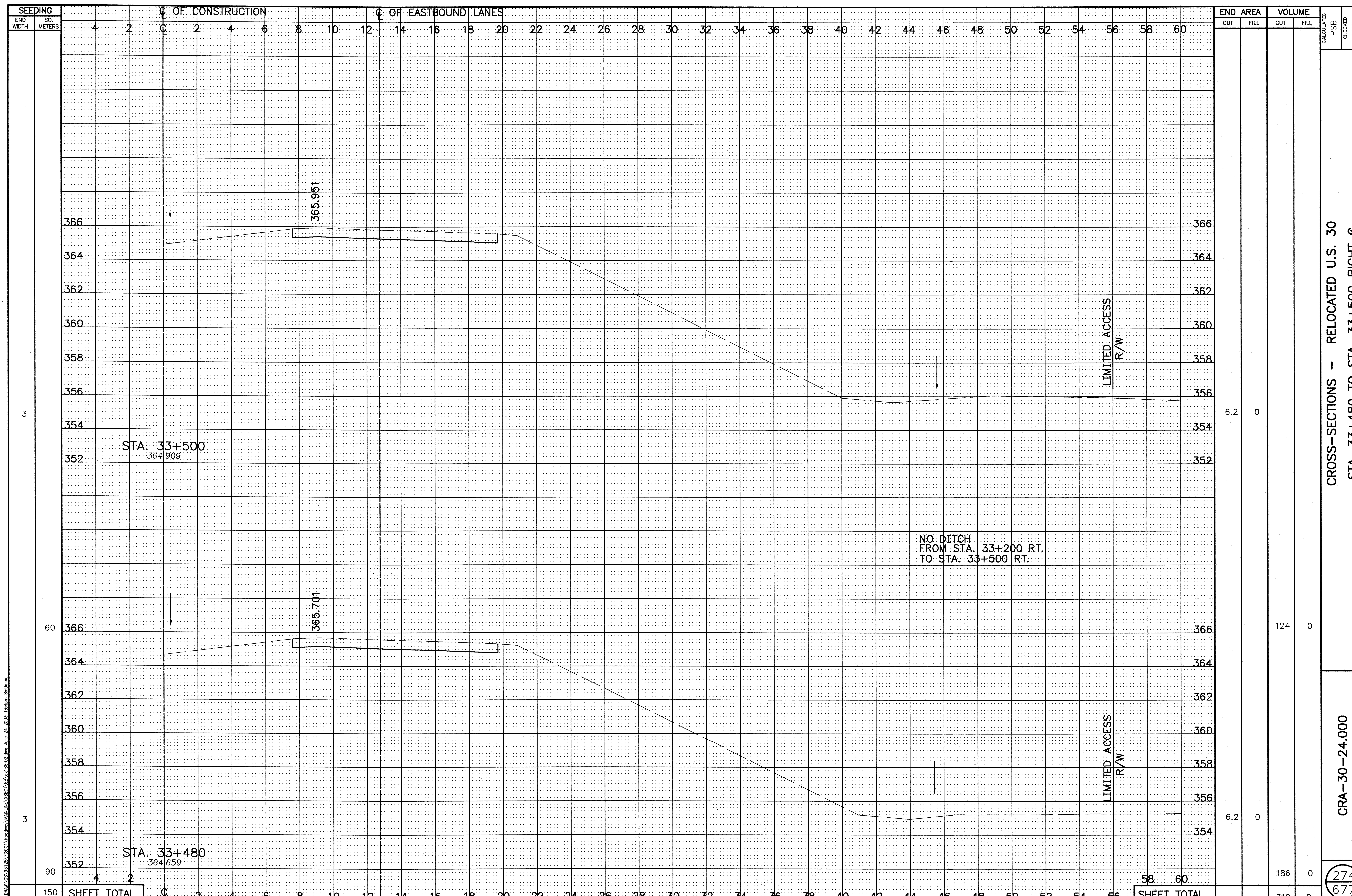
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3		6.2	0		
	60			124	0
3		6.2	0		
	90			186	0
SHEET TOTAL	150			310	0

CALCULATED PSB
CHECKED LBD

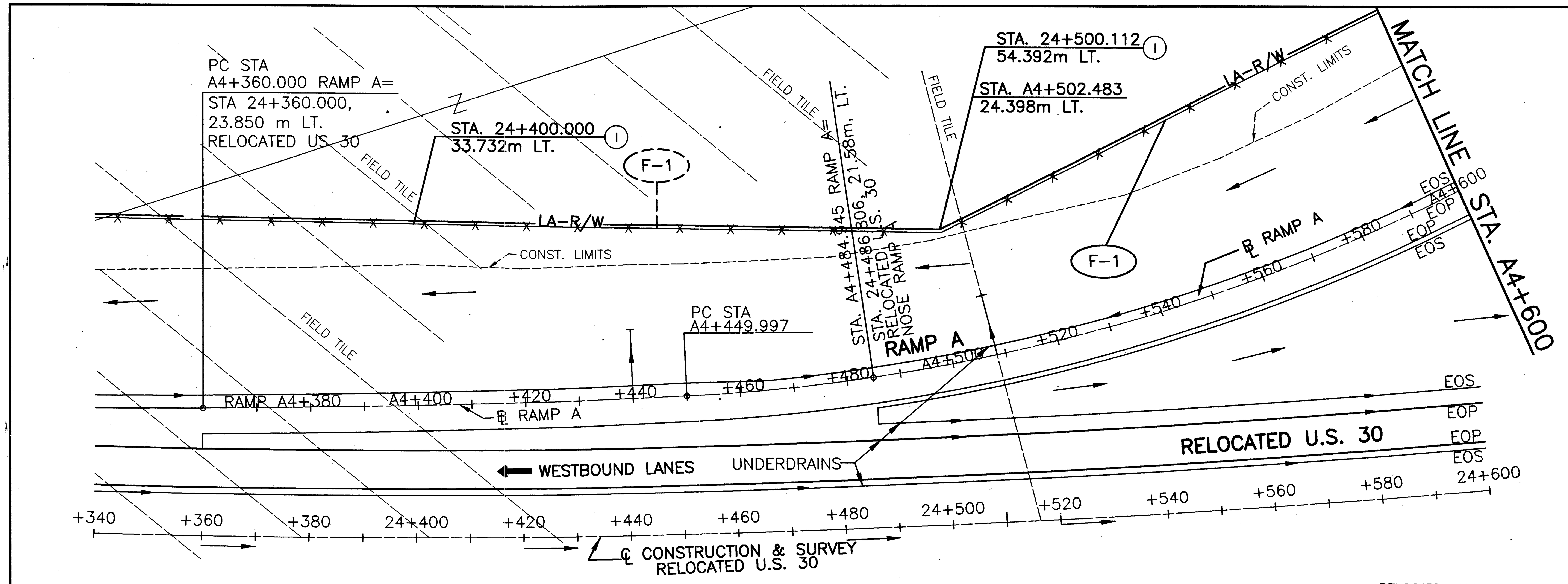
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 33+480 TO STA. 33+500 LEFT ℄

CRA-30-24.000

273/677



SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
365.951
STA. 33+500
364.909
LIMITED ACCESS R/W
3
6.2
0
NO DITCH
FROM STA. 33+200 RT.
TO STA. 33+500 RT.
365.701
60
124
0
STA. 33+480
364.659
LIMITED ACCESS R/W
3
6.2
0
90
186
0
150
SHEET TOTAL
SHEET TOTAL
310
0
CROSS-SECTIONS – RELOCATED U.S. 30
STA. 33+480 TO STA. 33+500 RIGHT ℄
CRA-30-24.000
274
677



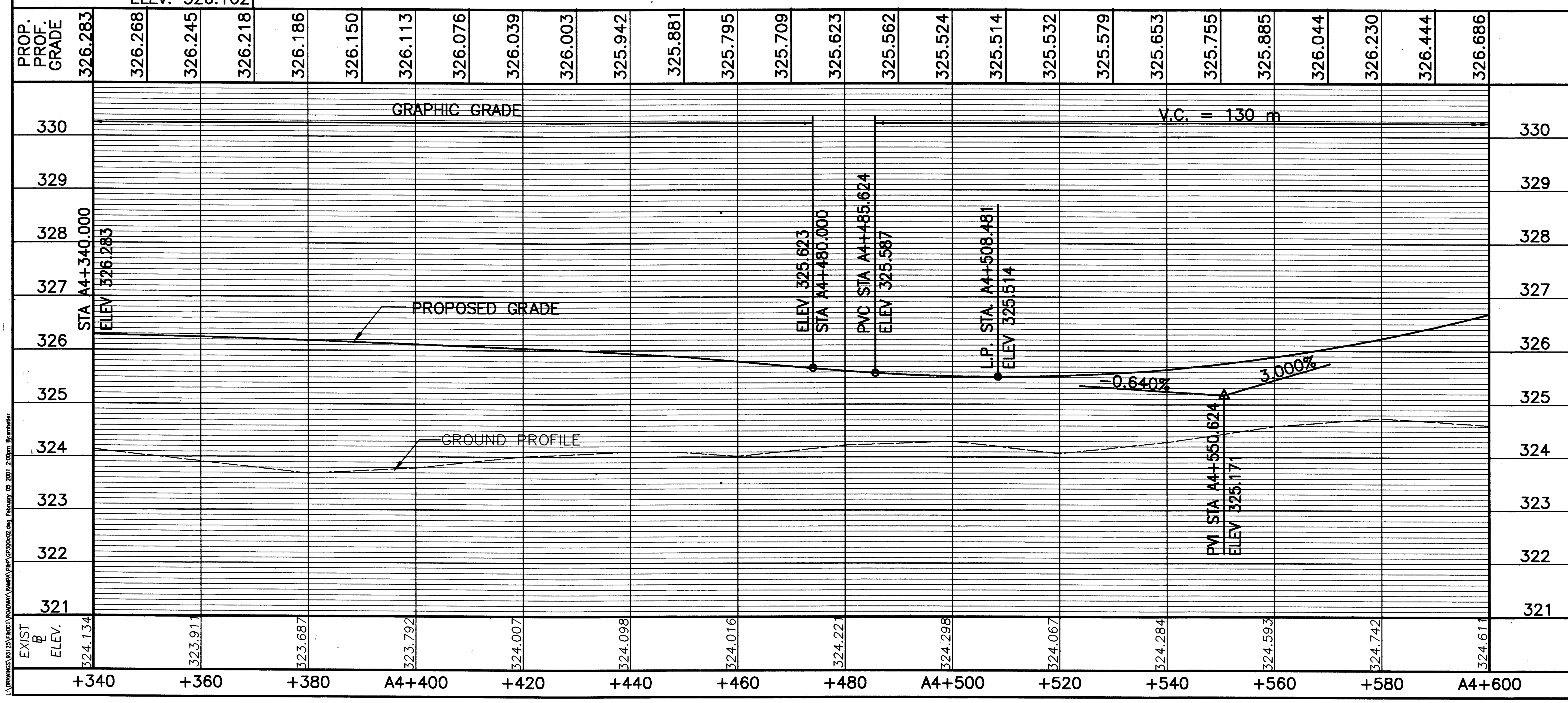
NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

RAMP A ~ CURVE DATA
PI STA. A4+544.074
Δ=30°05'24" LT.
R=350.00 m
T=94.077 m
L=183.809 m
E=12.423 m
CH=S 89°43'15" E
LC=181.704 m

RELOCATED U.S. 30 CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
R=2335.939 m
T=650.000 m
L=1267.925 m
E=88.749 m
CH=S 74°38'29" E
LC=1252.417 m

BENCHMARK
FENO MONUMENT
STA. 50+037.530 SR602
6.222m LT.
ELEV. 326.162



ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 METER
F-1	LT	24+500.112	A4+600.00	91.22
TOTALS CARRIED TO SUB-SUMMARY				91.22

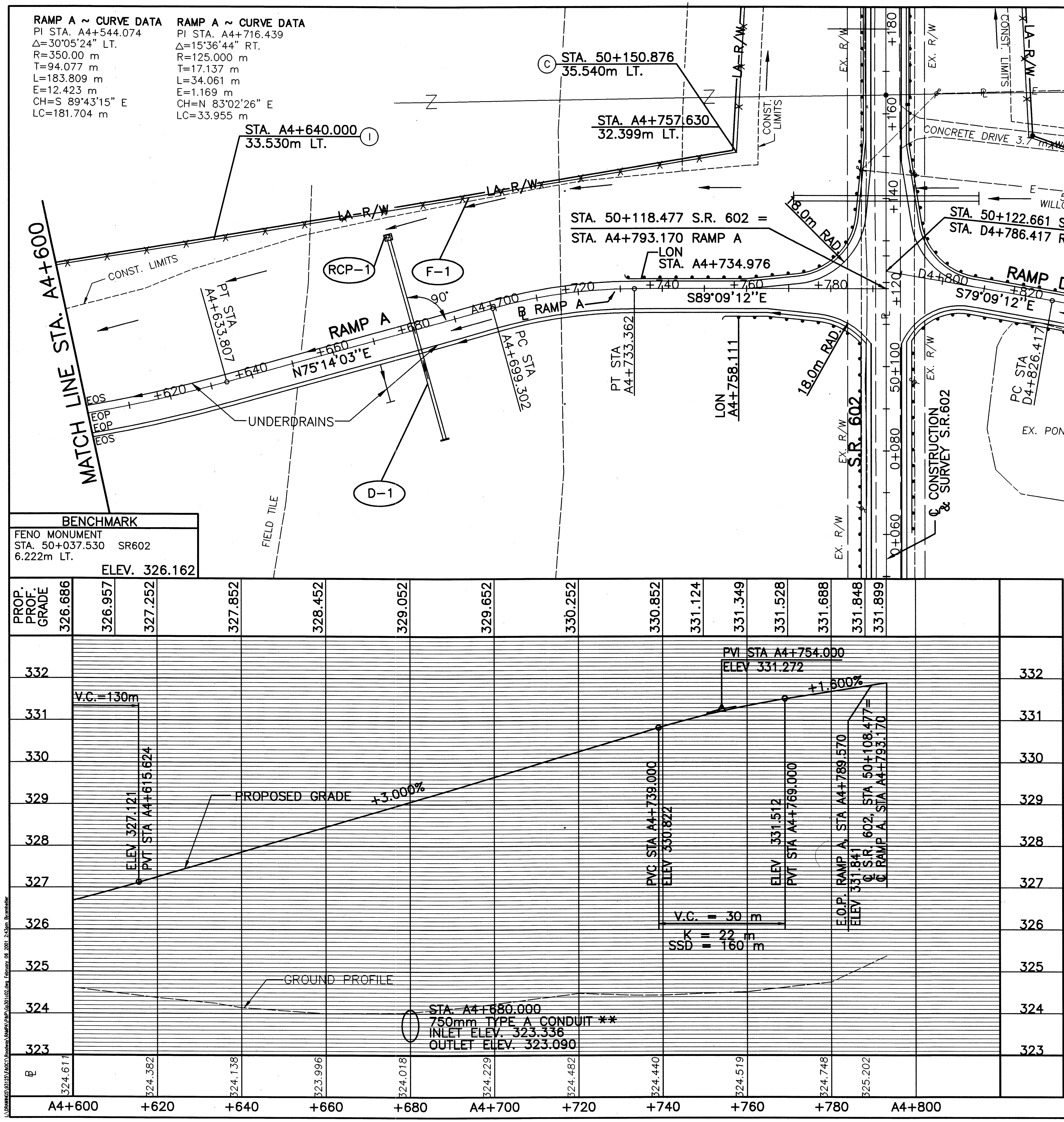
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RAMP A
STA. A4+340 TO STA. A4+600

CRA-30-24.000



LEGEND

ROCK CHANNEL PROTECTION

NOTES:

1. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
2. FOR CULVERT DETAILS SEE SHEET 278 OF 677.
3. FOR FENCE LEGEND SEE SHEET 96 OF 677.
4. FOR UNDERDRAINS AND QUANTITIES SEE SHEETS 457–464 OF 677.
5. FOR GUARDRAIL QUANTITIES SEE SHEET 319 OF 677
6. FOR CULVERT DETAIL SEE SHEET 278 OF 677
7. FOR INTERCHANGE DETAILS SEE SHEET 477 OF 677

** 750mm 706.02, (D-LOAD 75)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63).

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	602 CONCRETE MASONRY (C.M.)	603 ** CONDUIT TYPE A (METER)	607 FENCE TYPE 47 (METER)	601 RIPRAP USING 150mm CONC. SLAB (S.M.)	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER (C.M.)
F-1	LT.	A4+600.00	A4+757.630			163.69		
D-1	LT.	A4+680.000		1.54	49.20		2.29	
RCP-1		A4+680.000						3.42
TOTALS CARRIED TO SUB-SUMMARY				1.54	49.20	163.69	2.29	3.42

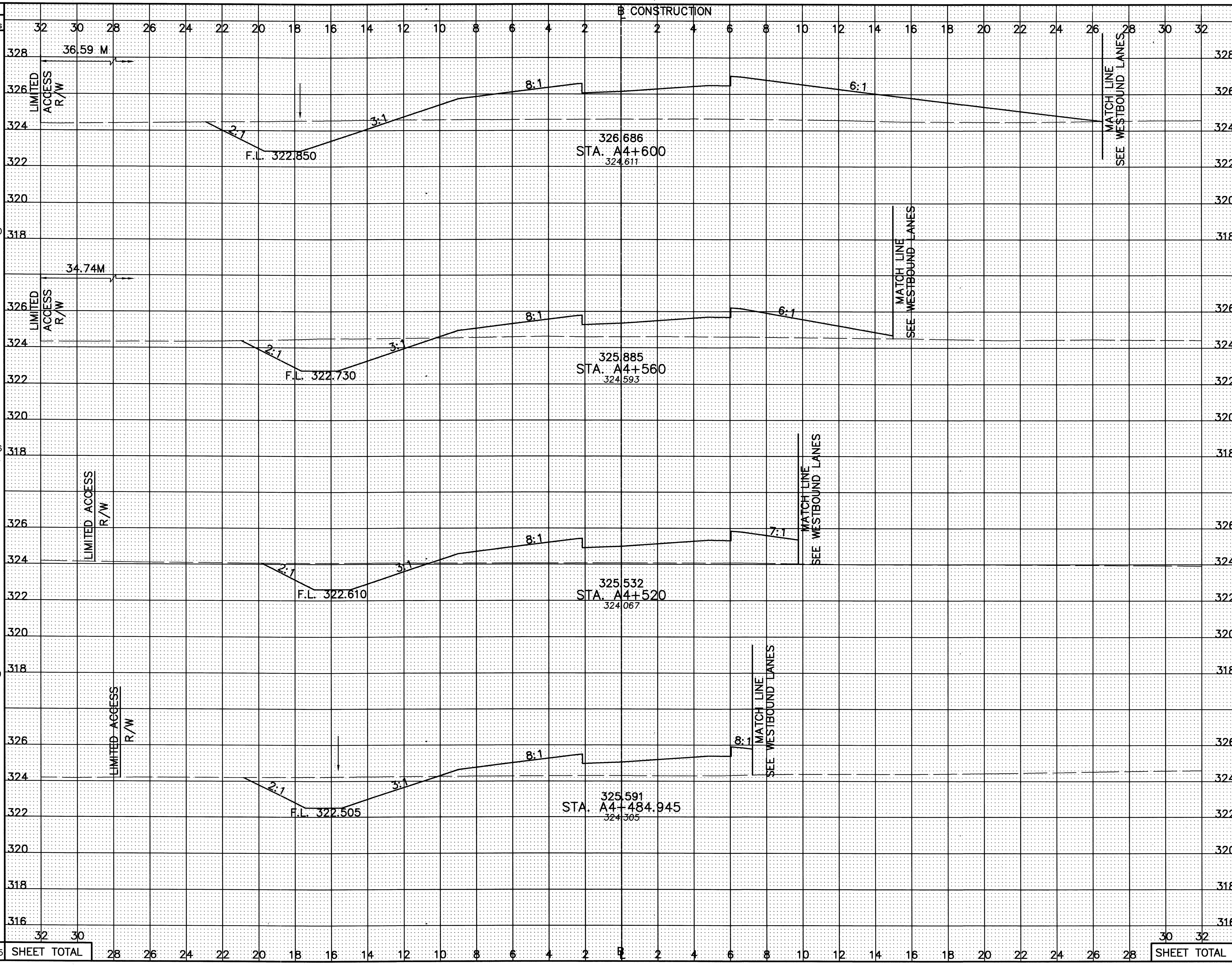
RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE – RAMP A
STA. A4+600 TO STA. A4+793.170

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
55.9	
	1970
42.6	
	1476
31.2	
	1029
27.5	
	0
SHEET TOTAL	4475

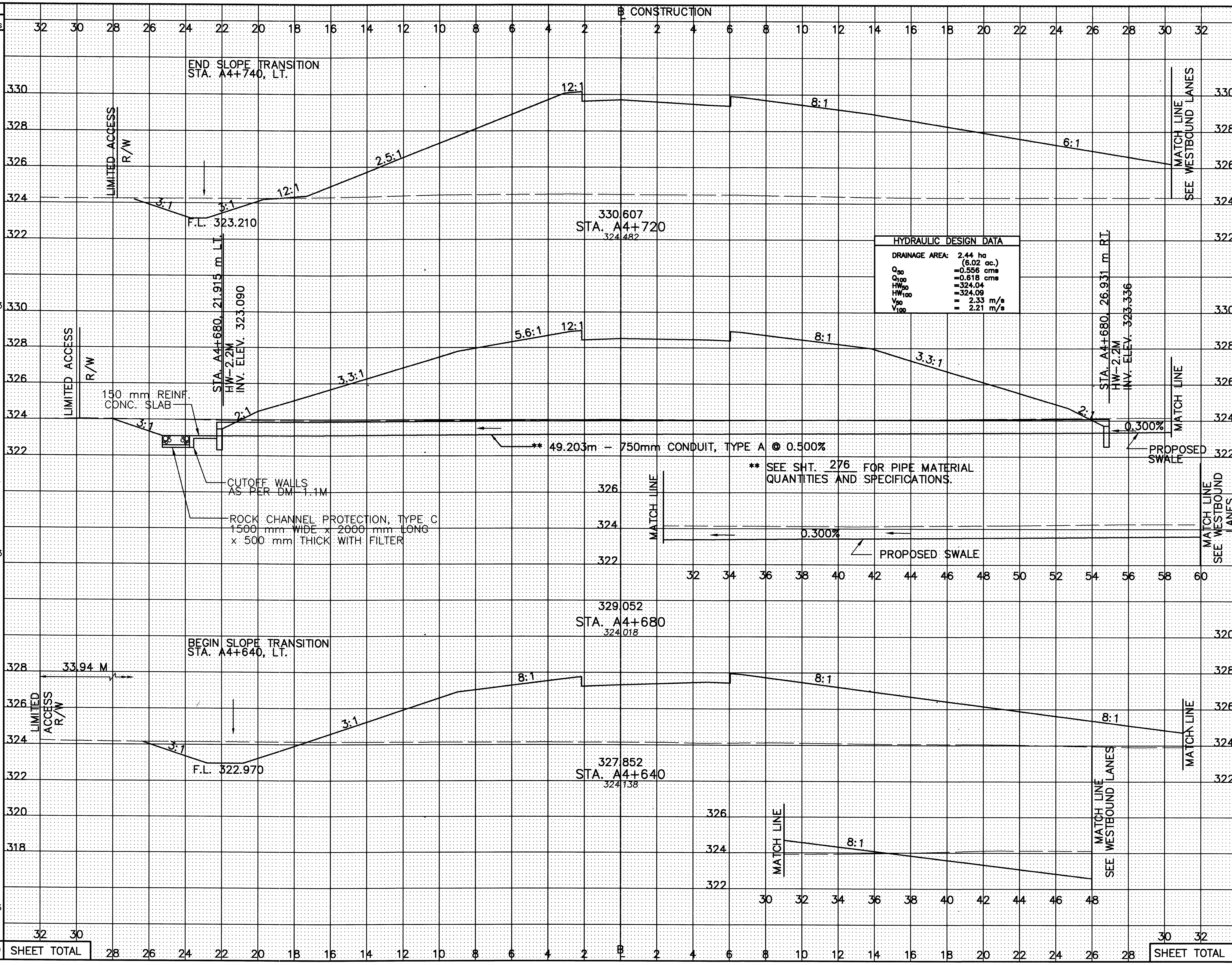


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11.1	49.4		
		423	1428
11.0	21.1		
		387	857
9.2	21.5		
		339	634
11.0	14.6		
		1149	2919

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP A
STA. A4+484.945 TO STA. A4+600

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS
51.3	
	2683
82.9	
	3023
68.3	
	2483
SHEET TOTAL	8189

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4.1	186.5		
		286	7025
11.1	173.5		
		382	5863
8.0	119.7		
		370	3430
SHEET TOTAL		1038	16318

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP A
STA. A4+640 TO STA. A4+720

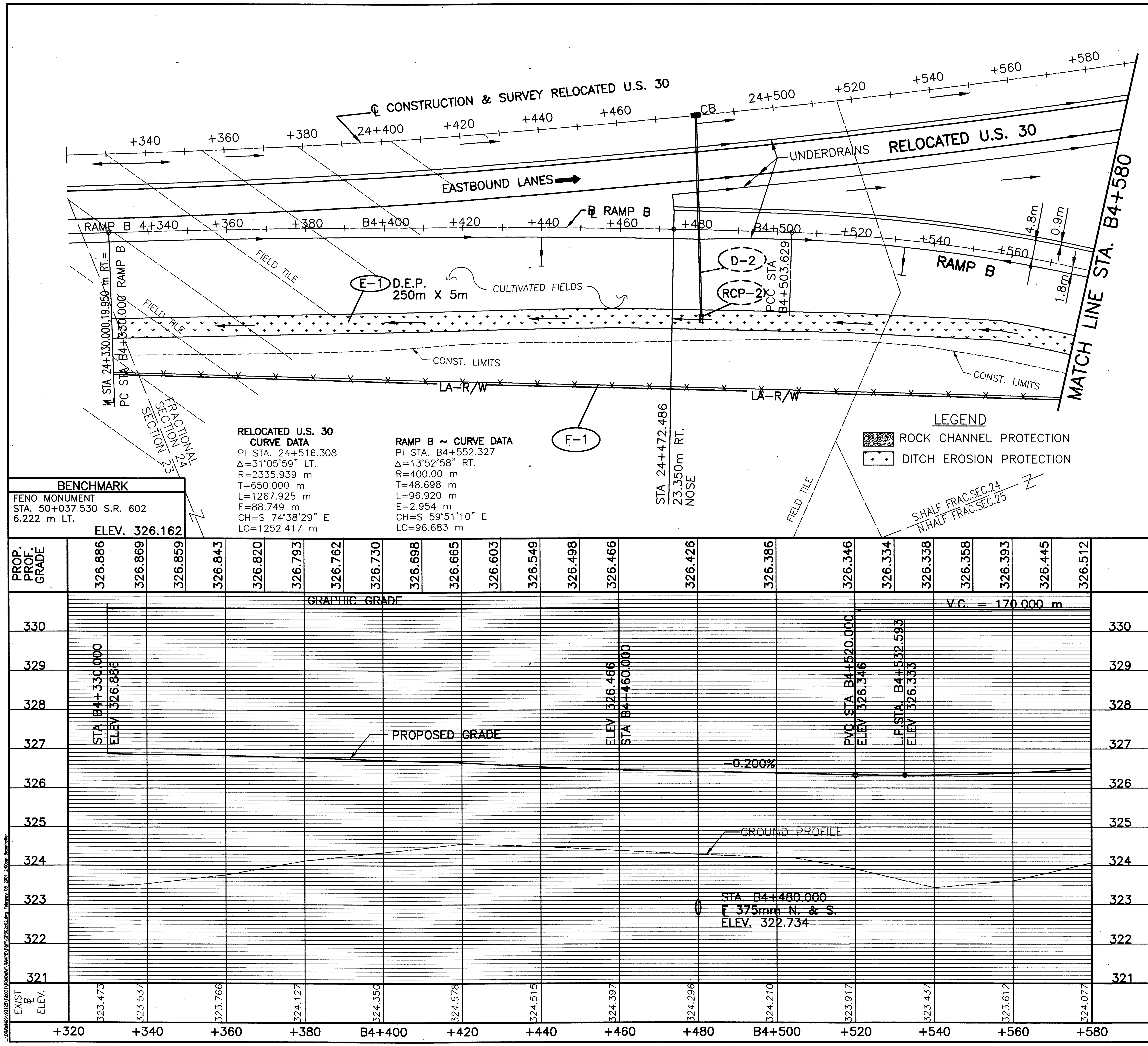
CRA-30-24.000

CROSS-SECTIONS – RAMP A
STA. A4+720 TO STA. A4+763
CRA-30-24.000
CALCULATED PSB
CHECKED LBD
SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
32.9 M
LIMITED ACCESS R/W
3:1
3:1
12:1
2:1
12:1
8:1
6:1
MATCH LINE
F.L. 323.330
6:1
24:1
24:1
MATCH LINE
SEE WESTBOUND LANES
331.432
STA. A4+763
324.519
99.3
6.7
283
END SLOPE TRANSITION
STA. A4+740, LT.
4165
467
10406
LIMITED ACCESS R/W
3:1
3:1
12:1
2.5:1
12:1
8:1
6:1
MATCH LINE
F.L. 323.210
6:1
16:1
MATCH LINE
SEE WESTBOUND LANES
330.607
STA. A4+720
324.482
94.4
15
201
3546
522
7036
7711
SHEET TOTAL
SHEET TOTAL
989
17442
279
677

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.



ESTIMATED QUANTITIES

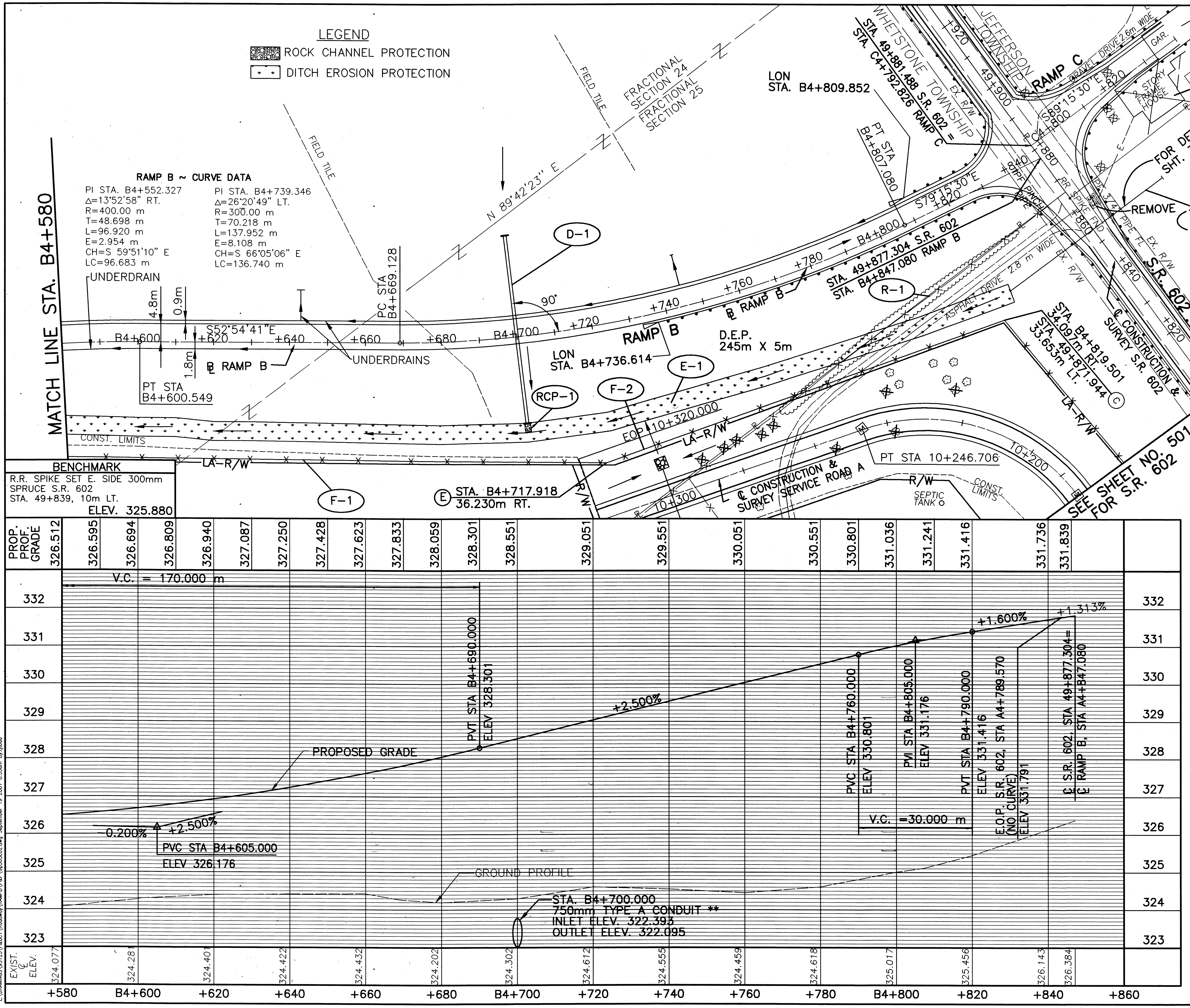
REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
E-1	RT.	B4+330.000	B4+580.000		1250
F-1	RT.	B4+330.000	B4+580.000	240.68	
TOTALS CARRIED TO SUB-SUMMARY				240.68	1250

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE - RAMP B
STA. B4+320 TO STA. B4+580

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR GUARDRAIL QUANTITIES SEE SHEET 318 OF 677.
6. FOR CULVERT DETAILS SEE SHEET 284 OF 677.
7. FOR INTERCHANGE DETAILS SEE SHEET 477 OF 677.

** 750mm 706.02, (D-LOAD 75)
750mm 707.01 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED	601 RIPRAP USING 150mm CONC. SLAB	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER	602 CONCRETE MASONRY	603 ** CONDUIT TYPE A	607 FENCE TYPE 47	670 DITCH PROTECTION
				METER	S.M.	C.M.	C.M.	METER	METER	S.M.
D-1	LT.&RT.	B4+700.000			2.28		1.22	49.65		
E-1	RT.	B4+580.00	B4+825.000							1225
F-1	RT.	B4+580.00	B4+717.918						142.03	
F-2	RT.	B4+717.918	B4+819.501						111.6	
RCP-1	RT.	B4+700.000				1.91				
R-1	RT.	B4+720.000	B4+840.000	82						
TOTALS CARRIED TO SUB-SUMMARY				82	2.28	1.91	1.22	49.65	235.63	1225

metric units

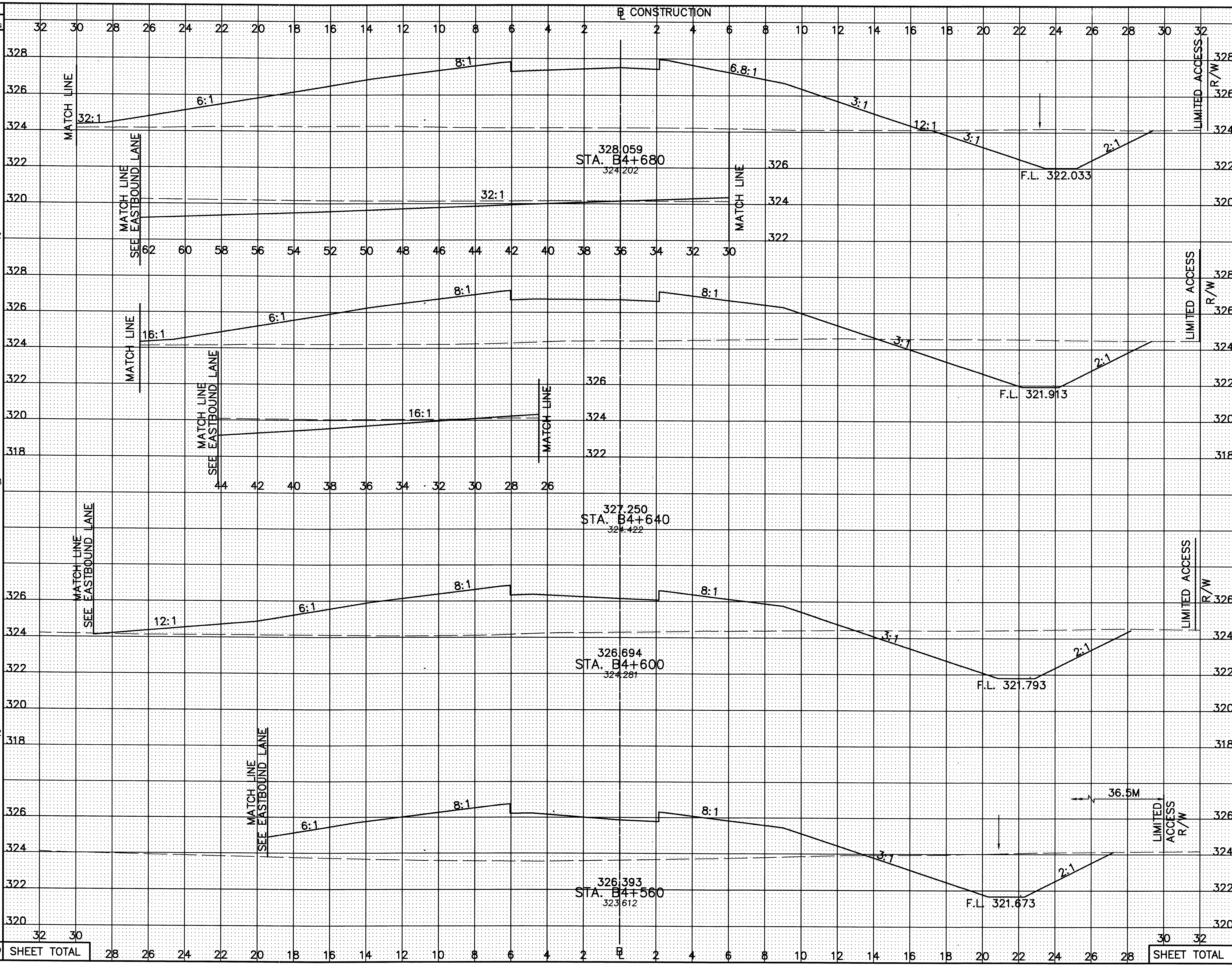
RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RAMP B
STA. B4+580 TO STA. B4+847.080

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
SEE EASTBOUND LANE MATCH LINE
8:1
8:1
3:1
2:1
39.0 M
LIMITED ACCESS R/W
326.338
STA. B4+540
323.437
F.L. 321.676
46.6
15.0
63.9
817
301
1107
6:1
40.4 M
326.346
STA. B4+520
323.917
F.L. 321.533
35.1
16.8
46.4
1542
811
1554
STA. B4+481.842, 19.920 m RT.
HW-2.2M
INV. ELEV. 321.738
DITCH F.L. ELEV. 321.438
40.9 M
49.250 m ~ 375 mm TYPE B CONDUIT @ 5.00%
F.L. 321.433
2.5 m L X 1.2 m W X 0.5 m T
ROCK CHANNEL PROTECTION, TYPE C W/FILTER
326.426
STA. B4+480
324.296
42.0
23.9
31.3
337
195
247
7:1
40.8 M
326.439
STA. B4+473.629
324.297
F.L. 321.451
41.6
24.8
30.2
1745
2141
2696
SHEET TOTAL
3052
5049
CROSS-SECTIONS - RAMP B
STA. B4+471.947TO STA. B4.540
CRA-30-24.000
282
677



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
88.2		26.8	104.9		
	3152			1073	3520
69.4		27.0	71.8		
	2468			974	2652
54.0		21.7	60.7		
	2062			743	2628
49.1		17.5	69.1		
	957			308	1341
SHEET TOTAL	8639			3098	10141

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RAMP B
STA. B4+560 TO STA. B4+680

CRA-30-24.000

283
677

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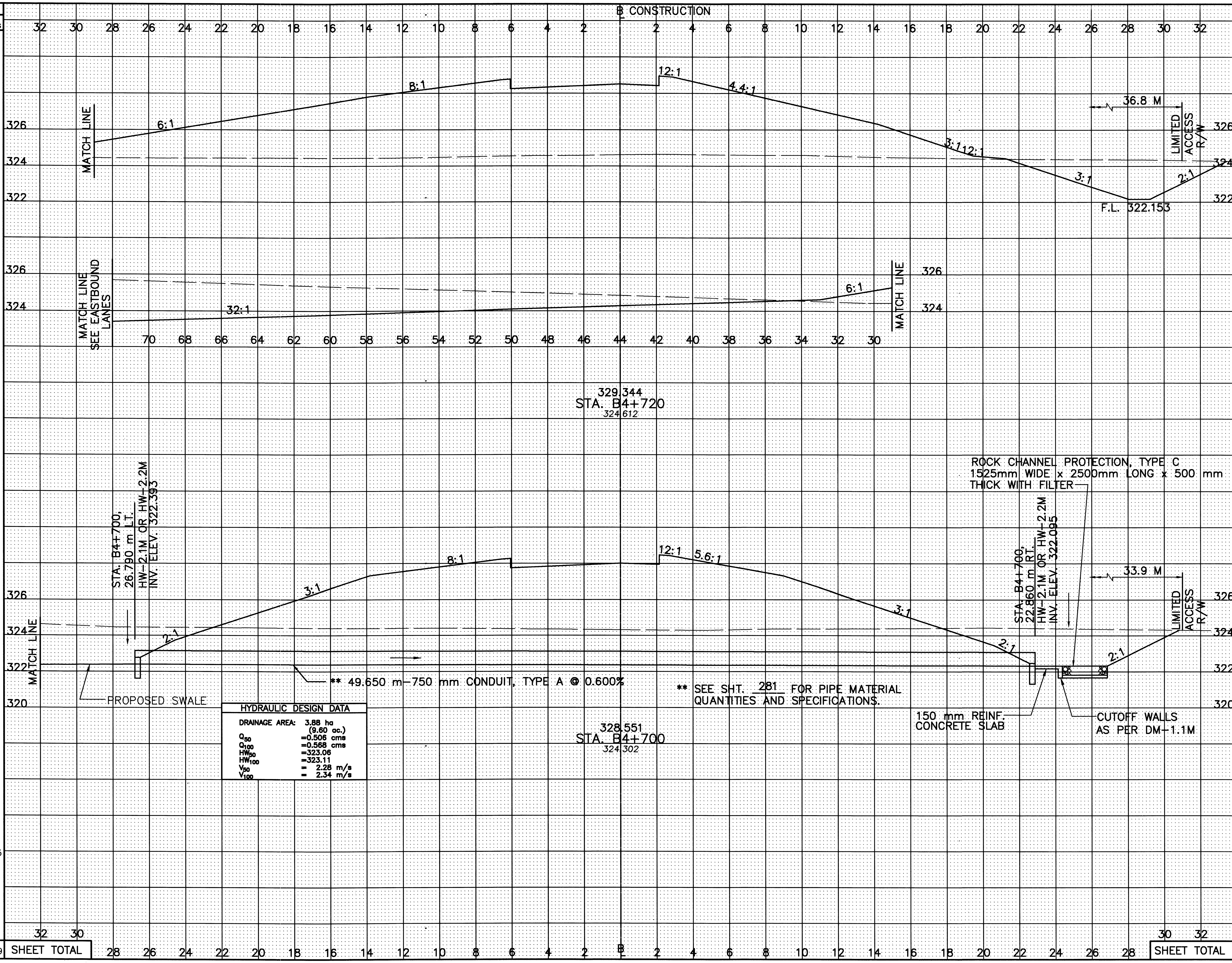
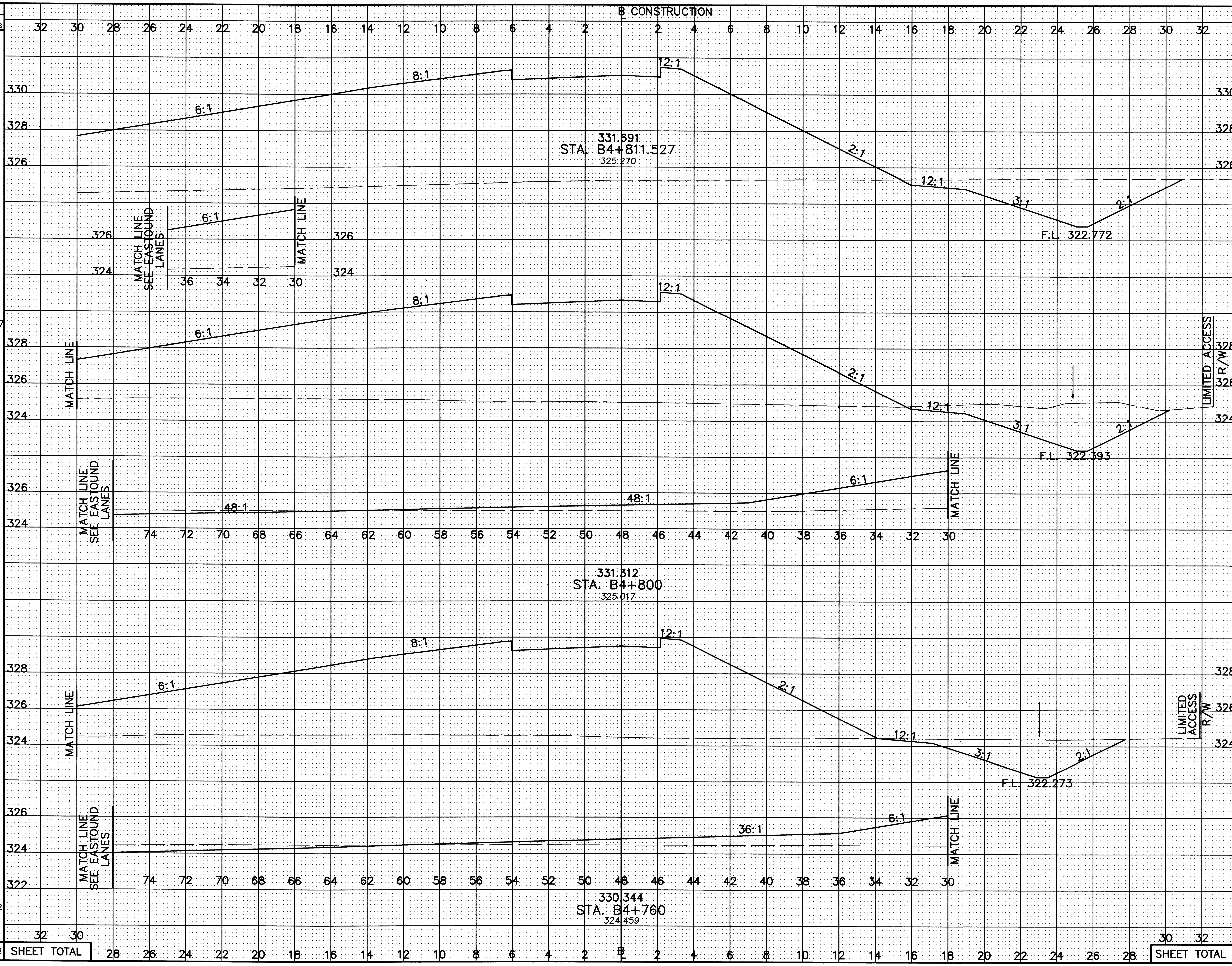


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
99		56.8	138.1		
	1953			846	2684
96.3		27.8	130.3		
	1845			546	2352
	3789			1392	5036

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - RAMP B
STA. B4+700 TO STA. B4+720

CRA-30-24.000



SEEDING	
END WIDTH	SQ. METERS
55.4	
	899.7
100.7	
	3976
98.1	
	3942
	8818

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
19.1	224.3		
		221.3	2483.4
19.3	206.6		
		356	3816
16.3	175		
		1462	6262
		2039	12562

SHEET TOTAL

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP B
STA. B4+760 TO STA. B4+811.527

CRA-30-24.000

285
677

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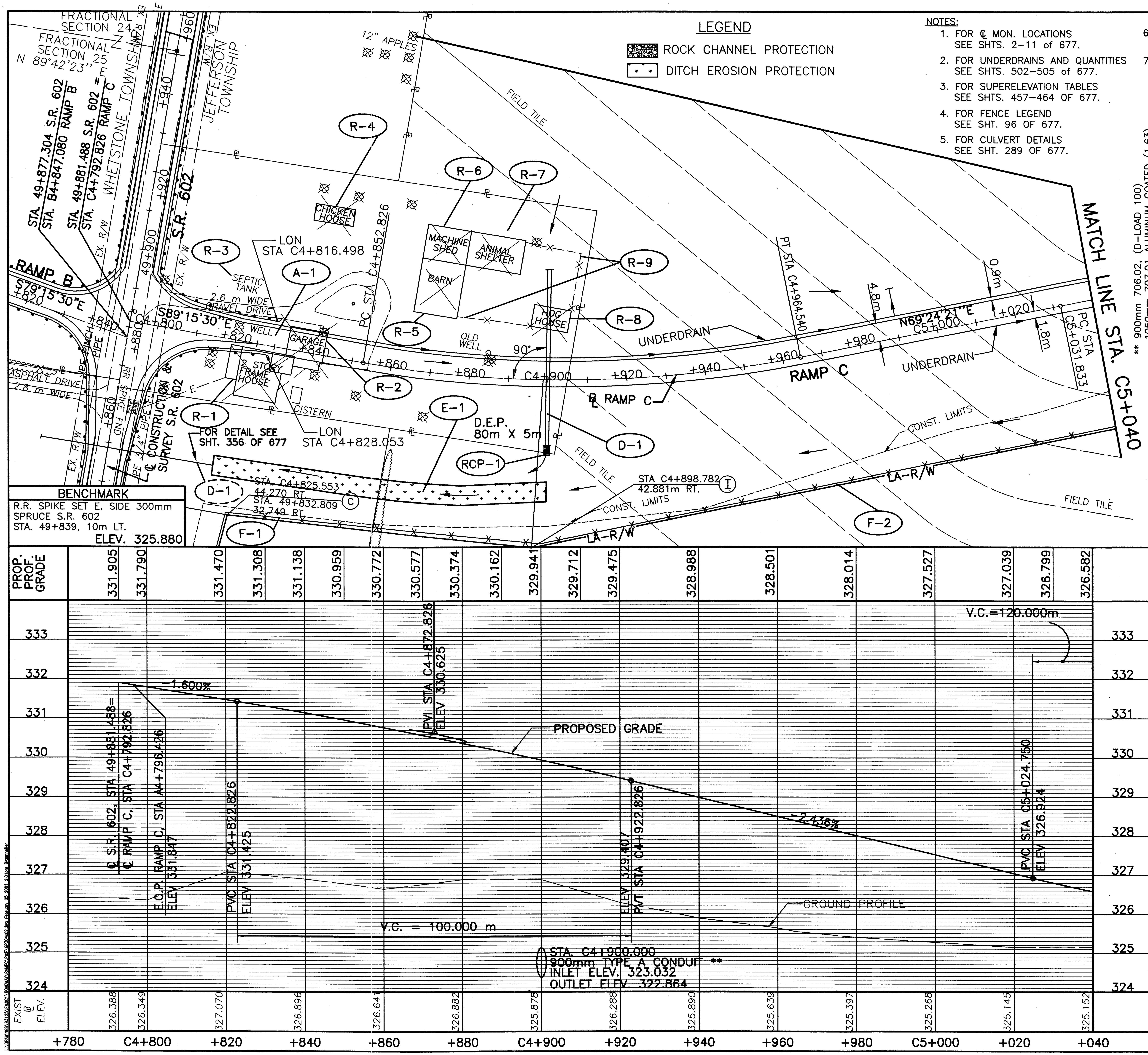


NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHTS. 2–11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHTS. 502–505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHTS. 457–464 OF 677.
4. FOR FENCE LEGEND SEE SHT. 96 OF 677.
5. FOR CULVERT DETAILS SEE SHT. 289 OF 677.
6. FOR GUARDRAIL QUANTITIES SEE SHT. 318 OF 677.
7. FOR INTERCHANGE DETAILS SEE SHT. 477 OF 677.

RAMP C ~ CURVE DATA

PI STA. C4+909.338	PI STA. C5+107.983
Δ=21°20'09" LT.	Δ=19°12'34" RT.
R=300.000 m	R=450.000 m
T=56.512 m	T=76.150 m
L=111.714 m	L=150.871 m
E=5.276 m	E=6.398 m
CH=N 80°04'25" E	CH=N 79°00'38" E
LC=111.070 m	LC=150.165 m

** 900mm 706.02, (D-LOAD 100)
1050mm 707.01 ALUMINUM COATED (1.63), 707.02 (1.63), 707.04 (1.63), 707.08 (1.63),

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	202 BUILDING DEMOLISHED (EACH)	202 SEPTIC TANK REMOVED (EACH)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	601 RIPRAP USING 150mm CONC. SLAB (S.M.)	602 CONCRETE MASONRY (C.M.)	603 ** CONDUIT TYPE A (METER)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)	SPECIAL DRILLED WATER WELL ABANDONED (EACH)
A-1	RT.	C4+829.510											1
D-1	LT.&RT.	C4+900.000						3.19	1.89	52.38			
E-1	RT.	C4+820.000	C4+900.000									400	
F-1	RT.	C4+825.553	C4+898.782								80.18		
F-2	RT.	C4+898.782	C4+040.000								149.17		
R-1	RT.	C4+821.989			1								
R-2	℄	C4+833.187			1								
R-3	LT.	C4+825.981				1							
R-4	LT.	C4+834.330			1								
R-5	LT.	C4+863.782			1								
R-6	LT.	C4+864.292			1								
R-7	LT.	C4+876.479			1								
R-8	LT.	C4+895.210			1								
R-9	LT.	C4+875.423		46									
RCP-1	RT.	C4+900.000					3.19						
TOTALS CARRIED TO SUB-SUMMARY				46	7	1	3.19	3.19	1.89	52.38	229.35	400	2

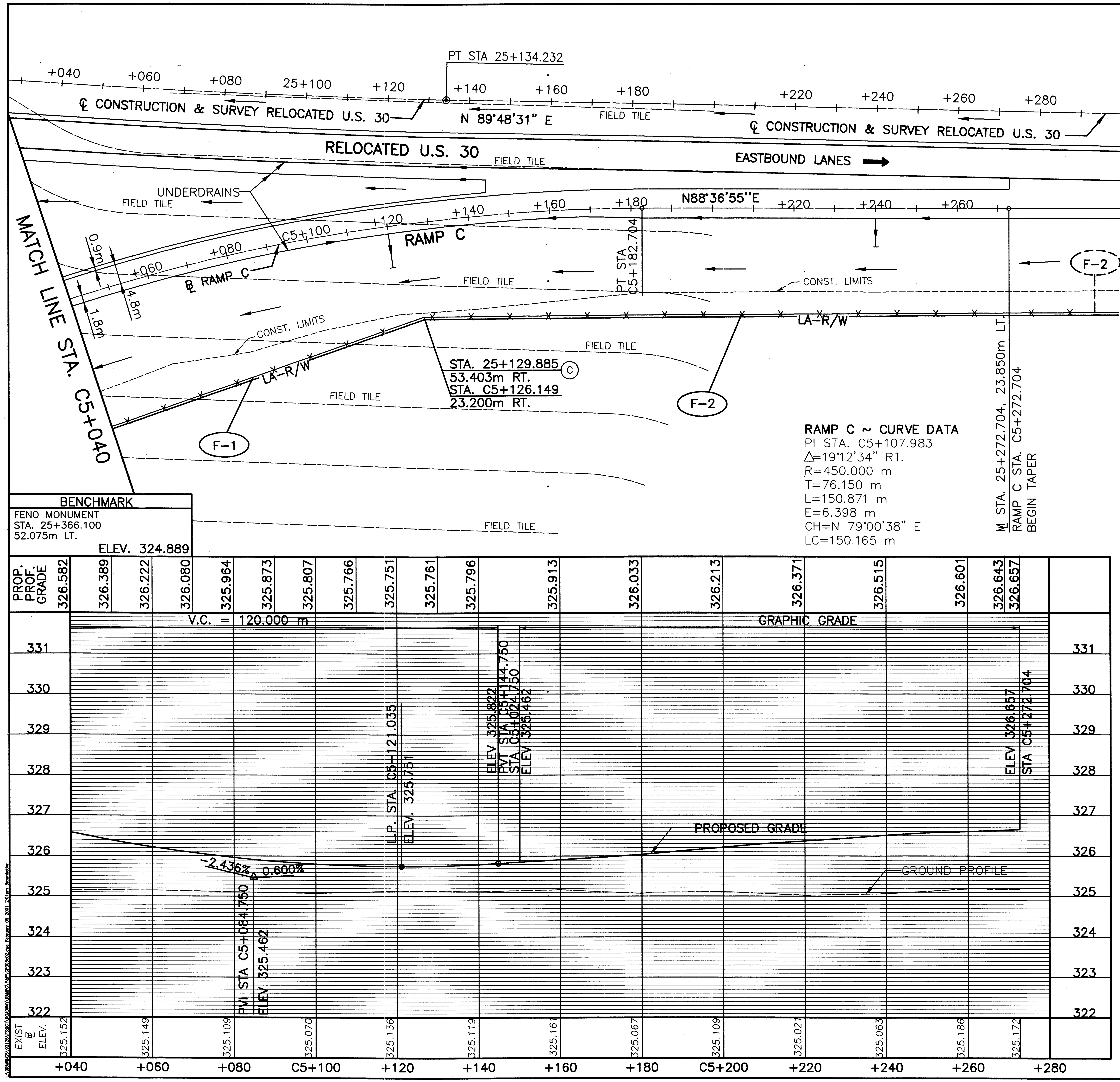
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RAMP C
STA. C4+792.826 TO STA. C5+040

CRA-30-24.000



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 METER
F-1	RT.	C5+040.000	C5+126.149	81.23
F-2	RT.	25+129.885	25+272.704	142.82
TOTALS CARRIED TO SUB-SUMMARY				224.05

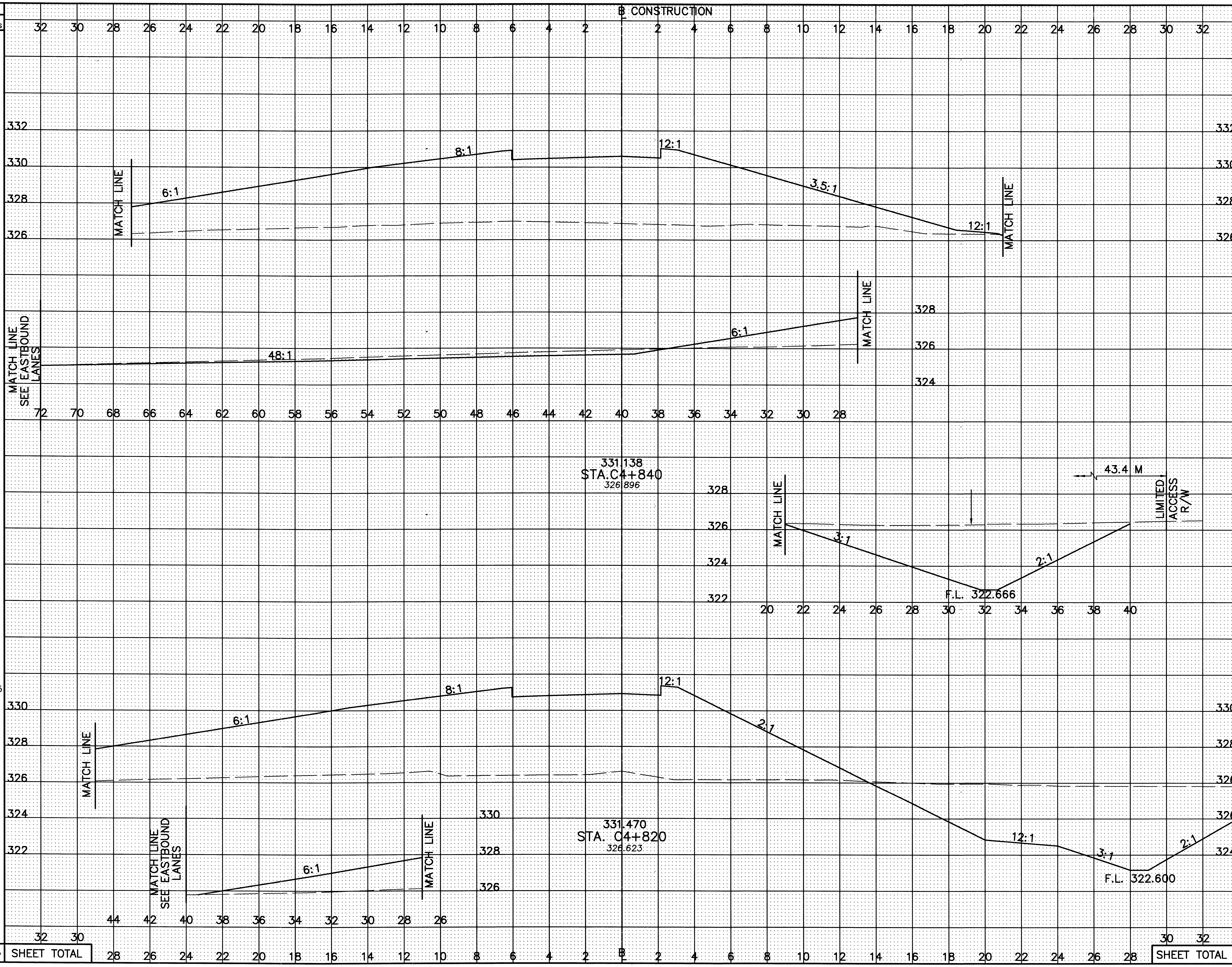
RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RAMP C
STA. C5+040 TO STA. C5+272.704

CRA-30-24.000

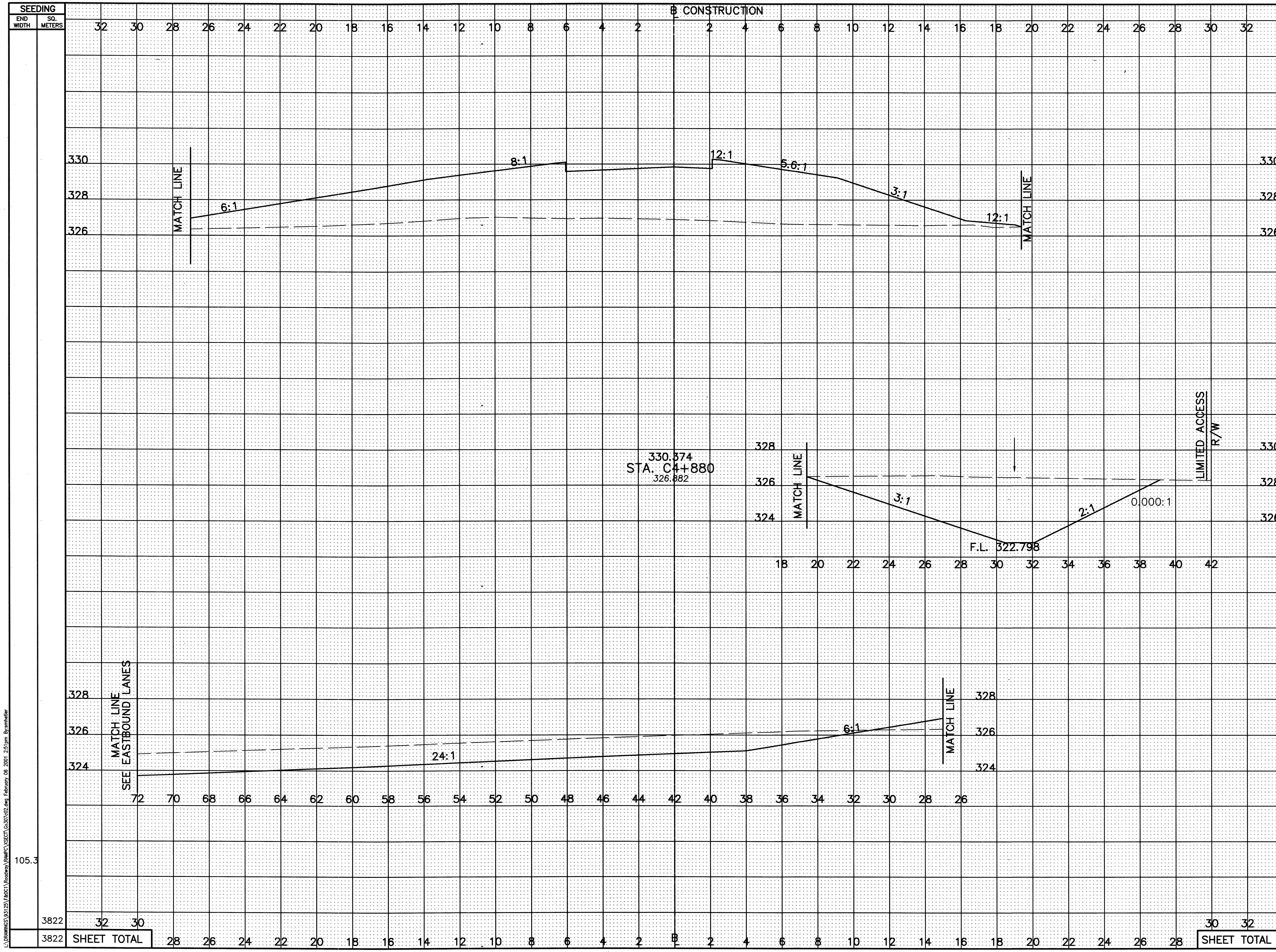
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
85.8		40.5	131.2		
	1205			999	2856
34.7		59.4	154.4		
	1205			999	2856



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP C
STA. C4+820 TO STA. C4+840

CRA-30-24.000

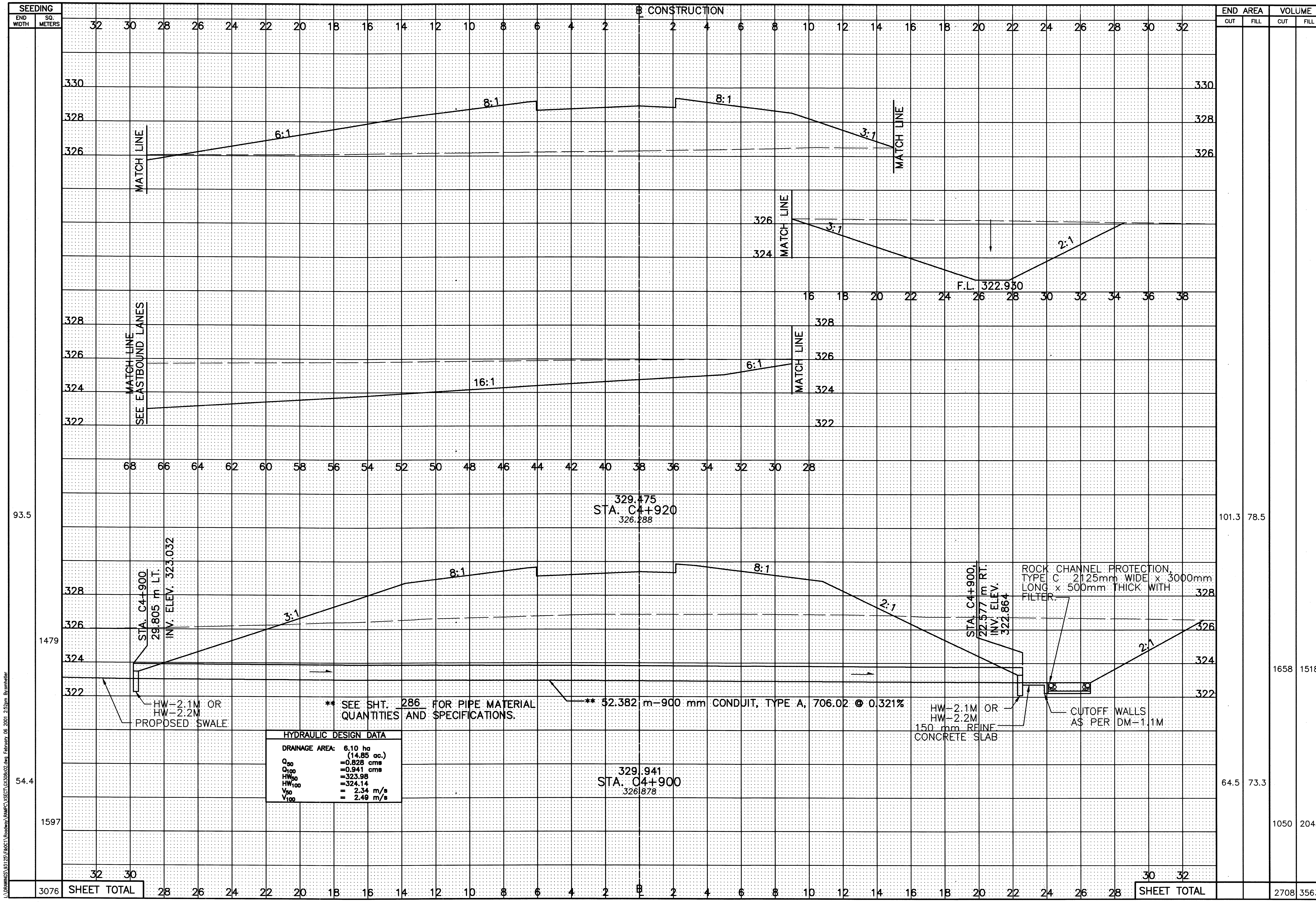


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
80.5	99.7		
		2420	4618
		2420	4618

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP C
STA. C4+880

CRA-30-24.000

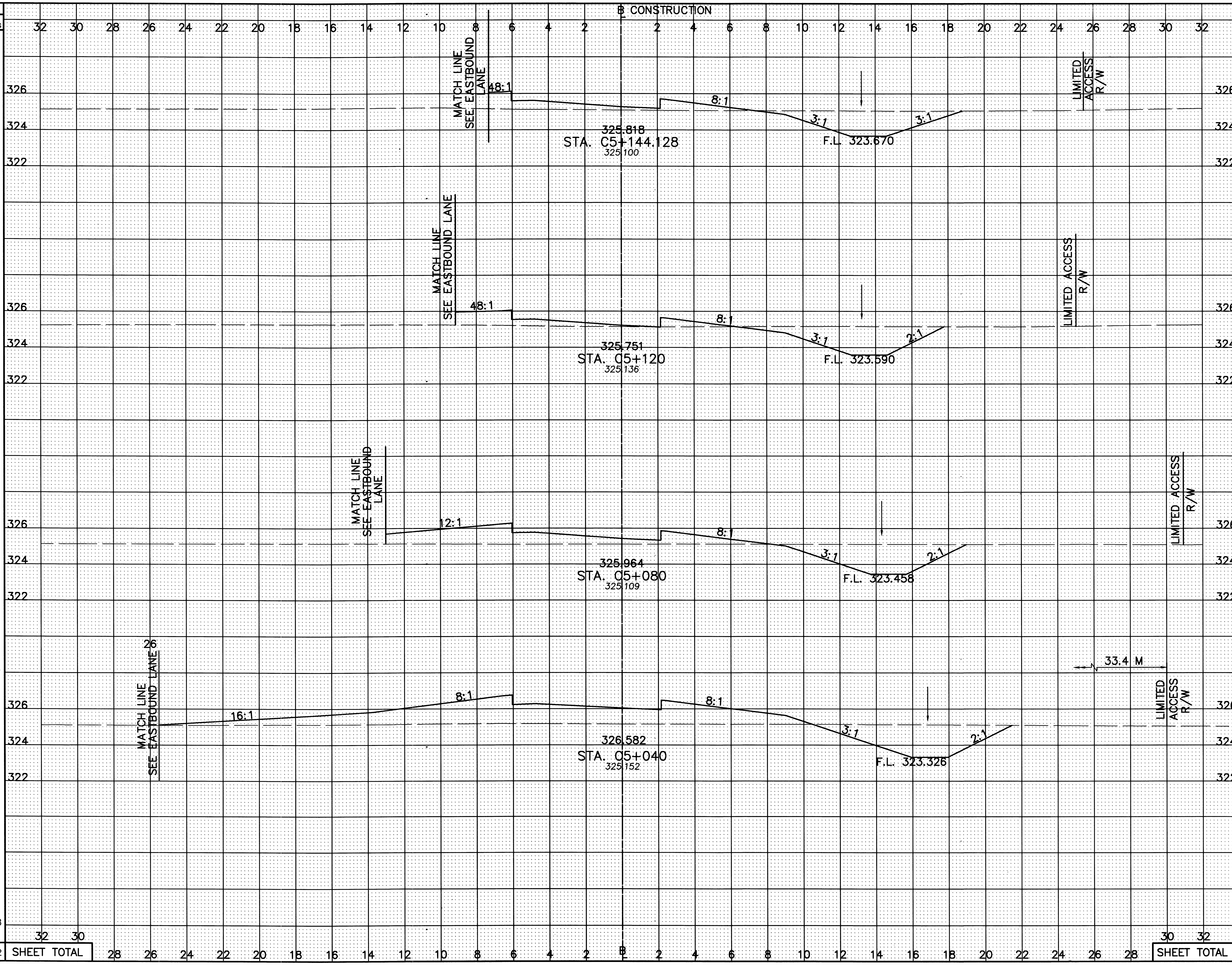


CALCULATED PSB
CHECKED LBD

CROSS–SECTIONS – RAMP C
STA. C4+900 TO STA. C4+920

CRA–30–24.000


SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
MATCH LINE
16:1
6:1
8:1
8:1
3:1
2:1
F.L. 323.194
33.6 M
LIMITED ACCESS R/W
MATCH LINE
SEE EASTBOUND LANES
16:1
MATCH LINE
327.527
STA. C5+000
325.268
60.2
22.1
49.2
2822
1644
2312
MATCH LINE
16:1
6:1
8:1
8:1
3:1
2:1
F.L. 323.062
33.9 M
LIMITED ACCESS R/W
MATCH LINE
SEE EASTBOUND LANES
16:1
MATCH LINE
328.501
STA. C4+960
325.639
80.9
60.1
66.4
3488
6310
SHEET TOTAL
SHEET TOTAL
3228
2898
4872
5210
CROSS-SECTIONS – RAMP C
STA. C4+960 TO STA. C5+000
CRA-30-24.000
289A
677



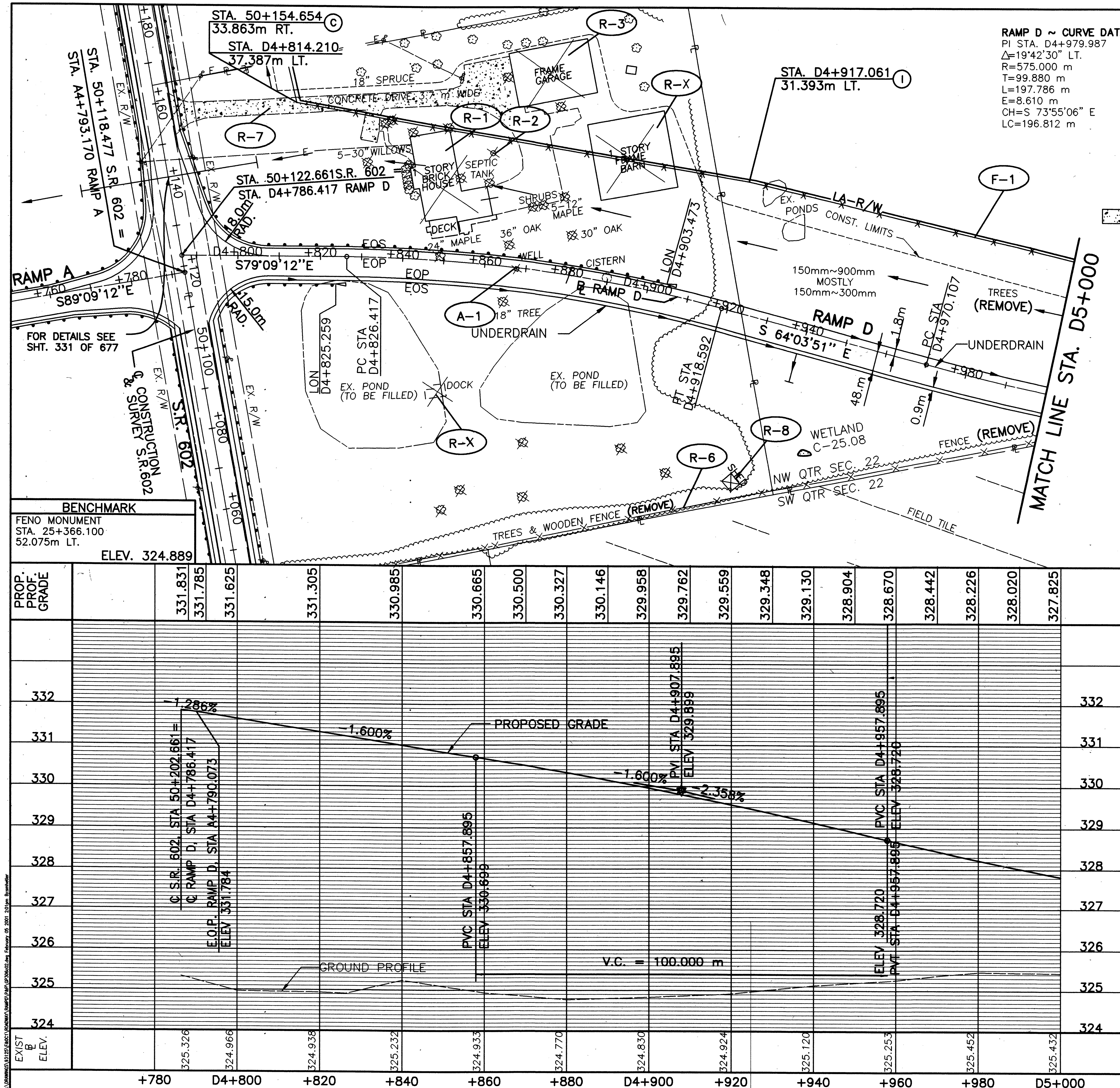
SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18.1		C5+144.128	8.7	5.4		
	450				213	128
19.2		C5+120	9.5	5.2		
	862				380	346
23.9		C5+080	10.1	12.1		
	1272				420	798
39.7		C5+040	11.6	27.8		
	1998				674	1540
SHEET TOTAL	4582				1687	2812

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP C
STA. C5+040 TO STA. C5+144.128

CRA-30-24.000

290
677



RAMP D ~ CURVE DATA
PI STA. D4+979.987
Δ=19°42'30" LT.
R=575.000 m
T=99.880 m
L=197.786 m
E=8.610 m
CH=S 73°55'06" E
LC=196.812 m

RAMP D ~ CURVE DATA
PI STA. D5+268.825
Δ=06°25'08" LT.
R=1800.00 m
T=100.932 m
L=201.652 m
E=2.828 m
CH=S 86°58'55" E
LC=201.547 m

metric units

LEGEND

CONCRETE PAVEMENT REMOVED

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR GUARDRAIL QUANTITIES SEE SHEET 317-319 OF 677.
6. FOR INTERCHANGE DETAILS SEE SHEET 477 OF 677.

(R-X) ITEMS REMOVED BY OTHERS PRIOR TO PROJECT.
★ QUANTITY CARRIED TO GENERAL NOTE SHEET 24

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 REGULATED UNDERGROUND STORAGE TANK REMOVED (EACH)	202 PAVEMENT REMOVED (S.M.)	202 BUILDING DEMOLISHED (EACH)	202 SEPTIC TANK REMOVED (EACH)	202 FENCE REMOVED (METER)		607 FENCE TYPE 47 (METER)	SPECIAL DRILLED WATER WELL ABANDONED (EACH)	
A-1	LT.	D4+867.789									1	
F-1	LT	D4+814.210	D5+000.000							192.85		
R-1	LT.	D4+845.079				1						
R-2	LT.	D4+859.434					1					
R-3	LT.	D4+864.129		2		1						
R-6	RT.	50+038.656	D5+000.000					255				
R-7	LT.	D4+786.417			755							
R-8	RT.	D4+931.289				1						
TOTALS CARRIED TO SUB-SUMMARY				2★	755	3	1	255		192.85	1	

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RAMP D
STA. D4+786.417 TO STA. D5+000

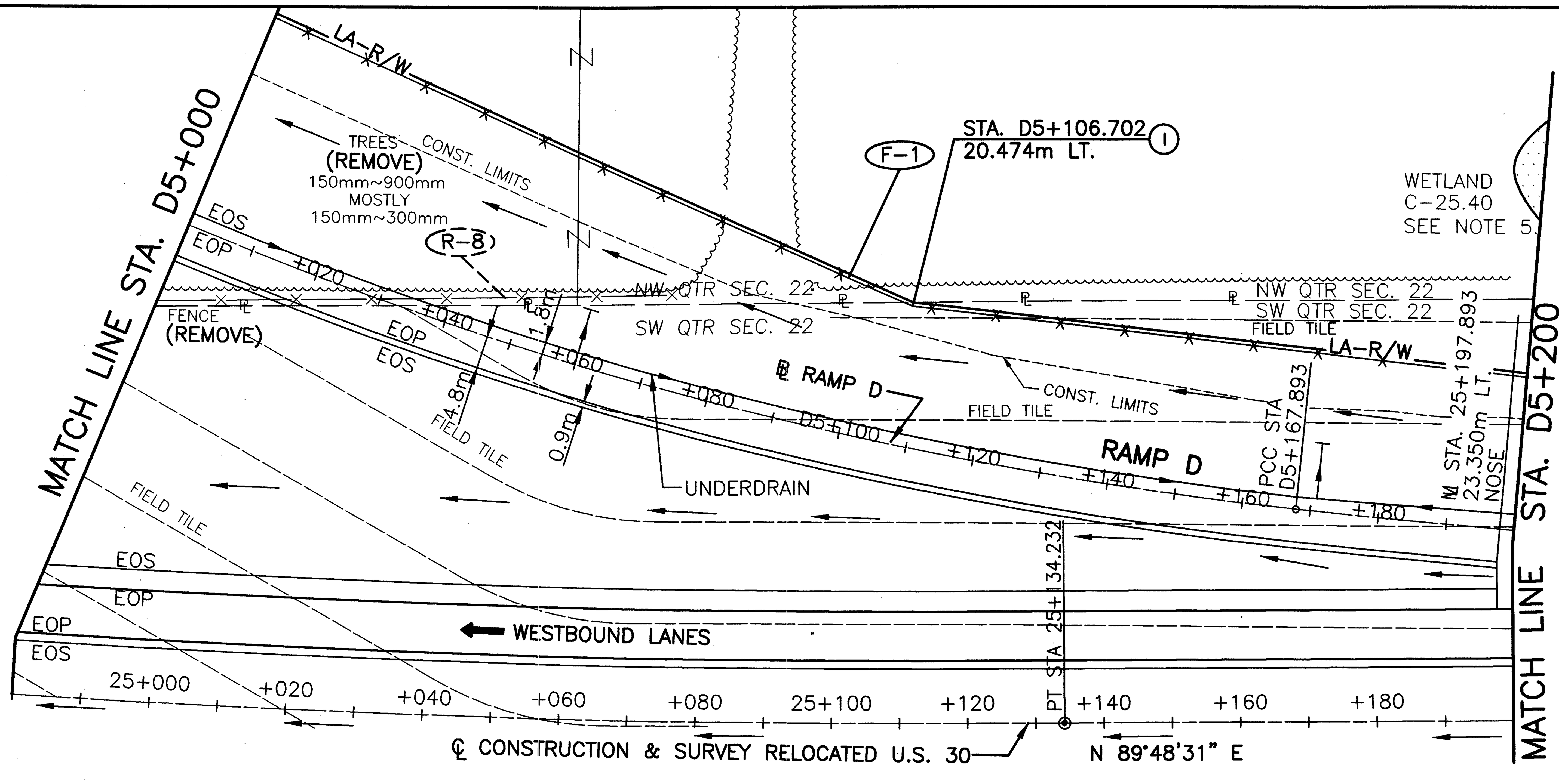
CRA-30-24.000

RAMP D ~ CURVE DATA
PI STA. 24+979.987
Δ=19°42'30" LT.
R=575.000 m
T=99.880 m
L=197.786 m
E=8.610 m
CH=S 73°55'06" E
LC=196.812 m

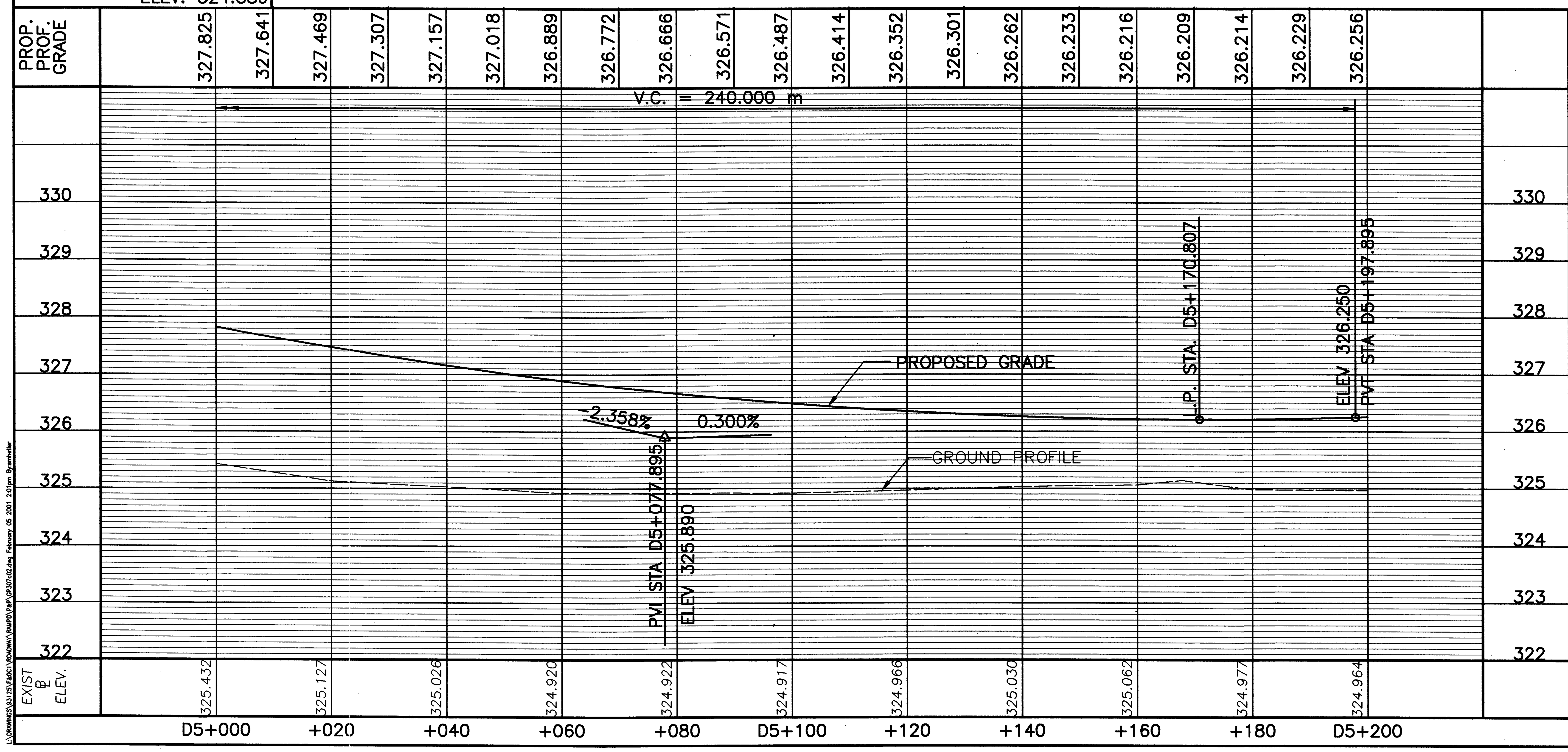
RAMP D ~ CURVE DATA
PI STA. 25+268.825
Δ=06°25'08" LT.
R=1800.00 m
T=100.932 m
L=201.652 m
E=2.828 m
CH=S 86°58'55" E
LC=201.547 m

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR NOTES CONCERNING PROTECTION OF WETLANDS SEE 25 OF 677.



BENCHMARK
FENO MONUMENT
STA. 25+366.100
52.075m LT.
ELEV. 324.889



ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 METER
F-1	LT	D5+000.000	D5+369.546	357.95
TOTALS CARRIED TO SUB-SUMMARY				357.95

RATIO 1:500 HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE - RAMP D
STA. D5+000 TO STA. D5+200

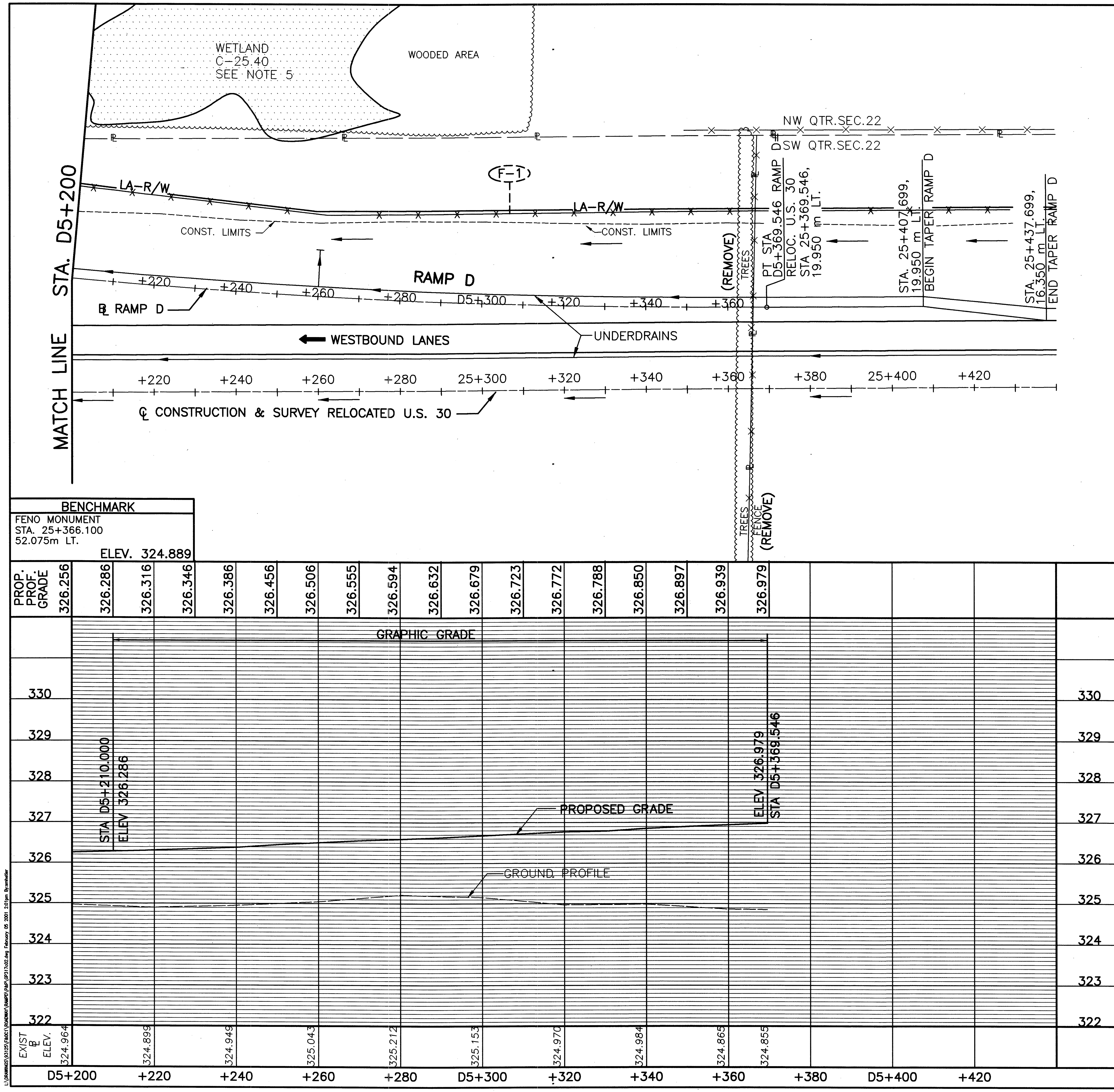
CRA-30-24.000

RAMP D ~ CURVE DATA
PI STA. 25+268.825
Δ=06°25'08" LT.
R=1800.00 m
T=100.932 m
L=201.652 m
E=2.828 m
CH=S 86°58'55" E
LC=201.547 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR NOTES CONCERNING PROTECTION OF WETLANDS SEE 25 OF 677.



ESTIMATED QUANTITIES

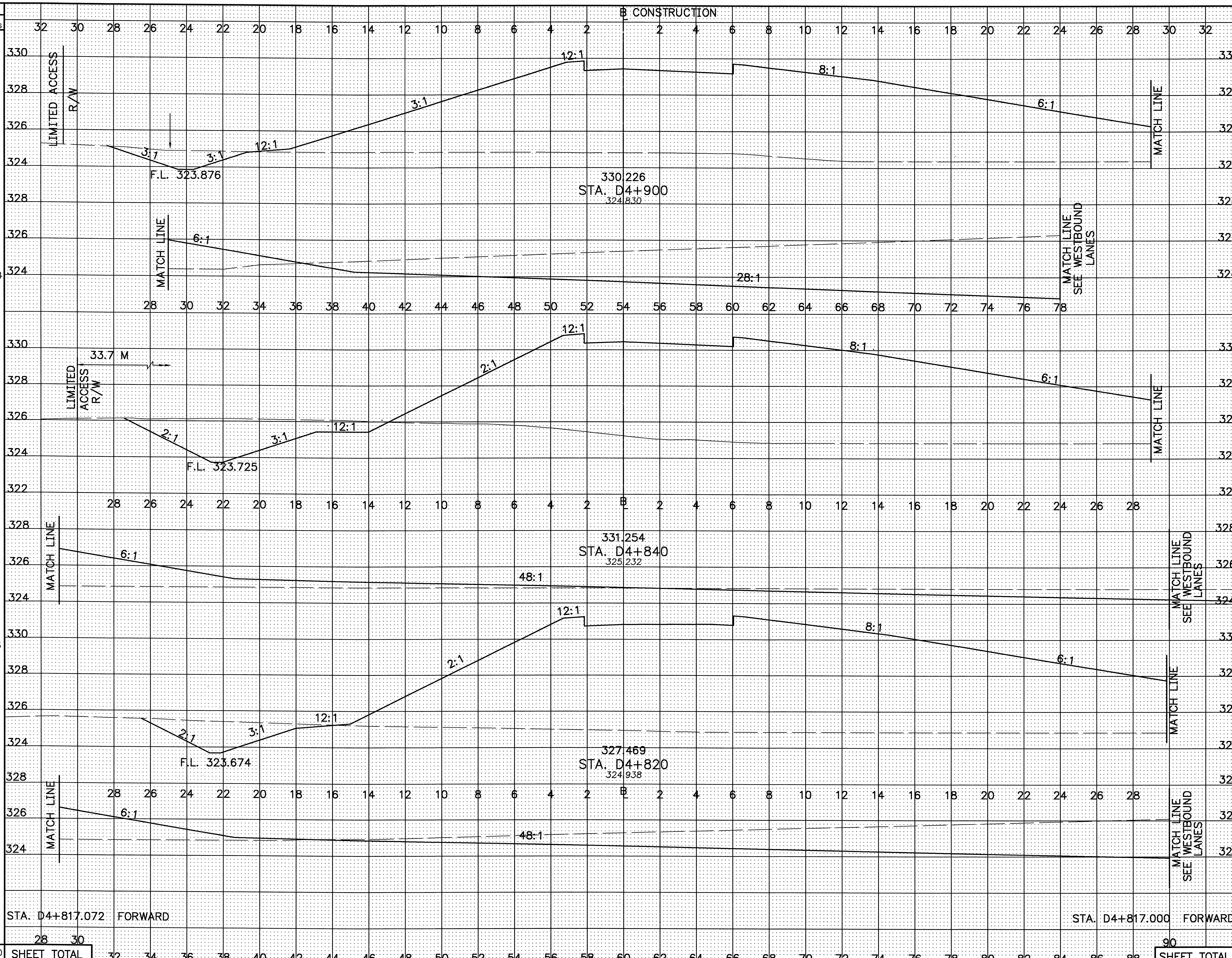
REF. No. | SIDE | STATION FROM | TO | TOTALS CARRIED TO SUB-SUMMARY

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RAMP D
STA. D5+200 TO STA. D5+369.546

CRA-30-24.000

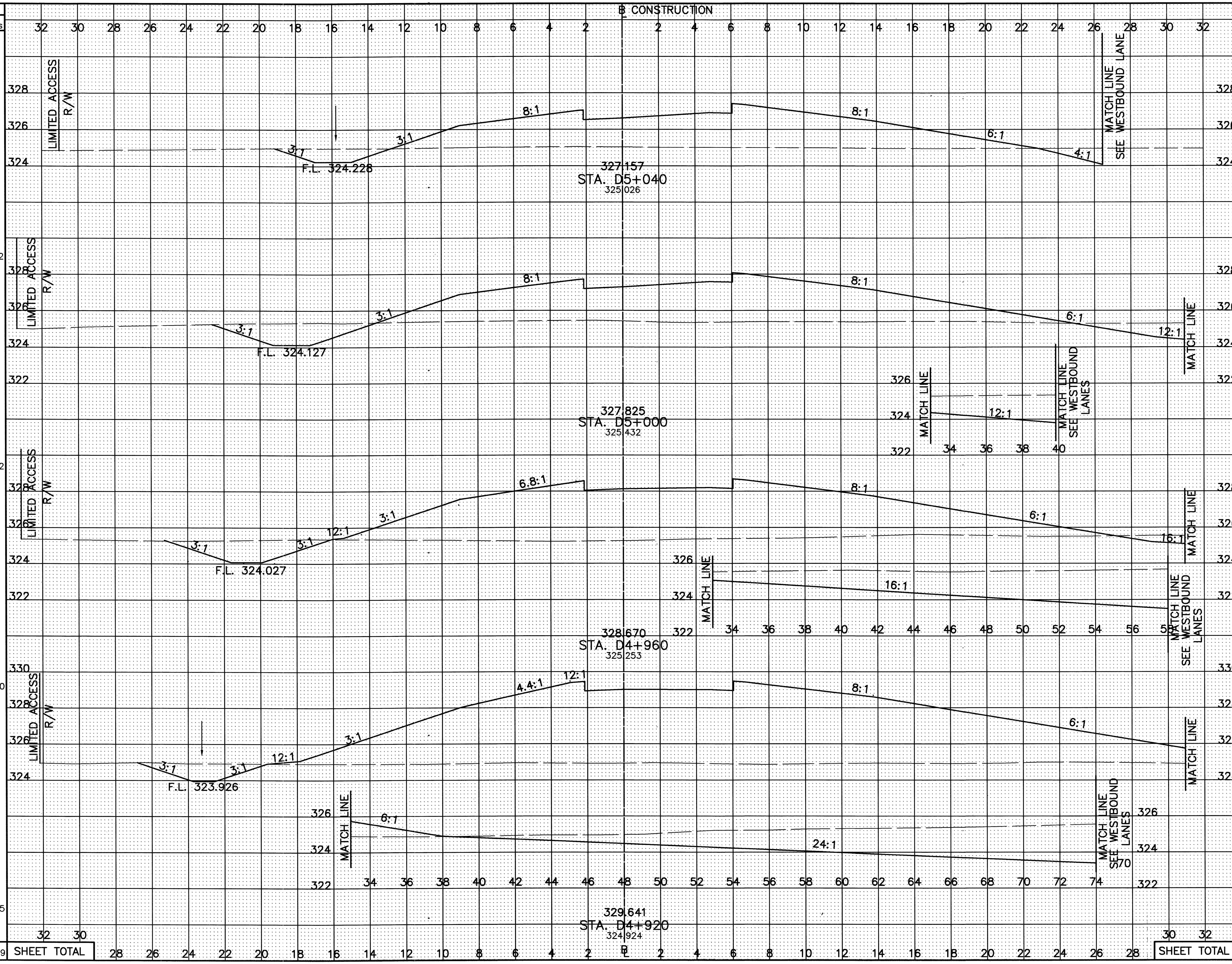


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
99.6		82.7	172.1		
	6324			3228	7214
111.2		24.9	188.6		
	2223			767	4049
111.1		51.8	216.3		
	163			78	325
0		0	0		
SHEET TOTAL	8710			4073	11588

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP D
STA. D4+800 TO STA. D4+900

CRA-30-24.000

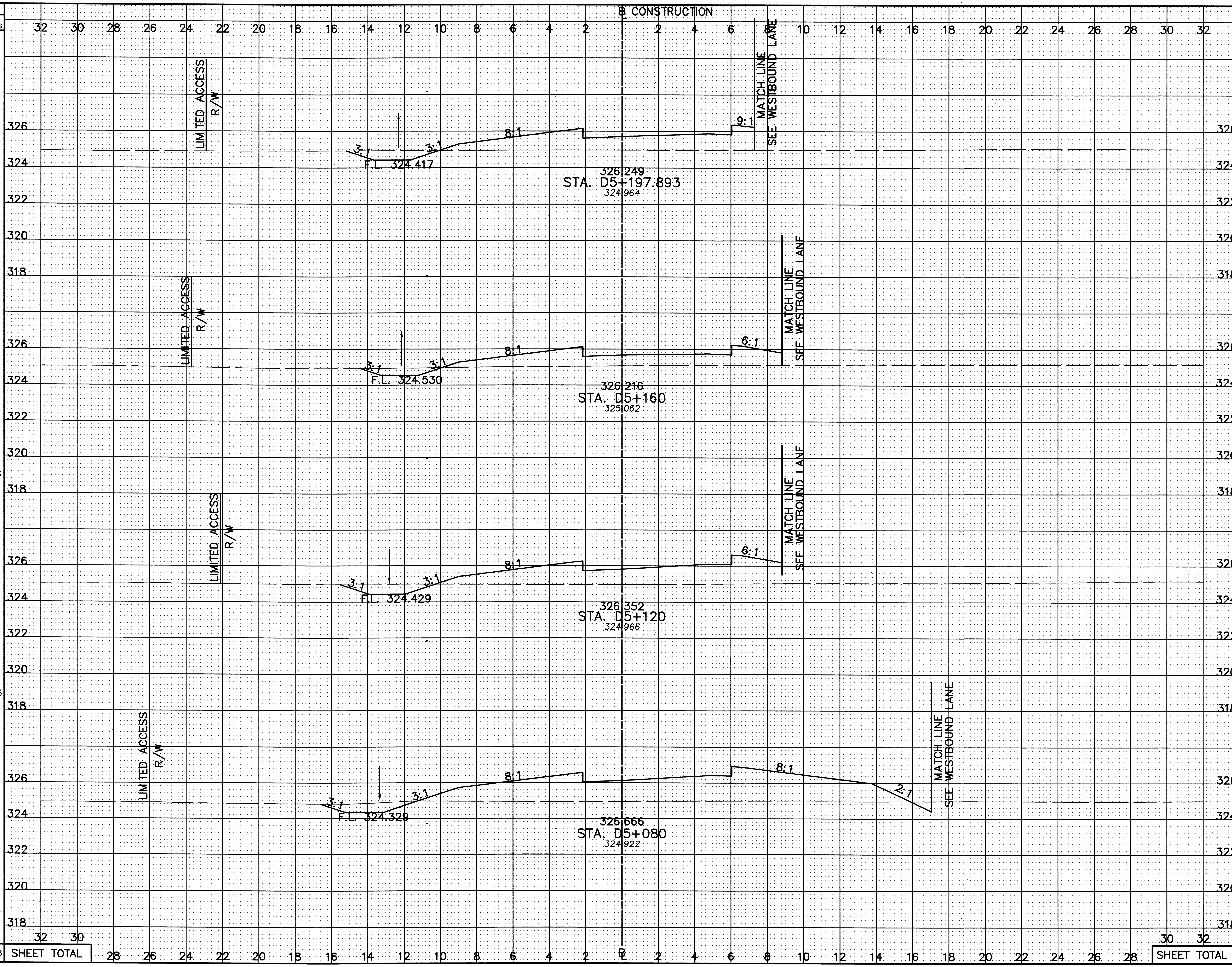


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
50.1		4.6	49.8		
	2282			465	2204
64.0		18.2	59.6		
	2862			1090	2898
79.1		34.6	84.5		
	3460			1330	4619
93.9		31.9	146.4		
	1935			1146	3185
SHEET TOTAL	10539			4031	12906

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP D
STA. D4+920 TO STA. D5+040

CRA-30-24.000



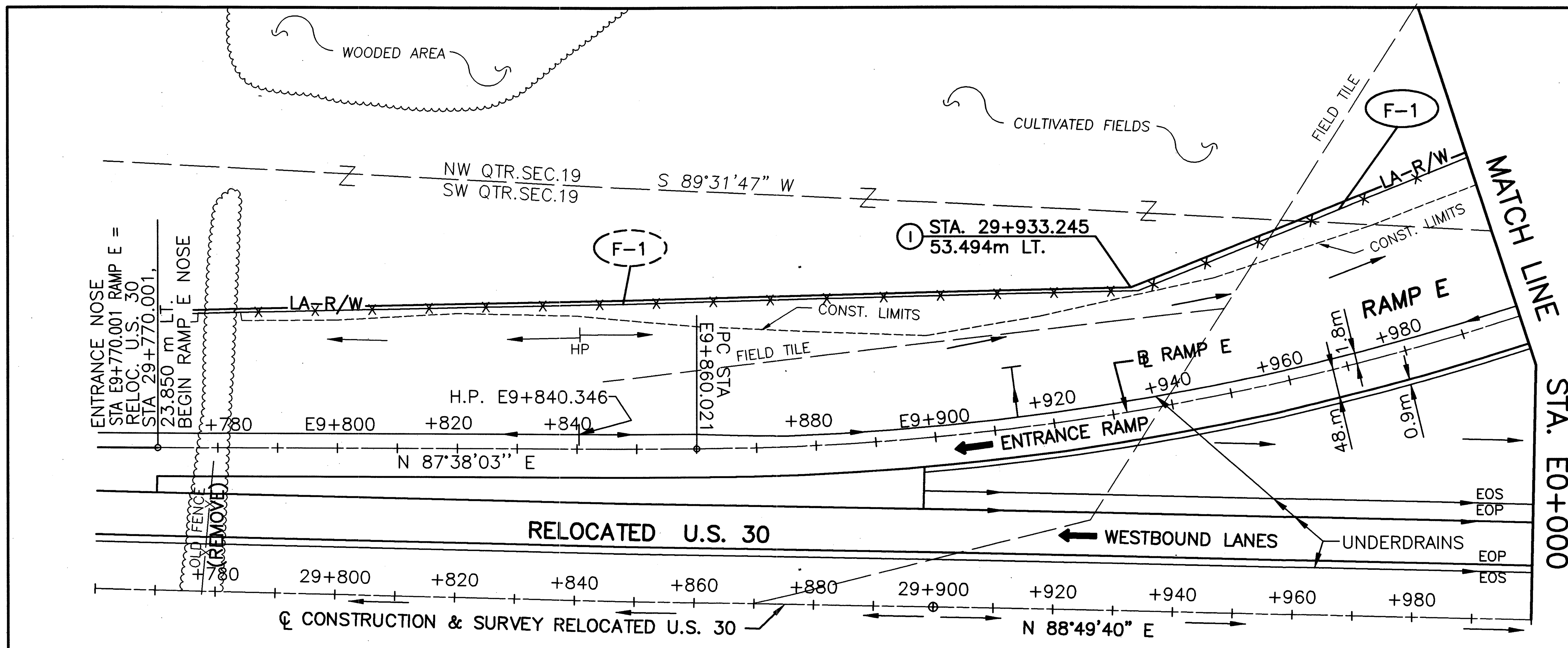
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22.2		1.8	13.8		
	882			59	496
24.6		1.3	12.5		
	1176			64	743
34.2		1.9	24.5		
	1396			81	1154
35.6		2.2	32.9		
	1714			135	1665
SHEET TOTAL	5168			339	4058

CALCULATED PSB
CHECKED LBD

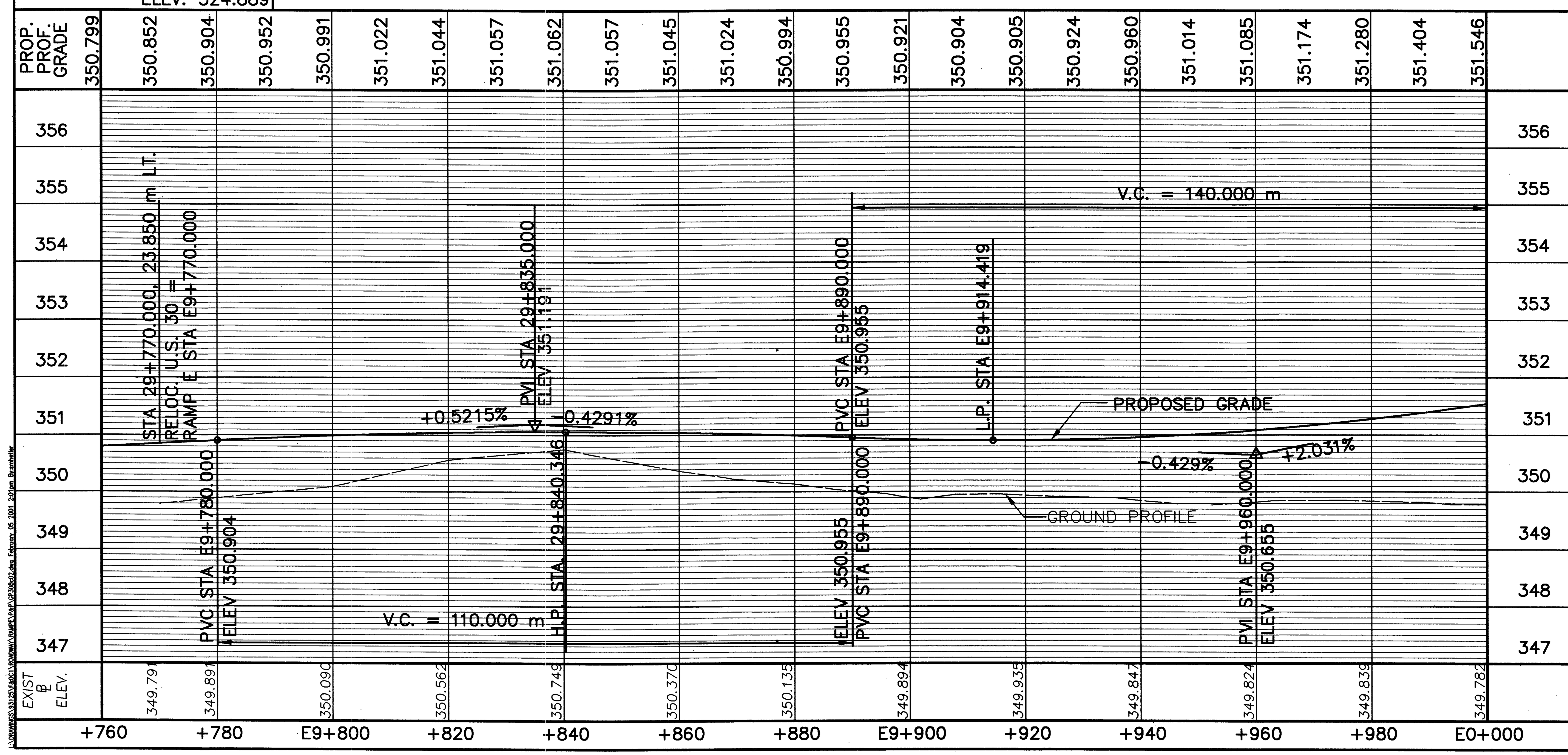
CROSS-SECTIONS – RAMP D
STA. D5+080 TO STA. D5+197.699

CRA-30-24.000

296
677



BENCHMARK
FENO MONUMENT
STA. 25+366.100
52.075m LT.
ELEV. 324.889



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502–505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

metric units

RAMP E CURVE DATA
PI STA. E9+943.979
Δ =21°36'21" LT.
R=440.000 m
T=83.958 m
L=165.922 m
E=7.939 m
CH=N 76°49'53" E
LC=164.941 m

ESTIMATED QUANTITIES

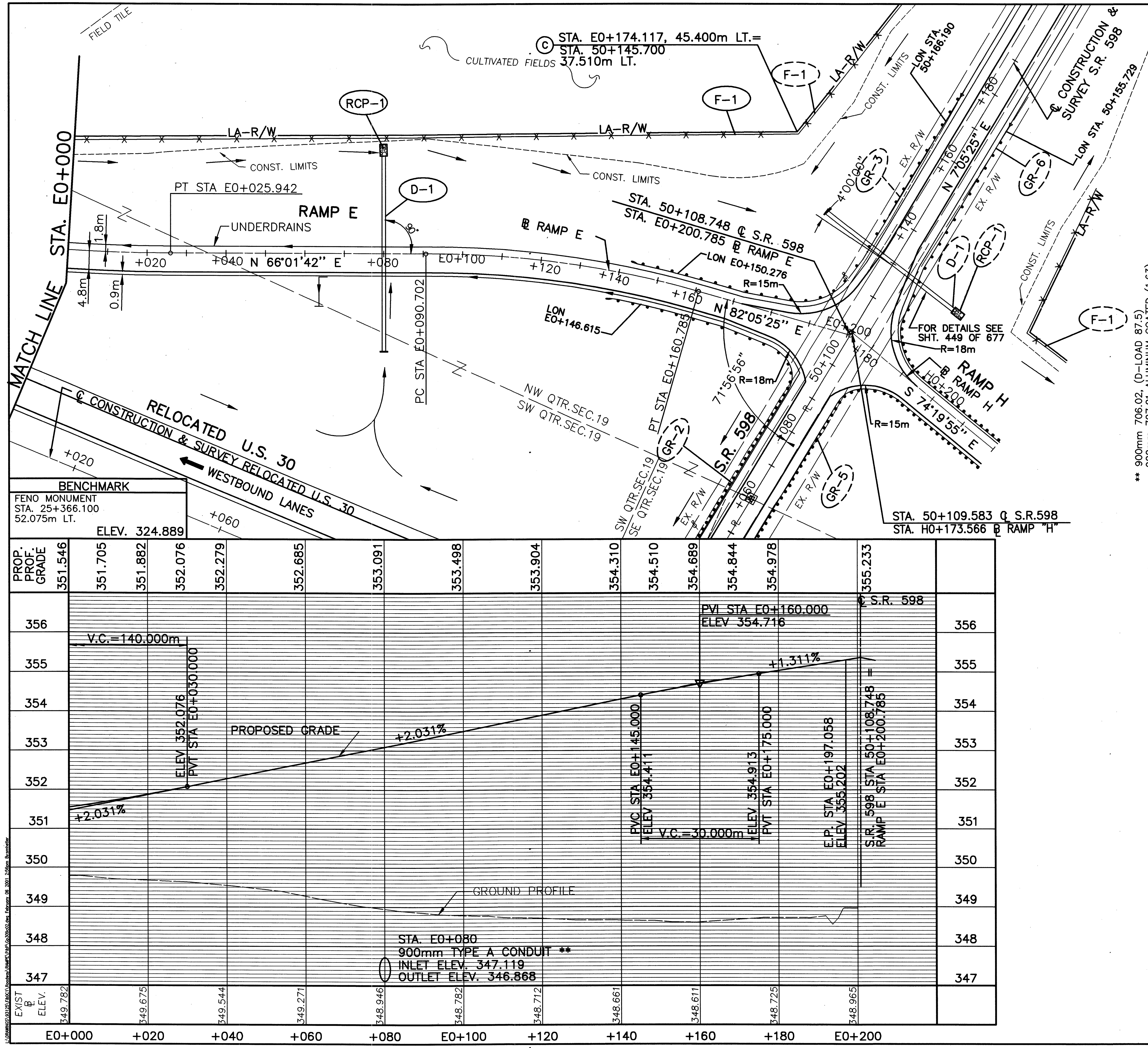
REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE, TYPE 47 METER
F-1	LT.	29+933.245	E0+000.000	59.45
TOTALS CARRIED TO SUB-SUMMARY				59.45

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RAMP E
STA. E9+760 TO STA. E0+000

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2–11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEETS 502–505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
4. FOR FENCE LEGEND SEE SHEETS 96 OF 677.
5. FOR CULVERT DETAIL SEE SHEET 300 OF 677.
6. FOR GUARDRAIL QUANTITIES SEE SHEET 362 OF 677.
7. FOR INTERCHANGE DETAIL SEE SHEET 478 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

metric units

RAMP E CURVE DATA
PI STA. E0+125.975
Δ =16°03'43" RT.
R=250.000 m
T=35.273 m
L=70.083 m
E=2.476 m
CH=N 74°03'33" E
LC=69.854 m

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/ FILTER (C.M.)	601 RIPRAP USING 150mm CONC. SLAB (S.M.)	602 CONCRETE MASONRY (C.M)	603 ** CONDUIT TYPE A (METER)	607 FENCE TYPE 47 (METER)
D-1	LT./RT.	E0+080.000			2.73	1.54	49.30	
F-1	LT.	E0+000.000	E0+174.117					183.59
RCP-1	LT.	E0+080.000		3.42				
TOTALS CARRIED TO SUB-SUMMARY				3.42	2.73	1.54	49.30	183.59

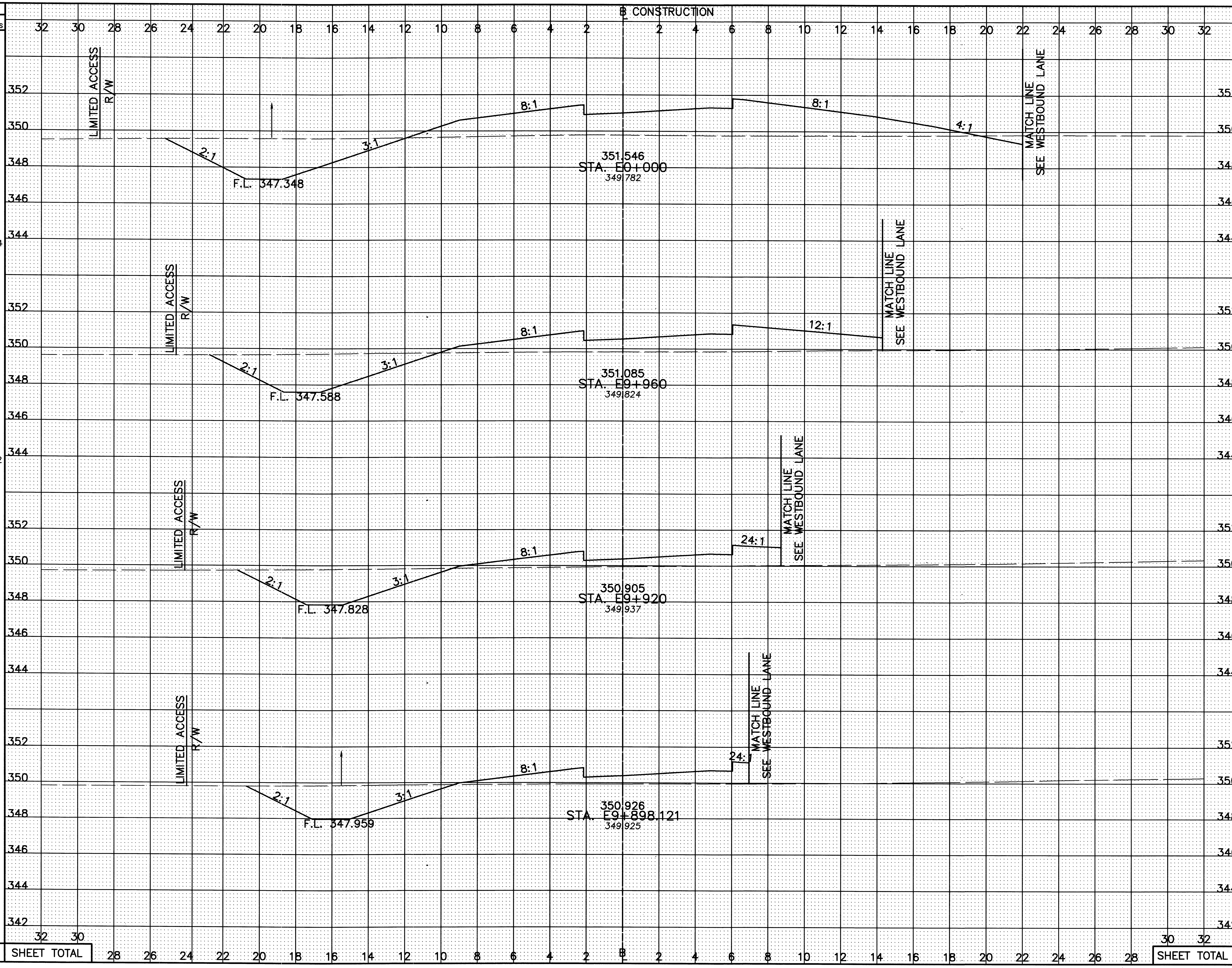
** 900mm 706.02, (D-LOAD 87.5)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63).

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RAMP E
STA. E0+000 TO STA. E0+200.785

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42.5		17.1	37.0		
	1484			621	1179
31.7		15.3	21.5		
	1142			554	648
25.4		13.4	10.8		
	535			275	219
23.5		12.6	9.3		
				1176	1307
	3161			2626	3353

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP E
STA. E9+898.121 TO STA. E0+000

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
LIMITED ACCESS R/W
F.L. 346.676
2:1
3:1
12:1
2.5:1
12:1
8:1
6:1
MATCH LINE
6:1
16:1
MATCH LINE SEE WESTBOUND LANES
353.904
STA. E0+120
348.716
80.3
19.9 179.6
3366
896 5896
STA. E0+080, 22.384 m LT.
HW-2.1M OR HW-2.2M
INV. ELEV. 346.868
STA. E0+080, 26.920 m RT.
HW-2.1M OR HW-2.2M
INV. ELEV. 347.119
5.6:1
3:1
** 49.300 m-900 mm CONDUIT, TYPE A, @ 0.509%
** SEE SHT. 298 FOR PIPE MATERIAL QUANTITIES AND SPECIFICATIONS.
150 mm REINF. CONC. SLAB
CUTOFF WALLS AS PER DM-1.1M
ROCK CHANNEL PROTECTION, TYPE B 1825mm WIDE x 2500 mm LONG x 750 mm THICK WITH FILTER
HW-2.2M
PROPOSED SWALE
HYDRAULIC DESIGN DATA
DRAINAGE AREA: 1.62 ha. (4.03 ac.)
Q_{50} =0.355 cms
Q_{100} =0.404 cms
HW_{50} =347.73
HW_{100} =347.82
V_{50} = 2.02 m/s
V_{100} = 1.93 m/s
353.091
STA. E0+080
348.941
88
24.9 121.6
2902
932 3723
F.L. 347.108
352.279
STA. E0+040
349.538
57.1
21.7 64.6
1992
759 2042
8260 SHEET TOTAL
SHEET TOTAL
2587 11661
CROSS-SECTIONS - RAMP E
STA. E0+040 TO STA. E0+120
CRA-30-24.000
300
677
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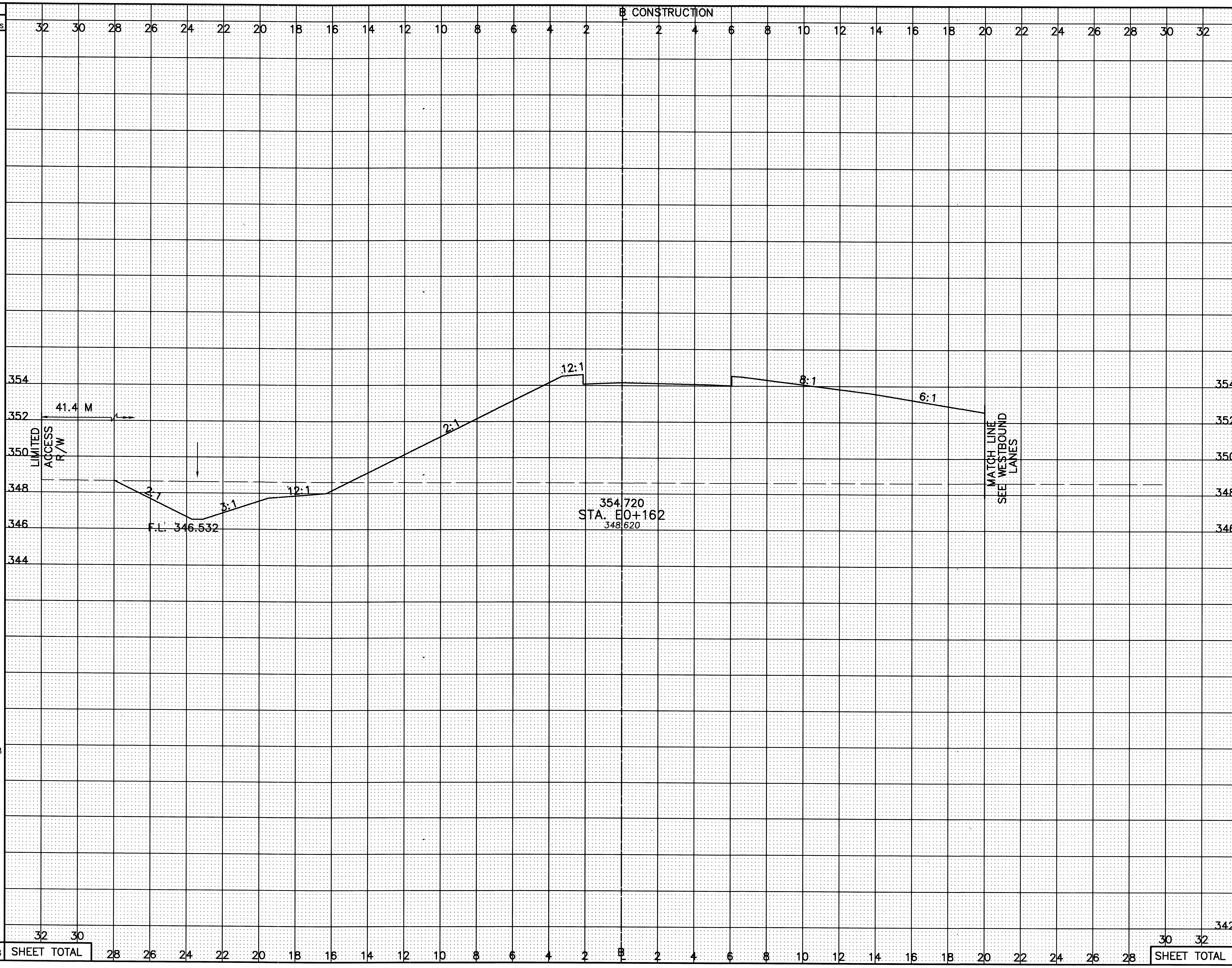

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42		13.9	156.7		
	2568			710	7062
SHEET TOTAL	2568			710	7062

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP E
STA. E0+162

CRA-30-24.000

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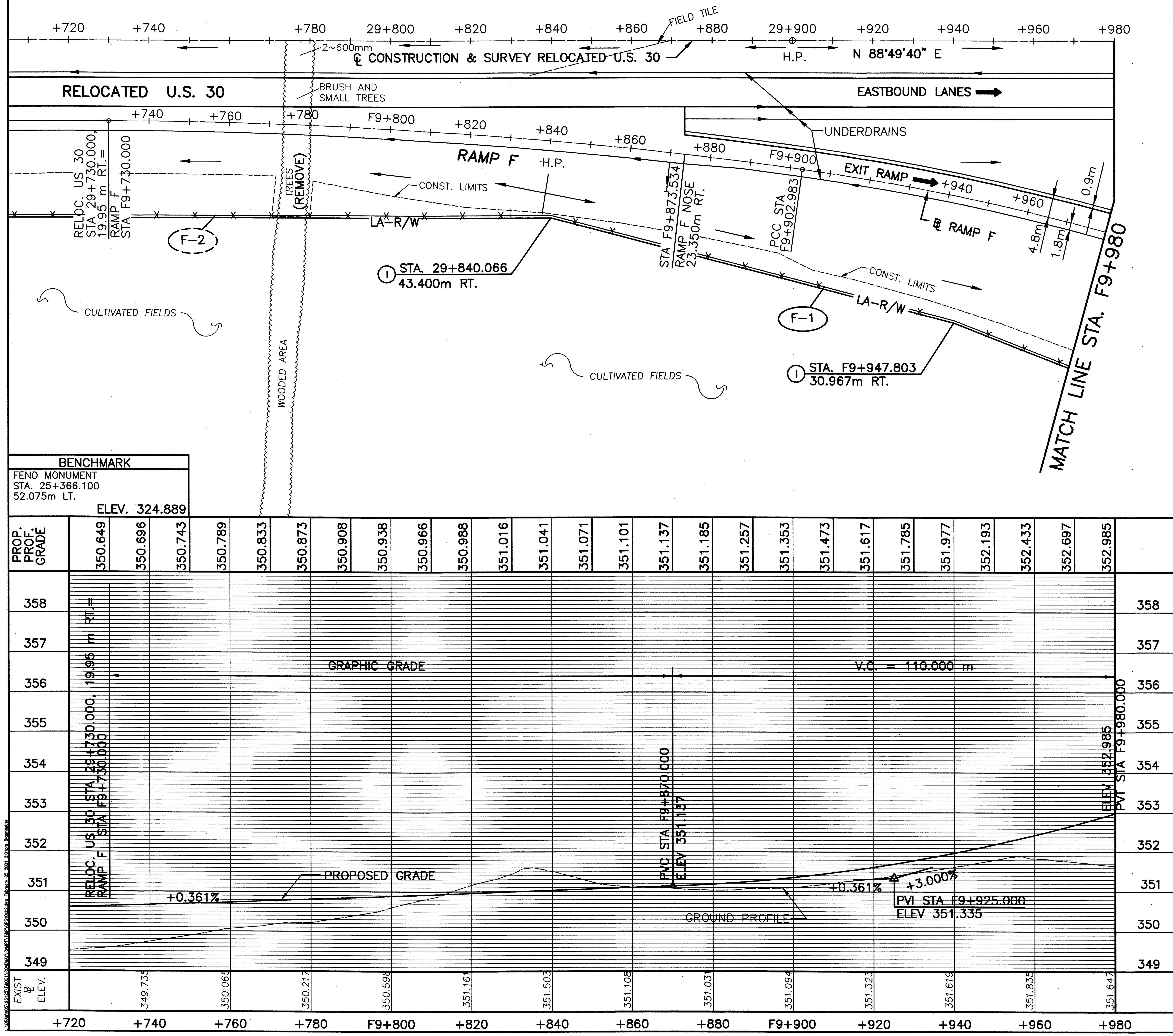


metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

RAMP F CURVE DATA

PI STA. E9+816.630
Δ =07°55'44" RT.
R=1250.000 m
T=86.629 m
L=172.982 m
E=2.998 m
CH=S 87°12'28" E
LC=172.844 m

RAMP F CURVE DATA

PI STA. F9+963.504
Δ =11°31'11" RT.
R=600.000 m
T=60.521 m
L=120.634 m (395.78')
E=3.045 m
CH=S 77°29'00" E
LC=120.431 m

ESTIMATED QUANTITIES

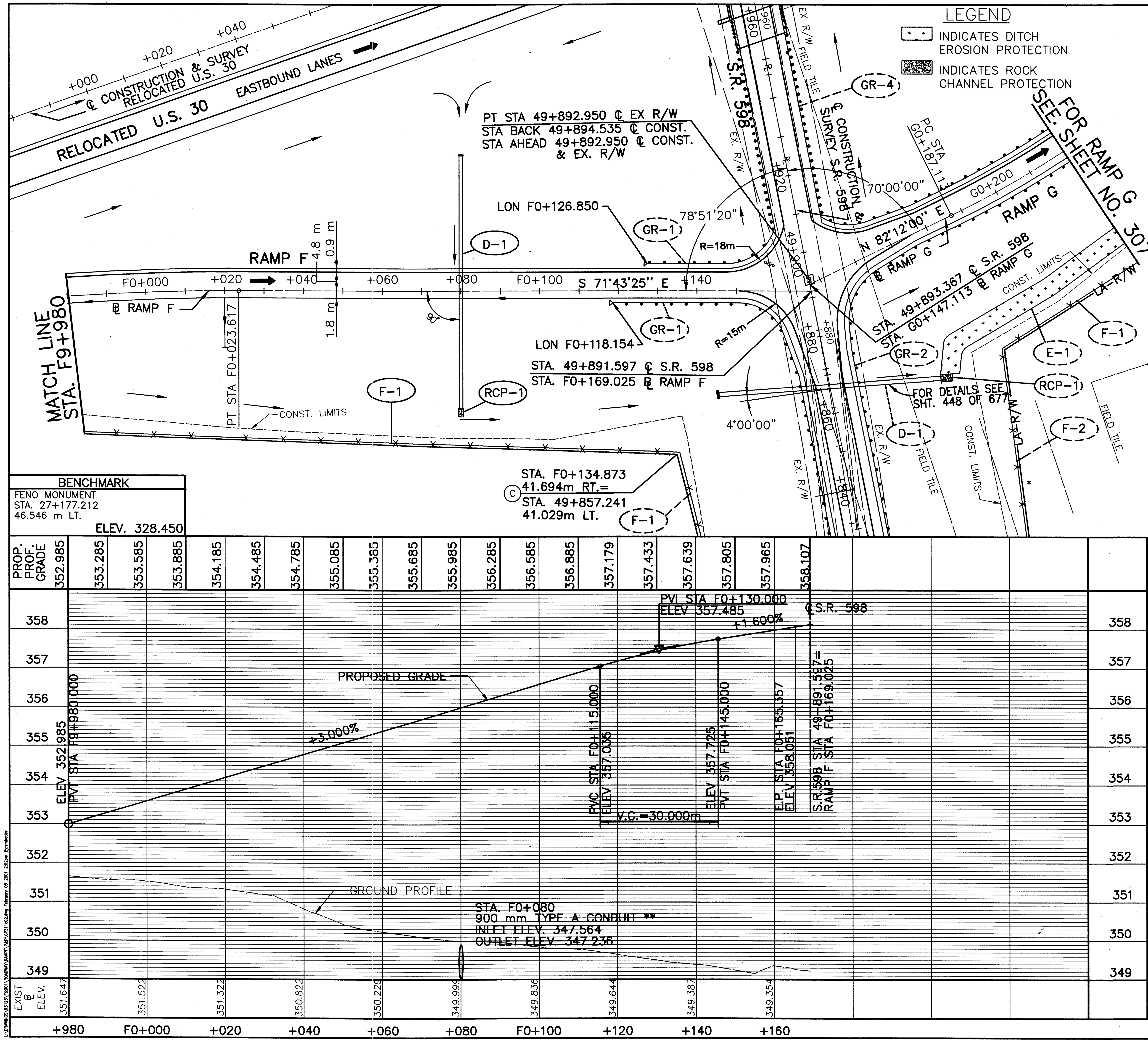
REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 METER
F-1	RT.	29+840.066	F9+980.000	134.13
TOTALS CARRIED TO SUB-SUMMARY				134.13

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – RAMP F
STA. F9+730 TO STA. F9+980

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR CULVERT DETAIL SEE SHEET 305 OF 677.
6. FOR GUARDRAIL QUANTITIES SEE SHEET 361-362 OF 677.
7. FOR INTERCHANGE DETAIL SEE SHEET 478 OF 677.

** 900mm 706.02, (D-LOAD 110)
900mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63),

metric units

RAMP F CURVE DATA
PI STA. F9+963.504
Δ =11°31'11" RT.
R=600.000 m
T=60.521 m
L=120.634 m
E=3.045 m
CH=S 77°29'00" E
LC=120.431 m

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER (C.M.)	601 RIPRAP USING 150mm CONC. SLAB (S.M.)	602 CONCRETE MASONRY (C.M.)	603 ** CONDUIT TYPE A (METER)	607 FENCE TYPE 47 (METER)
D-1	LT./RT.	F0+080			2.73	1.54	64.70	
F-1	LT.	F9+980	F0+134.873					151.28
RCP-1	LT.	F0+080		3.38				
TOTALS CARRIED TO SUB-SUMMARY				3.38	2.73	1.54	64.70	151.28

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

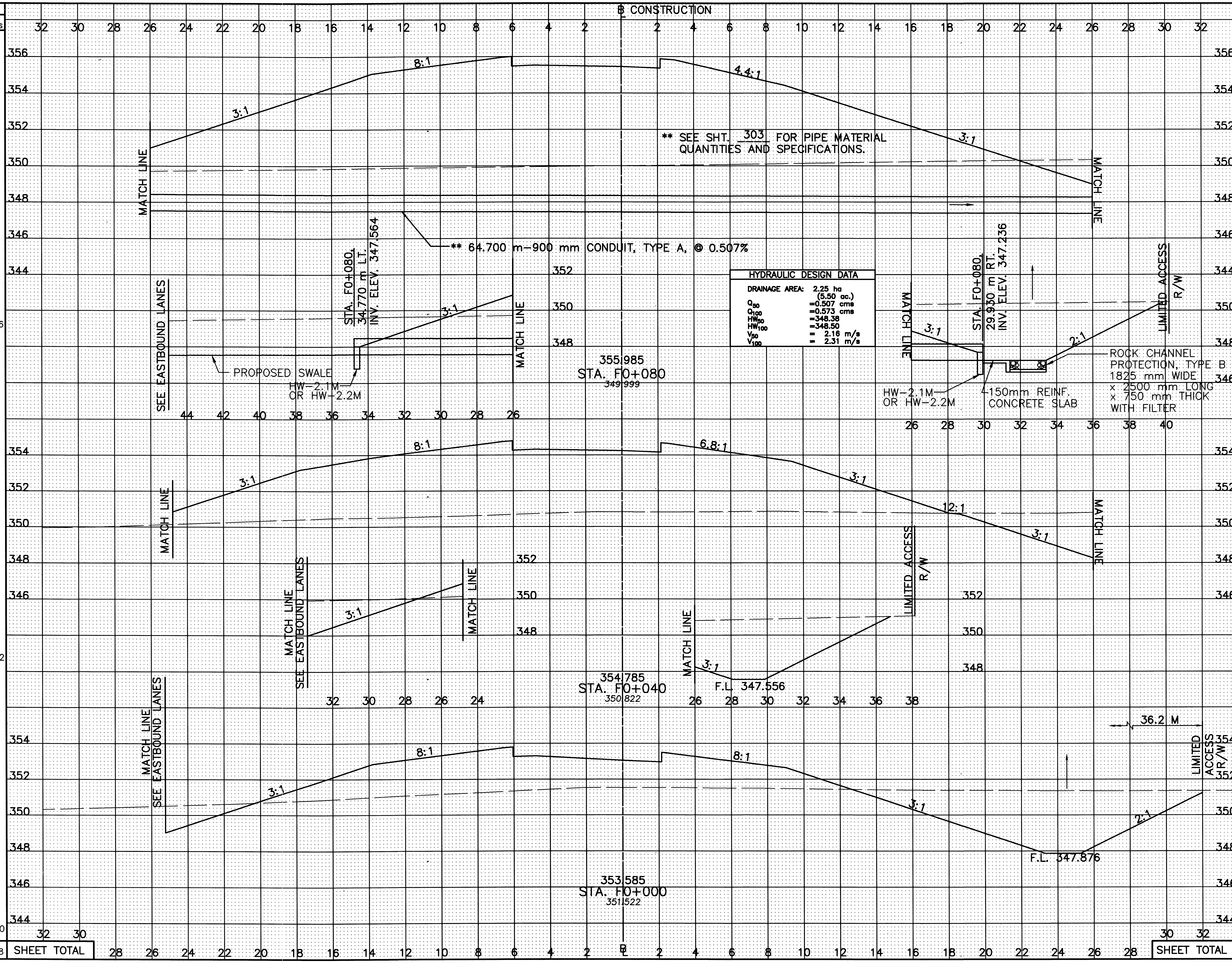
CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - RAMP F
STA. F9+980 TO STA. F0+169.025

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
SEE EASTBOUND LANE MATCH LINE
LIMITED ACCESS R/W
6:1
8:1
3:1
2:1
12:1
352.433
STA. F9+960
351.833
F.L. 348.196
351.617
STA. F9+920
351.316
F.L. 348.516
351.185
STA. F9+880
351.028
F.L. 348.836
351.151
STA. F9+873.219
351.048
F.L. 348.888
37.7
1384
31.5
1106
23.8
151
22.9
0
2641
40.0 8.0
1528 227
38.6 3.2
1325 77
28.1 0.6
177 3
27.2 0.4
1932 31
SHEET TOTAL
4962 338
CROSS-SECTIONS – RAMP F
STA. F9+873.534 TO STA. F9+960
CRA-30-24.000
304
677
L:\DRAWINGS\93125\F&OC1\Roadway\RAMPF\XSECT\GX316c02.dwg February 06 2001 3:10pm By:smhetler

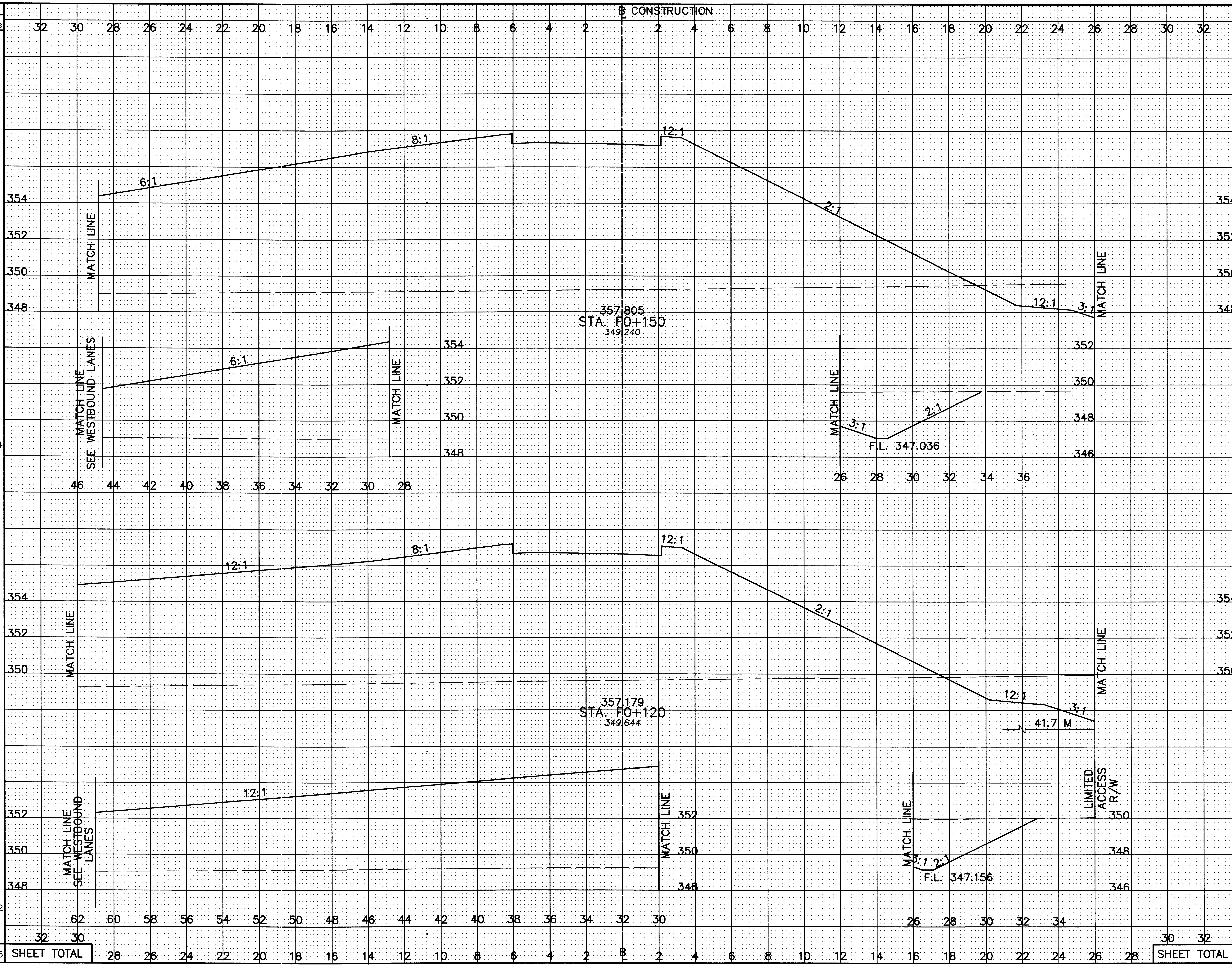
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
81.0	2706	33.9	220.4	1446	6731
54.3	2202	38.4	116.2	1557	3331
55.8	1870	40.9	49.6	1568	1161
SHEET TOTAL	6778			4571	11223



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP F
STA. F0+000 TO STA. F0+080

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS
76.5	
	2364
81.1	
	3242
	5606

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
24.0	369.3		
		700.5	11735
22.7	413		
		1132	12668
		1833	24403

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP F
STA. F0+120 TO STA. F0+150

CRA-30-24.000

306
677

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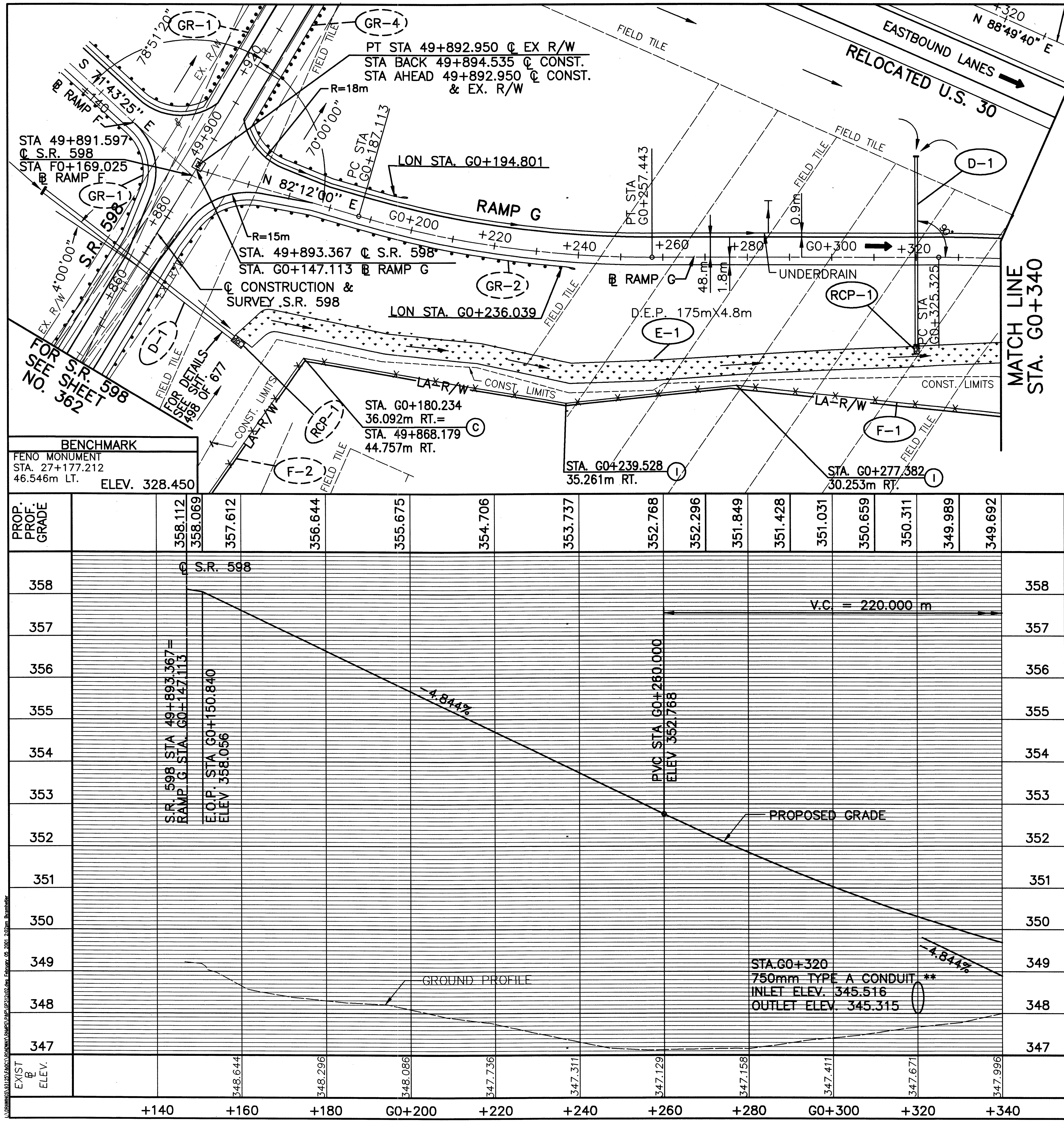


LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2–11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEETS 502–505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR CULVERT DETAILS SEE SHEET 310 OF 677.
6. FOR GUARDRAIL QUANTITIES SEE SHEETS 361, 362 OF 677.
7. FOR INTERCHANGE DETAIL SEE SHEET 478 OF 677.

RAMP G CURVE DATA

PI STA. G0+222.512
Δ =16°07'06" LT.
R=250.000 m
T=35.399 m
L=70.330 m
E=2.494 m
CH=N 74°08'27" E
LC=70.098 m

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

** 750mm 706.02, (D-LOAD = 75)
750mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

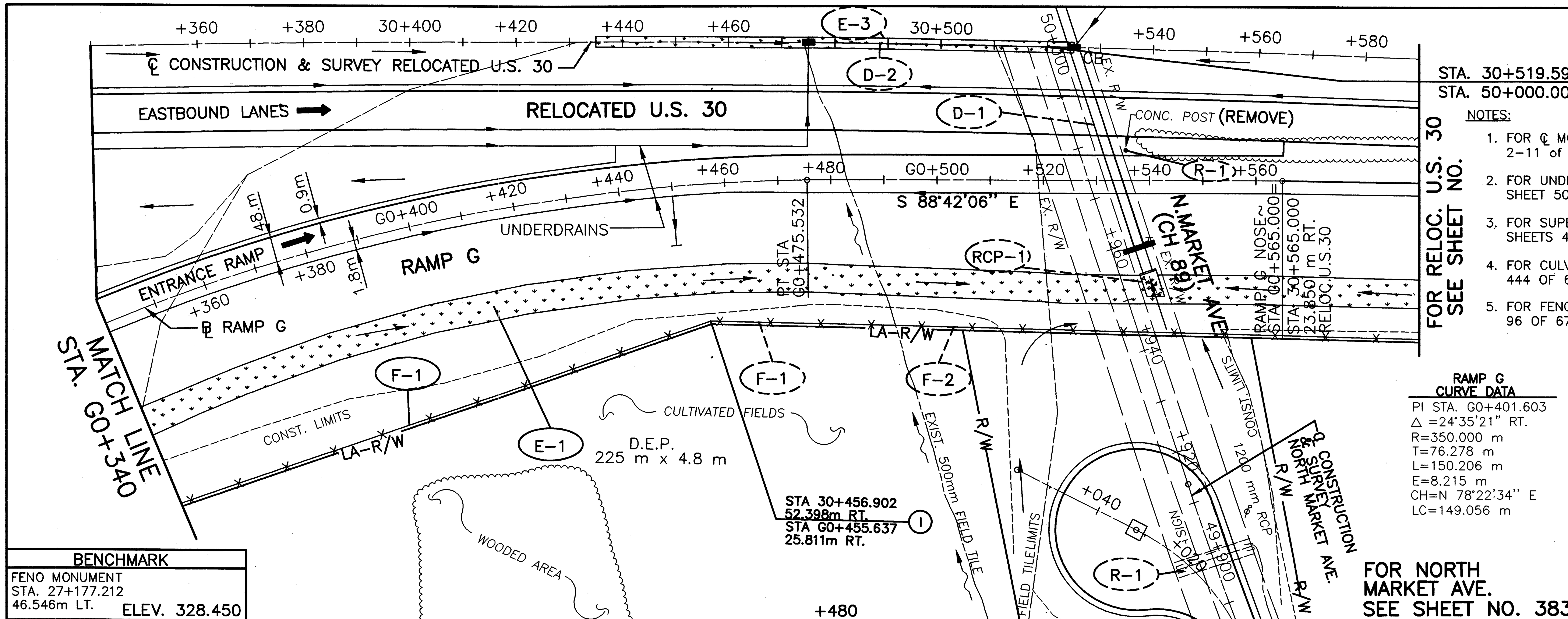
ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	601 RIPRAP USING 150mm CONC. SLAB (S.M.)	602 CONCRETE MASONRY (C.M)	603 ** CONDUIT TYPE A (METER)	607 FENCE TYPE 47 (METER)	607 DITCH EROSION PROTECTION (S.M.)
D–1	LT./RT.	G0+320.000			2.28	1.22	44.50		
RCP–1	LT.	G0+320.000		1.91					
F–1	RT.	49+868.179	G0+340.000					166.59	
E–1	RT.	49+865.000	G0+340.000						840
TOTALS CARRIED TO SUB-SUMMARY				1.91	2.28	1.22	44.50	166.59	840

PLAN AND PROFILE – RAMP G
STA. G0+147.113 TO STA. G0+340

CRA–30–24.000

STA. 30+519.590 U.S. 30 =
STA. 50+000.000 NORTH MARKET AVE.



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 444 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.

LEGEND

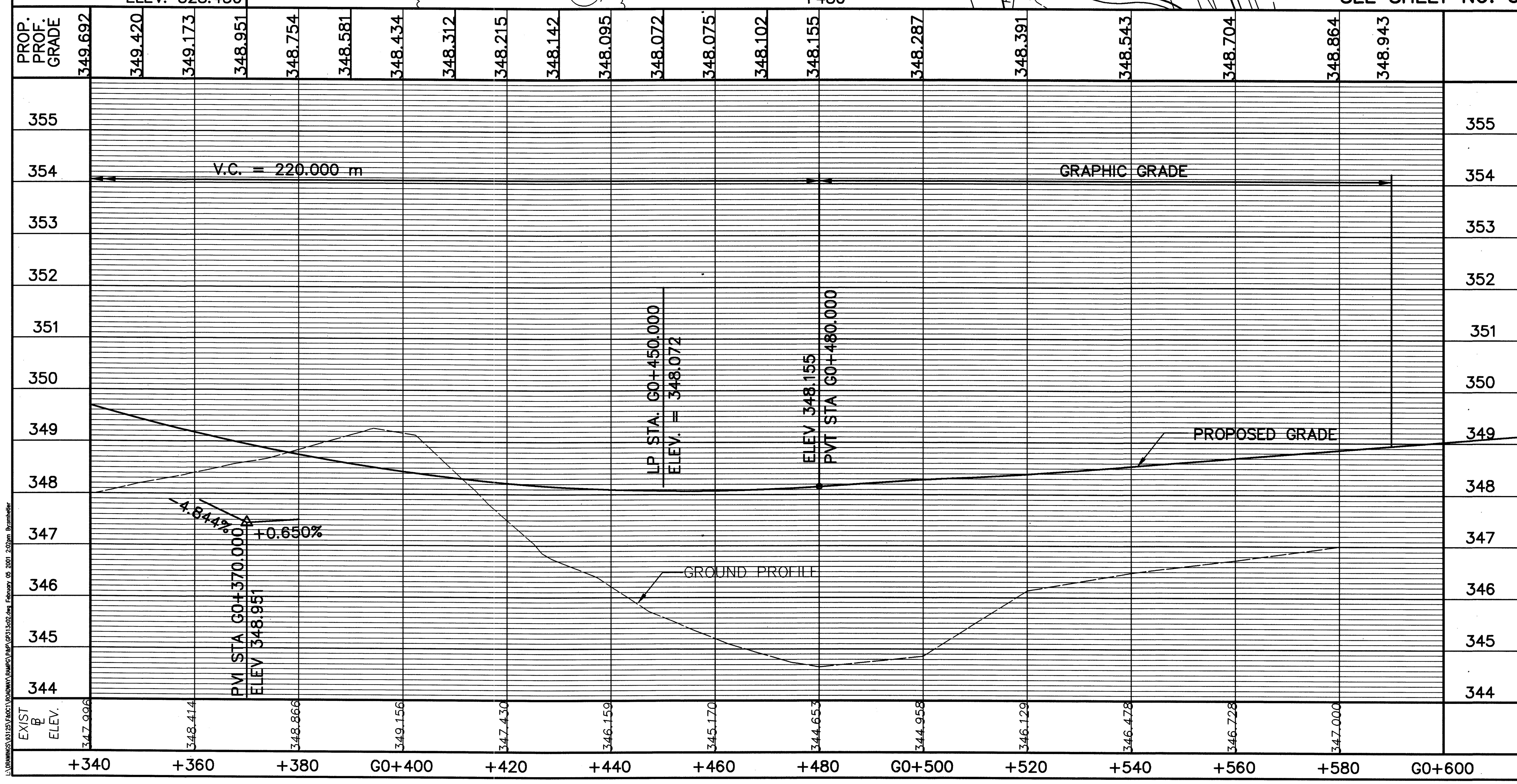
ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

RAMP G
CURVE DATA

PI STA. G0+401.603
Δ =24°35'21" RT.
R=350.000 m
T=76.278 m
L=150.206 m
E=8.215 m
CH=N 78°22'34" E
LC=149.056 m

BENCHMARK
FENO MONUMENT
STA. 27+177.212
46.546m LT. ELEV. 328.450



ESTIMATED QUANTITIES

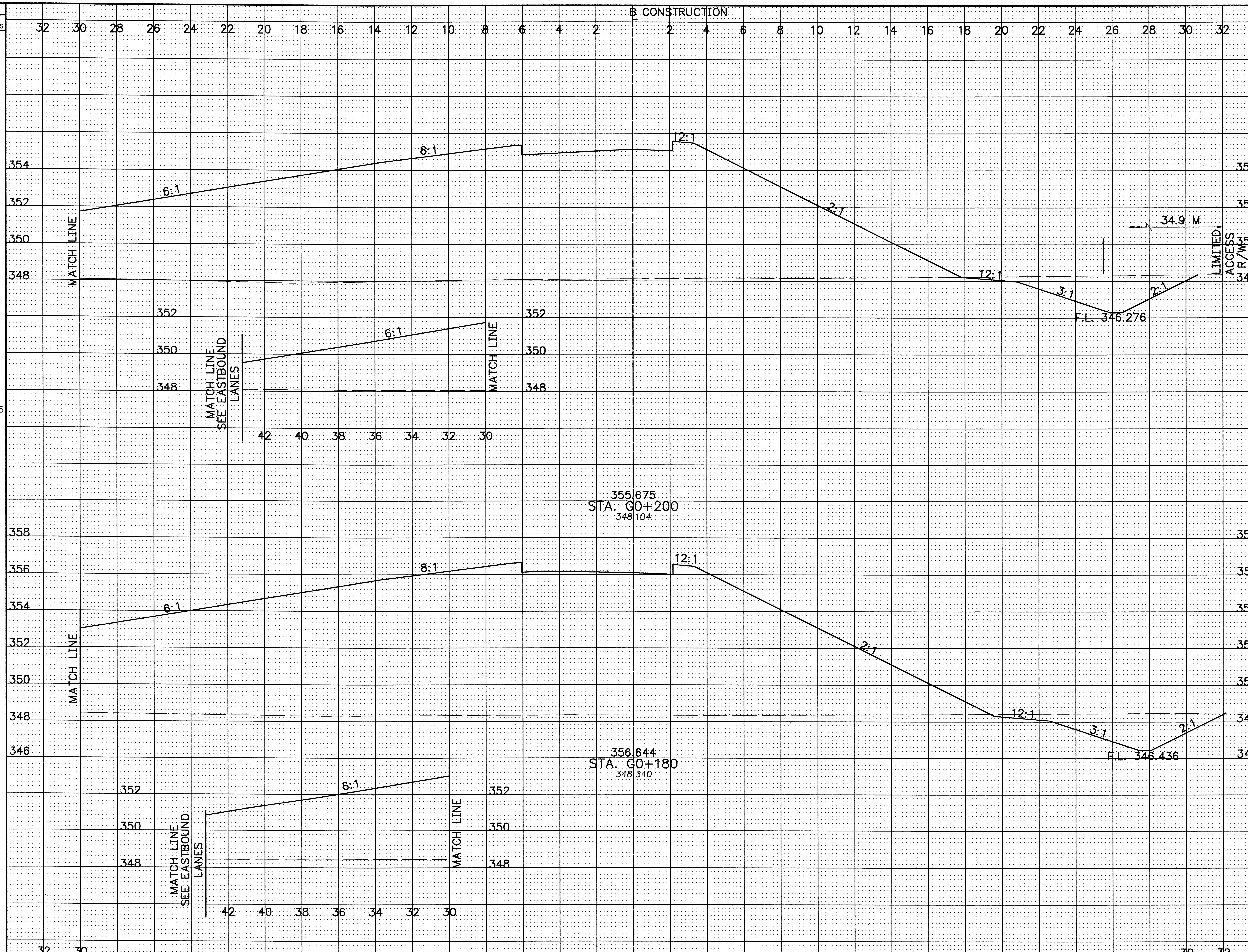
REF. No.	SIDE	STATION FROM	STATION TO	607 FENCE TYPE 47 METER	670 DITCH EROSION PROTECTION S.M.
E-1	RT.	G0+340.000	G0+565.000		1080
F-1	RT.	G0+340.000	30+456.902	105.39	
TOTALS CARRIED TO SUB-SUMMARY				105.39	1080

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE - RAMP G
STA. G0+340 TO STA. G0+565.000

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
69.3		11.6	288.7		
	1396			236	6316
70.3		12.0	342.9		
SHEET TOTAL	1396			236	6316

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP G
STA. G0+200

CRA-30-24.000

309
677

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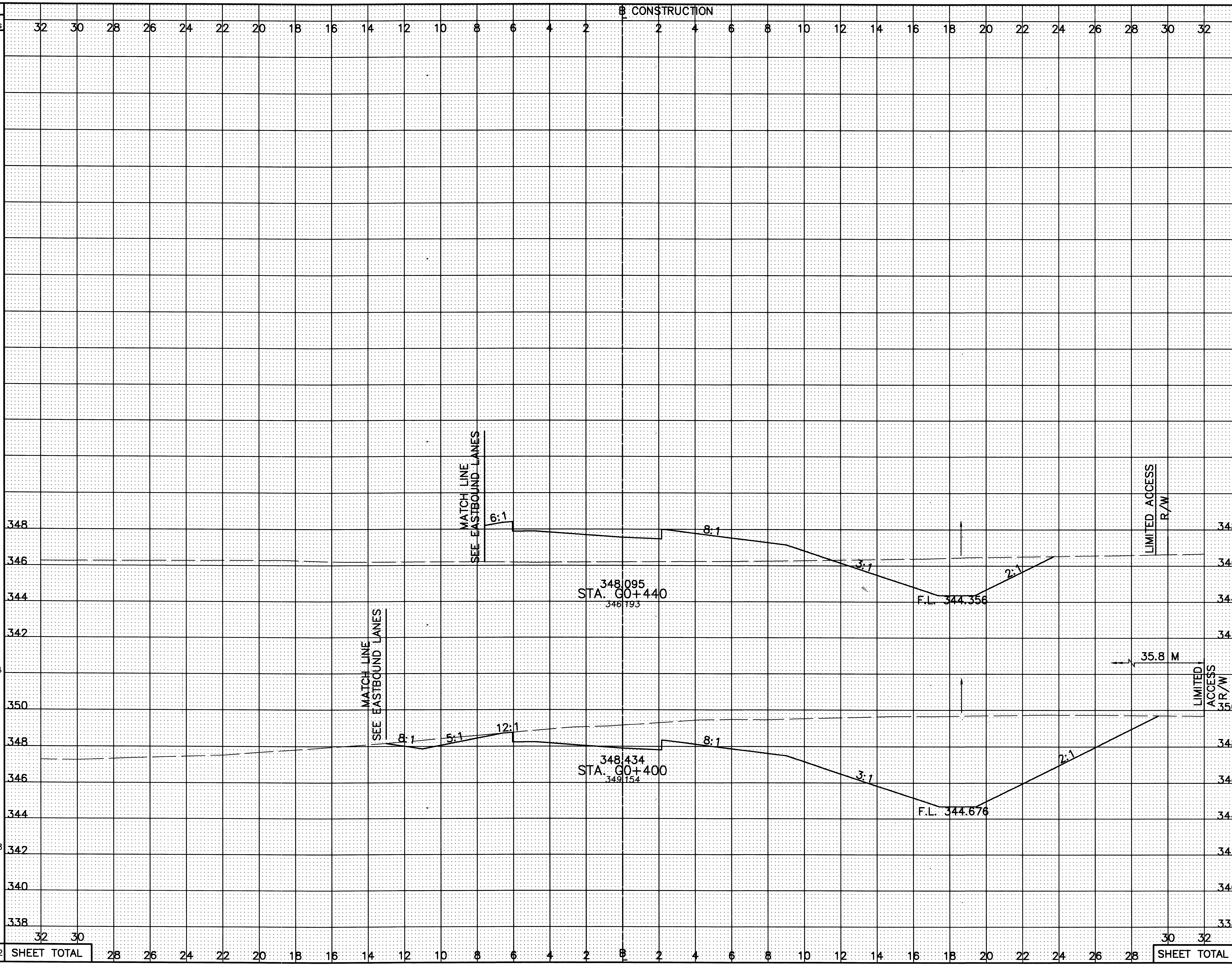
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55.3		38.8	12.8		
	2250			1206	1402
57.2		24.0	56.7		
	2546			1006	4040
70.1		26.3	145.3		
	3402			830	7938
100		15.2	251.6		
	3386			536	10806
	11584			3578	24186

CROSS-SECTIONS – RAMP G
STA. G0+400 TO STA. G0+440

CALCULATED PSB
CHECKED LBD



STA.	SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
G0+440	30.1		14.7	26.0		
		1394			1901	520
G0+400	39.6		84.6	0.0		
		1898			2356	261
SHEET TOTAL		3292			4257	781

CRA-30-24.000

311
677

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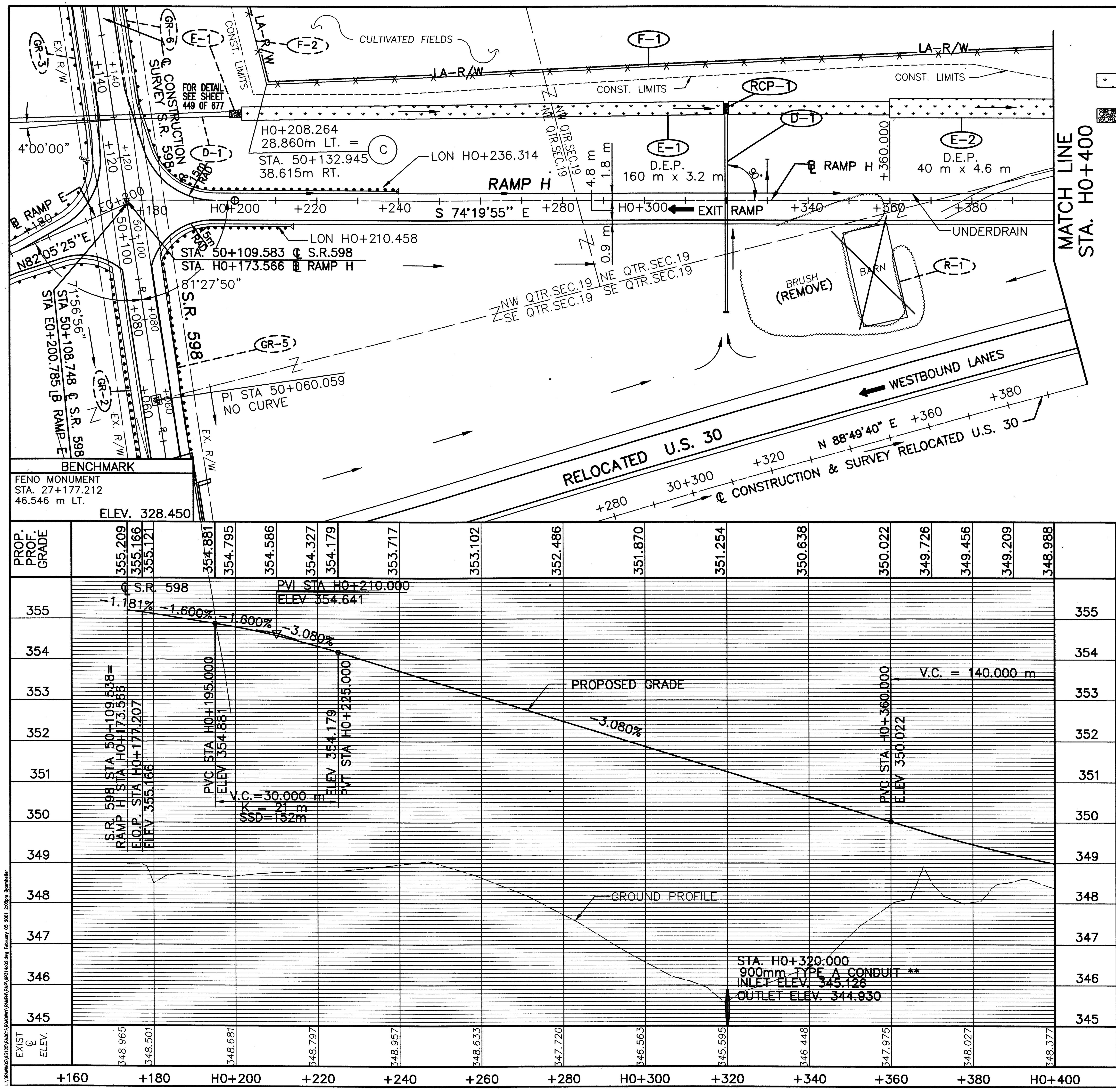


LEGEND

DITCH EROSION PROTECTION

ROCK CHANNEL PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR CULVERT DETAIL SEE SHEET 315 OF 677.
6. FOR INTERSECTION DETAIL SEE SHEET 478 OF 677.
7. FOR GUARDRAIL QUANTITIES SEE SHEET 362 OF 677.

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

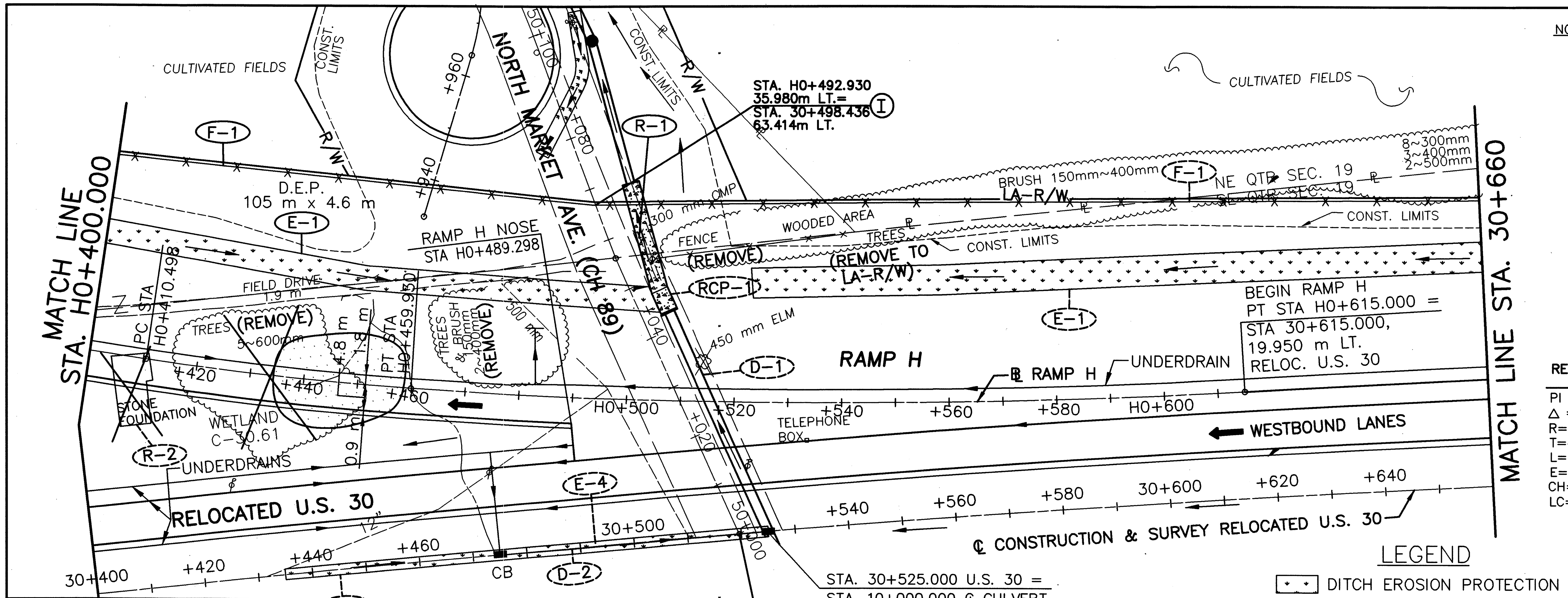
** 900mm 706.02, (D-LOAD 87.5), 900mm 707.01 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER	601 RIPRAP USING 150mm CONC. SLAB	602 CONCRETE MASONRY	603 ** CONDUIT TYPE A	607 FENCE TYPE 47	670 DITCH EROSION PROTECTION
				C.M.	S.M.	C.M.	METER	METER	S.M.
D-1	LT./RT.	H0+320			2.74	1.54	49.00		
E-1	LT.	H0+200	H0+360						512
E-2	LT.	H0+360	H0+400						184
F-1	LT.	H0+208.264	H0+400					192.40	
RCP-1	LT.	H0+320		3.42					
TOTALS CARRIED TO SUB-SUMMARY				3.42	2.74	1.54	49.00	192.40	696

PLAN AND PROFILE – RAMP H
STA. H0+173.493 TO STA. H0+400

CRA-30-24.000



LEGEND

- DITCH EROSION PROTECTION
- ROCK CHANNEL PROTECTION
- RIP RAP

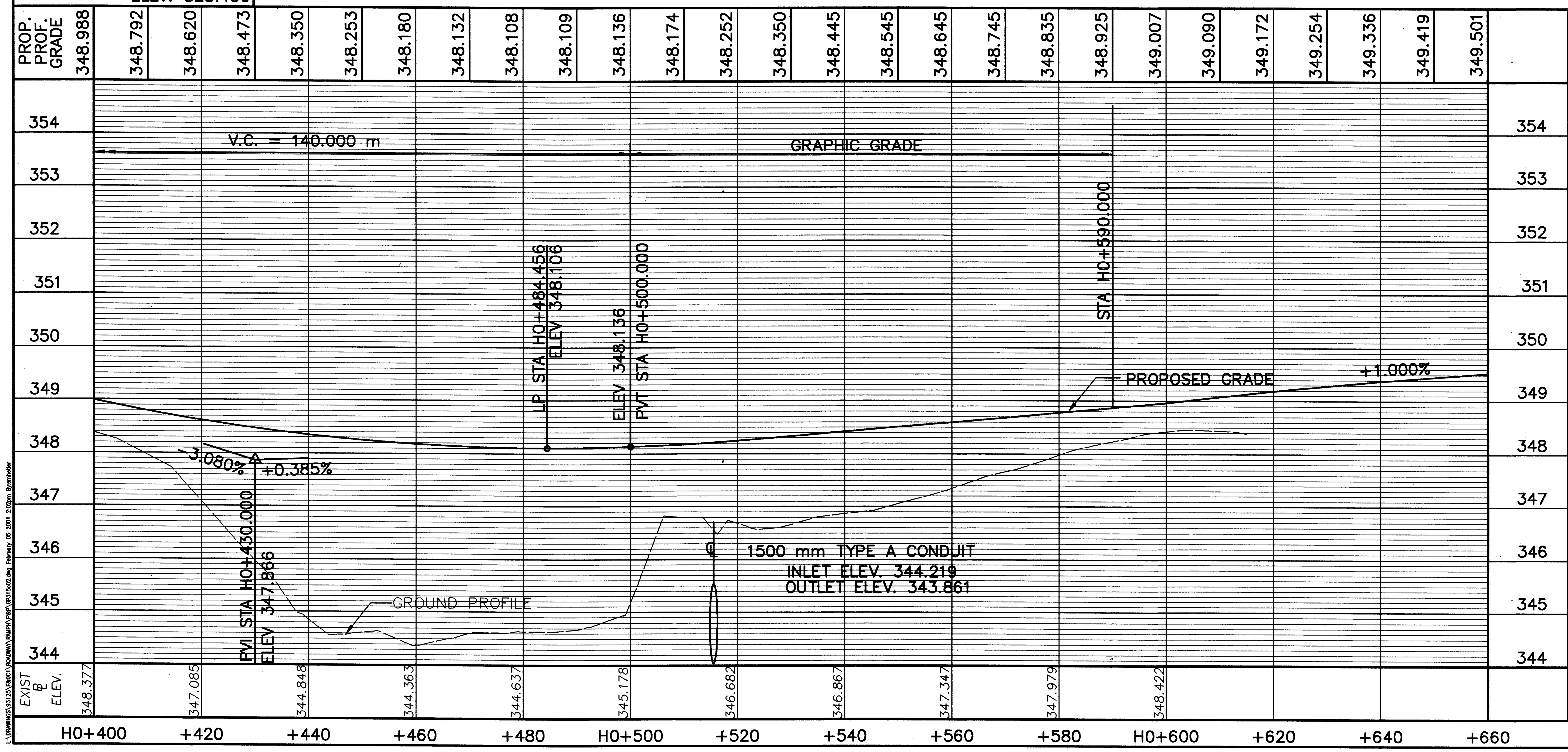
BENCHMARK
FENO MONUMENT STA. 27+177.212 46.546 m LT.
ELEV. 328.450

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502-505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 444 OF 677.
5. FOR FENCE LEGEND SEE SHEET 96 OF 677.
6. FOR INTERCHANGE DETAIL SEE SHEET 477 OF 677.

metric units

RELOCATED U.S. 30 CURVE DATA	RAMP H CURVE DATA	RAMP H CURVE DATA
PI STA. 30+660.114	PI STA. H0+435.200	PI STA. H0+537.565
Δ =11°15'40" RT.	Δ =04°43'13" LT.	Δ =07°06'28" LT.
R=4060.000 m	R=600.000 m	R=1250.000 m
T=400.273 m	T=24.730 m	T=7.635 m
L=797.967 m	L=49.432 m	L=155.070 m
E=19.684 m	E=0.509 m	E=2.409 m
CH=S 85°32'30" E	CH=S 76°41'31" E	CH=S 82°36'22" E
LC=796.683 m	LC=49.418 m	LC=154.971 m



ESTIMATED QUANTITIES

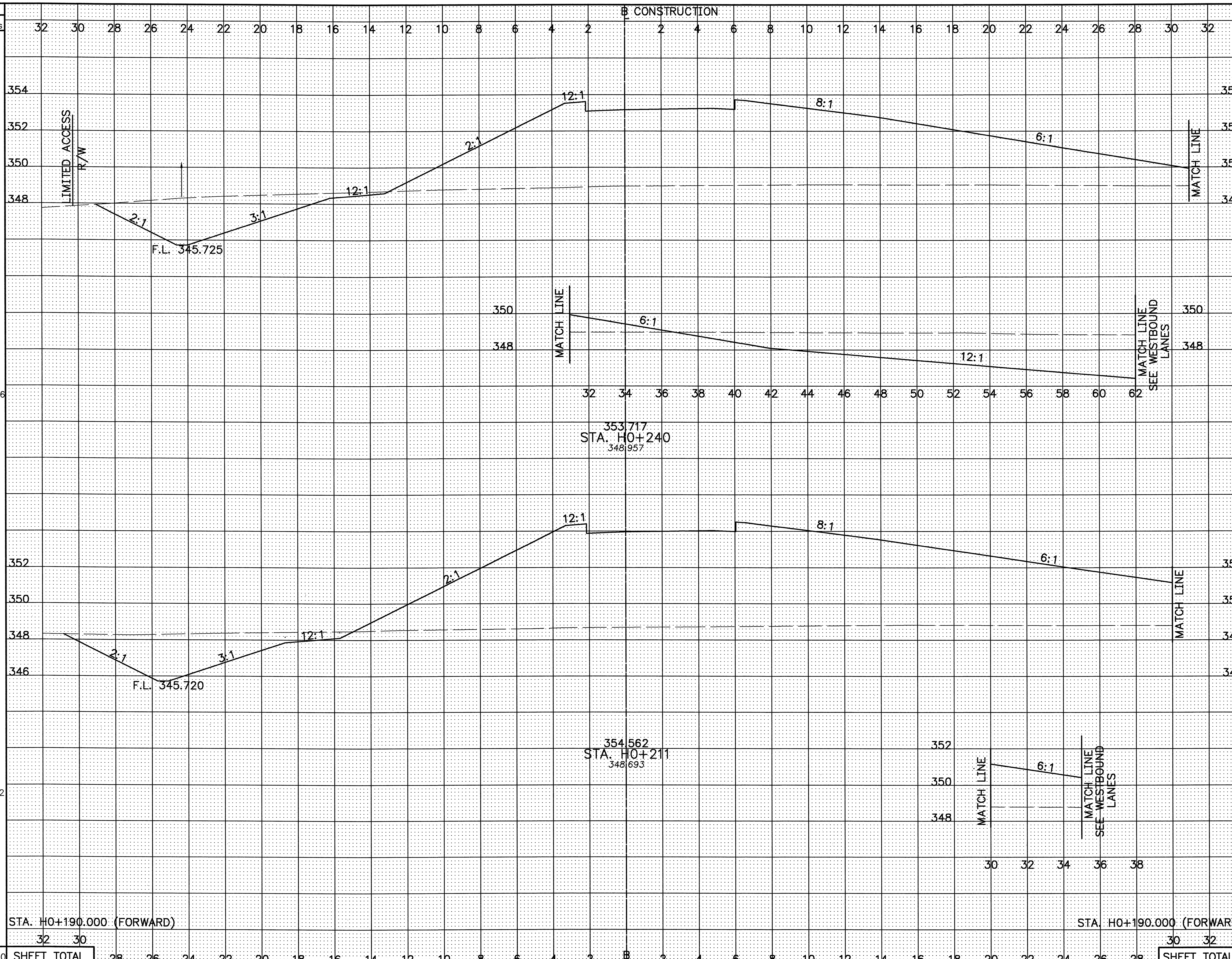
REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION PROTECTION (S.M.)
E-1	LT.	H0+400.000	H0+505.000			483
R-1	LT.	H0+510.000		10		
F-1	LT.	H0+400.000	H0+492.930		88.41	
TOTALS CARRIED TO SUB-SUMMARY				10	88.41	483

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

PLAN AND PROFILE – RAMP H
STA. H0+400 TO STA. H0+615

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
85.5		54.1	138.4		
	2115.6			1069	4439
60.4		19.6	181.5		
	634.2			206	1906
0		0	0		
SHEET TOTAL	2750			1275	6345

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP H
STA. H0+190 TO STA. H0+240

CRA-30-24.000

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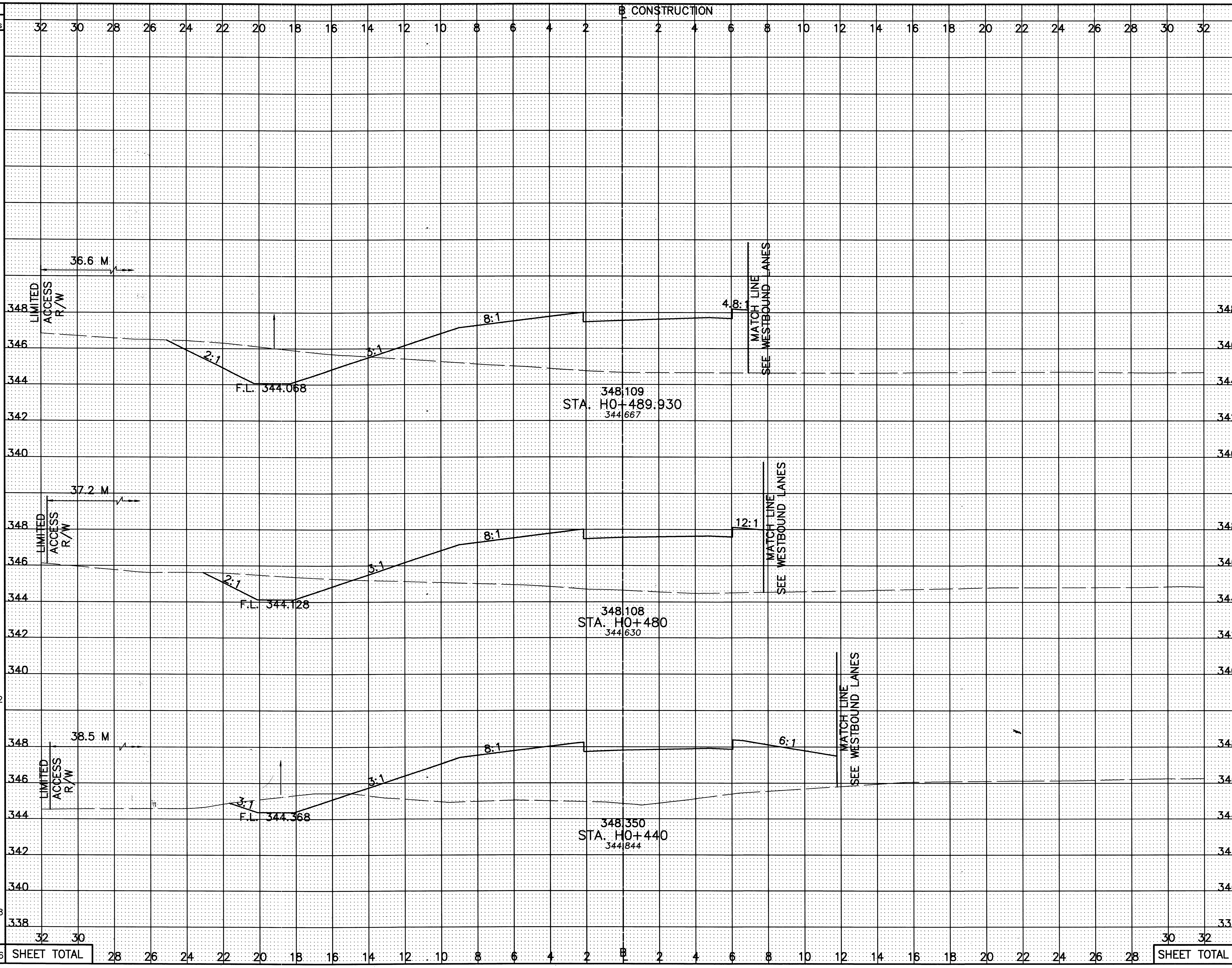
SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
37.4 M
LIMITED ACCESS R/W
8:1
8:1
3:1
2:1
3:1
MATCH LINE SEE WESTBOUND LANE
348.988
STA. H0+400
348.377
F.L. 344.608
47.1
41.1
3.7
2012
1439
956
35.6 M
6.8:1
8:1
6:1
2:1
3:1
3:1
350.022
STA. H0+360
347.975
F.L. 344.848
53.5
30.9
44.1
2264
627
4495
12:1
4.4:1
8:1
3:1
3:1
33.9 M
2:1
STA. 4H-0+320, 21.500 m LT.
INV. ELEV. 344.930
STA. 4H-0+320, 27.500 m RT.
INV. ELEV. 345.126
MATCH LINE SEE WESTBOUND LANES
HW-2.1M OR
HW-2.2M
150 mm REINF. CONC. SLAB
CUTOFF WALLS
AS PER DM-1.1M
ROCK CHANNEL PROTECTION, TYPE B
1825 mm WIDE x 2500 mm LONG
x 750 mm THICK WITH FILTER
** 49.000 m-900 mm CONDUIT, TYPE A @ 0.400%
** SEE SHT. 312 FOR PIPE MATERIAL QUANTITIES AND SPECIFICATIONS.
351.254
STA. H0+320
345.595
HW-2.1M OR
HW-2.2M
PROPOSED SWALE
HYDRAULIC DESIGN DATA
DRAINAGE AREA: 1.69 ha
(4.16 ac.)
Q50 =0.381 cms
Q100 =0.430 cms
HW50 =345.79
HW100 =345.85
V50 = 1.89 m/s
V100 = 1.99 m/s
59.7
0.5
180.6
2608
298
6432
12:1
8:1
6:1
2:1
12:1
3:1
3:1
MATCH LINE
352.486
STA. H0+280
347.720
F.L. 345.433
6:1
MATCH LINE
MATCH LINE SEE WESTBOUND LANES
70.7
14.4
141.0
3124
1370
5588
10008
SHEET TOTAL
SHEET TOTAL
3734
17471
CROSS-SECTIONS - RAMP H
STA. H0+280 TO STA. H0+400
CRA-30-24.000
315
677

SEEDING END WIDTH	SEEDING SQ. METERS
36.5	
	366
37.3	
	1592
42.3	
	1788
	3746



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13.0	50.0		
		96	524
6.7	55.6		
		205	2394
3.8	64.2		
		879	1357
		1180	4275

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – RAMP H
STA. H0+440 TO STA. H0+489.930

CRA-30-24.000

316
677

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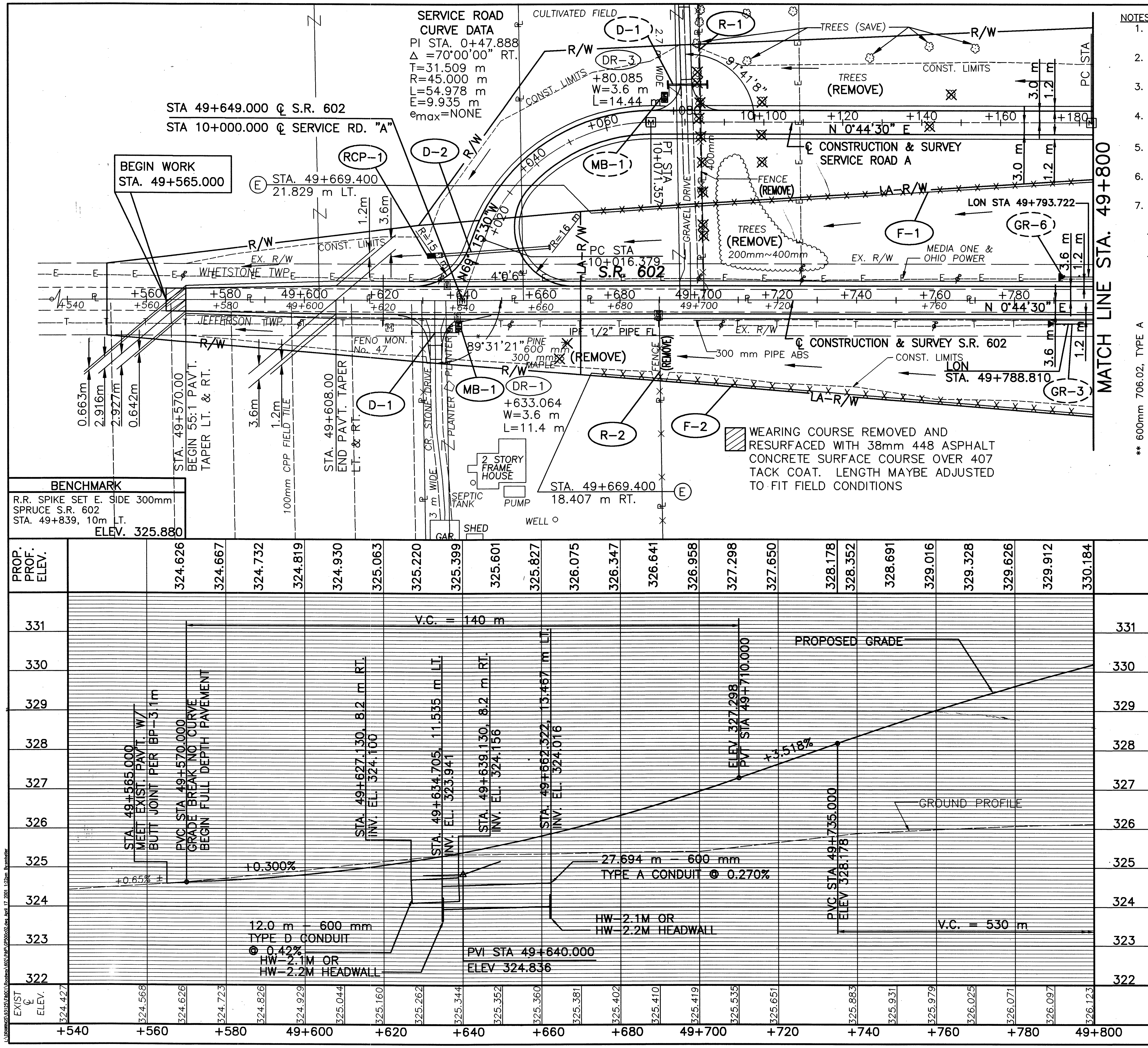


NOTES:

1. FOR TYPICAL SECTIONS SEE SHEETS 12–23 OF 677.
2. FOR SERVICE ROAD "A" SEE SHEET 430 OF 677.
3. FOR FENCE LEGEND SEE SHEET 96 OF 677.
4. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 OF 677.
5. FOR DRIVEWAY DETAILS & QUANTITIES SEE SHEETS 491,492, AND 492A OF 677.
6. FOR CULVERT DETAIL SEE SHEET 431 OF 677.
7. FOR INTERSECTION DETAIL SEE SHEET 479 OF 677.

** 600mm 706.02, TYPE A
600mm 707.01 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED	601 RIPRAP USING 150 mm R.C. SLAB	601 ROCK CHAN. PROTECTION TYPE C W/ FILTER	602 CONCRETE MASONRY	603 ** CONDUIT TYPE A	603 600mm TYPE D CONDUIT	607 FENCE TYPE 47	SPEC. MAILBOX SUPPORT SYSTEM SINGLE
				METER	S.M.	C.M.	C.M.	METER	METER	METER	EACH
D-1	RT.	49+627.130	49+639.130						12.0		
D-2	LT.	49+632	49+663		1.8		0.81	27.7			
F-1	LT.	49+669.400	49+800.000							130.6	
F-2	RT.	49+669.400	49+800.000							130.6	
R-1	LT		49+701.358	60							
R-2	RT		49+690.000	12							
RCP-1	LT.	49+634.705				1.23					
MB-1	LT.	49+638.260									1
TOTALS CARRIED TO SUB SUMMARY				72	1.8	1.23	0.81	27.7	12.0	261.20	1

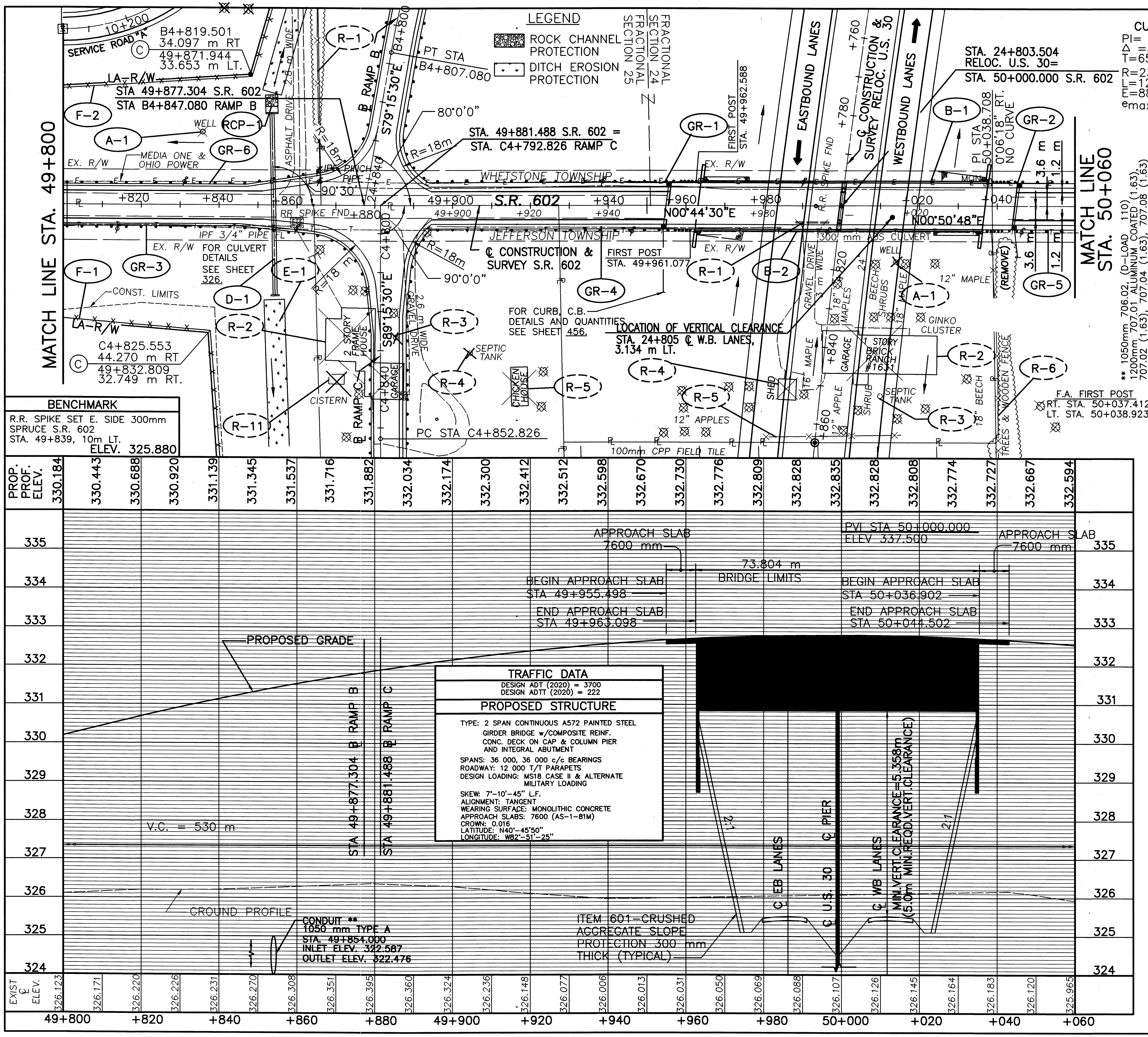
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – S.R. 602
STA. 49+550 TO STA. 49+800

CRA-30-24.000



U.S. 30 CURVE DATA
PI= STA. 24+516.308
Δ =31°05'59" LT.
T=650.000 m
R=2335.939 m
L=1267.925 m
E=88.749 m
e_{max}=0.028

metric units

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHTS. 2-11 OF 677.
2. FOR FENCE LEGEND SEE SHEET 96 OF 677.
3. FOR PIPE AND CATCH BASIN QUANTITIES AT BRIDGE APPROACHES SEE SHEET 456 OF 677.

** 1050mm 706.02, (D-LOAD 110)
1200mm 707.01 ALUMINUM COATED (1.63),
707.02 (1.63), 707.04 (1.63), 707.08 (1.63)

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 RIPRAP, USING 150 mm R.C. SLAB	601 ROCK CHAN. PROTECTION TYPE B W/ FILTER	602 CONCRETE MASONRY	603 ** CONDUIT TYPE A	606 GUARDRAIL TYPE-5	606 BRIDGE TERMINAL ASSEMBLY TYPE-1	606 ANCHOR ASSEMBLY TYPE-T	606 ANCHOR ASSEMBLY TYPE E-98	607 FENCE TYPE 47	626 BARRIER REFLECTOR TYPE-A-2	626 BARRIER REFLECTOR TYPE-B-2	SPECIAL DRILLED WATER WELL ABANDON
				S.M.	C.M.	C.M.	METER	METER	EACH	EACH	EACH	METER	EACH	EACH	EACH
D-1	LT.&RT.	49+854.000		3.2		2.38	47.2								
GR-1	LT.	B4+733.491	49+962.588					167.64	1		1		6		
GR-2	LT.	50+038.923	A4+754.411					87.63	1	1			3		
GR-3	RT.	49+785.000	C4+832.193					99.06		1	1		4		
GR-4	RT.	C4+824.040	49+961.077					83.82	1	1			3		
GR-5	RT.	50+037.412	D4+804.704					80.01	1		1		3		
GR-6	LT.	49+789.912	B4+719.433					182.88			2		7		
A-1	LT.	49+835.830													1
F-1	RT.	49+800.000	49+832.809									33.022			
F-2	LT.	49+800.000	49+871.944									72.013			
B-1	LT.	49+962.588	50+038.923											4	
B-2	RT.	49+961.077	50+037.412											4	
RCP-1	LT.	49+854.000			5.51										
TOTALS CARRIED TO SUB SUMMARY				3.2	5.51	2.38	47.2	701.04	4	3	5	105.035	26	8	1

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – S.R. 602
STA. 49+800 TO STA. 50+060

CRA-30-24.000

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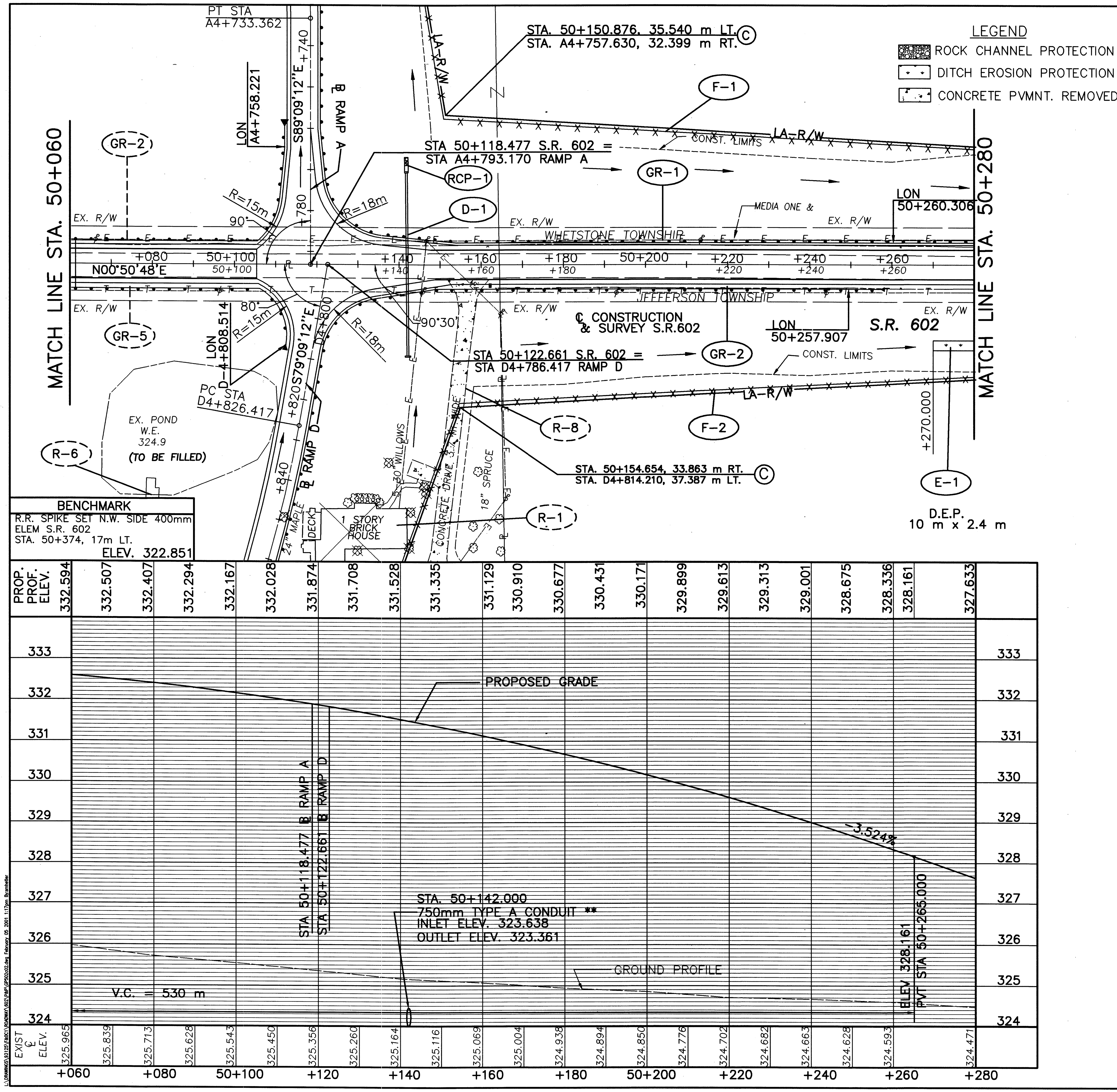


NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR FENCE LEGEND SEE SHEET 96 OF 677.
3. FOR CULVERT DETAIL SEE SHEET 331 OF 677.
4. FOR INTERSECTION DETAIL SEE SHEET 477 OF 677.

metric units

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	601 RIPRAP USING 150 mm R.C. SLAB (S.M.)	601 ROCK CHAN PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 ** CONDUIT TYPE A (METER)	606 GUARDRAIL TYPE-5 (METER)	606 ANCHOR ASSEMBLY TYPE-E-98 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	607 FENCE TYPE 47 (METER)	626 BARRIER REFLECTORS TYPE-A-2 (EACH)	670 DITCH EROSION CONTROL (S.M.)
D-1	LT.	50+142.000		2.28		1.22	44.79						
E-1	RT.	50+270	50+280										24
GR-1	LT.	A4+668.661	50+264.116					232.41	1	1		8	
GR-2	RT.	50+261.717	D4+900.490					240.03	2			9	
F-1	LT.	50+150.876	50+280								129.316		
F-2	RT.	50+154.654	50+280								125.507		
RCP-1	LT.	50+142.000			1.91								
TOTALS CARRIED TO SUB SUMMARY				2.28	1.91	1.22	44.79	472.440	3	1	254.823	17	24

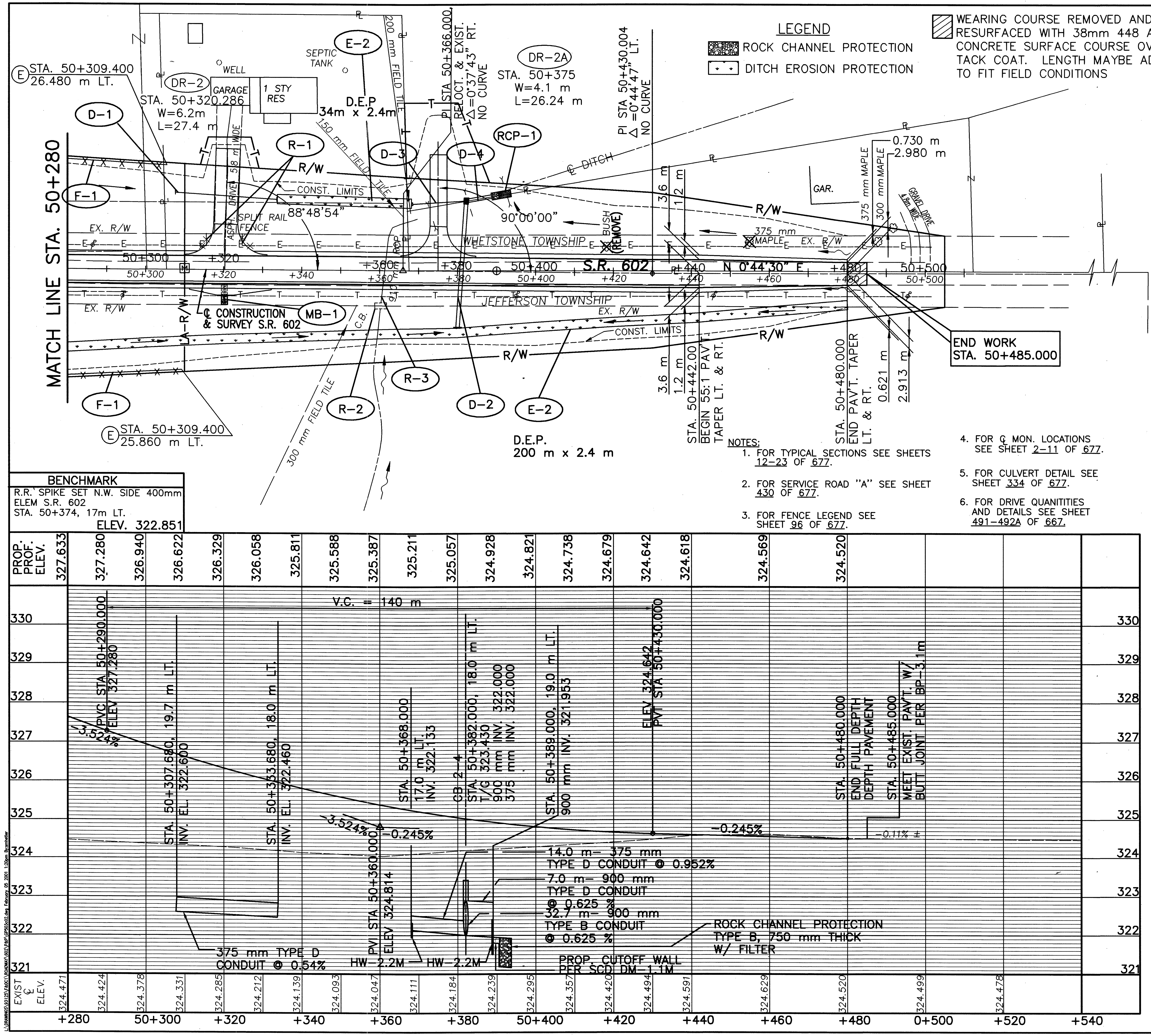
** 750mm 706.02, (D-LOAD 110)
750mm 707.01 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – S.R. 602
STA. 50+060 TO STA. 50+280

CRA-30-24.000



LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAYBE ADJUSTED TO FIT FIELD CONDITIONS

BENCHMARK
R.R. SPIKE SET N.W. SIDE 400mm ELEM S.R. 602
STA. 50+374, 17m LT.
ELEV. 322.851

NOTES:

1. FOR TYPICAL SECTIONS SEE SHEETS 12-23 OF 677.
2. FOR SERVICE ROAD "A" SEE SHEET 430 OF 677.
3. FOR FENCE LEGEND SEE SHEET 96 OF 677.
4. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
5. FOR CULVERT DETAIL SEE SHEET 334 OF 677.
6. FOR DRIVE QUANITITIES AND DETAILS SEE SHEET 491-492A OF 667.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	202 PIPE REMOVED OVER 600mm (METER)	202 CATCH BASIN REMOVED (EACH)	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (CM)	601 RIP RAP USING 150mm CONC. SLAB (EACH)	602 CONCRETE MASONRY (C.M.)	603 900mm CONDUIT TYPE B (METER)	603 375mm CONDUIT TYPE D (METER)	603 900mm CONDUIT TYPE D (CM)	604 CATCH BASIN TYPE CB 2-4 (EACH)	607 FENCE TYPE 47 (METER)	670 DITCH EROSION CONTROL (S.M.)	SPEC. MAILBOX SUPPORT SYSTEM SINGLE (EACH)
D-1	LT.	50+307.680	50+333.680								26					
D-2	LT.&RT.	50+381.000							0.66	32.7						
D-3	LT.	50+368	50+382								14		1			
D-4	LT.	50+382	50+389				5.4	2.7	0.66			7.0				
E-1	LT.	50+333.680	50+368												82	
E-2	RT.	50+280.000	50+480.000												480	
F-1	LT.	50+280	50+309.400											29.40		
F-2	RT.	50+280	50+309.400											29.40		
MB-1	RT.	50+320														1
R-1	LT.	50+324.754	50+328.026	6												
R-2	RT.	50+360				1										
R-3	RT.&LT.	50+360			30											
F-2	LT.															
TOTALS CARRIED TO SUB SUMMARY				6	30	1	5.4	2.7	1.32	32.7	40	7.0	1	58.80	562	1

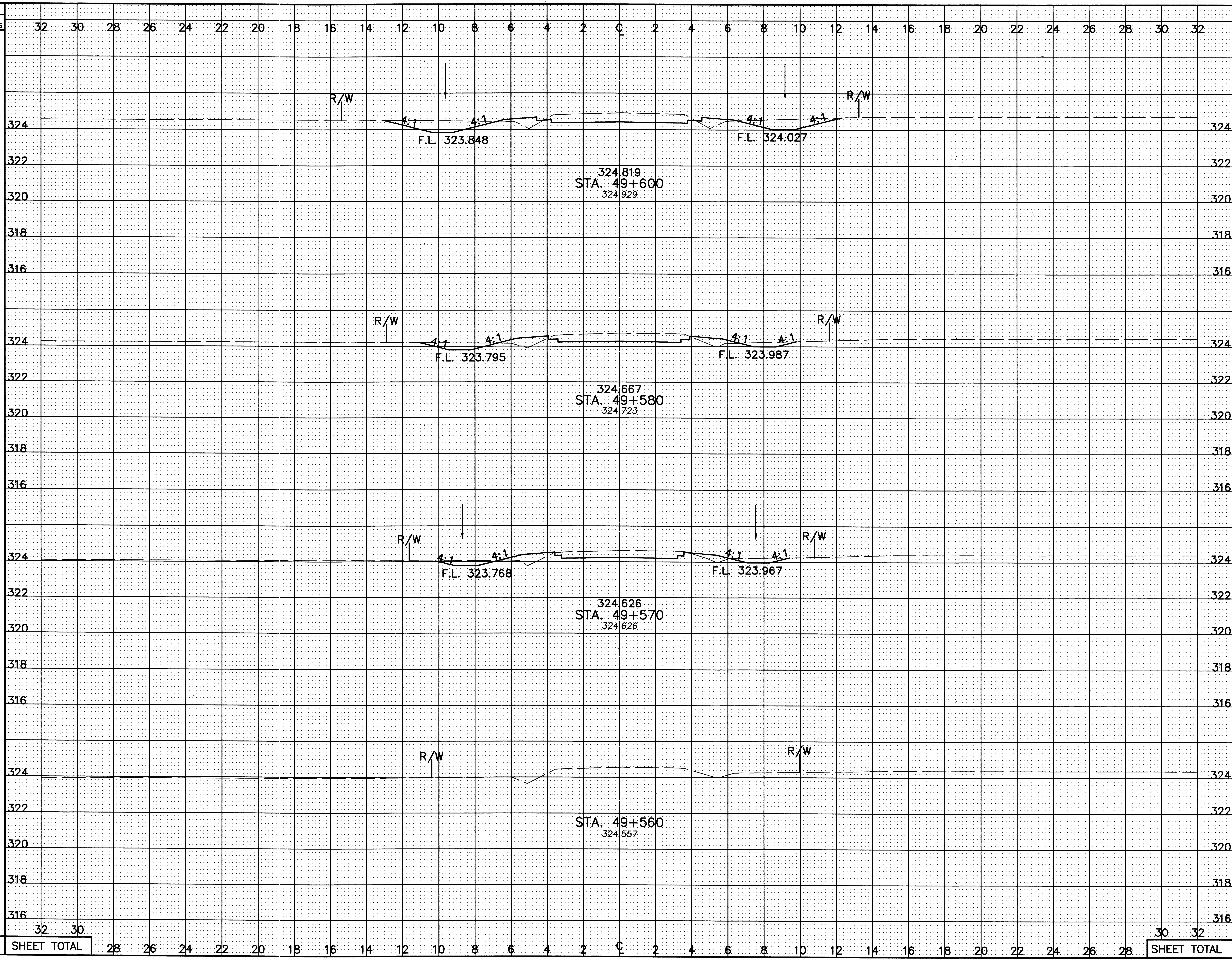
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – S.R. 602
STA. 50+280 TO STA. 50+505

CRA-30-24.000



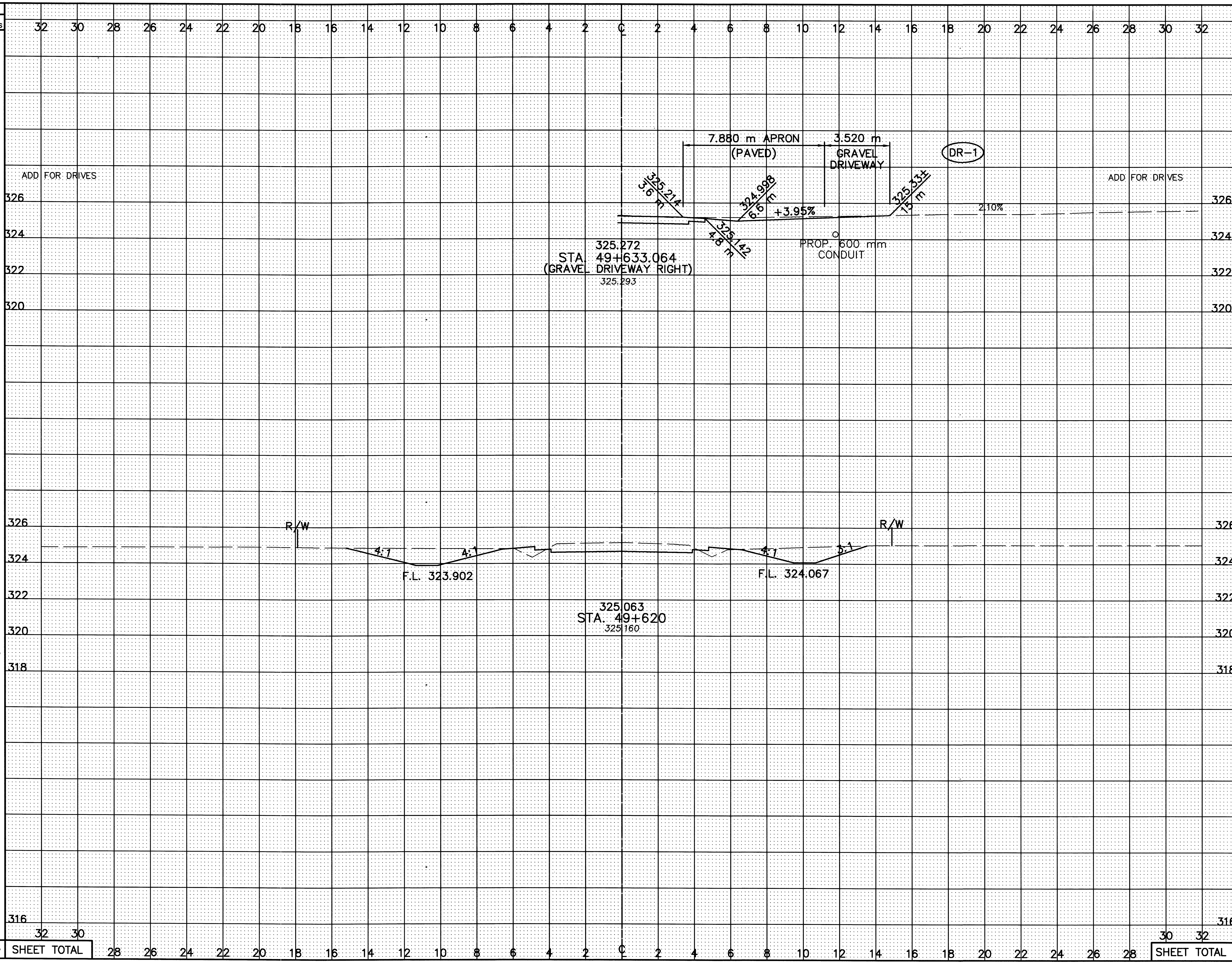
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
19.7		8.1	1.2		
	365			131	27
16.8		5.0	1.5		
	162			45	14
15.5		4.1	1.3		
	155			20	7
		0.0	0.0		
				0	0
SHEET TOTAL	682			196	48

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+560 TO STA. 49+600

CRA-30-24.000

321
677



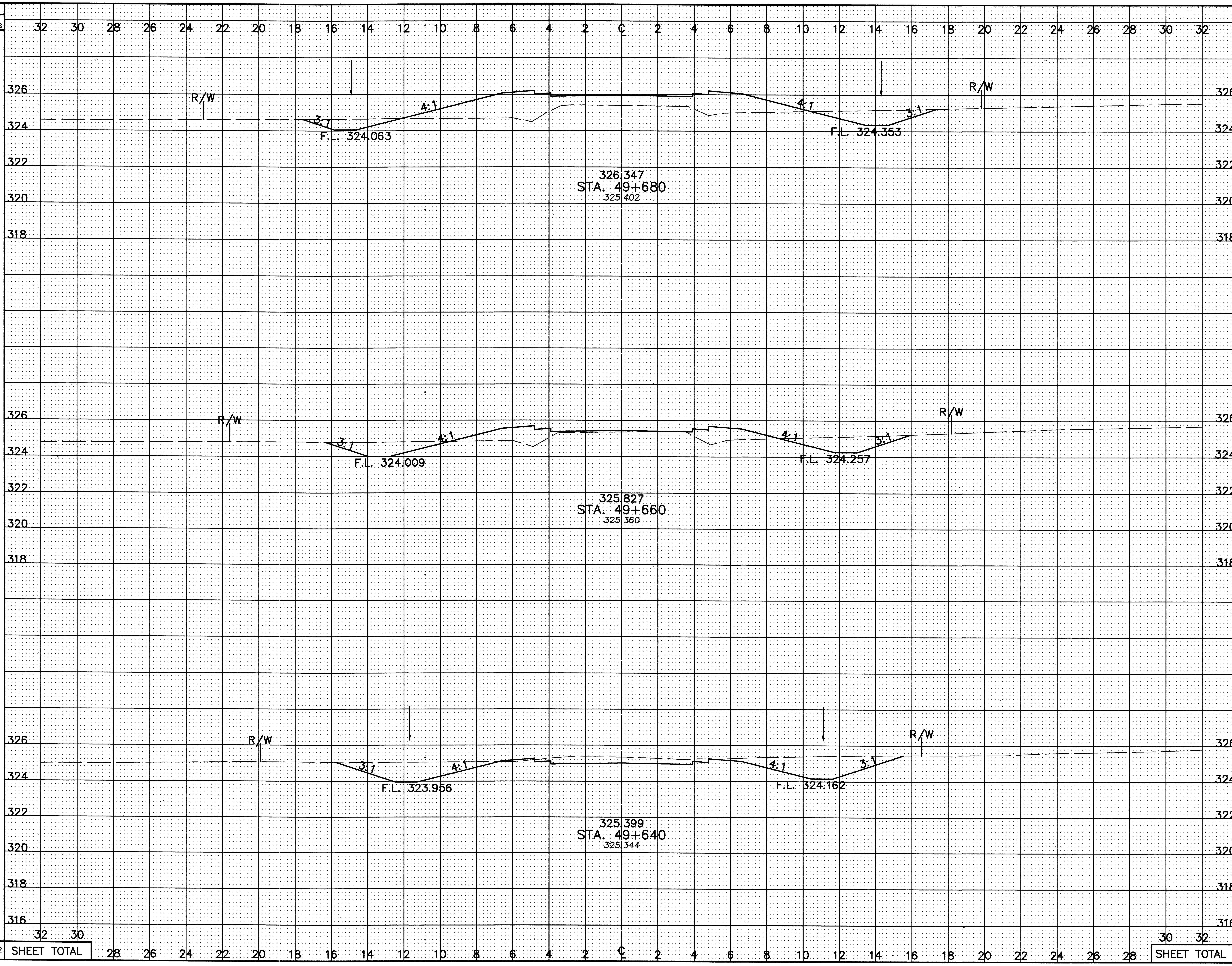
SEEDING END WIDTH	SEEDING SQ. METERS
0.0	0
23.6	
	433
SHEET TOTAL	433

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1.1	0.0	4	0
12.1	0.9		
		202	21
		206	21

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+620 TO STA. 49+633

CRA-30-24.000



Seeding: End Width	Seeding: Sq. Meters	End Area: Cut	End Area: Fill	Volume: Cut	Volume: Fill
34.0		5.8	16.9		
	648			129	231
30.8		7.1	6.2		
	583			223	64
27.5		15.2	0.2		
	511			273	11
SHEET TOTAL	1742			625	306

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+640 TO STA. 49+680

CRA-30-24.000

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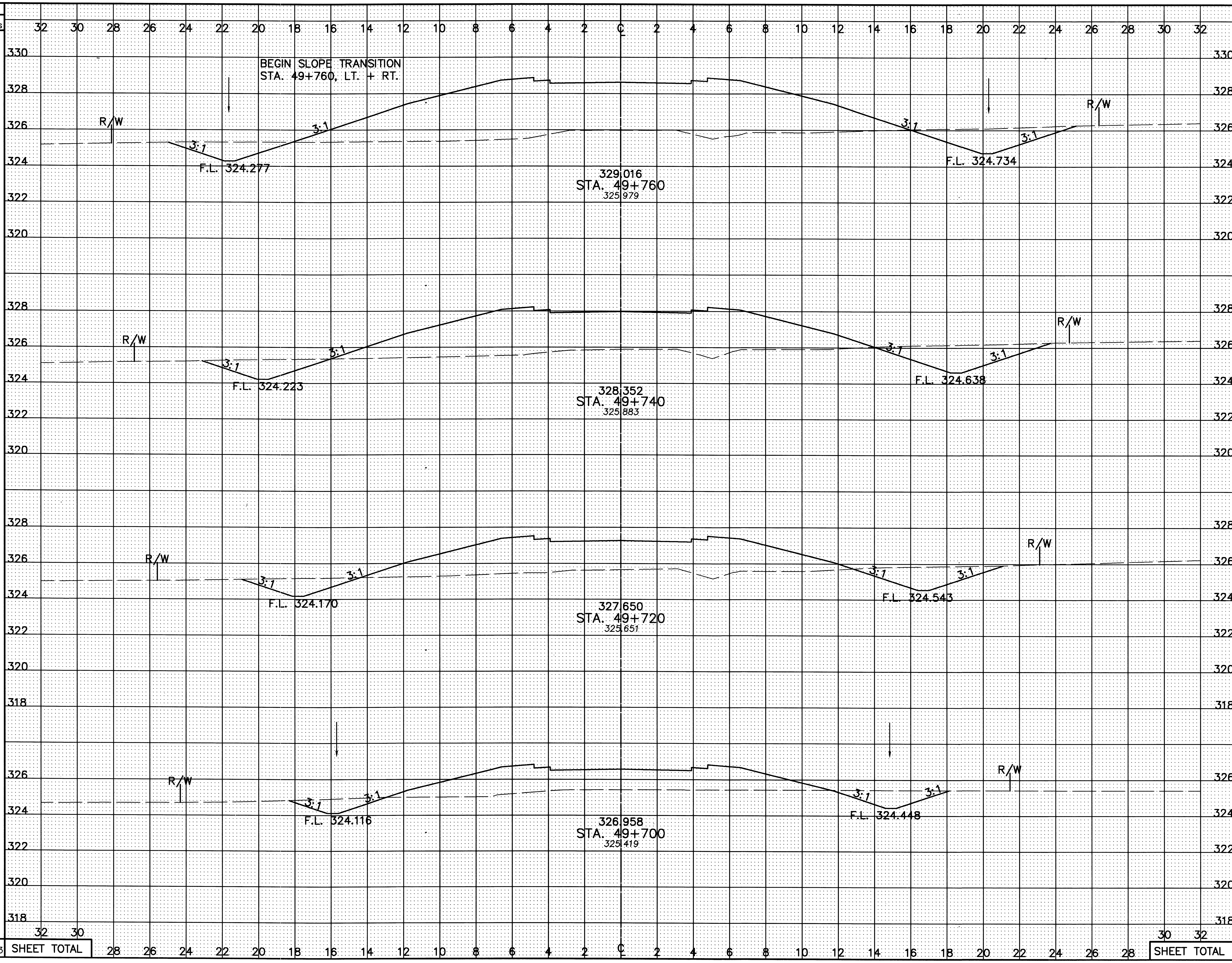
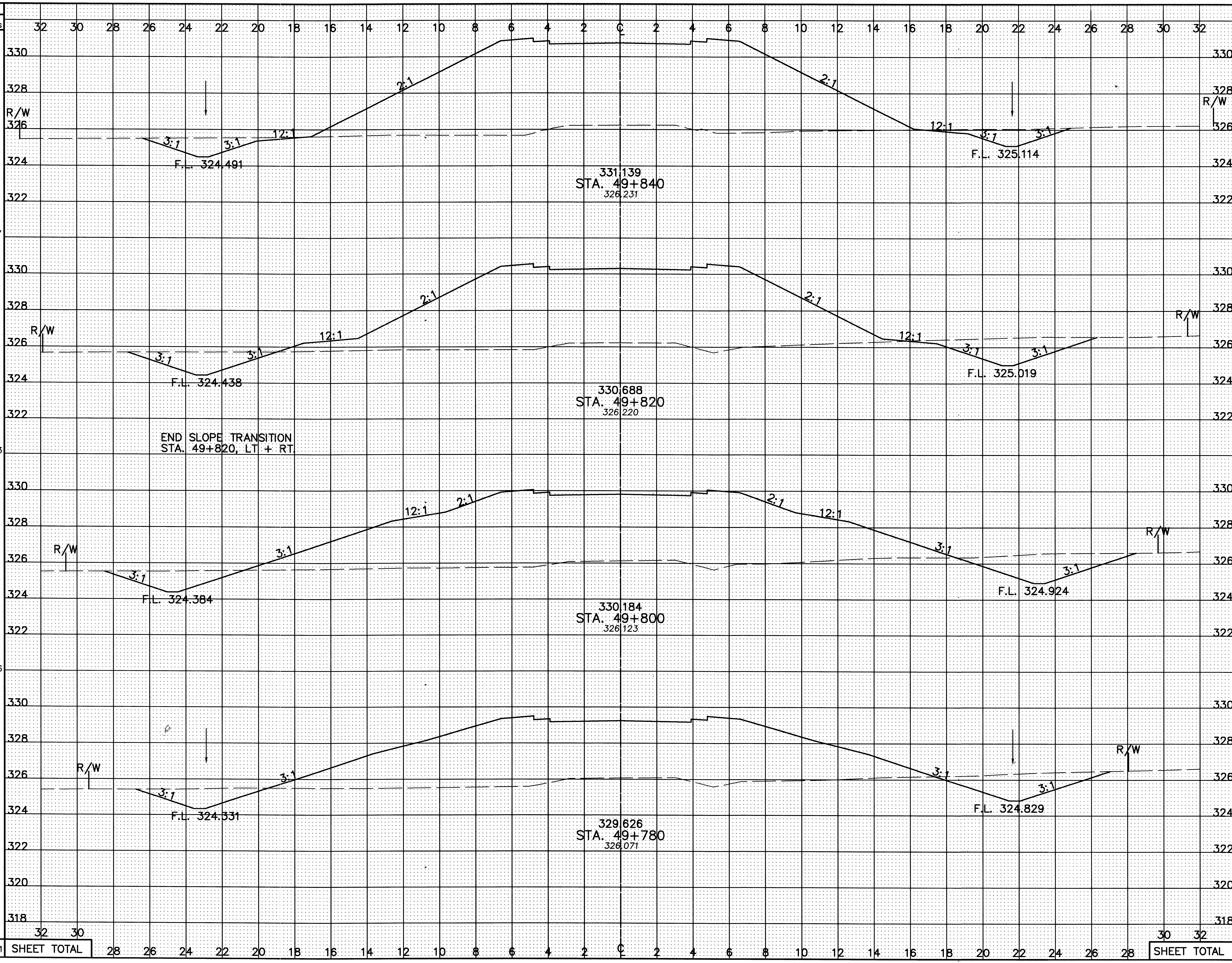


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
46.7		9.4	73.2		
	902			206	1250
43.5		11.2	51.8		
	838			209	896
40.3		9.8	37.9		
	773			163	628
37.0		6.5	25.0		
	710			123	418
	3223			701	3192

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+700 TO STA. 49+760

CRA-30-24.000

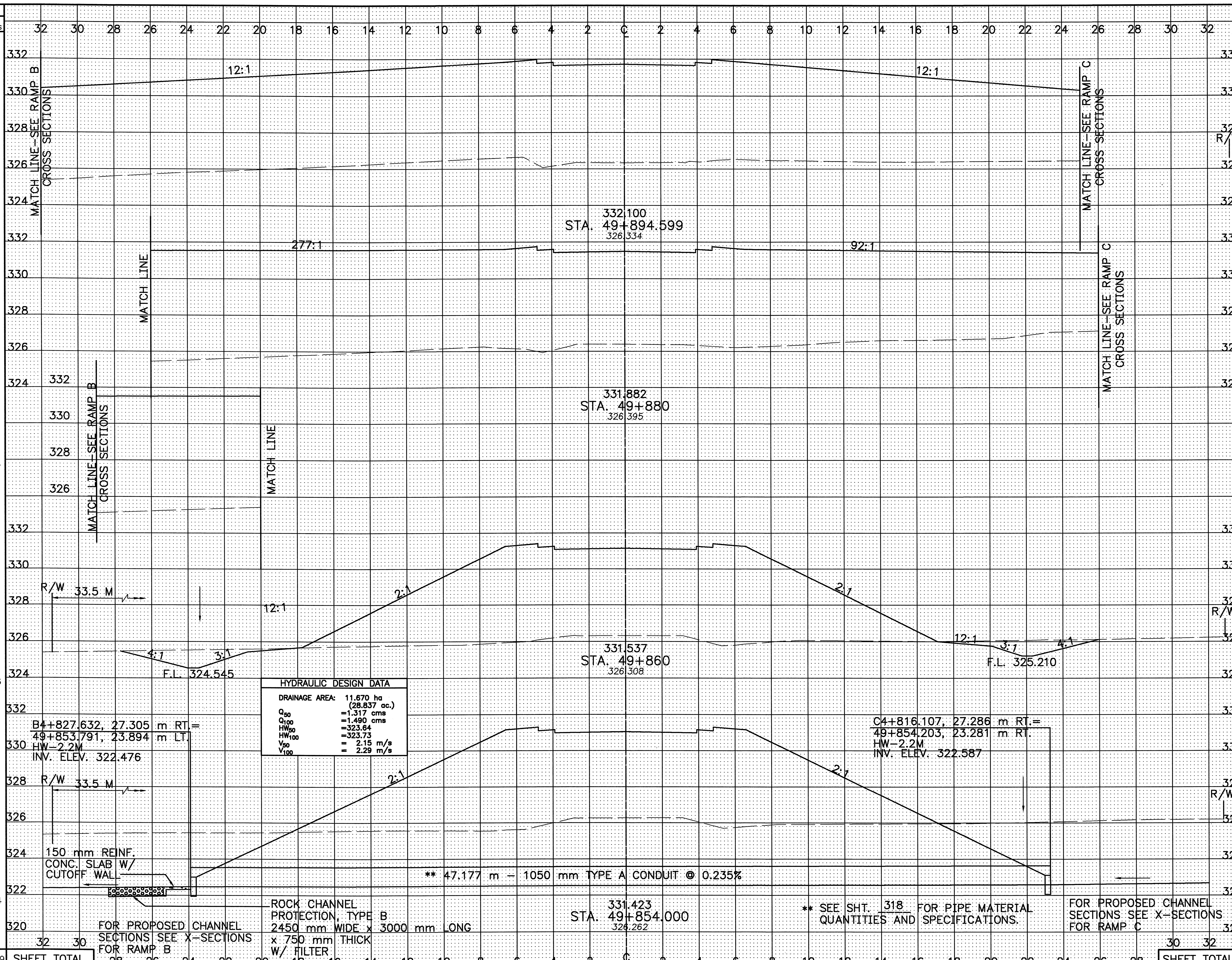


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
49+840	59.2		7.5	113.9		
		1157			194	2115
49+820	56.5		12.0	97.6		
		1093			239	2023
49+800	52.8		11.9	104.7		
		1026			226	1945
49+780	49.8		10.7	89.8		
		965			202	1630
SHEET TOTAL		4241			861	7713

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+780 TO STA. 49+840

CRA-30-24.000



SEEDING END WIDTH	SQ. METERS
47.5	722
51.4	987
47.3	266
41.3	704
SHEET TOTAL	2679

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	286.2		
		0	4504
0	330.8		
		75	4550
7.5	124.2		
		63	1081
6.8	123.5		
		80	1339
SHEET TOTAL		218	11474

CALCULATED PSB
CHECKED LBD

CROSS–SECTIONS – S.R. 602
STA. 49+854.000 TO STA. 49+894.599

CRA–30–24.000

326
677

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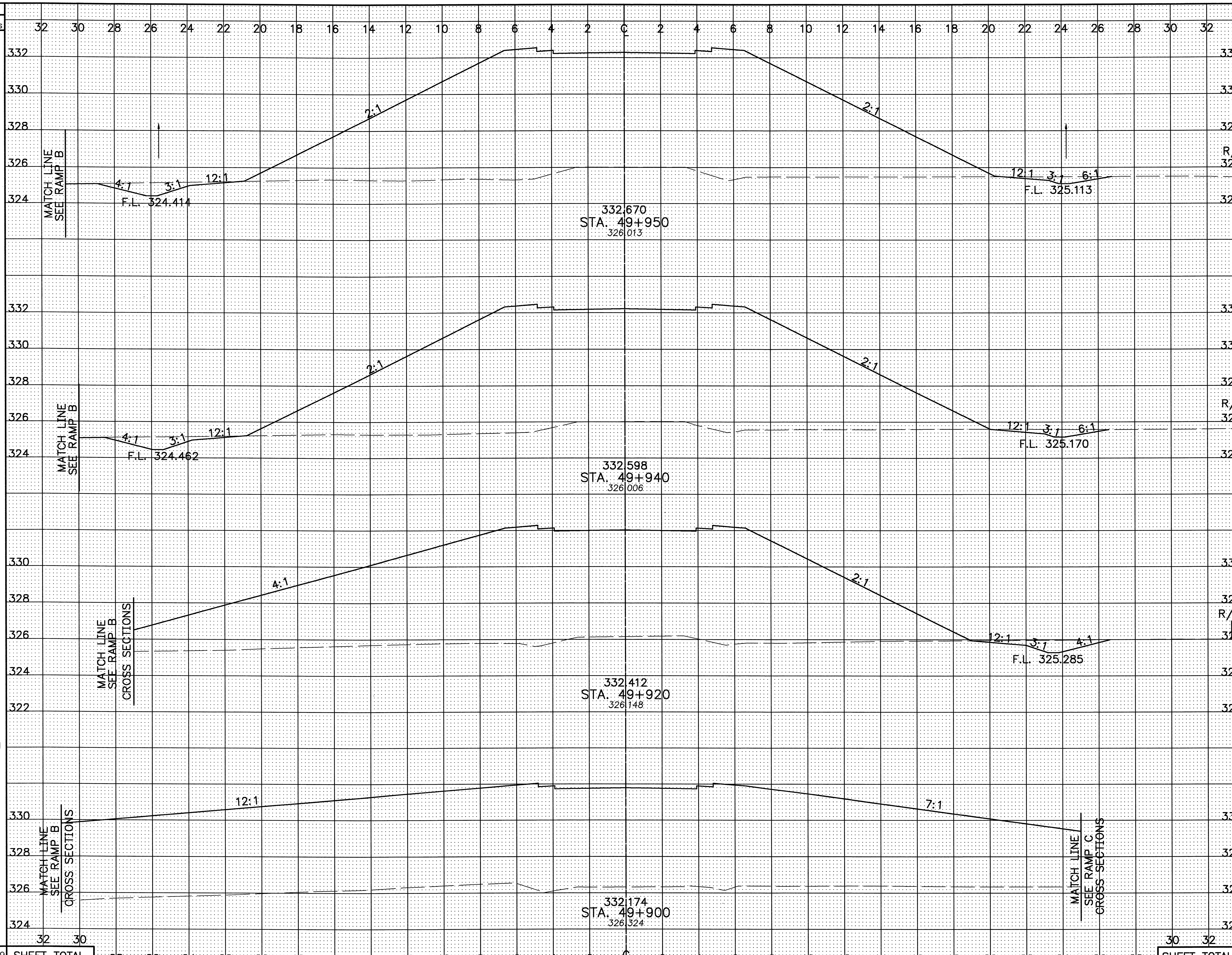

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
62.1		3.5	184.6		
	620			35	1824
61.9		3.5	180.3		
	1233			58	3763
46.4		2.3	196.0		
	931			23	4655
46.7		0	269.5		
	255			0	1501
SHEET TOTAL	3039			116	11743

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+900 TO STA. 49+950

CRA-30-24.000

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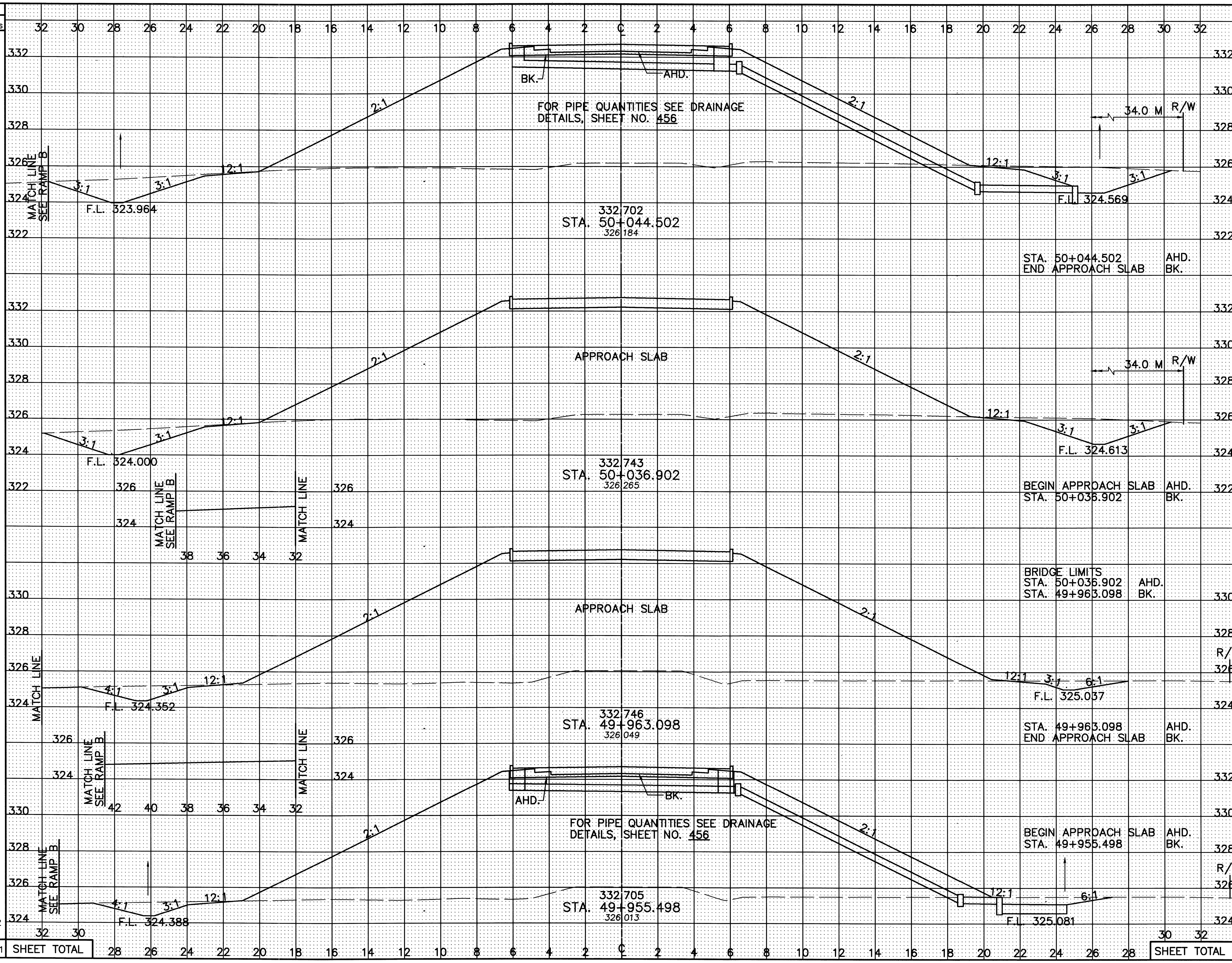

SEEDING END WIDTH	SEEDING SQ. METERS
63.9	
	486
63.9	
62.2	
	473
62.2	
	342
	1301

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13.2	164.4		
13.2	161.5		
		103	1238
14.0	164.4		
0	0		
0	0		
4.2	185.4		
		31	1400
3.8	183.1		
3.8	186.0		
		20	1019
		154	3657

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 49+955.498 TO STA. 50+044.502

CRA-30-24.000

328
677

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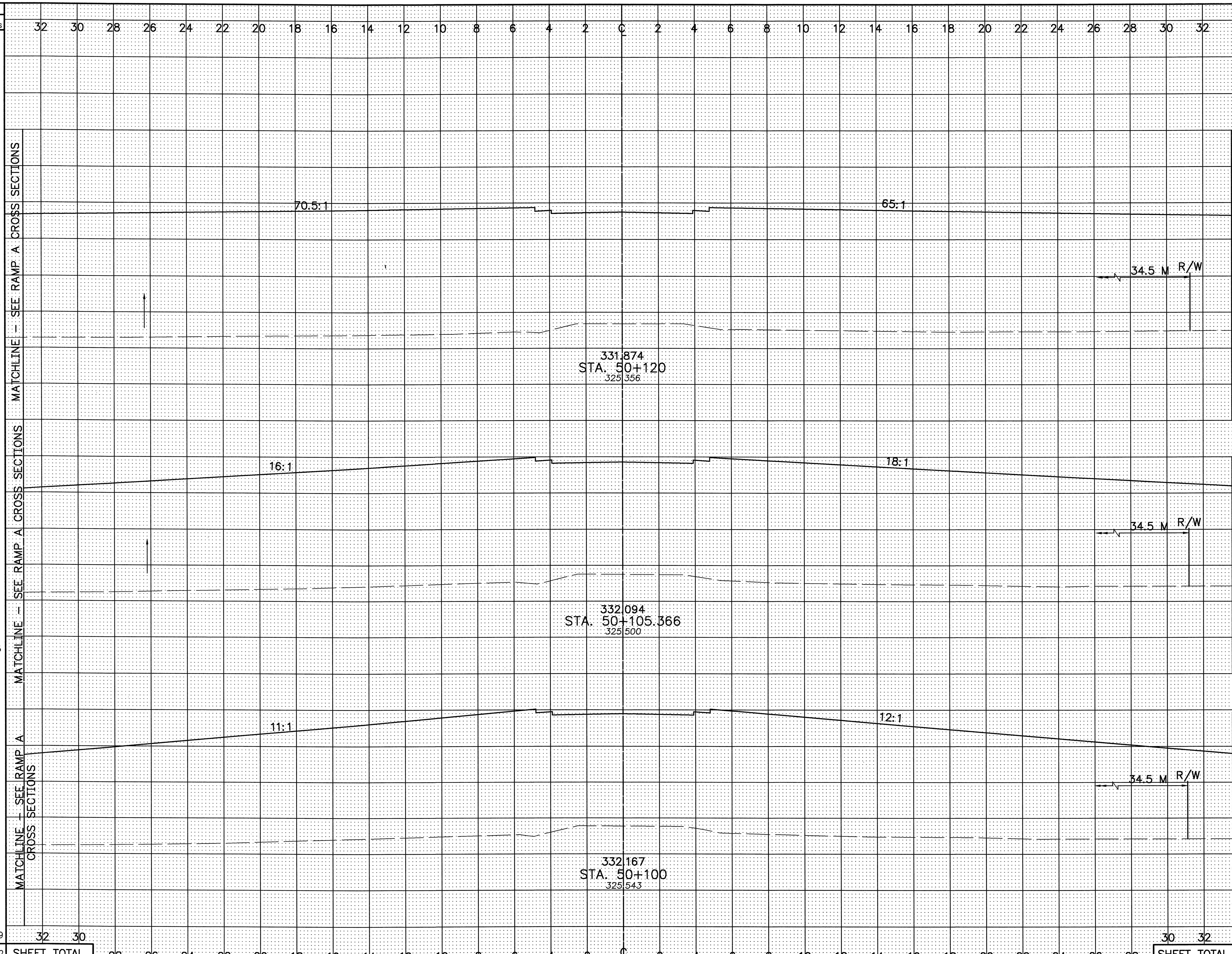
SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
CROSS-SECTIONS – S.R. 602
STA. 50+050 TO STA. 50+080
CRA-30-24.000
329
677
R/W
35.5 M
34.5 M
R/W
4:1
3:1
12:1
2:1
2:1
12:1
3:1
6:1
F.L. 323.795
F.L. 324.365
332.407
STA. 50+080
325.713
64.5
5.4
184.1
1288
158
3566
R/W
35.5 M
34.5 M
R/W
3:1
3:1
12:1
2:1
2:1
12:1
3:1
4:1
F.L. 323.890
F.L. 324.480
332.594
STA. 50+060
325.965
64.3
10.4
172.5
641
120
1696
R/W
35.5 M
34.0 M
R/W
3:1
3:1
12:1
2:1
2:1
12:1
3:1
3:1
F.L. 323.938
F.L. 324.538
332.667
STA. 50+050
326.120
63.9
13.5
166.7
347
74
910
2276
SHEET TOTAL
SHEET TOTAL
352
6172



SEEDING END WIDTH	SEEDING SQ. METERS
58.7	848
57.1	865
55.4	1199
SHEET TOTAL	2912

STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 50+120	0	441.8		
			0	6305
STA. 50+105.366	0	419.9		
			0	2201
STA. 50+100	0	400.4		
			54	5845
SHEET TOTAL			54	14351

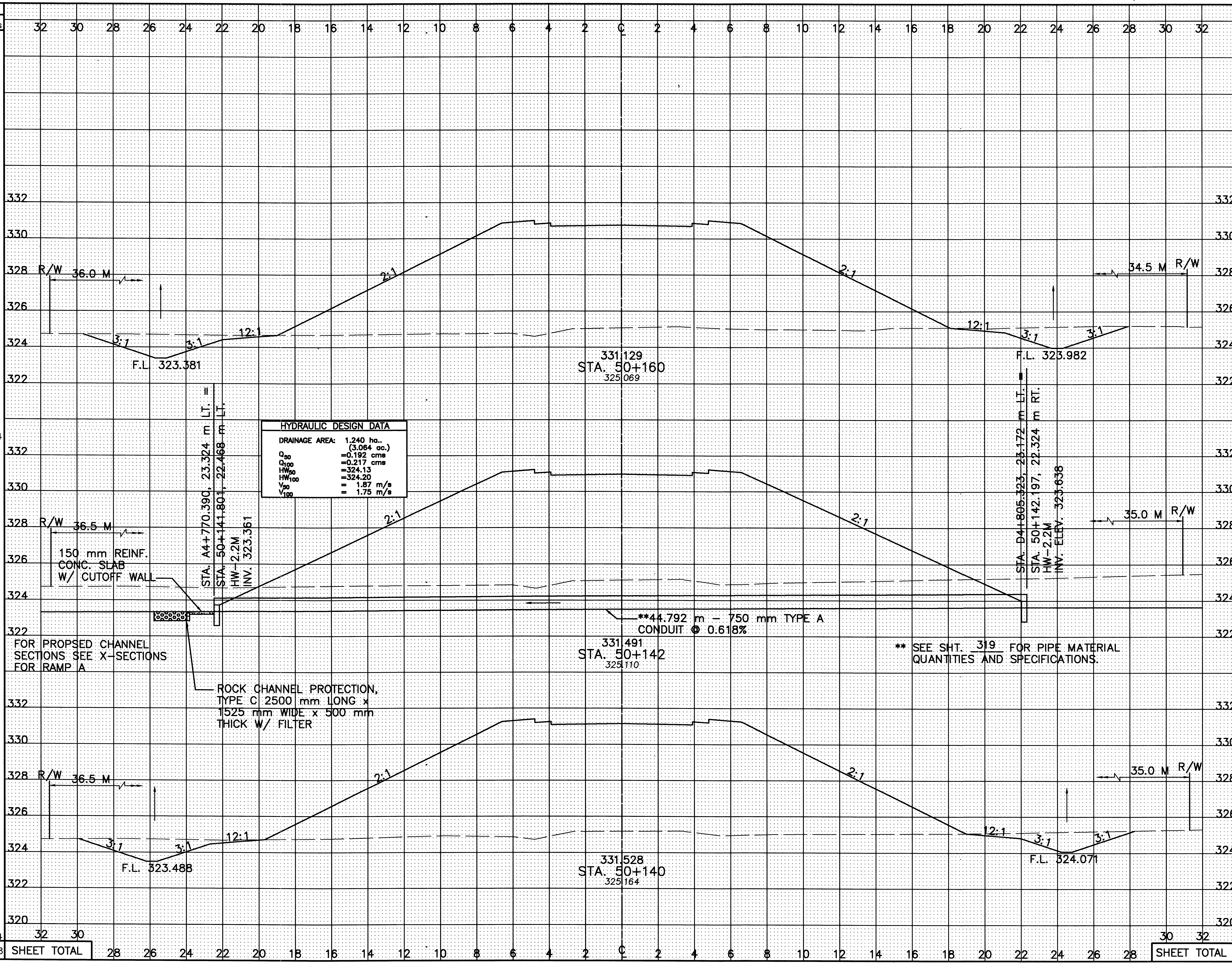
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 50+100 TO STA. 50+120

CRA-30-24.000

330/677

SEEDING END WIDTH	SEEDING SQ. METERS
64.3	
	1294
65.1	
	1294
	2588



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11.2	148.7		
		128	1688
11.9	155.6		
		97	1411
9.9	161.4		
		170	3359
		395	6458

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 50+140 TO STA. 50+160

CRA-30-24.000

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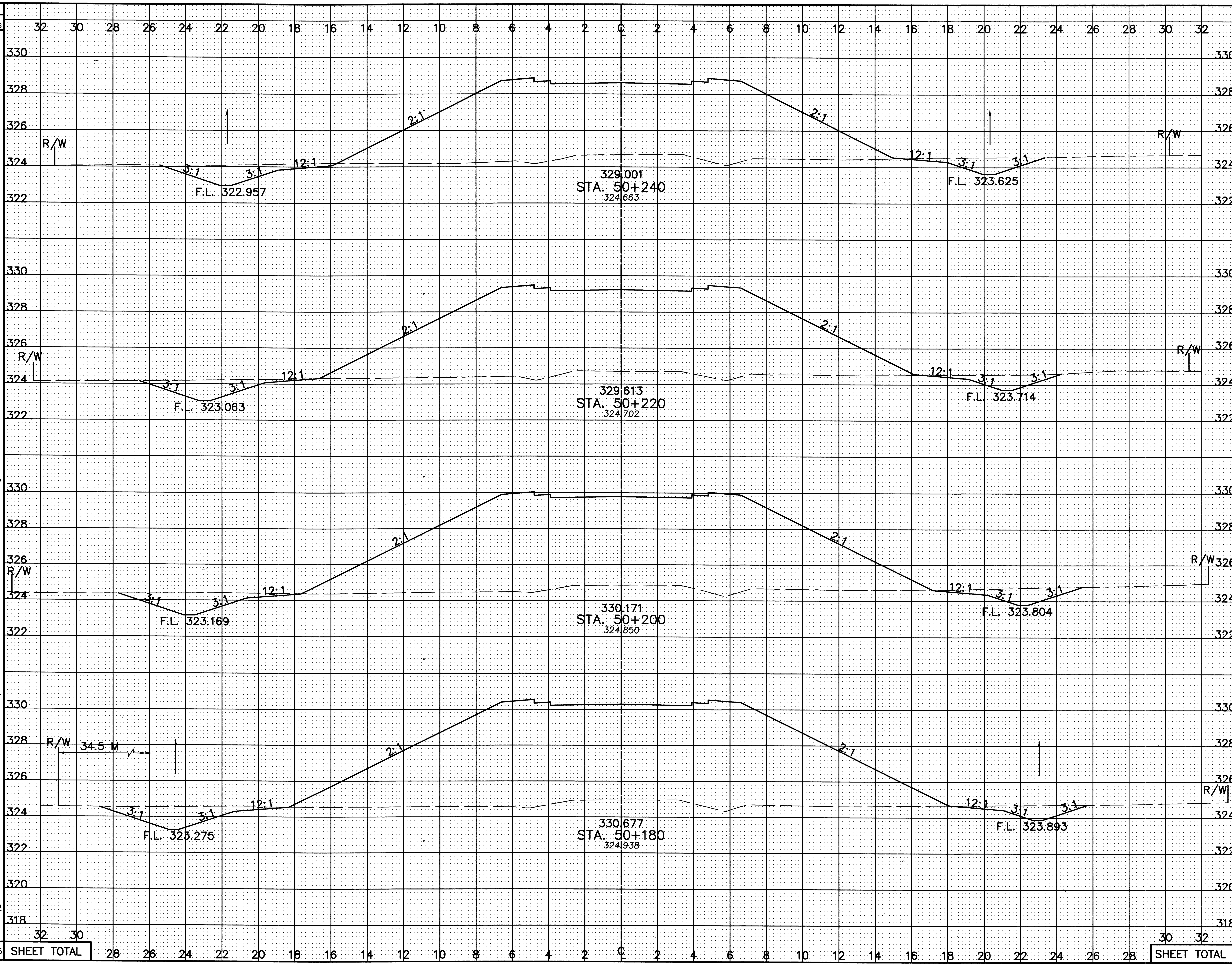

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
54.5		8.8	94.1		
	1115			169	2044
57.0		8.1	110.3		
	1165			170	2362
59.5		8.9	125.9		
	1214			177	2670
61.9		8.7	141.1		
	1262			199	2898
SHEET TOTAL	4756			715	9974

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 50+180 TO STA. 50+240

CRA-30-24.000

332/677

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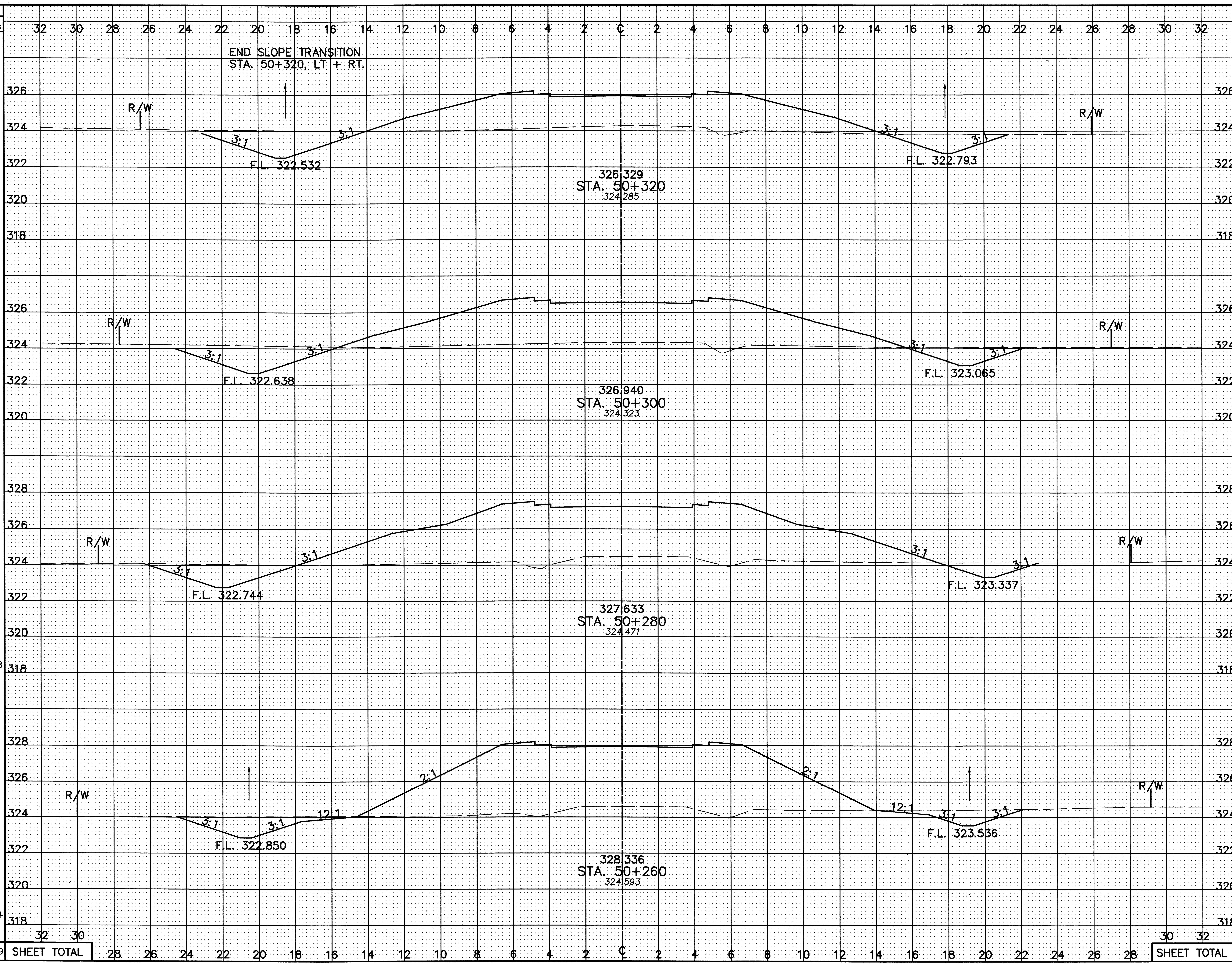


SEEDING END WIDTH	SEEDING SQ. METERS
44.4	
	911
46.7	
	956
48.9	
	1008
51.9	
	1064
	3939

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.2	40.6		
		203	946
10.1	54.0		
		188	1292
8.6	75.2		
		172	1523
8.6	77.1		
		173	1712
		736	5473

SHEET TOTAL

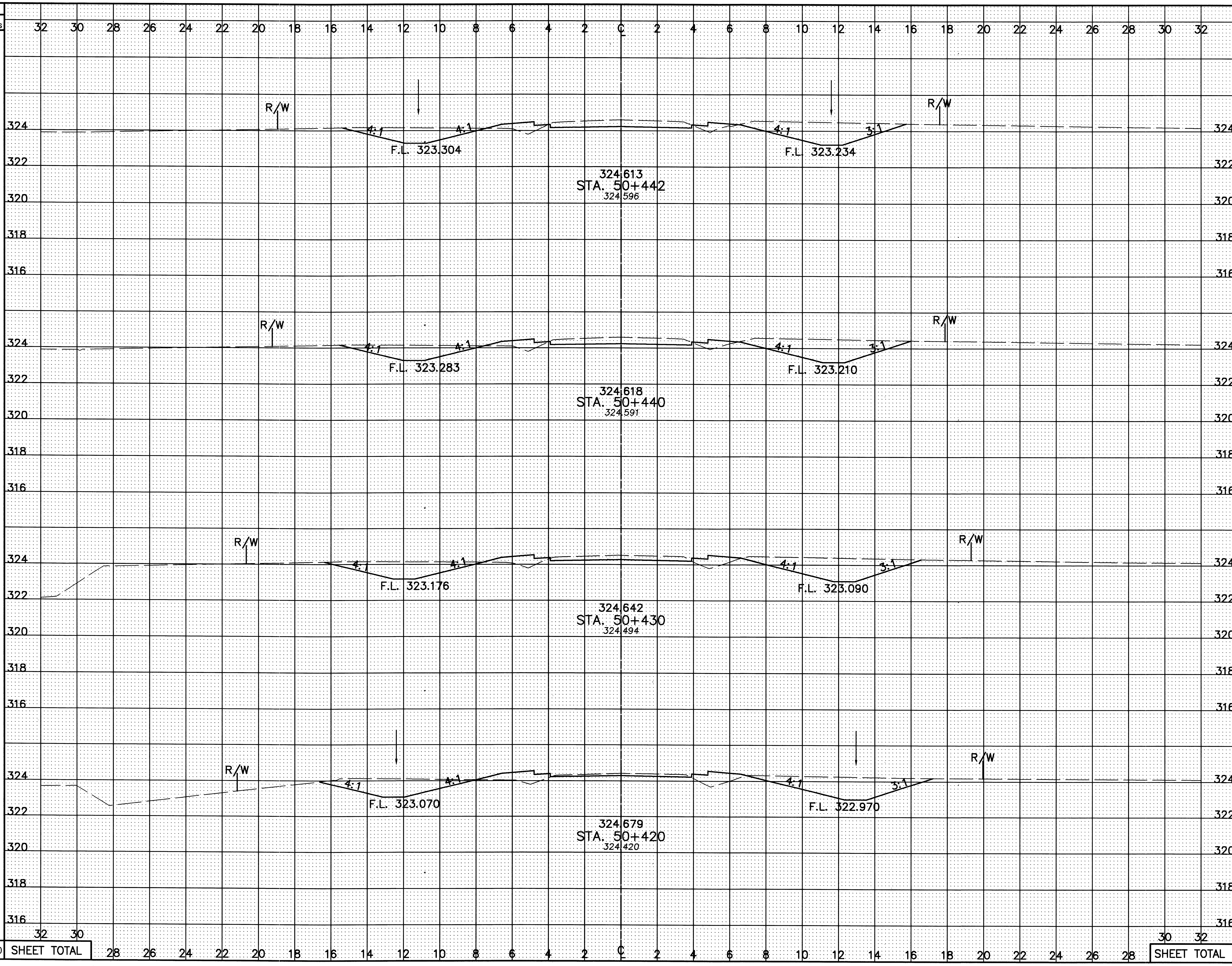
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 50+260 TO STA. 50+320

CRA-30-24.000

CROSS-SECTIONS – S.R. 602
STA. 50+320.286 TO STA. 50+400
CRA-30-24.000
334
677
CALCULATED PSB
CHECKED LBD
SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
34.6
717
12.9
7.3
214
233
R/W
3:1
4:1
F.L. 322.856
F.L. 322.730
324.821
STA. 50+400
324.295
8.5
26
ADD FOR DRIVES
18.420m
ASPHALT DRIVEWAY
7.820 m APRON
(PAVED)
324.857
6.6 m
325.073
3.6 m
DR-2A
-5.00%
0.00% ±
37.1
8.5
16.0
325.001
4.8 m
STA. 50+380.000, 14.599 m RT.
HW-2.2M
INV. ELEV. 322.200
PROP. 375 mm
CONDUIT
CB 2-4
STA. 50+382.000, 18.0 m LT
T/G 323.430
900 mm N.& E. INV. 322.000
375 mm S. INV. 322.000
32.700 m-900 mm CONDUIT, TYPE B @ 0.60%
INV. ELEV. 322.200
325.131
STA. 50+375
324.148
HYDRAULIC DESIGN DATA
DRAINAGE AREA: 23.800 ha. (58.811 ac.)
Q_{25} =1.551 cms
Q_{100} =2.188 cms
HW_{25} =323.57
HW_{100} =324.34
V_{25} = 2.80 m/s
V_{100} = 3.55 m/s
765
93
379
39.4
6.7
34.1
F.L. 322.311
F.L. 322.250
325.387
STA. 50+360
324.047
812
150
705
41.8
8.4
36.4
F.L. 322.422
F.L. 322.522
325.811
STA. 50+340
324.139
862
185
770
19.380 m
ASPHALT DRIVEWAY
8.020 m APRON
(PAVED)
326.046
6.6 m
326.262
3.6 m
DR-2
1.80% ±
P.V.I. 324.059
28.0 m
-9.33%
326.190
4.8 m
8.5
26
ADD FOR DRIVES
24.9
0.0
155
0
6 m V.C.
PVT
MEET EXISTING
31.000m LT.
ELEV. 324.160
GRADE BREAK
NO VERT. CURVE
PVC
25.000m LT.
ELEV. 324.339
PROP. 375 mm
CONDUIT
326.320
STA. 50+320.286
(ASPHALT DRIVEWAY LEFT)
324.285
3208
SHEET TOTAL
797
2087

SEEDING END WIDTH	SEEDING SQ. METERS
28.1	
	296
31.0	
	316
32.2	
	668
	1280 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13.3	1.6		
		27	3
13.7	1.7		
		138	19
13.8	2.2		
		137	25
13.5	2.9		
		264	102
		566	149

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 50+420 TO STA. 50+442

CRA-30-24.000

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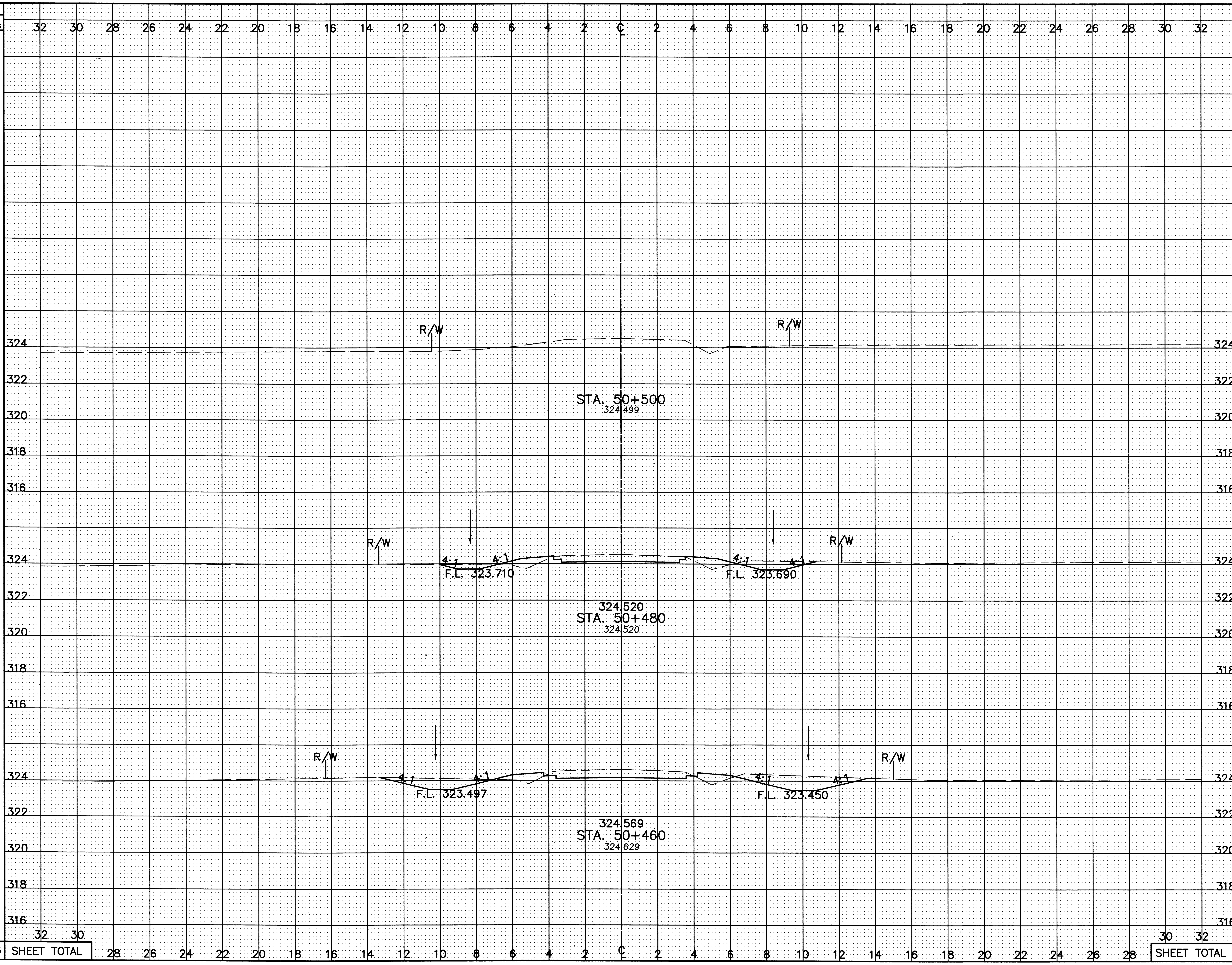
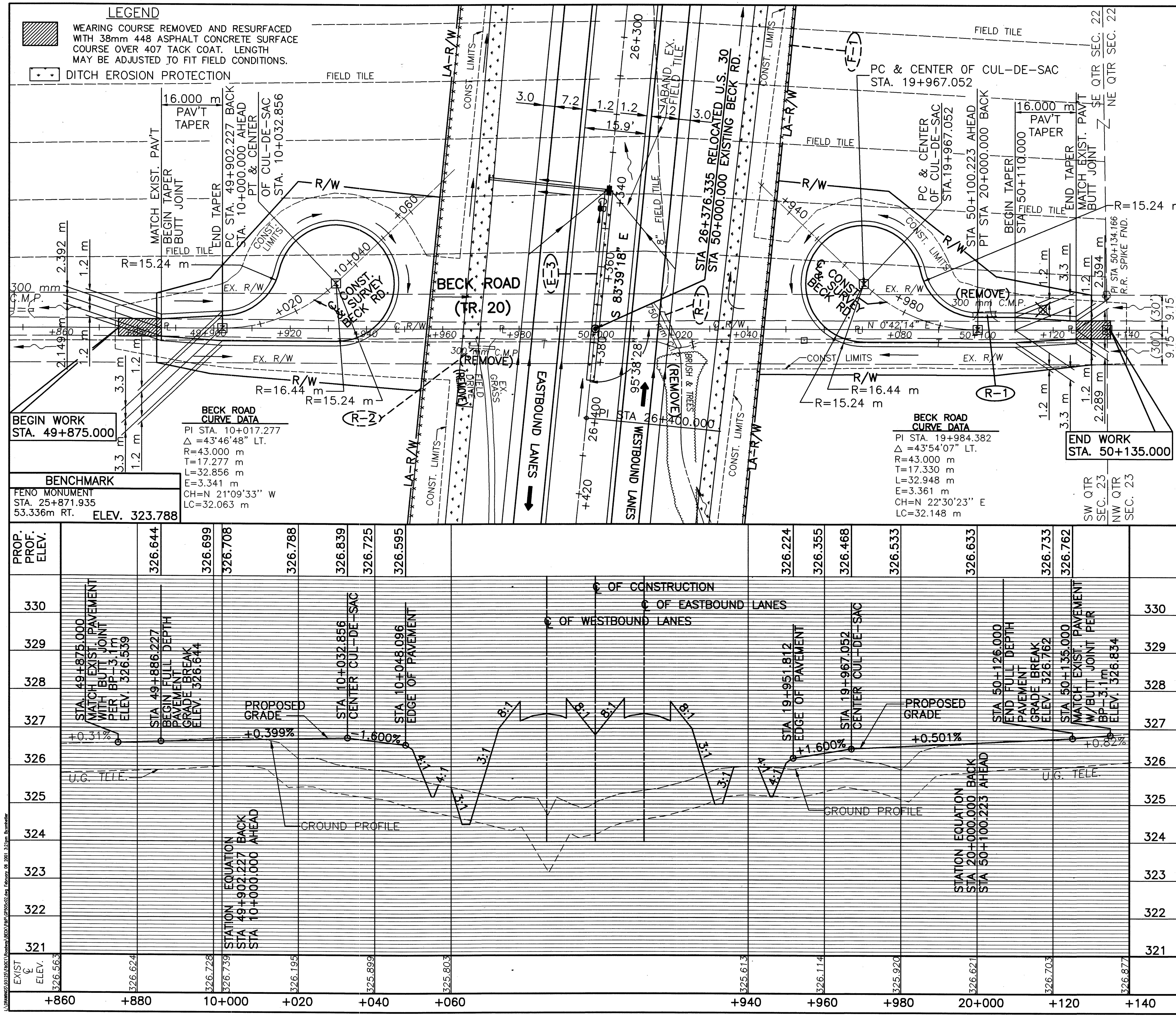


Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 50+500	0.0		0.0	0.0		
		185			46	18
STA. 50+480	18.5		4.6	1.8		
		417			138	34
STA. 50+460	23.2		9.2	1.6		
		513			203	28
SHEET TOTAL		1115			387	80

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 602
STA. 50+460 TO STA. 50+500

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 OF 677.
2. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

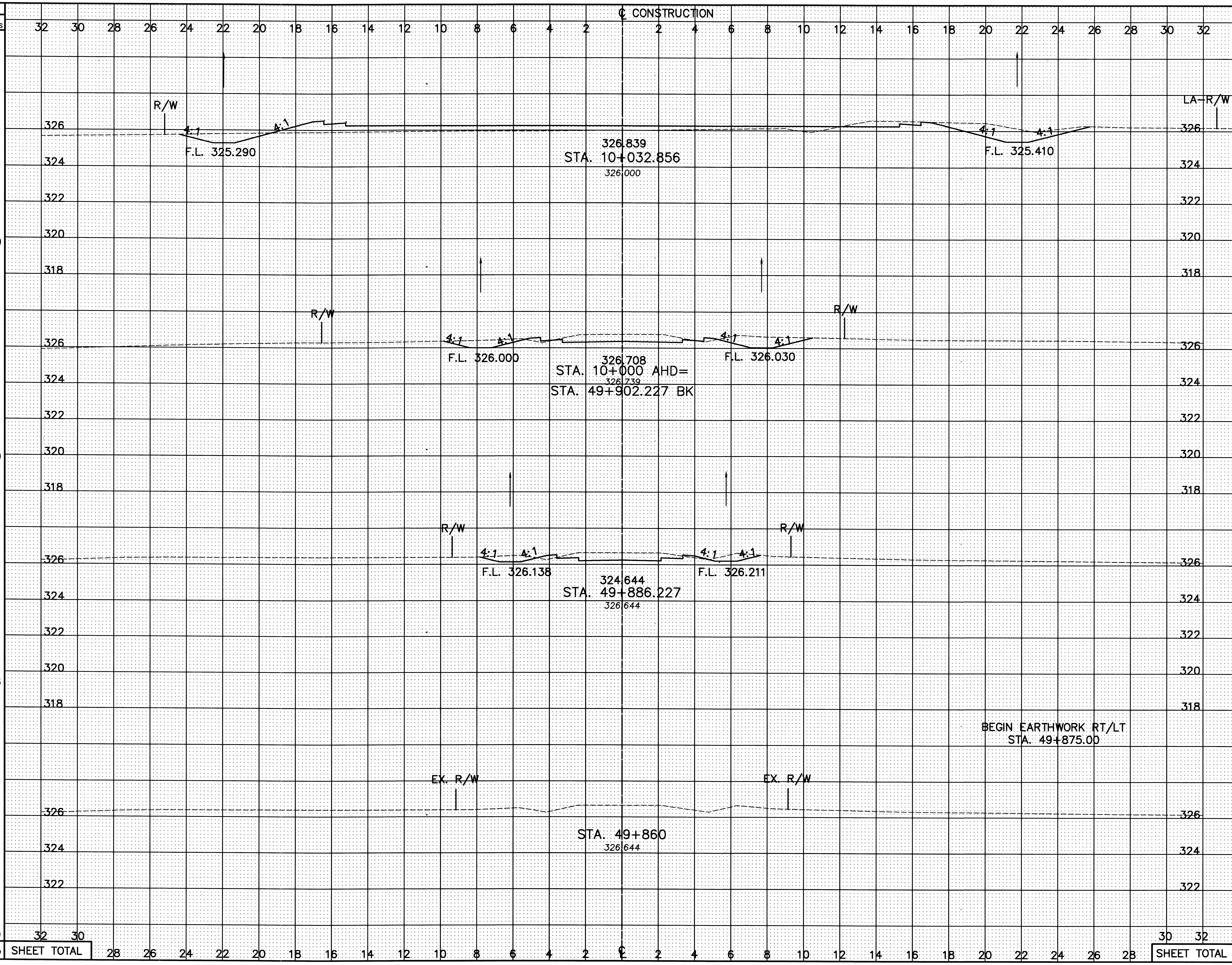
REF. No.	SIDE	STATION FROM	STATION TO	203 PIPE REMOVED 600mm AND UNDER (METER)
R-1	LT	19+997.000	50+104.000	7.0
TOTALS CARRIED TO SUB-SUMMARY				7.0

RATIO 1:500

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – BECK RD. (T.R.20) STA. 49+875TO STA. 50+135

CRA-30-24.000



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 10+032.856	25.5		6.2	8.6		
		749			197	146
STA. 10+000 AHD = STA. 49+902.227 BK	20.1		5.8	0.3		
		220			65	4
STA. 49+886.227	11.9		3.7	0.3		
		156			49	4
STA. 49+860	0.0		0.0	0.0		
		0.0			0.0	0.0
SHEET TOTAL		1125			311	154

CALCULATED PSB
CHECKED FF

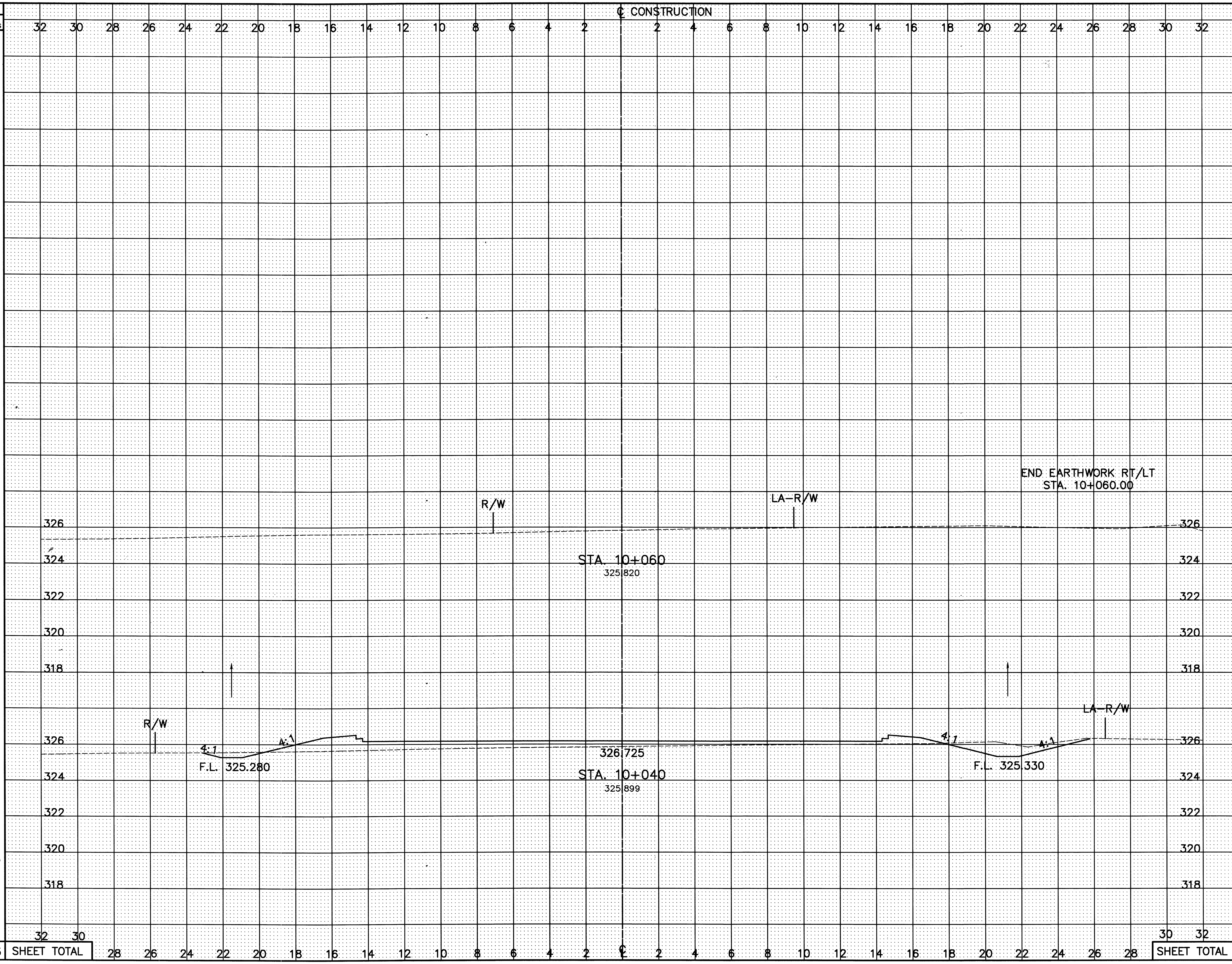
CROSS-SECTIONS – BECK RD. (T.R. 20)
STA. 49+860 TO STA. 10+032.856

CRA-30-24.000

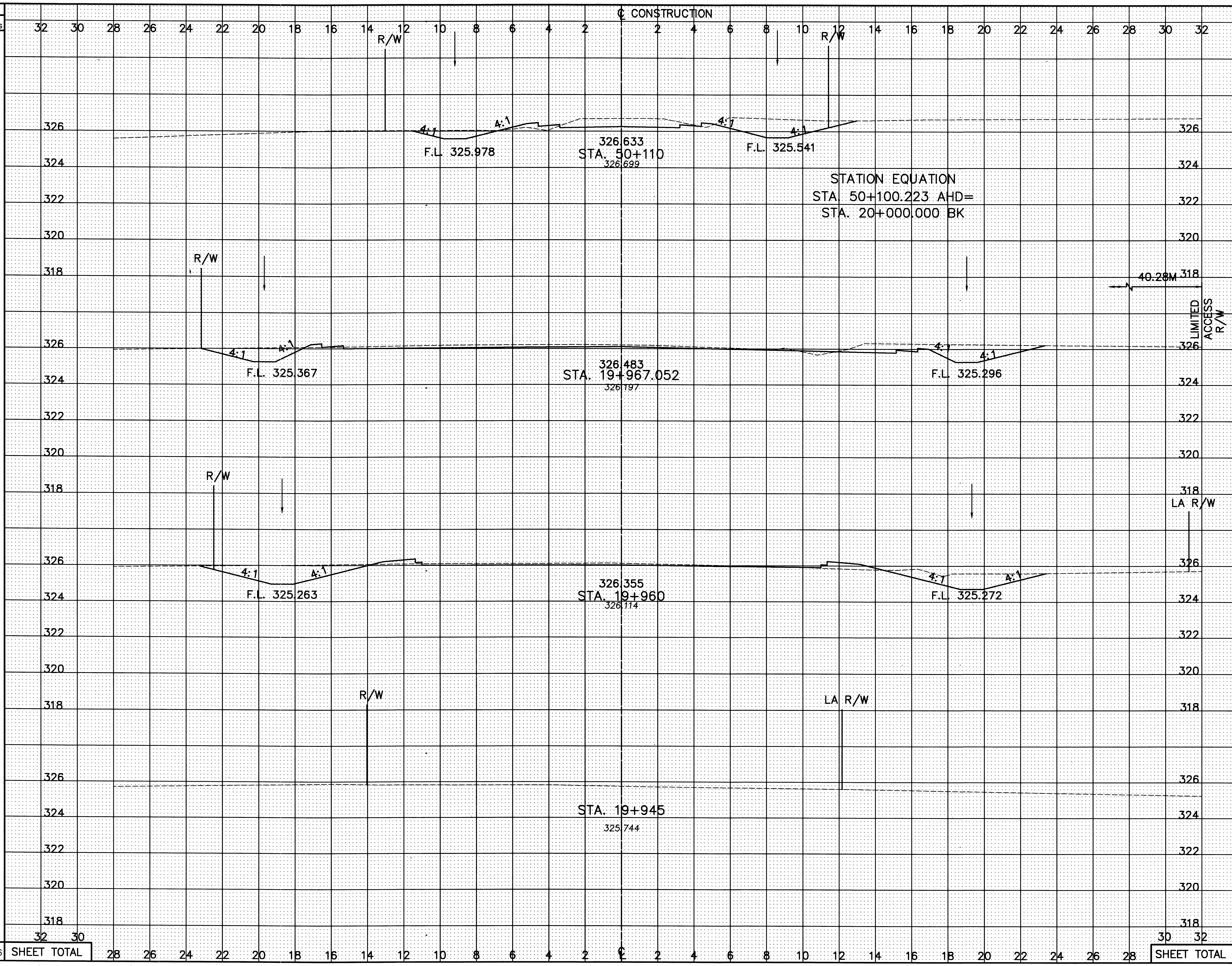
CROSS-SECTIONS – BECK RD. (T.R. 20)
STA. 10+040 TO STA. 10+060

CRA-30-24.000

CALCULATED PSB
CHECKED FF



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0.0		0.0	0.0		
	230			37	131
23		3.7	13.1		
	173			35	78
SHEET TOTAL	403			72	209



SEEDING END WIDTH	SEEDING SQ. METERS
15.8	
	827
22.9	
	192
31.6	
	237
0.0	
	0.0
SHEET TOTAL	1256

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9.1	0.7		
		427	24
10.9	0.4		
		78	77
11.3	1.4		
		85	11
0.0	0.0		
		0.0	0.0
SHEET TOTAL		590	112

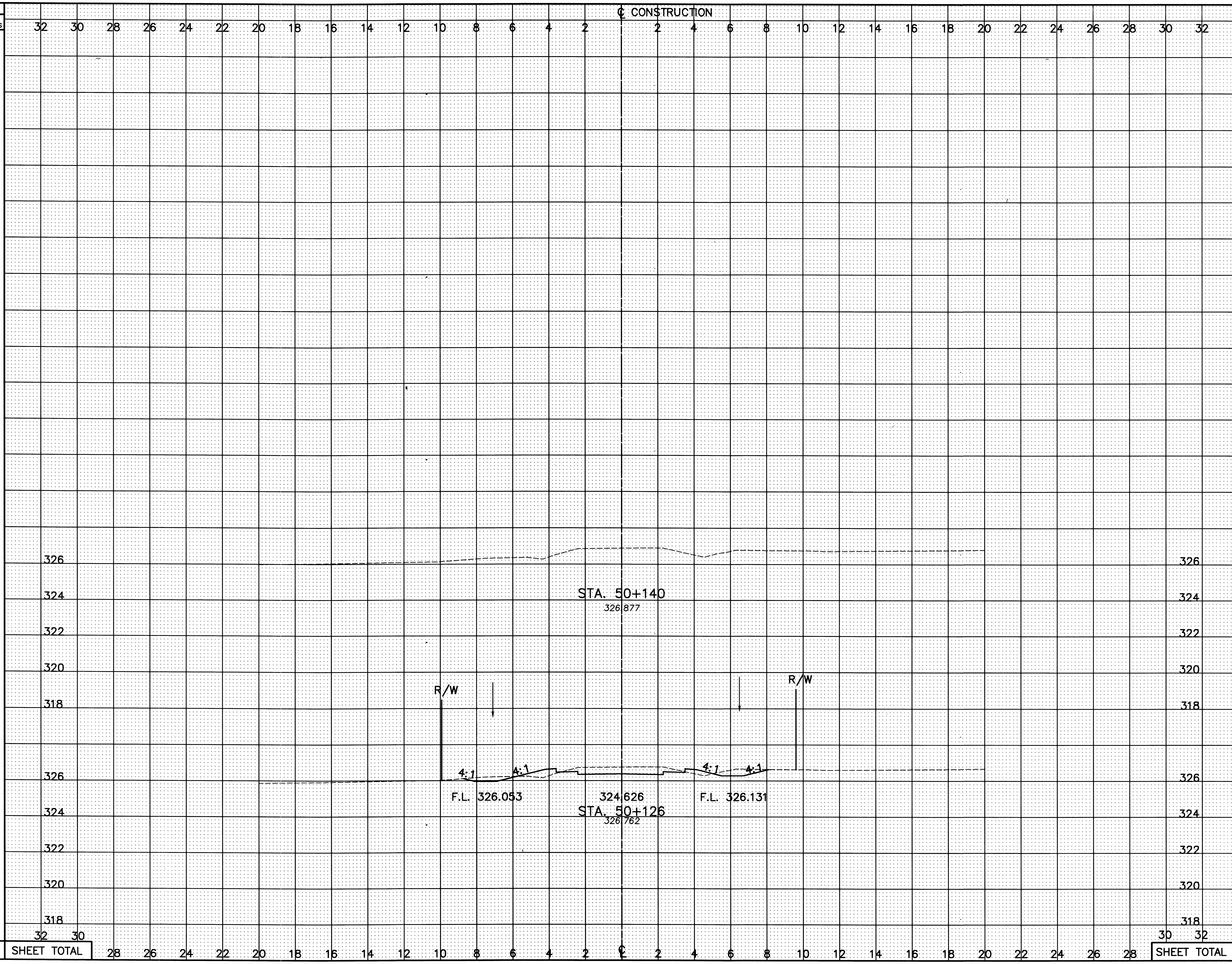
CALCULATED PSB CHECKED FF

CROSS-SECTIONS – BECK RD. (T.R. 20)
STA. 19+945 TO STA. 50+110

CRA-30-24.000

339/677

SEEDING END WIDTH	SEEDING SQ. METERS
0.0	
	88
12.6	
	227
	315



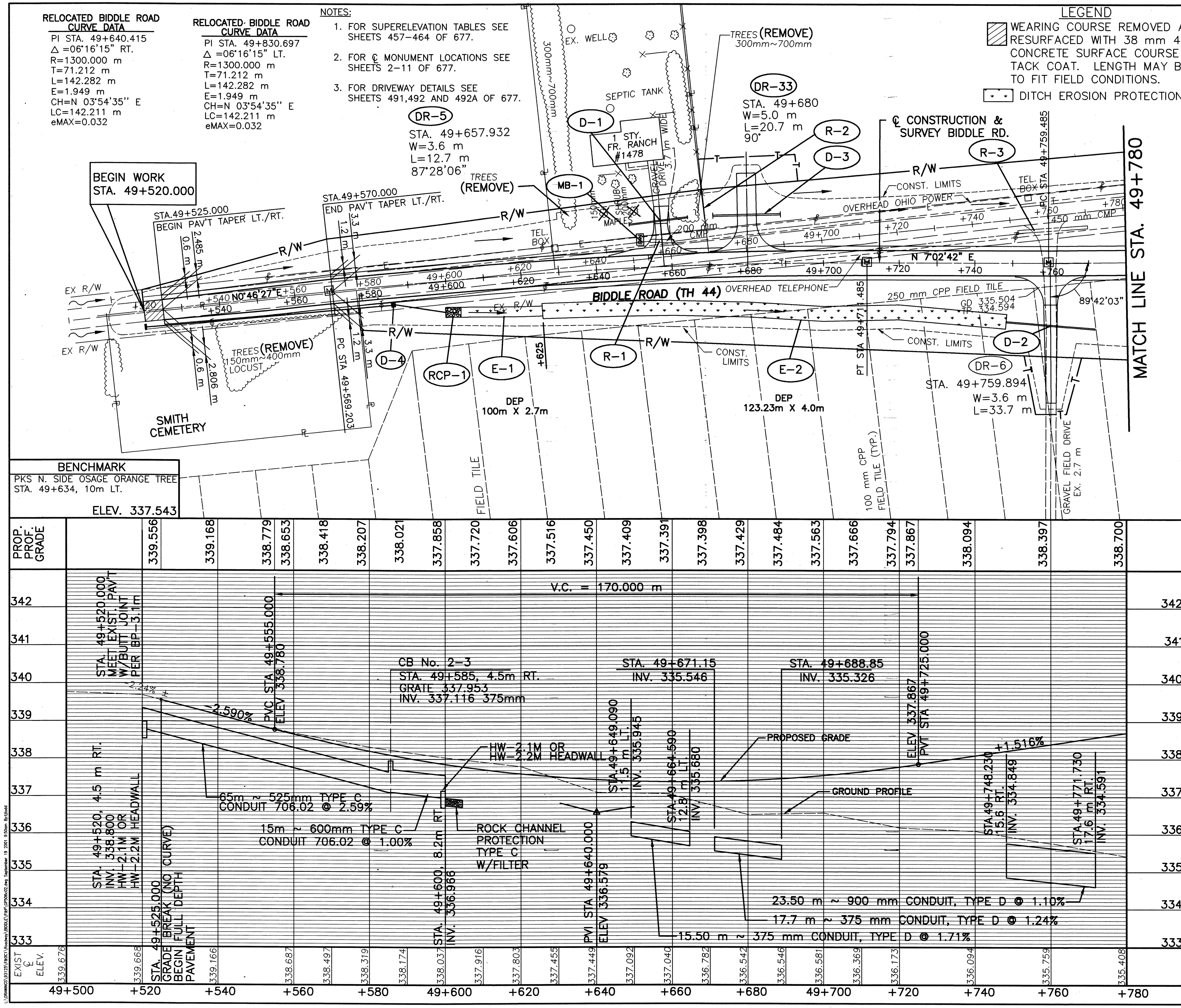
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0.0	0.0		
		23	6
3.3	0.9		
		99	13
		122	19

CALCULATED PSB
CHECKED FF

CROSS-SECTIONS – BECK RD. (T.R. 20)
STA. 50+126 TO STA. 50+140

CRA-30-24.000

339A
677



REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	202 FENCE REMOVED (METER)	603 375 mm CONDUIT TYPE D (METER)	603 525 mm CONDUIT TYPE C 706.02 (METER)	603 600 mm CONDUIT TYPE C 706.02 (METER)	603 900 mm CONDUIT TYPE D (METER)	607 DITCH EROSION PROTECTION (S.M.)	SPEC. MAILBOX SUPPORT SYSTEM SINGLE (EACH)	604 CATCH BASIN No. 2-3 (EACH)	602 CONCRETE MASONRY (CM)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (CM)
D-1	LT	49+649.090	49+664.590			15.5								
D-2	RT	49+748.230	49+771.730						23.5					
D-3	LT	49+671.150	49+688.850			17.7								
D-4	RT	49+520	49+600				65	15				1	0.44	
E-1	RT	49+570.000	49+625.000							54				
E-2	RT	49+625.000	49+748.230							492.92				
MB-1	LT	49+652.390									1			
R-1	LT	49+657.932		7										
R-2	LT	49+670.000			10									
R-3	LT	49+759.485		19										
RCP-1	RT	49+600												1.5
TOTALS CARRIED TO GENERAL SUMMARY				26	10	33.2	65	15	23.5	546.92	1	1	0.44	1.5

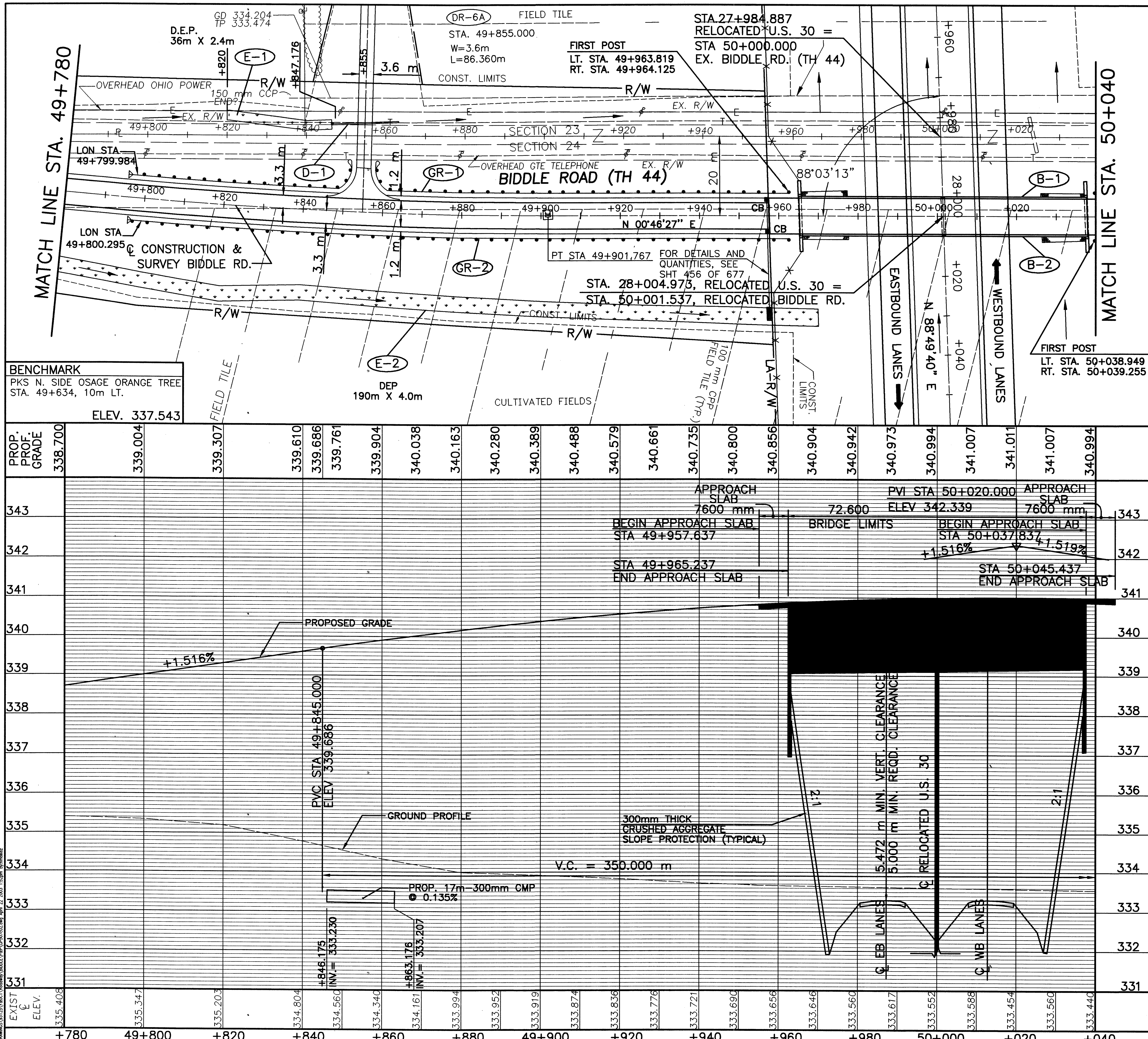
ESTIMATED QUANTITIES

CALCULATED PSB CHECKED LBD

RATIO 1:500 HORIZONTAL SCALE IN METERS

PLAN AND PROFILE - BIDDLE ROAD (T.R. 44) STA. 49+520 TO STA. 49+780

CRA-30-24.000



RELOCATED BIDDLE ROAD CURVE DATA

PI STA. 49+830.697
Δ =06°16'15" LT.
R=1300.000 m
T=71.212 m
L=142.282 m
E=1.949 m
CH=N 03°54'35" E
LC=142.211 m
eMAX=0.032

metric units

NOTES:

1. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
2. FOR ℄ MONUMENT LOCATIONS SEE SHEETS 2-11 OF 677.
3. FOR DRIVEWAY DETAILS SEE SHEETS 491, 492 AND 492A OF 677.
4. FOR PIPE AND CATCH BASIN QUANTITIES AT BRIDGE APPROACHES SEE SHEET 456 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

DITCH EROSION PROTECTION

REVISIONS

REVISED DRIVEWAY DR-6A STA. 49+855, LT. AND DRIVE CULVERT 4-23-03 CALC. JB AND CHECKED LBD

ESTIMATED QUANTITIES

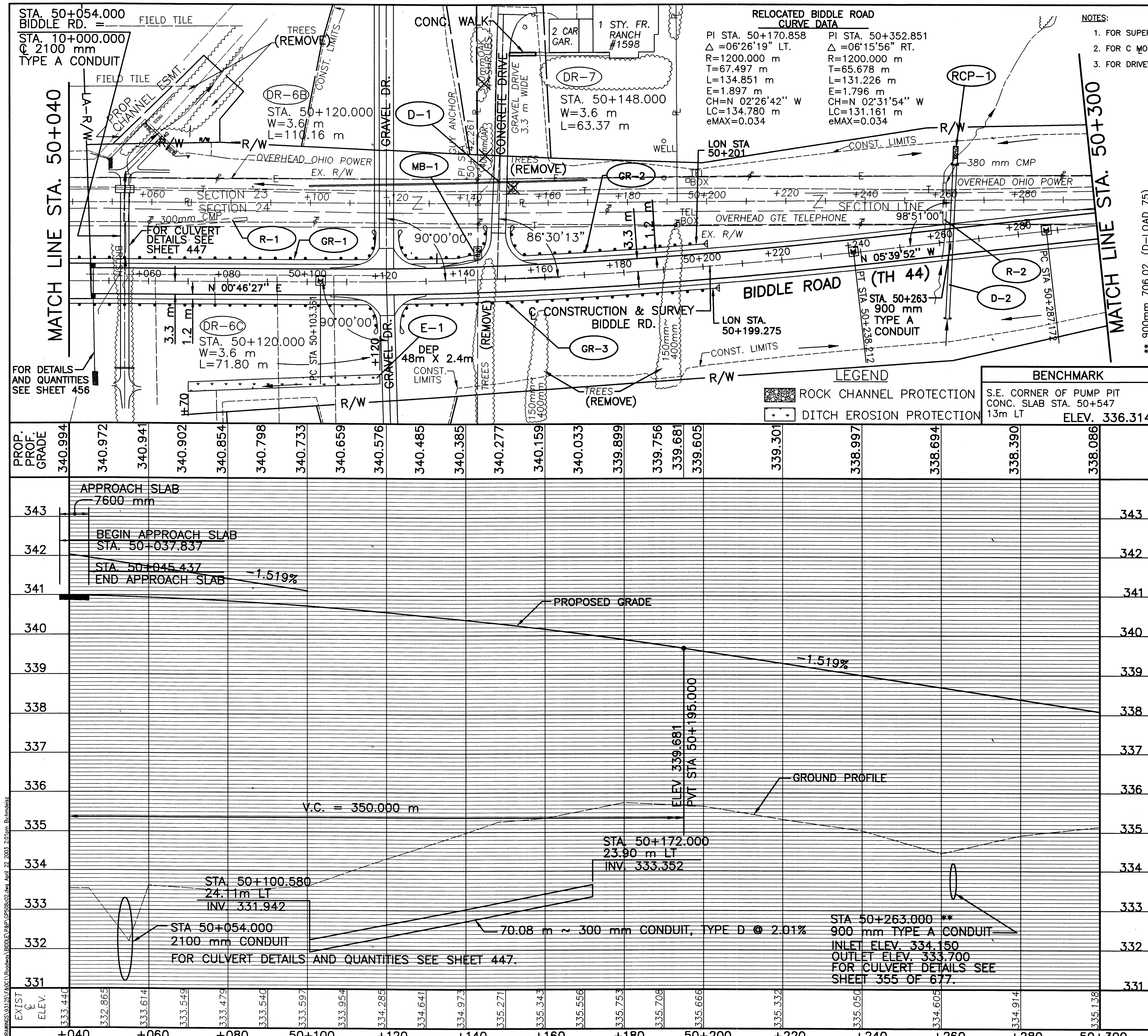
REF. No.	SIDE	STATION FROM	STATION TO	603 300mm CONDUIT TYPE D (METER)	606 GUARDRAIL TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	626 BARRIER REFLECTOR TYPE A-2 (EACH)	626 BARRIER REFLECTOR TYPE B-2 (EACH)	670 DITCH EROSION PROTECTION (S.M.)
GR-1	LT	49+796.179	49+963.819		154.305	1	1	6		
GR-2	RT	49+796.485	49+964.125		154.305	1	1	6		
E-1	LT	49+820.000	49+856.000							86.40
E-2	RT	49+780.000	49+969.964							760.00
B-1	LT	49+963.819	50+038.949						4	
B-2	RT	49+964.125	50+039.255						4	
D-1	LT	49+847.176	49+860.176	17.0 *						
TOTALS CARRIED TO SUB-SUMMARY				17.0 *	308.610	2	2	12	8	846.40

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - BIDDLE ROAD (T.R. 44)
STA. 49+780 TO STA. 50+040

CRA-30-24.000



RELOCATED BIDDLE ROAD CURVE DATA

PI STA. 50+170.858	PI STA. 50+352.851
Δ =06°26'19" LT.	Δ =06°15'56" RT.
R=1200.000 m	R=1200.000 m
T=67.497 m	T=65.678 m
L=134.851 m	L=131.226 m
E=1.897 m	E=1.796 m
CH=N 02°26'42" W	CH=N 02°31'54" W
LC=134.780 m	LC=131.161 m
eMAX=0.034	eMAX=0.034

NOTES:

1. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
2. FOR C MONUMENT LOCATIONS SEE SHEETS 2-11 OF 677.
3. FOR DRIVEWAY DETAILS SEE SHEETS 491-492A OF 677.

metric units

REVISIONS
REVISED DRIVEWAYS DR-6B & 6C AT STA. 50 + 120 LT. & RT.
4-23-03 CALC. JMB CHECKED LBD

** 900mm 706.02, (D-LOAD 75)
900mm 707.02 ALUMINUM COATED (1.63),
707.04 (1.63), 707.08 (1.63)

ESTIMATED QUANTITIES

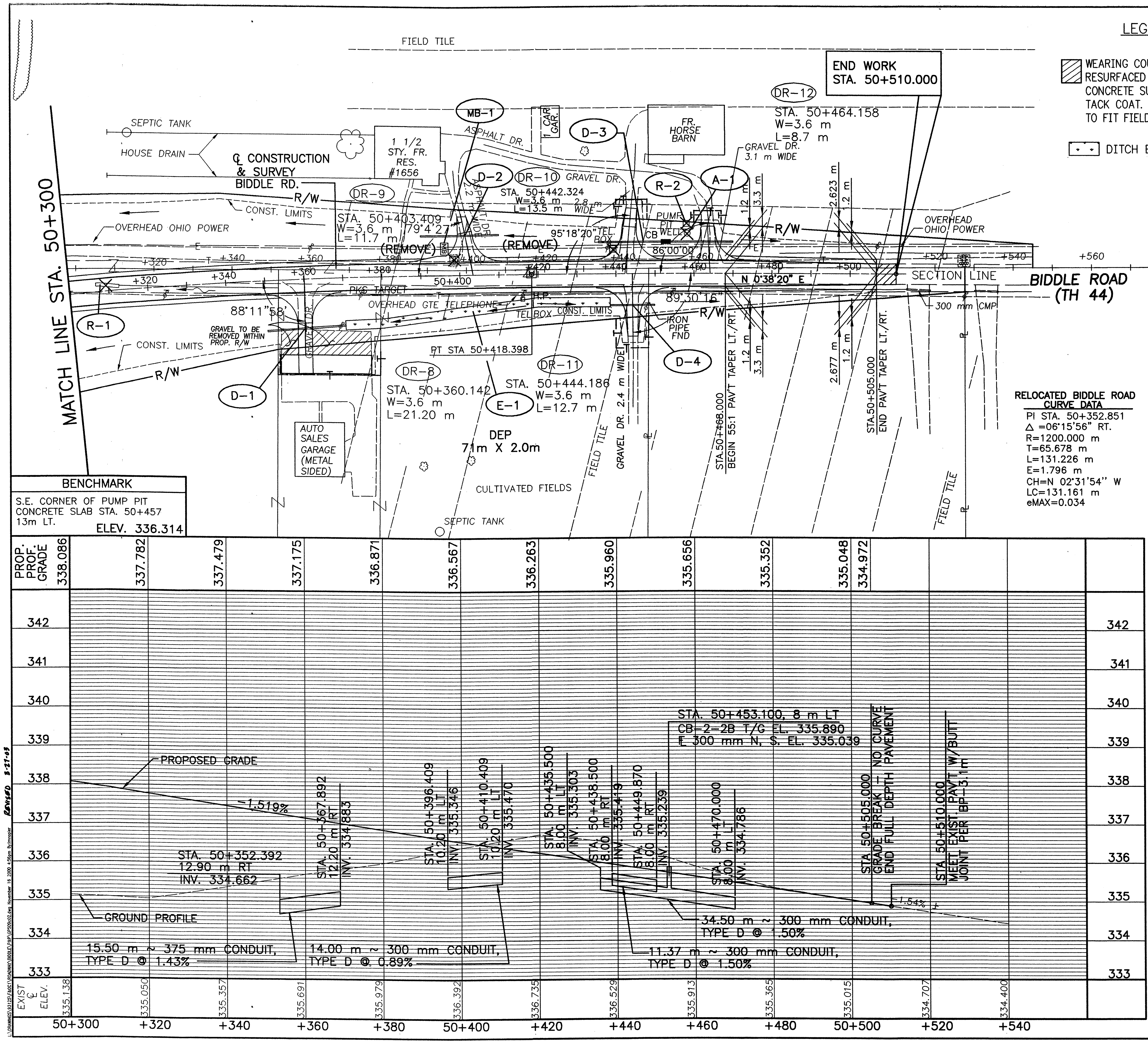
REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER (C.M.)	601 RIPRAP USING 150mm CONCRETE SLAB (S.M.)	602 CONCRETE MASONRY (C.M.)	603 ** CONDUIT TYPE A (METER)	603 300 mm CONDUIT TYPE D (METER)	606 GUARD RAIL TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	607 DITCH EROSION PROTECTION (S.M.)	626 BARRIER REFLECTORS TYPE A-2 (EACH)	SPEC. MAILBOX SUPPORT SYSTEM SINGLE (EACH)
GR-1	LT	50+038.949	50+139.914							114.300	1		1		4	
GR-2	LT	50+159.760	50+216.910							41.91		1	1		3	
GR-3	RT	50+039.255	50+203.085							150.495	1	1			5	
D-1	LT	50+104.691	50+172.000						70.08*							
D-2	LT&RT	50+263.000				2.7	1.54	39.12								
E-1	LT	50+040.000	50+050.000											24.05		
E-2	LT	50+065.300	50+101.000											85.83		
E-3	LT	50+230.000	50+259.400											70.19		
MB-1	LT	50+143.287														1
R-1	LT	50+062.000	50+082.000	22												
R-2	LT	50+262.000		20												
RCP-1	LT	50+260.000			3.42											
TOTALS CARRIED TO SUB-SUMMARY				42	3.42	2.7	1.54	39.12	70.08*	306.705	2	2	2	180.07	12	1

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - BIDDLE ROAD (T.R. 44) STA. 50+040 TO STA. 50+300

CRA-30-24.000



LEGEND

- WEARING COURSE REMOVED AND RESURFACED WITH 38 mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
- DITCH EROSION PROTECTION

metric units

NOTES:

1. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
2. FOR ℄ MONUMENT LOCATIONS SEE SHEETS 2-11 OF 677.
3. FOR DRIVEWAY DETAILS SEE SHEETS 491-492 AND 492A OF 677.

RELOCATED BIDDLE ROAD CURVE DATA

PI STA. 50+352.851
Δ =06°15'56" RT.
R=1200.000 m
T=65.678 m
L=131.226 m
E=1.796 m
CH=N 02°31'54" W
LC=131.161 m
eMAX=0.034

ESTIMATED QUANTITIES

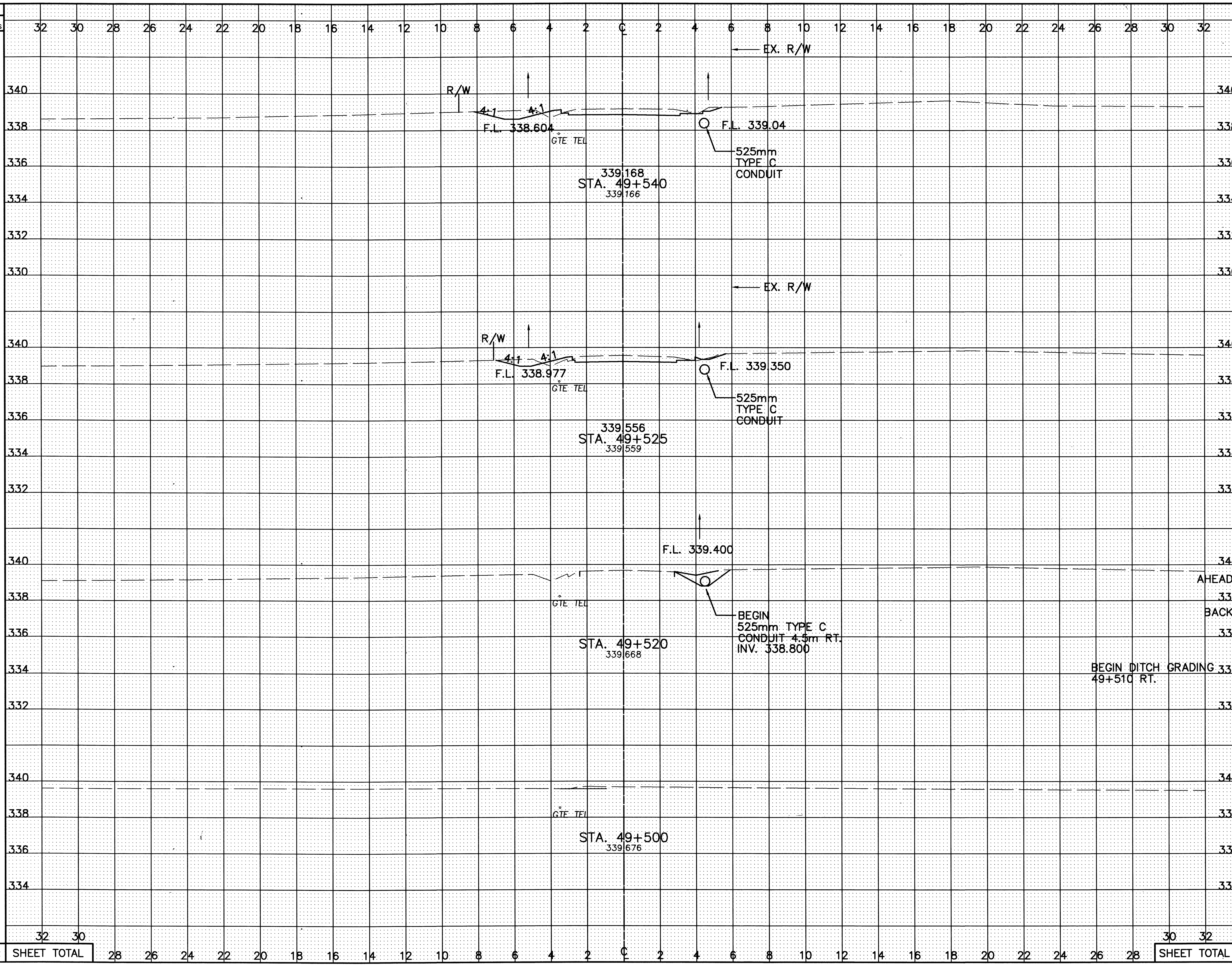
REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	603 300 mm CONDUIT TYPE D (METER)	603 375 mm CONDUIT TYPE D (METER)	604 CATCH BASIN 2-2B (EACH)	607 DITCH EROSION PROTECTION (S.M.)	SPEC. MAILBOX SUPPORT SYSTEM SINGLE (EACH)	SPEC. DRILLED WATER WELL ABANDONED (EACH)	SPEC. PUMP PIT REMOVED (EACH)
A-1	LT	50+457.000								1	
D-1	RT	50+352.392	50+367.892			15.5					
D-2	LT	50+396.409	50+410.409		14.00						
D-3	LT	50+435.500	50+470.000		34.50		1				
D-4	RT	50+438.500	50+449.872		11.37						
E-1	RT	50+367.892	50+438.500					142			
MB-1	LT	50+396.168							1		
R-1	℄	50+310.000		6.0							
R-2	LT	50+457.000									1
TOTALS CARRIED TO SUB-SUMMARY				6.0	59.87	15.5	1	142	1	1	1

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - BIDDLE ROAD (T.R. 44)
STA. 50+300 TO STA. 50+545

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9.9		4.0	0.3		
	133			52	5
7.8		2.9	0.4		
	39			8	1
0.0		0.0 (AHEAD)	0.0		
		1.5 (BACK)	0.0		
				8	0.0
		0.0	0.0		
SHEET TOTAL	172			68	6

CALCULATED PSB
CHECKED LBD

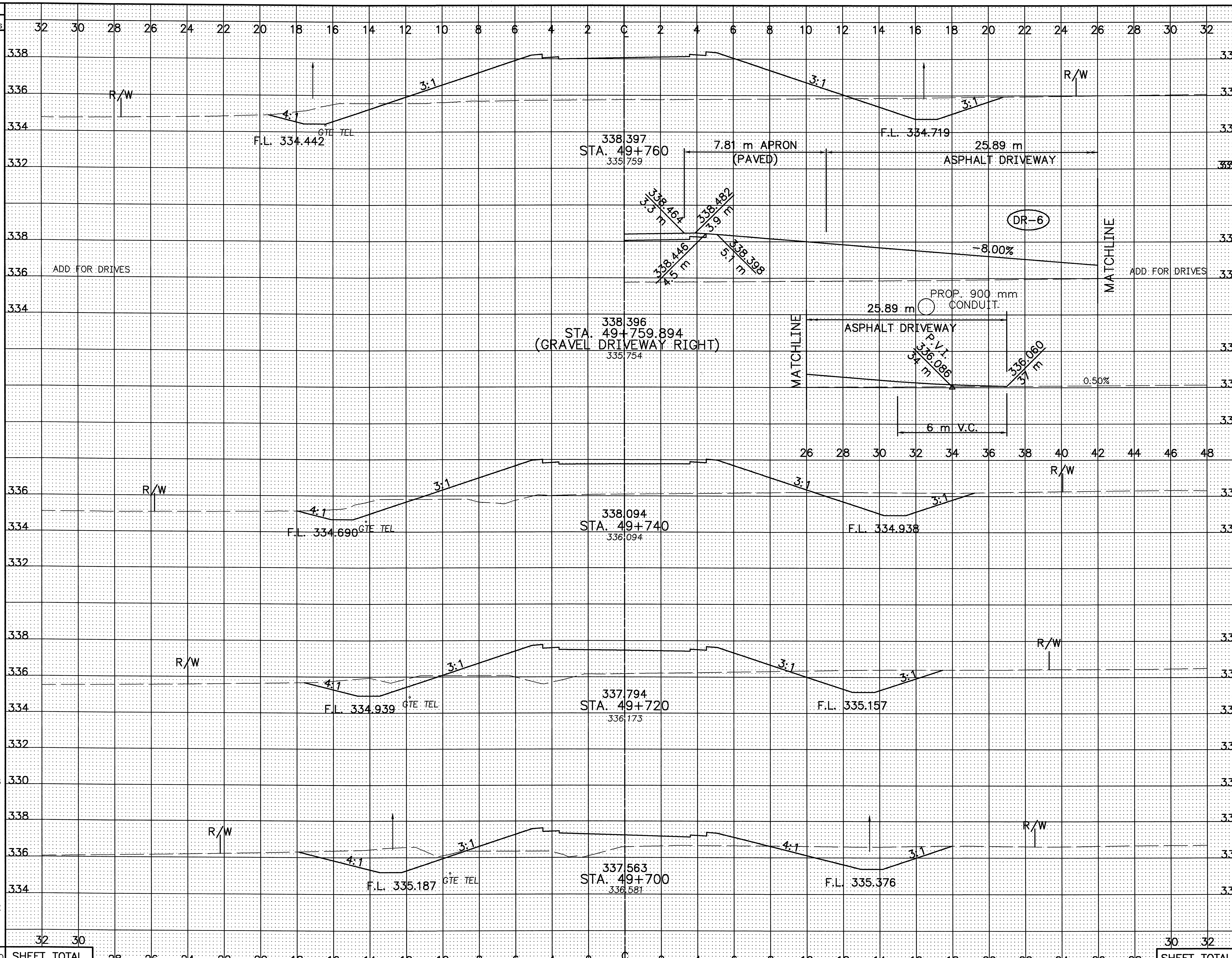
CROSS-SECTIONS – BIDDLE RD.
STA. 49+500 TO STA. 49+540

CRA-30-24.000

344/677


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
R/W
F.L. 336.966
338
336
334
332
330
4:1
F.L. 337.113
GTE TEL
337.858
STA. 49+600
338.037
STA. 49+600, 8.2m RT.
600mm TYPE C
CONDUIT
INV. 336.966
17
8.1
0.6
331
135
11
EX. R/W
F.L. 337.800
F.L. 337.610
338.207
STA. 49+580
338.319
525mm
TYPE C
CONDUIT
16.1
5.4
0.5
152
50
5
F.L. 338.269
F.L. 337.859
338.418
STA. 49+570
338.497
14.3
4.5
0.4
121
40
4
F.L. 338.425
F.L. 338.107
338.653
STA. 49+560
338.687
9.8
3.5
0.5
197
75
8
801
SHEET TOTAL
300
28
CROSS-SECTIONS – BIDDLE RD.
STA. 49+560 TO STA. 49+600
CRA-30-24.000
345
677

SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
31.1
586
27.5
515
0
0
ADD FOR DRIVES
24.0
445
20.5
375
1921
SHEET TOTAL
24.000 m
336.565±
8.000 m
337.500
3.300 m
337.535
R/W
-1.07% ±
-5.844%
-0.729%
4:1
3:1
375 mm TYPE D CONDUIT
GTE TEL
337.429
STA. 49+680
336.542
FIELD DRIVE LT.
F.L. 335.595
16.6
4.8
348
55
F.L. 335.684
337.391
STA. 49+660
337.040
F.L. 335.814
18.2
0.7
3.8
0.8
4.53 m GRAVEL DRIVE
8.17 m APRON (PAVED)
DR-5
1.0
0.2
326
11
337.18±
16 m
-2.34%
-0.20%
337.519
3.9 m
337.500
3.3 m
337.435
5.1 m
337.483
4.5 m
PROP. 300 mm CONDUIT
337.394
STA. 49+657.932
(GRAVEL DRIVEWAY LEFT)
337.073
F.L. 336.119
337.450
STA. 49+640
337.449
F.L. 336.033
14.4
0.4
257
8
11.3
0.4
F.L. 336.616
337.606
STA. 49+620
337.803
F.L. 336.351
194
10
1129
85
CROSS-SECTIONS – BIDDLE RD.
STA. 49+620 TO STA. 49+680
CRA-30-24.000
346
677



SEEDING END WIDTH	SEEDING SQ. METERS
42.0	
	814
17.5	35
39.4	
	761
36.7	
	708
34.1	
	652
SHEET TOTAL	2970

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9.1	43.5		
		184	733
0.5	21.2	2	66
9.3	29.7		
9.8	21.4		
		222	333
12.4	11.8		
		291	166
SHEET TOTAL		699	1298

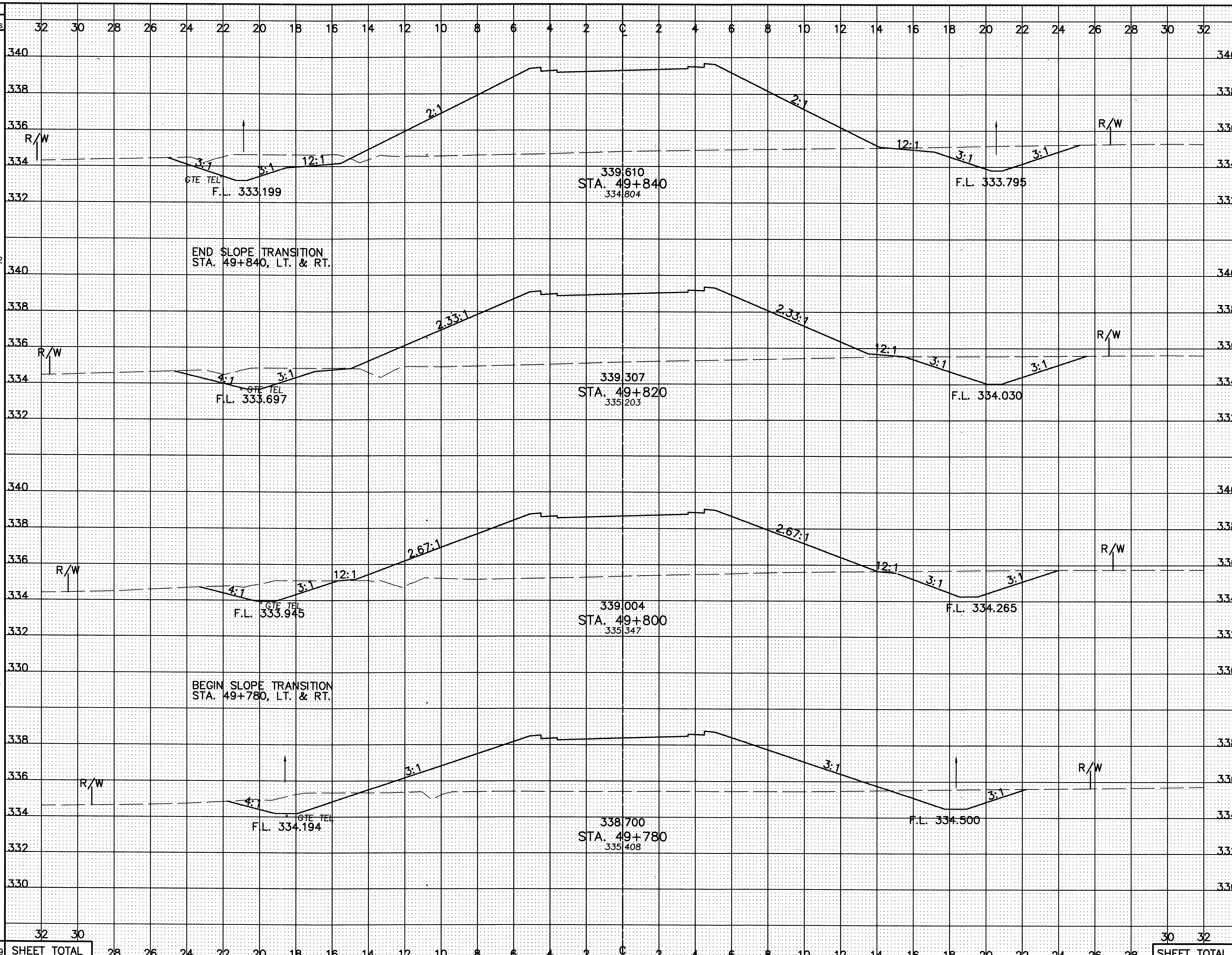
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 49+700 TO STA. 49+760

CRA-30-24.000

347/677

I:\DRAWINGS\93125\4001\ROADWAY\BIDDLEYSECT\GX503-02.dwg June 30, 2003 1:46pm Byrdhgallimore



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51.5		13.8	91.2		
	1022			251	1833
50.7		11.3	92.1		
	983			229	1658
47.6		11.5	73.8		
	925			201	1351
44.9		8.6	61.3		
	869			178	1049
SHEET TOTAL	3799			859	5891

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 49+780 TO STA. 49+840

CRA-30-24.000

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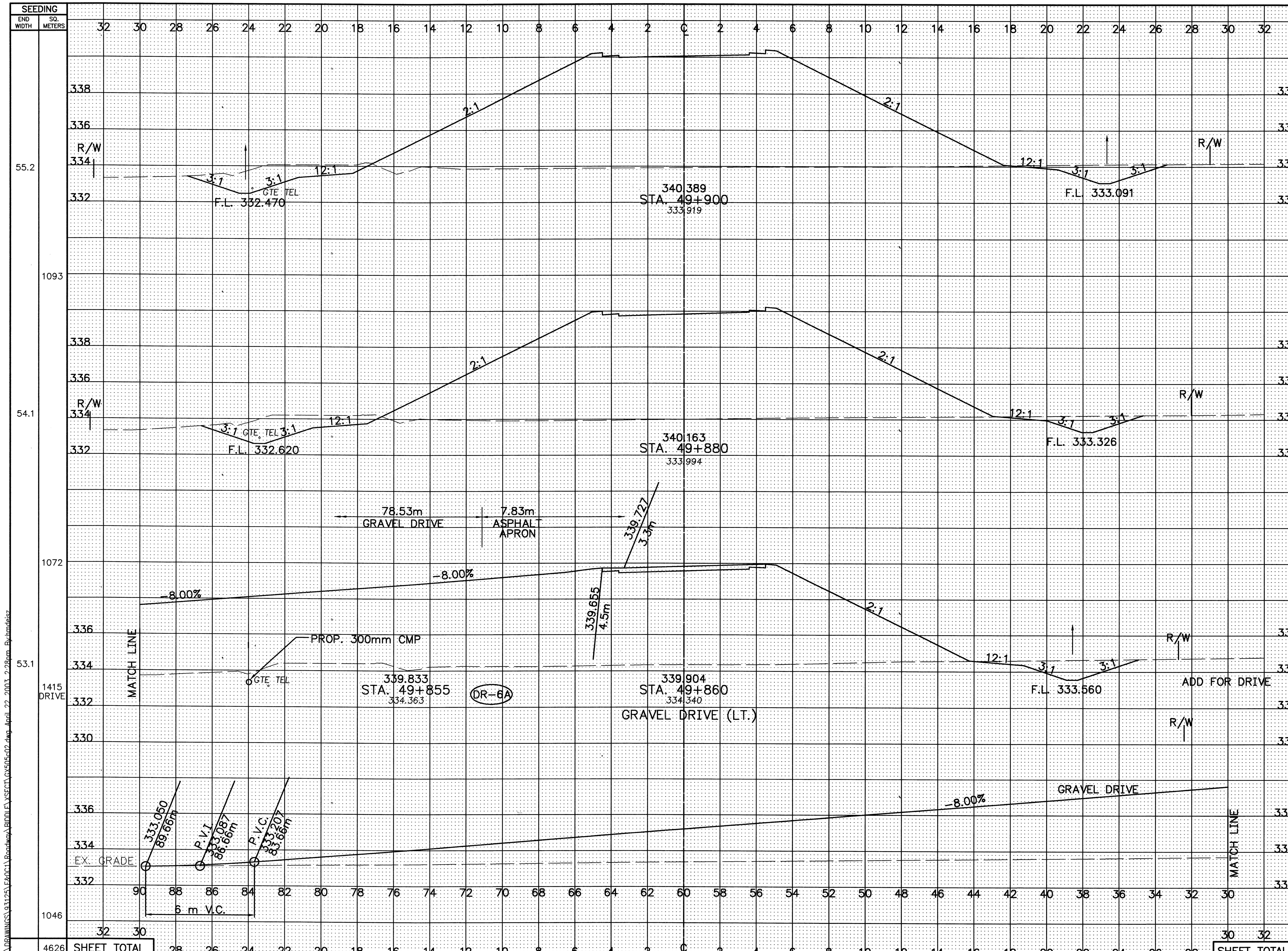


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11.2	143.6		
		217	2762
10.6	132.6		
		228	2458
12.3	113.2		
		0	3806
		260	2044
		705	11070

CALCULATED PSB CHECKED LBD
REVISED JMB CHECKED LBD

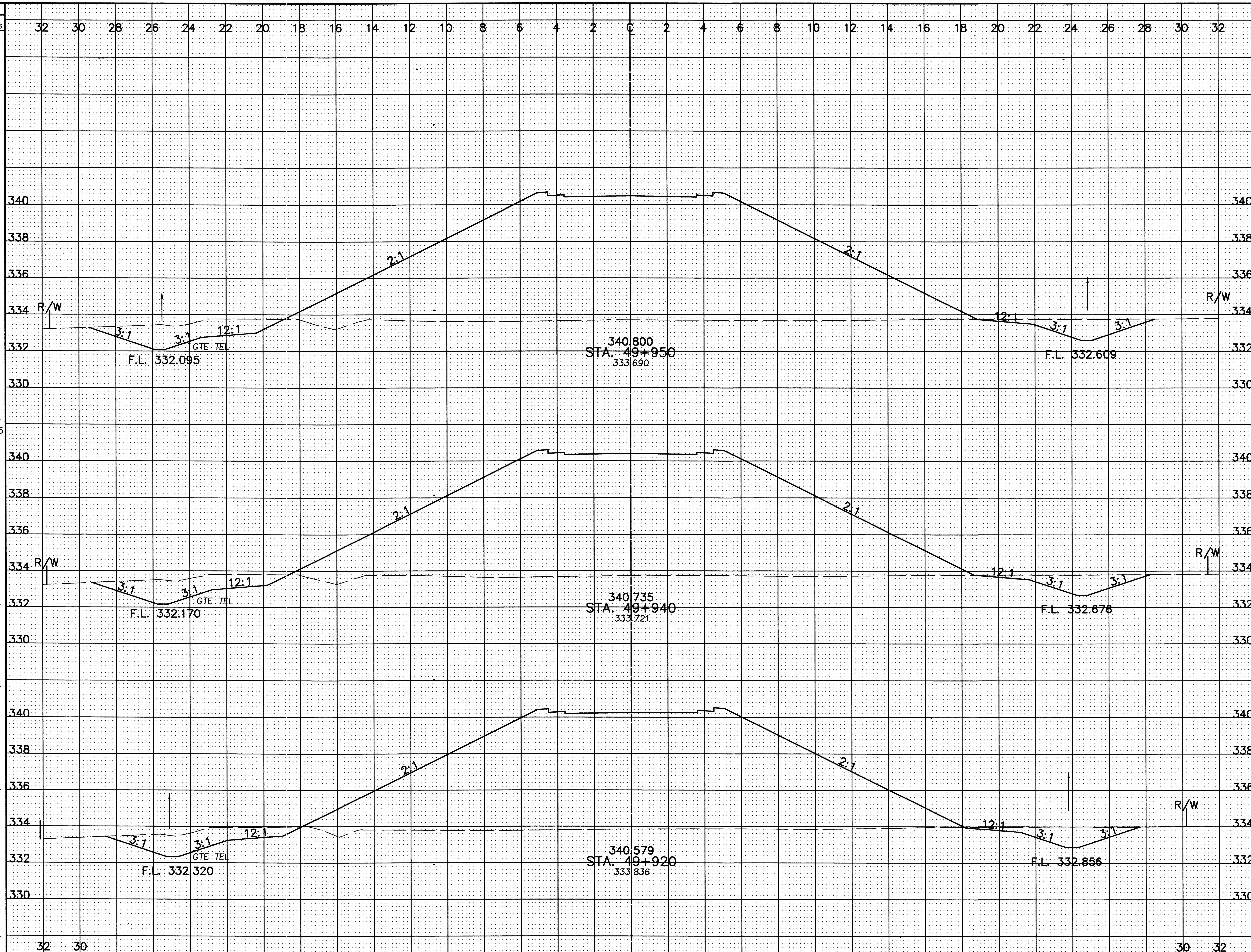
DRIVE @ STA. 49+855 LT.
REVISED 04-23-03

CROSS-SECTIONS – BIDDLE RD.
STA. 49+860 TO STA. 49+900

CRA-30-24.000

349
677

J:\DRAWINGS\93125\E4001\Roadway\BIDDLE\XSECT\XS05c02.dwg, April 22, 2003, 2:28pm, By:hmdeisz



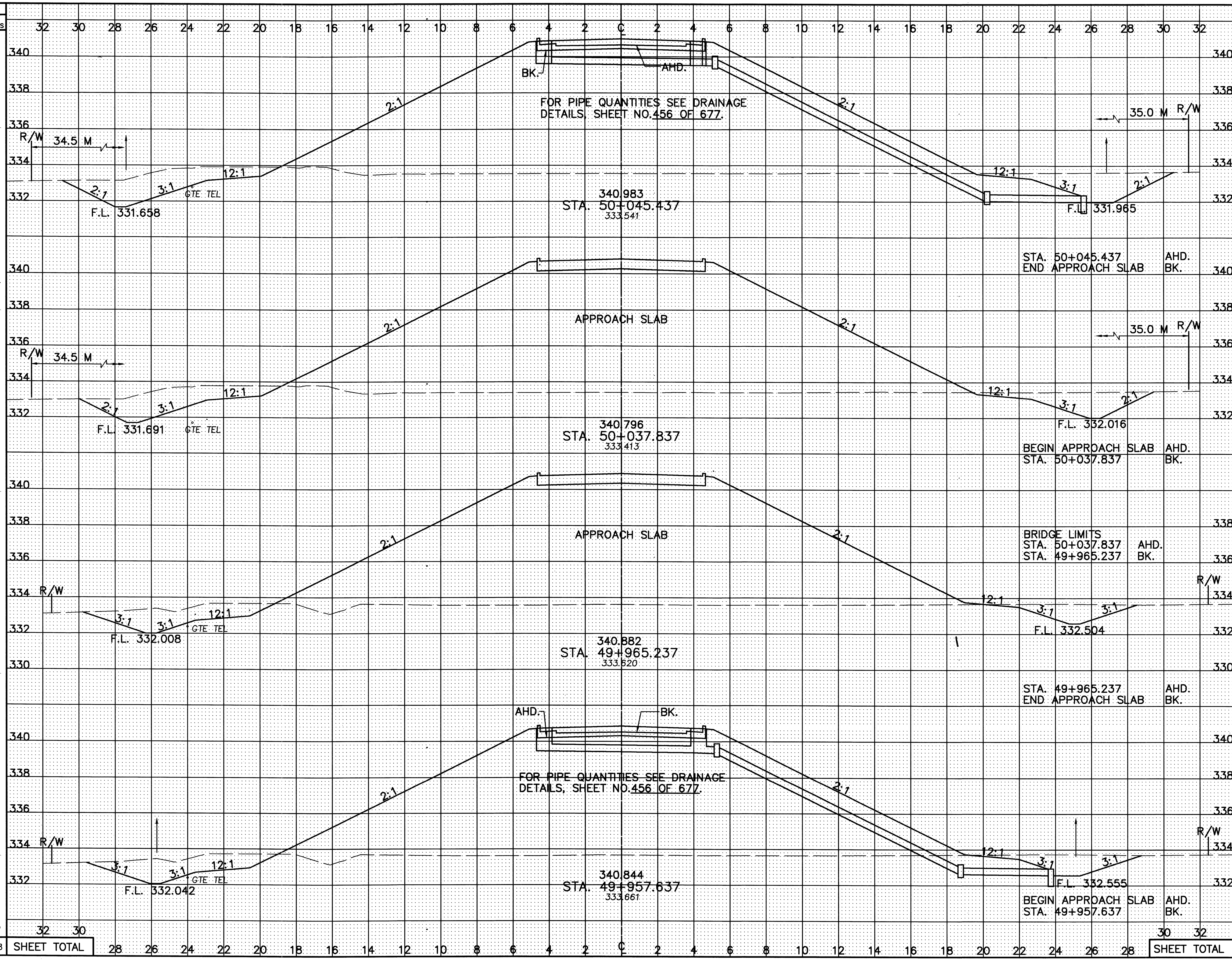
SEEDING END WIDTH	SEEDING SQ. METERS
58.1	
	576.5
57.2	
	1134
56.2	
	1114
SHEET TOTAL	2825

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13.1	167.0		
		129	1649
12.7	162.8		
		246	3162
11.9	153.3		
		231	2969
SHEET TOTAL		606	7780

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 49+920 TO STA. 49+950

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS
62.4	
	474
62.4	
59.1	
	449
59.1	
	465
SHEET TOTAL	1388

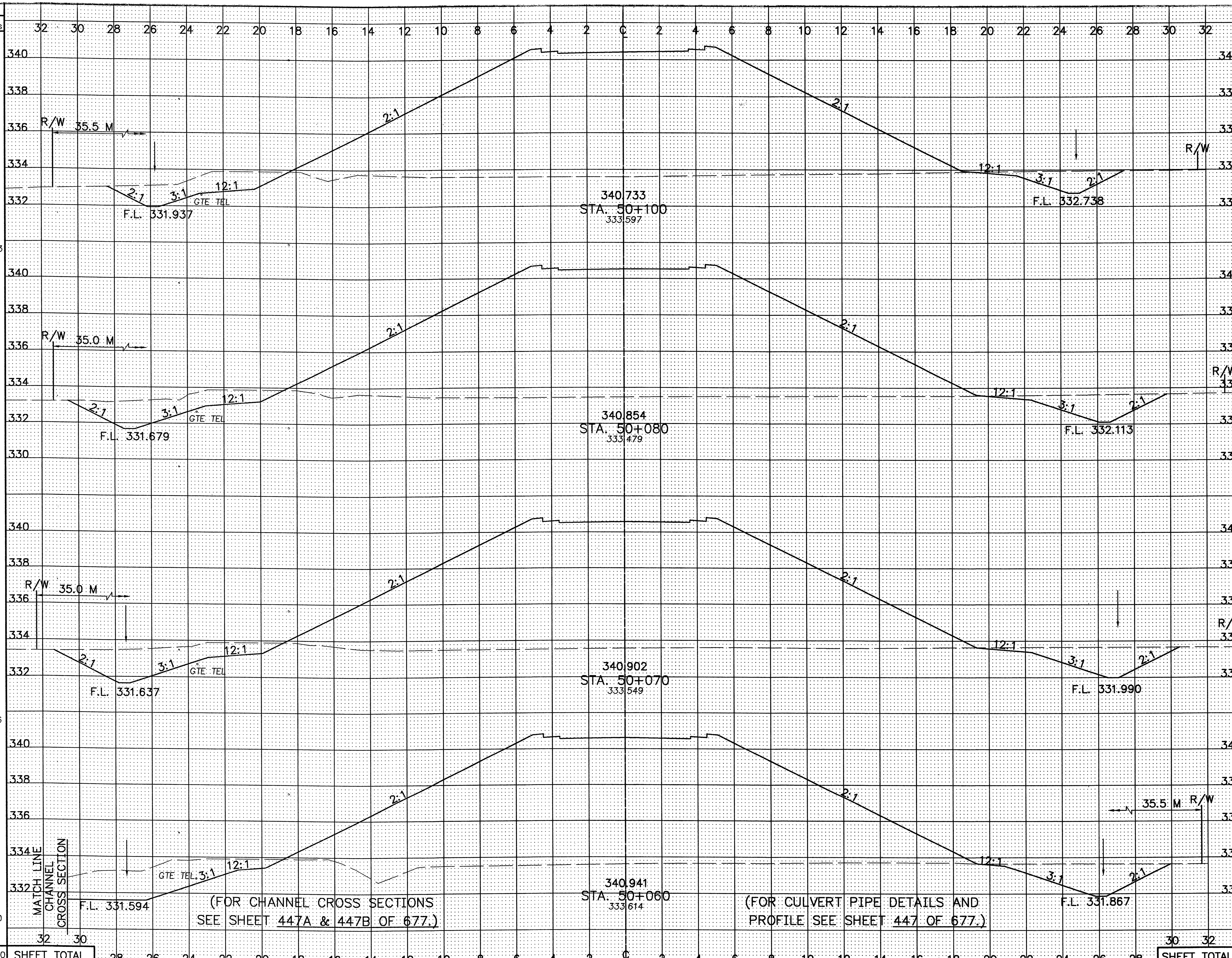
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
19.9	176.8		
19.9	174.8		
		142	1354
17.5	181.4		
0	0		
0	0		
13.0	173.0		
		100	1295
13.2	167.7		
13.2	169.7		
		105	1336
		347	3985

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - BIDDLE RD.
STA. 49+957.937 TO STA. 50+045.437

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
61.7	
	1253
63.6	
	631
62.6	
	626
62.6	
	910
SHEET TOTAL	3420



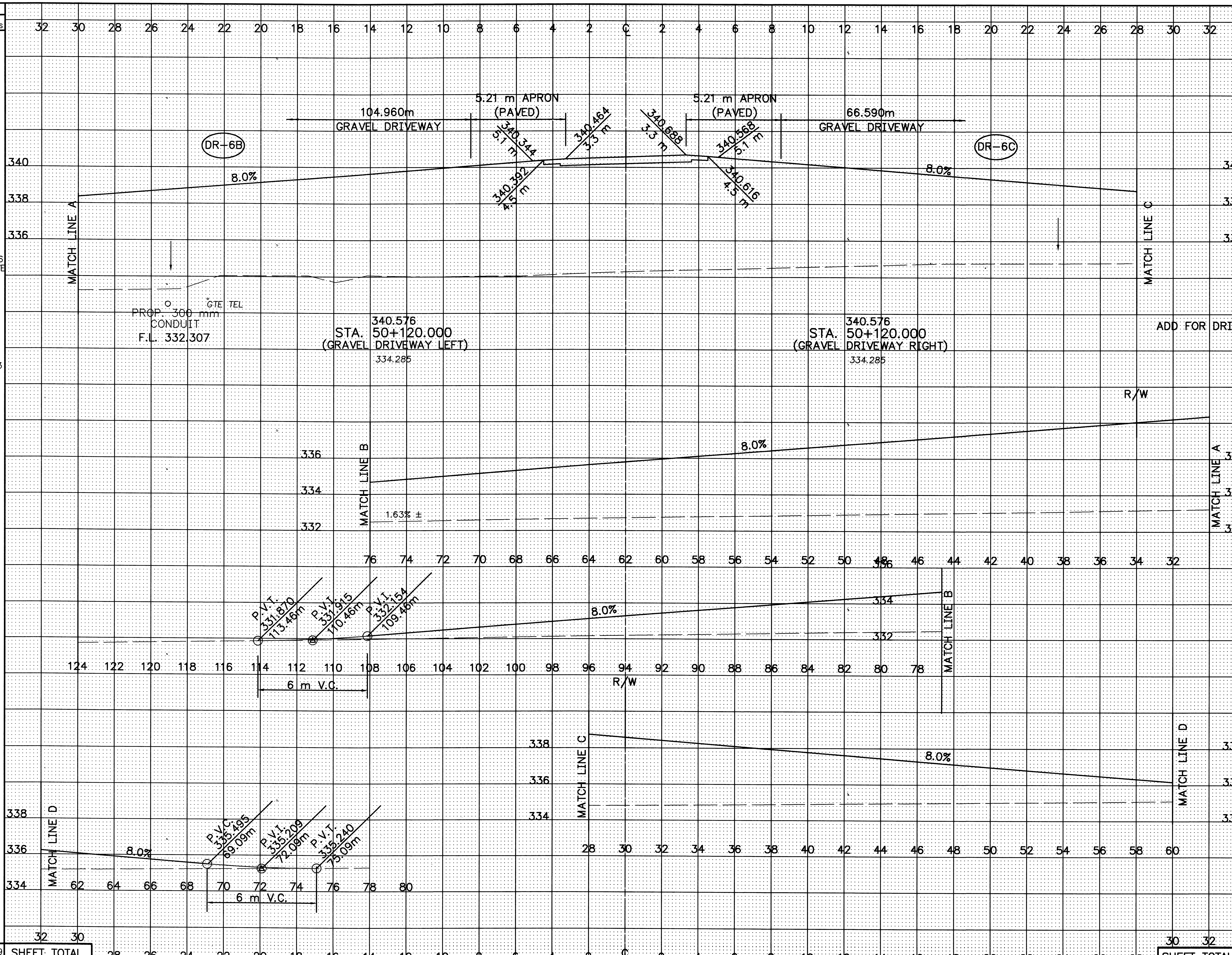
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14.0	165.1		
		310	3397
17.0	174.6		
		200	1741
23.0	173.7		
		219	1741
20.8	174.6		
		296	2559
		1025	9438

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 50+060 TO STA. 50+100

CRA-30-24.000

352/677



SEEDING END WIDTH	SEEDING SQ. METERS
59.6	
	3566 DRIVE
	1213
	4779 SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14.3	137.9		
			10897
		282	3029
		282	13926

CALCULATED PSB CHECKED LBD
REVISED JMB CHECKED LBD

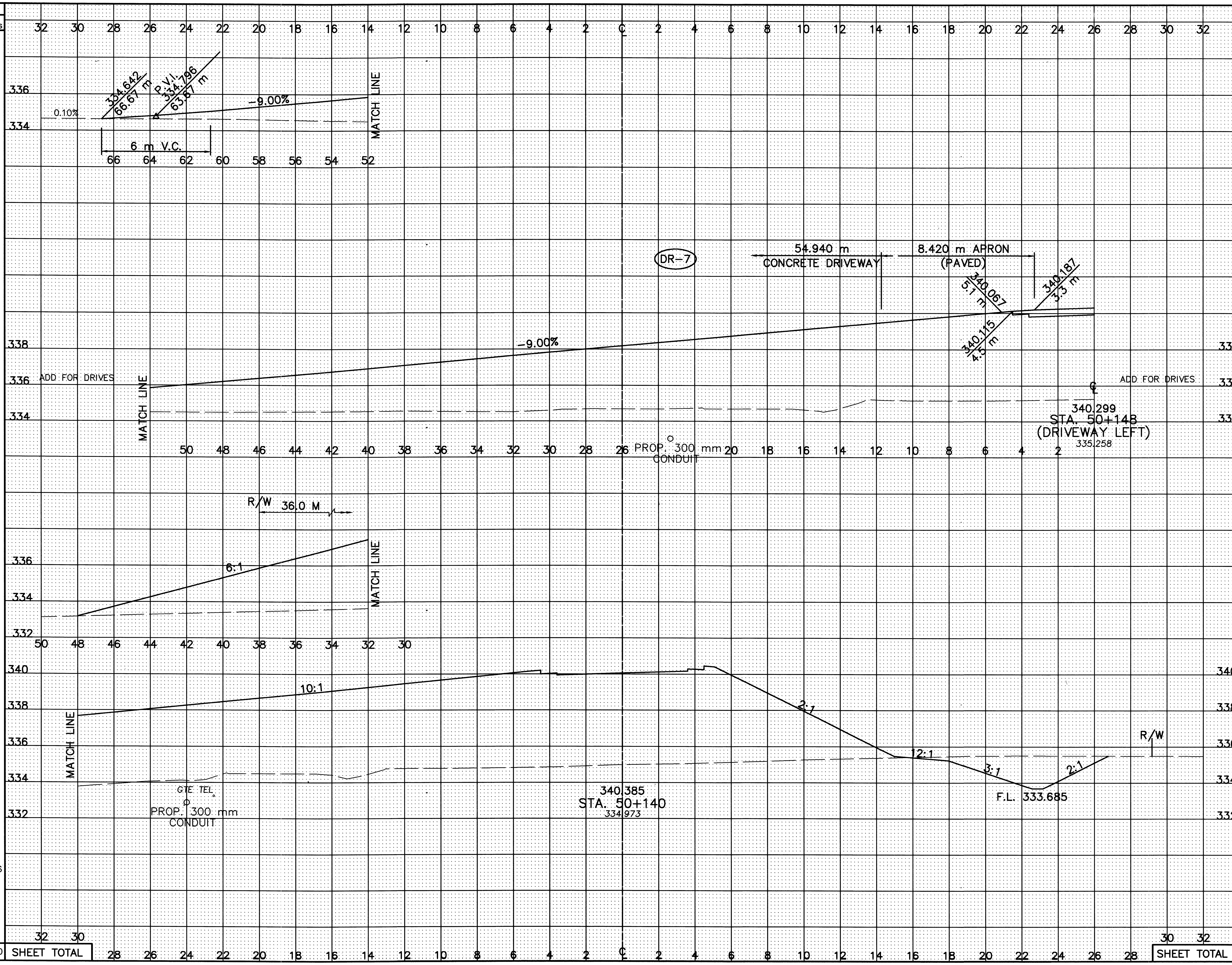
DRIVES @ STA. 50+120 LT&RT
REVISED 04-23-03

CROSS-SECTIONS – BIDDLE RD.
STA. 50+120

CRA-30-24.000

352A
677

L:\DRAWINGS\93125\E&OC1\Roadway\BIDDLE\XSECT\gr509xc02.dwg April 22 2003 12:26pm By:hmdeisz



SEEDING END WIDTH	SEEDING SQ. METERS
38.0	114
55.0	
	1146
SHEET TOTAL	1260

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0.3	126.2	1	416
		152	825
18.2	109.1		
		325	2469
		478	3710

CALCULATED PSB
CHECKED LBD

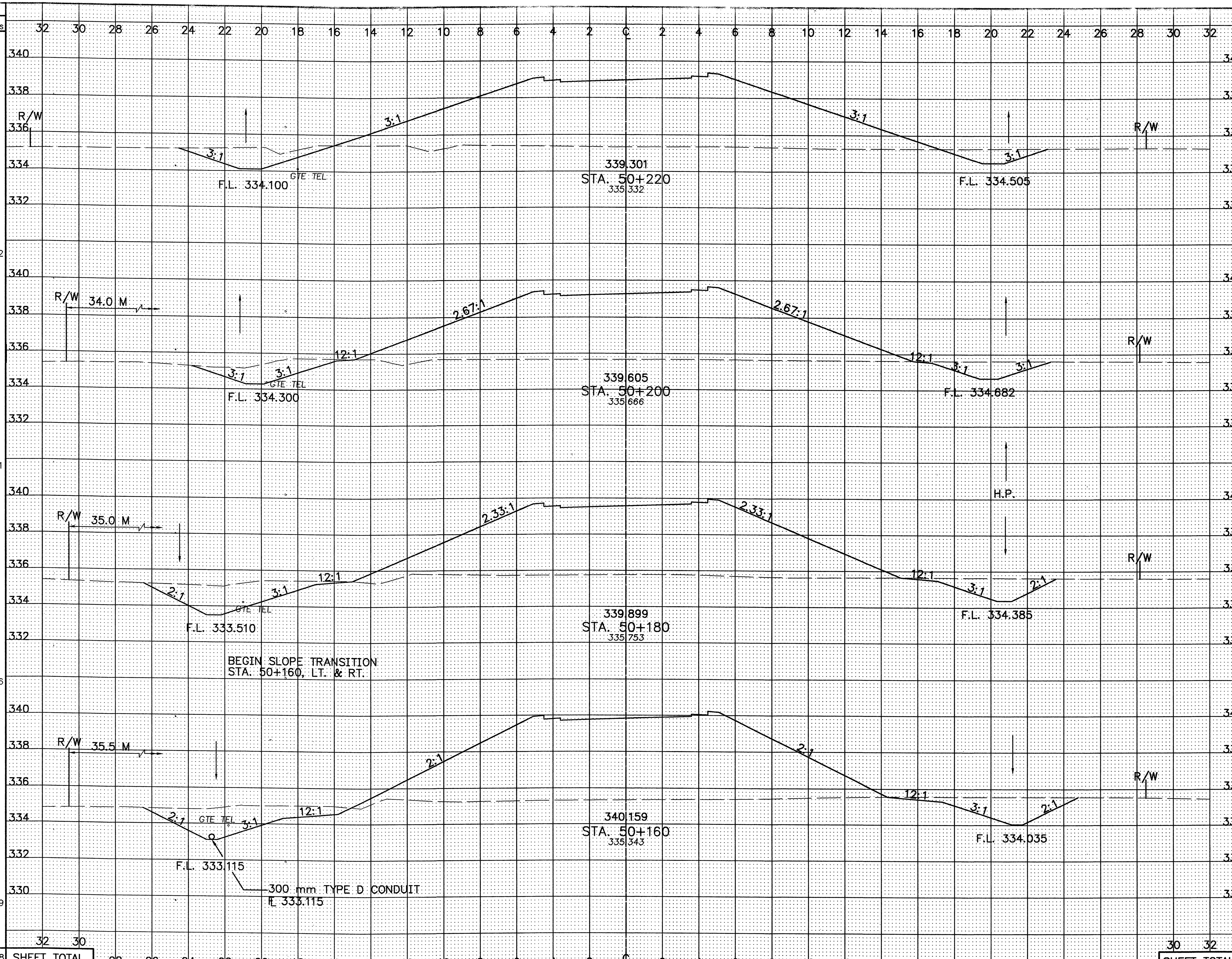
CROSS-SECTIONS – BIDDLE RD.
STA. 15+120 TO STA. 50+148

CRA-30-24.000

353
677

L:\DRAWINGS\93125\F&OC1\Roadway\BIDDLE\XSECT\GX509c02.dwg February 08 2001 3:20pm By:smhetler

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
53.8		STA. 50+220	10.6	82.1		
	1082				189	1661
54.4		STA. 50+200	8.4	83.9		
	1101				222	1801
55.7		STA. 50+180	13.9	96.1		
	1086				311	1861
52.9		STA. 50+160	17.3	89.9		
	1079				355	1990
SHEET TOTAL	4348				1077	7313



REVISED 3-27-03

CALCULATED PSB
CHECKED LBD

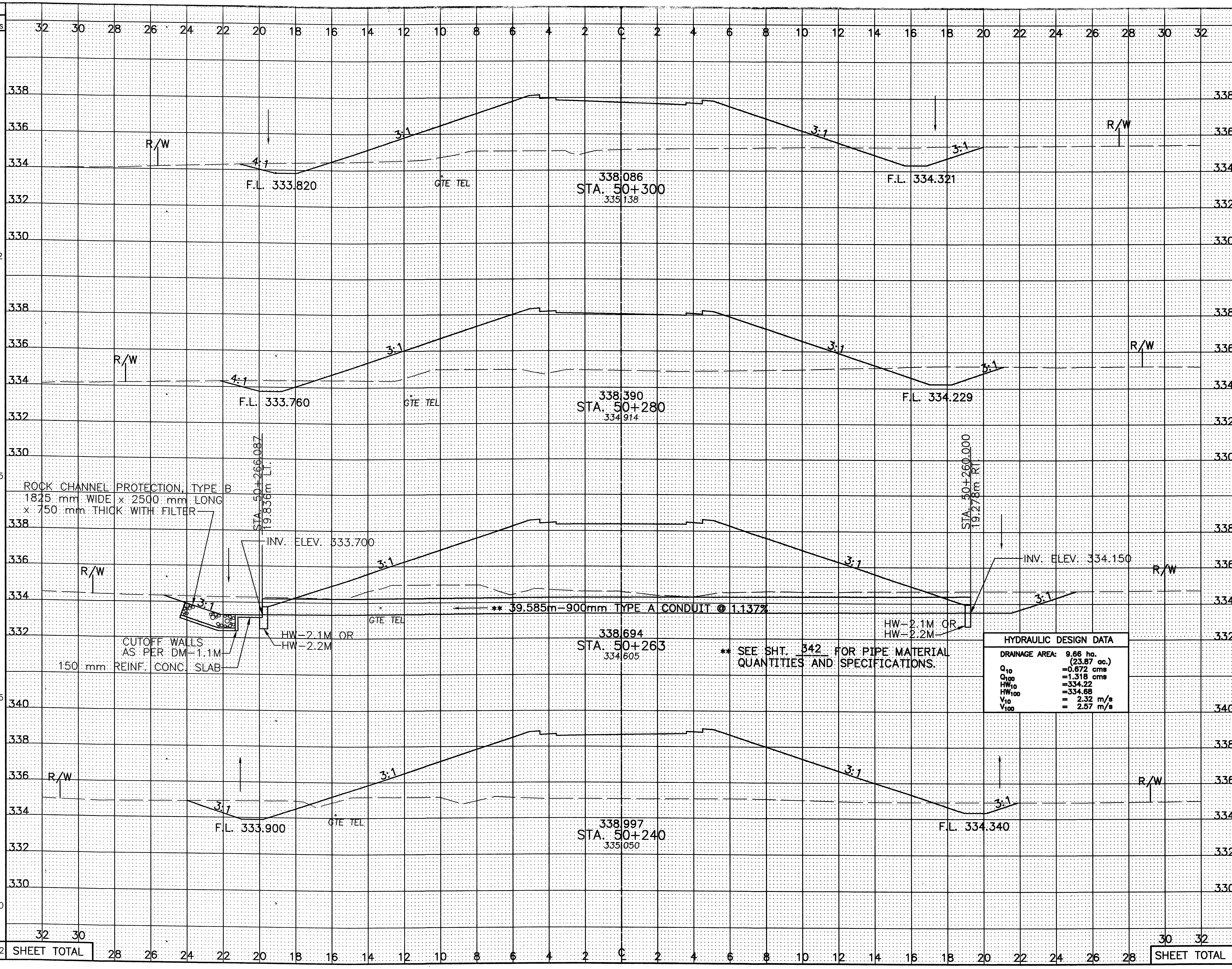
CROSS-SECTIONS - BIDDLE RD.
STA. 50+160 TO STA. 50+220

CRA-30-24.000

CROSS-SECTIONS - BIDDLE RD.
STA. 50+240 TO STA. 50+300

CRA-30-24.000

CALCULATED PSB
CHECKED LBD

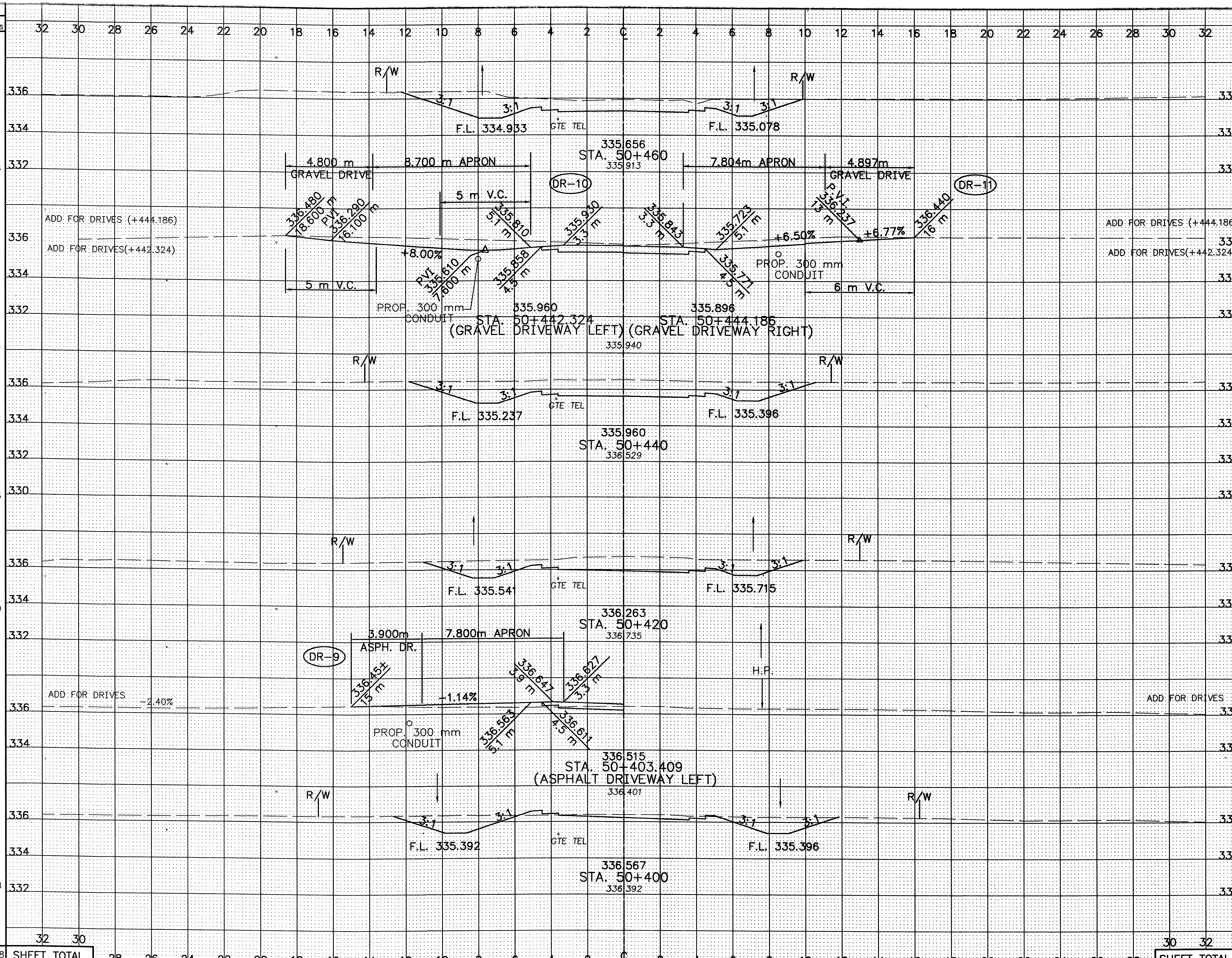


SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
49.0		10.5	54.3		
	1012			225	1222
52.2		12.0	67.9		
	1055			218	1530
53.3		9.8	85.1		
	1075			207	1672
54.2		10.9	82.1		
	1080			215	1642
SHEET TOTAL	4222	SHEET TOTAL		865	6066

REVISED 3-27-03

L:\DRAWINGS\93125\F&OC1\Roadway\BIDDLE\XSECT\CX511c02.dwg November 20 2000 10:53am By:tjtodd


CROSS-SECTIONS – BIDDLE RD.
STA. 50+320 TO STA. 50+380
CRA-30-24.000
356
677
CALCULATED PSB
CHECKED LBD
SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
STA. 50+380
336.871
335.979
F.L. 335.155
F.L. 335.076
GTE TEL
R/W
3:1
34.4
7.7
9.8
737
145
318
STA. 50+360
337.175
335.691
F.L. 334.430
F.L. 334.757
39.3
6.8
22.0
817
155
552
STA. 50+360.142
(GRAVEL DRIVEWAY RIGHT)
337.172
335.696
7.860 m APRON
(ASPHALT)
13.340 m
ASPHALT DRIVEWAY
337.060
3.3 m
336.998
4.5 m
336.940
5.1 m
−8.10%
DR-8
P.V.I.
335.571
22.000 m
335.599
24.500 m
1.30%
5 m V.C.
PROP. 375 mm
CONDUIT
ADD FOR DRIVES
7.4
15
0.2
10.6
1
38
STA. 50+340
337.479
335.357
F.L. 333.940
F.L. 334.506
4:1
42.4
8.7
33.1
881
164
781
STA. 50+320
337.782
335.050
F.L. 333.880
F.L. 334.414
45.7
7.7
44.8
947
182
992
3397
SHEET TOTAL
647
2681
REVISED 3-27-03



REVISED 3-27-03

SEEDING END WIDTH	SEEDING SQ. METERS
17.1	
	368
4.8	7
6.0	9
19.7	
	443
24.6	
	540
2.4	3
29.4	
	638
SHEET TOTAL	2008

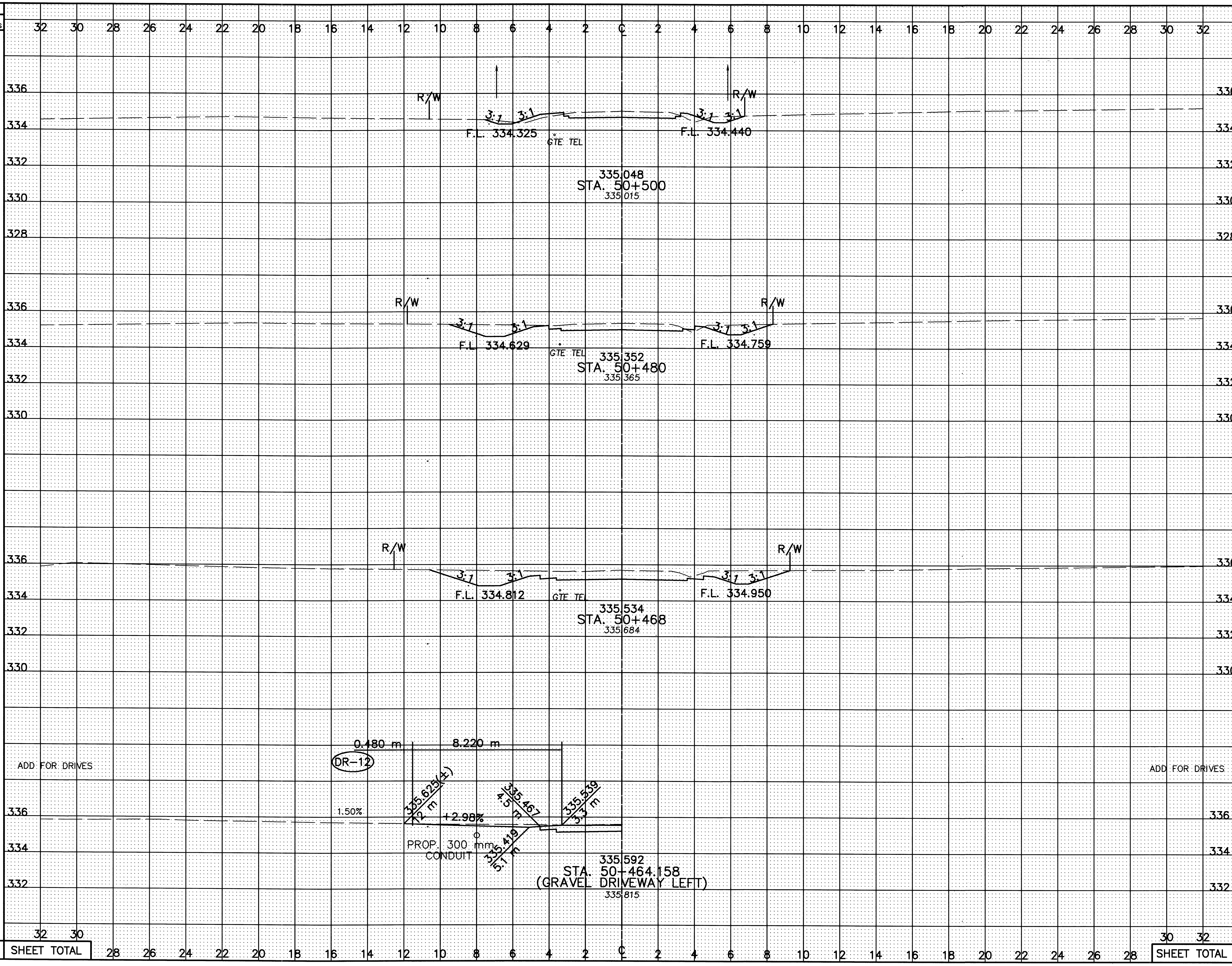
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16.4	0.0		
		352	0
2.5	0.0	5	0
1.7	0.0	6	0
18.7	0.0		
		335	0
14.8	0.0		
		249	4
-4.7	0.5	-17	8
10.1	0.4		
		178	102
SHEET TOTAL		1108	114

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 50+400 TO STA. 50+460

CRA-30-24.000

357/677



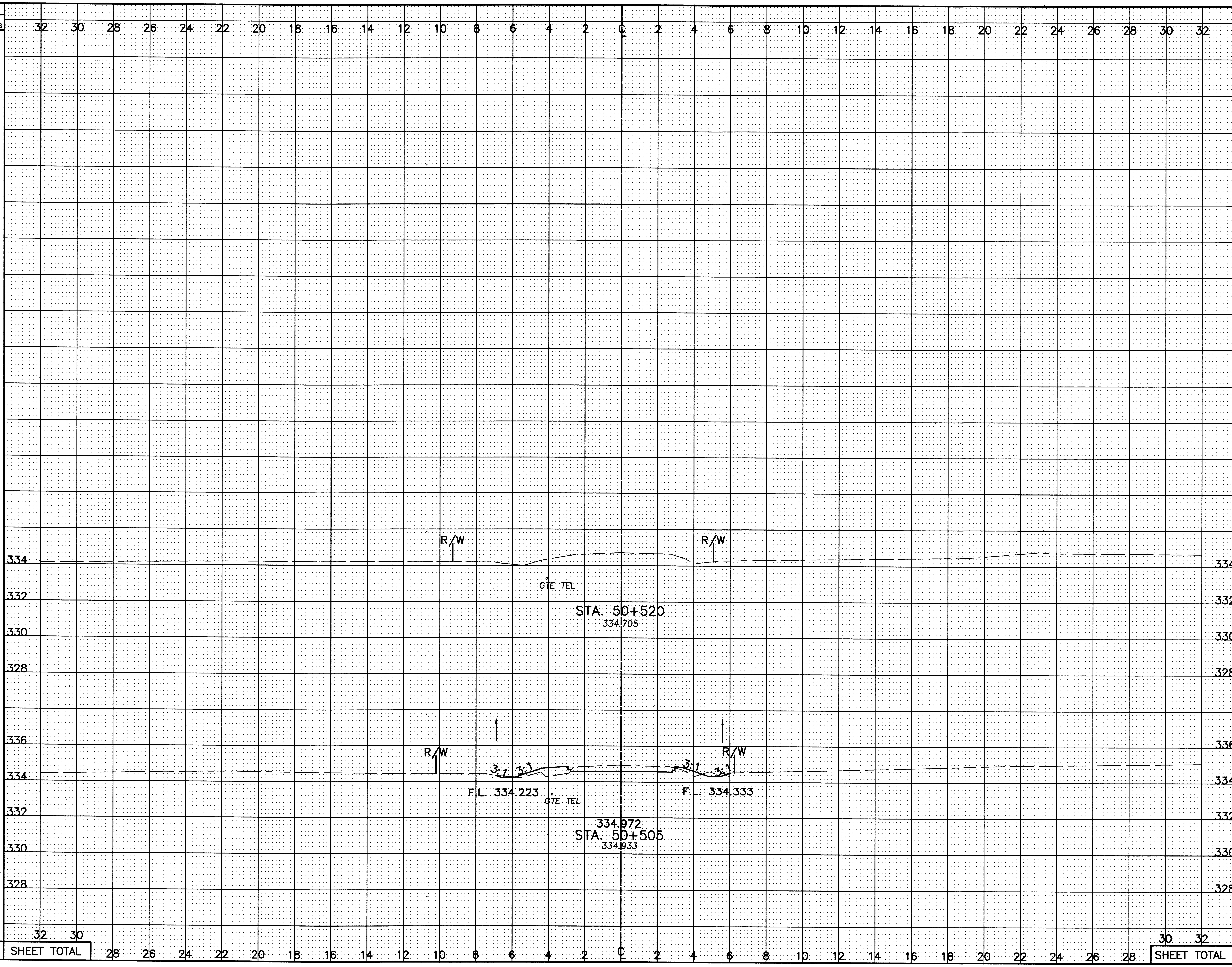
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13.9		3.1	0.9		
	287			95	10
14.8		6.5	0.1		
	182			105	1
15.6		11.0	0.0		
	131			110	0
0.0	0	-2.2	0.0	-8	0
SHEET TOTAL	600			302	11

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 50+464.158 TO STA. 50+500

CRA-30-24.000

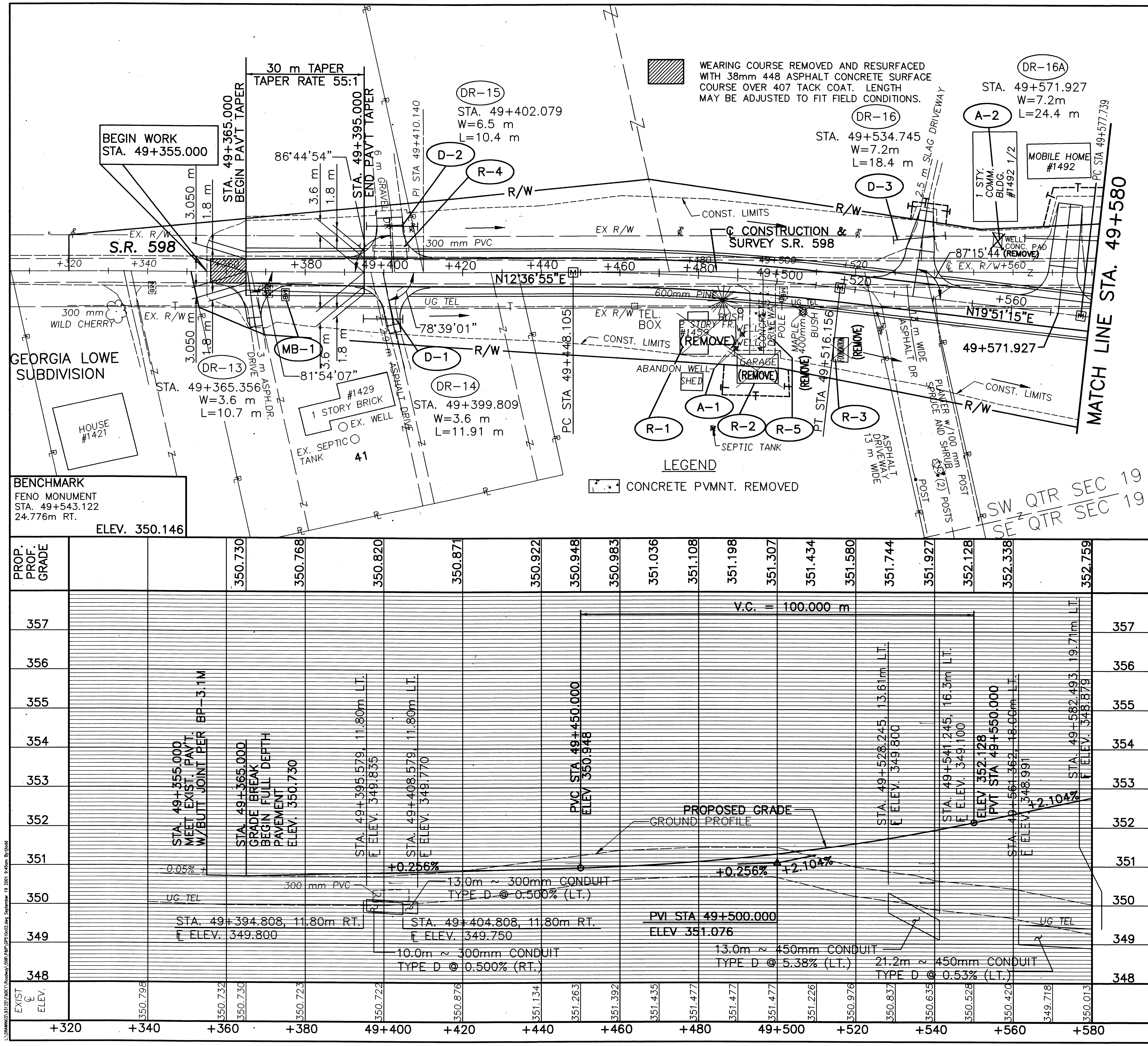
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
13.1		2.2	1.3		
	67.5			8	5
	68 (SHEET TOTAL)			8	5



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – BIDDLE RD.
STA. 50+505 TO STA. 50+520

CRA-30-24.000



RELOCATED S.R. 598 CURVE DATA

PI STA. 49+482.167
Δ =06°29'54" RT.
R=600.000 m
T=34.062 m
L=68.050 m
E=0.966 m
CH=N 16°36'18" E
LC=68.014 m

metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2-11 OF 677.
2. FOR TYPICAL SECTIONS SEE SHEETS 12-23 OF 677.
3. FOR SUPER ELEVATION TABLES SEE SHEET 464A OF 677.
4. FOR DRIVE DETAILS AND QUANTITIES SEE SHEET 491,492 AND 492A OF 677.

RATIO 1:500
HORIZONTAL SCALE IN METERS

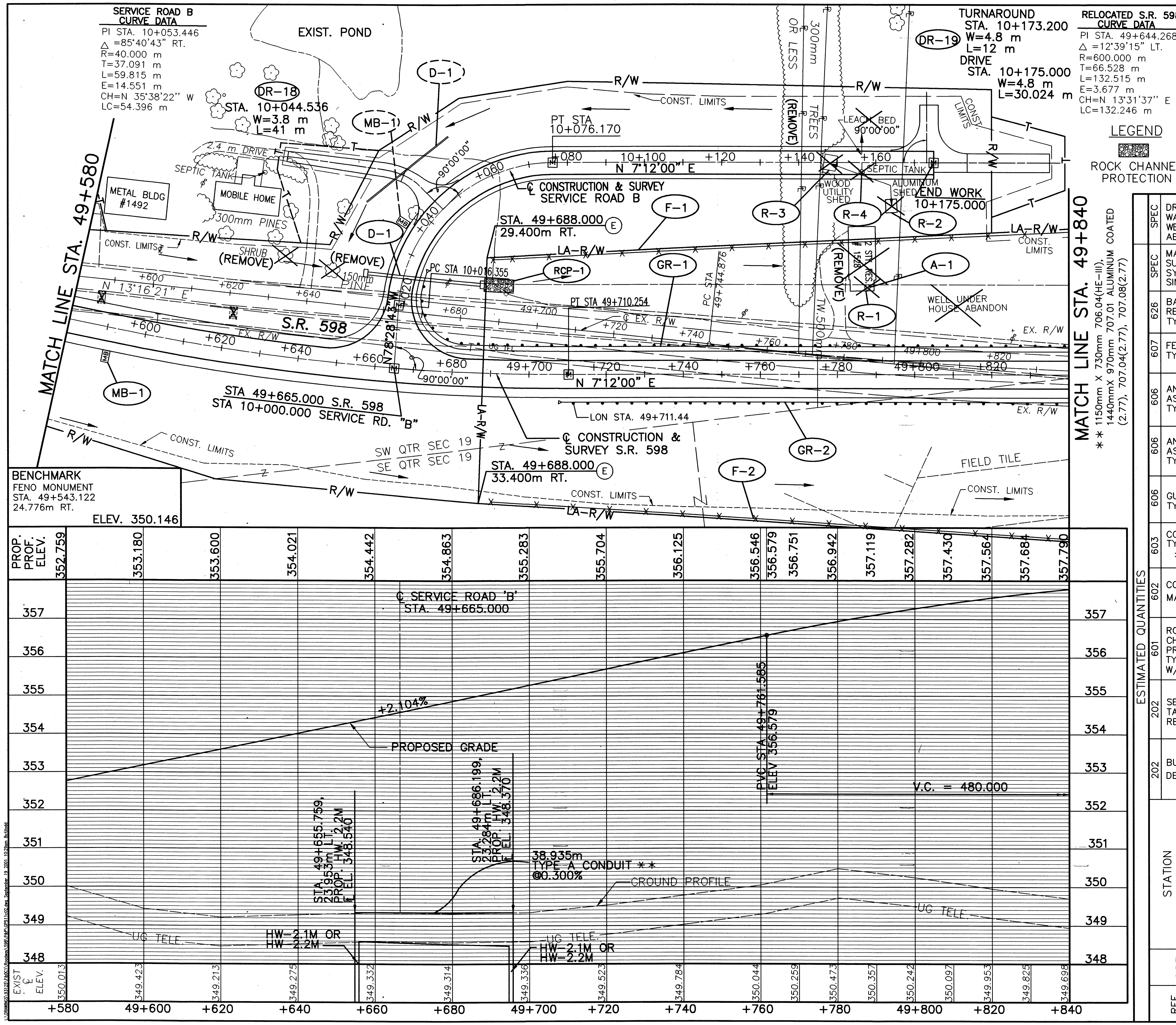
CALCULATED PSB
CHECKED LBD

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	202 PAVEMENT REMOVED (S.M.)	202 BUILDING DEMOLISHED (EACH)	202 REMOVAL MISC: BUILDING FOUNDATION (EACH)	603 300 mm CONDUIT TYPE D (METER)	603 450 mm CONDUIT TYPE D (METER)	SPECIAL DRILLED WATER WELL ABANDONED (EACH)	SPECIAL MAILBOX SUPPORT SYSTEM SINGLE (EACH)
A-1	RT.	49+492	49+490							2	
A-2	LT.	49+554								1	
R-1	RT.	49+480				1					
R-2	RT.	49+495				1					
R-3	RT.	49+517					1				
R-4	LT.	49+402		10							
R-5	RT.	49+495			117						
D-1	RT.	49+394.808	49+404.808					10.0			
D-2	RT.	49+395.579	49+408.579					13.0			
D-3	LT.	49+528.245	49+541.245						13.0		
D-4	LT.	49+561.362	49+582.493						21.2		
MB-1	RT.	49+375									1
TOTALS CARRIED TO SUB-SUMMARY				10	117	2	1	23.0	34.2	3	1

PLAN AND PROFILE – S.R. 598
STA. 49+320 TO STA. 49+580

CRA-30-24.000



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2-11 OF 677
2. FOR TYPICAL SECTIONS SEE SHEETS 12-23 OF 677
3. FOR SUPERELEVATION TABLES SEE SHEET 464A OF 677
4. FOR FENCE LEGEND SEE SHEET 96 OF 677
5. FOR SERVICE ROAD "B" DETAILS SEE SHEET 479 OF 677
6. FOR SERVICE ROAD "B" QUANTITIES AND RELATED WORK SEE SHEET 436-439 OF 677.
7. FOR DRIVE DETAILS AND QUANTITIES SEE SHEET 491, 492 AND 492A OF 677.
8. FOR CULVERT DETAILS SEE SHEET 437 OF 677.

LEGEND

ROCK CHANNEL PROTECTION

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 BUILDING DEMOLISHED (EACH)	202 SEPTIC TANK REMOVED	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 CONDUIT TYPE A ** (METER)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE T (EACH)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)	607 FENCE TYPE 47 (METER)	626 BARRIER REFLECTORS TYPE A-2 (EACH)	SPEC MAILBOX SUPPORT SYSTEM SINGLE (EACH)	SPEC DRILLED WATER WELL ABANDONED (EACH)
A-1	LT.	49+788.000													1
GR-1	LT.	49+682.000	F0+114.344						236.220	1	1		9		
GR-2	RT.	49+707.62	G0+239.849						247.650	1	1		10		
R-1	LT.	49+786.000		1											
R-2	LT.	49+794.000		1											
R-3	LT.	49+778.000		1											
R-4	LT.	49+786.305			1										
MB-1	RT.	49+590.000												1	
D-1	LT.	49+655.759	49+686.199				2.83	38.9							
F-1	LT.	49+688.000	49+840.000									152.00			
F-2	RT.	49+688.000	49+840.000									152.00			
RCP-1	LT.	49+686.199	49+688.699			1.88									
TOTALS CARRIED TO SUB-SUMMARY				3	1	1.88	2.83	38.9	483.870	2	2	304	19	1	1

RATIO 1:500

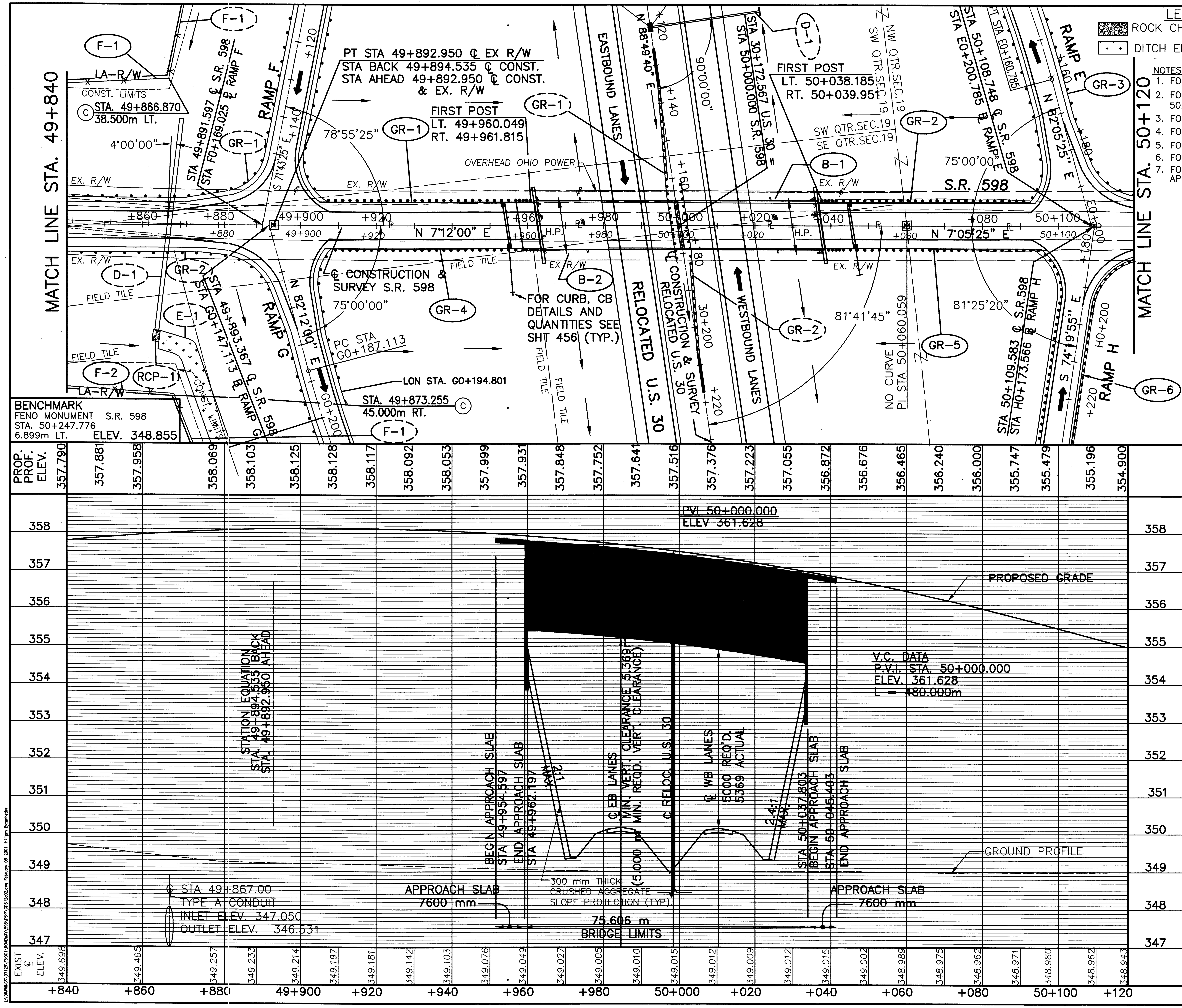
HORIZONTAL SCALE IN METERS

CALCULATED PSB

CHECKED LBD

PLAN AND PROFILE - S.R. 598
STA. 49+580 TO STA. 49+840

CRA-30-24.000



LEGEND

- ROCK CHANNEL PROTECTION
- DITCH EROSION PROTECTION

METRIC UNITS

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEETS 502-505 OF 677.
3. FOR SUPERELEVATION TABLES SEE SHTS. 457-464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR CULVERT DETAILS AND QUANTITIES SEE SHEET 448 OF 677.
6. FOR INTERSECTION DETAIL SEE SHEET 478 OF 677.
7. FOR PIPE AND CATCH BASIN QUANTITIES AT BRIDGE APPROACHES SEE SHEET 456 OF 677.

TRAFFIC DATA

DESIGN ADT (2020) = 4740
DESIGN ADTT (2020) = 570

PROPOSED STRUCTURE

TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 37 500, 37 500 c/c BEARINGS
ROADWAY: 12 000 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 8°-22'-20" R.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-50"
LONGITUDE: W82°-47'-35"

ESTIMATED QUANTITIES

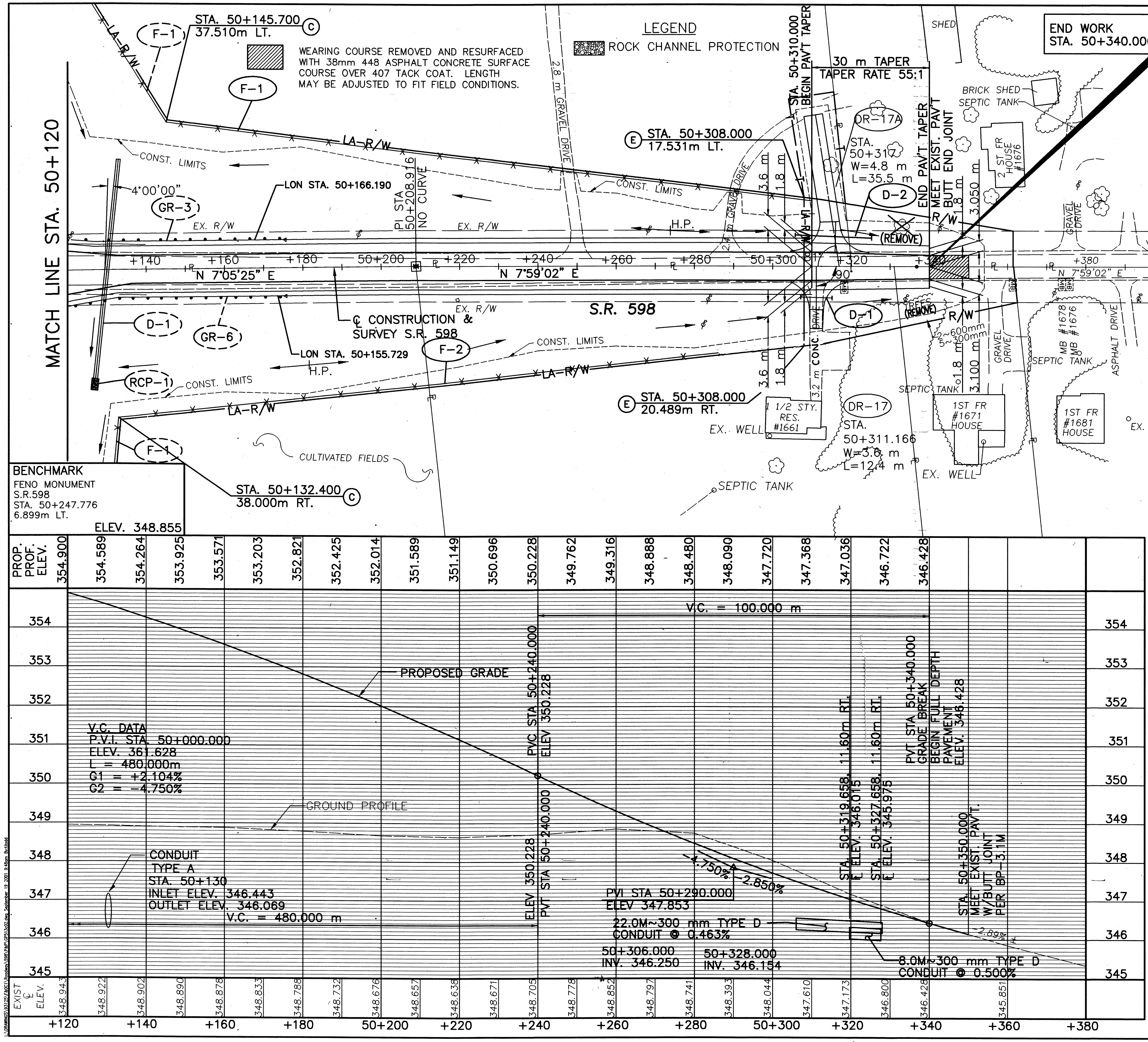
REF. No.	SIDE	STATION FROM	STATION TO	606 GUARDRAIL TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY TYPE I (EACH)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	607 FENCE TYPE 46 (METER)	626 BARRIER REFLECTOR TYPE A-2 (EACH)	626 BARRIER REFLECTOR TYPE B-2 (EACH)
GR-1	LT	F0+123.04	49+961.954	80.010	1	1			3	
GR-2	LT	50+036.280	E0+142.805	247.650	1		1		9	
GR-3	LT	E0+146.466	50+170	95.24		1	1		4	
GR-4	RT	G0+198.611	49+963.720	95.25	1		1		6	
GR-5	RT	50+038.046	H0+214.268	76.200	1	1			3	
GR-6	RT	H0+240.124	50+159.539	83.82		2			4	
F-1	LT	49+840.000	49+866.870					26.870		
F-2	RT	49+840.000	49+873.255					33.255		
B-1	LT	49+960.049	50+038.185							4
B-2	RT	49+961.815	50+039.951							4
TOTALS CARRIED TO SUB-SUMMARY				678.18	4	5	3	60.125	29	8

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - S.R. 598
STA. 49+840 TO STA. 50+120

CRA-30-24.000



metric units

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEETS 2-11 of 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
3. FOR FENCE LEGEND SEE SHEET 96 OF 677.
4. FOR CULVERT DETAIL AND QUANTITIES SEE SHEET 449 OF 677.
6. FOR DRIVE DETAILS AND QUANTITIES SEE SHEET 491,492 AND 492A IF 677.

RATIO 1:500 — HORIZONTAL SCALE IN METERS

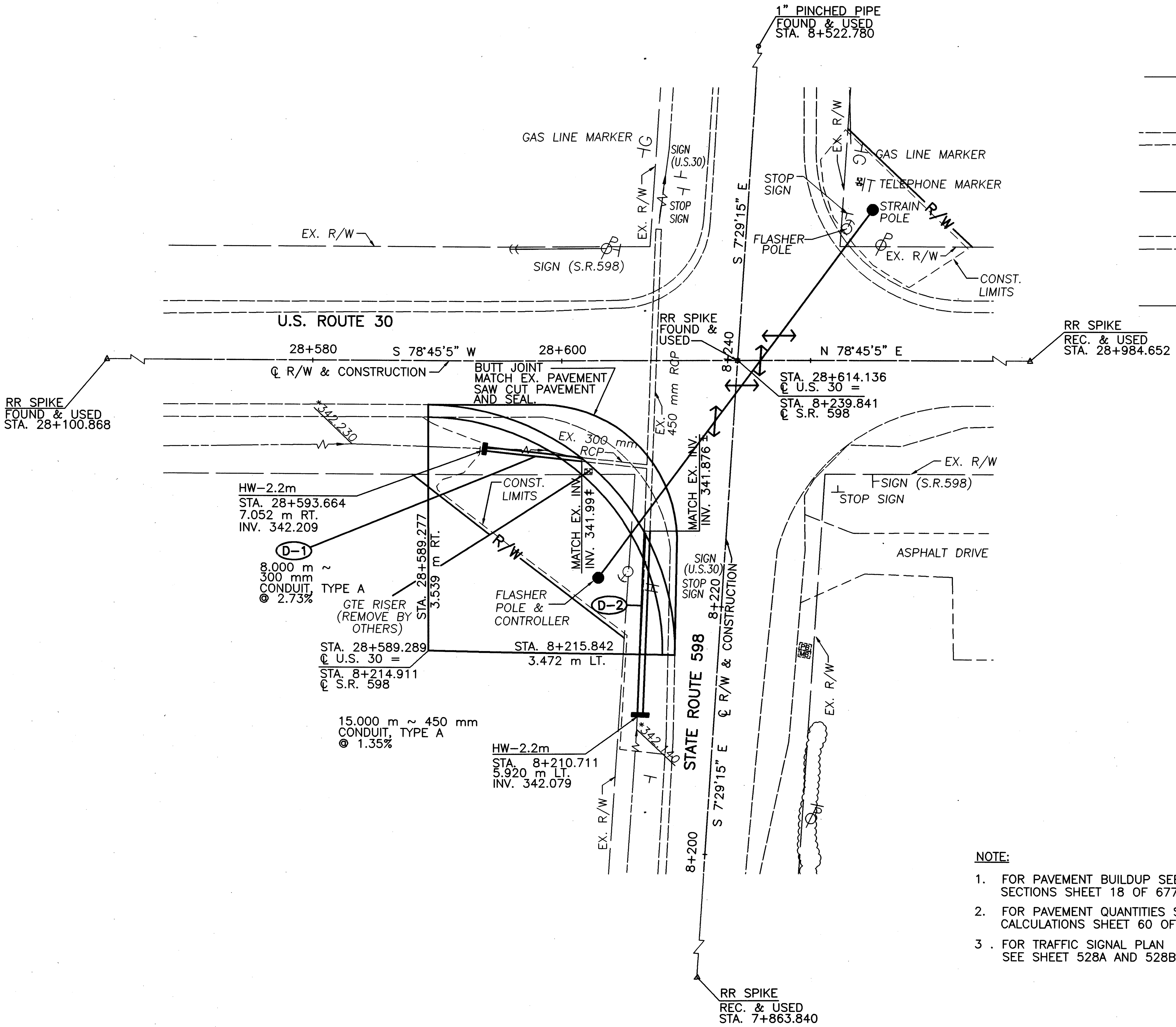
CALCULATED PSB — CHECKED LBD

ESTIMATED QUANTITIES

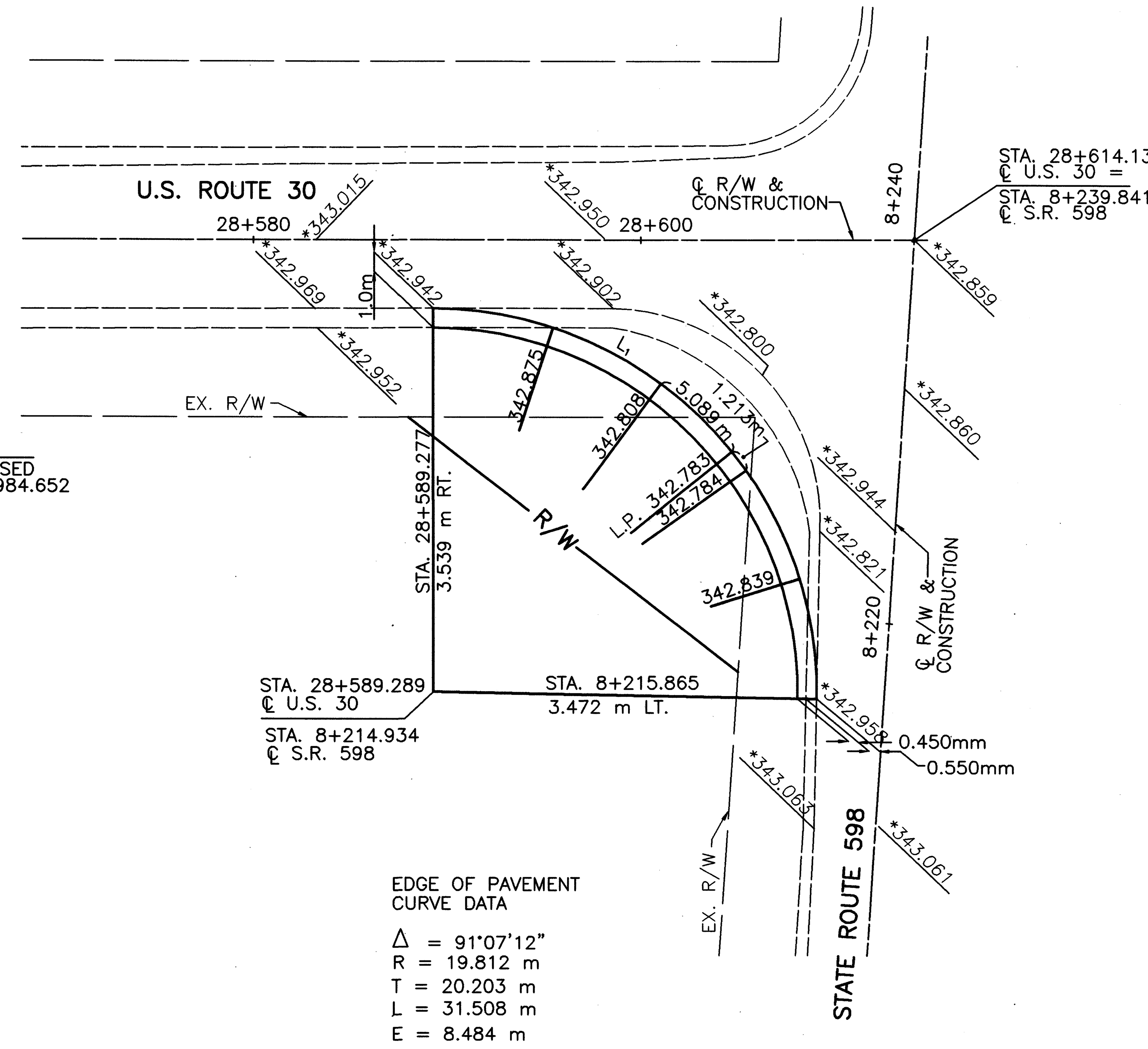
REF. No.	SIDE	STATION FROM	STATION TO	603 300mm TYPE D CONDUIT (METER)	607 FENCE TYPE 47 (METER)
F-1	LT	50+145.700	50+312.415		166.715
F-2	RT	50+132.400	50+294.294		161.894
D-1	RT	50+319.658	50+327.658	8.0	
D-2	LT	50+304.000	50+326.000	22.0	
TOTALS CARRIED TO SUB-SUMMARY				30.0	328.609

PLAN AND PROFILE - S.R. 598
STA. 50+120 TO STA. 50+380

CRA-30-24.000



PLAN



EDGE OF PAVEMENT
CURVE DATA

Δ = 91°07'12"
R = 19.812 m
T = 20.203 m
L = 31.508 m
E = 8.484 m
C = 28.286 m
BRG = S 55°43'54.27" E
L_1 = 6.302 m

* EXISTING ELEVATION

INTERSECTION DETAIL

NOTE:

1. FOR PAVEMENT BUILDUP SEE TYPICAL SECTIONS SHEET 18 OF 677.
2. FOR PAVEMENT QUANTITIES SEE PAVEMENT CALCULATIONS SHEET 60 OF 677.
3. FOR TRAFFIC SIGNAL PLAN SEE SHEET 528A AND 528B OF 677.

ESTIMATED QUANTITIES

REF. No.	STATION FROM	STATION TO	SIDE	602 CONCRETE MASONRY (C.M.)	603 300 mm CONDUIT TYPE A, 706.02 (METER)	603 450 mm CONDUIT TYPE A, 706.02 (METER)		
D-1	28+593.664	28+601.617	RT.	0.17	8.00			
D-2	8+210.733	8+225.727	LT.	0.27		15.00		
TOTALS CARRIED TO SUB-SUMMARY				0.44	8.00	15.00		

BENCHMARKS
TOP OF CONC. R/W MONUMENT
STA. 28+546.759, 9.178 m RT.
ELEV. 342.269

metric units

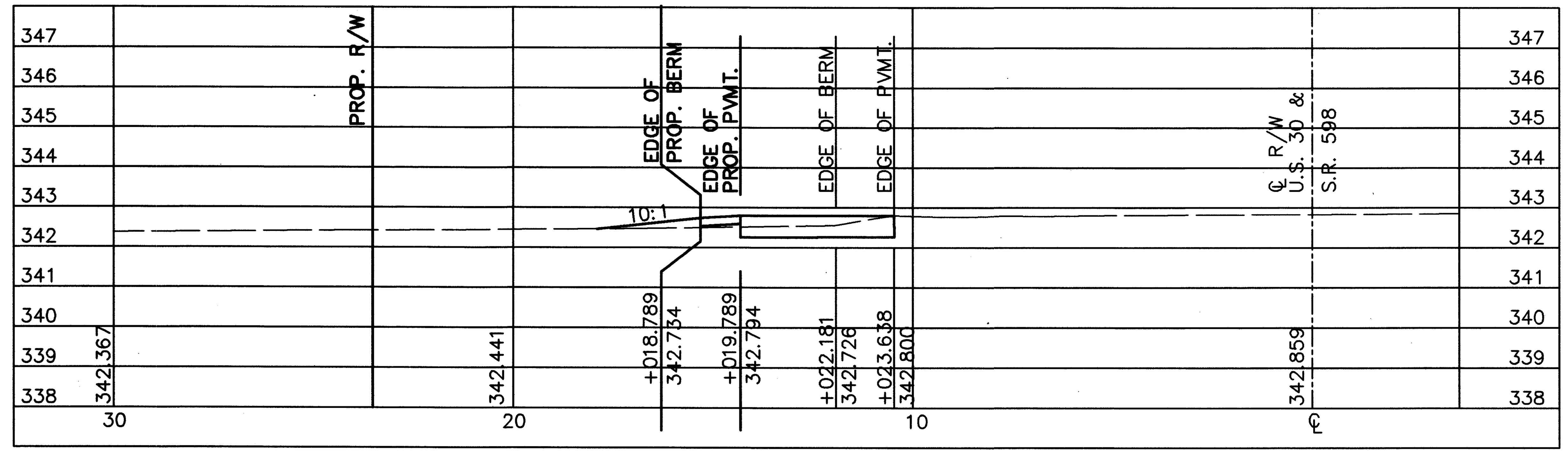
RATIO 1:200
0 2 4 6 8
HORIZONTAL SCALE IN METERS

CALCULATED MRD
CHECKED LBD

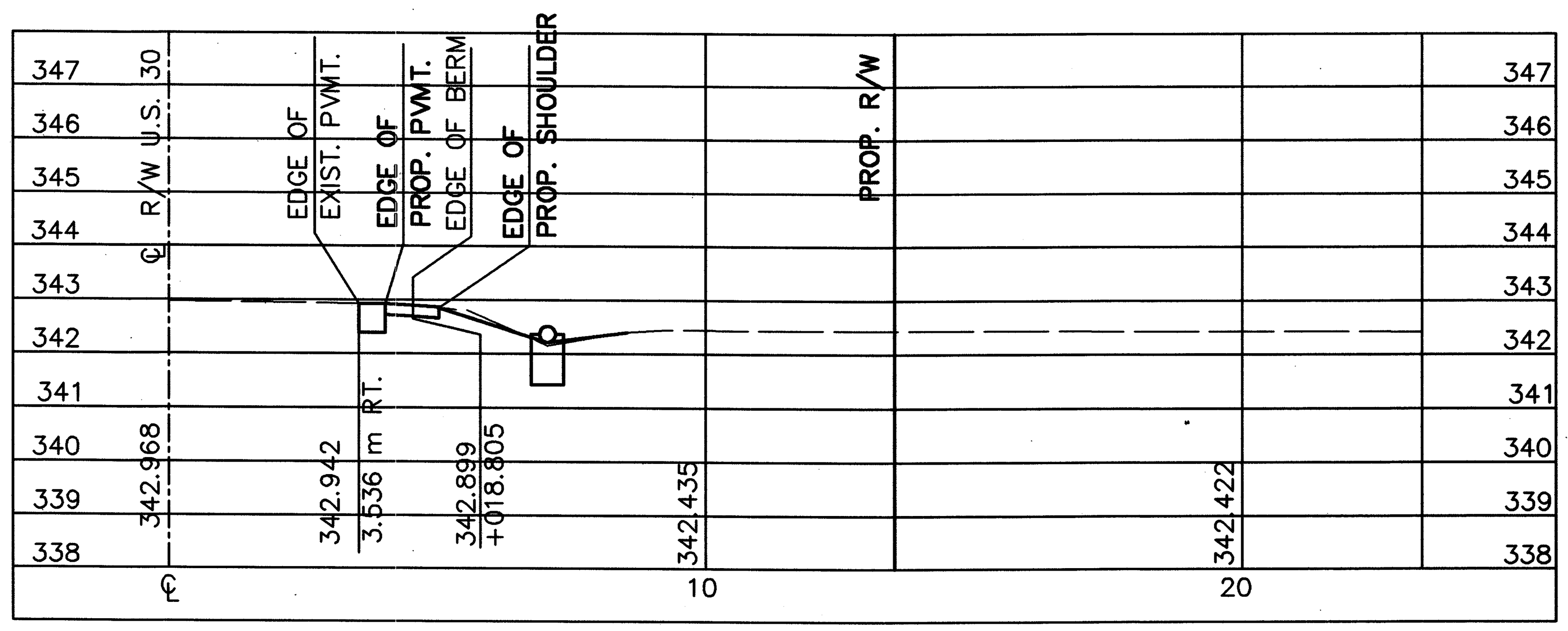
INTERSECTION PLAN S.R. 598 AND U.S. 30

CRA-30-24.000

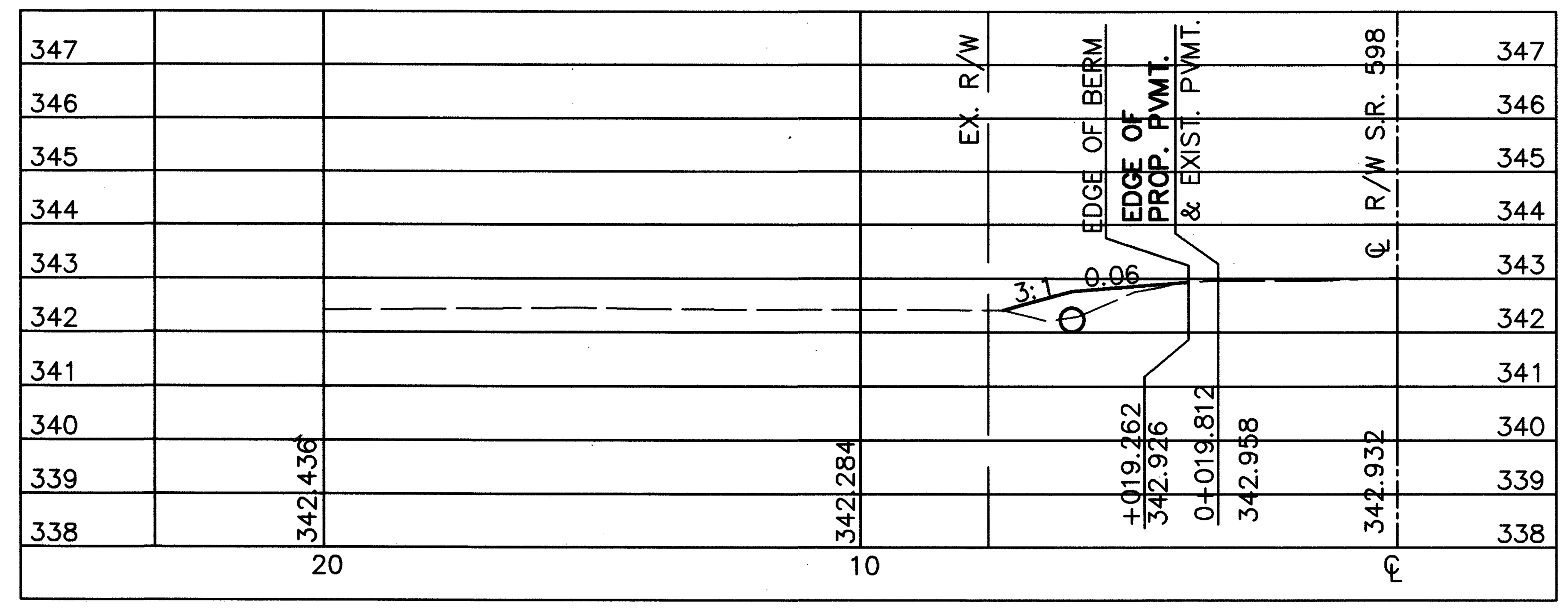
L:\DRAWINGS\93125\INTER\INT_DET.dwg February 06 2001 3:27pm By:smhetler



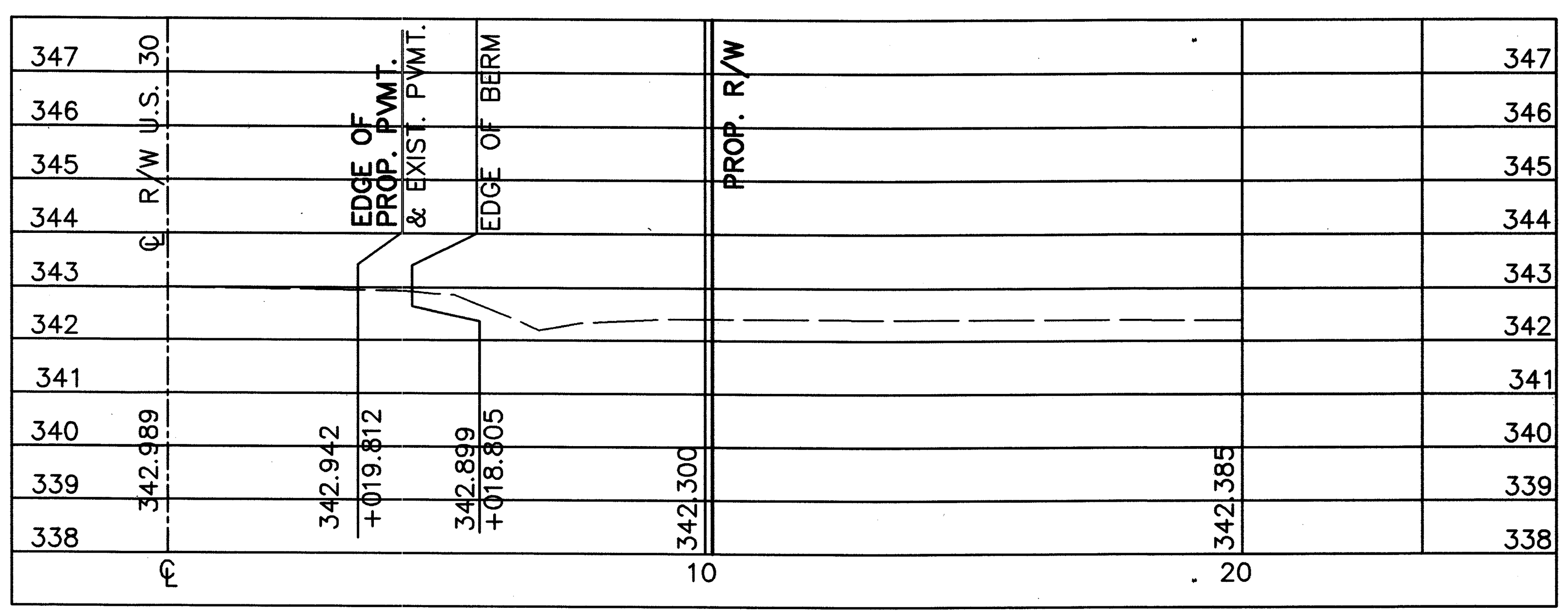
STA. 8+239.841
SKEWED 46°58'57" RF



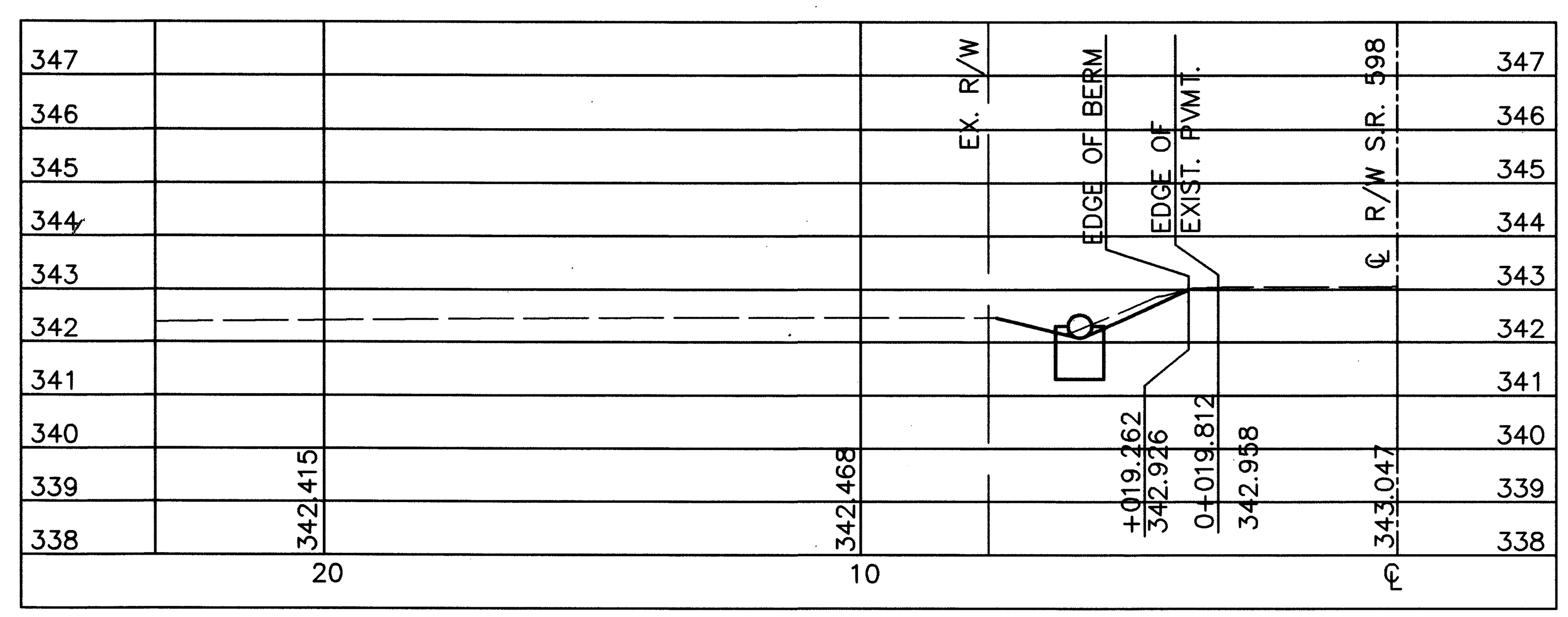
STA. 28+593.664



PT STA. 8+215.865



PC STA. 28+589.277



STA. 8+210.733

RATIO 1:100
HORIZONTAL SCALE IN METERS

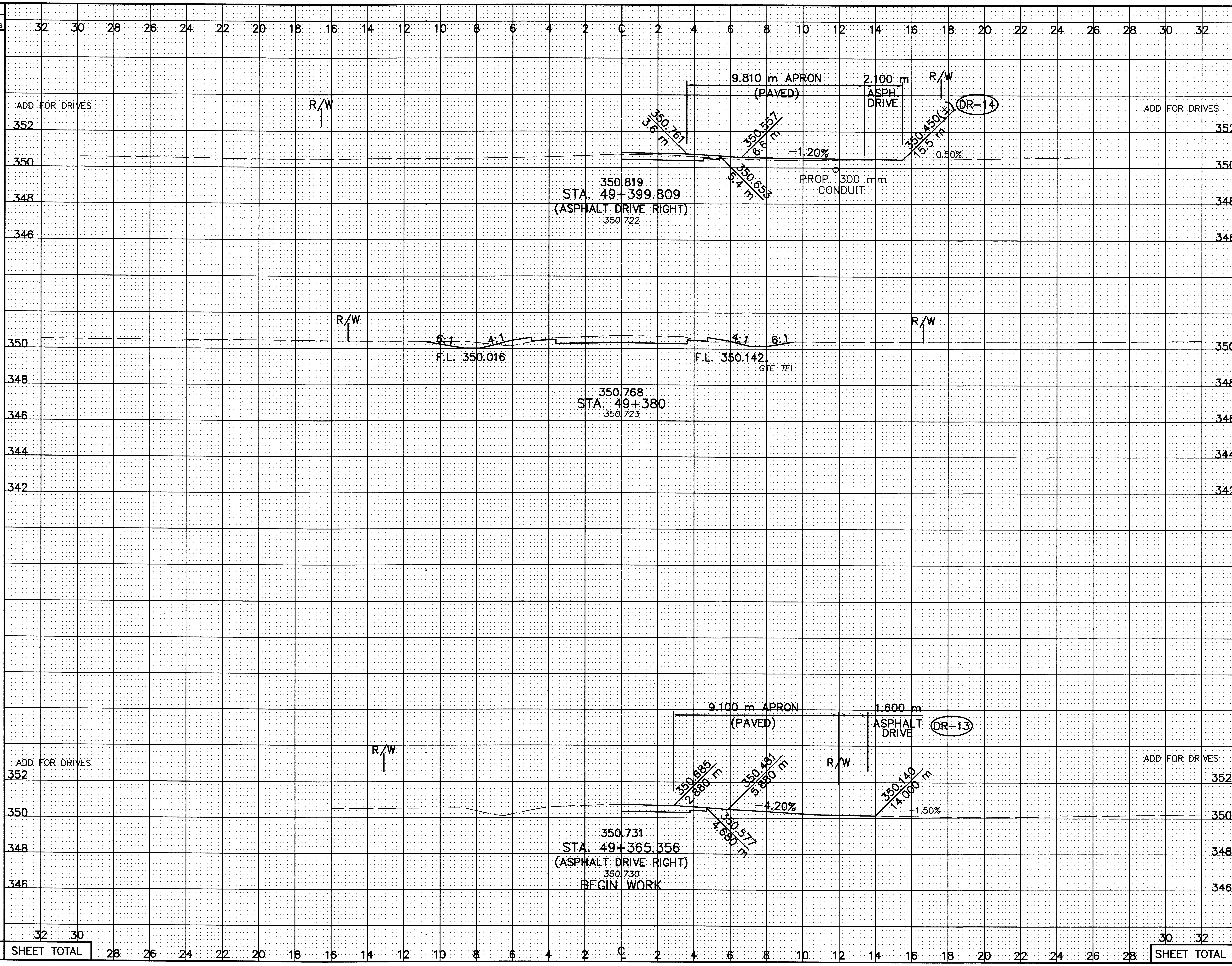
CALCULATED MRD
CHECKED LBD

INTERSECTION CROSS SECTIONS

CRA-30-24.000

364A
677

SEEDING END WIDTH	SEEDING SQ. METERS
6.0	6
6.8	
	50
9.5	10
0.0	
	66



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0.5	0.0	2	0
4.1	0.7		
		30	5
1.5	0.0	5	0
0.0	0.0		
		37	5

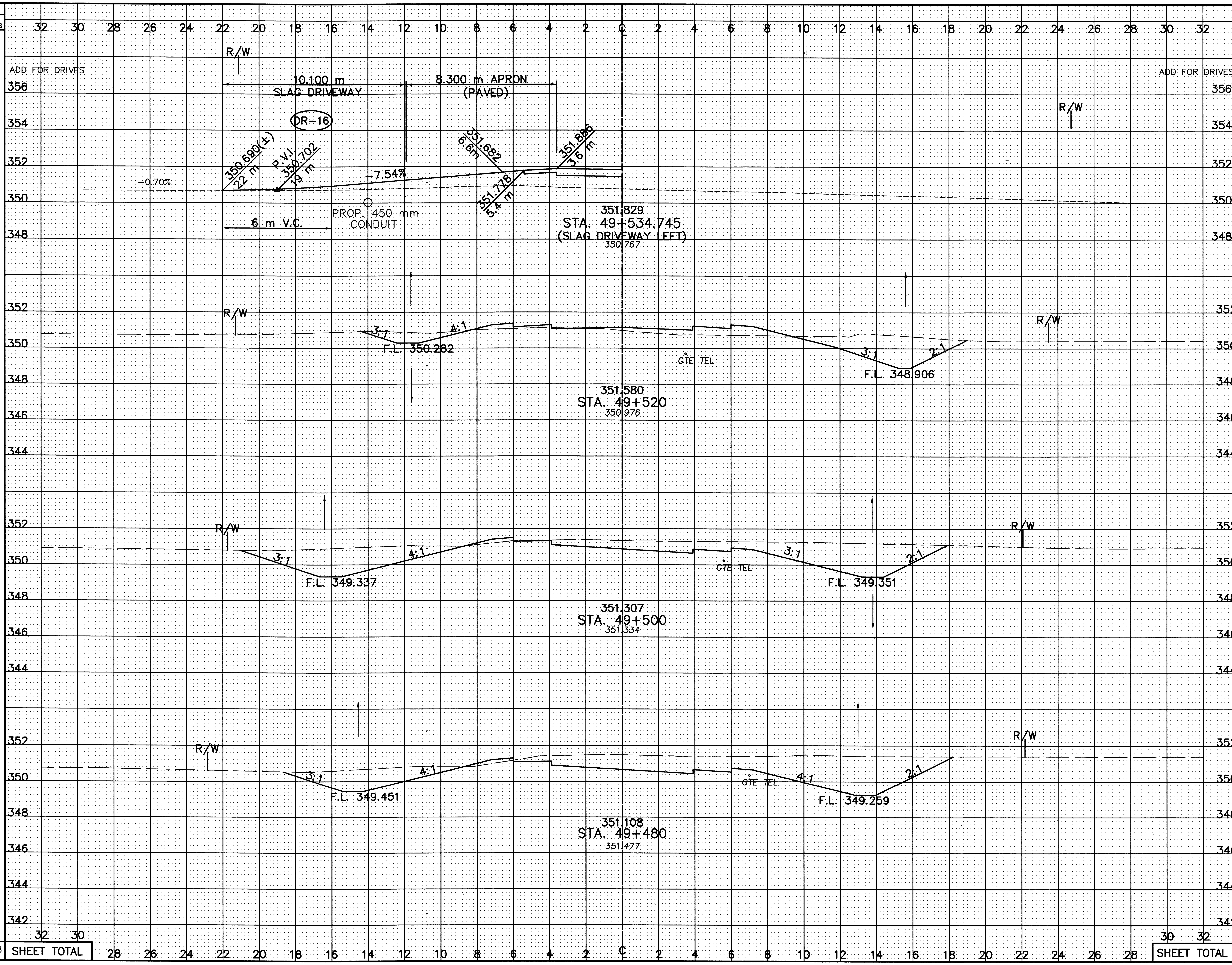
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+365.356 TO STA. 49+399.809

CRA-30-24.000

\DRAWINGS\93125\E40C1\Roadway\598\XSECT\XS62022.dwg February 06, 2001 3:30pm By:smheller

SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
STA. 49+460
350.983
351.392
F.L. 349.564
F.L. 349.436
GTE TEL
R/W
3:1
4:1
2:1
33.8
641
31.2
0.0
547
1
STA. 49+440
350.922
351.134
F.L. 349.677
F.L. 349.612
30.3
566
23.5
0.1
349
6
STA. 49+420
350.871
350.876
F.L. 349.790
F.L. 349.789
26.3
493
11.4
0.5
177
7
DR-15
2.000 m GRAVEL DRIVE
8.400 m APRON (PAVED)
350.530(±) 14.0 m
350.564 6.6 m
350.768 3.6 m
350.660 5.4 m
0.60%
-0.46%
PROP. 300 mm CONDUIT
ADD FOR DRIVES
STA. 49+402.079 (GRAVEL DRIVEWAY LEFT)
350.826
350.737
0.0
0
2.1
0.0
14
0
STA. 49+400
350.820
350.722
F.L. 349.903
F.L. 349.965
6:1
23.0
298
6.3
0.2
104
9
SHEET TOTAL
1998
1191
23
CROSS-SECTIONS - S.R. 598
STA. 49+400 TO STA. 49+460
CRA-30-24.000
366
677



SEEDING END WIDTH	SEEDING SQ. METERS
7.8	23
33.7	
	666
32.9	
	670
34.1	
	679
SHEET TOTAL	2038

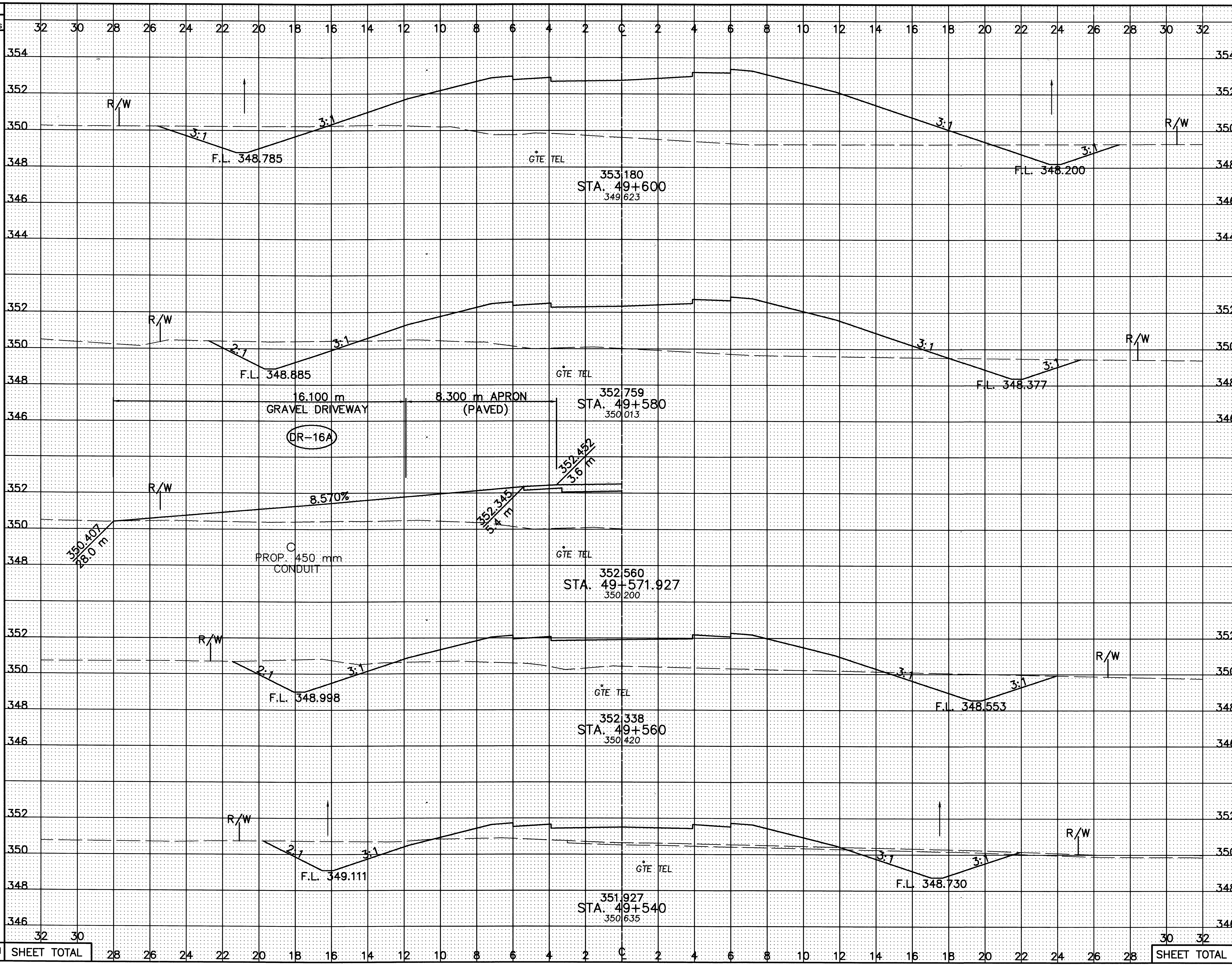
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
-0.5	4.6	-3	24
11.2	3.9		
		391	43
28.1	0.4		
		591	8
31.2	0.4		
		622	4
		1601	79

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - S.R. 598
STA. 49+480 TO STA. 49+534.745

CRA-30-24.000

SEEDING	
END WIDTH	SQ. METERS
48.0	
	916
43.6	
	826
39.0	
	746
35.6	
	693
	3181



END AREA		VOLUME	
CUT	FILL	CUT	FILL
11.1	89.4		
		219	1521
11.0	62.1		
		265	965
15.5	34.4		
		331	526
17.6	18.2		
		288	221
		1103	3233

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+540 TO STA. 49+600

CRA-30-24.000

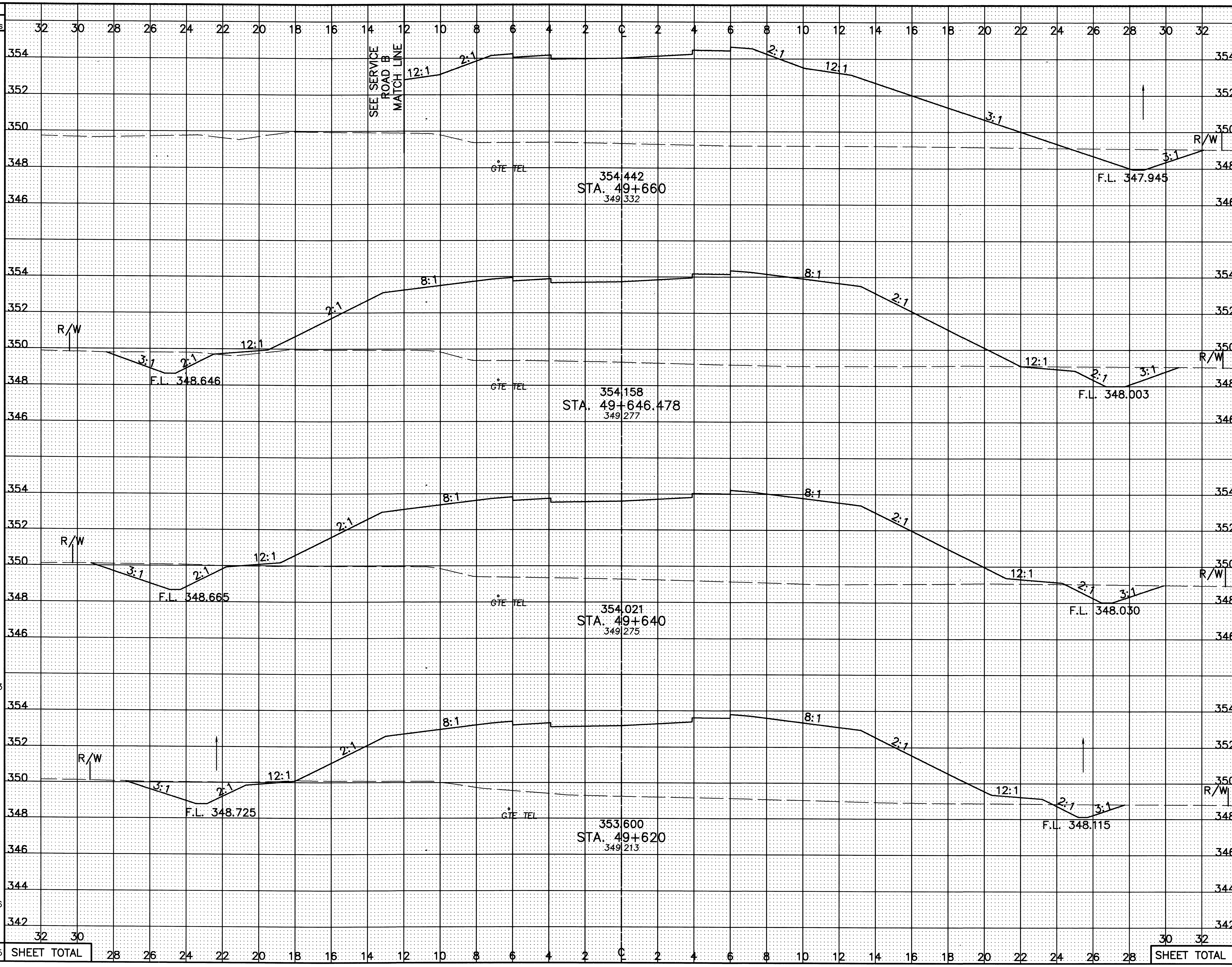
368
677

I:\DRAWINGS\93125\F401\Roadway\598\XSECT\XS65002.dwg February 06, 2001 3:31pm By:smheller

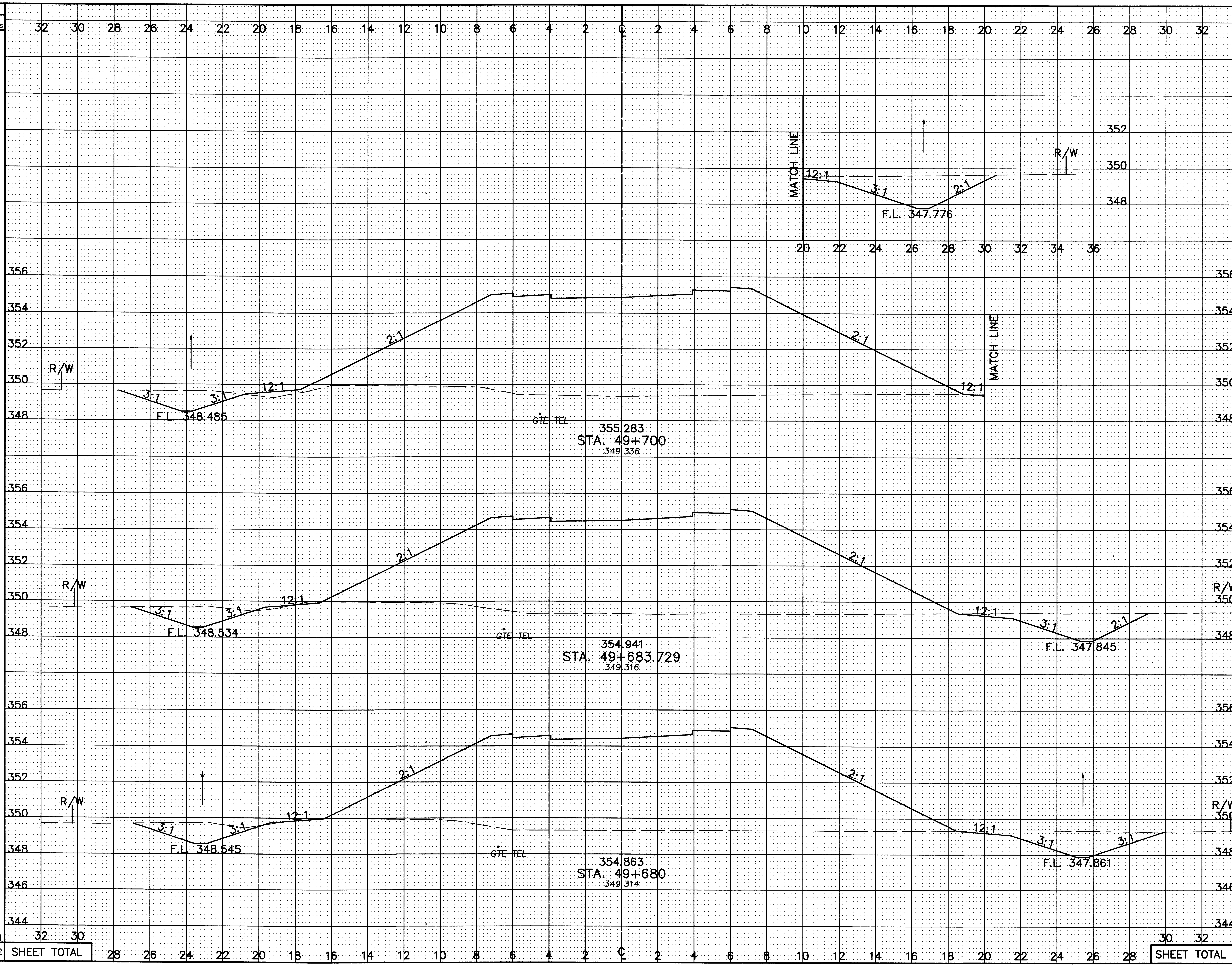
CROSS-SECTIONS – S.R. 598
STA. 49+620 TO STA. 49+660

CRA-30-24.000

CALCULATED	CHECKED
PSB	LBD



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
STA. 49+660	53.9		9.6	149.6		
		728			120	1959
STA. 49+646.478	53.7		8.2	139.2		
		348			57	887
STA. 49+640	53.7		9.5	133.7		
		1063			173	2518
STA. 49+620	52.6		8.0	117.1		
		1006			189	2074
SHEET TOTAL		3145			539	7438



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
57.1		14.1	141.8		
	915			210	2233
55.4		11.4	132.2		
	206			44	490
55.2		11.8	129.9		
	1091			216	2802
SHEET TOTAL	2212			470	5525

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+680 TO STA. 49+700

CRA-30-24.000

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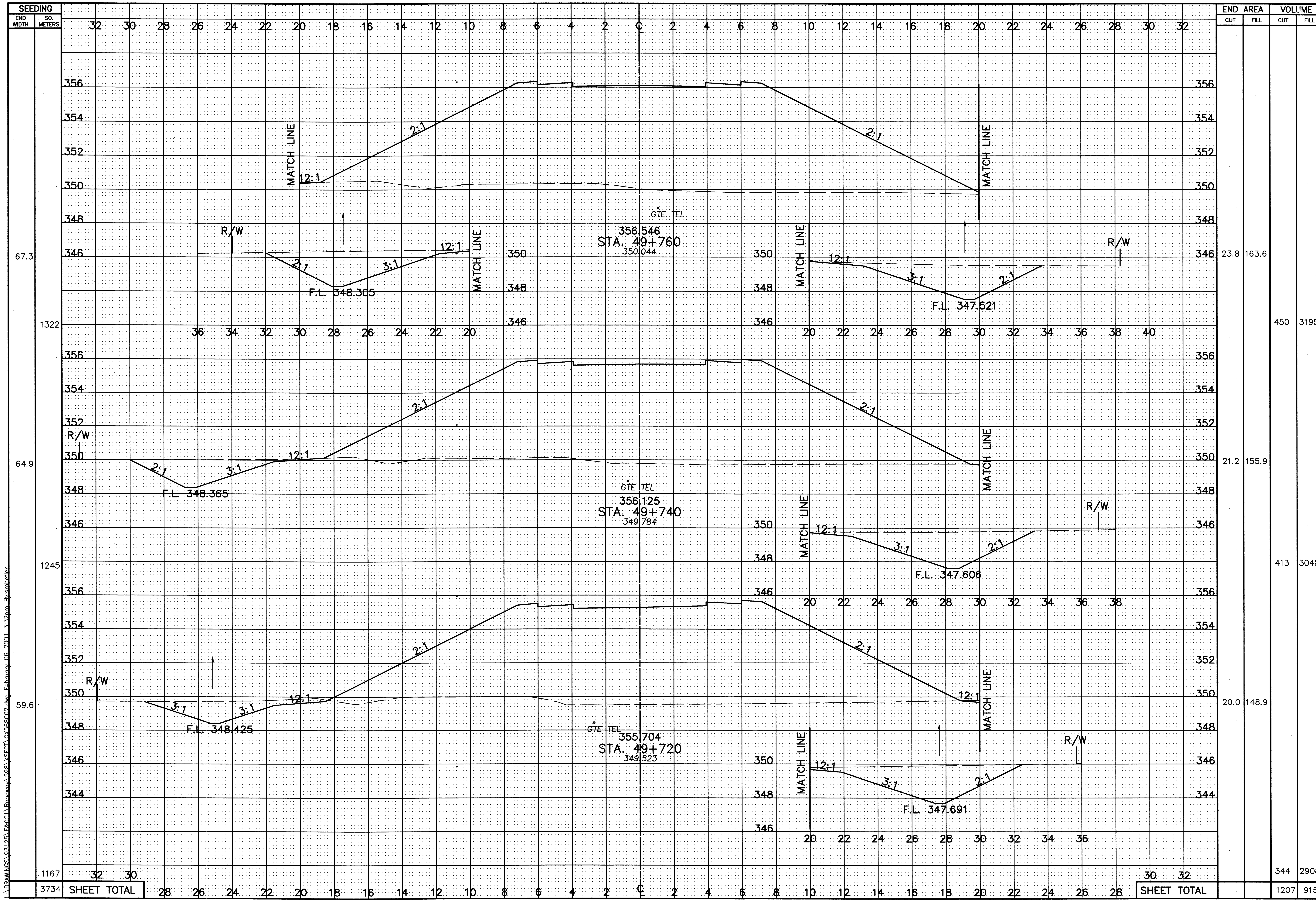


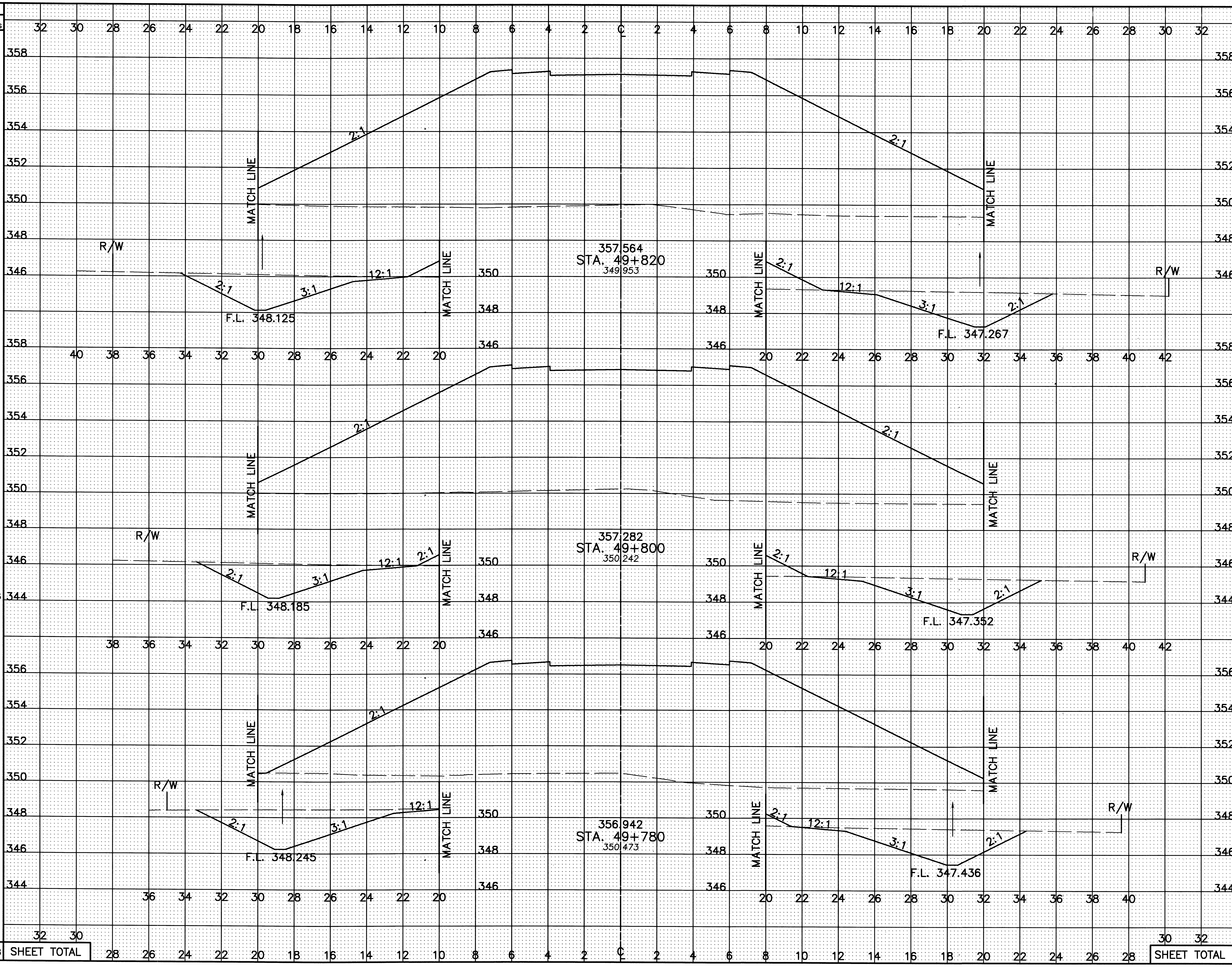
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - S.R. 598
STA. 49+720 TO STA. 49+760

CRA-30-24.000

371
677

I:\DRAWINGS\93125\FA001\Roadway\598\XSECT\XS59202.dwg February 06, 2001 3:33pm By:smheller



SEEDING END WIDTH	SEEDING SQ. METERS
73.3	1431
69.8	1396
69.8	1371
SHEET TOTAL	4198

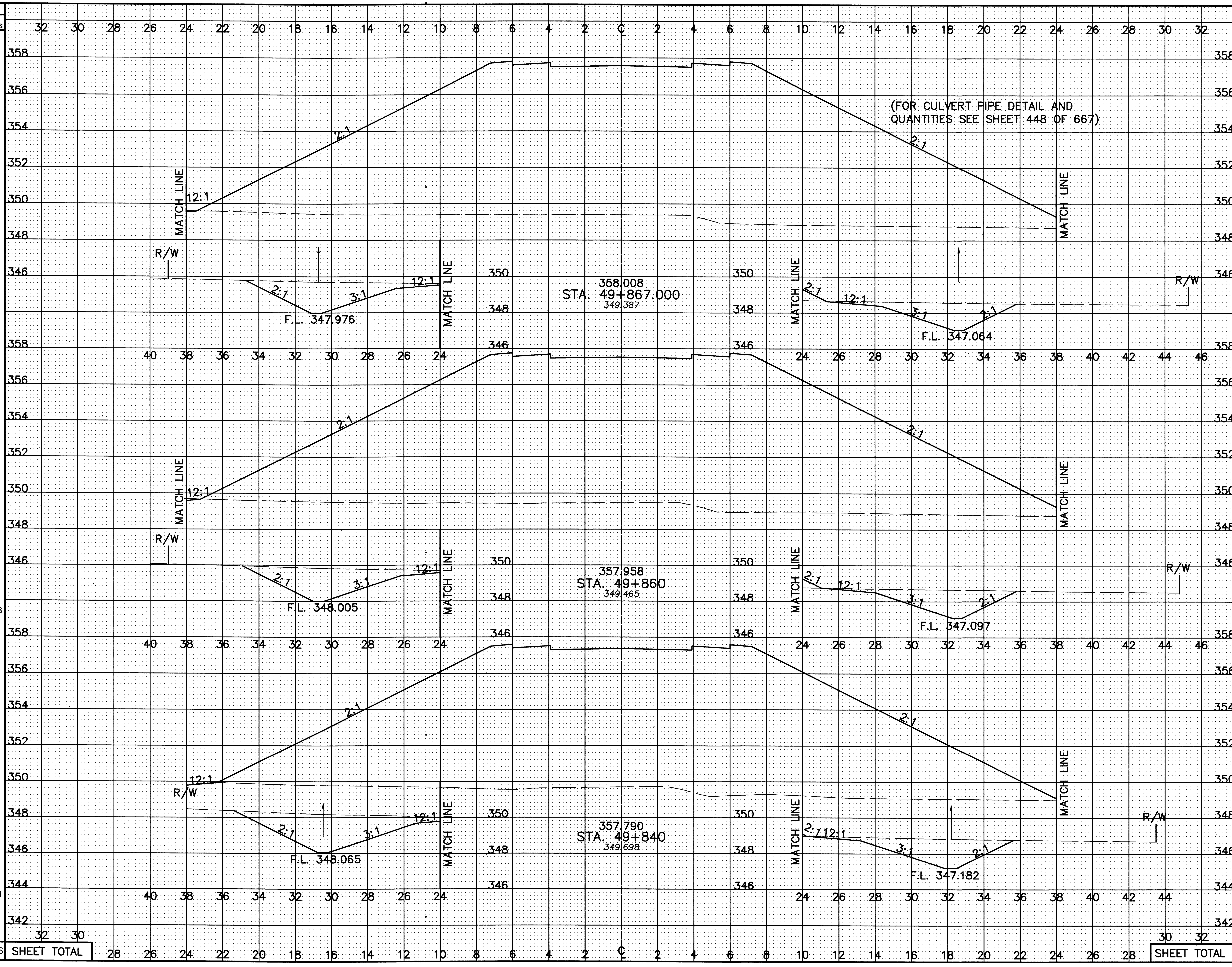
STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
49+820	21.9	222.8	434	4269
49+800	21.5	204.1	460	3829
49+780	24.6	178.8	483	3424
SHEET TOTAL			1377	11522

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+780 TO STA. 49+820

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
77.0		16.7	267.9		
	597			134	2055
77.0		18.0	262.0		
	1518			387	5054
74.8		20.8	243.4		
	1481			427	4662
SHEET TOTAL	3596			948	11771

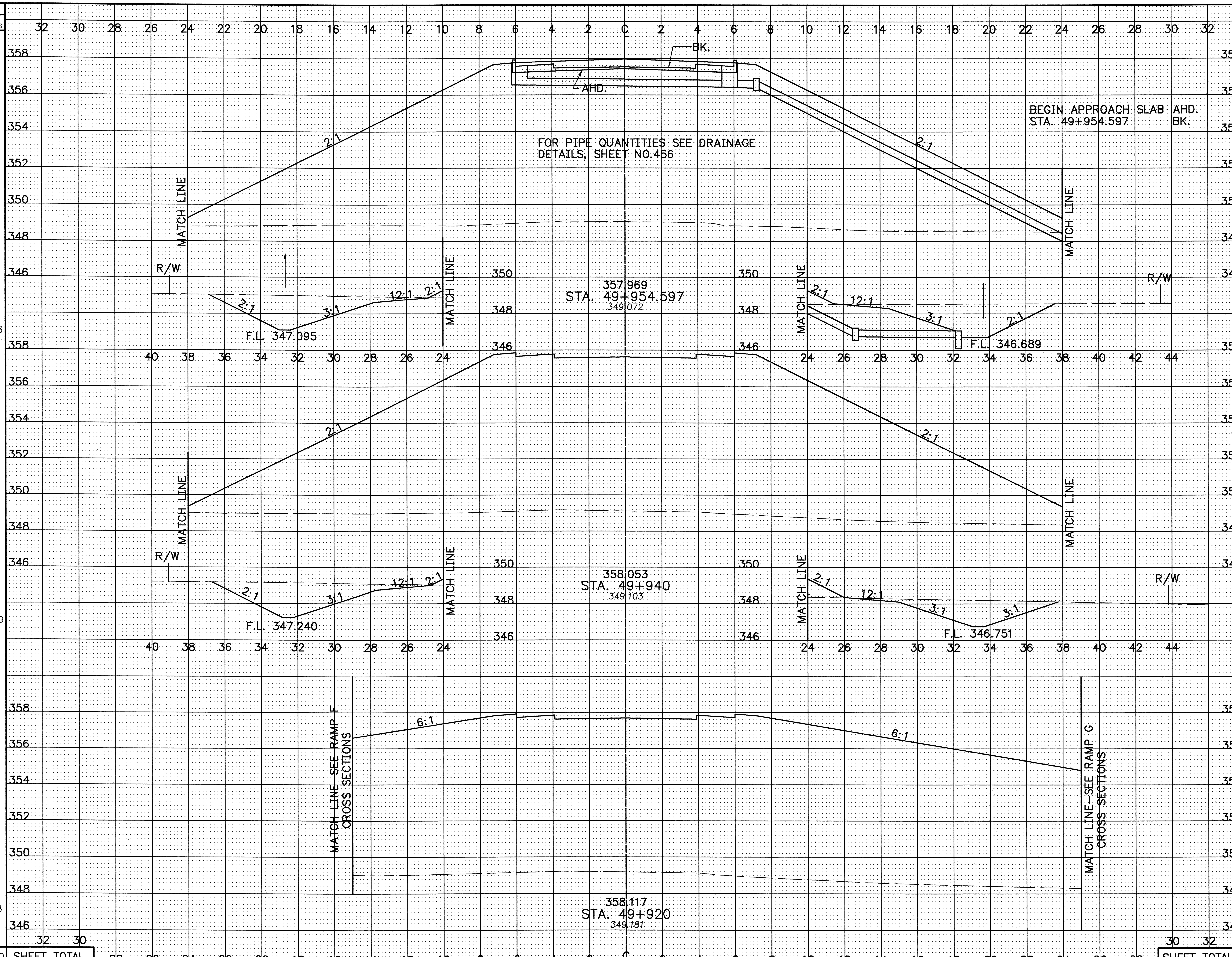


CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+840 TO STA. 49+867

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
7:1
18:1
MATCH LINE-SEE RAMP F CROSS SECTIONS
MATCH LINE-SEE RAMP G CROSS SECTIONS
358.129
STA. 49+907.716
349.203
324:1
19:1
358.125
STA. 49+900
349.214
2:1
2:1
MATCH LINE
358.069
STA. 49+880
349.257
12:1
3:1
3:1
R/W
F.L. 347.012
33.1
267
36.0
848
48.7
818
1933
SHEET TOTAL
0
384.7
0
3085
0
415
67
6937
6.7
278.7
152
3553
219
13575
SHEET TOTAL
CROSS-SECTIONS - S.R. 598
STA. 49+880 TO STA. 49+907.716
CRA-30-24.000
374
677



SEEDING END WIDTH	SEEDING SQ. METERS
76.1	1143
80.5	1089
28.4	378
	2610

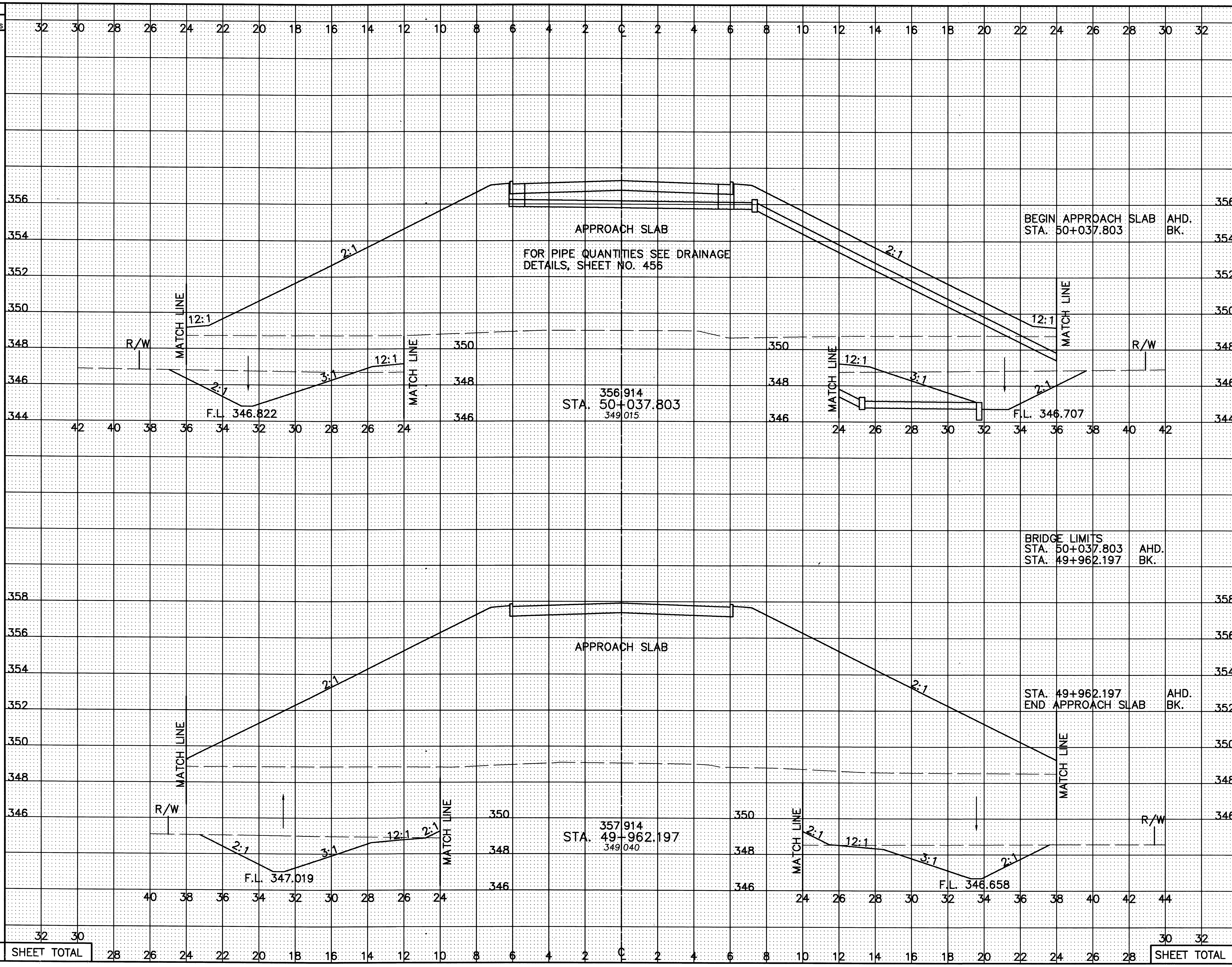
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20.1	280.5		
20.1	283.2		
		276	4150
17.7	285.4		
		339	5717
0	325.6		
		0	4363
		615	14 230

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+920 TO STA. 49+954.597

CRA-30-24.000

SEEDING	
END WIDTH	SQ. METERS
72.7	
76.1	578
SHEET TOTAL	578



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22.6 / 0	234.7 / 0		
0 / 22.4	0 / 280.2	162	2131
SHEET TOTAL		162	2131

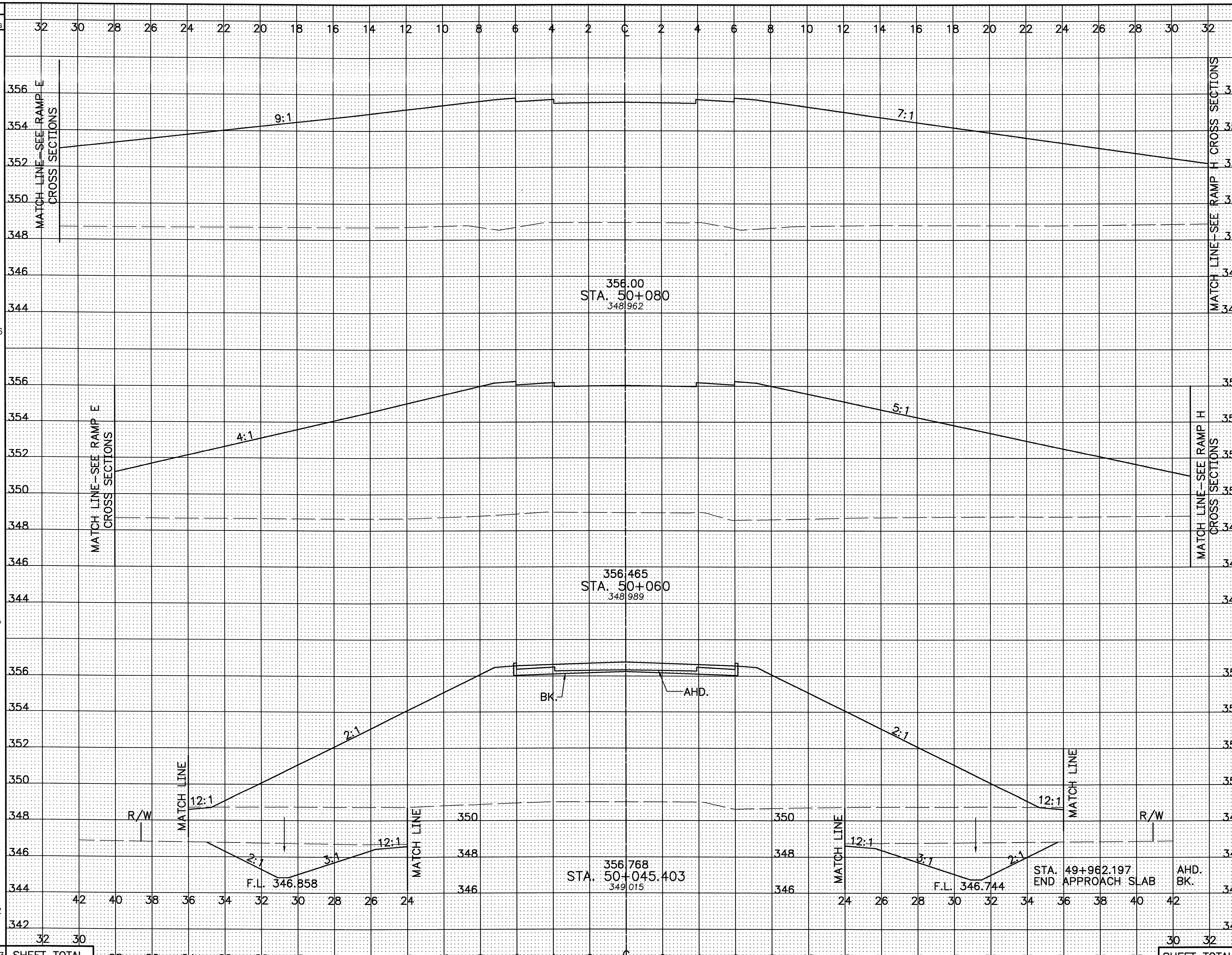
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 49+962.197 TO STA. 50+037.803

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\598\XSECT\GX574BC02.dwg June 24 2003 9:59am By:Phil

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51.4		STA. 50+080	0	359		
	1096				0	6820
58.2		STA. 50+060	0	323		
	955				163	4011
72.7		STA. 50+045.403	22.3 / 22.3	226.6 / 223.9		
	552				171	1743
	2603	SHEET TOTAL			334	12574

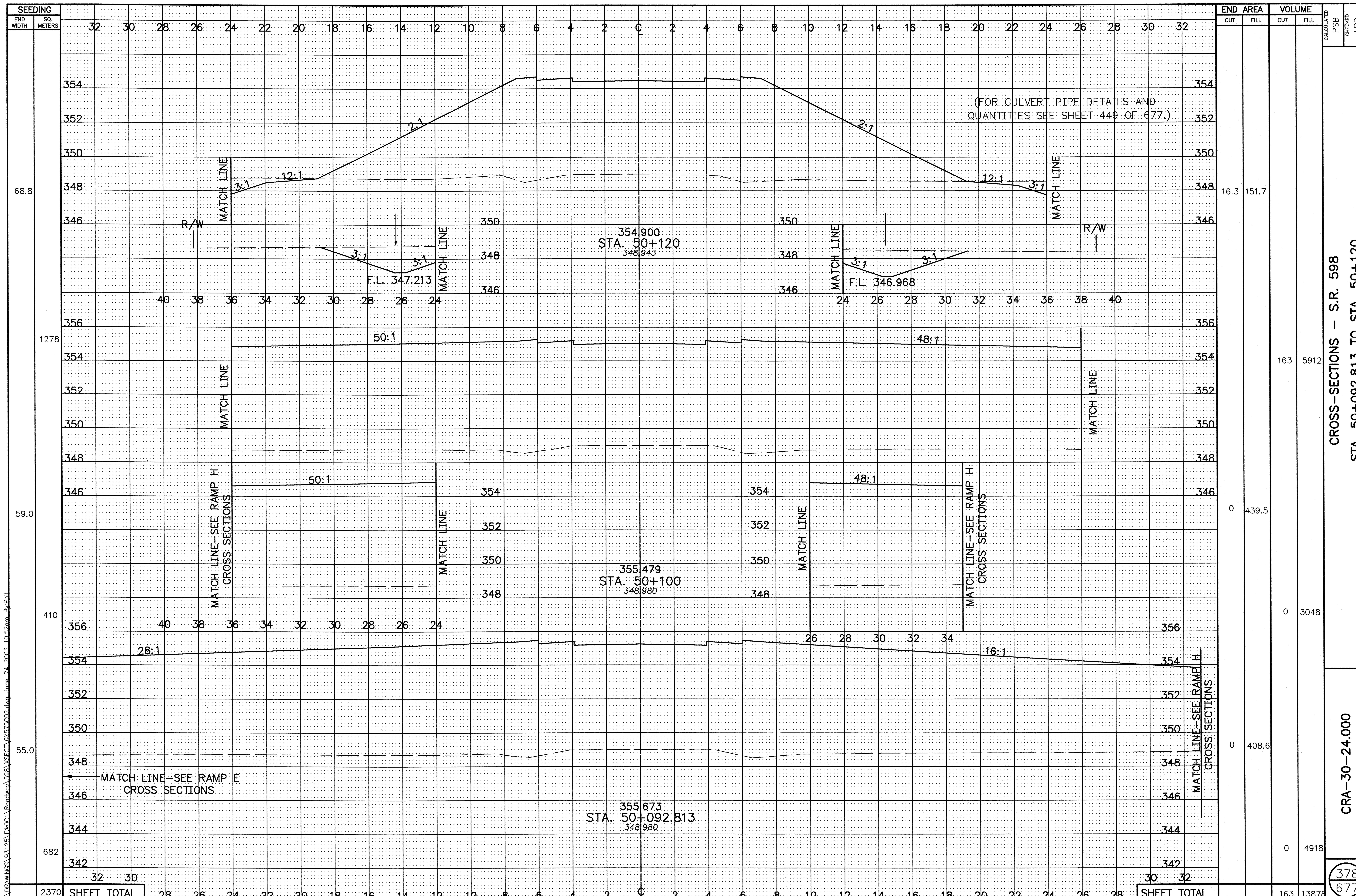


CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 50+045.403 TO STA. 50+080

CRA-30-24.000

377
677

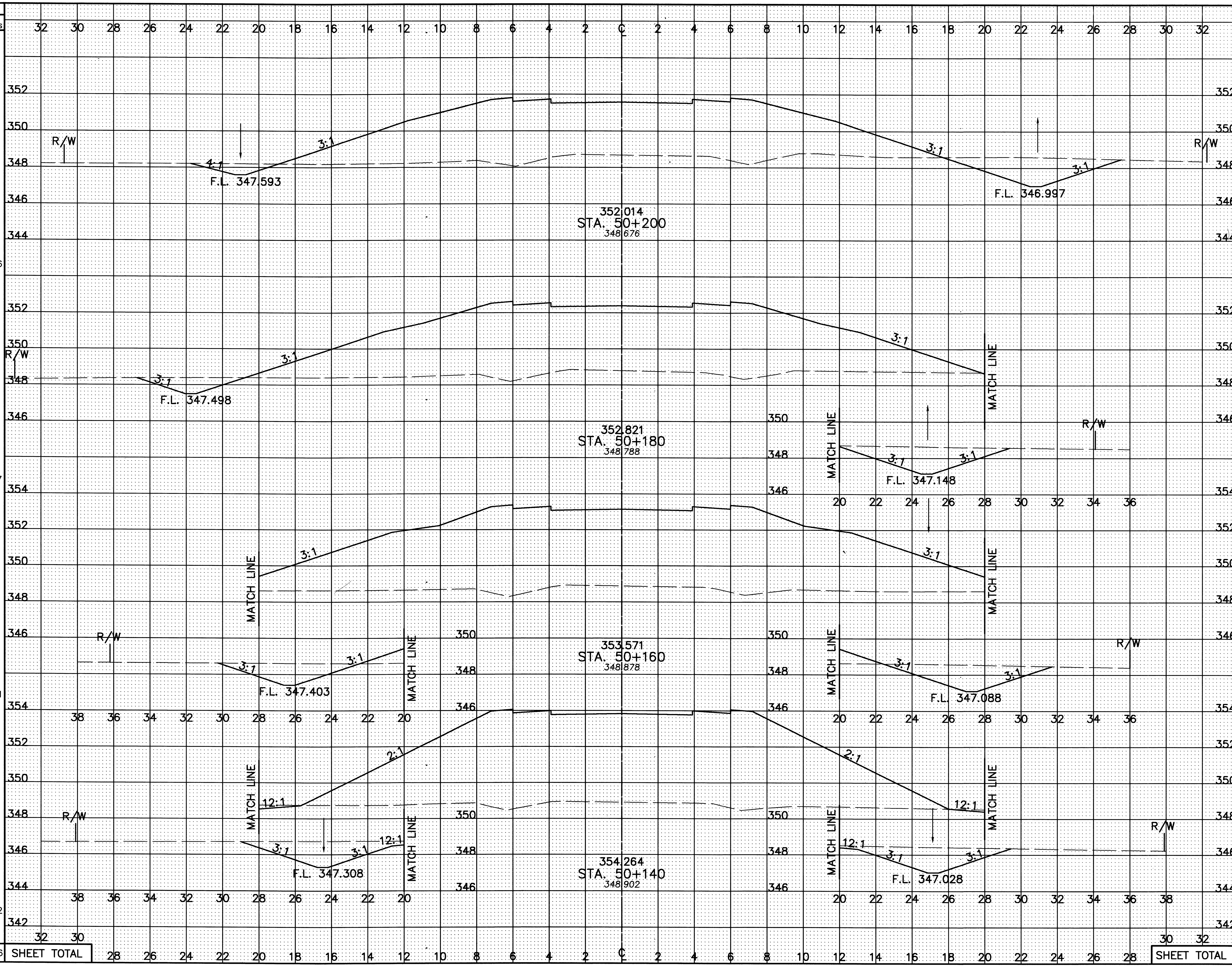


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
(FOR CULVERT PIPE DETAILS AND QUANTITIES SEE SHEET 449 OF 677.)
R/W
MATCH LINE
2:1
12:1
3:1
F.L. 347.213
F.L. 346.968
354.900
STA. 50+120
348.943
68.8
16.3
151.7
1278
163
5912
50:1
48:1
MATCH LINE-SEE RAMP H CROSS SECTIONS
355.479
STA. 50+100
348.980
59.0
0
439.5
410
0
3048
28:1
16:1
MATCH LINE-SEE RAMP E CROSS SECTIONS
355.673
STA. 50+092.813
348.980
55.0
0
408.6
682
0
4918
2370
SHEET TOTAL
163
13878
CROSS-SECTIONS - S.R. 598
STA. 50+092.813 TO STA. 50+120
CRA-30-24.000
378
677

CROSS-SECTIONS – S.R. 598
STA. 50+140 TO STA. 50+200

CRA-30-24.000

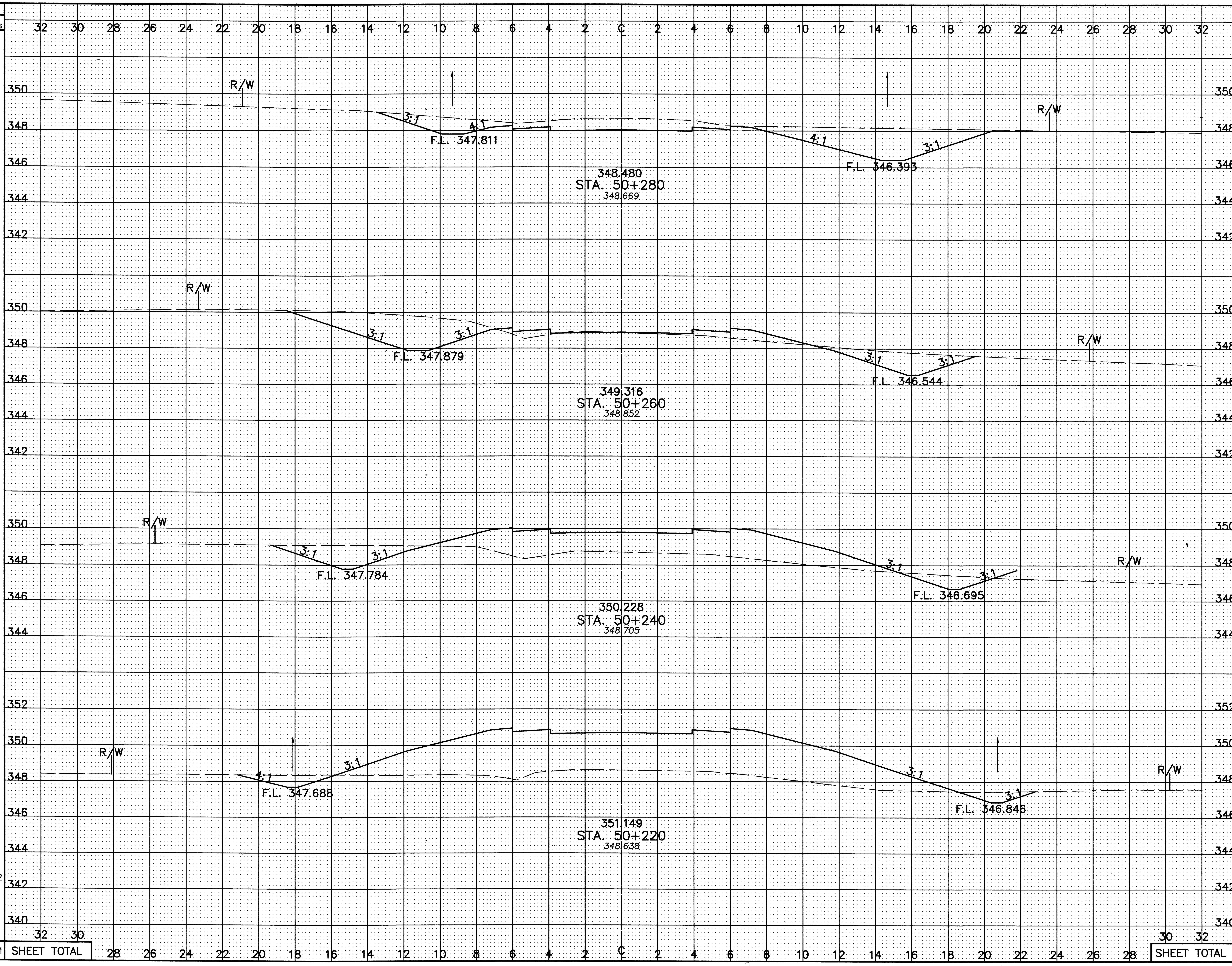
CALCULATED PSB
CHECKED LBD



SEEDING END WIDTH	SEEDING SQ. METERS
52.6	
	1096
57.0	
	1197
62.7	
	1301
67.4	
	1362
SHEET TOTAL	4956

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9.9	83.6		
		198	1918
10.0	108.2		
		211	2449
11.1	136.7		
		252	2655
14.1	128.8		
		51	477
SHEET TOTAL		712	7499

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.3		STA. 50+280	21.7	0.0		
	715				395	34
38.2		STA. 50+260	17.8	3.4		
	810				260	302
42.8		STA. 50+240	8.2	26.8		
	904				117	877
47.6		STA. 50+220	3.5	60.9		
	1002				133	1445
SHEET TOTAL	3431				905	2658



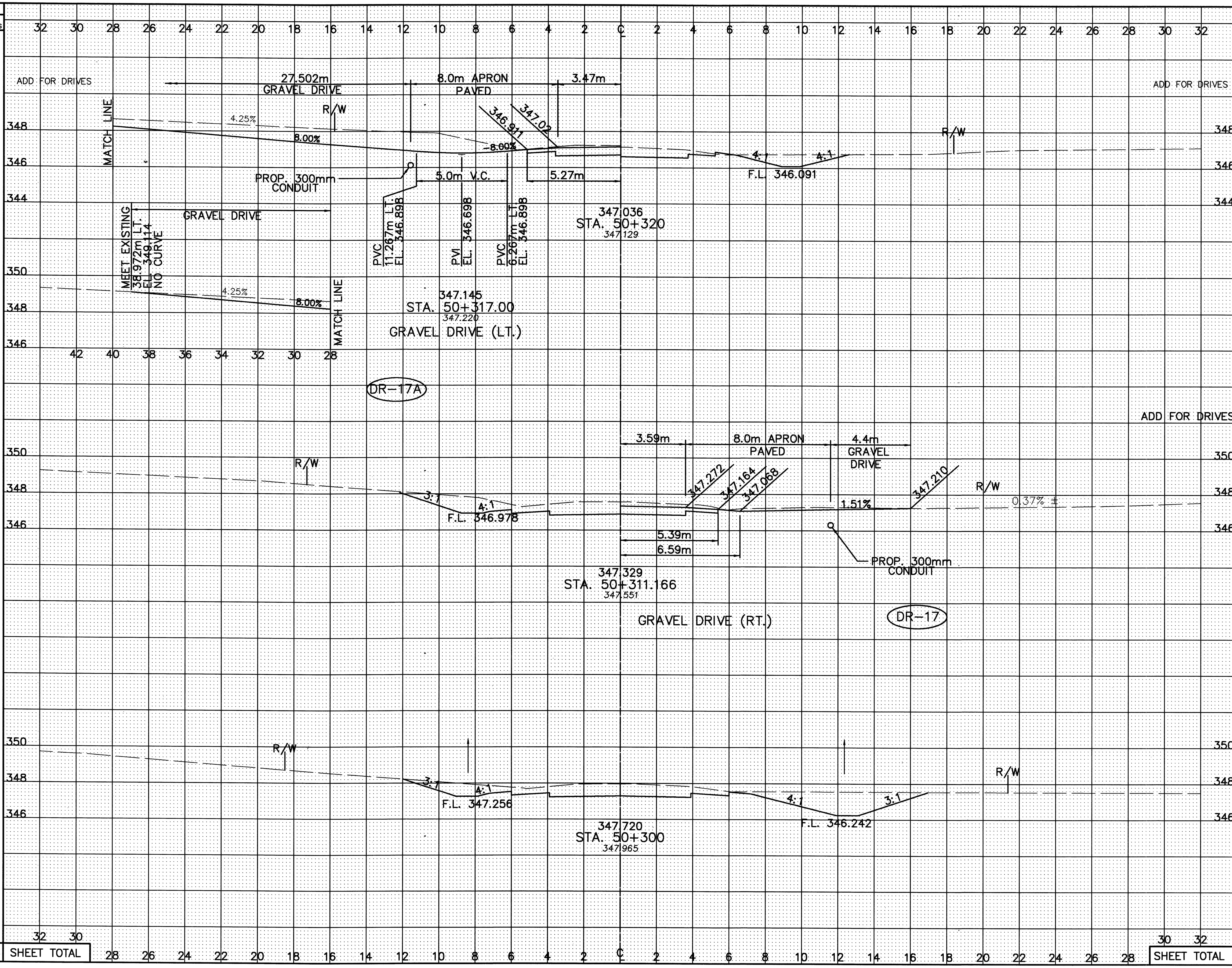
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 50+220 TO STA. 50+280

CRA-30-24.000

380
677

SEEDING END WIDTH	SEEDING SQ. METERS
12.3	25
24.0	
	250
25.9	
	272
28.4	
	617
	1164



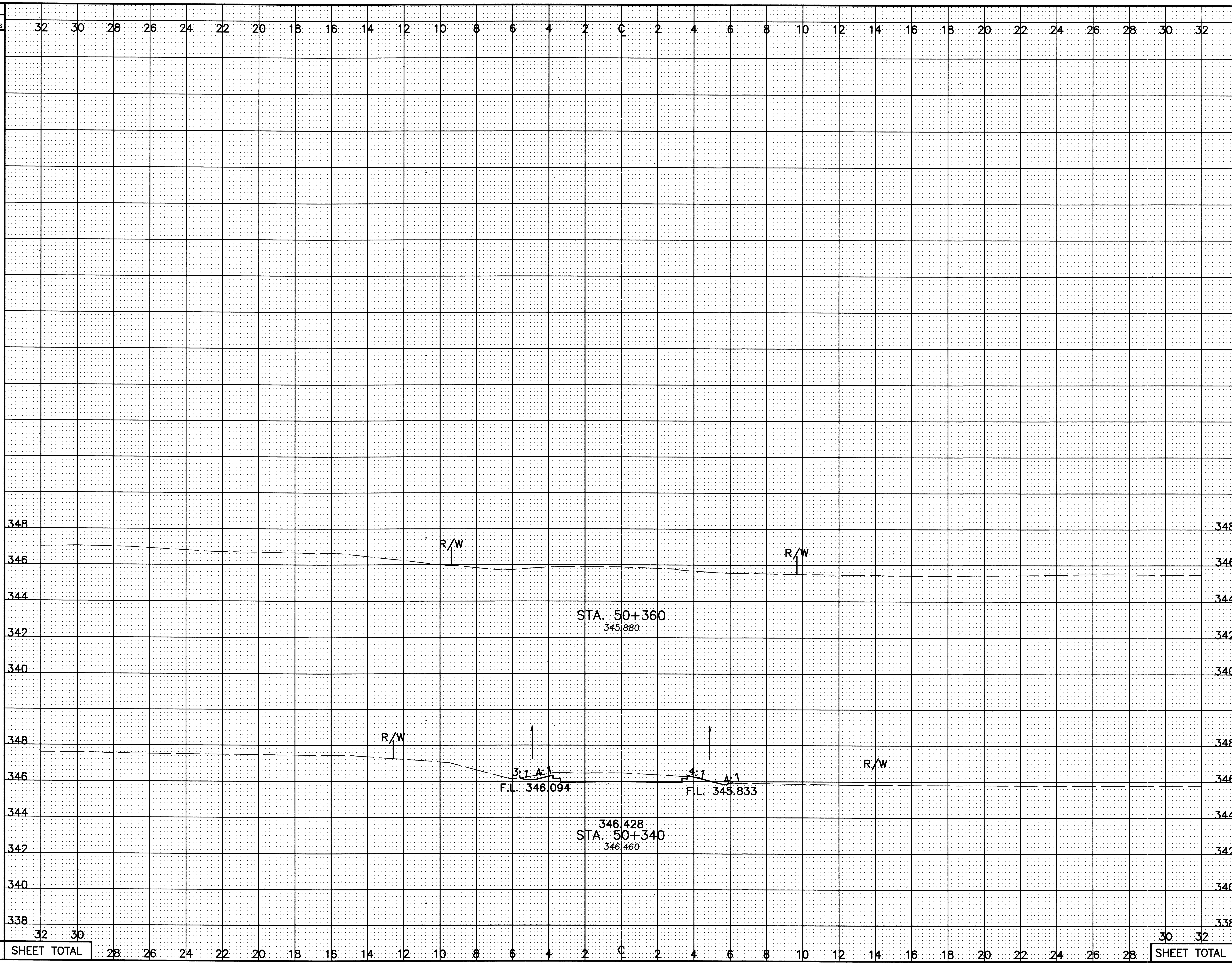
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
2.8	0.0	10	0
8.7	0.1		
		117	0
2.8	0.0	10	0
14.7	0.0		
		157	0
16.7	0.0		
		384	0
		678	0

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – S.R. 598
STA. 50+300 TO STA. 50+320

CRA-30-24.000

381
677



SEEDING	
END WIDTH	SQ. METERS
19.4	
	364
	364

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0.0	0.0		
		35	1
3.5	0.1		
		91	1
		126	2

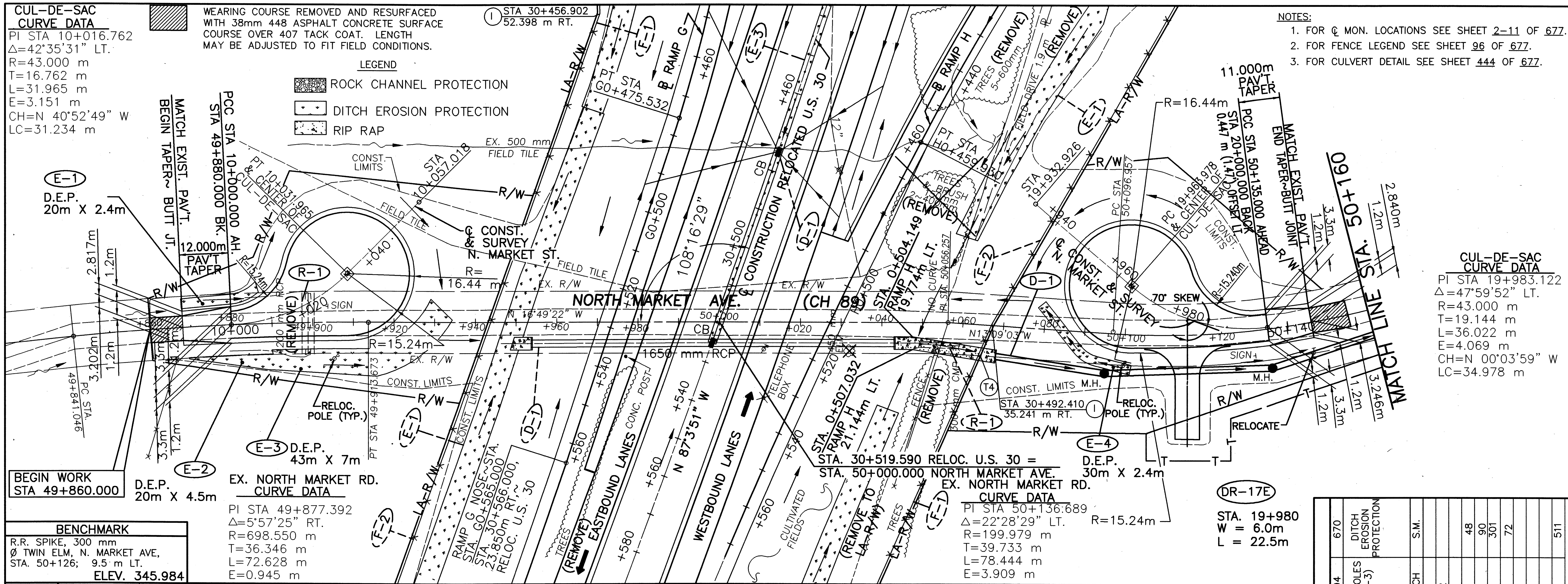
CALCULATED PSB
CHECKED LBD

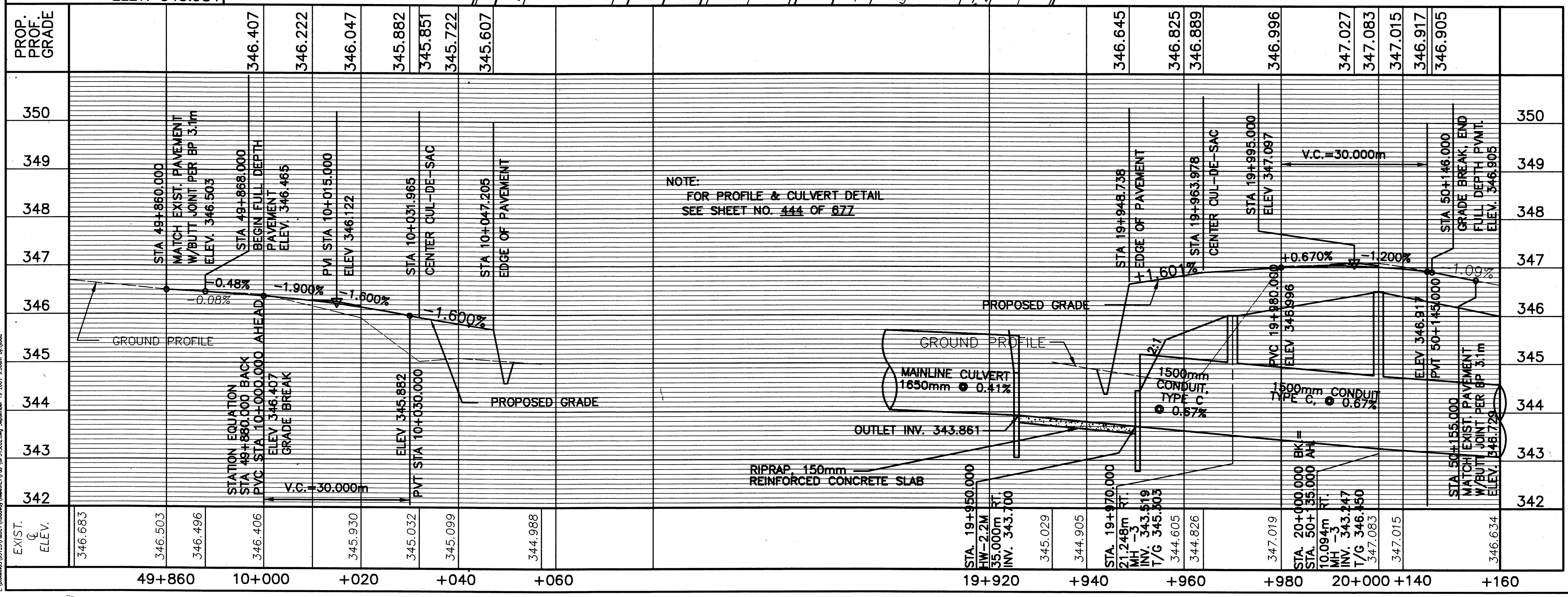
CROSS-SECTIONS – S.R. 598
STA. 50+340 TO STA. 50+360

CRA-30-24.000

382/677

J:\DRAWINGS\93125\E&0C1\Roadway\598\XSECT\0X579002.dwg February 06, 2001 3:37pm By:smbeller





REF. No.	SIDE	STATION FROM	STATION TO	203 PIPE REMOVED OVER 600mm (METER)	601 RIPRAP, USING 150mm REINFORCED CONCRETE SLAB (S.M.)	602 CONCRETE MASONRY (C.M.)	603 1500mm CONDUIT TYPE C, 706.02 (METER)	604 MANHOLES (MH-3) (EACH)	670 DITCH EROSION PROTECTION (S.M.)
D-1	RT	19+950±	50+160.000		98.8	2.40	95.31	2	
E-1	LT	49+868.000	10+009.000						48
E-2	RT	49+869.000	10+008.000						90
E-3	RT	10+008.008	10+042.000						301
E-4	RT	19+950.000	19+974.000						72
R-1	RT	10+014.000	10+021.000	16.0					
TOTALS CARRIED TO SUB-SUMMARY				16.0	98.8	2.40	95.31	2	511

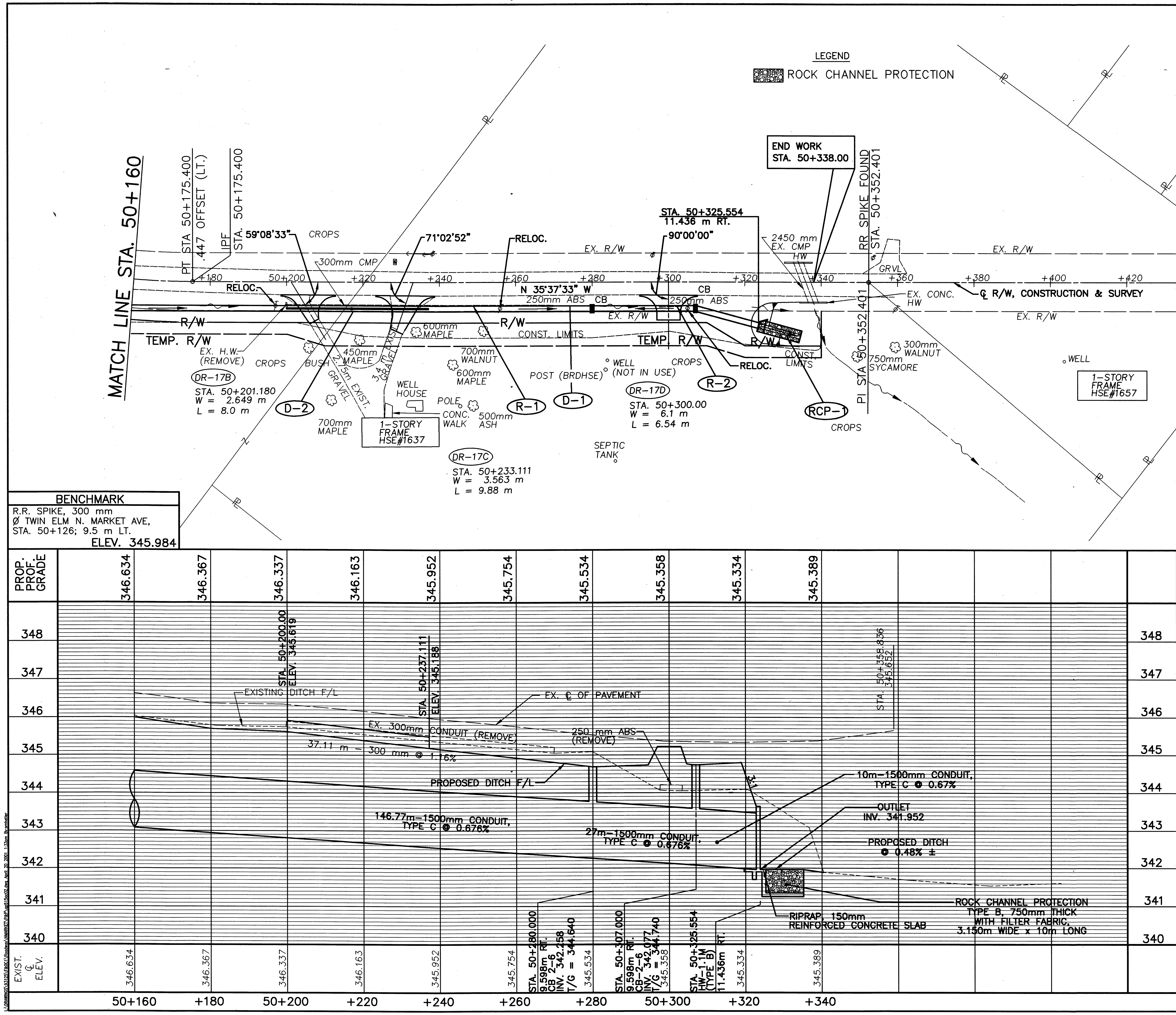
ESTIMATED QUANTITIES

HORIZONTAL SCALE: 1:500
SCALE IN METERS

CALCULATED CLB\JFB
CHECKED LBD

PLAN & PROFILE – NORTH MARKET ROAD STA. 49+860.000 TO STA. 50+160.000

CRA-30-24.000



ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	601 ROCK CHANNEL PROTECTION, TYPE B, W/FILTER (C.M.)	601 RIPRAP, USING 150mm REINFORCED CONCRETE SLAB (S.M.)	602 CONCRETE MASONRY (C.M.)	603 1500mm CONDUIT TYPE C, 706.02 (METER)	603 300mm CONDUIT TYPE D	604 CATCH BASINS (CB 2-6) (EACH)	604 MANHOLES (MH-3) (EACH)
D-1	RT	50+160.000	50+325.554			4.8	9.48	157.0		1	1
D-2	RT	50+200.000	50+237.111						37.1		
R-1	RT	50+200.000	50+268.827	69.9							
R-2	RT	50+297.621	50+303.421	6.0							
RCP-1	RT	50+325.00	50+335.00		23.63						
TOTALS CARRIED TO SUB-SUMMARY				75.9	23.63	4.8	9.48	157.0	37.1	1	1

metric units

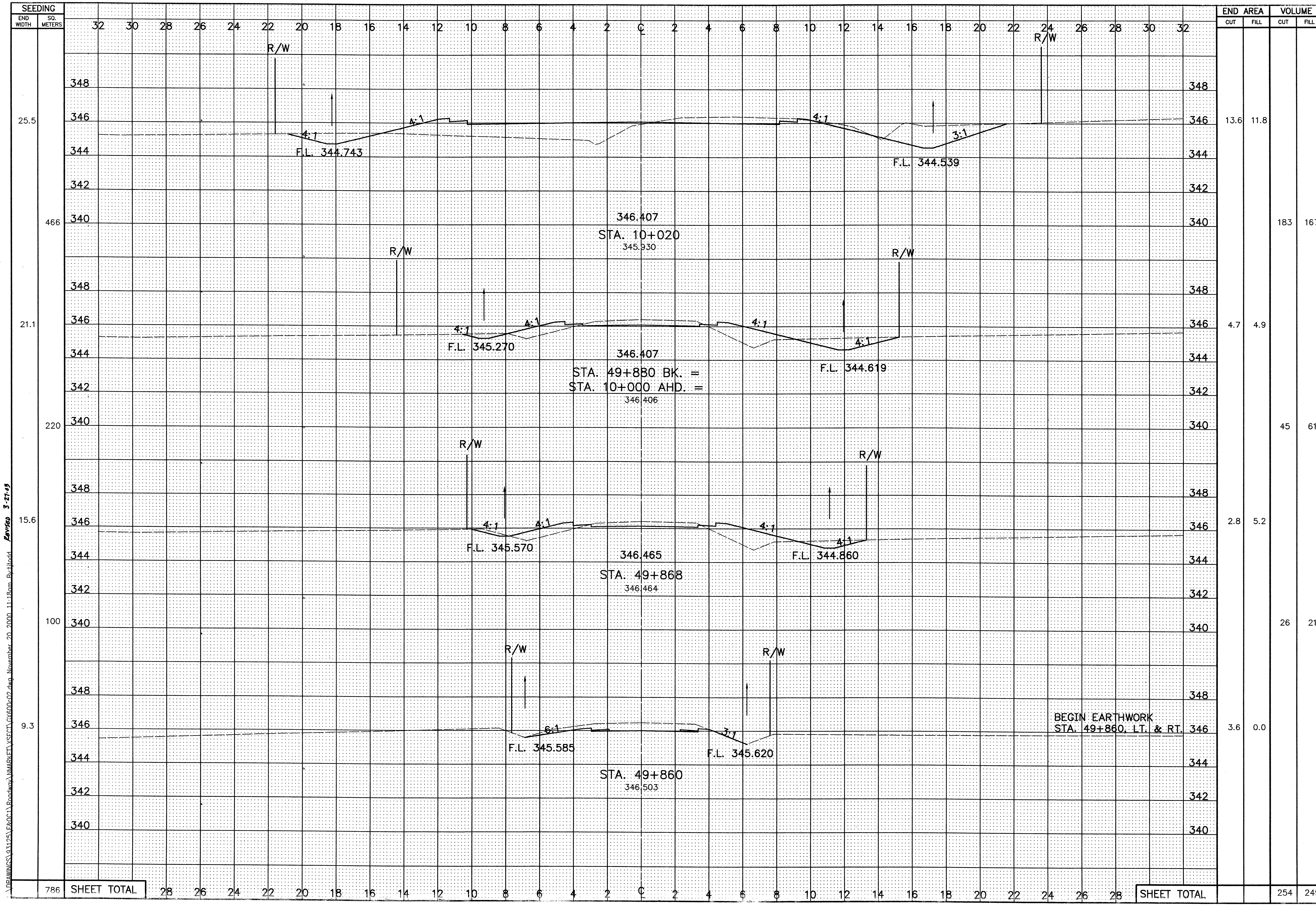
HORIZONTAL SCALE: 1:500
0 5 10 20
SCALE IN METERS

CALCULATED JFB/CLB
CHECKED LBD

PLAN & PROFILE – NORTH MARKET ROAD
STA. 50+160 TO STA. 50+360.000

CRA-30-24.000

383A
677



CALCULATED PSB
CHECKED FF

CROSS-SECTIONS – NORTH MARKET ROAD (C.H. 89)
STA. 49+860 TO STA. 10+020

CRA-30-24.000

384
677

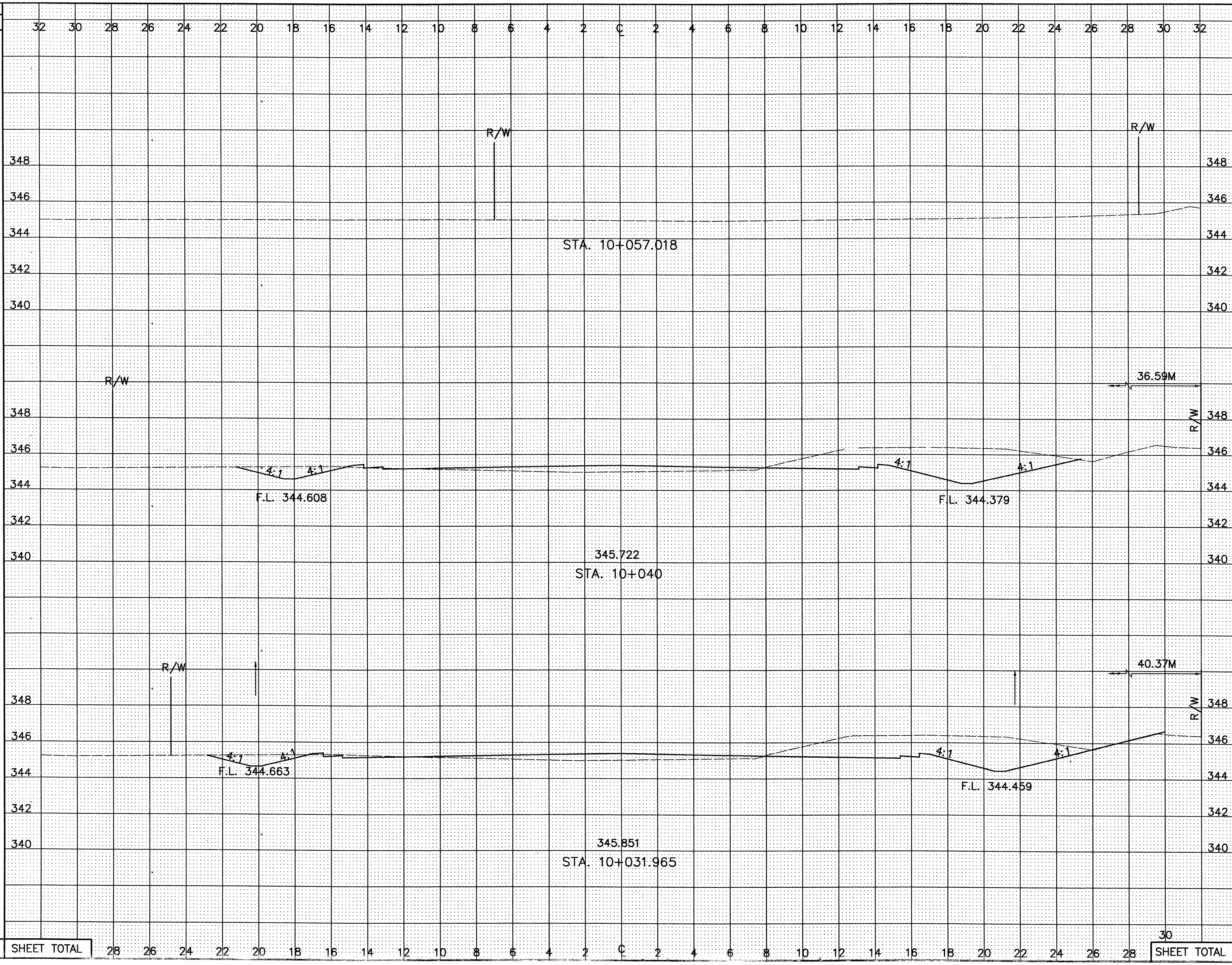
CROSS-SECTIONS – NORTH MARKET ROAD (C.H. 89)

STA. 10+031.965 TO STA. 10+057.018

CRA-30-24.000

CALCULATED PSB CHECKED FF

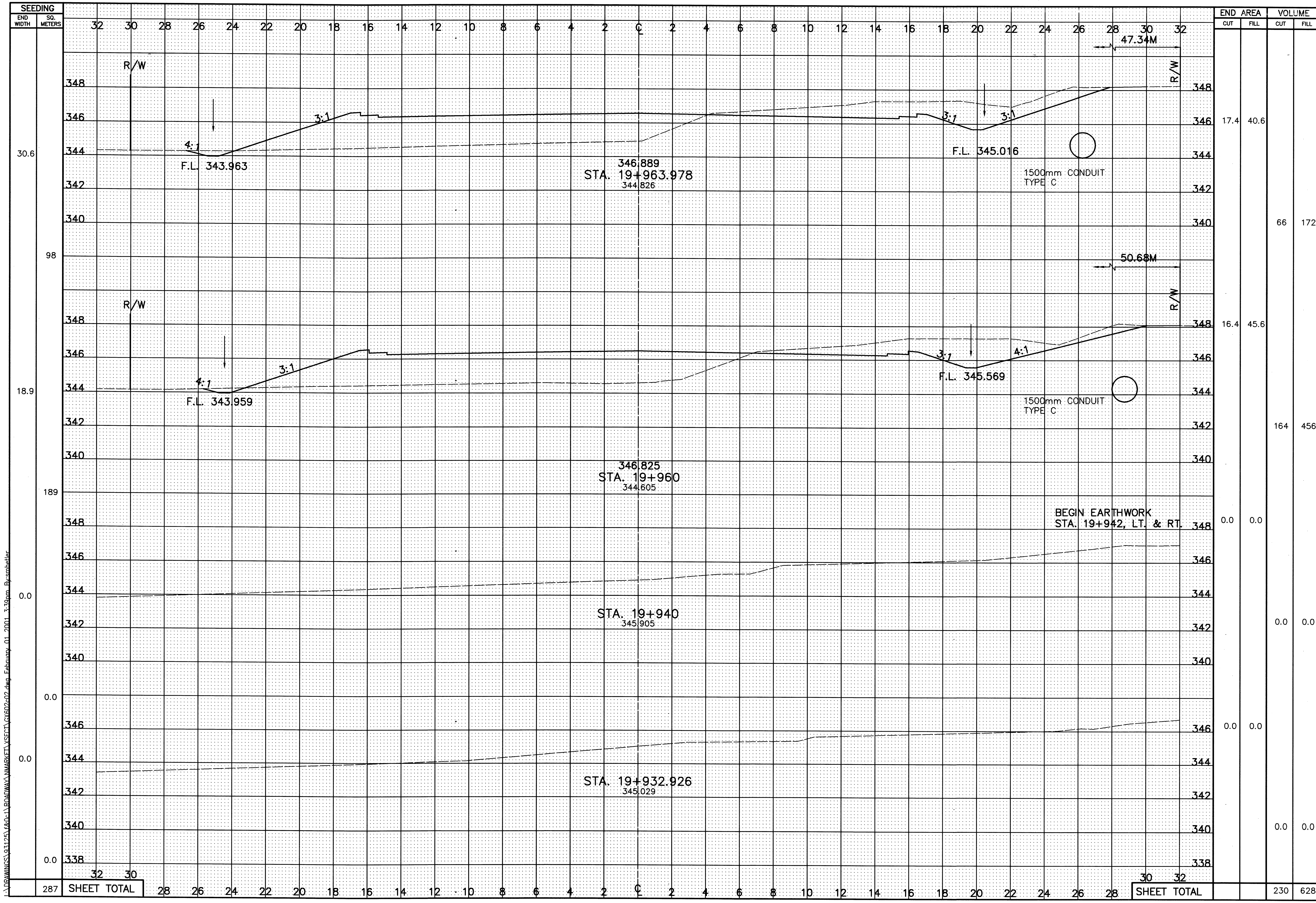
SEEDING END WIDTH	SEEDING SQ. METERS
0.0	
	312
36.7	
	278
32.4	
	346
SHEET TOTAL	936



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0.0	0.0		
		194	40
22.8	4.7		
		190	38
24.6	4.8		
		229	99
SHEET TOTAL		613	177

Revised 3-27-03

384A
677



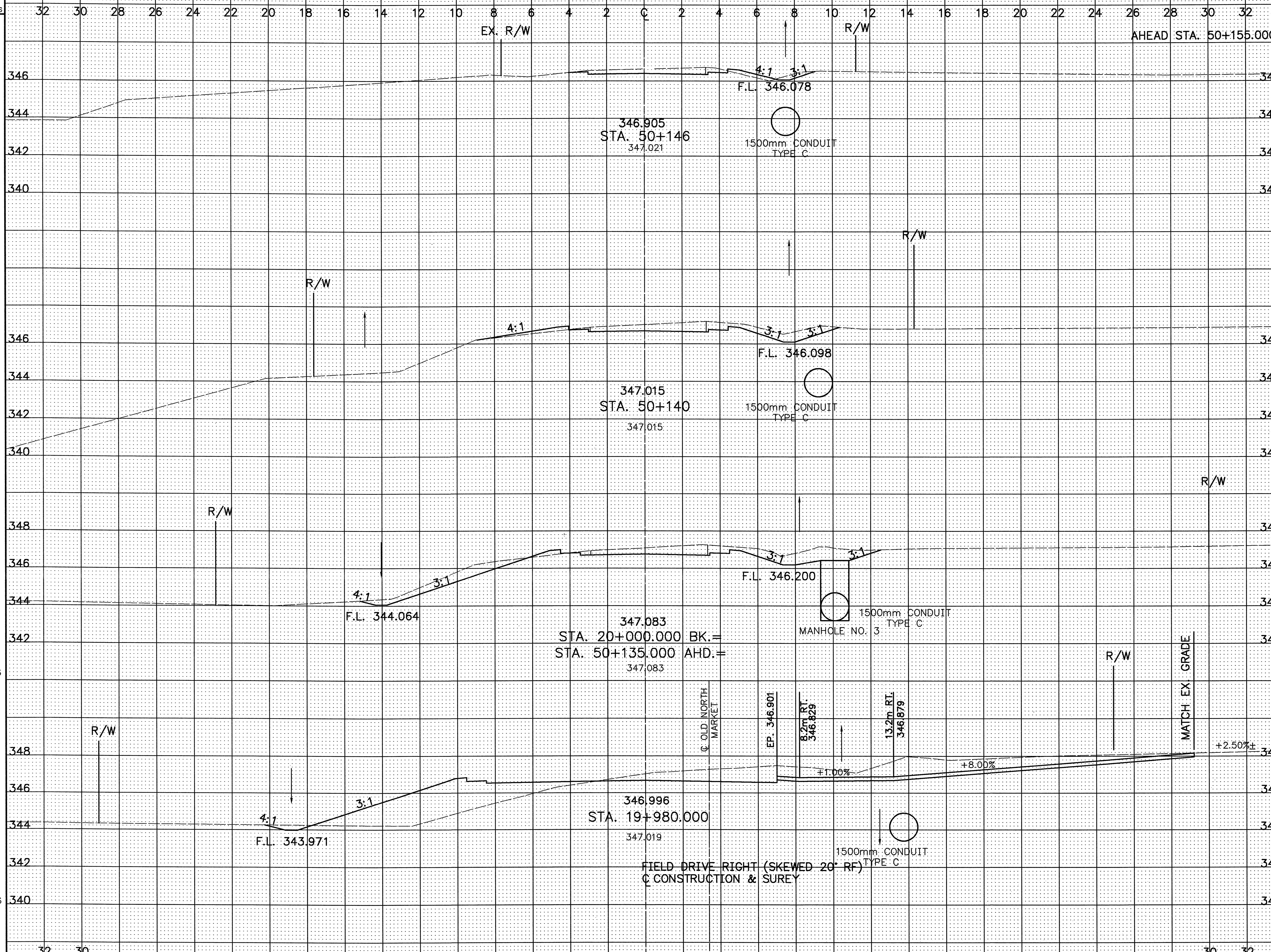
CALCULATED JAC
CHECKED FJB

CROSS-SECTIONS – NORTH MARKET ROAD (C.H.-89)
STA. 19+932.926 TO STA. 19+963.978

CRA-30-24.000

385
677

I:\DRAWINGS\93125\4&0\ROADWAY\NMARKET\SECT\GY602-02.dwg February 01, 2001 3:39pm By:smheller



SEEDING END WIDTH	SEEDING SQ. METERS
7.1	
	137
11.1	
	74
18.4	
	386
20.2	
	406
SHEET TOTAL	1003

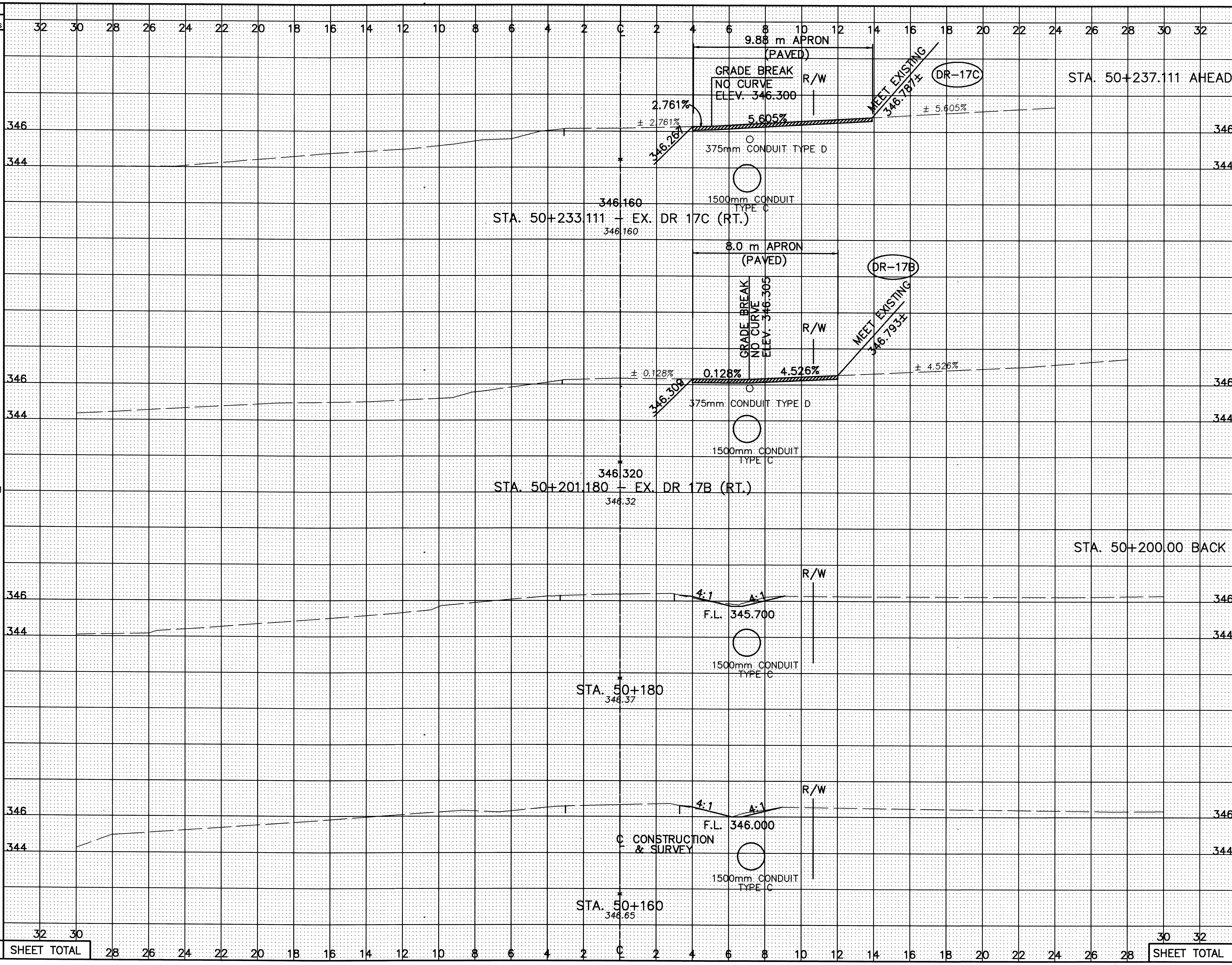
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
2.3	0.7		
		25	4
3.2	.2		
		24	2
4.9	0.6		
		35	2
9.8	0.3		
		273	153
17.5	15.0		
		280	445
SHEET TOTAL		637	606

CALCULATED JAG
CHECKED FJB

CROSS-SECTIONS – NORTH MARKET ROAD (C.H. 89)
STA. 19+980 TO STA. 50+146

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
0	
	0
0	
	77.31
7.3	
	135
6.2	
	93.1
	305



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0.5	0.2		
		20.5	1.7
1.9	0.0		
		53.4	0.0
1.6	0.0		
		1.2	0.2
0.41	0.3		
		8.5	4.0
0.44	0.10		
		6.6	10.6
0.22	0.05		
		90	17

CALCULATED JFB/FJB
CHECKED LBD

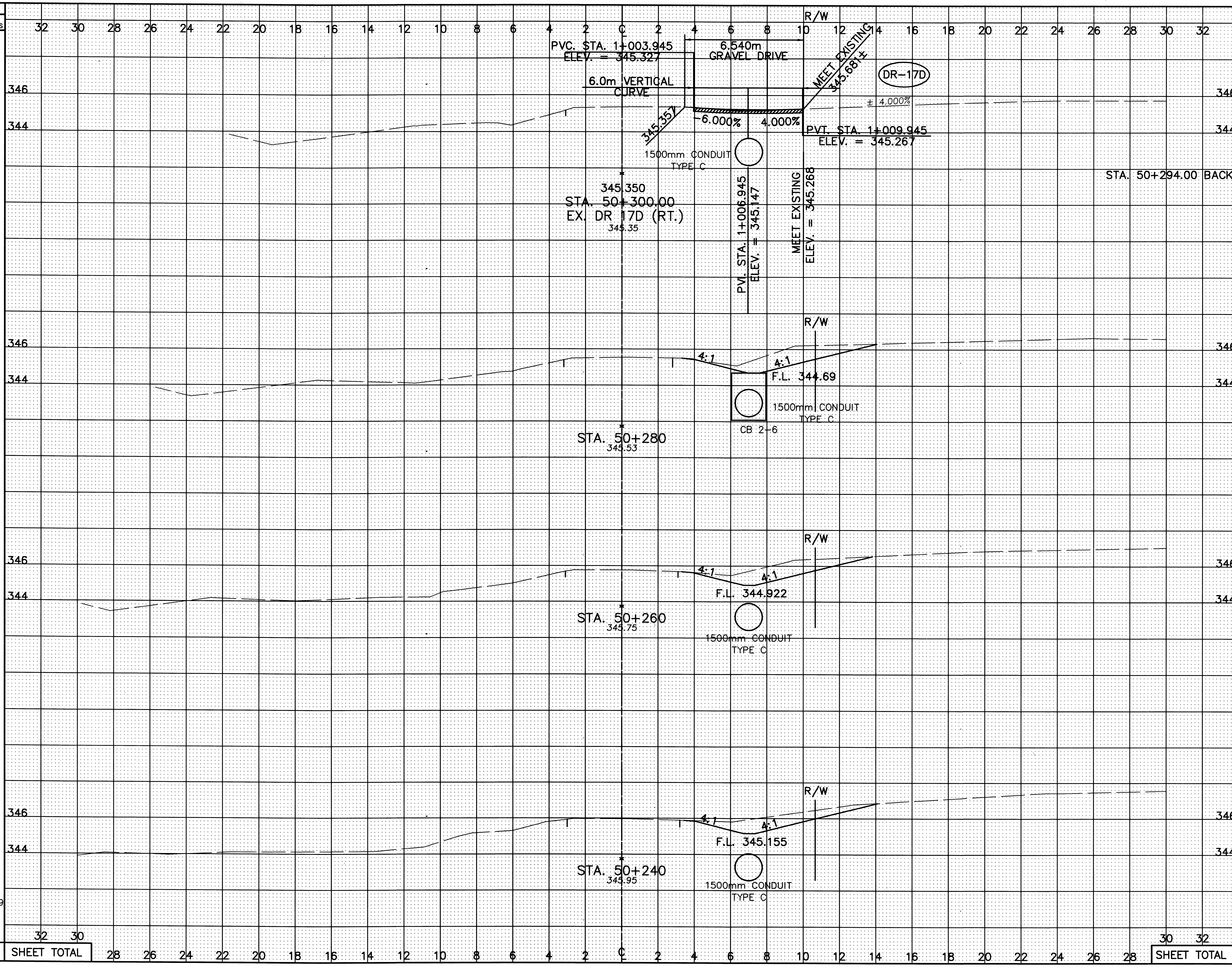
CROSS-SECTIONS – NORTH MARKET ROAD (C.H. 89)
STA. 50+160 TO STA. 50+233.111

CRA-30-24.000

385B / 677

CROSS-SECTIONS – NORTH MARKET ROAD (C.H. 89)
STA. 50+240 TO STA. 50+300

SEEDING END WIDTH	SEEDING SQ. METERS
0	
	112
11.2	
	450
11.3	
	223
11	
	37.89
SHEET TOTAL	823

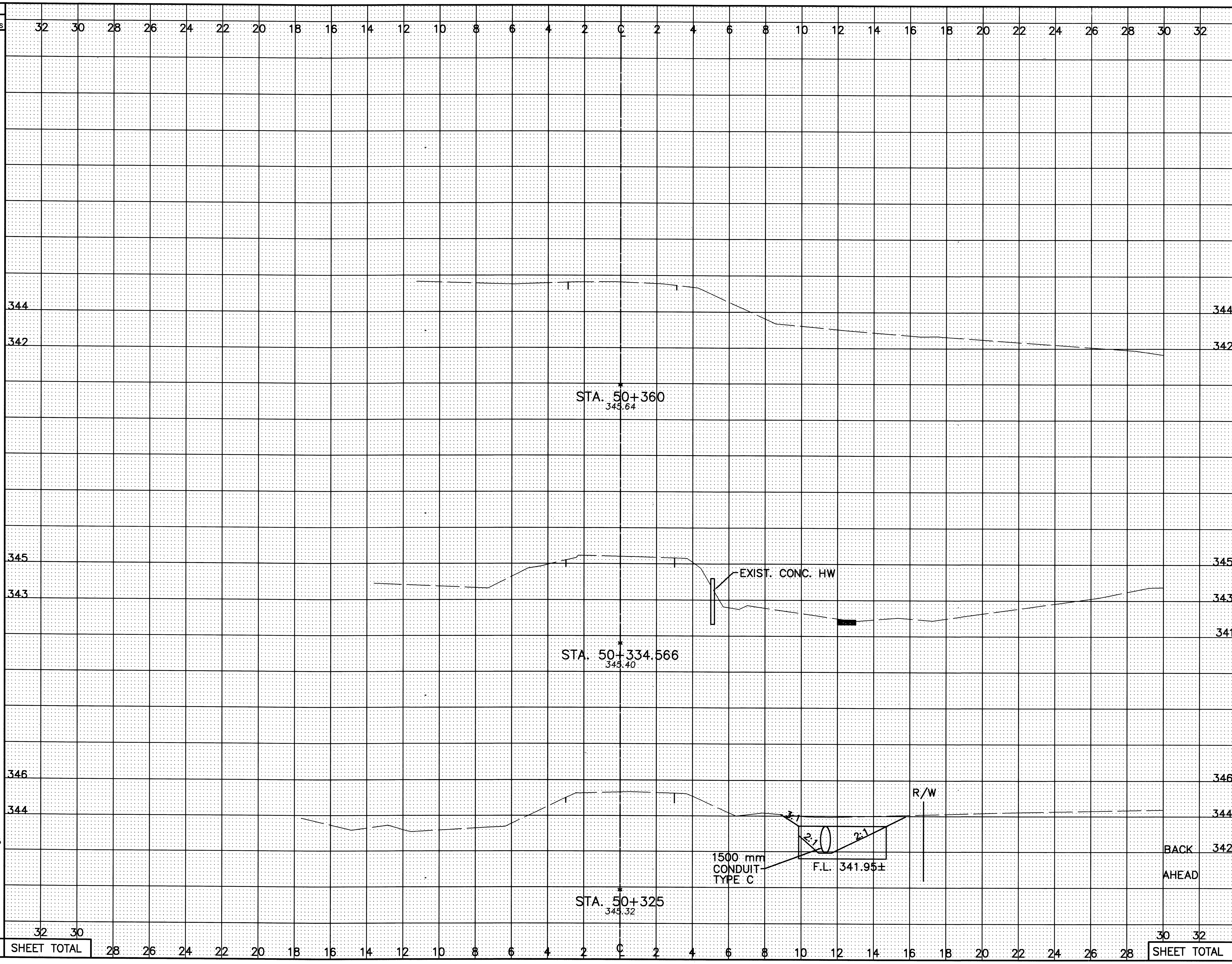


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1.2	.31		
		18.6	1.05
5.0	0.04		
		70.0	0.42
5.0	.02		
		100.0	0.2
5.0	0.0		
		94.0	0.0
4.4	0.0		
		63.0	0.0
SHEET TOTAL		346	2

CALCULATED PSB
CHECKED LBD

CRA-30-24.000

385C
677



SEEDING END WIDTH	SEEDING SQ. METERS
7.5	93.75
	94

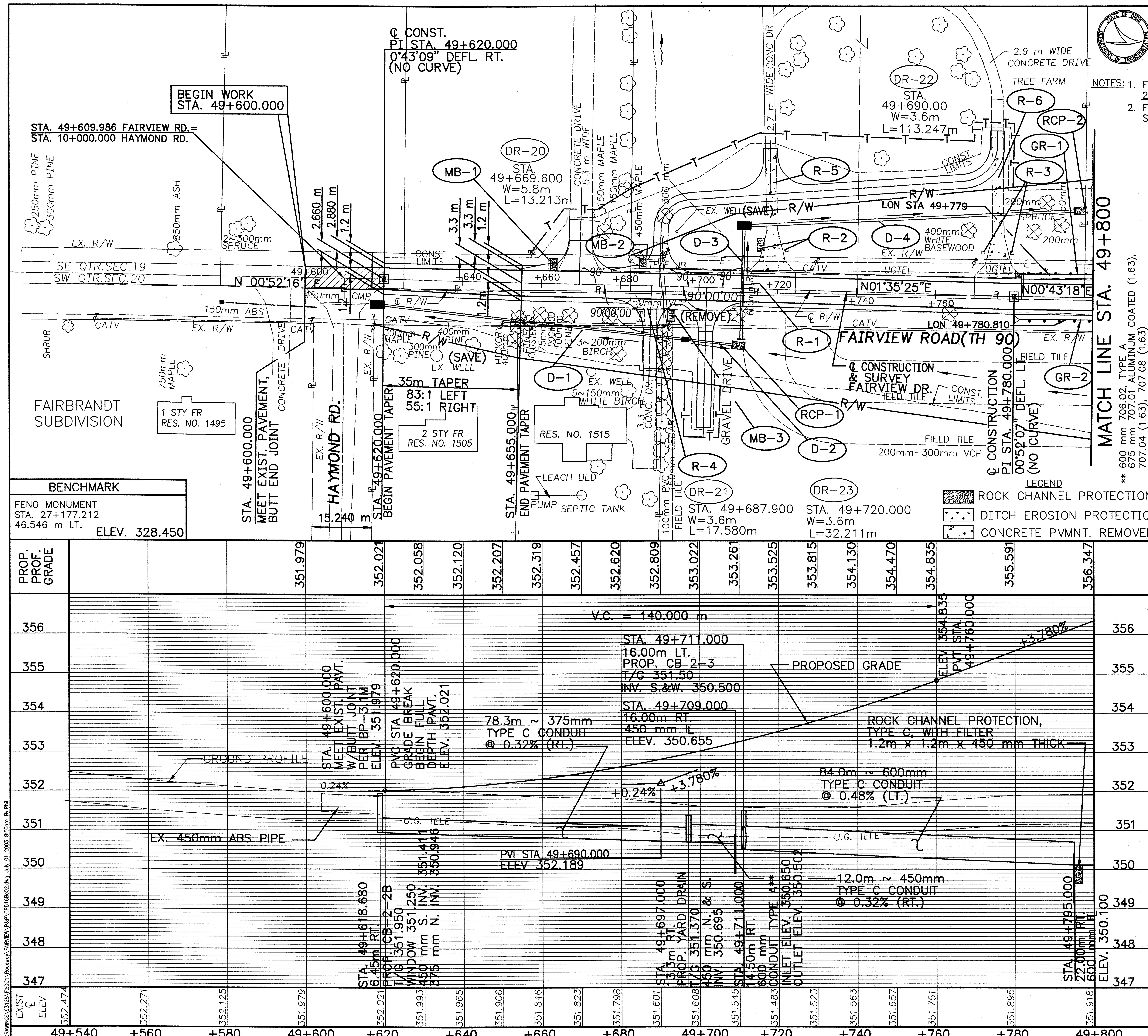
	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 50+334.566	0.08	0.0		
			19.08	0.0
STA. 50+325 BACK	3.19	0.0		
STA. 50+325 AHEAD	7.67	0.0		
			110.9	3.85
SHEET TOTAL			130	4

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – NORTH MARKET ROAD (C.H. 89)

STA. 50+325 TO STA. 50+360

CRA-30-24.000



metric units

WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAYBE ADJUSTED TO FIT FIELD CONDITIONS

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR FENCE LEGEND SEE SHEET 96 OF 677.
3. FOR CULVERT DETAILS SEE SHEET 391 OF 677.
4. FOR DRIVE DETAILS AND QUANTITIES SEE SHEET 491-492A OF 677.

ESTIMATED QUANTITIES

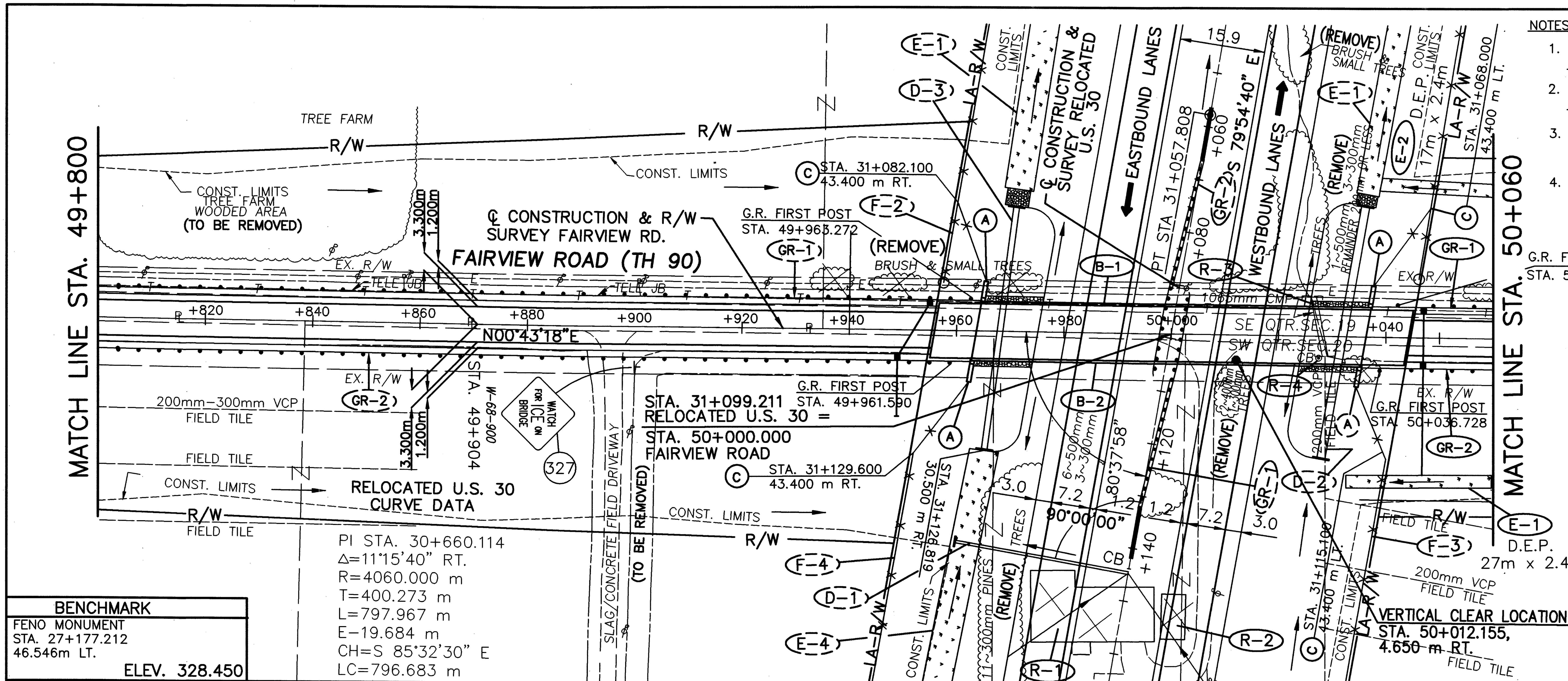
REF. No.	SIDE	STATION FROM	STATION TO	202 BRICK COLUMN REMOVED (EACH)	202 PIPE REMOVED 600 mm AND UNDER (METER)	202 PAVEMENT REMOVED (S.M.)	601 ROCK CHANNEL PROTECTION TYPE C W/ FILTER (C.M.)	602 CONCRETE MASONRY (C.M)	603 375 mm CONDUIT TYPE C (METER)	603 ** CONDUIT TYPE A (METER)	603 450 mm CONDUIT TYPE C (METER)	603 600 mm CONDUIT TYPE C (METER)	604 CATCH BASIN, NO. 2-2B (EACH)	604 CATCH BASIN, NO. 2-3 (EACH)	SPEC YARD DRAIN (EACH)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)	606 ANCHOR ASSEMBLY TYPE-T (EACH)	606 BARRIER REFLECTOR TYPE A-2 (EACH)	670 DITCH EROSION PROTECTION (S.M.)	SPEC. MAILBOX SUPPORT SYSTEM SINGLE (EACH)
D-1	RT	49+618.680	49+697.000						78.3				1									
D-2	RT	49+697.000	49+709.000					0.33			12.0				1							
D-3	LT	49+711.000						0.33		29.5												
D-4	LT	49+711.000	49+795.000					0.33				84.0		1								
RCP-1	LT	49+711.000					0.65															
RCP-2	LT	49+795.000					0.65														204	
GR-1	LT	49+774.677	49+965.177													1	186.69		2	7		
GR-2	RT	49+777.215	49+963.495													1	171.45	1		7		
MB-1	LT	49+663.400																				1
MB-2	LT	49+685.920																				1
MB-3	RT	49+693.000																				1
R-1	RT	49+711.000			14.0																	
R-2	LT	49+715.161	49+722.428	2																		
R-3	LT	49+771.681	49+779.658	2																		
R-4	RT	49+684.253	49+692.666		9																	
R-5	LT	49+712.636	49+724.436			124.12																
R-6	LT	49+769.892	49+781.821			141.90																
TOTALS CARRIED TO SUB-SUMMARY				4	23.0	266.02	1.30	0.99	78.3	29.5	12.0	84.0	1	1	1	2	358.14	1	2	14	204	3

RATIO 1:500 HORIZONTAL SCALE IN METERS

CALCULATED CAL
CHECKED LBD

PLAN AND PROFILE – FAIRVIEW ROAD
STA. 49+617 TO STA. 49+800

CRA-30-24.000



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR FENCE LEGEND SEE SHEET 96 OF 677.
3. FOR PIPE AND CATCH BASIN QUANTITIES AT BRIDGE APPROACHES SEE SHEET 456 OF 677.
4. FOR CULVERT DETAILS SEE SHEET 125 OF 677.

metric units

LEGEND

ROCK CHANNEL PROTECTION

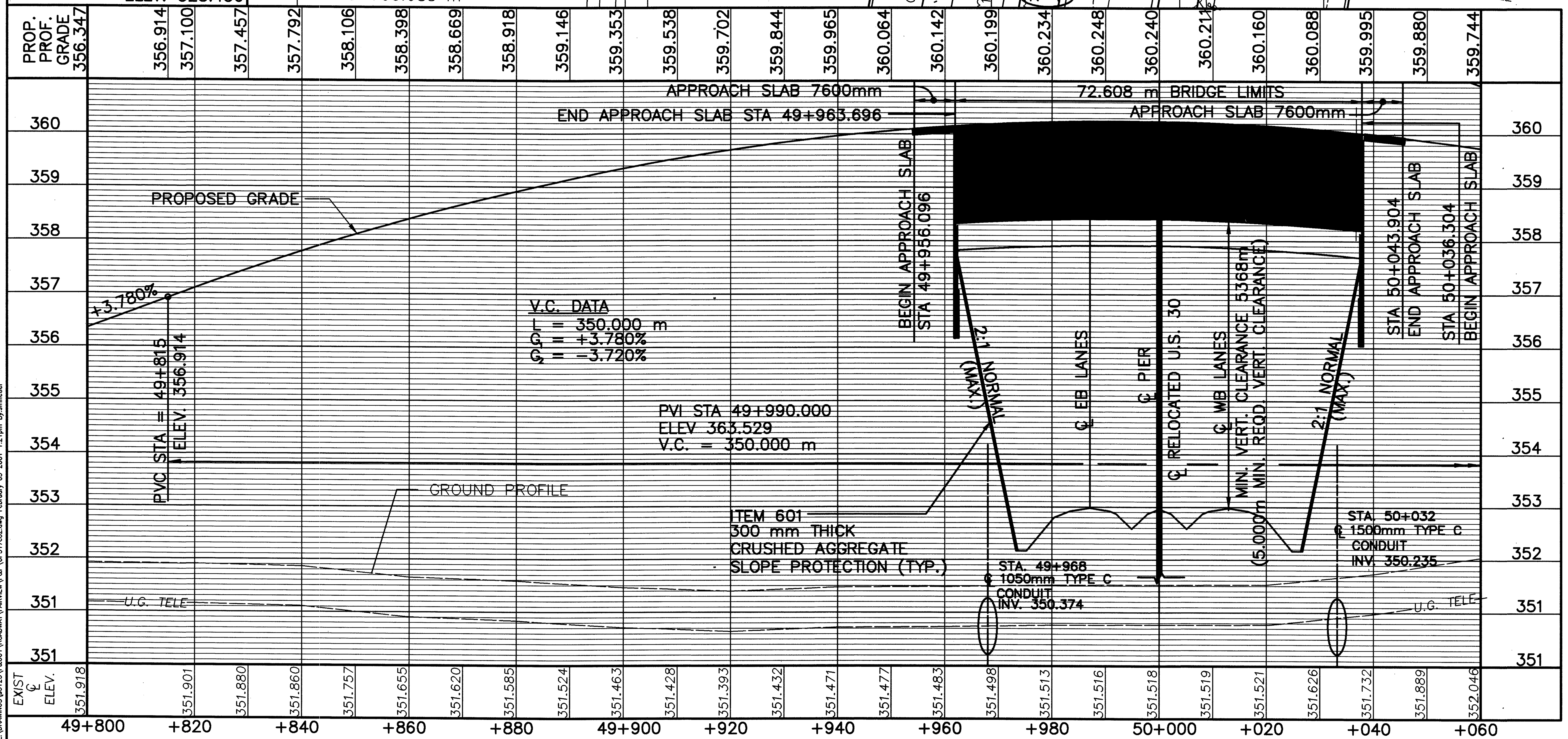
DITCH EROSION PROTECTION

PROPOSED STRUCTURE

TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 36 000, 36 000 c/c BEARINGS
ROADWAY: 10 200 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 9°-22'-02" L.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-45"
LONGITUDE: W82°-47'-00"

BENCHMARK

FENO MONUMENT
STA. 27+177.212
46.546m LT.
ELEV. 328.450



ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	670 DITCH EROSION PROTECTION (C.M.)	626 BARRIER REFLECTOR TYPE B-2 (EACH)	626 BARRIER REFLECTOR TYPE A-2 (EACH)	606 ANCHOR ASSEMBLY TYPE E-98 (EACH)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 GUARDRAIL TYPE 5 (METER)	202 CATCH BASIN REMOVED (EACH)	202 PIPE REMOVED OVER 600 mm (METER)	202 BUILDINGS DEMOLISHED (EACH)
B-1	LT	49+956.096	50+036.034		3							
B-2	RT	49+956.096	50+036.034		3							
E-1	LT	50+033.000	50+060.000	64.80								
E-2	RT	50+043.000	50+060.000	40.80								
GR-1	LT	50+038.410	50+127.945		3	3	1	1	68.58			
GR-2	RT	50+036.728	50+114.833		3	3	1	1	68.58			
R-1	RT	49+990.000										1
R-2	RT	50+005.000										1
R-3	LT/RT	50+026.500	50+028.700								11.5	
R-4	RT	50+027.483								1		
TOTALS CARRIED TO SUB-SUMMARY				105.6	12	6	2	2	137.16	1	11.5	2

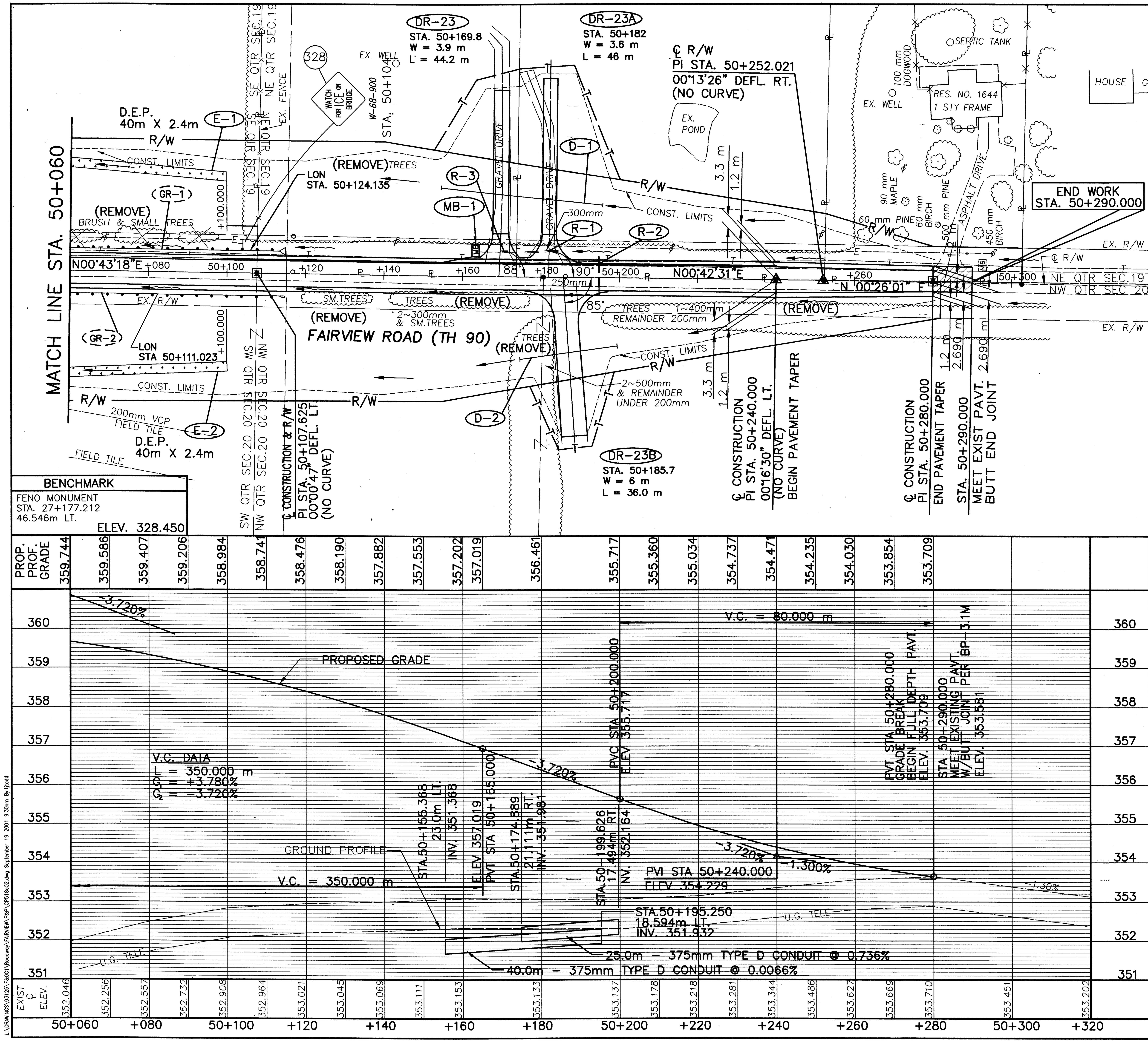
RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED CAL
CHECKED LBD

PLAN AND PROFILE - FAIRVIEW ROAD STA. 49+800 TO STA. 50+060

CRA-30-24.000

metric units



NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR FENCE LEGEND SEE SHEET 96 OF 677.
3. FOR DRIVE DETAILS AND QUANTITIES SEE SHEETS 491, 492, AND 492A OF 677.

LEGEND

DITCH EROSION PROTECTION

WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAY BE ADJUSTED TO FIT FIELD CONDITIONS

ESTIMATED QUANTITIES

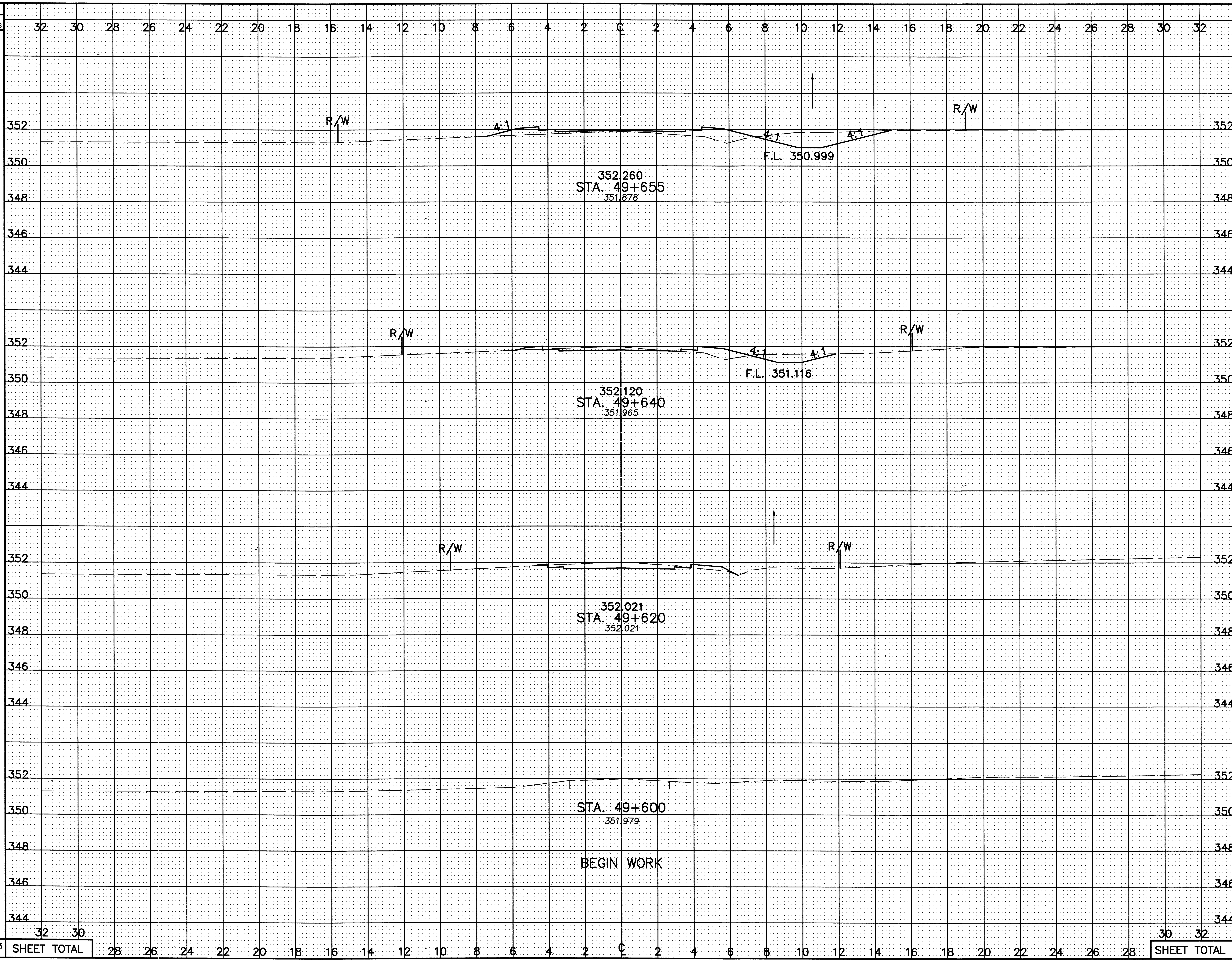
REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	603 375mm TYPE D CONDUIT (METER)	670 DITCH EROSION PROTECTION (S.M.)	SPECIAL MAILBOX SUPPORT SYSTEM SINGLE (EACH)
E-1	LT	50+060.000	50+100.000			96.00	
E-2	RT	50+060.000	50+100.000			96.00	
D-1	LT	50+155.368	50+195.250		40.0		
D-2	RT	50+174.889	50+199.626		25.0		
MB-1	LT	50+175.600					1
R-1	LT	50+175.912	50+188.421	8.5			
R-2	LT/RT	50+194.848		9.5			
R-3	LT	50+169.000					
TOTALS CARRIED TO SUB-SUMMARY				18	65.0	192	1

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED CAL
CHECKED LBD

PLAN AND PROFILE – FAIRVIEW ROAD
STA. 50+060 TO STA. 50+302.655

CRA-30-24.000



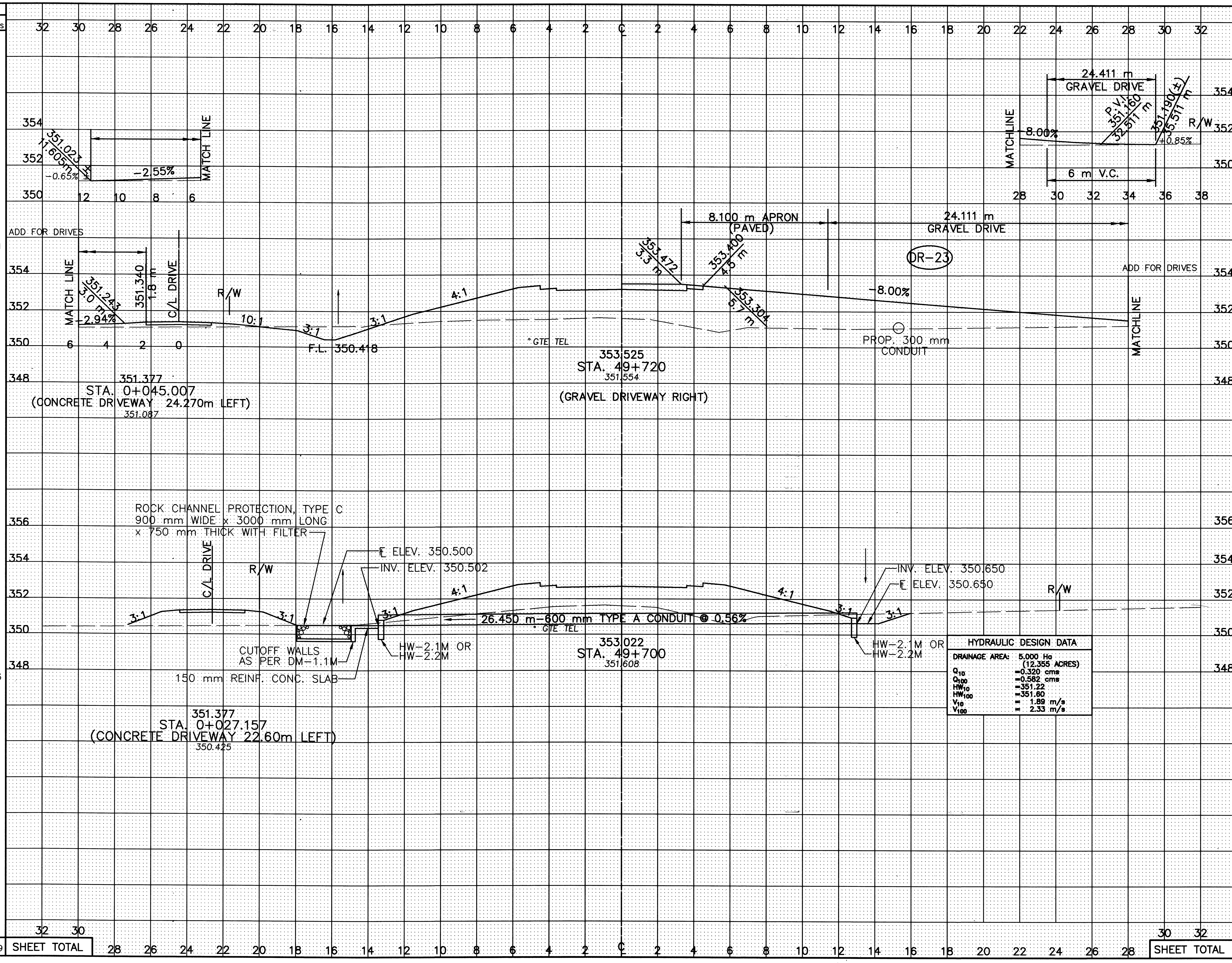
SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22.6		STA. 49+655	3.0	3.4		
	88				39	36
12.5		STA. 49+640	2.2	1.3		
	190				25	19
6.5		STA. 49+620	0.3	0.5		
	65				3	5
		STA. 49+600				
	343	SHEET TOTAL			67	60

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+600 TO STA. 49+655

CRA-30-24.000


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+660 TO STA. 49+692.000
CRA-30-24.000
390
677
16.2
351.0(±)
111.241 m
MATCH LINE
-1.08% ±
0.99%
261
CONC. DRIVE
351.324
86.744m
-0.1270%
351.377
45.007m
FLAT
14
30
ADD FOR DRIVES
9.0 m APRON (PAVED)
CONC. DRIVE
R/W
DR-22
352.588 5.7m
352.684 4.5 m
352.756 3.3 m
351.377(±)
27.157m
FLAT
-5.64%
352.809
STA. 49+690.00
(CONCRETE DRIVEWAY LEFT)
351.602
7.8 m APRON (PAVED)
9.780 m CONC. DRIVE
DR-21
352.714 3.3 m
352.642 4.5 m
352.546 5.7 m
-8.00%
352.767
STA. 49+687.900
(CONCRETE DRIVEWAY RIGHT)
351.599
PROP. 600 mm CONDUIT
P.V.I. 351.571 17.888 m
351.580(±) 20.888 m
+0.40%
6 m V.C.
ADD FOR DRIVES
-5.2
64
0
230
18.6
R/W
4:1
4:1
4:1
R/W
F.L. 350.805
352.620
STA. 49+680
351.798
4.1
13.5
536
79
200
5.413 m CONC. DRIVE
7.8 m APRON (PAVED)
DR-20
P.V.I. 351.605 13.513 m
-8.00%
352.230 5.7 m
352.326 4.5 m
352.398 3.3 m
1.7
3
ADD FOR DRIVES
35
4:1
4:1
R/W
F.L. 350.961
ADD FOR DRIVES
-5.2
1.5
30
9
3.8
6.5
352.451
STA. 49+669.600
(CONCRETE DRIVEWAY LEFT)
351.824
6 m V.C.
352.319
STA. 49+660
351.846
144
25
25
974
SHEET TOTAL
SHEET TOTAL
134
464
L:\DRAWINGS\93125\F&OC1\Roadway\FAIRVIEW\XSECT\GX517c02.dwg September 19 2001 9:33am By:ljtodd



SEEDING END WIDTH	SEEDING SQ. METERS
80	
3.6	5
	901
52	
	273
	1179

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
-5.2	18	10	65
2.2	56.7		
		12	844
1.2	27.7		
		53	432
		75	1341

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+700 TO STA. 49+720

CRA-30-24.000

391
677

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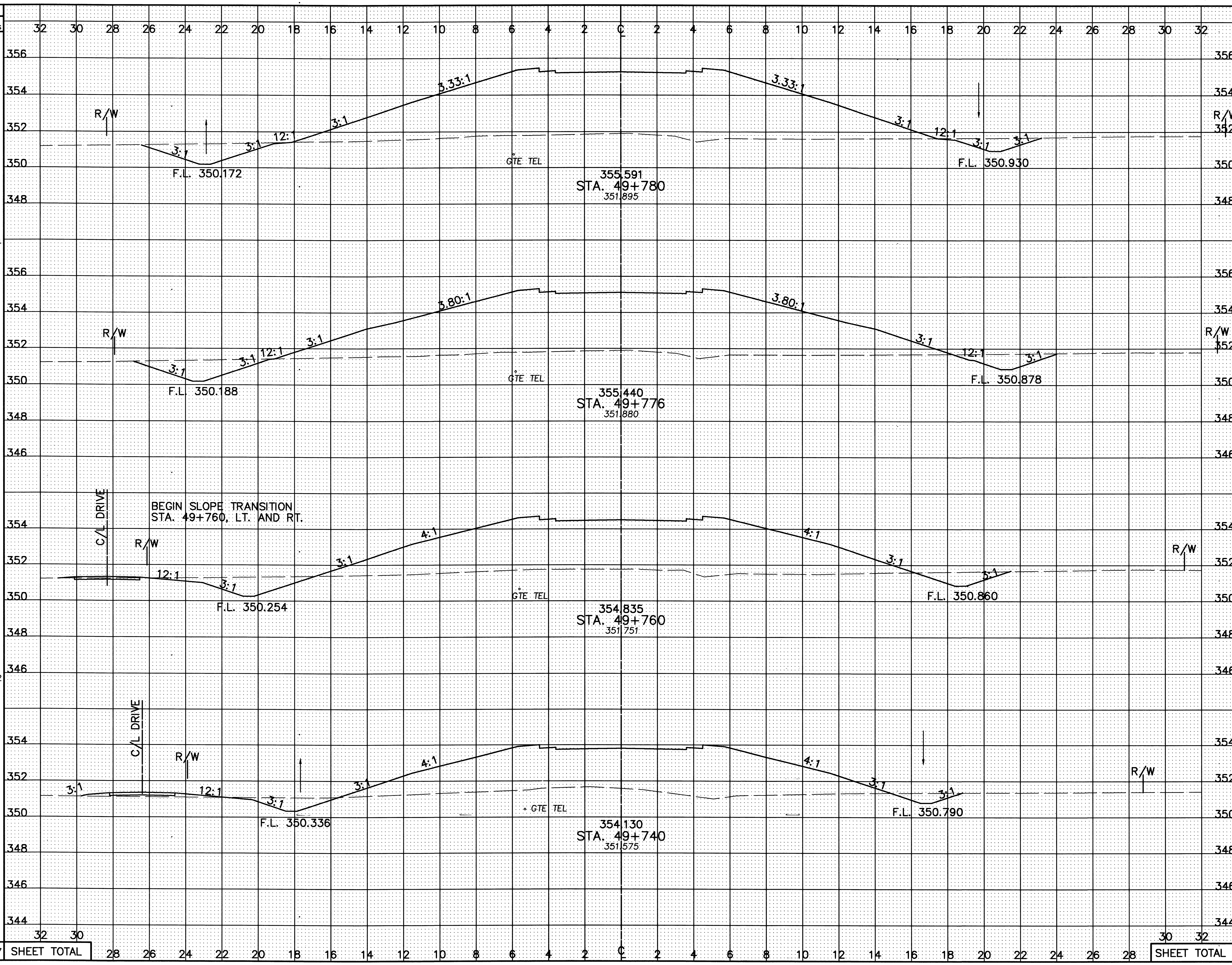

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
54.3		STA. 49+780	7.2	86.0		
	1094				29	346
		STA. 49+776	7.1	87.1		
					108	1243
55.1		STA. 49+760	6.4	68.3		
	1062				97	1218
51.1		STA. 49+740	3.3	53.5		
	981				55	802
SHEET TOTAL	3137				289	3609

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+740 TO STA. 49+780

CRA-30-24.000

392
677

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SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+800 TO STA. 49+840
CRA-30-24.000
393
677
R/W
37.0 M R/W
2:1
2:1
3:1
3:1
12:1
12:1
3:1
3:1
F.L. 349.926
F.L. 350.556
GTE TEL
357.792
STA. 49+840
351.860
57.3
9.0 135.3
1149
151 2470
36.5 M R/W
F.L. 350.008
F.L. 350.875
357.100
STA. 49+820
351.901
57.6
6.1 111.7
1137
114 2132
END SLOPE TRANSITION
STA. 49+820, LT. AND RT.
2.67:1
2.67:1
36.0 M R/W
F.L. 350.090
F.L. 350.938
356.347
STA. 49+800
351.918
56.1
5.3 101.5
1104
125 1875
3390
SHEET TOTAL
390 6477
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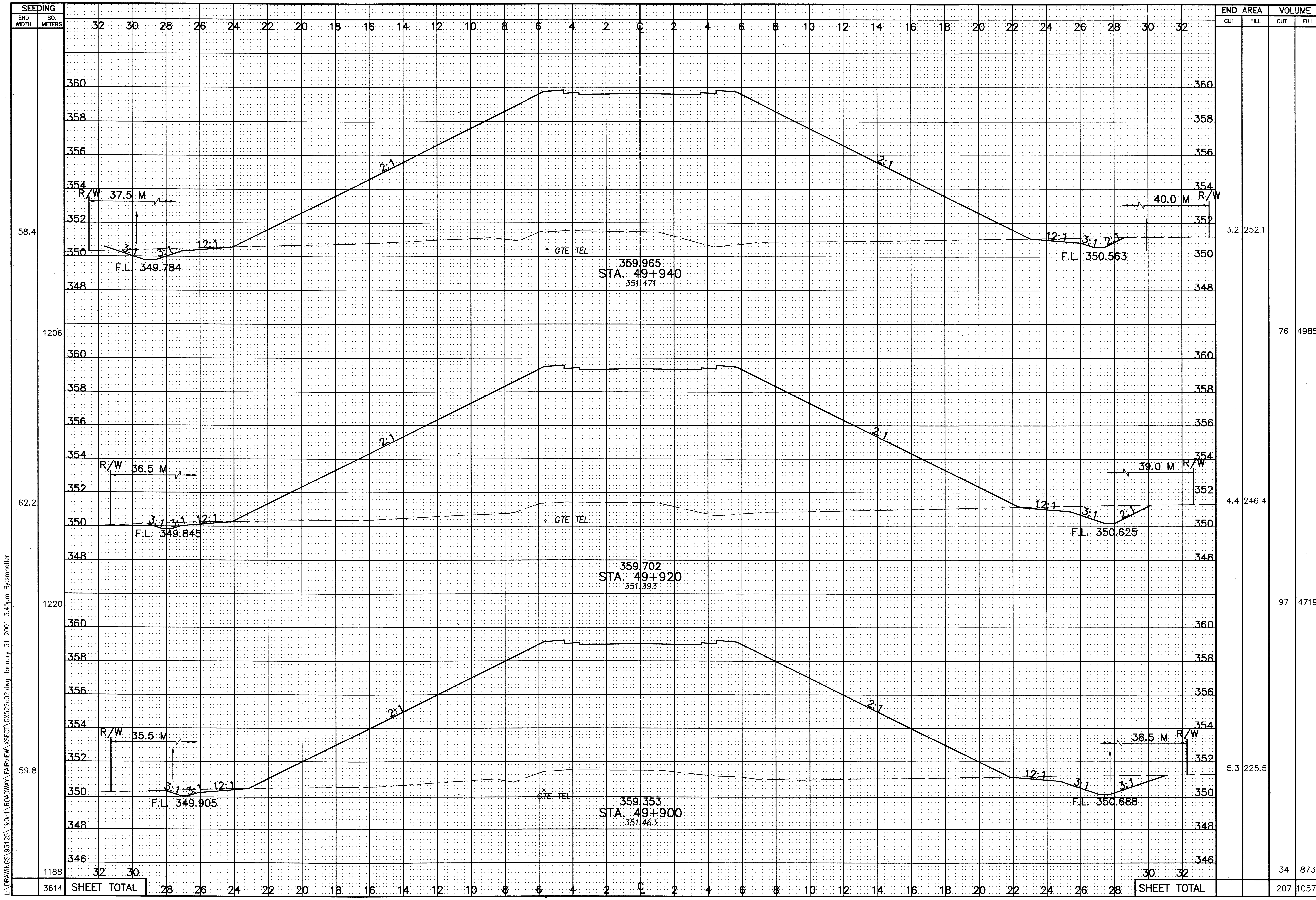
SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+860 TO STA. 49+896
CRA-30-24.000
394
677
R/W
35.5 M
38.5 M
3:1
12:1
2:1
F.L. 349.678
F.L. 350.005
GTE TEL
359.273
STA. 49+896
351.490
11.7
211.2
131
3246
34.5 M
38.0 M
F.L. 349.965
F.L. 350.750
358.918
STA. 49+880
351.585
59
4.7
194.5
1170
116
3603
33.5 M
37.5 M
F.L. 350.174
F.L. 350.813
358.398
STA. 49+860
351.655
58
6.9
165.8
1153
159
3011
2323
SHEET TOTAL
406
9860



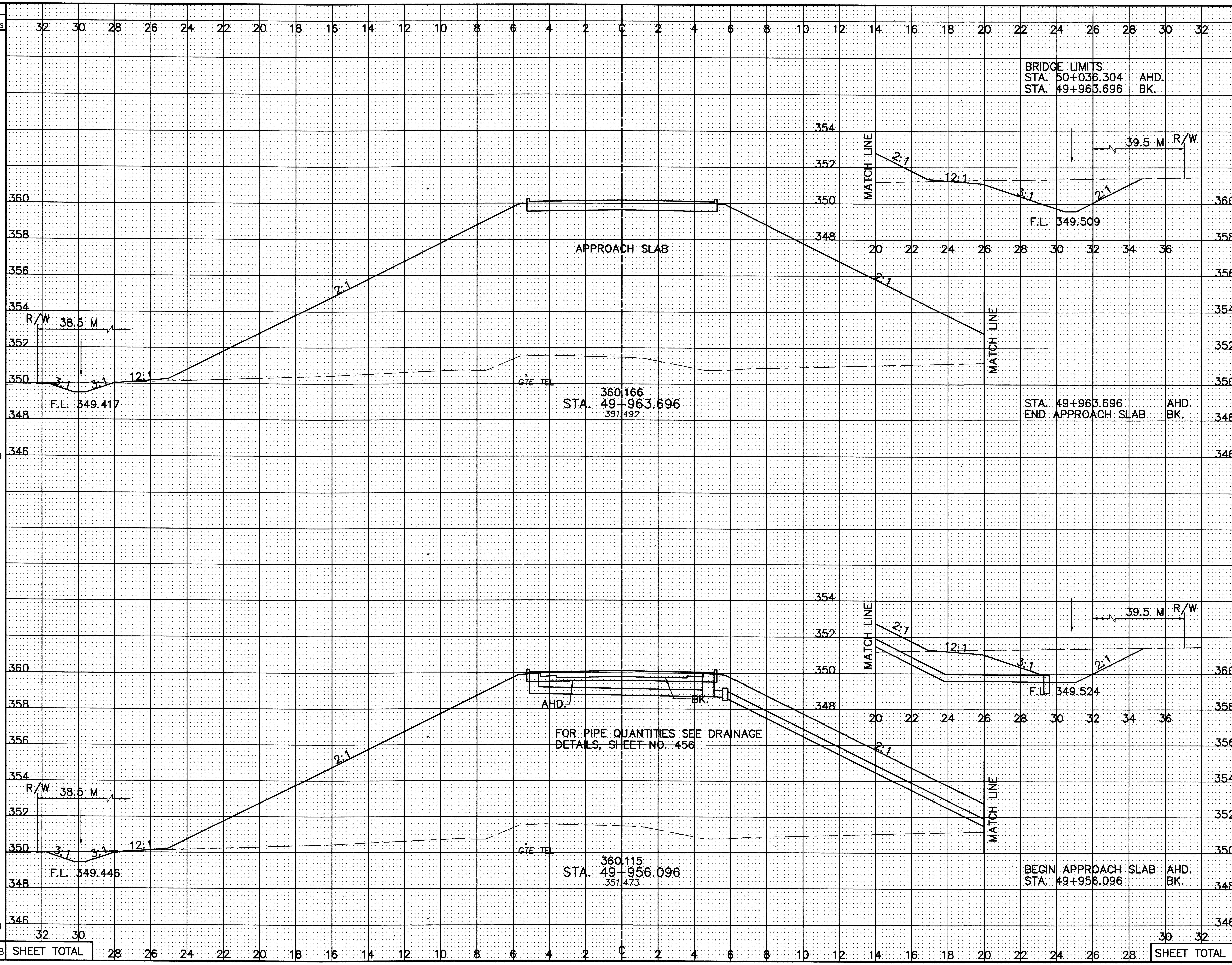
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+900 TO STA. 49+940

CRA-30-24.000

395
677

SEEDING END WIDTH	SEEDING SQ. METERS
45.9	349
45.9	739
	1088



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
10.0	263.1		
		79	1990
10.9	260.5		
10.9	263.2		
		169	4147
		248	6137

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 49+956.096 TO STA. 49+963.696

CRA-30-24.000

396/677

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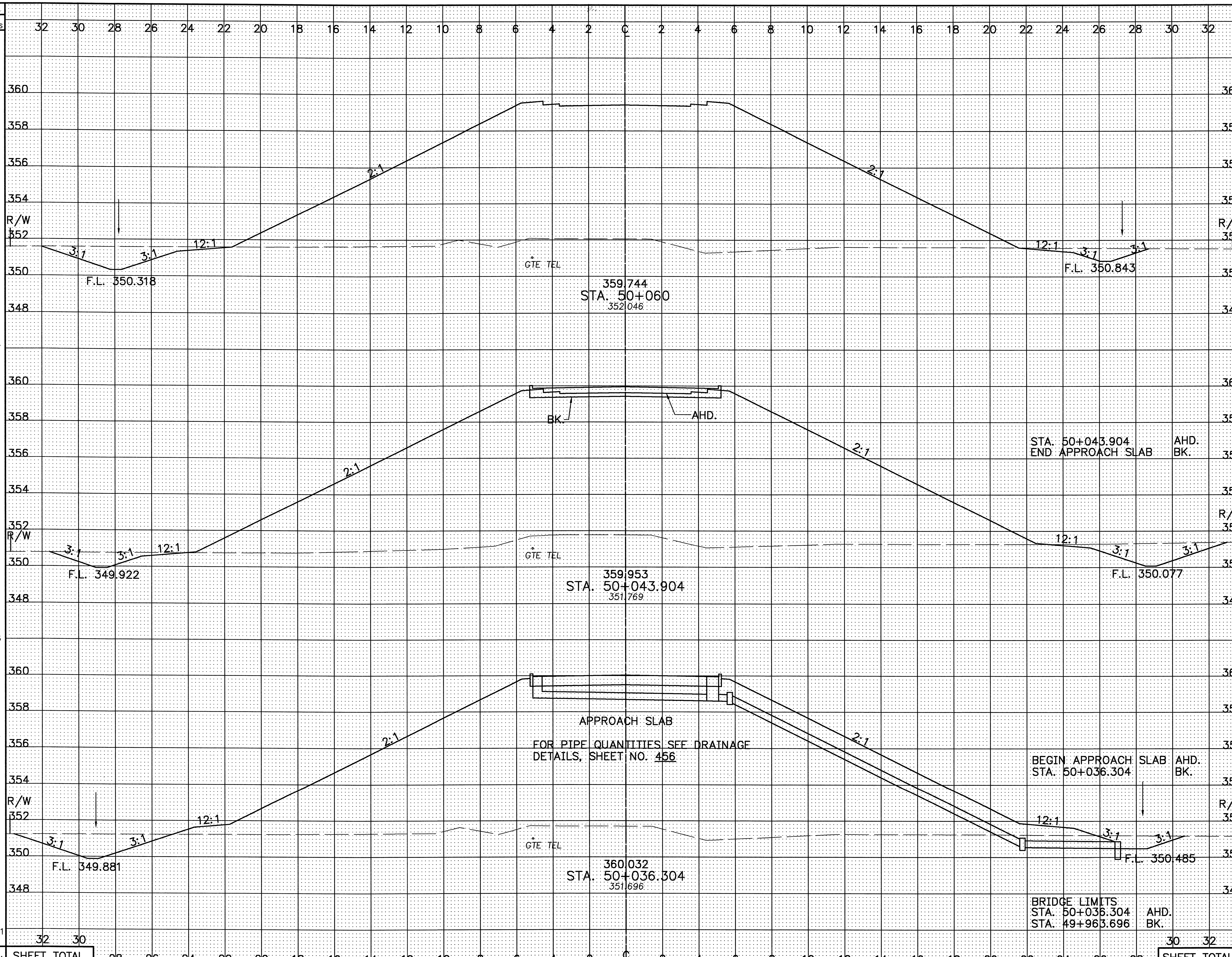
CROSS-SECTIONS – FAIRVIEW RD.
STA. 50+036.304 TO STA. 50+060

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
62.4	
	997
61.5	
	466
61.1	
	4451
SHEET TOTAL	5914



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.1	211.5		
		148	3649
8.3	241.9		
8.3	239.2		
		65	1861
8.7	250.5		
0	0		
SHEET TOTAL		213	5510

CALCULATED PSB
CHECKED LBD

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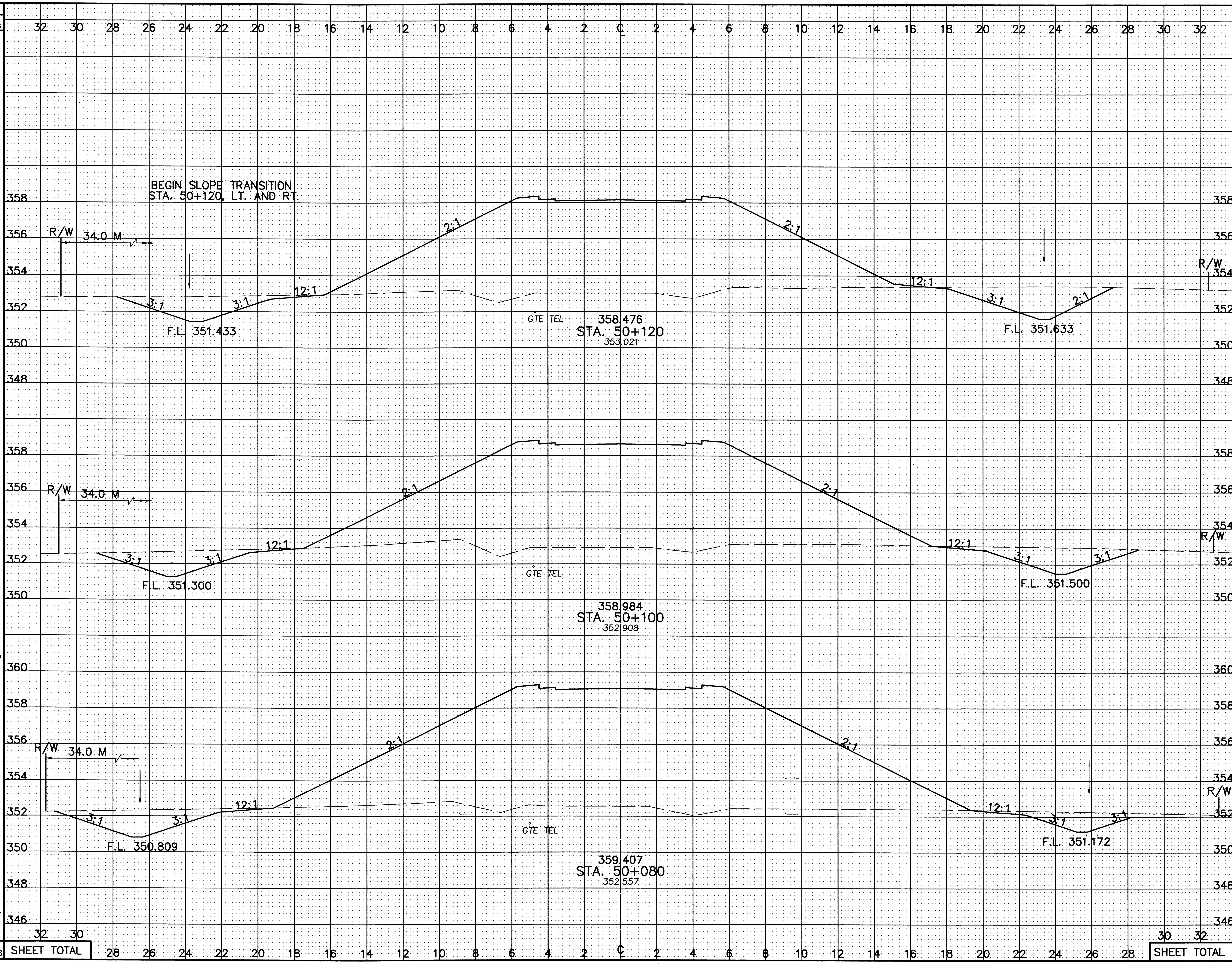
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
48.4		15.5	112.8		
	1041			296	2442
55.7		14.1	131.4		
	1135			278	2966
57.8		13.7	165.2		
	1162			238	3767
	3338			812	9175



CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 50+080 TO STA. 50+120

CRA-30-24.000

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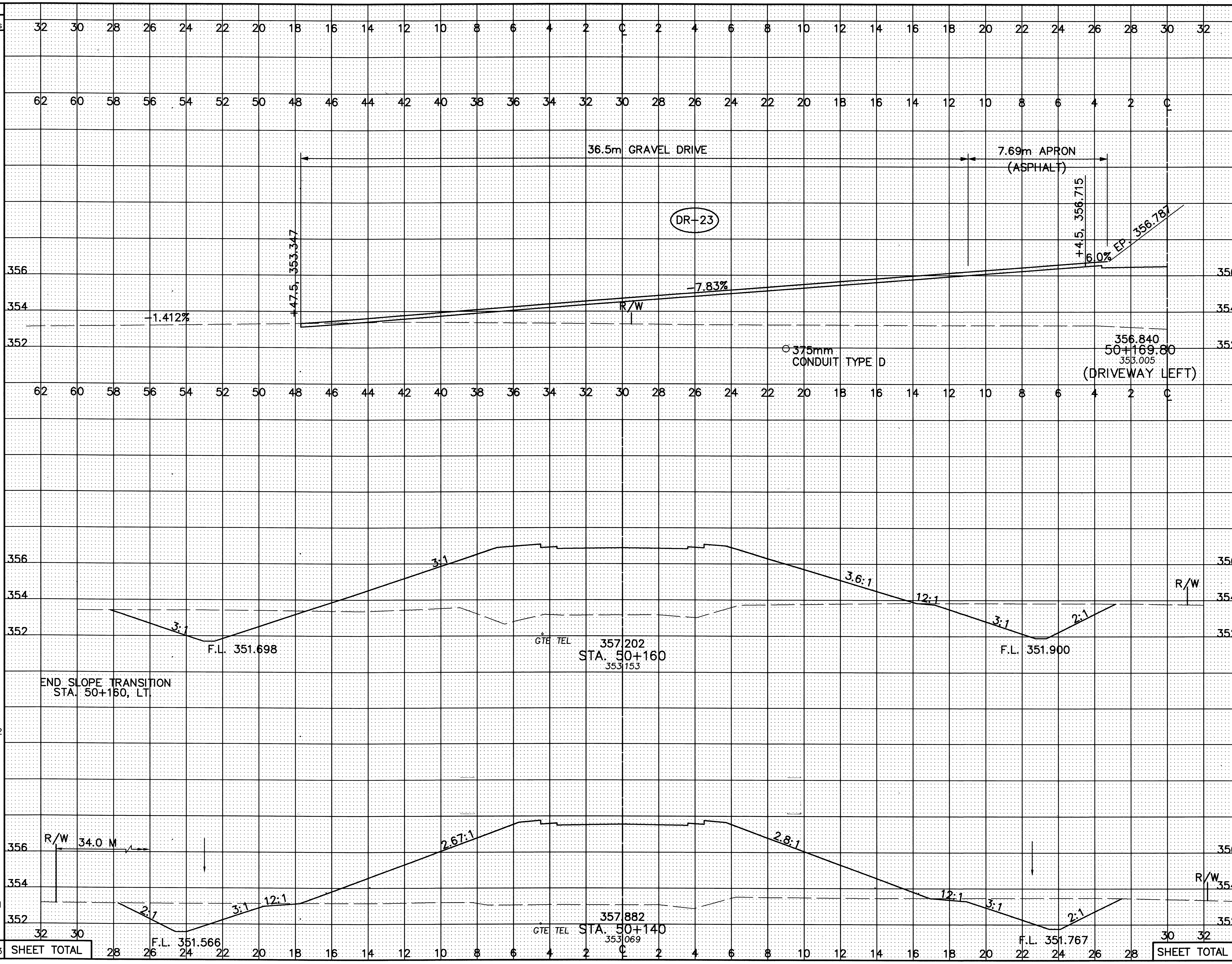

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
50.5		20.1	83.7		
	1062			355	1804
55.7		15.4	96.7		
	1041			309	2094
SHEET TOTAL	2103			664	3898

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 50+140 TO STA. 50+169.80

CRA-30-24.000

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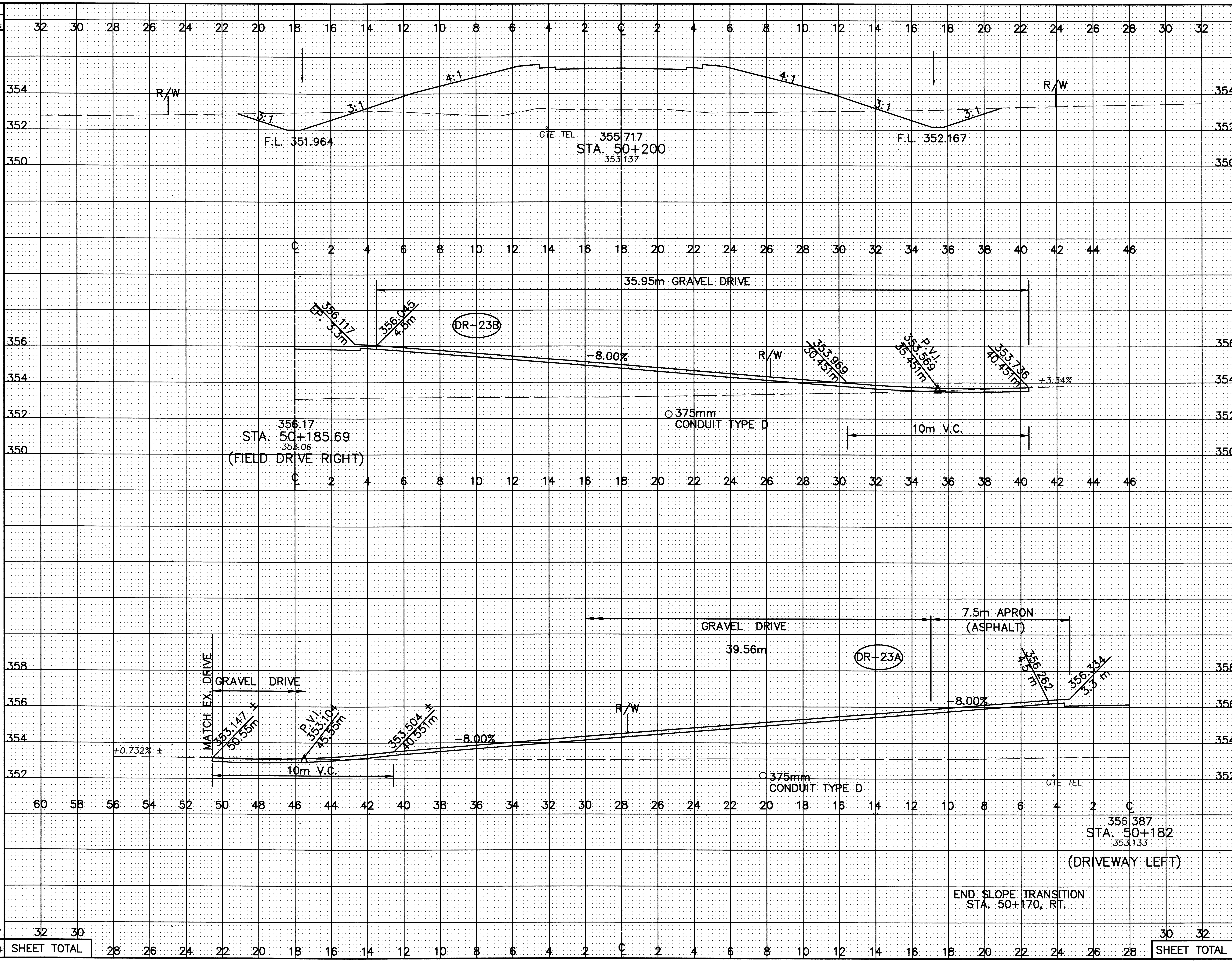
SEEDING	
END WIDTH	SQ. METERS
34.6	
	931
68.9	
	1313
	2244



END AREA		VOLUME	
CUT	FILL	CUT	FILL
6.8	50.9		
		115	1488
6.0	114.5		
		235	1783
		350	3271

CALCULATED PSB
CHECKED LBD

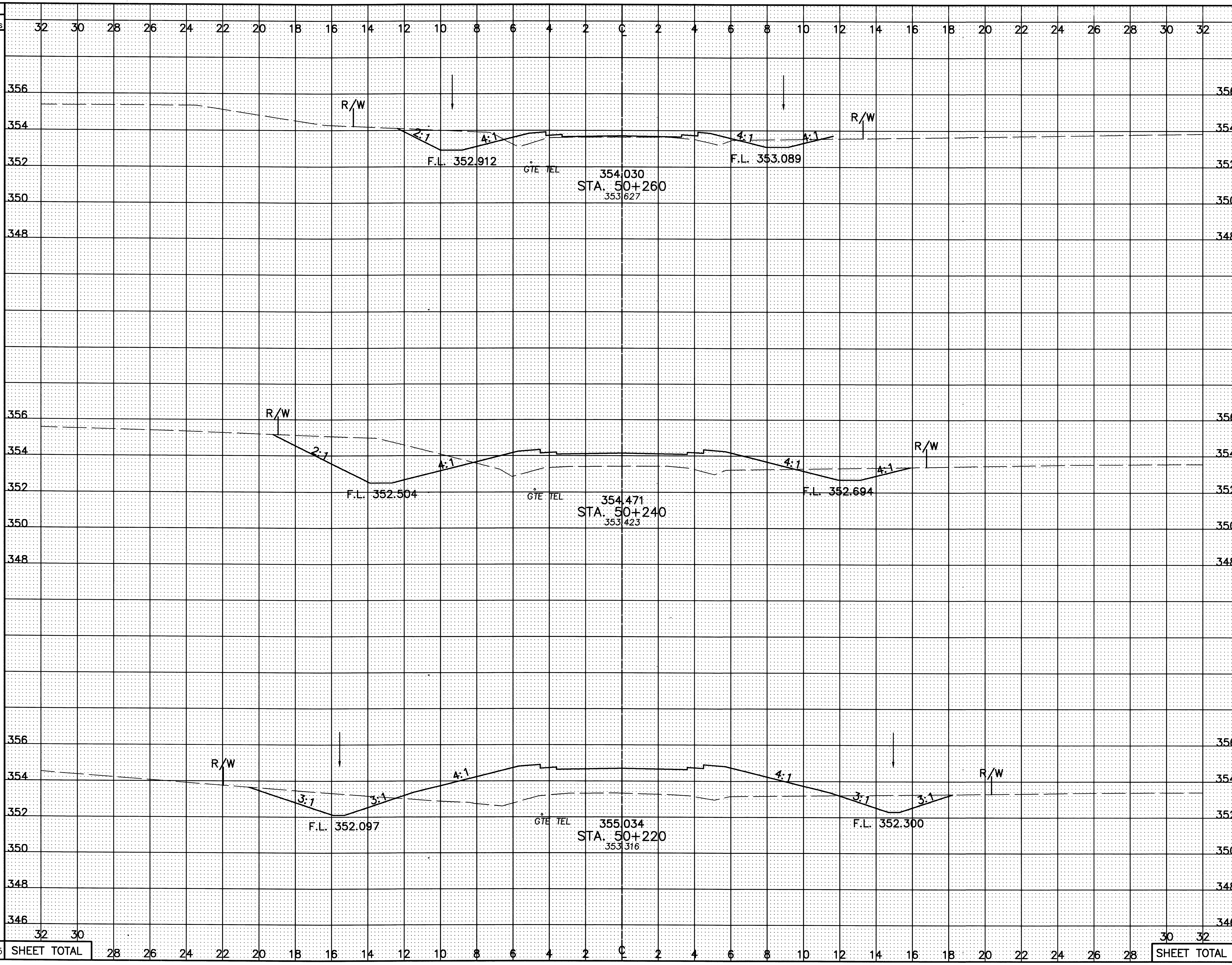
CROSS-SECTIONS – FAIRVIEW RD.
STA. 50+169.80 TO STA. 50+200

CRA-30-24.000

399A
677

L:\DRAWINGS\93125\F&OC1\Roadway\FAIRVIEW\XSECT\GX525c02.dwg September 19 2001 9:37am By:jtodd

SEEDING END WIDTH	SEEDING SQ. METERS
20.1	
	402
20.1	
	489
28.8	
	634
	1525 SHEET TOTAL



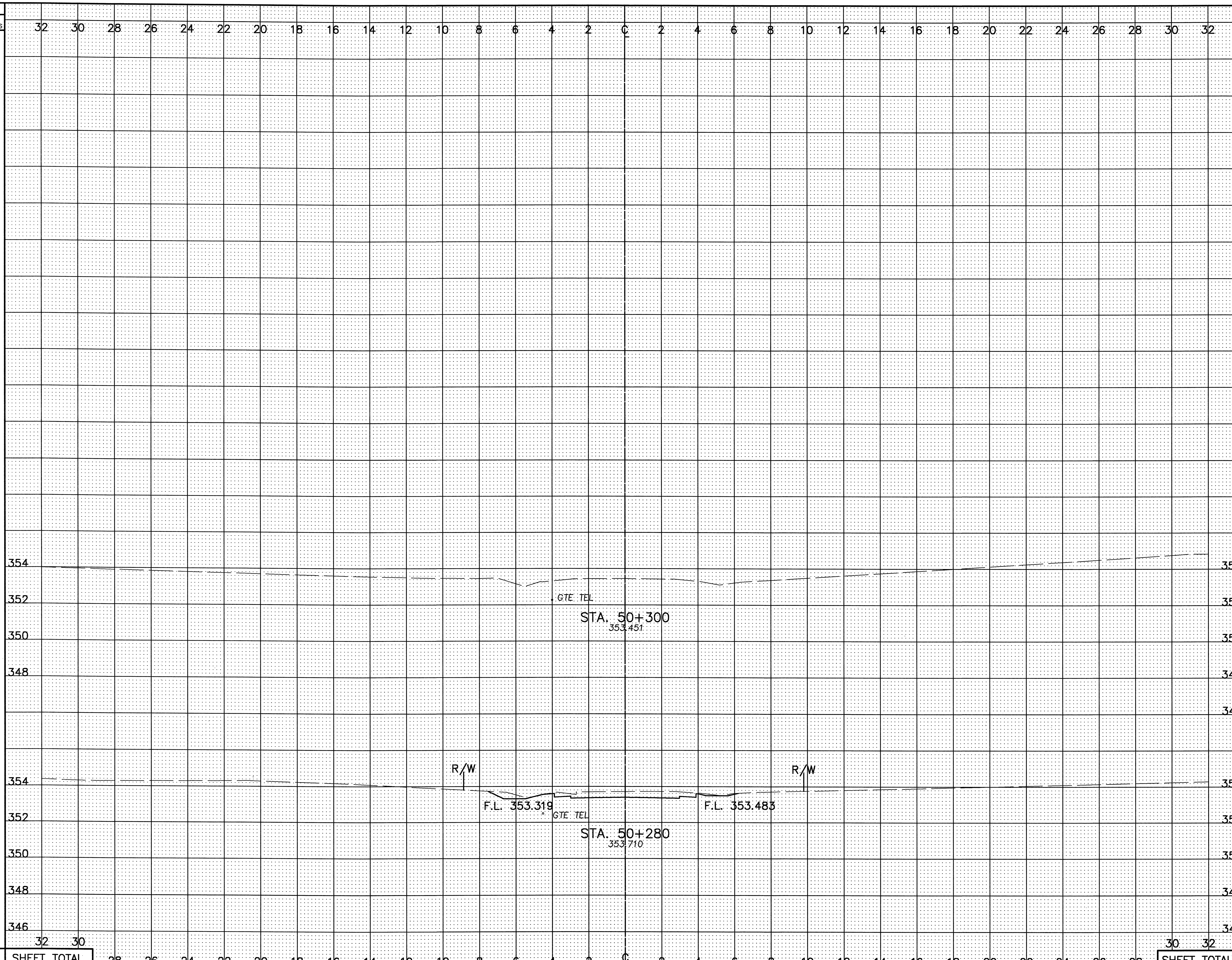
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
7.0	2.5		
		316	158
24.7	13.3		
		320	436
7.3	30.4		
		141	813
	SHEET TOTAL	777	1407

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – FAIRVIEW RD.
STA. 50+220 TO STA. 50+260

CRA-30-24.000

400/677



SEEDING	
END WIDTH	SQ. METERS

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0.0	0.0		
		0	0
0.0	0.0		
		70	25
SHEET TOTAL		70	25

CALCULATED PSB

CHECKED LBD

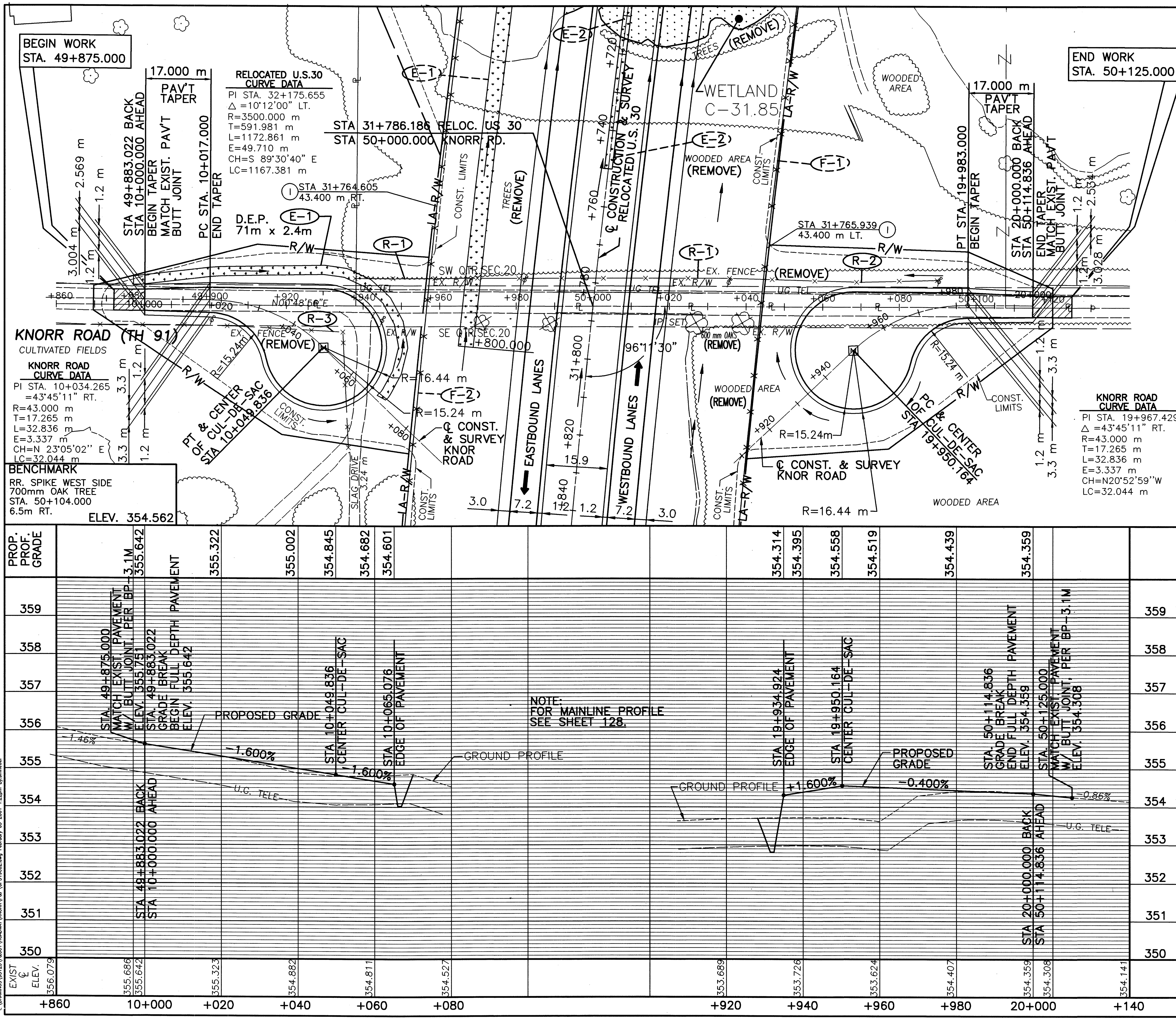
CROSS-SECTIONS – FAIRVIEW RD.

STA. 50+280 TO STA. 50+300

CRA-30-24.000

401
677

J:\DRAWINGS\93125\E40C1\Roadway\FAIRVIEW\XSECT\GX527c02.dwg, June 25, 2003 3:12pm By:Donna



metric units

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 OF 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 667.
3. FOR FENCE LEGEND SEE SHEET 96 OF 677.
4. FOR INTERSECTION DETAIL SEE SHEET 482 OF 677.

LEGEND

DITCH EROSION PROTECTION

WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAYBE ADJUSTED TO FIT FIELD CONDITIONS

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	670 DITCH EROSION PROTECTION (S.M.)
E-1	LT.	49+880.000	10+065.000		170.4
R-1	LT.	10+044.000	10+058.000	19.0	
R-2	LT.	19+943.000	19+975.000	43.0	
R-3	RT.	49.875.000	10+075.000	86.0	
TOTALS CARRIED TO SUB-SUMMARY				148	170.4

RATIO 1:500
HORIZONTAL SCALE IN METERS

PSB CHECKED LBD

PLAN AND PROFILE – KNORR RD. (T.R. 91) STA. 49+875 TO STA. 50+125

CRA-30-24.000

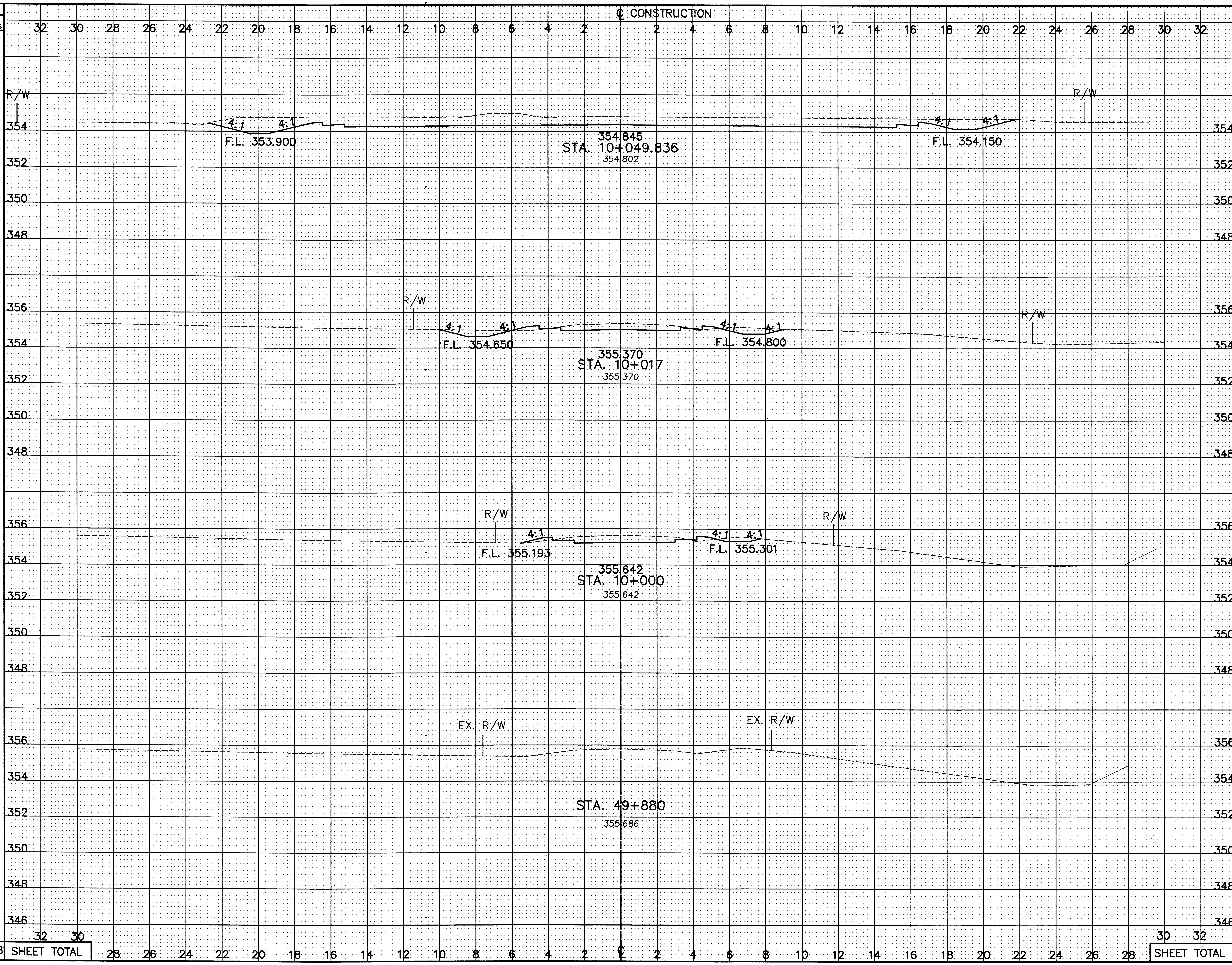
CROSS-SECTIONS – KNORR RD. (T.R. 91)

STA. 49+880 TO STA. 10+049.836

CRA-30-24.000

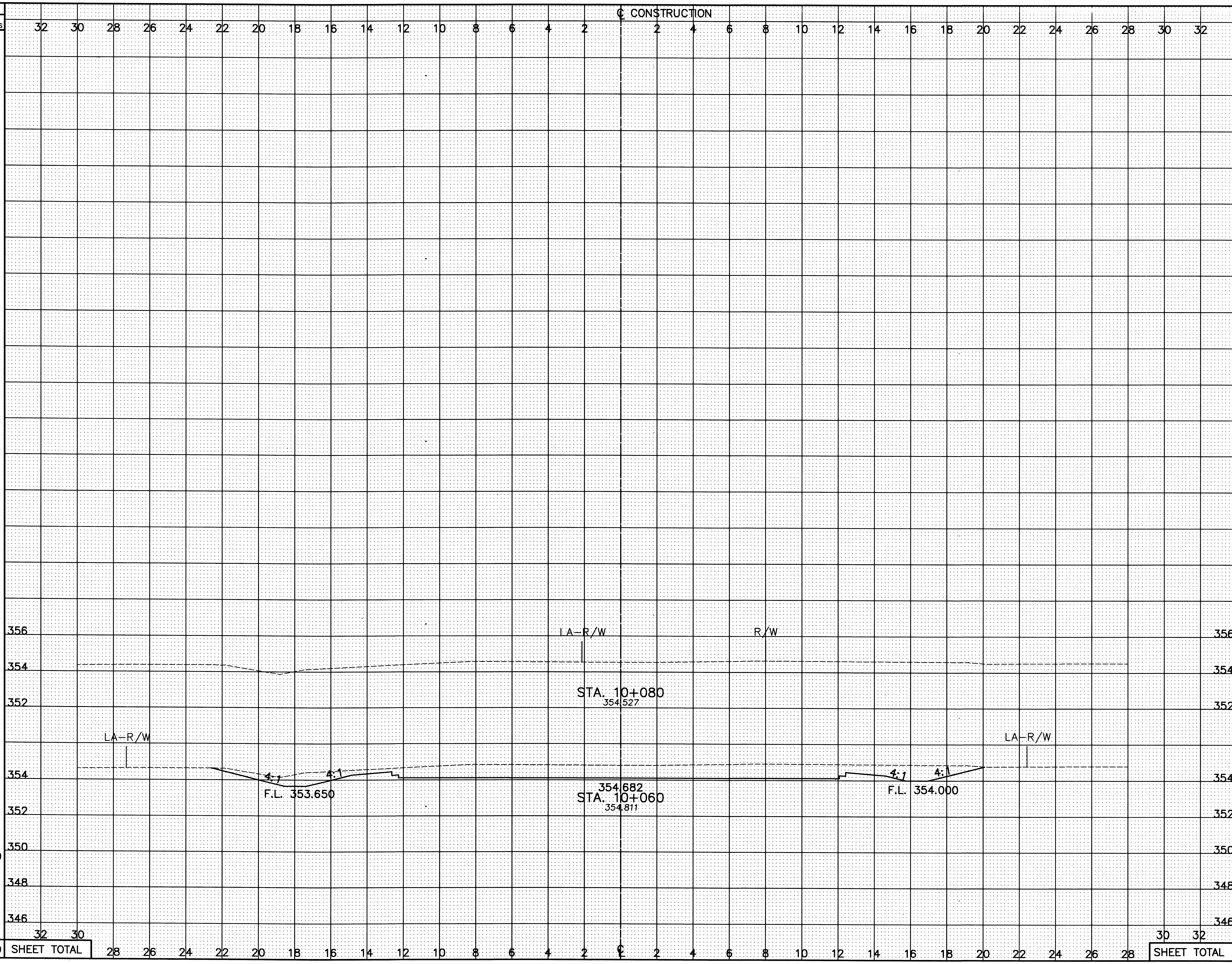
CALCULATED PSB | CHECKED FF

SEEDING END WIDTH	SEEDING SQ. METERS
27.0	
	860
25.1	
	304
10.6	
	16
	1108



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20.9	0		
		401	7
3.4	0.4		
		50	7
2.5	0.4		
		4	1
SHEET TOTAL		455	15

SEEDING	
END WIDTH	SQ. METERS
25.0	260
SHEET TOTAL	260



END AREA		VOLUME	
CUT	FILL	CUT	FILL
22.5	0		
		217	0
		217	0

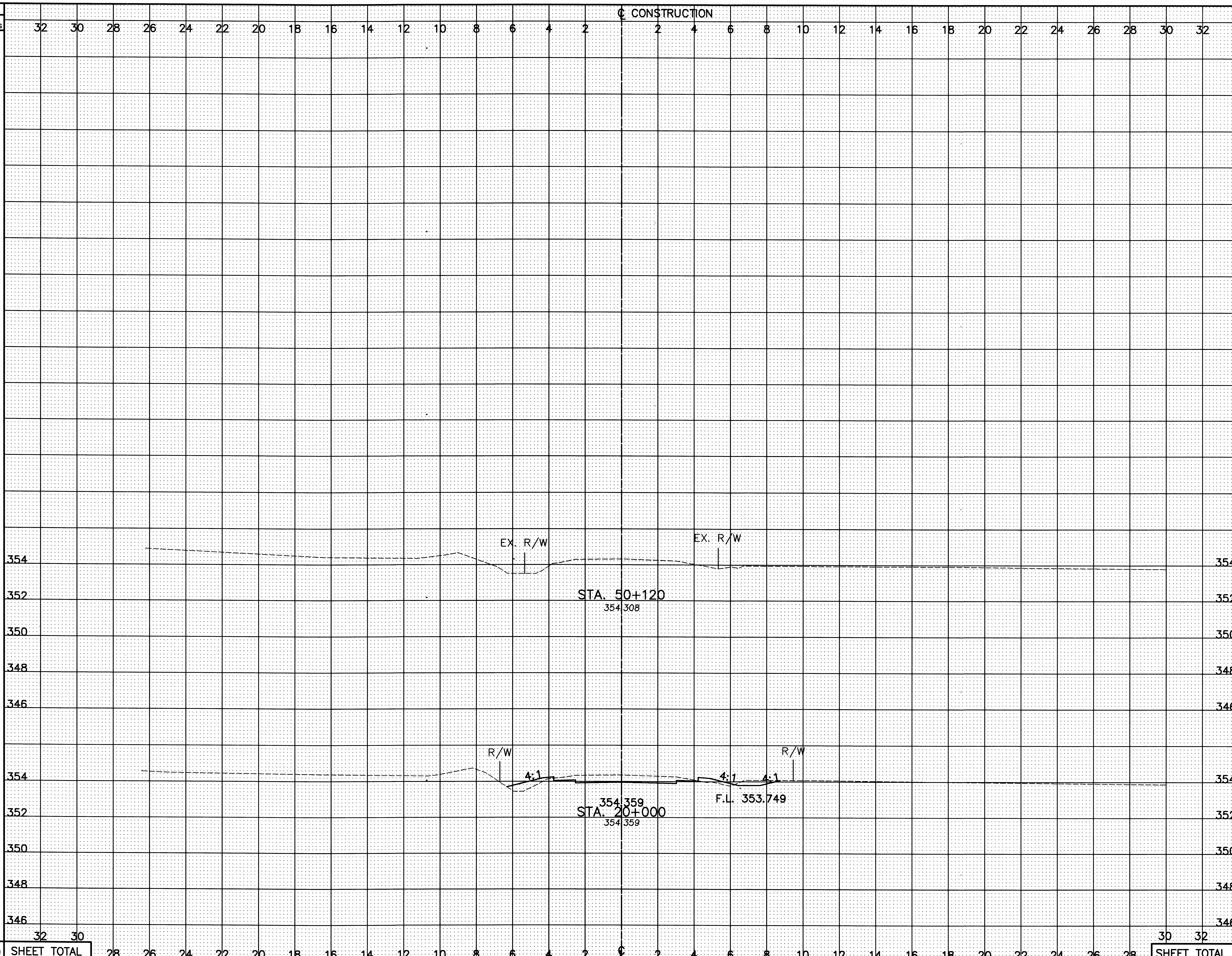
CALCULATED PSB
CHECKED FF

CROSS-SECTIONS – KNORR RD. (T.R. 91)
STA. 10+060 TO STA. 10+080

CRA-30-24.000

403A
677

SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED FF
R/W
4:1
F.L. 353.100
354.427
STA. 19+983
354.424
F.L. 353.850
28.0
8.0
1.7
891
267
152
LA–R/W
F.L. 352.900
354.558
STA. 19+950.164
353.717
F.L. 353.300
26.0
8.2
7.5
250
84
83
F.L. 352.860
354.395
STA. 19+940
353.726
F.L. 353.200
24.0
8.5
9.0
240
85
90
STA. 19+920
353.689
1381
SHEET TOTAL
436
325
CROSS-SECTIONS – KNORR RD. (T.R. 91)
STA. 19+920 TO STA. 19+983
CRA-30-24.000
404
677



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8.5		3.1	1.0		
	310			94	23
SHEET TOTAL	310			94	23

CALCULATED PSB
CHECKED FF

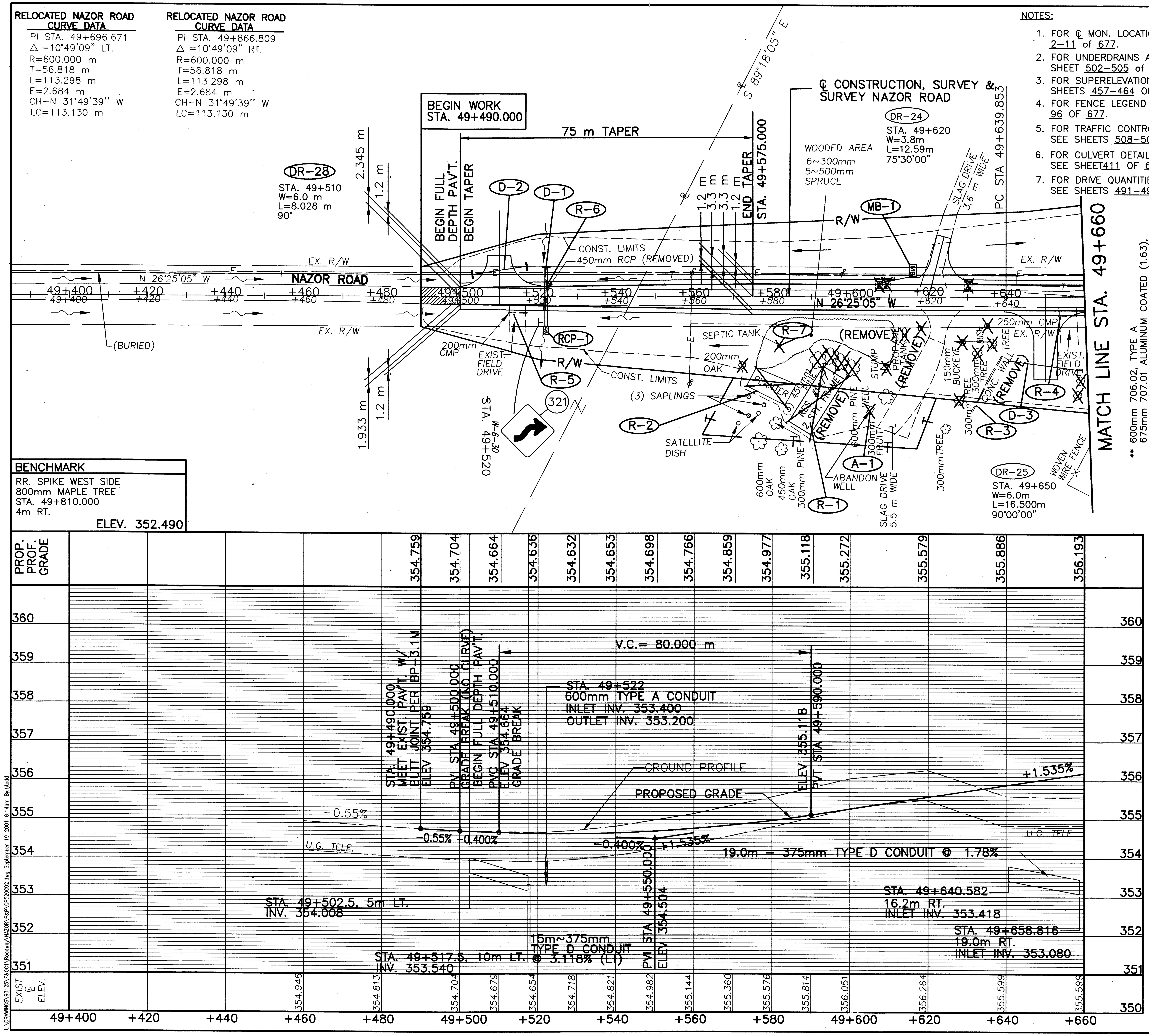
CROSS-SECTIONS – KNORR RD. (T.R. 91)
STA. 20+000 TO STA. 50+120

CRA-30-24.000

404A
677

RELOCATED NAZOR ROAD CURVE DATA
PI STA. 49+696.671
△ =10°49'09" LT.
R=600.000 m
T=56.818 m
L=113.298 m
E=2.684 m
CH–N 31°49'39" W
LC=113.130 m

RELOCATED NAZOR ROAD CURVE DATA
PI STA. 49+866.809
△ =10°49'09" RT.
R=600.000 m
T=56.818 m
L=113.298 m
E=2.684 m
CH–N 31°49'39" W
LC=113.130 m



BENCHMARK
RR. SPIKE WEST SIDE
800mm MAPLE TREE
STA. 49+810.000
4m RT.
ELEV. 352.490

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 of 677.
2. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502–505 of 677.
3. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR TRAFFIC CONTROL QUANTITIES SEE SHEETS 508–509 OF 677.
6. FOR CULVERT DETAILS SEE SHEET 411 OF 677.
7. FOR DRIVE QUANTITIES & DETAIL SEE SHEETS 491–492A OF 677.

metric units

LEGEND
ROCK CHANNEL PROTECTION
WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

ESTIMATED QUANTITIES

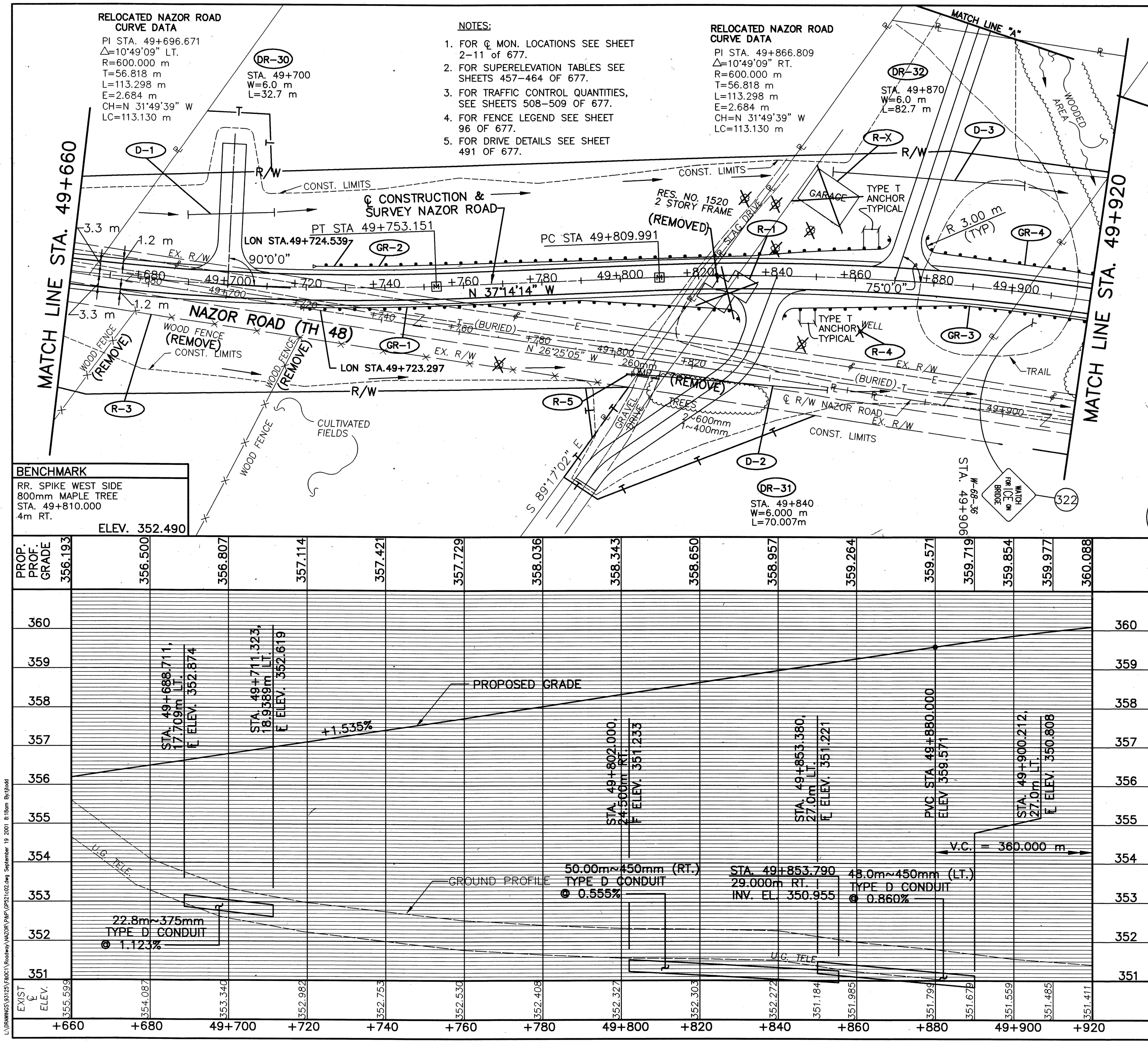
REF. No.	SIDE	STATION FROM	STATION TO	SPECIAL DRILLED WATER WELL ABANDONED (EACH)	SPECIAL MAILBOX SUPPORT SYSTEM SINGLE (EACH)	603 600mm CONDUIT TYPE A ** (METER)	603 375mm CONDUIT TYPE D (METER)	602 CONCRETE MASONRY (C.M.)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (C.M.)	601 RIPRAP USING 150mm REINF. CONC. SLAB (S.M.)	202 SEPTIC TANK REMOVED (EACH)	202 PIPE REMOVED 600mm AND UNDER (METER)	202 CONC. WALL REMOVAL MISC. (METER)	202 PLANTER REMOVAL MISC. (EACH)	202 BUILDING DEMOLISHED (EACH)
A–1	RT	49+604.976		1											
R–1	RT	49+595.000													1
R–2	RT	49+580.000												1	
R–3	RT	49+632.000	49+639.000										14.0		
R–4	LT	49+653.000	49+658.000									5.0			
R–5	RT	49+515.000	49+520.000									8.0			
R–6	℄	49+522.000										5.0			
R–7	RT	49+582.000									1				
D–1	℄	49+522.000				14.85		1.07		1.8					
D–2	LT.	49+502.500	49+517.500				15.00								
D–3	RT.	49+640.582	49+658.816				19.00								
RCP–1	RT	49+522.000							1.72						
MB–1	LT	49+616.000			1										
TOTALS CARRIED TO SUB–SUMMARY				1	1	14.85	34.00	1.07	1.72	1.8	1	18.0	14.0	1	1

RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – NAZOR ROAD (T.H. 48)
STA. 49+490 TO STA. 49+660

CRA–30–24.000



(R-X) BUILDING DEMOLISHED BY OTHERS PRIOR TO PROJECT.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 REMOVAL, MISC.: BUILDING FOUNDATION (EAH)	202 FENCE REMOVED (EACH)	606 GUARD RAIL TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 ANCHOR ASSEMBLY TYPE E 98 (EACH)	626 BARRIER REFLECTOR TYPE A-2 (EACH)	SPECIAL DRILLED WATER WELL ABANDONED (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	202 PIPE REMOVED 600 mm AND UNDER (METER)	603 375 mm CONDUIT TYPE D (METER)	603 450 mm CONDUIT TYPE D (METER)
GR-1	RT	49+716.071	49+830.371			95.25		1	4		1			
GR-2	LT	49+720.729	49+865.509			140.970		1	5		1			
GR-3	RT	49+844.023	49+973.563			129.540	1		5		1			
GR-4	LT	49+881.491	49+976.741			95.250	1		4		1			
R-1	RT	49+830.000		1										
R-3	RT	49+660.000	49+801.000		165.0									
R-4	LT	49+861.000								1				
R-5	RT	49+806.000										8.5		
D-1	LT	49+688.711	49+711.323										22.8	
D-2	RT	49+802.000	49+853.970											50.0
D-3	LT	49+853.380	49+900.212											48.0
TOTALS CARRIED TO SUB-SUMMARY				1	165.0	461.01	2	2	18	1	4	8.5	22.8	98.0

metric units

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

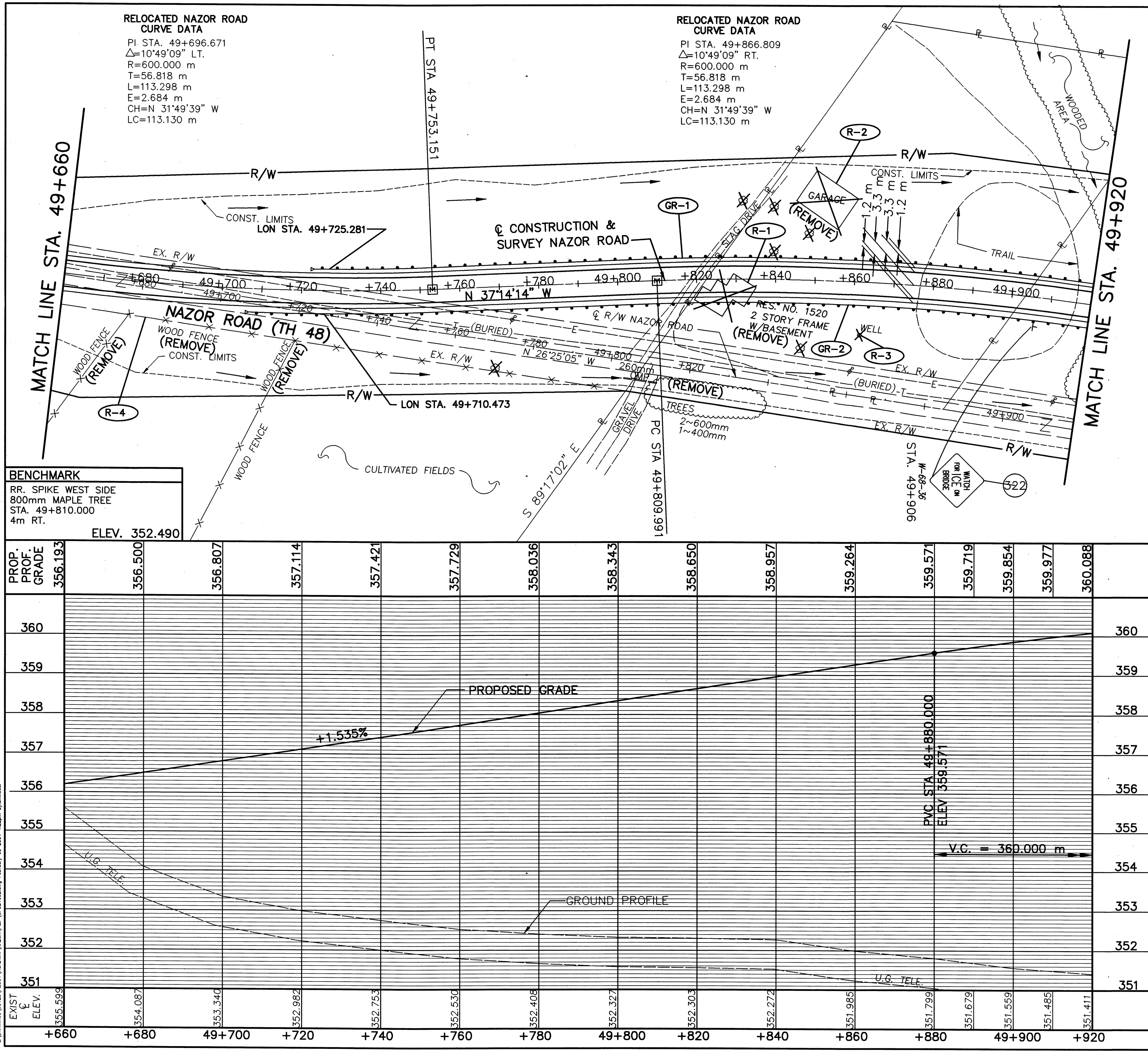
PLAN AND PROFILE – NAZOR ROAD (T.H. 48)
STA. 49+660 TO STA. 49+920

CRA-30-24.000

L:\DRAWINGS\93125\F&DC1\Roadway\NAZOR\P&P\GP521c02.dwg September 19 2001 8:18am By:ljodd

RELOCATED NAZOR ROAD CURVE DATA
PI STA. 49+696.671
Δ=10°49'09" LT.
R=600.000 m
T=56.818 m
L=113.298 m
E=2.684 m
CH=N 31°49'39" W
LC=113.130 m

RELOCATED NAZOR ROAD CURVE DATA
PI STA. 49+866.809
Δ=10°49'09" RT.
R=600.000 m
T=56.818 m
L=113.298 m
E=2.684 m
CH=N 31°49'39" W
LC=113.130 m



BENCHMARK
RR. SPIKE WEST SIDE
800mm MAPLE TREE
STA. 49+810.000
4m RT.
ELEV. 352.490

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
3. FOR TRAFFIC CONTROL QUANTITIES, SEE SHEETS 508-509 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 BUILDING DEMOLISHED (EAH)	202 FENCE REMOVED (EACH)	606 GUARD RAIL TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 ANCHOR ASSEMBLY TYPE E 98 (EACH)	626 BARRIER REFLECTOR TYPE A-2 (EACH)	SPECIAL DRILLED WATER WELL ABANDONED (EACH)
GR-1	LT	49+721.471	49+974.836			243.84	1		8	
GR-2	RT	49+706.863	49+971.658			243.84	1	2	8	
R-1	RT	49+830.000		1						
R-2	LT	49+850.000		1						
R-3	RT	49+660.000	49+801.000		165.0					
R-4	LT	49+861.000								1
TOTALS CARRIED TO SUB-SUMMARY				2	165.0	487.68	2	2	16	1

metric units

RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE - NAZOR ROAD (T.H. 48)
STA. 49+660 TO STA. 49+920

CRA-30-24.000

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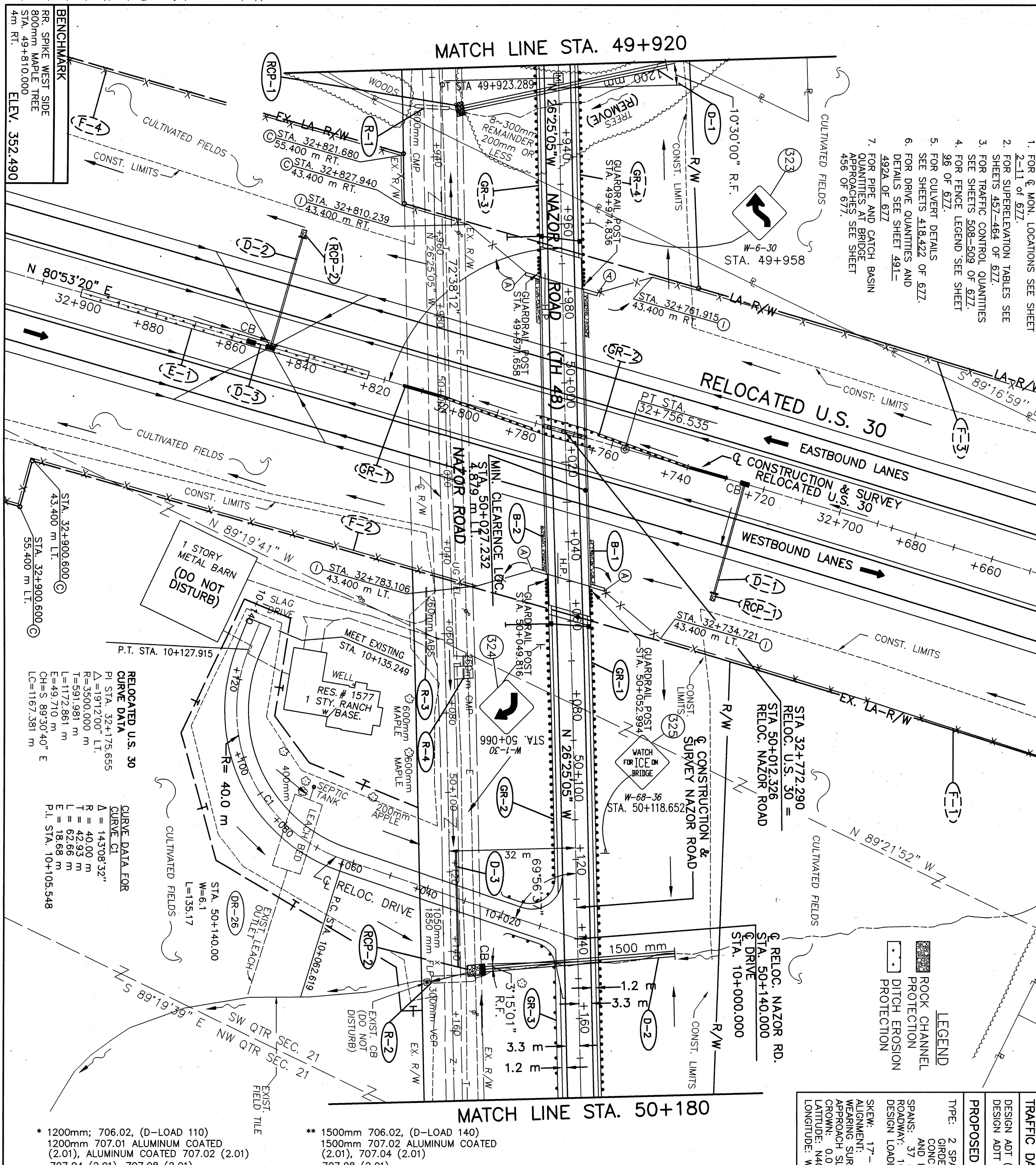
NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 of 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
3. FOR TRAFFIC CONTROL QUANTITIES SEE SHEETS 508–509 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR CULVERT DETAILS SEE SHEETS 418,422 OF 677.
6. FOR DRIVE QUANTITIES AND DETAILS SEE SHEET 491–492A OF 677
7. FOR PIPE AND CATCH BASIN QUANTITIES AT BRIDGE APPROACHES SEE SHEET 456 OF 677.



BENCHMARK
RR. SPIKE WEST SIDE
800mm MAPLE TREE
STA. 49+810.000
4m RT. ELEV. 352.490

RELOCATED U.S. 30 CURVE DATA
PI STA. 32+175.655
△=19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m

CURVE DATA FOR CURVE C1
Δ = 143°08'32"
R = 40.00 m
T = 42.93 m
L = 62.66 m
E = 18.68 m
P.I. STA. 10+105.548

LEGEND
ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

TRAFFIC DATA
DESIGN ADT (2020) = 1047
DESIGN ADTT (2020) = 32

PROPOSED STRUCTURE
TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 37 500, 37 500 c/c BEARINGS
ROADWAY: 10 200 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 17°–18'–25" L.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS–1–81M)
CROWN: 0.016
LATITUDE: N40°–45'–40"
LONGITUDE: W82°–45'–50"

* 1200mm; 706.02, (D–LOAD 110) 1200mm 707.01 ALUMINUM COATED (2.01), ALUMINUM COATED 707.02 (2.01) 707.04 (2.01), 707.08 (2.01)

** 1500mm 706.02, (D–LOAD 140) 1500mm 707.02 ALUMINUM COATED (2.01), 707.04 (2.01) 707.08 (2.01)

ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600MM & UNDER (METER)	202 PIPE REMOVED OVER 600MM (METER)	601 ROCK CHANNEL PROTECTION TYPE B W/FILTER (C.M.)	601 RIPRAP USING 150mm REINF. CONC. SLAB (S.M.)	602 CONCRETE MASONRY (C.M.)	603 * CONDUIT TYPE A (METER)	603 ** CONDUIT TYPE A (METER)	603 300mm CONDUIT TYPE C (METER)	606 GUARD RAIL TYPE 5 (METER)	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 (EACH)	606 ANCHOR ASSEMBLY TYPE E 98 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	626 BARRIER REFLECTORS TYPE A-2 (EACH)	626 BARRIER REFLECTORS TYPE B-2 (EACH)
GR–1	LT	50+052.994	50+280.000									228.60	1		1	9	
GR–2	RT	50+049.816	50+130.954 (10+020.866)									87.63	1		1	4	
GR–3	RT	50+138.262 (10+016.759)	50+523.810									377.19		1	1	14	
R–1	RT	49+930.000			11.0												
R–2	RT	50+150.000			12.0												
R–3	RT	50+060.000		20.0													
R–4	RT	50+070.000		6.0													
D–1	℄	49+926.000					3.67	2.38	47.13								
D–2	℄	50+146.000					4.80	3.74		49.40							
D–3	RT	50+112.400	50+147.400								35.00						
RCP–1	RT	49+931.000				6.43											
RCP–2	RT	50+149.000				10.80											
B–1	LT	49+966.912	50+057.740														4
B–2	RT	49+966.912	50+057.740														4
TOTALS CARRIED TO SUB–SUMMARY				26.0	23.0	17.23	8.47	6.12	47.13	49.40	35.00	693.42	2	1	3	27	8

CRA–30–24.000

PLAN AND PROFILE – NAZOR ROAD (T.H. 48) STA. 49+920 TO STA. 50+180

CALCULATED PSB
CHECKED LBD

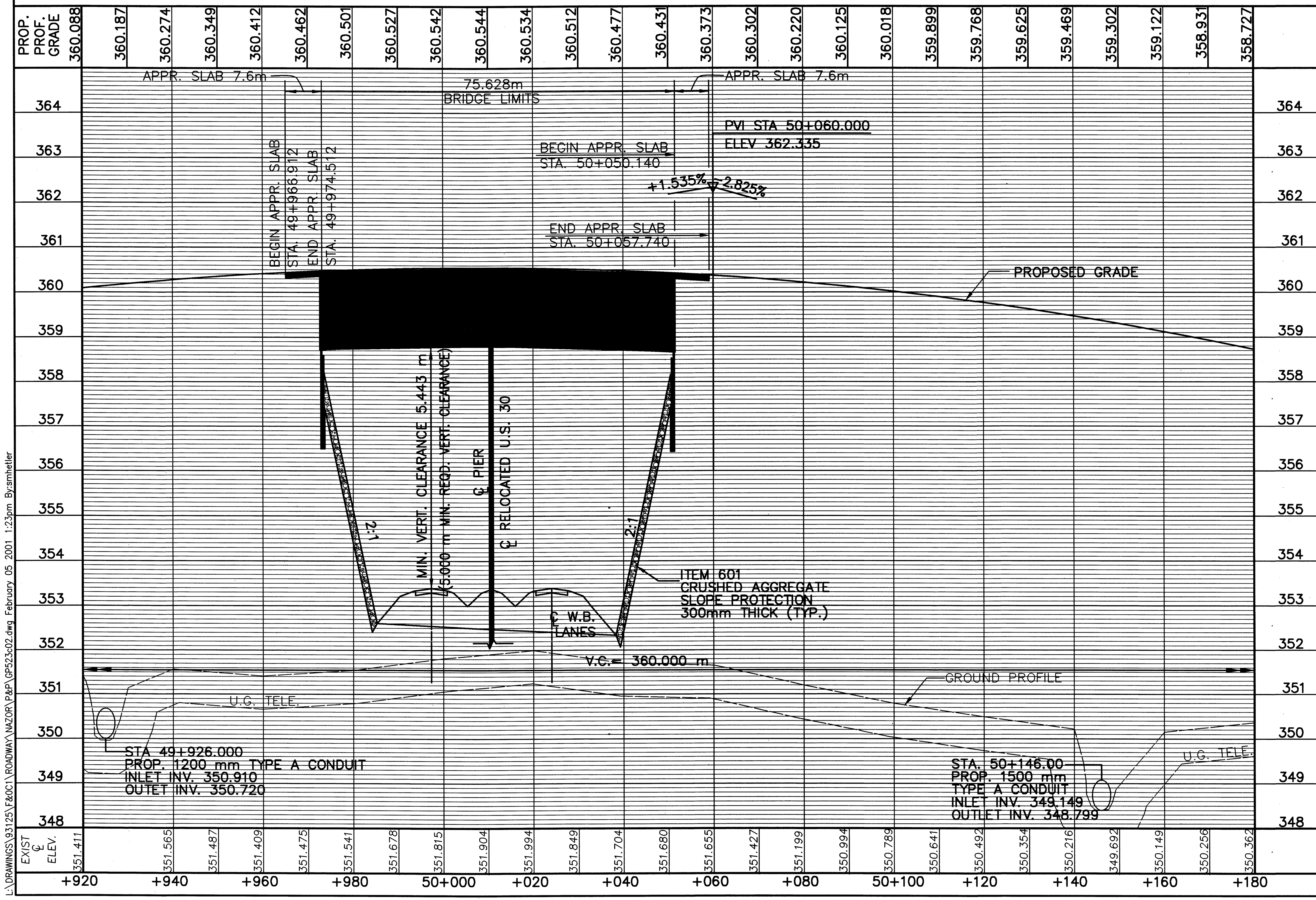
RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

metric units

metric units

NOTES:

1. FOR UNDERDRAINS AND QUANTITIES SEE SHEET 502–505 of 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
3. FOR CULVERT DETAILS AND QUANTITIES SEE SHEETS 407, 418 AND 422 OF 677.



L:\DRAWINGS\93125\F&OC\ROADWAY\NAZOR\P&P\GP523c02.dwg February 05, 2001 1:23pm By:smetler

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – NAZOR ROAD (T.H. 48)
STA. 49+920 TO STA. 50+180

CRA-30-24.000

RELOCATED NAZOR ROAD CURVE DATA
PI STA. 50+375.514
Δ=27°58'27" RT.
R=600.000 m
T=149.454 m
E=18.334 m
CH= N 12°25'51" W
LC=290.045 m

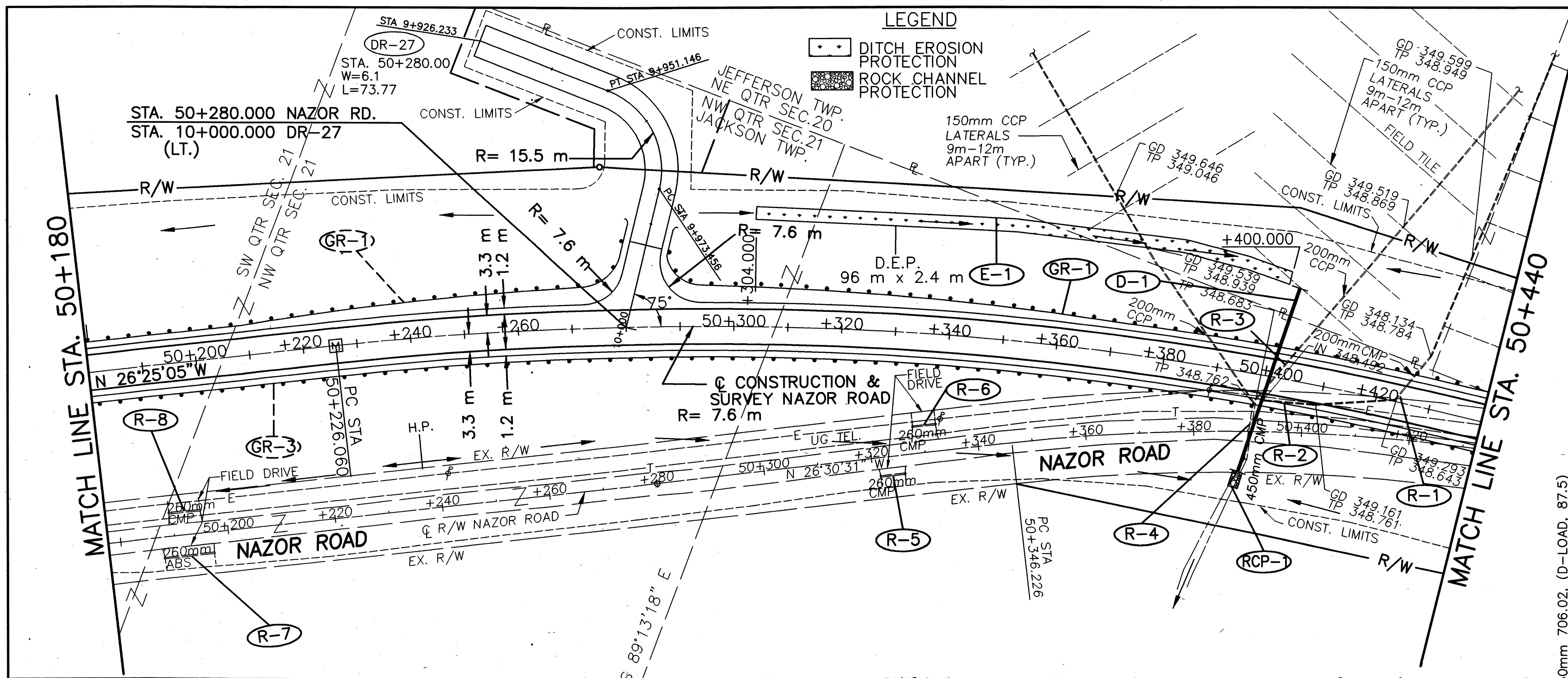
EXIST. NAZOR ROAD CURVE DATA
PI STA. 50+433.408
Δ=27°58'27" RT.
R=350.000 m
T=87.181 m
L=170.885 m
E=10.695 m

metric units

NOTES:
1. FOR ℄ MON. LOCATIONS SEE SHEET 2–11 of 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
3. FOR CULVERT DETAILS SEE SHEET 426 OF 677.
4. FOR DRIVE QUANTITIES AND DETAILS SEE SHEET 491–492A OF 677.

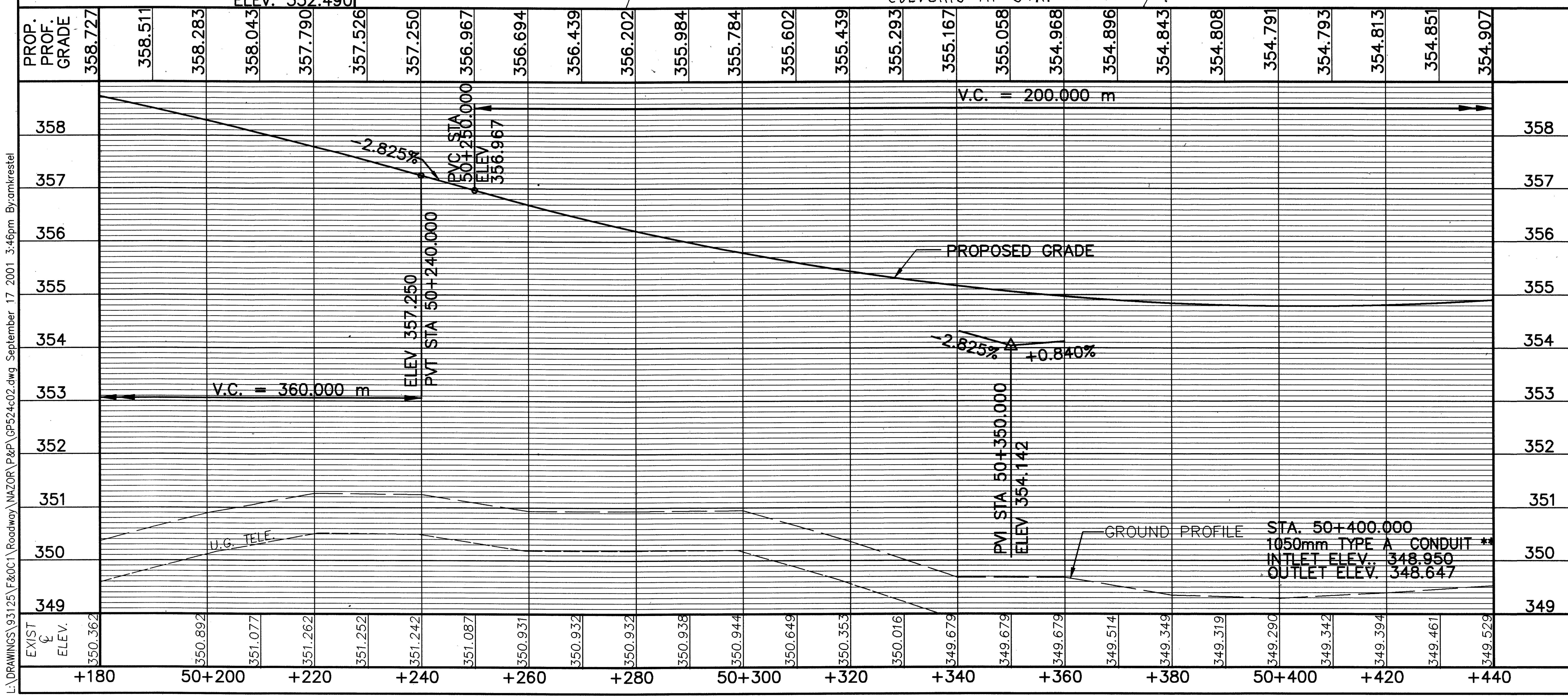
RATIO 1:500 — HORIZONTAL SCALE IN METERS

CALCULATED PSB — CHECKED LBD



EXISTING FARM DRAINS TO REMAIN AND PROPOSED FARM DRAINS CROSSING THE ROADWAY SHALL BE IN WORKING ORDER PRIOR TO ANY REMOVAL AND REPLACEMENT OF CULVERTS AT STA. 50+400+/-.

BENCHMARK
RR. SPIKE WEST SIDE 800mm MAPLE TREE
STA. 49+810.000, 4m RT. ELEV. 352.490



** 1050mm 706.02, (D-LOAD, 87.5)
1050mm 707.01, ALUMINUM COATED (1.63)
707.02 (1.63), 707.04 (1.63), 707.08 (1.63)

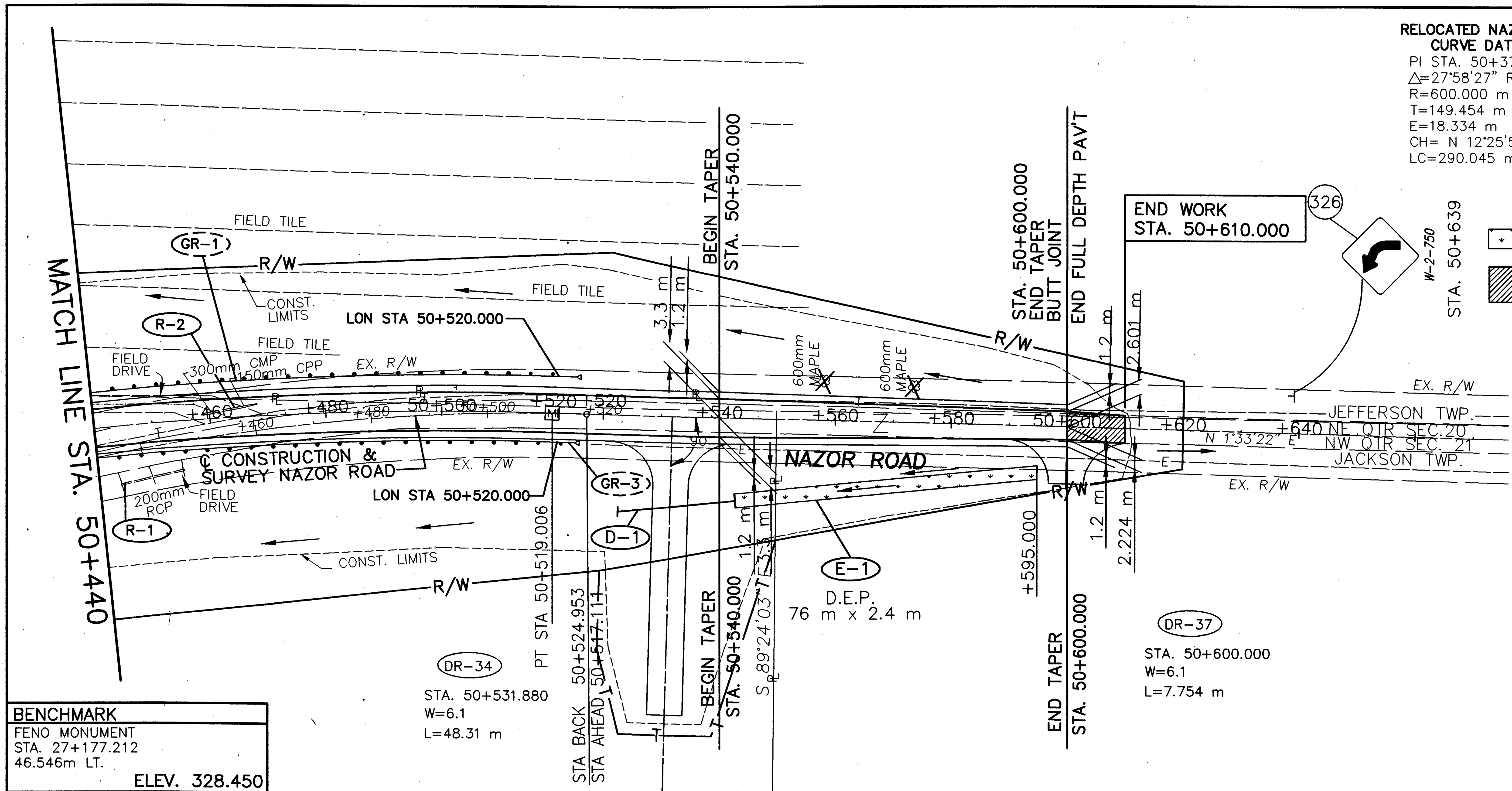
ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600mm AND UNDER (METER)	601 RIPRAP USING 150mm REINF. CONC. SLAB (S.M.)	601 ROCK CHANNEL PROTECTION TYPE B, W/FILTER (C.M.)	602 CONCRETE MASONRY (C.M.)	603 ** CONDUIT TYPE A (EACH)	606 GUARDRAIL TYPE 5 (METER)	606 ANCHOR ASSEMBLY TYPE E 98 (EACH)	606 ANCHOR ASSEMBLY TYPE T (EACH)	626 BARRIER REFLECTORS TYPE A-2 (EACH)	670 DITCH EROSION (S.M.)
RCP-1	RT	50+400.000				4.78							
E-1	LT	50+304.000	50+400.000										230.4
R-1	RT	50+411.000	50+444.000	26.0									
R-2	RT	50+400.000	50+408.000	8.0									
R-3	RT/LT	50+398.000	50+405.000	12.0									
R-4		50+397.92	50+398.16	10.56									
R-5		50+328.73	50+333.68	4.81									
R-6		50+334.19	50+338.82	4.56									
R-7		50+190.00	50+199.50	9.50									
R-8		50+191.64	50+197.73	6.09									
D-1	℄	50+400.000			3.2		1.89	35.1					
GR-1	LT	50+287.699 (9+980.264)	50+523.810						228.60	1	1	9	
TOTALS CARRIED TO SUB-SUMMARY				81.52	3.2	4.78	1.89	35.1	228.60	1	1	9	230.4

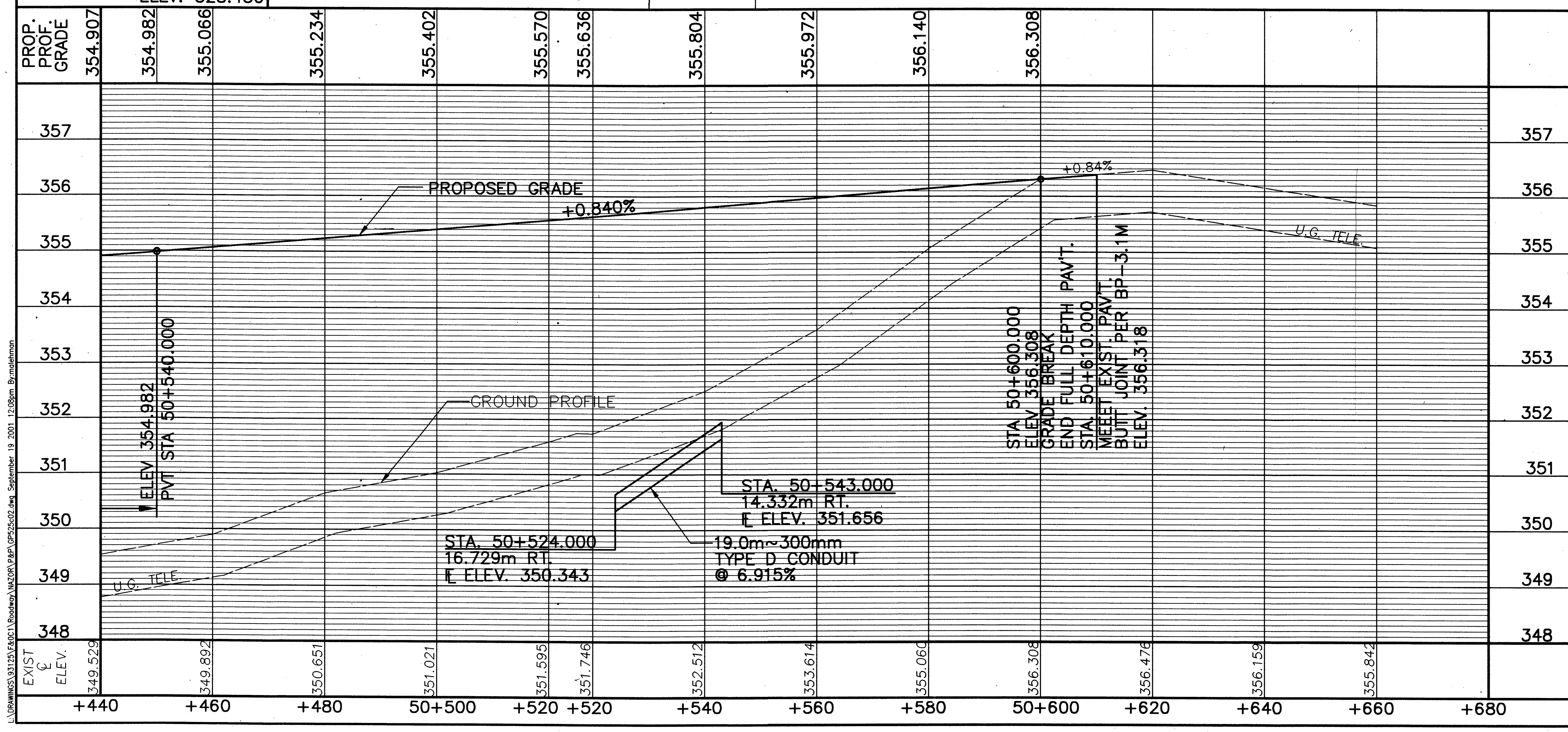
PLAN AND PROFILE – NAZOR ROAD (T.H. 48)
STA. 50+180 TO STA. 50+440

CRA-30-24.000

L:\DRAWINGS\93125\E&OC1\Roadway\NAZOR\P&P\GP524c02.dwg September 17 2001 3:46pm Bycamkrestel



BENCHMARK
FENO MONUMENT
STA. 27+177.212
46.546m LT.
ELEV. 328.450



RELOCATED NAZOR ROAD CURVE DATA
PI STA. 50+375.514
△=27°58'27" RT.
R=600.000 m
T=149.454 m
E=18.334 m
CH= N 12°25'51" W
LC=290.045 m

EXIST. NAZOR ROAD CURVE DATA
PI STA. 50+433.408
△=27°58'27" RT.
R=350.000 m
T=87.181 m
L=170.885 m
E=10.695 m

metric units

LEGEND

DITCH EROSION PROTECTION

WEARING COURSE REMOVED AND RESURFACED WITH 38mm 448 ASPHALT CONCRETE SURFACE COURSE OVER 407 TACK COAT. LENGTH MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET 2-11 of 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457-464 OF 677.
3. FOR TRAFFIC CONTROL QUANTITIES SEE SHEETS 508-509 OF 677.

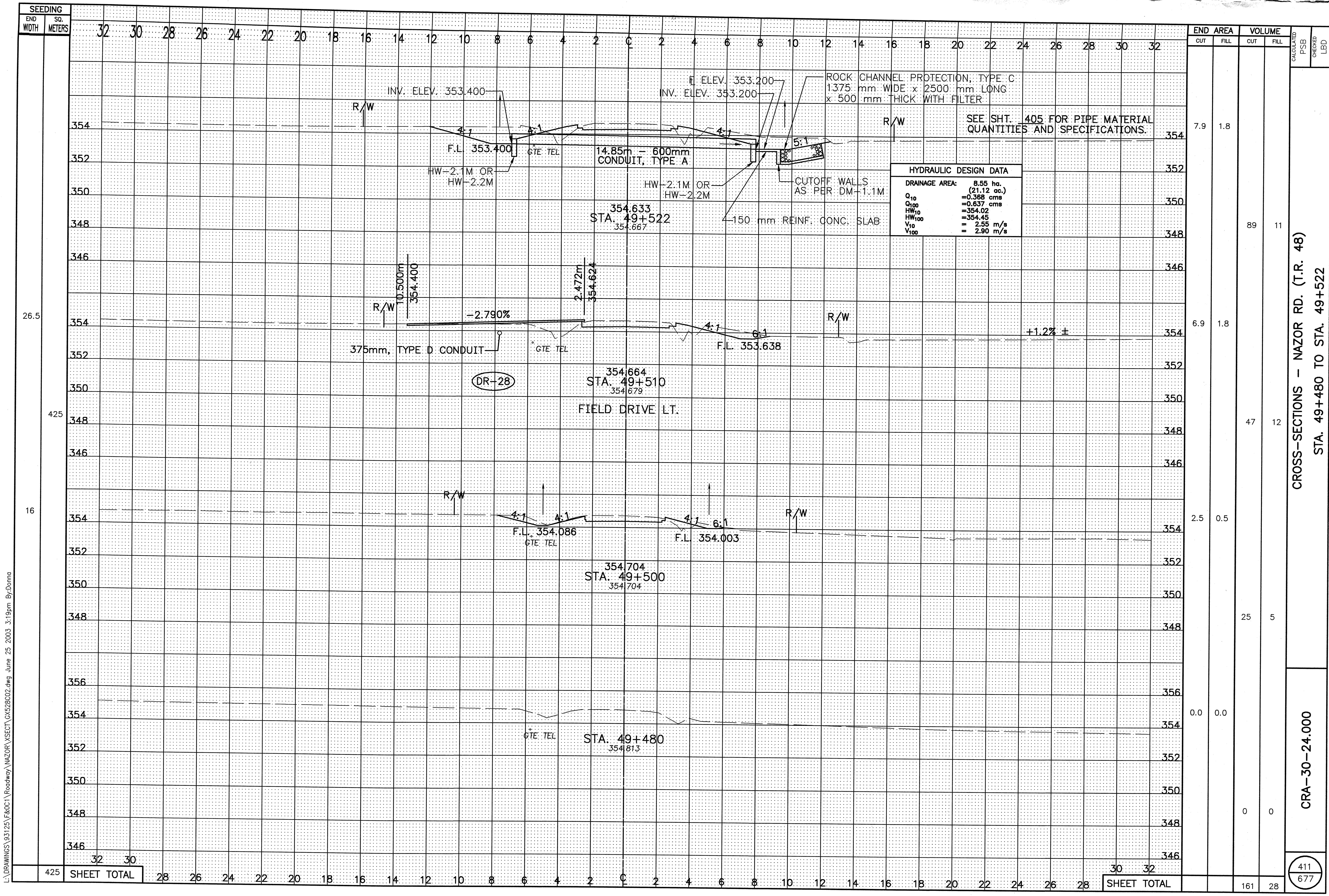
ESTIMATED QUANTITIES

REF. No.	SIDE	STATION FROM	STATION TO	202 PIPE REMOVED 600MM AND UNDER (METER)	603 300M TYPE D CONDUIT (METER)	670 DITCH EROSION PROTECTION (S.M.)
D-1	RT	50+524.000	50+540.00		19.0	
E-1	RT	50+540.000	50+595.000			183
R-1	RT	50+450.000		11.0		
R-2	LT	50+465.000		10.0		
TOTALS CARRIED TO SUB-SUMMARY				21.0	19.0	183

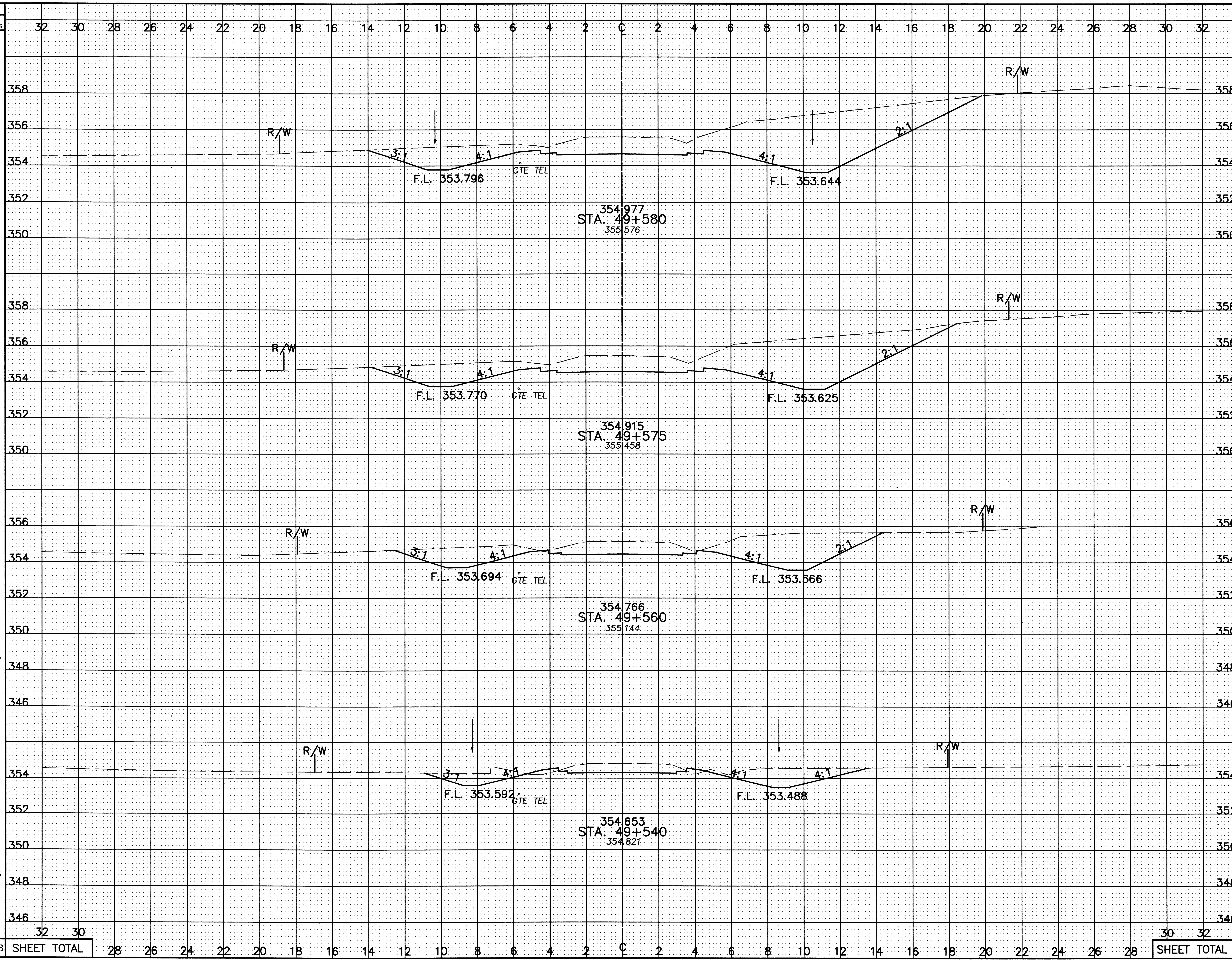
RATIO 1:500
HORIZONTAL SCALE IN METERS
CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – NAZOR ROAD (T.H. 48)
STA. 50+440 TO STA. 50+620

CRA-30-24.000



L:\DRAWINGS\93125\F&OC1\Roadway\NAZOR\XSECT\CX528C02.dwg June 25 2003 3:19pm By:Donna



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
33.1		43.8	0.0		
	159			202	0
		37.1	0.0		
				444	0
30.3		22.1	0.0		
	586			325	5
28.3		10.4	0.5		
	493			165	21
SHEET TOTAL	1238			1136	26

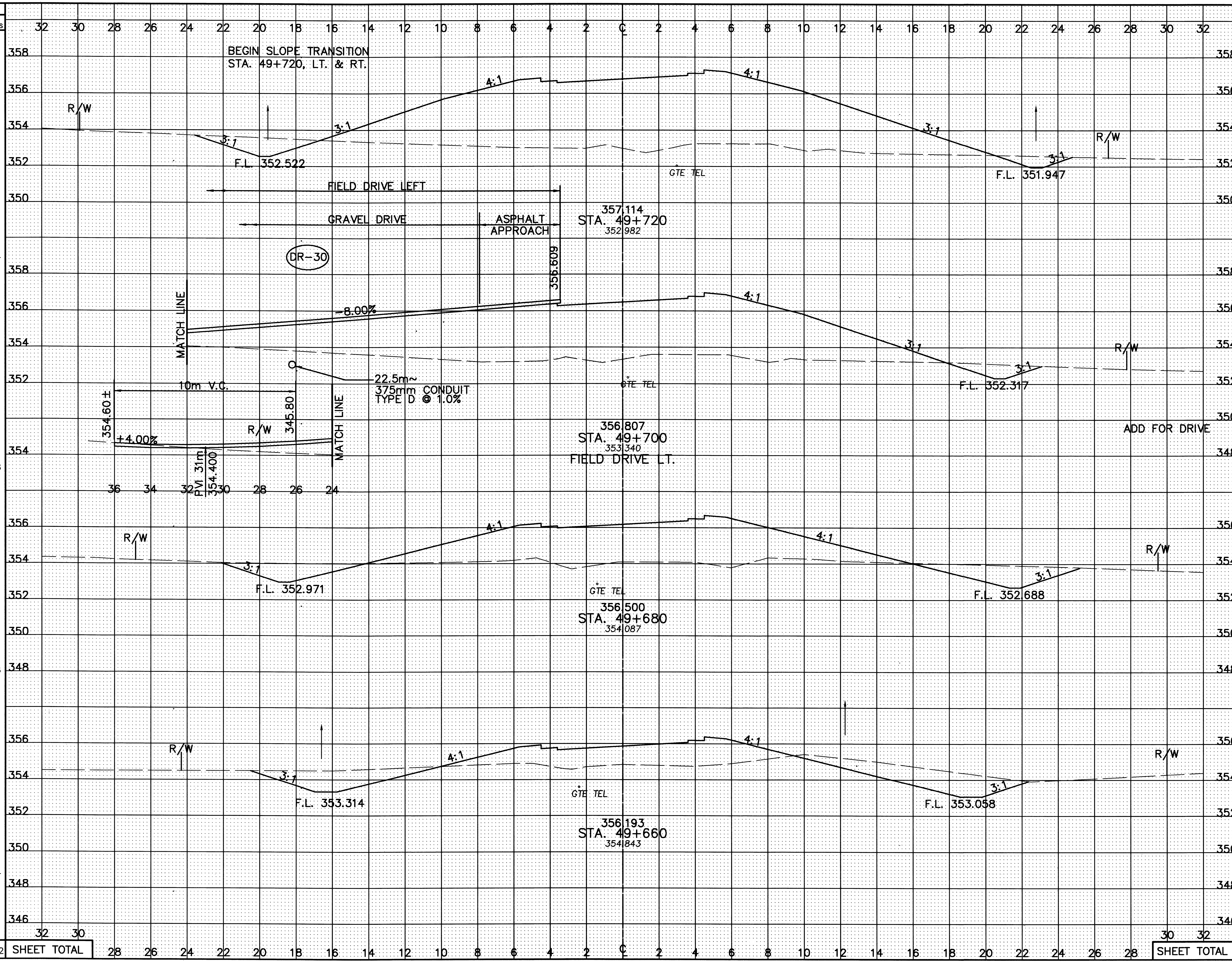
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 49+540 TO STA. 49+580

CRA-30-24.000

I:\DRAWINGS\93125\E&OC1\Roadway\NAZOR\XSECT\GX529C02.dwg February 06, 2001 3:42pm Bysmhetler


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 49+600 TO STA. 49+650
CRA-30-24.000
413
677
16.50m GRAVEL DRIVE
356.181
4.5m
356.085
5.7m
-8.00%
-5.05%
355.312
21.0m
-5.75%
R/W
356.040
STA. 49+650
355.009
(GRAVEL DRIVEWAY RIGHT)
DR-25
PROP. 375 mm CONDUIT
3:1
4:1
GTE TEL
F.L. 353.657
F.L. 353.429
355.886
STA. 49+640
355.599
41.6
35.8
1.4
532
893
14
ADD FOR DRIVES
0
0
-4.3
0
-16
0
3.74m
GRAVEL DRIVE
10.49m APRON
(PAVED)
355.255
16.0m
355.451
5.7m
355.547
4.5m
355.619
3.3m
-5.00%
-2.01%
-8.00%
2:1
F.L. 353.800
355.579
STA. 49+620.000
(GRAVEL DRIVEWAY LEFT)
356.264
DR-24
11.6
53.5
0.0
479
1163
0
F.L. 353.898
F.L. 353.722
355.272
STA. 49+600
356.051
36.3
62.8
0.0
694
1066
0
1705
SHEET TOTAL
3106
14

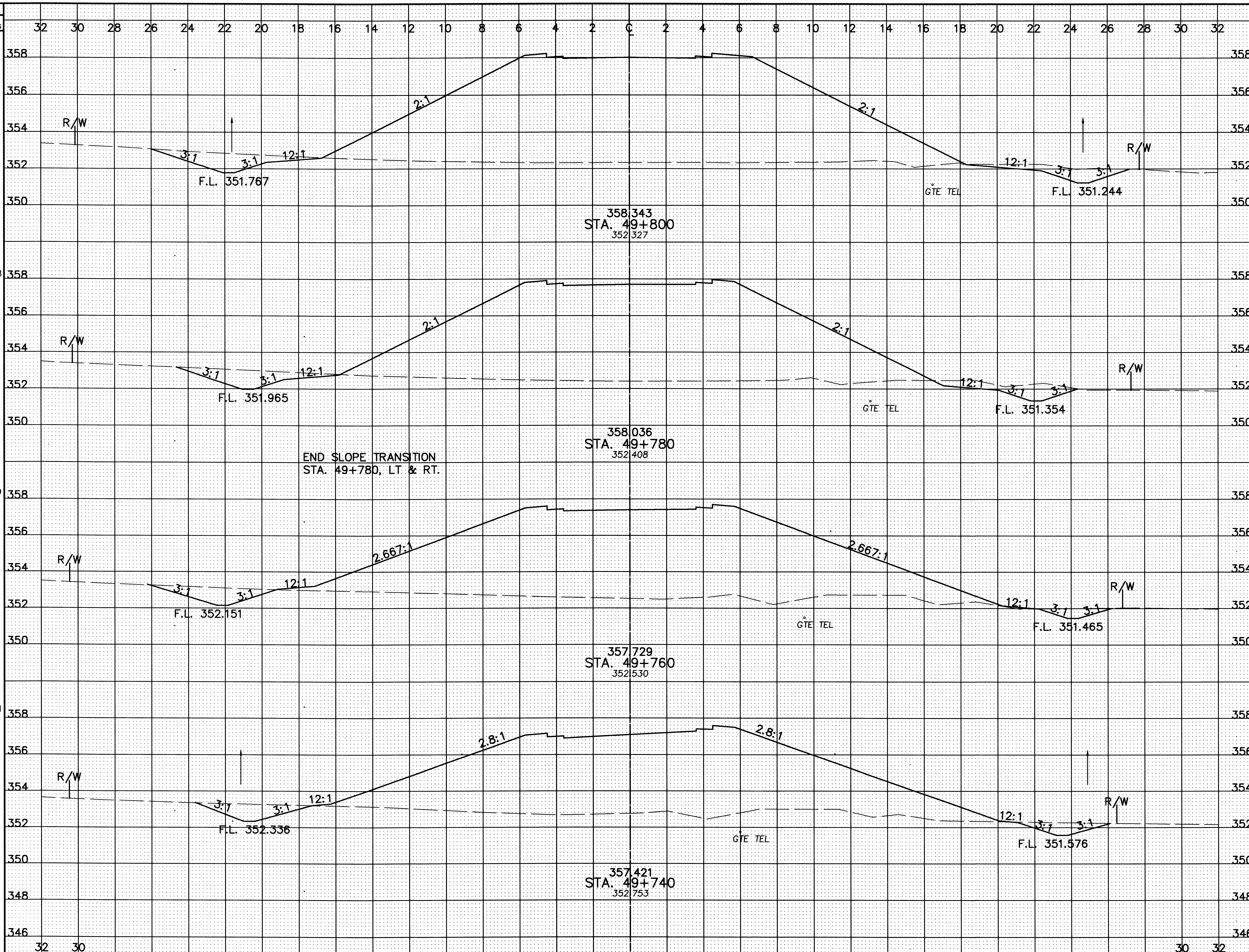


Seeding End Width	Seeding Sq. Meters	Station	End Area Cut	End Area Fill	Volume Cut	Volume Fill
49.4		49+720	5.4	97.6		
	984				118	1728
49.0		49+700	6.6	74.8		
		Add for drive				131
	978				162	1190
48.8		49+680	9.7	44.0		
	946				118	619
45.8		49+660	2.1	17.8		
	874				382	192
Sheet Total	3782				780	3860

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - NAZOR RD. (T.R. 48)
STA. 49+660 TO STA. 49+720

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51.2		STA. 49+800	8.6	131.0		
	1028				166	2481
51.6		STA. 49+780	8.0	117.1		
	1019				131	2534
50.3		STA. 49+760	5.2	136.4		
	1001				100	2550
49.8		STA. 49+740	4.9	118.3		
	992				102	2165
	4040	SHEET TOTAL			499	9730

CALCULATED PSB
CHECKED LBD

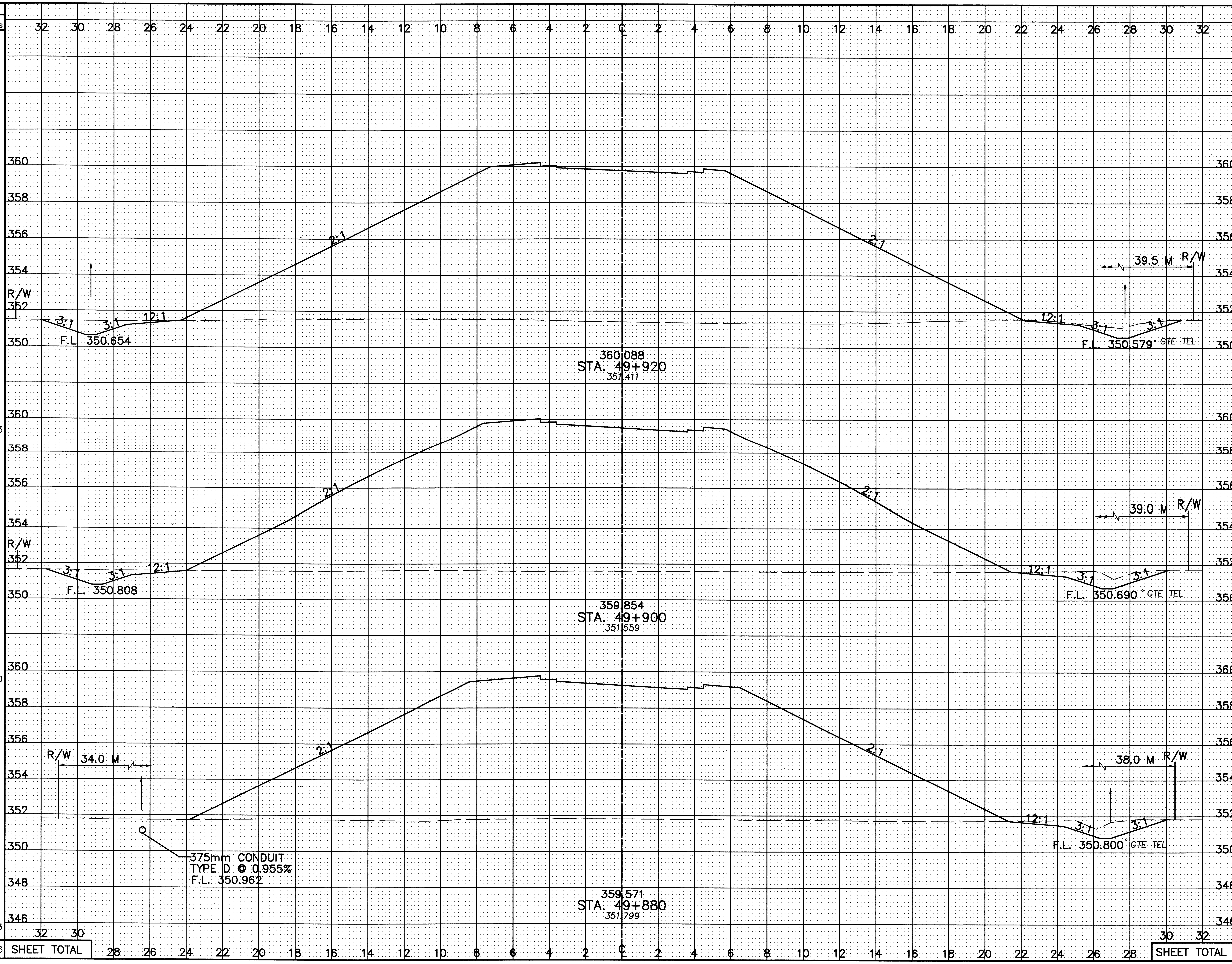
CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 49+740 TO STA. 49+800

CRA-30-24.000


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
R/W
3:1
3:1
12:1
2:1
2:1
12:1
3:1
3:1
36.5 M
R/W
F.L. 351.153
GTE TEL
F.L. 350.911
359.264
STA. 49+860
351.985
61.1
7.2
183.1
1205
DR-31
SEE SHEET 492B
FOR DRIVE PROFILE
R/W
3:1
3:1
12:1
2:1
34.0 M
R/W
F.L. 351.358
GTE TEL
358.957
STA. 49+840
352.272
59.4
10.6
159.4
179
3427
1122
R/W
3:1
3:1
12:1
2:1
2:1
R/W
MATCH LINE
F.L. 351.563
GTE TEL
358.650
STA. 49+820
352.303
FIELD DRIVE RT.
450mm CONDUIT
TYPE D @ 0.555%
F.L. 351.139
52.8
10.2
143.5
209
3030
2796
1040
189
2746
3367
SHEET TOTAL
SHEET TOTAL
577
11999
CROSS-SECTIONS - NAZOR RD. (T.R. 48)
STA. 49+820 TO STA. 49+860
CRA-30-24.000
416
677


SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
GRAVEL DRIVE
ASPHALT APPROACH
13.570m
6.0 M
VERTICAL CURVE
359.678
E.P. 3.3 LT.
PVC 12.300
EL.359.408
PVI 9.300
EL.359.738
PVT 6.300
EL.359.708
1.00%
-10.00%
2:1
38.0 M
R/W
12:1
3:1
3:1
GTE TEL
F.L. 350.800
MATCH LINE
375mm CONDUIT
TYPE D @ 0.955%
F.L. 351.058
359.417
STA. 49+870
351.891
6.0 M
VERTICAL CURVE
PVC 86.066
EL.351.615
PVI 83.066
EL.351.624
PVT 80.066
EL.351.650
-0.272%
-10.00%
-10.00%
MATCH LINE
4469
SHEET TOTAL
**
SHEET TOTAL
4469
CROSS-SECTIONS - NAZOR RD. (T.R. 48)
STA. 49+870
CRA-30-24.000
417
677
L:\DRAWINGS\93125\F&OC1\Roadway\NAZOR\XSECT\GX534C02.dwg September 19 2001 8:39am By:ltodd

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 49+880 TO STA. 49+920



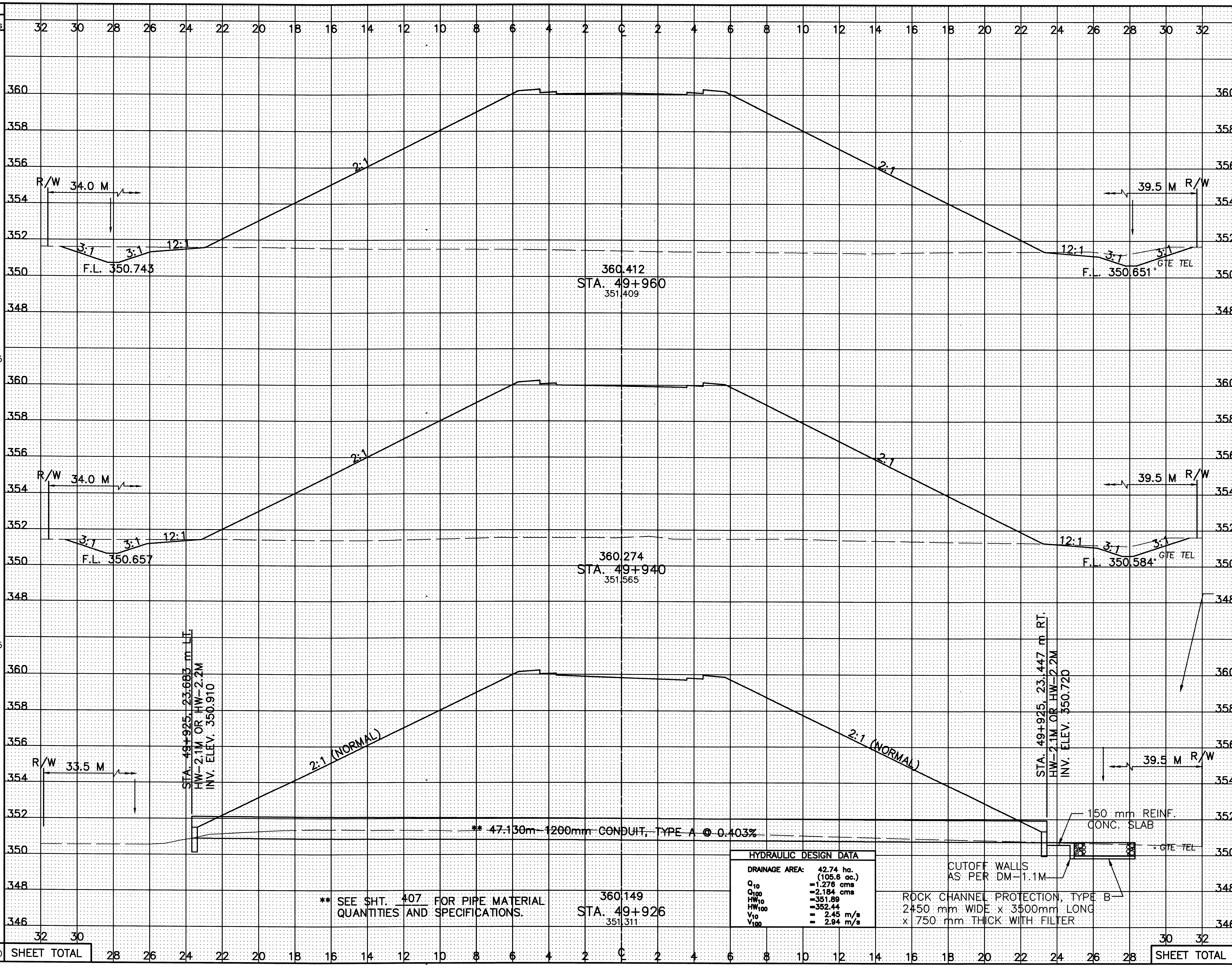
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
49+920	68.5		4.9	239.2		
		1363			108	4632
49+900	67.8		5.9	223.7		
		1350			117	4284
49+880	67.2		5.9	204.4		
		1283			131	3878
SHEET TOTAL		3996			356	12794

CALCULATED PSB
CHECKED LBD

CRA-30-24.000

417A
677

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 49+926 TO STA. 49+960



HYDRAULIC DESIGN DATA

DRAINAGE AREA:	42.74 ha. (105.6 ac.)
Q_{10}	=1.276 cms
Q_{100}	=2.184 cms
HW_{10}	=351.89
HW_{100}	=352.44
V_{10}	= 2.45 m/s
V_{100}	= 2.94 m/s

SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
69.5		5.6	252.7		
	1385			102	4998
69.0		4.6	247.1		
	1375			83	3435
		7.3	243.5	37	1449
SHEET TOTAL	2760			222	9882

CALCULATED PSB
CHECKED LBD

CRA-30-24.000

418 / 677

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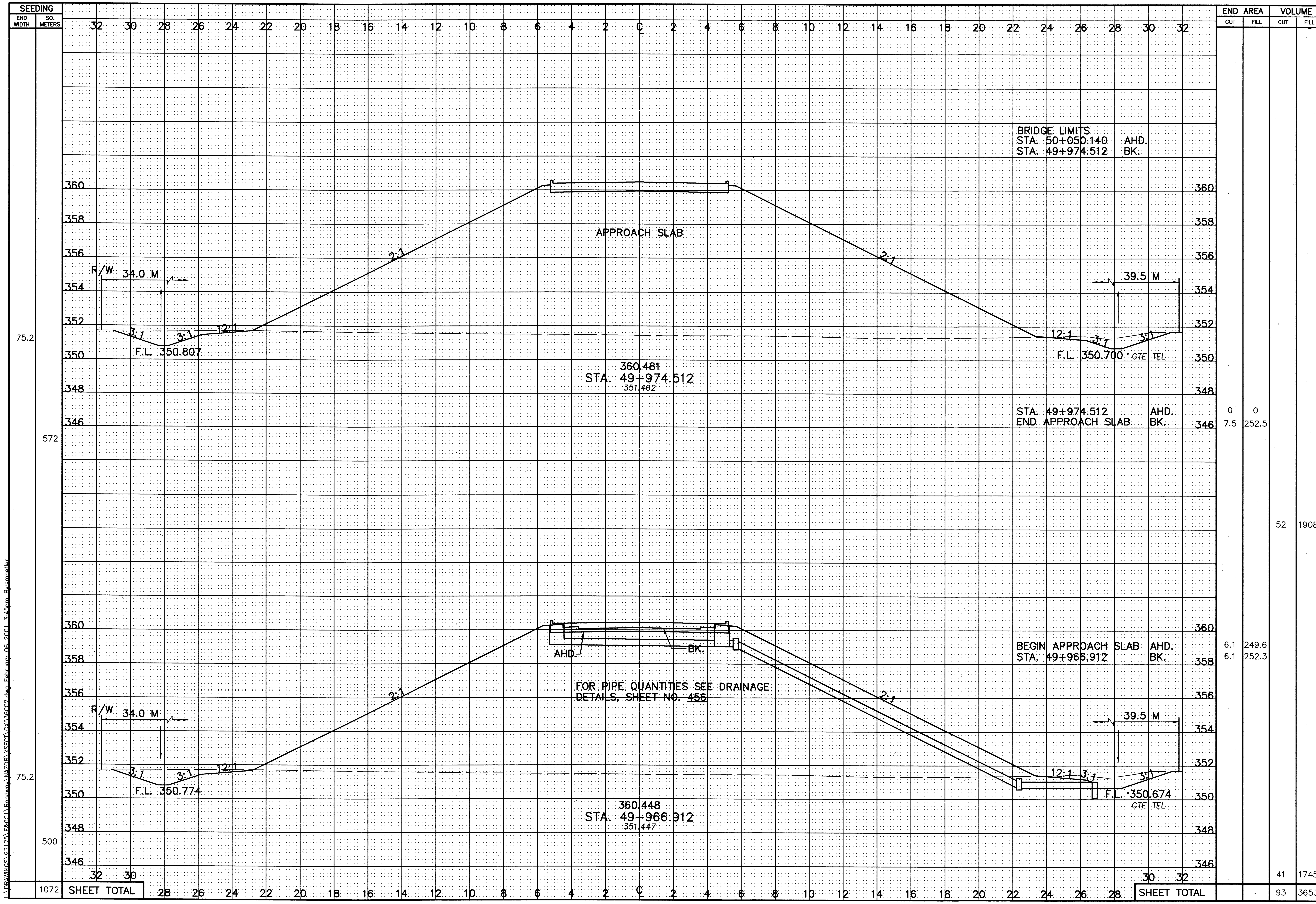


CALCULATED PSB
CHECKED LBD

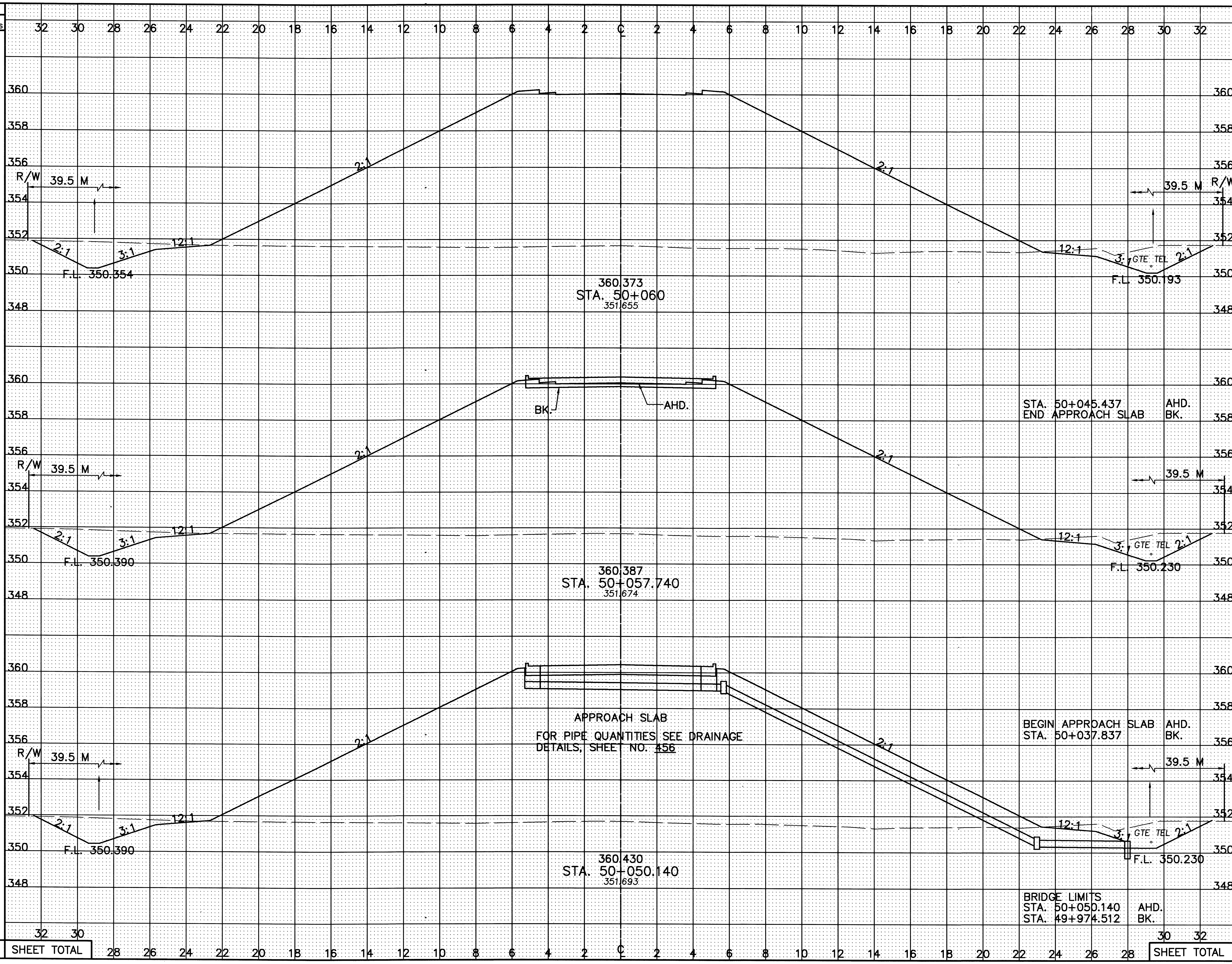
CROSS-SECTIONS - NAZOR RD. (T.R. 48)
STA. 49+966.912 TO STA. 49+974.512

CRA-30-24.000

I:\DRAWINGS\93125\FA0C1\Roadway\NAZOR\XSECT\QX53602.dwg February 06, 2001 3:45pm By:smheller

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+050.140 TO STA. 50+060

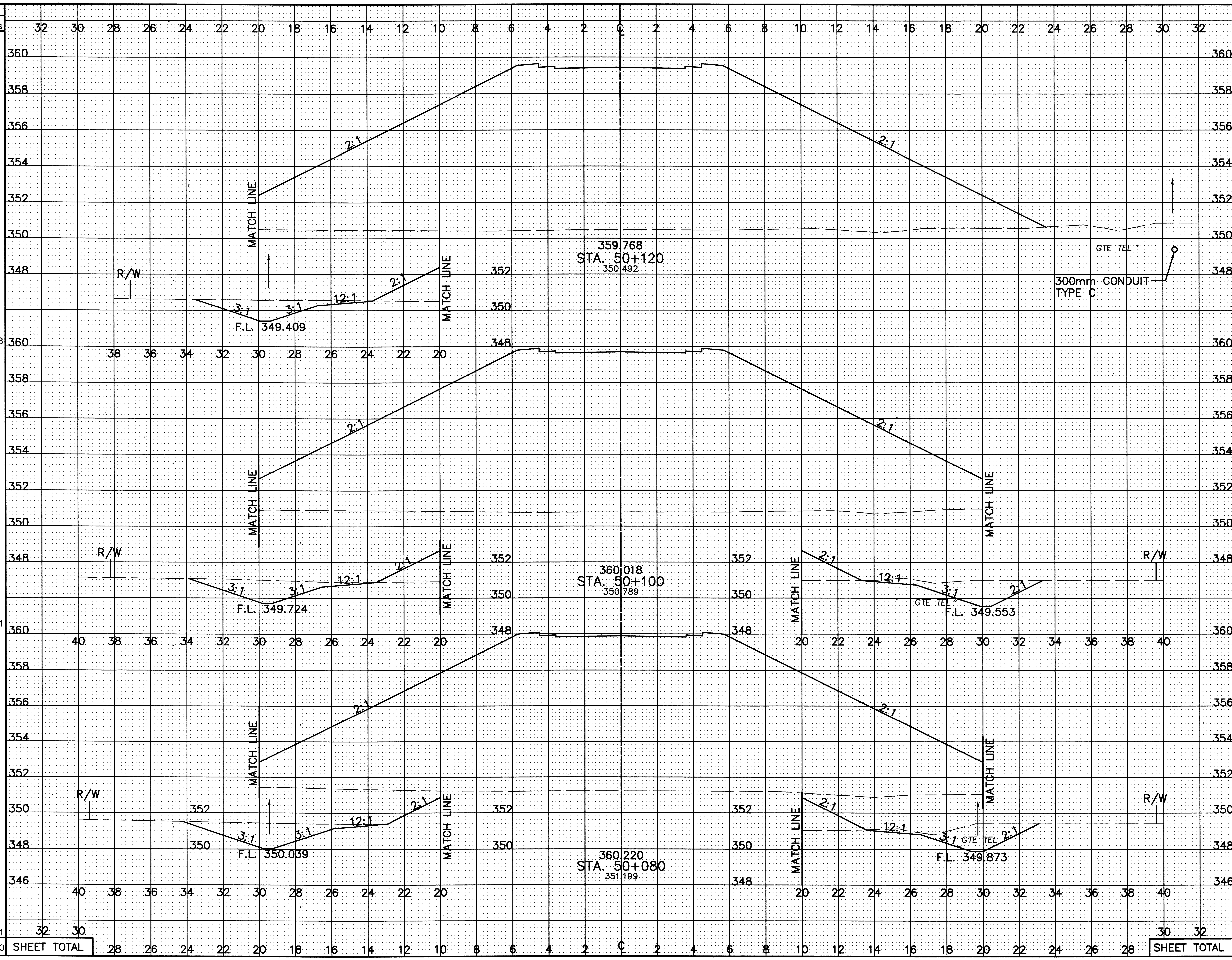
CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS	Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
74.0		50+060	12.3	246.2		
	167				178	3582
74.0		50+057.740	12.2 / 12.2	245.8 / 243.1		
	562				94	1852
74.0		50+050.140	12.4 / 0	244.2 / 0		
SHEET TOTAL	729				272	5434

CALCULATED PSB CHECKED LBD

420 / 677



SEEDING END WIDTH	SEEDING SQ. METERS
72.8	1468
74.0	1491
75.1	1491
	4450

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12.1	266.8		
		251	5279
13.0	261.1		
		256	5164
12.6	255.3		
		249	5015
		756	15458

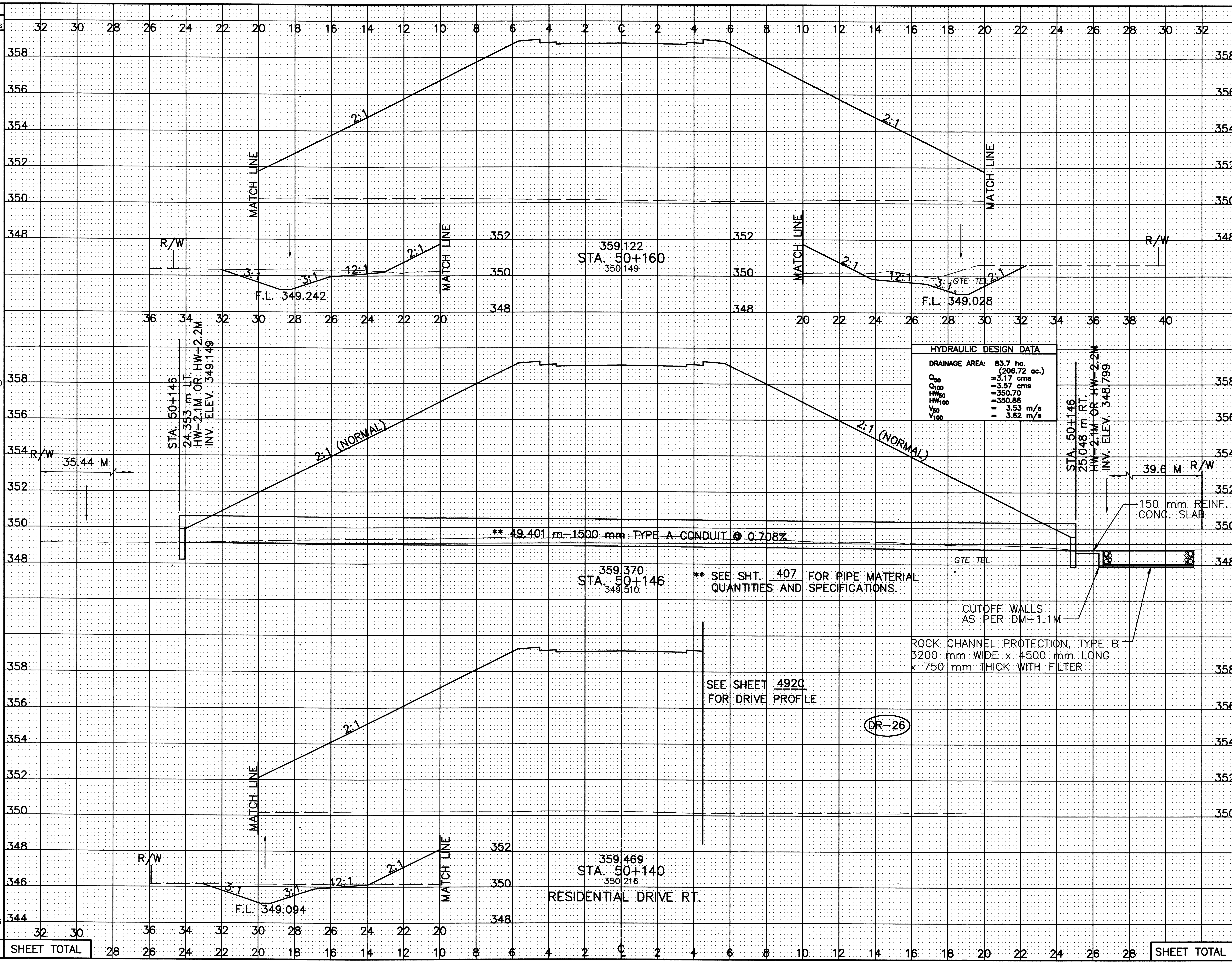
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+080 TO STA. 50+120

CRA-30-24.000

421
677

SEEDING END WIDTH	SEEDING SQ. METERS
70.2	
	1420
71.8	
	1446
SHEET TOTAL	2866

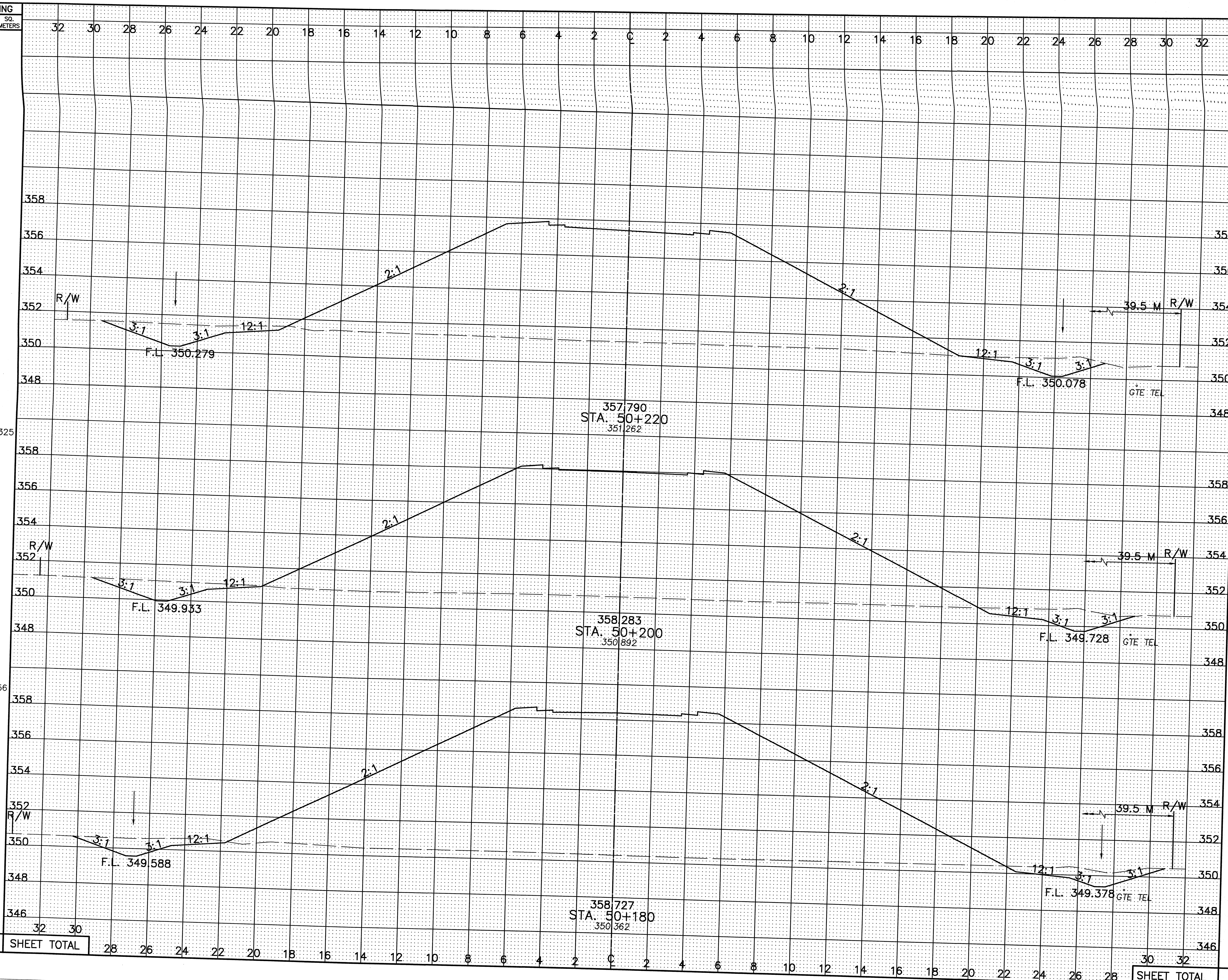


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.5	250.5		
		169	3816
13.6	294.7		
		77	1685
12.2	267.0		
		242	5338
		488	10839

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+140 TO STA. 50+160

CRA-30-24.000



SEEDING END WIDTH	SEEDING SQ. METERS
65.5	
	1325
67.0	
	1356
68.6	
	1388
	4069

SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9.6	151.7		
		198	3369
10.2	185.2		
		187	4078
8.6	222.6		
		191	4731
		576	12,178

SHEET TOTAL

CALCULATED PSB
CHECKED LBD

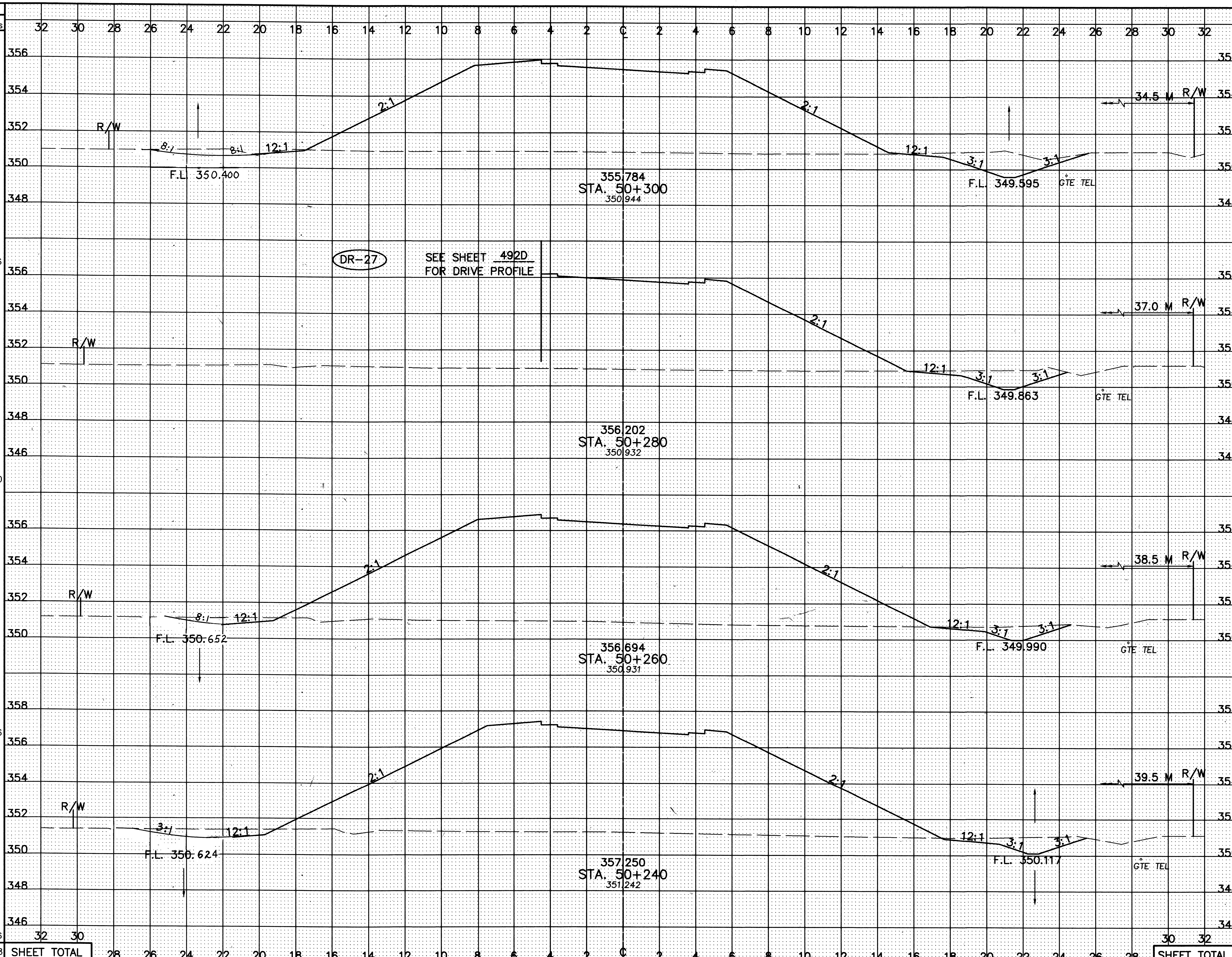
CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+180 TO STA. 50+220

CRA-30-24.000

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+240 TO STA. 50+300

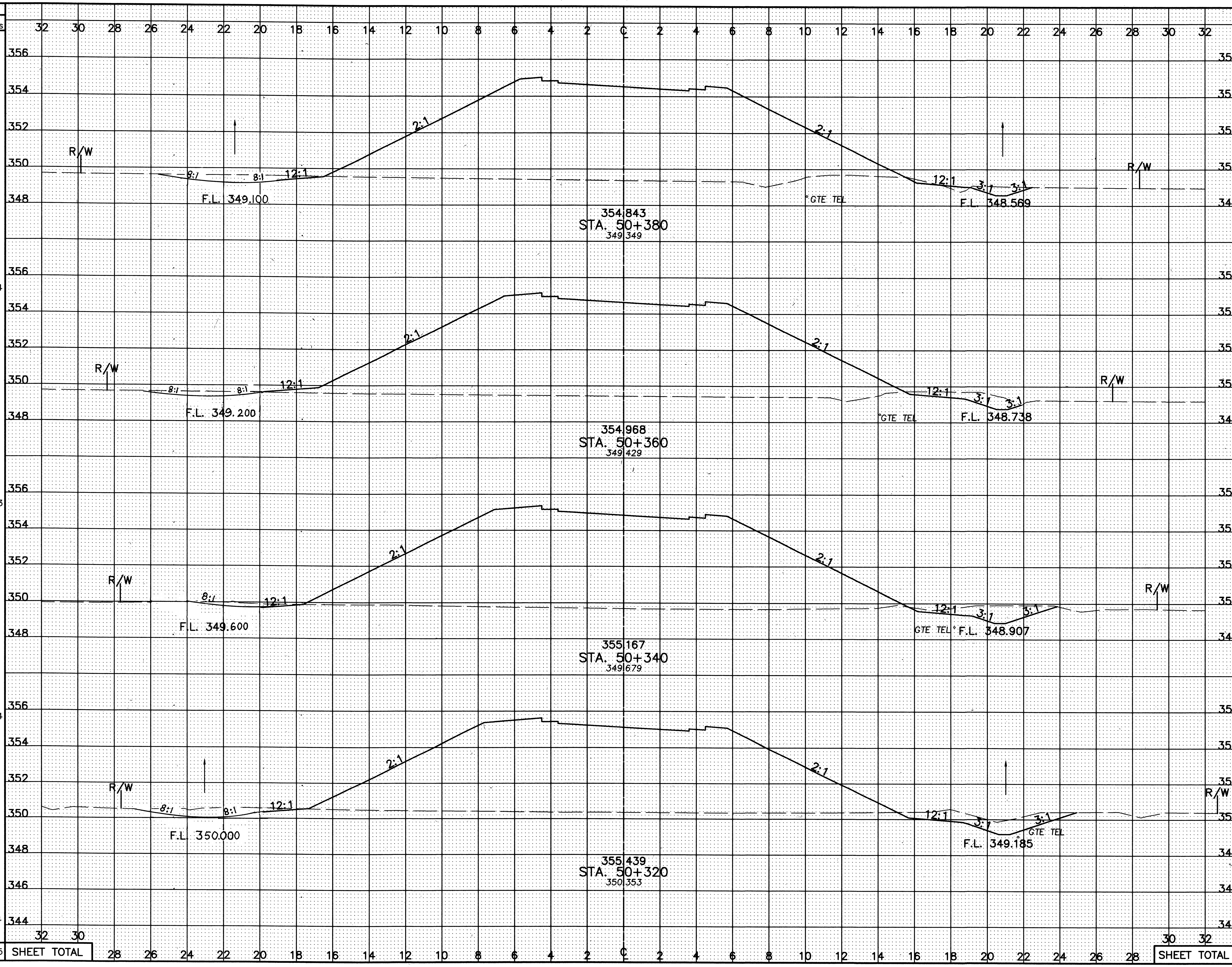
CRA-30-24.000

CALCULATED: PSB
CHECKED: LBD



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
57.1		10.0	96.8		
	1176			186	2066
60.5		8.7	109.6		
	1230			159	2365
62.5		7.1	126.8		
	1266			156	2631
64.1		8.3	136.2		
	1296			181	2880
SHEET TOTAL	4968			682	9942

SEEDING	
END WIDTH	SQ. METERS
52.2	
	1014
49.2	
	1003
51.1	
	1054
54.3	
	1114
	4185



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4.6	114.8		
		95	2332
4.7	118.2		
		121	2333
7.4	114.9		
		172	2183
9.8	103.3		
		197	2003
		585	8851

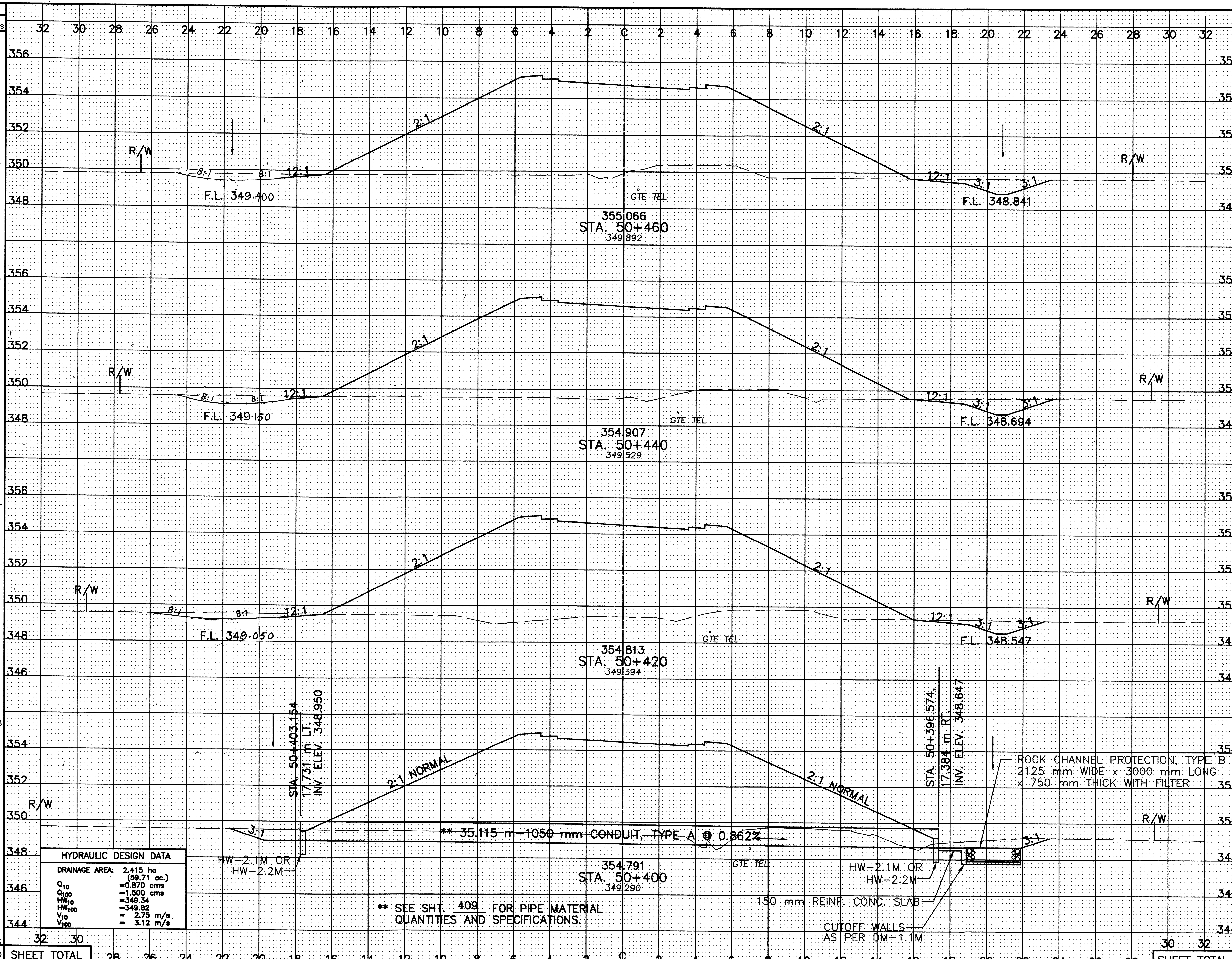
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - NAZOR RD. (T.R. 48)
STA. 50+320 TO STA. 50+380

CRA-30-24.000

425
677

SEEDING END WIDTH	SEEDING SQ. METERS
48.5	
	970
50.7	
	1014
52.9	
	1058
55.4	
	1108
SHEET TOTAL	4150



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5.7	107.7		
		113	2183
5.6	110.4		
		109	2240
5.3	113.4		
		126	2289
7.2	115.3		
		119	2302
		467	9014

CALCULATED PSB
CHECKED LBD

CROSS–SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+400 TO STA. 50+460

CRA–30–24.000

426
677

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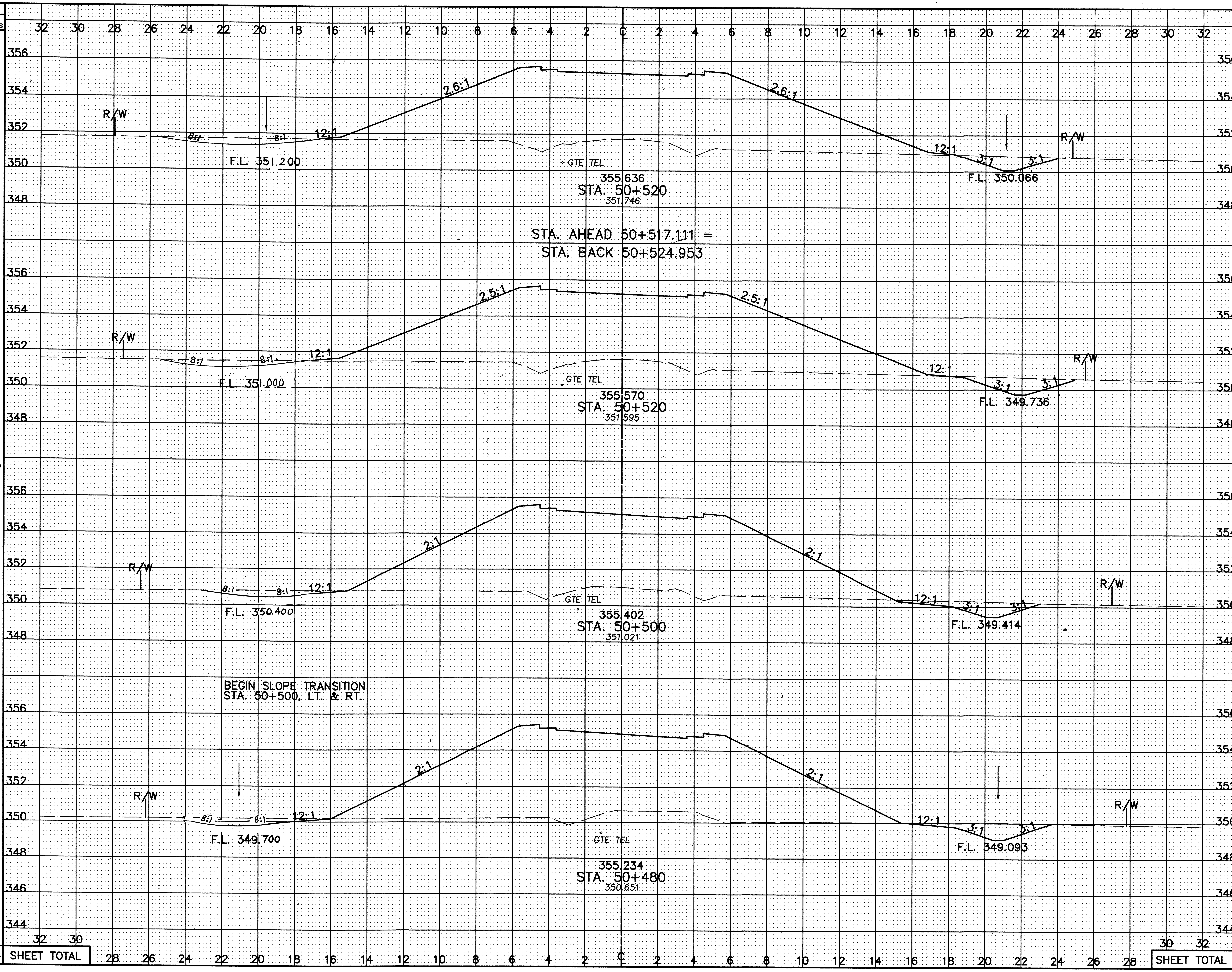

SEEDING END WIDTH	SEEDING SQ. METERS
45.5	
	246
53.9	
	1010
47.1	
	949
47.8	
	963
SHEET TOTAL	3168

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5.0	103.0		
		43	825
6.0	107.4		
		119	2000
5.9	92.7		
		120	1946
6.1	101.8		
		118	2097
SHEET TOTAL		400	6868

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS - NAZOR RD. (T.R. 48)
STA. 50+480 TO STA. 50+520

CRA-30-24.000

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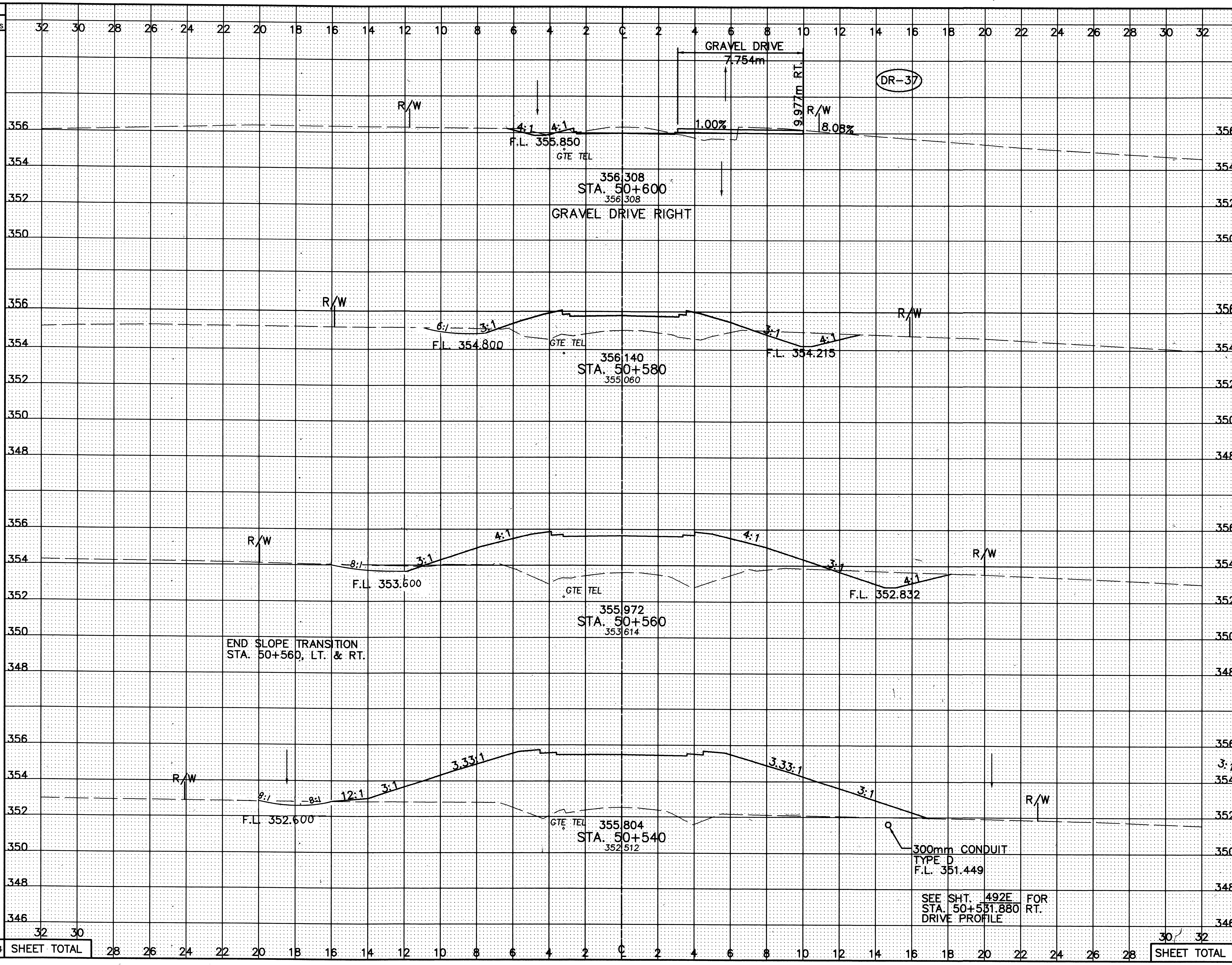


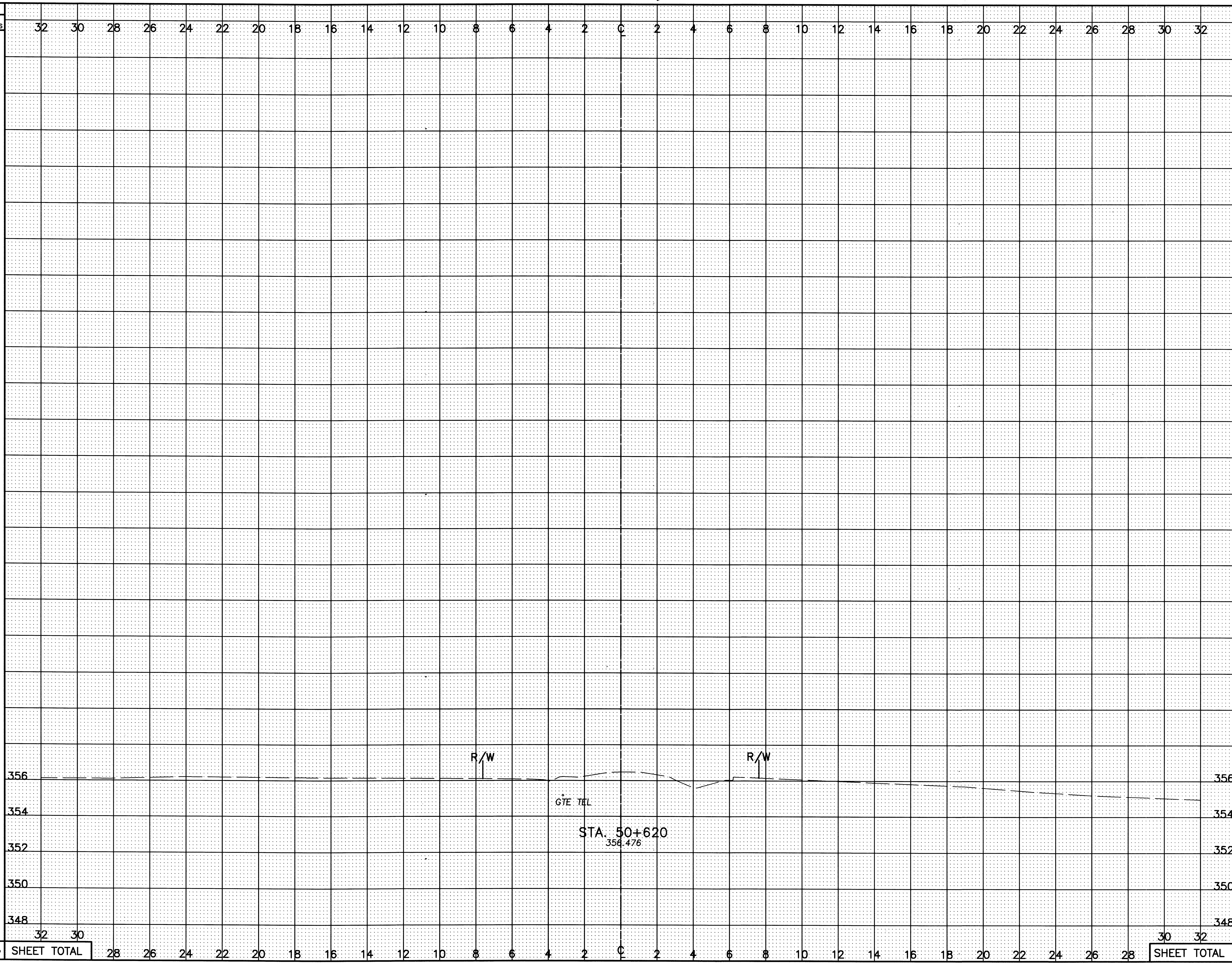
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18.5		1.8	0.6		
	441			50	125
25.6		3.3	11.9		
	588			75	484
33.2		4.3	36.6		
	726			75	1109
39.4		3.2	74.3		
	849			82	1773
SHEET TOTAL	2604			282	3491

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+540 TO STA. 50+600

CRA-30-24.000

SEEDING	
END WIDTH	SQ. METERS
	185



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0.0	0.0		
		18	6
SHEET TOTAL		18	6

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – NAZOR RD. (T.R. 48)
STA. 50+620

CRA-30-24.000

429
677

J:\DRAWINGS\93125\E&0C1\Roadway\NAZOR\XSECT\GX545C02.dwg February 06, 2001 3:49pm By:smhetler

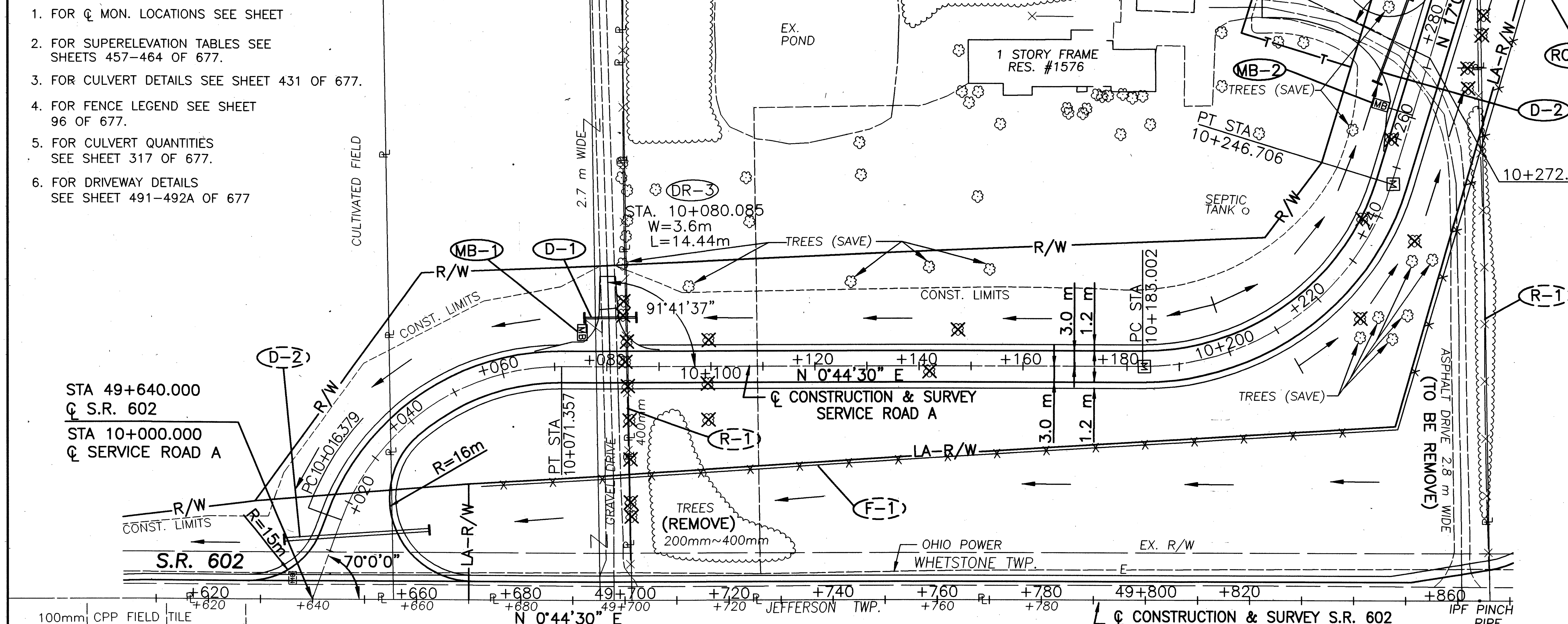
CURVE DATA ~ SERVICE ROAD A

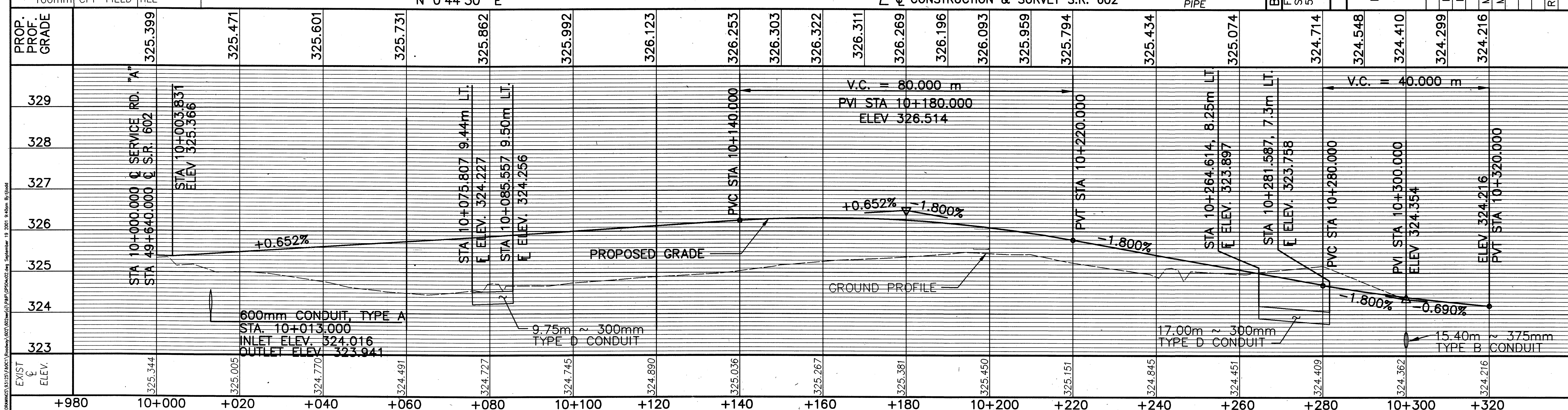
PI STA 10+047.888
Δ=70°00'00" RT.
R=45.000 m
T=31.509 m
L=54.978 m
E=9.935 m
CH=N 34°15'30" W
LC=51.622 m
e max= NONE

PI STA 10+220.000
Δ=73°00'00" LT.
R=50.000 m
T=36.998 m
L=63.705 m
E=12.200 m
CH=N 35°45'30" W
LC=59.482 m
e max= NONE

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEET
2. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
3. FOR CULVERT DETAILS SEE SHEET 431 OF 677.
4. FOR FENCE LEGEND SEE SHEET 96 OF 677.
5. FOR CULVERT QUANTITIES SEE SHEET 317 OF 677.
6. FOR DRIVEWAY DETAILS SEE SHEET 491–492A OF 677





BENCHMARK
FENO MONUMENT
STA. 25+366.100
52.075m LT.
ELEV. 324.889

ESTIMATED QUANTITIES

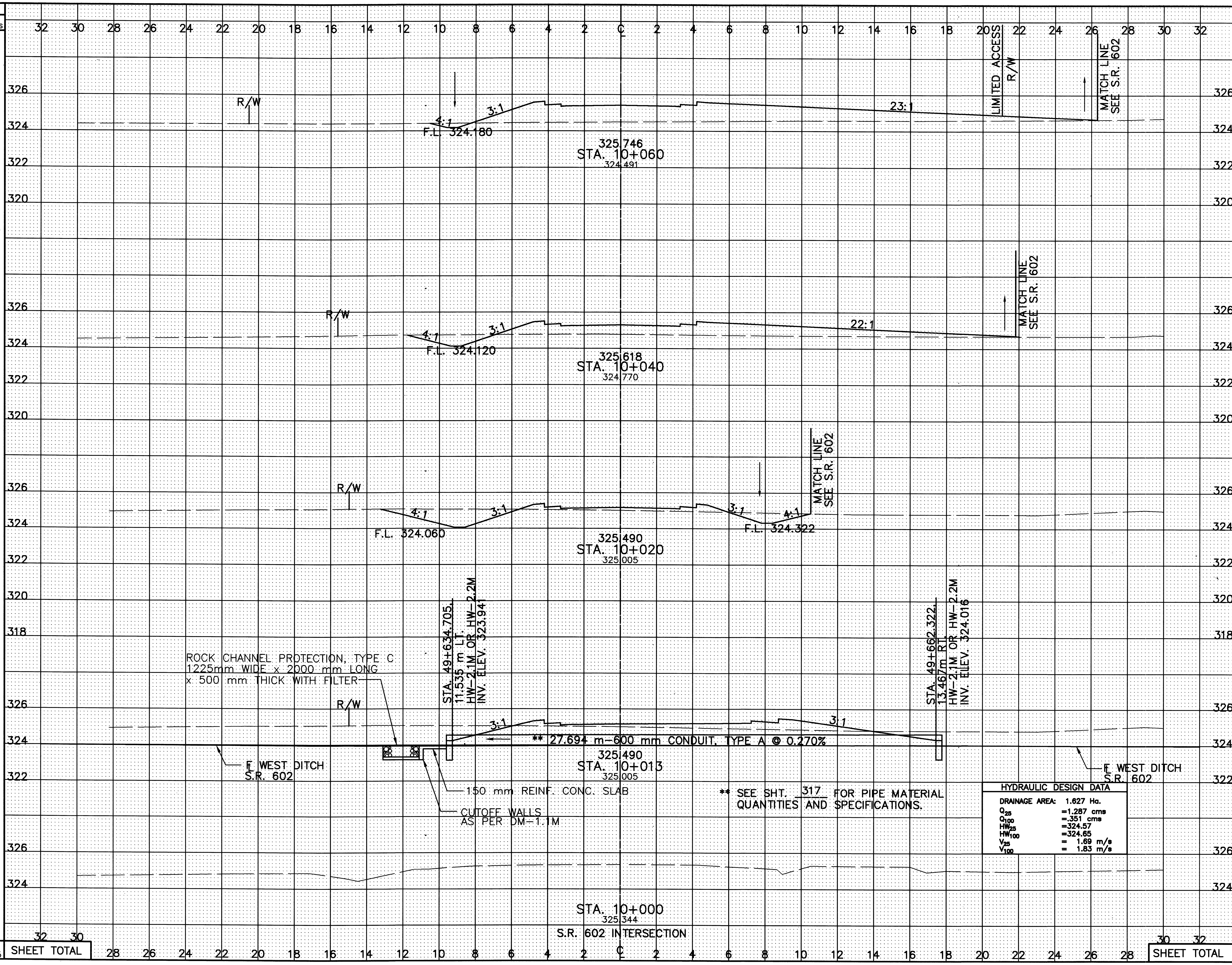
REF. No.	SIDE	STATION FROM	STATION TO	202 FENCE REMOVED (METER)	603 300mm CULVERT TYPE D (METER)	SPEC. MAILBOX SUPPORT SYSTEM SINGLE (EACH)	603 375mm CULVERT TYPE B 706.02 (METER)	601 RIPRAP USING 150mm CONC. SLAB (SM)	601 ROCK CHANNEL PROTECTION TYPE C W/FILTER (CM)	602 CONCRETE MASONRY (CM)
D-1	LT	10+075.807	10+085.557		9.8					
D-2	LT	10+266.000	10+277.000		17.0					
D-3	LT/RT	10+300.000	10+300.000				15.4		0.75	0.44
MB-1	LT	10+075.236				1				
MB-1	LT	10+260.536				1				
R-1	LT/RT	10+293.500		34						
RCP-1	RT	10+300.000						11.25		
TOTALS CARRIED TO SUB-SUMMARY				34	26.8	1	15.4	11.25	0.75	0.44

CALCULATED PSB
CHECKED LBD

RATIO 1:500
HORIZONTAL SCALE IN METERS

PLAN AND PROFILE – SERVICE ROAD A STA. 10+000 TO STA. 10+320

CRA-30-24.000



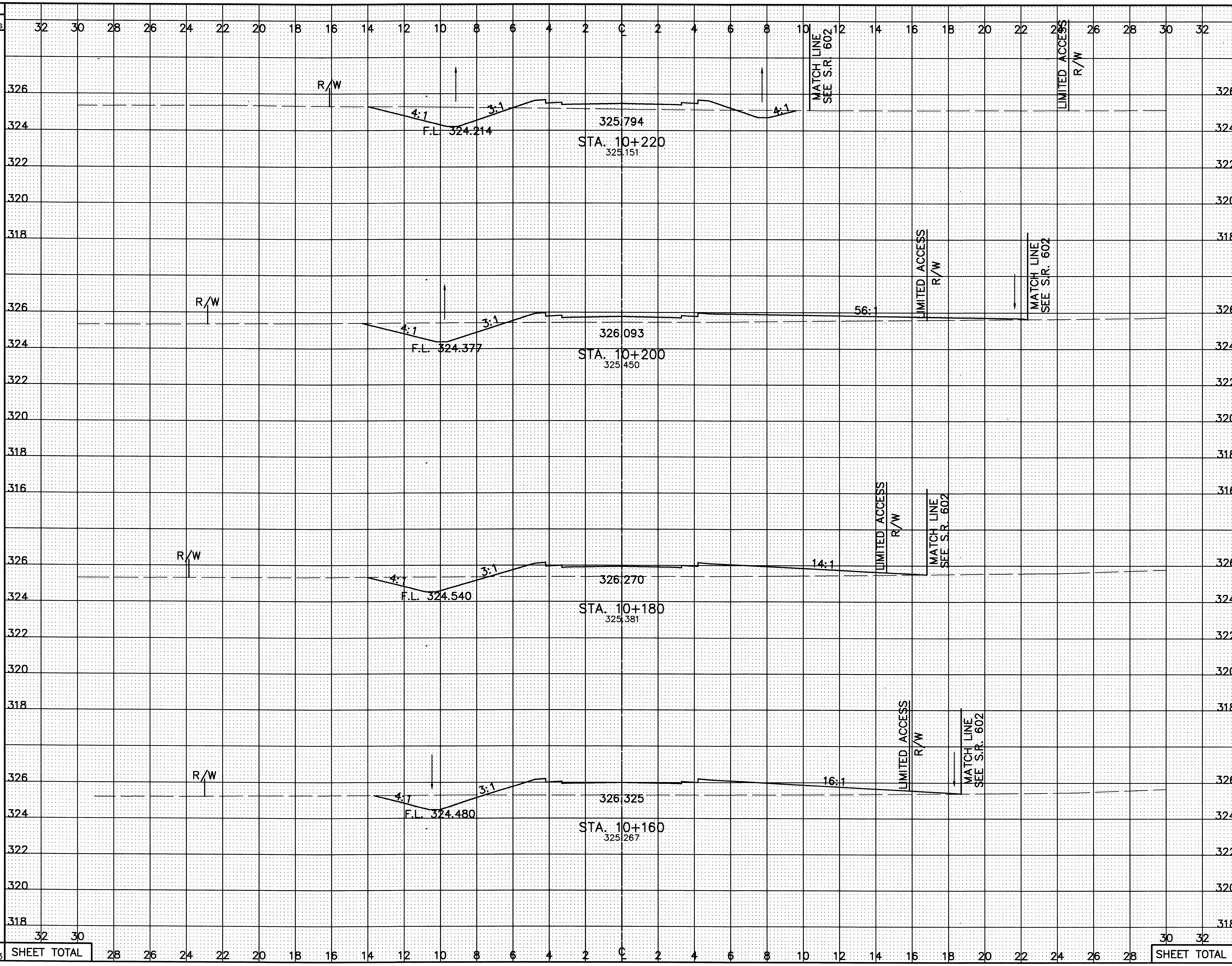
SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38.7		0.4	22.5		
	680			21	351
29.3		1.7	12.6		
	465			64	146
17.2		4.7	2.0		
				151	20
				0	0
SHEET TOTAL	1145			236	517

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – SERVICE RD. A
STA. 10+000 TO STA. 10+060

CRA-30-24.000

SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
LIMITED ACCESS
R/W
MATCH LINE SEE S.R. 602
19:1
3:1
4:1
326.258
F.L. 324.420
STA. 10+140
325.036
21:1
326.130
F.L. 324.360
STA. 10+120
324.890
23:1
326.002
F.L. 324.300
STA. 10+100
324.745
6.280m
(GRAVEL)
8.160m
(PAVED APRON)
DR-3
325.754
4.2 m
325.826
3.0m
325.706
4.8 m
324.861
17.437m
8.00%
0.01% ±
ADD FOR DRIVES
PROP. 300 mm
CONDUIT
325.874
STA. 10+080.085
324.727
(GRAVEL DRIVEWAY LEFT)
34.1
687
34.6
706
36.0
741
0
0
38.1
768
2902
SHEET TOTAL
1.9
18.7
30
385
1.1
19.8
19
400
0.8
20.2
21
396
-1.6
5.86
-6
23
1.3
19.3
17
418
81
1622
CROSS-SECTIONS – SERVICE RD. A
STA. 10+080 TO STA. 10+140
CRA-30-24.000
432
677



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
18.6		4.8	3.7		
	559			86	128
37.3		3.8	9.1		
	699			66	242
32.6		2.8	15.1		
	570			54	310
24.4		2.6	15.9		
	585			45	346
	2413			251	1026

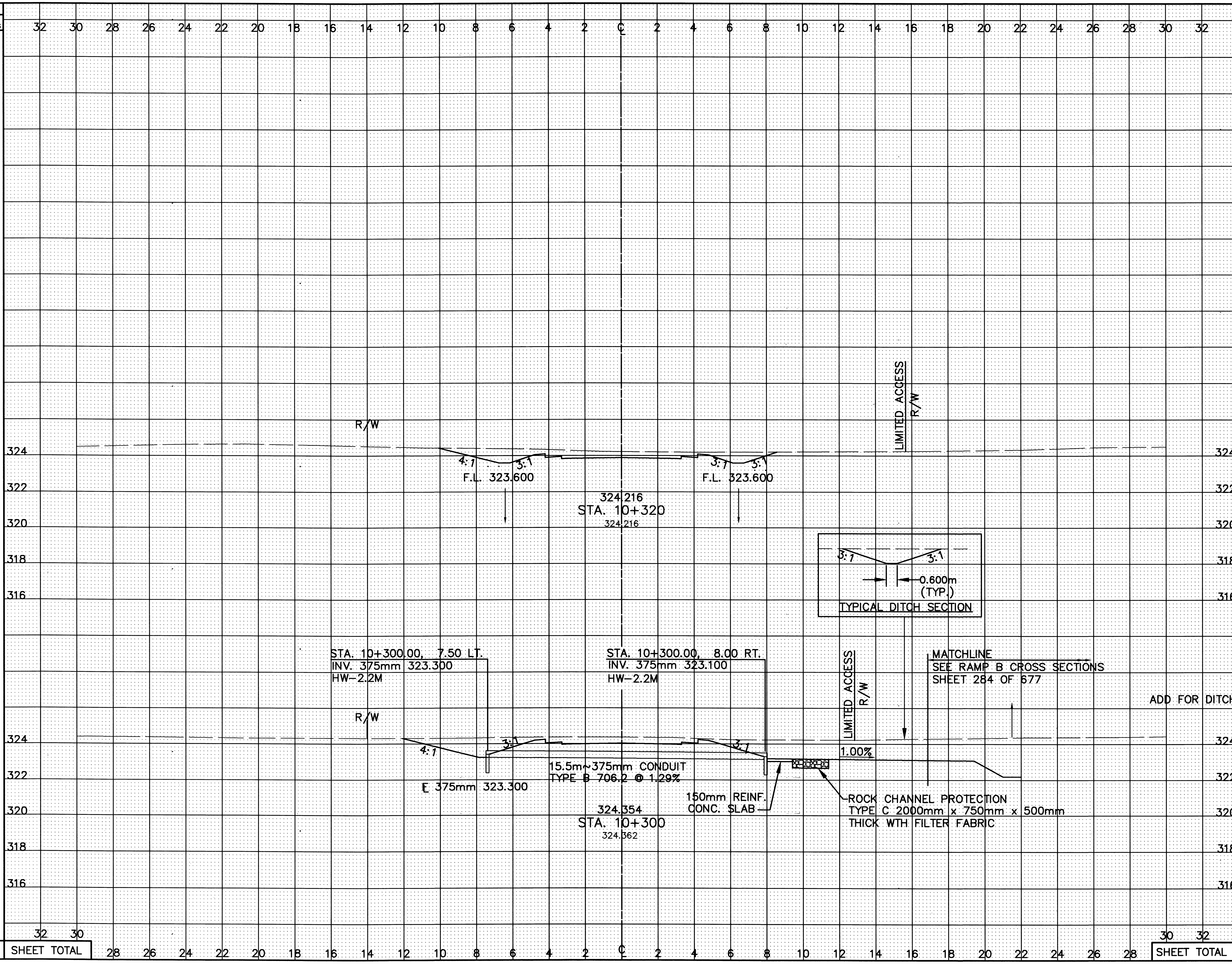
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – SERVICE RD. A
STA. 10+160 TO STA. 10+220

CRA-30-24.000

433
677

SEEDING
END WIDTH
SQ. METERS
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
R/W
LIMITED ACCESS
R/W
F.L. 323.726
324.714
STA. 10+280
324.409
F.L. 323.811
23.0
4.1
0.3
152
35
2
ADD FOR DRIVES
324.9±
MATCH EXIST.
+0.65%
324.750
9.0m
-1.20%
324.822
3.0m
PROP. 300 mm CONDUIT
(ASPHALT DRIVEWAY LEFT)
324.870
STA. 10+272.00
324.438
F.L. 323.952
ADD FOR DRIVES
0
0
-4.0
0.0
-15
0
20.3
5.9
0.4
265
62
22
F.L. 323.889
325.074
STA. 10+260
324.451
F.L. 324.116
20.5
3.7
3.0
415
74
62
F.L. 324.051
325.434
STA. 10+240
324.845
F.L. 324.421
21.0
3.7
3.2
396
85
69
4:1
3:1
SHEET TOTAL
1228
241
155
CROSS-SECTIONS – SERVICE RD. A
STA. 10+240 TO STA. 10+280
CRA-30-24.000
434
677



SEEDING END WIDTH	SEEDING SQ. METERS
23.8	
	454
	48
21.6	
	446
SHEET TOTAL	948

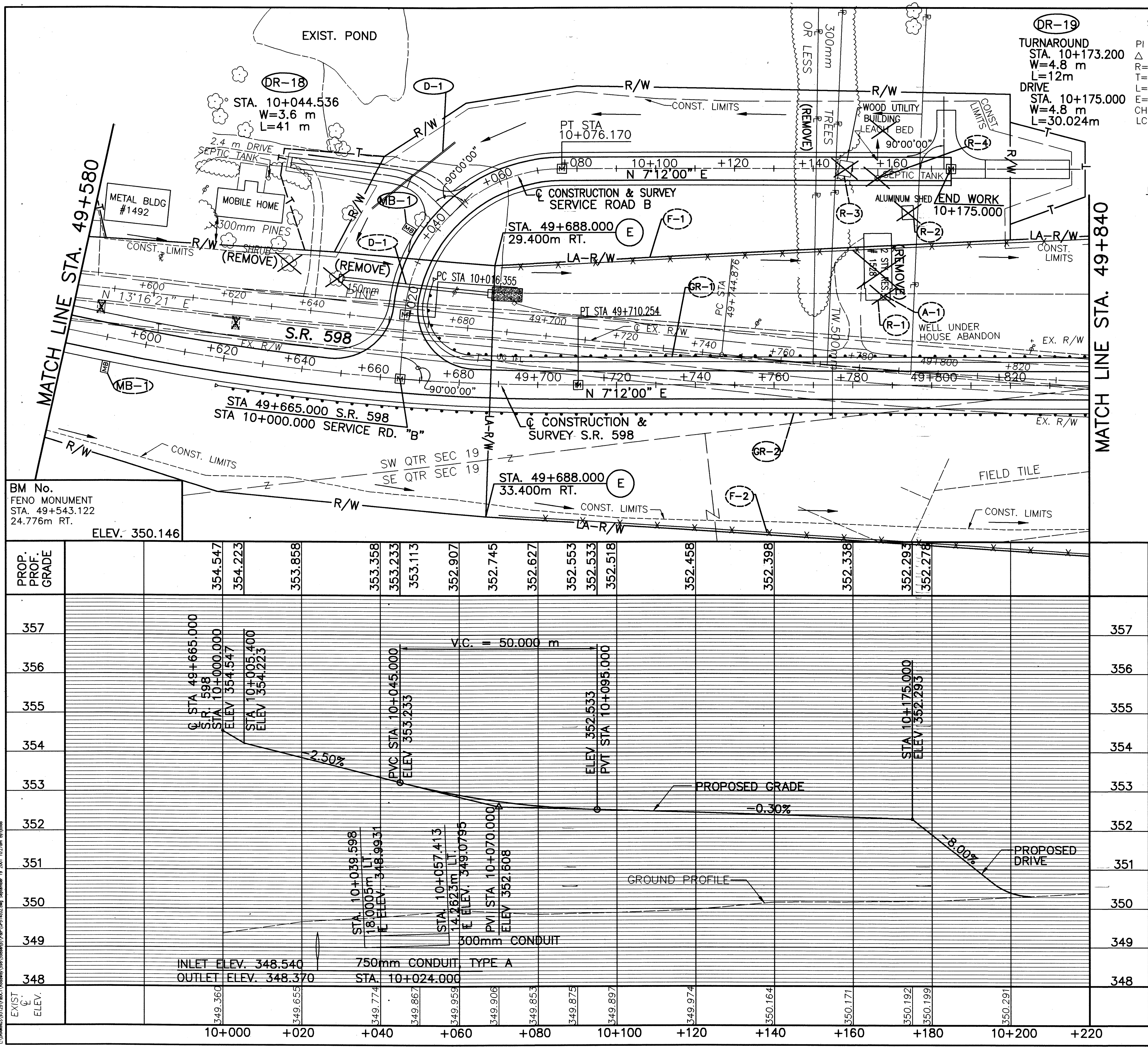
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10.2	0.0		
		180	0
		21	
7.7	0.0		
		118	3
		319	3

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – SERVICE RD. A
STA. 10+300 TO STA. 10+320

CRA-30-24.000

L:\DRAWINGS\93125\FAOC1\Roadway\602\602ser(a)\XSECT\Gr602ser02.dwg September 19 2001 9:44am By:ljbodd



SERVICE ROAD B CURVE DATA

PI STA. 10+053.446
Δ =85°40'43" RT.
R=40.000 m
T=37.091 m
L=59.815 m
E=14.551 m
CH=N 35°38'22" W
LC=54.396 m

RELOCATED S.R. 598 CURVE DATA

PI STA. 49+644.268
Δ =12°39'15" LT.
R=600.000 m
T=66.528 m
L=132.515 m
E=3.677 m
CH=N 13°31'37" E
LC=132.246 m

metric units

LEGEND

ROCK CHANNEL PROTECTION
DITCH EROSION PROTECTION

NOTES:

1. FOR ℄ MON. LOCATIONS SEE SHEETS 2–11 OF 677.
2. FOR SUPERELEVATION TABLES SEE SHEETS 457–464 OF 677.
3. FOR CULVERT DETAILS SEE SHEET 437 OF 677.
4. FOR FENCE LEGEND SEE SHEET 69 OF 677.
5. FOR DRIVE DETAILS AND QUANTITIES SEE SHEETS 491–492A OF 677.
6. FOR CULVERT QUANTITIES SEE SHEET 361 OF 677.

ESTIMATED QUANTITIES

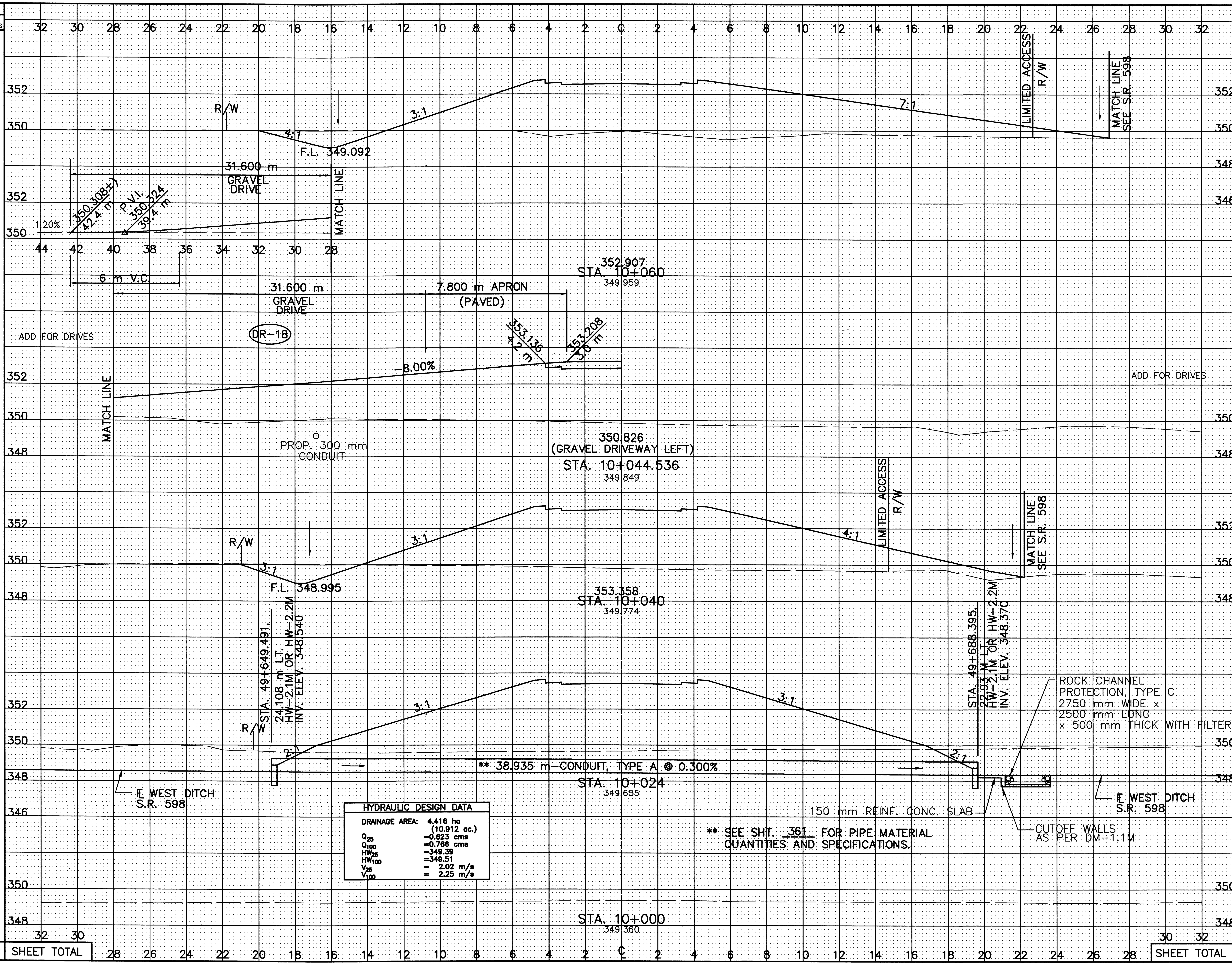
REF. No.	SIDE	STATION FROM	STATION TO	603 RIPRAP USING 150mm R.C. SLAB (S.M.)	603 300mm CONDUIT TYPE D (METER)	SPECIAL MAILBOX SUPPORT SYSTEM SINGLE (METER)
D-1	LT.	10+024.000		2.28	27	
MB-1	LT.	10+026.000				1
TOTALS CARRIED TO SUB-SUMMARY				2.28	27	1

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

CALCULATED PSB
CHECKED LBD

PLAN AND PROFILE – SERVICE ROAD B
STA. 10+000 TO STA. 10+175

CRA-30-24.000



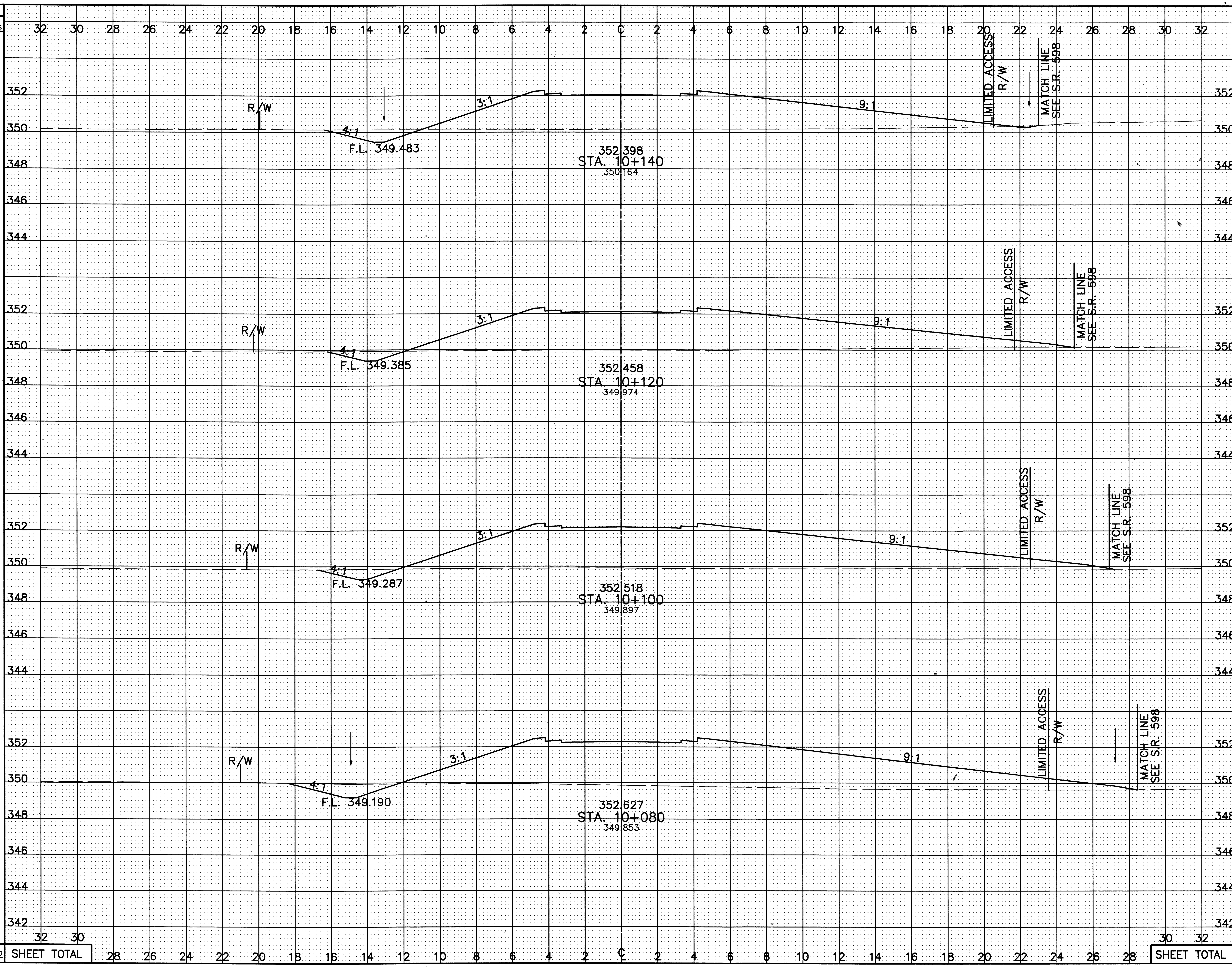
Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
10+060	40.9		3.6	70.9		
		763			74	1463
10+044.536	21.4		0.0	40.2		
		64			0	145
10+040	35.4		3.8	75.4		
		354			38	754
10+024	0		0.0	0.0		
		0			0	0
10+000	0		0.0	0.0		
					0	0
SHEET TOTAL		1181			112	2362

CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – SERVICE RD. B
STA. 10+000 TO STA. 10+060

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
35.1	
	689
33.8	
	737
39.9	
	813
41.4	
	823
SHEET TOTAL	3062



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
2.0	42.7		
		33	955
1.3	52.8		
		27	1128
1.4	59.9		
		39	1266
2.5	66.6		
		80	1238
		179	4587

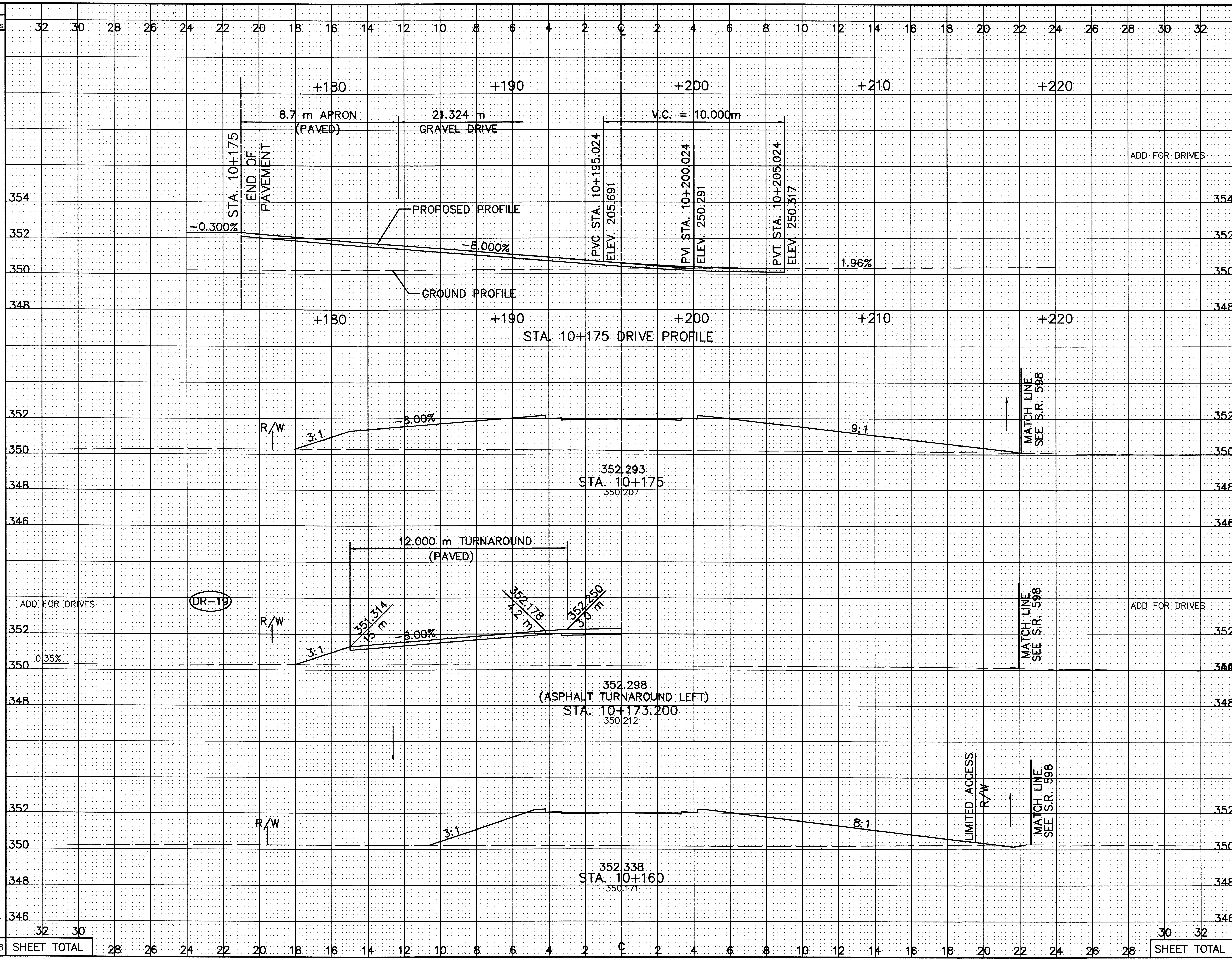
CALCULATED PSB
CHECKED LBD

CROSS-SECTIONS – SERVICE RD. B
STA. 10+080 TO STA. 10+140

CRA-30-24.000

438
677

SEEDING END WIDTH	SEEDING SQ. METERS
33.6	512
16.4	49
34.6	697
	1258

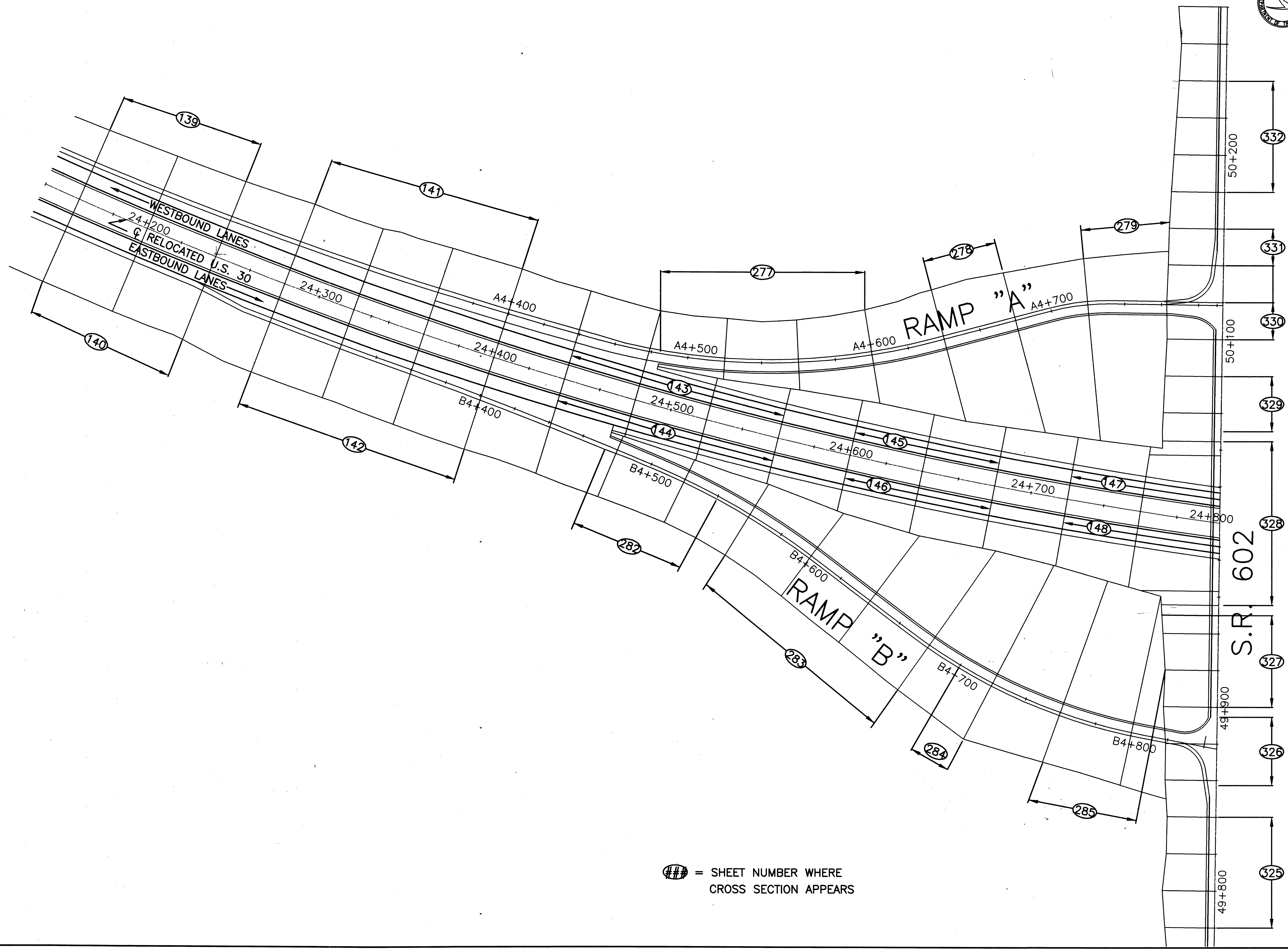


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		0	244
		4	0
1.8	38.7		
		3	70
0.0	15.3	0	55
1.9	39.9		
		39	826
		46	1195

CALCULATED PSB
CHECKED LBD

CROSS−SECTIONS − SERVICE RD. B
STA. 10+160 TO STA. 10+180

CRA−30−24.000



= SHEET NUMBER WHERE CROSS SECTION APPEARS

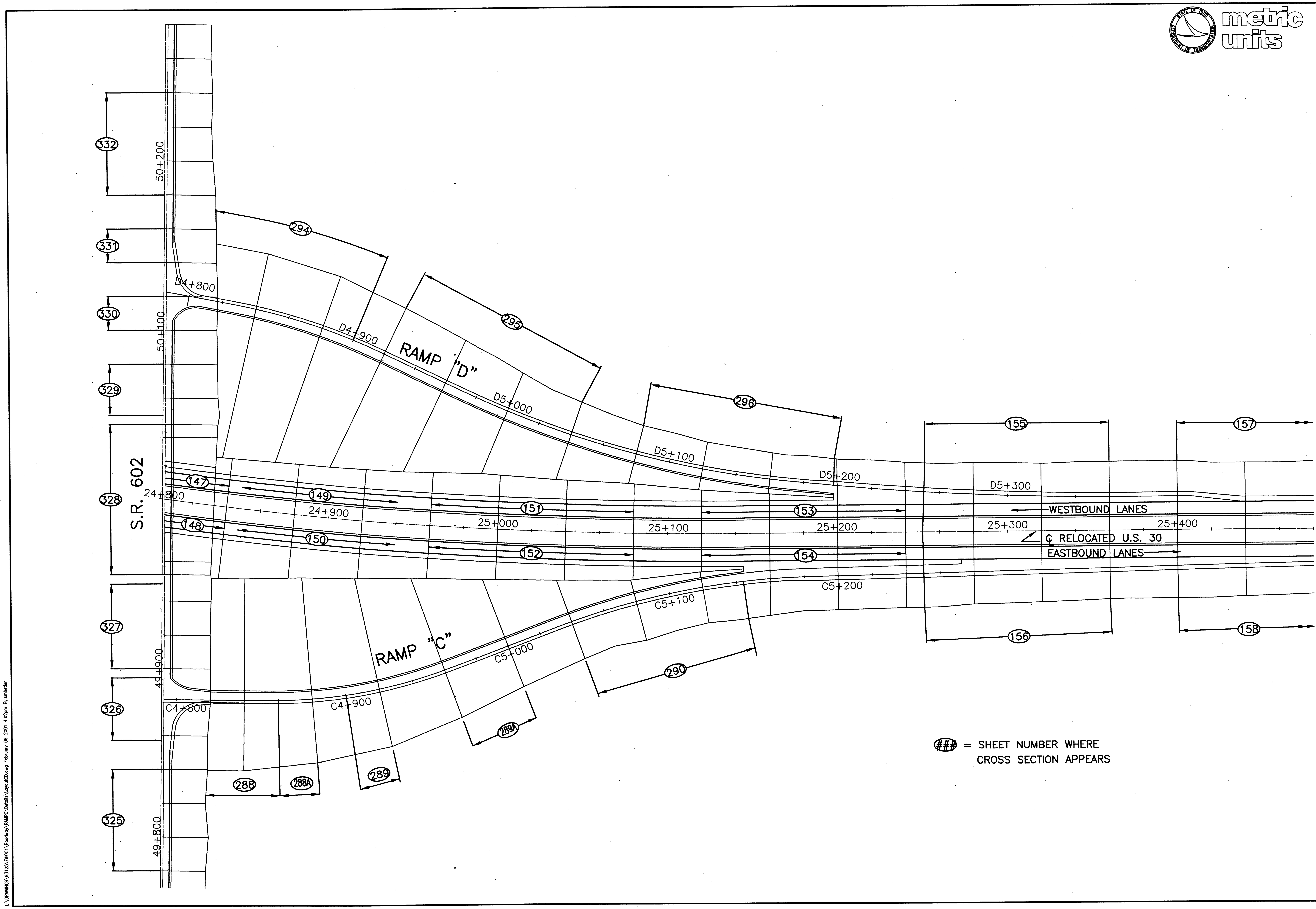
metric units

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CROSS SECTION LAYOUT
S.R. 602 INTERCHANGE

CRA-30-24.000



RATIO 1:1000

0 10 20 40

HORIZONTAL SCALE IN METERS

CALCULATED PSB

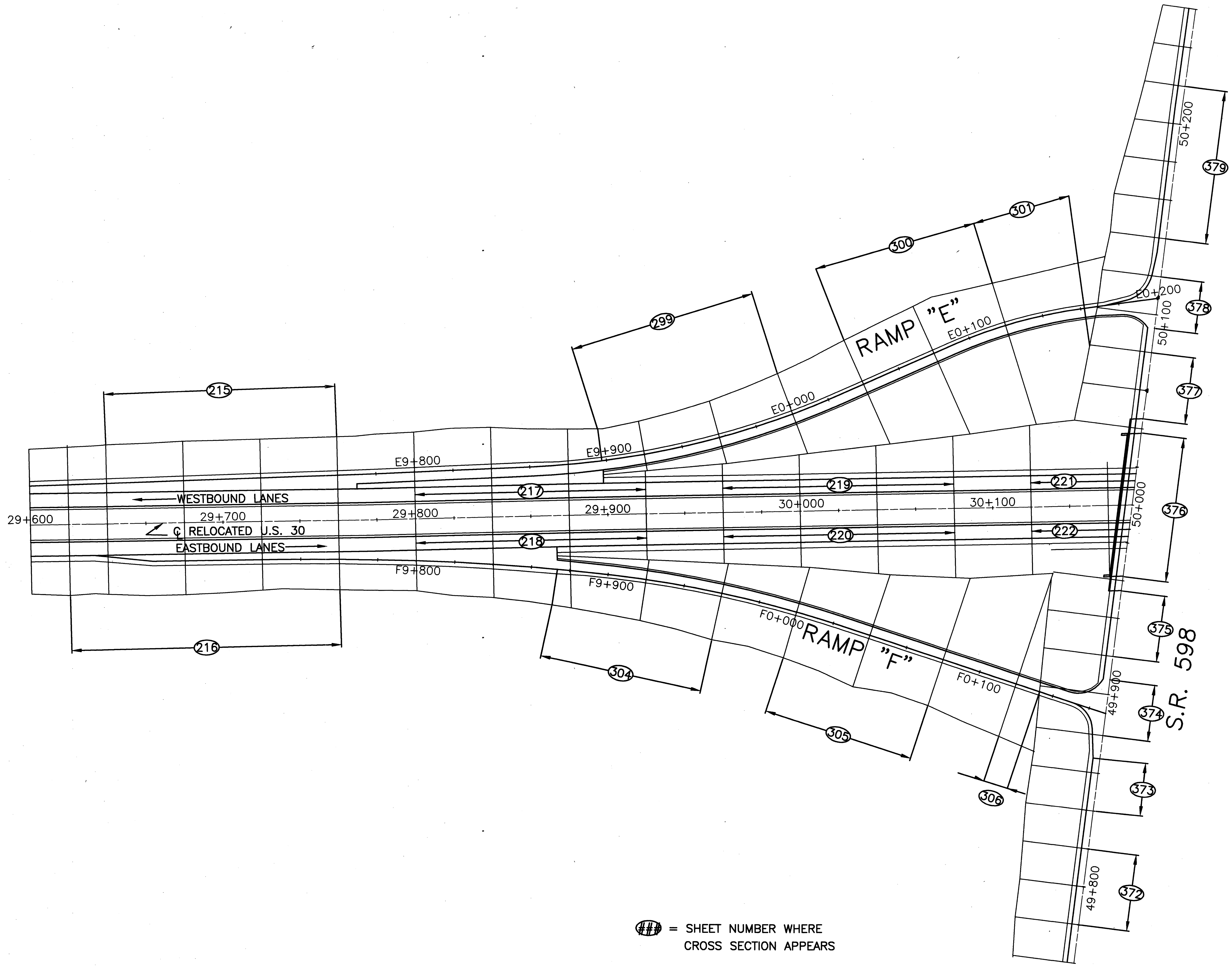
CHECKED LBD

CROSS SECTION LAYOUT

S.R. 602 INTERCHANGE

CRA-30-24.000

441
677

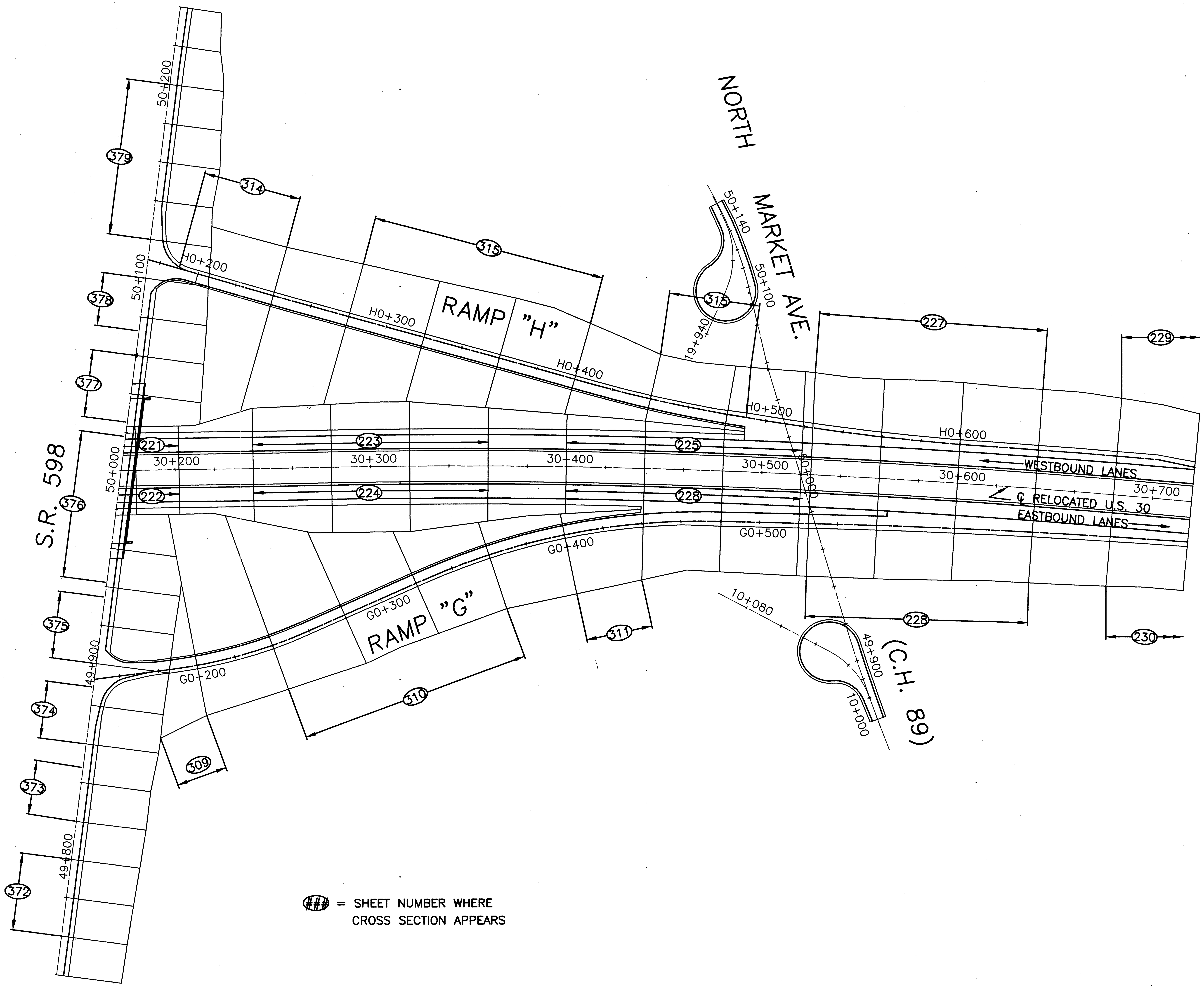


RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CROSS SECTION LAYOUT
S.R. 598 INTERCHANGE

CRA-30-24.000



= SHEET NUMBER WHERE CROSS SECTION APPEARS

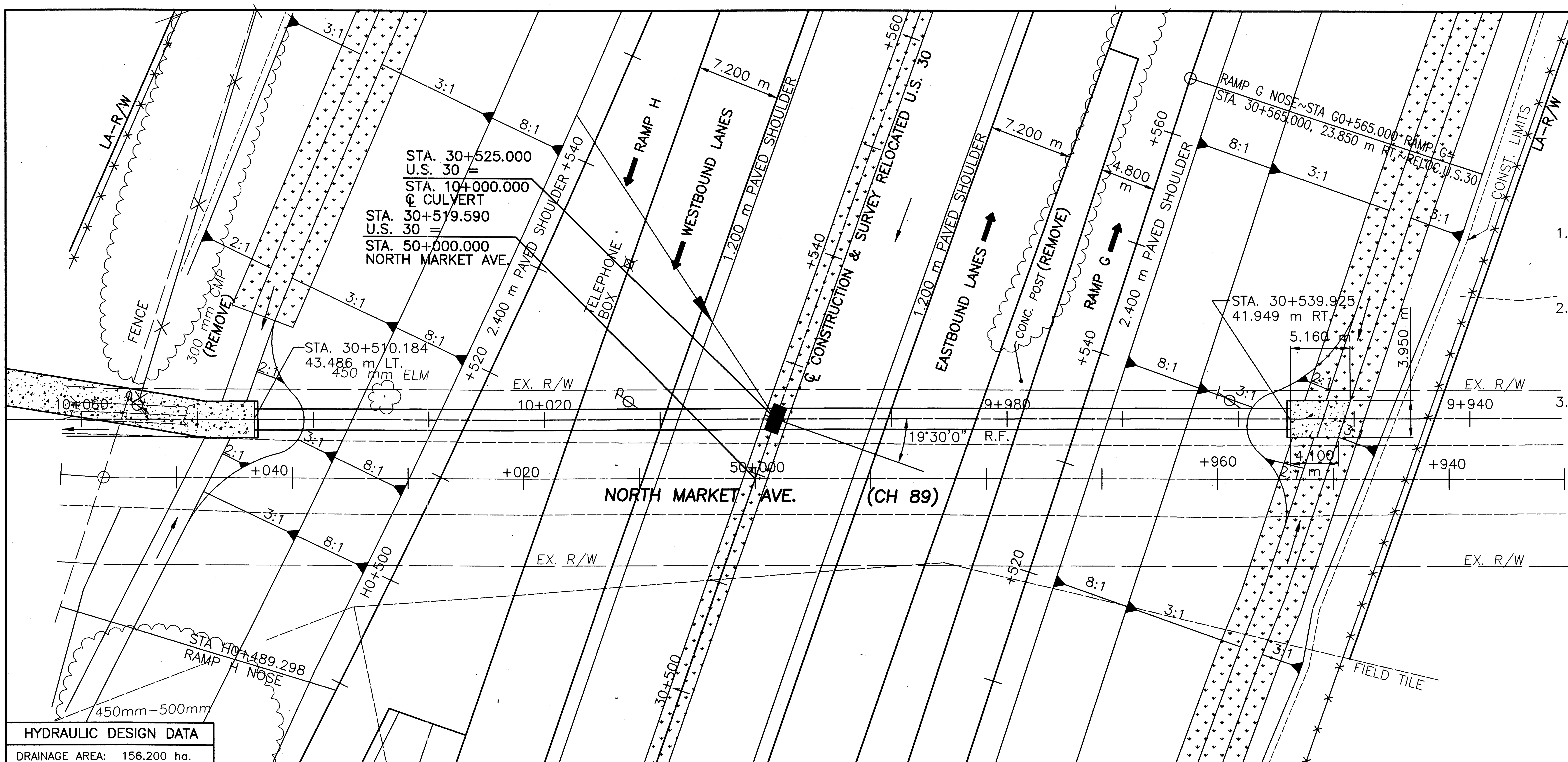
metric units

RATIO 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CROSS SECTION LAYOUT
S.R. 598 INTERCHANGE

CRA-30-24.000



NOTE:
1. EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. FOR PLAN AND PROFILE SEE SHEET 123 OF 677.

RELOCATED U.S. 30 CURVE DATA
PI STA. 30+660.114
Δ =11°15'40" RT.
R=4060.000 m
T=400.273 m
L=797.967 m
E=19.684 m
CH=S 85°32'30" E
LC=796.683 m
e MAX=NONE

HYDRAULIC DESIGN DATA

DRAINAGE AREA:	156.200 ha. (385.977 ac.)
Q_{50}	=3.88 cms
Q_{100}	=4.37 cms
HW_{50}	=346.02
HW_{100}	=346.38
V_{50}	= 1.82 m/s
V_{100}	= 2.05 m/s

BENCHMARK
FENO MONUMENT
STA. 27+177.212
46.546m LT.
ELEV. 328.450

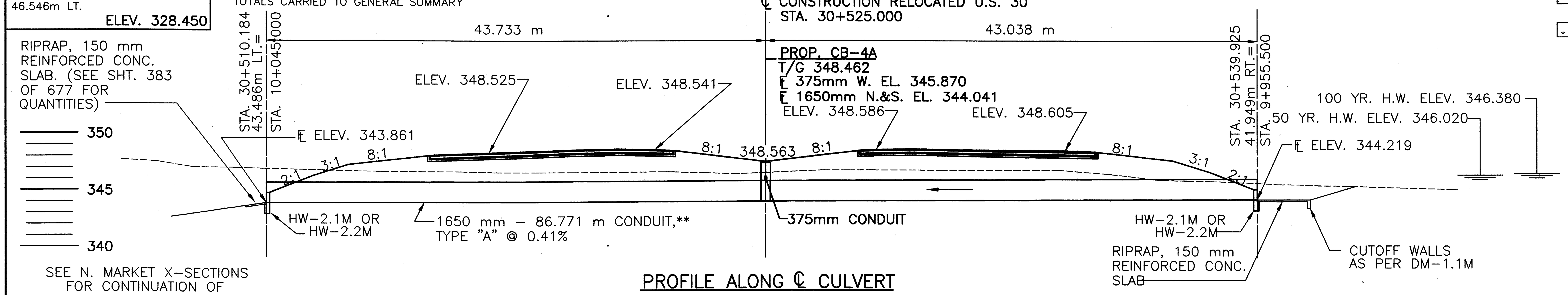
ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
601	18.30	S.M	RIP RAP USING 150mm REINFORCRD CONCRETE SLAB
602	4.92	CU.M.	CONCRETE MASONRY
603	86.77	METER	CONDUIT, TYPE A **

TOTALS CARRIED TO GENERAL SUMMARY

** 1650mm 706.02, TYPE A
1800mm 707.02 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)

LEGEND
ROCK CHANNEL PROTECTION,
RIPRAP
DITCH EROSION PROTECTION



SEE N. MARKET X-SECTIONS FOR CONTINUATION OF CHANNEL SECTIONS.

PROFILE ALONG ℄ CULVERT

metric units

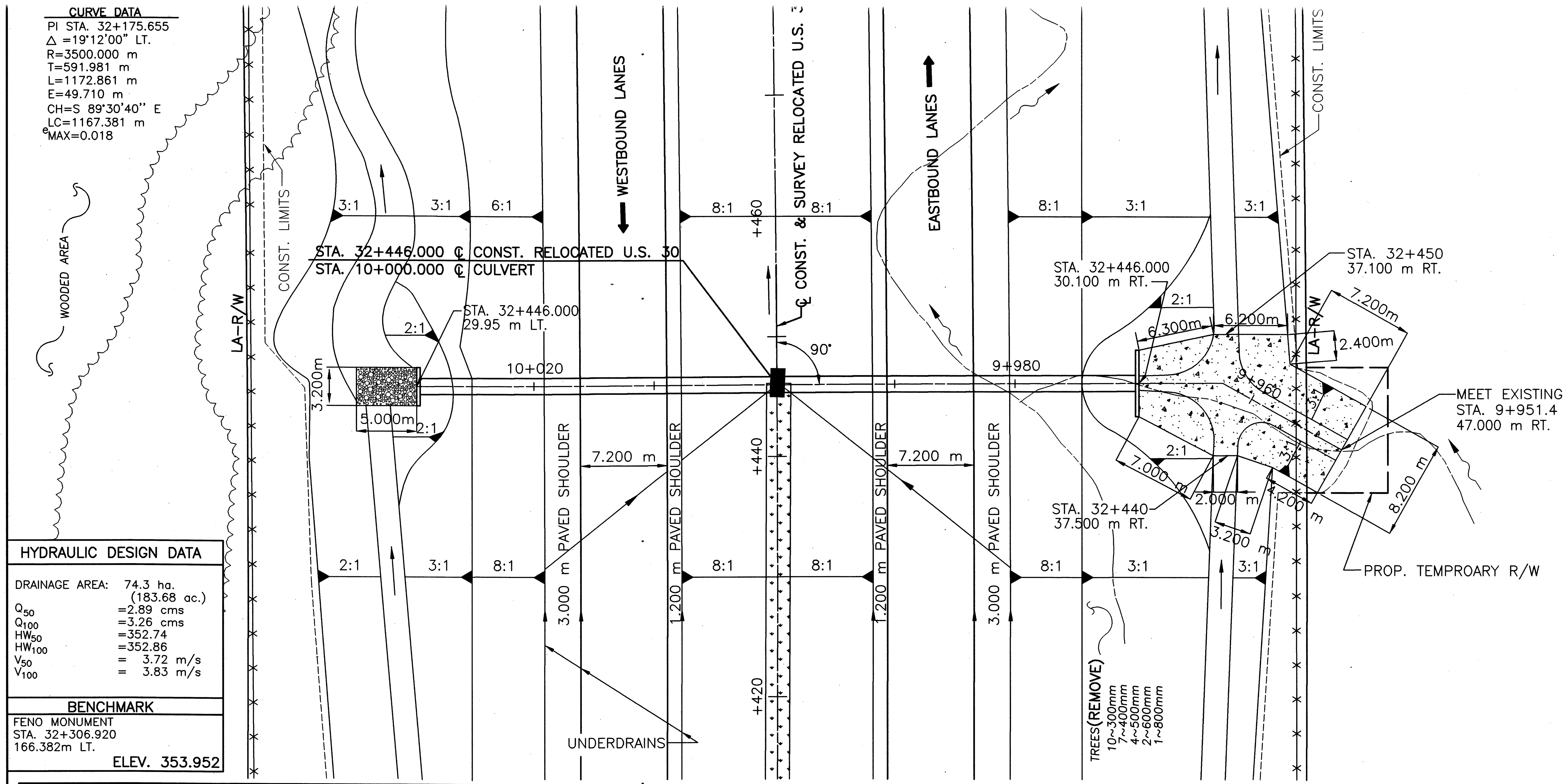
RATIO 1:200
HORIZONTAL SCALE IN METERS
CALCULATED PSB
CHECKED LBD

CULVERT DETAIL RELOCATED U.S. 30 STA. 30+525.000

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\MAINLINE\Details\Sp101c02.dwg April 17 2001 1:40pm By:smhetler

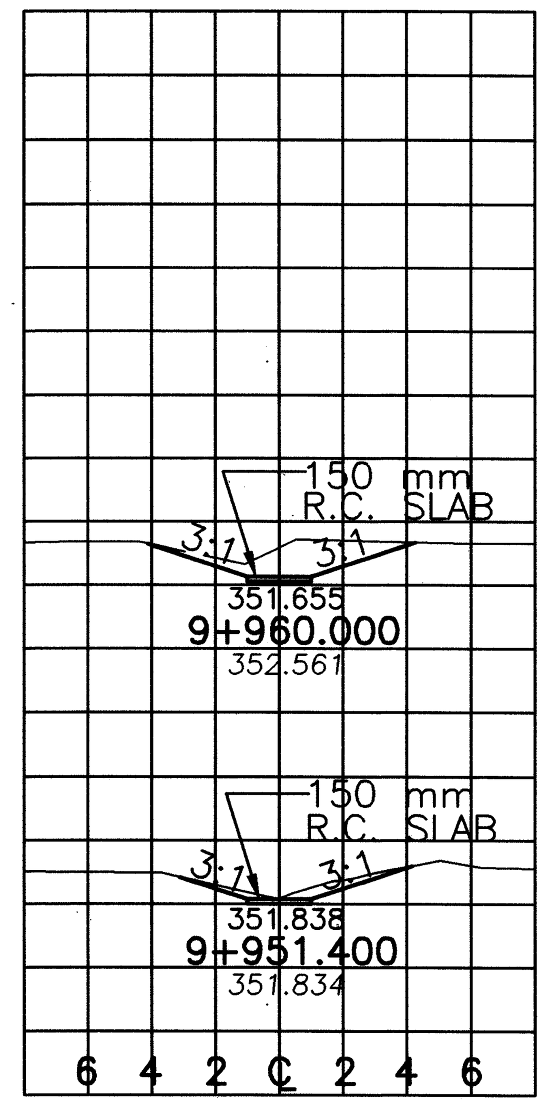
CURVE DATA
PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m
T=591.981 m
L=1172.861 m
E=49.710 m
CH=S 89°30'40" E
LC=1167.381 m
e_{MAX}=0.018



NOTE:
1. EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. FOR PLAN AND PROFILE SEE SHEET 130 OF 677.

LEGEND

- ROCK CHANNEL PROTECTION, 750 mm. THICK, TYPE B WITH FILTER
- RIPRAP
- DITCH EROSION PROTECTION



HYDRAULIC DESIGN DATA

DRAINAGE AREA: 74.3 ha. (183.68 ac.)
Q_{50} =2.89 cms
Q_{100} =3.26 cms
HW_{50} =352.74
HW_{100} =352.86
V_{50} = 3.72 m/s
V_{100} = 3.83 m/s

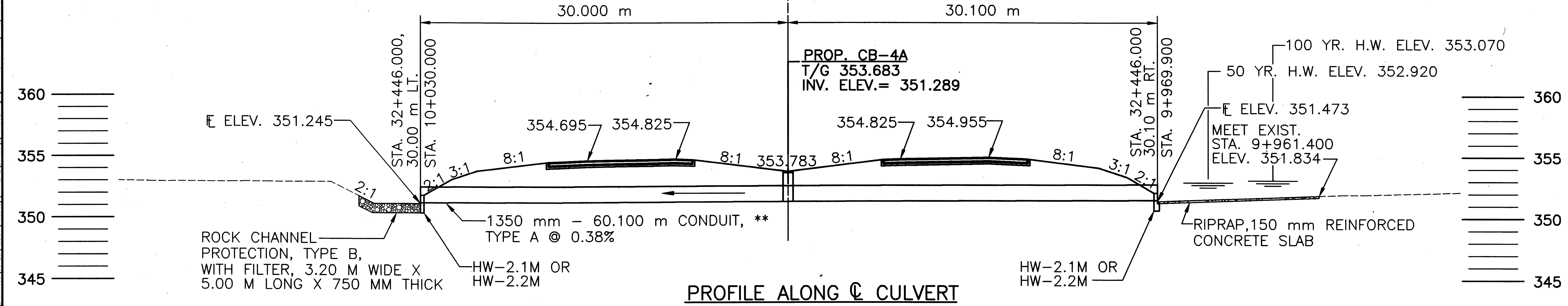
BENCHMARK

FENO MONUMENT
STA. 32+306.920
166.382m LT.
ELEV. 353.952

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	9.60	CU.M.	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
601	156.60	S.M.	RIPRAP, USING REINFORCED 150mm CONCRETE SLAB
602	3.74	CU.M.	CONCRETE MASONRY
603	60.10	METER	CONDUIT, TYPE A **
604	1.00	EACH	CATCH BASIN NO. 4A, AS PER PLAN

TOTALS CARRIED TO GENERAL SUMMARY

** 1350mm 706.02, TYPE A
1500mm 707.02 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63)



PROFILE ALONG ℄ CULVERT

RATIO 1:200 HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CULVERT DETAIL
RELOCATED U.S. 30 STA. 32+446.000

CRA-30-24.000

NOTES:

1. SUBSTRATE SHALL BE SOUND ROCK OR STONE ONLY AS PER SECTION 601.07 AND SHALL BE 0.05M TO 0.10M IN SIZE. SUBSTRATE, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CU. METER FOR ITEM 601 DUMPED ROCK FILL, TYPE D, AS PER PLAN. COBBLES AND RIFFLES ARE PAID FOR UNDER ITEM 601 ROCK CHANNEL PROTECTION, TYPE C.

2. EXISTING BOULDERS AND COBBLE/GRAVEL SUBSTRATE WITHIN THE STREAM CHANNEL SHALL BE EXCAVATED AND STOCK PILED IN AN UPLAND LOCATION AWAY FROM THE STREAM DURING CONSTRUCTION, AND RETURNED TO THE MODIFIED CHANNEL AFTER CONSTRUCTION.

3. SEEDING AND MULCHING, ROADSIDE MIX CLASS 1, SHALL BE PLACED ON ALL DISTURBED AREAS AND SIDESLOPES OF THE CHANNEL EXCEPT WHERE THOSE SIDESLOPES ARE A 0.5:1.

4. THE PROPOSED CHANNEL SHALL NOT BE STRAIGHT.

5. EVERY ATTEMPT SHALL BE MADE TO PRESERVE TREES, SHRUBS, AND OTHER ESTABLISHED VEGETATION WITHIN THE EASEMENT/MITIGATION AREA, AND OUTSIDE THE "CLEAR ZONE", ESPECIALLY ALONG THE BANKS OF THE PROPOSED CHANNEL. STUMPS AND OTHER PARTIALLY DESTROYED VEGETATION SHOULD REMAIN TO ENSURE STABILIZED BANKS AND POTENTIALLY REGROW NATURALLY.

6. TEMPORARY CONSTRUCTION FENCE SHALL BE ADDED TO ALL AREAS OUTSIDE OF THE CONSTRUCTION ZONE SURROUNDING THE STREAM AS DIRECTED BY THE ENGINEER.

7. BOULDER DESCRIPTION
BOULDERS SHALL INCLUDE NATURAL ROCK, PREFERABLY COLLECTED FROM ON-SITE EXCAVATIONS, AND RANGE FROM 600MM TO 1200MM IN DIAMETER. BOULDERS SHALL BE KEYED INTO THE STREAM BOTTOM A DEPTH THAT EQUALS 1/4 TO 1/3 THE HEIGHT OF THE INDIVIDUAL BOULDER. CONSTRUCTION DEBRIS, BROKEN CONCRETE PIECES OR OTHER SYNTHETIC RUBBLE MAY NOT BE SUBSTITUTED.

8. CONSTRUCTION COORDINATION
THE CONSTRUCTION CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER PRIOR TO ANY WORK WITHIN THE EXISTING STREAM CHANNEL. THE PROJECT ENGINEER WILL COORDINATE ALL STREAM WORK WITH THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 3 ENVIRONMENTAL SUPERVISOR.

9. USE WOOD SECTIONS (WITHOUT THE ROOT WAD) OF APPROXIMATELY FIVE FEET IN LENGTH AND 8-10 INCHES IN DIAMETER. EMBED 2-3 FEET IN BANK AT AN ANGLE OF 30-45 DEGREES DOWNSTREAM. LET WOOD REST ON STREAM BOTTOM.

SEQUENCE OF CONSTRUCTION

1. CLEAR AREA TO BE EXCAVATED. ATTEMPT TO PRESERVE STUMPS AND OTHER PARTIALLY DESTROYED VEGETATION WHERE POSSIBLE TO AID IN STABILIZING BANKS. STORE SOME LARGE WOOD DEBRIS FOR LATER USE.

2. EXCAVATE THE CHANNEL FLOWLINE, AND GRADE THE CHANNEL FLOWLINE 0.15m BELOW FINISH GRADE ALLOWING FOR LATER PLACEMENT OF SUBSTRATE.

3. EXCAVATE POOLS WHERE SPECIFIED.

4. CONSTRUCT RIFFLES AS SHOWN ON THE PLANS BY NARROWING THE CHANNEL TO APPROXIMATELY 1.25m TO 1.5m, SLIGHTLY INCREASING THE GRADIENT AND PLACING A COARSE COBBLE SUBSTRATE WITHIN.

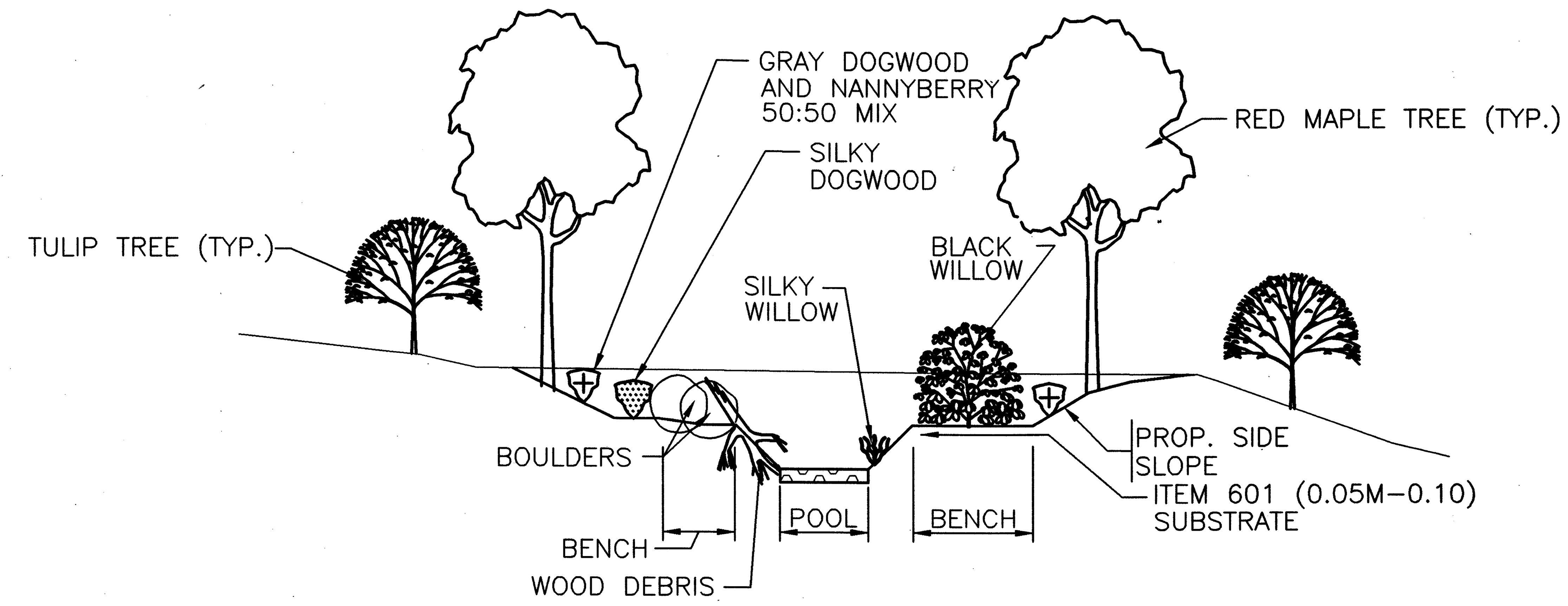
5. PLACE BOULDERS, COBBLE AND WOOD DEBRIS WHERE SPECIFIED . COORDINATE LOCATION WITH ENGINEER.

6. PLACE LARGE WOOD DEBRIS PERPENDICULAR TO CHANNEL AT EDGE OF CHANNEL WITHIN BOULDER AREA.

7. PLACE SUBSTRATE MATERIAL 0.15M THICK ALONG THE BED AND POOL BOTTOM THE FULL LENGTH OF THE CHANNEL. EXCEPT WHERE COBBLE IS SPECIFIED.

8. TREES AND SHRUBS SHOULD BE PLANTED IN A STAGGERED FASHION. A 1.7m GROWTH RADIUS SHOULD BE LEFT AROUND EACH TREE. SILKY WILLOW SHALL BE PLANTED AT A DENSITY OF 2-3 PER SQUARE METER. ALL OTHER SHRUBS SHOULD BE PLANTED AT A DENSITY OF 1 PER SQUARE METER. SHRUBS SHOULD BE PLANTED IN GENERAL RANDOM SPECIES CLUSTERS OF 10 TO 50 PLANTS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

9. ALL DISTURBED AREA SHOULD BE SEEDED WITH ITEM 870, SEEDING AND MULCHING, CLASS B-NATIVE WILDFLOWER AND GRASS MIX. THIS QUANTITY IS TABULATED ON CHANNEL CROSS SECTIONS SHEETS 253 AND 255 OF 677.



TYPICAL DITCH SECTION

ESTIMATED QUANTITIES						
KEY	ITEM	QUANTITY	UNIT	DESCRIPTION		
				BOTANICAL NAME	COMMON NAME	SIZE
B	SPECIAL	27	EACH	MISC: BOULDER		(0.3M – 1M)
SN	661	12	EACH	PLANTING, MISC: SALIX NIGRA	BLACK WILLOW	3.8L (1GAL)
SD	661	75	EACH	PLANTING, MISC: CORNUS AMONUM	SILKY DOGWOOD	3.8L (1GAL)
LT	661	21	EACH	PLANTING, MISC: LIRIODENDRON TULIPIFERA	TULIP TREE	3.8L (1GAL)
AR	661	10	EACH	PLANTING, MISC: ACER RUBRUM	RED MAPLE	3.8L (1GAL)
	661	257	EACH	PLANTING, MISC: CORNUS RACEMOSA	GRAY DOGWOOD	3.8L (1GAL)
	661	257	EACH	PLANTING, MISC: VIBURNUM LENTAGO	NANNYBERRY	3.8L (1GAL)
SS	661	275	EACH	PLANTING, MISC: SALIX SERICEA		
DRF	601	11	CU. M.	DUMPED ROCK, TYPE D, AS PER PLAN		
C	601	6.0	CU. M.	ROCK CHANNEL PROTECTION TYPE C; 300mm		

SILKY WILLOW MIN. 1.829m (6')

QUANTITIES CARRIED TO GENERAL SUMMARY SHEET 42

metric units

RATIO 1:100
HORIZONTAL SCALE IN METERS

CALCULATED FJB
CHECKED LBD

DITCH LANDSCAPING PLAN

CRA-30-24.000

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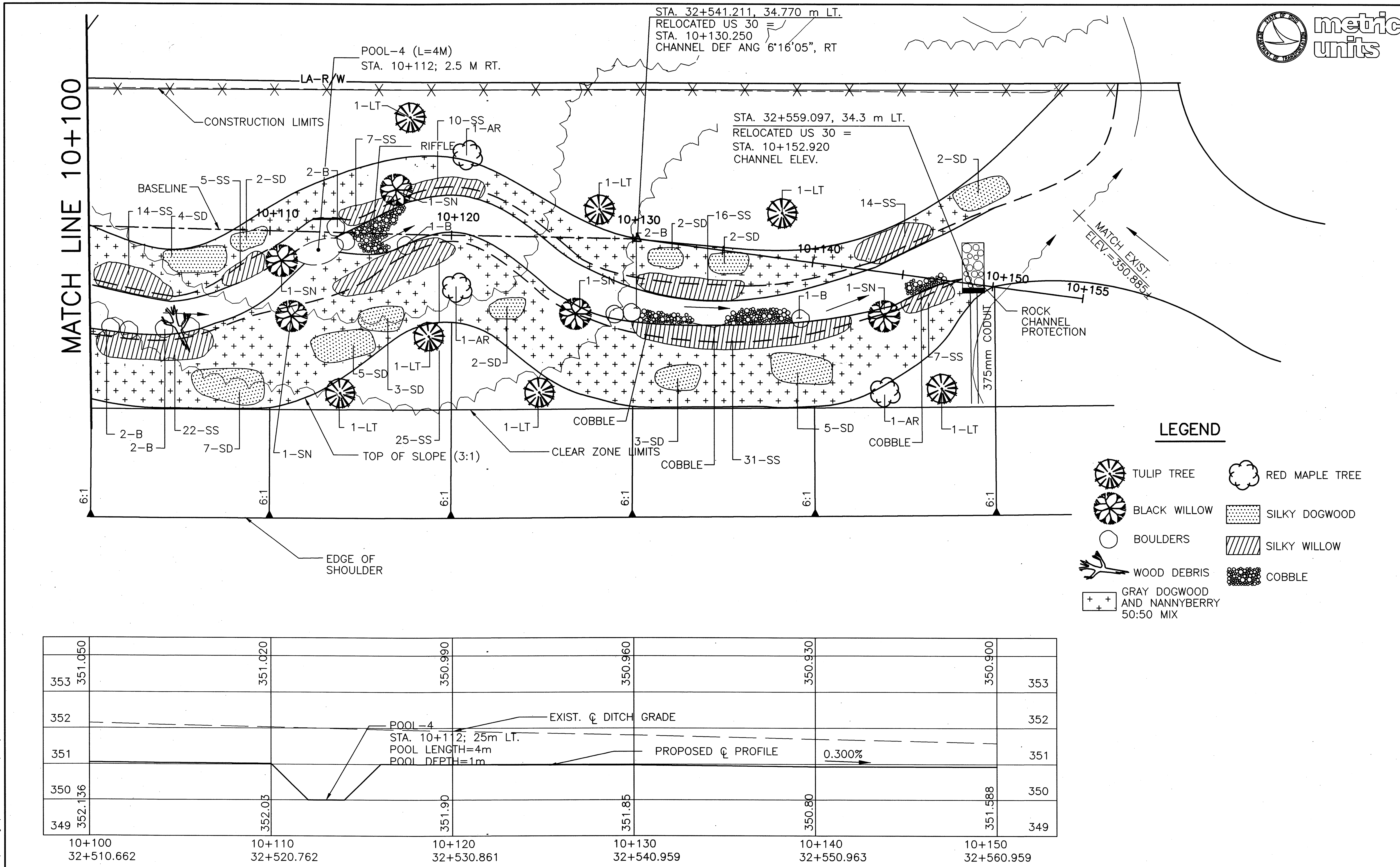
STA. 32+446.000, 36.000 m LT.
RELOCATED US 30 =
STA. 10+036.000
CHANNEL DEF. ANG. 90°00'00", RT.
CONSTRUCTION LIMITS
TOP OF BANK
POOL-1 (L=3M)
STA. 10+043; 2m RT.
RIFFLE
POOL-2 (L=6M)
STA. 10+077; 1m RT.
POOL-3 (L=5M)
STA. 10+090
LA-R/W
BASELINE
WETLAND
C-32.70
TOP OF SLOPE (3:1)
CLEAR ZONE LIMITS
ROCK CHANNEL PROTECTION
1350mm CONDUIT
STA. 32+446.000, 29.95 m LT.
RELOCATED US 30 =
STA. 10+030.000
CHANNEL ELEV. = 351.245
EDGE OF SHOULDER
COBBLE
23-SS
15-SS
MATCH LINE 10+100
10+020
10+030
10+040
10+050
10+060
10+070
10+080
10+090
6:1
LEGEND
TULIP TREE
BLACK WILLOW
BOULDERS
WOOD DEBRIS
GRAY DOGWOOD AND NANNYBERRY 50:50 MIX
RED MAPLE TREE
SILKY DOGWOOD
SILKY WILLOW
COBBLE
EXIST. ℄ DITCH GRADE
PROPOSED ℄ DITCH
0.300%
POOL-1
STA. 10+043; 2m RT.
POOL LENGTH=3m
POOL DEPTH=1m
POOL-2
STA. 10+077; 1m RT.
POOL LENGTH=6m
POOL DEPTH=1m
POOL-3
STA. 10+090
POOL LENGTH=5m
POOL DEPTH=1m
351.230
351.200
351.170
351.140
351.110
351.080
351.050
353.093
352.453
352.341
352.241
352.136
10+040 32+450.042
10+050 32+460.145
10+060 32+470.249
10+070 32+480.352
10+080 32+490.455
10+090 32+500.557
10+100 32+510.662
metric units
RATIO 1:100
HORIZONTAL SCALE IN METERS
CALCULATED FJB
CHECKED LBD
STA. 32+446.000 TO STA. 32+510.662
CHANNEL LANDSCAPING PLAN
CRA-30-24.000
445B
677
L:\DRAWINGS\93125\ENVIRON\GP1.dwg April 11 2001 1:24pm By:smhetler



CALCULATED FJB
CHECKED LBD

STA. 32+510.662 TO STA. 32+560.959
CHANNEL LANDSCAPING PLAN

CRA-30-24.000

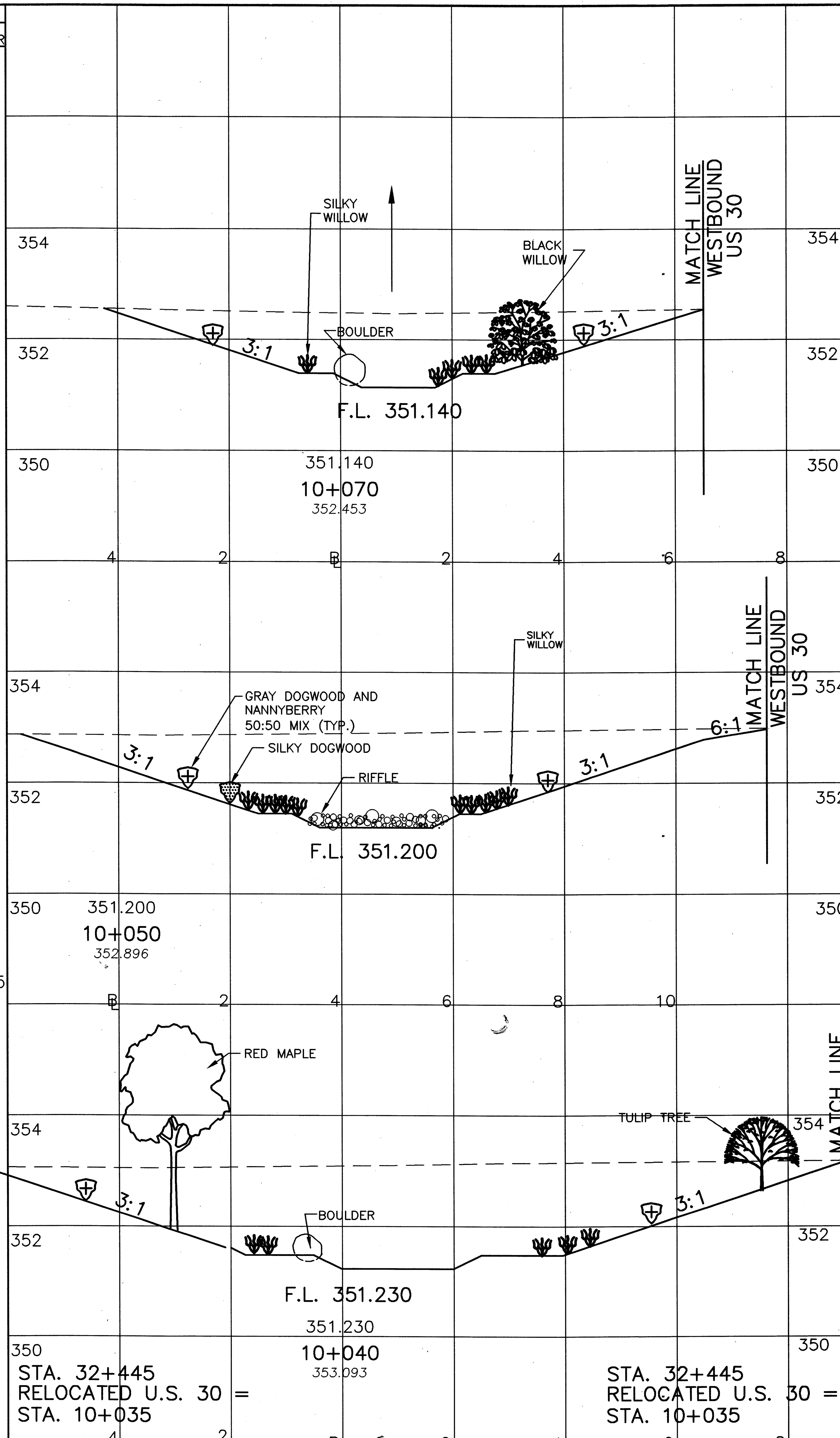
445C
677

L:\DRAWINGS\93125\ENVIRON\GP2.dwg April 17 2001 1:47pm By:smhetler

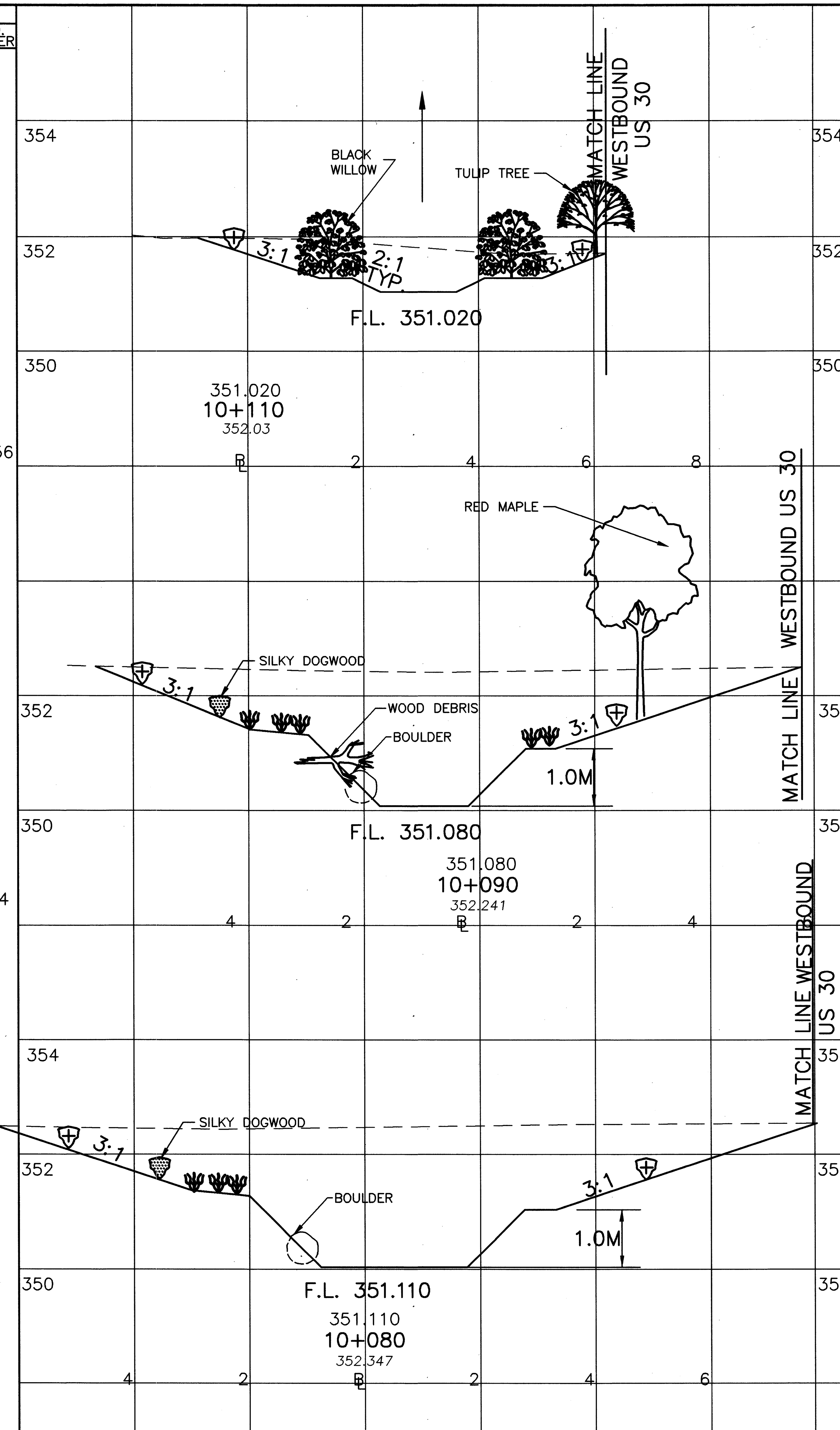
CHANNEL CROSS-SECTIONS
STA. 10+040.000 TO STA. 10+110.000

CRA-30-24.000

CALCULATED FJB CHECKED LBD



SEEDING END WIDTH	SEEDING SQ. METER	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	95.5			105.5	0
9.7		8.2	0		
	207			212	0
11.0		13.0	0		
	112.5			140	0
11.5		15.0	0		
	62			67	–
13.3		11.8			
SHEET TOTAL	477			525	0



SEEDING END WIDTH	SEEDING SQ. METER	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6.2		3.5	0		
	156			178	0
9.4		14.3	0		
	94			136	0
9.4		12.9	0		
SUB TOTAL	250			314	0
SUB TOTAL	477			525	0
SHEET TOTAL	727			839	0

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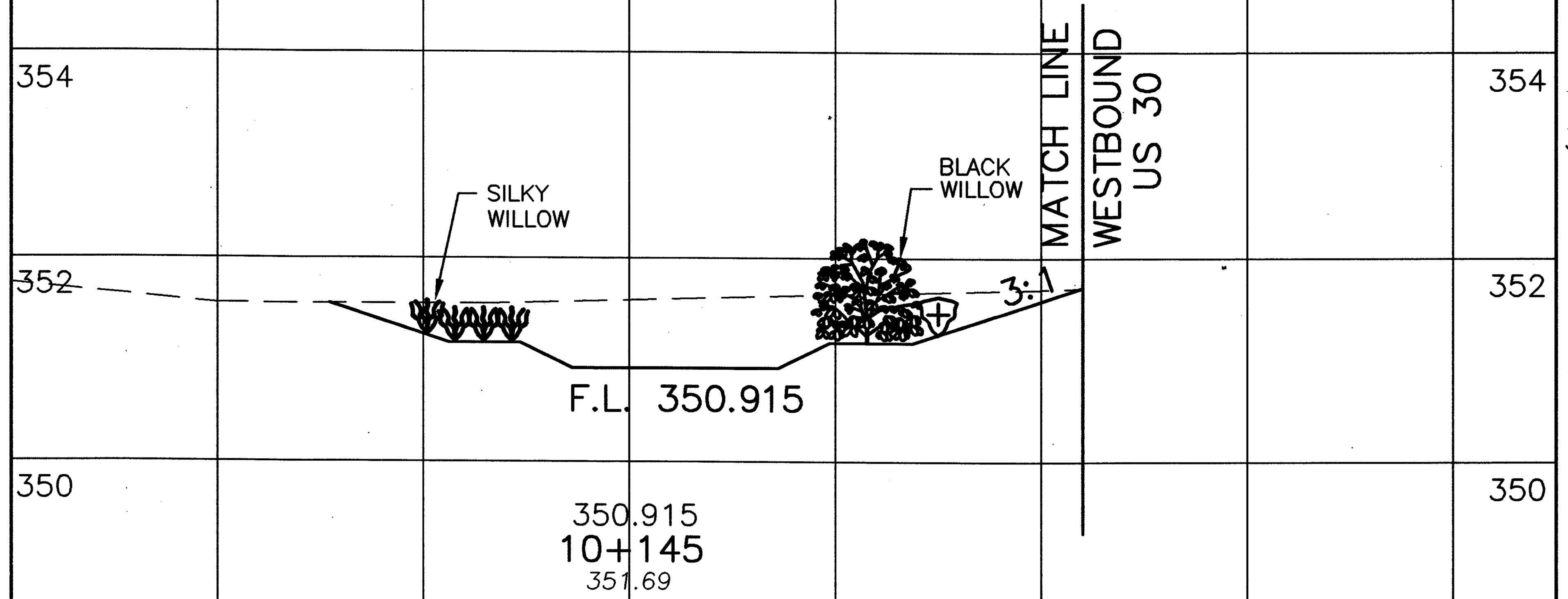
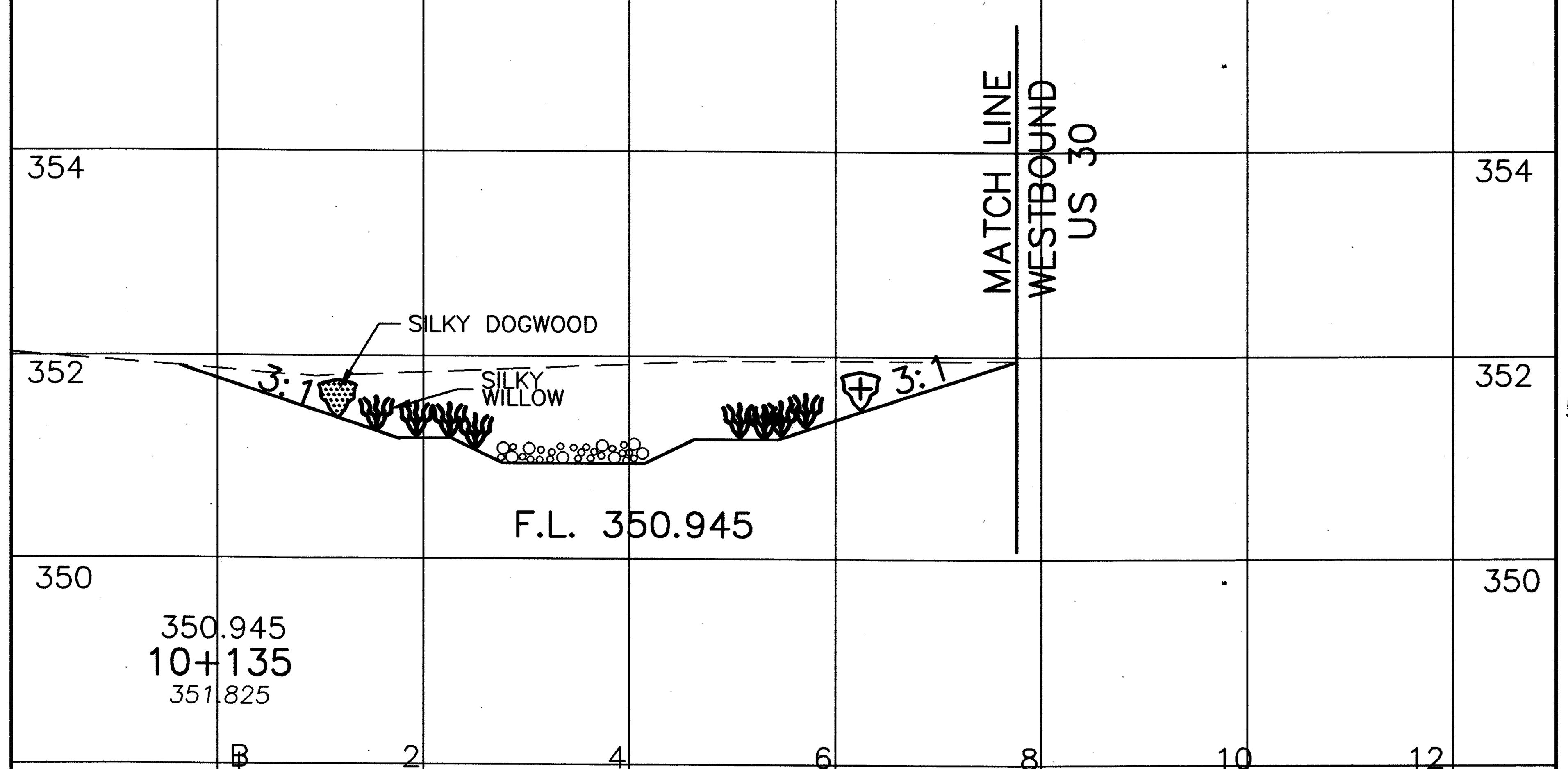
SEEDING END WIDTH	SEEDING SQ. METER		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5.4			3.6			
	31.5				17.5	
7.2			3.4	0		
	110.5				46	0
7.7			5.8	0		
	173.8				116.3	0
	315.8	SHEET TOTAL			179.8	0

STA. 10+150 CHANNEL =
STA. 32+560.959
RELOCATED U.S. 30





SHEET TOTAL

SEEDING END WIDTH	SEEDING SQ. METER	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

CALCULATED FJB
CHECKED LBD

CHANNEL CROSS-SECTIONS
STA. 10+040.000 TO STA. 10+110.000

CRA-30-24.000

445E
677

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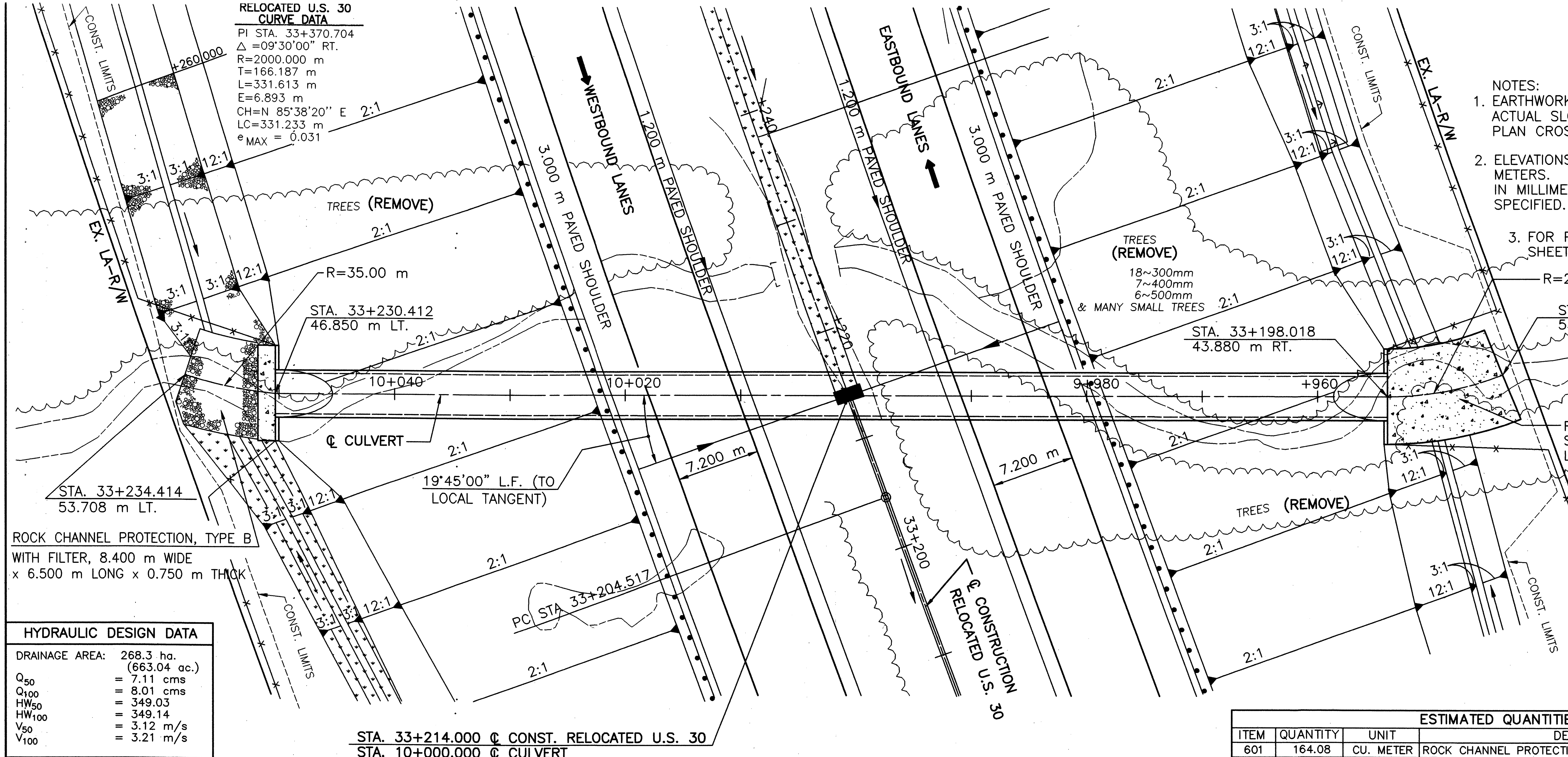
CULVERT DETAIL RELOCATED U.S. 30 STA. 33+214.000

metric units

NOTES:
1. EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS. ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. FOR PLAN AND PROFILE SEE SHEETS 133 & 134 OF 677.

RELOCATED U.S. 30 CURVE DATA
PI STA. 33+370.704
Δ =09°30'00" RT.
R=2000.000 m
T=166.187 m
L=331.613 m
E=6.893 m
CH=N 85°38'20" E
LC=331.233 m
e_{MAX} = 0.031



PLAN

LEGEND

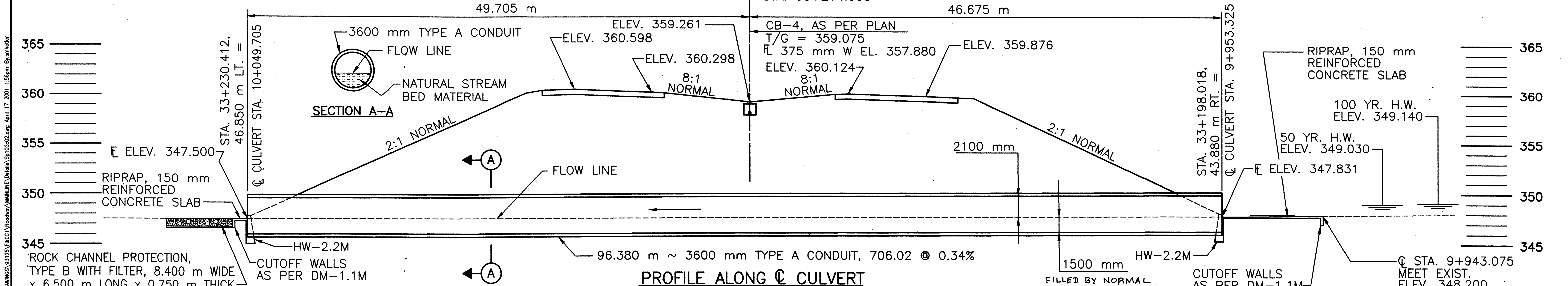
- ROCK CHANNEL PROTECTION, 750 mm THICK, TYPE B WITH FILTER
- RIPRAP, 150 mm REINFORCED CONCRETE SLAB
- DITCH EROSION PROTECTION

HYDRAULIC DESIGN DATA	
DRAINAGE AREA:	268.3 ha. (663.04 ac.)
Q_{50}	= 7.11 cms
Q_{100}	= 8.01 cms
HW_{50}	= 349.03
HW_{100}	= 349.14
V_{50}	= 3.12 m/s
V_{100}	= 3.21 m/s

BENCHMARK
FENO MONUMENT
STA. 32+306.920,
166.382 m LT.
ELEV. 353.974

ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
601	164.08	CU. METER	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
601	98.70	SQ. METER	RIPRAP, USING 150 mm REINFORCED CONCRETE SLAB
602	33.00	CU. METER	CONCRETE MASONRY
603	96.380	METER	3600 mm CONDUIT, TYPE A, 706.02, D-LOAD 140

TOTALS CARRIED TO GENERAL SUMMARY

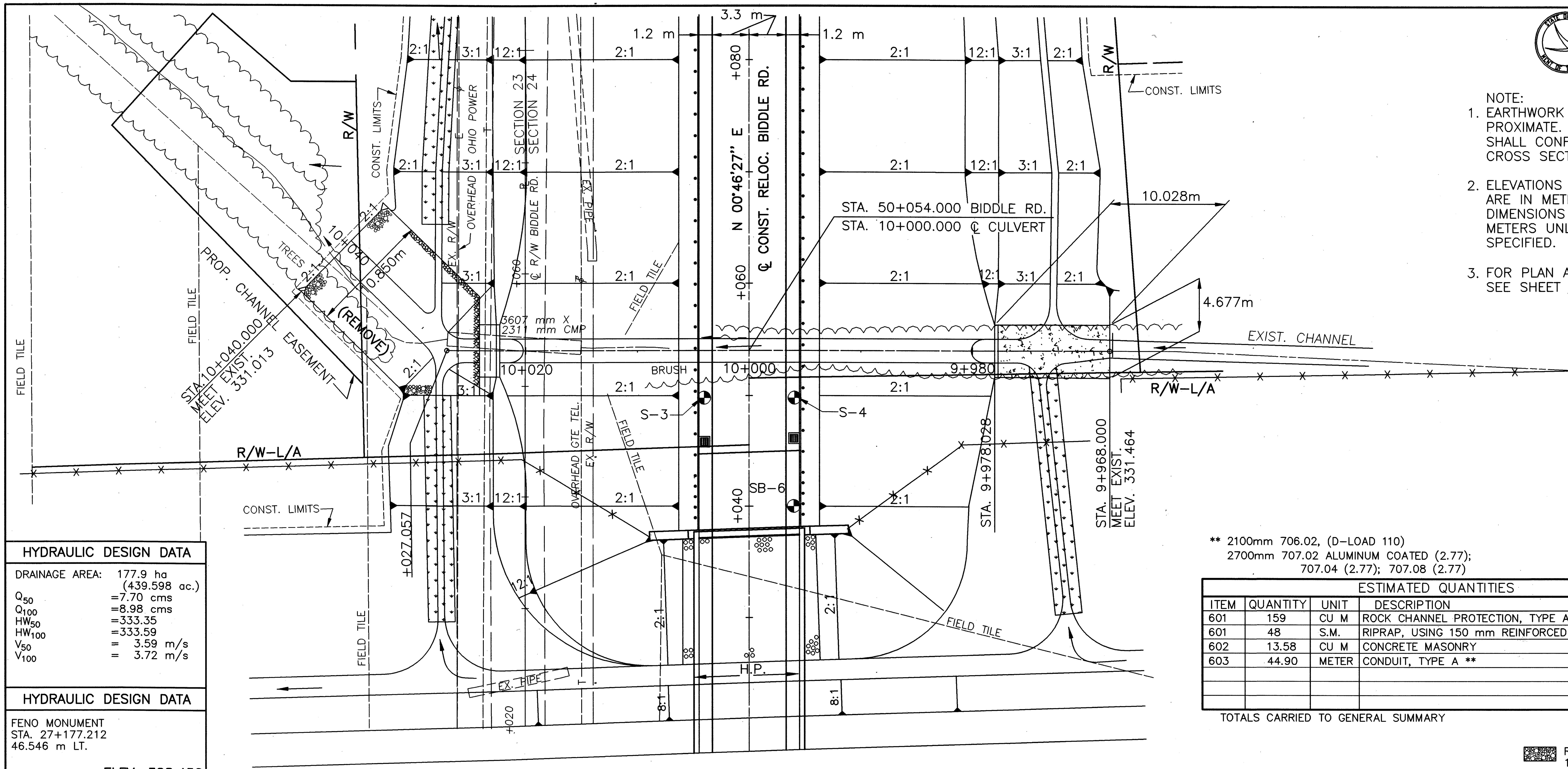


PROFILE ALONG ℄ CULVERT

RATIO 1:200 HORIZONTAL SCALE IN METERS

CALCULATED PSB CHECKED LBD

CRA-30-24.000



NOTE:
1. EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. FOR PLAN AND PROFILE SEE SHEET 342 OF 677.

HYDRAULIC DESIGN DATA

DRAINAGE AREA: 177.9 ha (439.598 ac.)
Q_{50} =7.70 cms
Q_{100} =8.98 cms
HW_{50} =333.35
HW_{100} =333.59
V_{50} = 3.59 m/s
V_{100} = 3.72 m/s

HYDRAULIC DESIGN DATA

FENO MONUMENT
STA. 27+177.212
46.546 m LT.
ELEV. 328.450

** 2100mm 706.02, (D-LOAD 110)
2700mm 707.02 ALUMINUM COATED (2.77); 707.04 (2.77); 707.08 (2.77)

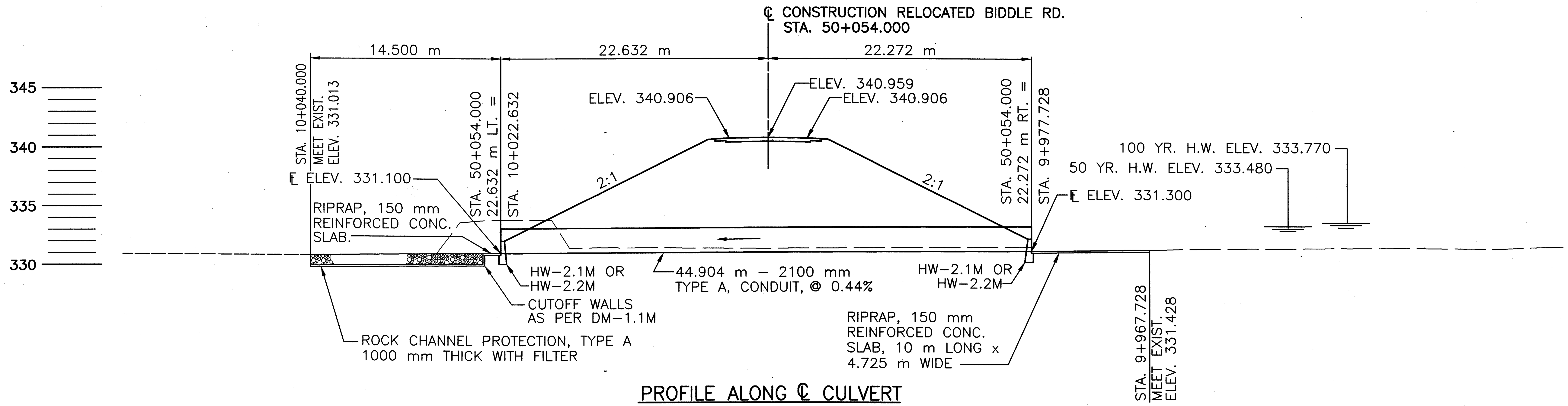
ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
601	159	CU M	ROCK CHANNEL PROTECTION, TYPE A, WITH FILTER
601	48	S.M.	RIPRAP, USING 150 mm REINFORCED CONCRETE SLAB
602	13.58	CU M	CONCRETE MASONRY
603	44.90	METER	CONDUIT, TYPE A **

TOTALS CARRIED TO GENERAL SUMMARY

LEGEND

ROCK CHANNEL PROTECTION, 1250 mm THICK, TYPE A WITH FILTER
RIPRAP, 150 mm REINFORCED CONCRETE SLAB
DITCH EROSION PROTECTION



PROFILE ALONG ℄ CULVERT

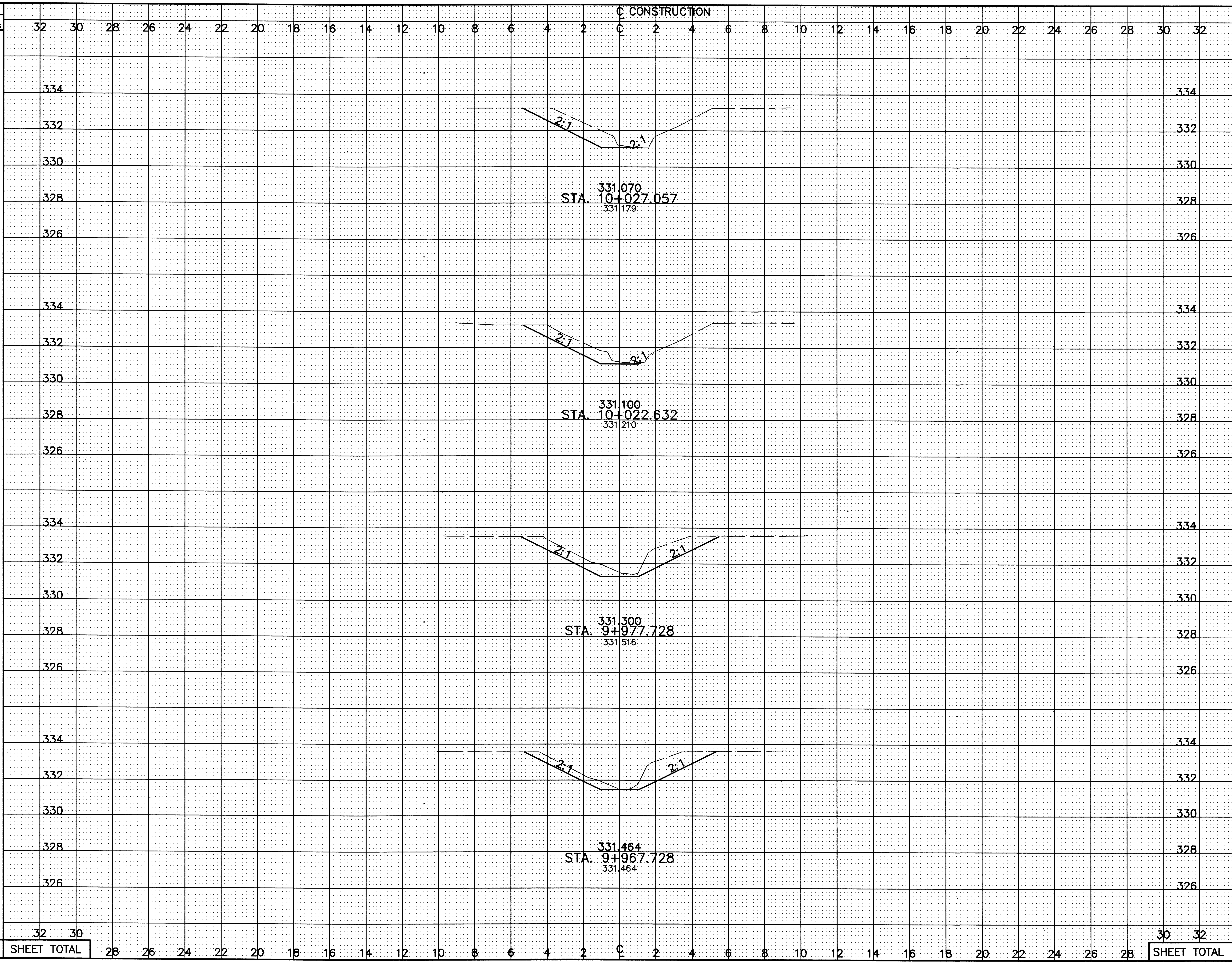
RATIO 1:200
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CULVERT DETAIL RELOCATED BIDDLE RD. STA. 50+054.000

CRA-30-24.000

SEEDING	
END WIDTH	SQ. METERS
SHEET TOTAL	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3.7	0.0		
		19	0
3.0 (AHEAD) 0,0 (BACK)	0.0		
		0	0
0,0 (AHEAD) 6.0 (BACK)	0.0		
		55	0
5.0	0.0		
		0	0
SHEET TOTAL		74	0

CALCULATED PSB
CHECKED LBD

CHANNEL CROSS-SECTIONS – BIDDLE RD.
STA. 9+967.728 TO STA. 10+027.057

CRA-30-24.000

447A
677

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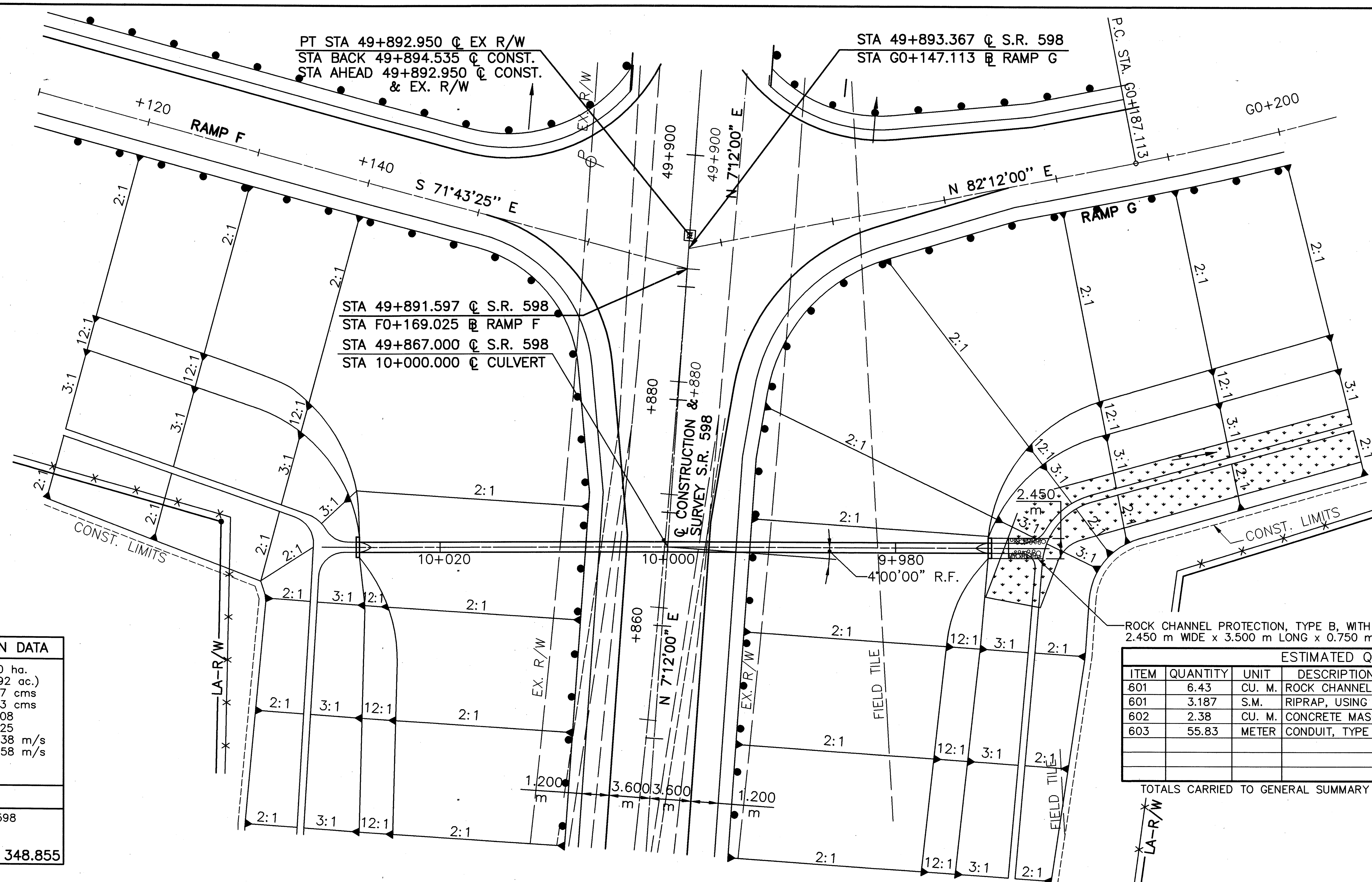
SEEDING
END WIDTH
SQ. METERS
℄ CONSTRUCTION
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
R/W
STA. 10+060.706
330.810
R/W
STA. 10+050
330.929
R/W
STA. 10+040
331.038
MEET EXISTING
0
0
23
0
SHEET TOTAL
SHEET TOTAL
23
0
CHANNEL CROSS-SECTIONS – BIDDLE RD.
STA. 10+040 TO STA. 10+060.706
CRA-30-24.0
447B
677
L:\DRAWINGS\93125\F&DC1\Roadway\BIDDLE\XSECT\GX517c02.dwg April 20 2001 1:06pm By:smhetler



HYDRAULIC DESIGN DATA

DRAINAGE AREA: 9.790 ha. (24.192 ac.)
Q_{25} =1.367 cms
Q_{100} =1.683 cms
HW_{25} =348.08
HW_{100} =348.25
V_{25} = 2.38 m/s
V_{100} = 2.58 m/s

BENCHMARK

FENO MONUMENT S.R.598
STA. 50+247.776
6.899 m LT.
ELEV. 348.855

NOTE:
1. EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. FOR PLAN AND PROFILE SEE SHEET 362 OF 677.

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
601	6.43	CU. M.	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
601	3.187	S.M.	RIPRAP, USING 150mm REINFORCED CONCRETE SLAB
602	2.38	CU. M.	CONCRETE MASONRY
603	55.83	METER	CONDUIT, TYPE A **

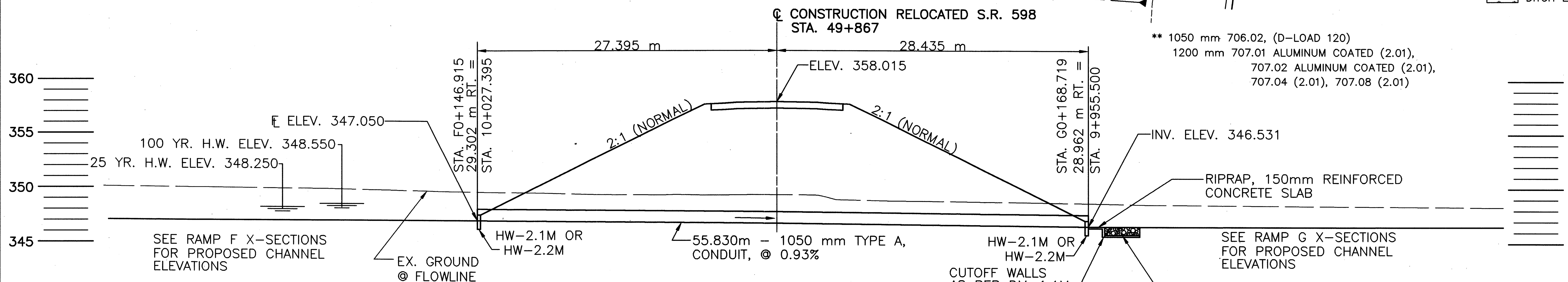
TOTALS CARRIED TO GENERAL SUMMARY

LEGEND

ROCK CHANNEL PROTECTION, 750 mm THICK, TYPE B WITH FILTER

DITCH EROSION PROTECTION

** 1050 mm 706.02, (D-LOAD 120)
1200 mm 707.01 ALUMINUM COATED (2.01),
707.02 ALUMINUM COATED (2.01),
707.04 (2.01), 707.08 (2.01)



PROFILE ALONG ℄ CULVERT

metric units

RATIO 1:200
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CULVERT DETAIL
S.R. 598 STA. 49+867.000

CRA-30-24.000

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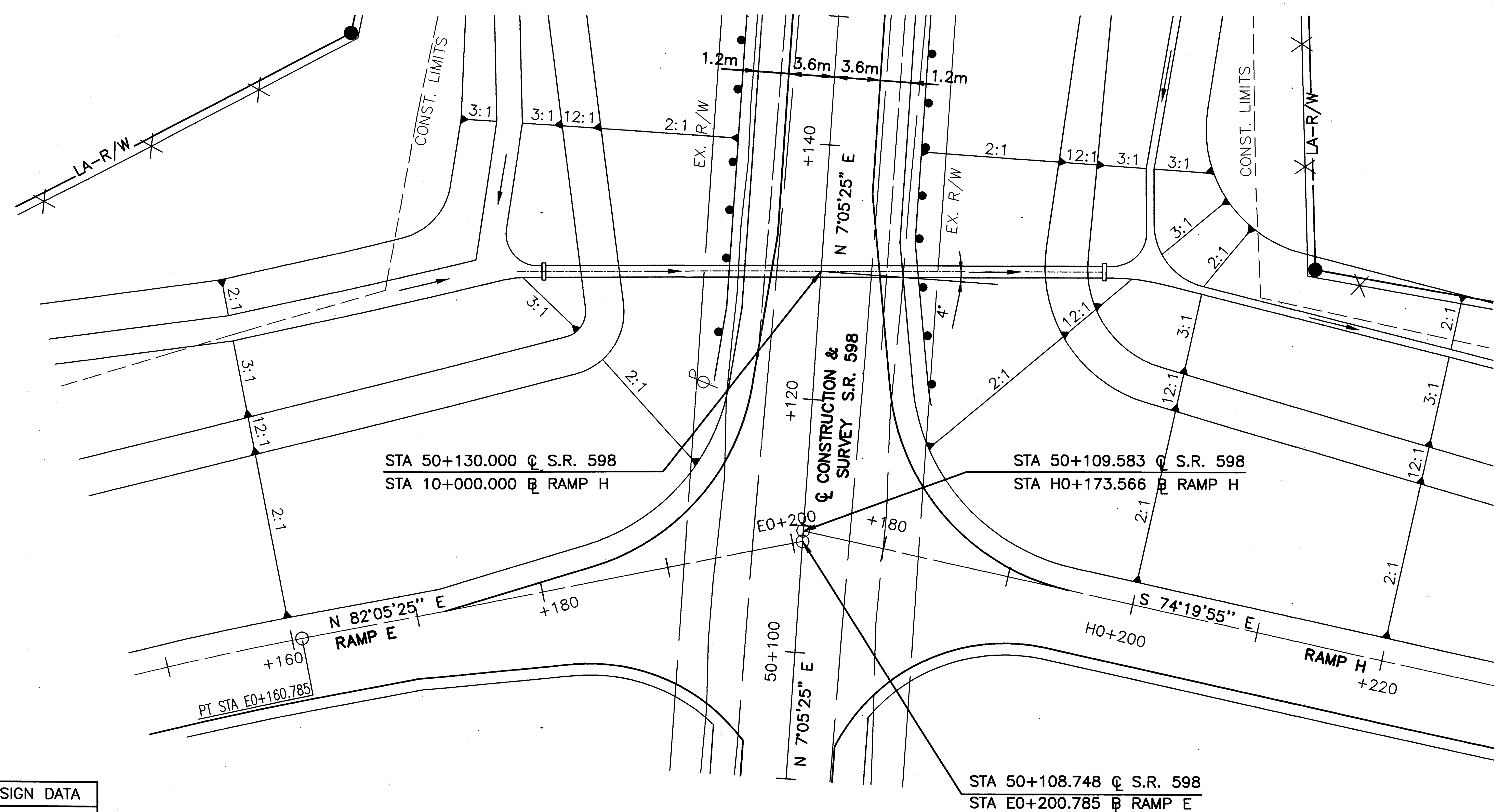


NOTE:

1. EARTHWORK LIMITS ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. FOR PLAN AND PROFILE SEE SHEET 363 OF 677.

LEGEND

ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, 2.125 m WIDE x 3.000 m LONG x 7.50 m THICK.

HYDRAULIC DESIGN DATA

DRAINAGE AREA:	7.470 ha. (18.459 ac.)
Q_{25}	=1.010 cms
Q_{100}	=1.252 cms
HW_{25}	=347.37
HW_{100}	=347.55
V_{25}	= 2.87 m/s
V_{100}	= 3.02 m/s

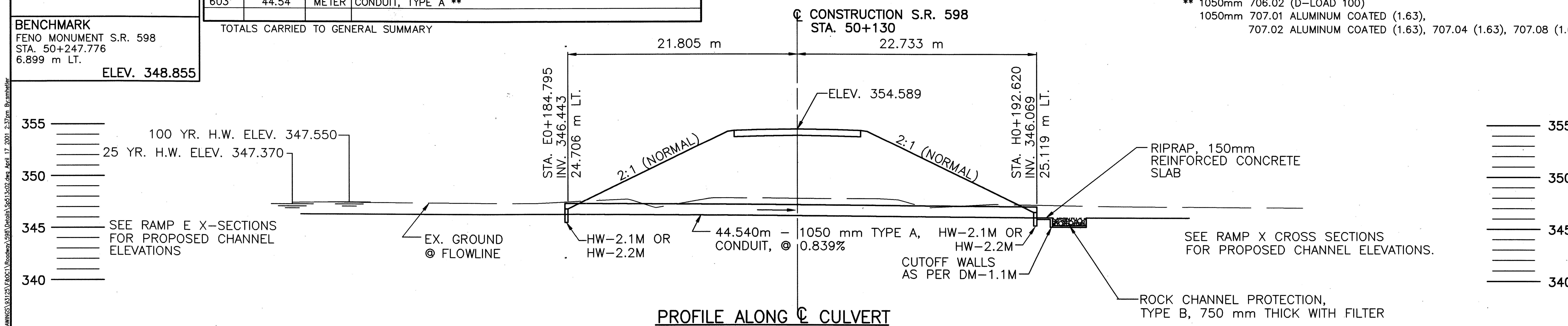
BENCHMARK
FENO MONUMENT S.R. 598
STA. 50+247.776
6.899 m LT.
ELEV. 348.855

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
601	10.65	CU. M.	ROCK CHANNEL PROTECTION, TYPE B, WITH FILTER
601	3.18	S.M.	RIPRAP, USING 150mm REINFORCED CONCRETE SLAB
602	1.89	CU. M.	CONCRETE MASONRY
603	44.54	METER	CONDUIT, TYPE A **

TOTALS CARRIED TO GENERAL SUMMARY

** 1050mm 706.02 (D-LOAD 100)
1050mm 707.01 ALUMINUM COATED (1.63),
707.02 ALUMINUM COATED (1.63), 707.04 (1.63), 707.08 (1.63).



PROFILE ALONG ℄ CULVERT

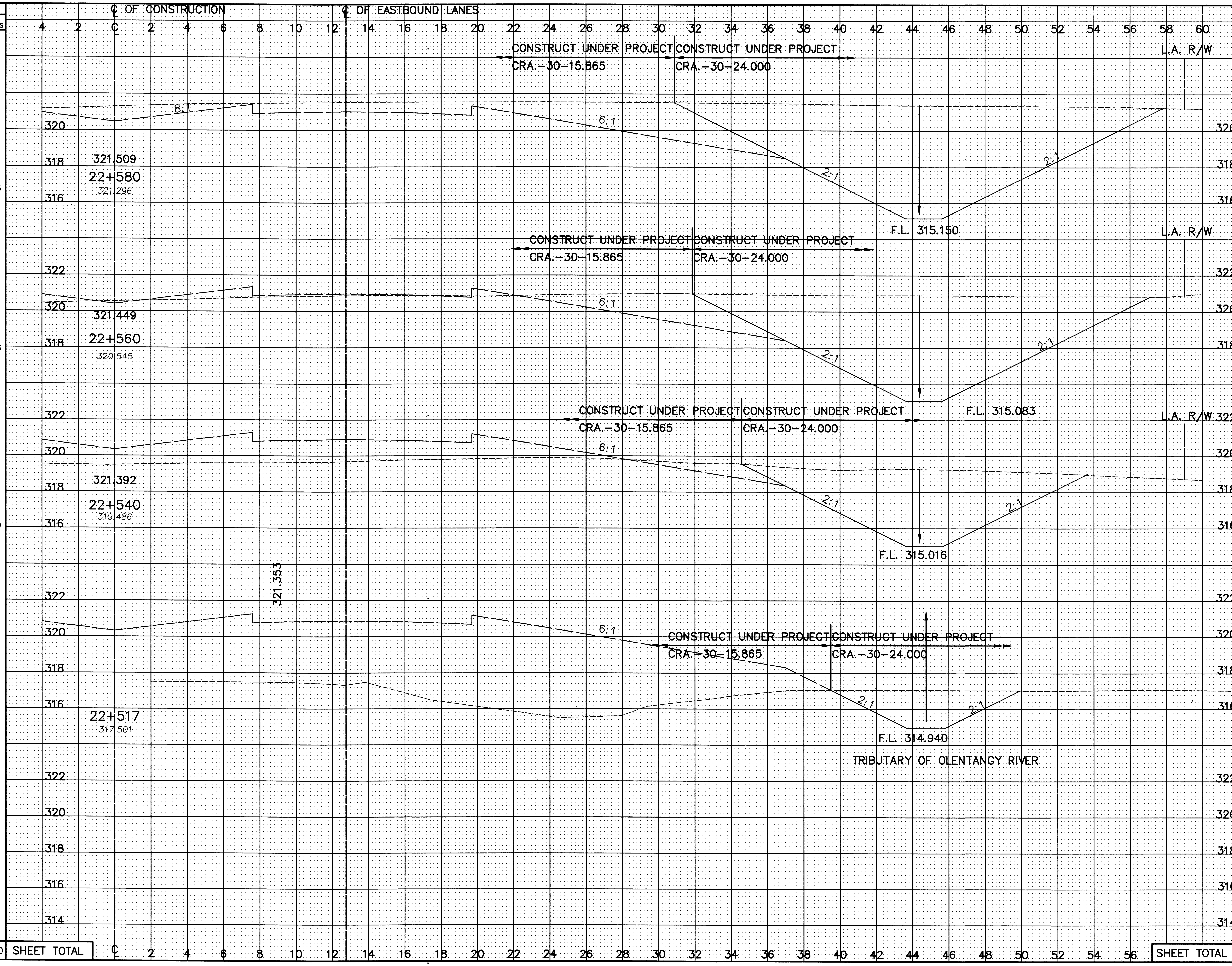
metric units

RATIO 1:200
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED PJB/LBD

CULVERT DETAIL S.R. 598 STA. 50+130.000

CRA-30-24.000



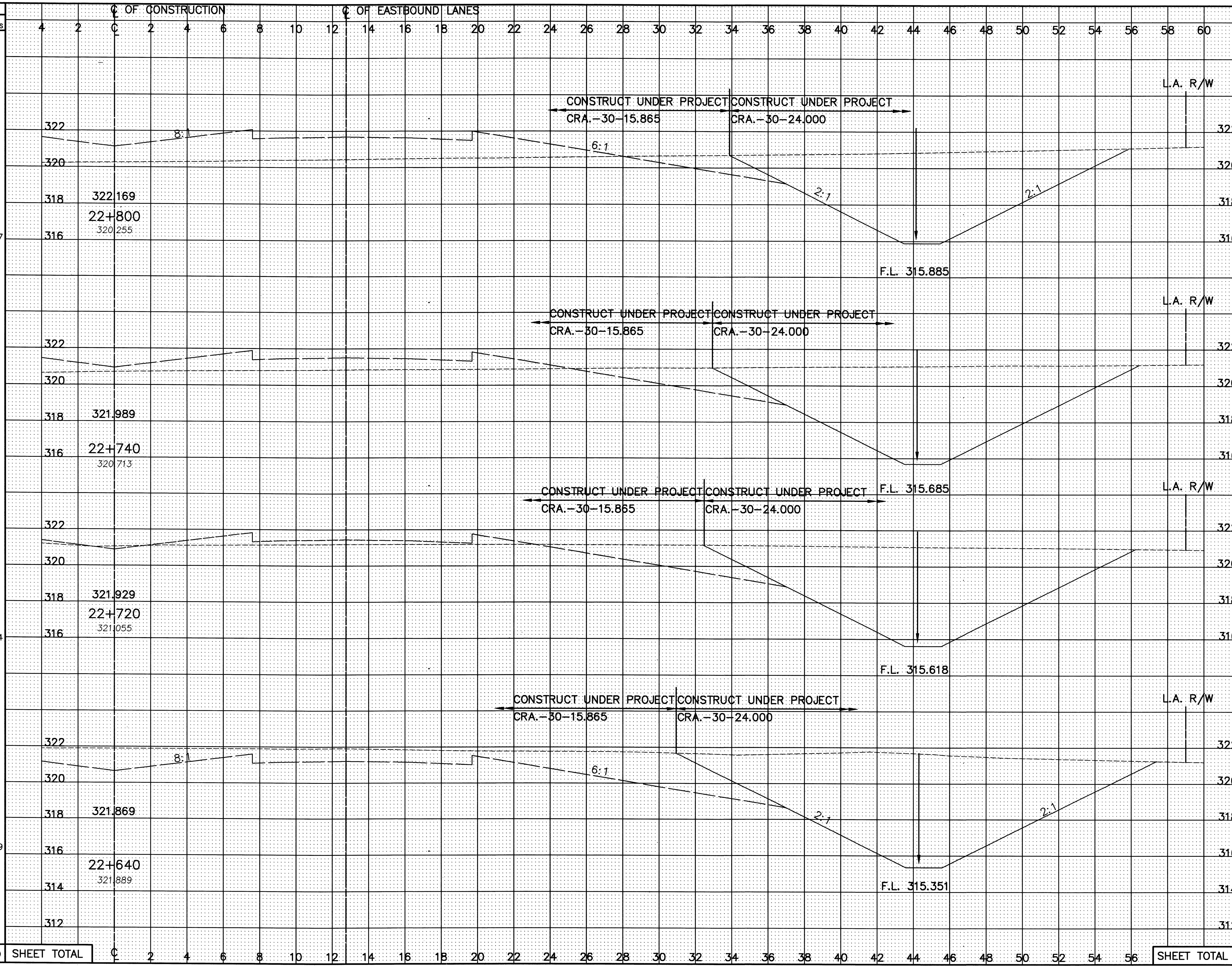
STATION	SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22+580	42.7		90.3	0.0		
		853			1693	0.0
22+560	42.6		79	0.0		
		848			1229	0.0
22+540	42.2		43.9	0.0		
		959			653	0.0
22+517	41.2		12.9	0.0		
SHEET TOTAL		2660			3575	0.0

CALCULATED PSB
CHECKED LBD

CHANNEL DETAILS
STA. 22+517 TO STA. 22+580 RIGHT ℄ CROSS-SECTIONS

CRA-30-24.000

SEEDING END WIDTH	SEEDING SQ. METERS
42.4	2547
42.5	850
42.5	3404
42.6	2559
	9360



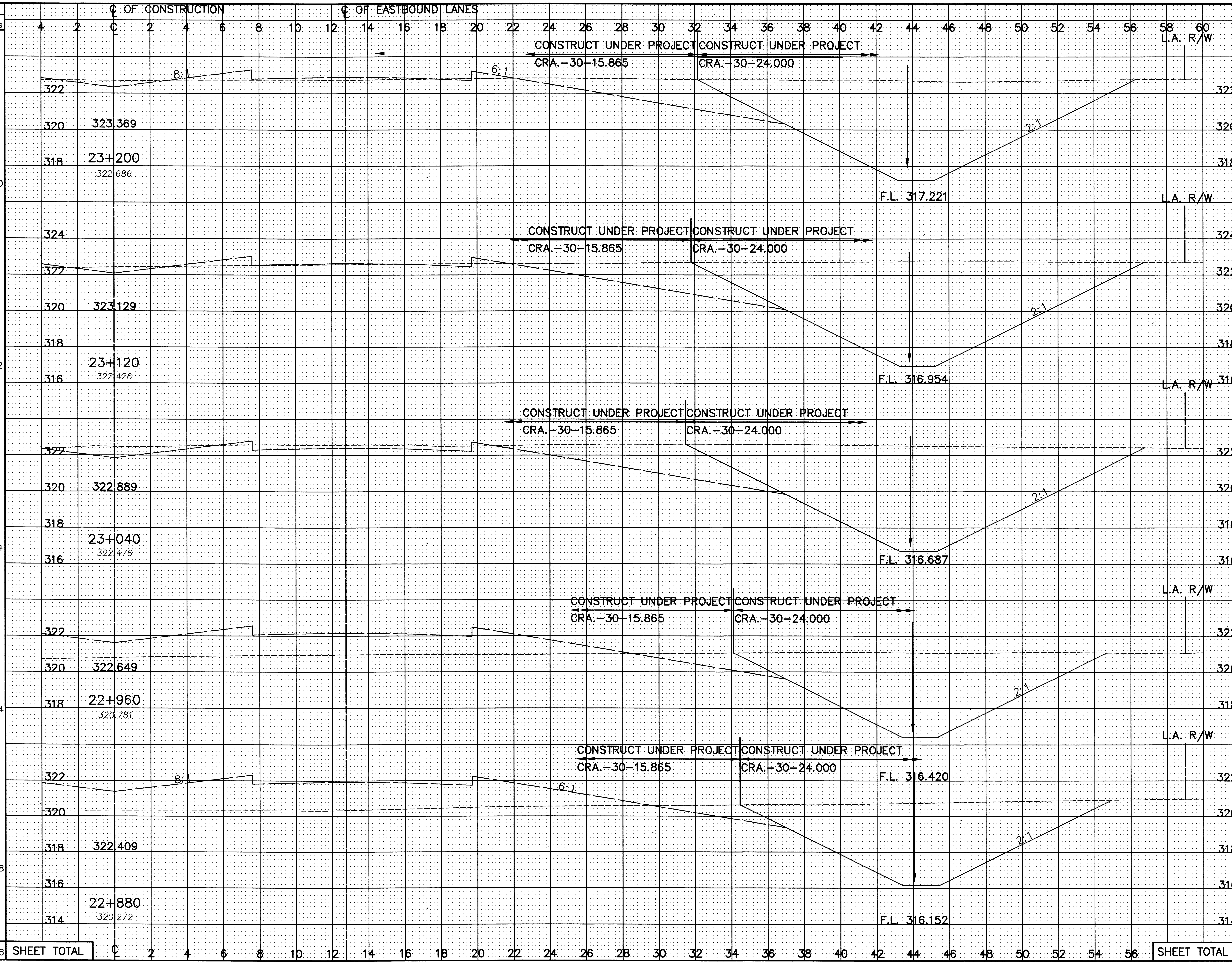
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59.5	0.0		
		3843	0.0
68.6	0.0		
		1390	0.0
70.4	0.0		
		6364	0.0
88.7	0.0		
		5370	0.0
SHEET TOTAL		16967	0.0

CALCULATED PSB
CHECKED LBD

CHANNEL DETAILS

STA. 22+640 TO STA. 22+800 RIGHT ℄ CROSS-SECTIONS

CRA-30-24.000



Station	Seeding End Width	Seeding Sq. Meters	End Area Cut	End Area Fill	Volume Cut	Volume Fill
23+200	42.5		70.8	0.0		
		3400			6016	0.0
23+120	42.5		79.6	0.0		
		3172			5268	0.0
23+040	36.8		52.1	0.0		
		3164			4188	0.0
22+960	42.3		52.6	0.0		
		3384			4164	0.0
22+880	42.3		51.5	0.0		
		3388			4440	0.0
SHEET TOTAL		16508			24076	0.0

CALCULATED PSB
CHECKED LBD

CHANNEL DETAILS

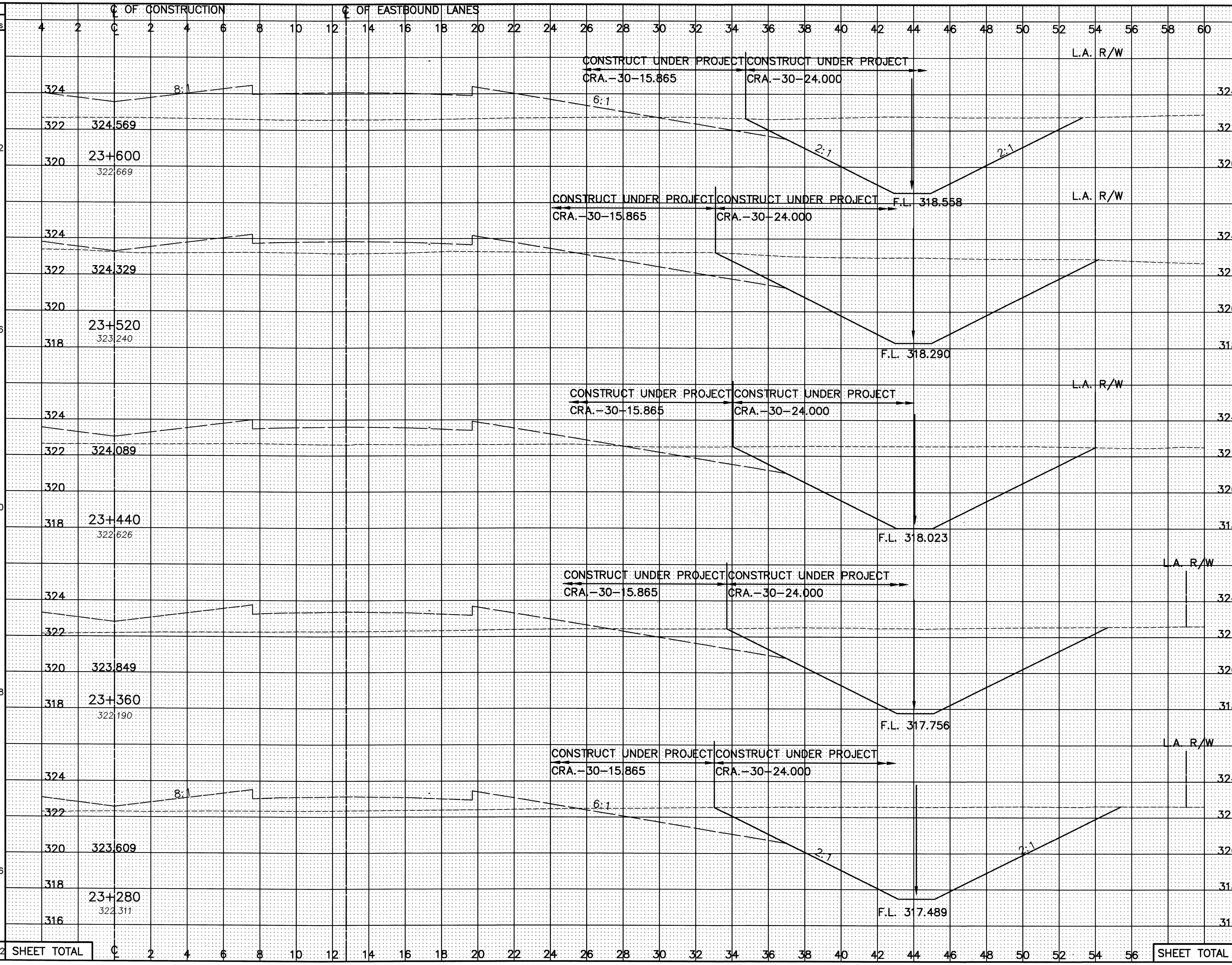
STA. 22+880 TO STA. 23+200 RIGHT ℄ CROSS-SECTIONS

CRA-30-24.000

CHANNEL DETAILS
STA. 23+280 TO STA. 23+600 RIGHT ℄ CROSS-SECTIONS

CRA–30–24.000

CALCULATED PSB | CHECKED LBD



SEEDING END WIDTH	SEEDING SQ. METERS
42.1	
	3092
35.2	
	3096
42.2	
	3380
42.3	
	3388
42.4	
	3396
	16352 SHEET TOTAL

Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
23+600	42.8	0.0	3842	0.0
23+520	53.2	0.0	4116	0.0
23+440	49.7	0.0	4172	0.0
23+360	54.6	0.0	4668	0.0
23+280	62.1	0.0	5316	0.0
SHEET TOTAL			22114	0.0

SEEDING
END WIDTH
SQ. METERS
℄ OF CONSTRUCTION
℄ OF EASTBOUND LANES
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED PSB
CHECKED LBD
CONSTRUCT UNDER PROJECT
CRA.-30-15.865
CONSTRUCT UNDER PROJECT
CRA.-30-24.000
L.A. R/W
8:1
6:1
2:1
2:1
325.529
23+920
323.565
F.L. 319.627
42.1
3372
37.5
0.0
3364
0.0
CONSTRUCT UNDER PROJECT
CRA.-30-15.865
CONSTRUCT UNDER PROJECT
CRA.-30-24.000
L.A. R/W
325.289
23+840
323.805
F.L. 319.359
42.2
3376
46.6
0.0
3696
0.0
CONSTRUCT UNDER PROJECT
CRA.-30-15.865
CONSTRUCT UNDER PROJECT
CRA.-30-24.000
L.A. R/W
325.049
23+760
323.467
F.L. 319.092
42.2
3372
45.8
0.0
3456
0.0
CONSTRUCT UNDER PROJECT
CRA.-30-15.865
CONSTRUCT UNDER PROJECT
CRA.-30-24.000
L.A. R/W
8:1
6:1
2:1
2:1
324.809
23+680
322.771
F.L. 318.825
42.1
3368
40.6
0.0
3336
0.0
13488
SHEET TOTAL
SHEET TOTAL
13852
0.0
CHANNEL DETAILS
STA. 23+680 TO STA. 23+920 RIGHT ℄ CROSS-SECTIONS
CRA-30-24.000
454
677

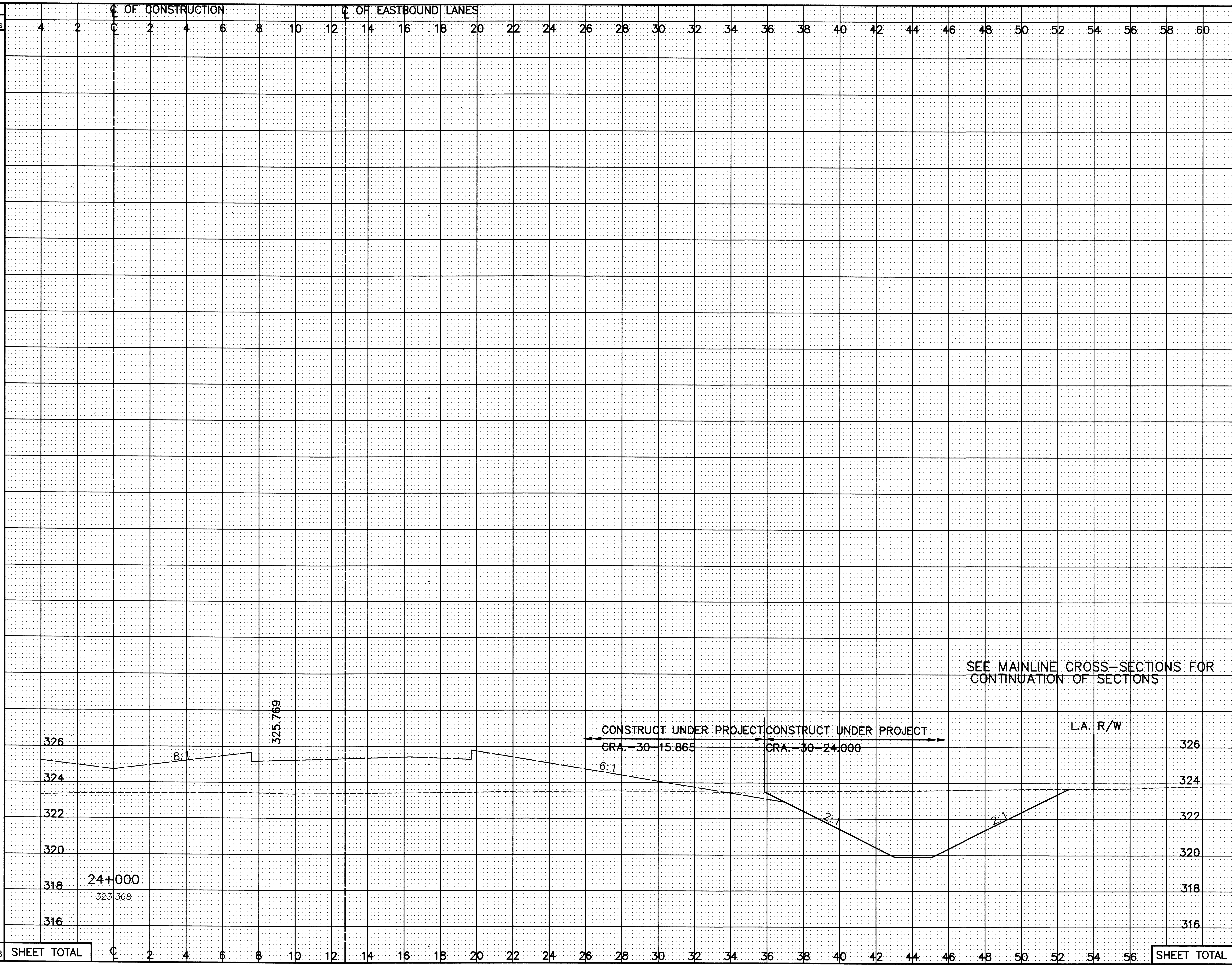
CHANNEL DETAILS

STA. 23+920 TO STA. 24+000 RIGHT ℄ CROSS-SECTIONS

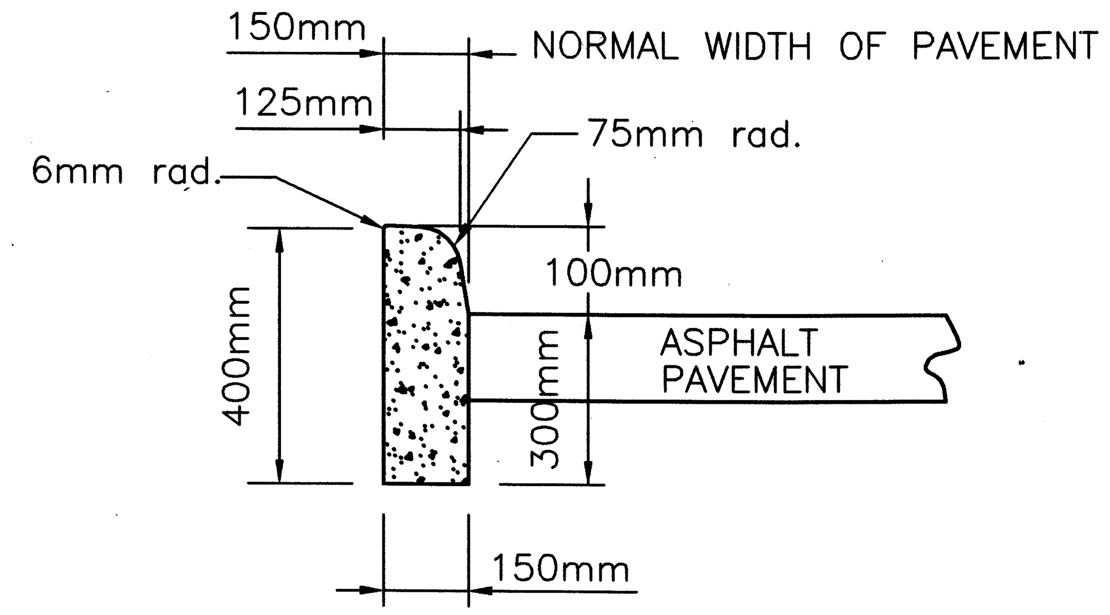
CRA-30-24.000

CALCULATED PSB · CHECKED LBD

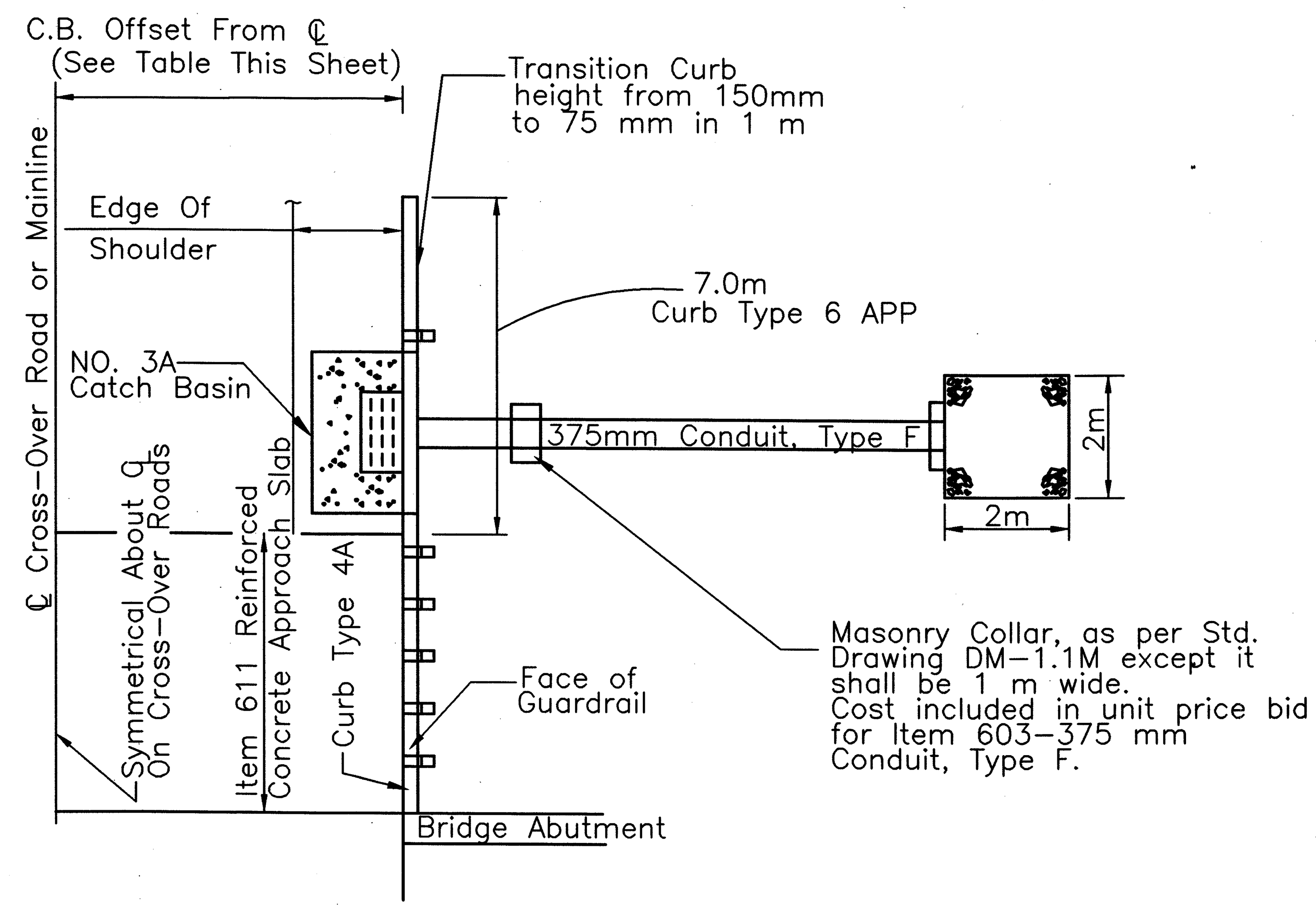
SEEDING END WIDTH	SEEDING SQ. METERS
36.1	3128
	3128 SHEET TOTAL



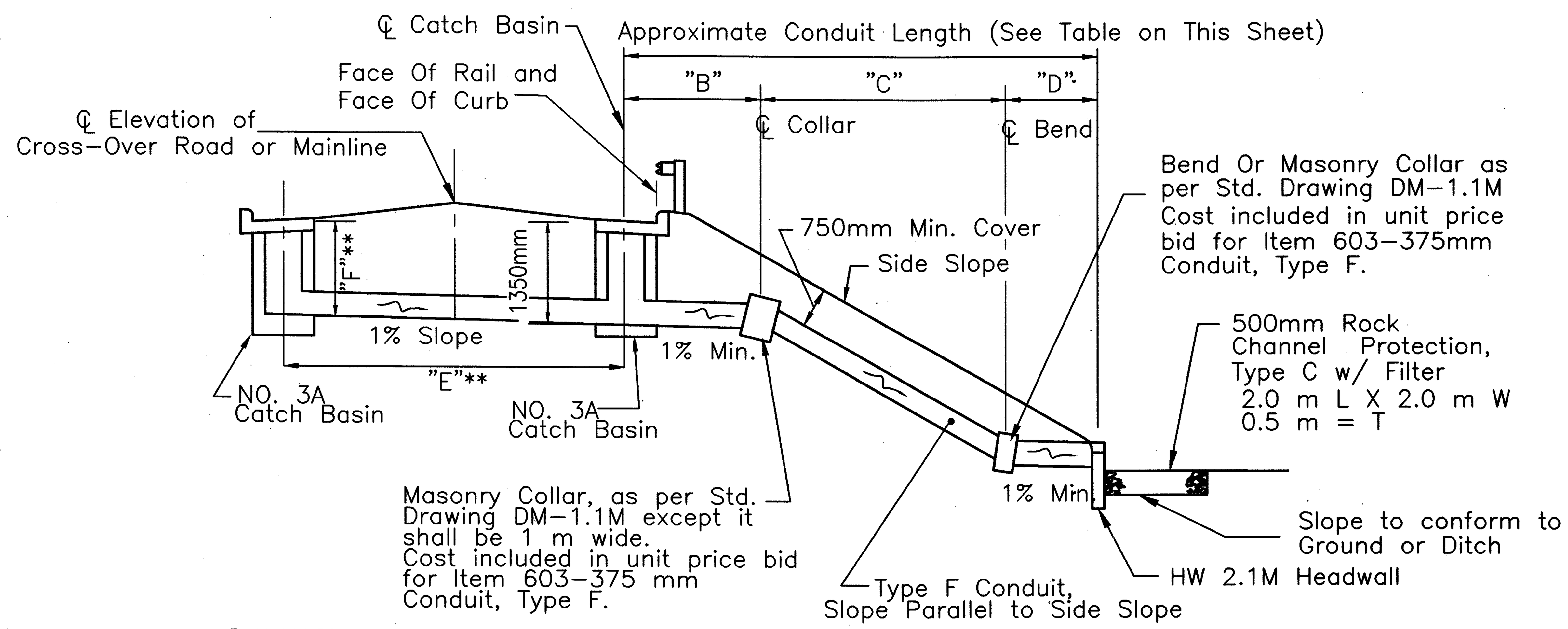
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34.5	0.0		0.0
		2880	0.0
SHEET TOTAL		2880	0.0



CURB TYPE 6, AS PER PLAN



BRIDGE DRAINAGE SYSTEM-PLAN



DRAINAGE SYSTEM-SECTION

ESTIMATED QUANTITIES

LOCATION	SIDE	STATION	C.B. OFFSET FROM ℄	603 375 mm CONDUIT,	TYPE F * "B"	"C"	"D"	TYPE B "E"	604 CB No.3A		830 CURB TYPE 6 APP	602 CONC. MAS.	601 ROCK CHANNEL PROTECTION, TYPE C, W/FILTER	TOP OF GRATE ELEV.	PLAN SHEET NO.
			METER		M.	M.		M.	EACH		M.	C.M.	C.M.		
FAIRVIEW RD. BRIDGE	LT.	49+955.000	5.1		–	–	–	–	1		7.0	–	–	359.895	387
FAIRVIEW RD. BRIDGE	RT.	49+949.000	5.1		1.0	18.0	5.7	11.7	1		7.0	0.22	2.0	359.845	387
FAIRVIEW RD. BRIDGE	LT.	50+047.000	5.1		–	–	–	–	1		7.0	–	–	359.705	387
FAIRVIEW RD. BRIDGE	RT.	50+047.000	5.1		1.0	18.0	5.7	10.0	1		7.0	0.22	2.0	359.705	387
S.R. 602 BRIDGE	LT.	49+954.000	6.0		–	–	–	–	1		7.0	–	–	332.440	318
S.R. 602 BRIDGE	RT.	49+952.500	6.0		1.0	12.5	2.5	11.9	1		7.0	0.22	2.0	332.430	318
S.R. 602 BRIDGE	LT.	50+047.500	6.0		–	–	–	–	1		7.0	–	–	332.430	318
S.R. 602 BRIDGE	RT.	50+046.000	6.0		1.0	13.5	5.3	11.9	1		7.0	0.22	2.0	332.440	318
S.R. 598 BRIDGE	LT.	49+951.500	6.0		–	–	–	–	1		7.0	0.22	–	357.735	362
S.R. 598 BRIDGE	RT.	49+953.500	6.0		1.5	19.4	5.5	12.2	1		7.0	–	2.0	357.720	362
S.R. 598 BRIDGE	LT.	50+047.000	6.0		–	–	–	–	1		7.0	0.22	–	356.480	362
S.R. 598 BRIDGE	RT.	50+048.500	6.0		1.5	18.2	6.5	11.9	1		7.0	–	2.0	356.450	362
BIDDLE RD. BRIDGE	LT.	49+955.000	4.5		–	–	–	–	1		7.0	–	–	340.650	341
BIDDLE RD. BRIDGE	RT.	49+955.500	4.5		1.0	13.5	5.0	8.8	1		7.0	0.22	2.0	340.655	341
BIDDLE RD. BRIDGE	LT.	50+047.500	4.5		–	–	–	–	1		7.0	–	–	340.800	342
BIDDLE RD. BRIDGE	RT.	50+048.000	4.5		1.0	15.1	5.3	8.8	1		7.0	0.22	2.0	340.800	342
NAZOR RD. BRIDGE	LT.	49+964.500	5.1		–	–	–	–	1		7.0	–	–	360.225	407
NAZOR RD. BRIDGE	RT.	49+963.000	5.1		1.0	16.5	4.6	10.1	1		7.0	0.22	2.0	360.215	407
NAZOR RD. BRIDGE	LT.	50+061.500	5.1		–	–	–	–	1		7.0	–	–	360.150	407
NAZOR RD. BRIDGE	RT.	50+060.500	5.1		1.0	16.7	5.9	10.1	1		7.0	0.22	2.0	360.155	407
SUB-TOTAL					11.0	160.80	52.20	107.40	20		140.00	2.20	20.00		
TOTAL						224.00		107.40	20		140.00	2.20	20.00		
TOTALS CARRIED TO GENERAL SUMMARY						224.00		107.40	20		140.00	2.20	20.00		

* TYPE F, 707.05 TYPE C

** For Pipe Length & Catch Basin Depth, See Table Below

** PIPE LENGTH AND CATCH BASIN DEPTH

LOCATION	FROM STATION (RT.)	TO STATION (LT.)	"E"	"F"	"G"	"F" INV.	"G" INV.
FAIRVIEW RD. BRIDGE	49+949.000	49+955.000	11.7m	1.280m	1.345m	358.615	358.500
FAIRVIEW RD. BRIDGE	50+047.000	50+047.000	10.0m	1.305m	1.405m	358.400	358.300
S.R. 602 BRIDGE	49+952.500	49+954.000	11.9m	1.850m	1.955m	330.590	330.475
S.R. 602 BRIDGE	50+046.000	50+047.500	11.9m	1.840m	1.965m	330.590	330.475
S.R. 598 BRIDGE	49+951.500	49+953.500	12.2m	1.350m	1.445m	356.385	356.265
S.R. 598 BRIDGE	50+047.000	50+048.500	11.9m	0.980m	1.200m	355.550	355.250
BIDDLE RD. BRIDGE	49+955.500	49+955.500	8.8m	1.355m	1.445m	339.295	339.210
BIDDLE RD. BRIDGE	50+047.500	50+048.000	8.8m	1.370m	1.455m	339.430	339.345
NAZOR RD. BRIDGE	49+963.000	49+964.500	10.1m	1.355m	1.445m	358.870	358.770
NAZOR RD. BRIDGE	50+060.500	50+061.500	10.1m	1.450m	1.555m	358.700	358.600

RATIO 1:200
HORIZONTAL SCALE IN METERS
0 10

CALCULATED FJB
CHECKED LBD

DRAINAGE DETAILS

CRA-30-24.000

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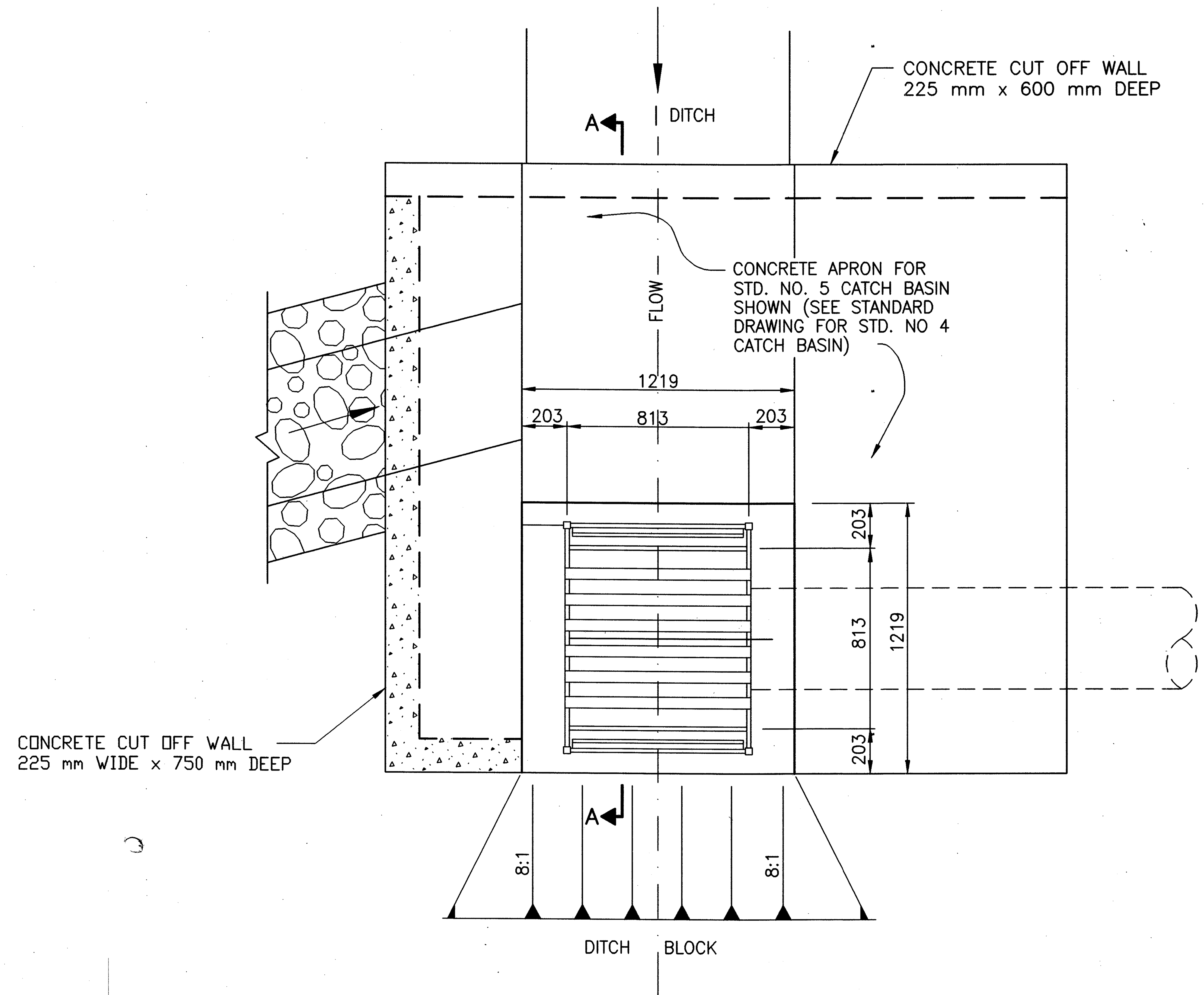
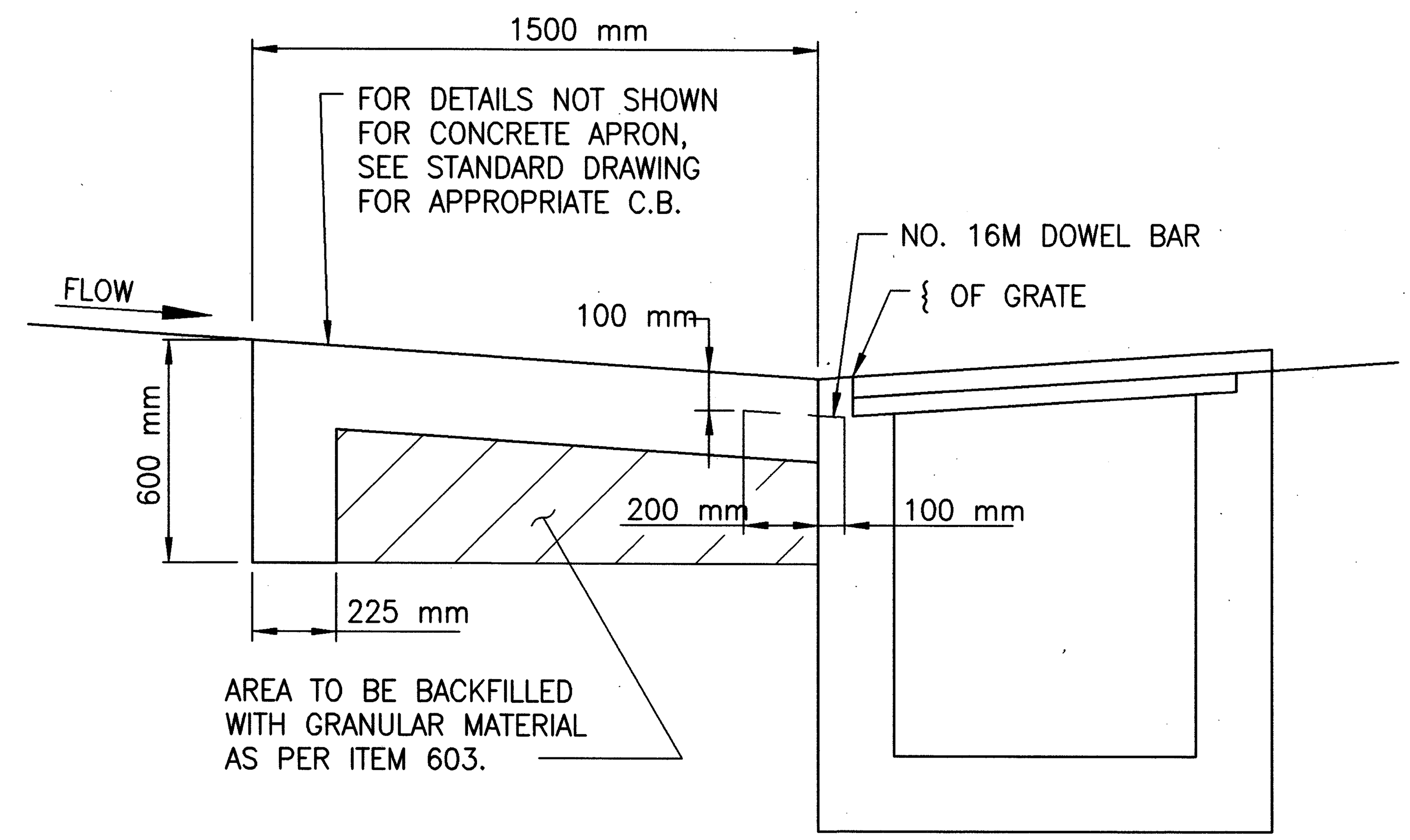
NOTE: ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.



CONCRETE CUT OFF WALL – 225 M WIDE x 750 mm DEEP
SEE NOTE 2

CATCH BASIN NO. 4 & 5, AS PER PLAN



SECTION A–A

NOTES:

1. THIS DETAIL SHALL BE USED FOR NO.4 AND NO. 5 CATCH BASINS, AS PER PLAN. FOR DETAILS NOT SHOWN SEE STD. DRAWING CB–3.1 AND CB–3.2. THE CONCRETE APRON SHALL BE REPLACED INCLUDING CUT OFF WALL AND BACKFILLED AS SHOWN HERE AND IN THE PERTINENT STANDARD DRAWING.

2. A CONCRETE CUT OFF WALL SHALL BE CONSTRUCTED AS DETAILED ON THE SIDES WHERE WATER WILL FLOW ONTO THE APRON AS SHOWN IN THE PLANS AND AS APPROVED BY THE ENGINEER. MATERIALS, LABOR AND ALL INCIDENTALS WILL BE INCLUDED IN THE COST OF ITEM 604 CATCH BASIN, NO. 5, AS PER PLAN.

3. THE FLOW OF WATER FROM THE BACK SIDE OF THE STRUCTURE SHALL BE DIRECTED TOWARDS THE APRON PORTION OF THE PROPOSED CATCH BASIN.

4. NO. 16M BARS SHALL BE EQUALLY SPACED WITH 100 mm CLEARANCE EACH SIDE. THE NUMBER OF BARS NEEDED ALONG EACH SIDE OF A NO. 4 CATCH BASIN WITH A CONCRETE APRON IS 7. FOR A NO. 5 CATCH BASIN THE NUMBER OF BARS NEEDED ALONG EACH SIDE WITH A CONCRETE APRON IS 4.

5. THE FURNISHING AND PLACING OF STEEL FOR THE 16 mm x 300 mm DOWEL BARS SHALL BE PER 509 REINFORCING STEEL. THE DOWEL BARS SHALL BE EPOXY COATED PER 509.10. THE DOWEL BARS SHALL BE INSTALLED PER 510 OR CAST INTO THE BASIN. BOLT OR INSERTS MAY BE USED. THE CATCH BASIN SHALL BE PRECAST OR CAST–IN–PLACE CONCRETE. BRICK OR CONCRETE BLOCK WILL NOT BY PERMITTED. THE 150 mm CONCRETE APRON SHALL BE REINFORCED PER 601.04(3).

6. PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 604 CATCH BASIN NO. 4 OR 5, AS PER PLAN, INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE APRONS WHERE APPLICABLE. THE PROPOSED CONCRETE APRON SHALL BE PLACED AND BACKFILLED AS SHOWN HERE AND IN THE PERTINENT STANDARD DRAWING. ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK WILL BE INCLUDED IN THE COST OF THE ITEM 604 CATCH BASIN NO. 4 OR 5, AS PER PLAN.

metric units

CALCULATED PS
CHECKED DAW

DRAINAGE DETAILS

CRA–30–24.000

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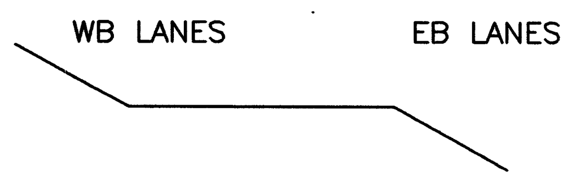
metric units

SUPERELEVATION TABLE

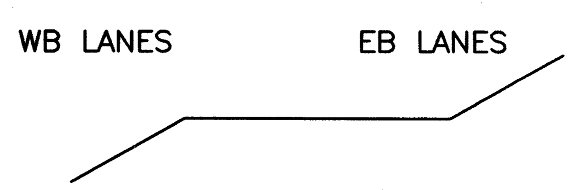
FOR REMAINDER OF SUPERELEVATION TABLE SEE PROJECT CRA-30-15.948

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATIONS	REMARKS
325.567		−0.1008	−0.028	3.6	325.668		−0.1008	−0.028	3.6	325.769	24+000.000	325.769	3.6	0.028	0.1008		325.870	3.6	0.028	0.1008		325.971	FS
325.597		−0.1008	−0.028	3.6	325.698		−0.1008	−0.028	3.6	325.799	24+010.000	325.799	3.6	0.028	0.1008		325.900	3.6	0.028	0.1008		326.001	
325.627		−0.1008	−0.028	3.6	325.728		−0.1008	−0.028	3.6	325.829	24+020.000	325.829	3.6	0.028	0.1008		325.930	3.6	0.028	0.1008		326.031	
325.657		−0.1008	−0.028	3.6	325.758		−0.1008	−0.028	3.6	325.859	24+030.000	325.859	3.6	0.028	0.1008		325.960	3.6	0.028	0.1008		326.061	
325.687		−0.1008	−0.028	3.6	325.788		−0.1008	−0.028	3.6	325.889	24+040.000	325.889	3.6	0.028	0.1008		325.990	3.6	0.028	0.1008		326.091	
325.717		−0.1008	−0.028	3.6	325.818		−0.1008	−0.028	3.6	325.919	24+050.000	325.919	3.6	0.028	0.1008		326.020	3.6	0.028	0.1008		326.121	
325.747		−0.1008	−0.028	3.6	325.848		−0.1008	−0.028	3.6	325.949	24+060.000	325.949	3.6	0.028	0.1008		326.050	3.6	0.028	0.1008		326.151	
325.777		−0.1008	−0.028	3.6	325.878		−0.1008	−0.028	3.6	325.979	24+070.000	325.979	3.6	0.028	0.1008		326.080	3.6	0.028	0.1008		326.181	
325.807		−0.1008	−0.028	3.6	325.908		−0.1008	−0.028	3.6	326.009	24+080.000	326.009	3.6	0.028	0.1008		326.110	3.6	0.028	0.1008		326.211	
325.837		−0.1008	−0.028	3.6	325.938		−0.1008	−0.028	3.6	326.039	24+090.000	326.039	3.6	0.028	0.1008		326.140	3.6	0.028	0.1008		326.241	
325.867		−0.1008	−0.028	3.6	325.968		−0.1008	−0.028	3.6	326.069	24+100.000	326.069	3.6	0.028	0.1008		326.170	3.6	0.028	0.1008		326.271	
325.897		−0.1008	−0.028	3.6	325.998		−0.1008	−0.028	3.6	326.099	24+110.000	326.099	3.6	0.028	0.1008		326.200	3.6	0.028	0.1008		326.301	
325.927		−0.1008	−0.028	3.6	326.028		−0.1008	−0.028	3.6	326.129	24+120.000	326.129	3.6	0.028	0.1008		326.230	3.6	0.028	0.1008		326.331	
325.957		−0.1008	−0.028	3.6	326.058		−0.1008	−0.028	3.6	326.159	24+130.000	326.159	3.6	0.028	0.1008		326.260	3.6	0.028	0.1008		326.361	
325.987		−0.1008	−0.028	3.6	326.088		−0.1008	−0.028	3.6	326.189	24+140.000	326.189	3.6	0.028	0.1008		326.290	3.6	0.028	0.1008		326.391	
326.017		−0.1008	−0.028	3.6	326.118		−0.1008	−0.028	3.6	326.219	24+150.000	326.219	3.6	0.028	0.1008		326.320	3.6	0.028	0.1008		326.421	
326.047		−0.1008	−0.028	3.6	326.148		−0.1008	−0.028	3.6	326.249	24+160.000	326.249	3.6	0.028	0.1008		326.350	3.6	0.028	0.1008		326.349	
326.077		−0.1008	−0.028	3.6	326.178		−0.1008	−0.028	3.6	326.279	24+170.000	326.279	3.6	0.028	0.1008		326.380	3.6	0.028	0.1008		326.379	
326.107		−0.1008	−0.028	3.6	326.208		−0.1008	−0.028	3.6	326.309	24+180.000	326.309	3.6	0.028	0.1008		326.410	3.6	0.028	0.1008		326.511	
326.137		−0.1008	−0.028	3.6	326.238		−0.1008	−0.028	3.6	326.339	24+190.000	326.339	3.6	0.028	0.1008		326.440	3.6	0.028	0.1008		326.541	FS

GROUP 1
GROUP 4



GROUP 2
GROUP 3



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

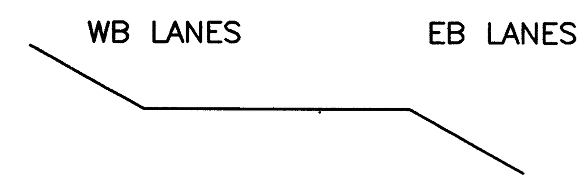
SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

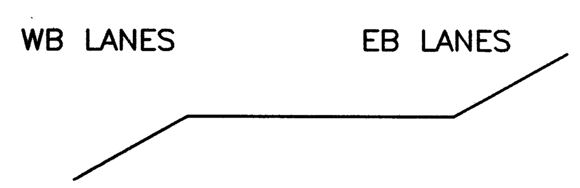
SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATIONS	REMARKS
326.167		-0.1008	-0.028	3.6	326.268		-0.1008	-0.028	3.6	326.369	24+200.000	326.369	3.6	0.028	0.1008		326.470	3.6	0.028	0.1008		326.571	FS
326.197		-0.1008	-0.028	3.6	326.298		-0.1008	-0.028	3.6	326.399	24+210.000	326.399	3.6	0.028	0.1008		326.500	3.6	0.028	0.1008		326.601	
326.227		-0.1008	-0.028	3.6	326.328		-0.1008	-0.028	3.6	326.429	24+220.000	326.429	3.6	0.028	0.1008		326.530	3.6	0.028	0.1008		326.631	
326.257		-0.1008	-0.028	3.6	326.358		-0.1008	-0.028	3.6	326.459	24+230.000	326.459	3.6	0.028	0.1008		326.560	3.6	0.028	0.1008		326.661	
326.287		-0.1008	-0.028	3.6	326.388		-0.1008	-0.028	3.6	326.489	24+240.000	326.489	3.6	0.028	0.1008		326.590	3.6	0.028	0.1008		326.691	
326.317		-0.1008	-0.028	3.6	326.418		-0.1008	-0.028	3.6	326.519	24+250.000	326.519	3.6	0.028	0.1008		326.620	3.6	0.028	0.1008		326.721	
326.347		-0.1008	-0.028	3.6	326.448		-0.1008	-0.028	3.6	326.549	24+260.000	326.549	3.6	0.028	0.1008		326.650	3.6	0.028	0.1008		326.751	
326.377		-0.1008	-0.028	3.6	326.478		-0.1008	-0.028	3.6	326.579	24+270.000	326.579	3.6	0.028	0.1008		326.680	3.6	0.028	0.1008		326.781	
326.407		-0.1008	-0.028	3.6	326.508		-0.1008	-0.028	3.6	326.609	24+280.000	326.609	3.6	0.028	0.1008		326.710	3.6	0.028	0.1008		326.811	
326.434		-0.1008	-0.028	3.6	326.535		-0.1008	-0.028	3.6	326.636	24+290.000	326.636	3.6	0.028	0.1008		326.737	3.6	0.028	0.1008		326.838	
326.455		-0.1008	-0.028	3.6	326.556		-0.1008	-0.028	3.6	326.657	24+300.000	326.657	3.6	0.028	0.1008		326.758	3.6	0.028	0.1008		326.859	
326.470		-0.1008	-0.028	3.6	326.571		-0.1008	-0.028	3.6	326.672	24+310.000	326.672	3.6	0.028	0.1008		326.773	3.6	0.028	0.1008		326.874	
326.479		-0.1008	-0.028	3.6	326.580		-0.1008	-0.028	3.6	326.681	24+320.000	326.681	3.6	0.028	0.1008		326.782	3.6	0.028	0.1008		326.883	
326.482		-0.1008	-0.028	3.6	326.583		-0.1008	-0.028	3.6	326.684	24+330.000	326.684	3.6	0.028	0.1008		326.785	3.6	0.028	0.1008		326.886	
326.479		-0.1008	-0.028	3.6	326.580		-0.1008	-0.028	3.6	326.681	24+340.000	326.681	3.6	0.028	0.1008		326.782	3.6	0.028	0.1008		326.883	
326.470		-0.1008	-0.028	3.6	326.571		-0.1008	-0.028	3.6	326.672	24+350.000	326.672	3.6	0.028	0.1008		326.773	3.6	0.028	0.1008		326.874	
326.455		-0.1008	-0.028	3.6	326.556		-0.1008	-0.028	3.6	326.657	24+360.000	326.657	3.6	0.028	0.1008		326.758	3.6	0.028	0.1008		326.859	
326.434		-0.1008	-0.028	3.6	326.535		-0.1008	-0.028	3.6	326.636	24+370.000	326.636	3.6	0.028	0.1008		326.737	3.6	0.028	0.1008		326.838	
326.407		-0.1008	-0.028	3.6	326.508		-0.1008	-0.028	3.6	326.609	24+380.000	326.609	3.6	0.028	0.1008		326.710	3.6	0.028	0.1008		326.811	
326.377		-0.1008	-0.028	3.6	326.478		-0.1008	-0.028	3.6	326.579	24+390.000	326.579	3.6	0.028	0.1008		326.680	3.6	0.028	0.1008		326.781	
326.347		-0.1008	-0.028	3.6	326.448		-0.1008	-0.028	3.6	326.549	24+400.000	326.549	3.6	0.028	0.1008		326.650	3.6	0.028	0.1008		326.751	
326.317		-0.1008	-0.028	3.6	326.418		-0.1008	-0.028	3.6	326.519	24+410.000	326.519	3.6	0.028	0.1008		326.620	3.6	0.028	0.1008		326.721	
326.287		-0.1008	-0.028	3.6	326.388		-0.1008	-0.028	3.6	326.489	24+420.000	326.489	3.6	0.028	0.1008		326.590	3.6	0.028	0.1008		326.691	
326.257		-0.1008	-0.028	3.6	326.358		-0.1008	-0.028	3.6	326.459	24+430.000	326.459	3.6	0.028	0.1008		326.560	3.6	0.028	0.1008		326.661	
326.227		-0.1008	-0.028	3.6	326.328		-0.1008	-0.028	3.6	326.429	24+440.000	326.429	3.6	0.028	0.1008		326.530	3.6	0.028	0.1008		326.631	
326.197		-0.1008	-0.028	3.6	326.298		-0.1008	-0.028	3.6	326.399	24+450.000	326.399	3.6	0.028	0.1008		326.500	3.6	0.028	0.1008		326.601	
326.167		-0.1008	-0.028	3.6	326.268		-0.1008	-0.028	3.6	326.369	24+460.000	326.369	3.6	0.028	0.1008		326.470	3.6	0.028	0.1008		326.571	
326.137		-0.1008	-0.028	3.6	326.238		-0.1008	-0.028	3.6	326.339	24+470.000	326.339	3.6	0.028	0.1008		326.440	3.6	0.028	0.1008		326.541	
326.107		-0.1008	-0.028	3.6	326.208		-0.1008	-0.028	3.6	326.309	24+480.000	326.309	3.6	0.028	0.1008		326.410	3.6	0.028	0.1008		326.511	
326.077		-0.1008	-0.028	3.6	326.178		-0.1008	-0.028	3.6	326.279	24+490.000	326.279	3.6	0.028	0.1008		326.380	3.6	0.028	0.1008		326.481	
326.047		-0.1008	-0.028	3.6	326.148		-0.1008	-0.028	3.6	326.249	24+500.000	326.249	3.6	0.028	0.1008		326.350	3.6	0.028	0.1008		326.451	FS

GROUP 1
GROUP 4



GROUP 2
GROUP 3



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
RELOCATED U.S. 30

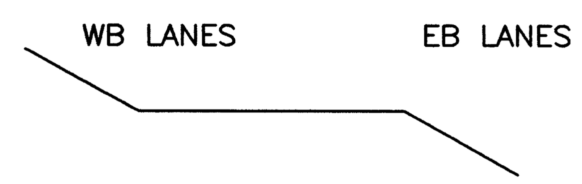
CRA-30-24.000

metric units

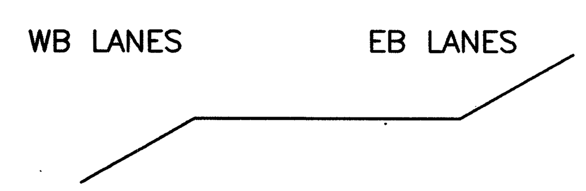
SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	REMARKS
326.047		-0.1008	-0.028	3.6	326.148		-0.1008	-0.028	3.6	326.249	24+500.000	326.249	3.6	0.028	0.1008		326.350	3.6	0.028	0.1008		326.451	FS
326.017		-0.1008	-0.028	3.6	326.118		-0.1008	-0.028	3.6	326.219	24+510.000	326.219	3.6	0.028	0.1008		326.320	3.6	0.028	0.1008		326.421	
325.987		-0.1008	-0.028	3.6	326.088		-0.1008	-0.028	3.6	326.189	24+520.000	326.189	3.6	0.028	0.1008		326.290	3.6	0.028	0.1008		326.391	
325.957		-0.1008	-0.028	3.6	326.058		-0.1008	-0.028	3.6	326.159	24+530.000	326.159	3.6	0.028	0.1008		326.260	3.6	0.028	0.1008		326.361	
325.927		-0.1008	-0.028	3.6	326.028		-0.1008	-0.028	3.6	326.129	24+540.000	326.129	3.6	0.028	0.1008		326.230	3.6	0.028	0.1008		326.331	
325.897		-0.1008	-0.028	3.6	325.998		-0.1008	-0.028	3.6	326.099	24+550.000	326.099	3.6	0.028	0.1008		326.200	3.6	0.028	0.1008		326.301	
325.867		-0.1008	-0.028	3.6	325.968		-0.1008	-0.028	3.6	326.069	24+560.000	326.069	3.6	0.028	0.1008		326.170	3.6	0.028	0.1008		326.271	
325.837		-0.1008	-0.028	3.6	325.938		-0.1008	-0.028	3.6	326.039	24+570.000	326.039	3.6	0.028	0.1008		326.140	3.6	0.028	0.1008		326.241	
325.807		-0.1008	-0.028	3.6	325.908		-0.1008	-0.028	3.6	326.009	24+580.000	326.009	3.6	0.028	0.1008		326.110	3.6	0.028	0.1008		326.211	
325.777		-0.1008	-0.028	3.6	325.878		-0.1008	-0.028	3.6	325.979	24+590.000	325.979	3.6	0.028	0.1008		326.080	3.6	0.028	0.1008		326.181	
325.747		-0.1008	-0.028	3.6	325.848		-0.1008	-0.028	3.6	325.949	24+600.000	325.949	3.6	0.028	0.1008		326.050	3.6	0.028	0.1008		326.151	
325.717		-0.1008	-0.028	3.6	325.818		-0.1008	-0.028	3.6	325.919	24+610.000	325.919	3.6	0.028	0.1008		326.020	3.6	0.028	0.1008		326.121	
325.687		-0.1008	-0.028	3.6	325.788		-0.1008	-0.028	3.6	325.889	24+620.000	325.889	3.6	0.028	0.1008		325.990	3.6	0.028	0.1008		326.091	
325.657		-0.1008	-0.028	3.6	325.758		-0.1008	-0.028	3.6	325.859	24+630.000	325.859	3.6	0.028	0.1008		325.960	3.6	0.028	0.1008		326.061	
325.627		-0.1008	-0.028	3.6	325.728		-0.1008	-0.028	3.6	325.829	24+640.000	325.829	3.6	0.028	0.1008		325.930	3.6	0.028	0.1008		326.031	
325.597		-0.1008	-0.028	3.6	325.698		-0.1008	-0.028	3.6	325.799	24+650.000	325.799	3.6	0.028	0.1008		325.900	3.6	0.028	0.1008		326.001	
325.567		-0.1008	-0.028	3.6	325.668		-0.1008	-0.028	3.6	325.769	24+660.000	325.769	3.6	0.028	0.1008		325.870	3.6	0.028	0.1008		325.971	
325.537		-0.1008	-0.028	3.6	325.638		-0.1008	-0.028	3.6	325.739	24+670.000	325.739	3.6	0.028	0.1008		325.840	3.6	0.028	0.1008		325.941	
325.507		-0.1008	-0.028	3.6	325.608		-0.1008	-0.028	3.6	325.709	24+680.000	325.709	3.6	0.028	0.1008		325.810	3.6	0.028	0.1008		325.911	
325.477		-0.1008	-0.028	3.6	325.578		-0.1008	-0.028	3.6	325.679	24+690.000	325.679	3.6	0.028	0.1008		325.780	3.6	0.028	0.1008		325.881	
325.447		-0.1008	-0.028	3.6	325.548		-0.1008	-0.028	3.6	325.649	24+700.000	325.649	3.6	0.028	0.1008		325.750	3.6	0.028	0.1008		325.851	
325.417		-0.1008	-0.028	3.6	325.518		-0.1008	-0.028	3.6	325.619	24+710.000	325.619	3.6	0.028	0.1008		325.720	3.6	0.028	0.1008		325.821	
325.387		-0.1008	-0.028	3.6	325.488		-0.1008	-0.028	3.6	325.589	24+720.000	325.589	3.6	0.028	0.1008		325.690	3.6	0.028	0.1008		325.791	
325.357		-0.1008	-0.028	3.6	325.458		-0.1008	-0.028	3.6	325.559	24+730.000	325.559	3.6	0.028	0.1008		325.660	3.6	0.028	0.1008		325.761	
325.327		-0.1008	-0.028	3.6	325.428		-0.1008	-0.028	3.6	325.529	24+740.000	325.529	3.6	0.028	0.1008		325.630	3.6	0.028	0.1008		325.731	
325.297		-0.1008	-0.028	3.6	325.398		-0.1008	-0.028	3.6	325.499	24+750.000	325.499	3.6	0.028	0.1008		325.600	3.6	0.028	0.1008		325.701	
325.270		-0.1008	-0.028	3.6	325.371		-0.1008	-0.028	3.6	325.472	24+760.000	325.472	3.6	0.028	0.1008		325.573	3.6	0.028	0.1008		325.674	
325.249		-0.1008	-0.028	3.6	325.350		-0.1008	-0.028	3.6	325.451	24+770.000	325.451	3.6	0.028	0.1008		325.552	3.6	0.028	0.1008		325.653	
325.234		-0.1008	-0.028	3.6	325.335		-0.1008	-0.028	3.6	325.436	24+780.000	325.436	3.6	0.028	0.1008		325.537	3.6	0.028	0.1008		325.638	
325.225		-0.1008	-0.028	3.6	325.326		-0.1008	-0.028	3.6	325.427	24+790.000	325.427	3.6	0.028	0.1008		325.528	3.6	0.028	0.1008		325.629	
325.222		-0.1008	-0.028	3.6	325.323		-0.1008	-0.028	3.6	325.424	24+800.000	325.424	3.6	0.028	0.1008		325.525	3.6	0.028	0.1008		325.626	
325.225		-0.1008	-0.028	3.6	325.326		-0.1008	-0.028	3.6	325.427	24+810.000	325.427	3.6	0.028	0.1008		325.528	3.6	0.028	0.1008		325.629	
325.234		-0.1008	-0.028	3.6	325.335		-0.1008	-0.028	3.6	325.436	24+820.000	325.436	3.6	0.028	0.1008		325.537	3.6	0.028	0.1008		325.638	
325.249		-0.1008	-0.028	3.6	325.350		-0.1008	-0.028	3.6	325.451	24+830.000	325.451	3.6	0.028	0.1008		325.552	3.6	0.028	0.1008		325.653	
325.270		-0.1008	-0.028	3.6	325.371		-0.1008	-0.028	3.6	325.472	24+840.000	325.472	3.6	0.028	0.1008		325.573	3.6	0.028	0.1008		325.674	
325.297		-0.1008	-0.028	3.6	325.398		-0.1008	-0.028	3.6	325.499	24+850.000	325.499	3.6	0.028	0.1008		325.600	3.6	0.028	0.1008		325.701	
325.327		-0.1008	-0.028	3.6	325.428		-0.1008	-0.028	3.6	325.529	24+860.000	325.529	3.6	0.028	0.1008		325.630	3.6	0.028	0.1008		325.731	
325.357		-0.1008	-0.028	3.6	325.458		-0.1008	-0.028	3.6	325.559	24+870.000	325.559	3.6	0.028	0.1008		325.660	3.6	0.028	0.1008		325.761	
325.387		-0.1008	-0.028	3.6	325.488		-0.1008	-0.028	3.6	325.589	24+880.000	325.589	3.6	0.028	0.1008		325.690	3.6	0.028	0.1008		325.791	
325.417		-0.1008	-0.028	3.6	325.518		-0.1008	-0.028	3.6	325.619	24+890.000	325.619	3.6	0.028	0.1008		325.720	3.6	0.028	0.1008		325.821	
325.447		-0.1008	-0.028	3.6	325.548		-0.1008	-0.028	3.6	325.649	24+900.000	325.649	3.6	0.028	0.1008		325.750	3.6	0.028	0.1008		325.851	
325.477		-0.1008	-0.028	3.6	325.578		-0.1008	-0.028	3.6	325.679	24+910.000	325.679	3.6	0.028	0.1008		325.780	3.6	0.028	0.1008		325.881	
325.507		-0.1008	-0.028	3.6	325.608		-0.1008	-0.028	3.6	325.709	24+920.000	325.709	3.6	0.028	0.1008		325.810	3.6	0.028	0.1008		325.911	
325.537		-0.1008	-0.028	3.6	325.638		-0.1008	-0.028	3.6	325.739	24+930.000	325.739	3.6	0.028	0.1008		325.840	3.6	0.028	0.1008		325.941	
325.567		-0.1008	-0.028	3.6	325.668		-0.1008	-0.028	3.6	325.769	24+940.000	325.769	3.6	0.028	0.1008		325.870	3.6	0.028	0.1008		325.971	FS

GROUP 1
GROUP 4



GROUP 2
GROUP 3



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

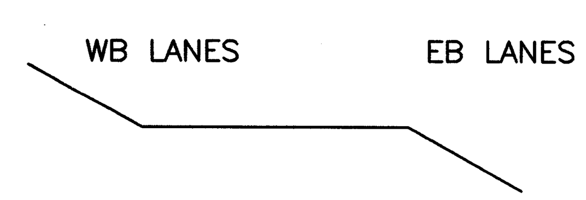
SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

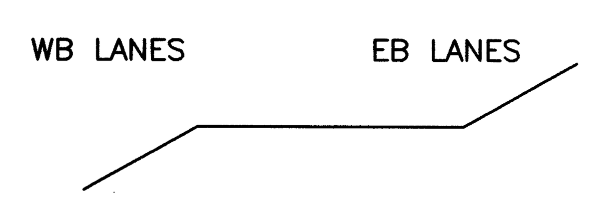
SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	REMARKS
325.597		−0.1008	−0.028	3.6	325.698		−0.1008	−0.028	3.6	325.799	24+950.000	325.799	3.6	0.028	0.1008		325.900	3.6	0.028	0.1008		326.001	FS
325.627		−0.1008	−0.028	3.6	325.728		−0.1008	−0.028	3.6	325.829	24+960.000	325.829	3.6	0.028	0.1008		325.930	3.6	0.028	0.1008		326.031	
325.657		−0.1008	−0.028	3.6	325.758		−0.1008	−0.028	3.6	325.859	24+970.000	325.859	3.6	0.028	0.1008		325.960	3.6	0.028	0.1008		326.061	
325.687		−0.1008	−0.028	3.6	325.788		−0.1008	−0.028	3.6	325.889	24+980.000	325.889	3.6	0.028	0.1008		325.990	3.6	0.028	0.1008		326.091	
325.717		−0.1008	−0.028	3.6	325.818		−0.1008	−0.028	3.6	325.919	24+990.000	325.919	3.6	0.028	0.1008		326.020	3.6	0.028	0.1008		326.121	
325.747		−0.1008	−0.028	3.6	325.848		−0.1008	−0.028	3.6	325.949	25+000.000	325.949	3.6	0.028	0.1008		326.050	3.6	0.028	0.1008		326.151	
325.777		−0.1008	−0.028	3.6	325.878		−0.1008	−0.028	3.6	325.979	25+010.000	325.979	3.6	0.028	0.1008		326.080	3.6	0.028	0.1008		326.181	
325.807		−0.1008	−0.028	3.6	325.908		−0.1008	−0.028	3.6	326.009	25+020.000	326.009	3.6	0.028	0.1008		326.110	3.6	0.028	0.1008		326.211	
325.837		−0.1008	−0.028	3.6	325.938		−0.1008	−0.028	3.6	326.039	25+030.000	326.039	3.6	0.028	0.1008		326.140	3.6	0.028	0.1008		326.241	
325.867		−0.1008	−0.028	3.6	325.968		−0.1008	−0.028	3.6	326.069	25+040.000	326.069	3.6	0.028	0.1008		326.170	3.6	0.028	0.1008		326.271	
325.897		−0.1008	−0.028	3.6	325.998		−0.1008	−0.028	3.6	326.099	25+050.000	326.099	3.6	0.028	0.1008		326.200	3.6	0.028	0.1008		326.301	
325.927		−0.1008	−0.028	3.6	326.028		−0.1008	−0.028	3.6	326.129	25+060.000	326.129	3.6	0.028	0.1008		326.230	3.6	0.028	0.1008		326.331	
325.957		−0.1008	−0.028	3.6	326.058		−0.1008	−0.028	3.6	326.159	25+070.000	326.159	3.6	0.028	0.1008		326.260	3.6	0.028	0.1008		326.361	
325.987		−0.1008	−0.028	3.6	326.088		−0.1008	−0.028	3.6	326.189	25+080.000	326.189	3.6	0.028	0.1008		326.290	3.6	0.028	0.1008		326.391	
326.017		−0.1008	−0.028	3.6	326.118		−0.1008	−0.028	3.6	326.219	25+090.000	326.219	3.6	0.028	0.1008		326.320	3.6	0.028	0.1008		326.421	
326.047		−0.1008	−0.028	3.6	326.148		−0.1008	−0.028	3.6	326.249	25+100.000	326.249	3.6	0.028	0.1008		326.350	3.6	0.028	0.1008		326.451	
326.077		−0.1008	−0.028	3.6	326.178		−0.1008	−0.028	3.6	326.279	25+110.000	326.279	3.6	0.028	0.1008		326.380	3.6	0.028	0.1008		326.481	
326.102		−0.1008	−0.028	3.6	326.203		−0.1008	−0.028	3.6	326.304	25+118.232	326.304	3.6	0.028	0.1008		326.405	3.6	0.028	0.1008		326.506	FS
326.115		−0.0972	−0.027	3.6	326.212		−0.0972	−0.027	3.6	326.309	25+120.000	326.309	3.6	0.027	0.0972		326.406	3.6	0.027	0.0972		326.503	
326.173		−0.0828	−0.023	3.6	326.256		−0.0828	−0.023	3.6	326.339	25+130.000	326.339	3.6	0.023	0.0828		326.422	3.6	0.023	0.0828		326.505	
326.201		−0.0756	−0.021	3.6	326.276		−0.0756	−0.021	3.6	326.352	25+134.232	326.352	3.6	0.021	0.0756		326.428	3.6	0.021	0.0756		326.503	PT
326.239		−0.0648	−0.018	3.6	326.304		−0.0648	−0.018	3.6	326.369	25+140.000	326.369	3.6	0.018	0.0648		326.434	3.6	0.018	0.0648		326.499	
326.274	416.67:1	−0.0576	−0.016	3.6	326.331	416.67:1	−0.0576	−0.016	3.6	326.389	25+146.518	326.389	3.6	0.016	0.0576	416.67:1	326.447	3.6	0.016	0.0576	416.67:1	326.504	CR
326.295		−0.0576	−0.016	3.6	326.352		−0.0468	−0.013	3.6	326.399	25+150.000	326.399	3.6	0.016	0.0576		326.457	3.6	0.013	0.0468		326.503	
326.357		−0.0576	−0.016	3.6	326.415		−0.0144	−0.004	3.6	326.429	25+160.000	326.429	3.6	0.016	0.0576		326.487	3.6	0.004	0.0144		326.501	
326.387		−0.0576	−0.016	3.6	326.445		0.0000	0.000	3.6	326.445	25+165.375	326.445	3.6	0.016	0.0576		326.503	3.6	0.000	0.0000		326.503	HL
326.419		−0.0576	−0.016	3.6	326.477		0.0180	0.005	3.6	326.459	25+170.000	326.459	3.6	0.016	0.0576		326.517	3.6	−0.005	−0.0180		326.498	
326.478		−0.0576	−0.016	3.6	326.536		0.0468	0.013	3.6	326.489	25+180.000	326.489	3.6	0.016	0.0576		326.547	3.6	−0.013	−0.0468		326.500	
326.502		−0.0576	−0.016	3.6	326.560		0.0576	0.016	3.6	326.502	25+184.232	326.502	3.6	0.016	0.0576		326.560	3.6	−0.016	−0.0576		326.502	NC

GROUP 1
GROUP 4



GROUP 2
GROUP 3



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
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FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

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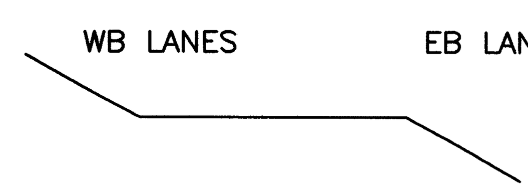
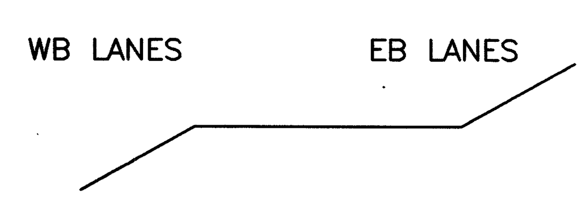
SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	REMARKS
354.795		−0.0576	−0.016	3.6	354.853		0.0576	0.016	3.6	354.795	31+529.574	354.795	3.6	0.016	0.0576		354.853	3.6	−0.016	−0.0576		354.795	NC
354.794		−0.0576	−0.016	3.6	354.852		0.0576	0.016	3.6	354.794	31+530.000	354.794	3.6	0.016	0.0576		354.852	3.6	−0.016	−0.0576		354.794	
354.744		−0.0576	−0.016	3.6	354.802		0.0396	0.011	3.6	354.762	31+540.000	354.762	3.6	0.016	0.0576		354.820	3.6	−0.011	−0.0396		354.780	
354.694		−0.0576	−0.016	3.6	354.752		0.0216	0.006	3.6	354.730	31+550.000	354.730	3.6	0.016	0.0576		354.788	3.6	−0.006	−0.0216		354.766	
354.643		−0.0576	−0.016	3.6	354.701		0.0000	0.000	3.6	354.701	31+558.907	354.701	3.6	0.016	0.0576		354.759	3.6	0.000	0.0000		354.759	HL
354.637		−0.0576	−0.016	3.6	354.694		−0.0036	−0.001	3.6	354.698	31+560.000	354.698	3.6	0.016	0.0576		354.756	3.6	0.001	0.0036		354.760	
354.587	539.22:1	−0.0576	−0.016	3.6	354.644	539.22:1	−0.0216	−0.006	3.6	354.666	31+570.000	354.666	3.6	0.016	0.0576	539.22:1	354.724	3.6	0.006	0.0216	539.22:1	354.746	
354.537		−0.0576	−0.016	3.6	354.594		−0.0396	−0.011	3.6	354.634	31+580.000	354.634	3.6	0.016	0.0576		354.692	3.6	0.011	0.0396		354.732	
354.519		−0.0576	−0.016	3.6	354.576		−0.0468	−0.013	3.6	354.623	31+583.574	354.623	3.6	0.016	0.0576		354.681	3.6	0.013	0.0468		354.728	PC
354.493		−0.0576	−0.016	3.6	354.550		−0.0576	−0.016	3.6	354.608	31+588.241	354.608	3.6	0.016	0.0576		354.666	3.6	0.016	0.0576		354.723	CR
354.480		−0.0612	−0.017	3.6	354.541		−0.0612	−0.017	3.6	354.602	31+590.000	354.602	3.6	0.017	0.0612		354.663	3.6	0.017	0.0612		354.724	
354.454		−0.0648	−0.018	3.6	354.519		−0.0648	−0.018	3.6	354.584	31+595.574	354.584	3.6	0.018	0.0648		354.649	3.6	0.018	0.0648		354.714	FS
354.440		−0.0648	−0.018	3.6	354.505		−0.0648	−0.018	3.6	354.570	31+600.000	354.570	3.6	0.018	0.0648		354.635	3.6	0.018	0.0648		354.700	
354.408		−0.0648	−0.018	3.6	354.473		−0.0648	−0.018	3.6	354.538	31+610.000	354.538	3.6	0.018	0.0648		354.603	3.6	0.018	0.0648		354.668	
354.376		−0.0648	−0.018	3.6	354.441		−0.0648	−0.018	3.6	354.506	31+620.000	354.506	3.6	0.018	0.0648		354.571	3.6	0.018	0.0648		354.636	
354.344		−0.0648	−0.018	3.6	354.409		−0.0648	−0.018	3.6	354.474	31+630.000	354.474	3.6	0.018	0.0648		354.539	3.6	0.018	0.0648		354.604	
354.312		−0.0648	−0.018	3.6	354.377		−0.0648	−0.018	3.6	354.442	31+640.000	354.442	3.6	0.018	0.0648		354.507	3.6	0.018	0.0648		354.572	
354.280		−0.0648	−0.018	3.6	354.345		−0.0648	−0.018	3.6	354.410	31+650.000	354.410	3.6	0.018	0.0648		354.475	3.6	0.018	0.0648		354.540	
354.248		−0.0648	−0.018	3.6	354.313		−0.0648	−0.018	3.6	354.378	31+660.000	354.378	3.6	0.018	0.0648		354.443	3.6	0.018	0.0648		354.508	
354.220		−0.0648	−0.018	3.6	354.285		−0.0648	−0.018	3.6	354.350	31+670.000	354.350	3.6	0.018	0.0648		354.415	3.6	0.018	0.0648		354.480	
354.201		−0.0648	−0.018	3.6	354.266		−0.0648	−0.018	3.6	354.331	31+680.000	354.331	3.6	0.018	0.0648		354.396	3.6	0.018	0.0648		354.461	
354.190		−0.0648	−0.018	3.6	354.255		−0.0648	−0.018	3.6	354.320	31+690.000	354.320	3.6	0.018	0.0648		354.385	3.6	0.018	0.0648		354.450	
354.188		−0.0648	−0.018	3.6	354.253		−0.0648	−0.018	3.6	354.318	31+700.000	354.318	3.6	0.018	0.0648		354.383	3.6	0.018	0.0648		354.448	
354.194		−0.0648	−0.018	3.6	354.259		−0.0648	−0.018	3.6	354.324	31+710.000	354.324	3.6	0.018	0.0648		354.389	3.6	0.018	0.0648		354.454	
354.209		−0.0648	−0.018	3.6	354.274		−0.0648	−0.018	3.6	354.339	31+720.000	354.339	3.6	0.018	0.0648		354.404	3.6	0.018	0.0648		354.469	
354.232		−0.0648	−0.018	3.6	354.297		−0.0648	−0.018	3.6	354.362	31+730.000	354.362	3.6	0.018	0.0648		354.427	3.6	0.018	0.0648		354.492	
354.264		−0.0648	−0.018	3.6	354.329		−0.0648	−0.018	3.6	354.394	31+740.000	354.394	3.6	0.018	0.0648		354.459	3.6	0.018	0.0648		354.524	
354.300		−0.0648	−0.018	3.6	354.365		−0.0648	−0.018	3.6	354.430	31+750.000	354.430	3.6	0.018	0.0648		354.495	3.6	0.018	0.0648		354.560	
354.336		−0.0648	−0.018	3.6	354.401		−0.0648	−0.018	3.6	354.466	31+760.000	354.466	3.6	0.018	0.0648		354.531	3.6	0.018	0.0648		354.596	
354.372		−0.0648	−0.018	3.6	354.437		−0.0648	−0.018	3.6	354.502	31+770.000	354.502	3.6	0.018	0.0648		354.567	3.6	0.018	0.0648		354.632	
354.408		−0.0648	−0.018	3.6	354.473		−0.0648	−0.018	3.6	354.538	31+780.000	354.538	3.6	0.018	0.0648		354.603	3.6	0.018	0.0648		354.668	
354.444		−0.0648	−0.018	3.6	354.509		−0.0648	−0.018	3.6	354.574	31+790.000	354.574	3.6	0.018	0.0648		354.639	3.6	0.018	0.0648		354.704	
354.480		−0.0648	−0.018	3.6	354.545		−0.0648	−0.018	3.6	354.610	31+800.000	354.610	3.6	0.018	0.0648		354.675	3.6	0.018	0.0648		354.740	
354.516		−0.0648	−0.018	3.6	354.581		−0.0648	−0.018	3.6	354.646	31+810.000	354.646	3.6	0.018	0.0648		354.711	3.6	0.018	0.0648		354.776	
354.552		−0.0648	−0.018	3.6	354.617		−0.0648	−0.018	3.6	354.682	31+820.000	354.682	3.6	0.018	0.0648		354.747	3.6	0.018	0.0648		354.812	
354.588		−0.0648	−0.018	3.6	354.653		−0.0648	−0.018	3.6	354.718	31+830.000	354.718	3.6	0.018	0.0648		354.783	3.6	0.018	0.0648		354.848	
354.624		−0.0648	−0.018	3.6	354.689		−0.0648	−0.018	3.6	354.754	31+840.000	354.754	3.6	0.018	0.0648		354.819	3.6	0.018	0.0648		354.884	
354.660		−0.0648	−0.018	3.6	354.725		−0.0648	−0.018	3.6	354.790	31+850.000	354.790	3.6	0.018	0.0648		354.855	3.6	0.018	0.0648		354.920	
354.696		−0.0648	−0.018	3.6	354.761		−0.0648	−0.018	3.6	354.826	31+860.000	354.826	3.6	0.018	0.0648		354.891	3.6	0.018	0.0648		354.956	
354.732		−0.0648	−0.018	3.6	354.797		−0.0648	−0.018	3.6	354.862	31+870.000	354.862	3.6	0.018	0.0648		354.927	3.6	0.018	0.0648		354.992	
354.768		−0.0648	−0.018	3.6	354.833		−0.0648	−0.018	3.6	354.898	31+880.000	354.898	3.6	0.018	0.0648		354.963	3.6	0.018	0.0648		355.028	
354.804		−0.0648	−0.018	3.6	354.869		−0.0648	−0.018	3.6	354.934	31+890.000	354.934	3.6	0.018	0.0648		354.999	3.6	0.018	0.0648		355.064	
354.840		−0.0648	−0.018	3.6	354.905		−0.0648	−0.018	3.6	354.970	31+900.000	354.970	3.6	0.018	0.0648		355.035	3.6	0.018	0.0648		355.099	FS

GROUP 1
GROUP 4



GROUP 2
GROUP 3



LEGEND

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CALCULATED PSB
CHECKED LBD

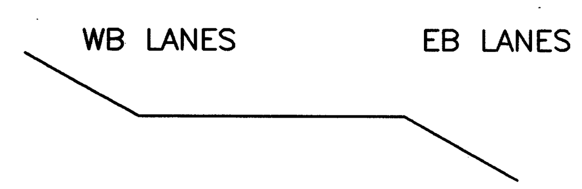
SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	REMARKS
354.876		-0.0648	-0.018	3.6	354.941		-0.0648	-0.018	3.6	355.006	31+910.000	355.006	3.6	0.018	0.0648		355.071	3.6	0.018	0.0648		355.136	FS
354.912		-0.0648	-0.018	3.6	354.977		-0.0648	-0.018	3.6	355.042	31+920.000	355.042	3.6	0.018	0.0648		355.107	3.6	0.018	0.0648		355.172	
354.948		-0.0648	-0.018	3.6	355.013		-0.0648	-0.018	3.6	355.078	31+930.000	355.078	3.6	0.018	0.0648		355.143	3.6	0.018	0.0648		355.208	
354.984		-0.0648	-0.018	3.6	355.049		-0.0648	-0.018	3.6	355.114	31+940.000	355.114	3.6	0.018	0.0648		355.179	3.6	0.018	0.0648		355.244	
355.020		-0.0648	-0.018	3.6	355.085		-0.0648	-0.018	3.6	355.150	31+950.000	355.150	3.6	0.018	0.0648		355.215	3.6	0.018	0.0648		355.280	
355.056		-0.0648	-0.018	3.6	355.121		-0.0648	-0.018	3.6	355.186	31+960.000	355.186	3.6	0.018	0.0648		355.251	3.6	0.018	0.0648		355.316	
355.092		-0.0648	-0.018	3.6	355.157		-0.0648	-0.018	3.6	355.222	31+970.000	355.222	3.6	0.018	0.0648		355.287	3.6	0.018	0.0648		355.352	
355.128		-0.0648	-0.018	3.6	355.193		-0.0648	-0.018	3.6	355.258	31+980.000	355.258	3.6	0.018	0.0648		355.323	3.6	0.018	0.0648		355.388	
355.164		-0.0648	-0.018	3.6	355.229		-0.0648	-0.018	3.6	355.294	31+990.000	355.294	3.6	0.018	0.0648		355.359	3.6	0.018	0.0648		355.424	
355.200		-0.0648	-0.018	3.6	355.265		-0.0648	-0.018	3.6	355.330	32+000.000	355.330	3.6	0.018	0.0648		355.395	3.6	0.018	0.0648		355.460	
355.236		-0.0648	-0.018	3.6	355.301		-0.0648	-0.018	3.6	355.366	32+010.000	355.366	3.6	0.018	0.0648		355.431	3.6	0.018	0.0648		355.496	
355.272		-0.0648	-0.018	3.6	355.337		-0.0648	-0.018	3.6	355.402	32+020.000	355.402	3.6	0.018	0.0648		355.467	3.6	0.018	0.0648		355.532	
355.308		-0.0648	-0.018	3.6	355.373		-0.0648	-0.018	3.6	355.438	32+030.000	355.438	3.6	0.018	0.0648		355.503	3.6	0.018	0.0648		355.568	
355.344		-0.0648	-0.018	3.6	355.409		-0.0648	-0.018	3.6	355.474	32+040.000	355.474	3.6	0.018	0.0648		355.539	3.6	0.018	0.0648		355.604	
355.380		-0.0648	-0.018	3.6	355.445		-0.0648	-0.018	3.6	355.510	32+050.000	355.510	3.6	0.018	0.0648		355.575	3.6	0.018	0.0648		355.640	
355.416		-0.0648	-0.018	3.6	355.481		-0.0648	-0.018	3.6	355.546	32+060.000	355.546	3.6	0.018	0.0648		355.611	3.6	0.018	0.0648		355.676	
355.452		-0.0648	-0.018	3.6	355.517		-0.0648	-0.018	3.6	355.582	32+070.000	355.582	3.6	0.018	0.0648		355.647	3.6	0.018	0.0648		355.712	
355.488		-0.0648	-0.018	3.6	355.553		-0.0648	-0.018	3.6	355.618	32+080.000	355.618	3.6	0.018	0.0648		355.683	3.6	0.018	0.0648		355.748	
355.524		-0.0648	-0.018	3.6	355.589		-0.0648	-0.018	3.6	355.654	32+090.000	355.654	3.6	0.018	0.0648		355.719	3.6	0.018	0.0648		355.784	
355.560		-0.0648	-0.018	3.6	355.625		-0.0648	-0.018	3.6	355.690	32+100.000	355.690	3.6	0.018	0.0648		355.755	3.6	0.018	0.0648		355.820	
355.596		-0.0648	-0.018	3.6	355.661		-0.0648	-0.018	3.6	355.726	32+110.000	355.726	3.6	0.018	0.0648		355.791	3.6	0.018	0.0648		355.856	
355.632		-0.0648	-0.018	3.6	355.697		-0.0648	-0.018	3.6	355.762	32+120.000	355.762	3.6	0.018	0.0648		355.827	3.6	0.018	0.0648		355.892	
355.668		-0.0648	-0.018	3.6	355.733		-0.0648	-0.018	3.6	355.798	32+130.000	355.798	3.6	0.018	0.0648		355.863	3.6	0.018	0.0648		355.928	
355.701		-0.0648	-0.018	3.6	355.766		-0.0648	-0.018	3.6	355.831	32+140.000	355.831	3.6	0.018	0.0648		355.896	3.6	0.018	0.0648		355.961	
355.728		-0.0648	-0.018	3.6	355.793		-0.0648	-0.018	3.6	355.858	32+150.000	355.858	3.6	0.018	0.0648		355.923	3.6	0.018	0.0648		355.988	
355.748		-0.0648	-0.018	3.6	355.813		-0.0648	-0.018	3.6	355.878	32+160.000	355.878	3.6	0.018	0.0648		355.943	3.6	0.018	0.0648		356.008	
355.763		-0.0648	-0.018	3.6	355.828		-0.0648	-0.018	3.6	355.893	32+170.000	355.893	3.6	0.018	0.0648		355.958	3.6	0.018	0.0648		356.023	
355.771		-0.0648	-0.018	3.6	355.836		-0.0648	-0.018	3.6	355.901	32+180.000	355.901	3.6	0.018	0.0648		355.966	3.6	0.018	0.0648		356.031	
355.773		-0.0648	-0.018	3.6	355.838		-0.0648	-0.018	3.6	355.903	32+190.000	355.903	3.6	0.018	0.0648		355.968	3.6	0.018	0.0648		356.034	
355.769		-0.0648	-0.018	3.6	355.834		-0.0648	-0.018	3.6	355.899	32+200.000	355.899	3.6	0.018	0.0648		355.964	3.6	0.018	0.0648		356.029	
355.759		-0.0648	-0.018	3.6	355.824		-0.0648	-0.018	3.6	355.889	32+210.000	355.889	3.6	0.018	0.0648		355.954	3.6	0.018	0.0648		356.019	FS

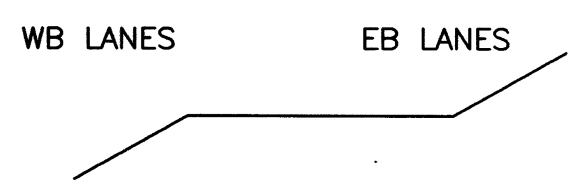
GROUP 1
GROUP 4



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

GROUP 2
GROUP 3



SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

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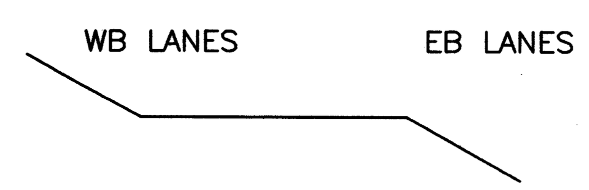
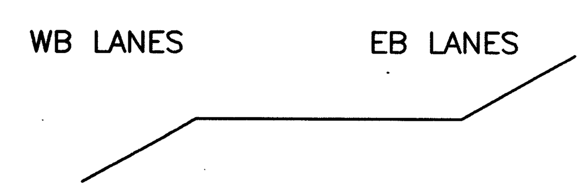
SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	REMARKS
355.759		−0.0648	−0.018	3.6	355.824		−0.0648	−0.018	3.6	355.889	32+210.000	355.889	3.6	0.018	0.0648		355.954	3.6	0.018	0.0648		356.019	FS
355.743		−0.0648	−0.018	3.6	355.808		−0.0648	−0.018	3.6	355.873	32+220.000	355.873	3.6	0.018	0.0648		355.938	3.6	0.018	0.0648		356.003	
355.721		−0.0648	−0.018	3.6	355.786		−0.0648	−0.018	3.6	355.851	32+230.000	355.851	3.6	0.018	0.0648		355.916	3.6	0.018	0.0648		355.981	
355.692		−0.0648	−0.018	3.6	355.757		−0.0648	−0.018	3.6	355.822	32+240.000	355.822	3.6	0.018	0.0648		355.887	3.6	0.018	0.0648		355.952	
355.658		−0.0648	−0.018	3.6	355.723		−0.0648	−0.018	3.6	355.788	32+250.000	355.788	3.6	0.018	0.0648		355.853	3.6	0.018	0.0648		355.918	
355.617		−0.0648	−0.018	3.6	355.682		−0.0648	−0.018	3.6	355.747	32+260.000	355.747	3.6	0.018	0.0648		355.812	3.6	0.018	0.0648		355.877	
355.570		−0.0648	−0.018	3.6	355.635		−0.0648	−0.018	3.6	355.700	32+270.000	355.700	3.6	0.018	0.0648		355.765	3.6	0.018	0.0648		355.830	
355.520		−0.0648	−0.018	3.6	355.585		−0.0648	−0.018	3.6	355.650	32+280.000	355.650	3.6	0.018	0.0648		355.715	3.6	0.018	0.0648		355.780	
355.470		−0.0648	−0.018	3.6	355.535		−0.0648	−0.018	3.6	355.600	32+290.000	355.600	3.6	0.018	0.0648		355.665	3.6	0.018	0.0648		355.730	
355.420		−0.0648	−0.018	3.6	355.485		−0.0648	−0.018	3.6	355.550	32+300.000	355.550	3.6	0.018	0.0648		355.615	3.6	0.018	0.0648		355.680	
355.370		−0.0648	−0.018	3.6	355.435		−0.0648	−0.018	3.6	355.500	32+310.000	355.500	3.6	0.018	0.0648		355.565	3.6	0.018	0.0648		355.630	
355.320		−0.0648	−0.018	3.6	355.385		−0.0648	−0.018	3.6	355.450	32+320.000	355.450	3.6	0.018	0.0648		355.515	3.6	0.018	0.0648		355.580	
355.270		−0.0648	−0.018	3.6	355.335		−0.0648	−0.018	3.6	355.400	32+330.000	355.400	3.6	0.018	0.0648		355.465	3.6	0.018	0.0648		355.530	
355.220		−0.0648	−0.018	3.6	355.285		−0.0648	−0.018	3.6	355.350	32+340.000	355.350	3.6	0.018	0.0648		355.415	3.6	0.018	0.0648		355.480	
355.170		−0.0648	−0.018	3.6	355.235		−0.0648	−0.018	3.6	355.300	32+350.000	355.300	3.6	0.018	0.0648		355.365	3.6	0.018	0.0648		355.430	
355.120		−0.0648	−0.018	3.6	355.185		−0.0648	−0.018	3.6	355.250	32+360.000	355.250	3.6	0.018	0.0648		355.315	3.6	0.018	0.0648		355.380	
355.070		−0.0648	−0.018	3.6	355.135		−0.0648	−0.018	3.6	355.200	32+370.000	355.200	3.6	0.018	0.0648		355.265	3.6	0.018	0.0648		355.330	
355.020		−0.0648	−0.018	3.6	355.085		−0.0648	−0.018	3.6	355.150	32+380.000	355.150	3.6	0.018	0.0648		355.215	3.6	0.018	0.0648		355.280	
354.970		−0.0648	−0.018	3.6	355.035		−0.0648	−0.018	3.6	355.100	32+390.000	355.100	3.6	0.018	0.0648		355.165	3.6	0.018	0.0648		355.230	
354.920		−0.0648	−0.018	3.6	354.985		−0.0648	−0.018	3.6	355.050	32+400.000	355.050	3.6	0.018	0.0648		355.115	3.6	0.018	0.0648		355.180	
354.870		−0.0648	−0.018	3.6	354.935		−0.0648	−0.018	3.6	355.000	32+410.000	355.000	3.6	0.018	0.0648		355.065	3.6	0.018	0.0648		355.130	
354.820		−0.0648	−0.018	3.6	354.885		−0.0648	−0.018	3.6	354.950	32+420.000	354.950	3.6	0.018	0.0648		355.015	3.6	0.018	0.0648		355.080	
354.770		−0.0648	−0.018	3.6	354.835		−0.0648	−0.018	3.6	354.900	32+430.000	354.900	3.6	0.018	0.0648		354.965	3.6	0.018	0.0648		355.030	
354.720		−0.0648	−0.018	3.6	354.785		−0.0648	−0.018	3.6	354.850	32+440.000	354.850	3.6	0.018	0.0648		354.915	3.6	0.018	0.0648		354.980	
354.670		−0.0648	−0.018	3.6	354.735		−0.0648	−0.018	3.6	354.800	32+450.000	354.800	3.6	0.018	0.0648		354.865	3.6	0.018	0.0648		354.930	
354.620		−0.0648	−0.018	3.6	354.685		−0.0648	−0.018	3.6	354.750	32+460.000	354.750	3.6	0.018	0.0648		354.815	3.6	0.018	0.0648		354.880	
354.570		−0.0648	−0.018	3.6	354.635		−0.0648	−0.018	3.6	354.700	32+470.000	354.700	3.6	0.018	0.0648		354.765	3.6	0.018	0.0648		354.830	
354.520		−0.0648	−0.018	3.6	354.585		−0.0648	−0.018	3.6	354.650	32+480.000	354.650	3.6	0.018	0.0648		354.715	3.6	0.018	0.0648		354.780	
354.470		−0.0648	−0.018	3.6	354.535		−0.0648	−0.018	3.6	354.600	32+490.000	354.600	3.6	0.018	0.0648		354.665	3.6	0.018	0.0648		354.730	
354.420		−0.0648	−0.018	3.6	354.485		−0.0648	−0.018	3.6	354.550	32+500.000	354.550	3.6	0.018	0.0648		354.615	3.6	0.018	0.0648		354.680	
354.370		−0.0648	−0.018	3.6	354.435		−0.0648	−0.018	3.6	354.500	32+510.000	354.500	3.6	0.018	0.0648		354.565	3.6	0.018	0.0648		354.630	
354.320		−0.0648	−0.018	3.6	354.385		−0.0648	−0.018	3.6	354.450	32+520.000	354.450	3.6	0.018	0.0648		354.515	3.6	0.018	0.0648		354.580	
354.270		−0.0648	−0.018	3.6	354.335		−0.0648	−0.018	3.6	354.400	32+530.000	354.400	3.6	0.018	0.0648		354.465	3.6	0.018	0.0648		354.530	
354.220		−0.0648	−0.018	3.6	354.285		−0.0648	−0.018	3.6	354.350	32+540.000	354.350	3.6	0.018	0.0648		354.415	3.6	0.018	0.0648		354.480	
354.170		−0.0648	−0.018	3.6	354.235		−0.0648	−0.018	3.6	354.300	32+550.000	354.300	3.6	0.018	0.0648		354.365	3.6	0.018	0.0648		354.430	
354.120		−0.0648	−0.018	3.6	354.185		−0.0648	−0.018	3.6	354.250	32+560.000	354.250	3.6	0.018	0.0648		354.315	3.6	0.018	0.0648		354.380	
354.070		−0.0648	−0.018	3.6	354.135		−0.0648	−0.018	3.6	354.200	32+570.000	354.200	3.6	0.018	0.0648		354.265	3.6	0.018	0.0648		354.330	
354.020		−0.0648	−0.018	3.6	354.085		−0.0648	−0.018	3.6	354.150	32+580.000	354.150	3.6	0.018	0.0648		354.215	3.6	0.018	0.0648		354.280	
353.970		−0.0648	−0.018	3.6	354.035		−0.0648	−0.018	3.6	354.100	32+590.000	354.100	3.6	0.018	0.0648		354.165	3.6	0.018	0.0648		354.230	
353.920		−0.0648	−0.018	3.6	353.985		−0.0648	−0.018	3.6	354.050	32+600.000	354.050	3.6	0.018	0.0648		354.115	3.6	0.018	0.0648		354.180	
353.870		−0.0648	−0.018	3.6	353.935		−0.0648	−0.018	3.6	354.000	32+610.000	354.000	3.6	0.018	0.0648		354.065	3.6	0.018	0.0648		354.130	
353.820		−0.0648	−0.018	3.6	353.885		−0.0648	−0.018	3.6	353.950	32+620.000	353.950	3.6	0.018	0.0648		354.015	3.6	0.018	0.0648		354.080	
353.770		−0.0648	−0.018	3.6	353.835		−0.0648	−0.018	3.6	353.900	32+630.000	353.900	3.6	0.018	0.0648		353.965	3.6	0.018	0.0648		354.030	
353.720		−0.0648	−0.018	3.6	353.785		−0.0648	−0.018	3.6	353.850	32+640.000	353.850	3.6	0.018	0.0648		353.915	3.6	0.018	0.0648		353.980	
353.670		−0.0648	−0.018	3.6	353.735		−0.0648	−0.018	3.6	353.800	32+650.000	353.800	3.6	0.018	0.0648		353.865	3.6	0.018	0.0648		353.930	FS

GROUP 1
GROUP 4



GROUP 2
GROUP 3



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

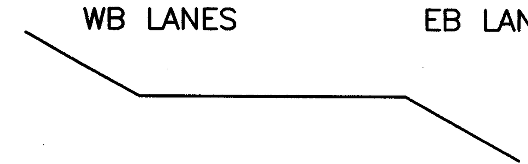
460A
677

SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	REMARKS
353.620		−0.0648	−0.018	3.6	353.685		−0.0648	−0.018	3.6	353.750	32+660.000	353.750	3.6	0.018	0.0648		353.815	3.6	0.018	0.0648		353.880	FS
353.570		−0.0648	−0.018	3.6	353.635		−0.0648	−0.018	3.6	353.700	32+670.000	353.700	3.6	0.018	0.0648		353.765	3.6	0.018	0.0648		353.830	
353.520		−0.0648	−0.018	3.6	353.585		−0.0648	−0.018	3.6	353.650	32+680.000	353.650	3.6	0.018	0.0648		353.715	3.6	0.018	0.0648		353.780	
353.470		−0.0648	−0.018	3.6	353.535		−0.0648	−0.018	3.6	353.600	32+690.000	353.600	3.6	0.018	0.0648		353.665	3.6	0.018	0.0648		353.730	
353.420		−0.0648	−0.018	3.6	353.485		−0.0648	−0.018	3.6	353.550	32+700.000	353.550	3.6	0.018	0.0648		353.615	3.6	0.018	0.0648		353.680	
353.370		−0.0648	−0.018	3.6	353.435		−0.0648	−0.018	3.6	353.500	32+710.000	353.500	3.6	0.018	0.0648		353.565	3.6	0.018	0.0648		353.630	
353.320		−0.0648	−0.018	3.6	353.385		−0.0648	−0.018	3.6	353.450	32+720.000	353.450	3.6	0.018	0.0648		353.515	3.6	0.018	0.0648		353.580	
353.270		−0.0648	−0.018	3.6	353.335		−0.0648	−0.018	3.6	353.400	32+730.000	353.400	3.6	0.018	0.0648		353.465	3.6	0.018	0.0648		353.530	
353.220		−0.0648	−0.018	3.6	353.285		−0.0648	−0.018	3.6	353.350	32+740.000	353.350	3.6	0.018	0.0648		353.415	3.6	0.018	0.0648		353.480	
353.197		−0.0648	−0.018	3.6	353.262		−0.0648	−0.018	3.6	353.327	32+744.535	353.327	3.6	0.018	0.0648		353.392	3.6	0.018	0.0648		353.457	FS
353.178		−0.0612	−0.017	3.6	353.239		−0.0612	−0.017	3.6	353.300	32+750.000	353.300	3.6	0.017	0.0612		353.361	3.6	0.017	0.0612		353.422	
353.176		−0.0576	−0.016	3.6	353.233		−0.0576	−0.016	3.6	353.291	32+751.868	353.291	3.6	0.016	0.0576		353.349	3.6	0.016	0.0576		353.406	CR
353.163		−0.0576	−0.016	3.6	353.220		−0.0468	−0.013	3.6	353.267	32+756.535	353.267	3.6	0.016	0.0576		353.325	3.6	0.013	0.0468		353.371	PT
353.153		−0.0576	−0.016	3.6	353.210		−0.0396	−0.011	3.6	353.250	32+760.000	353.250	3.6	0.016	0.0576		353.308	3.6	0.011	0.0396		353.347	
353.121	539.22:1	−0.0576	−0.016	3.6	353.178	539.22:1	−0.0216	−0.006	3.6	353.200	32+770.000	353.200	3.6	0.016	0.0576	539.22:1	353.258	3.6	0.006	0.0216	539.22:1	353.279	
353.089		−0.0576	−0.016	3.6	353.146		−0.0036	−0.001	3.6	353.150	32+780.000	353.150	3.6	0.016	0.0576		353.208	3.6	0.001	0.0036		353.211	
353.086		−0.0576	−0.016	3.6	353.144		0.0000	0.000	3.6	353.144	32+781.202	353.144	3.6	0.016	0.0576		353.202	3.6	0.000	0.0000		353.202	HL
353.064		−0.0576	−0.016	3.6	353.122		0.0216	0.006	3.6	353.100	32+790.000	353.100	3.6	0.016	0.0576		353.158	3.6	−0.006	−0.0216		353.136	
353.032		−0.0576	−0.016	3.6	353.090		0.0396	0.011	3.6	353.050	32+800.000	353.050	3.6	0.016	0.0576		353.108	3.6	−0.011	−0.0396		353.068	
353.000		−0.0576	−0.016	3.6	353.058		0.0576	0.016	3.6	353.000	32+810.000	353.000	3.6	0.016	0.0576		353.058	3.6	−0.016	−0.0576		353.000	
352.997		−0.0576	−0.016	3.6	353.055		0.0576	0.016	3.6	352.997	32+810.535	352.997	3.6	0.016	0.0576		353.055	3.6	−0.016	−0.0576		352.997	NC

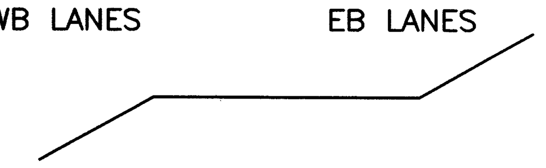
GROUP 1
GROUP 4

WB LANES EB LANES



GROUP 2
GROUP 3

WB LANES EB LANES



LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

metric units

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

460B
677

metric units

SUPERELEVATION TABLE

WESTBOUND LANES												EASTBOUND LANES											
EDGE OF PAVEMENT ELEVATIONS	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	CENTERLINE OF LANE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE EDGE OF PAVEMENT	STATION	PROFILE GRADE EDGE OF PAVEMENT	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	CENTERLINE OF LANE ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATIONS	REMARKS
358.641		-0.0576	-0.016	3.6	358.699		0.0576	0.016	3.6	358.641	33+154.517	358.641	3.6	0.016	0.0576		358.699	3.6	-0.016	-0.0576		358.641	NC
358.804		-0.0396	-0.011	3.6	358.844		0.0576	0.016	3.6	358.786	33+160.000	358.786	3.6	0.011	0.0396		358.826	3.6	-0.016	-0.0576		358.768	
359.100		-0.0072	-0.002	3.6	359.108		0.0576	0.016	3.6	359.050	33+170.000	359.050	3.6	0.002	0.0072		359.057	3.6	-0.016	-0.0576		359.000	
359.149		0.0000	0.000	3.6	359.149		0.0576	0.016	3.6	359.091	33+171.549	359.091	3.6	0.000	0.0000		359.091	3.6	-0.016	-0.0576		359.033	HL
359.400		0.0288	0.008	3.6	359.372		0.0576	0.016	3.6	359.314	33+180.000	359.314	3.6	-0.008	-0.0288		359.285	3.6	-0.016	-0.0576		359.228	
359.656	1222.22:1	0.0576	0.016	3.6	359.599	1222.22:1	0.0576	0.016	3.6	359.541	33+188.582	359.541	3.6	-0.016	-0.0576	1222.22:1	359.483	3.6	-0.016	-0.0576	1222.22:1	359.426	CR
359.700		0.0612	0.017	3.6	359.639		0.0612	0.017	3.6	359.578	33+190.000	359.578	3.6	-0.017	-0.0612		359.517	3.6	-0.017	-0.0612		359.456	
359.993		0.0756	0.021	3.6	359.918		0.0756	0.021	3.6	359.842	33+200.000	359.842	3.6	-0.021	-0.0756		359.766	3.6	-0.021	-0.0756		359.691	
360.127		0.0828	0.023	3.6	360.044		0.0828	0.023	3.6	359.961	33+204.517	359.961	3.6	-0.023	-0.0828		359.878	3.6	-0.023	-0.0828		359.795	PC
360.293		0.0936	0.026	3.6	360.200		0.0936	0.026	3.6	360.106	33+210.000	360.106	3.6	-0.026	-0.0936		360.012	3.6	-0.026	-0.0936		359.919	
360.593		0.1116	0.031	3.6	360.482		0.1116	0.031	3.6	360.370	33+220.000	360.370	3.6	-0.031	-0.1116		360.258	3.6	-0.031	-0.1116		360.147	
360.607		0.1116	0.031	3.6	360.496		0.1116	0.031	3.6	360.384	33+220.517	360.384	3.6	-0.031	-0.1116		360.272	3.6	-0.031	-0.1116		360.161	FS
360.857		0.1116	0.031	3.6	360.746		0.1116	0.031	3.6	360.634	33+230.000	360.634	3.6	-0.031	-0.1116		360.522	3.6	-0.031	-0.1116		360.411	
361.121		0.1116	0.031	3.6	361.010		0.1116	0.031	3.6	360.898	33+240.000	360.898	3.6	-0.031	-0.1116		360.786	3.6	-0.031	-0.1116		360.675	
361.385		0.1116	0.031	3.6	361.274		0.1116	0.031	3.6	361.162	33+250.000	361.162	3.6	-0.031	-0.1116		361.050	3.6	-0.031	-0.1116		360.939	
361.646		0.1116	0.031	3.6	361.535		0.1116	0.031	3.6	361.423	33+260.000	361.423	3.6	-0.031	-0.1116		361.311	3.6	-0.031	-0.1116		361.200	
361.901		0.1116	0.031	3.6	361.790		0.1116	0.031	3.6	361.678	33+270.000	361.678	3.6	-0.031	-0.1116		361.566	3.6	-0.031	-0.1116		361.455	
362.151		0.1116	0.031	3.6	362.040		0.1116	0.031	3.6	361.928	33+280.000	361.928	3.6	-0.031	-0.1116		361.816	3.6	-0.031	-0.1116		361.705	
362.395		0.1116	0.031	3.6	362.284		0.1116	0.031	3.6	362.172	33+290.000	362.172	3.6	-0.031	-0.1116		362.060	3.6	-0.031	-0.1116		361.949	
362.633		0.1116	0.031	3.6	362.522		0.1116	0.031	3.6	362.410	33+300.000	362.410	3.6	-0.031	-0.1116		362.298	3.6	-0.031	-0.1116		362.187	
362.865		0.1116	0.031	3.6	362.754		0.1116	0.031	3.6	362.642	33+310.000	362.642	3.6	-0.031	-0.1116		362.530	3.6	-0.031	-0.1116		362.419	
363.091		0.1116	0.031	3.6	362.980		0.1116	0.031	3.6	362.868	33+320.000	362.868	3.6	-0.031	-0.1116		362.756	3.6	-0.031	-0.1116		362.645	
363.312		0.1116	0.031	3.6	363.201		0.1116	0.031	3.6	363.089	33+330.000	363.089	3.6	-0.031	-0.1116		362.977	3.6	-0.031	-0.1116		362.866	
363.526		0.1116	0.031	3.6	363.415		0.1116	0.031	3.6	363.303	33+340.000	363.303	3.6	-0.031	-0.1116		363.191	3.6	-0.031	-0.1116		363.080	
363.735		0.1116	0.031	3.6	363.624		0.1116	0.031	3.6	363.512	33+350.000	363.512	3.6	-0.031	-0.1116		363.400	3.6	-0.031	-0.1116		363.289	
363.938		0.1116	0.031	3.6	363.827		0.1116	0.031	3.6	363.715	33+360.000	363.715	3.6	-0.031	-0.1116		363.603	3.6	-0.031	-0.1116		363.492	
364.136		0.1116	0.031	3.6	364.025		0.1116	0.031	3.6	363.913	33+370.000	363.913	3.6	-0.031	-0.1116		363.801	3.6	-0.031	-0.1116		363.690	
364.327		0.1116	0.031	3.6	364.216		0.1116	0.031	3.6	364.104	33+380.000	364.104	3.6	-0.031	-0.1116		363.992	3.6	-0.031	-0.1116		363.881	
364.513		0.1116	0.031	3.6	364.402		0.1116	0.031	3.6	364.290	33+390.000	364.290	3.6	-0.031	-0.1116		364.178	3.6	-0.031	-0.1116		364.067	
364.693		0.1116	0.031	3.6	364.582		0.1116	0.031	3.6	364.470	33+400.000	364.470	3.6	-0.031	-0.1116		364.358	3.6	-0.031	-0.1116		364.247	
364.867		0.1116	0.031	3.6	364.756		0.1116	0.031	3.6	364.644	33+410.000	364.644	3.6	-0.031	-0.1116		364.532	3.6	-0.031	-0.1116		364.421	
365.036		0.1116	0.031	3.6	364.925		0.1116	0.031	3.6	364.813	33+420.000	364.813	3.6	-0.031	-0.1116		364.701	3.6	-0.031	-0.1116		364.590	
365.198		0.1116	0.031	3.6	365.087		0.1116	0.031	3.6	364.975	33+430.000	364.975	3.6	-0.031	-0.1116		364.863	3.6	-0.031	-0.1116		364.752	
365.355		0.1116	0.031	3.6	365.244		0.1116	0.031	3.6	365.132	33+440.000	365.132	3.6	-0.031	-0.1116		365.020	3.6	-0.031	-0.1116		364.909	
365.506		0.1116	0.031	3.6	365.395		0.1116	0.031	3.6	365.283	33+450.000	365.283	3.6	-0.031	-0.1116		365.171	3.6	-0.031	-0.1116		365.060	
365.651		0.1116	0.031	3.6	365.540		0.1116	0.031	3.6	365.428	33+460.000	365.428	3.6	-0.031	-0.1116		365.316	3.6	-0.031	-0.1116		365.205	
365.791		0.1116	0.031	3.6	365.680		0.1116	0.031	3.6	365.568	33+470.000	365.568	3.6	-0.031	-0.1116		365.456	3.6	-0.031	-0.1116		365.345	
365.924		0.1116	0.031	3.6	365.813		0.1116	0.031	3.6	365.701	33+480.000	365.701	3.6	-0.031	-0.1116		365.589	3.6	-0.031	-0.1116		365.478	
366.052		0.1116	0.031	3.6	365.941		0.1116	0.031	3.6	365.829	33+490.000	365.829	3.6	-0.031	-0.1116		365.717	3.6	-0.031	-0.1116		365.606	
366.174		0.1116	0.031	3.6	366.063		0.1116	0.031	3.6	365.951	33+500.000	365.951	3.6	-0.031	-0.1116		365.839	3.6	-0.031	-0.1116		365.728	FS

FOR REMAINDER OF SUPERELEVATION TABLE SEE PROJECT : CRA-30-33.500/0.00

GROUP 2
GROUP 3

WB LANES EB LANES

GROUP 1
GROUP 4

WB LANES EB LANES

LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
RELOCATED U.S. 30

CRA-30-24.000

SUPERELEVATION TABLE

STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
RAMP "A"							
BASELINE CONTROL		RIGHT SIDE					
	PI STA. A4+405.004 R=2300m						
A4+422.997	326.028	4.800	0.0280	0.134	261.63:1	326.162	FS
A4+440.000	325.942	4.800	0.0463	0.222		326.164	
A4+449.997	325.881	4.800	0.0570	0.274		326.155	PCC
A4+450.000	325.881	4.800	0.0570	0.274		326.155	
A4+460.000	325.795	4.800	0.0622	0.299		326.094	
A4+470.000	325.709	4.800	0.0674	0.323		326.032	
A4+476.997	325.649	4.800	0.0710	0.341		325.990	FS
	PI STA. A4+544.074 R=350m						
A4+607.855	326.896	4.800	0.0710	0.341	180.93:1	327.237	FS
A4+610.000	326.957	4.800	0.0685	0.329		327.286	
A4+620.000	327.252	4.800	0.0570	0.274		327.526	
A4+630.000	327.552	4.800	0.0454	0.218		327.770	
A4+633.807	327.666	4.800	0.0410	0.197		327.863	PT
A4+640.000	327.852	4.800	0.0339	0.163		328.015	
A4+650.000	328.152	4.800	0.0226	0.108		328.260	
A4+660.000	328.452	4.800	0.0112	0.054		328.506	
A4+669.855	328.748	4.800	0.0000	0.000		328.748	FLAT
A4+670.000	328.752	4.800	−0.0002	−0.001		328.751	
A4+680.000	329.052	4.800	−0.0117	−0.056		328.996	
A4+690.000	329.352	4.800	−0.0233	−0.112		329.240	
A4+699.302	329.631	4.800	−0.0340	−0.163		329.468	PC
A4+700.000	329.652	4.800	−0.0348	−0.167		329.485	
A4+710.000	329.952	4.800	−0.0465	−0.223		329.729	
A4+719.885	330.249	4.800	−0.0580	−0.278		329.971	FS
	PI STA. A4+716.438 R=125m						
A4+720.000	330.252	4.800	−0.0580	−0.278	231.5:1	329.974	
A4+720.029	330.253	4.800	−0.0580	−0.278		329.975	FS
A4+730.000	330.552	4.800	−0.0438	−0.210		330.342	
A4+733.362	330.653	4.800	−0.0390	−0.187		330.466	PT
A4+740.000	330.852	4.800	−0.0293	−0.141		330.711	
A4+750.000	331.124	4.800	−0.0147	−0.071		331.053	
A4+760.000	331.349	4.800	0.0000	0.000		331.349	
A4+760.029	331.350	4.800	0.0000	0.000		331.350	FLAT
A4+770.000	331.528	4.800	0.0145	0.070		331.598	
A4+771.029	331.544	4.800	0.0160	0.077		331.631	
	FOR ADDITIONAL PAVEMENT ELEVATION SEE INTERSECTION DETAILS SHEET NO. 477 AND RAMP TERMINAL DETAILS, SHEET NO. 465–466.						

SUPERELEVATION TABLE

REMARKS	EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
RAMP "B"							
	LEFT SIDE					BASELINE CONTROL	
		PI STA. B4+552.328 R= 400m					
FS	326.548	220.6:1	0.115	0.0240	4.800	326.433	B4+476.629
	326.557		0.131	0.0272	4.800	326.426	B4+480.000
	326.583		0.177	0.0369	4.800	326.406	B4+490.000
	326.609		0.223	0.0465	4.800	326.386	B4+500.000
PCC	326.619		0.240	0.0500	4.800	326.379	B4+503.629
	326.634		0.268	0.0559	4.800	326.366	B4+510.000
	326.659		0.313	0.0652	4.800	326.346	B4+520.000
FS	326.694		0.360	0.0750	4.800	326.334	B4+530.629
		PI STA. B4+739.345 R= 300m					
FS	326.811	223.2:1	0.360	0.0750	4.800	326.451	B4+571.115
	326.811		0.299	0.0623	4.800	326.512	B4+580.000
	326.851		0.256	0.0533	4.800	326.595	B4+590.000
PT	326.911		0.211	0.0440	4.800	326.700	B4+600.549
	326.973		0.164	0.0342	4.800	326.809	B4+610.000
	327.055		0.115	0.0239	4.800	326.940	B4+620.000
	327.152		0.065	0.0136	4.800	327.087	B4+630.000
	327.265		0.015	0.0032	4.800	327.250	B4+640.000
FLAT	327.303	223.2:1	0.000	0.0000	4.800	327.303	B4+643.115
	327.394		−0.034	−0.0071	4.800	327.428	B4+650.000
	327.539		−0.084	−0.0175	4.800	327.623	B4+660.000
PC	327.684		−0.130	−0.0270	4.800	327.814	B4+669.128
	327.699		−0.134	−0.0279	4.800	327.833	B4+670.000
	327.877		−0.182	−0.0379	4.800	328.059	B4+680.000
FS	328.014		−0.216	−0.0450	4.800	328.230	B4+687.115
FS	330.731	223.2:1	−0.216	−0.0450	4.800	330.947	B4+796.080
	330.846		−0.190	−0.0396	4.800	331.036	B4+800.000
PT	331.040		−0.144	−0.0300	4.800	331.184	B4+807.080
	331.116		−0.125	−0.0260	4.800	331.241	B4+810.000
	331.356		−0.060	−0.0124	4.800	331.416	B4+820.000
FLAT	331.561		0.000	0.0000	4.800	331.561	B4+829.080
	FOR ADDITIONAL PAVEMENT ELEVATIONS SEE INTERSECTION DETAILS SHEET NO. 477 AND RAMP TERMINAL DETAILS, SHEET NO. 467.						

NOTE:
① THE FIRST DIGIT HAS BEEN REPLACED WITH THE LETTER NANE OF THE RAMP IN THE STATION DESIGNATION.

LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

metric units

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE RAMP "A" & "B"

CRA/RIC-30-24.000

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SUPERELEVATION TABLE

RAMP "C"							
	LEFT SIDE					BASELINE CONTROL	
REMARKS	EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
	331.566		0.077	0.0160	4.800	331.489	C4+818.826
	331.539		0.069	0.0140	4.800	331.470	C4+820.000
FLAT	331.294		0.000	0.0000	4.800	331.294	C4+830.826
	331.078		−0.060	−0.0125	4.800	331.138	C4+840.000
	330.847	153.7:1	−0.112	−0.0234	4.800	330.959	C4+850.000
PC	330.763		−0.144	−0.0300	4.800	330.907	C4+852.826
	330.603		−0.169	−0.0352	4.800	330.772	C4+860.000
FS	330.483		−0.216	−0.0450	4.800	330.699	C4+863.826
		PI STA. C4+909.338 R=300m					
FS	328.608		−0.216	−0.0450	4.800	328.824	C4+946.743
	328.545		−0.200	−0.0417	4.800	328.745	C4+950.000
	328.349		−0.152	−0.0316	4.800	328.501	C4+960.000
PT	328.260		−0.130	−0.0270	4.800	328.390	C4+964.540
	328.154		−0.103	−0.0214	4.800	328.257	C4+970.000
	327.951		−0.063	−0.0131	4.800	328.014	C4+980.000
FLAT	327.752	203:1	0.000	0.0000	4.800	327.752	C4+990.743
	327.572		0.045	0.0095	4.800	327.527	C5+000.000
	327.377		0.094	0.0197	4.800	327.283	C5+010.000
	327.183		0.144	0.0299	4.800	327.039	C5+020.000
PC	326.960		0.202	0.0420	4.800	326.758	C5+031.833
	326.824		0.242	0.0505	4.800	326.582	C5+040.000
	326.681		0.292	0.0609	4.800	326.389	C5+050.000
FS	326.567		0.341	0.0710	4.800	326.226	C5+059.743
		PI STA. C5+107.983 R=450m					
FS	326.276		0.341	0.0710	4.800	325.935	C5+163.704
	326.285		0.312	0.0650	4.800	325.973	C5+170.000
	326.303		0.270	0.0563	4.800	326.033	C5+180.000
PT	326.311	215.9:1	0.254	0.0530	4.800	326.057	C5+182.704
	326.343		0.220	0.0459	4.800	326.123	C5+190.000
	326.387		0.174	0.0362	4.800	326.213	C5+200.000
	326.419		0.127	0.0264	4.800	326.292	C5+210.000
	326.458		0.077	0.0160	4.800	326.381	C5+220.704
	FOR ADDITIONAL PAVEMENT ELEVATIONS SEE INTERSECTION DETAILS SHEET NO. 477 AND RAMP TERMINAL DETAILS, SHEET NO. 468–469.						

SUPERELEVATION TABLE

RAMP "D"							
BASELINE CONTROL		RIGHT SIDE					
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
D4+800.000	331.625	4.800	0.0086	0.041		331.666	
D4+806.417	331.522	4.800	0.0000	0.000		331.522	FLAT
D4+810.000	331.465	4.800	−0.0048	−0.023		331.442	
D4+820.000	331.305	4.800	−0.0183	−0.088	156.3:1	331.217	
D4+826.417	331.202	4.800	−0.0270	−0.130		331.072	PC
D4+830.000	331.145	4.800	−0.0353	−0.170		330.975	
D4+836.417	331.042	4.800	−0.0400	−0.192		330.850	FS
		PI STA. D4+872.773 R=350m					
D4+899.886	329.960	4.800	−0.0400	−0.192		329.768	FS
D4+910.000	329.762	4.800	−0.0297	−0.143		329.619	
D4+918.592	329.588	4.800	−0.0210	−0.101		329.487	PT
D4+920.000	329.559	4.800	−0.0195	−0.094		329.465	
D4+930.000	329.348	4.800	−0.0092	−0.044	202.2:1	329.304	
D4+938.886	329.155	4.800	0.0000	0.000		329.155	FLAT
D4+940.000	329.130	4.800	0.0011	0.005		329.135	
D4+950.000	328.904	4.800	0.0118	0.057		328.961	
D4+960.000	328.670	4.800	0.0216	0.104		328.774	
D4+970.107	328.440	4.800	0.0320	0.154		328.594	PC
D4+980.000	328.226	4.800	0.0423	0.203		328.429	
D4+990.000	328.020	4.800	0.0527	0.253		328.273	
D4+998.886	327.846	4.800	0.0620	0.298		328.144	FS
	PI STA. D5+069.987 R=575m						
D5+140.893	326.259	4.800	0.0620	0.298		326.557	FS
D5+150.000	326.233	4.800	0.0573	0.275		326.508	
D5+160.000	326.216	4.800	0.0521	0.250		326.466	
D5+167.893	326.210	4.800	0.0480	0.230	401.8:1	326.440	PC
D5+170.000	326.209	4.800	0.0469	0.225		326.434	
D5+180.000	326.214	4.800	0.0417	0.200		326.414	
D5+190.000	326.229	4.800	0.0365	0.175		326.404	
D5+194.893	326.242	4.800	0.0340	0.163		326.405	
	FOR ADDITIONAL PAVEMENT ELEVATIONS SEE INTERSECTION DETAILS SHEET NO. 477 AND RAMP TERMINAL DETAILS, SHEET NO. 470.						

NOTE:
① THE FIRST DIGIT HAS BEEN REPLACED WITH THE LETTER NANE OF THE RAMP IN THE STATION DESIGNATION.

LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
RAMPS "C"&"D"

CRA/RIC-30-24.000

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SUPERELEVATION TABLE

RAMP "F"

REMARKS	LEFT SIDE					BASELINE CONTROL	
	EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
	PI STA. F9+816.630 R=1250m						
FS	351.321		0.158	0.0330	4.800	351.163	F9+875.983
	331.350		0.165	0.0343	4.800	351.185	F9+880.000
	351.438		0.181	0.0377	4.800	351.257	F9+890.000
	351.550	625:1	0.197	0.0410	4.800	351.353	F9+900.000
PC	351.589		0.202	0.0420	4.800	351.387	F9+902.983
	351.686		0.213	0.0443	4.800	351.473	F9+910.000
	351.846		0.229	0.0477	4.800	351.617	F9+920.000
FS	352.030		0.245	0.0510	4.800	351.785	F9+929.983
	PI STA. F9+963.504 R=600m						
FS	354.199		0.245	0.0510	4.800	353.954	F0+012.284
	354.390		0.205	0.0428	4.800	354.185	F0+020.000
PT	354.481	202.4:1	0.187	0.0390	4.800	354.294	F0+023.617
	354.641		0.156	0.0325	4.800	354.485	F0+030.000
	354.892		0.107	0.0224	4.800	354.785	F0+040.000
	355.051		0.077	0.0160	4.800	354.974	F0+046.284

FOR ADDITIONAL PAVEMENT ELEVATIONS
SEE INTERSECTION DETAILS SHEET NO. 478 AND
RAMP TERMINAL DETAILS, SHEET NO. 473 .

SUPERELEVATION TABLE

RAMP "G"

REMARKS	LEFT SIDE					BASELINE CONTROL	
	EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION
	357.623		0.011	0.0024	4.800	357.612	G0+160.000
FLAT	357.526		0.000	0.0000	4.800	357.526	G0+161.780
	357.075		−0.053	−0.0110	4.800	357.128	G0+170.000
	356.527	155.5:1	−0.117	−0.0245	4.800	356.644	G0+180.000
PC	356.136		−0.163	−0.0340	4.800	356.299	G0+187.113
	355.987		−0.173	−0.0360	4.800	356.160	G0+190.000
	355.469		−0.206	−0.0429	4.800	355.675	G0+200.000
	354.952		−0.239	−0.0498	4.800	355.191	G0+210.000
FS	354.859		−0.245	−0.0510	4.800	355.104	G0+211.780
	PI STA. G0+222.512 R=250m						
FS	353.655		−0.245	−0.0510	4.800	353.900	G0+236.631
	353.509		−0.228	−0.0474	4.800	353.737	G0+240.000
	353.076		−0.177	−0.0369	4.800	353.253	G0+250.000
PT	352.754		−0.139	−0.0290	4.800	352.893	G0+257.443
	352.641		−0.127	−0.0264	4.800	352.768	G0+260.000
PT	352.219		−0.077	−0.0161	4.800	352.296	G0+270.000
	351.821		−0.028	−0.0058	4.800	351.849	G0+280.000
FLAT	331.608	201.5:1	0.000	0.0000	4.800	331.608	GQ+285.631
	351.450		0.022	0.0045	4.800	351.428	G0+290.000
	351.102		0.071	0.0148	4.800	351.031	G0+300.000
	350.708		0.120	0.0250	4.800	350.659	G0+310.000
	350.481		0.170	0.0355	4.800	350.311	G0+320.000
PC	350.333		0.197	0.0410	4.800	350.136	G0+325.325
	350.209		0.220	0.0458	4.800	349.989	G0+330.000
PT	349.961		0.269	0.0560	4.800	349.692	G0+340.000
	349.738		0.318	0.0663	4.800	349.420	G0+350.000
FS	349.643		0.341	0.0710	4.800	349.302	G0+354.631
	PI STA. G0+401.603 R=350m						
FS	348.071		0.341	0.0710	4.800	348.071	G0+456.532
	348.400		0.325	0.0677	4.800	348.075	G0+460.000
	348.382		0.280	0.0582	4.800	348.102	G0+470.000
PT	348.382	215.9:1	0.254	0.0530	4.800	348.128	G0+475.532
	348.389		0.234	0.0486	4.800	348.155	G0+480.000
	348.408		0.187	0.0389	4.800	348.221	G0+490.000
	348.427		0.140	0.0292	4.800	348.287	G0+500.000
	348.432		0.093	0.0194	4.800	348.339	G0+510.000
	348.434		0.077	0.0160	4.800	348.357	G0+513.532

FOR ADDITIONAL PAVEMENT ELEVATIONS
SEE INTERSECTION DETAILS SHEET NO. 478 AND
RAMP TERMINAL DETAILS, SHEET NO. 474-475 .

SUPERELEVATION TABLE

RAMP "E"

BASELINE CONTROL		RIGHT SIDE					REMARKS
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	
E9+830.021	351.057	4.800	0.0160	0.077		351.134	
E9+840.000	351.062	4.800	0.0263	0.126		351.188	
E9+850.000	351.057	4.800	0.0366	0.176	203.8:1	351.233	
E9+860.021	351.045	4.800	0.0470	0.226		351.271	PC
E9+870.000	351.024	4.800	0.0570	0.273		351.297	
E9+875.021	351.009	4.800	0.0620	0.298		351.307	FS
PI STA. E9+943.979 R=440m							
E0+001.590	351.570	4.800	0.0620	0.298		351.868	FS
E0+010.000	351.705	4.800	0.0534	0.256		351.961	
E0+020.000	351.882	4.800	0.0431	0.207		352.089	
E0+025.942	351.995	4.800	0.0370	0.178		352.173	PT
E0+030.000	352.076	4.800	0.0328	0.157		352.233	
E0+040.000	352.279	4.800	0.0224	0.108		352.387	
E0+050.000	352.482	4.800	0.0120	0.058	200.96:1	352.540	
E0+060.000	352.685	4.800	0.0017	0.008		352.693	
E0+061.590	352.717	4.800	0.0000	0.000		352.717	FLAT
E0+070.000	352.888	4.800	−0.0062	−0.030		352.858	
E0+080.000	353.091	4.800	−0.0190	−0.091		353.000	
E0+090.702	353.295	4.800	−0.0300	−0.144		353.151	PC
E0+100.000	353.498	4.800	−0.0398	−0.191		353.307	
E0+110.590	353.713	4.800	−0.0510	−0.245		353.468	FS
PI STA. E0+125.975 R=250m							
E0+148.118	354.474	4.800	−0.0510	−0.245		354.229	FS
E0+150.000	354.510	4.800	−0.0479	−0.230		354.280	
E0+160.785	354.702	4.800	−0.0300	−0.144	155.5:1	354.558	PT
E0+170.000	354.844	4.800	−0.0191	−0.092		354.752	
E0+180.000	354.979	4.800	−0.0072	−0.035		354.944	
E0+186.118	355.059	4.800	0.0000	0.000		355.059	FLAT

FOR ADDITIONAL PAVEMENT ELEVATIONS
SEE INTERSECTION DETAILS SHEET NO. 478 AND
RAMP TERMINAL DETAILS, SHEET NO. 471-472 .

SUPERELEVATION TABLE

RAMP "H"

BASELINE CONTROL		RIGHT SIDE					REMARKS
STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	
H0+378.498	349.508	4.800	0.0160	0.077		349.572	
H0+380.000	349.456	4.800	0.0171	0.082		349.538	
H0+390.000	349.209	4.800	0.0243	0.116		349.325	
H0+400.000	348.988	4.800	0.0315	0.151	285.7:1	349.139	
H0+410.498	348.782	4.800	0.0390	0.187		348.969	PC
H0+420.000	348.620	4.800	0.0461	0.221		348.841	
H0+426.498	348.521	4.800	0.0510	0.245		348.766	FS
PI STA. H0+435.200 R=600m							
H0+432.930	348.434	4.800	0.0510	0.245		348.679	FS
H0+440.000	348.350	4.800	0.0486	0.233		348.583	
H0+450.000	348.253	4.800	0.0453	0.217		348.470	
H0+459.930	348.180	4.800	0.0420	0.202	625:1	348.382	PC
H0+470.000	348.132	4.800	0.0386	0.185		348.317	
H0+480.000	348.108	4.800	0.0353	0.169		348.277	
H0+486.930	348.106	4.800	0.0330	0.158		348.264	FS

FOR ADDITIONAL PAVEMENT ELEVATIONS
SEE INTERSECTION DETAILS SHEET NO. 478 AND
RAMP TERMINAL DETAILS, SHEET NO. 476 .

NOTE:
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metric units

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE RAMP "E", "F", "G", "H"

CRA/RIC-30-24.000

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metric units

SUPERELEVATION TABLE

BIDDLE ROAD												
LEFT SIDE					PROFILE CONTROL		RIGHT SIDE					
EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
339.392		−0.040	−0.0160	2.525	49+527.203	339.499	2.830	−0.0160	−0.045		339.454	NC
339.392		−0.035	−0.0135	2.576	49+530.000	339.427	2.861	−0.0160	−0.046		339.381	
339.155		−0.013	−0.0046	2.757	49+540.000	339.168	2.971	−0.0160	−0.048		339.120	
339.033		0.000	0.0000	2.851	49+545.203	339.033	3.028	−0.0160	−0.048		338.985	HL
338.922		0.013	0.0043	2.938	49+550.000	338.909	3.080	−0.0160	−0.049		338.860	
338.694		0.041	0.0132	3.119	49+560.000	338.653	3.190	−0.0160	−0.051		338.602	
338.626		0.051	0.0160	3.177	49+563.203	338.575	3.223	−0.0160	−0.052		338.523	CR
338.508		0.072	0.0220	3.286	49+569.203	338.436	3.291	−0.0220	−0.072		338.364	PC
338.493		0.075	0.0227	3.300	49+570.000	338.418	3.300	−0.0227	−0.075		338.343	
338.309		0.102	0.0310	3.300	49+580.000	338.207	3.300	−0.0310	−0.102		338.105	
338.289		0.106	0.0320	3.300	49+581.203	338.183	3.300	−0.0320	−0.106		338.077	FS
338.127		0.106	0.0320	3.300	49+590.000	338.021	3.300	−0.0320	−0.106		337.915	
337.964		0.106	0.0320	3.300	49+600.000	337.858	3.300	−0.0320	−0.106		337.752	
337.826		0.106	0.0320	3.300	49+610.000	337.720	3.300	−0.0320	−0.106		337.614	
337.712		0.106	0.0320	3.300	49+620.000	337.606	3.300	−0.0320	−0.106		337.500	
337.622		0.106	0.0320	3.300	49+630.000	337.516	3.300	−0.0320	−0.106		337.410	
337.556		0.106	0.0320	3.300	49+640.000	337.450	3.300	−0.0320	−0.106		337.344	
337.515		0.106	0.0320	3.300	40+650.000	337.409	3.300	−0.0320	−0.106		337.303	
337.497		0.106	0.0320	3.300	49+660.000	337.391	3.300	−0.0320	−0.106		337.285	
337.504		0.106	0.0320	3.300	49+670.000	337.398	3.300	−0.0320	−0.106		337.292	
337.535		0.106	0.0320	3.300	49+680.000	337.429	3.300	−0.0320	−0.106		337.323	
337.590		0.106	0.0320	3.300	49+690.000	337.484	3.300	−0.0320	−0.106		337.378	
337.664		0.106	0.0320	3.300	49+699.485	337.558	3.300	−0.0320	−0.106		337.452	FS
337.667		0.104	0.0316	3.300	49+700.000	337.563	3.300	−0.0316	−0.104		337.459	
337.743		0.077	0.0232	3.300	49+710.000	337.666	3.300	−0.0232	−0.077		337.589	
337.757		0.073	0.0220	3.300	49+711.485	337.684	3.300	−0.0220	−0.073		337.611	PT
337.841		0.047	0.0142	3.300	49+720.000	337.794	3.300	−0.0142	−0.047		337.747	
337.960		0.017	0.0050	3.300	49+730.000	337.943	3.300	−0.0050	−0.017		337.927	
338.026		0.000	0.0000	3.300	49+735.485	338.026	3.300	0.0000	0.000		338.026	
338.080		−0.014	−0.0041	3.300	49+740.000	338.094	3.300	0.0041	0.014		338.108	
338.202		−0.044	−0.0133	3.300	49+750.000	338.246	3.300	0.0133	0.044		338.290	
338.316		−0.073	−0.0220	3.300	49+759.485	338.389	3.300	0.0220	0.073		338.462	PC
338.323		−0.074	−0.0224	3.300	49+760.000	338.397	3.300	0.0224	0.074		338.471	
338.447		−0.102	−0.0308	3.300	49+770.000	338.549	3.300	0.0308	0.102		338.651	
338.465		−0.106	−0.0320	3.300	49+771.485	338.571	3.300	0.0320	0.106		338.677	FS
338.594		−0.106	−0.0320	3.300	49+780.000	338.700	3.300	0.0320	0.106		338.806	
338.746		−0.106	−0.0320	3.300	49+790.000	338.852	3.300	0.0320	0.106		338.958	
338.898		−0.106	−0.0320	3.300	49+800.000	339.004	3.300	0.0320	0.106		339.110	
339.050		−0.106	−0.0320	3.300	49+810.000	339.156	3.300	0.0320	0.106		339.262	
339.201		−0.106	−0.0320	3.300	49+820.000	339.307	3.300	0.0320	0.106		339.413	
339.353		−0.106	−0.0320	3.300	49+830.000	339.459	3.300	0.0320	0.106		339.565	
339.504		−0.106	−0.0320	3.300	49+840.000	339.610	3.300	0.0320	0.106		339.716	
339.655		−0.106	−0.0320	3.300	49+850.000	339.761	3.300	0.0320	0.106		339.867	
339.798		−0.106	−0.0320	3.300	49+860.000	339.904	3.300	0.0320	0.106		340.010	
339.932		−0.106	−0.0320	3.300	49+870.000	340.038	3.300	0.0320	0.106		340.144	
340.057		−0.106	−0.0320	3.300	49+880.000	340.163	3.300	0.0320	0.106		340.269	
340.172		−0.106	−0.0320	3.300	49+889.767	340.278	3.300	0.0320	0.106		340.384	FS
340.175		−0.105	−0.0318	3.300	49+890.000	340.280	3.300	0.0318	0.105		340.385	
340.311		−0.078	−0.0235	3.300	49+900.000	340.389	3.300	0.0235	0.078		340.467	
340.334		−0.073	−0.0220	3.300	49+901.767	340.407	3.300	0.0220	0.073		340.480	PT
340.414		−0.053	−0.0160	3.300	49+907.767	340.467	3.300	0.0160	0.053		340.520	CR
340.435		−0.053	−0.0160	3.300	49+910.000	340.488	3.300	0.0140	0.046		340.534	
340.526		−0.053	−0.0160	3.300	49+920.000	340.579	3.300	0.0051	0.017		340.596	
340.574		−0.053	−0.0160	3.300	49+925.767	340.627	3.300	0.0000	0.000		340.627	HL
340.608		−0.053	−0.0160	3.300	49+930.000	340.661	3.300	−0.0038	−0.013		340.648	
340.682		−0.053	−0.0160	3.300	49+940.000	340.735	3.300	−0.0127	−0.042		340.693	
340.707		−0.053	−0.0160	3.300	49+943.767	340.760	3.300	−0.0160	−0.053		340.707	NC
340.881		−0.053	−0.0160	3.300	50+061.601	340.934	3.300	−0.0160	−0.053		340.881	NC
340.849		−0.053	−0.0160	3.300	50+070.000	340.902	3.300	−0.0082	−0.027		340.875	
340.805		−0.053	−0.0160	3.300	50+078.881	340.858	3.300	0.0000	0.000		340.858	HL
340.801		−0.053	−0.0160	3.300	50+080.000	340.854	3.300	0.0010	0.003		340.857	
340.745		−0.053	−0.0160	3.300	50+090.000	340.798	3.300	0.0103	0.034		340.832	
340.703		−0.053	−0.0160	3.300	50+096.161	340.756	3.300	0.0160	0.053		340.809	CR
340.670		−0.063	−0.0192	3.300	50+100.000	340.733	3.300	0.0192	0.063		340.796	
340.633		−0.073	−0.0220	3.300	50+103.361	340.706	3.300	0.0220	0.073		340.779	PC
340.565		−0.094	−0.0285	3.300	50+110.000	340.659	3.300	0.0285	0.094		340.753	
340.499		−0.112	−0.0340	3.300	50+115.601	340.611	3.300	0.0340	0.112		340.723	FS
340.464		−0.112	−0.0340	3.300	50+120.000	340.576	3.300	0.0340	0.112		340.688	
340.373		−0.112	−0.0340	3.300	50+130.000	340.485	3.300	0.0340	0.112		340.597	
340.273		−0.112	−0.0340	3.300	50+140.000	340.385	3.300	0.0340	0.112		340.497	
340.165		−0.112	−0.0340	3.300	50+150.000	340.277	3.300	0.0340	0.112		340.389	
340.047		−0.112	−0.0340	3.300	50+160.000	340.159	3.300	0.0340	0.112		340.271	
339.922		−0.112	−0.0340	3.300	50+170.000	340.034	3.300	0.0340	0.112		340.146	
339.787		−0.112	−0.0340	3.300	50+180.000	339.899	3.300	0.0340	0.112		340.011	

SUPERELEVATION TABLE

BIDDLE ROAD												
LEFT SIDE					PROFILE CONTROL		RIGHT SIDE					
EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
339.644		−0.112	−0.0340	3.300	50+190.000	339.756	3.300	0.0340	0.112		339.868	
339.493		−0.112	−0.0340	3.300	50+200.000	339.605	3.300	0.0340	0.112		339.717	
339.341		−0.112	−0.0340	3.300	50+210.000	339.453	3.300	0.0340	0.112		339.565	
339.189		−0.112	−0.0340	3.300	50+220.000	339.301	3.300	0.0340	0.112		339.413	
339.099		−0.112	−0.0340	3.300	50+225.972	339.211	3.300	0.0340	0.112		339.323	F.S.
339.050		−0.099	−0.0300	3.300	50+230.000	339.149	3.300	0.0300	0.099		339.248	
338.952		−0.073	−0.0220	3.300	50+238.212	339.025	3.300	0.0220	0.073		339.098	P.T.
338.930		−0.067	−0.0204	3.300	50+240.000	338.997	3.300	0.0204	0.067		339.064	
338.808		−0.038	−0.0114	3.300	50+250.000	338.846	3.300	0.0114	0.038		338.884	
338.686		−0.008	−0.0024	3.300	50+260.000	338.694	3.300	0.0024	0.008		338.702	
338.653		0.000	0.0000	3.300	50+262.692	338.653	3.300	0.0000	0.000		338.653	
338.564		0.022	0.0066	3.300	50+270.000	338.542	3.300	−0.0066	−0.022		338.520	
338.441		0.051	0.0156	3.300	50+280.000	338.390	3.300	−0.0156	−0.051		338.339	
338.354		0.073	0.0220	3.300	50+287.172	338.281	3.300	−0.0220	−0.073		338.208	P.C.
338.320		0.082	0.0248	3.300	50+290.000	338.238	3.300	−0.0248	−0.082		338.156	
338.207		0.112	0.0340	3.300	50+299.412	338.095	3.300	−0.0340	−0.112		337.983	F.S.
338.198		0.112	0.0340	3.300	50+300.000	338.086	3.300	−0.0340	−0.112		337.974	
338.046		0.112	0.0340	3.300	50+310.000	337.934	3.300	−0.0340	−0.112		337.822	
337.894		0.112	0.0340	3.300	50+320.000	337.782	3.300	−0.0340	−0.112		337.670	
337.743		0.112	0.0340	3.300	50+330.000	337.631	3.300	−0.0340	−0.112		337.519	
337.591		0.112	0.0340	3.300	50+340.000	337.479	3.300	−0.0340	−0.112		337.367	
337.439		0.112	0.0340	3.300	50+350.000	337.327	3.300	−0.0340	−0.112		337.215	
337.287		0.112	0.0340	3.300	50+360.000	337.175	3.300	−0.0340	−0.112		337.063	
337.135		0.112	0.0340	3.300	50+370.000	337.023	3.300	−0.0340	−0.112		336.911	
336.983		0.112	0.0340	3.300	50+380.000	336.871	3.300	−0.0340	−0.112		336.759	
336.831		0.112	0.0340	3.300	50+390.000	336.719	3.300	−0.0340	−0.112		336.607	
336.679		0.112	0.0340	3.300	50+400.000	336.567	3.300	−0.0340	−0.112		336.455	
336.586		0.112	0.0340	3.300	50+406.158	336.474	3.300	−0.0340	−0.112		336.362	F.S.
336.515		0.100	0.0302	3.300	50+410.000	336.415	3.300	−0.0302	−0.100		336.315	
336.361		0.073	0.0220	3.300	50+418.398	336.288	3.300	−0.0220	−0.073		336.215	P.T.
336.331		0.068	0.0207	3.300	50+420.000	336.263	3.300	−0.0207	−0.068		336.195	
336.231		0.053	0.0160	3.300	50+425.598	336.178	3.300	−0.0160	−0.053		336.125	C.R.
336.150		0.039	0.0119	3.300	50+430.000	336.111	3.300	−0.0160	−0.053		336.058	
335.969		0.009	0.0027	3.300	50+440.000	335.960	3.300	−0.0160	−0.053		335.907	
335.916		0.000	0.0000	3.300	50+442.878	335.916	3.300	−0.0160	−0.053		335.863	H.L.
335.786		−0.022	−0.0066	3.300	50+450.000	335.808	3.300	−0.0160	−0.053		335.755	
335.604		−0.052	−0.0159	3.300	50+460.000	335.656	3.300	−0.0160	−0.053		335.603	
335.600		−0.053	−0.0160	3.300	50+460.158	335.653	3.300	−0.0160	−0.053		335.600	N.C.

LEGEND

NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
BIDDLE ROAD T.H. 44

CRA/RIC-30-24.000

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metric units

SUPERELEVATION TABLE

S.R. 598

LEFT SIDE					PROFILE CONTROL		RIGHT SIDE					
EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
350.775		-0.058	-0.0160	3.600	49+405.164	350.833	3.600	-0.0160	-0.058		350.775	NC
350.810		-0.035	-0.0097	3.600	49+410.000	350.845	3.600	-0.0160	-0.058		350.787	
350.864		0.000	0.0000	3.600	49+417.433	350.864	3.600	-0.0160	-0.058		350.806	HL
350.883		0.012	0.0033	3.600	49+420.000	350.871	3.600	-0.0160	-0.058		350.813	
350.954	340.91:1	0.058	0.0160	3.600	49+429.702	350.896	3.600	-0.0160	-0.058	340.91:1	350.838	CR
350.955		0.059	0.0164	3.600	49+430.000	350.896	3.600	-0.0164	-0.059		350.837	
351.034		0.112	0.0311	3.600	49+440.000	350.922	3.600	-0.0311	-0.112		350.810	
351.098		0.155	0.0430	3.600	49+448.105	350.943	3.600	-0.0430	-0.155		350.788	PC
351.113		0.165	0.0459	3.600	49+450.000	350.948	3.600	-0.0459	-0.165		350.783	
351.195		0.216	0.0600	3.600	49+459.164	350.979	3.600	-0.0600	-0.216		350.763	FS
351.199		0.216	0.0600	3.600	49+460.000	350.983	3.600	-0.0600	-0.216		350.767	
351.252		0.216	0.0600	3.600	49+470.000	351.036	3.600	-0.0600	-0.216		350.820	
351.324		0.216	0.0600	3.600	49+480.000	351.108	3.600	-0.0600	-0.216		350.892	
351.414		0.216	0.0600	3.600	49+490.000	351.198	3.600	-0.0600	-0.216		350.982	
351.523		0.216	0.0600	3.600	49+500.000	351.307	3.600	-0.0600	-0.216		351.091	
351.533		0.216	0.0600	3.600	49+500.820	351.317	3.600	-0.0600	-0.216		351.101	FS
351.607		0.173	0.0480	3.600	49+510.000	351.434	3.600	-0.0480	-0.173		351.261	
351.666		0.144	0.0400	3.600	49+516.156	351.522	3.600	-0.0400	-0.144		351.378	PT
351.706		0.126	0.0350	3.600	49+520.000	351.580	3.600	-0.0350	-0.126		351.454	
351.823		0.079	0.0219	3.600	49+530.000	351.744	3.600	-0.0219	-0.079		351.665	
351.883		0.058	0.0160	3.600	49+534.559	351.825	3.600	-0.0160	-0.058		351.767	CR
351.959		0.032	0.0090	3.600	49+540.000	351.927	3.600	-0.0090	-0.032		351.895	
352.065	59.32:1	0.000	0.0000	3.600	49+546.948	352.065	3.600	0.0000	0.000	59.32:1	352.065	LEVEL
352.114		-0.014	-0.0039	3.600	49+550.000	352.128	3.600	0.0039	0.014		352.142	
352.267		-0.058	-0.0160	3.600	49+559.336	352.324	3.600	0.0160	0.058		352.382	CR
352.278		-0.061	-0.0169	3.600	49+560.000	352.338	3.600	0.0169	0.061		352.399	
352.441		-0.108	-0.0299	3.600	49+570.000	352.549	3.600	0.0299	0.108		352.656	
352.568		-0.144	-0.0400	3.600	49+577.739	352.712	3.600	0.0400	0.144		352.856	PC
352.605		-0.154	-0.0429	3.600	49+580.000	352.759	3.600	0.0429	0.154		352.914	
352.768		-0.202	-0.0560	3.600	49+590.000	352.970	3.600	0.0560	0.202		353.171	
352.818		-0.216	-0.0600	3.600	49+593.075	353.034	3.600	0.0600	0.216		353.250	FS
352.964		-0.216	-0.0600	3.600	49+600.000	353.180	3.600	0.0600	0.216		353.396	
353.174		-0.216	-0.0600	3.600	49+610.000	353.390	3.600	0.0600	0.216		353.606	
353.385		-0.216	-0.0600	3.600	49+620.000	353.601	3.600	0.0600	0.216		353.817	
353.595		-0.216	-0.0600	3.600	49+630.000	353.811	3.600	0.0600	0.216		354.027	
353.806		-0.216	-0.0600	3.600	49+640.000	354.022	3.600	0.0600	0.216		354.238	
354.016		-0.216	-0.0600	3.600	49+650.000	354.232	3.600	0.0600	0.216		354.448	
354.226		-0.216	-0.0600	3.600	49+660.000	354.442	3.600	0.0600	0.216		354.658	
354.437		-0.216	-0.0600	3.600	49+670.000	354.653	3.600	0.0600	0.216		354.869	
354.647		-0.216	-0.0600	3.600	49+680.000	354.863	3.600	0.0600	0.216		355.079	
354.858		-0.216	-0.0600	3.600	49+690.000	355.074	3.600	0.0600	0.216		355.290	
354.961		-0.216	-0.0600	3.600	49+694.918	355.177	3.600	0.0600	0.216		355.393	FS
355.091		-0.193	-0.0537	3.600	49+700.000	355.284	3.600	0.0537	0.193		355.477	
355.346		-0.148	-0.0412	3.600	49+710.000	355.494	3.600	0.0412	0.148		355.643	
355.356		-0.144	-0.0400	3.600	49+710.254	355.500	3.600	0.0400	0.144		355.644	PT
355.607	213.00:1	-0.098	-0.0273	3.600	49+720.000	355.705	3.600	0.0273	0.098	213.00:1	355.803	
355.829		-0.058	-0.0160	3.600	49+728.657	355.887	3.600	0.0160	0.058		355.945	CR
355.858		-0.058	-0.0160	3.600	49+730.000	355.915	3.600	0.0142	0.051		355.966	
356.068		-0.058	-0.0160	3.600	49+740.000	356.126	3.600	0.0012	0.004		356.130	
356.087		-0.058	-0.0160	3.600	49+740.926	356.145	3.600	0.0000	0.000		356.145	HL
356.278		-0.058	-0.0160	3.600	49+750.000	356.336	3.600	-0.0118	-0.042		356.294	
356.346		-0.058	-0.0160	3.600	49+753.195	356.403	3.600	-0.0160	-0.058		356.346	NC

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS

LEGEND

NC = NORMAL CROWN
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CALCULATED PSB
CHECKED LBD

SUPERELEVATION TABLE
S.R. 598

CRA/RIC-30-24.000

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metric units

SUPERELEVATION TABLE

NAZOR ROAD

LEFT SIDE					PROFILE CONTROL		RIGHT SIDE					
EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
355.220		-0.053	-0.0160	3.300	49+600.064	355.273	3.300	-0.0160	-0.053		355.220	NC
355.419		-0.007	-0.0020	3.300	49+610.000	355.426	3.300	-0.0160	-0.053		355.373	
355.447		0.000	0.0000	3.300	49+611.432	355.447	3.300	-0.0160	-0.053		355.395	HL
355.619		0.040	0.0121	3.300	49+620.000	355.579	3.300	-0.0160	-0.053		355.526	
355.675		0.053	0.0160	3.300	49+622.800	355.622	3.300	-0.0160	-0.053		355.569	CR
355.819	371.90:1	0.086	0.0261	3.300	49+630.000	355.733	3.300	-0.0261	-0.086	371.90:1	355.646	
356.016		0.132	0.0400	3.300	49+639.853	355.884	3.300	-0.0400	-0.132		355.752	
356.019		0.133	0.0402	3.300	49+640.000	355.886	3.300	-0.0402	-0.133		355.753	
356.219		0.179	0.0543	3.300	49+650.000	356.040	3.300	-0.0543	-0.179		355.860	
356.300		0.198	0.0600	3.300	49+654.064	356.102	3.300	-0.0600	-0.198		355.904	FS
356.391		0.198	0.0600	3.300	49+660.000	356.193	3.300	-0.0600	-0.198		355.995	
356.545		0.198	0.0600	3.300	49+670.000	356.347	3.300	-0.0600	-0.198		356.149	
356.698		0.198	0.0600	3.300	49+680.000	356.500	3.300	-0.0600	-0.198		356.302	
356.852		0.198	0.0600	3.300	49+690.000	356.654	3.300	-0.0600	-0.198		356.456	
357.005		0.198	0.0600	3.300	49+700.000	356.807	3.300	-0.0600	-0.198		356.609	
357.159		0.198	0.0600	3.300	49+710.000	356.961	3.300	-0.0600	-0.198		356.763	
357.312		0.198	0.0600	3.300	49+720.000	357.114	3.300	-0.0600	-0.198		356.916	
357.466		0.198	0.0600	3.300	49+730.000	357.268	3.300	-0.0600	-0.198		357.070	
357.603		0.198	0.0600	3.300	49+738.940	357.405	3.300	-0.0600	-0.198		357.207	FS
357.614		0.193	0.0585	3.300	49+740.000	357.421	3.300	-0.0585	-0.193		357.228	
357.721		0.147	0.0444	3.300	49+750.000	357.575	3.300	-0.0444	-0.147		357.428	
357.755		0.132	0.0400	3.300	49+753.151	357.623	3.300	-0.0400	-0.132		357.491	PT
357.829		0.100	0.0304	3.300	49+760.000	357.729	3.300	-0.0304	-0.100		357.629	
357.935		0.054	0.0163	3.300	49+770.000	357.882	3.300	-0.0163	-0.054		357.828	
357.937		0.053	0.0160	3.300	49+770.204	357.885	3.300	0.0070	0.023		357.908	CR
358.043	65.24:1	0.007	0.0022	3.300	49+780.000	358.036	3.300	-0.0022	-0.007	65.24:1	358.029	
358.060		0.000	0.0000	3.300	49+781.572	358.060	3.300	0.0000	0.000		358.060	
358.149		-0.040	-0.0121	3.300	49+790.000	358.189	3.300	0.0121	0.040		358.229	
358.181		-0.053	-0.0160	3.300	49+792.938	358.234	3.300	0.0160	0.053		358.287	CR
358.258		-0.085	-0.0259	3.300	49+800.000	358.343	3.300	0.0259	0.085		358.428	
358.364		-0.132	-0.0400	3.300	49+809.991	358.496	3.300	0.0400	0.132		358.628	PC
358.364		-0.132	-0.0400	3.300	49+810.000	358.496	3.300	0.0400	0.132		358.628	
358.471		-0.179	-0.0541	3.300	49+820.000	358.650	3.300	0.0541	0.179		358.829	
358.516		-0.198	-0.0600	3.300	49+824.202	358.714	3.300	0.0600	0.198		358.912	FS
358.605		-0.198	-0.0600	3.300	49+830.000	358.803	3.300	0.0600	0.198		359.001	
358.759		-0.198	-0.0600	3.300	49+840.000	358.957	3.300	0.0600	0.198		359.155	
358.912		-0.198	-0.0600	3.300	49+850.000	359.110	3.300	0.0600	0.198		359.308	
359.066		-0.198	-0.0600	3.300	49+860.000	359.264	3.300	0.0600	0.198		359.462	
359.219		-0.198	-0.0600	3.300	49+870.000	359.417	3.300	0.0600	0.198		359.615	
359.373		-0.198	-0.0600	3.300	49+880.000	359.571	3.300	0.0600	0.198		359.769	
359.521		-0.198	-0.0600	3.300	49+890.000	359.719	3.300	0.0600	0.198		359.917	
359.656		-0.198	-0.0600	3.300	49+900.000	359.854	3.300	0.0600	0.198		360.052	
359.768		-0.198	-0.0600	3.300	49+909.078	359.966	3.300	0.0600	0.198		360.164	FS
359.783		-0.194	-0.0587	3.300	49+910.000	359.977	3.300	0.0587	0.194		360.171	
359.941		-0.147	-0.0446	3.300	49+920.000	360.088	3.300	0.0446	0.147		360.235	
359.990		-0.132	-0.0400	3.300	49+923.289	360.122	3.300	0.0400	0.132		360.254	PT
360.086		-0.101	-0.0306	3.300	49+930.000	360.187	3.300	0.0306	0.101		360.288	
360.220		-0.054	-0.0165	3.300	49+940.000	360.274	3.300	0.0165	0.054		360.328	
360.224		-0.053	-0.0160	3.300	49+940.342	360.277	3.300	0.0160	0.053		360.330	CR
360.296		-0.053	-0.0160	3.300	49+950.000	360.349	3.300	0.0024	0.008		360.357	
360.308		-0.053	-0.0160	3.300	49+951.710	360.361	3.300	0.0000	0.000		360.361	HL
360.359		-0.053	-0.0160	3.300	49+960.000	360.412	3.300	-0.0117	-0.039		360.373	
360.376	835.81:1	-0.053	-0.0160	3.300	49+963.078	360.429	3.300	-0.0160	-0.053	835.81:1	360.376	NC
358.544		-0.053	-0.0160	3.300	50+186.060	358.597	3.300	-0.0160	-0.053		358.544	NC
358.476		-0.035	-0.0105	3.300	50+190.000	358.511	3.300	-0.0160	-0.053		358.458	
358.343		0.000	0.0000	3.300	50+197.428	358.343	3.300	-0.0160	-0.053		358.290	HL
358.295		0.012	0.0036	3.300	50+200.000	358.283	3.300	-0.0160	-0.053		358.230	
358.125		0.053	0.0160	3.300	50+208.797	358.072	3.300	-0.0160	-0.053		358.019	CR
358.101		0.058	0.0177	3.300	50+210.000	358.043	3.300	-0.0177	-0.058		357.985	
357.894		0.104	0.0316	3.300	50+220.000	357.790	3.300	-0.0316	-0.104		357.686	
357.764		0.132	0.0400	3.300	50+226.060	357.632	3.300	-0.0400	-0.132		357.500	PC
357.676		0.150	0.0456	3.300	50+230.000	357.526	3.300	-0.0456	-0.150		357.376	
357.448		0.198	0.0599	3.300	50+240.000	357.250	3.300	-0.0599	-0.198		357.052	
357.446		0.198	0.0600	3.300	50+240.060	357.248	3.300	-0.0600	-0.198		357.050	FS
357.165		0.198	0.0600	3.300	50+250.000	356.967	3.300	-0.0600	-0.198		356.769	
356.892		0.198	0.0600	3.300	50+260.000	356.694	3.300	-0.0600	-0.198		356.496	
356.637		0.198	0.0600	3.300	50+270.000	356.439	3.300	-0.0600	-0.198		356.241	
356.400		0.198	0.0600	3.300	50+280.000	356.202	3.300	-0.0600	-0.198		356.004	
356.182		0.198	0.0600	3.300	50+290.000	355.984	3.300	-0.0600	-0.198		355.786	
355.982		0.198	0.0600	3.300	50+300.000	355.784	3.300	-0.0600	-0.198		355.586	
355.800		0.198	0.0600	3.300	50+310.000	355.602	3.300	-0.0600	-0.198		355.404	
355.637		0.198	0.0600	3.300	50+320.000	355.439	3.300	-0.0600	-0.198		355.241	
355.491		0.198	0.0600	3.300	50+330.000	355.293	3.300	-0.0600	-0.198		355.095	
355.365		0.198	0.0600	3.300	50+340.000	355.167	3.300	-0.0600	-0.198		354.969	

SUPERELEVATION TABLE

NAZOR ROAD

LEFT SIDE					PROFILE CONTROL		RIGHT SIDE					
EDGE OF PAVEMENT	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT	REMARKS
355.256		0.198	0.0600	3.300	50+350.000	355.058	3.300	-0.0600	-0.198		354.860	
355.166		0.198	0.0600	3.300	50+360.000	354.968	3.300	-0.0600	-0.198		354.770	
355.094		0.198	0.0600	3.300	50+370.000	354.896	3.300	-0.0600	-0.198		354.698	
355.041		0.198	0.0600	3.300	50+380.000	354.843	3.300	-0.0600	-0.198		354.645	
355.006		0.198	0.0600	3.300	50+390.000	354.808	3.300	-0.0600	-0.198		354.610	
354.989		0.198	0.0600	3.300	50+400.000	354.791	3.300	-0.0600	-0.198		354.593	
354.991		0.198	0.0600	3.300	50+410.000	354.793	3.300	-0.0600	-0.198		354.595	
355.011		0.198	0.0600	3.300	50+420.000	354.813	3.300	-0.0600	-0.198		354.615	
355.049		0.198	0.0600	3.300	50+430.000	354.851	3.300	-0.0600	-0.198		354.653	
355.105		0.198	0.0600	3.300	50+440.000	354.907	3.300	-0.0600	-0.198		354.709	
355.180		0.198	0.0600	3.300	50+450.000	354.982	3.300	-0.0600	-0.198		354.784	
355.264		0.198	0.0600	3.300	50+460.000	355.066	3.300	-0.0600	-0.198		354.868	
355.348		0.198	0.0600	3.300	50+470.000	355.150	3.300	-0.0600	-0.198		354.952	
355.432		0.198	0.0600	3.300	50+480.000	355.234	3.300	-0.0600	-0.198		355.036	
355.516		0.198	0.0600	3.300	50+490.000	355.318	3.300	-0.0600	-0.198		355.120	
355.600		0.198	0.0600	3.300	50+500.000	355.402	3.300	-0.0600	-0.198		355.204	
355.642		0.198	0.0600	3.300	50+505.006	355.444	3.300	-0.0600	-0.198		355.246	FS
355.661		0.175	0.0529	3.300	50+510.000	355.486	3.300	-0.0529	-0.175		355.311	
355.694		0.132	0.0400	3.300	50+519.006	355.562	3.300	-0.0400	-0.132		355.430	PT
355.694		0.124	0.0375	3.300	50+520.000	355.570	3.300	-0.0375	-0.124		355.446	BEFORE STA. EQ.
355.727	317.89:1	0.091	0.0277	3.300	50+520.000	355.636	3.300	-0.0277	-0.091	317.89:1	355.545	AFTER STA.EQ.
355.760		0.053	0.0160	3.300	50+528.427	355.707	3.300	-0.0160	-0.053		355.654	
355.773		0.053	0.0160	3.300	50+530.000	355.720	3.300	-0.0160	-0.053		355.667	
355.802		0.000	0.0000	3.300	50+539.796	355.802	3.300	-0.0160	-0.053		355.749	
355.803		-0.001	-0.0003	3.300	50+540.000	355.804	3.300	-0.0160	-0.053		355.751	
355.842		-0.046	-0.0144	3.184	50+550.000	355.888	3.121	-0.0160	-0.050		355.838	
355.847		-0.051	-0.0160	3.170	50+551.164	355.898	3.100	-0.0160	-0.050		355.848	NC

LEGEND

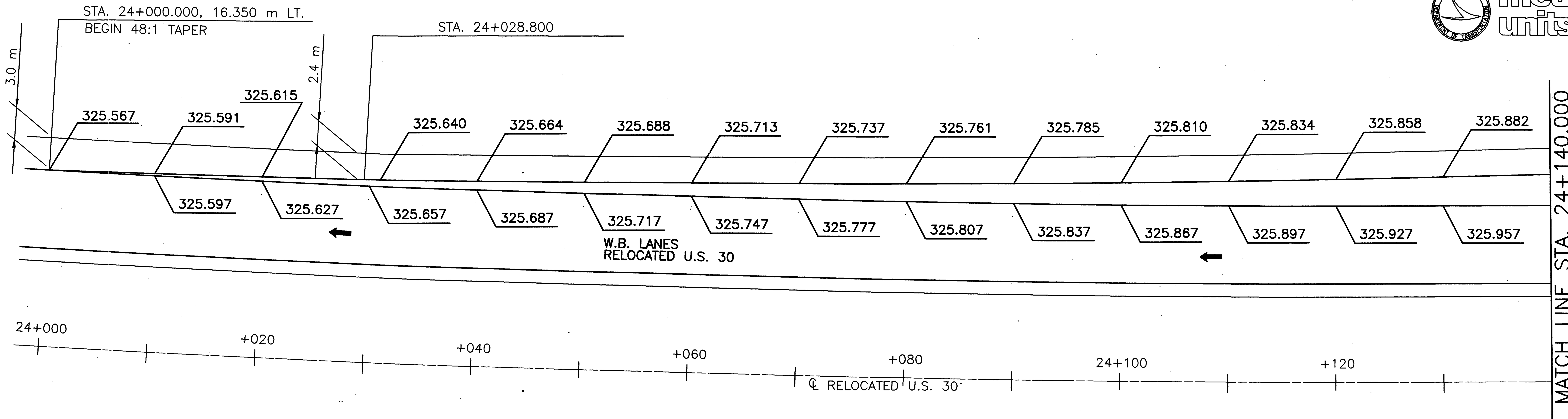
NC = NORMAL CROWN
HL = HALF LEVEL
CR = CROWN REMOVAL
PC = POINT OF CURVE
PT = POINT OF TANGENT
FS = FULL SUPERELEVATION

CALCULATED PSB
CHECKED LBD

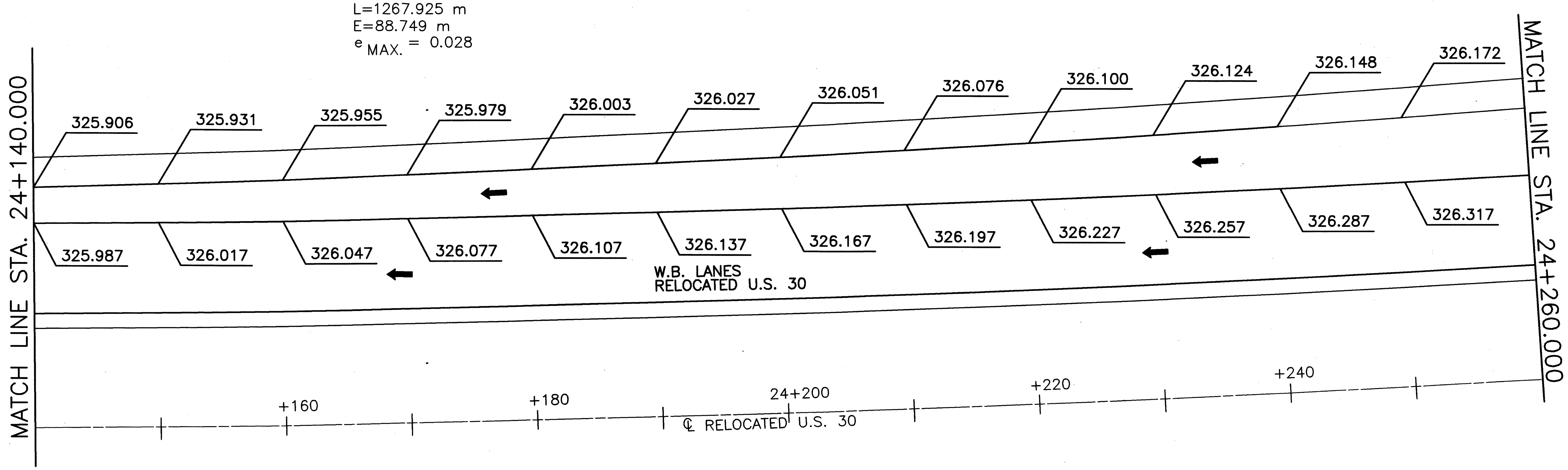
SUPERELEVATION TABLE
NAZOR ROAD T.H. 48

CRA/RIC-30-24.000

464B
677



RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
T=650.000 m
R=2335.939 m
L=1267.925 m
E=88.749 m
$e_{MAX.}$ = 0.028



NOTE: ELEVATIONS SHOWN ARE AT 10 m SPACING USING RELOACTED U.S. 30 MAINLINE STATIONING AND RAMP STATIONING.

metric units

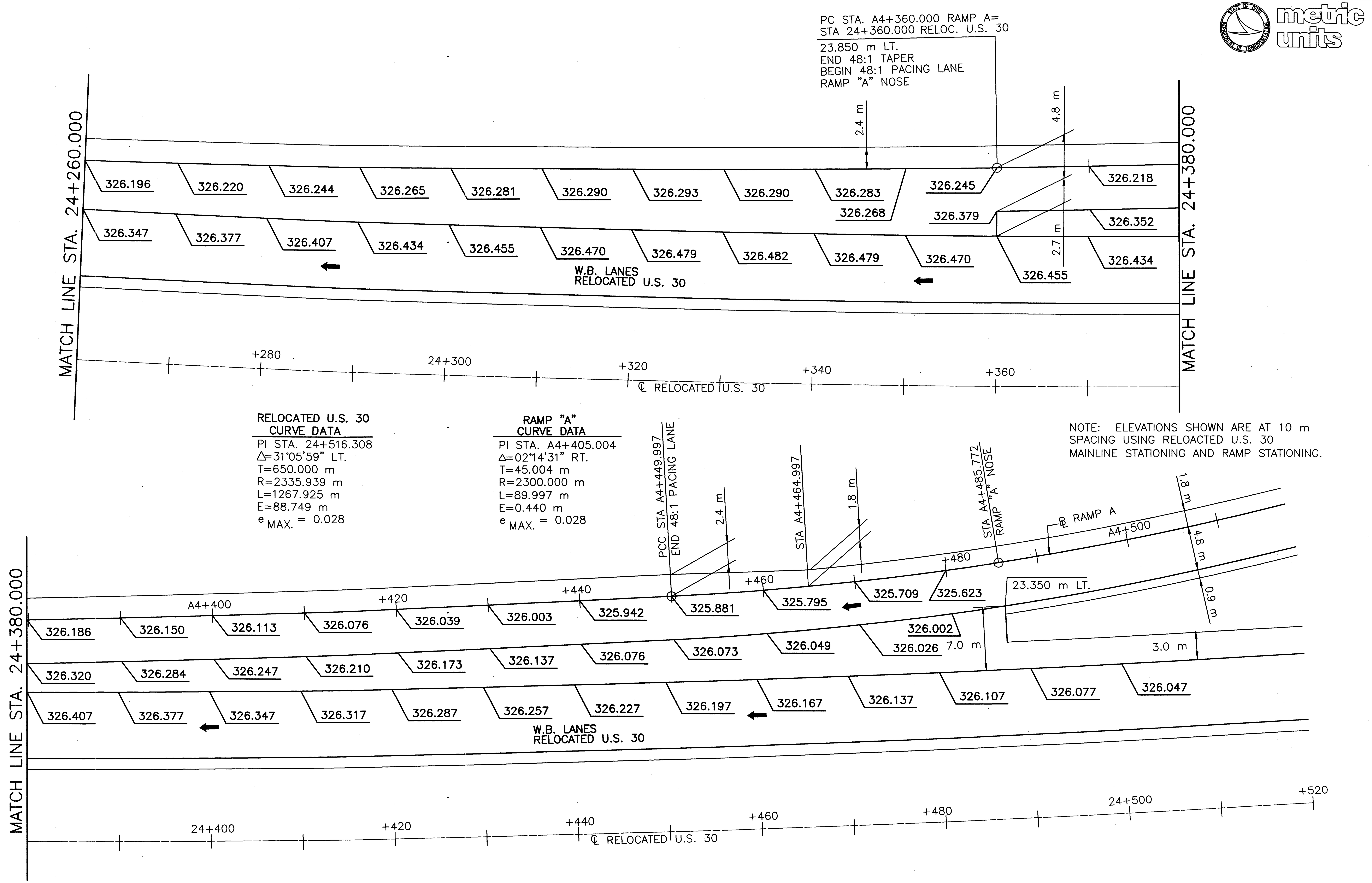
HORIZONTAL SCALE: 1:200
0 5 10
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS
RAMP "A"

CRA-30-24.000

465
677



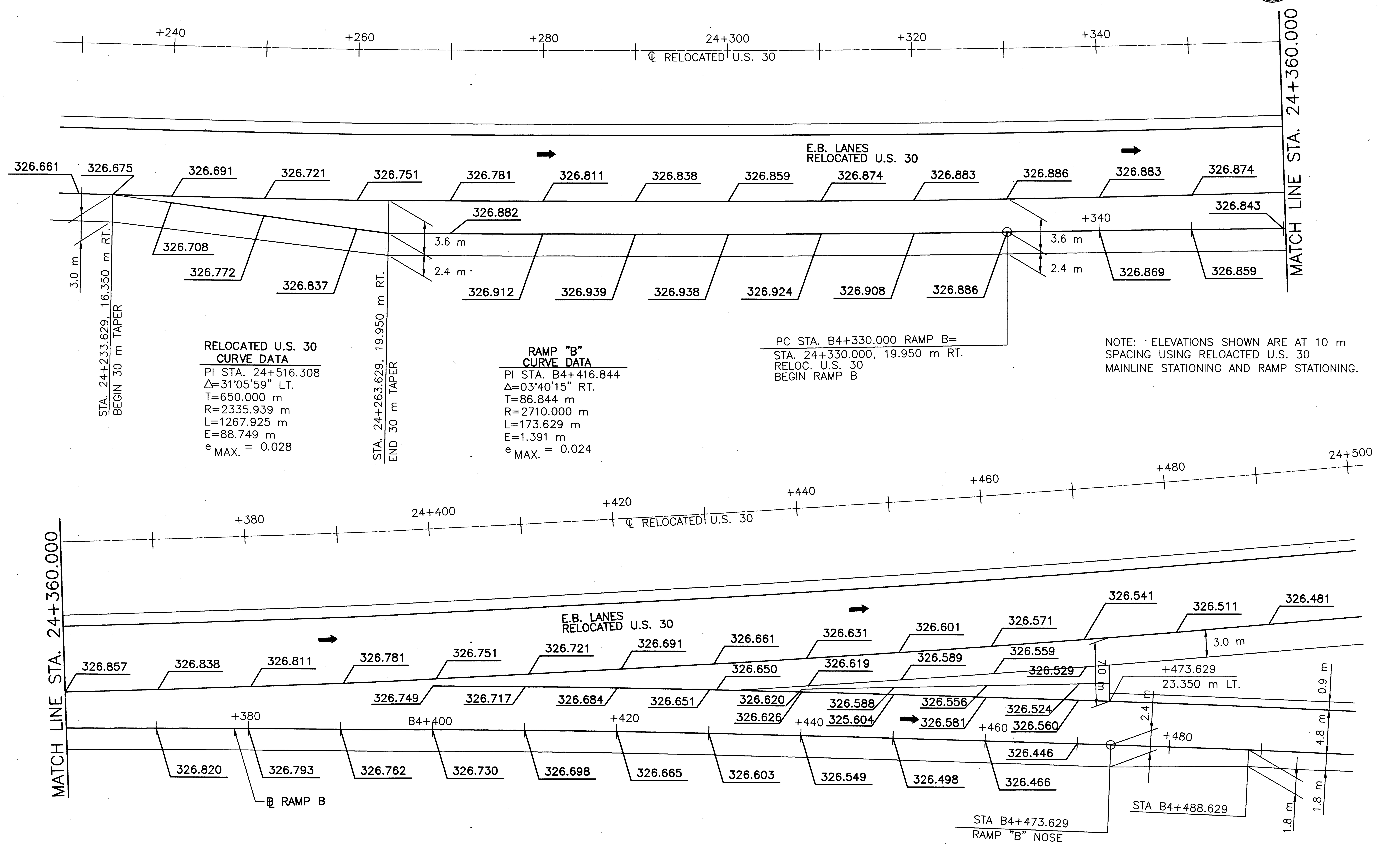
metric units

HORIZONTAL SCALE: 1:200
0 5 10
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS
RAMP "A"

CRA-30-24.000



metric units

HORIZONTAL SCALE: 1:200

SCALE IN METERS

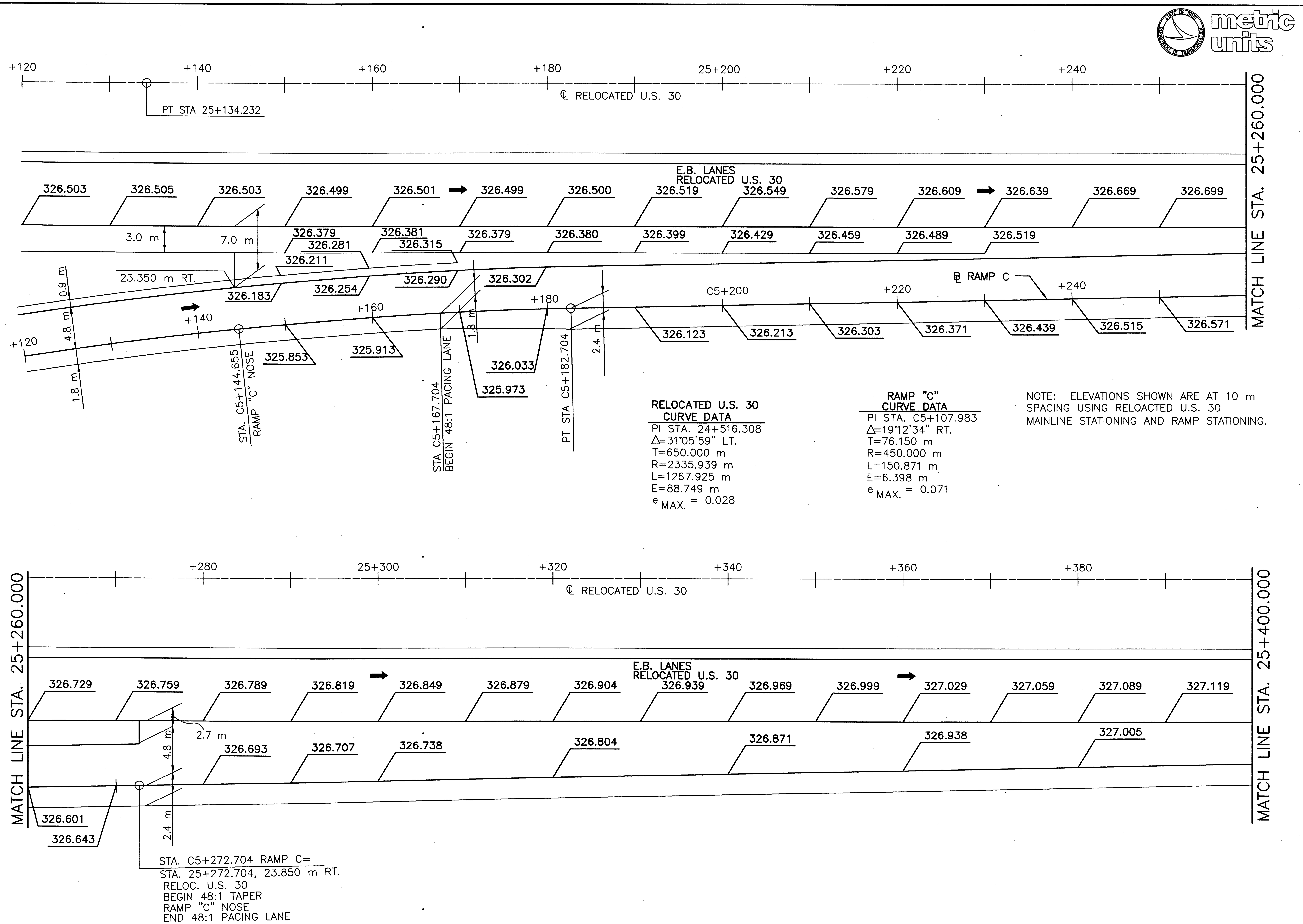
CALCULATED PSB

CHECKED LBD

TERMINAL DETAILS RAMP "B"

CRA-30-24.000

467/677



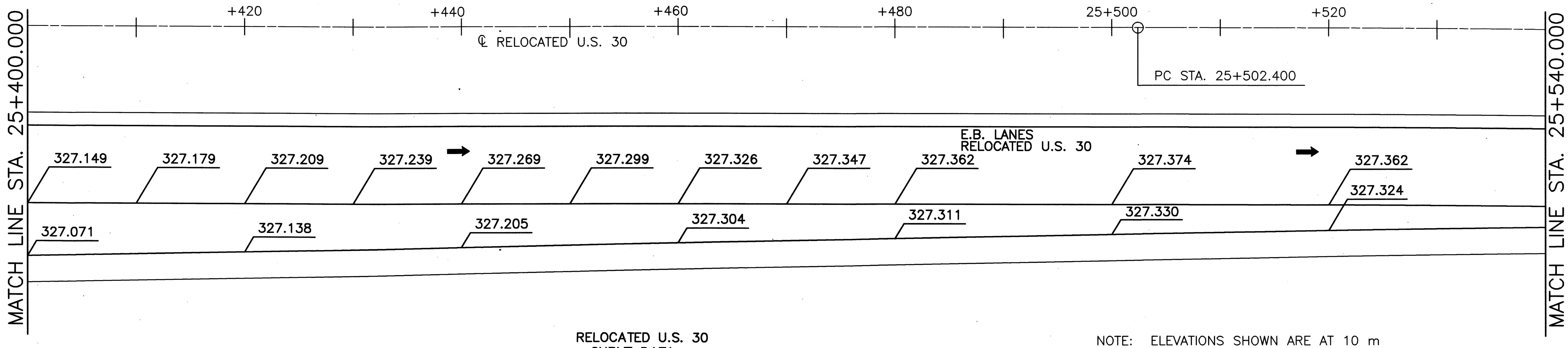
HORIZONTAL SCALE: 1:200
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS
RAMP "C"

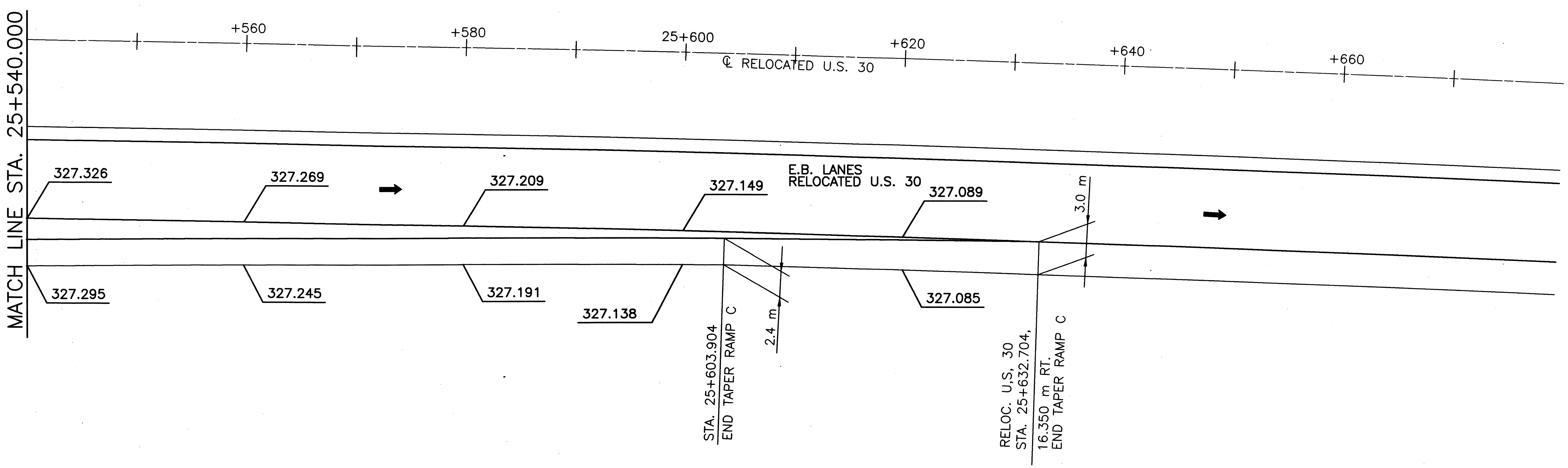
CRA-30-24.000

468/677



RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
T=650.000 m
R=2335.939 m
L=1267.925 m
E=88.749 m
$e_{MAX.}$= 0.028 m

NOTE: ELEVATIONS SHOWN ARE AT 10 m SPACING USING RELOACTED U.S. 30 MAINLINE STATIONING AND RAMP STATIONING.



metric units

HORIZONTAL SCALE: 1:200
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS
RAMP "C"

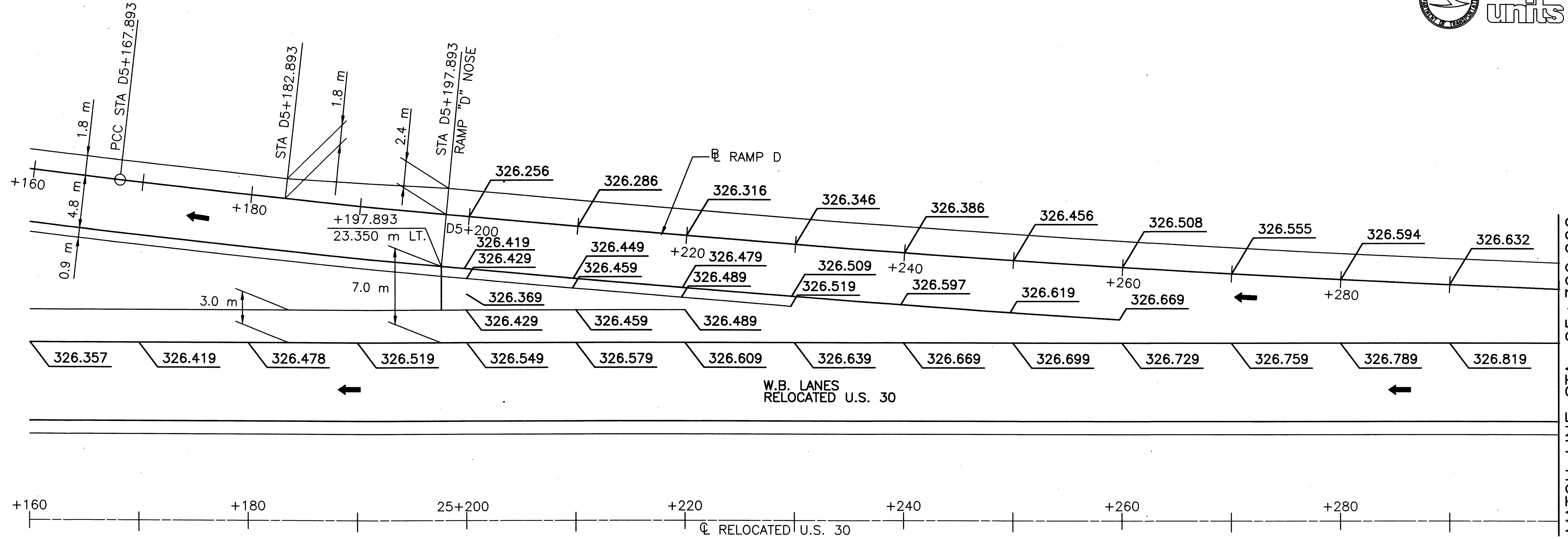
CRA-30-24.000

469/677

metric units

HORIZONTAL SCALE: 1:200
0 5 10
SCALE IN METERS

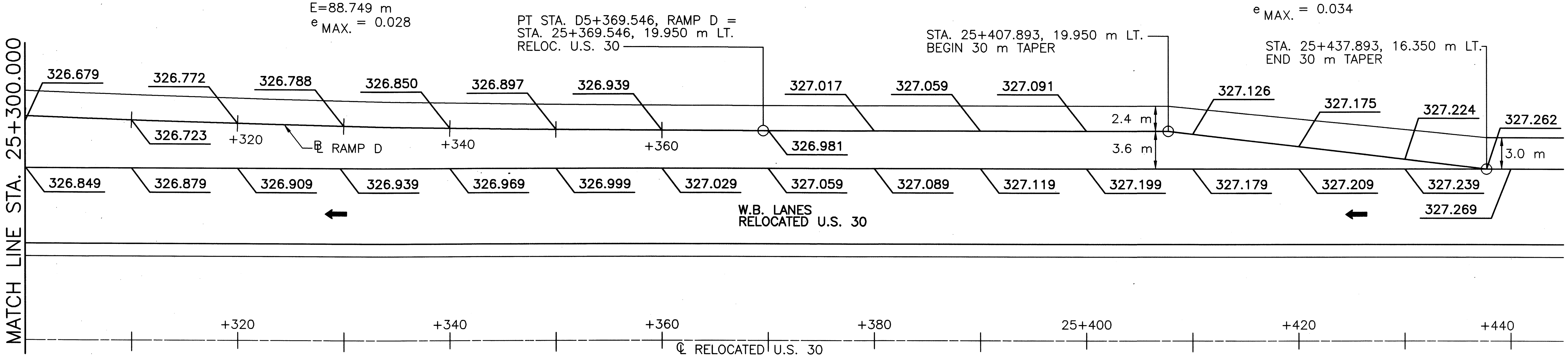
CALCULATED PSB
CHECKED LBD



RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
T=650.000 m
R=2335.939 m
L=1267.925 m
E=88.749 m
$e_{MAX.}$ = 0.028

NOTE: ELEVATIONS SHOWN ARE AT 10 m SPACING USING RELOACTED U.S. 30 MAINLINE STATIONING AND RAMP STATIONING.

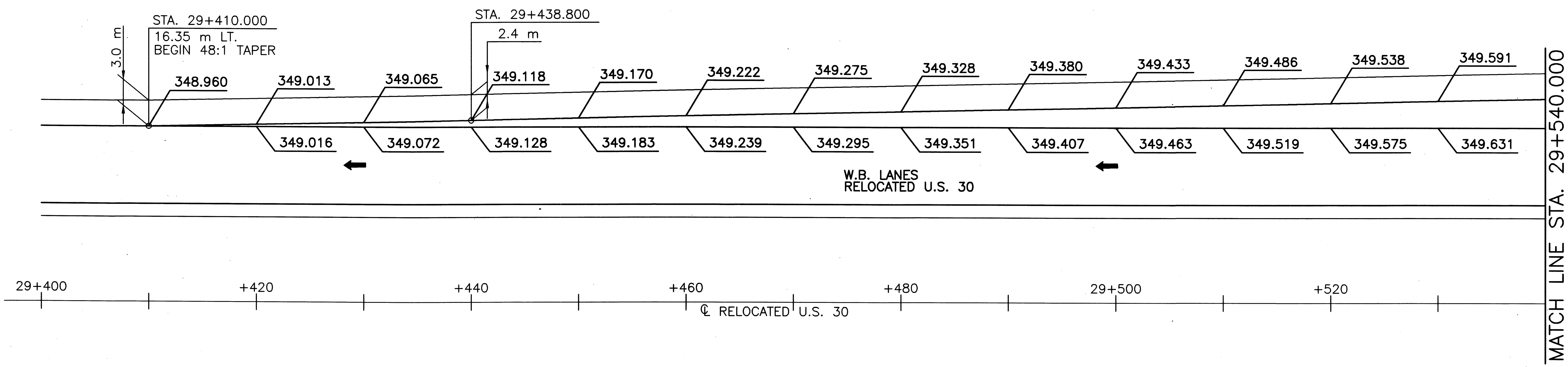
RAMP "D"
CURVE DATA
PI STA. D5+268.825
Δ=06°25'08" LT.
T=100.932 m
R=1800.00 m
L=201.653 m
E=2.828 m
$e_{MAX.}$ = 0.034



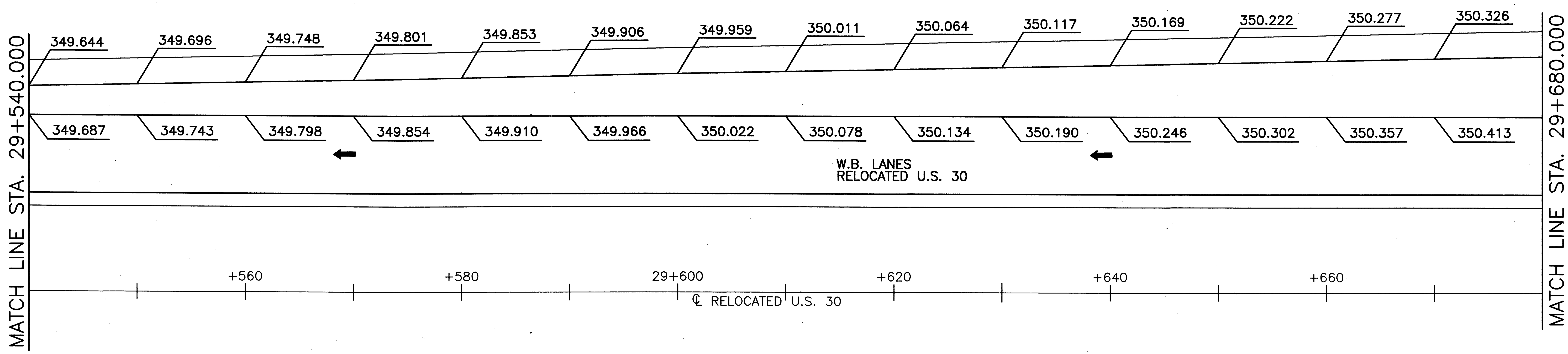
TERMINAL DETAILS
RAMP "D"

CRA-30-24.000

metric units



NOTE: ELEVATIONS SHOWN ARE AT 10 m SPACING USING RELOACTED U.S. 30 MAINLINE STATIONING AND RAMP STATIONING.

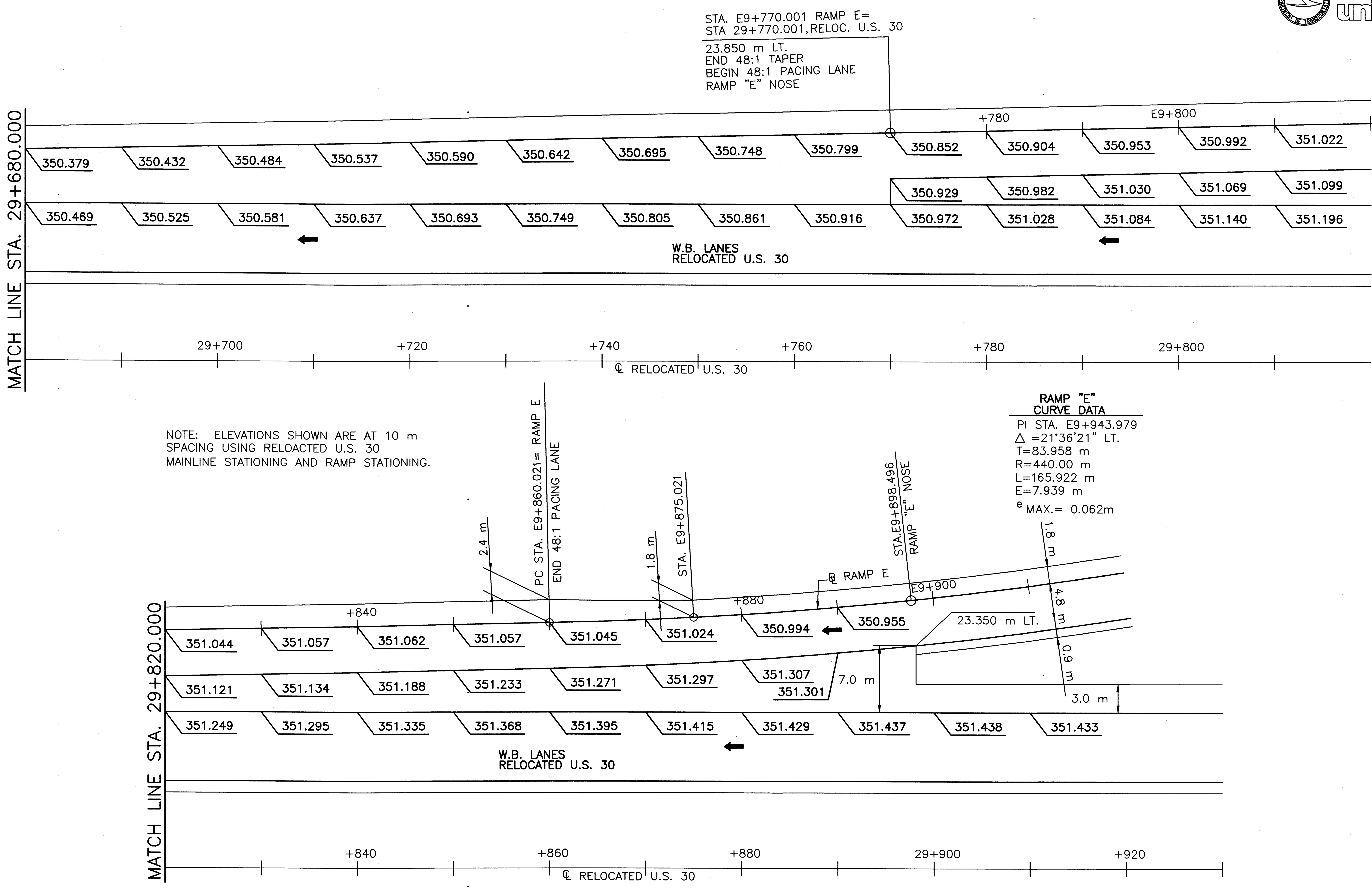


HORIZONTAL SCALE: 1:200
SCALE IN METERS
0 5 10

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS
RAMP "E"

CRA-30-24.000



metric units

HORIZONTAL SCALE: 1:200

SCALE IN METERS

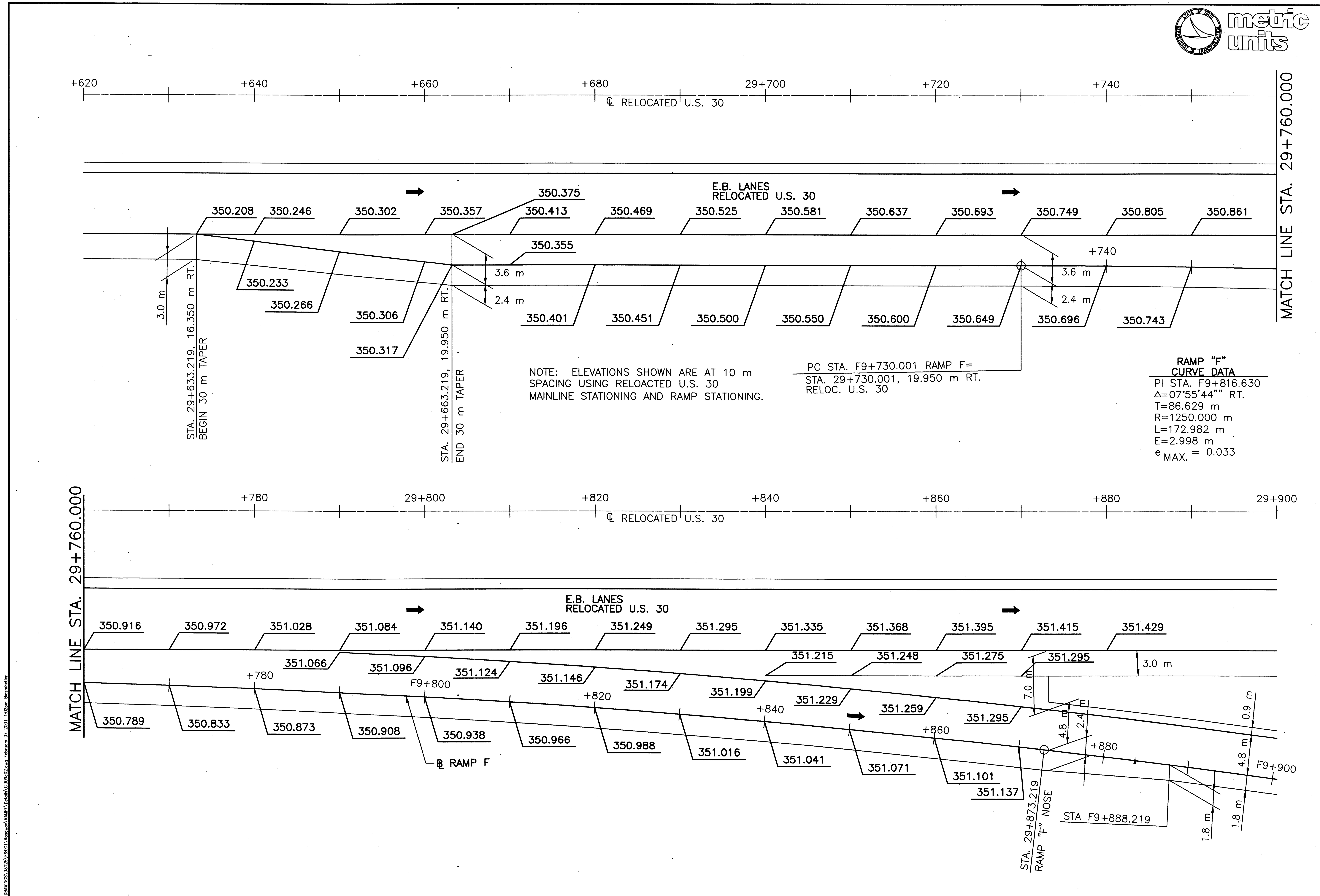
CALCULATED PSB

CHECKED LBD

TERMINAL DETAILS RAMP "E"

CRA-30-24.000

472/677



HORIZONTAL SCALE: 1:200

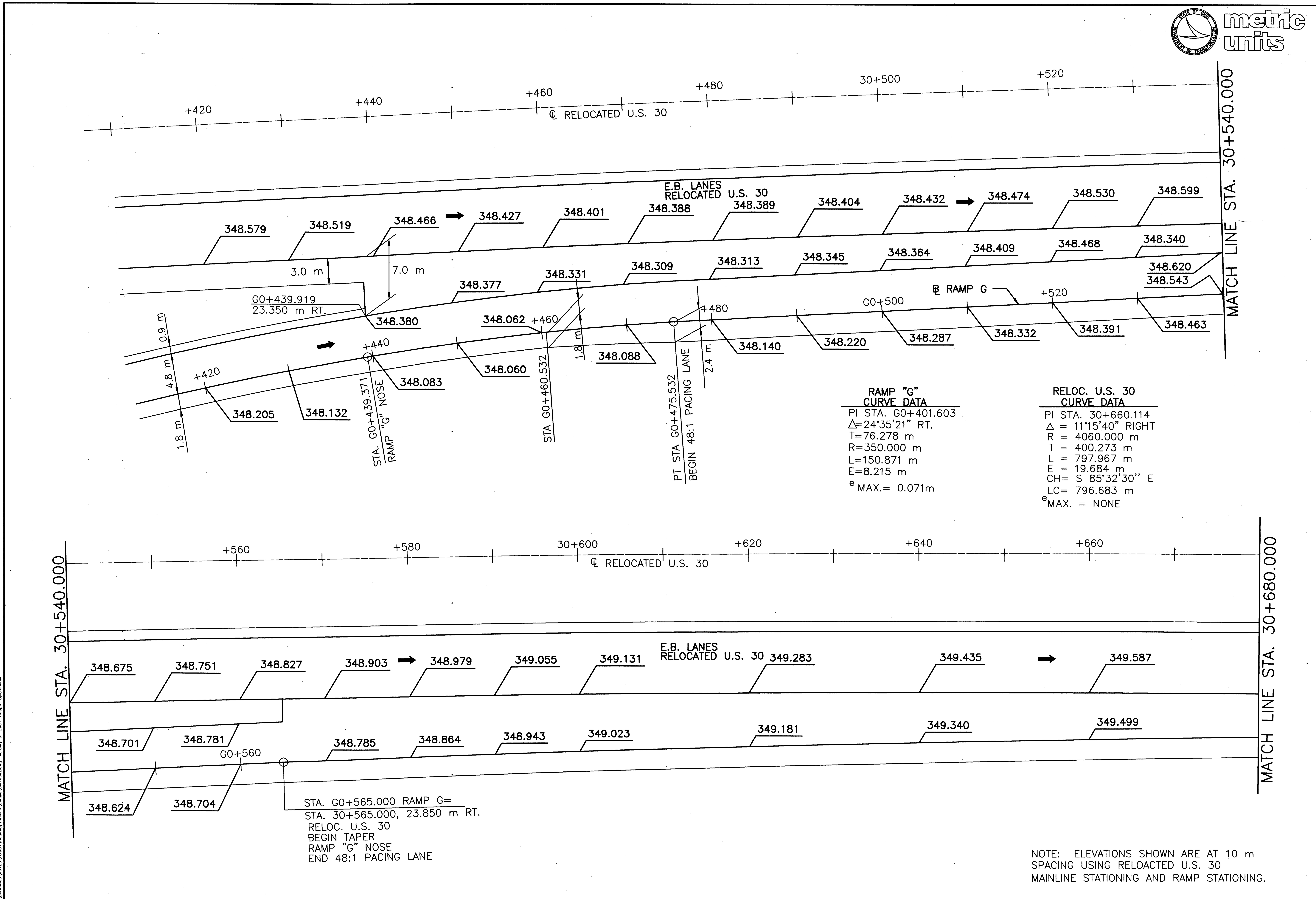
SCALE IN METERS

CALCULATED PSB

CHECKED LBD

TERMINAL DETAILS
RAMP "F"

CRA-30-24.000



NOTE: ELEVATIONS SHOWN ARE AT 10 m SPACING USING RELOACTED U.S. 30 MAINLINE STATIONING AND RAMP STATIONING.

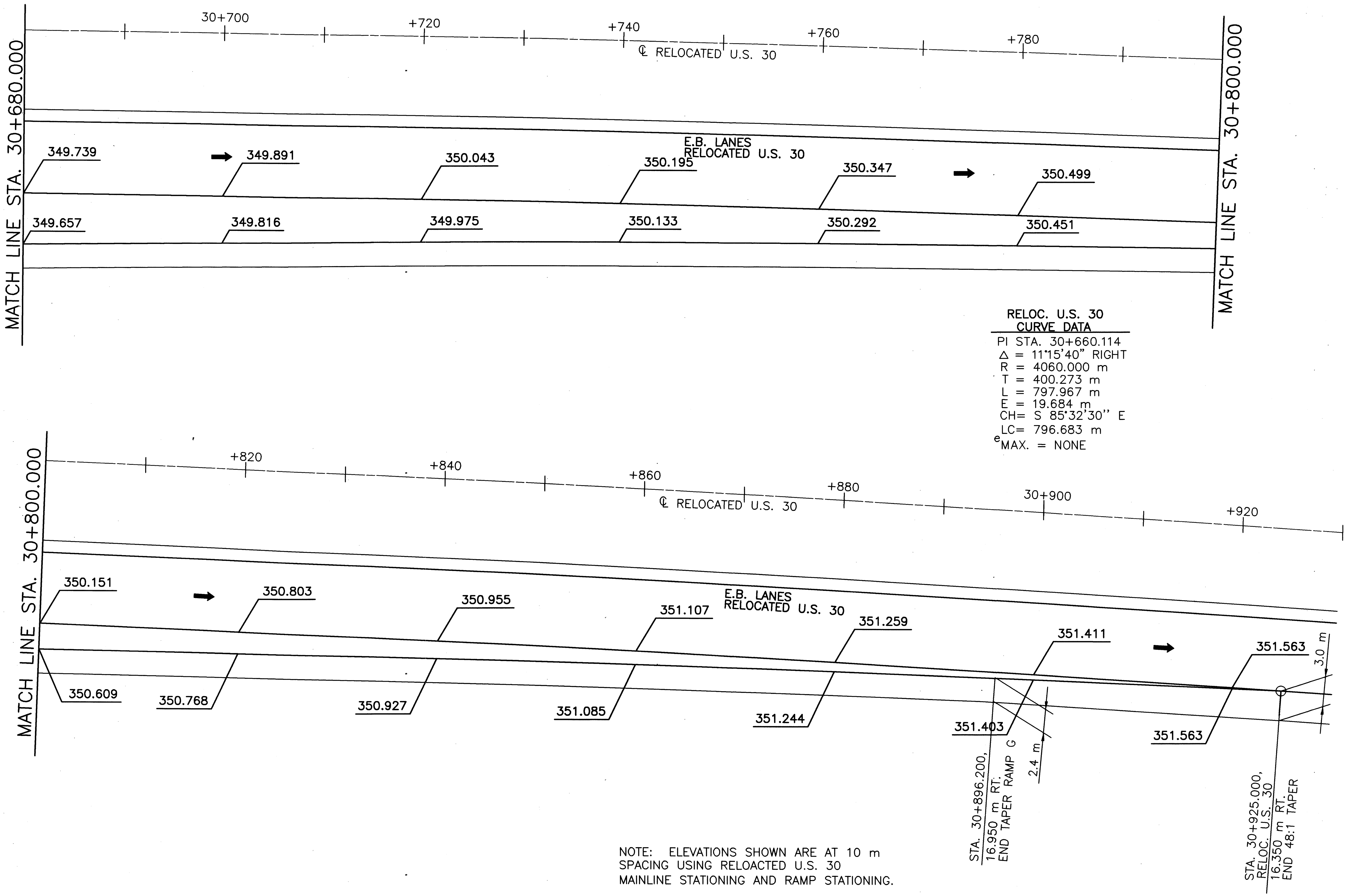
HORIZONTAL SCALE: 1:200
0 5 10
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS RAMP "G"

CRA-30-24.000

474/677



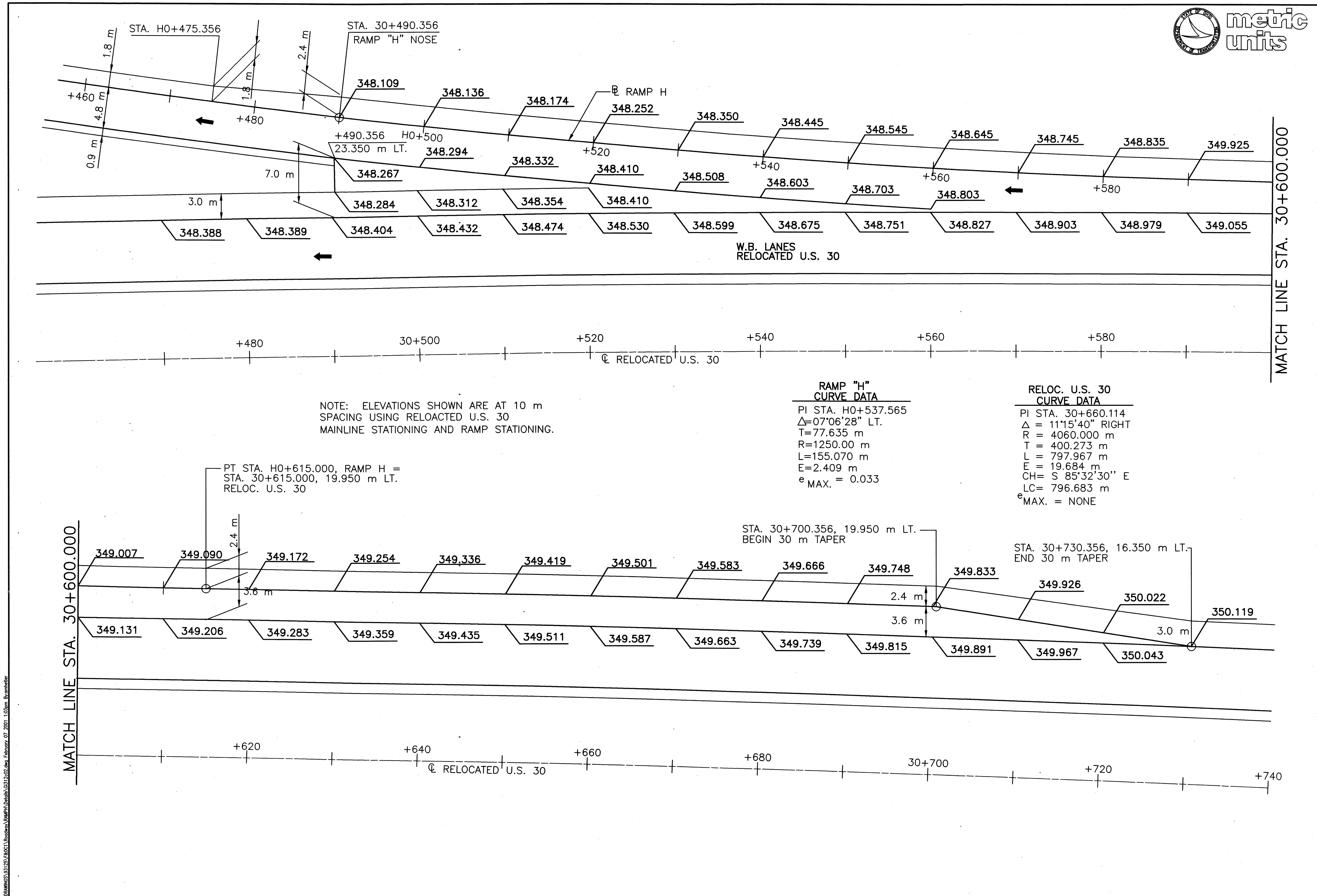
metric units

HORIZONTAL SCALE: 1:200
SCALE IN METERS
0 5 10

CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS
RAMP "G"

CRA-30-24.000

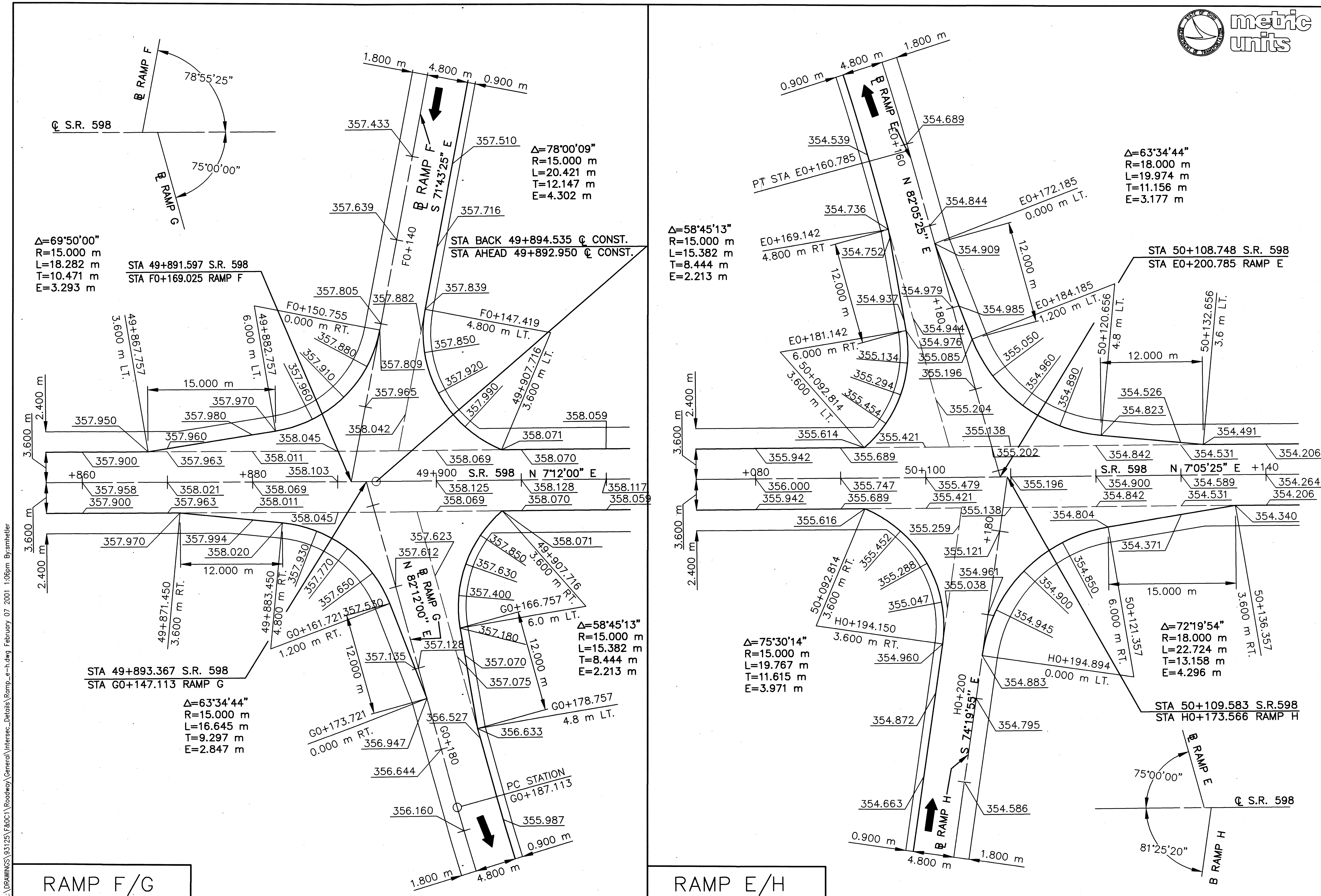


HORIZONTAL SCALE: 1:200
SCALE IN METERS
CALCULATED PSB
CHECKED LBD

TERMINAL DETAILS RAMP "H"

CRA-30-24.000


RAMP B/C
RAMP A/D
INTERSECTION DETAILS
RAMPS A,B,C,D
CRA-30-24.000
477
677
HORIZONTAL SCALE: 1:200
SCALE IN METERS
0 5 10
CALCULATED JSK
CHECKED MAM
metric units
S.R. 602
N00°44'30"E
N00°50'48"
RAMP B S79°15'30"E
RAMP C S89°15'30"E
RAMP A S89°09'12"E
RAMP D S79°09'12"E
80°00'00"
90°00'00"
100°00'00"
P.T. B4+807.080
STA 49+877.304 S.R. 602
STA B4+847.080 RAMP B
STA. 49+881.488 S.R. 602 =
STA. C4+792.826 RAMP C
STA 50+118.477 S.R. 602 =
STA A4+793.170 RAMP A
STA 50+122.661 S.R. 602
STA D4+786.417 RAMP D
Δ=70°54'35" R=15.000 m L=18.564 m T=10.682 m E=3.415 m
Δ=76°55'33" R=15.000 m L=20.139 m T=11.916 m E=4.157 m
Δ=47°25'10" R=18.000 m L=14.897 m T=7.905 m E=1.659 m
Δ=78°34'44" R=18.000 m L=24.686 m T=14.727 m E=5.257 m
Δ=47°25'11" R=18.000 m L=14.897 m T=7.905 m E=1.659 m
Δ=78°34'43" R=18.000 m L=24.686 m T=14.727 m E=5.257 m
Δ=76°55'34" R=15.000 m L=20.139 m T=11.916 m E=4.157 m
Δ=70°54'35" R=15.000 m L=18.564 m T=10.682 m E=3.415 m
B4+828.591 0.000 m RT.
B4+825.920 4.800 m LT.
49+868.112 6.000 m LT.
49+853.112 3.600 m LT.
49+894.599 3.600 m LT.
49+852.169 3.600 m RT.
49+864.169 4.800 m RT.
49+894.599 3.600 m RT.
C4+809.035 6.000 m LT.
C4+813.746 1.200 m RT.
C4+821.035 4.800 m LT.
C4+825.746 0.000 m RT.
A4+760.250 0.0 m LT.
A4+764.961 4.800 m RT.
A4+772.250 1.2 m LT.
A4+776.961 6.000 m RT.
50+105.366 3.600 m LT.
50+135.796 4.8 m LT.
50+147.796 3.6 m LT.
50+105.366 3.600 m RT.
D4+807.577 4.800 m RT.
D4+804.905 0.000 m LT.
50+131.853 6.000 m RT.
50+146.853 3.600 m RT.
1.800 m
4.800 m
0.900 m
15.000 m
12.000 m
3.600 m
1.200 m
+860
+880
49+900
50+100
+140
B4+840
C4+800
+780
D4+800
+820



HORIZONTAL SCALE: 1:200

SCALE IN METERS

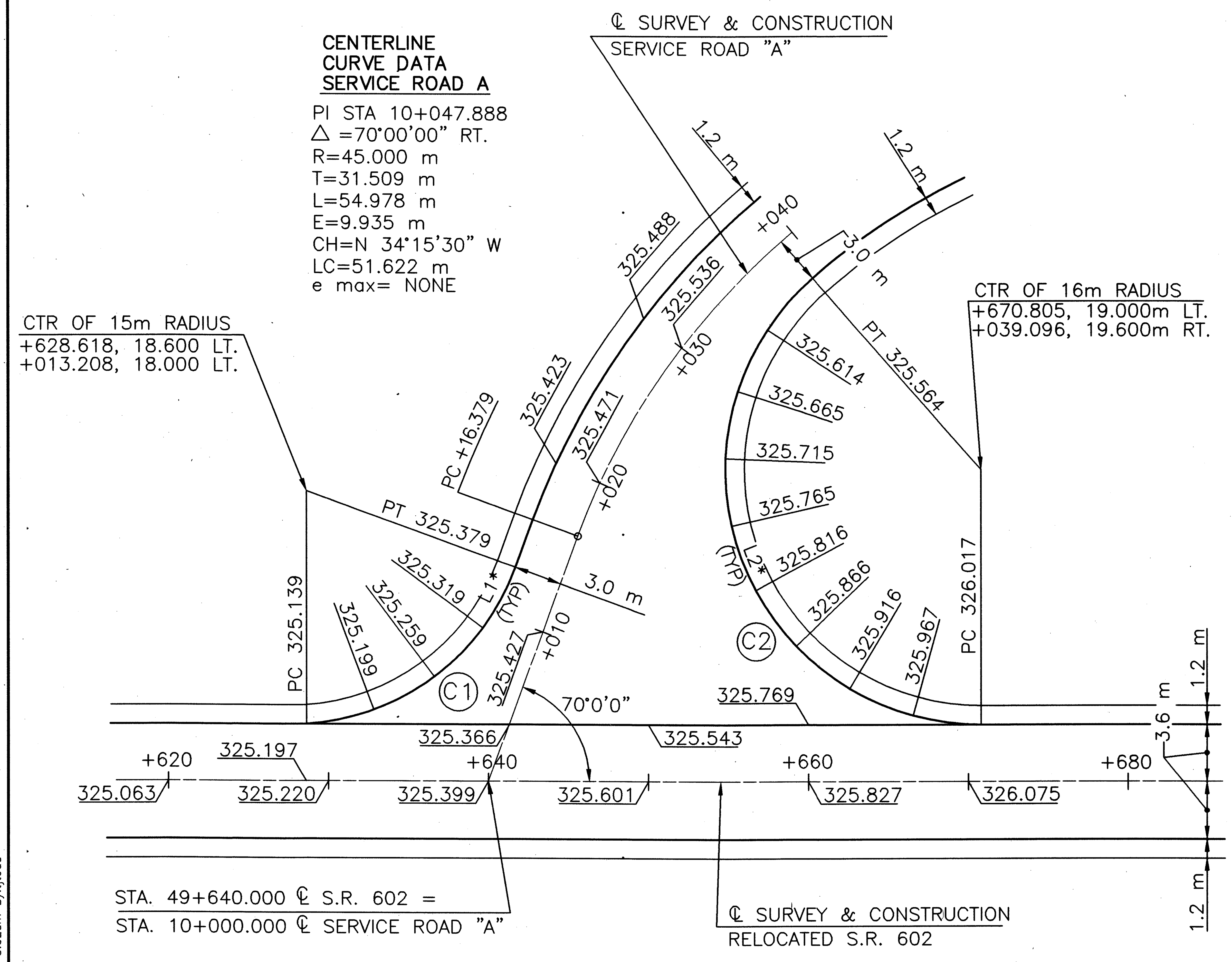
CALCULATED JSK

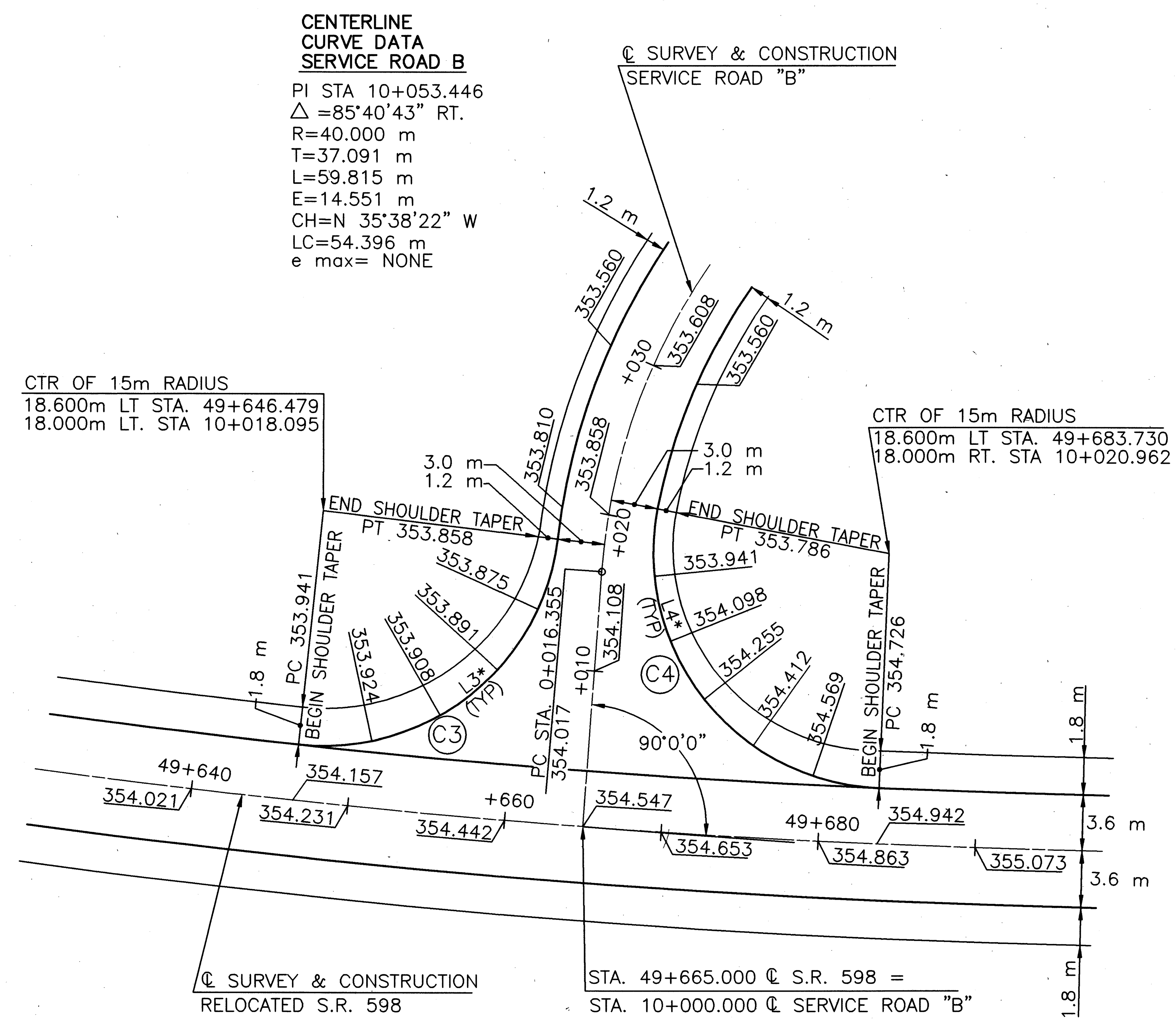
CHECKED MAM

INTERSECTION DETAILS RAMPS E,F,G,H,

CRA-30-24.000

L:\DRAWINGS\93125\F&0C1\Roadway\General\Intersec_Details\Ramp_e-h.dwg February 07 2001 1:06pm By:smhetler





*ARC SEGMENTS :

L1=4.325, L2=4.311 — SERVICE ROAD "A"

L3=4.675, L4=4.293 — SERVICE ROAD "B"

CURVE No.	RADIUS	INTERIOR ANGLE	TANGENT	EXTERNAL	MIDDLE ORDINATE	LONG CHORD	CURVE LENGTH
C1	15.00	49°33'39"	6.925	1.521	1.381	12.574	12.975
C2	16.00	61°45'02"	9.566	2.642	2.267	16.421	17.244
C3	15.00	89°16'35"	14.812	6.081	4.327	21.079	23.373
C4	15.00	98°23'17"	17.374	7.953	5.198	22.708	25.758

CENTERLINE
CURVE DATA
S.R. 598

PI STA 49+644.268
△ =12°39'15" RT.
R=600.000 m
T=66.528 m
L=132.515 m
E=3.677 m
CH=N 13°31'37" E
LC=132.246m
e max= NONE

SERVICE ROAD "A"

SERVICE ROAD "B"

metric units

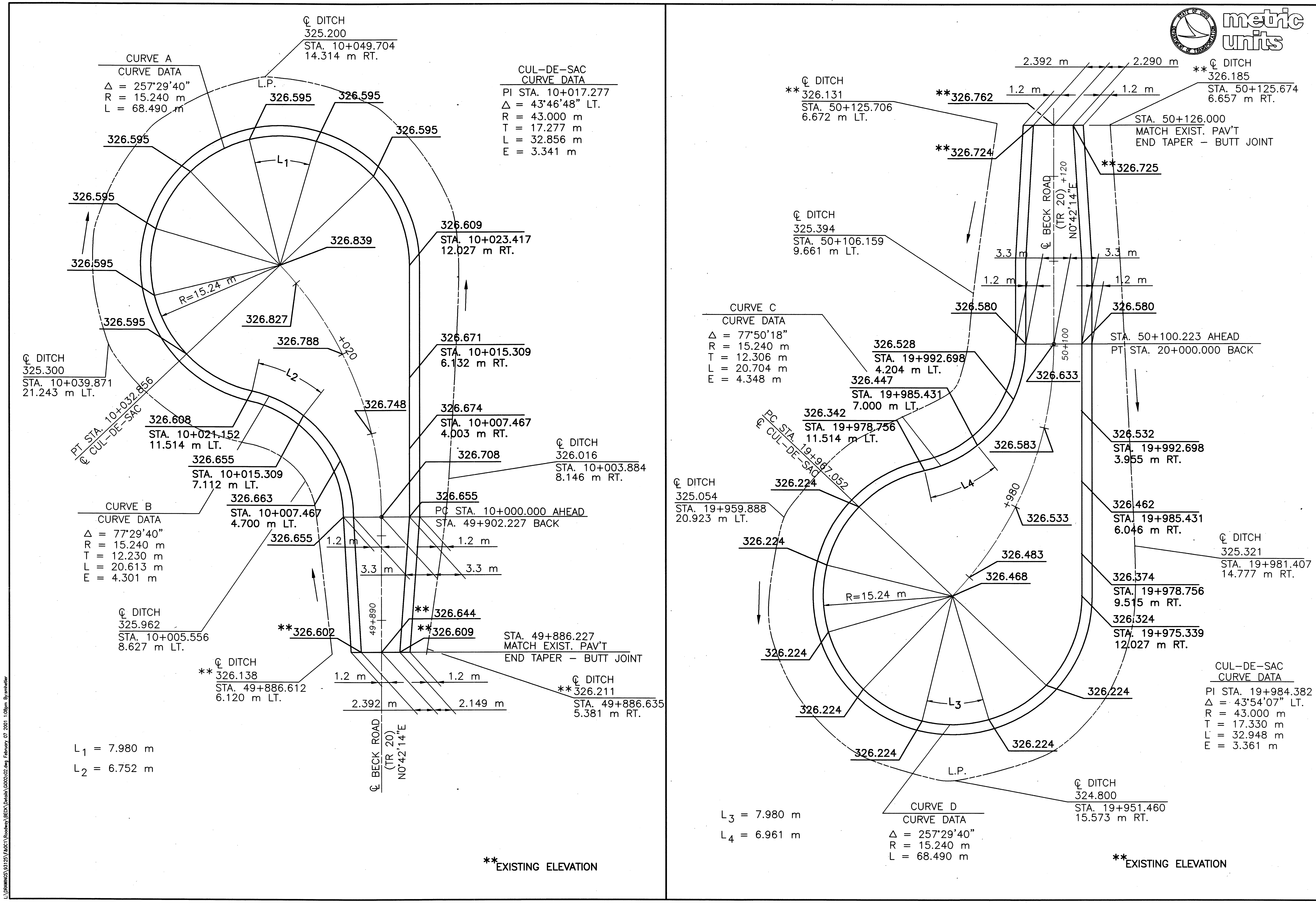
HORIZONTAL SCALE: 1:200
0 5 10
SCALE IN METERS

CALCULATED FJB
CHECKED LBD

INTERSECTION DETAILS
SERVICE ROAD "A" AND SERVICE ROAD "B"

CRA-30-24.000

L:\DRAWINGS\93125\F&OC1\Roadway\General\Intersec_Details\Serv_a&b.dwg September 19 2001 8:52am By:ltodd



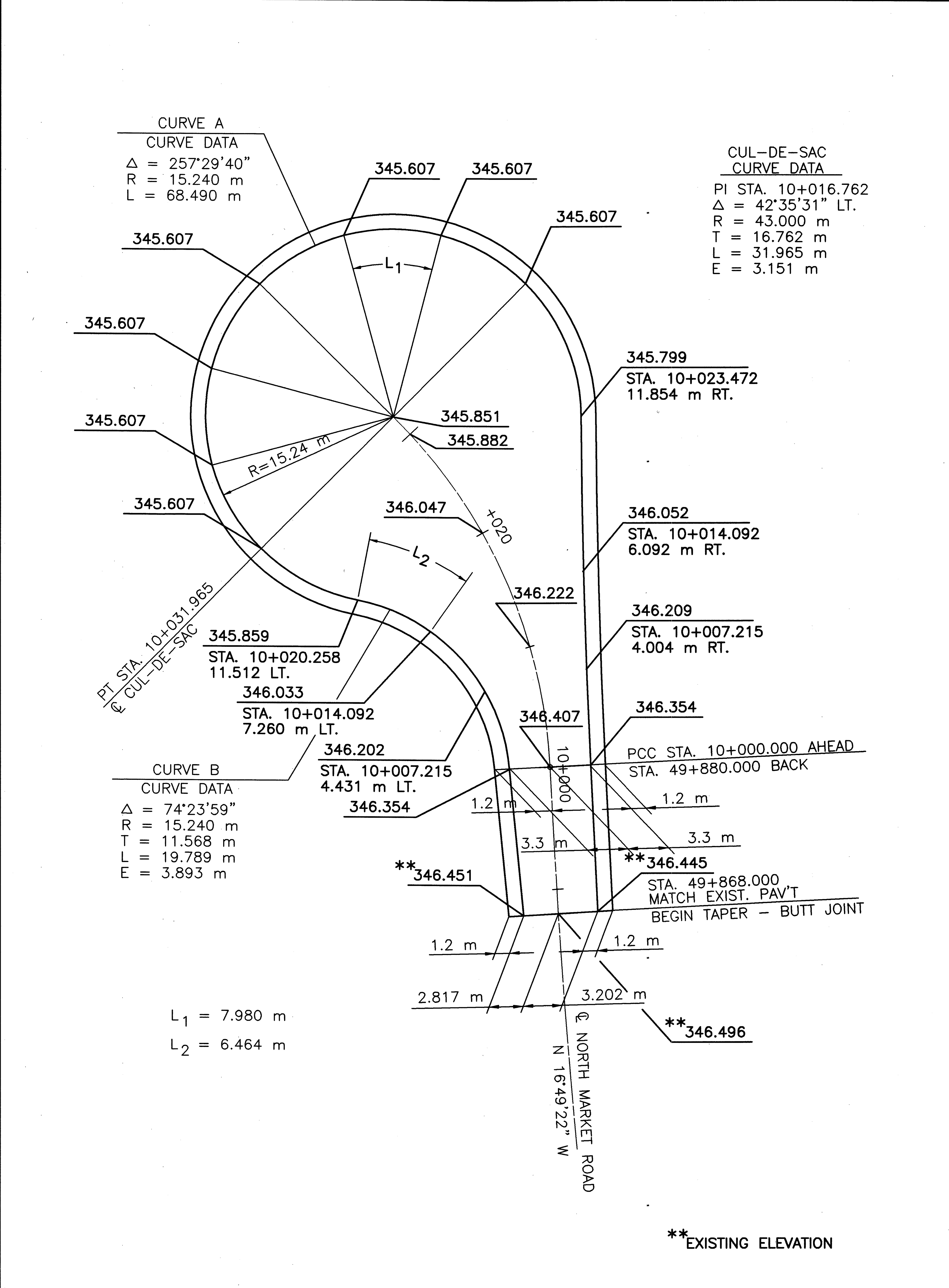
metric units

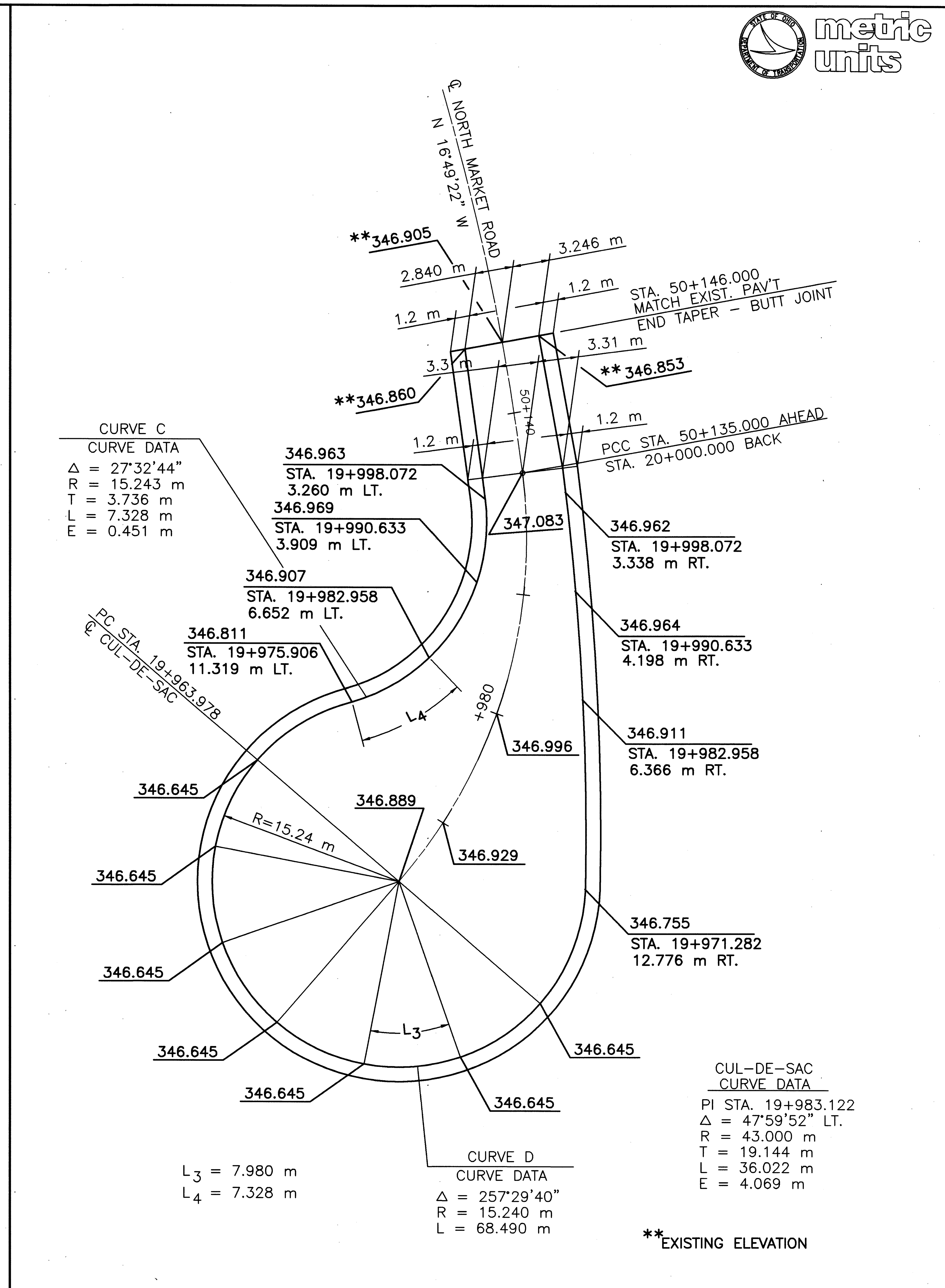
HORIZONTAL SCALE: 1:200
SCALE IN METERS
0 5 10

CALCULATED FJB
CHECKED LBD

INTERSECTION DETAILS
BECK ROAD CUL-DE-SACS

CRA-30-24.000





HORIZONTAL SCALE: 1:200

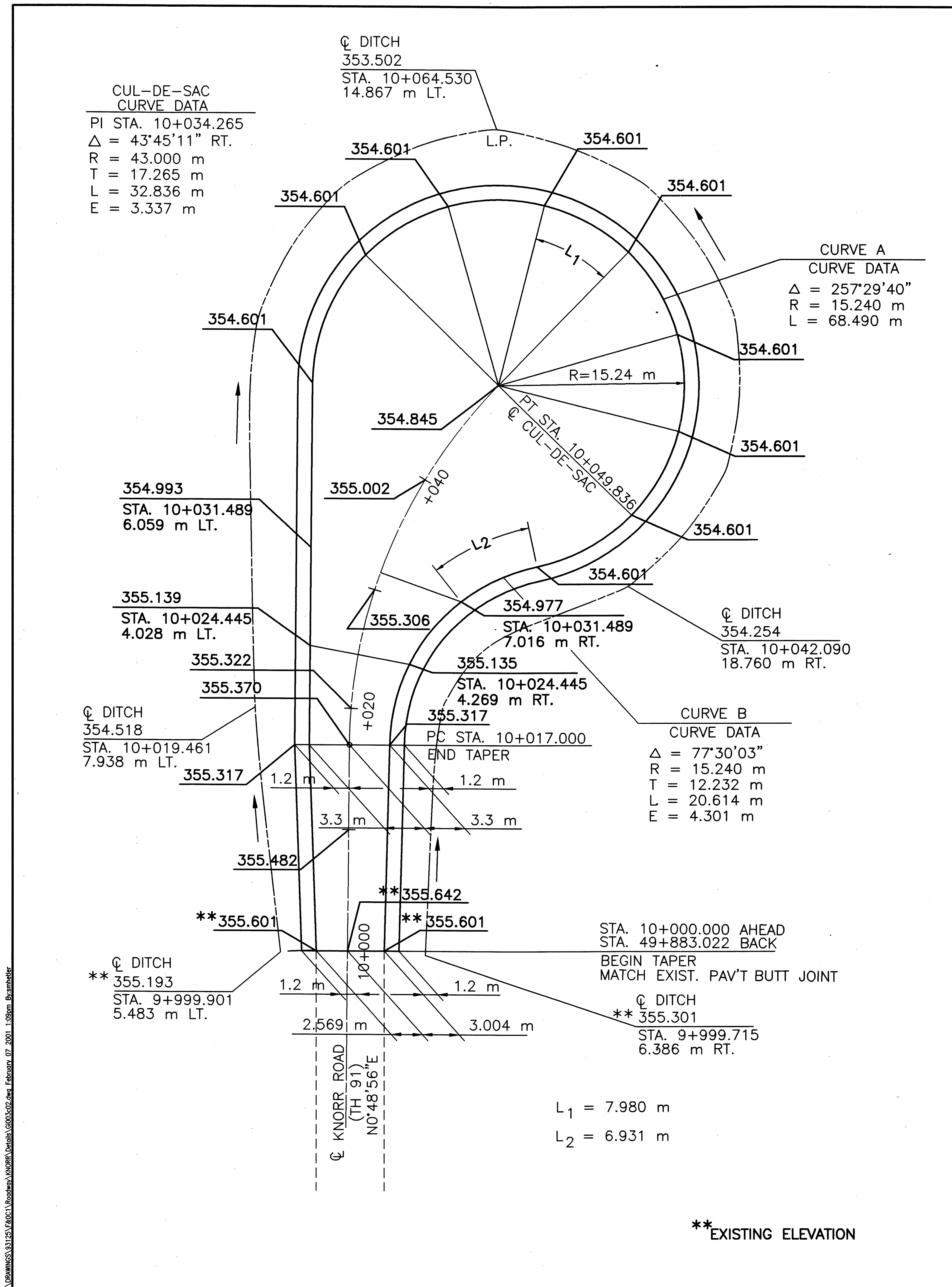
SCALE IN METERS

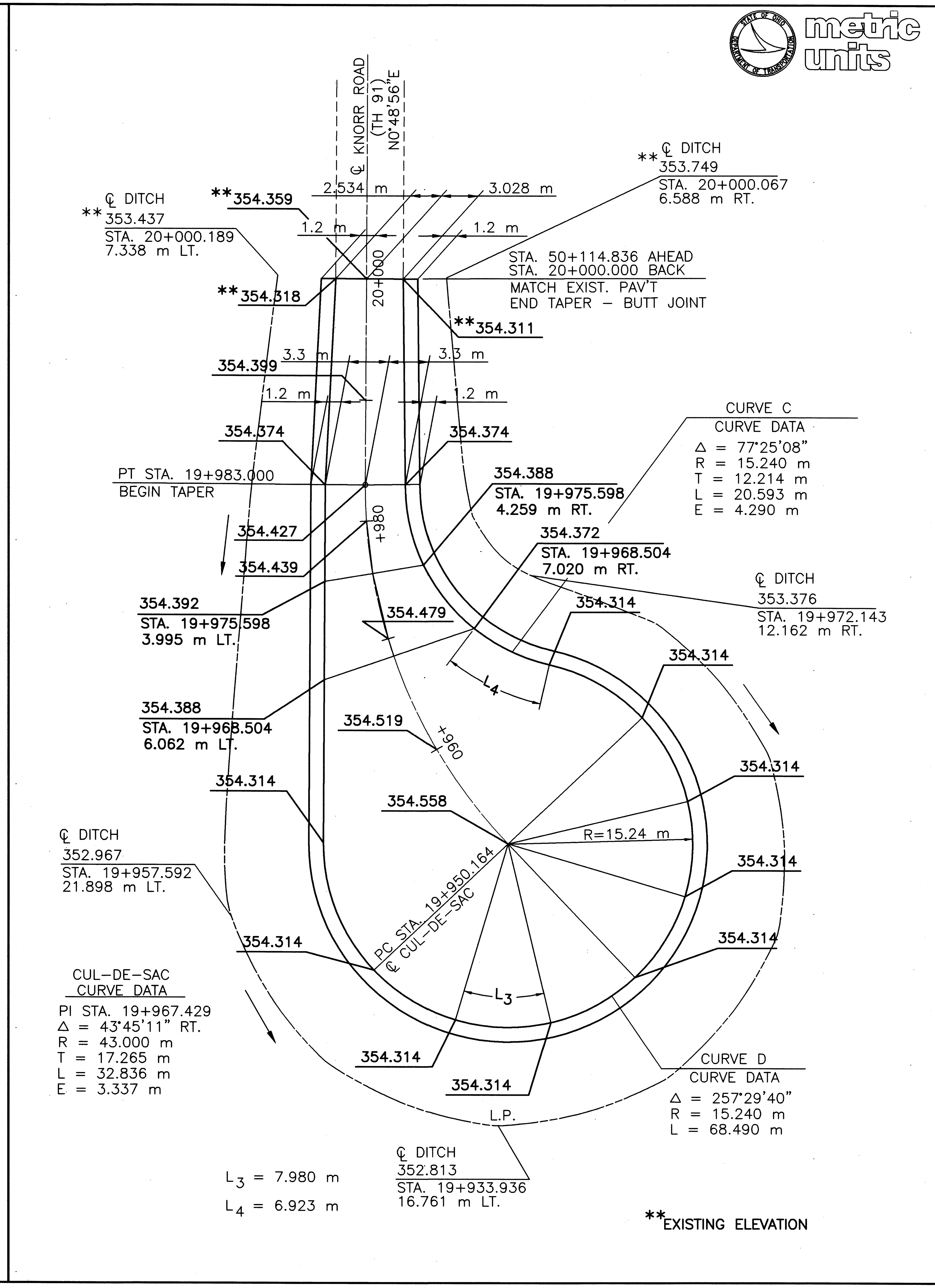
CALCULATED FJB

CHECKED LBD

INTERSECTION DETAILS
NORTH MARKET ROAD CUL-DE-SACS

CRA-30-24.000





N

HORIZONTAL SCALE: 1:200

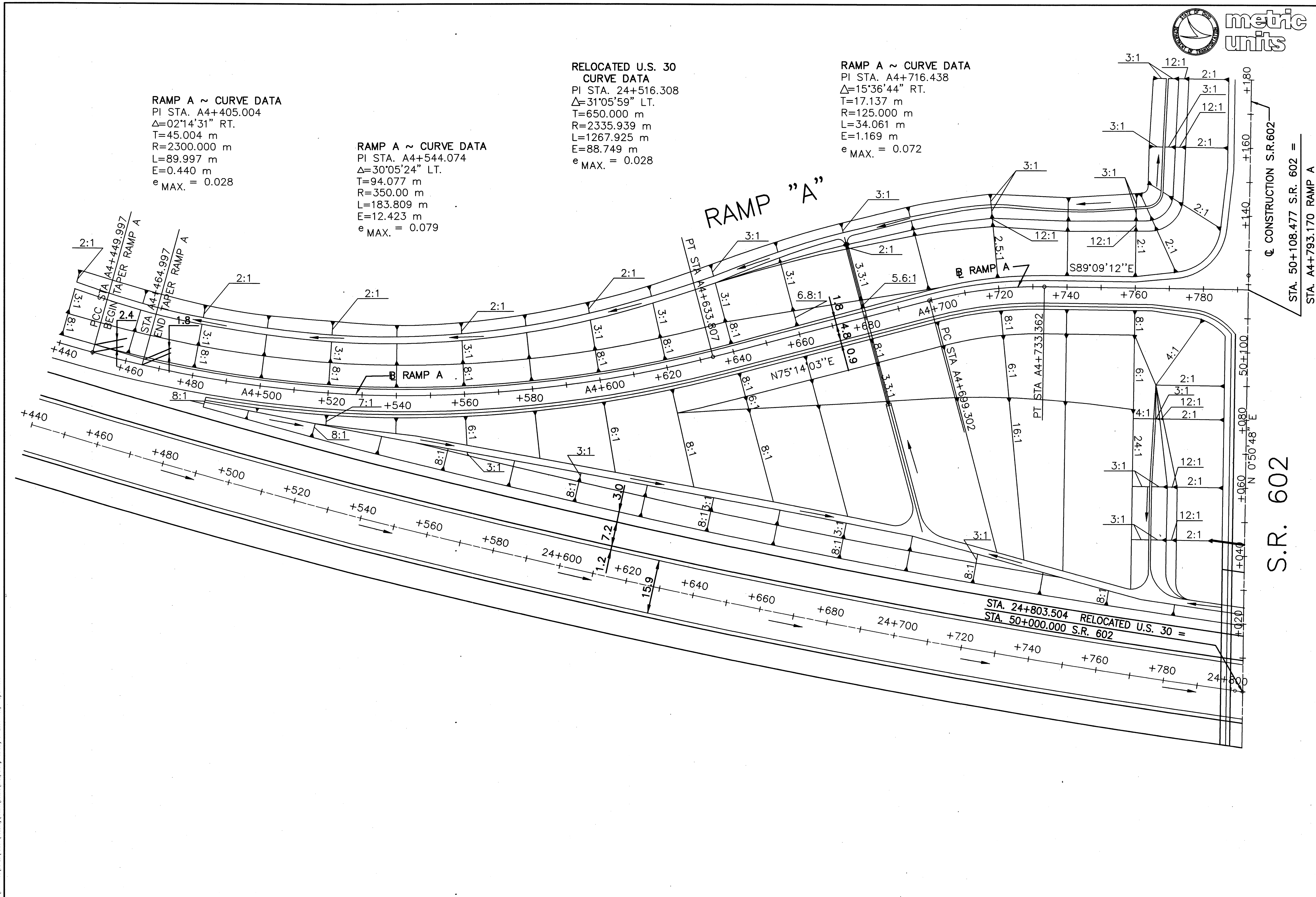
SCALE IN METERS

CALCULATED FJB

CHECKED LBD

INTERSECTION DETAILS
KNORR ROAD (T.R. 91) CUL-DE-SACS

CRA-30-24.000



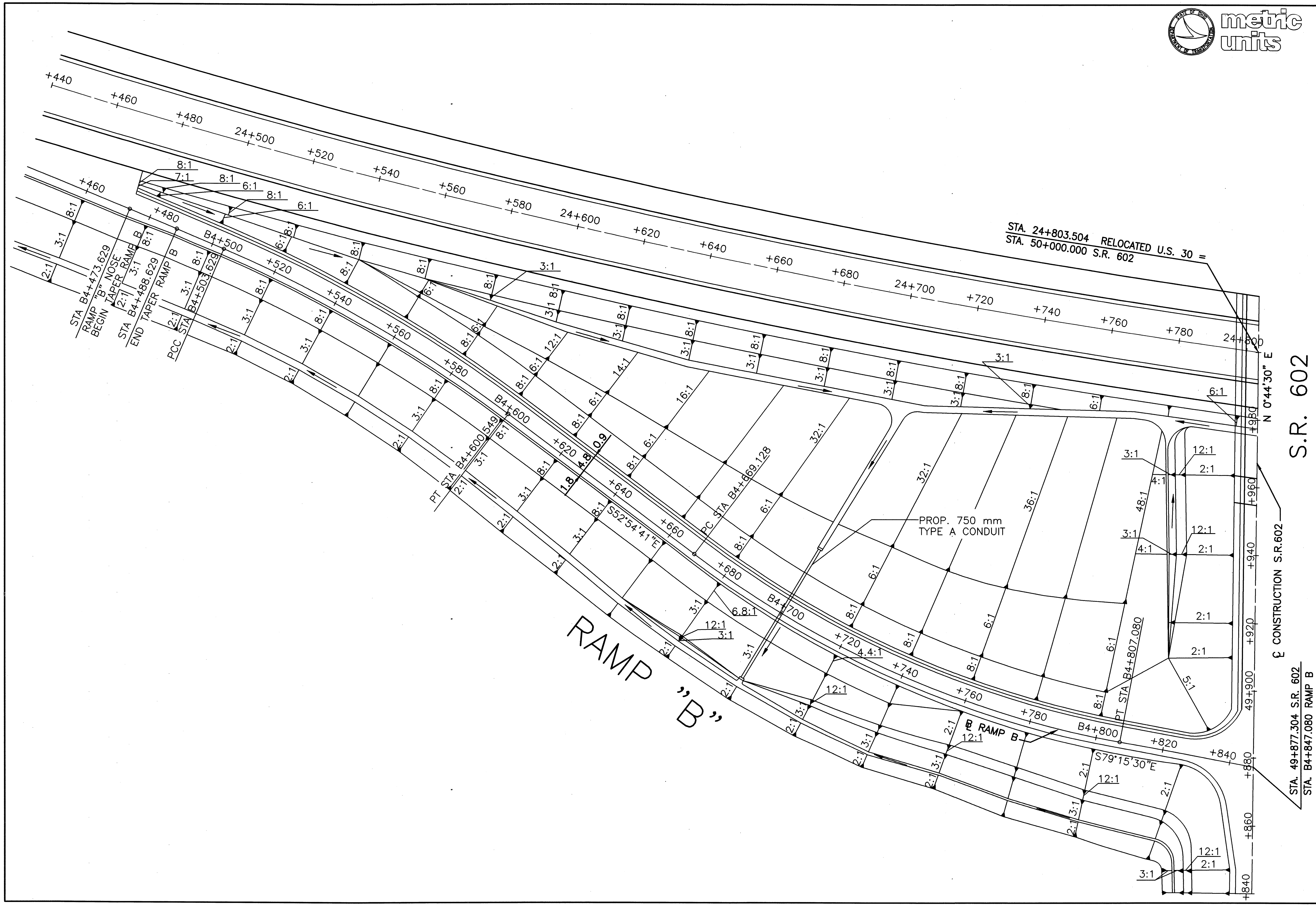
RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP A
S.R. 602 INTERCHANGE

CRA-30-24.000

L:\DRAWINGS\93125\F&DC1\Roadway\RAMPA\Details\Gradpla.dwg February 07 2001 1:09pm By:smhetler



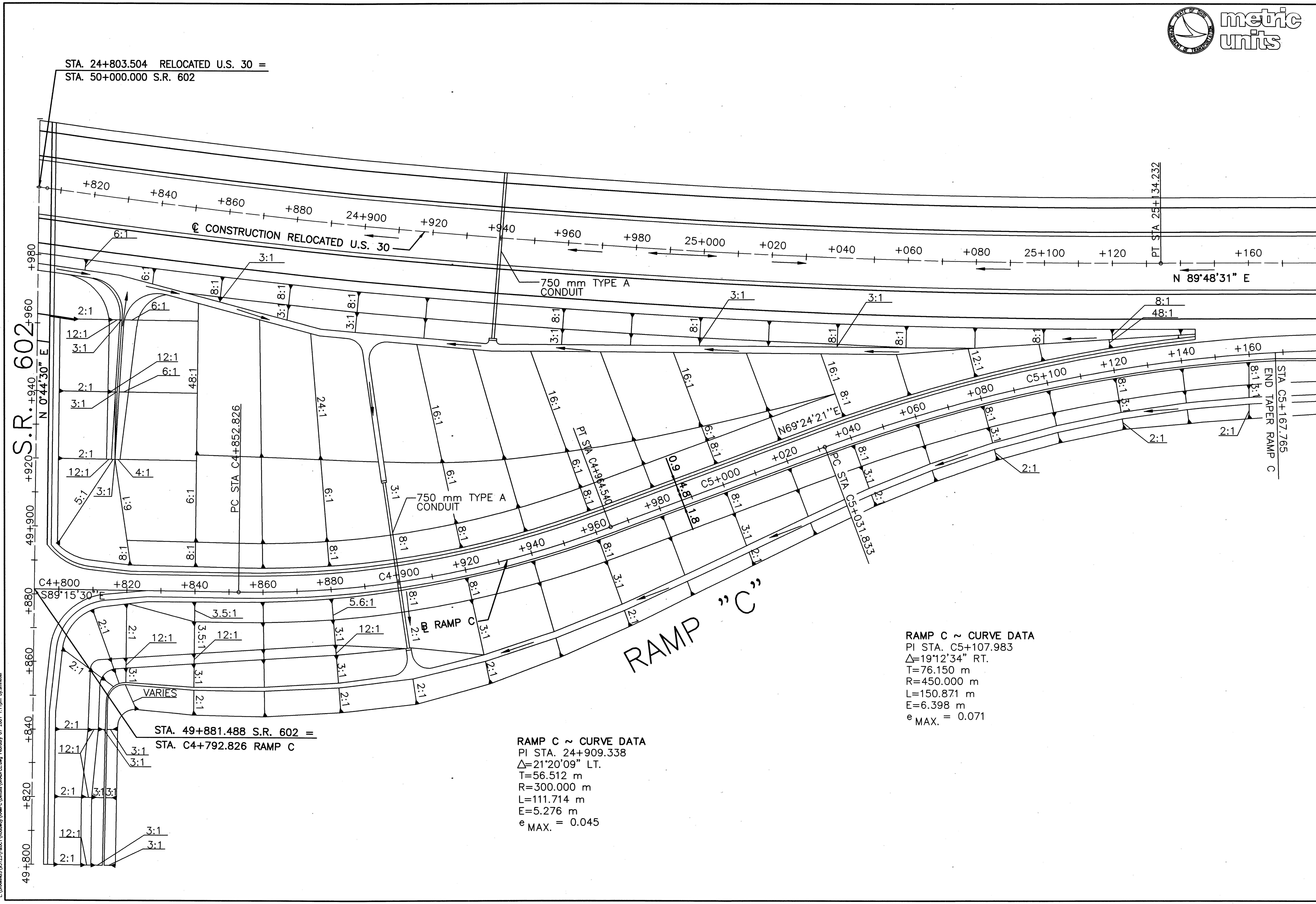
GRADING PLAN – RELOCATED U.S. 30 & RAMP B
S.R. 602 INTERCHANGE

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

CRA-30-24.000

484
677



RAMP C ~ CURVE DATA
PI STA. 24+909.338
Δ=21°20'09" LT.
T=56.512 m
R=300.000 m
L=111.714 m
E=5.276 m
$e_{MAX.}$ = 0.045

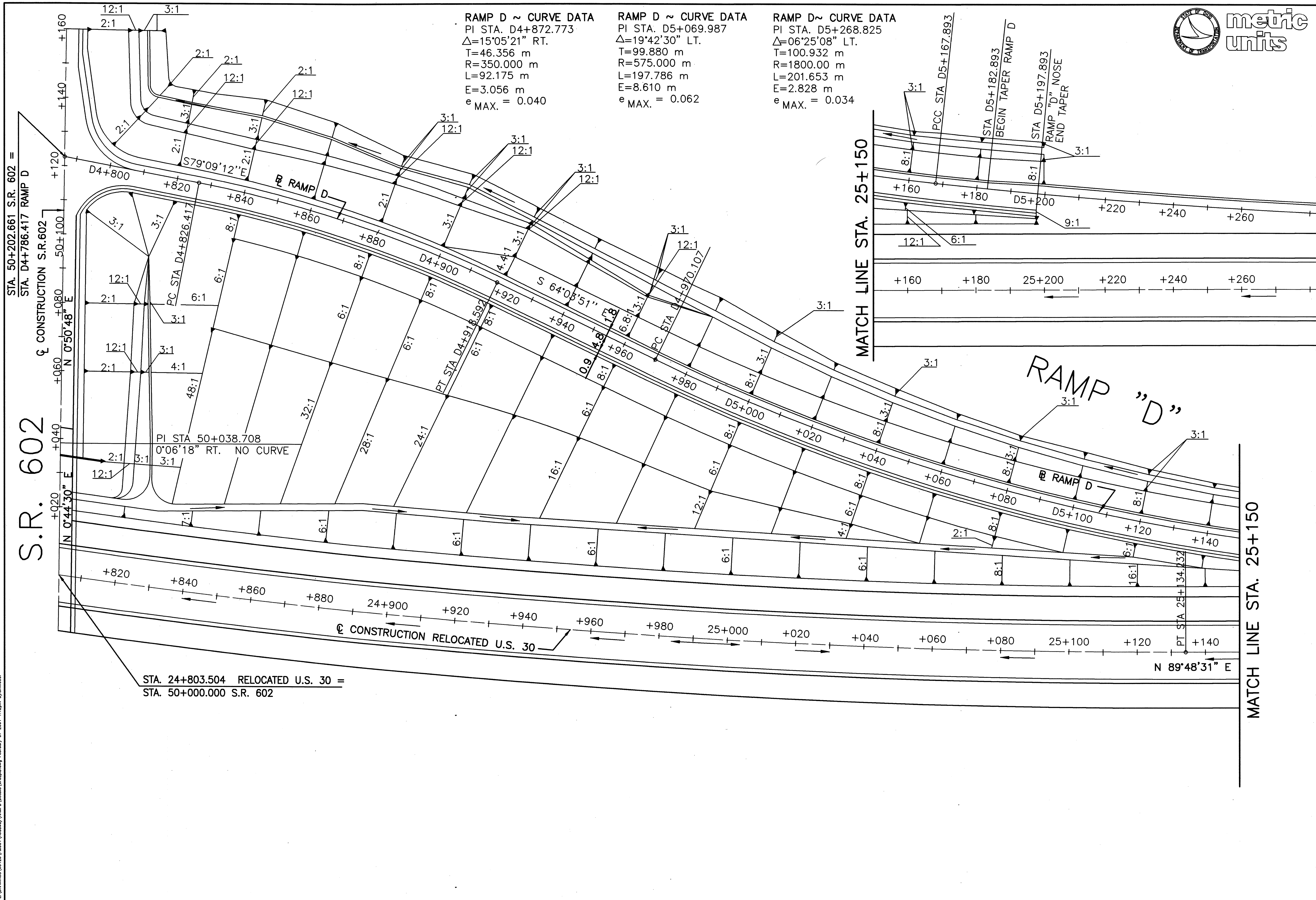
RAMP C ~ CURVE DATA
PI STA. C5+107.983
Δ=19°12'34" RT.
T=76.150 m
R=450.000 m
L=150.871 m
E=6.398 m
$e_{MAX.}$ = 0.071

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP C
S.R. 602 INTERCHANGE

CRA-30-24.000



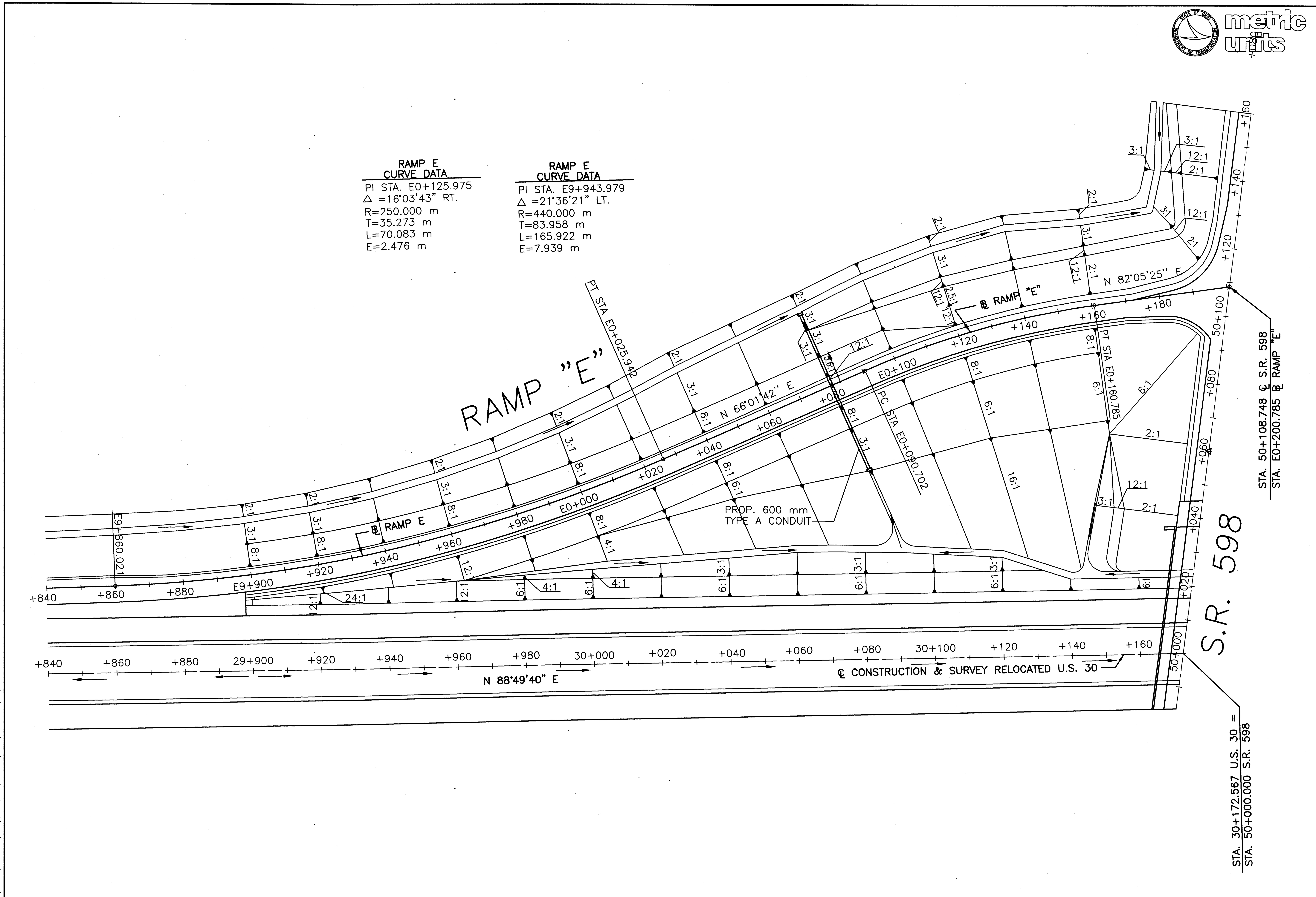
RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP D
S.R. 602 INTERCHANGE

CRA-30-24.000

L:\DRAWINGS\93125\FB0C1\Roadway\RAMPD\Details\GradpD.dwg February 07 2001 1:12pm By:smbeller



RATIO 1:500
HORIZONTAL
SCALE IN METERS

CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP E
S.R. 598 INTERCHANGE

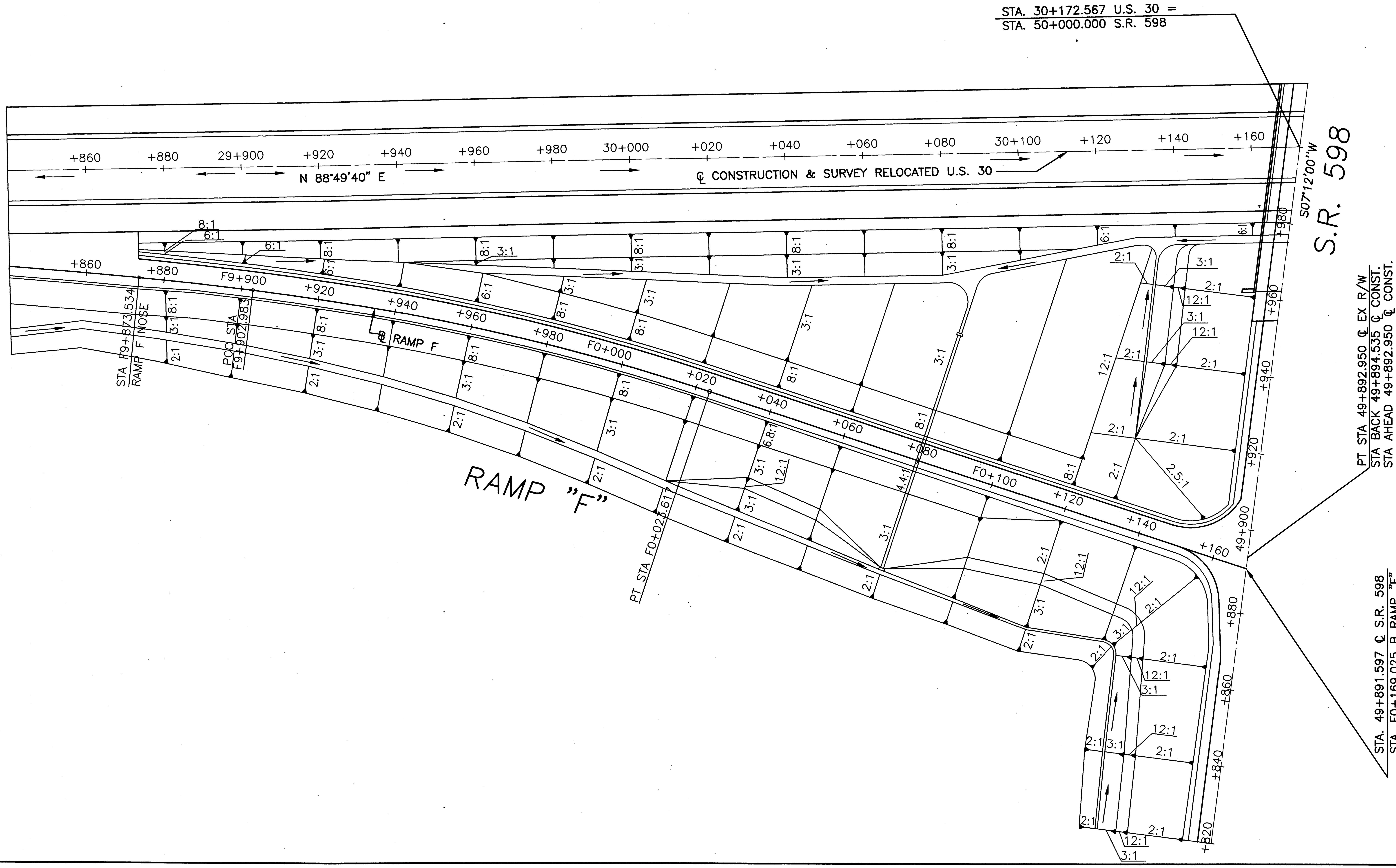
CRA-30-24.000

RAMP F
CURVE DATA
PI STA. F9+963.504
Δ =11°31'11" RT.
R=600.000 m
T=60.521 m
L=120.634 m
E=3.045 m

RAMP F
CURVE DATA
PI STA. E9+816.630
Δ =7°55'44" RT.
R=1250.000 m
T=86.629 m
L=172.982 m
E=2.998 m

RELOCATED S.R. 598
CURVE DATA
PI STA. 49+644.268
Δ =12°39'15" LT.
R=600.000 m
T=66.528 m
L=132.515 m
E=3.677 m

metric units



RATIO 1:500
HORIZONTAL SCALE IN METERS

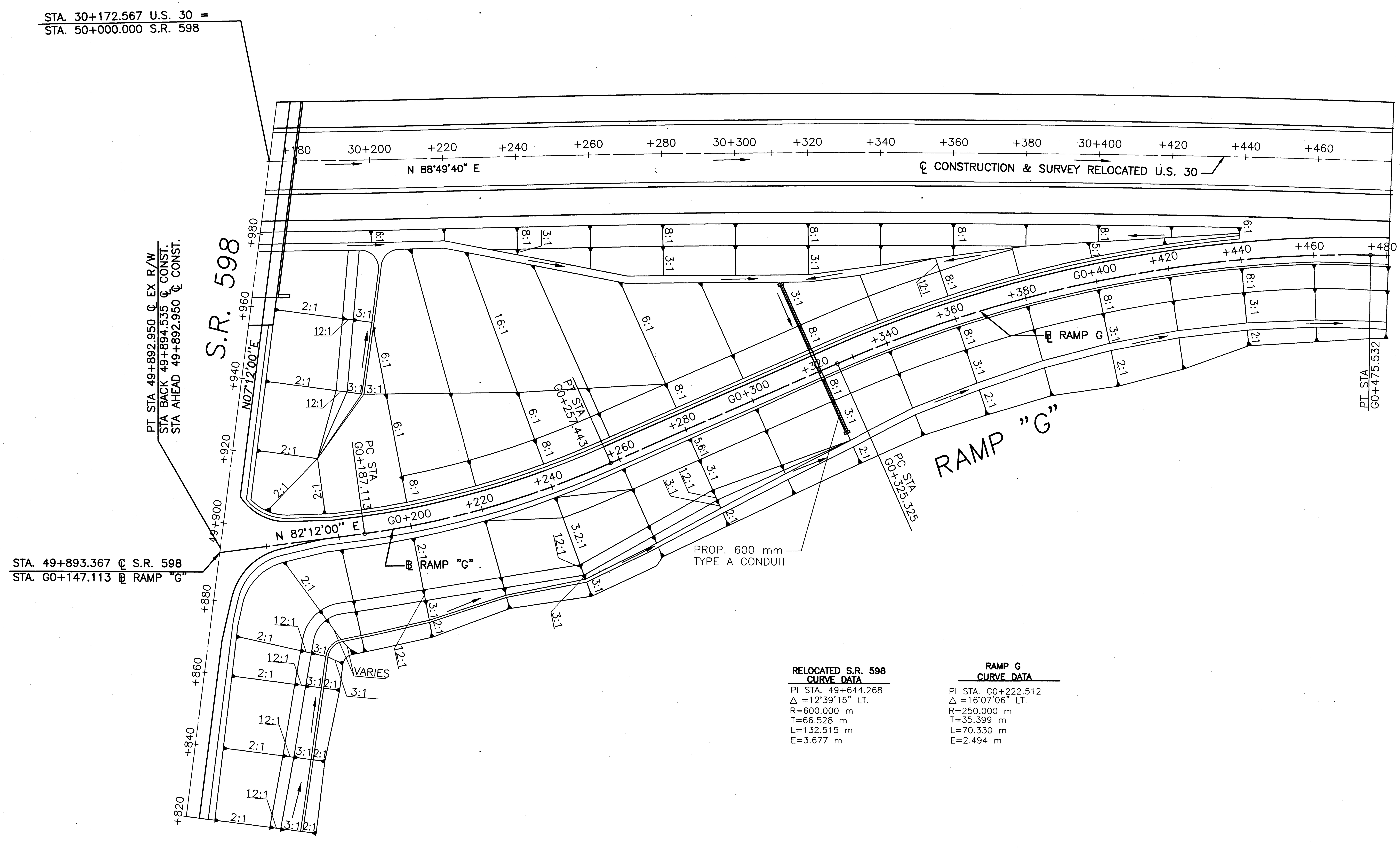
CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP F
S.R. 598 INTERCHANGE

CRA-30-24.000

488
677

L:\DRAWINGS\93125\F&OC1\Roadway\RAMPF\Details\GRDPLAF.dwg February 07 2001 1:13pm



RELOCATED S.R. 598 CURVE DATA

PI STA. 49+644.268
Δ =12°39'15" LT.
R=600.000 m
T=66.528 m
L=132.515 m
E=3.677 m

RAMP G CURVE DATA

PI STA. G0+222.512
Δ =16°07'06" LT.
R=250.000 m
T=35.399 m
L=70.330 m
E=2.494 m

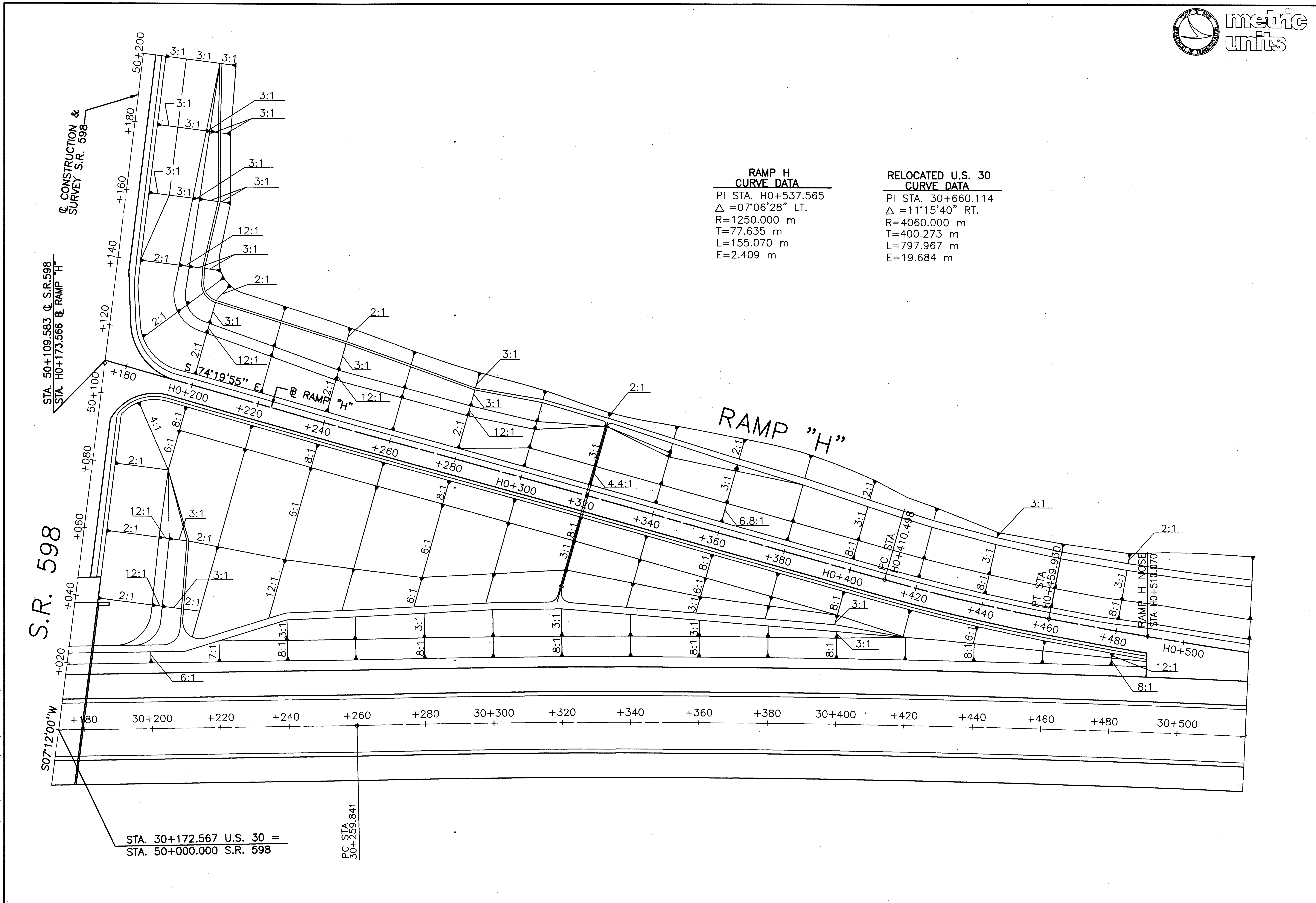
metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP G S.R. 598 INTERCHANGE

CRA-30-24.000



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

CALCULATED PSB
CHECKED LBD

GRADING PLAN – RELOCATED U.S. 30 & RAMP H
S.R. 598 INTERCHANGE

CRA-30-24.000

490/677

DRIVEWAY SUB-SUMMARY

PLAN SHEET NUMBER	PROFILE SHEET NUMBER	DRIVE NUMBER	DRIVEWAY ℄ STATION	LOCATION	SIDE	DRIVE TYPE	EXISTING MATERIAL	LENGTH "L1"	LENGTH "L2"	WIDTH "W1"	WIDTH "W2"	WIDTH "W3"	WIDTH "W"	DRIVE ANGLE	APPROACH AREAS PROPOSED DRIVE (SQ. METER)	OTHER AREAS (SQ. METER)	TOTAL AREAS PROPOSED DRIVES	REMARKS	DRIVEWAY QUANTITIES: 202 PAVEMENT REMOVED (SQ. METER)	255 FULL DEPTH PAVEMENT SAWING (METER)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (CU. METER)	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS) AGGREGATE (CU. METER)	304 AGGREGATE BASE (CU. METER)	452 150 mm CONCRETE PAVEMENT PLAIN (SQ. METER)
317	322	DR-1	49+633.064	S.R. 602	RT.	RES.	SLAG	7.880	3.520	2.880	9.240	14.500	3.600	89°31'21"	64.751	11.418	76.168	M.B.	---	---	6.156	2.074	2.280	---
320	334	DR-2	50+320.286	S.R. 602	LT.	RES.	ASPH	8.020	19.380	6.210	10.440	10.760	6.200	88°48'54"	78.516	120.238	198.754	M.B.	---	---	18.882	6.360	---	---
320	334	DR-2A	50+375.000	S.R. 602	LT.	RES.	---	7.820	18.420	4.100	9.572	9.662	4.100	90°00'00"	63.003	79.574	142.577	---	---	---	13.543	4.562	---	---
430	432	DR-3	10+080.085	SERVICE ROAD 'A'	LT.	RES.	GRAV	8.160	6.280	3.000	9.070	14.317	3.600	91°41'37"	70.520	20.476	90.996	M.B.	---	---	6.699	2.257	---	---
430	434	DR-4	10+272.000**	SERVICE ROAD 'A'	LT.	RES.	ASPH	---	26.789	3.470	13.690	20.155	---	81°30'00"	---	360.313	360.313	M.B.	---	---	34.230	11.530	---	---
340	346	DR-5	49+657.932	BIDDLE ROAD	LT.	RES.	GRAV	8.170	4.530	4.000	8.910	14.340	3.600	87°28'06"	65.277	17.158	82.436	M.B.	---	---	6.204	2.090	3.440	---
340	347	DR-6	49+759.894	BIDDLE ROAD	RT.	COMM.	GRAV	7.810	25.890	2.680	9.280	9.280	3.600	89°42'03"	56.891	81.423	138.313	---	---	---	6.884	1.820	20.356	---
341	349	DR-6A***	49+855.000	BIDDLE ROAD	LT.	COMM.	---	7.830	78.53***	3.600	9.204	9.315	3.600	90°00'00"	59.625	282.71	342.34	---	---	---	7.215	1.908	70.68 ***	---
342	352A	DR-6B***	50+120.000	BIDDLE ROAD	LT.	COMM.	GRAV	5.210	104.96***	3.600	9.860	14.120	3.600	90°00'00"	48.710	377.86	426.57	---	---	---	5.894	1.559	94.46 ***	---
342	352A	DR-6C***	50+120.000	BIDDLE ROAD	RT.	COMM.	GRAV	5.210	66.59***	3.600	14.120	9.860	3.600	90°00'00"	48.710	239.72	288.43	---	---	---	5.894	1.559	59.93 ***	---
342	353	DR-7	50+148.000	BIDDLE ROAD	LT.	RES.	GRAV	8.420	54.940	3.300	9.860	14.120	3.600	86°30'13"	65.073	189.554	254.627	M.B.	---	---	6.182	2.082	---	28.433
343	356	DR-8	50+360.142	BIDDLE ROAD	RT.	RES.	GRAV	7.860	13.340	3.600	9.320	9.300	3.600	88°11'58"	57.044	48.303	105.347	---	---	---	5.419	1.825	9.661	---
343	357	DR-9	50+403.409	BIDDLE ROAD	LT.	RES.	ASPH	7.800	3.900	2.200	7.720	15.640	3.600	79°04'27"	65.961	11.930	77.891	M.B.	---	---	7.400	2.492	---	---
343	357	DR-10	50+442.324	BIDDLE ROAD	LT.	RES.	GRAV	8.700	4.800	2.800	10.060	8.620	3.600	84°41'40"	60.456	15.368	75.824	---	---	---	5.748	1.936	3.074	---
343	357	DR-11	50+444.186	BIDDLE ROAD	RT.	RES.	GRAV	7.804	4.897	2.400	9.225	9.253	3.600	89°30'16"	57.916	15.090	73.006	---	---	---	5.502	1.853	3.018	---
343	358	DR-12	50+464.158	BIDDLE ROAD	LT.	RES.	GRAV	8.220	0.480	3.250	8.760	9.890	3.600	86°00'00"	60.507	---	60.507	---	---	---	5.748	1.936	---	---
360	365	DR-13	49+365.356	S.R. 598	RT.	RES.	ASPH	9.100	1.600	3.050	8.290	10.730	3.600	81°54'07"	63.252	5.889	69.141	M.B.	---	---	6.568	2.213	---	---
360	365	DR-14	49+399.809	S.R. 598	RT.	RES.	ASPH	9.810	2.100	2.820	7.670	11.050	3.600	78°39'01"	68.509	6.244	74.753	---	---	---	7.101	2.392	---	---
360	366	DR-15	49+402.079	S.R. 598	LT.	RES.	GRAV	8.400	2.000	6.560	10.320	11.110	6.500	86°44'54"	84.514	13.020	97.533	---	---	---	8.029	2.704	2.604	---
360	367	DR-16	49+534.745	S.R. 598	LT.	COMM.	SLAG	8.300	10.100	3.420	11.490	10.740	7.200	87°15'44"	88.605	53.384	141.989	---	---	---	10.721	2.835	13.350	---
360	368	DR-16A	49+571.927	S.R. 598	LT.	COMM.	GRAV.	8.300	16.100	6.030	11.100	11.100	7.200	90°00'00"	83.558	106.051	189.609	---	---	---	10.111	2.674	26.513	---
363	381	DR-17	50+311.166	S.R. 598	RT.	RES.	GRAV.	8.000	4.400	3.200	6.440	9.420	3.600	90°00'00"	57.316	30.516	87.833	M.B.	---	---	5.445	1.834	6.103	---
363	381	DR-17A	50+317.000	S.R. 598	LT.	RES.	---	8.000	27.502	3.600	11.884	8.086	4.800	84°00'00"	68.767	132.398	201.165	---	---	---	6.533	2.201	26.480	---
383A	385B	DR-17B	50+201.180	N. MARKET RD.	RT.	RES.	GRAV.	8.000	---	---	4.706	9.544	2.649	59°08'33"	42.810	---	42.810	---	---	---	4.067	1.370	---	---
383A	385B	DR-17C	50+233.111	N. MARKET RD.	RT.	RES.	GRAV.	9.880	---	---	8.591	6.809	3.563	71°02'52"	62.942	---	62.942	---	---	---	6.170	2.078	---	---
383A	385C	DR-17D	50+300.000	N. MARKET RD.	RT.	COMM.	---	6.540	---	---	7.542	7.582	6.100	90°00'00"	52.300	---	52.300	---	---	---	6.328	1.674	---	---
383	385A	DR-17E	19+980.000	N. MARKET RD.	RT.	FIELD	---	22.500	---	---	10.504	10.495	6.000	70°00'00"	---	94.983	94.983	---	---	---	---	---	18.997	---
436	437	DR-18	10+044.536**	SERVICE ROAD "B"	LT.	RES.	GRAV.	10.500	30.500	2.700	8.134	14.104	3.800	90°00'00"	60.704	107.645	168.349	M.B.	---	---	5.767	1.943	21.529	---
436	439	DR-19	10+175.000*	SERVICE ROAD "B"	LT.	RES.	---	8.700	21.324	---	3.000	2.400	4.800	180°00'00"	126.473	102.355	228.828	---	---	---	12.015	4.047	20.471	---
386	390	DR-20	49+669.600	FAIRVIEW ROAD	LT.	RES.	CONC	7.800	5.413	5.800	10.400	15.200	5.800	90°00'00"	81.636	31.454	113.091	M.B.	88.213	5.300	---	---	---	113.091
386	390	DR-21	49+687.900	FAIRVIEW ROAD	RT.	RES.	CONC	7.800	9.780	3.310	9.200	14.100	3.600	90°00'00"	64.561	34.801	99.363	M.B.	68.485	3.310	---	---	---	99.363
386	390	DR-22	49+690.000	FAIRVIEW ROAD	LT.	RES.	CONC	6.600	162.395	3.600	12.483	12.316	3.600	90°00'00"	70.159	429.045	499.204	M.B.	372.729	13.600	---	---	---	644.58
388	399	DR-23	49+720.000	FAIRVIEW ROAD	LT.	RES.	GRAV.	8.100	32.000	3.600	13.450	12.309	5.290	70°00'00"	86.970	84.870	171.840	M.B.	---	---	8.262	2.783	16.974	---
388	399A	DR-23A	50+182.000	FAIRVIEW ROAD	LT.	RES.	GRAV.	7.656	39.605	3.586	9.319	6.164	3.600	90°00'00"	54.718	137.416	192.134	---	---	---	5.198	1.751	28.459	---
388	399A	DR-23B	50+185.690	FAIRVIEW ROAD	RT.	FIELD	GRAV.	---	42.017	---	8.291	17.665	6.600	70°00'00"	---	290.000	290.000	---	---	---	---	---	51.776	---
405	413	DR-24	49+620.000**	NAZOR ROAD	LT.	RES.	SLAG	10.490	2.210	3.740	11.620	13.770	3.800	75°30'00"	83.114	6.352	89.466	M.B.	---	---	7.896	2.660	1.270	---
405	413	DR-25	49+650.000	NAZOR ROAD	RT.	FIELD	GRAV.	---	16.500	---	10.500	10.500	6.000	90°00'00"	---	113.972	113.972	---	---	---	---	---	22.794	---
407	492C	DR-26	50+140.000**	NAZOR ROAD	RT.	RES.	SLAG	11.610	114.80	3.6	12.710	14.920	3.600	69°56'37"	126.097	730.960	857.057	M.B.	---	---	47.700	16.100	---	---
409	492D	DR-27	50+280.000	NAZOR ROAD	LT.	RES.	SLAG	12.348	58.472	---	8.897	12.831	6.100	75°00'00"	117.931	360.315	478.246	---	---	---	45.433	15.304	---	---
405	411	DR-28	49+510.000	NAZOR ROAD	LT.	FIELD	---	---	8.028	---	10.000	10.596	6.000	90°00'00"	---	76.703	76.703	---	---	---	---	---	15.341	---
406	414	DR-30	49+700.000	NAZOR ROAD	LT.	FIELD	---	---	32.700	---	10.634	10.629	6.000	90°00'00"	---	219.756	219.756	---	---	---	---	---	43.951	---
406	492B	DR-31	49+840.000**	NAZOR ROAD	RT.	FIELD	---	---	70.007	---	10.238	5.255	6.000	70°00'00"	---	442.581	442.581	---	---	---	---	---	88.516	---
406	416	DR-32	49+870.000	NAZOR ROAD	LT.	FIELD	---	---	82.700	---	6.968	10.672	6.000	75°00'00"	---	520.623	520.623	---	---	---	---	---	104.125	---
340	346	DR-33	49+680.000	BIDDLE	RT.	FIELD	---	---	20.700	---	9.926	9.960	5.000	90°00'00"	---	132.592	132.592	---	---	---	---	---	26.518	---
410	492E	DR-34	50+531.880	NAZOR ROAD	RT.	FIELD	---	---	48.310	---	10.550	10.415	6.100	90°00'00"	---	311.627	311.627	---	---	---	---	---	62.325	---
402	---	DR-35	10+063.500**	KNORR ROAD	RT.	FIELD	SLAG	3.24	9.563	---	8.891	4.605	3.900	52°00'00"	---	47.871	47.871	---	---	---	---	---	9.574	---
402	---	DR-36	19+950.164	KNORR ROAD	RT.	FIELD	---	---	10.560	---	7.464	7.464	6.000	12°00'00"	---	73.284	73.284	---	---	---	---	---	14.657	---
410	428	DR-37	50+600.000	NAZOR ROAD	RT.	FIELD	---	---	7.754	---	10.682	10.730	6.100	90°00'00"	---	71.985	71.985	---	---	---	---	---	14.397	---
TOTALS																			529.427	22.210	350.944	114.406	903.673 ***	885.467
GRAND TOTALS CARRIED TO GENERAL SUMMARY																			530	23	351	115	904 ***	886

ADDITIONAL DRIVE EARTHWORK QUANTITIES:
TOTAL CUT 20.2 CU M
TOTAL FILL 18,080 CU M (CARRIED TO EARTHWORK SUB-SUMMARY)

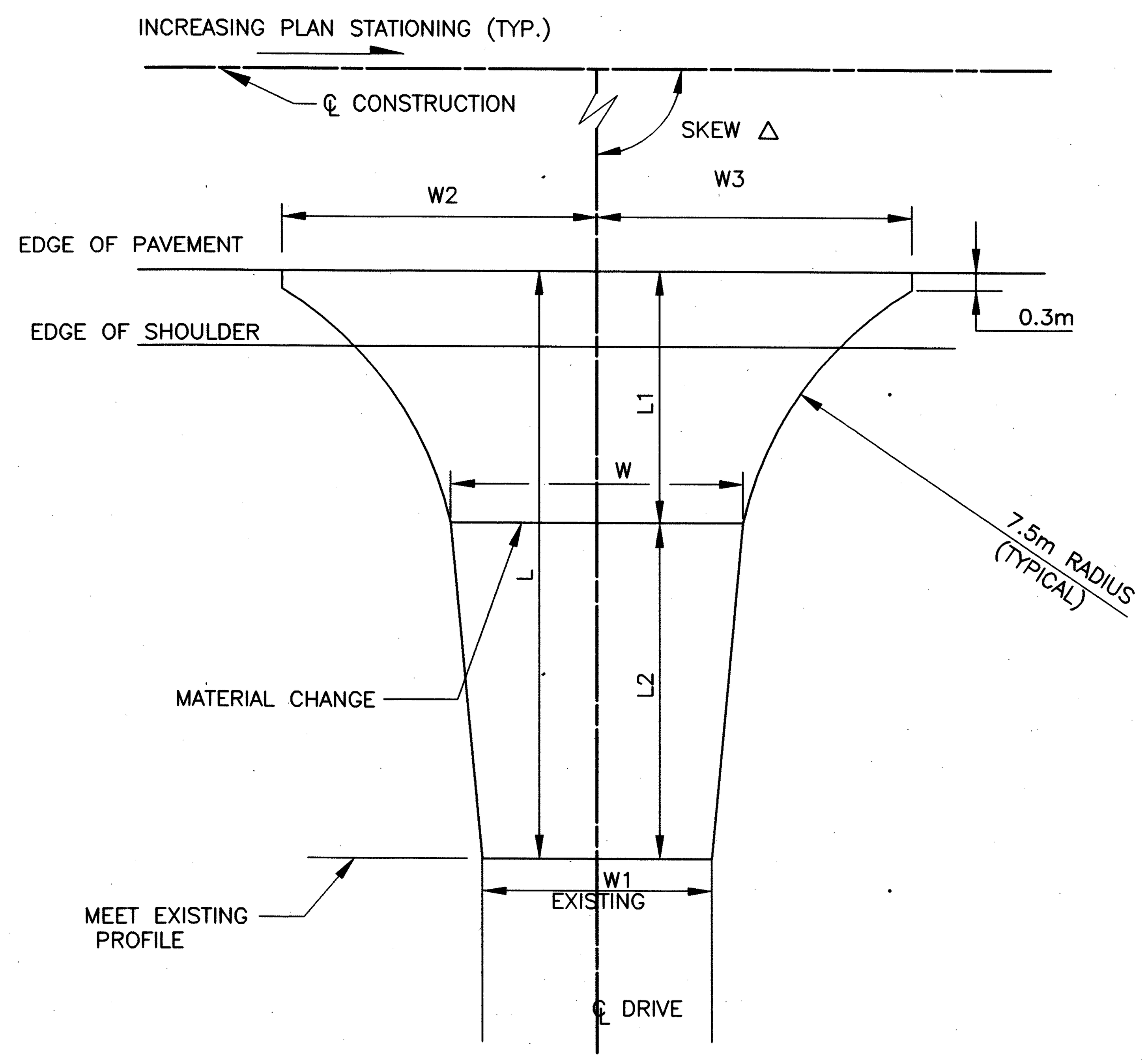
* – FOR DRIVEWAY DIMENSIONS SEE DETAIL ON SHEET 492.
** – FOR DRIVEWAY DIMENSIONS SEE DETAIL ON SHEET 492A.

*** REVISED 04-23-03

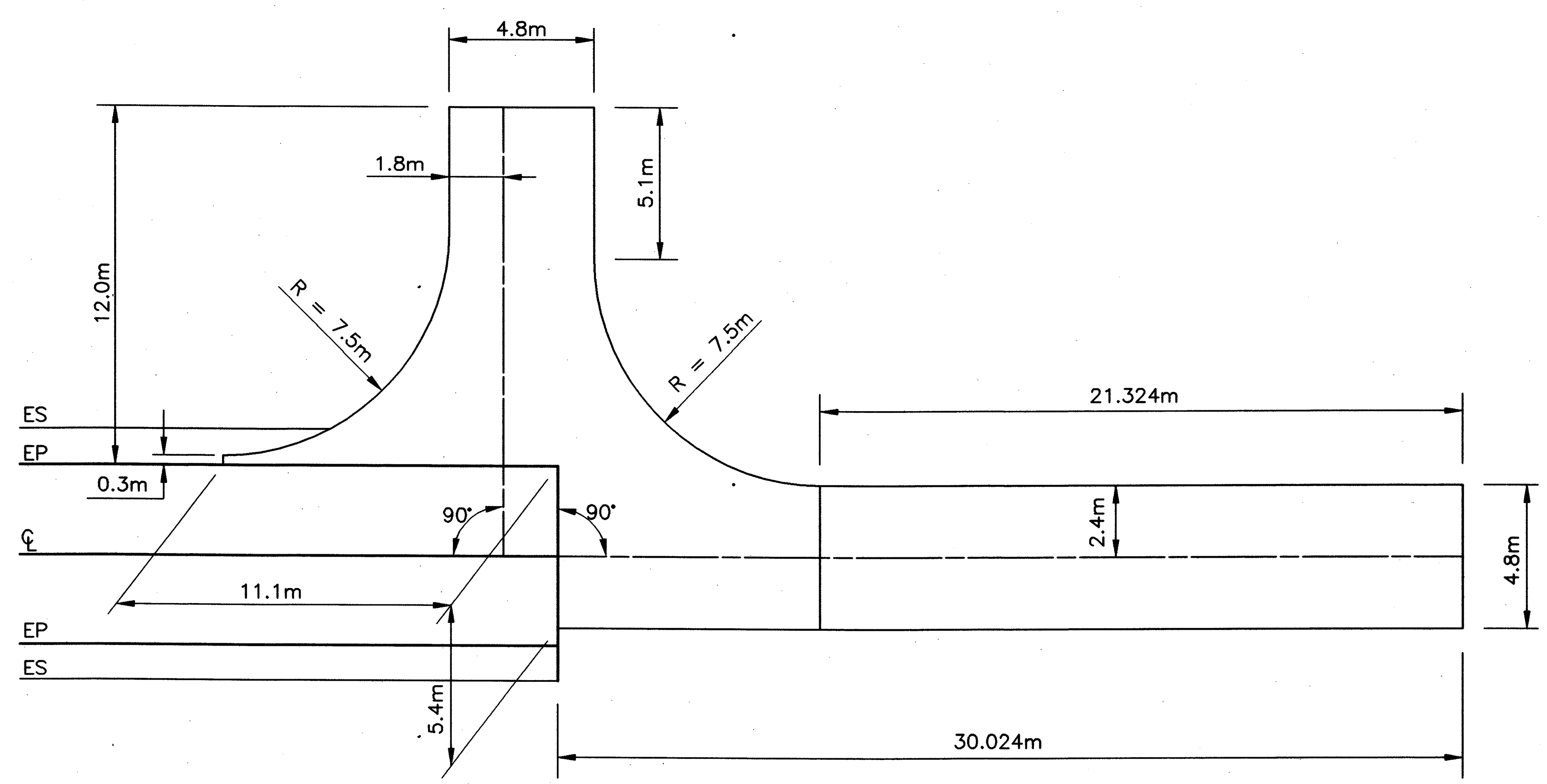
CALCULATED FJB/SAC
CHECKED LBD

CRA-30-24.000

L:\DRAWINGS\93125\F&0C1\Roadway\General\Drives\gc014.dwg April 25 2003 3:44pm By:jmball

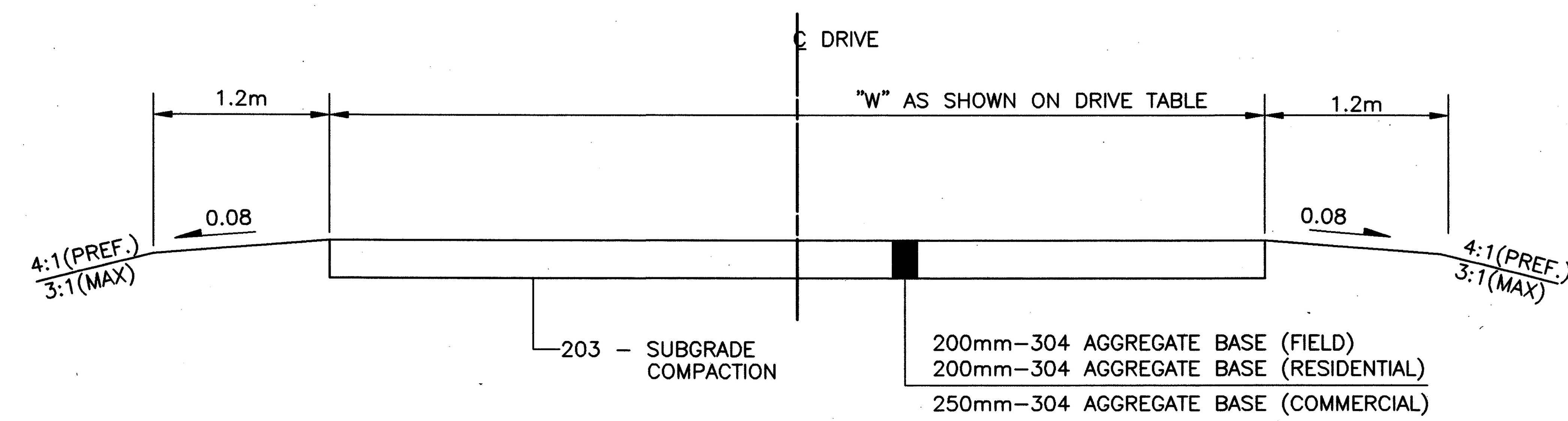


TYPE 1 DRIVE

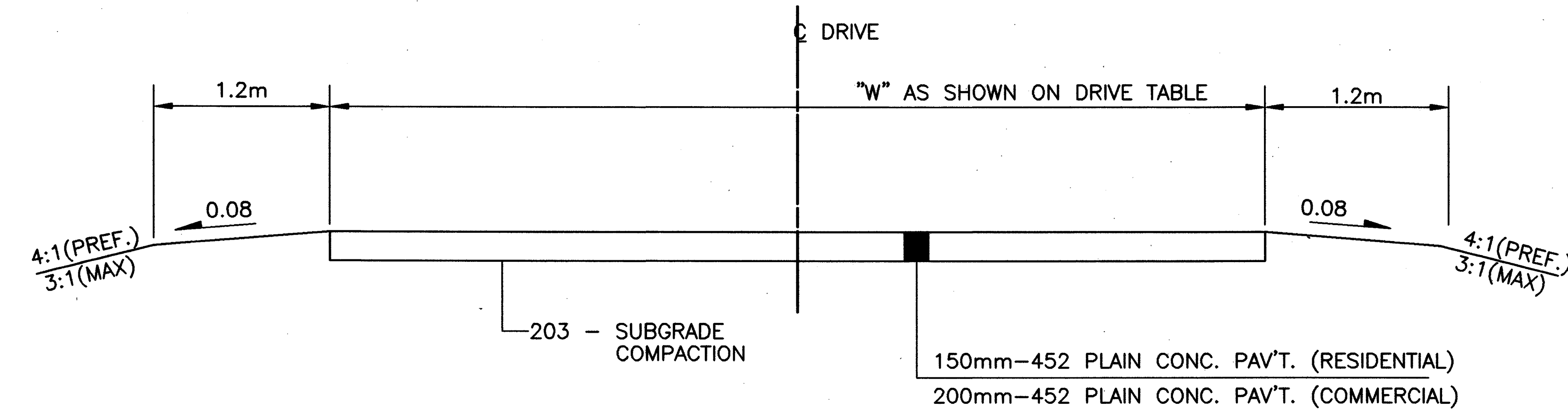


SERVICE ROAD"B"

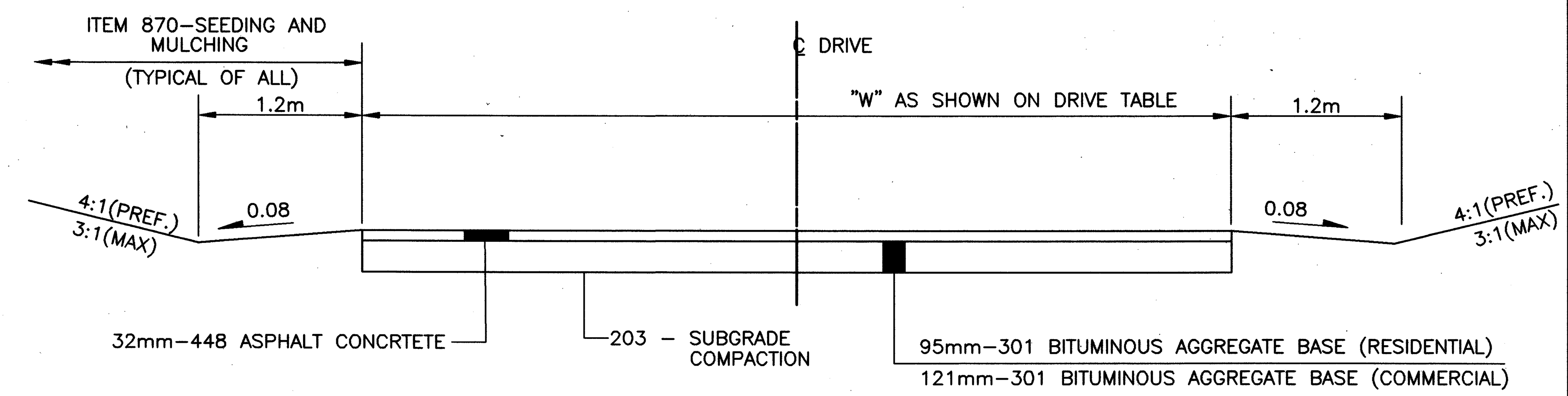
DR–19
TURNAROUND – STA. 10+173.200
DRIVE – STA. 10+175.000



AGGREGATE (GRAVEL) DRIVE



CONCRETE DRIVE



ASPHALT DRIVE

NOTES:

1. SEE ODOT STANDARD CONSTRUCTION DRAWING BP–4.1M FOR FURTHER DETAILS.
2. FOR DRIVEWAY PROFILES SEE SIDE ROAD CROSS SECTIONS.
3. EXISTING CONCRETE APRONS SHALL BE REMOVED UNDER ITEM 202, PAVEMENT REMOVED.
4. SUBGRADE COMPACTION IS INCLUDED IN ITEM 203 EXCAVATION.

DRIVE DETAIL LEGEND

L = DISTANCE TO MEET EXISTING DRIVE PROFILE AS SHOWN IN CROSS SECTIONS
L1 = RECONSTRUCTED APRON LENGTH
L2 = RECONSTRUCTED DRIVE LENGTH
W = RECONSTRUCTED WIDTH AT BACK OF APRON (3.6m MIN., COMM. 10.5m MAX.)
W1 = EXISTING DRIVE WIDTH
W2 = RECONSTRUCTED APRON WIDTH AT EDGE OF PAVEMENT
W3 = RECONSTRUCTED APRON WIDTH AT EDGE OF PAVEMENT

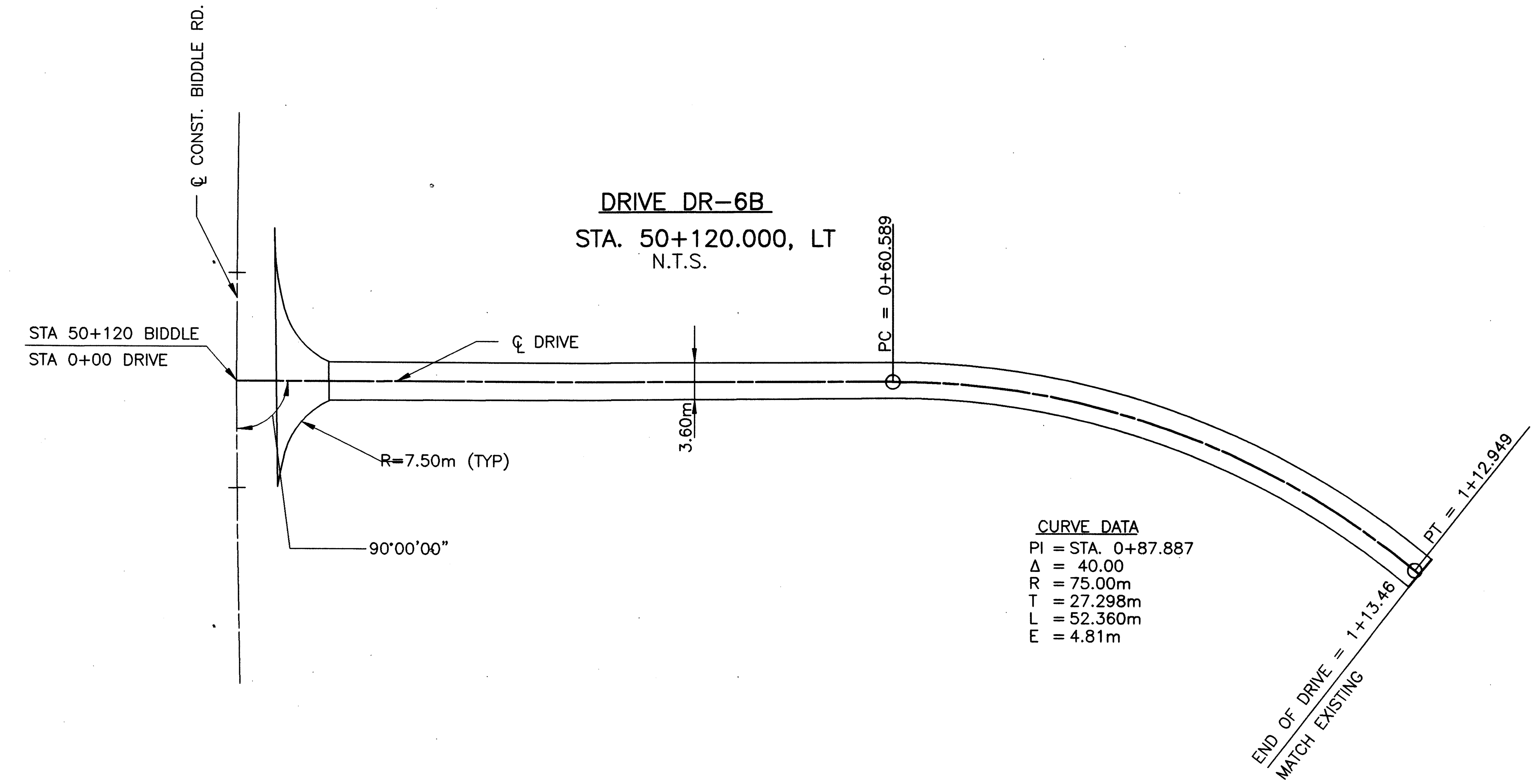
CALCULATED FJB
CHECKED LBD

DRIVEWAY DETAILS

CRA–30–24.000

DRIVE DR-6B

STA. 50+120.000, LT
N.T.S.



NOTES:

1. SEE ODOT STANDARD CONSTRUCTION DRAWING BP-4.1M FOR FURTHER DETAILS.
2. FOR DRIVEWAY PROFILES SEE SIDE ROAD CROSS SECTIONS.
3. EXISTING CONCRETE APRONS SHALL BE REMOVED UNDER ITEM 202, PAVEMENT REMOVED.
4. SUBGRADE COMPACTION IS INCLUDED IN ITEM 203 EXCAVATION.
5. SEE SHEET 492 FOR TYPICAL DRIVE DETAIL.

CALCULATED JMB
CHECKED LBD

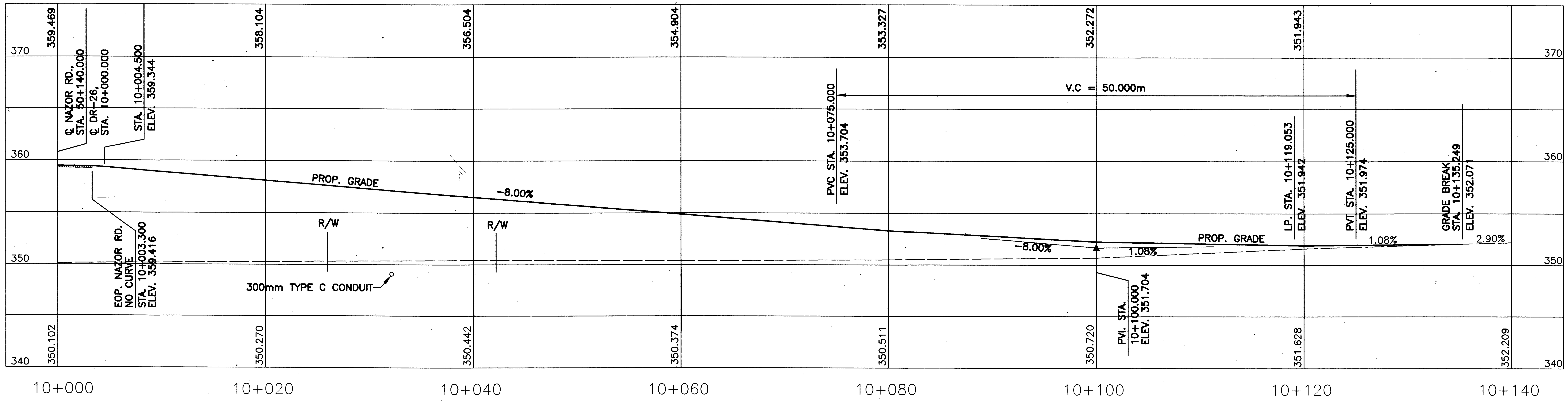
NEW SHEET FOR DRIVE
@ STA. 50+120 LT.
04-23-03

DRIVE DETAIL

CRA-30-24.000

L:\DRAWINGS\93125\F80C1\Roadway\General\Drives\drdet2a.dwg April 22 2003 2:54pm By:hmdeisz

℄ CONSTRUCTION & SURVEY NAZOR ROAD
EOP NAZOR RD. ELEV. 358.741
GRAVEL DRIVE
-10.00%
ADDITIONAL DRIVE EARTHWORK QUANTITIES
CUT 0 CU M
FILL 3244.6 CU M
CARRIED TO DRIVEWAY SUB-SUMMARY
R/W
GTE TEL
358.957
STA. 49+840
352.272
450mm CONDUIT
TYPE D @ 0.555%
F.L. 351.035
8.0m VERTICAL CURVE
PVC 66.507
ELEV. 352.485
PVI 70.507
ELEV. 352.086
PVT 74.507
52.108m Rt.
Sta. 49+789.164
ELEV. 352.086
-10.00%
0.00%
CALCULATED PSB
CHECKED LBD
DRIVEWAY PROFILE - DR-31
CRA-30-24.000
492B
677



ADDITIONAL DRIVE
EARTHWORK QUANTITIES
CUT 0 CU M
FILL 11.317 CU M
CARRIED TO DRIVEWAY SUB-SUMMARY

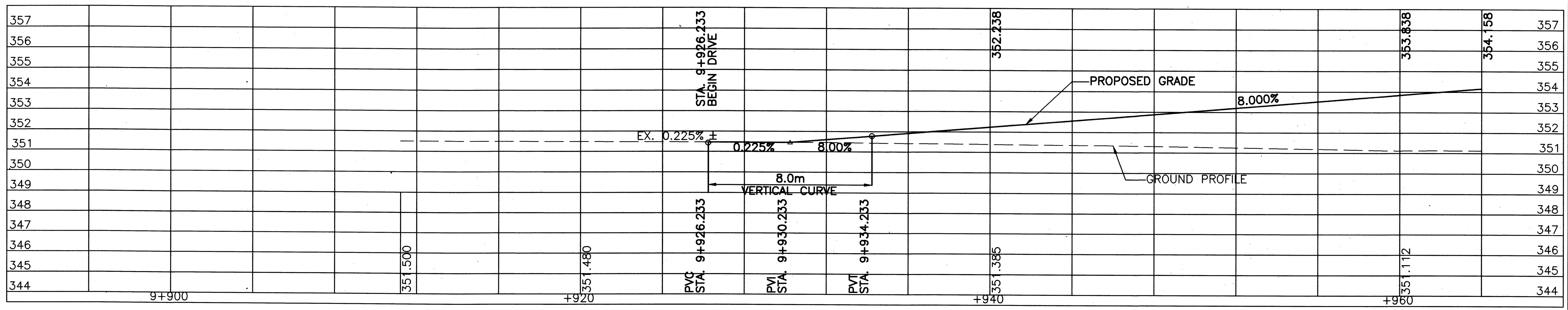
CALCULATED FJB
CHECKED LBD

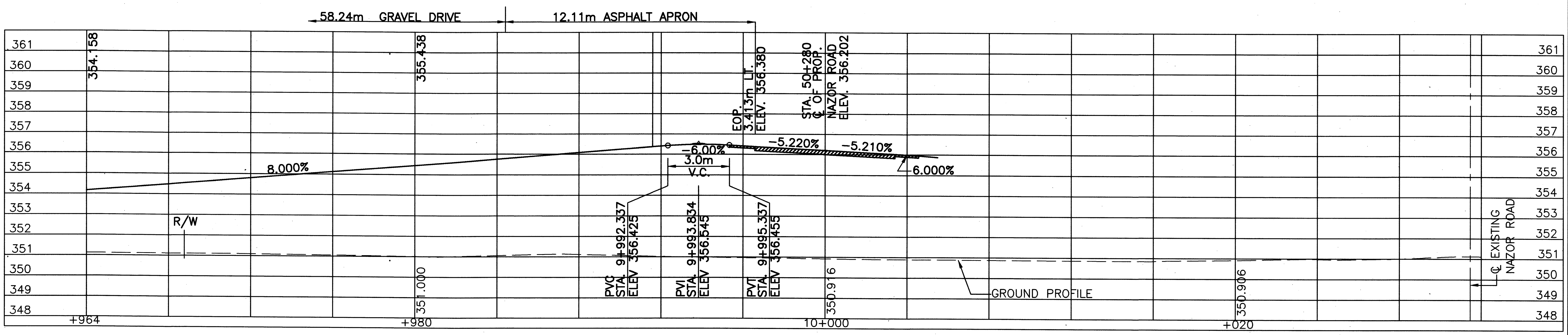
DRIVEWAY PROFILE DR-26

CRA-30-24.000

4920
677

L:\DRAWINGS\43125\F&OC1\Roadway\NAZOR\DRIVES\TROMAN01\Profile1.dwg September 19 2001 8:00am By:lbodd





ADDITIONAL DRIVE
EARTHWORK QUANTITIES
CUT 9.6 CU M
FILL 2639.9 CU M
CARRIED TO DRIVEWAY SUB-SUMMARY

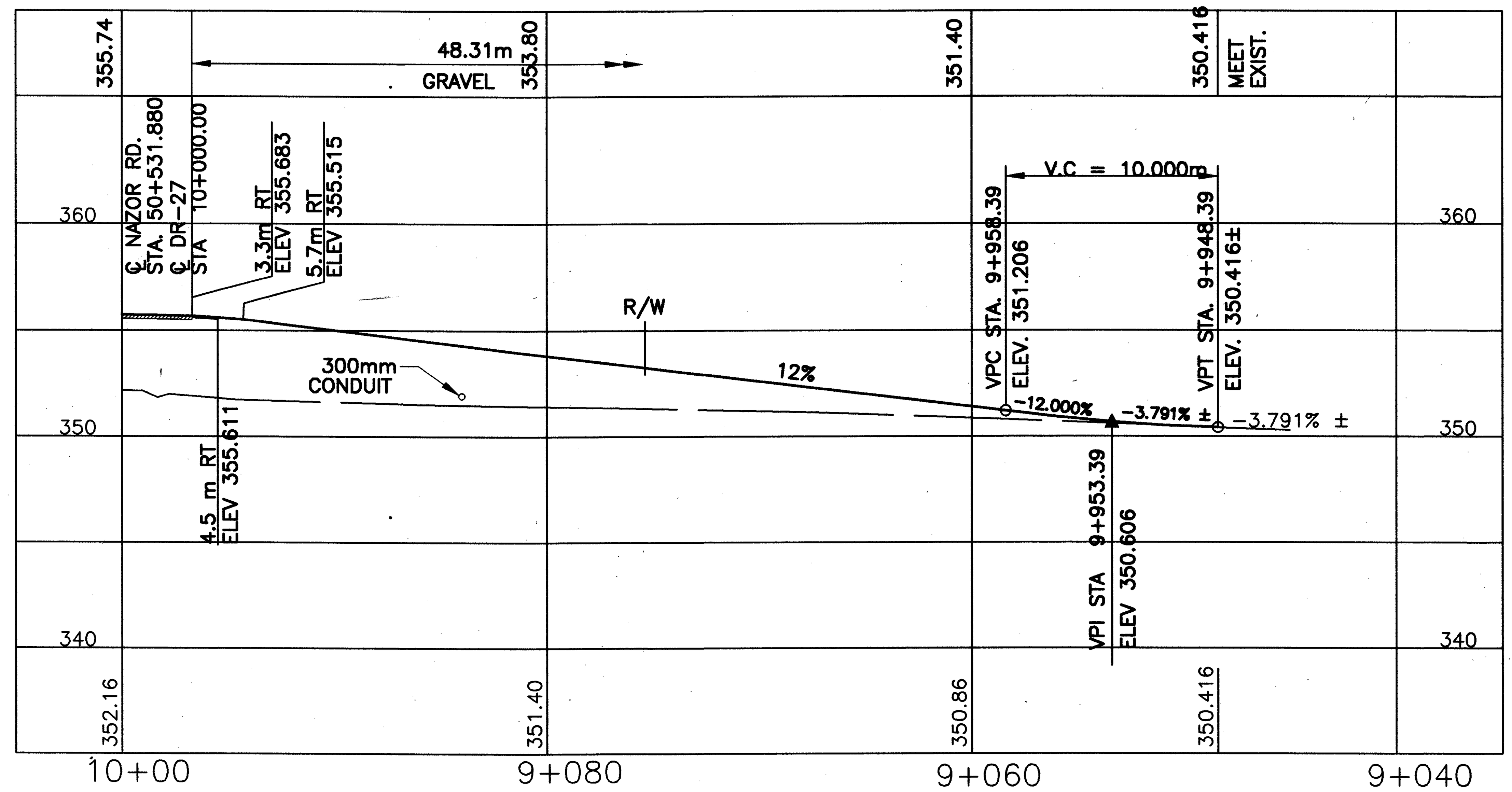
CALCULATED JAG
CHECKED FJB

DRIVEWAY PROFILE - DR-27

CRA-30-24.000

492D
677

L:\DRAWINGS\93125\F&OC1\Roadway\NAZOR\DRIVES\Troiano2\Prof1.dwg September 19 2001 8:07am By:jtodd



ADDITIONAL DRIVE
EARTHWORK QUANTITIES
CUT 10.6 CU M
FILL 878.5 CU M
CARRIED TO DRIVEWAY SUB-SUMMARY

CALCULATED JAG
CHECKED FJB

DRIVEWAY PROFILE – DR-34

CRA-30-24.000

492E
677

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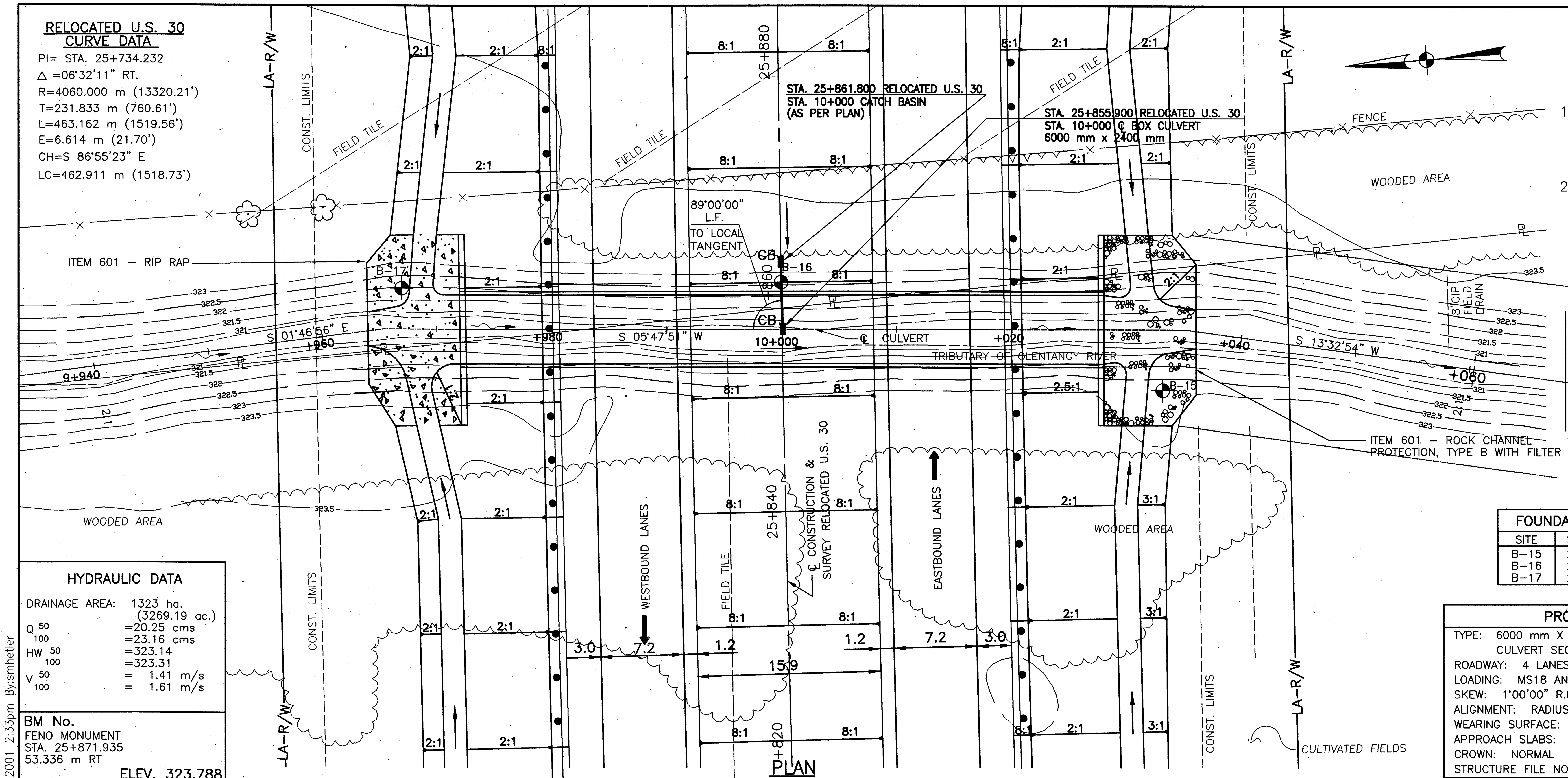
RELOCATED U.S. 30 CURVE DATA

PI= STA. 25+734.232
Δ =06°32'11" RT.
R=4060.000 m (13320.21')
T=231.833 m (760.61')
L=463.162 m (1519.56')
E=6.614 m (21.70')
CH=S 86°55'23" E
LC=462.911 m (1518.73')

NOTE:
1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM PLAN CROSS SECTIONS.
2. ELEVATIONS AND STATIONS ARE IN METERS. ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.



FOUNDATION INVESTIGATION LEGEND

SITE	STATION	OFFSET	ELEVATION
B–15	25+850	33 m RT.	322.500
B–16	25+860	0	323.010
B–17	25+860	33 m LT.	323.600

HYDRAULIC DATA

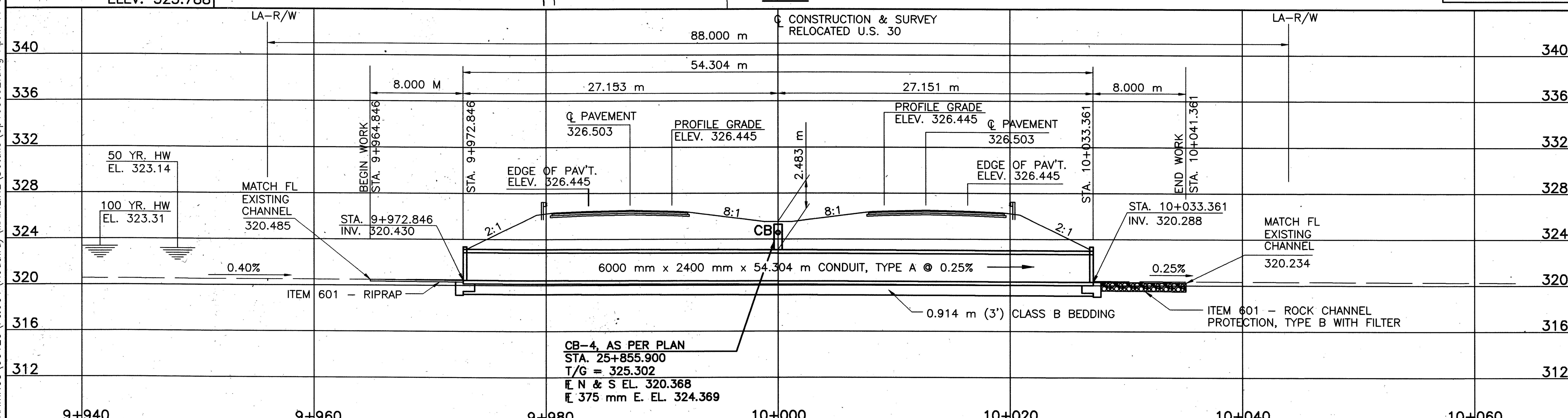
DRAINAGE AREA: 1323 ha. (3269.19 ac.)
Q_{50} =20.25 cms
Q_{100} =23.16 cms
HW_{50} =323.14
HW_{100} =323.31
V_{50} = 1.41 m/s
V_{100} = 1.61 m/s

BM No.

FENO MONUMENT
STA. 25+871.935
53.336 m RT
ELEV. 323.788

PROPOSED STRUCTURE

TYPE: 6000 mm X 2400 mm PRECAST CONCRETE BOX CULVERT SECTIONS
ROADWAY: 4 LANES, 3.6 m, PER LANE
LOADING: MS18 AND THE ALTERNATE MILITARY LOADING
SKEW: 1°00'00" R.F.
ALIGNMENT: RADIUS = 4 060 000 mm
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLABS: NONE
CROWN: NORMAL
STRUCTURE FILE NO. 1701940



PROFILE ALONG ℄ CULVERT

LEGEND

ROCK CHANNEL PROTECTION, 750 mm THICK, TYPE B WITH FILTER
RIPRAP
SOIL BORING LOCATION

DESIGN AGENCY: McCOY/FOK & ASSOCIATES INC. 367 GHENT ROAD, SUITE 1A AKRON, OHIO

DESIGNED	DRAWN	REVIEWED	DATE
PSB	LAS	LBD	12-23-98
CHECKED	REVISED		STRUCTURE FILE NUMBER
HK			1701940

CULVERT PLAN AND PROFILE
BRIDGE NO. CRA-30-25853
OVER TRIBUTARY OF OLENTANGY RIVER

CRA-30-24.000

1/4

493/677

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DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 INTERM SPECIFICATIONS AND THE O.D.O.T. BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING – MS18 AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESS DATA

CONCRETE CLASS C – COMPRESSIVE STRENGTH 27.5 MPa
REINFORCING STEEL (EPOXY COATED) – ASTM A615M, A616M, A617M
– GRADE 420 MINIMUM YIELD STRENGTH 420 MPa

MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURES RECOMMENDED PROCEDURES. CONNECTORS AND DOWEL BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS. CONNECTORS AND DOWEL BAR EXTENSIONS SHALL CONFORM WITH CMS 509 AND BE INCLUDED IN THE BID PRICE FOR ITEM 603.

FOUNDATION BEARING PRESSURE

THE WINGWALL FOOTINGS AS DESIGNED, PRODUCE A MAXIMUM BEARING OF 138 kPa. THE ALLOWABLE BEARING PRESSURE IS 144 kPa.

ITEM 518 POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN

THE MATERIAL SHALL BE NO. 57 GRAVEL.

ITEM 842–CLASS C CONCRETE CULVERT, AS PER PLAN

THE AGGREGATE SHALL CONSIST OF NO. 8 LIMESTONE. THESE ITEMS SHALL INCLUDE THE COSTS OF THE REINFORCING STEEL.

SEALING OF CONCRETE SURFACES

EPOXY–URETHANE SHALL BE THE "BUFF" COLOR MEETING FEDERAL COLOR STANDARD NO. 3772 AS PER THE DETAILS IN THE PLANS.
SEE

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATIONS FOR WINGWALLS, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

SURVEY DISC ON STRUCTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE WINGWALLS. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC FOR EACH STRUCTURE (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE WINGWALL. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK IS CONSIDERED INCIDENTAL TO THE CONCRETE BID ITEM.

ITEM 603, 6000mm X 2400mm CONDUIT, TYPE A, 706.05, AS PER PLAN

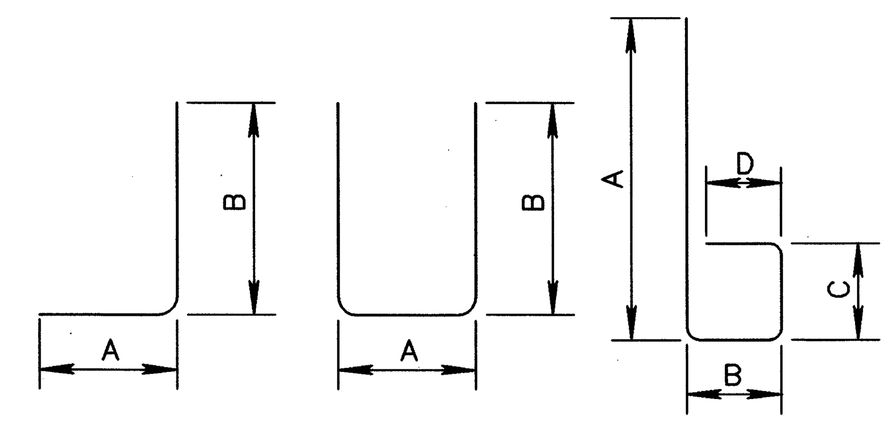
JOINT WRAP AS SPECIFIED IN 603.06 AND CONCRETE SEALING AS SPECIFIED IN 603.08 ARE NOT REQUIRED UNDER THE LIMITS OF THE TYPE 2 WATERPROOFING. THE EXTERIOR JOINT GAP ON THE TOP AND SIDES BETWEEN THE PRECAST CULVERT SECTIONS SHALL BE FILLED WITH PORTLAND CEMENT MORTAR PRIOR TO INSTALLING THE WATERPROOFING. THE WATERPROOFING SHALL BE INSTALLED ON THE EXTERIOR VERTICAL AND TOP HORIZONTAL SURFACES FROM INLET HEADWALL TO OUTLET HEADWALL.

THE EARTHWORK AND PAVEMENT BUILDUP CALCULATIONS, AND ALL ELEVATIONS AND DIMENSIONS RELATIVE TO THE STRUCTURE SHALL BE BASED UPON ACTUAL CULVERT DIMENSIONS OF 6096 mm X 2438 mm WITH 305 mm WALL THICKNESS.

BACKFILLING THE VOID AROUND THE PROPOSED CONDUIT AND THE VOID CREATED BY THE EXCAVATION AS SHOWN ON SHEET 3/4 SHALL BE IN ACCORDANCE WITH ITEM 603 EXCEPT THAT ALL BACKFILL EXTENDING LATERALLY FROM OUTSIDE EDGE TO OUTSIDE EDGE SHALL BE LOW STRENGTH MORTAR BACKFILL, TYPE 2. THE LOW STRENGTH MORTAR BACKFILL SHALL EXTEND UP TO THE BOTTOM OF THE PROPOSED 304 COURSE. ALL REMAINING BACKFILL SHALL BE IN ACCORDANCE WITH ITEM 203.

PAYMENT SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR THE CONDUIT, TYPE A, 706.05, AS PER PLAN. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT.

REINFORCING SCHEDULE										
MARK	NUMBER	LENGTH	TYPE	INLET	OUTLET	A	B	C	D	INCRM.
F16M01	6	6605	STR.	3	3					
F16M02	22	7905	STR.	11	11					
F16M03	60	1400	STR.	30	30					
F16M04	60	2270	2	30	30	500	925			
H16M01	60	560	1	30	30	200	400			
H16M02	4	6600	STR.	2	2					
W16M01	70	5375	STR.	70						
W16M02	122	2575	STR.	64	58					
W16M03	50	4585	26	26	24	2575	755	775	600	
W16M04	50	3725	STR.	26	24					
W16M06	70	4875	STR.		70					
W29M01	106	3375	1	56	50	485	2975			
W29M02	106	3725	STR.	56	50					



TYPE 1 TYPE 2 TYPE 26

(1) ALL REINFORCING STEEL TO BE EPOXY COATED.

(2) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A 16M01 IS A 16M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

ESTIMATED QUANTITIES (CARRIED TO GENERAL SUMMARY)					
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN
503	21300	LUMP		UNCLASSIFIED EXCAVATION	
512	33000	882.5	SQ. METER	TYPE 2 WATERPROOFING	
518	21231	LUMP		POROUS BACKFILL w/FABRIC FILTER, AS PER PLAN	
601	10000	162.5	SQ. METER	RIPRAP	
601	32104	95.6	CU. METER	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
603	96499	54.5	METER	6000mm X 2400mm CONDUIT, TYPE A, 706.05, AS PER PLAN	
842	47001	82.5	CU. METER	CLASS C CONCRETE, CULVERT, AS PER PLAN	
864	10100	61.0	SQ. METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED LBD DATE 12-28-98
STRUCTURE FILE NUMBER 1701940

DRAWN LAS REVISED

DESIGNED HK CHECKED RHW

GENERAL NOTES & QUANTITIES
BRIDGE NO. CRA-30-25853
OVER TRIBUTARY OF OLENTANGY RIVER

CRA-30-24.000

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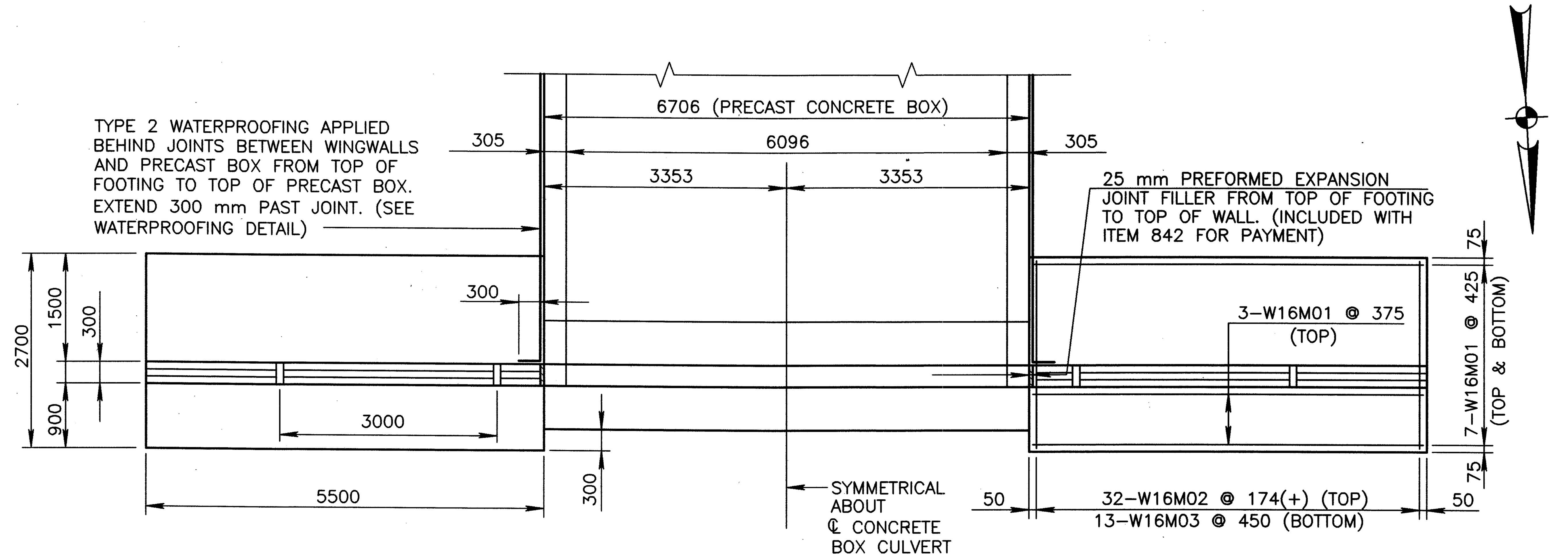
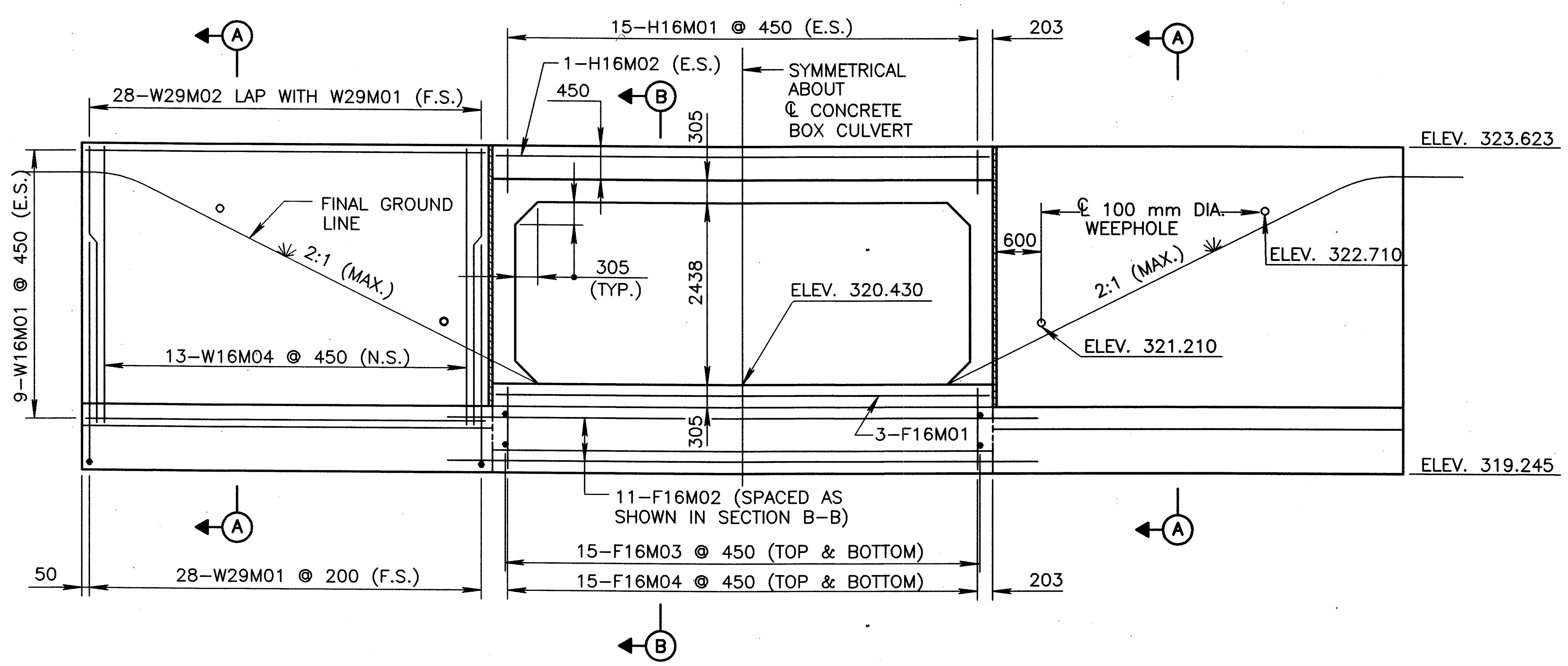
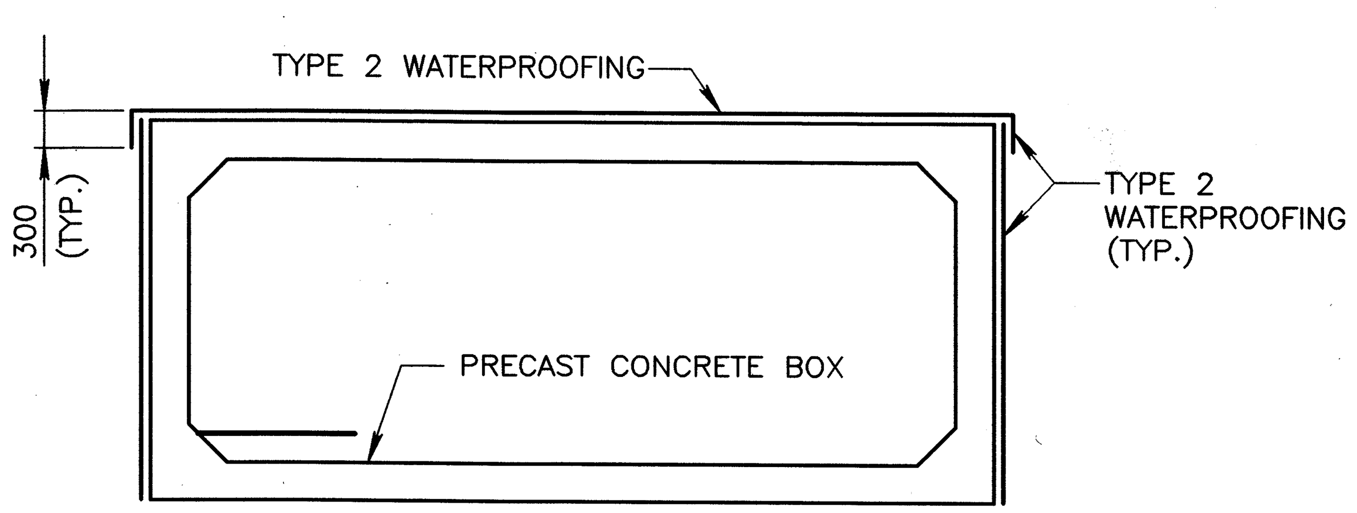


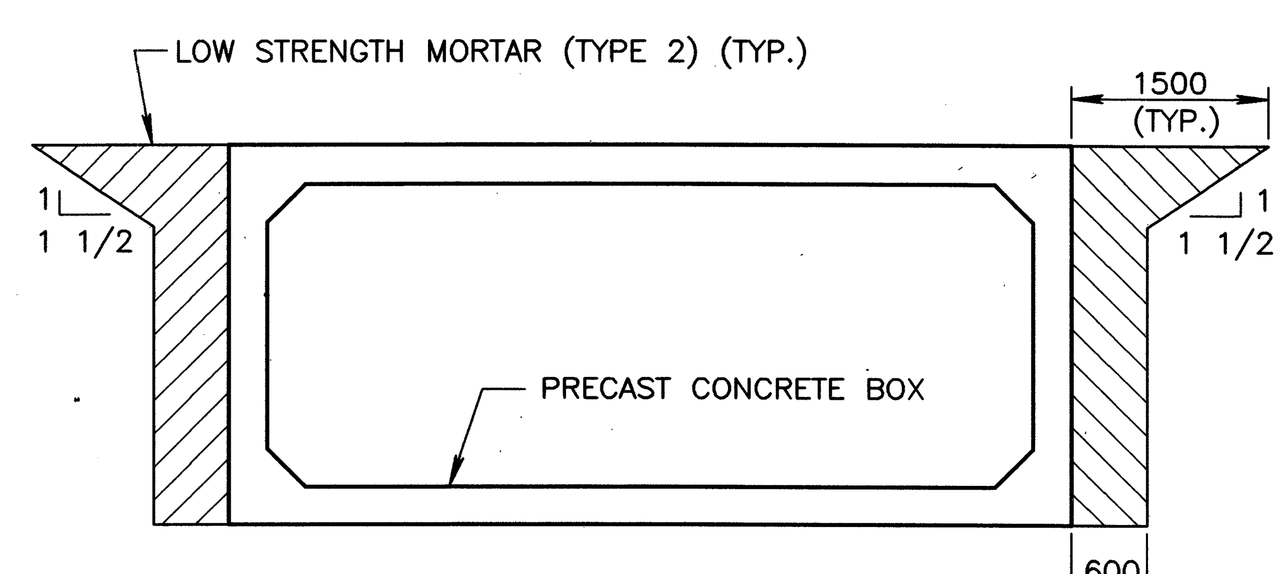
INLET PLAN



INLET ELEVATION



WATERPROOFING DETAIL



BEDDING LIMITS DETAIL

BEDDING LIMITS USING LOW STRENGTH MORTAR (TYPE 2) AS SHOWN. ALL OTHER PROVISIONS OF 603 APPLY.

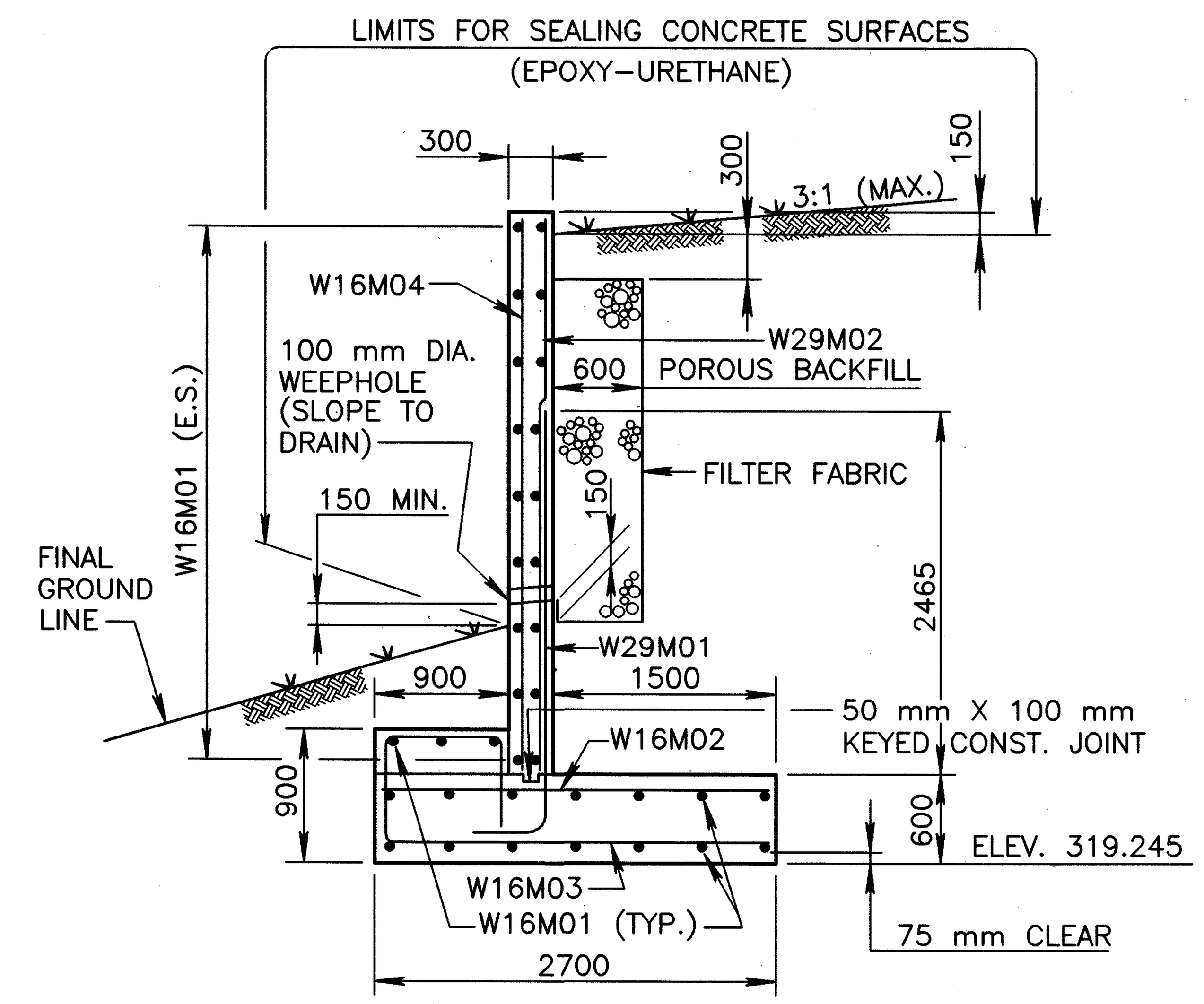
NOTES

1. ALL CLEARANCES ARE 50 mm UNLESS NOTED OTHERWISE.
2. POROUS BACKFILL WITH FILTER FABRIC, 600 mm THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE TO 300 mm BELOW THE EMBANKMENT SURFACE, AND EXTEND LATERALLY TO THE ENDS OF THE WINGWALLS. 0.06 kg/m^3 OF BAGGED NO. 3 AGGREGATE SHALL BE PLACED AS PER PLAN AT EACH WEEPHOLE. BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.
3. FOR OUTLET WINGWALL DETAILS, SEE SHEET 4/4.
4. MINIMUM LAP UNLESS OTHERWISE NOTED: 16M BAR = 740 mm

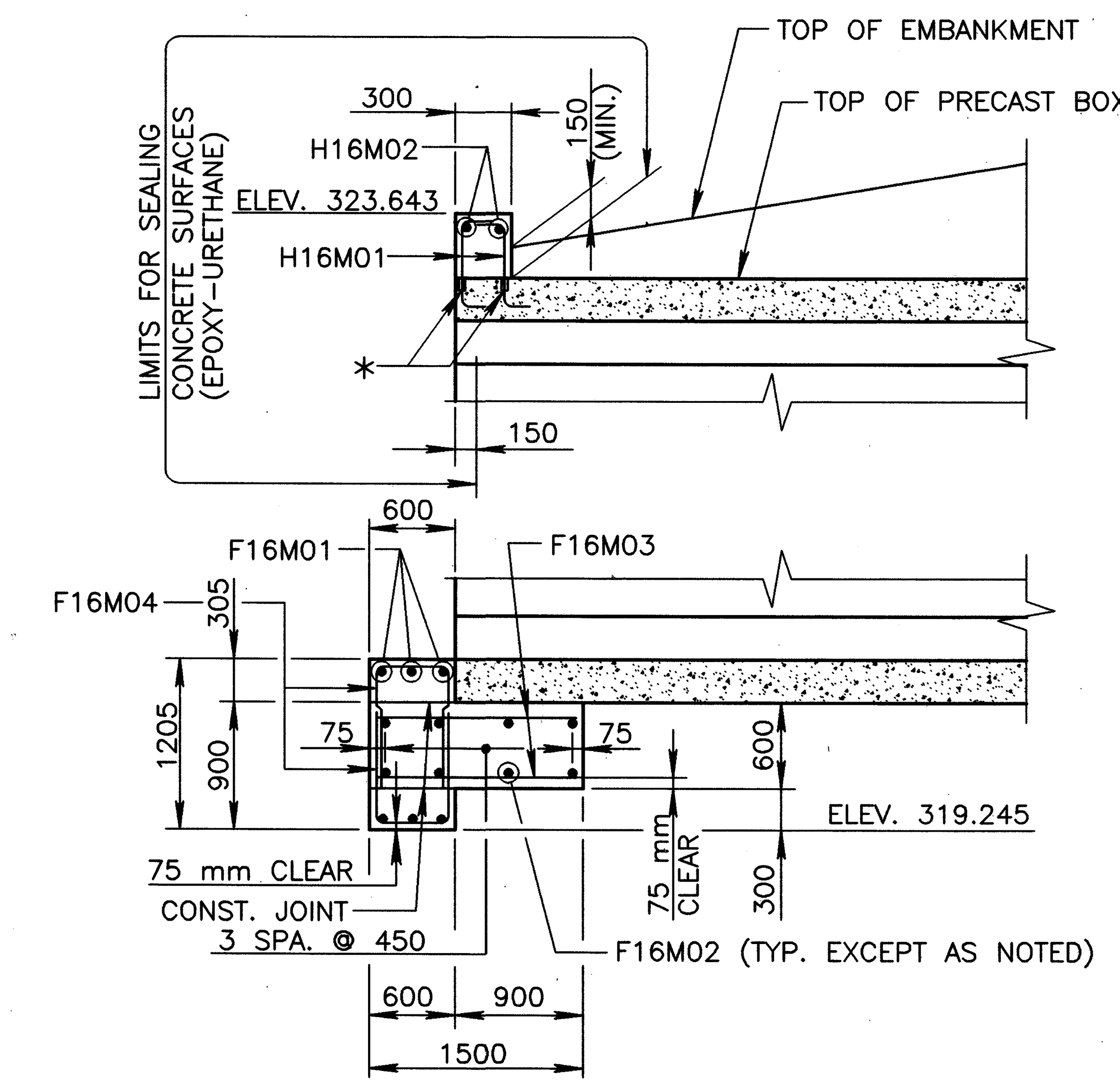
metric units

LEGEND

N.S. DENOTES NEAR SIDE
F.S. DENOTES FAR SIDE
E.S. DENOTES EACH SIDE



SECTION A–A



SECTION B–B

*REBAR AS SHOWN SHALL BE CAST IN THE BOX FOR THE ATTACHMENT OF H16M01 BARS. SCREW-TYPE MECHANICAL CONNECTORS, IN ACCORDANCE WITH 509.08, SHALL BE USED. THE COST OF THE REBAR AND MECHANICAL CONNECTORS SHALL BE INCLUDED IN THE COST OF THE BOX CULVERT.

DESIGN AGENCY: McCOY/FOK & ASSOCIATES INC. 367 GHENT ROAD, SUITE 1A AKRON, OHIO

REVIEWED LBD | DATE 12-23-98 | STRUCTURE FILE NUMBER 1701940

DRAWN WEB | REVISED

DESIGNED HK | CHECKED RHW

CULVERT INLET WINGWALL AND FOOTING DETAILS
BRIDGE NO. CRA-30-25853
OVER TRIBUTARY OF OLENTANGY RIVER

CRA-30-24.000

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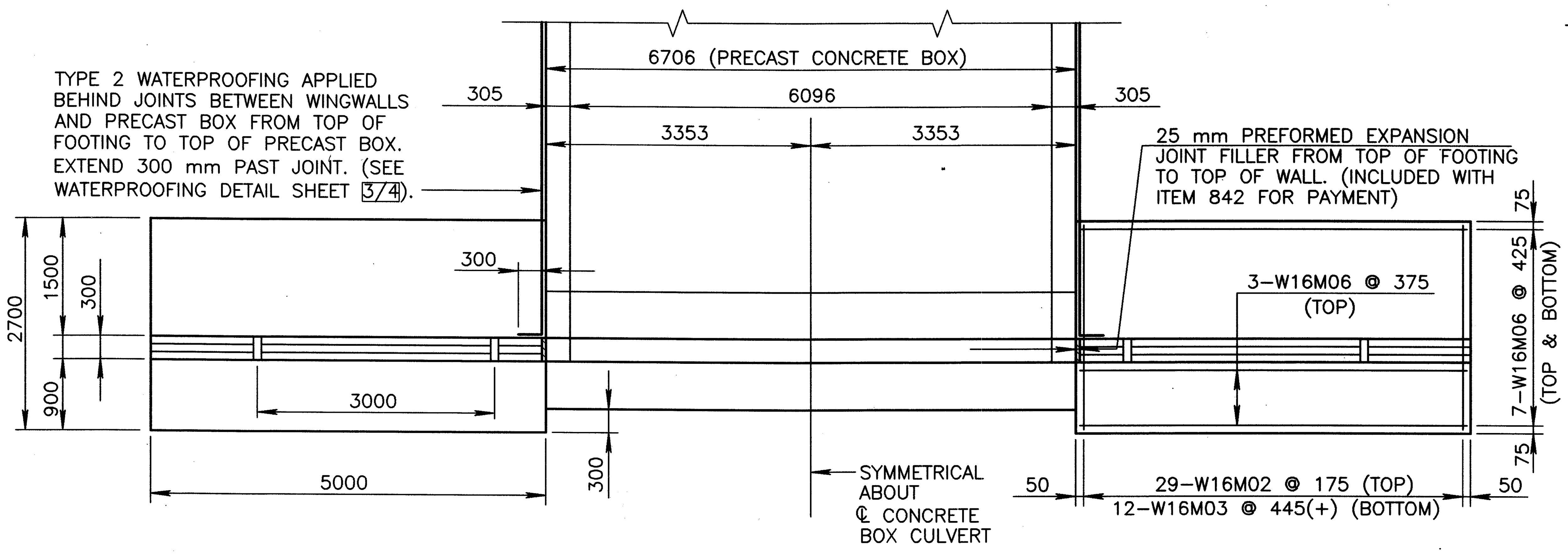
NOTES

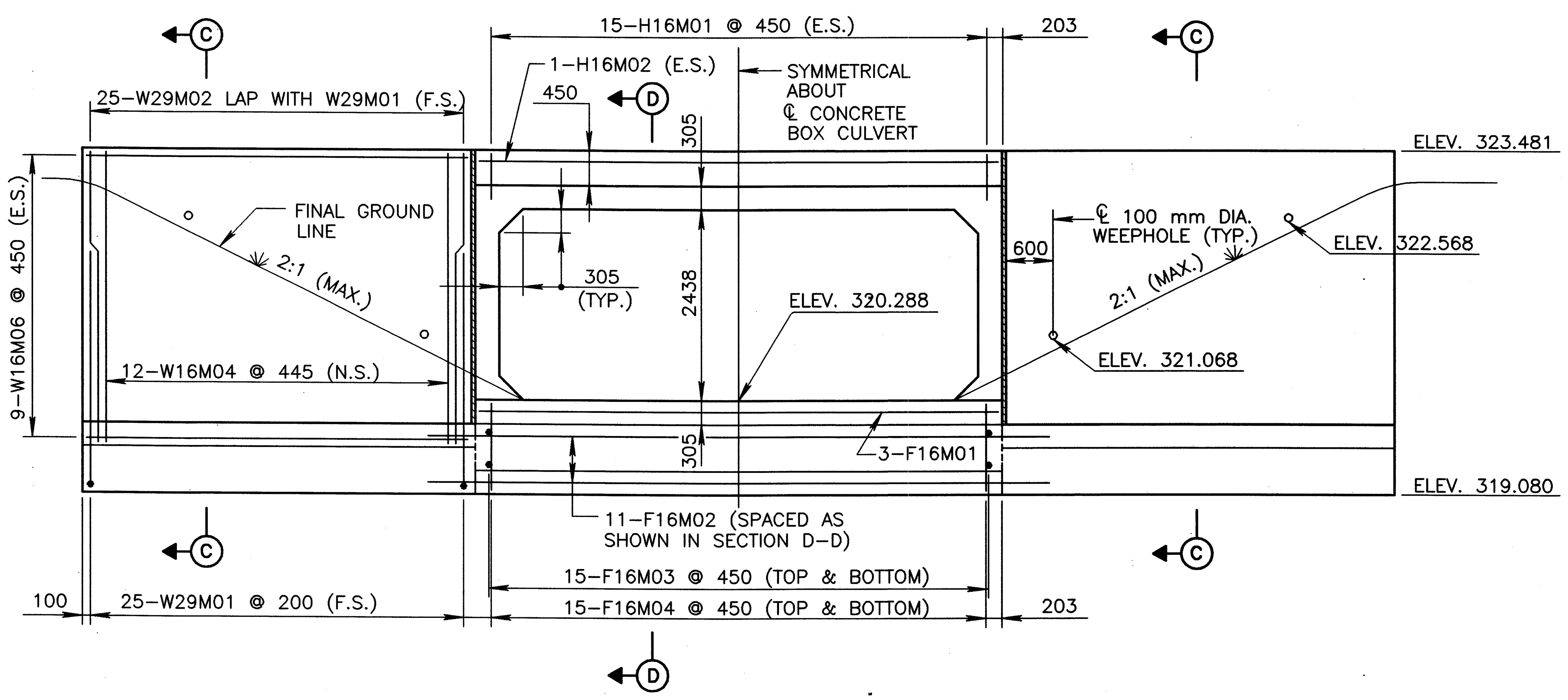
(1) FOR NOTES, WATERPROOFING DETAIL AND BEDDING LIMITS DETAIL, SEE SHEET 3/4.

LEGEND

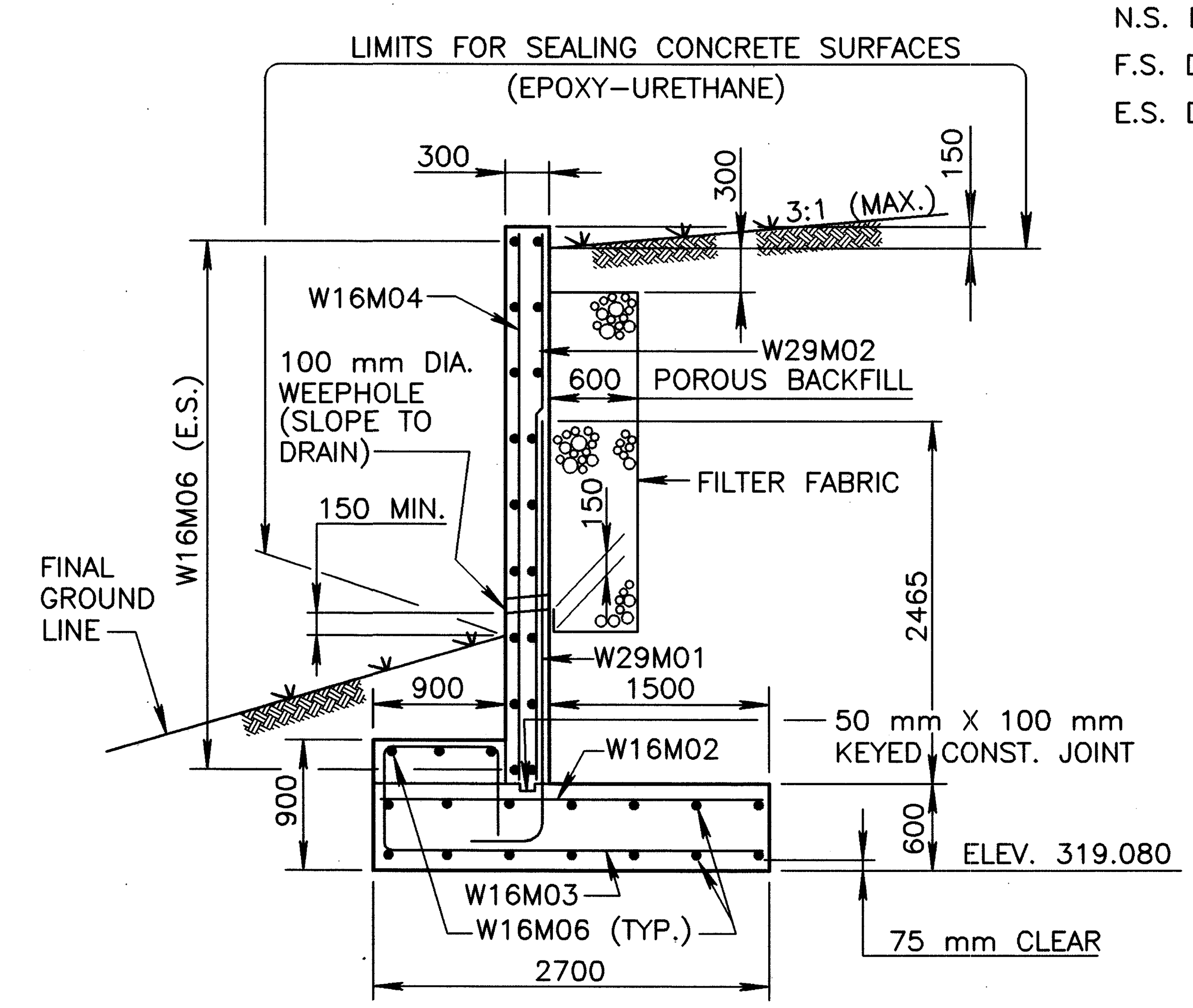
N.S. DENOTES NEAR SIDE
F.S. DENOTES FAR SIDE
E.S. DENOTES EACH SIDE



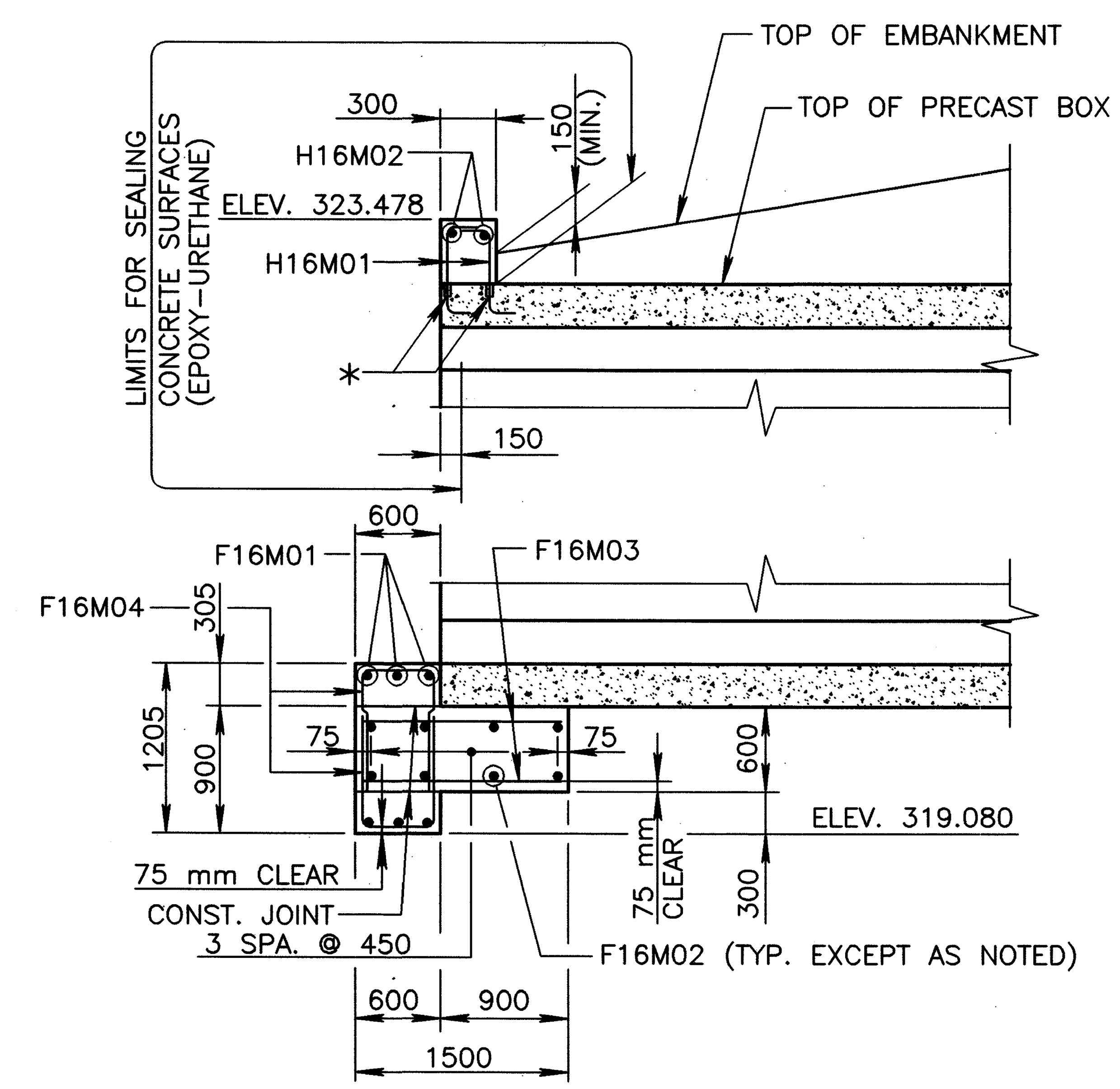
OUTLET PLAN



OUTLET ELEVATION



SECTION C-C



SECTION D-D

*REBAR AS SHOWN SHALL BE CAST IN THE BOX FOR THE ATTACHMENT OF H16M01 BARS. SCREW-TYPE MECHANICAL CONNECTORS, IN ACCORDANCE WITH 509.08, SHALL BE USED. THE COST OF THE REBAR AND MECHANICAL CONNECTORS SHALL BE INCLUDED IN THE COST OF THE BOX CULVERT.

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED	DRAWN	REVIEWED	DATE
HK	WEB	LBD	12-23-98
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHW		1701940	

CULVERT OUTLET WINGWALL AND FOOTING DETAILS
BRIDGE NO. CRA-30-25853
OVER TRIBUTARY OF OLENTANGY RIVER

CRA-30-24.000

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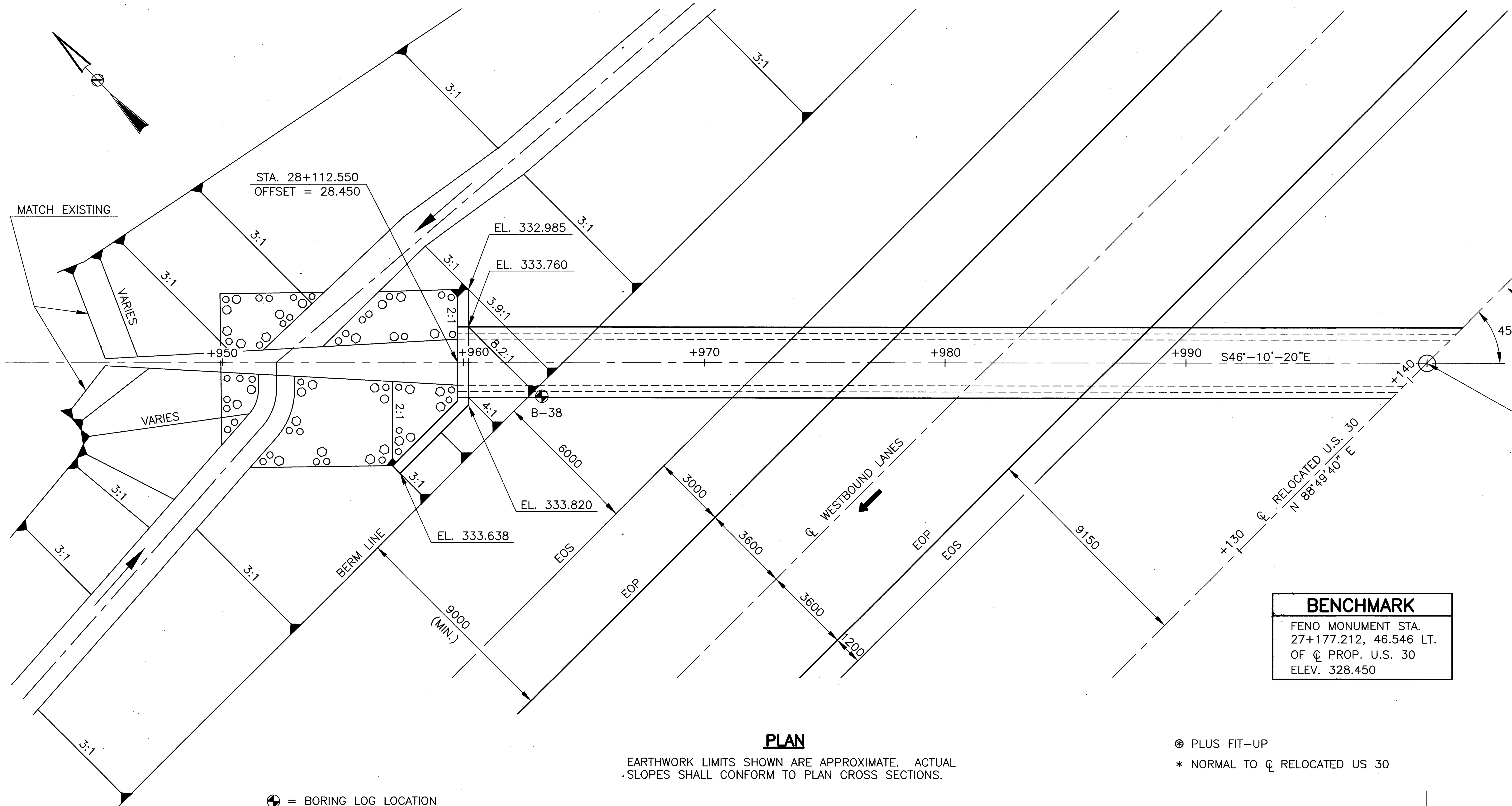


BENCHMARK

FENO MONUMENT STA.
27+177.212, 46.546 LT.
OF ℄ PROP. U.S. 30
ELEV. 328.450

PROPOSED STRUCTURE

TYPE: 2400 x 1500 CONDUIT, TYPE A
LENGTH: 80 470 PLUS FIT-UP
ROADWAY: 7200 EDGE/EDGE PAVEMENT
SKEW: 45°-00'-00" R.F.
ALIGNMENT: TANGENT

HYDRAULIC DATA

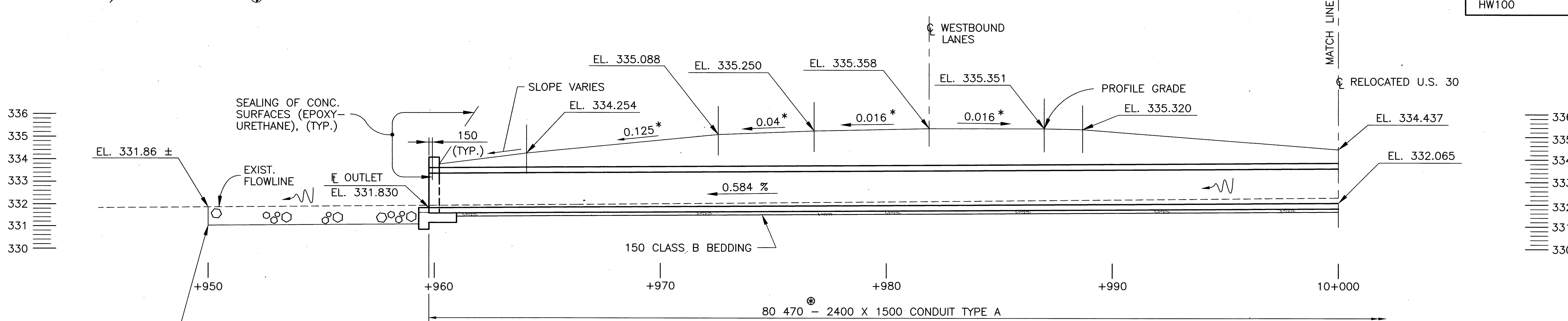
DRAINAGE AREA	=	1.598 km²
Q50	=	7.14 m³/s
Q100	=	8.58 m³/s
V50	=	3.82 m/s
HW50	=	333.81
V100	=	4.10 m/s
HW100	=	334.04

PLAN

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

⊕ = BORING LOG LOCATION

⊛ PLUS FIT-UP
* NORMAL TO ℄ RELOCATED US 30



ROCK CHANNEL PROTECTION
TYPE "A", 1000 mm THICK, WITH FABRIC FILTER

PROFILE ALONG ℄ CULVERT

ALL ELEVATIONS ARE IN METERS
ALL DIMENSIONS ARE IN MILLIMETERS.

1000 0 1000
SCALE IN MILLIMETERS

CULVDET1.DWG
12-20-2000 11:25 AM
SCALE: 1:100M

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

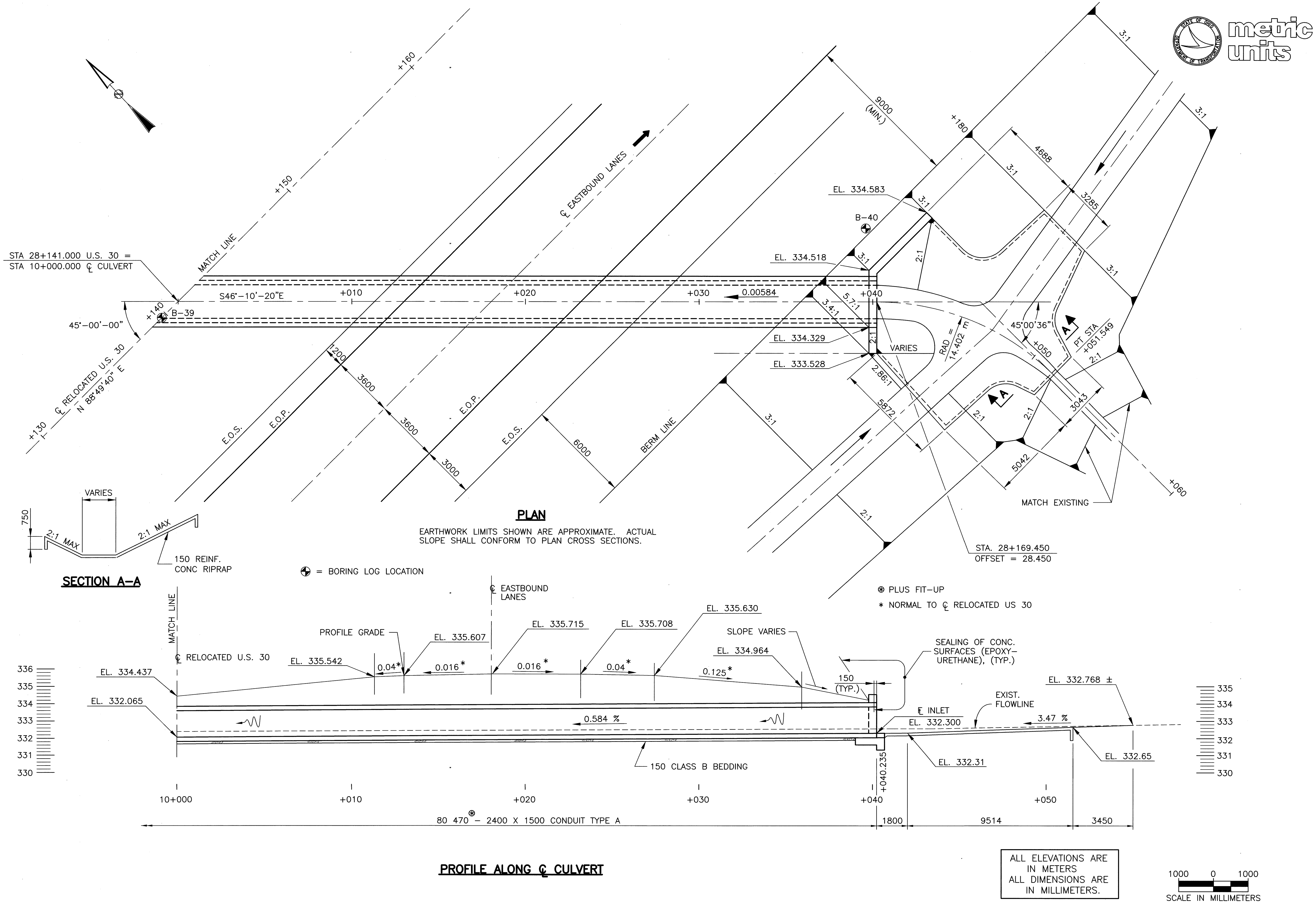
REVIEWED TF | DATE 12-00 | STRUCTURE FILE NUMBER 1701797
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

CULVERT PLAN AND PROFILE

CULVERT NO. CRA-30-28141
UNDER RELOCATED U.S. 30

CRA-30-24.000

1/6



PLAN

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPE SHALL CONFORM TO PLAN CROSS SECTIONS.

SECTION A–A

⊕ = BORING LOG LOCATION

⊛ PLUS FIT-UP

* NORMAL TO ℄ RELOCATED US 30

PROFILE ALONG ℄ CULVERT

ALL ELEVATIONS ARE IN METERS
ALL DIMENSIONS ARE IN MILLIMETERS.

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED	DRAWN	REVIEWED	DATE
HJS	KRM	TF	12-00
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDV		1701797	

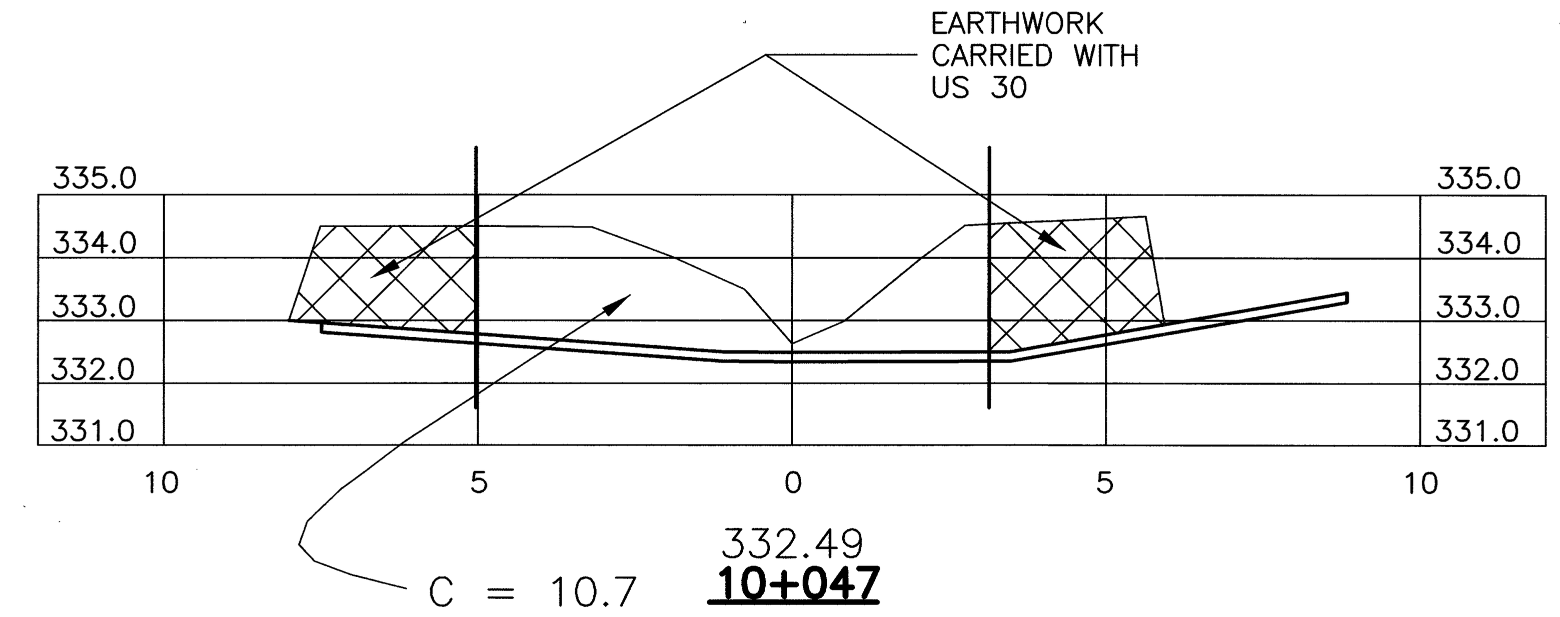
CULVERT PLAN AND PROFILE

CULVERT NO. CRA-30-28141
UNDER RELOCATED U.S. 30

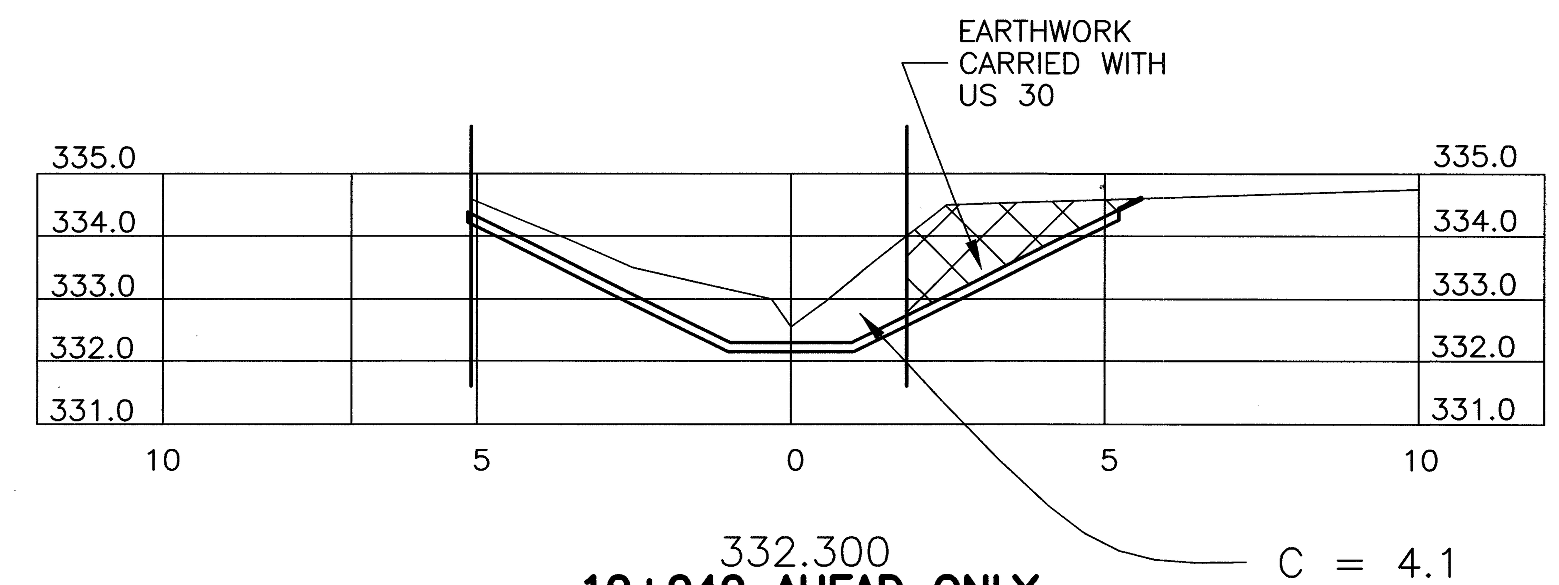
CRA-30-24.000

CULVDET2.DWG
12-20-2000 11:30 AM
SCALE: 1:100M

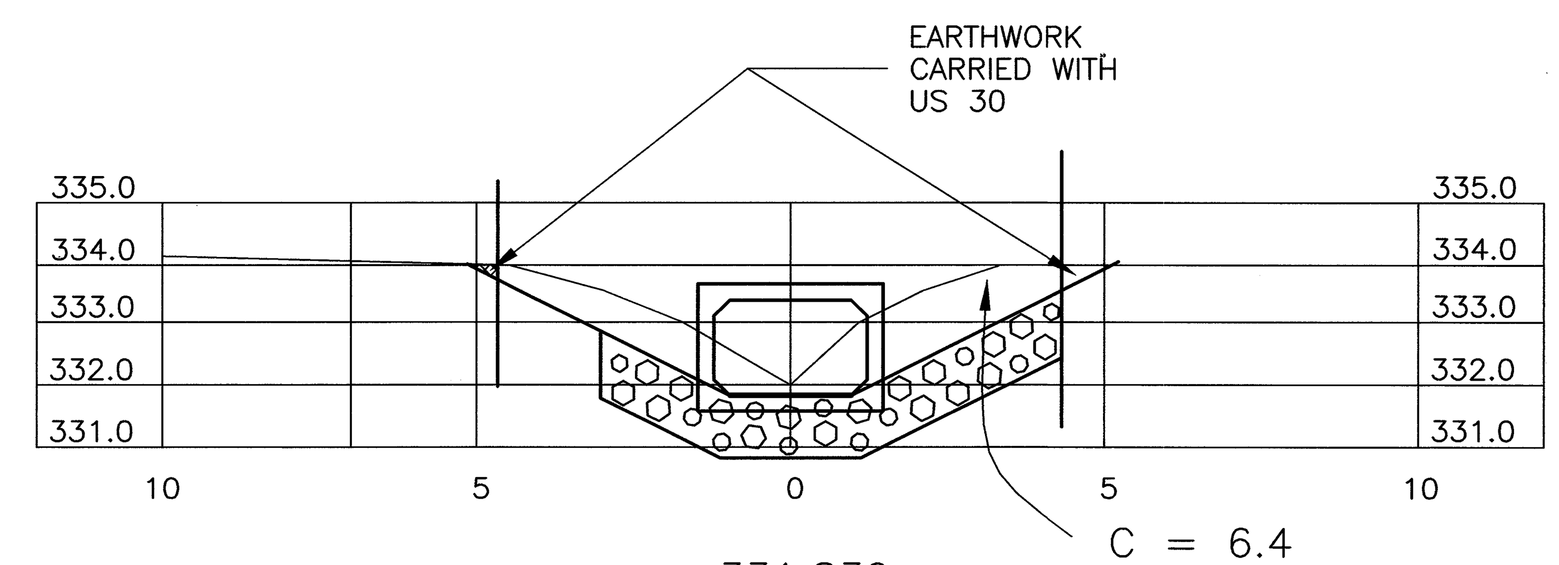
ZERO EARTHWORK
10+056



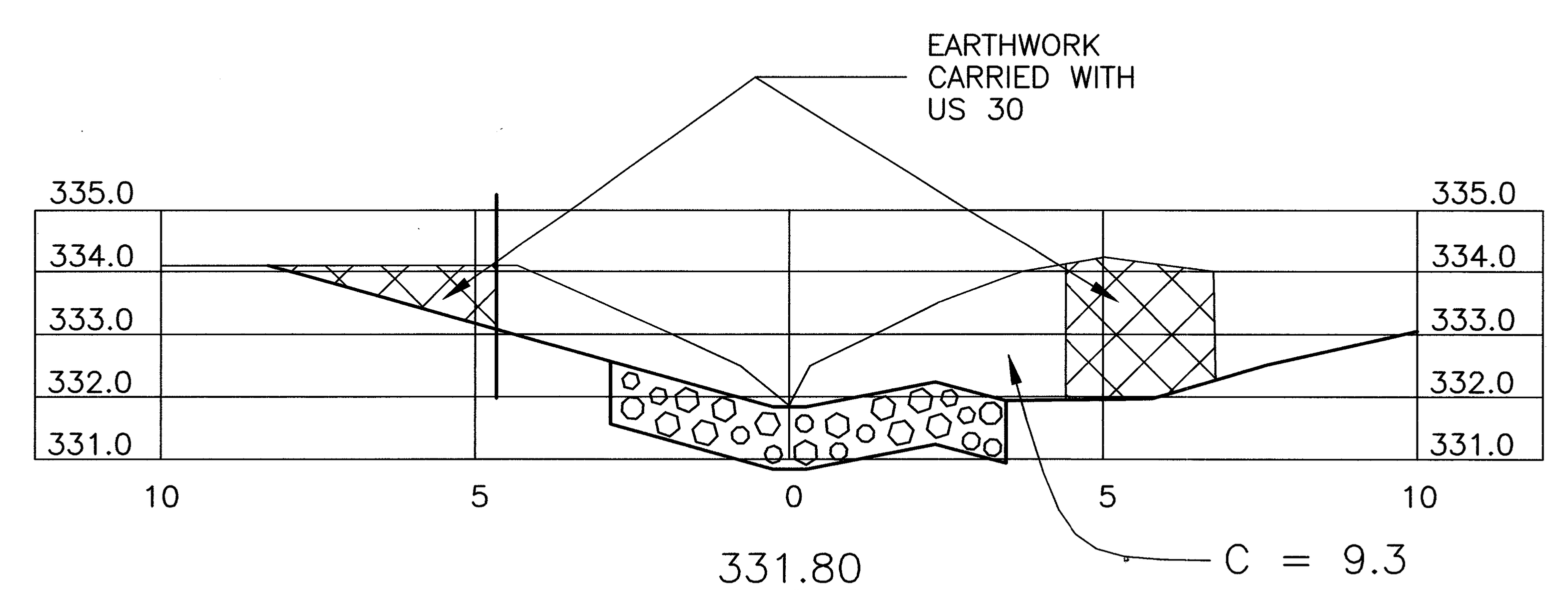
332.49
10+047
332.63 ±



332.300
10+040 AHEAD ONLY
332.556 ±



331.830
9+960 BACK ONLY
331.831 ±



331.80
9+950
331.86 ±

ZERO EARTHWORK
9+943

metric units

EARTHWORK CALCULATION

STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9+943	0	0		
			32.6	0
9+950	9.3	0		
			78.5	0
9+960 BACK ONLY	6.4	0		
			——	——
10+040 AHEAD ONLY	4.1	0		
			51.8	0
10+047	10.7	0		
			48.2	0
10+056	0	0		
	TOTALS CU. M		211.1	0

CALC. BY HJS 8-3-00
CHK'D. BY JDV 11-15-00

QUANTITY CARRIED TO GENERAL SUMMARY SHEET FOR ITEM 203, EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

ALL DIMENSIONS ARE IN MILLIMETERS.

1000 0 1000
SCALE IN MILLIMETERS

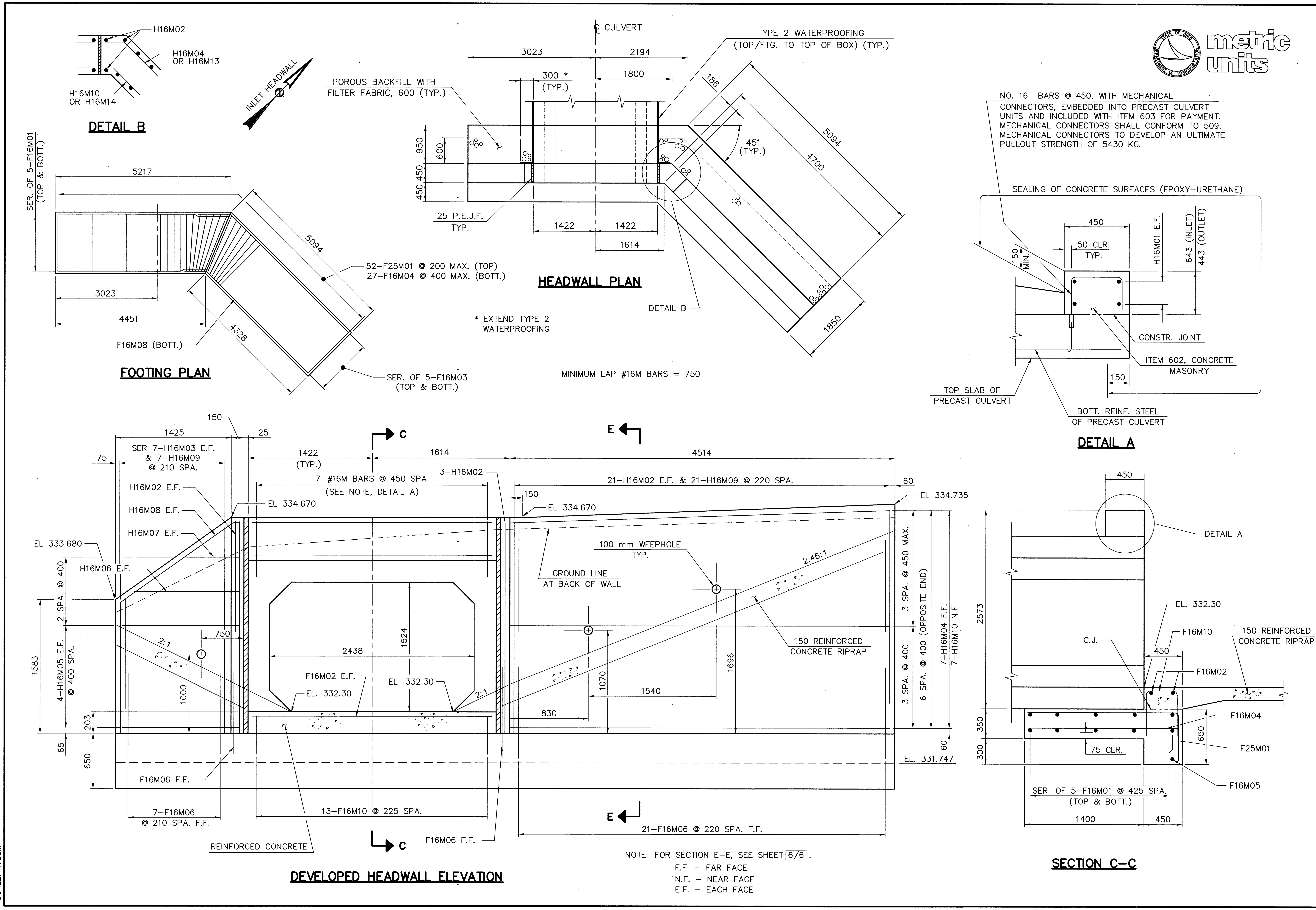
SECTION.DWG
12-20-2000 12:40 PM
SCALE: 1:100M

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF DATE 12-00
STRUCTURE FILE NUMBER 1701797
DRAWN KRM REVISED
DESIGNED HJS CHECKED JDV

CULVERT EARTHWORK
CULVERT NO. CRA-30-28141
UNDER RELOCATED U.S. 30

CRA-30-24.000



DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12-00

STRUCTURE FILE NUMBER 1701797

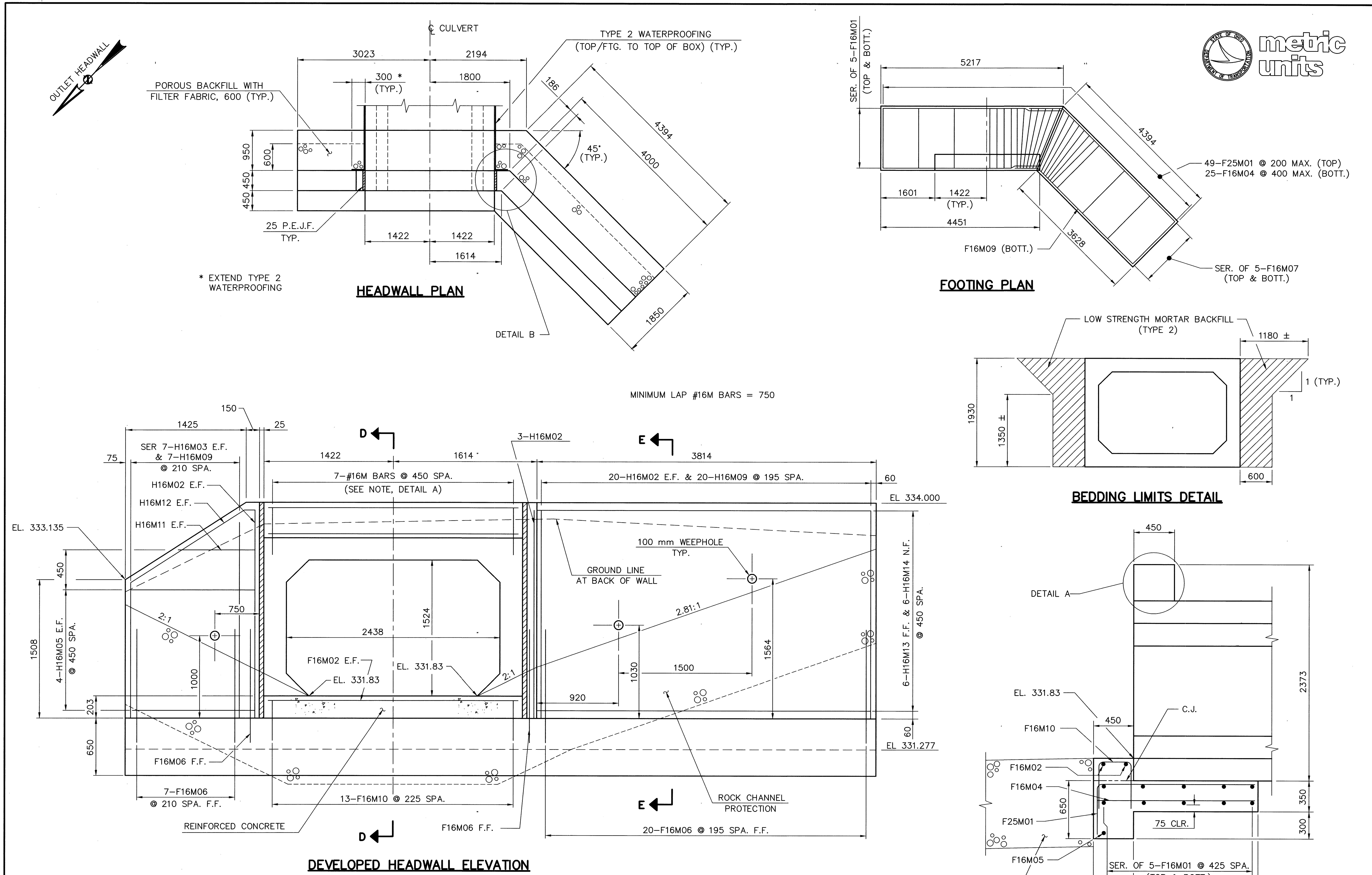
DESIGNED	DRAWN	REVIEWED	CHECKED	REVISED
HJS	KRM	TF	JDV	

INLET WALL AND FOOTING DETAILS

CULVERT NO. CRA-30-28141
UNDER RELOCATED U.S. 30

CRA-30-24.000

WWALL1.DWG
12-20-2000 4:19 PM
SCALE: 1:20M



NOTES

1. FOR DETAIL A, SEE SHEET 4/6.
2. FOR DETAIL B, SEE SHEET 4/6.
3. FOR SECTION E–E, SEE SHEET 6/6.

WWALL2.DWG
12-20-2000 1:01 PM
SCALE: 1:20M

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12-00
STRUCTURE FILE NUMBER 1701797
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

OUTLET WALL AND FOOTING DETAILS
CULVERT NO. CRA-30-28141
UNDER RELOCATED U.S. 30

CRA-30-24.000

5/6

500/677

GENERAL NOTES

DESIGN SPECIFICATION:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, THE 1997 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN LOADING:

MS18 AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES:

CONCRETE CLASS C – COMPRESSIVE STRENGTH 27.5 MPA (HEADWALLS)
REINFORCING STEEL – ASTM A615M, A616M, OR A617M – GRADE 420, MINIMUM YIELD STRENGTH 420 MPA.

FOUNDATION BEARING PRESSURE:

HEADWALL FOOTINGS, AS DESIGNED, PRODUCES A MAXIMUM BEARING PRESSURE OF 102 KPA. THE ALLOWABLE BEARING PRESSURE IS 120 KPA.

ITEM 842 – CLASS C CONCRETE, CULVERT, AS PER PLAN:

THE AGGREGATE SHALL CONSIST OF NO. 8 LIMESTONE. THESE ITEMS SHALL INCLUDE THE COSTS OF THE REINFORCING STEEL.

SEALING OF CONCRETE SURFACES:

EPOXY–URETHANE SHALL BE THE "BUFF" COLOR MEETING FEDERAL COLOR STANDARD NO. 3772 AS PER THE DETAILS IN THE PLANS.

STREAM CHANNEL EXCAVATION:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATIONS FOR WINGWALLS, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

SURVEY DISC ON STRUCTURE:

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE WINGWALLS. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE WINGWALL. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK IS CONSIDERED INCIDENTAL TO THE CONCRETE BID ITEM.

ITEM 518 – POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN, 0.6 METER THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 0.3 METER BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. 0.06 CUBIC METER OF BAGGED No. 3 AGGREGATE SHALL BE PLACED AT EACH WEEPHOLE. BAGGED AGGREGATE IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT. THE MATERIAL SHALL BE No. 57 GRAVEL.

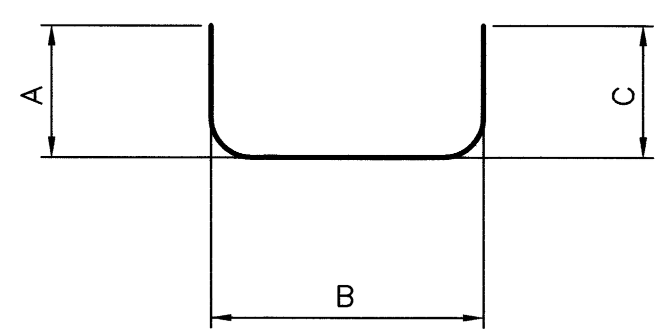
LOW STRENGTH MORTAR BACKFILL (TYPE 2):

IN LIEU OF USING BACKFILL MATERIAL PER 603.08, BACKFILL BOX CULVERT TO THE TOP OF THE BOX SECTION WITH LOW STRENGTH MORTAR BACKFILL (TYPE 2) AS SHOWN ON SHEET 5 OF 6.

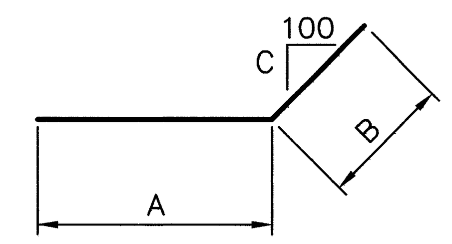
THE LATERAL LIMITS ARE FROM HEADWALL TO HEADWALL. DO NOT USE ITEM 518, POROUS BACKFILL WITH THIS ITEM. THE COST OF THE LOW STRENGTH MORTAR BACKFILL SHALL BE INCLUDED WITH ITEM 603.

CALC. BY H.J.S. — ESTIMATED STRUCTURAL QUANTITIES — CHK'D BY J.D.V.

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
503	21300	LUMP		UNCLASSIFIED EXCAVATION
512	33000	591	SQ. METER	TYPE 2 WATERPROOFING
516	13600	2.3	SQ. METER	25 mm PREFORMED EXPANSION JOINT FILLER
518	21231	LUMP		POROUS BACKFILL W/FILTER FABRIC , AS PER PLAN
601	11000	100	SQ. METER	RIPRAP, USING 150 mm REINFORCED CONCRETE SLAB
601	32004	76	CU. METER	ROCK CHANNEL PROTECTION, TYPE "A" W/FABRIC FILTER
603	94900	80.47	METER	2400 mm X 1500 mm CONDUIT, TYPE A, 706.05
842	46501	14.5	CU. METER	CLASS C CONCRETE, FOOTING, AS PER PLAN
842	51101	1.4	CU. METER	CLASS C CONCRETE, MISC.: HEADWALL, AS PER PLAN
842	51101	13.1	CU. METER	CLASS C CONCRETE, MISC.: WINGWALL, AS PER PLAN
864	10100	33	SQ. METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



TYPE 2



TYPE 3

NOTES

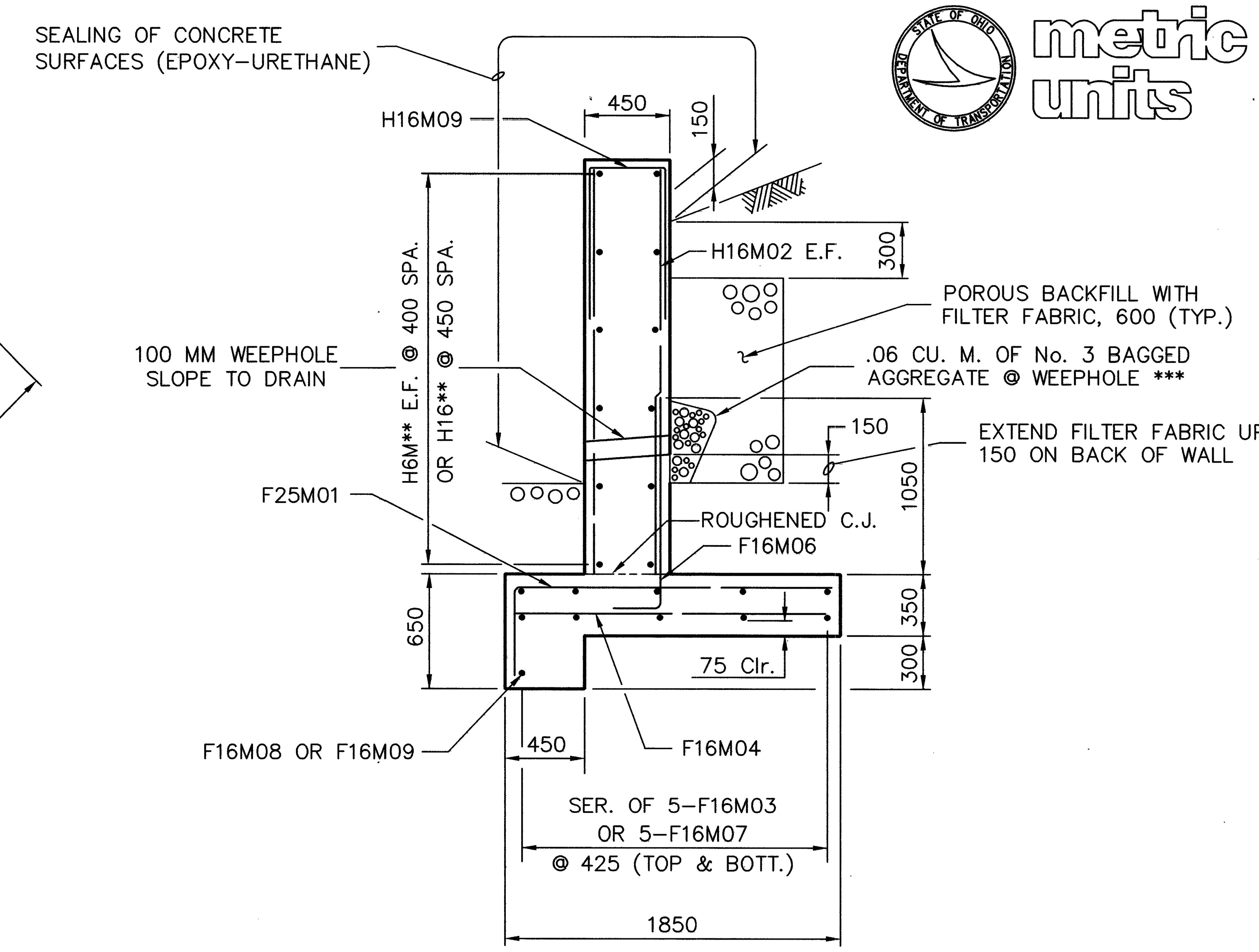
BAR SIZE: THE BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION; NEXT TWO DIGITS AND LETTER INDICATES THE METRIC BAR SIZE DESIGNATION; AND THE REMAINING DIGITS IT'S SEQUENCE NUMBER.

EXAMPLE: A16M01
A) A = LOCATION OF THE BAR IN THE STRUCTURE
B) 16M = METRIC BAR SIZE DESIGNATION
C) 01 = SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND INCLUDED IN ITEM 602 FOR PAYMENT.

ST = STRAIGHT



SECTION E–E

** REFER TO HEADWALL ELEVATIONS, SHEETS 4 & 5 OF 6.
*** INCLUDE FOR PAYMENT WITH POROUS BACKFILL

REINFORCING STEEL LIST

MARK	NO. REQD.	LENGTH	TYPE	DIMENSIONS				INCRM.	INLET HEADWALL	OUTLET HEADWALL
				A	B	C	D		NO. REQD.	NO. REQD.
F16M01	4 SER.	5130 to	ST					176	2 SER.	2 SER.
	of 5	4426							OF 5	of 5
F16M02	4	2740	ST						2	2
F16M03	2 SER.	5790 to	3	5000 to	800	100		175	2 SER.	
	of 5	5090		4300					OF 5	
F16M04	52	1750	ST						27	25
F16M05	2	4430	ST						1	1
F16M06	59	1510	2	1295	255	–0–			30	29
F16M07	2 SER.	5090 to	3	4300 to	800	100		175		2 SER.
	of 5	4390		3600						of 5
F16M08	1	5090	3	4300	800	100			1	
F16M09	1	4390	3	3600	800	100				1
F16M10	26	1275	2	500	350	500			13	13
F25M01	101	2235	2	1750	550	–0–			52	49
H16M01	8	2740	ST						4	4
H16M02	92	2320	ST						47	45
H16M03	4 SER.	2250 to	ST					128	2 SER.	2 SER.
	of 7	1482							OF 7	of 7
H16M04	7	4885	3	4620	275	100			7	
H16M05	16	1475	ST						8	8
H16M06	2	1305	ST						2	
H16M07	2	730	ST						2	
H16M08	2	1780	3	1700	80	70			2	
H16M09	55	2300	2	1015	350	1015			28	27
H16M10	7	4640	3	4495	145	100			7	
H16M11	2	660	ST							2
H16M12	2	1705	3	1625	80	70				2
H16M13	6	4175	3	3915	270	100				6
H16M14	6	3930	3	3795	145	100				6

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF DATE 12–00
STRUCTURE FILE NUMBER 1701797

DRAWN KRM REVISED

DESIGNED HJS CHECKED JDV

GENERAL NOTES, ESTIMATED QUANTITIES & REBAR SCHEDULE

CULVERT NO. CRA–30–28141
UNDER RELOCATED U.S. 30

CRA–30–24.000

GENOTE1.DWG
02–02–2001 8:06 AM
SCALE: 1:1M

UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
23+995.00	PREC. OUTLET	24+030.00	CONT. TEE	RT. E/P	35.0			1						
23+995.00	PREC. OUTLET	24+030.00	CONT. TEE	RT. E/S		35.0		1						
23+995.00	PREC. OUTLET	24+030.00	CONT. TEE	LT. E/S		35.0		1						
24+030.00	CONT. TEE	24+180.00	CONT. TEE	RT. E/P	150.0			1						24+030.00
24+030.00	CONT. TEE	24+180.00	CONT. TEE	RT. E/S		150.0		1						24+030.00
24+030.00	CONT. TEE	24+180.00	CONT. TEE	LT. E/S		150.0		1						24+030.00
24+180.00	CONT. TEE	24+330.00	H.P. PLUG	RT. E/P	150.0		1							24+180.00
24+180.00	CONT. TEE	24+330.00	H.P. PLUG	RT. E/S		150.0	1							24+180.00
24+180.00	CONT. TEE	24+330.00	H.P. PLUG	LT. E/S		150.0	1							24+180.00
24+330.00	H.P. PLUG	24+480.00	CONT. TEE	LT. E/S		150.0	1	1						24+480.00
24+472.50	H.P. PLUG	24+604.82	CONT. 45° WYE	RT. E/P	132.3		1		1					24+601.97
24+472.50	H.P. PLUG	24+601.97	CONT. 45° WYE	RT. E/S		129.5	1		1					24+601.97
24+480.00	CONT. TEE	24+612.85	CONT. 45° WYE	LT. E/S		132.9			1					24+601.97
24+604.82	CONT. 45° WYE	24+693.82	45° BEND	RT. E/P	89.0				1	1				24+690.89
24+601.97	CONT. 45° WYE	24+690.89	45° BEND	RT. E/S		88.9			1	1				24+690.89
24+612.85	CONT. 45° WYE	24+702.09	45° BEND	LT. E/S		89.2			1	1				24+690.89
24+693.82	H.P. PLUG	24+800.00	CONT. TEE	RT. E/P	106.2		1	1						24+800.00
24+690.89	H.P. PLUG	24+800.00	CONT. TEE	RT. E/S		109.1	1	1						24+800.00
24+702.09	H.P. PLUG	24+800.00	CONT. TEE	LT. E/S		97.9	1	1						24+800.00
24+800.00	CONT. TEE	24+896.18	H.P. PLUG	RT. E/P	96.2		1							24+800.00
24+800.00	CONT. TEE	24+899.11	H.P. PLUG	RT. E/S		99.1	1							24+800.00
24+800.00	CONT. TEE	24+887.91	H.P. PLUG	LT. E/S		87.9	1							24+800.00
24+896.18	45° BEND	24+955.52	CONT. 45° WYE	RT. E/P	59.3				1	1				24+899.11
24+899.11	45° BEND	24+958.45	CONT. 45° WYE	RT. E/S		59.3			1	1				24+899.11
24+887.91	45° BEND	24+947.35	CONT. 45° WYE	LT. E/S		59.4			1	1				24+899.11
24+955.52	CONT. 45° WYE	24+040.00	CONT. TEE	RT. E/P	84.5			1						24+958.45
24+958.45	CONT. 45° WYE	24+040.00	CONT. TEE	RT. E/S		81.6		1						24+958.45
24+947.35	CONT. 45° WYE	24+040.00	CONT. TEE	LT. E/S		92.7		1						24+958.45
24+040.00	CONT. TEE	25+144.25	H.P. PLUG	RT. E/P	104.3		1							25+040.00
24+040.00	CONT. TEE	25+144.25	H.P. PLUG	RT. E/S		104.3	1							25+040.00
24+040.00	CONT. TEE	25+200.00	CONT. TEE	LT. E/S		160.0		1						25+040.00
SUB-TOTALS					1006.8	2211.8	14	14	9	6				

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
24+030.00	24+030.00	19.4	325.180	324.700	324.605	324.235		1	2		
24+180.00	24+180.00	19.4	325.625	325.150	325.055	324.675		1	2		
24+480.00	24+480.00	8.0			325.055	324.675			1		
24+601.97	24+620.00	26.0	325.260	324.770	324.655	324.135		1	2		
24+690.89	24+710.00	27.3	324.995	324.505	324.390	323.980		1	2		
24+800.00	24+710.00	90.5	324.740	324.710	324.620		0.80%		2	1	
24+899.11	24+880.00	27.3	324.965	324.475	324.360	323.950		1	2		
24+958.45	24+940.00	26.0	325.140	324.655	324.535	324.125		1	2		
25+040.00	25+040.00	19.4	325.385	324.905	324.815	324.435		1	2		
SUB-TOTALS		285.7						7	17	1	

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

I:\DRAWINGS\93125\FAX001\Roadway\General\Underdrn\Dq001e.dwg, April 17, 2001, 2:10pm, Bysmhetler

UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
25+200.00	CONT. TEE	25+250.00	CONT. TEE	LT. E/S		250.0		1						25+200.00
25+250.00	CONT. TEE	25+360.00	CONT. TEE	LT. E/S		110.0		1						25+250.00
25+360.00	90° BEND	25+500.00	H.P. PLUG	RT. E/P	140.0		1			1				25+360.00
25+360.00	CONT. TEE	25+500.00	H.P. PLUG	RT. E/S		140.0	1	1						25+360.00
25+360.00	CONT. TEE	25+500.00	H.P. PLUG	LT. E/S		140.0	1							25+360.00
25+500.00	H.P. PLUG	25+640.00	CONT. TEE	RT. E/P	140.0		1	1						25+640.00
25+500.00	H.P. PLUG	25+640.00	CONT. TEE	RT. E/S		140.0	1	1						25+640.00
25+500.00	H.P. PLUG	25+640.00	CONT. TEE	LT. E/S		140.0	1	1						25+640.00
25+640.00	CONT. TEE	25+760.00	CONT. TEE	RT. E/P	120.0			1						25+760.00
25+640.00	CONT. TEE	25+760.00	CONT. TEE	RT. E/S		120.0		1						25+760.00
25+640.00	CONT. TEE	25+760.00	CONT. TEE	LT. E/S		120.0		1						25+760.00
25+760.00	CONT. TEE	25+861.80	CONT. TEE	RT. E/P	101.8			1						25+861.80
25+760.00	CONT. TEE	25+861.80	CONT. TEE	RT. E/S		101.8		1						25+861.80
25+760.00	CONT. TEE	25+861.80	CONT. TEE	LT. E/S		101.8		1						25+861.80
25+861.80	CONT. TEE	25+960.00	CONT. TEE	RT. E/P	98.2			1						25+861.80
25+861.80	CONT. TEE	25+960.00	CONT. TEE	RT. E/S		98.2		1						25+861.80
25+861.80	CONT. TEE	25+960.00	CONT. TEE	LT. E/S		98.2		1						25+861.80
25+960.00	CONT. TEE	26+055.75	CONT. 45° WYE	RT. E/P	95.8				1					25+960.00
25+960.00	CONT. TEE	26+058.75	CONT. 45° WYE	RT. E/S		98.8			1					25+960.00
25+960.00	CONT. TEE	26+047.35	CONT. 45° WYE	LT. E/S		87.4			1					25+960.00
26+055.75	CONT. 45° WYE	26+190.00	CONT. TEE	RT. E/P	134.3			1						26+058.75
26+058.75	CONT. 45° WYE	26+190.00	CONT. TEE	RT. E/S		131.3		1						26+058.75
26+047.35	CONT. 45° WYE	26+190.00	CONT. TEE	LT. E/S		142.7		1						26+058.75
26+190.00	CONT. TEE	26+355.73	CONT. 45° WYE	RT. E/P	165.7				1					26+190.00
26+190.00	CONT. TEE	26+358.73	CONT. 45° WYE	RT. E/S		168.7			1					26+190.00
26+190.00	CONT. TEE	26+347.34	CONT. 45° WYE	LT. E/S		157.3			1					26+190.00
26+355.73	CONT. 45° WYE	26+490.00	CONT. TEE	RT. E/P	134.3			1						26+358.73
26+358.73	CONT. 45° WYE	26+490.00	CONT. TEE	RT. E/S		131.3		1						26+358.73
26+347.34	CONT. 45° WYE	26+490.00	CONT. TEE	LT. E/S		142.7		1						26+358.73
SUB-TOTALS					1130.1	2520.2	6	21	6	1				

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
25+200.00	25+200.00	8.0			325.295	324.915			1		
25+250.00	25+250.00	8.0			325.445	325.065			1		
25+360.00	25+360.00	24.4	326.075	325.575	325.775	325.055		1	2		
25+640.00	25+640.00	19.4	326.145	325.665	325.775	325.200		1	2		
25+760.00	25+760.00	19.4	325.785	325.305	325.415	324.840		1	2		
25+861.80	25+861.80	19.4	325.560	325.080	325.190	324.615		1	2		
25+960.00	25+960.00	19.4	325.785	325.305	325.415	324.840		1	2		
26+058.75	26+040.00	26.5	326.080	325.590	325.675	325.125		1	2		
26+190.00	26+190.00	19.4	326.475	325.995	326.105	325.530		1	2		
26+358.73	26+340.00	19.4	326.980	326.490	326.575	326.025		1	2		
SUB-TOTALS		183.3						8	18		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

502A
677

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UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
26+490.00	CONT. TEE	26+656.63	CONT. 45° WYE	RT. E/P	166.6				1					26+490.00
26+490.00	CONT. TEE	26+659.77	CONT. 45° WYE	RT. E/S		169.8			1					26+490.00
26+490.00	CONT. TEE	26+647.80	CONT. 45° WYE	LT. E/S		157.8			1					26+490.00
26+656.63	CONT. 45° WYE	26+790.00	CONT. TEE	RT. E/P	133.4			1						26+659.77
26+659.77	CONT. 45° WYE	26+790.00	CONT. TEE	RT. E/S		130.2		1						26+659.77
26+647.80	CONT. 45° WYE	26+790.00	CONT. TEE	LT. E/S		142.2		1						26+659.77
26+790.00	CONT. TEE	26+940.00	CONT. TEE	RT. E/P	150.0			1						26+790.00
26+790.00	CONT. TEE	26+940.00	CONT. TEE	RT. E/S		150.0		1						26+790.00
26+790.00	CONT. TEE	26+940.00	CONT. TEE	LT. E/S		150.0		1						26+790.00
26+940.00	CONT. TEE	27+106.40	CONT. 45° WYE	RT. E/P	166.4				1					26+940.00
26+940.00	CONT. TEE	27+109.40	CONT. 45° WYE	RT. E/S		169.4			1					26+940.00
26+940.00	CONT. TEE	27+098.00	CONT. 45° WYE	LT. E/S		158.0			1					26+940.00
27+106.40	CONT. 45° WYE	27+240.00	CONT. TEE	LT. E/S	133.6			1						27+109.40
27+109.40	CONT. 45° WYE	27+240.00	CONT. TEE	RT. E/P		130.6		1						27+109.40
27+098.00	CONT. 45° WYE	27+240.00	CONT. TEE	RT. E/S		142.0		1						27+109.40
27+240.00	CONT. TEE	27+406.40	CONT. 45° WYE	RT. E/P	166.4				1					27+240.00
27+240.00	CONT. TEE	27+409.40	CONT. 45° WYE	RT. E/S		169.4			1					27+240.00
27+240.00	CONT. TEE	27+398.00	CONT. 45° WYE	LT. E/S		158.0			1					27+240.00
27+406.40	CONT. 45° WYE	27+556.40	H.P. PLUG	RT. E/P	150.0		1					300		27+409.40
27+409.40	CONT. 45° WYE	27+559.40	H.P. PLUG	RT. E/S		150.0	1					300		27+409.40
27+398.00	CONT. 45° WYE	27+548.00	H.P. PLUG	LT. E/S		150.0	1					300		27+409.40
27+556.40	90° BEND	27+706.40	CONT. 45° WYE	RT. E/P	150.0				1	1				27+559.40
27+559.40	90° BEND	27+709.40	CONT. 45° WYE	RT. E/S		150.0			1	1				27+559.40
27+548.00	90° BEND	27+698.00	CONT. 45° WYE	LT. E/S		150.0			1	1				27+559.40
27+706.40	CONT. 45° WYE	27+856.40	CONT. 45° WYE	RT. E/P	150.0				1					27+709.40
27+709.40	CONT. 45° WYE	27+859.40	CONT. 45° WYE	RT. E/S		150.0			1					27+709.40
27+698.00	CONT. 45° WYE	27+848.00	CONT. 45° WYE	LT. E/S		150.0			1					27+709.40
SUB–TOTALS					1366.4	2727.4	3	9	15	3		900		

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
26+490.00	26+490.00	19.4	327.375	326.895	327.005	326.430		1	2		
26+659.77	26+640.00	27.3	327.885	327.395	327.475	326.865		1	2		
26+790.00	26+790.00	19.4	328.275	327.795	327.905	327.330		1	2		
26+940.00	26+940.00	19.4	328.725	328.245	328.355	327.780		1	2		
27+109.40	27+090.00	27.4	329.230	328.745	328.830	328.210		1	2		
27+240.00	27+240.00	19.4	329.625	329.145	329.255	328.680		1	2		
27+409.40	27+390.00	27.4	330.130	330.095	330.180	329.500			2		
27+559.40	27+540.00	27.4	331.580	330.095	330.180	329.560		1	2		
27+709.40	27+690.00	27.4	331.030	330.545	330.630	330.010		1	2		
SUB–TOTALS		214.5						8	18		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA–30–24.000

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UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

45° BEND

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY BENDS & BRANCHES 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
27+856.40	CONT. 45° WYE	27+956.40	CONT. 45° WYE	RT. E/P	100.0				1					27+859.40
27+859.40	CONT. 45° WYE	27+959.40	CONT. 45° WYE	RT. E/S		100.0			1					27+859.40
27+848.00	CONT. 45° WYE	27+948.40	CONT. 45° WYE	LT. E/S		100.0			1					27+859.40
27+956.40	CONT. 45° WYE	28+086.40	H.P. PLUG	RT. E/P	130.0		1					300		27+959.40
27+959.40	CONT. 45° WYE	28+089.40	H.P. PLUG	RT. E/S		130.0	1					300		27+959.40
27+948.00	CONT. 45° WYE	28+078.00	H.P. PLUG	LT. E/S		130.0	1					300		27+959.40
28+086.40	45° BEND	28+216.40	CONT. 45° WYE	RT. E/P	130.0				1	1				28+089.40
28+089.40	45° BEND	28+219.40	CONT. 45° WYE	RT. E/S		130.0			1	1				28+089.40
28+078.00	45° BEND	28+208.00	CONT. 45° WYE	LT. E/S		130.0			1	1				28+089.40
28+216.40	CONT. 45° WYE	28+336.40	H.P. PLUG	RT. E/P	120.0		1					300		28+219.40
28+219.40	CONT. 45° WYE	28+339.40	H.P. PLUG	RT. E/S		120.0	1					300		28+219.40
28+208.00	CONT. 45° WYE	28+328.00	H.P. PLUG	LT. E/S		120.0	1					300		28+219.40
28+336.40	45° BEND	28+440.00	CONT. TEE	RT. E/P	103.6			1		1				28+339.40
28+339.40	45° BEND	28+440.00	CONT. TEE	RT. E/S		100.6		1		1				28+339.40
28+328.00	45° BEND	28+440.00	CONT. TEE	LT. E/S		112.0		1		1				28+339.40
28+440.00	CONT. TEE	28+606.40	CONT. 45° WYE	RT. E/P	166.4				1					28+440.00
28+440.00	CONT. TEE	28+609.40	CONT. 45° WYE	RT. E/S		169.4			1					28+440.00
28+440.00	CONT. TEE	28+598.00	CONT. 45° WYE	LT. E/S		158.0			1					28+440.00
28+606.40	CONT. 45° WYE	28+740.00	CONT. TEE	RT. E/P	133.6			1						28+609.40
28+609.40	CONT. 45° WYE	28+740.00	CONT. TEE	RT. E/S		130.6		1						28+609.40
28+598.00	CONT. 45° WYE	28+740.00	CONT. TEE	LT. E/S		142.0		1						28+609.40
28+740.00	CONT. TEE	28+906.40	CONT. 45° WYE	RT. E/P	166.4				1					28+740.00
28+740.00	CONT. TEE	28+909.40	CONT. 45° WYE	RT. E/S		169.4			1					28+740.00
28+740.00	CONT. TEE	28+898.00	CONT. 45° WYE	LT. E/S		158.0			1					28+740.00
SUB-TOTALS					1050	2100	6	6	12	6		1800		

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY BENDS & BRANCHES 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
27+859.40	27+840.00	27.4	331.480	330.995	331.080	330.460		1	2		
27+959.40	27+940.00	27.4	332.145	332.085	332.115	331.550			2		
28+089.40	28+070.00	27.4	333.870	333.350	333.340	332.805		1	2		
28+219.40	28+200.00	27.4	335.690	225.620	335.610	335.075			2		
28+339.40	28+320.00	27.4	337.375	336.850	336.705	336.170		1	2		
28+440.00	28+440.00	19.4	338.780	338.300	338.410	337.835		1	2		
28+609.40	28+590.00	27.4	341.155	340.630	340.625	340.095		1	2		
28+740.00	28+740.00	19.4	342.985	342.505	342.615	342.040		1	2		
SUB-TOTALS		203.2								6	16

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

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UNDERDRAIN QUANTITIES

EASTBOUND LANES

45° BEND — MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.31 OR 707.41 AS PER PLAN	FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
28+906.40	CONT. 45° WYE	29+040.00	CONT. TEE	RT. E/P	133.6			1						28+909.40
28+909.40	CONT. 45° WYE	29+040.00	CONT. TEE	RT. E/S		130.6		1						28+909.40
28+898.00	CONT. 45° WYE	29+040.00	CONT. TEE	LT. E/S		142.0		1						28+909.40
29+040.00	CONT. TEE	29+2050.00	CONT. TEE	RT. E/P	165.0			1						29+040.00
29+040.00	CONT. TEE	29+2050.00	CONT. TEE	RT. E/S		165.0		1						29+040.00
29+040.00	CONT. TEE	29+2050.00	CONT. TEE	LT. E/S		165.0		1						29+040.00
29+205.00	CONT. TEE	29+356.40	CONT. 45° WYE	RT. E/P	151.4				1					29+205.00
29+205.00	CONT. TEE	29+359.40	CONT. 45° WYE	RT. E/S		154.4			1					29+205.00
29+205.00	CONT. TEE	29+348.00	CONT. 45° WYE	LT. E/S		143.0			1					29+205.00
29+356.40	CONT. 45° WYE	29+496.40	CONT. 45° WYE	RT. E/P	140.0				1					29+359.40
29+359.40	CONT. 45° WYE	29+499.40	CONT. 45° WYE	RT. E/S		140.0			1					29+359.40
29+348.00	CONT. 45° WYE	29+488.00	CONT. 45° WYE	LT. E/S		140.0			1					29+359.40
29+496.40	CONT. 45° WYE	29+636.40	CONT. 45° WYE	RT. E/P	140.0				1					29+499.40
29+499.40	CONT. 45° WYE	29+639.40	CONT. 45° WYE	RT. E/S		140.0			1					29+499.40
29+488.00	CONT. 45° WYE	29+628.00	CONT. 45° WYE	LT. E/S		140.0			1					29+499.40
29+636.40	CONT. 45° WYE	29+760.00	CONT. TEE	RT. E/P	123.6			1						29+639.40
29+639.40	CONT. 45° WYE	29+760.00	CONT. TEE	RT. E/S		120.6		1						29+639.40
29+628.00	CONT. 45° WYE	29+760.00	CONT. TEE	LT. E/S		132.0		1						29+639.40
29+760.00	CONT. TEE	29+900.00	H.P. PLUG	LT. E/S		140.0	1					300		29+760.00
29+900.00	H.P. PLUG	30+040.00	CONT. TEE	RT. E/P	140.0		1	1						30+040.00
29+900.00	H.P. PLUG	30+040.00	CONT. TEE	RT. E/S		140.0	1	1						30+040.00
29+900.00	H.P. PLUG	30+040.00	CONT. TEE	LT. E/S		140.0	1	1						30+040.00
30+040.00	CONT. TEE	30+083.60	CONT. 45° WYE	RT. E/P	43.6				1					30+080.60
30+040.00	CONT. TEE	30+080.60	CONT. 45° WYE	RT. E/S		40.6			1					30+080.60
30+040.00	CONT. TEE	30+092.00	CONT. 45° WYE	LT. E/S		52.0			1					30+080.60
30+083.60	CONT. 45° WYE	30+243.60	CONT. 45° WYE	RT. E/P	160.0				1					30+240.60
30+080.60	CONT. 45° WYE	30+240.60	CONT. 45° WYE	RT. E/S		160.0			1					30+240.60
30+092.00	CONT. 45° WYE	30+252.00	CONT. 45° WYE	LT. E/S		160.0			1					30+240.60
SUB-TOTALS					1197.2	2545.2	4	12	15			300		

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
28+909.40	28+890.00	27.4	345.165	344.655	344.685	344.120		1	2		
29+040.00	29+040.00	19.4	346.009	345.529	345.635	345.065		1	2		
29+205.00	29+205.00	19.4	346.915	346.435	346.545	345.970		1	2		
29+359.40	29+340.00	27.4	347.790	347.295	347.360	346.760		1	2		
29+499.40	29+480.00	27.4	348.465	347.985	348.095	347.450		1	2		
29+639.40	29+620.00	28.4	349.365	348.865	348.925	348.425		1	2		
29+760.00	29+760.00	22.7			349.660				1		
30+040.00	30+040.00	19.4	349.976	349.525	349.635	349.060		1	2		
30+080.60	30+100.00	27.4	349.730	349.230	349.290	348.695		1	2		
30+240.60	30+260.00	27.4	348.770	348.270	348.330	347.735		1	2		
SUB-TOTALS		236.3						9	19		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

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UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE (45° BEND)	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
30+243.60	CONT. 45° WYE	30+320.00	CONT. TEE	RT. E/P	76.4			1						30+320.00
30+240.60	CONT. 45° WYE	30+320.00	CONT. TEE	RT. E/S		79.4		1						30+320.00
30+252.00	CONT. 45° WYE	30+320.00	CONT. TEE	LT. E/S		68.0		1						30+320.00
30+320.00	CONT. TEE	30+475.00	90° BEND	RT. E/P	155.0					1				30+475.00
30+320.00	CONT. TEE	30+475.00	90° BEND	RT. E/S		155.0				1				30+475.00
30+320.00	CONT. TEE	30+475.00	CONT. TEE	LT. E/S		155.0		1						30+475.00
30+475.00	CONT. TEE	30+565.00	CONT. TEE	LT. E/S		90.0		1						30+475.00
30+565.00	90° BEND	30+720.00	CONT. TEE	RT. E/P	155.0			1		1				30+565.00
30+565.00	CONT. TEE	30+720.00	CONT. TEE	RT. E/S		155.0		2						30+565.00
30+565.00	CONT. TEE	30+720.00	CONT. TEE	LT. E/S		155.0		1						30+565.00
30+720.00	CONT. TEE	30+840.00	CONT. TEE	RT. E/P	120.0			1						30+720.00
30+720.00	CONT. TEE	30+840.00	CONT. TEE	RT. E/S		120.0		1						30+720.00
30+720.00	CONT. TEE	30+840.00	CONT. TEE	LT. E/S		120.0		1						30+720.00
30+840.00	CONT. TEE	30+976.40	CONT. 45° WYE	RT. E/P	136.4				1					30+840.00
30+840.00	CONT. TEE	30+979.40	CONT. 45° WYE	RT. E/S		139.4			1					30+840.00
30+840.00	CONT. TEE	30+968.00	CONT. 45° WYE	LT. E/S		128.0			1					30+840.00
30+976.40	CONT. 45° WYE	31+040.00	CONT. TEE	RT. E/P	63.6			1						30+979.40
30+979.40	CONT. 45° WYE	31+040.00	CONT. TEE	RT. E/S		60.6		1						30+979.40
30+968.00	CONT. 45° WYE	31+040.00	CONT. TEE	LT. E/S		72.0		1						30+979.40
31+040.00	CONT. TEE	31+160.00	CONT. TEE	RT. E/P	140.0			1						31+040.00
31+040.00	CONT. TEE	31+160.00	CONT. TEE	RT. E/S		140.0		1						31+040.00
31+040.00	CONT. TEE	31+160.00	CONT. TEE	LT. E/S		140.0		1						31+040.00
31+160.00	CONT. TEE	31+300.00	CONT. TEE	RT. E/P	140.0			1						31+160.00
31+160.00	CONT. TEE	31+300.00	CONT. TEE	RT. E/S		140.0		1						31+160.00
31+160.00	CONT. TEE	31+300.00	CONT. TEE	LT. E/S		140.0		1						31+160.00
31+300.00	CONT. TEE	31+440.00	H.P. PLUG	RT. E/P	140.0		1							31+300.00
31+300.00	CONT. TEE	31+440.00	H.P. PLUG	RT. E/S		140.0	1							31+300.00
31+300.00	CONT. TEE	31+440.00	H.P. PLUG	LT. E/S		140.0	1							31+300.00
		SUB-TOTALS			1126.4	2337.4	3	21	3	3				

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
30+320.00	30+320.00	19.4	348.295	347.815	347.925	347.350		1	2		
30+475.00	30+475.00	19.4	347.425	346.945	347.135	346.480		1	2		
30+565.00	30+565.00	26.3	347.885	347.380	347.610	346.840		1	2		
30+720.00	30+720.00	23.0	349.115	348.610	348.790	348.100		1	2		
30+840.00	30+840.00	20.5	350.065	349.560	349.700	349.075		1	2		
30+979.40	30+960.00	27.4	351.130	350.625	350.670	350.090		1	2		
31+040.00	31+040.00	19.4	351.590	351.110	351.220	350.645		1	2		
31+160.00	31.160.00	19.4	352.500	352.020	352.130	351.555		1	2		
31+300.00	31+300.00	19.4	353.565	353.085	353.195	352.620		1	2		
SUB-TOTALS		194.2						9	18		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

502E
677

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UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE (45° BEND)	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
31+440.00	H.P. PLUG	31+550.00	CONT. TEE	RT. E/P	110.0		1	1						31+550.00
31+440.00	H.P. PLUG	31+550.00	CONT. TEE	RT. E/S		110.0	1	1						31+550.00
31+440.00	H.P. PLUG	31+550.00	CONT. TEE	LT. E/S		110.0	1	1						31+550.00
31+550.00	CONT. TEE	31+700.00	CONT. TEE	RT. E/P	150.0			1						31+700.00
31+550.00	CONT. TEE	31+700.00	CONT. TEE	RT. E/S		150.0		1						31+700.00
31+550.00	CONT. TEE	31+700.00	CONT. TEE	LT. E/S		150.0		1						31+700.00
31+700.00	CONT. TEE	31+840.00	CONT. TEE	RT. E/P	140.0			1						31+700.00
31+700.00	CONT. TEE	31+840.00	CONT. TEE	RT. E/S		140.0		1						31+700.00
31+700.00	CONT. TEE	31+840.00	CONT. TEE	LT. E/S		140.0		1						31+700.00
31+840.00	CONT. TEE	31+950.00	CONT. TEE	RT. E/P	110.0			1						31+840.00
31+840.00	CONT. TEE	31+950.00	CONT. TEE	RT. E/S		110.0		1						31+840.00
31+840.00	CONT. TEE	31+950.00	CONT. TEE	LT. E/S		110.0		1						31+840.00
31+950.00	CONT. TEE	32+060.00	CONT. TEE	RT. E/P	110.0			1						31+950.00
31+950.00	CONT. TEE	32+060.00	CONT. TEE	RT. E/S		110.0		1						31+950.00
31+950.00	CONT. TEE	32+060.00	CONT. TEE	LT. E/S		110.0		1						31+950.00
32+060.00	CONT. TEE	32+190.00	H.P. PLUG	RT. E/P	130.0		1							32+060.00
32+060.00	CONT. TEE	32+190.00	H.P. PLUG	RT. E/S		130.0	1							32+060.00
32+060.00	CONT. TEE	32+190.00	H.P. PLUG	LT. E/S		130.0	1							32+060.00
32+190.00	H.P. PLUG	32+320.00	CONT. TEE	RT. E/P	130.0		1	1						32+320.00
32+190.00	H.P. PLUG	32+320.00	CONT. TEE	RT. E/S		130.0	1	1						32+320.00
32+190.00	H.P. PLUG	32+320.00	CONT. TEE	LT. E/S		130.0	1	1						32+320.00
32+320.00	CONT. TEE	32+429.60	CONT. 45° WYE	RT. E/P	109.6				1					32+426.60
32+320.00	CONT. TEE	32+426.60	CONT. 45° WYE	RT. E/S		106.6			1					32+426.60
32+320.00	CONT. TEE	32+438.00	CONT. 45° WYE	LT. E/S		118.0			1					32+426.60
32+429.60	CONT. 45° WYE	32+560.00	CONT. TEE	RT. E/P	130.4			1						32+560.00
32+426.60	CONT. 45° WYE	32+560.00	CONT. TEE	RT. E/S		133.4		1						32+560.00
32+438.00	CONT. 45° WYE	32+560.00	CONT. TEE	LT. E/S		122.0		1						32+560.00
32+560.00	CONT. TEE	32+705.00	CONT. TEE	RT. E/P	145.0			1						32+705.00
32+560.00	CONT. TEE	32+705.00	CONT. TEE	RT. E/S		145.0		1						32+705.00
32+560.00	CONT. TEE	32+705.00	CONT. TEE	LT. E/S		145.0		1						32+705.00
		SUB-TOTALS			1265	2530	9	24	3					

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
31+550.00	31+550.00	19.4	353.880	353.400	353.475	352.935		1	2		
31+700.00	31+700.00	19.4	353.565	353.085	353.065	352.620		1	2		
31+840.00	31+840.00	19.4	354.000	353.520	353.500	353.055		1	2		
31+950.00	31+950.00	19.4	354.395	353.915	353.895	353.450		1	2		
32+060.00	32+060.00	19.4	354.790	354.310	354.290	353.845		1	2		
32+320.00	32+320.00	19.4	354.750	354.215	354.195	353.750		1	2		
32+426.60	32+446.00	27.4	354.160	353.665	353.605	353.130		1	2		
32+560.00	32+560.00	19.4	353.495	353.015	352.995	352.550		1	2		
32+705.00	32+705.00	19.4	352.770	352.290	352.270	351.825		1	2		
SUB-TOTALS		182.6						9	18		

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CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

UNDERDRAIN QUANTITIES

EASTBOUND LANES

MAINLINE RUNS

45° BEND

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	FOR INFORMATION ONLY – BENDS & BRANCHES: 150 mm x 150 mm TEE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° WYE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
32+705.00	CONT. TEE	32+850.00	CONT. TEE	RT. E/P	145.0			1						32+850.00
32+705.00	CONT. TEE	32+850.00	CONT. TEE	RT. E/S		145.0		1						32+850.00
32+705.00	CONT. TEE	32+850.00	CONT. TEE	LT. E/S		145.0		1						32+850.00
32+850.00	CONT. TEE	32+960.00	CONT. TEE	RT. E/P	110.0			1						32+850.00
32+850.00	CONT. TEE	32+960.00	CONT. TEE	RT. E/S		110.0		1						32+850.00
32+850.00	CONT. TEE	32+960.00	CONT. TEE	LT. E/S		110.0		1						32+850.00
32+960.00	CONT. TEE	33+100.00	CONT. TEE	RT. E/P	140.0			1						32+960.00
32+960.00	CONT. TEE	33+100.00	CONT. TEE	RT. E/S		140.0		1						32+960.00
32+960.00	CONT. TEE	33+100.00	CONT. TEE	LT. E/S		140.0		1						32+960.00
33+100.00	CONT. TEE	33+214.00	CONT. TEE	RT. E/P	114.0			1						33+100.00
33+100.00	CONT. TEE	33+214.00	CONT. TEE	RT. E/S		114.0		1						33+100.00
33+100.00	CONT. TEE	33+214.00	CONT. TEE	LT. E/S		114.0		1						33+100.00
33+214.00	CONT. TEE	33+320.00	CONT. TEE	RT. E/P	106.0			1						33+214.00
33+214.00	CONT. TEE	33+320.00	CONT. TEE	RT. E/S		106.0		1						33+214.00
33+214.00	CONT. TEE	33+320.00	CONT. TEE	LT. E/S		106.0		1						33+214.00
33+320.00	CONT. TEE	33+450.00	CONT. TEE	RT. E/P	130.0			1						33+320.00
33+320.00	CONT. TEE	33+450.00	CONT. TEE	RT. E/S		130.0		1						33+320.00
33+320.00	CONT. TEE	33+450.00	CONT. TEE	LT. E/S		130.0		1						33+320.00
33+450.00	CONT. TEE	33+500.00	EX. UD.	RT. E/P	50.0									33+450.00
33+450.00	CONT. TEE	33+500.00	EX. UD.	RT. E/S		50.0								33+450.00
33+450.00	CONT. TEE	33+500.00	EX. UD.	LT. E/S		50.0								33+450.00
SUB-TOTALS					795	1590		18						
TOTAL CARRIED TO GENERAL SUMMARY					8142	18,562	128	125	63	19				

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

EASTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN		FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° WYE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
32+850.00	32+850.00	19.4	351.985	351.505	351.615	351.040		1	2		
32+960.00	32+960.00	19.4	352.905	352.425	352.535	351.960		1	2		
33+100.00	33+100.00	19.4	356.315	355.835	355.945	355.370		1	2		
33+214.00	33+214.00	19.4	359.125	358.645	358.955	358.180		1	2		
33+320.00	33+320.00	19.4	361.760	361.280	361.615	360.815		1	2		
33+450.00	33+450.00	19.4	364.175	363.695	364.030	363.230		1	2		
SUB-TOTALS		116.4						6	12		
TOTAL CARRIED TO GENERAL SUMMARY		1331						62	100	7	16

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

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UNDERDRAIN QUANTITIES

WESTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	FOR INFORMATION ONLY – BENDS & BRANCHES: 150 mm x 150 mm TEE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° WYE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
23+995.00	PREC. OUTLET	24+030.00	CONT. TEE	LT. E/P	35.50			1						
23+995.00	PREC. OUTLET	24+030.00	CONT. TEE	RT. E/S		35.0		1						
23+995.00	PREC. OUTLET	24+030.00	CONT. TEE	RT. E/S		35.0		1						
24+030.00	CONT. TEE	24+180.00	CONT. TEE	LT. E/P	150.0			1						24+030.00
24+030.00	CONT. TEE	24+180.00	CONT. TEE	LT. E/S		150.0		1						24+030.00
24+030.00	CONT. TEE	24+180.00	CONT. TEE	RT. E/S		150.0		1						24+030.00
24+180.00	CONT. TEE	24+330.00	H.P. PLUG	LT. E/P	150.0		1							24+180.00
24+180.00	CONT. TEE	24+330.00	H.P. PLUG	LT. E/S		150.0	1							24+180.00
24+180.00	CONT. TEE	24+330.00	H.P. PLUG	RT. E/S		150.0	1							24+180.00
24+330.00	H.P. PLUG	24+480.00	CONT. TEE	RT. E/S		150.0	1	1						24+480.00
24+480.00	CONT. TEE	24+620.00	CONT. TEE	RT. E/S		140.0		1						24+620.00
24+486.10	H.P. PLUG	24+620.00	CONT. TEE	LT. E/P	133.9		1	1						24+620.00
24+486.10	H.P. PLUG	24+620.00	CONT. TEE	LT. E/S		133.9	1	1						24+620.00
24+620.00	CONT. TEE	24+710.00	90° BEND	LT. E/P	90.0					1				24+710.00
24+620.00	CONT. TEE	24+710.00	90° BEND	LT. E/S		90.0				1				24+710.00
24+620.00	CONT. TEE	24+710.00	90° BEND	RT. E/S		90.0				1				24+710.00
24+710.00	H.P. PLUG	24+800.00	CONT. TEE	LT. E/P	90.0		1	1						24+800.00
24+710.00	H.P. PLUG	24+800.00	CONT. TEE	LT. E/S		90.0	1	1						24+800.00
24+710.00	H.P. PLUG	24+800.00	CONT. TEE	RT. E/S		90.0	1	1						24+800.00
24+800.00	CONT. TEE	24+880.00	H.P. PLUG	LT. E/P	80.0		1							24+800.00
24+800.00	CONT. TEE	24+880.00	H.P. PLUG	LT. E/S		80.0	1							24+800.00
24+800.00	CONT. TEE	24+880.00	H.P. PLUG	RT. E/S		80.0	1							24+800.00
24+880.00	90° BEND	24+955.52	CONT. 45° WYE	LT. E/P	75.5				1	1				24+880.00
24+880.00	90° BEND	24+958.45	CONT. 45° WYE	LT. E/S		78.5			1	1				24+880.00
24+880.00	90° BEND	24+947.35	CONT. 45° WYE	RT. E/S		67.4			1	1				24+880.00
24+955.52	CONT. 45° WYE	25+056.52	CONT. 45° WYE	LT. E/P	101.0				1					24+958.45
24+958.45	CONT. 45° WYE	25+059.59	CONT. 45° WYE	LT. E/S		101.0			1					24+958.45
24+947.35	CONT. 45° WYE	25+047.99	CONT. 45° WYE	RT. E/S		100.6			1					24+958.45
25+056.52	CONT. 45° WYE	25+197.70	H.P. PLUG	LT. E/P	141.2		1							25+059.59
25+059.59	CONT. 45° WYE	25+197.70	H.P. PLUG	LT. E/S		138.1	1							25+059.59
25+047.99	CONT. 45° WYE	25+200.00	CONT. TEE	RT. E/S		152.0		1						25+059.59
SUB-TOTALS					1047.1	2251.5	14	14	6	6				

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° WYE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
24+030.00	24+030.00	19.4	324.780	324.275	324.605	323.810		1	2		
24+180.00	24+180.00	22.5	325.120	324.615	325.055	324.115		1	2		
24+480.00	24+480.00	8.0			325.055	324.675			1		
24+620.00	24+620.00	19.4	324.805	324.325	324.635	328.872		1	2		
24+710.00	24+710.00	19.4	324.535	324.055	324.365	323.602		1	2		
24+800.00	24+710.00	90.5	324.340	324.310	324.620		0.40%		2	1	
24+880.00	24+880.00	19.4	324.500	324.025	324.335	323.572					
24+958.45	24+940.00	26.0	324.740	324.250	324.540	323.930		1	2		
25+059.59	25+040.00	27.5	325.045	325.000	325.290	324.470			2		
SUB-TOTALS		274.5						5	15	1	

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CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

UNDERDRAIN QUANTITIES

WESTBOUND LANES

MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY BENDS & BRANCHES 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 45° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
25+200.00	CONT. TEE	25+258.30	CONT. 45° WYE	RT. E/S		58.3			1					25+200.00
25+258.30	CONT. 45° WYE	25+360.00	CONT. TEE	RT. E/S		101.7		1						25+258.00
25+360.00	90° BEND	25+500.00	H.P. PLUG	LT. E/P	140.0		1			1				25+360.00
25+360.00	CONT. TEE	25+500.00	H.P. PLUG	LT. E/S		140.0	1	1						25+360.00
25+360.00	CONT. TEE	25+500.00	H.P. PLUG	RT. E/S		140.0	1							25+360.00
25+500.00	H.P. PLUG	25+640.00	CONT. TEE	LT. E/P	140.0		1	1						25+640.00
25+500.00	H.P. PLUG	25+640.00	CONT. TEE	LT. E/S		140.0	1	1						25+640.00
25+500.00	H.P. PLUG	25+640.00	CONT. TEE	RT. E/S		140.0	1	1						25+640.00
25+640.00	CONT. TEE	25+760.00	CONT. TEE	LT. E/P	120.0			1						25+760.00
25+640.00	CONT. TEE	25+760.00	CONT. TEE	LT. E/S		120.0		1						25+760.00
25+640.00	CONT. TEE	25+760.00	CONT. TEE	RT. E/S		120.0		1						25+760.00
25+760.00	CONT. TEE	25+861.80	CONT. TEE	LT. E/P	101.8			1						25+861.00
25+760.00	CONT. TEE	25+861.80	CONT. TEE	LT. E/S		101.8		1						25+861.00
25+760.00	CONT. TEE	25+861.80	CONT. TEE	RT. E/S		101.8		1						25+861.00
25+861.80	CONT. TEE	25+960.00	CONT. TEE	LT. E/P	98.2			1						25+861.00
25+861.80	CONT. TEE	25+960.00	CONT. TEE	LT. E/S		98.2		1						25+861.00
25+861.80	CONT. TEE	25+960.00	CONT. TEE	RT. E/S		98.2		1						25+861.00
25+960.00	CONT. TEE	26.040.00	CONT. TEE	LT. E/P	80.0			1						25+960.00
25+960.00	CONT. TEE	26.040.00	CONT. TEE	LT. E/S		80.0		1						25+960.00
25+960.00	CONT. TEE	26.040.00	CONT. TEE	RT. E/S		80.0		1						25+960.00
26+040.00	CONT. TEE	26+190.00	CONT. TEE	LT. E/P	150.0			1						26+040.00
26+040.00	CONT. TEE	26+190.00	CONT. TEE	LT. E/S		150.0		1						26+040.00
26+040.00	CONT. TEE	26+190.00	CONT. TEE	RT. E/S		150.0		1						26+040.00
26+190.00	CONT. TEE	26+340.00	CONT. TEE	LT. E/P	150.0			1						26+190.00
26+190.00	CONT. TEE	26+340.00	CONT. TEE	LT. E/S		150.0		1						26+190.00
26+190.00	CONT. TEE	26+340.00	CONT. TEE	RT. E/S		150.0		1						26+190.00
26+340.00	CONT. TEE	26+490.00	CONT. TEE	LT. E/P	150.0			1						26+340.00
26+340.00	CONT. TEE	26+490.00	CONT. TEE	LT. E/S		150.0		1						26+340.00
26+340.00	CONT. TEE	26+490.00	CONT. TEE	RT. E/S		150.0		1						26+340.00
SUB-TOTALS					1130	2420	6	26	1	1				26+040.00

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY BENDS & BRANCHES 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	SPECIAL PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
25+200.00	25+200.00	8.0			325.295	324.915			1		
25+258.30	25+250.00	11.8			325.470	325.050			1		
25+360.00	25+360.00	22.4	326.175	325.665	325.775	325.165		1	2		
25+640.00	25+640.00	19.4	326.145	325.665	325.775	325.200		1	2		
25+760.00	25+760.00	19.4	325.785	325.305	325.415	324.840		1	2		
25+861.80	25+861.80	19.4	325.560	325.080	325.190	324.615		1	2		
25+960.00	25+960.00	19.4	325.785	325.305	325.415	324.840		1	2		
26+040.00	26+040.00	19.4	326.025	325.545	325.655	325.080		1	2		
26+190.00	26+190.00	19.4	326.475	325.995	326.105	325.530		1	2		
26+340.00	26+340.00	19.4	326.925	326.445	326.555	325.980		1	2		
SUB-TOTALS		178						8	18		

CALCULATED SAC CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

503A
677

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UNDERDRAIN QUANTITIES

WESTBOUND LANES

MAINLINE RUNS

27+954.83

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 45° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
26+490.00	CONT. TEE	26+640.00	CONT. TEE	LT. E/P	150.0			1						26+490.00
26+490.00	CONT. TEE	26+640.00	CONT. TEE	LT. E/S		150.0		1						26+490.00
26+490.00	CONT. TEE	26+640.00	CONT. TEE	RT. E/S		150.0		1						26+490.00
26+640.00	CONT. TEE	26+790.00	CONT. TEE	LT. E/P	150.0			1						26+640.00
26+640.00	CONT. TEE	26+790.00	CONT. TEE	LT. E/S		150.0		1						26+640.00
26+640.00	CONT. TEE	26+790.00	CONT. TEE	RT. E/S		150.0		1						26+640.00
26+790.00	CONT. TEE	26+954.83	CONT. 45° WYE	LT. E/P	164.8				1					26+790.00
26+790.00	CONT. TEE	26+957.68	CONT. 45° WYE	LT. E/S		167.7			1					26+790.00
26+790.00	CONT. TEE	26+946.89	CONT. 45° WYE	RT. E/S		156.9			1					26+790.00
26+954.83	CONT. 45° WYE	27+090.00	CONT. TEE	LT. E/P	135.2			1						26+957.68
26+957.68	CONT. 45° WYE	27+090.00	CONT. TEE	LT. E/S		132.3		1						26+957.68
26+946.89	CONT. 45° WYE	27+090.00	CONT. TEE	RT. E/S		143.1		1						26+957.68
27+090.00	CONT. TEE	27+255.81	CONT. 45° WYE	LT. E/P	165.8				1					27+090.00
27+090.00	CONT. TEE	27+258.81	CONT. 45° WYE	LT. E/S		168.8			1					27+090.00
27+090.00	CONT. TEE	27+247.41	CONT. 45° WYE	RT. E/S		157.4			1					27+090.00
27+255.81	CONT. 45° WYE	27+390.00	CONT. TEE	LT. E/P	134.2			1						27+258.80
27+258.81	CONT. 45° WYE	27+390.00	CONT. TEE	LT. E/S		131.2		1						27+258.80
27+247.41	CONT. 45° WYE	27+390.00	CONT. TEE	RT. E/S		142.6		1						27+258.80
27+390.00	CONT. TEE	27+540.00	H.P. PLUG	LT. E/P	150.0		1					300		27+390.00
27+390.00	CONT. TEE	27+540.00	H.P. PLUG	LT. E/S		150.0	1					300		27+390.00
27+390.00	CONT. TEE	27+540.00	H.P. PLUG	RT. E/S		150.0	1					300		27+390.00
27+540.00	90° BEND	27+690.00	CONT. TEE	LT. E/P	150.0			1		1				27+540.00
27+540.00	90° BEND	27+690.00	CONT. TEE	LT. E/S		150.0		1		1				27+540.00
27+540.00	90° BEND	27+690.00	CONT. TEE	RT. E/S		150.0		1		1				27+540.00
27+690.00	CONT. TEE	27+840.00	CONT. TEE	LT. E/P	150.0			1						27+690.00
27+690.00	CONT. TEE	27+840.00	CONT. TEE	LT. E/S		150.0		1						27+690.00
27+690.00	CONT. TEE	27+840.00	CONT. TEE	RT. E/S		150.0		1						27+690.00
SUB-TOTALS					1350	2699.3	3	18	6	3		900		26+040.00

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
26+490.00	26+490.00	19.4	327.375	326.895	327.005	326.430		1	2		
26+640.00	26+640.00	19.4	327.825	327.345	327.455	326.880		1	2		
26+790.00	26+790.00	19.4	328.275	327.795	327.905	327.330		1	2		
26+957.68	26+940.00	25.7	328.775	328.290	328.375	327.770		1	2		
27+090.00	27+090.00	19.4	329.175	328.695	328.805	328.230		1	2		
27+258.81	27+240.00	26.6	329.680	329.200	329.310	328.675		1	2		
27+390.00	27+390.00	19.4	330.075	330.045	330.155	329.550		1	2		
27+540.00	27+540.00	19.4	330.525	330.045	330.155	329.580		1	2		
27+690.00	27+690.00	19.4	330.975	330.495	330.605	330.030		1	2		
SUB-TOTALS		188.1						9	18		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

503B
677

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UNDERDRAIN QUANTITIES

WESTBOUND LANES

MAINLINE RUNS

27+954.83

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
27+840.00	CONT. TEE	27+940.00	CONT. TEE	LT. E/P	100.00			1						27+840.00
27+840.00	CONT. TEE	27+940.00	CONT. TEE	LT. E/S		100.0		1						27+840.00
27+840.00	CONT. TEE	27+940.00	CONT. TEE	RT. E/S		100.0		1						27+840.00
27+940.00	CONT. TEE	28+070.00	H.P. PLUG	LT. E/P	130.0		1					300		27+940.00
27+940.00	CONT. TEE	28+070.00	H.P. PLUG	LT. E/S		130.0	1					300		27+940.00
27+940.00	CONT. TEE	28+070.00	H.P. PLUG	RT. E/S		130.0	1					300		27+940.00
28+070.00	90° BEND	28+200.00	CONT. TEE	LT. E/P	130.0			1		1				28+070.00
28+070.00	90° BEND	28+200.00	CONT. TEE	LT. E/S		130.0		1		1				28+070.00
28+070.00	90° BEND	28+200.00	CONT. TEE	RT. E/S		130.0		1		1				28+070.00
28+200.00	CONT. TEE	28.320.00	H.P. PLUG	LT. E/P	120.0		1					300		28+200.00
28+200.00	CONT. TEE	28.320.00	H.P. PLUG	LT. E/S		120.0	1					300		28+200.00
28+200.00	CONT. TEE	28.320.00	H.P. PLUG	RT. E/S		120.0	1					300		28+200.00
28+320.00	90° BEND	28+456.19	CONT. 45° WYE	LT. E/P	136.2				1	1				28+320.00
28+320.00	90° BEND	28+459.15	CONT. 45° WYE	LT. E/S		139.2			1	1				28+320.00
28+320.00	90° BEND	28+447.90	CONT. 45° WYE	RT. E/S		127.9			1	1				28+320.00
28+456.19	CONT. 45° WYE	28+590.00	CONT. TEE	LT. E/P	133.8			1						28+459.00
28+459.15	CONT. 45° WYE	28+590.00	CONT. TEE	LT. E/S		130.9		1						28+459.00
28+447.90	CONT. 45° WYE	28+590.00	CONT. TEE	RT. E/S		142.1		1						28+459.00
28+590.00	CONT. TEE	28+756.40	CONT. 45° WYE	LT. E/P	166.4				1					28+590.00
28+590.00	CONT. TEE	28+759.40	CONT. 45° WYE	LT. E/S		169.4			1					28+590.00
28+590.00	CONT. TEE	28+748.00	CONT. 45° WYE	RT. E/S		158.0			1					28+590.00
28+756.40	CONT. 45° WYE	28+890.00	CONT. TEE	LT. E/P	133.6			1						28+759.00
28+759.40	CONT. 45° WYE	28+890.00	CONT. TEE	LT. E/S		130.6		1						28+759.00
28+748.00	CONT. 45° WYE	28+890.00	CONT. TEE	RT. E/S		142.0		1						28+759.00
SUB-TOTALS					1050	2100.1	6	12	6	6		1800		26+040.00

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
27+840.00	27+840.00	19.4	331.425	330.945	331.055	330.480		1	2		
27+940.00	27+940.00	19.4	331.960	331.930	332.040	331.450			2		
28+070.00	28+070.00	19.4	333.600	333.120	333.230	332.655		1	2		
28+200.00	28+200.00	19.4	335.420	335.390	335.500	334.900			2		
28+320.00	28+320.00	19.4	337.100	336.650	336.730	336.155		1	2		
28+459.15	28+440.00	27.3	339.050	338.530	338.520	338.065		1	2		
28+590.00	28+590.00	19.4	340.880	340.400	340.510	339.935		1	2		
28+759.40	28+740.00	27.4	343.255	342.730	342.725	342.195		1	2		
SUB-TOTALS		171.1						6	16		

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CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

503C
677

UNDERDRAIN QUANTITIES

WESTBOUND LANES — MAINLINE RUNS

29+480.00 — 29+820.00

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41 (METER)	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41 (METER)	FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm PLUG (EACH)	150 mm x 150 mm TEE (EACH)	150mm x 45° WYE (EACH)	150mm x 90° BEND (EACH)	PRECAST REINFORCED CONCRETE OUTLET (EACH)	SPECIAL UNDERDRAIN DEPTH (mm)		BEGIN OUTLET STATION
28+890.00	CONT. TEE	29+056.35	CONT. 45° WYE	LT. E/P	166.4				1					28+890.00
28+890.00	CONT. TEE	29+059.35	CONT. 45° WYE	LT. E/S		169.4			1					28+890.00
28+890.00	CONT. TEE	29+047.95	CONT. 45° WYE	RT. E/S		158.0			1					28+890.00
29+056.35	CONT. 45° WYE	29+205.00	CONT. TEE	LT. E/P	148.7			1						29+059.35
29+059.35	CONT. 45° WYE	29+205.00	CONT. TEE	LT. E/S		145.7		1						29+059.35
29+047.95	CONT. 45° WYE	29+205.00	CONT. TEE	RT. E/S		157.1		1						29+059.35
29+205.00	CONT. TEE	29+340.00	CONT. TEE	LT. E/P	135.0			1						29+205.00
29+205.00	CONT. TEE	29+340.00	CONT. TEE	LT. E/S		135.0		1						29+205.00
29+205.00	CONT. TEE	29+340.00	CONT. TEE	RT. E/S		135.0		1						29+205.00
29+340.00	CONT. TEE	29+480.00	CONT. TEE	LT. E/P	140.0			1						29+340.00
29+340.00	CONT. TEE	29+480.00	CONT. TEE	LT. E/S		140.0		1						29+340.00
29+340.00	CONT. TEE	29+480.00	CONT. TEE	RT. E/S		140.0		1						29+340.00
29+480.00	CONT. TEE	29+620.00	CONT. TEE	LT. E/P	140.0			1						29+480.00
29+480.00	CONT. TEE	29+620.00	CONT. TEE	LT. E/S		140.0		1						29+480.00
29+480.00	CONT. TEE	29+620.00	CONT. TEE	RT. E/S		140.0		1						29+480.00
29+620.00	CONT. TEE	29+784.14	CONT. 45° WYE	LT. E/P	164.1				1					29+620.00
29+620.00	CONT. TEE	29+786.60	CONT. 45° WYE	LT. E/S		166.6			1					29+620.00
29+620.00	CONT. TEE	29+768.00	CONT. 45° WYE	RT. E/S		148.0			1					29+620.00
29+784.14	CONT. 45° WYE	29+840.35	H.P. PLUG	LT. E/P	56.2		1					300		29+786.60
29+786.60	CONT. 45° WYE	29+840.35	H.P. PLUG	LT. E/S		53.8	1					300		29+786.60
29+768.00	CONT. 45° WYE	29+900.00	H.P. PLUG	RT. E/S		132.0	1					300		29+786.60
29+898.12	H.P. PLUG	30+040.00	CONT. TEE	LT. E/P	141.9		1	1						30+040.00
29+898.12	H.P. PLUG	30+040.00	CONT. TEE	LT. E/S		141.9	1	1						30+040.00
29+900.00	H.P. PLUG	30+040.00	CONT. TEE	RT. E/S		140.0	1	1						30+040.00
30+040.00	CONT. TEE	30+100.00	CONT. TEE	LT. E/P	60.0			1						30+100.00
30+040.00	CONT. TEE	30+100.00	CONT. TEE	LT. E/S		60.0		1						30+100.00
30+040.00	CONT. TEE	30+100.00	CONT. TEE	RT. E/S		60.0		1						30+100.00
30+100.00	CONT. TEE	30+260.00	CONT. TEE	LT. E/P	160.0			1						30+260.00
30+100.00	CONT. TEE	30+260.00	CONT. TEE	LT. E/S		160.0		1						30+260.00
30+100.00	CONT. TEE	30+260.00	CONT. TEE	RT. E/S		160.0		1						30+260.00
SUB-TOTALS					1312.3	2682.5	6	21	6		-	900		26+040.00

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES — OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F (METER)	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm x 45° BEND (EACH)	150mm x 45° WYE (EACH)	150mm x 90° BEND (EACH)	604 PRECAST REINFORCED CONCRETE OUTLET (EACH)
28+890.00	28+890.00	19.4	344.975	344.495	344.605	344.030		1	2		
29+059.35	29+040.00	27.4	346.065	345.575	345.660	345.040		1	2		
29+205.00	29+205.00	19.4	346.915	346.435	346.545	345.970		1	2		
29+340.00	29+340.00	19.4	347.685	347.205	347.315	346.740		1	2		
29+480.00	29+480.00	20.2	348.465	347.965	348.095	347.785		1	2		
29+620.00	29+620.00	23.1	349.205	348.700	348.880	348.190		1	2		
29+786.60	29+760.00	37.6	350.075	350.010	350.155	349.365			2		
30+040.00	30+040.00	19.4	349.975	349.495	349.605	349.330		1	2		
30+100.00	30+100.00	19.4	349.615	349.135	349.245	348.970		1	2		
30+260.00	30+260.00	19.4	348.655	348.175	348.285	347.710		1	2		
SUB-TOTALS		224.7						9	20		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

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677

I:\DRAWINGS\93125\F&C01\Roadway\General\Underdrn\Dq002dw.dwg April 17, 2001 2:16pm By:smhetler

UNDERDRAIN QUANTITIES

WESTBOUND LANES

MAINLINE RUNS

29+480.00 [illegible]

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
30+260.00	CONT. TEE	30+320.00	CONT. TEE	LT. E/P	60.0			1						30+320.00
30+260.00	CONT. TEE	30+320.00	CONT. TEE	LT. E/S		60.0		1						30+320.00
30+260.00	CONT. TEE	30+320.00	CONT. TEE	RT. E/S		60.0		1						30+320.00
30+320.00	CONT. TEE	30+475.00	CONT. TEE	LT. E/P	155.0			1						30+475.00
30+320.00	CONT. TEE	30+475.00	CONT. TEE	LT. E/S		155.0		1						30+475.00
30+320.00	CONT. TEE	30+475.00	CONT. TEE	RT. E/S		155.0		1						30+475.00
30+475.00	CONT. TEE	30+490.40	H.P. PLUG	LT. E/P	15.4		1							30+475.00
30+475.00	CONT. TEE	30+490.40	H.P. PLUG	LT. E/S		15.4	1							30+475.00
30+475.00	CONT. TEE	30+565.00	CONT. TEE	RT. E/S		90.0		1						30+475.00
30+565.00	90° BEND	30+720.00	CONT. TEE	LT. E/P	155.0			1		1				30+565.00
30+565.00	CONT. TEE	30+720.00	CONT. TEE	LT. E/S		155.0		1						30+565.00
30+565.00	CONT. TEE	30+720.00	CONT. TEE	RT. E/S		155.0		1						30+565.00
30+720.00	CONT. TEE	30+840.00	CONT. TEE	LT. E/P	120.0			1						30+720.00
30+720.00	CONT. TEE	30+840.00	CONT. TEE	LT. E/S		120.0		1						30+720.00
30+720.00	CONT. TEE	30+840.00	CONT. TEE	RT. E/S		120.0		1						30+720.00
30+840.00	CONT. TEE	30+960.00	CONT. TEE	LT. E/P	120.0			1						30+840.00
30+840.00	CONT. TEE	30+960.00	CONT. TEE	LT. E/S		120.0		1						30+840.00
30+840.00	CONT. TEE	30+960.00	CONT. TEE	RT. E/S		120.0		1						30+840.00
30+960.00	CONT. TEE	31+040.00	CONT. TEE	LT. E/P	80.0			1						30+960.00
30+960.00	CONT. TEE	31+040.00	CONT. TEE	LT. E/S		80.0		1						30+960.00
30+960.00	CONT. TEE	31+040.00	CONT. TEE	RT. E/S		80.0		1						30+960.00
31+040.00	CONT. TEE	31+160.00	CONT. TEE	LT. E/P	120.0			1						30+040.00
31+040.00	CONT. TEE	31+160.00	CONT. TEE	LT. E/S		120.0		1						30+040.00
31+040.00	CONT. TEE	31+160.00	CONT. TEE	RT. E/S		120.0		1						30+040.00
31+160.00	CONT. TEE	31+300.00	CONT. TEE	LT. E/P	140.00			1						31+160.00
31+160.00	CONT. TEE	31+300.00	CONT. TEE	LT. E/S		140.00		1						31+160.00
31+160.00	CONT. TEE	31+300.00	CONT. TEE	RT. E/S		140.00		1						31+160.00
31+300.00	CONT. TEE	31+440.00	H.P. PLUG	LT. E/P	140.0		1							31+300.00
30+100.00	CONT. TEE	31+440.00	H.P. PLUG	LT. E/S		140.0	1							31+300.00
30+100.00	CONT. TEE	31+440.00	H.P. PLUG	RT. E/S		140.0	1							31+300.00
SUB-TOTALS					1105.4	2285.4	5	25		1				26+040.00

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES

OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
30+320.00	30+320.00	19.4	348.295	347.815	347.925	347.350		1	2		
30+475.00	30+475.00	19.4	347.505	347.025	347.135	346.560		1	2		
30+565.00	30+565.00	23.7	347.780	347.275	347.610	346.760		1	2		
30+720.00	30+720.00	20.4	349.145	348.660	348.790	348.180		1	2		
30+840.00	30+840.00	19.4	350.070	349.590	349.700	349.125		1	2		
30+960.00	30+960.00	19.4	350.980	350.500	350.610	350.035		1	2		
31+040.00	31+040.00	19.4	351.590	351.110	351.220	350.645		1	2		
31+160.00	31+160.00	19.4	352.500	352.020	352.130	351.555		1	2		
31+300.00	31+300.00	19.4	353.565	353.085	353.195	352.620		1	2		
SUB-TOTALS		363.5						9	18		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

503E
677

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UNDERDRAIN QUANTITIES

WESTBOUND LANES — MAINLINE RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
31+440.00	H.P. PLUG	31+550.00	CONT. TEE	LT. E/P	110.0		1	1						31+550.00
31+440.00	H.P. PLUG	31+550.00	CONT. TEE	LT. E/S		110.0	1	1						31+550.00
31+440.00	H.P. PLUG	31+550.00	CONT. TEE	RT. E/S		110.0	1	1						31+550.00
31+550.00	CONT. TEE	31+716.40	CONT. 45° WYE	LT. E/P	166.4				1					31+719.40
31+550.00	CONT. TEE	31+719.40	CONT. 45° WYE	LT. E/S		169.4			1					31+719.40
31+550.00	CONT. TEE	31+708.00	CONT. 45° WYE	RT. E/S		158.0			1					31+719.40
31+716.40	CONT. 45° WYE	31+856.40	CONT. 45° WYE	LT. E/P	140.0				1					31+719.40
31+719.40	CONT. 45° WYE	31+859.40	CONT. 45° WYE	LT. E/S		140.0			1					31+719.40
31+708.00	CONT. 45° WYE	31+848.00	CONT. 45° WYE	RT. E/S		140.0			1					31+719.40
31+856.40	CONT. 45° WYE	31+966.40	CONT. 45° WYE	LT. E/P	110.0				1					31+859.40
31+859.40	CONT. 45° WYE	31+969.40	CONT. 45° WYE	LT. E/S		110.0			1					31+859.40
31+848.00	CONT. 45° WYE	31+958.00	CONT. 45° WYE	RT. E/S		110.0			1					31+859.40
31+966.40	CONT. 45° WYE	32+076.40	CONT. 45° WYE	LT. E/P	110.0				1					31+969.40
31+969.40	CONT. 45° WYE	32+079.40	CONT. 45° WYE	LT. E/S		110.0			1					31+969.40
31+958.00	CONT. 45° WYE	32+068.00	CONT. 45° WYE	RT. E/S		110.0			1					31+969.40
32+076.40	CONT. 45° WYE	32+190.00	H.P. PLUG	LT. E/P	113.6		1							32+079.40
32+079.40	CONT. 45° WYE	32+190.00	H.P. PLUG	LT. E/S		110.6	1							32+079.40
32+068.00	CONT. 45° WYE	32+190.00	H.P. PLUG	RT. E/S		122.0	1							32+079.40
32+190.00	H.P. PLUG	32+303.60	CONT. 45° WYE	LT. E/P	113.6		1		1					32+300.60
32+190.00	H.P. PLUG	32+300.60	CONT. 45° WYE	LT. E/S		110.6	1		1					32+300.60
32+190.00	H.P. PLUG	32+312.00	CONT. 45° WYE	RT. E/S		122.0	1		1					32+300.60
32+303.60	CONT. 45° WYE	32+429.60	CONT. 45° WYE	LT. E/P	126.0				1					32+426.60
32+300.60	CONT. 45° WYE	32+426.60	CONT. 45° WYE	LT. E/S		126.0			1					32+426.60
32+312.00	CONT. 45° WYE	32+438.00	CONT. 45° WYE	RT. E/S		126.0			1					32+426.60
32+429.60	CONT. 45° WYE	32+560.00	CONT. TEE	LT. E/P	130.4			1						32+560.00
32+426.60	CONT. 45° WYE	32+560.00	CONT. TEE	LT. E/S		133.4		1						32+560.00
32+438.00	CONT. 45° WYE	32+560.00	CONT. TEE	RT. E/S		122.0		1						32+560.00
32+560.00	CONT. TEE	32+688.60	CONT. 45° WYE	LT. E/P	128.6				1					32+685.60
32+560.00	CONT. TEE	32+685.60	CONT. 45° WYE	LT. E/S		125.6			1					32+685.60
32+560.00	CONT. TEE	32+697.00	CONT. 45° WYE	RT. E/S		137.0			1					32+685.60
SUB-TOTALS					1248.6	2502.6	9	6	21					

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES — OUTLET RUNS

BEGIN STATION	END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY — BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
31+550.00	31+550.00	19.4	353.810	353.330	353.475	352.865		1	2		
31+719.40	31+700.00	27.4	353.325	352.840	353.070	352.305		1	2		
31+859.40	31+840.00	27.4	353.810	353.320	353.535	352.785		1	2		
31+969.40	31+950.00	27.4	354.205	353.715	353.925	353.180		1	2		
32+079.40	32+060.00	27.4	354.605	354.095	354.320	353.610	0.80%	1	2		
32+300.60	32+320.00	27.4	354.535	354.035	354.235	353.500		1	2		
32+426.60	32+446.00	27.4	353.900	353.405	353.605	352.870		1	2		
32+560.00	32+560.00	19.4	353.235	352.755	352.995	352.290		1	2		
32+685.60	32+705.00	27.4	352.605	352.110	353.310	351.575		1	2		
SUB-TOTALS		230.6						9	18		

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

503F
677

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UNDERDRAIN QUANTITIES

WESTBOUND LANES — MAINLINE RUNS

29+480.00 | 30+520.00 | 31+859.40

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN, 707.31 OR 707.41	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	150 mm x 150 mm TEE	150mm x 45° WYE	150mm x 90° BEND	PRECAST REINFORCED CONCRETE OUTLET	SPECIAL UNDERDRAIN DEPTH		BEGIN OUTLET STATION
					METER	METER	EACH	EACH	EACH	EACH	EACH	mm		
32+688.60	CONT. 45° WYE	32+850.00	CONT. TEE	LT. E/P	161.4			1						32+850.00
32+685.60	CONT. 45° WYE	32+850.00	CONT. TEE	LT. E/S		164.4		1						32+850.00
32+697.00	CONT. 45° WYE	32+850.00	CONT. TEE	RT. E/S		153.0		1						32+850.00
32+850.00	CONT. TEE	32+960.00	CONT. TEE	LT. E/P	110.0			1						32+850.00
32+850.00	CONT. TEE	32+960.00	CONT. TEE	LT. E/S		110.0		1						32+850.00
32+850.00	CONT. TEE	32+960.00	CONT. TEE	RT. E/S		110.0		1						32+850.00
32+960.00	CONT. TEE	33+100.00	CONT. TEE	LT. E/P	140.0			1						32+960.00
32+960.00	CONT. TEE	33+100.00	CONT. TEE	LT. E/S		140.0		1						32+960.00
32+960.00	CONT. TEE	33+100.00	CONT. TEE	RT. E/S		140.0		1						32+960.00
33+100.00	CONT. TEE	33+214.00	CONT. TEE	LT. E/P	114.00			1						33+100.00
33+100.00	CONT. TEE	33+214.00	CONT. TEE	LT. E/S		114.0		1						33+100.00
33+100.00	CONT. TEE	33+214.00	CONT. TEE	RT. E/S		114.0		1						33+100.00
33+214.00	CONT. TEE	33+320.00	CONT. TEE	LT. E/P	106.0			1						33+214.00
33+214.00	CONT. TEE	33+320.00	CONT. TEE	LT. E/S		106.0		1						33+214.00
33+214.00	CONT. TEE	33+320.00	CONT. TEE	RT. E/S		106.0		1						33+214.00
33+320.00	CONT. TEE	33+466.40	CONT. 45° WYE	LT. E/P	146.4				1					33+320.00
33+320.00	CONT. TEE	33+469.40	CONT. 45° WYE	LT. E/S		149.4			1					33+320.00
33+320.00	CONT. TEE	33+458.00	CONT. 45° WYE	RT. E/S		138.0			1					33+320.00
33+466.40	CONT. 45° WYE	33+500.00	EX. UNDERDRAIN	LT. E/P	33.6									33+469.40
33+469.40	CONT. 45° WYE	33+500.00	EX. UNDERDRAIN	LT. E/S		30.6								33+469.40
33+458.00	CONT. 45° WYE	33+500.00	EX. UNDERDRAIN	RT. E/S		42.0								33+469.40
SUB-TOTALS					811.4	1617.4		15	3					
TOTAL CARRIED TO GENERAL SUMMARY					9054.8	18,558.8	49	137	49	17				

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

WESTBOUND LANES — OUTLET RUNS

BEGIN STATION	END STATION	27.4 / 603 150mm CONDUIT, TYPE F	ELEV. #1 OUTS. E/S	ELEV. #2 OUTS. E/P	ELEV. #3 INS. E/S	INVERT AT CATCH BASIN	OUTLET PIPE SLOPE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 45° BEND	150mm x 45° WYE	150mm x 90° BEND	604 PRECAST REINFORCED CONCRETE OUTLET
		METER						EACH	EACH	EACH	EACH
32+850.00	32+850.00	19.4	351.980	351.505	351.615	351.040		1	2		
32+960.00	32+960.00	19.4	352.905	352.425	352.535	351.960		1	2		
33+100.00	33+100.00	19.4	356.315	355.835	355.945	355.370		1	2		
33+214.00	33+214.00	19.4	359.530	359.050	358.955	358.585		1	2		
33+320.00	33+320.00	19.4	362.205	361.725	361.615	361.260		1	2		
33+469.40	33+450.00	27.4	364.900	364.375	364.140	363.840		1	2		
SUB-TOTALS		124.4						6	12		
TOTAL CARRIED TO GENERAL SUMMERY		1754.9						61	135		

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CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

UNDERDRAIN QUANTITIES

RAMP RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY BENDS & BRANCHES 150mm PLUG	150 mm x 150 mm TEE	150mm x 90° BEND			BEGIN OUTLET STATION
					METER	EACH	EACH	EACH			
24+330.00	H.P. PLUG	A4+440.00	CONT. TEE	LT. E/S	110.0	1	1				A4+440.00
A4+440.00	CONT. TEE	A4+508.48	CONT. TEE	LT. E/S	68.5		1				A4+508.48
A4+508.48	CONT. TEE	A4+670.00	H.P. PLUG	LT. E/S	161.5	1					A4+508.48
A4+670.00	90° BEND	A4+789.57	H.P. PLUG	RT. E/S	119.6	1		1			A4+670.00
B4+330.00	H.P. PLUG	B4+440.00	CONT. TEE	RT. E/S	110.0	1	1				B4+440.00
B4+440.00	CONT. TEE	B4+532.593	CONT. TEE	RT. E/S	92.6		1				B4+532.59
B4+532.59	CONT. TEE	B4+643.115	H.P. PLUG	RT. E/S	110.5	1					B4+532.59
B4+643.12	90° BEND	B4+745.00	CONT. TEE	LT. E/S	101.9		1	1			B4+643.12
B4+745.00	CONT. TEE	B4+843.424	H.P. PLUG	LT. E/S	98.4	1					B4+745.00
C4+796.43	H.P. PLUG	C4+990.74	90° BEND	LT. E/S	194.3	1		1			C4+990.74
C4+990.74	H.P. PLUG	C5+121.04	CONT. TEE	RT. E/S	130.3	1	1				C5+121.04
C5+121.04	CONT. TEE	C5+240.00	CONT. TEE	RT. E/S	119.0		1				C5+121.04
C5+240.00	CONT. TEE	25+360.00	MAINLINE	RT. E/S	120.0						C5+240.00
D4+790.07	H.P. PLUG	D4+938.89	90° BEND	RT. E/S	148.8	1		1			D4+938.89
D4+938.89	H.P. PLUG	D5+060.00	CONT. TEE	LT. E/S	121.1	1	1				D5+060.00
D5+060.00	CONT. TEE	D5+170.81	CONT. TEE	LT. E/S	110.8		1				D5+170.81
D5+170.81	CONT. TEE	D5+260.00	CONT. TEE	LT. E/S	89.2		1				D5+170.81
D5+260.00	CONT. TEE	D5+360.00	MAINLINE	LT. E/S	100.0						D5+260.00
SUB-TOTALS					2106.5	10	10	4			

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

RAMP OUTLET RUNS

BEGIN & END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1	INVERT ELEV. AT OUTLET		604 PRECAST REINFORCED CONCRETE OUTLET
	METER				EACH
A4+440.00	10.0	325.080	324.000		1
A4+508.48	10.0	324.620	323.800		1
A4+670.00	10.0	327.915	327.500		1
B4+440.00	10.0	325.690	324.700		1
B4+532.593	10.0	325.495	324.700		1
B4+643.12	10.0	326.500	326.200		1
B4+745.00	10.0	328.660	328.300		1
C4+990.74	10.0	326.950	326.100		1
C5+121.04	10.0	324.915	324.000		1
C5+240.00	10.0	325.655	324.600		1
D4+938.89	10.0	328.355	327.900		1
D5+060.00	10.0	326.050	325.200		1
D5+170.81	10.0	325.370	325.000		1
D5+260.00	10.0	325.645	324.900		1
SUB-TOTALS	140				14

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CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

UNDERDRAIN QUANTITIES

RAMP RUNS

"FROM" STATION	"FROM" STATION TYPE	"TO" STATION	"TO" STATION TYPE	SIDE	605 150 mm SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN, 707.31 OR 707.41	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm PLUG	FOR INFORMATION ONLY – BENDS & BRANCHES: 150 mm x 150 mm TEE	FOR INFORMATION ONLY – BENDS & BRANCHES: 150mm x 90° BEND			BEGIN OUTLET STATION
					METER	EACH	EACH	EACH			
29+840.35	H.P. PLUG	E9+914.42	CONT. TEE	LT. E/S	74.1	1	1				E9+914.42
E9+914.42	CONT. TEE	E0+061.59	H.P. PLUG	LT. E/S	147.2	1					E9+914.42
E0+061.59	90° BEND	E0+197.06	H.P. PLUG	RT. E/S	135.5	1		1			E0+061.59
29+760.00	MAINLINE	F9+870.00	CONT. TEE	RT. E/S	110.0		1				MAINLINE 29+760.00
F9+870.00	CONT. TEE	F0+020.00	CONT. TEE	RT. E/S	150.0		1				F9+870.00
F0+020.00	CONT. TEE	F0+165.36	H.P. PLUG	RT. E/S	145.4	1					F0+020.00
G0+156.75	H.P. PLUG	G0+285.63	90° BEND	LT. E/S	128.9	1		1			G0+285.63
G0+285.63	H.P. PLUG	G0+450.00	CONT. TEE	RT. E/S	164.4	1	1				G0+450.00
G0+450.00	CONT. TEE	G0+565.00	MAINLINE	RT. E/S	115.0						G0+450.00
H0+177.21	H.P. PLUG	H0+330.00	CONT. TEE	LT. E/S	152.8	1	1				H0+330.00
H0+330.00	CONT. TEE	H0+484.46	CONT. TEE	LT. E/S	154.5		1				H0+484.46
H0+484.46	CONT. TEE	H0+565.00	MAINLINE	LT. E/S	80.5						H0+484.46
SUB-TOTALS					1558.3	7	6	2			
TOTAL CARRIED TO GENERAL SUMMARY					3664.8	17	16	6			

CONT. = CONTINUOUS
H.P. = HIGH POINT
E/P = EDGE OF PAVEMENT
E/S = EDGE OF SHOULDER
PREC. = PRECAST
LT. = LEFT
RT. = RIGHT

RAMP OUTLET RUNS

BEGIN & END STATION	603 150mm CONDUIT, TYPE F	ELEV. #1	INVERT ELEV. AT OUTLET		604 PRECAST REINFORCED CONCRETE OUTLET
	METER				EACH
E9+914.42	10.0	350.065	349.200		1
E0+061.59	10.0	351.915	351.300		1
F9+870.00	10.0	350.275	349.500		1
F0+020.00	10.0	353.350	352.300		1
G0+285.63	10.0	350.805	350.300		1
G0+450.00	10.0	347.225	346.000		1
H0+330.00	10.0	350.110	348.900		1
H0+484.46	10.0	347.270	346.500		1
SUB-TOTALS	80				8
TOTAL CARRIED TO GENERAL SUMMARY	220				22

CALCULATED SAC
CHECKED LBD

UNDERDRAIN QUANTITIES

CRA-30-24.000

504A
677

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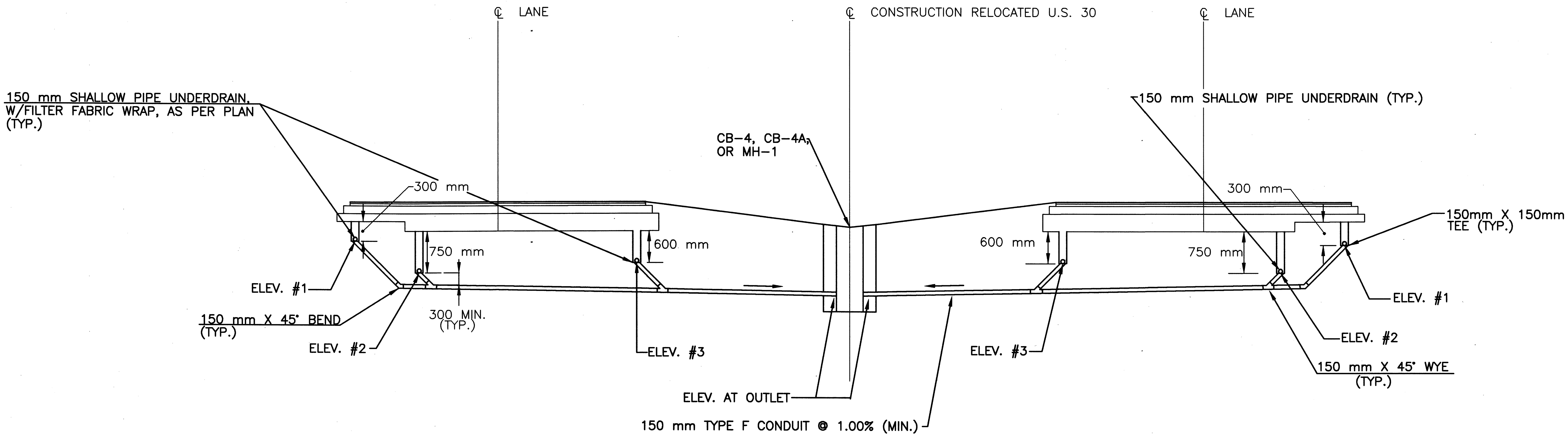
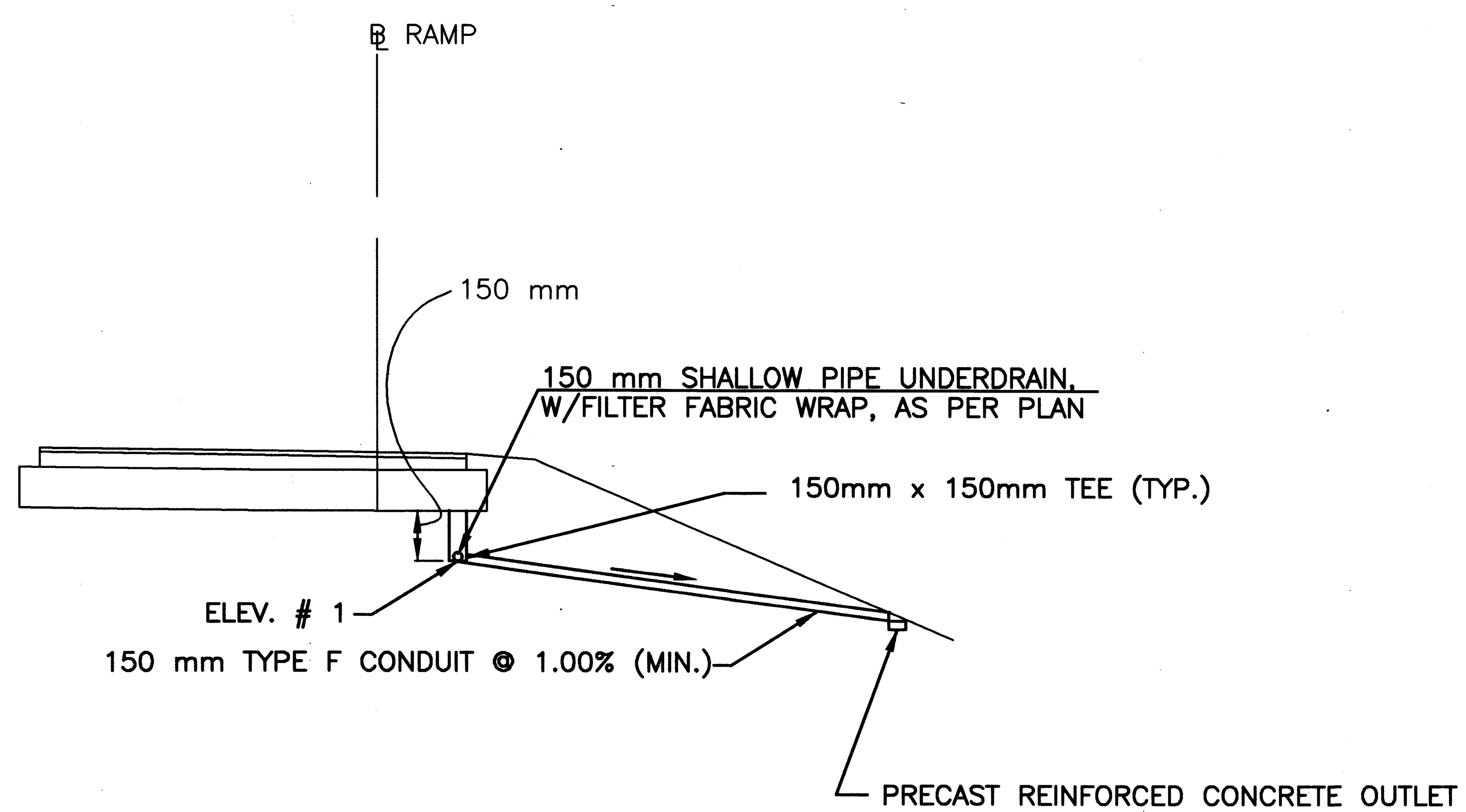


UNDERDRAIN OUTLET DETAIL
FOR STATION LIMITS – SEE SHEET 502

NOTE – FOR UNDERDRAIN QUANTITIES AND PIPE ELEVATIONS SEE SHEET 502–503



UNDERDRAIN RAMP OUTLET DETAIL
FOR STATION LIMITS – SEE SHEET 503

RATIO 1:200
HORIZONTAL SCALE IN METERS
CALCULATED FJB/CJB
CHECKED JFB

DRAINAGE DETAILS

CRA-30-24.000

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REMOVAL OF EXISTING SIGN INSTALLATIONS

THIS WORK SHALL CONSIST OF THE REMOVAL OF EXISTING SIGN INSTALLATIONS ON MAIN ROADWAY, RAMPS AND APPROACH ROADWAYS WITHIN WORK LIMITS OF THIS PROJECT.

WORK SHALL ALSO INCLUDE REMOVAL OF SIGN SUPPORTS AND FOUNDATIONS AS REQUIRED IN SECTION 202.

ALL SIGNS, SUPPORTS, AND ACCESSORIES REMOVED SHALL BE STORED NEATLY WITHIN THE LIMITS OF THE PROJECT AT LOCATIONS APPROVED BY THE ENGINEER FOR REMOVAL BY STATE FORCES. THIS WORK SHALL INCLUDE DISPOSAL OF ALL WASTE MATERIAL.

TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO SIGNS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

PAYMENT FOR REMOVAL OF EXISTING SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS 630 ITEMS AND SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE REQUIRED WORK AS INDICATED ABOVE.

MILE MARKER LOCATION

THE LOCATION OF MILE MARKERS ON THE PLANS ARE APPROXIMATE AND A MORE PRECISE LOCATION WILL BE PROVIDED BY THE DEPARTMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST THIRTY (30) DAYS IN ADVANCE OF THE PLANNED DATE OF MILE MARKER INSTALLATION. THE ENGINEER WILL CONTACT THE BUREAU OF TECHNICAL SERVICES WHICH WILL LOCATE THE LONGITUDINAL POSITION OF MILE MARKERS BY MEANS OF A PAINT MARK ON THE PAVEMENT EDGE. ALTERNATE MARKS WILL NOT BE PROVIDED ON DIVIDED HIGHWAYS AND THE CONTRACTOR SHALL SET MARKERS FOR THE OPPOSITE ROADWAY ACROSS FROM THE PROVIDED MARK. DELINEATORS WHOSE NORMAL POSITION FALLS WITHIN 15 METERS OF A MILE MARKER SHALL BE OMITTED.

FREEWAY LOCATION IDENTIFICATION SYSTEM SIGNS

THESE SIGNS CONSIST OF A MAINLINE MARKER (N-44B) OR A RAMP MARKER (N-43B), ATTACHED TO GUIDE AND DESTINATION SIGNS WITH AN ITEM 630 SIGN BACKING ASSEMBLY.

THE CONTRACTOR SHALL DETERMINE THE CORRECT STRAIGHT LINE MILEAGE, IN HUNDREDTHS OF A MILE, FOR EACH SIGN BASED ON THE FINAL LOCATION OF THE SIGN. THE CORRECT MILEAGE SHALL BE DETERMINED ONLY AFTER THE MILE MARKERS HAVE BEEN LOCATED BY THE DEPARTMENT. THE PLAN SHOWS THE ROUTE NUMBER, ROUTE DIRECTION AND THE RAMP CODES (WHERE APPLICABLE). THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A RECORD OF THE STRAIGHT LINE MILEAGE FOR EACH FREEWAY LOCATION IDENTIFICATION SYSTEM SIGN.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE METER FOR ITEM 630, SIGN, FLAT SHEET, TYPE F. THE REQUIRED ITEM 630, SIGN BACKING ASSEMBLY IS PAID SEPARATELY AS INDICATED.

ITEM 625-CONDUIT, JACKED OR DRILLED UNDER PAVEMENT

THE DEPTH OF THE CONDUIT SHALL BE APPROXIMATELY 0.3 METERS BELOW THE BOTTOM OF THE PAVEMENT SUBBASE OR AS DIRECTED BY THE ENGINEER.

ITEM 625-PULL BOX, 713.08, 600 mm, AS PER PLAN

THE COVER SHALL BE A HEAVY DUTY FRAME AND LID (NEENAH R-6686 OR APPROVED EQUAL). THIS ITEM SHALL INCLUDE ALL COSTS OF LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL EACH ITEM 625.

ITEM 630 – SIGN, FLAT SHEET, TYPE G, AS PER PLAN &
ITEM 630 – SIGN, EXTRUSHEET, TYPE G, AS PER PLAN

ALL SIGNS MARKED FOR ITEM 630 – SIGN, FLAT SHEET, AS PER PLAN AND ITEM 630 – SIGN, EXTRUSHEET, TYPE G, AS PER PLAN SHALL HAVE THE SIGNS SUPPLIED BY THE STATE OF OHIO. QUANTITIES HAVE BEEN INCLUDED FOR THE COSTS OF ERECTION AND MATERIAL FOR THESE SIGN SUPPORTS UNDER THEIR RESPECTIVE ITEMS.

ITEM 620 – DELINEATOR

ITEM 620 – DELINEATORS SHALL BE INSTALLED ON A FLEXIBLE POST AT THE HEAD OF ALL GUARDRAIL ANCHOR ASSEMBLIES TYPE E-98 AT LOCATIONS LISTED BELOW.

ITEM 620 DELINEATOR

LOCATION	SIDE	TYPE C	TYPE D
RAMP B			
B4+719.433	RT	1	
B4+722.061	LT		1
RAMP D			
D4+807.577	RT		1
D4+904.303	LT	1	
RAMP F			
F10+049.771	RT	1	
F10+058.723	LT		1
RAMP H			
H0+240.000	LT	1	
H0+240.998	RT		1
S.R. 602			
49+785.000	RT	1	
50+274.546	LT	1	
S.R. 598			
49+604.760	RT	1	
50+170.000	LT	1	
BIDDLE RD.			
49+790.770	RT	1	
50+216.910	LT	1	
FAIRVIEW RD.			
49+761.565	RT	1	
50+127.240	LT	1	
NAZOR RD.			
49+706.760	RT	1	
50+530.240	LT	1	
TOTAL		14	4

TOTALS CARRIED TO GENERAL SUMMARY

ITEM 620 – DELINEATOR, TYPE C = 14 EACH
ITEM 620 – DELINEATOR, TYPE D = 4 EACH

CALCULATED MJT
CHECKED WS

TRAFFIC CONTROL GENERAL NOTES

CRA-30-24.000

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POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM AMERICAN ELECTRIC POWER AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

ITEM 625 – GROUND ROD, AS PER PLAN

IN ADDITION TO ITEM 625.10, THIS ITEM SHALL CONSIST OF FURNISHING AND RUNNING OF A SEVEN (7) STRAND #4 COPPER WIRE FROM THE TOP OF THE GROUND ROD AND ATTACHING IT TO THE NEUTRAL BAR IN THE CABINET.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH.

ITEM 632 – LOOP DETECTOR UNITS, BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.07 OR 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRING HARNESS.

THE UNIT SHALL BE SELF TUNING.

THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY PLACEMENT WITH A SINGLE CHANNEL AMPLIFIER AS DESCRIBED IN THE FINAL PARAGRAPH OF 732.07

EACH UNIT SHALL BE LABELED TO CORRESPOND TO ITS PHASE AND DIRECTION.

DELAY INHIBIT SHALL BE CONNECTED ON ALL DETECTOR HARNESSES FOR THEIR RESPECTIVE PHASE GREENS.

ITEM 632 COMBINATION STRAIN POLE, TYPE TC–81.10

THIS SUPPORT SHALL CONSIST OF A TC–81.10 DESIGN #7 POLE ALL SIGNAL SUPPORT ITEMS REQUIRED BY 632 SHALL BE INCLUDED AS PART OF THIS SUPPORT.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

STRAIN POLE FOUNDATION ELEVATIONS

ELEVATION SHOWN IN THE PLANS FOR STRAIN POLE FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TC–21.20 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN STANDARD DRAWING TC–21.20 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES (50 MILLIMETERS) ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

ITEM 632 VEHICULAR SIGNAL HEAD, BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

1: ALL UPPER SIGNAL SUPPORT HARDWARE ARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.

2: WHEN SIGNAL HEADS ARE SUSPENDED FROM SPAN WIRES AND NOT RIGIDLY MOUNTED THEY SHALL BE PROVIDED WITH A PIVOT AND LOCK BALANCE ADJUSTER.

3: ALL BALANCE ADJUSTERS SHALL HAVE A MINIMUM 3/4" (19mm) EYE BOLT AND 3/4" (19mm) WIDE SLOT. EYE BOLTS ARE CAST FROM 316 STAINLESS STEEL AND PROVIDED WITH A SATIN FINISH. 3/4" (19mm) BODY HALVES ARE CAST FROM A MINIMUM 65–45–12 DUCTILE IRON AND PROVIDED WITH A BRIGHT ZINC FINISH (ZN1). BALANCE ADJUSTERS SHALL ONLY BE USED WHERE NECESSARY. BALANCE ADJUSTERS SHALL BE USED ON ONE–WAY HEADS.

4: GLASS LENSES SHALL BE USED.

5: THE ENTRANCE FITTING SHALL BE OF THE TRI–STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.

ITEM 632 – POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC–83.10 WITH THE FOLLOWING EXCEPTIONS: 1) THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN FIVE (5) FEET (1.5m) HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND. 2) THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES. 3) ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS. 4) THE POWER SERVICE BLIND HALF COUPLING SHALL BE TWENTY–SEVEN [27] INCHES (68.6cm) ABOVE THE BOTTOM OF THE STRAIN POLE BASE PLATE AND SHALL BE WELDED TO THE STRAIN POLE. 5) CONDUIT FROM THE BOTTOM OF THE DISCONNECT SWITCH ENCLOSURE INTO THE BOTTOM OF THE CONTROLLER CABINET WILL NOT BE PERMITTED. POWER SERVICE WIRES FROM THE DISCONNECT SWITCH ENCLOSURE TO THE CONTROLLER CABINET SHALL BE ROUTED THROUGH THE STRAIN POLE.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 60 DAYS FOLLOWING COMPLETION OF THE 10–DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR UNITS, INTERCONNECTION ITEMS AND MASTER CONTROL EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

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ITEM 633 CONTROLLER, ACTUATED, 3 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR AS PER PLAN

IN ADDITION TO NEMA REQUIREMENTS, THE CONFLICT MONITOR SHALL HAVE EXTENDED MONITORING IN ACCORDANCE WITH 733.04 PART 3B. THE MONITOR SHALL ALSO HAVE THE CAPABILITY OF MONITORING EACH LOAD SWITCH SEPARATELY, AS SHOWN IN THE LOAD SWITCH HOOK-UP DIAGRAM. IN ADDITION TO THE REQUIREMENTS OF 733.04, THE CABINET SHALL BE WIRED SO THAT CONTROLLER PIN CONNECTIONS ASSOCIATED WITH A GIVEN PHASE NUMBER SHALL MATCH THE PHASE NUMBER ASSIGNED TO THE SPECIFIED TRAFFIC MOVEMENT AS SHOWN ON THE PLANS. THE CONTROLLER CABINET SHALL BE KEYED TO THE STATE MASTER. CONTROLLER CABINET SIZE SHALL COMPLY TO THE REQUIREMENTS OF NEMA TS-1 SECTION 14. PRINTED CIRCUIT BOARD TYPE BACK PANELS OF THE CONTROLLER CABINET WILL NOT BE ACCEPTABLE. SOLDERED CONNECTIONS WILL BE PERMITTED FOR WIRING ON THE BACK SIDE OF THE BACK PANEL. ALL CONTROLLER MEMORIES SHALL BE NON-VOLATILE AND SHALL NOT REQUIRE BATTERIES OR OTHER SOURCES OF ENERGY TO RETAIN DATA WHILE POWER IS REMOVED FROM THE CONTROLLER. THE DESIGN OF THE MONITOR SHALL USE MICROPROCESSOR ARCHITECTURE AND LIQUID CRYSTAL DISPLAYS. THE MONITOR SHALL INDICATE THE EXACT LOAD SWITCH CHANNEL IN WHICH THE FAILURE OCCURRED. THE CONFLICT MONITOR SHALL HAVE AN EVENT LOGGING MEMORY. A MINIMUM OF NINE (9) EVENTS SHALL BE LOGGED. EXAMPLES OF EVENTS INCLUDE: POWER OUTAGES, CONFLICTS, CONTROLLER VOLTAGE MONITOR, ETC. EVENTS SHALL BE DISPLAYED ON THE CONFLICT MONITOR'S LIQUID CRYSTAL DISPLAY WHEN INTERROGATED. PAYMENT FOR ITEM 633 CONTROLLER, ACTUATED, 3 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH, COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS, TESTED AND ACCEPTED.

ITEM 614 – MAINTENANCE OF TRAFFIC

IF IT IS NECESSARY TO STOP ALL TRAFFIC FOR THE ERECTION AND REMOVAL OF SIGNAL SUPPORTS, THE WORK SHALL BE SO ARRANGED THAT STOPPAGE IS LESS THAN TEN (10) MINUTES IN ANY ONE THIRTY (30) MINUTE PERIOD. NO STOPPAGE OF TRAFFIC SHALL OCCUR FOR THE ERECTION OF OVERHEAD SUPPORTS, CUTTING AND INSTALLING LOOP DETECTOR WIRE, OR HANGING SPAN WIRE AND SIGNAL HEADS WITHOUT A LAW ENFORCEMENT OFFICER WITH PATROL CAR AT THE SITE FOR ASSISTANCE IN CONTROLLING TRAFFIC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE SERVICES AND SCHEDULING OF SAID LAW ENFORCEMENT OFFICER WITH PATROL CAR.

ITEM 632 REMOVAL OF FLASHER INSTALLATION, AS PER PLAN

THIS WORK SHALL CONSIST OF THE REMOVAL OF TRAFFIC FLASHER HEAD, CONTROLLER WITH CABINET, CABLES, MESSENGER WIRE, CONDUIT RISERS, DISCONNECT SWITCH, PULLBOXES, TWO EXISTING POLES AND ALL OTHER PORTIONS OF THE EXISTING TRAFFIC FLASHER INSTALLATION AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED.

SOME OF THE REMOVED ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR WHO SHALL PROPERLY DISPOSE OF THEM. OTHER REMOVED ITEMS SHALL BE STORED ON THE CONSTRUCTION SITE FOR ODOT TO PICK UP. AT THE COMPLETION OF THE PROJECT, ANY STORED ITEMS STILL REMAINING ON THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

WITH THE EXCEPTION OF ITEMS WHOSE REMOVAL IS NECESSARY TO PERMIT THE INSTALLATION OF THE NEW SIGNAL EQUIPMENT, NO ITEM SHALL BE REMOVED UNTIL THE NEW INSTALLATION IS IN FULL OPERATION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE POWER COMPANY TO DISCONNECT THE EXISTING POWER SERVICE BEFORE THE EXISTING SIGNAL INSTALLATIONS ARE REMOVED.

PAYMENT FOR ITEM 632 REMOVAL OF TRAFFIC FLASHER INSTALLATION WILL BE AS PER 636.28.

SIGN PLACEMENT

THE EXACT LOCATION OF SIGNS ARE TO BE STAKED AND CHECKED BY THE ENGINEER PRIOR TO PLACEMENT TO INSURE CLEARANCE OF DRIVES, ROADWAYS AND OTHER OBSTACLES. IF THERE ARE ANY CONFLICTS, THEY ARE TO BE ADJUSTED AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS IS INCIDENTAL TO ALL 630 ITEMS.

UNDERDRAINS FOR PULLBOXES

REFERENCE IS MADE TO STANDARD DRAWING HL-30.11M FOR DETAILS OF DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 12 METERS. AN ESTIMATED QUANTITY OF 120 METERS, OF ITEM 603, 100MM CONDUIT TYPE E IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

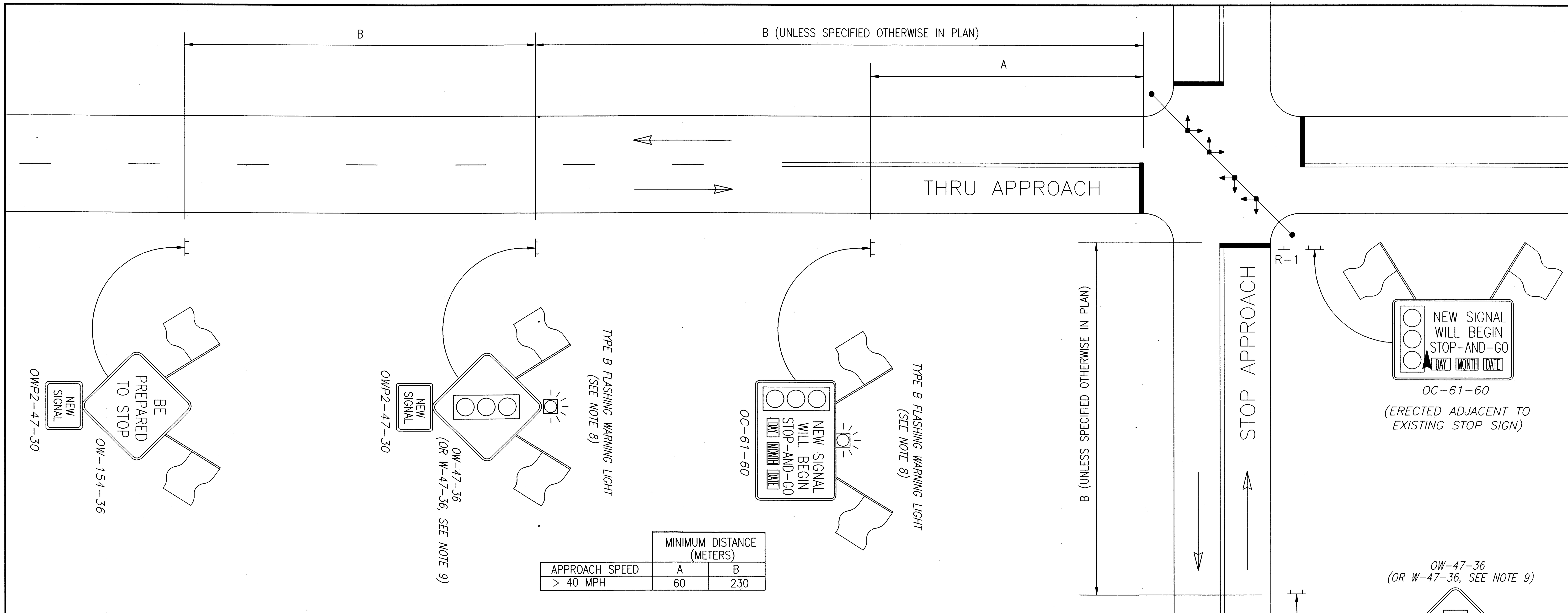
ITEM SPECIAL – PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND CONDUIT AND BURIED ELECTRICAL CABLES SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE ARE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL, APPROXIMATELY 150MM WIDE COMPOSED OF POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACIDS, OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHT RED WITH IDENTIFYING PRINTING "ELECTRIC" IN BLACK LETTERS, ONE SIDE ONLY. TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPE SHALL BE BURIED ON THE ELECTRIC LINE TRENCH WITH ONE STRIP APPROXIMATELY 150MM TO 250MM BELOW THE FINAL FINISHED GRADE. THE TAPE SHALL BE PLACED IN THE TRENCH WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL, THE TAPE SHALL BE PAID FOR PER METER OF ITEM SPECIAL-"PLASTIC CAUTION TAPE" COMPLETE AND IN PLACE.

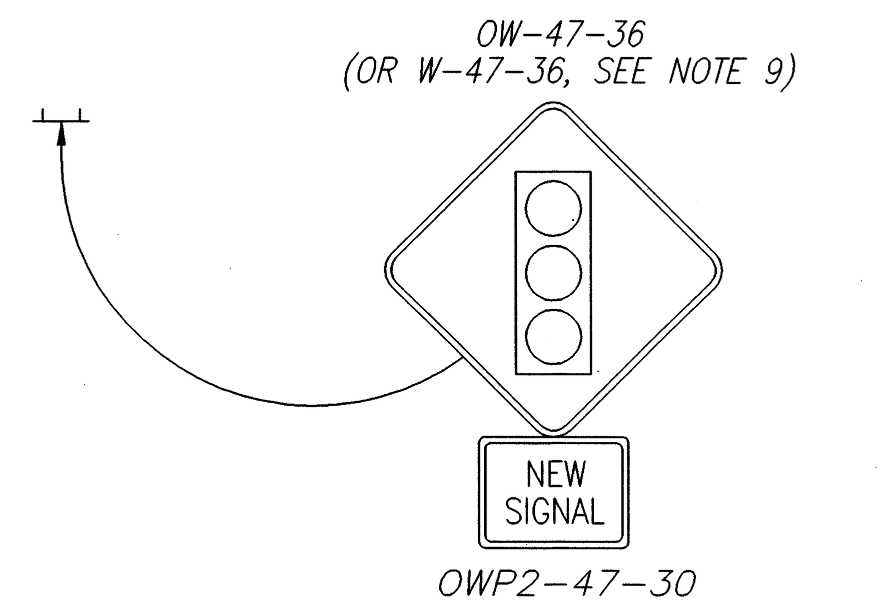
CALCULATED JBH
CHECKED LBD

TRAFFIC CONTROL GENERAL NOTES

CRA-30-24.000



	MINIMUM DISTANCE (METERS)	
APPROACH SPEED	A	B
> 40 MPH	60	230



NOTES:

1. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ALL SIGNS, FLASHING WARNING LIGHTS (WHEN REQUIRED) AND FLAGS AS SHOWN ABOVE, INCLUDING SUPPORTS AND ALL NECESSARY MOUNTING HARDWARE.
2. AFTER RECEIVING APPROVAL FROM THE ENGINEER TO ACTIVATE THE SIGNAL, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST TEN (10) DAYS PRIOR TO PLACING SIGNAL IN STOP-AND-GO MODE TO ALLOW THE ENGINEER TIME TO NOTIFY LOCAL MEDIA AND LAW ENFORCEMENT OF THE SCHEDULED SIGNAL ACTIVATION.
3. A PERMANENT NEW SIGNAL OR SIGNAL UPGRADE FROM A FLASHER, SHALL OPERATE IN FLASH MODE FOR THREE (3) TO TEN (10) CONSECUTIVE DAYS BEFORE BEING PLACED IN A STOP-AND-GO MODE FOR THE TEN (10) DAY BURN TEST, AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL ERECT THE OC-61-60 (WITH ACTIVATION DAY, MONTH, AND DATE; E.G. MON AUG 12) SIGNS EQUIPPED WITH ORANGE FLAGS AND FLASHING WARNING LIGHTS (WHEN REQUIRED) AS SHOWN ABOVE ON EACH APPROACH OF THE INTERSECTION AT THE TIME THE SIGNAL IS PLACED IN FLASH MODE.
5. IMMEDIATELY BEFORE PLACING THE NEW SIGNAL INSTALLATION IN STOP-AND-GO MODE, THE CONTRACTOR SHALL REMOVE THE OC-61-60 SIGNS AND INSTALL OR UNCOVER THE (O)W-47 AND OW-154 SIGN ASSEMBLIES AS SHOWN ABOVE.
6. IMMEDIATELY AFTER CHANGING THE SIGNAL TO STOP-AND-GO OPERATION, THE CONTRACTOR SHALL REMOVE THE EXISTING STOP SIGNS AND POST SUPPORTS.
7. THE CONTRACTOR SHALL REMOVE THE FLASHING WARNING LIGHTS, FLAGS, BRACKETS, OWP2-47, OW-47, AND OW-154 SIGNS 21-30 DAYS AFTER THE SIGNAL IS PLACED IN STOP-AND-GO MODE.
8. FLAGS SHALL BE ERECTED AS SHOWN ABOVE. THE FLAGS SHALL BE 450 mm X 450 mm IN SIZE, MADE OF ORANGE VINYL MATERIAL, AND SECURELY FASTENED TO THE SIGN OR SIGN SUPPORT. WHEN REQUIRED BY PLAN NOTE, TYPE B FLASHING WARNING LIGHTS SHALL BE INSTALLED AS SHOWN ABOVE.
9. THE OW-154 SIGN INSTALLATION (INCLUDING THE OWP2-47 SIGN AND FLAGS) ON THE THRU APPROACH SHALL BE OMITTED WHEN A PERMANENT "PREPARE TO STOP WHEN FLASHING" (W-44) SIGN IS ERECTED. WHEN SPECIFIED IN THE PLAN, A W-47 SIGN SHALL BE USED IN PLACE OF THE OW-47 SIGN ON THE THRU APPROACH. THE "NEW SIGNAL" (OWP2-47) SIGN, FLAGS, AND FLASHING WARNING LIGHT, WHEN REQUIRED, SHALL BE INSTALLED WITH THE W-47 SIGN AS SHOWN. WHEN SPECIFIED IN THE PLAN, A W-47 SIGN SHALL BE USED IN PLACE OF THE OW-47 SIGN ON THE STOP APPROACH. THE "NEW SIGNAL" (OWP2-47) SHALL BE INSTALLED WITH THE (O)W-47 SIGN AS SHOWN.
10. ON MULTILANE THRU APPROACHES, REPLACE THE OW-154-36 SIGN WITH AN OW-154-48 SIGN, AND REPLACE THE OW-47-36 SIGN WITH AN OW-47-48 SIGN. ON MULTILANE DIVIDED THRU APPROACHES, ERECT SIGNS IN MEDIAN IDENTICAL TO THOSE ON RIGHT TO CREATE DUAL INSTALLATIONS, INCLUDING SUPPLEMENTAL SIGNS AND FLAGS, AND, WHEN REQUIRED BY PLAN NOTE, FLASHING WARNING LIGHTS.
11. FOR MULTI-WAY STOP APPROACHES, EACH APPROACH CONTROLLED BY A STOP SIGN SHALL BE TREATED AS SHOWN ABOVE FOR THE STOP APPROACH.
12. THE SIGNAL SHALL NOT BE ACTIVATED TO STOP-AND-GO OPERATION ON A FRIDAY, SATURDAY OR SUNDAY, OR THE DAY PRECEDING OR DURING A NATIONAL HOLIDAY, (NEW YEARS, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING, OR CHRISTMAS).
13. PERMANENT SUPPORTS, PERMANENT SIGNS (W-44 AND W-47), AND TYPE B FLASHING WARNING LIGHTS SHALL BE PAID FOR UNDER SEPARATE PAY ITEM IN THE PLAN. PAYMENT FOR ALL OTHER LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR 614 MAINTAINING TRAFFIC.

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MAINTENANCE OF TRAFFIC NEW SIGNAL ACTIVATION

CRA-30-24.000

507C
677

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
507	510	511	512	513	514	515	516			519	520	528A	534A						
																		TRAFFIC CONTROL	
													40	603	00400	40	METER	100 mm CONDUIT, TYPE E	
14										240				620	10300	254	EACH	DELINEATOR, TYPE C, POST MOUNTED	
4										12				620	15300	16	EACH	DELINEATOR, TYPE D, POST MOUNTED	
											81			621	00210	81	EACH	RAISED PAVEMENT MARKER, HIGH PROFILE YELLOW-YELLOW, INSTALLATION ONLY	
											530			621	00214	530	EACH	RAISED PAVEMENT MARKER, HIGH PROFILE WHITE, INSTALLATION ONLY	
											83			621	00218	83	EACH	RAISED PAVEMENT MARKER, HIGH PROFILE WHITE-RED, INSTALLATION ONLY	
											120			621	00220	120	EACH	RAISED PAVEMENT MARKER, HIGH PROFILE YELLOW-RED, INSTALLATION ONLY	
													90	625	25100	90	METER	CONDUIT, 25 mm, 713.04	
												312		625	25400	312	METER	CONDUIT, 51 mm, 713.04	
													55	625	25500	55	METER	CONDUIT, 76 mm, 713.04	
													70	625	25900	70	METER	CONDUIT, JACKED OR DRILLED, 25 mm	
													30	625	25900	30	METER	CONDUIT, JACKED OR DRILLED , 75 mm	
												312	100	625	29000	412	METER	TRENCH	
												8	3	625	30700	11	EACH	PULL BOX, 713.08, 450 mm	
													1	625	30706	1	EACH	PULL BOX, 713.08, 600 mm	
													2	625	32000	2	EACH	GROUND ROD	
												2		625	32001	2	EACH	GROUND ROD, AS PER PLAN	507A
												312		SPECIAL	62536000	312	METER	PLASTIC CAUTION TAPE	
	14.0	37.8	17.9	22.1	22.3	22.6	27.5							630	02100	164.2	METER	GROUND MOUNTED SUPPORT, NO. 2 POST	
	30.9	74.4	60.7	50.3	81.8	28.3	76.7							630	03100	403.1	METER	GROUND MOUNTED SUPPORT, NO. 3 POST	
	19.4		10.3			10.3								630	04100	40	METER	GROUND MOUNTED SUPPORT, NO.4 POST	
	20.5	20.2					9.2							630	06400	49.9	METER	GROUND MOUNTED SUPPORT, S100 x 11.5 BEAM	
	32.7	54.5												630	06500	87.2	METER	GROUND MOUNTED SUPPORT, W150 x 13.5 BEAM	
	13.7	13.7	26.1		14.7									630	07000	68.2	METER	GROUND MOUNTED SUPPORT, W200 x 26.6 BEAM	
	16.6													630	07500	16.6	METER	GROUND MOUNTED SUPPORT, W250 x 32.7 BEAM	
	11.2	26.3		25.6	49.1	40.4								630	07600	152.6	METER	GROUND MOUNTED SUPPORT, W250 x 17.9 BEAM	
	36.8	90.9	72.0											630	08000	199.7	METER	GROUND MOUNTED SUPPORT, W310 x 44.5 BEAM	
				5.2	20.9	22.2								630	08004	48.3	METER	ONE WAY SUPPORT, NO. 3 POST	
	20	30	12	4	10	6	2							630	09000	84	EACH	BREAKAWAY BEAM CONNECTION	
	11													630	79501	11	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	534
	13.07	17.77	13.55	11.05	24.52	17.10	14.85							630	80102	79.55	SQ. METER	SIGN, FLAT SHEET, TYPE G	
	8.91													630	80103	8.91	SQ. METER	SIGN, FLAT SHEET, TYPE G, AS PER PLAN	507
	65.52	96.21	77.76	12.42	33.21	20.79	2.03							630	80204	307.94	SQ. METER	SIGN, EXTRUSHEET, TYPE G	
	8.64	17.28												630	80205	25.92	SQ. METER	SIGN, EXTRUSHEET, TYPE G, AS PER PLAN	507
	10	14	6	1	3	2								630	82000	36	EACH	SIGN BACKING ASSEMBLY	
				4.05	8.10	4.05								630	83000	16.20	SQ. METER	COVERING OF SIGN	

CALCULATED MJT CHECKED WS

TRAFFIC CONTROL GENERAL SUMMARY

CRA-30-24.000

L:\DRAWINGS\93125\New_traffic\Tg001.dwg April 17 2001 2:39pm By:smnettler

	SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	510	511	512	513	514	515	516	517	518		528A	534A							
																		TRAFFIC CONTROL	
	20	30	12	4	10	6	2							630	84500	84	METER	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
											4			630	84900	4	EACH	REMOVAL OF OF GROUND MOUNTED SIGN AND DISPOSAL	
											1			630	85100	1	EACH	REMOVAL OF OF GROUND MOUNTED SIGN AND REERECTION	
											4			630	86002	4	EACH	REMOVAL OF OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
							8.10							630	97800	8.10	SQ. METER	SIGNING, MISC.: REMOVAL OF SIGN COVER	
											6			632	00301	6	EACH	VEHICULAR SIGNAL HEAD, 3 SECTION, 300 mm LENS, 1-WAY, AS PER PLAN	507A
											2			632	00401	2	EACH	VEHICULAR SIGNAL HEAD, 4 SECTION, 300 mm LENS, 1-WAY, AS PER PLAN	507A
											8			632	25000	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
											8	8		632	26500	16	EACH	DETECTOR LOOP	
											8			632	27009	8	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN	
											37			632	30300	37	METER	MESSENGER WIRE, 7 STRAND, 11 mm DIA WITH ACCESSORIES	507A
											133			632	40700	133	METER	SIGNAL CABLE, 7-CONDUCYOR, NO. 14 AWG	
												1		632	63000	1	EACH	PHONE DROP	
											2			632	64000	2	EACH	STRAIN POLE FOUNDATION	
												1		632	64020	1	EACH	PEDESTAL FOUNDATION	
											652	242		632	65200	894	METER	LOOP DETECTOR LEAD-IN CABLE	
											9			632	69300	9	METER	POWER CABLE, 3 CONDUCTOR, NO. 4 AWG	
											1			632	70001	1	EACH	POWER SERVICE, AS PER PLAN	507A
											2			632	70300	2	EACH	CONDUIT RISER, 38mm DIAMETER	
											2			632	82700	2	EACH	STRAIN POLE, TYPE TC-81.10 M, DESIGN 7	
											1			632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	507B
												8		632	90400	8	EACH	SIGNALIZATION, MISC: PIEZOCABLE AXLE SENSOR, CLASS I,	
																		(3.35 METERS IN LENGTH)	
											1			633	23001	1	EACH	CONTROLLER, ACTUATED, 3 PHASE, SOLID STATE DIGITAL,	507B
																		AS PER PLAN	
												1		633	65001	1	EACH	CABINET, WITHOUT CONTROLLER, AS PER PLAN (PREWIRED,	
																		PAD MOUNT, TYPE "M")	
											1	1		633	70500	2	SQ. METER	CONTROLLER WORK PAD	
												1		633	99000	1	EACH	CONTROLLER ITEM, MISC. : SOLAR PANEL	
									10.49		0.03			642	00090	10.52	KILOMETER	EDGE LINE	
									5.24					642	00290	5.24	KILOMETER	CENTER LINE	
									18					642	00490	18	METER	STOP LINE	
									44.61					644	00100	44.61	KILOMETER	EDGE LINE	
								0.76	19.00					644	00200	19.76	KILOMETER	LANE LINE	
								889						644	00400	889	METER	CHANNELIZING LINE	
									19					644	00500	19	METER	STOP LINE	
								411						644	00700	411	METER	TRANSVERSE LINE	

CALCULATED MJT
CHECKED WS

TRAFFIC CONTROL GENERAL SUMMARY

CRA-30-24.000

L:\DRAWINGS\93125\New_traffic\Tg002.dwg April 17 2001 2:23pm By:smhetler

SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	630 SIGNS: SIGN, EXTRUSHEET, TYPE G	SIGNS: SIGN, EXTRUSHEET TYPE G, AS PER PLAN	SIGNS: SIGN, FLAT SHEET TYPE G	SIGNS: SIGN, FLAT SHEET, TYPE G, AS PER PLAN	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	SIGN SUPPORT ASSEMBLY POLE MOUNTED, AS PER PLAN	GROUND MOUNTED SUPPORT, S100 x 11.5 BEAM	GROUND MOUNTED SUPPORT, W5210 x 13.5 BEAM	GROUND MOUNTED SUPPORT, W200 x 26.6 BEAM	GROUND MOUNTED SUPPORT, W250 x 17.9 BEAM	GROUND MOUNTED SUPPORT, W250 x 32.7 BEAM	GROUND MOUNTED SUPPORT, W310 x 44.5 BEAM	SIGN BACKING ASSEMBLY	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION
						SQ. M.	SQ. M.	SQ. M.	SQ. M.	METER	METER	METER	EACH	METER	METER	METER	METER	METER	METER	EACH	EACH	EACH
521	1S	RELOC US 30	24+139 LT	N-41-300	0.300 x 0.900			0.27		3.5												
521	2S	RELOC US 30	24+139 RT	N-41-300	0.300 x 0.900			0.27		3.5												
521	3S	RELOC US 30	24+234 RT	LEVEL I GE	3.900 x 3.600	14.04												7.9/8.7		1	2	2
				N-44B-450	0.450 x 0.300			0.14														
		REFERENCE NUMBER 4S THRU 6S NOT USED																				
521	7S	RELOC US 30	24+495 RT	GF	1.800 x 1.500	2.70								5.1/5.2						1	2	2
				N-44B-450	0.450 x 0.300			0.14														
521	8S	RELOC US 30	24+580 LT	W-49R-1200	1.200 x 1.200			1.44														
521	9S	S.R. 602	50+045 LT	M-39-600	0.600 x 0.300			0.18			3.9											
				M-1-600-2	0.600 x 0.600			0.36														
				M-21-525	0.525 x 0.375			0.20														
521	10S	RAMP B	B 4+660 RT	M-2-600-3	0.600 x 0.300			0.18							5.6/5.7					2	2	2
				M-25-525	0.525 x 0.375			0.20														
				D-4B	2.400 x 1.200	2.88																
				N-43B-450	0.450 x 0.300			0.14														
521	11S	S.R. 602	49+930 RT	W-68-900	0.900 x 0.900			0.81			4.1											
		REFERENCE NUMBER 12S THRU 15S NOT USED																				
522	16S	RAMP D	D 5+000 LT	M-2-600-3	0.600 x 0.600			0.36									5.5/5.7			2	2	2
				M-25-525	0.525 x 0.375			0.20														
				D-4B	2.400 x 1.800	4.32																
				N-43B-450	0.450 x 0.300			0.14														
522	17S	RELOC US 30	25+175 LT	GF	1.800 x 1.500	2.70								5.0/5.2						1	2	2
				N-44B-450	0.450 x 0.300			0.14														
522	18S	RELOC US 30	25+438 LT	LEVEL I GE	3.900 x 3.600	14.04													8.7/9.6	1	2	2
				N-44B-450	0.450 x 0.300			0.14														
524	18BS	RELOC US 30	30+730 LT	R-33-750	0.750 x 0.900			0.68			4.3											
522	19S	RELOC US 30	25+048 RT	W-49R-1200	1.200 x 1.200			1.44			4.6/4.7											
524	20S	RELOC US 30	30+517 LT	W-138-900	0.900 x 0.900				0.81				1									
		REFERENCE NUMBER 21S THRU 24S NOT USED																				
524	25S	RELOC US 30	30+577 LT	W-138-900	0.900 x 0.900				0.81				1									
524	26S	RELOC US 30	30+638 LT	W-138-900	0.900 x 0.900				0.81				1									
524	27S	RELOC US 30	30+699.5 LT	W-138-900	0.900 x 0.900				0.81				1									
524	28S	RELOC US 30	30+767 LT	W-138-900	0.900 x 0.900				0.81				1									
524	29S	RELOC US 30	30+827 LT	W-138-900	0.900 x 0.900				0.81				1									
524	30S	RELOC US 30	30+887 LT	W-138-900	0.900 x 0.900				0.81				1									
524	31S	RELOC US 30	30+947 LT	W-138-900	0.900 x 0.900				0.81				1									
524	32S	RELOC US 30	30+977 LT	W-138-900	0.900 x 0.900				0.81				1									
524	33S	RELOC US 30	31+007 LT	W-138-900	0.900 x 0.900				0.81				1									
524	33BS	RELOC US 30	31+037 LT	W-138-900	0.900 x 0.900				0.81				1									
522	34S	RELOC US 30	25+748 LT	N-41-300	0.300 x 0.900			0.27		3.5												
522	35S	RELOC US 30	25+748 RT	N-41-300	0.300 x 0.900			0.27		3.5												
524	36S	RELOC US 30	31+267 LT	W-54A-3600	3.600 x 1.200		4.32								5.3/6.2						2	2
524	37S	RELOC US 30	31+267 LT	W-54A-3600	3.600 x 1.200		4.32								4.8/5.1						2	2
522	38S	RELOC US 30	26+083 RT	R-10-1200	1.200 x 1.500			1.80				4.6/4.7										
522	39S	RELOC US 30	26+083 RT	R-9A-1200	1.200 x 1.500			1.80				5.0/5.1										
522	40S	RELOC US 30	26+238 LT	LEVEL I GB	4.500 x 3.600	16.20													8.8/9.7	1	2	2
				N-44B-450	0.450 x 0.300			0.14														
522	41S	RELOC US 30	26+383 RT	LEVEL I GJ	4.800 x 1.800	8.64										6.4/7.3				1	2	2
				N-44B-450	0.450 x 0.300			0.14														
522	42S	RELOC US 30	25+783 RT	M-39-900	0.900 x 0.450			0.41			4.6/4.7											
				M-1-900-2	0.900 x 0.900			0.81														
		REFERENCE NUMBER 43S THRU 45S NOT USED																				
			TOTALS			65.52	8.64	13.07	8.91	14.0	30.9	19.4	11	20.5	32.7	13.7	11.2	16.6	36.8	10	20	20
		TOTALS CARRIED TO GENERAL SUMMARY				65.52	8.64	13.07	8.91	14.0	30.9	19.4	11	20.5	32.7	13.7	11.2	16.6	36.8	10	20	20

CALCULATED MJT
CHECKED WS

SIGNING SUB-SUMMARY

CRA-30-24.000

TS100.DWG
11-07-2000 10:11 AM
1:1M

SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	630 SIGNS: SIGN, EXTRUSHEET, TYPE G	SIGN, EXTRUSHEET, TYPE G, AS PER PLAN		SIGN, FLAT SHEET TYPE G	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST		GROUND MOUNTED SUPPORT, S100 x 11.5 BEAM	GROUND MOUNTED SUPPORT, W150 x 13.5 BEAM	GROUND MOUNTED SUPPORT, S200 x 26.6 BEAM	GROUND MOUNTED SUPPORT, W250 x 17.9 BEAM		GROUND MOUNTED SUPPORT, S310 x 44.5 BEAM	SIGN BACKING ASSEMBLY		BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION
						SQ. M.	SQ. M.		SQ. M.	METER	METER		METER	METER	METER	METER		METER	EACH		EACH	EACH
524	46S	RELOC US 30	32+072 LT	W-54B-3600	3.600 x 1.200		4.32							5.3/6.2							2	2
524	47S	RELOC US 30	32+072 LT	W-54B-3600	3.600 x 1.200		4.32							4.8/5.1							2	2
523	48S	RELOC US 30	27+038 LT	LEVEL I GB	3.900 x 3.600	14.04												9.6/8.7	1		2	2
				N-44B-450	0.450 x 0.300				0.14													
523	49S	RELOC US 30	27+358 LT	N-41-300	0.300 x 0.900				0.27	3.5												
525	50S	RELOC US 30	32+877 LT	W-55-3600	3.600 x 1.200		4.32							5.3/6.2							2	2
525	51S	RELOC US 30	32+877 LT	W-55-3600	3.600 x 1.200		4.32							4.8/5.1							2	2
523	52S	RELOC US 30	27+358 RT	N-41-300	0.300 x 0.900				0.27	3.5												
523	53S	RELOC US 30	28+033 RT	LEVEL I GB	3.900 x 3.600	14.04												9.4/9.9	1		2	2
				N-44B-450	0.450 x 0.300				0.14													
523	54S	RELOC US 30	28+660 LT	LEVEL I GJ	4.800 x 1.800	8.64									6.4/7.3				1		2	2
				N-44B-450	0.450 x 0.300				0.14													
523	55S	RELOC US 30	28+833 RT	LEVEL I GB	3.900 x 3.600	14.04												8.7/9.6	1		2	2
				N-44B-450	0.450 x 0.300				0.14													
523	56S	RELOC US 30	28+967 RT	N-41-300	0.300 x 0.900				0.27	3.5												
523	57S	RELOC US 30	29+260 LT	M-40-900	0.900 x 0.450				0.41		4.6/4.7											
				M-1-900-2	0.900 x 0.900				0.81													
523	58S	RELOC US 30	28+960 LT	R-10-1200	1.200 x 1.500				1.80		5.1/5.3											
523	59S	RELOC US 30	28+960 LT	R-9A-1200	1.200 x 1.500				1.80		5.3/5.5											
523	60S	RELOC US 30	28+967 LT	N-41-300	0.300 x 0.900				0.27	3.5												
	REFERENCE NUMBERS 61S THROUGH 67S NOT USED																					
523	68S	RELOC US 30	29+633 RT	LEVEL I GE	3.900 x 3.600	14.04												8.7/9.6	1		2	2
				N-44B-450	0.450 x 0.300				0.14													
523	69S	RELOC US 30	29+897 RT	GF	1.800 x 1.500	2.70							5.1/5.2						1		2	2
				N-44B-450	0.450 x 0.300				0.14													
523	70S	RAMP F	F 0+000 RT	M-2-600-3	0.600 x 0.600				0.36					5.7/6.0					2		2	2
				M-25-525	0.525 x 0.375				0.20													
				D-4B	2.400 x 1.200	2.88																
				N-43B-450	0.450 x 0.300				0.14													
523	71S	RELOC US 30	29+992 LT	W-49R-1200	1.200 x 1.200				1.44		4.6/4.7											
523	72S	S.R. 598	50+050 LT	M-39-600	0.600 x 0.300				0.18		5.4											
				M-1-600-2	0.600 x 0.600				0.36													
				M-21-525	0.525 x 0.375				0.20													
		REFERENCE NUMBERS 73S AND 74S NOT USED																				
523	75S	S.R. 598	49+940 RT	W-68-900	0.900 x 0.900				0.81		5.3											
523	76S	S.R. 598	49+940 LT	M-39-600	0.600 x 0.300				0.18							5.5/6.7			1		2	2
				M-1-600-2	0.600 x 0.600				0.36													
				M-24-525	0.525 x 0.375				0.20													
				D-4A	4.500 x 0.900	4.05																
523	77S	S.R. 598	50+060 LT	W-68-900	0.900 x 0.900				0.81		5.3											
	REFERENCE NUMBERS 78S THROUGH 83S NOT USED																					
524	84S	RAMP H	H 0+255 LT	R-41A-900	0.900 x 0.600				0.54	4.2/4.3												
524	85S	RAMP H	H 0+255 RT	R-41A-900	0.900 x 0.600				0.54	4.2/4.3												
524	86S	RAMP H	H 0+395 LT	M-2-600-3	0.600 x 0.600				0.36							6.9/7.2			3		2	2
				M-25-525	0.525 x 0.375				0.20													
				D-4B	2.400 x 1.200	2.88																
				N-43B-450	0.450 x 0.300				0.14													
				M-40-600	0.600 x 0.300				0.18													
				M-1-600-2	0.600 x 0.600				0.36													
				M-19-525	0.525 x 0.375				0.20													
				D-4A-1200	2.400 x 0.900	2.16																
524	87S	RELOC US 30	30+467 LT	GF	1.800 x 1.500	2.70							4.8/5.1						1		2	2
				N-44B-450	0.450 x 0.300				0.14													
524	88S	RELOC US 30	30+576 LT	N-41-300	0.300 x 0.900				0.27	3.5												
524	89S	RELOC US 30	30+730 LT	LEVEL I GE	3.900 x 3.600	14.04												8.8/7.9	1		2	2
				N-44B-450	0.450 x 0.300				0.14													
524	90S	RELOC US 30	30+344 RT	W-49R-1200	1.200 x 1.200				1.44		4.6/4.7											
524	91S	RELOC US 30	G 0+243	R-70-1200	1.200 x 0.900				1.08		4.5/4.8											
524	92S	RELOC US 30	30+830 LT	N-18-H	0.450 x 0.450				0.20	3.3												
		TOTALS				96.21	17.28		17.77	37.8	74.4		20.2	54.5	13.7	26.3		90.9	14		30	30
	TOTALS CARRIED TO GENERAL SUMMARY					96.21	17.28		17.77	37.8	74.4		20.2	54.5	13.7	26.3		90.9	14		30	30

CALCULATED MJT
CHECKED WS

SIGNING SUB-SUMMARY

CRA-30-24.000

TS101.DWG
11-16-2000 10:27 AM
1:M

SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	630 SIGNS: SIGN, EXTRUSHEET, TYPE G		SIGN, FLAT SHEET TYPE G	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST				GROUND MOUNTED SUPPORT, W200 x 26.6 BEAM		GROUND MOUNTED SUPPORT, W310 x 44.5 BEAM		SIGN BACKING ASSEMBLY		BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION
						SQ. M.		SQ. M.	METER	METER	METER				METER		METER		EACH		EACH	EACH
REFERENCE NUMBERS 93S THROUGH 95S NOT USED																						
524	96S	C.H. 89	49+940 LT	X-4-750	0.750 x 0.750			0.56	3.7													
524	97S	RELOC US 30	30+576 RT	N-41-300	0.300 x 0.900			0.27	3.5													
524	98S	C.H.89	49+250 RT	W-69-750	0.750 x 0.750			0.56		4.5												
524	99S	RELOC US 30	31+530 LT	LEVEL I GB	4.500 x 3.600	16.20											8.6/9.4		1		2	2
				N-44B-450	0.450 x 0.300			0.14														
524	100S	RELOC US 30	32+186 LT	N-41-300	0.300 x 0.900			0.27	3.5													
524	101S	RELOC US 30	32+186 RT	N-41-300	0.300 x 0.900			0.27	3.5													
524	102S	RELOC US 30	32+330 LT	LEVEL I GB	3.900 x 3.600	16.20											8.5/9.3		1		2	2
				N-44B-450	0.450 x 0.300			0.14														
REFERENCE NUMBERS 103S THROUGH 107S NOT USED																						
524	108S	RELOC US 30	31+070 RT	M-39-900	0.900 x 0.450			0.41		4.6/4.7												
				M-1-900-2	0.900 x 0.900			0.81														
524	109S	RELOC US 30	31+370 RT	R-10-1200	1.200 x 1.500			1.80		5.1/5.3												
524	110S	RELOC US 30	31+370 RT	R-9A-1200	1.200 x 1.500			1.80		5.3/5.5												
524	111S	RELOC US 30	31+670 RT	LEVEL I GJ	4.800 x 1.800	8.64									6.1/7.0				1		2	2
				N-44B-450	0.450 x 0.300			0.14														
524	112S	RELOC US 30	32+083 RT	LEVEL I GB	3.900 x 3.600	14.04											9.3/8.8		1		2	2
				N-44B-450	0.450 x 0.300			0.14														
524	113S	C.H. 89	50+067 LT	X-4-750	0.750 x 0.750			0.57	3.7													
524	114S	C.H. 89	50+530 LT	W-69-750	0.750 x 0.750			0.57		4.5												
REFERENCE NUMBERS 115S THROUGH 117S NOT USED																						
525	118S	RELOC US 30	32+765 LT	LEVEL I GJ	4.800 x 1.800	8.64									6.0/7.0				1		2	2
				N-44B-450	0.450 x 0.300			0.14														
525	119S	RELOC US 30	32+883 RT	LEVEL I GB	3.900 x 3.600	14.04											8.6/9.5		1		2	2
				N-44B-450	0.450 x 0.300			0.14														
525	120S	RELOC US 30	33+683 RT	EXISTING TO REMAIN																		
525	121S	RELOC US 30	33+795 RT	EXISTING TO REMAIN																		
525	122S	RELOC US 30	33+976, RT	EXISTING TO REMAIN																		
				EXISTING TO REMAIN																		
525	123S	RELOC US 30	33+065 LT	R-9A-1200	1.200 x 1.500			1.80		5.3/5.5												
525	124S	RELOC US 30	33+065 LT	R-10-1200	1.200 x 1.500			1.80		5.1/5.3												
525	125S	RELOC US 30	33+365 LT	M-40-900	0.900 x 0.450			0.41			4.7											
				M-1-900-2	0.900 x 0.900			0.81														
525	126S	RELOC US 30	33+795 LT	EXISTING TO REMAIN																		
REFERENCE NUMBERS 127S THROUGH 131S NOT USED																						
525	132S	RELOC US 30	34+090 LT	EXISTING TO REMAIN																		
525	133S	RAMP J	J 4+112 RT	EXISTING TO REMAIN																		
525	134S	RAMP L	L 4+360 LT	EXISTING TO REMAIN																		
REFERENCE NUMBERS 135S THROUGH 136S NOT USED																						
525	137S	RELOC US 30	34+450 RT	EXISTING TO REMAIN																		
525	138S	S.R. 61	50+048 LT	EXISTING TO REMAIN																		
525	139S	S.R. 61	49+950 RT	M-39-600	0.600 x 0.300			0.18			5.6											
				M-1-600-2	0.900 x 0.900			0.81														
				M-21-525	0.525 x 0.375			0.20														
REFERENCE NUMBERS 139S THROUGH 149S NOT USED																						
TOTALS						77.76		13.55	17.9	60.7	10.3				26.1		72.0		6		12	12
TOTALS CARRIED TO GENERAL SUMMARY						77.76		13.55	17.9	60.7	10.3				26.1		72.0		6		12	12

CALCULATED MJT CHECKED WS

SIGNING SUB-SUMMARY

CRA-30-24.000

TS102.DWG 11-07-2000 10:59 AM 1:1M

SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	630 SIGNS SIGN, EXTRUSHEET, TYPE G		SIGN, FLAT SHEET, TYPE G	SIGN, FLAT SHEET TYPE G		GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST				GROUND MOUNTED SUPPORT, W250 x 17.9 BEAM	COVERING OF SIGN	SIGN BACKING ASSEMBLY		BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION
						SQ. M.		SQ. M.	SQ. M.		METER	METER	METER				METER	SQ. M.	EACH		EACH	EACH
526	150S	RELOC US 30	34+555	EXISTING TO REMAIN																		
526	151S	RELOC US 30	34+917	N-15-H	0.450 x 0.450				0.20		3.7											
526	152S	RELOC US 30	34+817 LT	EXISTING TO REMAIN																		
526	153S	RELOC US 30	34+817 LT	EXISTING TO REMAIN																		
	REFERENCE NUMBERS 154S THROUGH 197S NOT USED																					
521	198S	S.R. 602	50+070 LT	W-68-900	0.900 x 0.900				0.81			4.1										
526	199S	RAMP A	A 4+700 LT	R-70-1200	1.200 x 0.900				1.08			5.1/6.1										
526	200S	S.R. 602	50+198 LT	D-4B	4.500 x 1.800	8.10											6.5/7.8	4.05			2	2
526	201S	S.R. 602	50+408 LT	M-17-600	0.600 x 0.300				0.18			4.9										
				M-1-600-2	0.600 x 0.600				0.36													
526	202S	RAMP D	D 4+807 RT	R-1-1200	1.200 x 1.200			1.44					5.2									
				R-43L-1200	1.200 x 0.450			0.54														
				R-43R-1200	1.200 x 0.450			0.54														
				R-41B-900	0.900 x 0.900			0.81														
	REFERENCE NUMBER 203S NOT USED																					
526	204S	S.R. 602	50+162 RT	M-37-600	0.600 x 0.300				0.18			4.6										
				M-2-600-3	0.600 x 0.600				0.36													
526	205S	S.R. 602	50+246 RT	R-10-600	0.600 x 0.750				0.45			4.7										
526	206S	S.R. 602	50+336 RT	LEVEL I GJ	4.800 x 0.900	4.32											5.5/5.8		1		2	2
				N-44B-450	0.450 x 0.300				0.14													
526	207S	RAMP D	D 4+866 LT	R-41A-900	0.900 x 0.600			0.54			4.8/5.1											
526	208S	RAMP D	D 4+866 RT	R-41A-900	0.900 x 0.600			0.54			4.2/4.3											
524	209S	RAMP H	H 0+324 LT	W-45-1200	1.200 x 1.200				1.44			5.2/5.5										
524	210S	RAMP H	H 0+324 RT	W-45-1200	1.200 x 1.200				1.44			4.9/5.2										
		TOTALS				12.42		4.41	6.64		22.1	50.3	5.2				25.6	4.05	1		4	4
		TOTALS CARRIED TO GENERAL SUMMARY				12.42		11.05			22.1	50.3	5.2				25.6	4.05	1		4	4

CALCULATED MJT
CHECKED WS

SIGNING SUB-SUMMARY

CRA-30-24.000

TS103.DWG
11-07-2000 11:05 AM
1:1M

						630																
						SIGNS																
SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	SIGN, EXTRUSHEET, TYPE G	SIGN, FLAT SHEET, TYPE G	SIGN, FLAT SHEET TYPE G	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST		COVERING OF SIGN			GROUND MOUNTED SUPPORT, W250 x 17.9 BEAM	GROUND MOUNTED SUPPORT, S200 x 26.6 BEAM		SIGN BACKING ASSEMBLY		BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION
						SQ. M.	SQ. M.	SQ. M.	METER	METER	METER		SQ. M.			METER	METER		EACH		EACH	EACH
526	211S	RAMP D	D 4+807 LT	R-1-1200	1.200 x 1.200		1.44				5.0											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
526	212S	RAMP A	A 4+764 LT	R-15A-900	0.900 x 0.900			0.81		5.4/5.7												
REFERENCE NUMBERS 213S THROUGH 215S NOT USED																						
526	216S	SERVICE RD A	10+008 LT	R-1-750	0.750 x 0.750		0.56			3.5												
526	217S	SERVICE RD A	10+028 RT	W-48-750	0.750 x 0.750			0.56		4.8												
526	218S	S.R 602	49+665 LT	LEVEL I GJ	4.800 x 900	4.32										5.7/5.9			1		2	2
				N-44B-450	0.450 x 0.300		0.14															
526	219S	S.R. 602	49+753 LT	R-10-600	0.600 x 0.750			0.45		4.0												
526	220S	RAMP B	B 4+835 RT	R-1-1200	1.200 x 1.200		1.44				5.0											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
526	221S	RAMP B	B 4+768 RT	R-41A-900	0.900 x 0.600		0.54		4.5/4.8													
526	222S	RAMP B	B 4+768 LT	R-41A-900	0.900 x 0.600		0.54		4.5/4.8													
526	223S	RAMP B	B 4+827 LT	R-1-1200	1.200 x 1.200		1.44				5.6											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
REFERENCE NUMBERS 224S THROUGH 227S NOT USED																						
526	228S	S.R. 602	49+581 RT	M-17-600	0.600 x 0.300			0.18		4.2												
				M-1-600-2	0.600 x 0.600			0.36														
REFERENCE NUMBER 229S NOT USED																						
526	230S	S.R. 602	49+791 RT	D-4B	4.500 x 1.800	8.10							4.05			5.4/5.7					2	2
526	231S	S.R. 602	49+837 LT	M-38-600	0.600 x 0.300			0.18		4.2												
				M-2-600-3	0.600 x 0.600			0.36														
526	232S	RAMP C	C 4+822 RT	R-15A-900	0.900 x 0.900			0.81		4.6/4.7												
526	233S	RAMP C	C 4+887 RT	R-70-1200	1.200 x 0.900			1.08		4.6/4.7												
526	234S	S.R. 602	49+920 LT	M-39-600	0.600 x 0.300			0.18								5.2/5.3			1		2	2
				M-1-600-2	0.600 x 0.600			0.36														
				M-24-525	0.525 x 0.375			0.20														
				D-4A	4.500 x 0.900	4.05																
REFERENCE NUMBERS 235S THROUGH 239S NOT USED																						
527	240S	S.R. 598	49+593 RT	M-17-600	0.600 x 0.300			0.18		3.9												
				M-1-600-2	0.600 x 0.600			0.36														
527	241S	SERVICE RD B	10+008 LT	R-1-750	0.750 x 0.750		0.56			3.5												
527	242S	SERVICE RD B	10+028 RT	W-48-750	0.750 x 0.750			0.56		4.5												
527	243S	S.R. 598	49+688 LT	LEVEL I GJ	4.800 x 1.800	8.64										7.7/8.2			1		2	2
				N-44B-450	0.450 x 0.300		0.14															
REFERENCE NUMBERS 244S NOT USED																						
527	245S	S.R. 598	49+778 LT	R-10-600	0.600 x 0.750			0.45		4.2												
527	246S	RAMP F	F 0+147 LT	R-1-1200	1.200 x 1.200		1.44				5.3											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
527	247S	RAMP G	G 0+178 RT	R-15A-900	0.900 x 0.900			0.81		5.4/5.7												
527	248S	S.R. 598	49+803 RT	D-4B	4.500 x 1.800	8.10							4.05				6.7/8.0				2	2
527	249S	S.R. 598	49+862 LT	M-38-600	0.600 x 0.300			0.18		4.2												
				M-2-600-3	0.600 x 0.600			0.36														
527	250S	RAMP H	H 0+205 RT	N-18H	0.450 x 0.450			0.20	3.7													
				N-15	0.600 x 0.150			0.09														
REFERENCE NUMBERS 251S THROUGH 253S NOT USED																						
TOTALS						33.21	15.80	8.72	22.3	81.8	20.9		8.10			49.1	14.7		3		10	10
TOTALS CARRIED TO GENERAL SUMMARY						33.21	24.52		22.3	81.8	20.9		8.10			49.1	14.7		3		10	10

CALCULATED MJT
CHECKED WS

SIGNING SUB-SUMMARY

CRA-30-24.000

TS104.DWG
11-16-2000 10:45 AM
1:1M

SIGNING SUB-SUMMARY

SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	630 SIGNS: SIGN, EXTRUSHEET, TYPE G	SIGN, FLAT SHEET, TYPE G	SIGN, FLAT SHEET TYPE G	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	COVERING OF SIGN				GROUND MOUNTED SUPPORT, W250 x 17.9 BEAM		SIGN BACKING ASSEMBLY		BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION
						SQ. M.	SQ. M.	SQ. M.	METER	METER	METER	METER	SQ. M.				METER		EACH		EACH	EACH
527	254S	RAMP F	F 0+155	R-1-1200	1.200 x 1.200		1.44				5.5/5.7											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
527	255S	RAMP F	F 0+088 LT	R-41A-900	0.900 x 0.600		0.54		4.5/4.8													
527	256S	RAMP F	F 0+088 RT	R-41A-900	0.900 x 0.600		0.54		4.5/4.8													
	REFERENCE NUMBERS 257S NOT USED																					
527	258S	RAMP E	E 0+110	R-70-1200	1.200 x 0.900			1.08		4.8/5.1												
527	259S	RAMP E	E 0+170	R-15A-900	0.900 x 0.900			0.81		4.5/4.8												
527	260S	S.R. 598	50+199 LT	D-4B	4.500 x 1.800	8.10							4.05				6.4/7.2				2	2
527	261S	S.R. 598	50+150 RT	M-26-525	0.525 x 0.375			0.20				5.0										
				M-1-600-2	0.600 x 0.600			0.36														
				M-40-600	0.600 x 0.300			0.18														
				M-8-600	0.600 x 0.300			0.18														
527	262S	S.R. 598	50+409 LT	M-17-600	0.600 x 0.300			0.18		4.9												
				M-1-600-2	0.600 x 0.600			0.36														
527	263S	S.R. 598	50+090 LT	W-68-900	0.900 x 0.900			0.81				5.3										
527	264S	S.R. 598	49+920 LT	M-39-600	0.600 x 0.300			0.18									5.8/7.1		1		2	2
				M-1-600-2	0.600 x 0.600			0.36														
				M-24-525	0.525 x 0.375			0.20														
				D-4A	4.500 x 0.900	4.05																
527	265S	RAMP H	H 0+187 RT	R-1-1200	1.200 x 1.200		1.44				5.5											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
527	266S	RAMP H	H 0+185 LT	R-1-1200	1.200 x 1.200		1.44				5.5											
				R-43L-1200	1.200 x 0.450		0.54															
				R-43R-1200	1.200 x 0.450		0.54															
				R-41B-900	0.900 x 0.900		0.81															
527	267S	S.R. 598	50+150 RT	M-37-600	0.600 x 0.300			0.18		4.2												
				M-2-600-3	0.600 x 0.600			0.36														
527	268S	S.R. 598	50+234 RT	R-10-600	0.600 x 0.750			0.45	4.0													
	REFERENCE NUMBERS 269S THROUGH 272S NOT USED																					
527	273S	S.R. 598	50+340 RT	LEVEL I GJ	4.800 x 1.800	8.64											6.6/7.3		1		2	2
				N-44B-450	0.450 x 0.300			0.14														
	REFERENCE NUMBER 274S THRU 278S NOT USED																					
TOTALS						20.79	11.07	6.03	22.6	28.3	22.2	10.3	4.05				40.4		2		6	6
TOTALS CARRIED TO GENERAL SUMMARY						20.79	17.10		22.6	28.3	22.2	10.3	4.05				40.4		2		6	6

CALCULATED MJT CHECKED WS

CRA-30-24.000

TS105.DWG 11-16-2000 11:11 AM 1:1M

SHEET NO.	REFERENCE NO.	LOCATION	STATION	CODE	SIZE (m x m)	630 SIGNS: SIGN, EXTRUSHEET, TYPE G	630 SIGNS	630 SIGNS: SIGN, FLAT SHEET, TYPE G	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630	630	630	630 SIGNING MISCELANEOUS: REMOVAL OF SIGN COVER	630	630 GROUND MOUNTED SUPPORT, S100 x 11.5 BEAM	630 BREAKAWAY BEAM CONNECTION	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION	630	630	630	630
						SQ. M.		SQ. M.	METER	METER				SQ. M.		METER	EACH	EACH				
528	279S	S.R. 61	49+600 RT	EXISTING	TO REMAIN																	
528	280S	SERV. RD. A	49+060 RT	EXISTING	TO REMAIN																	
528	281S	SERV. RD. A	50+008 LT	EXISTING	TO REMAIN																	
528	282S	S.R. 61	49+690 RT	EXISTING	TO REMAIN																	
528	283S	S.R. 61	49+766 LT	EXISTING	TO REMAIN																	
528	284S	S.R. 61	49+800 RT	D-4B										4.05								
528	285S	S.R. 61	49+850 LT	EXISTING	TO REMAIN																	
528	286S	RAMP K	K 4+267 RT	EXISTING	TO REMAIN																	
528	287S	S.R. 61	49+915 RT	EXISTING	TO REMAIN																	
528	288S	S.R. 61	49+940 LT	EXISTING	TO REMAIN																	
528	289S	RAMP J	J 4+251 LT	EXISTING	TO REMAIN																	
528	290S	S.R. 61	J 4+259 RT	EXISTING	TO REMAIN																	
528	291S	S.R. 61	J 4+191 RT	EXISTING	TO REMAIN																	
528	292S	S.R. 61	J 4+191 LT	EXISTING	TO REMAIN																	
528	293S	RAMP L	L 4+280 LT	N-18H-450	0.450 x 0.450			0.20	3.7													
				N-15-600	0.600 x 0.150			0.09														
		REFERENCE NUMBER 294S THRU 296S NOT USED																				
528	297S	S.R. 61	50+060 RT	M-40-600	0.600 x 0.300			0.18		4.5												
				M-1-600-2	0.600 x 0.600			0.36														
				M-24-525	0.525 x 0.375			0.20														
528	298S	RAMP L	L 4+267 RT	EXISTING	TO REMAIN																	
528	299S	RAMP L	L 4+237 RT	EXISTING	TO REMAIN																	
528	300S	RAMP L	L 4+237 LT	EXISTING	TO REMAIN																	
528	301S	RAMP L	L 4+260 LT	EXISTING	TO REMAIN																	
528	302S	RAMP I	I 4+238 LT	EXISTING	TO REMAIN																	
528	303S	S.R. 61	50+200 LT	D-4B										4.05								
528	304S	S.R. 61	50+148 RT	EXISTING	TO REMAIN																	
528	305S	S.R. 61	50+242 RT	EXISTING	TO REMAIN																	
528	306S	S.R. 61	50+320 LT	M-52A-2700	2.700 x 0.750	2.03										4.4/4.8	2	2				
528	307S	S.R. 61	50+410 LT	EXISTING	TO REMAIN																	
528	308S	WACHS RD.	30+440	EXISTING	TO REMAIN																	
528	309S	WACHS RD.	30+800 LT	EXISTING	TO REMAIN																	
340	315S	BIDDLE RD.	49+450 RT	W-5-750	0.750 x 0.750			0.56	3.4													
341	316S	BIDDLE RD.	49+896 RT	W-68-900	0.900 x 0.900			0.81		4.8												
341	317S	BIDDLE RD.	49+949 LT	W-5-750	0.750 x 0.750			0.56		4.6												
342	318S	BIDDLE RD.	50+051 RT	W-6-750	0.750 x 0.750			0.56		4.6												
342	319S	BIDDLE RD.	50+105 RT	W-68-900	0.900 x 0.900			0.81		4.6												
343	320S	BIDDLE RD.	50+539 LT	W-6-750	0.750 x 0.750			0.56	3.8													
405	321S	NAZOR RD.	49+520 RT	W-6-750	0.750 x 0.750			0.56	4.2													
406	322S	NAZOR RD.	49+906 RT	W-68-900	0.900 x 0.900			0.81		4.2												
407	323S	NAZOR RD.	49+958 LT	W-6-750	0.750 x 0.750			0.56	4.4													
407	324S	NAZOR RD.	50+066 RT.	W-1-750	0.750 x 0.750			0.56	4.2													
407	325S	NAZOR RD.	50+130 LT	W-68-900	0.900 x 0.900			0.81		4.4												
410	326S	NAZOR RD.	50+693 LT	W-2-750	0.750 x 0.750			0.56	3.8													
387	327S	FAIRVIEW RD.	49+904 RT	W-68-900	0.900 x 0.900			0.81		4.6												
388	328S	FAIRVIEW RD.	50+104 LT	W-68-900	0.900 x 0.900			0.81		4.4												
522	329S	BECK RD.	50+745 LT	W-69-750	0.750 x 0.750			0.56		4.5												
522	330S	BECK RD.	50+055 LT	X-4-750	0.750 x 0.750			0.56		4.5												
522	331S	BECK RD.	49+945 RT	X-4-750	0.750 x 0.750			0.56		4.5												
522	332S	BECK RD.	49+255 RT	W-69-750	0.750 x 0.750			0.56		4.5												
524	333S	KNORR RD.	50+745 LT	W-69-750	0.750 x 0.750			0.56		4.5												
524	334S	KNORR RD.	50+055 LT	X-4-750	0.750 x 0.750			0.56		4.5												
524	335S	KNORR RD.	49+255 RT	W-69-750	0.750 x 0.750			0.56		4.5												
524	336S	KNORR RD.	49+945 RT	X-4-750	0.750 x 0.750			0.56		4.5												
TOTALS						2.03		14.85	27.5	76.7				8.10		9.2	2	2				
TOTALS CARRIED TO GENERAL SUMMARY						2.03		14.85	27.5	76.7				8.10		9.2	2	2				

CALCULATED MJT
CHECKED WS

SIGNING SUB-SUMMARY

CRA-30-24.000

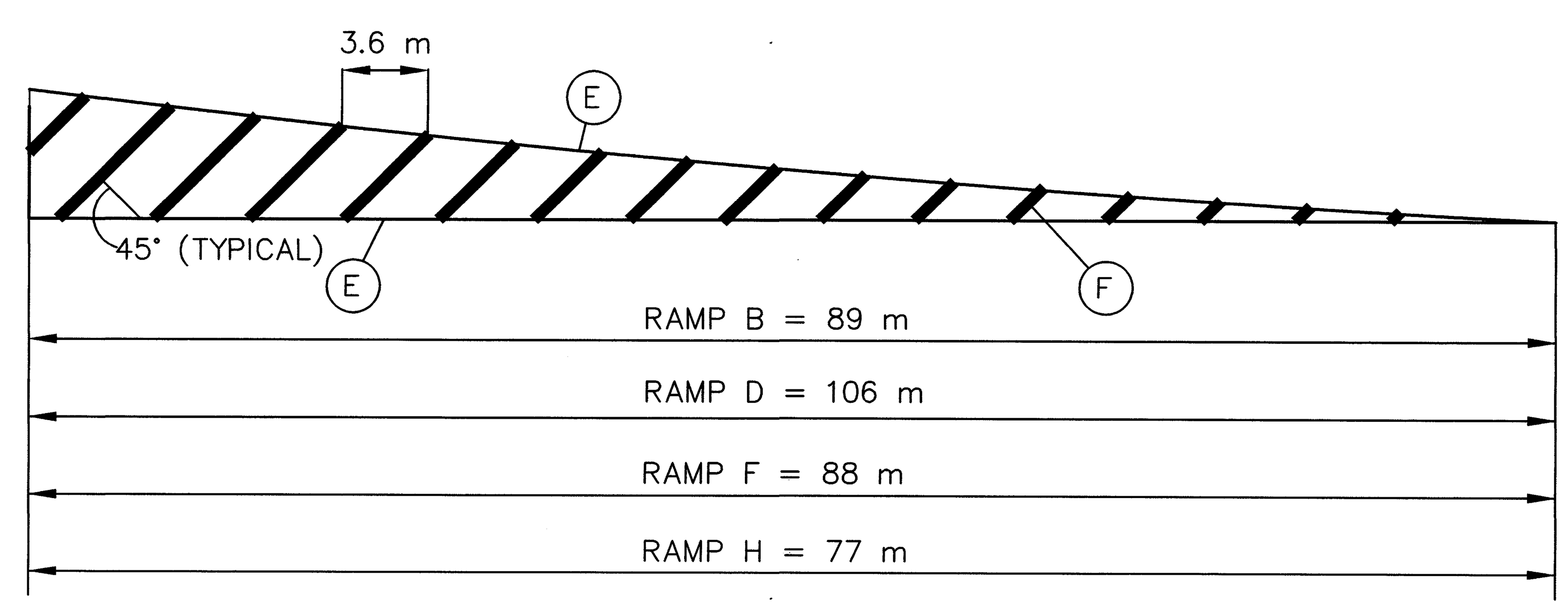
TS106.DWG
11-07-2000 10:59 AM
1:1M

PAVEMENT MARKING SUB-SUMMARY

ITEM 644 PAVEMENT MARKING						
GORE PAVEMENT MARKING			CHANNELIZING LINE – WHITE	CHANNELIZING LINE – WHITE	TRANSVERSE LINE – WHITE	LANE LINE WHITE
LOCATION	SIDE	STATION TO STATION	LENGTH X 2 (METERS)	LENGTH (METERS)	LENGTH (METERS)	LENGTH (KILOMETERS)
RAMP A	W.B.	24+175.014 – 24+317.613				0.143
RAMP A	W.B.	24+317.613 – 24+360.000		42.387		
RAMP B	E.B.	24+324 – 24+384				0.060
RAMP B	E.B.	24+384 – 24+473	178		101	
RAMP C	E.B.	25+272.704 – 25+315.856		43.152		
RAMP C	E.B.	25+315.856 – 25+459.900				0.144
RAMP D	W.B.	25+198 – 25+304	212		121	
RAMP D	W.B.	25+304 – 25+356				0.052
RAMP E	W.B.	29+582.801 – 29+726.800				0.144
RAMP E	W.B.	29+726.800 – 29+770.001		43.201		
RAMP F	E.B.	29+724 – 29+785				0.061
RAMP F	E.B.	29+785 – 29+873	176		102	
RAMP G	E.B.	30+565.000 – 30+604.905		39.905		
RAMP G	E.B.	30+604.905 – 30+694.568				0.090
RAMP H	W.B.	30+490 – 30+567	154		87	
RAMP H	W.B.	30+567 – 30+634				0.067
TOTALS			720	168.645	411	0.761
SUB–TOTALS			888.645		411	0.761
TOTALS CARRIED TO GENERAL SUMMARY, SHEET NO. 509			889		411	0.76

PAVEMENT MARKINGS
LINE SPECIFICATIONS

(A)	EDGE LINE, WHITE — 100 mm
(B)	EDGE LINE, YELLOW — 100 mm
(C)	LANE LINE, WHITE — 100 mm; 3 m, 9 m, 3 m, 9 m, 3 m
(D)	CENTER LINE, YELLOW, DOUBLE SOLID — 100 mm, 100 mm, 100 mm
(E)	CHANNELIZING LINE, WHITE — 200 mm
(F)	TRANSVERSE LINE, WHITE — 600 mm
(G)	STOP LINE, WHITE — 600 mm



NOTE: VARIOUS CROSS–ROADS HAVE VARYING WIDTH ROADWAYS (CURVE WIDENING). ALL CENTERLINE STRIPING SHALL FOLLOW THE CENTERLINE OF CONSTRUCTION, NOT THE PHYSICAL CENTER OF PAVEMENT. SEE SUPERELEVATION TABLES FOR THE PAVEMENT WIDTHS AND THEIR LOCATION. SEE SHEETS 457 TO 464B

CALCULATED WS CHECKED MT

CRA-30-24.000

TS107.DWG 11-07-2000 11:05 AM 1:1M

metric units

CALCULATED WS CHECKED MT

ROUTE	STATION TO STATION	SIDE	ITEM 644 EDGE LINE, YELLOW	EDGE LINE, WHITE		LANE LINE, WHITE	STOP LINE	
			KILOMETER	KILOMETER		KILOMETER	METER	
	MAINLINE							
RELOC. U.S. 30	24+000.000 – 33+500.000	E.B.	9.500			9.500		
RELOC. U.S. 30	24+000.000 – 24+233.885	E.B.		0.234				
RELOC. U.S. 30	24+473.000 – 29+663.219	E.B.		5.190				
RELOC. U.S. 30	29+873.000 – 33+500.000	E.B.		3.627				
RELOC. U.S. 30	24+000.000 – 33+500.000	W.B.	9.500			9.500		
RELOC. U.S. 30	24+000.000 – 25+198.000	W.B.		1.198				
RELOC. U.S. 30	25+437.699 – 30+490.000	W.B.		5.052				
RELOC. U.S. 30	30+730.000 – 33+500.000	W.B.		2.770				
	RAMPS							
RAMP A	A 4+317.600 – A 4+360.000	W.B.		0.036				
@ S.R. 602	A 4+360.000 – A 4+793.170	W.B.	0.433	0.433				
RAMP B	B 4+233.885 – B 4+384.931	E.B.		0.151				
@ S.R. 602	B 4+471.947 – B 4+847.080	E.B.	0.375	0.375				
	B 4+838.350						4.800	
RAMP C	C 4+792.826 – C 5+149.131	E.B.	0.356	0.356				
@ S.R. 602	C 5+149.131 – C 5+315.800	E.B.		0.167				
RAMP D	D 4+786.417 – D 5+306.643	W.B.	0.520	0.520				
@ S.R. 602	D 5+306.643 – D 5+437.699	W.B.		0.131				
	D 4+795.150						4.800	
RAMP E	E 9+726.800 – E 9+770.001	W.B.		0.043				
@ S.R. 598	E 9+726.800 – E 0+200.785	W.B.	0.474	0.474				
RAMP F	F 9+663.219 – F 9+786.191	E.B.		0.123				
@ S.R. 598	F 9+786.191 – F 0+169.025	E.B.	0.382	0.382				
	F 0+160.200						4.800	
RAMP G	G 0+147.113 – G 0+565.000	E.B.	0.418	0.418				
@ S.R. 598	G 0+565.000 – G 0+590.559	E.B.		0.026				
RAMP H	H 0+173.566 – H 0+567.278	W.B.	0.393	0.393				
@ S.R. 598	H 0+567.278 – H 0+730.000	W.B.		0.163				
	H 0+182.260						4.800	
TOTALS			22.351	22.262	·	19.000	19.200	
TOTALS CARRIED TO GENERAL SUMMARY, SHEET NO. 509			44.61			19.00	19	

ROUTE	STATION TO STATION		ITEM 642	EDGE LINE, WHITE	CENTER LINE, YELLOW	STOP LINE		
				KILOMETER	KILOMETER	METER		
	SIDE ROADS							
S.R. 602	49+565.000 – 50+485.000			1.840	0.920			
BECK RD.	50+100.223 – 50+135.000			0.070	0.035			
(T.H. 20)	49+875.000 – 49+902.227			.0542	0.027			
BIDDLE RD.	49+520.000 – 50+510.000			1.980	0.990			
(T.R. 44)								
S.R. 598	49+355.000 – 50+350.000			1.990	0.995			
NORTH MARKET ST.	49+860.000 – 49+897.991			0.760	0.380			
(C.H. 89)	50+110.000 – 50+155.000			0.090	0.045			
FAIRVIEW RD.	49+600.000 – 50+280.000			1.380	0.690			
(T.H. 90)								
KNORR RD.	49+875.000 – 49+900.022			0.050	0.025			
(T.R. 91)	50+097.836 – 50+125.000			0.024	0.017			
SERVICE RD. "A"	10+005.900 – 10+320.000			0.628	0.314			
	10+007.900					6.900		
SERVICE RD. "B"	10+005.900 – 10+175.000			0.338	0.169			
	10+007.900					10.800		
NAZOR RD.	49+490.000 – 50+610.000			2.240	1.120			
TOTALS				10.488	5.244	17.700		
TOTALS CARRIED TO GENERAL SUMMARY, SHEET NO. 509				10.49	5.24	18		

PAVEMENT MARKING SUB-SUMMARY

CRA-30-24.000

TS108.DWG
11-16-2000 11:20 AM
1:1M

ITEM 620 – DELINEATORS

LOCATION	STATION		DISTANCE	TYPE C		SPACING	TYPE D			SPACING
				FLEXIBLE POST MOUNTED			FLEXIBLE POST MOUNTED			
	FROM	TO	METER	EACH		METER	EACH			METER
RELOC. U.S. 30 EB	24+000.000	24+264.500	264.500	3		122 m				
	24+473.000	25+144.200	671.200	7						
	25+272.704	29+633.219	4360.515	37						
	29+873.534	30+438.700	565.166	6						
	30+565.000	33+500.000	2935.000	25						
RELOC. U.S. 30 WB	24+000.000	24+360.000	360.000	4						
	24+486.800	25+197.699	710.899	7						
	25+407.700	29+410.000	4002.300	34						
	29+873.200	30+489.930	616.730	6						
	30+700.300	33+500.000	2799.700	24		122 m				
S.R. 602 RAMP "A"	A 4+360.000	A 4+486.300	126.300	3		61 m				
	A 4+486.300	A 4+733.362	247.062	5		61 m				
S.R. 602 RAMP "B"	B 4+264.500	B 4+473.000	208.500	5		61 m				
	B 4+473.000	B 4+807.080	334.080	7		61 m				
S.R. 602 RAMP "C"	C 4+852.826	C 5+144.200	291.374	6		61 m				
	C 5+144.200	C 5+272.700	128.500	3		61 m				
S.R. 602 RAMP "D"	D 4+826.417	D 5+198.000	371.583	7		61 m				
	D 5+198.000	D 5+407.700	209.700	5		61 m				
S.R. 598 RAMP "E"	E 9+770.000	E 9+873.200	103.200	3		61 m				
	E 9+873.200	E 0+160.785	287.585	6		61 m				
S.R. 598 RAMP "F"	F 9+633.219	F 9+873.000	239.781	5		61 m				
	F 9+873.000	F 0+169.025	296.025	6		61 m				
S.R. 598 RAMP "G"	G 0+187.113	G 0+257.443	70.330	3		30.5 m	3			30.5 m
	G 0+257.443	G 0+325.325	67.882	3		30.5 m	3			30.5 m
	G 0+325.325	G 0+475.532	150.207	6		30.5 m	6			30.5 m
	G 0+475.532	G 0+565.000	89.468	3		61 m				
S.R. 598 RAMP "H"	H 0+173.566	H 0+490.000	316.434	6		61 m				
	H 0+490.000	H 0+700.300	210.300	5		61 m				
TOTALS				240			12			
TOTALS CARRIED TO GENERAL SUMMARY, SHEET NO. 508				240			12			

CALCULATED WS CHECKED MT

DELINEATOR SUB-SUMMARY

CRA-30-24.000

TS109.DWG
11-16-2000 11:22 PM
1:1M

CALCULATED WS CHECKED MT

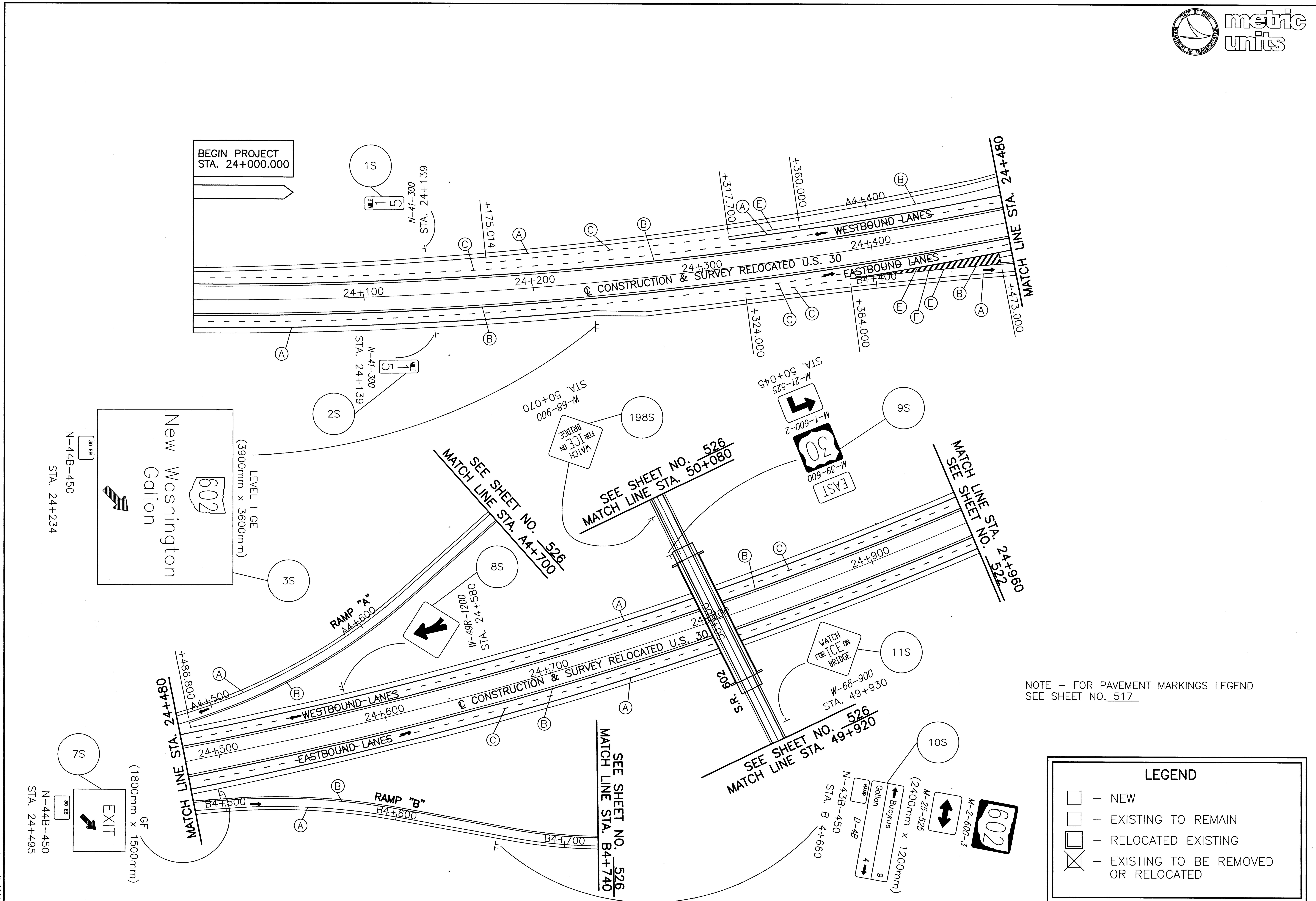
ITEM 621 - RAISED PAVEMENT MARKERS

LOCATION	STATION FROM	STATION TO	LENGTH	EDGE LINE	EDGE LINE YELLOW/RED	LANE LINE WHITE	CENTER LINE YELLOW/YELLOW	CHANNELIZING LINE WHITE/RED	SPACING
			METER		EACH	EACH	EACH	EACH	METER
RELOC. U.S. 30 EB	24+000.0	33+500.0	9500.000			265			36
ACC.	25+272.7	25+316.0	43.300					5	12
ACC.	30+565.0	30+605.0	40.000					4	12
DEC.	24+384.0	24+473.0	89.000					16	12
DEC.	29+785.0	29+873.0	88.000					16	12
RELOC. U.S. 30 WB	24+000.0	33+500.0	9500.000			265			36
ACC.	24+317.7	24+360.0	42.300					4	12
ACC.	29+726.8	29+770.0	43.200					5	12
DEC.	25+198.0	25+304.0	106.000					19	12
DEC.	30+490.0	30+567.0	77.000					14	12
S.R. 602, RAMP "A"	A 4+449.997	A 4+793.170	343.173		15				24
S.R. 602, RAMP "B"	B 4+503.629	B 4+847.080	343.451		15				24
S.R. 602, RAMP "C"	C 4+792.826	C 5+182.765	389.939		17				24
S.R. 602, RAMP "D"	D 4+786.417	D 5+197.893	411.476		18				24
S.R. 598, RAMP "E"	E 9+860.021	E 0+200.785	340.764		15				24
S.R. 598, RAMP "F"	F 9+902.983	F 0+169.025	266.042		12				24
S.R. 598, RAMP "G"	G 0+147.113	G 0+459.930	312.817		14				24
S.R. 598, RAMP "H"	H 0+173.566	H 0+475.532	301.966		14				24
S.R. 602	49+570.000	50+480.000	910.000				39		24
S.R. 598	49+365.000	50+340.000	975.000				42		24
TOTALS					120	530	81	83	
TOTALS CARRIED TO GENERAL SUMMARY, SHEET NO. 508					120	530	81	83	

RAISED PAVEMENT MARKING SUB-SUMMARY

CRA-30-24.000

TS110.DWG
11-07-2000 12:47 PM
1:1M

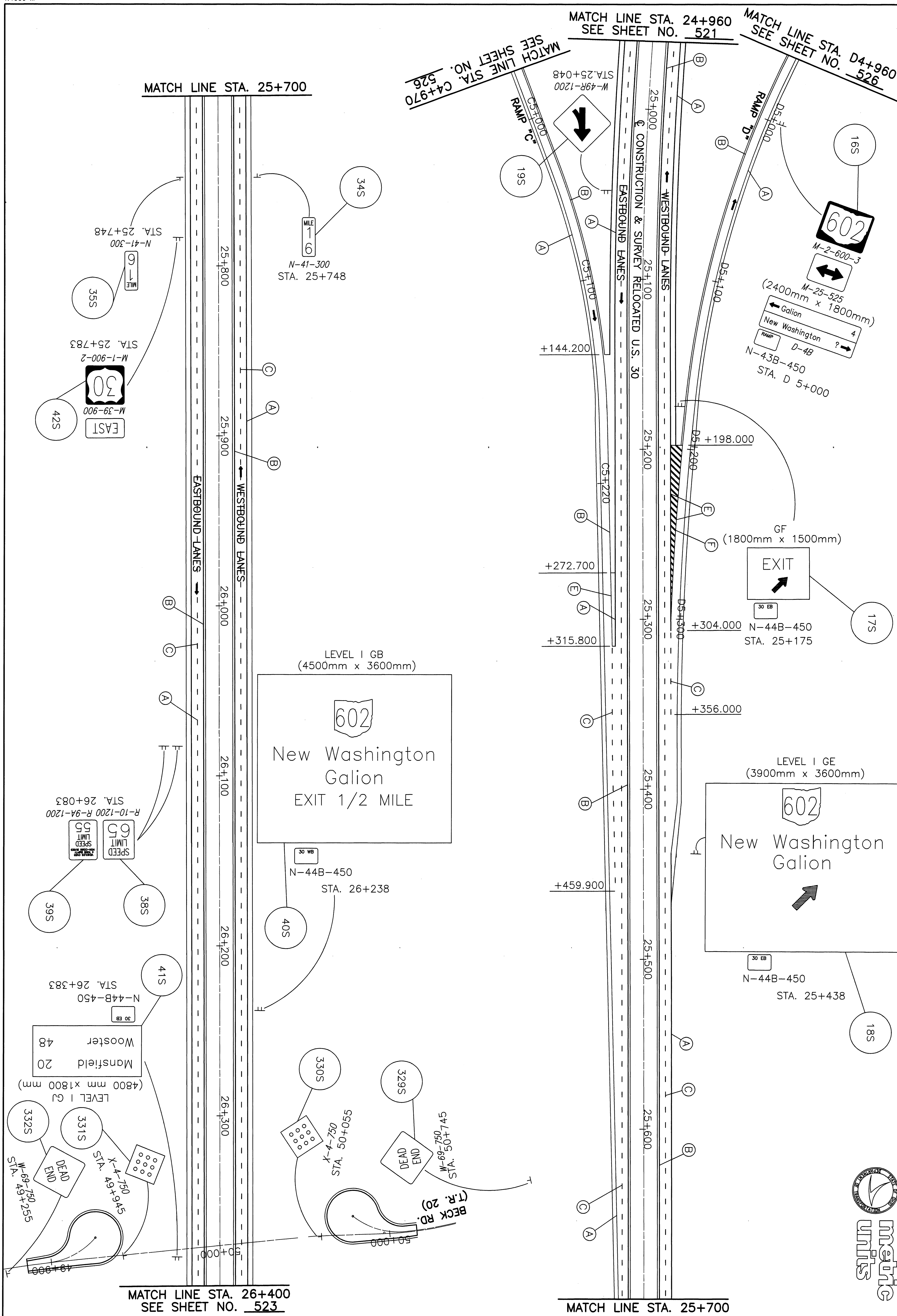


SCALE 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MJT
CHECKED WS

TRAFFIC CONTROL – RELOCATED U.S. 30
STA.24+000 TO STA. 24+960

CRA-30-24.000



522/677	CRA-30-24.000	TRAFFIC CONTROL – RELOCATED U.S. 30 STA. 24+960 TO STA. 26+400	CALCULATED MJT CHECKED WS	SCALE 1:1000 0 10 20 40 HORIZONTAL SCALE IN METERS

TRAFFIC CONTROL - RELOCATED U.S. 30
STA. 26+400 TO STA. 30+240
CRA-30-24.000
523
677
metric units
SCALE 1:1000
HORIZONTAL SCALE IN METERS
CALCULATED MJT
CHECKED WS
MATCH LINE STA. 26+400 SEE SHEET NO. 522
MATCH LINE STA. 29+630
MATCH LINE STA. 30+240 SEE SHEET NO. 524
MATCH LINE STA. 50+060 SEE SHEET NO. 527
MATCH LINE STA. 49+940 SEE SHEET NO. 527
MATCH LINE STA. E10+000 SEE SHEET NO. 20
MATCH LINE STA. F10+000 SEE SHEET NO. 20
26+700
27+000
28+000
28+800
28+900
29+000
+582.801
29+700
29+800
29+900
30+000
30+100
30+200
CONSTRUCTION & SURVEY RELOCATED U.S. 30
WEST BOUND LANES
EAST BOUND LANES
RAMP "E"
RAMP "F"
E9+800
E9+900
F9+800
F9+900
+724.000
+726.800
+770.000
+785.000
+873.000
+873.200
S.R. 598
49S N-41-300 STA. 27+358 MILE 17
48S LEVEL I GB (3900mm x 3600mm) N-44B-450 STA. 27+038 602 New Washington Galion EXIT 1 MILE
52S N-41-300 STA. 27+358 MILE 17 N-44B-450 STA. 28+033
54S LEVEL I GJ (4800 mm x1800 mm) Bucyrus 11 Findlay 51 N-44B-450 STA. 28+660
53S LEVEL I GB (3900mm x 3600mm) 598 Shelby Galion EXIT 1 MILE
55S LEVEL I GB (3900mm x 3600mm) N-44B-450 STA. 28+833 598 Shelby Galion EXIT 1/2 MILE
58S SPEED LIMIT 55
59S SPEED LIMIT 65 R-10-1200 R-9A-1200 STA. 28+960
60S MILE 18 N-41-300 STA. 28+967
56S MILE 18 N-41-300 STA. 28+967
57S WEST M-40-900 30 M-1-900-2 STA. 29+260
68S LEVEL I GE (3900mm x 3600mm) N-44B-450 STA. 29+633 598 Shelby Galion
69S GF (1800mm x 1500mm) EXIT N-44B-450 STA. 29+897
70S (2400mm x 1200mm) M-25-525 Shelby Galion RAMP N-43B-450 D-4B STA. F 0+000 M-2-600-3 598
71S W-49R-1200 STA. 29+992
72S M-21-525 STA. 50+050 M-1-600-2 30 M-39-600 EAST
77S WATCH FOR ICE ON BRIDGE W-68-900 STA. 50+060
75S WATCH FOR ICE ON BRIDGE W-68-900 STA. 49+940
76S M-1-600-2 30 M-39-600 EAST
Mansfield 17 D-4A STA. 49+940 (450mm x 900mm) M-24-525
TP004.DWG 11-16-2000 12:45 PM 1:1000 M

TRAFFIC CONTROL – RELOCATED U.S. 30
STA. 30+240 TO STA. 32+760
CRA-30-24.000
524
677
SCALE 1:1000
HORIZONTAL SCALE IN METERS
CALCULATED MJT
CHECKED WS
metric units
MATCH LINE STA. H0+220 SEE SHEET NO. 527
MATCH LINE STA. 30+240 SEE SHEET NO. 523
MATCH LINE STA. G0+240 SEE SHEET NO. 527
MATCH LINE STA. 30+960
MATCH LINE STA. 32+760 SEE SHEET NO. 525
RAMP "H"
RAMP "G"
WESTBOUND LANES
EASTBOUND LANES
℄ CONSTRUCTION & SURVEY RELOCATED U.S. 30
NORTH MARKET AVE. (C.H. 89)
KNORR RD. (T.R. 91)
Shelby Galion EXIT 1/2 MILE
LEVEL I GB (4500mm x 3600mm)
Shelby Galion EXIT 1 MILE
LEVEL I GB (3900mm x 3600mm)
Crestline Galion EXIT 1 MILE
LEVEL I GB (3900mm x 3600mm)
Mansfield 16 Wooster 45
LEVEL I GJ (4800 mm x1800 mm)
W-69-750 STA. 49+255
LEVEL I GE (3900mm x 3600mm)
GF (1800mm x 1500mm)
EXIT
DO NOT PASS R-33-750 STA. 30+730
WRONG WAY R-41A-900 STA. H 0+255
STOP AHEAD W-45-1200 STA. H0+324
DEAD END
LEFT LANE ENDS MERGE RIGHT W-54A-3600 STA. 31+267
LEFT LANE ENDS 1/2 MILE W-54B-3600 STA. 32+072
EMERGENCY STOPPING ONLY R-70-1200 STA. G 0+243
SPEED LIMIT 65 R-10-1200
SPEED LIMIT 55 R-94-1200 STA. 31+370
EAST M-39-900
M-1-900-2 STA. 31+070
W-49R-1200 STA. 30+344
N-44B-450 STA. 31+530
N-44B-450 STA. 31+670
N-44B-450 STA. 32+083
N-44B-450 STA. 32+330
N-44B-450 STA. 30+467
N-44B-450 STA. 30+730
N-41-300 STA. 30+576
N-41-300 STA. 32+186
N-18H STA. 30+830
W-138-900 STA. 30+517
W-138-900 STA. 30+577
W-138-900 STA. 30+638
W-138-900 STA. 30+699.5
W-138-900 STA. 30+767
W-138-900 STA. 30+827
W-138-900 STA. 30+887
W-138-900 STA. 30+947
W-138-900 STA. 30+977
W-138-900 STA. 31+007
W-138-900 STA. 31+037
X-4-750 STA. 49+940
X-4-750 STA. 50+067
X-4-750 STA. 50+055
X-4-750 STA. 49+945
W-69-750 STA. 49+250
W-69-750 STA. 50+530
W-69-750 STA. 50+745
M-40-600 WEST
M-1-600-2 M-2-600-3
M-19-525 M-25-525 (2400mm x 1200mm)
Shelby Galion Bucyrus D-4B
D-4A-1200 STA. H 0+395
N-43B-450
TP006.DWG 11-07-2000 12:47 PM 1:1000 M

TRAFFIC CONTROL – RELOCATED U.S. 30
STA. 32+760 TO STA. 34+480
CRA-30-24.000
525
677
metric units
SCALE 1:1000
HORIZONTAL SCALE IN METERS
CALCULATED MJT
CHECKED WS
MATCH LINE STA. 32+760
SEE SHEET NO. 524
MATCH LINE STA. 33+980
SEE THIS SHEET
END PROJECT
STA. 33+500.000
℄ CONRAIL RAILROAD
WEST BOUND LANES
EAST BOUND LANES
℄ CONSTRUCTION RELOCATED U.S. 30
RAMP "I"
RAMP "J"
RAMP "K"
RAMP "L"
FREEWAY ENDS 1 MILE
W-55-3600
STA. 32+877
SPEED LIMIT 65
SPEED LIMIT 55
R-10-1200 R-9A-1200
STA. 33+065
WEST
M-40-900
M-1-900-2
STA. 33+365
LEVEL I GJ
(4800 mm x1800 mm)
Bucyrus 14
Findlay 54
N-44B-450
STA. 32+765
N-44B-450
STA. 32+883
Crestline
Galion
EXIT 1/2 MILE
LEVEL I GB
(3900mm x 3600mm)
(NO WORK)
EXIT
SEE SHEET NO. 528
MATCH LINE STA. I 4+160
SEE SHEET NO. 528
MATCH LINE STA. 50+050
SEE SHEET NO. 528
MATCH LINE STA. L 4+340
MATCH LINE STA. 34+480
SEE SHEET NO. 18
MATCH LINE STA. J 4+160
SEE SHEET NO. 528
MATCH LINE STA. 49+940
SEE SHEET NO. 528
MATCH LINE STA. K 4+340
SEE SHEET NO. 528
S.R. 61
EAST
WEST
M-39-600
M-1-600-2
M-21-525
STA. 49+950
50S
51S
118S
119S
120S
121S
122S
123S
124S
125S
126S
132S
133S
134S
137S
138S
139S
TP007.DWG
11-16-2000 12:49 PM
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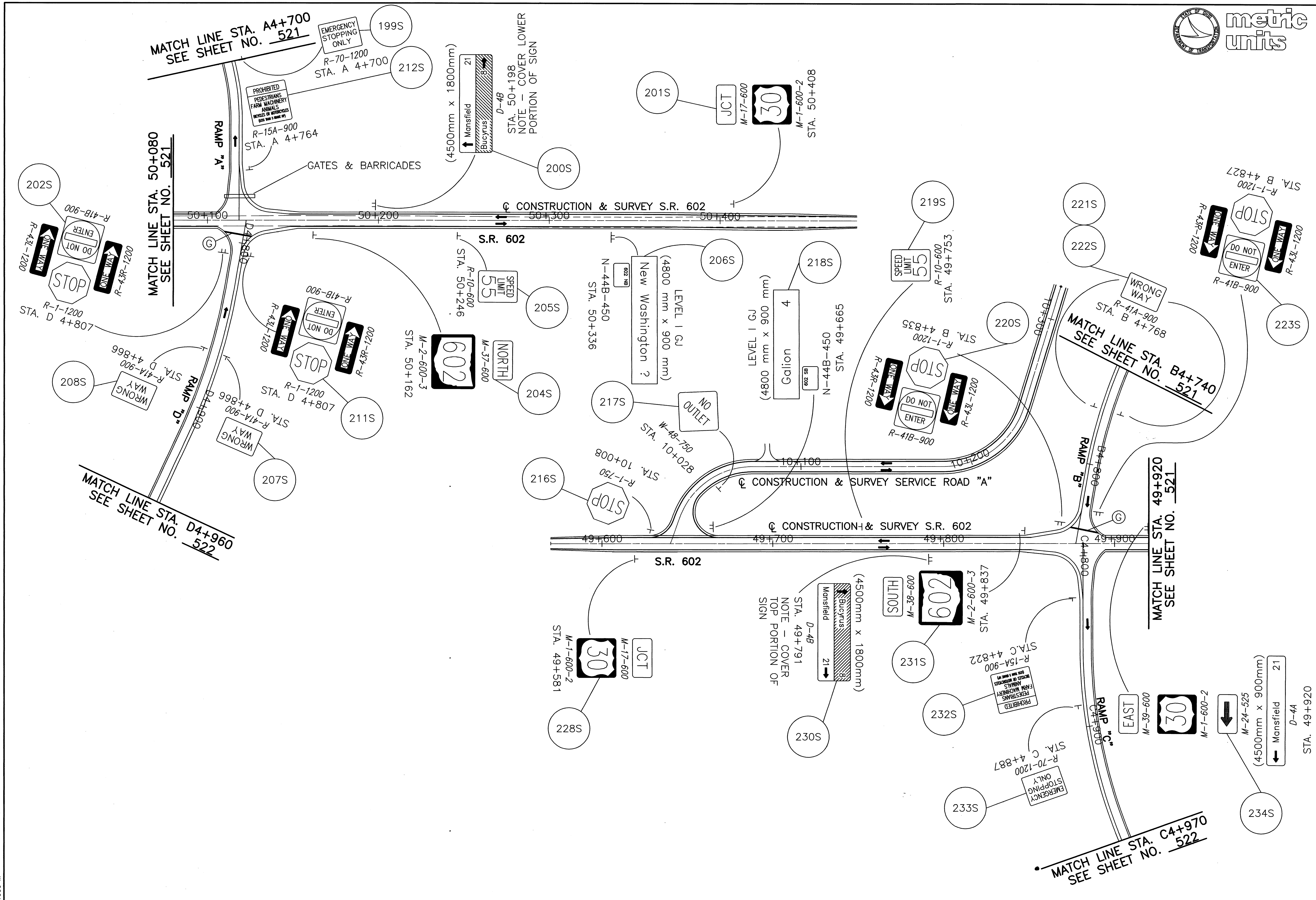
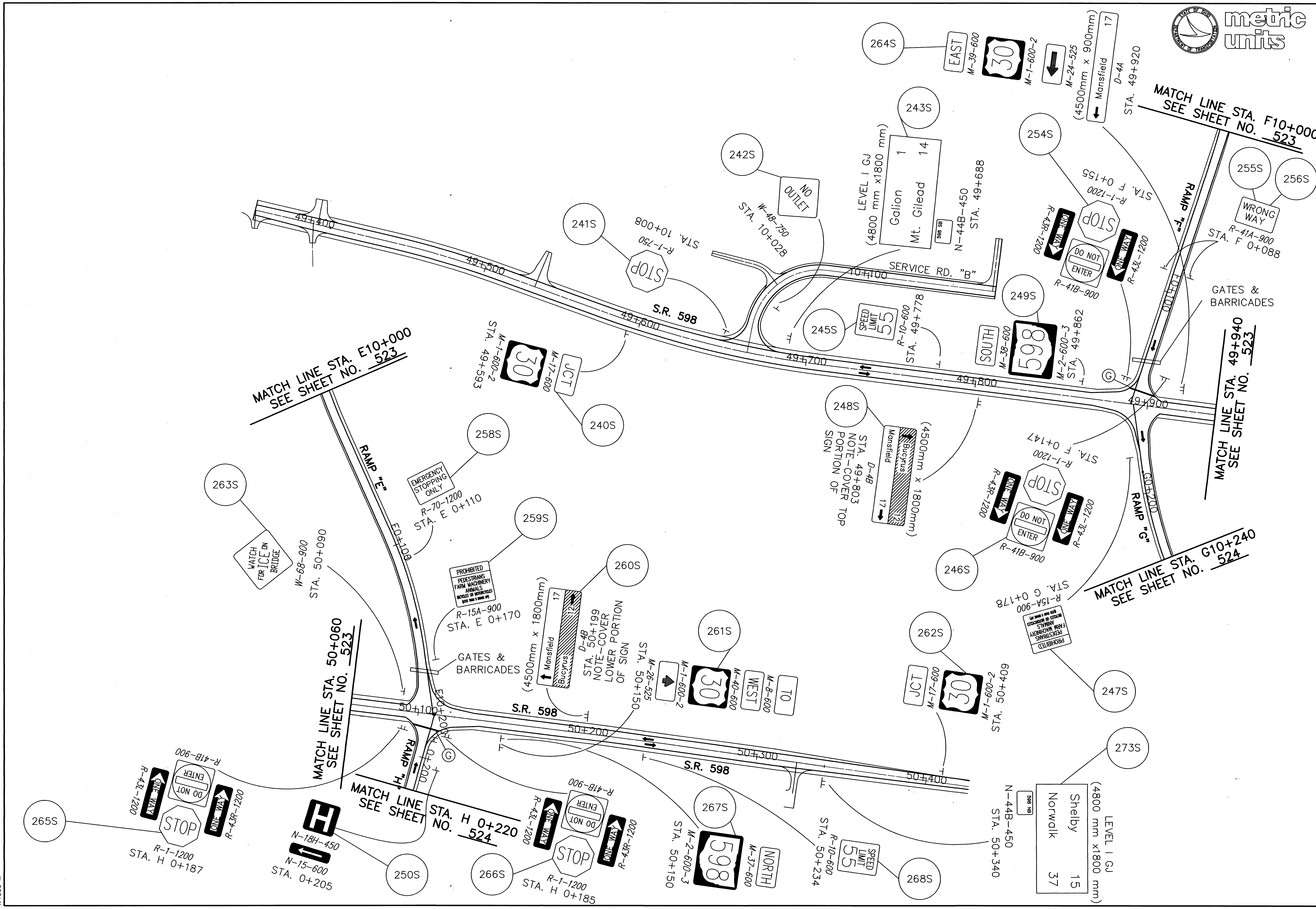


SCALE 1:1000
HORIZONTAL SCALE IN METERS

CALCULATED MJT
CHECKED WS

TRAFFIC CONTROL – S.R. 602
STA. 49+570 TO STA. 50+480

CRA-30-24.000



SCALE 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

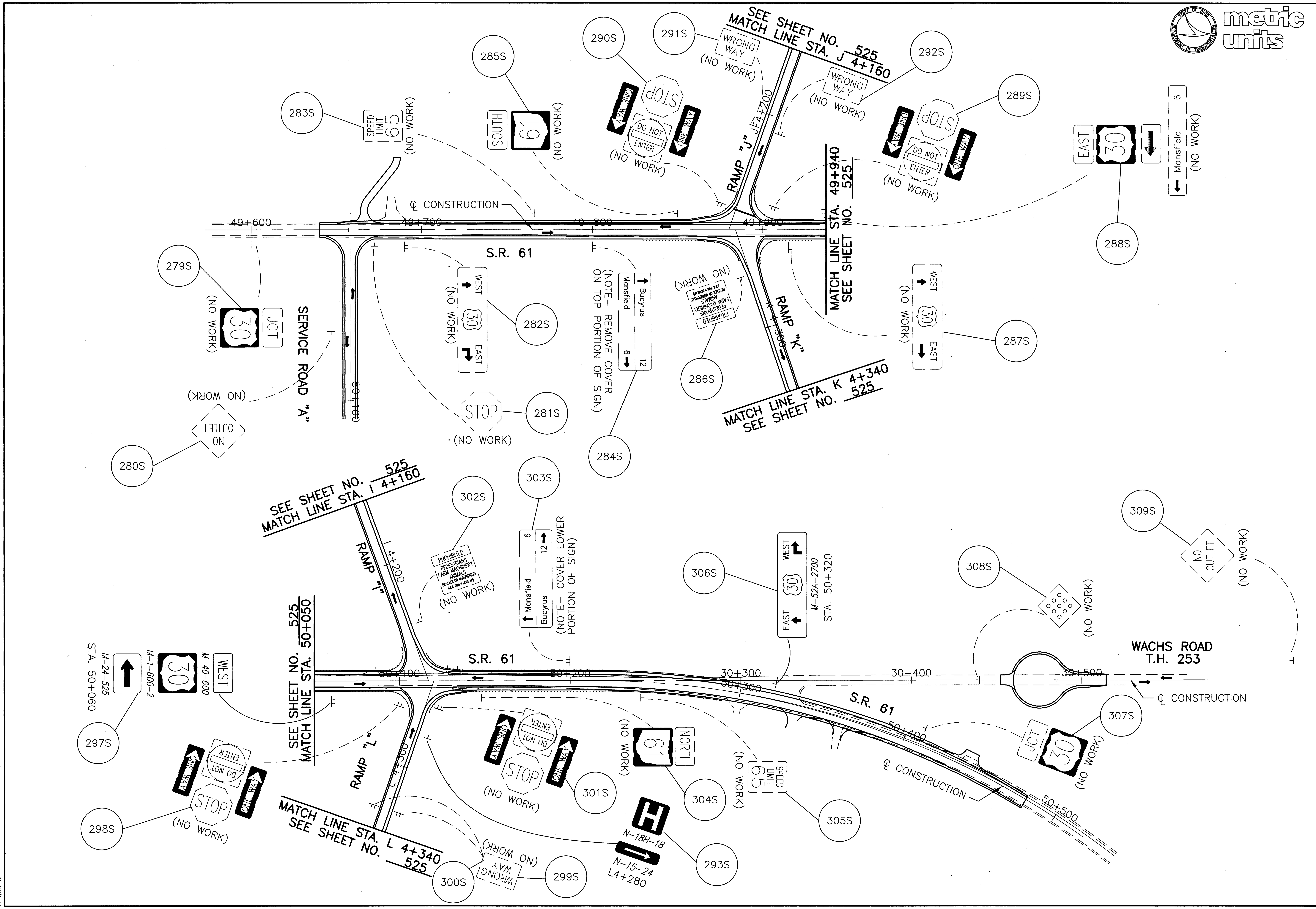
CALCULATED MJT
CHECKED WS

TRAFFIC CONTROL - S.R. 598
STA. 49+365 TO 50+340

CRA-30-24.000

527 / 677

TP005.DWG
11-16-2000 12:53 PM
1:1000 M



metric units

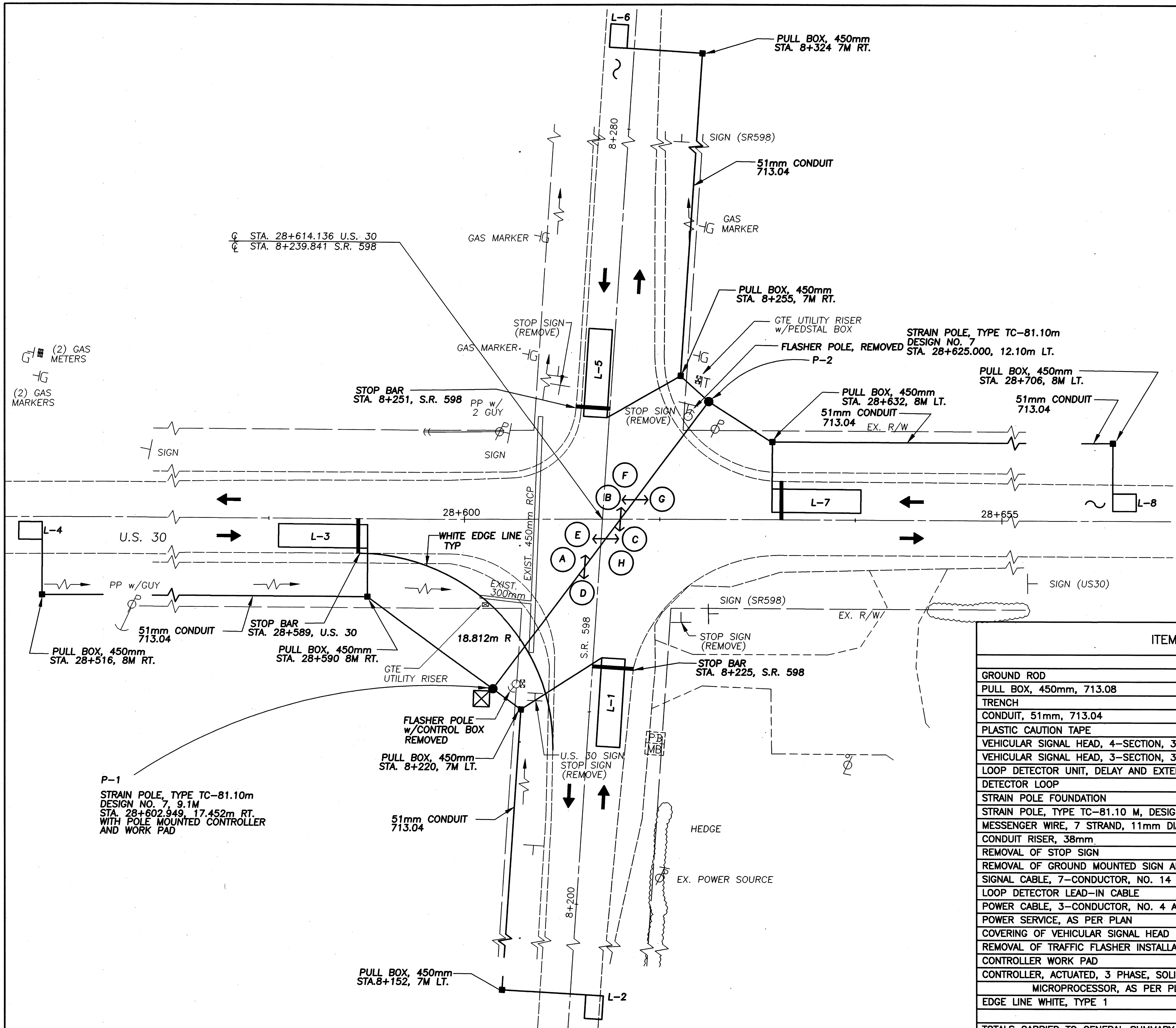
SCALE 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

CALCULATED WS
CHECKED RMG

TRAFFIC CONTROL – S.R. 61
STA. 49+580 TO STA. 50+480

CRA-30-24.000

TP010.DWG
11-07-2000 12:55 PM
1:1000 M



ITEM DESCRIPTION	ITEM#	UNIT	QTY
GROUND ROD	625	EA	2
PULL BOX, 450mm, 713.08	625	EA	8
TRENCH	625	M	312
CONDUIT, 51mm, 713.04	625	M	312
PLASTIC CAUTION TAPE	SPE	M	312
VEHICULAR SIGNAL HEAD, 4-SECTION, 300mm LENS, ONE WAY, AS PER PLAN	632	EA	2
VEHICULAR SIGNAL HEAD, 3-SECTION, 300mm LENS, ONE WAY, AS PER PLAN	632	EA	6
LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN	632	EA	8
DETECTOR LOOP	632	EA	8
STRAIN POLE FOUNDATION	632	EA	2
STRAIN POLE, TYPE TC-81.10 M, DESIGN 7, 9.1M	632	EA	2
MESSENGER WIRE, 7 STRAND, 11mm DIA W/ACCESSORIES	632	M	37
CONDUIT RISER, 38mm	632	EA	2
REMOVAL OF STOP SIGN	630	EA	4
REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630	EA	1
SIGNAL CABLE, 7-CONDUCTOR, NO. 14 AWG	632	M	133
LOOP DETECTOR LEAD-IN CABLE	632	M	652
POWER CABLE, 3-CONDUCTOR, NO. 4 AWG	632	M	9
POWER SERVICE, AS PER PLAN	632	EA	1
COVERING OF VEHICULAR SIGNAL HEAD	632	EA	8
REMOVAL OF TRAFFIC FLASHER INSTALLATION, AS PER PLAN	632	EA	1
CONTROLLER WORK PAD	633	S.M.	1
CONTROLLER, ACTUATED, 3 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN	633	EA	1
EDGE LINE WHITE, TYPE 1	642	KM	0.032
TOTALS CARRIED TO GENERAL SUMMARY			

CALCULATED JJW CHECKED LBD

TRAFFIC SIGNAL PLAN S.R. 598 AND US 30

CRA-30-24.000

528A
677

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SIGNAL TIMINGS

PHASE	Ø 1	Ø 5	Ø 6
MIN. GREEN	45	17	20
MAX. GREEN	60	20	40
VEH. EXTENSION	3	3	3
YELLOW	3	3	3
ALL RED	2	2	2
RECALL	MIN.	OFF	OFF

SIGNAL HEAD DISPLAY CHART

PHASE		Ø1				Ø5				Ø6			
	INT.	1	2	3	4	5	6	7	8	9	10	11	12
SIGNAL HEAD	FLASH												
A	R	R	R	R	R	R	R	R	R	G	G	Y	R
B	R	R	R	R	R	R	R	R	R	G	G	Y	R
C	R	R	R	R	R	←G / G	←G / G	←G / G	G	G	G	Y	R
D	R	R	R	R	R	←G / G	←G / G	←G / G	G	G	G	Y	R
E	Y	G	G	Y	R	R	R	R	R	R	R	R	R
F	Y	G	G	Y	R	R	R	R	R	R	R	R	R
G	Y	G	G	Y	R	R	R	R	R	R	R	R	R
H	Y	G	G	Y	R	R	R	R	R	R	R	R	R

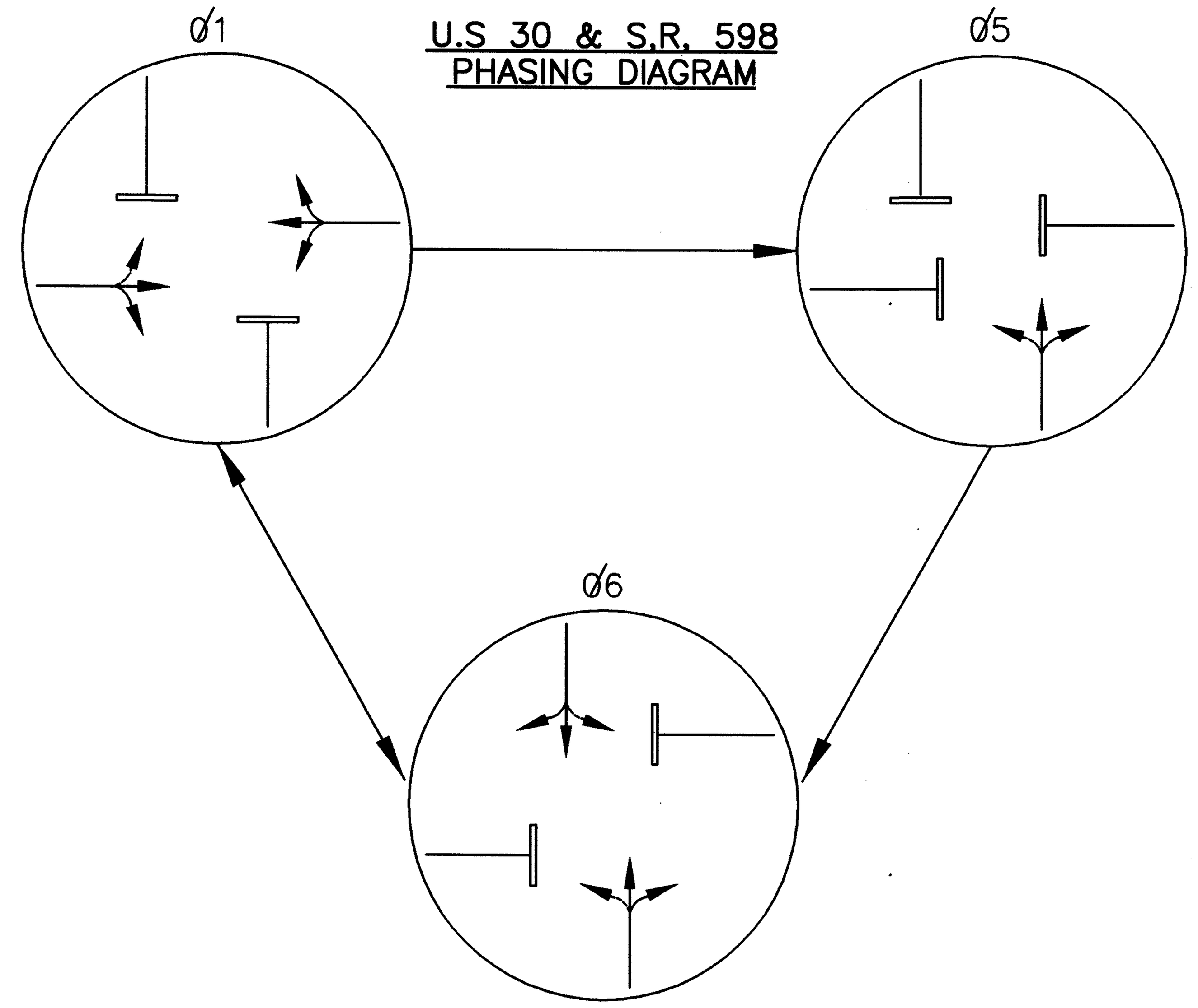
LOOP DETECTOR CHART

LOOP #	LOCATION	SIZE	TYPE	# TURNS	DELAY	DELAY INHIBITED BY	DESCRIPTION
L-1	STA. 8+226 S.R. 598	2.4m X 9.1m	PRESENCE	3	15 SEC.	Ø5&6	NB THRU
L-2	STA. 8+152 S.R. 598	1.8m X 2.4m	PRESENCE	4	–	–	NB EXT
L-3	STA. 28+590 S.R. 30	2.4m X 9.1m	PRESENCE	3	15 SEC.	Ø1	EB THRU
L-4	STA. 28+516 S.R. 30	1.8m X 2.4m	PRESENCE	4	–	–	EB EXT
L-5	STA. 8+250 S.R. 598	2.4m X 9.1m	PRESENCE	3	15 SEC.	Ø6	SB THRU
L-6	STA. 8+324 S.R. 598	1.8m X 2.4m	PRESENCE	4	–	–	SB EXT
L-7	STA. 28+632 S.R. 30	2.4m X 9.1m	PRESENCE	3	15 SEC.	Ø1	WB THRU
L-8	STA. 28+706 S.R. 30	1.8m X 2.4m	PRESENCE	4	–	–	WB EXT

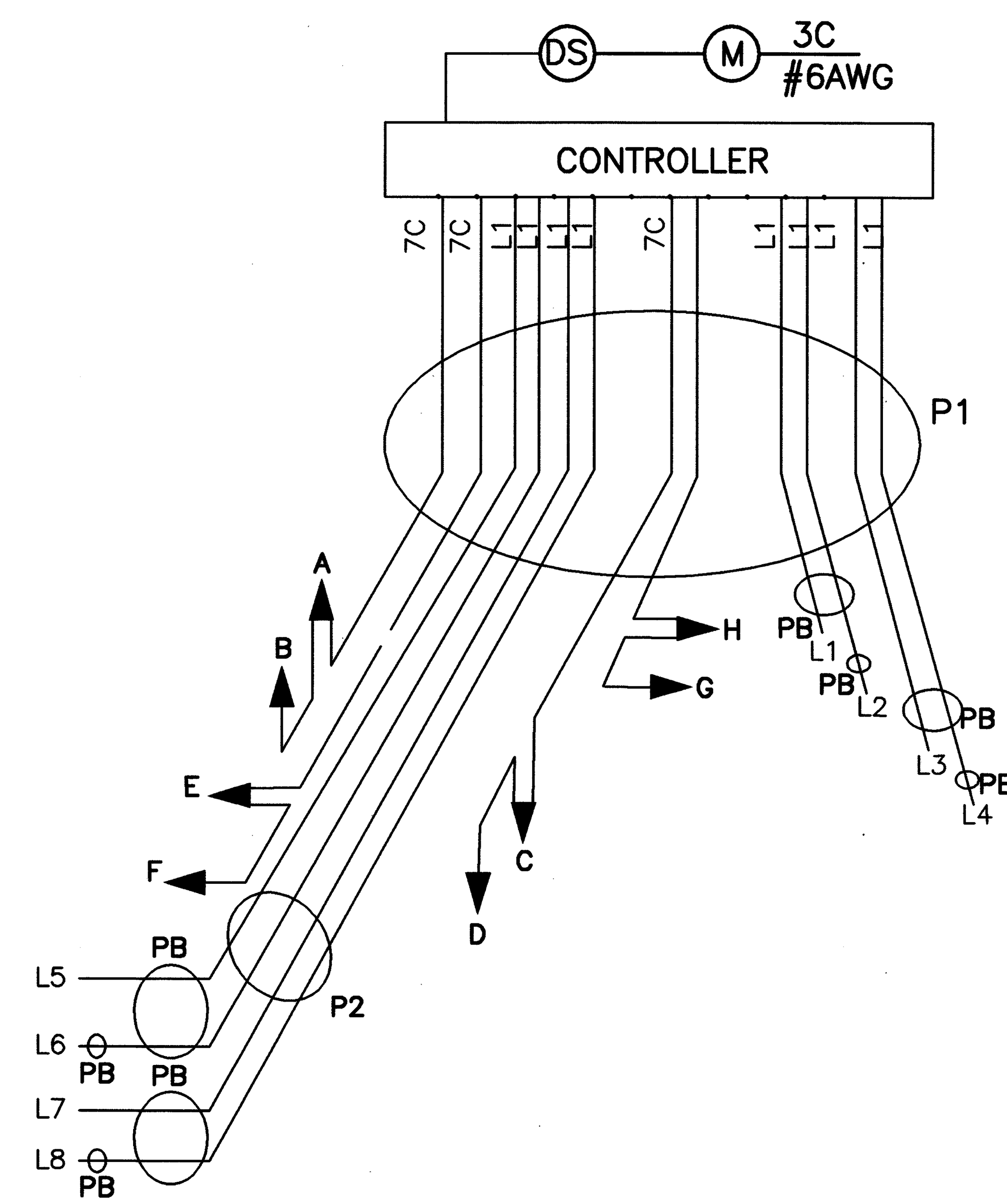
TC-81.10M STRAIN POLE

FROM SHEET NO. XXX	REFERENCE STREET US 30 STA. & OFFSET	POLE NO.	DESIGN NO.	POLE HEIGHT FT. (m)	FOUNDATION ELEV. (*1) SPAN WIRE ATTACH. HT. (m)	INDEX LINE ANGLE (DEG.) (HANDLE HOLE)	ANGLES (DEG.) FROM INDEX LINE: CONTROLLER	POWER SERVICE	CABLE ENTRANCE 12" (0.3 m) FROM TOP	METER	DISCONNECT SWITCH			
	28+603 17.45 mR	P-1	7	9.1	342.327 8.3	225	315°	90°	180° 0.3m	90°	90°			
	28+625 12.10 mL	P-2	7	9.1	342.370 8.2	225	–	–	180° 0.3m					

U.S 30 & S.R. 598
PHASING DIAGRAM

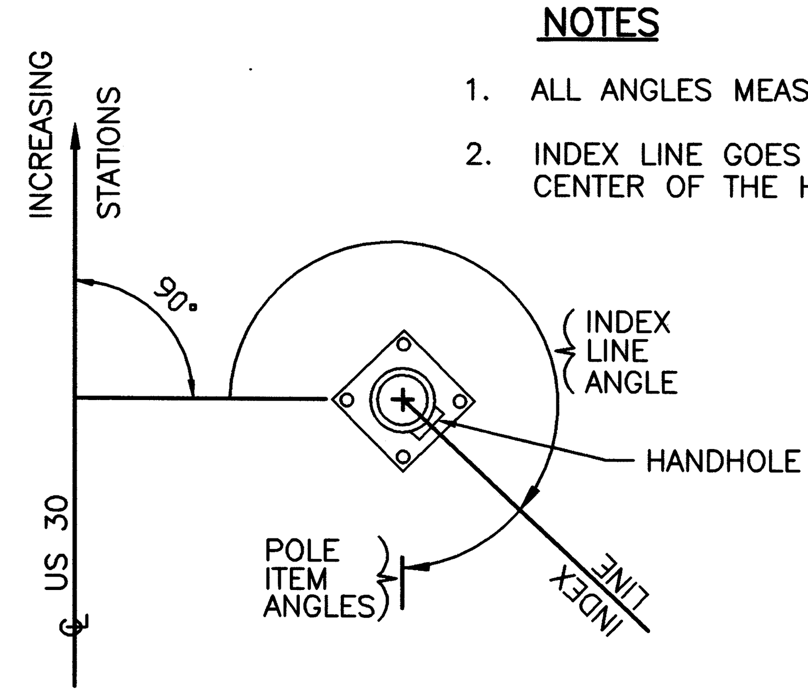


WIRING DIAGRAM



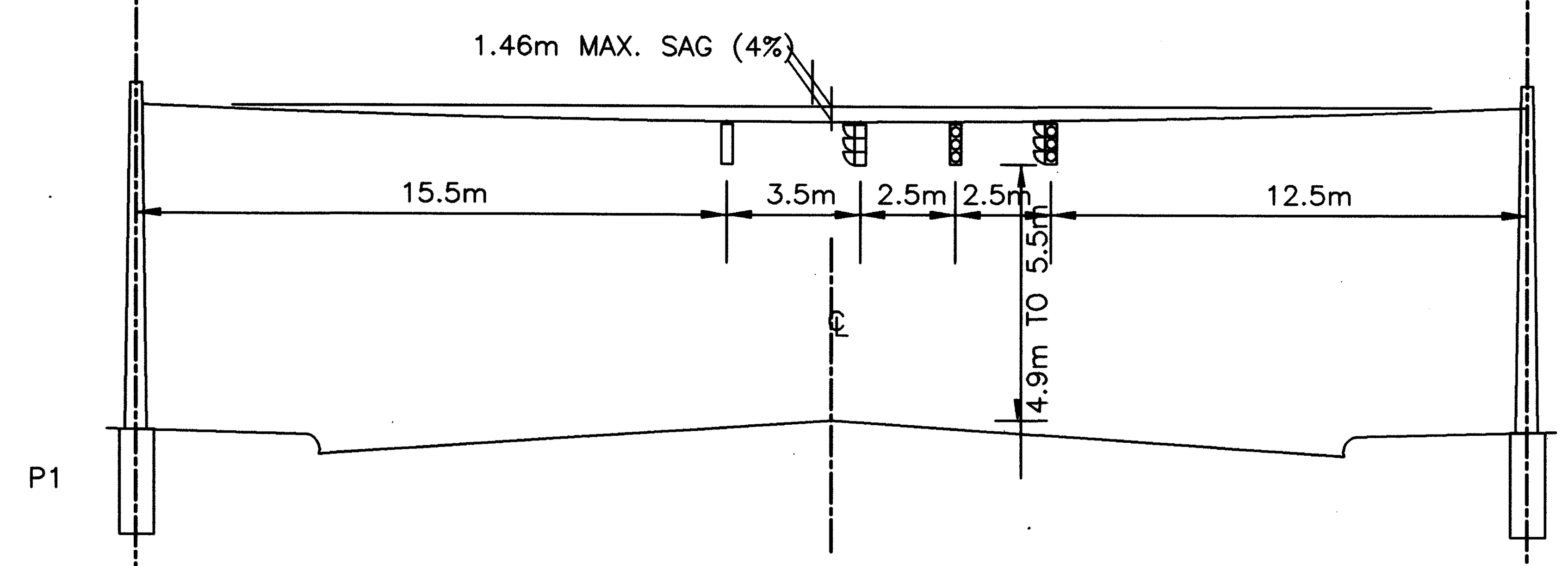
NOTES

1. ALL ANGLES MEASURED CLOCKWISE.
2. INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.



SIGNAL STRAIN POLE ORIENTATION DETAILS

TYPE TC-81.10m STRAIN POLE
DESIGN NO. 7-9.1 M. HEIGHT



SEE ODOT STANDARD CONSTRUCTION DRAWING TC-81.10 FOR ADDITIONAL POLE DETAILS.

SEE ODOT STANDARD CONSTRUCTION DRAWING TC-21.20m FOR FOUNDATION DETAILS. ATTACHMENT HEIGHTS SEE STRAIN POLE TABLE

ELEVATION LOOKING UP STATION

metric units

CALCULATED JJW CHECKED LBD

SIGNALIZATION DETAILS
S.R. 598 AND US 30

CRA-30-24.000

528B
677

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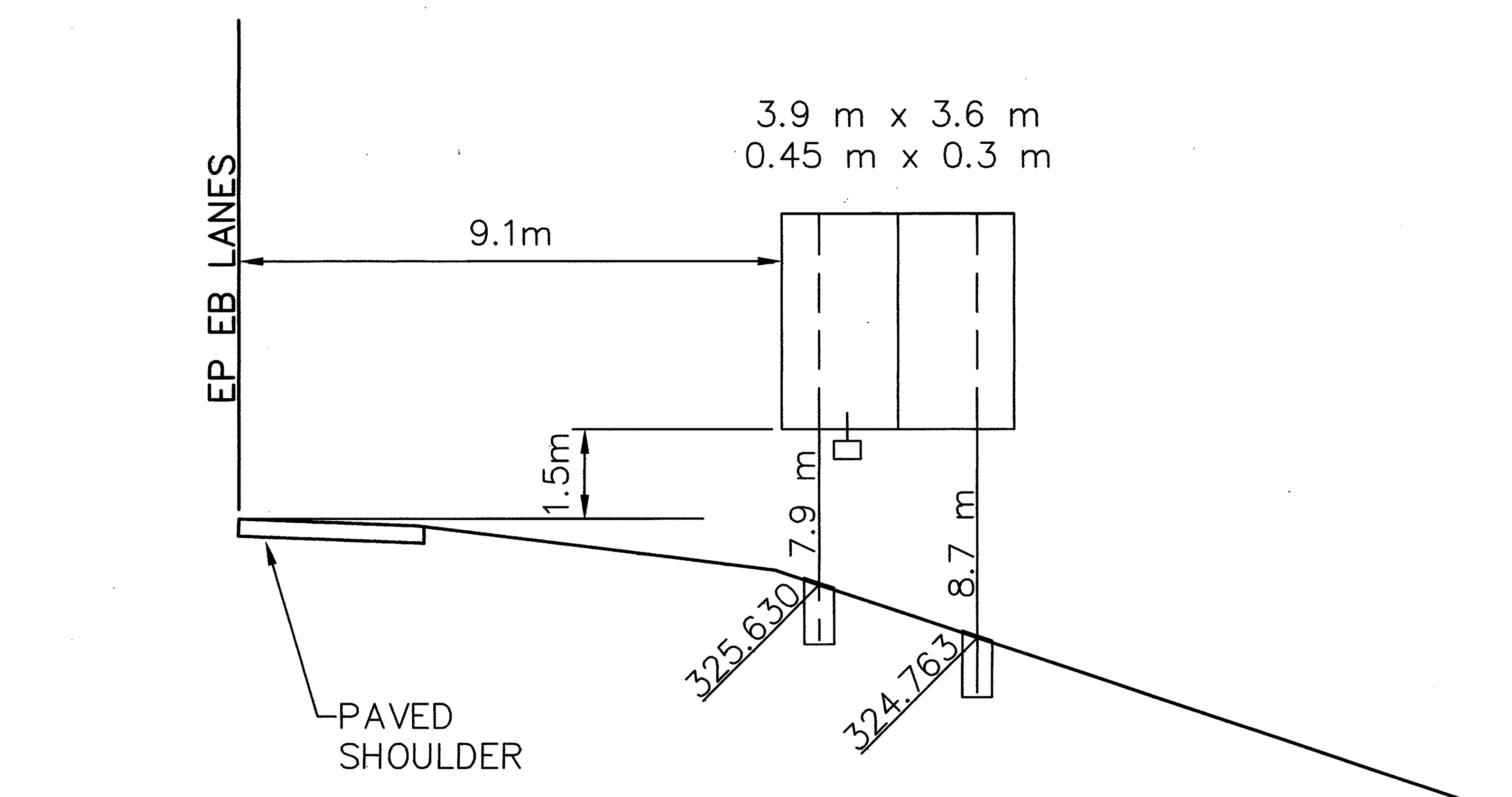
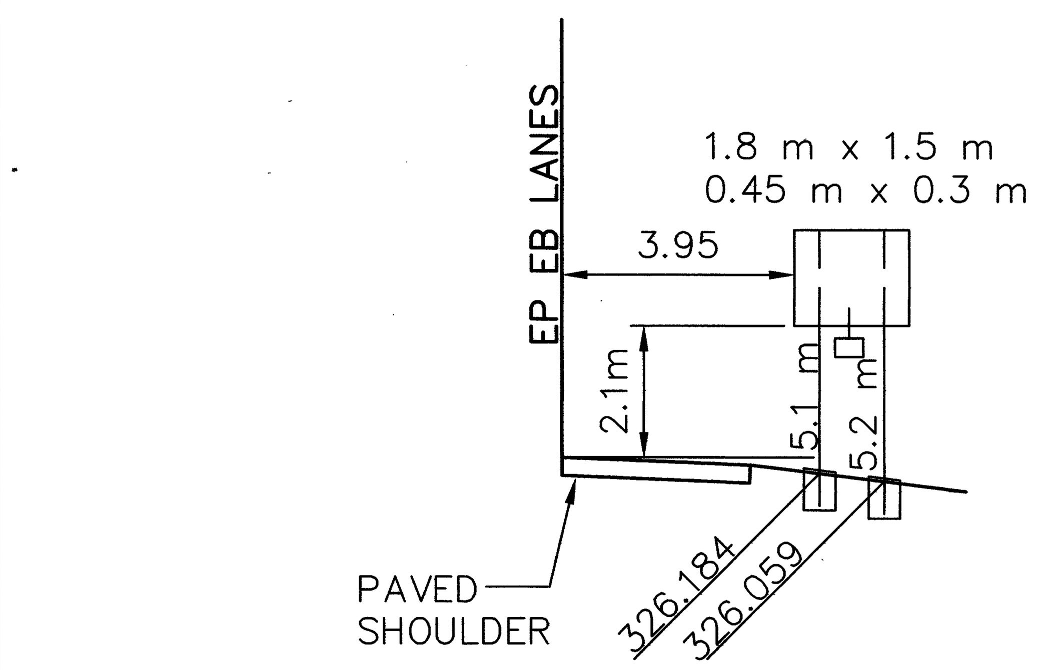
metric units

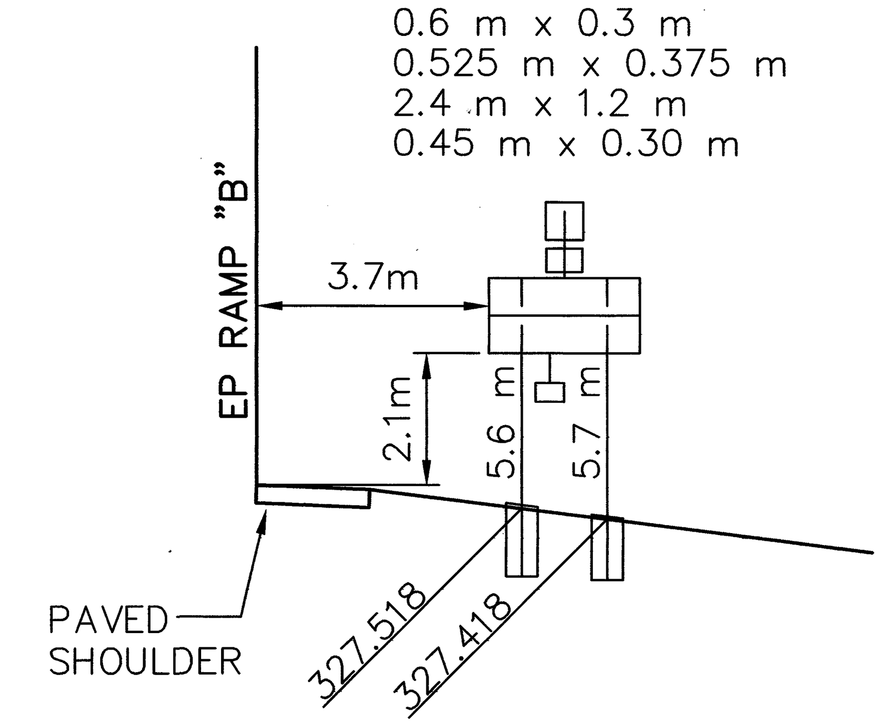
TRAFFIC CONTROL DETAILS



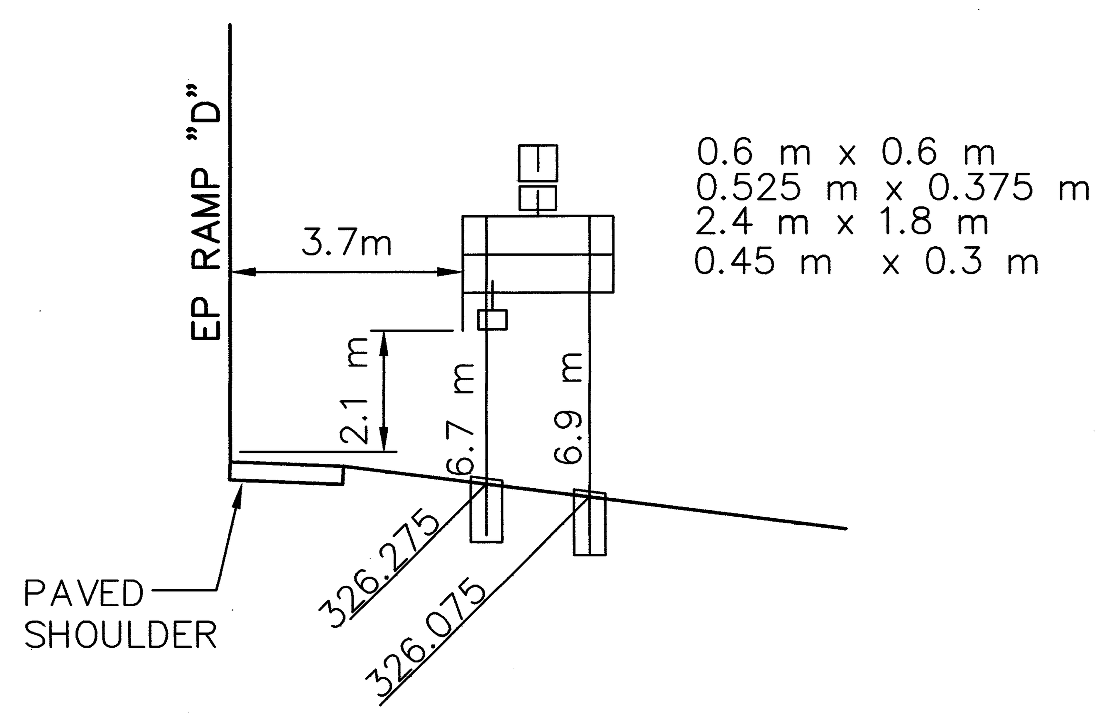
3S STA. 24+234 EB RELOC. U.S. 30
TYPE W250 X 32.7



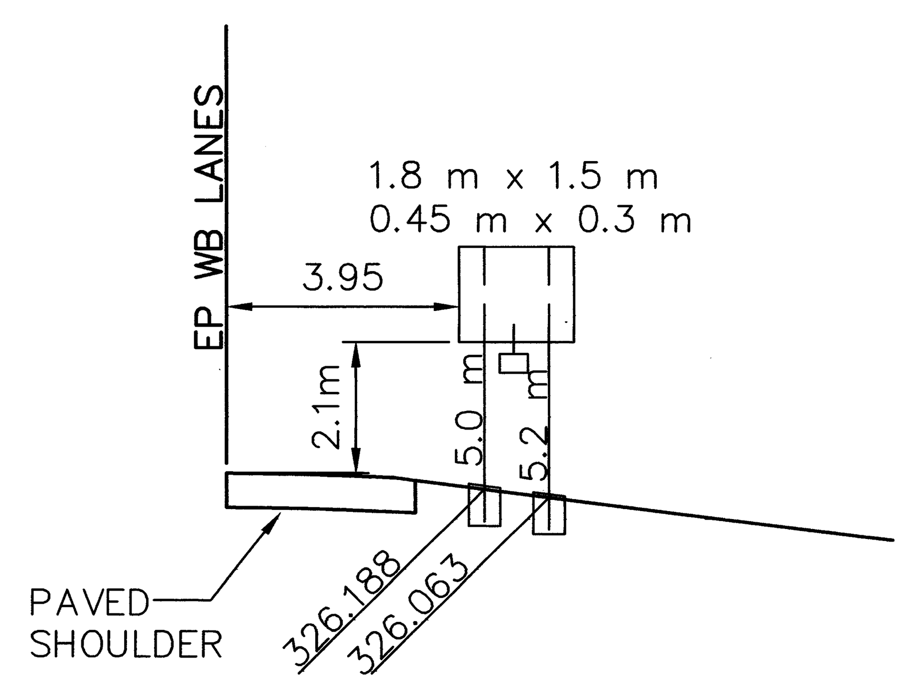
7S STA. 24+495 EB RELOC. U.S. 30
TYPE S100 X 11.5



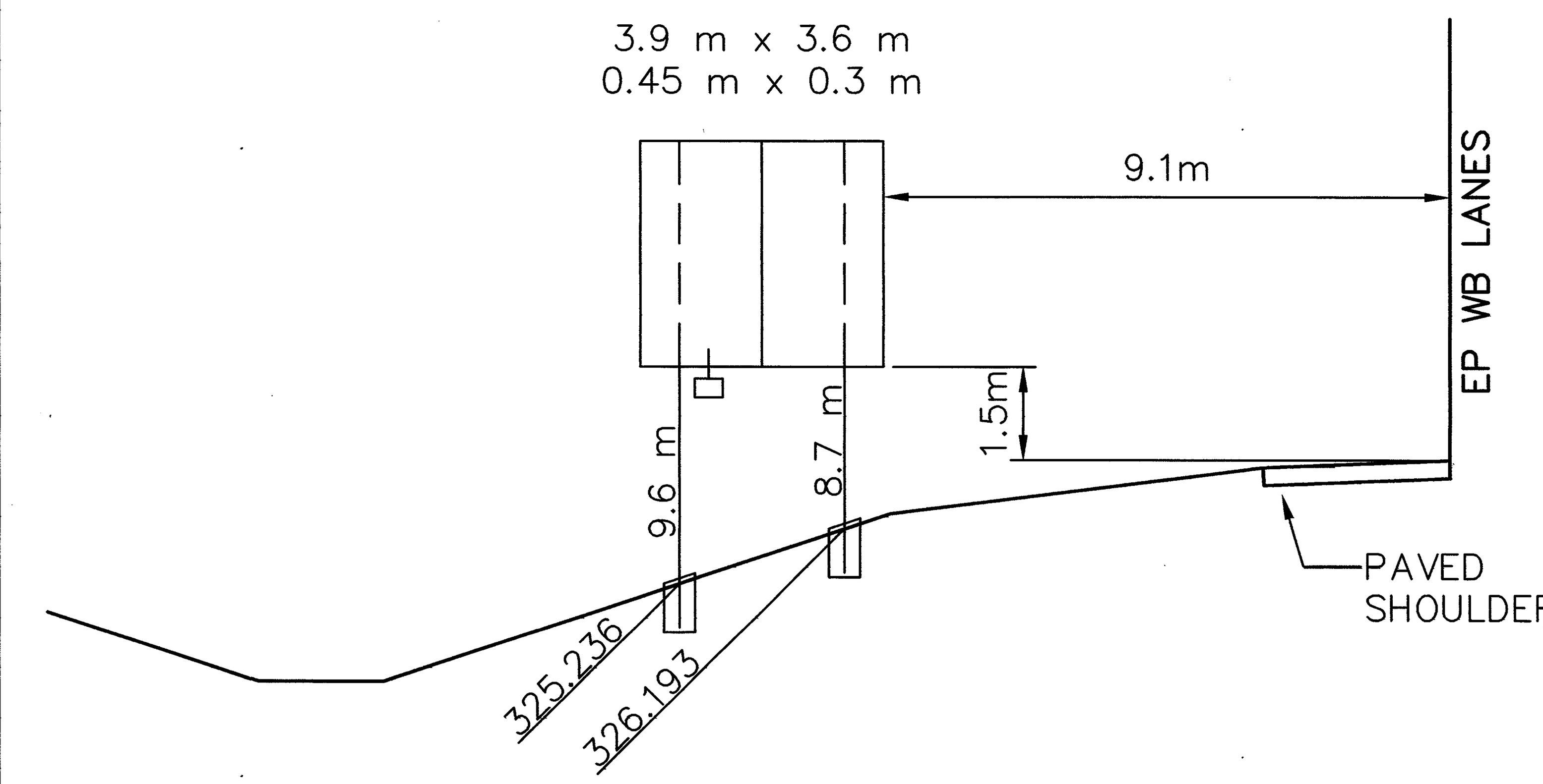
10S STA. B 4+660 RAMP "B"
TYPE W150 X 13.5



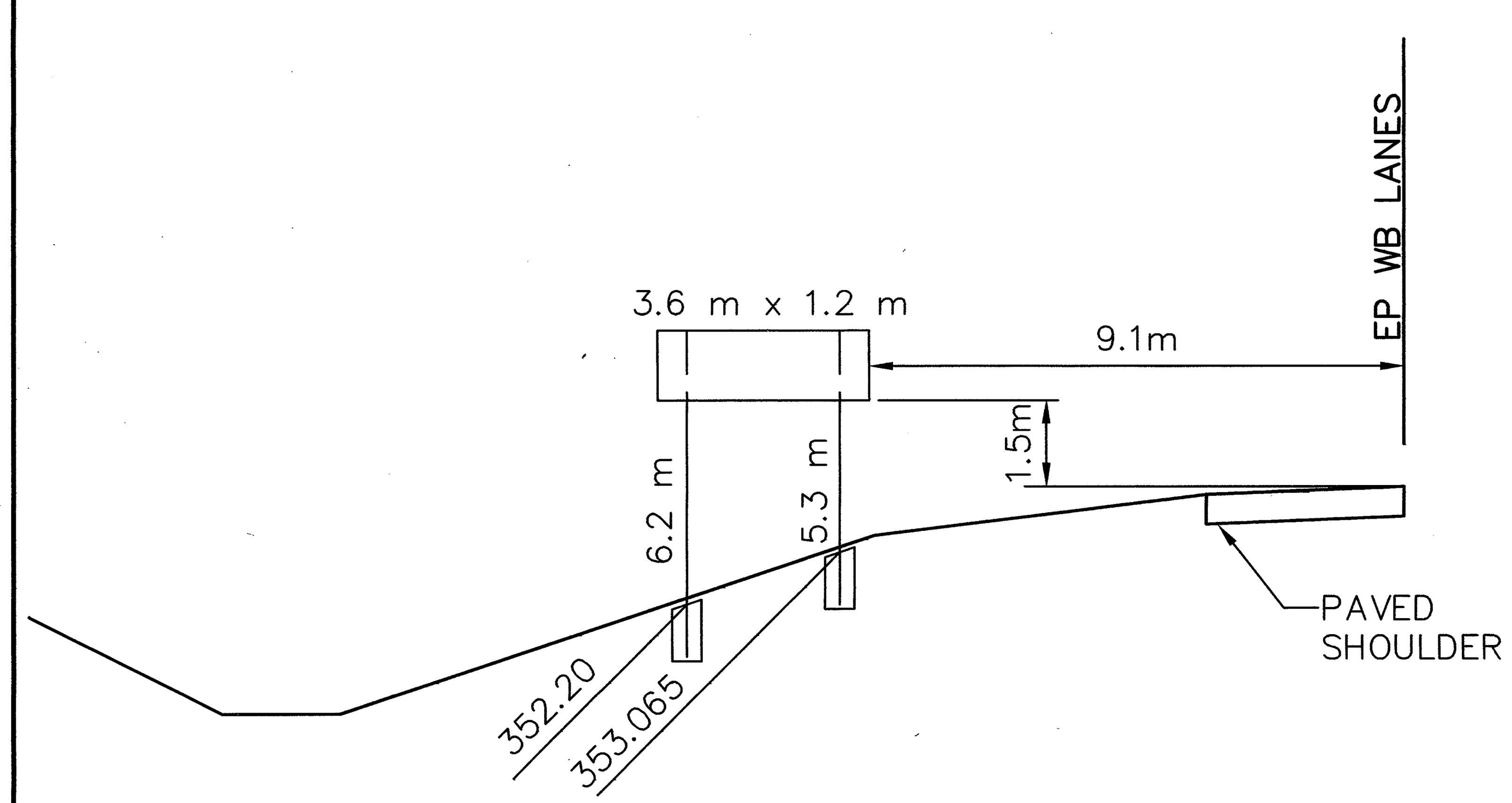
16S STA. D 5+000 RAMP "D"
TYPE W250 X 17.9



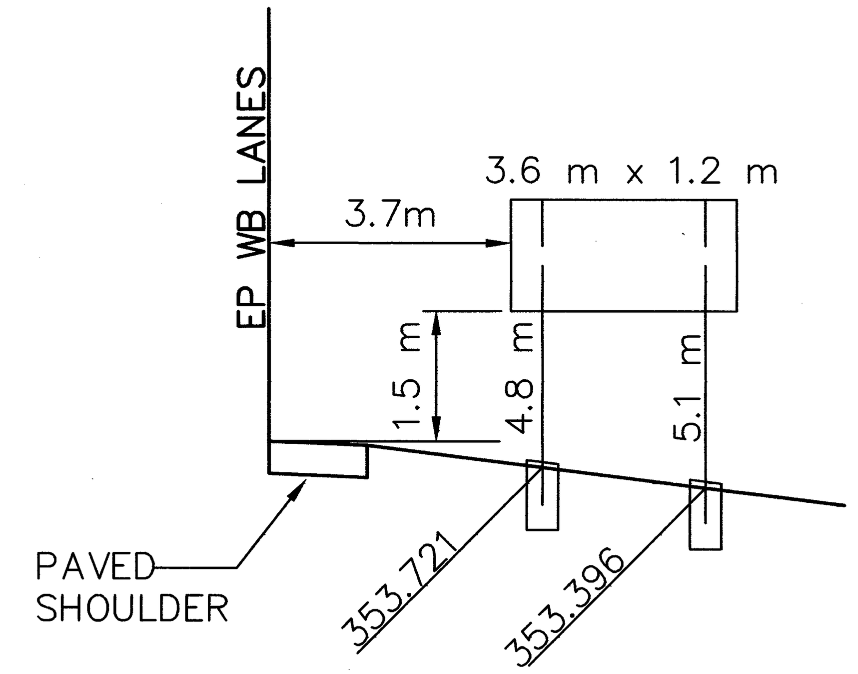
17S STA. 25+175 WB RELOC. U.S. 30
TYPE S100 X 11.5



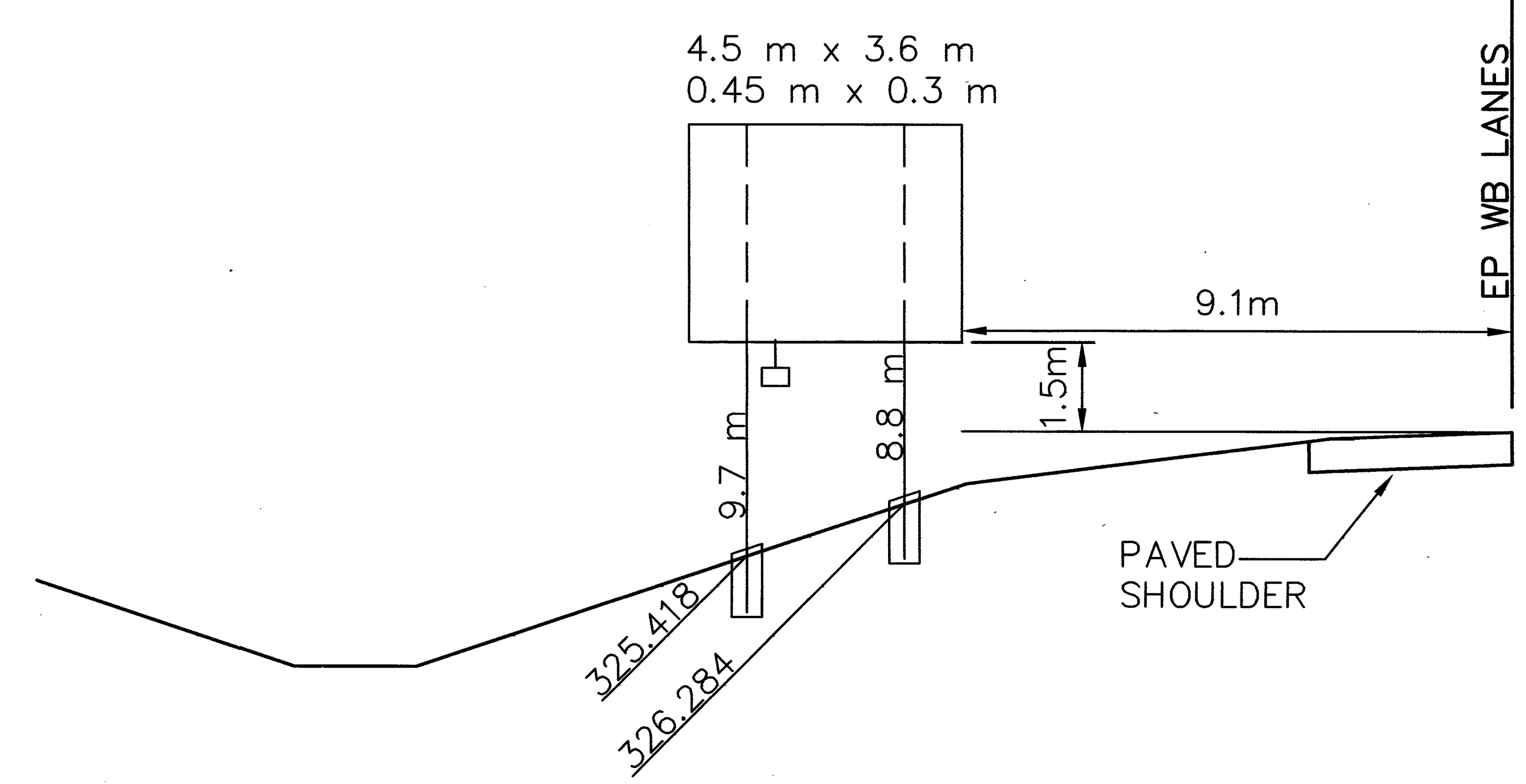
18S STA.25+438 WB RELOC. U.S. 30
TYPE W310 X 44.5



36S STA. 31+267 WB RELOC. U.S. 30
TYPE W150X 13.5



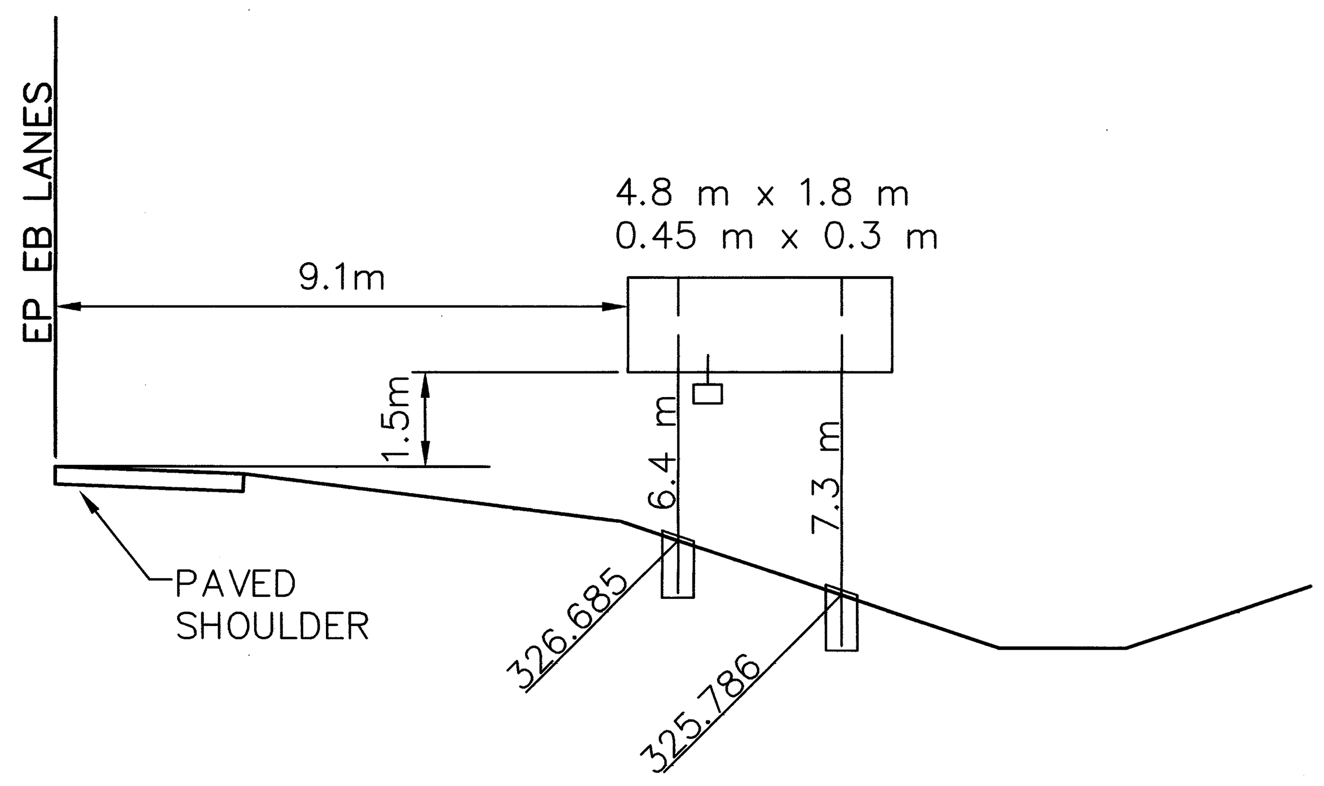
37S STA. 31+267 WB RELOC. U.S. 30
TYPE W150 X 13.5



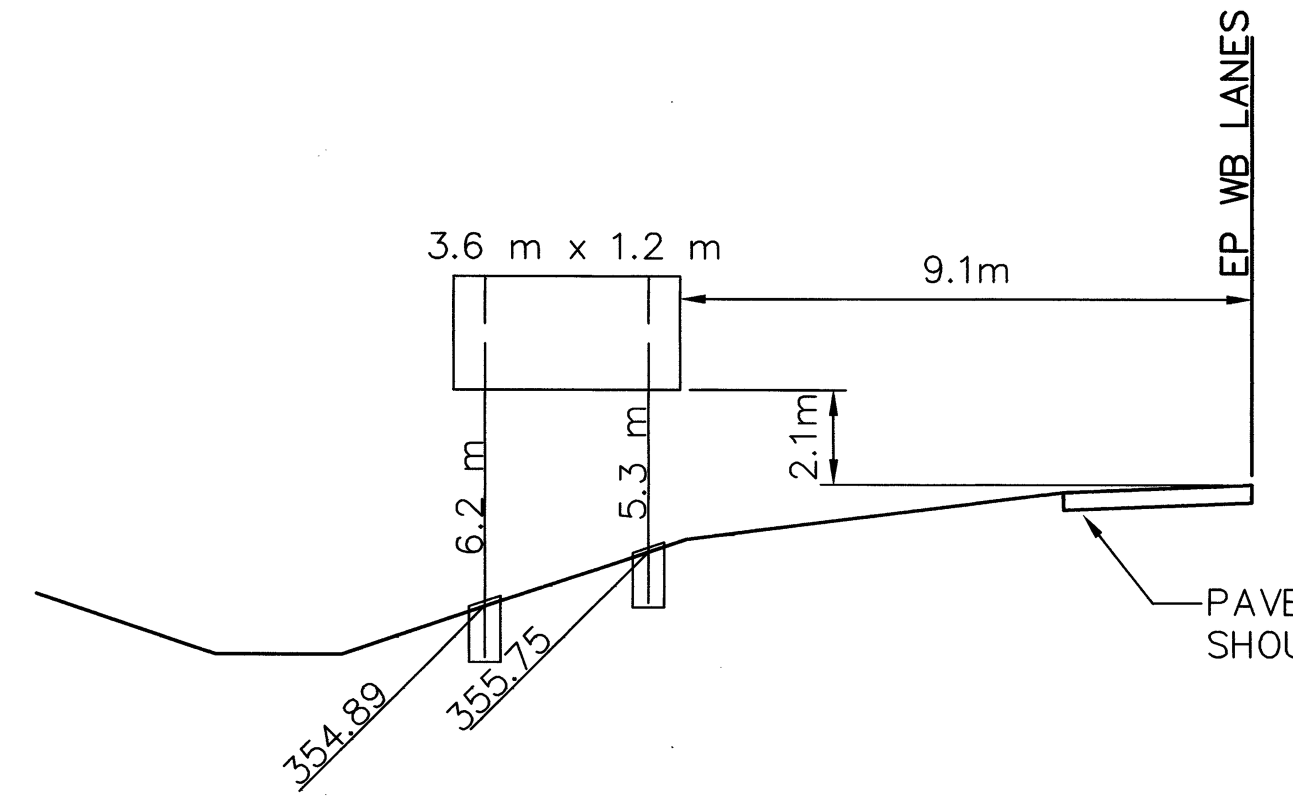
40S STA. 26+238 WB RELOC. U.S. 30
TYPE W310 X 44.5

CRA-30-24.000

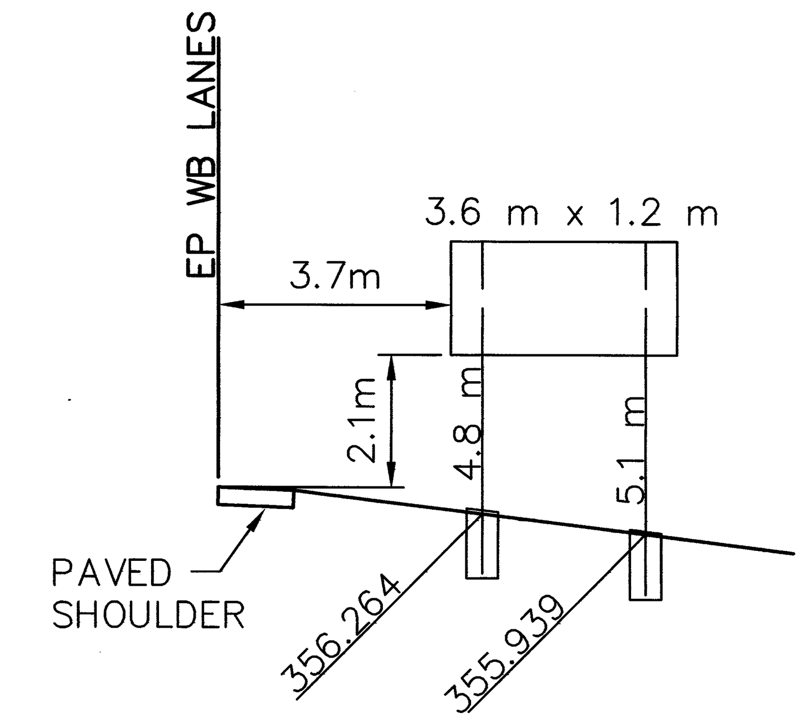
TE100.DWG
11-07-2000 12:56 PM
1:100M



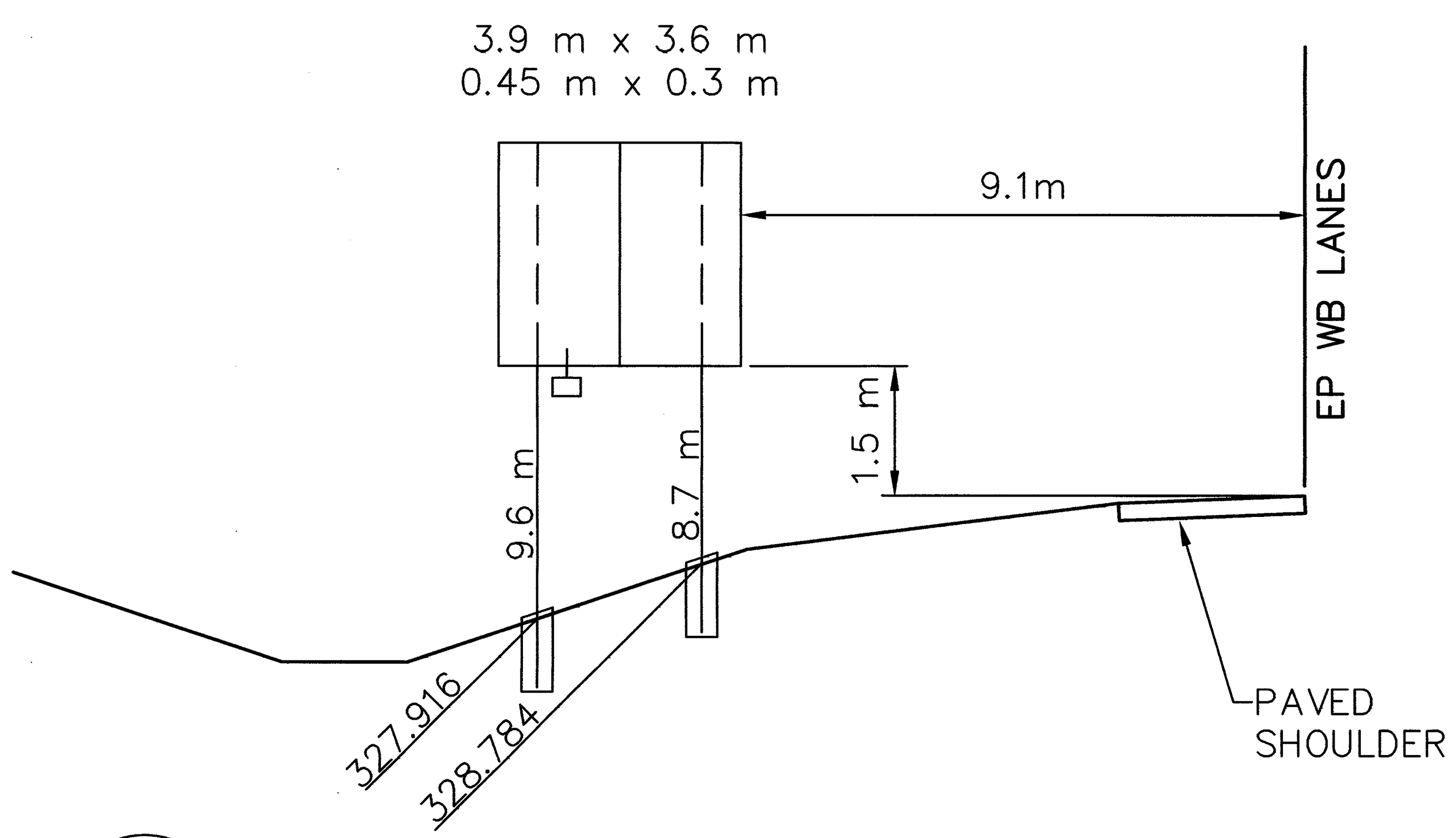
41S STA. 26+383 EB RELOC. U.S. 30
TYPE W200 X 26.6



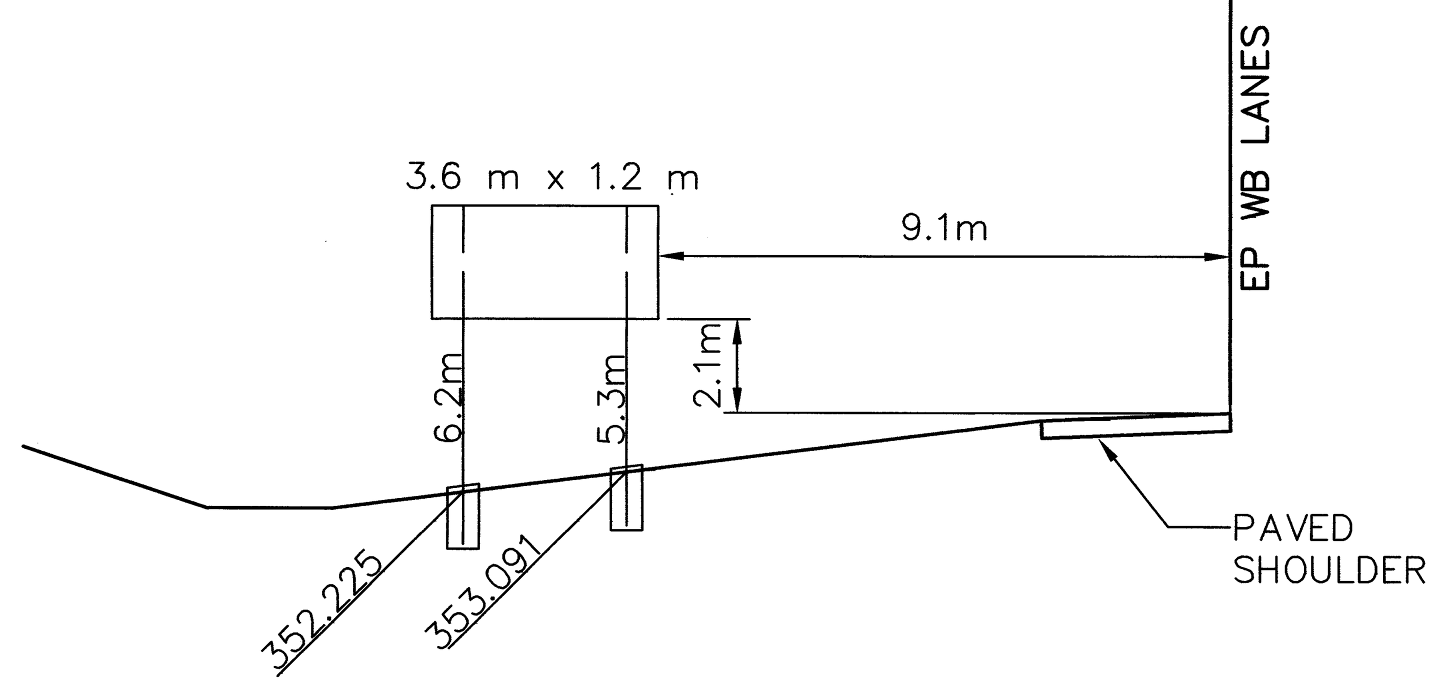
46S STA. 32+072 WB RELOC. U.S. 30
TYPE W150 X 13.5



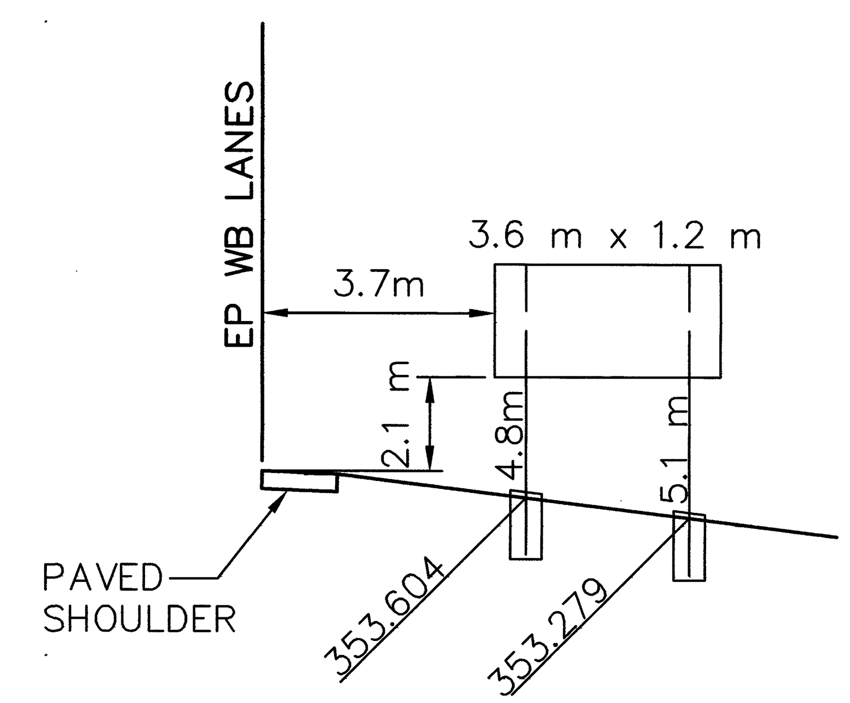
47S STA. 32+072 WB RELOC. U.S. 30
TYPE W150 X 13.5



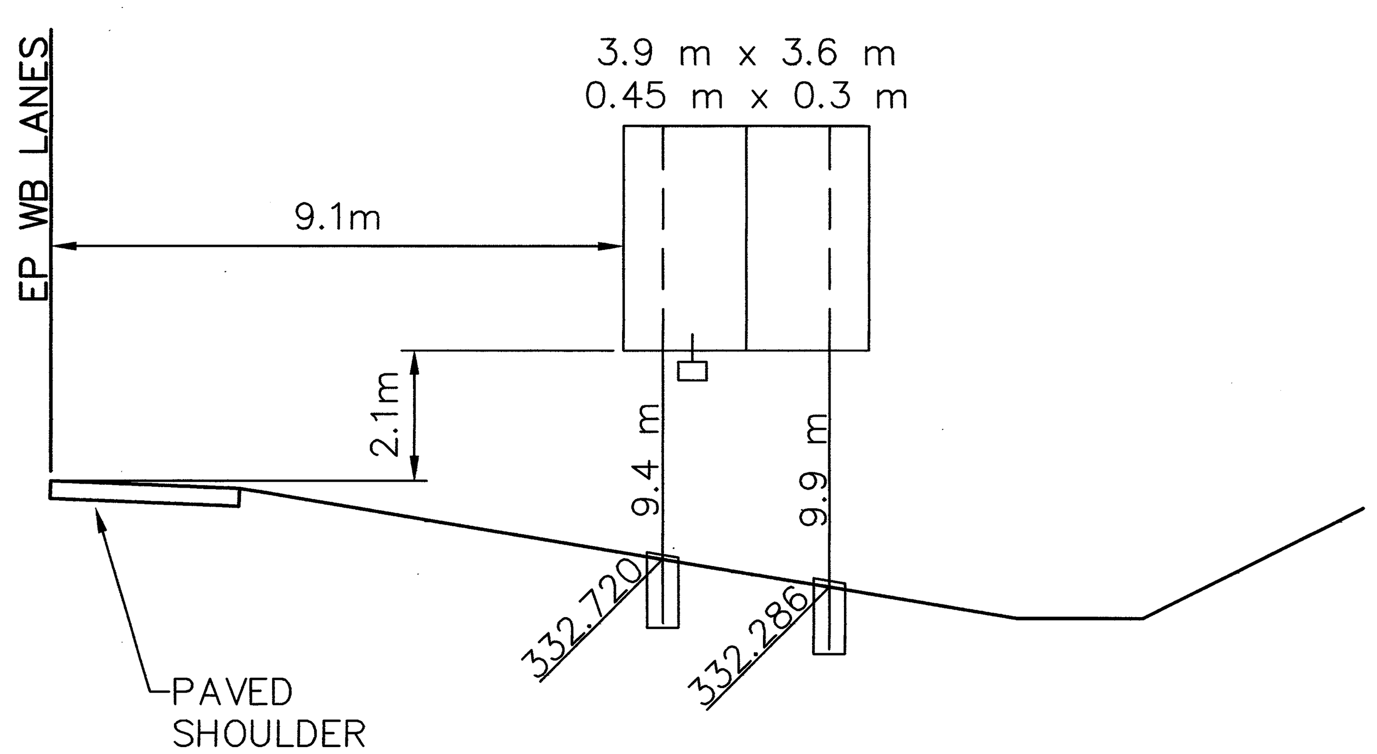
48S STA. 27+038 WB RELOC. U.S. 30
TYPE W310 X 44.5



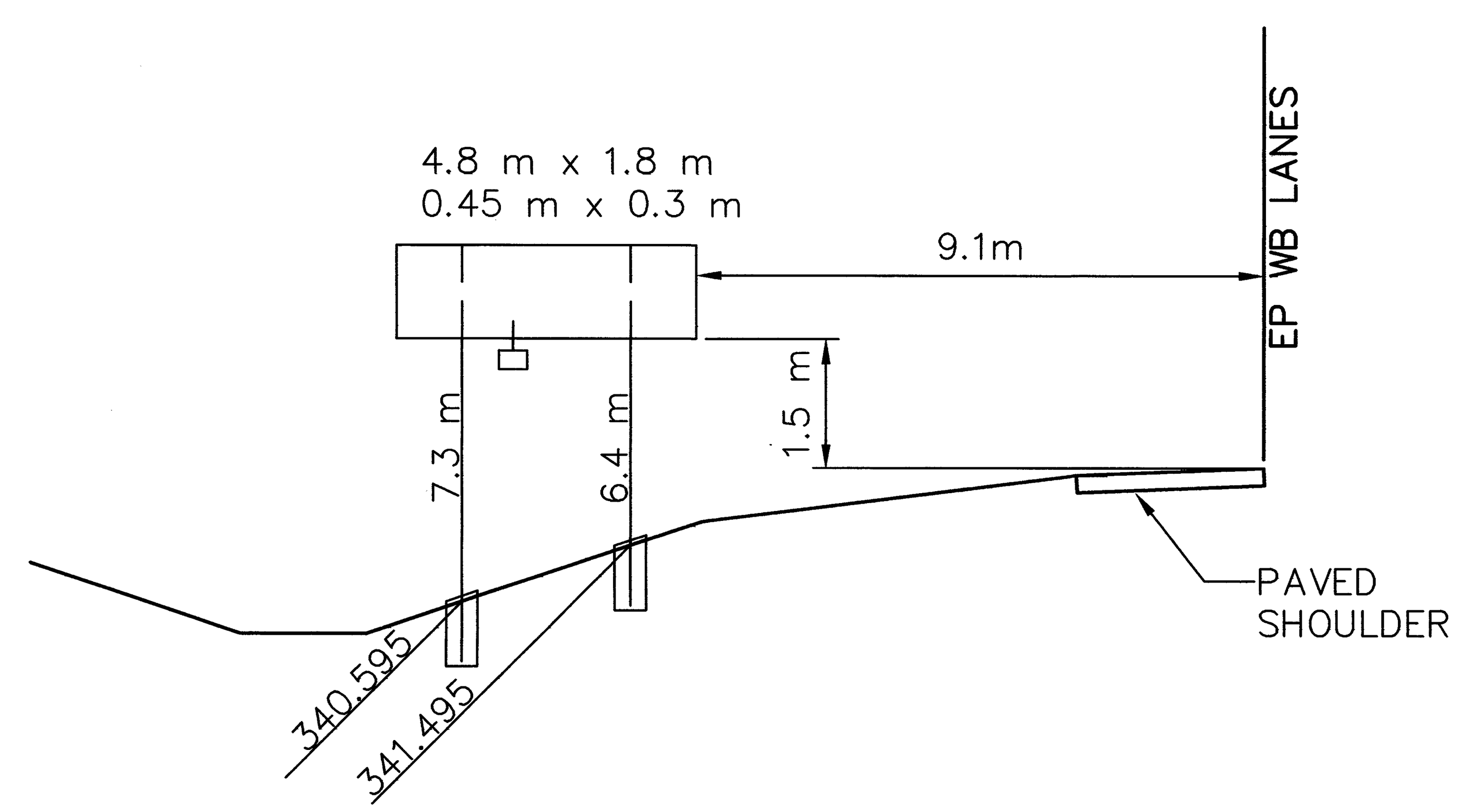
50S STA. 32+877 WB RELOC. U.S. 30
TYPE W150 X 13.5



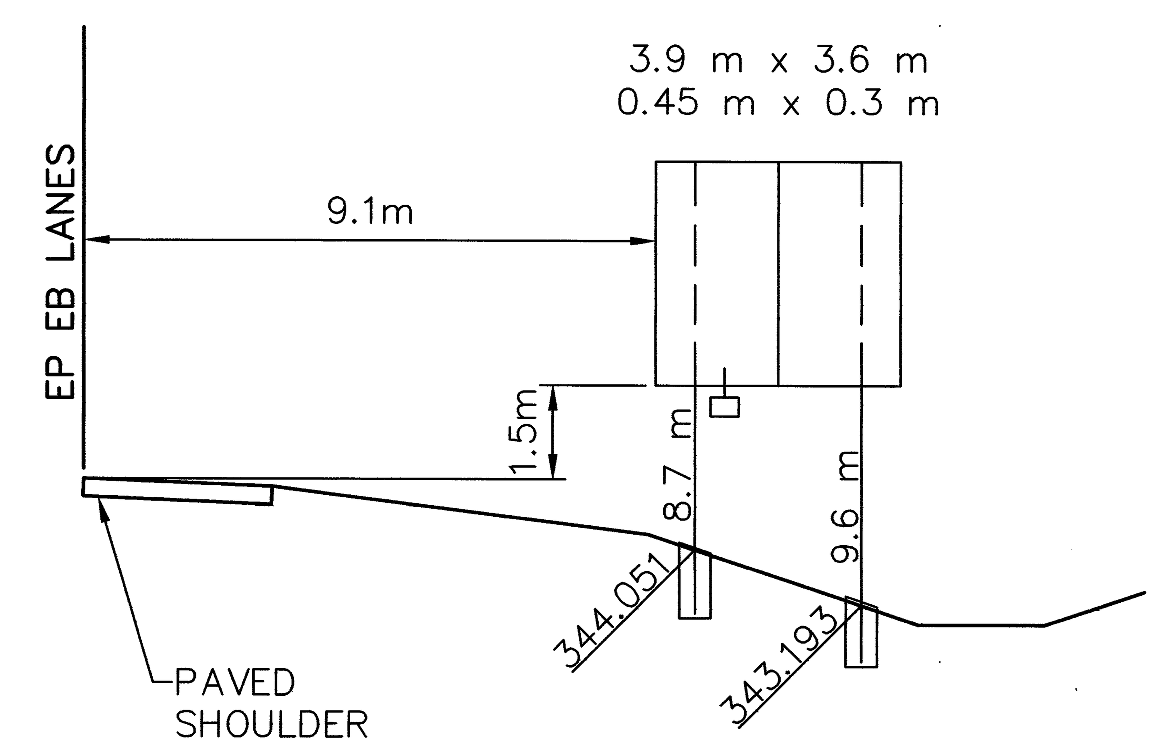
51S STA. 32+877 WB RELOC. U.S. 30
TYPE W150 X 13.5



53S STA. 28+033 EB RELOC. U.S. 30
TYPE W310 X 44.5



54S STA. 28+660 WB RELOC. U.S. 30
TYPE W200 X 26.6

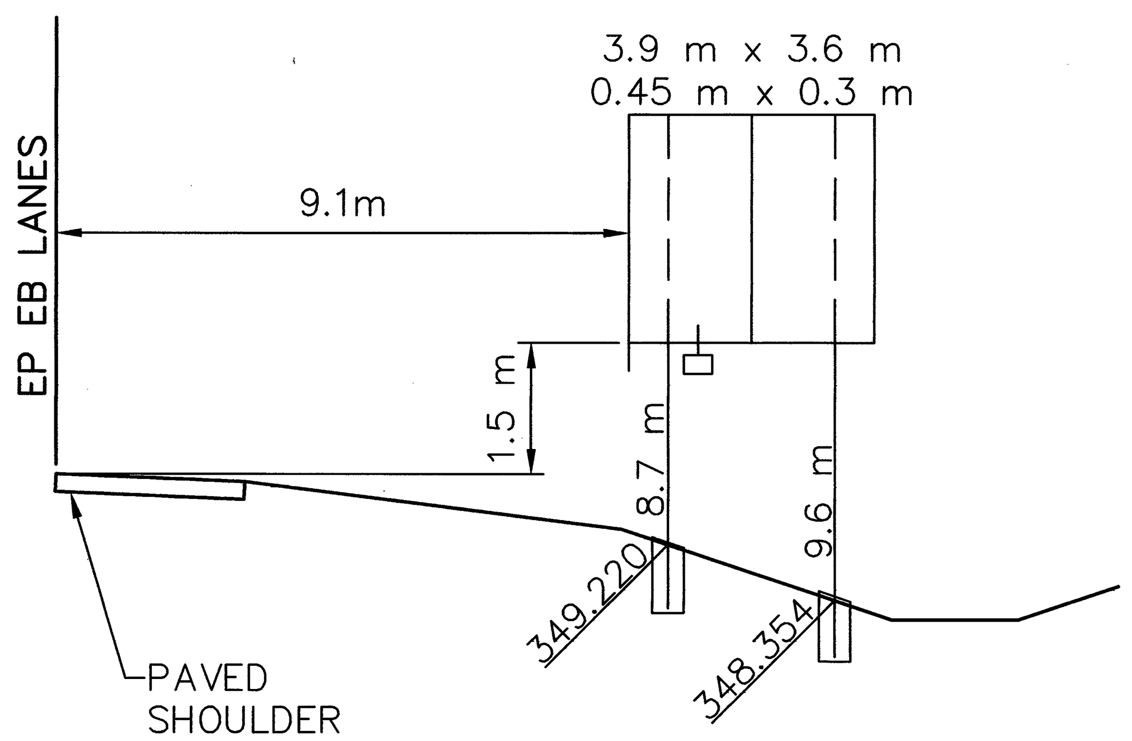


55S STA. 28+833 EB RELOC. U.S. 30
TYPE W310 X 44.5

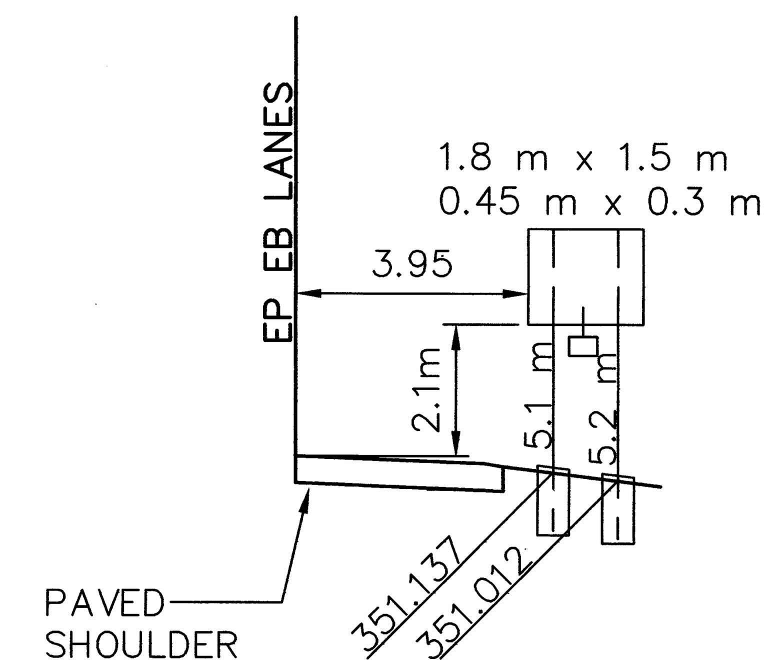
TRAFFIC CONTROL DETAILS

CRA-30-24.000

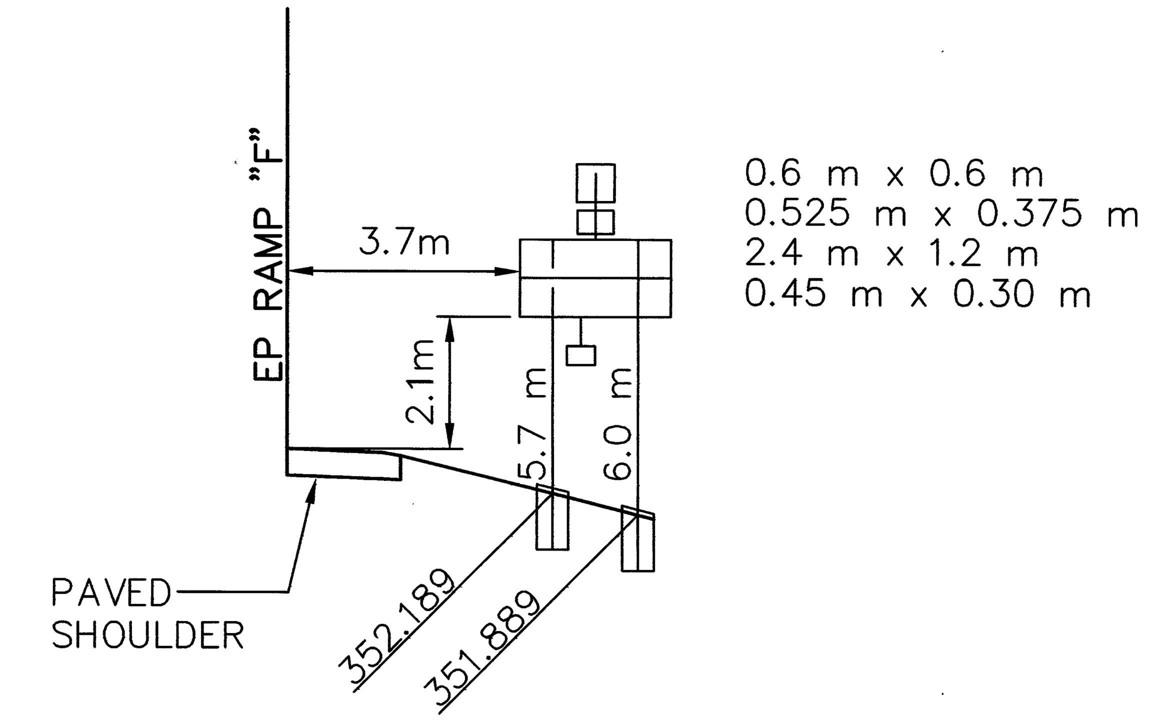
TE101.DWG
11-16-2000 1:10 PM
1:100M



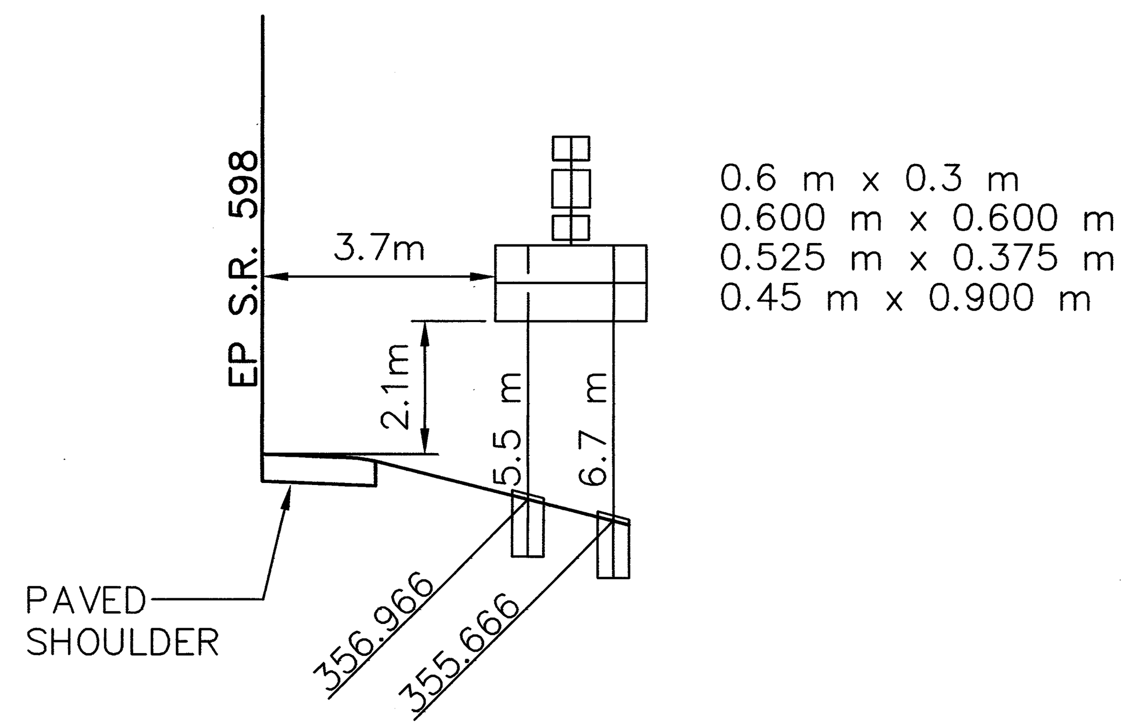
68S STA. 29+663 EB RELOC. U.S. 30
TYPE W310 X 44.5



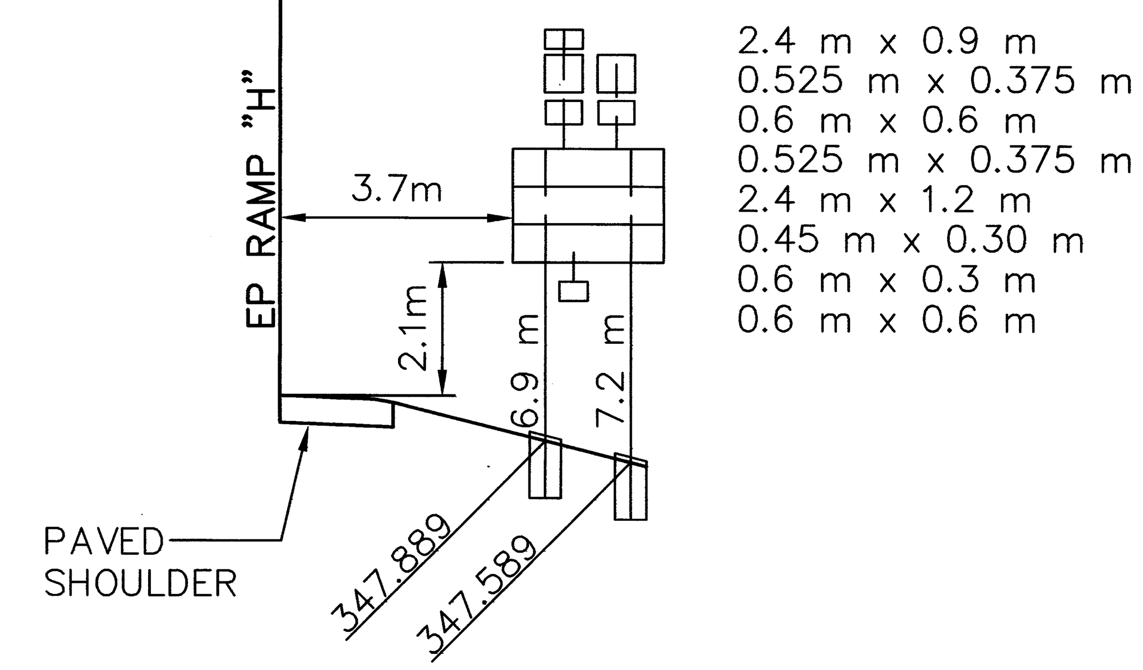
69S STA. 29+897 EB RELOC. U.S. 30
TYPE S100 X 11.5



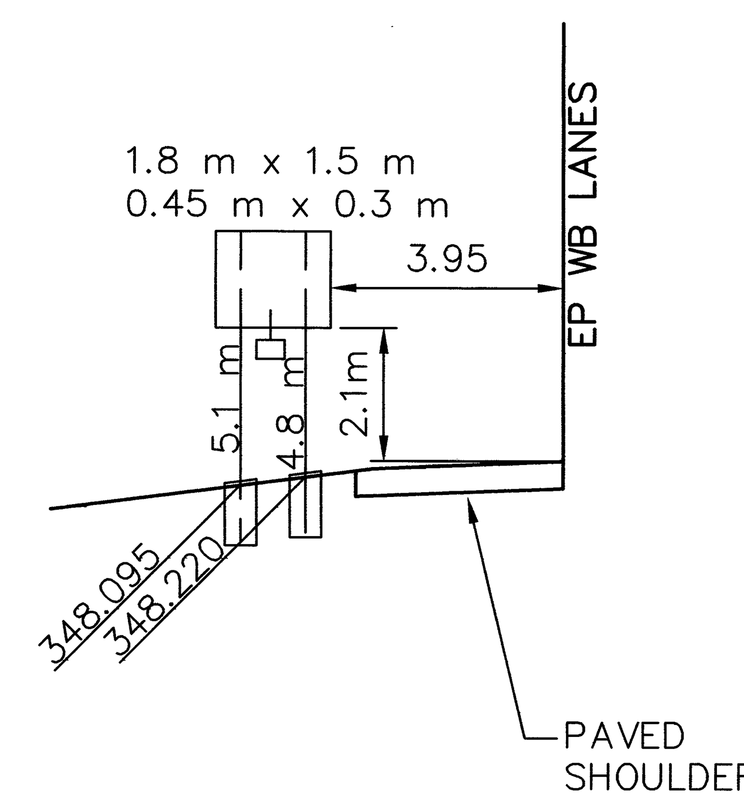
70S STA. F 10+000 RAMP "F"
TYPE W150 x 13.5



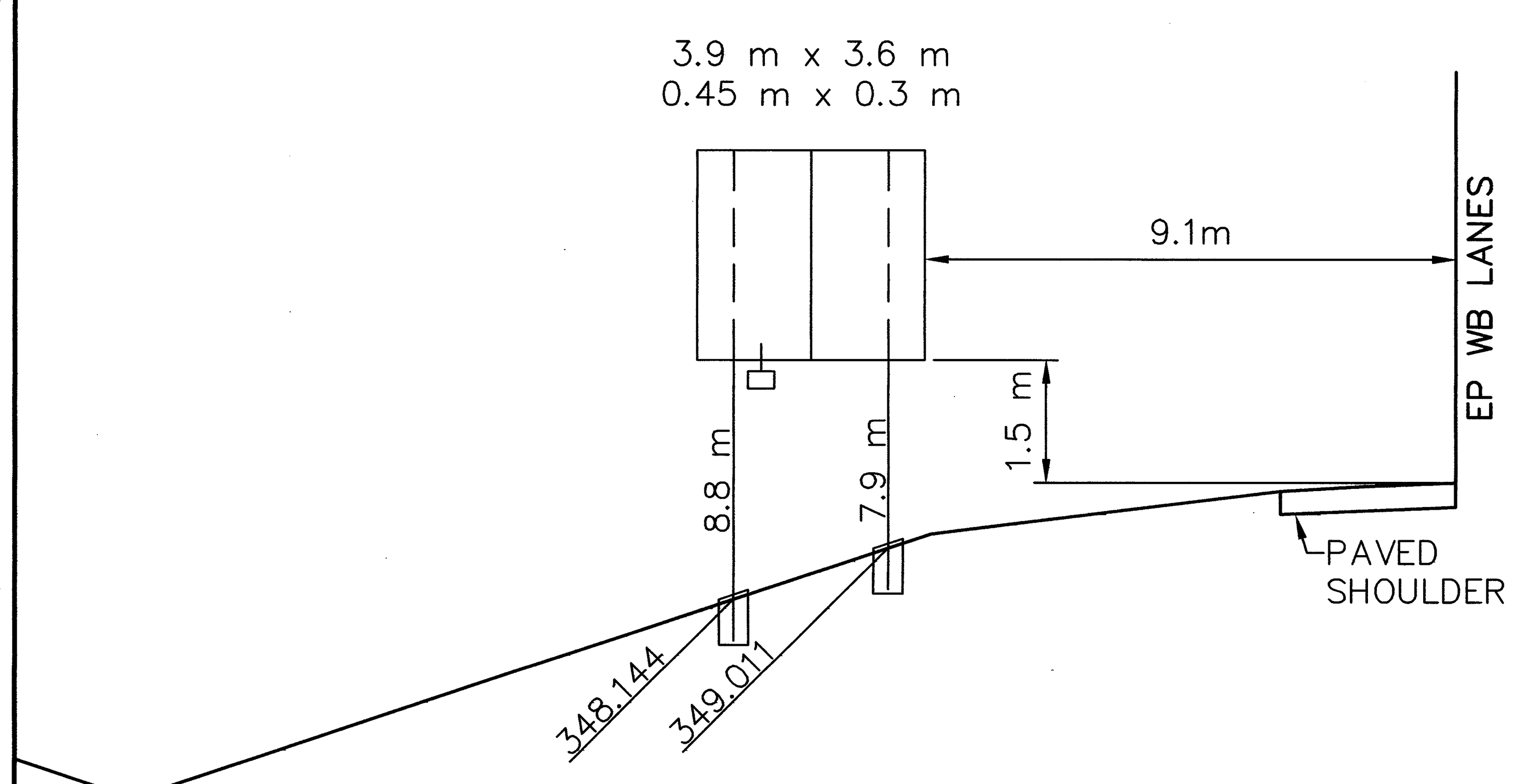
76S STA. 49+940 LT. S.R. 598
TYPE W250 x 17.9



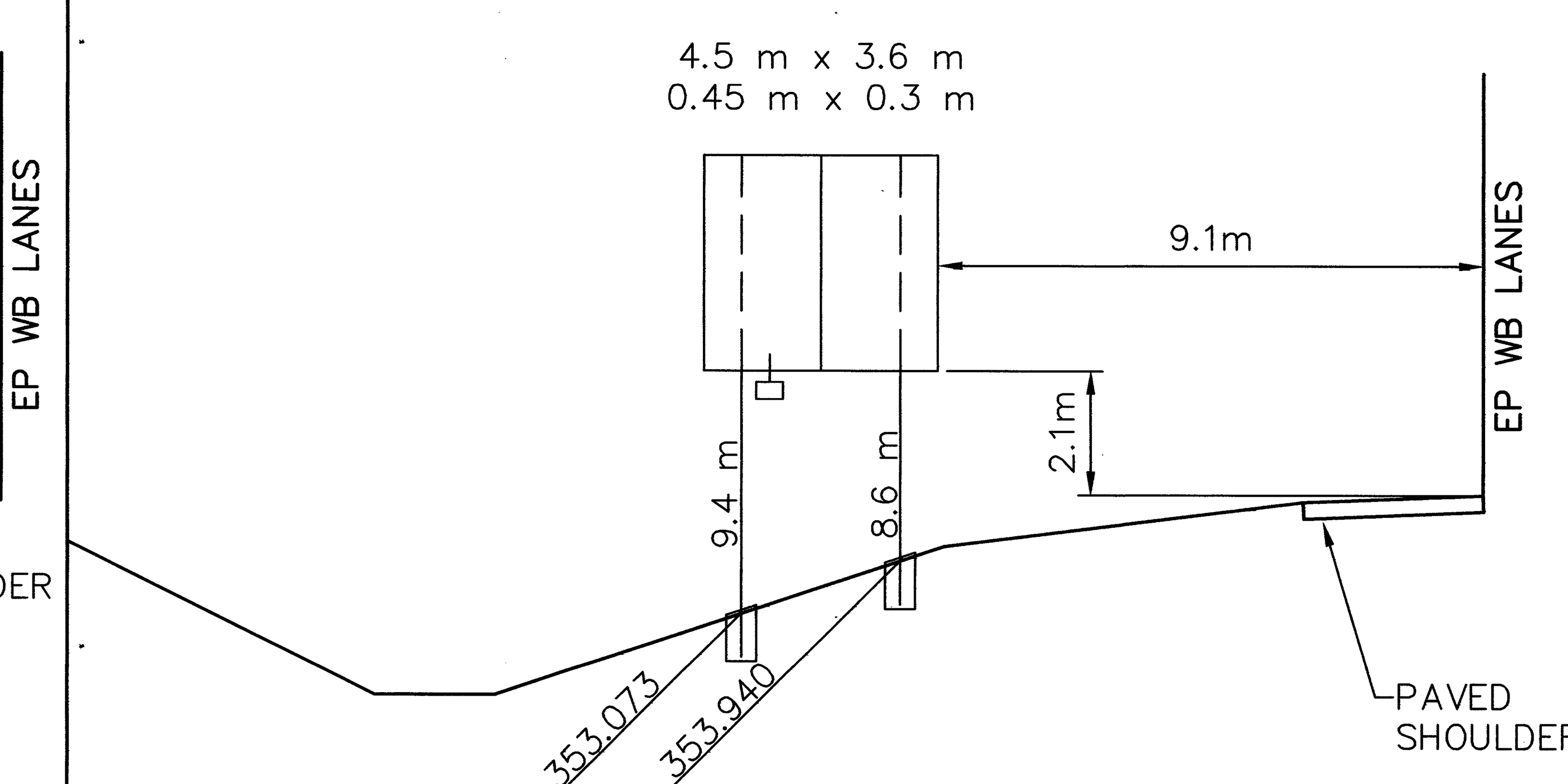
86S STA. H 0+395 RAMP "H"
TYPE W250 X 17.9



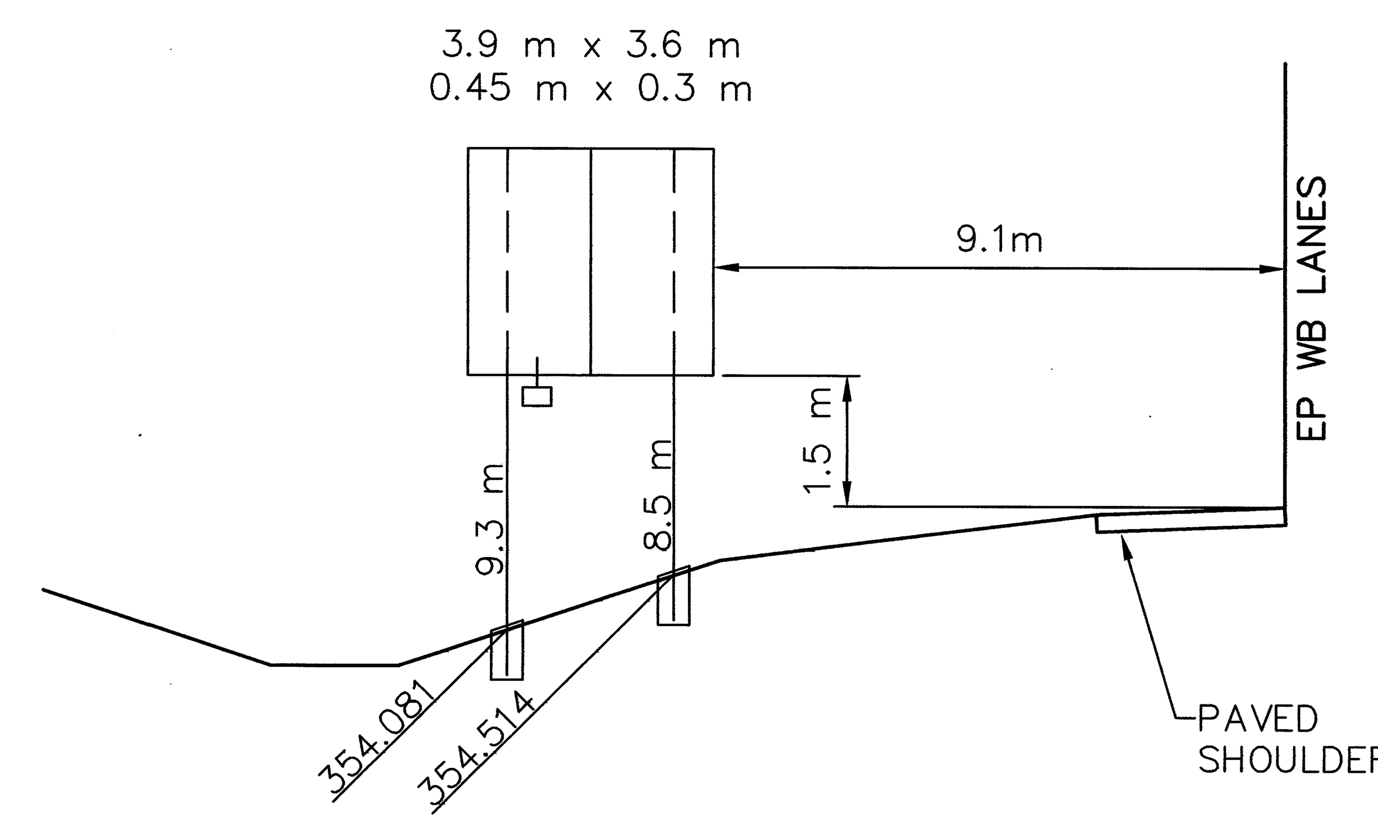
87S STA. 30+467 WB RELOC. U.S. 30
TYPE S100 x 11.5



89S STA. 30+730 WB RELOC. U.S. 30
TYPE W310 X 44.5



99S STA. 31+500 WB RELOC. U.S. 30
TYPE W310 X 44.5



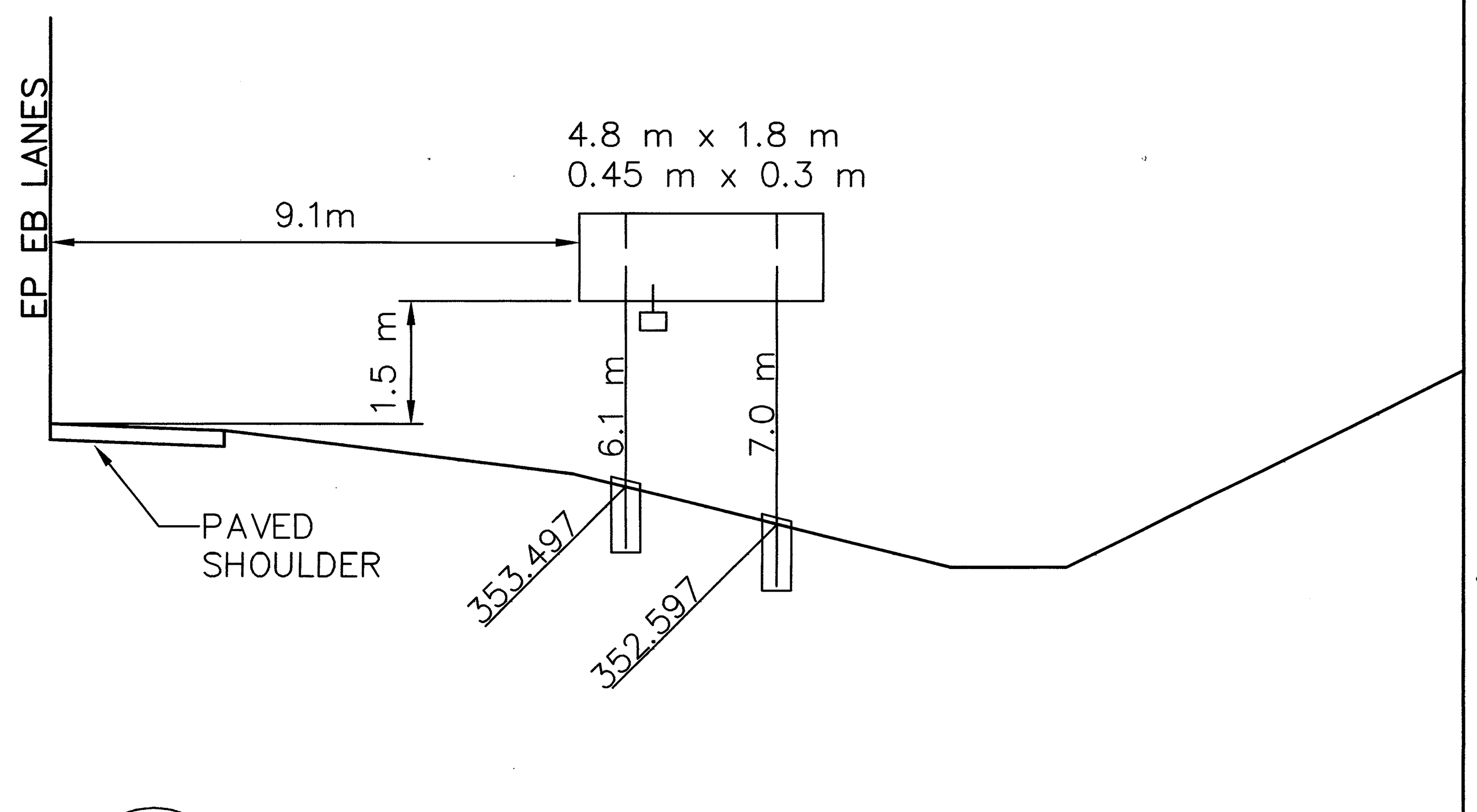
102S STA. 32+300 WB RELOC. U.S. 30
TYPE W310 X 44.5

CALCULATED MJT
CHECKED WS

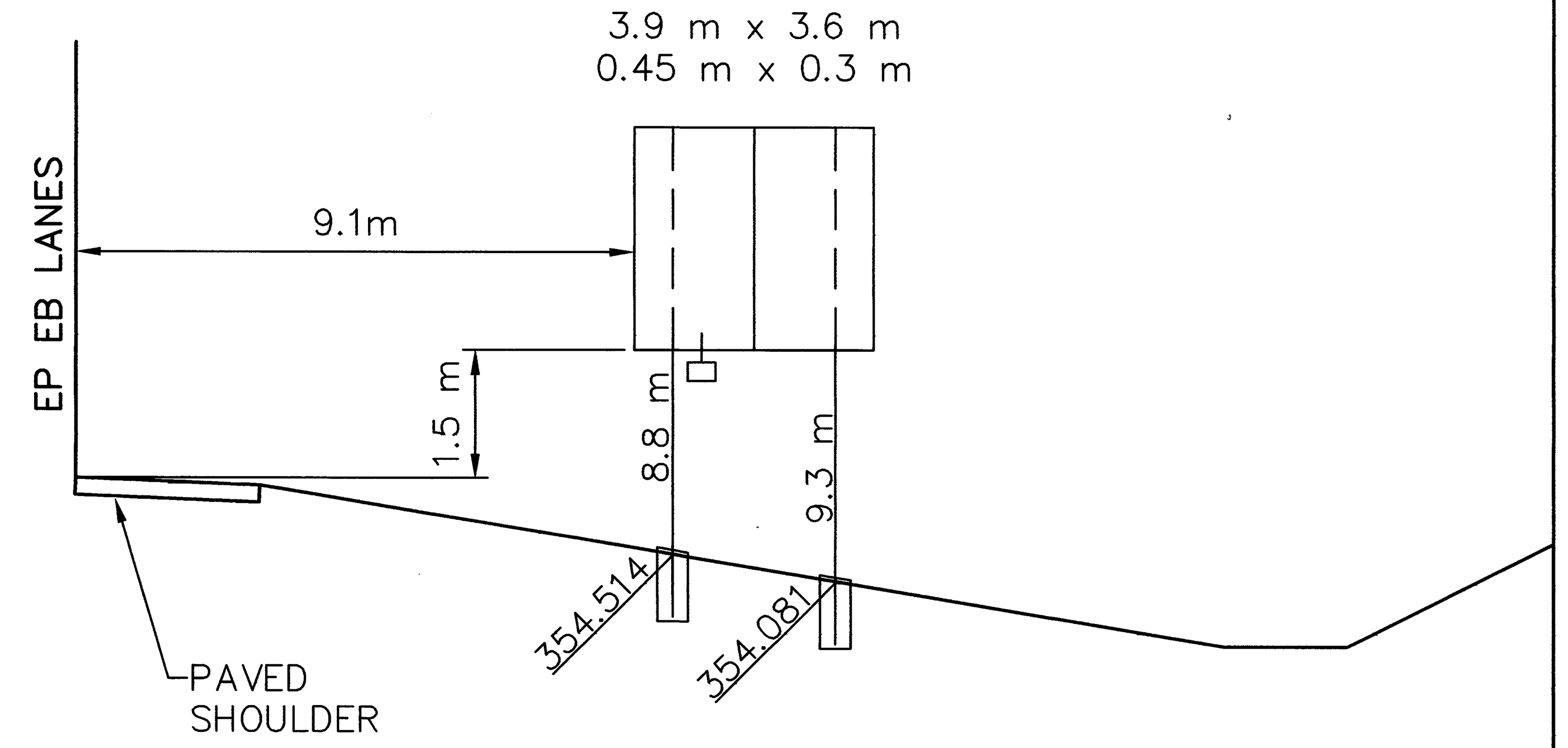
TRAFFIC CONTROL DETAILS

CRA-30-24.000

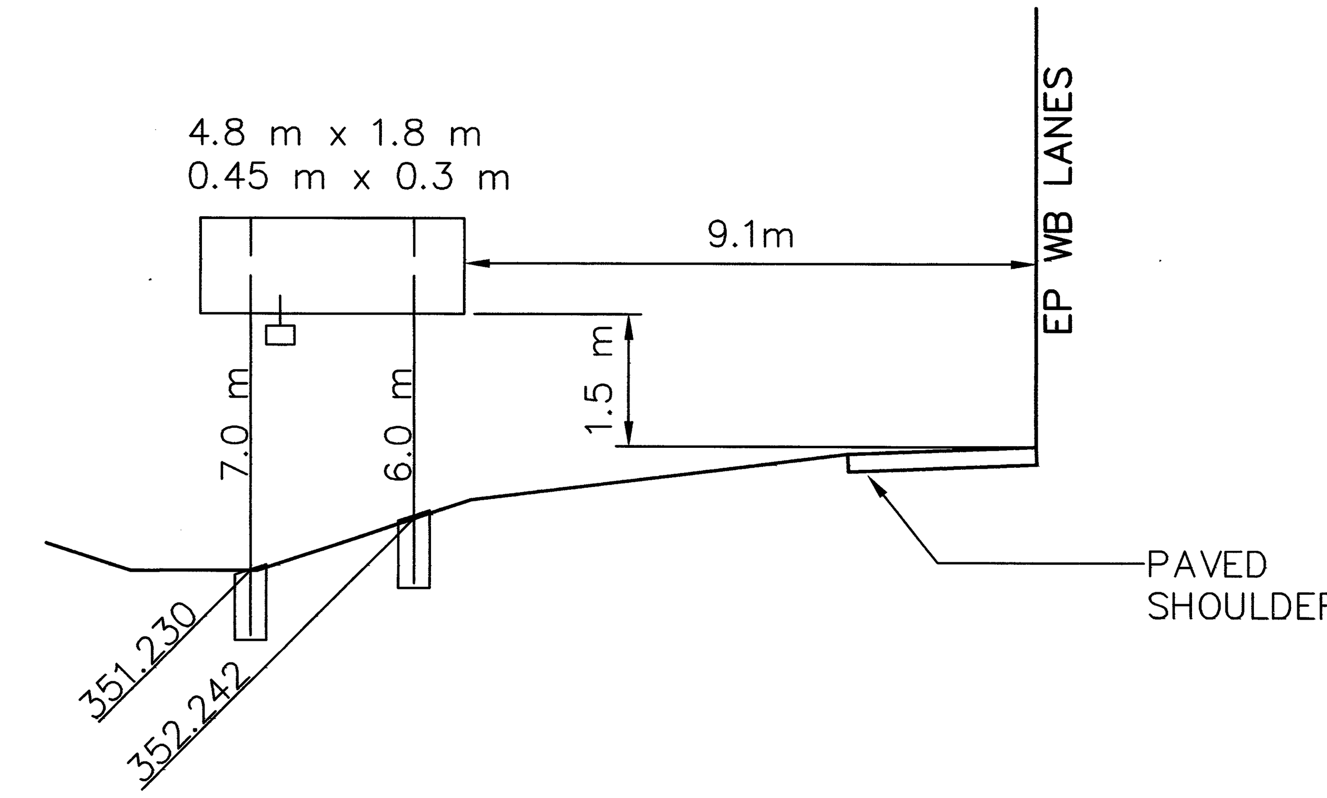
TE102.DWG
11-16-2000 12:57 PM
1:100M



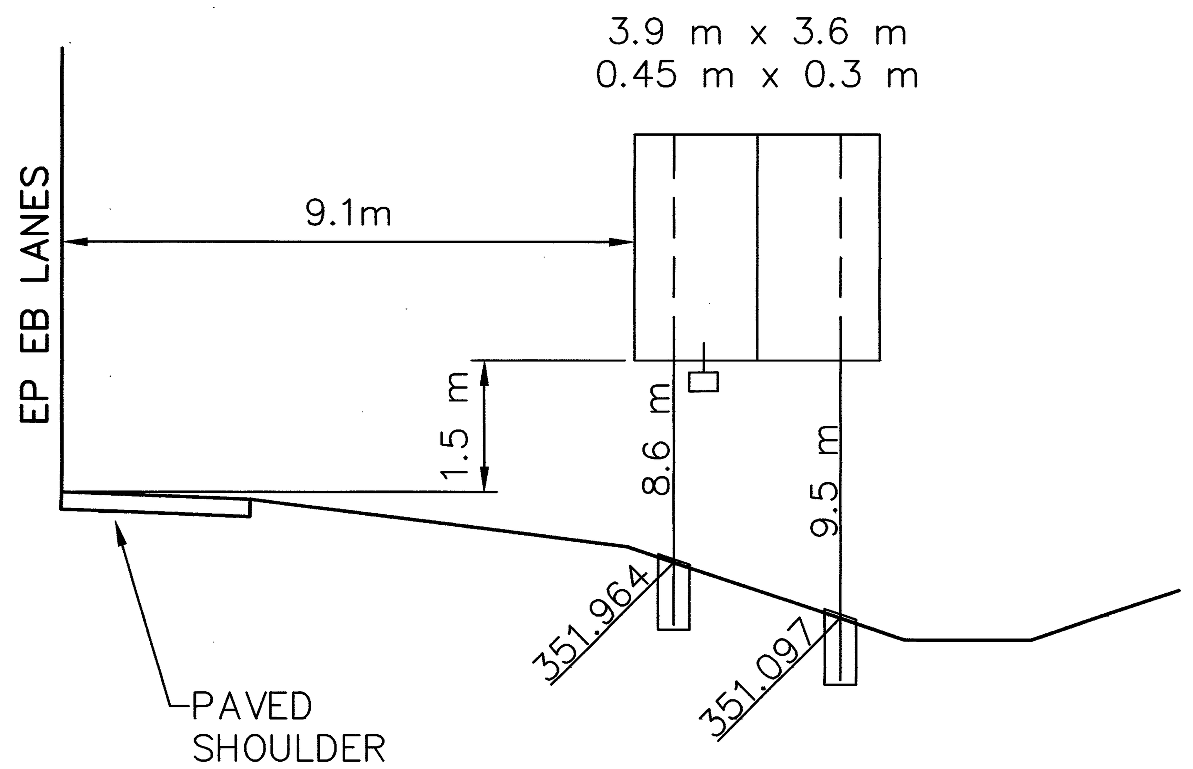
111S STA. 31+670 EB RELOC. U.S. 30
TYPE W200 X 26.6



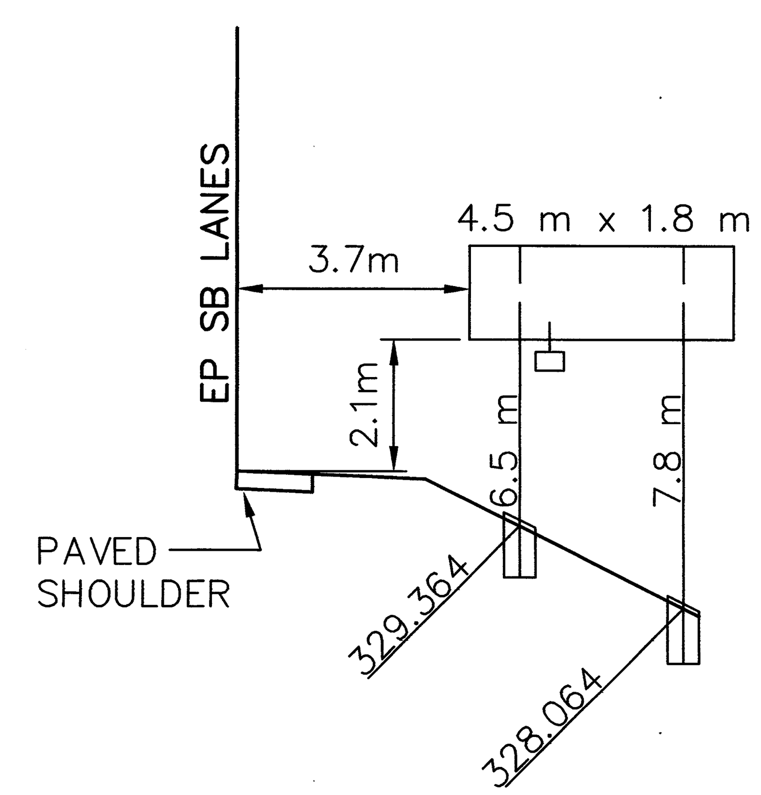
112S STA. 32+083 EB RELOC. U.S. 30
TYPE W310 X 44.5



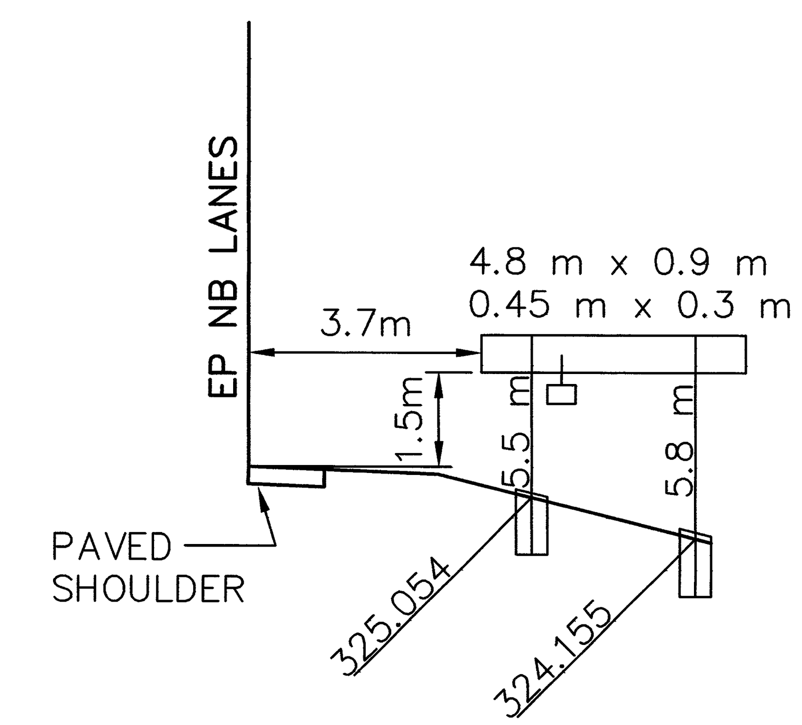
118S STA. 32+765 WB RELOC. U.S. 30
TYPE W200 X 26.6



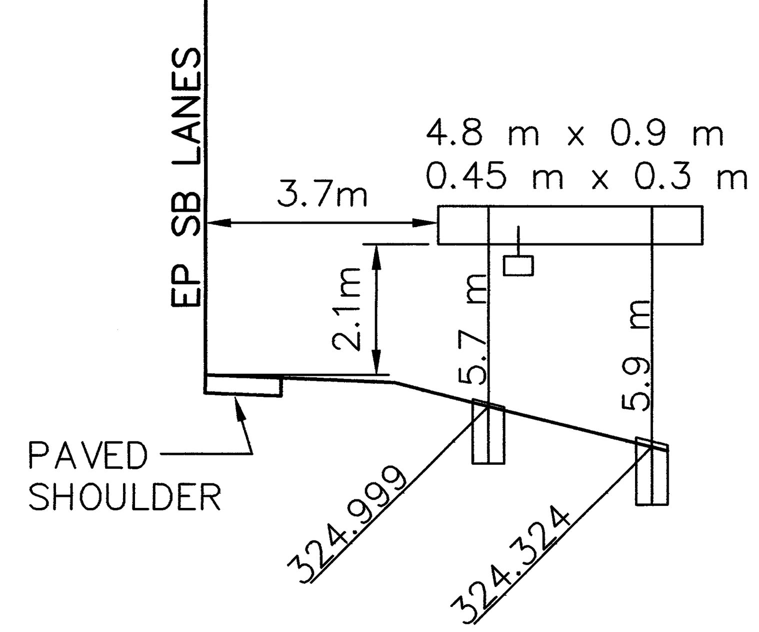
119S STA. 32+883 EB RELOC. U.S. 30
TYPE W310 X 44.5



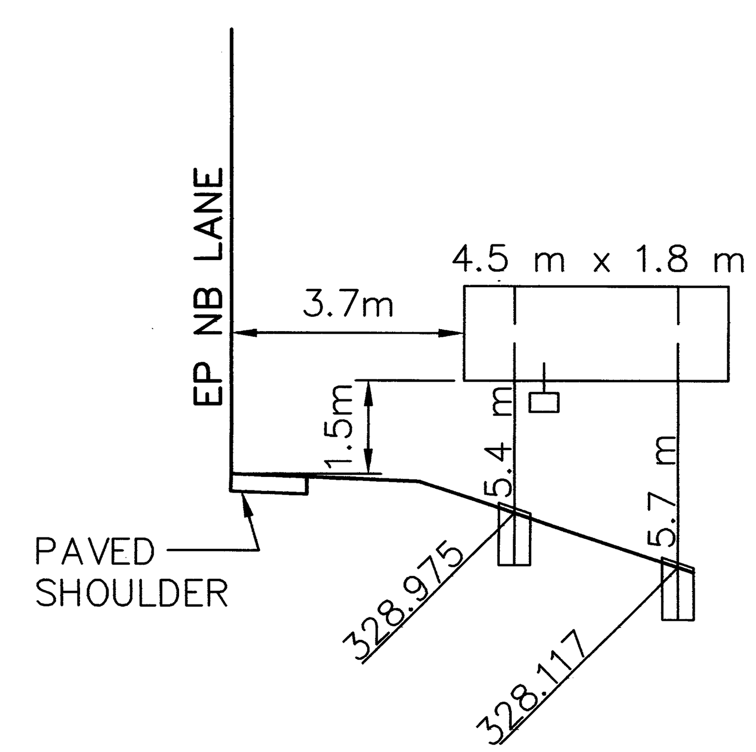
200S STA. 50+198 LT. S.R. 602
TYPE W250 X 17.9



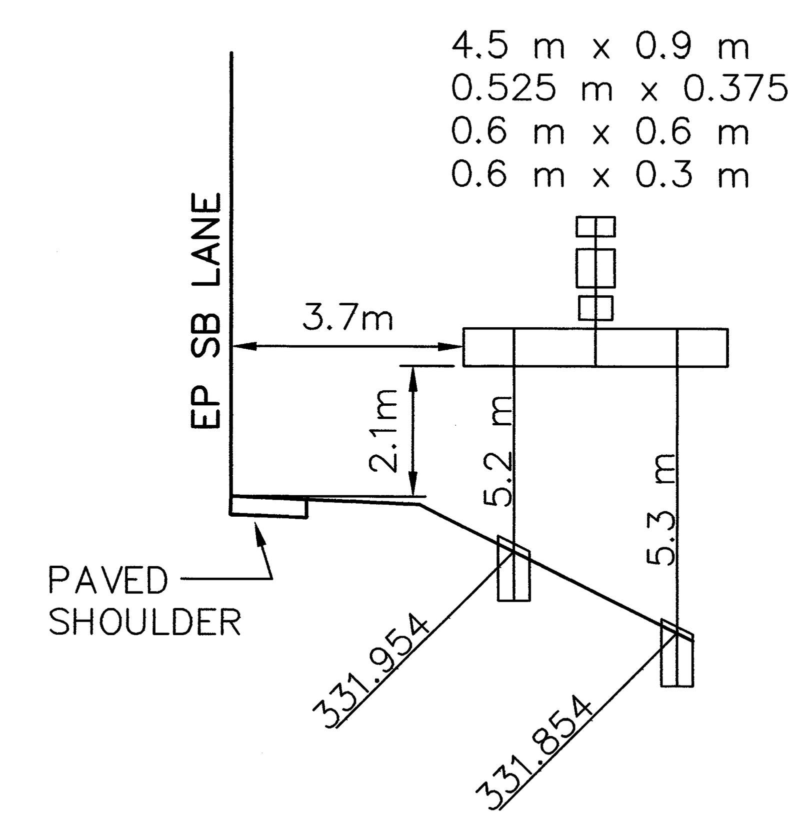
206S STA. 50+336 RT. S.R. 602
TYPE W250 X 17.9



218S STA. 49+665 RT. S.R. 602
TYPE W250 X 17.9



230S STA. 49+791 RT. S.R. 602
TYPE W250 X 17.9



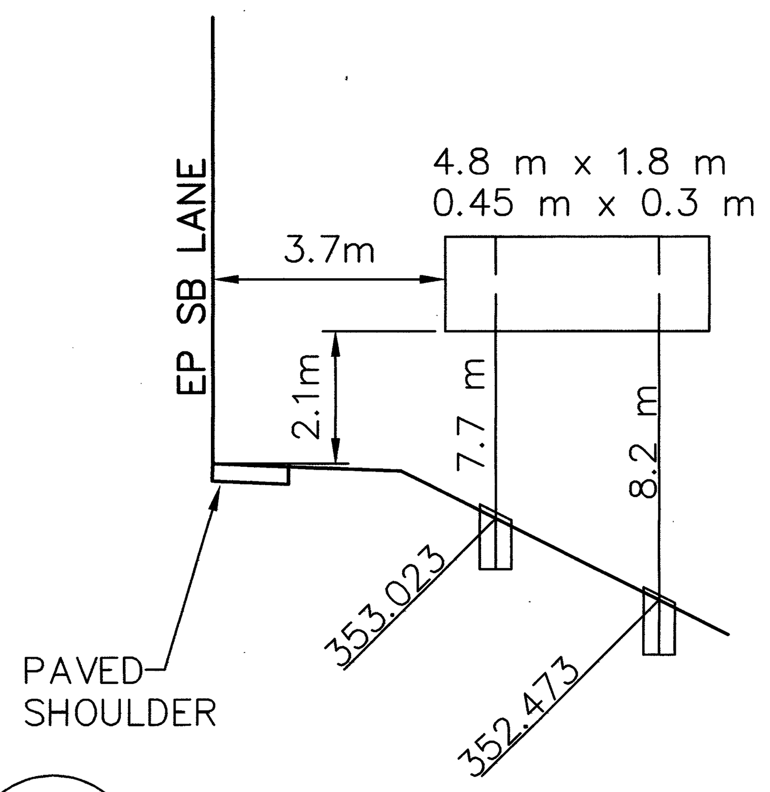
234S STA. 49+920 LT. S.R. 602
TYPE W250 X 17.9

CALCULATED MJT
CHECKED WS

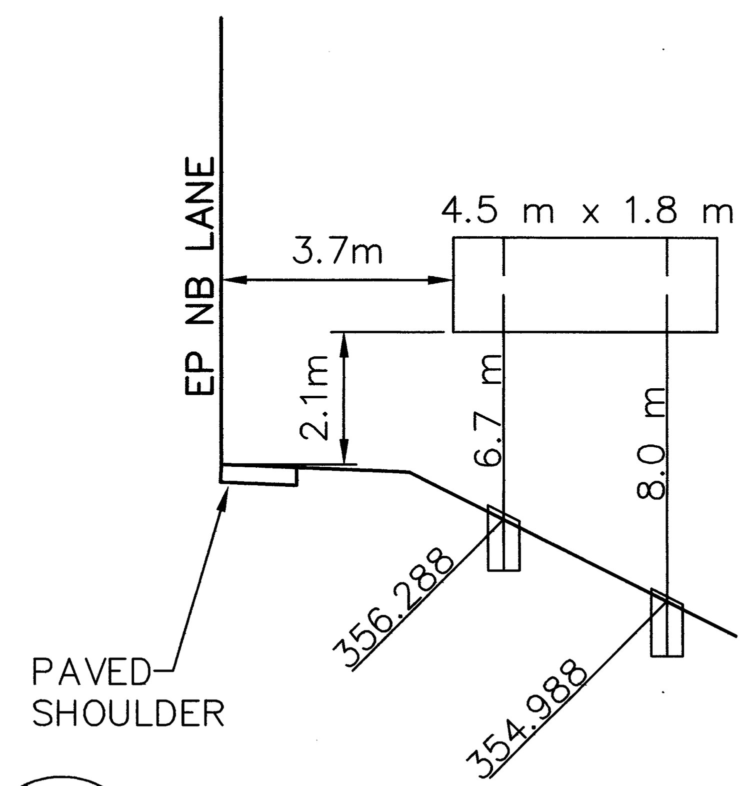
TRAFFIC CONTROL DETAILS

CRA-30-24.000

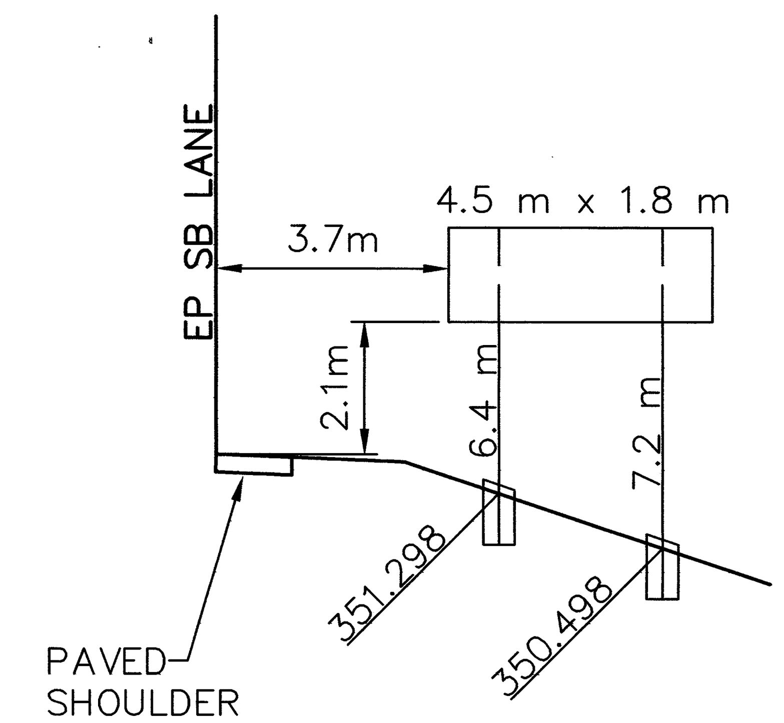
TE103.DWG
11-16-2000 12:58 PM
1:100M



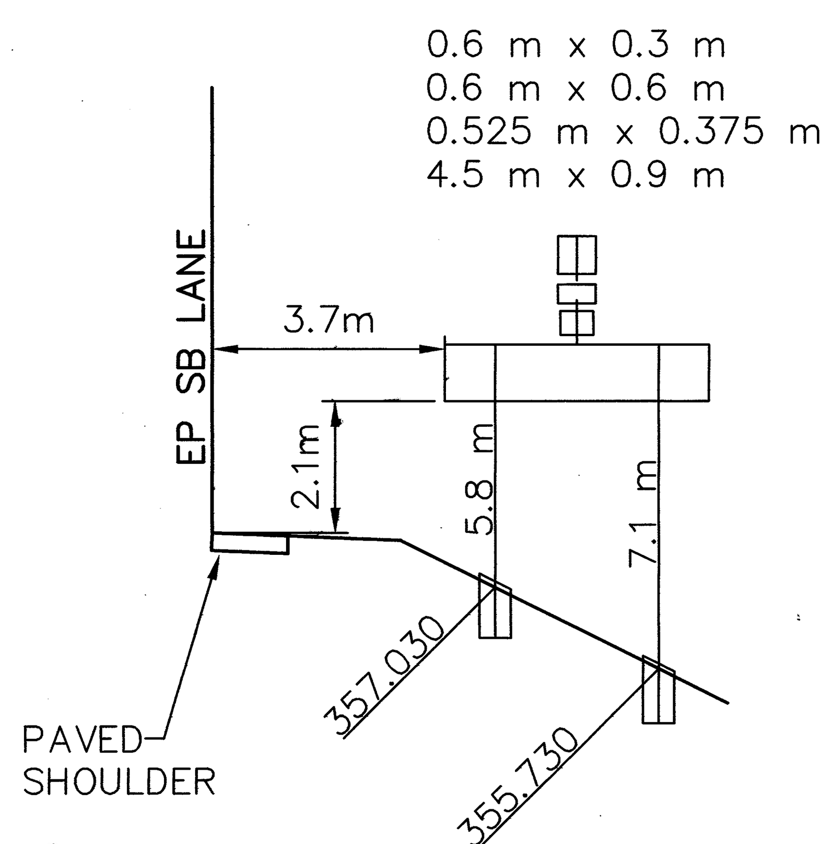
243S STA. 49+688, LT. S.R. 598
TYPE W250 X 17.9



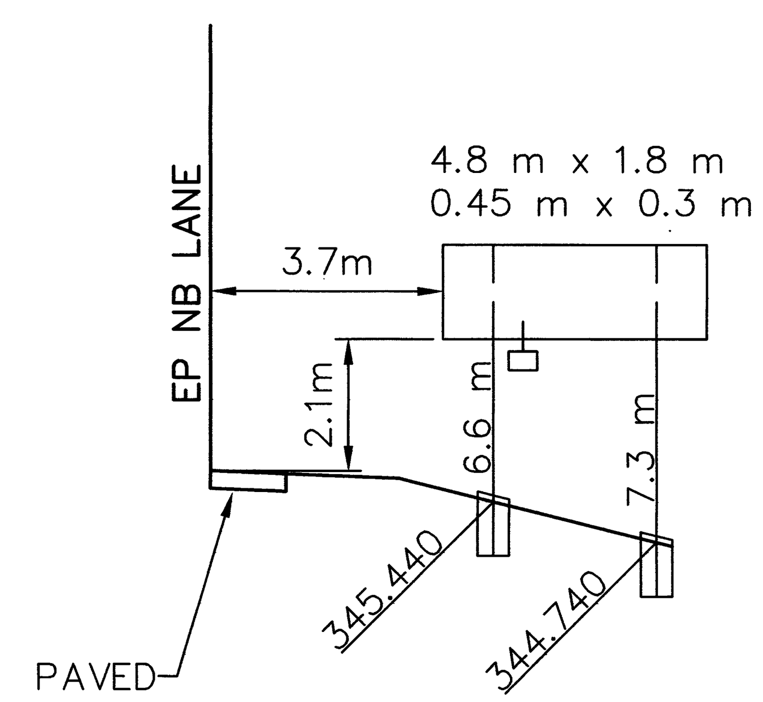
248S STA. 49+803, RT. S.R. 598
TYPE W200 X 26.6



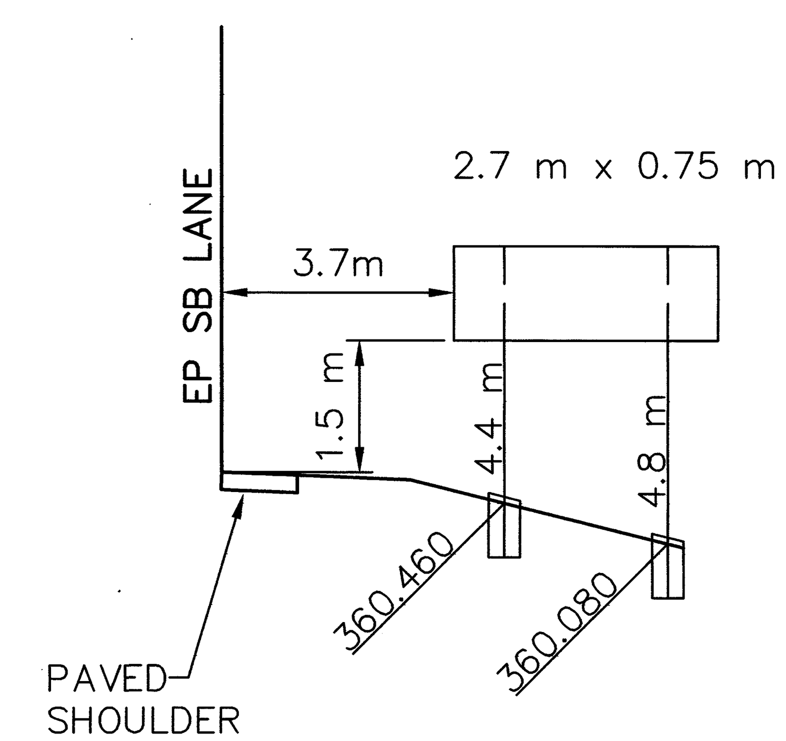
260S STA. 50+199, LT. S.R. 598
TYPE W250 X 17.9



264S STA. 49+920, LT. S.R. 598
TYPE W250 X 17.9



273S STA. 50+340, RT. S.R. 598
TYPE W250 X 17.9



306S STA. 50+320, LT. S.R. 61
TYPE S100 X 11.5

CALCULATED MJT
CHECKED WS

TRAFFIC CONTROL DETAILS

CRA-30-24.000

TE104.DWG
11-16-2000 12:58 PM
1:100M

metric units

NOTES:

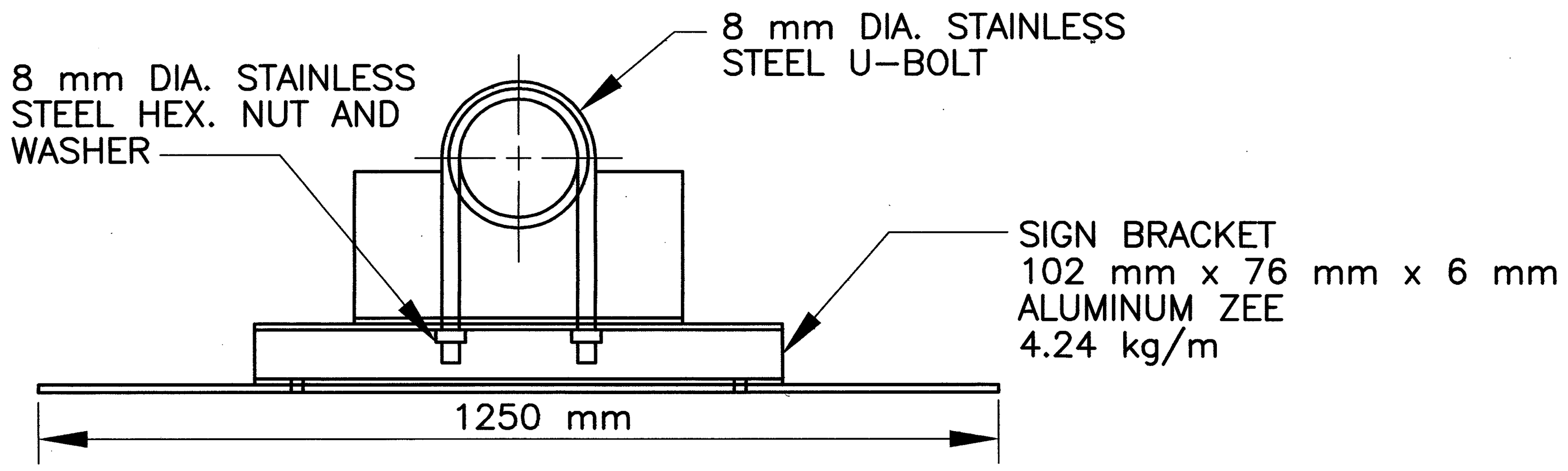
1.) SIGN SHOULD BE MOUNTED 2.1 m MIN. ABOVE PAVEMENT SURFACE.

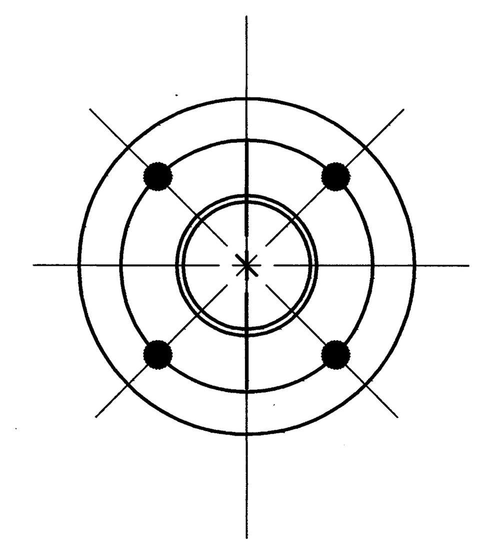
2.) FOR DETAILS NOT SHOWN, SEE STD. DWG. TC–22.20M.

3.) WHERE SIGN ATTACHES TO ZEE BAR, BOLT HOLE LOCATIONS SHALL BE IN ACCORDANCE WITH STD. CONSTRUCTION DWG. TC–52.10M AND TR2–4.

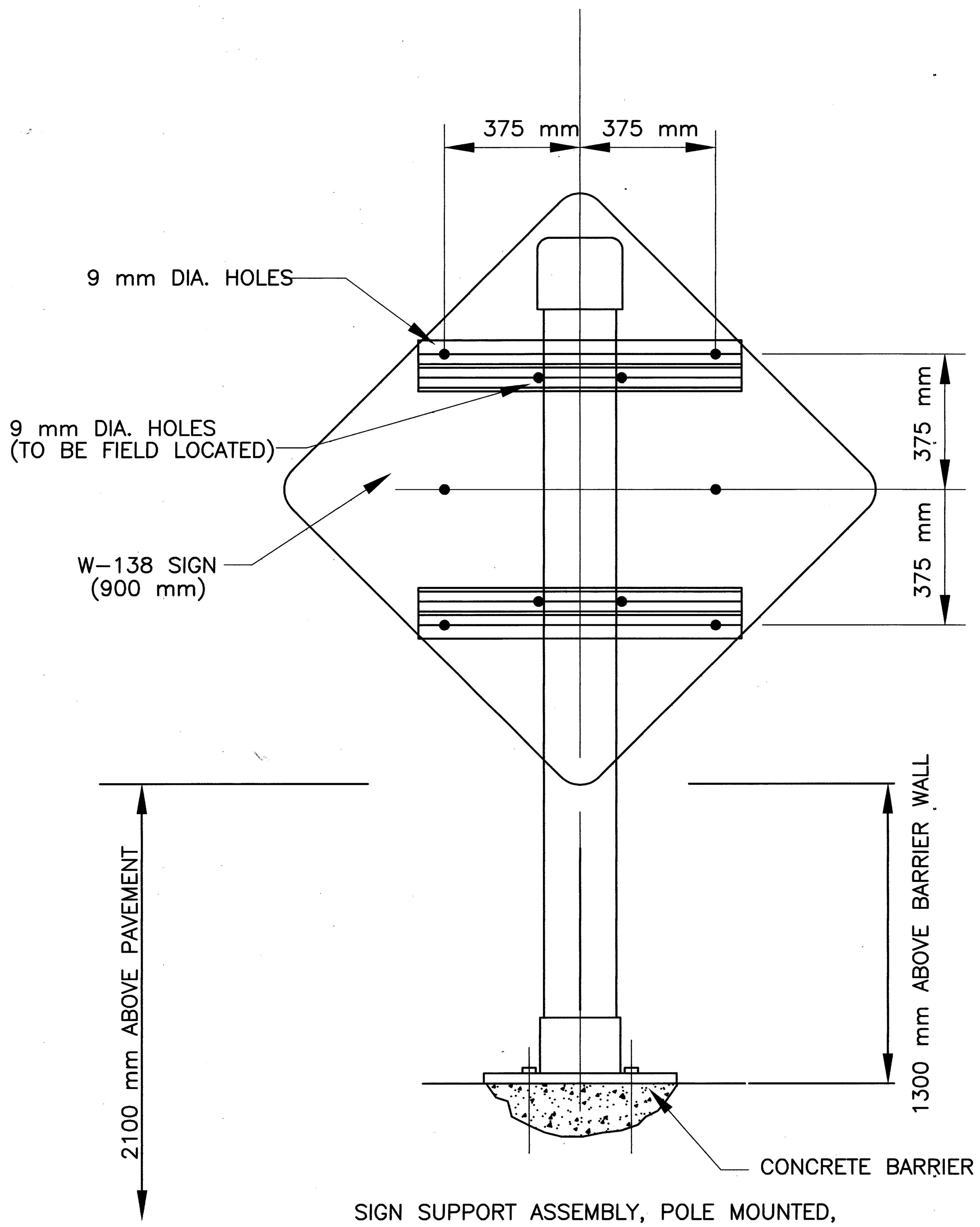
4.) MULTIPLE FLAT SHEET INSTALLATIONS SHALL USE A SIGN ASSEMBLY ATTACHED TO ZEE BAR. PAYMENT FOR THE BACKING ASSEMBLY SHALL BE INCIDENTAL TO THE SIGN SUPPORT ASSEMBLY.

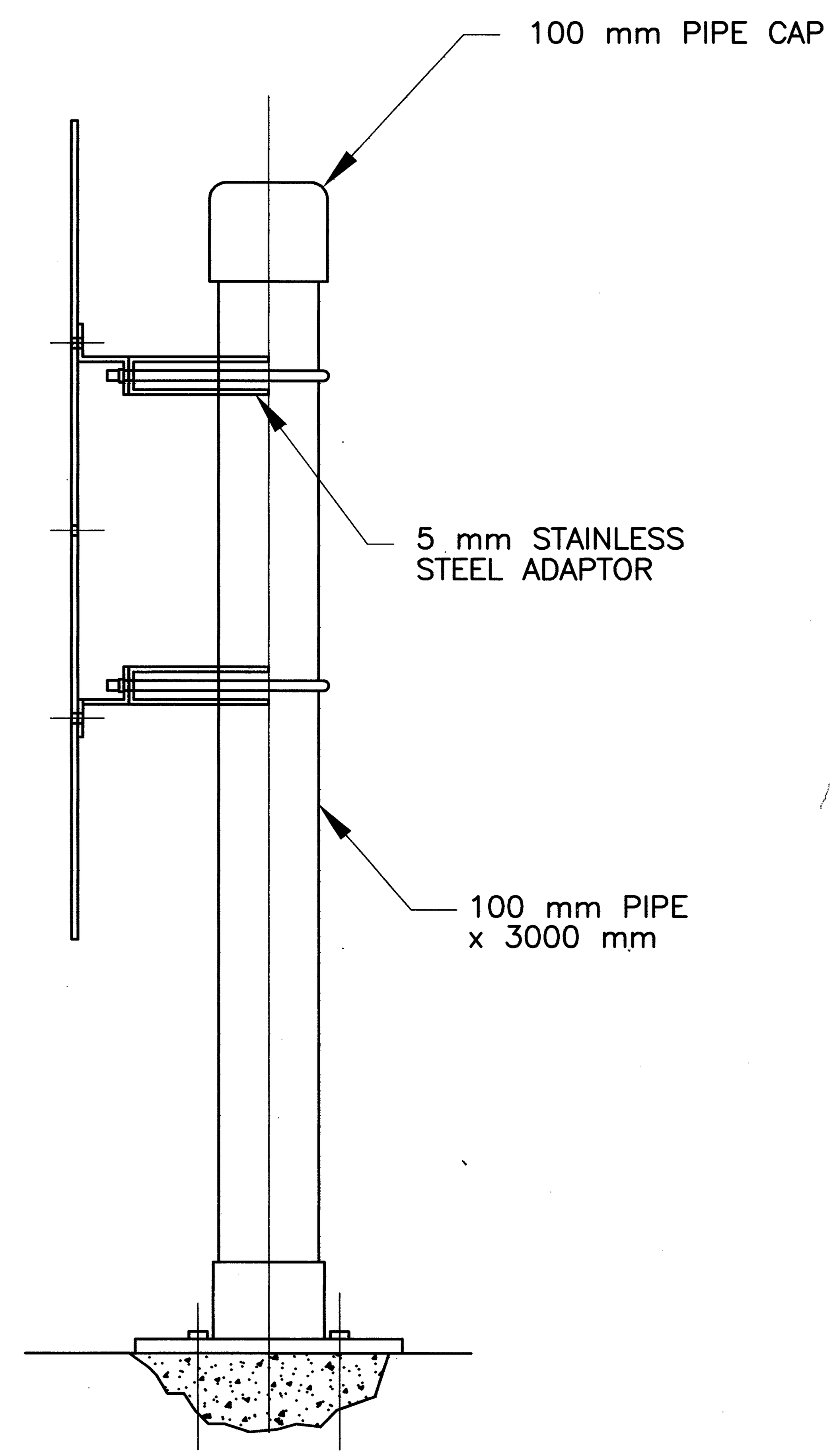
5) PAYMENT FOR SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN, SHALL INCLUDE ALL LABOR AND MATERIAL TO ATTACH ONE W–138 SIGN TO THE MEDIAN CONCRETE BARRIER. INCLUDED ARE 100 mm PIPE, CAPS, FLANGES, BANDS BRACKETS, BOLTS AND ALL OTHER NECESSARY HARDWARE TO COMPLETE THIS ITEM OF WORK.



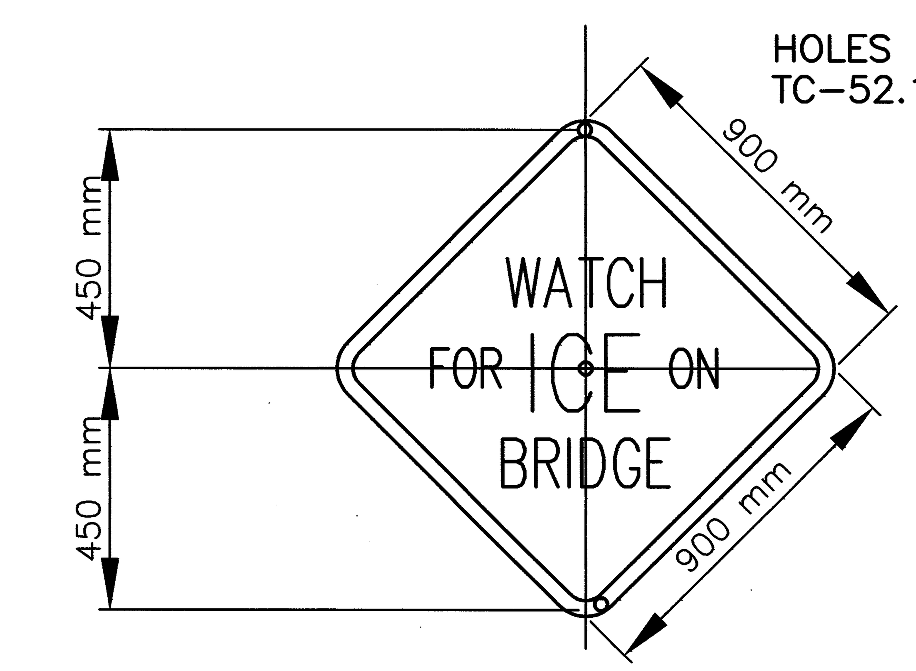


STANDARD FLOOR FLANGE FOR 100 mm PIPE





SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN
N.T.S.
REF NO.'S 20S, 25S THRU 33S AND 33BS



W–68–900 HINGED SIGN DETAIL

1) THE SIGN SHALL BE JOINED WITH A 203.2 mm LONG BY 25.4–38.1 mm WIDE HINGE WHICH IS RIVETED TO EACH SECTION OF THE SIGN AND THEN COVERED WITH YELLOW REFLECTIVE SHEETING (TYPE F – 730.18) TO MATCH THE BACKGROUND OF THE SIGN. USE STAINLESS STEEL HINGES.

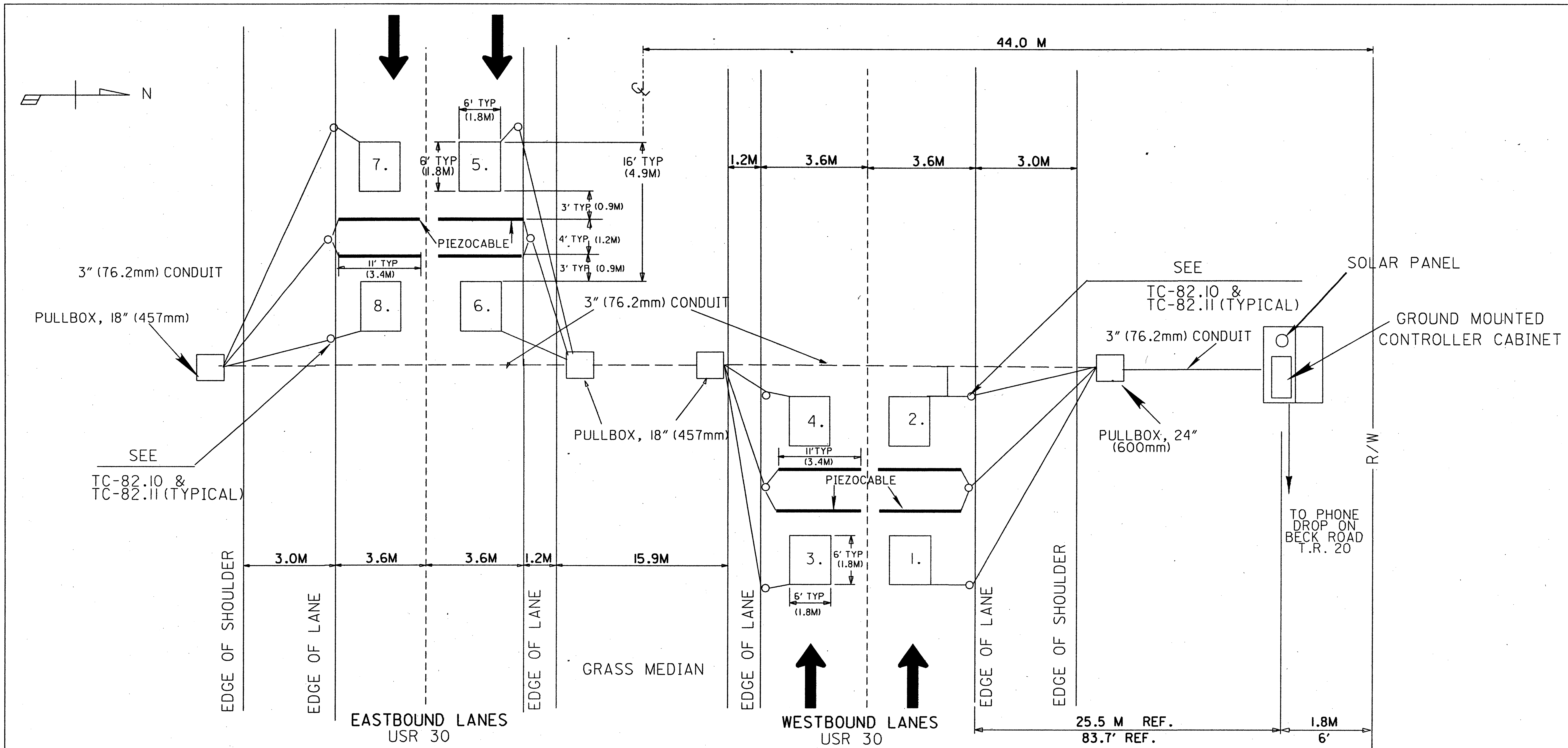
2) TO FOLD THE SIGN DOWN, REMOVE THE TOP TWO BOLTS, FOLD THE UPPER PART OF THE SIGN DOWN AND INSERT A BOLT THROUGH THE LOWEST HOLE IN THE SIGN AND INTO THE POST. FASTEN THE BOLT TO PREVENT THE SIGN FROM FLOPPING IN THE WIND AND SUSTAINING DAMAGE.

CALCULATED MJT
CHECKED WJS

SIGN DETAILS

CRA–30–24.000

TD001.DWG
11–16–2000 1:40 PM
SCALE: 1:1M



ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
603	00400	40	M	4" (100mm) CONDUIT, TYPE E
625	25100	90	M	CONDUIT, 1" (25.4mm) 713.04
625	25500	55	M	CONDUIT, 3" (76.2mm), 713.04
625	25900	30	M	CONDUIT, JACKED OR DRILLED, 3" (76.2mm)
625	29000	100	M	TRENCH
625	30700	3	EACH	PULL BOX, 713.08, 18" (457mm)
625	30706	1	EACH	PULL BOX, 713.08, 24" (600mm)
625	32000	2	EACH	GROUND ROD
625	25900	70	M	CONDUIT, JACKED OR DRILLED, 1" (25.4mm) 713.04
632	26501	8	EACH	DETECTOR LOOP, AS PER PLAN
632	63000	1	EACH	PHONE DROP
632	64020	1	EACH	GROUND MOUNTED CONTROLLER FOUNDATION
632	65200	242	M	LOOP DETECTOR LEAD-IN CABLE
632	90400	8	EACH	SIGNALIZATION, MISC. : PIEZOCABLE AXLE SENSOR CLASS I (11' (3.4M) IN LENGTH)
633	70500	1.08	SQ M	CONTROLLER WORK PAD
633	65001	1	EACH	CABINET WITHOUT CONTROLLER, PAD MOUNTED, AS PER PLAN
633	99000	1	EACH	CONTROLLER ITEM, MISC. : SOLAR PANEL

AUTOMATIC TRAFFIC RECORDER INSTALLATION
WEIGH IN MOTION
USR 30, LOG POINT 26,300M
D03 SITE # 17-AA-W

I:*PLANNINC/ATR-LOCATIONS/17-AA-W#/PNOTES-17-AA-W#.DGN

CALCULATED | CHECKED

DATE 2/22/00

AUTOMATIC TRAFFIC RECORDER PLAN INSERT SHEET

CRA-30-24.00

534A
677

WEIGH IN MOTION UNIT PLAN NOTES
USR 30, LOG POINT: 26.300M
D03 SITE # 17-AA-W

1. CONTRACTOR SHALL CONTACT THE OFFICE OF TECH. SERVICES AT (614) 466-3727, AND MR. JIM BUZZARD AT DISTRICT # 03, (419) 281-0513 EXT. # 357 FIVE (5) WORKING DAYS PRIOR TO THE SCHEDULED SITE INSTALLATION.

2. ALL WORK AND ITEMS SHALL CONFORM TO CONSTRUCTION AND MATERIAL SPECIFICATIONS 499, 511, 603, 625, 632, 633, 705, 713, 732, AND 733, UNLESS OTHERWISE SPECIFIED.

3. ALL SENSORS ARE TO BE TESTED BY TECHNICAL SERVICES PERSONNEL AFTER THE INSTALLATION IS COMPLETE SO AS TO VERIFY THAT THE STATION IS OPERATING PROPERLY. IF THE ELECTRONIC EQUIPMENT DOES NOT PERFORM PROPERLY BECAUSE OF A POORLY INSTALLED SENSOR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF THE FAULTY SENSOR(S), AS SOON AS POSSIBLE AT THEIR OWN COST.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND TESTING THE PHONE DROP INSIDE OF THE CONTROLLER CABINET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHARGES INCURRED PRIOR TO THE TRANSFER OF THE TELEPHONE ACCOUNT. THE CONTRACTOR SHALL COORDINATE WITH ODOT, TELECOMMUNICATIONS, MR. MIKE WIGGINS (614) 466-4452 TO TRANSFER THE TELEPHONE ACCOUNT AND THE BILLING RESPONSIBILITY FROM THE CONTRACTOR TO ODOT. PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH ITEM 632 PHONE DROP AND SHALL INCLUDE ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, INCIDENTALS AND PAYMENT OF ALL PHONE COMPANY FEES NECESSARY FOR EACH INSTALLATION, IN PLACE COMPLETE, AND ACCEPTED.

5. ALL LOOPS SHALL BE SIX (6) FEET (1.8M) BY SIX (6) FEET (1.8M). LOOPS SHALL BE SPACED LONGITUDINALLY SIXTEEN (16) FEET (4.9M) FROM LEADING EDGE TO LEADING EDGE. INSTALLATION OF LOOPS SHALL CONFORM TO TC-82.10 & TC-82.11, EXCEPT THAT LOOPS SHALL BE INSTALLED WITH FOUR (4) TURNS, AND HAVE A MINIMUM EPOXY COVER OF FOUR (4) INCHES FOR ASPHALT OR THREE QUARTER (3/4) INCH (19MM) FOR CONCRETE. THE LOOP TURNS SHALL TERMINATE AT THE OUTSIDE OF THE LOOP CONFIGURATION. THE LOOP TURN EXTENSION WIRES SHALL RUN IN A MANNER SO THAT THEY ARE NEVER BETWEEN THE ACTUAL LOOP TURNS OF TWO (2) OR MORE LOOPS OR PIEZO SENSORS. LOOPS AND PIEZOCABLES SHALL BE CUT IN THE SURFACE ASPHALT COURSE. THEY SHALL NOT BE INSTALLED BETWEEN THE INTERMEDIATE AND SURFACE COURSES. THE CONDUIT PAVEMENT DRILL HOLES SHALL BE LOCATED 60" (1.5M) FROM THE EDGE IN THE MIDDLE OF THE PAVED SHOULDER.

6. THE POLARITY OF ADJACENT LOOPS (TRANSVERSE AND LONGITUDINAL) SHALL BE IN OPPOSITE DIRECTIONS, i.e., LOOP 1, LOOP 4, LOOP 6, AND LOOP 7, CLOCKWISE; LOOP 2, LOOP 3, LOOP 5, AND LOOP 8, COUNTERCLOCKWISE.

7. LOOP INDUCTANCE READING SHALL BE BETWEEN SEVENTY (70) AND THREE HUNDRED (300) MICRO HENRIES. THE LOOP INDUCTANCE READING BETWEEN TWO LOOPS IN THE SAME LANE SHALL BE WITHIN TWENTY (20) MICRO HENRIES OF EACH OTHER.

8. THE PIEZOCABLE SENSOR SHALL BE MADE BY MEASUREMENT SPECIALITIES ROADTRAX BRASS LINGUINI (BL) CLASS I AXLE SENSOR OR EQUIVALENT. THE SENSOR WITH A LENGTH ONE (1) FOOT (.3M) SHORTER THAN THE ONSITE LANE WIDTH SHALL BE CENTERED IN THE LANE. PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH ITEM SIGNALIZATION, MISCELLANEOUS: PIEZOCABLE AXLE SENSOR, CLASS I IN LENGTH) AND SHALL INCLUDE ALL MATERIAL, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY FOR EACH INSTALLATION, IN PLACE, COMPLETE AND ACCEPTED. THE PIEZOCABLE LEAD-IN CABLE IS ORDERED IN DIFFERENT LENGTHS AS PART OF SENSOR AND SHALL NOT BE SPLICED. INCLUDED WITH THIS ITEM SHALL BE PAVEMENT CUTTING OF SLOTS, PLACEMENT OF LEAD-IN WIRE, AND THE APPLICATION OF EPOXY AS RECOMMENDED BY SENSOR MANUFACTURER. CONDUIT, DRILLING, TRENCHING, BACKFILLING, AND SURFACE RESTORATION FROM THE EDGE OF THE PAVEMENT TO THE PULL BOX SHALL ALSO BE INCLUDED.

9. CABLE AND WIRE SHALL BE IDENTIFIED IN ACCORDANCE WITH 632.04. IDENTIFICATION SHALL INCLUDE THE DIRECTION OF TRAVEL (i.e., NB, EB), POLARITY OF THE WIRE, AND THE LOOP NUMBER AS SHOWN. NORTH AND EAST ARE THE PREVAILING DIRECTION OF TRAVEL. THE POSITIVE POLARITY SHALL ALWAYS BE THE BLACK WIRE. EACH LOOP AND PIEZO SHOULD HAVE A SEPARATE LEAD-IN CABLE ROUTED TO THE CONTROLLER CABINET TERMINAL BLOCK AND TAGGED AS DESCRIBED ABOVE. THREE (3) FEET OF EXTRA CABLE SHALL REMAIN IN THE CABINET AFTER THE CONNECTION, WITH NO OBSTRUCTION TO THE TERMINAL BLOCK CONNECTIONS.

10. PIEZOCABLES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND ENSURE THAT THE COMPLETE CURING OF EPOXY OR SEALANT TAKES PLACE PRIOR TO OPENING THE LANE TO TRAFFIC. (EG: WINTER GRADE EPOXY).

11. THE ATR SYSTEM SHALL BE GROUNDED WITH A MINIMUM OF TWO (2) ONE (1) INCH (25MM) DIAMETER, TEN (10) FEET (3M) LONG GROUND RODS. THE GROUND RODS SHALL BE DRIVEN ADJACENT TO THE ATR CABINET AND SPACED A MINIMUM OF SEVENTY-TWO (72) INCHES (1.8M) APART. THREE (3) INCH (76.2MM) DIAMETER SOLAR PANEL MAST AND THE GROUND RODS SHALL BE CONNECTED TO THE NO. 2 AWG. INSULATED COPPER GROUND WIRE WITH AN EXOTHERMIC WELD PER CONSTRUCTION AND MATERIAL SPECIFICATION 625.10. THE GROUND WIRE SHALL BE MECHANICALLY BONDED TO THE CABINET BASE AND CONTROLLER CABINET. LUGS AND TERMINAL STRIPS SHALL BE PROVIDED FOR OTHER EQUIPMENT GROUND ATTACHMENTS.

12. THE PREFERRED LOCATION SHALL BE FIFTY (50) FEET (15.2M) FROM THE CLOSEST LANE WHICH ALLOWS FOR A VIEW OF ALL LANES. AS A MINIMUM, THE CABINET SHALL BE THIRTY (30) FEET (9.1M) FROM THE CLOSEST LANE. IF PLACED BEHIND A GUARDRAIL, THE CABINET MUST HAVE A FIVE (5) FEET (1.5M) CLEARANCE. SEE DRAWING 534A AUTOMATIC TRAFFIC RECORDER PLAN INSERT SHEET FOR LAYOUT DETAILS. THE CABINET SHALL NOT BE PLACED IN A DITCH OR ANY AREA SUBJECT TO FLOODING OR EROSION.

13. THE PULL BOXES SHALL BE INSTALLED BETWEEN TWENTY-FOUR (24) INCHES (.6M) AND THIRTY-SIX (36) INCHES (.9M) FROM THE PAVED SHOULDER EDGE TO THE CENTERLINE OF THE PULL BOX. REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING CONCRETE PULL BOXES. UNDER DRAINS SHALL BE PROVIDED FOR ALL PULL BOXES AS DIRECTED BY THE ENGINEER. HIGHWAY UNDER DRAINS MAY BE USED IF THE DRAIN LENGTH REQUIRED FOR A SATISFACTORY OUTLET EXCEEDS THIRTY (30) FEET (9.1M). THE OUTLETS OF THE PULL BOX DRAINS SHALL BE GRATED TO ONE (1) INCH OPENINGS AND A BED OF STONES PLACED AROUND THE OPENING. THE PULL BOX DRAIN ENTRANCE SHALL BE SCREENED TO ONE QUARTER (1/4) INCH (6.3MM) OPENINGS IN THE PULL BOXES.

14. THE CONDUITS FOR THE PIEZO AND LOOP CABLES SHALL BE ONE (1) INCH (25MM) RIGID CONDUIT AND SHALL BE LIMITED TO TWO CABLES PER EACH CONDUIT RUN.

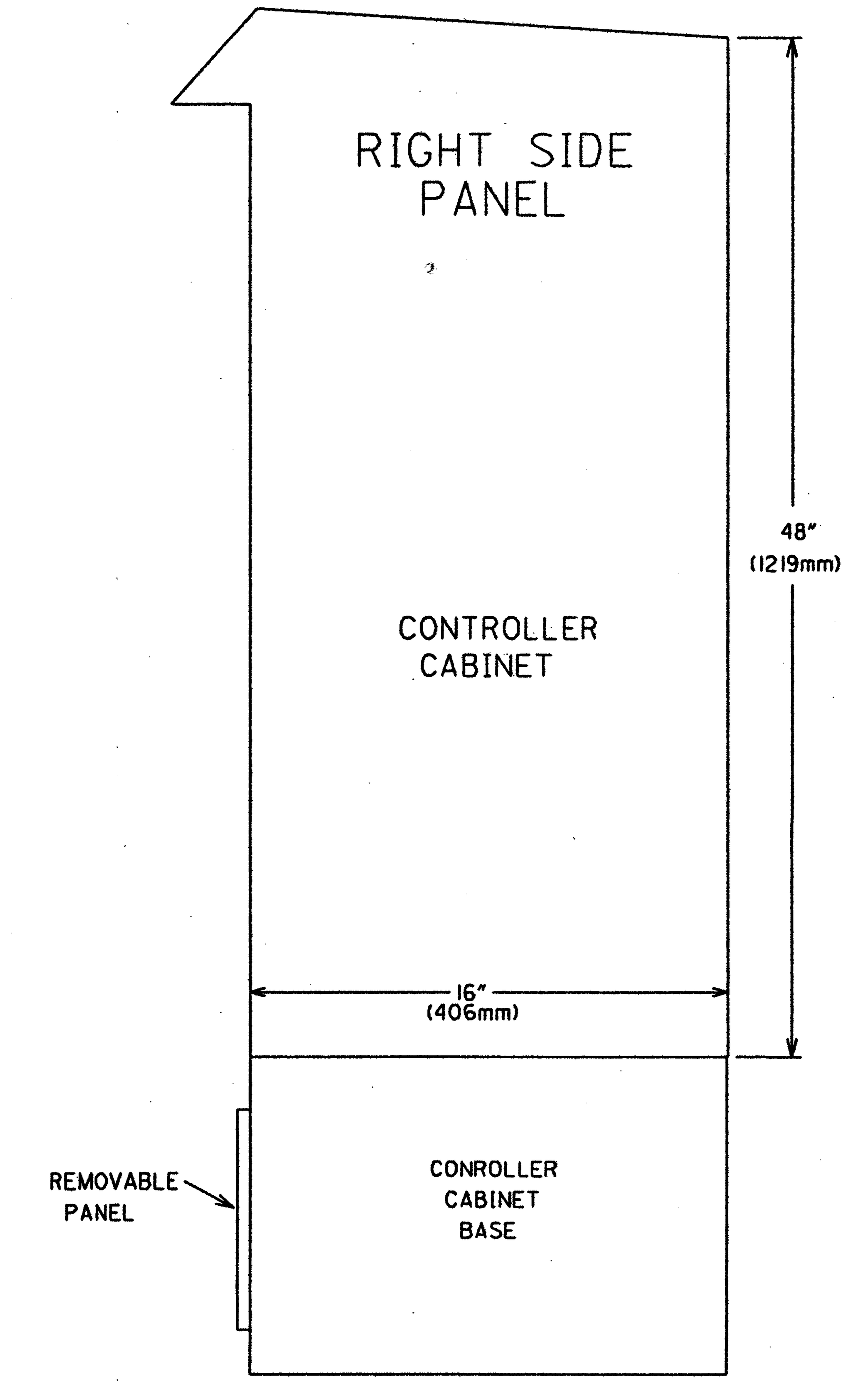
15. ALL ELECTRICAL AND COMMUNICATION CONDUIT ENDS SHALL BE DUCT SEALED WERE THEY ENTER OR LEAVE A PULL BOX OR CABINET. THE USE OF FOAM IS NOT PERMITTED.

16. THE SOLAR PANEL SHALL BE INSTALLED WITH A ONE PIECE THREE (3) INCH (76.2MM) RIGID GALVANIZED CONDUIT MOUNTED IN THE CONCRETE CONTROLLER FOUNDATION WITH THE SOLAR PANEL BEING AT A MINIMUM HEIGHT ABOVE GROUND LEVEL OF FIFTEEN (15) FEET (4.6M). THE THREE (3) INCH (76.2MM) CONDUIT SHALL BE CAPPED WITH A THREADED THREE (3) INCH (76.2MM) GALVANIZED PIPE CAP. THE SOLAR OUTPUT CABLE SHALL BE A MINIMUM SIZE OF TWO (2), SIXTEEN (16) GAUGE AWG.,INSULATED, STRAINED, COPPER, WITH COLOR CODED CONDUCTORS AND SHALL BE TAGGED BY USE AND POLARITY IN THE CONTROLLER CABINET. THE SOLAR PANEL OUTPUT CABLE SHALL BE SECURED AND ROUTED TO THE INSIDE OF THE CABINET FOR CONNECTION TO THE TERMINAL BLOCK THROUGH A ONE (1) INCH (25.4MM) RIGID CONDUIT. THIS CONDUIT SHALL RUN FROM THE LOWER SIDE ADJACENT TO THE BOTTOM OF THE CONTROLLER CABINET TO THE THREE (3) INCH (76.2MM) MAST AND UP TO THE CAP ON THE MAST.. THE ONE (1) INCH (25.4MM) RIGID CONDUIT SHALL BE EQUIPPED WITH A WATER TIGHT WEATHER HEAD AND ATTACHED EVERY THIRTY (30) INCHES (762MM) WITH TWO (2) HOLE STEEL ZINC PLATED STRAP CLAMPS USING STAINLESS STEEL FASTENERS DRILLED AND TAPPED. PROVIDE A DRIP LEG IN THE SOLAR PANEL OUTPUT CABLE. THE SOLAR PANEL SHALL BE MOUNTED AT A FORTY-FIVE DEGREE (45°) ANGLE FACING SOUTH UNIMPEDED BY ANY OBSTACLES TO ENSURE DIRECT EXPOSURE TO SUNLIGHT THROUGHOUT THE DAYLIGHT HOURS.

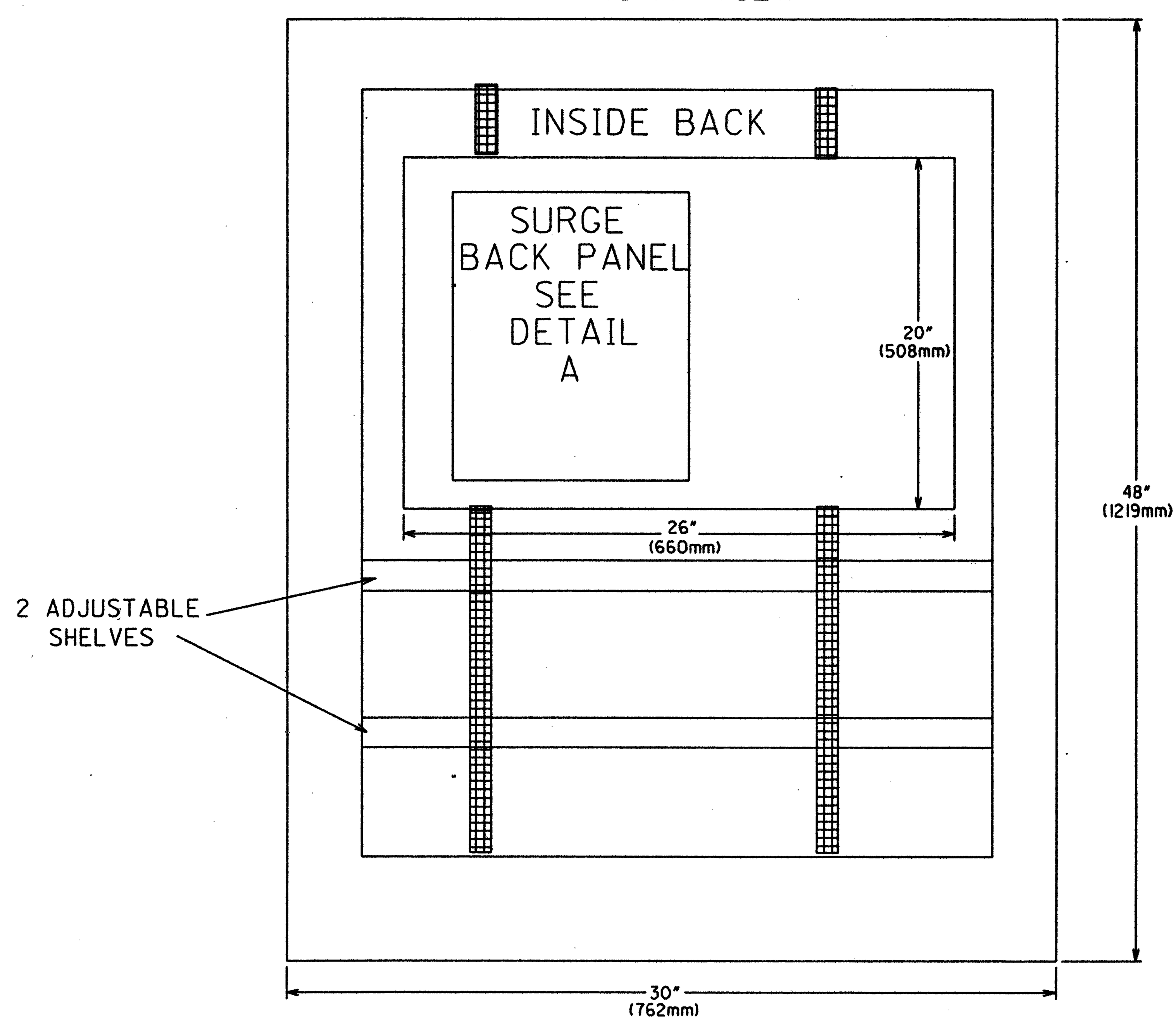
17. SOLAR PANEL SHALL BE A FIFTY (50) WATT - TWELVE (12) VOLT NOMINAL SYSTEM WITH MOUNTING HARDWARE, AND CABLES. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY FOR EACH INSTALLATION, IN PLACE COMPLETE AND ACCEPTED.

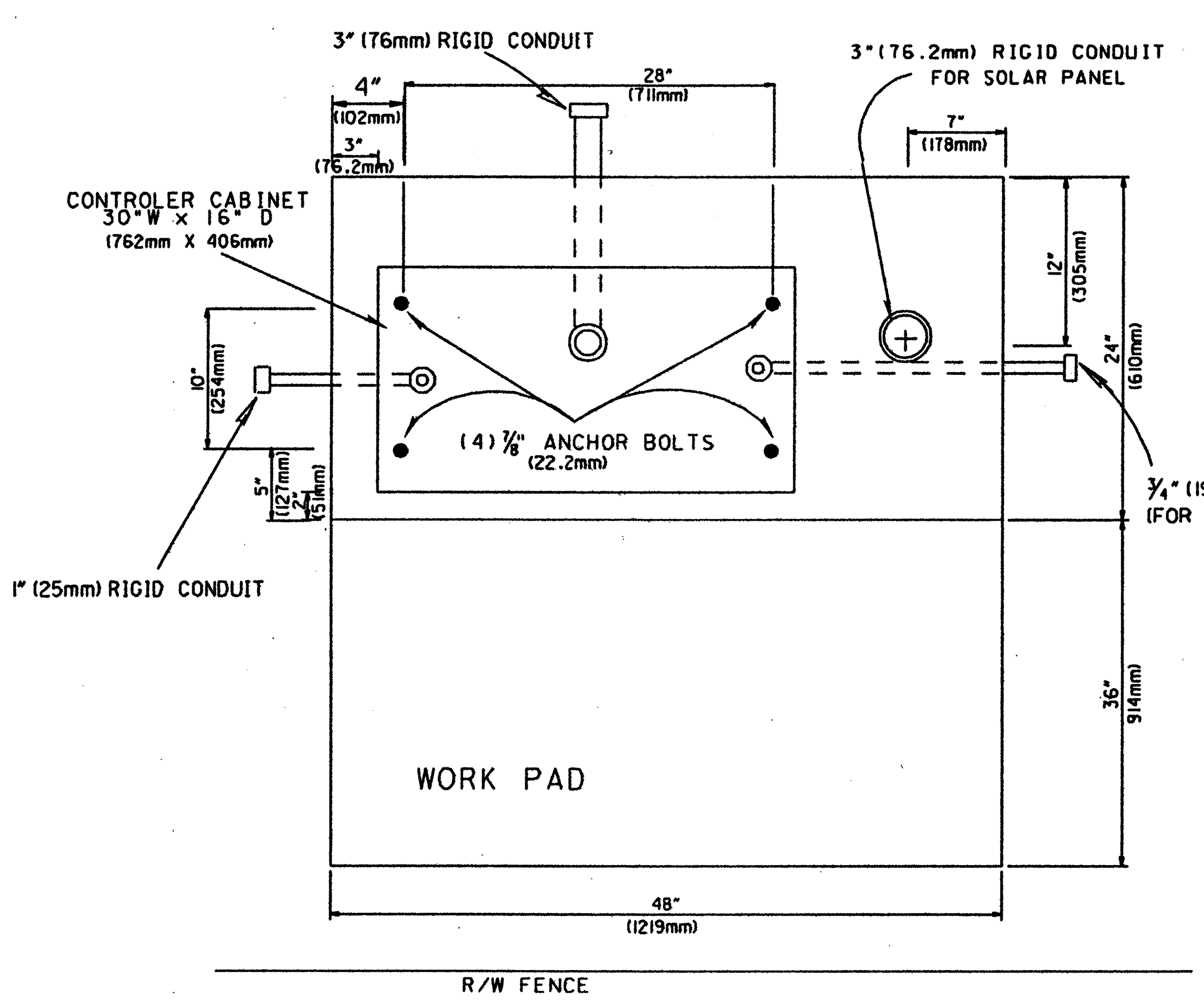
18. ANY MANUALS, MANUFACTURES CUT SHEETS, MANUFACTURES TEST DATA, PART NUMBERS, ALL FIELD TEST RESULTS (PIEZO READINGS, GROUND TESTS, ECT.) AND INSTRUCTIONS FOR MATERIALS OR EQUIPMENT USED IN THIS ATR INSTALLATION SHALL BE CONTAINED IN A WATERPROOF ENVELOPE OR SLEEVE INSIDE THE CONTROLLER CABINET.

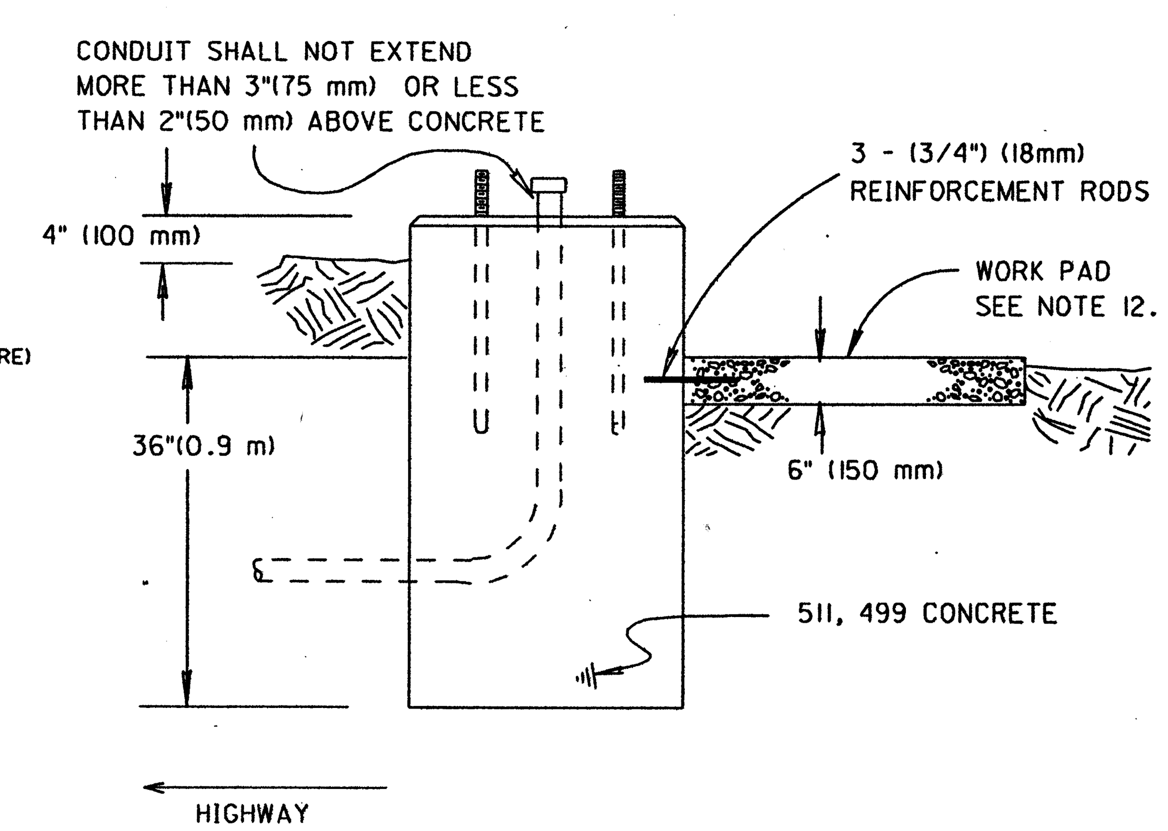
I:*PLANNING*ATR-LOCATIONS*17-AA-W#*PNOTES-17-AA-W#.dgn



FRONT VIEW

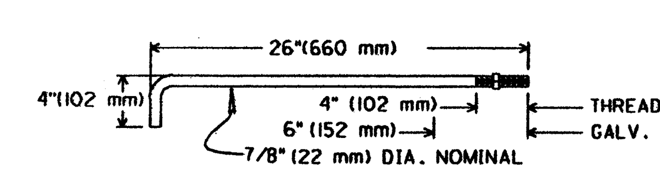






ATR BASE MOUNTED
CONTROLLER FOUNDATION

W	D	FOUNDATION CONCRETE	WORK PAD	
48" (1.2 m)	24" (0.6 m)	.99 C.Y. (0.72 m^3)	1.33 S.Y. (1.11 m^2)	0.22 C.Y. (0.17 m^3)



PEDESTAL ANCHOR BOLT
ASTM A307 STEEL

ATR CABINET NOTES

1. THE ALUMINUM CONTROLLER CABINET SHALL BE A PAD MOUNTED, WITH BASE NEMA 3R RATED, SIZE 5 (48" (1219MM) HIGH BY 30" (762MM) WIDE BY 16" (406MM) DEEP)PER TABLE 7.3-1.THE ALUMINUM CABINET SHALL CONFORM TO NEMA STANDARD PUBLICATION NUMBER TS 2-1992, SECTION NUMBER 7 (CABINETS). IT SHALL BE SHEET ALUMINUM AS DETAILED IN SECTION 7.2.2.1 OR CAST ALUMINUM DETAILED IN SECTION 7.2.2.2. IT SHALL ALSO CONFORM TO SECTIONS: 7.4, 7.5 EXCEPT FOR SECTION 7.5.7. SECTIONS 7.6, 7.7.3, AND 7.8.3. DO NOT APPLY TO THIS CABINET, SEE FOLLOWING DETAILS. ALL WORK AND ITEMS SHALL CONFORM TO CONSTRUCTION AND MATERIALSPECIFICATIONS 499, 511, 625, 632, 633, 705, 713, 732, AND 733, UNLESS OTHERWISE SPECIFIED.

2. THE ALUMINUM CONTROLLER CABINET SHALL BE MOUNTED ON A TWELVE (12) GAUGE 304 STAINLESS STEEL RISER ADAPTER BASE THAT IS A MINIMUM OF EIGHT (8) INCHES (203MM) HIGH. PROVIDE A LARGE REMOVABLE ACCESS PANEL ON THE FRONT SIDE OF THE RISER. ALL FASTENERS SHALL BE STAINLESS STEEL. THE CABINET DOOR SHALL BE NEMA TYPE 3R CONSTRUCTION WITH A NEOPRENE GASKET, A SOLID INTEGRAL BOTTOM, A CONTINUOUS FOURTEEN (14) GAUGE STAINLESS STEEL HINGE, THREE POINT LATCHING SYSTEM , EQUIPPED WITH A TWELVE (12) INCH (304MM) BY EIGHTEEN (18) INCH (457MM) FOLDING SHELF. LOCKS KEYED TO STATE MASTER #2.

3. THE CABINET SHALL BE EQUIPPED WITH A MINIMUM OF SIX (6) ADJUSTABLE "C" CHANNELS. A MINIMUM OF TWO (2) ADJUSTABLE "C" CHANNELS SHALL BE MOUNTED ON EACH OF THE THREE INTERIOR SIDES. THE CONTROLLER CABINET SHALL BE EQUIPPED WITH A TWENTY-SIX (26) INCH (660MM) WIDE BY TWENTY (20) INCH (508MM) BACK PANEL MOUNTED ON ADJUSTABLE RAILS, AND MOUNTED AT THE TOP OF CABINET. THE CONTROLLER CABINET SHALL BE EQUIPPED WITH TWO (2) RAIL MOUNTED SHELVES WHICH ARE FULLY ADJUSTABLE FROM THE TOP TO THE BOTTOM OF THE CABINET WITH THE BACK PANEL AND SURGE PANEL INSTALLED. DESIGN THE SHELVING TO ALLOW FOR THE PASSAGE OF VENTILATION AIR IN THE CABINET.

4. THE GROUND ROD WIRE SHALL BE MECHANICALLY BONDED TO THE CABINET BASE AND CONTROLLER CABINET. LUGS AND TERMINAL STRIPS SHALL BE PROVIDED AND MOUNTED ON THE CABINET SIDE FOR OTHER EQUIPMENT GROUND ATTACHMENTS.

5. INSTALL THE HOUSING CABINET AS TO ALLOW ALL EQUIPMENT TO STAND IN AN UPRIGHT POSITION WITH ALL EQUIPMENT AND DEVICES CAPABLE OF BEING REMOVED BY PULLING STRAIGHT OUT AND NOT TURNING SIDEWAYS AND WITHOUT RELOCATING OR DISCONNECTING ONE DEVICE TO REMOVE ANOTHER DEVICE.

6. THE CONTRACTOR SHALL COMPLETELY WIRE UP ALL CONNECTIONS TO THE TERMINAL BLOCKS OF THE SURGE PANEL USING SOLDERED SPADE TYPE CONNECTORS. PROVIDE THAT ALL HOUSING CABINET WIRING AND TERMINALS ARE CLEARLY MARKED AND LABELED AS SHOWN ON THE CABINET WIRING DIAGRAM DETAILS. PROVIDE THAT WIRING IS LACED OR BOUND TOGETHER WITH SELF-LOCKING NYLON TIE-WRAPS. MAKE A LOOP NUMBERING DIAGRAM WITH CORRESPONDING TERMINAL NUMBERS FOR EACH SITE AND STORE IN A PLASTIC WEATHER PROOF ENVELOP IN THE ENCLOSURE. PROVIDE A DUPLICATE DIAGRAM TO THE ODOT PROJECT INSPECTOR.

7. THE CONTROLLER CABINET SHALL BE EQUIPPED WITH CABINET TOP AND LOWER DOOR GRAVITY VENTILATION. THE CONTROLLER CABINET TOP SHALL BE CONSTRUCTED TO FORM AN OVERHANG TO HOUSE SCREENED ONE EIGHTH (.125) OF AN INCH (3.2MM) VENTILATION SLOTS AND EQUIPPED WITH REPLACEABLE FILTERS. THE LOWER PORTION OF THE CABINET DOOR SHALL HAVE SCREENED ONE EIGHTH (.125) OF AN INCH (3.2MM) LOUVERS EQUIPPED WITH REPLACEABLE FILTERS. ALL FILTERS SHALL BE AN INDUSTRY STANDARD SIZE AND SECURED FIRMLY IN PLACE WITH BRACKETS AND CLAMPS. PROVIDE TWO SETS OF SPARE FILTERS. NO FAN IS REQUIRED.

8. PROVIDE SURGE PROTECTION PANEL WITH A MINIMUM OF SIXTEEN (16) LOOP, AND SIXTEEN (16) PIEZO SENSOR CAPACITY. THE SURGE PANEL SHALL HAVE AN INTEGRAL RESETTABLE COMMUNICATION LINE SURGE SUPPRESSOR CAPABLE OF A LESS THAN ONE (1) NANOSECOND TRIP RESPONSE FOR LINE TO LINE AND LINE TO GROUND SURGES. THE COMMUNICATION LINE SURGE SUPPRESSOR SHALL WITH STAND A MINIMUM OF TWO HUNDRED (200) AMPERES AND TWO HUNDRED AND TWENTY (220) VOLTS WITHOUT DERATING OR FAILURE. THE SURGE PANEL SHALL INCORPORATE A VOLTAGE REGULATOR WITH A MINIMUM OUTPUT RATING OF FIFTY-FIVE (55) WATTS AND VOLTAGE OUTPUT RATING OF FOURTEEN AND ONE TENTH (14.1) VOLT PLUS SIXTY (60) MILLIVOLTS WITH AN INPUT VOLTAGE OF THIRTY (30) VOLTS OR LESS. THE REGULATOR SHALL PREFORM AS A BATTERY CHARGE AND BE ABLE TO CHARGE A BATTERY FROM A FULLY DISCHARGED CONDITION TO A FULLY CHARGED CONDITION. THE SURGE PANEL SHALL INCORPORATE LIGHTNING PROTECTION FOR THE SOLAR PANEL CIRCUIT. THE COMPLETE SURGE PROTECTION PANEL SHALL BE SUITABLE FOR USE IN TEMPERATURES RANGING FROM -40°F (-40°C) TO 185°F (+85°C) (FAHRENHEIT/CELSIUS). MODEL 82-1344 16L/16P SURGE PANEL WITH ASC REGULATOR FROM PEEK TRAFFIC INCORPORATED, SARASOTA, FLORIDA OR EQUIVALENT. THIS SURGE PROTECTOR SHALL BE MOUNTED AND WIRED TO BACK PANEL. PROVIDE MANUFACTURES TEST DATA FOR ALTERNATE EQUIVALENT UNIT APPROVAL.

9. THE CONTROLLER CABINET SHALL BE ORIENTED SO THAT THE DOOR OPENS TOWARD THE RIGHT OF WAY FENCE, SO THAT THE FIELD TECHNICIAN CAN OBSERVE TRAFFIC WHILE WORKING ON THE SYSTEM. THE CABINET SHALL BE INSTALLED IN A MANNER TO WITHSTAND ALL WEATHER CONDITIONS AND PREVENT THE INTRUSION OF REPTILES, RODENTS, AND INSECTS.

10. THE DISTANCE BETWEEN THE TOP OF THE CONTROLLER PANEL CABINET AND THE WORK PAD SHALL NOT EXCEED SEVENTY-SIX (76) INCHES (1.9M) AND SHALL NOT BE LESS THAN SEVENTY (70) INCHES (1.8M). THE WORK PAD SHALL NOT BE HIGHER THAN THE CONTROLLER FOUNDATION . IN LEVEL AREAS THE TOP OF THE PAD SHALL BE ONE (1) INCH (25MM) ABOVE THE GROUND LINE. IN STEEPLY SLOPED AREAS THE PAD'S LOCATION SHALL BE ADJUSTED TO PROVIDE ACCESS AND DRAINAGE. THE HEIGHT OF THE CONTROLLER CABINET RISER ADAPTER MAY BE GREATER THAN EIGHT (8) INCHES (203MM).

11. THE CONTROLLER FOUNDATION SHALL BE FORTY (48) INCHES (1.2M) WIDE AND TWENTY-FOUR (24) INCHES (.6M) DEEP. PROVIDE FOUR (4)7/8 INCH (22.2MM) ANCHOR BOLTS FOR THE CABINET BASE ATTACHMENT AND ONE QUARTER (1/4) INCH (6.3MM) THICK NEOPRENE GASKETS FOR THE BOTH THE TOP AND BOTTOM CABINET BASE ATTACHMENT. THE THREE (3) INCH (76.2MM) SOLAR MAST SHALL BE CAST INTO THIS CONTROLLER PAD.

12. THE CONTROLLER WORK PAD SHALL BE THREE (3) FEET (.9M) BY FOUR (4) FEET (1.2M) BY SIX (6) INCHES (152MM) DEEP AND SHALL BE LEVEL. THE WORK PAD SHALL BE POURED SIMULTANEOUSLY WITH THE CONTROLLER FOUNDATION BASE SO THEY WILL FORM ONE UNIT, AND SHALL BE TIED TOGETHER USING THREE(3)3/4" (18mm) REINFORCEMENT RODS. A ONE HALF (1/2) INCH (13MM) PREFORMED JOINT FILLER AS PER CONSTRUCTION AND MATERIAL SPECIFICATION 705.03 SHALL BE USED BETWEEN FOUNDATIONS AND ADJACENT PAVED AREAS. THE PLACEMENT OF THE CONTROLLER CABINET FOUNDATION SHALL PROVIDE A MINIMUM OF THIRTY-SIX (36) INCHES (.9M) BETWEEN THE CONTROLLER CABINET AND ANY GROUNDED OBJECT AND THE DOOR SHALL SWING FULLY OPEN.

13. THE CONTROLLER CABINET FOUNDATION SHALL HAVE THE FOLLOWING CONDUITS CAST IN TO IT:
**** ONE THREE (3) INCH (76MM) EXITING TOWARD THE FOUR (4) LANE HIGHWAY.
**** ONE THREE QUARTER (3/4) INCH (19MM) EXITING TOWARD THE GROUND ROD LOCATION.
**** ONE ONE (1) INCH (25MM) EXITING TO THE DIRECTION OF THE CLOSEST TELEPHONE LINE FEED.
THESE CONDUITS SHALL CONFORM TO STANDARD DRAWING TC -83.20 AND PROJECT AT A NINETY DEGREE (90°) ANGLE TO THE PAD TOP. THESE CONDUITS SHALL BE EXTENDED AND BUSHED IN TO THE BOTTOM OF THE CONTROLLER CABINET USING PLASTIC CONDUIT OR LIQUID TIGHT FLEXIBLE METAL CONDUIT.

CALCULATED | CHECKED
DATE 2/02/01 5/15/01

NEMA TYPE 3R, SIZE 5 CABINET DETAILS FOR WEIGH IN MOTION & CLASSIFICATION UNITS

CRA-30-24.00

534C
677

SRW

I:*PLANNING*ATR-LOCATIONS*17-AA-W#*CABINET-17-AA-W#.DGN

STRUCTURAL GENERAL NOTES

metric units

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

MS18, CASE II AND THE ALTERNATE MILITARY LOADING (S.R. 602, BIDDLE RD., S.R. 598, NAZOR RD. & FAIRVIEW RD.).

DESIGN STRESSES

CONCRETE CLASS C – COMPRESSIVE STRENGTH 27.5 MPa (SUBSTRUCTURE)

HIGH PERFORMANCE CONCRETE– COMPRESSIVE STRENGTH 31 MPa (SUPERSTRUCTURE)

REINFORCING STEEL – ASTM A615M, A616M OR A617M – GRADE 420 MINIMUM YIELD STRENGTH 420 MPa. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82M OR A615M.

STRUCTURAL STEEL – ASTM A572M – YIELD STRENGTH 350 MPa (TYPICAL)

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81M	DATED 10-25-94
ICD-1-82M	DATED 03-20-95
GSD-1-96M	DATED 11-21-97
SBR-1-99M	DATED 01-12-99
SICD-1-96M	DATED 02-12-97

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

816	DATED 04-21-97
842	DATED 01-06-99
844	DATED 01-06-99
846	DATED 09-09-97
863	DATED 10-12-99
894	DATED 10-12-99
899	DATED 10-21-98
910	DATED 07-11-00
954	DATED 09-09-97
1011	DATED 12-07-95

864 DATED 07-11-00

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL AND 65 mm CONCRETE COVER.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 25 mm THICK.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 MATERIAL PLACED IN 150 mm LIFTS AND COMPACTED IN ACCORDANCE WITH 305.04

ITEM 842, CLASS C CONCRETE, FOOTING, AS PER PLAN

THE AGGREGATE SHALL CONSIST OF NO. 8 LIMESTONE. THE COST OF REINFORCING STEEL SHALL BE INCLUDED.

ITEM 842, CLASS C CONCRETE, PIER ABOVE FOOTING, AS PER PLAN

THE AGGREGATE SHALL CONSIST OF NO. 8 LIMESTONE. THE COST OF REINFORCING STEEL SHALL BE INCLUDED.

ITEM 842, CLASS C CONCRETE, ABUTMENT, INCLUDING FOOTING, AS PER PLAN

THE AGGREGATE SHALL CONSIST OF NO. 8 LIMESTONE. THE COST OF REINFORCING STEEL SHALL BE INCLUDED.

INSTALL A 900 mm WIDE STRIP, 2.5 mm THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 1 METER WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 32 X 3 mm (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 25 mm OUTSIDE DIAMETER, 3 mm GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 225 mm. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 150 mm (+/–) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS, SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 150 mm (+/–) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 150 mm CENTER TO CENTER ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST 300 mm IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 150 mm IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 2.5 mm THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, mm	D 751	2.5+/-.25
BREAKING STRENGTH, GRAB WXF, N, MINIMUM	D 751	3130 x 3130
ADHESIVE 25 mm STRIP, 50 mm MINIMUM, N MINIMUM	D 751	27
BURST STRENGTH(MULLEN) MPa, MINIMUM	D 751	9.65
HEAT AGING 70 HOURS T 100°C, 180 BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40°C, BEND AROUND 6 mm MANDREL	D 2136	NO CRACKING OF COATING

IN LIEU OF THE NEOPRENE SHEETING THE CONTRACTOR MAY CHOOSE TO SUPPLY TYPE 3 MEMBRANE, 711.29.

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 842 CLASS C CONCRETE, ABUTMENT, INCLUDING FOOTING, AS PER PLAN.

ITEM 518, POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN

POROUS BACKFILL SHALL BE INSTALLED AS PER THE PLAN DETAILS. THE AGGREGATE SHALL BE NO. 57 GRAVEL.

DRIP GROOVES

THE DRIP GROOVES AS DETAILED ON STANDARD CONSTRUCTION DRAWINGS SHALL NOT BE CONSTRUCTED.

ITEM 844, HIGH PERFORMANCE CONCRETE SUBSTRUCTURE, AS PER PLAN

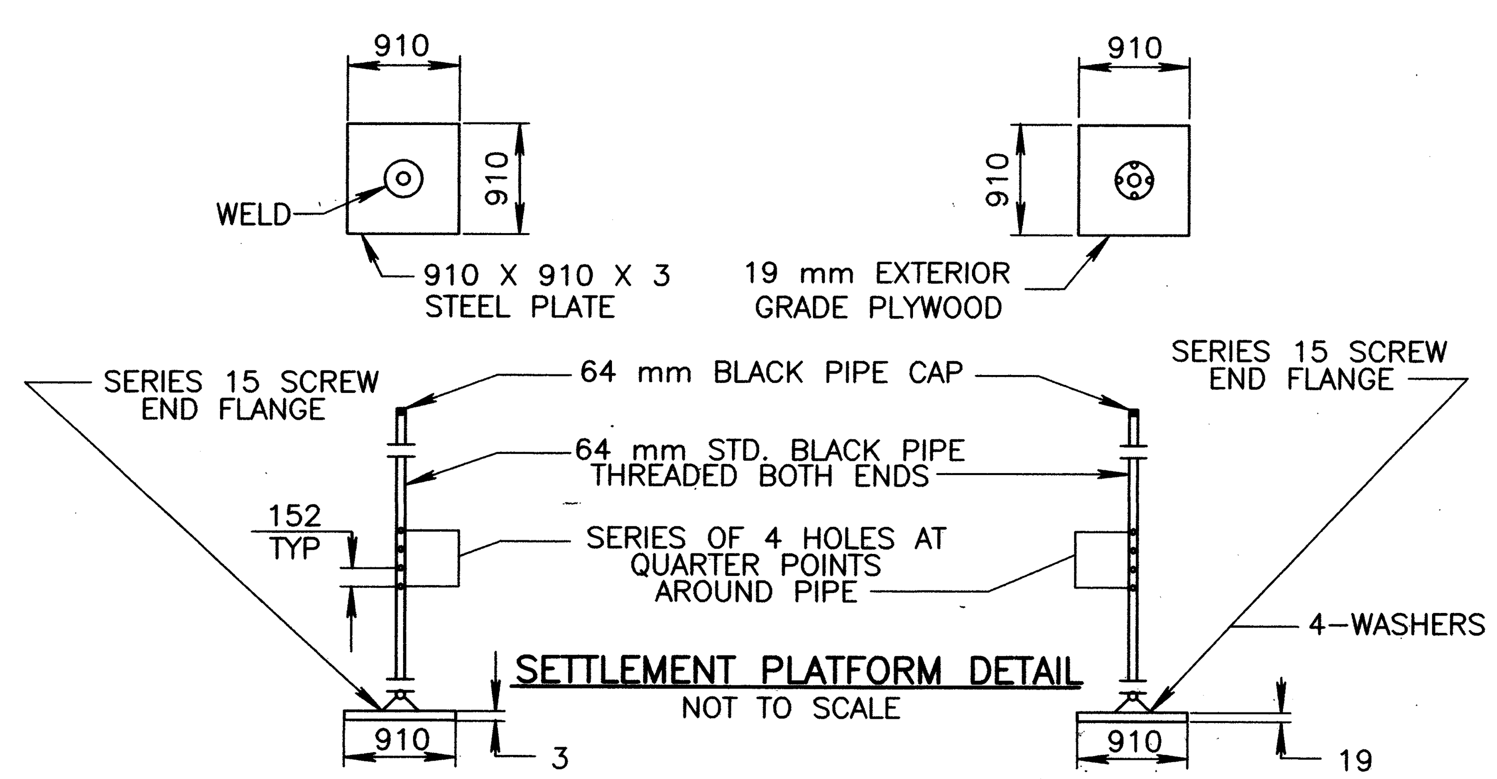
THE DESIGN MIX SHALL BE MIX NO. 4. COARSE AGGREGATE SHALL BE LIMESTONE. CURING SHALL BE PER METHOD (A) WATER CURE ONLY.

ITEM 894, HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN

THE OPTION OF SLIP FORM CONSTRUCTION OF THE BRIDGE RAILING PER 844.031 IS NOT PERMITTED.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

EPOXY-URETHANE SHALL BE THE *LIGHT NEUTRAL COLOR MEETING FEDERAL COLOR* STANDARD NO. *17778* AS PER THE DETAILS IN THE PLANS. SEE PROPOSAL NOTE.



SETTLEMENT PLATFORM DETAIL
NOT TO SCALE

SURVEY DISC ON STRUCTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE ABUTMENT. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC FOR EACH STRUCTURE (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE ABUTMENT, AND ON A FLAT, HORIZONTAL SURFACE BEYOND THE EDGE OF DECK AND GUARDRAIL OR PARAPET. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK IS CONSIDERED INCIDENTAL TO THE CONCRETE BID ITEM.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 60 METERS BEHIND EACH ABUTMENT. THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL A MINIMUM WAITING PERIOD HAS OCCURRED AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED (SEE TABLE A). IN ADDITION, THE INSTALLATION OF THE ABUTMENT PILES AT ALL LOCATIONS IS CONTINGENT UPON SUFFICIENT SETTLEMENT OF THE APPROACH EMBANKMENT OCCURRING PRIOR TO PLACING THE PILES. THIS ADDITIONAL WAITING PERIOD WILL BE DETERMINED BY THE DIRECTOR BASED ON EVALUATION OF THE SETTLEMENT PLATFORM READINGS. PILE DRIVING MAY BEGIN UPON RECEIVING WRITTEN PERMISSION OF THE DIRECTOR.

TABLE A

STRUCTURE	MINIMUM WAITING PERIOD
S.R. 602	60 DAYS
BIDDLE RD.	60 DAYS
S.R. 598	60 DAYS
FAIRVIEW	60 DAYS
NAZOR	60 DAYS

ITEM SPECIAL, SETTLEMENT PLATFORMS

DESCRIPTION: THIS SHALL CONSIST OF FURNISHING, CONSTRUCTING AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS DIRECTED BY THE ENGINEER. A COMPLETED COPY OF THE SETTLEMENT READINGS SHALL BE SENT TO THE OFFICE OF STRUCTURAL ENGINEERING, ATTENTION: FOUNDATION ENGINEER.

MATERIALS: SOUND LUMBER SUCH AS 19 mm EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 64 mm STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 910 mm X 910 mm X 3 mm MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION REQUIREMENTS: THE 910 mm X 910 mm PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL SET ON A LEVEL SURFACE AND SHALL BE PLACED AT A ELEVATION WITHIN 300mm. OF THE BOTTOM OF FOOTING ELEVATION OF THE PROPOSED ABUTMENT.
THE PIPES SHALL BE FIRMLY SECURED TO THE PLATFORMS AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. PIPES SHALL BE MARKED AT INTERVALS BY THE CONTRACTOR TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE A SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED UNTIL THE NECESSARY CORRECTIONS OR REPLACEMENT HAS BEEN PERFORMED.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF 0.6 METER BELOW THE FINISHED SURFACE OF THE SUBGRADE OR TOPSOIL SURFACE, WHICHEVER IS APPLICABLE.

METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR "ITEM SPECIAL, SETTLEMENT PLATFORMS" WHICH IS COMPENSATED FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS; INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK. PAYMENT WILL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS BECAUSE OF DAMAGE INFLICTED BY THE CONTRACTOR'S OPERATIONS.

NOTES:

1. SETTLEMENT PLATES SHALL BE PLACED AT THE LOCATIONS AS SHOWN ON THE SITE PLAN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. CONTRACTOR HAS OPTION OF USING EITHER STEEL OR PLYWOOD PLATFORM BASE.
3. CONTRACTOR SHALL FURNISH MATERIALS AND LABOR TO EXTEND PIPE UP THROUGH ENTIRE FILL.
4. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.
5. REFER TO ITEM SPECIAL, SETTLEMENT PLATFORMS, GENERAL NOTE ON THIS SHEET.

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

CALCULATED HJS
CHECKED JDV

STRUCTURAL GENERAL NOTES
CRA-30-24000

CRA-30-24.000

GN-2

GN-2.DWG
12-20-2000 8:39 AM
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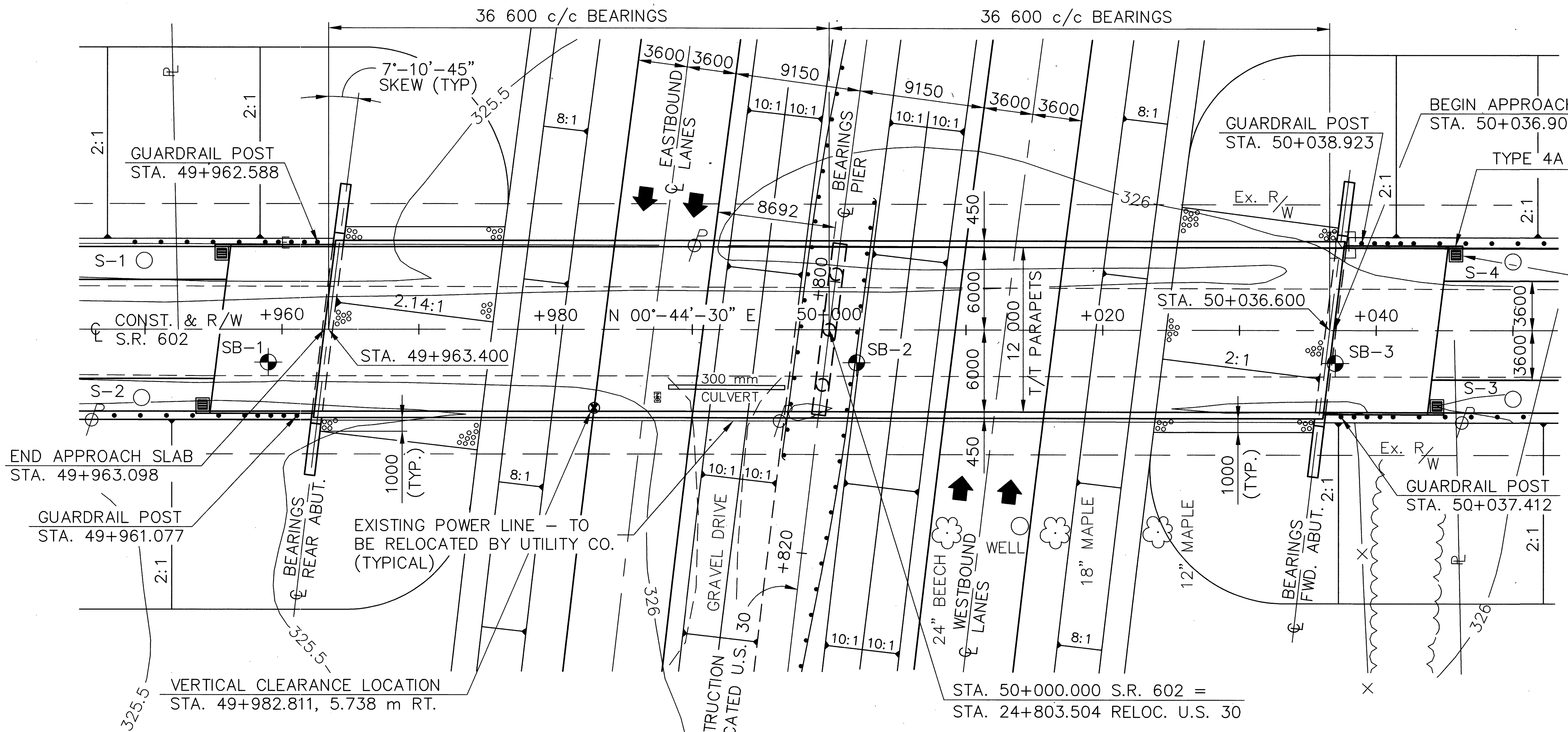


NOTE:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

SETTLEMENT PLATFORM DATA		
NO.	LOCATION	STATION
S-1	5 m LT.	49+950
S-2	5 m RT.	49+950
S-3	5 m RT.	50+050
S-4	5 m LT.	50+050

= BORING LOG LOCATION

VERTICAL CURVE DATA

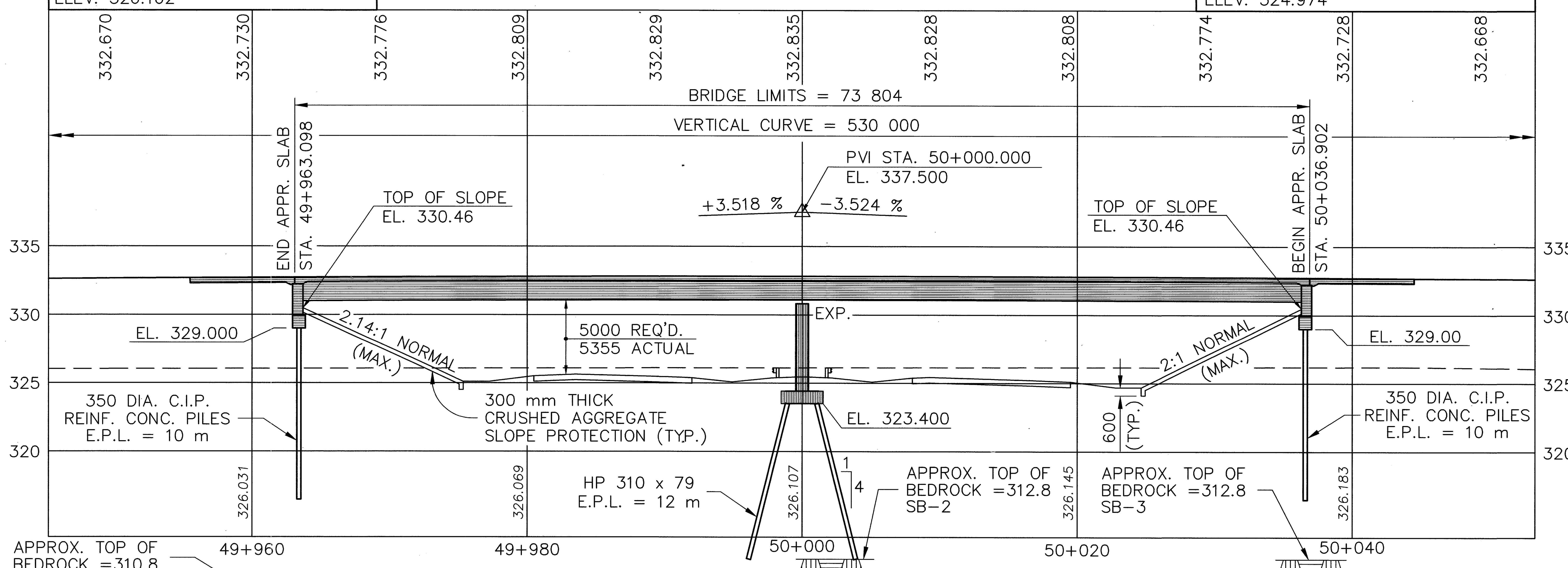
PVI STA. 50+000
PVI EL. 337.500
G1 = +3.518 %
G2 = −3.524 %
L = 530 m

BENCHMARK:
FENO MONUMENT WEST OF S.R. 602
STA. 50+037.530, 6.222 m LEFT OF ℄ CONSTR. OF S.R. 602
ELEV. 326.162

PLAN

E.P.L.= ESTIMATED PILE LENGTH

BENCHMARK:
FENO MONUMENT EAST OF S.R. 602
STA. 49+621.608, 6.979 m RIGHT OF ℄ CONSTR. OF S.R. 602
ELEV. 324.974



PROFILE ALONG ℄ CONSTRUCTION

TRAFFIC DATA

DESIGN ADT (2020) = 3700
DESIGN ADTT (2020) = 222

PROPOSED STRUCTURE

TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 36 600, 36 600 c/c BEARINGS
ROADWAY: 12 000 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 7°-10'-45" L.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-50"
LONGITUDE: W82°-51'-25"

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

metric units

DESIGN AGENCY: McCOY/FOK & ASSOCIATES INC. 367 GHENT ROAD, SUITE 1A AKRON, OHIO

REVIEWED: TF | DATE: 12/00 | STRUCTURE FILE NUMBER: 1701738

DRAWN: KRM | REVISED:

DESIGNED: HJS | CHECKED: JDV

CRAWFORD COUNTY
STA. 49+963.098
STA. 50+036.902

SITE PLAN
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

CRA-30-24.000

16283S1A.DWG
12-21-2000 7:54 AM
SCALE: 1:0.2M

GENERAL NOTES

PILES DRIVEN TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL MILLIMETERS WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 mm OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 1040 kN PER PILE FOR THE 350 mm C.I.P ABUTMENT PILES.

ABUTMENT PILES: REAR
9 PILES 10 METERS LONG, ESTIMATED LENGTH
9 PILES OF ORDER LENGTH 11.5 METERS LONG
FORWARD
9 PILES 10 METERS LONG, ESTIMATED LENGTH
9 PILES OF ORDER LENGTH 11.5 METERS LONG

THE ULTIMATE BEARING VALUE IS 1295 kN PER PILE FOR THE HP310x79 PIER PILES.

PIER PILES: 18 PILES 12 METERS LONG, ESTIMATED LENGTH
18 PILES OF ORDER LENGTH 13.5 METERS LONG

ITEM 507, STEEL POINT (OR SHOE), AS PER PLAN:

STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL INC., 3601 N.W. YEON AVE., P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, NC 28105 OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27M 450/240 – CLASS 2 – HEAT TREATED OR AASHTO M103M 450/240 – HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

PAINTING OF 863 STEEL

ALL NEW STEEL SHALL BE SHOP PRIMED PER ITEM 816, WHICH SHALL BE INCLUDED IN THE COST OF ITEM 863.

ITEM 816, FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

ALL NEW STEEL SHALL BE PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM IZEU. THE COLOR OF THE FINISH COAT SHALL BE LIGHT NEUTRAL FEDERAL COLOR STANDARD No. 17778. IN ADDITION TO THE SURFACE AREA OF STEEL STRINGERS TO BE PAINTED, INCIDENTALS SUCH AS CROSSFRAMES AND BEARINGS SHALL BE INCLUDED. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM 816, FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU FOR PAYMENT.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN'L.	AS PER PLAN SHEET NO.
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	GN–2
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	GN–2
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00200	243	METER	STEEL PILES HP310x79, FURNISHED		243			
507	00250	216	METER	STEEL PILES HP310x79, DRIVEN		216			
507	00600	180	METER	350 mm CAST–IN–PLACE REINFORCED CONCRETE PILES, DRIVEN	180				
507	00650	207	METER	350 mm CAST–IN–PLACE REINFORCED CONCRETE PILES, FURNISHED	207				
507	50500	18	EACH	STEEL PILE SPLICES	9	9			
507	93301	18	EACH	STEEL POINT (OR SHOE), AS PER PLAN		18			2
516	13200	8	SQ M	13 mm PREFORMED EXPANSION JOINT FILLER	8				
516	13600	12	SQ M	25 mm PREFORMED EXPANSION JOINT FILLER	12				
516	44101	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE),			5		7
				AS PER PLAN 57 X 460 x 600 mm w/51 x 490 x 630 mm LOAD PLATE					
518	21231	LUMP		POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	LUMP				GN–2
518	40000	42	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE	42				
518	40011	18	METER	150 mm NON–PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS,	18				3
				AS PER PLAN					
SPECIAL	53013000	47	SQ M	FORM LINER	47				
816	00610	138,515	KILOGRAM	FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU			138,515		
842	41001	23	CU M	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		23			GN–2
842	43501	70	CU M	CLASS C CONCRETE, ABUTMENT, INCLUDING FOOTING, AS PER PLAN	70				GN–2
842	46501	30	CU M	CLASS C CONCRETE, FOOTING, AS PER PLAN		30			GN–2
844	49000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX			LUMP		
844	49010	LUMP		HIGH PERFORMANCE CONCRETE TESTING			LUMP		
844	49501	35	CU M	HIGH PERFORMANCE CONCRETE, MISC.: SUPERSTRUCTURE, INTEGRAL			35		GN–2
				DIAPHRAGM, AS PER PLAN					
863	10080	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL FOUR (4) FABRICATION, A572			LUMP		
863	20000	2415	EACH	WELDED STUD SHEAR CONNECTOR			2415		
864	10100	637	SQ M	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	36	82	519		GN-2
894	10001	299	CU M	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN			299		GN–2
				COMPUTED BY : RIB DATE : 4/29/99					
				CHECKED BY : HJS DATE : 5/7/99					

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701738
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

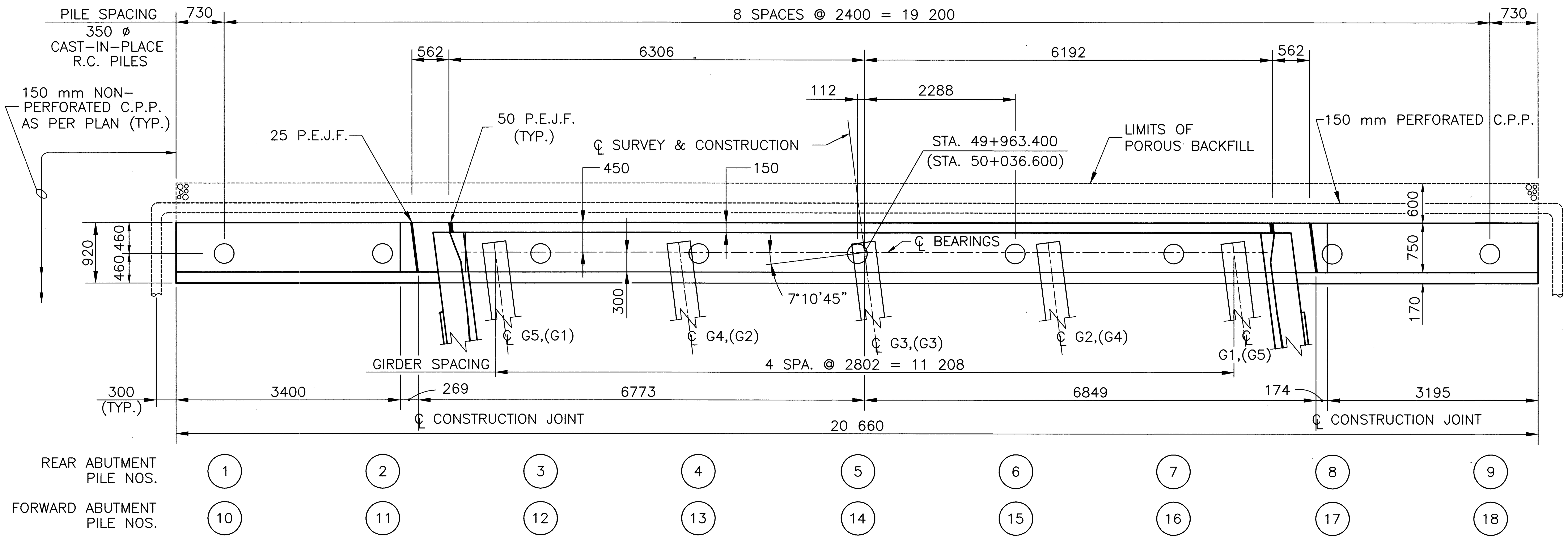
ESTIMATED QUANTITIES
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

CRA-30-24.000

2/11

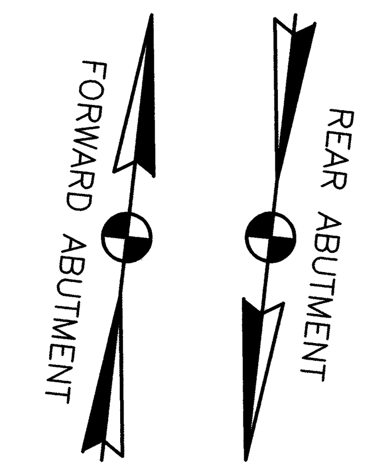
537
677

16283S1C.DWG
12-21-2000 10:34 AM
SCALE: 1=1E



PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)



* ELEVATIONS ARE GIVEN @ ℄ BEARINGS

** 4–S19M02, S19M03, S19M04 & A19M01 @ 300

*** STAGGER LAPS, LAP SHOWN FOR S16M05 AND S16M06 BARS

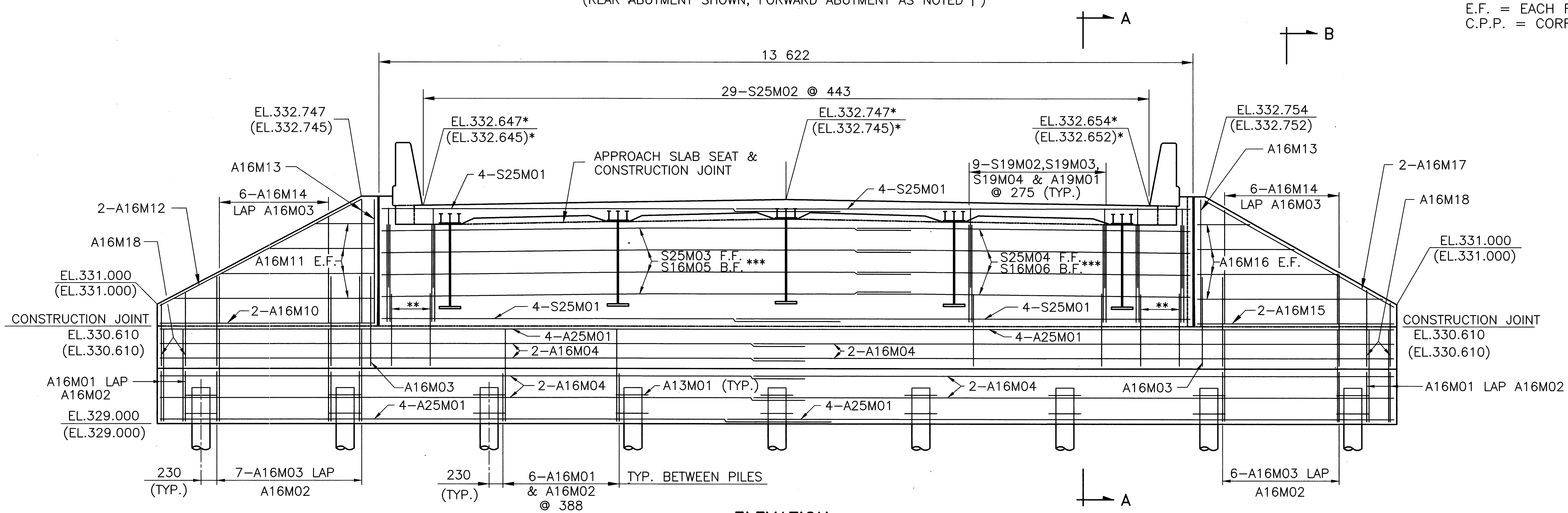
† ELEVATIONS, STATIONS, & GIRDER NUMBERS IN ( ) ARE FOR FORWARD ABUTMENT ONLY.

MINIMUM BAR LAPS

LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1040 mm.
LAP NO.25M BARS 1750 mm.

ABBREVIATIONS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED POLYETHYLENE PIPE



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)

NOTE:

1. REFER TO SHEET 4/11 FOR ADDITIONAL NOTES, AND SECTIONS A-A & B-B.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
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367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE	12/00
REVIEWED	TF
STRUCTURE FILE NO.	1701738
DRAWN	KRM
REVISED	
DESIGNED	HJS
CHECKED	JDV

ABUTMENT DETAILS
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

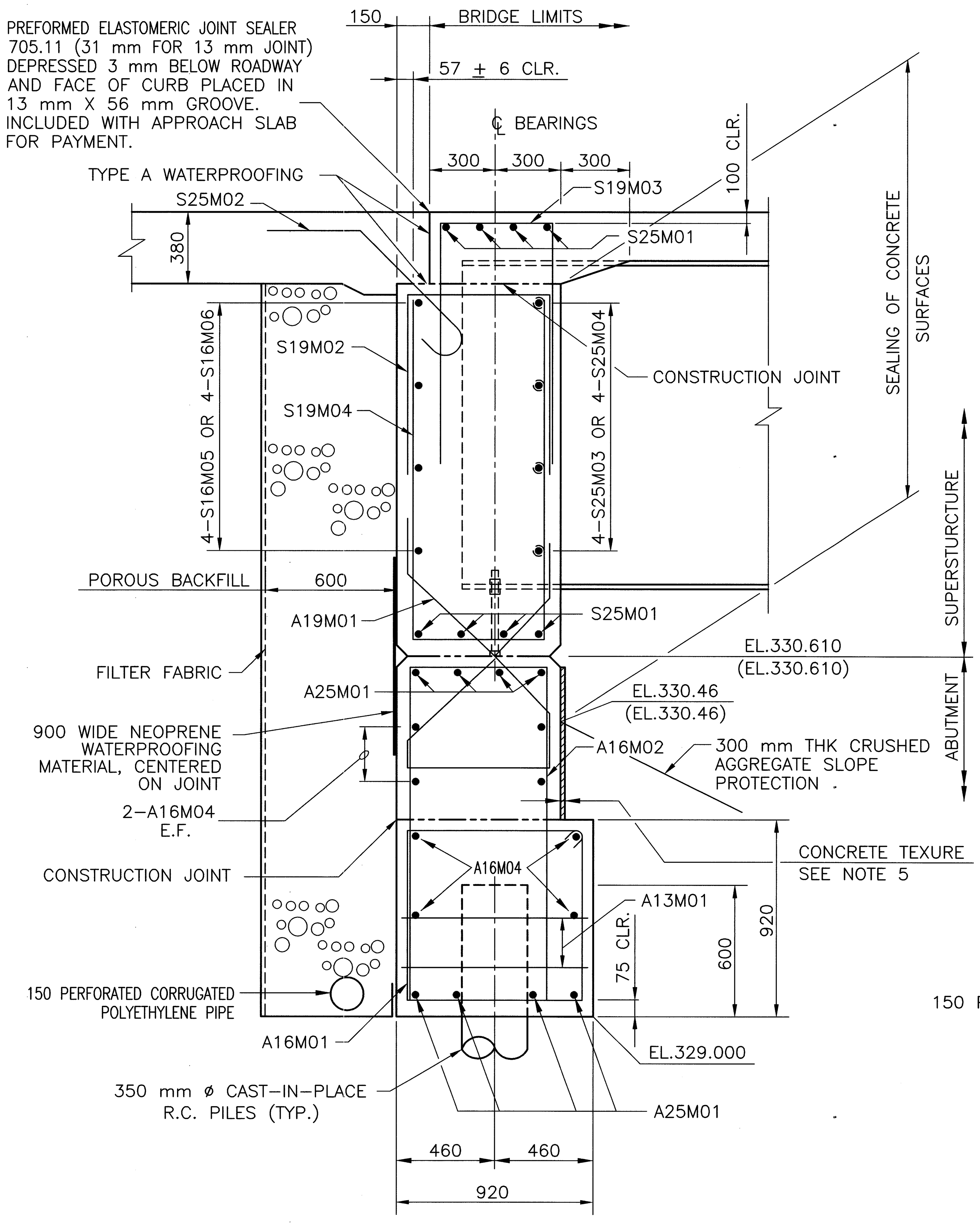
CRA-30-24.000

16283S1E.DWG
12-20-2000 8:26 AM
SCALE: 1:40M

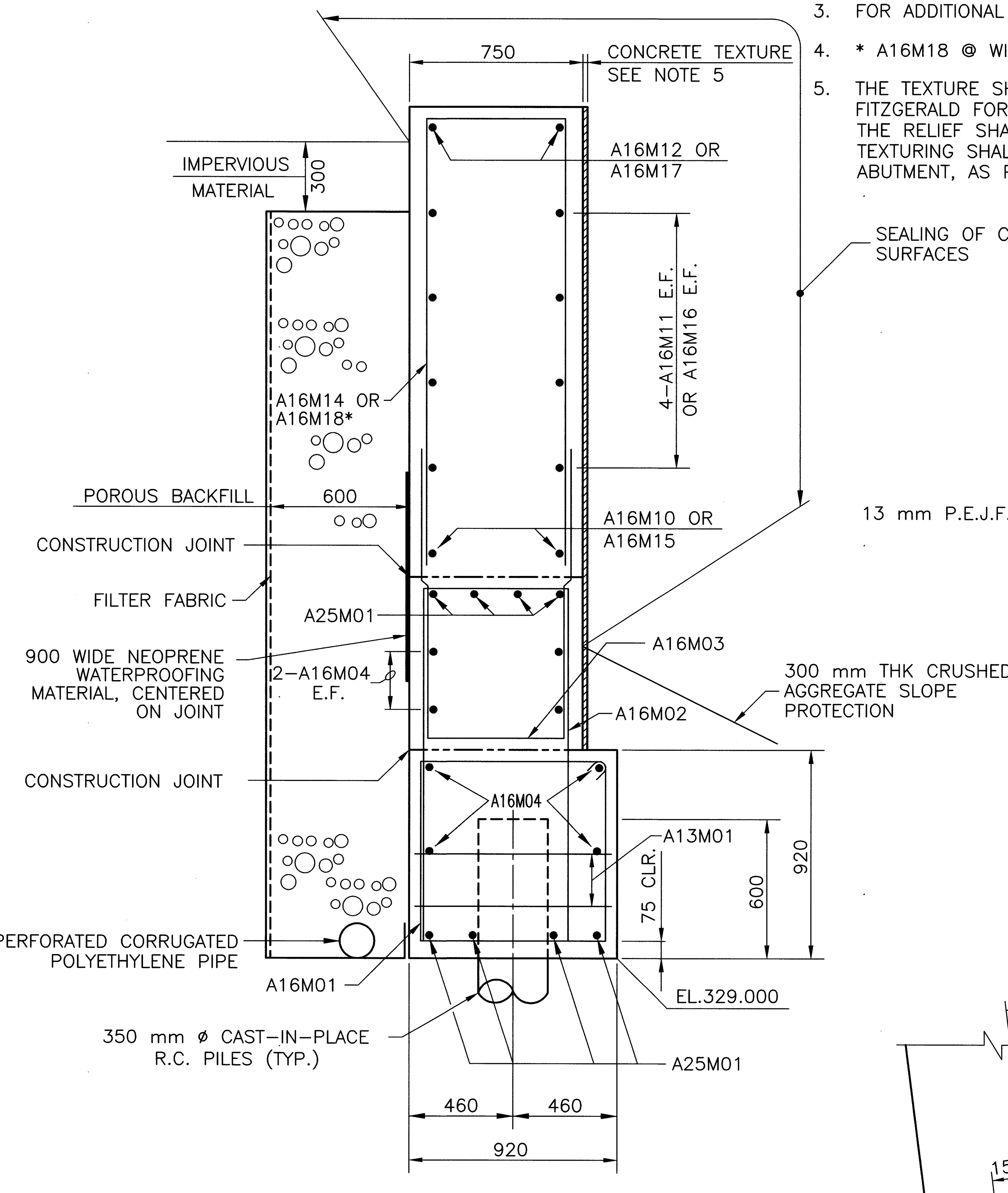
metric units

NOTES:

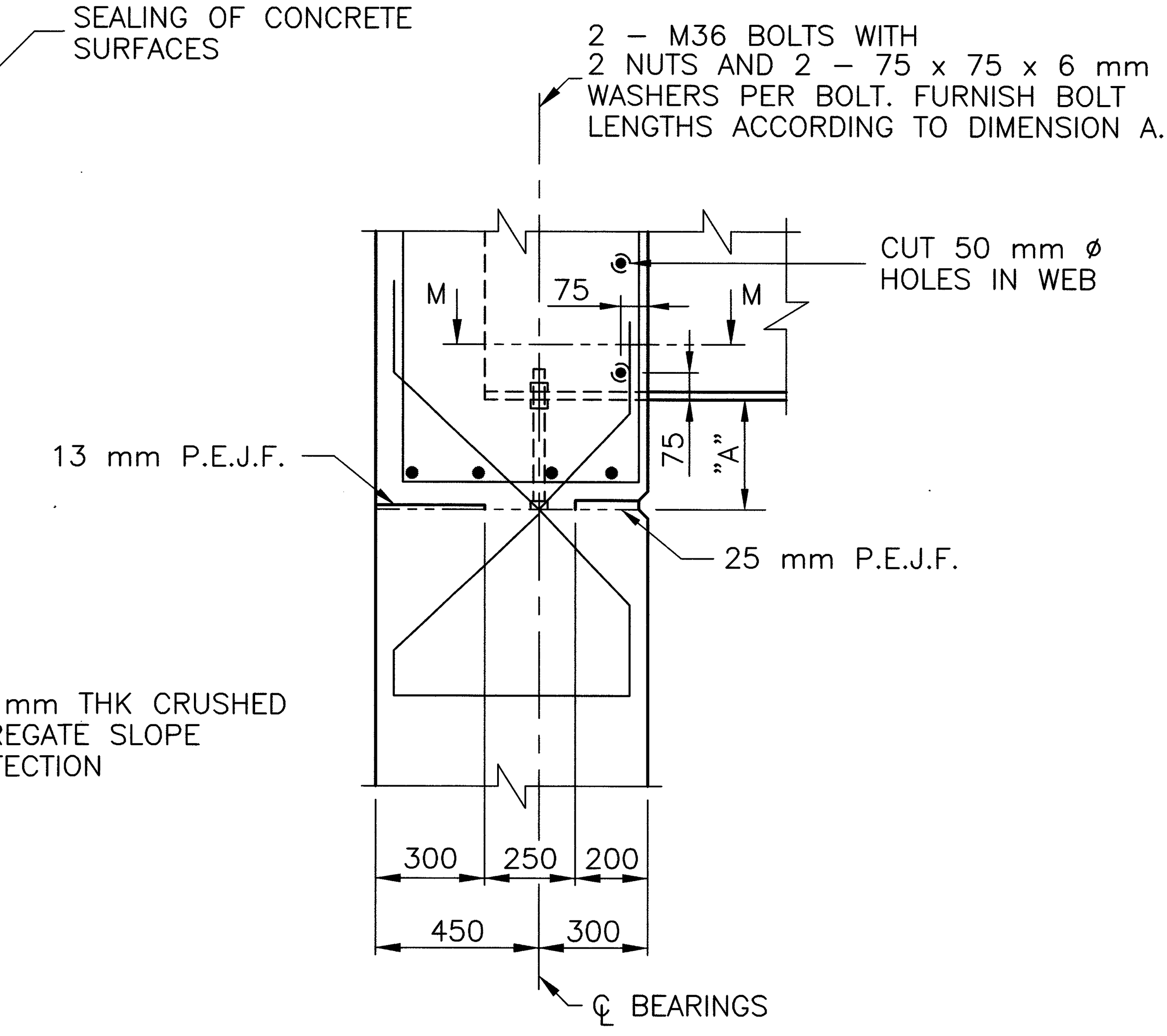
1. POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR LOCATION OF SECTIONS A–A & B–B SEE SHEET 3/11
3. FOR ADDITIONAL DETAILS REFER TO STD. DWG. ICD–1–82M.
4. * A16M18 @ WINGWALL END EMBEDDED IN BREASTWALL.
5. THE TEXTURE SHALL BE AN ASHLER STONE PATTERN AS PER THE FITZGERALD FORM LINER NUMBER 16986 OR APPROVED EQUAL. THE RELIEF SHALL BE A MINIMUM OF 19 mm. CONCRETE FOR TEXTURING SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, ABUTMENT, AS PER PLAN, FOR PAYMENT.



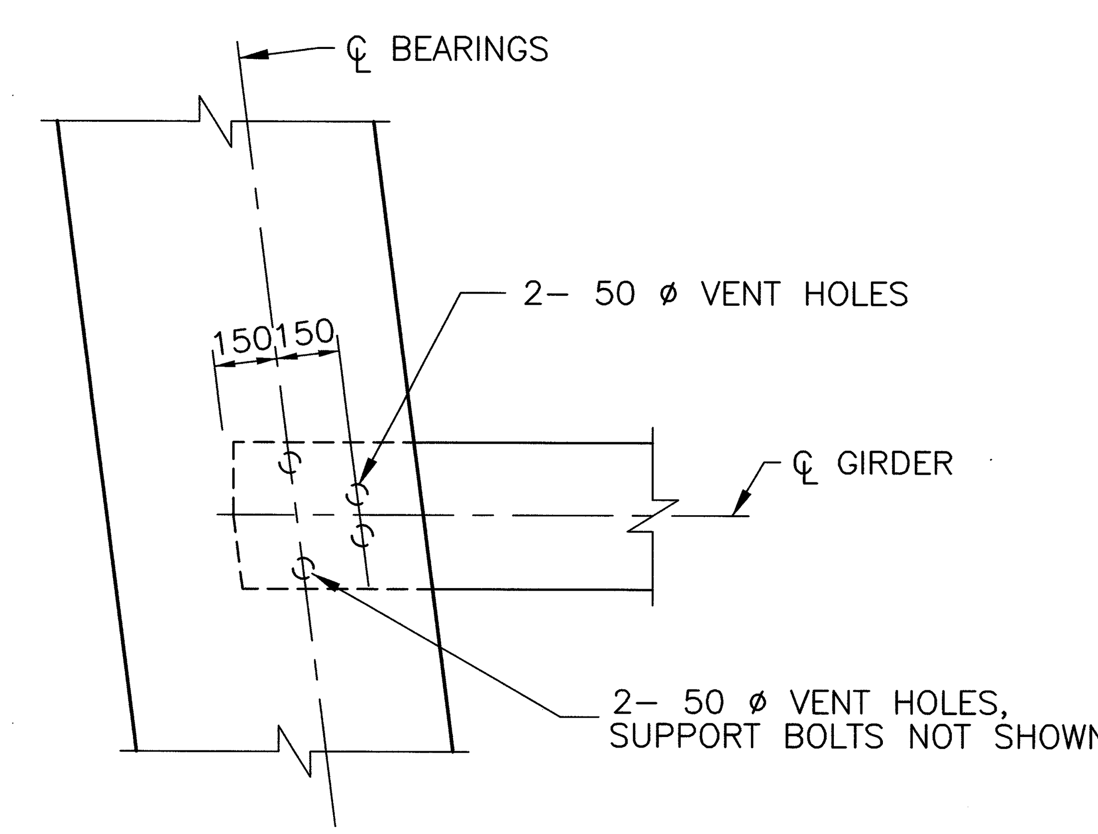
SECTION A–A



SECTION B–B



DETAIL X



SECTION M–M

DIMENSION "A"					
	GIRDER NO. 1	GIRDER NO. 2	GIRDER NO. 3	GIRDER NO. 4	GIRDER NO. 5
REAR ABUTMENT	311	354	397	351	304
FORWARD ABUTMENT	302	349	395	352	309

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NO.
HJS	JDV	KRM		TF	12/00	1701738

ABUTMENT DETAILS

BRIDGE NO. CRA–30–24797
UNDER S.R. 602

CRA–30–24.000

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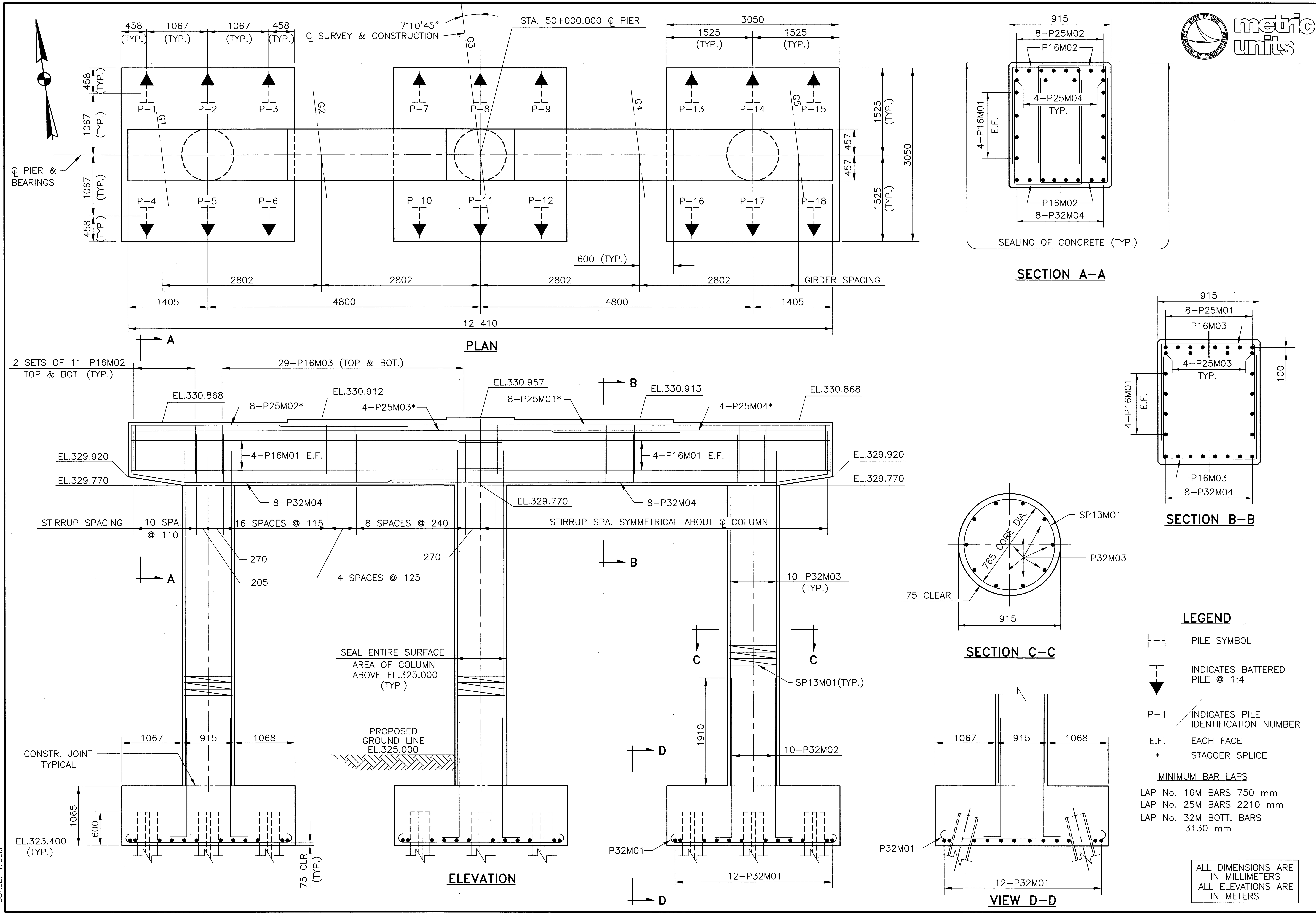

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367 GHENT ROAD, SUITE 1A
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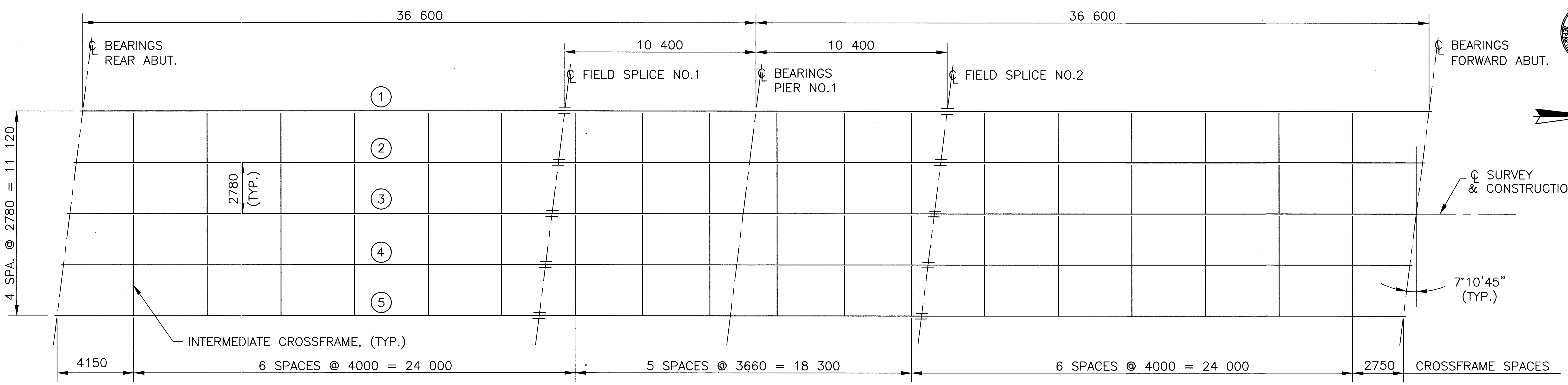
REVIEWED TF	DATE 12/00	STRUCTURE FILE NO. 1701738
DRAWN KRM	REVISED	
DESIGNED HJS	CHECKED JDV	

PIER DETAILS
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

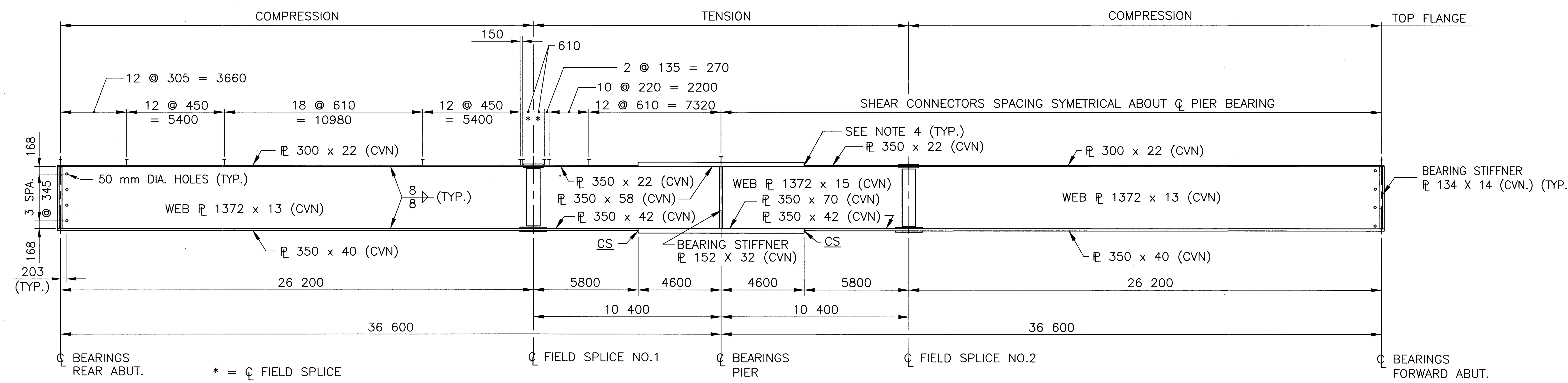
CRA-30-24.000

5/11

540
677



FRAMING PLAN

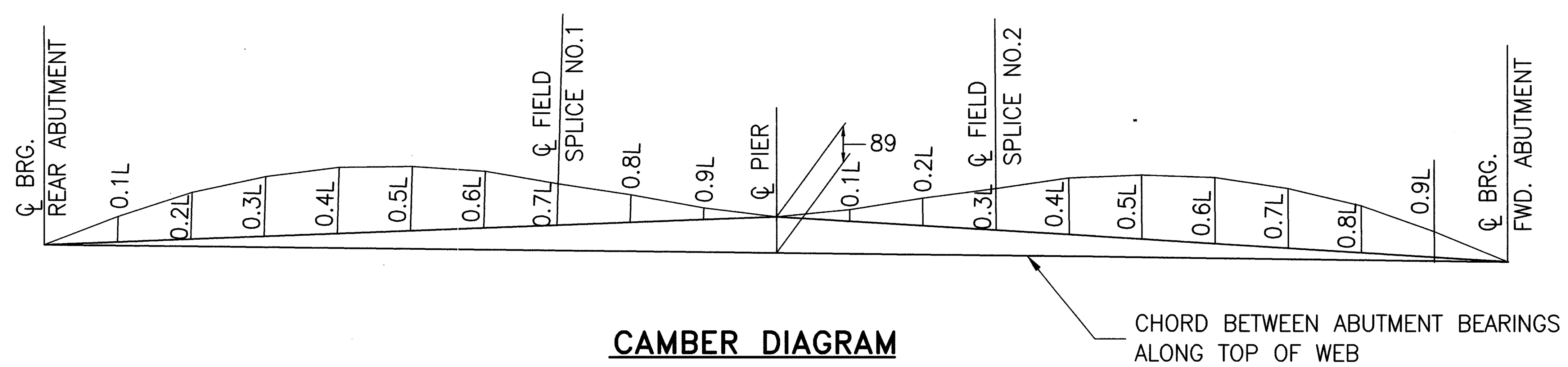


* = ℄ FIELD SPLICE
** = NO SHEAR CONNECTORS

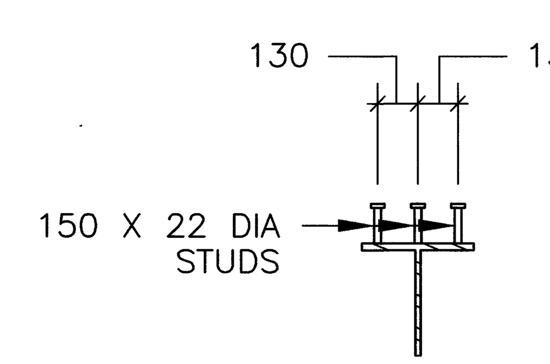
GIRDER ELEVATION

TABLE OF DEFLECTION AND CAMBER

	SPAN 1									SPAN 2									
	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.716L*	0.80L	0.90L	0.10L	0.20L	0.284L*	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L
DEFLECTION DUE TO WEIGHT OF STEEL	4	7	9	9	9	7	4	2	1	1	2	4	7	9	9	9	7	4
DEFLECTION DUE TO REMAINING DEAD LOAD	27	48	62	68	62	50	32	17	4	4	17	32	50	62	68	62	48	27
ADJUSTMENT DUE TO VERTICAL CURVE	8	14	19	21	22	21	18	14	8	8	14	18	21	22	21	19	14	8
TOTAL CAMBER	39	69	90	98	93	78	54	33	13	13	33	54	78	93	98	90	69	39



CAMBER DIAGRAM



SHEAR CONNECTOR DETAIL

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF THE FLANGE, BE NOT MORE THAN 25 mm LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT
ALL GIRDER COMPONENTS, I.E., FLANGE PLATES, WEB PLATES AND SPLICE PLATES SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
3. REFER TO SHEET 7 OF 11 FOR SPLICE DETAILS.
4. ALL FLANGE WELDS TO BE COMPLETE JOINT PENETRATION WELDS.
5. CS – INDICATES BUTT WELD SUBJECT TO COMPRESSION STRESS ONLY.
6. ALL STRUCTURAL STEEL TO BE A572 PAINTED.

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

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SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

CRA-30-24.000

6 / 11

541 / 677

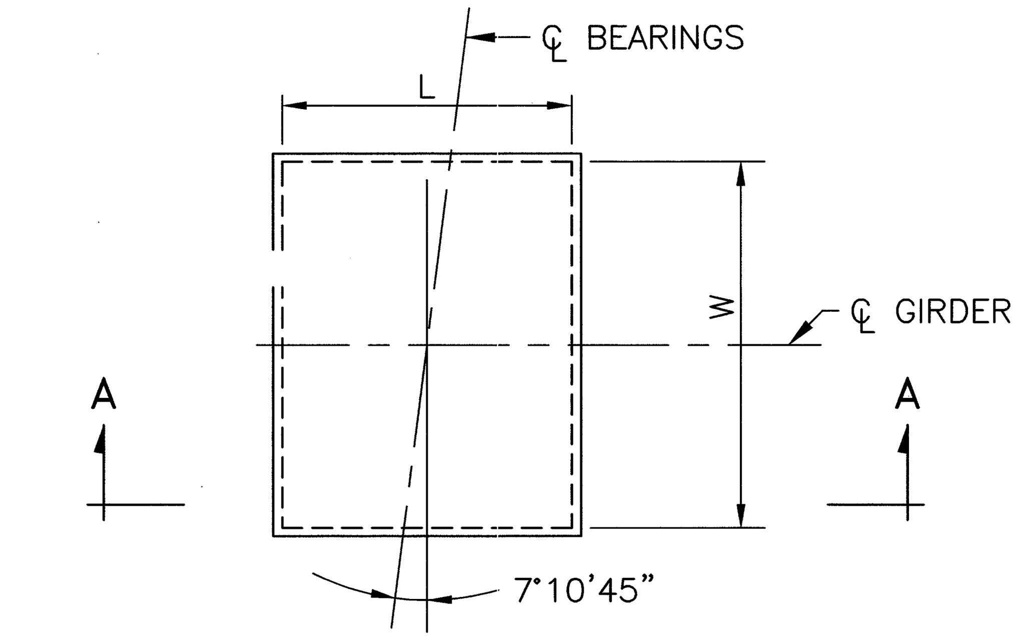
16283S1H.DWG
12-20-2000 8:30 AM
SCALE: 1:125M

LAMINATED ELASTOMERIC BEARINGS

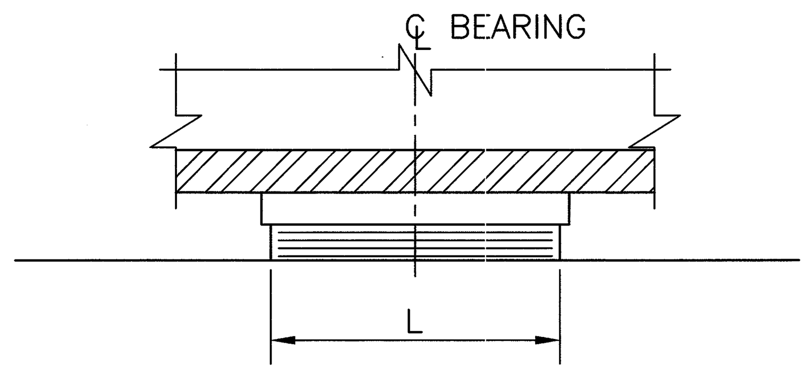
LOCATION	DIMENSIONS (MM)					N	STEEL LOAD PLATE	REACTIONS		MAXIMUM DESIGN LOAD
	L	W	T_i	T_e	T			DL	LL	
PIER EXPANSION BRNGS.	460	600	11	8	57	4	490 X 630 X 51	1405 kN	465 kN	1870 kN

T_i = THICKNESS OF INTERNAL LAYER
T_e = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

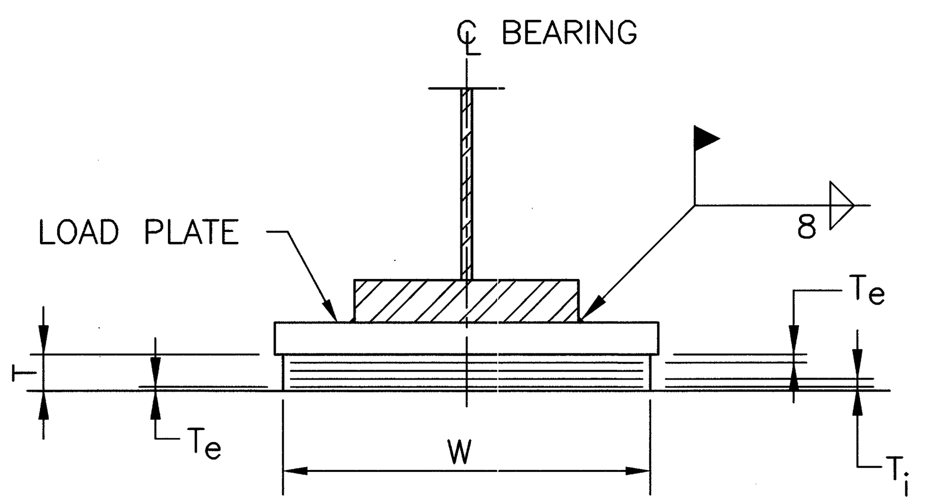
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 1.89 MM
DUROMETER OF ELASTOMER = 50 DUROMETER



PLAN



VIEW A–A



ELASTOMERIC EXPANSION BEARING

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 150° C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

HIGH STRENGTH BOLTS

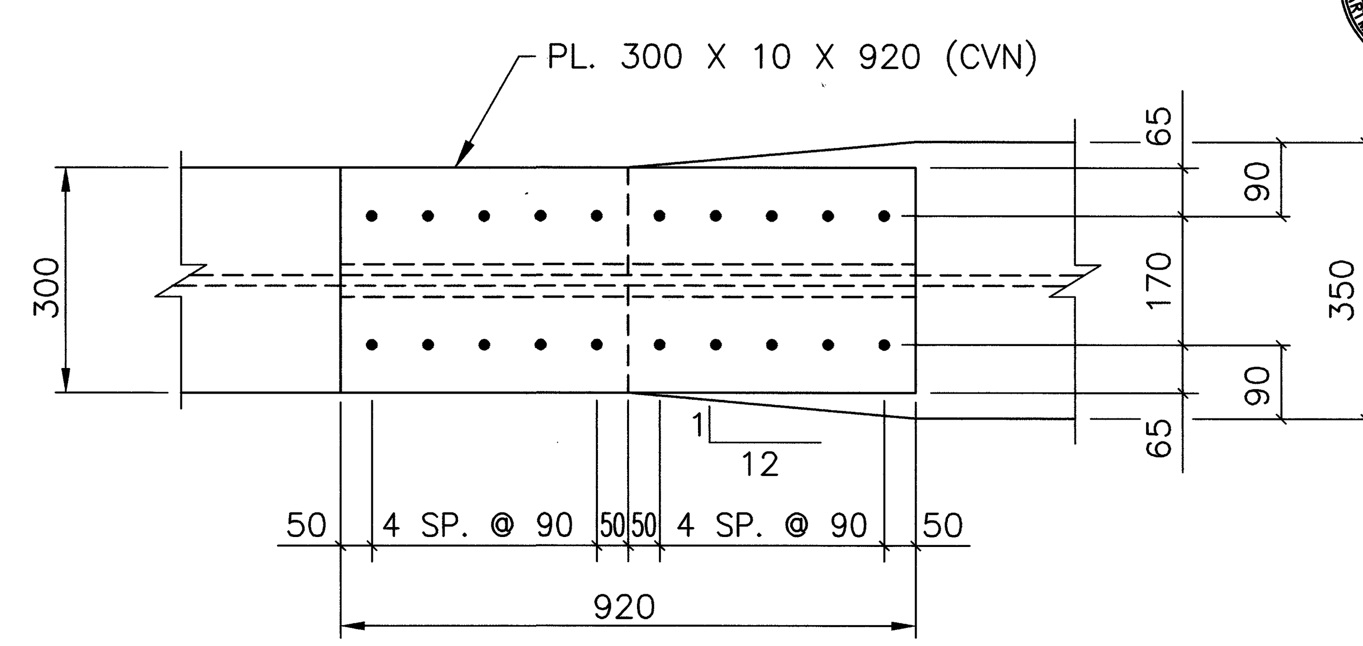
HIGH STRENGTH BOLTS SHALL BE 25 mm DIAMETER A325 UNLESS OTHERWISE NOTED.

CHARPY V–NOTCH TOUGHNESS REQUIREMENT

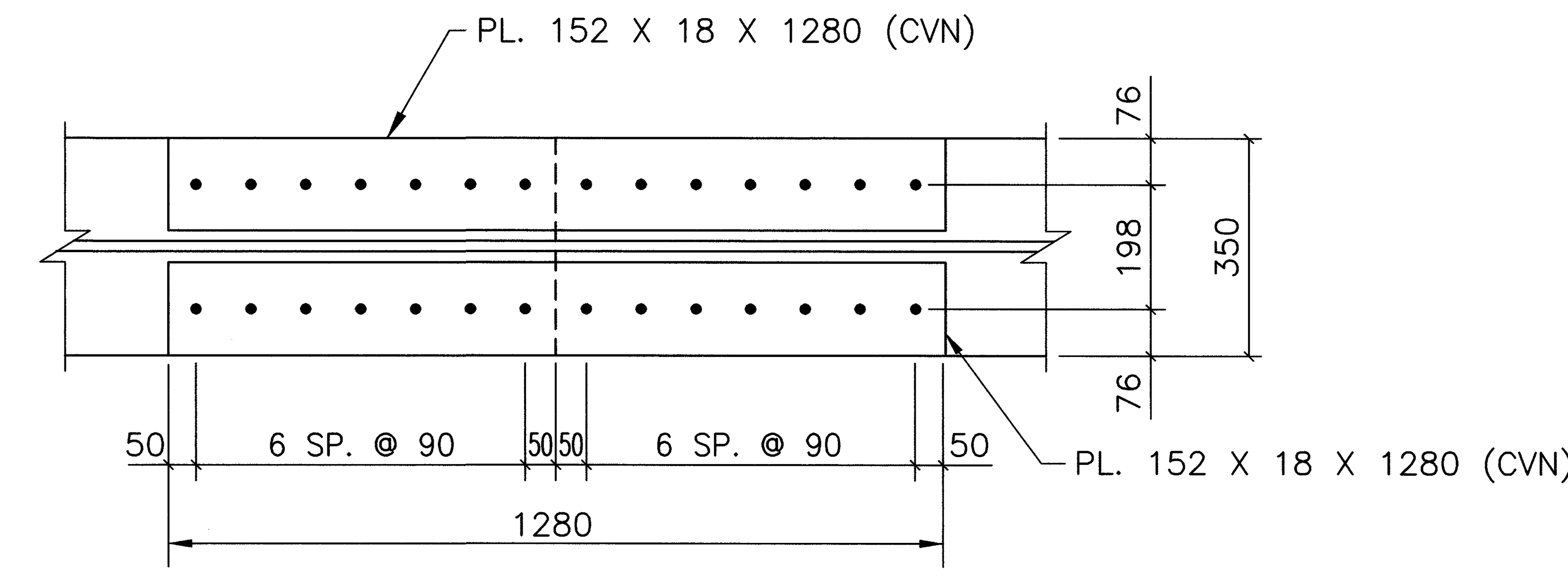
WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

ELASTOMERIC BEARINGS

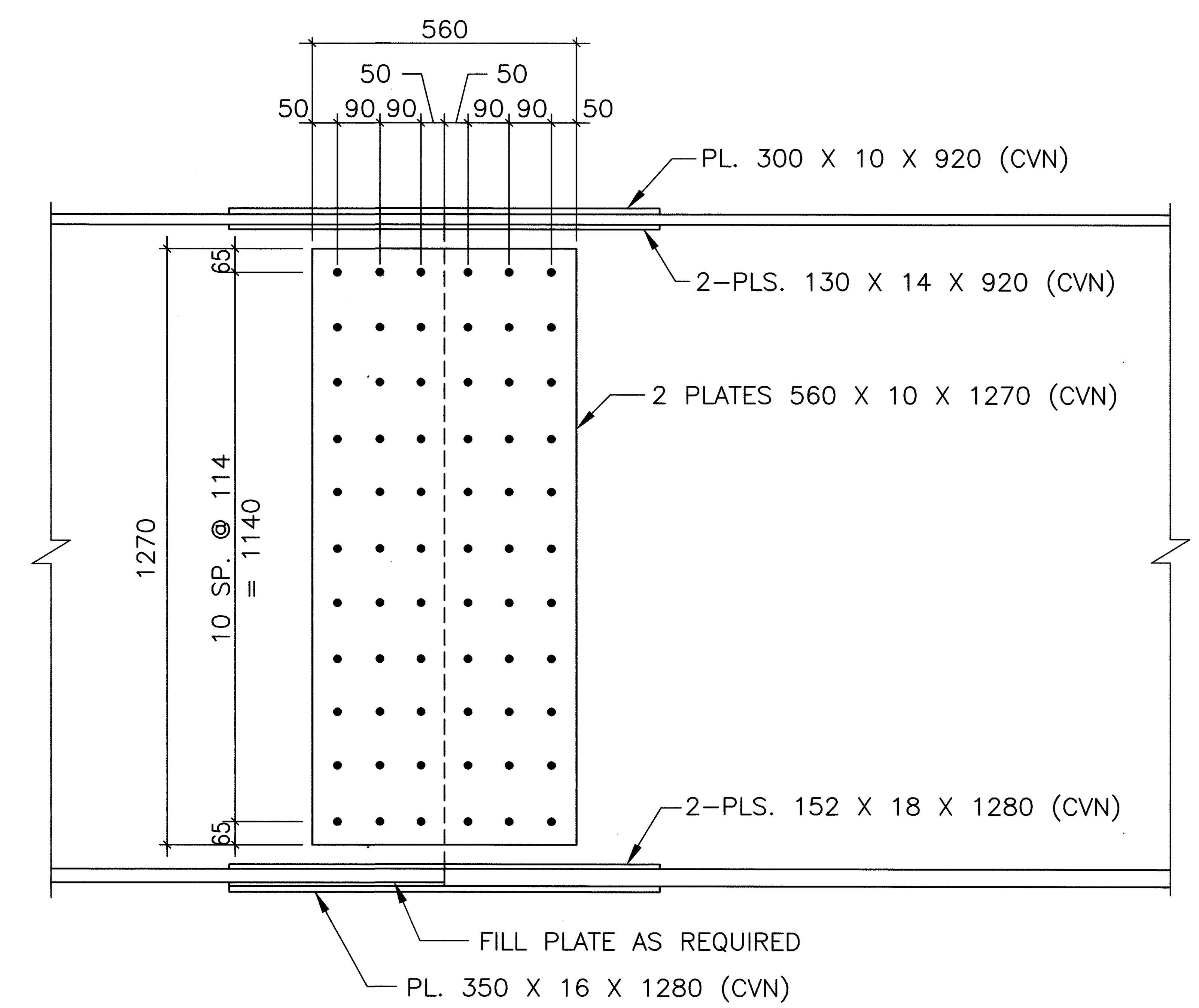
ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARINGS DEVICES, DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.2 OF SECTION14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.



PLAN – TOP FLANGE
SPLICE No.1 & No.2



PLAN – BOTTOM FLANGE
SPLICE No.1 & No.2



TYPICAL FIELD SPLICE DETAILS
SPLICE No.1 & No.2

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

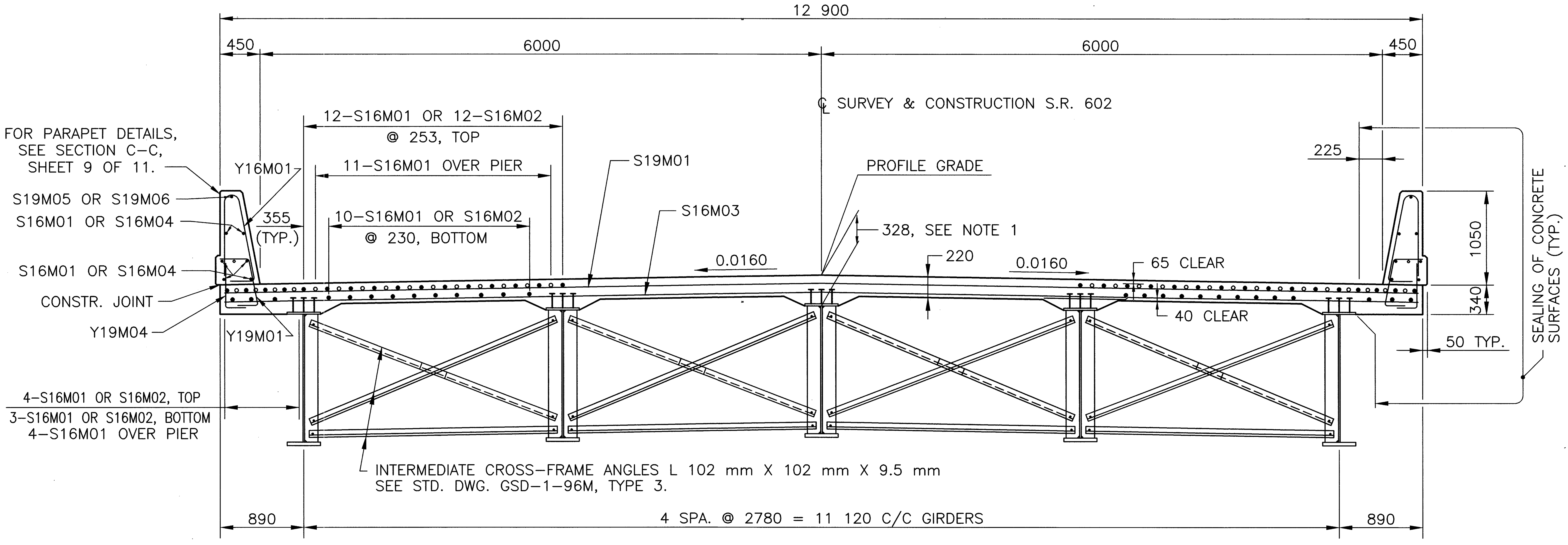
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701738
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

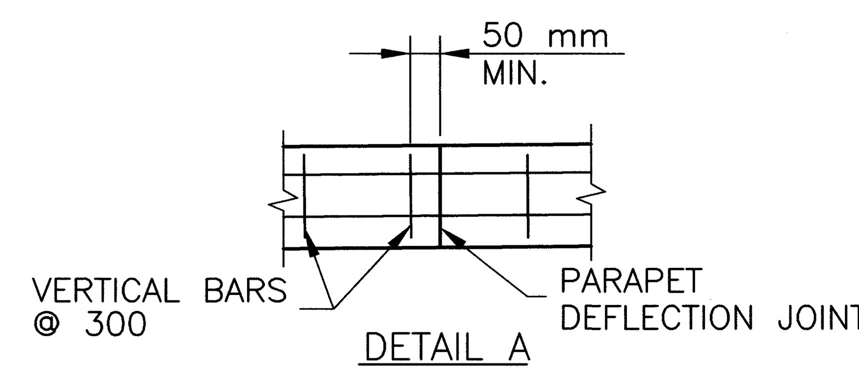
BEARING & SPLICE DETAILS
BRIDGE NO. CRA–30–24797
UNDER S.R. 602

CRA–30–24.000

16283S1J.DWG
12–20–2000 8:32 AM
SCALE: 1:10M

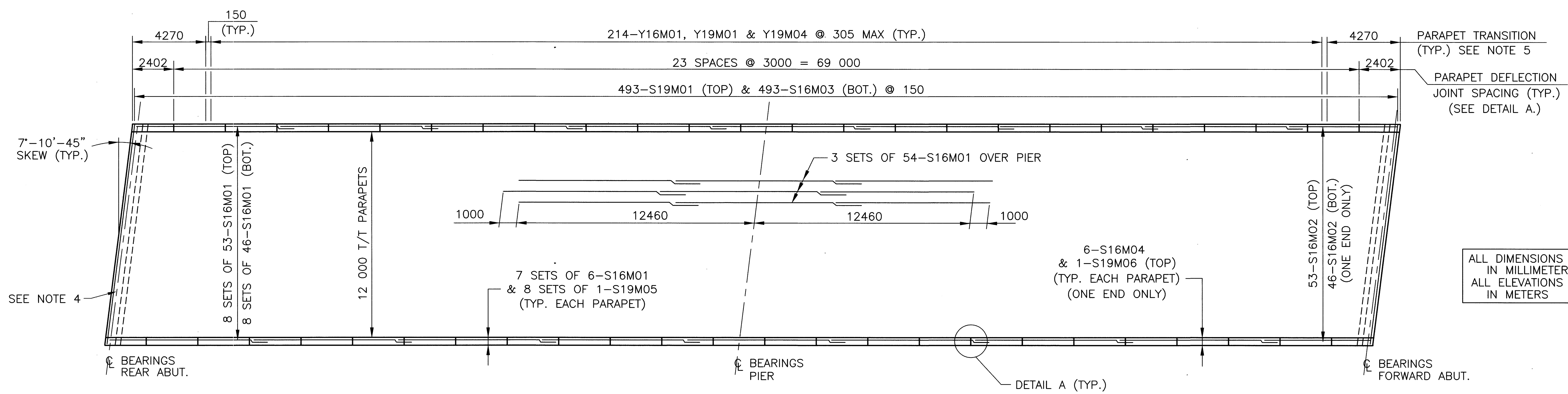


TRANSVERSE SECTION



DETAIL A

MOVE PARAPET DEFLECTION JOINTS WHERE NEEDED TO PROVIDE 50 mm CLEARANCE AS SHOWN.



DECK REINFORCING PLAN

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

NOTES:

1. CONCRETE DECK SLAB DEPTH

THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 842.

2. CONCRETE DECK HAUNCH WIDTH

A HAUNCH WIDTH OF 225 mm SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 mm AND 300 mm.

3. MINIMUM LAP LENGTHS
LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1240 mm.

4. FOR DETAILS AT END OF DECK, SEE SECTION A–A, SHEET 4 OF 11.

5. FOR PARAPET TRANSITION DETAILS, SEE SHEET 9 OF 11.

6. CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK.

THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT–S–00227E.

metric units

DESIGN AGENCY
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REVIEWED TF | DATE 12/00 | STRUCTURE FILE NO. 1701738

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SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA–30–24797
UNDER S.R. 602

CRA–30–24.000

8/11

543
677

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12–20–2000 8:33 AM
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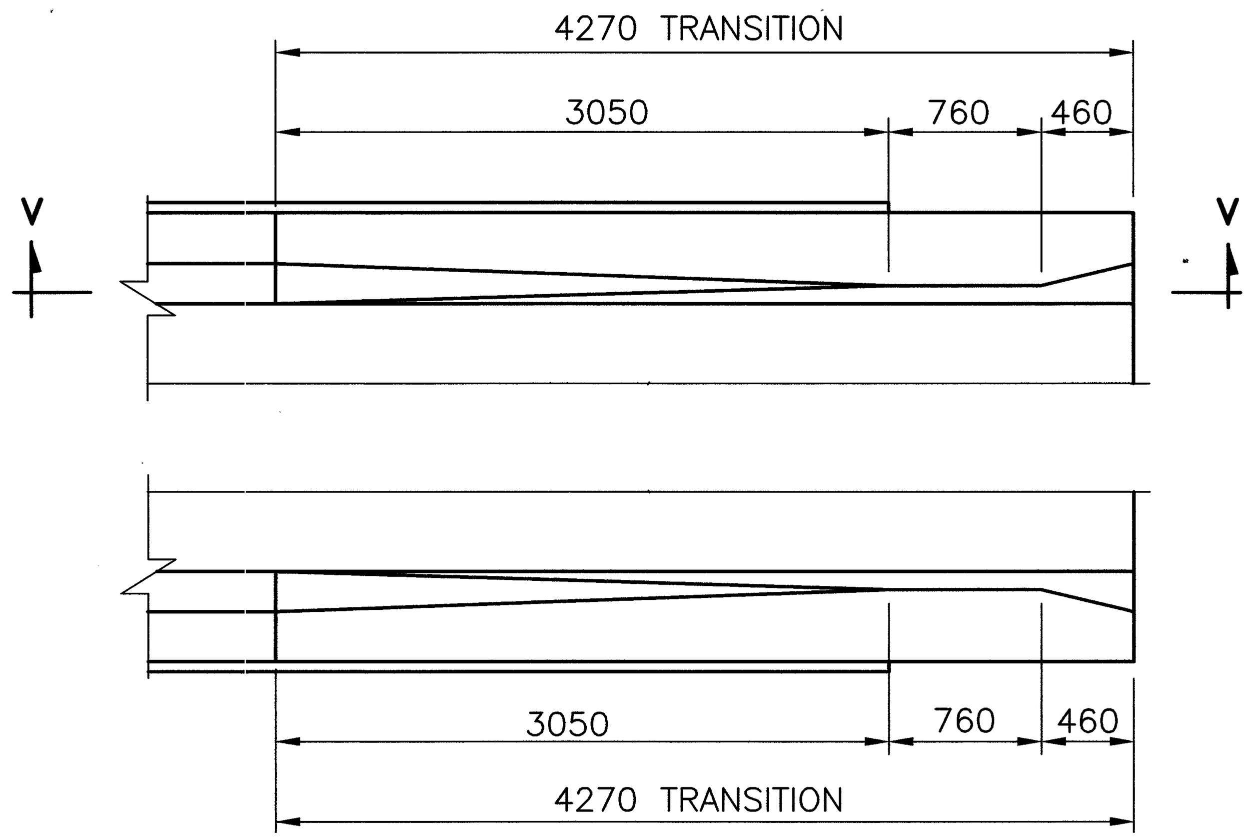
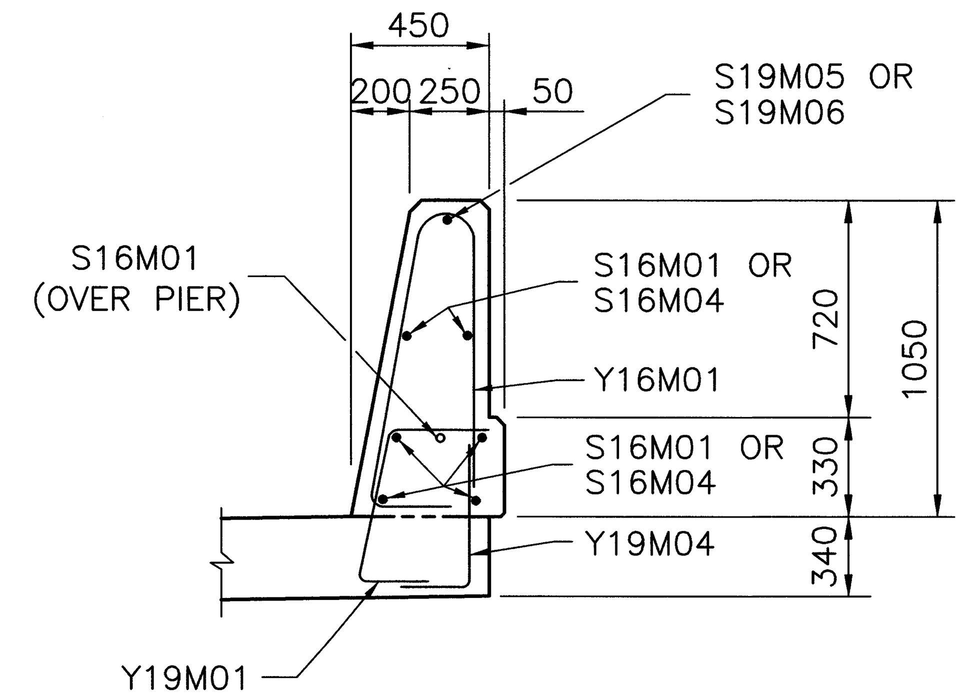
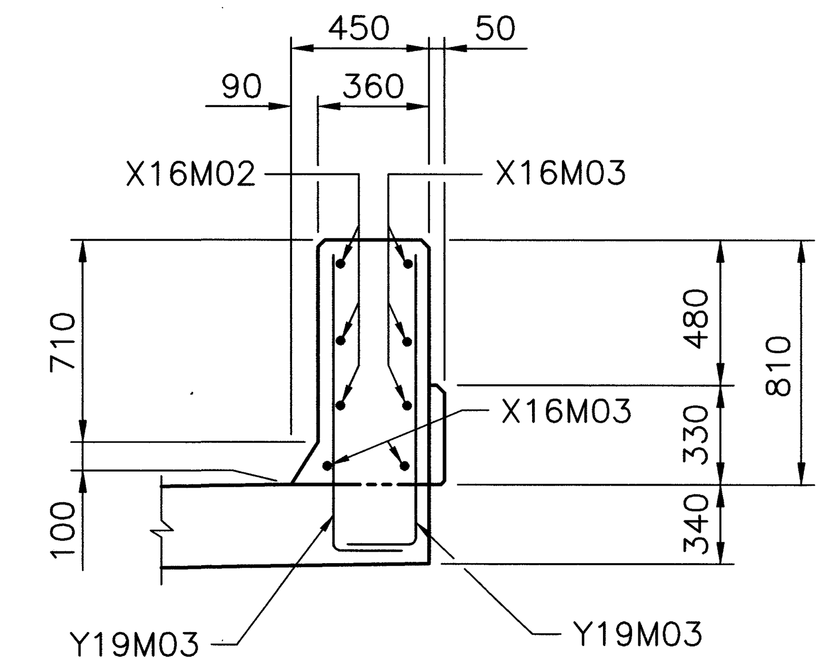


PARAPET TRANSITION DETAIL

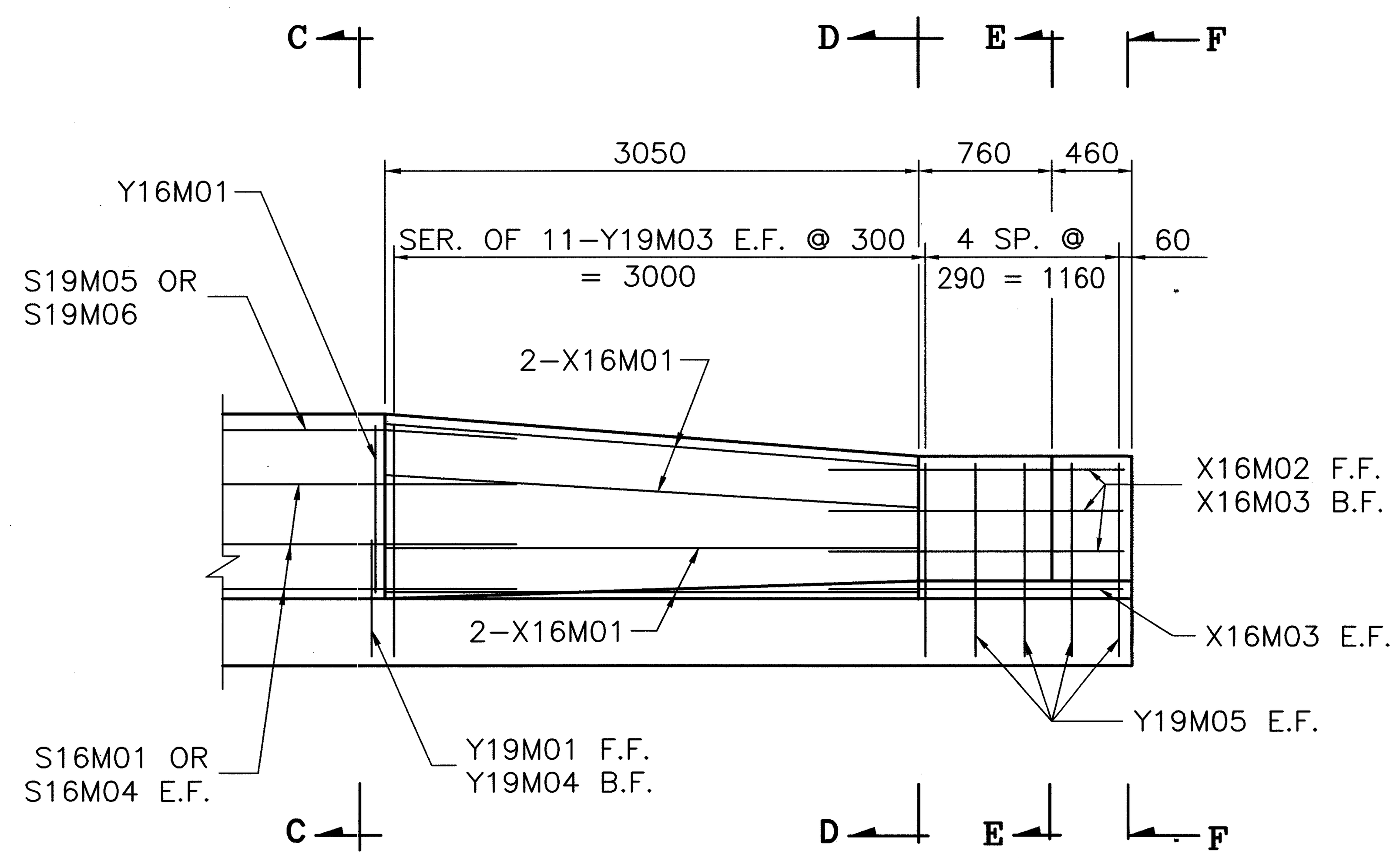
TYPICAL @ BOTH ABUTMENTS



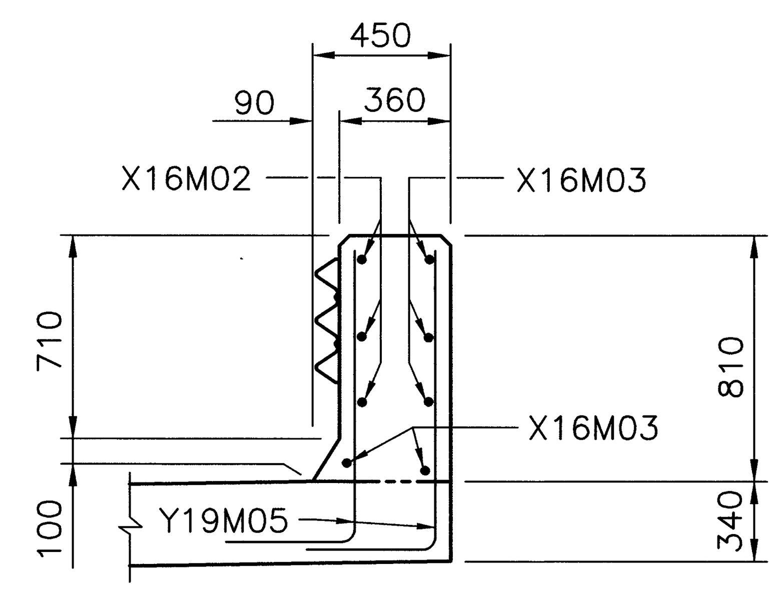
SECTION C–C



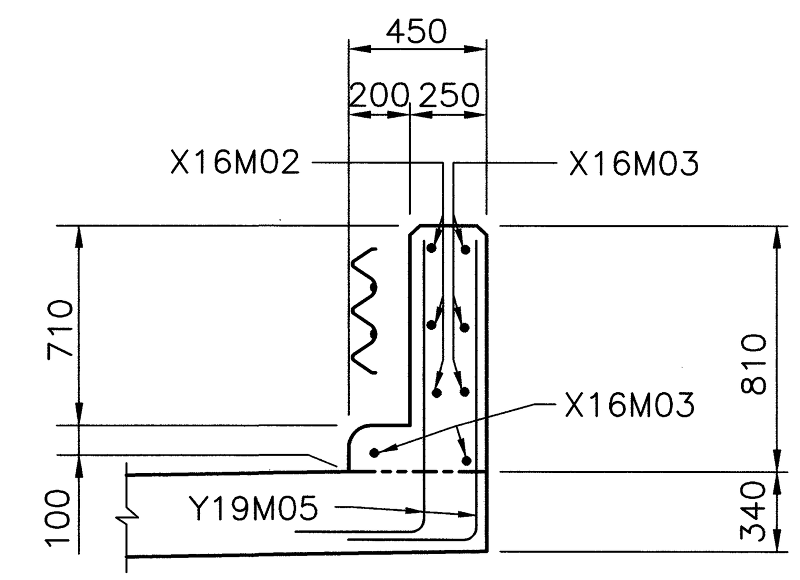
SECTION D–D



SECTION V–V



SECTION E–E



SECTION F–F

NOTES

FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING SBR–1–99M, ICD–1–82M & STD. CONSTRUCTION DRAWING GR–3.1M.

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES, INC.
367 GHENT ROAD, SUITE 1A
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DESIGNED HJS | CHECKED JDV

SUPERSTRUCTURE DETAILS

BRIDGE NO. CRA–30–24797
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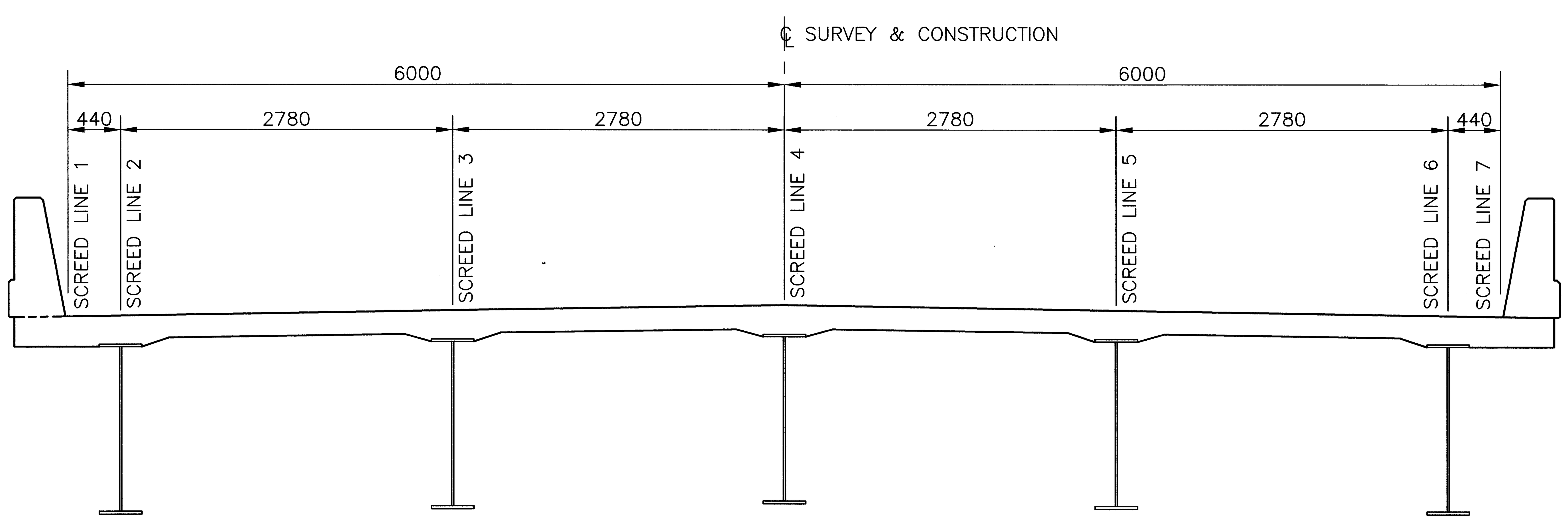
CRA–30–24.000

16283S1L.DWG
12–20–2000 8:34 AM
SCALE: 1:125M

SCREED ELEVATION TABLE

SPAN NO.	LOCATION	SCREED LINE 1 STATION	SCREED LINE 1 SCREED ELEVATION	SCREED LINE 2 STATION	SCREED LINE 2 SCREED ELEVATION	SCREED LINE 3 STATION	SCREED LINE 3 SCREED ELEVATION	SCREED LINE 4 STATION	SCREED LINE 4 SCREED ELEVATION	SCREED LINE 5 STATION	SCREED LINE 5 SCREED ELEVATION	SCREED LINE 6 STATION	SCREED LINE 6 SCREED ELEVATION	SCREED LINE 7 STATION	SCREED LINE 7 SCREED ELEVATION
SPAN NO.1	0.00 L	49+964.156	332.654	49+964.100	332.661	49+963.750	332.704	49+963.400	332.746	49+963.050	332.700	49+962.700	332.654	49+962.644	332.647
	0.10 L	49+967.816	332.698	49+967.760	332.704	49+967.410	332.747	49+967.060	332.790	49+966.710	332.744	49+966.360	332.698	49+966.304	332.691
	0.20 L	49+971.476	332.733	49+971.420	332.740	49+971.070	332.783	49+970.720	332.826	49+970.370	332.780	49+970.020	332.735	49+969.964	332.727
	0.30 L	49+975.136	332.760	49+975.080	332.767	49+974.730	332.810	49+974.380	332.854	49+974.030	332.808	49+973.680	332.762	49+973.624	332.755
	0.40 L	49+978.796	332.777	49+978.740	332.784	49+978.390	332.828	49+978.040	332.871	49+977.690	332.825	49+977.340	332.780	49+977.284	332.773
	0.50 L	49+982.456	332.780	49+982.400	332.787	49+982.050	332.831	49+981.700	332.875	49+981.350	332.829	49+981.000	332.784	49+980.944	332.777
	0.60 L	49+986.116	332.776	49+986.060	332.783	49+985.710	332.827	49+985.360	332.871	49+985.010	332.825	49+984.660	332.780	49+984.604	332.773
FIELD SPLICE	0.716 L	49+990.361	332.765	49+990.306	332.772	49+989.956	332.816	49+989.606	332.861	49+989.255	332.816	49+988.905	332.771	49+988.850	332.763
	0.80 L	49+993.436	332.753	49+993.380	332.760	49+993.030	332.804	49+992.680	332.848	49+992.330	332.803	49+991.980	332.758	49+991.924	332.751
	0.90 L	49+997.096	332.742	49+997.040	332.749	49+996.690	332.793	49+996.340	332.838	49+995.990	332.793	49+995.640	332.748	49+995.584	332.741
SPAN NO.2	0.00 L	50+000.756	332.738	50+000.700	332.745	50+000.350	332.790	50+000.000	332.834	49+999.650	332.790	49+999.300	332.745	49+999.244	332.738
	0.10 L	50+004.416	332.741	50+004.360	332.748	50+004.010	332.793	50+003.660	332.837	50+003.310	332.793	50+002.960	332.749	50+002.904	332.742
	0.20 L	50+008.076	332.751	50+008.020	332.758	50+007.670	332.803	50+007.320	332.848	50+006.970	332.803	50+006.620	332.759	50+006.564	332.752
FIELD SPLICE	0.284 L	50+011.150	332.763	50+011.095	332.770	50+010.745	332.815	50+010.394	332.860	50+010.044	332.816	50+009.964	332.772	50+009.639	332.765
	0.40 L	50+015.396	332.772	50+015.340	332.779	50+014.990	332.825	50+014.640	332.870	50+014.290	332.826	50+013.940	332.782	50+013.884	332.775
	0.50 L	50+019.056	332.776	50+019.000	332.783	50+018.650	332.828	50+018.300	332.874	50+017.950	332.830	50+017.600	332.786	50+017.544	332.779
	0.60 L	50+022.716	332.771	50+022.660	332.779	50+022.310	332.824	50+021.960	332.870	50+021.610	332.826	50+021.260	332.783	50+021.204	332.776
	0.70 L	50+026.376	332.753	50+026.320	332.761	50+025.970	332.806	50+025.620	332.852	50+025.270	332.809	50+024.920	332.765	50+024.864	332.759
	0.80 L	50+030.036	332.726	50+029.980	332.733	50+029.630	332.779	50+029.280	332.825	50+028.930	332.781	50+028.580	332.738	50+028.524	332.731
	0.90 L	50+033.696	332.689	50+033.640	332.696	50+033.290	332.742	50+032.940	332.788	50+032.590	332.745	50+032.240	332.702	50+032.184	332.696
	1.00 L	50+037.356	332.645	50+037.300	332.652	50+036.950	332.698	50+036.600	332.744	50+036.250	332.702	50+035.900	332.659	50+035.844	332.652



SCREED LINE LOCATIONS

SCREED ELEVATIONS ARE FOR THE CONCRETE SURFACE BEFORE THE CONCRETE IS PLACED. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00 | STRUCTURE FILE NUMBER 1701738
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

SCREED ELEVATIONS
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

CRA-30-24.000

16283S1M.DWG
12-20-2000 3:58 PM
SCALE: 1:30M

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
ABUTMENTS									
A13M01	36	2665		3	515	740			
A16M01	104	3250		3	770	770			
A16M02	104	3445		2	1460	600	1460		
A16M03	30	3375		2	1425	600	1425		
A16M04	32	10655		STR					
A16M10	4	3475		STR					
A16M11	4 S.O. 4	965 TO 3335		STR					INCR = 790
A16M12	4	3675		STR					
A16M13	6	4505		2	1990	600	1990		
A16M14	4 S.O. 6	2025 TO 4025		2	750 TO 1750	600	750 TO 1750		VARY A BY 200 VARY C BY 200
A16M15	4	3270		STR					
A16M16	4 S.O. 4	700 TO 2950		STR					INCR = 750
A16M17	4	3495		STR					
A16M18	8	2585		2	1030	600	1030		
A19M01	88	3100		11					
A25M01	32	11155		STR					
PIER									
P16M01	32	6580		STR					
P16M02	88	2175		2	850	550	850		
P16M03	116	2440		2	850	815	850		
P25M01	8	10370		1	800	9635			
P25M02	8	5570		1	800	4835			
P25M03	4	9635		STR					
P25M04	4	4835		STR					
P32M01	72	3760		13	2900				
P32M02	30	3360		1	560	2900			
P32M03	30	6220		STR					
P32M04	16	7710		4	6825	885	150		
SP13M01	3	5350		SPIRAL					

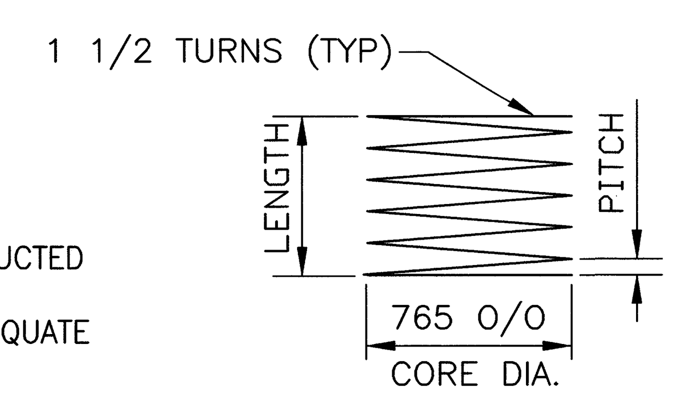
DIMENSIONS SHOWN ARE OUT TO OUT.
STR = STRAIGHT
S.O. = SERIES OF
INCR = INCREMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
SUPERSTRUCTURE									
S16M01	1038	9140		STR					
S16M02	99	6550		STR					
S16M03	493	12800		STR					
S16M04	12	8040		STR					
X16M01	32	3050		STR					
X16M02	12	1680		10					
X16M03	20	1680		STR					
Y16M01	428	2205		7	900	950			
S19M01	493	12800		STR					
S19M05	16	9140		STR					
S19M06	2	4550		STR					
Y19M01	428	1100		6	560				
Y19M03	8 S.O. 11	1320 TO 1560		1	320	1050 TO 1290			VARY B BY 24
Y19M04	428	830		1	320	560			
Y19M05	32	1320		1	320	1050			
SUPERSTRUCTURE–DIAPHRAGM									
S16M05	8	8515		STR					
S16M06	8	5710		STR					
S19M02	88	2800		2	1150	600	1150		
S19M03	88	3140		2	1395	450	1395		
S19M04	88	3510		2	1505	600	1505		
S25M01	32	7615		STR					
S25M02	58	1505		5	430	795			
S25M03	8	9015		STR					
S25M04	8	6210		STR					

SPIRALS; SP13M01 – CORE DIAMETER 765 mm, PITCH 115 mm
OTHER DETAILS IN ACCORDANCE WITH C.R.S.I. STANDARDS

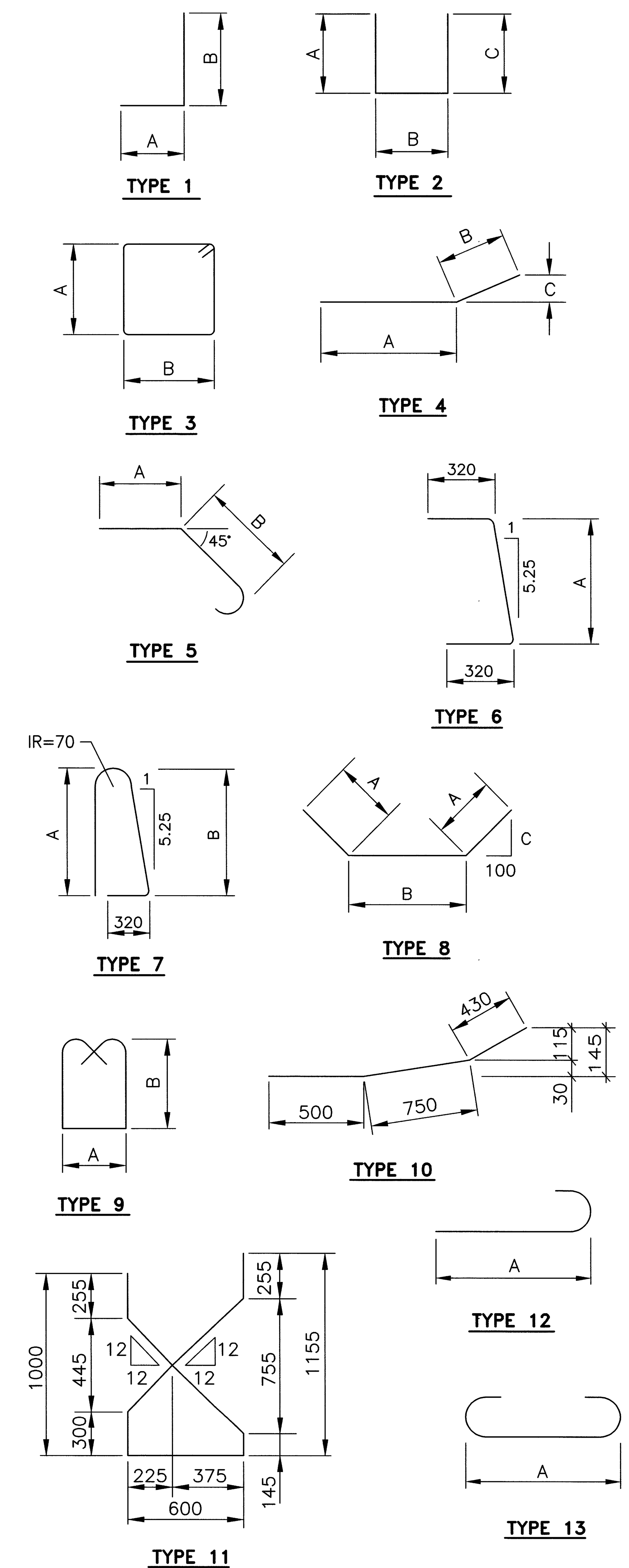
SPIRAL REINFORCING BAR SPACES:

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVAL (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 3 M) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 76 mm CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION DIMENSION OF THE DRILLED SHAFT OR COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORT) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.



SPIRAL

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS



THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A15M01 IS A #15M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL REINFORCING STEEL TO BE EPOXY COATED.

metric units

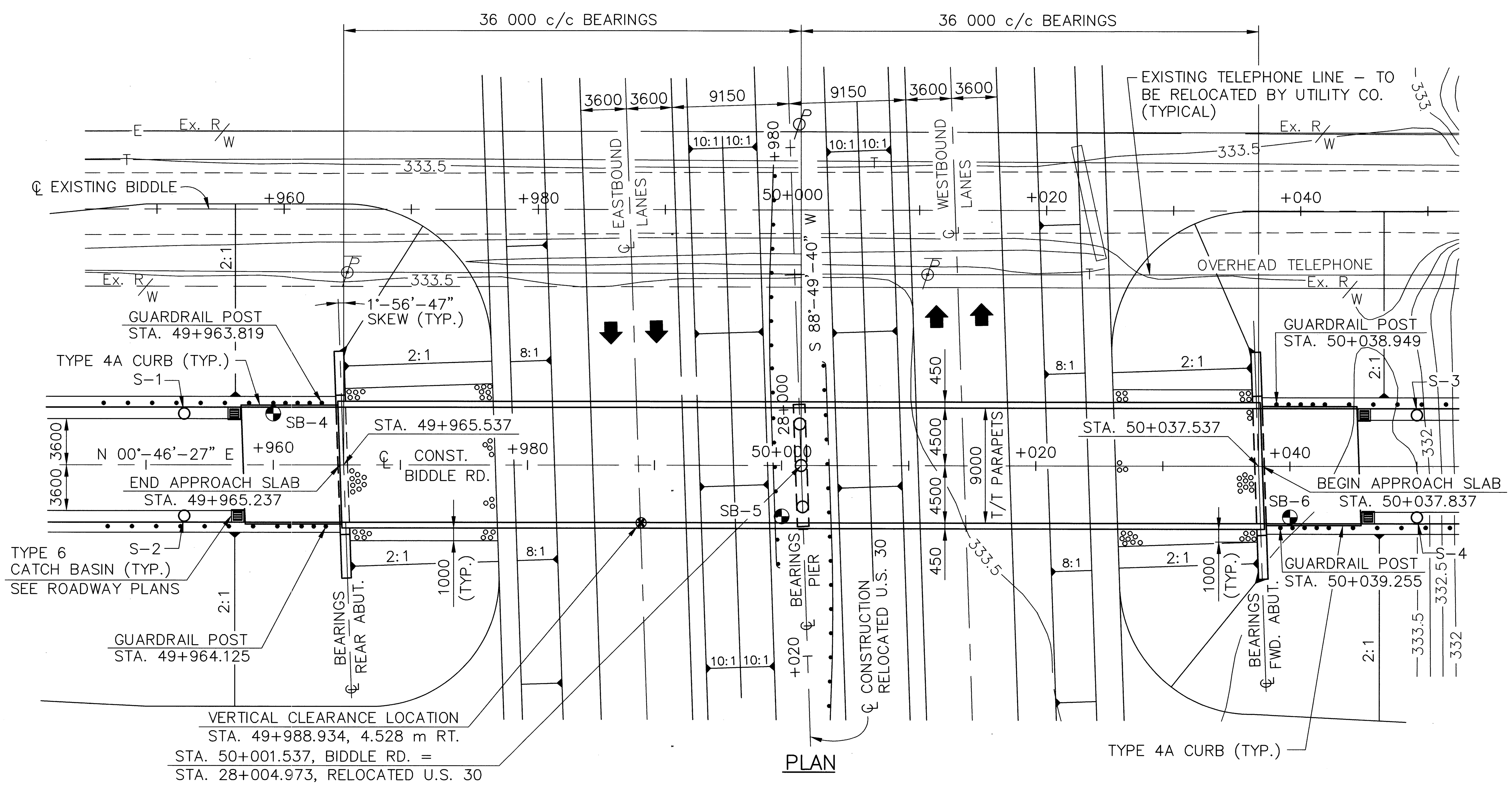
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12-00
REVIEWED TF
STRUCTURE FILE NO. 1701738
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

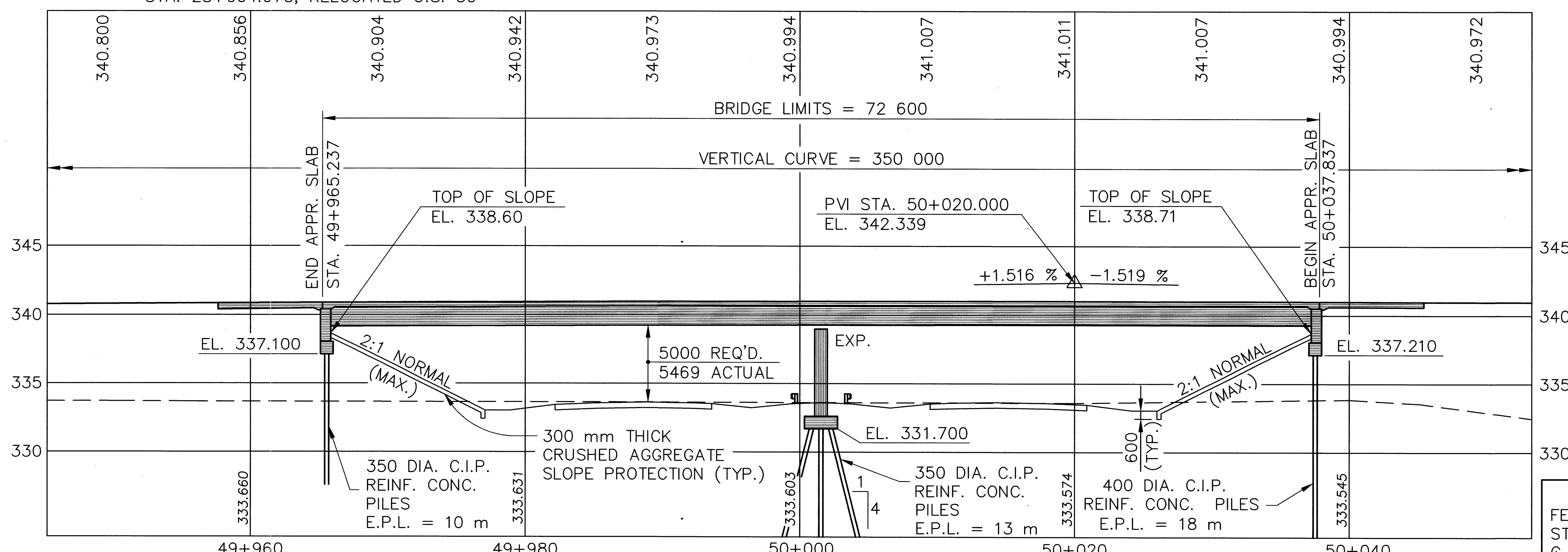
REINFORCING STEEL LIST
BRIDGE NO. CRA-30-24797
UNDER S.R. 602

CRA-30-24.000

16283S1N.DWG
12-20-2000 8:38 AM
SCALE: 1:1M



PLAN



PROFILE ALONG ℄ CONSTRUCTION

E.P.L.= ESTIMATED PILE LENGTH

metric units

SETTLEMENT PLATFORM DATA		
NO.	LOCATION	STATION
S-1	4 m LT.	49+953
S-2	4 m RT.	49+953
S-3	4 m LT.	50+050
S-4	4 m RT.	50+050

NOTE:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

= BORING LOG LOCATION

VERTICAL CURVE DATA

PVI STA. 50+020
PVI EL. 342.339
G1 = +1.516 %
G2 = −1.519 %
L = 350 m

TRAFFIC DATA

DESIGN ADT (2020) = 492
DESIGN ADTT (2020) = 15

PROPOSED STRUCTURE

TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 36 000, 36 000 c/c BEARINGS
ROADWAY: 9000 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 1°-56'-47" R.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-50"
LONGITUDE: W82°-49'-10"

BENCHMARK:
FENO MONUMENT
STA. 27+177.212, 46.546 m LEFT OF ℄ PROPOSED U.S.30
ELEV. 328.450

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
STRUCTURE FILE NUMBER 1701762
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

CRAWFORD COUNTY
STA. 49+965.237
STA. 50+037.837

SITE PLAN
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

1/11

16283S2A.DWG
12-20-2000 8:42 AM
SCALE: 1:0.2M

GENERAL NOTES

PILES NOT DRIVEN TO BEDROCK

THE ULTIMATE BEARING VALUE IS 1024 kN PER PILE FOR THE 350mm/400mm CIP ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 1130 kN FOR THE 350mm CIP PIER PILES.

REAR ABUTMENT PILES:
- 8 PILES 10 METERS LONG, ESTIMATED LENGTH
- 8 PILES OF ORDER LENGTH 11.5 METERS LONG

FORWARD ABUTMENT PILES:
- 8 PILES 18 METERS LONG, ESTIMATED LENGTH
- 8 PILES OF ORDER LENGTH 18 METERS LONG
- 8 PILES OF ORDER LENGTH 1.5 METERS LONG
- 8 SPLICES

PIER PILES:
- 18 PILES 13 METERS LONG, ESTIMATED LENGTH
- 18 PILES OF ORDER LENGTH 14.5 METERS LONG

PAINTING OF 863 STEEL

ALL NEW STEEL SHALL BE SHOP PRIMED PER ITEM 816, WHICH SHALL BE INCLUDED IN THE COST OF ITEM 863.

ITEM 816, FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

ALL NEW STEEL SHALL BE PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM IZEU. THE COLOR OF THE FINISH COAT SHALL BE LIGHT NEUTRAL FEDERAL COLOR STANDARD No. 17778. IN ADDITION TO THE SURFACE AREA OF STEEL STRINGERS TO BE PAINTED, INCIDENTALS SUCH AS CROSSFRAMES AND BEARINGS SHALL BE INCLUDED. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM 816, FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU FOR PAYMENT.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN'L.	AS PER PLAN SHEET NO.
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	GN-2
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	GN-2
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00600	314	METER	350 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	80	234			
507	00650	353	METER	350 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	92	261			
507	00700	144	METER	400 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	144				
507	00750	156	METER	400 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	156				
507	50500	8	EACH	STEEL PILE SPLICES	8				
516	13200	6	SQ M	13 mm PREFORMED EXPANSION JOINT FILLER	6				
516	13600	11	SQ M	25 mm PREFORMED EXPANSION JOINT FILLER	11				
516	44101	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE),			4		7
				AS PER PLAN 57 X 460 X 610 mm w/51 X 490 X 640 mm LOAD PLATE					
518	21231	LUMP		POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	LUMP				GN-2
518	40000	36	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE	36				
518	40011	18	METER	150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS,	18				3
				AS PER PLAN					
SPECIAL	53013000	45	SQ M	FORM LINER	45				
816	00610	107,367	KILOGRAM	FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU			107,367		
842	41001	20	CU M	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		20			GN-2
842	43501	65	CU M	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	65				GN-2
842	46501	30	CU M	CLASS C CONCRETE, FOOTING, AS PER PLAN		30			GN-2
844	49000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX			LUMP		
844	49010	LUMP		HIGH PERFORMANCE CONCRETE TESTING			LUMP		
844	49501	27	CU M	HIGH PERFORMANCE CONCRETE, MISC.: SUPERSTRUCTURE, INTEGRAL DIAPHRAGM,			27		GN-2
				AS PER PLAN					
863	10080	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL FOUR (4) FABRICATION, A572			LUMP		
863	20000	2124	EACH	WELDED STUD SHEAR CONNECTOR			2124		
864	10100	577	SQ M	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	37	71	469		GN-2
894	10001	237	CU M	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN			237		GN-2
				COMPUTED BY : RIB DATE : 6/10/99					
				CHECKED BY : JDV DATE : 6/10/99					

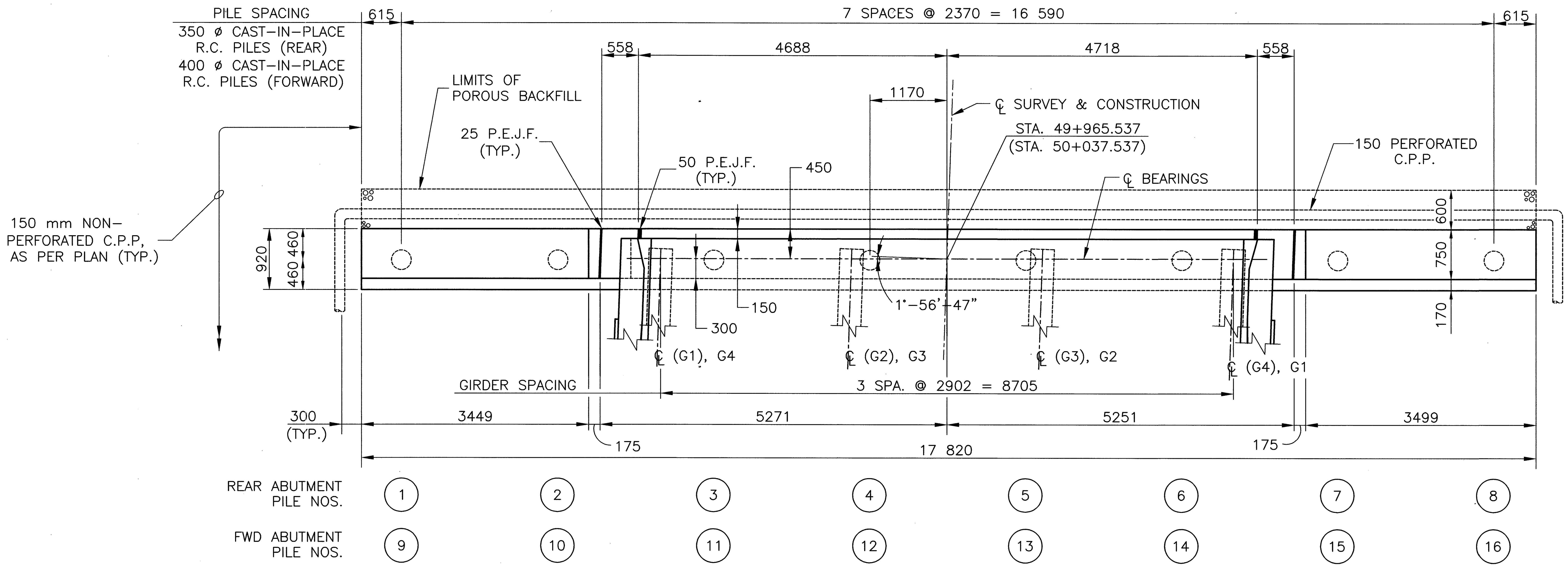
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701762
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ESTIMATED QUANTITIES
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

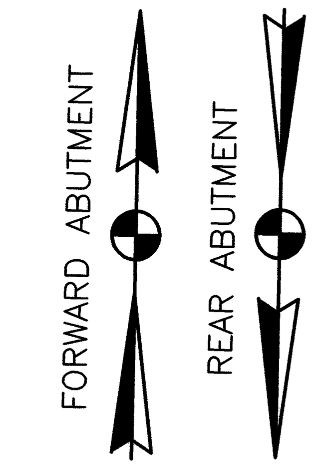
CRA-30-24.000

16283S2C.DWG
12-21-2000 10:34 AM
SCALE: 1=1E



PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)



metric units

* ELEVATIONS ARE GIVEN @ ℄ BEARINGS

** 3-S19M02, S19M03, S19M04 & A19M01 @ 275

† ELEVATIONS, STATIONS, & GIRDER NUMBERS IN ( ) ARE FOR FORWARD ABUTMENT ONLY.

MINIMUM BAR LAPS

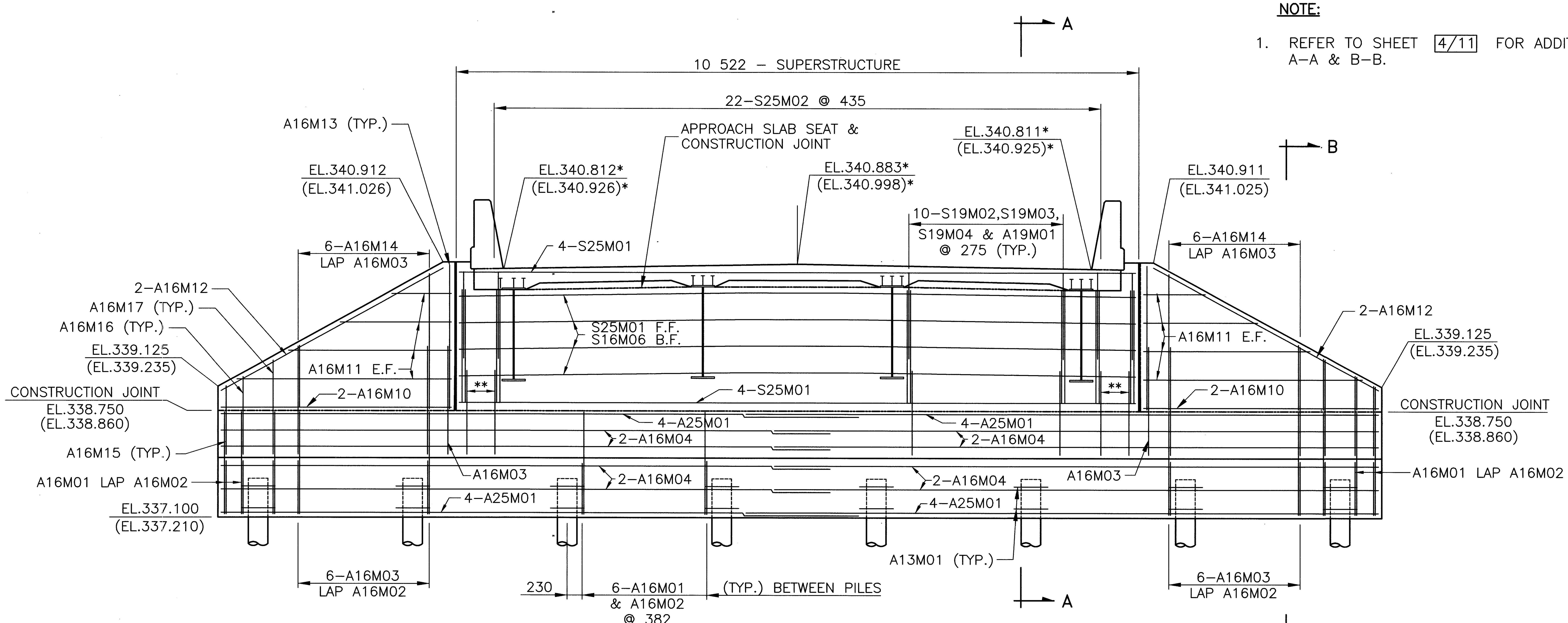
LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1040 mm.
LAP NO.25M BARS 1750 mm.

ABBREVIATIONS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED POLYETHYLENE PIPE
C.J. = CONSTRUCTION JOINT

NOTE:

1. REFER TO SHEET 4/11 FOR ADDITIONAL NOTES, AND SECTIONS A-A & B-B.



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

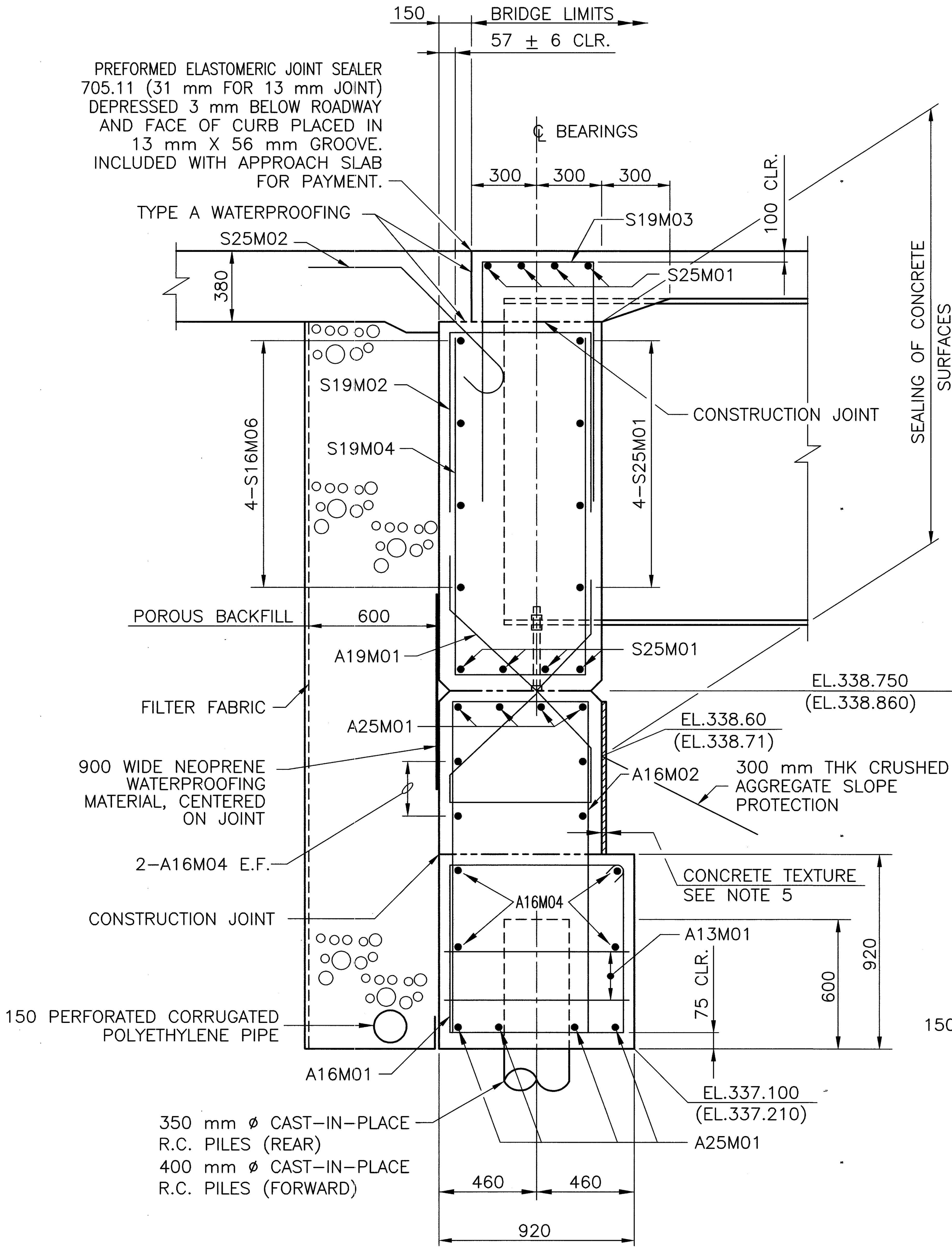
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00	STRUCTURE FILE NUMBER 1701762
REVIEWED TF	
DRAWN KRM	REVISED
DESIGNED HJS	CHECKED JDV

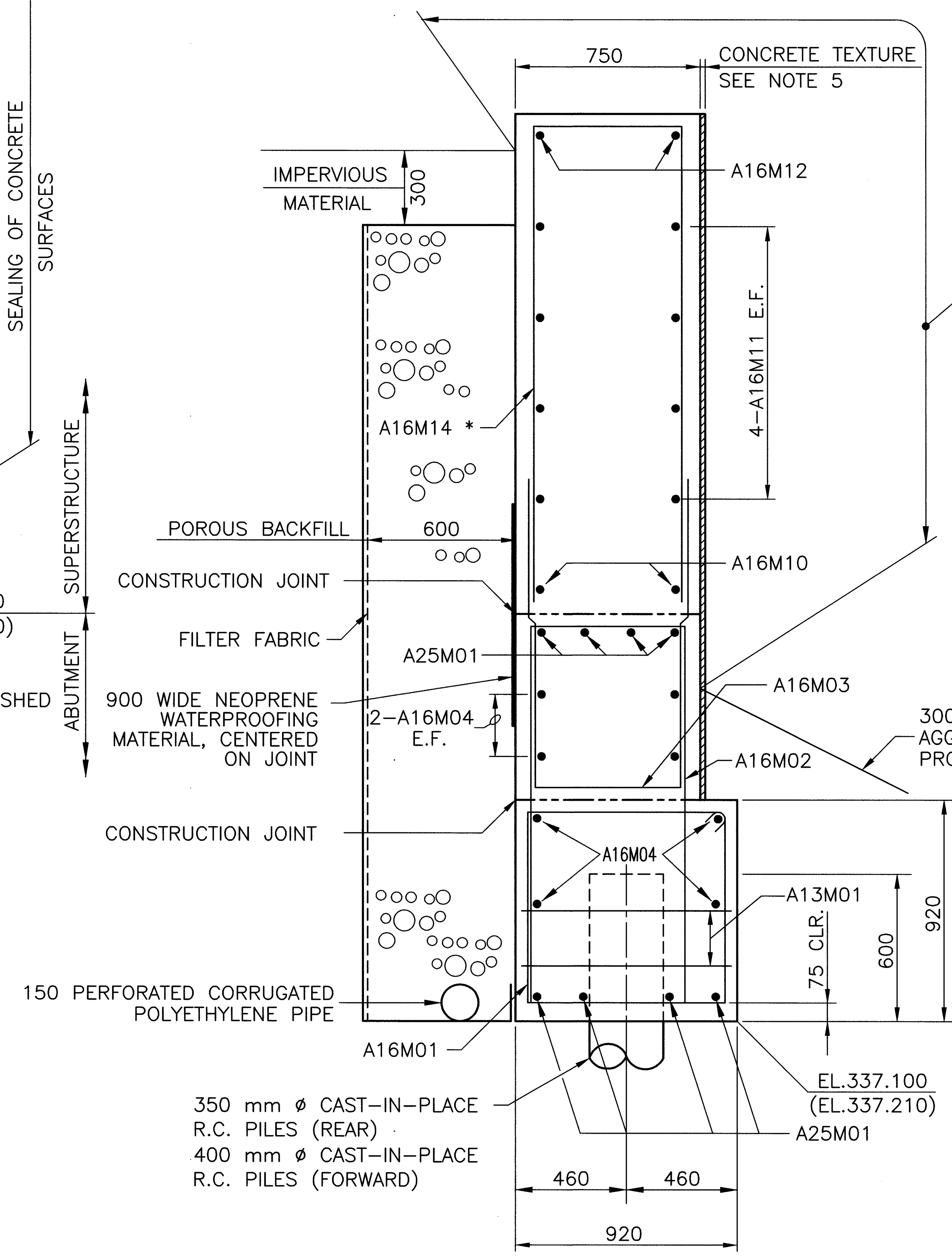
ABUTMENT DETAILS
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

16283S2E.DWG
12-20-2000 8:44 AM
SCALE: 1:40M



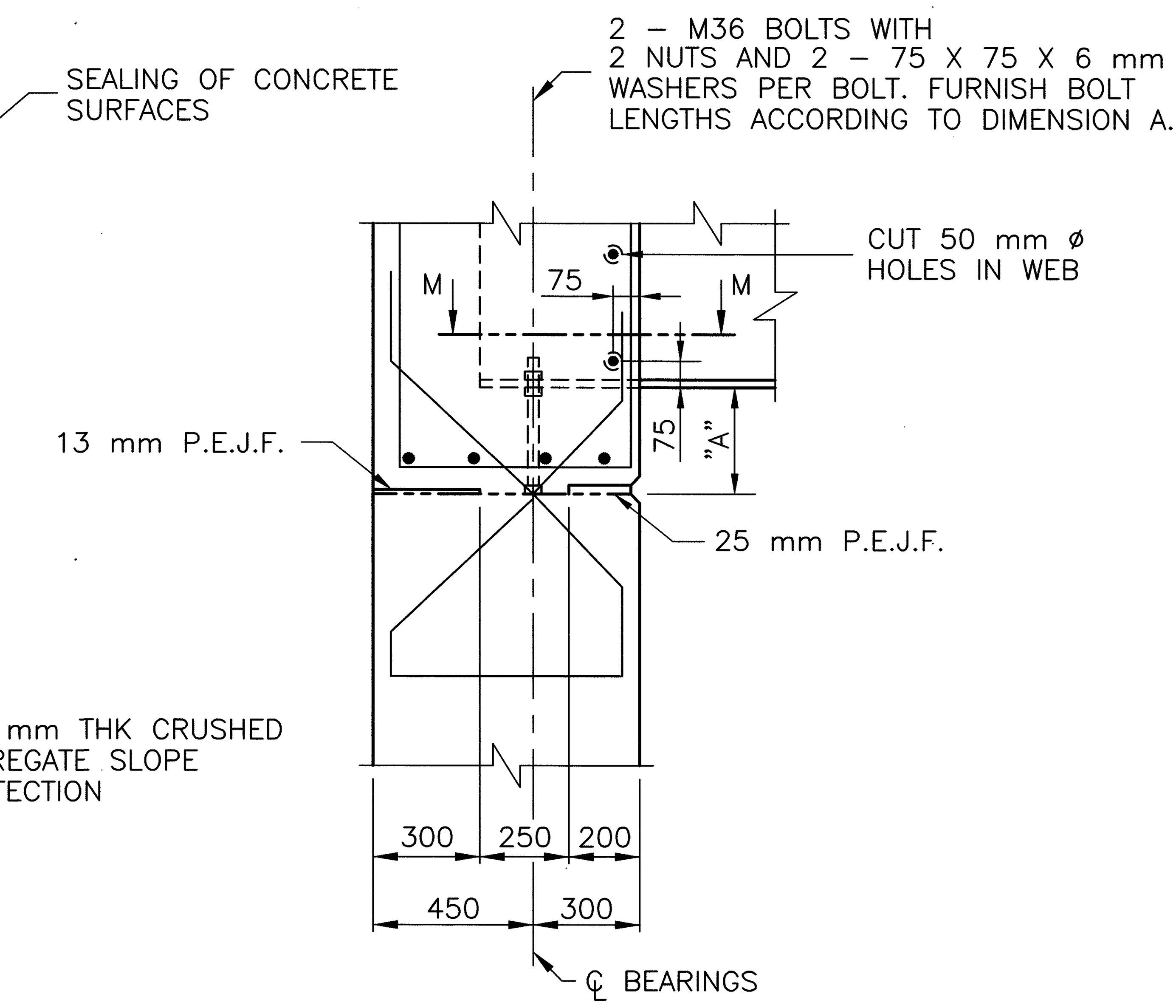
SECTION A–A



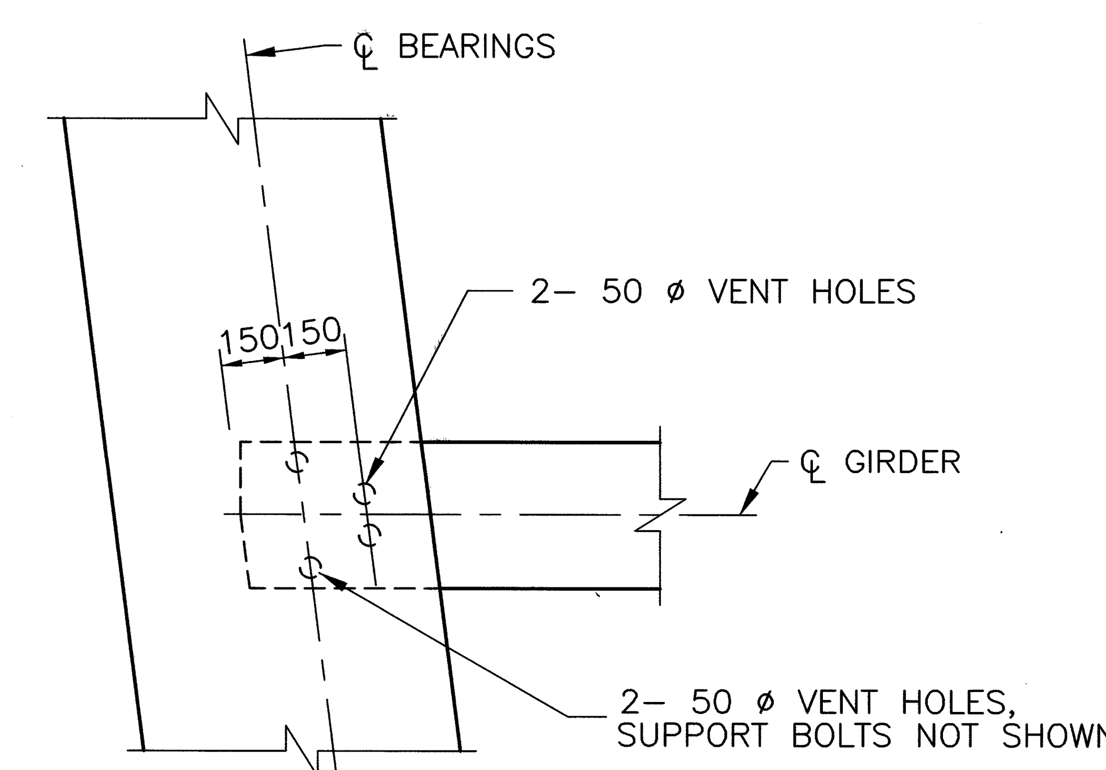
SECTION B–B

NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR ADDITIONAL NOTES AND LOCATION OF SECTIONS A-A & B-B SEE SHEET 3/11
3. FOR ADDITIONAL DETAILS REFER TO STD. DWG. ICD-1-82M.
4. * A16M15, A16M16 & A16M17 @ WINGWALL ENDS EMBEDDED IN BREASTWALL.
5. THE TEXTURE SHALL BE AN ASHLER STONE PATTERN AS PER THE FITZGERALD FORM LINER NUMBER 16986 OR APPROVED EQUAL. THE RELIEF SHALL BE A MINIMUM OF 19 mm. CONCRETE FOR TEXTURING SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, ABUTMENT, AS PER PLAN, FOR PAYMENT.



DETAIL X



SECTION M–M

DIMENSION "A"				
	GIRDER NO. 1	GIRDER NO. 2	GIRDER NO. 3	GIRDER NO. 4
REAR ABUTMENT	323	370	371	325
FORWARD ABUTMENT	328	374	375	328

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

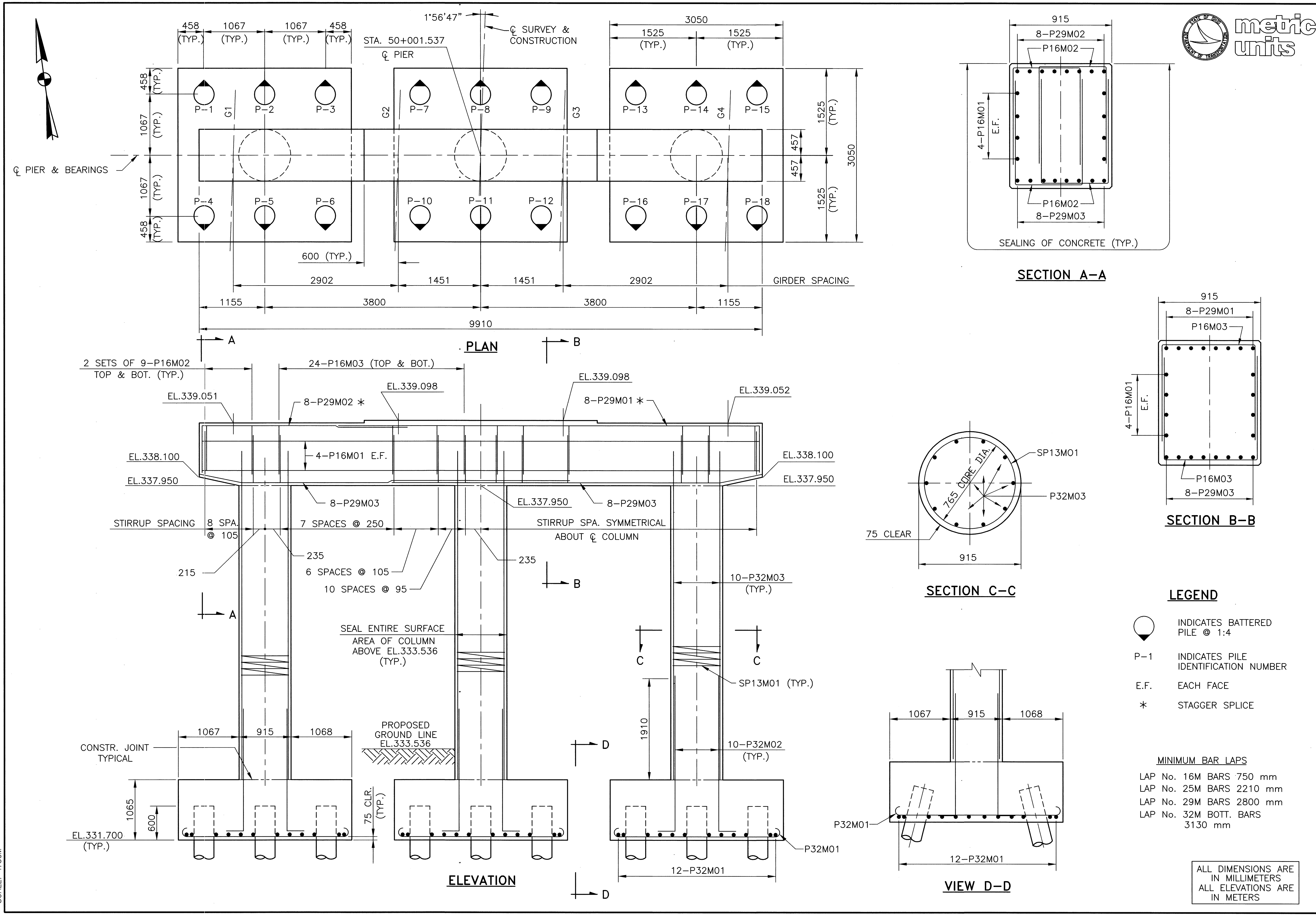
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF
DATE 12/00
STRUCTURE FILE NUMBER 1701762
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ABUTMENT DETAILS
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

1628352F.DWG
12-20-2000 8:46 AM
SCALE: 1:15M



DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
STRUCTURE FILE NUMBER 1701762
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

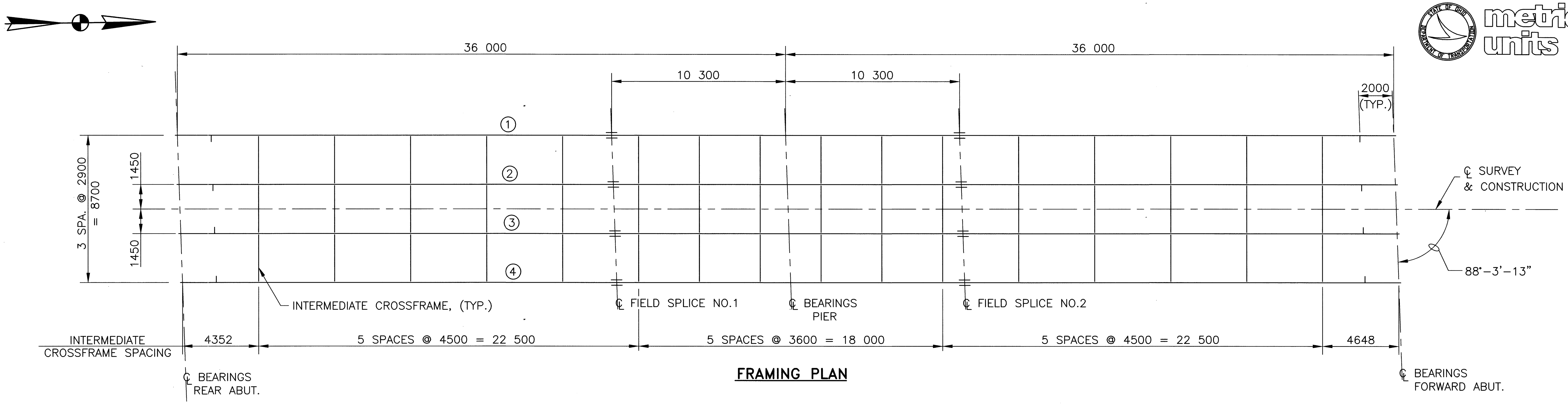
PIER DETAILS
BRIDGE NO. CRA–30–28000
UNDER BIDDLE ROAD

CRA–30–24.000

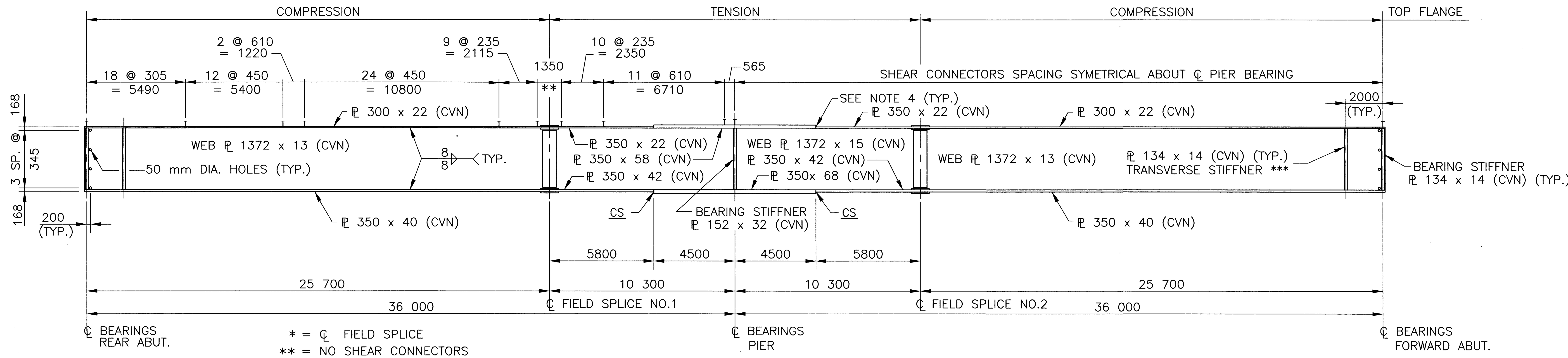
5 / 11

551 / 677

16283S2G.DWG
12–21–2000 9:03 AM
SCALE: 1:30M



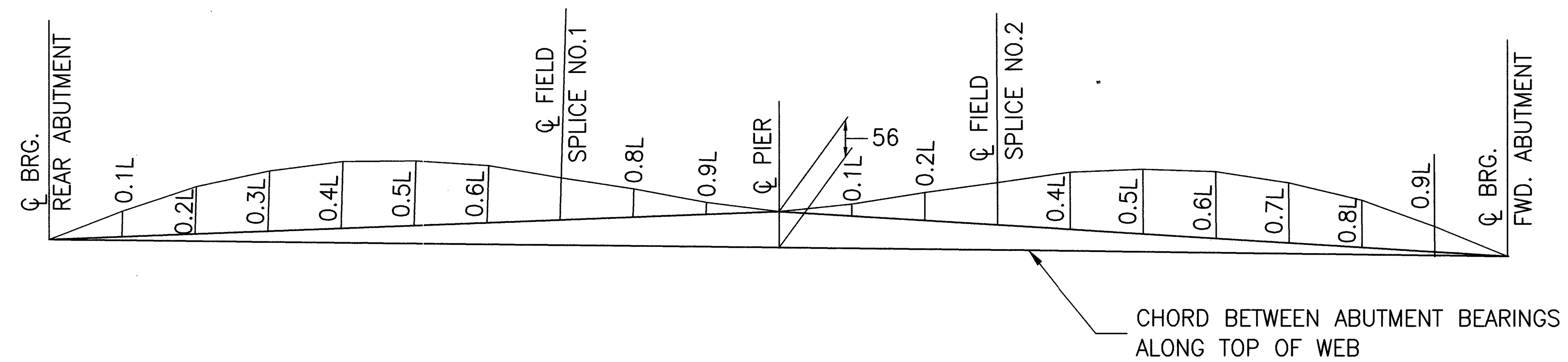
FRAMING PLAN

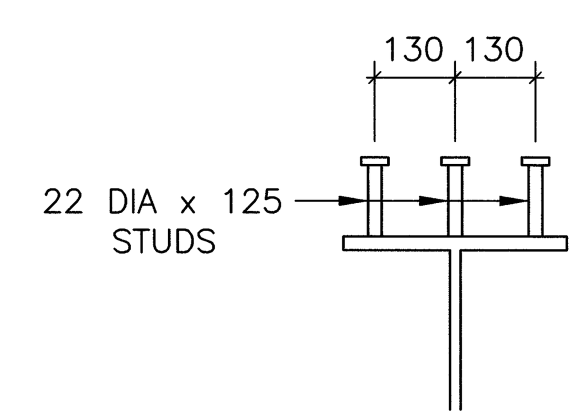


* = ℄ FIELD SPLICE
** = NO SHEAR CONNECTORS
*** = TRANSVERSE STIFFENER ONE SIDE ONLY

GIRDER ELEVATION

DEFLECTION AND CAMBER																		
	SPAN 1									SPAN 2								
	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.714L*	0.80L	0.90L	0.10L	0.20L	0.286L*	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L
DEFLECTION DUE TO WEIGHT OF STEEL	4	6	8	9	8	7	4	2	1	1	2	4	7	8	9	8	6	4
DEFLECTION DUE TO REMAINING DEAD LOAD	25	48	61	65	63	49	31	16	4	4	16	31	49	63	65	61	48	25
ADJUSTMENT DUE TO VERTICAL CURVE	5	9	12	13	14	13	11	9	5	5	9	11	13	14	13	12	9	5
TOTAL CAMBER	34	63	81	87	85	69	46	27	10	10	27	46	69	85	87	81	63	34





SHEAR CONNECTOR DETAIL

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF THE FLANGE, BE NOT MORE THAN 25 mm LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT ALL GIRDER COMPONENTS, I.E., FLANGE PLATES, WEB PLATES AND SPLICE PLATES SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
3. REFER TO SHEET 7 OF 11 FOR SPLICE DETAILS.
4. ALL FLANGE WELDS TO BE COMPLETE JOINT PENETRATION WELDS.
5. CS – INDICATES BUTT WELD SUBJECT TO COMPRESSION STRESS ONLY.
6. ALL STRUCTURAL STEEL TO BE A572 PAINTED.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE	12/00
REVIEWED	TF
STRUCTURE FILE NUMBER	1701762
DRAWN	KRM
REVISED	
DESIGNED	HJS
CHECKED	JDV

SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

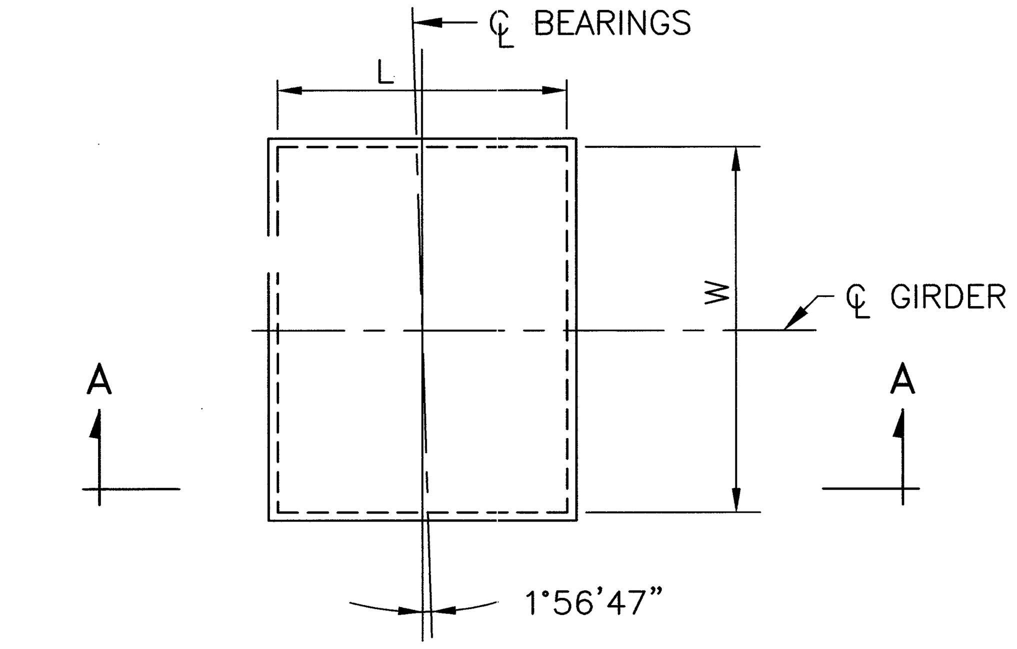
16283S2H.DWG
12-20-2000 8:49 AM
SCALE: 1:125M

LAMINATED ELASTOMERIC BEARINGS

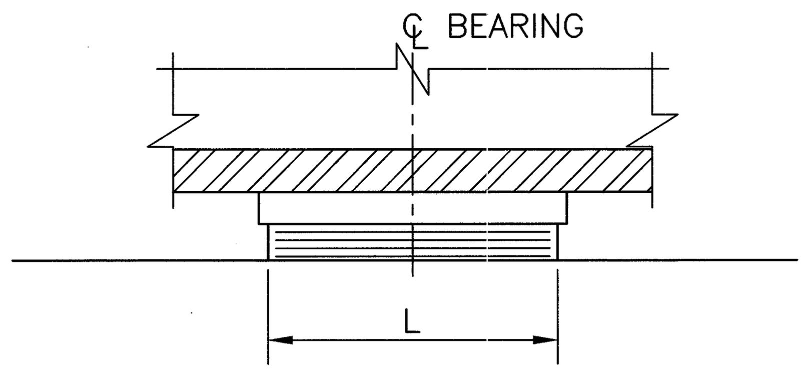
LOCATION	DIMENSIONS (MM)					N	STEEL LOAD PLATE	REACTIONS		MAXIMUM DESIGN LOAD
	L	W	T_i	T_e	T			DL	LL	
PIER EXPANSION BRNGS.	460	610	11	8	57	4	490 X 640 X 51	1450 kN	478 kN	1928 kN

T_i = THICKNESS OF INTERNAL LAYER
T_e = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

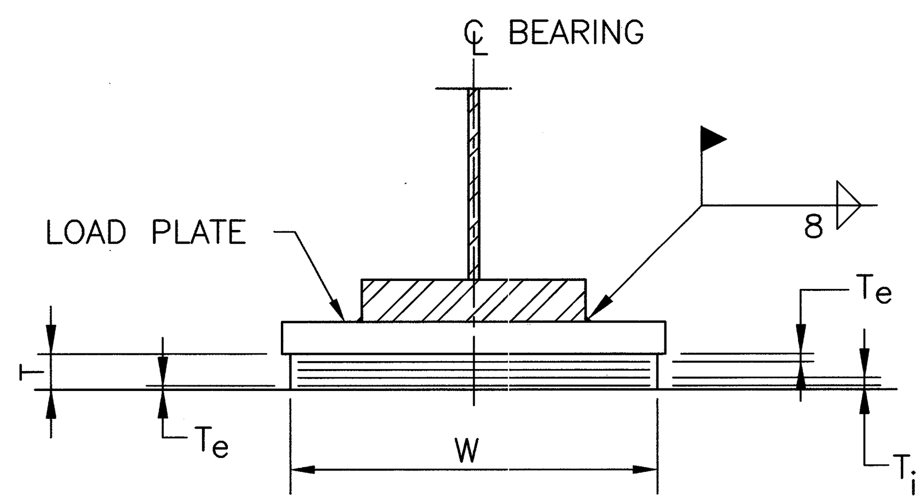
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 1.89 MM
DUROMETER OF ELASTOMER = 50 DUROMETER



PLAN



VIEW A-A



ELASTOMERIC EXPANSION BEARING

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 150° C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

HIGH STRENGTH BOLTS

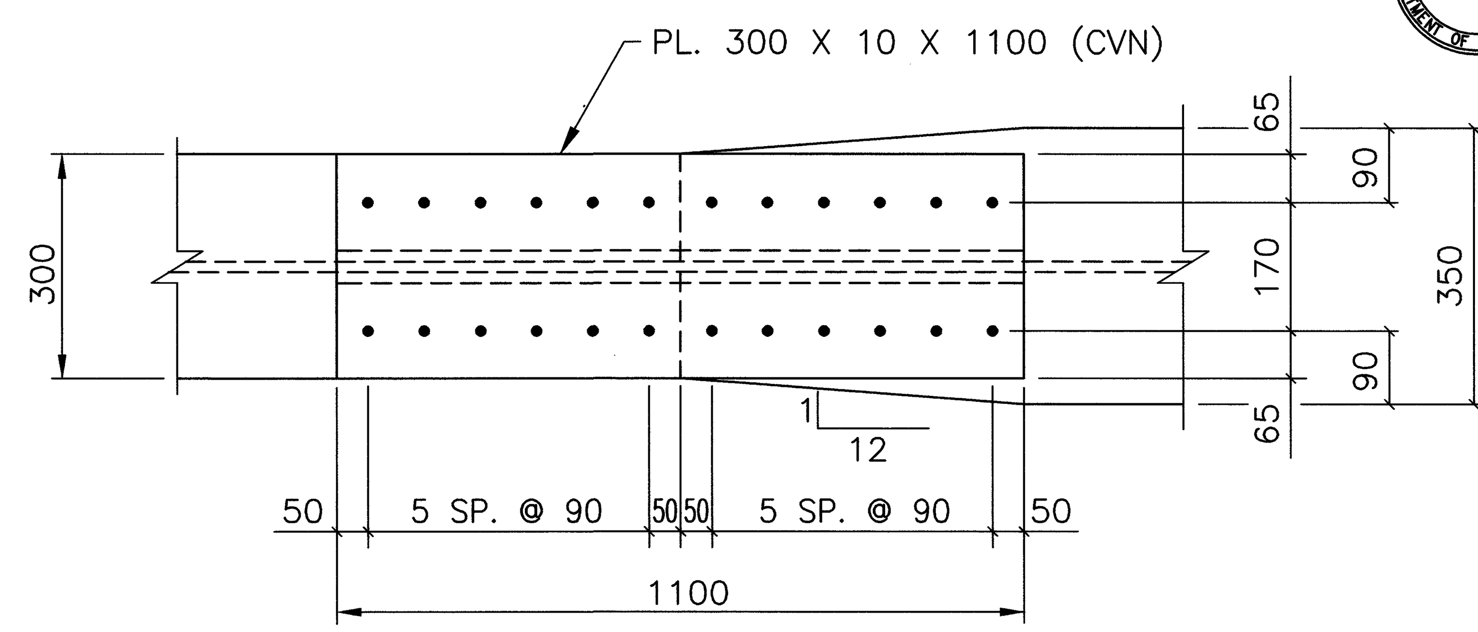
HIGH STRENGTH BOLTS SHALL BE 25 mm DIAMETER A325 UNLESS OTHERWISE NOTED.

CHARPY V-NOTCH TOUGHNESS REQUIREMENT

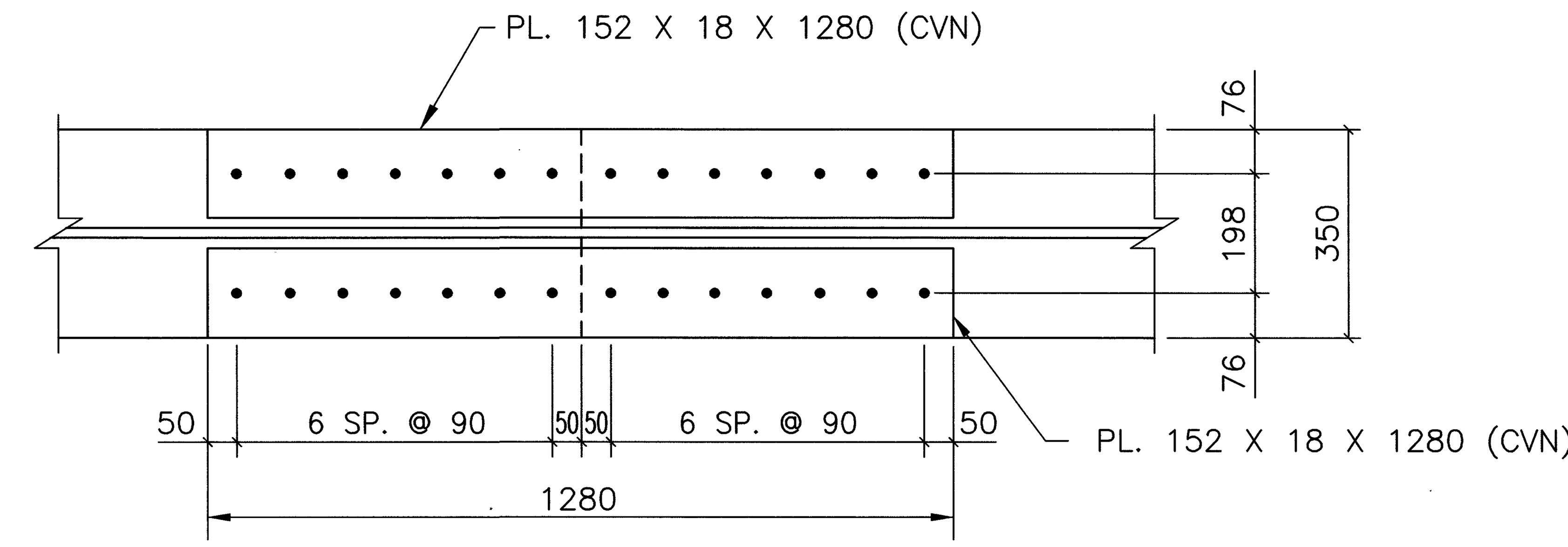
WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

ELASTOMERIC BEARINGS

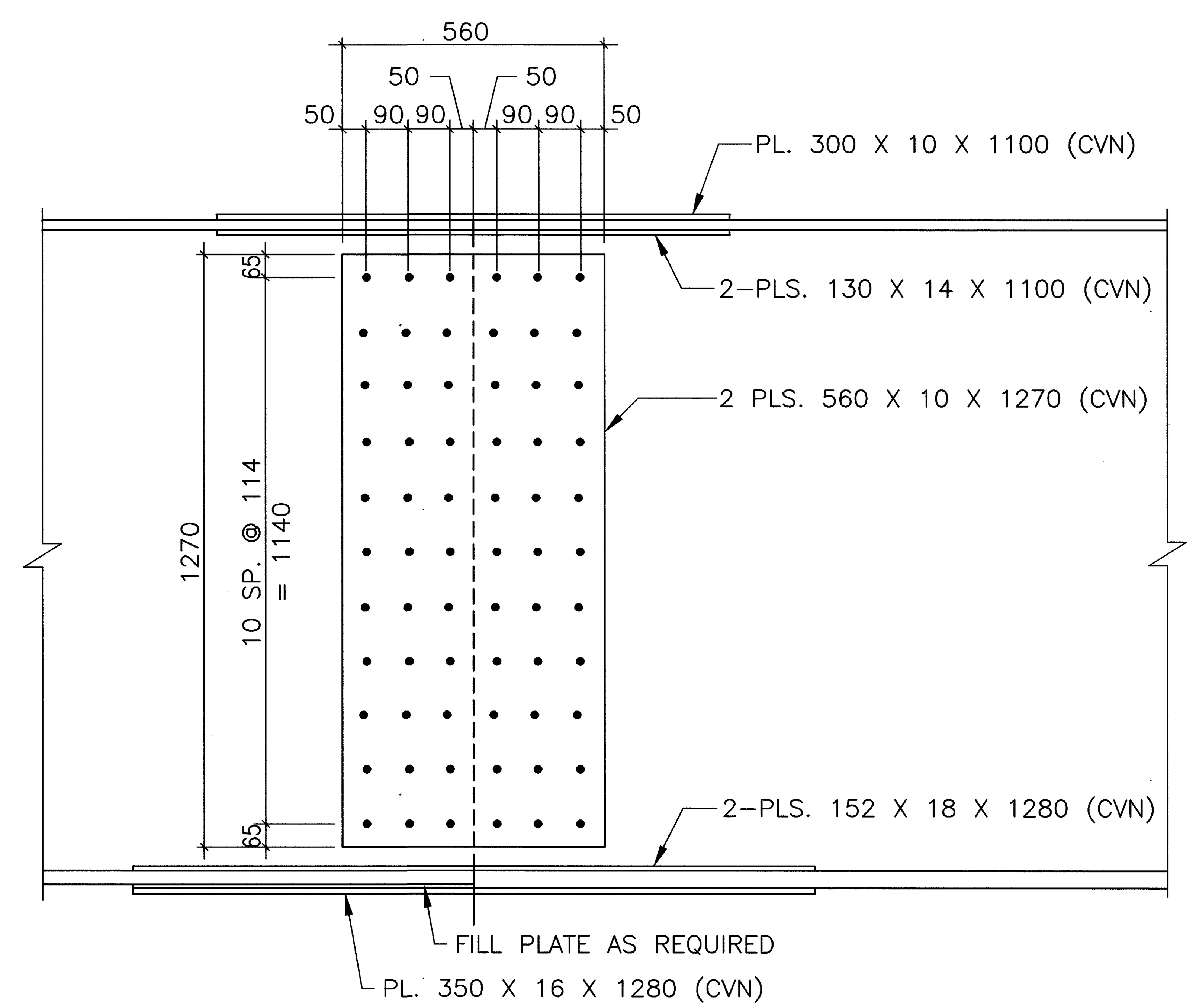
ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARINGS DEVICES, DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.2 OF SECTION14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.



PLAN – TOP FLANGE
SPLICE No.1 & No.2



PLAN – BOTTOM FLANGE
SPLICE No.1 & No.2



TYPICAL FIELD SPLICE DETAILS
SPLICE No.1 & No.2

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

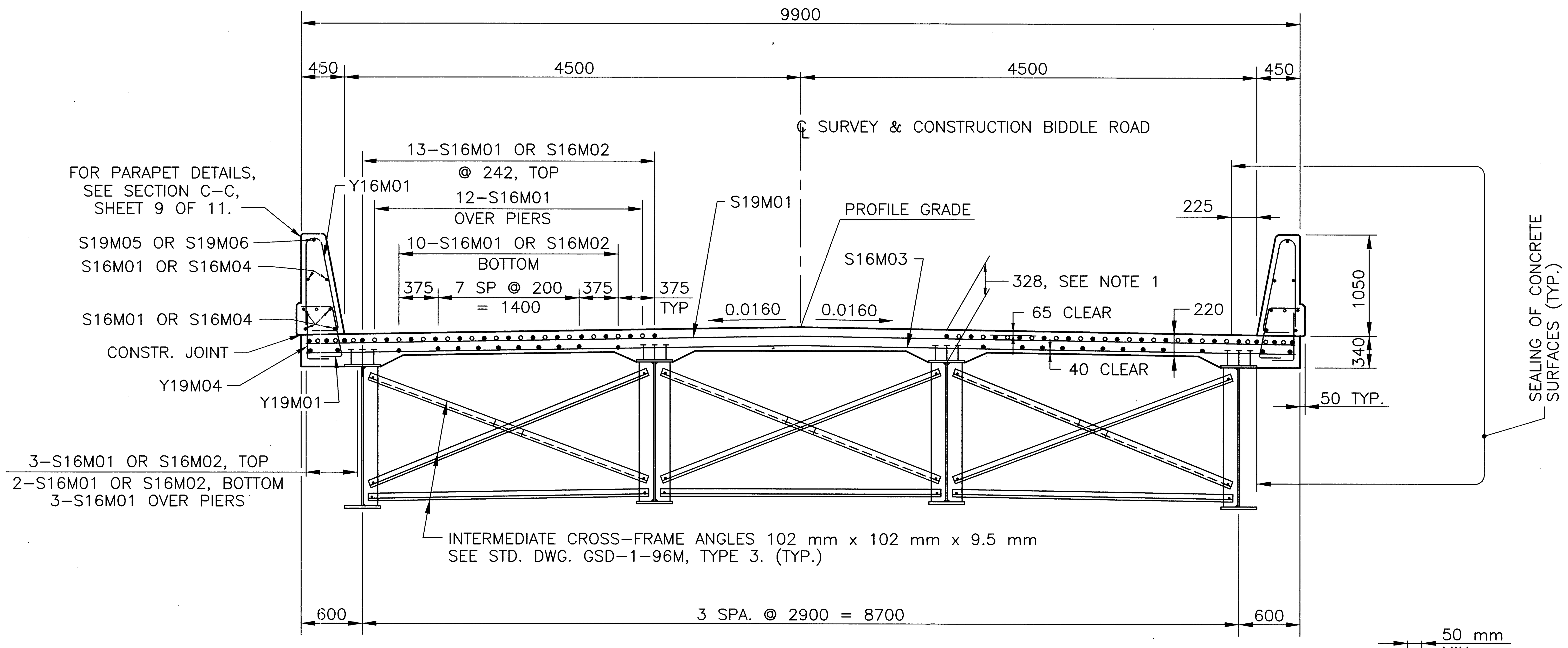
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE	12/00
REVIEWED	TF
STRUCTURE FILE NO.	1701762
DRAWN	KRM
REVISED	
DESIGNED	HJS
CHECKED	JDV

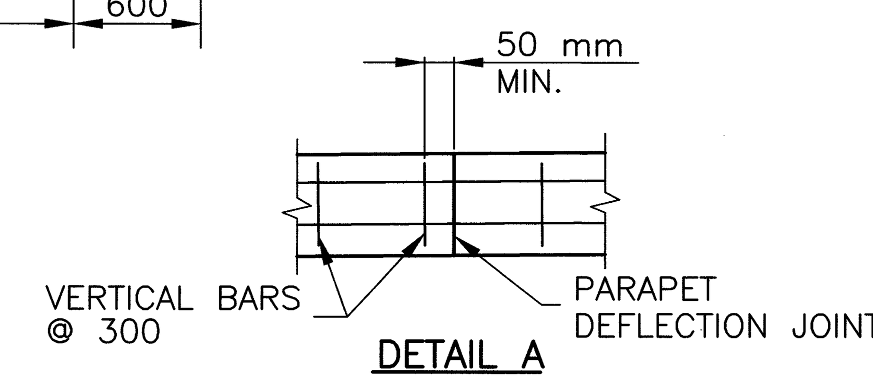
BEARING & SPLICE DETAILS
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

16283S2J.DWG
12-20-2000 8:51 AM
SCALE: 1:10M



TRANSVERSE SECTION



DETAIL A

MOVE PARAPET DEFLECTION JOINTS WHERE NEEDED TO PROVIDE 50 mm CLEARANCE AS SHOWN.

NOTES:

1. **CONCRETE DECK SLAB DEPTH**

THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 842.

2. **CONCRETE DECK HAUNCH WIDTH**

A HAUNCH WIDTH OF 225 mm SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 AND 300.

3. **MINIMUM LAP LENGTHS**

LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1240 mm.

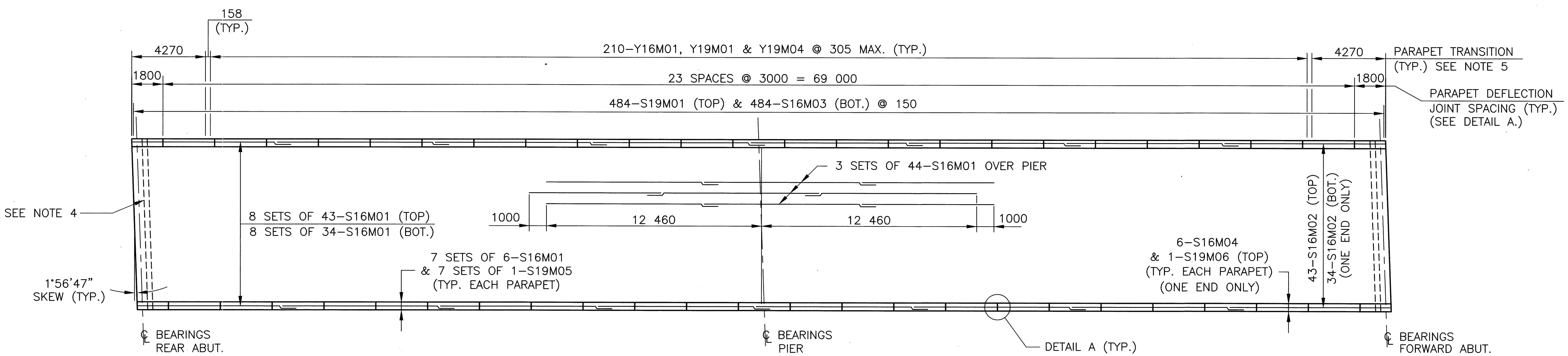
4. FOR DETAILS AT END OF DECK, SEE SECTION A-A, SHEET 4 OF 11.

5. FOR PARAPET TRANSISTION DETAILS, SEE SHEET 9 OF 11.

6. CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK.

THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.



DECK REINFORCING PLAN

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00 | STRUCTURE FILE NUMBER 1701762
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

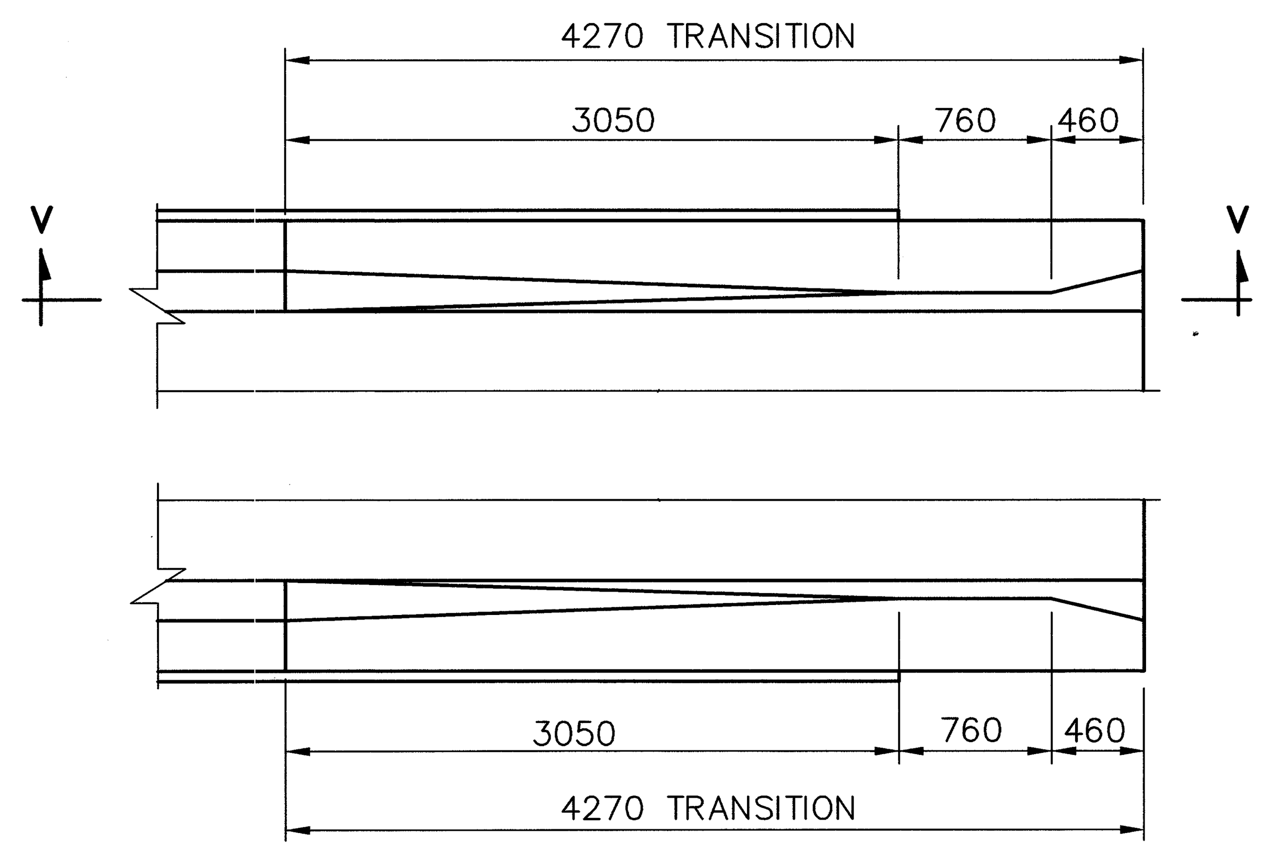
SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

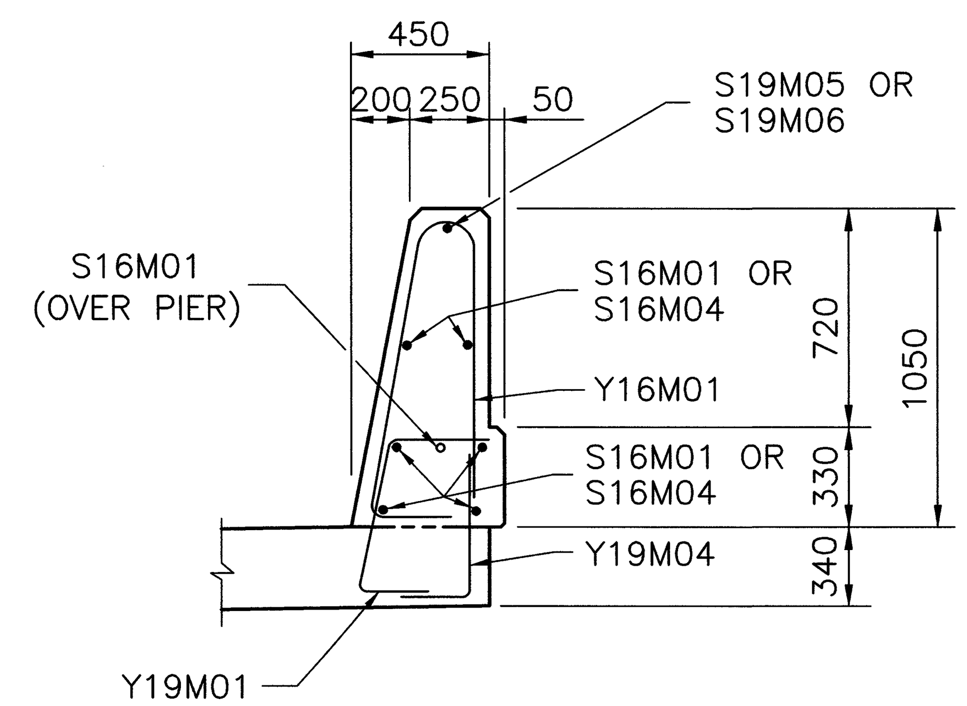
8 / 11

554 / 677

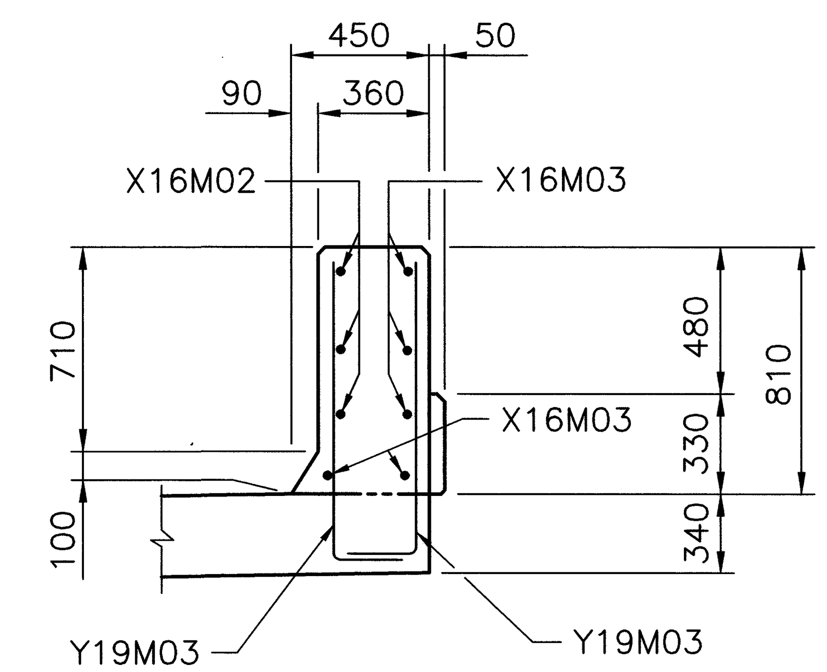
16283S2K.DWG
12-20-2000 8:53 AM
SCALE: 1:125M



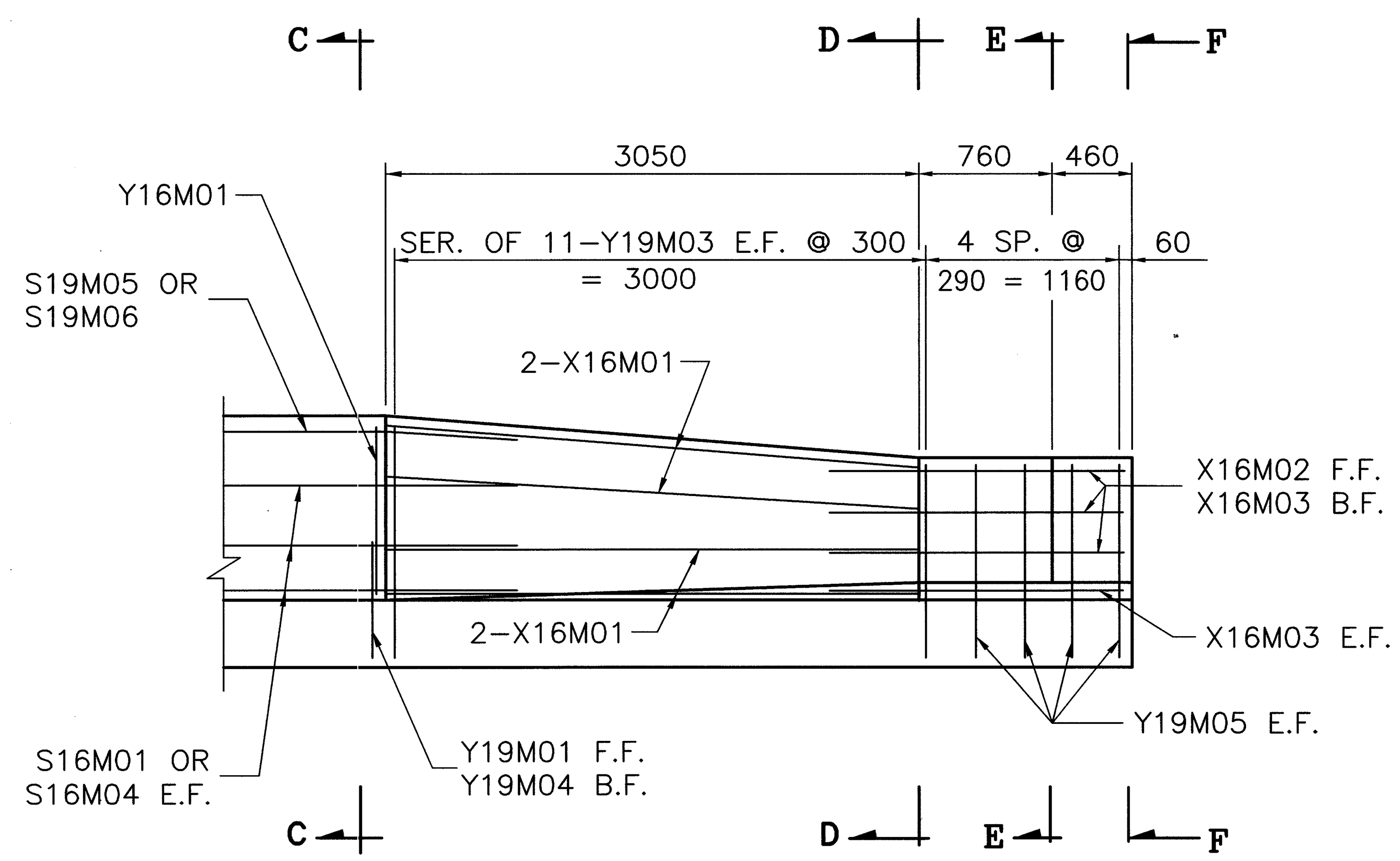
PARAPET TRANSITION DETAIL
TYPICAL @ BOTH ABUTMENTS



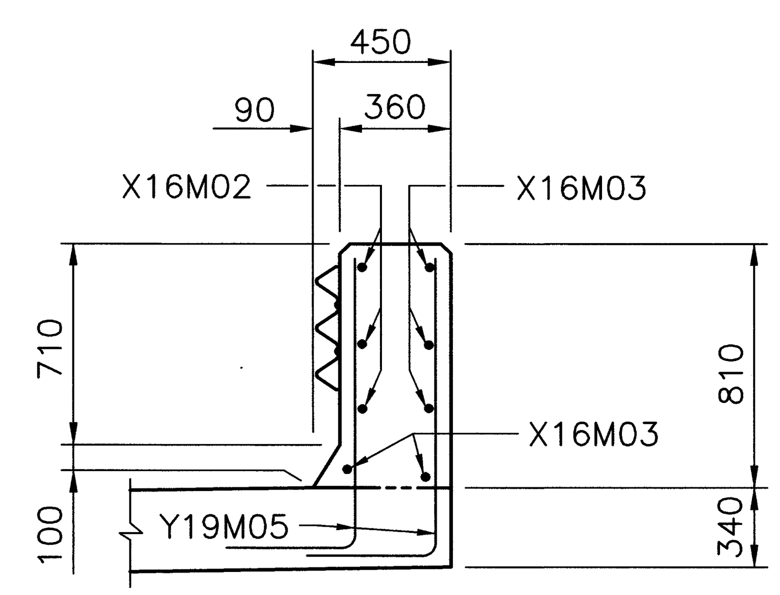
SECTION C–C



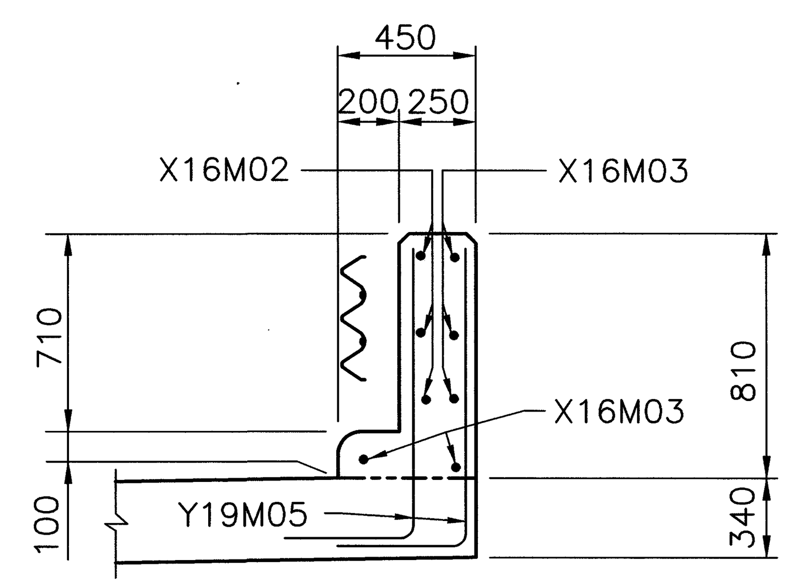
SECTION D–D



SECTION V–V



SECTION E–E



SECTION F–F

NOTES

FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING SBR–1–99M, ICD–1–82M & STD. CONSTRUCTION DRAWING GR–3.1M.

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED	DRAWN	REVIEWED	DATE
HJS	KRM	TF	12/00
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDV		1701762	

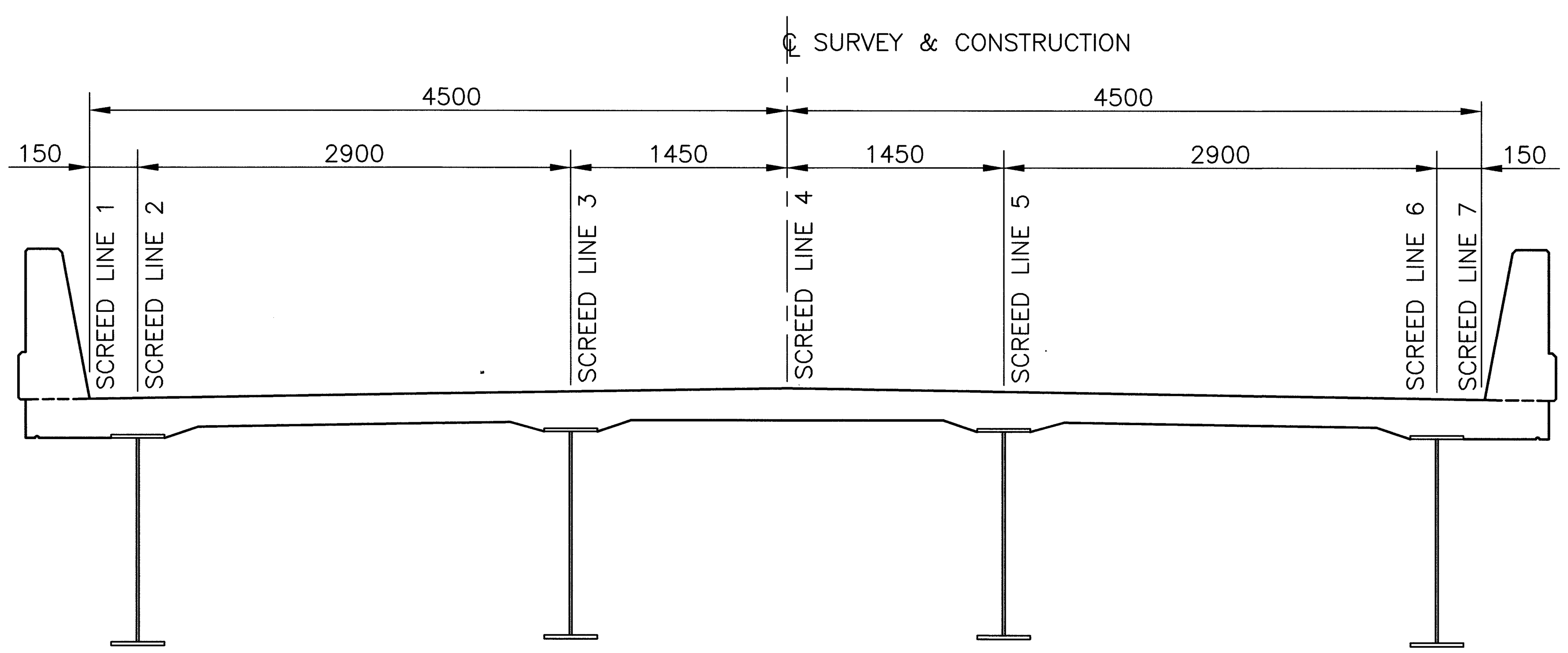
SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA–30–28000
UNDER BIDDLE ROAD

CRA–30–24.000

16283S2L.DWG
12–20–2000 8:55 AM
SCALE: 1:15M

SCREED ELEVATION TABLE

SPAN NO.	LOCATION	SCREED LINE 1 STATION	SCREED LINE 1 SCREED ELEVATION	SCREED LINE 2 STATION	SCREED LINE 2 SCREED ELEVATION	SCREED LINE 3 STATION	SCREED LINE 3 SCREED ELEVATION	SCREED LINE 4 STATION	SCREED LINE 4 SCREED ELEVATION	SCREED LINE 5 STATION	SCREED LINE 5 SCREED ELEVATION	SCREED LINE 6 STATION	SCREED LINE 6 SCREED ELEVATION	SCREED LINE 7 STATION	SCREED LINE 7 SCREED ELEVATION
SPAN NO.1	0.00 L	49+965.384	340.811	49+965.389	340.813	49+965.488	340.860	49+965.537	340.883	49+965.586	340.860	49+965.685	340.814	49+965.690	340.812
	0.10 L	49+968.984	340.852	49+968.989	340.855	49+969.088	340.901	49+969.137	340.925	49+969.186	340.902	49+969.285	340.856	49+969.290	340.853
	0.20 L	49+972.584	340.890	49+972.589	340.893	49+972.688	340.940	49+972.737	340.963	49+972.786	340.940	49+972.885	340.894	49+972.890	340.892
	0.30 L	49+976.184	340.918	49+976.189	340.920	49+976.288	340.967	49+976.337	340.990	49+976.386	340.967	49+976.485	340.921	49+976.490	340.919
	0.40 L	49+979.784	340.935	49+979.789	340.937	49+979.888	340.984	49+979.937	341.007	49+979.986	340.984	49+980.085	340.938	49+980.090	340.936
	0.50 L	49+983.384	340.945	49+983.389	340.947	49+983.488	340.994	49+983.537	341.017	49+983.586	340.994	49+983.685	340.948	49+983.690	340.946
	0.60 L	49+986.984	340.941	49+986.989	340.944	49+987.088	340.991	49+987.137	341.014	49+987.186	340.991	49+987.285	340.945	49+987.290	340.942
FIELD SPLICE	0.714 L	49+991.088	340.934	49+991.093	340.937	49+991.192	340.983	49+991.241	341.007	49+991.290	340.984	49+991.389	340.938	49+991.394	340.935
	0.80 L	49+994.184	340.927	49+994.189	340.929	49+994.288	340.976	49+994.337	340.999	49+994.386	340.976	49+994.485	340.930	49+994.490	340.927
	0.90 L	49+997.784	340.922	49+997.789	340.925	49+997.888	340.971	49+997.937	340.994	49+997.986	340.971	49+998.085	340.925	49+998.090	340.923
SPAN NO.2	0.00 L	50+001.384	340.924	50+001.389	340.927	50+001.488	340.973	50+001.537	340.997	50+001.586	340.974	50+001.685	340.927	50+001.690	340.925
	0.10 L	50+004.984	340.934	50+004.989	340.936	50+005.088	340.983	50+005.137	341.006	50+005.186	340.983	50+005.285	340.936	50+005.290	340.934
	0.20 L	50+008.584	340.950	50+008.589	340.952	50+008.688	340.999	50+008.737	341.022	50+008.786	340.999	50+008.885	340.952	50+008.890	340.950
FIELD SPLICE	0.286 L	50+011.680	340.967	50+011.685	340.970	50+011.784	341.016	50+011.833	341.039	50+011.882	341.016	50+011.981	340.970	50+011.986	340.968
	0.40 L	50+015.784	340.987	50+015.789	340.990	50+015.888	341.036	50+015.937	341.060	50+015.986	341.036	50+016.085	340.990	50+016.090	340.988
	0.50 L	50+019.384	341.002	50+019.389	341.005	50+019.488	341.051	50+019.537	341.074	50+019.586	341.051	50+019.685	341.005	50+019.690	341.002
	0.60 L	50+022.984	341.004	50+022.989	341.006	50+023.088	341.053	50+023.137	341.076	50+023.186	341.052	50+023.285	341.006	50+023.290	341.004
	0.70 L	50+026.584	340.998	50+026.589	341.001	50+026.688	341.047	50+026.737	341.070	50+026.786	341.047	50+026.885	341.000	50+026.890	340.998
	0.80 L	50+030.184	340.983	50+030.189	340.985	50+030.288	341.031	50+030.337	341.054	50+030.386	341.031	50+030.485	340.985	50+030.490	340.982
	0.90 L	50+033.784	340.956	50+033.789	340.958	50+033.888	341.004	50+033.937	341.028	50+033.986	341.004	50+034.085	340.958	50+034.090	340.955
	1.00 L	50+037.384	340.926	50+037.389	340.928	50+037.488	340.974	50+037.537	340.998	50+037.586	340.974	50+037.685	340.928	50+037.690	340.925



SCREED LINE LOCATIONS

SCREED ELEVATIONS ARE FOR THE CONCRETE SURFACE BEFORE THE CONCRETE IS PLACED. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

ALL DIMENSIONS ARE IN MILLIMETERS
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metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NUMBER 1701762
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

SCREED ELEVATIONS
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

10/11

556/677

16283S2M.DWG
12-20-2000 3:40 PM
SCALE: 1:30M

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
				ABUTMENTS					
A13M01	32	2665		3	515	740			
A16M01	92	3250		3	770	770			
A16M02	92	3525		2	1500	600	1500		
A16M03	28	3685		2	1580	600	1580		
A16M04	32	9235		STR					
A16M10	8	3475		STR					
A16M11	8 S.O. 4	910 TO 3280		STR					INCR = 790
A16M12	8	3735		STR					
A16M13	4	4545		2	2010	600	2010		
A16M14	4 S.O. 6	2225 TO 4175		2	850 TO 1825	600	850 TO 1825		VARY A BY 195 VARY C BY 195
A16M15	4	2535		2	1005	600	1005		
A16M16	4	2825		2	1150	600	1150		
A16M17	4	3295		2	1385	600	1385		
A19M01	72	3100		11					
A25M01	32	9735		STR					
				PIER					
P16M01	8	9760		STR					
P16M02	72	2175		2	850	550	850		
P16M03	96	2440		2	850	815	850		
P29M01	8	8890		1	800	8180			
P29M02	8	5090		1	800	4380			
P29M03	16	6430		4	5760	670	150		
P32M01	72	3760		13	2900				
P32M02	30	3360		1	560	2900			
P32M03	30	6100		STR					
SP13M01	3	5250		SPIRAL					

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
				SUPERSTRUCTURE					
S16M01	832	9140		STR					
S16M02	77	5480		STR					
S16M03	484	9800		STR					
S16M04	12	6810		STR					
X16M01	32	3050		STR					
X16M02	12	1680		10					
X16M03	20	1680		STR					
Y16M01	420	2205		7	900	950			
S19M01	484	9800		STR					
S19M05	14	9140		STR					
S19M06	2	11240		STR					
Y19M01	420	1100		6	560				
Y19M03	8 S.O. 11	1320 TO 1560		1	320	1050 TO 1290			VARY B BY 24
Y19M04	420	830		1	320	560			
Y19M05	32	1320		1	320	1050			
				SUPERSTRUCTURE–DIAPHRAGM					
S16M06	8	10370		STR					
S19M02	72	2740		2	1120	600	1120		
S19M03	72	3150		2	1400	450	1400		
S19M04	72	3560		2	1530	600	1530		
S25M01	24	10370		STR					
S25M02	44	1540		5	430	825			

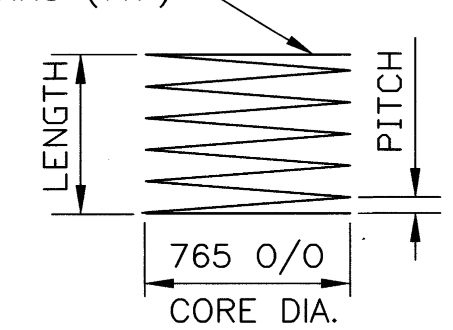
DIMENSIONS SHOWN ARE OUT TO OUT.
STR = STRAIGHT
S.O. = SERIES OF
INCR = INCREMENT

SPIRALS; SP13M01 – CORE DIAMETER 765 mm, PITCH 115 mm

OTHER DETAILS IN ACCORDANCE WITH C.R.S.I. STANDARDS

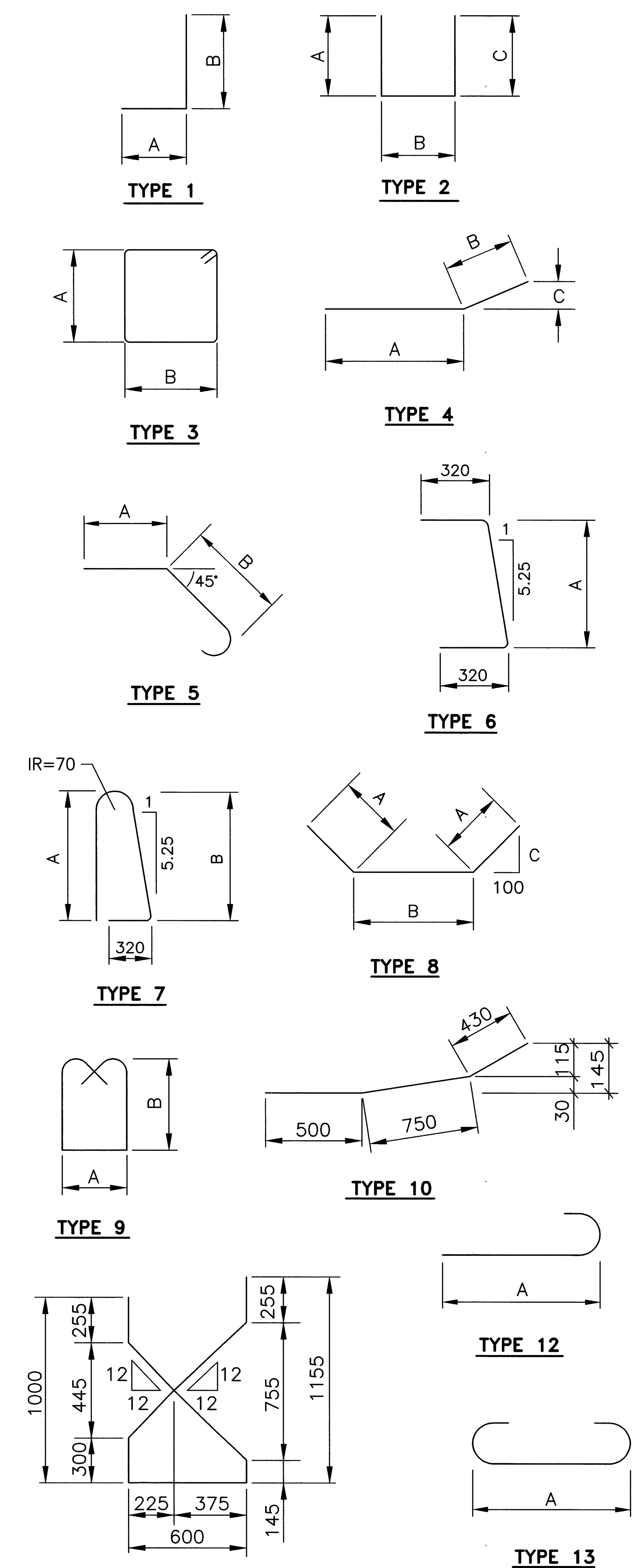
SPIRAL REINFORCING BAR SPACES:

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVAL (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 3 M) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 76 mm CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION OF THE DRILLED SHAFT OR COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORT) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.



SPIRAL

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS



THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A15M01 IS A #15M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL REINFORCING STEEL TO BE EPOXY COATED.

metric units

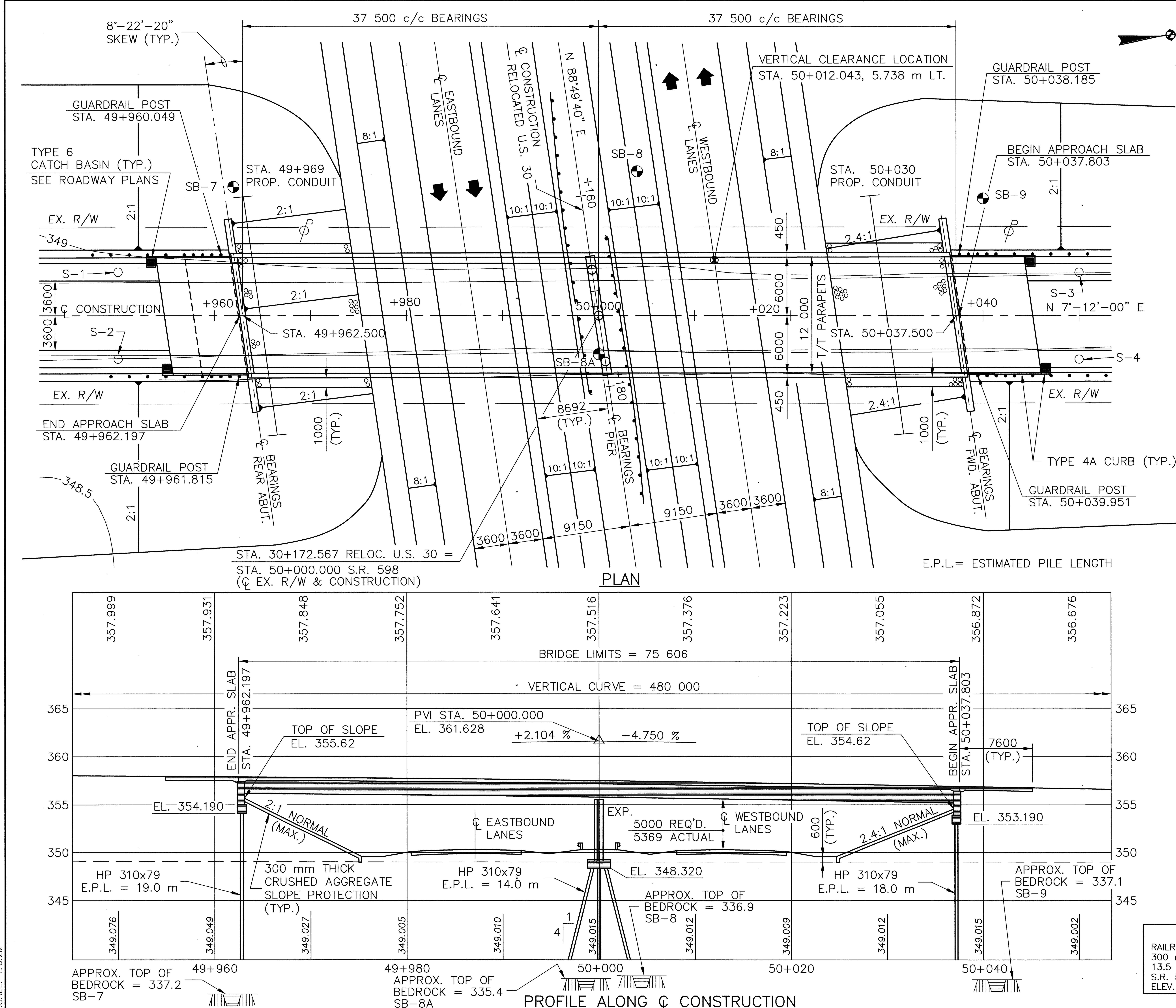
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF
DATE 12-00
STRUCTURE FILE NUMBER 1701762
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

REINFORCING STEEL LIST
BRIDGE NO. CRA-30-28000
UNDER BIDDLE ROAD

CRA-30-24.000

16283S2N.DWG
12-20-2000 8:58 AM
SCALE: 1:1M



NOTE:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

SETTLEMENT PLATFORM DATA

NO.	LOCATION	STATION
S-1	4.5 m LT.	49+950
S-2	4.5 m RT.	49+950
S-3	4.5 m LT.	50+050
S-4	4.5 m RT.	50+050

= BORING LOG LOCATION

VERTICAL CURVE DATA
PVI STA. 50+000
PVI EL. 361.628
G1 = +2.104 %
G2 = -4.750 %
L = 480 m

TRAFFIC DATA
DESIGN ADT (2020) = 4740
DESIGN ADTT (2020) = 570

PROPOSED STRUCTURE
TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 37 500, 37 500 c/c BEARINGS
ROADWAY: 12 000 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 8°-22'-20" R.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-50"
LONGITUDE: W82°-47'-35"

BENCHMARK:
RAILROAD SPIKE IN SOUTH SIDE OF 300 mm TWIN OAK STA. 49+768.000, 13.5 m LEFT OF ℄ CONSTR. OF S.R. 598
ELEV. 350.629

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

metric units

DESIGN AGENCY: McCOY/FOK & ASSOCIATES INC. 367 GHENT ROAD, SUITE 1A AKRON, OHIO
REVIEWED TF DATE 12-00
STRUCTURE FILE NUMBER 1701843
DRAWN KRM REVISED
DESIGNED HJS CHECKED JDV

CRAWFORD COUNTY STA. 49+962.197 STA. 50+037.803

SITE PLAN
BRIDGE NO. CRA-30-30166 UNDER S.R. 598

CRA-30-24.000

1/11

558
677

16283S3A.DWG 12-20-2000 9:00 AM SCALE: 1:0.2M

GENERAL NOTES

PILES DRIVEN TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL MILLIMETERS WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 mm OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): THE ULTIMATE BEARING VALUE IS 940 kN PER PILE FOR THE HP310x79 ABUTMENT PILES.

ABUTMENT PILES: REAR
- 10 PILES 19 METERS LONG, ESTIMATED LENGTH
- 10 PILES OF ORDER LENGTH 18 METERS LONG
- 10 PILES OF ORDER LENGTH 2.5 METERS LONG
- 10 SPLICES

FORWARD
- 10 PILES 18 METERS LONG, ESTIMATED LENGTH
- 10 PILES OF ORDER LENGTH 18 METERS LONG
- 10 PILES OF ORDER LENGTH 1.5 METERS LONG
- 10 SPLICES

THE ULTIMATE BEARING VALUE IS 1132 kN PER PILE FOR THE HP310x79 PIER PILES.

PIER PILES:
- 24 PILES 14 METERS LONG, ESTIMATED LENGTH
- 24 PILES OF ORDER LENGTH 15.5 METERS LONG
- 12 SPLICES

ITEM 507, STEEL POINT (OR SHOE), AS PER PLAN:

STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL INC., 3601 N.W. YEON AVE., P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, NC 28105 OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27M 450/240 – CLASS 2 – HEAT TREATED OR AASHTO M103M 450/240 – HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

PAINTING OF 863 STEEL

ALL NEW STEEL SHALL BE SHOP PRIMED PER ITEM 816, WHICH SHALL BE INCLUDED IN THE COST OF ITEM 863.

ITEM 816, FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

ALL NEW STEEL SHALL BE PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM IZEU. THE COLOR OF THE FINISH COAT SHALL BE LIGHT NEUTRAL FEDERAL COLOR STANDARD No. 17778. IN ADDITION TO THE SURFACE AREA OF STEEL STRINGERS TO BE PAINTED, INCIDENTALS SUCH AS CROSSFRAMES AND BEARINGS SHALL BE INCLUDED. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM 816, FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU FOR PAYMENT.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN'L.	AS PER PLAN SHEET NO.
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	GN-2
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	GN-2
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00200	772	METER	STEEL PILES HP310X79, FURNISHED	400	372			
507	00250	706	METER	STEEL PILES HP310X79, DRIVEN	370	336			
507	50500	32	EACH	STEEL PILE SPLICES	20	12			
507	93301	44	EACH	STEEL POINT (OR SHOE), AS PER PLAN	20	24			2
516	13200	8	SQ M	13 mm PREFORMED EXPANSION JOINT FILLER	8				
516	13600	12	SQ M	25 mm PREFORMED EXPANSION JOINT FILLER	12				
516	44101	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE),		5			7
				AS PER PLAN 57 X 460 X 610 mm w/54 X 490 X 640 mm BEVELED					
				LOAD PLATE					
518	21231	LUMP		POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	LUMP				GN-2
518	40000	41	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE	41				
518	40011	19	METER	150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS,	19				3
				AS PER PLAN					
SPECIAL	53013000	46	SQ M	FORM LINER	46				
816	00610	139,769	KILOGRAM	FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU			139,769		
842	41001	23	CU M	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		23			GN-2
842	43501	69	CU M	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	69				GN-2
842	46501	30	CU M	CLASS C CONCRETE, FOOTING, AS PER PLAN		30			GN-2
844	49000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX			LUMP		
844	49010	LUMP		HIGH PERFORMANCE CONCRETE TESTING			LUMP		
844	49501	35	CU M	HIGH PERFORMANCE CONCRETE, MISC.: SUPERSTRUCTURE, INTEGRAL			35		GN-2
				DIAPHRAGM, AS PER PLAN					
863	10080	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL FOUR (4) FABRICATION, A572			LUMP		
863	20000	2535	EACH	WELDED STUD SHEAR CONNECTOR			2535		
864	101000	642	SQ M	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	36	78	528		GN-2
894	10001	306	CU M	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN			306		GN-2
				COMPUTED BY : KRM DATE : 7/20/99					
				CHECKED BY : JDV DATE : 7/21/99					

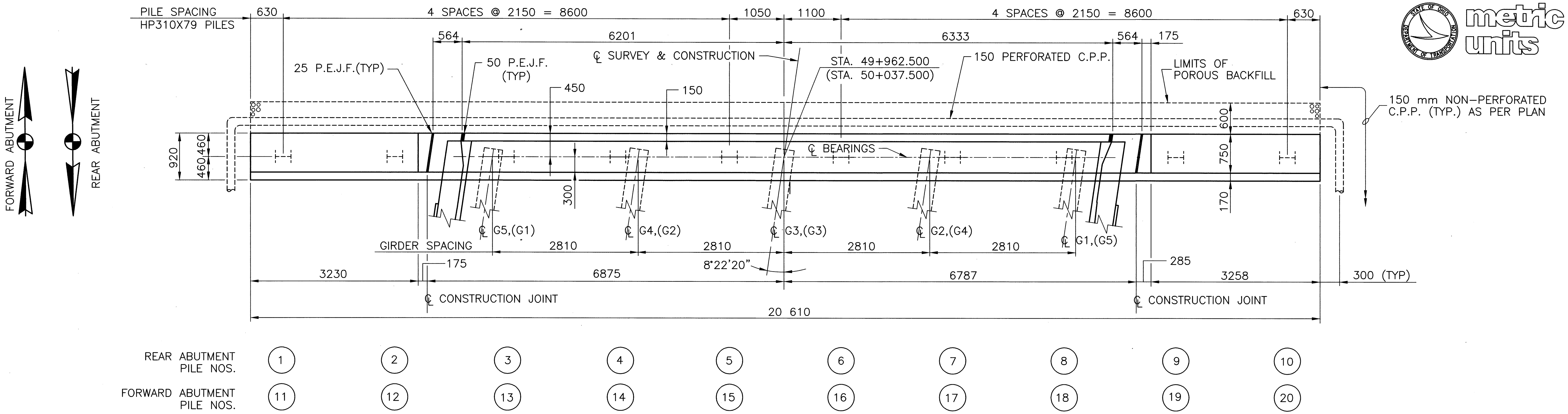
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701843
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ESTIMATED QUANTITIES
BRIDGE NO. CRA-30-30166
UNDER S.R. 598

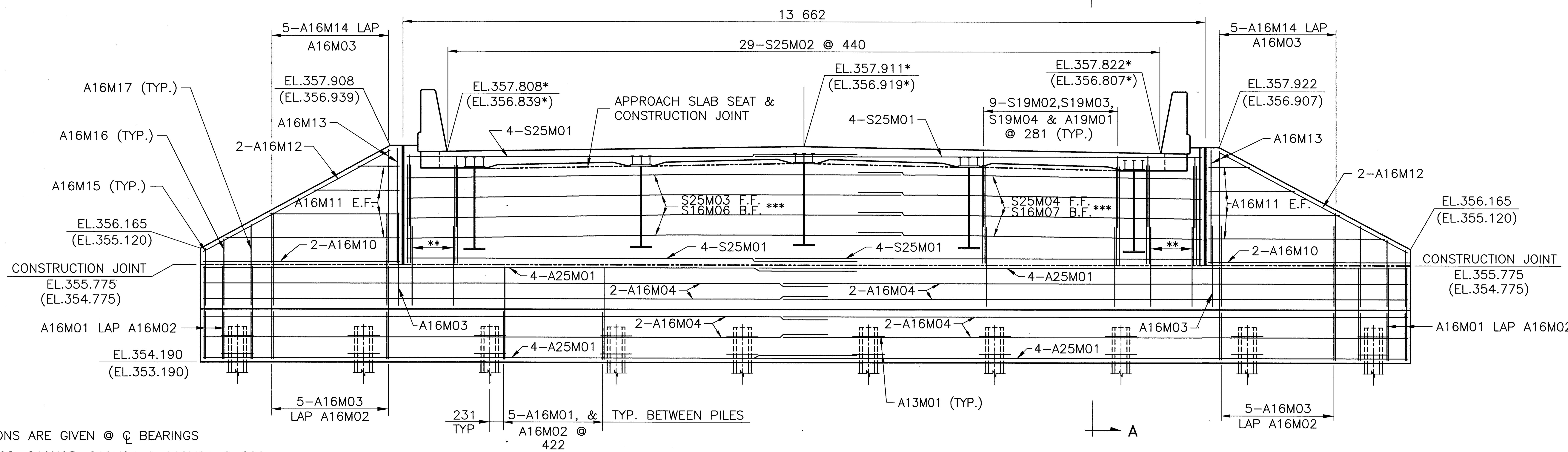
CRA-30-24.000

16283S3C.DWG
12-21-2000 10:32 AM
SCALE: 1=1E



PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)

* ELEVATIONS ARE GIVEN @ ℄ BEARINGS

** 4–S19M02, S19M03, S19M04 & A19M01 @ 281

*** STAGGER SPLICE

† ELEVATIONS, STATIONS, & GIRDER NUMBERS IN ( ) ARE FOR FORWARD ABUTMENT ONLY.

MINIMUM BAR LAPS

LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1040 mm.
LAP NO.25M BARS 1750 mm.

ABBREVIATIONS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED POLYETHYLENE PIPE

NOTE:

1. REFER TO SHEET 4/11 FOR ADDITIONAL NOTES, AND SECTIONS A–A & B–B.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

16283S3E.DWG
12-21-2000 10:39 AM
SCALE: 1:40M

metric units

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF
DATE 12/00
STRUCTURE FILE NO. 1701843

DRAWN KRM
REVISED

DESIGNED HJS
CHECKED JDV

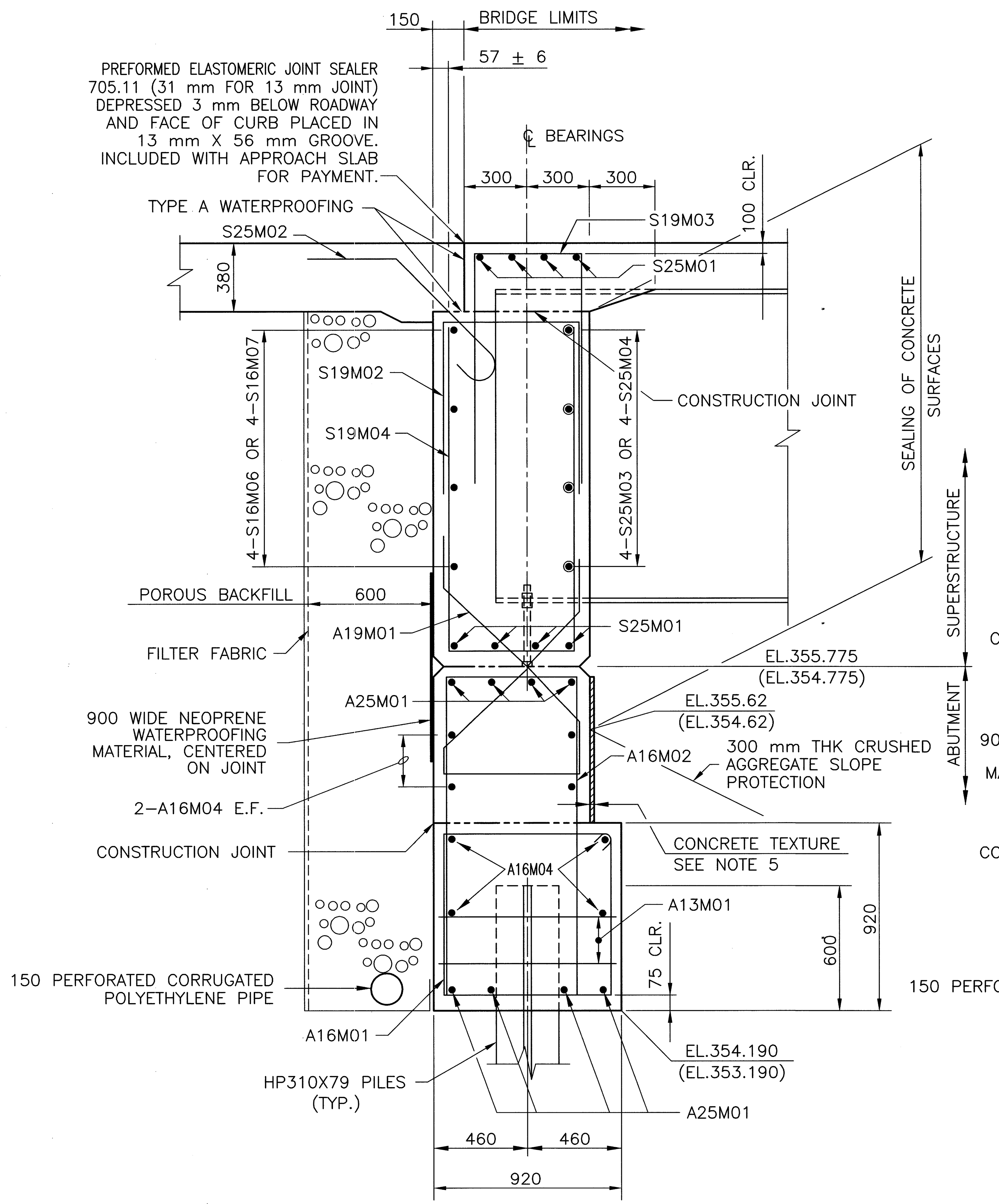
ABUTMENT DETAILS

BRIDGE NO. CRA-30-30166
UNDER S.R. 598

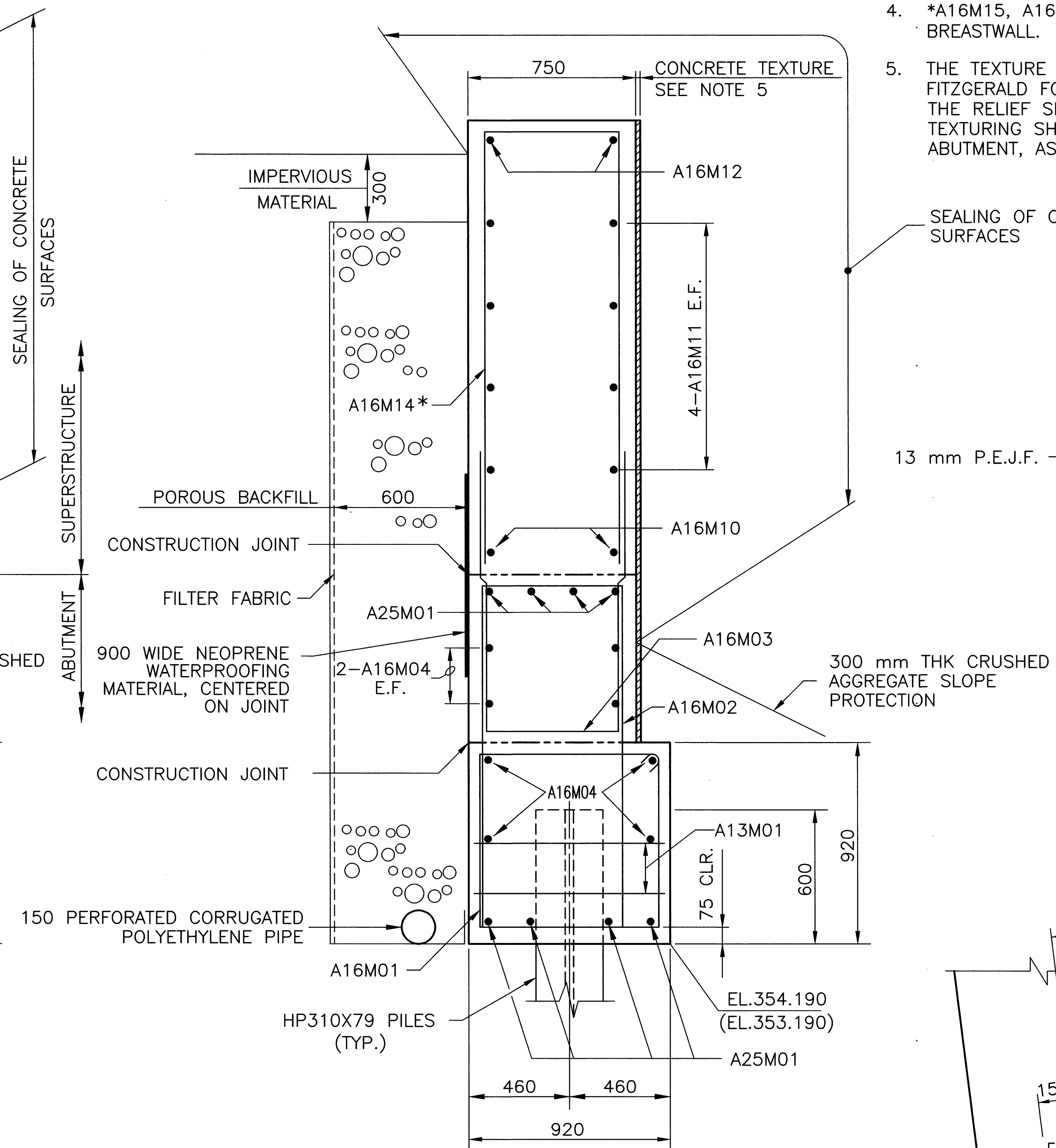
CRA-30-24.000

NOTES:

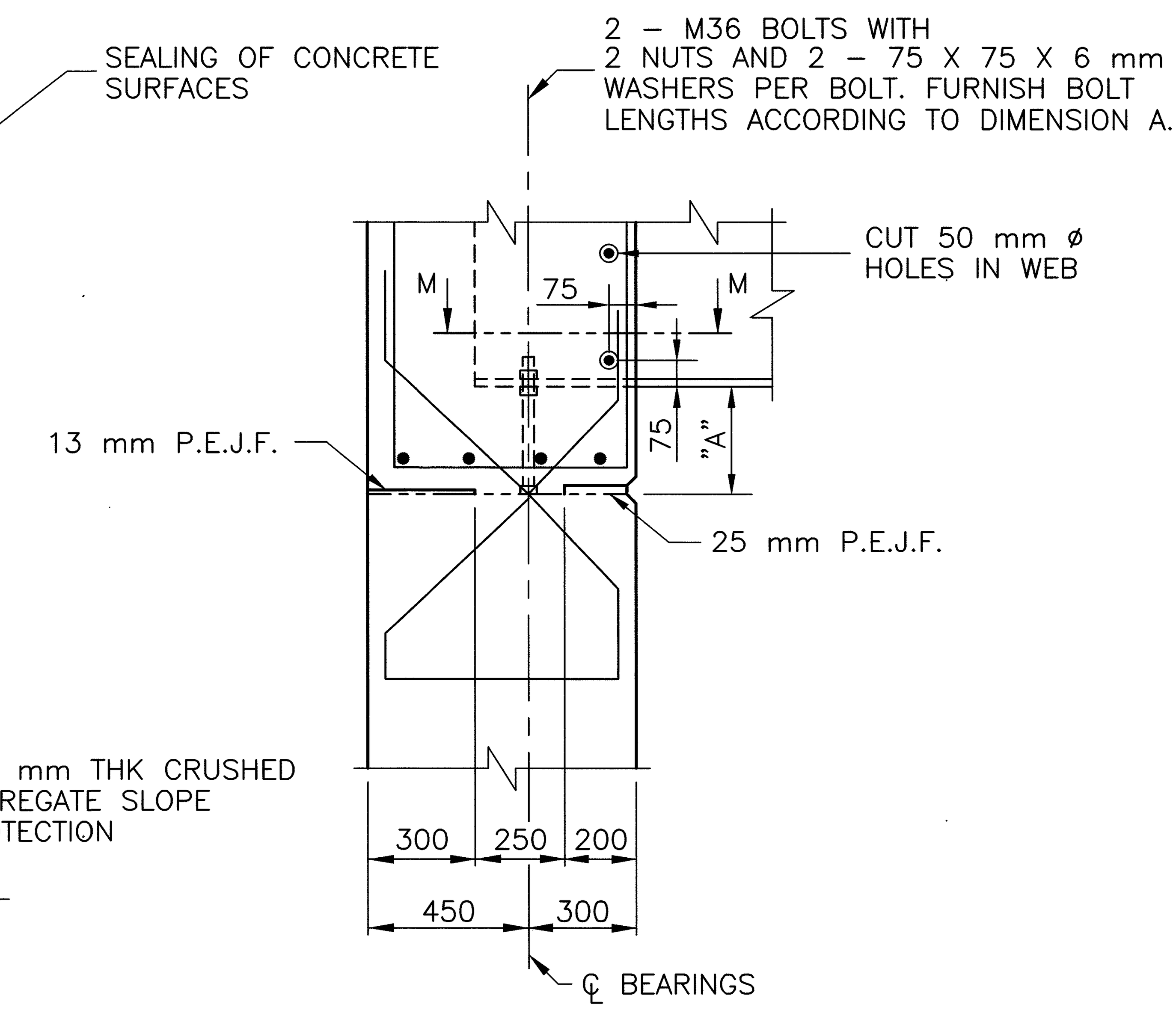
1. POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR LOCATION OF SECTIONS A–A & B–B SEE SHEET 3/11
3. FOR ADDITIONAL DETAILS REFER TO STD. DWG. ICD–1–82M.
4. *A16M15, A16M16 & A16M17 @ WINGWALL ENDS EMBEDDED IN BREASTWALL.
5. THE TEXTURE SHALL BE AN ASHLER STONE PATTERN AS PER THE FITZGERALD FORM LINER NUMBER 16986 OR APPROVED EQUAL. THE RELIEF SHALL BE A MINIMUM OF 19 mm. CONCRETE FOR TEXTURING SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, ABUTMENT, AS PER PLAN, FOR PAYMENT.



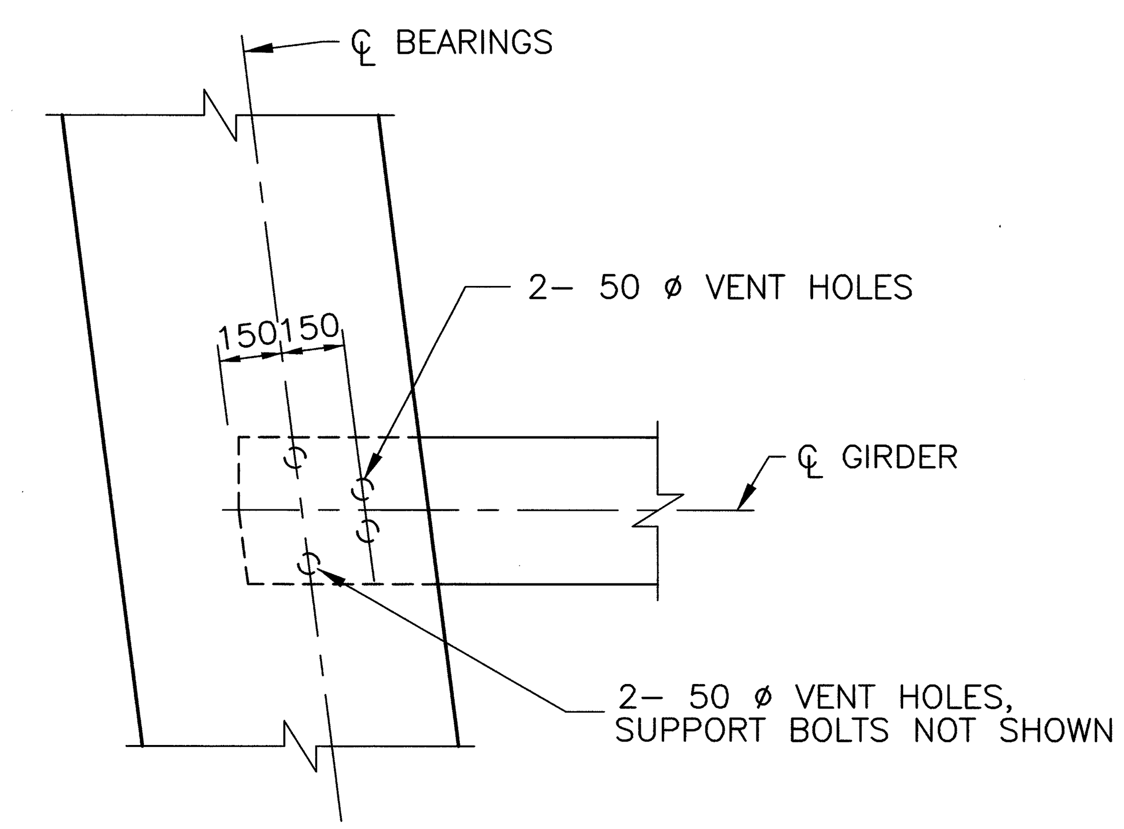
SECTION A–A



SECTION B–B



DETAIL X



SECTION M–M

DIMENSION "A"					
	GIRDER NO. 1	GIRDER NO. 2	GIRDER NO. 3	GIRDER NO. 4	GIRDER NO. 5
REAR ABUTMENT	314	355	396	349	301
FORWARD ABUTMENT	330	367	404	352	300

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NUMBER 1701843
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

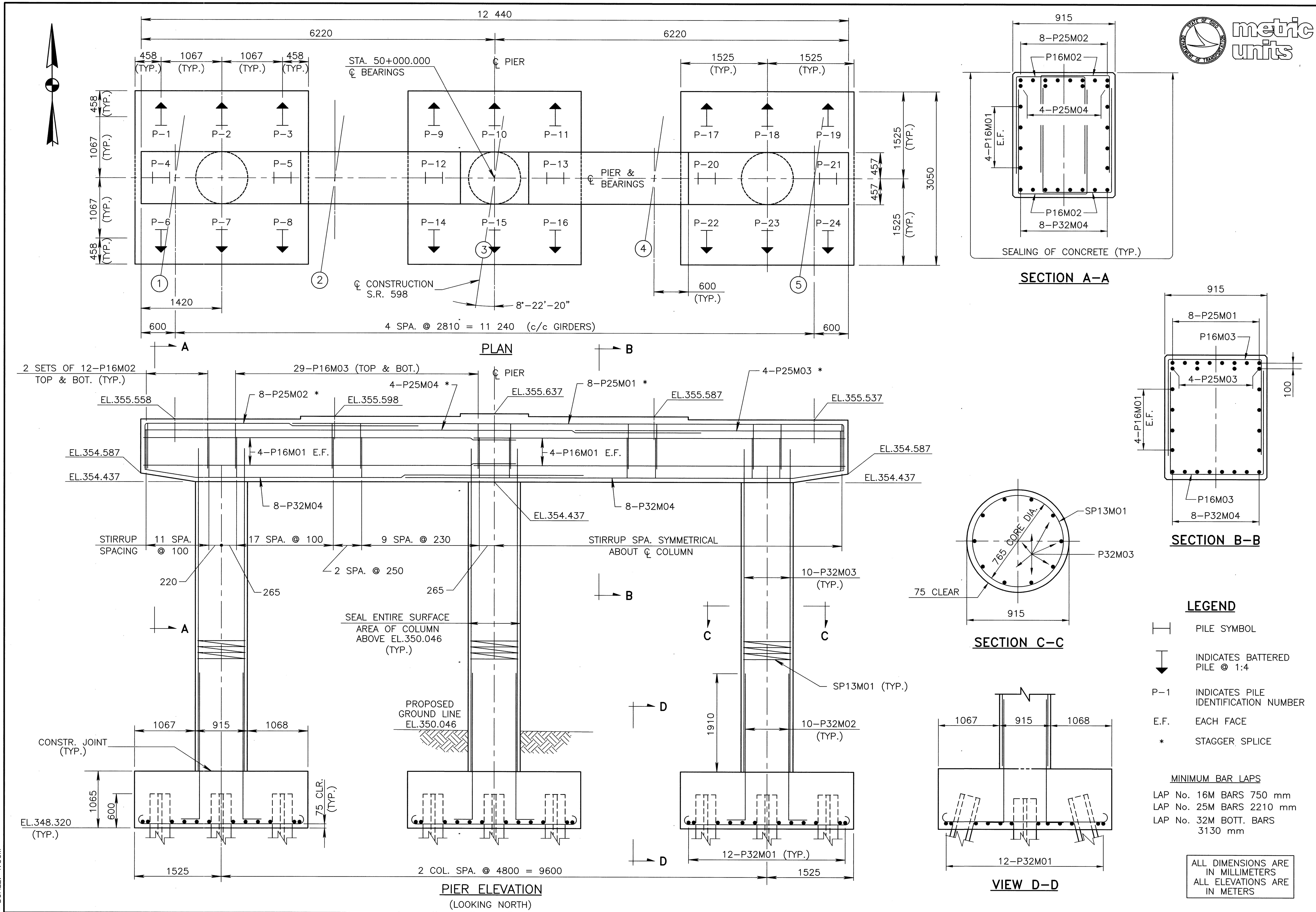
ABUTMENT DETAILS
BRIDGE NO. CRA–30–30166
UNDER S.R. 598

CRA–30–24.000

4/11

561/677

16283S3F.DWG
12–20–2000 9:14 AM
SCALE: 1:15M



DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701843
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

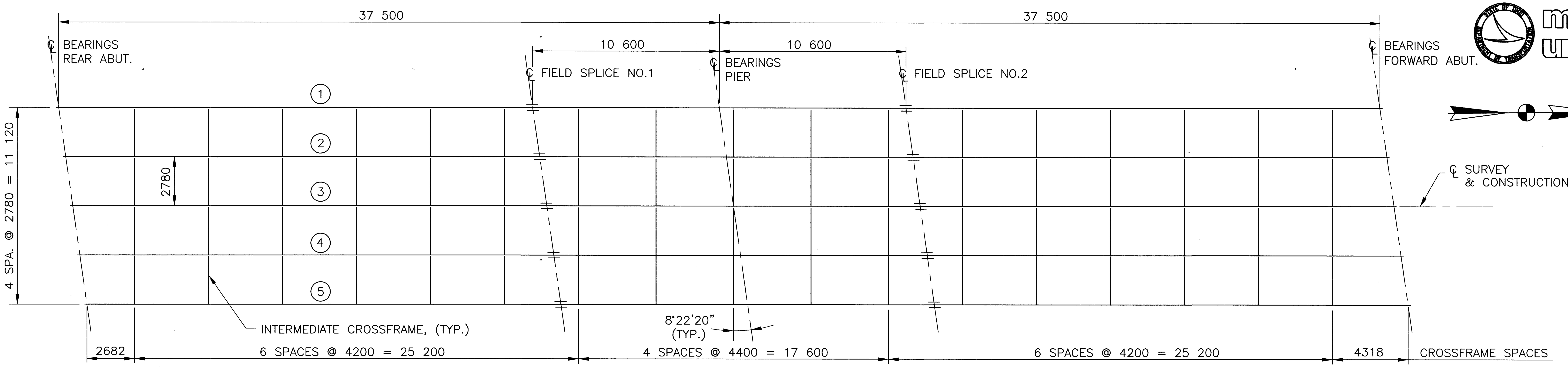
PIER DETAILS
BRIDGE NO. CRA-30-30166
UNDER S.R. 598

CRA-30-24.000

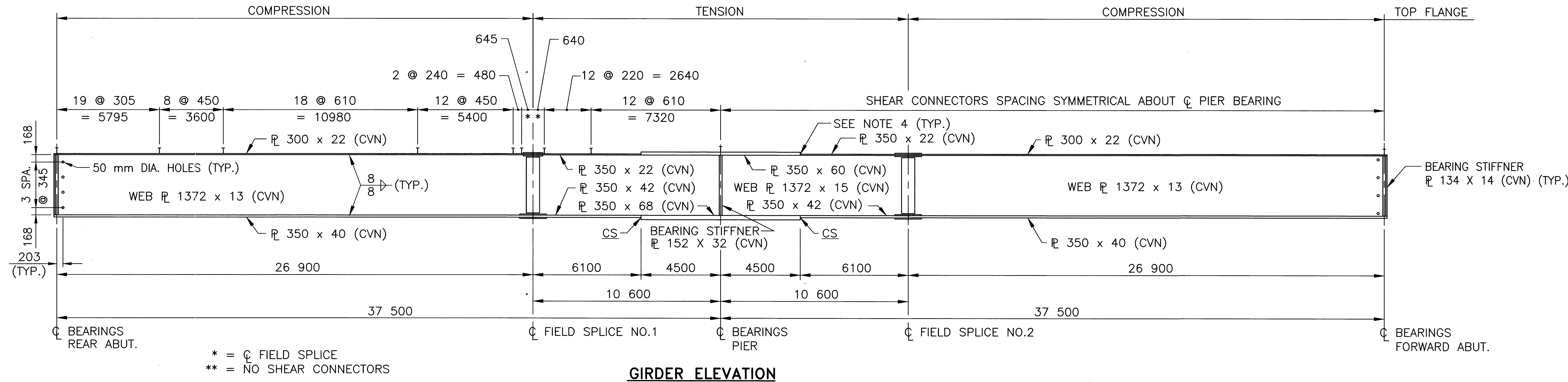
5/11

562/677

16283S3G.DWG
12-20-2000 9:15 AM
SCALE: 1:30M

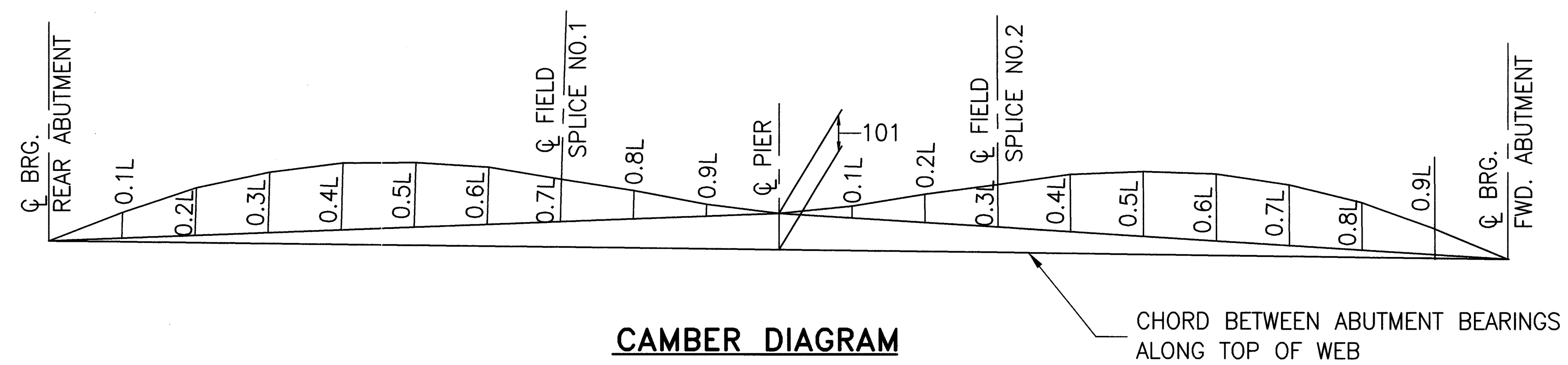


FRAMING PLAN

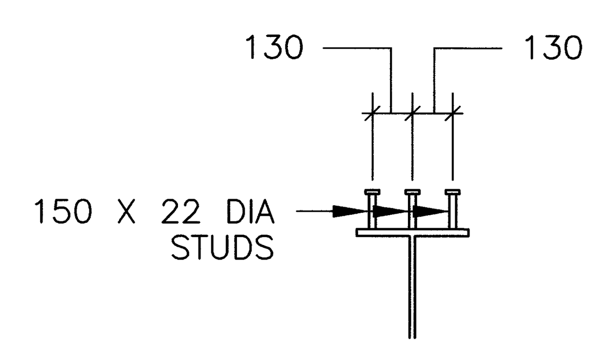


GIRDER ELEVATION

TABLE OF DEFLECTION AND CAMBER																		
	SPAN 1									SPAN 2								
	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.717L*	0.80L	0.90L	0.10L	0.20L	0.283L*	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L
DEFLECTION DUE TO WEIGHT OF STEEL	4	7	10	10	10	8	5	3	1	1	3	5	8	10	10	10	7	4
DEFLECTION DUE TO REMAINING DEAD LOAD	29	53	68	74	68	56	33	19	5	5	19	33	56	68	74	68	53	29
ADJUSTMENT DUE TO VERTICAL CURVE	9	16	21	24	25	24	20	16	9	9	16	20	24	25	24	21	16	9
TOTAL CAMBER	42	76	99	108	103	88	58	38	15	15	38	58	88	103	108	99	76	42



CAMBER DIAGRAM



SHEAR CONNECTOR DETAIL

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF THE FLANGE, BE NOT MORE THAN 25 mm LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT
ALL GIRDER COMPONENTS, I.E., FLANGE PLATES, WEB PLATES AND SPLICE PLATES SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
3. REFER TO SHEET 7 OF 11 FOR SPLICE DETAILS.
4. ALL FLANGE WELDS TO BE COMPLETE JOINT PENETRATION WELDS.
5. CS – INDICATES BUTT WELD SUBJECT TO COMPRESSION STRESS ONLY.
6. ALL STRUCTURAL STEEL TO BE A572 PAINTED.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00 | STRUCTURE FILE NUMBER 1701843

DRAWN KRM | REVISED

DESIGNED HJS | CHECKED JDV

SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-30166
UNDER S.R. 598

CRA-30-24.000

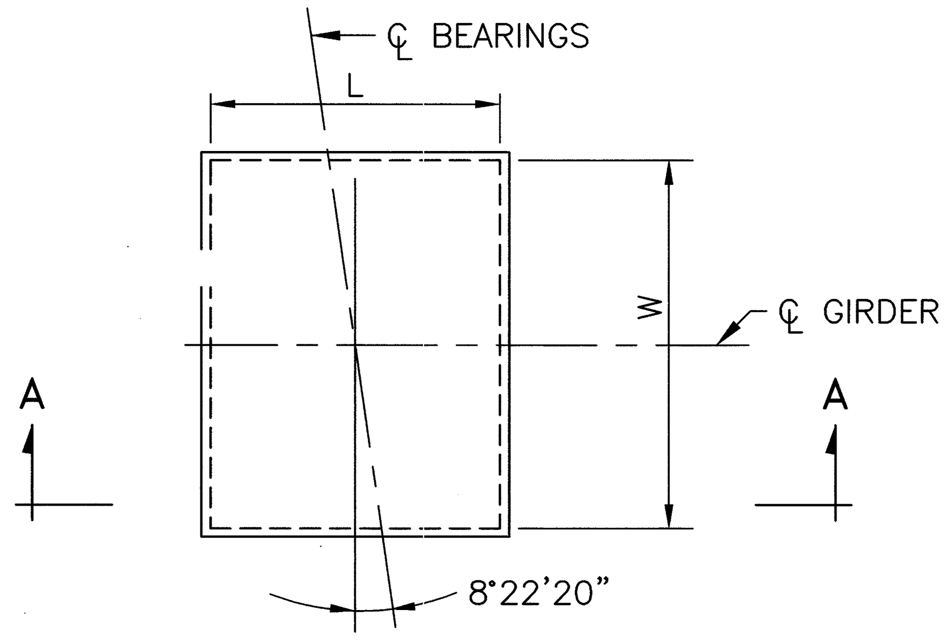
16283S3H.DWG
12-20-2000 9:16 AM
SCALE: 1:125M

LAMINATED ELASTOMERIC BEARINGS

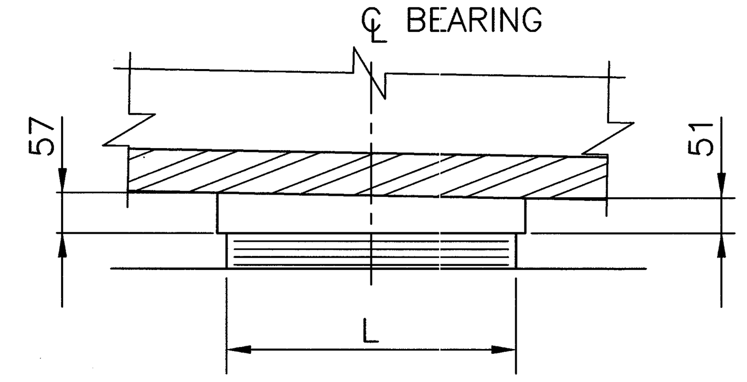
LOCATION	DIMENSIONS (MM)					N	STEEL LOAD PLATE	REACTIONS		MAXIMUM DESIGN LOAD
	L	W	T_i	T_e	T			DL	LL	
PIER EXPANSION BRNGS.	460	610	11	8	57	4	490 X 640 X 51(MIN.)	1442 kN	475 kN	1917 kN

T_i = THICKNESS OF INTERNAL LAYER
T_e = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

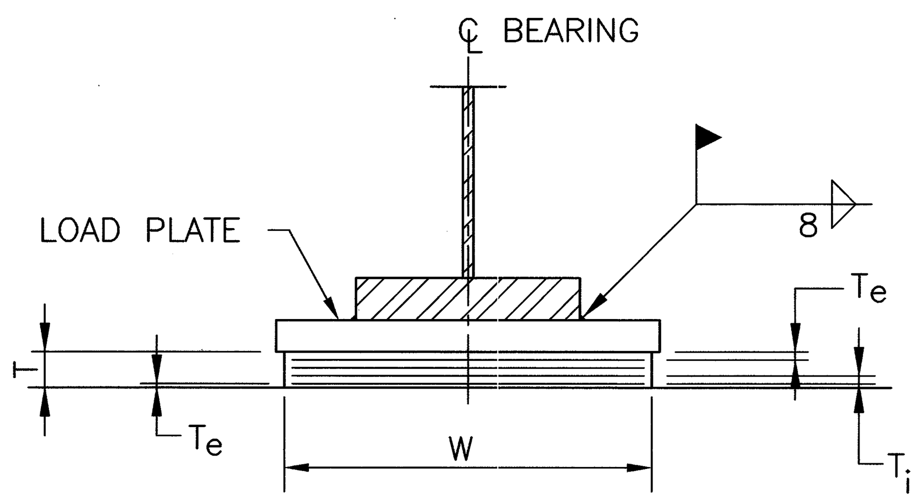
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 1.89 MM
DUROMETER OF ELASTOMER = 50 DUROMETER



PLAN



VIEW A–A



ELASTOMERIC EXPANSION BEARING

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 150° C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

HIGH STRENGTH BOLTS

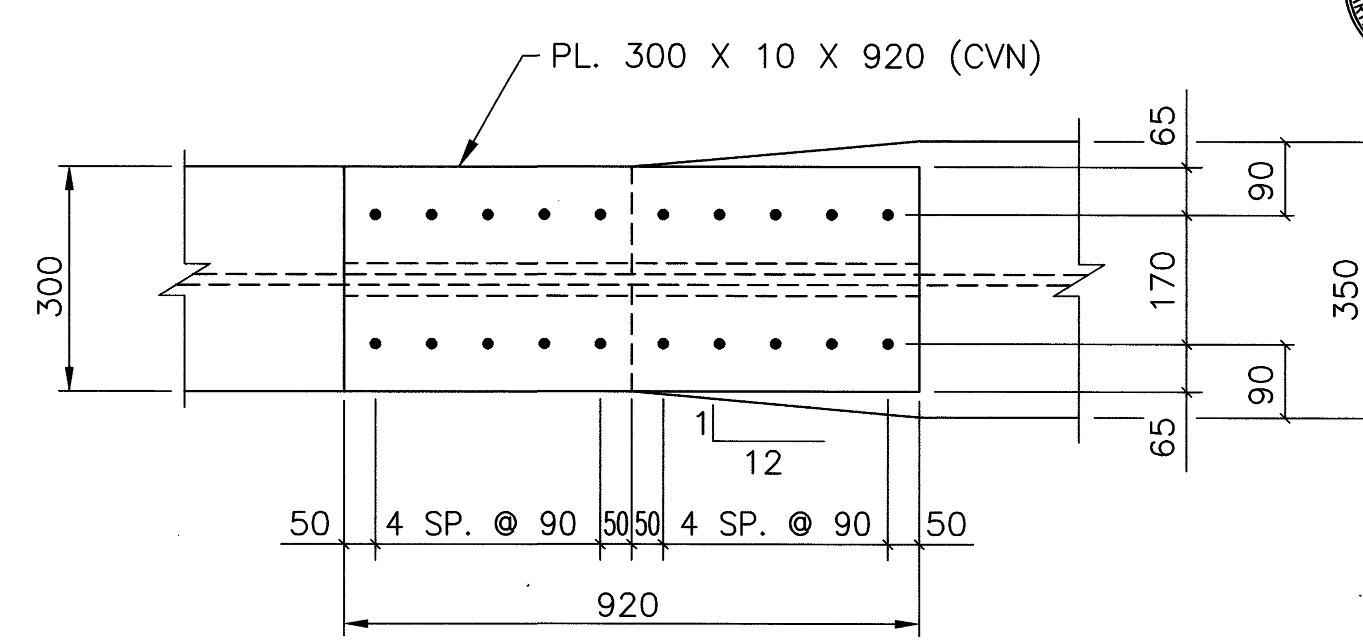
HIGH STRENGTH BOLTS SHALL BE 25 mm DIAMETER A325 UNLESS OTHERWISE NOTED.

CHARPY V–NOTCH TOUGHNESS REQUIREMENT

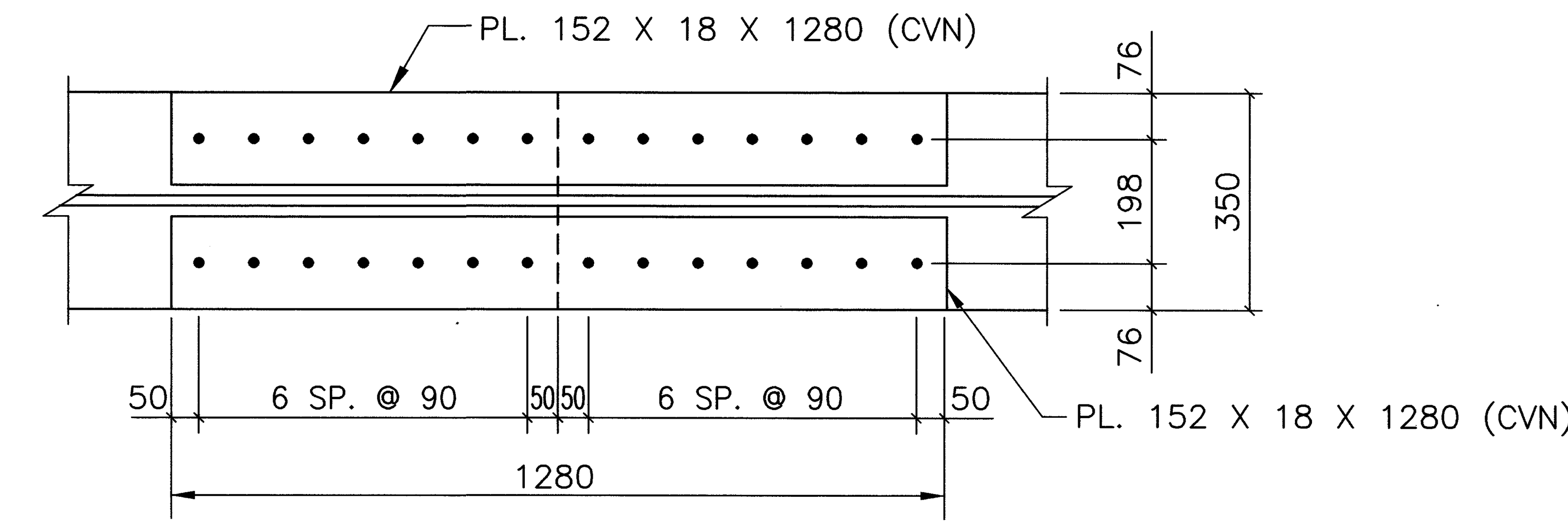
WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

ELASTOMERIC BEARINGS

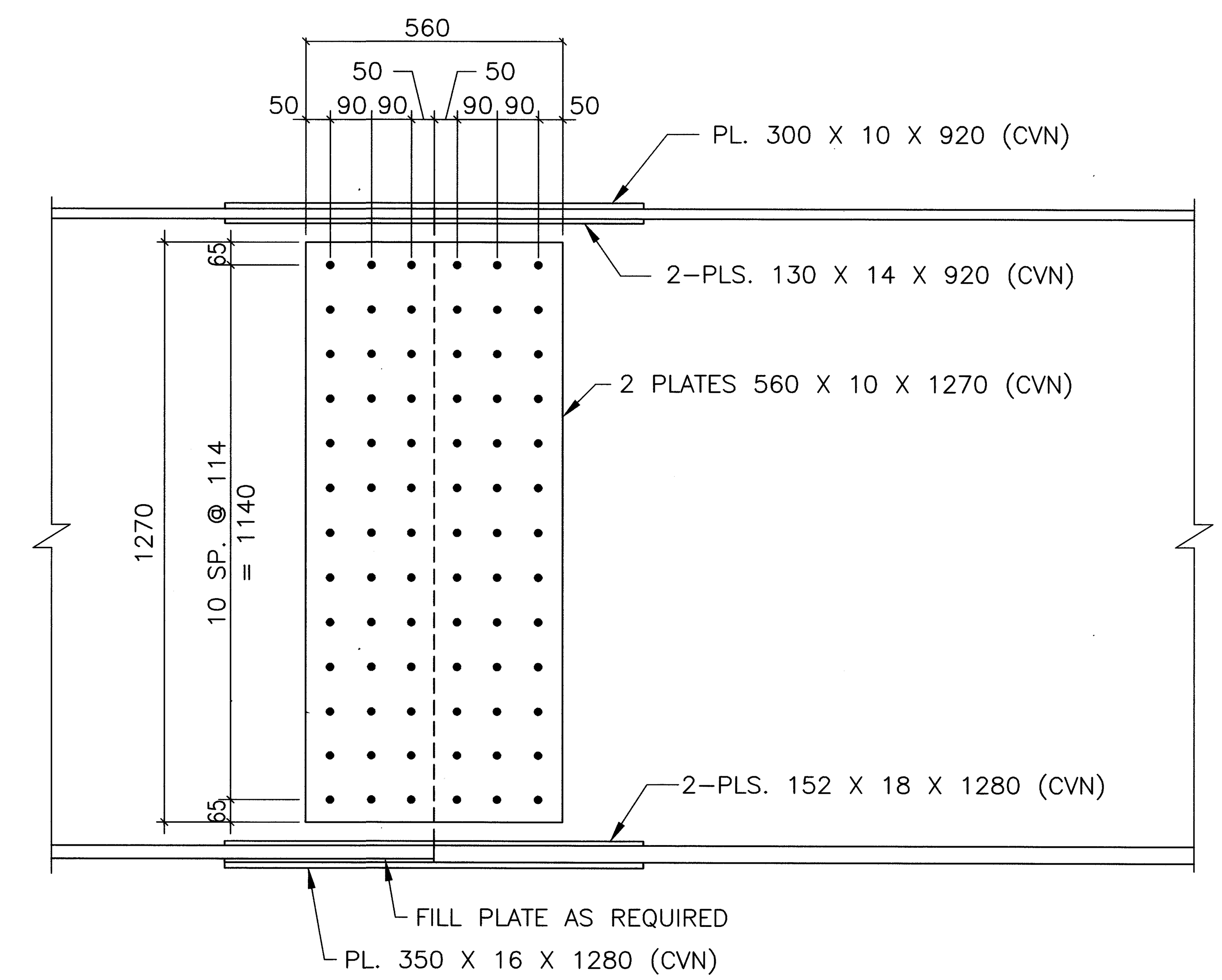
ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARINGS DEVICES, DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.2 OF SECTION14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.



PLAN – TOP FLANGE
SPLICE No.1 & No.2



PLAN – BOTTOM FLANGE
SPLICE No.1 & No.2



TYPICAL FIELD SPLICE DETAILS
SPLICE No.1 & No.2

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

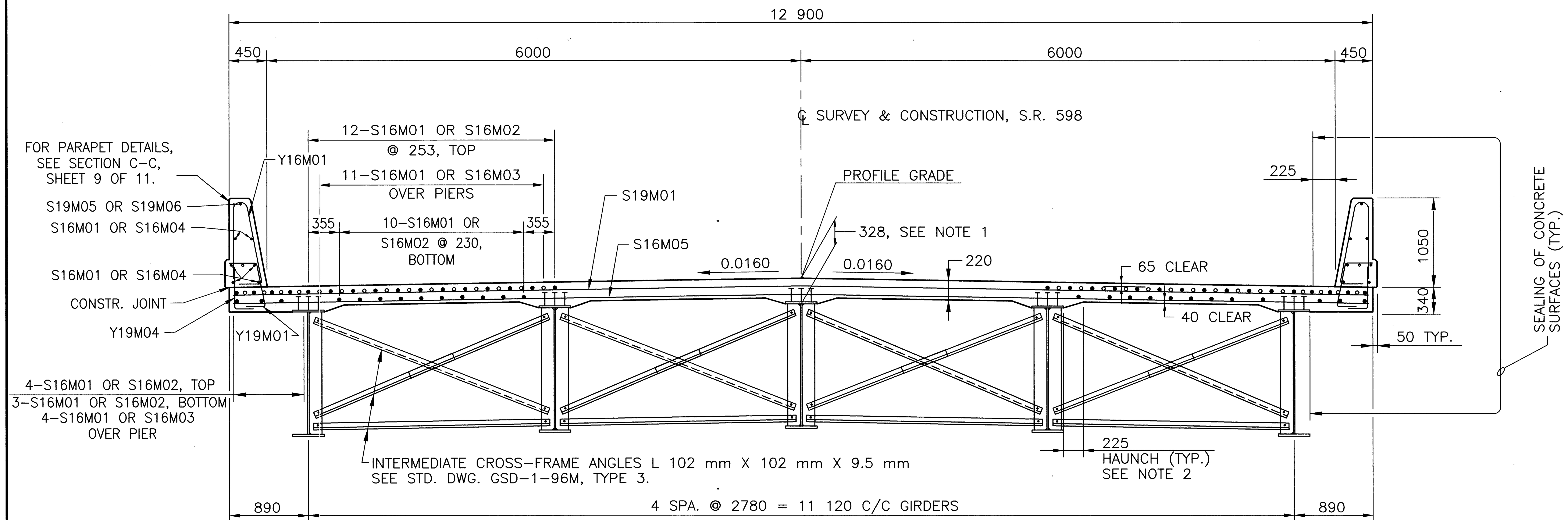
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00 | REVIEWED TF | STRUCTURE FILE NO. 1701843 | DRAWN KRM | REVISED | DESIGNED HJS | CHECKED JDV

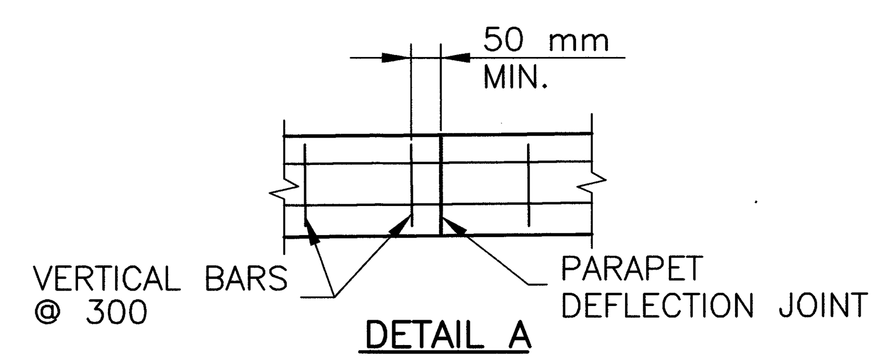
BEARING & SPLICE DETAILS
BRIDGE NO. CRA–30–30166
UNDER S.R. 598

CRA–30–24.000

1628353J.DWG
12–20–2000 9:17 AM
SCALE: 1:10M

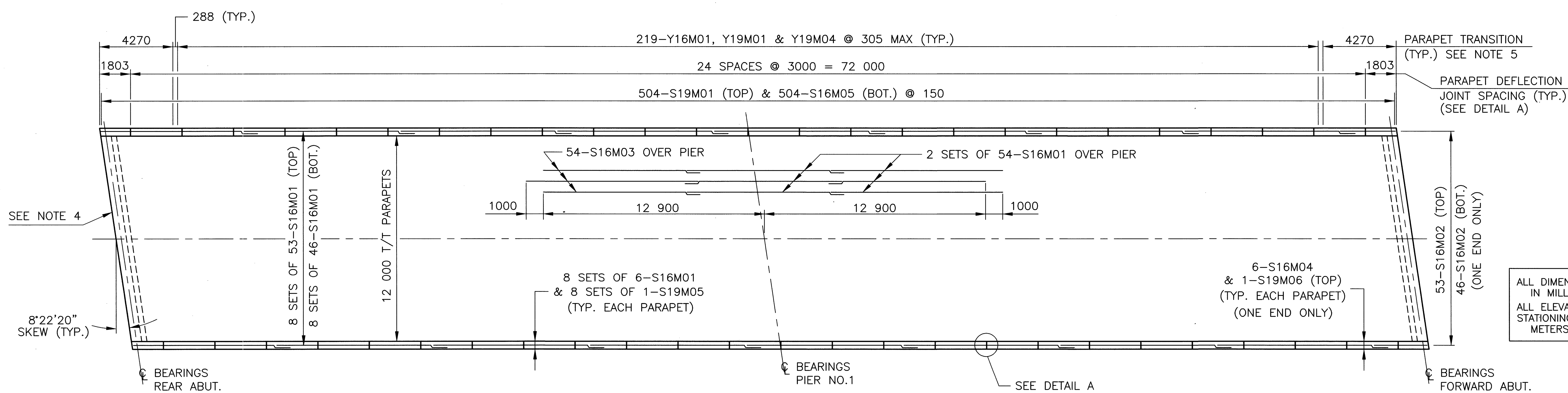


TRANSVERSE SECTION



DETAIL A

MOVE PARAPET DEFLECTION JOINTS WHERE NEEDED TO PROVIDE 50 mm CLEARANCE AS SHOWN.



DECK REINFORCING PLAN

NOTES:

metric units

1. CONCRETE DECK SLAB DEPTH

THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 842.

2. CONCRETE DECK HAUNCH WIDTH

A HAUNCH WIDTH OF 225 SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 AND 300.

3. MINIMUM LAP LENGTHS

LAP NO.16M BARS 750 MM.
LAP NO.19M BARS 1240 MM.

4. FOR DETAILS AT END OF DECK, SEE SECTION A-A, SHEET 4 OF 11.

5. FOR PARAPET TRANSITION DETAILS, SEE SHEET 9 OF 11.

6. CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK.

THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

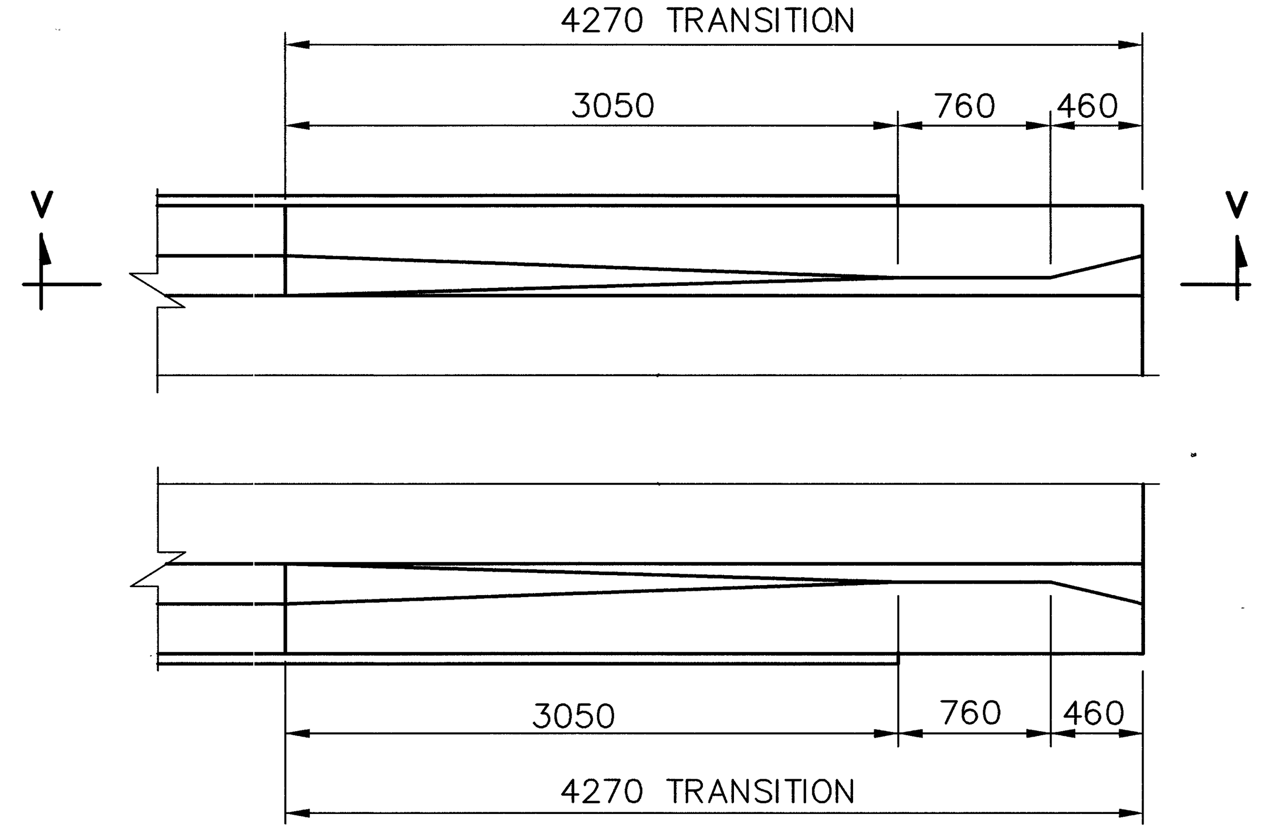
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
STRUCTURE FILE NO. 1701843
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

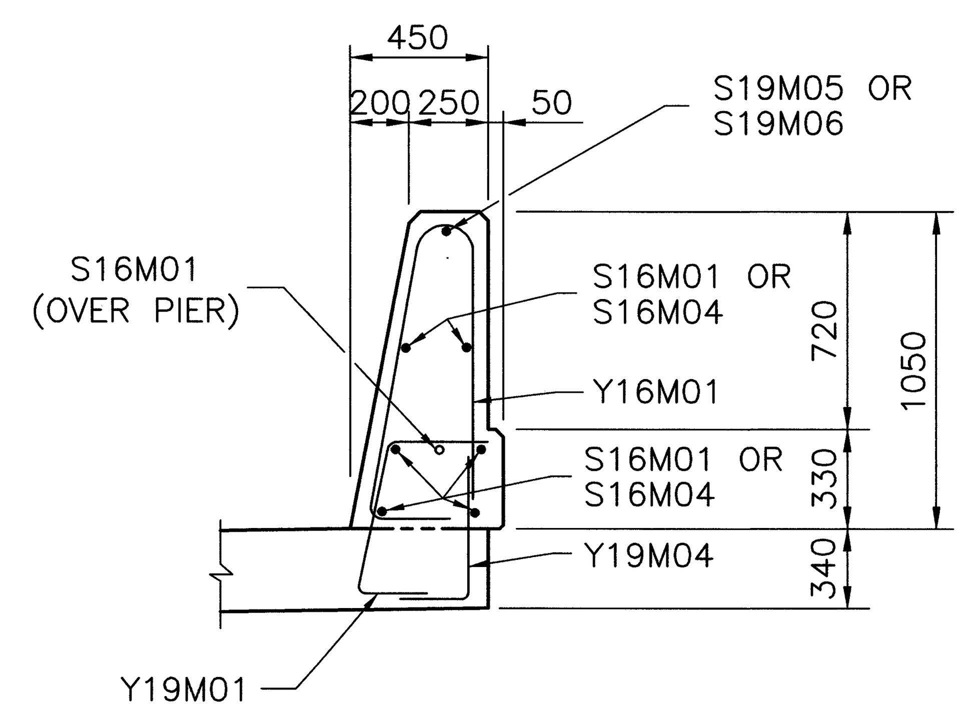
SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-30166
UNDER S.R. 598

CRA-30-24.000

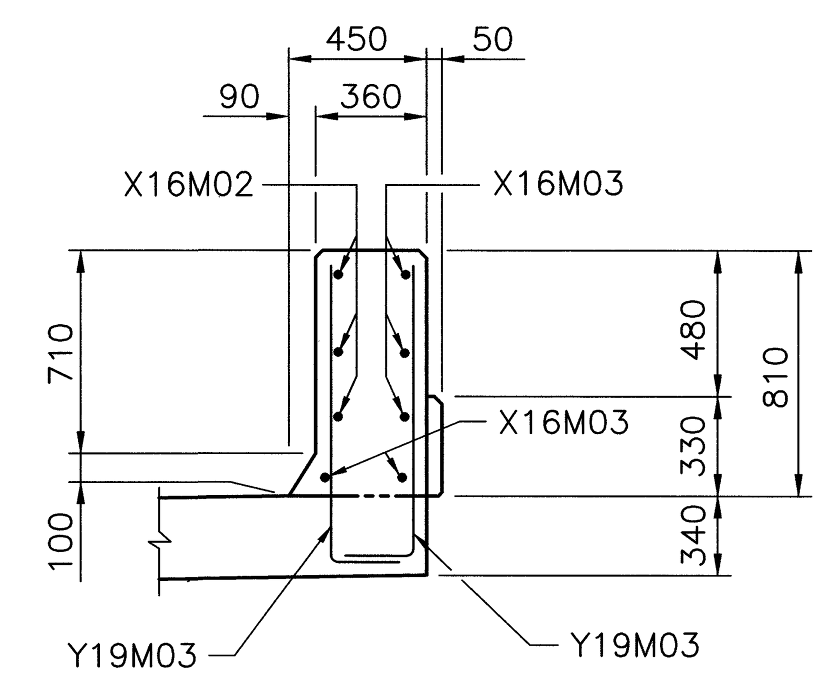
16283S3K.DWG
12-20-2000 9:19 AM
SCALE: 1:125M



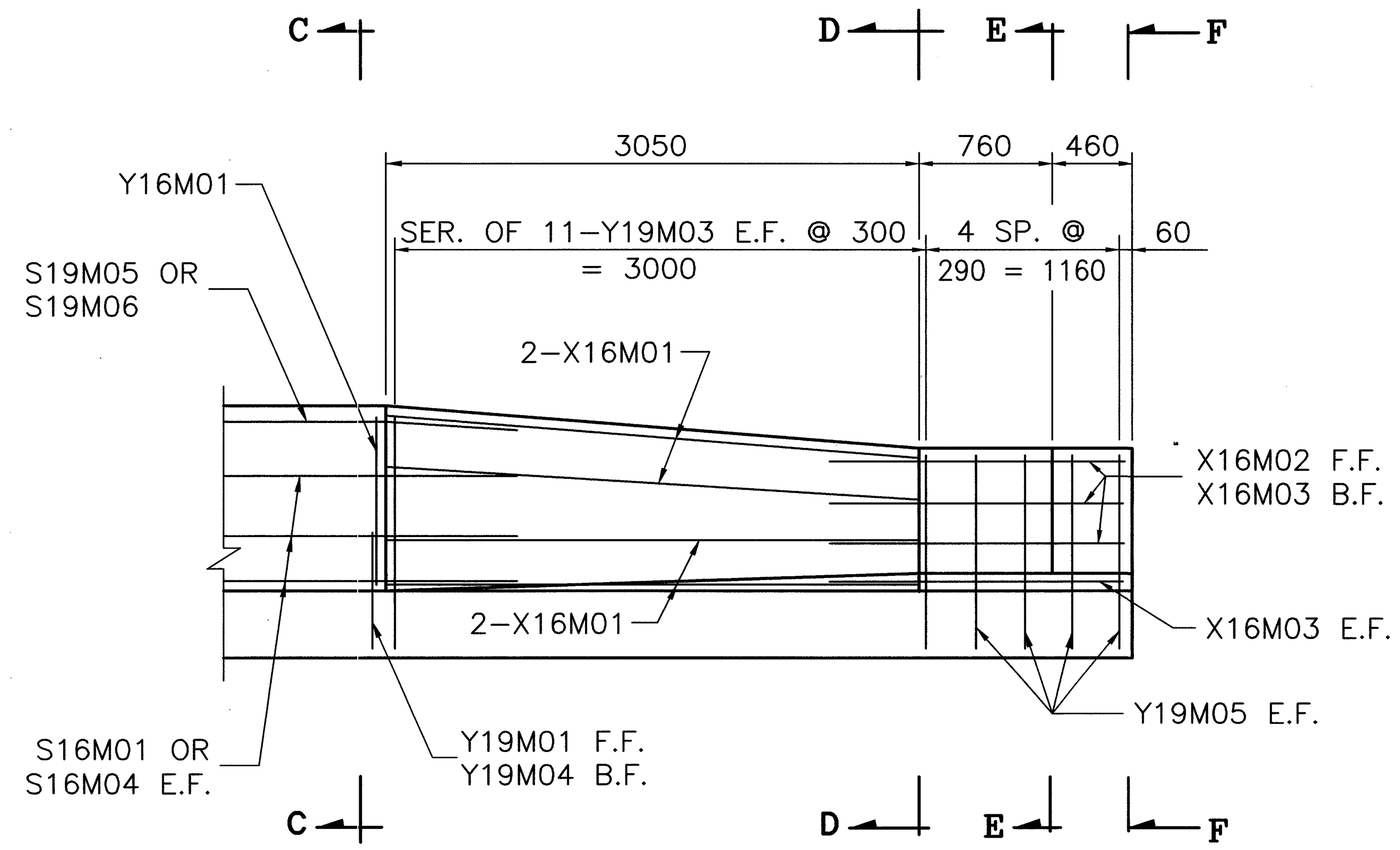
PARAPET TRANSITION DETAIL
TYPICAL @ BOTH ABUTMENTS



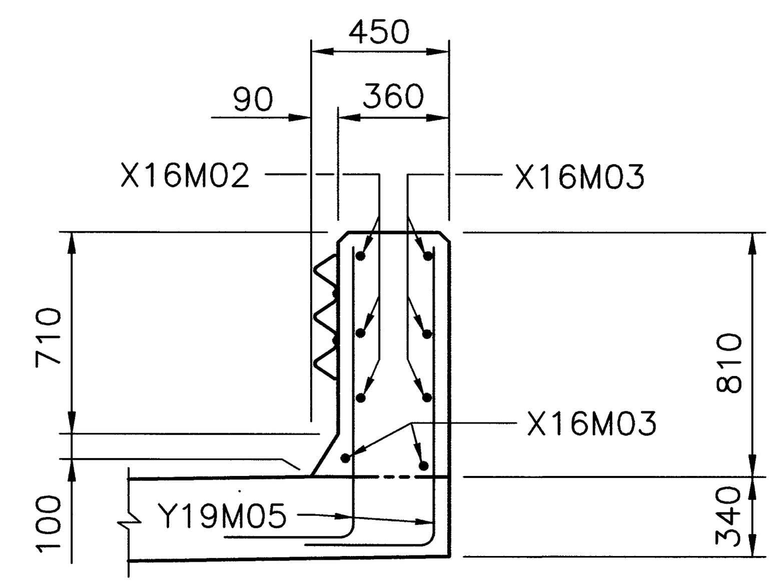
SECTION C–C



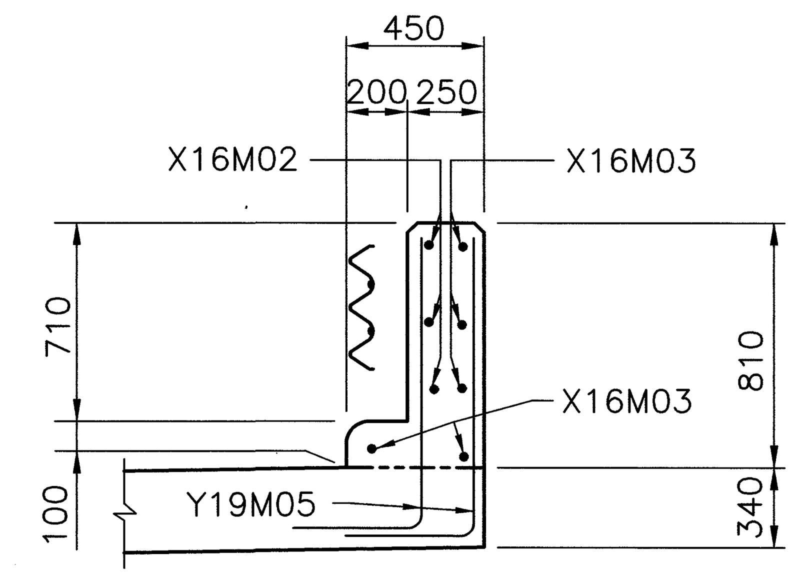
SECTION D–D



SECTION V–V



SECTION E–E



SECTION F–F

NOTES

FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING SBR–1–99M, ICD–1–82M & STD. CONSTRUCTION DRAWING GR–3.1M.

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00
STRUCTURE FILE NUMBER 1701843
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

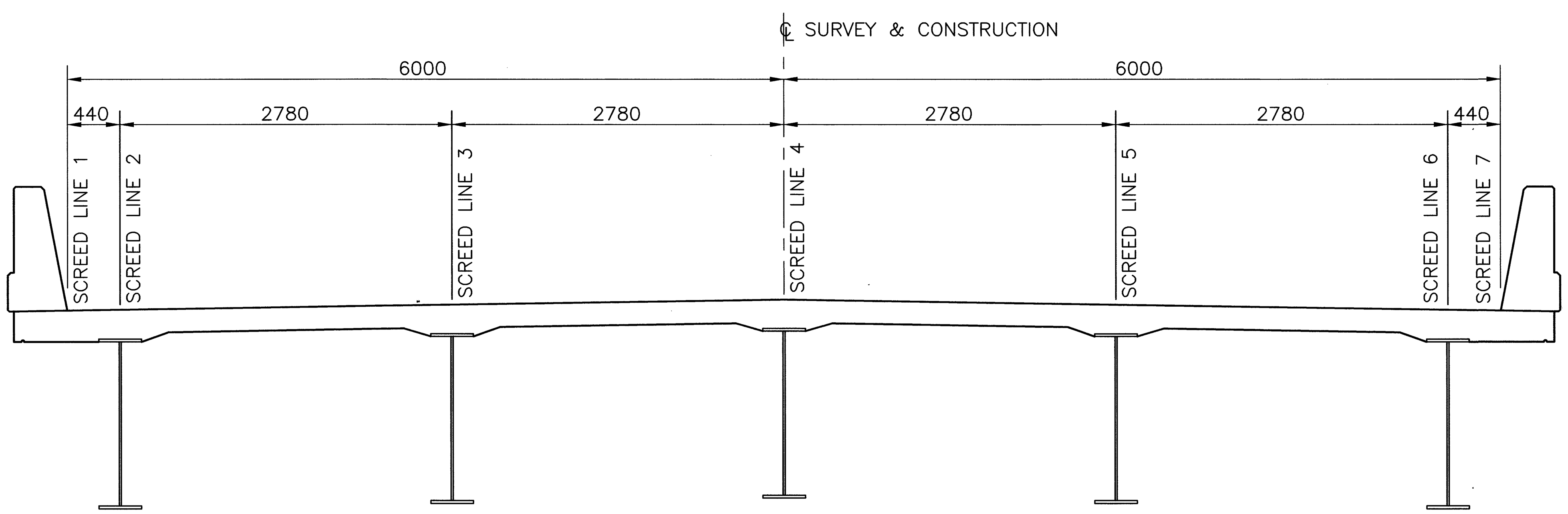
SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA–30–30166
UNDER S.R. 598

CRA–30–24.000

16283S3L.DWG
12-20-2000 9:20 AM
SCALE: 1:15M

SCREED ELEVATION TABLE

		SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5		SCREED LINE 6		SCREED LINE 7	
SPAN NO.	LOCATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO.1	0.00 L	49+961.617	357.822	49+961.682	357.829	49+962.091	357.870	49+962.500	357.911	49+962.909	357.864	49+963.318	357.816	49+963.383	357.808
	0.10 L	49+965.367	357.821	49+965.432	357.828	49+965.841	357.869	49+966.250	357.910	49+966.659	357.862	49+967.068	357.814	49+967.133	357.806
	0.20 L	49+969.117	357.813	49+969.182	357.820	49+969.591	357.860	49+970.000	357.901	49+970.409	357.853	49+970.818	357.805	49+970.883	357.797
	0.30 L	49+972.867	357.794	49+972.932	357.800	49+973.341	357.841	49+973.750	357.882	49+974.159	357.833	49+974.568	357.785	49+974.633	357.777
	0.40 L	49+976.617	357.764	49+976.682	357.770	49+977.091	357.811	49+977.500	357.851	49+977.909	357.803	49+978.318	357.754	49+978.383	357.746
	0.50 L	49+980.367	357.720	49+980.432	357.726	49+980.841	357.766	49+981.250	357.807	49+981.659	357.758	49+982.068	357.709	49+982.133	357.701
	0.60 L	49+984.117	357.668	49+984.182	357.674	49+984.591	357.714	49+985.000	357.754	49+985.409	357.705	49+985.818	357.656	49+985.883	357.648
FIELD SPLICE	0.717 L	49+988.504	357.595	49+988.569	357.602	49+988.978	357.641	49+989.388	357.681	49+989.797	357.632	49+990.206	357.582	49+990.271	357.575
	0.80 L	49+991.617	357.544	49+991.682	357.551	49+992.091	357.590	49+992.500	357.630	49+992.909	357.580	49+993.318	357.531	49+993.383	357.523
	0.90 L	49+995.367	357.484	49+995.432	357.491	49+995.841	357.530	49+996.250	357.569	49+996.659	357.520	49+997.068	357.470	49+997.133	357.462
SPAN NO.2	0.00 L	49+999.117	357.431	49+999.182	357.437	49+999.591	357.477	50+000.000	357.516	50+000.409	357.466	50+000.818	357.416	50+000.883	357.408
	0.10 L	50+002.867	357.386	50+002.932	357.392	50+003.341	357.431	50+003.750	357.470	50+004.159	357.420	50+004.568	357.370	50+004.633	357.362
	0.20 L	50+006.617	357.348	50+006.682	357.354	50+007.091	357.393	50+007.500	357.431	50+007.909	357.381	50+008.318	357.331	50+008.383	357.323
FIELD SPLICE	0.283 L	50+009.729	357.317	50+009.794	357.323	50+010.203	357.362	50+010.613	357.400	50+011.022	357.350	50+011.431	357.299	50+011.496	357.291
	0.40 L	50+014.117	357.275	50+014.182	357.281	50+014.591	357.319	50+015.000	357.357	50+015.409	357.306	50+015.818	357.255	50+015.883	357.247
	0.50 L	50+017.867	357.228	50+017.932	357.234	50+018.341	357.272	50+018.750	357.310	50+019.159	357.259	50+019.568	357.208	50+019.633	357.200
	0.60 L	50+021.617	357.174	50+021.682	357.180	50+022.091	357.218	50+022.500	357.256	50+022.909	357.205	50+023.318	357.153	50+023.383	357.145
	0.70 L	50+025.367	357.106	50+025.432	357.112	50+025.841	357.150	50+026.250	357.187	50+026.659	357.136	50+027.068	357.084	50+027.133	357.076
	0.80 L	50+029.117	357.027	50+029.182	357.033	50+029.591	357.070	50+030.000	357.107	50+030.409	357.056	50+030.818	357.004	50+030.883	356.996
	0.90 L	50+032.867	356.937	50+032.932	356.943	50+033.341	356.980	50+033.750	357.017	50+034.159	356.965	50+034.568	356.913	50+034.633	356.905
	1.00 L	50+036.617	356.839	50+036.682	356.845	50+037.091	356.882	50+037.500	356.919	50+037.909	356.867	50+038.318	356.815	50+038.383	356.807



SCREED LINE LOCATIONS

SCREED ELEVATIONS ARE FOR THE CONCRETE SURFACE BEFORE THE CONCRETE IS PLACED. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

metric units

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00 | STRUCTURE FILE NO. 1701843
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

SCREED ELEVATIONS
BRIDGE NO. CRA-30-30166
UNDER S.R. 598

CRA-30-24.000

16283S3M.DWG
12-20-2000 3:57 PM
SCALE: 1:30M

REINFORCING STEEL LIST

metric units

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
				ABUTMENTS					
A13M01	40	2665		3	515	740			
A16M01	98	3250		3	770	770			
A16M02	98	3325		2	1400	600	1400		
A16M03	24	3575		2	1525	600	1525		
A16M04	32	10 630		STR					
A16M10	8	3250		STR					
A16M11	8 S.O. 4	800 TO 3080		STR					INCR = 760
A16M12	8	3550		STR					
A16M13	4	4585		2	2030	600	2030		
A16M14	4 S.O. 5	2185 TO 4065		2	830 TO 1770	600	830 TO 1770		VARY A BY 235 VARY C BY 235
A16M15	4	2365		2	920	600	920		
A16M16	4	2705		2	1090	600	1090		
A16M17	4	3215		2	1345	600	1345		
A19M01	88	3100		11					
A25M01	32	11 130		STR					
				PIER					
P16M01	16	6520		STR					
P16M02	96	2175		2	850	550	850		
P16M03	116	2440		2	850	815	850		
P25M01	8	10 385		1	800	9650			
P25M02	8	5585		1	800	4850			
P25M03	4	9650		STR					
P25M04	4	4850		STR					
P32M01	72	3760		13	2900				
P32M02	30	3360		1	560	2900			
P32M03	30	5970		STR					
P32M04	16	7725		4	6825	900	150		
SP13M01	3	5150		SPIRAL					

DIMENSIONS SHOWN ARE OUT TO OUT.
STR = STRAIGHT
S.O. = SERIES OF
INCR = INCREMENT

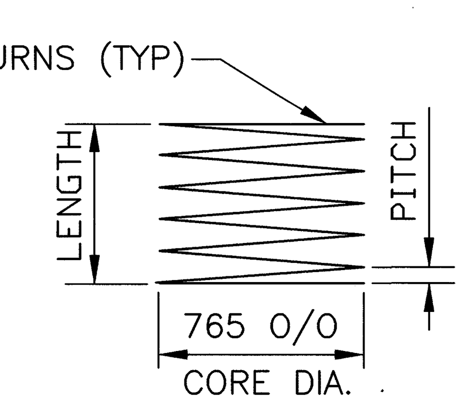
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
				SUPERSTRUCTURE					
S16M01	996	9140		STR					
S16M02	99	8380		STR					
S16M03	54	10 020		STR					
S16M04	12	1450		STR					
S16M05	504	12 800		STR					
X16M01	32	3050		STR					
X16M02	12	1680		10					
X16M03	20	1680		STR					
Y16M01	438	2205		7	900	950			
S19M01	504	12 800		STR					
S19M05	16	9140		STR					
S19M06	2	6350		STR					
Y19M01	438	1100		6	560				
Y19M03	8 S.O. 11	1320 TO 1560		1	320	1050 TO 1290			VARY B BY 24
Y19M04	438	830		1	320	560			
Y19M05	32	1320		1	320	1050			
				SUPERSTRUCTURE–DIAPHRAGM					
S16M06	8	8540		STR					
S16M07	8	5725		STR					
S19M02	88	2810		2	1155	600	1155		
S19M03	88	3190		2	1420	450	1420		
S19M04	88	3470		2	1485	600	1485		
S25M01	32	7635		STR					
S25M02	58	1500		5	430	790			
S25M03	8	9040		STR					
S25M04	8	6225		STR					

SPIRALS; SP13M01 – CORE DIAMETER 765 mm, PITCH 115 mm

OTHER DETAILS IN ACCORDANCE WITH C.R.S.I. STANDARDS

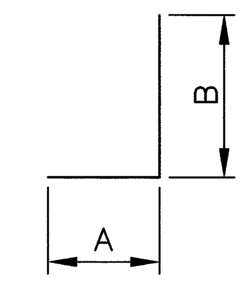
SPIRAL REINFORCING BAR SPACES:

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVAL (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 3 M) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 76 mm CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION DIMENSION OF THE DRILLED SHAFT OR COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORT) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.

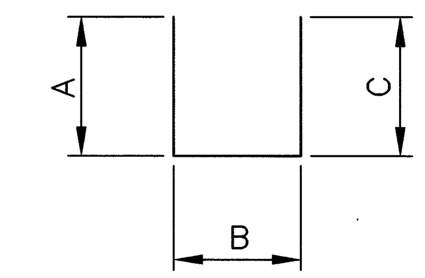


SPIRAL

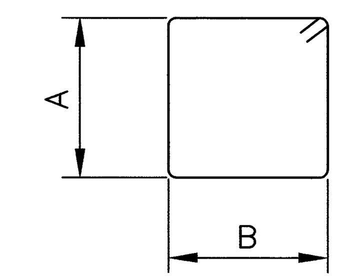
ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS



TYPE 1



TYPE 2



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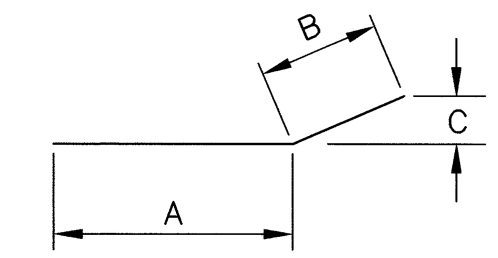

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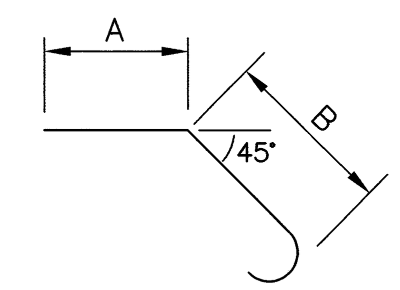

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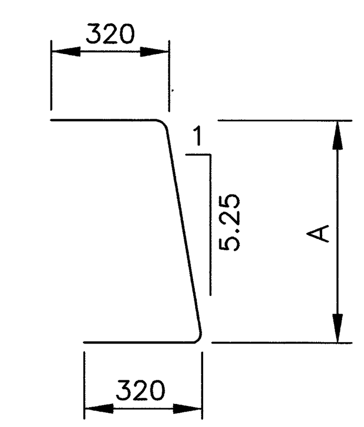
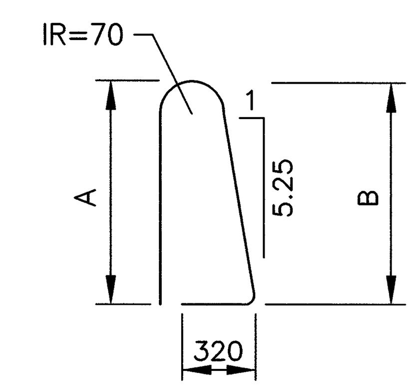
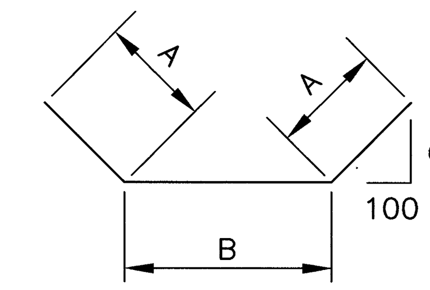


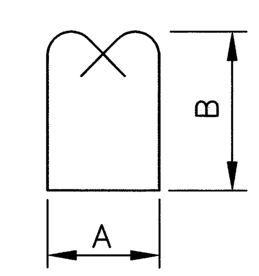
TYPE 6



TYPE 7



TYPE 8



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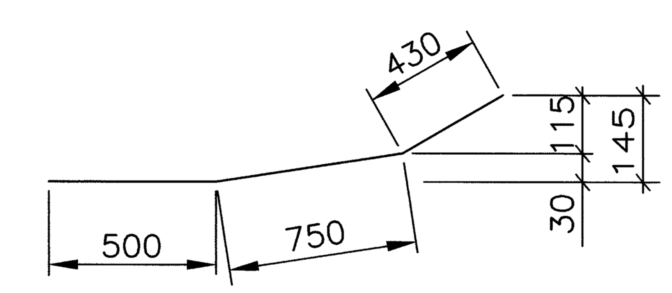
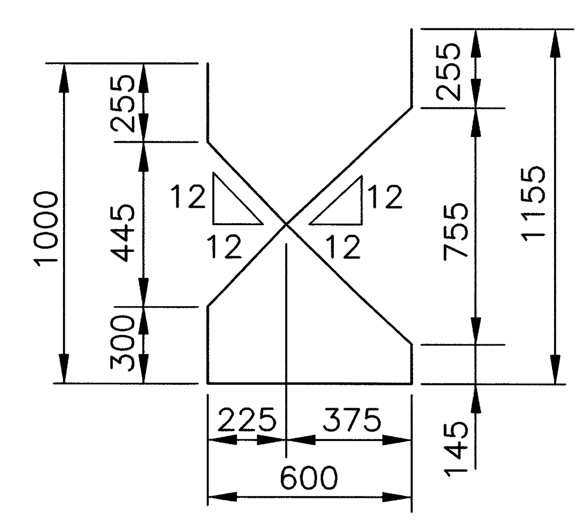


TYPE 10



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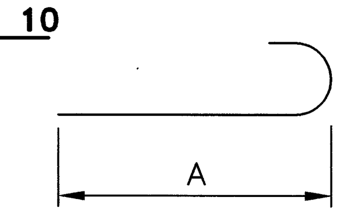
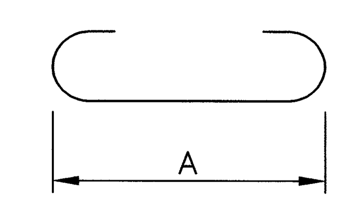


TYPE 12



TYPE 13

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A15M01 IS A #15M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL REINFORCING STEEL TO BE EPOXY COATED.

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12-00
REVIEWED TF
STRUCTURE FILE NO. 1701843
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

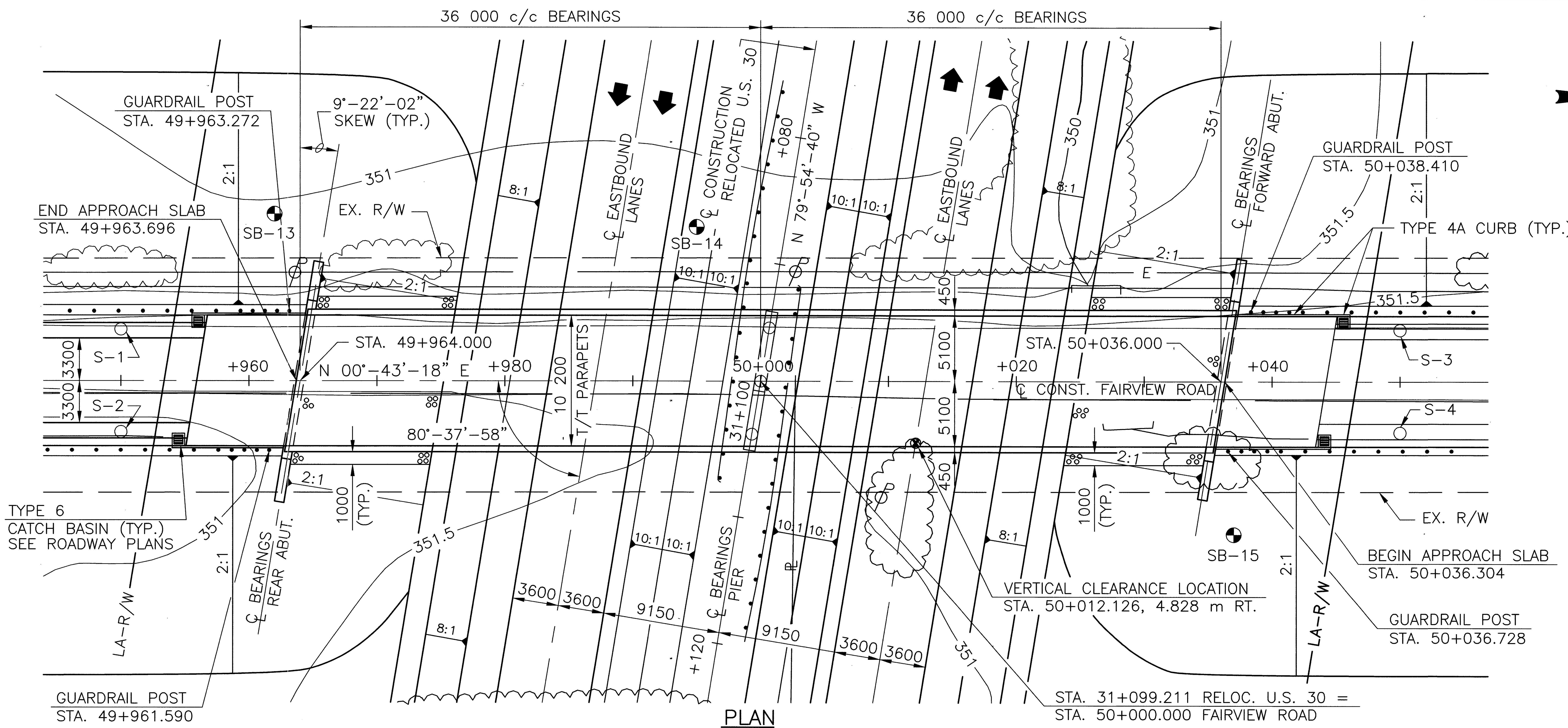
REINFORCING STEEL LIST
BRIDGE NO. CRA-30166
UNDER S.R. 598

CRA-30-24.000

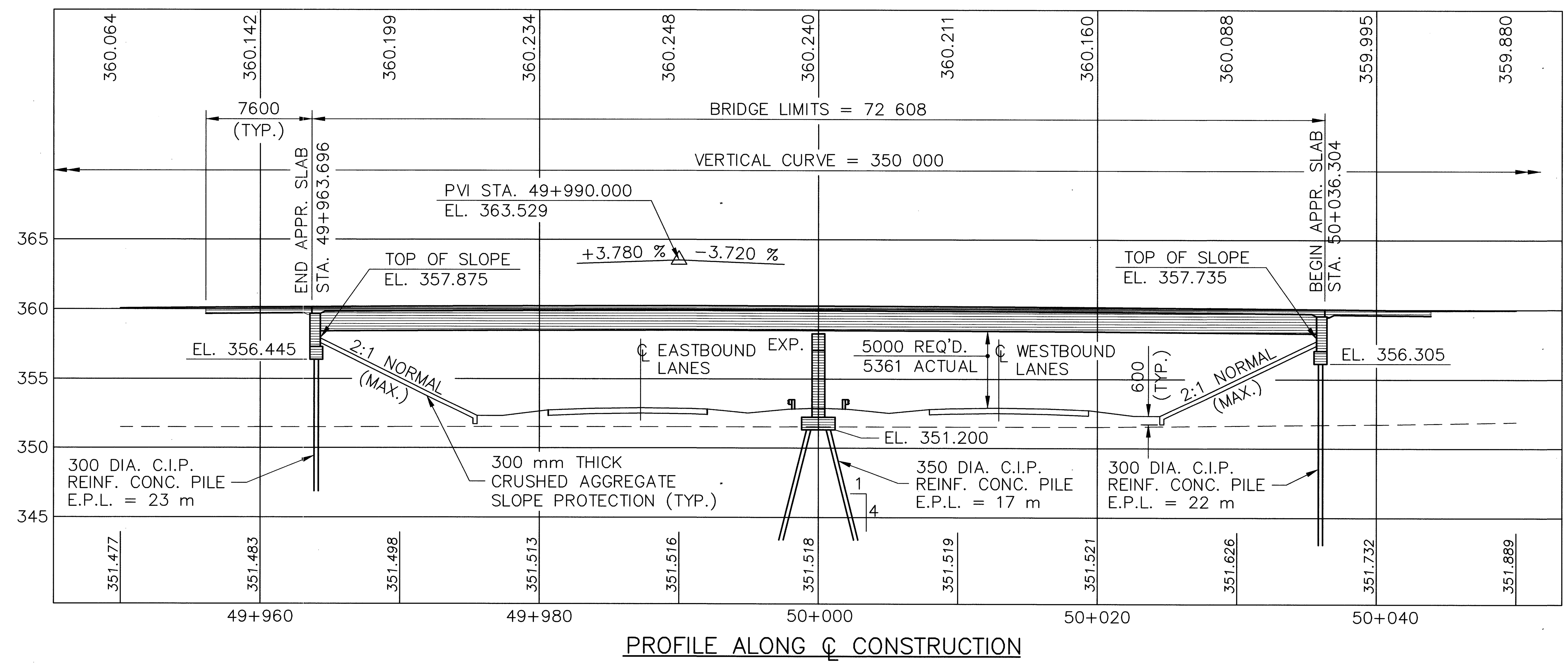
11/11

568/677

16283S3N.DWG
12-20-2000 9:23 AM
SCALE: 1:M



PLAN



PROFILE ALONG ℄ CONSTRUCTION

metric units

NOTE:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

SETTLEMENT PLATFORM DATA

NO.	LOCATION	STATION
S-1	4 m LT.	49+950
S-2	4 m RT.	49+950
S-3	4 m LT.	50+050
S-4	4 m RT.	50+050

= BORING LOG LOCATION

VERTICAL CURVE DATA

PVI STA. 49+990
PVI EL. 363.529
G1 = +3.780 %
G2 = −3.720 %
L = 350 m

E.P.L.= ESTIMATED PILE LENGTH

TRAFFIC DATA

DESIGN ADT (2020) = 1531
DESIGN ADTT (2020) = 46

PROPOSED STRUCTURE

TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 36 000, 36 000 c/c BEARINGS
ROADWAY: 10 200 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 9°-22'-02" L.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-45"
LONGITUDE: W82°-47'-00"

BENCHMARK:
RAILROAD SPIKE IN NORTH SIDE OF 600 mm OAK STA. 50+105, 9 m LT. OF ℄ CONSTR. OF FAIRVIEW RD.
ELEV. 353.396

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED HJS | CHECKED JDV | DRAWN KRM | REVISED | REVIEWED TF | DATE 12/00 | STRUCTURE FILE NUMBER 1701800

CRAWFORD COUNTY
STA. 49+963.696
STA. 50+036.304

SITE PLAN
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD

CRA-30-24.000

1/11

569/677

16283S5A.DWG
12-20-2000 9:25 AM
SCALE: 1:0.2M

GENERAL NOTES

PILES NOT DRIVEN TO BEDROCK

THE ULTIMATE BEARING VALUE IS 980 kN PER PILE FOR THE 300mm C.I.P. REINFORCED CONCRETE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 1200 kN FOR THE 350mm C.I.P. REINFORCED CONCRETE PIER PILES.

REAR ABUTMENT PILES:
- 9 PILES 23 METERS LONG, ESTIMATED LENGTH
- 9 PILES OF ORDER LENGTH 18.0 METERS LONG
- 9 PILES OF ORDER LENGTH 6.5 METERS LONG
- 9 SPLICES

FORWARD ABUTMENT PILES:
- 9 PILES 22 METERS LONG, ESTIMATED LENGTH
- 9 PILES OF ORDER LENGTH 18.0 METERS LONG
- 9 PILES OF ORDER LENGTH 5.5 METERS LONG
- 9 SPLICES

PIER PILES:
- 18 PILES 17 METERS LONG, ESTIMATED LENGTH
- 18 PILES OF ORDER LENGTH 15.0 METERS LONG
- 18 PILES OF ORDER LENGTH 3.5 METERS LONG
- 18 SPLICES

PAINTING OF 863 STEEL

ALL NEW STEEL SHALL BE SHOP PRIMED PER ITEM 816, WHICH SHALL BE INCLUDED IN THE COST OF ITEM 863.

ITEM 816, FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

ALL NEW STEEL SHALL BE PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM IZEU. THE COLOR OF THE FINISH COAT SHALL BE LIGHT NEUTRAL FEDERAL COLOR STANDARD No. 17778. IN ADDITION TO THE SURFACE AREA OF STEEL STRINGERS TO BE PAINTED, INCIDENTALS SUCH AS CROSSFRAMES AND BEARINGS SHALL BE INCLUDED. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM 816, FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU FOR PAYMENT.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN'L.	AS PER PLAN SHEET NO.
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	GN-2
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	GN-2
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00500	405	METER	300 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	405				
507	00550	432	METER	300 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	432				
507	00600	306	METER	350 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN,		306			
507	00650	333	METER	350 mm CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		333			
507	50500	36	EACH	STEEL PILE SPLICES	18	18			
516	13200	7	SQ M	13 mm PREFORMED EXPANSION JOINT FILLER	7				
516	13600	12	SQ M	25 mm PREFORMED EXPANSION JOINT FILLER	12				
516	44101	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE),		4			7
				AS PER PLAN 59 x 470 x 640 mm w/51 x 500 x 670 mm LOAD PLATE					
518	21231	LUMP		POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	LUMP				GN-2
518	40000	38	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE	38				
518	40011	18	METER	150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS,	18				3
				AS PER PLAN					
SPECIAL	53013000	44	SQ M	FORM LINER	44				
816	00610	114,568	KILOGRAM	FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU			114,568		
842	41001	20	CU M	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		20			GN-2
842	43501	63	CU M	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	63				GN-2
842	46501	28	CU M	CLASS C CONCRETE, FOOTING, AS PER PLAN		28			GN-2
844	49000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX			LUMP		
844	49010	LUMP		HIGH PERFORMANCE CONCRETE TESTING			LUMP		
844	49501	31	CU M	HIGH PERFORMANCE CONCRETE, MISC.: SUPERSTRUCTURE, INTEGRAL			31		GN-2
				DIAPHRAGM, AS PER PLAN					
863	10080	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL FOUR (4) FABRICATION, A572			LUMP		
863	20000	2148	EACH	WELDED STUD SHEAR CONNECTOR			2148		
864	10100	617	SQ M	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	35	68	514		GN-2
894	10001	270	CU M	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN			270		GN-2
				COMPUTED BY : RIB DATE : 4/16/99					
				CHECKED BY : JDV DATE : 7/20/99					

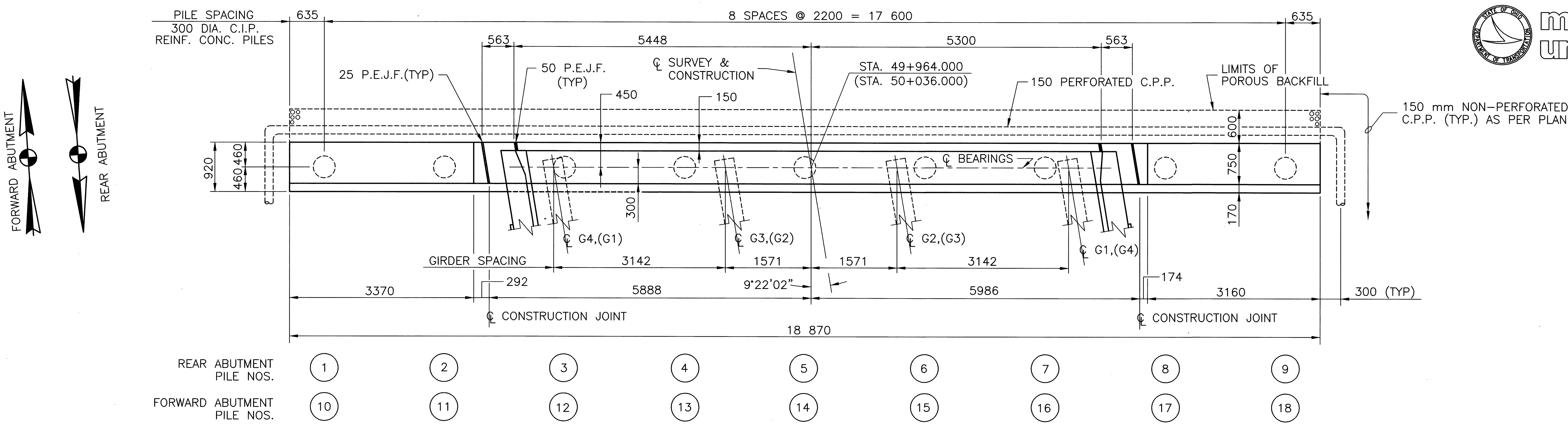
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701800
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ESTIMATED QUANTITIES
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD

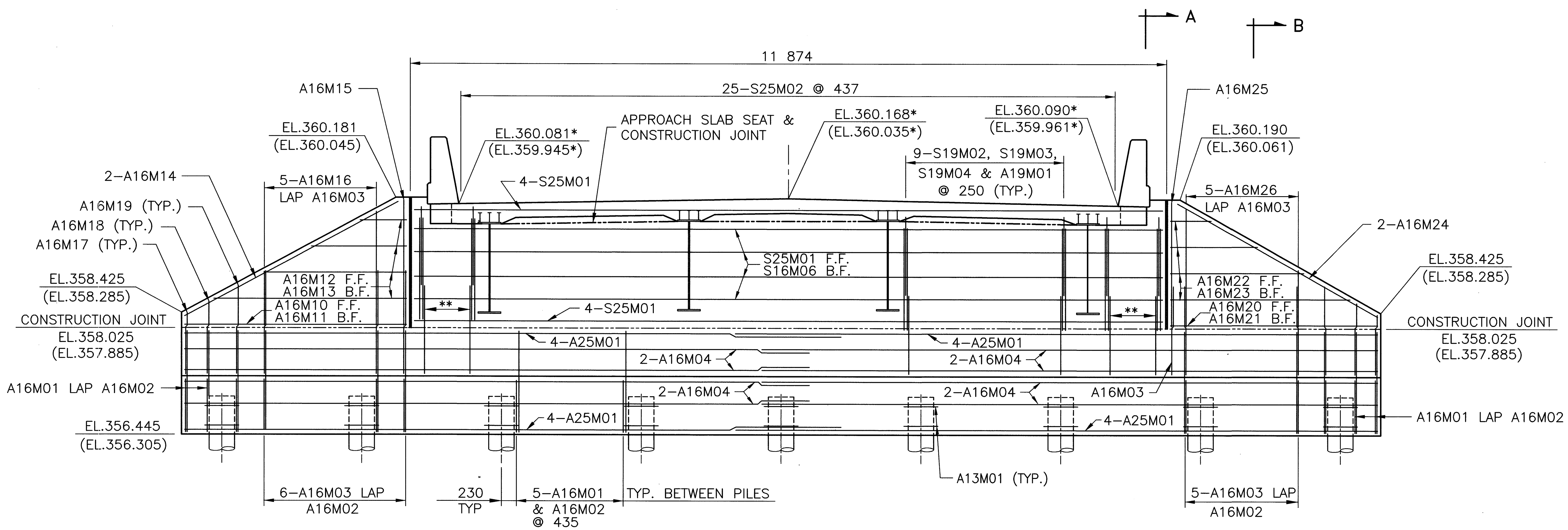
CRA-30-24.000

16283S5C.DWG
12-21-2000 10:36 AM
SCALE: 1=1E



PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)

* ELEVATIONS ARE GIVEN @ ℄ BEARINGS

** 4–S19M02, S19M03, S19M04 & A19M01 @ 300

† ELEVATIONS, STATIONS, & GIRDER NUMBERS IN ( ) ARE FOR FORWARD ABUTMENT ONLY.

MINIMUM BAR LAPS
LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1040 mm.
LAP NO.25M BARS 1750 mm.

ABBREVIATIONS
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED POLYETHYLENE PIPE

NOTE:

1. REFER TO SHEET 4/11 FOR ADDITIONAL NOTES, AND SECTIONS A–A & B–B.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF
DATE 12/00
STRUCTURE FILE NO. 1701800
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ABUTMENT DETAILS
BRIDGE NO. CRA–30–31094
UNDER FAIRVIEW ROAD

CRA–30–24.000

3/11

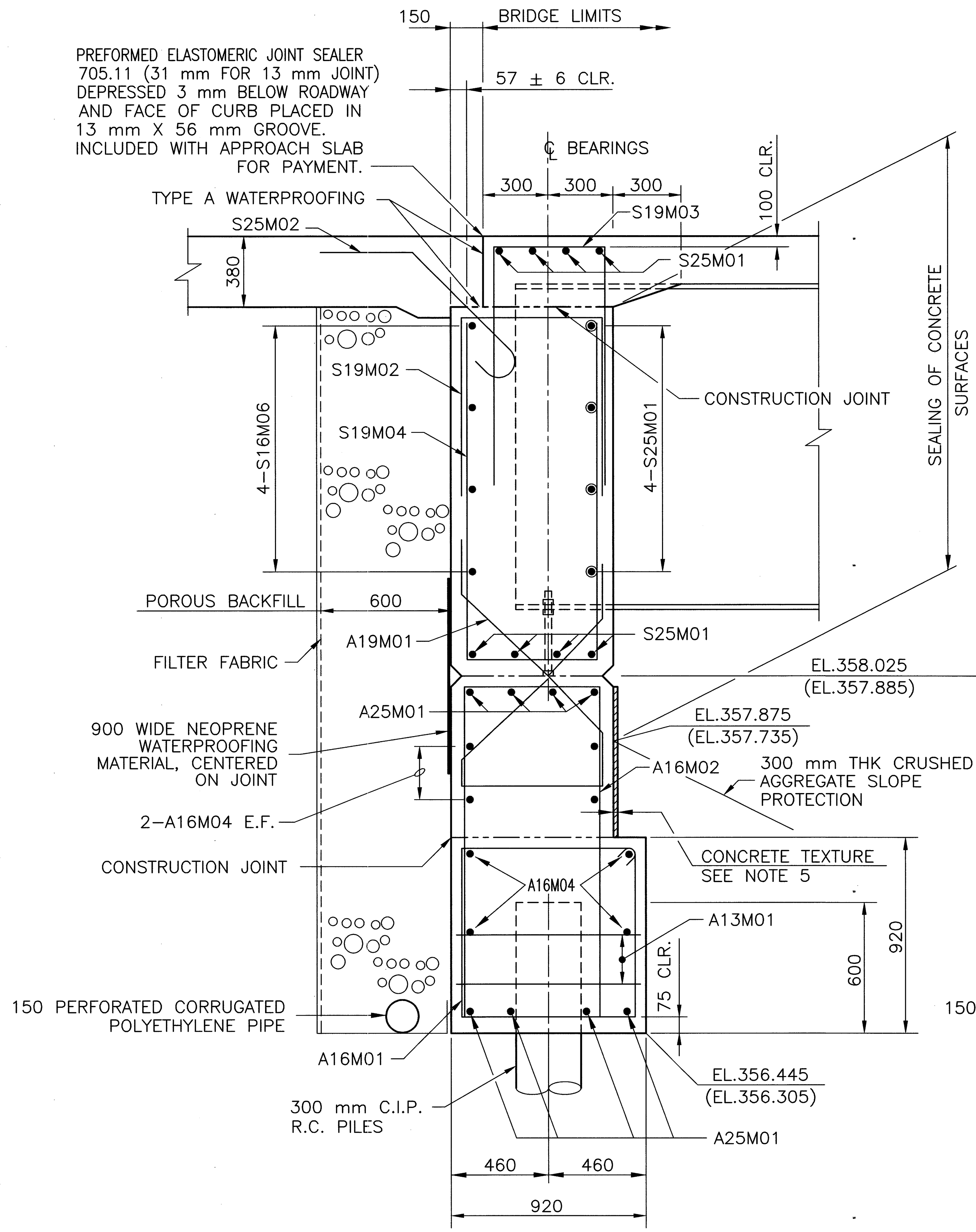
571/677

16283S5E.DWG
12-21-2000 12:37 PM
SCALE: 1:40M

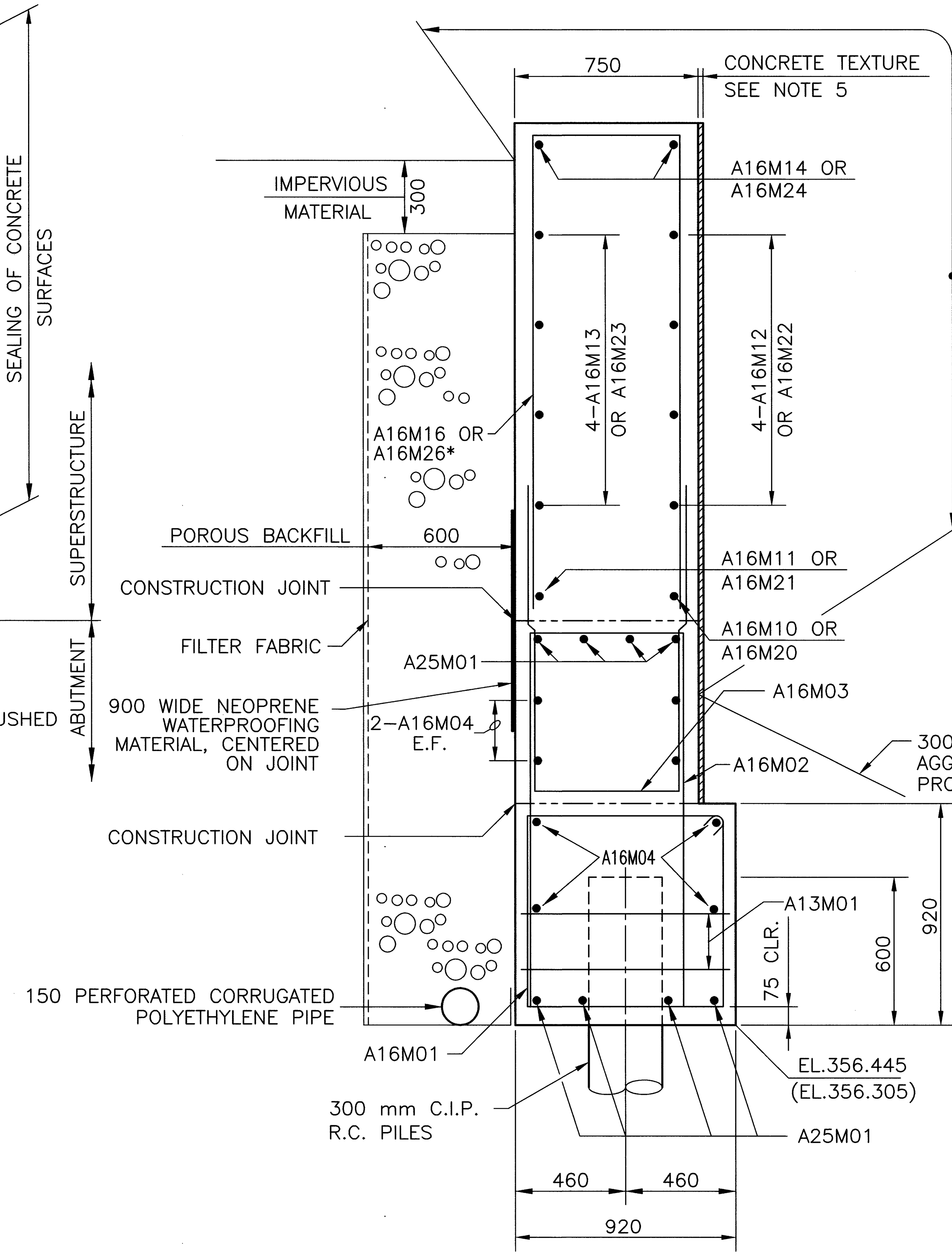
metric units

NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR LOCATION OF SECTIONS A–A & B–B SEE SHEET 3/11
3. FOR ADDITIONAL DETAILS REFER TO STD. DWG. ICD–1–82M.
4. * A16M17, A16M18 & A16M19 @ WINGWALL ENDS EMBEDDED IN BREASTWALL.
5. THE TEXTURE SHALL BE AN ASHLER STONE PATTERN AS PER THE FITZGERALD FORM LINER NUMBER 16986 OR APPROVED EQUAL. THE RELIEF SHALL BE A MINIMUM OF 19 mm. CONCRETE FOR TEXTURING SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, ABUTMENT, AS PER PLAN, FOR PAYMENT.

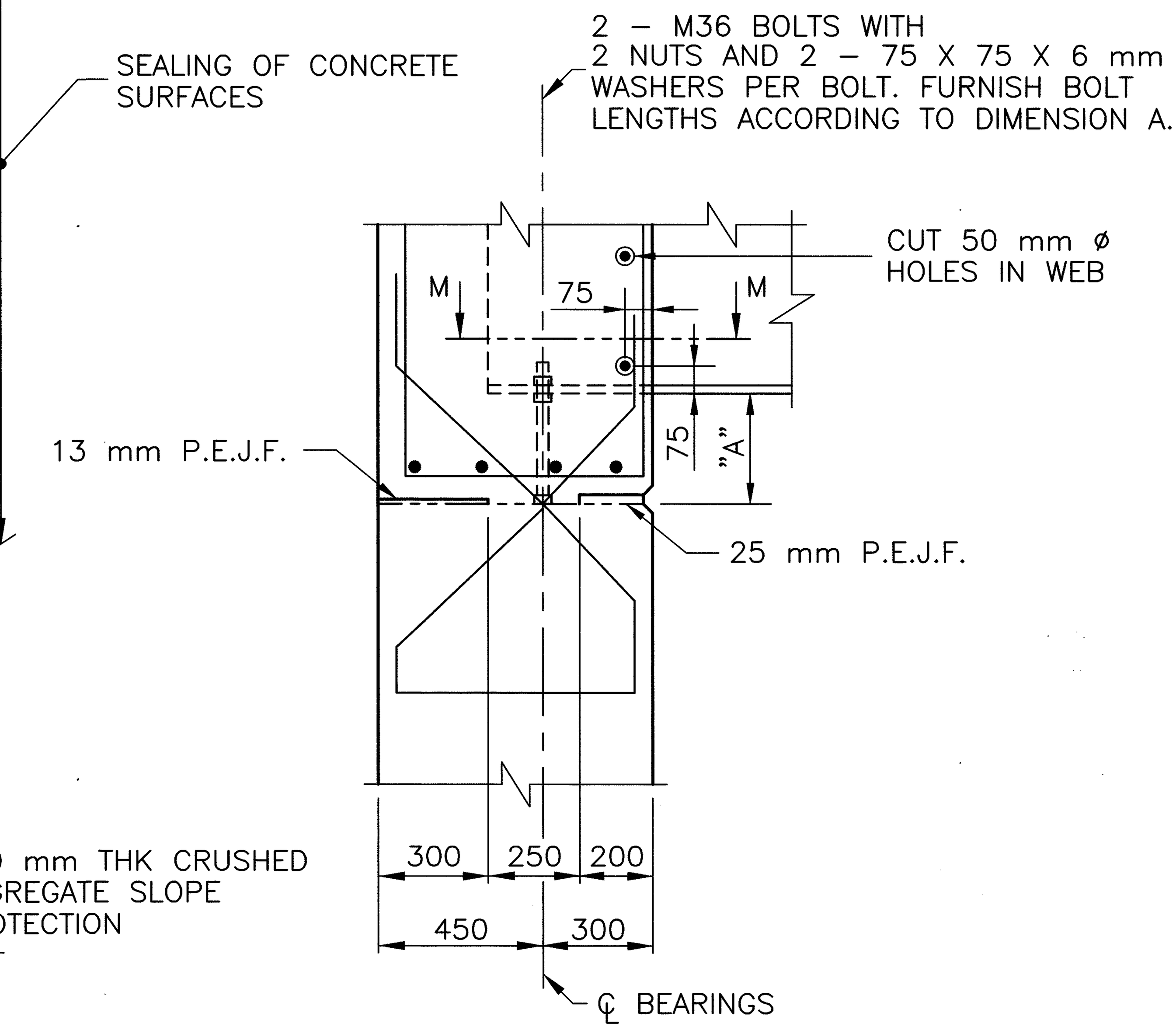


SECTION A–A

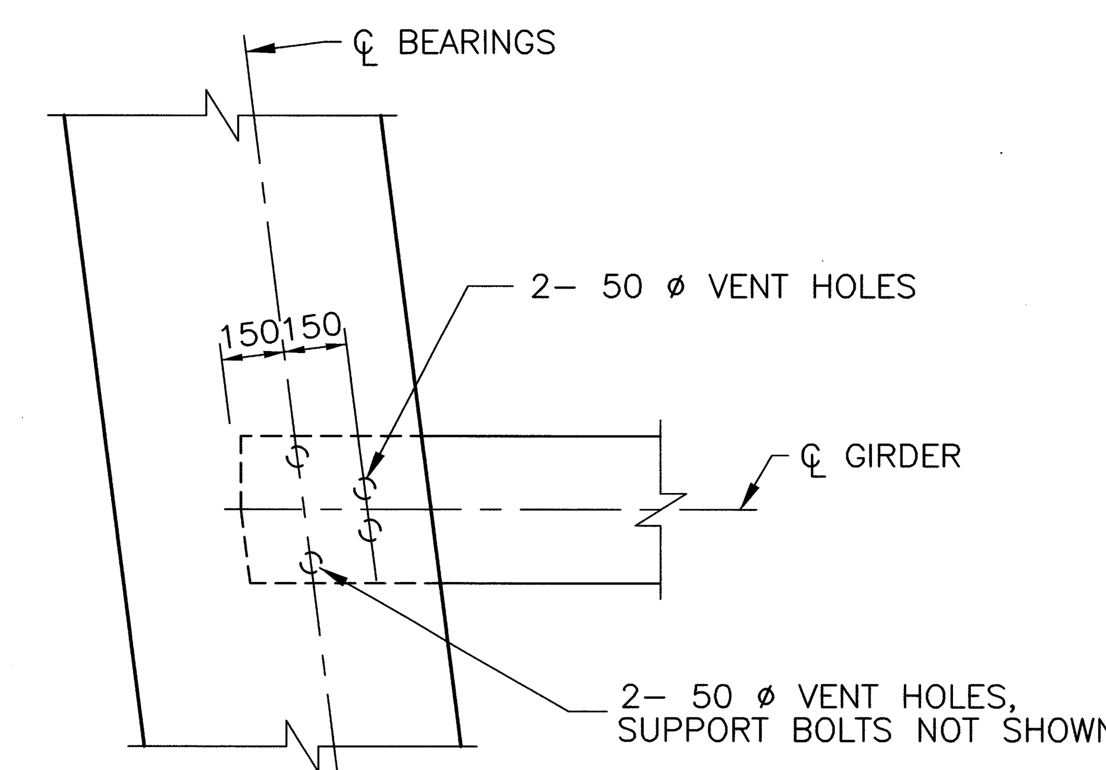


SECTION B–B

SEALING OF CONCRETE SURFACES



DETAIL X



SECTION M–M

DIMENSION "A"				
	GIRDER NO. 1	GIRDER NO. 2	GIRDER NO. 3	GIRDER NO. 4
REAR ABUTMENT	313	359	356	304
FORWARD ABUTMENT	308	363	367	323

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

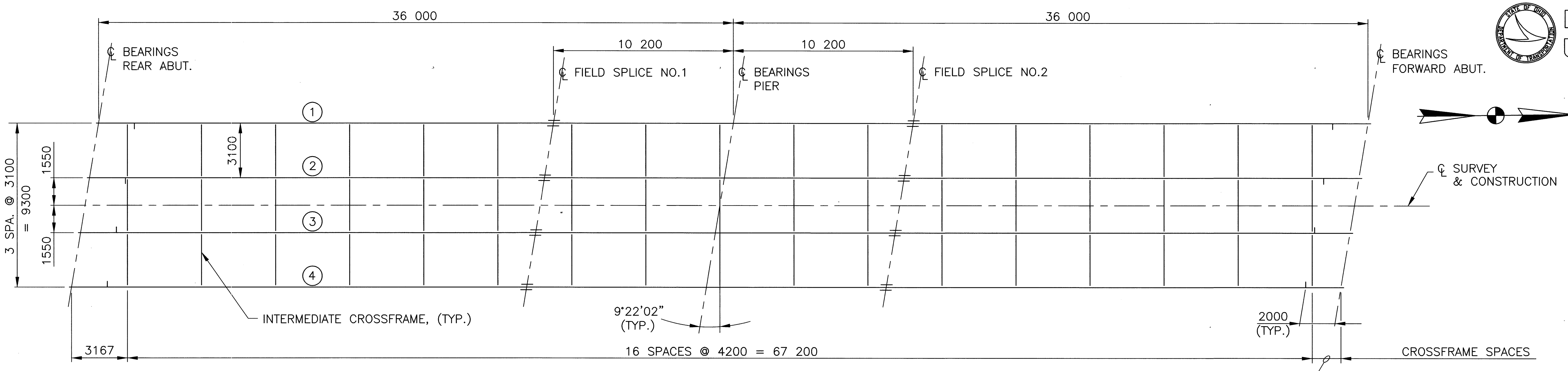
REVIEWED TF | DATE 12/00
STRUCTURE FILE NUMBER 1701800
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

ABUTMENT DETAILS
BRIDGE NO. CRA–30–31094
UNDER FAIRVIEW ROAD

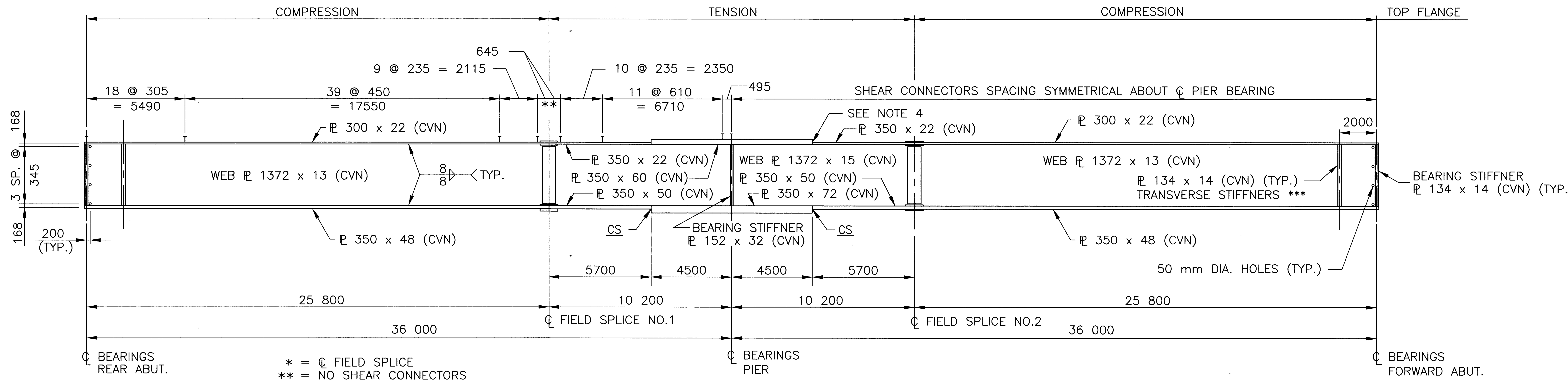
CRA–30–24.000

16283S5F.DWG
12–20–2000 4:00 PM
SCALE: 1:15M

PLAN
10 630
5315
5315
458 (TYP.)
1067 (TYP.)
1525 (TYP.)
STA. 50+000.000
℄ BEARINGS
℄ PIER
600 (TYP.)
P-1
P-2
P-3
P-4
P-5
P-6
P-7
P-8
P-9
P-10
P-11
P-12
P-13
P-14
P-15
P-16
P-17
P-18
℄ PIER & BEARINGS
457
3050
℄ CONSTRUCTION FAIRVIEW ROAD
9°-22'-02"
1230
602
3 SPA. @ 3142 = 9426 (c/c GIRDERS)
SECTION A-A
915
8-P29M02
P16M02
4-P16M01 E.F.
8-P29M03
SEALING OF CONCRETE (TYP.)
SECTION B-B
8-P29M01
P16M03
SECTION C-C
SP13M01
P32M03
765 CORE DIA.
75 CLEAR
PIER ELEVATION
(LOOKING NORTH)
2 SETS OF 10-P16M02 TOP & BOT. (TYP.)
27-P16M03 (TOP & BOT.)
8-P29M01*
8-P29M02*
EL.358.270
EL.358.322
EL.358.322
EL.358.273
EL.357.360
EL.357.210
4-P16M01 E.F.
8-P29M03
EL.357.210
STIRRUP SPACING
9 SPA. @ 100
11 SPA. @ 200
15 SPA. @ 95
STIRRUP SPA. SYMMETRICAL ABOUT ℄ COLUMN
230
10-P32M03 (TYP.)
SEAL ENTIRE SURFACE AREA OF COLUMN ABOVE EL.353.185 (TYP.)
SP13M01 (TYP.)
PROPOSED GROUND LINE EL.353.185
1985
10-P32M02 (TYP.)
1067
915
1068
CONSTR. JOINT (TYP.)
990
600
75 CLR. (TYP.)
EL.351.200 (TYP.)
12-P32M01
1525
2 COL. SPA. @ 4085 = 8170
VIEW D-D
LEGEND
INDICATES BATTERED PILE @ 1:4
P-1 INDICATES PILE IDENTIFICATION NUMBER
E.F. EACH FACE
* STAGGER SPLICE
MINIMUM BAR LAPS
LAP No. 16M BARS 750 mm
LAP No. 29M BARS 2800 mm
ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS
metric units
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO
DATE 12/00
STRUCTURE FILE NO. 1701800
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV
PIER DETAILS
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD
CRA-30-24.000
5/11
573
677
16283S5G.DWG
12-20-2000 9:30 AM
SCALE: 1:30M



FRAMING PLAN

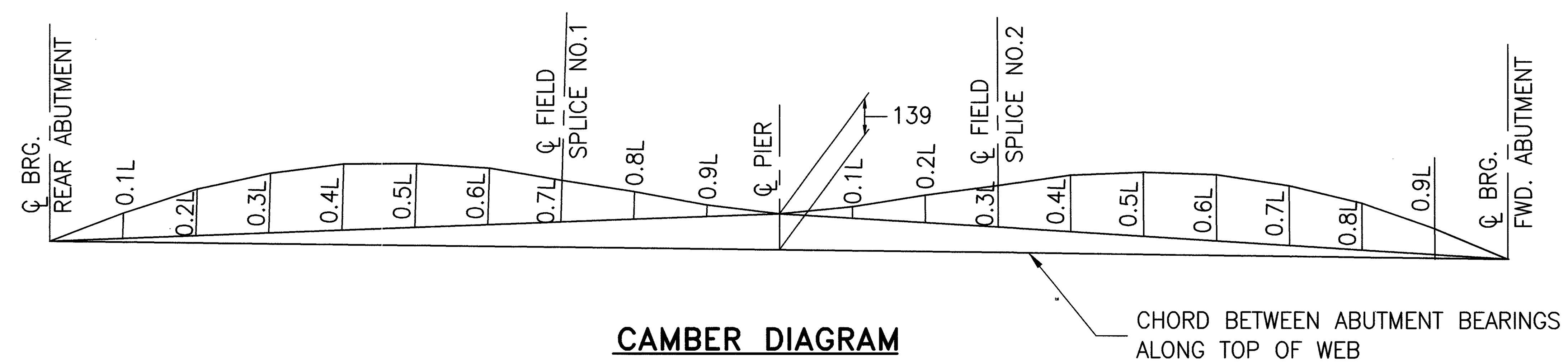


* = ℄ FIELD SPLICE
** = NO SHEAR CONNECTORS
*** = TRANSVERSE STIFFNERS ONE SIDE ONLY

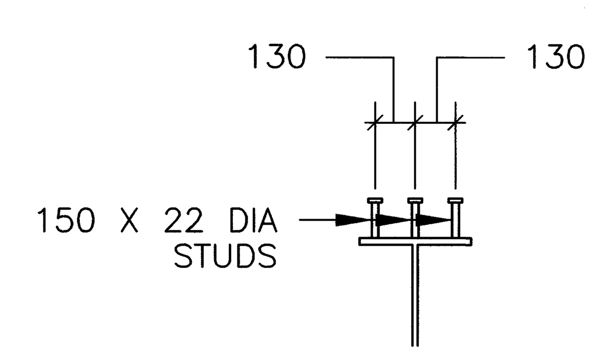
GIRDER ELEVATION

TABLE OF DEFLECTION AND CAMBER

	SPAN 1									SPAN 2								
	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.717L*	0.80L	0.90L	0.10L	0.20L	0.283L*	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L
DEFLECTION DUE TO WEIGHT OF STEEL	4	6	8	9	8	. 7	4	2	1	1	2	4	7	8	9	8	6	4
DEFLECTION DUE TO REMAINING DEAD LOAD	25	50	63	68	64	51	32	17	4	4	17	32	51	64	68	63	50	25
ADJUSTMENT DUE TO VERTICAL CURVE	12	22	29	33	35	33	28	22	12	12	22	28	33	35	33	29	22	12
TOTAL CAMBER	41	78	100	110	107	91	64	41	17	17	41	64	91	107	110	100	78	41



CAMBER DIAGRAM



SHEAR CONNECTOR DETAIL

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF THE FLANGE, BE NOT MORE THAN 25 mm LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT
ALL GIRDER COMPONENTS, I.E., FLANGE PLATES, WEB PLATES AND SPLICE PLATES SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
3. REFER TO SHEET 7 OF 11 FOR SPLICE DETAILS.
4. ALL FLANGE WELDS TO BE COMPLETE JOINT PENETRATION WELDS.
5. CS – INDICATES BUTT WELD SUBJECT TO COMPRESSION STRESS ONLY.
6. ALL STRUCTURAL STEEL TO BE A572 PAINTED.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NUMBER 1701800
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD

CRA-30-24.000

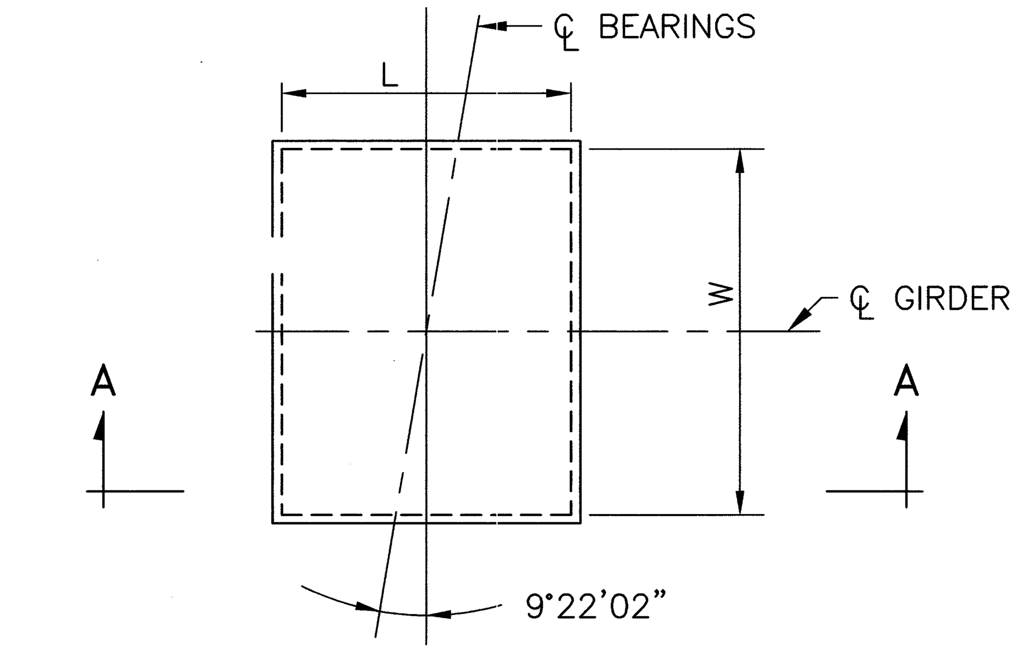
16283SSH.DWG
12-20-2000 9:31 AM
SCALE: 1:125M

LAMINATED ELASTOMERIC BEARINGS

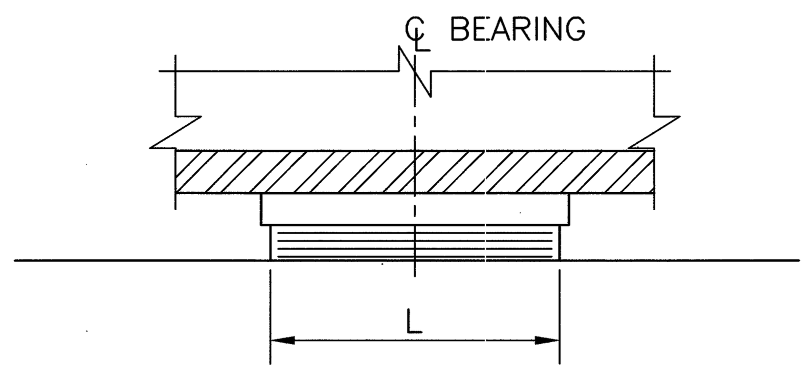
LOCATION	DIMENSIONS (MM)					N	STEEL LOAD PLATE	REACTIONS		MAXIMUM DESIGN LOAD
	L	W	T_i	T_e	T			DL	LL	
PIER EXPANSION BRNGS.	470	640	11	9	59	4	500 X 670 X 51	1553 kN	507 kN	2060 kN

T_i = THICKNESS OF INTERNAL LAYER
T_e = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

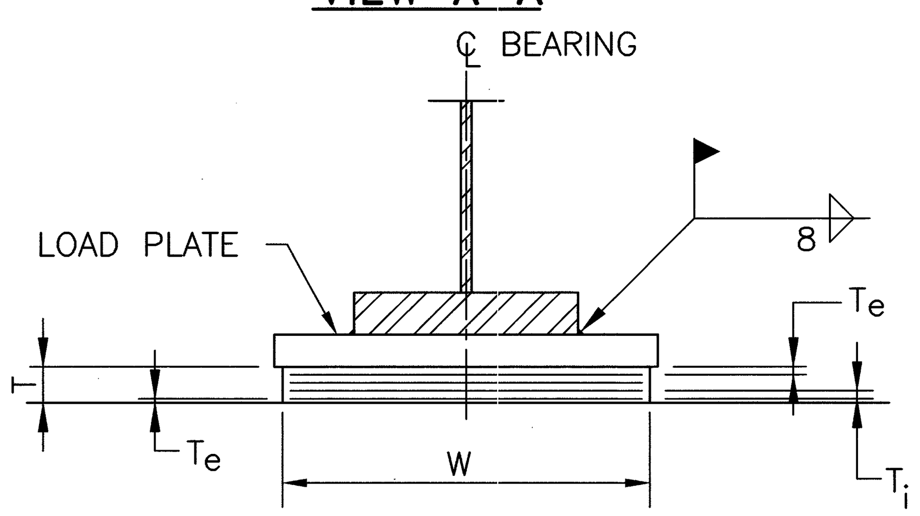
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 1.89 MM
DUROMETER OF ELASTOMER = 50 DUROMETER



PLAN



VIEW A–A



ELASTOMERIC EXPANSION BEARING

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 150° C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

HIGH STRENGTH BOLTS

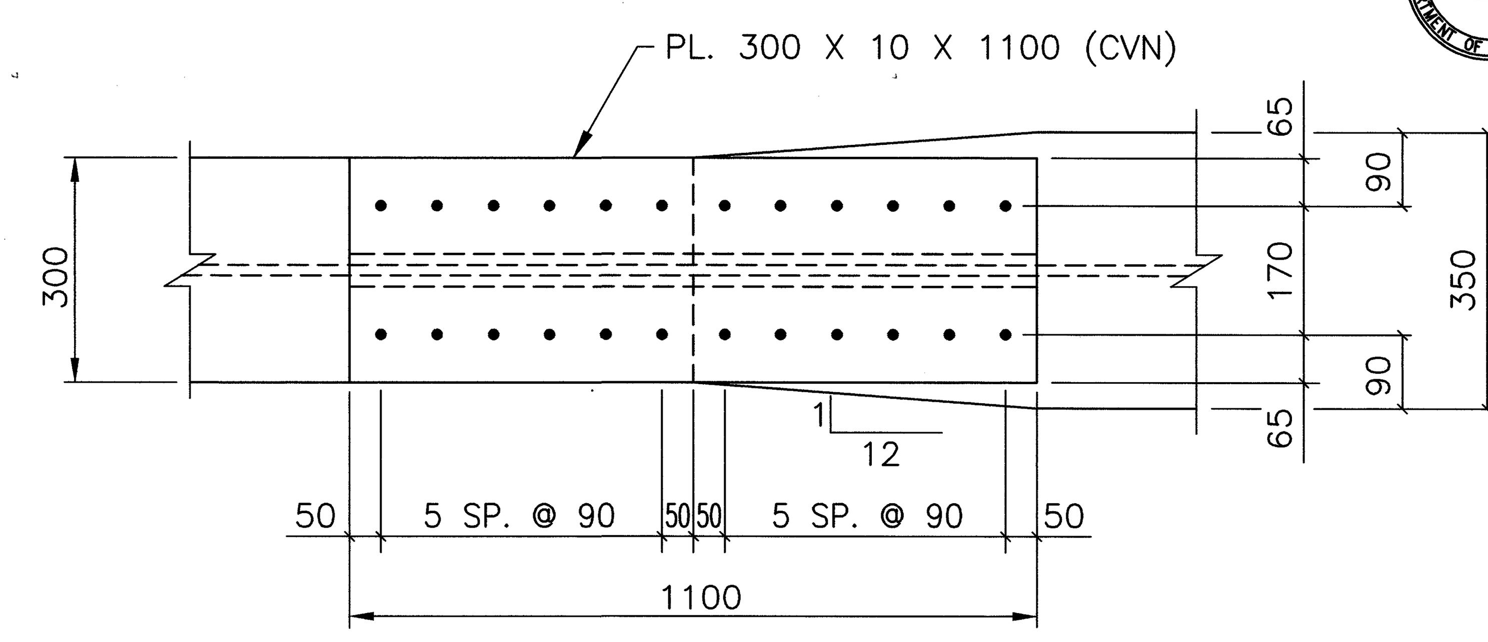
HIGH STRENGTH BOLTS SHALL BE 25 mm DIAMETER A325 UNLESS OTHERWISE NOTED.

CHARPY V–NOTCH TOUGHNESS REQUIREMENT

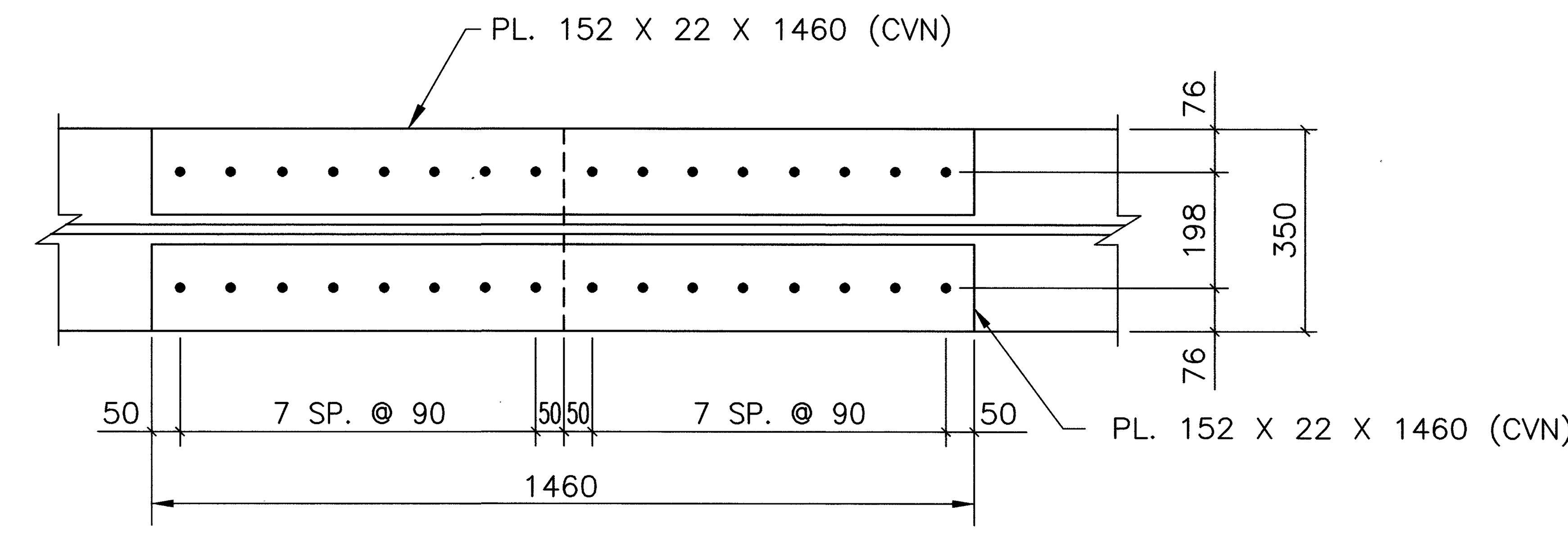
WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

ELASTOMERIC BEARINGS

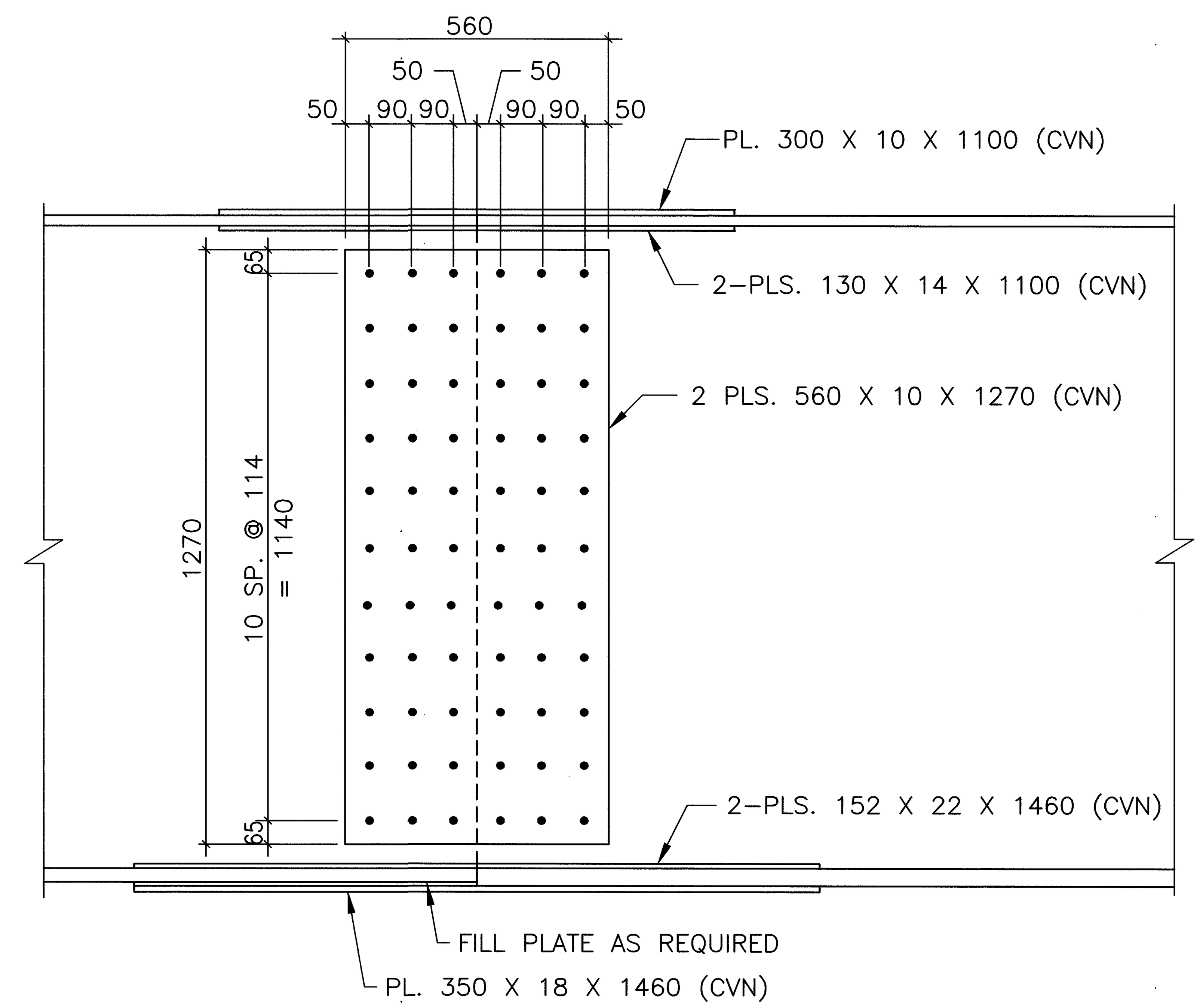
ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARINGS DEVICES, DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.2 OF SECTION14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.



PLAN – TOP FLANGE
SPLICE No.1 & No.2



PLAN – BOTTOM FLANGE
SPLICE No.1 & No.2



TYPICAL FIELD SPLICE DETAILS
SPLICE No.1 & No.2

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
MCCOY/FOX & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701800
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

BEARING & SPLICE DETAILS
BRIDGE NO. CRA–30–31094
UNDER FAIRVIEW ROAD

CRA–30–24.000

7 / 11

575 / 677

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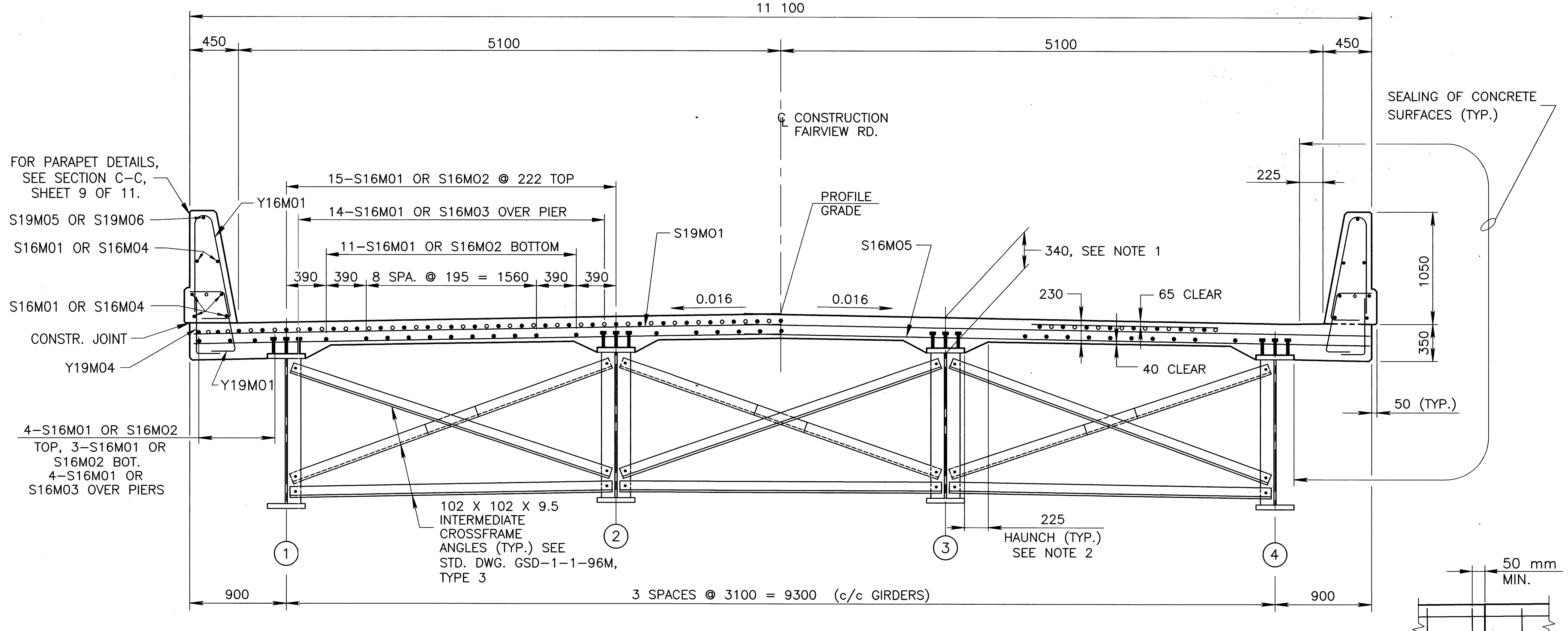
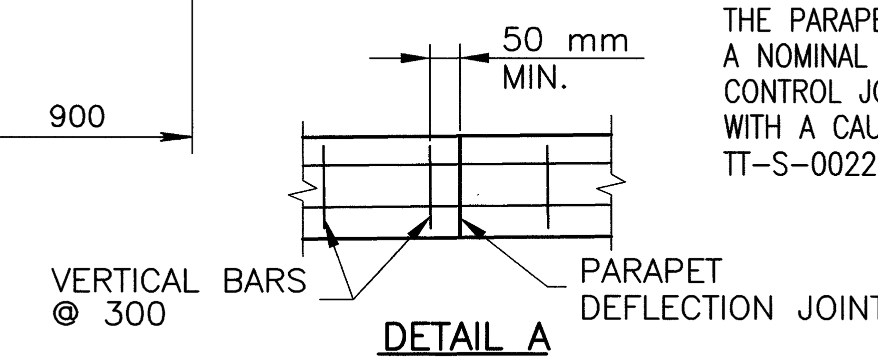
12-20-2000 9:46 AM
SCALE: 1:10M

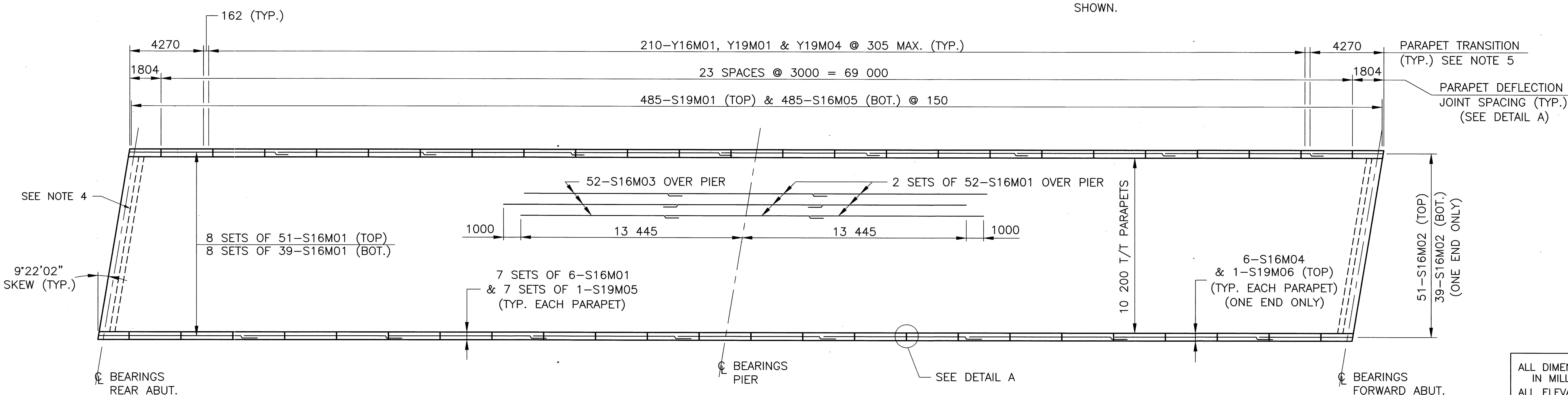


TRANSVERSE SECTION



DETAIL A

MOVE PARAPET DEFLECTION JOINTS WHERE NEEDED TO PROVIDE 50 mm CLEARANCE AS SHOWN.



DECK REINFORCING PLAN

NOTES:

1. CONCRETE DECK SLAB DEPTH

THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 842.

2. CONCRETE DECK HAUNCH WIDTH

A HAUNCH WIDTH OF 225 SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 AND 300.

3. MINIMUM LAP LENGTHS

LAP NO.16M BARS 750 MM.
LAP NO.19M BARS 1240 MM.

4. FOR DETAILS AT END OF DECK, SEE SECTION A-A, SHEET 4 OF 11.

5. FOR PARAPET TRANSITION DETAILS, SEE SHEET 9 OF 11.

6. CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK.

THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E.

metric units

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
387 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701800
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

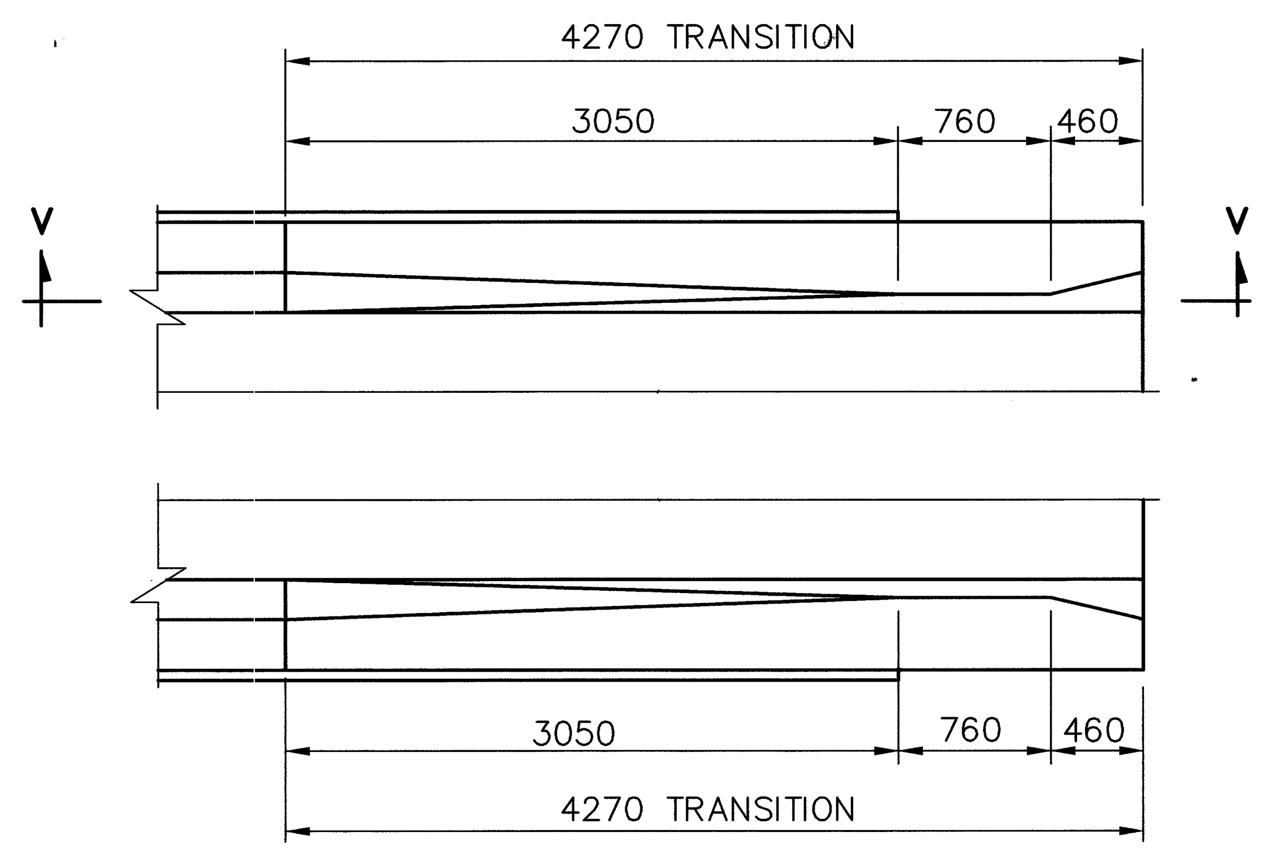
SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD

CRA-30-24.000

8 / 11

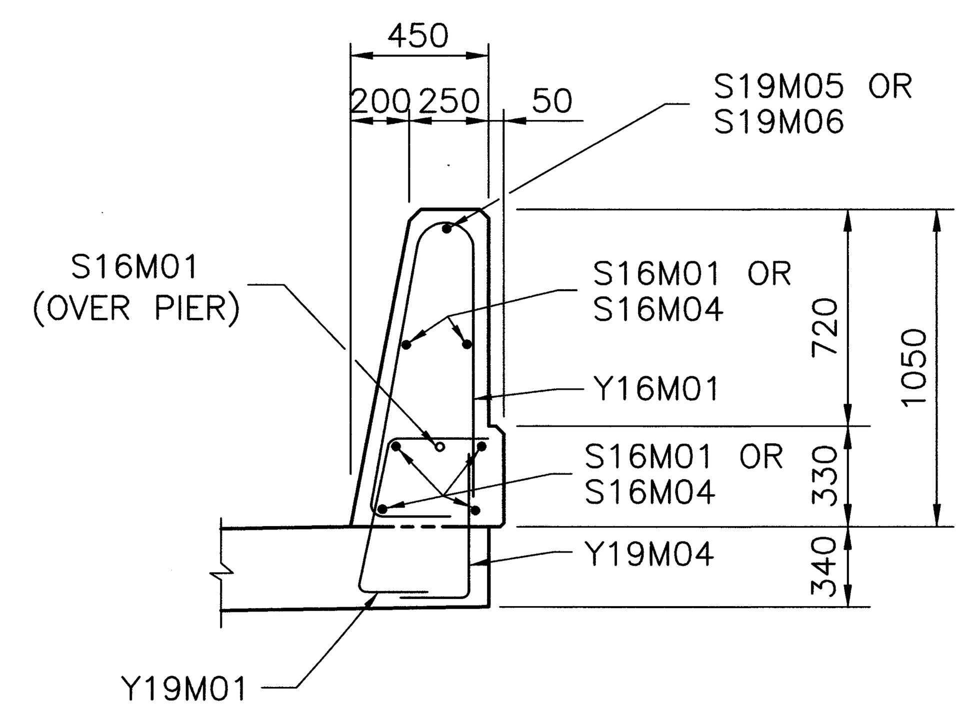
576 / 677

16283S5K.DWG
12-19-2000 12:47 PM
SCALE: 1:125M

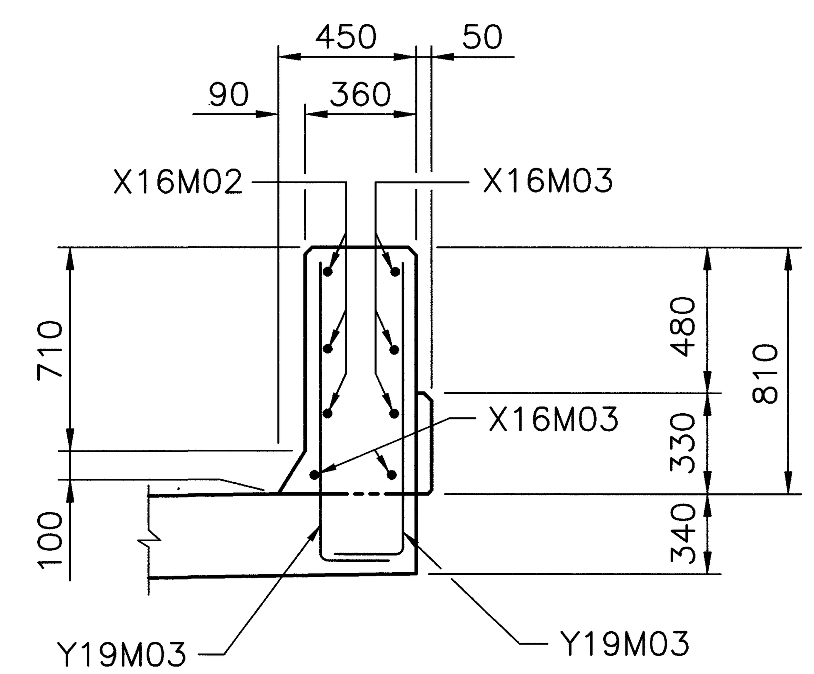


PARAPET TRANSITION DETAIL

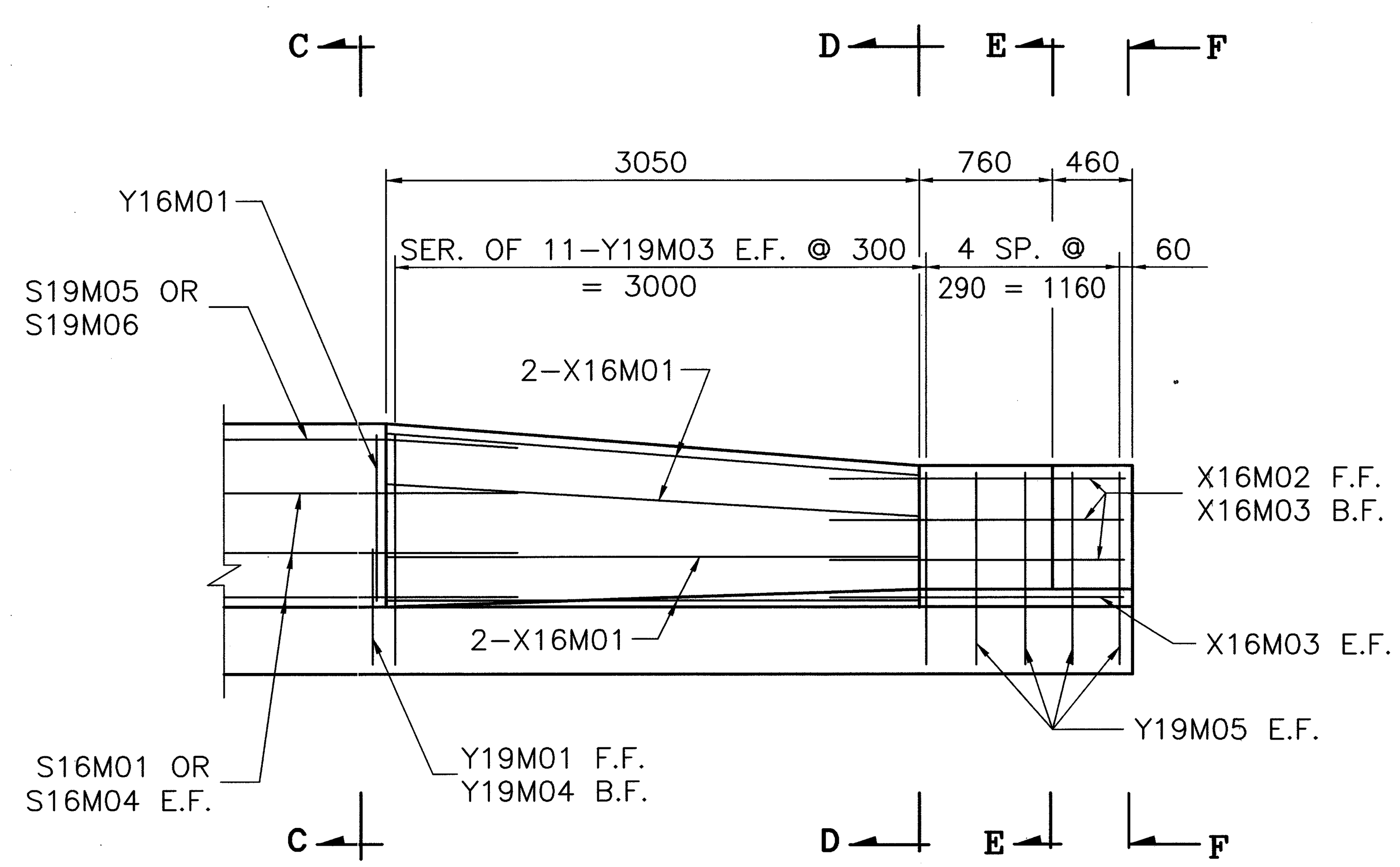
TYPICAL @ BOTH ABUTMENTS



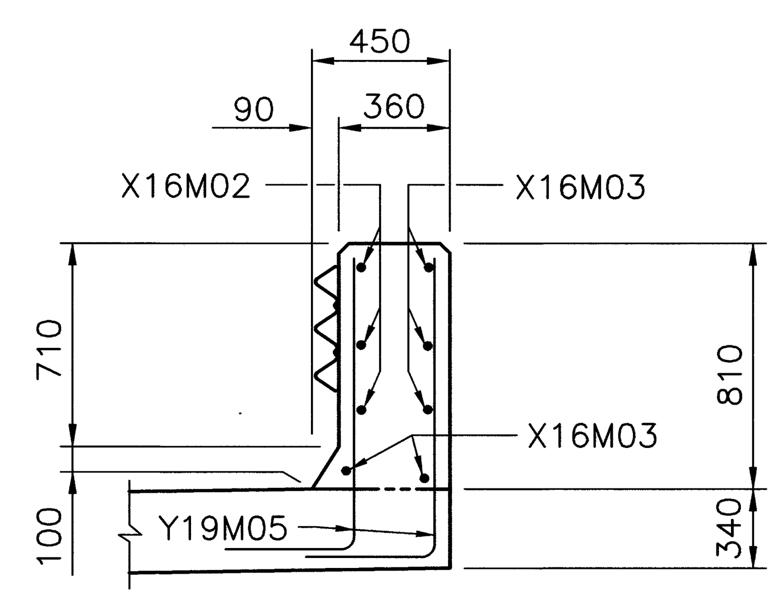
SECTION C–C



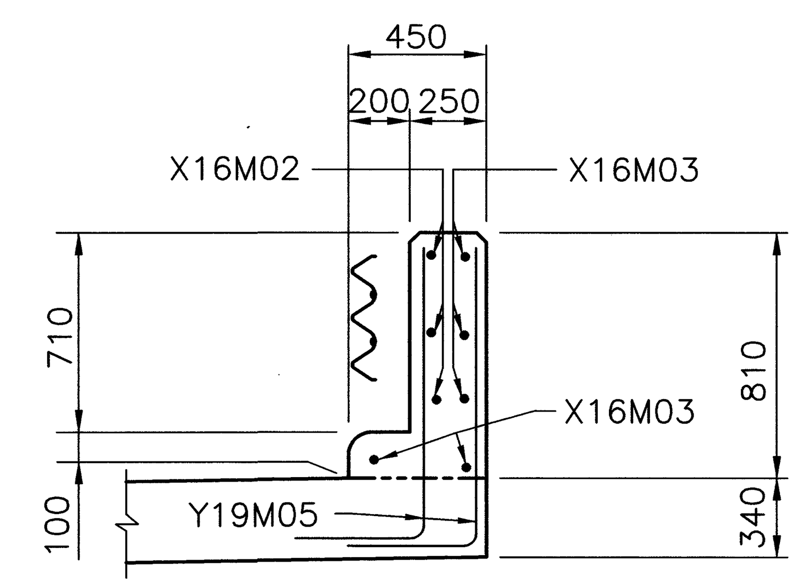
SECTION D–D



SECTION V–V



SECTION E–E



SECTION F–F

NOTES

FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING SBR–1–99M, ICD–1–82M & STD. CONSTRUCTION DRAWING GR–3.1M.

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOX & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED	DRAWN	REVIEWED	DATE
HJS	KRM	TF	12/00
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDV		1701800	

SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA–30–31094
UNDER FAIRVIEW ROAD

CRA–30–24.000

9 / 11

577 / 677

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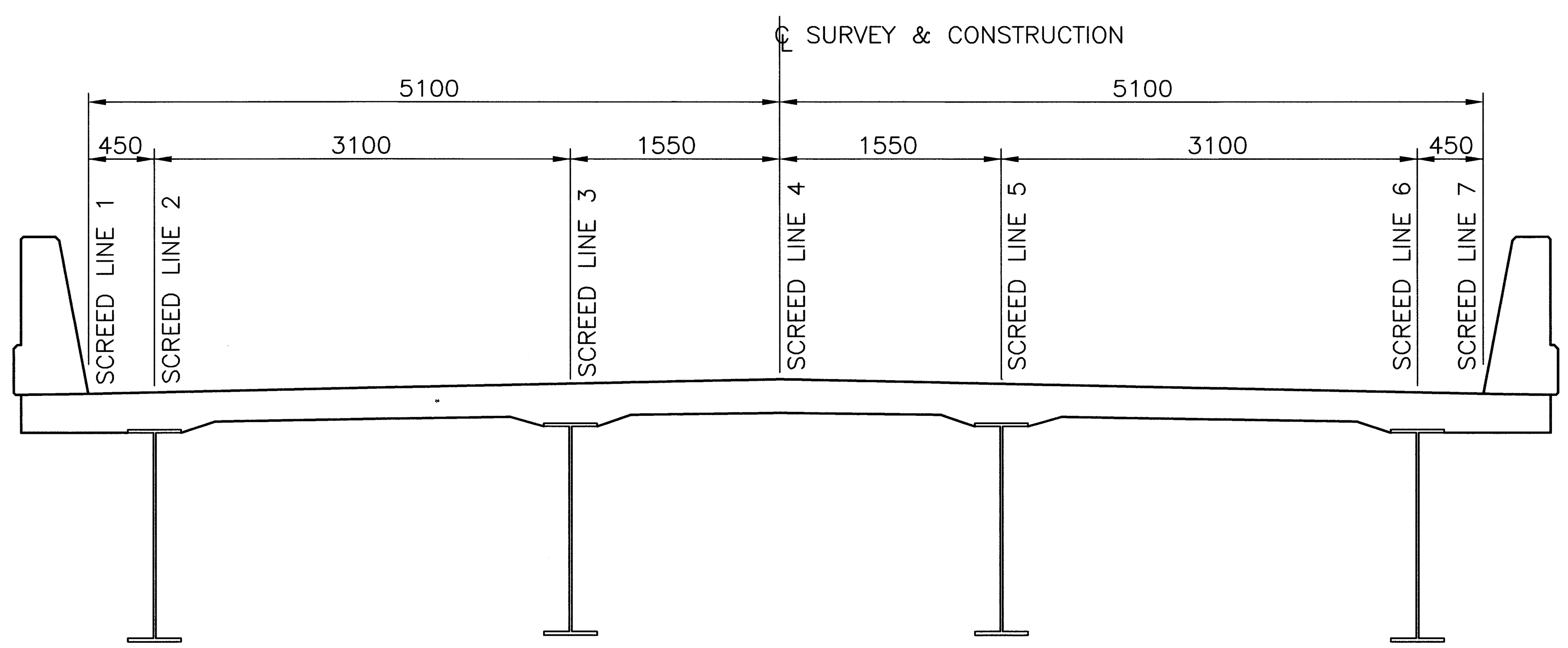
12–20–2000 9:50 AM
SCALE: 1:15M

SCREED ELEVATION TABLE

SPAN NO.	LOCATION	SCREED LINE 1 STATION	SCREED LINE 1 SCREED ELEVATION	SCREED LINE 2 STATION	SCREED LINE 2 SCREED ELEVATION	SCREED LINE 3 STATION	SCREED LINE 3 SCREED ELEVATION	SCREED LINE 4 STATION	SCREED LINE 4 SCREED ELEVATION	SCREED LINE 5 STATION	SCREED LINE 5 SCREED ELEVATION	SCREED LINE 6 STATION	SCREED LINE 6 SCREED ELEVATION	SCREED LINE 7 STATION	SCREED LINE 7 SCREED ELEVATION
SPAN NO.1	0.00 L	49+964.841	360.091	49+964.767	360.098	49+964.256	360.144	49+964.000	360.168	49+963.744	360.141	49+963.233	360.089	49+963.159	360.081
	0.10 L	49+968.441	360.135	49+968.367	360.142	49+967.856	360.189	49+967.600	360.212	49+967.344	360.186	49+966.833	360.134	49+966.759	360.126
	0.20 L	49+972.041	360.176	49+971.967	360.183	49+971.456	360.231	49+971.200	360.254	49+970.944	360.228	49+970.433	360.176	49+970.359	360.169
	0.30 L	49+975.641	360.203	49+975.567	360.210	49+975.056	360.258	49+974.800	360.281	49+974.544	360.256	49+974.033	360.204	49+973.959	360.197
	0.40 L	49+979.241	360.219	49+979.167	360.226	49+978.656	360.274	49+978.400	360.298	49+978.144	360.272	49+977.633	360.221	49+977.559	360.214
	0.50 L	49+982.841	360.223	49+982.767	360.230	49+982.256	360.278	49+982.000	360.302	49+981.744	360.277	49+981.233	360.226	49+981.159	360.219
	0.60 L	49+986.441	360.215	49+986.367	360.222	49+985.856	360.271	49+985.600	360.295	49+985.344	360.270	49+984.833	360.220	49+984.759	360.213
FIELD SPLICE	0.717 L	49+990.653	360.198	49+990.579	360.205	49+990.068	360.255	49+989.812	360.280	49+989.556	360.255	49+989.045	360.205	49+988.971	360.198
	0.80 L	49+993.641	360.183	49+993.567	360.190	49+993.056	360.240	49+992.800	360.265	49+992.544	360.240	49+992.033	360.191	49+991.959	360.183
	0.90 L	49+997.241	360.167	49+997.167	360.174	49+996.656	360.224	49+996.400	360.249	49+996.144	360.225	49+995.633	360.176	49+995.559	360.169
SPAN NO.2	0.00 L	50+000.841	360.157	50+000.767	360.164	50+000.256	360.215	50+000.000	360.240	49+999.744	360.216	49+999.233	360.167	49+999.159	360.160
	0.10 L	50+004.441	360.152	50+004.367	360.160	50+003.856	360.211	50+003.600	360.236	50+003.344	360.212	50+002.833	360.164	50+002.759	360.157
	0.20 L	50+008.041	360.154	50+007.967	360.161	50+007.456	360.213	50+007.200	360.238	50+006.944	360.214	50+006.433	360.166	50+006.359	360.159
FIELD SPLICE	0.283 L	50+011.029	360.157	50+010.955	360.165	50+010.444	360.216	50+010.188	360.242	50+009.932	360.218	50+009.421	360.171	50+009.347	360.164
	0.40 L	50+015.241	360.156	50+015.167	360.164	50+014.656	360.216	50+014.400	360.242	50+014.144	360.219	50+013.633	360.172	50+013.559	360.165
	0.50 L	50+018.841	360.150	50+018.767	360.157	50+018.256	360.210	50+018.000	360.236	50+017.744	360.213	50+017.233	360.166	50+017.159	360.159
	0.60 L	50+022.441	360.131	50+022.367	360.139	50+021.856	360.192	50+021.600	360.218	50+021.344	360.195	50+020.833	360.149	50+020.759	360.142
	0.70 L	50+026.041	360.101	50+025.967	360.109	50+025.456	360.162	50+025.200	360.189	50+024.944	360.166	50+024.433	360.120	50+024.359	360.113
	0.80 L	50+029.641	360.060	50+029.567	360.067	50+029.056	360.121	50+028.800	360.148	50+028.544	360.125	50+028.033	360.080	50+027.959	360.073
	0.90 L	50+033.241	360.004	50+033.167	360.012	50+032.656	360.066	50+032.400	360.093	50+032.144	360.070	50+031.633	360.025	50+031.559	360.019
	1.00 L	50+036.841	359.945	50+036.767	359.953	50+036.256	360.008	50+036.000	360.035	50+035.744	360.012	50+035.233	359.968	50+035.159	359.961



SCREED LINE LOCATIONS

SCREED ELEVATIONS ARE FOR THE CONCRETE SURFACE BEFORE THE CONCRETE IS PLACED. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701800
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

SCREED ELEVATIONS
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD

CRA-30-24.000

10/11

578/677

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12-20-2000 3:41 PM
SCALE: 1:30M

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
ABUTMENTS									
A13M01	36	2665		3	515	740			
A16M01	88	3250		3	770	770			
A16M02	88	1950		2	1430	600	1430		
A16M03	24	3635		2	1555	600	1555		
A16M04	32	9760		STR					
A16M10	2	3510		STR					
A16M11	2	3390		STR					
A16M12	2 S.O. 4	950 TO 3305		STR					INCR = 785
A16M13	2 S.O. 4	825 TO 3180		STR					INCR = 785
A16M14	4	3650		STR					
A16M15	2	4485		2	1980	600	1980		
A16M16	2 S.O. 5	2025 TO 3865		2	750 TO 1670	600	750 TO 1670		VARY A BY 230 VARY C BY 230
A16M17	4	2385		2	930	600	930		
A16M18	4	2715		2	1095	600	1095		
A16M19	4	3195		2	1335	600	1335		
A16M20	2	3185		STR					
A16M21	2	3305		STR					
A16M22	2 S.O. 4	800 TO 2990		STR					INCR = 730
A16M23	2 S.O. 4	925 TO 3115		STR					INCR = 730
A16M24	4	3470		STR					
A16M25	2	4505		2	1990	600	1990		
A16M26	2 S.O. 5	2125 TO 4125		STR	800 TO 1800	600	800 TO 1800		VARY A BY 250 VARY C BY 250
A19M01	70	3100		11					
A25M01	32	10260		STR					
PIER									
P16M01	8	10480		STR					
P16M02	80	2215		2	870	550	870		
P16M03	108	2480		2	870	815	870		
P29M01	8	9395		1	800	8685			
P29M02	8	5310		1	800	4600			
P29M03	8	6670		4	5945	725	150		

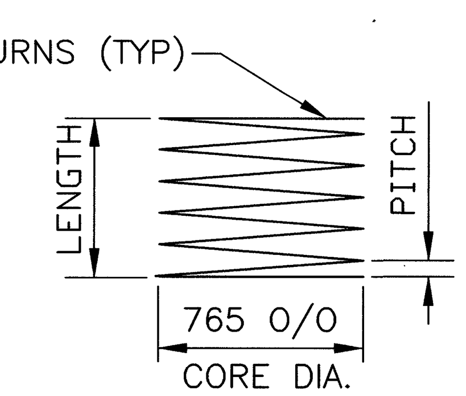
DIMENSIONS SHOWN ARE OUT TO OUT.
STR = STRAIGHT
S.O. = SERIES OF
INCR = INCREMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
PIER (CONTD.)									
P32M01	72	3760		13	2900				
P32M02	30	3360		1	560	2900			
P32M03	30	5935		STR					
SP13M01	3	5120		SPIRAL					
SUPERSTRUCTURE									
S16M01	908	9140		STR					
S16M02	90	5390		STR					
S16M03	52	11115		STR					
S16M04	12	6840		STR					
S16M05	485	11000		STR					
X16M01	32	3050		STR					
X16M02	12	1680		10					
X16M03	20	1680		STR					
Y16M01	420	2205		7	900	950			
S19M01	485	11000		STR					
S19M05	14	9140		STR					
S19M06	2	11220		STR					
Y19M01	420	1100		6	560				
Y19M03	8 S.O. 11	1320 TO 1560		1	320	1050 TO 1290			VARY B BY 24
Y19M04	420	830		1	320	560			
Y19M05	32	1320		1	320	1050			
SUPERSTRUCTURE–DIAPHRAGM									
S16M06	8	11725		STR					
S19M02	70	2770		2	1135	600	1135		
S19M03	70	3190		2	1420	450	1420		
S19M04	70	3500		2	1500	600	1500		
S25M01	24	11725		STR					
S25M02	50	1540		5	430	825			

SPIRALS; SP13M01 – CORE DIAMETER 765 mm, PITCH 115 mm
OTHER DETAILS IN ACCORDANCE WITH C.R.S.I. STANDARDS

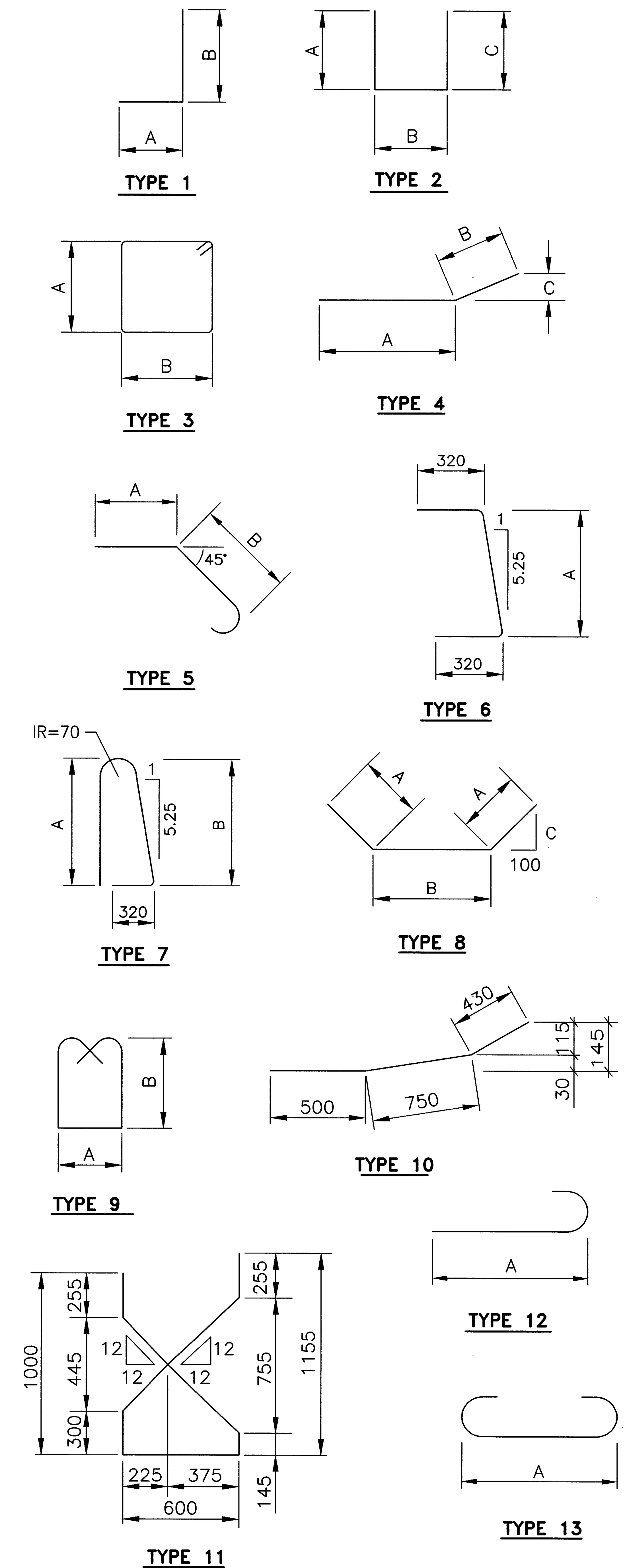
SPIRAL REINFORCING BAR SPACES:

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVAL (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 3 M) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 76 mm CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION DIMENSION OF THE DRILLED SHAFT OR COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORT) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.



SPIRAL

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS



THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A15M01 IS A #15M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL REINFORCING STEEL TO BE EPOXY COATED.

metric units

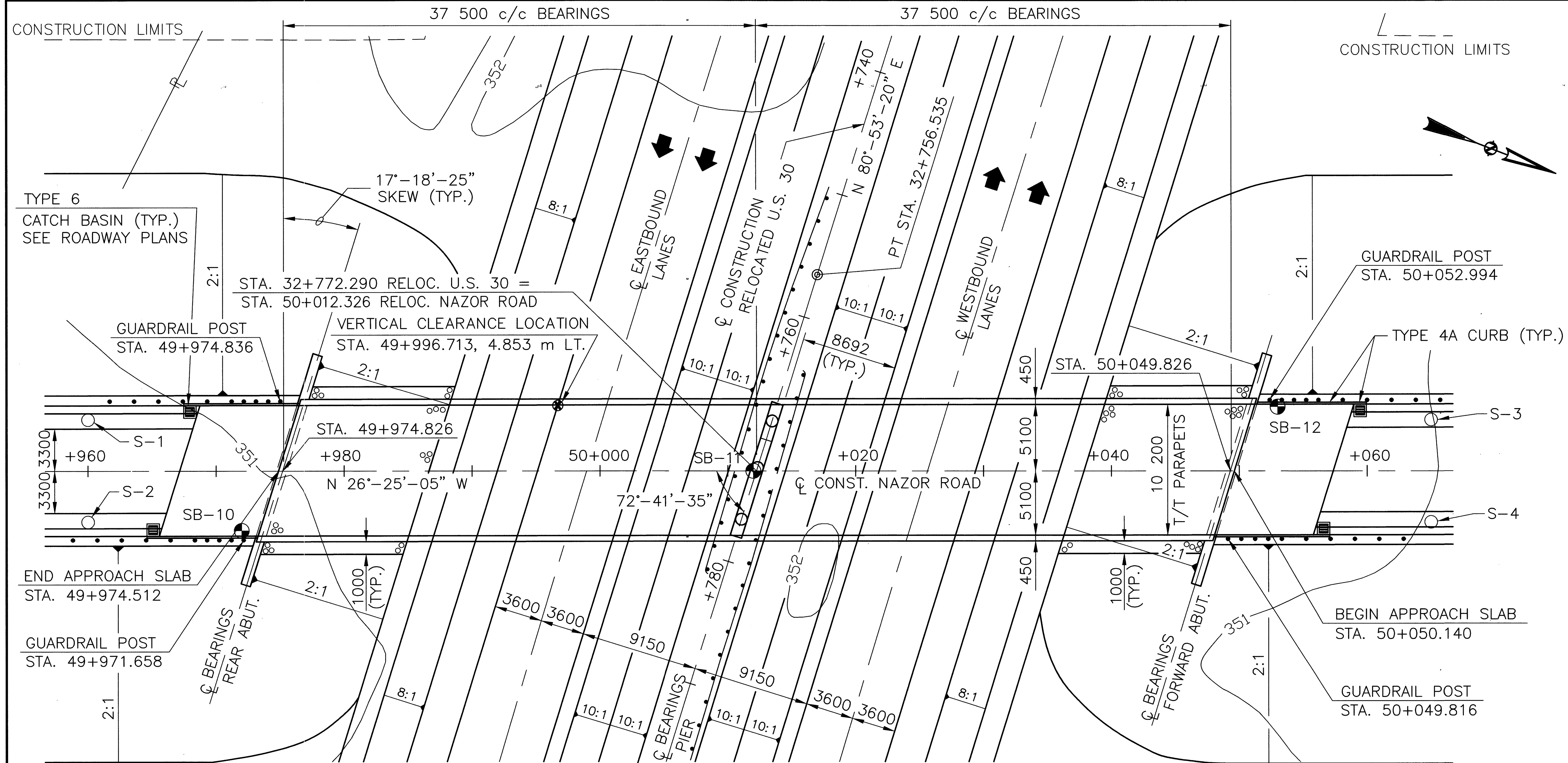
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12-00 | STRUCTURE FILE NO. 1701800
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

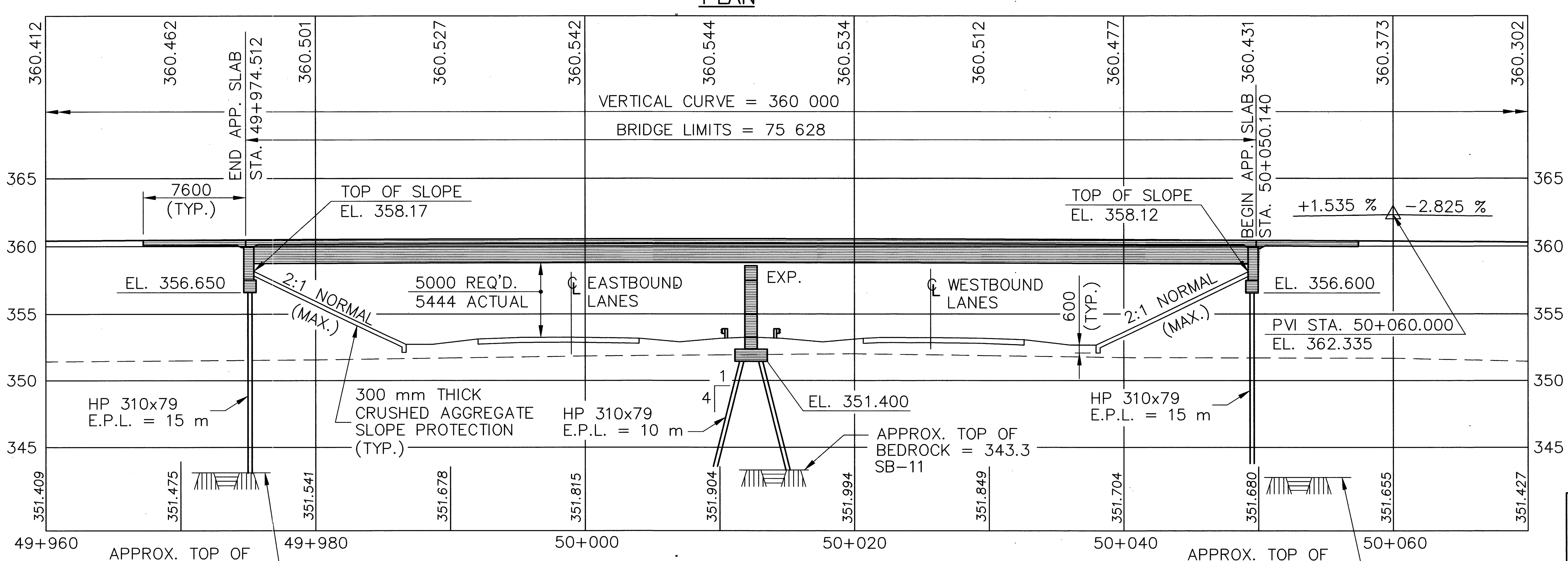
REINFORCING STEEL LIST
BRIDGE NO. CRA-30-31094
UNDER FAIRVIEW ROAD

CRA-30-24.000

16283S5N.DWG
12-20-2000 9:53 AM
SCALE: 1:1M



PLAN



PROFILE ALONG ℄ CONSTRUCTION

metric units

NOTE:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

SETTLEMENT PLATFORM DATA		
NO.	LOCATION	STATION
S-1	4 m LT.	49+960
S-2	4 m RT.	49+960
S-3	4 m LT.	50+065
S-4	4 m RT.	50+065

= BORING LOG LOCATION

VERTICAL CURVE DATA

PVI STA. 50+060
PVI EL. 362.335
G1 = +1.535 %
G2 = -2.825 %
L = 360 m

E.P.L.= ESTIMATED PILE LENGTH

TRAFFIC DATA

DESIGN ADT (2020) = 1047
DESIGN ADTT (2020) = 32

PROPOSED STRUCTURE

TYPE: 2 SPAN CONTINUOUS A572 PAINTED STEEL GIRDER BRIDGE w/COMPOSITE REINF. CONC. DECK ON CAP & COLUMN PIER AND INTEGRAL ABUTMENTS
SPANS: 37 500, 37 500 c/c BEARINGS
ROADWAY: 10 200 T/T PARAPETS
DESIGN LOADING: MS18 CASE II & ALTERNATE MILITARY LOADING
SKEW: 17°-18'-25" L.F.
ALIGNMENT: TANGENT
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 7600 (AS-1-81M)
CROWN: 0.016
LATITUDE: N40°-45'-40"
LONGITUDE: W82°-45'-50"

BENCHMARK:
RAILROAD SPIKE IN SOUTH SIDE OF 400 mm ASPEN STA. 32+180, 9.5 m LT. OF ℄ OF PROP. U.S. 30
ELEV. 354.615

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12-00
STRUCTURE FILE NUMBER 1701916
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

CRAWFORD COUNTY
STA. 49+974.512
STA. 50+050.140

SITE PLAN
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

1/11

580/677

16283S4A.DWG
12-20-2000 9:54 AM
SCALE: 1:0.2M

GENERAL NOTES

PILES DRIVEN TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL MILLIMETERS WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 mm OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 1020 kN PER PILE FOR THE HP310x79 ABUTMENT PILES.

ABUTMENT PILES: REAR
- 9 PILES 15 METERS LONG, ESTIMATED LENGTH
- 9 PILES OF ORDER LENGTH 15 METERS LONG
- 5 SPLICES

FORWARD
- 9 PILES 15 METERS LONG, ESTIMATED LENGTH
- 9 PILES OF ORDER LENGTH 15 METERS LONG
- 4 SPLICES

THE ULTIMATE BEARING VALUE IS 1260 kN PER PILE FOR THE HP310x79 PIER PILES.

PIER PILES:
- 18 PILES 10 METERS LONG, ESTIMATED LENGTH
- 18 PILES OF ORDER LENGTH 10 METERS LONG
- 9 SPLICES

PAINTING OF 863 STEEL

ALL NEW STEEL SHALL BE SHOP PRIMED PER ITEM 816, WHICH SHALL BE INCLUDED IN THE COST OF ITEM 863.

ITEM 816, FIELD PAINTING OF NEW STEEL, SYSTEM IZEU

ALL NEW STEEL SHALL BE PAINTED WITH AN INTERMEDIATE AND FINISH COAT OF PAINT IN THE FIELD USING SYSTEM IZEU. THE COLOR OF THE FINISH COAT SHALL BE LIGHT NEUTRAL FEDERAL COLOR STANDARD No. 17778. IN ADDITION TO THE SURFACE AREA OF STEEL STRINGERS TO BE PAINTED, INCIDENTALS SUCH AS CROSSFRAMES AND BEARINGS SHALL BE INCLUDED. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM 816, FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU FOR PAYMENT.

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN'L.	AS PER PLAN SHEET NO.
SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM				4	GN-2
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	GN-2
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00200	450	METER	STEEL PILES HP310X79, FURNISHED	270	180			
507	00250	450	METER	STEEL PILES HP310X79, DRIVEN	270	180			
507	50500	18	EACH	STEEL PILE SPLICES	9	9			
516	13200	7	SQ M	13 mm PREFORMED EXPANSION JOINT FILLER	7				
516	13600	12	SQ M	25 mm PREFORMED EXPANSION JOINT FILLER	12				
516	44101	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN 62 x 470 x 670 mm w/51 x 500 x 700 mm LOAD PLATE		4			7
518	21231	LUMP		POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	LUMP				GN-2
518	40000	39	METER	150 mm PERFORATED CORRUGATED PLASTIC PIPE	39				
518	40011	19	METER	150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	19				3
SPECIAL	53013000	49	SQ M	FORM LINER	49				
816	00610	118426	KILOGRAM	FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM IZEU			118426		
842	41001	21	CU M	CLASS C CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		21			GN-2
842	43501	70	CU M	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	70				GN-2
842	46501	28	CU M	CLASS C CONCRETE, FOOTING, AS PER PLAN		28			GN-2
844	49000	LUMP		HIGH PERFORMANCE CONCRETE TRIAL MIX			LUMP		
844	49010	LUMP		HIGH PERFORMANCE CONCRETE TESTING			LUMP		
844	49501	32	CU M	HIGH PERFORMANCE CONCRETE, MISC.: SUPERSTRUCTURE, INTEGRAL DIAPHRAGM, AS PER PLAN			32		GN-2
863	10080	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL FOUR (4) FABRICATION, A572			LUMP		
863	20000	2220	EACH	WELDED STUD SHEAR CONNECTOR			2220		
864	10100	647	SQ M	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	38	73	536		GN-2
894	10001	280	CU M	HIGH PERFORMANCE CONCRETE, FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN			280		GN-2
				COMPUTED BY : RIB DATE : 5/19/99					
				CHECKED BY : HJS DATE : 7/27/99					

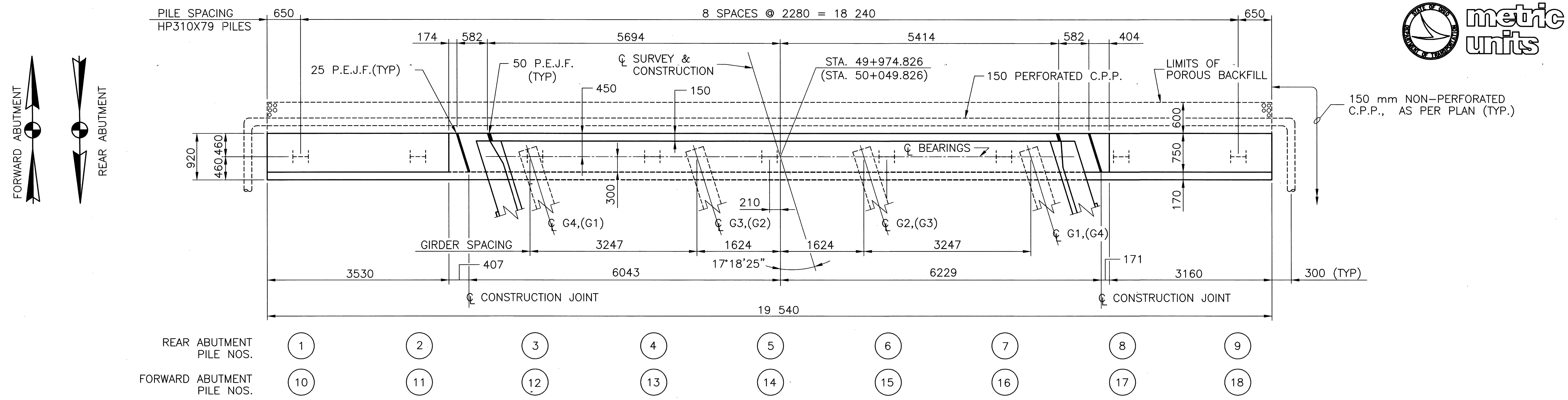
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
STRUCTURE FILE NO. 1701916
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ESTIMATED QUANTITIES
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

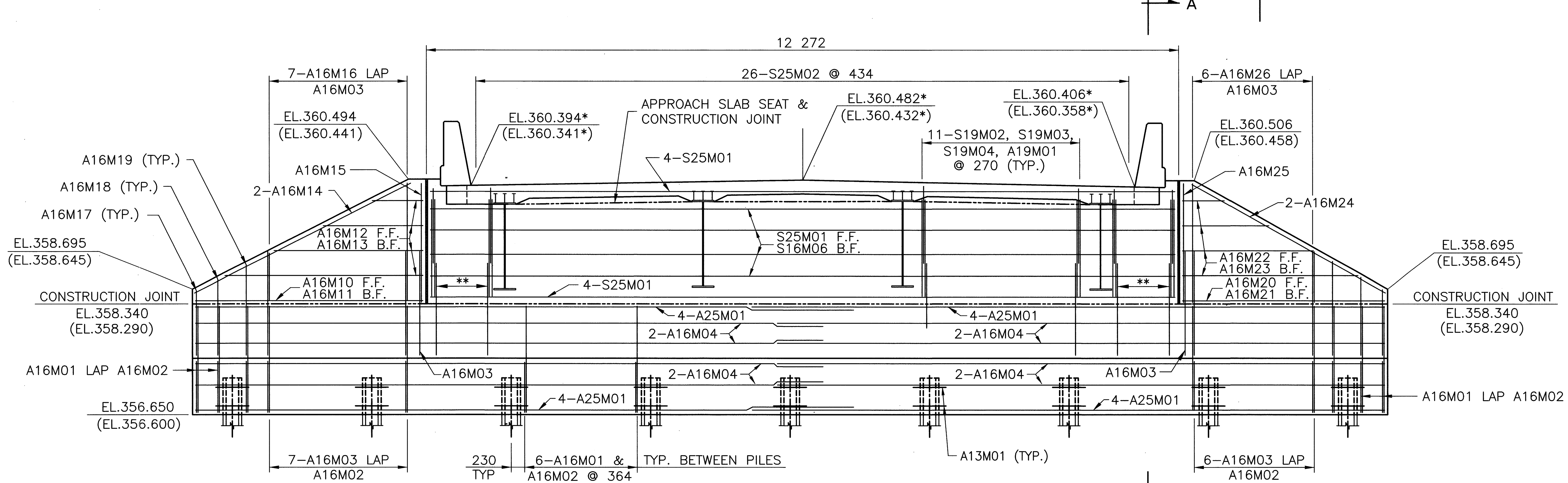
CRA-30-24.000

16283S4C.DWG
12-21-2000 10:31 AM
SCALE: 1=1E



PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AS NOTED †)

* ELEVATIONS ARE GIVEN @ ℄ BEARINGS

** 4–S19M02, S19M03, S19M04 & A19M01 @ 290

† ELEVATIONS, STATIONS, & GIRDER NUMBERS IN ( ) ARE FOR FORWARD ABUTMENT ONLY.

MINIMUM BAR LAPS

LAP NO.16M BARS 750 mm.
LAP NO.19M BARS 1040 mm.
LAP NO.25M BARS 1750 mm.

ABBREVIATIONS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
C.P.P. = CORRUGATED POLYETHYLENE PIPE

NOTE:

1. REFER TO SHEET 4/11 FOR ADDITIONAL NOTES, AND SECTIONS A–A & B–B.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701916
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

ABUTMENT DETAILS
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

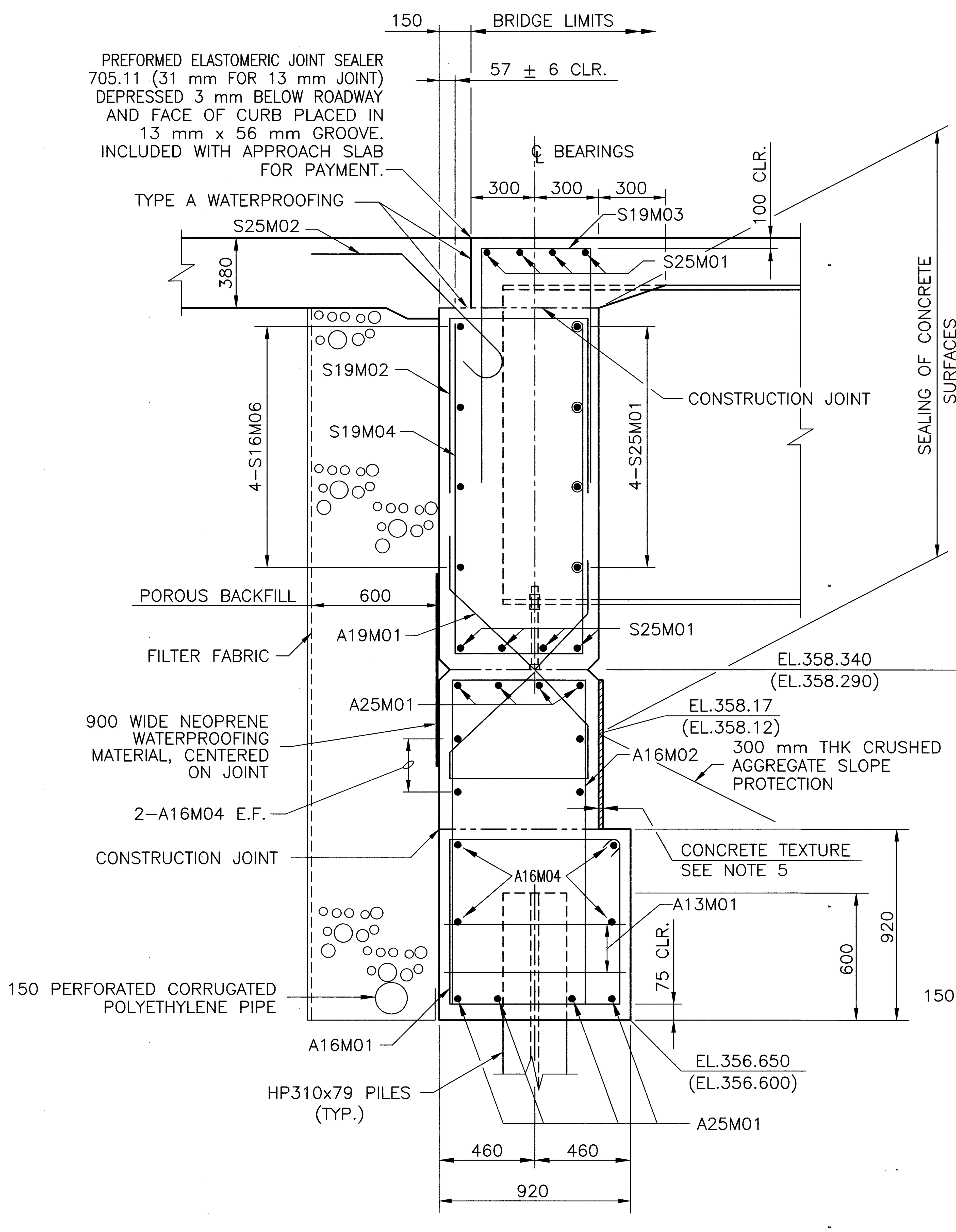
3/11

16283S4E.DWG
12-20-2000 9:57 AM
SCALE: 1:40M

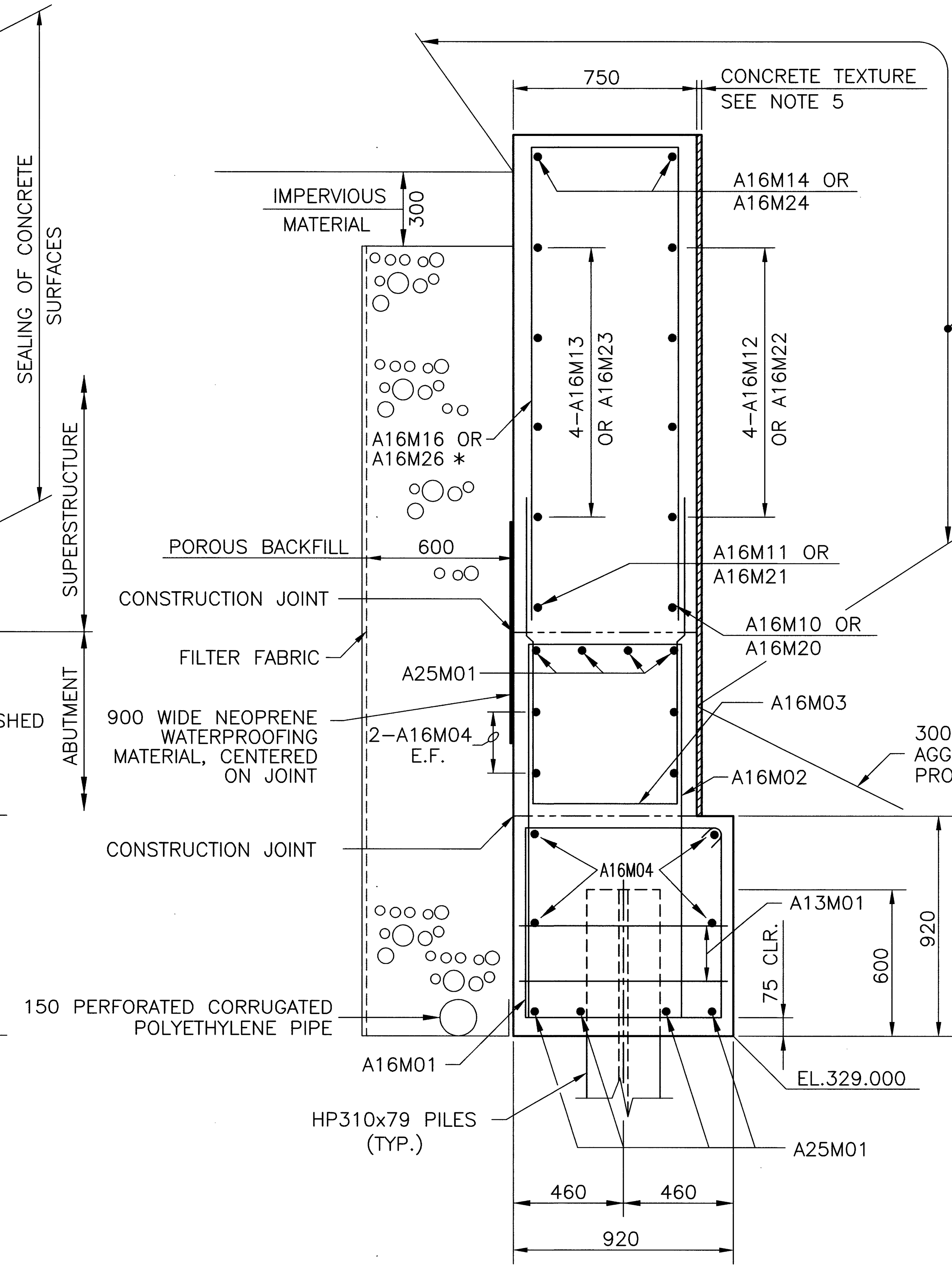
metric units

NOTES:

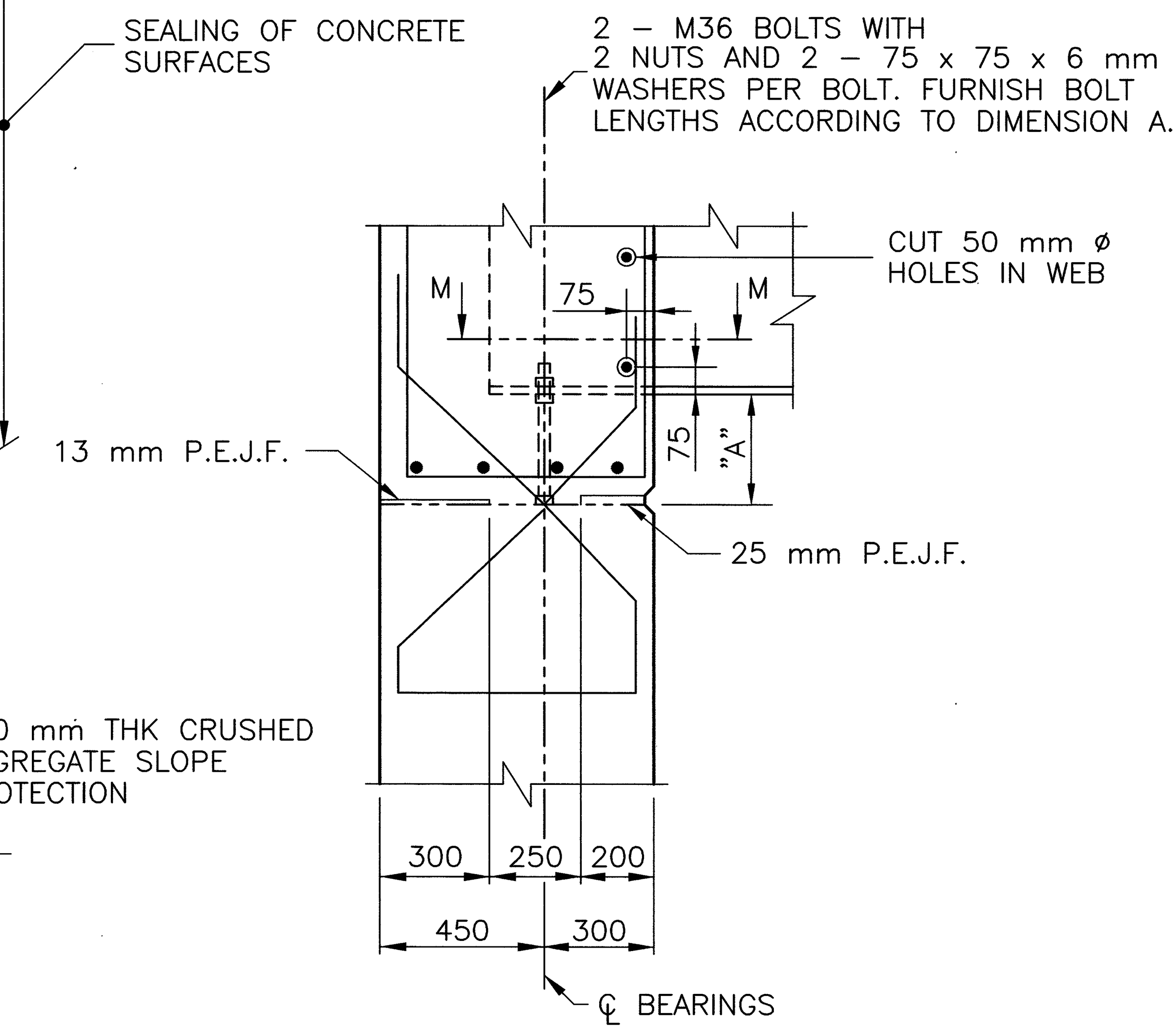
1. POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE, TO ONE FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR LOCATION OF SECTIONS A–A & B–B SEE SHEET 3/11
3. FOR ADDITIONAL DETAILS REFER TO STD. DWG. ICD–1–82M.
4. *A16M17, A16M18 & A16M19 @ WINGWALL ENDS EMBEDDED IN BREASTWALL.
5. THE TEXTURE SHALL BE AN ASHLER STONE PATTERN AS PER THE FITZGERALD FORM LINER NUMBER 16986 OR APPROVED EQUAL. THE RELIEF SHALL BE A MINIMUM OF 19 mm. CONCRETE FOR TEXTURING SHALL BE INCLUDED WITH ITEM 842, CLASS C CONCRETE, ABUTMENT, AS PER PLAN, FOR PAYMENT.



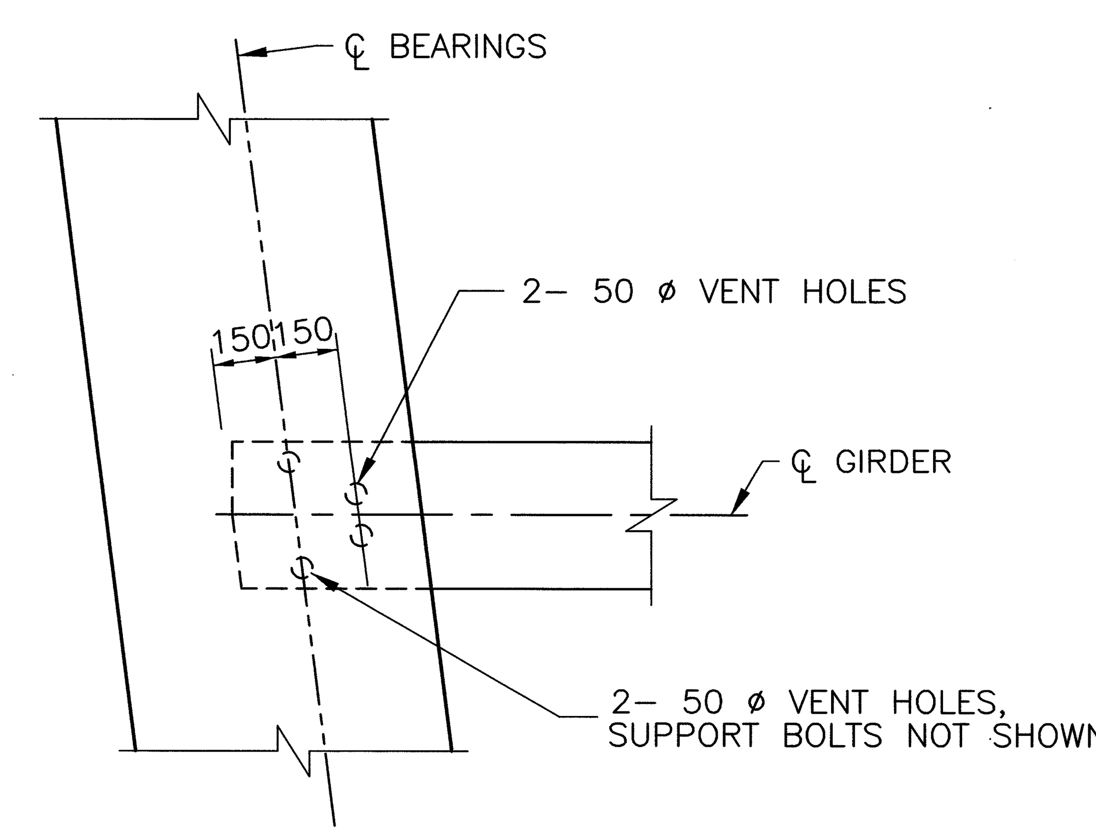
SECTION A–A



SECTION B–B



DETAIL X



SECTION M–M

DIMENSION "A"				
	GIRDER NO. 1	GIRDER NO. 2	GIRDER NO. 3	GIRDER NO. 4
REAR ABUTMENT	316	362	358	305
FORWARD ABUTMENT	302	357	362	317

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

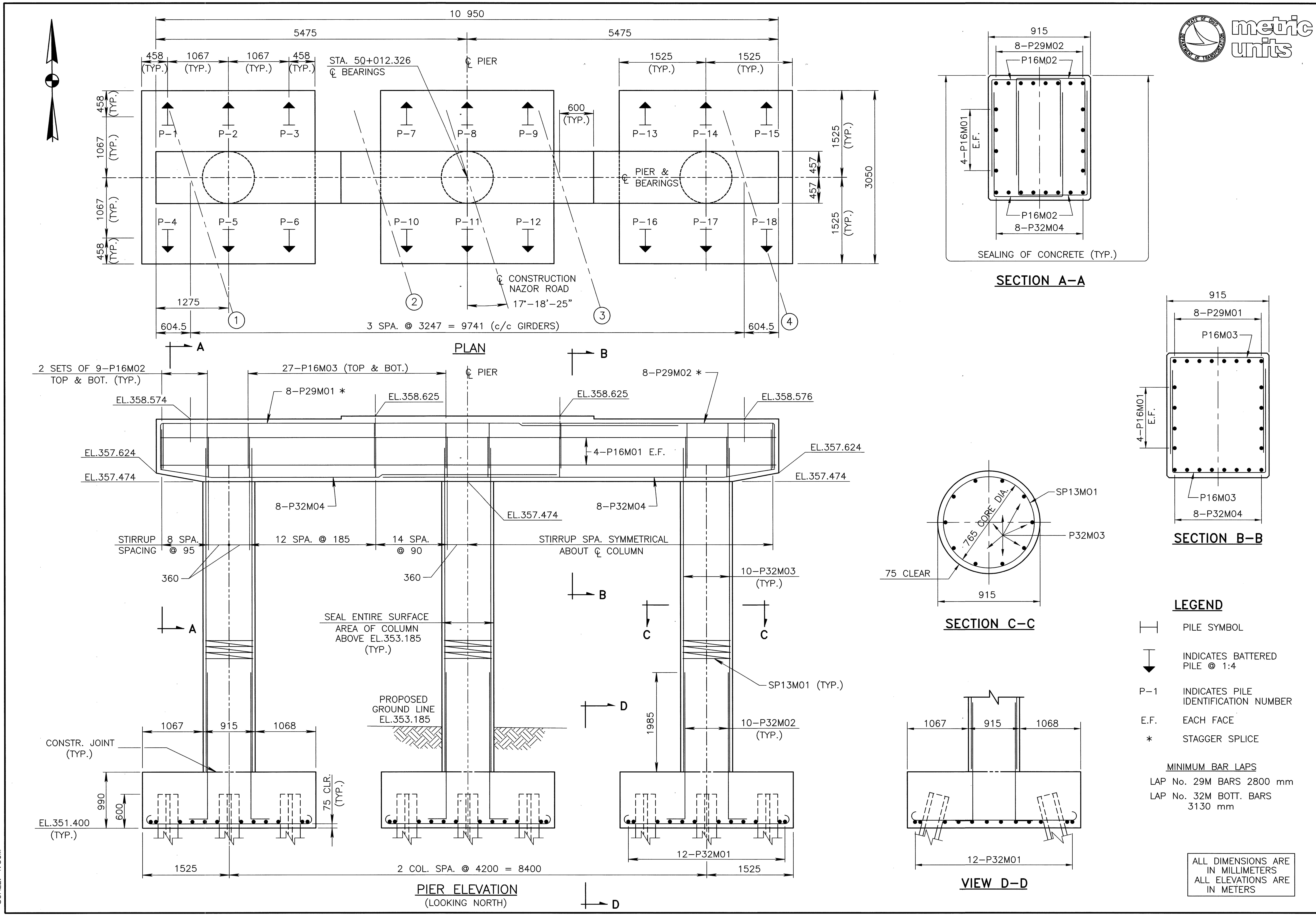
DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00
STRUCTURE FILE NUMBER 1701916
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

ABUTMENT DETAILS
BRIDGE NO. CRA–30–32766
UNDER NAZOR ROAD

CRA–30–24.000

16283S4F.DWG
12–20–2000 9:58 AM
SCALE: 1:15M



DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED HJS | CHECKED JDV | DRAWN KRM | REVISED | REVIEWED TF | DATE 12/00 | STRUCTURE FILE NO. 1701916

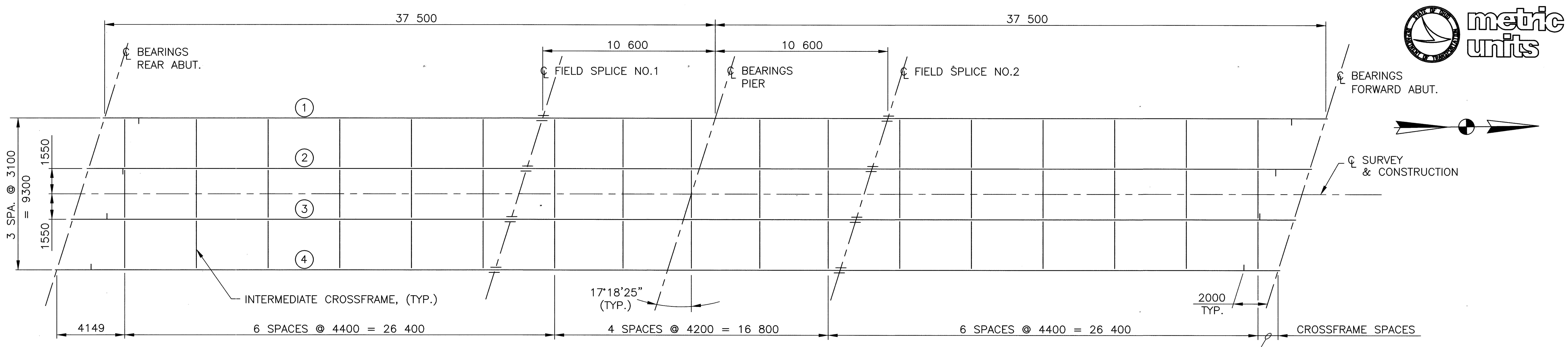
PIER DETAILS
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

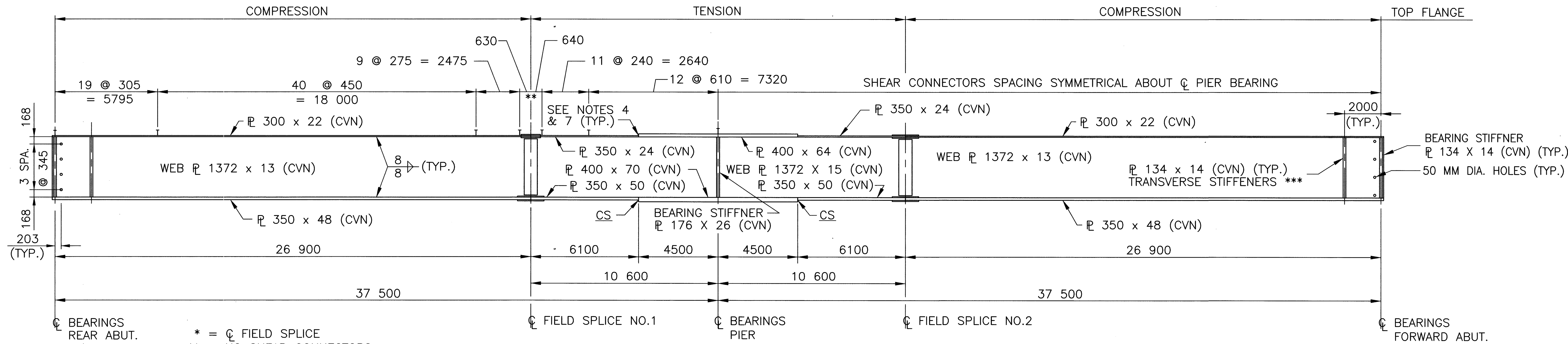
5/11

584/677

16283S4G.DWG
12-20-2000 9:59 AM
SCALE: 1:30M



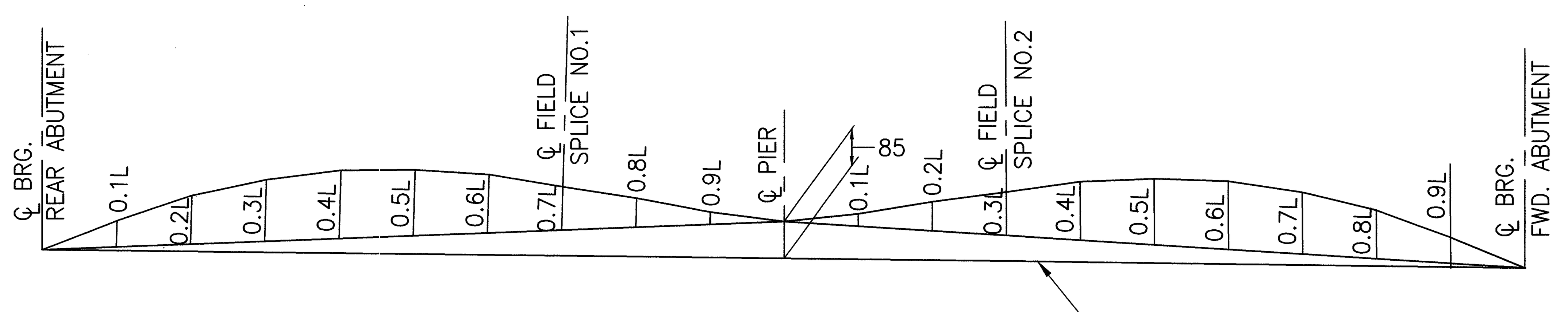
FRAMING PLAN



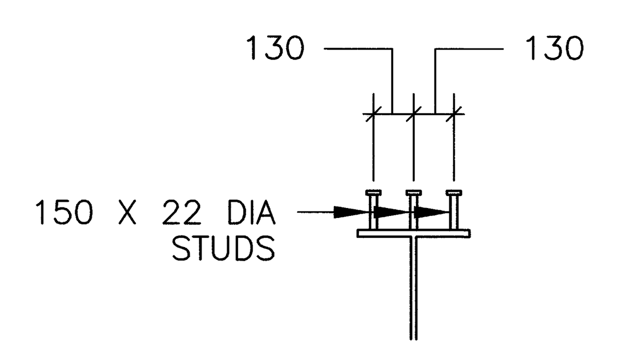
* = ℄ FIELD SPLICE
** = NO SHEAR CONNECTORS
*** = TRANSVERSE STIFFENERS ONE SIDE ONLY

GIRDER ELEVATION

TABLE OF DEFLECTION AND CAMBER	SPAN 1									SPAN 2								
	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.717L*	0.80L	0.90L	0.10L	0.20L	0.283L*	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L
DEFLECTION DUE TO WEIGHT OF STEEL	4	7	10	10	10	8	5	3	1	1	3	5	8	10	10	10	7	4
DEFLECTION DUE TO REMAINING DEAD LOAD	30	55	71	77	71	58	34	18	5	5	18	34	58	71	77	71	55	30
ADJUSTMENT DUE TO VERTICAL CURVE	8	14	18	20	21	20	17	14	8	8	14	17	20	21	20	18	14	8
TOTAL CAMBER	42	76	99	107	102	86	56	35	14	14	35	56	86	102	107	99	76	42



CAMBER DIAGRAM



SHEAR CONNECTOR DETAIL

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF THE FLANGE, BE NOT MORE THAN 25 mm LONG AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
2. CHARPY V-NOTCH TOUGHNESS REQUIREMENT
ALL GIRDER COMPONENTS, I.E., FLANGE PLATES, WEB PLATES AND SPLICE PLATES SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
3. REFER TO SHEET 7 OF 11 FOR SPLICE DETAILS.
4. ALL FLANGE WELDS TO BE COMPLETE JOINT PENETRATION WELDS.
5. CS – INDICATES BUTT WELD SUBJECT TO COMPRESSION STRESS ONLY.
6. ALL STRUCTURAL STEEL TO BE A572 PAINTED.
7. REFER TO AASHTO SECTION 10.18 FOR TRNSITION DETAILS.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF
DATE 12/00
STRUCTURE FILE NUMBER 1701916
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

6/11

585/677

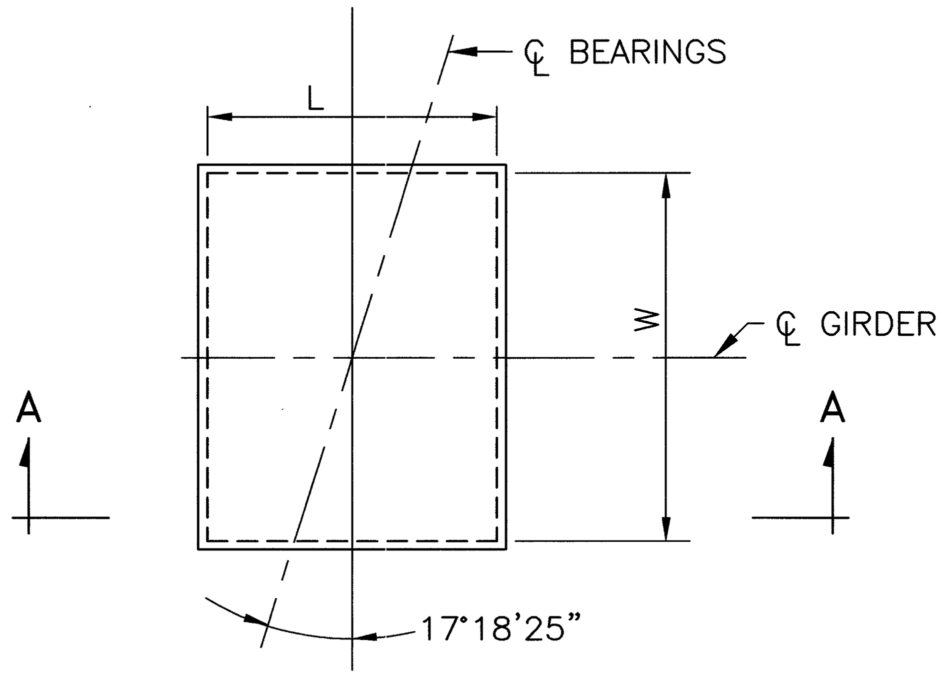
16283S4H.DWG
12-20-2000 10:01 AM
SCALE: 1:125M

LAMINATED ELASTOMERIC BEARINGS

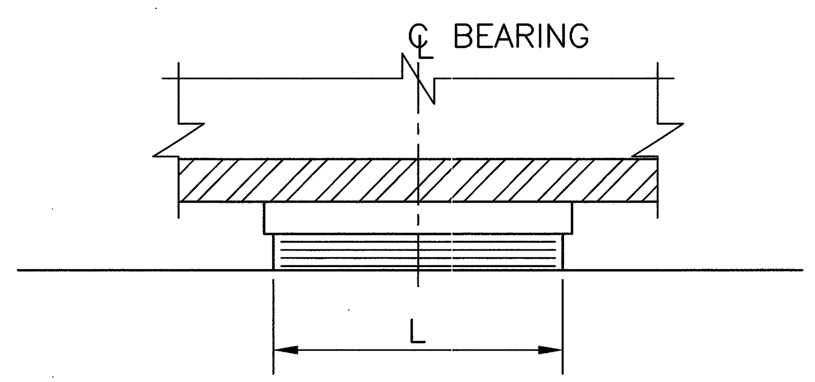
LOCATION	DIMENSIONS (MM)					N	STEEL LOAD PLATE	REACTIONS		MAXIMUM DESIGN LOAD
	L	W	T_i	T_e	T			DL	LL	
PIER EXPANSION BRNGS.	470	670	12	9	62	4	500 X 700 X 51	1635 kN	524 kN	2159 kN

T_i = THICKNESS OF INTERNAL LAYER
T_e = THICKNESS OF EXTERNAL LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING

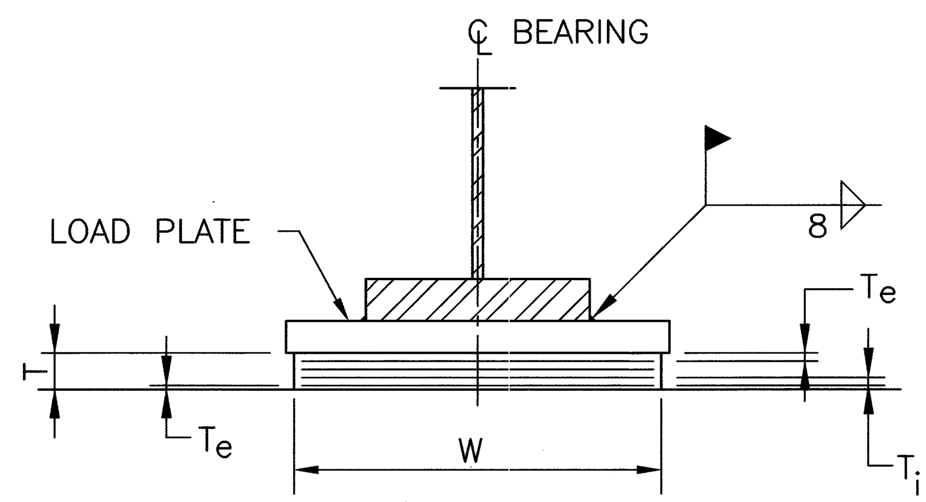
N = NO. OF STEEL LAMINATES
INTERNAL STEEL LAMINATE THICKNESS = 1.89 MM
DUROMETER OF ELASTOMER = 50 DUROMETER



PLAN



VIEW A–A



ELASTOMERIC EXPANSION BEARING

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE THE SAME MATERIAL AS THE ATTACHED STRUCTURAL STEEL AND BE SIMILARLY CLEANED AND COATED. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND BE INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 150° C AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

HIGH STRENGTH BOLTS

HIGH STRENGTH BOLTS SHALL BE 25 mm DIAMETER A325 UNLESS OTHERWISE NOTED.

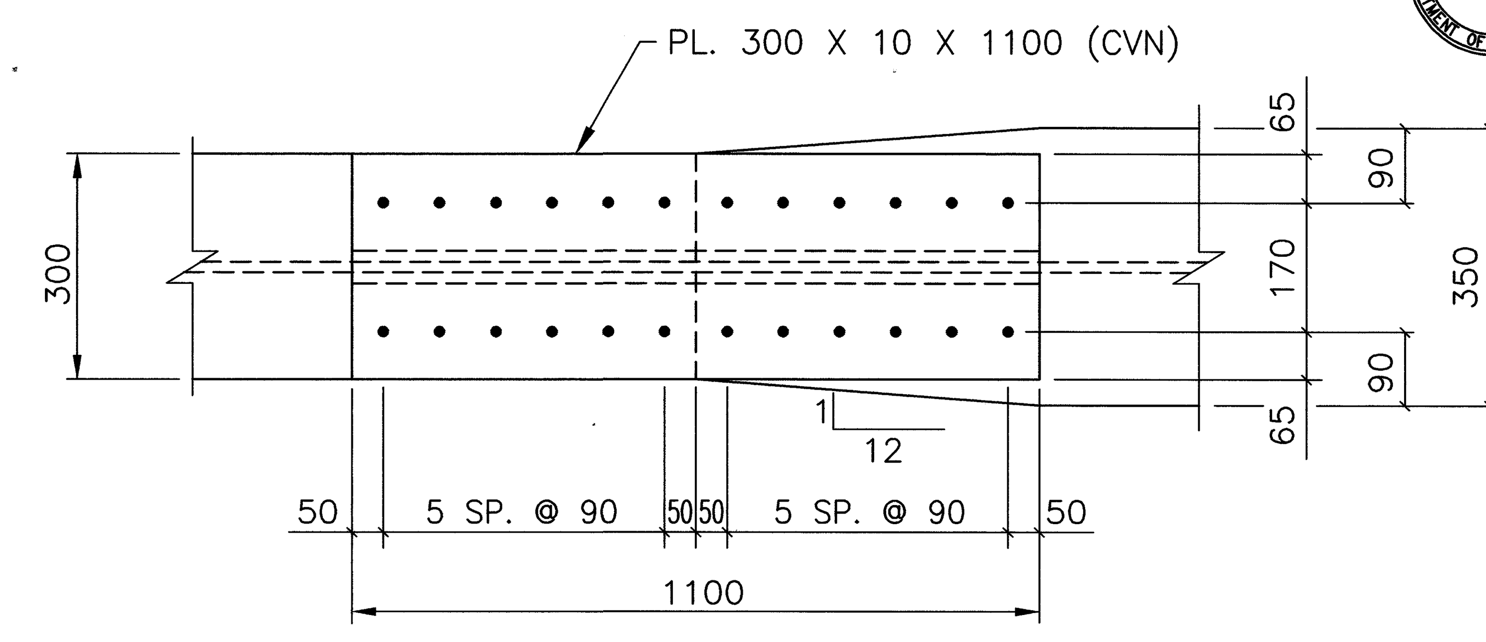
CHARPY V–NOTCH TOUGHNESS REQUIREMENT

WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.

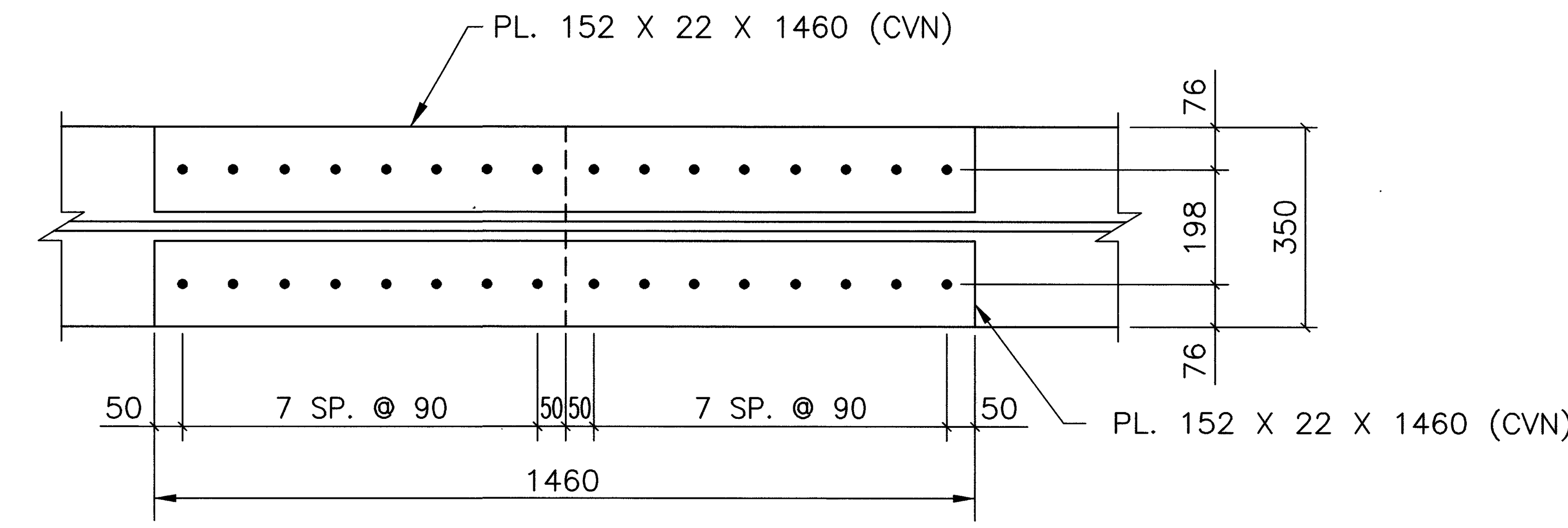
ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 18, BEARINGS DEVICES, DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.2 OF SECTION14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

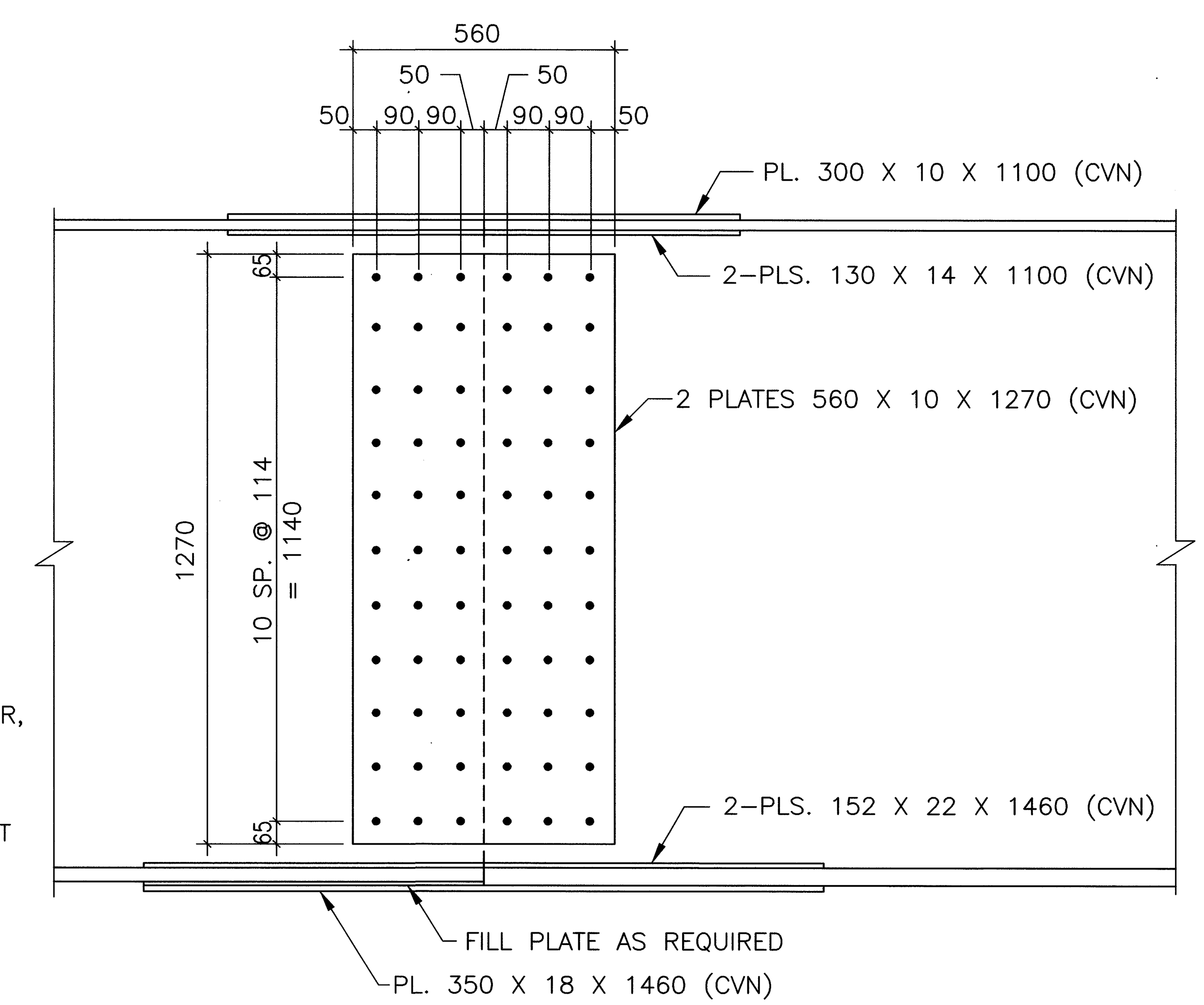
metric units



PLAN – TOP FLANGE
SPLICE No.1 & No.2



PLAN – BOTTOM FLANGE
SPLICE No.1 & No.2



TYPICAL FIELD SPLICE DETAILS
SPLICE No.1 & No.2

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

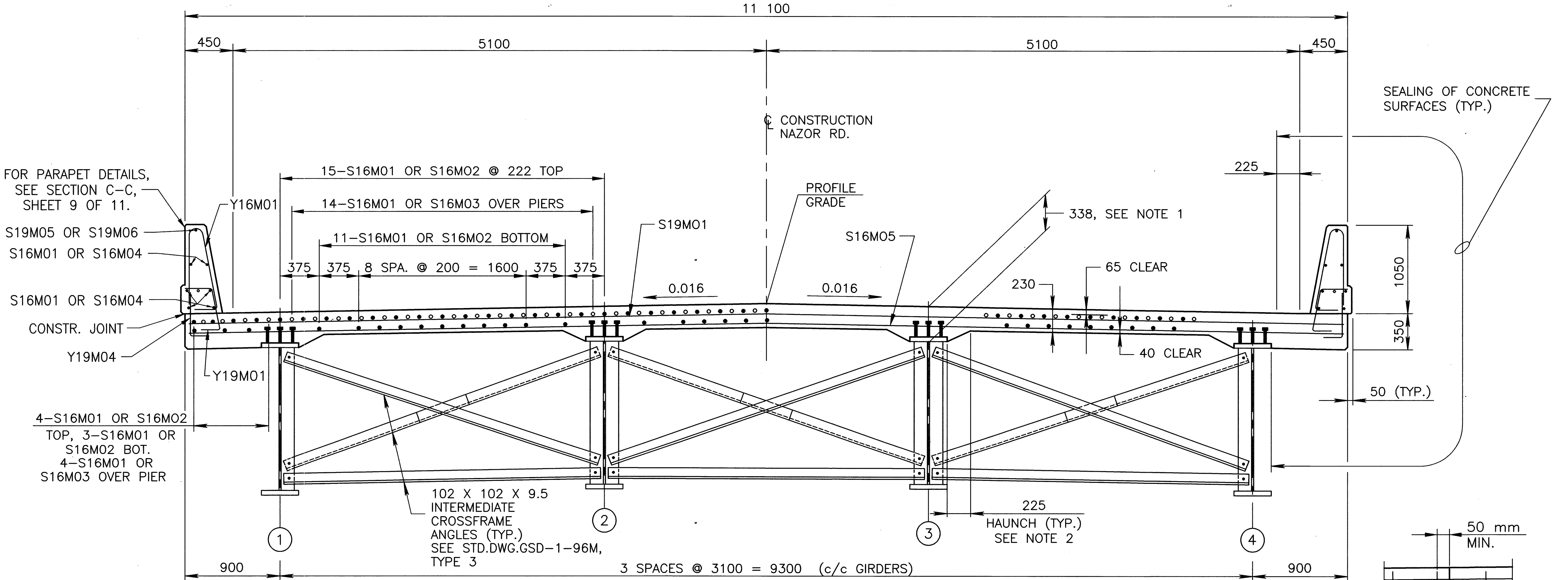
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12/00
REVIEWED TF
STRUCTURE FILE NO. 1701916
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

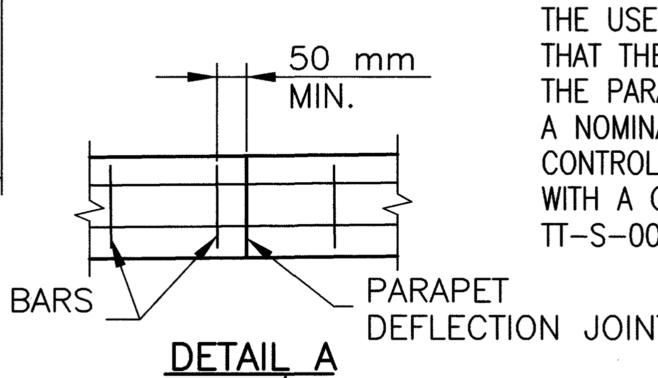
BEARING & SPLICE DETAILS
BRIDGE NO. CRA–30–32766
UNDER NAZOR ROAD

CRA–30–24.000

16283S4J.DWG
12–20–2000 10:02 AM
SCALE: 1:10M

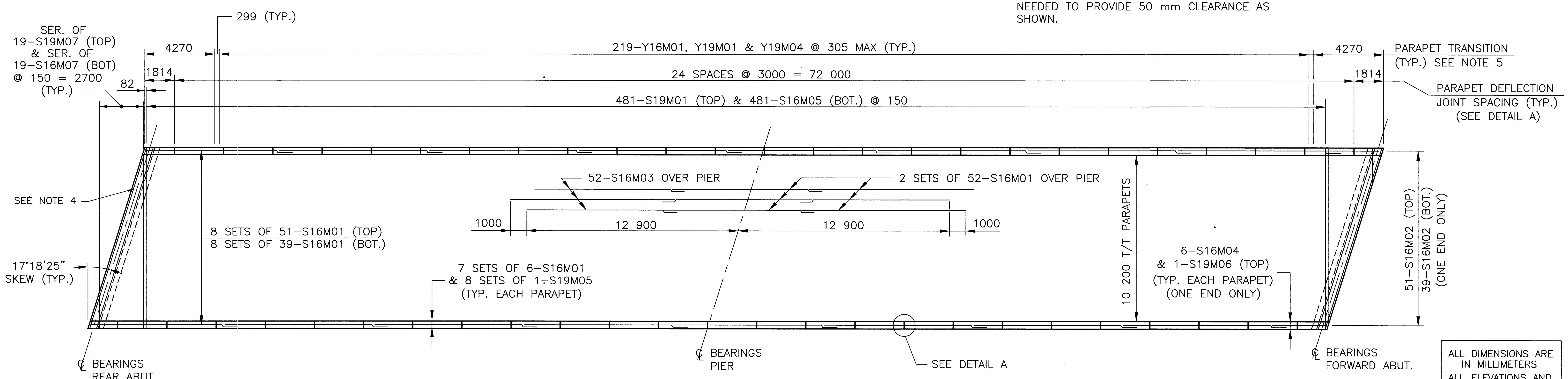


TRANSVERSE SECTION



DETAIL A

MOVE PARAPET DEFLECTION JOINTS WHERE NEEDED TO PROVIDE 50 mm CLEARANCE AS SHOWN.



DECK REINFORCING PLAN

metric units

NOTES:

1. CONCRETE DECK SLAB DEPTH

THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO BOTTOM OF THE TOP FLANGE IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, MINUS THE DESIGN HAUNCH THICKNESS, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER 842.

2. CONCRETE DECK HAUNCH WIDTH

A HAUNCH WIDTH OF 225 SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 AND 300.

3. MINIMUM LAP LENGTHS

LAP NO.16M BARS 750 MM.
LAP NO.19M BARS 1240 MM.

4. FOR DETAILS AT END OF DECK, SEE SECTION A-A, SHEET 4 OF 11.

5. FOR PARAPET TRANSITION DETAILS, SEE SHEET 9 OF 11.

6. CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK.

THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS AND STATIONING ARE IN METERS

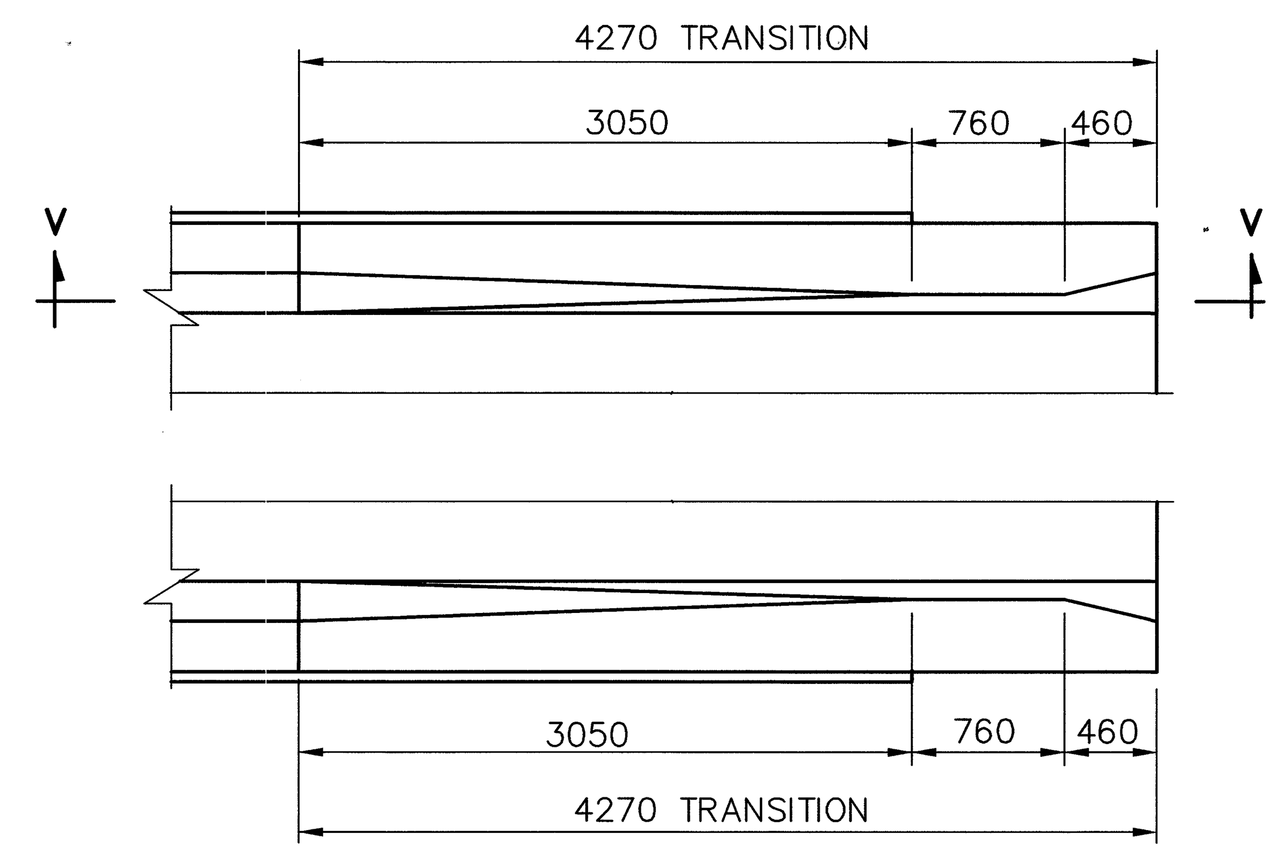
DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00
STRUCTURE FILE NO. 1701916
DRAWN KRM | REVISED
DESIGNED HJS | CHECKED JDV

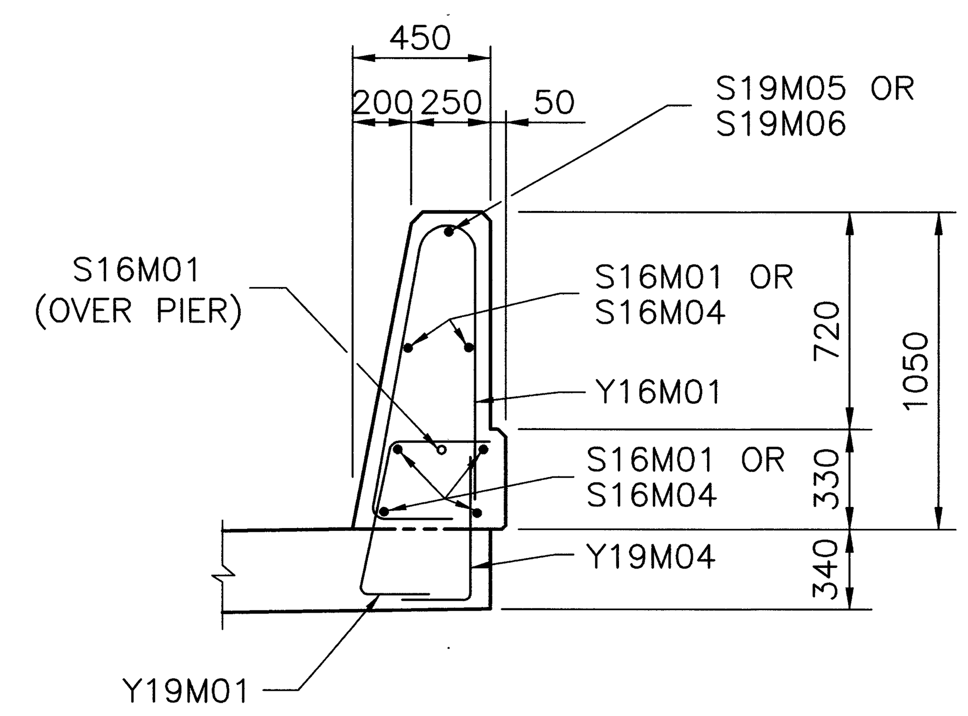
SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

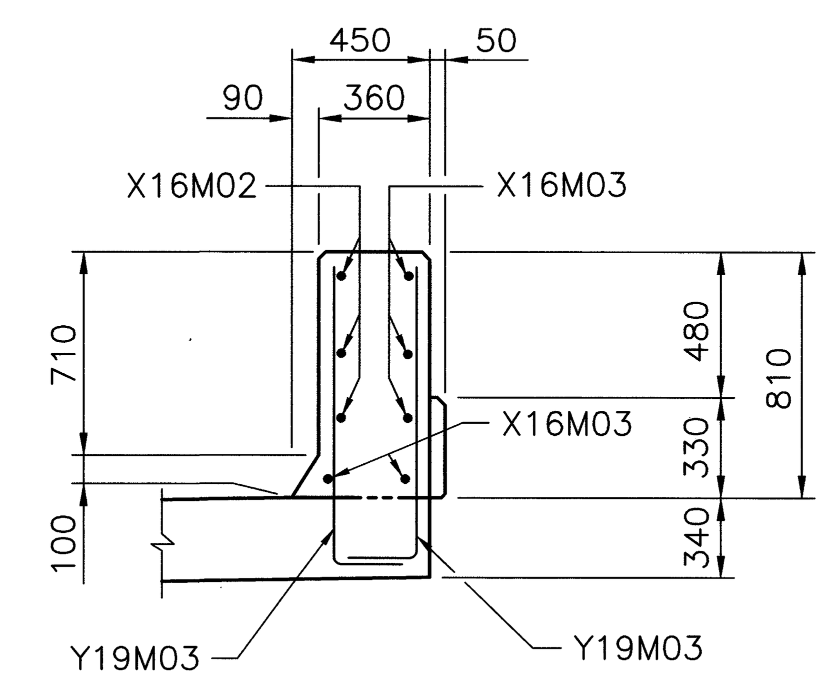
16283S4K.DWG
12-21-2000 1:53 PM
SCALE: 1:125M



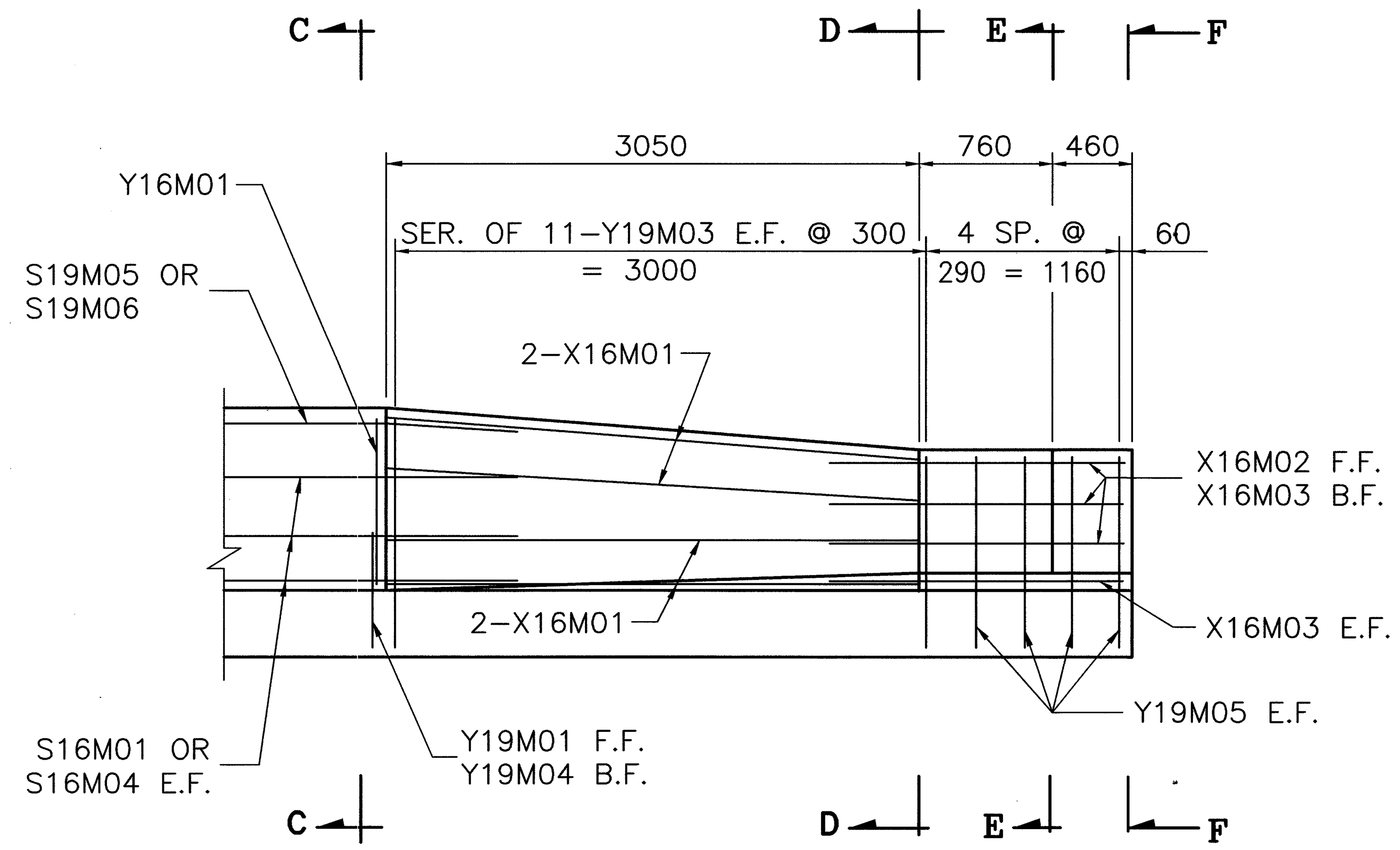
PARAPET TRANSITION DETAIL
TYPICAL @ BOTH ABUTMENTS



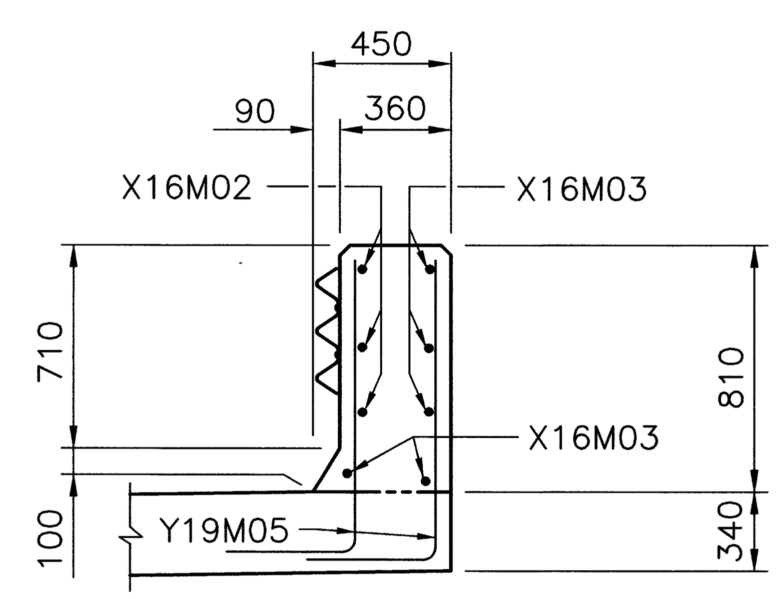
SECTION C–C



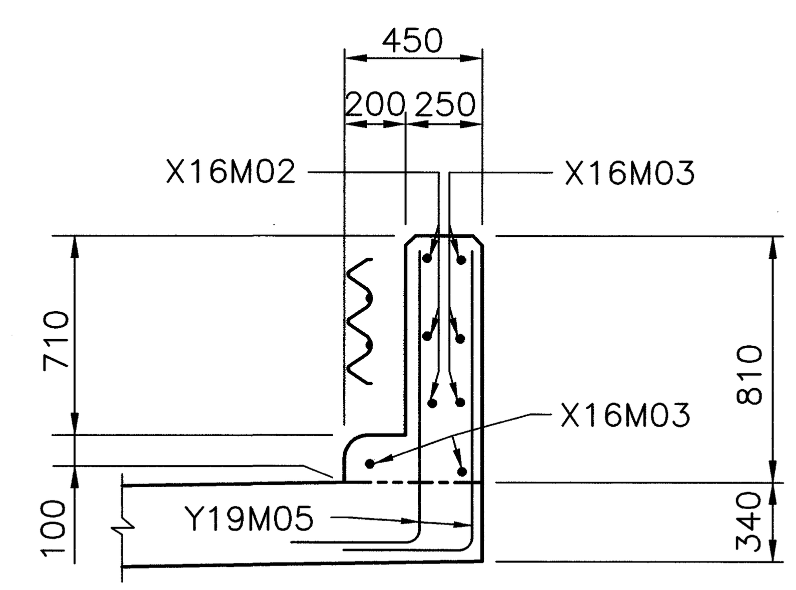
SECTION D–D



SECTION V–V



SECTION E–E



SECTION F–F

NOTES

FOR NOTES & ADDITIONAL DETAILS OF THE CONCRETE PARAPET, REFERENCE IS MADE TO STD. DRAWING SBR–1–99M, ICD–1–82M & STD. CONSTRUCTION DRAWING GR–3.1M.

LEGEND

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DESIGNED	DRAWN	REVIEWED	DATE
HJS	KRM	TF	12/00
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDV		1701916	

SUPERSTRUCTURE DETAILS
BRIDGE NO. CRA–30–32766
UNDER NAZOR ROAD

CRA–30–24.000

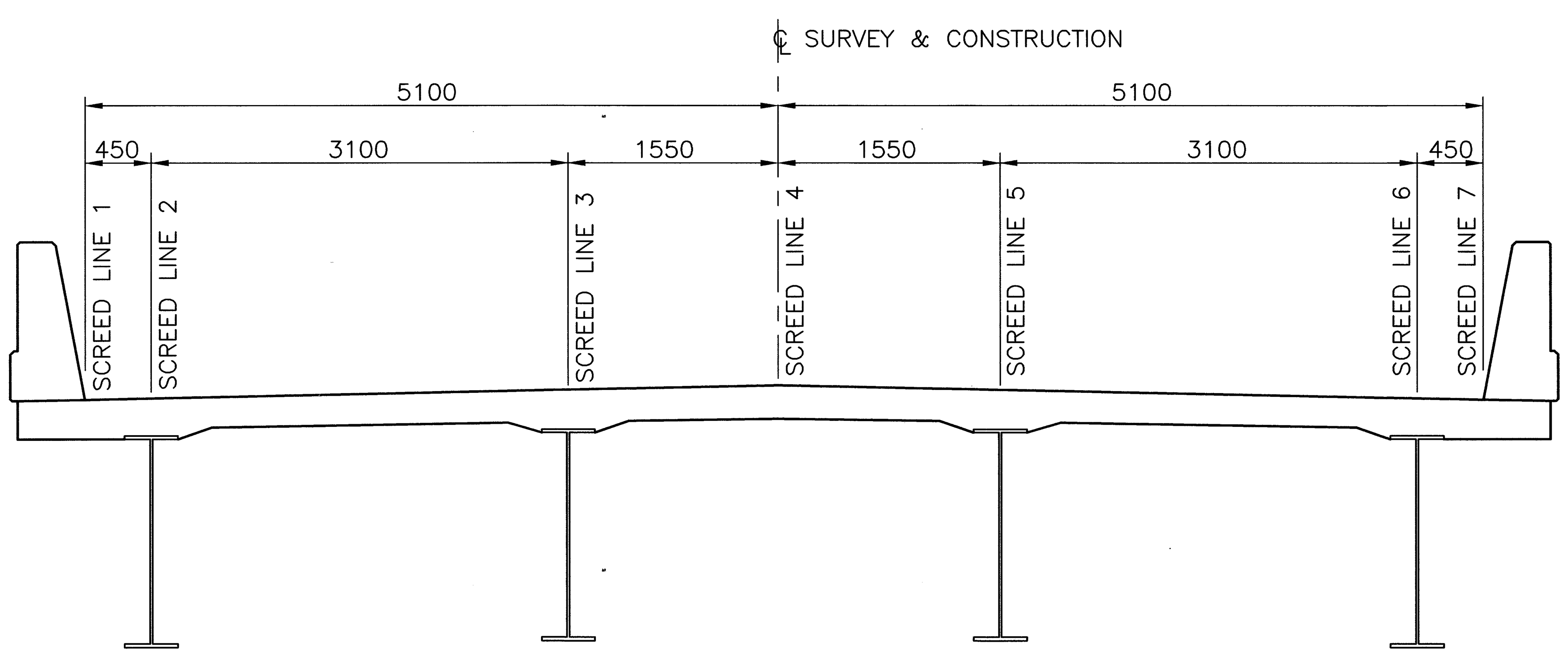
9/11

588
677

16283S4L.DWG
12–20–2000 10:05 AM
SCALE: 1:15M

SCREED ELEVATION TABLE

SPAN NO.	LOCATION	SCREED LINE 1 STATION	SCREED LINE 1 SCREED ELEVATION	SCREED LINE 2 STATION	SCREED LINE 2 SCREED ELEVATION	SCREED LINE 3 STATION	SCREED LINE 3 SCREED ELEVATION	SCREED LINE 4 STATION	SCREED LINE 4 SCREED ELEVATION	SCREED LINE 5 STATION	SCREED LINE 5 SCREED ELEVATION	SCREED LINE 6 STATION	SCREED LINE 6 SCREED ELEVATION	SCREED LINE 7 STATION	SCREED LINE 7 SCREED ELEVATION
SPAN NO.1	0.00 L	49+976.415	360.407	49+976.275	360.414	49+975.309	360.460	49+974.826	360.483	49+974.343	360.456	49+973.377	360.403	49+973.237	360.395
	0.10 L	49+980.165	360.450	49+980.025	360.457	49+979.059	360.504	49+978.576	360.527	49+978.093	360.500	49+977.127	360.447	49+976.987	360.440
	0.20 L	49+983.915	360.487	49+983.775	360.493	49+982.809	360.540	49+982.326	360.564	49+981.843	360.537	49+980.877	360.485	49+980.737	360.477
	0.30 L	49+987.665	360.512	49+987.525	360.519	49+986.559	360.566	49+986.076	360.590	49+985.593	360.564	49+984.627	360.512	49+984.487	360.504
	0.40 L	49+991.415	360.526	49+991.275	360.533	49+990.309	360.581	49+989.826	360.604	49+989.343	360.579	49+988.377	360.527	49+988.237	360.519
	0.50 L	49+995.165	360.526	49+995.025	360.533	49+994.059	360.581	49+993.576	360.605	49+993.093	360.580	49+992.127	360.528	49+991.987	360.521
	0.60 L	49+998.915	360.517	49+998.775	360.525	49+997.809	360.573	49+997.326	360.597	49+996.843	360.572	49+995.877	360.521	49+995.737	360.514
FIELD SPLICE	0.717 L	50+003.303	360.496	50+003.162	360.504	50+002.196	360.553	50+001.714	360.577	50+001.231	360.552	50+000.265	360.502	50+000.124	360.495
	0.80 L	50+006.415	360.481	50+006.275	360.488	50+005.309	360.538	50+004.826	360.563	50+004.343	360.538	50+003.377	360.488	50+003.237	360.480
	0.90 L	50+010.165	360.467	50+010.025	360.475	50+009.059	360.525	50+008.576	360.550	50+008.093	360.525	50+007.127	360.475	50+006.987	360.468
SPAN NO.2	0.00 L	50+013.915	360.460	50+013.775	360.467	50+012.809	360.518	50+012.326	360.543	50+011.843	360.518	50+010.877	360.469	50+010.737	360.462
	0.10 L	50+017.665	360.461	50+017.525	360.468	50+016.559	360.519	50+016.076	360.544	50+015.593	360.520	50+014.627	360.472	50+014.487	360.465
	0.20 L	50+021.415	360.468	50+021.275	360.476	50+020.309	360.527	50+019.826	360.552	50+019.343	360.528	50+018.377	360.480	50+018.237	360.473
FIELD SPLICE	0.283 L	50+024.528	360.478	50+024.387	360.486	50+023.421	360.537	50+022.939	360.563	50+022.456	360.539	50+021.490	360.491	50+021.349	360.484
	0.40 L	50+028.915	360.491	50+028.775	360.499	50+027.809	360.551	50+027.326	360.577	50+026.843	360.553	50+025.877	360.506	50+025.737	360.499
	0.50 L	50+032.665	360.493	50+032.525	360.501	50+031.559	360.554	50+031.076	360.580	50+030.593	360.557	50+029.627	360.510	50+029.487	360.503
	0.60 L	50+036.415	360.487	50+036.275	360.495	50+035.309	360.548	50+034.826	360.574	50+034.343	360.551	50+033.377	360.504	50+033.237	360.498
	0.70 L	50+040.165	360.467	50+040.025	360.474	50+039.059	360.528	50+038.576	360.554	50+038.093	360.531	50+037.127	360.485	50+036.987	360.479
	0.80 L	50+043.915	360.434	50+043.775	360.442	50+042.809	360.496	50+042.326	360.523	50+041.843	360.500	50+040.877	360.455	50+040.737	360.448
	0.90 L	50+047.665	360.392	50+047.525	360.400	50+046.559	360.454	50+046.076	360.481	50+045.593	360.459	50+044.627	360.413	50+044.487	360.407
	1.00 L	50+051.415	360.342	50+051.275	360.350	50+050.309	360.405	50+049.826	360.432	50+049.343	360.410	50+048.377	360.365	50+048.237	360.359



SCREED LINE LOCATIONS

SCREED ELEVATIONS ARE FOR THE CONCRETE SURFACE BEFORE THE CONCRETE IS PLACED. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS

metric units

DESIGN AGENCY
MCCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

REVIEWED TF | DATE 12/00 | STRUCTURE FILE NO. 1701916

DRAWN KRM | REVISED

DESIGNED HJS | CHECKED JDV

SCREED ELEVATIONS
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

10/11

589/677

16283S4M.DWG
12-20-2000 3:45 PM
SCALE: 1:30M

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
ABUTMENTS									
A13M01	36	2665		3	515	740			
A16M01	104	3250		3	770	770			
A16M02	104	3625		2	1550	600	1550		
A16M03	30	3745		2	1610	600	1610		
A16M04	32	10095		STR					
A16M10	2	3785		STR					
A16M11	2	3550		STR					
A16M12	2 S.O. 4	1100 TO 3515		STR					INCR = 805
A16M13	2 S.O. 4	850 TO 3265		STR					INCR = 805
A16M14	4	3810		STR					
A16M15	2	4505		2	1990	600	1990		
A16M16	2 S.O. 7	2125 TO 4345		2	800 TO 1910	600	800 TO 1910		VARY A BY 185 VARY C BY 185
A16M17	4	2555		2	1015	600	1015		
A16M18	4	2895		2	1185	600	1185		
A16M19	4	3365		2	1420	600	1420		
A16M20	2	3180		STR					
A16M21	2	3410		STR					
A16M22	2 S.O. 4	755 TO 2930		STR					INCR = 725
A16M23	2 S.O. 4	985 TO 3160		STR					INCR = 725
A16M24	4	3490		STR					
A16M25	2	4535		2	2005	600	2005		
A16M26	2 S.O. 6	2285 TO 4385		STR	880 TO 1930	600	880 TO 1930		VARY A BY 210 VARY C BY 210
A19M01	82	3100		11					
A25M01	32	10595		STR					
PIER									
P16M01	8	10800		STR					
P16M02	72	2215		2	870	550	870		
P16M03	108	2540		2	900	815	900		
P29M01	8	9610		1	800	8900			
P29M02	8	5410		1	800	4700			
P32M01	72	3760		13	2900				
P32M02	30	3360		1	560	2900			
P32M03	30	6000		STR					
P32M04	16	6975		4	6225	750	150		
SP13M01	3	5185		SPIRAL					

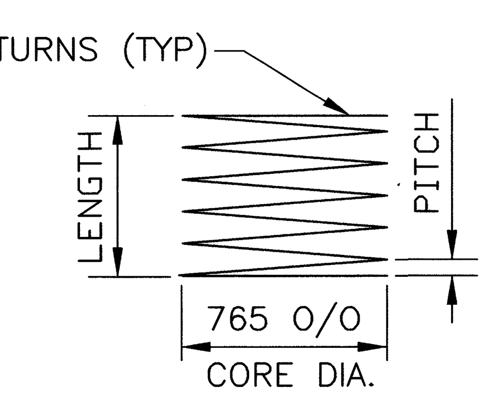
DIMENSIONS SHOWN ARE OUT TO OUT.
STR = STRAIGHT
S.O. = SERIES OF
INCR = INCREMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	REMARKS
SUPERSTRUCTURE									
S16M01	908	9140		STR					
S16M02	90	8400		STR					
S16M03	52	10020		STR					
S16M04	12	9860		STR					
S16M05	481	11000		STR					
S16M07	2 S.O. 19	1972 TO 10630		STR					INCR = 481
X16M01	32	3050		STR					
X16M02	12	1680		10					
X16M03	20	1680		STR					
Y16M01	438	2205		7	900	950			
S19M01	481	11000		STR					
S19M05	16	9140		STR					
S19M06	2	6370		STR					
S19M07	2 S.O. 19	1972 TO 10630		STR					INCR = 481
Y19M01	438	1100		6	560				
Y19M03	8 S.O. 11	1320 TO 1560		1	320	1050 TO 1290			VARY B BY 24
Y19M04	438	830		1	320	560			
Y19M05	32	1320		1	320	1050			
SUPERSTRUCTURE–DIAPHRAGM									
S16M06	8	12120		STR					
S19M02	82	2770		2	1135	600	1135		
S19M03	82	3190		2	1420	450	1420		
S19M04	82	3520		2	1510	600	1510		
S25M01	24	12120		STR					
S25M02	52	1535		5	430	825			

SPIRALS; SP13M01 – CORE DIAMETER 765 mm, PITCH 115 mm
OTHER DETAILS IN ACCORDANCE WITH C.R.S.I. STANDARDS

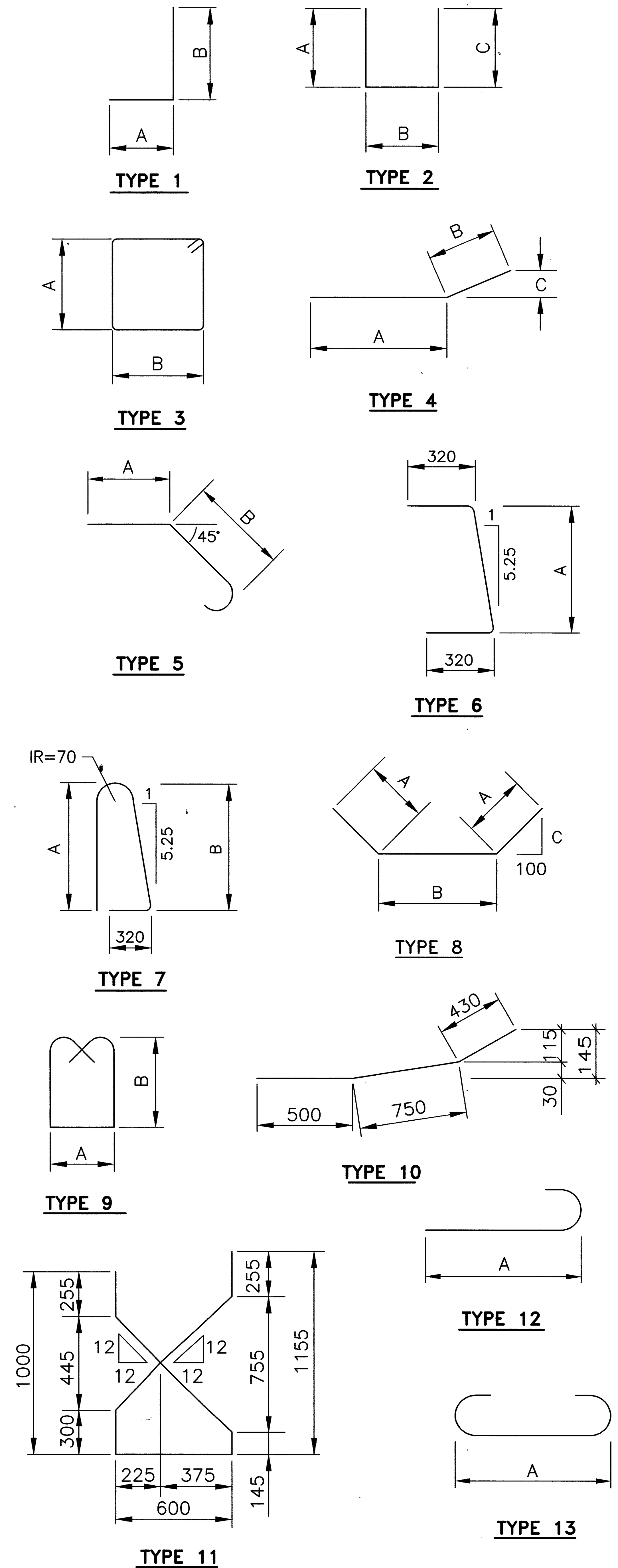
SPIRAL REINFORCING BAR SPACES:

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVAL (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 3 M) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 76 mm CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION DIMENSION OF THE DRILLED SHAFT OR COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORT) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.



SPIRAL

ALL DIMENSIONS ARE IN MILLIMETERS
ALL ELEVATIONS ARE IN METERS



THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A15M01 IS A #15M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

ALL REINFORCING STEEL TO BE EPOXY COATED.

metric units

DESIGN AGENCY
McCOY/FOK & ASSOCIATES INC.
367 GHENT ROAD, SUITE 1A
AKRON, OHIO

DATE 12-00
STRUCTURE FILE NO. 1701916
REVIEWED TF
DRAWN KRM
REVISED
DESIGNED HJS
CHECKED JDV

REINFORCING STEEL LIST
BRIDGE NO. CRA-30-32766
UNDER NAZOR ROAD

CRA-30-24.000

11/11

590/677

16283S4N.DWG
12-20-2000 10:08 AM
SCALE: 1:1M

69023

MONUMENTS TO BE SET DURING CONSTRUCTION

LOCATION		ITEM 604 EACH	ITEM 604 EACH	SURFACE CO-ORDINATES		STATE PLANE CO-ORDINATES		
STATION	ROAD	MONUMENT ASSEMBLY	REFERENCE MONUMENT	NORTHING	EASTING	NORTHING	EASTING	SIDE
P.O.T. STA. 22+437.933	RELOCATED U.S. 30		1	122843.9285	567717.3584	122843.8426	567718.1010	℄
P.O.T. STA. 23+039.792			1	122534.7737	568233.7480	122534.7184	568234.4395	℄
P.C. STA. 23+866.308			1	122110.2208	568942.8902	122110.2076	568943.5113	℄
P.O.C. STA. 24+315.966			1	121917.6884	569348.4768	121917.6944	569349.0577	℄
P.O.C. STA. 24+700.000			1	121817.3103	569718.7124	121817.3262	569719.2566	℄
P.T. STA. 25+134.233			1	121778.5076	570150.5801	121778.5273	570151.0815	℄
P.C. STA. 25+502.400			1	121779.7365	570518.7456	121779.7561	570519.2105	℄
P.T. STA. 25+569.076			1	121779.4116	570585.4199	121779.4312	570585.8782	℄
P.T. STA. 25+965.562			1	121754.8894	570980.9892	121754.9115	570981.4083	℄
P.O.T. STA. 26+376.335			1	121709.4927	571389.2464	121709.5193	571389.6249	℄
P.C. STA. 26+538.764			1	121691.5419	571550.6803	121691.5702	571551.0429	℄
P.T. STA. 27+071.438			1	121667.5218	572082.4300	121667.5525	572082.7398	℄
P.O.T. STA. 27+181.272			1	121669.7687	572192.2412	121669.7993	572192.5402	℄
P.O.T. STA. 27+600.000			1	121678.3349	572610.8812	121678.3646	572611.1387	℄
P.O.T. STA. 27+984.887			1	121686.2088	572995.6872	121686.2377	572995.9065	℄
P.O.T. STA. 28+400.000			1	121694.7011	573410.7138	121694.7292	573410.8920	℄
P.O.T. STA. 28+795.044			1	121702.7828	573805.6754	121702.8101	573805.6144	℄
P.O.T. STA. 29+300.000			1	121713.1131	574310.5255	121713.1393	574310.6144	℄
P.O.T. STA. 29+611.416			1	121719.4839	574621.8762	121719.5095	574621.9343	℄
P.O.T. STA. 29+900.000			1	121725.3877	574910.3999	121725.4127	574910.4293	℄
P.C. STA. 30+259.841			1	121732.7492	575270.1657	121732.7735	575270.1595	℄
P.O.C. STA. 30+700.000			1	121717.9050	575709.8586	121717.9308	575709.8087	℄
P.T. STA. 31+057.808			1	121670.8198	576064.4379	121670.8502	576064.3529	℄
P.C. STA. 31+583.674			1	121578.7007	576582.1729	121578.7403	576582.0366	℄
P.O.C. STA. 31+786.186			1	121549.0118	576782.4687	121549.0543	576782.3125	℄
P.O.C. STA. 32+200.000			1	121524.5808	577195.3190	121524.6257	577195.1218	℄
P.O.C. STA. 32+603.286			1	121547.7929	577597.7132	121547.8355	577597.4762	℄
P.T. STA. 32+756.535			1	121568.7399	577749.5118	121568.7804	577749.2597	℄
P.C. STA. 33+204.517			1	121639.6775	578191.8410	121639.7110	578191.5451	℄
	RELOCATED U.S. 30							

metric units

BOOK 32 PAGE 701

69023

RECEIVED FOR RECORD
August 9 200 0
At 3:13 O'Clock P. M
IN Plat BOOK
No. 32 Page 701-711
Ruth McKibben Volk
Crawford County Recorder By Ce Dep
FEE $ 220.00
Filed by: ODOT

P.I.D. NO. 16283

CENTERLINE PLAT

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

CENTERLINE MONUMENTS AND CENTERLINE REFERENCE MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (4-29-99) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A REGISTERED SURVEYOR AND ARE TO BE SET, AS SHOWN, BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANT ALTERATIONS, WITH PRIOR APPROVAL OF THE DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.

THE PROJECT BEARINGS AND PAF ARE REFERENCED TO OHIO STATE PLANE GRID, NORTH ZONE, ESTABLISHED USING NAD 83 STATE PLANE CO-ORDINATES (HARN, ORDER B) OF NGS MONUMENTS 17GA, ARP MFD, GQQA, AND WACHS.

Approved by the Board of Commissioners,
Crawford County, Ohio
By Gerald W. Riddl
MZ 8-2-00

RECORDER'S STAMP

RECEIVED ________, 19___
RECORDED ________, 19___
BOOK ________, PAGE___
COUNTY RECORDER

STATE OF OHIO
BRYAN E. McCOY
4936
REGISTERED SURVEYOR

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT TRANSPORTATION IN 1997 BY McCOY ASSOCIATES INC.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY Bryan E McCoy SURVEYOR No. 4936
BRYAN E. McCOY
DATE 7-31-00

CRA-30-24.000(14.91)

1/11

1/86

592
677

MONUMENTS TO BE SET DURING CONSTRUCTION								
LOCATION		ITEM 604 EACH	ITEM 604 EACH	SURFACE CO-ORDINATES		STATE PLANE CO-ORDINATES		
STATION	ROAD	MONUMENT ASSEMBLY	REFERENCE MONUMENT	NORTHING	EASTING	NORTHING	EASTING	SIDE
P.O.T. 49+640.000	S.R. 602	1		121440.8107	569816.2215	121428.7698	569759.7242	
P.O.T. 49+950.897		1		121751.6817	569820.2441	121739.6100	569763.7464	
P.O.T. 49+972.222		1		121839.4860	569821.3808	121827.4056	569764.8830	
P.I. 50+038.709		1		121839.4860	569821.3808	121827.4056	569764.8830	
P.I. 50+310.000	S.R. 602	1		122166.7477	569825.3896	122154.6349	569768.8914	
P.C. 10+016.379	SERVICE ROAD 'A'	1		121446.6119	569800.9028	121434.5705	569744.4070	
P.T. 10+071.357		1		121489.2778	569771.8435	121477.2321	569715.3506	
P.C. 10+183.002		1		121600.9138	569773.2886	121588.8571	569716.7956	
P.T. 10+246.706		1		121649.1831	569738.5291	121637.1216	569682.0395	
P.O.T. 10+320.000	SERVICE ROAD 'A'	1		121671.5176	569668.7210	121659.4539	569612.2383	
P.C. 10+000.000	BECK ROAD	1		121611.7275	571388.0451	121599.6697	571331.3920	
P.T. 10+032.856		1		121641.6288	571376.4716	121629.5680	571319.8196	
P.C. 19+967.052		1		121780.0086	571378.1719	121767.9341	571321.5198	
P.T. 50+100.223		1		121809.7079	571390.4777	121797.6305	571333.8243	
P.I. 50+134.166	BECK ROAD	1		121843.6481	571390.8947	121831.5673	571334.2413	
P.C. 49+569.203	BIDDLE ROAD	1		121255.4609	572989.1414	121243.4384	572932.3295	
P.T. 49+711.485		1		121397.3413	572998.8379	121385.3048	572942.0251	
P.C. 49+759.485		1		121444.9789	573004.7252	121432.9376	572947.9118	
P.T. 49+901.767		1		121586.8593	573014.4217	121574.8040	572957.6073	
P.C. 50+103.361		1		121788.4349	573017.1457	121776.3596	572960.3311	
P.T. 50+238.212		1		121923.0924	573011.3957	121911.0037	572954.5816	
P.C. 50+287.172		1		121971.8133	573006.5633	121959.7198	572949.7497	
P.T. 50+418.398	BIDDLE ROAD	1		122102.8458	573000.7698	122090.7393	572943.9568	
P.C. 49+448.105	S.R. 598	1		121190.2530	575075.1120	121178.2370	575018.0933	
P.T. 49+516.156		1		121255.4306	575094.5485	121243.4081	575037.5279	
P.C. 49+577.739		1		121313.3536	575115.4639	121301.3254	575058.4412	
P.O.C. 49+665.000		1		121397.2897	575139.0380	121385.2532	575082.0130	
P.T. 49+710.254		1		121441.9309	575146.3968	121429.8899	575089.3710	
BK 49+894.535		1		121624.7581	575169.4930	121612.6990	575112.4649	
AHD 49+892.950				0.0000	0.0000			
P.I. 50+060.059		1		121790.5498	575190.4371	121778.4743	575133.4070	
P.I. 50+208.916	S.R. 598	1		121938.2684	575208.8108	121926.1782	575151.7788	
P.C. 10+016.355	SERVICE ROAD 'B'	1		121400.5563	575123.0127	121388.5194	575065.9893	
P.T. 10+076.170		1		121444.7636	575091.3175	121432.7224	575034.2972	
P.O.T. 10+175.000	SERVICE ROAD 'B'	1		121567.6175	575106.8374	121555.5641	575049.8156	
P.T. 10+000.000	N. MARKET AVENUE	1		121615.1373	575565.3553	121603.0792	575508.2880	
P.T. 10+031.965		1		121638.7525	575544.9132	121626.6920	575487.8479	
P.C. 19+963.978		1		121824.1303	575491.8038	121812.0514	575434.7438	
P.T. 20+000.000	N. MARKET AVENUE	1		121859.1081	575491.7633	121847.0258	575434.7033	
P.I. 49+620.000	FAIRVIEW ROAD	1		121283.6461	576097.9901	121271.6208	576040.8700	
P.I. 49+780.000		1		121443.5845	576102.4301	121431.5434	576045.3095	
P.I. 50+107.625		1		121771.1834	576106.5558	121759.1098	576049.4348	
P.I. 50+240.000		1		121903.5484	576108.1929	121891.4617	576051.0718	
P.I. 50+280.000	FAIRVIEW ROAD	1		121943.5473	576108.4957	121931.4566	576051.3745	
P.C. 10+017.000	KNORR ROAD	1		121449.0721	576779.6953	121437.0304	576722.5076	
P.T. 10+049.836		1		121478.5507	576792.2592	121466.5061	576735.0702	
P.C. 19+950.164		1		121616.9080	576794.6794	121604.8497	576737.4902	
P.T. 19+983.000	KNORR ROAD	1		121646.8473	576783.2569	121634.7860	576726.0688	
P.C. 49+639.853	NAZOR ROAD	1		121254.0043	577958.3977	121241.9820	577901.0931	
P.T. 49+753.151		1		121350.1237	577898.7369	121338.0918	577841.4382	
P.C. 49+809.991		1		121395.3761	577864.3421	121383.3397	577807.0469	
P.T. 49+923.289		1		121491.4956	577804.6814	121479.4497	577747.3921	
P.C. 50+266.060		1		121762.6489	577669.9731	121750.5761	577612.6971	
P.T. 50+519.006	NAZOR ROAD	1		122045.8941	577607.5374	122033.7932	577550.2676	

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.

THE PROJECT BEARINGS AND PAF ARE REFERENCE TO OHIO STATE PLANE GRID, NORTH ZONE, ESTABLISHED USING NAD 83 STATE PLANE CO-ORDINATES (HARN, ORDER B) OF NGS MONUMENTS 17GA, ARP MFD, GQQA, AND WACHS.

metric units

P.I.D. NO. 16282

CENTERLINE PLAT

CRA-30-24.000 (14.91)

2/11

2/86

593/677

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EXISTING MONUMENT SUMMARY

NUMBER	ROAD	STATION	OFFSET	DESCRIPTION
1	S.R. 602	49+234.244	0.002 m RT.	R.R. SPIKE FOUND
2		49+443.063	9.172 m LT.	3/4" PIPE FOUND
3		49+443.162	0.002 m LT.	R.R. SPIKE FOUND
4		49+498.537	0.009 m LT.	R.R. SPIKE FOUND
5		49+498.589	9.130 m LT.	3/4" PIPE FOUND
6		49+507.418	0.006 m RT.	R.R. SPIKE FOUND
7		49+689.996	6.414 m RT.	1/2" PIPE FOUND
8		49+864.217	0.062 m LT.	R.R. SPIKE FOUND
9		49+864.491	6.455 m RT.	3/4" PIPE FOUND
10		50+024.991	0.007 m RT.	R.R. SPIKE FOUND
11		50+574.441	0.013 m RT.	R.R. SPIKE FOUND
12	S.R. 602	50+757.134	0.003 m RT.	R.R. SPIKE FOUND
13	BECK ROAD	49+324.433	0.000 m RT.	R.R. SPIKE FOUND
14		49+485.253	6.068 m RT.	1/2" PIPE FOUND
15		49+485.310	0.107 m RT.	R.R. SPIKE FOUND
16		49+618.311	0.203 m RT.	R.R. SPIKE FOUND
17		50+134.166	0.005 m LT.	R.R. SPIKE FOUND
18		50+594.572	0.116 m LT.	R.R. SPIKE FOUND
19		50+596.392	0.126 m LT.	R.R. SPIKE FOUND
20		50+642.499	6.314 m LT.	R.R. SPIKE FOUND
21		50+661.560	5.973 m RT.	1/2" PIPE FOUND
22		50+661.636	0.107 m LT.	R.R. SPIKE FOUND
23		50+685.187	0.097 m LT.	R.R. SPIKE FOUND
24		50+818.915	0.045 m LT.	R.R. SPIKE FOUND
25	BECK ROAD	50+934.894	0.005 m LT.	R.R. SPIKE FOUND
26	BIDDLE ROAD	49+343.091	0.000 m LT.	R.R. SPIKE FOUND
27		49+593.597	5.323 m LT.	IRON PIN FOUND
28		49+600.241	5.042 m RT.	IRON PIN FOUND
29		49+605.780	5.695 m LT.	IRON PIN FOUND
30		49+994.666	14.868 m LT.	IRON PIN FOUND
31		50+000.707	25.921 m LT.	IRON PIN FOUND
32		50+007.867	14.857 m LT.	IRON PIN FOUND
33		50+138.897	13.642 m LT.	IRON PIN FOUND
34		50+143.778	19.315 m LT.	IRON PIN FOUND
35		50+144.451	25.203 m LT.	IRON PIN FOUND
36		50+152.417	13.011 m LT.	IRON PIN FOUND
37		50+353.866	2.074 m RT.	PIPE FOUND
38		50+448.378	7.056 m RT.	PIPE FOUND
39		50+488.290	5.087 m RT.	IRON PIN FOUND
40		50+501.728	6.604 m LT.	IRON PIN FOUND
41		50+508.624	5.176 m RT.	IRON PIN FOUND
42	BIDDLE ROAD	50+945.094	0.000 m LT.	R.R. SPIKE FOUND
43	S.R. 598	49+244.342	0.000 m LT.	MON. W/1" IRON PIN FND.
44		49+410.140	0.001 m LT.	R.R. SPIKE FOUND
45		49+472.579	0.581 m LT.	R.R. SPIKE FOUND
46		49+525.095	4.471 m RT.	2" PIPE FOUND
47		49+540.567	2.712 m RT.	1" PIPE FOUND
48		49+545.590	17.505 m RT.	MONUNMENT FOUND
49		49+769.940	5.380 m LT.	R.R. SPIKE FOUND
50		49+863.723	0.163 m LT.	IRON PIN FOUND
51		50+208.917	0.001 m LT.	5/8" PIPE FOUND
52		50+319.149	10.130 m LT.	IRON PIN FOUND (CAPPED)
53		50+489.691	11.581 m LT.	IRON PIN FOUND (CAPPED)
54		50+649.152	0.003 m RT.	R.R. SPIKE FOUND
55	S.R. 598	50+868.727	0.004 m RT.	R.R. SPIKE FOUND

EXISTING MONUMENT SUMMARY

NUMBER	ROAD	STATION	OFFSET	DESCRIPTION
56	N. MARKET AVE.	49+718.035	0.000 m LT.	R.R. SPIKE FOUND
57		49+721.309	7.624 m LT.	1" PIPE FOUND
58		49+869.805	0.622 m LT.	R.R. SPIKE FOUND
59		49+877.357	0.942 m LT.	R.R. SPIKE FOUND
60		50+010.633	0.111 m LT.	R.R. SPIKE FOUND
61		50+056.257	0.003 m LT.	#5 IRON PIN FOUND
62		50+096.970	0.001 m RT.	#5 IRON PIN FOUND
63		50+175.400	0.001 m LT.	#5 IRON PIN FOUND
64		50+352.401	0.004 m RT.	R.R. SPIKE FOUND
65		50+363.346	8.931 m RT.	3/4" PIPE FOUND
66		50+454.679	7.574 m RT.	1/2" PIPE FOUND
67	N. MARKET AVE.	50+459.811	0.002 m LT.	R.R. SPIKE FOUND
68	FAIRVIEW ROAD	49+617.640	11.577 m RT.	IRON PIN FOUND (CAPPED)
69		49+654.344	11.041 m RT.	IRON PIN FOUND (CAPPED)
70		50+107.625	0.004 m RT.	1/2" PIPE FOUND
71		50+116.756	0.469 m LT.	R.R. SPIKE FOUND
72		50+116.864	9.591 m LT.	IRON PIN FOUND (CAPPED)
73		50+180.663	0.339 m LT.	R.R. SPIKE FOUND
74		50+186.235	0.208 m LT.	SQUARE ROD FOUND
75		50+186.332	9.360 m LT.	IRON PIN FOUND (CAPPED)
76		50+252.021	0.056 m RT.	1/2" PIPE FOUND
77		50+252.363	0.124 m RT.	R.R. SPIKE FOUND
78		50+302.660	0.444 m RT.	R.R. SPIKE FOUND
79		50+352.678	0.817 m RT.	1/2" PIPE FOUND
80	FAIRVIEW ROAD	50+909.107	0.000 m LT.	R.R. SPIKE FOUND
81	KNORR ROAD	49+590.627	0.019 m RT.	R.R. SPIKE FOUND
82		49+649.242	0.004 m RT.	R.R. SPIKE FOUND
83		49+657.646	5.795 m RT.	REBAR FOUND
84		49+714.084	6.012 m RT.	REBAR FOUND
85		49+778.425	0.005 m RT.	REBAR FOUND
86		49+778.464	5.036 m LT.	IRON PIN FOUND
87		49+938.092	0.003 m RT.	R.R. SPIKE FOUND
88		49+938.130	5.039 m LT.	IRON PIN FOUND
89		50+019.173	3.069 m RT.	IRON PIN FOUND
90		50+640.443	0.387 m LT.	IRON PIN FOUND
91		51+010.432	0.017 m RT.	R.R. SPIKE FOUND
92	KNORR ROAD	51+011.021	0.000 m LT.	PIPE FOUND
93	NAZOR ROAD	49+255.423	6.428 m LT.	IRON PIN FOUND
94		49+296.766	5.340 m LT.	IRON PIN FOUND
95		49+334.232	4.336 m LT.	IRON PIN FOUND
96		49+548.551	7.950 m LT.	IRON PIN FOUND
97		49+668.449	5.999 m LT.	IRON PIN FOUND
98		49+810.955	15.030 m RT.	IRON PIN FOUND
99		49+810.963	15.036 m RT.	IRON PIN FOUND
100		50+239.378	70.061 m LT.	IRON PIN FOUND
101		50+437.811	5.535 m LT.	IRON PIN FOUND
102		50+437.836	5.492 m LT.	IRON PIN FOUND
103	NAZOR ROAD	50+550.016	8.171 m RT.	IRON PIN FOUND

metric units

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
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P.I.D. NO. 16282

CENTERLINE PLAT

CRA-30-24.000 (14.91)

3/11

3/86

594/677

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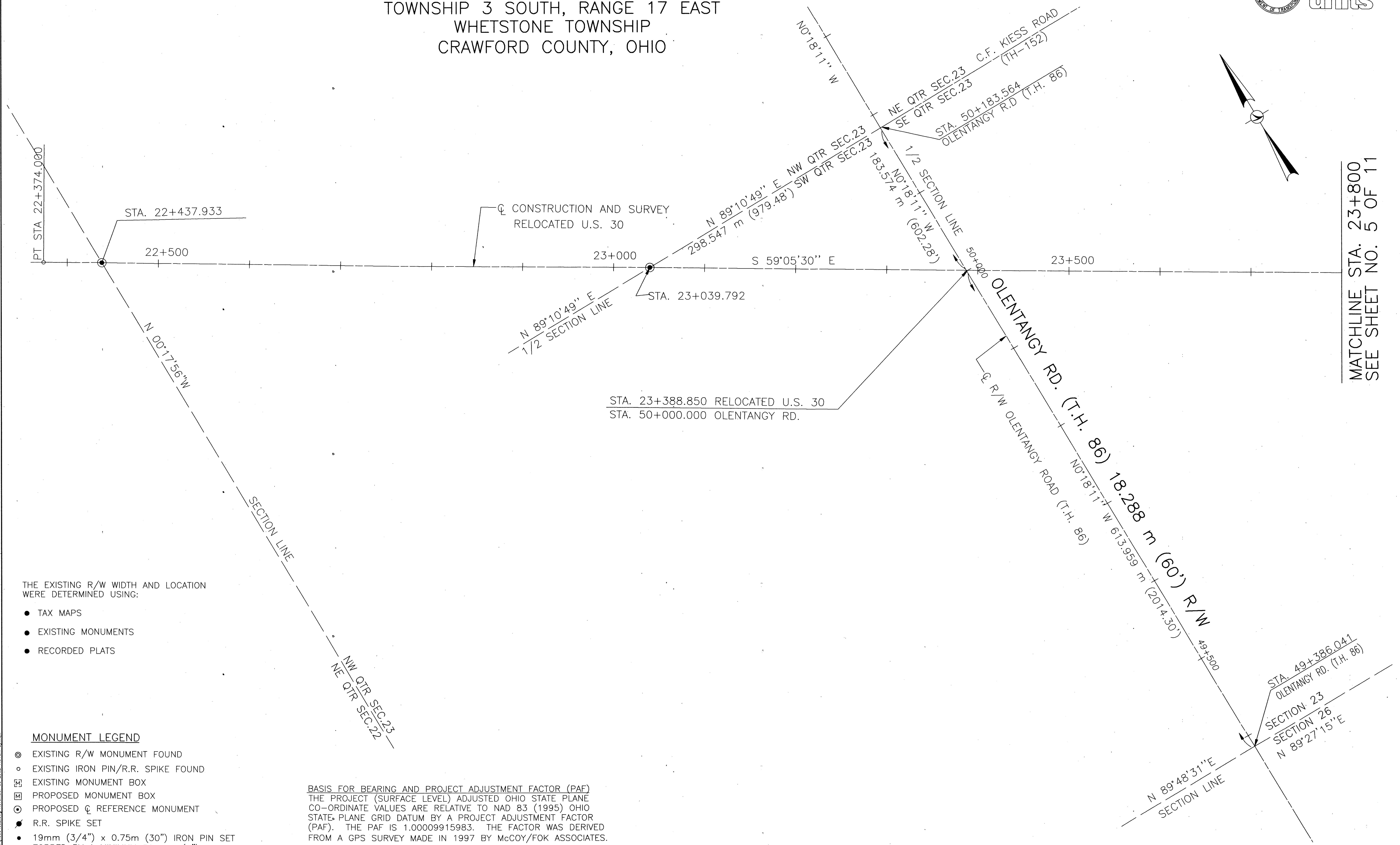
CRA–30–24.000 (14.91)
SECTIONS 23 & 26
TOWNSHIP 3 SOUTH, RANGE 17 EAST
WHETSTONE TOWNSHIP
CRAWFORD COUNTY, OHIO

metric units



MATCHLINE STA. 23+800
SEE SHEET NO. 5 OF 11

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- RECORDED PLATS

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT" R/W–BRYAN E. McCOY, P.S. 4936".
- (6) EXISTING MONUMENT NUMBER

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO–ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.

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0 20 40 80
HORIZONTAL SCALE IN METERS

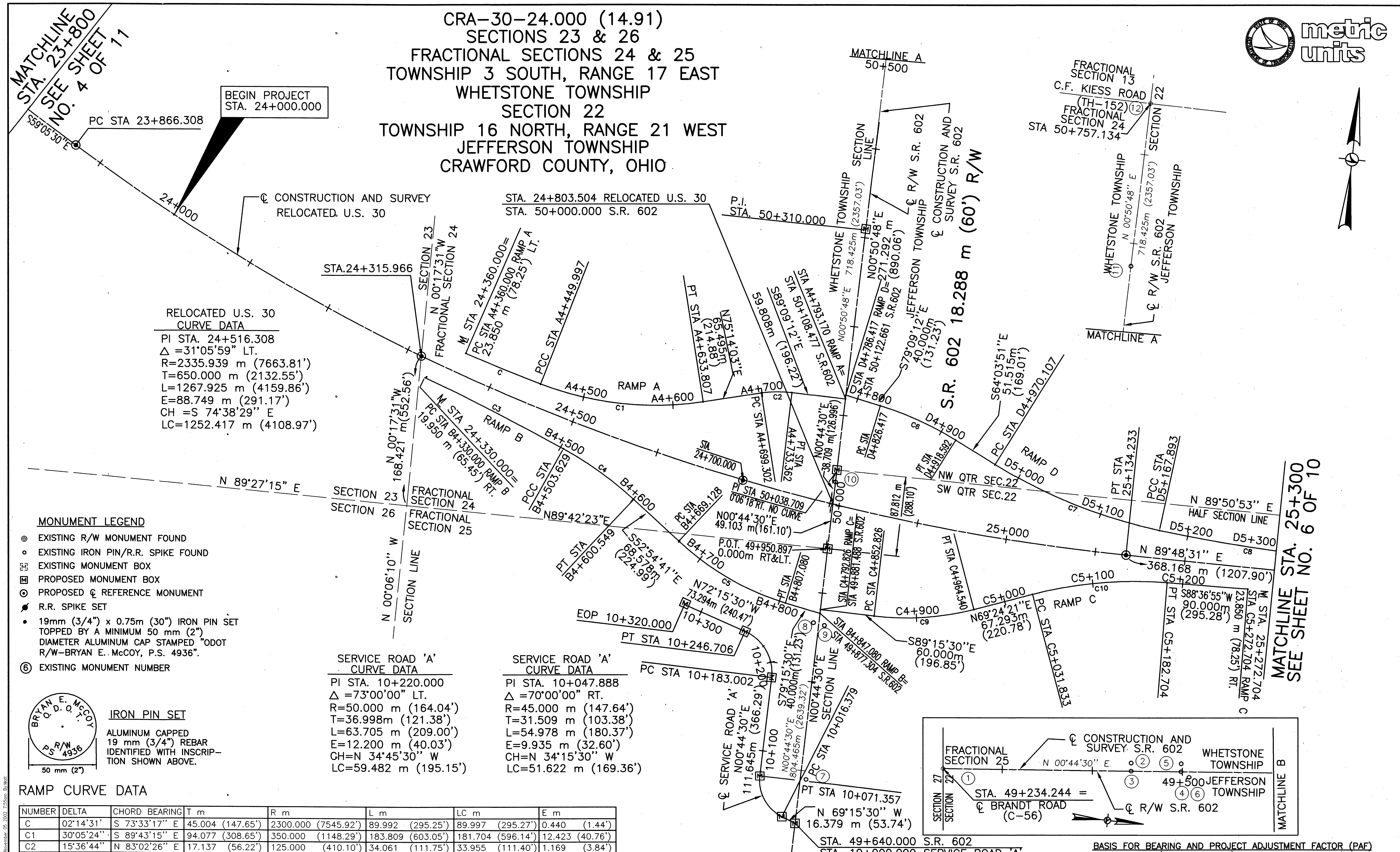
P.I.D. NO. 16283

CENTERLINE PLAT

CRA–30–24.000 (14.91)

CRA–30–24.000 (14.91)

CRA-30-24.000 (14.91)
SECTIONS 23 & 26
FRACTIONAL SECTIONS 24 & 25
TOWNSHIP 3 SOUTH, RANGE 17 EAST
WHETSTONE TOWNSHIP
SECTION 22
TOWNSHIP 16 NORTH, RANGE 21 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO



RELOCATED U.S. 30
CURVE DATA

PI STA. 24+516.308
△ =31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH =S 74°38'29" E
LC=1252.417 m (4108.97')

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
- ⑥ EXISTING MONUMENT NUMBER

IRON PIN SET

BRYAN E. McCOY O.D.O.T. R/W PS 4936

50 mm (2")

ALUMINUM CAPPED 19 mm (3/4") REBAR IDENTIFIED WITH INSCRIPTION SHOWN ABOVE.

SERVICE ROAD 'A'
CURVE DATA

PI STA. 10+220.000
△ =73°00'00" LT.
R=50.000 m (164.04')
T=36.998m (121.38')
L=63.705 m (209.00')
E=12.200 m (40.03')
CH=N 34°45'30" W
LC=59.482 m (195.15')

SERVICE ROAD 'A'
CURVE DATA

PI STA. 10+047.888
△ =70°00'00" RT.
R=45.000 m (147.64')
T=31.509 m (103.38')
L=54.978 m (180.37')
E=9.935 m (32.60')
CH=N 34°15'30" W
LC=51.622 m (169.36')

RAMP CURVE DATA

NUMBER	DELTA	CHORD BEARING	T m	R m	L m	LC m	E m
C	02°14'31'	S 73°33'17" E	45.004 (147.65')	2300.000 (7545.92')	89.992 (295.25')	89.997 (295.27')	0.440 (1.44')
C1	30°05'24"	S 89°43'15" E	94.077 (308.65')	350.000 (1148.29')	183.809 (603.05')	181.704 (596.14')	12.423 (40.76')
C2	15°36'44"	N 83°02'26" E	17.137 (56.22')	125.000 (410.10')	34.061 (111.75')	33.955 (111.40')	1.169 (3.84')
C3	03°40'15"	S 68°37'47" E	86.844 (284.92')	2710.000 (8891.06')	173.629 (569.65')	173.600 (569.55')	1.391 (4.56')
C4	13°52'58"	S 59°51'10" E	48.698 (159.77")	400.000 (1312.33')	96.920 (317.98')	96.683 (317.20')	2.954 (9.69')
C5	26°20'49"	S 66°05'06" E	70.218 (230.37')	300.000 (984.25')	137.952 (452.60')	136.740 (448.62')	8.108 (26.60')
C6	15°05'21"	S 71°36'31" E	46.356 (152.09')	350.000 (1148.29')	92.175 (302.41')	91.909 (301.54')	3.056 (10.03')
C7	19°42'30"	S 73°55'06" E	99.880 (327.69')	575.000 (1886.48')	197.786 (648.90')	196.812 (645.71')	8.610 (28.25')
C8	06°25'08"	S 86°58'55" E	100.932(331.14')	1800.000 (5905.50')	201.652 (661.59')	201.547 (661.24')	2.828 (9.28')
C9	21°20'09"	N 80°04'25" E	56.512 (185.41')	300.000 (984.25')	111.714 (366.52')	111.070 (364.40')	5.276 (17.31')
C10	19°12'34"	N 79°00'38" E	76.150 (249.84')	450.000 (1476.38')	150.871 (494.98')	150.165 (492.67')	6.398 (20.99')

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- RECORDED PLATS

SEE SHEET 3/86 FOR EXISTING MONUMENT SUMMARY.

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)

THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.

THE PROJECT BEARINGS AND PAF ARE REFERENCE TO OHIO STATE PLANE GRID, NORTH ZONE, ESTABLISHED USING NAD 83 STATE PLANE CO-ORDINATES (HARN, ORDER B) OF NGS MONUMENTS 17GA, ARP MFD, GQQA, AND WACHS.

L:\DRAWINGS\93125\ROW\ROW\Rc005c02.dwg November 05 2002 7:55am By:Matt

1:2000 HORIZONTAL SCALE IN METERS 0 20 40 80

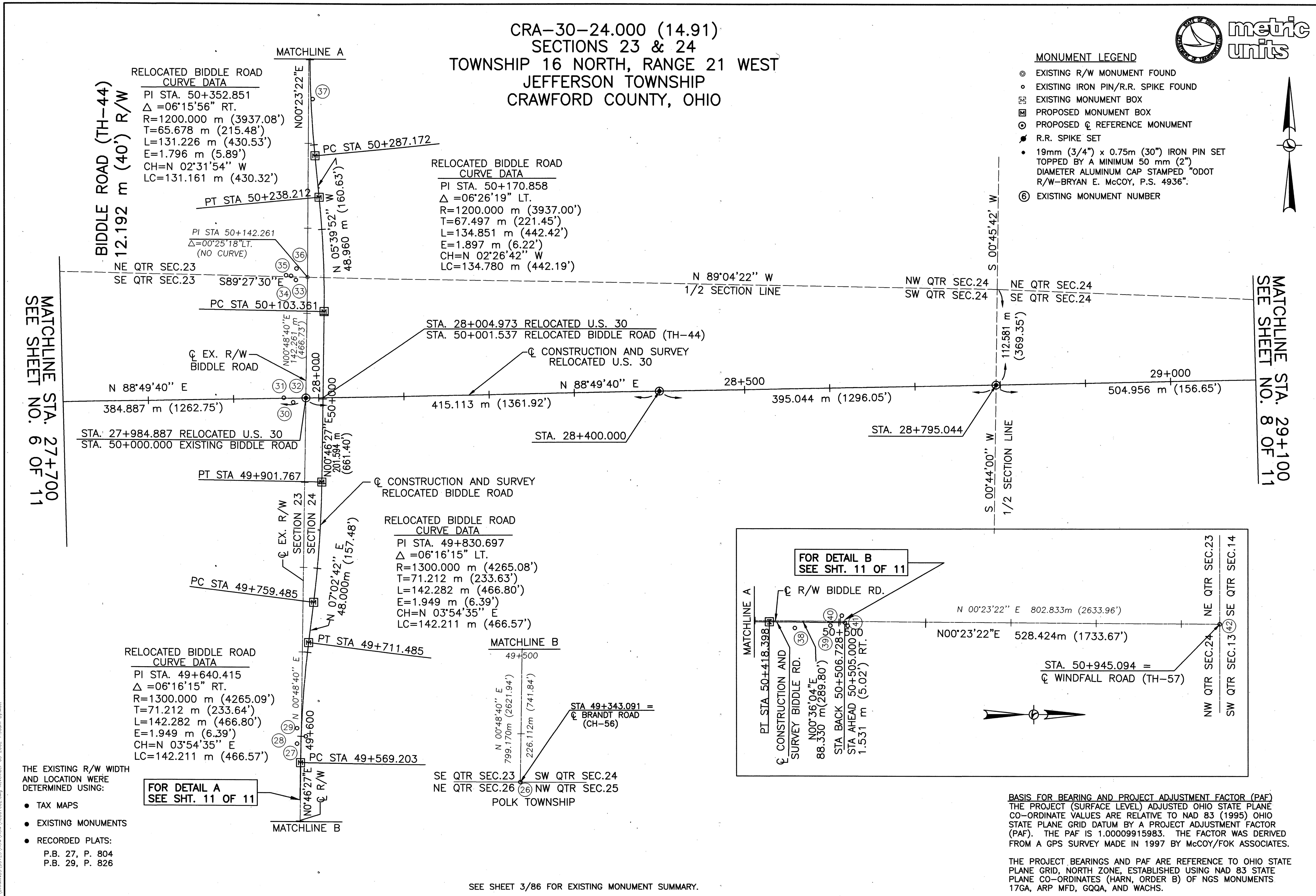
P.I.D. NO. 16283

CENTERLINE PLAT

CRA-30-24.000 (14.91)
SECTIONS 22 & 23
TOWNSHIP 16 NORTH, RANGE 21 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO
metric units
CENTERLINE PLAT
P.I.D. NO. 16283
1:2000 HORIZONTAL SCALE IN METERS
MATCHLINE A
℄ R/W BECK ROAD
50+500
SECTION LINE
SECTION 22
SECTION 23
N 00°36'27" E
STA 50+934.894 =
℄ WINDFALL ROAD (TH-57)
NE QTR SEC.22
SE QTR SEC.15
NW QTR SEC.23
SW QTR SEC.14
BECK ROAD CURVE DATA
PI STA. 19+984.382
△ =43°54'07" LT.
R=43.000 m (141.08')
T=17.330 m (56.86')
L=32.948 m (108.10')
E=3.361 m (11.03')
CH=N 22°30'23" E
LC=32.148 m (105.47')
BECK ROAD (TH-20) 18.288 m (60') R/W
800.728m (2627.06')
N 00°36'27" E
℄ R/W BECK ROAD
PI STA 50+134.166
00°05'47" LT.
(NO CURVE)
RELOCATED U.S. 30 CURVE DATA
PI STA. 25+734.232
△ =06°32'11" RT.
R=4060.000 m (13,320.21')
T=231.833 m (760.61')
L=463.162 m (1519.56')
E=6.614 m (21.70')
CH=S 86°55'23" E
LC=462.911 m (1518.73')
MATCHLINE STA. 25+300 SEE SHEET NO. 5 OF 11
PT STA D5+369.546 RAMP D
19.950 m (65.45') LT.
℄ STA. 25+369.546
1/2 SECTION LINE
N 01°00'19" E
N89°50'53"E
NW QTR SEC.22
SW QTR SEC.22
NE QTR SEC.22
SE QTR SEC.22
1/2 SECTION LINE
N 89°50'53" E
S 89°27'30" E
NW QTR SEC.23
SW QTR SEC.23
N 00°42'14" E
33.943m (111.36')
PT STA 50+100.223
PC STA 19+967.052
STA BACK 20+000.000=
STA AHEAD 50+100.223
N 89°48'31" E
25+500
368.168 m (1207.90')
62.120 m (203.81')
STA.25+569.076
N 01°17'43" W
PC STA 25+502.400
℄ CONSTRUCTION AND SURVEY RELOCATED U.S. 30
26+000
PT STA 25+965.562
S 83°39'18" E
410.773 m (1347.68')
℄ R/W AND SURVEY BECK ROAD
100.223 m (328.81')
50+000
26+500
PC STA 26+538.764
162.429 m (532.90')
STA. 26+376.335 RELOCATED U.S. 30
STA. 50+000.000 EXISTING BECK ROAD (TH-20)
MATCHLINE STA. 26+700
℄ R/W AND SURVEY BECK ROAD
97.773 m (320.78')
PT STA 10+032.856
PC STA 10+000.000
10+000
STA BACK 49+902.227=
STA AHEAD 10+000.000
BECK ROAD CURVE DATA
PI STA. 10+017.277
△ =43°46'48" LT.
R=43.000 m (141.08')
T=17.277 m (56.68')
L=32.856 m (107.80')
E=3.341 m (10.96')
CH=N 21°09'33" W
LC=32.063 m (105.19')
SECTION 22
SECTION 23
809.733m (2656.60')
N 00°24'09" E
S 89°27'30" E
NW QTR SEC.23
SW QTR SEC.23
NE QTR SEC.23
SE QTR SEC.23
S 89°27'30" E
1/2 SECTION LINE
RELOCATED U.S. 30 CURVE DATA
PI STA. 26+805.484
△ =07°31'02" LT.
R=4060.000 m (13,320.21')
T=266.720 m (875.07')
L=532.674 m (1747.62')
E=8.752 m (28.71')
CH=S 87°24'49" E
LC=532.292 m (1746.36')
MATCHLINE STA. 26+700
PT STA 27+071.438
HALF SECTION LINE
166.308 m (545.63')
℄ CONSTRUCTION AND SURVEY RELOCATED U.S. 30
3188.403 m (10,460.62')
27+000
N 88°49'40" E
27+500
109.834 m (360.35')
418.728 m (1373.78')
N 01°07'18" E
STA. 27+181.272
STA. 27+600.000
MATCHLINE STA. 27+700 SEE SHEET NO. 7 OF 11
49+500
℄ R/W BECK ROAD
N 00°42'14" E
577.794m (1895.65')
STA 49+324.433
℄ BRANDT ROAD (CH-56)
SEC 22
SEC 23
SEC 27
SEC 26
POLK TWP.
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
EXISTING MONUMENT NUMBER
BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.
THE PROJECT BEARINGS AND PAF ARE REFERENCE TO OHIO STATE PLANE GRID, NORTH ZONE, ESTABLISHED USING NAD 83 STATE PLANE CO-ORDINATES (HARN, ORDER B) OF NGS MONUMENTS 17GA, ARP MFD, GQQA, AND WACHS.
SEE SHEET 3/86 FOR EXISTING MONUMENT SUMMARY.
THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
• TAX MAPS
• EXISTING MONUMENTS
• RECORDED PLATS: P.B. 27, P.369
CRA-30-24.000 (14.91)
6/11
6/86
597/677

CRA-30-24.000 (14.91)
SECTIONS 23 & 24
TOWNSHIP 16 NORTH, RANGE 21 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO

metric units



MONUMENT LEGEND
- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
- ⑥ EXISTING MONUMENT NUMBER

RELOCATED BIDDLE ROAD CURVE DATA
PI STA. 50+352.851
Δ =06°15'56" RT.
R=1200.000 m (3937.08')
T=65.678 m (215.48')
L=131.226 m (430.53')
E=1.796 m (5.89')
CH=N 02°31'54" W
LC=131.161 m (430.32')

RELOCATED BIDDLE ROAD CURVE DATA
PI STA. 50+170.858
Δ =06°26'19" LT.
R=1200.000 m (3937.00')
T=67.497 m (221.45')
L=134.851 m (442.42')
E=1.897 m (6.22')
CH=N 02°26'42" W
LC=134.780 m (442.19')

RELOCATED BIDDLE ROAD CURVE DATA
PI STA. 49+830.697
Δ =06°16'15" LT.
R=1300.000 m (4265.08')
T=71.212 m (233.63')
L=142.282 m (466.80')
E=1.949 m (6.39')
CH=N 03°54'35" E
LC=142.211 m (466.57')

RELOCATED BIDDLE ROAD CURVE DATA
PI STA. 49+640.415
Δ =06°16'15" RT.
R=1300.000 m (4265.09')
T=71.212 m (233.64')
L=142.282 m (466.80')
E=1.949 m (6.39')
CH=N 03°54'35" E
LC=142.211 m (466.57')

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
- TAX MAPS
- EXISTING MONUMENTS
- RECORDED PLATS:
  P.B. 27, P. 804
  P.B. 29, P. 826

SEE SHEET 3/86 FOR EXISTING MONUMENT SUMMARY.

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
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P.I.D. NO. 16283

CENTERLINE PLAT

CRA-30-24.000 (14.91)

CRA-30-24.000 (14.91)

SECTION 24
TOWNSHIP 16 NORTH, RANGE 21 WEST
SECTION 19
TOWNSHIP 20 NORTH, RANGE 20 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
- TAX MAPS
- EXISTING MONUMENTS
- RECORDED PLATS

S.R. 598:	N. MARKET AVE.
P.B. 8, P. 59	S.B. 15, P. 182
P.B. 19, P.43	P.B. 20, P.332
P.B. 14, P. 63	P.B. 20, P. 529

metric units

RAMP CURVE DATA

NO.	DELTA	CHORD BEARING	T m	R m	L m	LC m	E m
C11	21°36'21" LT.	N 76°49'53" E	83.958 (275.45')	440.000 (1443.57')	165.922 (544.36')	164.941 (541.14')	7.939 (26.05')
C12	16°03'43" RT.	N 74°03'33" E	35.273 (115.72')	250.000 (820.21')	70.083 (229.93')	69.854 (229.18')	2.476 (8.12')
C13	07°55'44" RT.	S 87°12'28" E	86.629 (284.22')	1250.000 (4101.04')	172.982 (567.53')	172.844 (567.07')	2.998 (9.84')
C14	11°31'11" RT.	S 77°29'00" E	60.521 (198.56')	600.000 (1968.50')	120.634 (395.78')	120.431 (395.11')	3.045 (9.99')
C15	04°43'13" LT.	S 76°41'31" E	24.730 (81.14')	600.000 (1968.50')	49.432 (162.18')	49.418 (162.13')	0.509 (1.67')
C16	07°06'28" LT.	S 82°36'22" E	77.635 (254.71')	1250.000 (4101.04')	155.070 (508.76')	154.971 (508.43')	2.409 (7.90')
C17	16°07'06" LT.	N 74°08'27" E	35.399 (116.14')	250.000 (820.21')	70.330 (230.74')	70.098 (229.98')	2.494 (8.18')
C18	24°35'21" RT.	N 78°22'34" E	76.278 (250.26')	350.000 (1148.29')	150.206 (492.80')	149.056 (459.50')	8.215 (26.95')

EXIST. N. MARKET AVENUE CURVE DATA
PI STA. 50+136.689
Δ =22°28'29" LT.
R=199.979 m (656.10')
T=39.733 m (130.36')
L=78.444 m (257.36')
E=3.909 m (12.82')
CH=S 24°23'18" E
LC=77.942 m (255.71')

N. MARKET AVENUE CURVE DATA
PI STA. 50+155.195
Δ =11°33'38" LT.
R=199.500 m (654.53')
T=20.195m (67.21')
L=40.253m (133.96')
E=1.020m (3.39')
CH=N 17°40'04" W
LC=40.184m (133.73')

N. MARKET AVENUE CURVE DATA
PI STA. 19+983.122
Δ =47°59'52" LT.
R=43.000 m (141.08')
T=19.144 m (62.81')
L=36.022 m (118.18')
E=4.069m (13.35')
CH=N 05°13'18" E
LC=34.978m (116.41')

EXIST. S.R. 598 CURVE DATA
PI STA. 49+818.982
Δ =06°04'21" LT.
R=1397.100 m (4583.65')
T=74.106 m (243.13')
L=148.074 m (485.81')
E=1.964 m (6.44')
CH=N 10°14'10" E
LC=148.004 m (157.49')

EXIST. N. MARKET AVENUE CURVE DATA
PI STA. 49+877.392
Δ =05°57'25" RT.
R=698.550 m (2291.83')
T=36.346 m (119.25')
L=72.627 m (238.28')
E=0.945 m (3.10')
CH=N 19°48'04" W
LC=72.595 m (238.16')

SERVICE ROAD B CURVE DATA
PI STA. 10+053.446
Δ =85°40'43" RT.
R=40.000 m (131.23')
T=37.091 m (121.69')
L=59.815 m (196.24')
E=14.551 m (47.74')
CH=N 35°38'22" W
LC=54.396 m (178.46')

N. MARKET AVENUE CURVE DATA
PI STA. 10+016.762
Δ =42°35'31" LT.
R=43.000 m (141.08')
T=16.762 m (54.99')
L=31.965 m (104.87')
E=3.151 m (10.34')
CH=N 40°52'49" W
LC=31.234 m (103.95')

N. MARKET AVENUE CURVE DATA
PI STA. 49+860.528
Δ =03°11'42" RT.
R=698.550 m (2291.83')
T=19.462m (64.77')
L=38.954m (129.64')
E=0.272 m (0.91')
CH=N 00°03'59" W
LC=38.949m (129.62')

RELOCATED S.R. 598 CURVE DATA
PI STA. 49+644.268
Δ =12°39'15" LT.
R=600.000 m (1968.50')
T=66.528 m (218.27')
L=132.515 m (434.76')
E=3.677 m (12.06')
CH=N 13°31'37" E
LC=132.246 m (433.88')

RELOCATED S.R. 598 CURVE DATA
PI STA. 49+482.167
Δ =06°29'54" RT.
R=600.000 m (1968.50')
T=34.062 m (111.75')
L=68.050 m (223.26')
E=0.966 m (3.17')
CH=N 16°36'18" E
LC=68.014 m (223.14')

RELOCATED U.S. 30 CURVE DATA
PI STA. 30+660.114
Δ =11°15'40" RT.
R=4060.000 m (13,320.21')
T=400.273 m (1313.23')
L=797.967 m (2618.00')
E=19.684 m (64.58')
CH=S 85°32'30" E
LC=796.683 m (2613.78')

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
- ⑥ EXISTING MONUMENT NUMBER

BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.

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1:2000 HORIZONTAL SCALE IN METERS

P.I.D. NO. 16283

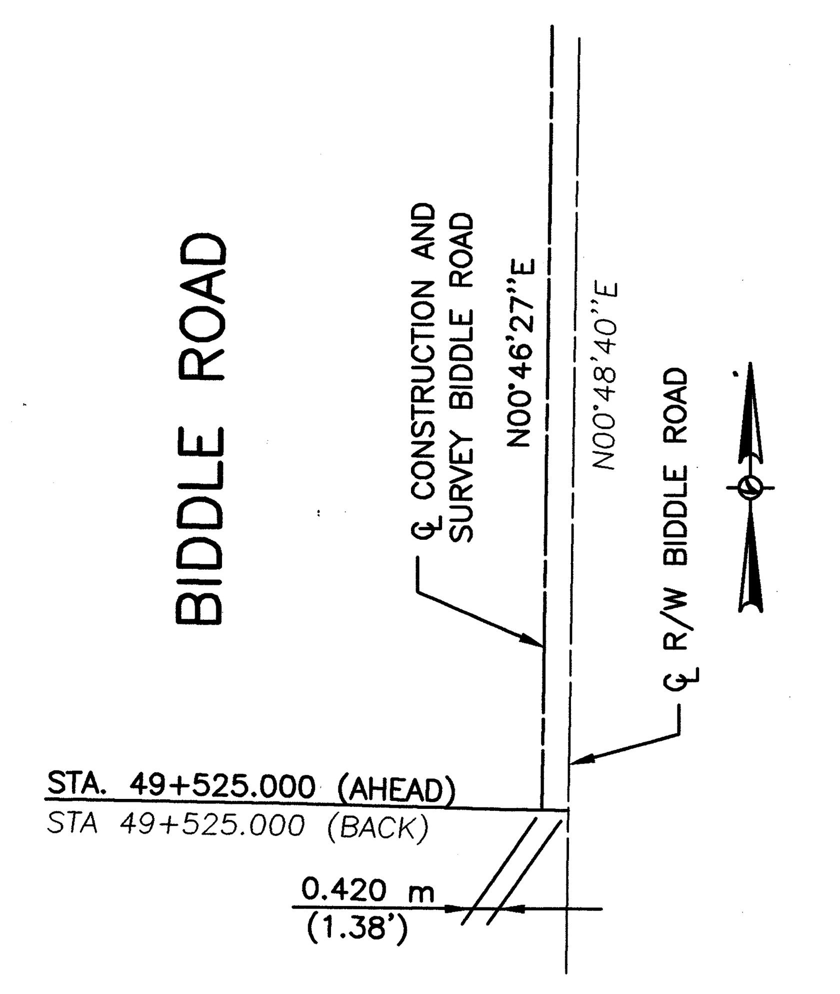
CENTERLINE PLAT

CRA-30-24.000 (14.91)

8/11
8/86
599/677

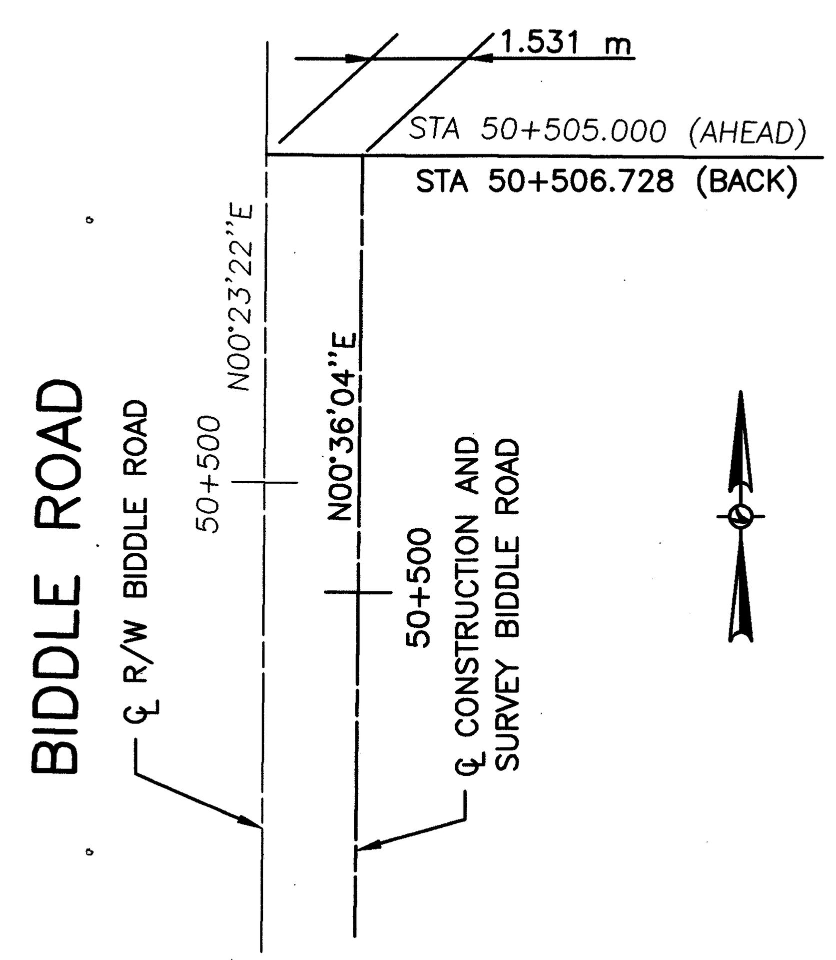

CRA-30-24.000 (14.91)
SECTIONS 19 & 20
TOWNSHIP 20 NORTH, RANGE 20 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO
metric units
THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
• TAX MAPS
• EXISTING MONUMENTS
• RECORDED PLATS:
FAIRVIEW ROAD: P.B. 340, P. 21 P.B. 435, P.756 P.B. 21, P. 543
KNORR ROAD: P.B. 29, P. 467
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
6 EXISTING MONUMENT NUMBER
1:2000
HORIZONTAL SCALE IN METERS
P.I.D. NO. 16283
CENTERLINE PLAT
CRA-30-24.000 (14.91)
9/11
9/86
600/677
FOR DETAIL E SEE SHT. 11 OF 11
MATCHLINE A
℄ CONSTRUCTION AND SURVEY FAIRVIEW ROAD
℄ R/W FAIRVIEW ROAD
FAIRVIEW ROAD (TH-90) 15.240 m (50') R/W
PI STA 50+280.000 △=00°15'00"RT.(NO CURVE)
PI STA 50+252.021
PI STA 50+240.000 △=00°16'30"LT.(NO CURVE)
N00°41'01"E
N00°55'57"E
N00°26'01"E 40.000 m (131.23')
N00°42'31"E 132.375 m (434.30')
N00°42'31"E 144.396 m (473.74')
RELOCATED U.S. 30 CURVE DATA
PI STA. 30+660.114
△ =11°15'40" RT.
R=4060.000 m (13,320.21')
T=400.273 m (1313.23')
L=797.967 m (2618.00')
E=19.684 m (64.58')
CH=S 85°32'30" E
LC=796.683 m (2613.78')
MATCHLINE STA. 30+800 SEE SHEET NO. 8 OF 11
N88°47'20"W
NE QTR SEC.19
SE QTR SEC.19
NW QTR SEC.20
SW QTR SEC.20
N89°11'36"W
PI STA 50+107.625
PI STA 50+107.625 △=00°00'47"LT. (NO CURVE)
N00°43'18"E 107.625 m (353.10')
STA. 31+099.211 RELOCATED U.S. 30
STA. 50+000.000 FAIRVIEW ROAD (TH-90)
31+000
50+000
S 79°54'40" E 525.866 m (1725.28')
484.463 m (1589.44')
PT STA 31+057.808
41.403 m (135.84')
N 00°43'18" E 327.625 m (1074.88')
℄ R/W FAIRVIEW ROAD
PI STA 49+780.000 △=00°52'07"LT.(NO CURVE)
℄ CONSTRUCTION AND SURVEY FAIRVIEW ROAD
N 01°35'25" E 160.000 m (524.93')
PI STA 49+620.000 △=00°43'09"LT.(NO CURVE)
MATCHLINE B
FOR DETAIL D SEE SHT. 11 OF 11
SE QTR SEC.19
NE QTR SEC.30
SW QTR SEC.20
NW QTR SEC.29
MATCHLINE B
N 00°52'16" E
49+500 SECTION 19
SECTION 20
℄ R/W FAIRVIEW ROAD
SE QTR SEC.18
SW QTR SEC.17
NE QTR SEC.19
NW QTR SEC.20
SECTION LINE
N 00°55'57" E 657.086m (2155.79')
STA 50+909.107 = ℄ MIDDLETOWN ROAD (TH-77)
℄ R/W FAIRVIEW ROAD
MATCHLINE A
℄ CONSTRUCTION AND SURVEY RELOCATED U.S. 30
MATCHLINE D
HALF SECTION LINE
℄ R/W KNORR ROAD
49+500
STA. 49+414.247 ℄ BRANDT ROAD (TH-56)
SW QTR SEC.20
NW QTR SEC.29
SE QTR SEC.20
NE QTR SEC.29
POLK TOWNSHIP
MATCHLINE C
KNORR ROAD (TH-91) 10.058 m (33') R/W
50+500
N 00°46'25" E 798.387m (2619.37')
℄ R/W KNORR ROAD
1/2 SECTION LINE
FOR DETAIL G SEE SHT. 11 OF 11
℄ R/W KNORR ROAD
NW QTR SEC.20
SW QTR SEC.20
N 89°11'36" W
PI STA 50+204.635 △=00°15'00"RT (NO CURVE)
N 88°49'23" W
KNORR ROAD CURVE DATA
PI STA. 19+967.429
△ =43°45'11" RT.
R=43.000 m (141.08')
T=17.265 m (56.64')
L=32.836 m (107.73')
E=3.337 m (10.95')
CH=N20°52'59"W
LC=32.044 m (105.13')
PC STA 31+583.674
31+500
STA AHEAD 50+114.836=
STA BACK 20+000.000 0.552 m LT. (1.81')
20+000
PT STA 19+983.000
PC STA 19+950.164
℄ CONSTRUCTION AND SURVEY KNORR ROAD
STA. 31+786.186 RELOCATED U.S. 30=
STA. 50+000.000 KNORR ROAD (TH-91)
KNORR ROAD CURVE DATA
PI STA. 10+034.265
△ =43°45'11" RT.
R=43.000 m (141.08')
T=17.265 m (56.64')
L=32.836 m (107.73')
E=3.337 m (10.95')
CH=N 23°05'02" E
LC=32.044 m (105.13')
PT STA 10+049.836
PC STA 10+017.000
10+000
STA BACK 49+883.022=
STA AHEAD 10+000.000 1.467 m LT.(4.81')
℄ CONSTRUCTION AND SURVEY KNORR ROAD
N00°48'56"E
FOR DETAIL F SEE SHT. 11 OF 11
MATCHLINE D
SW QTR SEC.17
NW QTR SEC.20
SE QTR SEC.17
NE QTR SEC.20
51+000
STA. 51+011.021 ℄ MIDDLETOWN ROAD (TH-77)
HALF SECTION LINE
N 00°46'25" E
℄ R/W KNORR ROAD
MATCHLINE C
NE QTR SEC.20
SE QTR SEC.20
RELOCATED U.S. 30 CURVE DATA
PI STA. 32+175.655
△ =19°12'00" LT.
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')
32+000
STA 32+200.000
MATCHLINE STA. 32+300 SEE SHEET NO. 10 OF 11
BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.
THE PROJECT BEARINGS AND PAF ARE REFERENCE TO OHIO STATE PLANE GRID, NORTH ZONE, ESTABLISHED USING NAD 83 STATE PLANE CO-ORDINATES (HARN, ORDER B) OF NGS MONUMENTS 17GA, ARP MFD, GQQA, AND WACHS.
SEE SHEET 3/86 FOR EXISTING MONUMENT SUMMARY.

CRA-30-24.000 (14.91)
SECTION 20
TOWNSHIP 20 NORTH, RANGE 20 WEST
JEFFERSON TOWNSHIP
SECTION 21
TOWNSHIP 20 NORTH, RANGE 20 WEST
JACKSON TOWNSHIP
CRAWFORD COUNTY, OHIO
metric units
1:2000
0 20 40 80
HORIZONTAL SCALE IN METERS
P.I.D. NO. 16283
CENTERLINE PLAT
CRA-30-24.000 (14.91)
10/11
10/86
601
677
MATCHLINE A
SE QTR SEC.17
SW QTR SEC.16
NE QTR SEC.20
51+000
NW QTR SEC.21
STA 51+009.356 = ℄ MIDDLETOWN ROAD (TH-77)
SECTION 20
SECTION 21
℄ CONSTRUCTION AND SURVEY NAZOR ROAD
N 01°05'05" E 799.271 m (2622.27') (ALONG SECTION LINE)
N 01°33'22" E 492.245 m (1614.98') (ALONG ℄ R/W)
498.192 m (1634.48') (ALONG ℄ CONST. & SURVEY)
℄ R/W NAZOR ROAD, ESTABLISHED BY ROAD OCCUPATION
N01°05'05"E
PT STA 50+517.111
STA BACK 50+524.953
PT STA 50+519.006
STA AHEAD 50+517.111
50+500
EXIST. NAZOR ROAD CURVE DATA
PI STA. 50+433.408
Δ =27°58'27" RT.
R=350.000 m (1148.29')
T=87.182 m (286.03')
L=170.885 m (560.65')
E=10.695 m (35.09')
CH=N 12°25'51" W
LC=169.193 m (555.09')
RELOCATED NAZOR ROAD CURVE DATA
PI STA. 50+375.514
Δ =27°58'27" RT.
R=600.000 m (1968.50')
T=149.454 m (490.33')
L=292.946 m (961.11')
E=18.334 m (60.15')
CH=N 12°25'51" W
LC=290.045m (951.59')
PC STA 50+346.226
PC STA 50+226.060
℄ CONSTRUCTION AND SURVEY NAZOR ROAD
℄ R/W NAZOR ROAD, ESTABLISHED BY ROAD OCCUPATION
END PROJECT STA. 33+500.000
NE QTR SEC.20
N 88°49'23" W
SE QTR SEC.20
NW QTR SEC.21
SW QTR SEC.21
N 89°19'39" W
HALF SECTION LINE
℄ CONSTRUCTION AND SURVEY RELOCATED U.S. 30
NAZOR ROAD (TH-48) 15.240 m (50') R/W
N 26°25'05" W 302.771 m (993.34')
PT STA 32+756.535
MATCHLINE A
RELOCATED U.S. 30 CURVE DATA
PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')
STA. 32+805.807 RELOCATED U.S. 30
STA. 50+000.000 EXISTING NAZOR ROAD (TH-48)
33+500
N 89°36'40" W
PT STA 33+536.129
N 80°53'20" E
33+000
447.981 m (1469.75')
PC STA 33+204.517
RELOCATED U.S. 30 CURVE DATA
PI STA. 33+370.704
Δ =09°30'00" RT.
R=2000.000 m (6561.67')
T=166.187 m (545.23')
L=331.613 m (1087.97')
E=6.893 m (22.61')
CH=N 85°38'20" E
LC=331.233 m (1086.72')
MATCHLINE STA. 32+300
SEE SHEET NO. 9 OF 11
N00°53'08"E
197.106 m (646.67')
32+500
STA 32+603.286
50+000
PT STA 49+923.289
STA. 32+772.290 RELOCATED U.S. 30
STA. 50+012.326 RELOCATED NAZOR ROAD
MATCHLINE B
49+500
PC STA 49+809.991
N 37°14'14" W
56.840 m (186.48')
N 26°25'05" W
℄ R/W NAZOR ROAD, ESTABLISHED BY ROAD OCCUPATION
RELOCATED NAZOR ROAD CURVE DATA
PI STA. 49+866.809
Δ =10°49'09" RT.
R=600.000 m (1968.50')
T=56.818 m (186.41')
L=113.298 m (371.71')
E=2.684 m (8.81')
CH-N 31°49'39" W
LC=113.130 m (371.16')
PT STA 49+753.151
RELOCATED NAZOR ROAD CURVE DATA
PI STA. 49+696.671
Δ =10°49'09" LT.
R=600.000 m (1968.50')
T=56.818 m (186.41')
L=113.298 m (371.71')
E=2.684 m (8.81')
CH-N 31°49'39" W
LC=113.130 m (371.16')
PC STA 49+639.853
N 26°25'05" W
49+500
MATCHLINE B
JEFFERSON TOWNSHIP
JACKSON TOWNSHIP
103
102
101
100
99
98
97
96
95
94
93
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
6 EXISTING MONUMENT NUMBER
SEE SHEET 3/86 FOR EXISTING MONUMENT SUMMARY.
THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
TAX MAPS
EXISTING MONUMENTS
CRAWFORD COUNTY ENGINEER
ROADWAY OCCUPATION
BASIS FOR BEARING AND PROJECT ADJUSTMENT FACTOR (PAF)
THE PROJECT (SURFACE LEVEL) ADJUSTED OHIO STATE PLANE CO-ORDINATE VALUES ARE RELATIVE TO NAD 83 (1995) OHIO STATE PLANE GRID DATUM BY A PROJECT ADJUSTMENT FACTOR (PAF). THE PAF IS 1.00009915983. THE FACTOR WAS DERIVED FROM A GPS SURVEY MADE IN 1997 BY McCOY/FOK ASSOCIATES.
THE PROJECT BEARINGS AND PAF ARE REFERENCE TO OHIO STATE PLANE GRID, NORTH ZONE, ESTABLISHED USING NAD 83 STATE PLANE CO-ORDINATES (HARN, ORDER B) OF NGS MONUMENTS 17GA, ARP MFD, GQQA, AND WACHS.



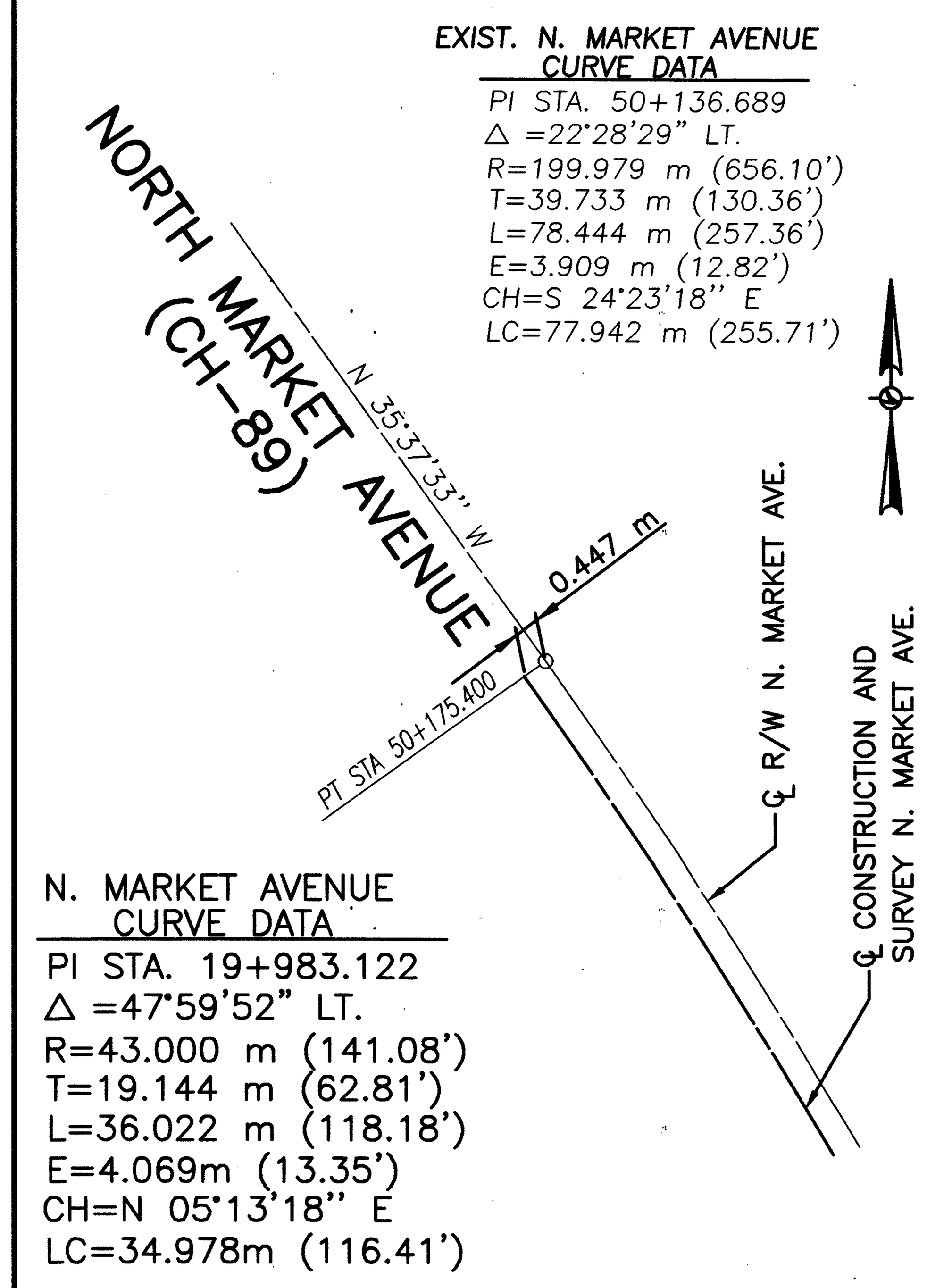
DETAIL 'A'

SEE SHEET 7 OF 11



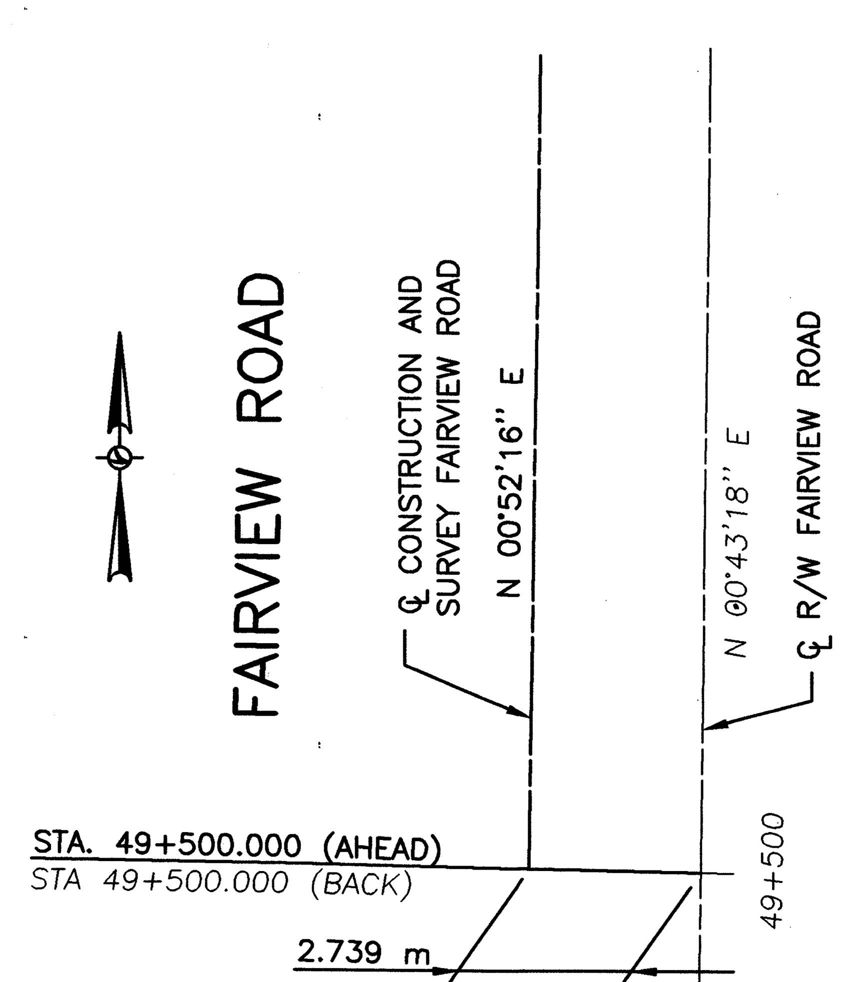
DETAIL 'B'

SEE SHEET 7 OF 11



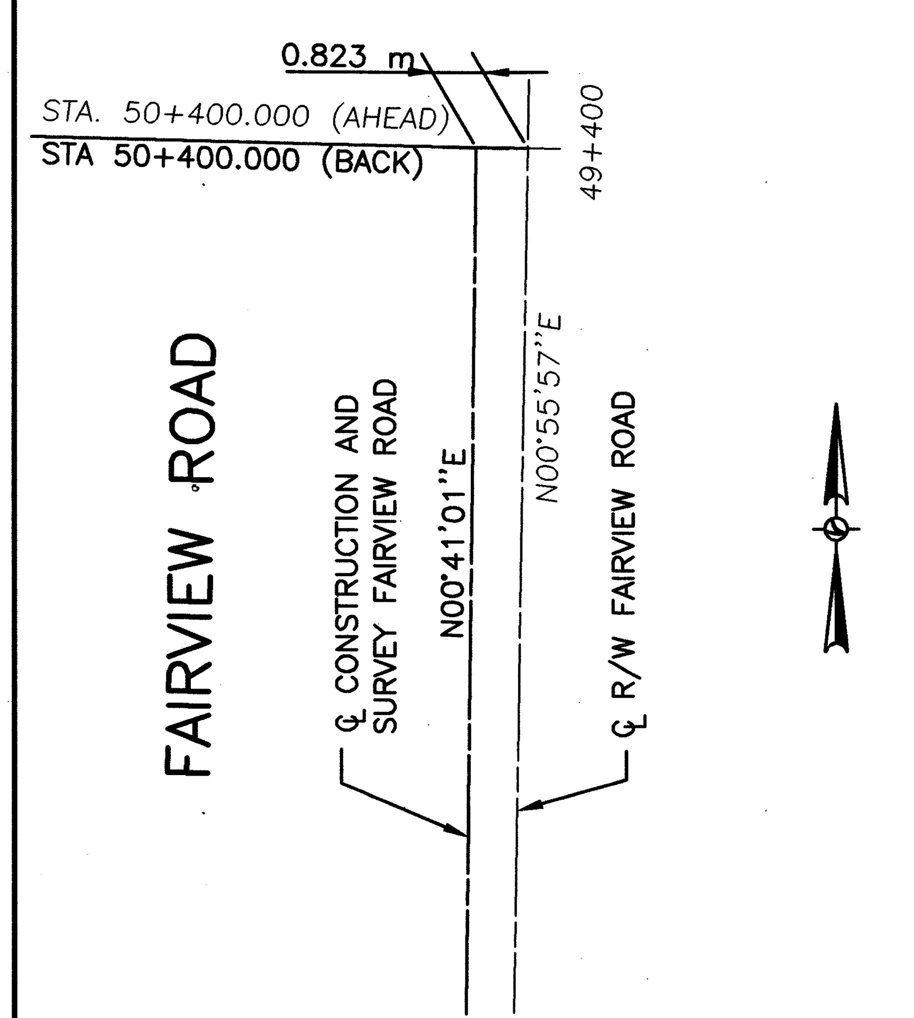
DETAIL 'C'

SEE SHEET 8 OF 11



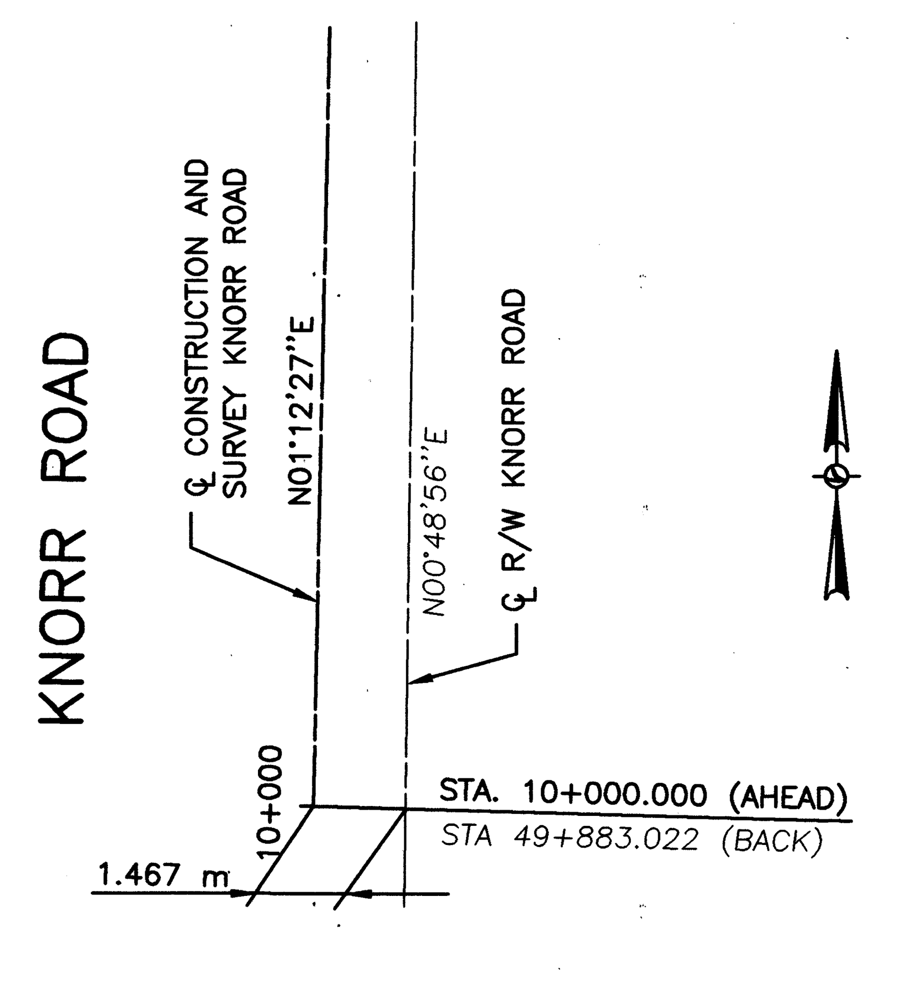
DETAIL 'D'

SEE SHEET 9 OF 11



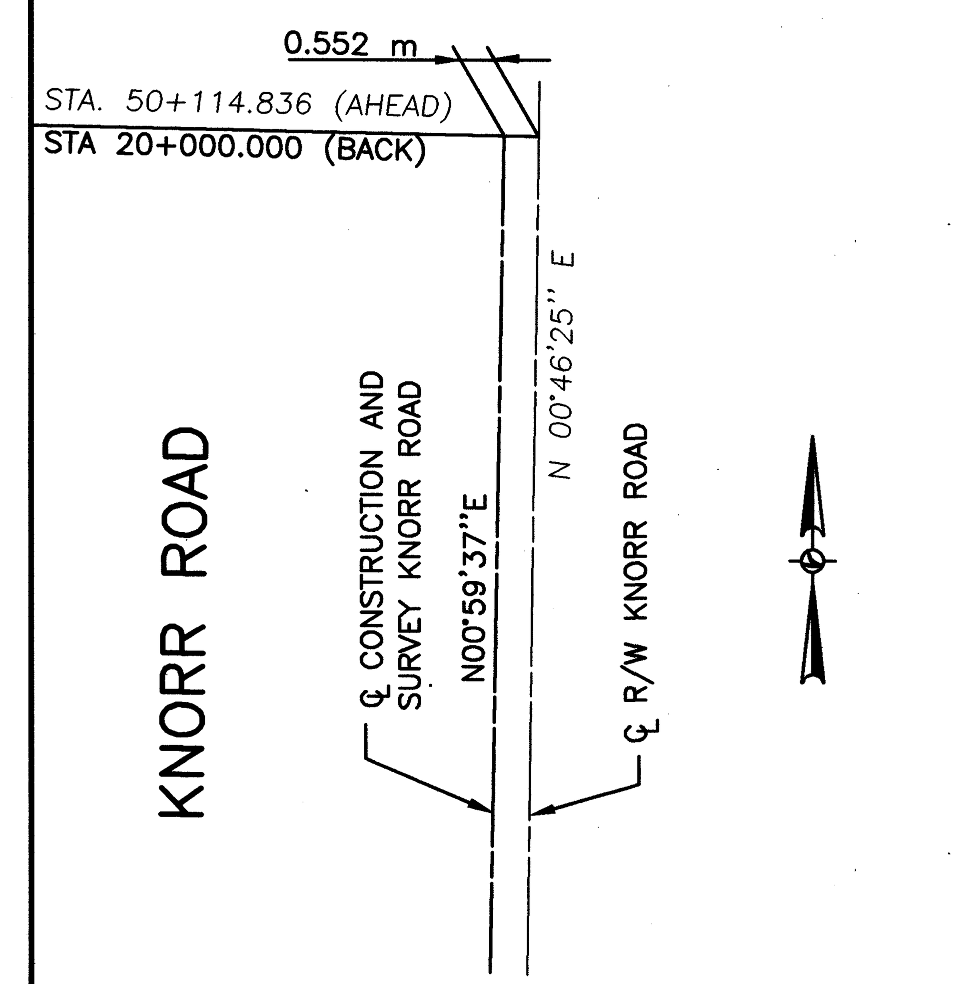
DETAIL 'E'

SEE SHEET 9 OF 11



DETAIL 'F'

SEE SHEET 9 OF 11



DETAIL 'G'

SEE SHEET 9 OF 11

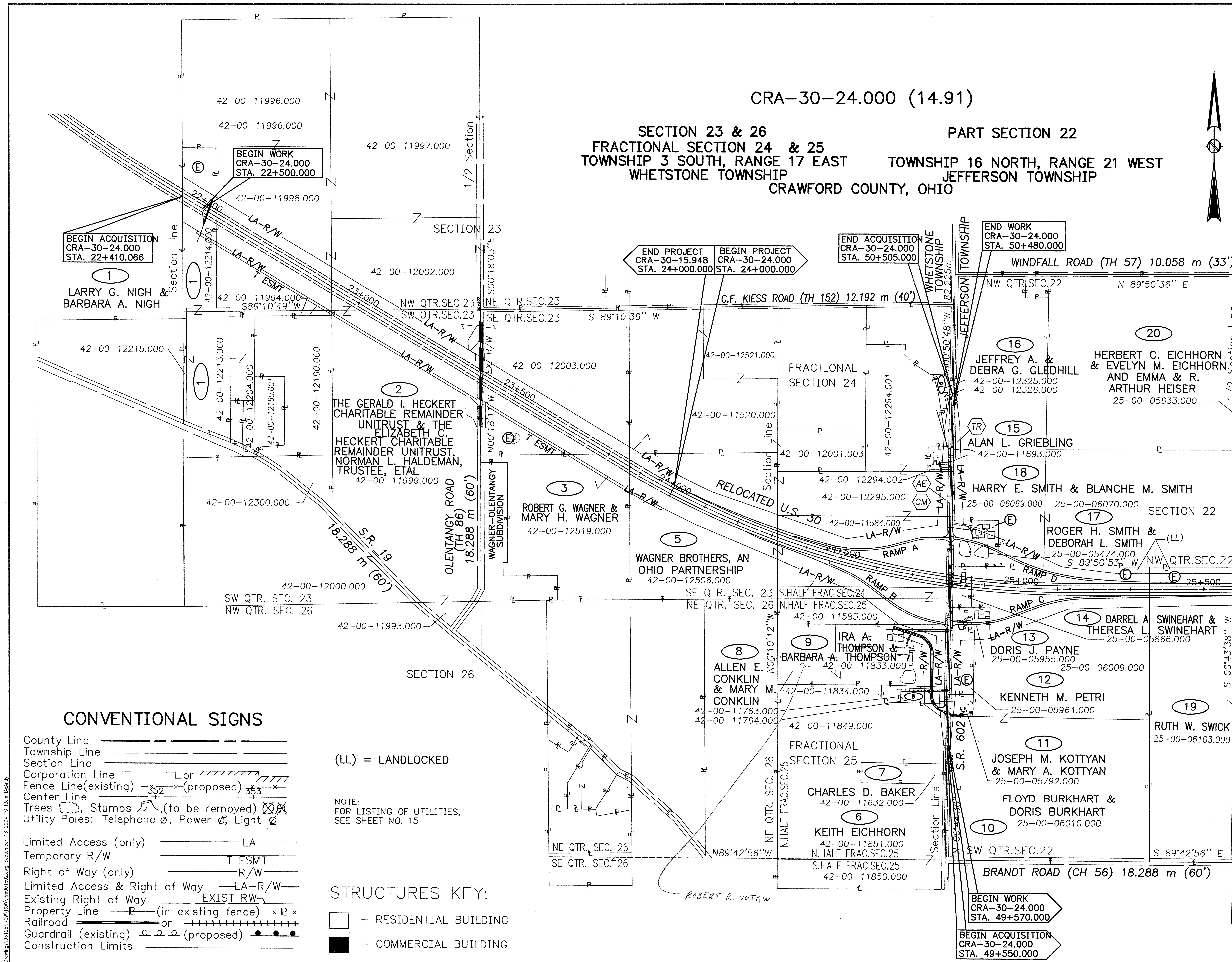
metric units

1:50 HORIZONTAL SCALE IN METERS

P.I.D. NO. 16283

CENTERLINE PLAT

CRA-30-24.000 (14.91)



REV. DATE	DESCRIPTION
12-21-01	REVISE PARCEL 2E TO 2E-1
12-03-01	OWNER NAME PAR. 9
9/19/04	ADD PARCELS 1-T, 2-T 2-T-1, 3-T, 5-T-1
10/4/01	REVISE PARCEL 2WV-1
9/18/01	ADDED PARCEL 2E
8/1/01	ADDED NORTH LINE OF PPN. 42-00-12001.003

DATE OF COMPLETION 08-31-00

PID NO. 16283

PROPERTY MAP

CRA-30-24.000 (14.91)

12/86

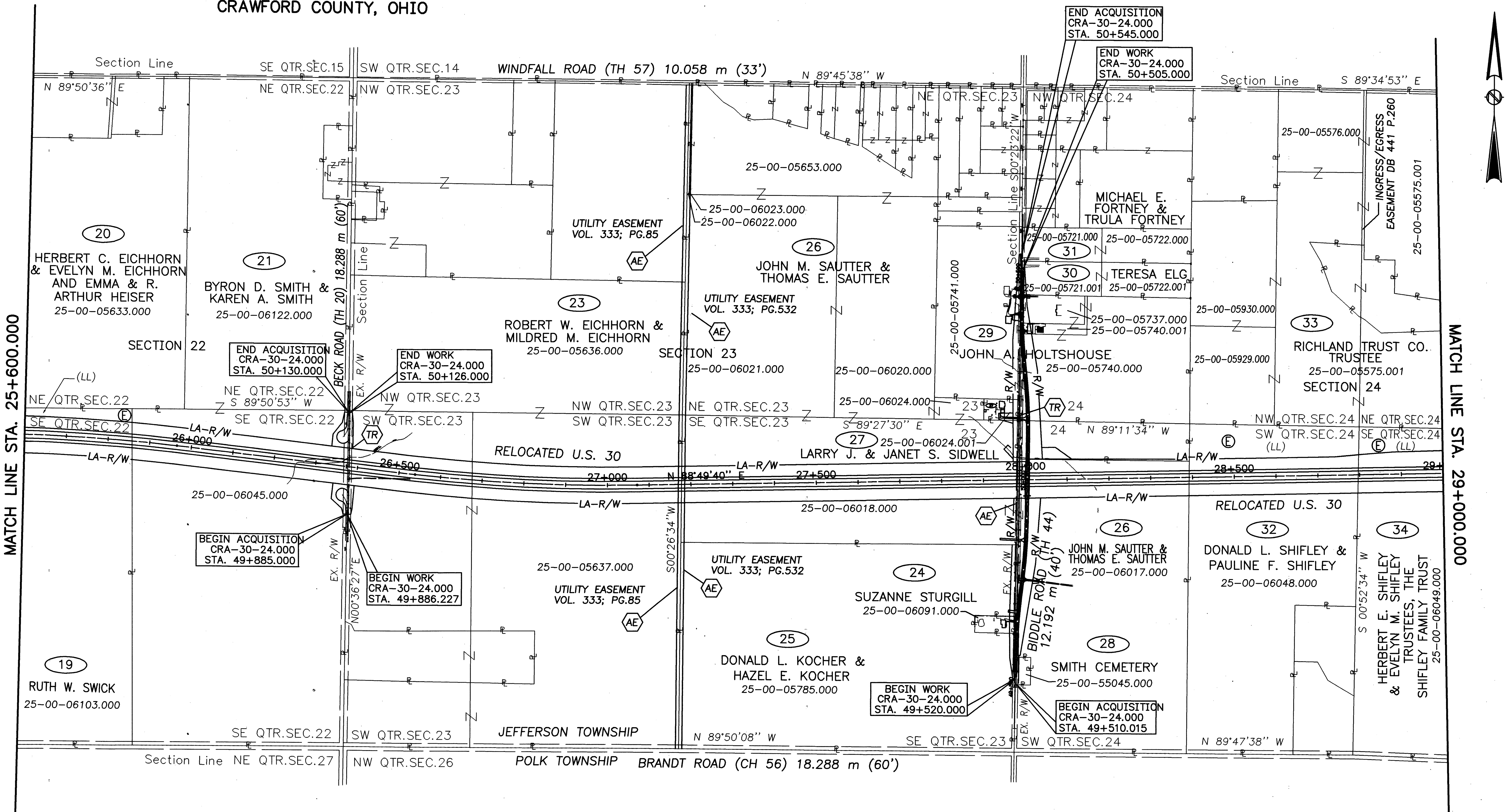
603/677

CRA-30-24.000 (14.91)


CRA-30-24.000 (14.91)
SECTION 23 & 26
FRACTIONAL SECTION 24 & 25
TOWNSHIP 3 SOUTH, RANGE 17 EAST
WHETSTONE TOWNSHIP
PART SECTION 22
TOWNSHIP 16 NORTH, RANGE 21 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO
BEGIN WORK CRA-30-24.000 STA. 22+500.000
BEGIN ACQUISITION CRA-30-24.000 STA. 22+410.066
END PROJECT CRA-30-15.948 STA. 24+000.000
BEGIN PROJECT CRA-30-24.000 STA. 24+000.000
END ACQUISITION CRA-30-24.000 STA. 50+505.000
END WORK CRA-30-24.000 STA. 50+480.000
BEGIN WORK CRA-30-24.000 STA. 49+570.000
BEGIN ACQUISITION CRA-30-24.000 STA. 49+550.000
LARRY G. NIGH & BARBARA A. NIGH
GRANGER E. & MARIA JESUS ABGIOL ALIAD HALL
THE GERALD I. HECKERT CHARITABLE REMAINDER UNITRUST & THE ELIZABETH C. HECKERT CHARITABLE REMAINDER UNITRUST. NORMAN L. HALDEMAN, TRUSTEE, ETAL
ROBERT G. WAGNER & MARY H. WAGNER
WAGNER BROTHERS
WAGNER BROTHERS, AN OHIO PARTNERSHIP
JEFFREY A. & DEBRA G. GLEDHILL
HERBERT C. EICHHORN & EVELYN M. EICHHORN AND EMMA & R. ARTHUR HEISER
ALAN L. GRIEBLING
HARRY E. SMITH & BLANCHE M. SMITH
ROGER H. SMITH & DEBORAH L. SMITH
DARREL A. SWINEHART & THERESA L. SWINEHART
IRA A. THOMPSON & BARBARA A. THOMPSON
DORIS J. PAYNE
ALLEN E. CONKLIN & MARY M. CONKLIN
KENNETH M. PETRI
RUTH W. SWICK
JOSEPH M. KOTTYAN & MARY A. KOTTYAN
CHARLES D. BAKER
FLOYD BURKHART & DORIS BURKHART
KEITH EICHHORN
WINDFALL ROAD (TH 57) 10.058 m (33')
C.F. KIESS ROAD (TH 152) 12.192 m (40')
RELOCATED U.S. 30
OLENTANGY ROAD (TH 86) 18.288 m (60')
S.R. 19 18.288 m (60')
S.R. 602
BRANDT ROAD (CH 56) 18.288 m (60')
MATCH LINE STA. 25+600.000
CONVENTIONAL SIGNS
County Line
Township Line
Section Line
Corporation Line
Fence Line(existing) (proposed)
Center Line
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light
Limited Access (only) LA
Temporary R/W T ESMT
Right of Way (only) R/W
Limited Access & Right of Way LA-R/W
Existing Right of Way EXIST RW
Property Line (in existing fence)
Railroad
Guardrail (existing) (proposed)
Construction Limits
(LL) = LANDLOCKED
NOTE: FOR LISTING OF UTILITIES, SEE SHEET NO. 15
STRUCTURES KEY:
- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING
HORIZONTAL SCALE IN METERS
PID NO. 16283
PROPERTY MAP
CRA-30-24.000 (14.91)
REV. DATE DESCRIPTION
DATE OF COMPLETION 02-08-05
12A/86
603A
677

CRA-30-24.000 (14.91)

SECTION 22, 23 & 24
TOWNSHIP 16 NORTH, RANGE 21 WEST
JEFFERSON TOWNSHIP
CRAWFORD COUNTY, OHIO



STRUCTURES KEY:

☐ - RESIDENTIAL BUILDING

■ - COMMERCIAL BUILDING

(LL) = LANDLOCKED

NOTE:
FOR LISTING OF UTILITIES,
SEE SHEET NO. 15

REV. DATE	DESCRIPTION
8/01/01	REVISED QTR. SEC. 22 & 23 DIRECTIONAL CALLOUTS
4/11/01	28WV ADDED
12/22/00	32WL,32E,34E & 34WL CHANGED

DATE OF COMPLETION 08-31-00

HORIZONTAL SCALE IN METERS 0 125 250

P.I.D. NUMBER 16283

PROPERTY MAP

CRA-30-24.000 (14.91)

13/86

604
677

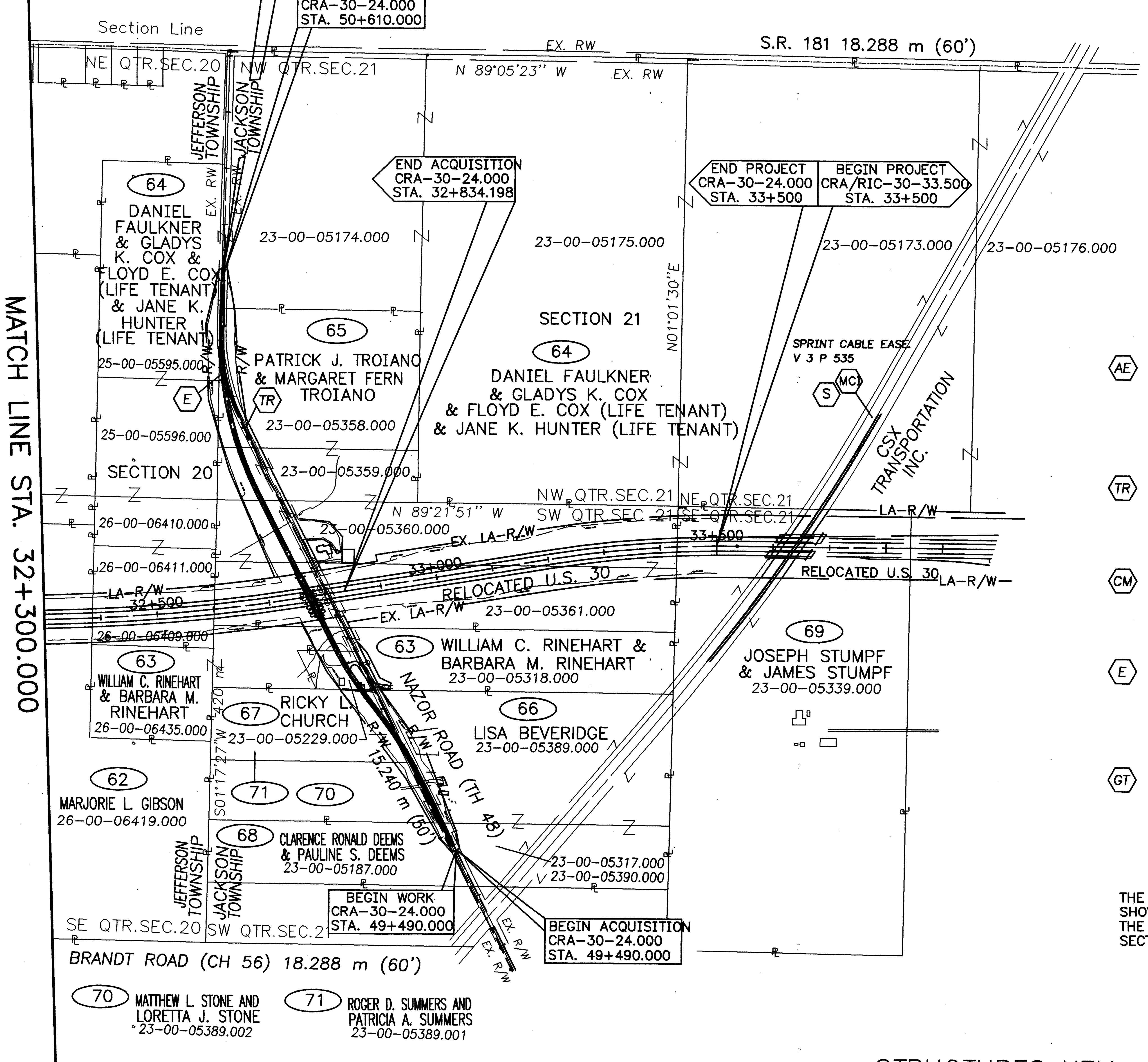
CRA-30-24.000 (14.91)

CRA-30-24.000 (14.91)

SECTION 20
TOWNSHIP 20 NORTH, RANGE 20 WEST
JEFFERSON TOWNSHIP

SECTION 21 & 22
TOWNSHIP 20 NORTH, RANGE 20 WEST
JACKSON TOWNSHIP

CRAWFORD COUNTY, OHIO



UTILITY OWNERS

(AE) American Electric Power
(fka Ohio Power Company)
2738 N. Main Street
P.O. Box 944
Findlay, Ohio 45839
Phone: 419-449-3617

(TR) GTE Telephone Operations
83 Townsend Avenue
Norwalk, Ohio 44857
Phone: 419-744-3619

(CM) Media One Cable
3157 Fern Road
Willard, Ohio 44890
Phone: 419-465-4661

(E) Ohio Edison Company,
Mansfield Division
1717 Ashland Road
Mansfield, Ohio 44905
Phone: 419-521-6188

(GT) Columbia Gas Transmission
3151 Lincoln Way East
Regional Division CORP.
P.O. BOX 758
Wooster, Ohio 44691
Phone: 330-287-6630

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 O.R.C.

STRUCTURES KEY:

☐ - RESIDENTIAL BUILDING

■ - COMMERCIAL BUILDING

(LL) = LANDLOCKED

REV.	DATE	DESCRIPTION
9-11-01	LBD	REVISED PARCEL 64 OWNER NAME
8-01-01	PKM	REVISED PARCEL 64 OWNER NAME
7-17-01	PKM	DRIVE & TAKE ON PARCEL 63 ADDED

DATE OF COMPLETION 08-31-00

HORIZONTAL SCALE IN METERS 0 125 250

P.I.D. NUMBER 16283

PROPERTY MAP

CRA-30-24.000 (14.91)

15/86

606/677

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE SHOWN.

NET RESIDUE= RECORD AREA− TOTAL PRO− NET TAKE

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-WL	LARRY G. NIGH & BARBARA A. NIGH	42-00-12214.000	28-29	340	669	4.0914	0	1.1311	0	1.1311	YES, P			FED/STATE	REMOVE FENCE	490	272
						(10.1100)	0	(2.7950)	0	(2.7950)							
		42-00-12213.000		340	669	3.4864	0.1174	0	0	0							
						(8.6150)	(0.2901)	0	0	0							
		42-00-12215.000		340	669	0.2444	0.0090	0	0	0							
						(0.6039)	(0.0222)	0	0	0					Sold to Wagner Bros. 3/21/2008	490	276
1-E		42-00-12214.000				0	0	0.9816	0	0.9816							
						0	0	(2.4255)	0	(2.4255)							
				GRAND	TOTAL	7.8222	0.1264	2.1127	0	2.1127			5.5831				
						(19.3289)	(0.3123)	(5.2205)	0	(5.2205)			(13.7961)				
1-T		42-00-12214.000						0.0445		0.0445					ACCESS AND DITCH GRADING PURPOSES		
								(0.1100)		(0.1100)							
2-WL	THE GERALD I. HECKERT CHARITABLE REMAINDER	42-00-11994.000	28-34	256 482 467	309 424 777	0.2412	0	0.0004	0	0.0004			0.2408			707	574
	UNITRUST & THE ELIZABETH C. HECKERT					(0.5960)	0	(0.0009)	0	(0.0009)			(0.5951)				
	CHARITABLE REMAINDER UNITRUST. NORMAN L.	42-00-11998.000		441 482 467	903 424 777	13.9172	0	3.8494	0	3.8494		8.2000	1.8678				
	HALDEMAN, TRUSTEE ETAL					(34.3900)	0	(9.5120)	0	(9.5120)		(20.2626)	(4.6154)				
		42-00-11999.000		441 482 467	903 424 777	45.2076	1.0367	3.8111	0.1069	3.7042		1.1233	39.0227		NET RESIDUE=40.4667 − 0.1303 − 0.1904 − 1.1233		
						(111.7100)	(2.5617)	(9.4174)	(0.2641)	(9.1533)		(2.7757)	(96.4268)				
		42-00-12002.000		441 482 467	903 424 777	10.1172	0.2298	1.1873	0	1.1873		8.7001					
						(25.0000)	(0.5678)	(2.9339)	0	(2.9339)		(21.4983)					
		42-00-12003.000		256 482 467	309 424 777	16.1875	0.6076	3.9868	0.1069	3.8799		9.9488			NET RESIDUE=11.7000 − 0.0000 − 0.0276 − 1.7236		
						(40.0000)	(1.5014)	(9.8516)	(0.2641)	(9.5875)		(24.5839)					
				TOTAL 2-WL				12.8350	0.2138	12.6212							
								(31.7158)	(0.5282)	(31.1876)							
2-WV		42-00-12003.000	32					0.0814	0.0814	0					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	707	581
								(0.2011)	(0.2011)	0					CRAWFORD COUNTY		
		42-00-11999.000						0.2066	0.0763	0.1303					NET RESIDUE INCLUDED IN 2-WL		
								(0.5106)	(0.1886)	(0.3220)							
				TOTAL 2-WV				0.2880	0.1577	0.1303							
								(0.7117)	(0.3897)	(0.3220)							
2-WV-1		42-00-12003.000	32					0.1638	0.1362	0.0276					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	707	593
								(0.4048)	(0.3365)	(0.0682)					CRAWFORD COUNTY		
		42-00-11999.000						0.3323	0.1419	0.1904					NET RESIDUE INCLUDED IN 2-WL		
								(0.8211)	(0.3506)	(0.4705)							
				TOTAL 2-WV-1				0.4961	0.2781	0.2180							
								(1.2259)	(0.6873)	(0.5387)							
		42-00-12003.000		441	903	0.2023	0.1015	0	0	0		0.1008					
						(0.5000)	(0.2508)	0	0	0		(0.2492)					
		42-00-11996.000		441	903	14.3664	0	0	0	0		14.3064					
						(35.5000)	0	0	0	0		(35.5000)					
		42-00-11997.000		331	456	22.2578	0.4986	0	0	0		21.7592					
						(55.0000)	(1.2321)	0	0	0		(53.7679)					
		42-00-12000.000		441	903	1.8211	0.1392	0	0	0		1.6819					
				441	903	(4.5000)	(0.3440)	0	0	0		(4.1560)					
2-E-1		42-00-12003.000	32-33					1.7236	0	1.7236						707	587
								(4.2591)	0	(4.2591)							
				GRAND	TOTAL	124.3183	2.6134	15.3427	0.6496	14.6931		65.8805	41.1313		107.0118 GRAND TOTAL NET RESIDUE		
						(307.1959)	(6.4578)	(37.9125)	(1.6052)	(36.3373)		(162.7936)	(101.6373)		(264.4309) GRAND TOTAL NET RESIDUE		
2-T		42-00-11998.000						0.2481		0.2481					ACCESS AND DITCH GRADING PURPOSES		
								(0.6131)		(0.6131)							
		42-00-11994.000						0.0088		0.0088							
								(0.0217)		(0.0217)							
		42-00-11999.000						0.3006		0.3006							
								(0.7428)		(0.7428)							
2-T-1		42-00-12003.000						0.1871		0.1871					ACCESS AND DITCH GRADING PURPOSES		
								(0.4623)		(0.4623)							
3-WL	ROBERT G. WAGNER & MARY H. WAGNER	42-00-12519.000	33-34	298	81	12.5380	0.0185	0.7719	0	0.7719			11.7476			707	599
						(30.9820)	(0.0457)	(1.9073)	0	(1.9073)			(29.0288)				
3-WL-1		42-00-12520.000	34	298	81	12.1406	0.1247	0.0314	0	0.0314		11.9845				707	603
						(30.0000)	(0.3081)	(0.0776)	0	(0.0776)		(29.6142)					
		42-00-12521.000		298	81	4.0469	0.1242	0	0	0		3.9227					
						(10.0000)	(0.3069)	0	0	0		(9.6931)					
		42-00-12001.003		396	702	2.5912	0	0	0	0		2.5912					
						(6.4030)	0	0	0	0		(6.4030)					
				GRAND	TOTAL	31.3167	0.2674	0.8033	0	0.8033		18.4984	11.7476				
						(77.3850)	(0.6607)	(1.9849)	0	(1.9849)		(45.7103)	(29.0288)				
3-T		42-00-12519.000						0.1353		0.1353					ACCESS AND DITCH GRADING PURPOSES		
								(0.3343)		(0.3343)							
5-WLR	WAGNER BROTHERS, AN OHIO PARTNERSHIP	42-00-11583.000	34-39,75	401	324	4.0198	0.0774	1.4596	0.0774	1.3822			2.5046		NET RESIDUE = 2.5602 − 0.0556		
						(9.9330)	(0.1913)	(3.6068)	(0.1913)	(3.4155)			(6.1890)		O.R. 717 Pg 35		
		42-00-11584.000		401	306	10.0593	0.1953	7.6478	0.1953	7.4525		1.0521	1.3594				
						(24.8570)	(0.4826)	(18.8980)	(0.4826)	(18.4154)		(2.5998)	(3.3591)				
		42-00-12294.002		423	469	0.0324	0.0046	0.0139	0.0046	0.0093		0.0185					
						(0.0800)	(0.0114)	(0.0343)	(0.0114)	(0.0229)		(0.0457)					
		42-00-12295.000		401	324	6.3839	0.1242	0.4649	0.1242	0.3407		5.9190					
						(15.7750)	(0.3069)	(1.1488)	(0.3069)	(0.8419)		(14.6261)					
		42-00-12506.000		401	312	16.1875	0	4.6102	0	4.6102		3.5462	8.0311				
						(40.0000)	0	(11.3920)	0	(11.3920)		(8.7628)	(19.8452)				
				TOTAL 5-WL				14.1964	0.4015	13.7949							
								(35.0799)	(0.9922)	(34.0877)				FED/STATE			

REV.	DATE	DESCRIPTION
JEK	12-21-01	REVISE PARCEL 2E TO 2-E-1
LBD	9-21-04	ADD PARCEL 1-T, 2-T, 2-T-1, 3-T
LBD	10-4-01	REVISED PARCEL 2-WV-1
PKM	8-01-01	ADD PARCEL 2E
LBD	8-28-01	REVISED NET RESIDUE PAR. 5
PKM	8-01-01	REVISED PPN ON 3-WL-1
PKM	8-01-01	ADDED 1-E ACREAGE
PKM	12-22-00	NET RESIDUE REVISIONS - 1E
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED

DATE OF COMPLETION 08-31-00

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

"4" NOT USED

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

16/86

607/677

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CRA-30-24.000 (14.91)

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE SHOWN.

NET RESIDUE= RECORD AREA− TOTAL PRO− NET TAKE

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1A−T	LARRY G. NIGH & BARBARA A. NIGH	42−00−12214.000	28A−30A	340	669	1.9787	0	0.0445	0	0.0445	YES, P		1.9787	FED/STATE	REMOVE FENCE		
		—	-			(4.8895)	0	(0.1100)	0	(0.1100)			(4.8895)		GRADING PURPOSES		
		42−00−11994.001	-	490	855	0.5690	0	0.0088	0	0.0088			0.5690				
						(1.4060)	0	(0.0217)	0	(0.0217)			(1.4060)				
		42−00−11998.001		490	855	2.7907	0	0.2482	0	0.2482			2.7907				
						(6.8960)	0	(0.6133)	0	(0.6133)			(6.8960)				
		42−00−11683.000		460	982	0.7855	0						0.7855				
						(1.9410)	0						(1.9410)				
		42−00−11684.001		460	982	0.7770	0						0.7770				
						(1.9200)	0						(1.9200)				
		42−00−12213.000		340	669	3.4864	0.0632						3.4232				
						(8.6150)	(0.1562)						(8.4588)				
		42−00−12215.000		340	669	0.2444	0.0090						0.2354				
						(0.6040)	(0.0222)						(0.5818)				
		42−00−11841.001		436	336	1.3152	0						1.3152				
						(3.2500)	0						(3.2500)				
	TOTAL 1A−T							0.3015	0	0.3015							
								(0.7450)	0	(0.7450)							
	GRAND TOTAL					11.9469	0.0722						11.8747				
						(29.5215)	(0.1784)						(29.3431)				
2A−T	THE GERALD I. HECKERT CHARITABLE REMAINDER	42−00−11999.000	30A−32A	482	424	24.9335	0.6903	0.3005	0	0.3005		1.1917	23.0515		GRADING PURPOSES		
	UNITRUST & THE ELIZABETH C. HECKERT			467	777	(61.6119)	(1.7058)	(0.7425)	0	(0.7425)		(2.9447)	(56.9614)				
	CHARITABLE REMAINDER UNITRUST. NORMAN L.	42−00−11993.000				0.6296 C	0.1894						0.4402		RECORD AREA = 0.5 AC.		
	HALDEMAN, TRUSTEE ETAL					(1.5557)	(0.4679)						(1.0878)				
	GRAND TOTAL					25.5631	0.8797					1.1917	23.4917		TOTAL NET RESIDUE = 24.6834 (60.9939).		
						(63.1676)	(2.1737)					(2.9447)	(58.0492)				
3A−T	ROBERT G. WAGNER & MARY H. WAGNER	42−00−12519.000	33A−34A	298	81	11.7659	0	0.1353	0	0.1353			11.7659		GRADING PURPOSES		
						(29.0740)	0	(0.3343)	0	(0.3343)			(29.0740)				
		42−00−12507.000		472	695	12.0192	0.2679						11.7513				
						(29.7000)	(0.6620)						(29.0380)				
		42−00−12508.000		472	695	8.9626	0.2681						8.6945				
						(22.1470)	(0.6625)						(21.4845)				
	GRAND TOTAL					32.7477	0.5360						32.2117				
						(80.9210)	(1.3245)						(79.5965)				
4A−T	WAGNER BROTHERS, AN OHIO PARTNERSHIP	42−00−12003.002	32A−33A	717	51	1.7236	0	0.1871	0	0.1871			1.7236		GRADING PURPOSES		
						(4.2591)	0	(0.4623)	0	(0.4623)			(4.2591)				
5A−T	WAGNER BROTHERS, AN OHIO PARTNERSHIP	42−00−12506.000	34A−39A	401	324	11.5773	0	0.0728	0	0.0728		3.5462	8.0311		GRADING PURPOSES		
						(28.6080)	0	(0.1799)	0	(0.1799)		(8.7628)	(19.8452)				
		42−00−11583.000		401	316	2.5376	0						2.5376				
						(6.2706)	0						(6.2706)				
		42−00−11584.000		401	316	2.4115	0					1.0521	1.3594				
						(5.9590)	0					(2.5998)	(3.3592)				
						16.5264	0					4.5983	11.9281		TOTAL NET RESIDUE = 16.5264 (40.8376)		
						(40.8376)	0					(11.3626)	(29.4750)				
														FED/STATE			

REV.	DATE	DESCRIPTION
JEK	2/11/05	ADDED NET RESIDUE AREAS
JEK	2/11/05	ADDED CONTIGUOUS APN'S
	2/8/05	ADDED PARCELS 1A−T, 2A−T, 3A−T, 4A−T & 5A−T

DATE OF COMPLETION 02−08−05

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

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1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA−30−24.000 (14.91)

16A/86

607/677

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CRA−30−24.000 (14.91)

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GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
STATE OF OHIO UNLESS OTHERWISE SHOWN.

NET RESIDUE= RECORD AREA– TOTAL PRO– NET TAKE

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
5-WDR		42-00-12294.001	75	418	271	6.2767	0	0.0159	0	0.0159		6.2608		FED/STATE		717	40
						(15.5100)	0	(0.0392)	0	(0.0392)		(15.4707)					
5-WVR		42-00-11583.000	39	418	271			0.0556	0	0.0556					RIGHT-OF-WAY TO BE PURCHASED IN NAME OF GRANTEE,	717	44
								(0.1374)	0	(0.1374)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 5-WL		
				GRAND TOTAL		42.9596	0.4015	14.2679	0.4015	13.8664		16.7966	11.8951				
						(106.1550)	(0.9922)	(35.2565)	(0.9922)	(34.2643)		(41.5051)	(29.3933)				
5-T		42-00-12294.001	75					0.0320		0.0320					CONSTRUCT DRIVEWAY	717	48
								(0.0791)		(0.0791)							
5-T-1		42-00-12506.000						0.0728		0.0728					ACCESS AND DITCH GRADING PURPOSES		
								(0.1799)		(0.1799)							
6-WD	KEITH EICHHORN	42-00-11849.000	74	374	209	3.2148	0.0473	0.0972	0.0473	0.0499						488	657
						(7.9440)	(0.1169)	(0.2402)	(0.1169)	(0.1233)							
		42-00-11851.000		374	209	16.8593	0.2873	0.0671	0.0491	0.0180							
						(41.6600)	(0.7099)	(0.1658)	(0.1213)	(0.0445)							
				TOTAL 6-WD				0.1643	0.0964	0.0679							
								(0.4060)	(0.2382)	(0.1678)							
6-WV		42-00-11849.000	74					0.0435	0	0.0435						488	661
								(0.1076)	0	(0.1076)					CONSTRUCT SERVICE ROAD		
		42-00-11850.000		374	209	3.6422	0.0848	0	0	0					RIGHT-OF-WAY TO BE ACQUIRED IN THE NAME OF GRANTEE,		
						(9.0000)	(0.2095)	0	0	0					CRAWFORD COUNTY		
				GRAND TOTAL		23.7163	0.4194	0.2078	0.0964	0.1114		23.1855					
						(58.6040)	(1.0363)	(0.5136)	(0.2382)	(0.2754)		(57.2923)					
7	CHARLES D. BAKER	42-00-11632.000	12	406	52	0.9784									NO RIGHT-OF-WAY REQUIRED		
						(3.2100)											
8-WL	ALLEN E. CONKLIN & MARY M. CONKLIN	42-00-11763.000	74	247	308	0.3144	0.0056	0.0147	0.0056	0.0091						489	336
						(0.7770)	(0.0138)	(0.0364)	(0.0138)	(0.0226)							
		42-00-11764.000		347	500	0.5095	0.0362	0.0582	0.0230	0.0352							
						(1.2590)	(0.0894)	(0.1438)	(0.0568)	(0.0870)							
				TOTAL 8-WL				0.0729	0.0286	0.0443							
								(0.1802)	(0.0707)	(0.1095)							
8-WD		42-00-11764.000	74					0.0318	0.0132	0.0186						489	332
								(0.0786)	(0.0326)	(0.0460)							
8-WV		42-00-11763.000	74					0.0246	0	0.0246					RECONSTRUCT EXISTING DRIVE & CONSTRUCT SERVICE ROAD	489	340
								(0.0608)	0	(0.0608)					RIGHT-OF-WAY TO BE ACQUIRED IN THE NAME OF GRANTEE,		
		42-00-11764.000						0.1595	0	0.1595					CRAWFORD COUNTY		
								(0.3941)	0	(0.3941)							
				TOTAL 8-WV				0.1841	0	0.1841							
								(0.4549)	0	(0.4549)							
				GRAND TOTAL		0.8239	0.0418	0.2888	0.0418	0.2470		0.5351					
						(2.0360)	(0.1032)	(0.7137)	(0.1032)	(0.6105)		(1.3223)					
9-WL	~~IRA A. THOMPSON & BARBARA A. THOMPSON~~	42-00-11833.000	39,74	~~418~~	~~534~~	5.1064	0.1507	0.5377	0.1507	0.3870	P				RECONSTRUCT DRIVE TO SERVICE ROAD AND REMOVE FENCE	OR 702	830
	ROBERT R. VOTAW			485	913	(12.6180)	(0.3724)	(1.3287)	(0.3724)	(0.9563)					ALONG NORTH PROPERTY LINE		
9-WV		42-00-11833.000	39,74					0.7750	0	0.7750					RIGHT-OF-WAY TO BE ACQUIRED IN THE NAME OF GRANTEE,	OR 702	826
								(1.9151)	0	(1.9151)					CRAWFORD COUNTY		
		42-00-11834.000		418	534	2.6098	0	0	0	0							
						(6.4490)	0	0	0	0							
				GRAND TOTAL		7.7162	0.1507	1.3127	0.1507	1.1620		6.4035					
						(19.0670)	(0.3724)	(3.2438)	(0.3724)	(2.8714)		(15.8232)					
9-T		42-00-11833.000						0.0704		0.0704					TO RECONSTRUCT EXISTING DRIVE		
								(0.1740)		(0.1740)							
10-WL	FLOYD BURKHART & DORIS BURKHART	25-00-06009.000	38-41	420	137	16.9621	0	6.3601	0	6.3601	P				REMOVE FENCE		
						(41.9140)	0	(15.7161)	0	(15.7161)							
10-WD		25-00-06010.000	74	420	137	24.6722	0.8587	0.0993	0.0730	0.0263							
						(60.9660)	(2.1219)	(0.2454)	(0.1804)	(0.0650)							
10-E		25-00-06009.000	40-41					0.3209	0	0.3209					LAND LOCKED		
								(0.7930)	0	(0.7930)							
				GRAND TOTAL		41.6343	0.8587	6.7803	0.0730	6.7073			34.0683				
						(102.8800)	(2.1219)	(16.7545)	(0.1804)	(16.5741)			(84.1840)				
11-WL	JOSEPH M. KOTTYAN & MARY A. KOTTYAN	25-00-05792.000	74	267 370 234	479 294 317	0.4168	0.0550	0.0398	0.0183	0.0215	P				REMOVE FENCE 488 212		
						(1.0300)	(0.1359)	(0.0983)	(0.0452)	(0.0531)							
11-WD		25-00-05792.000	74	267 370 234	479 294 317			0.0696	0.0367	0.0329					488 216		
								(0.1720)	(0.0907)	(0.0813)							
				GRAND TOTAL		0.4168	0.0550	0.1094	0.0550	0.0544			0.3074				
						(1.0299)	(0.1359)	(0.2703)	(0.1359)	(0.1344)			(0.7596)	FED/STATE			

JEK 12-03-01 OWNER NAME & REC. PAR. 9

REV.	DATE	DESCRIPTION
LBD	9-21-04	ADD PARCEL 5-T-1
LBD	8-28-01	REVISED NET RESIDUE PAR. 5
PKM	8-01-01	REVISED PARCEL 10-E ACREAGE
PKM	8-01-01	REVISED PARCEL 5 TOTAL NET RESIDUE
PKM	3-27-01	REVISED PARCEL 9-WV & ADDED 9-T
PKM	2-19-01	REVISED PARCEL 11 OWNER RECORD
PKM	12-22-00	NET RESIDUES REVISED - 10E
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED

DATE OF COMPLETION 08-31-00

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NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

FEDERAL PROJECT NO.

PID NO. 16283

STATE JOB NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

17/86

608/677

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CRA-30-24.000 (14.91)

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

metric units

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
12-WL	KENNETH M. PETRI	25-00-05964.000	39, 74	290	536	1.2161*	0.1595	0.5836	0.1595	0.4241				FED/STATE	* CALCULATED AREA, AUDITOR'S PARCEL AREA = 1.2181 ha	490	817
				468	848	(3.0050)	(0.3941)	(1.4421)	(0.3941)	(1.0480)					(3.010 AC.)		
12-E		25-00-05964.000						0.6325	0	0.6325					RESIDUE SOLD TO FLOYD AND DORIS BURKHART	490	822
								(1.5629)	0	(1.5629)							
				GRAND TOTAL		1.2161	0.1595	1.2161	0.1595	1.0566			0				
						(3.0050)	(0.3941)	(3.0050)	(0.3941)	(2.6109)			0				
13-WL	DORIS J. PAYNE	25-00-05955.000	39	422	513	0.7020*	0.0575	0.7020	0.0575	0.6445	YES, P		0		* CALCULATED AREA, AUDITOR'S PARCEL AREA = 0.7082 ha	OR 726	865
				517	519	(1.7346)	(0.1421)	(1.7346)	(0.1421)	(1.5925)			0		(1.750 AC.) DEMOLISH 2 STORY FRAME HOUSE, BARN AND OTHER		
				518	520										OUT BUILDINGS AND FENCE		
14-WL	DARREL A. SWINEHART & THERESA L. SWINEHART	25-00-05866.000	38-39	402	372	0.6781*	0.1019	0.6781	0.1019	0.5762			0		* CALCULATED AREA, AUDITOR'S PARCEL AREA = 0.6799 ha	490	55
						(1.6755)	(0.2518)	(1.6755)	(0.2518)	(1.4237)	YES		0		(1.680 AC.) DEMOLISH BRICK HOUSE WITH ATTACHED GARAGE AND SHED		
15-WL	ALAN L. GRIEBLING	42-00-11693.000	75	448	894	0.4047	0.0569	0.0137	0.0043	0.0094							
						(1.0000)	(0.1406)	(0.0338)	(0.0106)	(0.0232)							
15-WD			75					0.1452	0.0525	0.0927	P				REMOVE FENCE	OR 791	347
								(0.3589)	(0.1297)	(0.2292)							
				GRAND TOTAL		0.4047	0.0569	0.1589	0.0568	0.1021		0.2457					
						(1.0000)	(0.1406)	(0.3927)	(0.1403)	(0.2524)		(0.6070)					
15-T			75					0.0099		0.0099					RECONSTRUCT DRIVE		
								(0.0244)		(0.0244)							
16-WD	JEFFREY A. & DEBRA G. GLEDHILL	42-00-12326.000	75	477	484	0.3966	0.1324	0.2307	0.1258	0.1049							
						(0.9800)	(0.3272)	(0.5700)	(0.3109)	(0.2591)							
		42-00-12325.000				0.2509	0.0488	0	0	0						489	919
						(0.6200)	(0.1206)	0	0	0							
				GRAND TOTAL		0.6475	0.1812	0.2307	0.1258	0.1049		0.3614					
						(1.6000)	(0.4478)	(0.5700)	(0.3109)	(0.2591)		(0.8931)					
17-WL	ROGER H. SMITH & DEBORAH L. SMITH	25-00-05474.000	38	413	885	1.6544	0.1150	1.3808	0.1150	1.2658	YES				DEMOLISH BRICK HOUSE & PONDS TO BE FILLED IN	484	593
						(4.0881)	(0.2842)	(3.4120)	(0.2842)	(3.1278)							
17-E			38					0.2736	0	0.2736	YES				DEMOLISH 1 STORY FRAME GARAGE AND 1 STORY FRAME BARN	484	590
								(0.6760)	0	(0.6760)					(RESIDUE)		
				GRAND TOTAL		1.6544	0.1150	1.6594	0.1150	1.5394		0					
						(4.0881)	(0.2842)	(4.0880)	(0.2842)	(3.8038)		0					
18-WL	HARRY E. SMITH & BLANCHE M. SMITH	25-00-06069.000	38, 75	246	213	18.5792	0.7339	0.4410	0.1783	0.2627	P		16.6794		NET RESIDUE = 17.5826 - 0.6482 - 0.2550	OR 710	54
						(45.9100)	(1.8135)	(1.0900)	(0.4406)	(0.6494)			(41.2155)		REMOVE FENCE		
18-WL-1		25-00-06069.000	38, 40					0.6482	0	0.6482					NET RESIDUE INCLUDED IN 18-WL	OR 710	58
								(1.6018)	0	(1.6018)							
		25-00-06070.000		246	210	16.1875	0	0.0553	0	0.0553		16.1322					
						(40.0000)	0	(0.1366)	0	(0.1366)		(39.8634)					
				TOTAL 18-WL-1				0.7035	0	0.7035							
								(1.7384)	0	(1.7384)							
18-WD		25-00-06069.000	75					0.3880	0.1330	0.2550						OR 710	50
								(0.9588)	(0.3286)	(0.6302)							
				GRAND TOTAL		34.7667	0.7339	1.5325	0.3113	1.2212		16.1322	16.6794				
						(85.9100)	(1.8135)	(3.7869)	(0.7692)	(3.0176)		(39.8634)	(41.2155)				
19-WL	RUTH W. SWICK	25-00-06103.000	41-43	415	143	40.4687	0.4619	4.4696	0	4.4696	P				REMOVE FENCE ON PROPERTY LINE	489	730
				479	131	(100.0000)	(1.1414)	(11.0445)	0	(11.0445)							
19-E		25-00-06103.000	41-43					1.0892	0	1.0892					LAND LOCKED	489	734
								(2.6915)	0	(2.6915)							
				GRAND TOTAL		40.4687	0.4619	5.5588	0	5.5588			34.4480				
						(100.0000)	(1.1414)	(13.7360)	0	(13.7360)			(85.1226)	FED/STATE			

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
SLR	02/12/08	SALE OF PCL 12E
LBD	08/01/01	REV. TOTAL AREAS FOR E PAR. 12&19
MGA	05-04-01	REV. AREAS FOR E PAR. 12,17,& 19
JEK	3-21-01	PPN'S PARCEL 16
PKM	12-22-00	NET RESIDUES REVISED - 19E
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED

DATE OF COMPLETION 08-31-00

CRA-30-24.000 (14.91)

18/86

609
677

L:\DRAWINGS\93125\ROW\SUMSHTS\Rs003-02.dwg November 05 2002 8:03am ByMatt

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
20	HERBERT C. EICHHORN & EVELYN M. EICHHORN	25-00-05633.000	12-13	312	357	27.1464	0							FED/STATE	NO RIGHT OF WAY REQUIRED		
	& EMMA HEISER & R. ARTHUR HEISER			476	572	(67.0800)	0										
21-WL	BYRON D. SMITH & KAREN A. SMITH	25-00-06045.000	43-45	438	666	40.4687	1.2004	4.4498	0.0809	4.3689	P	2.9140	31.7091		REMOVE FENCES	488	[illegible]113
						(100.0000)	(2.9662)	(10.9956)	(0.1999)	(10.7957)		(7.2006)	(78.3546)				
21-WV		25-00-06045.000	45					0.2150	0.0780	0.1370					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	488	4[illegible]8121
								(0.5313)	(0.1927)	(0.3386)					CRAWFORD COUNTY		
21-WV-1		25-00-06045.000	45					0.2044	0.0651	0.1393					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	488	[illegible]8117
								(0.5051)	(0.1609)	(0.3442)					CRAWFORD COUNTY		
		25-00-06122.000		461	071	28.3281	0.2434	0	0	0		28.0847					
						(70.0000)	(0.6015)	0	0	0		(69.3985)					
				GRAND TOTAL		68.7968	1.4438	4.8692	0.2240	4.6452		30.9987	31.7091		NET RESIDUE TOTAL = 62.7078 HA (154.9538)		
						(170.0000)	(3.5677)	(12.0320)	(0.5535)	(11.4785)		(76.5992)	(78.3546)				
22	NOT USED																
23-WL	ROBERT W. EICHHORN & MILDRED M. EICHHORN	25-00-05636.000	45-49	233	263	46.0979	1.1819	2.6392	0.0809	2.5583		28.2140	14.0924		AMERICAN ELECTRIC POWER UTILITY EASEMENT VOL. 333, PG. 85	847	636
						(113.9100)	(2.9205)	(6.5216)	(0.1999)	(6.3217)		(69.7180)	(34.8242)		NET RESIDUE = 42.3577 - 0.0219 - 0.0289		
		25-00-05637.000		312	365	38.5546	0.4568	4.4442	0	4.4442		6.2562	27.3974		NET RESIDUE = 33.6536		
						(95.2700)	(1.1288)	(10.9818)	0	(10.9818)		(15.4593)	(67.7002)				
				TOTAL 23-WL				7.0834	0.0809	7.0025							
								(17.5034)	(0.1999)	(17.3035)							
23-WV		25-00-05636.000	45					0.0999	0.0780	0.0219					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.2469)	(0.1927)	(0.0542)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 23-WL		
23-WV-1		25-00-05636.000	45					0.0940	0.0651	0.0289					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.2323)	(0.1609)	(0.0714)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 23-WL		
				GRAND TOTAL		84.6525	1.6387	7.2773	0.2240	7.0533		34.4702	41.4903		NET RESIDUE TOTAL = 75.9605 (187.7017)		
						(209.1800)	(4.0493)	(17.9825)	(0.5535)	(17.4291)		(85.1774)	(102.5243)				
24-WV	SUZANNE STURGILL	25-00-06091.000	76	452	35	0.4047	0.0249	0.0662	0.0249	0.0413		0.3385			RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	489	48[illegible]483
				451	634	(1.0000)	(0.0615)	(0.1636)	(0.0615)	(0.1021)		(0.8364)			CRAWFORD COUNTY		
25-WV	DONALD L. KOCHER & HAZEL E. KOCHER	25-00-05785.000	76	211	347	40.0640	1.7417	0.1406	0.0665	0.0741					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	489	489423
				471	224	(99.0000)	(4.3038)	(0.3475)	(0.1643)	(0.1832)					CRAWFORD COUNTY		
25-WV-1			76					0.2559	0.1034	0.1525						489	489419
								(0.6323)	(0.2555)	(0.3768)							
				GRAND TOTAL		40.0640	1.7417	0.3965	0.1699	0.2266		38.0957					
						(99.0000)	(4.3038)	(0.9798)	(0.4198)	(0.5600)		(94.1362)					
25-T			76					0.0191		0.0191					CONSTRUCT A DRIVE		
								(0.0472)		(0.0472)							
26-WL	JOHN M. SAUTTER & THOMAS E. SAUTTER	25-00-06017.000	49-54	338	685	32.1564	0.7492	3.6908	0.0537	3.6371		3.0860	23.1331		NET RESIDUE = 27.7701 - 0.4253 - 1.1257	801	205
						(79.4600)	(1.8513)	(9.1201)	(0.1327)	(8.9874)		(7.6256)	(57.1629)		AMERICAN ELECTRIC POWER UTILITY EASEMENT VOL. 333, PG. 532		
		25-00-06018.000		338	685	24.2812	0.1845	7.0719	0.0537	7.0182		8.7586	8.1676		NET RESIDUE = 17.0785 - 0.0787 - 0.0736		
						(60.0000)	(0.4559)	(17.4750)	(0.1327)	(17.3423)		(21.6429)	(13.4753)				
				TOTAL 26-WL				10.7627	0.1074	10.6553							
								(26.5951)	(0.2654)	(26.3297)							
26-WV		25-00-06017.000	52, 76					1.3572	0.2315	1.1257					RECONSTRUCT EXISTING DRIVE		
								(3.3537)	(0.5720)	(2.7817)					NET RESIDUE INCLUDED IN 26-WL		
		25-00-06018.000						0.1445	0.0709	0.0736					FILL SLOPE TO RECONSTRUCT EXISTING DRIVE TO PARCEL 27		
								(0.3571)	(0.1752)	(0.1819)					NET RESIDUE INCLUDED IN 26-WL		
				TOTAL 26-WV				1.5017	0.3024	1.1993					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(3.7108)	(0.7472)	(2.9636)					CRAWFORD COUNTY		
														FED/STATE			

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NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
LBD	8-20-01	REV. PAR. 23 NET RESIDUE
PKM	8-7-01	REV. AREA CALC.'S FOR PARCEL 23
PKM	4-11-01	ADDED PARCEL 25-T
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED

DATE OF COMPLETION 08-31-00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.19)

CRA-30-24.000 (14.91)

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
26-WV-1	JOHN M. SAUTTER & THOMAS E. SAUTTER	25-00-06017.000	52, 77	338	685			0.4851	0.0598	0.4253				FED/STATE	RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	801	205
								(1.1987)	(0.1478)	(1.0509)					CRAWFORD COUNTY NET RESIDUE INCLUDED IN 26-WL		
		25-00-06018.000						0.1386	0.0599	0.0787					NET RESIDUE INCLUDED IN 26-WL		
								(0.3425)	(0.1480)	(0.1945)							
				TOTAL 26-WV-1				0.6237	0.1197	0.5040							
								(1.5412)	(0.2958)	(1.2454)							
		25-00-05653.000		431	777	10.0330	0.0253	0	0	0		10.0077					
						(24.7920)	(0.0625)	0	0	0		(24.7295)					
		25-00-06020.000		380	478	12.2823	0	0	0	0		12.2823					
						(30.3500)	0	0	0	0		(30.3500)					
		25-00-06021.000		380	478	20.2344	0	0	0	0		20.2344					
						(50.0000)	0	0	0	0		(50.000)					
		25-00-06022.000		380	478	0.1335	0.0031	0	0	0		0.1304					
						(0.3300)	(0.0077)	0	0	0		(0.3223)					
		25-00-06023.000		380	478	0.0801	0.0018	0	0	0		0.0783					
						(0.1980)	(0.0045)	0	0	0		(0.1935)					
		25-00-06024.000		380	478	0.5747	0	0	0	0		0.5747					
						(1.4200)	0	0	0	0		(1.4200)					
				GRAND TOTAL		99.7756	0.9639	12.8881	0.5295	12.3586		55.1524	31.3007		NET RESIDUE TOTAL = 86.4531 HA (213.6294)		
						(246.5500)	(2.3819)	(31.8471)	(1.3084)	(30.5387)		(136.2840)	(77.3454)				
26-X			52					0.0369		0.0369					REGRADE CHANNEL		
								(0.0913)		(0.0913)							
26-X-1			52-53					0.1432		0.1432					REGRADE CHANNEL		
								(0.3537)		(0.3537)							
26-T			77					0.1400		0.1400					RECONSTRUCT EXISTING DRIVE AND CONSTRUCT DRIVE		
								(0.3459)		(0.3459)							
26-T-1			76					0.0177		0.0177					FILL SLOPE TO RECONSTRUCT EXISTING DRIVE TO PARCEL 27		
								(0.0437)		(0.0437)							
26-T-2			77					(0.0733)		0.0733					CONSTRUCT DRIVE		
								(0.1811)		(0.1811)							
26-T-3			76					0.0545		0.0545					CONSTRUCT DRIVE		
								(0.1347)		(0.1347)							
27-WV	LARRY J. SIDWELL & JANET S. SIDWELL	25-00-06024.001	77	425	223	0.4371	0.0306	0.0552	0.0306	0.0246		0.3819			RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	490	576 ~~490~~280
						(1.0800)	(0.0756)	(0.1364)	(0.0756)	(0.0608)		(0.9436)			CRAWFORD COUNTY		
27-T			77					0.0686		0.0686					RECONSTRUCT EXISTING DRIVE	490	~~490~~283
								(0.1695)		(0.1695)							
28	SMITH CEMETERY	25-00-55045.000	76	12	152	0.2023									NO RIGHT OF WAY REQUIRED		
						(0.5000)											
29-WV	JOHN A. HOLTSHOUSE	25-00-05737.000	77-78	375	73	1.0441	0.0418	0.1082	0.0418	0.0664			0.9359		RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	837	613
						(2.5800)	(0.1033)	(0.2674)	(0.1033)	(0.1641)			(3.2126)		CRAWFORD COUNTY		
		25-00-05740.000		455	634	10.6392	0.1278	0.8017	0.1278	0.6739			9.8375				
						(26.2900)	(0.3158)	(1.9810)	(0.3158)	(1.6652)			(24.3089)				
		25-00-05740.001		420	728	0.4573	0.0160	0.0505	0.0160	0.0345			0.4068				
						(1.1300)	(0.0395)	(0.1248)	(0.0395)	(0.0853)			(1.0052)				
		25-00-05741.000		455	634	8.5713	0.2546	0.5051	0.2149	0.2902		8.0265					
						(21.1800)	(0.6291)	(1.2481)	(0.5310)	(0.7171)		(19.8338)					
				GRAND TOTAL		20.7119	0.4402	1.4655	0.4005	1.0650		8.0265	11.1802		NET RESIDUE TOTAL = 19.2067 HA (47.4606)		
						(51.1800)	(1.0877)	(3.6213)	(0.9896)	(2.6317)		(19.8338)	(27.6268)				
29-T			78					0.0203		0.0203					TO RECONSTRUCT EXISTING DRIVE AND PARKING LOT		
								(0.0502)		(0.0502)							
29-T-1			78					0.0066		0.0066					TO RECONSTRUCT EXISTING DRIVE		
								(0.0163)		(0.0163)							
29-T-2			78					0.0040		0.0040					TO RECONSTRUCT EXISTING DRIVE		
								(0.0099)		(0.0099)							
29-T-3			78					0.0022		0.0022					TO RECONSTRUCT EXISTING DRIVE		
								(0.0055)		(0.0055)							
30-WV	TERESA ELG	25-00-05721.001	78	459	650	1.5609	0.0493	0.0737	0.0493	0.0244					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	489	~~489~~746
						(3.8570)	(0.1218)	(0.1821)	(0.1218)	(0.0603)					CRAWFORD COUNTY		
		25-00-05722.001		459	650	1.7656	0	0	0	0							
						(4.3630)	0	0	0	0							
				GRAND TOTAL		3.3265	0.0493	0.0737	0.0493	0.0244			3.2528				
						(8.2200)	(0.1218)	(0.1821)	(0.1218)	(0.0603)			(8.0379)	FED/STATE			

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NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
LBD	4-25-01	REMOVED PARCEL 28-WV & 28-T
PKM	4-11-01	ADDED PARCELS 28-WV & 28-T
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED

DATE OF COMPLETION 08-31-00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

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CRA-30-24.000 (14.91)

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
STATE OF OHIO UNLESS OTHERWISE SHOWN.

NET RESIDUE= RECORD AREA– TOTAL PRO– NET TAKE

metric units

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
31	MICHAEL E. FORTNEY & TRULA FORTNEY	25-00-05721.000	78	459	648	1.5597	0.0493							FED/STATE	NO RIGHT-OF-WAY REQUIRED		
						(3.8540)	(0.1218)										
		25-00-05722.000		459	648	1.7677	0										
						(4.3680)	0										
				GRAND	TOTAL	3.3274	0.0493										
						(8.2220)	(0.1218)										
32–WL	DONALD L. SHIFLEY & PAULINE F. SHIFLEY	25-00-06048.000	54–55	406	873	27.2112	0.2393	3.5648	0	3.5648						OR 806	644
				211	408	(67.2400)	(0.5913)	(8.8088)	0	(8.8088)							
32–E		25-00-06048.000	54–55					3.0646	0	3.0646					LAND LOCKED		
								(7.5727)	0	(7.5727)							
				GRAND	TOTAL	27.2112	0.2393	6.6294	0	6.6294			20.3425				
						(67.2400)	(0.5913)	(16.3815)	0	(16.3815)			(50.2672)				
33	RICHLAND TRUST CO. TRUSTEE	25-00-05575.001	13–14	476	229	25.2399	0.1243								NO RIGHT-OF-WAY REQUIRED		
						(62.3690)	(0.3072)										
		25-00-05576.000		476	229	4.0469	0.1247										
						(10.0000)	(0.3081)										
		25-00-05929.000		476	229	4.8028	0										
						(11.8680)	0										
		25-00-05930.000		476	229	6.1687	0										
						(15.2430)	0										
				GRAND	TOTAL	40.2583	0.2490										
						(99.4800)	(0.6153)										
34–WL	HERBERT E. SHIFLEY & EVELYN M. SHIFLEY,	25-00-06049.000	55–57	474	427	32.3750	0.3724	3.8266	0	3.8266						813	864
	TRUSTEES, THE SHIFLEY FAMILY TRUST					(80.0000)	(0.9202)	(9.4557)	0	(9.4557)							
34–E		25-00-06049.000	55–57					2.4213	0	2.4213					LAND LOCKED		
								(5.9831)	0	(5.9831)							
				GRAND	TOTAL	32.3750	0.3724	6.2479	0	6.2479			25.7547				
						(80.0000)	(0.9202)	(15.4388)	0	(15.4388)			(63.6410)				
34–X		25-00-06049.000	55–57					0.1031		0.1031					CONSTRUCT CHANNEL AND MAINTAIN	OR 812	335
								(0.2548)		(0.2548)							
35–X	JOHN M. SAUTTER & THOMAS E. SAUTTER	25-00-06019.000	14	368	386	40.2194	0.2570	0.1580		0.1580					RE-GRADE CHANNEL AND MAINTAIN	OR 812	331
						(99.3840)	(0.6351)	(0.3904)		(0.3904)							
36–WL	KENNETH E. HAYES & JEAN E. HAYES, TRUSTEES	25-00-05713.000	57–59	454	815	32.3750	0.3724	3.5922	0	3.5922						490	432
				214	526	(80.0000)	(0.9202)	(8.8765)	0	(8.8765)							
36–E			57–59	272	430			1.6695	0	1.6695					LAND LOCKED	490	438
								(4.1254)	0	(4.1254)					PARCEL 36-E SOLD TO THOMAS E. SAUTTER AND JOHN M. SAUTTER 08/14/06		
				GRAND	TOTAL	32.3750	0.3724	5.2617	0	5.2617			26.7409		RECORDED OR Book 906 Page 13-17		
						(80.0000)	(0.9202)	(13.0019)	0	(13.0019)			(66.0779)				
36–X		25-00-05713.000	57–59					0.1089		0.1089					RE-GRADE CHANNEL AND MAINTAIN		
								(0.2690)		(0.2690)							
37–WD	DOYLE W. KELLER & BARBARA J. KELLER	26-00-06423.000	79	455	331	6.5329	0.5252	0.1190	0.0815	0.0375		5.9702				490	254
						(16.1430)	(1.2978)	(0.2941)	(0.2014)	(0.0927)		(14.7525)					
38–WL	HENRY M. EGNER	26-00-06415.000	80	271	128	5.6280	0.2708	0.1849	0.0747	0.1102		4.6514			NET RESIDUE = 5.2470 – 0.1316 – 0.4640	490	831
						(13.9070)	(0.6692)	(0.4569)	(0.1846)	(0.2723)		(11.4938)					
38–WD		26-00-06415.000	79–80	271	128			0.3277	0.1961	0.1316					NET RESIDUE INCLUDED IN 38WL	490	835
								(0.8098)	(0.4846)	(0.3252)							
		26-00-06417.000		376	223	12.9512	0.0571	0.1289	0.0571	0.0718		12.8223					
						(32.0030)	(0.1411)	(0.3185)	(0.1411)	(0.1774)		(31.6845)					
				TOTAL 38–WL & WD		18.5792	0.3279	0.6415	0.3279	0.3136							
						(45.9100)	(0.8103)	(1.5852)	(0.8103)	(0.7749)							
38–WV		26-00-06415.000	80					0.4640	0	0.4640					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	490	827
								(1.1466)	0	(1.1466)					CRAWFORD COUNTY. NET RESIDUE		
				GRAND	TOTAL	18.5792	0.3279	1.1055	0.3279	0.7776		17.4737			INCLUDED IN 328–WL		
						(45.9100)	(0.8103)	(2.7317)	(0.8103)	(1.9215)		(43.1783)		FED/STATE			

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NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
LBD	02-27-04	PARCELS 34–X & 36–X REVISED
LBD	01-12-04	ADDED PAR. 34–X, 35–X, 36–X
LBD	05-03-01	REV. AREAS FOR E PAR. 34
LBD	08-01-01	AREA CORRECTIONS PAR. 38
MGA	05-03-01	REV. AREAS FOR E PAR. 32,34,& 36
MGA	05-03-01	AREA CORRECTIONS PAR. 38
PKM	12-22-00	NET RESIDUE REVISED – 36WL
PKM	12-22-00	34WL, 34E, 32E & 32WL CHANGED
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED

DATE OF COMPLETION 08–31–00

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA–30–24.000 (14.91)

21/86

612
677

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CRA–30–24.000 (14.91)

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

metric units

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
38-T	HENRY M. EGNER	26-00-06415.000	79-80	271	128			0.0041		0.0041				FED/STATE	TO RECONSTRUCT EXISTING DRIVE	490	839
								(0.0101)		(0.0101)							
38-T-1			80					0.0448		0.0448					TO RECONSTRUCT & RELOCATE EXISTING DRIVE & CONSTRUCT	490	842
								(0.1107)		(0.1107)					SERVICE ROAD		
38-T-2			80					0.0158		0.0158					TO RECONSTRUCT EXISTING DRIVE	490	845
								(0.0390)		(0.0390)							
39-WL	JERRY BARNHART & JULIANNE BARNHART	26-00-06403.000	80	358	543	*0.2216	0.0195	0.0658	0.0195	0.0463	YES				*CALCULATED AREA, AUDITOR'S RECORD AREA = 0.2226 ha	OR 726	869
				358	547	(0.5476)	(0.0482)	(0.1626)	(0.0482)	(0.1144)					*(0.55 ac.)		
39-WV		26-00-06403.000	80					0.0839	0	0.0839					DEMOLISH 2 STORY HOUSE AND SHED	OR 726	873
								(0.2073)	0	(0.2073)					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
39-E		26-00-06403.000	80					0.0719	0	0.0719					CRAWFORD COUNTY		
								(0.1777)	0	(0.1777)					RESIDUE		
				GRAND	TOTAL	0.2216	0.0195	0.2216	0.0195	0.2021		0					
						(0.5476)	(0.0482)	(0.5476)	(0.0482)	(0.4994)		0					
40-WL	JEFFREY A. KOCHER aka JEFFRY A. KOCHER	25-00-06068.000	59-62,	482	765	29.8809	0.2380	1.6061	0.2273	1.3788			28.2558		NET RESIDUE = 28.2641 − 0.0083	490	700
			80-81			(73.8370)	(0.5881)	(3.9687)	(0.5617)	(3.4070)			(69.8213)				
	wrong?	26-00-06441.000				13.6420	0.2468	7.3356	0.2434	7.0922		0.7704	5.4458		NET RESIDUE = 6.3030 − 0.0868		
						(33.7100)	(0.6099)	(18.1266)	(0.6015)	(17.5251)		(1.9037)	(13.4568)				
				TOTAL	40-WL			8.9417	0.4707	8.4710		0.7704	33.7016				
								(22.0953)	(1.1632)	(20.9321)		(1.9037)	(83.2781)				
40-WL-1		26-00-06441.000	60	482	765			0.0181	0	0.0181		−0.0181					
								(0.0447)	0	(0.0447)		−(0.0447)				892	327
40-WD		25-00-06068.000	81					0.0190	0.0107	0.0083						490	705
								(0.0469)	(0.0264)	(0.0205)							
40-WV		25-00-06441.000	80					0.0868	0	0.0868					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	490	709
								(0.2145)	0	(0.2145)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 40A-WL		
		25-00-06067.000		406	977	7.0820	0	0	0	0			7.0820				
						(17.4999)	0	0	0	0			(17.4999)				
				GRAND	TOTAL	50.6049	0.4848	9.0656	0.4814	8.5842		0.7523	40.7836		NET RESIDUE TOTAL = 41.5359 (102.6370)		
						(125.0469)	(1.1980)	(22.4015)	(1.1896)	(21.2119)		(1.8589)	(100.7781)				
40-T			80					0.0380		0.0380					TO CONSTRUCT INGRESS / EGRESS DRIVE FROM SERVICE ROAD		
								(0.0939)		(0.0939)							
40-T-1			81					0.0297		0.0297			41.5359		CONSTRUCT DRIVE		
								(0.0734)		(0.0734)			(102.6370)				
40A-WL	THE HEIRS OF JAMES ROBINSON		80	7	171	0.2954	0.0034	0.0117	0.0034	0.0083		0.2638			NET RESIDUE = 0.2837 − 0.0199	OR 796	252
						(0.7300)	(0.0084)	(0.0289)	(0.0084)	(0.0205)		(0.6519)					
40A-WV			80					0.0199	0	0.0199					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.0492)	0	(0.0492)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 40A-WL		
41-WD	FORREST RICHARD CRAMBLETT	26-00-06459.000	79	464	663	0.0360	0.0063	0.0139	0.0063	0.0076			0.0221			490	713
						(0.0890)	(0.0156)	(0.0343)	(0.0156)	(0.0187)			(0.0546)				
		26-03-06518.000		464	663	0.1032	0.0139	0.0192	0.0139	0.0053			0.0840				
						(0.2550)	(0.0343)	(0.0474)	(0.0343)	(0.0131)			(0.2076)				
		26-03-06519.000		464	663	0.1914	0.0279	0.0518	0.0279	0.0239			0.1396				
						(0.4730)	(0.0689)	(0.1280)	(0.0689)	(0.0591)			(0.3450)				
		26-03-06520.000		464	663	0.0182	0.0028	0.0055	0.0028	0.0027			0.0127				
						(0.0450)	(0.0069)	(0.0136)	(0.0069)	(0.0067)			(0.0314)				
		26-03-06521.000		464	663	0.1538	0.0251	0.0524	0.0251	0.0273			0.1014				
						(0.3800)	(0.0620)	(0.1295)	(0.0620)	(0.0675)			(0.2506)				
				GRAND	TOTAL	0.5026	0.0760	0.1428	0.0760	0.0668			0.3598				
						(1.2420)	(0.1877)	(0.3528)	(0.1877)	(0.1651)			(0.8892)				
42	NOT USED																
43	NOT USED													FED/STATE			

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NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
LBD	6-15-04	ADDED PARCEL 40-WL-1

DATE OF COMPLETION 08-31-00

REV.	DATE	DESCRIPTION
LBD	10-05-01	REV. AREA FOR PARCEL 40T
LBD	8-4-01	REV. AREA FOR E PAR. 39
PKM	4-4-01	ADDED PARCEL 38-T-2
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED
PKM	11-15-00	REV. PARCEL 40 OWNER NAME
PKM	11-15-00	REV. PARCEL 40-T-1
PKM	10-05-00	REV. PARCEL 40-WL (P.R.O.)

DATE OF COMPLETION 08-31-00

CRA-30-24.000 (14.91)

22/86

613
677

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TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
44-WL	THOMAS E. SAUTTER & JOHN M. SAUTTER	26-00-06413.000	61-64,80-81	411	969	4.4435	0.2617	1.6591	0.1454	1.5137	YES	2.4956		FED/STATE	DEMOLISH BARN AND OTHER FARM STRUCTURES	OR 801	205
						(10.9801)	(0.6467)	(4.0997)	(0.3593)	(3.7404)		(6.1667)			NET RESIDUE =2.6681-0.1725		
		26-00-06414.000		411	969	12.4874	0.5206	5.6389	0.3490	5.2899			6.4848		NET RESIDUE =6.6769-0.1921		
						(30.8569)	(1.2864)	(13.9340)	(0.8624)	(13.0716)			(16.0243)				
		26-00-06443.000		422	539	0.9822	0.2147	0.2529	0.0795	0.1734			0.1345		NET RESIDUE =0.5941-0.4596		
						(2.4271)	(0.5305)	(0.6249)	(0.1964)	(0.4285)			(0.3324)				
		26-00-06444.000		422	539	2.5601	0	0.1120	0	0.1120			2.3987		NET RESIDUE =2.4481-0.0494		
						(6.3261)	0	(0.2768)	0	(0.2768)			(5.9272)				
				TOTAL 44-WL				7.6629	0.5739	7.0890							
								(18.9354)	(1.4181)	(17.5172)							
44-WD		26-00-06443.000	79-80					0.5948	0.1352	0.4596	YES				DEMOLISH 2-STORY HOUSE, SHED, AND GARAGE		
								(1.4698)	(0.3341)	(1.1357)					NET RESIDUE INCLUDED IN 44-WL		
		26-00-06444.000						0.0494	0	0.0494					NET RESIDUE INCLUDED IN 44-WL		
								(0.1221)	0	(0.1221)							
		26-00-06447.000		467	236	3.8886	0.0806	0.2115	0.0806	0.1309			3.6771				
						(9.6089)	(0.1992)	(0.5226)	(0.1992)	(0.3234)			(9.0863)				
		26-00-06449.000		467	236	0.1509	0.0142	0.0495	0.0142	0.0353			0.1014				
						(0.3729)	(0.0351)	(0.1223)	(0.0351)	(0.0872)			(0.2506)				
				TOTAL 44-WD				0.9052	0.2300	0.6752							
								(2.2368)	(0.5684)	(1.6684)							
44-WV		26-00-06414.000	64					0.2436	0.0515	0.1921					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.6019)	(0.1273)	(0.4746)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 44-WL		
44-WV-1		26-00-06413.000	63-64					0.2331	0.0606	0.1725					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.5760)	(0.1497)	(0.4263)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 44-WL		
		26-00-06442.000		422	539	0.2748	0	0	0	0			0.2748				
						(0.6790)	0	0	0	0			(0.6790)				
		26-00-06446.000		467	236	5.5835	0	0	0	0			5.5835				
						(13.7971)	0	0	0	0			(13.7971)				
		26-00-06448.000		467	236	0.1764	0	0	0	0			0.1764				
						(0.4359)	0	0	0	0			(0.4359)				
				GRAND TOTAL		30.5474	1.0918	9.0448	0.9160	8.1288		2.4956	18.8312		TOTAL NET RESIDUE= 21.3268 (52.6995)		
						(75.4840)	(2.6979)	(22.3501)	(2.2635)	(20.0866)		(6.1667)	(46.5328)				
44-T			79					0.0124		0.0124	YES				DEMOLISH GARAGE		
								(0.0307)		(0.0307)							
45-WD	STEPHEN A. KINSTLE	25-00-06068.001	81	435	577	3.3860	0.1561	0.0526	0.0038	0.0488		3.1811				489	~~48~~9415
						(8.3670)	(0.3857)	(0.1300)	(0.0094)	(0.1206)		(7.8607)					
46-WL	HAZEL JEAN PATTERSON	26-00-06432.000	81	457	695	1.0603	0.1117	0.2521	0.0902	0.1619						OR 722	131
				393	468	(2.6200)	(0.2760)	(0.6229)	(0.2229)	(0.4000)							
46-WD			81					0.0433	0.0215	0.0218							
								(0.1070)	(0.0531)	(0.0539)							
				GRAND TOTAL		1.0603	0.1117	0.2954	0.1117	0.1837			0.7649				
						(2.6200)	(0.2760)	(0.7299)	(0.2760)	(0.4539)			(1.8901)				
47-WD	MICHAEL F. ZUMBRO & LORI A. ZUMBRO	26-00-06434.000	81	447	976	0.2355	0.0279	0.0377	0.0279	0.0098			0.1978			489	~~48~~9915
						(0.5820)	(0.0689)	(0.0932)	(0.0689)	(0.0243)			(0.4888)				
48	WILLIAM F. BOWIN & SHERYL L. BOWIN	26-00-06440.000	81	425	331	0.2436	0.0279								NO RIGHT-OF-WAY REQUIRED		
						(0.6019)	(0.0689)							FED/STATE			

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NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
JEK	05-22-01	GRAND TOTAL PRO IN TAKE PAR. 44
MGA	05-03-01	AREA CORRECIONS PAR. 44
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED
PKM	11-15-00	44-WV-1 PRO REVISED

DATE OF COMPLETION 08-31-00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

23/86

614/677

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
142 PARCELS

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
				BOOK	PAGE							LEFT	RIGHT			BOOK	PAGE
44-WL-1	THOMAS E. SAUTTER & JOHN M. SAUTTER	26-00-06413.000	63B	411	969	2.5513	0.0000	0.0152	0.0000	0.0152		2.5361		FED/STATE		906	9
						(6.3043)	(0.0000)	(0.0376)	(0.0000)	(0.0376)		(6.2667)					
														FED/STATE			

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-17-05

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

23A/86

614
677

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CRA-30-24.000 (14.91)

TOTAL NUMBER OF:
62 OWNERSHIPS — 11 OWNERSHIPS WITH "P" ITEMS
6 TOTAL TAKES — 141 PARCELS
13 OWNERSHIPS WITH STRUCTURES INVOLVED

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
49	CHRISTINA J. KOHLS	26-00-06425.000	14	450	678	1.3112	0.1785							FED./STATE	NO RIGHT-OF-WAY REQUIRED		
						(3.2400)	(0.4411)										
50-WL	RUSSELL E. VOSE & DOROTHY M. VOSE	26-00-06455.000	64-66	353	525	9.8865	0.3001	5.5780	0.0864	5.4916	P	1.2115	2.6053		NET RESIDUE=4.0948-0.0603-0.1472-0.0705	702	834
						(24.4300)	(0.7416)	(13.7835)	(0.2135)	(13.5700)		(2.9937)	(6.4378)		REMOVE FENCE		
50-WL-1			65A					0.0816	0	0.0816						867	784
								(0.2016)	(0)	(0.2016)							
50-WV		26-00-06455.000	64					0.1162	0.0559	0.0603					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	702	838
								(0.2871)	(0.1381)	(0.1490)					CRAWFORD COUNTY		
50-WV-1		26-00-06455.000	66, 83					0.2041	0.0569	0.1472					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	702	850
								(0.5043)	(0.1406)	(0.3637)					CRAWFORD COUNTY		
50-WV-2		26-00-06455.000	66, 82					0.0898	0.0193	0.0705					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	702	842
								(0.2219)	(0.0477)	(0.1742)					CRAWFORD COUNTY		
		26-00-06456.000		340	121	6.9444	0.2392	0.4628	0.1254	0.3374			6.3678				
						(17.1600)	(0.5911)	(1.1436)	(0.3099)	(0.8337)			(15.7351)				
				TOTAL 50-WV-2				0.5526	0.1447	0.4079							
								(1.3655)	(0.3576)	(1.0079)							
50-E		26-00-06455.000	64-66,83					1.2095		1.2095						702	846
								(2.9887)		(2.9887)							
				GRAND TOTAL		16.8309	0.5393	7.7420	0.3439	7.3981			8.8935		TOTAL NET RESIDUE = 8.8935 (21.9763)		
						(41.5900)	(1.3327)	(19.1308)	(0.8498)	(18.2810)			(21.9763)				
50-FL		26-00-06455.000	65A					0.6982	0	0.6982					CONSTRUCT A WATER COURSE AND RETENTION PONDS	867	788
								(1.7253)	(0)	(1.7253)							
		26-00-06456.000						0.3846	0	0.3846							
								(0.9503)	(0)	(0.9503)							
				TOTAL 50-FL				1.0828	0	1.8028							
50-FL-1		26-00-06455.000	65A					0.2200	0	0.2200					CONSTRUCT A WATER COURSE AND RETENTION PONDS	867	788
								(0.5436)	(0)	(0.5436)							
		26-00-06456.000	65A					0.6402	0	0.6402							
								(1.5820)	(0)	(1.5820)							
				TOTAL 50-FL-1				0.8602	0	0.8602							
								(2.1256)	(0)	(2.1256)							
								(2.6756)	(0)	(2.6756)							
51-WL	JOYCE ELLEN SHEARER, JANE ELIZABETH HAAS	26-00-06424.000	64	389	369	8.8100	0.2572	0.0573	0.0083	0.0490	P	8.2487			NET RESIDUE = 8.5038-0.2028-0.1091	707	942
	AND LARRY ALLEN KEMP, TRUSTEE					(21.7700)	(0.6355)	(0.1416)	(0.0205)	(0.1211)		(20.3829)			REMOVE FENCE		
51-WV		26-00-06424.000	63A,64					0.2626	0.1166	0.1460					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	707	946
								(0.6489)	(0.2881)	(0.3608)					CRAWFORD COUNTY		
		25-00-05774.000	63A	389	370	2.3197	0.1061	0.1500	0.0932	0.0568			2.1568				
						(5.7320)	(0.2622)	(0.3706)	(0.2303)	(0.1403)			(5.3295)				
				TOTAL 51-WV				0.4126	0.2098	0.2028							
								(1.0195)	(0.5184)	(0.5011)							
51-WV-1		26-00-06424.000	83					0.1806	0.0715	0.1091					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	707	951
								(0.4463)	(0.1767)	(0.2696)					CRAWFORD COUNTY		
				GRAND TOTAL		11.1297	0.3633	0.6505	0.2896	0.3609		8.2487	2.1568		TOTAL NET RESIDUE = 10.4055 (25.7125)		
						(27.5020)	(0.8977)	(1.6074)	(0.7156)	(0.8918)		(20.3829)	(5.3295)				
51-T		26-00-06424.000	64					0.0514	0	0.0514					RECONSTRUCT EXISTING DRIVES, A NEW DRIVE AND		
								(0.1270)	0	(0.1270)					CONSTRUCT A STORM SEWER		
		26-00-05774.000						0.0710	0	0.0710							
								(0.1755)	0	(0.1755)							
				TOTAL 51-T				0.1224	0	0.1224							
								(0.3025)	0	(0.3025)							
51-T-1		26-00-06424.000	83					0.0519	0	0.0519					RECONSTRUCT EXISTING DRIVE		
								(0.1282)	0	(0.1282)							
52-WV	ARTHUR E. NICHOLLS & KATHERINE NICHOLLS	26-00-06430.000	82	335	352	7.3006	0.2645	0.0633	0.0424	0.0209		7.0152			RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	867	711
						(18.0400)	(0.6535)	(0.1564)	(0.1048)	(0.0516)		(17.3349)			CRAWFORD COUNTY		
52-T		26-00-06430.000	82					0.0234		0.0234					CONSTRUCT STORM SEWER		
								(0.0578)		(0.0578)							
53-WV	GARY M. WEITHMAN AND KATHLEEN C. WEITHMAN,	26-00-06457.000	82/82A	471	391	1.2505	0.0529	0.0788	0.0529	0.0259		1.1717			RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	867	795
	TRUSTEES, THE WEITHMAN FAMILY TRUST					(3.0900)	(0.1307)	(0.1947)	(0.1307)	(0.0640)		(2.8953)			CRAWFORD COUNTY		
								0.0269		0.0269					RECONSTRUCT EXISTING DRIVE		
53-T		26-00-06457.000	82/82A					(0.0665)		(0.0665)							
								0.0169		0.0169					CONSTRUCT STORM SEWER AND RECONSTRUCT EXISTING DRIVE		
53-T-1		26-00-06457.000	82					(0.0418)		(0.0418)							
54-WV	JOHN B. BIGHOUSE AND ARLENE J. BIGHOUSE,	26-00-06453.000	82A	458	110	1.2505	0.0527	0.1543	0.0527	0.1016					RECONSTRUCT EXISTING DRIVE 490/262		
	TRUSTEES OF THE JOHN B. BIGHOUSE AND					(3.0900)	(0.1302)	(0.3813)	(0.1302)	(0.2511)					RIGHT-OF-WAY TO BE ACQUIRED IN NAME		
	ARLENE J. BIGHOUSE REVOCABLE LIVING TRUST	26-00-06454.000		458	110	1.2505	0.0527	0.1070	0.0527	0.0543					OF GRANTEE, CRAWFORD COUNTY		
						(3.0900)	(0.1302)	(0.2644)	(0.1302)	(0.1342)							
				TOTAL 54-WV		2.5010	0.1054	0.2613	0.1054	0.1559		2.2372			NET RESIDUE = 2.2397-0.0025		
						(6.1800)	(0.2604)	(0.6457)	(0.2604)	(0.3852)		(5.5281)					
54-WV-1		26-00-06454.000	82A					0.0025	0	0.0025					872/722		
								(0.0062)	0	(0.0062)					NAME OF GRANTEE, CRAWFORD COUNTY		
54-T			82A					0.1625		0.1625					RECONSTRUCT EXISTING DRIVES		
								(0.4015)		(0.4015)							
55-WV	THERESA L. MURPHY	26-01-06475.000	82	458	30	0.3310	0	0.0145	0	0.0145			0.3165		RIGHT-OF-WAY TO BE ACQUIRED IN 705/393		
				468	827	(0.8179)	0	(0.0358)	0	(0.0358)			(0.7821)				
56-WV	JOHN H. HARSH & MARILYN K. HARSH	26-02-06496.000	82/82A	271	395	0.3298	0	0.0380	0	0.0380			0.2918		RIGHT-OF-WAY TO BE ACQUIRED IN 489/726		
						(0.8150)	0	(0.0939)	0	(0.0939)			(0.7211)	FED./STATE	NAME OF GRANTEE, CRAWFORD COUNTY		

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
PKM	5-23-05	RENAMED PARCEL 50-FL-1
DAK	2-24-05	ADDED PARCELS 50FLV, 50FL & 50-WL-1
REG	11-02-04	ADDED PARCEL 50X
REG	11-01-04	ADDED PARCEL 52-WV, 52-T, 53-WV, 53-T-1, 54-WV-1;
PKM	8-1-01	ADDED PARCEL 50-E
PKM	8-1-01	REV. PARCEL 51 OWNER NAME
PKM	7-17-01	REV. PARCEL 51-T-1
PKM	5-23-01	REV. PARCEL 51-T, ADD 51-T-1
MGA	5-2-01	AREA CORRECTIONS PAR. 50 & 52
PKM	3-2-01	REV. PARCEL 54WV & 54T
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED
PKM	11-15-00	REV. 51-WV & ADD 51-T
PKM	10-05-00	REV. PARCEL 51-WV-1
PKM	10-05-00	(GROSS, NET TAKE & RES. TOTALS)

DATE OF COMPLETION 08-31-00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

24A/86

615/677

L:\Drawings\93125\s-fairview 2004\Rs009c02A.dwg May 23 2005 3:41pm By:PKMiller

CRA-30-24.000 (14.91)

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD		RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
				BOOK	PAGE							LEFT	RIGHT			BOOK	PAGE
57-WL	MARILYN J. BURKHOLDER, TRUSTEE OF THE	26-00-06404.000	66-69	460	317	18.7532	0.3382	5.2419	0.0564	5.1855	YES	1.3299	11.1690	FED/STATE	NET RESIDUE=13.2295-0.6530-0.0619-0.0157	834	408
	MARILYN J. BURKHOLDER REVOCABLE LIVING TRUST					(46.3400)	(0.8357)	(12.9530)	(0.1394)	(12.8136)		(3.2863)	(27.5990)				
		26-00-06405.000		460	317	7.2844	0.1487	0.5364	0.0376	0.4988		6.4743			NET RESIDUE=6.6369-0.1594-0.0032		
						(18.0000)	(0.3674)	(1.3255)	(0.0929)	(1.2326)		(15.9983)					
		26-00-06406.000		460	317	0.2671	0.0321	0.2671	0.0321	0.2350		0	0				
						(0.6600)	(0.0793)	(0.6600)	(0.0793)	(0.5807)							
				TOTAL 57-WL				6.0454	0.1261	5.9193							
								(14.9385)	(0.3116)	(14.6269)							
57-WV		26-00-06405.000	66, 82					0.2177	0.0583	0.1594					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.5379)	(0.1441)	(0.3938)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 57-WL		
		25-00-05510.000		460	317	4.6296	0.0668	0.2292	0.0668	0.1624		4.4004					
						(11.4400)	(0.1651)	(0.5664)	(0.1651)	(0.4013)		(10.8736)					
		25-00-05511.000		460	317	7.9602	0.4440	0.1858	0.0927	0.0931		7.4231					
						(19.6700)	(1.0971)	(0.4591)	(0.2291)	(0.2300)		(18.3429)					
				TOTAL 57-WV				0.6327	0.2178	0.4149							
								(1.5634)	(0.5383)	(1.0251)							
57-WV-1		26-00-06404.000	66, 82					0.8940	0.2410	0.6530					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
		26-00-06405.000						(2.2092)	(0.5955)	(1.6137)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 57-WL		
57-WV-2		26-00-06404.000	69					0.0937	0.0318	0.0619					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.2315)	(0.0786)	(0.1529)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 57-WL		
		26-00-06405.000						0.0094	0.0062	0.0032							
								(0.0232)	(0.0153)	(0.0079)							
				TOTAL 57-WV-2				0.1031	0.0380	0.0651							
								(0.2547)	(0.0939)	(0.1608)							
57-WV-3		26-00-06404.000	69					0.0247	0.0090	0.0157					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.0610)	(0.0222)	(0.0388)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 57-WL		
		25-00-05509.000		460	317	11.7359	0.0986	0	0	0		11.6373					
						(29.0000)	(0.2436)	0	0	0		(28.7564)					
		25-00-06035.000		460	317	8.8754	0.3489	0	0	0		8.5265					
						(21.9316)	(0.8621)	0	0	0		(21.0695)					
		25-00-06035.001		460	317	4.8151	0.1283	0	0	0		4.6868					
						(11.8984)	(0.3170)	0	0	0		(11.5814)					
				GRAND TOTAL		64.3209	1.6056	7.6999	0.6319	7.0680		44.4783	11.1690		TOTAL NET RESIDUE=55.6473 (137.5074)		
						(158.9400)	(3.9673)	(19.0268)	(1.5615)	(17.4653)		(109.9084)	(27.5990)				
57-T		26-00-06404.000	82					0.0097	0	0.0097					TO CONSTRUCT A NEW DRIVE ENTRANCE		
								(0.0241)	0	(0.0241)							
57-T-1		26-00-06405.000	67					0.0169	0	0.0169	YES				DEMOLISH STORAGE SHED		
								(0.0418)	0	(0.0418)							
57-T-2		26-00-06404.000	68,69					0.1663	0	0.1663					FOR EARTHWORK TO FILL IN POND		
								(0.4109)	0	(0.4109)							
57-T-3		26-00-06405.000	69					0.1032	0	0.1032					FOR A WORK AREA TO TRANSFER WATER FROM A POND TO BE		
								(0.2550)	0	(0.2550)					FILLED TO ANOTHER POND		
57-T-4		25-00-05510.000	83					0.0338	0	0.0338					TO CONSTRUCT PROPOSED DRIVE		
								(0.0835)	0	(0.0835)							
58-WV	LEE S. BEACH	25-00-05497.000	83	478	767	0.4047	0.0460	0.0569	0.0460	0.0109		0.3478			RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	488	~~488~~204
						(1.0000)	(0.1137)	(0.1406)	(0.1137)	(0.0269)		(0.8594)			CRAWFORD COUNTY		
															RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
59-WV	STEVEN REYNOLDS AND STACY REYNOLDS	26-00-06424.001	83	472	592	1.6187	0.0605	0.2160	0.0605	0.1555		1.4027				490	~~490~~697
						(4.0000)	(0.1495)	(0.5337)	(0.1495)	(0.3844)		(3.4663)					
59-T			83					0.0344	0	0.0344					TO RECONSTRUCT EXISTING DRIVE		
								(0.0850)	0	(0.0850)							
60	NOT USED																
61-WV	JAMES S. BOTDORF & JANET E. BOTDORF	26-00-06418.000	69	476	225	2.0234	0.0803	0.0833	0.0343	0.0490		1.8941				488	~~488~~208
	TRUSTEES OF THE JANET E.					(5.0000)	(0.1984)	(0.2059)	(0.0848)	(0.1211)		(4.6805)			CRAWFORD COUNTY		
	BOTDORF REVOCABLE LIVING TRUST.																
62-WL	MARJORIE L. GIBSON	26-00-06419.000	69-71	466	637	40.0479	0.1537	2.6291	0	2.6291		3.8379	33.4272		NET RESIDUE=37.2651 (92.0836)		
				480	819	(98.9600)	(0.3798)	(6.4966)	0	(6.4966)		(9.4835)	(82.6001)				
		26-00-06420.000		466	637	11.3312	0.1912	2.6485	0.0445	2.6040		3.5235	4.6552		NET RESIDUE=8.5360-0.1859-0.1714		
				480	819	(28.0000)	(0.4725)	(6.5446)	(0.1100)	(6.4346)		(8.7067)	(11.5032)		OR 804 54		
				TOTAL 62-WL				5.2776	0.0445	5.2331							
								(13.0412)	(0.1100)	(12.931)				FED/STATE			

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
MGA	1-28-03	REV. NET RESIDUE PARCEL 57
REG	5-09-02	REVISED PARCEL 57-T-4
LBD	1-18-02	REVISED PARCEL 57-T & 57-T-4
PKM	7-17-01	REVISED PARCEL 59-T
PKM	5-23-01	REVISED PARCEL 59-T
MGA	5-3-01	AREA CORRECTIONS PAR. 57 & 62
MGA	4-24-01	ADDED PARCEL NO. 57-T-3
JAG	3-19-01	ADDED 57-T-3
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED
PKM	10-05-00	REV. PARCEL 57-T-2 (PARCEL NO)
PKM	10-05-00	REV. PARCEL 59-WV (NET TAKE\RES)

DATE OF COMPLETION 08-31-00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

25/86

616/677

November 05 2002 8:06am By:Matt

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
62-WV		26-00-06420.000	69					0.2241	0.0382	0.1859				FED/STATE	RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
								(0.5539)	(0.0944)	(0.4595)					CRAWFORD COUNTY, NET RESIDUE INCLUDED IN 62-WL		
62-WV-1		26-00-06420.000	69					0.2119	0.0405	0.1714					REMOVE FENCE, NET RESIDUE INCLUDED IN 62-WL		
								(0.5236)	(0.1001)	(0.4235)					RIGHT-OF-WAY TO BE ACQUIRED IN		
				GRAND TOTAL		51.3791	0.3449	5.7136	0.1232	5.5904		7.3614	38.0824		NAME OF GRANTEE, CRAWFORD CO.		
						(126.9600)	(0.8523)	(14.1187)	(0.3045)	(13.8142)		(18.1902)	(94.1033)		TOTAL NET RESIDUE=45.4438 (112.2935)		
63-WL	WILLIAM C. RINEHART & BARBARA M. RINEHART	23-00-05318.000	72	331	603	8.2152	0.1314	0.0921	0	0.0921		7.7117			NET RESIDUE=7.9917-0.2800	490	~~490~~567
						(20.3000)	(0.3247)	(0.2276)	0	(0.2276)		(19.0560)					
		26-00-06435.000		331	603	3.6098	0	0	0	0			3.6098				
						(8.9200)	0	0	0	0			(8.9200)				
				TOTAL 63-WL				0.0921	0	0.0921							
								(0.2276)	0	(0.2276)							
63-WV		23-00-05318.000	73, 84					0.4114	0.1314	0.2800					RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	490	~~490~~563
								(1.0166)	(0.3247)	(0.6919)					CRAWFORD COUNTY		
				GRAND TOTAL		11.8250	0.1314	0.5035	0.1314	0.3721		7.7117	3.6098		TOTAL NET RESIDUE=11.3215 (27.9758)		
						(29.2200)	(0.3247)	(1.2442)	(0.3247)	(0.9195)		(19.0560)	(8.9200)				
63-T		23-00-05318.000	73, 84					0.0851		0.0851					TO RECONSTRUCT DRIVEWAY	490	~~490~~570
								(0.2103)		(0.2103)							
63-T-1		23-00-05318.000	73					0.0855		0.0855					TO CONSTRUCT DRIVEWAY	490	~~490~~573
								(0.2113)		(0.2113)							
64-WL	DANIEL FAULKNER & GLADYS K. COX &	26-00-06409.000	71-72	353	699	1.9247	0	1.6395	0	1.6395			0.2852		*CALCULATED AREA, AUDITOR'S RECORD AREA=	OR 704	~~704~~353
	FLOYD E. COX (LIFE TENANT) &			488	400	(4.7560)	0	(4.0513)	0	(4.0513)			(0.7047)		1.9263 HA (4.7600 AC.)		
	JANE E. HUNTER (LIFE TENANT)	26-00-06411.000		353	699	1.9223	0	0.2733	0	0.2733		1.6490					
				488	400	(4.7500)	0	(0.6753)	0	(0.6753)		(4.0747)					
				TOTAL 64-WL				1.9128	0	1.9128							
								(4.7266)	0	(4.7266)							
64-WV		25-00-05595.000	86	353	699	8.3608	0.1852	0.4033	0.0938	0.3095		7.8661			RIGHT-OF-WAY TO BE ACQUIRED IN NAME OF GRANTEE,	OR 704	~~704~~357
				488	400	(20.6600)	(0.4576)	(0.9966)	(0.2318)	(0.7648)		(19.4376)			CRAWFORD COUNTY		
		25-00-05596.000		353	699	4.3140	0	0.1280	0	0.1280		4.1860					
				488	400	(10.6600)	0	(0.3163)	0	(0.3163)		(10.3437)					
		23-00-05174.000		353	699	16.8390	0.8145	0.1125	0.0652	0.0473		15.9772					
				488	400	(41.6100)	(2.0127)	(0.2780)	(0.1611)	(0.1169)		(39.4804)					
				TOTAL 64-WV				0.6438	0.1590	0.4848							
								(1.5909)	(0.3929)	(1.1980)							
64-E		26-00-06409.000	71-72					0.2852	0	0.2852							
								(0.7047)	0	(0.7047)					RESIDUE		
		23-00-05172.000		164	513	0.8328	0	0	0	0		0.8328					
				488	400	(2.0580)	0	0	0	0		(2.0580)					
		23-00-05173.000		164	514	35.5396	0.4352	0	0	0		35.1044					
				488	400	(87.8200)	(1.0754)	0	0	0		(86.7446)					
		23-00-05175.000		196	200	36.4219	0.4212	0	0	0		36.0007					
				488	400	(90.0000)	(1.0408)	0	0	0		(88.9592)					
		23-00-05176.000		273	270	25.4026	0.6317	0	0	0		24.7709					
				488	400	(62.7710)	(1.5610)	0	0	0		(61.2100)					
		26-00-06410.000		353	699	1.9263	0	0	0	0		1.9263					
				488	400	(4.7600)	0	0	0	0		(4.7600)					
				GRAND TOTAL		133.4840	2.4878	2.8418	0.1590	2.6828		128.3134			TOTAL NET RESIDUE=128.5986 (317.7728)		
						(329.8448)	(6.1475)	(7.0222)	(0.3929)	(6.6293)		(317.0681)					
64-T		26-00-06411.000	71					0.0070		0.0070					TO GRADE AN EXISTING DRAINAGE DITCH		
								(0.0173)		(0.0173)							
65	PATRICK J. TROIANO AND MARGARET FERN TROIANO	23-00-05358.000	72-73,85-86	398	303	8.3608	0.3722								NO RIGHT-OF-WAY REQUIRED		
						(20.6600)	(0.9197)										
		23-00-05359.000		398	303	4.0469	0.2943										
						(10.0000)	(0.7272)										
		23-00-05360.000		339	249	9.0448	0.2273										
						(22.3500)	(0.5617)										
		23-00-05361.000		339	249	9.0407	0.2376										
						(22.3400)	(0.5871)										
				GRAND TOTAL		30.4932	1.1314										
						(75.3500)	(2.7957)										
														FED/STATE			

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REV.	DATE	DESCRIPTION
LBD	9-11-01	REVISED PARCEL 64 OWNER NAME
LBD	8-23-01	REVISED PARCEL 63-T
PKM	7-17-01	REVISED PARCEL 63-T
JEK	5-4-01	REV. AREAS PAR. 62 & 64
PKM	4-6-01	ADDED PARCEL 63-T-1
PKM	4-6-01	REVISED 63-T & 66-T
JAG	3-19-01	ADDED 63-T & 66-T
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED
PKM	11-15-00	64-T ADDED

DATE OF COMPLETION 11-15-00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA-30-24.000 (14.91)

26/86

617/677

TOTAL NUMBER OF:
62 OWNERSHIPS
6 TOTAL TAKES
13 OWNERSHIPS WITH STRUCTURES INVOLVED
11 OWNERSHIPS WITH "P" ITEMS
141 PARCELS

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
STATE OF OHIO UNLESS OTHERWISE SHOWN.

NET RESIDUE= RECORD AREA– TOTAL PRO– NET TAKE

metric units

PARCEL	OWNER	AUDITORS PARCEL NUMBER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
66–WV	LISA BEVERIDGE	23–00–05389.000	84	460	62	8.0169	0.2413	0.5704	0.2413	0.3291	YES		7.4465	FED/STATE	DEMOLISH 2–STORY FRAME HOUSE AND REMOVE FENCE	490	550
						(19.8100)	(0.5963)	(1.4095)	(0.5963)	(0.8132)			(18.4005)				
		23–00–05317.000		460	62	1.3071	0.0962	0.0692	0.0400	0.0292			1.1817		RIGHT–OF–WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
						(3.2300)	(0.2377)	(0.1710)	(0.0988)	(0.0722)			(2.9201)		CRAWFORD COUNTY		
				TOTAL 66–WV				0.6396	0.2813	0.3583							
								(1.5805)	(0.6951)	(0.8854)							
		23–00–05390.000		460	62	3.8648	0	0	0	0			3.8648				
						(9.5500)	0	0	0	0			(9.5500)				
				GRAND TOTAL		13.1888	0.3375	0.6396	0.2813	0.3583			12.4930		NET RESIDUE		
						(32.5900)	(0.8340)	(1.5805)	(0.6951)	(0.8854)			(30.8706)				
66–T		23–00–05389.000	84					0.0772		0.0772					TO DEMOLISH 2–STORY FRAME HOUSE	490	554
								(0.1908)		(0.1908)							
66–T–1		23–00–05389.000	84					0.0070		0.0070					TO RECONSTRUCT DRIVEWAY FOR PARCEL 63–T	490	557
								(0.0173)		(0.0173)							
67–WV	RICKY L. CHURCH	23–00–05229.000	73, 84	460	847	0.7234*	0.0581	0.4803	0.0581	0.4222	YES				* CALCULATED AREA, AUDITOR'S PARCEL AREA = 0.8094 ha	484	597
						(1.7876)	(0.1436)	(1.1869)	(0.1436)	(1.0433)					(2.000 AC.) DEMOLISH 2–STORY FRAME HOUSE, AND GARAGE		
67–E		23–00–05229.000	73, 84					0.2431	0	0.2431					RESIDUE	484	600
								(0.6007)	0	(0.6007)							
				GRAND TOTAL		0.7234	0.0581	0.1234	0.0581	0.6653		0			RIGHT–OF–WAY TO BE ACQUIRED IN NAME OF GRANTEE,		
						(1.7876)	(0.1436)	(1.7876)	(0.1436)	(1.6440)		0			CRAWFORD COUNTY		
68–WV	CLARENCE RONALD DEEMS & PAULINE S. DEEMS	23–00–05187.000	84	385	41	4.0469	0.0962	0.0838	0.0430	0.0408		3.9099				490	258
						(10.0000)	(0.2377)	(0.2071)	(0.1063)	(0.1008)		(9.6615)					
69	JOSEPH STUMPF & JAMES STUMPF	23–00–05339.000	15	156	626	30.3839	0								NO RIGHT–OF–WAY REQUIRED		
						(75.0800)	0										
70–WV	MATTHEW L. STONE AND LORETTA J. STONE	23–00–05389.002	84	470	638	4.0873	0.0916	0.2551	0.0916	0.1635		3.8322				489	514
						(10.1000)	(0.2264)	(0.6304)	(0.2263)	(0.4041)		(9.4695)					
71–WV	ROGER D. SUMMERS AND PATRICIA A. SUMMERS	23–00–05389.001	84	465	59	4.1076	0.1096	0.6158	0.1096	0.5062		3.4918				490	21
						(10.1500)	(0.2708)	(1.5217)	(0.2708)	(1.2509)		(8.6283)					
71–T			84					0.0337		0.0337					TO CONSTRUCT A DRIVEWAY		
								(0.0833)		(0.0833)							
72–SH	MERRIL O. BAUER	25–00–05493.000	81A	384	161	21.4569		0.0118		0.0118					TO INSTALL AND MAINTAIN TRAFFIC SIGNAL DEVICES	OR 702	979
						(53.0210)		(0.0292)		(0.0292)							
73–SH	MILLARD ECKSTEIN	25–00–05623.000	81A	225	115	3.4560		0.0050		0.0050					TO INSTALL AND MAINTAIN TRAFFIC SIGNAL DEVICES	OR 742	342
						(8.5400)		(0.0124)		(0.0124)							
74–WV	GERALD NICHOLLS AND MARY ANN NICHOLLS	26–00–06431.000	82	357	54	1.4892	0.0627	.0930	0.0627	0.0303		1.3962			RIGHT–OF–WAY TO BE ACQUIRED IN NAME OF GRANTEE,	867	703
						(3.6800)	(0.1549)	(0.2298)	(0.1549)	(0.0749)		(3.4502)			CRAWFORD COUNTY		
74–T								0.0333		0.0333					TO CONSTRUCT STORM SEWER RECONSTRUCT EXISTING DRIVE		
								(0.0823)		(0.0823)							
														FED/STATE			

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).

1 HECTARE = 2.471044 ACRES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

REG	11-01-04	ADDED PARCEL 74-WV & T
LBD	8-23-01	ADDED PARCEL 66-T-1
PKM	8-1-01	REMOVED PAR. 66-T-2
PKM	7-17-01	REMOVED 66-T-1
JEK	5-4-01	REVISE AREAS PARCELS 66 & 67
LBD	4-17-01	REV. 73 SH TAKE
JAG	4-6-01	REV. 71-T & 66-T-1, ADDED 66-T-2
JAG	3-19-01	ADDED 71-T
PKM	12-22-00	67WV & 67E REVISED
PKM	11-15-00	TOTAL NO. OF TABULATION CHANGED
PKM	11-15-00	72-SH &73-SH ADDED
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08–31–00

FEDERAL PROJECT NO.

PID NO. 16283

STATE PROJECT NO. 036010

SUMMARY OF ADDITIONAL RIGHT OF WAY

CRA–30–24.000 (14.91)

27/86

618
677

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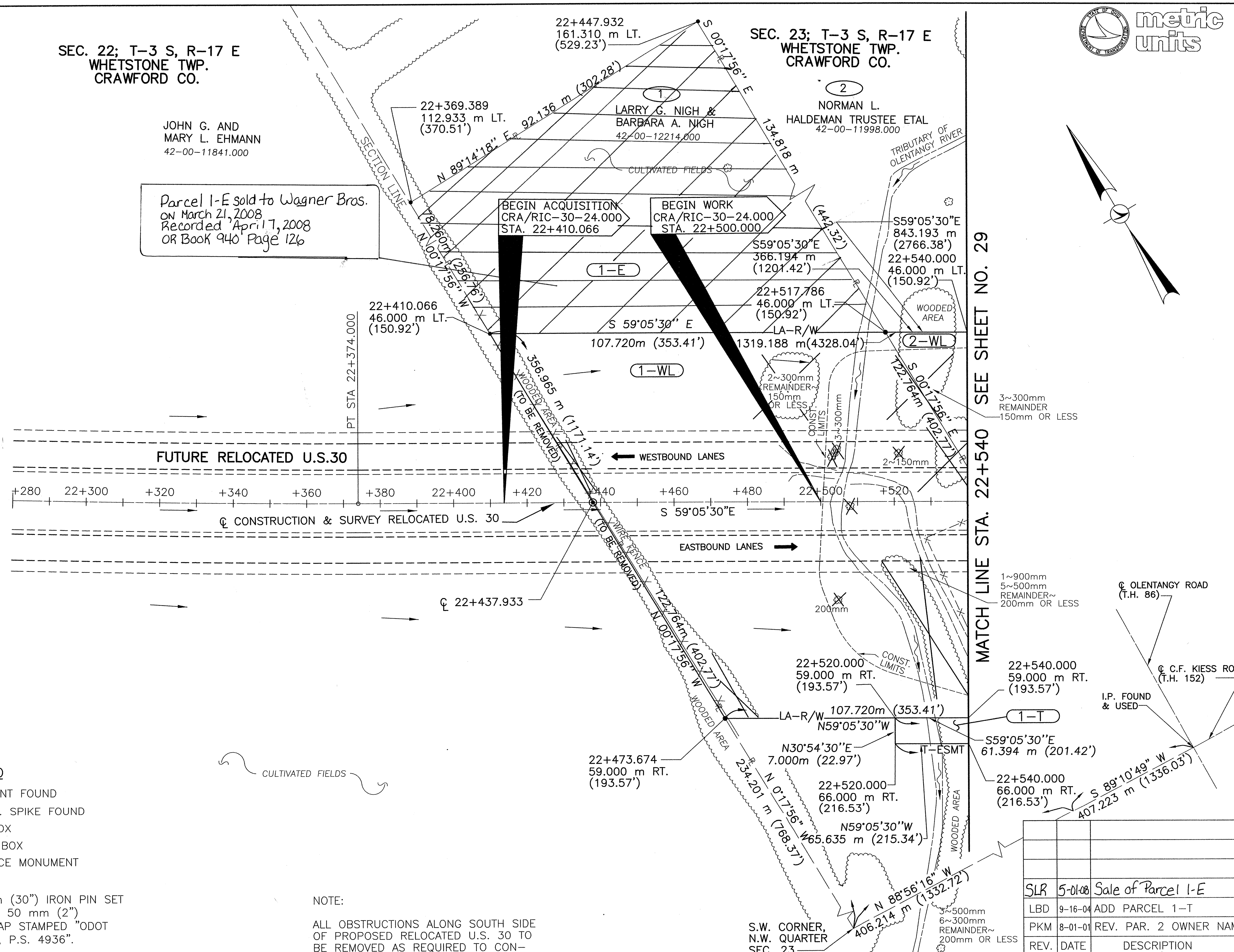
CRA–30–24.000 (14.91)



MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

SLR	5-01-08	Sale of Parcel 1-E
LBD	9-16-04	ADD PARCEL 1-T
PKM	8-01-01	REV. PAR. 2 OWNER NAME
REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-31-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 22+280 TO STA. 22+540

CRA-30-24.000 (14.91)

28/86

619/677

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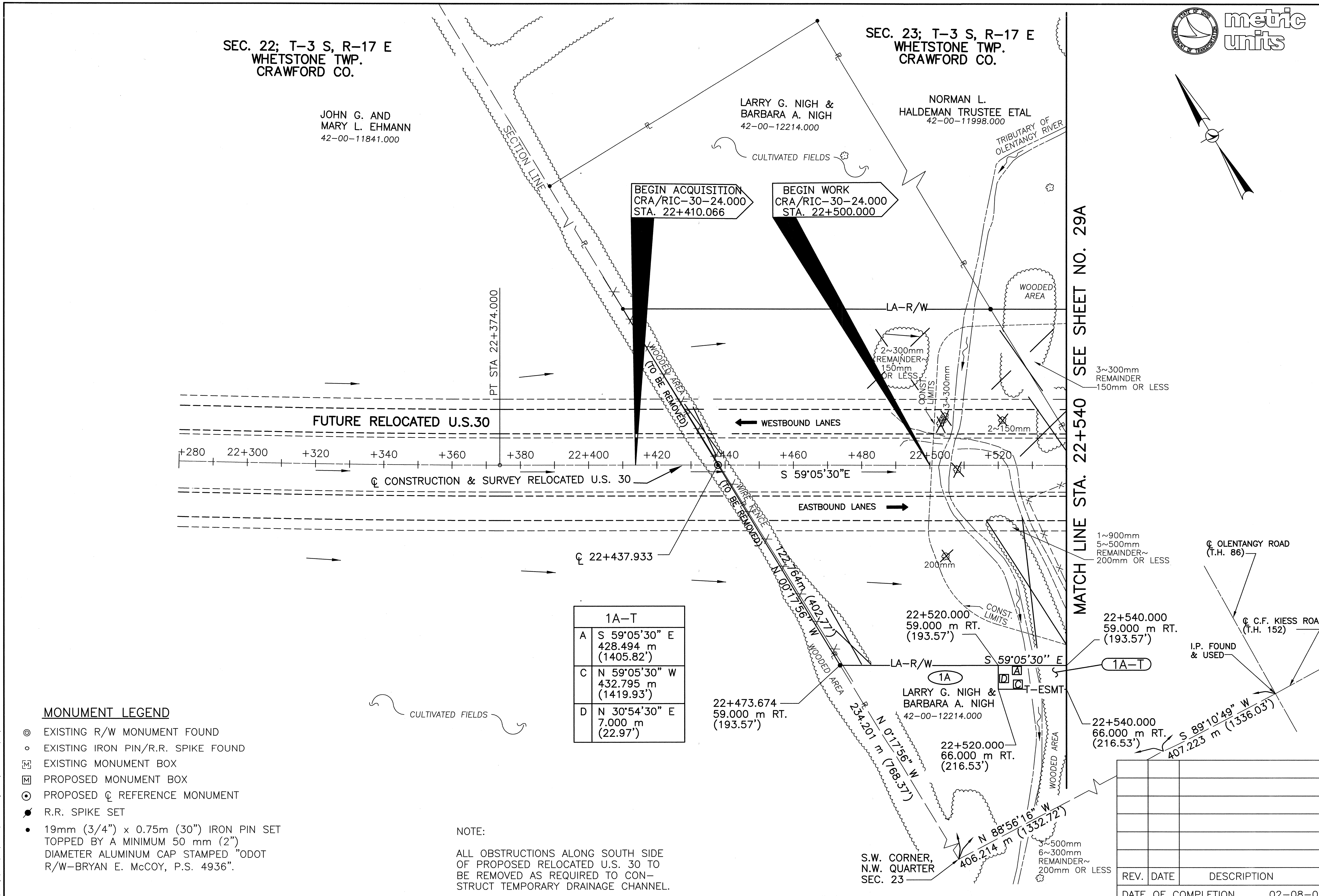


1A-T	
A	S 59°05'30" E 428.494 m (1405.82')
C	N 59°05'30" W 432.795 m (1419.93')
D	N 30°54'30" E 7.000 m (22.97')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		02-08-05

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

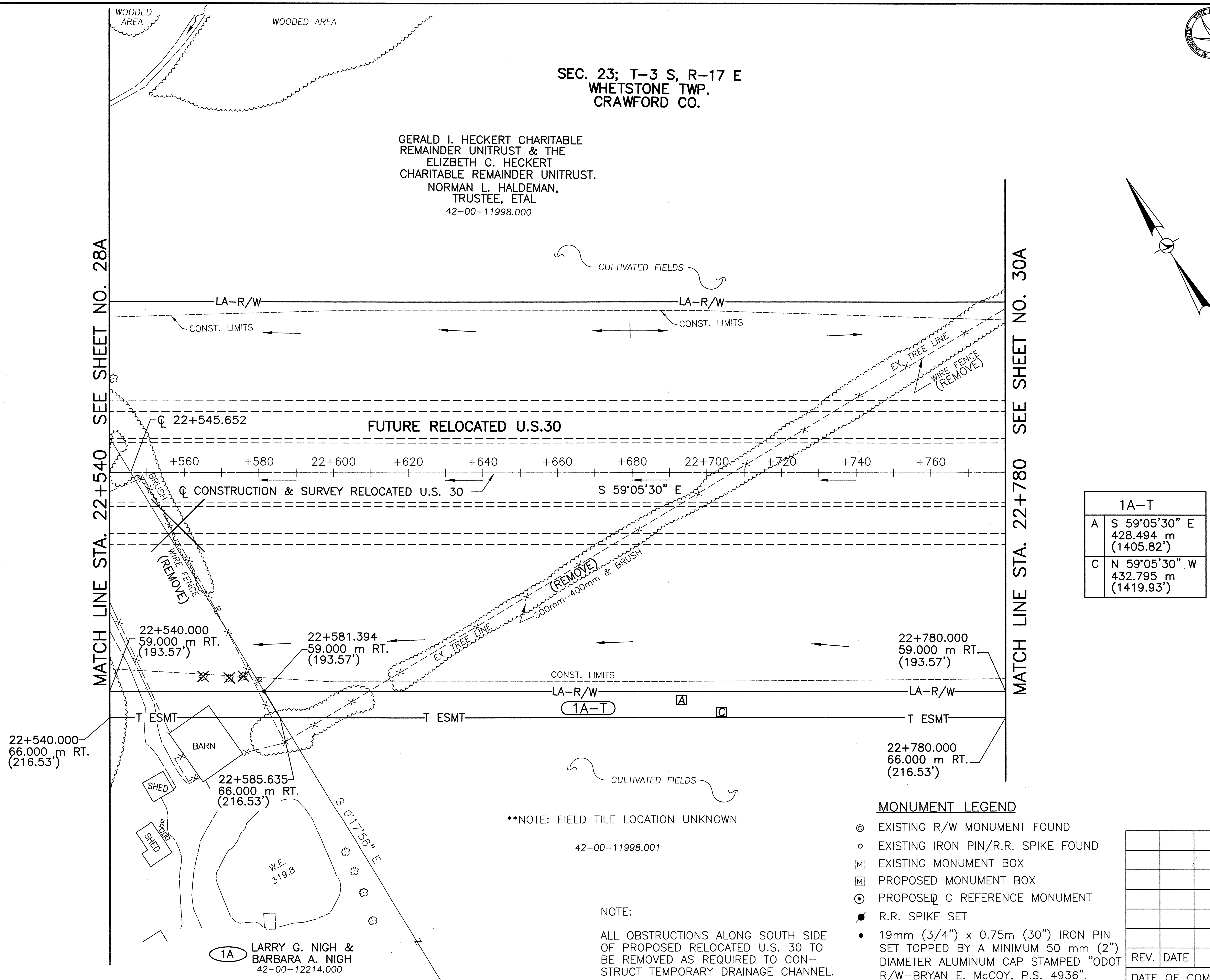
RIGHT OF WAY PLAN
STA. 22+280 TO STA. 22+540

CRA-30-24.000 (14.91)

284/86

619A/677

CRA-30-24.000 (14.91)



1A-T	
A	S 59°05'30" E 428.494 m (1405.82')
C	N 59°05'30" W 432.795 m (1419.93')

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 02-08-05

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 22+540 TO STA. 22+780

CRA-30-24.000 (14.91)

29A/86

620A/677

CRA-30-24.000 (14.91)

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MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

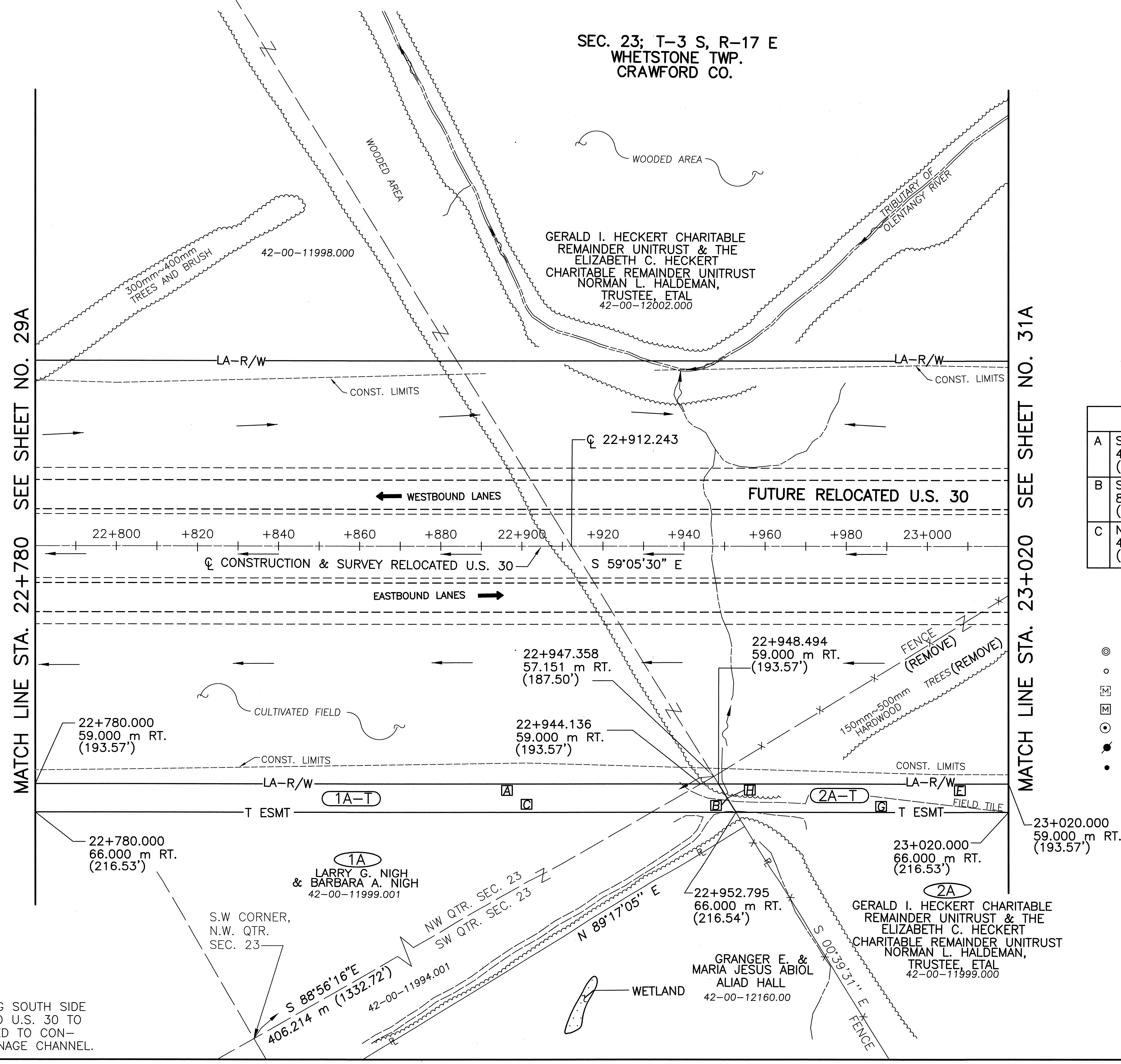
LBD	9-16-04	ADD PARCEL 2-T
PKM	8-01-01	REV. PAR. 2 OWNER NAME
REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-31-00

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

CRA-30-24.000 (14.91)

SEC. 23; T-3 S, R-17 E
WHETSTONE TWP.
CRAWFORD CO.



1A-T		
A	S 59°05'30" E 428.494 m (1405.82')
B	S 00°39'31" E 8.216 m (26.95')
C	N 59°05'30" W 432.795 m (1419.93')

2A-T	
E	S 59°05'30" E 429.335 m (1408.58')
G	N 59°05'30" W 429.276 m (1408.38')
H	N 00°39'31" W 8.216 m (26.95')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 02-08-05

metric units

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 22+780 TO STA. 23+020

CRA-30-24.000 (14.91)

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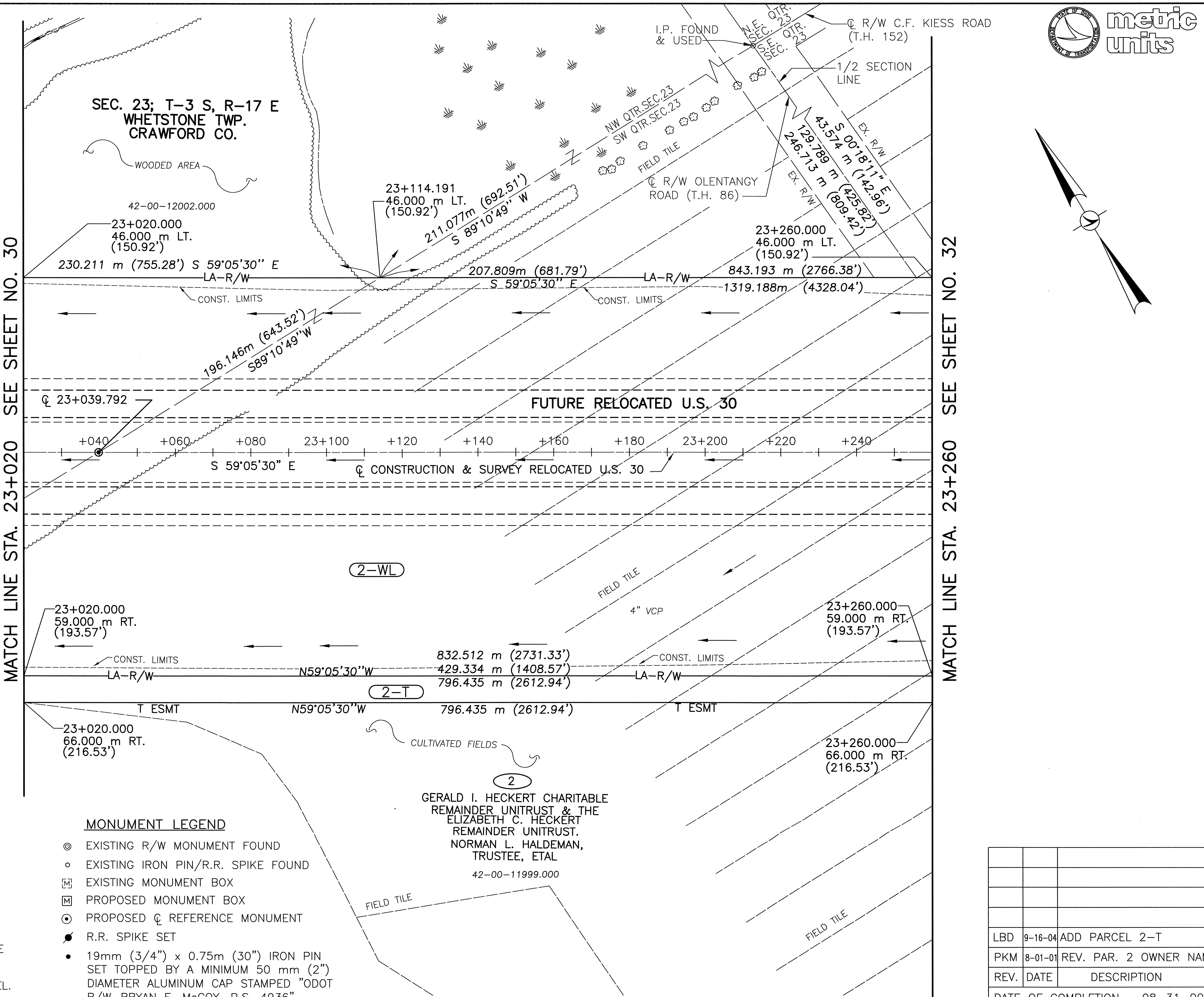


MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

LBD	9-16-04	ADD PARCEL 2-T
PKM	8-01-01	REV. PAR. 2 OWNER NAME
REV.	DATE	DESCRIPTION

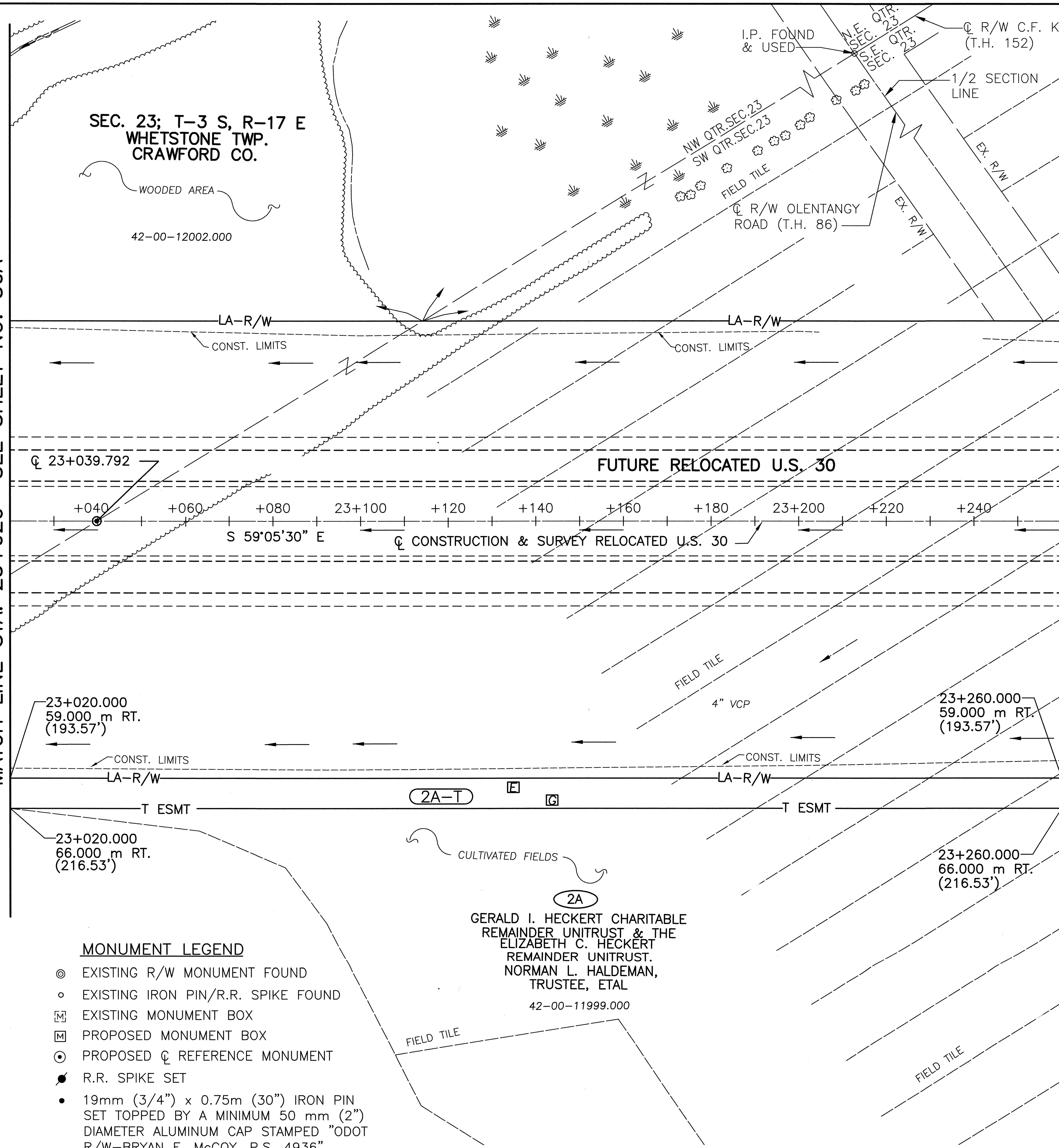
DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+020 TO STA. 23+260

CRA-30-24.000 (14.91)



2A-T	
E	S 59°05'30" E 429.335 m (1408.58')
G	N 59°05'30" W 429.276 m (1408.38')

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

metric units

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+020 TO STA. 23+260

CRA-30-24.000 (14.91)

31A/86

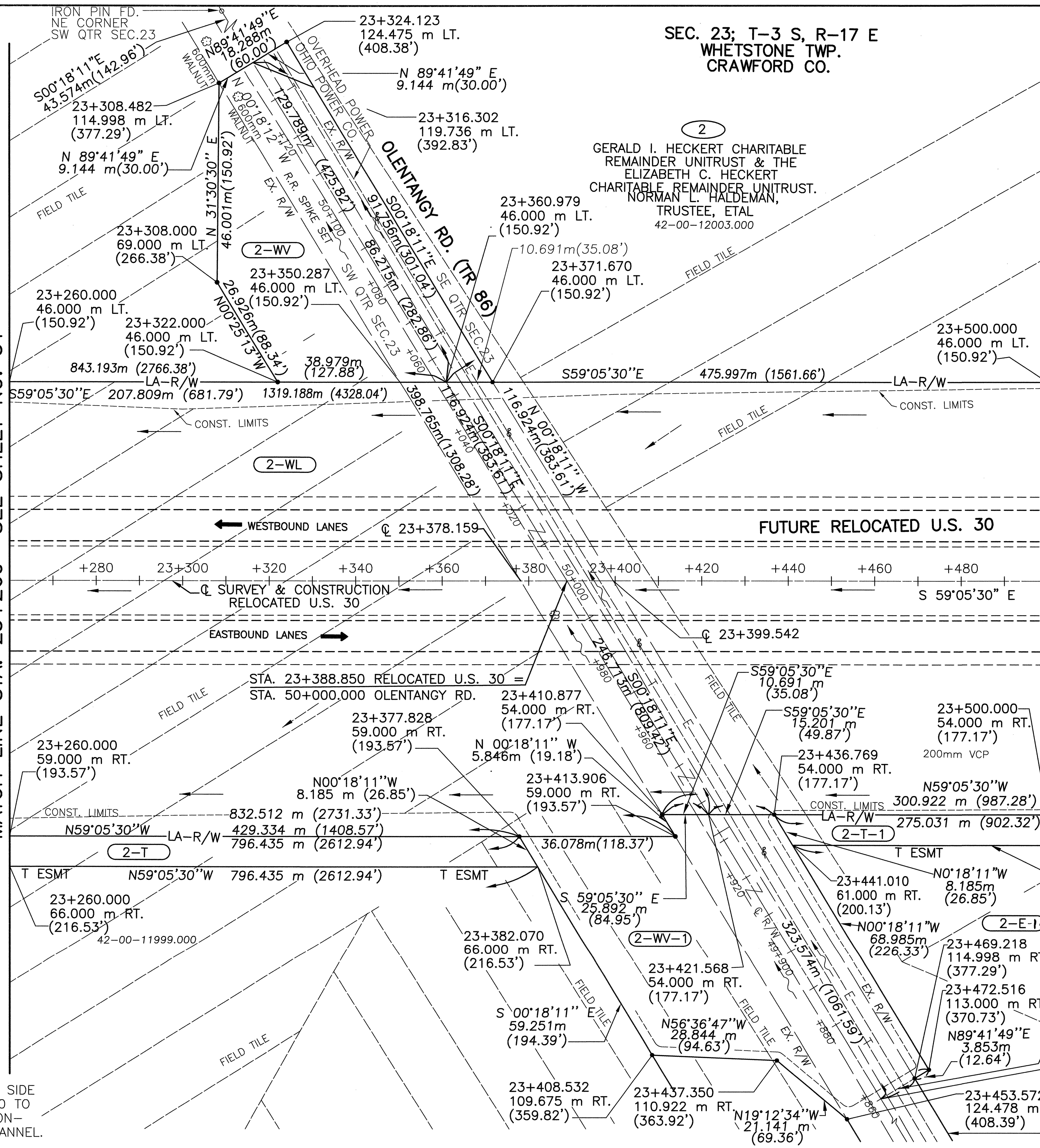
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 02-08-05

622A/677

L:\Drawings\93125\ROW\PLANSHT\Rd103c02A.dwg February 07 2005 4:21pm By:Donna

SEC. 23; T-3 S, R-17 E
WHETSTONE TWP.
CRAWFORD CO.



THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

REV.	DATE	DESCRIPTION
JEK	12-21-01	REVISE PARCEL 2E TO 2E-1
LBD	10-4-01	ADD PAECEL 2-T, 2-T-1
LBD	10-4-01	REVISE PARCEL 2-WV-1
PKM	9-18-01	ADD PARCEL 2-E
PKM	8-01-01	REV. PAR. 2 OWNER NAME

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

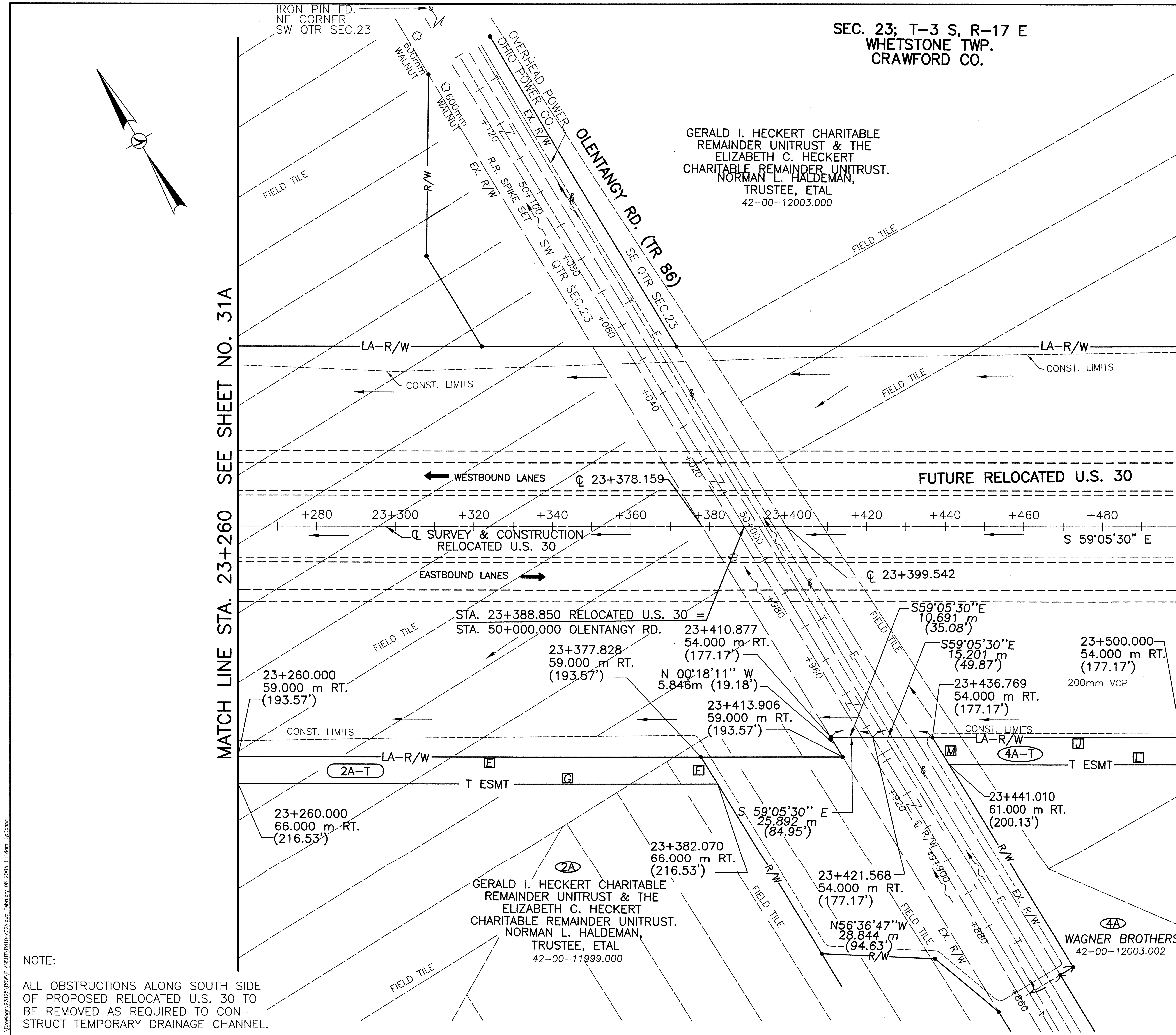
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+260 TO STA. 23+500

CRA-30-24.000 (14.91)

32/86

623/677



NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

metric units

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

2A-T	
E	S 59°05'30" E 429.335 m (1408.58')
F	S 00°18'11" E 8.185 m (26.85')
G	N 59°05'30" W 429.276 m (1408.38')

4A-T	
J	S 59°05'30" E 275.031 m (902.33')
L	N 59°05'30" W 259.408 m (851.07')
M	N 00°18'11" W 8.185 m (26.85')

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 02-08-05

RATIO 1:500 HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

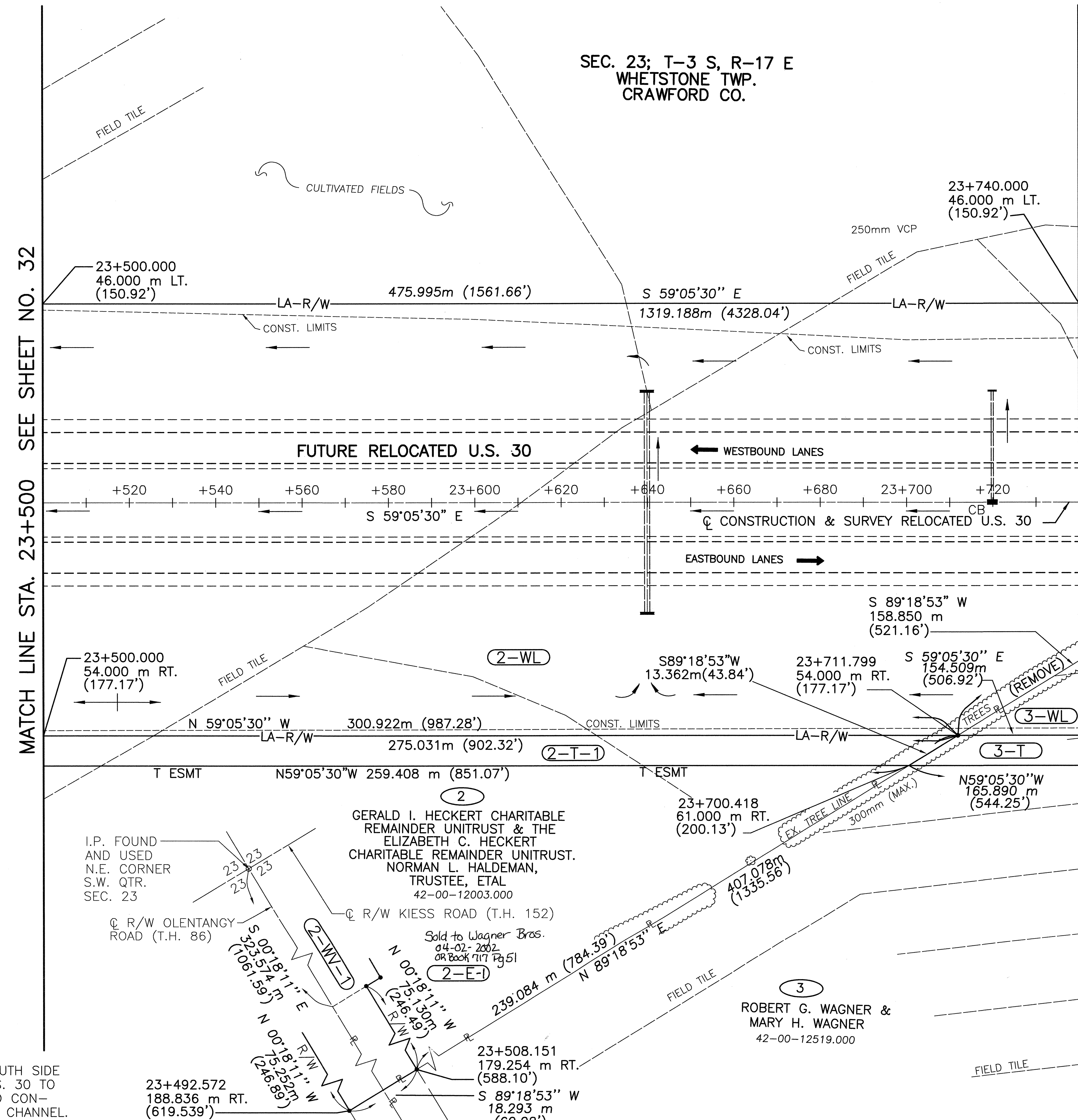
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN STA. 23+260 TO STA. 23+500

CRA-30-24.000 (14.91)

32A/86

623A/677



MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

JEK	12-21-01	REVISE PARCEL 2E TO 2E-1
LBD	9-16-04	ADD PARELS 2-T-1, 3-T
LBD	10-4-01	REVISE PARCEL 2-WV-1
PKM	9-18-01	ADD PARCEL 2-E
PKM	8-01-01	REV. PAR. 2 OWNER NAME
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+500 TO STA. 23+740

CRA-30-24.000 (14.91)

33/86

624/677

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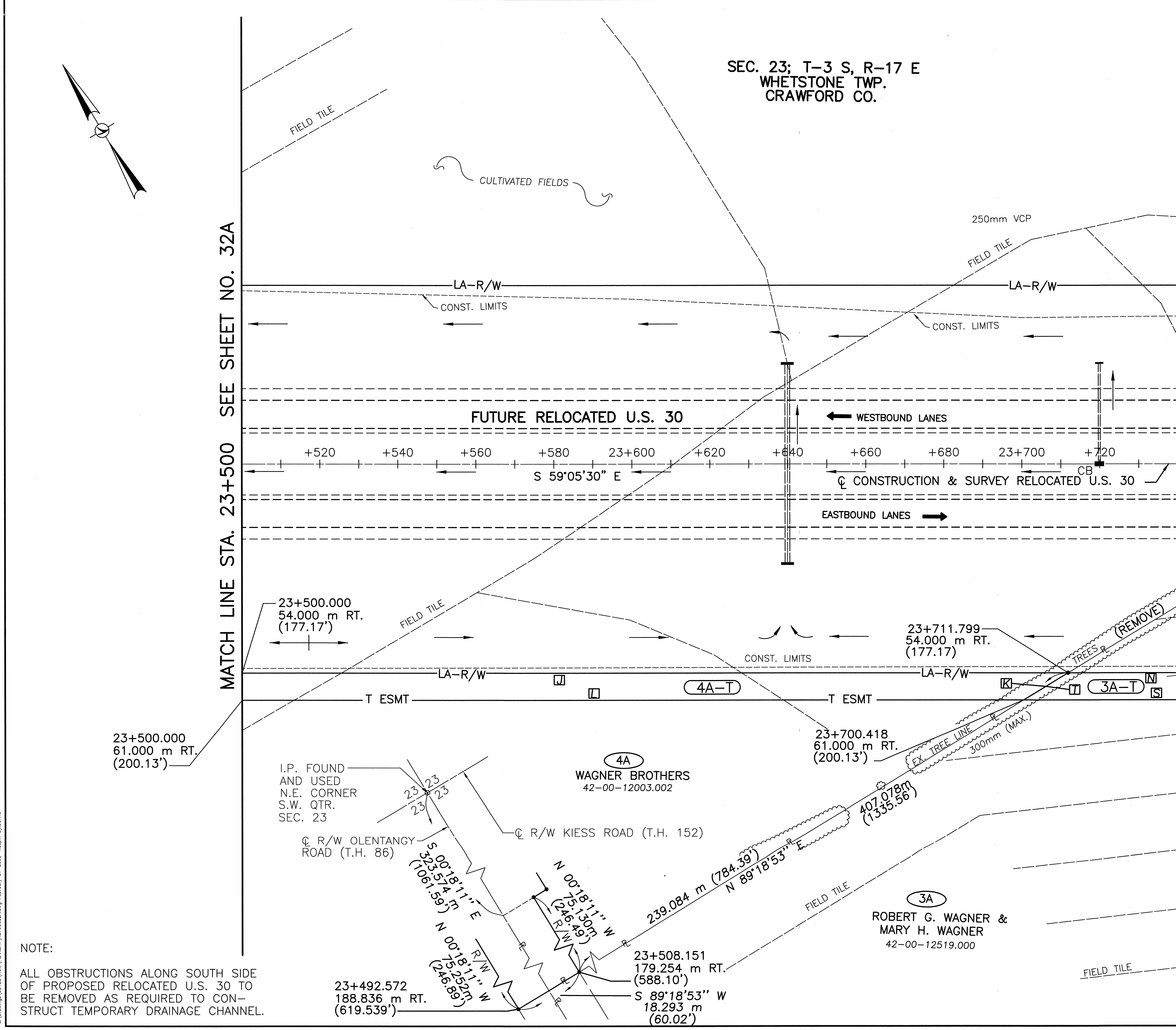
CRA-30-24.000 (14.91)



NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

metric units

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

	4A-T
J	S 59°05'30" E 275.031 m (902.33')
K	S 89°18'53" W 13.362 m (43.84')
L	N 59°05'30" W 259.408 m (851.07')

	3A-T
N	S 59°05'30" E 154.509 m (506.92')
S	N 59°05'30" W 165.890 m (544.26')
T	N 89°18'53" E 13.362 m (43.84')

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		02-08-05

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

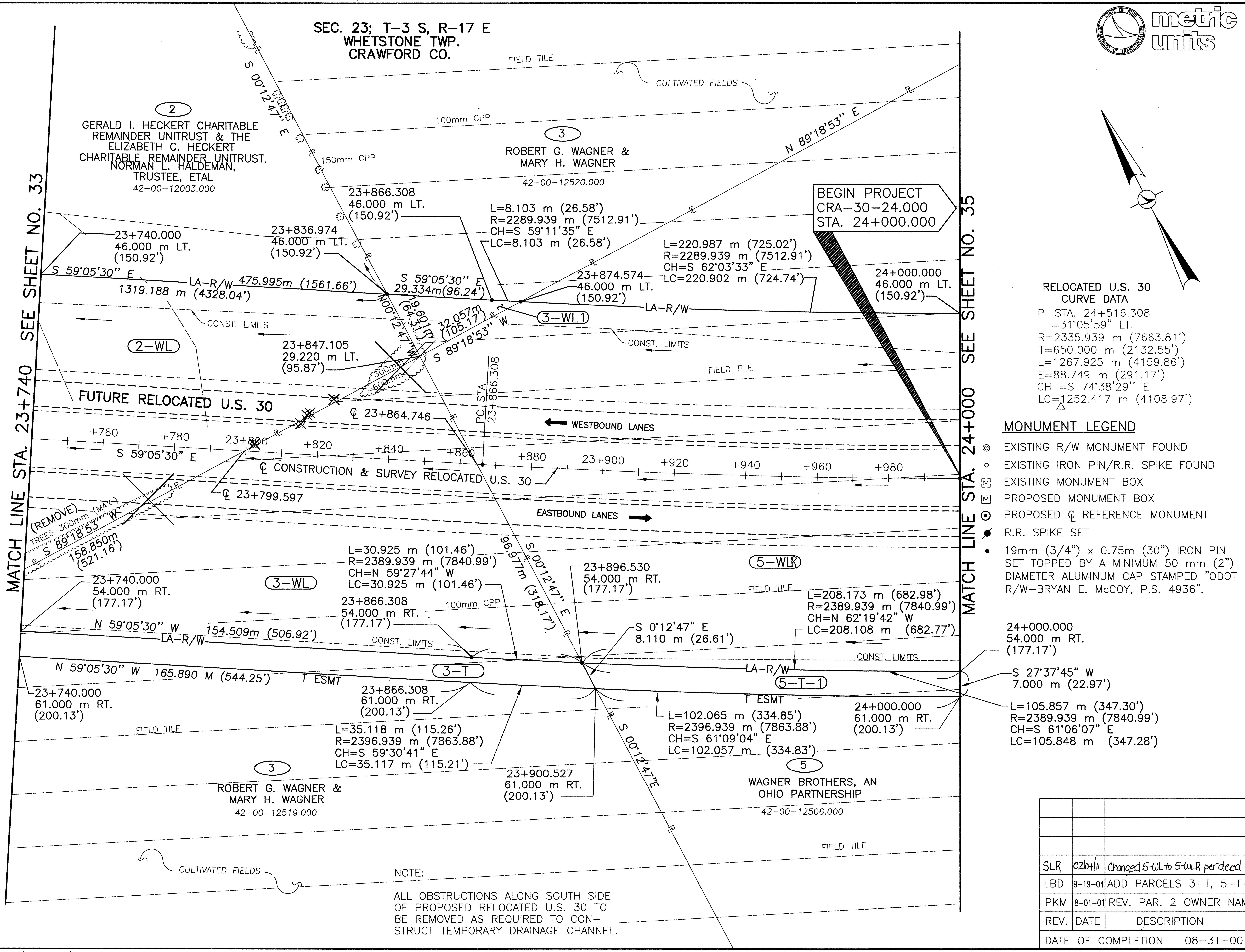
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+500 TO STA. 23+740

CRA-30-24.000 (14.91)

33A/86

624A/677



RELOCATED U.S. 30 CURVE DATA
PI STA. 24+516.308
=31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH =S 74°38'29" E
LC=1252.417 m (4108.97')

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

NOTE:
ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

SLR	02/04/11	Changed 5-WL to 5-WLR per deed
LBD	9-19-04	ADD PARCELS 3-T, 5-T-1
PKM	8-01-01	REV. PAR. 2 OWNER NAME
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+740 TO STA. 24+000

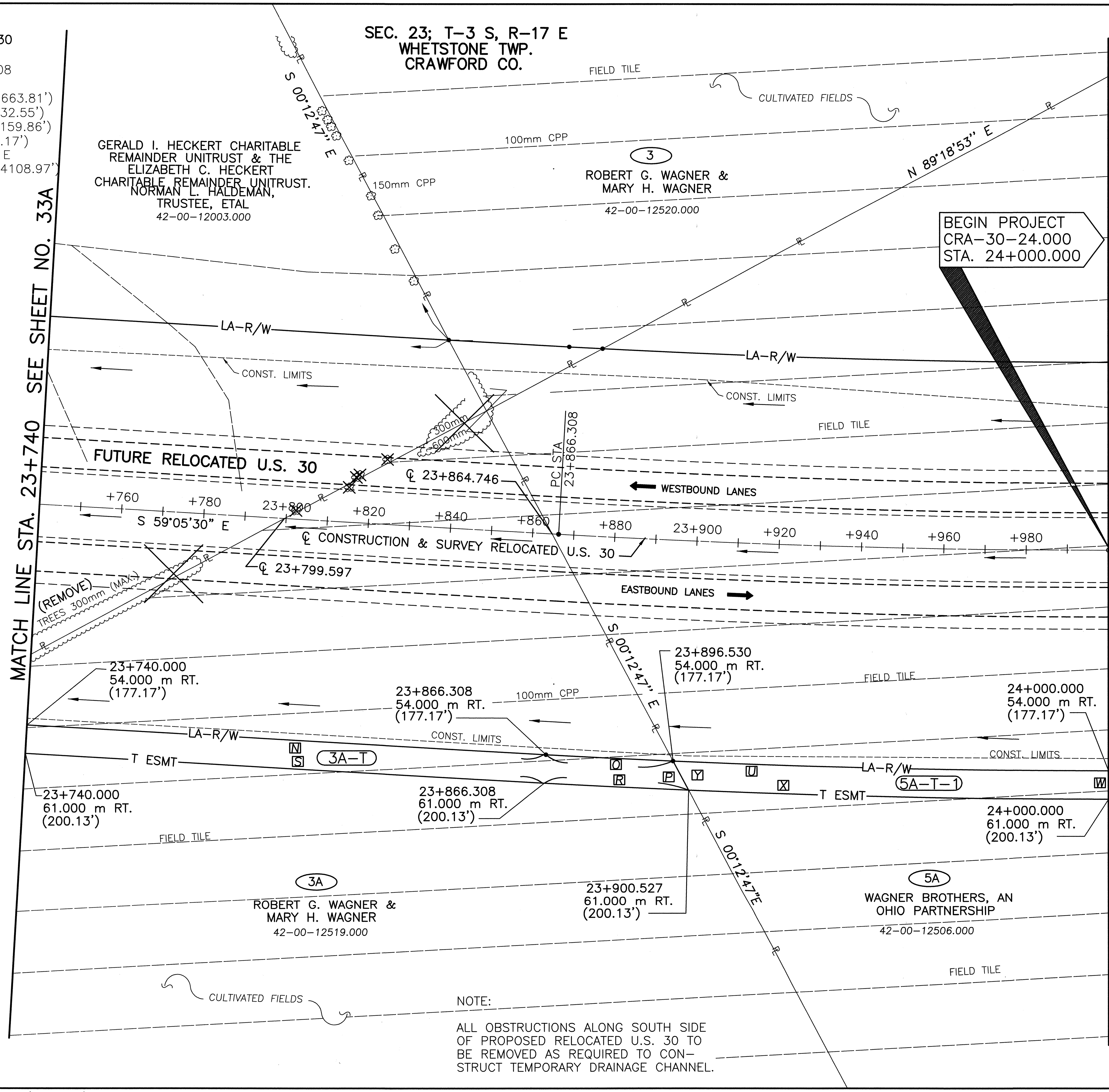
CRA-30-24.000 (14.91)

34/86

625/677

RELOCATED U.S. 30
CURVE DATA

PI STA. 24+516.308
Δ =31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH =S 74°38'29" E
LC=1252.417 m (4108.97')



NOTE:

ALL OBSTRUCTIONS ALONG SOUTH SIDE OF PROPOSED RELOCATED U.S. 30 TO BE REMOVED AS REQUIRED TO CONSTRUCT TEMPORARY DRAINAGE CHANNEL.

metric units

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

3A-T	
N	S 59°05'30" E 154.509 m (506.92')
O	L=30.925 m (101.46') R=2389.939 m (7840.99') CH=S 59°27'44" E LC=30.925 m (101.46')
P	S 00°12'47" E 8.110 m (26.61')
R	L=35.118 m (115.22') R=2396.939 m (7863.96') CH=N 59°30'41" W LC=35.117 m (115.21')
S	N 59°05'30" W 165.890 m (544.26')

5A-T-1	
U	L=105.857 m (347.30') R=2389.939 m (7840.99') CH=S 61°06'07" E LC=105.848 m (347.27')
W	S 27°37'45" W 7.000 m (22.97')
X	L=102.065 m (334.86') R=2396.939 m (7863.96') CH=N 61°09'04" W LC=102.057 m (334.83')
Y	N 00°12'47" W 8.110 m (26.61')

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 23+740 TO STA. 24+000

CRA-30-24.000 (14.91)

34A/86

625A/677

DATE OF COMPLETION 02-08-05

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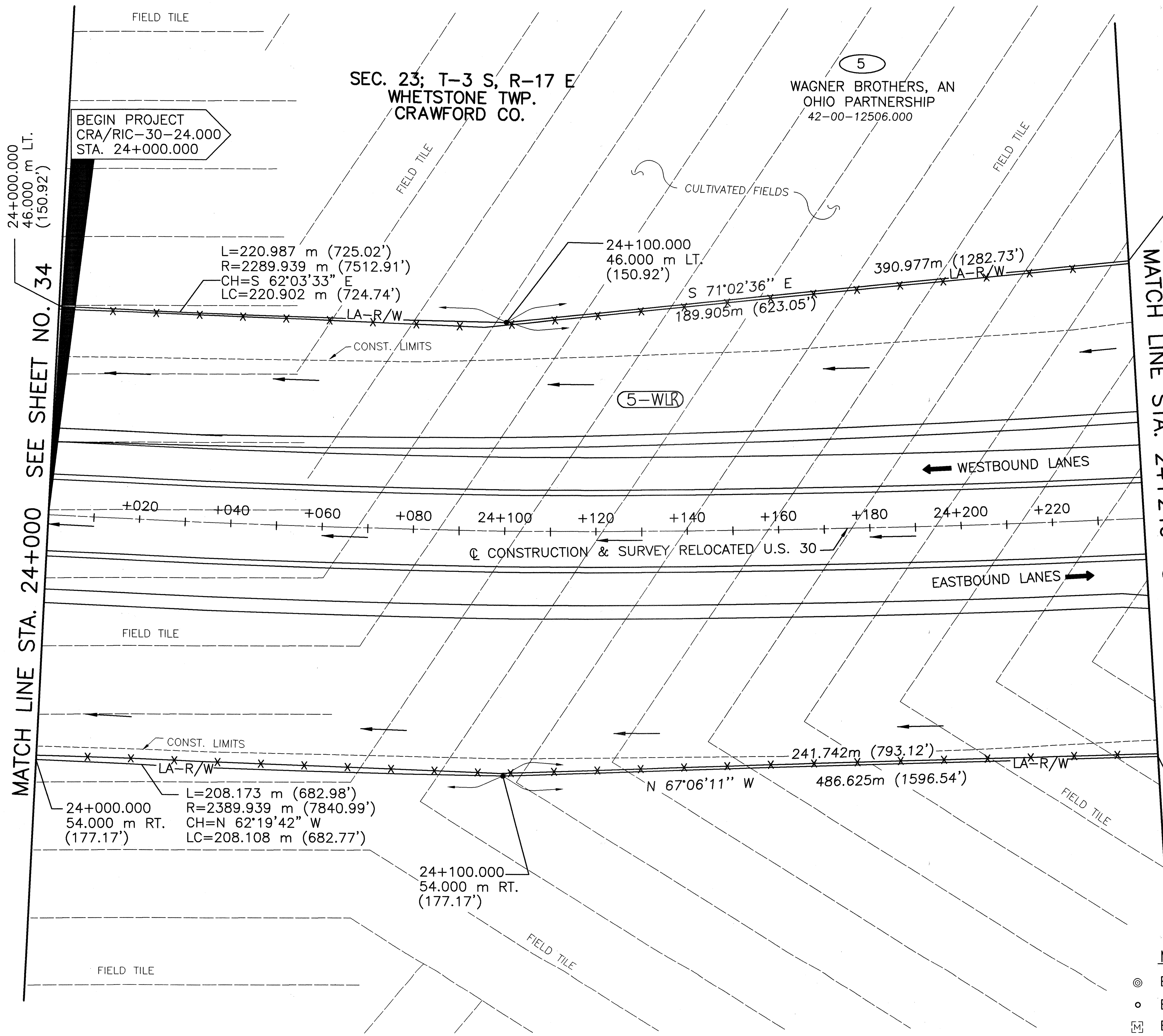


metric units

RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH=S 74°38'29" E
LC=1252.417 m (4108.97')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION
SLR	2-04-11	Changed 5-WL to 5-WLR per deed

DATE OF COMPLETION 01-14-00

RATIO 1:500
HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

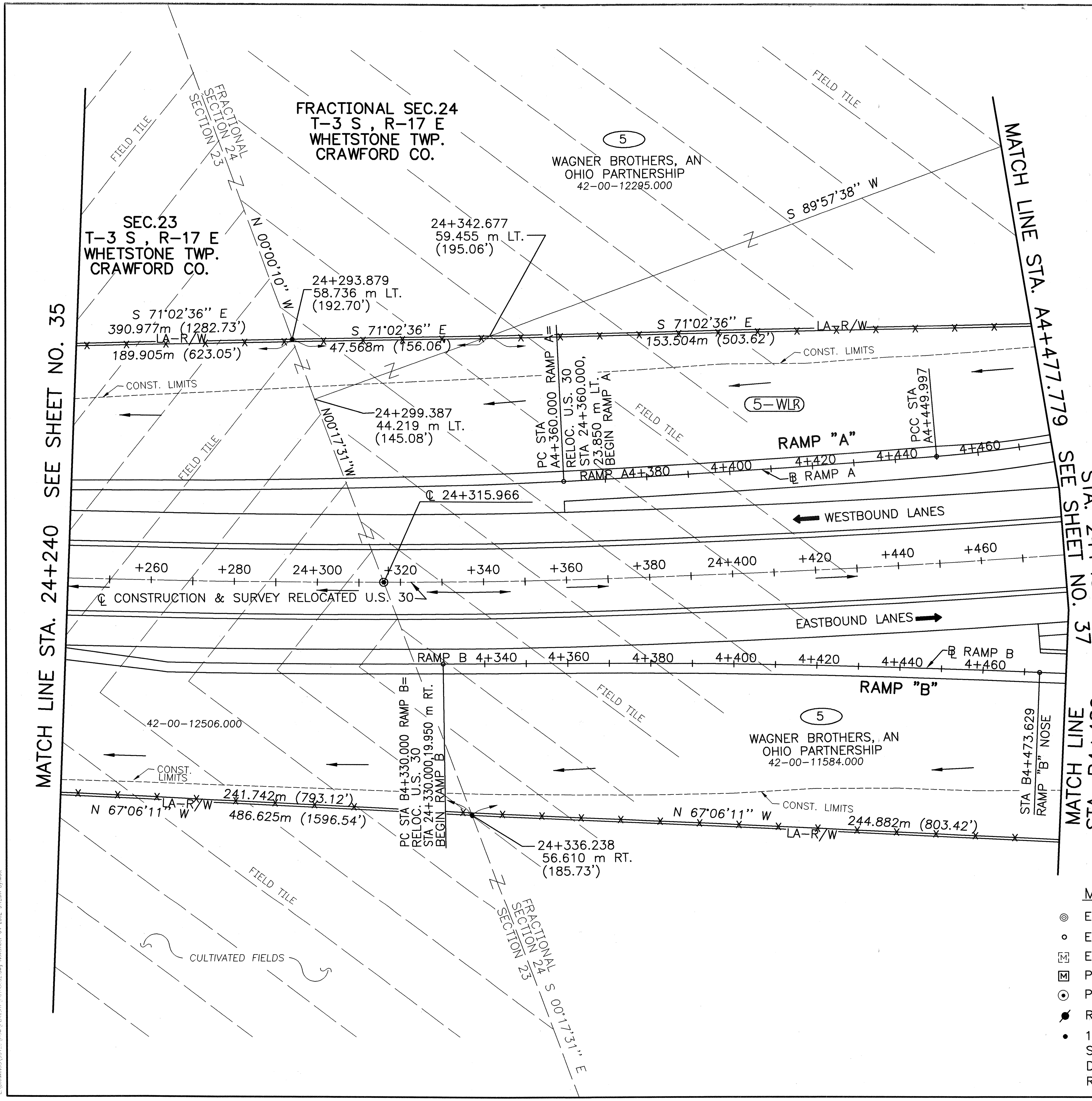
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 24+000 TO STA. 24+240

CRA-30-24.000 (14.91)

35/86

626/677



RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH=S 74°38'29" E
LC=1252.417 m (4108.97')

RAMP A ~ CURVE DATA
PI STA. A4+416.844
Δ=02°14'31" RT.
R=2300.000 m (7545.92')
T=45.004 m (147.65')
L=89.997 m (295.27')
E=0.440 m (1.44')
CH=S 73°33'17" E
LC=89.997m (295.27')

RAMP B ~ CURVE DATA
PI STA. B4+416.844
Δ=03°40'15" RT.
R=2710.000 m (8891.06')
T=86.844 m (284.92')
L=173.629 m (569.65')
E=1.391 m (4.56')
CH=S 68°37'47" E
LC=173.600 m (569.55')

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

SLR	2-04-11	Changed 5-WL to 5-WLR per deed
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 01-14-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

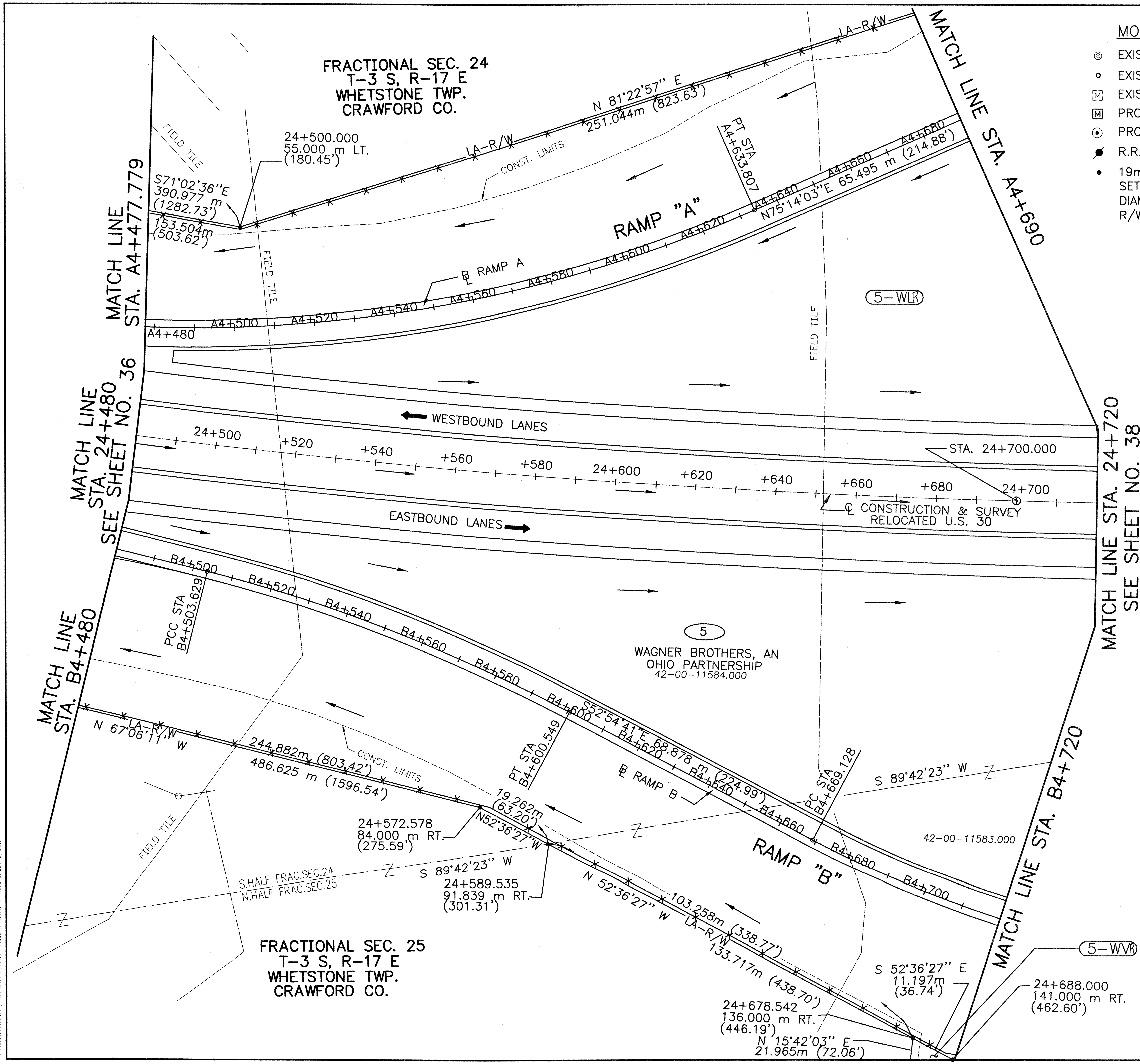
RIGHT OF WAY PLAN
STA. 24+240 TO STA. 24+480

CRA-30-24.000 (14.91)

36/86

627/677

CRA-30-24.000 (14.91)



MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

RAMP A ~ CURVE DATA
PI STA. A4+544.074
Δ=30°05'24" LT.
R=350.00 m ((1148.29')
T=94.077 m (308.65')
L=183.809 m (603.05')
E=12.423 m (40.76')
CH=S 89°43'15" E
LC=181.704 m (596.15')

RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH=S 74°38'29" E
LC=1252.417 m (4108.97')

RAMP B ~ CURVE DATA
PI STA. B4+552.327
Δ=13°52'58" RT.
R=400.00 m (1312.33')
T=48.698 m (159.77')
L=96.920 m (317.98')
E=2.954 m (9.69')
CH=S 59°51'10" E
LC=96.683 m(317.20')

PI STA. B4+739.346
Δ=26°20'49" LT.
R=300.00 m (984.25')
T=70.218 m (230.37')
L=137.952 m (452.60')
E=8.108 m (26.60')
CH=S 66°05'06" E
LC=136.740 m (448.62')

REV.	DATE	DESCRIPTION
SLR	2-4-11	Changed 5-WV to 5-WVR per deed
SLR	2-4-11	Changed 5-WL to 5-WLR per deed

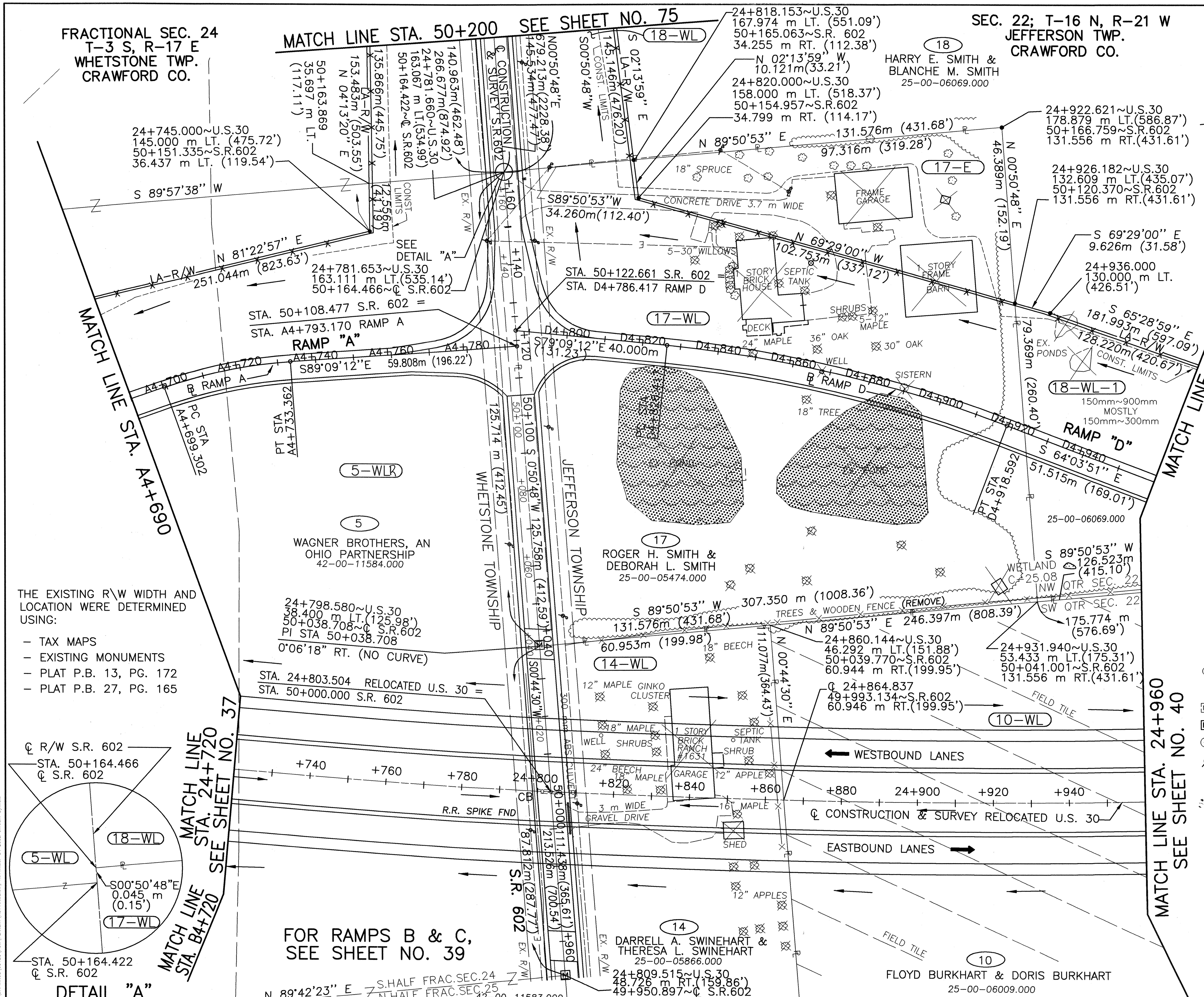
DATE OF COMPLETION 01-14-00

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 24+480 TO STA. 25+720

CRA-30-24.000 (14.91)



THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 13, PG. 172
- PLAT P.B. 27, PG. 165

RAMP A ~ CURVE DATA
PI STA. 24+716.439
△=15°36'44" RT.
R=125.000 m (410.10')
T=17.137 m (56.33')
L=34.061 m (111.75')
E=1.169 m (3.84')
CH=N 83°02'26" E
LC=33.955 m (111.40')

RAMP D ~ CURVE DATA
PI STA. 24+872.773
△=15°05'21" RT.
R=350.000 m (1148.29')
T=46.356 m (152.09')
E=3.056 m (10.03')
CH=S 71°36'31" E
LC=91.909 m (301.54')

RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
△=31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH=S 74°38'29" E
LC=1252.417 m (4108.97')

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

SLR	2-4-11	Changed 5-WL to 5-WLR
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS

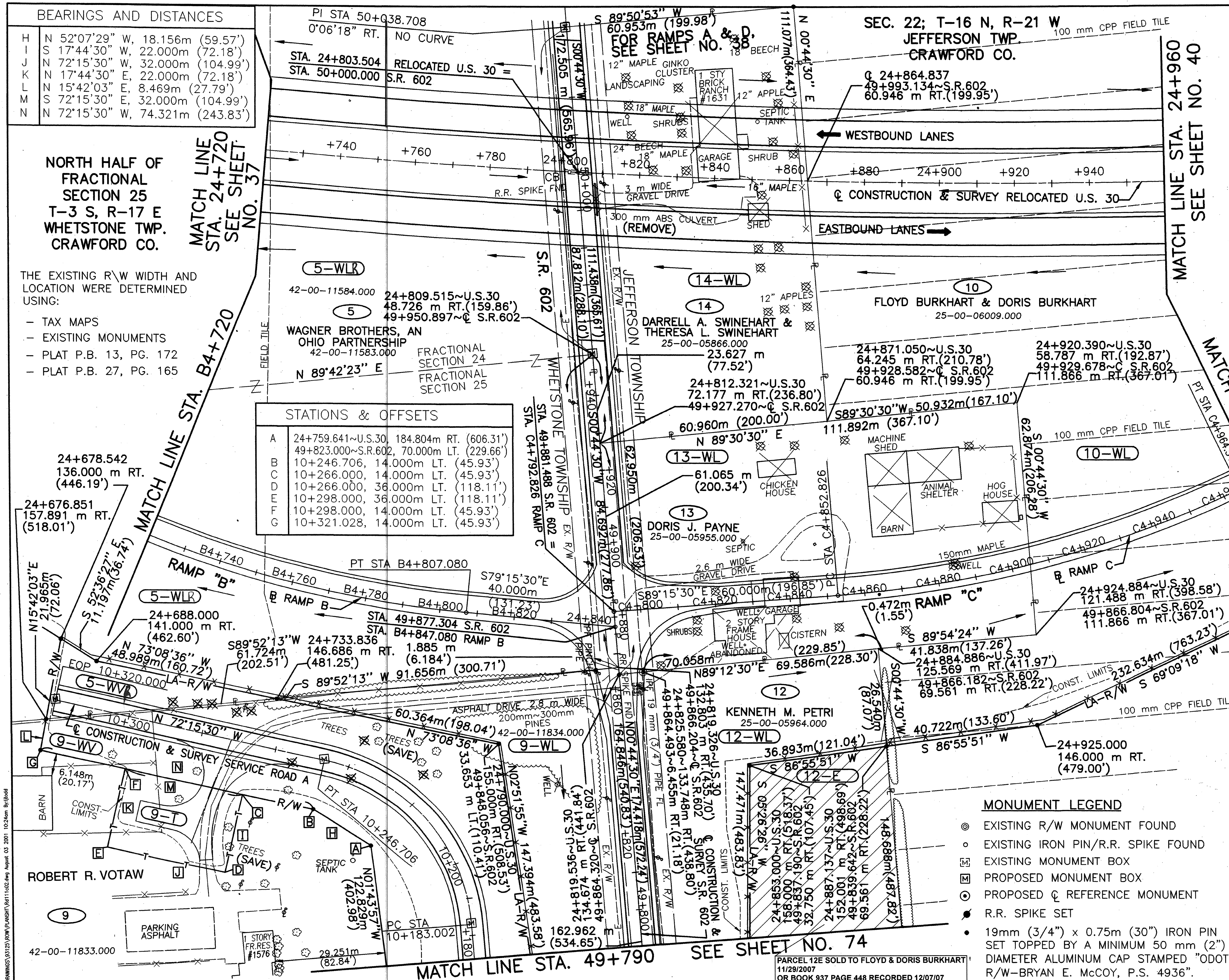
P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 24+720 TO STA. 24+960

CRA-30-24.000 (14.91)

CRA-30-24.000 (14.91)



BEARINGS AND DISTANCES

H	N 52°07'29" W, 18.156m (59.57')
I	S 17°44'30" W, 22.000m (72.18')
J	N 72°15'30" W, 32.000m (104.99')
K	N 17°44'30" E, 22.000m (72.18')
L	N 15°42'03" E, 8.469m (27.79')
M	S 72°15'30" E, 32.000m (104.99')
N	N 72°15'30" W, 74.321m (243.83')

STATIONS & OFFSETS

A	24+759.641~U.S.30, 184.804m RT. (606.31') 49+823.000~S.R.602, 70.000m LT. (229.66')
B	10+246.706, 14.000m LT. (45.93')
C	10+266.000, 14.000m LT. (45.93')
D	10+266.000, 36.000m LT. (118.11')
E	10+298.000, 36.000m LT. (118.11')
F	10+298.000, 14.000m LT. (45.93')
G	10+321.028, 14.000m LT. (45.93')

RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH=S 74°38'29" E
LC=1252.417 m (4108.97')

RAMP C ~ CURVE DATA
PI STA. 24+909.338
Δ=21°20'09" LT.
R=300.000 m (984.25')
T=56.512 m (185.41')
L=111.714 m (366.52')
E=5.276 m (17.31')
CH=N 80°04'25" E
LC=111.070 m (364.40')

SERVICE ROAD A
CURVE DATA
PI STA. 10+256.998
Δ=73°00'00" LT.
R=50.000 m (164.04')
T=36.998 m (121.38')
L=63.705 m (209.00')
E=12.200 m (40.03')
CH=N 34°45'30" E
LC=59.482 m (195.15')

RAMP B ~ CURVE DATA
PI STA. 24+739.346
Δ=26°20'49" LT.
R=300.00 m (984.25')
T=70.218 m (230.37')
L=137.952 m (452.60')
E=8.108 m (26.60')
CH=S 66°05'06" E
LC=136.740 m (448.62')

STRUCTURES KEY:
- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION
SLR	02/04/11	Changed 5-WV to 5-WVR per deed
SLR	02/04/11	Changed 5-WL to 5-WLR per deed
SLR	02/12/08	SALE OF PCL 12E
JEK	12-03-01	OWNER NAME PAR. 9
PKM	8-01-01	REV. PAR. 40 PPN
3-8-01	PKM	9-T ADDED, 9-WV REVISED

DATE OF COMPLETION 08-31-00

RIGHT OF WAY PLAN
STA. 24+720 TO STA. 24+960

CRA-30-24.000 (14.91)

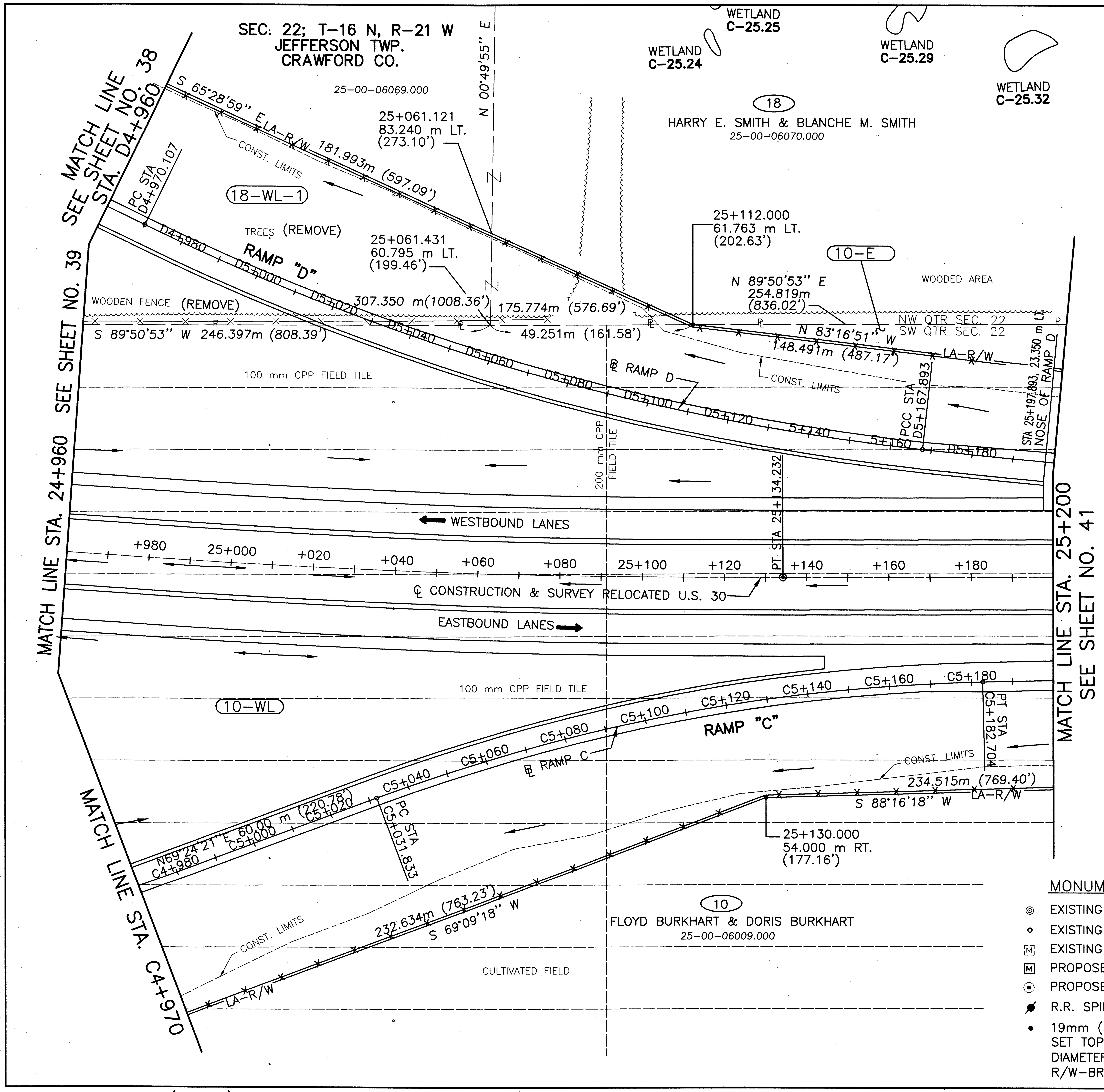
P.I.D. NUMBER 16283
STATE PROJECT NO. 036010
RATIO 1:500 HORIZONTAL SCALE IN METERS

metric units

39/86

630/677

CRA-30-24.000 (14.91)



RELOCATED U.S. 30
CURVE DATA
PI STA. 24+516.308
Δ=31°05'59" LT.
R=2335.939 m (7663.81')
T=650.000 m (2132.55')
L=1267.925 m (4159.86')
E=88.749 m (291.17')
CH=S 74°38'29" E
LC=1252.417 m (4108.97')

RAMP D ~ CURVE DATA
PI STA. 24+979.987
Δ=19°42'30" LT.
R=575.000 m (1886.48')
T=99.880 m (327.69')
L=197.786 m (648.90')
E=8.610 m (28.25')
CH=S 73°55'06" E
LC=196.812 m (645.71')

RAMP D~ CURVE DATA
PI STA. 25+268.825
Δ=06°25'08" LT.
R=1800.00 m ((5905.50')
T=100.932 m (331.14')
L=201.652 m (661.59')
E=2.828 m (9.28')
CH=S 86°58'55" E
LC=201.547 m (661.24')

RAMP C ~ CURVE DATA
PI STA. 25+196.983
Δ=19°12'34" RT.
R=450.000 m (1476.38')
T=76.150 m (249.84')
L=150.871 m (494.98')
E=6.398 m (20.99')
CH=N 79°00'38" E
LC=150.165 m (492.67')

metric units

N

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 24+960 TO STA. 25+200

CRA-30-24.000 (14.91)

40/86

631/677

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

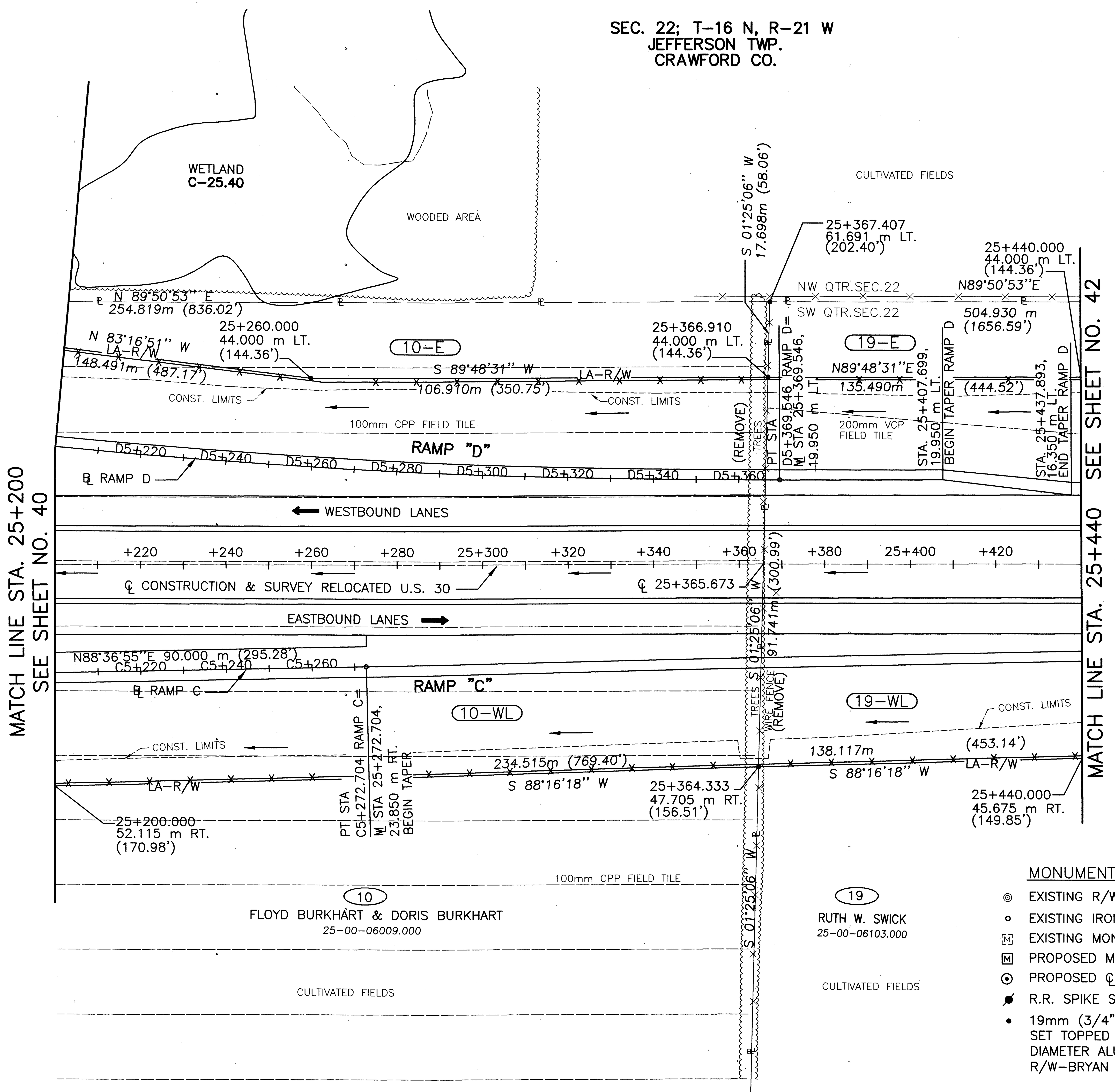
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

SEC. 22; T-16 N, R-21 W
JEFFERSON TWP.
CRAWFORD CO.

RAMP D~ CURVE DATA
PI STA. 25+268.825
Δ=06°25'08" LT.
R=1800.00 m ((5905.50')
T=100.932 m (331.14')
L=201.652 m (661.59')
E=2.828 m (9.28')
CH=S 86°58'55" E
LC=201.547 m (661.24')

metric units



MATCH LINE STA. 25+200
SEE SHEET NO. 40

MATCH LINE STA. 25+440
SEE SHEET NO. 42

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

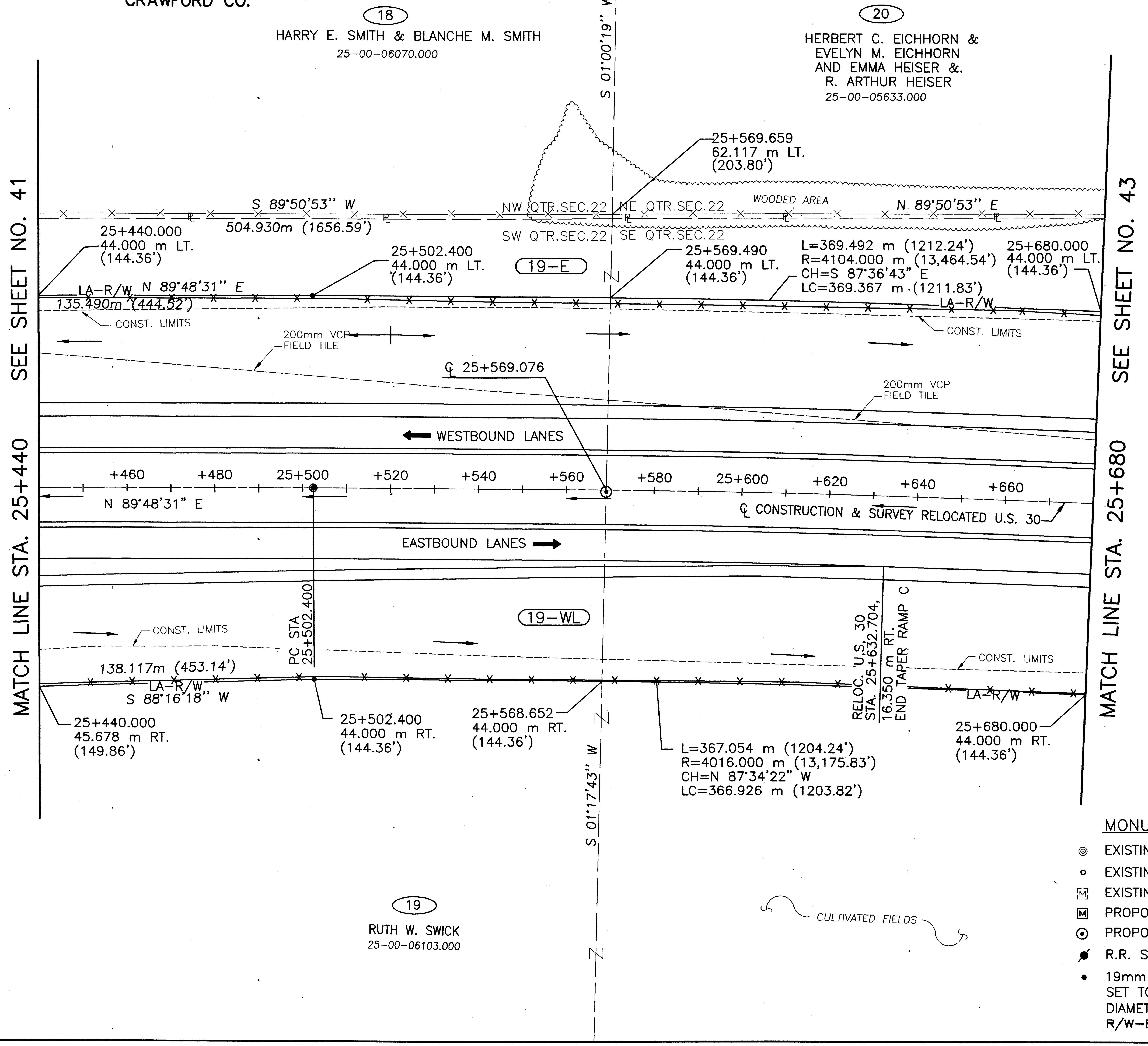
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 25+200 TO STA. 25+440

CRA-30-24.000 (14.91)

CRA-30-24.000 (14.91)

SEC. 22; T-16 N, R-21 W
JEFFERSON TWP.
CRAWFORD CO.



metric units

RELOCATED U.S. 30
CURVE DATA
PI STA. 25+734.232
Δ=06°32'11" RT.
R=4060.000 m (13,320.21')
T=231.833 m (760.61')
L=463.162 m (1519.56')
E=6.614 m (21.70')
CH=S 86°55'23" E
LC=462.911 m (1518.73')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

— EXISTING MONUMENTS

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

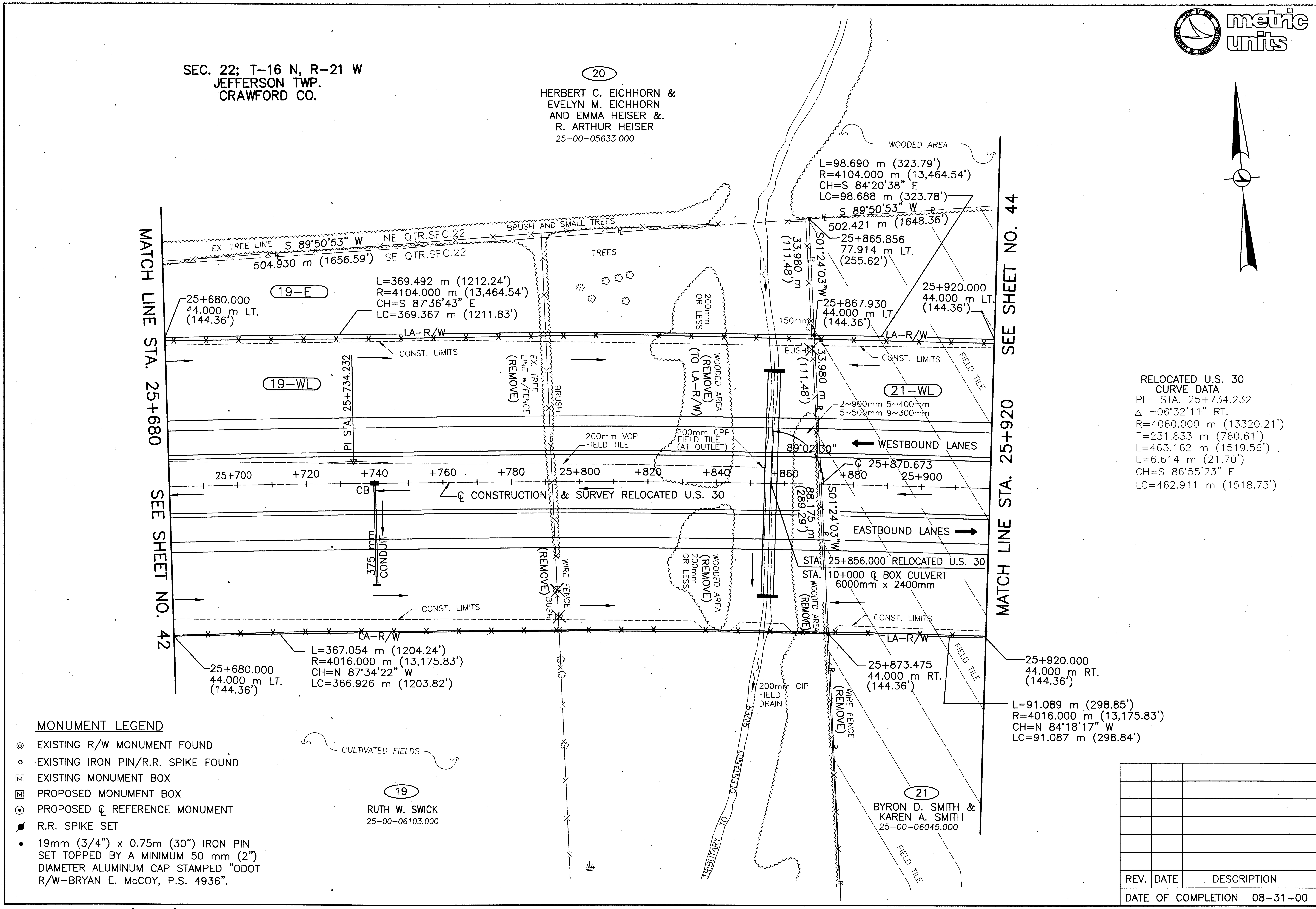
RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 25+440 TO STA. 25+680

CRA-30-24.000 (14.91)



RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

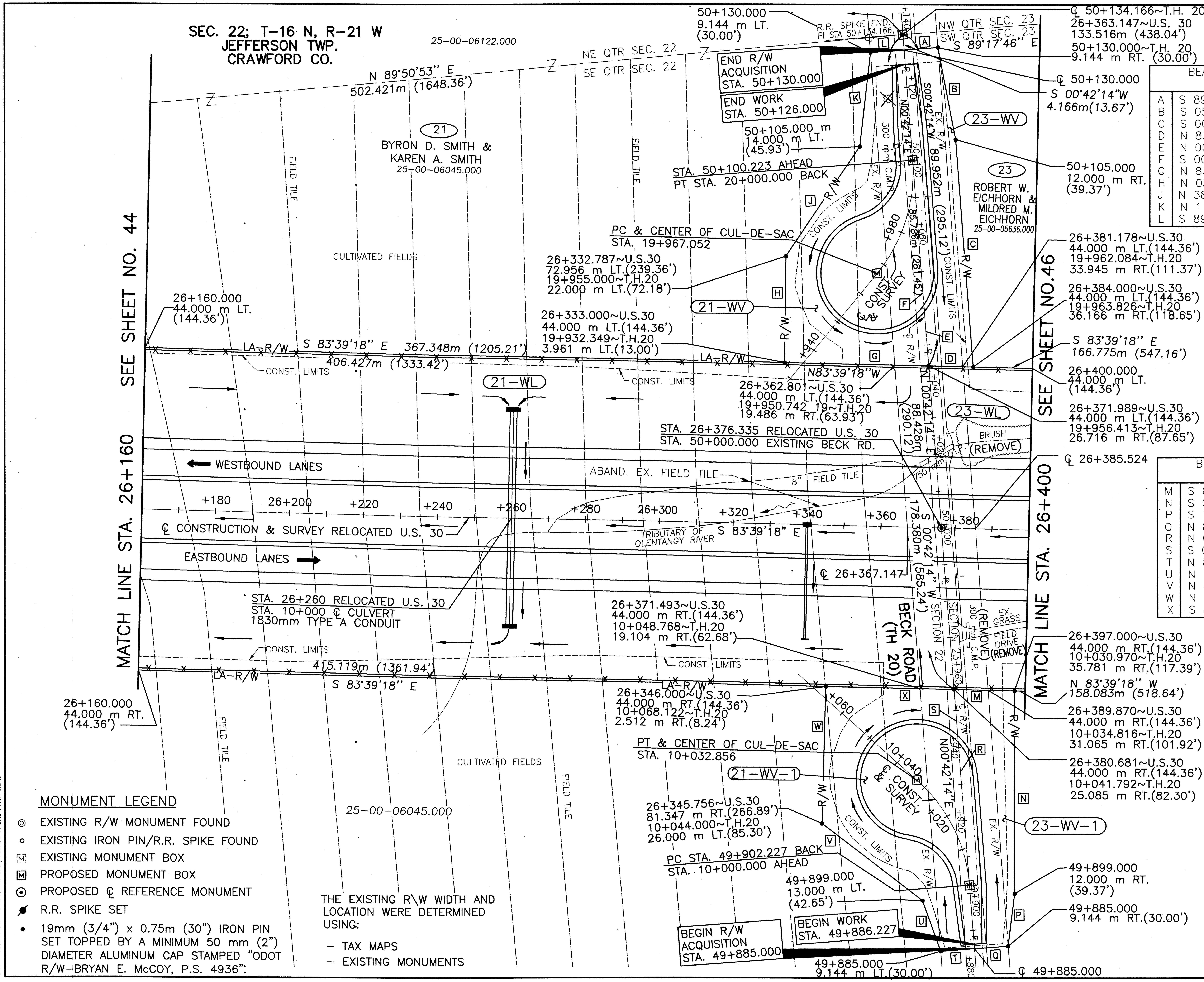
RIGHT OF WAY PLAN
STA. 25+680 TO STA. 25+920

CRA-30-24.000 (14.91)

43/86

634/677

CRA-30-24.000 (14.91)



RIGHT OF WAY PLAN
STA. 26+160 TO STA. 26+400

CRA-30-24.000 (14.91)

RATIO 1:500 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

metric units

BEARINGS AND DISTANCES
NORTH CUL-DE-SAC

A	S 89°17'46" E, 9.144m(30.00')
B	S 05°48'48" E, 25.163m(82.56')
C	S 00°44'52" W, 61.967m(203.30')
D	N 83°39'18" W, 12.011m(39.41')
E	N 00°42'14" E, 85.786m(281.45')
F	S 00°42'14" W, 85.786m(281.45')
G	N 83°39'18" W, 38.989m(127.92')
H	N 05°55'27" E, 28.957m(95.00')
J	N 38°57'16" E, 35.803m(117.46')
K	N 11°41'46" E, 25.467m(83.55')
L	S 89°17'46" E, 9.144m(30.00')

BEARINGS AND DISTANCES
SOUTH CUL-DE-SAC

M	S 83°39'18" E, 16.319m(53.54')
N	S 05°05'50" W, 55.344m(181.57')
P	S 12°14'03" W, 14.288m(46.88')
Q	N 89°17'46" W, 9.144m(30.00')
R	N 00°42'14" E, 70.786m(232.24')
S	S 00°42'14" W, 70.786m(232.24')
T	N 89°17'46" W, 9.144m(30.00')
U	N 14°41'42" W, 14.521m(47.64')
V	N 47°05'57" W, 34.322m(112.60')
W	N 06°43'07" E, 37.347m(122.53')
X	S 83°39'18" E, 34.681m(113.78')

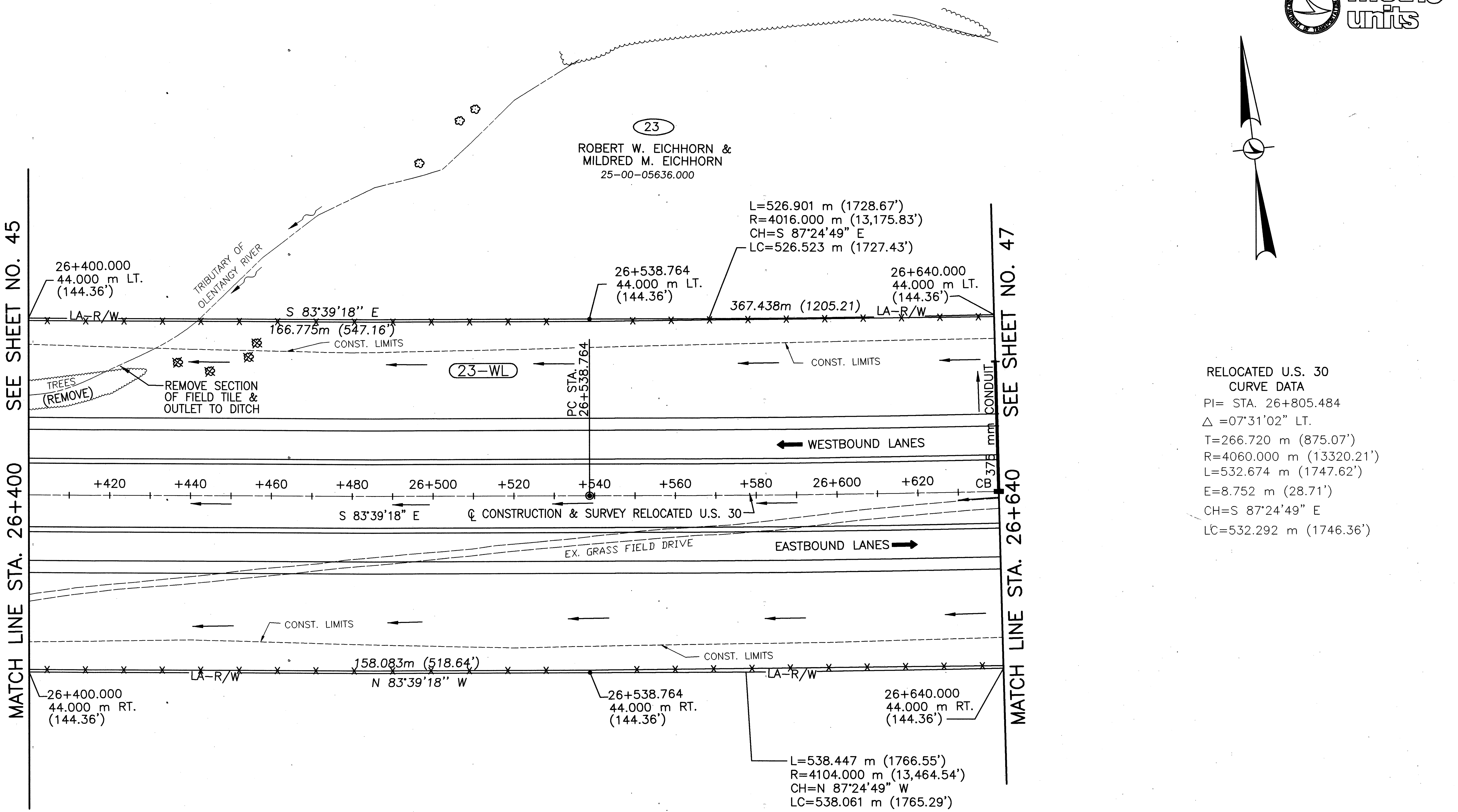
BECK ROAD
CURVE DATA
PI STA. 19+984.382
Δ =43°54'07" LT.
R=43.000 m (141.08')
T=17.330 m (56.86')
L=32.948 m (108.10')
E=3.361 m (11.03')
CH=N 22°30'23" E
LC=32.148 m (105.47')

BECK ROAD
CURVE DATA
PI STA. 10+017.277
Δ =43°46'48" LT.
R=43.000 m (141.08')
T=17.277 m (56.68')
L=32.856 m (107.80')
E=3.341 m (10.96')
CH=N 21°09'33" W
LC=32.063 m (105.19')

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
- TAX MAPS
- EXISTING MONUMENTS

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-31-00



RELOCATED U.S. 30
CURVE DATA

PI= STA. 26+805.484
△ =07°31'02" LT.
T=266.720 m (875.07')
R=4060.000 m (13320.21')
L=532.674 m (1747.62')
E=8.752 m (28.71')
CH=S 87°24'49" E
LC=532.292 m (1746.36')

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

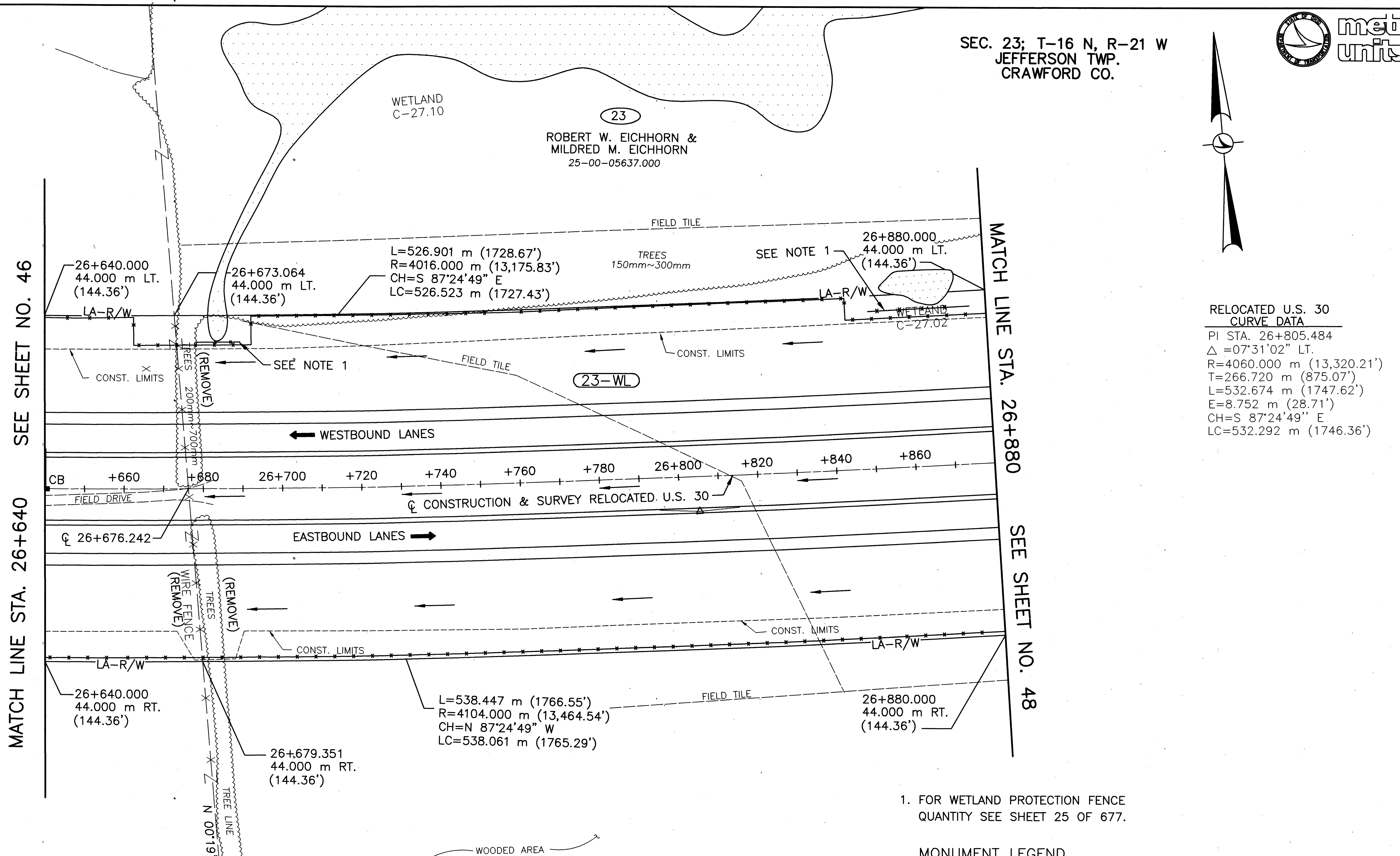
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 26+400 TO STA. 26+640

CRA-30-24.000 (14.91)

46/86

637/677



1. FOR WETLAND PROTECTION FENCE QUANTITY SEE SHEET 25 OF 677.

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

metric unit

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

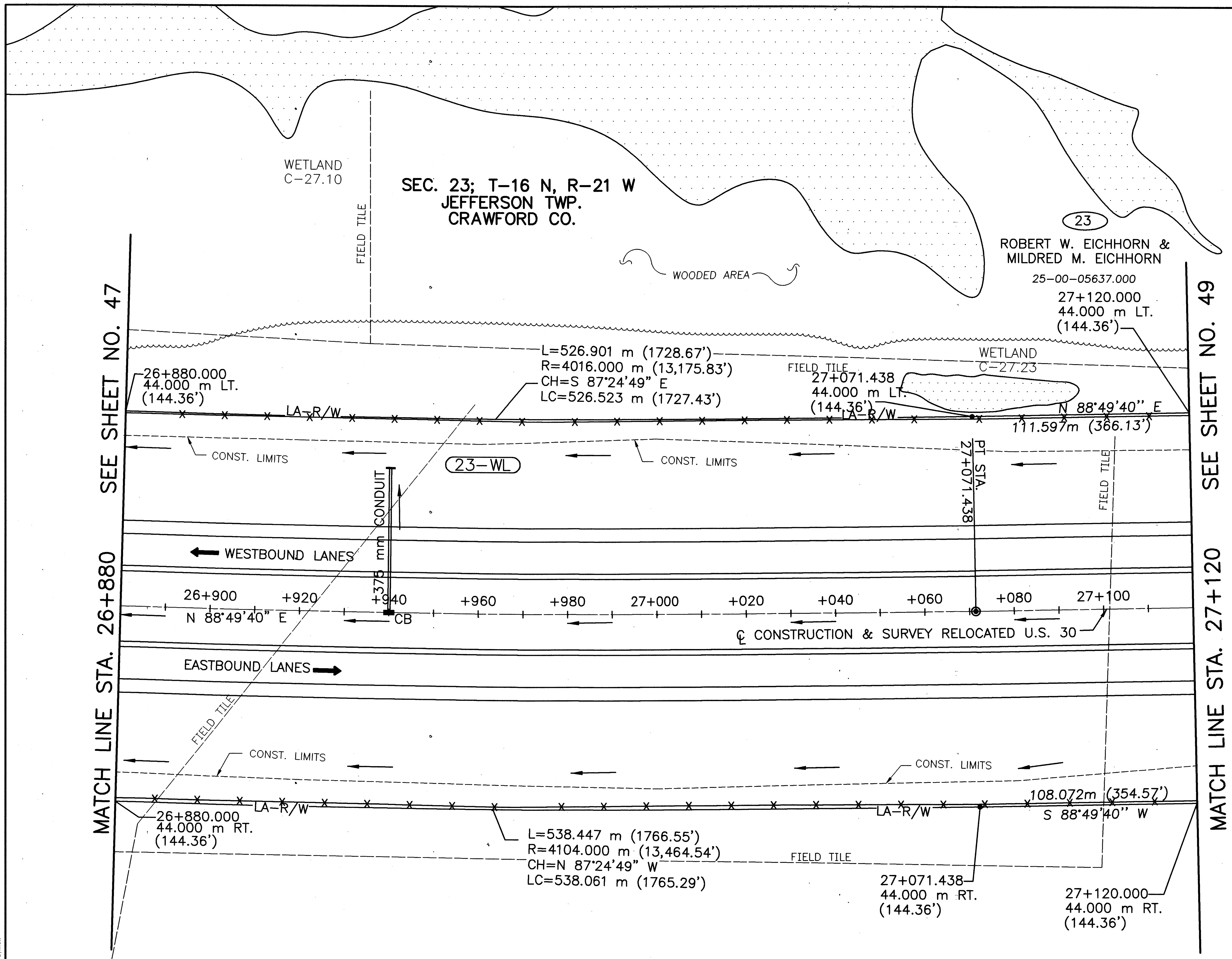
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 26+640 TO STA. 26+880

CRA-30-24.000 (14.91)

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 01-14-00



RELOCATED U.S. 30
CURVE DATA

PI STA. 26+805.484
Δ =07°31'02" LT.
R=4060.000 m (13,320.21')
T=266.720 m (875.07')
L=532.674 m (1747.62')
E=8.752 m (28.71')
CH=S 87°24'49" E
LC=532.292 m (1746.36')

metric units

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 26+880 TO STA. 27+120

CRA-30-24.000 (14.91)

48/86

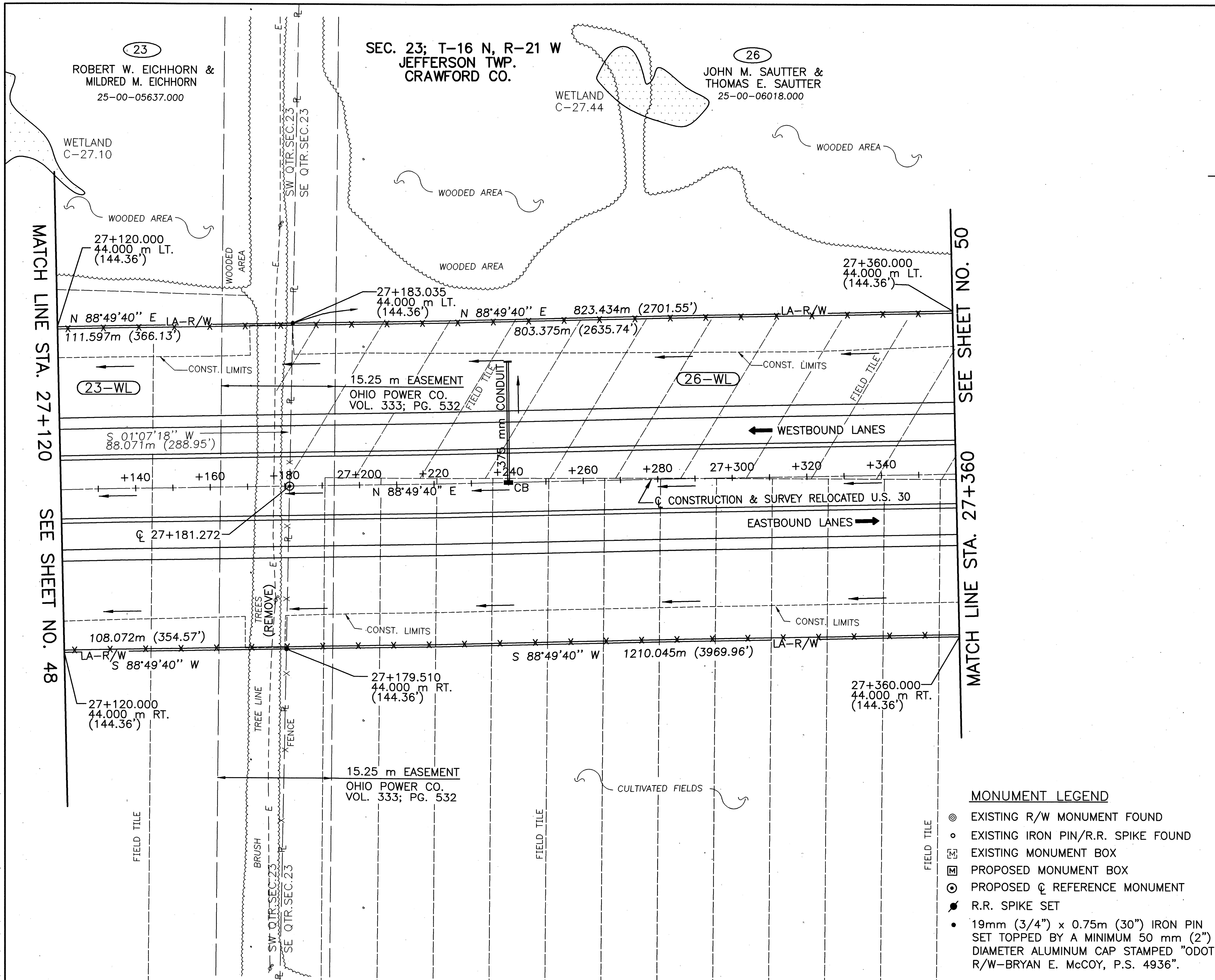
639/677

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 01-14-00



REV.	DATE	DESCRIPTION
DATE OF COMPLETION		10-14-00

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

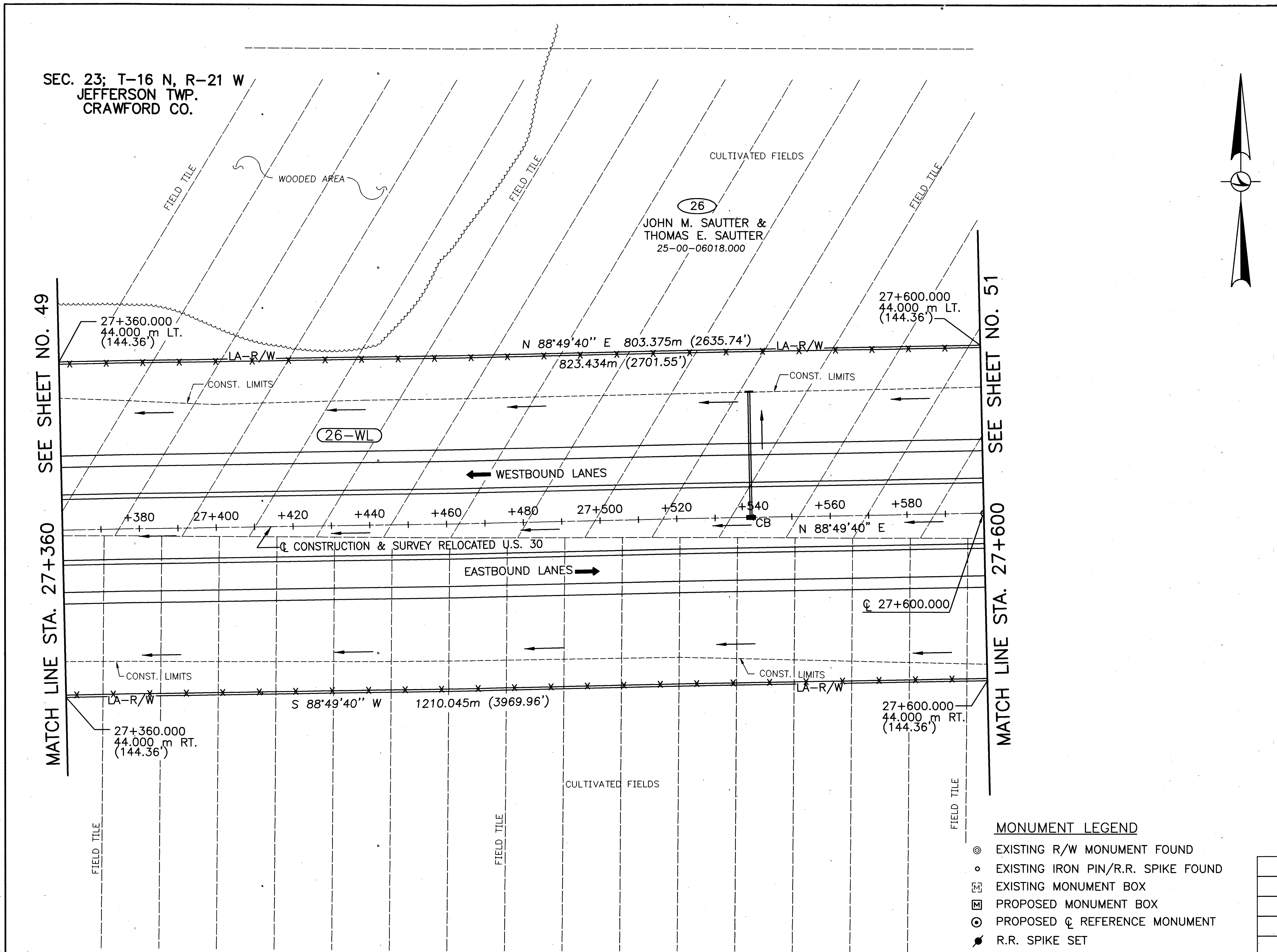
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 27+120 TO STA. 27+360

CRA-30-24.000 (14.91)

49/86

640/677



MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 01-14-00

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

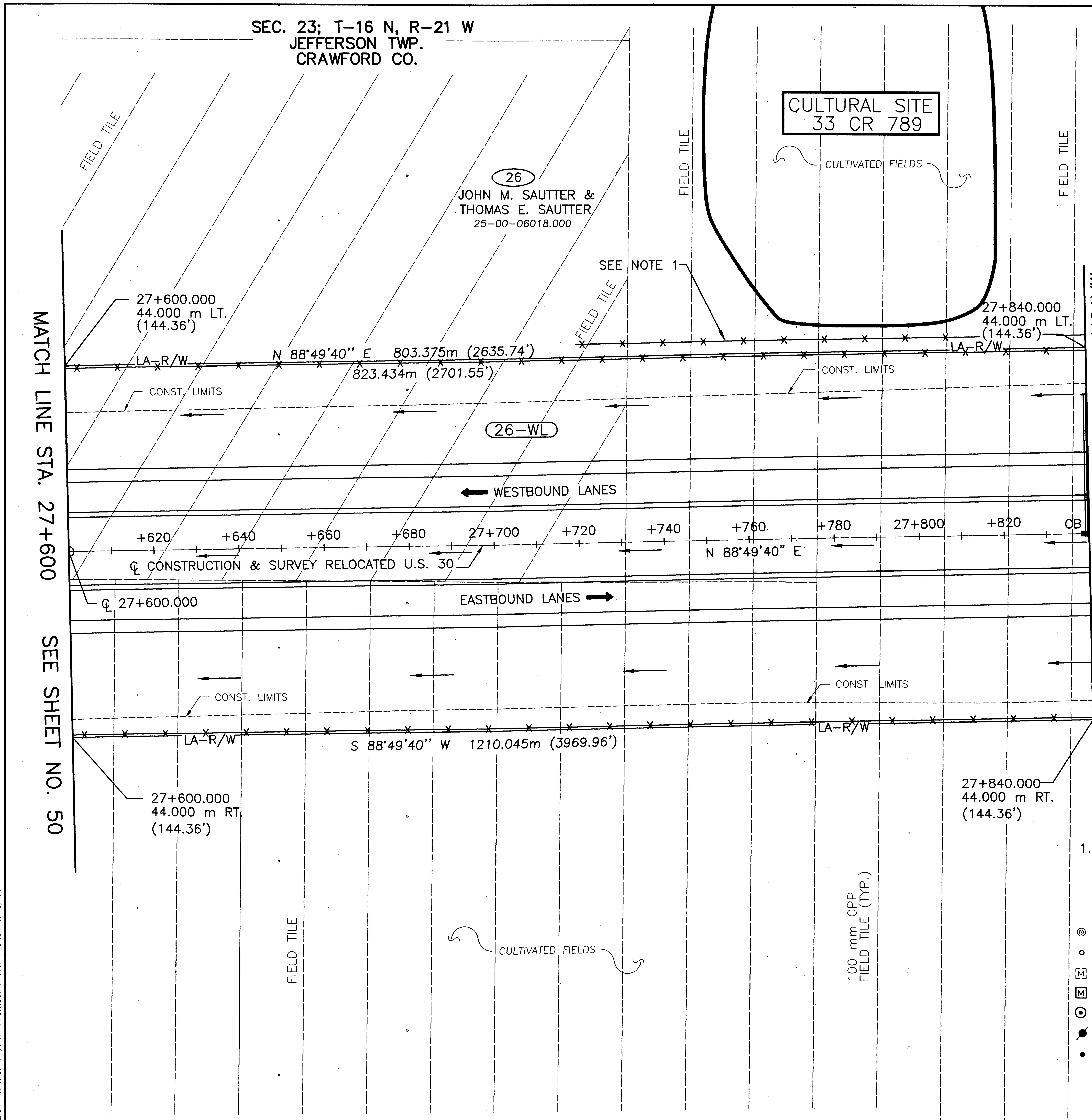
P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 27+360 TO STA. 27+600

CRA-30-24.000 (14.91)

CRA-30-24.000 (14.91)



1. FOR WETLAND PROTECTION FENCE QUANTITY SEE SHEET 25 OF 677.

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- M EXISTING MONUMENT BOX
- M PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

metric units

N

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

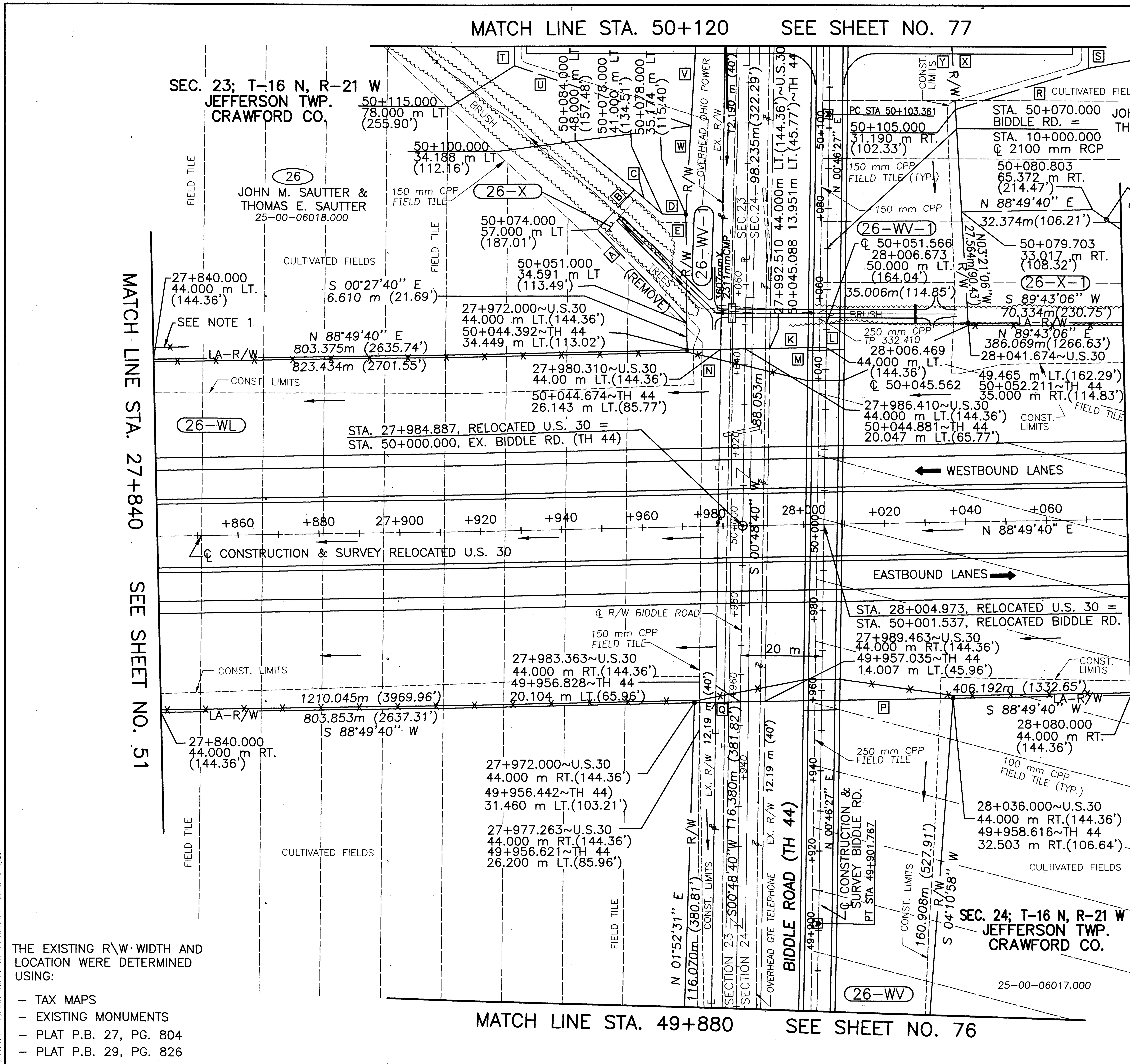
RIGHT OF WAY PLAN
STA. 27+600 TO STA. 27+840

CRA-30-24.000 (14.91)

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 01-14-00

51/86



1. FOR WETLAND PROTECTION FENCE QUANTITY SEE SHEET 25 OF 677.

	BEARINGS AND DISTANCES
A	N 43°28'47" W, 32.112m(105.35')
B	N 42°45'41" E, 13.454m(44.14')
C	S 48°37'28" E, 9.220m(30.25')
D	S 89°13'33" E, 5.826m(19.11')
E	S 00°27'40" E, 27.006m(88.60')
K	S 88°49'40" W, 34.469m(113.09')
L	S 00°46'27" W, 6.003m(19.69')
M	N 88°49'40" E, 20.059m(65.81')
N	N 88°49'40" E, 14.410m(47.28')
P	N 88°4940" E, 52.637m(172.69')
Q	N 88°49'40" E, 11.363m(37.28')
R	S 72°52'30" W, 34.418m(112.92')
S	S 00°01'13" E, 10.533m(34.56')
T	N 00°01'13" W, 9.350m(30.68')
U	N 71°14'12" W, 46.120m(151.31')
V	N 03°20'24" E, 43.109m(141.43')
W	N 03°20'24" E, 65.132m(213.69')
X	N 03°21'06" W, 32.860m(107.81')
Y	S 03°21'06" E, 91.012m(298.60')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 27, PG. 804
- PLAT P.B. 29, PG. 826

NOTE:
GD = GROUND ELEVATION
TP = TOP OF PIPE ELEVATION
IN = PIPE INVERT ELEVATION

PKM	12-22-00	26WL & 26-X-1 CONST. LIMITS
REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-31-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

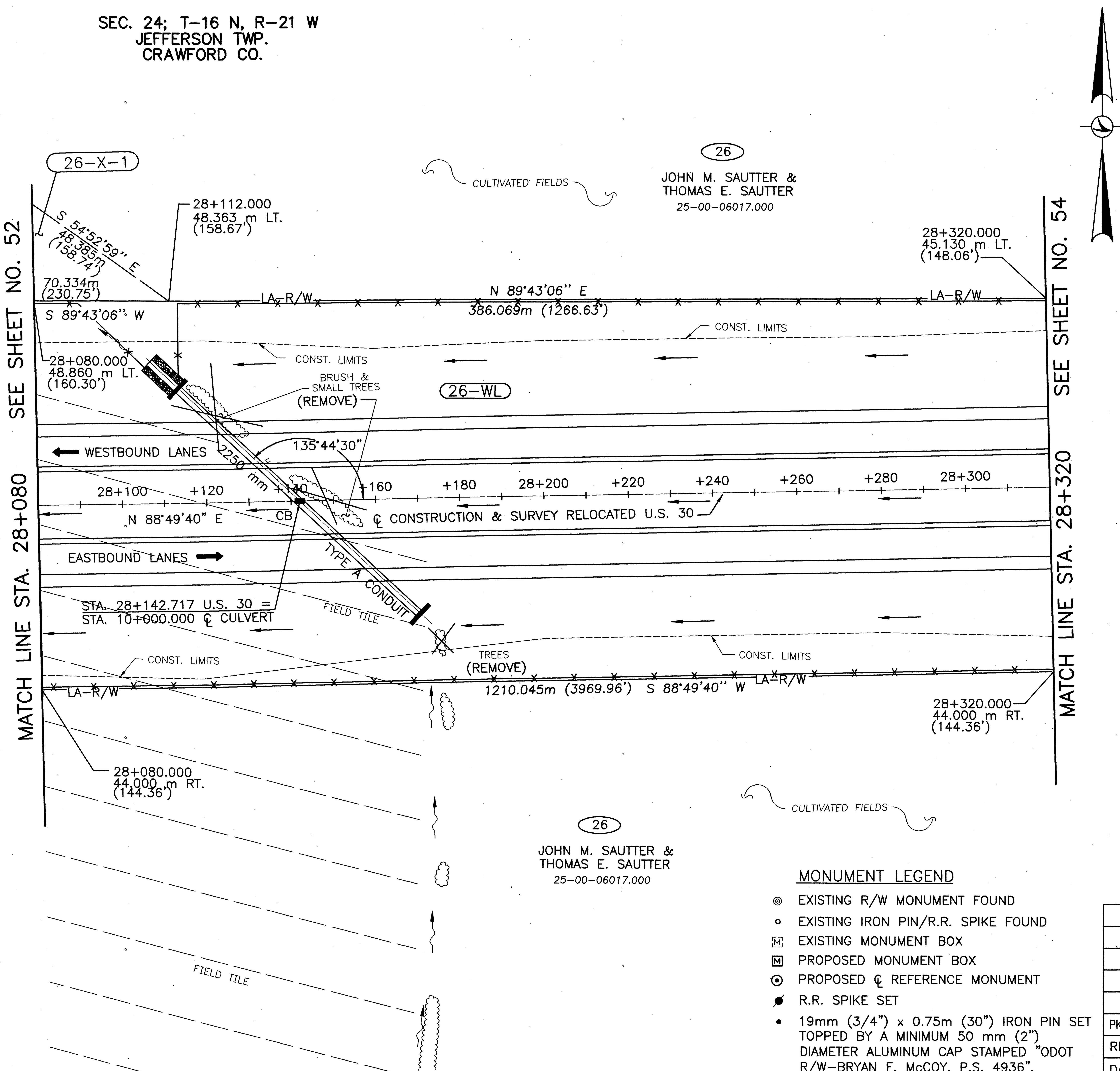
RIGHT OF WAY PLAN
STA. 27+840 TO STA. 28+080

CRA-30-24.000 (14.91)

52/86

643/677

SEC. 24; T-16 N, R-21 W
JEFFERSON TWP.
CRAWFORD CO.



MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	12-22-00	26WL & 26-X-1 CONST. LIMITS
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 01-14-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

P.I.D. NUMBER 16283

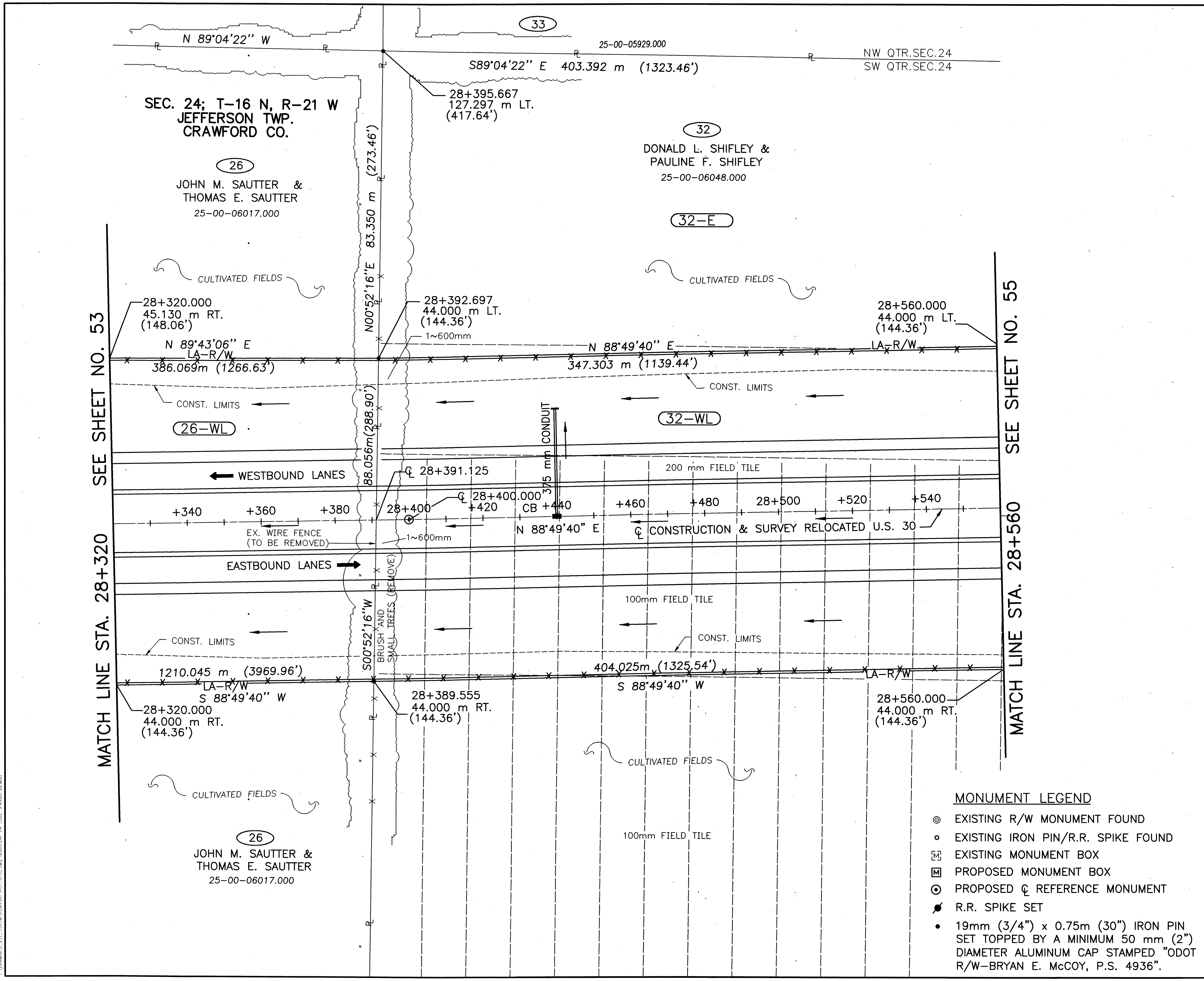
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 28+080 TO STA. 28+320

CRA-30-24.000 (14.91)

53/86

644
677



MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS 0 10 20

PKM	12-22-00	32E & 32WL CHANGED
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

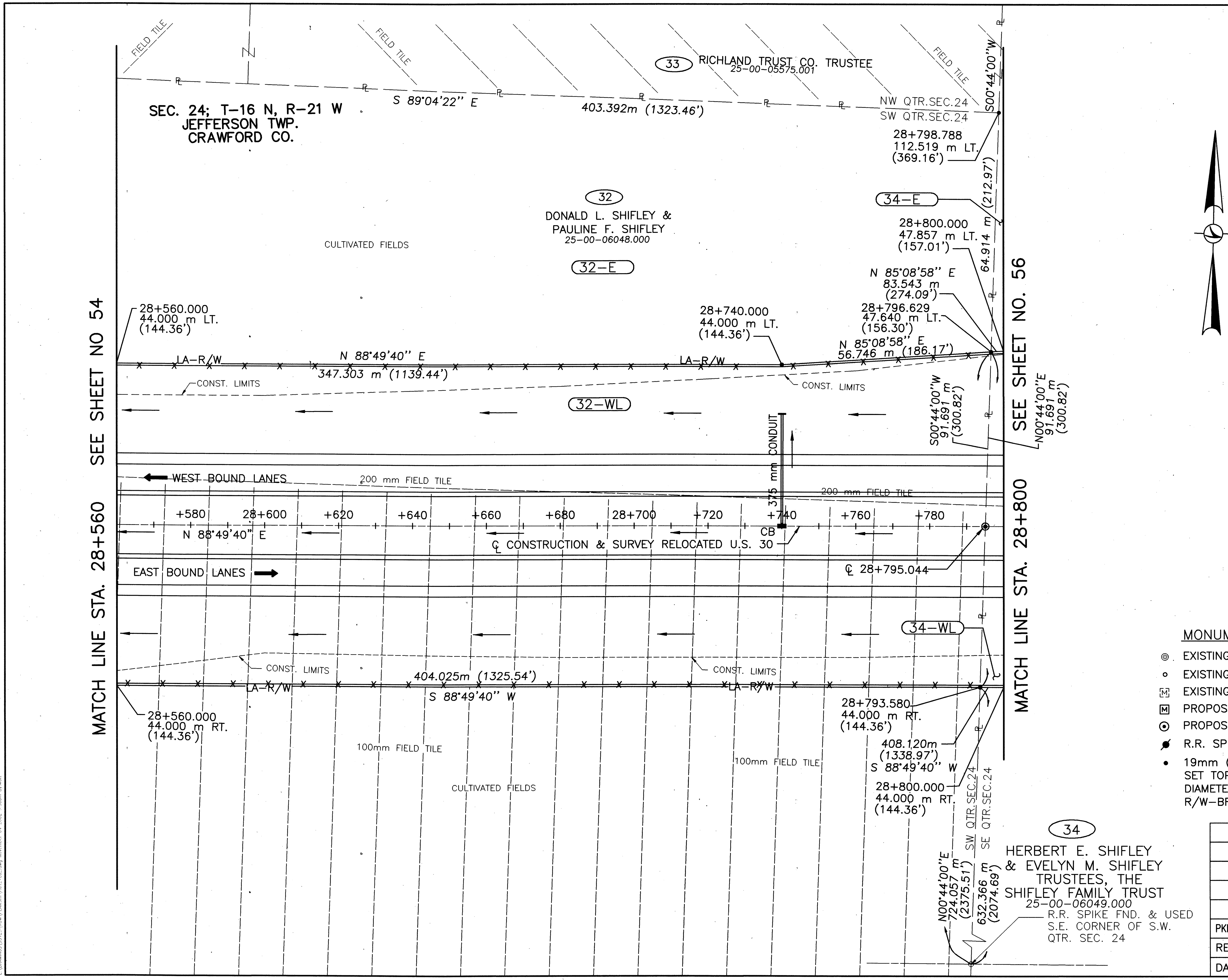
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 28+320 TO STA. 28+560

CRA-30-24.000 (14.91)

54/86

645/677



MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	12-22-00	34E, 34WL, 32E & 32WL CHANGED
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN STA. 28+560 TO STA. 28+800

CRA-30-24.000 (14.91)

**200 mm VCP NOT PHYSICALLY LOCATED - DEPTH UNKNOWN.
RANDOM FIELD TILE IN LOW AREAS NOT SYSTEMATICALLY TILED,
SEE OWNER FOR ADDITIONAL INFORMATION.

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	12-22-00	34E & 34WL CHANGED
REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-31-00

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

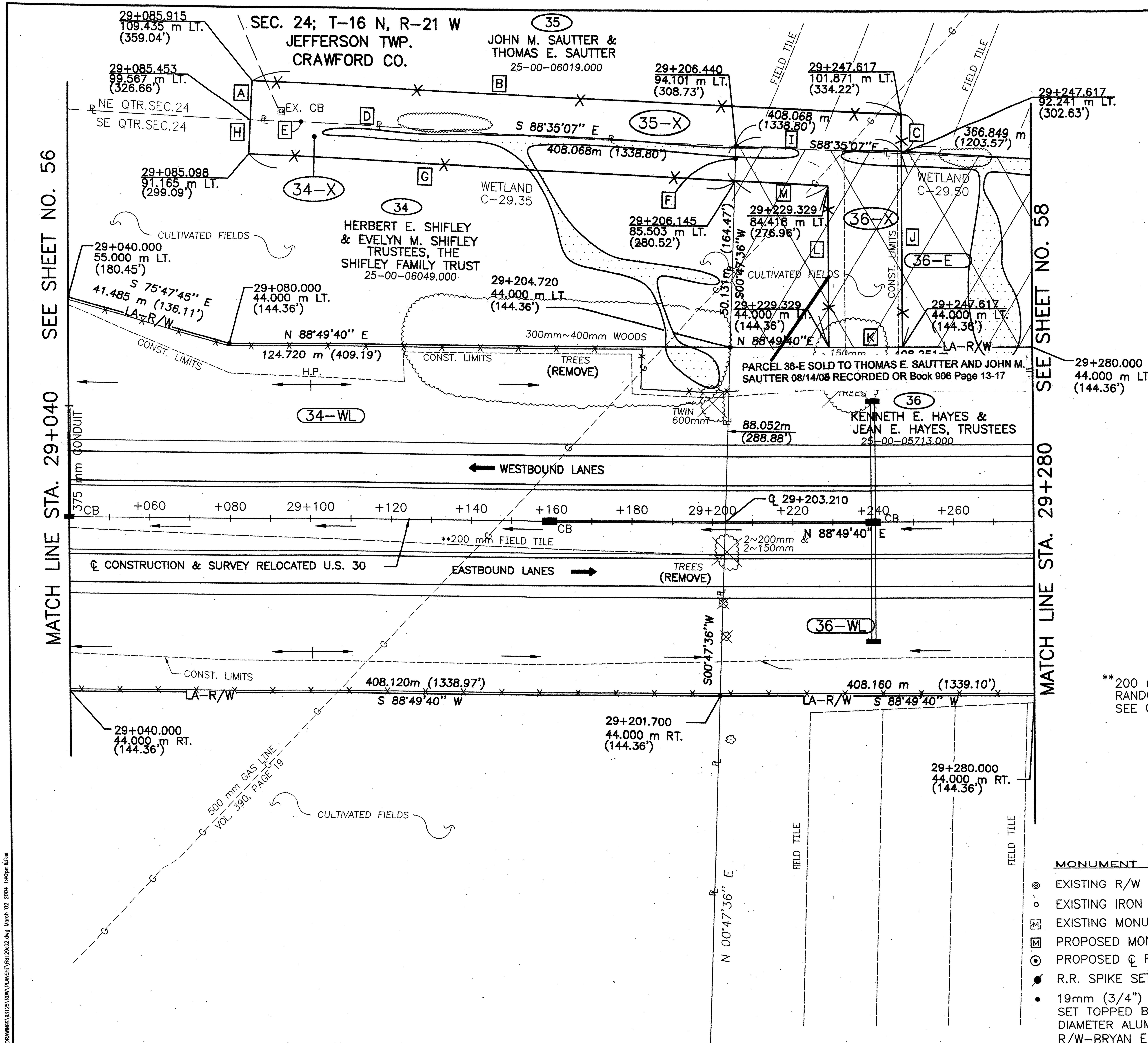
RIGHT OF WAY PLAN
STA. 28+800 TO STA. 29+040

CRA-30-24.000 (14.91)

56/86

647/677

CRA-30-24.000 (14.91)



metric units

CHANNEL EASEMENT TABLE				
PARCEL	No.	BEARING	DISTANCE METERS	DISTANCE FEET
35-X	A	S 01°30'22" W	9.878 m	32.41'
	B	S 88°29'38" E	161.879 m	531.10'
	C	S 01°10'20" E	9.630 m	31.59'
	D	S 88°35'07" E	162.329 m	532.57'
34-X	E	S 88°35'07" E	121.110 m	397.34'
	F	S 00°47'36" W	8.603 m	28.22'
	G	N 88°29'38" W	121.217 m	397.69'
	H	N 01°30'22" E	8.410 m	27.59'
36-X	I	S 88°35'07" E	41.219 m	135.23'
	J	S 01°10'20" E	48.241 m	158.27'
	K	N 88°49'40" E	18.288 m	60.00'
	L	N 01°10'20" W	40.418 m	132.60'
	M	N 88°29'38" W	23.209 m	76.14'

**200 mm VCP NOT PHYSICALLY LOCATED – DEPTH UNKNOWN. RANDOM FIELD TILE IN LOW AREAS NOT SYSTEMATICALLY TILED, SEE OWNER FOR ADDITIONAL INFORMATION.

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

SLR	11-20-06	SALE OF PARCEL 36-E
PKM	2-27-04	PARCELS 34-X & 36-X REVISED
AMK	1-12-04	34-X, 35-X & 36-X ADDED
PKM	12-22-00	34E & 34WL CHANGED
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500
HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

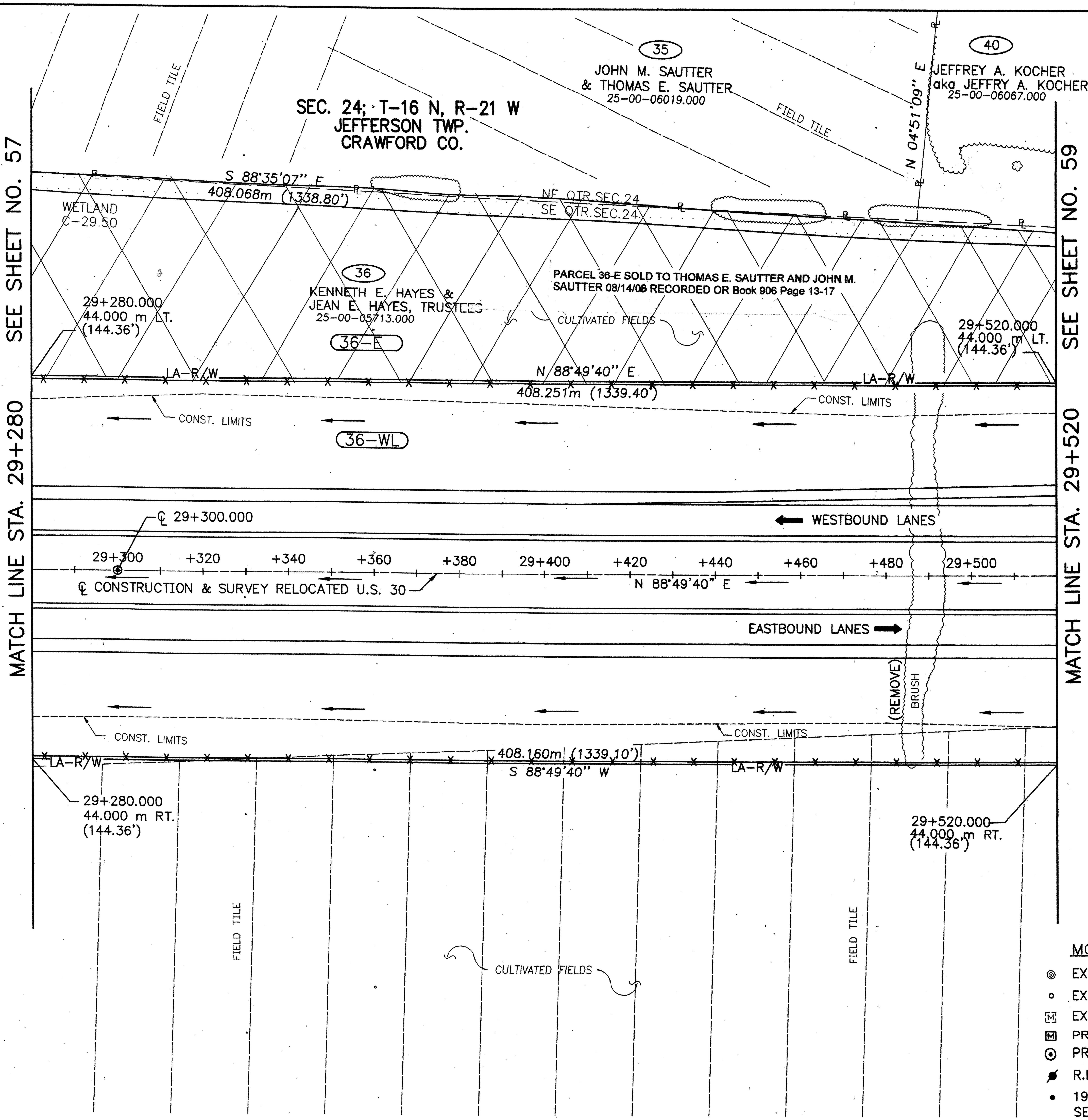
RIGHT OF WAY PLAN
STA. 29+040 TO STA. 29+280

CRA-30-24.000 (14.91)

57/86

648/677

L:\DRAWINGS\13125\ROW\PLANSHT\Rd129r02.dwg March 02 2004 1:40pm



metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS 0 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 29+280 TO STA. 29+520

CRA-30-24.000 (14.91)

58/86

649/677

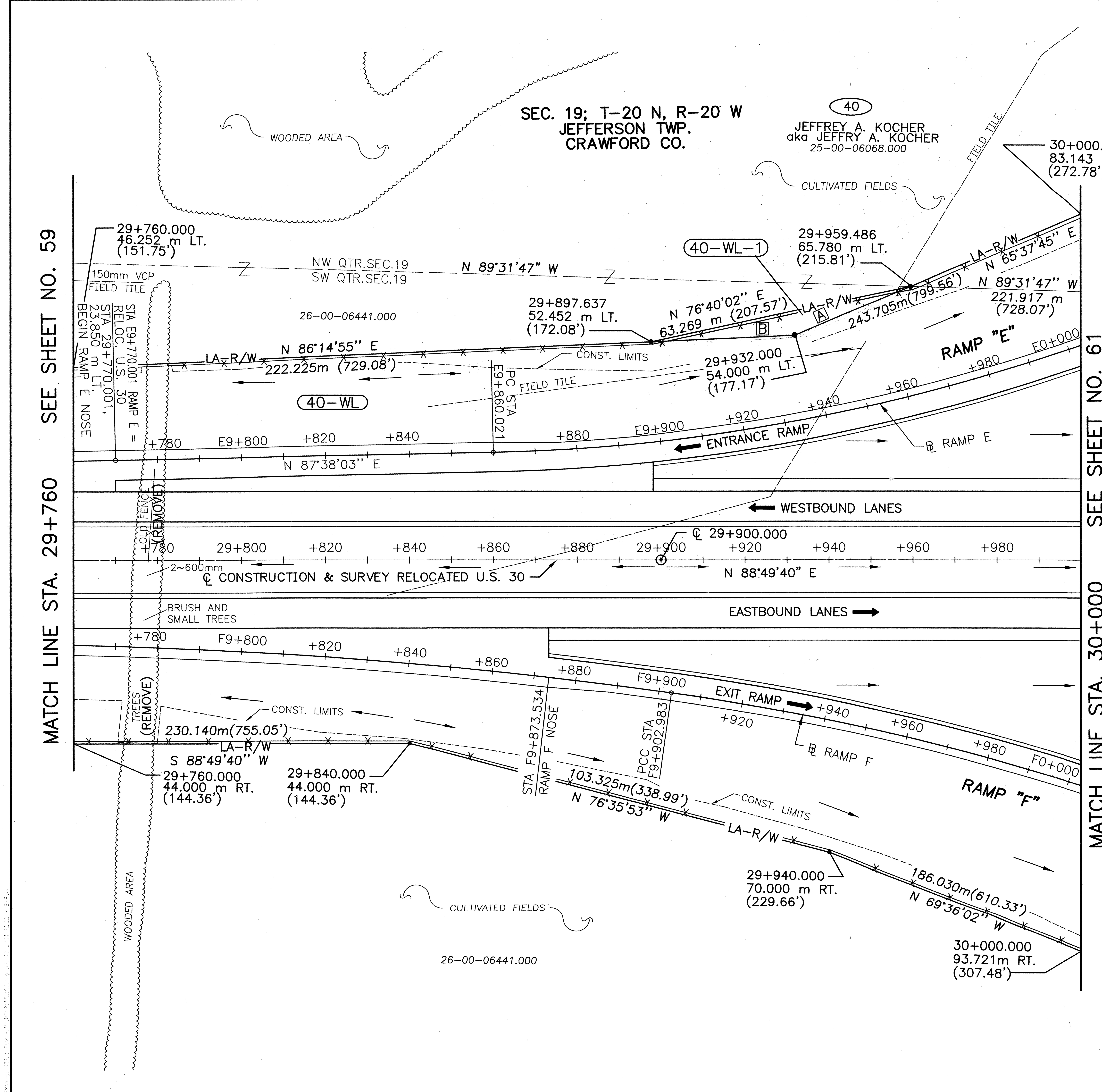
MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

SLR	11-20-06	SALE OF PARCEL 36-E
PKM	11-15-00	REV. PARCEL 40 OWNER NAME
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

CRA-30-24.000 (14.91)



metric units

A S 65°37'45" W 29.904 m (98.11')

B S 86°14'55" W 34.398 m (112.85')

RAMP E
CURVE DATA
PI STA. E9+943.979
△ =21°36'21" LT.
R=440.000 m (1443.57')
T=83.958 m (275.45')
L=165.922 m (544.36')
E=7.939 m (26.05')
CH=N 76°49'53" E
LC=164.941 m (541.14')

RAMP F
CURVE DATA
PI STA. E9+816.630
△ =07°55'44" RT.
R=1250.000 m (4101.04')
T=86.629 m (284.22')
L=172.982 m (567.53')
E=2.998 m (9.84')
CH=S 87°12'28" E
LC=172.844 m (567.07')

RAMP F
CURVE DATA
PI STA. F9+963.504
△ =11°31'11" RT.
R=600.000 m (1968.50')
T=60.521 m (198.56')
L=120.634 m (395.78')
E=3.045 m (9.99')
CH=S 77°29'00" E
LC=120.431 m (395.11')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	7-14-04	REV. PAR. 40 STA./OFFSET
LBD	6-15-04	ADDED PAR. 40-WL-1
PKM	8-01-01	REV. PAR. 40 PPN
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500
0 5 10 20
HORIZONTAL
SCALE IN METERS

P.I.D. NUMBER 16283

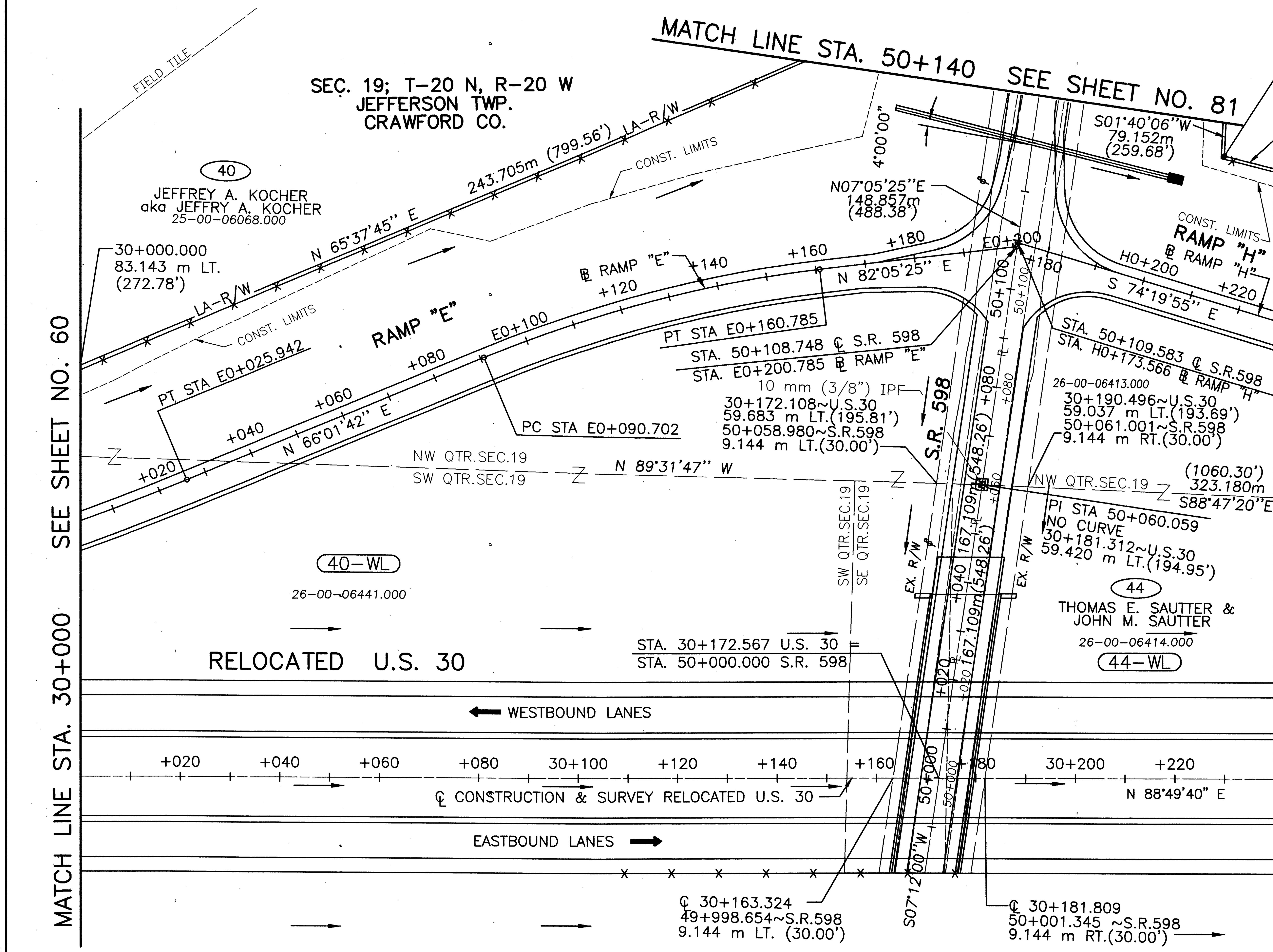
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 29+760 TO STA. 30+000

CRA-30-24.000 (14.91)

60/86

651/677



RAMP E
CURVE DATA
PI STA. E9+943.979
△ =21°36'21" LT.
R=440.000 m (1443.57')
T=83.958 m (275.45')
L=165.922 m (544.36')
E=7.939 m (26.05')
CH=N 76°49'53" E
LC=164.941 m (541.14')

RAMP E
CURVE DATA
PI STA. E0+125.975
△ =16°03'43" RT.
R=250.000 m (820.21')
T=35.273 m (115.72')
L=70.083 m (229.93')
E=2.476 m (8.12')
CH=N 74°03'33" E
LC=69.854 m (229.18')

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 8, PG. 59
- PLAT P.B. 19, PG. 43
- PLAT P.B. 14, PG. 63
- PLAT P.B. 18, PG. 21
- PLAT P.B. 18, PG. 33
- PLAT P.B. 18, PG. 27
- PLAT P.B. 27, PG. 518

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	8-01-01	REV. PAR. 40 PPN
PKM	8-01-01	ADD DIMENSION TO SEC. CORNER
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

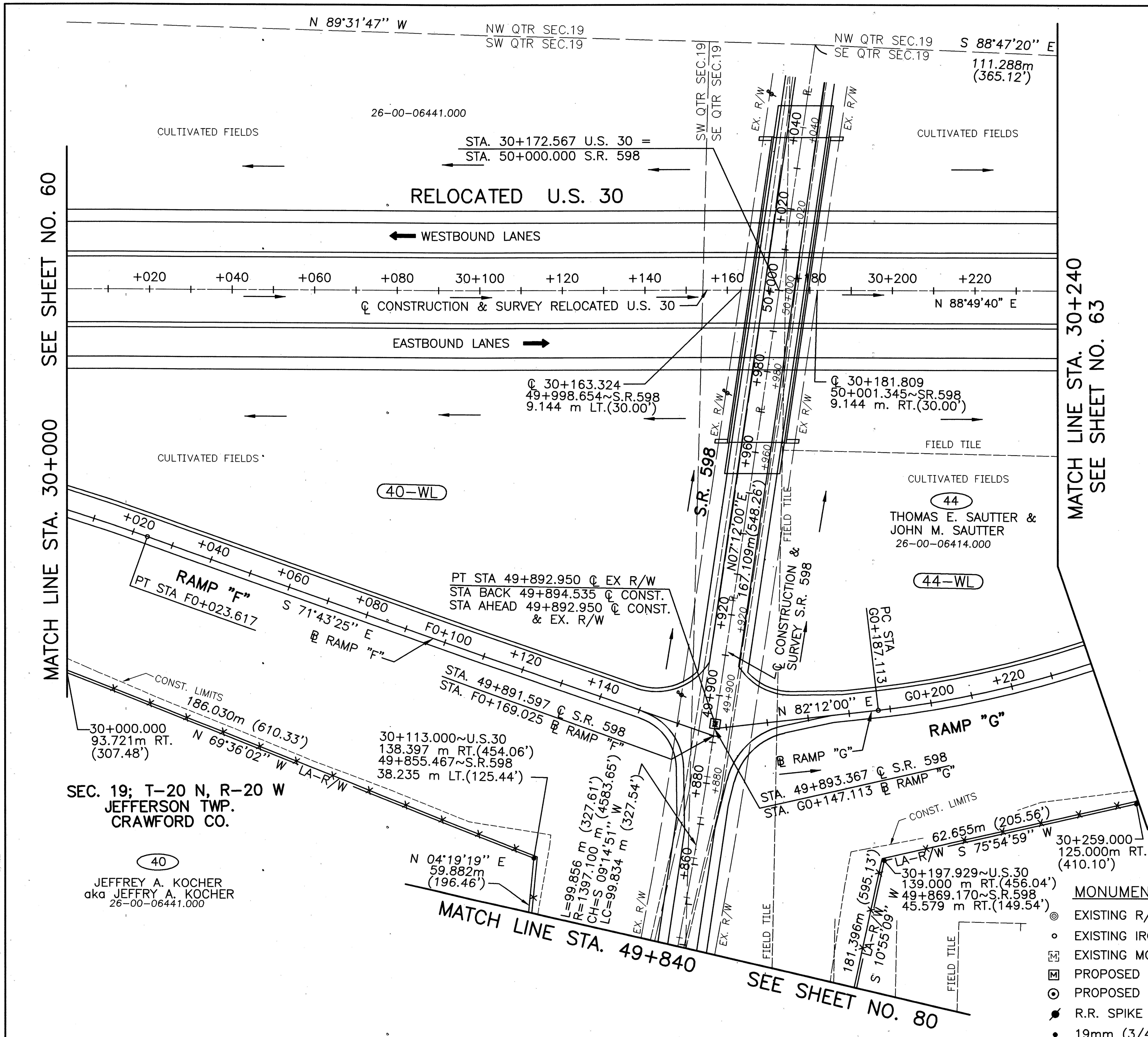
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 30+000 TO STA. 30+240

CRA-30-24.000 (14.91)

61/86

652/677



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

EXIST. S.R. 598
CURVE DATA
PI STA. 49+818.982
△ =6°04'21" LT.
R=1397.100 m (4583.66')
T=74.106 m (243.13')
L=148.074 m (485.81')
E=1.964 m (6.44')
LC=148.004 m (485.58')

RAMP F
CURVE DATA
PI STA. F9+963.504
△ =11°31'11" RT.
R=600.000 m (1968.50')
T=60.521 m (198.56')
L=120.634 m (395.78')
E=3.045 m (9.99')
CH=S 77°29'00" E
LC=120.431 m (395.11')

RAMP G
CURVE DATA
PI STA. G0+222.512
△ =16°07'06" LT.
R=250.000 m (820.21')
T=35.399 m (116.14')
L=70.330 m (230.74')
E=2.494 m (8.18')
CH=N 74°08'27" E
LC=70.098 m (229.98')

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 8, PG. 59
- PLAT P.B. 19, PG. 43
- PLAT P.B. 14, PG. 63
- PLAT P.B. 18, PG. 21
- PLAT P.B. 18, PG. 33
- PLAT P.B. 16, PG. 27
- PLAT P.B. 27, PG. 518

S.R. 598 WAS DETERMINED UNDER HOUSE BILL 216 IN 1935 TO BE 9.144 m (60.00')

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	8-01-01	REV. PAR. 40 PPN
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

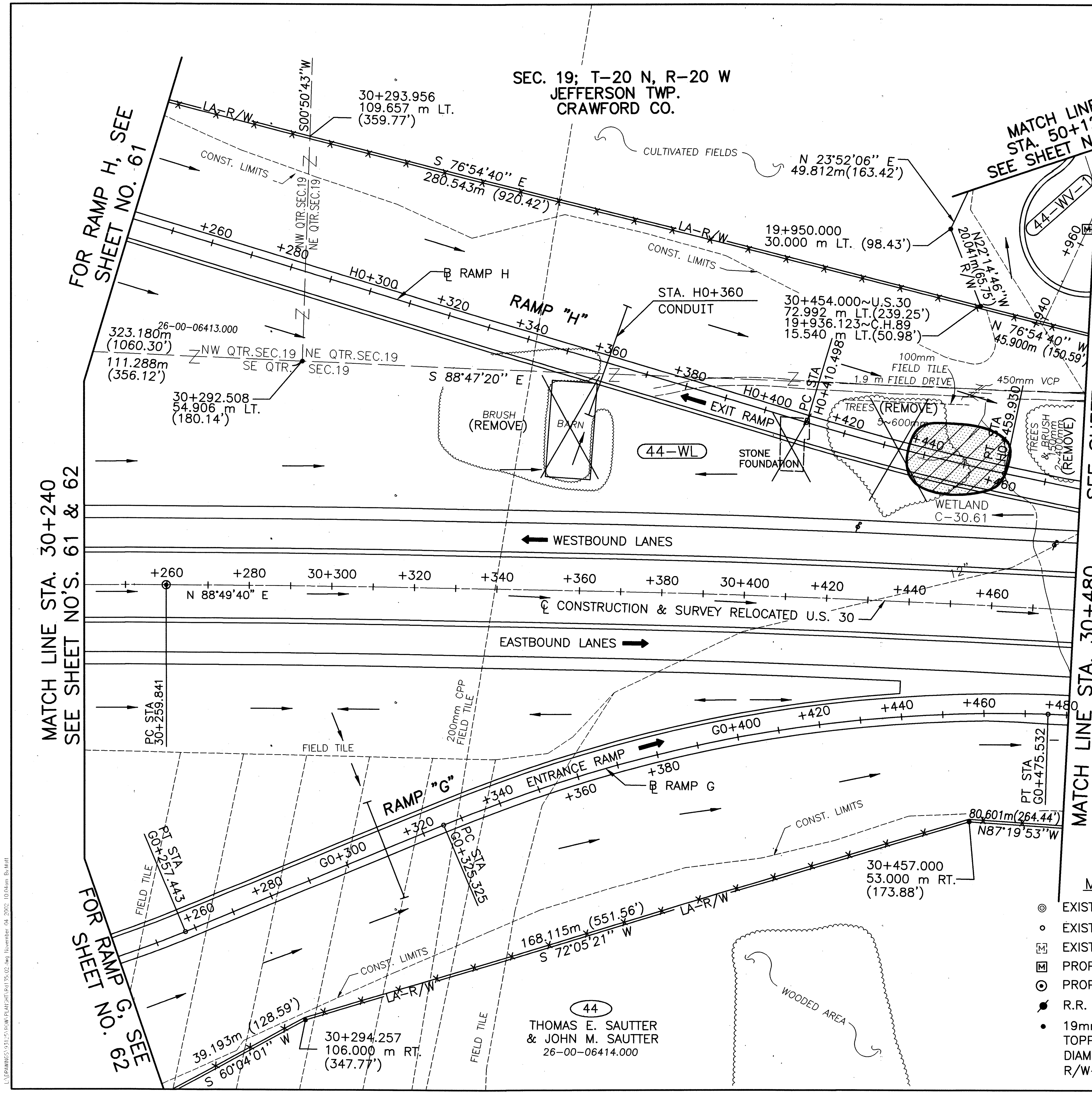
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 30+000 TO STA. 30+240

CRA-30-24.000 (14.91)

62/86

653/677



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

RELOCATED U.S. 30 CURVE DATA
PI STA. 30+660.114
△ =11°15'40" RT.
R=4060.000 m (13,320.21')
T=400.273 m (1313.23')
L=797.967 m (2618.00')
E=19.684 m (64.58')
CH=S 85°32'30" E
LC=796.683 m (2613.78')

RAMP H CURVE DATA
PI STA. H0+435.200
△ =04°43'13" LT.
R=600.000 m (1968.50')
T=24.730 m (81.14')
L=49.432 m (162.18')
E=0.509 m (1.67')
CH=S 76°41'31" E
LC=49.418 m (162.12')

RAMP G CURVE DATA
PI STA. G0+222.512
△ =16°07'06" LT.
R=250.000 m (820.21')
T=35.399 m (116.14')
L=70.330 m (230.74')
E=2.494 m (8.18')
CH=N 74°08'27" E
LC=70.098 m (229.98')

RAMP H CURVE DATA
PI STA. H0+537.565
△ =07°06'28" LT.
R=1250.000 m (4101.04')
T=7.635 m (254.71')
L=155.070 m (508.76')
E=2.409 m (7.90')
CH=S 82°36'22" E
LC=154.971 m (508.43')

RAMP G CURVE DATA
PI STA. G0+401.603
△ =24°35'21" RT.
R=350.000 m (1148.29')
T=76.278 m (250.26')
L=150.206 m (492.80')
E=8.215 m (26.95')
CH=N 78°22'34" E
LC=149.056 m (459.50')

STRUCTURES KEY:
- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	8-01-01	ADD DIMENSIONTO SEC. CORNER
PKM	8-01-01	MATCHLINE SHEET NO. 63A
PKM	11-15-00	MISC. REVISIONS
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

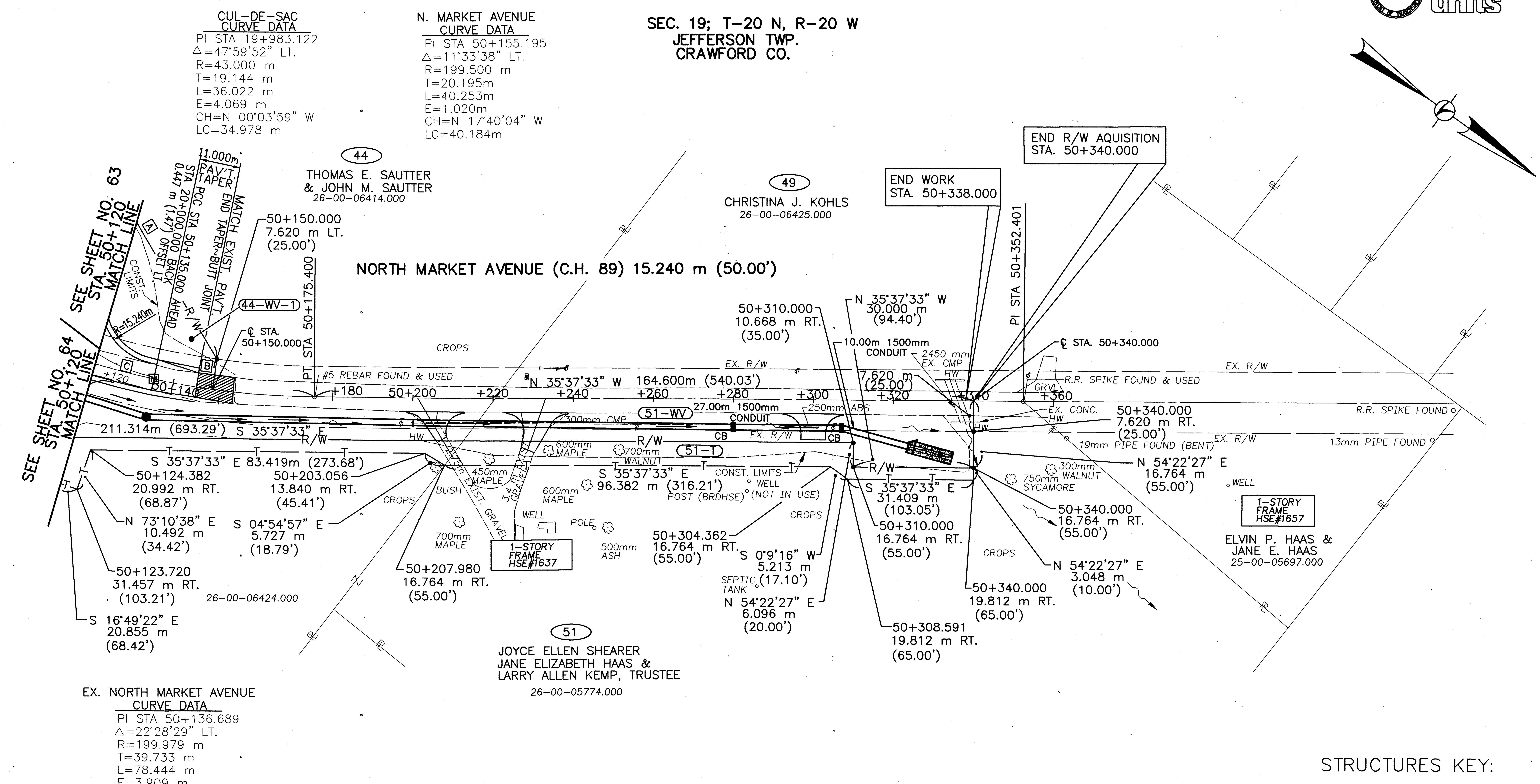
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 30+240 TO STA. 30+480

CRA-30-24.000 (14.91)

63/86

654/677



BEARINGS AND DISTANCES

A	N 23°52'06" E, 49.812m (163.42')
B	N 61°39'06" E, 7.620m (25.00')
C	L=53.043m (174.03'); R=199.979m (656.10') CH=S 20°44'58" E; LC=52.888m (173.52')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

8-01-01	PKM	REV. PAR. 51 OWNER NAME
8-01-01	PKM	ADDED N. MARKET CURVE DATA
5-23-01	PKM	PARCEL 51-T REVISED, DRIVE ADDED
3-19-01	PKM	BEARINGS & DISTANCES ADDED TO PARCELS 44-WV-1, 51-WV & 51-T
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 11-15-00

metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN STA. 50+120 TO STA. 50+360

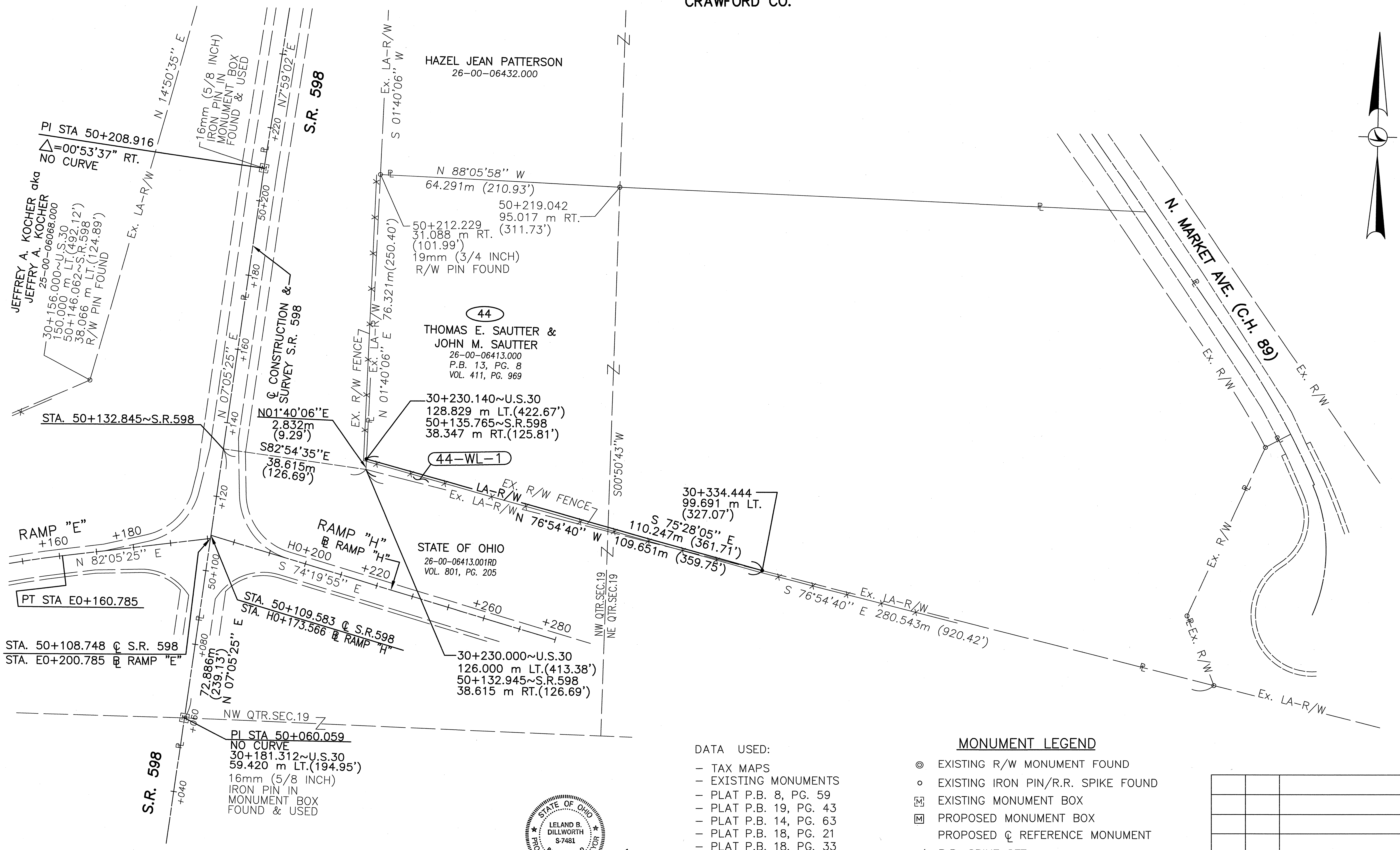
CRA-30-24.000 (14.91)

63A/86

654A/677

SEC. 19; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.

metric units



DATA USED:
- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 8, PG. 59
- PLAT P.B. 19, PG. 43
- PLAT P.B. 14, PG. 63
- PLAT P.B. 18, PG. 21
- PLAT P.B. 18, PG. 33
- PLAT P.B. 18, PG. 27
- PLAT P.B. 27, PG. 518
- PLAT P.B. 13, PG. 8
- DEED VOL. 411, PG. 969
- DEED VOL. 801, PG. 205

STATE OF OHIO
LELAND B. DILLWORTH
S-7481
REGISTERED PROFESSIONAL SURVEYOR

8-19-05

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-17-05

RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

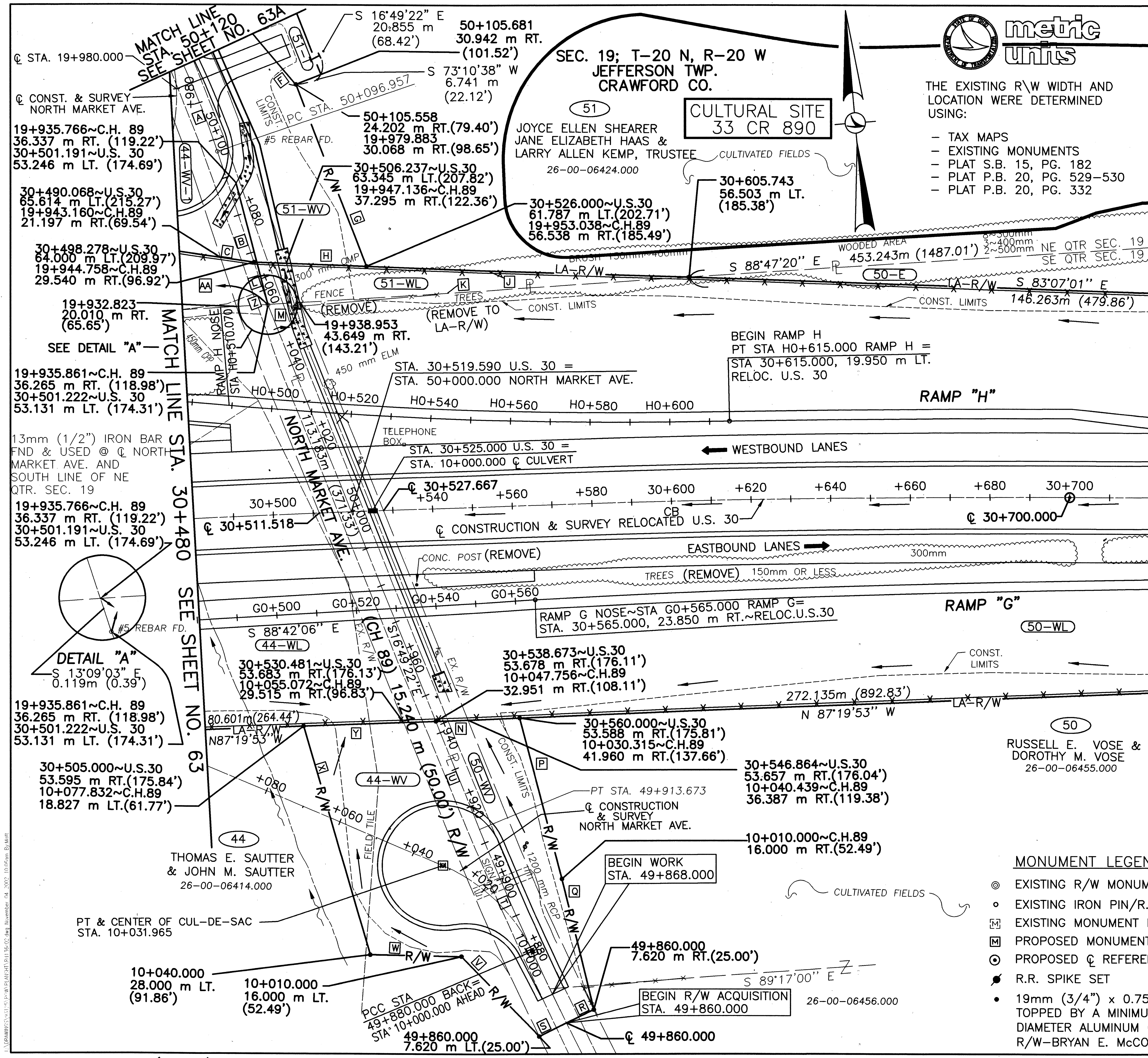
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 30+240 TO STA. 30+480

CRA-30-24.000 (14.91)

63B/86

654/677



metric units

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT S.B. 15, PG. 182
- PLAT P.B. 20, PG. 529–530
- PLAT P.B. 20, PG. 332

RELOCATED U.S. 30 CURVE DATA
PI STA. 30+660.114
△ =11°15'40" RT.
R=4060.000 m (13,320.21')
T=400.273 m (1313.23')
L=797.967 m (2618.00')
E=19.684 m (64.58')
CH=S 85°32'30" E
LC=796.683 m (2613.78')

RAMP H CURVE DATA
PI STA. H0+537.565
△ =07°06'28" LT.
R=1250.000 m (4101.04')
T=77.635 m (254.71')
L=155.070 m (508.76')
E=2.409 m (7.90')
CH=S 82°36'22" E
LC=154.971 m (508.43')

N. MARKET AVENUE CURVE DATA (EXIST.)
PI STA. 49+841.046
△ =05°57'25" RT.
R=698.550 m (2291.83')
T=36.346m (119.25')
L=72.628m (238.28')
E=0.945 m (3.10')
CH=N 19°48'04" W
LC=72.595m (238.172')

N. MARKET AVENUE CURVE DATA
PI STA. 10+016.762
△ =42°35'31" LT.
R=43.000 m (141.08')
T=16.762 m (54.99')
L=31.965 m (104.87')
E=3.151 m (10.34')
CH=N 40°52'50" W
LC=31.234 m (102.47')

N. MARKET AVENUE CURVE DATA
PI STA. 19+983.122
△ =47°59'52" LT.
R=43.000 m (141.08')
T=19.144 m (62.81')
L=36.022 m (118.18')
E=4.069m (13.35')
CH=S 00°03'59" E
LC=34.978m (114.76')

N. MARKET AVENUE CURVE DATA
PI STA. 50+155.195
△ =11°33'38" LT.
R=199.500 m (654.53')
T=20.195m (66.26')
L=40.253m (132.06')
E=1.020m (3.35')
CH=S 11°12'33" W
LC=40.184m (131.84')

BEARINGS AND DISTANCES

A	L=53.043m (174.03'); R=199.979m (656.10') CH=S 20°44'58" E; LC=52.888m (173.52')
B	S 13°09'03" E, 29.429m (96.55')
C	N 76°54'40" W, 45.900m (150.59')
	D & E NOT USED
F	S 35°37'33" E, 211.314m (693.29')
G	S 16°07'40" E, 48.807m (160.13')
H	N 83°07'01" W, 28.238m (92.64')
J	S 83°07'01" E, 109.314m (358.64')
K	N 88°47'20" W, 106.013m (347.81')
L	S 13°09'03" E, 11.153m (36.98')
M	S 13°09'03" E, 0.119m (0.39')
N	S 87°19'53" E, 21.046m (69.05')
P	S 09°36'20" E, 42.096m (138.11')
Q	S 08°33'00" E, 34.005m (111.56')
R	S 68°46'30" W, 7.620m (25.00')
S	S 68°46'30" W, 7.620m (25.00')
T	L=53.673m (176.09'); R=698.550m (2291.83') CH=S 19°01'26" E; LC=53.660m (176.05')
U	S 16°49'22" E, 29.400m (96.46')
V	N 39°09'00" W, 28.058m (92.05')
W	N 84°06'57" w, 22.893m (75.11')
X	N 11°06'42" W, 60.200m (197.51')
Y	S 87°19'53" E, 33.228m (109.02')
Z	S 13°09'03" E, 11.271m (36.98')
AA	S 88°47'20" E, 323.180m (1060.30')

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

PKM	10-17-01	ADD PARCEL 50-E
PKM	8-01-01	REV. PAR. 51 OWNER NAME
PKM	8-01-01	REV. MATCHLINE SHEET NO 36A
PKM	5-23-01	REV. PARCEL 51-T, DRIVE ADDED
PKM	11-15-00	REV. PARCEL 51-WV, MISC. REVISIONS
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500 — HORIZONTAL SCALE IN METERS 0 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 30+480 TO STA. 30+720

CRA-30-24.000 (14.91)

64/86

655/677

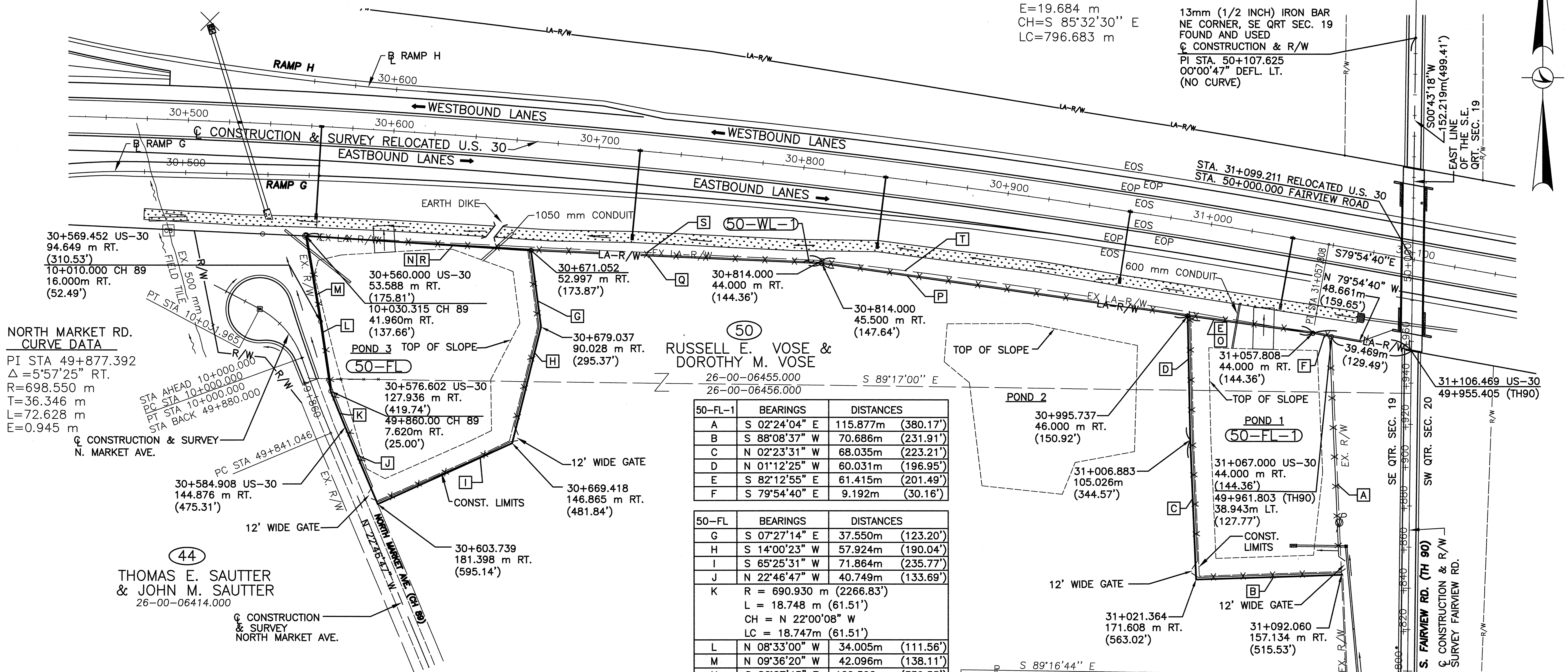

metric units
RATIO 1:500
HORIZONTAL SCALE IN METERS
P.I.D. NUMBER 16283
STATE PROJECT NO. 036010
RIGHT OF WAY PLAN
STA. 30+720 TO STA. 30+960
CRA-30-24.000 (14.91)
65/86
656/677
SEC. 19; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.
CULTURAL SITE
33 CR 890
30+720.000
51.716 m LT.
(169.67')
51
JOYCE ELLEN SHEARER
JANE ELIZABETH HAAS &
LARRY ALLEN KEMP, TRUSTEE
26-00-06424.000
WOODED AREA
NE QTR.SEC.19
SE QTR.SEC.19
S 88°47'20" E 453.243m (1487.01')
30+750.000
51.000 m LT.
(167.32')
50-E
S 83°07'01" E
146.263m (479.86')
LA-R/W
S 80°53'11" E
212.548m (697.33')
CONST. LIMITS
50-WL
WOODS
TREES UNDER 200mm (REMOVE)
CULTIVATED FIELDS
30+960.000
44.000 m LT.
(144.36')
SEE SHEET NO. 64
SEE SHEET NO. 66
MATCH LINE STA. 30+720
MATCH LINE STA. 30+960
WESTBOUND LANES
+740
+760
+780
30+800
+820
+840
+860
+880
30+900
+920
+940
TREES (REMOVED)
3~300mm & 1~400mm TREES (REMOVED)
CONSTRUCTION & SURVEY RELOCATED U.S. 30
EASTBOUND LANES
600mm
600mm STUMP (REMOVE)
300 mm PINE TREE FARM (REMOVE)
272.135m (892.83')
N 87°19'53" W
30+720.000
49.385 m RT.
(162.02')
30+814.000
44.000 m RT.
(144.36')
L=241.165 m (791.22')
R=4016.000 m (13,175.83')
CH=N 81°37'53" W
LC=241.129 m (791.10')
30+960.000
44.000 m RT.
(144.36')
50
RUSSELL E. VOSE
& DOROTHY M. VOSE
26-00-06455.000
TREE FARM
S 89°17'00" E
RELOCATED U.S. 30
CURVE DATA
PI STA. 30+660.114
△ =11°15'40" RT.
R=4060.000 m (13,320.21')
T=400.273 m (1313.23')
L=797.967 m (2618.00')
E=19.684 m (64.58')
CH=S 85°32'30" E
LC=796.683 m (2613.78')
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
PKM 10-17-01 ADD PARCEL 50-E
PKM 8-01-01 REV. PAR. 51 OWNER NAME
REV. DATE DESCRIPTION
DATE OF COMPLETION 08-31-00

SEC. 19 AND SEC. 20;
T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.

RELOCATED U.S. 30
CURVE DATA

PI STA. 30+660.114
△ =11°15'40" RT.
R=4060.000 m
T=400.273 m
L=797.967 m
E=19.684 m
CH=S 85°32'30" E
LC=796.683 m

metric units



50-FL-1	BEARINGS	DISTANCES
A	S 02°24'04" E	115.877m (380.17')
B	S 88°08'37" W	70.686m (231.91')
C	N 02°23'31" W	68.035m (223.21')
D	N 01°12'25" W	60.031m (196.95')
E	S 82°12'55" E	61.415m (201.49')
F	S 79°54'40" E	9.192m (30.16')

50-FL	BEARINGS	DISTANCES
G	S 07°27'14" E	37.550m (123.20')
H	S 14°00'23" W	57.924m (190.04')
I	S 65°25'31" W	71.864m (235.77')
J	N 22°46'47" W	40.749m (133.69')
K	R = 690.930 m (2266.83') L = 18.748 m (61.51') CH = N 22°00'08" W LC = 18.747m (61.51')	
L	N 08°33'00" W	34.005m (111.56')
M	N 09°36'20" W	42.096m (138.11')
N	S 86°27'43" E	109.592m (359.55')

SEE SHEET 82A

50-WL-1	BEARINGS	DISTANCES
O	N 82°12'55" W	61.415m (201.49')
P	N 81°54'36" W	179.675m (589.48')
Q	N 87°23'56" W	141.406m (463.93')
R	N 86°27'43" W	109.592m (359.55')
S	S 87°19'53" E	251.089m (823.78')
T	R = 4016.00 m (13,175.83') L = 241.165 m (791.22') CH = S 81°37'53" E LC = 241.129m (791.10')	

NOTE:
1. FOR MAINLINE U.S. 30 RIGHT OF WAY PLANS, SEE SHEETS 655-657 OF 677.

2. FOR FAIRVIEW ROAD RIGHT OF WAY PLANS, SEE SHEET 673 OF 677.

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 340, PG. 21
- PLAT P.B. 435, PG. 756
- PLAT P.B. 21, PG. 543

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV. DATE	DESCRIPTION
5/23/05	RENAMED PARCEL 50-FL-1

DATE OF COMPLETION 02-24-05

RATIO 1:1000
0 10 20 40
HORIZONTAL SCALE IN METERS

NUMBER 16283

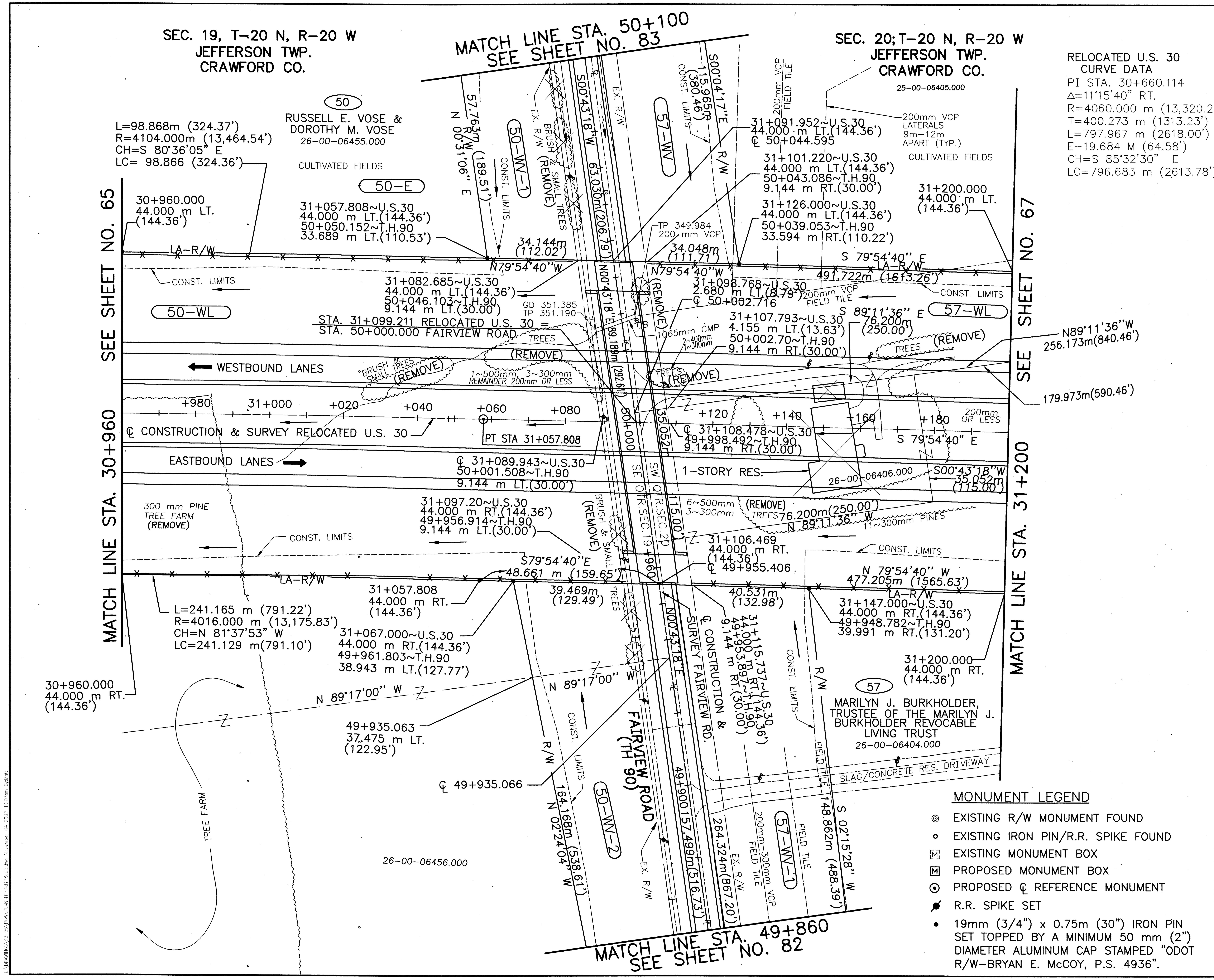
PROJECT NO. 036010

RIGHT OF WAY PLAN
VOSE DETENTION POND AREA
STA. 30+500.000 TO STA. 31+100.000

CRA-30-24.000 (14.91)

65A/86

656A/677



RELOCATED U.S. 30
CURVE DATA
PI STA. 30+660.114
Δ=11°15'40" RT.
R=4060.000 m (13,320.21')
T=400.273 m (1313.23')
L=797.967 m (2618.00')
E=19.684 M (64.58')
CH=S 85°32'30" E
LC=796.683 m (2613.78')

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 340, PG. 21
- PLAT P.B. 435, PG. 756
- PLAT P.B. 21, PG. 543

PKM	10-17-01	ADDED PARCEL 50-E
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 30+960 TO STA. 31+200

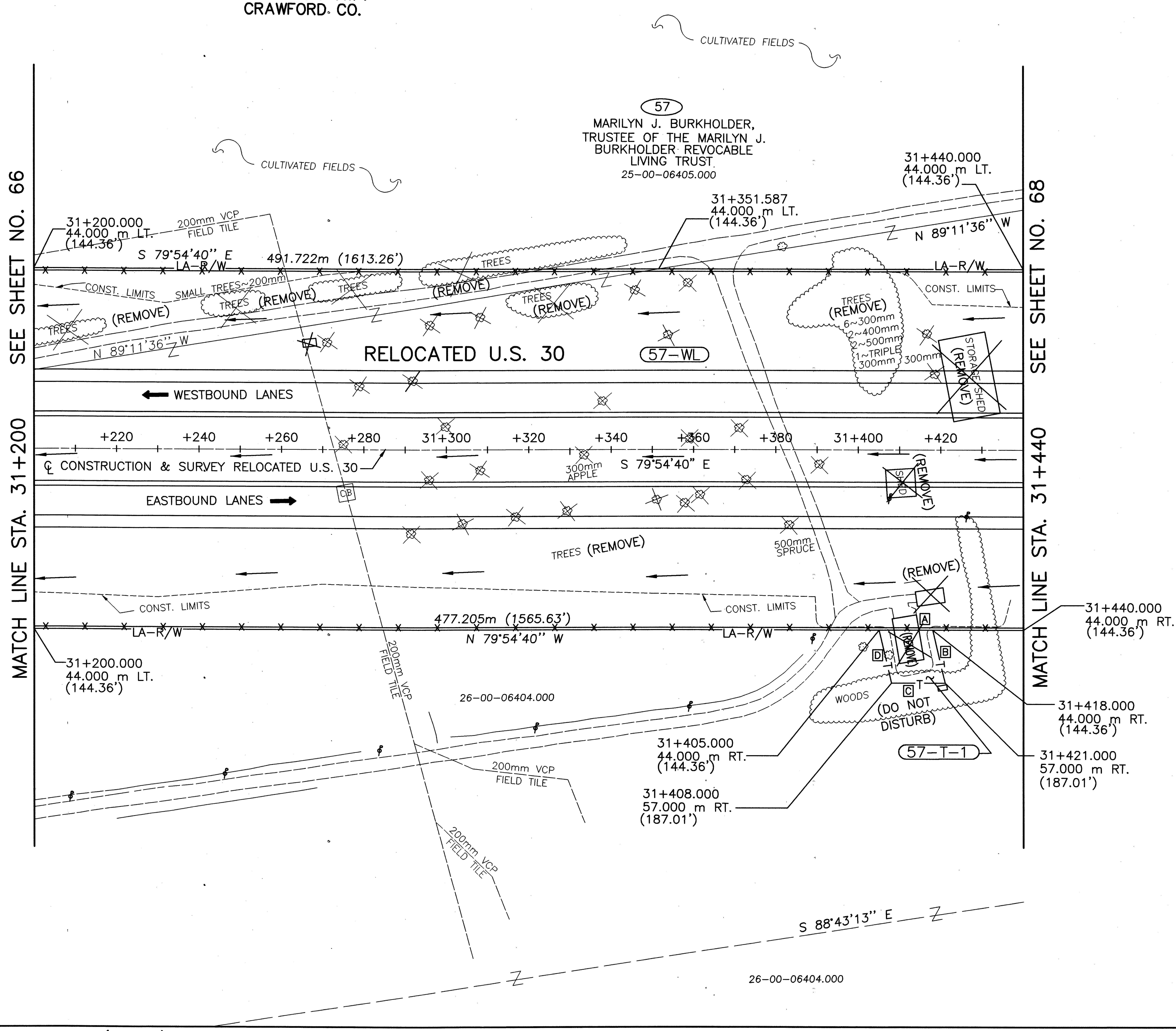
CRA-30-24.000 (14.91)

66/86

657/677

SEC. 20; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.

metric units



BEARINGS AND DISTANCES FOR TEMPORARY PARCEL	
A	S 79°54'40" E, 13.000m (42.65')
B	S 02°54'21" E, 13.342m (43.77')
C	N 79°54'40" W, 13.000m (42.65')
D	N 02°54'21" W, 13.342m (43.77')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

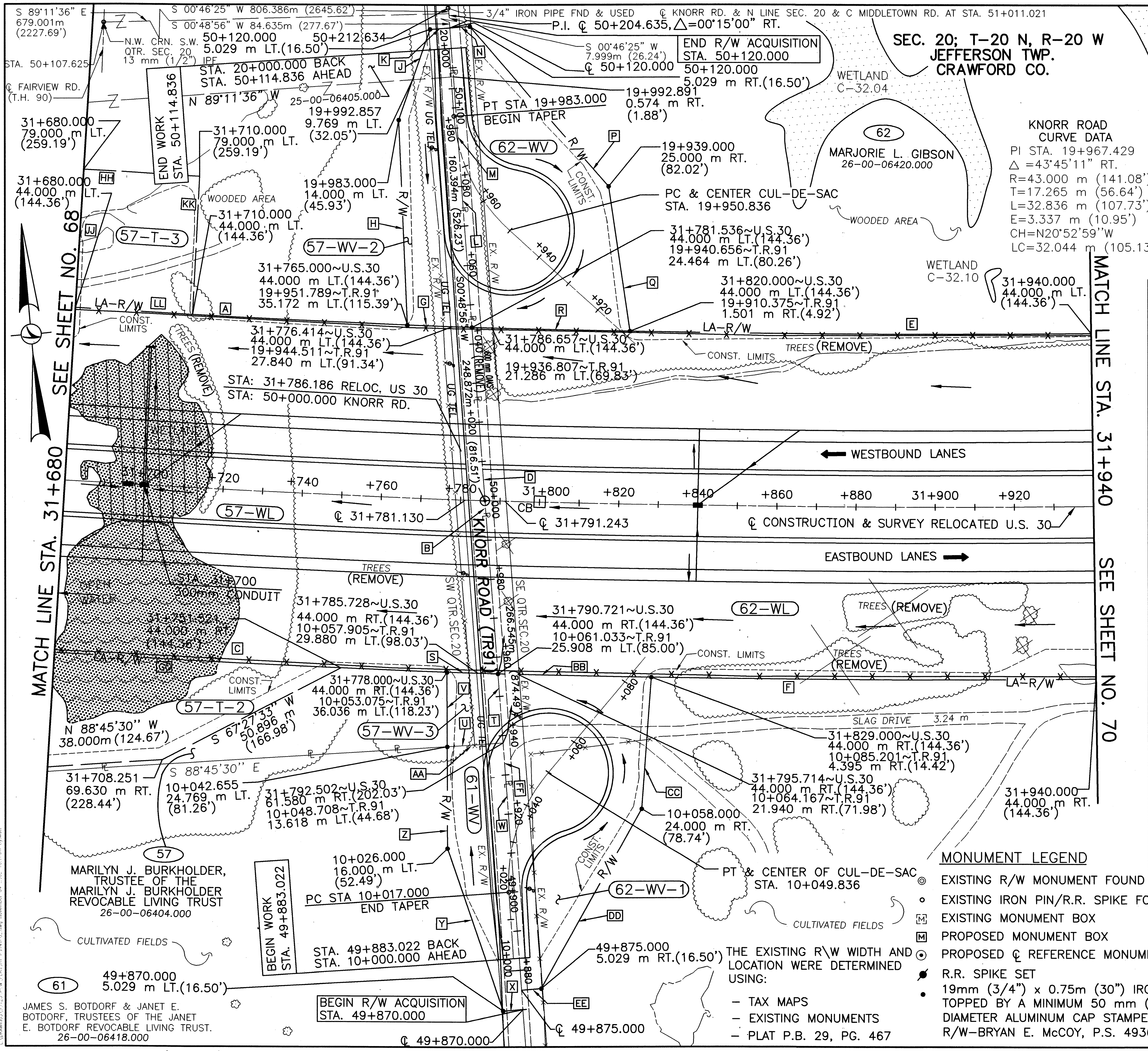
RIGHT OF WAY PLAN
STA. 31+200 TO STA. 31+440

CRA-30-24.000 (14.91)

67/86

658/677


SEC. 20; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.
57
MARILYN J. BURKHOLDER, TRUSTEE OF THE MARILYN J. BURKHOLDER REVOCABLE LIVING TRUST
25-00-06405.000
WOODED AREA
EXISTING POND
WOODED AREA
WOODED AREA
250mm ABS FIELD TILE
RELOCATED U.S. 30 CURVE DATA
PI STA. 32+175.655
Δ=19°12'00" LT.
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')
metric units
31+680.000
44.000 m LT.
(144.36')
31+440.000
44.000 m LT.
(144.36')
31+583.674
44.000 m LT.
(144.36')
L=195.374 m (640.99')
R=3456.000 m (11,338.56')
CH=S 81°31'50" E
LC=195.348 m (640.90')
LA-R/W
S 79°54'40" E
491.722m (1613.26')
LA-R/W
CONST. LIMITS
CONST. LIMITS
TREES (REMOVE)
1~300mm
2~400mm
1~600mm
57-WL
PC STA 31+583.674
SEE SHEET NO. 67
MATCH LINE STA. 31+440
MATCH LINE STA. 31+680
SEE SHEET NO. 69
WESTBOUND LANES
+460 +480 31+500 +520 +540 +560 +580 31+600 +620 +640 +660
℄ CONSTRUCTION & SURVEY RELOCATED U.S. 30
S 79°54'40" E
EASTBOUND LANES
900mm OAK (REMOVE)
L=209.650 m (687.83')
R=3544.000 m (11,627.27')
CH=N 81°36'21" W
LC=209.619 m (687.73')
CONST. LIMITS
CONST. LIMITS
57-T-2
477.205m (1565.63')
LA-R/W
N 79°54'40" W
LA-R/W
A
31+440.000
44.000 m RT.
(144.36')
31+583.674
44.000 m RT.
(144.36')
31+667.774
44.000 m RT.
(144.36')
N 01°56'10" E
30.545 m
(100.21')
26-00-06404.000
250mm ABS FIELD TILE
31+671.303
74.334 m RT.
(243.88')
CULTIVATED FIELDS
S 88°43'13" E
S 88°45'30" E
N 88°45'30" W
38.000 m
(124.67')
N 00°48'56" E
26-00-06404.000
CURVE DATA
A L=84.800m (278.21'); R=3544.000m (11,627.27')
CH=S 81°58'24" E; LC=84.798m (278.21')
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
REV. DATE DESCRIPTION
DATE OF COMPLETION 08-31-00
RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS
P.I.D. NUMBER 16283
STATE PROJECT NO. 036010
RIGHT OF WAY PLAN
STA. 31+440 TO STA. 31+680
CRA-30-24.000 (14.91)
68/86
659/677



RELOCATED U.S. 30 CURVE DATA

PI STA. 32+175.655
△=19°12'00" LT
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')

KNORR ROAD CURVE DATA

PI STA. 19+967.429
△ =43°45'11" RT.
R=43.000 m (141.08')
T=17.265 m (56.64')
L=32.836 m (107.73')
E=3.337 m (10.95')
CH=N20°52'59"W
LC=32.044 m (105.13')

KNORR ROAD CURVE DATA

PI STA. 10+034.265
△ =43°45'11" RT.
R=43.000 m (141.08')
T=17.265 m (56.64')
L=32.836 m (107.73')
E=3.337 m (10.95')
CH=N 23°05'02" E
LC=32.044 m (105.13')

BEARINGS AND DISTANCES

A	L=195.374m (640.99'); R=3456.000m (11,338.56') CH=S 81°31'50" E; LC=195.359m (640.90')
B	S 00°48'56" W, 88.478m (290.28')
C	L=209.650m (687.83'); R=3544.000m (11,627.27') CH=N 81°36'21" W; LC=209.619m (687.73')
D	N 00°48'56" E, 88.478m (290.28')
E	L=599.809m (1967.87'); R=3456.00m (11,338.56') CH=S 88°07'20" E; LC=599.057m (1965.41')
F	L=599.659m (1967.38'); R=3544.000m (11,627.27') CH=N 88°08'52" W; LC=598.944m (1965.04')
G	L=16.328m (53.57'); R=3456.000m (11.338.56') CH=N 83°00'53" W; LC=16.328m (53.57')
H	N 02°36'49 E, 51.909m (170.30')
J	N 24°13'20" E, 24.104m (79.08')
K	S 89°11'04" E, 5.029m (16.50')
L	S 00°48'56" W, 75.758m (248.55')
M	N 00°48'56" E, 75.758m (248.55')
N	S 89°11'04" E, 5.029m (16.50')
P	S 35°59'29" E, 53.447m (175.35')
Q	S 03°22'36" E, 37.035m (121.51')
R	L=39.956m (131.09'); R=3456.000m (11,338.56') CH=N 83°28'53" W; LC=39.955m (131.09')
S	L=12.881m (42.26'); R=3544.000m (11,627.27') CH=S 83°11'47" E; LC=12.881m (42.26')
T	S 00°48'56" W, 17.673m (57.98')
U	N 88°45'30" W, 14.151m (46.43')
V	N 04°52'04" E, 18.959m (62.20')
W	S 00°48'56" W, 68.091m (223.40')
X	N 89°11'04" W, 5.029m (16.50')
Y	N 13°40'04" W, 43.781m (143.64')
Z	N 04°52'04" E, 25.871m (84.88')
AA	S 88°45'30" E, 14.151m (46.43')
BB	L=38.760m (127.17'); R=3544.000m (11,627.27') CH=S 83°36'50" E; LC=38.760m (127.17')
CC	S 09°10'42" W, 33.530m (110.01')
DD	S 34°00'27" W, 52.373m (171.83')
EE	N 89°11'04" W, 5.029m (16.50')
FF	N 00°48'56" E, 80.764m (264.97')
GG	L=84.800m (278.21'); R=3544.000m (11,627.27') CH=S 81°58'24" E; LC=84.798m (278.21')
HH	S 81°44'01"E 29.323m (96.20')
JJ	N 8°30'43"E 35.000m (114.83')
KK	S 8°01'15"W 35.000m (114.83')
LL	L=29.623m (97.19'); R=3456.000m (11,338.56') CH=N81°44'01"W, LC=29.623m (97.19')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 29, PG. 467

REV.	DATE	DESCRIPTION
JAG	3-19-01	ADDED 57-T-3

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 31+680 TO STA. 31+940

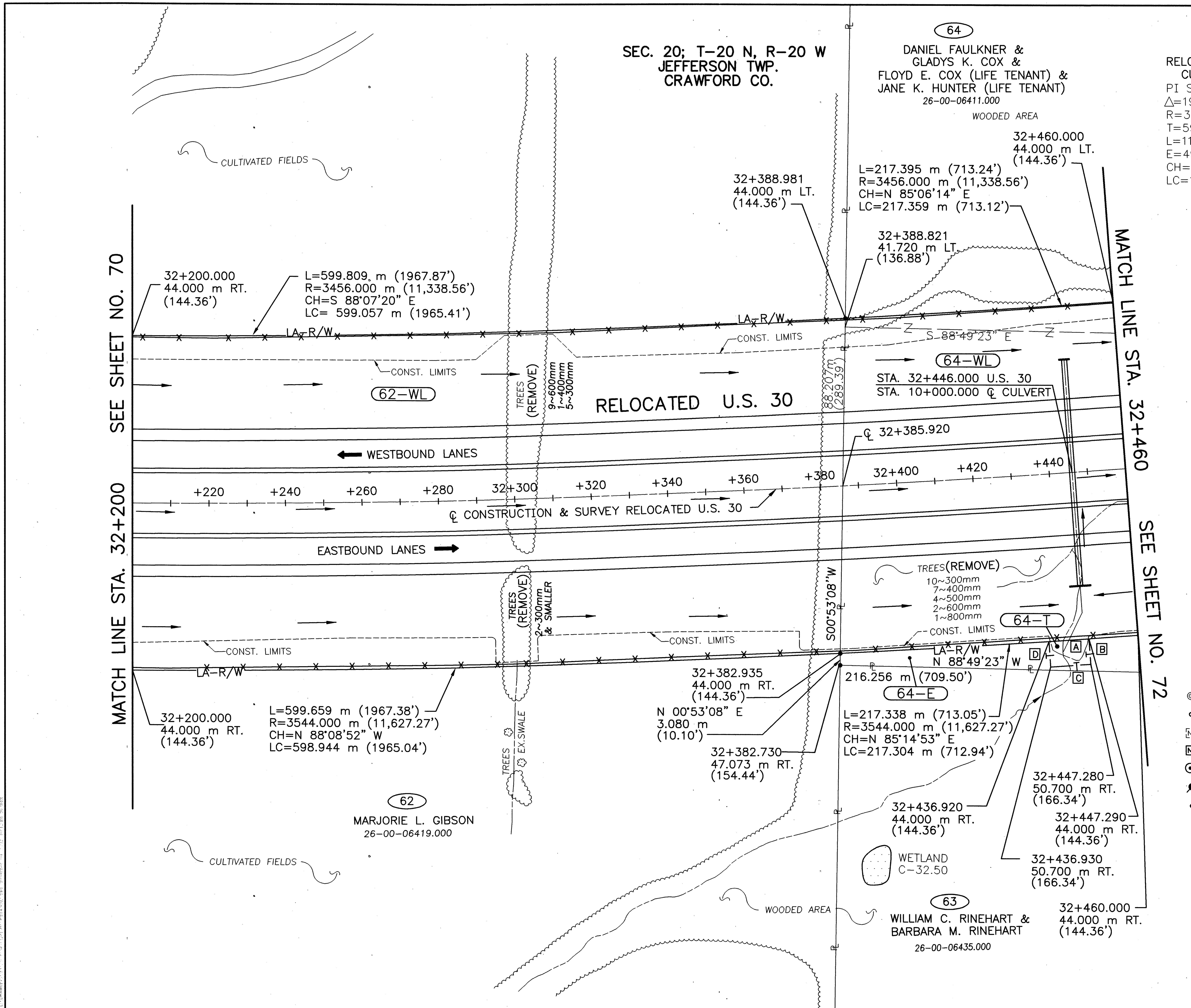
CRA-30-24.000 (14.91)

69/86

660/677

CRA-30-24.000 (14.91)

RIGHT OF WAY PLAN
STA. 31+940 TO STA. 32+200
CRA-30-24.000 (14.91)
metric units
RATIO 1:500
HORIZONTAL SCALE IN METERS
P.I.D. NUMBER 16283
STATE PROJECT NO. 036010
70/86
661
677
SEC. 20; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.
RELOCATED U.S. 30
CURVE DATA
PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')
WETLAND C-32.14
WETLAND C-32.27
WOODED AREA
CULTIVATED FIELDS
WETLAND C-32.28
EX. POND
31+940.000
44.000 m LT.
(144.36')
L=599.809 m (1967.87')
R=3456.000 m (11,338.56')
CH=S 88°07'20" E
LC=599.057 m (1965.41')
32+086.422
44.000 m LT.
(144.36')
32+200.000
44.000 m LT.
(144.36')
SEE SHEET NO. 69
SEE SHEET NO. 71
TREES (REMOVE)
LA-R/W
CONST. LIMITS
3~400mm
2~300mm
STA. 31+960
600 mm CONDUIT
62-WL
DRIVE
℄ 32+087.153
WESTBOUND LANES
+960
+980
32+000
+020
+040
+060
+080
32+100
+120
+140
+160
+180
4~300mm
TW 400mm MAPLE
CB
℄ CONSTRUCTION & SURVEY RELOCATED U.S. 30
32+200.000
EASTBOUND LANES
MATCH LINE STA. 31+940
MATCH LINE STA. 32+200
WETLAND C-32.11
EX. POND
1~400mm
6~300mm
1~700mm
1~600mm
1~500mm
3~300mm
WETLAND C-32.15
L=599.659 m (1967.38')
R=3544.000 m (11,627.27')
CH=N 88°08'52" W
LC=598.944 m (1965.04')
31+940.000
44.000 m RT.
(144.36')
32+087.866
44.000 m LT.
(144.36')
32+200.000
44.000 m RT.
(144.36')
62
MARJORIE L. GIBSON
26-00-06420.000
26-00-06419.000
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
REV.
DATE
DESCRIPTION
DATE OF COMPLETION 08-31-00



metric units

BEARINGS AND DISTANCES	
A	L=10.500m (34.45'); R=3544.000m(11,627.27'); CH=N 86°02'10" E; LC=10.500m (34.45')
B	S 03°57'52" E, 6.700m (21.98')
C	S 86°02'08" W, 10.500m (34.45')
D	N 03°57'52" W, 6.700m (21.98')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

LBD	9-11-01	REV. PAR. 64 OWNER NAME
PKM	8-01-01	REV. PAR. 64 OWNER NAME
PKM	11-15-00	64-T ADDED
REV.	DATE	DESCRIPTION
DATE OF COMPLETION		08-31-00

RATIO 1:500
HORIZONTAL SCALE IN METERS
0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 32+200 TO STA. 32+460

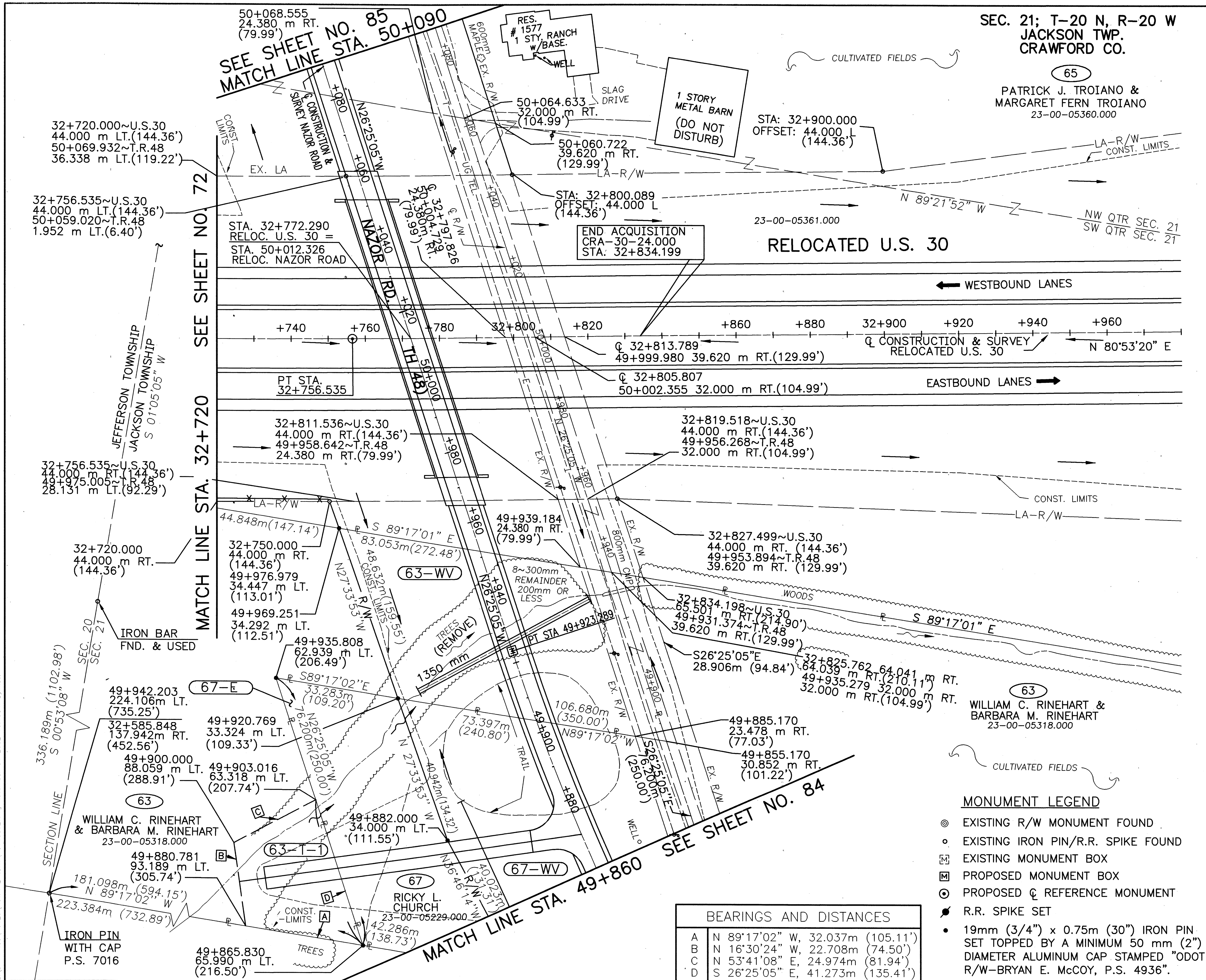
CRA-30-24.000 (14.91)

71/86

662
677

SEC. 20; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.
26-00-06410.000
S 88°49'23" E
64
DANIEL FAULKNER &
GLADYS K. COX &
FLOYD E. COX (LIFE TENANT) &
JANE K. HUNTER (LIFE TENANT)
26-00-06411.000
WETLAND
C-32.80
23-00-05360.000
50+100.592
38.352 m LT.
(125.83')
S 89°21'52" E
CONST. LIMITS
65
PATRICK J. TROIANO &
MARGARET FERN TROIANO
23-00-05361.000
CULTIVATED FIELDS
RELOCATED U.S. 30
CURVE DATA
PI STA. 32+175.655
△ =19°12'00" LT.
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')
metric units
RATIO 1:500
HORIZONTAL SCALE IN METERS
P.I.D. NUMBER 16283
STATE PROJECT NO. 036010
RIGHT OF WAY PLAN
STA. 32+460 TO STA. 32+720
CRA-30-24.000 (14.91)
72/86
663
677
SEE SHEET NO. 71
MATCH LINE STA. 32+460
32+460.000
44.000 m LT.
(144.36')
L=217.395 m (713.24')
R=3456.000 m (11,338.56')
CH=N 85°06'14" E
LC=217.359 m (713.12')
32+609.144
44.000 m LT.
(144.36')
152.722m (501.06')
32+716.000~U.S.30
44.000 m LT.(144.36')
50+071.149~T.R.48.
40.095 m LT.(131.55')
R/W
EX. LA
WOODED AREA
LA-R/W
CONST. LIMITS
64-WL
S00°53'08"W
88.757m(291.20')
32+605.789
18.938 m LT.
(62.13')
32+720.000~U.S.30
44.000 m LT.(144.36')
50+069.932~T.R.48
36.338 m LT.(119.22')
MATCH LINE STA. 32+720
STA. 32+480
1500 mm CONDUIT
WETLAND
C-32.70
S88°49'23"E
TREES (REMOVED)
WESTBOUND LANES
(739.98')
CB
(128.92')
+620
+640
+660
+680
32+700
+480
32+500
+520
+540
+560
+580
℄ 32+603.286
℄ CONSTRUCTION & SURVEY RELOCATED U.S. 30
S00°53'08"W
225.546m
72.824m
EASTBOUND LANES
SEE SHEET NO. 73
32+599.610
28.200 m RT.
(92.52')
WETLAND
C-32.69
WOODED AREA
15.933m
(52.27')
S 89°17'01" E
111.411m (365.52')
CONST. LIMITS
63-WL
LA-R/W
CONST. LIMITS
L=112.596m (369.41')
R=3544.00 m (11,627.27')
CH=S 82°34'51" W
LC=112.592m (369.40')
32+708.774
44.000 m RT.
(144.36')
L=217.338 m (713.05')
R=3544.00 m (11,627.27')
CH=N 85°14'53" E
LC=217.304 m (712.94')
64-E
32+597.575
44.000 m RT.
(144.36')
26-00-06409.000
S00°53'08"W
25.527m(83.75')
44.848 m (147.14')
32+594.354
69.316 m RT.
(227.41')
N 88°49'23" W 216.256 (709.50')
32+460.000
44.000 m RT.
(144.36')
32+720.000
44.000 m RT.
(144.36')
63
WILLIAM C. RINEHART &
BARBARA M. RINEHART
26-00-06435.000
235.175m (771.57') TO ℙ @ NW CORNER OF OWNER NO. 68
JEFFERSON TOWNSHIP SE QTR SEC. 20
SW QTR SEC. 21 JACKSON TOWNSHIP
CULTIVATED FIELDS
23-00-05318.000
EX. POND
S 89°17'02" E
181.098m (594.15')
MONUMENT LEGEND
EXISTING R/W MONUMENT FOUND
EXISTING IRON PIN/R.R. SPIKE FOUND
EXISTING MONUMENT BOX
PROPOSED MONUMENT BOX
PROPOSED ℄ REFERENCE MONUMENT
R.R. SPIKE SET
19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
LBD 9-11-01 REV. PAR. 64 OWNER NAME
PKM 8-01-01 REV. PAR. 64 OWNER NAME
REV. DATE DESCRIPTION
DATE OF COMPLETION 08-31-00

SEC. 21; T-20 N, R-20 W
JACKSON TWP.
CRAWFORD CO.



THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- ROADWAY OCCUPATION

RELOCATED U.S. 30
CURVE DATA
PI STA. 32+175.655
Δ =19°12'00" LT.
R=3500.000 m (11,482.92')
T=591.981 m (1942.19')
L=1172.861 m (3847.96')
E=49.710 m (163.09')
CH=S 89°30'40" E
LC=1167.381 m (3829.98')

RELOCATED NAZOR ROAD
CURVE DATA
PI STA. 49+866.809
Δ =19°49'09" RT.
R=600.000 m (1968.50')
T=56.818 m (186.41')
L=113.298 m (371.71')
E=2.684 m (8.81')
CH=N 31°49'39" W
LC=113.130 m (371.16')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

BEARINGS AND DISTANCES

A	N 89°17'02" W, 32.037m (105.11')
B	N 16°30'24" W, 22.708m (74.50')
C	N 53°41'08" E, 24.974m (81.94')
D	S 26°25'05" E, 41.273m (135.41')

REV.	DATE	DESCRIPTION
LBD	8-20-01	REVISED PARCEL 63-T
LBD	8-17-01	REVISED CONST. LIMIT PAR. 63T-1
PKM	7-17-01	REVISED PARCEL 63-T
PKM	4-6-01	ADDED PARCEL 63-T-1 & DRIVE

DATE OF COMPLETION 08-31-00

metric units

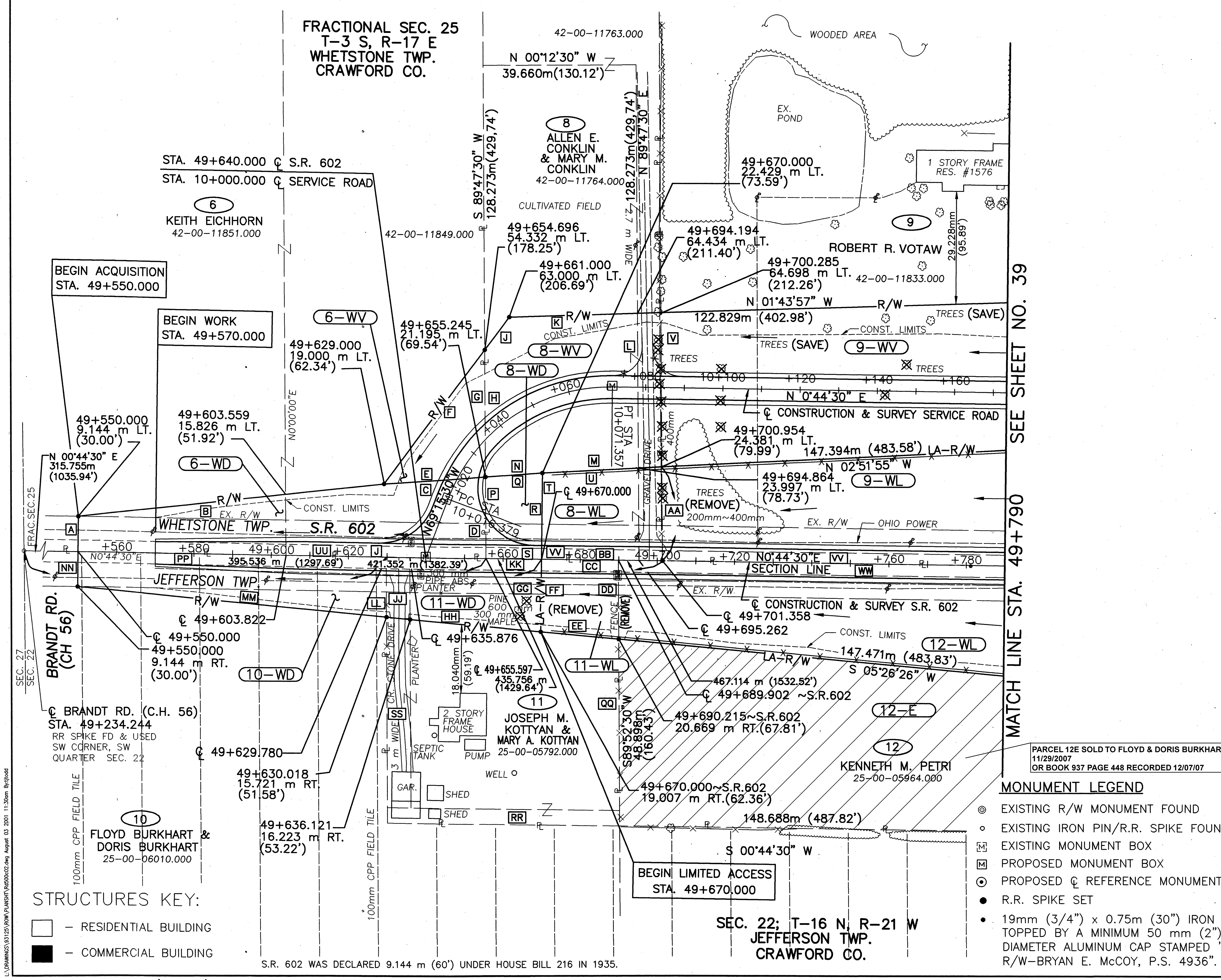
RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
STA. 32+720 TO STA. 32+980

CRA-30-24.000 (14.91)



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

BEARINGS AND DISTANCES	
A	N 89°15'30" W, 9.144m (30.00')
B	N 06°22'11" W, 79.612m (261.19')
C	N 04°02'23" W, 26.337m (86.41')
D	N 89°47'30" E, 21.198m (69.55')
E	S 04°02'23" E, 26.337m (86.41')
F	N 53°13'51" W, 43.688m (143.33')
G	N 89°47'30" E, 33.141m (108.73')
H	S 89°47'30" W, 33.141m (108.73')
J	N 53°13'51" W, 10.718m (35.16')
K	N 01°43'57" W, 39.322m (129.01')
L	N 89°47'30" E, 40.322m (132.29')
M	S 02°51'55" E, 31.015m (101.76')
N	S 04°02'23" E, 14.806m (48.58')
P	S 89°47'30" W, 21.198m (69.55')
Q	N 04°02'23" W, 14.806m (48.58')
R	S 89°15'30" E, 22.429m (73.59')
S	S 00°44'30" W, 14.403m (47.25')
T	N 89°15'30" W, 22.429m (73.59')
U	N 02°51'55" W, 31.015m (101.76')
V	S 89°47'30" W, 40.322m (132.29')
	W, X, Y AND Z (NOT USED)
AA	N 89°47'30" E, 24.384m (80.00')
BB	S 00°44'30" W, 31.358m (102.88')
CC	N 00°44'30" E, 19.902m (65.30')
DD	N 89°52'30" E, 20.671m (67.82')
EE	S 05°26'26" W, 20.283m (66.55')
FF	N 89°15'30" W, 19.007m (62.36')
GG	S 89°15'30" E, 19.007m (62.36')
HH	S 05°26'26" W, 40.117m (131.62')
JJ	S 89°52'30" W, 15.723m (51.58')
KK	N 00°44'30" E, 40.220m (131.96')
LL	N 89°52'30" E, 15.723m (51.58')
MM	S 05°26'26" W, 80.288m (263.41')
NN	N 89°15'30" W, 9.144m (30.00')
PP	N 00°44'30" E, 79.780m (261.74')
QQ	N 89°52'30" E, 69.569m (228.24')
RR	S 00°44'30" W, 60.122M (197.25')
SS	S 89°52'30" W, 69.569m (228.24')
TT	N 00°44'30" E, 60.122m (197.25')
UU	N 00°44'30" E, 105.597m (346.45')
VV	N 00°44'30" E, 164.845m (540.83')
WW	N 00°44'30" E, 174.418m (572.24')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

SLR	02/12/08	SALE OF PCL 12E
JEK	12-03-01	OWNER NAME PAR. 9
PKM	8-01-01	REV. BRG & DIST. "DD"
PKM	3-8-01	CONST. LIMITS IN 9-WV REVISED
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
S.R. 602
STA. 49+540 TO STA. 49+790

CRA-30-24.000 (14.91)

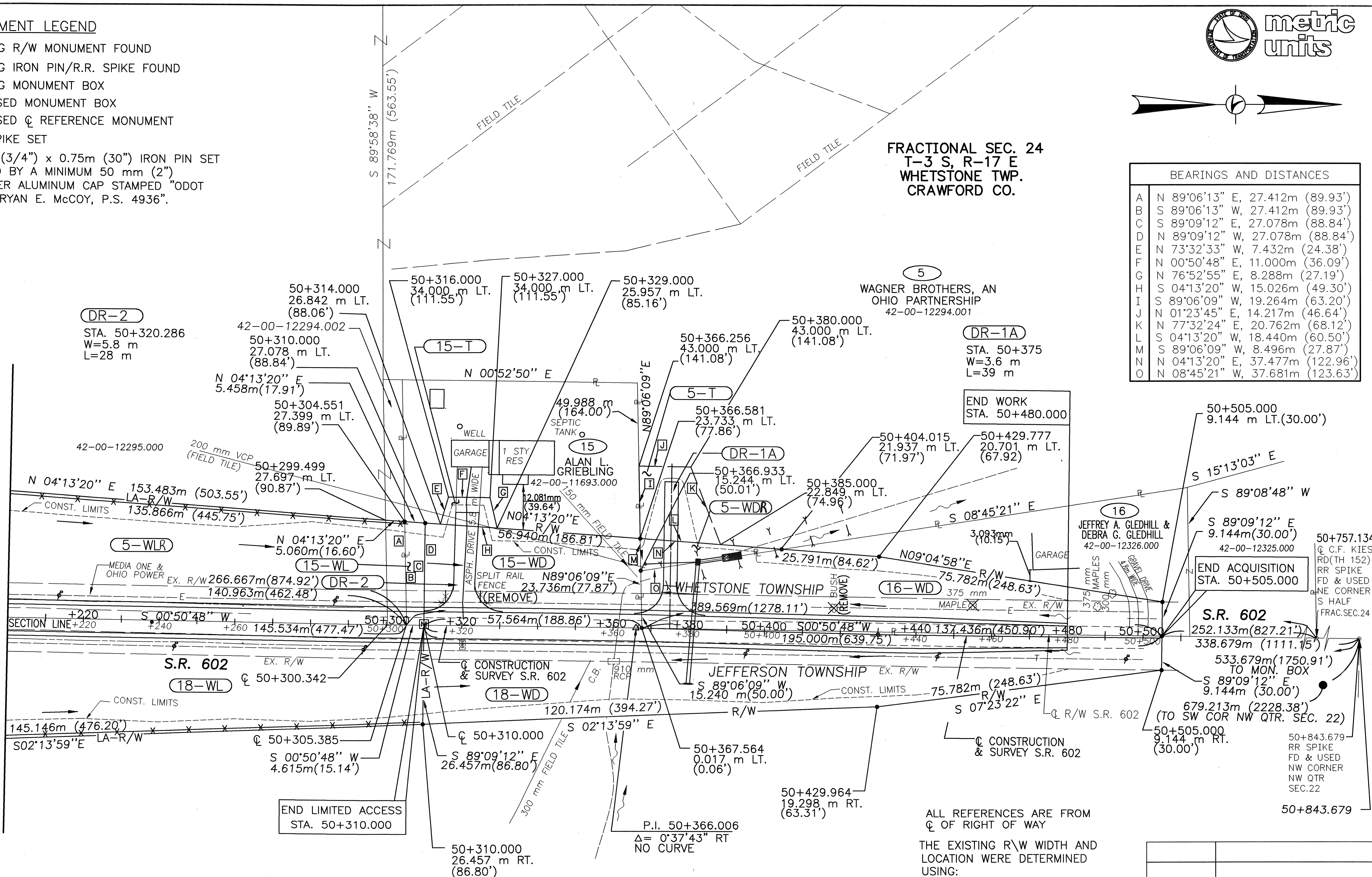
74/86

665/677

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

metric units



	BEARINGS AND DISTANCES
A	N 89°06'13" E, 27.412m (89.93')
B	S 89°06'13" W, 27.412m (89.93')
C	S 89°09'12" E, 27.078m (88.84')
D	N 89°09'12" W, 27.078m (88.84')
E	N 73°32'33" W, 7.432m (24.38')
F	N 00°50'48" E, 11.000m (36.09')
G	N 76°52'55" E, 8.288m (27.19')
H	S 04°13'20" W, 15.026m (49.30')
I	S 89°06'09" W, 19.264m (63.20')
J	N 01°23'45" E, 14.217m (46.64')
K	N 77°32'24" E, 20.762m (68.12')
L	S 04°13'20" W, 18.440m (60.50')
M	S 89°06'09" W, 8.496m (27.87')
N	N 04°13'20" E, 37.477m (122.96')
O	N 08°45'21" W, 37.681m (123.63')

ALL REFERENCES ARE FROM ℄ OF RIGHT OF WAY

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 13, PG. 172
- PLAT P.B. 27, PG. 165

S.R. 602 WAS DECLARED 9.144 m (60') UNDER HOUSE BILL 216 IN 1935.

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

REV. DATE	DESCRIPTION
02/04/11	changed 5-WL to 5-WLR per deed
02/04/11	changed 5-WD to 5-WDR per deed
10/2/00	LEADER FOR DISTANCE ON ℄ 145.53m(477.47')
DATE OF COMPLETION	08-31-00

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
S.R. 602
STA. 50+200 TO STA. 50+500

CRA-30-24.000 (14.91)

CRA-30-24.000 (14.91)

	BEARINGS AND DISTANCES
A	N 89°11'20" W, 15.757m (51.70')
B	N 00°27'27" W, 40.853m (134.03')
C	S 89°11'20" E, 16.662m (54.67')
D	S 00°48'40" W, 40.843m (134.00')
E	N 89°11'20" W, 16.662m (54.67')
F	N 89°11'00" W, 16.662m (54.67')
G	N 02°50'08" E, 9.523m (31.24')
H	N 79°29'35" E, 30.058m (98.61')
I	S 01°52'31" W, 27.491m (90.19')

SEC. 23; T-16 N, R-21 W
JEFFERSON TWP.
CRAWFORD CO.

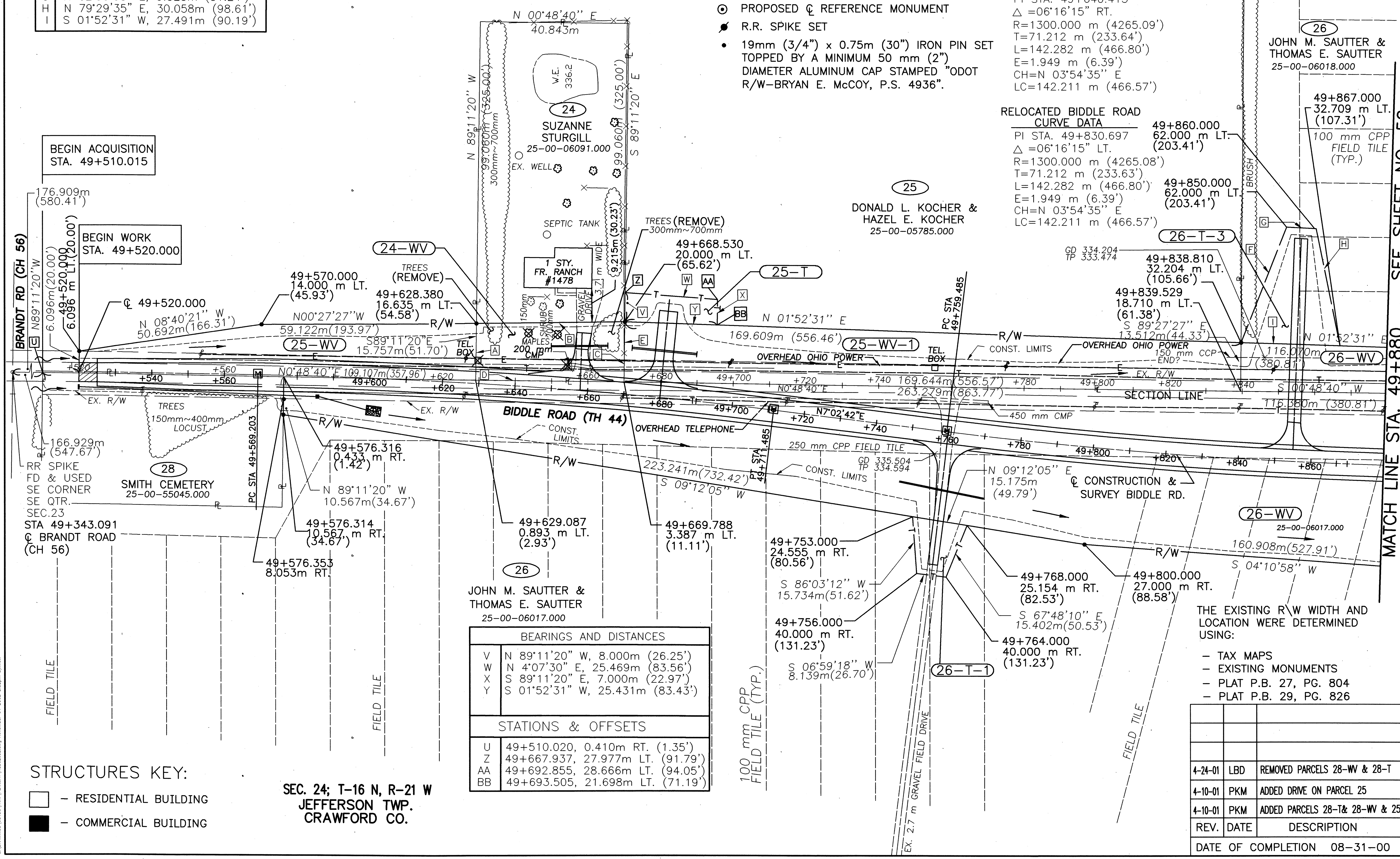
MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

metric units

RELOCATED BIDDLE ROAD CURVE DATA
PI STA. 49+640.415
△ =06°16'15" RT.
R=1300.000 m (4265.09')
T=71.212 m (233.64')
L=142.282 m (466.80')
E=1.949 m (6.39')
CH=N 03°54'35" E
LC=142.211 m (466.57')

RELOCATED BIDDLE ROAD CURVE DATA
PI STA. 49+830.697
△ =06°16'15" LT.
R=1300.000 m (4265.08')
T=71.212 m (233.63')
L=142.282 m (466.80')
E=1.949 m (6.39')
CH=N 03°54'35" E
LC=142.211 m (466.57')



THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 27, PG. 804
- PLAT P.B. 29, PG. 826

	BEARINGS AND DISTANCES
V	N 89°11'20" W, 8.000m (26.25')
W	N 4°07'30" E, 25.469m (83.56')
X	S 89°11'20" E, 7.000m (22.97')
Y	S 01°52'31" W, 25.431m (83.43')

	STATIONS & OFFSETS
U	49+510.020, 0.410m RT. (1.35')
Z	49+667.937, 27.977m LT. (91.79')
AA	49+692.855, 28.666m LT. (94.05')
BB	49+693.505, 21.698m LT. (71.19')

SEC. 24; T-16 N, R-21 W
JEFFERSON TWP.
CRAWFORD CO.

STRUCTURES KEY:
- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

REV.	DATE	DESCRIPTION
4-24-01	LBD	REMOVED PARCELS 28-WV & 28-T
4-10-01	PKM	ADDED DRIVE ON PARCEL 25
4-10-01	PKM	ADDED PARCELS 28-T& 28-WV & 25-T

DATE OF COMPLETION 08-31-00

RATIO 1:500 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

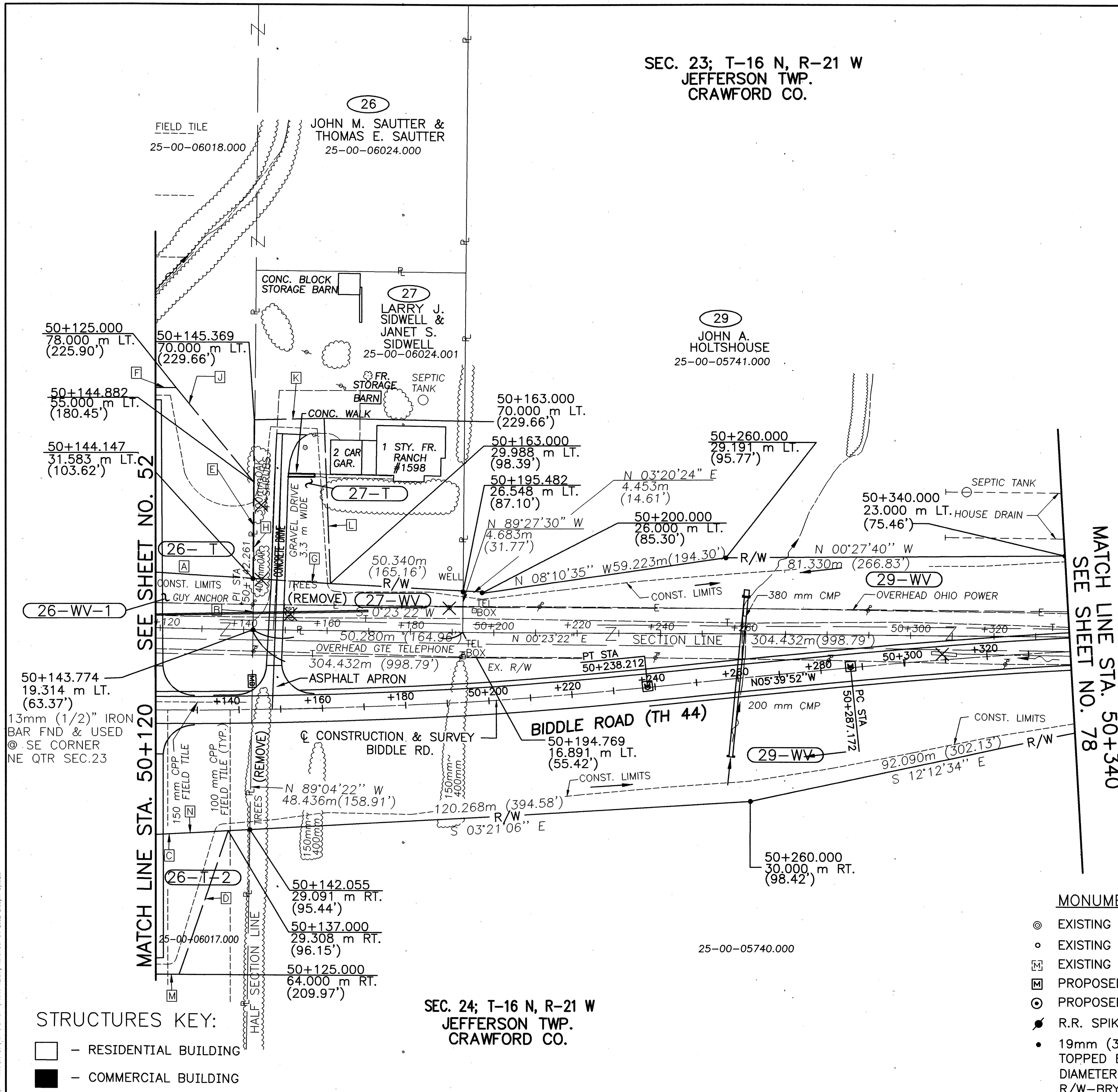
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
BIDDLE ROAD
STA. 49+500 TO STA. 49+880

CRA-30-24.000 (14.91)

76/86

667/677



metric units

RELOCATED BIDDLE ROAD
CURVE DATA

PI STA. 50+170.858
Δ =06°26'19" LT.
R=1200.000 m (3937.00')
T=67.497 m (221.45')
L=134.851 m (442.42')
E=1.897 m (6.22')
CH=N 02°26'42" W
LC=134.780 m (442.19')

RELOCATED BIDDLE ROAD
CURVE DATA

PI STA. 50+352.851
Δ =06°15'56" RT.
R=1200.000 m (3937.08')
T=65.678 m (215.48')
L=131.226 m (430.53')
E=1.796 m (5.89')
CH=N 02°31'54" W
LC=131.161 m (430.32')

BEARINGS AND DISTANCES

A	S 03°20'24" W, 43.109m (141.43')
B	N 89°27'30" W, 12.274m (40.27')
C	N 03°21'06" W, 32.860m (107.81')
D	S 70°46'47" E, 36.864m (120.94')
E	S 89°27'30" E, 23.428m (76.86')
F	N 00°01'13" W, 9.350m (30.68')
G	S 03°20'24" W, 18.438m (60.49')
H	N 89°27'30" W, 38.435m (126.10')
J	N 50°01'59" E, 29.693m (97.42')
K	N 01°39'09" W, 16.603m (54.47')
L	N 87°55'36" E, 40.012m (131.27')
M	S 00°01'13" E, 10.533m (34.56')
N	S 03°21'06" E, 91.012m (298.60')

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 27, PG. 804
- PLAT P.B. 29, PG. 826

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

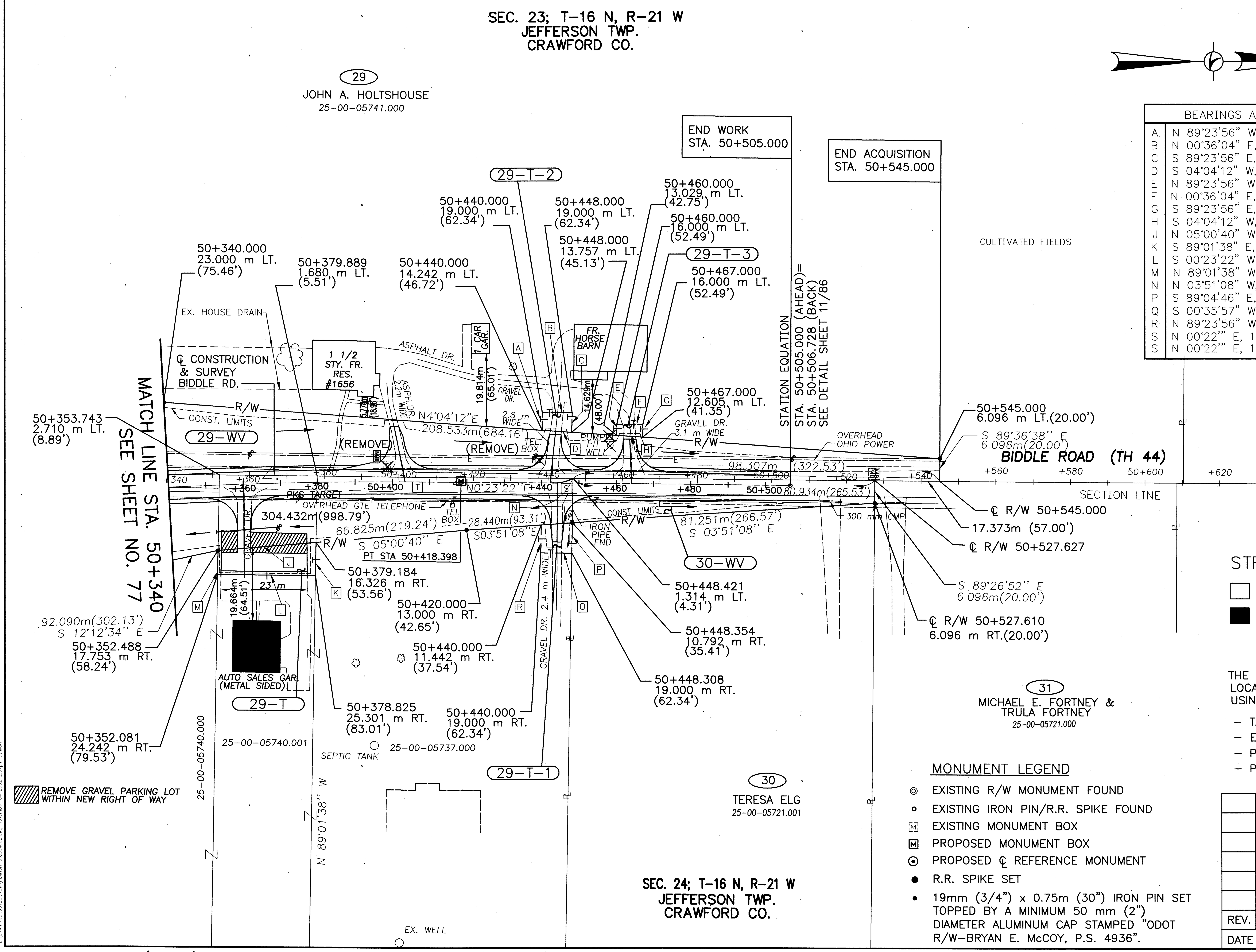
RIGHT OF WAY PLAN
BIDDLE ROAD
STA. 50+120 TO STA. 50+340

CRA-30-24.000 (14.91)

77/86

668/677

CRA-30-24.000 (14.91)



BEARINGS AND DISTANCES

A	N 89°23'56" W, 4.758m (15.61')
B	N 00°36'04" E, 8.000m (26.25')
C	S 89°23'56" E, 5.243m (17.20')
D	S 04°04'12" W, 8.015m (26.30')
E	N 89°23'56" W, 2.971m (9.75')
F	N 00°36'04" E, 7.000m (22.97')
G	S 89°23'56" E, 3.395m (11.14')
H	S 04°04'12" W, 7.013m (23.01')
J	N 05°00'40" W, 26.355m (86.47')
K	S 89°01'38" E, 8.982m (29.47')
L	S 00°23'22" W, 26.213m (86.00')
M	N 89°01'38" W, 6.501m (21.33')
N	N 03°51'08" W, 8.379m (27.49')
P	S 89°04'46" E, 8.208m (26.93')
Q	S 00°35'57" W, 8.308m (27.26')
R	N 89°23'56" W, 7.558m (24.80')
S	N 00°22'" E, 12.106m (3"
S	N 00°22'" E, 12.106m (3"

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 27, PG. 804
- PLAT P.B. 29, PG. 826

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

metric units

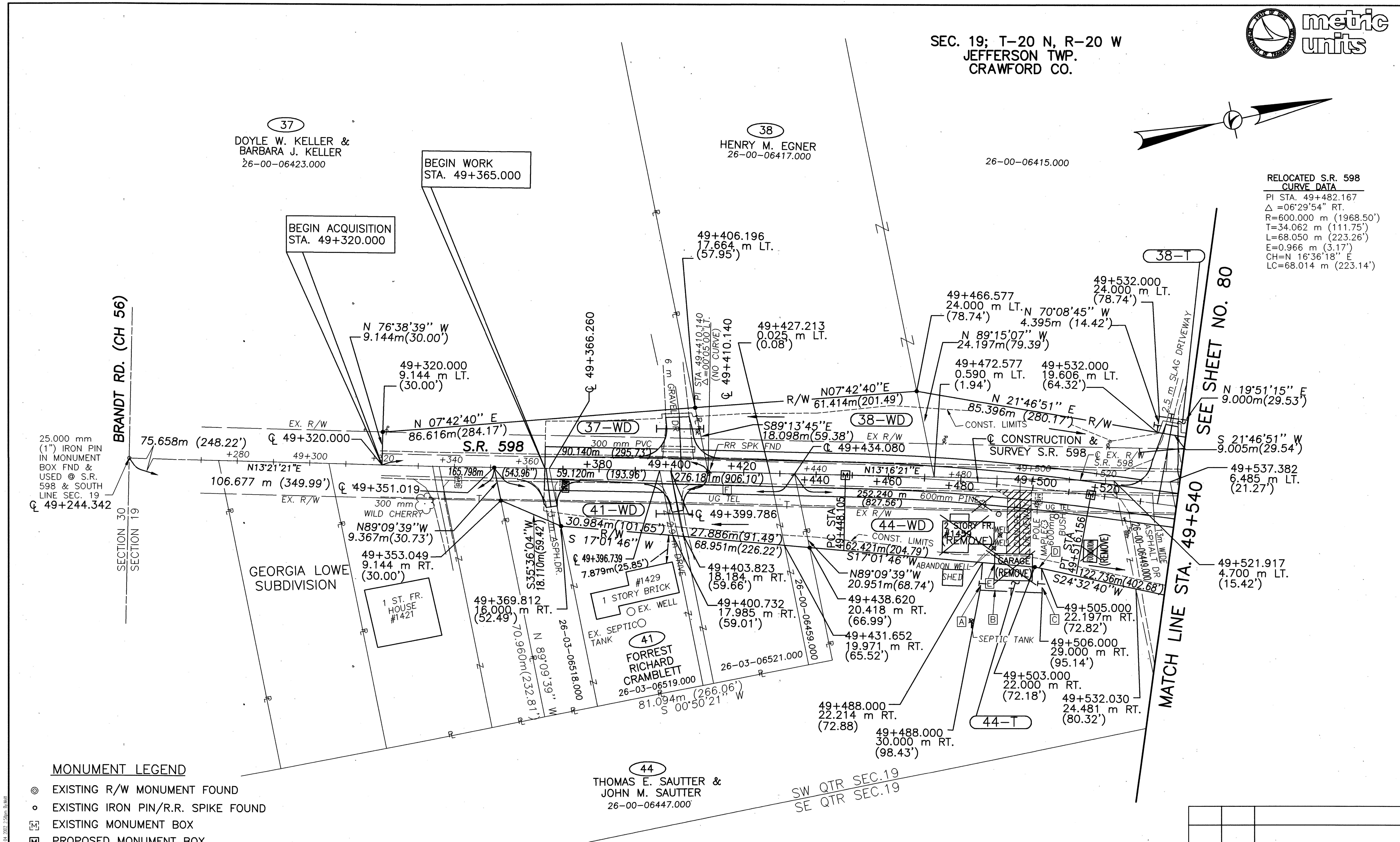
RATIO 1:500 HORIZONTAL SCALE IN METERS 0 5 10 20

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
BIDDLE ROAD
STA. 50+340 TO STA. 50+570

CRA-30-24.000 (14.91)



MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- [M] EXISTING MONUMENT BOX
- [M] PROPOSED MONUMENT BOX
- ⊙ PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

BEARINGS AND DISTANCES	
A	N 72°50'04" W, 7.785m (25.54')
B	S 14°40'53" W, 17.144m (56.25')
C	S 79°10'27" E, 6.870m (22.54')
D	N 24°32'40" E, 1.936m (6.35')
E	N 17°01'46" E, 14.449m (47.40')
F	N 13°16'21" E, 23.939m (78.54')

STRUCTURES KEY:

- ☐ - RESIDENTIAL BUILDING
- ■ - COMMERCIAL BUILDING

REV.	DATE	DESCRIPTION
PKM	8-01-01	REV. BRG & DIST. "F"

DATE OF COMPLETION 08-31-00

RATIO 1:500
0 5 10 20 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
S.R. 598
STA. 49+270 TO STA. 49+540

CRA-30-24.000 (14.91)

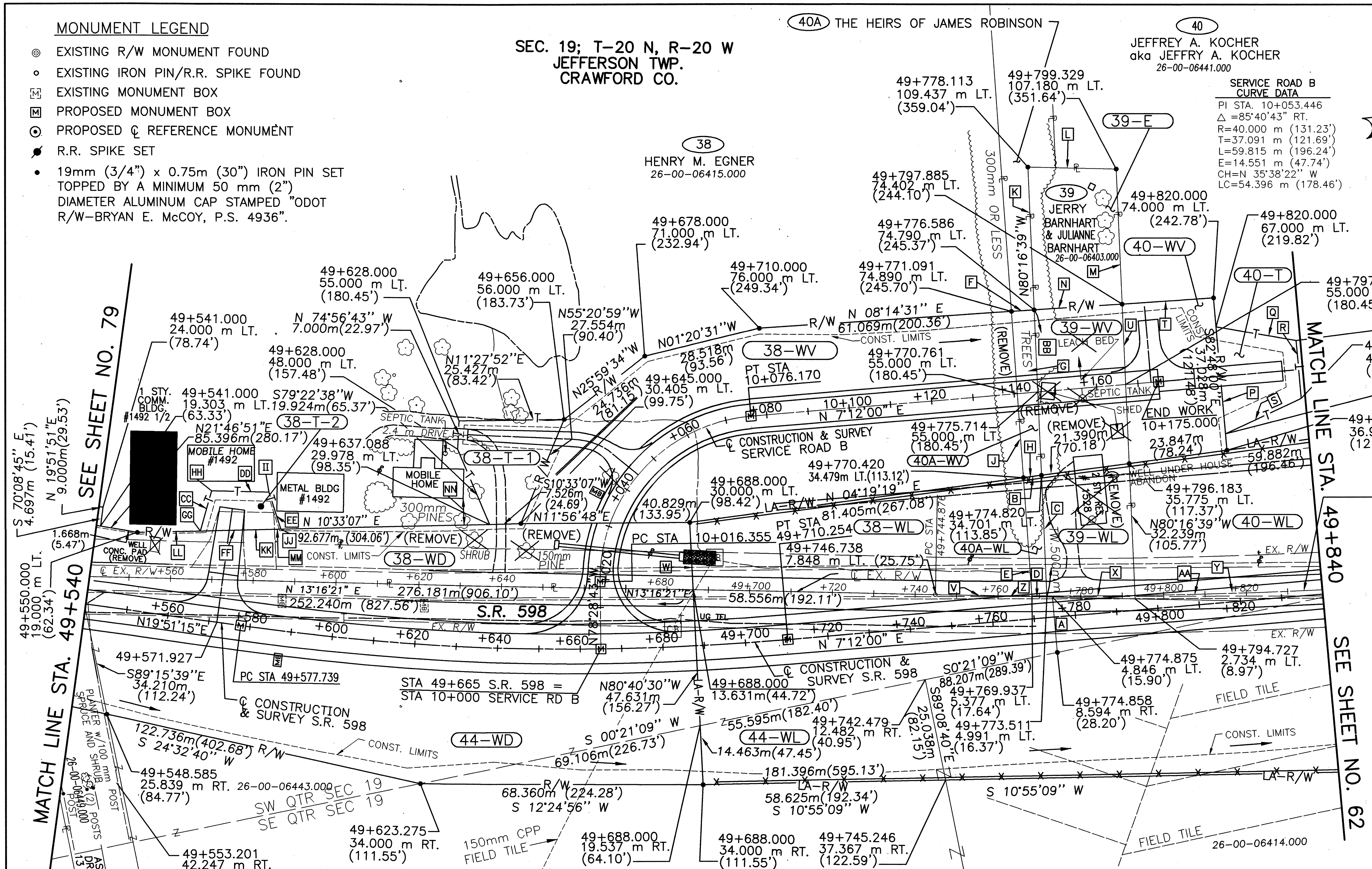
79/86

670
677

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W–BRYAN E. McCOY, P.S. 4936".

SEC. 19; T–20 N, R–20 W
JEFFERSON TWP.
CRAWFORD CO.



SERVICE ROAD B CURVE DATA
PI STA. 10+053.446
Δ =85°40'43" RT.
R=40.000 m (131.23')
T=37.091 m (121.69')
L=59.815 m (196.24')
E=14.551 m (47.74')
CH=N 35°38'22" W
LC=54.396 m (178.46')

RELOCATED S.R. 598 CURVE DATA
PI STA. 49+644.268
Δ =12°39'15" LT.
R=600.000 m (1968.50')
T=66.528 m (218.27')
L=132.515 m (434.76')
E=3.677 m (12.06')
CH=N 13°31'37" E
LC=132.246 m (433.88')

L=99.856m (327.61')
R=1397.100m (4583.65')
CH=N 09°14'51" E
LC=99.834m (327.54')

STRUCTURES KEY:
- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- PLAT P.B. 8, PG. 59
- PLAT P.B. 19, PG. 43
- PLAT S.B. 14, PG. 63
- PLAT P.B. 18, PG. 21
- PLAT P.B. 18, PG. 33
- PLAT P.B. 16, PG. 27
- PLAT P.B. 27, PG. 518

BEARINGS AND DISTANCES

A	N 82°43'51" W, 13.728m (45.04')
B	N 04°19'19" E, 4.405m (14.45')
C	N 80°16'39" W, 29.478m (96.71')
D	L=3.596m(11.80'); R=1397.100m(4583.65') CH=S12°14'34"W; LC=3.596m(11.80')
E	N 81°50'56" W, 28.917m (94.87')
F	S 08°14'31"W, 5.496m (18.03')
G	N 80°16'39" W, 40.128m (131.65')
H	N 04°19'19" E, 4.405m (14.45')
J	S 81°50'56" E, 40.416m (132.60')
K	N 80°16'39" W, 34.681m (113.78')
L	N 13°16'21" E, 21.336m (70.00')
M	S 80°16'39" E, 32.809m (107.64')
N	S 08°14'31" W, 21.302m (69.89')
P	N 82°48'00" W, 26.000m (85.30')
Q	N 21°56'37" E, 19.647m (64.46')
R	S 82°48'00" E, 14.000m (45.93')
S	S 13°01'30" E, 20.249m (66.43')
T	N 08°14'31" E, 22.119m (72.57')
U	N 80°16'39" W, 38.665m (126.85')
V	L=23.313m(76.49'); R=1397.100m(4583.65') CH=S12°47'40"W; LC=23.313M(76.49')
W	N 80°40'30" W, 16.369m (53.70')
X	L=21.308m(69.91'); R=1397.100m(4583.65') CH=S11°43'55"W; LC=21.308m(69.91')
Y	L=148.074m(485.81') R=1397.100m(4583.65') CH=N10°14'10"E; LC=148.004m(485.58')
Z	L=26.909m(88.28') R=1397.100m(4583.65') CH=N12°43'15"E; LC=26.909m(88.28')
AA	L=121.164m(397.52') R=1397.100m(4583.65') CH=S09°41'04"W; LC=121.126m(397.39')
BB	N 80°16'39 W, 69.606m (228.37')

BEARINGS AND DISTANCES

CC	N 62°17'14" W, 10.239m (33.59')
DD	N 13°11'58" E, 13.851m (45.44')
EE	N 84°33'08" E, 9.512m (31.21')
FF	S 10°33'07" W, 19.479m (63.91')

STATIONS & OFFSETS

GG	49+565.000, 21.457m (70.40')
HH	49+566.400, 31.600m (103.67')
II	49+580.300, 33.200m (108.92')
JJ	49+584.500, 24.569m (80.61')

DISTANCES

KK	11.848m (38.87')
LL	1.592m (5.22')
MM	4.450m (14.60')
NN	6.502m (21.33')

REV.	DATE	DESCRIPTION
LBD	9-17-01	REV. PARCEL 40 -T
PKM	8-01-01	REV. PARCEL 40 PPN
PKM	4-4-01	ADDED PARCEL 38-T-2
PKM	11-15-00	REV. PARCEL 40 OWNER NAME

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
S.R. 598
STA. 49+540 TO STA. 49+840

CRA–30–24.000 (14.91)

80/86

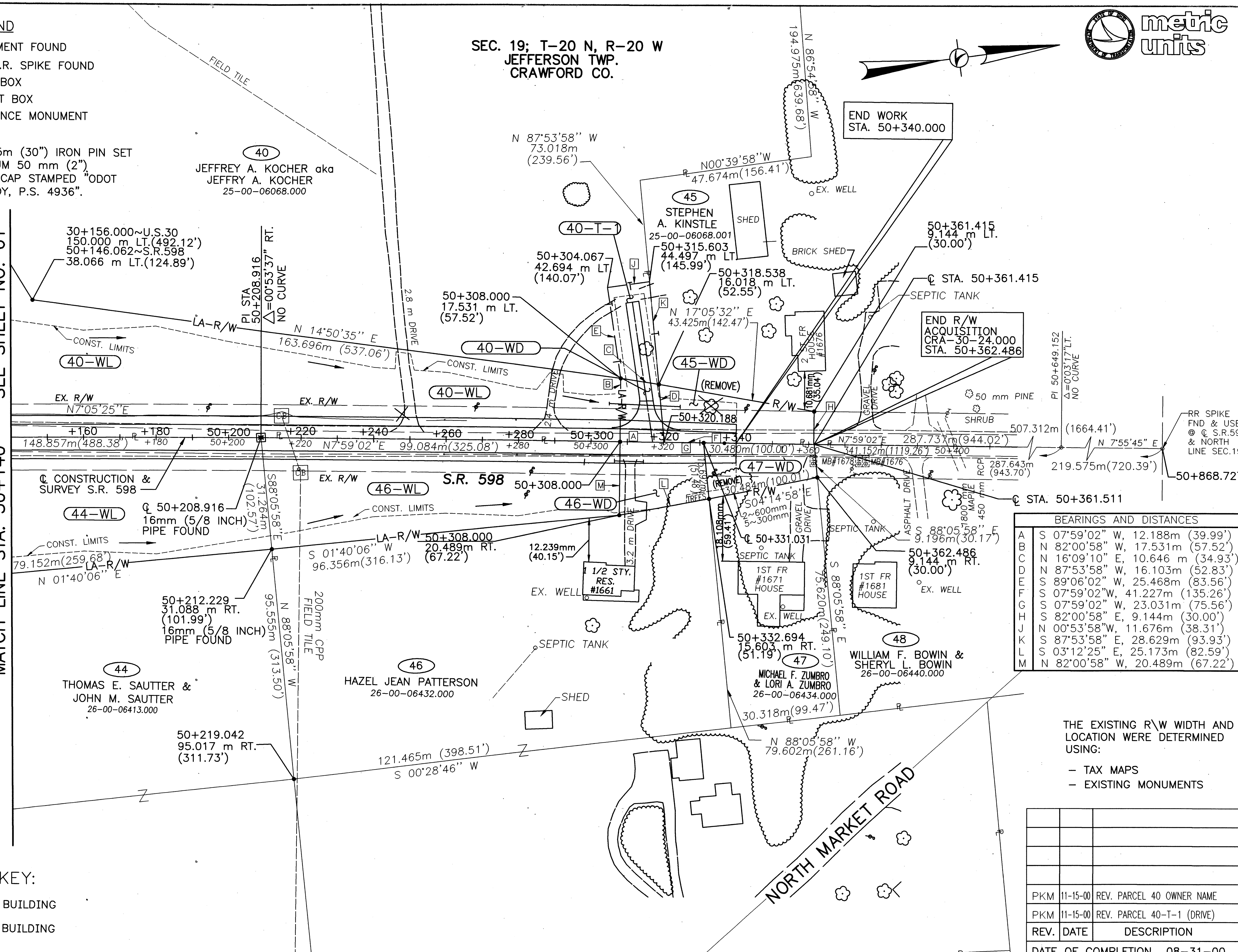
671/677

CRA–30–24.000 (14.91)

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ∘ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

SEC. 19; T-20 N, R-20 W
JEFFERSON TWP.
CRAWFORD CO.



	BEARINGS AND DISTANCES
A	S 07°59'02" W, 12.188m (39.99')
B	N 82°00'58" W, 17.531m (57.52')
C	N 16°09'10" E, 10.646 m (34.93')
D	N 87°53'58" W, 16.103m (52.83')
E	S 89°06'02" W, 25.468m (83.56')
F	S 07°59'02"W, 41.227m (135.26')
G	S 07°59'02" W, 23.031m (75.56')
H	S 82°00'58" E, 9.144m (30.00')
J	N 00°53'58"W, 11.676m (38.31')
K	S 87°53'58" E, 28.629m (93.93')
L	S 03°12'25" E, 25.173m (82.59')
M	N 82°00'58" W, 20.489m (67.22')

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

PKM	11-15-00	REV. PARCEL 40 OWNER NAME
PKM	11-15-00	REV. PARCEL 40-T-1 (DRIVE)
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

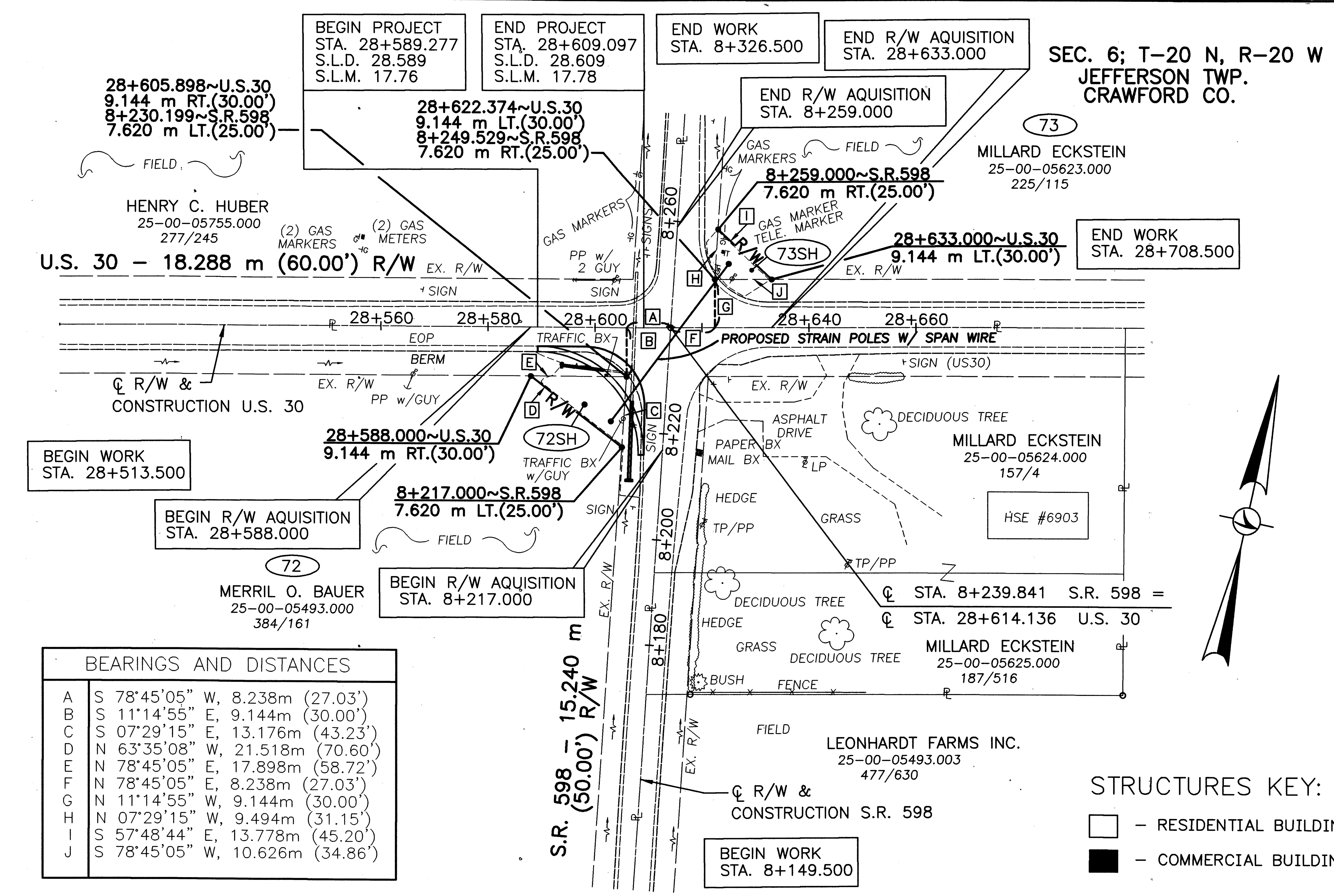
RATIO 1:500 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN S.R. 598 STA. 50+140 TO STA. 50+420

CRA-30-24.000 (14.91)



	BEARINGS AND DISTANCES
A	S 78°45'05" W, 8.238m (27.03')
B	S 11°14'55" E, 9.144m (30.00')
C	S 07°29'15" E, 13.176m (43.23')
D	N 63°35'08" W, 21.518m (70.60')
E	N 78°45'05" E, 17.898m (58.72')
F	N 78°45'05" E, 8.238m (27.03')
G	N 11°14'55" W, 9.144m (30.00')
H	N 07°29'15" W, 9.494m (31.15')
I	S 57°48'44" E, 13.778m (45.20')
J	S 78°45'05" W, 10.626m (34.86')

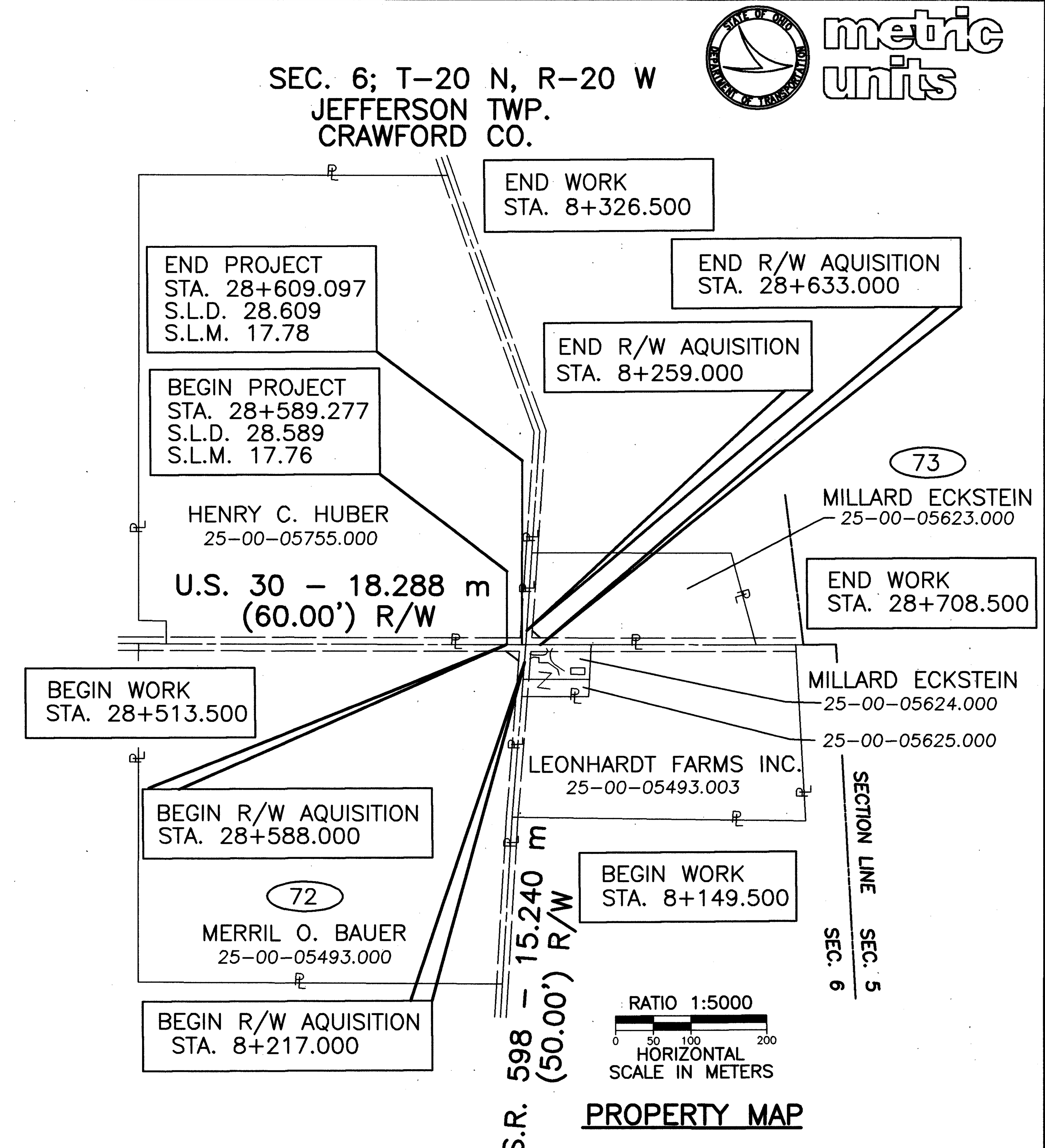
STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

BASIS FOR BEARING:
BEARINGS AND COORDINATES ARE PROJECT ASSUMED. SURVEY DATA, INCLUDING MONUMENTS (REC.), COORDINATES AND CENTERLINE ALIGNMENT WERE PROVIDED BY ODOT DISTRICT THREE "CRA - 30 - 24.000" DATED 3/22/2000, WHICH ARE BASED ON CRAWFORD COUNTY RIGHT OF WAY PLANS, CENTERLINE AND PROPERTY SURVEY MONUMENTATION.

RATIO 1:500
0 5 10 20
HORIZONTAL SCALE IN METERS

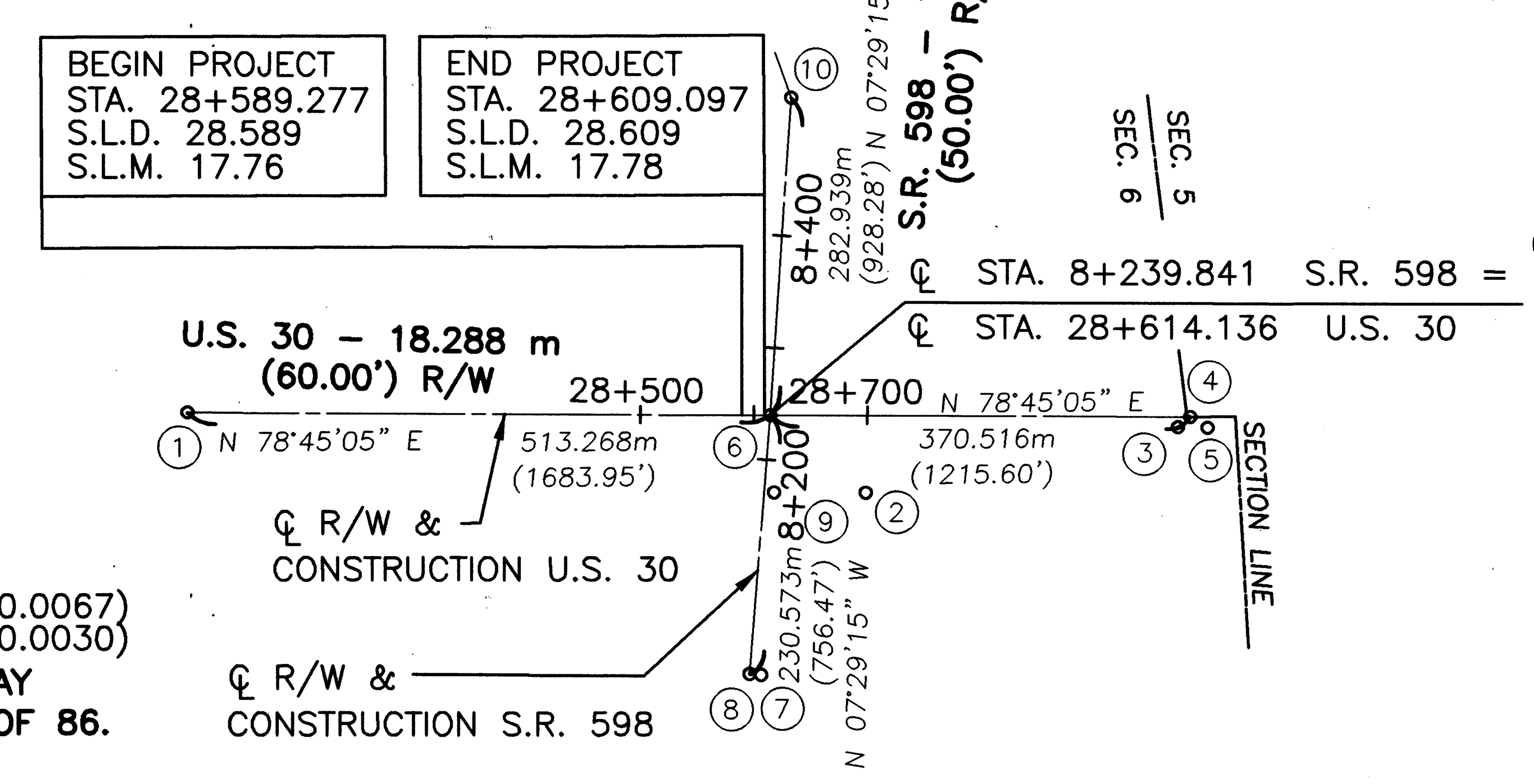
RIGHT OF WAY PLAN



PROPERTY MAP

RATIO 1:5000
0 50 100 200
HORIZONTAL SCALE IN METERS

CENTERLINE PLAT



MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".
- ① EXISTING MONUMENT NUMBER

EXISTING MONUMENT SUMMARY

NUMBER	ROAD	STATION	OFFSET	DESCRIPTION
1	U.S. 30	28+100.868	0.000 m RT.	R.R. SPIKE FOUND (USED)
2		28+698.748	69.009 m RT.	1/2" IRON PIN FOUND
3		28+973.353	9.621 m RT.	1/2" IRON PIN FOUND
4		28+984.652	0.000 m RT.	R.R. SPIKE (USED)
5		28+999.943	9.795 m RT.	1/2" IRON PIN FOUND
6	U.S. 30 S.R. 598	28+614.136 8+239.841	0.000 m RT.	R.R. SPIKE FOUND (USED)
7		8+009.262	7.672 m RT.	1/2" IRON PIN FOUND
8		8+0009.268	0.000 m RT.	R.R. SPIKE (USED)
9		8+171.331	8.223 m RT.	1" IRON PIPE FOUND
10	S.R. 598	8+522.780	0.000 m RT.	IRON PIPE (USED)

72SH - 0.0027 h (0.0067)
73SH - 0.0012 h (0.0030)
SEE RIGHT OF WAY SUMMARY SHEET 27 OF 86.

REV.	DATE	DESCRIPTION
DATE OF COMPLETION		11-15-00

metric units

RATIO 1:500
0 10 20
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

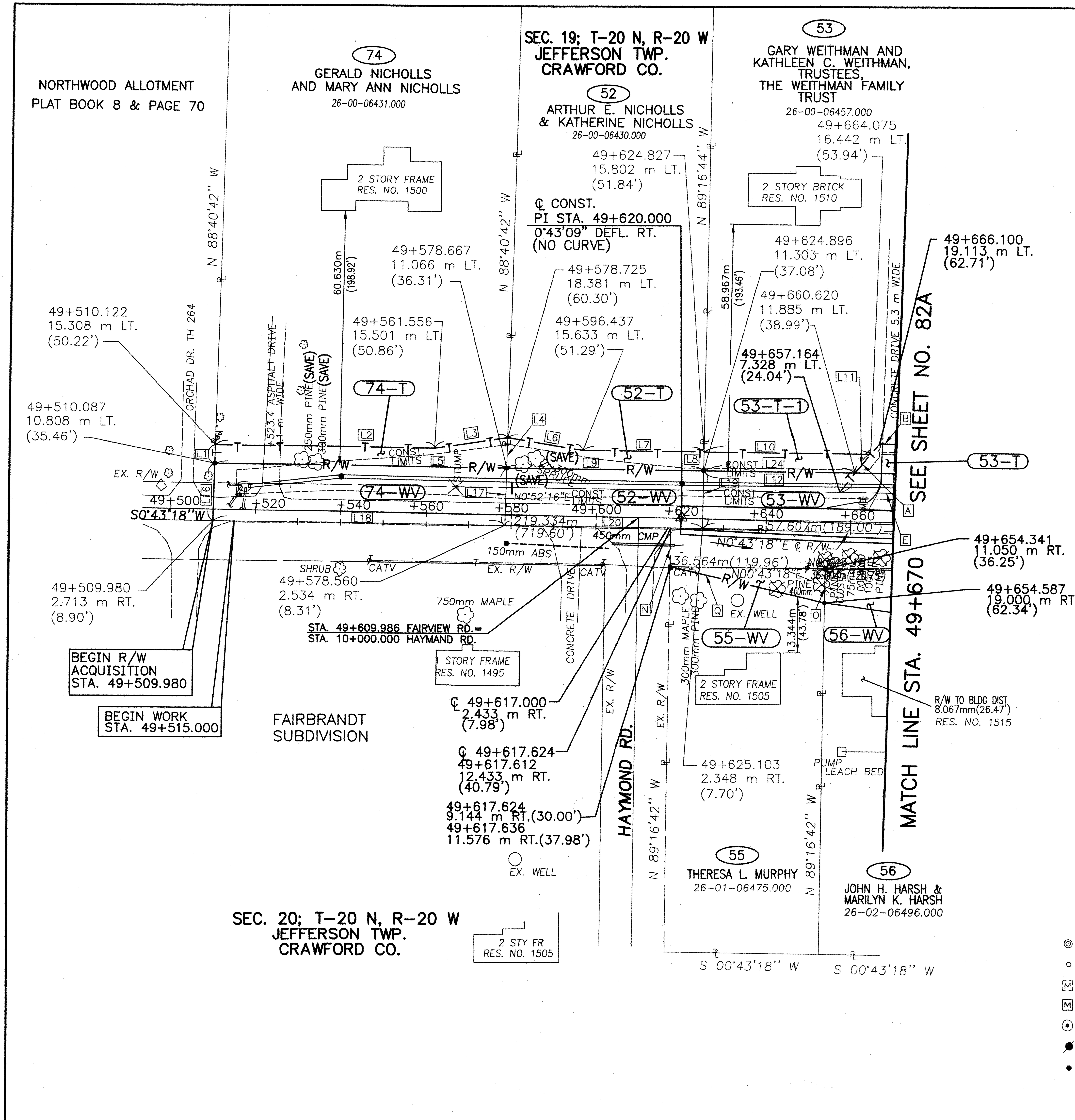
RIGHT OF WAY PLAN
U.S. 30 & S.R. 598 INTERSECTION
STA. 28+580 TO STA. 28+640

CRA-30-24.000 (14.91)

81A/86

672A
677

CRA-30-24.000 (14.91)



STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS

BEARINGS AND DISTANCES	
A	N 51°11'30" W, 14.799m (48.55')
B	N 01°35'25" E, 6.335m (20.78')
E	S 00°39'20" W, 25.402m (83.34')
N	N 89°16'42" W, 9.144m (30.00')
O	S 89°16'42" E, 7.951m (26.09')
Q	S 12°59'22" W, 37.418m (122.76')
L1	N 88°40'42" W, 4.500 m (14.76')
L2	N 00°39'20" E, 51.434 m (168.75')
L3	N 08°38'54" W, 17.409 m (57.12')
L4	N 88°40'42" W, 7.315 m (24.00')
L5	S 00°39'20" W, 68.581 m (225.00')
L6	N 09°41'23" E, 17.924 m (58.81')
L7	N 00°39'20" E, 28.589 m (93.80')
L8	S 89°16'44" E, 4.500 m (14.76')
L9	N 00°39'20" E, 46.370 m (152.13')
L10	N 00°39'20" E, 39.253 m (128.78')
L11	S 51°14'19" E, 5.719 m (18.76')
L12	N 00°39'20" E, 57.607 m (189.00')
L16	N 88°40'42" W, 13.521 m (44.36')
L17	N 88°40'42" W, 13.600 m (44.62')
L18	S 00°43'18" W, 68.580 m (225.00')
L19	S 89°16'44" E, 13.653 m (44.79')
L20	S 00°43'18" W, 46.513 m (152.60')
L24	S 00°39'20" W, 35.729 m (117.22')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

REV. DATE	DESCRIPTION
11/01/04	ADDED 74T, 74WV, 52T, 52WV, 53T1, 53WV, 54WV1
1/17/02	REVISED PARCEL 57-T
3/2/01	54WV & 54T REVISED
2/6/01	OWNER NAME (PARCEL 53)
10/5/00	OFFSET DIST. CONVERSION (53T)
10/5/00	OWNER NAME (PARCEL 53)

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500 HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN FAIRVIEW ROAD STA. 49+500 TO STA. 49+670

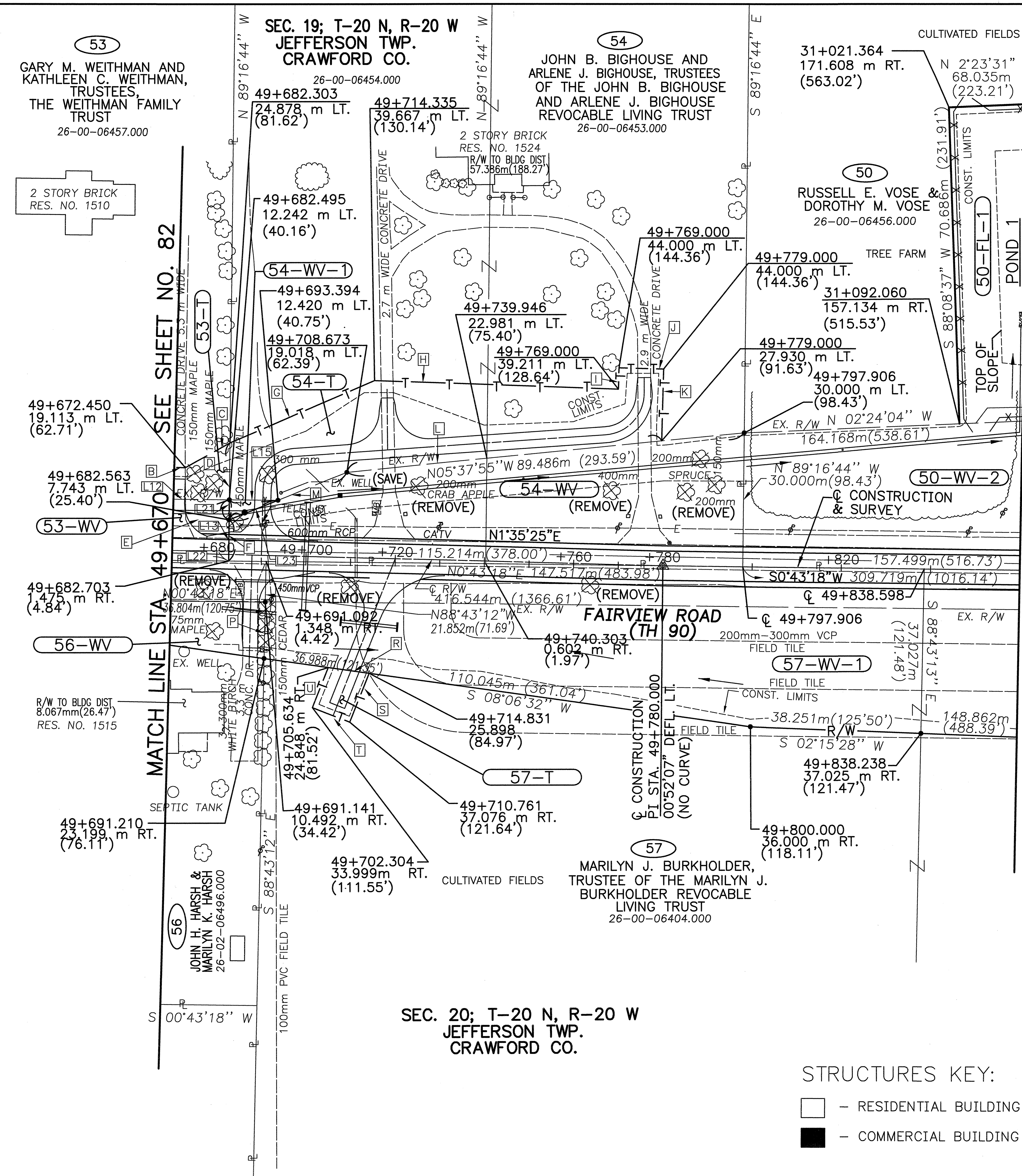
CRA-30-24.000 (14.91)

82/86

673/677

L:\Drawings\93125\e-fairview 2004\Re508c02.dwg November 01 2004 12:44pm By:Roger

BEARINGS AND DISTANCES	
B	N 01°35'25" E, 6.335m (20.78')
C	N 28°44'23" W, 11.416m (37.45')
D	S 89°16'44" E, 17.137m (56.22')
E	S 00°39'20" W, 25.402m (83.34')
F	N 89°16'44" W, 9.219m (30.25')
G	N 23°11'34" W, 35.281m (115.75')
H	N 02°04'05" E, 54.667m (179.35')
I	N 88°24'35" W, 4.789m (15.71')
J	N 01°35'25" E, 10.000m (32.81')
K	S 88°24'35" E, 16.070m (52.72')
L	S 05°37'55" E, 70.889m (232.57')
M	S 21°46'01" E, 28.441m (93.31')
P	N 88°43'12" W, 12.707m (41.69')
R	N 08°06'32" E, 9.255m (30.36')
S	S 68°24'35" E, 11.896m (39.03')
T	S 21°35'25" W, 9.000m (29.53')
U	N 68°24'35" W, 9.738m (31.95')
L12	N 00°39'20" E, 57.607 m (189.00')
L13	S 89°16'44" E, 13.719 m (45.01')
L15	N 00°39'20" E, 10.900 m (35.76')
L21	N 89°16'44" W, 4.500 m (14.76')
L22	S 00°43'18" W, 57.607 m (189.00')
L23	S 21°46'01" E, 11.798 m (38.71')



NOTE:
1. FOR CONTINUATION OF CHANNEL EASEMENT, SEE SHEET 656A OF 677.

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

REV. DATE	DESCRIPTION
5/23/05	REVISED PARCEL 50-FL-1
11/01/04	ADDED 74T, 74WV, 52T, 52WV, 53T1, 53WV, 54WV1
1/17/02	REVISED PSRCEL 57-T
3/2/01	54WV & 54T REVISED
2/6/01	OWNER NAME (PARCEL 53)
10/5/00	OFFSET DIST. CONVERSION (53T)
10/5/00	OWNER NAME (PARCEL 53)

DATE OF COMPLETION 08-31-00

metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

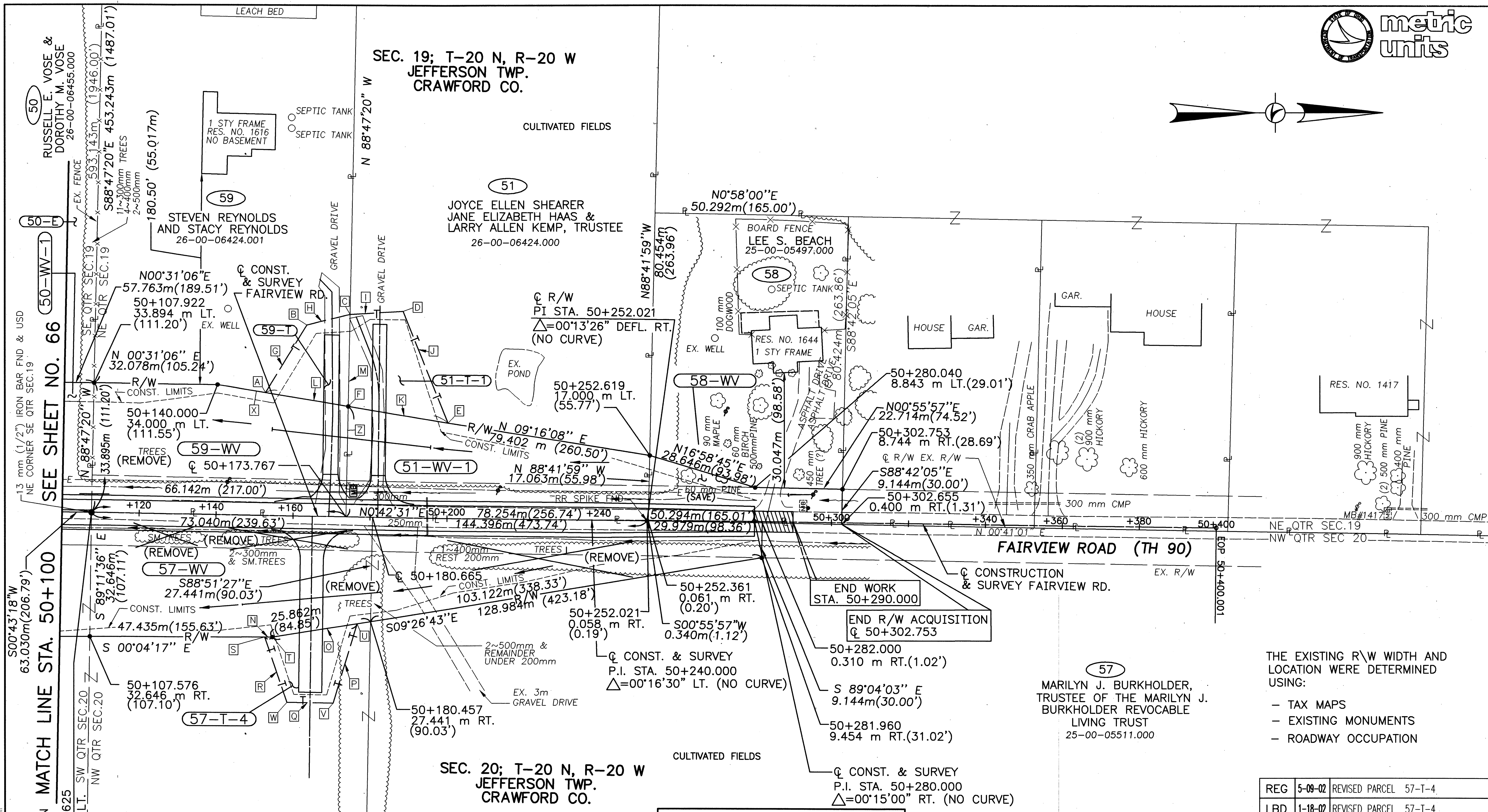
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
FAIRVIEW ROAD
STA. 49+860 TO STA. 49+540

CRA-30-24.000 (14.91)

82A/86

673A/677



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
FAIRVIEW ROAD
STA. 50+100 TO STA. 50+420

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- ROADWAY OCCUPATION

STRUCTURES KEY:

- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

STATIONS AND OFFSETS

A	50+152.500, 32.104m LT (105.33')
B	50+163.000, 50.000m LT (164.04')
C	50+174.232, 53.000m LT (173.88')
D	50+188.000, 54.000m LT (177.17')
E	50+200.000, 24.969m LT (81.92')
F	50+174.020, 28.879m LT (94.75')
S	50+153.000, 32.027m RT (105.08')
T	50+155.000, 32.000m RT (104.99')
U	50+177.000, 28.060m RT (92.06')
V	50+171.000, 49.000m RT (160.76')
W	50+159.000, 49.000m RT (160.76')

BEARINGS AND DISTANCES

G	N 58°51'23" W, 20.739m (68.04')
H	N 14°09'43" W, 11.618m (38.12')
I	N 03°31'17" W, 13.806m (45.30')
J	N 68°15'05" E, 31.414m (103.06')
K	S 09°16'08" W, 26.273m (86.20')
L	S 09°16'08" W, 21.765m (71.41')
M	N 88°47'20" W, 24.103m (79.08')
N	N 00°04'17" W, 2.000m (6.56')
O	N 09°26'43" W, 22.350m (73.33')
P	S 73°18'10" E, 21.783m (71.47')
Q	S 00°42'31" W, 12.000m (39.37')
R	S 71°14'23" W, 18.002m (59.06')
X	N 09°16'08" E, 34.403m (112.870')
Z	N 88°47'20" W, 28.880m (94.75')

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

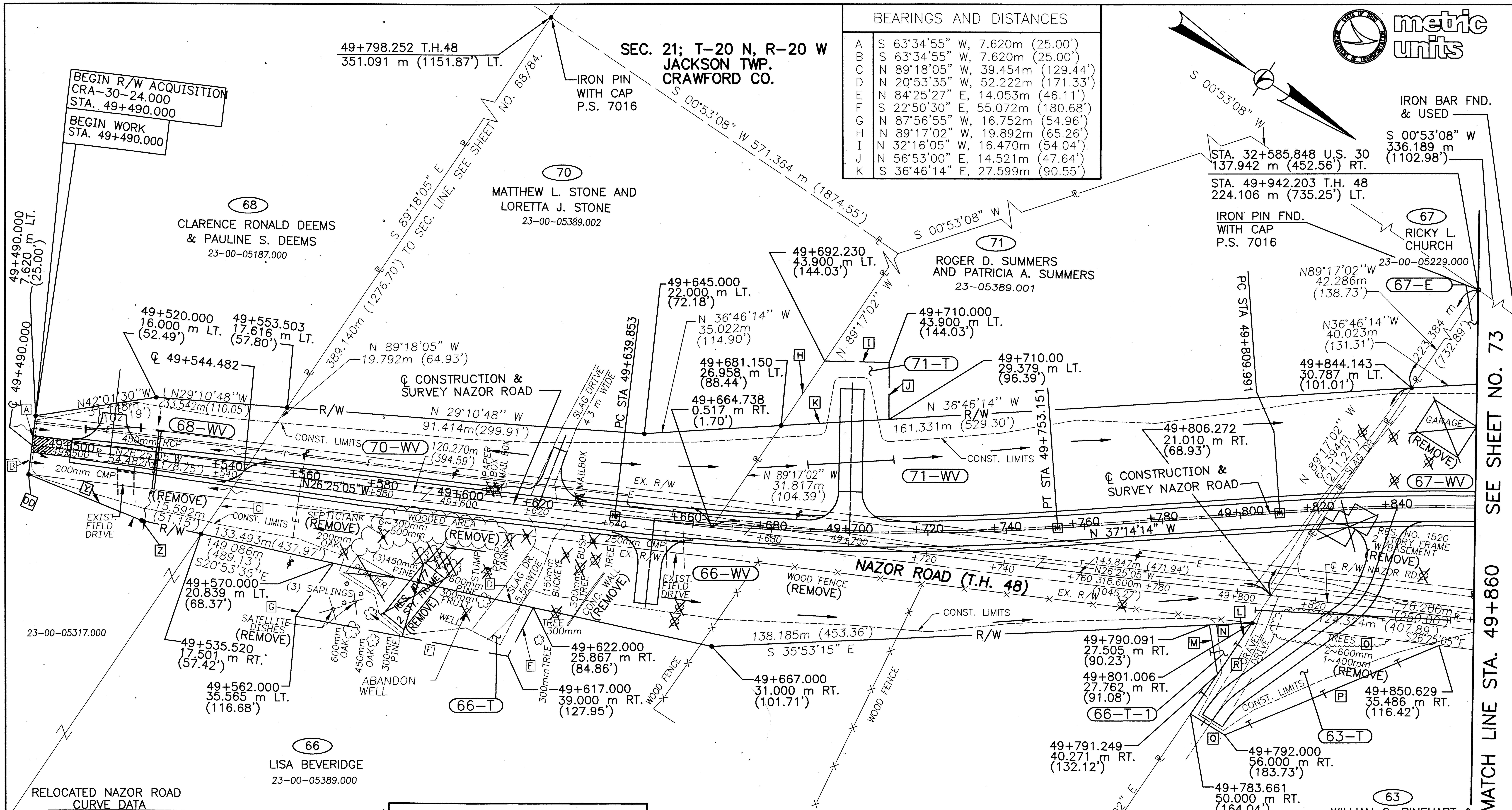
REV.	DATE	DESCRIPTION
REG	5-09-02	REVISED PARCEL 57-T-4
LBD	1-18-02	REVISED PARCEL 57-T-4
PKM	10-17-01	ADD PARCEL 50E
LBD	8-23-01	REV. PAR. 59-WV,59-T, 51-T-1,57-T-4
PKM	8-01-01	REV. PAR. 51 OWNER NAME
PKM	7-17-01	ADDED DRIVE & 57-T-4
PKM	7-17-01	59-T & 51-T-1 REVISED
PKM	5-23-01	59-T REVISED, ADDED DRIVE & 51-T-1
PKM	10-5-00	LEADER LINE PI STA. 50+240.000

DATE OF COMPLETION 08-31-00

CRA-30-24.000 (14.91)

83/86

674/677



BEARINGS AND DISTANCES

A	S 63°34'55" W, 7.620m (25.00')
B	S 63°34'55" W, 7.620m (25.00')
C	N 89°18'05" W, 39.454m (129.44')
D	N 20°53'35" W, 52.222m (171.33')
E	N 84°25'27" E, 14.053m (46.11')
F	S 22°50'30" E, 55.072m (180.68')
G	N 87°56'55" W, 16.752m (54.96')
H	N 89°17'02" W, 19.892m (65.26')
I	N 32°16'05" W, 16.470m (54.04')
J	N 56°53'00" E, 14.521m (47.64')
K	S 36°46'14" E, 27.599m (90.55')

BEARINGS AND DISTANCES

L	S 89°17'02" E, 15.865m (52.05')
M	S 47°34'50" W, 12.819m (42.06')
N	N 35°53'15" W, 10.918m (35.82')
O	N 26°25'05" W, 48.037m (157.60')
P	S 56°07'08" E, 59.392m (194.86')
Q	S 01°30'09" E, 10.267m (33.68')
R	N 89°17'02" W, 28.206m (92.54')
Y	S 10°48'40" E, 31.148m (102.19')

STATIONS & OFFSETS

Z	49+520.000, 16.000m RT. (52.49')
DD	49+490.000, 7.620m RT. (25.00')

RELOCATED NAZOR ROAD
CURVE DATA
PI STA. 49+696.671
Δ =10°49'09" LT.
R=600.000 m (1968.50')
T=56.818 m (186.41')
L=113.298 m (371.71')
E=2.684 m (8.81')
CH-N 31°49'39" W
LC=113.130 m (371.16')

RELOCATED NAZOR ROAD
CURVE DATA
PI STA. 49+866.809
Δ =10°49'09" RT.
R=600.000 m (1968.50')
T=56.818 m (186.41')
L=113.298 m (371.71')
E=2.684 m (8.81')
CH-N 31°49'39" W
LC=113.130 m (371.16')

STRUCTURES KEY:
- RESIDENTIAL BUILDING
- COMMERCIAL BUILDING

MONUMENT LEGEND
- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:
- TAX MAPS
- EXISTING MONUMENTS
- ROADWAY OCCUPATION

REV.	DATE	DESCRIPTION
LBD	8-23-01	REVISED PARCEL 63-T
PKM	7-17-01	REVISED PARCEL 63-T
PKM	4-5-01	ADDED DRIVES ON PARCELS 63,66T2 & 71
PKM	4-5-01	ADDED PARCELS 63-T, 66-T-1, 66T2 & 71-T

DATE OF COMPLETION 08-31-00

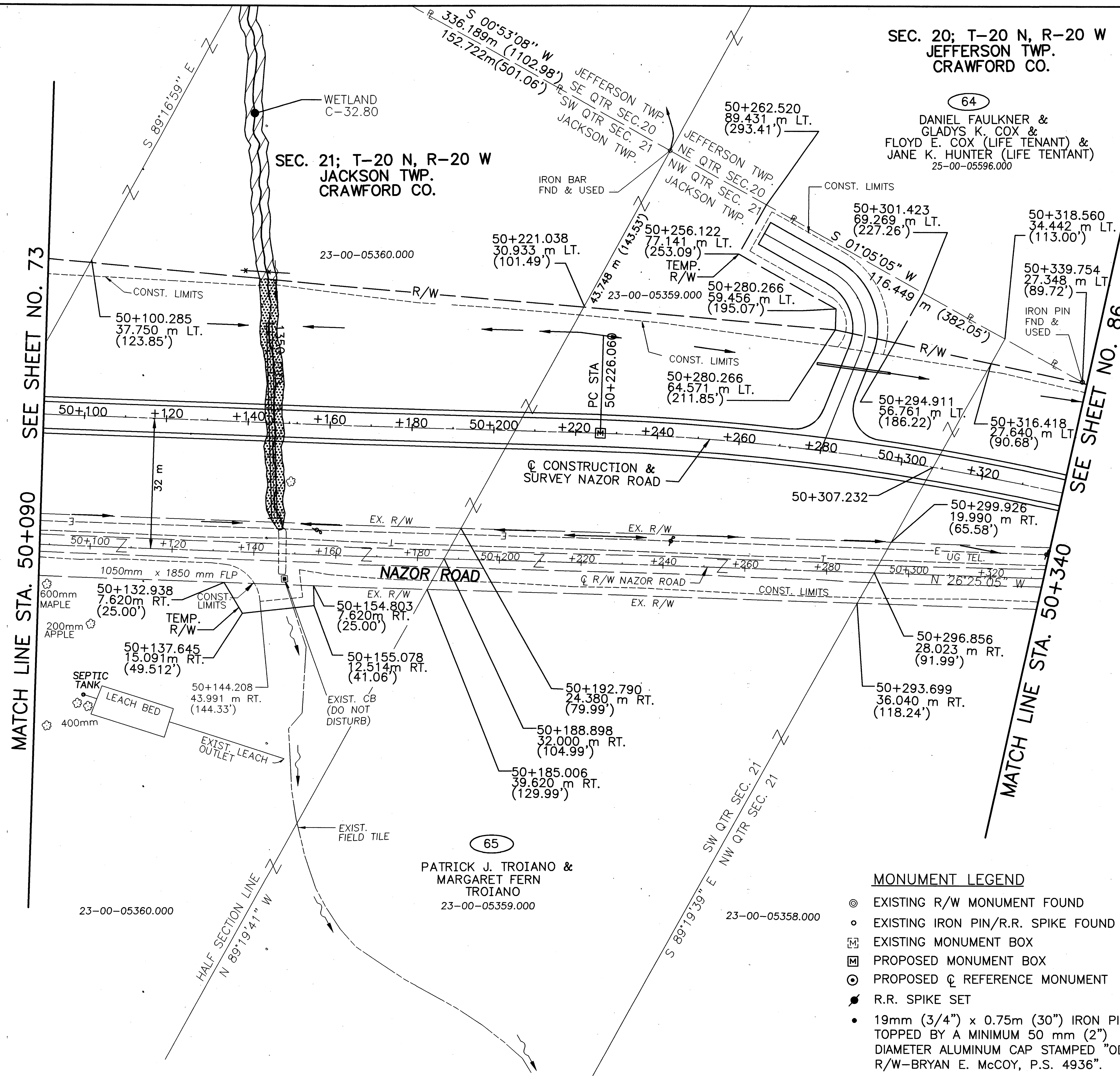
RIGHT OF WAY PLAN
NAZOR ROAD
STA. 49+490 TO STA. 49+860

P.I.D. NUMBER 16283
STATE PROJECT NO. 036010

CRA-30-24.000 (14.91)

84/86

675/677



metric units

RATIO 1:500

HORIZONTAL SCALE IN METERS

RELOCATED NAZOR ROAD
CURVE DATA

PI STA. 50+375.514
Δ =27°58'27" RT.
R=600.000 m (1968.50')
T=149.454 m (490.33')
L=292.946 m (961.11')
E=18.334 m (60.15')
CH=N 12°25'51" W
LC=290.045m (951.59')

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS
- ROADWAY OCCUPATION

MONUMENT LEGEND

- EXISTING R/W MONUMENT FOUND
- EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

LBD	2-22-02	REVISED 1-T
LBD	9-11-01	REV. PAR. 64 OWNER NAME
LBD	8-17-01	ADDED DRIVE AT STA. 50+280 LT.
PKM	8-01-01	REV. PAR. 64 OWNER NAME
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

P.I.D. NUMBER 16283

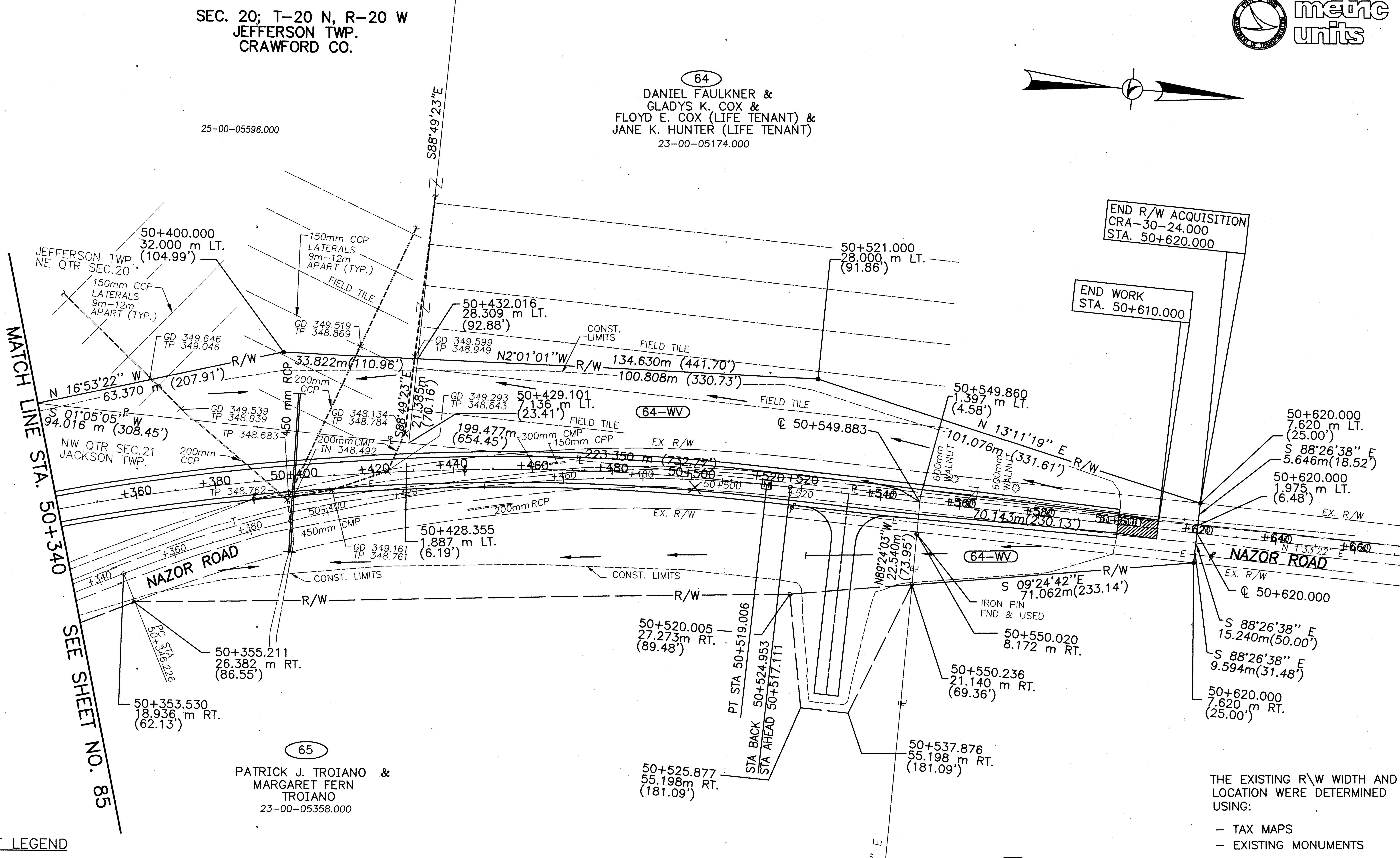
STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
NAZOR ROAD
STA. 50+100 TO STA. 50+340

CRA-30-24.000 (14.91)

85/86

676
677



metric units

RATIO 1:500
HORIZONTAL SCALE IN METERS

P.I.D. NUMBER 16283

STATE PROJECT NO. 036010

RIGHT OF WAY PLAN
NAZOR ROAD
STA. 50+340 TO STA. 50+620

THE EXISTING R\W WIDTH AND LOCATION WERE DETERMINED USING:

- TAX MAPS
- EXISTING MONUMENTS

MONUMENT LEGEND

- ◎ EXISTING R/W MONUMENT FOUND
- ○ EXISTING IRON PIN/R.R. SPIKE FOUND
- EXISTING MONUMENT BOX
- PROPOSED MONUMENT BOX
- PROPOSED ℄ REFERENCE MONUMENT
- R.R. SPIKE SET
- • 19mm (3/4") x 0.75m (30") IRON PIN SET TOPPED BY A MINIMUM 50 mm (2") DIAMETER ALUMINUM CAP STAMPED "ODOT R/W-BRYAN E. McCOY, P.S. 4936".

RELOCATED NAZOR ROAD
CURVE DATA

PI STA. 50+375.514
Δ =27°58'27" RT.
R=600.000 m (1968.50')
T=149.454 m (490.33')
L=292.946 m (961.11')
E=18.334 m (60.15')
CH=N 12°25'51" W
LC=290.045m (951.59')

NOTE:
GD = GROUND ELEVATION
TP = TOP OF PIPE ELEVATION
IN = PIPE INVERT ELEVATION

SEC. 21; T-20 N, R-20 W
JACKSON TWP.
CRAWFORD CO.

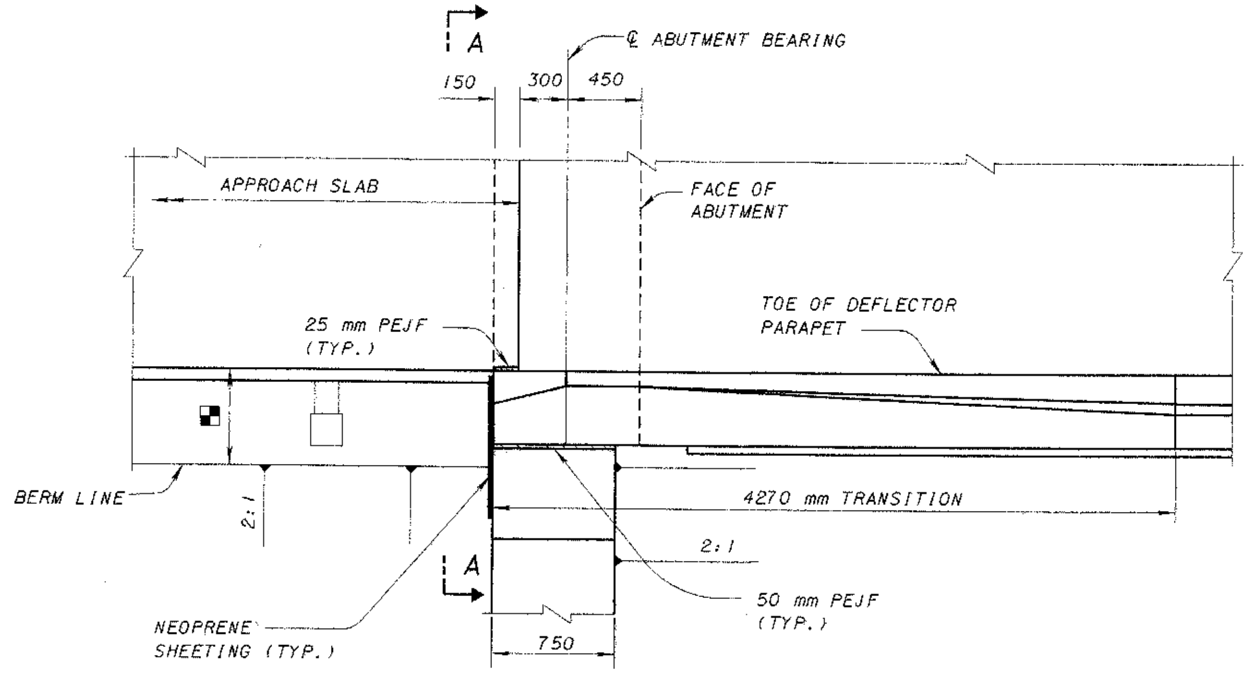
LBD	9-11-01	REV. PAR. 64 OWNER NAME
PKM	8-01-01	REV. PAR. 64 OWNER NAME
REV.	DATE	DESCRIPTION

DATE OF COMPLETION 08-31-00

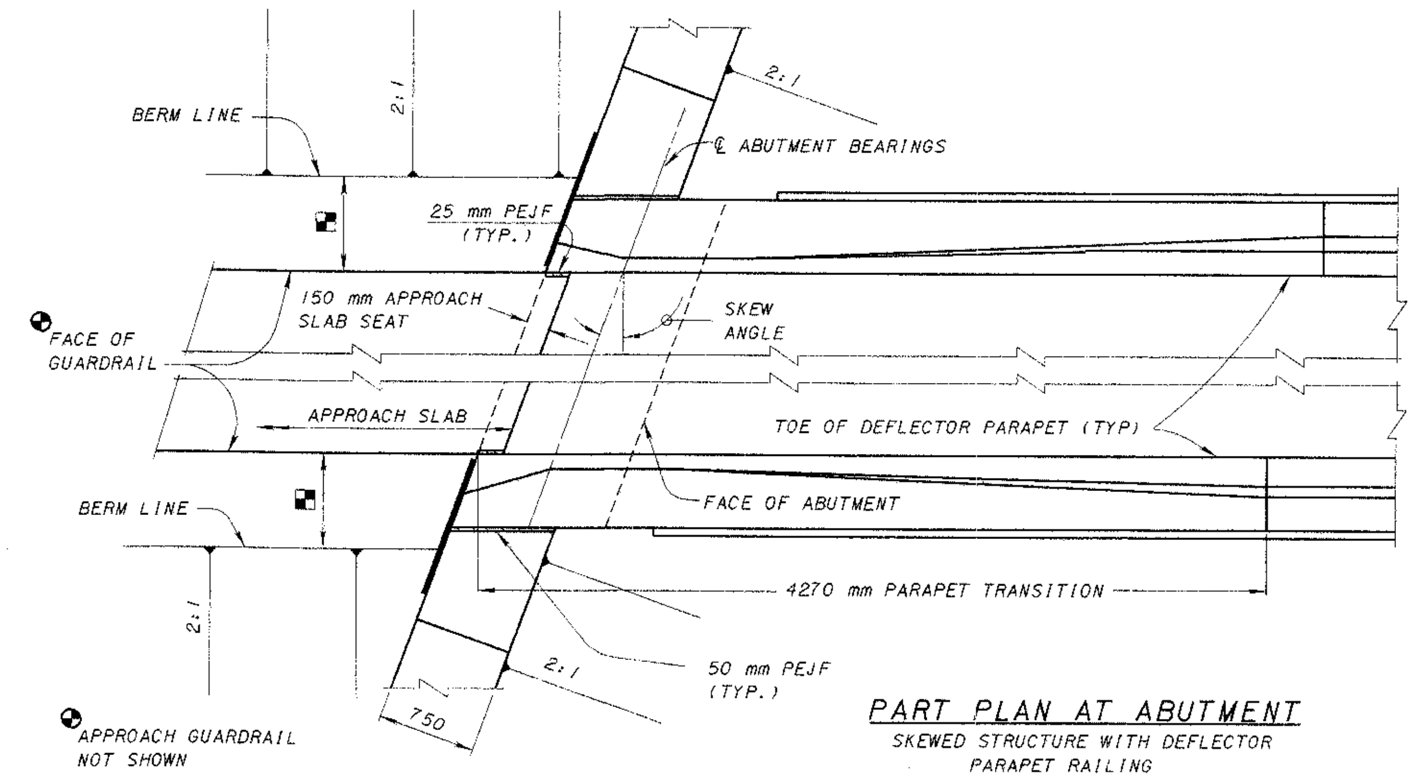
CRA-30-24.000 (14.91)

86/86

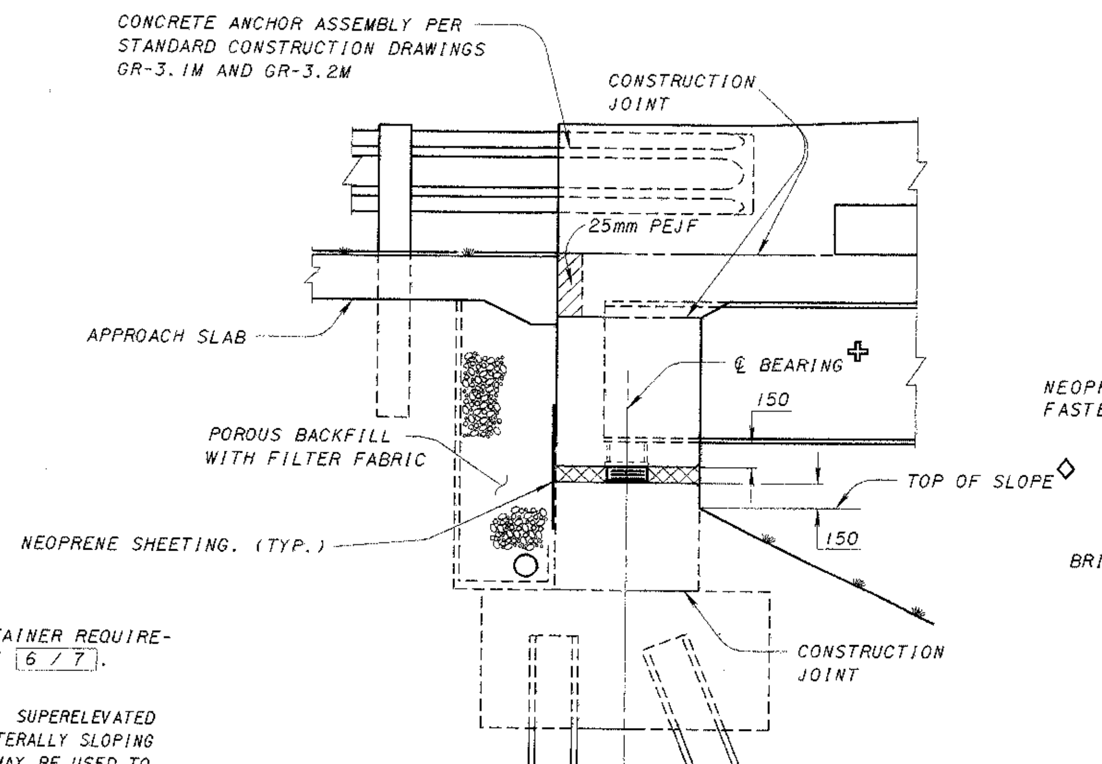
677/677



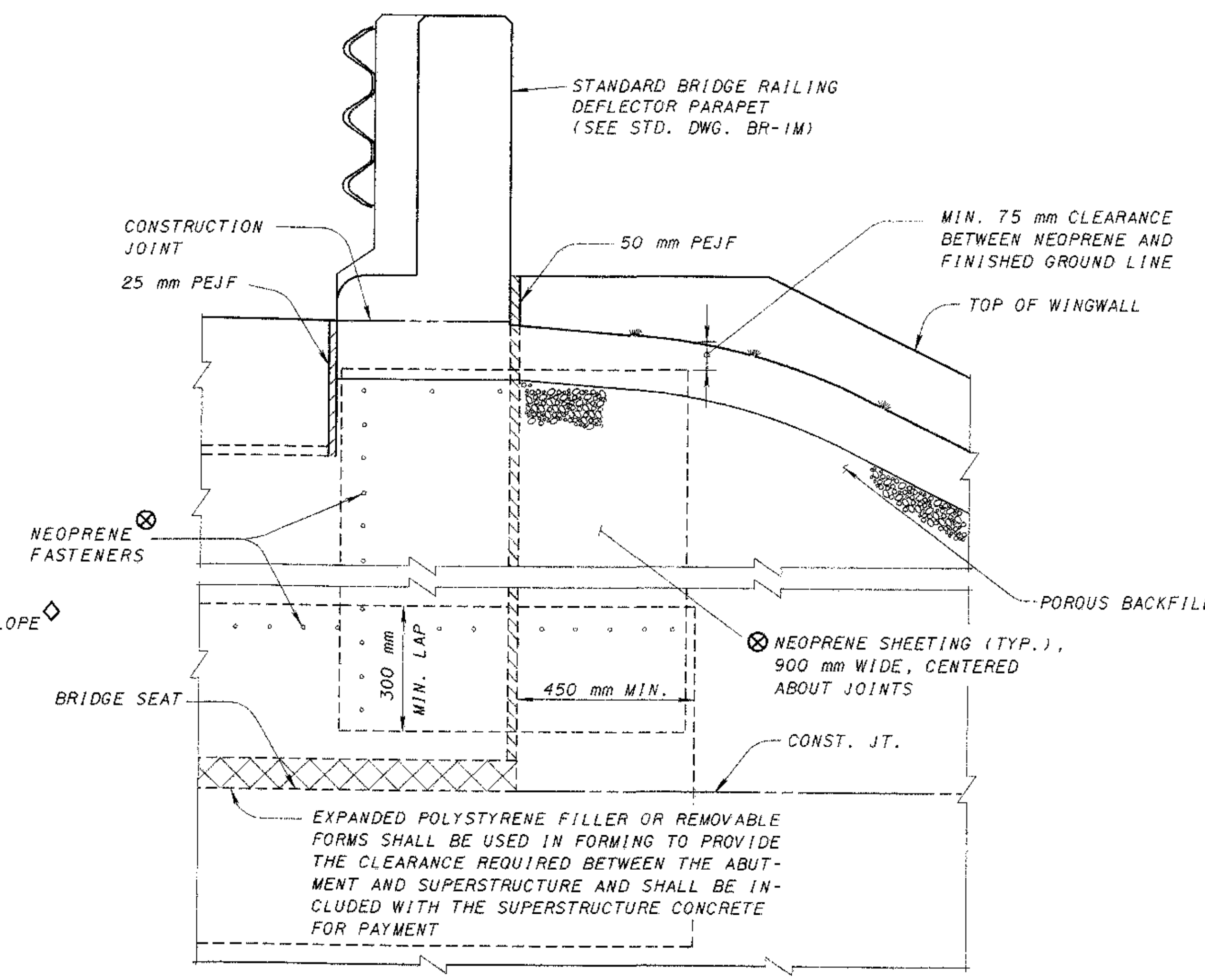
PART PLAN AT ABUTMENT
SQUARE STRUCTURE WITH DEFLECTOR
PARAPET RAILING



PART PLAN AT ABUTMENT
SKEWED STRUCTURE WITH DEFLECTOR
PARAPET RAILING



ELEVATION



SECTION A-A

✣ FOR BEARING RETAINER REQUIREMENTS SEE SHEET 6/7.

◇ TOP OF SLOPE: ON SUPERELEVATED STRUCTURES, A LATERALLY SLOPING "TOP OF SLOPE" MAY BE USED TO AVOID EXCESSIVELY LONG WING WALL LENGTHS.

■ SEE ROADWAY TYPICAL SECTION.

⊗ SEE SHEET 7/7 FOR NEOPRENE SHEETING PLACEMENT REQUIREMENTS.

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

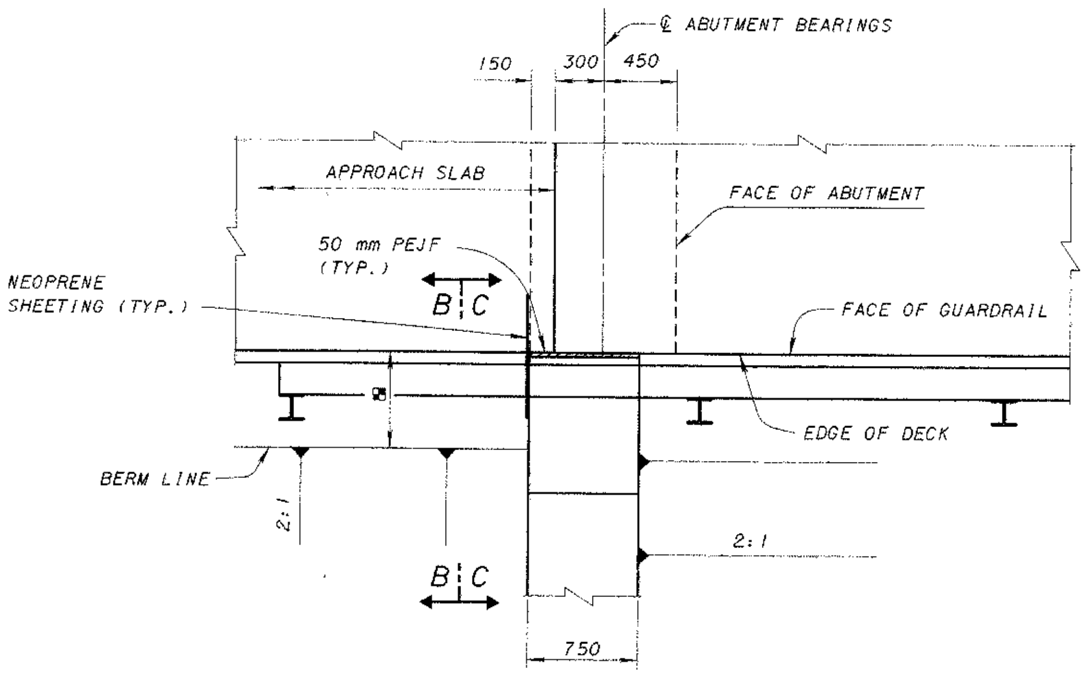
STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Brad Fagrell
ADMINISTRATOR
2-12-97
DATE

REVIEWED LMW
CHECKED MRG/JS
DESIGNED WLF
DRAWN WLF
SICD-1-96M

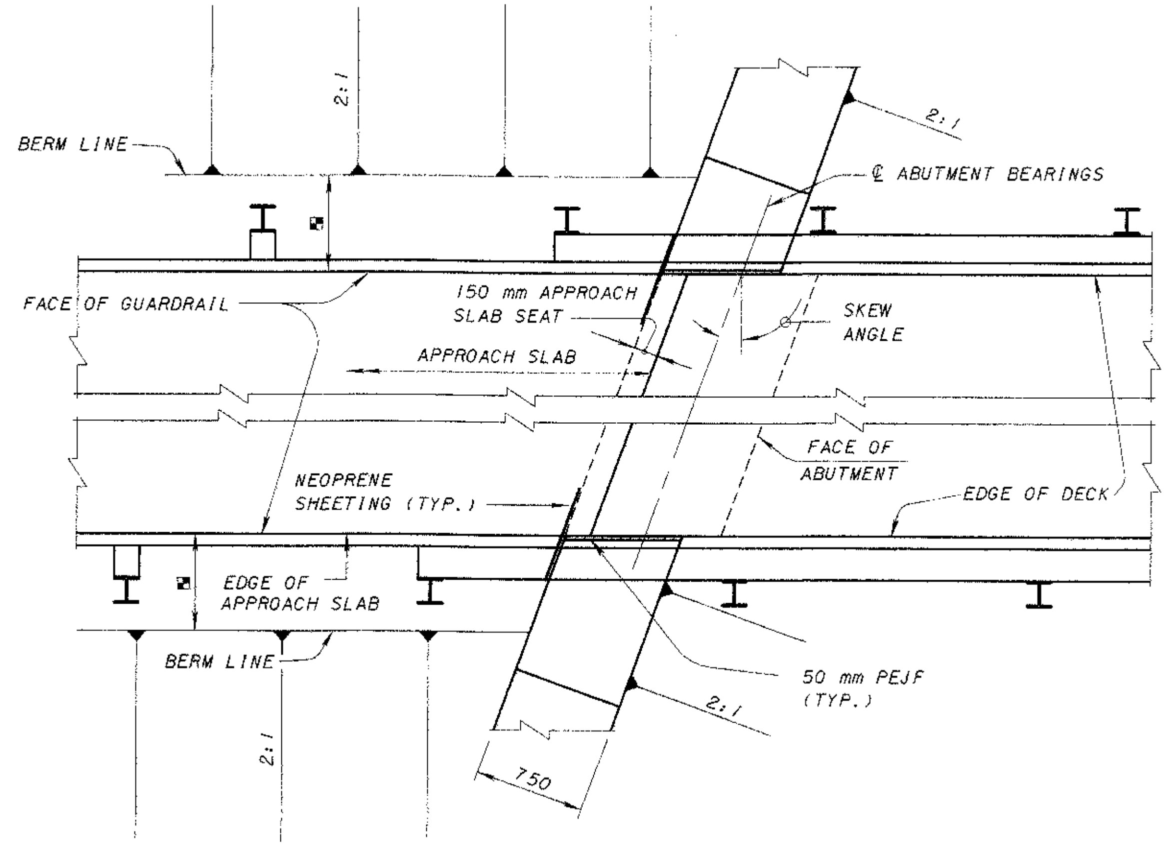
REVISIONS

STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

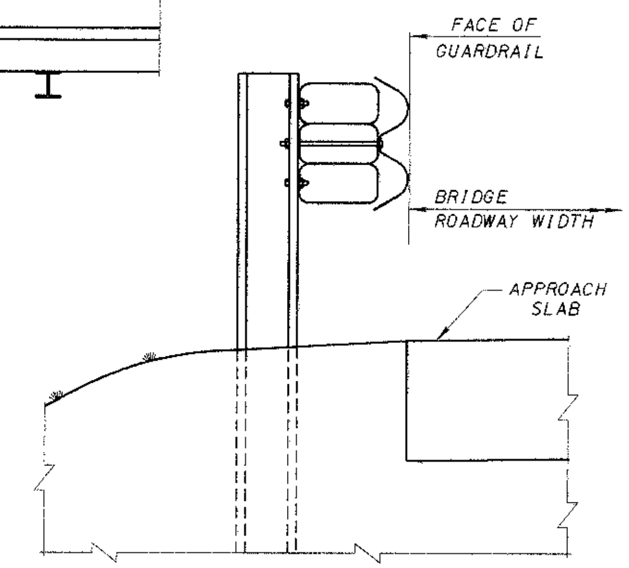
1/7



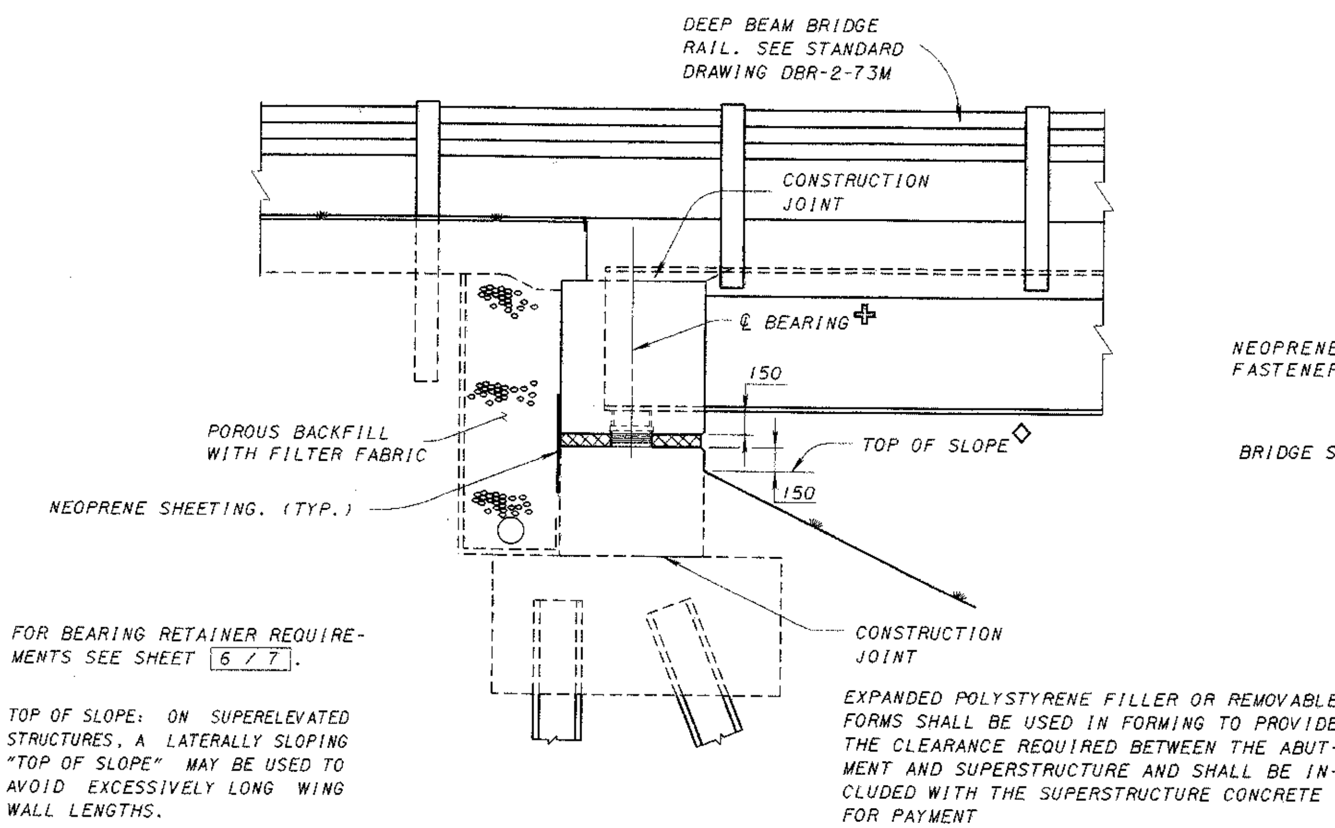
PART PLAN AT ABUTMENT
SQUARE STRUCTURE WITH DEEP BEAM RAILING



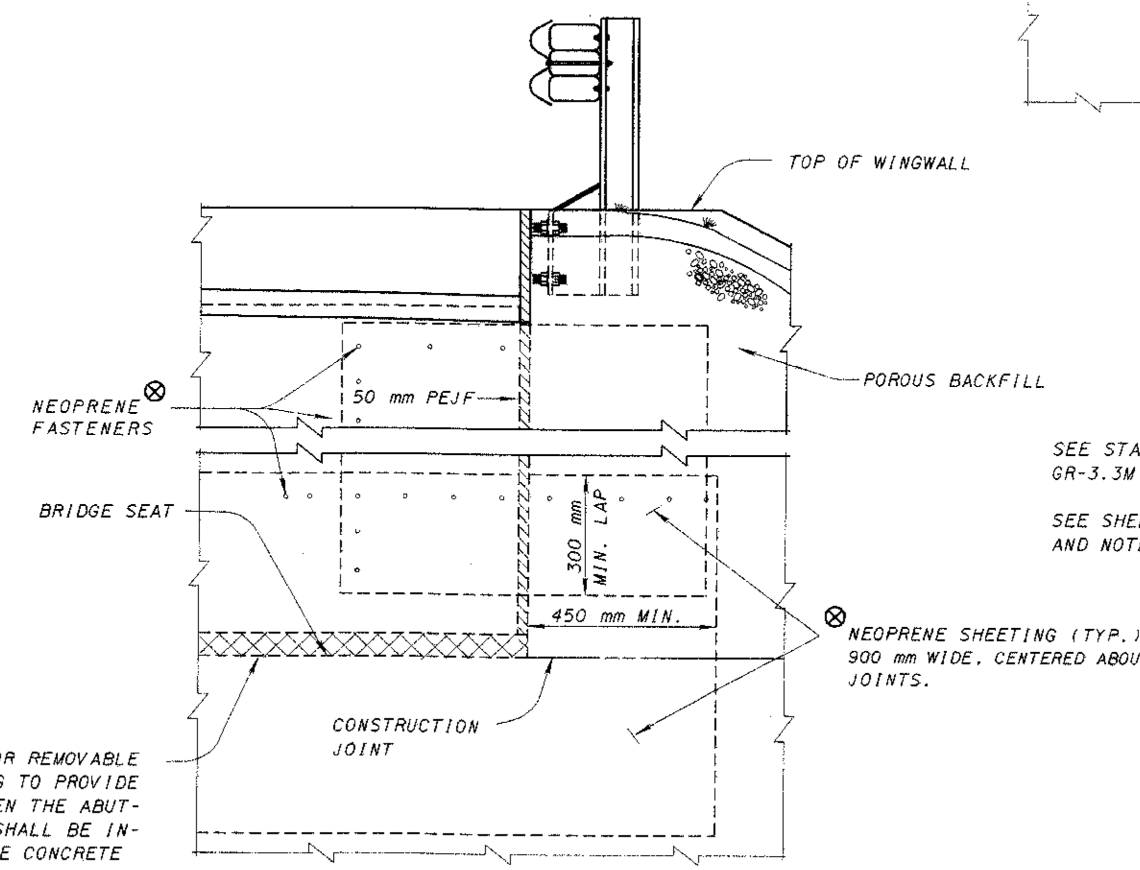
PART PLAN AT ABUTMENT
SKEWED STRUCTURE WITH DEEP BEAM RAILING



SECTION B-B



ELEVATION



SECTION C-C

✚ FOR BEARING RETAINER REQUIREMENTS SEE SHEET 6/7.

◇ TOP OF SLOPE: ON SUPERELEVATED STRUCTURES, A LATERALLY SLOPING "TOP OF SLOPE" MAY BE USED TO AVOID EXCESSIVELY LONG WING WALL LENGTHS.

▣ SEE ROADWAY TYPICAL SECTION.

SEE STANDARD CONSTRUCTION DRAWING GR-3.3M FOR BRIDGE TERMINAL ASSEMBLIES.

SEE SHEET 1/7 FOR ADDITIONAL DETAILS AND NOTES.

⊗ SEE SHEET 7/7 FOR NEOPRENE SHEETING PLACEMENT REQUIREMENTS.

DESIGN AGENCY: OFFICE OF STRUCTURAL ENGINEERING

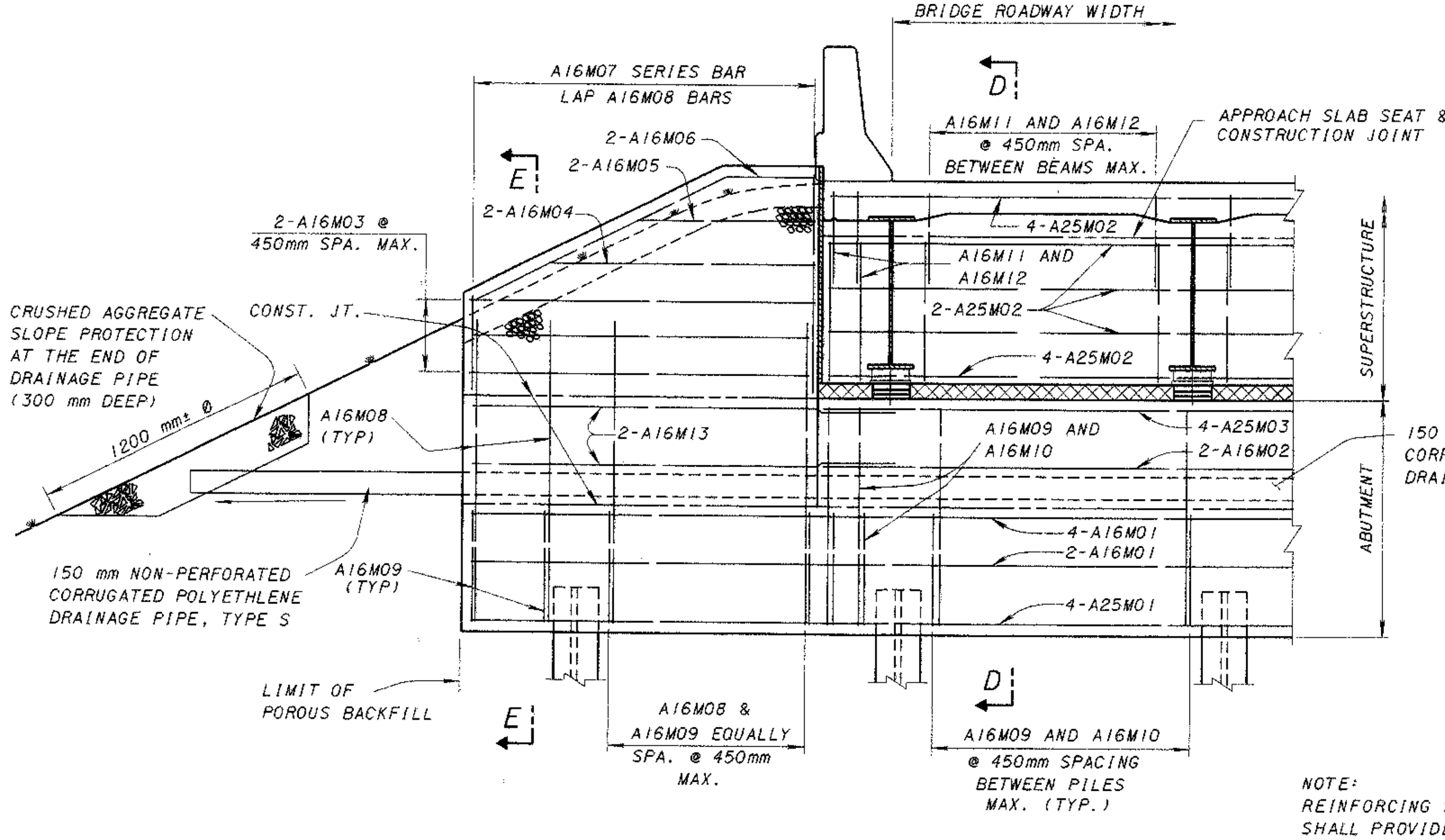
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Brad Faggoll — ADMINISTRATOR — 2-12-97 DATE

REVISIONS	DESIGNED	DRAWN	CHECKED	REVIEWED
	WLF	WLF	MRG/JS	LMW

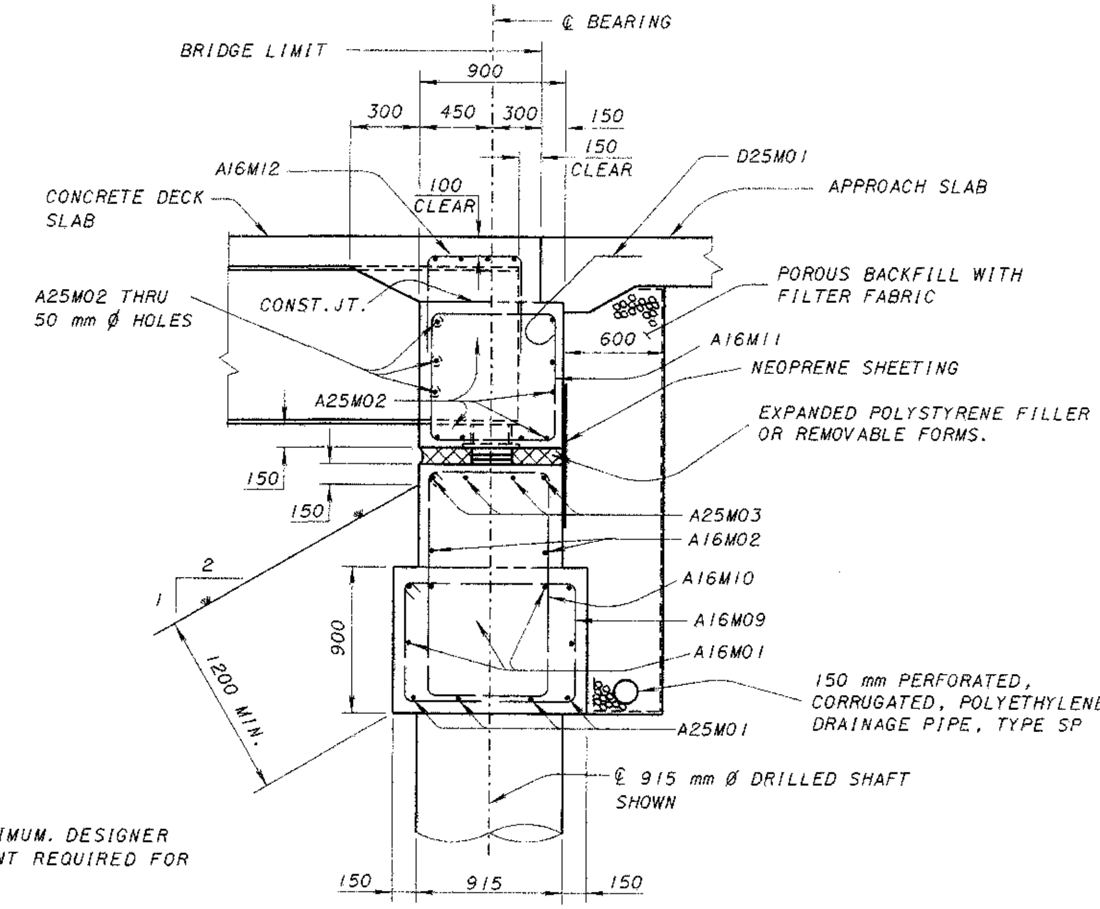
SICD-1-96M

STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

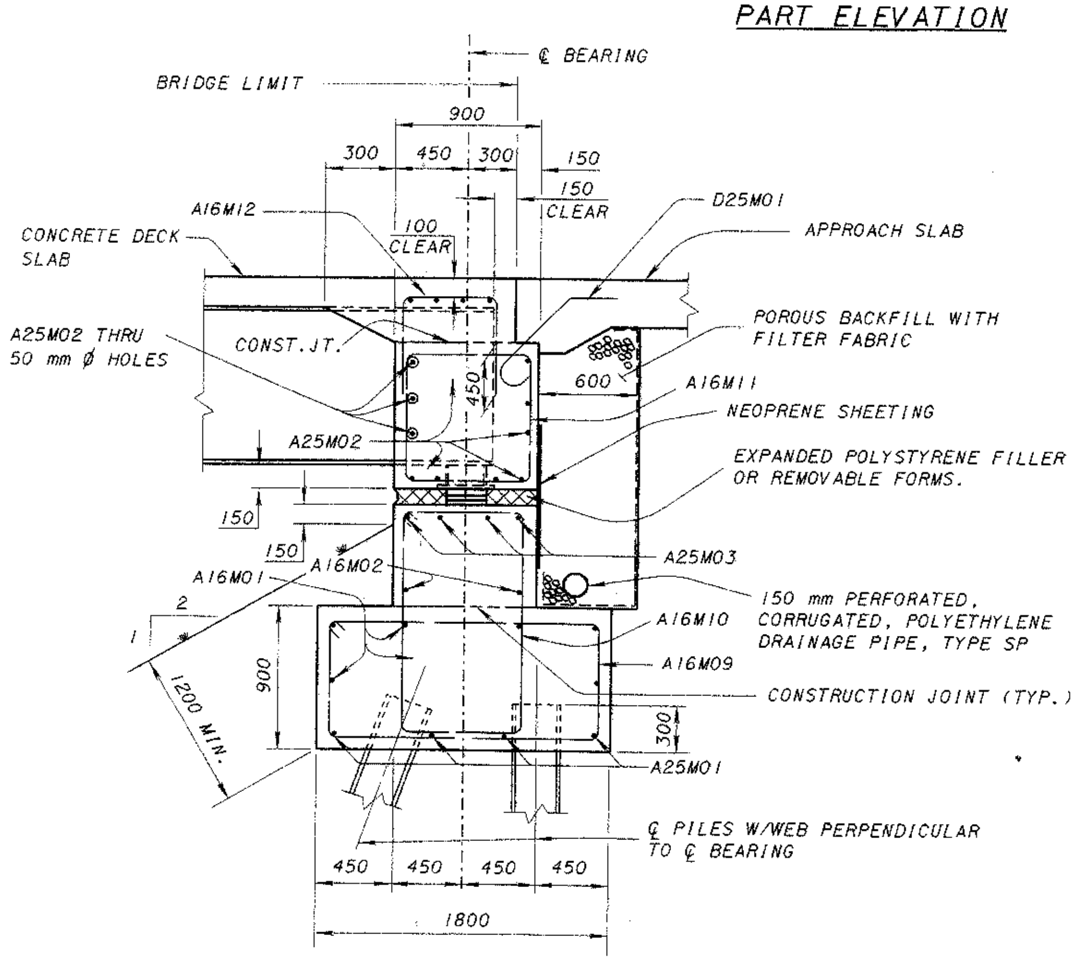


PART ELEVATION

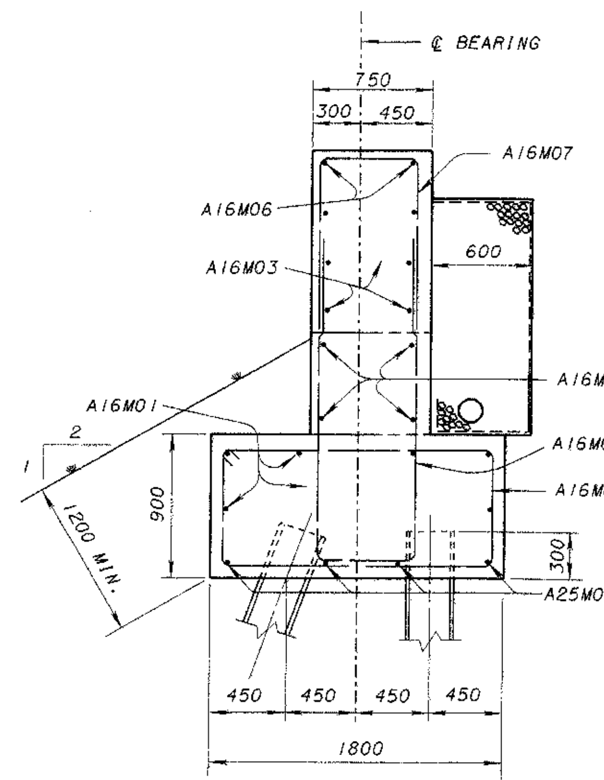
NOTE:
REINFORCING STEEL SHOWN IS MINIMUM. DESIGNER SHALL PROVIDE THE REINFORCEMENT REQUIRED FOR THE INDIVIDUAL STRUCTURE.



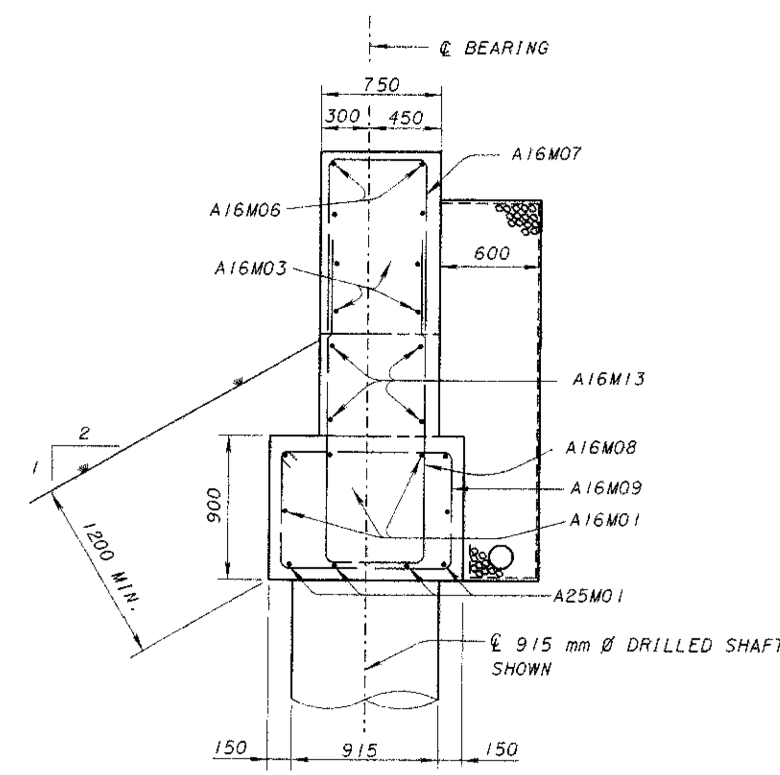
SECTION D-D
(ON DRILLED SHAFT)



SECTION D-D
(ON PILES)



SECTION E-E
(ON PILES)



SECTION E-E
(ON DRILLED SHAFT)

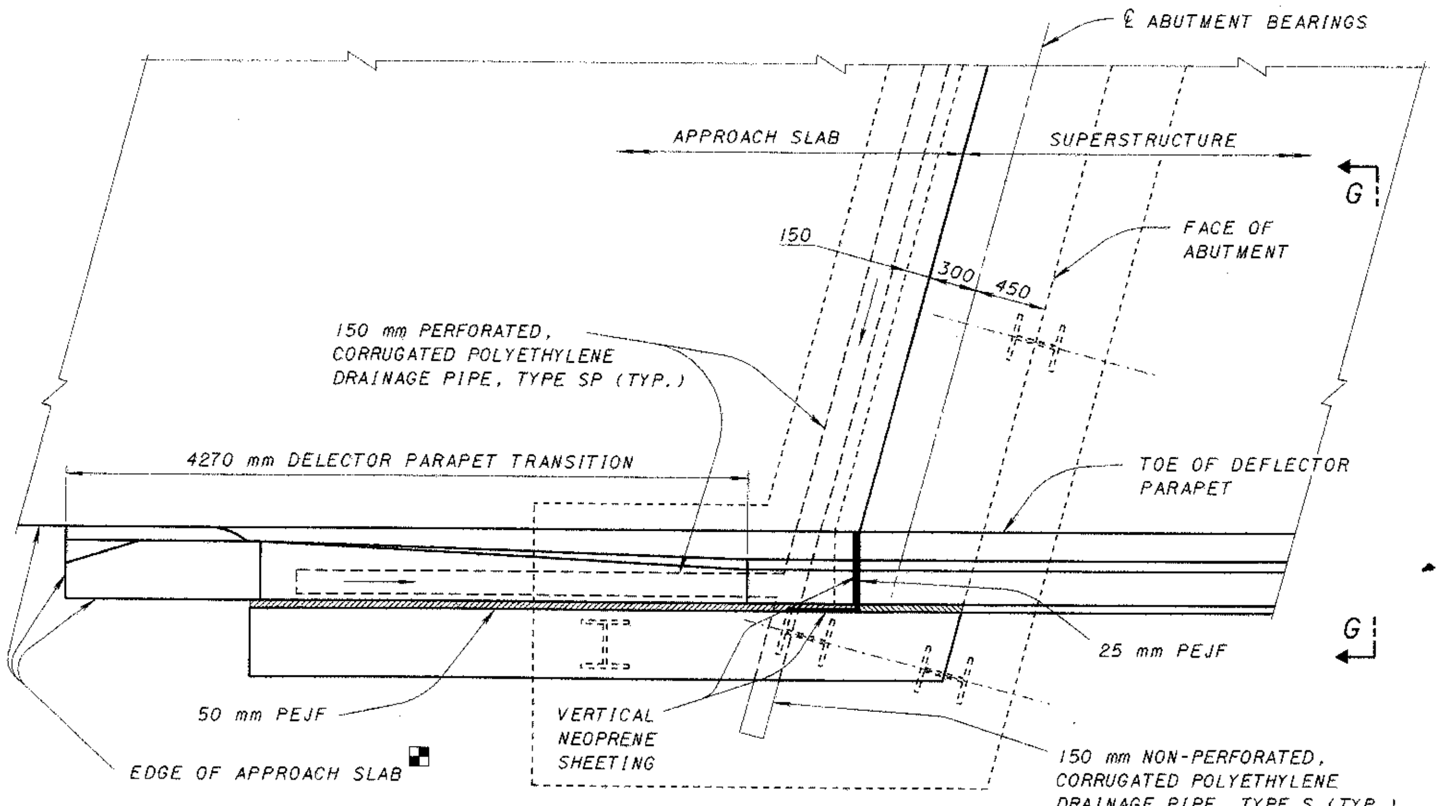
DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Brad Fagrell
ADMINISTRATOR
2-12-97
DATE

REVIEWED LMW
CHECKED MRG/JS
DESIGNED WLF
DRAWN WLF
SICD-1-96M
REVISIONS

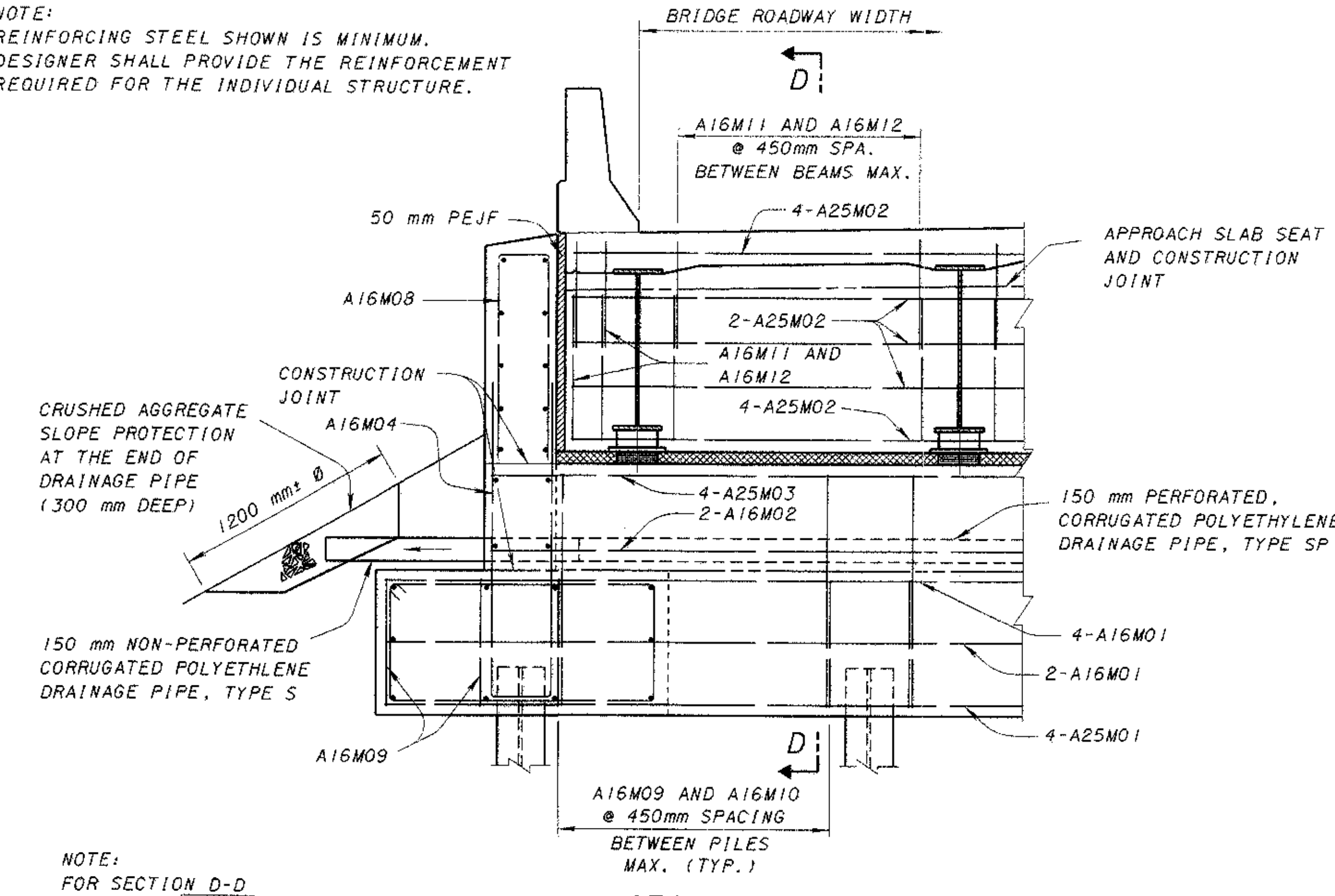
STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

NOTE:
REINFORCING STEEL SHOWN IS MINIMUM. DESIGNER SHALL PROVIDE THE REINFORCEMENT REQUIRED FOR THE INDIVIDUAL STRUCTURE.



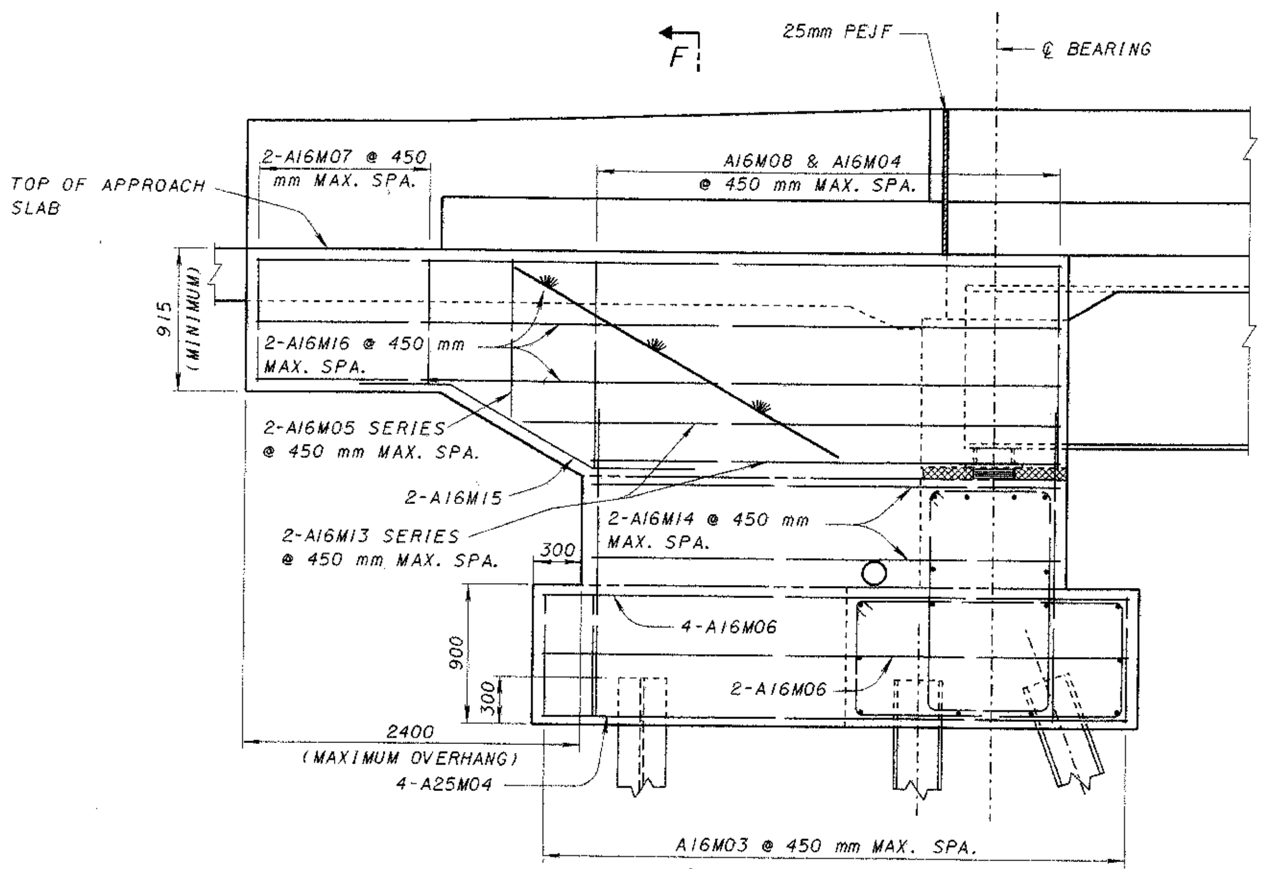
PART PLAN

SPECIAL DESIGN OF APPROACH SLAB MAY BE REQUIRED

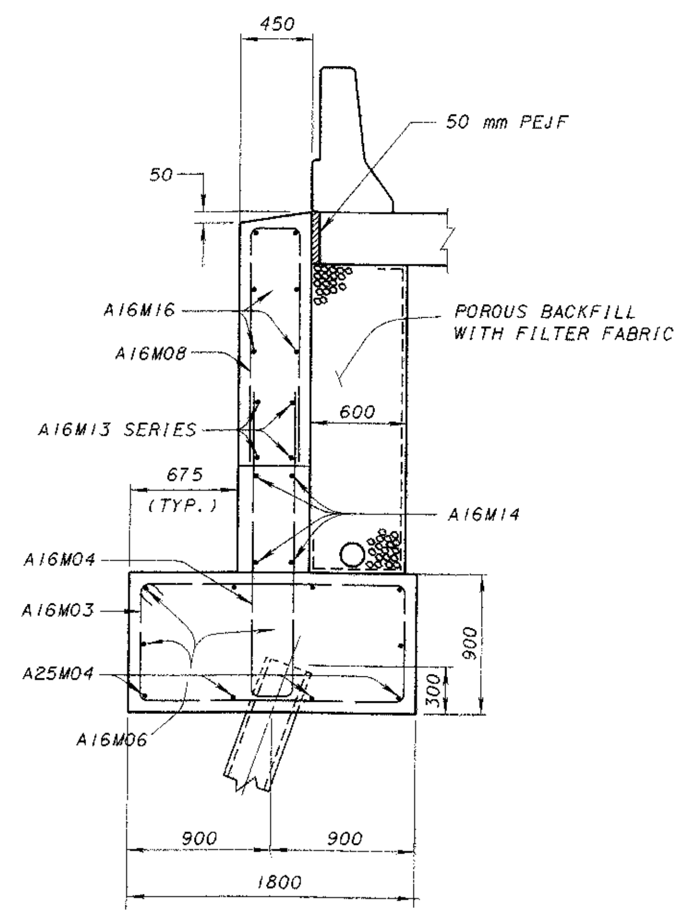


NOTE:
FOR SECTION D-D SEE SHEET 3/7

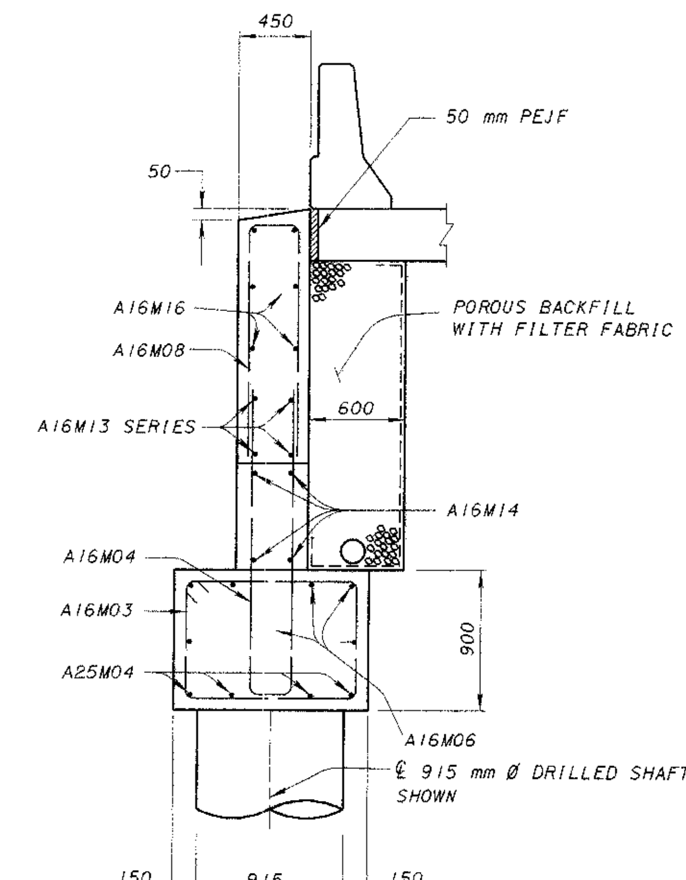
VIEW G-G



ELEVATION



SECTION F-F
(ON PILES)



SECTION F-F
(ON DRILLED SHAFTS)

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Brad Fagrell
ADMINISTRATOR

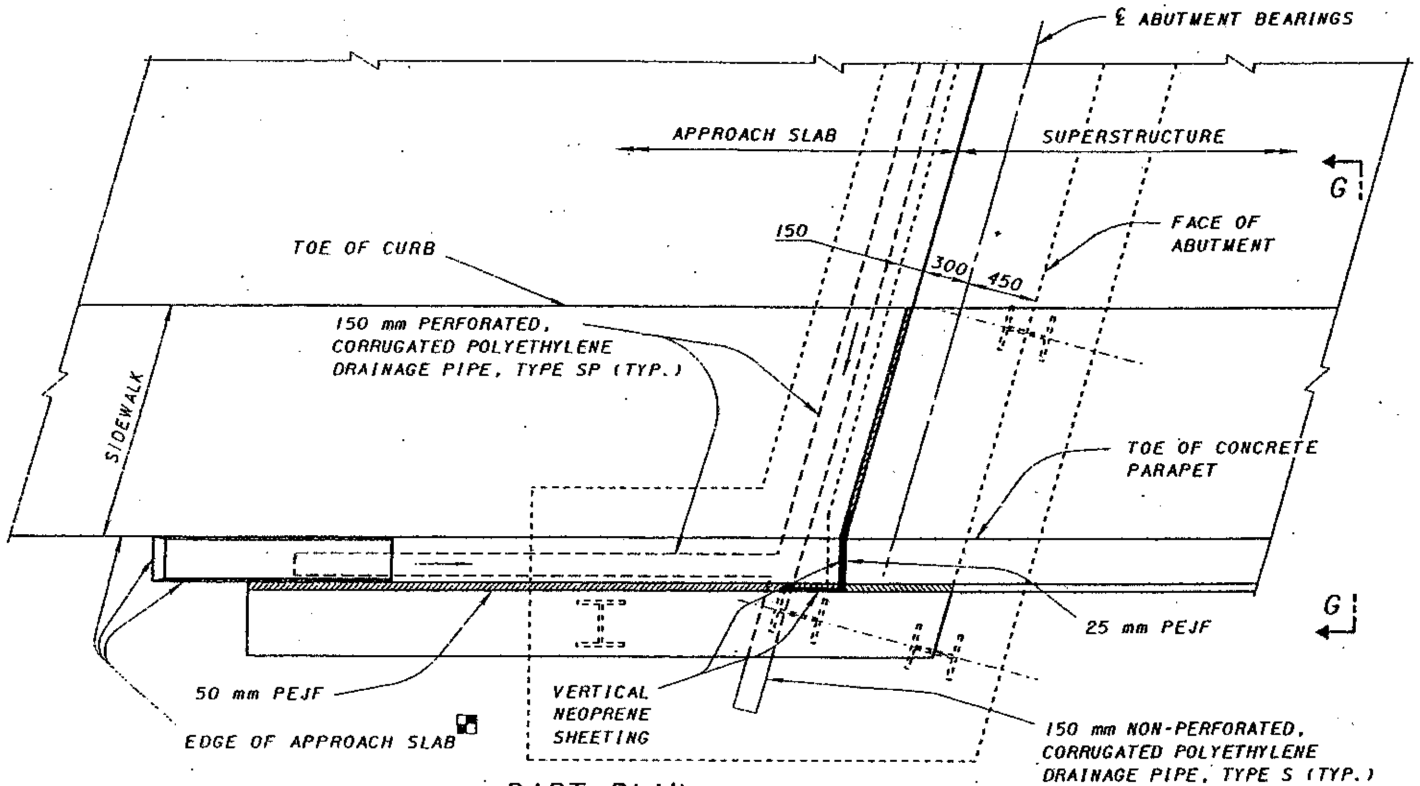
2-12-97
DATE

REVISIONS	DESIGNED WLF	DRAWN WLF	CHECKED MRG/JS	REVIEWED LMW	SICD-1-96M

STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

4/7

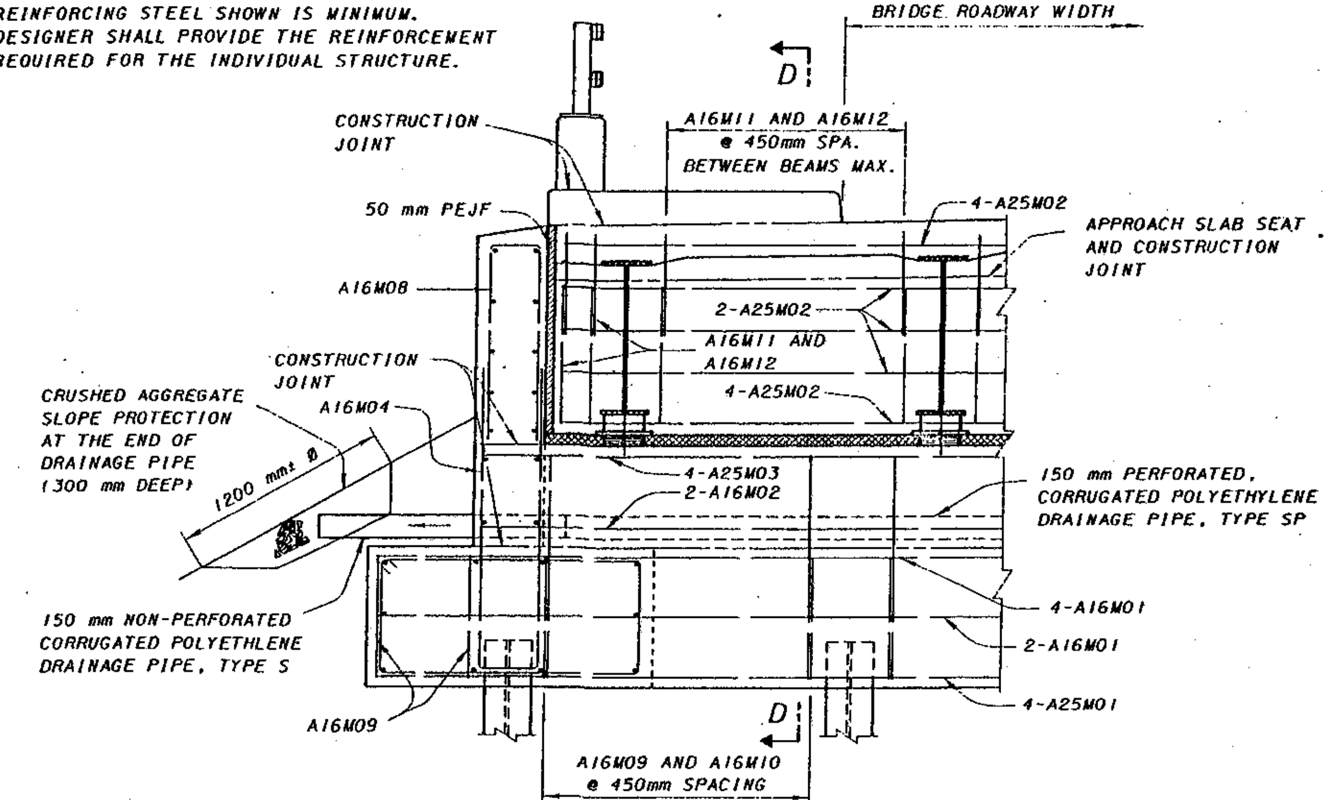
NOTE:
REINFORCING STEEL SHOWN IS MINIMUM.
DESIGNER SHALL PROVIDE THE REINFORCEMENT REQUIRED FOR THE INDIVIDUAL STRUCTURE.



PART PLAN

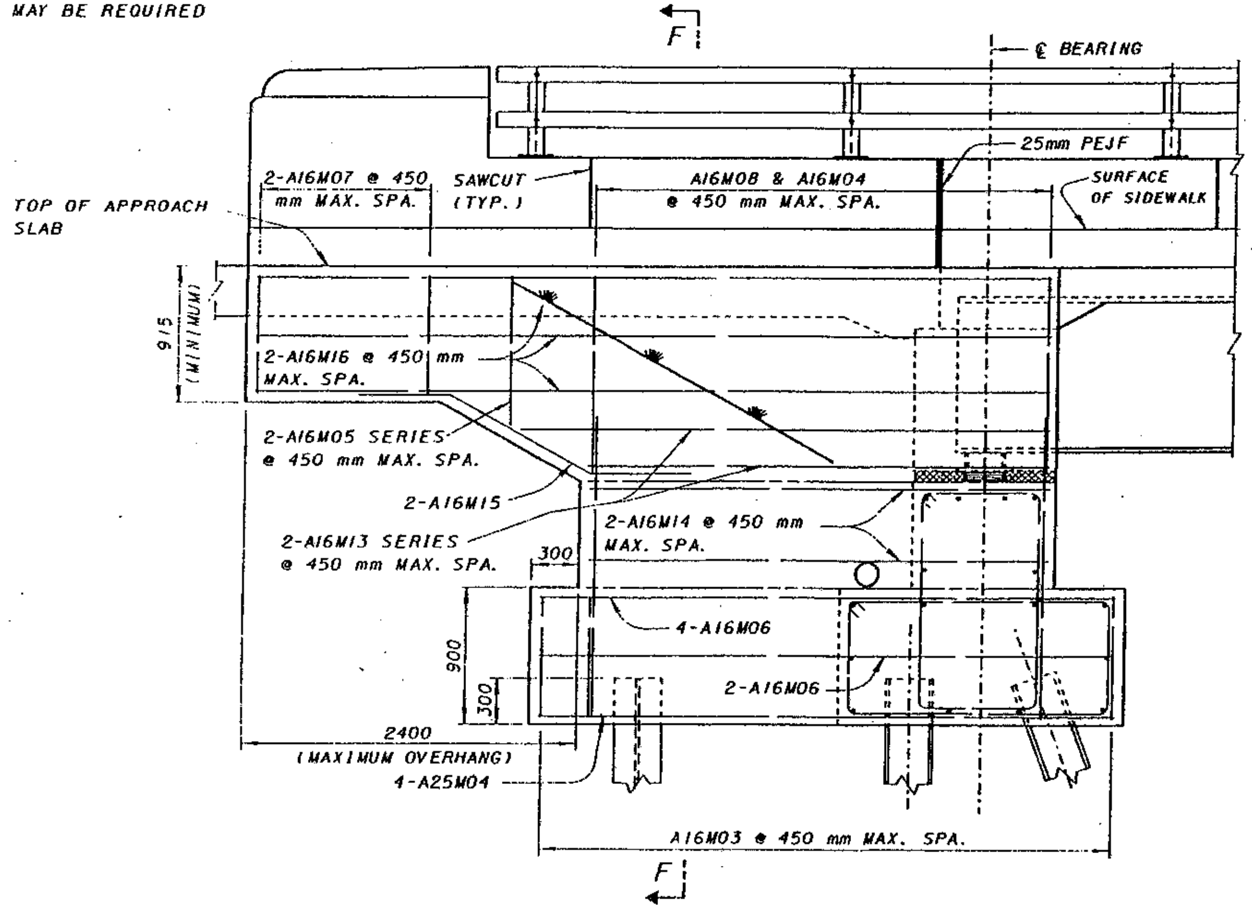
HAND RAIL NOT SHOWN

SPECIAL DESIGN OF APPROACH SLAB MAY BE REQUIRED

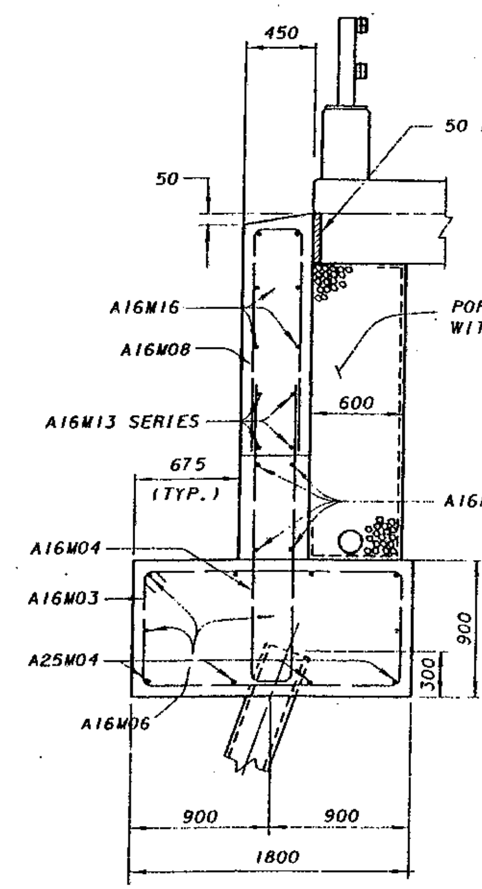


VIEW G-G

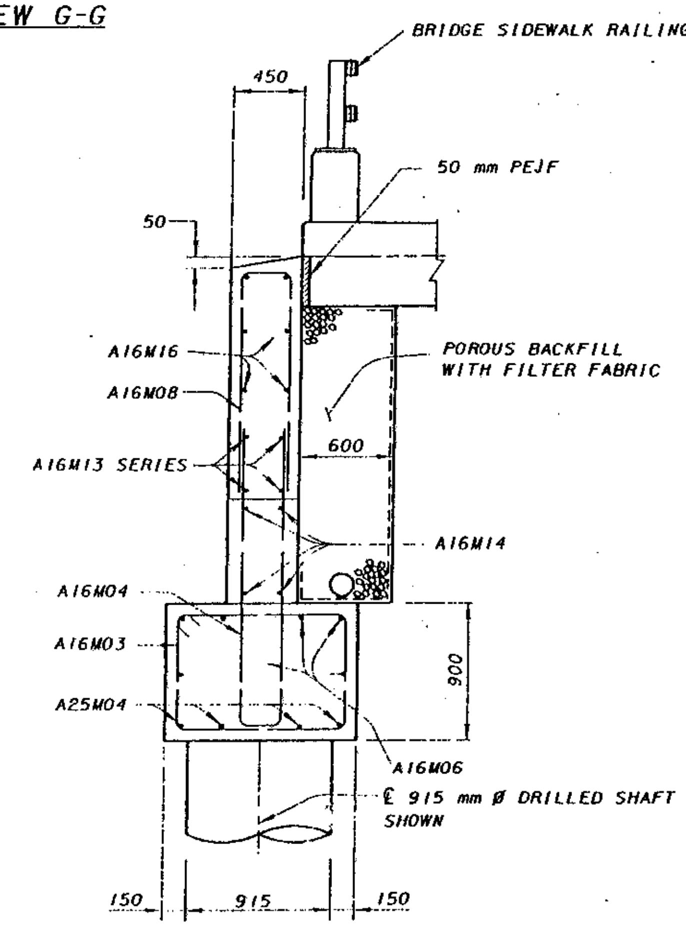
NOTE: FOR SECTION D-D SEE SHEET 3/7



ELEVATION



SECTION F-F
(ON PILES)



SECTION F-F
(ON DRILLED SHAFTS)

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Brad Fagrell
ADMINISTRATOR

2-12-97
DATE

REVIEWED	CHECKED	DESIGNED	DRAWN
LMW	MRG/JS	WLF	WLF

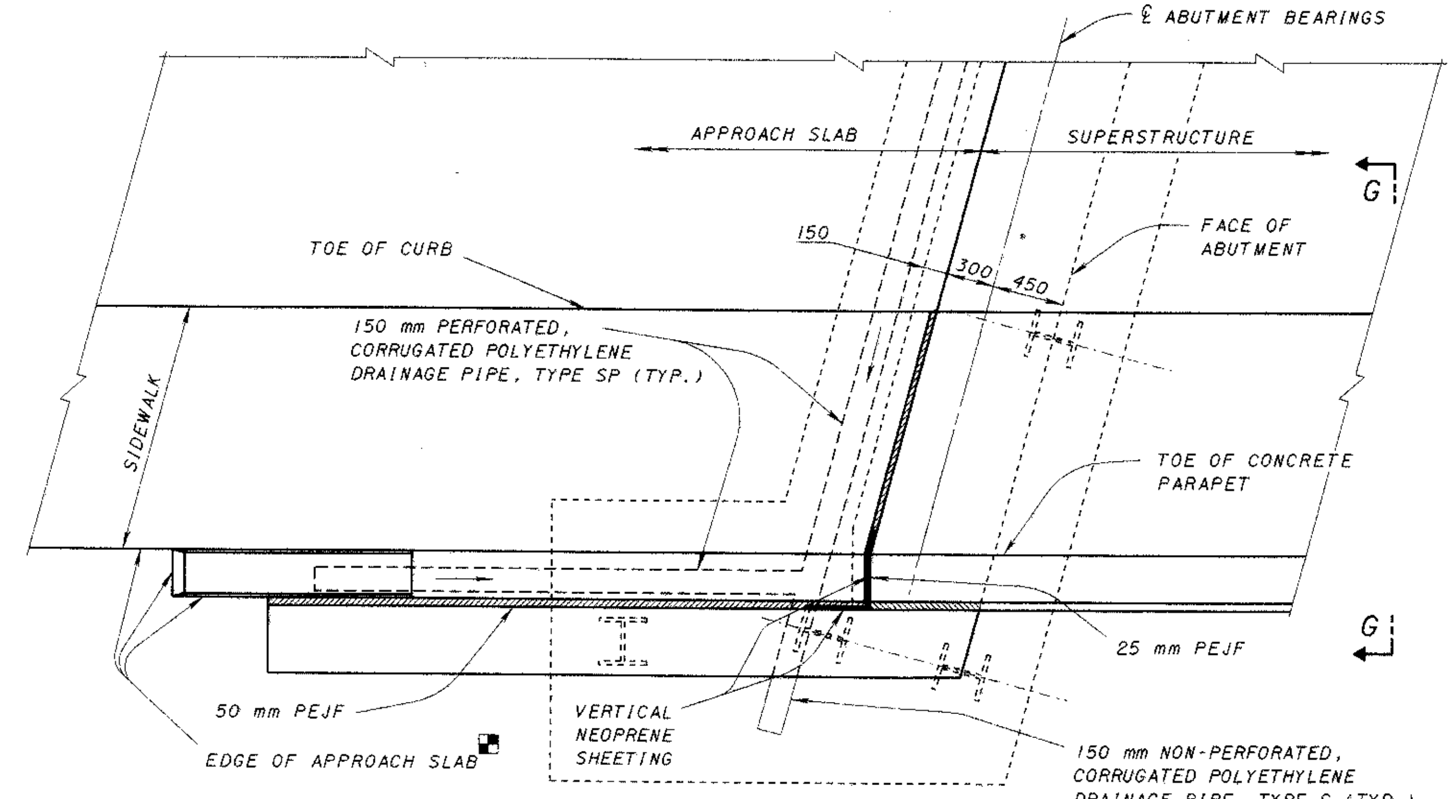
SICD-1-96M

REVISIONS

STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

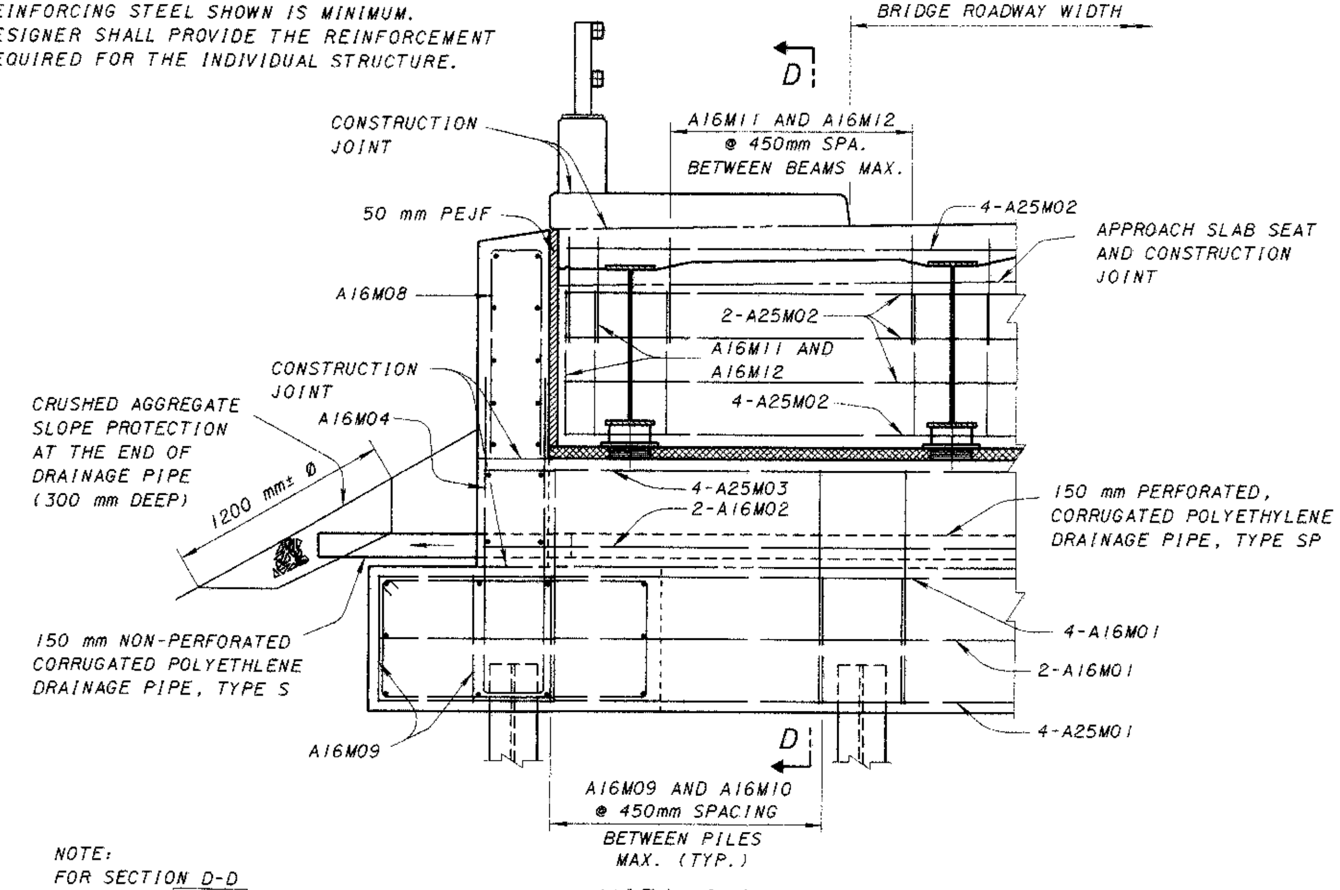
5/7

NOTE:
REINFORCING STEEL SHOWN IS MINIMUM.
DESIGNER SHALL PROVIDE THE REINFORCEMENT REQUIRED FOR THE INDIVIDUAL STRUCTURE.



PART PLAN

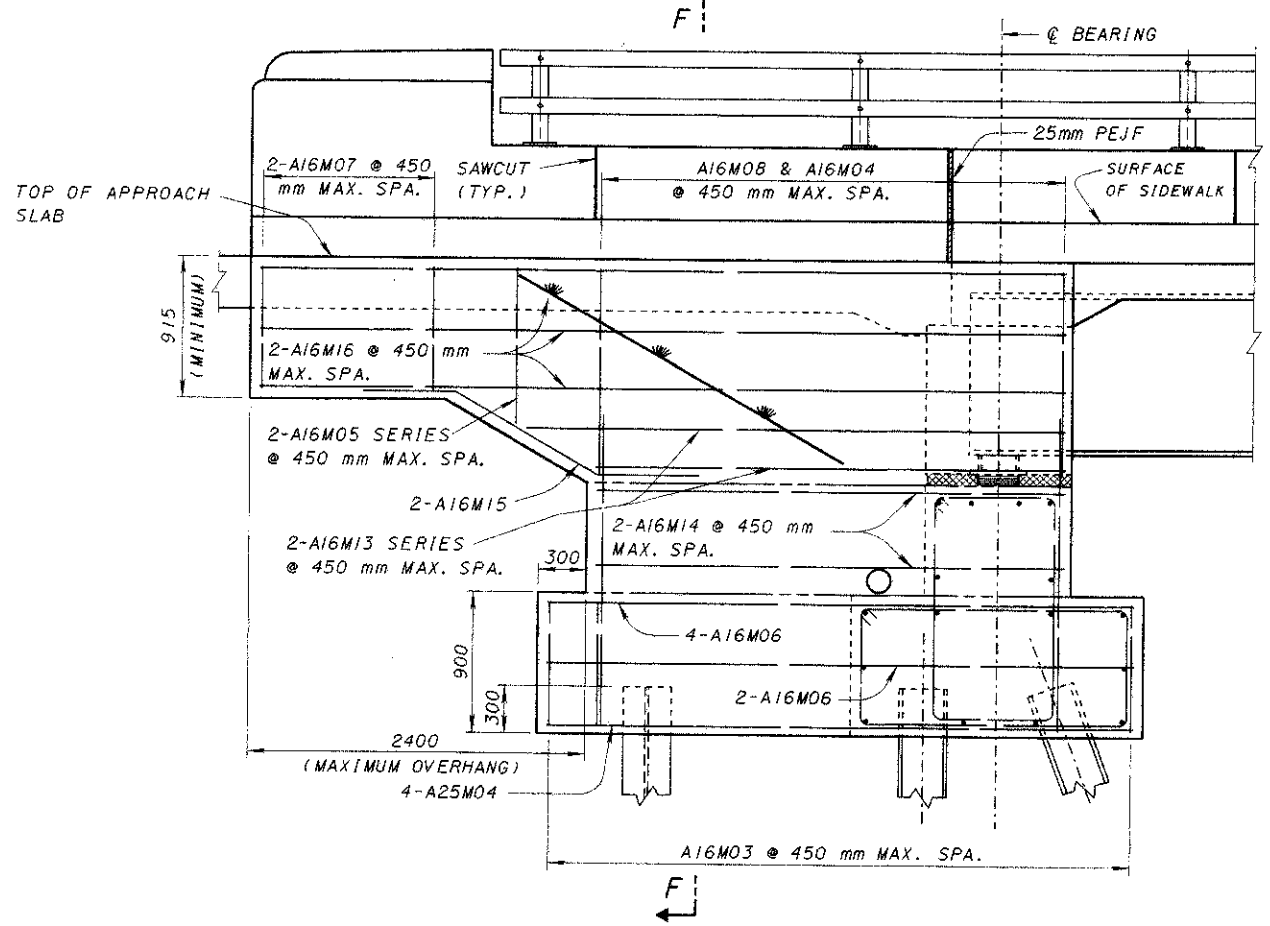
HAND RAIL NOT SHOWN



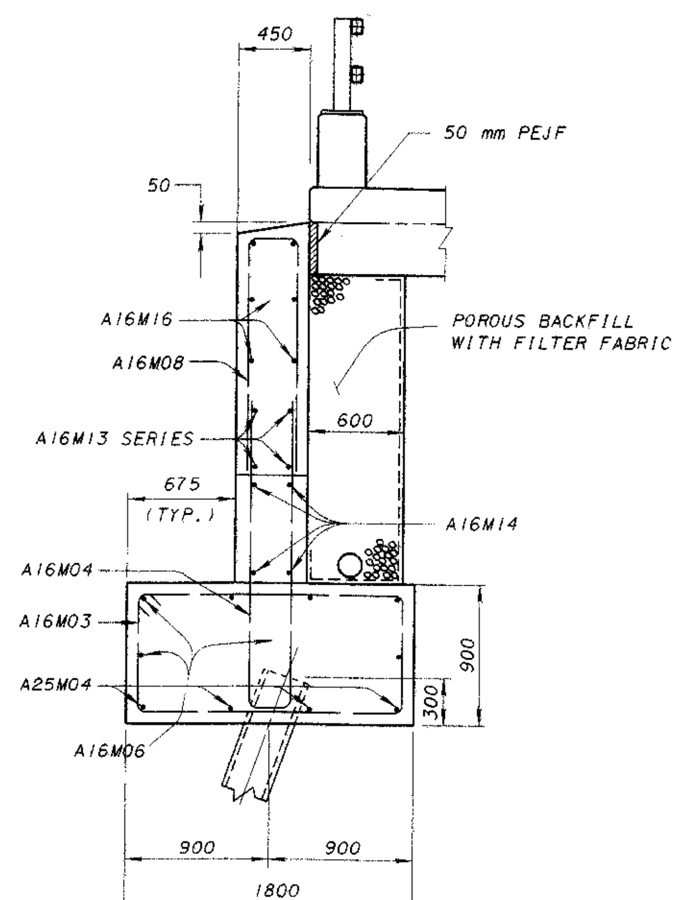
VIEW G-G

NOTE:
FOR SECTION D-D SEE SHEET 3/7

■ SPECIAL DESIGN OF APPROACH SLAB MAY BE REQUIRED

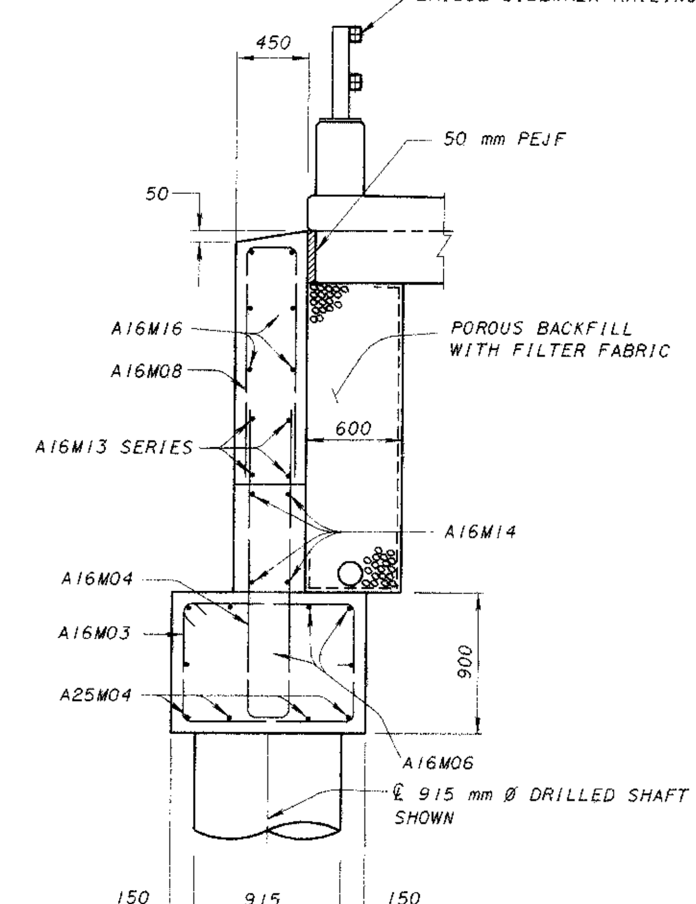


ELEVATION



SECTION F-F

(ON PILES)



SECTION F-F

(ON DRILLED SHAFTS)

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Brad Fagnell
ADMINISTRATOR

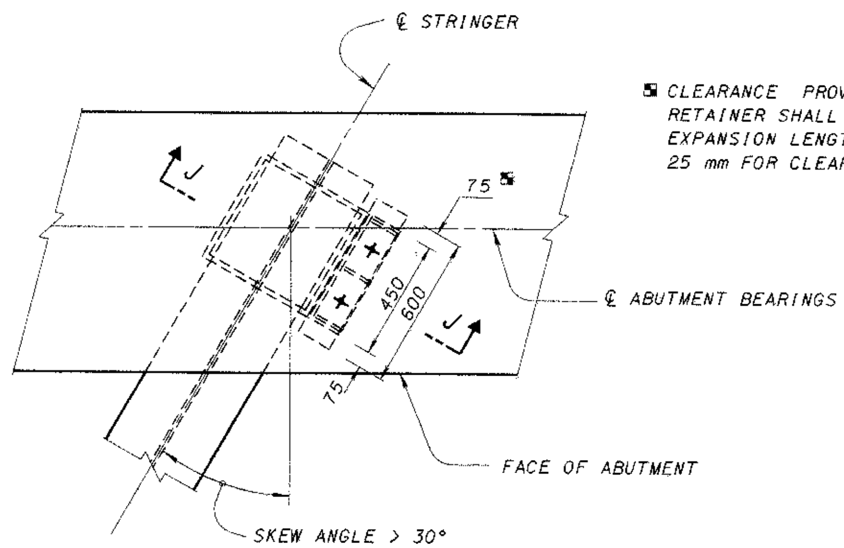
2-12-97
DATE

REVIEWED	CHECKED	DESIGNED	DRAWN
LMW	MRG/JS	WLF	WLF

SICD-1-96M

REVISIONS

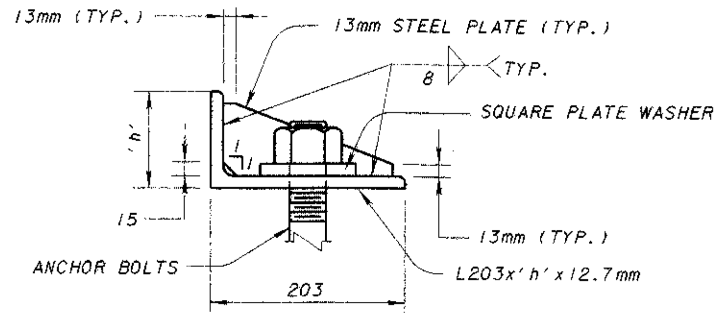
STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS



⊠ CLEARANCE PROVIDED FROM EACH END OF BEARING RETAINER SHALL BE 75 mm WHICH ALLOWS FOR MAXIMUM EXPANSION LENGTH OF 80 000 mm PLUS AN ADDITIONAL 25 mm FOR CLEARANCE.

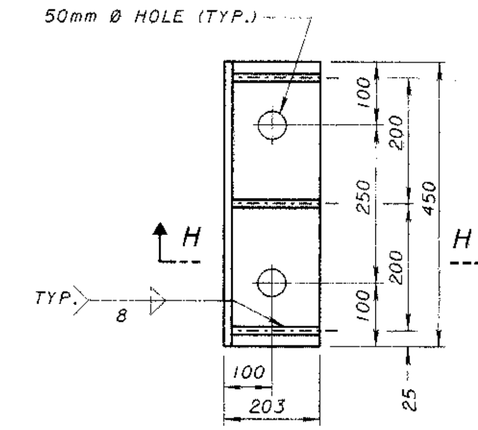
BEARING RETAINER FOR 30° < SKEW ANGLE ≤ 45°

PLACE RETAINER ASSEMBLY ON ACUTE ANGLE SIDE OF BEARINGS.



* DIMENSION 'h' VARIES AND SHALL BE EQUAL TO ELASTOMERIC BEARING HEIGHT + LOAD PLATE THICKNESS BUT SHALL NOT BE LESS THAN 75 mm.

SECTION H-H



BEARING RETAINER ASSEMBLY

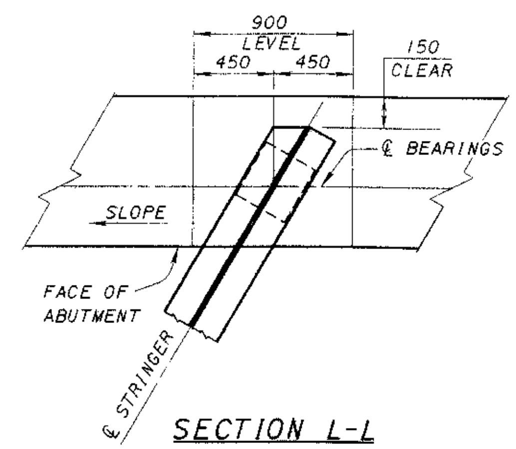
SEE SHEET 7/7 FOR PLACEMENT INSTRUCTIONS

NOTE:

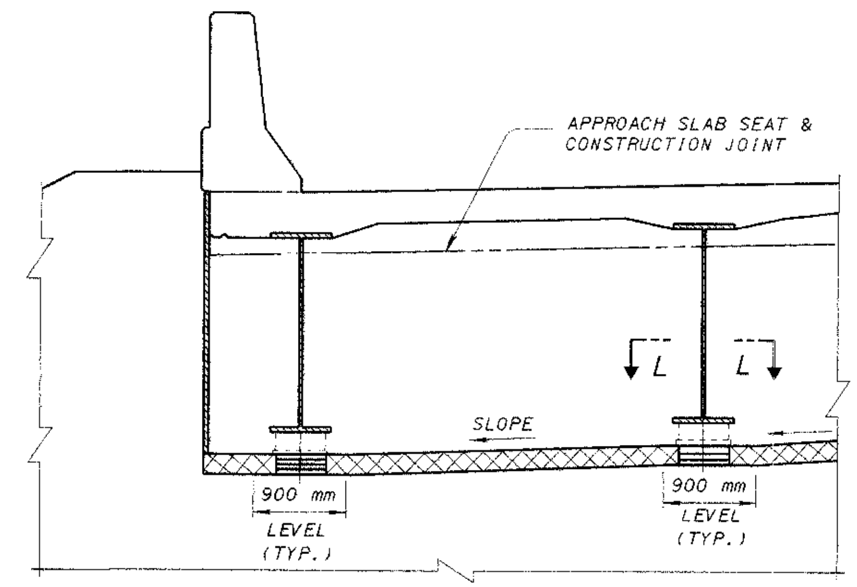
HP STEEL SHAPE INCLUDED WITH ITEM 516 ELASTOMERIC BEARING FOR PAYMENT.

38mm DIAMETER ANCHOR BOLTS WITH NUT AND 100mm x 100mm x 13mm SQUARE PLATE WASHER WITH 45 mm DIAMETER HOLES. WHEN FIELD DRILLING GROUT WITH EPOXY NONSHRINKING GROUT IN 45mm X 250mm DEEP HOLES.

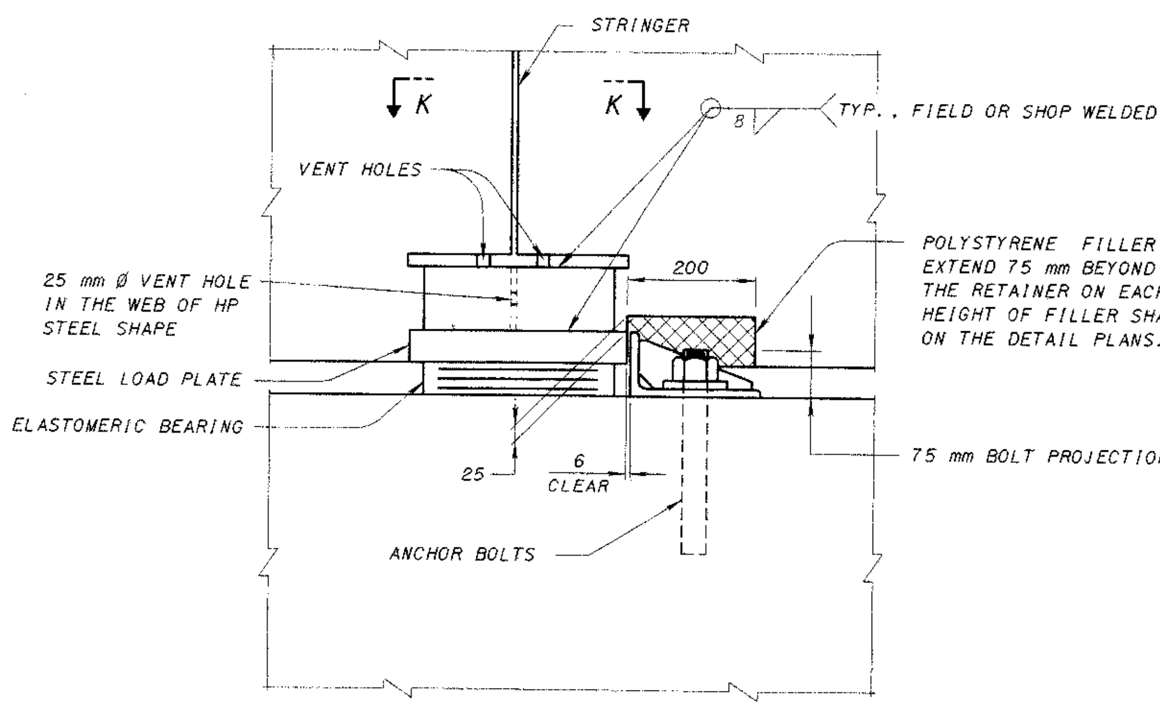
REINFORCING STEEL IN THE VICINITY OF THE BEARING RETAINER SHALL BE ACCURATELY PLACED TO AVOID INTERFERNCE WITH THE DRILLING OF BEARING RETAINER ANCHOR HOLES OR THE PRE-SETTING OF THE BEARING RETAINING ANCHORS.



SECTION L-L

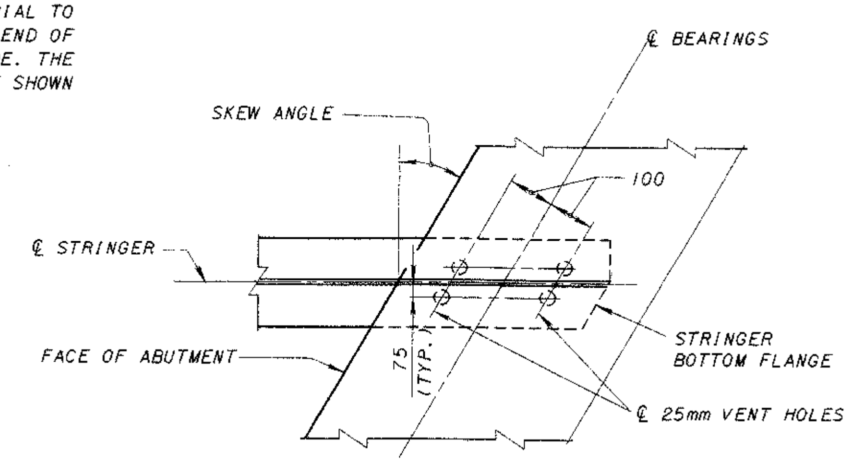


PART ELEVATION OF BEAM SEAT



POLYSTYRENE FILLER MATERIAL TO EXTEND 75 mm BEYOND THE END OF THE RETAINER ON EACH SIDE. THE HEIGHT OF FILLER SHALL BE SHOWN ON THE DETAIL PLANS.

SECTION J-J



SECTION K-K

DESIGN AGENCY
OFFICE
OF
STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Brad Fagrell
ADMINISTRATOR

2-12-97
DATE

DESIGNED WLF	DRAWN WLF	CHECKED MRG/JS	REVIEWED LMW	SICD-1-96M

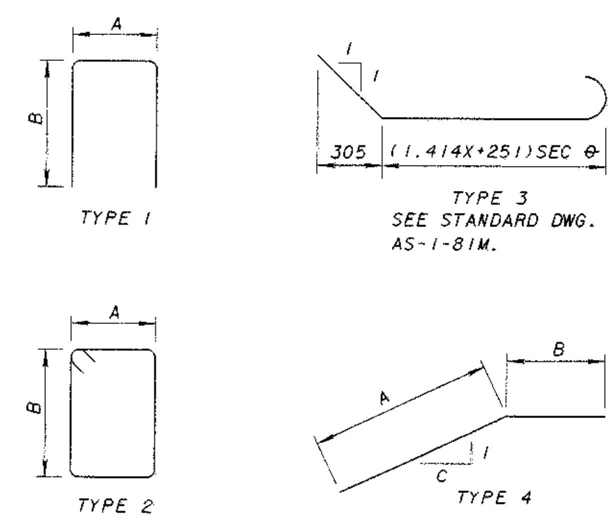
REVISIONS

STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

REINFORCING STEEL FOR STRAIGHT WINGWALL ABUTMENTS

MARK	LENGTH	TYPE	A	B	C
A25M01	*	STR			
A25M02	*	STR			
A25M03	*	STR			
A16M01	*	STR			
A16M02	*	STR			
A16M03	*	STR			
A16M04	*	STR			
A16M05	*	STR			
A16M06	*	4	*	*	*
A16M07	SERIES BAR	1	650	*	
A16M08	*	1	650	*	
A16M09	*	2	*	775	
A16M10	*	2	800	*	
A16M11	*	2	800	*	
A16M12	*	1	550	*	
A16M13	*	STR			
D25M01	*	3			

BENDING DIAGRAMS

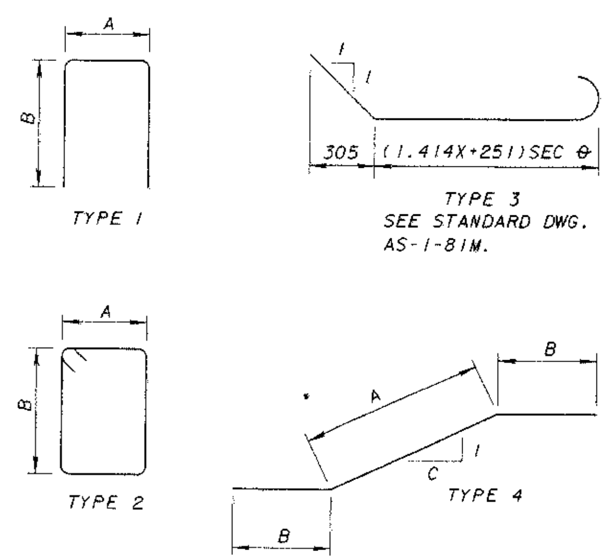


* DIMENSIONS VARY

REINFORCING STEEL FOR U-TYPE ABUTMENT

MARK	LENGTH	TYPE	A	B	C
A25M01	*	STR			
A25M02	*	STR			
A25M03	*	STR			
A25M04	*	STR			
A16M01	*	STR			
A16M02	*	STR			
A16M03	*	2	*	775	
A16M04	*	1	350	*	
A16M05	SERIES BAR	1	350	*	
A16M06	*	STR			
A16M07	*	1	350	*	
A16M08	*	1	350	*	
A16M09	*	2	*	775	
A16M10	*	2	800	*	
A16M11	*	2	800	*	
A16M12	*	1	550	*	
A16M13	SERIES BAR	STR			
A16M14	*	STR			
A16M15	*	4	*	*	*
A16M16	*	STR			
D25M01	*	3			

BENDING DIAGRAMS



* DIMENSIONS VARY

GENERAL:

DETAILS SHOWN ARE TYPICAL FOR A STEEL BEAM OR GIRDER BRIDGE WITH ELASTOMERIC BEARINGS.

LIMITATIONS: THESE ABUTMENT DETAILS ARE INTENDED FOR USE ON STRAIGHT ALIGNMENT STRUCTURES WITH SKEWS NOT GREATER THAN 45 DEGREES, A BRIDGE EXPANSION LENGTH UP TO 80 000 mm OR A TOTAL LENGTH OF 125 000 mm. FOR SKEWS GREATER THAN 45 DEGREES SPECIAL DESIGN SHALL BE PERFORMED AS THE ABUTMENT BEAM SEATS SHOWN ON THESE PLANS, WOULD NEED TO BE SPECIFICALLY DESIGNED FOR THAT SKEW TO ACCOMODATE THE BEARING RETAINER ASSEMBLIES.

SEMI-INTEGRAL ABUTMENT DETAILS CAN BE USED ON WALL TYPE ABUTMENTS, SPILL THRU TYPE ABUTMENTS ON TWO OR MORE ROWS OF PILES, SPREAD FOOTING TYPE ABUTMENTS FOUNDED ON ROCK, OR ABUTMENTS ON DRILLED SHAFTS. THIS ABUTMENT DESIGN SHOULD NOT BE USED ON NEW STRUCTURES WITH SPREAD FOOTINGS FOUNDED ON SOIL OR EXISTING STRUCTURES WHERE SPREAD FOOTINGS ON SOIL ARE EXPECTED TO CONTINUE TO HAVE SETTLEMENT.

DIMENSIONS: ALL DIMENSIONS SHOWN ON THESE DRAWING ARE IN MILLIMETERS EXCEPT OTHERWISE NOTED.

BEARING RETAINERS

RETAINERS ARE REQUIRED FOR ANY BRIDGE STRUCTURE WITH A SKEW OF 30 DEGREES OR MORE. NEW BRIDGE STRUCTURES OR REHABILITATED BRIDGE STRUCTURES WITHOUT PHASED CONSTRUCTION SHALL REQUIRE TWO RETAINER ASSEMBLIES AT EACH ABUTMENT. THE RETAINERS SHALL BE INSTALLED AT THE OUTSIDE (FASCIA) BEAM LINES. STRUCTURES THAT REQUIRE PHASED CONSTRUCTION SHALL HAVE AT LEAST TWO RETAINER ASSEMBLIES INSTALLED AT THE OUTSIDE BEAMS LINES FOR THE FIRST PHASE OF CONSTRUCTION. AN ADDITIONAL RETAINER SHALL BE INSTALLED AT THE NEW OUTSIDE BEAM OF EACH ADDITIONAL PHASE OF CONSTRUCTION.

CONSTRUCTION PROCEDURE: ANCHOR BOLTS SHALL BE EITHER CAST IN PLACE BY USE OF A TEMPLATE OR FIELD DRILLED AND EPOXY GROUTED AFTER THE ERECTION OF THE STRUCTURAL STEEL BEAMS. CARE SHALL BE TAKEN TO ASSURE THAT THE ANCHOR BOLTS DO NOT INTERFERE WITH REINFORCING STEEL. THE RETAINER SHALL BE POSITIONED AND TIGHTENED BEFORE THE CONCRETE IS POURED FOR THE BEAM END ENCASEMENT. A BLOCK OF POLYSTYRENE FILLER MATERIAL, 200 mm IN WIDTH AND THE HEIGHT AS REQUIRED BY THE PLANS SHALL BE INSTALLED OVER THE TOP OF THE RETAINER ASSEMBLY BEFORE THE CONCRETE PLACEMENT.

MATERIALS: THE STEEL RETAINER ASSEMBLY AND THE SQUARE PLATE WASHER SHALL BE THE SAME GRADE OF STEEL AS THE MAIN STRUCTURAL MEMBERS. ANCHOR BOLTS AND NUTS SHALL BE ASTM A325M. STEEL RETAINER ASSEMBLIES SHALL HAVE THE SAME PROTECTIVE COATING AS THE MAIN STRUCTURAL STEEL. ANCHOR BOLTS, NUTS AND SQUARE PLATE WASHERS SHALL BE GALVANIZED AS PER 711.02.

PAYMENT FOR LABOR, MATERIALS, FABRICATION, PROTECTIVE COATING, GALVANIZING, POLYSTYRENE AND INSTALLATION OF THE RETAINER ASSEMBLIES SHALL BE INCLUDED WITH ITEM 516, ELASTOMERIC BEARINGS.

ELASTOMERIC BEARINGS

STEEL LOAD PLATE AND THE HP SHAPE (SUPPORT MEMBER): THE DESIGNER SHALL SPECIFY THE STEEL MATERIAL FOR THE LOAD PLATE AND THE HP SHAPE SUPPORT MEMBER ARE TO BE THE SAME GRADE OF STEEL AS THE MAIN STRUCTURAL MEMBERS. WELDING SHALL BE CONTROLLED SO THAT THE STEEL LOAD PLATE TEMPERATURE AT THE ELASTOMERIC BONDED SURFACE DOES NOT EXCEED 150 DEGREE CELSIUS AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

NEOPRENE PLACEMENT

INSTALL A 900 mm WIDE STRIP, 2.5 mm THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 900 mm WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 32 x 3.0 mm (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 25 mm OUTSIDE DIAMETER, 3 mm GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 225 mm. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 150 mm (+/-) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 150 mm (+/-) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF THE ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 150 mm CENTER TO CENTER ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST 300 mm IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, 150 mm IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 2.5 mm THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE NUMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, mm	D751	2.5 +/- 0.25
BREAKING STRENGTH, GRAB WXF, N, MINIMUM	D751	3130 x 3130
ADHESIVE 25 mm STRIP, 50 mm MINIMUM, N MINIMUM	D751	27
BURST STRENGTH (MULLEN) MPa, MINIMUM	D751	9.65
HEAT AGING 70 HOURS T 100° C, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40° C, BEND AROUND 6 mm MANDREL	D2136	NO CRACKING OF COATING

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 511, CLASS C CONCRETE, ABUTMENT, AS PER PLAN.

DESIGN AGENCY
OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
ADMINISTRATOR
2-12-97
DATE

REVIEWED LMW
CHECKED MRG/JS
DESIGNED WLF
DRAWN WLF
SICD-1-96M
REVISIONS

STANDARD
SEMI-INTERGRAL CONSTRUCTION DETAILS

INTRODUCTION

THIS REPORT IS A PRESENTATION OF THE SUBSURFACE INVESTIGATION PERFORMED FOR CRA-30-24.079, WHICH IS PART II OF PROJECT DESCRIBED AS THE 4-LANE RELOCATION OF U.S. ROUTE 30 FROM THE EAST END OF THE EXISTING U.S. ROUTE 30 4-LANE AT BUCYRUS, OHIO, TO THE WEST END OF THE EXISTING U.S. ROUTE 30 4-LANE AT ONTARIO, OHIO. THE TOTAL LENGTH OF THE PROJECT IS 26.337 KILOMETERS, AND IS DIVIDED INTO THREE CONSTRUCTION CONTRACTS, CRA-30-24.079 BEING PART II. THIS SECTION MEASURES 9.464 KILOMETERS IN LENGTH. THE WESTERN LIMIT OF PART II IS 0.760 KILOMETERS WEST OF STATE ROUTE 602, AND THE EASTERN LIMIT IS 0.721 KILOMETERS WEST OF STATE ROUTE 61. THIS SECTION OF THE PROPOSED USR 30 WILL TRAVERSE STATE ROUTE 602, BECK ROAD, BIDDLE ROAD, STATE ROUTE 598, NORTH MARKET AVENUE, FAIRVIEW AVENUE, KNORR ROAD, AND NAZOR ROAD SOUTH OF WINDFALL ROAD AND MIDDLETOWN ROAD, AND NORTH OF BRANDT ROAD. OVERPASSES ARE PROPOSED AT STATE ROUTE 602, BIDDLE ROAD, STATE ROUTE 598, FAIRVIEW AVENUE, AND NAZOR ROAD TO CROSS OVER USR 30. AS PART OF THE PROJECT, IMPROVEMENTS WILL BE MADE TO THESE SIDE ROADS, INCLUDING THE RELOCATION OF BIDDLE ROAD AND NAZOR ROAD IN THE VICINITY OF THE PROPOSED USR 30. IMPROVEMENTS TO SR 602, SR 598, AND FAIRVIEW AVENUE WILL BE MADE PRIMARILY ALONG THE EXISTING ROUTE. BECK ROAD, NORTH MARKET AVENUE, AND KNORR ROAD WILL NOT CROSS THE PROPOSED USR 30, AND CUL-DE-SACS WILL BE CONSTRUCTED JUST NORTH AND JUST SOUTH OF THE PROPOSED ROADWAY AT EACH OF THESE SIDE ROADS. THIS SECTION IS LOCATED WITHIN WHETSTONE TOWNSHIP, JEFFERSON TOWNSHIP, AND JACKSON TOWNSHIP, CRAWFORD COUNTY.

THE EXISTING LAND USAGE IS PRIMARILY AGRICULTURAL, WITH THE VAST MAJORITY OF THE ACREAGE CONSISTING OF CULTIVATED FARM FIELDS. SEVERAL TREE LINES, PRIMARILY LOCATED AT PROPERTY LINES, AND SEVERAL DRAINAGE DITCHES WILL BE TRAVERSED ALONG THE PROPOSED ROUTE. HEAVILY WOODED TRACTS ARE PRESENT JUST WEST OF KNORR ROAD, AND APPROXIMATELY 200 METERS WEST OF NAZOR ROAD. A POND WILL BE TRAVERSED WEST OF KNORR ROAD, AT STATION 31+700. A SMALL GRAVEL PIT IS PRESENT ALONG THE PROPOSED ALIGNMENT JUST WEST OF SR 598, AND TWO LARGER GRAVEL PITS ARE PRESENT JUST WEST AND JUST EAST OF KNORR ROAD. THE ALIGNMENT WILL ALSO TRAVERSE SCATTERED HOUSE LOTS (LAWNS). IN GENERAL, THE EXISTING TERRAIN ACROSS THE PROJECT SLOPES DOWNWARD GENTLY TO THE WEST, RANGING FROM APPROXIMATELY ELEVATION 325 METERS AT THE WEST END, IN THE VICINITY OF SR 602, TO APPROXIMATELY ELEVATION 355 METERS AT THE EAST END OF THE PROJECT. HOWEVER, THE TOPOGRAPHY DOES FLUCTUATE WITHIN THE PROJECT LIMITS, WITH THE TERRAIN SLOPING DOWNWARD TOWARDS THE DRAINAGE DITCHES ENCOUNTERED PERIODICALLY ACROSS THE SITE. EXISTING DRAINAGE PATTERNS FOLLOW THIS SITE TERRAIN.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

GEOLOGICALLY, THE WEST END OF THE PROJECT (WEST OF BIDDLE ROAD) IS LOCATED WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN, AND THE EAST END OF THE PROJECT (EAST OF BIDDLE ROAD) IS LOCATED WITHIN THE GALION GLACIATED LOW PLATEAU. BOTH THE ILLINOIAN AND WISCONSIN GLACIERS PASSED OVER THE AREA. BASED ON THE QUATERNARY GEOLOGY OF OHIO MARION QUADRANGLE, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE OVERBURDEN SOILS WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN CONSIST OF HIRAM AND LAKE GROUND MORAINE TILL DEPOSITED BY THE LATE WISCONSINAN ICE SHEET (APPROXIMATELY 17,000 YEARS BEFORE PRESENT). THE OVERBURDEN SOILS WITHIN THE GALION GLACIATED LOW PLATEAU CONSIST PRIMARILY OF HIRAM AND LAKE END MORAINE TILL DEPOSITED BY THE LATE WISCONSINAN ICE SHEET, HOWEVER, KAMES AND KAME TERRACES ARE ALSO PRESENT ALONG THE PROPOSED ALIGNMENT BETWEEN JUST WEST OF SR 598 AND NAZOR ROAD. THE HIRAM AND LAKE GROUND AND END MORAINE TILL EXHIBIT A HIGH PERCENTAGE OF CLAY SOILS. THE KAMES AND KAME TERRACES, WHICH WERE DEPOSITED BY MELTWATERS IN CONTACT WITH WISCONSIN GLACIAL ICE, FORMED HUMMOCKS AND HIGH VALLEY-SIDE TERRACES THAT EXHIBITED THE PRESENCE OF POORLY SORTED SAND AND GRAVEL DEPOSITS. THE GRAVEL PITS INDICATED ABOVE ARE LOCATED WITHIN THE KAMES AND KAME TERRACES.

BASED ON THE BEDROCK TOPOGRAPHY MAP OF THE NORTH ROBINSON, OHIO QUADRANGLE, OBTAINED FROM ODNR, THE TOP OF BEDROCK ELEVATION FLUCTUATES ALONG THE PROPOSED ALIGNMENT. IN PARTICULAR, BETWEEN THE WEST END OF THE PROJECT TO JUST EAST OF BIDDLE ROAD, THE TOP OF BEDROCK OSCILLATES BETWEEN ELEVATIONS 299 METERS AND 320 METERS. BETWEEN JUST EAST OF BIDDLE ROAD TO APPROXIMATELY STATION 29+600, THE TOP OF BEDROCK ELEVATION ASCENDS TO APPROXIMATELY ELEVATION 335 METERS. BETWEEN STATION 29+600 AND JUST WEST OF SR 598, THE TOP OF BEDROCK DROPS SHARPLY, TO APPROXIMATELY ELEVATION 323 METERS. FROM SR 598 TO JUST EAST OF KNORR ROAD (APPROXIMATELY STATION 30+100), THE TOP OF BEDROCK INCREASES TO ABOUT ELEVATION 347 METERS, WHICH IS THE HIGHEST ELEVATION THAT THE BEDROCK REACHES ALONG THE PROPOSED ALIGNMENT. FROM THIS POINT TO THE EAST END OF THE PROJECT, THE TOP OF BEDROCK SLOPES DOWNWARD GENTLY, TO ABOUT ELEVATION 341 METERS EAST OF NAZOR ROAD. WEST OF NORTH MARKET AVENUE, THE BEDROCK CONSISTS OF MISSISSIPPIAN-AGE INTERBEDDED BEREA SANDSTONE AND BEDFORD SHALE. EAST OF NORTH MARKET AVENUE, THE BEDROCK CONSISTS OF MISSISSIPPIAN-AGE SUNBURY SHALE.

EXPLORATION

ONE HUNDRED FORTY-THREE (143) ENGINEERING TEST BORINGS WERE DRILLED IN REFERENCE TO THE PROPOSED PROJECT. THE TEST BORINGS WERE DESIGNATED, AND ARE REFERENCED, AS FOLLOWS:

U.S. ROUTE 30 MAINLINE: (INCLUDING CULVERTS)	B-1 THROUGH B-42; B-46 THROUGH B-48; B-51 THROUGH B-90, B-60A
STATE ROUTE 602:	B-91 THROUGH B-97
S.R. 602 SERVICE ROAD:	B-98
RAMP A:	B-99 AND B-100
RAMP B:	B-101 THROUGH B-103
RAMP C:	B-104 THROUGH B-106
RAMP D:	B-107 THROUGH B-109
BIDDLE ROAD:	B-110 THROUGH B-116
STATE ROUTE 598:	B-117 THROUGH B-124
S.R. 598 SERVICE ROAD:	B-125
RAMP E:	B-126 AND B-127
RAMP F:	B-128 AND B-129
RAMP G:	B-130 AND B-131
RAMP H:	B-132 AND B-133
FAIRVIEW AVENUE:	B-134 THROUGH B-138
NAZOR ROAD:	B-139 THROUGH B-147

SIX (6) ADDITIONAL BORINGS WERE PLANNED ALONG THE U.S. ROUTE 30 MAINLINE, AS FOLLOWS:

B-43 THROUGH B-45:	ACCESS WAS NOT GRANTED TO DON SHIFLEY'S PROPERTY
B-49 AND B-50:	ACCESS WAS NOT GRANTED TO HERBERT SHIFLEY'S PROPERTY
B-60B:	RII'S DRILL CREW WAS FORCED TO EXIT JOHN SAUTERS PROPERTY PRIOR TO COMPLETING THIS BOREHOLE.

THESE TEST BORINGS WERE OMITTED.

THE BORING LOCATIONS WERE SPECIFIED BY REPRESENTATIVES OF RESOURCE INTERNATIONAL, INCORPORATED, AND WERE FIELD LOCATED BY REPRESENTATIVES OF MCCOY/FOK & ASSOCIATES. THE BORINGS WERE PLANNED TO DEPTHS RANGING FROM 3.0 METERS TO 8.0 METERS, BUT PRIMARILY TO DEPTHS BETWEEN 3.0 METERS AND 5.0 METERS. THE DESIGNATED DEPTH OF EACH BORING WAS DEPENDENT UPON THE EXISTING AND PROPOSED GRADES. A MAJORITY OF THE TEST BORINGS PLANNED TO DEPTHS OF 3.0 AND 4.0 METERS WERE ADVANCED WITH A GEOPROBE MODEL 4220, A VEHICLE-MOUNTED, HYDRAULICALLY-POWERED MACHINE THAT UTILIZES STATIC FORCE AND PERCUSSION TO ADVANCED A 122-CENTIMETER LONG BY 5.1-CENTIMETER DIAMETER SOIL SAMPLER. THE REMAINING BORINGS (GENERALLY, THE DEEPER BORINGS) WERE ADVANCED USING A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING EITHER HOLLOW STEM AUGERS OR SOLID FLIGHT AUGERS TO ADVANCE THE HOLES. THE DRILLING METHOD EMPLOYED IS PRESENTED ON EACH BORING LOG, WHICH ARE PRESENTED IN APPENDIX C. THE DRILLING WAS PERFORMED BETWEEN NOVEMBER 20, 1997 AND DECEMBER 11, 1998.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS - 163 SAMPLES TESTED

DESCRIPTION	HRB CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	A-1-a	50	29	7	-14-		-	-	18	1
GRAVEL AND/OR STONE FRAGMENTS W/ SAND	A-1-b	A-1-b	36	36	12	-16-		-	-	14	6
FINE SAND	A-3a	A-3a	2	13	63	12	11	-	-	22	2
GRAVEL AND/OR STONE FRAGMENTS W/SAND AND SILT	A-2-4(0)	A-2-4	36	21	10	-33-		-	-	19	3
GRAVEL AND/OR STONE FRAGMENTS W/SAND, SILT & CLAY	A-2-6(0)	A-2-6	35	27	15	-24-		33	16	18	4
SANDY SILT	A-4a(3)	A-4a	17	12	19	-52-		23	8	16	15
SILT	A-4b(6)	A-4a	1	4	29	44	22	-	-	19	1
SILT AND CLAY	A-6a(8)	A-6a	9	8	16	36	31	29	13	18	33
SILTY CLAY	A-6b(11)	A-6b	6	6	15	38	36	36	19	21	65
CLAY	A-7-6(16)	A-7-6	5	5	12	37	41	45	27	24	33
SHALE						VISUALLY CLASSIFIED					
WEATHERED SHALE						VISUALLY CLASSIFIED					

ASPHALT — SOD AND/OR TOPSOIL — BERM MATERIAL

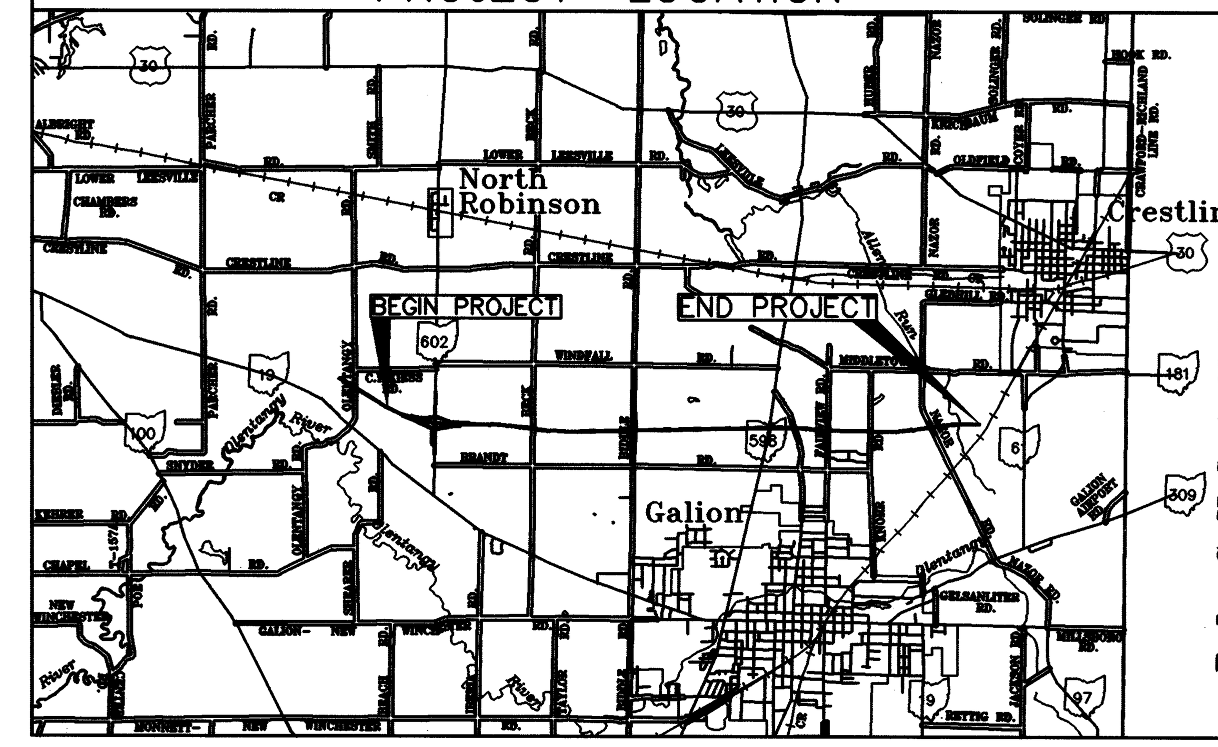
DRIVE SAMPLE/GEOPROBE BORING - PLAN VIEW

DRIVE SAMPLE/GEOPROBE BORING PLOTTED TO VERTICAL SCALE ONLY

- ● WATER CONTENT NEARLY EQUAL TOO OR GREATER THAN LIQUID LIMIT.
- INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT.
- W FREE WATER
- STATIC WATER LEVEL
- X/Y/Z NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
  - X = NUMBER OF BLOWS FOR FIRST 15 CENTIMETERS
  - Y = NUMBER OF BLOWS FOR SECOND 15 CENTIMETERS
  - Z = NUMBER OF BLOWS FOR THIRD 15 CENTIMETERS

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. E.G. 15

PROJECT LOCATION



PROJECT INDEX

STATIONS FROM	TO	PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.	FILL EMB. MAX.
24+000	24+700	8	8	0.0	3.5m
24+700	25+400	9	9	0.8m	2.1m
25+400	26+100	10	10	0.0	6.0m
26+100	26+800	11	11	0.0	3.1m
26+800	27+500	12	12	0.0	2.0m
27+500	28+200	13	13	0.8m	2.8m
28+200	28+900	14	14	0.0	2.1m
28+900	29+600	15	15	0.0	2.4m
29+600	30+300	16	16	0.0	2.4m
30+300	31+000	17	17	0.0	4.7m
31+000	31+700	18	18	2.2m	3.0m
31+700	32+400	19	19	0.7m	2.4m
32+400	33+100	20	20	0.0	4.4m
33+100	33+536	21	21	0.0	11.4m
S.R. 602					
49+500	50+200	22	22	0.1m	6.8m
50+200	50+480	23	23	0.1m	5.4m
S.R. 602 SERVICE ROAD					
10+000	10+264.026	24	24	0.0	0.6m
RAMP A					
A4+400	A4+793.307	25	25	0.0	0.6m
RAMP B					
B4+270	B4+832.322	26	26	0.0	0.6m
RAMP C					
C4+799.785	C5+200	27	27	0.0	0.6m
RAMP D					
D4+788.603	D5+345.080	28	28	0.0	0.6m
BIDDLE ROAD					
49+500	50+200	29	29	0.2m	8.8m
50+200	50+505	30	30	0.6m	4.4m
S.R. 598					
49+300	50+000	31	31	0.4m	9.0m
50+000	50+340	32	32	0.3m	7.9m
S.R. 598 SERVICE ROAD					
10+000	10+175	33	33	0.0	0.0
RAMP E					
9+860	10+200.609	34	34	0.0	6.4m
RAMP F					
9+740	10+169.12	35	35	0.5m	8.8m
RAMP G					
0+146.511	0+475	36	36	1.0m	9.0m
RAMP H					
0+173.493	0+615	37	37	0.0	6.7m
FAIRVIEW ROAD					
49+600	50+300	38	38	0.0	8.6m
NAZOR ROAD					
49+400	50+100	39	39	0.8m	9.4m
50+100	50+700	40	40	0.0	10.0m

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

REVISED: 2/19/99

CALCULATED — DATE 4/28/98

CHECKED GPH — DATE 4/30/98

REVIEWED

DRAWN EMC

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

1/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-1.DWG DATE: 28 APR 1998

INVESTIGATIONAL FINDINGS

A MAJORITY OF THE TEST BORINGS (APPROXIMATELY 95%) EXHIBITED TOPSOIL AT THE GROUND SURFACE, RANGING IN DEPTH FROM 10.0 CENTIMETERS TO 70.0 CENTIMETERS, BUT PRIMARILY TO DEPTHS OF BETWEEN 10 CENTIMETERS AND 30 CENTIMETERS. THE TOPSOIL IS GENERALLY DESCRIBED AS DARK BROWN AND BROWN SILTY CLAY WITH THE PRESENCE OF ORGANICS AND/OR ROOT STRUCTURES.

THE SUBSURFACE SOILS ALONG THE PROPOSED ROUTE ARE CONSISTENT, COMPRISED PRIMARILY OF COHESIVE GROUND MORAINE AND END MORAINE TILL. THESE COHESIVE SOILS ARE GENERALLY DESCRIBED AS BROWN TO GRAY SILTY CLAY (CLAYEY SILT, SILT AND CLAY, CLAY AND SILT) WITH VARYING PERCENTAGES OF SAND AND GRAVEL (ODOT A-6a AND A-6b SOILS). OTHER SOILS ENCOUNTERED ALONG THE PROPOSED ROUTE INCLUDE:

SEVERAL LAYERS OF BROWN TO BROWN AND GRAY, MODERATE TO HIGH PLASTICITY, CLAY WITH "SOME" TO "AND" SILT (ODOT A-7-6 SOILS) WERE ENCOUNTERED ACROSS THE PROJECT. A HIGH PERCENTAGE OF THESE SOILS WERE ENCOUNTERED WITHIN THE GROUND MORAINE DEPOSITS WEST OF BECK ROAD.

SEVERAL LAYERS OF BROWN TO GRAY SANDY SILT (SILTY SAND, SANDY CLAY, CLAYEY SAND) WITH SMALL AMOUNTS OF FINE GRAVEL (ODOT A-4a AND A-4b SOILS) WERE ENCOUNTERED ACROSS THE SITE.

LAYERS OF GRANULAR SOIL WERE ENCOUNTERED IN APPROXIMATELY 25% OF THE TEST BORINGS. THESE LAYERS, PRIMARILY LESS THAN 1.5 METERS THICK, WERE ENCOUNTERED ACROSS THE PROJECT, AND ARE GENERALLY DESCRIBED AS BROWN TO GRAY, FINE TO COARSE SAND AND/OR GRAVEL WITH VARYING PERCENTAGES OF SILT AND CLAY (ODOT A-1-a, A-1-a, A-3a, A-2-4, AND A-2-6 SOILS). A MAJORITY OF THE BOREHOLES DRILLED IN THE VICINITY OF SR 598, AND A MAJORITY OF THE BOREHOLES DRILLED JUST WEST AND EAST OF KNORR ROAD, EXHIBITED GRANULAR LAYERS CONSIDERED TO BE PART OF THE KAMES AND KAME TERRACE DEPOSITS.

THE SUBSURFACE SOIL IN P-1 AND P-2 IS PREDOMINANTLY GRANULAR, GENERALLY DECRIBED AS BROWN AND/OR GRAY SAND AND GRAVEL, WITH "LITTLE" TO "TRACE" SILT AND CLAY. A 0.9 METER COHESIVE LENS WAS ENCOUNTERED IN P-2 AT 4.1 METERS (ELEVATION 349.3 METERS), DESCRIBED AS MOTTLED BROWN AND GRAY CLAY AND SILT WITH "LITTLE" SAND.

ORGANIC CLAY DEPOSITS WERE ENCOUNTERED IN B-63, LOCATED JUST WEST OF FAIRVIEW ROAD, AND IN B-96, LOCATED ALONG SR 602 JUST NORTH OF THE PROPOSED ALIGNMENT OF USR 30. THE ORGANIC CONTENT (BY WEIGHT) OF THE SOILS, TESTED IN B-96, WAS 8%.

A MAJORITY OF THE TEST BORINGS DRILLED BETWEEN STATIONS 25+700 AND 26+350, AS WELL AS B-88, ENCOUNTERED VERY SOFT, WEATHERED, AUGERABLE SHALE BEDROCK AT THE BOTTOM OF THE BORINGS, AS FOLLOWS:

BORING NUMBER	STATION & OFFSET	GROUND ELEVATION	TOP OF BEDROCK
B-14	25+700; C.L.	324.27 METERS	319.8 METERS
B-15	25+850; 33M RT.	322.50 METERS	316.9 METERS
B-16	25+860; C.L.	323.01 METERS	320.7 METERS
B-17	25+860; 33M LT.	323.60 METERS	321.0 METERS
B-18	25+950; C.L.	324.74 METERS	322.1 METERS
B-19	26+070; C.L.	324.40 METERS	321.3 METERS
B-21	26+260; 31M LT.	325.10 METERS	319.4 METERS
B-22	26+260; 31M RT.	324.71 METERS	320.6 METERS
B-23	26+310; C.L.	324.98 METERS	322.4 METERS
B-88	33+240; C.L.	349.73 METERS	342.6 METERS

AUGER REFUSAL WAS MET IN P-1 AND P-2 ON WHAT IS ASSUMED TO BE BEDROCK AT 11.4 METERS (ELEVATION 341.6 METERS) AND 10.1 METERS (ELEVATION 343.3 METERS), RESPECTIVELY. BASED ON THE SPLIT-SPOON SAMPLE RETRIEVED IN P-1 AT ELEVATION 341.7 METERS, THE BEDROCK IS DESCRIBED AS HIGHLY WEATHERED SILTSTONE, SIMILAR TO GRAY INDURATED SILT.

A MORE COMPREHENSIVE DESCRIPTION OF THE SOILS AND BEDROCK ENCOUNTERED DURING THE DRILLING PROGRAM CAN BE FOUND ON THE BORING LOGS IN APPENDIX C.

MANY SOIL PROPERTIES, INCLUDING SOIL CONSISTENCY AND SHEAR STRENGTH (OF COHESIVE SAMPLES), ARE PRIMARILY DERIVED FROM STANDARD PENETRATION BLOW COUNTS, UNCONFINED COMPRESSIVE STRENGTH TESTING, UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TESTING, AND HAND PENETROMETER READINGS (PERFORMED ON COHESIVE SAMPLES). THE STANDARD PENETRATION BLOW COUNTS RECORDED DURING THE DRILLING PROCESS RANGED FROM 3 BLOWS PER 30 CENTIMETERS TO REFUSAL. HOWEVER, MORE THAN 75% OF THE BLOW COUNTS RECORDED RANGED FROM 10 TO 30 BLOWS PER 30 CENTIMETERS, INDICATING THE PRESENCE OF STIFF TO VERY STIFF COHESIVE SOILS AND MEDIUM DENSE GRANULAR SOILS. REFUSAL IS DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 15 CENTIMETERS OF PENETRATION, AND WAS ENCOUNTERED PRIMARILY WITHIN THE VERY SOFT, WEATHERED, AUGERABLE SHALE BEDROCK.

LABORATORY TESTS WERE PERFORMED TO DETERMINE THE UNIT WEIGHT AND THE UNCONFINED COMPRESSIVE STRENGTH OF THE SUBSURFACE SOILS. THE RESULTS ARE AS FOLLOWS:

BORING NUMBER (SAMPLE NUMBER)	"IN-SITU" UNIT WEIGHT (KILONEWTONS PER CUBIC METER)	UNCONFINED COMPRESSIVE STRENGTH (KILOPASCALS)
B-17 (ST-3)	20.0 KN/M3	162 KPA
B-21 (SS-2)	19.8 KN/M3	180 KPA
B-22 (ST-3)	19.5 KN/M3	71 KPA
B-22 (SS-5)	22.3 KN/M3	460 KPA
B-38 (SS-4)	19.7 KN/M3	139 KPA

THE UNCONFINED COMPRESSIVE STRENGTH OF THE SOILS, AS OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 48 KILOPASCALS TO IN EXCESS OF 431 KILOPASCALS (THE LIMIT OF THE INSTRUMENT).

THE MOISTURE CONTENTS OF THE TOPSOIL SAMPLES TESTED RANGED FROM 17% TO 40%, HOWEVER, A MAJORITY OF THE MOISTURE CONTENTS WERE GREATER THAN 24%. NATURAL MOISTURE CONTENTS OF THE COHESIVE SUBSURFACE SOIL SAMPLES TESTED RANGED FROM 7% TO 39%, HOWEVER, MORE THAN 75% OF THE MOISTURE CONTENTS WERE BETWEEN 15% AND 30%. NATURAL MOISTURE CONTENTS OF THE GRANULAR SOIL SAMPLES TESTED RANGED FROM 9% TO 26%, HOWEVER, MORE THAN 80% OF THE MOISTURE CONTENTS WERE LESS THAN 20%. THE MOISTURE CONTENTS OF THE ORGANIC CLAYS ENCOUNTERED IN B-63 AND B-96 RANGED FROM 86% TO 166%. IN GENERAL, THE MOISTURE CONTENTS IN THE TOP 1.0 TO 1.5 METERS OF THE BOREHOLES WERE HIGHER THAN EXHIBITED BY THE UNDERLYING SOILS.

THE MOISTURE CONTENTS FOR COHESIVE SAMPLES RANGED FROM 5% BELOW TO 18% ABOVE THEIR CORRESPONDING PLASTIC LIMITS, HOWEVER, MORE THAN 90% OF THE MOISTURE CONTENTS WERE AT OR ABOVE THEIR CORRESPONDING PLASTIC LIMITS, AND MORE THAN 40% OF THE MOISTURE CONTENTS WERE SIGNIFICANTLY (>5%) ABOVE THEIR CORRESPONDING PLASTIC LIMITS. THE SOILS WHICH EXHIBITED MOISTURE CONTENTS WELL ABOVE THEIR CORRESPONDING PLASTIC LIMITS WERE GENERALLY WITHIN THE TOP 1.5 METERS OF THE BORINGS. SOILS THAT EXHIBITED MOISTURE CONTENTS WELL ABOVE THEIR CORRESPONDING PLASTIC LIMITS WERE ENCOUNTERED ACROSS THE SITE, HOWEVER, THESE SOILS WERE MORE PREVALENT IN THE GROUND MORAINE TILL WEST OF BIDDLE ROAD. THE MOISTURE CONTENTS ARE GENERALLY CONSIDERED TO BE WELL ABOVE THEIR CORRESPONDING OPTIMUM MOISTURE CONTENTS (AS DETERMINED BY CORRELATION CHARTS).

GROUNDWATER WAS ENCOUNTERED DURING THE DRILLING PROCESS IN 37% OF THE BORINGS. THE GROUNDWATER WAS ENCOUNTERED AT DEPTHS RANGING FROM 0.5-METER TO 4.9 METERS, BUT WAS PRIMARILY ENCOUNTERED BETWEEN 2.1 AND 3.0 METERS. GROUNDWATER WAS ENCOUNTERED ACROSS THE SITE, HOWEVER, A SIGNIFICANT PRESENCE OF GROUNDWATER WAS PRESENT IN THE FOLLOWING SEGMENTS OF THE PROJECT:

78% OF THE TEST BORINGS DRILLED BETWEEN STATIONS 26+620 AND 27+630 ENCOUNTERED GROUNDWATER BETWEEN DEPTHS OF 2.0 AND 3.4 METERS.

83% OF THE TEST BORINGS DRILLED BETWEEN STATIONS 30+500 AND 31+720 ENCOUNTERED GROUNDWATER, PRIMARILY AT A DEPTH OF 2.1 METERS.

83% OF THE TEST BORINGS DRILLED BETWEEN STATIONS 32+320 AND 32+680 ENCOUNTERED GROUNDWATER BETWEEN DEPTHS OF 2.1 AND 2.7 METERS.

63% OF THE TEST BORINGS DRILLED ALONG SR 598 ENCOUNTERED GROUNDWATER BETWEEN DEPTHS OF 2.1 AND 3.2 METERS.

67% OF THE TEST BORINGS DRILLED ALONG NAZOR ROAD ENCOUNTERED GROUNDWATER BETWEEN DEPTHS OF 2.1 AND 3.4 METERS.

THE GROUNDWATER THAT WAS ENCOUNTERED WAS PRIMARILY PERCHED WATER IN VERY THIN GRANULAR LENSES. BASED ON THE DATA COLLECTED, NO STATIC WATER LEVEL COULD BE DETERMINED ACROSS THE SITE. HOWEVER, THE GROUNDWATER LEVEL IS CONSIDERED TO BE DEPENDENT ON THE SEASONAL FLUCTUATIONS IN PRECIPITATION. OVER THE PERIOD OF TIME FOR THIS PROJECT'S DRILLING OPERATIONS, PRECIPITATION LEVELS WERE CONSIDERED TO BE AT TO SLIGHTLY ABOVE NORMAL.

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REVISED: 10/13/99

DRAWN	REVIEWED	DATE	CALCULATED
EMC		4/27/98	
		DATE 4/30/98	CHECKED GPH

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-2.DWG DATE: 13-OCT-1999

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTIC INDEX COLUMNS INDICATES THAT THE SAMPLE IS NON-PLASTIC

BORINGS REFERENCED TO CENTERLINE OF U.S.R. 30

Location	& Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-1)	24+080, CL	0-0.3	DARK BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS (TOPSOIL)							24	VISUAL
		0.3-1.8	3	3	11	36	47	40	21	19	A-6b
		1.8-3.0	SAME AS 0.3-1.8							13	VISUAL
(B-2)	24+200, CL	0-0.3	BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							25	VISUAL
		0.3-1.8	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL							20	VISUAL
		1.8-3.0	SAME AS 0.3-1.8							16	VISUAL
(B-3)	24+320, CL	0-0.3	DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE SAND, TRACE GRAVEL (TOPSOIL)							26	VISUAL
		0.3-1.0	3	6	25	-66-		43	24	22	A-7-6
		1.0-2.3	5	8	17	38	32			17	VISUAL
		2.3-3.8	BROWNISH-GRAY SILTY SAND, LITTLE CLAY							17	VISUAL
		3.8-4.0	BROWNISH-GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							13	VISUAL
(B-4)	24+440, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS (TOPSOIL)							21	VISUAL
		0.3-1.8	4	7	24	-65-		37	22	20	A-6b
		1.8-2.4	SAME AS 0.3-1.8							27	VISUAL
		2.4-4.0	SAME AS 0.3-1.8							12	VISUAL
(B-5)	24+560, CL	0-1.5	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL							20	VISUAL
		1.5-2.1	SAME AS 0-1.5							15	VISUAL
(B-6)	24+680, CL	0-0.3	DARK BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS (TOPSOIL)							32	VISUAL
		0.3-1.0	BROWN AND GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							22	VISUAL
		1.0-1.8	BROWN SANDY SILT, SOME CLAY							19	VISUAL
		1.8-3.0	BROWN TO GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							16	VISUAL
(B-7)	24+860, CL	0-0.4	DARK BROWN CLAYEY SILT, LITTLE ORGANICS, TRACE SAND (TOPSOIL)							27	VISUAL
		0.4-0.9	3	4	13	41	39	37	19	21	A-6b
		0.9-2.1	SAME AS 0.4-0.9							18	VISUAL
		2.1-3.0	SAME AS 0.4-0.9							18	VISUAL
(B-8)	24+980, CL	0-0.3	DARK BROWN CLAYEY SILT, SOME ORGANICS, LITTLE SAND (TOPSOIL)								VISUAL
		0.3-0.8	0	3	8	47	42	38	21	24	A-6b
		0.8-1.8	SAME AS 0.3-0.8							19	VISUAL
		1.8-3.0	SAME AS 0.3-0.8							16	VISUAL
(B-9)	25+100, CL	0-0.3	DARK GRAY SILTY CLAY, SOME GRAVEL, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.0	1	6	21	-72-		46	26	25	A-7-6
		1.0-2.0	SAME AS 0.3-1.0							24	VISUAL
		2.0-2.7	SAME AS 0.3-1.0							14	VISUAL
(B-10)	25+220, CL	0-0.2	DARK BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS (TOPSOIL)							27	VISUAL
		0.2-1.0	0	4	5	48	43	43	26	24	A-7-6
		1.0-2.0	SAME AS 0.2-1.0							20	VISUAL
		2.0-3.0	SAME AS 0.2-1.0							19	VISUAL
(B-11)	25+340, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							24	VISUAL
		0.2-1.7	1	3	13	45	38	51	34	17	A-7-6
		1.7-3.2	BROWN TO BROWNISH-GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							16	VISUAL
		3.2-4.0	SAME AS 1.7-3.2							13	VISUAL
(B-12)	25+460, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							26	VISUAL
		0.3-1.8	BROWN CLAY AND SILT, LITTLE SAND, TRACE GRAVEL							20	VISUAL
		1.8-3.3	SOME AS 0.3-1.8							13	VISUAL
		3.3-4.0	BROWNISH-GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							13	VISUAL
(B-13)	25+580, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.8	5	5	17	-73-		31	13	26	A-6a
		1.8-3.3	SAME AS 0.3-1.8							20	VISUAL
		3.3-4.0	SAME AS 0.3-1.8							14	VISUAL
(B-14)	25+700, CL	0.2-0.5	SAME AS 0.5-0.9							26	VISUAL
		0.5-0.9	8	8	15	28	41	46	28	28	A-7-6
		1.1-1.6	SAME AS 0.5-0.9							17	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							16	VISUAL
		2.6-3.1	0	1	2	56	41	37	21	15	A-6b
		4.1-4.6	SAME AS 2.6-3.1							8	VISUAL
		4.6-4.9	GRAY WEATHERED SHALE								VISUAL
(B-15)	25+850, 33M RT	0-0.5	8	5	27	39	21	29	12	18	A-6a
		0.5-0.9	SAME AS 0-0.5							23	VISUAL
		1.1-1.6	0	2	21	39	38	38	24	22	A-6b
		1.8-2.3	SAME AS 1.1-1.6							24	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							12	VISUAL
		4.1-4.6	SAME AS 1.1-1.6							10	VISUAL
		5.7-6.0	BROWN WEATHERED SHALE								VISUAL
(B-16)	25+860, CL	0-0.5	SAME AS 0.5-0.9							20	VISUAL
		0.5-0.9	1	2	16	42	39	36	20	20	A-6b
		1.1-1.6	SAME AS 0.5-0.9							21	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							24	VISUAL
		2.6-3.1	GRAY WEATHERED SHALE								VISUAL
		4.1-4.3	SAME AS 2.6-3.1								VISUAL
(B-17)	25+860, 33M LT	0-0.5	SAME AS 0.5-0.9							21	VISUAL
		0.5-0.9	0	2	37	-61-		37	19	25	A-6b
		0.9-1.5	3	4	26	36	31	33	16	21	A-6b
		1.8-2.3	SAME AS 0.9-1.5							11	VISUAL
		2.6-3.1	GRAY WEATHERED SHALE								VISUAL
(B-18)	25+950, CL	0-0.5	10	15	25	-50-		29	12	23	A-6a
		0.5-0.9	SAME AS 1.8-2.3							11	VISUAL
		1.1-1.6	SAME AS 1.8-2.3							12	VISUAL
		1.8-2.3	39	8	17	-36-				10	VISUAL
		2.6-2.9	REDDISH-BROWN TO GRAY ARENACEOUS WEATHERED SHALE								VISUAL
		4.1-4.3	SAME AS 2.6-2.9								VISUAL
		4.5-4.7	SAME AS 2.6-2.9								VISUAL
(B-19)	26+070, CL	0-0.5	1	6	19	-74-				25	VISUAL
		0.5-0.9	SAME AS 0-0.5							23	VISUAL
		1.1-1.6	SAME AS 0-0.5							21	VISUAL
		1.8-2.0	REDDISH-BROWN HIGHLY WEATHERED SANDSTONE								VISUAL
		2.6-2.8	SAME AS 1.8-2.0								VISUAL
		4.0-4.1	GRAY ARENACEOUS WEATHERED SHALE								VISUAL
(B-20)	26+190, CL	0-0.5	SAME AS 0.5-0.9							20	VISUAL
		0.5-0.9	5	8	29	23	35	33	18	21	A-6b
		1.1-1.6	SAME AS 0.5-0.9							23	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							16	VISUAL
		2.6-3.1	SAME AS 4.1-4.6							11	VISUAL
		4.1-4.6	10	9	16	-65-		23	9	13	A-4a
		4.6-5.0	SAME AS 4.1-4.6							12	VISUAL
(B-21)	26+260, 31M LT	0-0.5	SAME AS 0.5-0.9							24	VISUAL
		0.5-0.9	0	1	7	48	44	37	22	25	A-6b
		1.1-1.6	SAME AS 0.5-0.9							28	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							20	VISUAL
		2.8-3.1	13	7	10	32	38	30	16	13	A-6b
		4.1-4.6	SAME AS 2.8-3.1							11	VISUAL
		5.7-6.0	GRAY SHALE							8	VISUAL
(B-22)	26+260, 31M RT	0-0.5	SAME AS 0.9-1.5							24	VISUAL
		0.5-0.9	SAME AS 0.9-1.5							25	VISUAL
		0.9-1.5	12	15	14	26	33	39	21	25	A-6b
		1.8-2.3	SAME AS 2.6-3.1							14	VISUAL
		2.6-3.1	12	10	14	-64-		26	14	12	A-6a
		4.1-4.4	GRAY SHALE							11	VISUAL
(B-23)	26+310, CL	0-0.5	0	5	19	-76-		34	17	22	A-6b
		0.5-0.9	SAME AS 0-0.5							18	VISUAL
		1.1-1.6	SAME AS 0-0.5							19	VISUAL
		1.8-2.3	SAME AS 0-0.5							14	VISUAL
		2.6-2.8	GRAY WEATHERED SHALE								VISUAL
(B-24)	26+430, CL	0.3-0.8	7	8	23	-62-		39	21	22	A-6b
		1.1-1.6	SAME AS 0.3-0.8							22	VISUAL
		1.8-2.0	SAME AS 0.3-0.8							20	VISUAL
		2.0-2.3	GRAY SILT, SOME SAND, LITTLE CLAY							13	VISUAL
		2.6-3.1	SAME AS 2.0-2.3							13	VISUAL
		4.1-4.4	GRAY CLAYEY SILT, LITTLE SAND							8	VISUAL
		4.6-4.7	SAME AS 4.1-4.4							7	VISUAL
(B-25)	26+550, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							21	VISUAL
		0.2-1.7	13	12	24	-51-		24	9	12	A-4a
		1.7-3.2	SAME AS 0.2-1.7							14	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							13	VISUAL
(B-26)	26+670, CL	0.2-0.5	SAME AS 0.5-0.9							24	VISUAL
		0.5-0.9	33	31	17	-19-		38	18	23	A-2-6
		1.1-1.6	SAME AS 0.5-0.9							17	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							36	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							28	VISUAL
		4.1-4.6	24	10	11	29	26	31	15	19	A-6a
		4.6-5.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							13	VISUAL
(B-27)	26+790, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOPIL)							24	VISUAL
		0.2-1.7	7	6	12	34	41	32	16	16	A-6b
		1.7-3.3	SAME AS 0.2-1.7							16	VISUAL
		3.3-4.0	SAME AS 0.2-1.7							19	VISUAL
(B-28)	26+910, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOPIL)							24	VISUAL
		0.2-1.7	0	3	10	39	48	43	27	23	A-7-6
		1.7-2.7	SAME AS 0.2-1.7							22	VISUAL
		2.7-4.0	BROWNISH-GRAY SAND AND GRAVEL, SOME SILTY CLAY							18	VISUAL
(B-29)	27+030, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.7	4	7	17	-72-		36	19	20	A-6b
		1.7-2.7	SAME AS 0.2-1.7							16	VISUAL
(B-30)	27+150, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							29	VISUAL
		0.2-1.8	15	5	28	-52-		45	29	25	A-7-6
		1.8-3.2	SAME AS 0.2-1.8							26	VISUAL
		3.2-3.6	SAME AS 0.2-1.8							29	VISUAL
		3.6-4.0	GRAY SILTY CLAY, TRACE SAND, TRACE GRAVEL							25	VISUAL
(B-31)	27+270, CL	0-0.3	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.1	SAME AS 1.1-2.5							29	VISUAL
		1.1-2.5	7	9	13	39	32	33	16	20	A-6b
		2.5-3.0	SAME AS 1.1-2.5							15	VISUAL
		3.0-4.0	25	38	20	-17-				12	A-1-b

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
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CALCULATED	CHECKED GPH
DATE 4/27/98	DATE 4/30/98
REVIEWED	
DRAWN EMC	

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

3/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-3.DWG
DATE: 27 APR 1998

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTIC INDEX COLUMNS INDICATES THAT THE SAMPLE IS NON-PLASTIC

BORINGS REFERENCED TO CENTERLINE OF U.S.R. 30

Location & Offset		From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-32)	27+390, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	8	8	14	-70-		31	14	16	A-6a
		1.7-2.3	SAME AS 0.2-1.7							16	VISUAL
		2.3-3.7	GRAY SAND AND GRAVEL, LITTLE SILT AND CLAY							15	VISUAL
		3.7-4.0	GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							13	VISUAL
(B-33)	27+510, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	7	1	7	45	40	50	34	24	A-7-6
		1.7-3.2	SAME AS 0.2-1.7							18	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							14	VISUAL
(B-34)	27+630, CL	0-0.1	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.1-1.6	1	5	11	32	51	42	25	24	A-7-6
		1.6-3.0	SAME AS 0.1-1.6							24	VISUAL
		3.0-4.0	SAME AS 0.1-1.6								VISUAL
(B-35)	27+750, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.8	5	5	15	33	42	37	19	20	A-6b
		1.8-3.0	SAME AS 0.3-1.8							20	VISUAL
		3.0-4.0	SAME AS 0.3-1.8								VISUAL
(B-36)	27+870, CL	0-0.1	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.1-0.4	BROWN CLAY AND SILT, LITTLE SAND, TRACE GRAVEL							24	VISUAL
		0.4-0.8	SAME AS 0.1-0.4							21	VISUAL
		0.8-2.0	SAME AS 0.1-0.4							15	VISUAL
		2.0-2.6	50	19	9	-22-				12	A-1-b
		2.6-3.0	GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							13	VISUAL
(B-37)	28+040, CL	0-0.3	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.8	2	2	11	44	41	39	23	23	A-6b
		1.8-3.0	SAME AS 0.3-1.8							24	VISUAL
(B-38)	28+114, 24 M LT	0-0.5	BROWN SILTY CLAY, TRACE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)							24	VISUAL
		0.5-0.9	SAME AS 1.8-2.3							22	VISUAL
		1.1-1.6	SAME AS 1.8-2.3							22	VISUAL
		1.8-2.3	15	5	12	37	31	34	18	19	A-6b
		2.6-3.1	GRAY CLAY AND SILT, LITTLE SAND, TRACE GRAVEL							12	VISUAL
		4.1-4.6	SAME AS 2.6-3.1							12	VISUAL
		5.7-6.0	SAME AS 2.6-3.1							13	VISUAL
(B-39)	28+140, CL	0-0.5	BROWN SILTY CLAY, TRACE SAND, TRACE GRAVEL (TOPSOIL)							25	VISUAL
		0.5-0.9	17	2	12	42	27	32	17	21	A-6b
		1.1-1.6	SAME AS 0.5-0.9							21	VISUAL
		1.8-2.3	MOTTLED GRAY AND BROWN CLAY, SOME SILT, TRACE SAND							26	VISUAL
		2.6-3.1	BROWN CLAYEY SAND, LITTLE SILT							18	VISUAL
		4.1-4.6	GRAY CLAY AND SILT, LITTLE SAND, TRACE GRAVEL							14	VISUAL
		5.7-6.0	SAME AS 4.1-4.6							14	VISUAL
(B-40)	28+172, 25M RT	0-0.5	BROWN SILTY CLAY, TRACE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)							25	VISUAL
		0.5-0.9	BROWN AND GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							25	VISUAL
		1.1-1.6	SAME AS 2.6-3.1							22	VISUAL
		1.8-2.3	SAME AS 2.6-3.1							19	VISUAL
		2.6-3.1	9	8	13	46	24	23	10	11	A-4a
		4.1-4.6	SAME AS 2.6-3.1							13	VISUAL
		5.7-6.0	SAME AS 2.6-3.1							12	VISUAL
(B-41)	28+250, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.9	28	8	8	-56-		32	16	23	A-6b
		1.9-3.3	SAME AS 0.3-1.9							16	VISUAL
		3.3-4.0	SAME AS 0.3-1.9							13	VISUAL
(B-42)	28+370, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	1	4	13	-82-		43	24	21	A-7-6
		1.7-2.5	SAME AS 0.2-1.7							20	VISUAL
		2.5-3.2	GRAY SANDY CLAY, SOME SILT, LITTLE GRAVEL							13	VISUAL
		3.2-4.0	GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							12	VISUAL
(B-46)	28+850, CL	0-0.1	BROWN CLAYEY SILT, TRACE SAND, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.1-2.1	2	5	12	39	42	40	22	13	A-6b
		2.1-3.0	SAME AS 0.1-2.1							14	VISUAL
(B-47)	28+970, CL	0-0.2	DARK BROWN CLAYEY SILT, TRACE SAND, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.2	5	7	16	49	23	38	24	21	A-6b
		1.2-3.0	SAME AS 0.2-1.2							14	VISUAL
(B-48)	29+090, CL	0-0.2	DARK BROWN CLAYEY SILT, TRACE SAND, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.2	7	14	31	31	17	25	10	18	A-4a
		1.2-1.7	SAME AS 0.2-1.2							17	VISUAL
		1.7-3.0	BROWN TO GRAYISH BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL							15	VISUAL
(B-51)	29+210, CL	0-0.2	DARK BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS (TOPSOIL)							23	VISUAL
		0.2-1.7	10	7	14	-69-		30	13	17	A-6a
		1.7-2.4	BROWN SANDY SILT, LITTLE CLAY							18	VISUAL
		2.4-3.0	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL							16	VISUAL
(B-52)	29+330, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							26	VISUAL
		0.3-1.8	0	1	4	47	48	49	29	25	A-7-6
		1.8-3.4	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							18	VISUAL
		3.4-4.0	SAME AS 1.8-3.4							11	VISUAL
(B-53)	29+450, CL	0-0.1	BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							23	VISUAL
		0.1-1.7	8	8	13	32	39	31	13	16	A-6a
		1.7-3.0	SAME AS 0.1-1.7							14	VISUAL

BORINGS REFERENCED TO CENTERLINE OF U.S.R. 30

Location & Offset		From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-54)	29+570, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							23	VISUAL
		0.2-1.7	9	8	13	-70-		40	22	18	A-6b
		1.7-3.2	SAME AS 0.2-1.7							13	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							14	VISUAL
(B-55)	29+690, CL	0-0.2	BROWN SILTY CLAY, LITTLE ORGANICS, LITTLE SAND, TRACE GRAVEL (TOPSOIL)							17	VISUAL
		0.2-1.7	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							21	VISUAL
		1.7-3.0	SAME AS 0.2-1.7							12	VISUAL
(B-56)	29+810, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, LITTLE GRAVEL (TOPSOIL)							20	VISUAL
		0.2-1.7	7	9	16	33	35	38	19	23	A-6b
		1.7-3.0	SAME AS 0.2-1.7							13	VISUAL
(B-57)	29+930, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.7	5	6	15	-74-		28	6	25	A-4a
		1.7-3.0	SAME AS 0.2-1.7							24	VISUAL
(B-58)	30+050, CL	0-0.2	DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL)								VISUAL
		0.2-1.1	5	3	14	-78-		31	14	20	A-6a
		1.1-2.1	34	14	10	-42-				17	VISUAL
		2.1-2.4	BROWN SAND AND GRAVEL							15	VISUAL
		2.4-3.0	BROWN TO GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							17	VISUAL
(B-59)	30+260, CL	0-0.2	BROWN SILTY CLAY, LITTLE ORGANICS, TRACE SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.7	13	11	16	34	26	27	14	15	A-6a
		1.7-2.2	SAME AS 0.2-1.7							14	VISUAL
		2.2-2.7	BROWN SAND, SOME SILT AND CLAY, LITTLE GRAVEL							17	VISUAL
		2.7-3.0	GRAY SILTY CLAY, LITTLE SAND, LITTLE GRAVEL							13	VISUAL
(B-60)	30+380, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.4	16	17	4	20	43	50	27	24	A-7-6
		1.4-2.9	23	36	5	-37-				21	VISUAL
		2.9-3.0	SAME AS 1.4-2.9							19	VISUAL
(B-60A)	30+469, 45M LT	0-0.5	BROWN TO GRAY SANDY SILT, SOME CLAY, LITTLE GRAVEL							17	VISUAL
		0.5-0.9	BROWN TO GRAY SILTY CLAY, SOME TO LITTLE SAND, LITTLE TO TRACE GRAVEL							25	VISUAL
		1.1-1.6	SAME AS 0.5-0.9							11	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							15	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							13	VISUAL
		4.1-4.6	SAME AS 0.5-0.9							13	VISUAL
		5.7-6.0	SAME AS 0.5-0.9							12	VISUAL
(B-61)	30+500, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.8	SAME AS 1.8-3.3							24	VISUAL
		1.8-3.3	10	8	15	43	24	24	11	13	A-6a
		3.3-4.0	SAME AS 1.8-3.3							13	VISUAL
(B-62)	30+620, CL	0.3-0.8	9	10	23	26	32	30	14	17	A-6a
		1.1-1.6	SAME AS 0.3-0.8							16	VISUAL
		1.8-2.3	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL							22	VISUAL
		2.6-3.0	SAME AS 1.8-2.3							20	VISUAL
(B-63)	30+740, CL	0.3-0.8	DARK GRAY CLAY, SOME SILT, TRACE SAND								VISUAL
		1.1-1.6	SAME AS 0.3-0.8							98	VISUAL
		1.8-2.3	SAME AS 0.3-0.8							93	VISUAL
		2.6-3.1	SAME AS 0.3-0.8							94	VISUAL
		4.1-4.5	SAME AS 0.3-0.8							86	VISUAL
		4.5-5.0	GRAY SAND, SOME CLAY, LITTLE SILT, TRACE GRAVEL							13	VISUAL
(B-64)	30+860, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, TRACE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.0	7	7	19	33	34	31	15	22	A-6a
		1.0-2.5	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL							20	VISUAL
		2.5-3.5	SAME AS 1.0-2.5							22	VISUAL
		3.5-4.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							12	VISUAL
(B-65)	30+980, CL	0-0.4	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.4-1.7	1	2	7	37	53	47	29	26	A-7-6
		1.7-3.3	15	8	13	-64-		28	12	19	A-6a
		3.3-4.0	SAME AS 1.7-3.3							18	VISUAL
(B-66)	31+180, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.1	0	1	47	24	27	29	15	22	A-6a
		1.1-2.6	SAME AS 0.2-1.1							19	VISUAL
		2.6-3.0	SAME AS 0.2-1.1							20	VISUAL
(B-67)	31+300, CL	0-0.2	BROWN SILTY CLAY, SOME ORGANICS, TRACE SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.5	0	1	3	45	50	36	20	20	A-6b
		1.5-2.0	SAME AS 0.2-1.5							16	VISUAL
		2.0-3.0	SAME AS 0.2-1.5							15	VISUAL
(B-68)	31+420, CL	0-0.3	BROWN CLAYEY SILT, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.3	19	24	12	-45-		30	13	18	A-6a
		1.3-1.8	49	32	7	-12-				9	VISUAL
		1.8-3.3	SAME AS 1.3-1.8							11	VISUAL
		3.3-4.8	SAME AS 1.3-1.8							9	VISUAL
		4.8-5.0	SAME AS 1.3-1.8							12	VISUAL
(B-69)	31+540, CL	0-0.4	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.4-1.0	6	8	25	-61-		36	21	22	A-6b
		1.0-2.5	BROWN SAND AND GRAVEL, LITTLE CLAY, TRACE SILT							16	VISUAL
		2.5-3.0	SAME AS 1.0-2.5							19	VISUAL
(B-70)	31+660, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-0.9	BROWN SANDY CLAY, SOME SILT, LITTLE GRAVEL							18	VISUAL
		0.9-2.4	4	3	6	39	48	31	14	20	A-6a
		2.4-4.0	SAME AS 0.9-2.4							23	VISUAL

RESOURCE INTERNATIONAL INC.
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REVISED 2/19/99

CALCULATED	DATE 4/27/98	CHECKED GPH	DATE 4/30/98	REVIEWED	DRAWN EMC

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

FILENAME: 7110R-4.DWG
DATE: 27 APR 1998

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTIC INDEX COLUMNS INDICATES THAT THE SAMPLE IS NON-PLASTIC

BORINGS REFERENCED TO CENTERLINE OF U.S.R. 30

Location	& Offset	From To	Agg%	C.S.%	F.S.%	Silt %	Clay%	L.L	P.I	W.C.	SHTL Class.
(B-71)	31+695, 30M LT	0-0.5	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL, TRACE ORGANICS							10	VISUAL
		0.5-0.9	50	29	7	-14-				18	A-1-a
		1.1-1.5	SAME AS 0.5-0.9							17	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							13	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							13	VISUAL
		4.1-4.6	SAME AS 0.5-0.9							12	VISUAL
		5.7-6.0	SAME AS 0.5-0.9							22	VISUAL
(P-1)	31+684, 50M LT	1.1-1.6	SAME AS 2.6-3.1								VISUAL
		2.6-3.1	34	24	14	16	12			14	VISUAL
		4.1-4.6	SAME AS 5.7-6.1							17	VISUAL
		5.7-6.1	74	15	5	-6-				14	A-1-a
		7.2-7.5	SAME AS 7.5-7.6							11	VISUAL
		7.5-7.6	56	25	9	-10-				10	A-1-a
		8.7-9.1	SAME AS 7.5-7.6								VISUAL
		10.2-10.7	SAME AS 7.5-7.6								VISUAL
		11.4-11.6	GRAY INDURATED SILT/HIGHLY WEATHERED SILTSTONE								VISUAL
(P-2)	31+715, 60M LT	1.1-1.6	SAME AS 2.6-3.1								VISUAL
		2.6-3.1	25	28	20	17	10			14	VISUAL
		4.1-4.6	7	11	8	36	38			22	VISUAL
		5.7-6.1	31	22	13	18	16			15	VISUAL
		7.2-7.6	47	34	9	-10-				11	A-1-a
		8.7-9.1	SAME AS 7.2-7.6								VISUAL
		10.2-10.4	SAME AS 7.2-7.6								VISUAL
(B-72)	31+720, CL	0-0.5	SAME AS 1.1-1.6							27	VISUAL
		0.5-0.9	SAME AS 1.1-1.6							22	VISUAL
		1.1-1.6	0	1	3	32	64	43	24	23	A-7-6
		1.8-2.3	SAME AS 1.1-1.6							22	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							23	VISUAL
		4.1-4.6	0	1	78	11	10			26	A-3a
		5.7-6.0	SAME AS 4.1-4.6							15	VISUAL
(B-73)	31+840, CL	0-0.4	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)							23	VISUAL
		0.4-1.9	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							21	VISUAL
		1.9-3.0	11	7	16	-66-				17	VISUAL
(B-74)	31+960, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							23	VISUAL
		0.3-1.4	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							25	VISUAL
		1.4-2.1	2	13	27	-58-				18	VISUAL
		2.1-3.0	BROWNISH-GRAY SILTY CLAY, TRACE SAND, TRACE GRAVEL							23	VISUAL
(B-75)	32+080, 7.5M RT	0-0.9	BROWN SANDY SILT, SOME CLAY							12	VISUAL
		0.9-1.2	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL							17	VISUAL
		1.2-1.8	BROWN SANDY SILT, LITTLE GRAVEL, TRACE CLAY							12	VISUAL
		1.8-2.2	BROWN SAND, SOME SILT, LITTLE GRAVEL								VISUAL
		2.2-3.0	SAME AS 1.8-2.2							12	VISUAL
(B-76)	32+200, CL	0-1.2	6	6	17	-71-		36	19	17	A-6b
		1.2-2.0	BROWN CLAY SAND, SOME SILT							12	VISUAL
		2.0-2.6	SAME AS 1.2-2.0							25	VISUAL
		2.6-2.8	SAME AS 1.2-2.0							18	VISUAL
		2.8-3.0	SAME AS 1.2-2.0							20	VISUAL
		3.0-3.1	SAME AS 1.2-2.0							21	VISUAL
		3.1-4.0	BROWN SAND, LITTLE GRAVEL, TRACE SILT							10	VISUAL
(B-77)	32+320, CL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS (TOPSOIL)							22	VISUAL
		0.2-1.7	BROWN SILTY CLAY, SOME SAND							22	VISUAL
		1.7-3.2	4	24	47	-25-				17	A-3a
		3.2-4.0	SAME AS 1.7-3.2							17	VISUAL
(B-78)	32+440, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							33	VISUAL
		0.2-1.7	1	2	9	35	53	48	30	18	A-7-6
		1.7-3.2	SAME AS 0.2-1.7							18	VISUAL
		3.2-4.0	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							14	VISUAL
(B-79)	32+445, 30M LT	0.3-0.8	SAME AS 1.1-1.6							20	VISUAL
		1.1-1.6	8	6	17	-69-		32	15	17	A-6a
		1.8-2.3	SAME AS 1.1-1.6							15	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							15	VISUAL
		4.1-4.6	BROWN SANDY CLAY, SOME GRAVEL, LITTLE SILT							21	VISUAL
		5.7-6.1	SAME AS 4.1-4.6							16	VISUAL
(B-80)	32+445, 30M RT	0.3-0.8	15	13	23	23	26	33	17	22	A-6b
		1.1-1.6	SAME AS 0.3-0.8							18	VISUAL
		1.8-2.3	SAME AS 0.3-0.8							16	VISUAL
		2.6-3.1	SAME AS 0.3-0.8							15	VISUAL
		4.1-4.6	BROWN SANDY CLAY, SOME GRAVEL, LITTLE SILT							21	VISUAL
		5.7-6.1	SAME AS 4.1-4.6							16	VISUAL
(B-81)	32+560, CL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.3	2	4	11	37	46	36	19	19	A-6b
		1.3-2.5	SAME AS 0.2-1.3							20	VISUAL
		2.5-4.0	SAME AS 0.2-1.3							15	VISUAL
(B-82)	32+680, CL	0-0.3	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.4	2	3	10	39	46	38	22	23	A-6b
		1.4-2.9	BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL							18	VISUAL
		2.9-4.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							18	VISUAL
(B-83)	32+880, CL	0-0.3	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.8	3	4	16	-77-		41	22	21	A-7-6
		1.8-2.2	SAME AS 0.3-1.8							22	VISUAL
		2.2-3.0	SAME AS 0.3-1.8							11	VISUAL

BORINGS REFERENCED TO CENTERLINE OF U.S.R. 30

Location	& Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-84)	33+000, CL	0-0.1	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.1-1.6	7	8	15	42	28	29	13	16	A-6a
		1.6-3.0	SAME AS 0.1-1.6							17	VISUAL
(B-85)	33+120, CL	0-0.1	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.1-1.6	13	16	14	18	39	42	24	22	A-7-6
		1.6-3.1	SAME AS 0.1-1.6							20	VISUAL
		3.1-4.6	SAME AS 0.1-1.6							14	VISUAL
		4.6-5.0	SAME AS 0.1-1.6							15	VISUAL
(B-86)	33+231, 36M LT	0-0.5	SAME AS 0.5-0.9							28	VISUAL
		0.5-0.9	29	2	11	31	27	35	17	27	A-6b
		1.1-1.6	SAME AS 0.5-0.9							28	VISUAL
		1.8-2.1	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL							32	VISUAL
		2.6-3.1	GRAY CLAYEY SILT, SOME SAND, TRACE GRAVEL							17	VISUAL
		4.1-4.6	SAME AS 2.6-3.1							16	VISUAL
		5.7-6.0	GRAY CLAYEY SAND, SOME SILT, LITTLE GRAVEL							15	VISUAL
(B-87)	33+196, 37M RT	0-0.5	SAME AS 0.5-0.9							33	VISUAL
		0.5-0.9	2	2	17	42	37	34	17	23	A-6b
		1.1-1.6	SAME AS 0.5-0.9							19	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							16	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							12	VISUAL
		4.1-4.6	GRAY GRAVEL AND SAND, LITTLE SILT AND CLAY							10	VISUAL
		5.7-6.0	GRAY CLAYEY SILT, LITTLE SAND, LITTLE GRAVEL							10	VISUAL
(B-88)	33+240, CL	0-0.5	BROWN CLAYEY SILT, LITTLE SAND, TRACE GRAVEL							19	VISUAL
		0.5-0.9	SAME AS 0-0.5							18	VISUAL
		1.1-1.6	BROWN SILTY CLAY, LITTLE SAND, LITTLE GRAVEL							16	VISUAL
		1.8-2.3	SAME AS 1.1-1.6							14	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							20	VISUAL
		4.1-4.6	GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							22	VISUAL
		5.7-6.1	SAME AS 4.1-4.6							17	VISUAL
		7.2-7.3	GRAY WEATHERED SHALE								VISUAL
(B-89)	33+360, CL	0-0.5	SAME AS 0.5-0.9							25	VISUAL
		0.5-0.9	4	5	11	31	49	42	25	21	A-7-6
		1.1-1.6	SAME AS 0.5-0.9							25	VISUAL
		1.8-2.3	SAME AS 2.6-3.2							15	VISUAL
		2.6-3.2	23	8	16	31	22	25	10	21	A-6a
		4.1-4.6	SAME AS 2.6-3.2							13	VISUAL
		5.7-6.1	SAME AS 2.6-3.2							10	VISUAL
		6.6-7.0	SAME AS 2.6-3.2							11	VISUAL
(B-90)	33+480, CL	0-0.5	SAME AS 1.1-1.7							29	VISUAL
		0.5-0.9	SAME AS 1.1-1.7							23	VISUAL
		1.1-1.7	6	25	23	31	35	35	16	20	A-6b
		1.8-2.3	SAME AS 1.1-1.7							26	VISUAL
		2.6-3.1	6	7	14	35	38	31	16	16	A-6b
		4.1-4.6	SAME AS 2.6-3.1							14	VISUAL
		5.7-6.1	SAME AS 2.6-3.1							15	VISUAL
		6.5-7.0	GRAY SILTY SAND, LITTLE CLAY, TRACE GRAVEL							21	VISUAL

BORINGS REFERENCED TO CENTERLINE OF S.R. 602

Location	& Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-91)	49+600, 4M LT	0-0.3	DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE GRAVEL, TRACE SAND (TOPSOIL)								VISUAL
		0.3-1.8	1	4	16	39	40	35	17	21	A-6b
		1.8-3.0	SAME AS 0.3-1.8							16	VISUAL
(B-92)	49+720, 4M RT	0-0.2	DARK BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.2	5	4	15	44	32	39	22	22	A-6b
		1.2-2.0	SAME AS 0.2-1.2							19	VISUAL
		2.0-3.0	SAME AS 0.2-1.2							13	VISUAL
(B-93)	49+840, 4M LT	0.2-0.6	SAME AS 0.6-1.1							23	VISUAL
		0.6-1.1	2	3	10	43	42	38	21	23	A-6b
		1.1-1.6	SAME AS 0.6-1.1							22	VISUAL
		1.8-2.3	SAME AS 0.6-1.1							19	VISUAL
		2.6-3.1	SAME AS 0.6-1.1							13	VISUAL
		4.1-4.6	SAME AS 0.6-1.1							18	VISUAL
		4.6-5.0	18	15	20	-47-		20	7	11	A-4a
(B-94)	50+105, 4M RT	0.2-0.6	0	4	10	39	47	46	29	26	A-7-6
		0.6-1.1	SAME AS 0.2-0.6							24	VISUAL
		1.1-1.6	SAME AS 0.2-0.6								VISUAL
		1.8-2.3	SAME AS 0.2-0.6							18	VISUAL
		2.6-3.1	SAME AS 4.1-4.6							13	VISUAL
		4.1-4.6	2	5	17	41	35	29	13	18	A-6a
		4.6-5.0	BLACK SAND, LITTLE GRAVEL, TRACE SILTY CLAY							12	VISUAL
(B-95)	50+220, 4M LT	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.6	24	1	6	41	28	40	23	24	A-6b
		1.6-3.1	SAME AS 0.2-1.6							24	VISUAL
		3.1-4.0	SAME AS 0.2-1.6							21	VISUAL
(B-96)	50+350, 4M RT	0-0.8	BROWN TO GRAY SAND AND GRAVEL, SOME SILTY CLAY, LITTLE BRICK FRAGMENTS							17	VISUAL
		0.8-1.2	5	4	8	43	40	41	21	27	A-7-6
		1.2-2.7	DARK BROWN ORGANIC CLAY, LITTLE SILT, TRACE ORGANICS							143	VISUAL
		2.7-3.0	SAME AS 1.2-2.7							166	VISUAL
(B-97)	50+420, 4M LT	0-0.3	DARK BROWN CLAYEY SILT, SOME SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.0	3	6	17	-74-		34	17	18	A-6b
		1.0-1.1	SAME AS 0.3-1.0							14	VISUAL
		1.1-2.4	SAME AS 0.3-1.0							17	VISUAL
		2.4-3.0	SAME AS 0.3-1.0							15	VISUAL

RESOURCE INTERNATIONAL INC.
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(614) 885-1959

REVISED: 10/13/99

DRAWN	REVIEWED	DATE	CALCULATED	DATE	CHECKED
EMC		4/27/98		4/30/98	GPH

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

5/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-5.DWG DATE: 13 OCT 1999

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTIC INDEX COLUMNS INDICATES THAT THE SAMPLE IS NON-PLASTIC

BORINGS REFERENCED TO CENTERLINE OF S.R. 602 SERVICE ROAD

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-98)	0+100, CL	0-0.3	DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL)							21	VISUAL
		0.3-1.0	2	2	19		-77-	38	19	19	A-6b
		1.0-2.1	SAME AS 0.3-1.0							15	VISUAL
		2.1-2.7	SAME AS 0.3-1.0							18	VISUAL
		2.7-3.0	BROWN SAND, SOME GRAVEL							15	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP A

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-99)	A4+560, BL	0-1.0	3	3	12	37	45	41	22	22	A-7-6
		1.0-2.0	SAME AS 0-1.0							15	VISUAL
		2.0-3.0	SAME AS 0-1.0							16	VISUAL
(B-100)	A4+680, BL	0-0.1	DARK BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS (TOPSOIL)							28	VISUAL
		0.1-1.0	SAME AS 1.0-2.0							25	VISUAL
		1.0-2.0	1	2	13		-84-	30	11	24	A-6a
		2.0-3.5	SAME AS 1.0-2.0							13	VISUAL
		3.5-4.0	SAME AS 1.0-2.0							13	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP B

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-101)	B4+560, BL	0-0.7	DARK BROWN SILTY CLAY, SOME ORGANICS, TRACE SAND (TOPSOIL)							40	VISUAL
		0.7-2.1	4	7	15		-74-	32	15	20	A-6a
		2.1-2.5	SAME AS 0.7-2.1							18	VISUAL
		2.5-3.0	SAME AS 0.7-2.1							18	VISUAL
(B-102)	B4+680, BL	0-0.5	SAME AS 0.5-0.9							28	VISUAL
		0.5-0.9	24	6	1	37	32	51	31	31	A-7-6
		1.1-1.6	SAME AS 0.5-0.9							27	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							21	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							26	VISUAL
		4.1-4.6	16	10	23		-51-	21	8	12	A-4a
		4.6-5.0	SAME AS 4.1-4.6							12	VISUAL
(B-103)	B4+820, BL	0-0.5	SAME AS 1.1-1.6							24	VISUAL
		0.5-0.9	SAME AS 1.1-1.6							16	VISUAL
		1.1-1.6	8	8	16	41	29	31	15	17	A-6a
		1.8-2.3	SAME AS 1.1-1.6							16	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							14	VISUAL
		4.1-4.6	SAME AS 1.1-1.6							11	VISUAL
		4.6-5.0	SAME AS 1.1-1.6							12	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP C

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-104)	C4+860, BL	0-0.5	SAME AS 0.5-0.9							28	VISUAL
		0.5-0.9	1	2	9	52	36	42	25	27	A-7-6
		1.1-1.7	SAME AS 0.5-0.9							22	VISUAL
		1.8-2.3	SAME AS 0.5-0.9							21	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							18	VISUAL
		4.1-4.6	14	18	28		-40-	NP	NP	22	A-4a
		4.6-5.0	SAME AS 4.1-4.6							24	VISUAL
(B-105)	C4+980, BL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							24	VISUAL
		0.2-1.7	0	4	13		-83-	44	26	23	A-7-6
		1.7-3.2	SAME AS 0.2-1.7							27	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							13	VISUAL
(B-106)	C5+100, BL	0-0.3	DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL)								VISUAL
		0.3-1.0	1	5	12		-82-	45	26	21	A-7-6
		1.0-2.0	SAME AS 0.3-1.0							16	VISUAL
		2.0-3.0	SAME AS 0.3-1.0							12	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP D

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-107)	D4+860, BL	0-0.3	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.6	0	1	13		-87-	48	30	36	A-7-6
		1.6-3.9	1	1	39		-59-			20	VISUAL
		3.9-5.0	SAME AS 0.3-1.0							11	VISUAL
(B-108)	D4+980, BL	0-0.2	BROWN SILTY CLAY, SOME SAND, TRACE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.7	4	6	16	38	36	30	15	17	A-6b
		1.7-3.2	SAME AS 0.2-1.7							14	VISUAL
		3.2-3.7	GRAY SAND, SOME GRAVEL, TRACE SILT, TRACE CLAY							15	VISUAL
		3.7-4.0	SAME AS 3.2-3.7							10	VISUAL
(B-109)	D5+100, BL	0-0.3	DARK BROWN SILTY CLAY, LITTLE ORGANICS, LITTLE SAND (TOPSOIL)								VISUAL
		0.3-1.0	1	6	14		-79-	49	29	20	A-7-6
		1.0-2.0	SAME AS 0.3-1.0							16	VISUAL
		2.0-3.0	SAME AS 0.3-1.0							14	VISUAL

BORINGS REFERENCED TO CENTERLINE OF BIDDLE ROAD

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-110)	49+650, CL	0-0.2	DARK BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.6	6	9	17	31	37	32	16	18	A-6b
		1.6-3.0	SAME AS 0.2-1.6							16	VISUAL

BORINGS REFERENCED TO CENTERLINE OF BIDDLE ROAD (CONTINUED)

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-111)	49+760, 4M RT	0-0.4	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.4-1.9	1	4	12		-82-	43	28	27	A-7-6
		1.9-3.4	SAME AS 0.4-1.9							16	VISUAL
		3.4-4.0	SAME AS 0.4-1.9							13	VISUAL
(B-112)	49+880, 4M LT	0-0.4	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.4-1.9	5	4	13	32	46	41	26	24	A-7-6
		1.9-3.2	SAME AS 0.4-1.9							13	VISUAL
		3.2-4.7	SAME AS 0.4-1.9							14	VISUAL
		4.7-4.9	SAME AS 0.4-1.9							17	VISUAL
		4.9-5.0	35	45	8		-12-			13	A-1-b
(B-113)	50+120, 4M RT	0-0.2	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.7	4	6	14	34	42	34	18	18	A-6b
		1.7-3.2	SAME AS 0.2-1.7							16	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							14	VISUAL
		4.0-5.0	GRAY SANDY SILT, LITTLE CLAY, TRACE GRAVEL							18	VISUAL
(B-114)	50+260, 4M LT	0-0.2	BROWN SILTY CLAY, TRACE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	5	5	12	41	37	34	19	19	A-6b
		1.7-3.2	SAME AS 0.2-1.7							15	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							12	VISUAL
(B-115)	50+360, 4M RT	0-0.4	DARK BROWN SILTY CLAY, LITTLE ORGANICS, TRACE SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.4-1.9	14	9	17		-60-	26	12	15	A-6a
		1.9-2.3	SAME AS 0.4-1.9							16	VISUAL
		2.3-2.8	SAME AS 0.4-1.9							17	VISUAL
		2.8-3.0	SAME AS 0.4-1.9							15	VISUAL
(B-116)	50+470, 3M LT	0-0.3	BROWN CLAYEY SILT, SOME SAND, TRACE ORGANICS (TOPSOIL)							39	VISUAL
		0.3-1.8	11	11	18	35	25	26	12	14	A-6a
		1.8-3.0	SAME AS 0.3-1.8							17	VISUAL

BORINGS REFERENCED TO CENTERLINE OF S.R. 598

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-117)	49+400, 4M LT	0-0.4	DARK BROWN CLAYEY SILT, SOME SAND, LITTLE ORGANICS (TOPSOIL)								VISUAL
		0.4-1.2	3	5	6	54	32	38	15	30	A-6a
		1.2-2.0	BROWN AND GRAY CLAY, SOME SILT, TRACE SAND, TRACE GRAVEL							25	VISUAL
		2.0-3.0	SAME AS 1.2-2.0							28	VISUAL
(B-118)	49+520, CL	0-0.4	DARK BROWN CLAYEY SILT, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.4-0.8	13	7	15		-65-	30	11	21	A-6a
		0.8-2.0	SAME AS 0.4-0.8							20	VISUAL
		2.0-3.0	BROWN SILTY SAND, SOME CLAY, LITTLE GRAVEL							20	VISUAL
(B-119)	49+640, CL	0-0.3	DARK BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.2	3	6	18		-73-	39	22	23	A-6b
		1.2-2.7	BROWN SANDY CLAY, SOME SILT, LITTLE GRAVEL							21	VISUAL
		2.7-4.0	57	14	11		-18-			13	A-1-b
(B-120)	49+760, CL	0-0.4	1	6	15	48	30	39	19	29	A-6b
		0.4-0.9	BROWN SILTY SAND, SOME CLAY, LITTLE GRAVEL							23	VISUAL
		1.1-1.6	SAME AS 0.4-0.9							21	VISUAL
		1.8-2.3	SAME AS 0.4-0.9							21	VISUAL
		2.6-3.1	BROWN SAND AND GRAVEL, SOME SILT AND CLAY							12	VISUAL
		4.1-4.6	SAME AS 4.6-5.0							17	VISUAL
		4.6-5.0	10	7	11	36	36	32	17	17	A-6b
(B-121)	49+890, 4M RT	0.2-0.6	DARK GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL					37	19	26	VISUAL
		0.6-1.1	SAME AS 0.2-0.6							25	VISUAL
		1.1-1.5	SAME AS 0.2-0.6							28	VISUAL
		1.8-2.3	SAME AS 0.2-0.6								VISUAL
		2.6-3.1	BROWN SANDY CLAY, SOME SILT, LITTLE GRAVEL							20	VISUAL
		4.1-4.6	45	20	8		-27-	33	17	19	A-2-6
		4.6-5.0	SAME AS 4.1-4.6							21	VISUAL
(B-122)	50+105, 4M LT	0.1-0.3	SAME AS 0.3-1.8								VISUAL
		0.3-1.8	11	5	6	40	38	41	23	25	A-7-6
		1.8-2.6	BROWN GRAVEL AND SAND, SOME SILTY CLAY							19	VISUAL
		2.6-4.0	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL							16	VISUAL
(B-123)	50+220, 4M RT	0-0.4	BROWN SAND, SOME GRAVEL, LITTLE ORGANICS (TOPSOIL)								VISUAL
		0.4-0.7	DARK BROWN AND BLACK GRAVEL, SOME SAND, LITTLE SILT, TRACE CLAY							11	VISAUL
		0.7-2.1	SAME AS 2.1-3.0							22	VISUAL
		2.1-3.0	4	4	14	44	34	35	17	15	A-6b
(B-124)	50+300, 3.5M LT	0-0.3	DARK BROWN SILTY SAND, LITTLE CLAY, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.7	BROWN SILTY CLAY, LITTLE SAND, LITTLE GRAVEL							11	VISAUL
		1.7-2.4	19	42	22		-17-	26	12	12	A-2-6
		2.4-2.8	SAME AS 1.7-2.4							15	VISUAL
		2.8-3.0	BROWN AND GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							13	VISUAL

BORINGS REFERENCED TO CENTERLINE OF S.R. 598 SERVICE ROAD

Location	Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-125)	30+100, BL	0-0.1	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.1-1.7	8	6	20	30	36	39	24	22	A-6b
		1.7-2.6	SAME AS 0.1-1.7							13	VISUAL
		2.6-3.0	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL							13	VISUAL

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-6.DWG DATE: 27 APR 1998

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

CALCULATED | DATE 4/27/98 | CHECKED GPH | DATE 4/30/98 | REVIEWED | DRAWN EMC

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTIC INDEX COLUMNS INDICATES THAT THE SAMPLE IS NON-PLASTIC

BORINGS REFERENCED TO BASELINE OF RAMP E

Boring	Location & Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-126)	E9+930, BL	0-0.2	DARK BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS (TOPSOIL)							19	VISUAL
		0.2-1.2	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							23	VISUAL
		1.2-2.1	SAME AS 2.1-3.0							15	VISUAL
		2.1-3.0	31	22	13	-34-				17	VISUAL
(B-127)	E10+050, BL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							20	VISUAL
		0.2-1.7	BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL							18	VISUAL
		1.7-3.2	51	7	5	-37-				15	VISUAL
		3.2-4.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							14	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP F

Boring	Location & Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-128)	F9+930, BL	0-0.2	BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							17	VISUAL
		0.2-1.7	BROWNN SILTY CLAY, SOME SAND, LITTLE GRAVEL							18	VISUAL
		1.7-3.0	SAME AS 0.2-1.7							13	VISUAL
(B-129)	F10+050, BL	0-0.3	DARK BROWN CLAYEY SILT, SOME ORGANICS, TRACE SAND (TOPSOIL)								VISUAL
		0.3-1.4	42	14	13	-31-		33	16	19	A-2-6
		1.4-2.3	SAME AS 0.3-1.4							24	VISUAL
		2.3-3.5	SAME AS 0.3-1.4							22	VISUAL
		3.5-4.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							15	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP G

Boring	Location & Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-130)	G0+260, BL	0-0.5	1	3	8	46	42	39	16	28	A-6b
		0.5-0.9	SAME AS 0-0.5							27	VISUAL
		1.1-1.6	SAME AS 0-0.5							23	VISUAL
		1.8-2.3	SAME AS 0-0.5							27	VISUAL
		2.6-2.8	GRAY SAND AND GRAVEL (SILTSTONE FRAGMENTS), TRACE SILT							13	VISUAL
		4.1-4.6	GRAY SILTY CLAY, TRACE SAND, TRACE GRAVEL							14	VISUAL
		4.6-5.0	GRAY SAND AND GRAVEL, SOME SILTY CLAY							17	VISUAL
(B-131)	G0+380, BL	0-0.2	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	2	6	20	-72-		32	15	21	A-6b
		1.7-2.4	SAME AS 0.2-1.7							21	VISUAL
		2.4-3.9	39	27	4	-30-				15	VISUAL
		3.9-4.0	SAME AS 2.4-3.9							16	VISUAL

BORINGS REFERENCED TO BASELINE OF RAMP H

Boring	Location & Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-132)	H0+260, BL	0-0.1	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.1-1.7	15	12	15	30	28	28	13	14	A-6a
		1.7-3.6	37	15	14	-34-				25	VISUAL
		3.6-4.0	SAME AS 1.7-3.6							14	VISUAL
(B-133)	H0+380, BL	0-0.3	BROWN CLAYEY SILT, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.5	0	1	4	55	40	29	11	22	A-6a
		1.5-3.0	SAME AS 0.3-1.5							21	VISUAL

BORINGS REFERENCED TO CENTERLINE OF FAIRVIEW ROAD

Boring	Location & Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-134)	49+630, 3M RT	0-0.3	DARK BROWN CLAYEY SILT, SOME GRAVEL, LITTLE SAND, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.3-1.8	8	8	21	38	25	30	16	14	A-6b
		1.8-3.0	SAME AS 0.3-1.8							12	VISUAL
(B-135)	49+750, 4M LT	0-0.2	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	1	4	18	40	37	37	19	24	A-6b
		1.7-2.0	SAME AS 0.2-1.7							26	VISUAL
		2.0-3.2	BROWN SAND, SOME SILTY CLAY, LITTLE GRAVEL							15	VISUAL
		3.2-4.0	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL							17	VISUAL
(B-136)	49+870, 4M RT	0-0.5	SAME AS 0.5-0.9							28	VISUAL
		0.5-0.9	1	1	8	56	34	37	20	22	A-6b
		1.1-1.6	SAME AS 0.5-0.9							17	VISUAL
		1.8-2.3	BROWN SANDY CLAY, LITTLE SILT, TRACE GRAVEL							25	VISUAL
		2.6-3.1	SAME AS 4.1-4.6							15	VISUAL
		4.1-4.6	10	7	11	-72-		30	15	16	A-6b
		4.6-5.0	SAME AS 4.1-4.6							15	VISUAL
(B-137)	50+160, 3M RT	0-0.5	SAME AS 0.5-0.9							23	VISUAL
		0.5-0.9	0	1	9	58	32	33	16	23	A-6b
		1.1-1.6	BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL							17	VISUAL
		1.8-2.3	SAME AS 1.1-1.6							16	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							18	VISUAL
		4.1-4.6	SAME AS 1.1-1.6							16	VISUAL
		4.6-4.9	SAME AS 1.1-1.6							14	VISUAL
(B-138)	50+280, 3M RT	0-1.5	7	12	15	-66-		35	18	19	A-6b
		1.5-2.4	SAME AS 0-1.5							14	VISUAL
		2.4-3.0	SAME AS 0-1.5							13	VISUAL

BORINGS REFERENCED TO CENTERLINE OF NAZOR ROAD

Boring	Location & Offset	From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L	P.I	W.C.	SHTL Class.
(B-139)	49+580, 2.5 M LT	0-0.3	DARK BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.2	3	5	24	-68-		33	17	22	A-6b
		1.2-2.1	1	4	29	44	22			19	VISUAL
		2.1-2.5	SAME AS 1.2-2.1							23	VISUAL
		2.5-3.0	GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL							25	VISUAL
(B-140)	49+700, 0.6M RT	0-0.3	DARK BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.8	12	9	16	-63-		38	21	21	A-6b
		1.8-3.0	SAME AS 0.3-1.8							15	VISUAL
		3.0-3.2	SAME AS 0.3-1.8							14	VISUAL
(B-141)	49+820, CL	0-0.2	BROWN SILTY CLAY, TRACE GRAVEL, LITTLE ORGANICS, TRACE SAND (TOPSOIL)							39	VISUAL
		0.2-0.7	SAME AS 0.7-1.4							35	VISUAL
		0.7-1.4	2	7	13	-78-		44	28	26	A-7-6
		1.4-1.8	SAME AS 0.7-1.4							19	VISUAL
		1.8-3.2	SAME AS 0.7-1.4							18	VISUAL
		3.2-4.7	SAME AS 0.7-1.4							21	VISUAL
		4.7-5.0	SAME AS 0.7-1.4							17	VISUAL
(B-142)	49+920, CL	0-0.5	REDDISH-BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)							31	VISUAL
		0.5-0.9	SAME AS 1.1-1.6							21	VISUAL
		1.1-1.6	1	2	7	40	50	43	23	23	A-7-6
		1.8-2.3	SAME AS 1.1-1.6							25	VISUAL
		2.6-3.1	SAME AS 1.1-1.6							26	VISUAL
		4.1-4.6	2	67	19	-12-				24	A-1-b
		5.7-6.0	SAME AS 4.1-4.6							22	VISUAL
(B-143)	50+120, CL	0-0.5	SAME AS 0.5-0.9							22	VISUAL
		0.5-0.9	8	10	17	-66-		28	12	15	A-6a
		1.1-1.6	SAME AS 0.5-0.9								VISUAL
		1.8-2.3	SAME AS 0.5-0.9							19	VISUAL
		2.6-3.1	SAME AS 0.5-0.9							15	VISUAL
		4.1-4.6	GRAY CLAY, SOME SILT, TRACE SAND, TRACE GRAVEL							16	VISUAL
		5.7-6.0	SAME AS 4.1-4.6							17	VISUAL
(B-144)	50+240, CL	0-0.4	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGNAICS (TOPSOIL)							25	VISUAL
		0.4-1.9	SAME AS 1.9-3.4							20	VISUAL
		1.9-3.4	16	10	32	18	24	31	16	19	A-6b
		3.4-5.0	SAME AS 1.9-3.4							18	VISUAL
(B-145)	50+360, 8M RT	0-0.2	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.3	25	4	31	-40-		54	34	31	A-7-6
		1.3-2.8	SAME AS 0.2-1.3							39	VISUAL
		2.8-3.1	BROWN SAND, SOME SILT AND CLAY, LITTLE GRAVEL							16	VISUAL
		3.1-4.0	GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL							19	VISUAL
(B-146)	50+480, CL	0-0.2	BROWN CLAYEY SILT, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	0	2	8	40	50	37	19	26	A-6b
		1.7-3.2	SAME AS 0.2-1.7							15	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							18	VISUAL
(B-147)	50+600, CL	0-0.3	DARK BROWN CLAYEY SILT, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.3-1.8	5	4	11	39	41	34	17	18	A-6b
		1.8-3.0	SAME AS 0.3-1.8							15	VISUAL
(B-144)	50+240, CL	0-0.4	BROWN SILTY CLAY, SOME SAND, TRACE GRAVEL, TRACE ORGNAICS (TOPSOIL)							25	VISUAL
		0.4-1.9	SAME AS 1.9-3.4							20	VISUAL
		3.4-5.0	16	10	32	18	24	31	16	19	A-6b
		1.8-2.3	SAME AS 1.9-3.4							18	VISUAL
(B-146)	50+480, CL	0-0.2	BROWNN CLAYEY SILT, SOME SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL)								VISUAL
		0.2-1.7	0	2	8	40	50	37	19	26	A-6b
		1.7-3.2	SAME AS 0.2-1.7							15	VISUAL
		3.2-4.0	SAME AS 0.2-1.7							18	VISUAL
(B-147)	50+600, CL	0.3-1.8	DARK BROWN CLAYEY SILT, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL)								VISUAL
		0.2-1.7	5	4	11	39	41	34	17	18	A-6b
		1.8-3.0	SAME AS 0.3-1.8							15	VISUAL

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
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CALCULATED | CHECKED GPH
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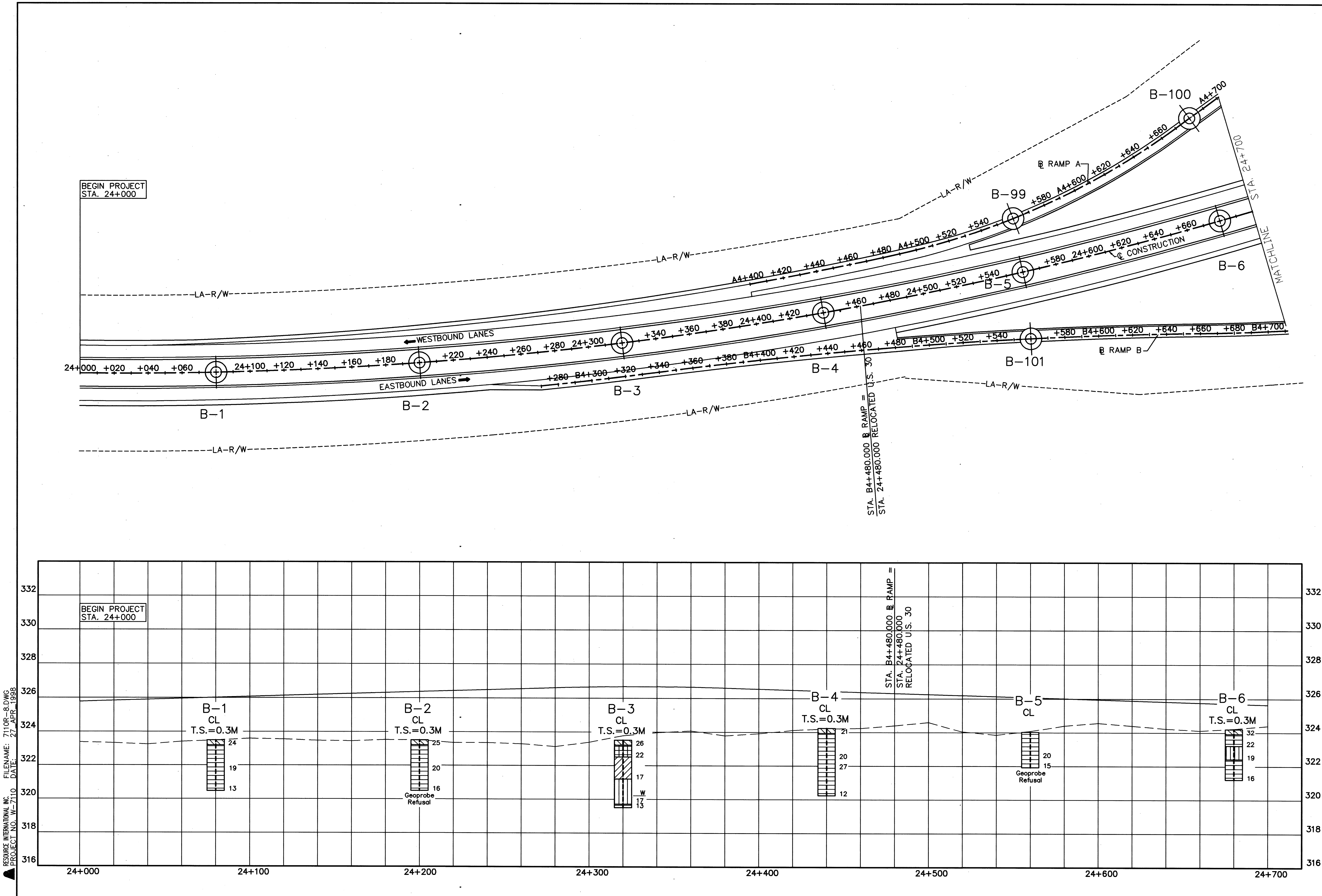
REVIEWED
DRAWN EMC

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-7.DWG DATE: 27 APR 1998



HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
	CHECKED	DATE	
	GPH	4/30/98	

STA. 24+000 TO STA. 24+700

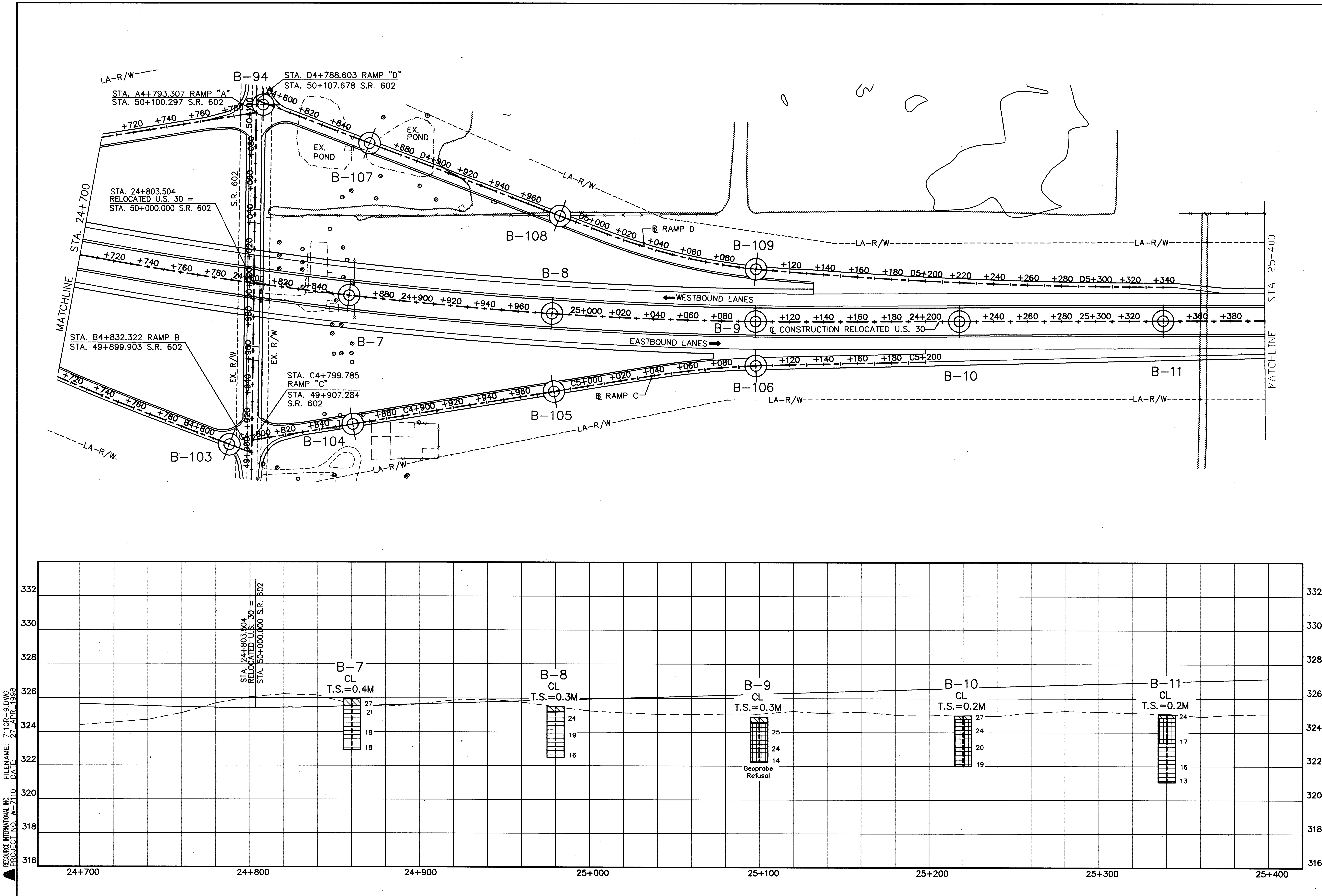
SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110

FILENAME: 7110R-8.DWG DATE: 27 APR 1998



HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

STA. 24+700 TO STA. 25+400

SOIL PROFILE

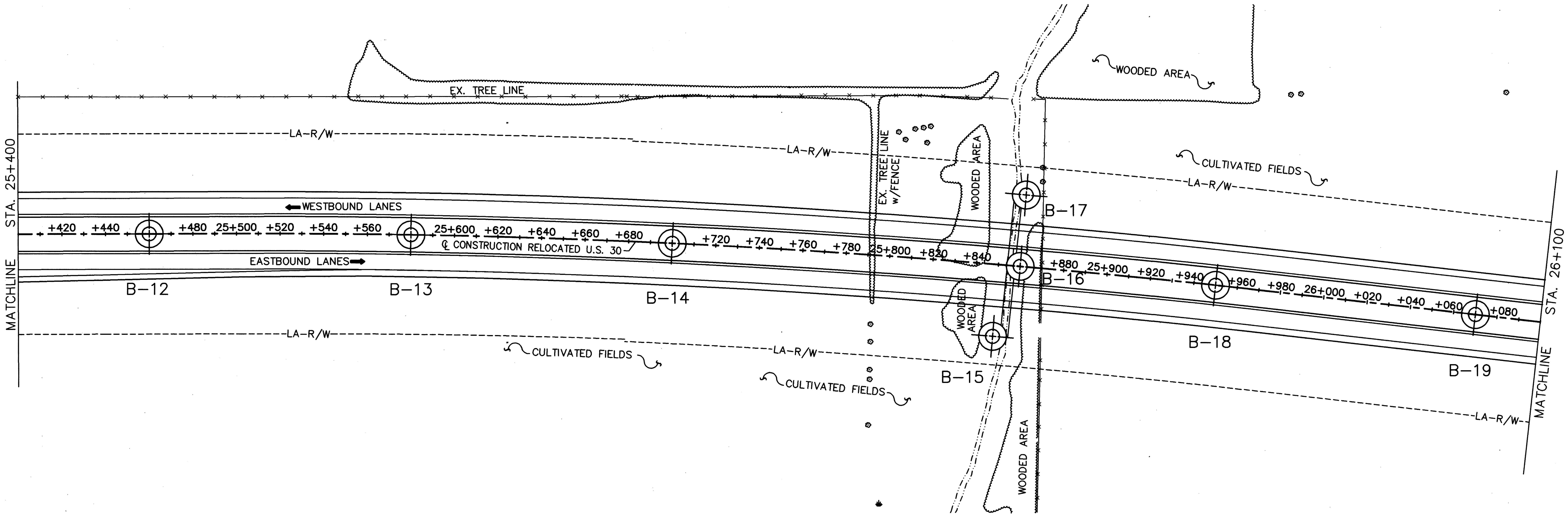
CRAWFORD COUNTY

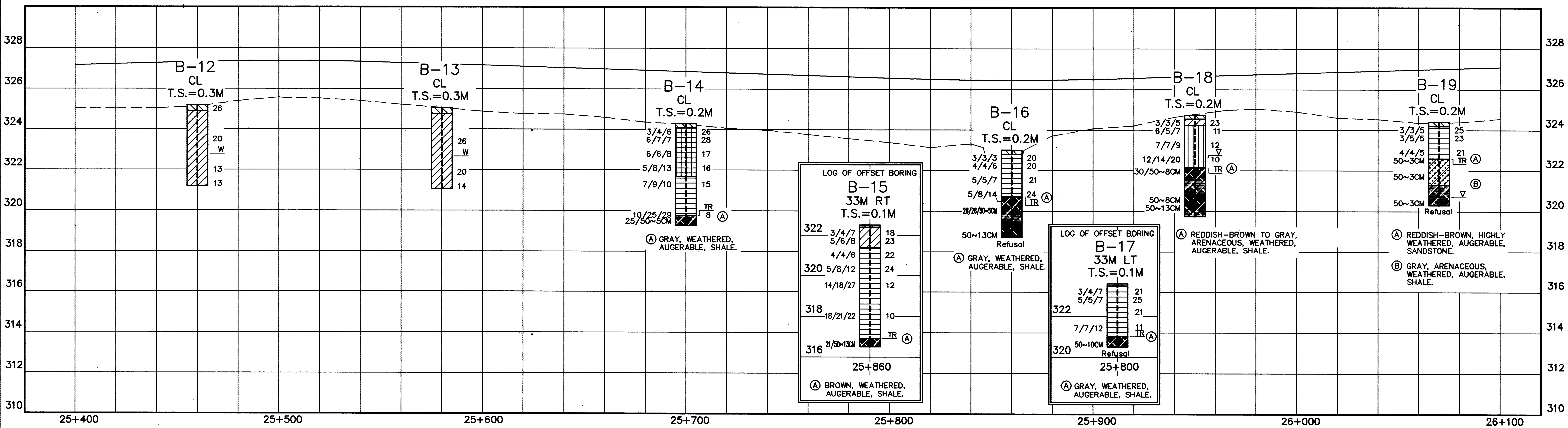
CRA-30-24.079

9/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

FILENAME: 7110R-9.DWG
DATE: 27 APR 1998





RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

FILENAME: 7110R-10.DWG
DATE: 27 APR 1998

HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	DATE	CHECKED
EMC		4/27/98	4/30/98	GPH

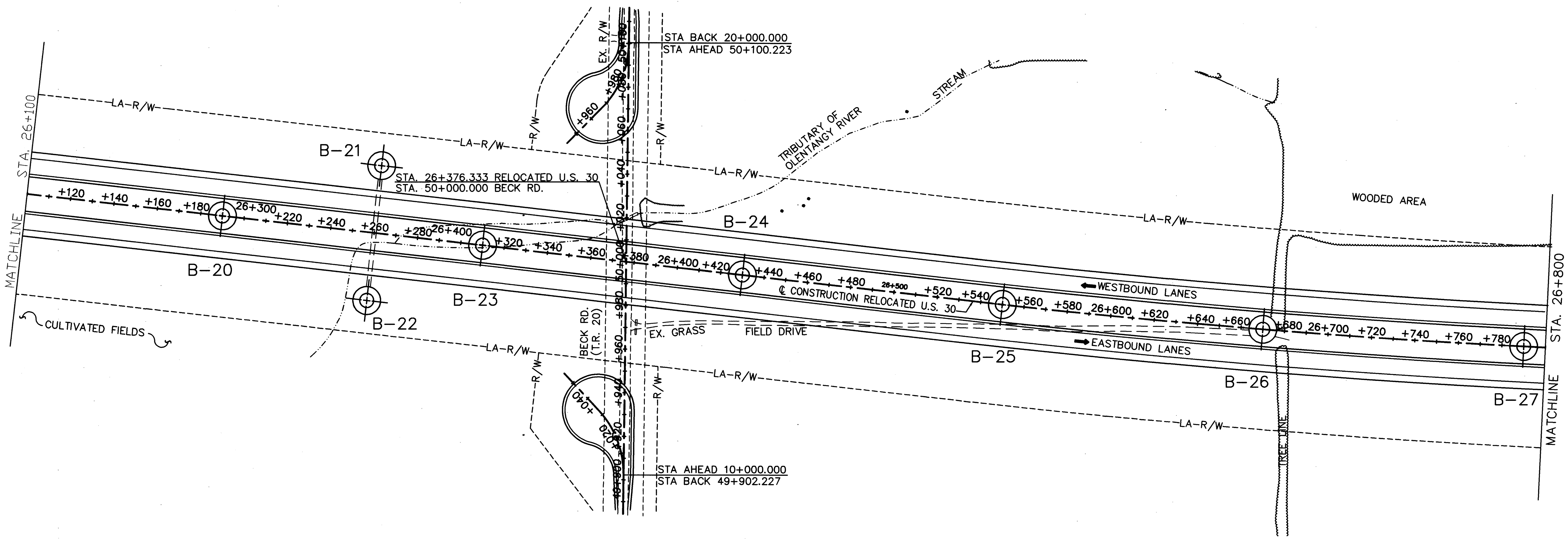
STA. 25+400 TO STA. 26+100

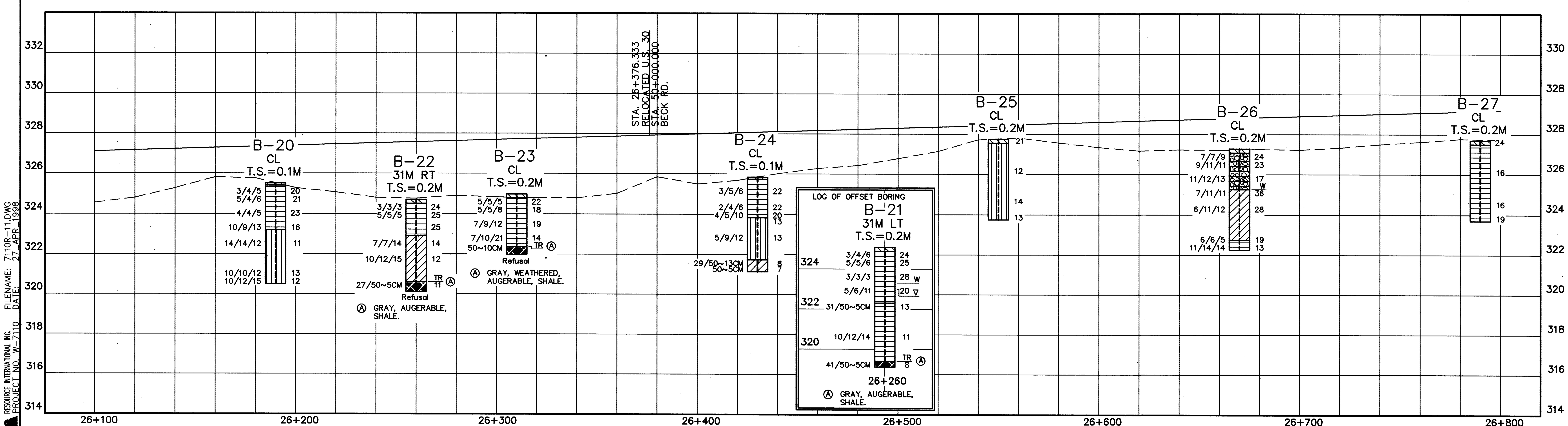
SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

10/40





HORIZONTAL SCALE IN METERS 0 20 40

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

STA. 26+100 TO STA. 26+800

SOIL PROFILE

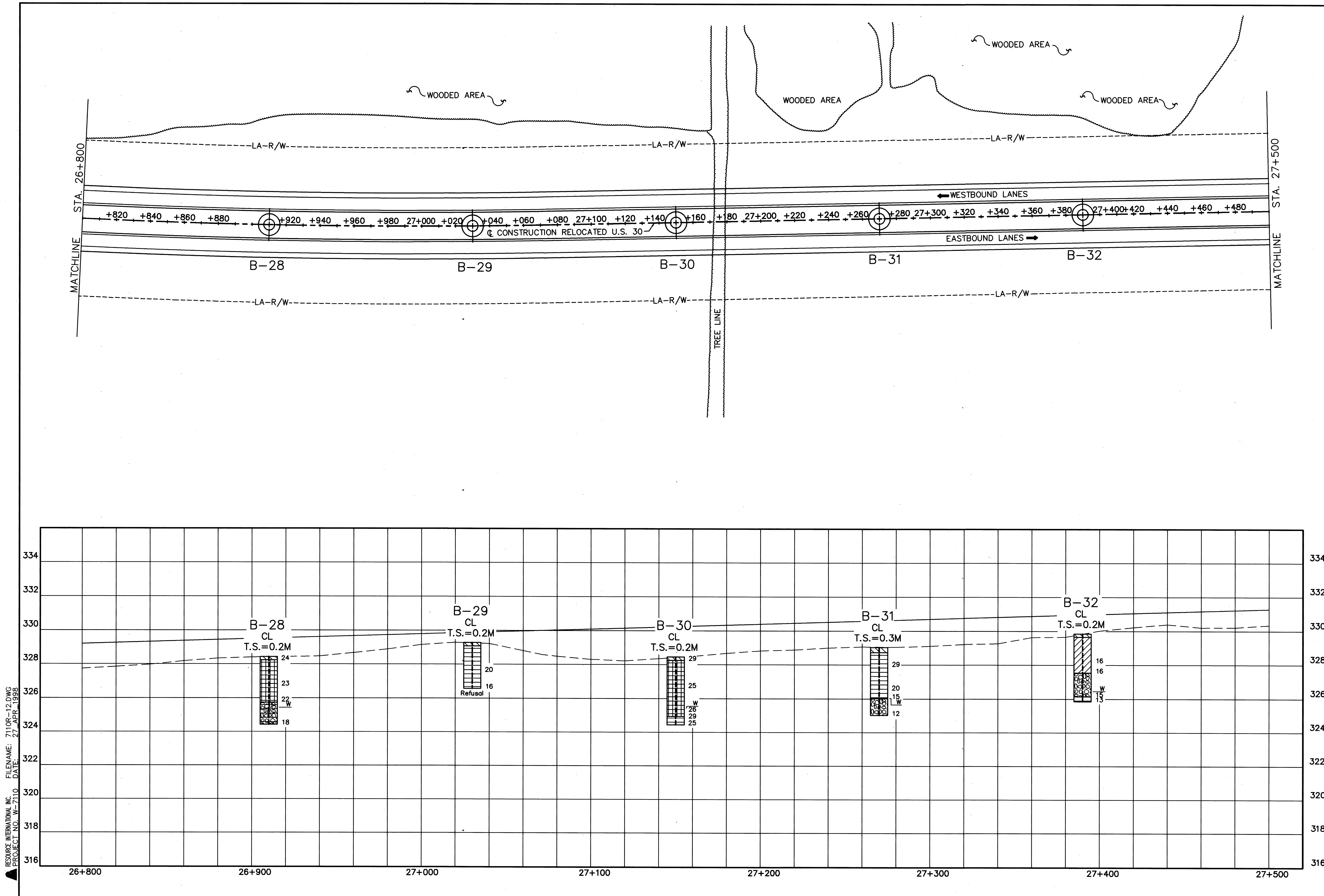
CRAWFORD COUNTY

CRA-30-24.079

11/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

FILENAME: 7110R-11.DWG
DATE: 27 APR 1998



HORIZONTAL SCALE IN METERS

0 20 40

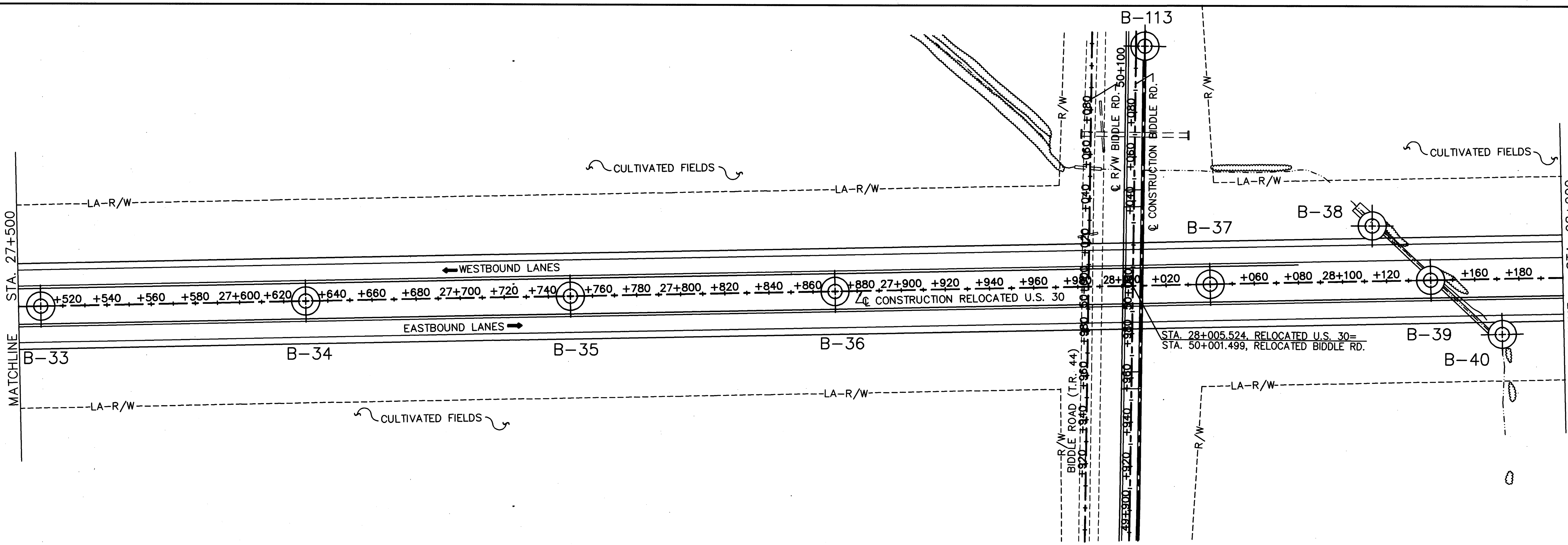
DRAWN	REVIEWED	DATE	DATE	CHECKED
EMC		4/27/98	4/30/98	GPH

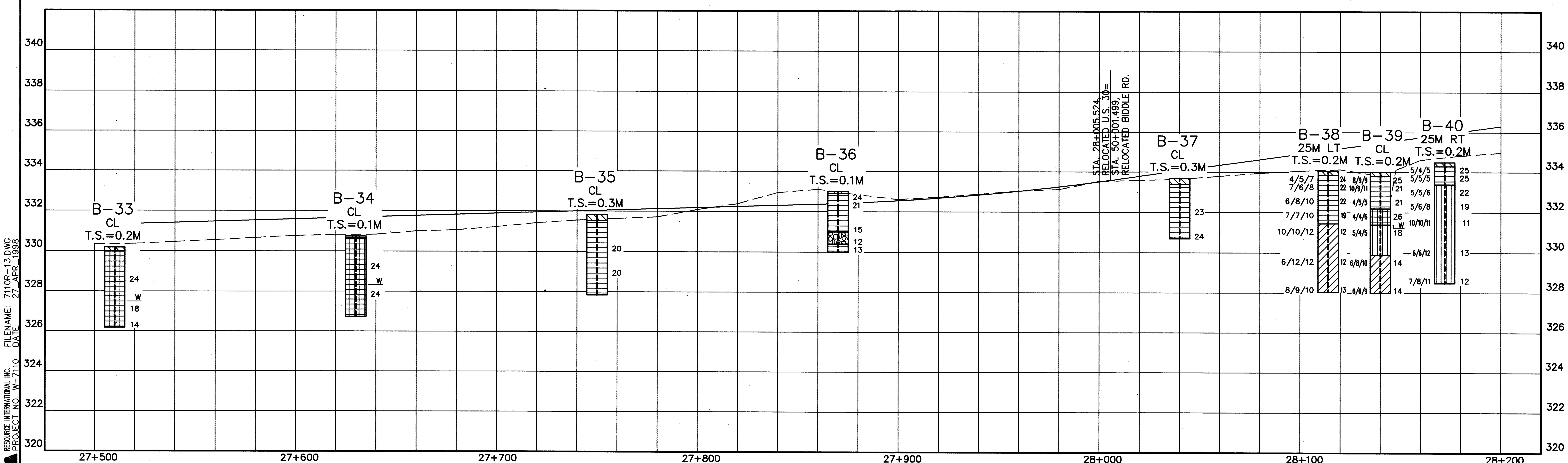
STA. 26+800 TO STA. 27+500

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079





FILENAME: 7110R-13.DWG
DATE: 27 APR 1998

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	DATE	CHECKED
EMC		4/27/98	4/30/98	GPH

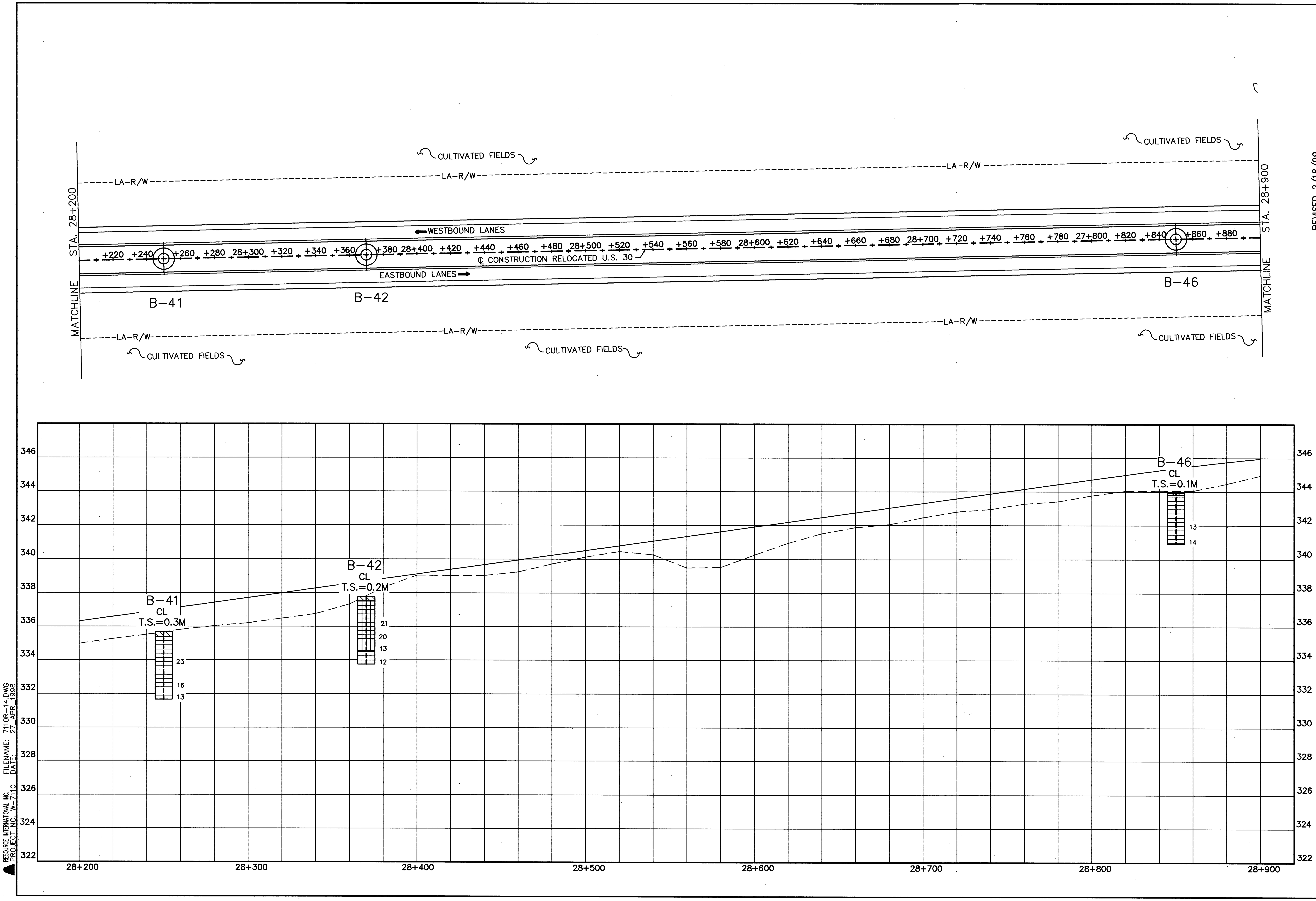
STA. 27+500 TO STA. 28+200

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

13/40



FILENAME: 7110R-14.DWG
DATE: 27 APR 1998
RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

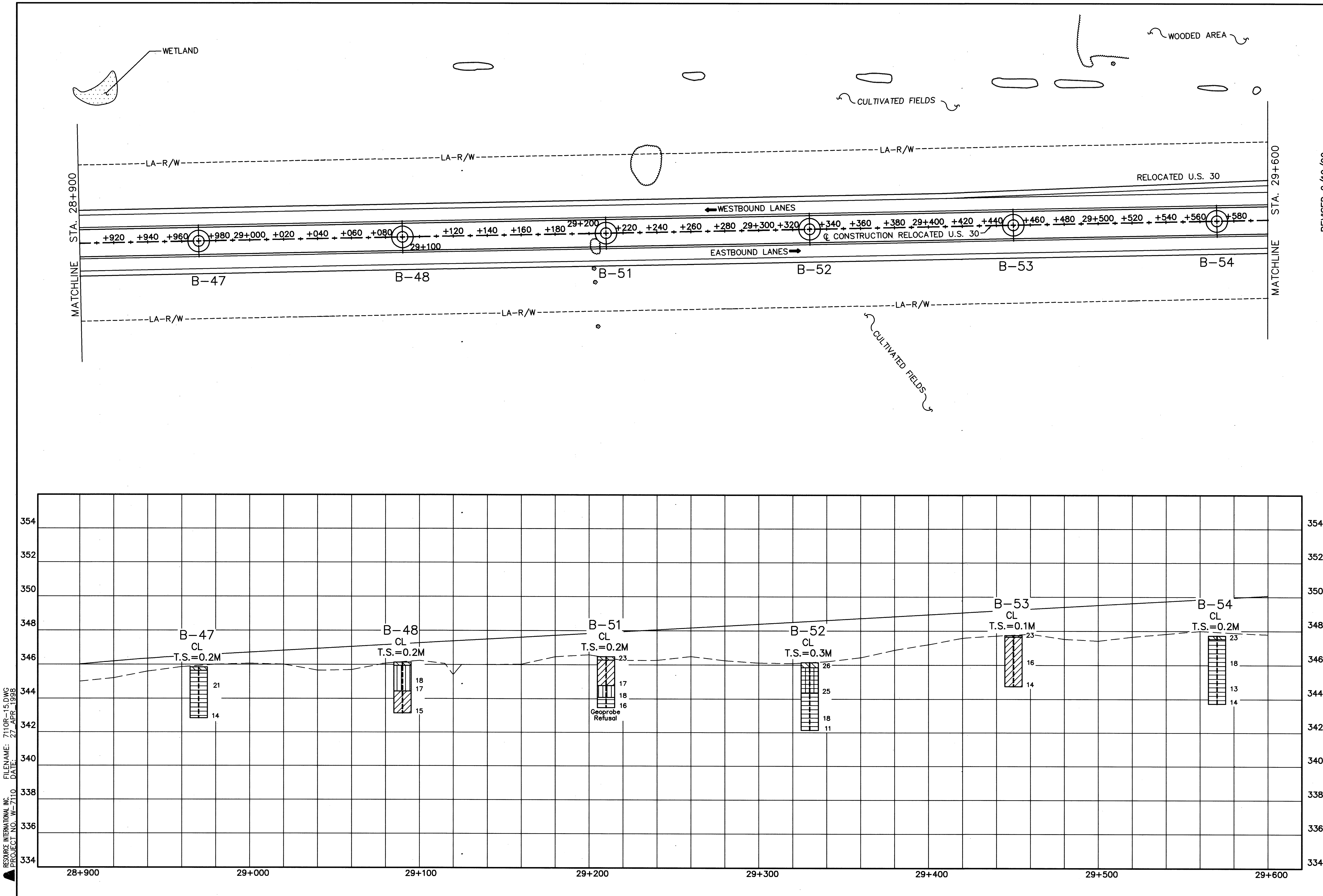
HORIZONTAL SCALE IN METERS
0 20 40

REVISED 2/18/99

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

STA. 28+200 TO STA. 28+900
SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079



0 20 40 HORIZONTAL SCALE IN METERS

REVISED 2/19/99

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

STA. 28+900 TO STA. 29+600

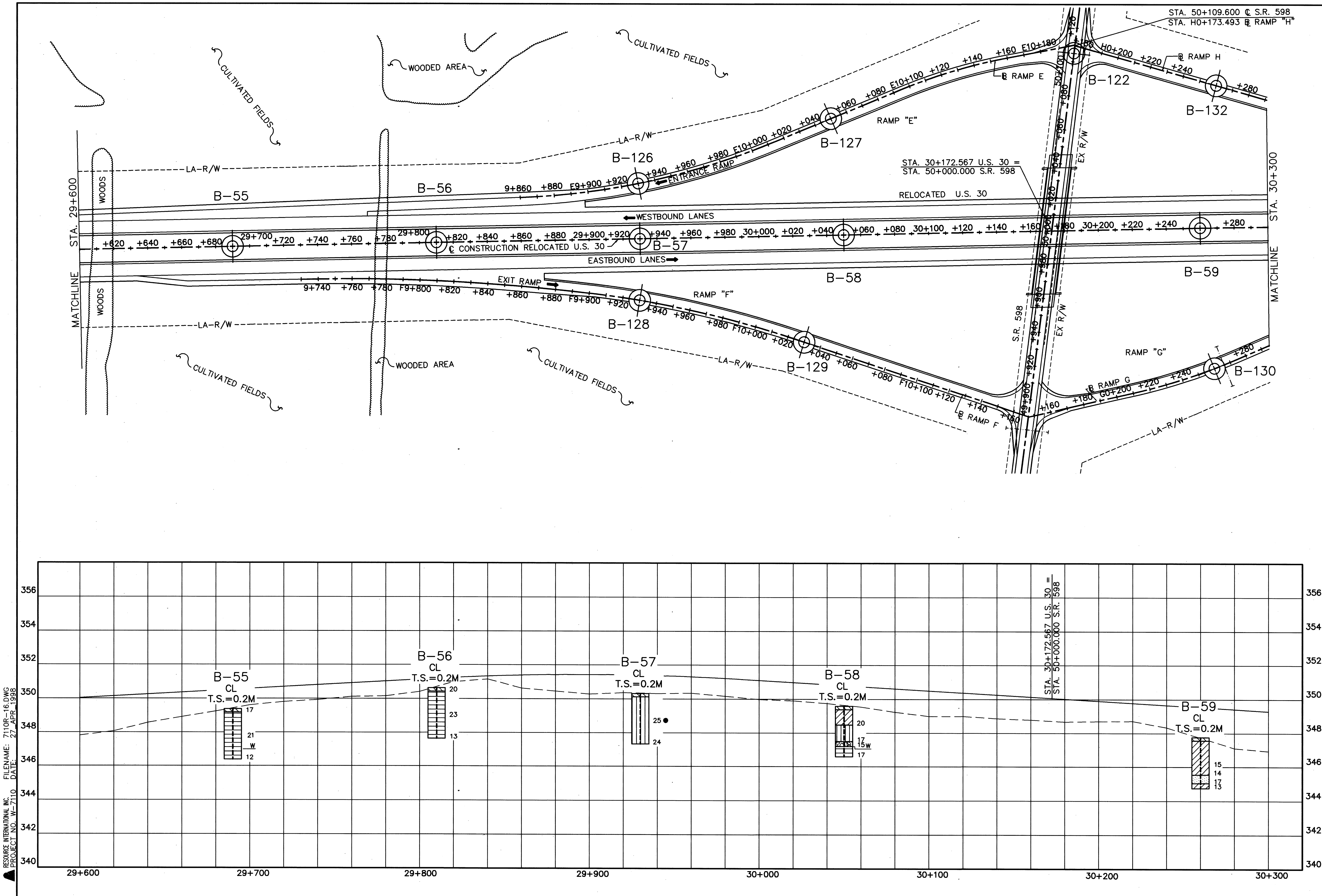
SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

15/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-15.DWG
DATE: 27 APR 1998



HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	DATE	CHECKED
EMC		4/27/98	4/30/98	GPH

STA. 29+600 TO STA. 30+300

SOIL PROFILE

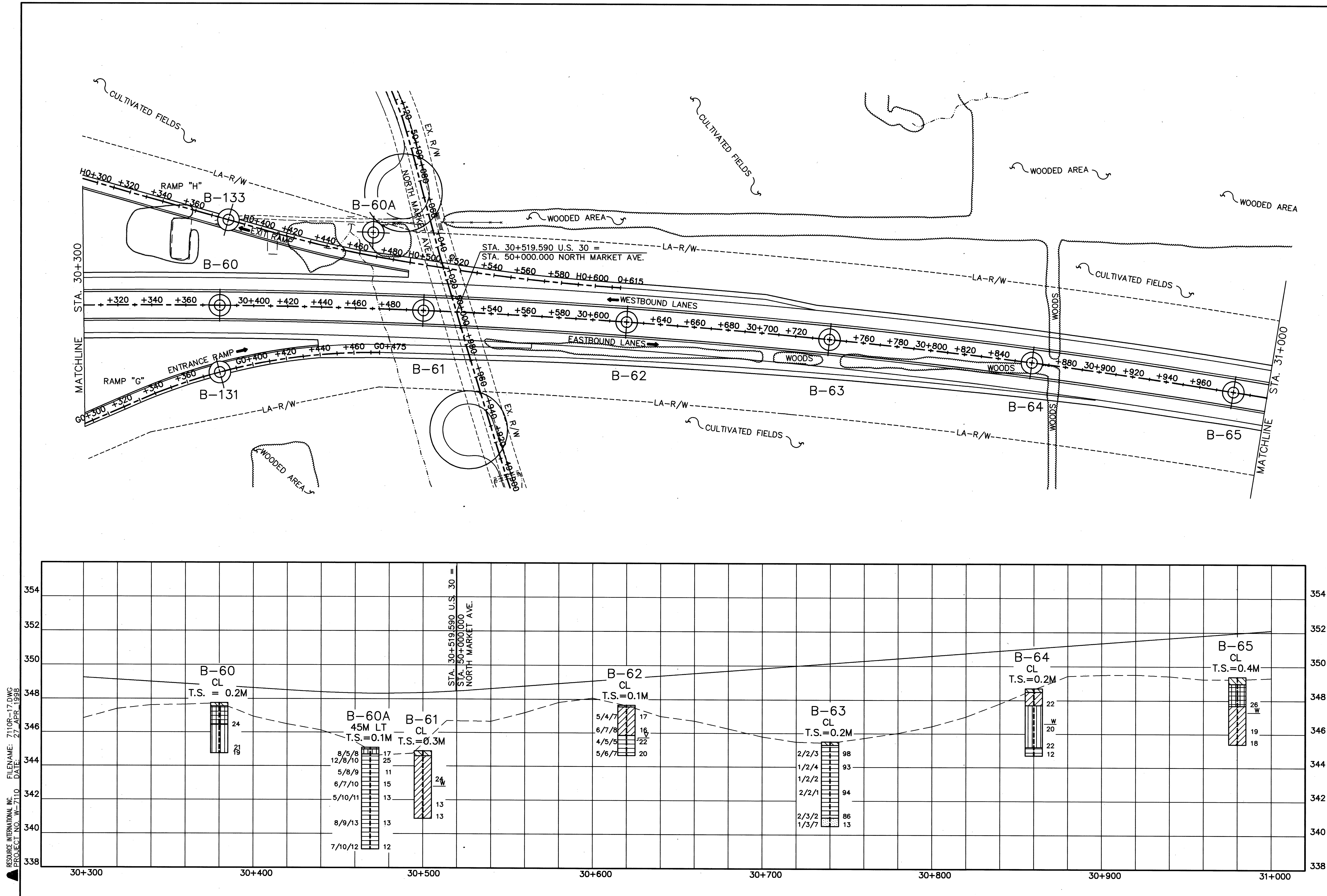
CRAWFORD COUNTY

CRA-30-24.079

16/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110

FILENAME: 7110R-16.DWG DATE: 27 APR. 1998



HORIZONTAL SCALE IN METERS

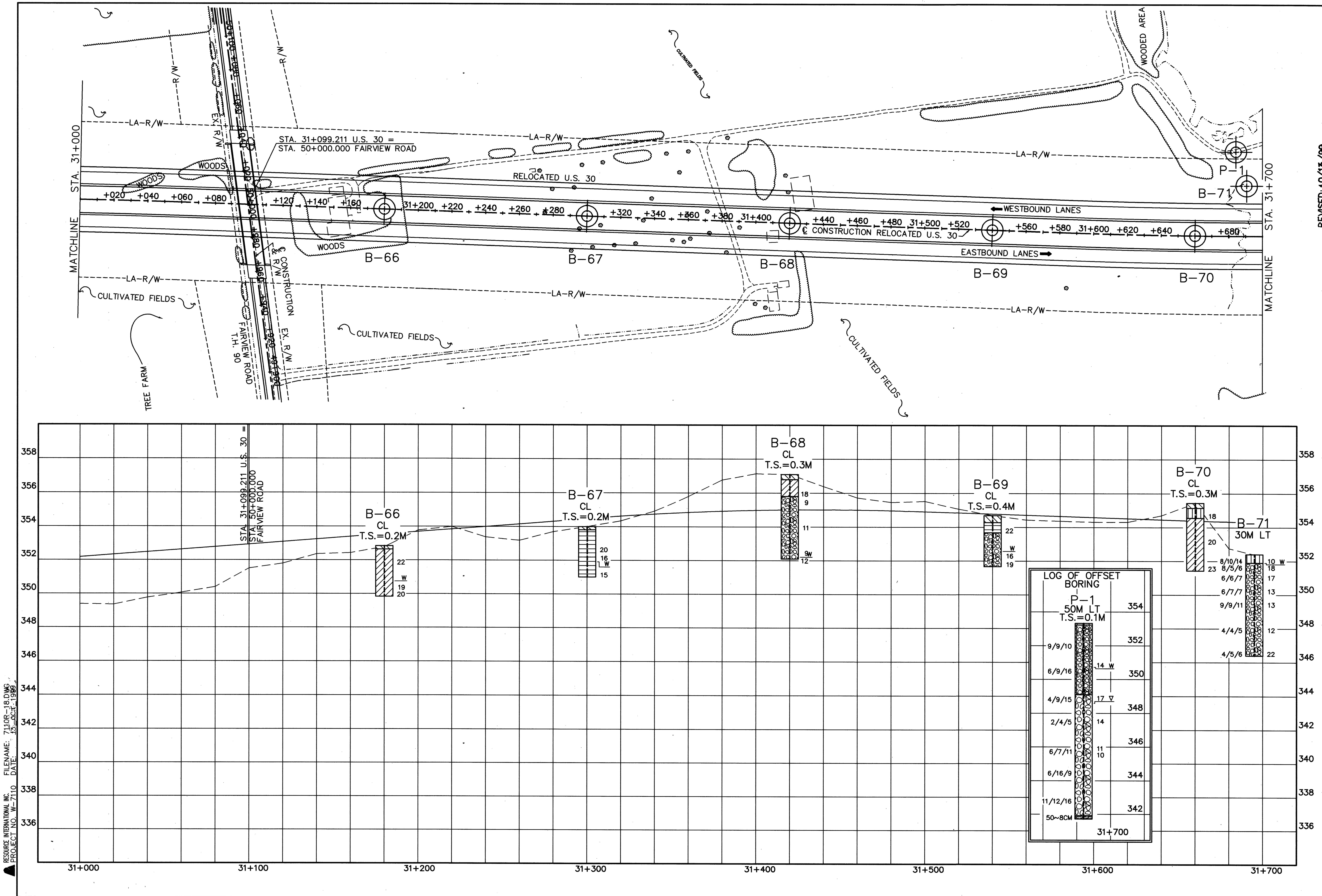
DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

STA. 30+300 TO STA. 31+000

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079



HORIZONTAL SCALE IN METERS

0 20 40

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

REVISED 10/13/99

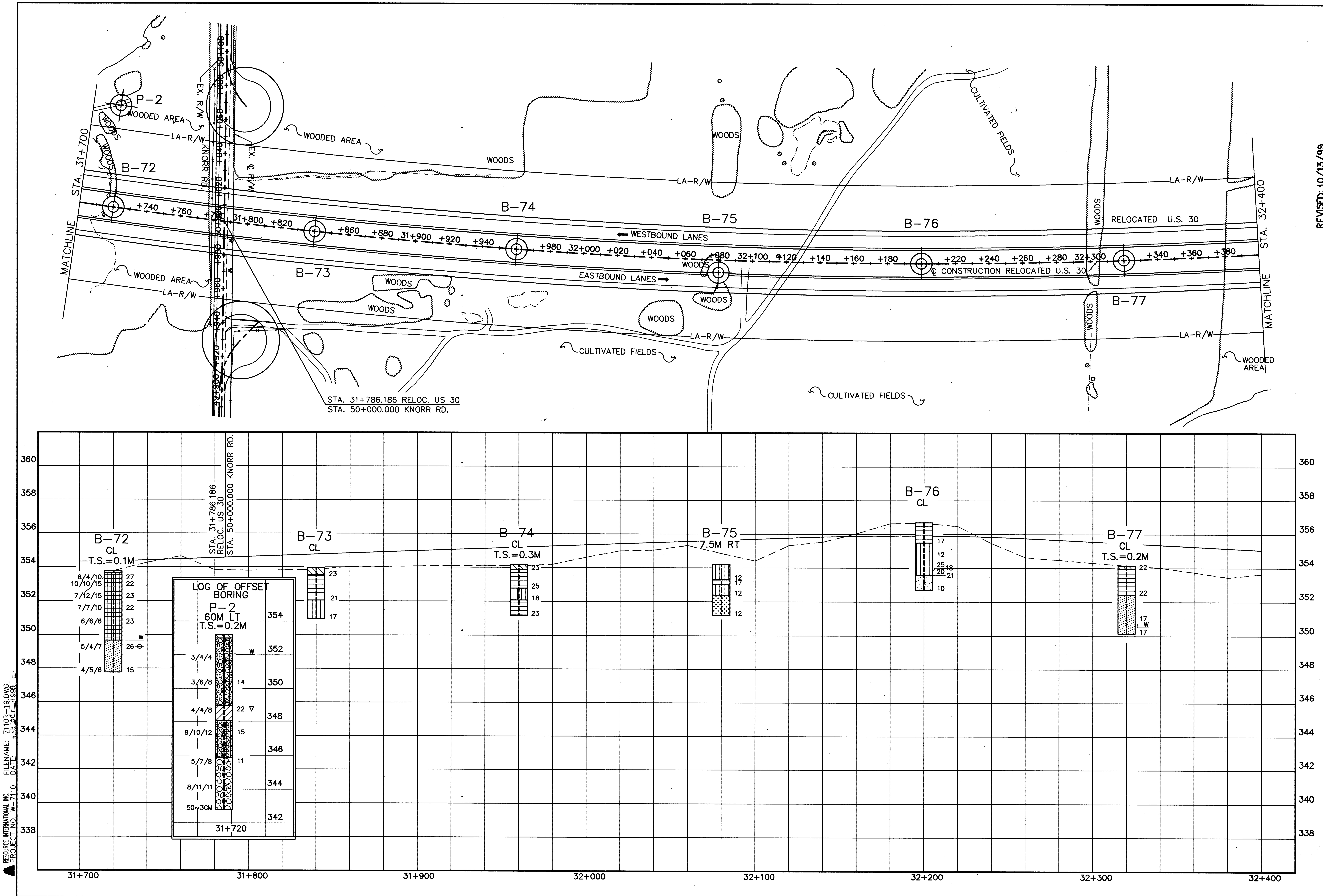
STA. 31+000 TO STA. 31+700

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

18/40



HORIZONTAL SCALE IN METERS

REVISED: 10/13/99

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

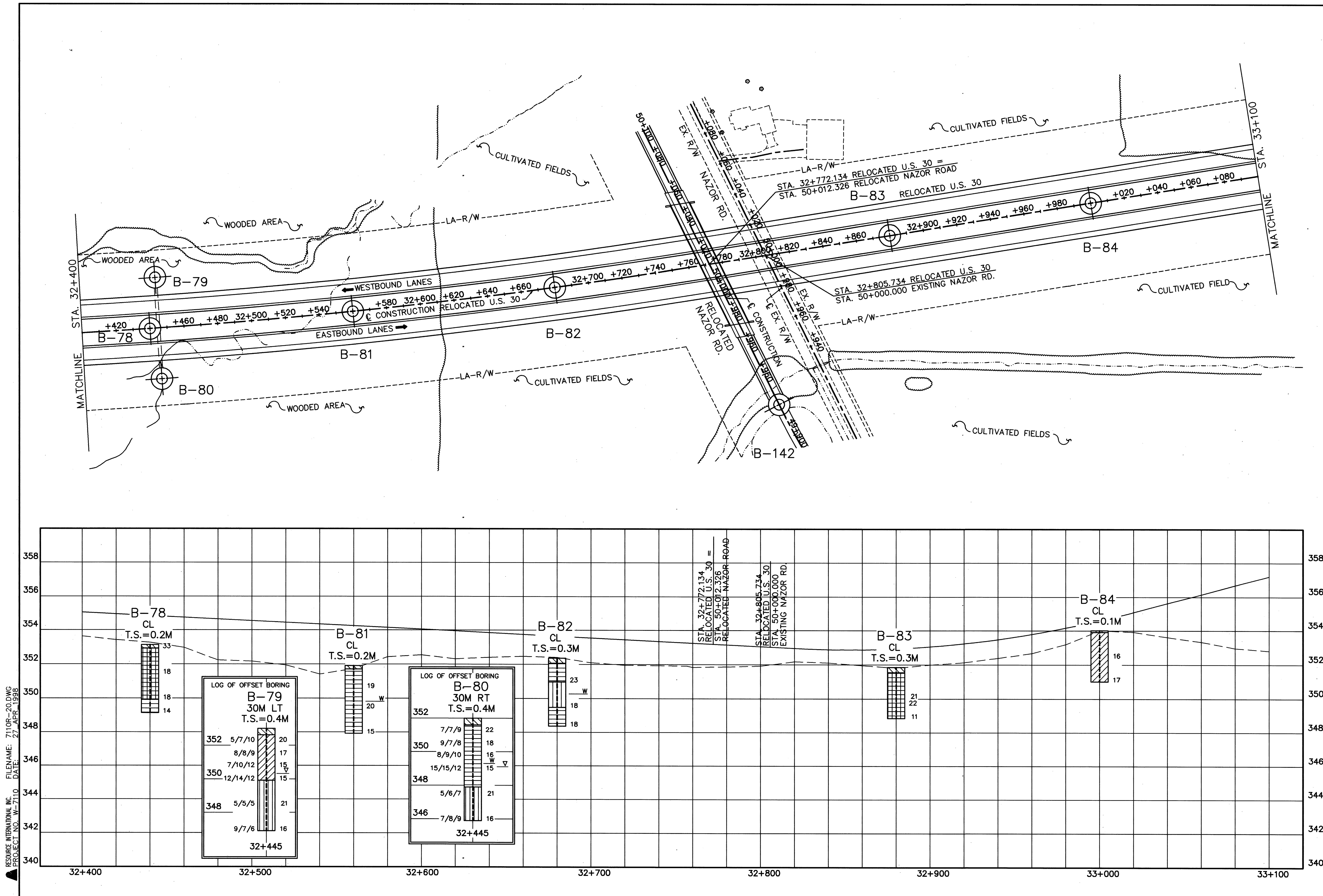
STA. 31+700 TO STA. 32+400

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

19/40



0 20 40
HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
		DATE 4/30/98	CHECKED GPH

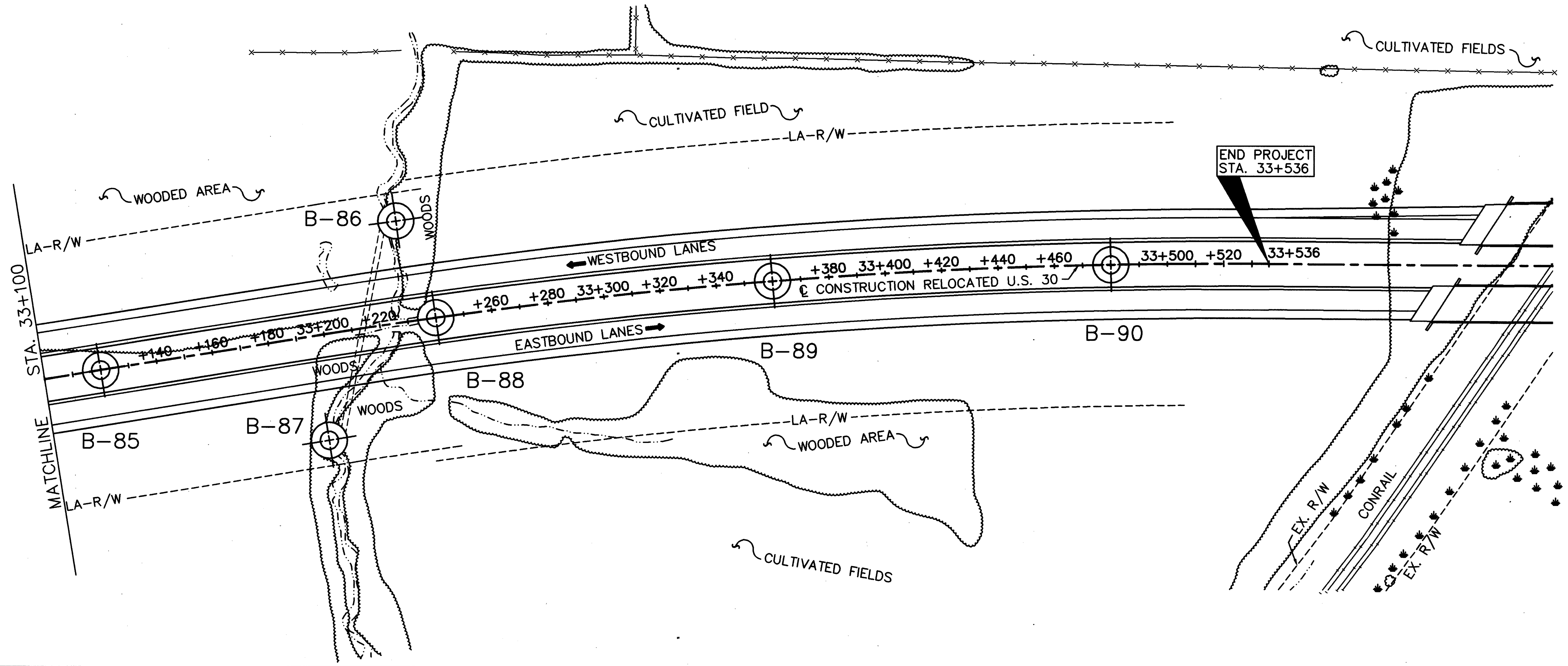
STA. 32+400 TO STA. 33+100

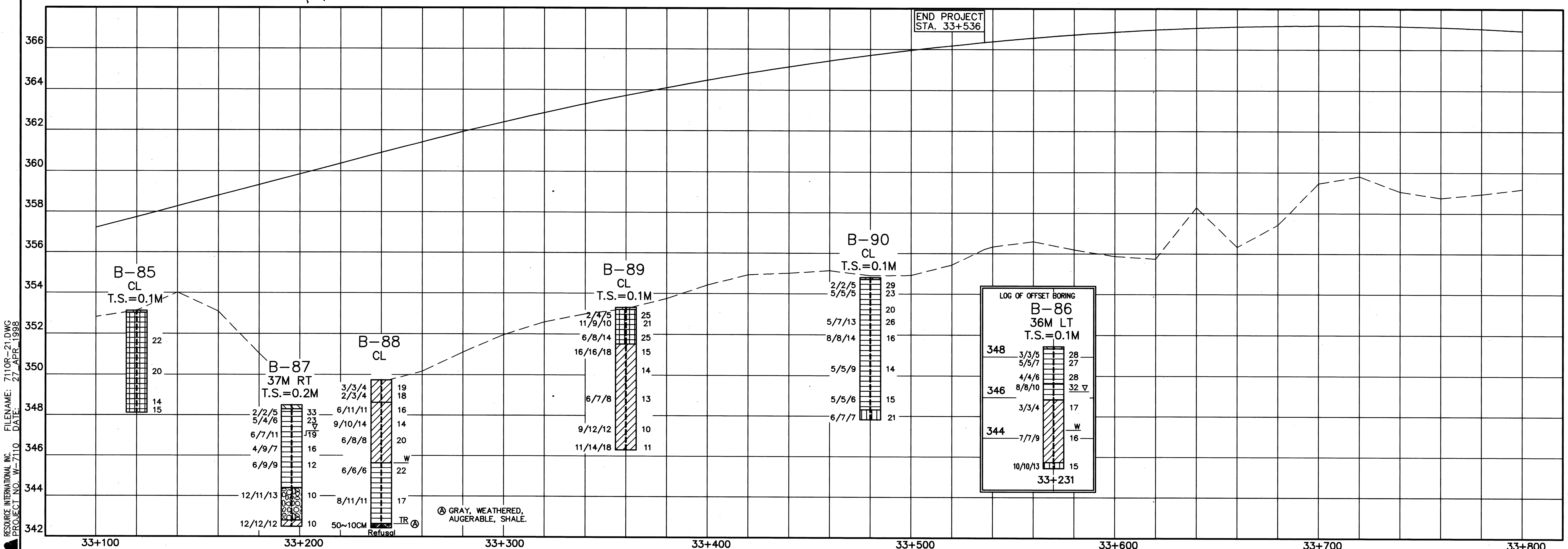
SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

20/40





HORIZONTAL SCALE IN METERS

0 20 40

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
		CHECKED	DATE
		GPH	4/30/98

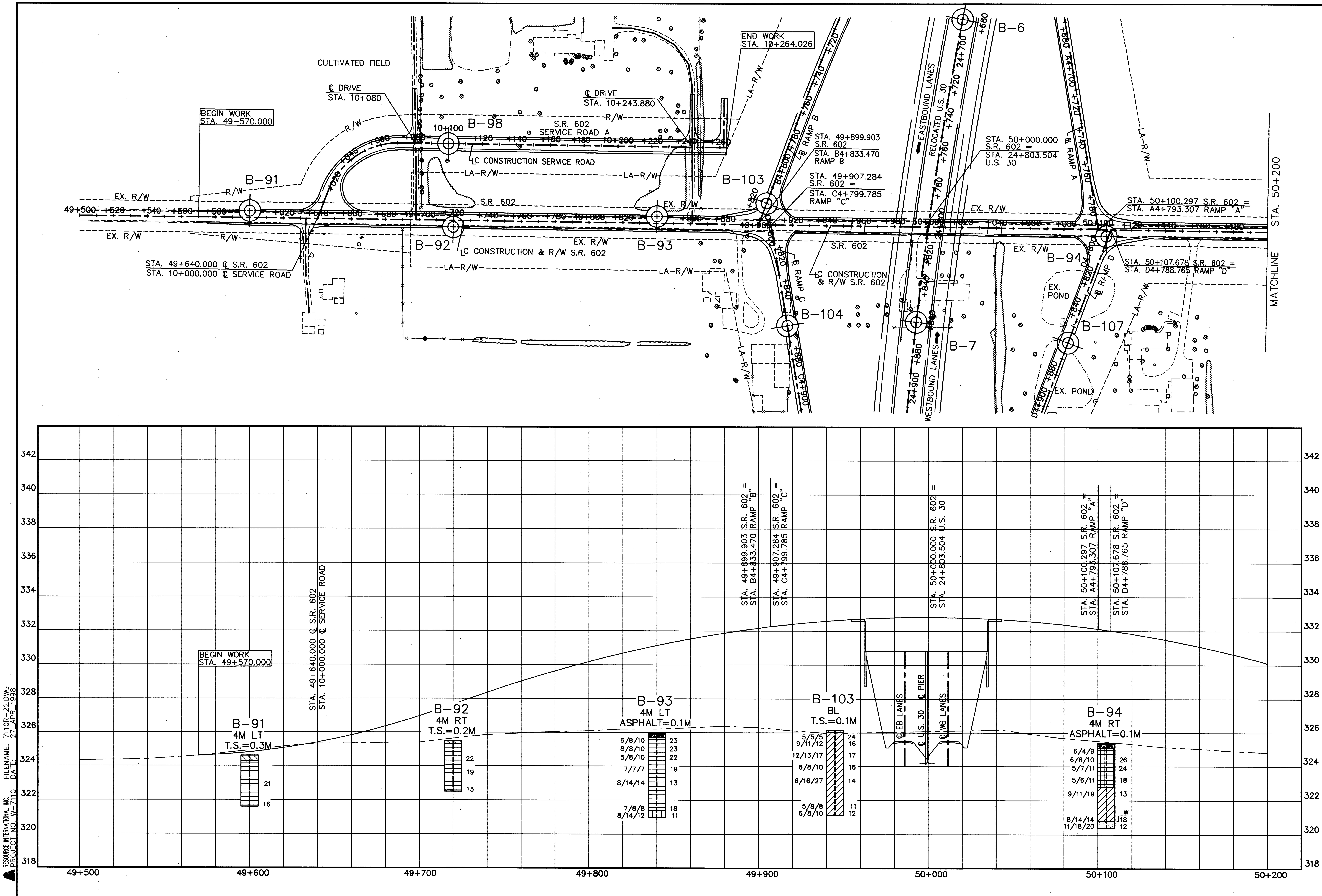
STA. 33+100 TO STA. 33+800

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-21.DWG DATE: 27 APR 1998



S.R. 602 STA. 49+500 TO STA. 50+200

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

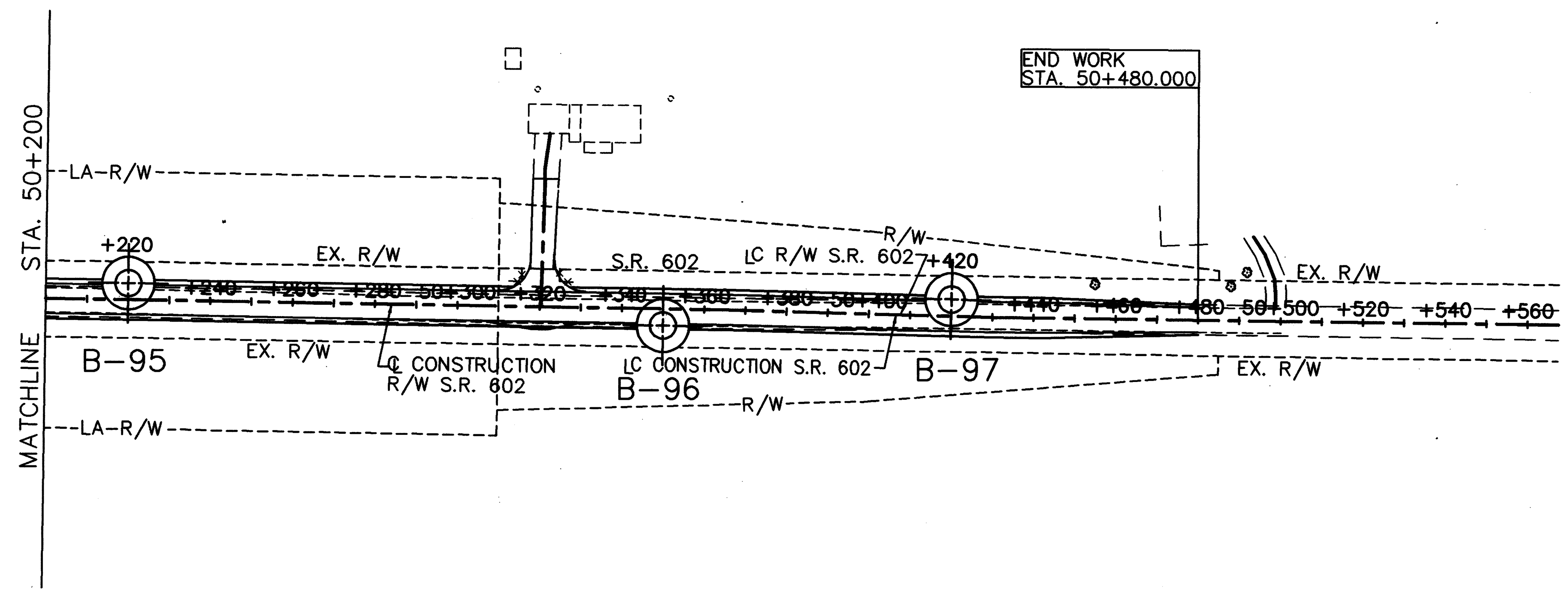
HORIZONTAL SCALE IN METERS

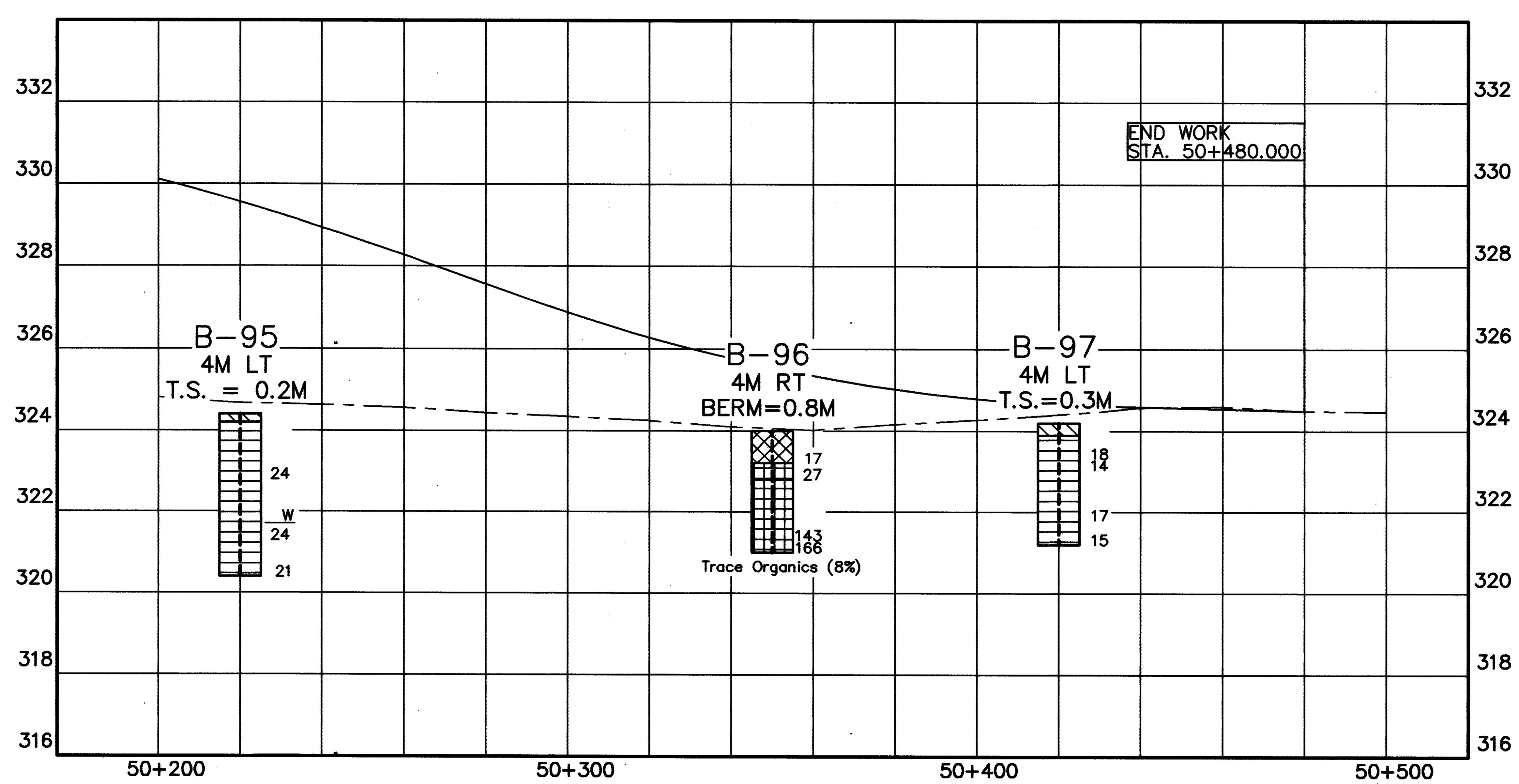
DRAWN EMC | REVIEWED | DATE 4/27/98 | CHECKED GPH | DATE 4/30/98

22/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110

FILENAME: 7110R-22.DWG DATE: 27 APR 1998





HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

S.R. 602 STA. 50+200 TO STA. 50+480

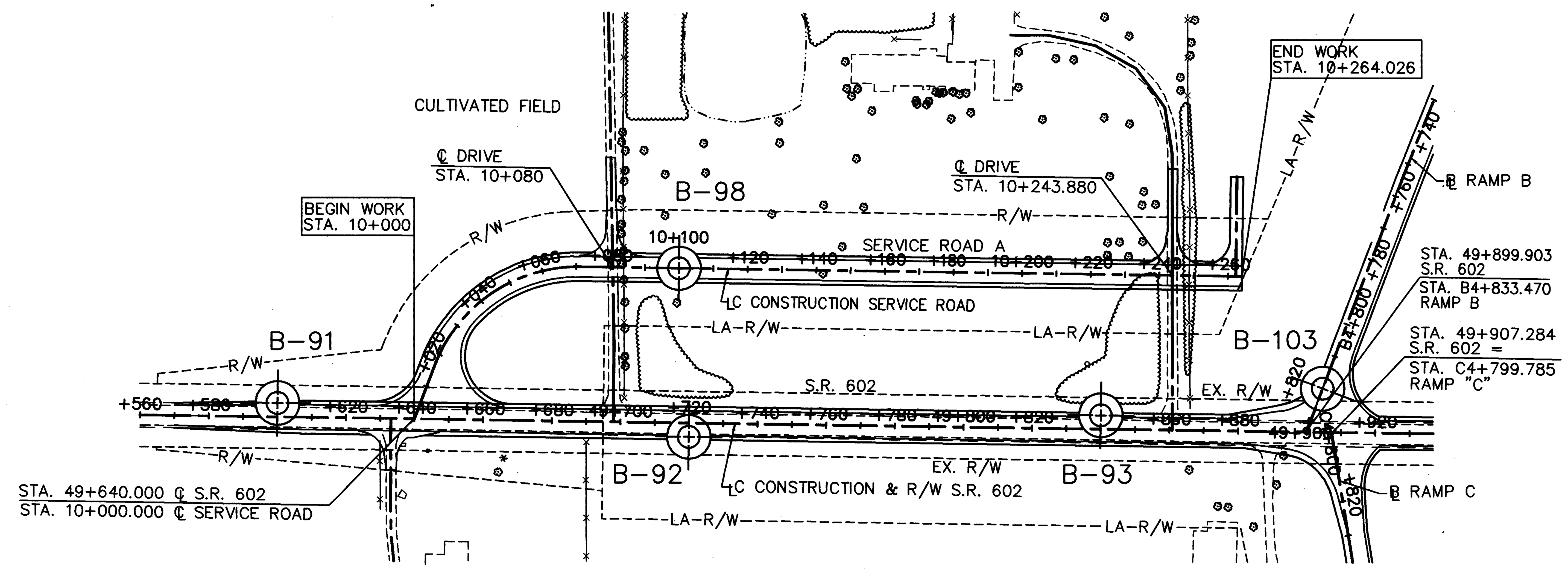
SOIL PROFILE

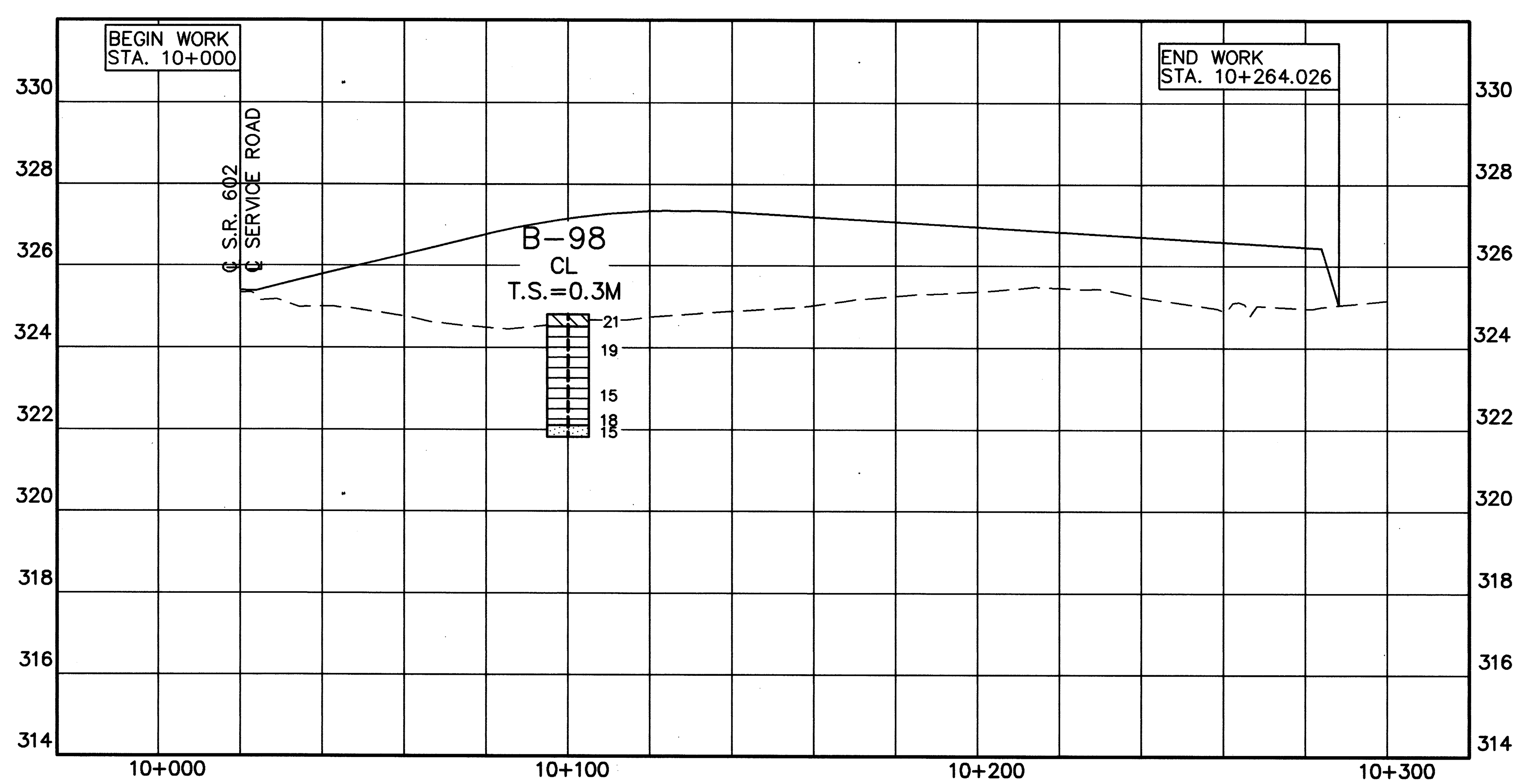
CRAWFORD COUNTY

CRA-30-24.079

23/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-23.DWG DATE: 27 APR 1998





HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
	CHECKED GPH	DATE 4/30/98	

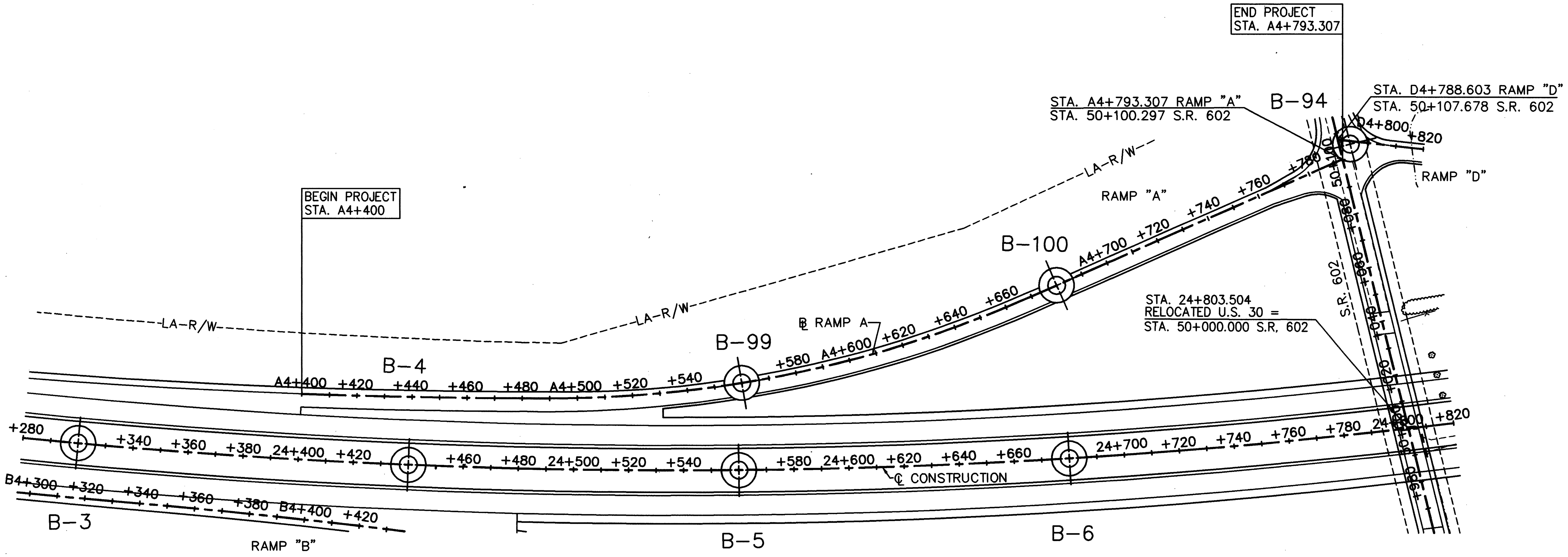
SERVICE ROAD A STA. 49+500 TO STA. 50+264.026

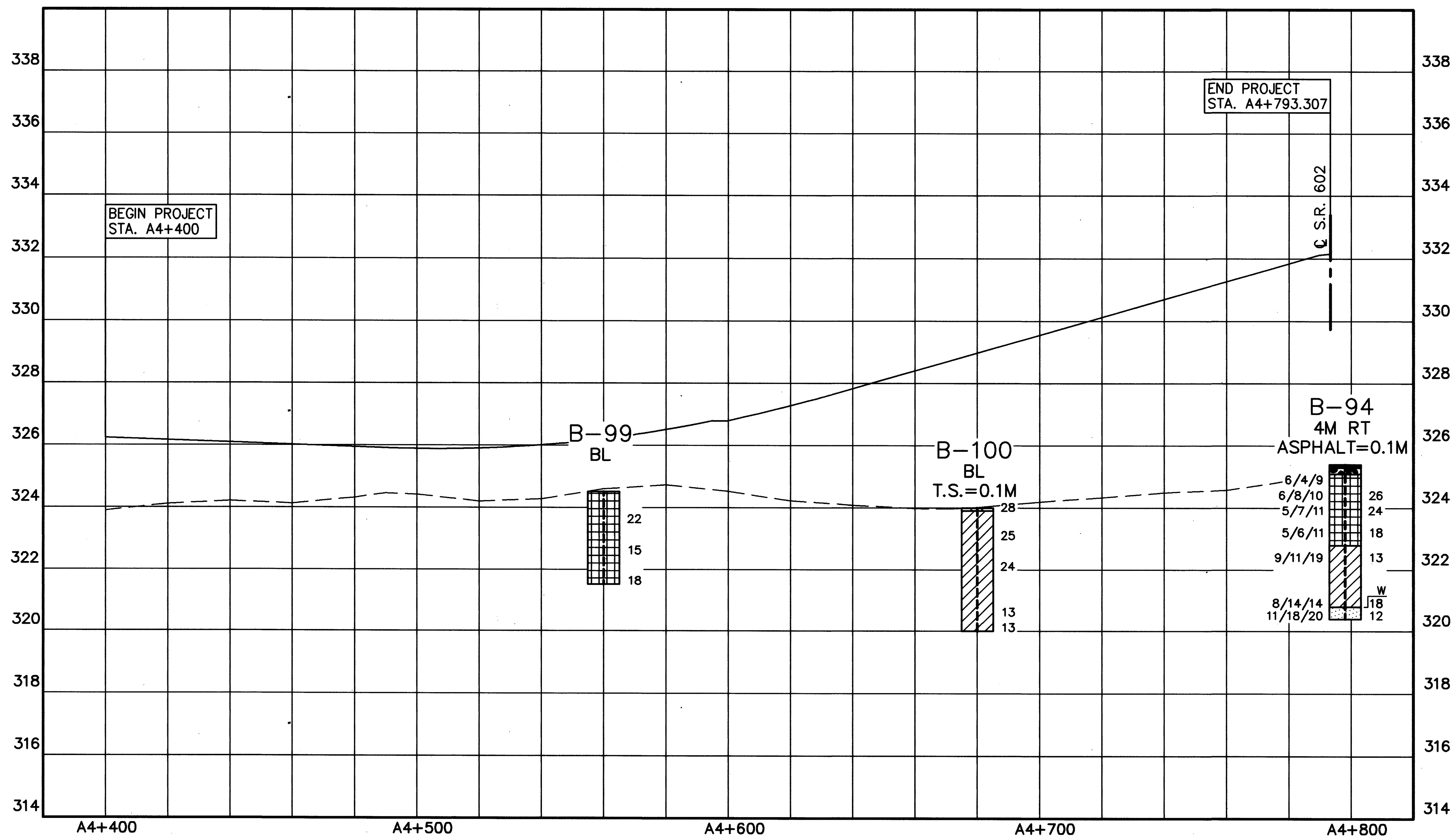
SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110
FILENAME: 7110R-24.DWG DATE: 27 APR 1998





RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-25.DWG
DATE: 27 APR 1998

HORIZONTAL SCALE IN METERS
0 20 40

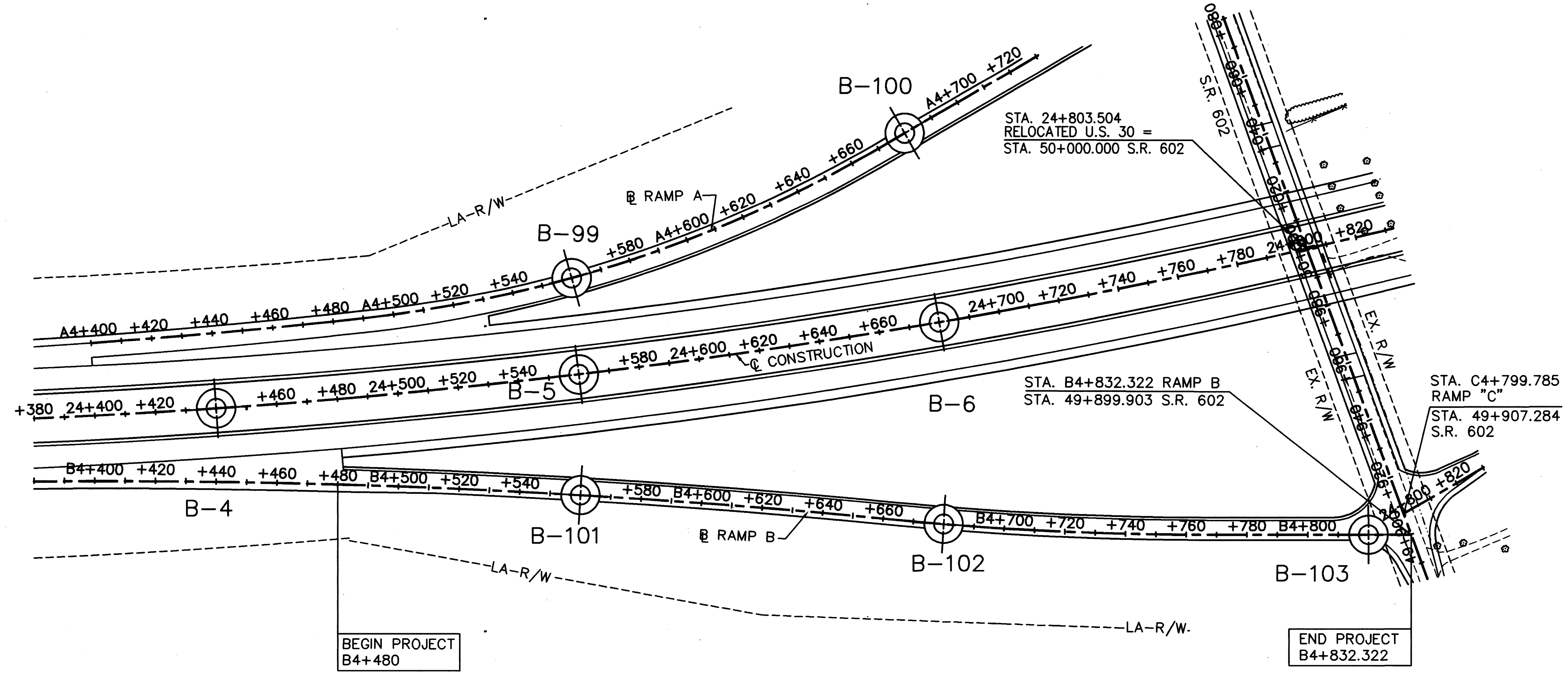
DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
	CHECKED GPH	DATE 4/30/98	

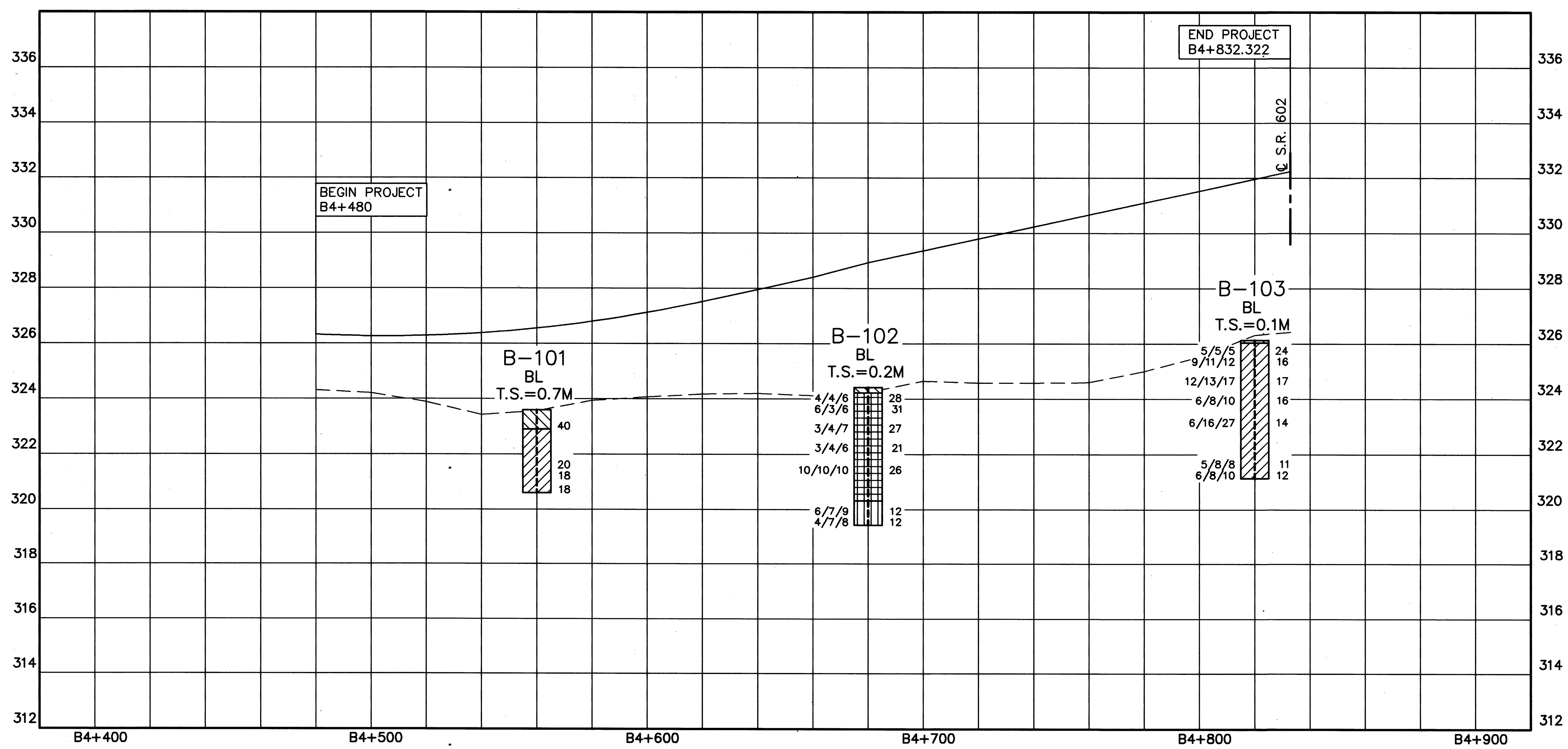
CRAWFORD COUNTY
CRA/RIC-30-24.000/0.000

RAMP A STA. A4+400 TO STA. A4+793.307

SOIL PROFILE

25/40





RAMP B STA. B4+480 TO STA. B4+832.322

SOIL PROFILE

CRAWFORD COUNTY

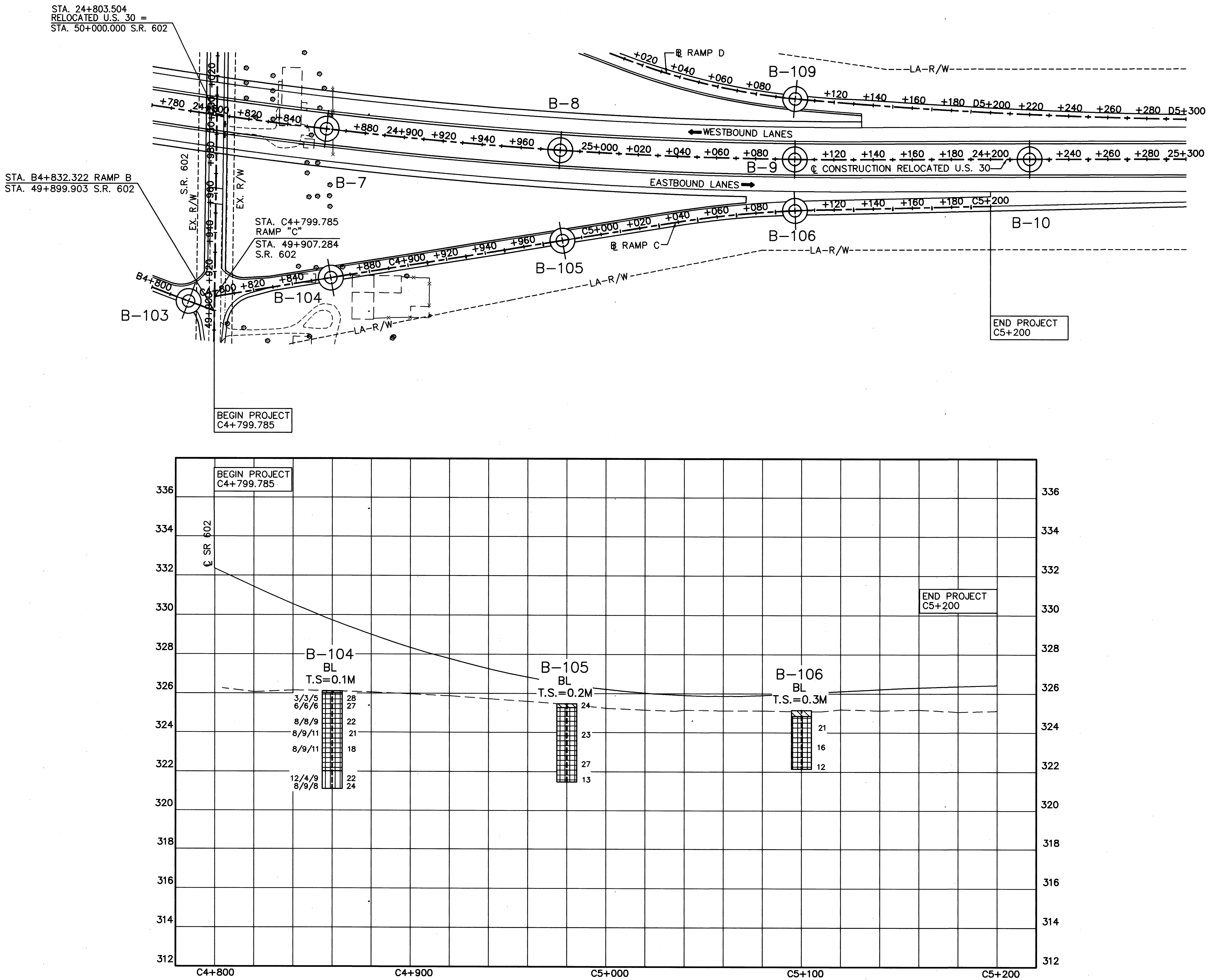
CRA-30-24.079

HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

26/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-26.DWG DATE: 27 APR 1998



CRAWFORD COUNTY
CRA-30-24.079

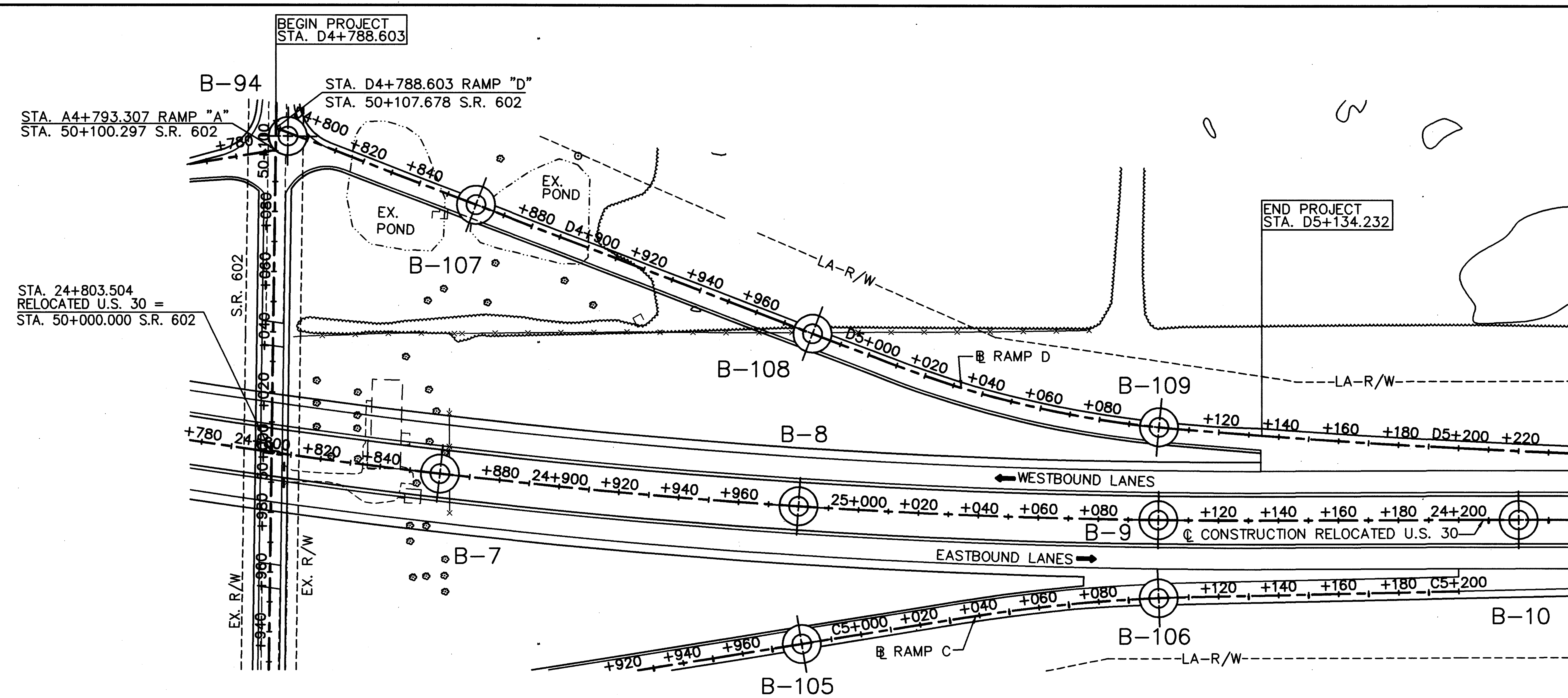
RAMP C STA. C4+799.785 TO STA. C5+200
SOIL PROFILE

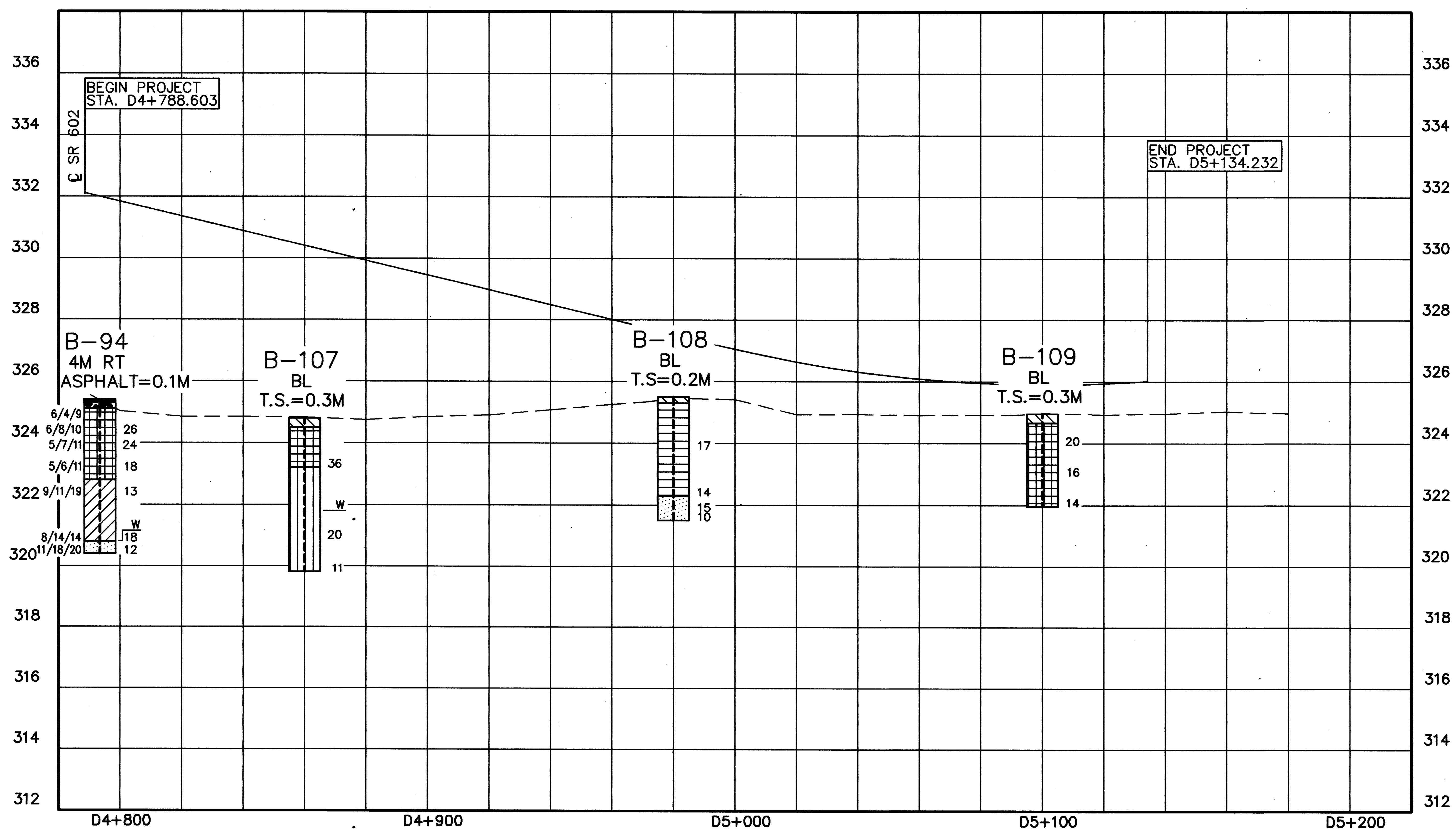
HORIZONTAL SCALE IN METERS 0 20 40

DRAWN EMC | REVIEWED | DATE 4/27/98 | DATE | CHECKED GPH | DATE 4/30/98

27/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-27.DWG
DATE: 27 APR 1998





HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

RAMP D STA. D4+788.603 TO STA. D5+345.080

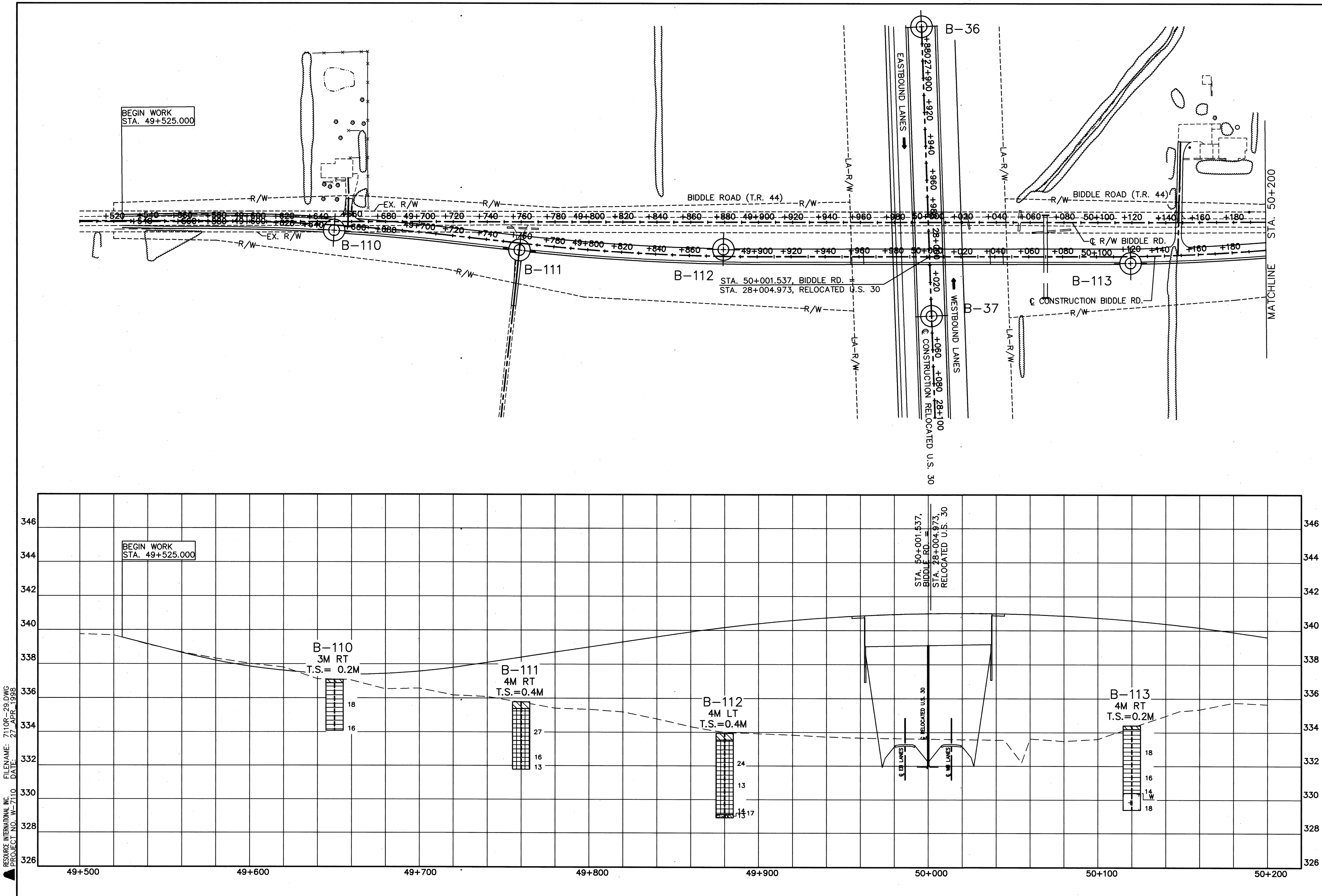
SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079

28/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-28.DWG DATE: 27 APR 1998



RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

FILENAME: 7110R-29.DWG
DATE: 27 APR 1998

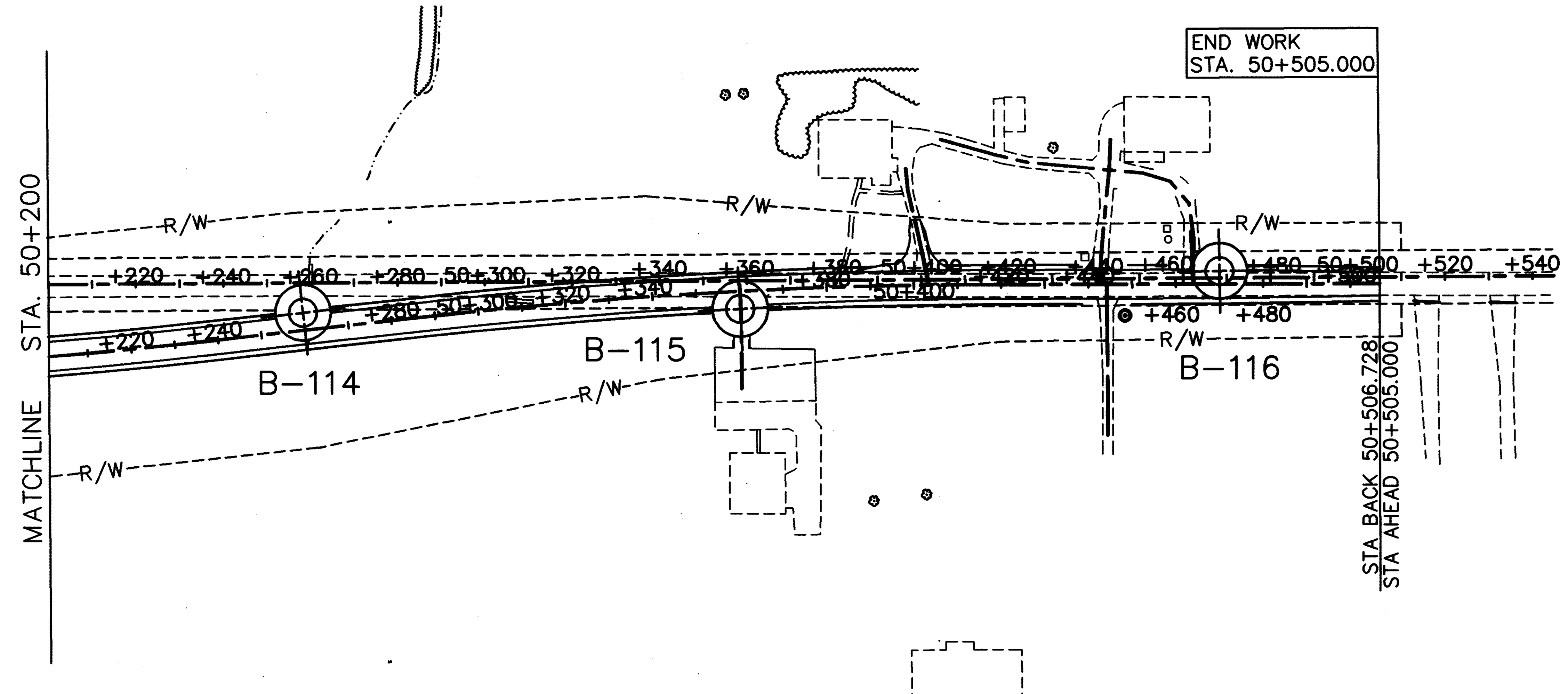
0 20 40
HORIZONTAL
SCALE IN METERS

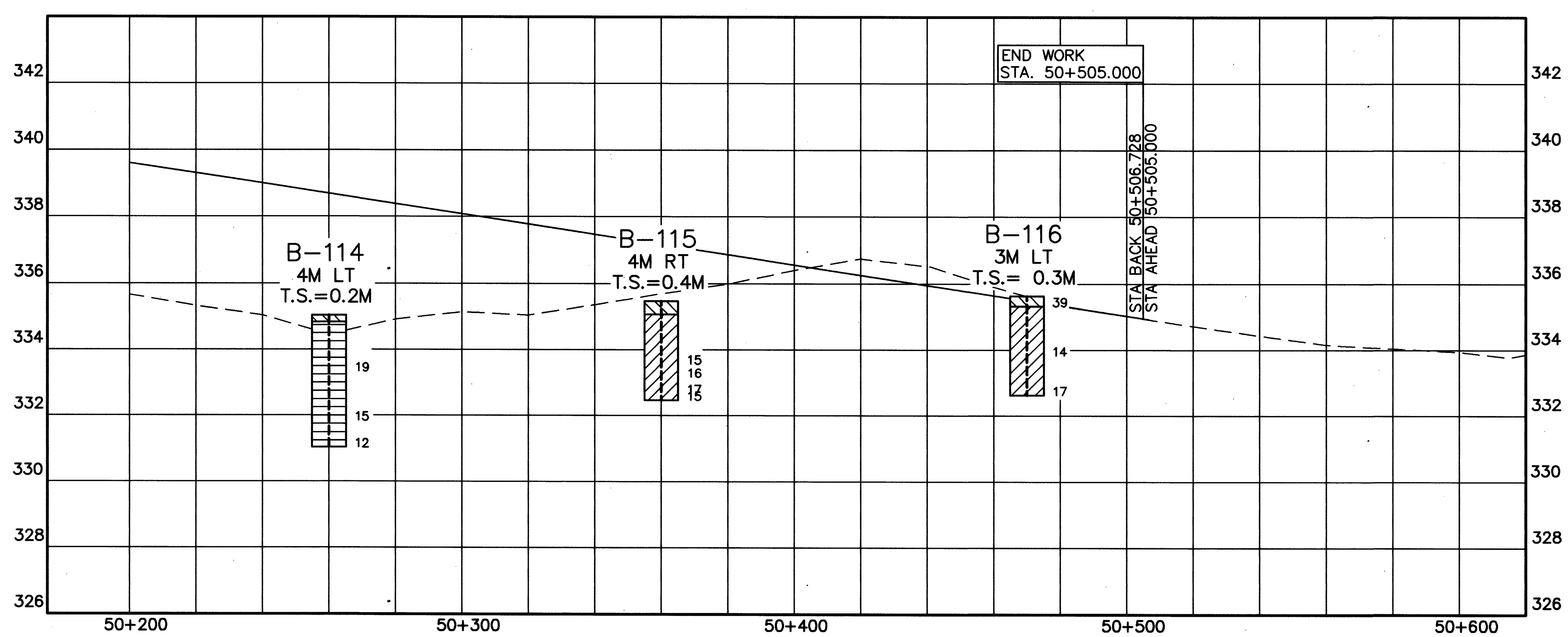
DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

BIDDLE ROAD STA. 49+500 TO STA. 50+200

SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079





HORIZONTAL SCALE IN METERS
0 20 40

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
		DATE 4/30/98	CHECKED GPH

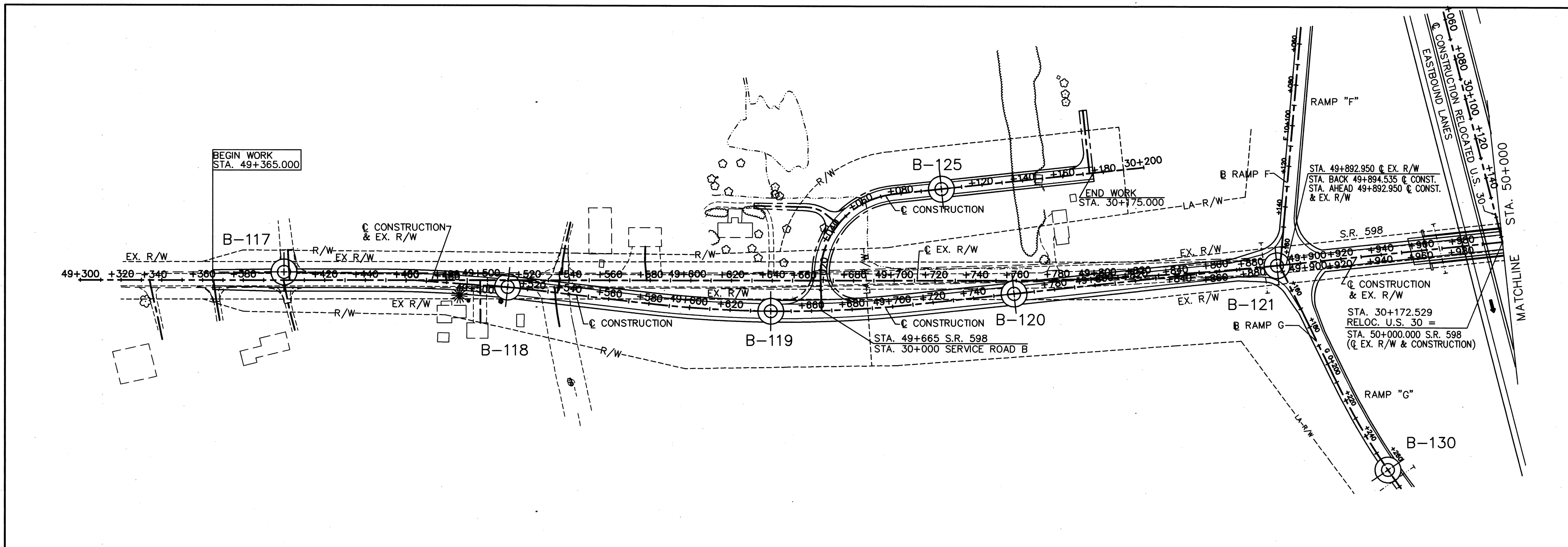
CRAWFORD COUNTY BIDDLE ROAD STA. 50+200 TO STA. 50+505

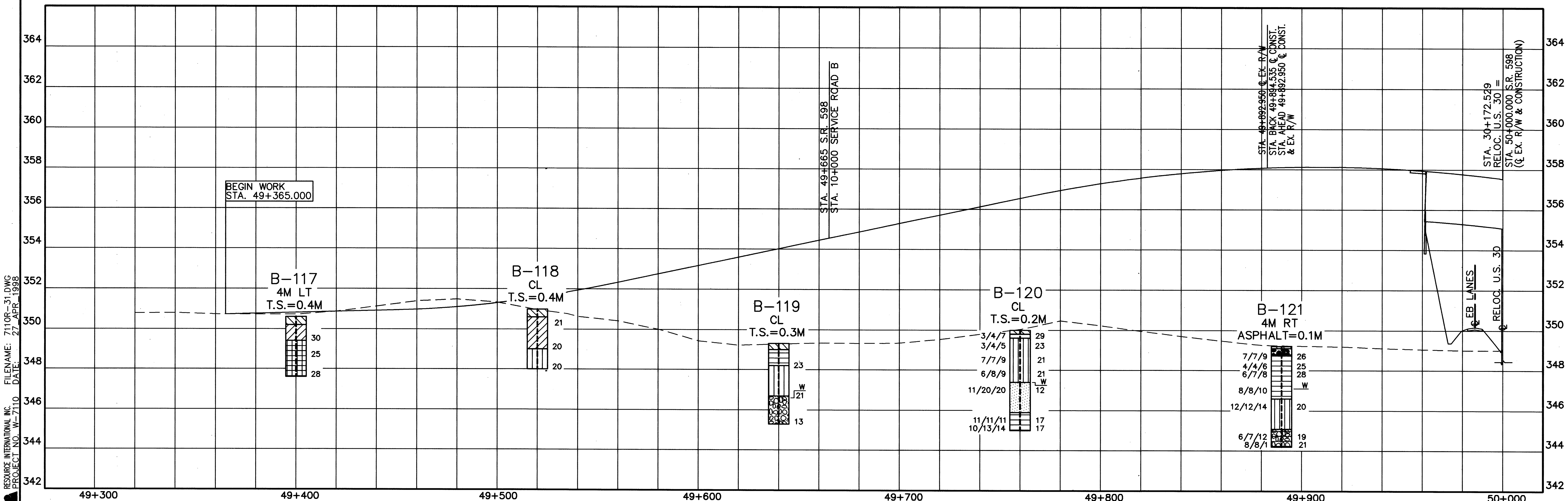
CRA-30-24.079

SOIL PROFILE

30/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-30.DWG
DATE: 27 APR 1998





HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

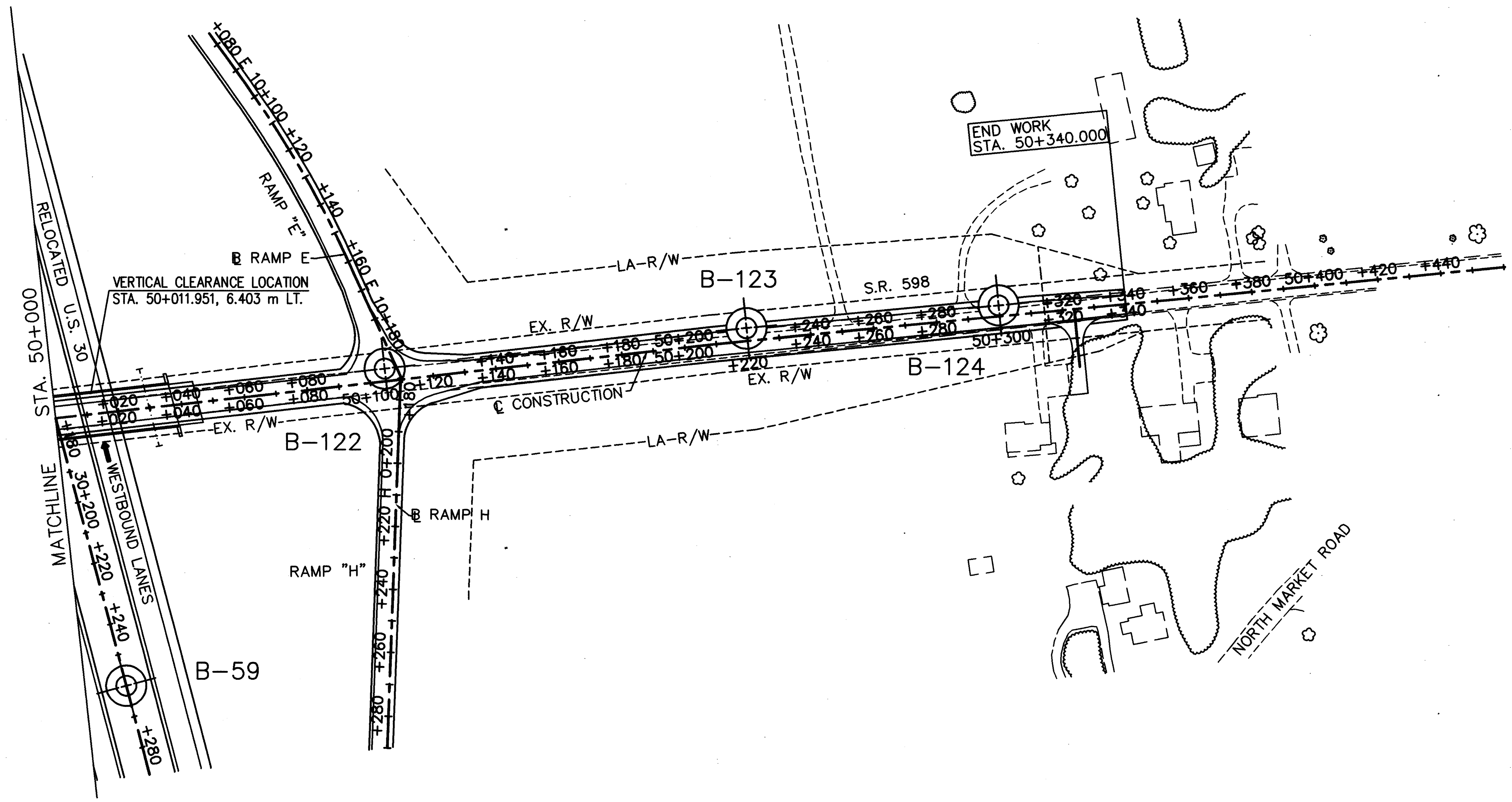
CRAWFORD COUNTY S.R. 598 STA. 49+300 TO STA. 50+000

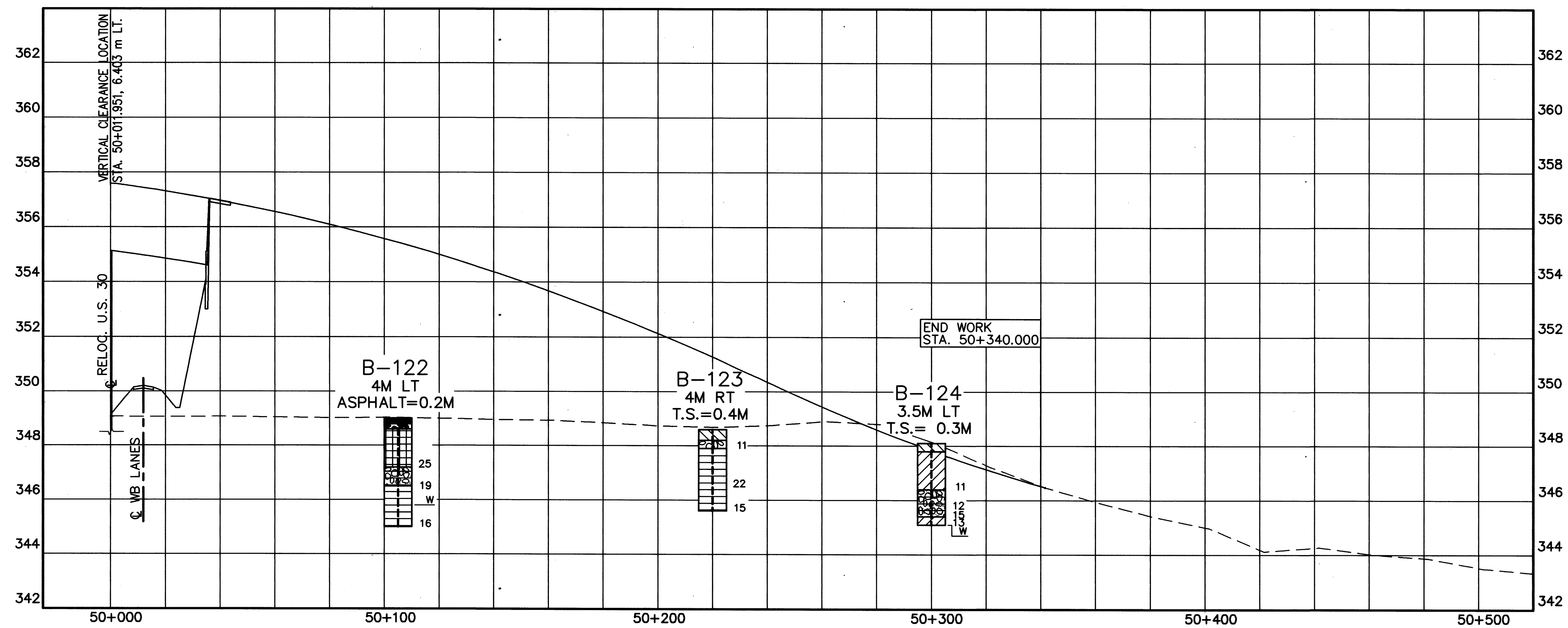
SOIL PROFILE

CRA-30-24.079

31/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-31.DWG DATE: 27 APR 1998





RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110
FILENAME: 7110R-32.DWG DATE: 27 APR 1998

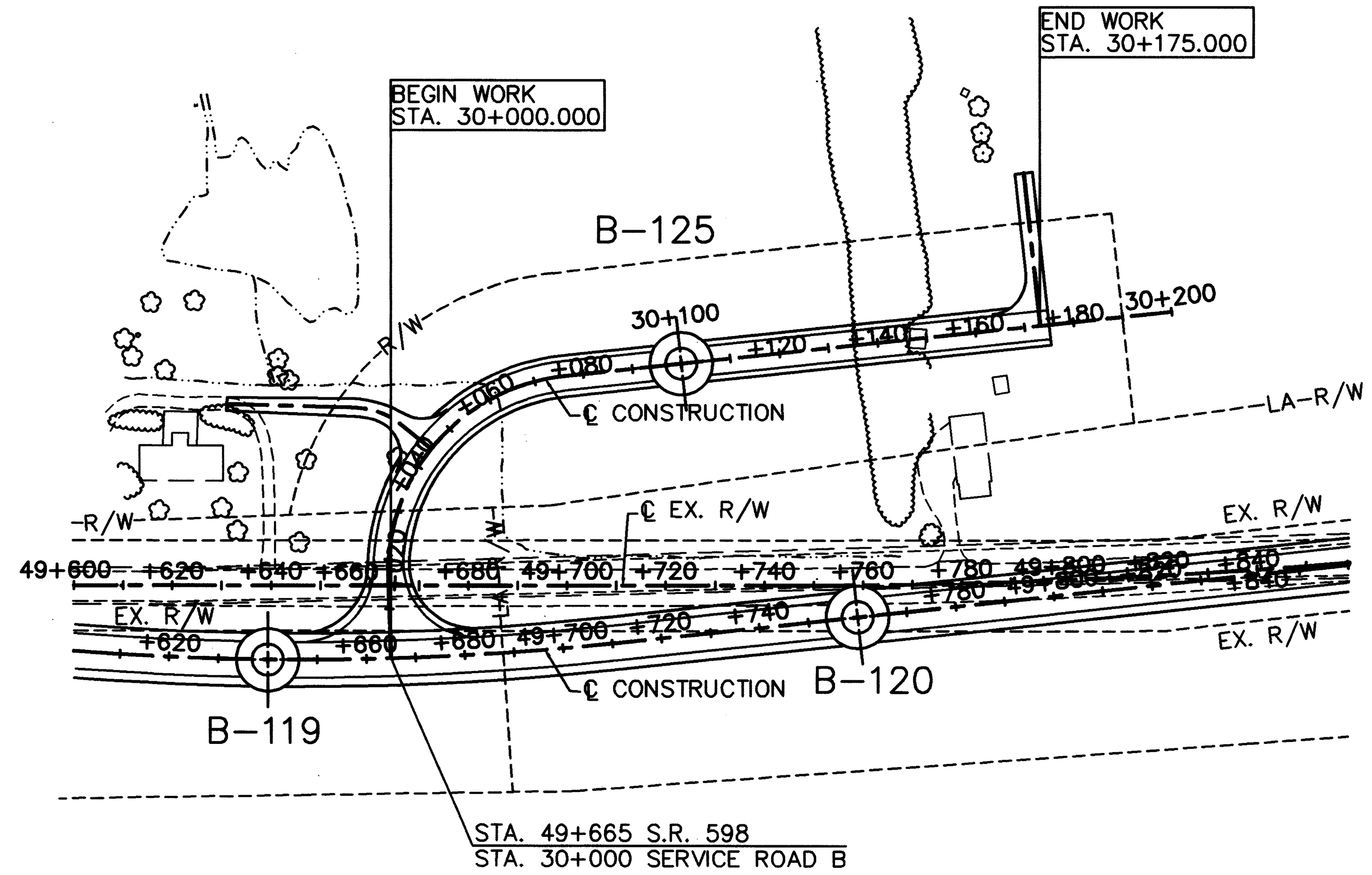
HORIZONTAL SCALE IN METERS 0 20 40

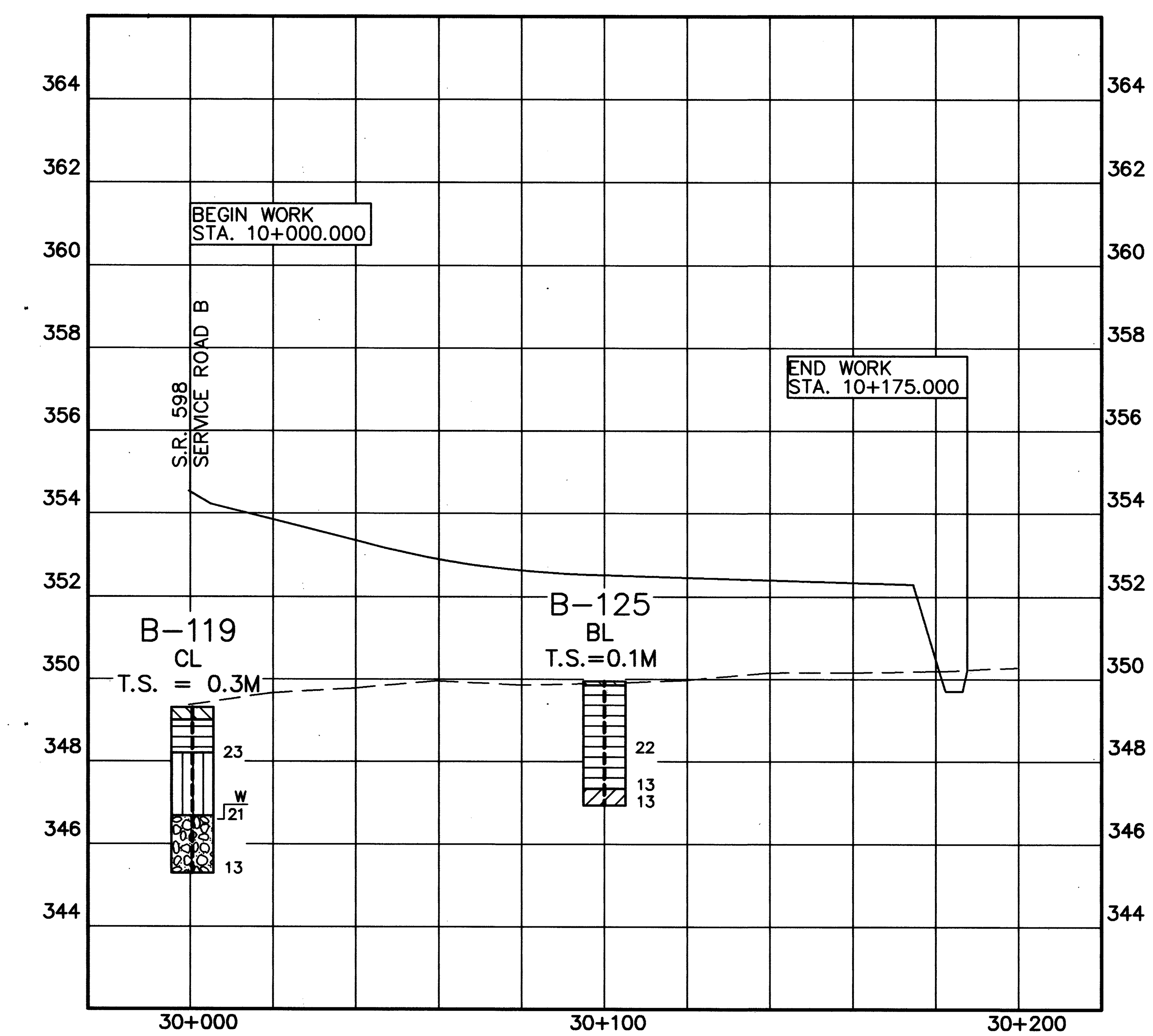
DRAWN EMC | REVIEWED | DATE 4/27/98 | CHECKED GPH | DATE 4/30/98

S.R. 598 STA. 50+000 TO STA. 50+340
SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

32/40





HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

SERVICE ROAD B STA. 10+000 TO STA. 10+175

SOIL PROFILE

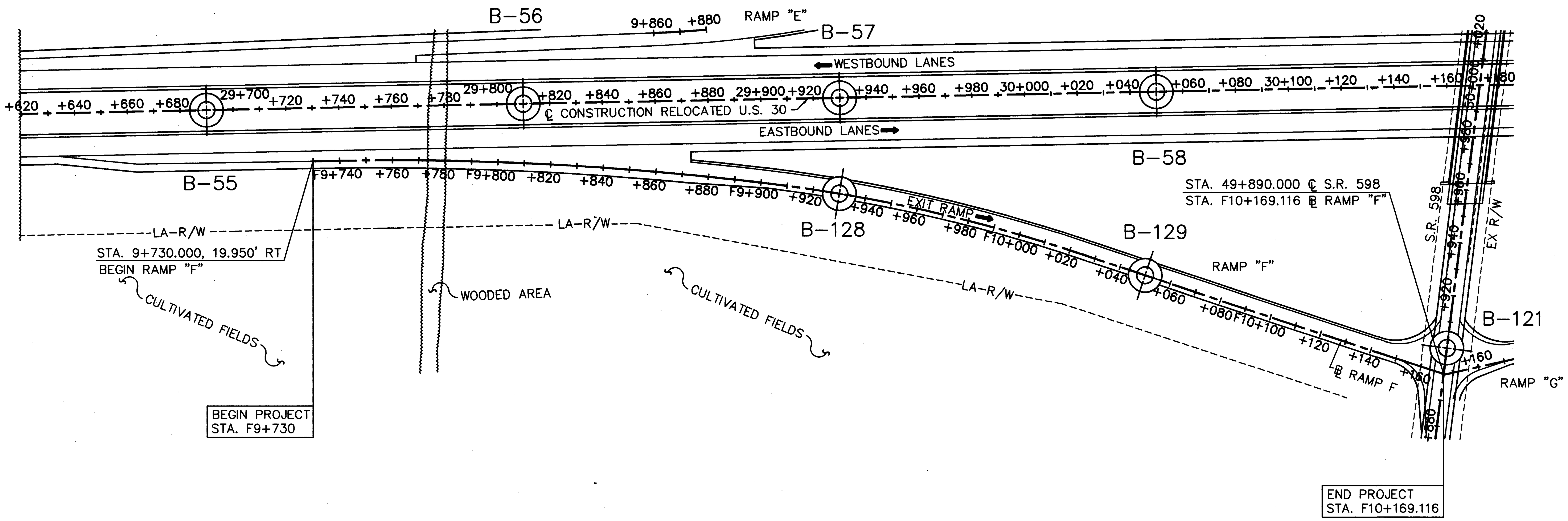
CRAWFORD COUNTY

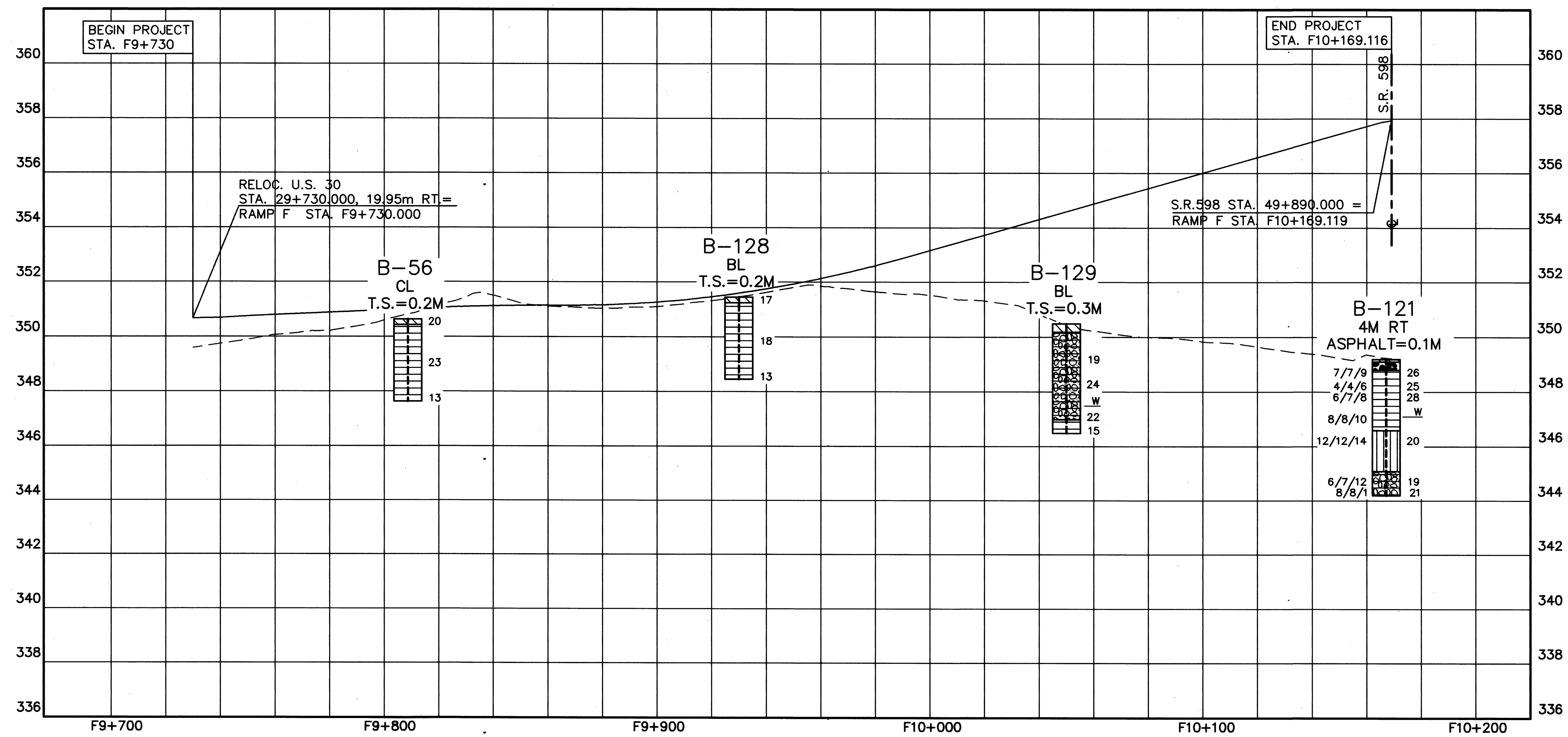
CRA-30-24.079

33/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-33.DWG DATE: 27 APR 1998


END PROJECT
STA. E10+200.609
CULTIVATED FIELDS
WOODED AREA
CULTIVATED FIELDS
WOODS
LA-R/W
STA. E9+860.000
BEGIN RAMP "E" = RELOC. U.S. 30
STA. 29+860.000, 25.725' LT
B-126
B-127
B-122
ENTRANCE RAMP
RAMP "E"
RAMP H
RAMP E
STA. 50+110.000 ℄ S.R. 598
STA. E10+200.609 ℄ RAMP "E"
EX R/W
B-59
RELOCATED U.S. 30
WESTBOUND LANES
℄ CONSTRUCTION RELOCATED U.S. 30
EASTBOUND LANES
B-56
B-57
B-58
RAMP "F"
S.R. 598 STA. 50+110.000 =
RAMP E STA. E10+200.609
RELOC. US 30 STA. 29+860.000, 27.725 m LT. =
RAMP E STA. E9+860.000
B-126
BL
T.S.=0.2M
B-127
BL
T.S.=0.2M
B-122
4M LT
ASPHALT=0.2M
E9+800
E9+900
E10+000
E10+100
E10+200
HORIZONTAL SCALE IN METERS
DRAWN EMC
REVIEWED
DATE 4/27/98
CHECKED GPH
DATE 4/30/98
RAMP E STA. 9+860 TO STA. 10+200.609
SOIL PROFILE
CRAWFORD COUNTY
CRA-30-24.079
34/40
RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-34.DWG
DATE: 27 APR 1998





RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110R-35.DWG
DATE: 27 APR 1998

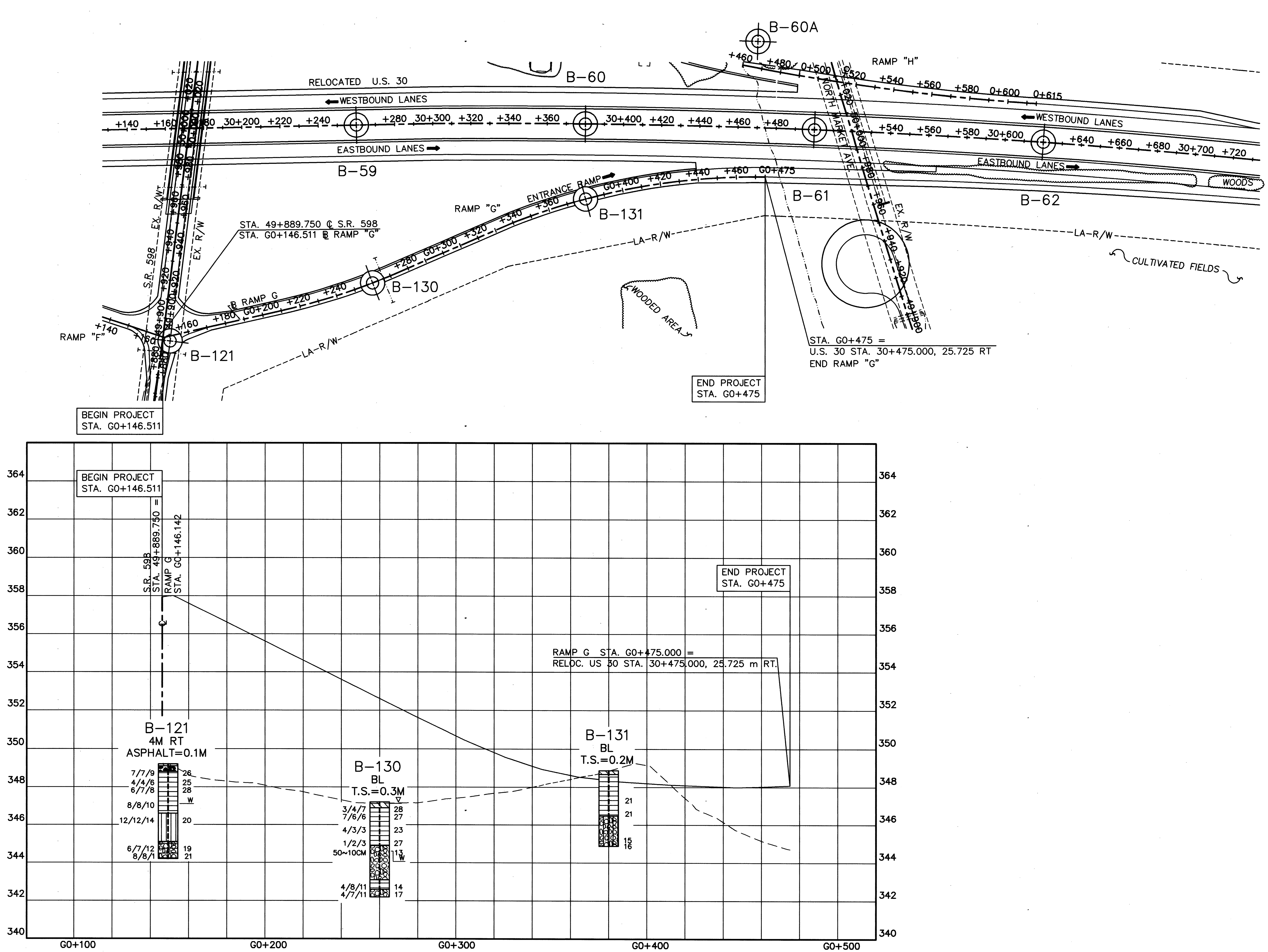
HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

RAMP F STA. 9+740 TO STA. 10+169.119
SOIL PROFILE

CRAWFORD COUNTY
CRA-30-24.079

35/40



HORIZONTAL SCALE IN METERS

0 20 40

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
	CHECKED	DATE	
	GPH	4/30/98	

RAMP G STA. 0+146.511 TO STA. 0+475.000

SOIL PROFILE

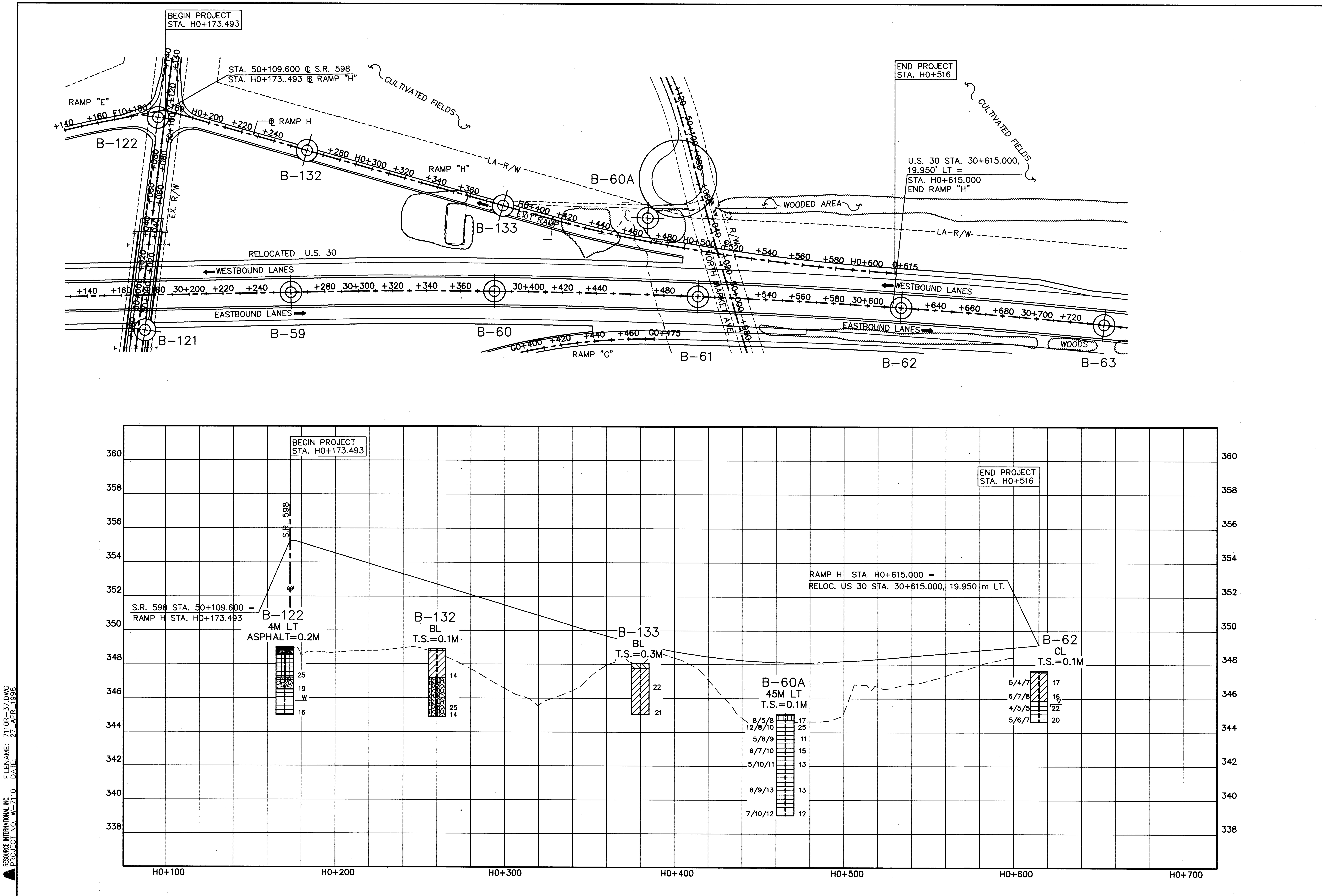
CRAWFORD COUNTY

CRA-30-24.079

36/40

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110

FILENAME: 7110R-36.DWG DATE: 27 APR 1998



HORIZONTAL SCALE IN METERS

DATE 4/27/98 DRAWN EMC

REVIEWED

CHECKED GPH DATE 4/30/98

CRAWFORD COUNTY

CRA-30-24.079

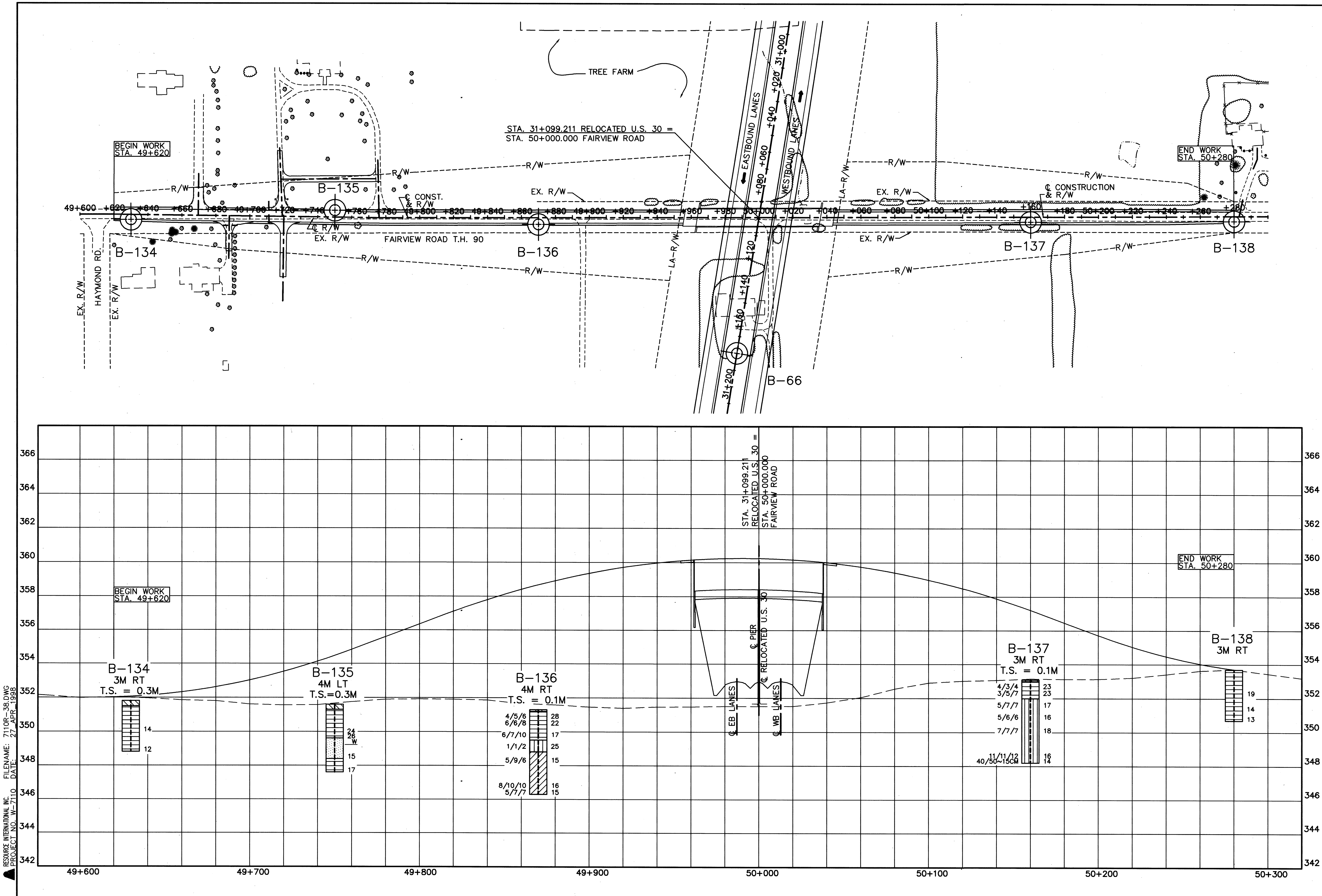
RAMP H STA. 0+173.493 TO STA. 0+615.000

SOIL PROFILE

37/40

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

FILENAME: 7110R-37.DWG
DATE: 27 APR 1998



HORIZONTAL SCALE IN METERS

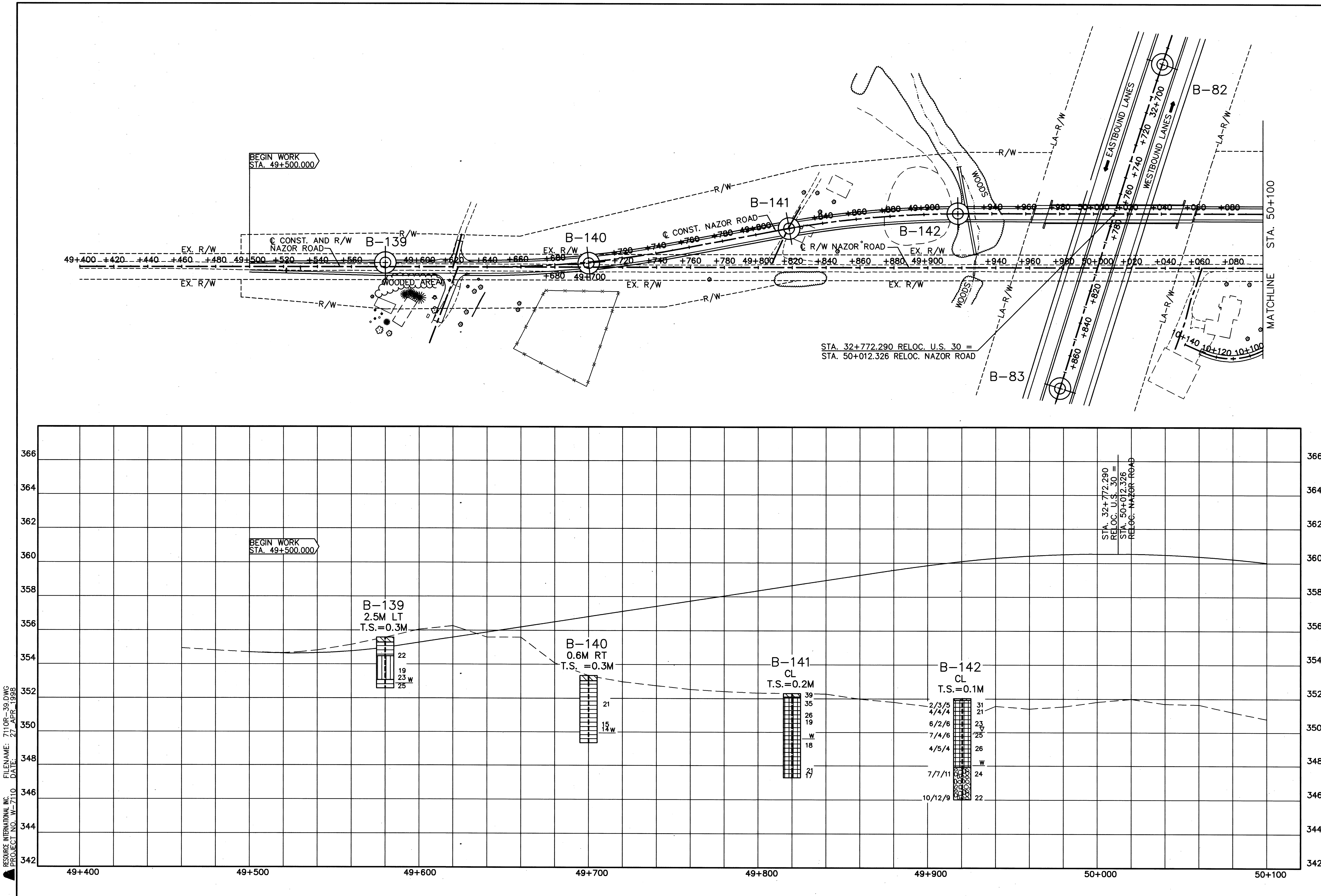
DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

FAIRVIEW ROAD STA. 49+600 TO STA. 50+300

SOIL PROFILE

CRAWFORD COUNTY

CRA-30-24.079



FILENAME: 7110R-39.DWG
DATE: 27 APR 1998

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

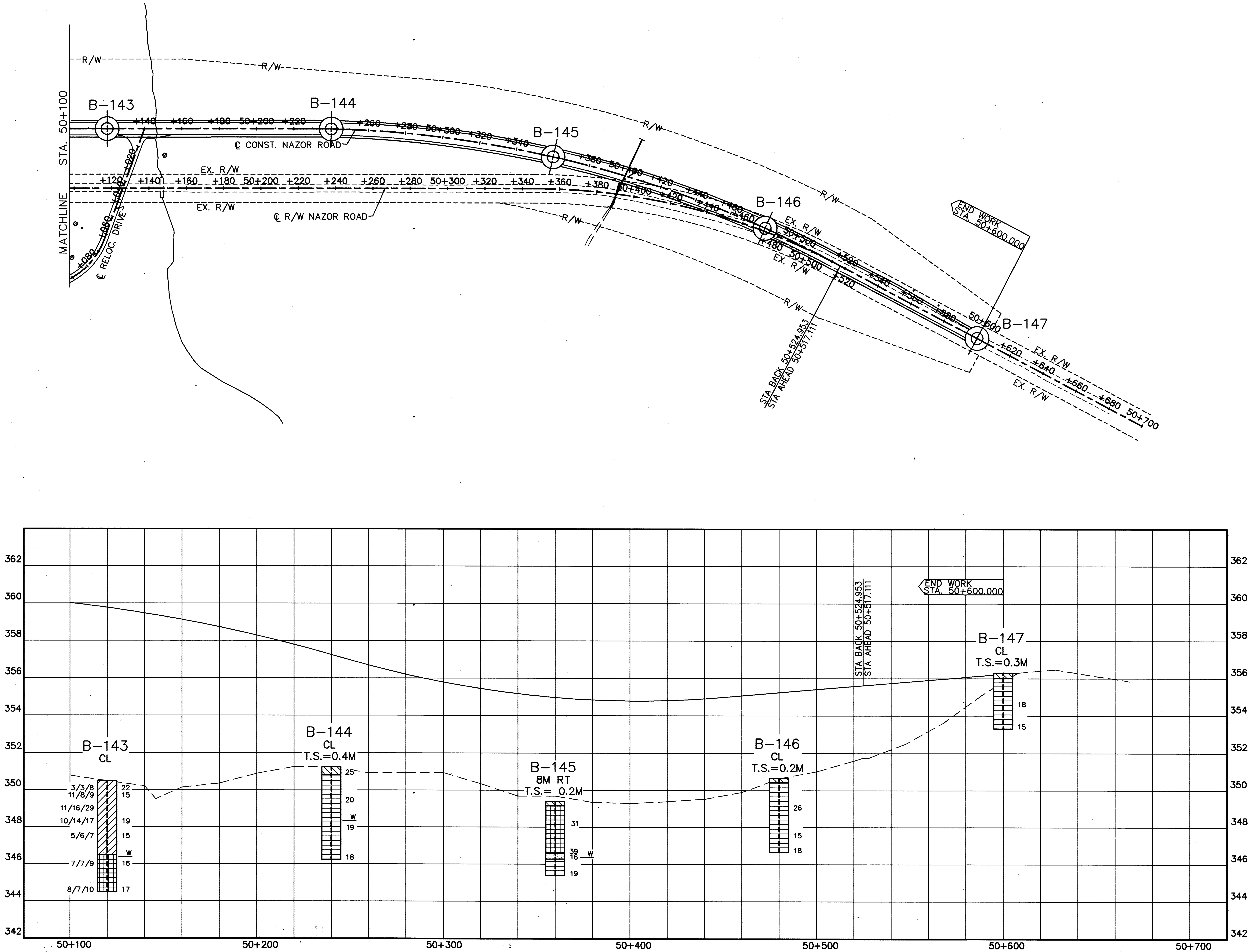
HORIZONTAL SCALE IN METERS

DRAWN	REVIEWED	DATE	CHECKED	DATE
EMC		4/27/98	GPH	4/30/98

CRAWFORD COUNTY NAZOR ROAD STA. 49+400 TO STA. 50+100

SOIL PROFILE

CRA-30-24.079



HORIZONTAL SCALE IN METERS
0 20 40

DRAWN	REVIEWED	DATE	DATE
EMC		4/27/98	
	CHECKED GPH	DATE 4/30/98	

CRAWFORD COUNTY NAZOR ROAD STA. 50+100 TO STA. 50+700

SOIL PROFILE

CRA-30-24.079

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110R-40.DWG DATE: 27 APR 1998

GEOLOGY OF THE SITE

GEOLOGICALLY, THE PROJECT SITE IS LOCATED WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN. BOTH THE ILLINOIAN AND WISCONSIN GLACIERS PASSED OVER THE AREA. BASED ON THE QUATERNARY GEOLOGY OF OHIO MARION QUADRANGLE, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE OVERBURDEN SOILS WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN CONSIST OF HIRAM AND LAKE GROUND MORAINE TILL DEPOSITED BY THE LATE WISCONSINAN ICE SHEET (APPROXIMATELY 17,000 YEARS BEFORE PRESENT). THE HIRAM AND LAKE GROUND AND END MORAINE TILL EXHIBIT A HIGH PERCENTAGE OF CLAY SOILS. THE UNDERLYING BEDROCK CONSISTS OF MISSISSIPPIAN-AGE INTERBEDDED BEREA SANDSTONE AND BEDFORD SHALE.

EXPLORATION

THREE (3) ENGINEERING TEST BORINGS, DESIGNATED SB-1 THROUGH SB-3, WERE DRILLED AT THE STATIONS AND OFFSETS SHOWN ON THE BORING LOGS. THE BORING LOCATIONS WERE DESIGNATED AND FIELD STAKED BY REPRESENTATIVES OF RESOURCE INTERNATIONAL, INCORPORATED. BORING SB-1, DRILLED TO A DEPTH OF 16.7 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE REAR ABUTMENT. BORING SB-2, DRILLED TO A DEPTH OF 16.3 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE PIER, AND SB-3, DRILLED TO A DEPTH OF 16.7 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE FORWARD ABUTMENT. THE BORINGS WERE DRILLED ALONG THE EXISTING SR 602, THROUGH THE ASPHALT PAVEMENT. BEDROCK WAS CORED IN ALL THREE BORINGS. THE BORINGS WERE ADVANCED WITH A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING 8.3-CENTIMETER (3.25-INCH) HOLLOW STEM AUGERS TO ADVANCE THE HOLES. A DOUBLE TUBE DIAMOND BIT CORE BARREL WAS USED TO CORE THE BEDROCK ENCOUNTERED. CORING PRODUCED NX-SIZED (5.3-CENTIMETER DIAMETER) CORES, FROM WHICH THE TYPE OF ROCK AND ITS GEOLOGICAL CHARACTERISTICS WERE DETERMINED. THE DRILLING WAS PERFORMED BETWEEN NOVEMBER 18, 1997 AND NOVEMBER 20, 1997.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS, DRILLED THROUGH THE PAVEMENT, EXHIBITED 0.1 TO 0.3-METER OF ASPHALT PAVEMENT WITH A 0.2-METER THICK AGGREGATE BASE. THE SUBSURFACE PROFILE WAS VERY CONSISTENT BETWEEN THE BORINGS, CONSISTING OF APPROXIMATELY 5.0 METERS OF BROWN TO GRAY CLAYEY SILT (SILTY CLAY), OVERLYING 4.5 METERS OF GRAY FINE TO COARSE SAND, OVERLYING A 3-METER(?) THICK STRATUM OF BROWN TO GRAY CLAYEY SILT (SANDY CLAY). A MORE COMPREHENSIVE DESCRIPTION OF WHAT WAS ENCOUNTERED DURING THE DRILLING PROCESS MAY BE FOUND IN THE BORING LOGS IN APPENDIX C AT THE END OF THE SUBSURFACE INVESTIGATION REPORT. LABORATORY TEST RESULTS AND VISUAL INSPECTION OF REPRESENTATIVE SAMPLES INDICATE THAT THE SOILS ENCOUNTERED ARE CLASSIFIED AS ODOT A-1-b, A-2-4, A-4a, A-6a, AND A-6b.

MANY SOIL PROPERTIES, INCLUDING SOIL CONSISTENCY AND SHEAR STRENGTH (OF COHESIVE SAMPLES), ARE PRIMARILY DERIVED FROM STANDARD PENETRATION BLOW COUNTS, HAND PENETROMETER READINGS (PERFORMED ON COHESIVE SAMPLES), AND UNCONFINED COMPRESSIVE STRENGTH TESTING. STANDARD PENETRATION BLOW COUNTS RECORDED DURING THE DRILLING PROCESS RANGED FROM 9 BLOWS PER 30 CENTIMETERS TO REFUSAL, INDICATING THE PRESENCE OF STIFF TO HARD COHESIVE SOILS AND MEDIUM DENSE TO VERY DENSE GRANULAR SOILS. REFUSAL IS DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 15 CENTIMETERS OF PENETRATION. THE UNCONFINED COMPRESSIVE STRENGTH OF THE SOILS, AS OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 48 KILOPASCALS TO IN EXCESS OF 431 KILOPASCALS (THE LIMIT OF THE INSTRUMENT). THE LABORATORY UNCONFINED COMPRESSIVE STRENGTH TEST PERFORMED ON SAMPLE ST-3 IN SB-1 INDICATED AN "IN-SITU" UNIT WEIGHT OF 19.9 KILONEWTONS PER CUBIC METER, AND AN UNCONFINED COMPRESSIVE STRENGTH OF 87 KILOPASCALS.

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 10% TO 26%, HOWEVER, A MAJORITY OF THE MOISTURE CONTENTS WERE LESS THAN 20%. THE MOISTURE CONTENTS FOR THE COHESIVE SOILS RANGED FROM 4% BELOW TO 7% ABOVE THEIR CORRESPONDING PLASTIC LIMITS. IN GENERAL, THE MOISTURE CONTENTS ARE CONSIDERED TO BE AT TO ABOVE THEIR CORRESPONDING OPTIMUM MOISTURE CONTENTS (DETERMINED FROM CORRELATION CHARTS).

GROUNDWATER WAS INITIALLY ENCOUNTERED DURING THE DRILLING PROCESS ON THE DRILL ROD IN SB-1 AT 5.9 METERS (ELEVATION 320.2 METERS), IN SB-2 AT 5.8 METERS (ELEVATION 320.4 METERS), AND IN SB-3 AT 5.8 METERS (ELEVATION 320.3 METERS). DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS, AN ACCURATE DEPTH TO GROUNDWATER COULD NOT BE DETERMINED UPON COMPLETION OF THE DRILLING PROCESS IN ANY OF THE BORINGS. GROUNDWATER LEVELS AND/OR THE PRESENCE OF GROUNDWATER ARE CONSIDERED TO BE DEPENDENT ON THE SEASONAL FLUCTUATIONS IN PRECIPITATION. AT THE TIME OF THIS INVESTIGATION, RECENT PRECIPITATION WAS CONSIDERED TO BE NORMAL.

BASED ON THE BORING LOGS, THE TOP OF BEDROCK IS RELATIVELY FLAT WITHIN THE PROJECT AREA. THE BOREHOLES ENCOUNTERED BEDROCK AT THE FOLLOWING ELEVATIONS:

BORING NO.	STATION & OFFSET	GROUND ELEVATION	TOP OF WEATHERED BEDROCK	TOP OF CORED BEDROCK	REFERENCED STRUCTURAL MEMBER
SB-1	49+959; 2.4 M RT	326.1 M	312.6 M	310.8 M	REAR ABUTMENT
SB-2	50+002; 2.4 M RT	326.2 M	312.8 M	311.4 M	PIER
SB-3	50+037; 2.4 M LT	326.1 M	312.8 M	310.8 M	FORWARD ABUT.

APPROXIMATELY THE TOP 2.0 METERS OF BEDROCK IS DESCRIBED AS GRAY, VERY SOFT (AUGERABLE), WEATHERED, SHALE. THE UNDERLYING CORED BEDROCK IN SB-1 IS DESCRIBED AS GRAY, SOFT, HIGHLY BROKEN, SLIGHTLY JOINTED, SHALE INTERBEDDED WITH GRAY, MEDIUM HARD, SLIGHTLY JOINTED, SANDSTONE. THE CORED BEDROCK IN SB-2 AND SB-3 IS DESCRIBED AS GRAY, MEDIUM HARD, FINE-GRAINED, SLIGHTLY BROKEN, SANDSTONE. THE OVERALL QUALITY OF THE CORED BEDROCK, AS INDICATED BY THE ROCK QUALITY DESIGNATION (RQD), WAS VERY POOR (FROM 0% IN ROCK CORES RC-1 IN SB-1 AND RC-1 IN SB-3 TO 13% IN ROCK CORE RC-1 IN SB-2). THE COMPRESSIVE STRENGTH OF THE SANDSTONE IN SB-2 WAS 58 MEGAPASCALS.

LEGEND

Press and/or Drive Sample and/or Core Boring Location-Plan View.

Horizontal Bar on Boring Log indicates the Depth the Sample was Taken.

X/Y/Z — Figures Beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Test.

X = Number of Blows for First 150 Millimeters

Y = Number of Blows for Second 150 Millimeters

Z = Number of Blows for Third 150 Millimeters

TR—— Top of Rock

W—— Indicates Free Water level

Particle Size Definitions

20.32cm	7.62cm	2.0mm	0.42mm	0.074mm	0.005mm	
Boulders	Cobbles	Gravel	C.Sand	F.Sand	Silt	Clay
		No. 10	No. 40	No. 200		

Symbol Of Rock Type

WEATHERED SHALE

SHALE

SANDSTONE

GENERAL INFORMATION

Borings are made by means of a truck mounted rotary drilling machine. Standard Penetration testing was performed at 0.75 to 1.5 meter intervals. The Standard Penetration Test (ASTM D 1586) is conducted by using a 63.5 kg hammer falling 760 millimeters to drive a 51 millimeter O.D. split-barrel sampler 450 millimeters. Driving resistance is recorded on the boring logs in terms of blows per 150 millimeter interval of the driving distance. The second and third intervals are added to obtain the number of blows per 300 millimeters.

The boring log sheet shows graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the Standard Penetration Tests in three 150 millimeter increments, field sample number, and sample description based on laboratory tests and the Ohio Department of Transportation Classification System. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sample cannot be driven, a wash sample is procured for visual classification to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Note--all available soil and bedrock information which can be conveniently shown on the structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of the data, if any, may be inspected in the District Deputy Director's Office (District 3), The Soils Section of the Office of Roadway Engineering, or in the Office of Bridges at 25 South Front Street, Columbus, Ohio 43215.

The purpose of this subsurface investigation is to develop soils information specifically for foundation design purposes and is not intended to be used for construction estimating or bidding. Information shown was obtained for use in establishing design criteria for the project. The accuracy of the data presented is not guaranteed by the State of Ohio or Consultant and is not to be construed as part of the plans governing construction of the project.

RESOURCE INTERNATIONAL INC.
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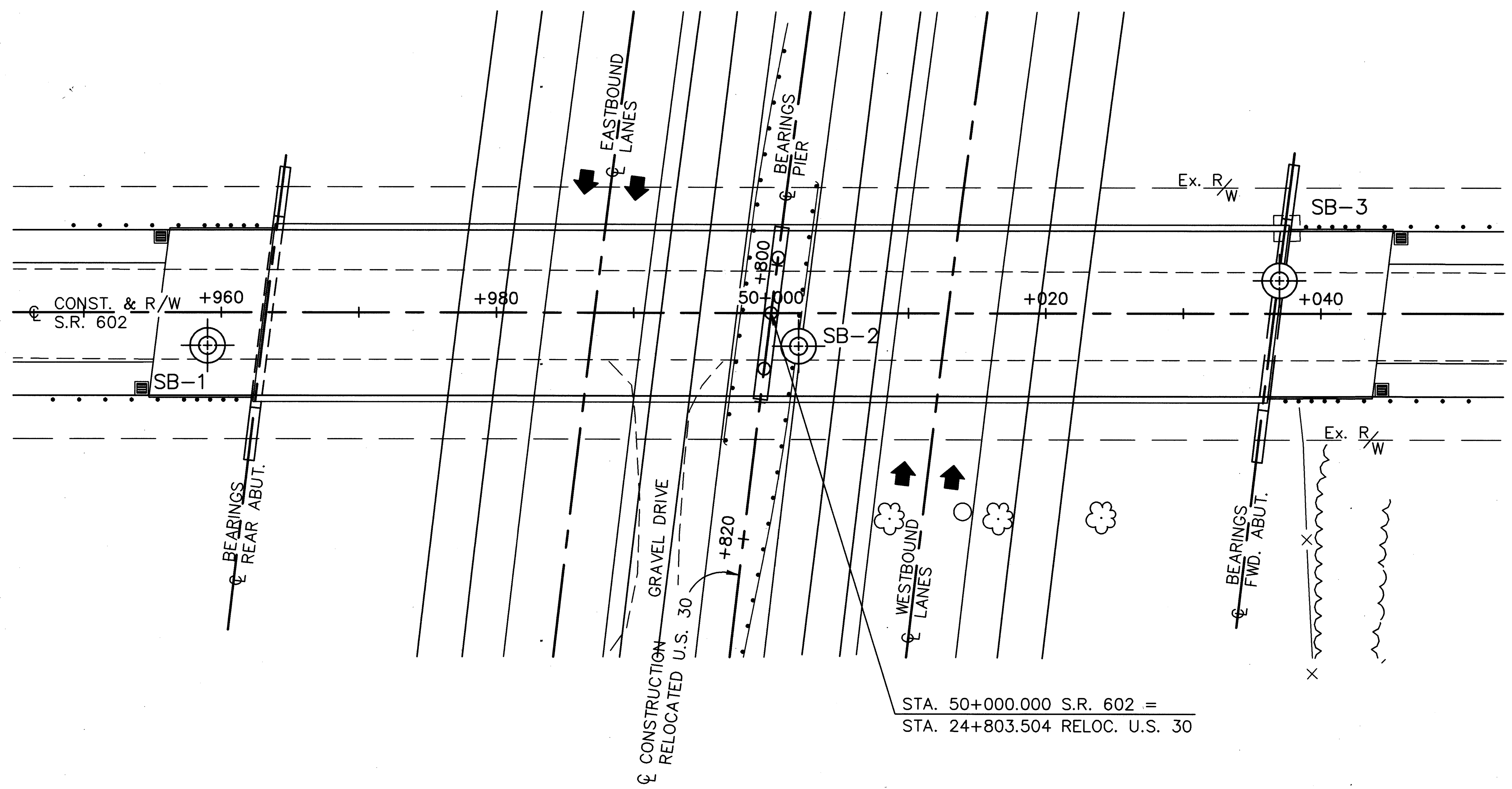
(614) 885-1959

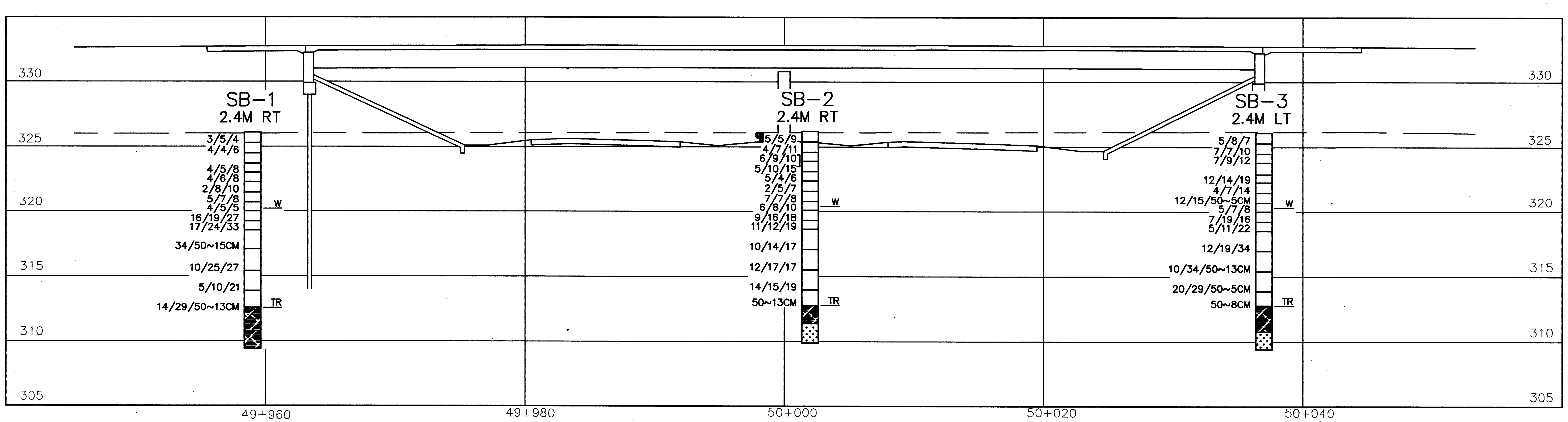
DATE	DRAWN
5/26/98	EMC
DATE	CHECKED
5/26/98	DLK

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-24797 UNDER S.R. 602

CRA-30-24.000

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110S3-2.DWG
DATE: 26 MAY 1998





PROFILE ALONG ℄ CONSTRUCTION

FILENAME: 7110S3−2.DWG
DATE: 26 MAY 1998
RESOURCE INTERNATIONAL INC.
PROJECT NO. W−7110

HORIZONTAL SCALE IN METERS
0 5 10

DRAWN EMC DATE 5/26/98
CHECKED DLK DATE 5/26/98

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. CRA−30−24797 UNDER S.R. 602

CRA−30−24.000

BORING LOG: SB-1

STATION AND OFFSET: 49+959, 2.4M RT
SURFACE ELEVATION: 326.1 M
WATER ENCOUNTERED: SEEPAGE @ 5.9M *

DATE STARTED: 11/20/97
DATE FINISHED: 11/20/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					20cm – ASPHALT 0.2M									
					17cm – BASE MATERIAL 0.4M									
325.3	SS-1	3/5/4	94%	1	BROWN AND GRAY CLAY AND SILT, LITTLE SAND, TRACE GRAVEL.	24								VISUAL
324.5	SS-2	4/4/6	89%	2		24								VISUAL
323.7	ST-3				2.4M	23	34	18	7	5	13	41	34	A-6b
					BROWN AND GRAY CLAYEY SILT, SOME SAND, TRACE GRAVEL.									
323.0	SS-4	4/5/8	100%	3		20								VISUAL
322.3	SS-5	4/6/8	89%	4		17								VISUAL
321.5	SS-6	2/8/10	94%	5		10								VISUAL
320.7	SS-7	5/7/8	94%		5.6M	23	31	15	6	10	16	38	30	A-6a
					GRAY SAND, LITTLE SILT, LITTLE GRAVEL.									
320.0	SS-8	4/5/5	56%	6		26			10	51	25	–14–		A-1-b
319.2	SS-9	16/19/27	94%	7	7.1M	10								VISUAL
					GRAY SAND AND GRAVEL, LITTLE SILT, LITTLE CLAY.									
318.5	SS-10	17/24/33	94%	8		11			44	19	16	–21–		A-1-b
317.1	SS-11	34/50~15CM	67%	9		16								VISUAL
				10	10.3M									
					BROWN AND GRAY SILTY CLAY, SOME SAND, LITTLE GRAVEL.									
315.4	SS-12	10/25/27	89%	11		10			39	26	18	–17–		A-1-b
313.9	SS-13	5/10/21	94%	12		13								VISUAL
				13	13.5M									
					GRAY WEATHERED SHALE.									
312.4	SS-14	14/29/50~13CM	83%	14										VISUAL
310.8				15	15.3M									
	RC-1		40%	16	SHALE (90%); GRAY, SOFT, HIGHLY BROKEN, AND SLIGHTLY JOINTED; WITH INTERBEDDED FINE GRAINED SANDSTONE (10%); GRAY, MEDIUM HARD, SLIGHTLY JOINTED. GRAY CLAY SEAMS PRESENT (LESS THAN 3CM IN THICKNESS). – CORE LOSS = 60% – RQD = 0%									
309.4														

BOTTOM OF BORING = 16.7M

BORING LOG: SB-2

STATION AND OFFSET: 50+002, 2.4M RT
SURFACE ELEVATION: 326.2 M
WATER ENCOUNTERED: SEEPAGE @ 5.8 M *

DATE STARTED: 11/19/97
DATE FINISHED: 11/19/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					30cm – ASPHALT 0.2M									
					15CM – BASE MATERIAL 0.5M									
325.4	SS-1	5/5/9	89%	1	BROWN TO GRAY CLAYEY SILT, SOME SAND, LITTLE GRAVEL.	19								VISUAL
324.6	SS-2	4/7/11	83%			19	38	22	12	11	18	32	27	A-6b
323.9	SS-3	6/9/10	94%	2		20								VISUAL
323.1	SS-4	5/10/15	89%	3		15								VISUAL
322.4	SS-5	5/4/6	89%	4		15	31	14	17	7	17	35	24	A-6b
321.6	SS-6	2/5/7	56%		4.9M	14								VISUAL
				5	BROWN AND GRAY SANDY CLAY, SOME SILT.									
320.8	SS-7	7/7/8	83%		5.6M	21								VISUAL
					GRAY SAND, SOME GRAVEL, TRACE SILT AND CLAY.									
320.1	SS-8	6/8/10	89%	6		15			31	31	31	–7–		A-1-b
319.3	SS-9	9/16/18	100%	7	7.2M	14								VISUAL
					BROWN AND GRAY SAND, SOME GRAVEL, SOME SILT, TRACE CLAY.									
318.6	SS-10	11/12/19	94%	8		16	16	3	21	27	23	20	9	A-2-4
317.1	SS-11	10/14/17	94%	9		19								VISUAL
				10	10.0M									
					BROWN AND GRAY CLAYEY SILT, SOME SAND, LITTLE GRAVEL.									
315.5	SS-12	12/17/17	89%	11		16								VISUAL
314.0	SS-13	14/15/19	83%	12		14	25	10	11	8	14	42	25	A-4a
312.8	SS-14	50~13CM	22%	13	13.4M	10								VISUAL
				14	BROWN TO GRAY HIGHLY WEATHERED SHALE.									
311.8					AUGER REFUSAL @ 14.8M 14.8M									
	RC-1		60%	15	SANDSTONE; GRAY, MEDIUM HARD, FINE GRAINED, SLIGHTLY BROKEN, SLIGHTLY JOINTED, AND MICACEOUS. – CORE LOSS = 40% – RQD = 13% – qr = 58 MPa									
309.9				16										

BOTTOM OF BORING = 16.3M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS

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DRAWN EMC DATE 5/26/98
CHECKED DLK DATE 5/26/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-24797 UNDER S.R. 602

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S3-3.DWG DATE: 26-MAY-1998

BORING LOG: SB-3

STATION AND OFFSET: 50+037, 2.4M LT
SURFACE ELEVATION: 326.1 M
WATER ENCOUNTERED: SEEPAGE @ 5.8M *

DATE STARTED: 11/18/97
DATE FINISHED: 11/18/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					12cm – ASPHALT 0.1M									
					18cm – BASE MATERIAL 0.3M									
325.3	SS-1	5/8/7	67%	1	BROWN CLAYEY SILT, LITTLE SAND, LITTLE GRAVEL.	16	34	17	17	4	12	36	31	A-6b
324.5	SS-2	7/7/10	56%		1.8M	20								VISUAL
323.8	AS-3	7/9/12	0%	2	BROWN TO GRAY SILT AND CLAY, SOME SAND, TRACE GRAVEL.	16								VISUAL
322.9	ST-4			3		15	31	15	5	7	16	36	36	A-6a
322.3	SS-5	12/14/19	78%	4		12								VISUAL
321.5	SS-6	4/7/14	94%			13								VISUAL
320.7	SS-7	12/15/50~5CM	0%	5	5.9M									VISUAL
320.0	SS-8	5/7/8	56%	6	GRAY SAND, SOME GRAVEL, LITTLE SILT, TRACE CLAY.	16								VISUAL
319.2	SS-9	7/19/16	94%	7		13			28	30	25	-17-		A-1-b
318.5	SS-10	5/11/22	89%	8		13								VISUAL
317.0	SS-11	12/19/34	94%	9		14								VISUAL
				10	10.2.M									
315.4	SS-12	10/34/50~13CM	89%	11	BROWN TO GRAY SANDY CLAY, SOME SILT, LITTLE GRAVEL.	11	23	8	12	8	14	-66-		A-4a
313.9	SS-13	20/29/50~5CM	67%	12		12								VISUAL
				13	13.3M									
312.4	SS-14	50~8CM	11%	14	GRAY WEATHERED SHALE.									VISUAL
310.8				15	15.3M									
	RC-1		55%	16	SANDSTONE; GRAY, MEDIUM HARD, FINE-GRAINED, HIGHLY BROKEN, SLIGHTLY JOINTED, AND MICACEOUS. – CORE LOSS = 45% – RQD = 0%									
309.4														

BOTTOM OF BORING = 16.7M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS

RESOURCE INTERNATIONAL, INC.
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DRAWN EMC DATE 5/26/98
CHECKED DLK DATE 5/26/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-24797 UNDER S.R. 602

CRA-30-24.000

4/4

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S3-4.DWG DATE: 26-MAY-1998

GEOLOGY OF THE SITE

GEOLOGICALLY, THE BRIDGE SITE LIES ON THE BORDER BETWEEN THE CENTRAL OHIO CLAYEY TILL PLAIN (WEST OF BIDDLE ROAD) AND THE GALION GLACIATED LOW PLATEAU (EAST OF BIDDLE ROAD). BOTH THE ILLINOIAN AND WISCONSIN GLACIERS PASSED OVER THE AREA. BASED ON THE QUATERNARY GEOLOGY OF OHIO MARION QUADRANGLE, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE OVERBURDEN SOILS WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN CONSIST OF HIRAM AND LAKE GROUND MORAINE TILL, AND THE OVERBURDEN SOILS WITHIN THE GALION GLACIATED LOW PLATEAU CONSIST PRIMARILY OF HIRAM AND LAKE END MORAINE TILL DEPOSITED BY THE LATE WISCONSINAN ICE SHEET (APPROXIMATELY 17,000 YEARS BEFORE PRESENT). THE HIRAM AND LAKE GROUND AND END MORAINE TILL EXHIBIT A HIGH PERCENTAGE OF CLAY SOILS. THE UNDERLYING BEDROCK CONSISTS OF MISSISSIPPIAN-AGE INTERBEDDED BEREA SANDSTONE AND BEDFORD SHALE. BASED ON THE BEDROCK TOPOGRAPHY MAP OF THE NORTH ROBINSON, OHIO QUADRANGLE, OBTAINED FROM ODNR, THE TOP OF BEDROCK AT THE BRIDGE SITE IS AT APPROXIMATELY ELEVATION 299 METERS.

EXPLORATION

THREE (3) ENGINEERING TEST BORINGS, DESIGNATED SB-4, SB-5 AND SB-6, WERE DRILLED AT THE APPROXIMATE STATIONS AND OFFSETS SHOWN ON THE ATTACHED BORING LOGS. THE BORING LOCATIONS WERE FIELD STAKED BY REPRESENTATIVES OF RESOURCE INTERNATIONAL. BORING SB-4 WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE REAR ABUTMENT. BORING SB-5 WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE PIER, AND SB-6 WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE FORWARD ABUTMENT. THE BORINGS WERE DRILLED IN A CULTIVATED FARM FIELD EAST OF BIDDLE ROAD. THE BORINGS WERE ADVANCED WITH A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING 9.5-CENTIMETER (3.75-INCH) HOLLOW STEM AUGERS TO ADVANCE THE HOLES. THE DRILLING WAS PERFORMED BETWEEN MARCH 26 AND MARCH 27, 1998.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS EXHIBITED 0.1-METER OF TOPSOIL, DESCRIBED AS DARK BROWN SILTY CLAY WITH THE PRESENCE OF ORGANICS. THE SUBSURFACE SOILS WERE PREDOMINANTLY COHESIVE, GENERALLY CONSISTING OF BROWN TO GRAY SILTY CLAY (CLAYEY SILT, SILT AND CLAY) WITH VARYING PERCENTAGES OF SAND AND GRAVEL. A 4.6-METER THICK LAYER OF GRAY TO BROWN FINE GRAVEL WITH "LITTLE" TO "AND" SAND AND SMALLER PERCENTAGES OF CLAYEY SILT WAS ENCOUNTERED IN SB-4 (REAR ABUTMENT) AT A DEPTH OF 5.6 METERS (ELEVATION 328.15 METERS). NO BEDROCK WAS ENCOUNTERED IN ANY OF THE BORINGS, DRILLED TO A MAXIMUM DEPTH OF 15.2 METERS (ELEVATION 318.3 METERS). A MORE COMPREHENSIVE DESCRIPTION OF WHAT WAS ENCOUNTERED DURING THE DRILLING PROCESS MAY BE FOUND IN THE BORING LOGS IN APPENDIX C AT THE END OF THE SUBSURFACE INVESTIGATION REPORT. LABORATORY TEST RESULTS AND VISUAL INSPECTION OF REPRESENTATIVE SAMPLES INDICATE THAT THE SOILS ENCOUNTERED ARE CLASSIFIED PRIMARILY AS ODOT A-6b AND A-6a, AS WELL ODOT A-1-a, A-1-b, A-4a, AND A-7-6.

MANY SOIL PROPERTIES, INCLUDING SOIL CONSISTENCY AND SHEAR STRENGTH (OF COHESIVE SAMPLES), ARE PRIMARILY DERIVED FROM STANDARD PENETRATION BLOW COUNTS, HAND PENETROMETER READINGS (PERFORMED ON COHESIVE SAMPLES), AND UNCONFINED COMPRESSIVE STRENGTH TESTING. STANDARD PENETRATION BLOW COUNTS RECORDED DURING THE DRILLING PROCESS RANGED FROM 10 BLOWS PER 30 CENTIMETERS TO REFUSAL, INDICATING THE PRESENCE OF STIFF TO HARD COHESIVE SOILS AND VERY DENSE GRANULAR SOILS. REFUSAL IS DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 15 CENTIMETERS OF PENETRATION, AND WAS ENCOUNTERED EXCLUSIVELY WITHIN THE GRANULAR SOILS IN SB-4.

LABORATORY TESTS WERE PERFORMED TO DETERMINE THE "IN-SITU" UNIT WEIGHT AND THE UNCONFINED COMPRESSIVE STRENGTH OF THE SUBSURFACE SOILS. THE RESULTS ARE AS FOLLOWS:

BORING NUMBER (SAMPLE NUMBER)	"IN-SITU" UNIT WEIGHT (KILONEWTONS PER CUBIC METER)	UNCONFINED COMPRESSIVE STRENGTH (KILOPASCALS)
SB-4 (ST-7)	22.0 KN/M3	250 KPA
SB-4 (SS-12)	21.6 KN/M3	610 KPA
SB-5 (SS-4)	21.7 KN/M3	1012 KPA
SB-5 (SS-12)	21.6 KN/M3	1280 KPA

THE UNCONFINED COMPRESSIVE STRENGTH OF THE SOILS, AS OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 192 KILOPASCALS TO IN EXCESS OF 431 KILOPASCALS (THE LIMIT OF THE INSTRUMENT).

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 5% TO 28%, HOWEVER, A MAJORITY OF THE MOISTURE CONTENTS WERE BETWEEN 12% AND 20%. THE MOISTURE CONTENTS FOR THE COHESIVE SOILS TESTED RANGED FROM 1% BELOW TO 5% ABOVE THEIR CORRESPONDING PLASTIC LIMITS. IN GENERAL, THE MOISTURE CONTENTS ARE CONSIDERED TO BE AT TO SLIGHTLY ABOVE THEIR CORRESPONDING OPTIMUM MOISTURE CONTENTS (DETERMINED FROM CORRELATION CHARTS).

GROUNDWATER WAS INITIALLY ENCOUNTERED DURING THE DRILLING PROCESS ON THE DRILL ROD IN SB-4 AT 5.5 METERS (ELEVATION 328.2 METERS). GROUNDWATER WAS NOT ENCOUNTERED DURING THE DRILLING PROCESS IN THE REMAINING BORINGS, AND THE BOREHOLES WERE DRY UPON COMPLETION. GROUNDWATER LEVELS AND/OR THE PRESENCE OF GROUNDWATER ARE CONSIDERED TO BE DEPENDENT ON THE SEASONAL FLUCTUATIONS IN PRECIPITATION. AT THE TIME OF THIS INVESTIGATION, RECENT PRECIPITATION WAS CONSIDERED TO BE NORMAL.

LEGEND

Press and/or Drive Sample and/or Core Boring Location–Plan View.

Horizontal Bar on Boring Log indicates the Depth the Sample was Taken.

X/Y/Z — Figures Beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Test.

X = Number of Blows for First 150 Millimeters

Y = Number of Blows for Second 150 Millimeters

Z = Number of Blows for Third 150 Millimeters

TR—— Top of Rock

W—— Indicates Free Water level

Particle Size Definitions

20.32cm 7.62cm 2.0mm 0.42mm 0.074mm 0.005mm

Boulders | Cobbles | Gravel | C.Sand | F.Sand | Silt | Clay

No. 10 No. 40 No. 200

GENERAL INFORMATION

Borings are made by means of a truck mounted rotary drilling machine. Standard Penetration testing was performed at 0.75 to 1.5 meter intervals. The Standard Penetration Test (ASTM D 1586) is conducted by using a 63.5 kg hammer falling 760 millimeters to drive a 51 millimeter O.D. split-barrel sampler 450 millimeters. Driving resistance is recorded on the boring logs in terms of blows per 150 millimeter interval of the driving distance. The second and third intervals are added to obtain the number of blows per 300 millimeters.

The boring log sheet shows graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the Standard Penetration Tests in three 150 millimeter increments, field sample number, and sample description based on laboratory tests and the Ohio Department of Transportation Classification System. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sample cannot be driven, a wash sample is procured for visual classification to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Note--all available soil and bedrock information which can be conveniently shown on the structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of the data, if any, may be inspected in the District Deputy Director's Office (District 3), The Soils Section of the Office of Roadway Engineering, or in the Office of Bridges at 25 South Front Street, Columbus, Ohio 43215.

The purpose of this subsurface investigation is to develop soils information specifically for foundation design purposes and is not intended to be used for construction estimating or bidding. Information shown was obtained for use in establishing design criteria for the project. The accuracy of the data presented is not guaranteed by the State of Ohio or Consultant and is not to be construed as part of the plans governing construction of the project.

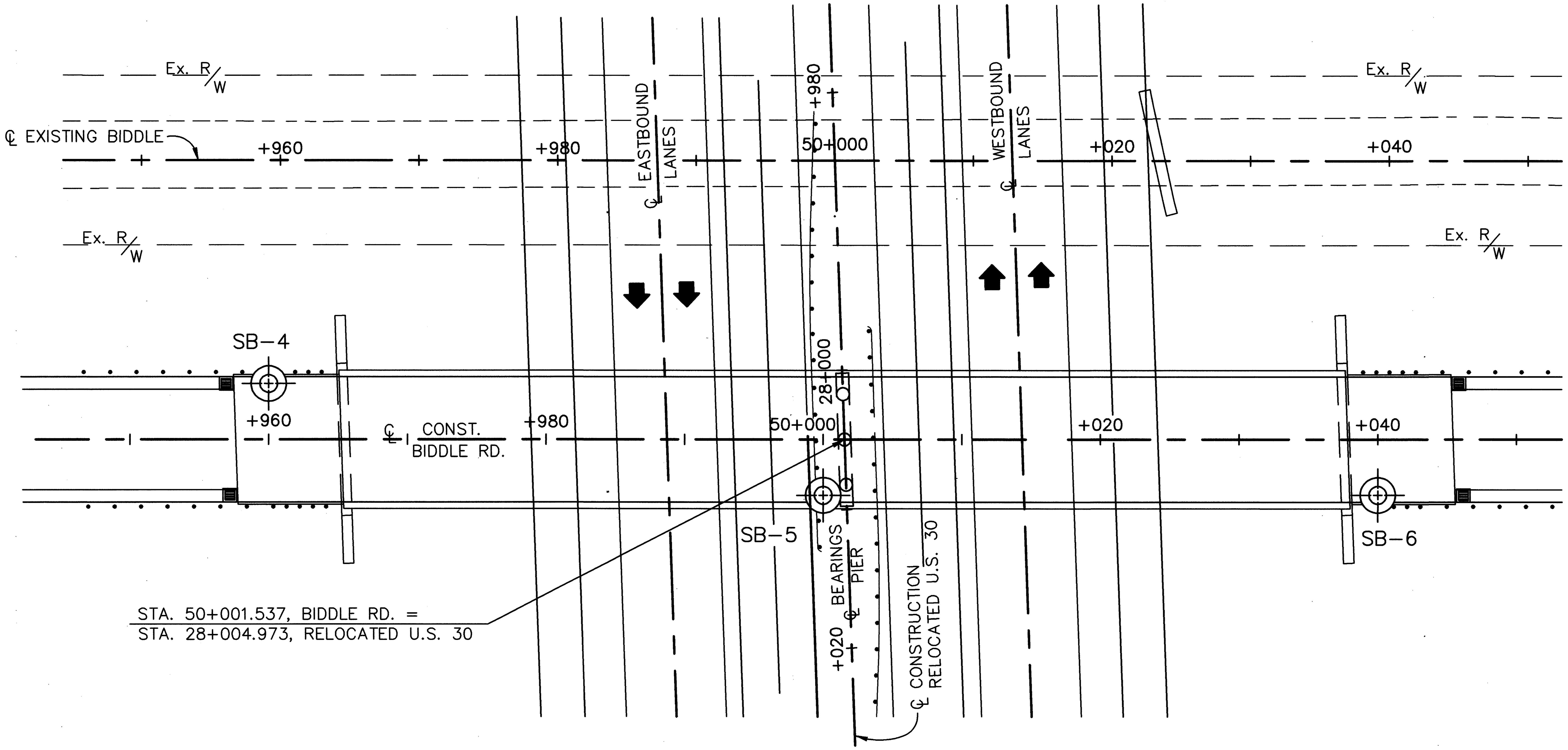
RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN EMC | DATE 6/24/98
CHECKED GPH | DATE 6/24/98

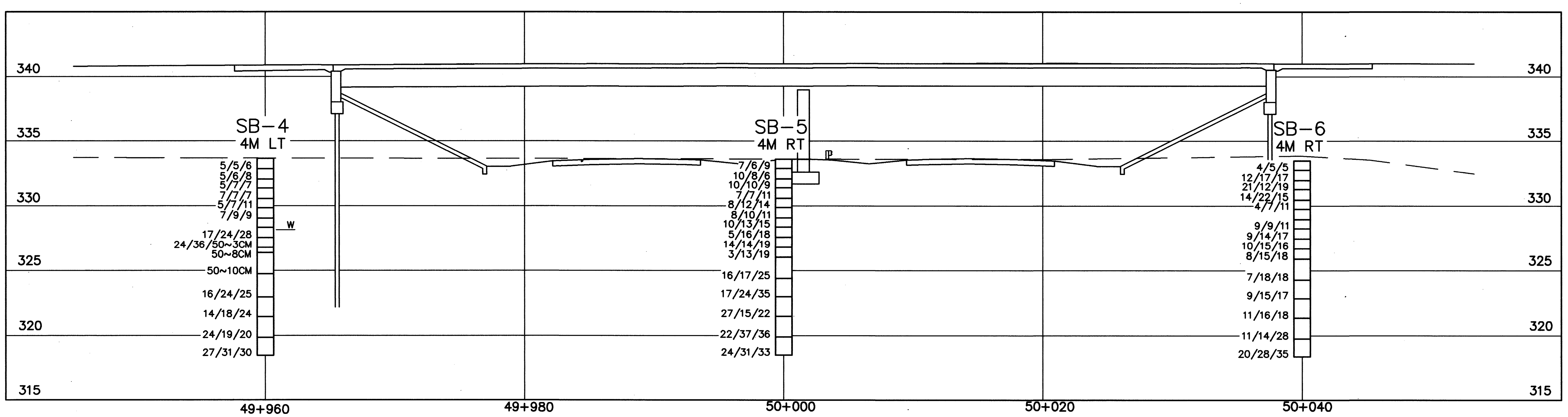
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-28000 UNDER BIDDLE ROAD

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S1-1.DWG DATE: 24 JUN 1998



PLAN



PROFILE ALONG ℄ CONSTRUCTION

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-28000 UNDER BIDDLE ROAD

HORIZONTAL SCALE IN METERS

DRAWN EMC
CHECKED GPH
DATE 6/15/98
DATE 6/24/98

CRA-30-24.000

2/4

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110S1-2.DWG
DATE: 06 JUN 1998

BORING LOG: SB-4

STATION AND OFFSET: 49+960, 4M LT
SURFACE ELEVATION: 333.65M
WATER ENCOUNTERED: SEEPAGE @ 5.5M *

DATE STARTED: 3/26/98
DATE FINISHED: 3/26/98
SAMPLER TYPE: HSA/MD

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					DARK BROWN SILTY CLAY, LITTLE ORGANICS, LITTLE SAND, TRACE GRAVEL (TOPSOIL). 0.1M									
332.9	SS-1	5/5/6	100	1	DARK BROWN AND GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.	28								VISUAL
332.1	SS-2	5/6/8	100			21	40	24	3	3	14	41	39	A-6b
331.4	SS-3	5/7/7	100	2		18								VISUAL
330.6	SS-4	7/7/7	100	3		21								VISUAL
329.9	SS-5	5/7/11	100	4	4.0M	16								VISUAL
					GRAY CLAY, LITTLE SILT, TRACE SAND, TRACE GRAVEL.									
329.1	SS-6	7/9/9	100		4.7M	18								VISUAL
				5	GRAY CLAYEY SILT, LITTLE SAND, LITTLE GRAVEL.									
328.4	ST-7				5.6M	12	22	9	13	7	18	36	25	A-4a
					GRAY GRAVEL, LITTLE SAND, TRACE CLAYEY SILT.									
327.6	SS-8	17/24/28	33	6		5								VISUAL
326.8	SS-9	24/36/50~3CM	61	7		11			74	8	9	-9-		A-1-a
326.4	SS-10	50~8CM	100		7.6M	9								VISUAL
					BROWN GRAVEL AND SAND, LITTLE CLAYEY SILT.									
				8										
324.8	SS-11	50~10CM	100	9		17			43	28	20	-10-		A-1-b
				10	10.2M									
					BROWN SILTY CLAY, LITTLE GRAVEL, LITTLE SAND.									
323.0	SS-12	16/24/25	100	11		17			16	5	9	-70-		VISUAL
321.5	SS-13	14/18/24	100	12		19								VISUAL
				13										
319.9	SS-14	24/19/20	100	14		18								VISUAL
318.5	SS-15	27/31/30	100	15		17								VISUAL

BOTTOM OF BORING = 15.2M

BORING LOG: SB-5

STATION AND OFFSET: 50+000, 4M RT
SURFACE ELEVATION: 333.60M
WATER ENCOUNTERED: N/A *

DATE STARTED: 3/27/98
DATE FINISHED: 3/27/98
SAMPLER TYPE: HSA

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					BROWN AND GRAY SILTY CLAY, LITTLE ORGANICS, LITTLE SAND, TRACE GRAVEL (TOPSOIL). 0.1M									
332.8	SS-1	7/6/9	100	1	BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL.	23								VISUAL
332.0	SS-2	10/8/6	100			18			3	6	14	35	42	VISUAL
331.3	SS-3	10/10/9	100	2		16								VISUAL
330.5	SS-4	7/7/11	100	3		12								VISUAL
329.8	SS-5	8/12/14	100	4		13								VISUAL
329.0	SS-6	8/10/11	56			14								VISUAL
328.4	SS-7	10/13/15	100	5		15								VISUAL
327.5	SS-8	5/16/18	78	6	6.1M	12								VISUAL
					BROWN AND GRAY CLAYEY SILT, SOME SAND, TRACE GRAVEL.									
326.7	SS-9	14/14/19	100	7		14			5	8	12	45	30	VISUAL
326.0	SS-10	3/13/19	100			17								VISUAL
				8										
324.4	SS-11	16/17/25	100	9		13								VISUAL
				10										
322.9	SS-12	17/24/35	100	11		18								VISUAL
321.4	SS-13	27/15/22	100	12		14								VISUAL
				13										
319.8	SS-14	22/37/36	100	14		20								VISUAL
318.4	SS-15	24/31/33	100	15		19								VISUAL

BOTTOM OF BORING = 15.2M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE DRILLING PROCESS.

RESOURCE INTERNATIONAL INC.
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DRAWN EMC
CHECKED GPH
DATE 6/15/98
DATE 6/24/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-28000 UNDER BIDDLE ROAD

CRA-30-24.000

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110S1-3.DWG
DATE: 15-JUN-1998

BORING LOG: SB-6

STATION AND OFFSET: 50+040, 4M RT
SURFACE ELEVATION: 333.48M
WATER ENCOUNTERED: N/A *

DATE STARTED: 3/26/98
DATE FINISHED: 3/26/98
SAMPLER TYPE: HSA

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					DARK BROWN SILTY CLAY, LITTLE SAND, TRACE GRAVEL, TRACE ORGANICS (TOPSOIL). 0.1M									
332.7	SS-1	4/5/5	100		BROWN TO GRAY SILTY CLAY, SOME TO TRACE SAND, TRACE TO SOME GRAVEL.	20								VISUAL
331.9	SS-2	12/17/17	100			17	33	16	3	6	15	37	39	A-6b
331.2	SS-3	21/12/19	100			15								VISUAL
330.4	SS-4	14/22/15	17			15								VISUAL
329.7	SS-5	4/7/11	89			12								VISUAL
328.9	ST-6					21	34	16	37	4	8	26	25	A-6b
328.2	SS-7	9/9/11	44			12								VISUAL
327.4	SS-8	9/14/17	17			16								VISUAL
326.6	SS-9	10/15/16	94			11			17	2	13	-68-		VISUAL
325.9	SS-10	8/15/18	100			12								VISUAL
324.3	SS-11	7/18/18	100			14								VISUAL
322.8	SS-12	9/15/17	100			12								VISUAL
321.3	SS-13	11/16/18	100			12								VISUAL
319.7	SS-14	11/14/28	100			21			12	1	1	23	63	VISUAL
318.3	SS-15	20/28/35	100			15								VISUAL

BOTTOM OF BORING = 15.2M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE DRILLING PROCESS.

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN EMC DATE 6/15/98
CHECKED GPH DATE 6/24/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-28000 UNDER BIDDLE ROAD

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S1-4.DWG DATE: 15-JUN-1998

GEOLOGY OF THE SITE

GEOLOGICALLY, THE SITE IS LOCATED WITHIN THE GALION GLACIATED LOW PLATEAU. BOTH THE ILLINOIAN AND WISCONSIN GLACIERS PASSED OVER THE AREA. BASED ON THE QUATERNARY GEOLOGY OF OHIO MARION QUADRANGLE, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE OVERBURDEN SOILS CONSIST PRIMARILY OF HIRAM AND LAKE END MORAINE TILL DEPOSITED BY THE LATE WISCONSINAN ICE SHEET, HOWEVER, KAMES AND KAME TERRACES ARE ALSO PRESENT IN THE VICINITY OF THE STRUCTURE SITE. THE HIRAM AND LAKE GROUND AND END MORAINE TILL EXHIBIT A HIGH PERCENTAGE OF CLAY SOILS. THE KAMES AND KAME TERRACES, WHICH WERE DEPOSITED BY MELTWATERS IN CONTACT WITH WISCONSIN GLACIAL ICE, FORMED HUMMOCKS AND HIGH VALLEY-SIDE TERRACES THAT EXHIBITED THE PRESENCE OF POORLY SORTED SAND AND GRAVEL DEPOSITS. THE UNDERLYING BEDROCK CONSISTS OF MISSISSIPPIAN-AGE INTERBEDDED FINE-GRAINED BEREA SANDSTONE (SILTSTONE) AND BEDFORD SHALE. AN ILLUSTRATION OF THE GEOLOGY OF OHIO IS PRESENTED IN APPENDIX A.

EXPLORATION

FOUR (4) ENGINEERING TEST BORINGS, DESIGNATED SB-7, SB-8, SB-8A, AND SB-9, WERE DRILLED AT THE STATIONS AND OFFSETS SHOWN ON THE BORING LOGS. THE BORING LOCATIONS WERE DESIGNATED AND FIELD STAKED BY REPRESENTATIVES OF RESOURCE INTERNATIONAL, INCORPORATED. BORING SB-7, DRILLED TO A DEPTH OF 13.7 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE REAR (SOUTH) ABUTMENT. BORINGS SB-8 AND SB-8A, DRILLED TO DEPTHS OF 14.0 AND 15.2 METERS, RESPECTIVELY, WERE DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE PIER. BOREHOLE SB-9, DRILLED TO A DEPTH OF 13.7 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE FORWARD (NORTH) ABUTMENT. BEDROCK WAS CORED IN ALL FOUR BORINGS. THE BORINGS WERE ADVANCED WITH A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING HOLLOW STEM AUGERS TO ADVANCE THE HOLES. A DOUBLE TUBE DIAMOND BIT CORE BARREL WAS USED TO CORE THE BEDROCK ENCOUNTERED. CORING PRODUCED NX-SIZED (5.3-CENTIMETER DIAMETER) CORES, FROM WHICH THE TYPE OF ROCK AND ITS GEOLOGICAL CHARACTERISTICS WERE DETERMINED. THE DRILLING WAS PERFORMED BETWEEN NOVEMBER 21, 19978 AND MARCH 27, 1998.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

TEST BORINGS SB-7 THROUGH SB-9 EXHIBITED 0.1 TO 0.2-METER OF TOPSOIL AT THE GROUND SURFACE, GENERALLY DESCRIBED AS DARK BROWN (BLACK) SILTY CLAY WITH THE PRESENCE OF ORGANICS. BORING SB-8A EXHIBITED 30 CENTIMETERS OF SAND AND GRAVEL BERM MATERIAL AT THE GROUND SURFACE. THE UNDERLYING SOILS ARE PREDOMINANTLY COHESIVE, GENERALLY DESCRIBED AS BROWN TO GRAY SILTY CLAY (CLAYEY SILT) WITH "LITTLE" TO "SOME" SAND AND VARYING PERCENTAGES OF FINE GRAVEL. A SINGLE LENS OF GRANULAR SOIL WAS ENCOUNTERED IN SB-8 BETWEEN 7.1 AND 9.0 METERS (ELEVATIONS 341.7 AND 339.8 METERS), DESCRIBED AS GRAY COARSE TO FINE SAND WITH "SOME" FINE GRAVEL. A MORE COMPREHENSIVE DESCRIPTION OF WHAT WAS ENCOUNTERED DURING THE DRILLING PROCESS MAY BE FOUND IN THE BORING LOGS IN APPENDIX C AT THE END OF THE SUBSURFACE INVESTIGATION REPORT. LABORATORY TEST RESULTS AND VISUAL INSPECTION OF REPRESENTATIVE SAMPLES INDICATE THAT THE SOILS ENCOUNTERED ARE CLASSIFIED AS ODOT A-4a, A-6a, A-6b, AND A-3a.

MANY SOIL PROPERTIES, INCLUDING SOIL CONSISTENCY AND SHEAR STRENGTH (OF COHESIVE SAMPLES), ARE PRIMARILY DERIVED FROM STANDARD PENETRATION BLOW COUNTS, HAND PENETROMETER READINGS (PERFORMED ON COHESIVE SAMPLES), AND UNCONFINED COMPRESSIVE STRENGTH TESTING. STANDARD PENETRATION BLOW COUNTS RECORDED DURING THE DRILLING PROCESS RANGED FROM 7 BLOWS PER 30 CENTIMETERS TO REFUSAL, INDICATING THE PRESENCE OF PRIMARILY STIFF TO HARD COHESIVE SOILS. REFUSAL IS DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 15 CENTIMETERS OF PENETRATION.

LABORATORY TESTS WERE PERFORMED TO DETERMINE THE "IN-SITU" UNIT WEIGHT AND THE UNCONFINED COMPRESSIVE STRENGTH OF THE SUBSURFACE SOILS. THE RESULTS ARE AS FOLLOWS:

BORING NUMBER (SAMPLE NUMBER)	"IN-SITU" UNIT WEIGHT (KILONEWTONS PER CUBIC METER)	UNCONFINED COMPRESSIVE STRENGTH (KILOPASCALS)
SB-9 (ST-4)	19.5 KN/M3	57 KPA
SB-9 (SS-11)	22.0 KN/M3	275 KPA

THE UNCONFINED COMPRESSIVE STRENGTH OF THE SOILS, AS OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 96 KILOPASCALS TO IN EXCESS OF 431 KILOPASCALS (THE LIMIT OF THE INSTRUMENT).

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 10% TO 28%, HOWEVER, A MAJORITY OF THE MOISTURE CONTENTS WERE LESS THAN 20%. THE MOISTURE CONTENTS FOR THE COHESIVE SOILS RANGED FROM 2% BELOW TO 6% ABOVE THEIR CORRESPONDING PLASTIC LIMITS, BUT WERE PRIMARILY ABOVE THEIR CORRESPONDING PLASTIC LIMITS. IN GENERAL, THE MOISTURE CONTENTS ARE CONSIDERED TO BE AT TO ABOVE THEIR CORRESPONDING OPTIMUM MOISTURE CONTENTS (DETERMINED FROM CORRELATION CHARTS).

LEGEND

Press and/or Drive Sample and/or Core Boring Location–Plan View.

Horizontal Bar on Boring Log indicates the Depth the Sample was Taken.

X/Y/Z — Figures Beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Test.

X = Number of Blows for First 150 Millimeters

Y = Number of Blows for Second 150 Millimeters

Z = Number of Blows for Third 150 Millimeters

TR——— Top of Rock

W——— Indicates Free Water level

Particle Size Definitions

20.32cm	7.62cm	2.0mm	0.42mm	0.074mm	0.005mm	
Boulders	Cobbles	Gravel	C.Sand	F.Sand	Silt	Clay
		No. 10	No. 40	No. 200		

Symbol Of Rock Type

WEATHERED SHALE

SILTSTONE

SANDSTONE

GROUNDWATER WAS INITIALLY ENCOUNTERED DURING THE DRILLING PROCESS ON THE DRILL ROD IN SB-7 AT 4.3 METERS (ELEVATION 344.6 METERS), IN SB-8 AT 2.3 METERS (ELEVATION 346.5 METERS), IN SB-8A AT 3.4 METERS (ELEVATION 345.3 METERS), AND IN SB-9 AT 8.8 METERS (ELEVATION 340.0 METERS). DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS, AN ACCURATE DEPTH TO GROUNDWATER COULD NOT BE DETERMINED UPON COMPLETION OF THE DRILLING PROCESS IN ANY OF THE BORINGS. GROUNDWATER LEVELS AND/OR THE PRESENCE OF GROUNDWATER ARE CONSIDERED TO BE DEPENDENT ON THE SEASONAL FLUCTUATIONS IN PRECIPITATION. AT THE TIME OF THIS INVESTIGATION, RECENT PRECIPITATION WAS CONSIDERED TO BE NORMAL.

THE TOP OF BEDROCK WAS ENCOUNTERED IN THE BOREHOLES AT THE FOLLOWING ELEVATIONS:

BORING NO.	STATION	OFFSET	GROUND ELEVATION	TOP OF BEDROCK	TOP OF CORED BEDROCK
SB-7	49+962	13.4M LT.	348.9M	337.2M	336.7M
SB-8	50+004	15.0M LT.	348.8M	336.9M	336.3M
SB-8A	50+000	4.0M RT.	348.7M	335.4M	335.0M
SB-9	50+040	12.2M LT.	348.8M	337.1M	336.6M

GENERAL INFORMATION

Borings are made by means of a truck mounted rotary drilling machine. Standard Penetration testing was performed at 0.75 to 1.5 meter intervals. The Standard Penetration Test (ASTM D 1586) is conducted by using a 63.5 kg hammer falling 760 millimeters to drive a 51 millimeter O.D. split-barrel sampler 450 millimeters. Driving resistance is recorded on the boring logs in terms of blows per 150 millimeter interval of the driving distance. The second and third intervals are added to obtain the number of blows per 300 millimeters.

The boring log sheet shows graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the Standard Penetration Tests in three 150 millimeter increments, field sample number, and sample description based on laboratory tests and the Ohio Department of Transportation Classification System. Results of strength and consolidation testing, if performed, appear on separate enclosures.

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The purpose of this subsurface investigation is to develop soils information specifically for foundation design purposes and is not intended to be used for construction estimating or bidding. Information shown was obtained for use in establishing design criteria for the project. The accuracy of the data presented is not guaranteed by the State of Ohio or Consultant and is not to be construed as part of the plans governing construction of the project.

THE BEDROCK ON THE SITE IS RELATIVELY FLAT, SLOPING DOWNWARD GENTLY TO THE EAST. THE SURFICIAL 0.4-METER (SB-8A) TO 0.6-METER (SB-8) OF BEDROCK WAS AUGERABLE, DESCRIBED AS GRAY, VERY SOFT, WEATHERED SHALE. THE UNDERLYING COMPETENT (CORED) BEDROCK IS PRIMARILY DESCRIBED AS GRAY, MEDIUM TO MODERATELY HARD, BROKEN, JOINTED, SILTSTONE. BORINGS SB-7 AND SB-8 EXHIBITED INTERBEDDED LAYERS OF GRAY, HARD, SANDSTONE. THE ROCK CORE RECOVERY RANGED FROM 90% TO 100%. IN SPITE OF THE HIGH RECOVERY VALUES, THE ROCK QUALITY DESIGNATION (RQD) IN THE SILTSTONE WAS VERY POOR, WITH RQD VALUES RANGING FROM 0% TO 12%. THE RQD IN THE SANDSTONE WAS VERY POOR TO GOOD, WITH VALUES RANGING FROM 0% TO 75%.

RESOURCE INTERNATIONAL INC.
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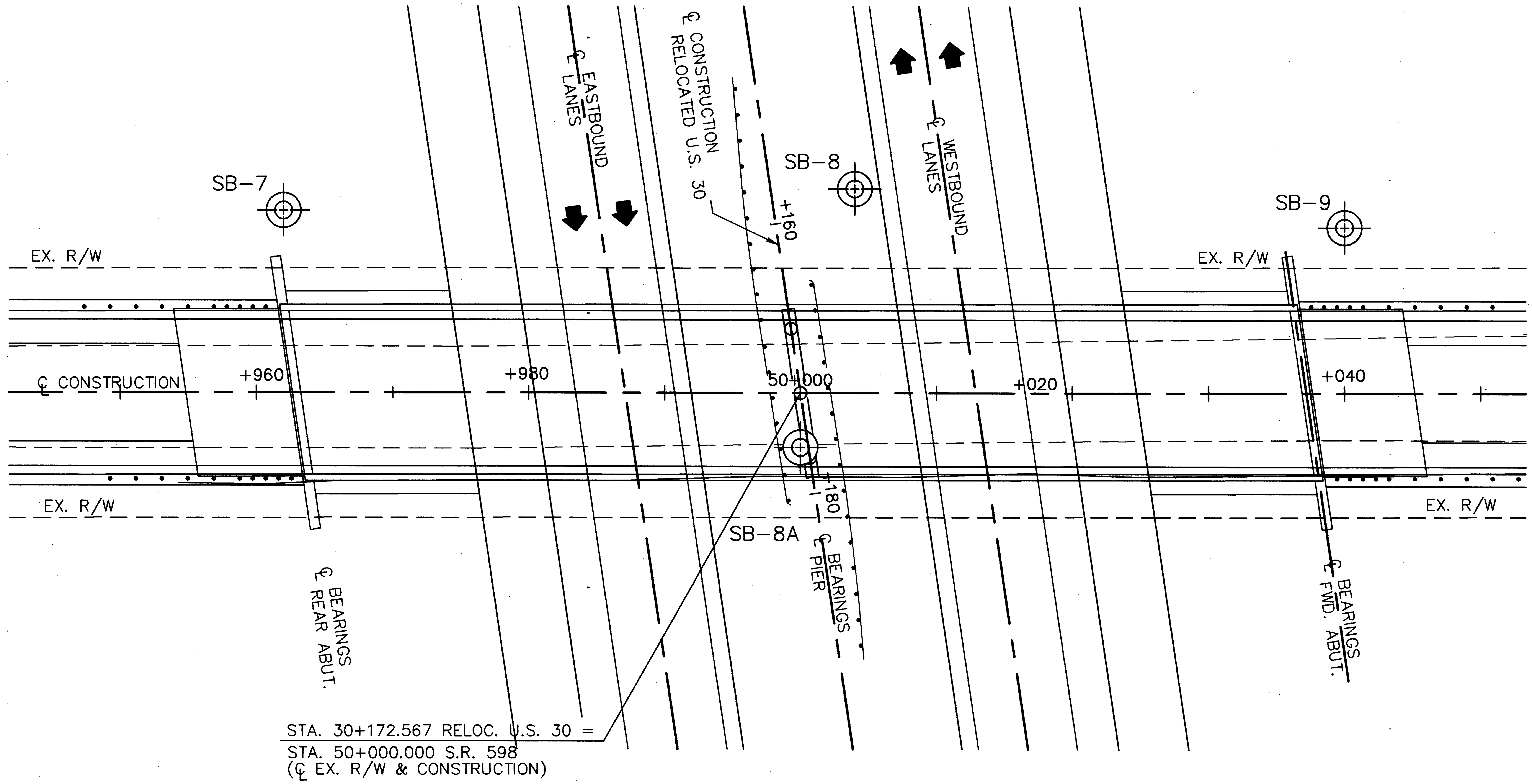
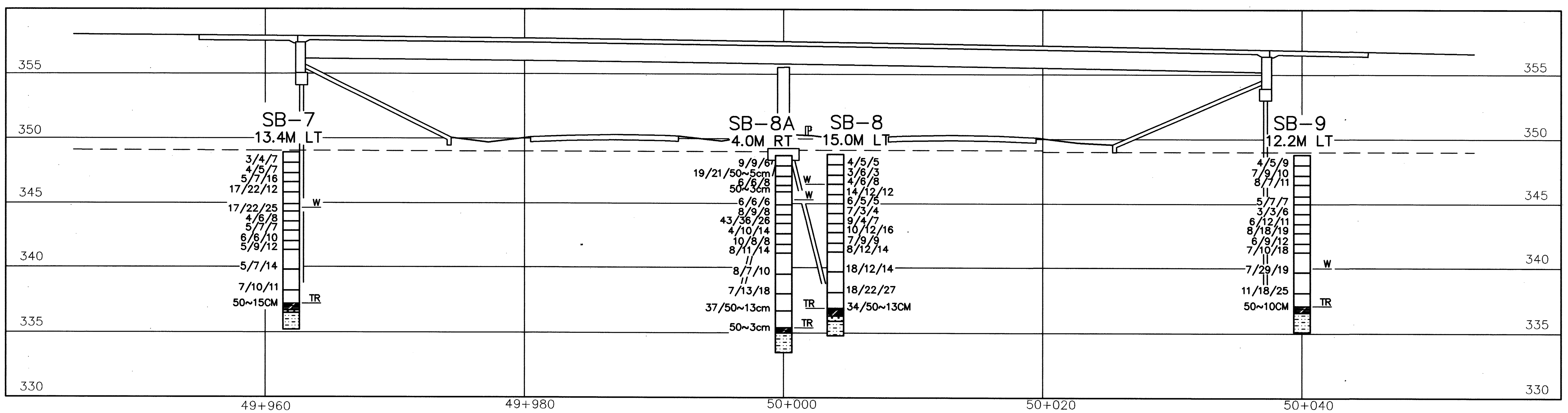
DATE	DRAWN
7/17/98	EMC
DATE	CHECKED
7/22/98	DLK

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-30166 UNDER S.R. 598

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 711053-1.DWG DATE: 16 JULY 1998





PROFILE ALONG ℄ CONSTRUCTION

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. CRA-30-30166 UNDER S.R. 598

HORIZONTAL SCALE IN METERS 0 5 10

DRAWN EMC DATE 7/16/98

CHECKED DLK DATE 7/22/98

CRA-30-24.000

2/4

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110

FILENAME: 7110S4-2.DWG DATE: 16 JULY 1998

BORING LOG: SB-7

STATION AND OFFSET: 49+962, 13.4M LT
SURFACE ELEVATION: 348.9M
WATER ENCOUNTERED: SEEPAGE @ 4.3M *

DATE STARTED: 11/21/97
DATE FINISHED: 11/21/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					DARK BROWN SILTY CLAY, LITTLE ORGANICS, TRACE SAND (TOPSOIL) 0.1M									
348.1	SS-1	3/4/7	89%	1	BROWN CLAYEY SILT, LITTLE SAND, TRACE GRAVEL.	23	39	22	2	4	13	43	38	A-6b
347.3	SS-2	4/5/7	89%			21								VISUAL
346.6	SS-3	5/7/16	56%	2	2.3M	16								VISUAL
					BROWN SILTY CLAY, LITTLE GRAVEL, LITTLE SAND.									
345.8	SS-4	17/22/12	78%	3		10								VISUAL
344.9	ST-5		100%	4		13	29	14	14	7	12	31	36	A-6a
3.44.3	SS-6	17/22/25	100%			14								VISUAL
343.5	SS-7	4/6/8	100%	5	5.6M	14								VISUAL
					BROWNISH-GRAY CLAYEY SILT, LITTLE SAND, LITTLE GRAVEL.									
342.8	SS-8	5/7/7	94%	6		18								VISUAL
342.0	SS-9	6/6/10	94%	7		23								VISUAL
341.3	SS-10	5/9/12	89%			14	23	10	12	8	15	37	28	A-4a
				8										
339.8	SS-11	5/7/14	94%	9		16								VISUAL
				10										
338.2	SS-12	7/10/11	89%	11	11.7M	12								VISUAL
337.0	SS-13	50~15CM	94%	12	BROWNISH-GRAY WEATHERED SHALE. AUGER REFUSAL @ 12.2M 12.2M	13								VISUAL
	RC-1		100%		SANDSTONE; GRAY, MODERATELY HARD, HIGHLY BROKEN, HIGHLY JOINTED, FINE GRAINED. 12.4M									
				13	SILTSTONE; GRAY, MODERATELY HARD, HIGHLY BROKEN, SLIGHTLY JOINTED. - NO CORE LOSS - RQD = 0%									
335.2														

BOTTOM OF BORING = 13.7M

BORING LOG: SB-8

STATION AND OFFSET: 50+004, 15.0M LT
SURFACE ELEVATION: 348.8M
WATER ENCOUNTERED: SEEPAGE @ 2.3M *

DATE STARTED: 11/23/97
DATE FINISHED: 11/23/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					BLACK SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL) 0.2M									
348.0	AS-1	4/5/5	0%	1	BROWNISH-GRAY CLAYEY SILT, LITTLE TO SOME SAND, TRACE TO SOME GRAVEL.	22								VISUAL
347.2	SS-2	3/6/3	94%			24	40	19	4	3	10	43	40	A-6b
346.5	SS-3	4/6/8	56%	2		28								VISUAL
345.7	SS-4	14/12/12	67%	3		18								VISUAL
345.0	SS-5	6/5/5	61%	4	4.3M	19								VISUAL
344.2	SS-6	7/3/4	83%		BROWNISH-GRAY CLAYEY SILT, LITTLE TO SOME SAND, TRACE GRAVEL.	19	26	10	6	9	14	-71-		A-4a
343.4	SS-7	9/4/7	22%	5		22								VISUAL
342.7	SS-8	10/12/16	56%	6		14								VISUAL
341.9	SS-9	7/9/9	89%	7	7.1M	15								VISUAL
341.2	SS-10	8/12/14	83%		GRAY SAND, SOME GRAVEL, LITTLE SILT, TRACE CLAY.	13			23	25	28	-24-		A-3a
				8										
339.7	SS-11	18/12/14	100%	9	9.0M BROWNISH-GRAY SILTY CLAY, SOME SAND, LITTLE GRAVEL (SHALE FRAGMENTS).	12								VISUAL
				10										
338.1	SS-12	18/22/27	94%	11		10								VISUAL
336.8	SS-13	34/50~13CM	89%	12	11.9M GRAY WEATHERED SHALE. AUGER REFUSAL @ 12.5M 12.5M	11								VISUAL
	RC-1		100%	13	SANDSTONE; GRAY, HARD, MASSIVE, SLIGHTLY JOINTED. - NO CORE LOSS - RQD = 75% 12.9M									
					SILTSTONE; GRAY, MODERATELY HARD, HIGHLY JOINTED, SLIGHTLY BROKEN. - NO CORE LOSS - RQD = 12%									
334.8														

BOTTOM OF BORING = 14.0M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN EMC
CHECKED DLK
DATE 7/17/98
DATE 7/22/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-30166 UNDER S.R. 598

CRA-30-24.000

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110S4-3.DWG
DATE: 16-JULY-1998

BORING LOG: SB-8A

STATION AND OFFSET: 50+000, 4.0M RT
SURFACE ELEVATION: 348.7M
WATER ENCOUNTERED: SEEPAGE @ 3.4M *

DATE STARTED: 3/27/98
DATE FINISHED: 3/27/98
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS		PHYSICAL CHARACTERISTIC					ODOT CLASS
							LL	PI	% AGG	% CS	% FS	% SI	% CL	
					30CM – SAND AND GRAVEL BERM 0.3M									
347.9	SS-1	9/9/6	100%	1	BROWN TO GRAY CLAYEY SILT, SOME GRAVEL, SOME SAND.	12								VISUAL
347.1	SS-2	19/21/50~5CM	67%			21								VISUAL
346.4	SS-3	6/6/8	100%	2		16	26	12	21	12	16	27	24	A-6a
345.9	SS-4	50~3CM	100%	3		10								VISUAL
344.9	SS-5	6/6/6	33%	4		15								VISUAL
344.1	SS-6	8/9/8	0%											VISUAL
343.4	SS-7	43/36/26	33%	5		16								VISUAL
342.6	SS-8	4/10/14	44%	6		22								VISUAL
341.8	SS-9	10/8/8	78%	7		14								VISUAL
341.1	SS-10	8/11/14	67%	8		13	25	12	19	7	13	34	27	A-6a
339.5	SS-11	8/7/10	100%	9		14								VISUAL
				10										
338.0	SS-12	7/13/18	100%	11		10								VISUAL
336.7	SS-13	37/50~13CM	89%	12		11								VISUAL
				13	13.3M									
335.2	SS-14	50~3CM	100%		GRAY WEATHERED SHALE. 13.7M									VISUAL
	RC-1		100%	14	SILTSTONE; GRAY, MEDIUM TO MODERATELY HARD, HIGHLY BROKEN, SLIGHTLY JOINTED, SLIGHTLY MICACEOUS. – NO CORE LOSS – RQD = 0%									
333.5				15										

BOTTOM OF BORING = 15.2M

BORING LOG: SB-9

STATION AND OFFSET: 50+040, 12.2M LT
SURFACE ELEVATION: 348.8M
WATER ENCOUNTERED: SEEPAGE @ 8.8M *

DATE STARTED: 11/24/97
DATE FINISHED: 11/24/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS		PHYSICAL CHARACTERISTIC					ODOT CLASS
							LL	PI	% AGG	% CS	% FS	% SI	% CL	
					BLACK SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL). 0.2M									
348.0	AS-1	4/5/9	0%	1	BROWN CLAYEY SILT, SOME SAND, LITTLE GRAVEL.	20								VISUAL
347.2	SS-2	7/9/10	83%			18								VISUAL
346.5	AS-3	8/7/11	0%	2		15								VISUAL
345.6	ST-4			3		16	28	14	17	10	16	29	28	A-6a
345.0	SS-5	5/7/7	100%	4		12								VISUAL
344.2	SS-6	3/3/6	94%			22								VISUAL
343.4	SS-7	6/12/11	94%	5	5.4M	16								VISUAL
					GRAY CLAYEY SILT, SOME SAND, TRACE GRAVEL.									
342.7	SS-8	8/18/19	100%	6		12								VISUAL
341.9	SS-9	6/9/12	39%	7		12								VISUAL
341.2	SS-10	7/10/18	56%	8		12								VISUAL
339.7	SS-11	7/29/19	89%	9		16	24	10	6	10	16	38	30	A-4a
				10										
338.1	SS-12	11/18/25	100%	11	11.7M	11								VISUAL
336.9	SS-13	50~10CM	22%	12	GRAY WEATHERED SHALE. AUGER REFUSAL @ 12.2M 12.2M									VISUAL
	RC-1		90%	13	SILTSTONE; GRAY, MEDIUM, HIGHLY BROKEN, HIGHLY JOINTED, ARENACEOUS. – CORE LOSS = 10% – RQD = 0%									
335.1														

BOTTOM OF BORING = 13.7M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN EMC | CHECKED DLK
DATE 7/17/98 | DATE 7/22/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-30166 UNDER S.R. 598

CRA-30-24.000

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110 FILENAME: 7110S4-4.DWG
DATE: 16-JULY-1998

GEOLOGY OF THE SITE

GEOLOGICALLY, THE BRIDGE SITE IS LOCATED WITHIN THE GALION GLACIATED LOW PLATEAU. BOTH THE ILLINOIAN AND WISCONSIN GLACIERS PASSED OVER THE AREA. BASED ON THE QUATERNARY GEOLOGY OF OHIO MARION QUADRANGLE, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE OVERBURDEN SOILS CONSIST PRIMARILY OF HIRAM AND LAKE END MORAINE TILL DEPOSITED BY THE LATE WISCONSINAN ICE SHEET, HOWEVER, KAMES AND KAME TERRACES ARE ALSO PRESENT IN THE VICINITY OF THE PROPOSED STRUCTURE. THE HIRAM AND LAKE END MORAINE TILL EXHIBIT A HIGH PERCENTAGE OF CLAY SOILS. THE KAMES AND KAME TERRACES, WHICH WERE DEPOSITED BY MELTWATERS IN CONTACT WITH WISCONSIN GLACIAL ICE, FORMED HUMMOCKS AND HIGH VALLEY-SIDE TERRACES THAT EXHIBITED THE PRESENCE OF POORLY SORTED SAND AND GRAVEL DEPOSITS. THE UNDERLYING BEDROCK CONSISTS PRIMARILY OF MISSISSIPPIAN-AGE SUNBURY SHALE, HOWEVER, BEREA SANDSTONE IS ALSO PRESENT.

EXPLORATION

THREE (3) ENGINEERING TEST BORINGS, DESIGNATED SB-13, SB-14 AND SB-15, WERE DRILLED AT THE APPROXIMATE STATIONS AND OFFSETS SHOWN ON THE ATTACHED BORING LOGS. THE BORING LOCATIONS WERE FIELD STAKED BY REPRESENTATIVES OF RESOURCE INTERNATIONAL. BORING SB-13 WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE REAR ABUTMENT. BORING SB-14 WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE PIER, AND SB-15 WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE FORWARD ABUTMENT. BORINGS SB-13 AND SB-14 WERE DRILLED IN THE GRASS LOT WEST OF FAIRVIEW ROAD, AND SB-15 WAS DRILLED IN A CULTIVATED FARM FIELD EAST OF FAIRVIEW ROAD. THE BORINGS WERE ADVANCED WITH A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING HOLLOW STEM AUGERS TO ADVANCE THE HOLES. A DOUBLE TUBE DIAMOND BIT CORE BARREL WAS USED TO CORE THE BEDROCK ENCOUNTERED. CORING PRODUCED NX-SIZED (5.3-CENTIMETER DIAMETER) CORES, FROM WHICH THE TYPE OF ROCK AND ITS GEOLOGICAL CHARACTERISTICS WERE DETERMINED. THE DRILLING WAS PERFORMED BETWEEN NOVEMBER 25, AND DECEMBER 2, 1997.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS EXHIBITED BETWEEN 10.0 AND 18.0 CENTIMETERS OF TOPSOIL, DESCRIBED AS DARK BROWN TO BLACK SILTY CLAY WITH THE PRESENCE OF ORGANICS. THE SUBSURFACE SOILS WERE PREDOMINANTLY COHESIVE, GENERALLY DESCRIBED AS BROWN TO GRAY SILTY CLAY (CLAYEY SILT, SILT AND CLAY) WITH "LITTLE" TO "SOME" SAND AND SMALLER PERCENTAGES OF FINE GRAVEL. BORINGS SB-13 AND SB-14 EXHIBITED MORE GRANULAR SOILS BELOW APPROXIMATELY ELEVATION 341 METERS, PRIMARILY DESCRIBED AS BROWN COARSE TO FINE SANDY SILT (SILTY FINE SAND, SAND WITH "SOME" SILT) WITH VARYING PERCENTAGES OF GRAVEL AND CLAY. BORING SB-13 EXHIBITED A SINGLE LENS OF BLACK FINE GRAVEL WITH SOME SAND BETWEEN 8.7 AND 10.2 METERS (ELEVATIONS 341.8 AND 340.3 METERS). "HEAVING" SANDS, DEFINED AS WATER-BEARING GRANULAR SOILS UNDER HYDROSTATIC PRESSURE, WERE ENCOUNTERED AT ELEVATION 340.3 METERS IN SB-13. A MORE COMPREHENSIVE DESCRIPTION OF WHAT WAS ENCOUNTERED DURING THE DRILLING PROCESS MAY BE FOUND IN THE BORING LOGS IN APPENDIX C AT THE END OF THIS REPORT. LABORATORY TEST RESULTS AND VISUAL INSPECTION OF REPRESENTATIVE SAMPLES INDICATE THAT THE SOILS ENCOUNTERED ARE CLASSIFIED PRIMARILY AS ODOT A-4a, A-6a AND A-6b, AS WELL ODOT A-1a AND A-3a.

MANY SOIL PROPERTIES, INCLUDING SOIL CONSISTENCY AND SHEAR STRENGTH (OF COHESIVE SAMPLES), ARE PRIMARILY DERIVED FROM STANDARD PENETRATION BLOW COUNTS, HAND PENETROMETER READINGS (PERFORMED ON COHESIVE SAMPLES), AND UNCONFINED COMPRESSIVE STRENGTH TESTING. STANDARD PENETRATION BLOW COUNTS RECORDED DURING THE DRILLING PROCESS RANGED FROM 6 BLOWS PER 30 CENTIMETERS TO REFUSAL, INDICATING THE PRESENCE OF MEDIUM STIFF TO HARD COHESIVE SOILS AND MEDIUM DENSE TO DENSE GRANULAR SOILS. REFUSAL IS DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 15 CENTIMETERS OF PENETRATION.

LABORATORY TESTS WERE PERFORMED TO DETERMINE THE "IN-SITU" UNIT WEIGHT AND THE UNCONFINED COMPRESSIVE STRENGTH OF THE SUBSURFACE SOILS. THE RESULTS ARE AS FOLLOWS:

BORING NUMBER (SAMPLE NUMBER)	"IN-SITU" UNIT WEIGHT (KILONEWTONS PER CUBIC METER)	UNCONFINED COMPRESSIVE STRENGTH (KILOPASCALS)
SB-14 (ST-6)	21.9 KN/M3	173 KPA
SB-15 (SS-6)	21.3 KN/M3	344 KPA

THE UNCONFINED COMPRESSIVE STRENGTH OF THE SOILS, AS OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 96 KILOPASCALS TO IN EXCESS OF 431 KILOPASCALS (THE LIMIT OF THE INSTRUMENT).

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 9% TO 29%, HOWEVER, A MAJORITY OF THE MOISTURE CONTENTS WERE BETWEEN 12% AND 20%. THE MOISTURE CONTENTS FOR THE COHESIVE SOILS TESTED RANGED FROM 2% BELOW TO 7% ABOVE THEIR CORRESPONDING PLASTIC LIMITS, AND IN THE CASE OF SAMPLE SS-17 IN BORING SB-14, THE MOISTURE CONTENT WAS 1% BELOW ITS CORRESPONDING LIQUID LIMIT. IN GENERAL, THE MOISTURE CONTENTS ARE CONSIDERED TO BE AT TO SIGNIFICANTLY ABOVE THEIR CORRESPONDING OPTIMUM MOISTURE CONTENTS (DETERMINED FROM CORRELATION CHARTS).

LEGEND

Press and/or Drive Sample and/or Core Boring Location-Plan View.

Horizontal Bar on Boring Log indicates the Depth the Sample was Taken.

X/Y/Z — Figures Beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Test.

X = Number of Blows for First 150 Millimeters

Y = Number of Blows for Second 150 Millimeters

Z = Number of Blows for Third 150 Millimeters

TR——— Top of Rock

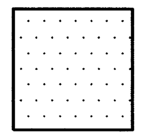
W——— Indicates Free Water level

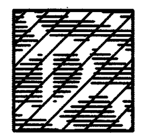
Particle Size Definitions

	20.32cm	7.62cm	2.0mm	0.42mm	0.074mm	0.005mm	
Boulders	Cobbles	Gravel	C.Sand	F.Sand	Silt		Clay
			No. 10	No. 40	No. 200		

Symbol Of Rock Type


SHALE


SANDSTONE


WEATHERED SHALE

GROUNDWATER WAS INITIALLY ENCOUNTERED DURING THE DRILLING PROCESS ON THE DRILL ROD IN SB-13 AT 5.2 METERS (ELEVATION 345.3 METERS), IN SB-14 AT 3.4 METERS (ELEVATION 347.3 METERS), AND IN SB-15 AT 8.3 METERS (ELEVATION 342.9 METERS). DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS, AN ACCURATE DEPTH TO GROUNDWATER COULD NOT BE DETERMINED UPON COMPLETION OF THE DRILLING PROCESS IN ANY OF THE BORINGS. GROUNDWATER LEVELS AND/OR THE PRESENCE OF GROUNDWATER ARE CONSIDERED TO BE DEPENDENT ON THE SEASONAL FLUCTUATIONS IN PRECIPITATION. AT THE TIME OF THIS INVESTIGATION, RECENT PRECIPITATION WAS CONSIDERED TO BE NORMAL.

BASED ON THE BOREHOLES, THE TOP OF BEDROCK IS RELATIVELY FLAT WITHIN THE PROJECT AREA. THE BOREHOLES ENCOUNTERED BEDROCK AT THE FOLLOWING ELEVATIONS:

BORING NO.	STATION & OFFSET	GROUND ELEVATION	TOP OF WEATHERED BEDROCK	TOP OF CORED BEDROCK	REFERENCED STRUCTURAL MEMBER
SB-13	49+962; 13.0M LT	350.50 M	331.1 M	331.0 M	REAR ABUTMENT
SB-14	49+995; 12.0 M LT	350.70 M	-----	331.2 M	PIER
SB-15	50+037; 12.0 M RT	351.2 M	-----	334.7 M	FORWARD ABUTMENT

THE BEDROCK IN SB-13 AND SB-14 IS DESCRIBED AS DARK GRAY TO BLACK, SOFT TO MEDIUM HARD, HIGHLY BROKEN, JOINTED, FISSILE, WEATHERED SHALE. THE BEDROCK IN SB-15 IS DESCRIBED AS GRAY, MEDIUM HARD, FINE-GRAINED, HIGHLY BROKEN, JOINTED, SANDSTONE. THE OVERALL QUALITY OF THE CORED BEDROCK, AS INDICATED BY THE RQD, WAS VERY POOR, WITH RQD VALUES OF 0% IN ALL THREE BORINGS.

GENERAL INFORMATION

Borings are made by means of a truck mounted rotary drilling machine. Standard Penetration testing was performed at 0.75 to 1.5 meter intervals. The Standard Penetration Test (ASTM D 1586) is conducted by using a 63.5 kg hammer falling 760 millimeters to drive a 51 millimeter O.D. split-barrel sampler 450 millimeters. Driving resistance is recorded on the boring logs in terms of blows per 150 millimeter interval of the driving distance. The second and third intervals are added to obtain the number of blows per 300 millimeters.

The boring log sheet shows graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the Standard Penetration Tests in three 150 millimeter increments, field sample number, and sample description based on laboratory tests and the Ohio Department of Transportation Classification System. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sample cannot be driven, a wash sample is procured for visual classification to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Note--all available soil and bedrock information which can be conveniently shown on the structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of the data, if any, may be inspected in the District Deputy Director's Office (District 3), The Soils Section of the Office of Roadway Engineering, or in the Office of Bridges at 1980 West Broad Street, Columbus, Ohio 43223.

The purpose of this subsurface investigation is to develop soils information specifically for foundation design purposes and is not intended to be used for construction estimating or bidding. Information shown was obtained for use in establishing design criteria for the project. The accuracy of the data presented is not guaranteed by the State of Ohio or Consultant and is not to be construed as part of the plans governing construction of the project.

RESOURCE INTERNATIONAL INC.
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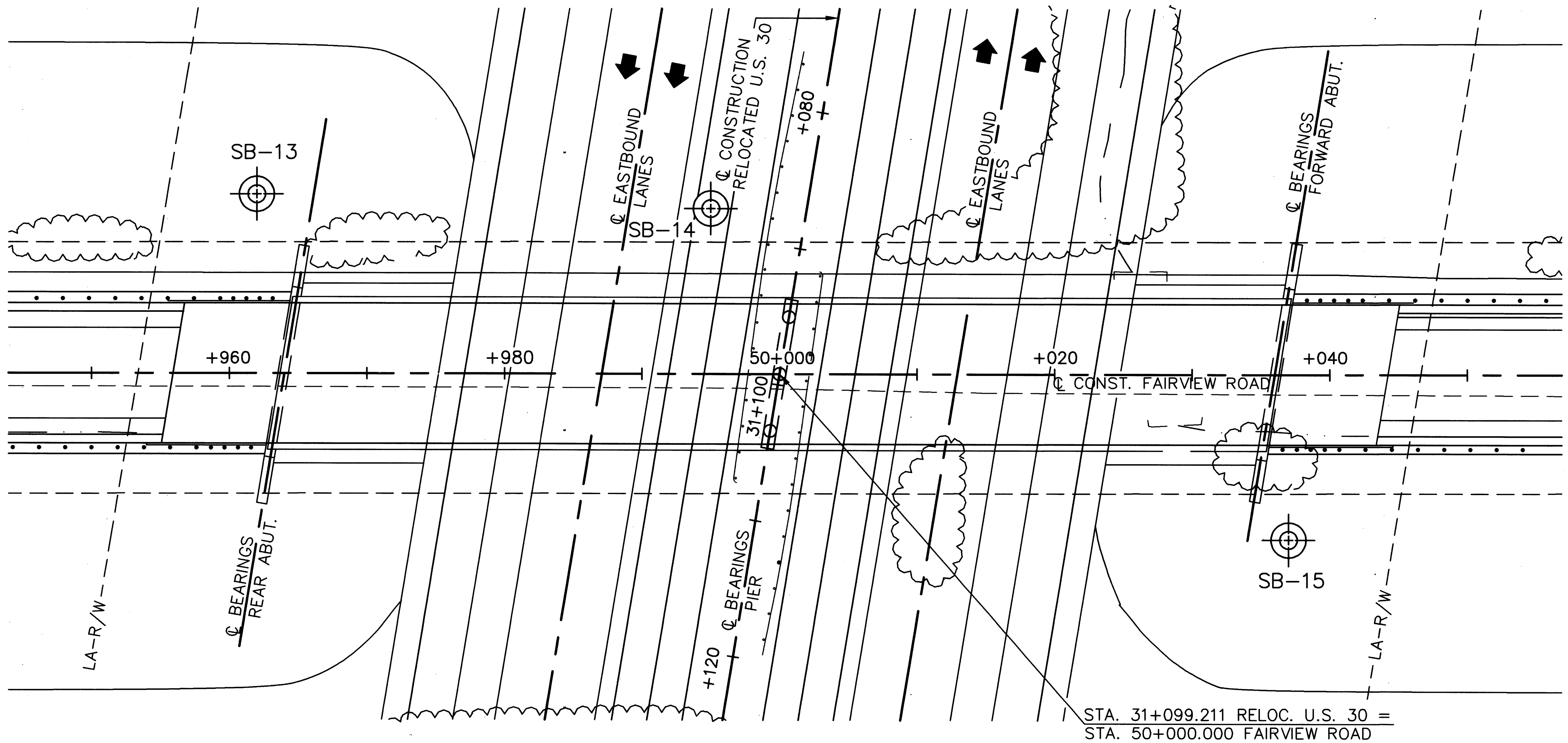
WESTERVILLE, OHIO 43081
(614) 885-1959

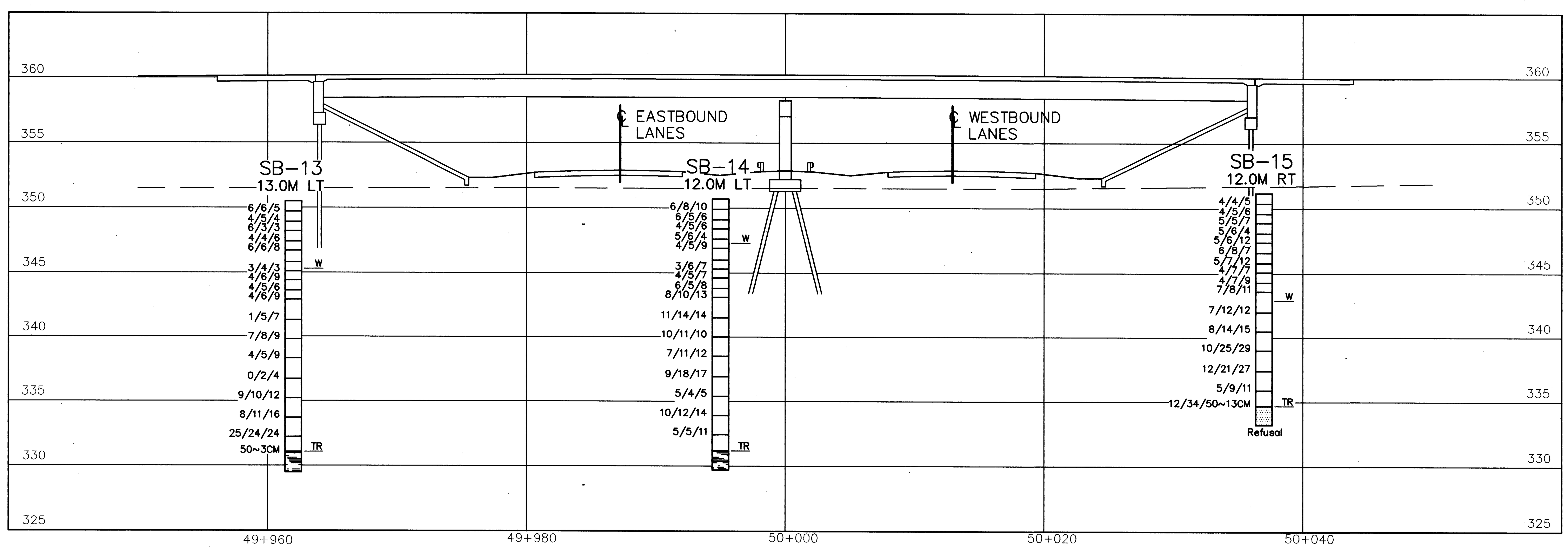
DRAWN	DATE	CHECKED	DATE
EMC	9/11/98	GPH	9/22/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-31094 UNDER FAIRVIEW ROAD

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S6-1.DWG DATE: 11 SEPT. 1998





PROFILE ALONG ℄ CONSTRUCTION

HORIZONTAL SCALE IN METERS 0 5 10

CALCULATED	DATE	CHECKED	DATE
EMC	9/11/98	GPH	9/22/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-31094 UNDER FAIRVIEW ROAD

CRA-30-24.000

2/4

RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110
FILENAME: 7110S6-2.DWG
DATE: 11 SEPT 1998

BORING LOG: SB-13

STATION AND OFFSET: 49+962, 13.0M LT
SURFACE ELEVATION: 350.50M
WATER ENCOUNTERED: SEEPAGE @ 5.2M *

DATE STARTED: 11/26/97
DATE FINISHED: 11/26/97
SAMPLER TYPE: HSA/MD/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					10cm – DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL). 0.2M									
349.7	SS-1	6/6/5	100%	1	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.	20	29	15	3	6	29	–62–		A-6a
348.9	SS-2	4/5/4	56%		1.8M	17								VISUAL
348.2	SS-3	6/3/3	67%	2	BROWN SAND, SOME GRAVEL, SOME SILT. 2.3M	22			24	25	30	–21–		A-3a
347.4	SS-4	4/4/6	100%	3	GRAY SILTY CLAY, SOME SAND, LITTLE GRAVEL.	15								VISUAL
346.7	SS-5	6/6/8	100%	4		20								VISUAL
345.8	ST-6					18	33	16	11	9	13	30	37	A-6b
345.1	SS-7	3/4/3	100%	5		19								VISUAL
344.4	SS-8	4/6/9	100%	6		18								VISUAL
343.6	SS-9	4/5/6	100%	7		16								VISUAL
342.9	SS-10	4/6/9	100%			9								VISUAL
				8	8.7M									
341.3	SS-11	1/5/7	100%	9	BLACK GRAVEL, SOME SAND, TRACE SILT.	14			66	26	4	–4–		A-1-a
				10	10.2M									
339.8	SS-12	7/8/9	28%	11	GRAY SANDY SILT, SOME CLAY, LITTLE GRAVEL.	26								VISUAL
338.3	SS-13	4/5/9	100%	12		25								VISUAL
				13										
336.7	SS-14	0/2/4	100%	14		29								VISUAL
335.2	SS-15	9/10/12	100%	15		13	23	8	12	10	17	39	22	A-4a
				16										
333.7	SS-16	8/11/16	100%	17		17								VISUAL
332.2	SS-17	25/24/24	100%	18		19								VISUAL
				19	19.4M									
331.0	SS-18	50~3CM	100%		GRAY WEATHERED SHALE. 19.5M									VISUAL
	RC-1		100%	20	SHALE; DARK GRAY, HIGHLY WEATHERED, SOFT, HIGHLY BROKEN, JOINTED, FISSILE, ARENACEOUS. – NO CORE LOSS – RQD = 0%									
329.5														

BOTTOM OF BORING = 21.0M

BORING LOG: SB-14

STATION AND OFFSET: 50+995, 12.0M LT
SURFACE ELEVATION: 350.70M
WATER ENCOUNTERED: SEEPAGE @ 3.4M *

DATE STARTED: 12/2/97
DATE FINISHED: 12/2/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					10cm – DARK BROWN SILTY CLAY, SOME ORGANICS, LITTLE SAND (TOPSOIL). 0.2M									
349.9	SS-1	6/8/10	100%	1	BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL.	19								VISUAL
349.1	SS-2	6/5/6	100%		1.8M	21	28	13	6	9	21	34	30	A-6a
348.4	SS-3	4/5/6	100%	2	BROWN SANDY SILT, LITTLE CLAY. 2.3M	20								VISUAL
347.6	SS-4	5/6/4	100%	3	BROWN TO GRAY SILTY CLAY, LITTLE SAND, LITTLE TO TRACE GRAVEL.	18								VISUAL
346.9	SS-5	4/5/9	100%	4		15								VISUAL
346.0	ST-6					18	30	15	14	8	10	28	40	A-6a
345.3	SS-7	3/6/7	56%	5		17								VISUAL
344.6	SS-8	4/5/7	33%	6		19								VISUAL
343.8	SS-9	6/5/8	67%	7		18	28	13	8	8	12	34	38	A-6a
343.1	SS-10	8/10/13	67%			22								VISUAL
				8										
341.5	SS-11	11/14/14	78%	9		20								VISUAL
				10	10.2M									
340.0	SS-12	10/11/10	100%		BROWN SAND, SOME SILT, LITTLE GRAVEL.	14								VISUAL
				11	11.7M									
338.5	SS-13	7/11/12	100%	12	GRAY SILT AND CLAY, SOME SAND, TRACE GRAVEL.	11								VISUAL
				13	13.3M									
336.9	SS-14	9/18/17	100%	14	BROWN SILTY SAND, LITTLE CLAY, TRACE GRAVEL.	18								VISUAL
335.4	SS-15	5/4/5	100%	15		21			2	5	58	–35–		A-3a
				16										
333.9	SS-16	10/12/14	100%	17		18								VISUAL
					17.8M									
332.4	SS-17	5/5/11	100%	18	BROWN SANDY CLAY, LITTLE SILT, FINE GRAVEL.	19	20	8	11	12	32	–45–		A-4a
				19	19.5M									
	RC-1		100%	20	SHALE; BLACK, SOFT TO MEDIUM HARD, HIGHLY BROKEN, HIGHLY FISSILE, SLIGHTLY JOINTED, CARBONACEOUS. – NO CORE LOSS – RQD = 0%									
329.7														

BOTTOM OF BORING = 21.0M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN EMC
CHECKED GPH
DATE 9/11/98
DATE 9/22/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-31094 UNDER FAIRVIEW ROAD

CRA-30-24.000

FILENAME: 7110S6-3.DWG
DATE: 11-SEPT-1998
RESOURCE INTERNATIONAL INC.
PROJECT NO. W-7110

BORING LOG: SB–15

STATION AND OFFSET: 50+037, 12.0M RT
SURFACE ELEVATION: 351.20M
WATER ENCOUNTERED: SEEPAGE @ 8.3M *

DATE STARTED: 11/25/97
DATE FINISHED: 11/25/97
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					18cm – BROWN AND BLACK SILTY CLAY, SOME ORGANICS (TOPSOIL). 0.2M									
350.4	SS–1	4/4/5	67%	1	MOTTLED BROWN AND GRAY TO LIGHT BROWN SILTY CLAY, LITTLE SAND, LITTLE GRAVEL.	25								VISUAL
349.6	SS–2	4/5/6	89%			24	37	16	13	6	19	–62–		A–6b
348.9	SS–3	5/5/7	78%	2		19								VISUAL
348.1	SS–4	5/6/12	56%	3	3.1M	21								VISUAL
					GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.									
347.4	SS–5	6/8/7	89%	4		14								VISUAL
346.6	SS–6	5/7/12	94%			21	35	18	4	3	13	42	38	A–6b
				5										
345.8	SS–7	4/7/7	89%			16								VISUAL
345.1	SS–8	4/7/9	89%	6		18								VISUAL
344.3	SS–9	7/8/11	94%	7		14								VISUAL
343.6	SS–10	7/12/12	100%			12								VISUAL
				8										
					8.7M									
342.0	SS–11	8/14/15	94%	9	GRAY CLAYEY SILT, SOME SAND, LITTLE GRAVEL.	16								VISUAL
				10										
340.5	SS–12	10/25/29	100%			16								VISUAL
				11										
339.0	SS–13	12/21/27	94%	12		12								VISUAL
				13										
337.4	SS–14	5/9/11	100%			14	24	10	25	8	14	–53–		A–4
				14										
335.9	SS–15	12/34/50~13CM	94%	15		13								VISUAL
				16	AUGER REFUSAL @ 16.5M 16.5M									
	RC–1		95%	17	SANDSTONE; GRAY, MEDIUM HARD, FINE GRAINED, HIGHLY BROKEN, JOINTED, HIGH SILT CONTENT. – CORE LOSS = 5% – RQD = 0%									
333.2														

BOTTOM OF BORING = 18.0M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS

RESOURCE INTERNATIONAL INC.
PROJECT NO. W–7110
FILENAME: 7110S6–4.DWG
DATE: 11–SEPT–1998

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885–1959

DRAWN EMC DATE 9/11/98
CHECKED GPH DATE 9/22/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA–30–31094 UNDER FAIRVIEW ROAD

CRA–30–24.000

GEOLOGY OF THE SITE

GEOLOGICALLY, THE SITE IS LOCATED WITHIN THE GALION GLACIATED LOW PLATEAU. BOTH THE ILLINOIAN AND WISCONSIN GLACIERS PASSED OVER THE AREA. BASED ON THE QUATERNARY GEOLOGY OF OHIO MARION QUADRANGLE, OBTAINED FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE OVERBURDEN SOILS CONSIST OF HIRAM AND LAKE END MORAINE TILL DEPOSITED BY THE LATE WISCONSIN ICE SHEET. THE HIRAM AND LAKE END MORAINE TILL EXHIBIT A HIGH PERCENTAGE OF CLAY SOILS. THE UNDERLYING BEDROCK CONSISTS PRIMARILY OF MISSISSIPPIAN-AGE BEDFORD SHALE.

EXPLORATION

THREE (3) ENGINEERING TEST BORINGS, DESIGNATED SB-10, SB-11, AND SB-12, WERE DRILLED AT THE STATIONS AND OFFSETS SHOWN ON THE BORING LOGS. THE BORING LOCATIONS WERE DESIGNATED AND FIELD STAKED BY REPRESENTATIVES OF RESOURCE INTERNATIONAL, INCORPORATED. BORING SB-10, DRILLED TO A DEPTH OF 12.2 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE REAR (SOUTH) ABUTMENT. BORING SB-11, DRILLED TO A DEPTH OF 12.2 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE PIER. BOREHOLE SB-12, DRILLED TO A DEPTH OF 12.2 METERS, WAS DRILLED IN REFERENCE TO THE CONSTRUCTION OF THE FORWARD (NORTH) ABUTMENT. BEDROCK WAS CORED IN ALL THREE BORINGS. THE BORINGS WERE ADVANCED WITH A TRUCK MOUNTED ROTARY DRILLING MACHINE UTILIZING 9.5-CENTIMETER HOLLOW STEM AUGERS TO ADVANCE THE HOLES. A DOUBLE TUBE DIAMOND BIT CORE BARREL WAS USED TO CORE THE BEDROCK ENCOUNTERED. CORING PRODUCED NX-SIZED (5.3-CENTIMETER DIAMETER) CORES, FROM WHICH THE TYPE OF ROCK AND ITS GEOLOGICAL CHARACTERISTICS WERE DETERMINED. THE DRILLING WAS PERFORMED BETWEEN MARCH 24, AND MARCH 25, 1998.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORINGS, DRILLED ALONG THE PROPOSED BRIDGE LOCATION IN THE CULTIVATED FARM FIELD WEST OF NAZOR ROAD, EXHIBITED 0.2-METER OF TOPSOIL AT THE GROUND SURFACE, GENERALLY DESCRIBED AS BROWN SILTY CLAY WITH THE PRESENCE OF ORGANICS. THE UNDERLYING SOILS ARE PREDOMINANTLY COHESIVE, DESCRIBED AS EITHER 1) BROWN TO GRAY SILT AND CLAY WITH "LITTLE" SAND AND VARYING PERCENTAGES OF FINE GRAVEL (ODOT A-6A AND A-6B SOILS); OR 2) BROWN TO GRAY, MODERATE TO HIGH PLASTICITY, CLAY WITH "LITTLE" TO "SOME" SILT AND VARYING PERCENTAGES OF SAND AND GRAVEL (ODOT A-7-6 SOILS). BORINGS SB-10 AND SB-12 BOTH EXHIBITED SOILS WITH A HIGHER PERCENTAGE OF GRANULAR SOILS BETWEEN APPROXIMATELY ELEVATIONS 348.0 AND 344.0 METERS. IN PARTICULAR, SB-10 (BETWEEN ELEVATIONS 348.05 AND 344.75 METERS) AND SB-12 (BETWEEN ELEVATIONS 346.4 AND 344.5 METERS) EXHIBITED BROWN TO GRAY SILTY FINE TO COARSE SAND (SANDY SILT) WITH "LITTLE" TO "SOME" CLAY (ODOT A-4A SOILS). A 0.5-METER THICK LENS OF GRAY FINE TO COARSE SAND WITH "TRACE" AMOUNTS OF SILT AND "TRACE" AMOUNTS OF FINE GRAVEL (ODOT A-3A SOILS) WAS ENCOUNTERED IN SB-12 AT ELEVATION 346.9 METERS. A MORE COMPREHENSIVE DESCRIPTION OF WHAT WAS ENCOUNTERED DURING THE DRILLING PROCESS MAY BE FOUND IN THE BORING LOGS IN APPENDIX C AT THE END OF THE SUBSURFACE INVESTIGATION REPORT.

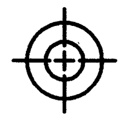
MANY SOIL PROPERTIES, INCLUDING SOIL CONSISTENCY AND SHEAR STRENGTH (OF COHESIVE SAMPLES), ARE PRIMARILY DERIVED FROM STANDARD PENETRATION BLOW COUNTS, HAND PENETROMETER READINGS (PERFORMED ON COHESIVE SAMPLES), AND UNCONFINED COMPRESSIVE STRENGTH TESTING. STANDARD PENETRATION BLOW COUNTS RECORDED DURING THE DRILLING PROCESS RANGED FROM 7 BLOWS PER 30 CENTIMETERS TO REFUSAL, INDICATING THE PRESENCE OF PRIMARILY STIFF TO HARD COHESIVE SOILS. REFUSAL, DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 15 CENTIMETERS OF PENETRATION, WAS ENCOUNTERED EXCLUSIVELY WITHIN THE HIGHLY WEATHERED SHALE BEDROCK.

THE UNCONFINED COMPRESSIVE STRENGTH OF THE SOILS, AS OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 96 KILOPASCALS TO IN EXCESS OF 431 KILOPASCALS (THE LIMIT OF THE INSTRUMENT). THE LABORATORY UNCONFINED COMPRESSIVE STRENGTH TEST PERFORMED ON SAMPLE ST-5 IN SB-10 INDICATED AN "IN-SITU" UNIT WEIGHT OF 20.9 KILONEWTONS PER CUBIC METER, AND AN UNCONFINED COMPRESSIVE STRENGTH OF 109 KILOPASCALS.

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 12% TO 28%, AND GENERALLY DECREASED WITH DEPTH. THE MOISTURE CONTENTS FOR THE COHESIVE SOILS TESTED WERE AT TO 8% ABOVE THEIR CORRESPONDING PLASTIC LIMITS. IN GENERAL, THE MOISTURE CONTENTS ARE CONSIDERED TO BE AT TO ABOVE THEIR CORRESPONDING OPTIMUM MOISTURE CONTENTS (DETERMINED FROM CORRELATION CHARTS).

GROUNDWATER WAS INITIALLY ENCOUNTERED DURING THE DRILLING PROCESS ON THE DRILL ROD IN SB-10 AT 4 METERS (ELEVATION 347.75 METERS), IN SB-11 AT 4 METERS (ELEVATION 348.3 METERS), AND IN SB-12 AT 4 METERS (ELEVATION 347.5 METERS). DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS, AN ACCURATE DEPTH TO GROUNDWATER COULD NOT BE DETERMINED UPON COMPLETION OF THE DRILLING PROCESS IN ANY OF THE BORINGS. GROUNDWATER LEVELS AND/OR THE PRESENCE OF GROUNDWATER ARE CONSIDERED TO BE DEPENDENT ON THE SEASONAL FLUCTUATIONS IN PRECIPITATION. AT THE TIME OF THIS INVESTIGATION, RECENT PRECIPITATION WAS CONSIDERED TO BE NORMAL.

LEGEND


Press and/or Drive Sample and/or Core Boring Location—Plan View.


Horizontal Bar on Boring Log indicates the Depth the Sample was Taken.

X/Y/Z — Figures Beside the Boring Log in Profile indicate the Number of Blows for Standard Penetration Test.

X = Number of Blows for First 150 Millimeters

Y = Number of Blows for Second 150 Millimeters

Z = Number of Blows for Third 150 Millimeters

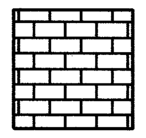
TR——— Top of Rock

W——— Indicates Free Water level

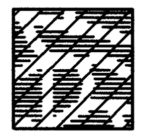
Particle Size Definitions

Boulders	Cobbles	Gravel	C.Sand	F.Sand	Silt	Clay
20.32cm	7.62cm	2.0mm (No. 10)	0.42mm (No. 40)	0.074mm (No. 200)	0.005mm	

Symbol Of Rock Type


LIMESTONE


SHALE


WEATHERED SHALE

THE TOP OF BEDROCK WAS ENCOUNTERED IN THE BOREHOLES AT THE FOLLOWING ELEVATIONS:

BORING NO.	STATION & OFFSET	GROUND ELEVATION	TOP OF BEDROCK	TOP OF CORED BEDROCK
SB-10	49+972, 5.0M RT.	351.8M	343.1M	341.1M
SB-11	50+012, CENTERLINE	352.3M	343.3M	341.6M
SB-12	50+053, 5.0M LT.	351.5M	342.8M	340.8M

THE SURFICIAL 1.7 METERS (SB-11) TO 2.0 METERS (SB-10 AND SB-12) OF BEDROCK WAS AUGERABLE, DESCRIBED AS GRAY, VERY SOFT, WEATHERED SHALE. THE UNDERLYING COMPETENT (CORED) BEDROCK IS PRIMARILY DESCRIBED AS DARK GRAY, SOFT TO MEDIUM HARD, HIGHLY BROKEN, FISSILE, CARBONACEOUS, SHALE. BORING SB-10 EXHIBITED GRAY, MODERATELY HARD TO HARD, MASSIVE, LIMESTONE BELOW 11.5 METERS (ELEVATION 340.3 METERS). THE ROCK CORE RECOVERY RANGED FROM 50% TO 62%. THE ROCK QUALITY DESIGNATION (RQD) IN THE SHALE WAS VERY POOR, WITH RQD VALUES OF 0% IN ALL THREE TEST BORINGS. THE RQD IN THE LIMESTONE WAS POOR, WITH A VALUE OF 45%.

GENERAL INFORMATION

Borings are made by means of a truck mounted rotary drilling machine. Standard Penetration testing was performed at 0.75 to 1.5 meter intervals. The Standard Penetration Test (ASTM D 1586) is conducted by using a 63.5 kg hammer falling 760 millimeters to drive a 51 millimeter O.D. split-barrel sampler 450 millimeters. Driving resistance is recorded on the boring logs in terms of blows per 150 millimeter interval of the driving distance. The second and third intervals are added to obtain the number of blows per 300 millimeters.

The boring log sheet shows graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the Standard Penetration Tests in three 150 millimeter increments, field sample number, and sample description based on laboratory tests and the Ohio Department of Transportation Classification System. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sample cannot be driven, a wash sample is procured for visual classification to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

Note—all available soil and bedrock information which can be conveniently shown on the structure foundation investigation sheets has been so reported. Additional subsurface investigations may have been made to study some special aspect of the project. Copies of the data, if any, may be inspected in the District Deputy Director's Office (District 3), The Soils Section of the Office of Roadway Engineering, or in the Office of Bridges at 25 South Front Street, Columbus, Ohio 43215.

The purpose of this subsurface investigation is to develop soils information specifically for foundation design purposes and is not intended to be used for construction estimating or bidding. Information shown was obtained for use in establishing design criteria for the project. The accuracy of the data presented is not guaranteed by the State of Ohio or Consultant and is not to be construed as part of the plans governing construction of the project.

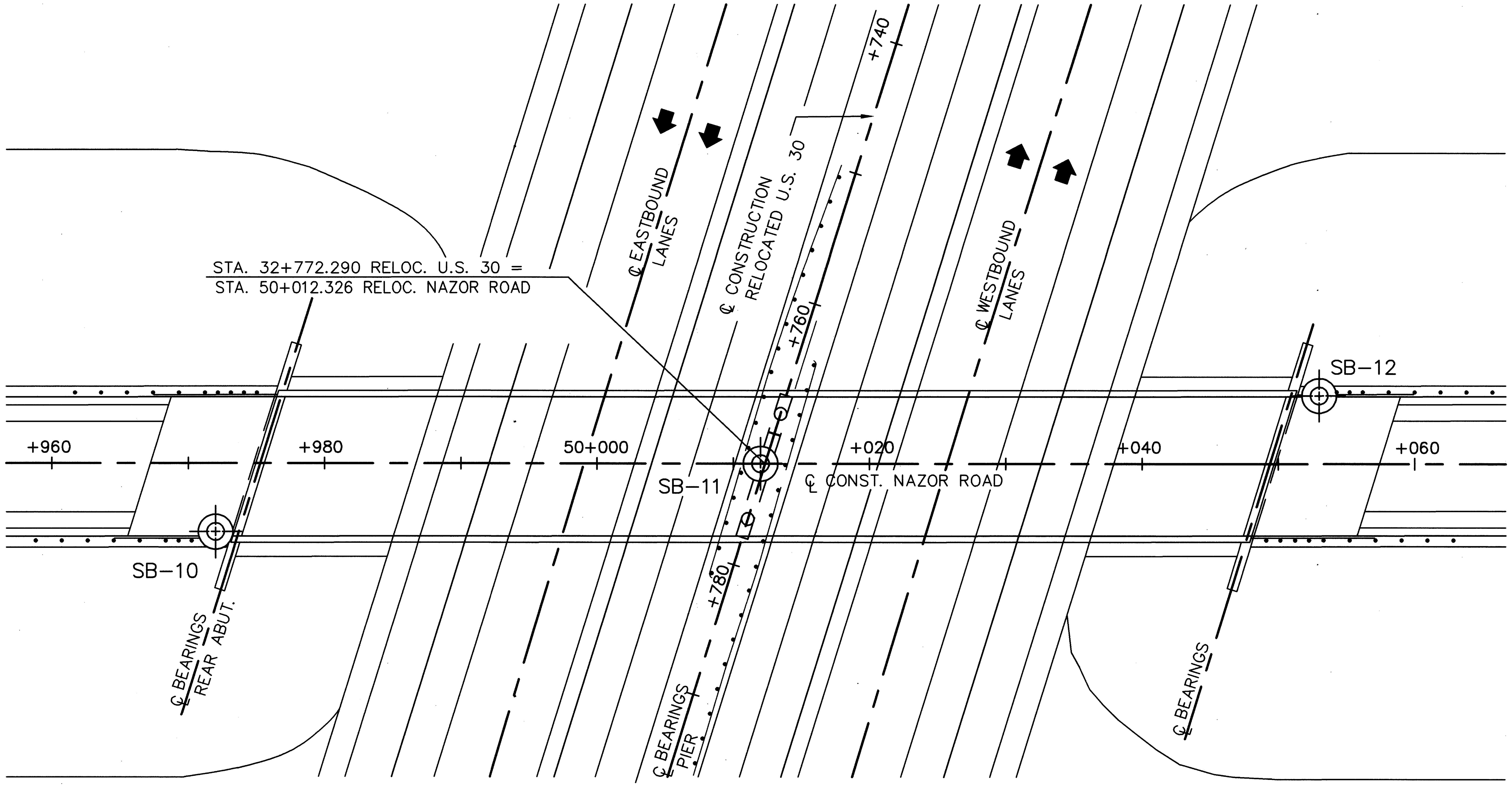
RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

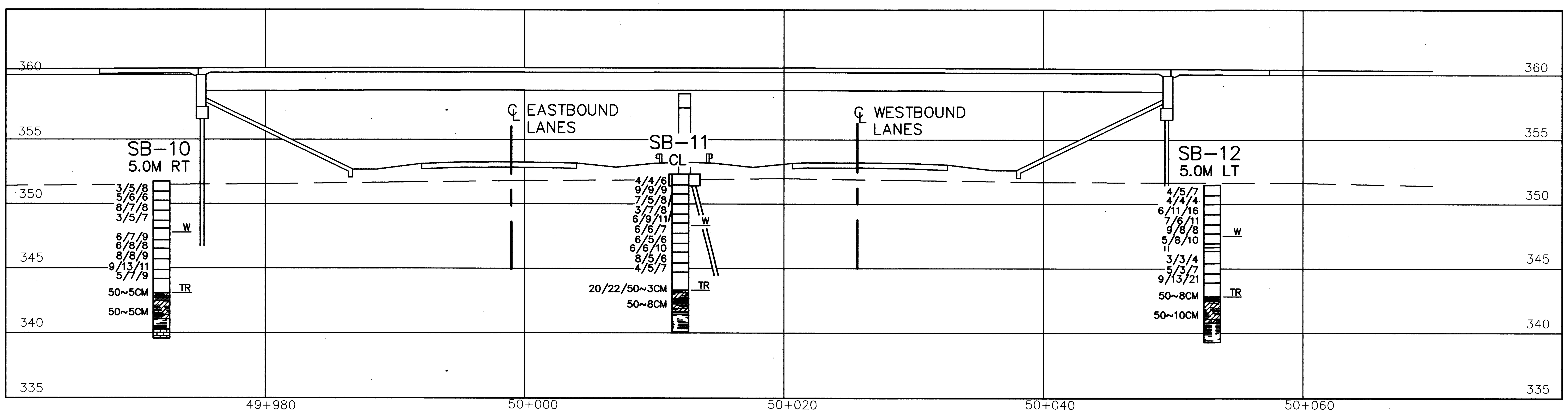
DRAWN EMC | CHECKED DLK | DATE 8/20/98 | DATE 8/21/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-32766 UNDER NAZOR ROAD

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S5-1.DWG DATE: 17 AUG 1998





PROFILE ALONG ℄ CONSTRUCTION

HORIZONTAL SCALE IN METERS
0 5 10

CALCULATED EMC DATE 8/20/98
CHECKED DLK DATE 8/21/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-32766 UNDER NAZOR ROAD

CRA-30-24.000

2/4

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110
FILENAME: 7110S5-2.DWG DATE: 20 AUG 1998

BORING LOG: SB-10

STATION AND OFFSET: 49+972, 5.0M RT
SURFACE ELEVATION: 351.75M
WATER ENCOUNTERED: SEEPAGE @ 4.0M *

DATE STARTED: 3/25/98
DATE FINISHED: 3/25/98
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					BROWN SILTY CLAY, SOME SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL). 0.2M									
351.0	SS-1	3/5/8	67%	1	BROWN CLAY, SOME SAND, SOME GRAVEL, LITTLE SILT.	23	44	28	27	7	20	–46–		A-7-6
350.3	SS-2	5/6/6	94%			23								VISUAL
349.5	SS-3	8/7/8	100%	2	2.4M	25								VISUAL
					BROWN SILT AND CLAY, LITTLE SAND, TRACE GRAVEL.									
348.7	SS-4	3/5/7	100%	3		27								VISUAL
348.1	ST-5		100%		3.7M	23	30	14	1	2	11	45	41	A-6a
				4	BROWN SILTY SAND, SOME GRAVEL, LITTLE CLAY.									
347.2	SS-6	6/7/9	78%			21			23	28	13	22	14	VISUAL
				5										
346.5	SS-7	6/8/8	94%			13								VISUAL
345.7	SS-8	8/8/9	100%	6		13								VISUAL
344.9	SS-9	9/13/11	56%	7	7.0M	14								VISUAL
					BROWN CLAY, SOME SAND, SOME GRAVEL, LITTLE SILT.									
344.2	SS-10	5/7/9	100%			16								VISUAL
				8	8.7M									
342.9	SS-11	50~5CM	100%	9	GRAY WEATHERED SHALE.									VISUAL
				10										
341.4	SS-12	50~5CM	100%		AUGER REFUSAL @ 10.7M 10.7M									VISUAL
	RC-1		62%	11	SHALE; DARK GRAY, MEDIUM HARD, CARBONACEOUS, HIGHLY BROKEN, FISSILE. – CORE LOSS = 38% – RQD = 0%									
339.6				12	LIMESTONE; GRAY, MODERATELY HARD TO HARD, MASSIVE. – RQD = 45%									

BOTTOM OF BORING = 12.2M

BORING LOG: SB-11

STATION AND OFFSET: 50+012, CL
SURFACE ELEVATION: 352.30M
WATER ENCOUNTERED: SEEPAGE @ 4.0M *

DATE STARTED: 3/24/98
DATE FINISHED: 3/24/98
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL). 0.2M									
351.5	SS-1	4/4/6	67%	1	BROWN TO GRAY CLAY, SOME SILT, LITTLE SAND, TRACE GRAVEL.	24								VISUAL
350.8	SS-2	9/9/9	100%			26	51	33	6	5	10	–79–		A-7-6
350.0	SS-3	7/5/8	100%	2		23								VISUAL
349.2	SS-4	3/7/8	100%	3		17								VISUAL
348.5	SS-5	6/9/11	100%	4		17								VISUAL
347.7	SS-6	6/6/7	100%		4.6M	16								VISUAL
				5	GRAY SILT AND CLAY, LITTLE SAND, LITTLE GRAVEL.									
346.9	SS-7	6/5/6	100%			28								VISUAL
346.2	SS-8	6/6/10	100%	6		16	28	12	12	6	13	37	32	A-6a
345.4	SS-9	8/5/6	100%	7		18								VISUAL
344.7	SS-10	4/5/7	100%			14								VISUAL
				8										
				9	9.0M									
343.1	SS-11	20/22/50~3CM	62%		GRAY WEATHERED SHALE.	12								VISUAL
				10										
341.9	SS-12	50~8CM	100%		10.7M									VISUAL
	RC-1		60%	11	SHALE; DARK GRAY, SOFT TO MEDIUM HARD, HIGHLY BROKEN, SLIGHTLY JOINTED, FISSILE, CARBONACEOUS. – CORE LOSS = 40% – RQD = 0%									
340.1				12										

BOTTOM OF BORING = 12.2M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS.

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110 FILENAME: 7110S5-3.DWG DATE: 20-AUG-1998

RESOURCE INTERNATIONAL INC.
281 ENTERPRISE DR.
WESTERVILLE, OHIO 43081
(614) 885-1959

DRAWN EMC DATE 8/20/98
CHECKED DLK DATE 8/21/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-32766 UNDER NAZOR ROAD

CRA-30-24.000

3/4

BORING LOG: SB-12

STATION AND OFFSET: 50+053, 5.0M LT
SURFACE ELEVATION: 351.50M
WATER ENCOUNTERED: SEEPAGE @ 4.0M *

DATE STARTED: 3/24/98
DATE FINISHED: 3/24/98
SAMPLER TYPE: HSA/RC

ELEV.	SAMPLE NUMBER	BLOWS PER 15 cm	REC (%)	DEPTH	SOIL DESCRIPTION	WC	ATT LIMITS LL	ATT LIMITS PI	PHYSICAL CHARACTERISTIC % AGG	% CS	% FS	% SI	% CL	ODOT CLASS
					BROWN SILTY CLAY, LITTLE SAND, LITTLE ORGANICS, TRACE GRAVEL (TOPSOIL). 0.2M									
350.7	SS-1	4/5/7	33%	1	BROWN TO GRAY SILT AND CLAY, LITTLE SAND, LITTLE TO SOME GRAVEL.	22								VISUAL
350.0	SS-2	4/4/4	67%			22	34	16	19	7	12	32	30	A-6b
349.2	SS-3	6/11/16	100%	2		18								VISUAL
348.4	SS-4	7/6/11	100%	3		12								VISUAL
347.7	SS-5	9/8/8	100%	4		14								VISUAL
346.9	SS-6	5/8/10	78%		4.6M	17	30	16	22	5	11	30	32	A-6b
346.3	ST-7A				GRAY SAND, TRACE SILT, TRACE GRAVEL. 5.1M	15			2	50	41	-7-		VISUAL
346.0	ST-7B			5	GRAY SANDY SILT, SOME CLAY, LITTLE GRAVEL.	12			11	9	24	31	25	VISUAL
345.4	SS-8	3/3/4	100%	6		21								VISUAL
344.6	SS-9	5/3/7	100%	7	7.0M	20								VISUAL
343.9	SS-10	9/13/21	100%		GRAY SILTY CLAY, LITTLE SAND, TRACE GRAVEL.	14								VISUAL
				8	8.7M									
342.6	SS-11	50~8CM	100%	9	GRAY WEATHERED SHALE.									VISUAL
341.1	SS-12	50~10CM	100%	10	10.7M									VISUAL
	RC-1		50%	11	SHALE; DARK GRAY, MEDIUM HARD, CARBONACEOUS, HIGHLY BROKEN, FISSILE, WITH INTERBEDDED DARK GRAY CLAY SEAMS UP TO 5 CM THICK. - CORE LOSS = 50% - RQD = 0%									
339.3				12										

BOTTOM OF BORING = 12.2M

* AN ACCURATE DETERMINATION OF THE GROUNDWATER LEVEL UPON COMPLETION COULD NOT BE MADE DUE TO THE USE OF WASH WATER DURING THE CORING PROCESS.

RESOURCE INTERNATIONAL INC.
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DRAWN EMC DATE 8/20/98
CHECKED DLK DATE 8/21/98

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. CRA-30-32766 UNDER NAZOR ROAD

CRA-30-24.000

RESOURCE INTERNATIONAL INC. PROJECT NO. W-7110
FILENAME: 7110S5-4.DWG DATE: 20-AUG-1998