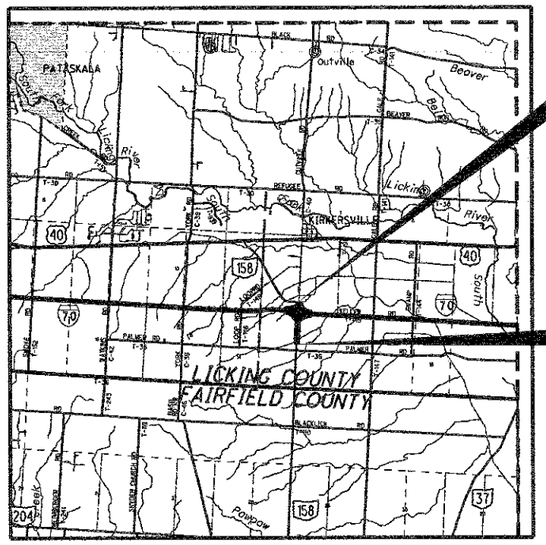
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
LIC-158-0.56
VILLAGE OF KIRKERSVILLE
HARRISON TOWNSHIP
LICKING COUNTY



LOCATION MAP

LATITUDE: 39°56'38" LONGITUDE: -82°36'01"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

	S.R. 158
CURRENT ADT (2013)	9,260
DESIGN YEAR ADT (2033)	11,750
DESIGN HOURLY VOLUME (2033)	1,175
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	22%
DESIGN SPEED	50
LEGAL SPEED	50

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS -

HORIZONTAL ALIGNMENT/SUPERELEVATION 1/13/2011

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT 5 PRODUCTION

ENGINEERS SEAL: STRUCTURE

STATE OF OHIO David T. Flood E-61082 REGISTERED PROFESSIONAL ENGINEER

SIGNED: David T Flood
DATE: 10/21/2011

ENGINEERS SEAL: ROADWAY

STATE OF OHIO Heather Ann Gilbert E-68643 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Heather A Gilbert
DATE: 10/21/2011

INDEX OF SHEETS:

(SHEET 101 NOT USED)

STANDARD CONSTRUCTION DRAWINGS

										SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	7/18/08	CB-2.1	7/15/05	MT-35.10	4/20/01	TC-41.20	1/19/01	AS-1-81	7/19/02	800	1/20/12
BP-2.2	7/18/08	CB-3.1	7/15/05	MT-97.12	10/15/10	TC-41.30	1/19/07	PCB-91	7/19/02	802	4/15/11
BP-3.1	10/19/07	CB-3.2	7/15/05	MT-98.10	7/17/09	TC-41.40	7/16/04	PSID-1-99	7/18/08	832	5/5/09
BP-4.1	7/16/04			MT-98.29	7/17/09	TC-41.50	1/19/07	SICD-1-96	7/19/02	840	10/21/11
BP-5.1	7/28/00	DM-1.1	1/21/11	MT-99.20	1/16/09	TC-42.10	1/19/07	SBR-1-99	7/19/02	878	7/15/11
BP-9.1	4/15/05	DM-1.2	10/21/05	MT-101.60	4/17/09	TC-42.20	1/21/11			898	10/21/11
		DM-1.4	7/15/11	MT-101.70	4/15/11	TC-51.11	1/21/11			902	7/16/10
F-2.1	7/28/00	DM-4.2	1/21/05	MT-101.90	10/21/11	TC-51.12	10/21/11				
F-3.3	7/28/00	DM-4.3	4/17/09	MT-105.10	1/16/09	TC-52.10	1/19/07				
F-3.4	7/28/00	DM-4.4	4/17/09			TC-52.20	1/19/07			SPECIAL PROVISIONS	
				HL-30.11	10/16/09	TC-61.30	7/15/11				
RM-1.1	7/15/11	GR-1.1	7/16/04	HL-30.22	4/17/09	TC-65.10	1/21/05				
RM-4.2	10/15/10	GR-2.1	1/16/04	HL-30.31	4/17/09	TC-65.11	1/21/05				
RM-7.1	7/15/05	GR-3.1	10/16/09	HL-30.32	4/17/09	TC-71.10	1/21/11				
		GR-3.2	10/16/09	HL-30.33	4/17/09	TC-72.20	10/16/09				
		GR-4.2	1/19/07	HL-40.10	1/19/07	TC-73.10	10/21/11				
		GR-5.3	4/16/10	HL-50.21	1/19/07	TC-81.10	10/21/11				
		GR-6.2	4/16/10	TC-21.20	4/15/11	TC-82.10	1/21/11				
				TC-22.10	1/19/01	TC-83.10	1/19/07				
		HW-2.1	7/30/07	TC-22.20	1/19/01	TC-83.20	1/21/11				
		HW-2.2	7/30/07	TC-41.10	10/19/07	TC-84.20	1/21/11				

PROJECT DESCRIPTION

RECONSTRUCTION AND WIDENING OF THE RAMPS AT THE S.R. 158 INTERCHANGE WITH I.R. 70. REPLACEMENT OF THE EXISTING BRIDGE OVER I.R. 70 AND WIDENING THE BRIDGE. ADDITION OF TURN LANES ON S.R. 158 SOUTH OF THE INTERSTATE FOR THE TRUCK STOP. REPLACEMENT OF AN EXISTING CMP CULVERT.

2010 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE PART TIME CLOSING OF THE HIGHWAY TO TRAFFIC, AS NOTED ON SHEETS 26 AND 27. DURING WHICH TIME DETOURS WILL BE PROVIDED AS SHOWN HEREIN. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PROJECT EARTH DISTURBED AREA:	20 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	3 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	23 ACRES

APPROVED J. W. Rittle
DATE 11/14/11 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E080950

PID NO. 84700

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

LIC-158-0.56

1/219

09/23/10

84700_GTS_001.dgn

SCHEMATIC PLAN

LIC-158-0.56

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED | CHECKED

BEGIN WORK STA. 696+00.00 ℄ SURVEY & CONSTRUCTION I.R. 70

℄ SURVEY & CONSTRUCTION I.R. 70

I.R. 70 WESTBOUND

I.R. 70 EASTBOUND

N 85° 58' 27" E

MATCHLINE STA. 706+00 I.R. 70

I.R. 70
P.I. STA. 705+09.15
△= 13° 40' 00"
Dc = 1° 00' 00"
R = 5,729.58'
T = 686.59'
L = 1,366.67'
E = 40.99'
C = 1,363.43'
CB = S 87° 11' 33" E

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 57+76.30 = ℄ SURVEY & CONSTRUCTION S.R. 158 WEST STA. 0+00.00

END PROJECT AND WORK
STA. 61+30.00
℄ SURVEY & CONSTRUCTION
S.R. 158
S.L.M. 1.19
FED. NO. 080950

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 57+75.14 = ℄ SURVEY & CONSTRUCTION KELLER ROAD STA. 717+23.21

℄ SURVEY AND CONSTRUCTION KELLER ROAD

S.R. 158 (WEST)

℄ SURVEY & CONSTRUCTION I.R. 70

END WORK
STA. 558+00.00
℄ SURVEY & CONSTRUCTION
I.R. 70

I.R. 70 WESTBOUND

I.R. 70 EASTBOUND

S 86° 51' 32" E

MATCHLINE STA. 551+00 I.R. 70

N.E. RAMP
P.I. STA. 724+34.90
△= 22° 00' 00"
Dc = 8° 00' 00"
R = 716.20'
T = 139.22'
L = 275.00'
E = 13.40'
C = 273.31'
CB = S 57° 06' 33" E
emax = 0.075

N.E. RAMP
P.I. STA. 720+18.29
△= 20° 45' 00"
Dc = 23° 00' 00"
R = 249.11'
T = 45.61'
L = 90.22'
E = 4.14'
C = 89.72'
CB = S 56° 29' 03" E
emax = 0.006
emax = 0.023

N.E. RAMP
P.I. STA. 730+50.97
△= 6° 54' 00"
Dc = 1° 30' 00"
R = 3,819.72'
T = 230.28'
L = 460.00'
E = 6.94'
C = 459.72'
CB = S 83° 26' 03" E

℄ SURVEY & CONSTRUCTION I.R. 70

N.W. RAMP
P.I. STA. 712+55.05
△= 12° 35' 00"
Dc = 4° 00' 00"
R = 1,432.40'
T = 157.93'
L = 314.59'
E = 8.68'
C = 313.95'
CB = N 84° 27' 20" E

BEGIN WORK STA. 710+58.81 ℄ N.W. RAMP

℄ SURVEY & CONST. S.R. 158 STA. 55+00.00 = ℄ N.W. RAMP STA. 720+24.34

℄ SURVEY & CONST. S.R. 158 STA. 55+00.00 = ℄ N.E. RAMP STA. 718+78.60

℄ SURVEY & CONST. S.R. 158 I.R. 70
P.I. STA. 725+33.25
△= 6° 30' 00"
Dc = 0° 45' 00"
R = 7,639.44'
T = 433.80'
L = 866.67'
E = 12.31'
C = 866.20'
CB = S 83° 36' 33" E

END WORK STA. 728+13.15 ℄ N.E. RAMP

KELLER ROAD

N 3° 08' 27" E

S 66° 51' 33" E

N 73° 09' 50" E

S 40° 06' 33" E

S 80° 21' 33" E

S 86° 51' 33" E

S 88° 01' 30" E

N 63° 58' 30" E

S 66° 51' 33" E

S 59° 41' 33" E

S 73° 07' 30" E

TS Sta. 708+47.12

SC Sta. 710+97.12

CS Sta. 714+11.71

ST Sta. 716+61.71

PC Sta. 708+00.00

PT Sta. 708+88.22

PC Sta. 712+58.00

PT Sta. 715+89.22

PC Sta. 715+08.00

PT Sta. 717+32.92

CS Sta. 719+35.26

ST Sta. 720+44.26

PC Sta. 719+72.69

PT Sta. 720+95.45

PC Sta. 720+20.69

PT Sta. 725+45.69

CS Sta. 725+28.69

ST Sta. 726+89.12

PT Sta. 732+80.69

PC Sta. 725+50.01

PT Sta. 733+97.69

PC Sta. 43+99.04

PT Sta. 44+32.04

℄ SURVEY & CONSTRUCTION S.R. 158

℄ N.W. RAMP

℄ N.E. RAMP

BRIDGE NO. LIC-158-0097

℄ S.W. RAMP

℄ S.E. RAMP

℄ SURVEY & CONST. S.R. 158 STA. 50+57.68 = ℄ SURVEY & CONST. I.R. 70 STA. 719+95.26

S.R. 158
P.I. STA. 44+65.71
△= 0° 30' 00" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 66.67'
L = 133.33'
E = 0.19'
C = 133.33'
CB = S 3° 28' 27" E

END WORK STA. 727+67.69 ℄ S.E. RAMP

S.E. RAMP
P.I. STA. 721+01.32
△= 9° 09' 00"
Dc = 8° 00' 00"
R = 716.20'
T = 57.31'
L = 114.38'
E = 2.29'
C = 114.25'
CB = N 68° 33' 00" E

S.E. RAMP
P.I. STA. 726+21.44
△= 28° 00' 00"
Dc = 6° 00' 00"
R = 954.93'
T = 238.09'
L = 466.67'
E = 29.23'
C = 462.04'
CB = N 77° 58' 30" E

S.W. RAMP
P.I. STA. 710+29.77
△= 11° 27' 00"
Dc = 2° 30' 00"
R = 2,291.83'
T = 229.77'
L = 458.00'
E = 11.49'
C = 457.24'
CB = S 78° 30' 33" E

S.W. RAMP
P.I. STA. 716+21.43
△= 17° 59' 14"
Dc = 8° 00' 00"
R = 716.20'
T = 113.35'
L = 224.84'
E = 8.91'
C = 223.92'
CB = S 50° 39' 56" E
emax = 0.075

S.W. RAMP
P.I. STA. 719+90.92
△= 25° 11' 14"
Dc = 23° 00' 00"
R = 249.11'
T = 55.65'
L = 109.51'
E = 6.14'
C = 108.63'
CB = S 54° 15' 56" E
emax = 0.024
emax = 0.026

BEGIN WORK STA. 712+05.41 ℄ S.W. RAMP

℄ SURVEY & CONST. S.R. 158 STA. 46+00.00 = ℄ S.W. RAMP STA. 721+38.83

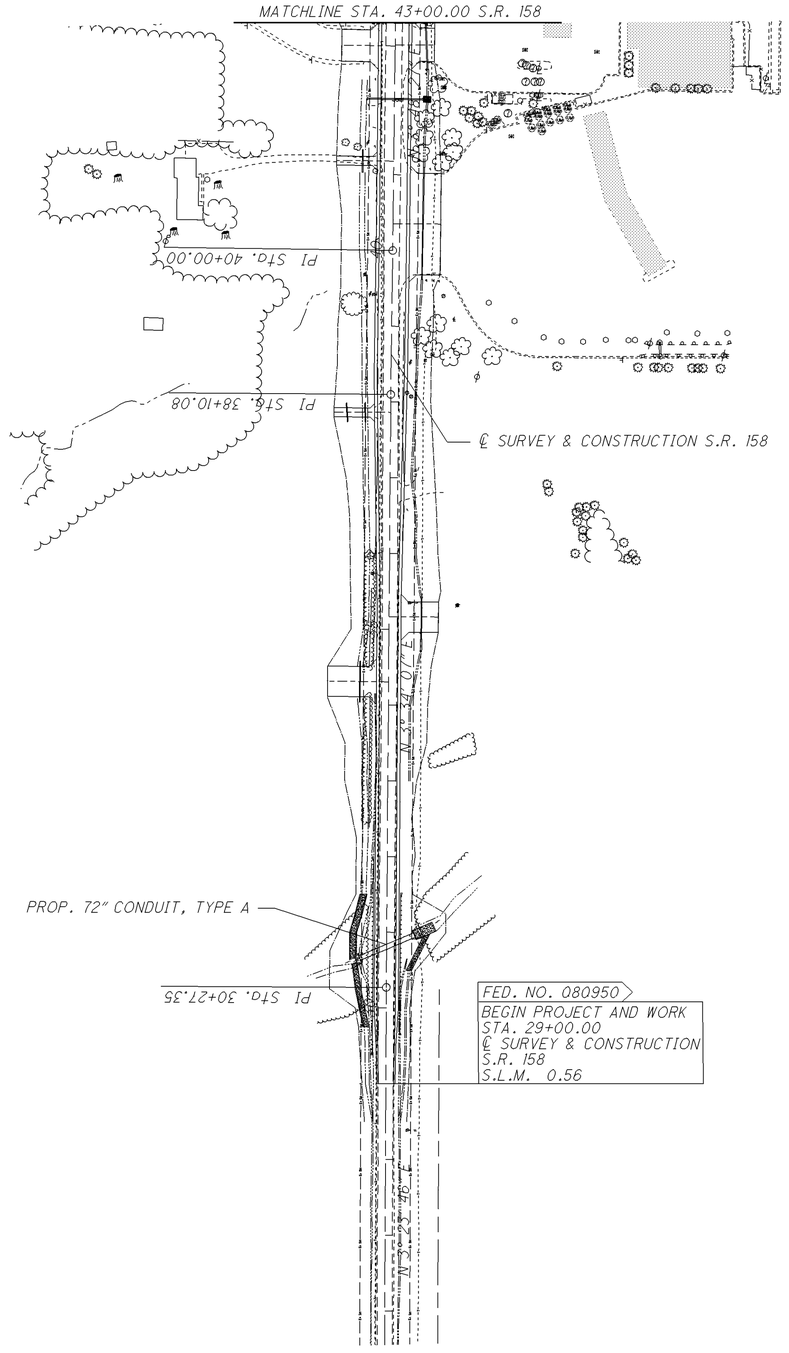
MATCHLINE STA. 43+00 S.R. 158

℄ SURVEY & CONST. S.R. 158 STA. 46+00.00 = ℄ S.E. RAMP STA. 719+31.17

EXPLANATION:

01/13/2011

SR158_GSP_001.DGN



N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

SCHEMATIC PLAN

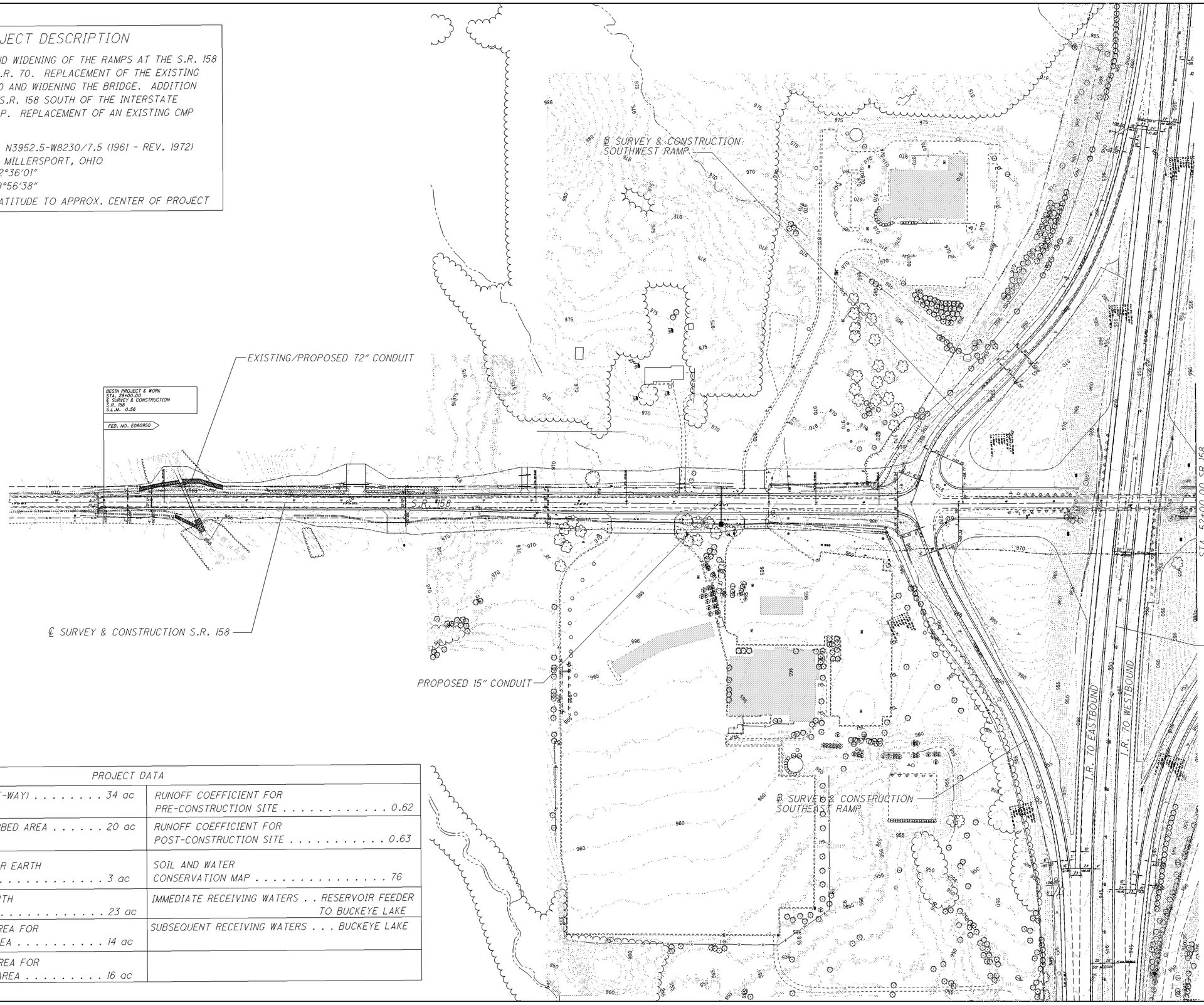
LIC-158-0.56

SR158_GSP_002.dgn 01/20/11

PROJECT DESCRIPTION

RECONSTRUCTION AND WIDENING OF THE RAMPS AT THE S.R. 158 INTERCHANGE WITH I.R. 70. REPLACEMENT OF THE EXISTING BRIDGE OVER I.R. 70 AND WIDENING THE BRIDGE. ADDITION OF TURN LANES ON S.R. 158 SOUTH OF THE INTERSTATE FOR THE TRUCK STOP. REPLACEMENT OF AN EXISTING CMP CULVERT.

USGS QUADRANT NO. N3952.5-W8230/7.5 (1961 - REV. 1972)
MILLERSPORT, OHIO
LONGITUDE: * 82°36'01"
LATITUDE: * 39°56'38"
* LONGITUDE AND LATITUDE TO APPROX. CENTER OF PROJECT



PROJECT DATA	
TOTAL AREA (RIGHT-OF-WAY) . . . . . 34 ac	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE 0.62
PROJECT EARTH DISTURBED AREA . . . . . 20 ac	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE 0.63
ESTIMATED CONTRACTOR EARTH DISTURBED AREA . . . . . 3 ac	SOIL AND WATER CONSERVATION MAP 76
NOTICE OF INTENT EARTH DISTURBED AREA . . . . . 23 ac	IMMEDIATE RECEIVING WATERS . . RESERVOIR FEEDER TO BUCKEYE LAKE
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION AREA . . . . . 14 ac	SUBSEQUENT RECEIVING WATERS . . . BUCKEYE LAKE
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION AREA . . . . . 16 ac	

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED HG
CHECKED

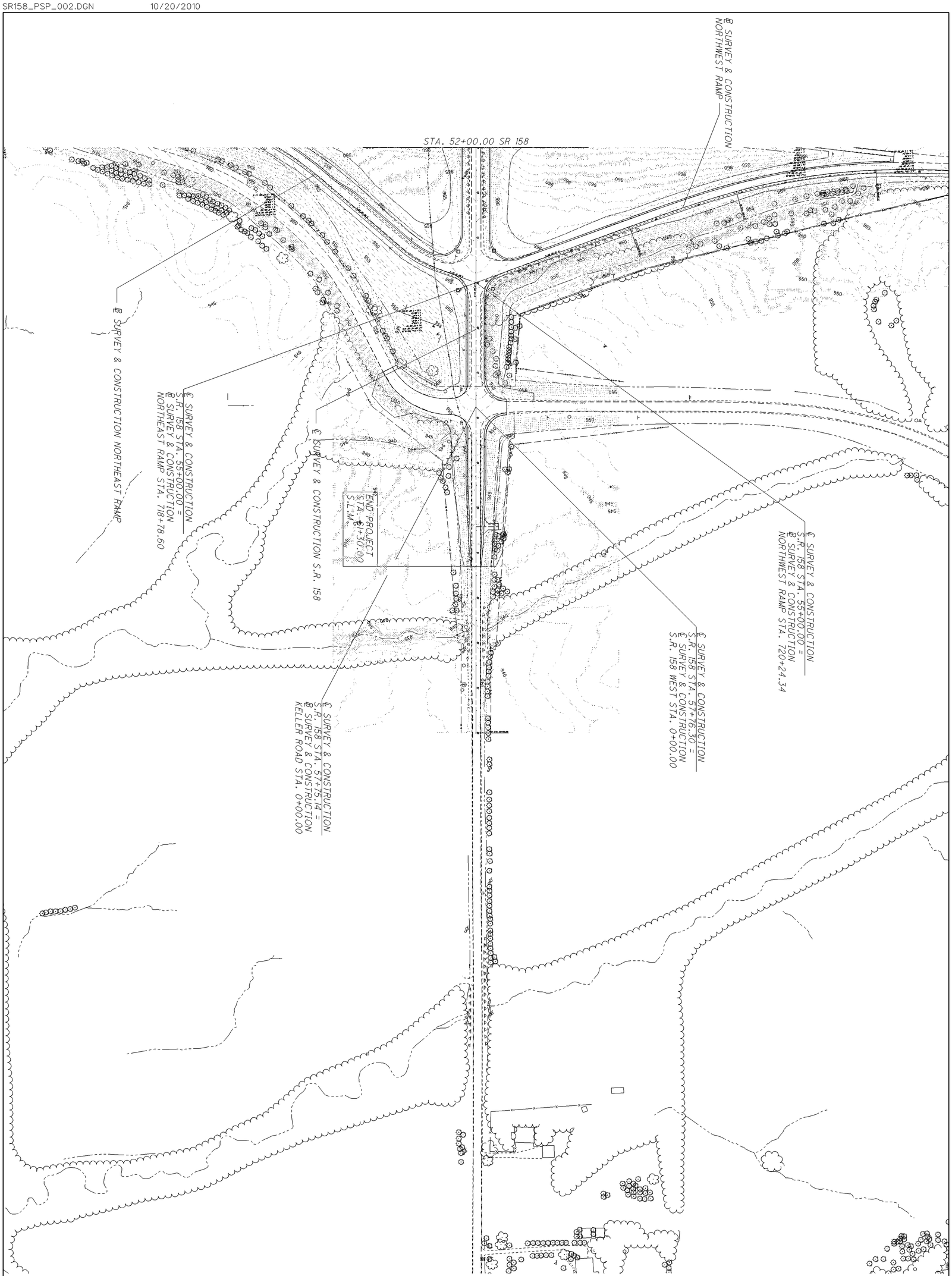
PROJECT SITE PLAN
STA. 29+00 TO STA. 52+00

LIC-158-0.56

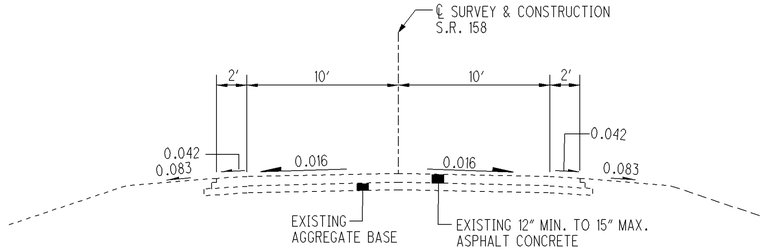
4
219

09/27/2011
SR158_PSP_001.DGN

SR158_PSP_002.DGN 10/20/2010



5/219	LIC-158-0.56	PROJECT SITE PLAN STA. 52+00 TO STA. 61+30	CALCULATED HG / CHECKED	0 100 50 200 HORIZONTAL SCALE IN FEET



NORMAL SECTION
SECTION APPLIES:

STA. 25+00.00 TO STA. 49+49.19 = 2,449.19 FT.
STA. 51+66.17 TO STA. 61+30.00 = 963.53 FT.

TOTAL 3,412.72 FT.

BRIDGE LIMITS
(INCLUDING APPROACH SLABS)

STA. 49+49.19 TO STA. 51+66.17 = 216.98 FT.

CALCULATED

CHECKED

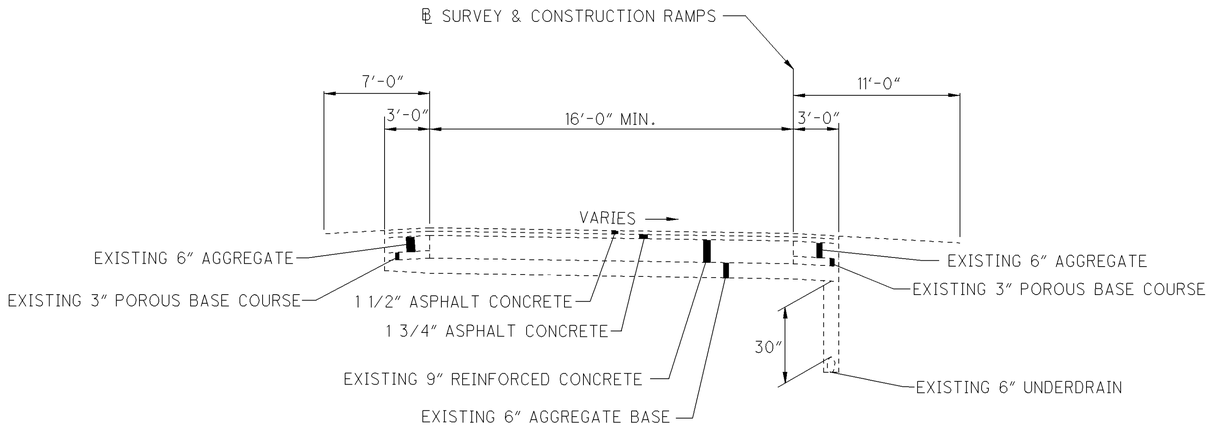
EXISTING TYPICAL SECTIONS S.R. 158

LIC-158-0.56

SR158.PTS 9/20/10

TYPICAL SECTIONS

EXISTING TYPICAL - RAMPS



NORMAL SECTION

SECTION APPLIES:

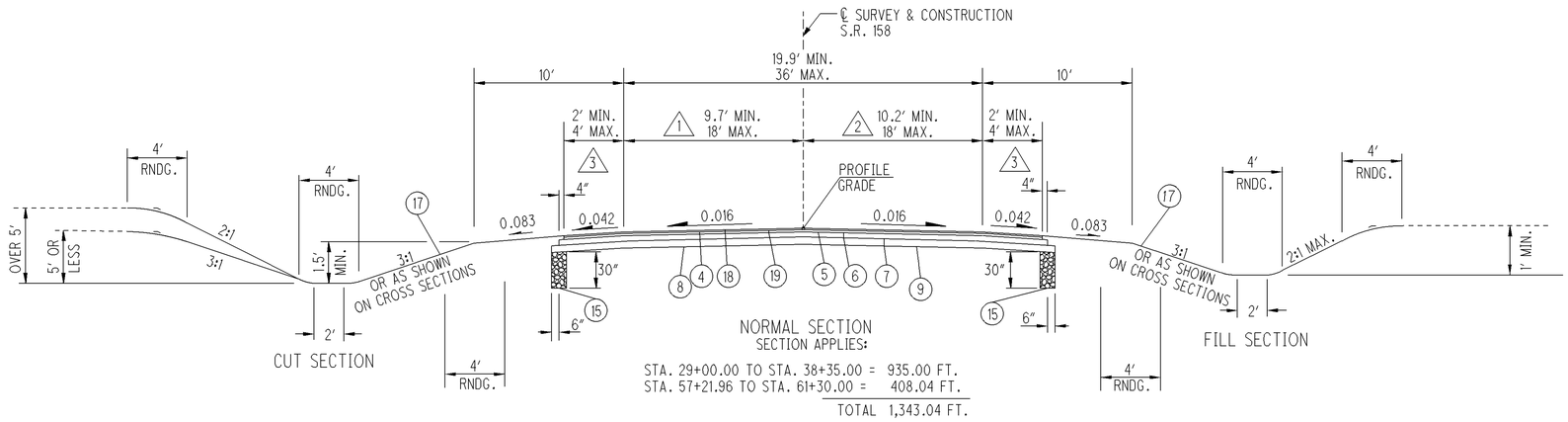
S.W. RAMP - STA. 712+05.4 TO STA. 721+17.4 = 902.0 FT.
S.E. RAMP - STA. 719+41.6 TO STA. 727+67.6 = 826.0 FT.
N.W. RAMP - STA. 710+58.8 TO STA. 720+13.7 = 954.9 FT.
N.E. RAMP - STA. 718+89.1 TO STA. 728+13.1 = 924.0 FT.
TOTAL 3,606.9 FT.

CALCULATED J.C.
CHECKED R.A.

EXISTING TYPICAL SECTION RAMPS

LIC-158-0.56

SR158PTS



SECTION APPLIES:

STA. 29+00.00 TO STA. 38+35.00 = 935.00 FT.
STA. 57+21.96 TO STA. 61+30.00 = 408.04 FT.

TOTAL 1,343.04 FT.

1 TAPERS FROM 9.7' @ STA. 29+00.00 TO 12' @ STA. 30+00.00
TO STA. 36+40.00
TAPERS FROM 12' @ STA. 36+40.00 TO 18' @ STA. 39+40.00

18' @ STA. 57+21.96 TO STA. 59+45.00
TAPERS FROM 18' @ STA. 59+45.00 TO 9.5' @ 61+30.00

2 TAPERS FROM 10.2' @ STA. 29+00.00 TO 12' @ STA. 30+00.00
TO STA. 36+40.00
TAPERS FROM 12' @ STA. 36+40.00 TO 18' @ STA. 39+40.00

18' @ STA. 57+21.96 TO STA. 59+45.00
TAPERS FROM 18' @ STA. 59+45.00 TO 9.5' @ 61+30.00

3 2' @ STA. 29+00.00 TO STA. 29+50.00
TAPERS FROM 2' @ STA. 29+50.00 TO 4' @ STA. 30+00.00
TO STA. 39+40.00

4' @ STA. 57+21.96 TO STA. 60+80.00
TAPERS FROM 4' @ STA. 60+80.00 TO 2' @ STA. 61+30.00

LEGEND

1. ITEM 442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)
2. ITEM 442 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)
3. NOT USED
4. ITEM 407 TACK COAT
5. ITEM 407 TACK COAT FOR INTERMEDIATE COURSE
6. ITEM 301 9" ASPHALT CONCRETE BASE, PG64-22
7. ITEM 304 6" AGGREGATE BASE
8. ITEM 204 SUBGRADE COMPACTION
9. ITEM 204 PROOF ROLLING
10. ITEM 452 10" NON-REINFORCED CONCRETE PAVEMENT
11. STANDARD LONGITUDINAL JOINT
12. ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE
13. ITEM 606 GUARDRAIL, TYPE 5
14. ITEM 605 6" BASE PIPE UNDERDRAINS (18" DEPTH)
15. ITEM 605 6" SHALLOW PIPE UNDERDRAINS (30" DEPTH)
16. ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS
17. ITEM 659 SEEDING AND MULCHING, CLASS 2
18. ITEM 446 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
19. ITEM 446 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28

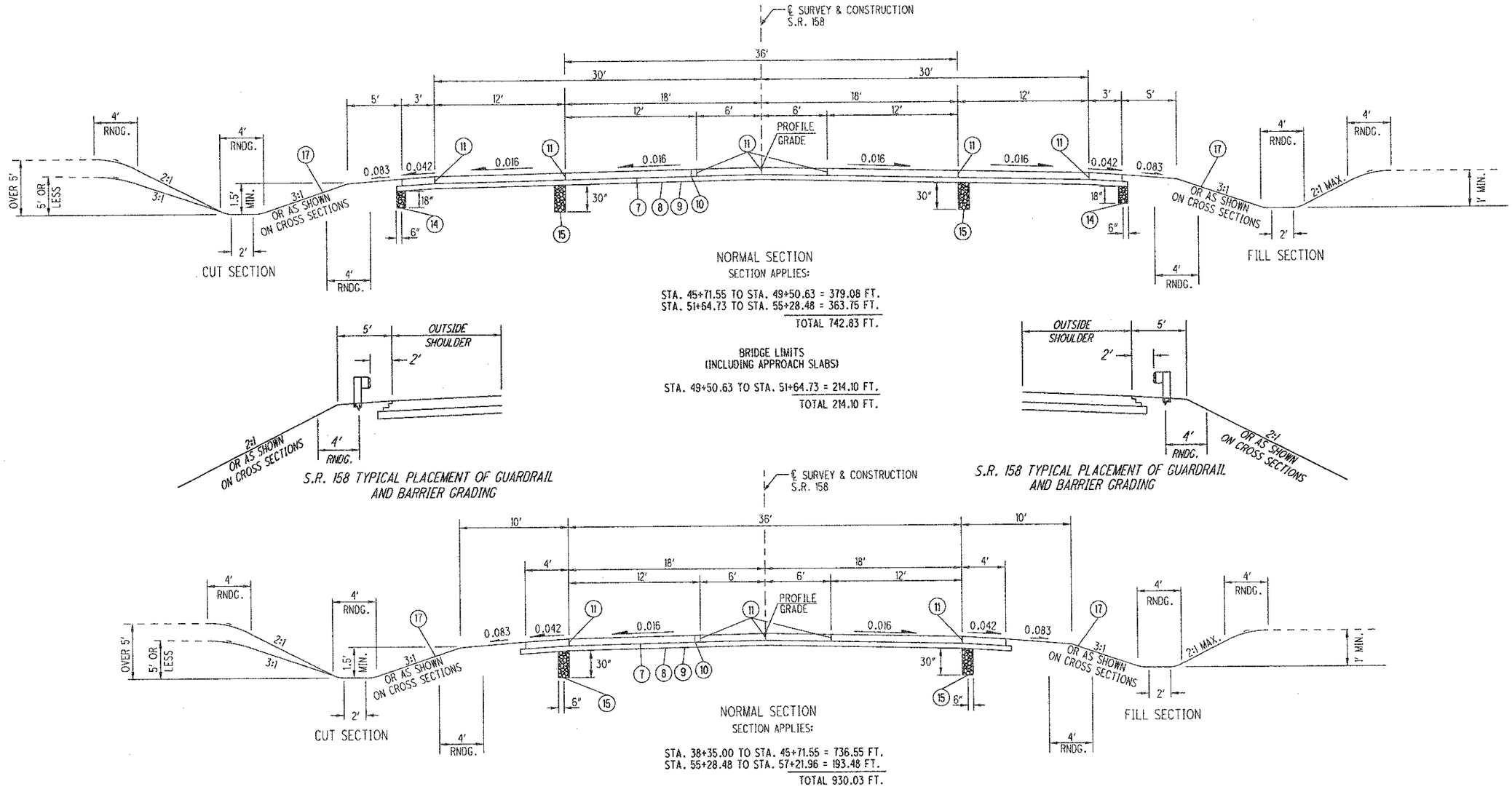
CALCULATED

CHECKED

PROPOSED TYPICAL SECTIONS S.R. 158

LIC-158-0.56

SR158.PTS 9/20/10



LEGEND

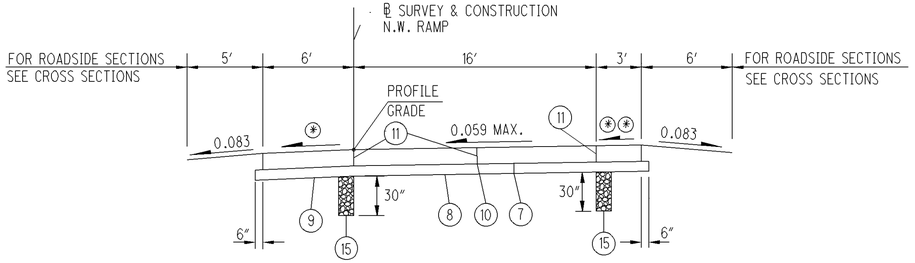
1. ITEM 442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)
2. ITEM 442 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)
3. NOT USED
4. ITEM 407 TACK COAT
5. ITEM 407 TACK COAT FOR INTERMEDIATE COURSE
6. ITEM 301 9" ASPHALT CONCRETE BASE, PG64-22
7. ITEM 304 6" AGGREGATE BASE
8. ITEM 204 SUBGRADE COMPACTION
9. ITEM 204 PROOF ROLLING
10. ITEM 452 10" NON-REINFORCED CONCRETE PAVEMENT
11. STANDARD LONGITUDINAL JOINT
12. ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE
13. ITEM 606 GUARDRAIL, TYPE 5
14. ITEM 605 6" BASE PIPE UNDERDRAINS (18" DEPTH)
15. ITEM 605 6" SHALLOW PIPE UNDERDRAINS (30" DEPTH)
16. ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS
17. ITEM 659 SEEDING AND MULCHING, CLASS 2
18. ITEM 446 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
19. ITEM 446 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28

CALCULATED
CHECKED

PROPOSED TYPICAL SECTIONS
S.R. 158

LIC-158-0.56

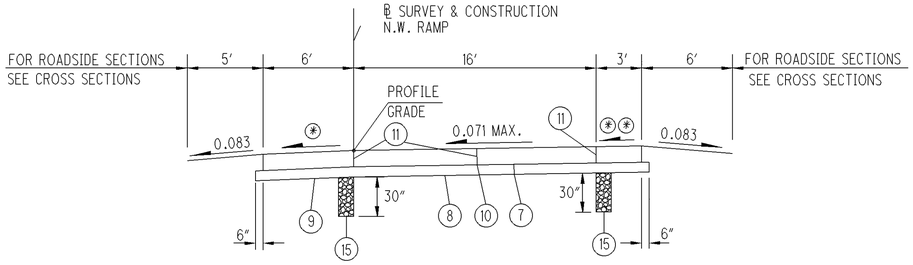
SR158.PTS 9/20/10



SUPERELEVATED SECTION
SECTION APPLIES:

(N.W. RAMP) - STA. 710+58.81 TO STA. 711+50.00 = 91.19 FT. (e max. 0.059)

TOTAL 91.19 FT.

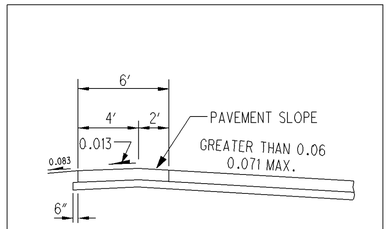


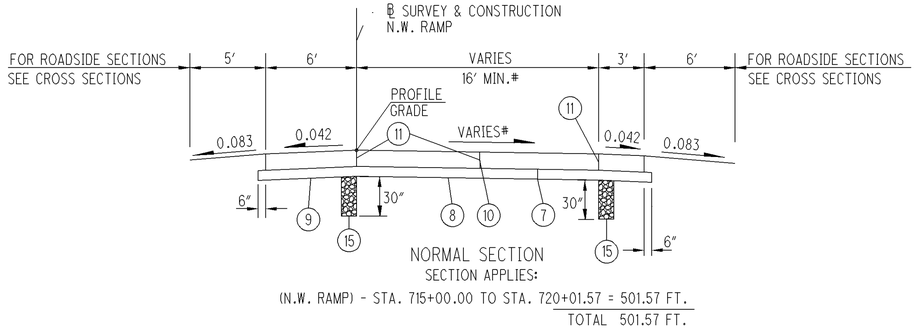
SUPERELEVATED SECTION
SECTION APPLIES:

(N.W. RAMP) - STA. 711+50.00 TO STA. 715+00.00 = 350.00 FT. (e max. 0.071)

TOTAL 350.00 FT.

- ⊛ - 0.042 OR RATE OF SUPERELEVATION, WHICHEVER IS GREATER.
- ⊛⊛ - SLOPES VARY, SEE SUPERELEVATION SHEETS.





NORMAL SECTION
SECTION APPLIES:

(N.W. RAMP) - STA. 715+00.00 TO STA. 720+01.57 = 501.57 FT.

TOTAL 501.57 FT.

PAVEMENT SLOPE AND WIDTH VARIES
N.W. RAMP
STA. 719+15.23 TO STA. 720+01.57
SEE PAVEMENT DETAIL SHEET

LEGEND

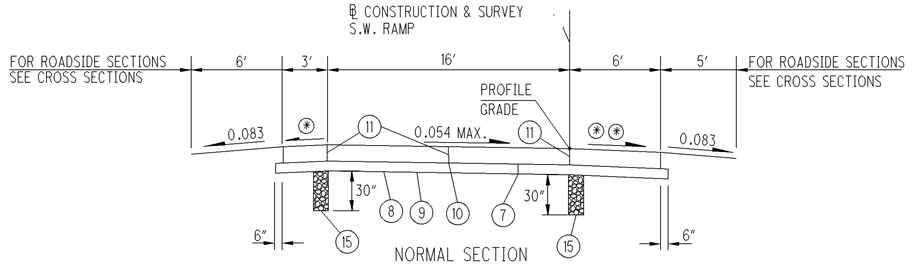
1. *ITEM 442 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)*
2. *ITEM 442 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)*
3. *NOT USED*
4. *ITEM 407 TACK COAT*
5. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE*
6. *ITEM 301 9″ ASPHALT CONCRETE BASE, PG64-22*
7. *ITEM 304 6″ AGGREGATE BASE*
8. *ITEM 204 SUBGRADE COMPACTION*
9. *ITEM 204 PROOF ROLLING*
10. *ITEM 452 10″ NON-REINFORCED CONCRETE PAVEMENT*
11. *STANDARD LONGITUDINAL JOINT*
12. *ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE*
13. *ITEM 606 GUARDRAIL, TYPE 5*
14. *ITEM 605 6″ BASE PIPE UNDERDRAINS (18″ DEPTH)*
15. *ITEM 605 6″ SHALLOW PIPE UNDERDRAINS (30″ DEPTH)*
16. *ITEM 605 6″ UNCLASSIFIED PIPE UNDERDRAINS*
17. *ITEM 659 SEEDING AND MULCHING, CLASS 2*
18. *ITEM 446 1 ½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1H*
19. *ITEM 446 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28*

CALCULATED | CHECKED

PROPOSED TYPICAL SECTIONS
N.W. RAMP

LIC-158-0.56

L16IRMPA.PTS 8/12/05

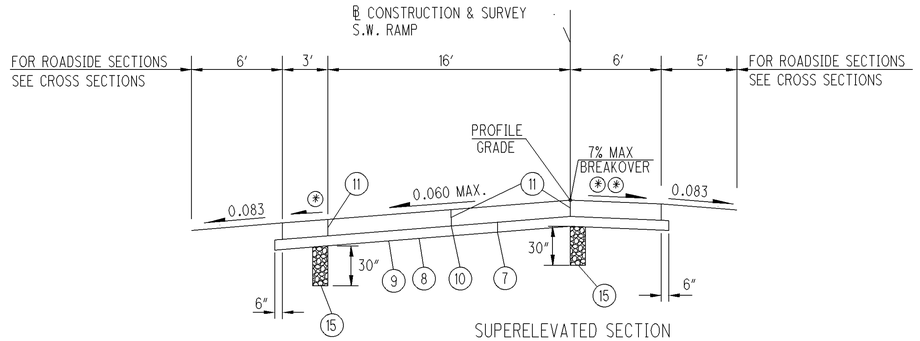


NORMAL SECTION

SECTION APPLIES:

(S.W. RAMP) - STA. 712+05.41 TO STA. 715+50.00 = 344.59 FT. (e max. 0.054)

TOTAL 344.59 FT.

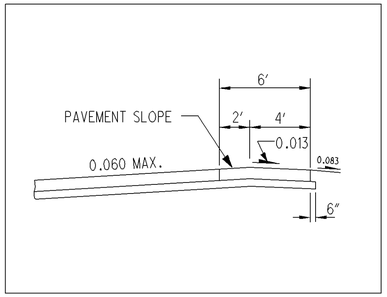


SUPERELEVATED SECTION

SECTION APPLIES:

(S.W. RAMP) - STA. 712+05.41 TO STA. 717+36.00 = 530.59 FT. (e max. 0.060)

TOTAL 530.59 FT.

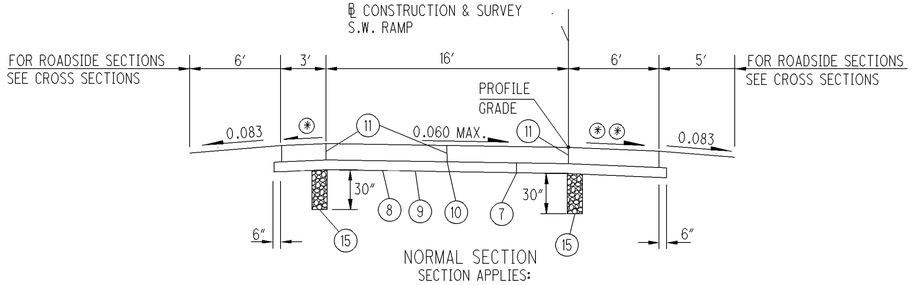


Ⓐ - 0.042 OR RATE OF SUPERELEVATION, WHICHEVER IS GREATER.

ⒶⒶ - SLOPES VARY, SEE SUPERELEVATION SHEETS.

PAVEMENT SLOPE AND WIDTH VARIES
S.W. RAMP
STA. 720+20.25 TO STA. 721+17.42
SEE PAVEMENT DETAIL SHEET.

TAPERS FROM 16′ @ STA. 717+36.00 TO 24′ @ STA. 717+86.00
24′ FROM STA. 717+86.00 TO STA. 720+20.25
VARIES FROM STA. 720+20.25 TO STA. 721+17.42
SEE PAVEMENT DETAIL.

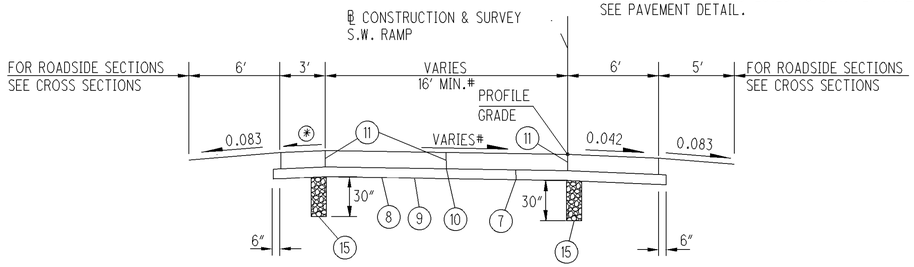


NORMAL SECTION

SECTION APPLIES:

(S.W. RAMP) - STA. 715+50.00 TO STA. 717+32.92 = 182.92 FT. (e max. 0.060)

TOTAL 182.92 FT.



NORMAL SECTION

SECTION APPLIES:

(S.W. RAMP) - STA. 717+32.92 TO STA. 721+17.42 = 384.50 FT.

TOTAL 384.50 FT.

LEGEND

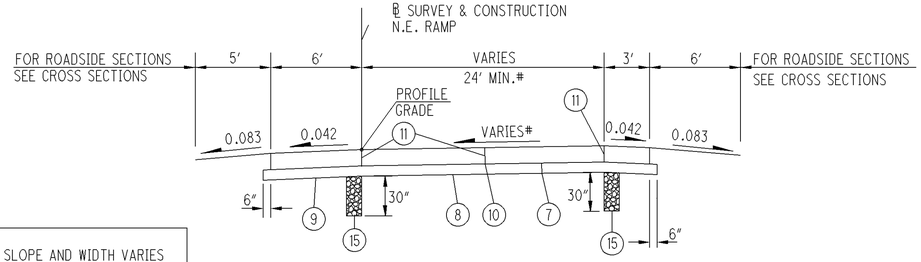
1. *ITEM 442 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)*
2. *ITEM 442 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)*
3. *NOT USED*
4. *ITEM 407 TACK COAT*
5. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE*
6. *ITEM 301 9″ ASPHALT CONCRETE BASE, PG64-22*
7. *ITEM 304 6″ AGGREGATE BASE*
8. *ITEM 204 SUBGRADE COMPACTION*
9. *ITEM 204 PROOF ROLLING*
10. *ITEM 452 10″ NON-REINFORCED CONCRETE PAVEMENT*
11. *STANDARD LONGITUDINAL JOINT*
12. *ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE*
13. *ITEM 606 GUARDRAIL, TYPE 5*
14. *ITEM 605 6″ BASE PIPE UNDERDRAINS (18″ DEPTH)*
15. *ITEM 605 6″ SHALLOW PIPE UNDERDRAINS (30″ DEPTH)*
16. *ITEM 605 6″ UNCLASSIFIED PIPE UNDERDRAINS*
17. *ITEM 659 SEEDING AND MULCHING, CLASS 2*
18. *ITEM 446 1 ½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1H*
19. *ITEM 446 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28*

CALCULATED | CHECKED

PROPOSED TYPICAL SECTIONS
SOUTHWEST RAMP

LIC-158-0.56

L16RMPC.PTS 8/12/05

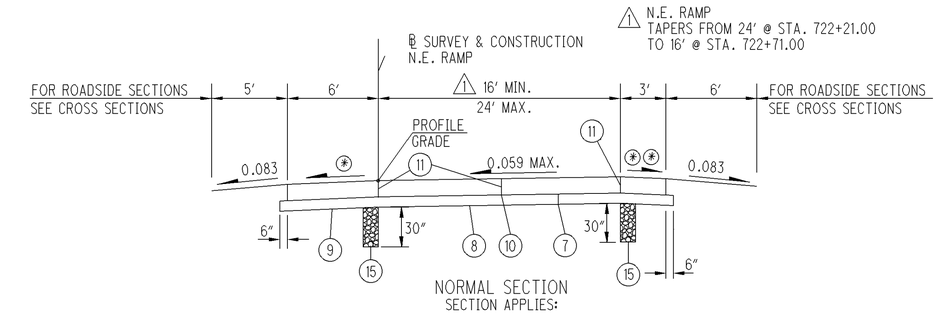


NORMAL SECTION
SECTION APPLIES:

(N.E. RAMP) - STA. 719+01.12 TO STA. 721+25.00 = 223.88 FT.

TOTAL 223.88 FT.

PAVEMENT SLOPE AND WIDTH VARIES
N.E. RAMP
STA. 719+01.12 TO STA. 719+98.82
SEE PAVEMENT DETAIL SHEET.



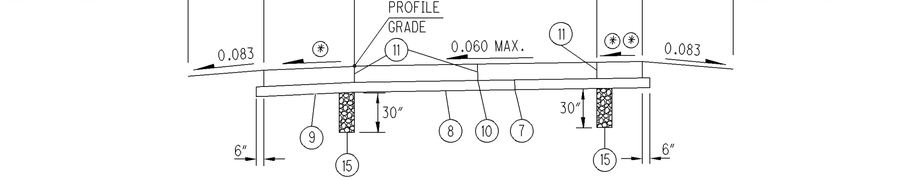
NORMAL SECTION
SECTION APPLIES:

(N.E. RAMP) - STA. 721+25.00 TO STA. 723+50.00 = 225.00 FT. (e max. 0.059)

TOTAL 225.00 FT.

Ⓐ - 0.042 OR RATE OF SUPERELEVATION, WHICHEVER IS GREATER.

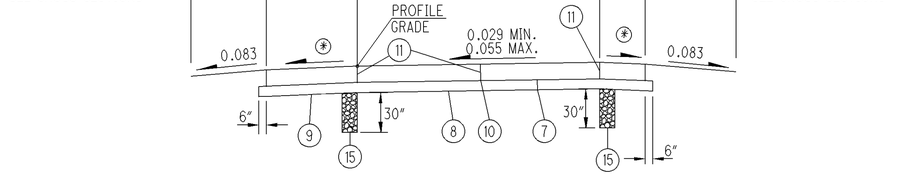
ⒶⒺ - SLOPES VARY, SEE SUPERELEVATION SHEETS.



SUPERELEVATED SECTION
SECTION APPLIES:

(N.E. RAMP) - STA. 723+50.00 TO STA. 725+11.00 = 161.00 FT. (e max. 0.060)

TOTAL 161.00 FT.



NORMAL SECTION
SECTION APPLIES:

(N.E. RAMP) - STA. 725+11.00 TO STA. 728+13.15 = 302.15 FT. (e max. 0.055)

TOTAL 302.15 FT.

LEGEND

1. *ITEM 442 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)*
2. *ITEM 442 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)*
3. *NOT USED*
4. *ITEM 407 TACK COAT*
5. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE*
6. *ITEM 301 9″ ASPHALT CONCRETE BASE, PG64-22*
7. *ITEM 304 6″ AGGREGATE BASE*
8. *ITEM 204 SUBGRADE COMPACTION*
9. *ITEM 204 PROOF ROLLING*
10. *ITEM 452 10″ NON-REINFORCED CONCRETE PAVEMENT*
11. *STANDARD LONGITUDINAL JOINT*
12. *ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE*
13. *ITEM 606 GUARDRAIL, TYPE 5*
14. *ITEM 605 6″ BASE PIPE UNDERDRAINS (18″ DEPTH)*
15. *ITEM 605 6″ SHALLOW PIPE UNDERDRAINS (30″ DEPTH)*
16. *ITEM 605 6″ UNCLASSIFIED PIPE UNDERDRAINS*
17. *ITEM 659 SEEDING AND MULCHING, CLASS 2*
18. *ITEM 446 1 ½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1H*
19. *ITEM 446 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28*

CALCULATED | CHECKED

PROPOSED TYPICAL SECTIONS
NORTHEAST RAMP

LIC-158-0.56

L16RMPB.PTS 8/12/05

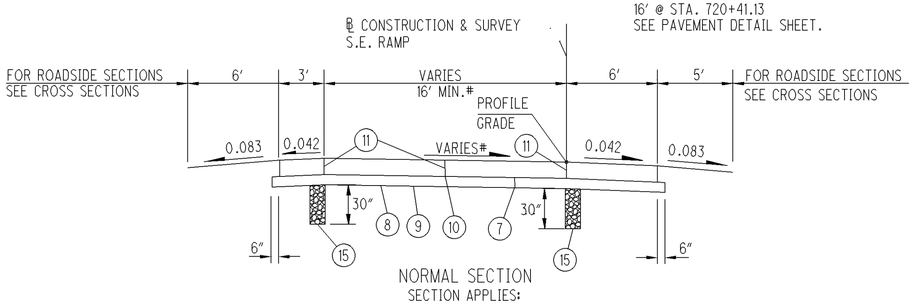
PROPOSED TYPICAL SECTIONS
SOUTHEAST RAMP

CALCULATED | CHECKED

LIC-158-0.56

L161RMPD.PTS 8/12/05

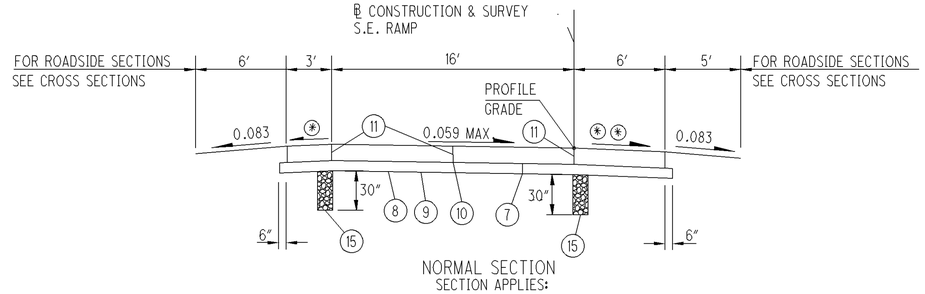
PAVEMENT SLOPE AND WIDTH VARIES
S.E. RAMP
STA. 719+53.95 TO STA. 720+41.13
SEE PAVEMENT DETAIL SHEET.



NORMAL SECTION
SECTION APPLIES:

(S.E. RAMP) - STA. 719+53.95 TO STA. 720+41.13 = 87.18 FT.

TOTAL 87.18 FT.



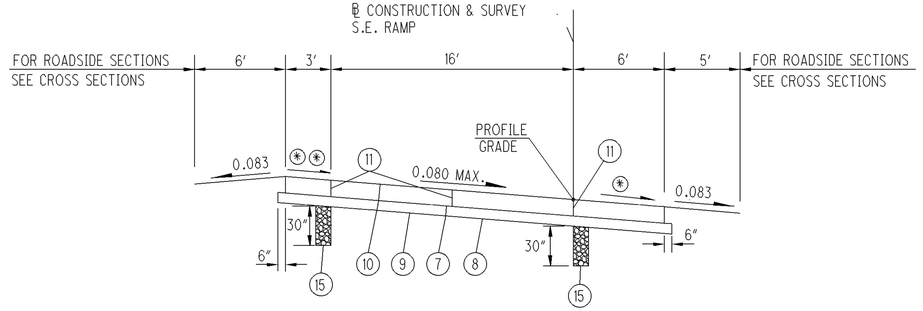
NORMAL SECTION
SECTION APPLIES:

(S.E. RAMP) - STA. 720+27.58 TO STA. 724+00.00 = 372.42 FT. (e max. 0.059 max.)

TOTAL 372.42 FT.

Ⓐ - 0.042 OR RATE OF SUPERELEVATION, WHICHEVER IS GREATER.

ⒶⒶ - SLOPES VARY, SEE SUPERELEVATION SHEETS.



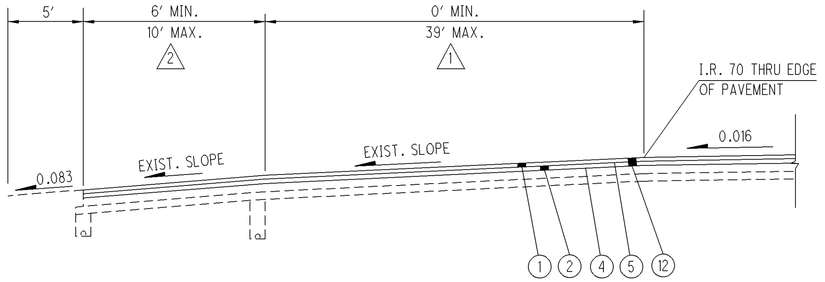
SUPERELEVATED SECTION
SECTION APPLIES:

(S.E. RAMP) - STA. 724+00.00 TO STA. 727+67.69 = 367.69 FT. (e max. 0.080)

TOTAL 367.69 FT.

LEGEND

1. *ITEM 442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)*
2. *ITEM 442 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)*
3. *NOT USED*
4. *ITEM 407 TACK COAT*
5. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE*
6. *ITEM 301 9" ASPHALT CONCRETE BASE, PG64-22*
7. *ITEM 304 6" AGGREGATE BASE*
8. *ITEM 204 SUBGRADE COMPACTION*
9. *ITEM 204 PROOF ROLLING*
10. *ITEM 452 10" NON-REINFORCED CONCRETE PAVEMENT*
11. *STANDARD LONGITUDINAL JOINT*
12. *ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE*
13. *ITEM 606 GUARDRAIL, TYPE 5*
14. *ITEM 605 6" BASE PIPE UNDERDRAINS (18" DEPTH)*
15. *ITEM 605 6" SHALLOW PIPE UNDERDRAINS (30" DEPTH)*
16. *ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS*
17. *ITEM 659 SEEDING AND MULCHING, CLASS 2*
18. *ITEM 446 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H*
19. *ITEM 446 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28*



ACCELERATION LANE/PACING AREA (N.W. RAMP)

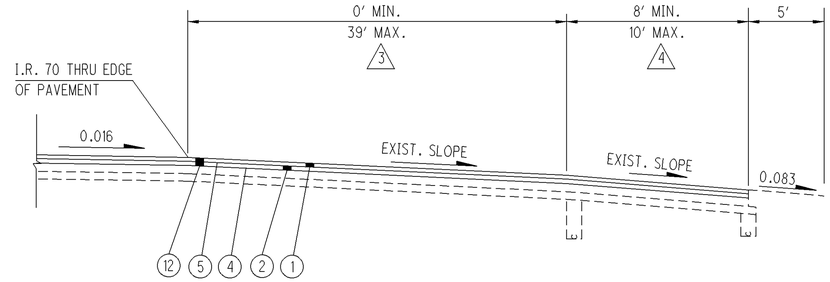
SECTION APPLIES:

STA. 696+00.00 TO STA. 710+56.19 = 1,456.19 FT. (WESTBOUND LANES)

TOTAL 1,456.19 FT.

1 TAPERS FROM 0′ @ STA. 696+00.00 TO 39′ @ STA. 710+56.19

2 TAPERS FROM 10′ @ STA. 696+00.00 TO 8′ @ STA. 697+00.00
8′ FROM STA. 697+00.00 TO STA. 710+50.00
TAPERS FROM 8′ @ STA. 710+50.00 TO 6′ @ STA. 711+00.00



DECELERATION LANE (S.W. RAMP)

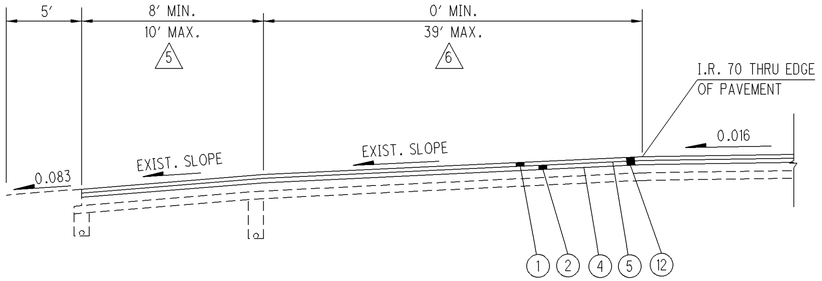
SECTION APPLIES:

STA. 704+05.00 TO STA. 712+10.89 = 805.89 FT. (EASTBOUND LANES)

TOTAL 805.89 FT.

3 TAPERS FROM 0′ @ STA. 704+05.00 TO 12′ @ STA. 705+05.00
12′ FROM STA. 705+05.00 TO STA. 708+00.00
TAPERS FROM 12′ @ STA. 708+00.00 TO 39′ @ STA. 712+10.89

4 TAPERS FROM 10′ @ STA. 704+05.00 TO 8′ @ STA. 705+05.00
8′ FROM STA. 75+05.00 TO STA. 712+08.00



DECELERATION LANE (N.E. RAMP)

SECTION APPLIES:

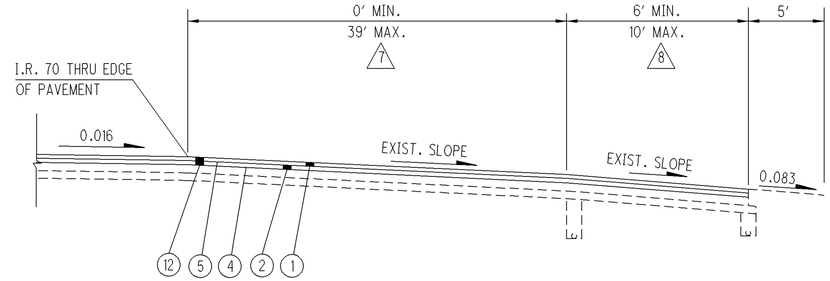
STA. 728+10.90 TO STA. 552+00.00 = 786.82 FT. (WESTBOUND LANES)

TOTAL 786.82 FT.

5 8′ FROM STA. 728+10.90 TO STA. 551+00.00
TAPERS FROM 8′ @ STA. 551+00.00 TO 10′ @ STA. 552+00.00

6 TAPERS FROM 39′ @ STA. 728+10.90 TO 12′ @ STA. 732+80.69
12′ FROM STA. 732+80.69 TO STA. 551+00.00
TAPERS FROM 12′ @ STA. 551+00.00 TO 0′ @ STA. 552+00.00

STATION EQUATION:
STA. 733+97.69 (BK.) =
STA. 549+99.97 (AH.)



ACCELERATION LANE/PACING AREA (S.E. RAMP)

SECTION APPLIES:

STA. 727+68.08 TO STA. 558+50.00 = 1,479.64 FT. (EASTBOUND LANES)

TOTAL 1,479.64 FT.

7 TAPERS FROM 39′ @ STA. 727+68.08 TO 0′ @ STA. 558+50.00

8 TAPERS FROM 6′ @ STA. 727+50.00 TO 8′ @ STA. 728+00.00
8′ FROM STA. 728+00.00 TO STA. 557+50.00
TAPERS FROM 8′ @ STA. 557+50.00 TO 10′ @ STA. 558+50.00

LEGEND

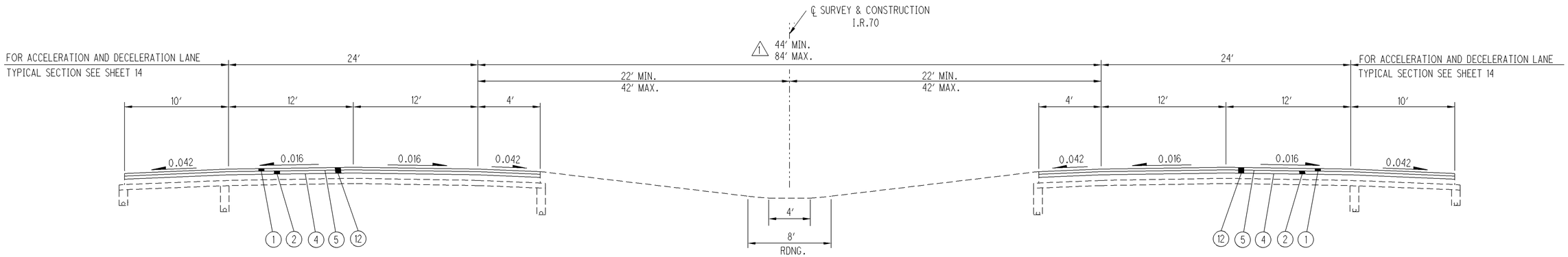
1. *ITEM 442 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)*
2. *ITEM 442 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)*
3. *NOT USED*
4. *ITEM 407 TACK COAT*
5. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE*
6. *ITEM 301 9″ ASPHALT CONCRETE BASE, PG64-22*
7. *ITEM 304 6″ AGGREGATE BASE*
8. *ITEM 204 SUBGRADE COMPACTION*
9. *ITEM 204 PROOF ROLLING*
10. *ITEM 452 10″ NON-REINFORCED CONCRETE PAVEMENT*
11. *STANDARD LONGITUDINAL JOINT*
12. *ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE*
13. *ITEM 606 GUARDRAIL, TYPE 5*
14. *ITEM 605 6″ BASE PIPE UNDERDRAINS (18″ DEPTH)*
15. *ITEM 605 6″ SHALLOW PIPE UNDERDRAINS (30″ DEPTH)*
16. *ITEM 605 6″ UNCLASSIFIED PIPE UNDERDRAINS*
17. *ITEM 659 SEEDING AND MULCHING, CLASS 2*
18. *ITEM 446 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1H*
19. *ITEM 446 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28*

CALCULATED | CHECKED

PROPOSED TYPICAL SECTIONS
ACCELERATION AND DECELERATION LANES

LIC-158-0.56

L16IALDL1.PTS 8/12/05



WESTBOUND LANES
SECTION APPLIES:

STA. 696+00.00 TO STA. 733+97.69 (BACK) = 3,797.69 FT.
STA. 549+99.97 (AHEAD) TO STA. 558+50.00 = 850.03 FT.
TOTAL = 4,647.72 FT.

I.R. 70
NORMAL SECTION

STATION EQUATION:
STA. 733+97.69 (BK.) =
STA. 549+99.97 (AH.)

EASTBOUND LANES
SECTION APPLIES:

STA. 696+00.00 TO STA. 733+97.69 (BACK) = 3,797.69 FT.
STA. 549+99.97 (AHEAD) TO STA. 558+50.00 = 850.03 FT.
TOTAL = 4,647.72 FT.

⚠1 MEDIAN TRANSITIONS FROM 84′ @ STA. 698+22.55 TO 44′ @ STA.711+89.22
MEDIAN WIDTH 44′ FROM STA. 711+89.22 TO STA. 720+99.45
MEDIAN WIDTH TRANSITIONS FROM 44′ @ STA. 720+99.45 TO 50′ @ STA. 729+66.12
MEDIAN WIDTH 50′ FROM STA. 729+66.12 TO STA. 733+97.69 (BK.) TO
STA. 549+99.97 (AH.) TO STA. 558+50.00

LEGEND

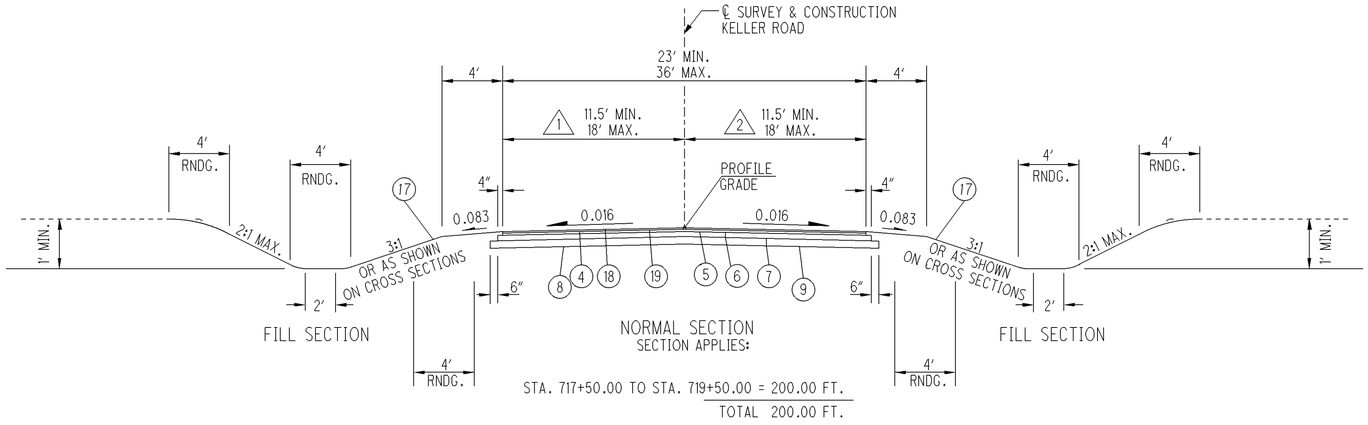
1. *ITEM 442 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)*
2. *ITEM 442 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)*
3. *NOT USED*
4. *ITEM 407 TACK COAT*
5. *ITEM 407 TACK COAT FOR INTERMEDIATE COURSE*
6. *ITEM 301 9″ ASPHALT CONCRETE BASE, PG64-22*
7. *ITEM 304 6″ AGGREGATE BASE*
8. *ITEM 204 SUBGRADE COMPACTION*
9. *ITEM 204 PROOF ROLLING*
10. *ITEM 452 10″ NON-REINFORCED CONCRETE PAVEMENT*
11. *STANDARD LONGITUDINAL JOINT*
12. *ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE*
13. *ITEM 606 GUARDRAIL, TYPE 5*
14. *ITEM 605 6″ BASE PIPE UNDERDRAINS (18″ DEPTH)*
15. *ITEM 605 6″ SHALLOW PIPE UNDERDRAINS (30″ DEPTH)*
16. *ITEM 605 6″ UNCLASSIFIED PIPE UNDERDRAINS*
17. *ITEM 659 SEEDING AND MULCHING, CLASS 2*
18. *ITEM 446 1 ½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1H*
19. *ITEM 446 1 3/4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28*

CALCULATED | CHECKED

PROPOSED TYPICAL SECTIONS
PROPOSED I.R. 70

LIC-158-0.56

L161001.PTS 8/11/05



1 VARIES FROM STA. 717+50.00 TO 18' @ STA. 717+76.21, SEE PAVEMENT DETAIL SHEET
TAPERS FROM 18' @ STA. 717+76.21 TO 11.5' @ STA. 719+50.00

LEGEND

1. ITEM 442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)
2. ITEM 442 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE A (446)
3. NOT USED
4. ITEM 407 TACK COAT
5. ITEM 407 TACK COAT FOR INTERMEDIATE COURSE
6. ITEM 301 9" ASPHALT CONCRETE BASE, PG64-22
7. ITEM 304 6" AGGREGATE BASE
8. ITEM 204 SUBGRADE COMPACTION
9. ITEM 204 PROOF ROLLING
10. ITEM 452 10" NON-REINFORCED CONCRETE PAVEMENT
11. STANDARD LONGITUDINAL JOINT
12. ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE
13. ITEM 606 GUARDRAIL, TYPE 5
14. ITEM 605 6" BASE PIPE UNDERDRAINS (18" DEPTH)
15. ITEM 605 6" SHALLOW PIPE UNDERDRAINS (30" DEPTH)
16. ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAINS
17. ITEM 659 SEEDING AND MULCHING, CLASS 2
18. ITEM 446 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H
19. ITEM 446 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28

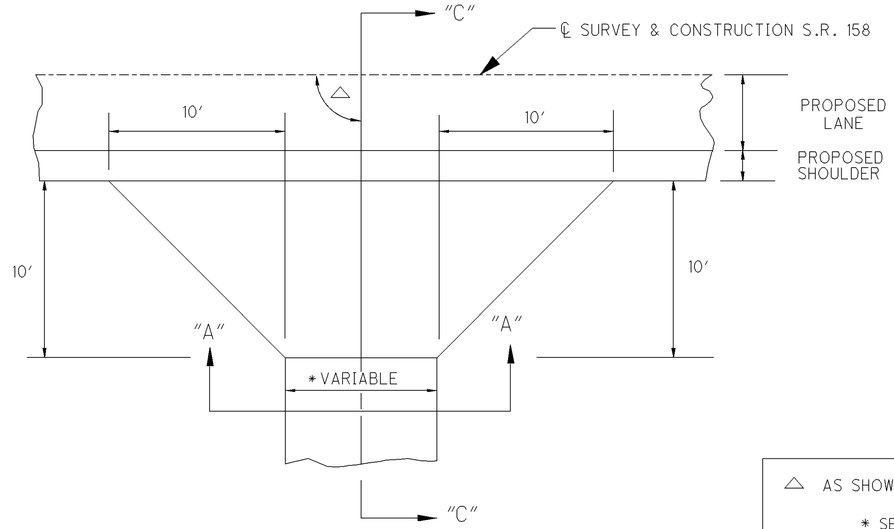
CALCULATED | CHECKED

PROPOSED TYPICAL SECTIONS
KELLER ROAD

LIC-158-0.56

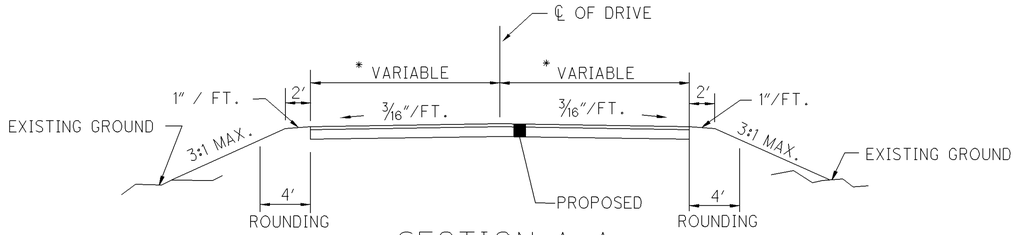
SR158.PTS 9/20/10

TYPICAL SECTION
DRIVES



△ AS SHOWN IN THE PLANS

* SEE PLAN SHEET FOR WIDTHS



SECTION A-A

(RESIDENCE DRIVES)

1¼" ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 (DRIVEWAYS)
ON 3¾" ITEM 301 BITUMINOUS, PG 64-22 (DRIVEWAYS)
OR
ITEM 452 6" NON-REINFORCED CONCRETE PAVEMENT
OR
ITEM 304 6" AGGREGATE BASE

(COMMERCIAL DRIVES)

1¼" ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22 (DRIVEWAYS)
ON 4¾" ITEM 301 BITUMINOUS, PG 64-22 (DRIVEWAYS)
OR
ITEM 452 8" NON-REINFORCED CONCRETE PAVEMENT
OR
ITEM 304 8" AGGREGATE BASE

(FIELD DRIVES)

ITEM 304 6" AGGREGATE BASE

RESIDENCE, COMMERCIAL & FIELD DRIVES

DRIVE.PTS

CALCULATED | CHECKED

PROPOSED DRIVE TYPICALS
(RESIDENCE, COMMERCIAL & FIELD DRIVES)

LIC-158-0.56

ROUNDING

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

LOCATION OF UTILITIES

NOT ALL UTILITIES ARE SHOWN ON THE CONSTRUCTION PLANS. THE SIZE, DEPTH AND LOCATION OF THE BURIED UTILITIES SHOWN OR NOT, ARE NOT WARRANTED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT SIZE, DEPTH AND LOCATION OF ALL BURIED UTILITIES WITHIN THE CONSTRUCTION ARE PRIOR TO EXCAVATING.

UNDERGROUND UTILITIES

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.

UTILITIES

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

COLUMBIA GAS OF OHIO
2429 LINDEN AVENUE
ZANESVILLE, OHIO 43701
ATTN: ERIC MORRISON
740-450-1216

CENTRYLINK
441 WEST BROAD STREET
PATASKALA, OHIO 43062
ATTN: DEE REED
740-927-8282

SOUTH CENTRAL POWER CO.
2780 COONPATH ROAD, NE
P.O. BOX 250
LANCASTER, OHIO 43130
ATTN: PHIL STRINGER
740-689-6237

SOUTHWEST LICKING COMMUNITY
WATER AND WASTE WATER DISTRICT
P.O. BOX 215
ETNA, OHIO 43018
ATTN: DON RECTOR
740-927-0410

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

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 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ELEVATION DATUM

ALL ELEVATIONS ARE ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE GEOID03 GEOID. HORIZONTAL POSITIONS ARE BASED ON THE OHIO STATE PLANE SOUTH ZONE, A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 ADJUSTED TO THE NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NAD 83 (NSRS 2007)), AND THE GRS80 ELLIPSOID.

BENCH MARKS

THE FOLLOWING IS A LIST OF THE BENCHMARKS FOR THE CONSTRUCTION OF THIS PROJECT.

BM 1 - TOP OF 5/8" REBAR WITH O.D.O.T. CAP;
25.00 FEET LEFT EXISTING S.R. 158
CENTERLINE STATION 47+04.16
ELEVATION = 970.338

BM 2 - TOP OF 1" REBAR (WITH PUNCH MARK);
91.47 FEET RIGHT OF EXISTING S.R. 158
CENTERLINE STATION 50+46.04
ELEVATION = 952.148

BM 3 - TOP OF 5/8" REBAR WITH O.D.O.T. CAP;
22.39 FEET RIGHT OF EXISTING S.R. 158
CENTERLINE STATION 55+41.81
ELEVATION = 964.115

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.

NOTIFICATION OF ROAD CLOSURE OR RESTRICTION

IN ORDER FOR ODOT TO PROPERLY PERMIT OVERSIZE LOADS, PREPARE PROPER SIGNING WHEN REQUIRED AND FURTHER TO NOTIFY THE GENERAL MOTORING PUBLIC, THE CONTRACTOR SHALL NOTIFY (IN WRITING) THE DISTRICT 5 HIGHWAY MANAGEMENT ADMINISTRATOR WITH COPIES FOR THE DISTRICT 5 ROADWAY SERVICES MANAGER AND PROJECT ENGINEER NOT LESS THAN 21 DAYS BEFORE SUCH CLOSURE OR LANE RESTRICTIONS.

SEND NOTIFICATION TO:

DISTRICT 5 CONSTRUCTION ENGINEER
P.O. BOX 306
JACKSONTOWN, OH. 43030
PHONE: (740) 323-4400

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 100 FEET. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
AIR TRAFFIC AIRSPACE BRANCH ASW-520
2601 MEACHAN BLVD.
FORT WORTH, TX 76137-4298

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
614-387-2346

SURFACE SMOOTHNESS FOR BRIDGES AND BRIDGE APPROACHES

1.0 DESCRIPTION: THE SURFACE SMOOTHNESS REQUIREMENTS OF C&MS 451.12 ARE MODIFIED AS FOLLOWS FOR BRIDGE ENCOUNTERS DEFINED AS 25 FEET (7.6 M) OF ENTRY PAVEMENT, ENTRY APPROACH SLAB, BRIDGE DECK, EXIT APPROACH SLAB AND 25 FEET (7.6 M) OF EXIT PAVEMENT INCLUDING ALL JOINTS AND PAVEMENT TRANSITIONS WITHIN THIS LENGTH OF ROADWAY.

2.0 MATERIALS AND EQUIPMENT: PROVIDE SMOOTHNESS MEASURING EQUIPMENT CONFORMING TO SUPPLEMENT 1058. PROVIDE A CERTIFIED PROFILER WHO IS ON THE APPROVED LIST ON THE OFFICE OF TECHNICAL SERVICES WEBSITE. FURNISH THE DEPARTMENT'S APPROVAL LETTER OF THE PROFILER AND THE OPERATOR TO THE ENGINEER PRIOR TO COMMENCING WORK. FURNISH EQUIPMENT MEETING THE REQUIREMENTS OF C&MS 257.02 FOR PERFORMING CORRECTIVE DIAMOND GRINDING.

3.0 SMOOTHNESS MEASUREMENT: COLLECT SURFACE SMOOTHNESS MEASUREMENTS FOR BOTH WHEELPATHS IN EACH PROPOSED TRAVEL LANE DURING ONE CONTINUOUS PASS. THE WHEELPATHS ARE LOCATED PARALLEL TO THE CENTERLINE OR BASELINE OF THE ROADWAY OR RAMP AND APPROXIMATELY 3.0 FEET (1.0 M) INSIDE ALL LANE EDGES, MEASURED TRANSVERSELY. START THE PROFILE MEASUREMENT APPROXIMATELY 250 FEET (76 M) BEFORE THE APPROACH SLAB/PAVEMENT INTERFACE AT THE ENTRY END AND CONTINUE TO APPROXIMATELY 250 FEET (76 M) AFTER THE APPROACH SLAB/PAVEMENT INTERFACE AT THE EXIT END. ENSURE THE PROFILER WILL MEET THE SURFACE SMOOTHNESS REQUIREMENTS PER 451.12 FOR THE BRIDGE ENCOUNTER.

NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS PRIOR TO SURFACE SMOOTHNESS MEASUREMENTS. DO NOT PERFORM ANY MEASUREMENTS UNTIL ALL FINAL WEARING COURSES ARE IN PLACE WITHIN THE BRIDGE ENCOUNTER LANES BEING MEASURED AND ALL CONCRETE SURFACES HAVE REACHED SPECIFIED CURING AND LOADING REQUIREMENTS. REMOVE ALL DIRT AND DEBRIS FROM THE SURFACE OF THE TRAVEL LANES PRIOR TO PERFORMING THE SURFACE SMOOTHNESS MEASUREMENTS. PROVIDE TEMPORARY PAVEMENT MARKINGS FOR ALL TRAVEL LANES THAT ARE OF SUFFICIENT SIZE TO BE VISIBLE DURING SURFACE SMOOTHNESS MEASUREMENTS. ENSURE THE PATH OF THE PROFILER IS PARALLEL TO THE LANE EDGES AT ALL TIMES DURING DATA COLLECTION.

DEVELOP AN INTERNATIONAL ROUGHNESS INDEX (IRI) ACCORDING TO ASTM E 1926 FOR THE BRIDGE ENCOUNTER USING A CONTINUOUS 25 FOOT (7.6 M) BASE LENGTH ANALYSIS FOR EACH WHEELPATH AND CALCULATE THE MEAN IRI (MRI) FOR EACH TRAVEL LANE. THE MRI IS THE AVERAGE OF THE IRI VALUES FOR THE RIGHT AND LEFT WHEELPATHS IN EACH TRAVEL LANE. SUBMIT TWO COPIES OF THE SUMMARY REPORT FROM PROVAL AND TWO ELECTRONIC COPIES OF ALL BRIDGE ENCOUNTER PROFILES IN PROVAL COMPATIBLE FORMAT TO THE ENGINEER OF WHICH ONE COPY OF THE SUMMARY REPORT AND ONE ELECTRONIC COPY OF THE PROFILES WILL BE SUBMITTED TO THE OFFICE OF TECHNICAL SERVICES.

PROVIDE NECESSARY TRAFFIC CONTROL AND SURVEY STATIONING FOR ALL SURFACE SMOOTHNESS MEASUREMENTS.

4.0 MANDATORY CORRECTIVE WORK: CORRECTIVE WORK IS REQUIRED FOR EACH TRAVEL LANE WITH AN MRI ABOVE 130 INCHES PER MILE (2.08 M/KM). PERFORM CORRECTIVE ACTION TO REDUCE THE MRI FOR EACH CORRECTED LANE TO 100 INCHES PER MILE (1.58 M/KM) OR LESS.

CORRECTIVE WORK IS REQUIRED WHERE THE IRI IN ANY 25 FOOT (7.6 M) SEGMENT OF THE BRIDGE ENCOUNTER EXCEEDS 250 INCHES PER MILE (3.94 M/KM). PERFORM CORRECTIVE ACTION TO REDUCE THE IRI FOR EACH CORRECTED LANE TO 250 INCHES PER MILE (3.16 M/KM) OR LESS.

DO NOT EXCEED 0.5 INCHES (13 MM) OF MATERIAL REMOVED BY CORRECTIVE DIAMOND GRINDING WITHOUT APPROVAL OF THE ENGINEER.

IF CORRECTIVE WORK IS REQUIRED, DEVELOP A CORRECTIVE WORK PLAN. AT LEAST 7 DAYS BEFORE BEGINNING CORRECTIVE WORK, SUBMIT ONE COPY OF THE FOLLOWING INFORMATION TO THE ENGINEER: (1) CORRECTIVE WORK PLAN; (2) ALL IRI AND MRI ANALYSES; AND (3) ALL COLLECTED ROAD PROFILES IN PROVAL COMPATIBLE FORMAT AND ONE COPY OF THE INFORMATION WILL BE SENT TO THE OFFICE OF TECHNICAL SERVICES; ATTN.: INFRASTRUCTURE MANAGEMENT SECTION, 1980 W. BROAD ST., COLUMBUS, OH 43223. DO NOT BEGIN CORRECTIVE WORK UNTIL RECEIVING THE ENGINEER'S ACCEPTANCE OF THE CORRECTIVE WORK PLAN.

UPON COMPLETION OF THE CORRECTIVE WORK, RE-MEASURE SURFACE SMOOTHNESS ACCORDING TO THESE SPECIFICATIONS. DIAMOND GROUND SURFACES DO NOT NEED TO BE RE-GROOVED.

CALCULATED J.C.
CHECKED H.G.

GENERAL NOTES

LIC-158-0.56

81967_GGN_001.DGN 08/31/09

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AS PER ITEM 659:

ITEM 659 COMMERCIAL FERTILIZER 6.0 TON
1 TON PER 7,410 SQ. YD. OF THE PERMANENT SEEDED AREA
44,299 SQ.YD. ÷ 7,410 = 5.98 TON

ITEM 659 LIME 10.0 ACRES
44,299 SQ.YD. ÷ 4,840 = 9.2 ACRES

ITEM 659 WATER 240.0 M. GAL.
0.0054 M. GAL PER SQ. YD. OF THE PERMANENT SEEDED AREA
44,299 SQ.YD. x 0.0054 = 239.2 M. GAL.

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.

ITEM 659 REPAIR SEEDING AND MULCHING 2,216.0 SQ. YD.
5% OF THE PERMANENT SEEDED AREA
.05 x 44,299 SQ.YD. = 2,215.0 SQ. YD.

ITEM 659 INTER-SEEDING 2,216.0 SQ. YD.
5% OF THE PERMANENT SEEDED AREA
.05 x 44,299 SQ.YD. = 2,215.0 SQ. YD.

ITEM 659 COMMERCIAL FERTILIZER 2.0 TON
1 TON PER 29,940 SQ. YD. OF THE PERMANENT SEEDED AREA
44,299 SQ.YD. ÷ 29,940 = 1.48 TON

ITEM 659 WATER 39.0 M. GAL.
0.00216 M. GAL. PER 40% OF THE SEEDED AREA
44,299 SQ.YD. x 0.40 x 0.00216 = 38.3 M. GAL.

ITEM 407 TACK COAT AND ITEM 407 TACK COAT FOR INTERMEDIATE COURSE

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

ITEM 407, TACK COAT 0.075 GAL. PER SQ. YD.
ITEM 407, TACK COAT FOR INTERMEDIATE COURSE 0.050 GAL. PER SQ. YD.

DUST CONTROL

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

ITEM 616, WATER 136 M. GAL
0.004 M. GAL. PER CU. YD. OF THE TOTAL EARTHWORK
23,737 + 10,143 = 33,880 CU. YD. (TOTAL)
33,880 x 0.004 = 135.5 M. GAL.

ITEM 204 PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 PROOF ROLLING 11 HOUR

ITEM 606 IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

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

621 RAISED PAVEMENT MARKER REMOVED

IN AREAS WHERE THE RAISED PAVEMENT MARKER CASTINGS CANNOT BE REPLACED BECAUSE OF PAVEMENT CONDITIONS, USE THIS ITEM INSTEAD OF ITEM 621 RPM, INSTALLATION ONLY TO COMPENSATE THE CONTRACTOR FOR REMOVAL OF THE EXISTING RPM AND RESTORATION OF THE PAVEMENT.

ALL BROKEN, CRACKED, FRAGMENTED OR PARTIAL REMNANTS OF RAISED PAVEMENT MARKERS OR MISSING RAISED PAVEMENT MARKERS SHALL BE TOTALLY REMOVED AND THE PAVEMENT RESTORED AS DESCRIBED IN CONSTRUCTION AND MATERIAL SPECIFICATION ITEM 621.08.

THE FOLLOWING IS AN ESTIMATED QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE ABOVE WORK:

ITEM 621 RAISED PAVEMENT MARKER REMOVED 163 EACH

ITEM 618 RUMBLE STRIPS, (ASPHALT CONCRETE)

THE FOLLOWING QUANTITY IS PROVIDED TO INSTALL RUMBLE STRIPS ON THE EASTBOUND AND WESTBOUND LANES OF I.R. 70 AS PER STANDARD CONSTRUCTION DRAWING BP-9.1.

ITEM 618 RUMBLE STRIPS, (ASPHALT CONCRETE) 3.52 MILE

ITEM 630 - SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND REINSTALLATION

IN THE EVENT THAT THIS PROJECT NECESSITATES THE REMOVAL OF ANY SPECIFIC SERVICE (LOGO) SIGNS AND/OR TOURIST-ORIENTED DIRECTIONAL SIGNS (TODS) THAT ARE NOT SPECIFICALLY DESCRIBED IN OTHER ITEMS OF WORK, THE CONTRACTOR SHALL CAREFULLY REMOVE SUCH SIGNS. REMOVED LOGO SIGNS AND

IN THE SAME GENERAL VICINITY ALONG THE ROADWAY TO BE VIEWED BY THE MOTORING PUBLIC. UNLESS THE ORIGINAL SUPPORTS WILL BE REUSED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SUPPORTS AND FOUNDATIONS IN ACCORDANCE WITH ITEM 630.12. THE CONTRACTOR SHALL NOTIFY OHIO LOGOS, INC. AT (800) 860-5646 AT LEAST 60 DAYS PRIOR TO PROJECT COMPLETION TO ALERT THEM THAT ONE OR MORE LOGO SIGNS AND/OR TODS ARE ON TEMPORARY SUPPORTS. OHIO LOGOS, INC. WILL MAKE ARRANGEMENTS TO HAVE THE SIGNS INSTALLED ON PERMANENT SUPPORTS AT THE COMPLETION OF THE PROJECT.

THIS ITEM OF WORK INCLUDES REMOVAL AND TEMPORARY RE-ERECTION OF LOGO SIGNS AND TODS, FURNISHING AND INSTALLATION OF TEMPORARY SUPPORTS, REMOVAL AND DISPOSAL OF THE ORIGINAL SUPPORTS AND FOUNDATIONS, AND PROVIDING NOTIFICATION TO OHIO LOGOS, INC. THIS WORK WILL BE INCLUDED IN THE LUMP SUM PAYMENT FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 606 ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, 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, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

INDIANA BAT

THE PROJECT AREA IS WITHIN THE KNOWN RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT. THE CONTRACTOR SHALL NOTIFY CHRIS YODER IN THE DISTRICT 5 PLANNING DEPARTMENT @ (740) 323-5193 AT LEAST 1 WEEK PRIOR TO THE START OF DEMOLITION SO THAT THE UNDERSIDE OF THE BRIDGE MAY BE INSPECTED FOR THE PRESENCE OF BATS.

FLYING J SOURCE WATER PROTECTION AREA

A PORTION OF THE PROJECT IS LOCATED WITHIN THE OUTER PROTECTION ZONE OF THE FLYING J SOURCE WATER PROTECTION AREA. ANY SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO THE DRINKING WATER SOURCE AREA SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT THE OHIO EPA SPILL HOTLINE AT 800-282-9378 FOR CLEANUP OF THE SPILL.

PETROLEUM CONTAMINATED SOILS

1.1 INTRODUCTION

ENVIRONMENTAL STUDIES HAVE SHOWN THAT THERE IS A POTENTIAL FOR ENCOUNTERING PETROLEUM CONTAMINATED SOILS (PCS) WITHIN EXCAVATIONS AT THE FOLLOWING LOCATIONS:

STA. 41+40 TO STA 43+00 (LEFT)

IN THE EVENT THESE MATERIALS ARE ENCOUNTERED WITHIN THE AFOREMENTIONED LIMITS, THE CONTRACTOR SHALL MANAGE THESE MATERIALS ACCORDING TO THE FOLLOWING NOTES. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

1.2 MATERIAL HANDLING

THE CONTRACTOR SHALL ARRANGE FOR THE NECESSARY TESTING SERVICES IN THE EVENT SUSPECTED PCS MATERIALS ARE ENCOUNTERED. ALL SUSPECT MATERIAL EXCAVATED BY THE CONTRACTOR BETWEEN THE AFOREMENTIONED LIMITS SHALL BE SUBJECT TO TESTING BY AN INSPECTOR PROVIDED BY THE CONTRACTOR. THE INSPECTOR HIRED TO PERFORM THE TESTING WORK SHALL BE PRE-QUALIFIED BY ODOT IN ENVIRONMENTAL SITE ASSESSMENT WORK.

ALL SUSPECTED PCS MATERIAL EXCAVATED BY THE CONTRACTOR BETWEEN THE AFOREMENTIONED LIMITS MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ODOT ENGINEER.

THE ODOT ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE REGULATED SOIL MATERIALS ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THESE MATERIALS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUNOFF.

AS AN ALTERNATIVE, THE ODOT ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THESE EXCAVATED MATERIALS FROM THE AFOREMENTIONED LIMITS INTO TRUCKS FOR SUBSEQUENT DISPOSAL.

1.3 MATERIAL SAMPLING AND DISPOSAL

THE CONTRACTOR SHALL PROPERLY TEST (FOR DISPOSAL), TRANSPORT AND DISPOSE OF THE REGULATED MATERIALS IN A LICENSED (BY THE LOCAL DEPARTMENT OF HEALTH) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING SAMPLING AND ANALYSIS (FOR DISPOSAL PURPOSES) OF THE EXCAVATED MATERIALS WITHIN THE AFOREMENTIONED LIMITS. COPIES OF THE ANALYTICAL TEST RESULTS SHALL BE PROVIDED TO THE ODOT ENGINEER.

1.4 GENERAL NOTES
ALL TRANSPORT VEHICLES USED FOR THE MOVEMENT OF REGULATED MATERIALS SHALL MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE CONTRACTOR SHALL MAINTAIN RECORDS (SUCH AS MANIFESTS, LANDFILL TICKETS, DAILY LOGS, ETC.) TO DOCUMENT THE SOURCE, MOVEMENT, AND DESTINATION OF EACH TRUCKLOAD OF CONTAMINATED MATERIAL. ONE COPY OF EACH OF THESE RECORDS SHALL BE SUBMITTED TO THE ODOT ENGINEER.

1.5 BASIS OF PAYMENT
THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE, TEST (FOR DISPOSAL), TRANSPORT AND DISPOSAL, INCLUDING ANY REQUIRED PERMITS, APPROVALS OR FEES, OF REGULATED MATERIALS WITHIN THE AFOREMENTIONED LIMITS. PAYMENT OF THIS WORK SHALL BE MADE AT THE CONTRACT BID PRICE PER TON/CUBIC YARD. THE FOLLOWING ESTIMATED CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM SPECIAL - WORK INVOLVING SOLID WASTE
25 TON

CALCULATED J.C.
CHECKED H.G.

GENERAL NOTES

LIC-158-0.56

SR16_GGN_001.DGN 02/05/08

CONDUIT END TREATMENT

IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET END.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR 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 CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF 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 OR 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.

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, 6" UNCLASSIFIED PIPE UNDERDRAIN, FOR SPRINGS 300 FT.

605, AGGREGATE DRAINS FOR SPRINGS 300 FT.

ITEM 202 FENCE REMOVED

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO REMOVE EXISTING FENCE, AS DIRECTED BY THE PROJECT ENGINEER.

ITEM 202 FENCE REMOVED 850 FT.

ITEM 607 FENCE, TYPE 47

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO INSTALL NEW TYPE 47 FENCE AT THE PROPOSED L/A LINE ALONG S.R. 158, AS DIRECTED BY THE PROJECT ENGINEER.

THE AMOUNT OF FENCE, TYPE 47 TO BE PAID FOR WILL BE THE NUMBER OF FEET INSTALLED, COMPLETE IN PLACE AND MEASURED AS PROVIDED FOR IN 607.09.

PAYMENT FOR THE ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 607, FENCE, TYPE 47 AND WILL INCLUDE ALL ASSEMBLIES AND INCIDENTALS NECESSARY TO INSTALL ITEM 607 FENCE, TYPE 47.

ITEM 607 FENCE, TYPE 47 550 FT.

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.

CATCH BASINS, AS PER PLAN

CATCH BASINS WILL BE PRECAST OR CAST IN PLACE CONCRETE.

CATCH BASIN, NO. 3, AS PER PLAN

ITEM SPECIAL - DRILLED WATER WELL ABANDONED

FOLLOW RULES SET FORTH PER OAC CHAPTER 3701-28-07 AND 3701-28-071 REGARDING DRILLED WATER WELL ABANDONMENT. IN ADDITION TO THE OAC, THE STATE OF OHIO TECHNICAL GUIDANCE FOR SEALING UNUSED WELLS BY THE STATE COORDINATING COMMITTEE ON GROUNDWATER, DATED 1996 IS AVAILABLE FOR REFERENCE.

REMOVE AND DISPOSE OF THE EXISTING CONCRETE OR STONE SLAB WELL COVER, PUMPING EQUIPMENT AND ANY OTHER OBSTRUCTIONS. RIP OR PERFORATE THE WELL CASING. DISINFECT THE WELL TO PREVENT BACTERIAL CONTAMINATION OF THE GROUNDWATER. CUT OFF THE CASING AT LEAST 3 FEET [1 METER] BELOW THE PROPOSED FINISH GRADE OUTSIDE PROPOSED PAVEMENT AREAS, OR AT LEAST 3 FEET [1 METER] BELOW THE PROPOSED SUBGRADE ELEVATION INSIDE PROPOSED PAVEMENT AREAS. FILL THE WELL FROM THE BOTTOM TO THE TOP WITH BENTONITE SLURRY, PELLETS, CHIPS, OR CONCRETE MEETING ASTM C 150 TYPE 1, PORTLAND CEMENT WITH NO AIR ENTRAINMENT, AND THEN CAP IN ACCORDANCE WITH THE DETAIL SHOWN ON STANDARD CONSTRUCTION DRAWING RM-7.1.

REGISTRATION AS A PRIVATE WATER SYSTEMS CONTRACTOR WITH THE OHIO DEPARTMENT OF HEALTH IS REQUIRED PER OAC CHAPTER 3701-28-20 AND ORC 3701.344(B) PRIOR TO PERFORMING ANY WORK ON A WATER WELL. REGISTRATION PACKETS CAN BE OBTAINED FROM THE OHIO DEPARTMENT OF HEALTH. A COUNTY ISSUED PLUGGING PERMIT IS REQUIRED FROM THE LOCAL HEALTH DEPARTMENT PER OAC 3701-28-03.

FILE WELL LOG AND WATER WELL SEALING REPORT FORMS WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) AS REQUIRED BY THE OHIO REVISED CODE. IF ONLY SEALING ONE WELL, A WELL LOG IS NOT REQUIRED IN ADDITION TO THE WATER WELL SEALING REPORT. ANY ADDITIONAL MATERIALS REQUIRED BY ODNR SHALL BE CONSIDERED INCIDENTAL. ODNR'S ADDRESS IS AS FOLLOWS:

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER
2045 MORSE ROAD, BUILDING B-2
COLUMBUS, OHIO 43229-6605
TELEPHONE (614) 265-6739
FAX (614) 265-6767

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

ITEM SPECIAL DRILLED WATER WELL ABANDONED 1 EACH

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) (CONSTRUCTION) 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 ONE FOOT 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 ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603 6" CONDUIT, TYPE B 200 FT.

603 6" CONDUIT, TYPE E 200 FT.

603 6" CONDUIT, TYPE F 200 FT.

601 ROCK CHANNEL PROTECTION TYPE C WITH FILTER 5 C.Y.

ITEM 604 MANHOLE ADJUSTED TO GRADE
ITEM 638 VALVE BOX ADJUSTED TO GRADE

EXISTING MANHOLES AND VALVE BOXES THAT ARE TO BE ADJUSTED TO GRADE ARE LISTED BELOW, THESE NUMBERS ARE TAKEN FROM FIELD COUNTS, HOWEVER THE ACTUAL NUMBER THAT ARE TO BE ADJUSTED TO GRADE WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION, PAYMENT SHALL BE FOR THE ACTUAL NUMBERS OF EACH ITEM THAT ARE ADJUSTED TO GRADE AS DETERMINED BY THE ENGINEER.
WHEN ADJUSTING MANHOLES EXTREME CARE SHALL BE TAKEN WHEN REMOVING CONCRETE, SO AS NOT TO DAMAGE MANHOLE COVERS AND FRAMES. MANHOLES SHALL BE ADJUSTED USING CONCRETE SHOWN IN DRAWING BP-3.1. WHEN ADJUSTING MANHOLES AND VALVE BOXES ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND ANY OTHER INCIDENTALS AND REMOVAL OF THE EXISTING CONCRETE SHALL BE PAID FOR UNDER EACH ITEM AS SHOWN ON THE GENERAL SUMMARY.

* ITEM 604 MANHOLE ADJUSTED TO GRADE	2	EACH
ITEM 638 VALVE BOX ADJUSTED TO GRADE	1	EACH

* (QUANTITIES CARRIED FROM SHEET 142 TO THE GENERAL SUMMARY)

CALCULATED J.C.
CHECKED H.G.

GENERAL NOTES

LIC-158-0.56

ITEM 614, MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAIL SHEETS AND SPECIFICATIONS AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS LATEST REVISION. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUBMIT, IN WRITING A SCHEDULE OF OPERATIONS TO THE DISTRICT DEPUTY DIRECTOR AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IMMEDIATELY, AS PER 614.03.

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

DRUMS SHALL BE PROPERLY REFLECTORIZIED (HIGH INTENSITY, FLORESCENT SHEETING) PLASTIC DRUMS AND WEIGHTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL INVOLVED IN PLACING AND REMOVING ALL ITEM 622 PORTABLE CONCRETE BARRIER, 32".

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIME TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER.

TEMPORARY FEATHERS USING ITEM 448 WILL BE REQUIRED AT ANY LOCATION DESIGNATED BY THE PROJECT ENGINEER. THEY SHALL BE INSTALLED ACCORDING TO BP-3.1 AND REMOVED WHEN NO LONGER REQUIRED.

THE PLANS INDICATE THE MINIMUM SIGNAGE WHICH MUST BE INSTALLED AND/OR MAINTAINED DURING ALL PHASES OF CONSTRUCTION.

EXISTING SIGNS OR CONTRACTOR SUPPLIED SIGNS SHALL BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION.

ANY CONFLICTING SIGNS AND PAVEMENT MARKINGS WHETHER INSIDE OR OUTSIDE THE WORK LIMITS SHALL BE REMOVED OR COVERED AND TEMPORARY SIGNS AND MARKINGS ERECTED AND PLACED WHEN APPLICABLE BY THE CONTRACTOR.

THE ENGINEER SHALL RECORD INSTALLATION AND REMOVAL OF PROPOSED SIGNS, COVERED OR REMOVED AND UNCOVERED OR REERECTED SIGNS IN THE PROJECT DIARY.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 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 AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

PROTECTION OF TRAFFIC:
PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, ETC.) AS PER CMS 2010 501.05.B.2.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 614, MAINTAINING TRAFFIC LUMP

GENERAL:

IT IS THE INTENT OF THIS SEQUENCE OF OPERATIONS TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC.

THE CONTRACTOR SHALL COMPLETE ALL WORK AS DESCRIBED IN THE SEQUENCE OF OPERATIONS, FOR EACH PHASE OF CONSTRUCTION, BEFORE STARTING WORK ON THE NEXT PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL NOT BE ALLOWED TO START WORK ON ANY PHASE OF CONSTRUCTION UNTIL APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER.

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 SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.
PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

WRITTEN NOTICE OF CLOSURE

AT LEAST SEVEN DAYS PRIOR TO A ROAD CLOSURE, ADVANCED WRITTEN NOTIFICATION SHALL BE MADE TO LOCAL AGENCIES OR OFFICIALS HAVING JURISDICTION OVER THE FOLLOWING: EMERGENCY SERVICES IN THE AREA (POLICE, FIRE, MEDICAL), SCHOOL BUS ROUTES, UTILITY SERVICES AND MAINTENANCE OF LOCAL ROADS. IF, SUBSEQUENT TO THAT NOTIFICATION, THE START DATE IS CHANGED, THEN A NEW SEVEN-DAY NOTIFICATION WILL BE REQUIRED. THE ROAD CANNOT BE CLOSED UNLESS THIS PRIOR NOTIFICATION PROCESS HAS BEEN ACCOMPLISHED. THE SAME PARTIES SHALL BE NOTIFIED WHEN A CLOSURE HAS CONCLUDED.

PAYMENT FOR THE NOTIFICATION REQUIRED ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

CONSTRUCTION INITIATION:
THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS AT 740-323-4400 AND
THE DISTRICT TRAFFIC MANAGEMENT ENGINEER AT 740-323-4400, FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT TRAFFIC MANAGEMENT ENGINEER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT.

TEMPORARY ACCESS TO DRIVES AND APPROACHES

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC TO DRIVES AND APPROACHES. ALL DRIVES SHALL BE PROVIDED ACCESS AS PER 614.02(A).

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B 50 CU. YD.
ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE C 100 CU. YD.
ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 100 CU.YD.

LANE VALUE - I.R. 70

LANE CLOSURES WILL ONLY BE IMPLEMENTED AT THE TIMES LISTED ON THE OHIO DEPARTMENT OF TRANSPORTATION'S WEB SITE, "PERMITTED LANE CLOSURE TIMES" SECTION, LOCATED AT THE ADDRESS SHOWN BELOW:

https://dotaw100.dot.state.oh.us/plcm/plcm_web.jsp

THE PERMITTED CLOSURE TIMES LISTED ON THE WEBSITE, 14 CALENDAR DAYS PRIOR TO THE BID LETTING DATE, WILL BE IN EFFECT FOR THIS PROJECT.
NO WORK WITHIN ACTIVE TRAVEL LANES OR WHICH WILL SLOW TRAFFIC IS PERMITTED AT ANY OTHER TIMES.
WHEN NECESSARY, LANE CLOSURES WILL BE ACCOMPLISHED IN ACCORDANCE WITH THE STANDARD DRAWINGS.

THE CONTRACTOR MAY CLOSE ONE LANE IN BOTH EASTBOUND AND WESTBOUND DIRECTIONS. THE TRAFFIC CLOSURES WILL BE BETWEEN THE HOURS INDICATED ON THE O.D.O.T. WEB SITE, SHOULD THE CONTRACTOR CLOSE THE LANES BEFORE THE ALLOWABLE TIME AND/OR FAIL TO RE-OPEN ALL LANES TO TRAFFIC, BY THE ALLOWABLE TIME A DISINCENTIVE AS DESIGNATED IN THE LANE VALUE CONTRACT TABLE AND PROPOSAL NOTE 127 WILL BE ASSESSED.

LANE VALUE CONTRACT TABLE - I.R. 70

DESCRIPTION OF CRITICAL LANE TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE $ PER TIME UNIT
I.R. 70	O.D.O.T. WEB SITE: PERMITTED LANE CLOSURE TIMES	EACH HOUR	$10,000

CALCULATED J.C.
CHECKED H.G.

MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-158-0.56

SR16_MNS_001.DGN 01/07/09

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THIS LIST IS AVAILABLE ON THE ODOT WEB SITE AT HTTP://WWW.DOT.STATE.OH.US/TEST LAB/APPLISTS/MISC/PCMS.HTM. THE LIST CURRENTLY CONTAINS CLASS I, II, AND III UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 1250 FT., 850 FT. AND 650 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETRO REFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE WILL BE SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION.
THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH-INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRE CONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 2,700 DAY

(NOTE: 6 SIGNS WILL BE REQUIRED FOR THIS PROJECT, 6 SIGNS x 15 MONTHS = 2,700 DAY)

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

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/RAMP 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. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

ITEM 614, MAINTAINING TRAFFIC (ROAD CLOSED SIGN)

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC. PAYMENT FOR THIS ITEM OF WORK WILL BE INCLUDED FOR PAYMENT UNDER THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

SEE DETOUR MAPS ON SHEETS 31-35.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.

2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICES
DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 2 HOURS AND SHALL NOT INCLUDE THE HOURS OF 6 AM TO 6 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY POLICE, HIRED BY THE CONTRACTOR.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

DRUMS, CONES, GATES, 42" WEIGHTED CHANNELIZER, AND BARRICADES:

DRUMS SHALL BE IN ACCORDANCE WITH CMS ITEM 614, MT SERIES OF THE STANDARD CONSTRUCTION DRAWINGS, AND OMUTCD. CHANNELIZING DEVICES SHALL BE USED TO DELINEATE THE WORK ZONE FROM TRAVELED LANES ACCORDING TO CURRENT STANDARDS.

USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTI LANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY 12 HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN
THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN 12 HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS. WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA." THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS. WEIGHTED CHANNELIZERS SHALL HAVE A MAXIMUM SPACING OF 40 FEET.

THE CONTRACTOR SHALL REPLACE ALL DAMAGED CHANNELIZING DEVICES. ALL DRUMS, CONES, GATES, BARRICADES, AND WEIGHTED CHANNELIZERS SHALL BE IN ACCORDANCE WITH
ITEM 614 MAINTAINING TRAFFIC:
CONFORMANCE OF WORK ZONE DEVICES TO NCHRP 350. DRUMS, CONES, GATES, BARRICADES, AND WEIGHTED CHANNELIZERS SHALL CONFORM WITH MT-101.60 AND MT-102.20. REPLACEMENT OF CHANNELIZING DEVICES SHALL ALSO BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.
PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING DRUMS, CONES, GATES, 42" WEIGHTED CHANNELIZERS AND BARRICADES SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

ADVANCE SIGNING:

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPLICABLE. ADVANCED SIGNING SHALL CONFORM TO MT- SERIES OF STANDARD DRAWINGS. ADDITIONAL SIGNS MAY BE REQUIRED FOR MAJOR CLOSURES AT THE DISCRETION OF THE ENGINEER. THESE SIGNS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

OVERLAYING EXISTING SIGNS:

MAINTENANCE OF TRAFFIC PLANS SHALL INCLUDE OVERLAYING EXISTING ROADWAY SIGNS THAT CONFLICT WITH MAINTENANCE OF TRAFFIC SIGNS IN WORK ZONES. DRAWINGS OF OVERLAYS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. PAYMENT FOR OVERLAYING EXISTING SIGNS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

SIGNS/SIGN SUPPORTS:

TEMPORARY SIGN INSTALLATIONS SHALL BE IN ACCORDANCE WITH PLAN: CONFORMANCE OF WORK ZONE DEVICES TO NCHRP 350.
TEMPORARY SIGN SUPPORTS SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MT-105.10.
PAYMENT FOR THE SIGNS/SIGN SUPPORT SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

DRUM REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

TRAFFIC SIGNALS:

NO EXCAVATION SHALL BE MADE WITHIN FIVE (5) FEET OF ANY POLE THAT SUPPORTS TRAFFIC SIGNAL DISPLAYS OR SIGNS BY MAST ARM OR SIGNAL SPAN. EXCAVATION WITHIN EIGHT (8) FEET, BUT MORE THAN FIVE (5) FEET SHALL REQUIRE ADDITIONAL SUPPORT (DOWN GUT, HEAD GUY, BASE GUY, ETC.). PAYMENT FOR PROVIDING, PLACING, MAINTAINING, AND REMOVING TEMPORARY TRAFFIC SIGNAL SUPPORT SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

TRENCH FOR WIDENING:

TRENCH EXCAVATION FOR PAVEMENT TO REMAIN OPEN TO TRAFFIC SHALL BE ONLY ON ONE SIDE OF THE APPROACH AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE TRENCH WIDTH THAT IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

ITEM 614 - REPLACEMENT DRUM:

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE BID PRICE PER EACH FOR ITEM 614 - REPLACEMENT DRUM AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 25 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

COVERING OF SIGNS:

WHERE THE PLANS CALL FOR OR AS DIRECTED BY THE PROJECT ENGINEER FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.
COST FOR THE WORK AS DESCRIBED ABOVE SHALL BE PAID WITH THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

OVERNIGHT TRENCH CLOSING AT APPROACHES:

THE APPROACH PAVEMENT TO REMAIN OPEN TO TRAFFIC SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN THE CASE WHERE THE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED APPROACH PAVEMENT SHALL BE BACK FILLED AT THE DIRECTION OF THE PROJECT ENGINEER.

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 6 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT GENERALLY BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

ROUTINE PATROLLING THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) AS SPECIFIED IN THE PLANS.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORISTS ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LIST OF THE APPROPRIATE LAW ENFORCEMENT AGENCY(S), INCLUDING ADDRESS AND TELEPHONE NUMBER.

THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF THE SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHOULD NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 250 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

ITEM 615 ROADS FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN TO CONSTRUCT THE TEMPORARY RUN-AROUND ON S.R. 158, AS DETAILED IN THE PLANS. INCLUDED IS THE REMOVAL WHEN NO LONGER NEEDED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT.
FOR DETAILS OF THE TEMPORARY RUN-AROUND SEE MOT PLAN SHEETS AND CROSS SECTIONS.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.
PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM THIS WORK AS PER ITEM 615.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
26' WIDE x 1,112' ÷ 9 = 3,213 SQ.YD.
13' WIDE x 220' ÷ 9 = 318 SQ.YD.
TOTAL 3,531 SQ.YD.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A 3,531 SQ.YD.
ITEM 615 ROADS FOR MAINTAINING TRAFFIC LUMP

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC	1,712 CU. YD.
EMBANKMENT FOR MAINTAINING TRAFFIC	1,712 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS. PAYMENT FOR THE TEMPORARY DRAINAGE ITEMS ARE INCLUDED IN ITEM 614 LUMP SUM FOR MAINTAINING TRAFFIC.

BARRIER DELINEATION

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTOR AND OBJECT MARKER SPACING SHALL BE AS PER MT-101.70.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING BARRIER REFLECTORS AND OBJECT MARKERS.

CALCULATED J.C.
CHECKED H.G.

MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-158-0.56

SR40_MNS_001.DGN 07/16/07

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO NO. 3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90 DEGREES TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

ITEM 614	BUSINESS ENTRANCE SIGN	3 EACH

CALCULATED J.C.
CHECKED H.G.

MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-158-0.56

SR40_MNS_001.DGN 07/16/07

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).

2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.

3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-614-599-7915.

4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7) THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A CURRENT WTS CERTIFICATION (WITH AN EXPIRATION DATE NO MORE THAN 5 YEARS FROM THE DATE OF ISSUE) FROM ANY OF THE APPROVED ORGANIZATIONS.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.

2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.

3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.

4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.

5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.

6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.

7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.

8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.

9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

   A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).

   B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.

   C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.

   D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.

   E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.

   F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.

11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR$^{5}/_{32}$S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 18 MONTHS

CALCULATED J.C.
CHECKED H.G.

MAINTENANCE OF TRAFFIC GENERAL NOTES

LIC-158-0.56

SR40_MNS_001.DGN 07/16/07

SEQUENCE OF OPERATIONS:

PHASE 1:
S.R. 158, BR. NO. LIC-158-0097, N.W. RAMP AND RAMPS @ S.R. 158 AND KELLER RD.

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN TRAFFIC ON S.R. 158, KELLER RD. AND THE RAMPS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE PROJECT ENGINEER, AS SHOWN ON SHEETS 37-41.

CONSTRUCT THE PROPOSED TEMPORARY PAVEMENT FOR S.R. 158 AND THE PROPOSED BRIDGE WIDENING FOR BRIDGE NO. LIC-158-0097, AS DETAILED IN THE PLANS AS SHOWN ON SHEETS 37-41.

TRAFFIC WILL BE MAINTAINED AT ALL TIMES TO THE PHANTOM FIREWORKS STORE AND THE FLYING-J TRUCK STOP, AS DETAILED IN THE PLANS.
KELLER RD. WILL BE CONSTRUCTED AS DETERMINED BY THE CONTRACTORS SCHEDULE AND AS DIRECTED BY THE PROJECT ENGINEER, AND WILL BE OPENED TO TRAFFIC AS SOON AS THE INTERMEDIATE COURSE AND TEMPORARY STRIPING ARE IN PLACE.

S.R. 158 TRAFFIC WILL BE MOVED ONTO THE TEMPORARY RUN-AROUND AND THE CONTRACTOR SHALL ALSO CONSTRUCT THE PROPOSED PAVEMENT AND CULVERT REPLACEMENT ON S.R. 158 FROM STA. 29+00.00 TO STA. 39+40.00 AND THE PAVEMENT FROM STA. 58+00 TO STA. 61+30. THE FINAL SURFACE COURSE ON S.R. 158 WILL BE PAVED AS A FLAGGING OPERATION, DURING THE FINAL PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL ALSO CONSTRUCT THE PROPOSED PAVEMENT ON S.R. 158 FROM STA. 39+40.00 TO STA. 46+00.00±
THE N.E. RAMP SHALL BE CLOSED AFTER ALL TEMPORARY TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS DETAILED IN THE PLANS, AS SHOWN ON SHEETS 37-41.

THE N.W. RAMP SHALL BE CLOSED AFTER ALL TEMPORARY TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS DETAILED IN THE PLANS, AS SHOWN ON SHEETS 37-41.

NOTE:
THE N.W. RAMP CONSTRUCTION WILL BE COMPLETED PRIOR TO THE PROPOSED BRIDGE BEING OPENED TO NORTHBOUND AND SOUTHBOUND TRAFFIC.

S.R. 158 TRAFFIC SOUTH OF THE FLYING-J TRUCK STOP (STA. 29+00 TO STA. 39+40) WILL BE DETOURED FOR A MAXIMUM PERIOD OF 21 DAYS, FOR ADDITIONAL INFORMATION SEE PROPOSAL NOTE 125 AND TABLE BELOW.

ANY WORK ON THE RAMPS THAT WILL NOT REQUIRE THE CLOSING OF THE RAMP WILL BE ALLOWED, AS DIRECTED BY THE PROJECT ENGINEER AND AS PER STANDARD DRAWING MT-101.90, DROP-OFFS IN WORK ZONES. THE RAMPS CAN ONLY BE CLOSED AS INDICATED IN THE PLAN, ONE RAMP PER PHASE OF CONSTRUCTION.

DURING THE CONSTRUCTION OF BRIDGE LIC-158-0097 (OVER I.R. 70) TRAFFIC ON I.R. 70 WILL BE MAINTAINED, DURING BRIDGE DEMOLITION, FALSE WORK CONSTRUCTION AND DECK POUR. I.R. 70 TRAFFIC WILL BE STOPPED FOR FIFTEEN (15) MINUTE PERIODS AS PER SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY, AS SHOWN ON SHEET 42.

PHASE 1:
A + B BIDDING - S.R. 158 (STA. 29+00 TO STA. 39+40.00)

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO CLOSE TRAFFIC TO S.R. 158 (STA. 29+00 TO STA. 39+40, SOUTH OF THE FLYING-J TRUCK STOP ENTRANCE, AS DETAILED IN THE PLANS, AS SHOWN ON SHEETS 37-41 AND S.R. 158 AND THE N.W RAMP WILL BE DETOURED, AS SHOWN ON SHEET 31.

SEE PROPOSAL NOTE 125 FOR INFORMATION ON CLOSURE PERIOD AND TABLE BELOW.

A+B BIDDING WITH CONTRACT TABLE

USE THE FOLLOWING INFORMATION IN COMBINATION WITH THE PROPOSAL NOTE A+B BIDDING WITH MULTIPLE SECTIONS:

THE CONTRACTOR WILL BID THE NUMBER OF CALENDAR DAYS TO COMPLETE THE SEGMENT AS LISTED IN THE PROPOSAL.

CONTRACT SEGMENT - LOCATION OF CRITICAL WORK	MINIMUM DAYS	MAXIMUM DAYS	INCENTIVE/DISINCENTIVE	MAXIMUM INCENTIVE
SEGMENT 1 - OPEN TO TRAFFIC: S.R. 158 (STA. 29+00 TO STA. 39+40)	14 DAYS	21 DAYS	$10,000.00 / DAY	$70,000.00

THE FINAL COMPLETION DATE FOR THE PROJECT WILL BE AS LISTED IN THE PROPOSAL.
TRAFFIC WILL BE DETOURED AS SHOWN ON SHEETS 31-35.

S.R. 158 WILL BE CONSIDERED OPEN TO TRAFFIC ONCE ALL THE PAVEMENT HAS BEEN COMPLETED, EXCEPT FOR THE FINAL SURFACE COURSE AND TEMPORARY PAVEMENT MARKINGS HAVE BEEN INSTALLED INCLUDING THE PROPOSED SIGNING.

THE FINAL SURFACE COURSE ON S.R. 158 WILL BE PAVED AS A FLAGGING OPERATION, DURING THE FINAL PHASE OF CONSTRUCTION.

PHASE 2:
S.R. 158, BR. NO. LIC-158-0097 AND N.E. RAMP

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN TRAFFIC ON S.R. 158, AND THE RAMPS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE PROJECT ENGINEER, AS SHOWN ON SHEETS 37-41.

TRAFFIC WILL BE MAINTAINED AT ALL TIMES TO THE PHANTOM FIREWORKS STORE AND THE FLYING-J TRUCK STOP, AS DETAILED IN THE PLANS.

S.R. 158 TRAFFIC SOUTH AND NORTH OF THE FLYING-J TRUCK STOP WILL BE OPENED TO TRAFFIC. AND MAINTAINED ON THE PERMANENT PAVEMENT CONSTRUCTED DURING PHASE 1.

THE N.E. RAMP WILL BE DETOURED FOR A MAXIMUM PERIOD OF 21 DAYS, FOR ADDITIONAL INFORMATION SEE PROPOSAL NOTE 125 AND TABLE BELOW.

NOTE:
THE N.E. RAMP WILL BE DETOURED FOR A MAXIMUM PERIOD OF 21 DAYS.
THE CLOSURE PERIOD FOR THE N.E. RAMP WILL NOT BE ALLOWED BETWEEN MAY, JUNE AND THROUGH JULY 4.
FOR ADDITIONAL INFORMATION SEE PROPOSAL NOTE 125 AND TABLE BELOW.

DURING THE CONSTRUCTION OF BRIDGE LIC-158-0097 (OVER I.R. 70) TRAFFIC ON I.R. 70 WILL BE MAINTAINED, DURING BRIDGE DEMOLITION, FALSE WORK CONSTRUCTION AND DECK POUR. I.R. 70 TRAFFIC WILL BE STOPPED FOR FIFTEEN (15) MINUTE PERIODS AS PER SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY, AS SHOWN ON SHEET 42.

ANY WORK ON THE RAMPS THAT WILL NOT REQUIRE THE CLOSING OF THE RAMP WILL BE ALLOWED, AS DIRECTED BY THE PROJECT ENGINEER AND AS PER STANDARD DRAWING MT-101.90, DROP-OFFS IN WORK ZONES. THE RAMPS CAN ONLY BE CLOSED AS INDICATED IN THE PLAN, ONE RAMP PER PHASE OF CONSTRUCTION.

A+B BIDDING WITH CONTRACT TABLE

USE THE FOLLOWING INFORMATION IN COMBINATION WITH THE PROPOSAL NOTE A+B BIDDING WITH MULTIPLE SECTIONS:

THE CONTRACTOR WILL BID THE NUMBER OF CALENDAR DAYS TO COMPLETE THE SEGMENT AS LISTED IN THE PROPOSAL.

CONTRACT SEGMENT - LOCATION OF CRITICAL WORK	MINIMUM DAYS	MAXIMUM DAYS	INCENTIVE/DISINCENTIVE	MAXIMUM INCENTIVE
SEGMENT 2 - OPEN TO TRAFFIC: N.E. RAMP	14 DAYS	21 DAYS	$10,000.00 / DAY	$70,000.00

THE FINAL COMPLETION DATE FOR THE PROJECT WILL BE AS LISTED IN THE PROPOSAL.
TRAFFIC WILL BE DETOURED AS SHOWN ON SHEET 31-35.

N.E. RAMP WILL BE CONSIDERED OPEN TO TRAFFIC ONCE THE CONCRETE PAVEMENT HAS BEEN COMPLETED, AND TEMPORARY PAVEMENT MARKINGS HAVE BEEN INSTALLED INCLUDING THE PROPOSED SIGNING.

CALCULATED J.C.
DRAWN H.G.

SEQUENCE OF OPERATIONS

LIC-158-0.56

SR158_MNS_001.DGN 2 /27/12

SEQUENCE OF OPERATIONS:

PHASE 3:
S.R. 158, BR. NO. LIC-158-0097 AND S.E. RAMP

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN TRAFFIC ON S.R. 158, AND THE RAMPS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE PROJECT ENGINEER, AS SHOWN ON SHEETS 37-41.

TRAFFIC WILL BE MAINTAINED AT ALL TIMES TO THE PHANTOM FIREWORKS STORE AND THE FLYING-J TRUCK STOP, AS DETAILED IN THE PLANS.

THE S.E. RAMP SHALL BE CLOSED AFTER ALL TEMPORARY TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS DETAILED IN THE PLANS, AS SHOWN ON SHEETS 37-41.

S.R. 158 TRAFFIC NORTH OF THE FLYING-J TRUCK STOP WILL BE OPENED TO TRAFFIC. AND MAINTAINED ON THE PAVEMENT CONSTRUCTED DURING PHASE 1.

THE S.E. RAMP WILL BE DETOURED FOR A MAXIMUM PERIOD OF 21 DAYS, FOR ADDITIONAL INFORMATION SEE PROPOSAL NOTE 125 AND TABLE BELOW.

DURING THE CONSTRUCTION OF BRIDGE LIC-158-0097 (OVER I.R. 70) TRAFFIC ON I.R. 70 WILL BE MAINTAINED, DURING BRIDGE DEMOLITION, FALSE WORK CONSTRUCTION AND DECK POUR. I.R. 70 TRAFFIC WILL BE STOPPED FOR FIFTEEN (15) MINUTE PERIODS AS PER SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY, AS SHOWN ON SHEET 42.

ANY WORK ON THE RAMPS THAT WILL NOT REQUIRE THE CLOSING OF THE RAMP WILL BE ALLOWED, AS DIRECTED BY THE PROJECT ENGINEER AND AS PER STANDARD DRAWING MT-101.90, DROP-OFFS IN WORK ZONES. THE RAMPS CAN ONLY BE CLOSED AS INDICATED IN THE PLANS, ONE RAMP PER PHASE OF CONSTRUCTION.

A+B BIDDING WITH CONTRACT TABLE

USE THE FOLLOWING INFORMATION IN COMBINATION WITH THE PROPOSAL NOTE A+B BIDDING WITH MULTIPLE SECTIONS:

THE CONTRACTOR WILL BID THE NUMBER OF CALENDAR DAYS TO COMPLETE THE SEGMENT AS LISTED IN THE PROPOSAL.

CONTRACT SEGMENT - LOCATION OF CRITICAL WORK	MINIMUM DAYS	MAXIMUM DAYS	INCENTIVE/DISINCENTIVE	MAXIMUM INCENTIVE
SEGMENT 3 - OPEN TO TRAFFIC: S.E. RAMP	14 DAYS	21 DAYS	$10,000.00 / DAY	$70,000.00

THE FINAL COMPLETION DATE FOR THE PROJECT WILL BE AS LISTED IN THE PROPOSAL. TRAFFIC WILL BE DETOURED AS SHOWN ON SHEET 31-35.

S.E. RAMP WILL BE CONSIDERED OPEN TO TRAFFIC ONCE THE CONCRETE PAVEMENT HAS BEEN COMPLETED, AND TEMPORARY PAVEMENT MARKINGS HAVE BEEN INSTALLED INCLUDING THE PROPOSED SIGNING.

PHASE 4:
S.R. 158, BR. NO. LIC-158-0097 AND S.W. RAMP

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN TRAFFIC ON S.R. 158, AND THE RAMPS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE PROJECT ENGINEER, AS SHOWN ON SHEETS 37-41.

TRAFFIC WILL BE MAINTAINED AT ALL TIMES TO THE PHANTOM FIREWORKS STORE AND THE FLYING-J TRUCK STOP ON S.R. 158, AS DETAILED IN THE PLANS.

THE S.W. RAMP SHALL BE CLOSED AFTER ALL TEMPORARY TRAFFIC CONTROL DEVICES HAVE BEEN INSTALLED AS DETAILED IN THE PLANS, AS SHOWN ON SHEETS 37-41.

NOTE:
THE S.W. RAMP WILL BE DETOURED FOR A MAXIMUM PERIOD OF 21 DAYS.
THE CLOSURE PERIOD FOR THE S.W. RAMP WILL NOT BE ALLOWED BETWEEN MAY, JUNE AND JULY 4.
FOR ADDITIONAL INFORMATION SEE PROPOSAL NOTE 125 AND TABLE BELOW.

DURING THE CONSTRUCTION OF BRIDGE LIC-158-0097 (OVER I.R. 70) TRAFFIC ON I.R. 70 WILL BE MAINTAINED, DURING BRIDGE DEMOLITION, FALSE WORK CONSTRUCTION AND DECK POUR. I.R. 70 TRAFFIC WILL BE STOPPED FOR FIFTEEN (15) MINUTE PERIODS AS PER SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY, AS SHOWN ON SHEET 42.

ANY WORK ON THE RAMPS THAT WILL NOT REQUIRE THE CLOSING OF THE RAMP WILL BE ALLOWED, AS DIRECTED BY THE PROJECT ENGINEER AND AS PER STANDARD DRAWING MT-101.90, DROP-OFFS IN WORK ZONES. THE RAMPS CAN ONLY BE CLOSED AS INDICATED IN THE PLANS, ONE RAMP PER PHASE OF CONSTRUCTION.

A+B BIDDING WITH CONTRACT TABLE

USE THE FOLLOWING INFORMATION IN COMBINATION WITH THE PROPOSAL NOTE A+B BIDDING WITH MULTIPLE SECTIONS:

THE CONTRACTOR WILL BID THE NUMBER OF CALENDAR DAYS TO COMPLETE THE SEGMENT AS LISTED IN THE PROPOSAL.

CONTRACT SEGMENT - LOCATION OF CRITICAL WORK	MINIMUM DAYS	MAXIMUM DAYS	INCENTIVE/DISINCENTIVE	MAXIMUM INCENTIVE
SEGMENT 4 - OPEN TO TRAFFIC: S.W. RAMP	14 DAYS	21 DAYS	$10,000.00 / DAY	$70,000.00

THE FINAL COMPLETION DATE FOR THE PROJECT WILL BE AS LISTED IN THE PROPOSAL. TRAFFIC WILL BE DETOURED AS SHOWN ON SHEET 31-35.

S.W. RAMP WILL BE CONSIDERED OPEN TO TRAFFIC ONCE THE CONCRETE PAVEMENT HAS BEEN COMPLETED, AND TEMPORARY PAVEMENT MARKINGS HAVE BEEN INSTALLED INCLUDING THE PROPOSED SIGNING.

PHASE 5:
I.R. 70 AND S.R. 158 PAVING OPERATIONS

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN I.R. 70 AND THE RAMPS TO PERFORM THE PAVEMENT PLANING AND RESURFACING OPERATIONS.
THE I.R. 70 PLANING AND RESURFACING OPERATIONS WILL BE PERFORMED AS PER THE LANE VALUE CONTRACT TABLE AND AS DIRECTED BY THE PROJECT ENGINEER.
SEE NOTE THIS SHEET 21.

INSTALL ALL TRAFFIC CONTROL DEVICES NEEDED TO MAINTAIN S.R. 158 TO PERFORM THE FINAL SURFACE COURSE. THIS OPERATION WILL BE PERFORMED AS A FLAGGING OPERATION AND AS DIRECTED BY THE PROJECT ENGINEER.

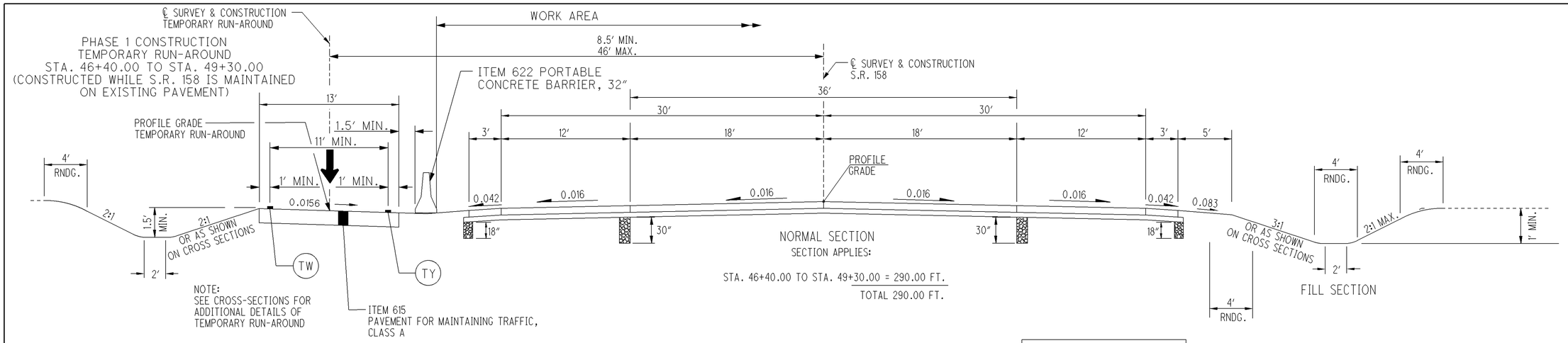
FINAL PAVING WILL BE PERFORMED UNDER TRAFFIC AS PER MT-95.31 AND MT-95.32.

CALCULATED J.C.
CHECKED H.G.

SEQUENCE OF OPERATIONS

LIC-158-0.56

SR158_MNS_001.DGN 2/27/12



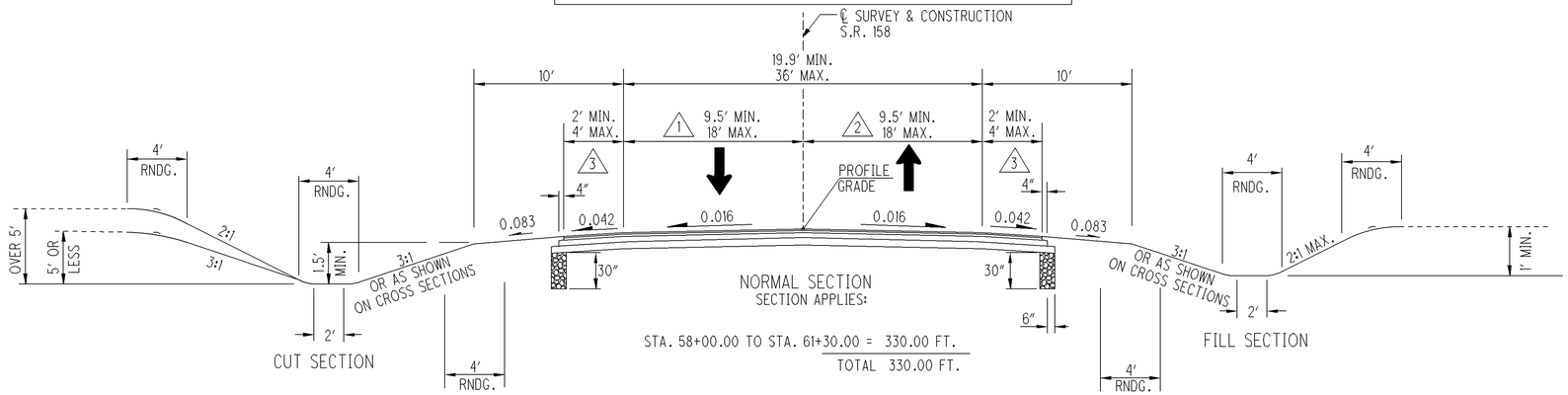
CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS - PHASE 1
S.R. 158

LIC-158-0.56

SR158.PTS 9/20/10

PHASE 1 CONSTRUCTION
STA. 58+00.00 TO STA. 61+30.00
(CONSTRUCTED WHILE S.R. 158 TRAFFIC IS DETOURED)

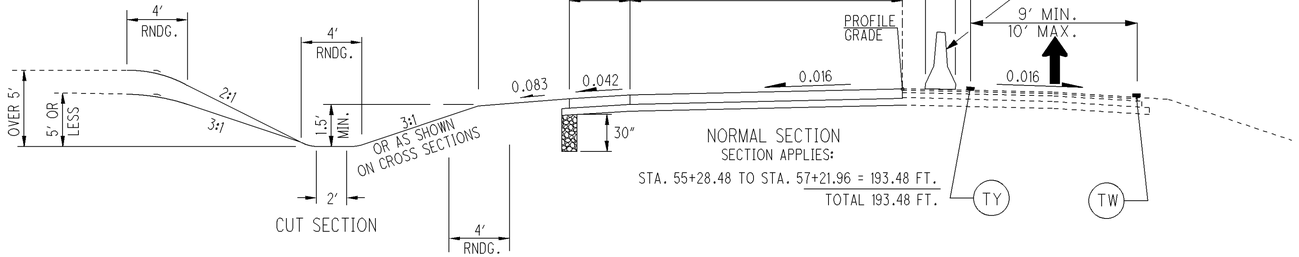


1 18′ @ STA. 57+21.96 TO STA. 59+45.00
TAPERS FROM 18′ @ STA. 59+45.00 TO 9.5′ @ 61+30.00

2 18′ @ STA. 57+21.96 TO STA. 59+45.00
TAPERS FROM 18′ @ STA. 59+45.00 TO 9.5′ @ 61+30.00

3 4′ @ STA. 57+21.96 TO STA. 60+80.00
TAPERS FROM 4′ @ STA. 60+80.00 TO 2′ @ STA. 61+30.00

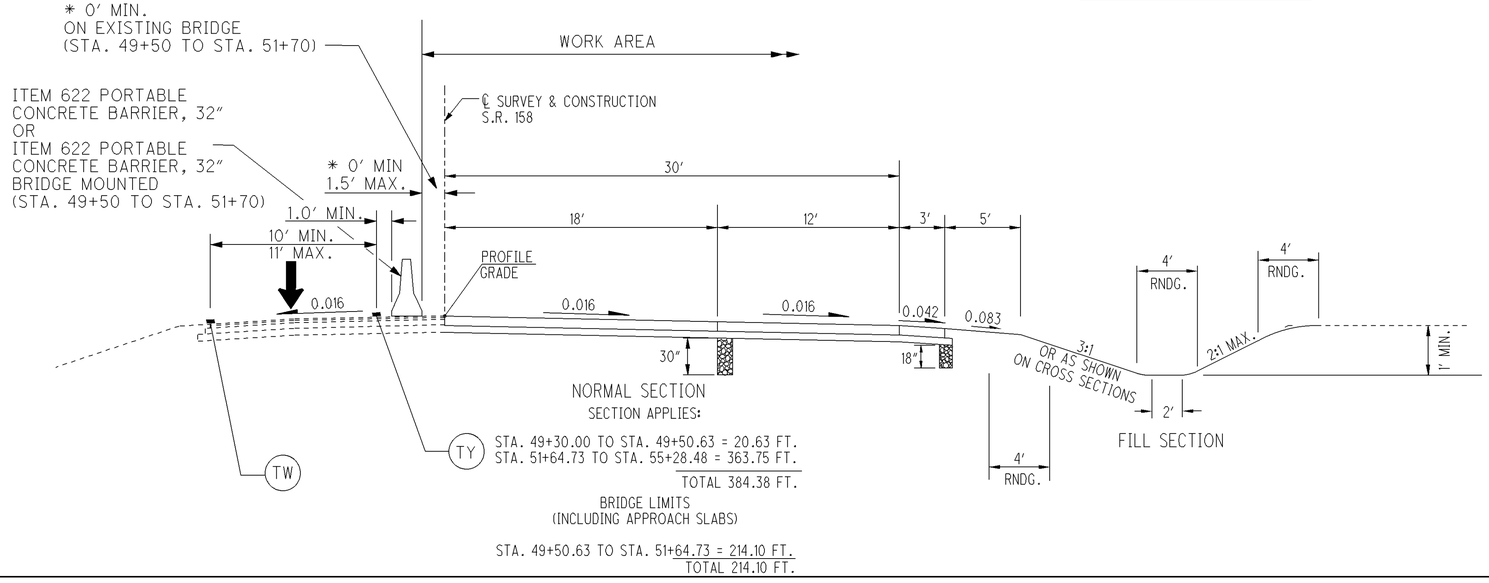
PHASE 1 CONSTRUCTION
STA. 57+21.96 TO STA. 58+00.00
(CONSTRUCTED WHILE S.R. 158 TRAFFIC IS MAINTAINED
AT THE INTERSECTION OF S.R. 158 & KELLER RD.)
(FLAGGERS WILL BE REQUIRED DURING CONSTRUCTION OF THIS AREA
OF THE PROJECT)



DIRECTION OF TRAVEL

TW - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT, (WHITE)

TY - ITEM 614 WORK ZONE CENTERLINE OR EDGE LINE CLASS 1, 642 PAINT, (YELLOW) (AS SHOWN)



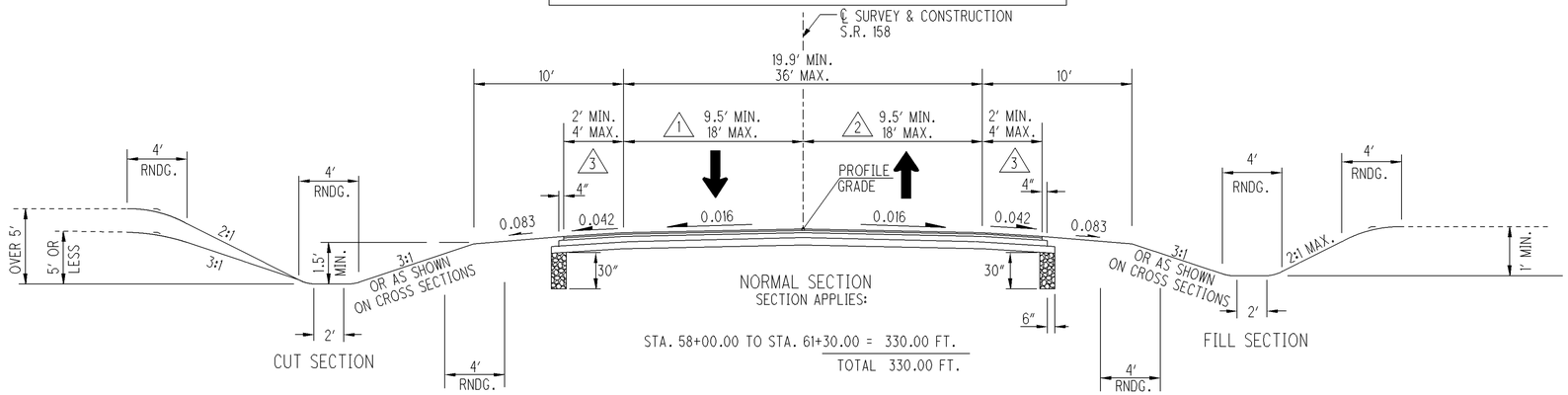
SR158.PTS 9/20/10

CALCULATED | CHEKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS - PHASE 1
S.R. 158

LIC-158-0.56

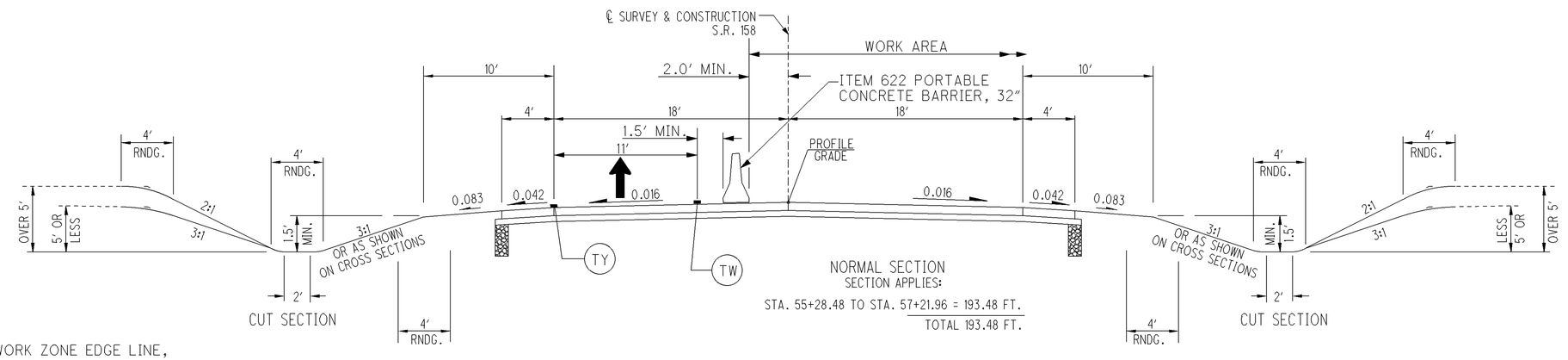
PHASE 1 CONSTRUCTION
STA. 58+00.00 TO STA. 61+30.00
(CONSTRUCTED WHILE S.R. 158 TRAFFIC IS DETOURED)



1 18′ @ STA. 57+21.96 TO STA. 59+45.00
TAPERS FROM 18′ @ STA. 59+45.00 TO 9.5′ @ 61+30.00

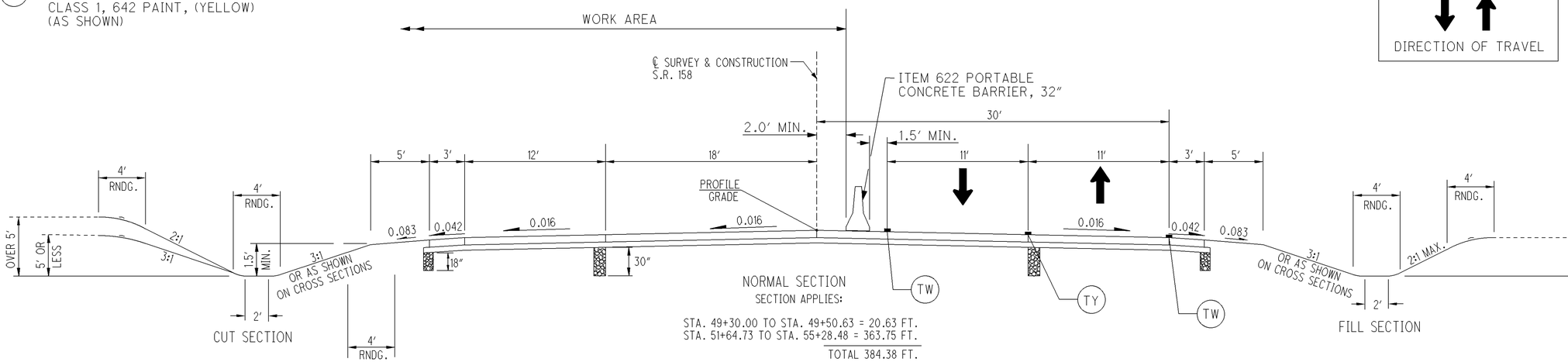
2 18′ @ STA. 57+21.96 TO STA. 59+45.00
TAPERS FROM 18′ @ STA. 59+45.00 TO 9.5′ @ 61+30.00

3 4′ @ STA. 57+21.96 TO STA. 60+80.00
TAPERS FROM 4′ @ STA. 60+80.00 TO 2′ @ STA. 61+30.00



TW - ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT, (WHITE)

TY - ITEM 614 WORK ZONE CENTERLINE OR EDGE LINE CLASS 1, 642 PAINT, (YELLOW) (AS SHOWN)



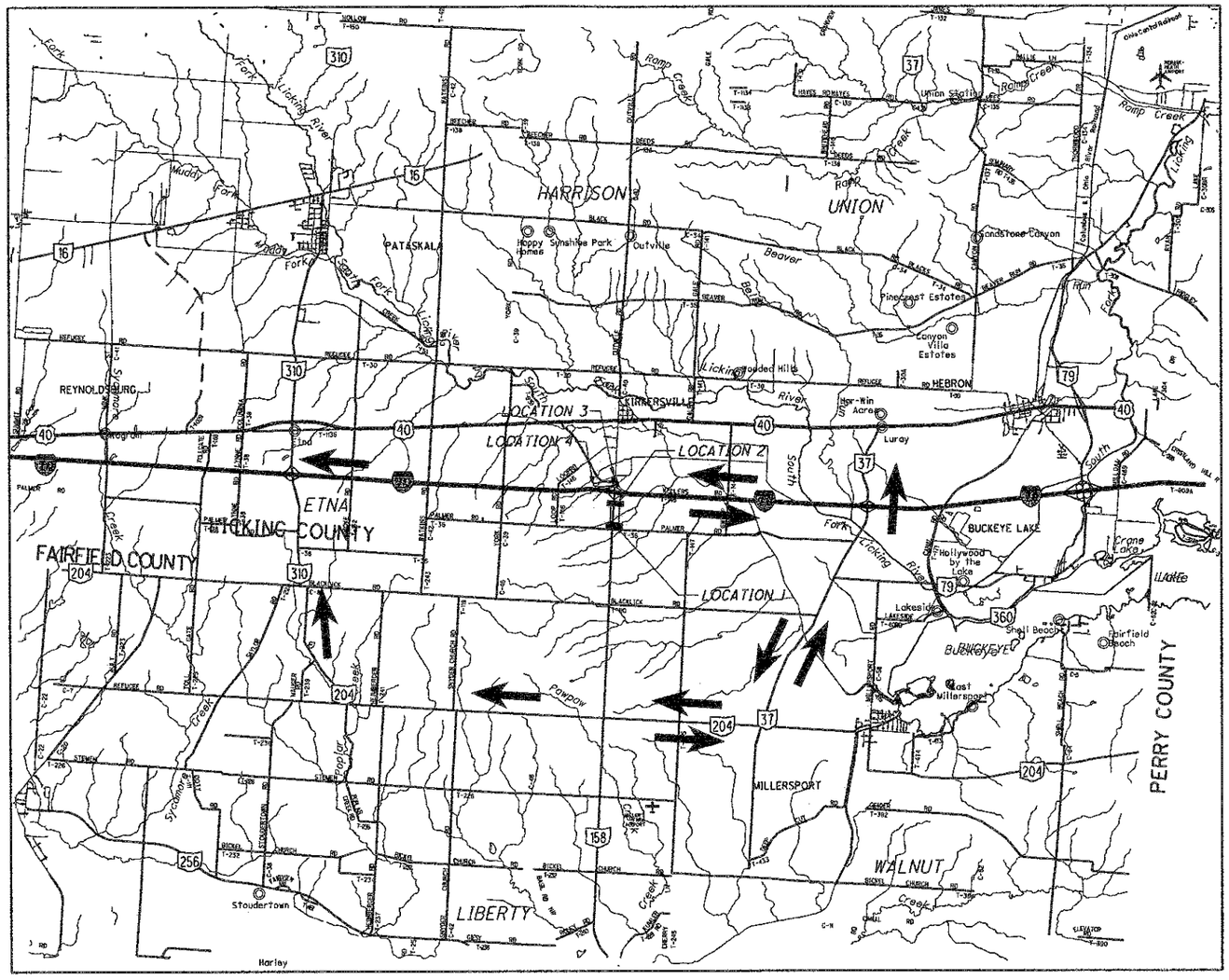
DIRECTION OF TRAVEL

CALCULATED | CHECKED

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS - PHASE 2
S.R. 158

LIC-158-0.56

SR158.PTS 9/20/10



TYPE III BARRICADE AS PER SCD MT-101.60

LOCATION 1: JUST NORTH OF THE INTERSECTION OF S.R. 158 AND PALMER RD (T.R. 36)

LOCATION 2: JUST SOUTH OF THE INTERSECTION OF S.R. 158 AND THE FLYING-J TRUCK STOP ENTRANCE

LOCATION 3: JUST WEST OF THE INTERSECTION OF S.R. 158/I.R. 70 WESTBOUND ON-RAMP

LOCATION 4: GORE AREA OF THE S.R. 158/I.R. 70 WESTBOUND ON RAMP

NORTHBOUND S.R. 158 STATE ROUTE DETOUR:
S.R. 204 EAST TO S.R. 37 NORTH TO U.S. 40 WEST.

SOUTHBOUND S.R. 158 STATE ROUTE DETOUR:
U.S. 40 EAST TO S.R. 37 SOUTH TO S.R. 204 WEST.

NORTHBOUND S.R. 158 STATE ROUTE DETOUR TO I.R. 70 WEST:
S.R. 204 WEST TO S.R. 310 NORTH.

NOTE:
ALL STATE DETOUR SIGNING SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY STATE FORCES.

CALCULATED H.G.
CHECKED X.X.

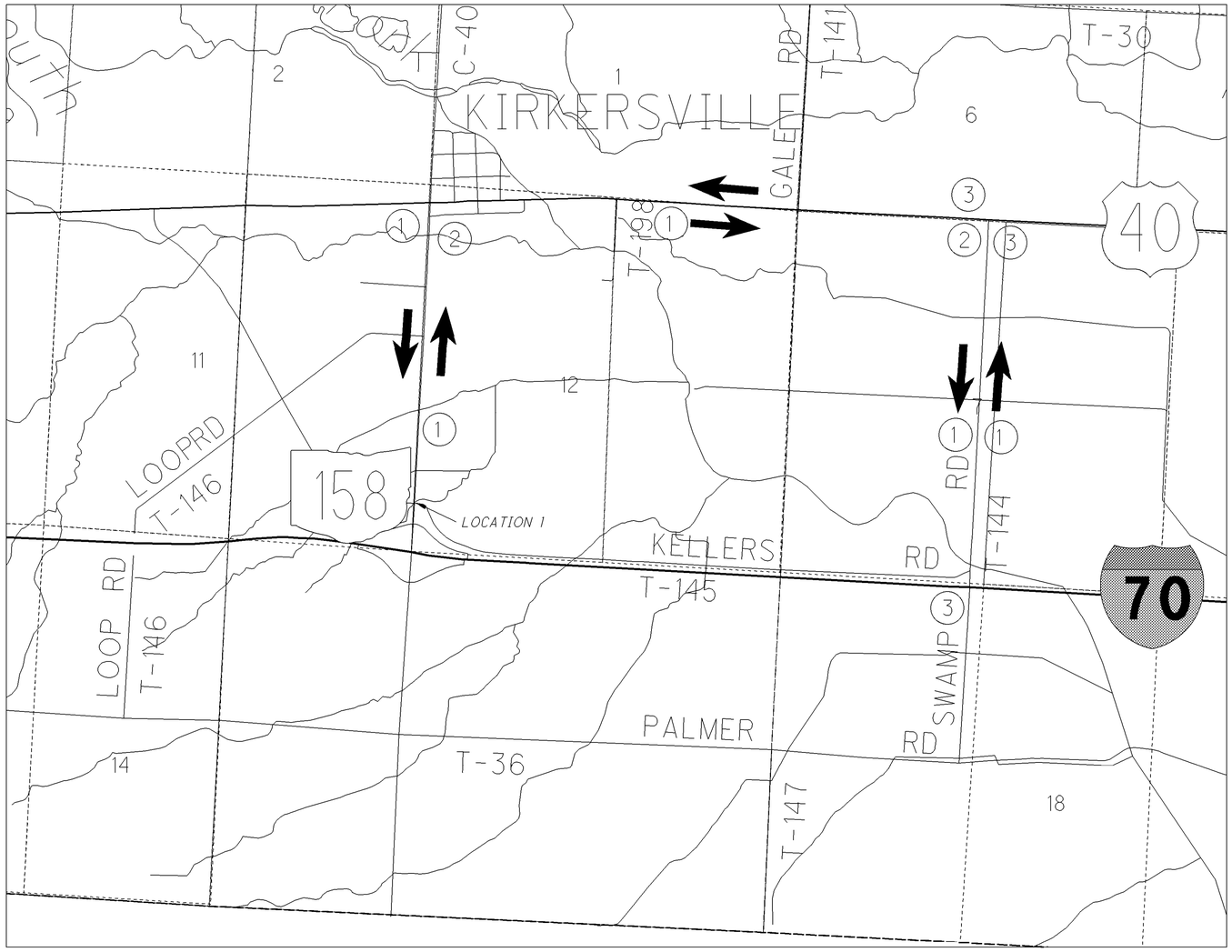
1 MILE 0 1/2 MILE 2 MILE
HORIZONTAL SCALE IN FEET

S.R. 158 & NW RAMP CLOSURES
DETOUR SHEET - S.R. 158 PHASE 1

LIC-158-0.56

31
219

SR158_MDS_001.DGN 10/27/10



NOT TO SCALE

DETOUR ROUTE

TYPE III BARRICADE AS PER SCD MT-101.60

LOCATION 1: JUST EAST OF THE INTERSECTION OF S.R. 158 AND KELLER ROAD

KELLER ROAD DETOUR:
S.R. 158 NORTH TO U.S. 40 EAST TO T.R. 144 (SWAMP ROAD)

NOTE:
ALL DETOUR SIGNING SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR. PAYMENT SHALL BE INCLUSIVE IN THE LUMP SUM BID FOR ITEM 614 DETOUR SIGNING.

NOTE:
ALL SIGNS SHALL BE TYPE "H" FLOURESCENT SHEETING.

(1) KELLER RD. DETOUR ↑

(2) KELLER RD. DETOUR →

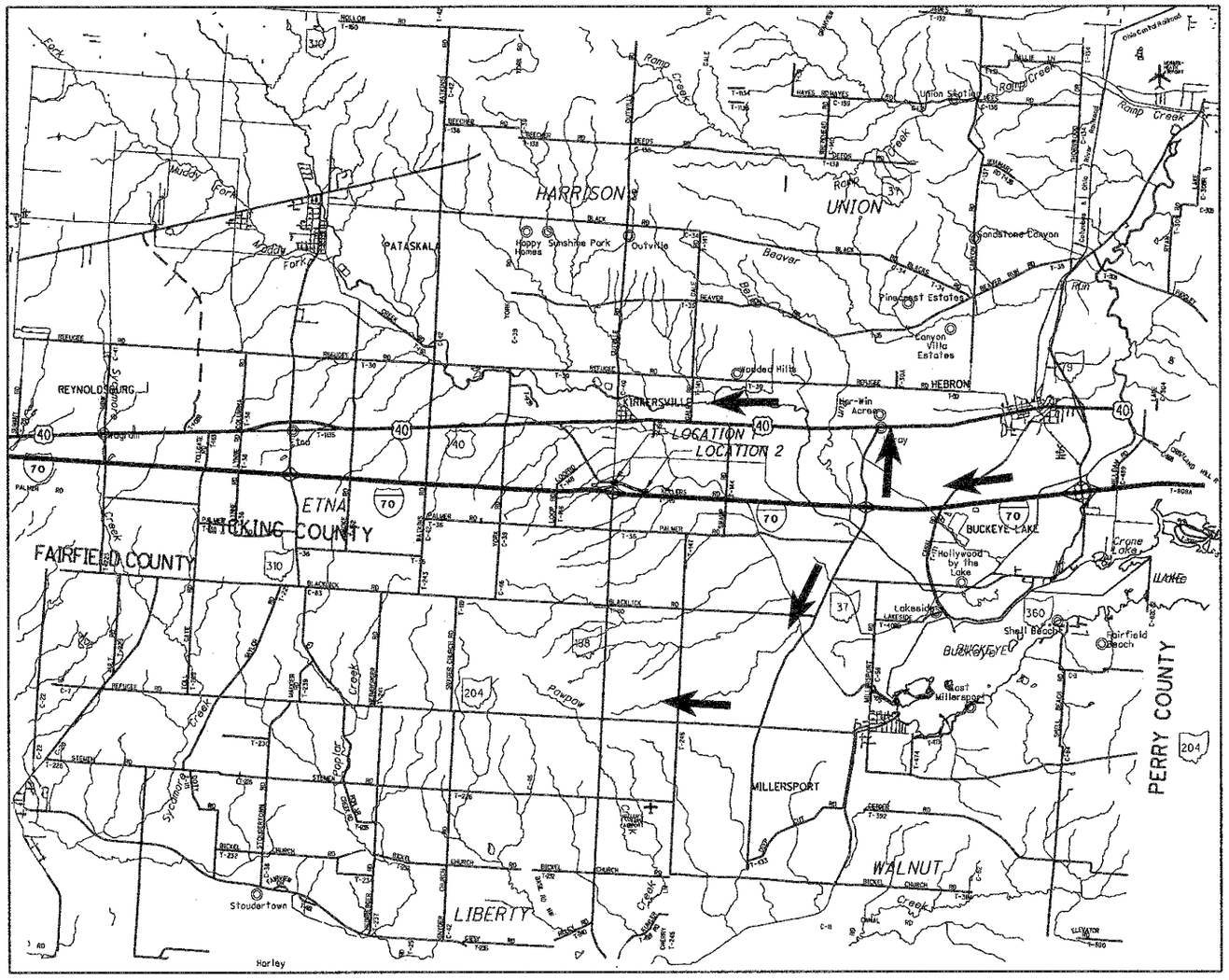
(3) KELLER RD. DETOUR ←

CALCULATED H.G.
CHECKED X.X.

DETOUR SHEET - KELLER ROAD CLOSURE PHASE 1

LIC-158-0.56

SR158_MDS_005.DGN 10/04/11



STATE DETOUR ROUTE

TYPE III BARRICADE AS PER SCD MT-101.60

LOCATION 1: JUST EAST OF THE INTERSECTION OF S.R. 158/ I.R. 70 WESTBOUND OFF-RAMP

LOCATION 2: GORE AREA OF THE S.R. 158/I.R. 70 WESTBOUND OFF-RAMP

I.R. 70 WEST TO S.R. 158 NORTH:
S.R. 37 NORTH TO U.S. 40 WEST.

I.R. 70 WEST TO S.R. 158 SOUTH:
S.R. 37 SOUTH TO S.R. 204 WEST.

NOTE:
ALL STATE DETOUR SIGNING SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY STATE FORCES.

N

1 MILE 0 1 MILE 2 MILE
½ MILE HORIZONTAL SCALE IN FEET

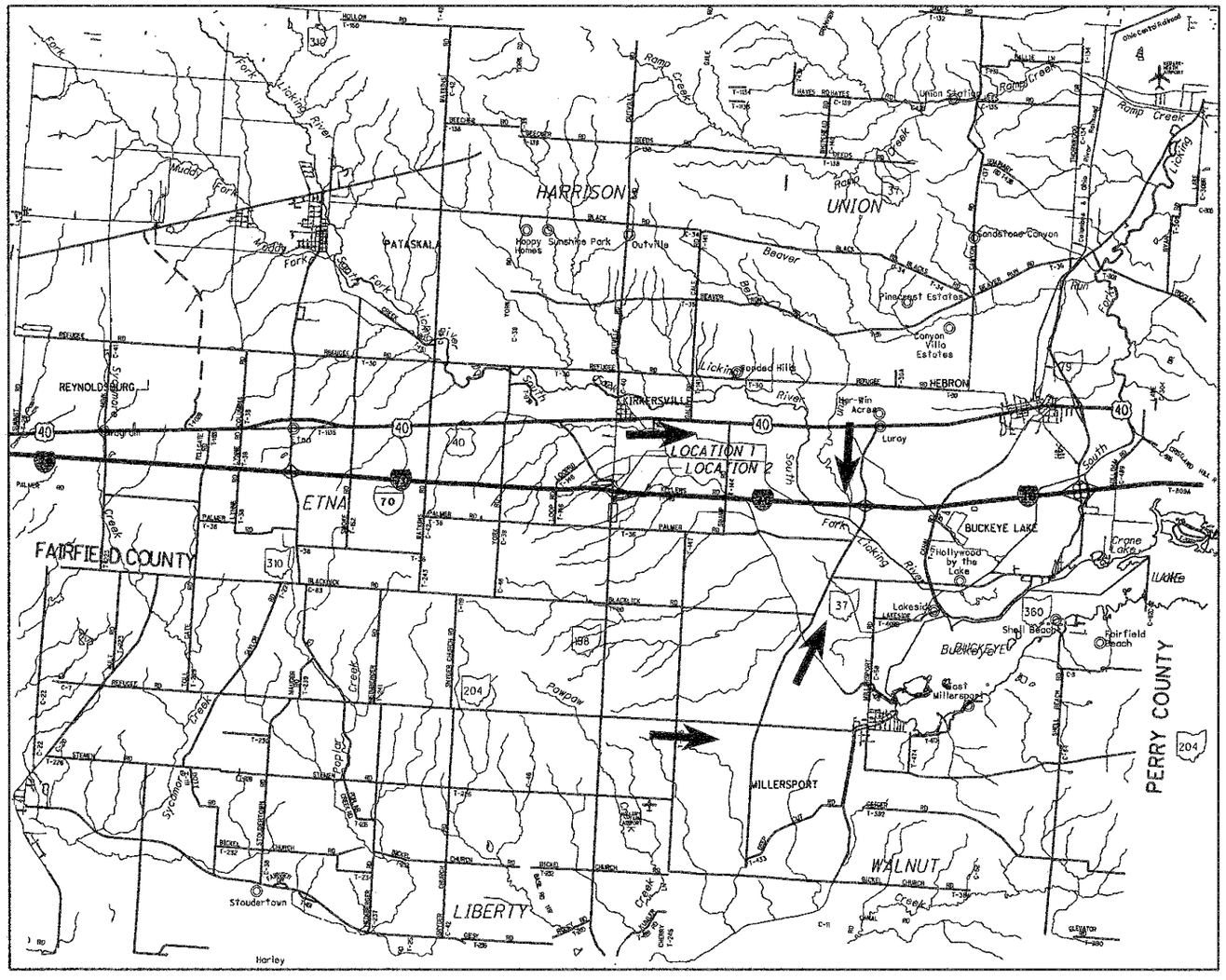
CALCULATED H.G.
CHECKED X.X.

DETOUR SHEET - N.E. RAMP CLOSURE PHASE 2

LIC-158-0.56

33
219

SR158_MDS_001.DGN 10/27/10



STATE DETOUR ROUTE

TYPE III BARRICADE AS PER SCD MT-101.60

LOCATION 1: JUST EAST OF THE INTERSECTION OF S.R. 158/ I.R. 70 EASTBOUND ON-RAMP

LOCATION 2: GORE AREA OF THE S.R. 158/I.R. 70 EASTBOUND ON-RAMP

I.R. 70 EASTBOUND ON RAMP DETOUR:

S.R. 158 NORTH TO S.R. 204 EAST TO S.R. 37 NORTH TO I.R. 70.

S.R. 158 SOUTH TO U.S. 40 EAST TO S.R. 37 SOUTH TO I.R. 70.

NOTE:
ALL STATE DETOUR SIGNING SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY STATE FORCES.

1 MILE
½ MILE
2 MILE
HORIZONTAL SCALE IN FEET

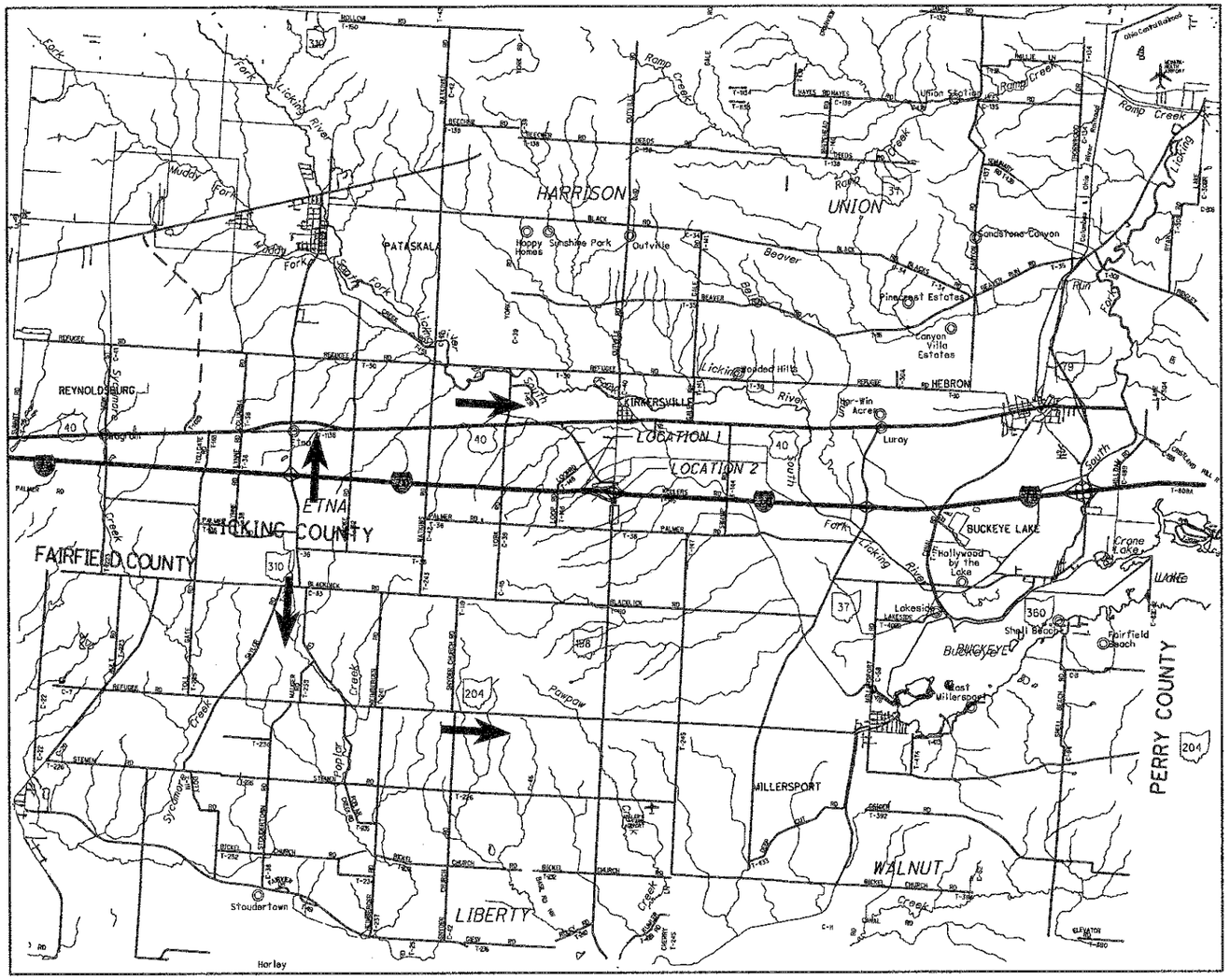
CALCULATED H.G.
CHECKED X.X.

DETOUR SHEET - S.E. RAMP CLOSURE PHASE 3

LIC-158-0.56

34/219

SR158_MDS_001.DGN 10/27/10



STATE DETOUR ROUTE

TYPE III BARRICADE AS PER SCD MT-101.60

LOCATION 1: GORE AREA OF THE S.R. 158/I.R. 70 EASTBOUND OFF-RAMP

LOCATION 2: JUST WEST OF THE INTERSECTION OF S.R. 158/I.R. 70 EASTBOUND OFF-RAMP

I.R. 70 EASTBOUND OFF RAMP TO S.R. 158 DETOUR:

S.R. 310 SOUTH TO S.R. 204 EAST TO S.R. 158 SOUTH.

S.R. 310 NORTH TO U.S. 40 EAST TO S.R. 158.

NOTE:
ALL STATE DETOUR SIGNING SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY STATE FORCES.

CALCULATED H.G.
CHECKED X.X.

1 MILE
½ MILE 2 MILE
HORIZONTAL SCALE IN FEET

DETOUR SHEET - S.W. RAMP CLOSURE PHASE 4

LIC-158-0.56

35
219

SR158_MDS_001.DGN 10/27/10

SURVEY AND CONSTRUCTION		614														622		NOTE
		WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ (UNIDIRECTIONAL) MODEL NO. QZ2406Y	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ (BIDIRECTIONAL) MODEL NO. QZ2406Y	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	BARRIER REFLECTOR, TYPE B		WORK ZONE CENTER LINE, CLASS I, 642 PAINT (YELLOW)	WORK ZONE LANE LINE, CLASS I, 642 PAINT	WORK ZONE EDGE LINE, CLASS I, 642 PAINT		WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT (WHITE)	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT (WHITE)	WORK ZONE ARROW, CLASS I, 642 PAINT	WORK ZONE WORD ON PAVEMENT, 72", CLASS I, 642 PAINT	PORTABLE CONCRETE BARRIER, 32"	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
						1-WAY (WHITE)	1-WAY (YELLOW)			(WHITE)	(YELLOW)								
		EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	MILE	MILE	FT.	FT.	FT.	EACH	EACH	FT.	FT.	
PHASE 1																			
S.R. 158																			
STA. 29+00 TO STA. 33+50								0.18		0.18									
STA. 33+50 TO STA. 45+85 (TEMP. RUN-AROUND)			6	10		10		0.23		0.23	0.23						480		
STA. 45+85 TO STA. 46+40										0.03	0.03		20	100					
STA. 46+40 TO STA. 48+50 (TEMP. RUN-AROUND)										0.04	0.04		11						
STA. 48+50 TO STA. 54+20		1		12			12			0.11	0.11						320	220	
STA. 54+20 TO STA. 55+00										0.04	0.01								
STA. 55+00 TO STA. 57+50				5			5			0.05	0.05						250		
STA. 58+00 TO STA. 61+30								0.12		0.12		60			1	1			
N.W. RAMP																			
STA. 710+58 TO STA. 720+00										0.18	0.18								
I.R. 70 EASTBOUND LANES																			
STA. 718+00 TO STA. 721+00		2		12		6	6										600		
KELLER ROAD - STA. 717+50 TO STA. 719+50									0.04	0.04	0.04		19						
I.R. 70 WESTBOUND LANES																			
STA. 719+00 TO STA. 722+00		2		12		6	6										600		
PHASE 2																			
S.R. 158																			
STA. 29+00 TO STA. 33+50								0.18		0.18									
STA. 33+50 TO STA. 45+70 (NEW PAVEMENT)								0.20		0.46		430	12		6	3			
STA. 45+70 TO STA. 47+00								0.02					50	260					
STA. 47+00 TO STA. 54+00			2	15		15		0.13		0.27							470	220	
STA. 54+00 TO STA. 58+00		2		4		4				0.05	0.04		50				140		
STA. 47+00 TO STA. 54+00 (NEW PAVEMENT)								0.19		0.27		365	48		5	2			
STA. 58+00 TO STA. 61+30								0.12		0.12		60			1	1			
N.E. RAMP																			
STA. 719+00 TO STA. 728+15										0.18	0.18	285	40		4	1			
KELLER ROAD - STA. 717+50 TO STA. 719+50									0.04	0.04	0.04		19						
PHASE 3																			
S.E. RAMP																			
STA. 719+50 TO STA. 727+68										0.16	0.16								
PHASE 4																			
S.W. RAMP																			
STA. 712+05 TO STA. 720+86										0.17	0.17	295	40		6	1			
PHASE 5																			
I.R. 70 (EASTBOUND & WESTBOUND LANES) - (RESURFACING X 2)																			
STA. 696+00 TO STA. 558+50									3.52	3.52	3.52	6,520							
SUB-TOTALS						41	29			6.44	4.80								
TOTALS (CARRIED TO THE GENERAL SUMMARY)		7	8	70		70		1.37	3.60	11.24		8,015	309	360	23	9	2,860	440	

CALCULATED J.C.
CHECKED H.G.

MAINTENANCE OF TRAFFIC QUANTITIES

LIC-158-0.56

L016001.MNS

BEGIN PROJECT & WORK
PAVEMENT REMOVAL AND REPLACEMENT
STA. 29+00.00
℄ SURVEY & CONSTRUCTION
S.R. 158

FED. NO. E080950

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)

PROPOSED 72" CONDUIT, TYPE A

TEMPORARY ROAD USES 2, 6°00' CURVES (CONSTRUCTED DURING PHASE 1 CONSTRUCTION)

BEGIN TEMPORARY ROAD STA. 33+50.0

955' RAD. P.C. STA. 33+96

FIELD DRIVE

955' RAD. P.T. STA. 35+04, 6' LT.

ITEM 614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (YELLOW)

DRUMS SPACED @ 20' C/C

℄ CONSTRUCTION TEMPORARY ROAD

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)

TEMPORARY DRIVE PIPE (12" x 25')

FIELD DRIVE Sta. 38+10.08

955' RAD. P.T. STA. 38+45, 41' LT.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (26' WIDE, 2-11' LANES)

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

Sta. 40+00.00

06-3-36
STA. 40+00

DRUMS SPACED @ 40' C/C

MATCHLINE STA. 40+50.00

S.R. 158

N 3° 34' 07" E

N 3° 57' 17" E

955' RAD. P.C. STA. 37+34, 54' RT.

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

ITEM 614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (YELLOW)

35 M.P.H.
W13-1-24

W1-4L-36
STA. 31+00

℄ SURVEY & CONSTRUCTION S.R. 158

FIELD DRIVE

TYPE B WARNING LIGHTS

W1-6L-60
STA. 36+50

CONSTRUCTION LIMITS

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT AND CULVERT ON S.R. 158 FROM STA. 29+00 TO STA. 39+40, THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR S.R. 158 TRAFFIC. THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE PAVEMENT AND HAVE TEMPORARY PAVMENT MARKINGS INSTALLED IN THIS AREA. (FINAL SURFACE COURSE WILL BE PLACED DURING PHASE 5 AND SHALL BE PERFORMED AS A FLAGGING OPERATION).
S.R. 158 TRAFFIC WILL BE OPENED AND TRAFFIC PLACED ON THE TEMPORARY RUN-AROUND AS DIRECTED BY THE PROJECT ENGINEER.
FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF CONSTRUCTION AND THE DETOUR MAP.

NOTE:
ACCESS TO DRIVES WILL BE MAINTAINED AT ALL TIMES. QUANTITIES HAVE BEEN PROVIDED ITEM 410 AND ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC. (SEE SEQUENCE OF CONSTRUCTION FOR ADDITIONAL DETAILS)

970.25 969.86 969.52 969.21 968.95 968.73 968.55 968.41 968.31 968.25 968.24 968.26 968.33 968.43 968.58 968.77 969.00 969.24 969.45 969.63 969.80 969.93 970.04 970.12 970.18 970.21 970.22 970.20 970.16 970.10 970.04 969.99 969.93 969.87 969.81 969.76 969.70 969.64 969.59 969.53 969.47 969.41 969.36 969.30 969.24 969.19 969.13

P.V.I. STA 34+50.00 ELEV = 970.50'
300.00' VC

980
970
960
950

970.25

-1.62 %
+1.00 %
+1.00 %
-0.23 %

P.V.I. STA 31+00.00 ELEV = 967.00'
400.00' VC

PROPOSED 72" CONDUIT, TYPE A

972.14 971.14 970.25 969.60 969.28 968.99 968.50 968.16 968.18 968.93 970.91 973.48 974.84 975.26 975.76 976.31 976.50 975.95 974.87 973.46 972.12 970.91 970.06 969.56 969.06 968.54

N
TOD
0 50
HORIZONTAL SCALE IN FEET

CALCULATED J.C.
CHECKED R.J.G.

MAINTENANCE OF TRAFFIC S.R. 158
PHASE 1
STA. 28+00.00 TO STA. 40+50.00

LIC-158-0.56

37
219

PLPR050.DGN XX/XX/XX

CONSTRUCTION LIMITS

TEMPORARY CATCH BASIN NO. 5 STA. 44+00.0, 25.7' LT. (INCLUDED FOR PAYMENT UNDER ITEM 615)

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (26' WIDE, 2-11' LANES)

℄ CONSTRUCTION TEMPORARY RUN-AROUND

O6-3-36 STA. 45+00

R1-1-48 STA. 720+60

R3-2-30 STA. 720+45

SOUTHWEST RAMP

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

NOTE:
WORK ON I.R. 70 WILL BE PERFORMED AS PER THE LANE VALUE GENERAL NOTE.

℄ SURVEY & CONST. S.R. 158 STA. 50+57.68 =
℄ SURVEY & CONST. I.R. 70 STA. 719+95.26

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)

ITEM 614 WORK ZONE CENTER LINE, CLASS 1, 642 PAINT (YELLOW)

RESIDENCE DRIVE

W1-4L-36 STA. 40+95

DRUMS SPACED @ 40' C/C

TEMPORARY DRIVE PIPE 15" x 24'

TEMPORARY DRIVE PIPE 18" x 65'

COMM. DRIVE

TEMPORARY ROAD USES 2, 12° 30' CURVES (458' RAD.) (CONSTRUCTED DURING PHASE 1 CONSTRUCTION)

ITEM 614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT (WHITE)

R1-1-48 STA. 46+60

STOP

DRUMS SPACED @ 20' C/C

458' RAD. P.C. STA. 48+21, 22° LT.

458' RAD. P.T. STA. 49+30, 8.5° LT.

EASTBOUND LANES

WESTBOUND LANES

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW)

35 M.P.H.

W13-1-24

W1-4R-36 STA. 52+00

MATCH LINE STA. 40+50.00

MATCH LINE STA. 53+00.00

N 3° 48' 27" E

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

℄ SURVEY AND CONSTRUCTION S.R. 158

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)

W1-1R-36 STA. 44+50

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

TYPE B WARNING LIGHTS

W1-6R-60 STA. 48+30

DRUMS SPACED @ 10' C/C

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (13' WIDE, 1-11' LANE)

SOUTHEAST RAMP

RC STA. 720+99.45

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (STA. 49+50 TO STA. 51+70)

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)

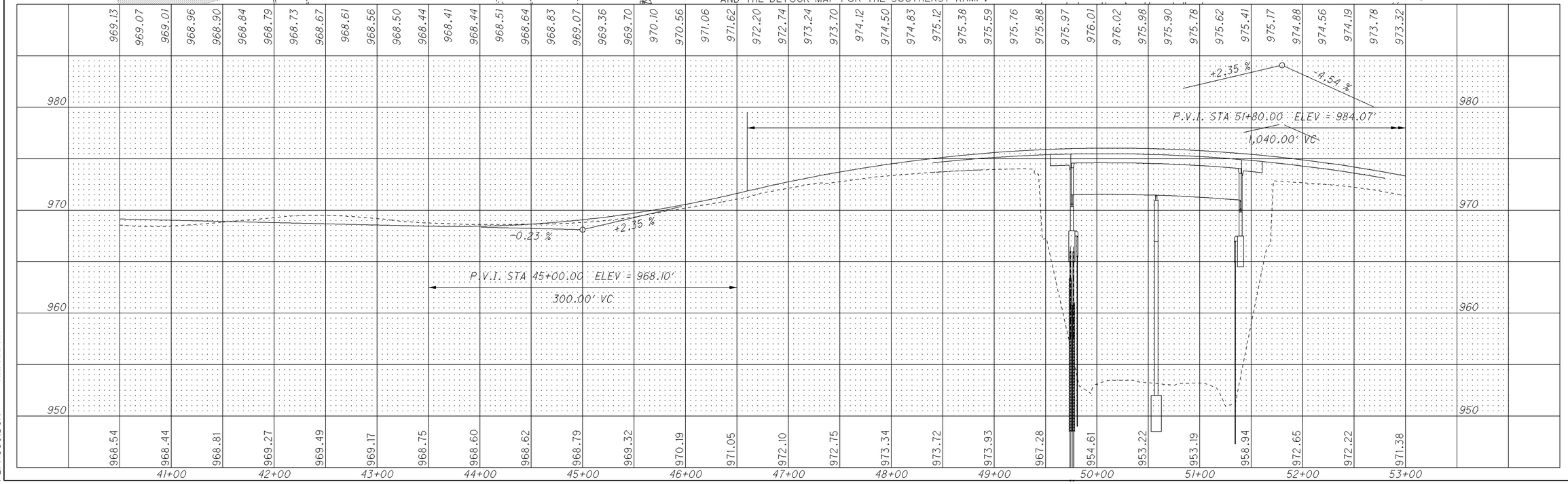
NOTE:
ACCESS TO DRIVES WILL BE MAINTAINED AT ALL TIMES. QUANTITIES HAVE BEEN PROVIDED ITEM 410 AND ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC. (SEE SEQUENCE OF CONSTRUCTION FOR ADDITIONAL DETAILS)

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW)

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON S.R. 158 IN THE AREA OF THE SOUTHEAST RAMP THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED PAVEMENT TO ALLOW TRAFFIC TO THE SOUTHEAST RAMP. (AFTER S.R. 158 PAVEMENT HAS BEEN CONSTRUCTED AND OPENED TO TRAFFIC SOUTH THE TRUCK STOP).
THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE SOUTHEAST RAMP PAVEMENT.
FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF OPERATIONS (PHASE 3) AND THE DETOUR MAP FOR THE SOUTHEAST RAMP.

NOTE:
WORK ON I.R. 70 WILL BE PERFORMED AS PER THE LANE VALUE GENERAL NOTE, SEE SHEET 21.

CONSTRUCTION LIMITS



PLPR050.DGN XX/XX/XX

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED J.C. CHECKED R.J.G.

MAINTENANCE OF TRAFFIC S.R. 158 & I.R. 70
PHASE 1
STA. 40+50.00 TO STA. 53+00.00

LIC-158-0.56

38
219

CONSTRUCTION LIMITS

NORTHWEST RAMP

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)

DRUMS SPACED @ 20' C/C

11' LANE

MATCH LINE STA. 53+00.00

+90

60' RAD.

+20

+00

50' RAD.

9' MIN. 10' MAX. LANE

+50

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

DRUMS SPACED @ 10' C/C

+63

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW)

M6-4-30 STA. 719+35

NORTHEAST RAMP

CONSTRUCTION LIMITS

KELLER RD.

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)

TO U.S. 40 (WEST OF KIRKERSVILLE)

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON N. S.R. 158 IN THE AREA OF THE NORTHWEST RAMP, THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR THE NORTHWEST RAMP TRAFFIC. THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE PAVEMENT IN THIS AREA. FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF CONSTRUCTION AND THE DETOUR MAP.

END PROJECT & WORK PAVEMENT REMOVAL AND REPLACEMENT STA. 61+30.00 ℄ SURVEY & CONSTRUCTION S.R. 158

FED. NO. E080950

DRUMS SPACED @ 10' C/C

FIELD DRIVE

NOTE:
ACCESS TO DRIVES WILL BE MAINTAINED AT ALL TIMES. QUANTITIES HAVE BEEN PROVIDED ITEM 410 AND ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC. (SEE SEQUENCE OF CONSTRUCTION FOR ADDITIONAL DETAILS)

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

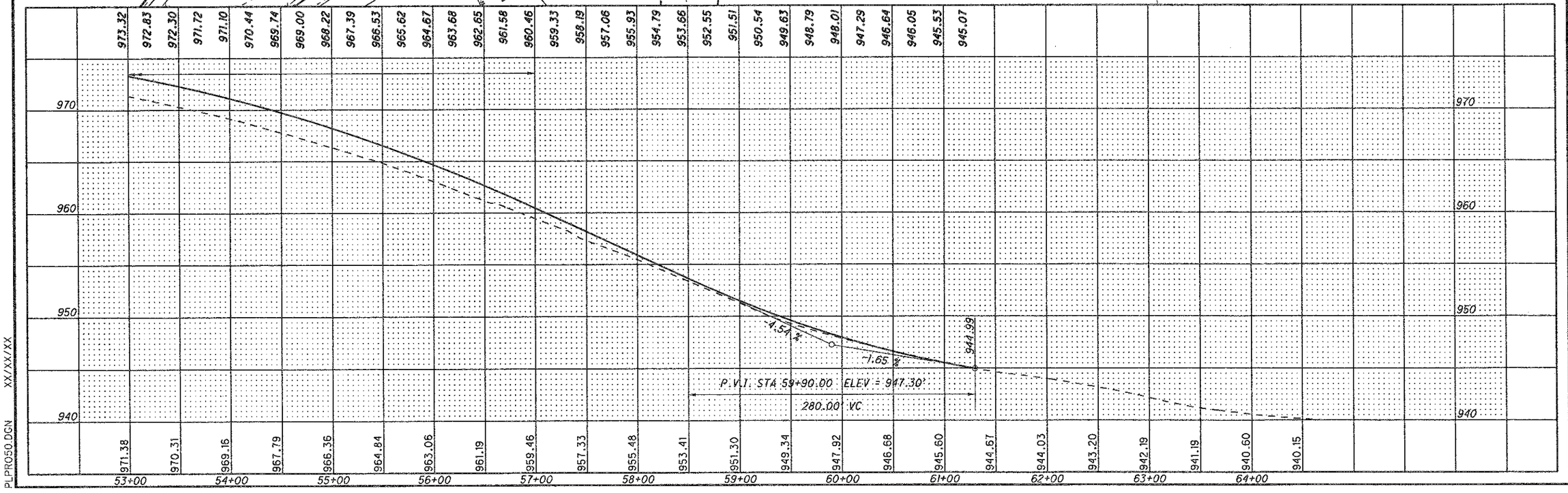
TO U.S.R. 40 (KIRKERSVILLE)

℄ SURVEY & CONSTRUCTION S.R. 158

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON S.R. 158 FROM STA. 58+00 TO STA. 61+30, THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR TRAFFIC. THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE PAVEMENT IN THIS AREA. FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF CONSTRUCTION AND THE DETOUR MAP.

R3-2-30

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON S.R. 158 AT THE INTERSECTION OF KELLER RD., THE CONTRACTOR SHALL CONSTRUCT THE PAVEMENT AS DIRECTED BY THE PROJECT ENGINEER ALONG WITH THE CONTRACTORS CONSTRUCTION SCHEDULE. INTERSECTION TO BE CONSTRUCTED WHILE CONSTRUCTING KELLER RD. FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF CONSTRUCTION



CALCULATED J.C.
CHECKED R.J.C.

HORIZONTAL SCALE IN FEET
0 50 100

MAINTENANCE OF TRAFFIC S.R. 158
PHASE 1
STA. 53+00.00 TO STA. 60+50.00

LIC-158-0.56

39
219

PLPRO50.DGN XX/XX/XX

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON S.R. 158 IN THE AREA OF THE SOUTHWEST RAMP THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR SOUTHWEST RAMP TRAFFIC. THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE PAVEMENT IN THIS AREA. FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF OPERATIONS (PHASE 4) AND THE DETOUR MAP FOR THE SOUTHWEST RAMP. (CLOSED RAMP AS PER STANDARD DRAWING MT-101.60)

NOTE:
THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL CLOSE THE EXIT RAMP AS PER STANDARD CONSTRUCTION DRAWING MT-98.29. FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF OPERATIONS (PHASE 4) AND THE DETOUR MAP FOR THE SOUTHWEST RAMP.

NOTE:
TEMPORARY STRIPING QUANTITIES ARE PROVIDED TO STRIP S.R. 158 AS PER THE TRAFFIC CONTROL SHEETS 147 & 148.

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON THE SOUTHEAST RAMP THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR SOUTHEAST RAMP TRAFFIC. THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE PAVEMENT IN THIS AREA. FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF OPERATIONS (PHASE 3) AND THE DETOUR MAP FOR THE SOUTHEAST RAMP. THE PROPOSED PAVEMENT ON S.R. 158 MUST BE COMPLETED AND OPENED TO TRAFFIC SOUTH OF THE TRUCK STOP BEFORE THE SOUTHEAST RAMP WORK CAN BE STARTED. (CLOSED RAMP AS PER STANDARD DRAWING MT-101.60)

RESIDENCE DRIVE
COMM. DRIVE
COMM DRIVE
MATCH LINE STA. 40+50.00 (SEE SHEETS 147 & 148)
MATCH LINE STA. 53+00.00
PC Sta. 43+99.04
PT Sta. 45+32.37
SOUTHWEST RAMP
SOUTHEAST RAMP
EASTBOUND LANES
WESTBOUND LANES
I.R. 70
℄ SURVEY AND CONSTRUCTION S.R. 158
℄ SURVEY & CONST. S.R. 158 STA. 50+57.68 = ℄ SURVEY & CONST. I.R. 70 STA. 719+95.26
ITEM 614 WORK ZONE CENTERLINE, CLASS 1, 642 PAINT (YELLOW)
DRUMS SPACED @ 10' C/C
GATE AND BARRICADE AS PER STD. DRWG. MT-101.60
ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)
11' LANE
11' LANE
ITEM 614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)
PC 614 720+99.45
ITEM 614 WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT (WHITE)
ITEM 614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT
ITEM 622 PORTABLE CONCRETE BARRIER, 32"
ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED - (NOT ANCHORED) (STA. 49+50 TO STA. 51+70)
CONSTRUCTION LIMITS

969.13 969.07 969.01 968.96 968.90 968.84 968.79 968.73 968.67 968.61 968.56 968.50 968.44 968.41 968.44 968.51 968.64 968.83 969.01 969.35 969.70 970.10 970.55 971.06 971.62 972.20 972.74 973.24 973.70 974.12 974.50 974.83 975.12 975.38 975.59 975.76 975.88 975.97 976.01 976.02 975.98 975.90 975.79 975.62 975.41 975.17 974.88 974.56 974.19 973.78 973.32

968.54 968.44 968.81 969.27 969.49 969.17 968.75 968.60 968.62 968.79 969.32 970.19 971.05 972.10 972.75 973.34 973.72 973.93 967.28 954.61 953.22 953.19 958.94 972.65 972.22 971.38

980 970 960 950

0.23 % +2.35 % +2.35 % -4.54 %

P.V.I. STA 45+00.00 ELEV = 968.10'
300.00' VC

P.V.I. STA 51+80.00 ELEV = 984.07'
1,040.00' VC

41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00

HORIZONTAL SCALE IN FEET 0 50 100

CALCULATED J.C. CHECKED R.J.G.

MAINTENANCE OF TRAFFIC S.R. 158
PHASE 2
STA. 40+50.00 TO STA. 53+00.00

LIC-158-0.56

40/219

PLPR050.DGN XX/XX/XX

NORTHWEST RAMP
(CONSTRUCTED DURING PHASE 1)

CONSTRUCTION LIMITS

ITEM 614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

DRUMS SPACED @ 10' C/C

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (BIDIRECTIONAL)

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

R1-1-48 STA. 53+80

R1-1-48 STA. 719+40

R1-1-48

NORTHEAST RAMP

NORTHWEST RAMP

TO I-70 (WESTBOUND LANES)

N 73° 09' 50" E

MATCH LINE STA. 53+00.00

11' LANE

11' LANE

60' RAD.

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW)

ITEM 614 WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)

ITEM 622 PORTABLE CONCRETE BARRIER, 32"

ITEM 614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE)

KELLER RD.

TO U.S.R. 40 (WEST DE KIRKERSVILLE)

S 66° 35' 33" E

11' LANE

N 3° 08' 27" E

PC Sta. 717+84.85

R5-1-36
STA. 57+20

DO NOT ENTER

END PROJECT & WORK
PAVEMENT REMOVAL AND REPLACEMENT
STA. 61+30.00
℄ SURVEY & CONSTRUCTION
S.R. 158

FED. NO. E080950

DRUMS SPACED @ 10' C/C

FIELD DRIVE

ITEM 614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT

GATE AND BARRICADE AS PER STD. DRWG. MT-101.60

POT Sta. 65+00.00

TO U.S.R. 40 (KIRKERSVILLE)

℄ SURVEY & CONSTRUCTION S.R. 158

R3-2-30

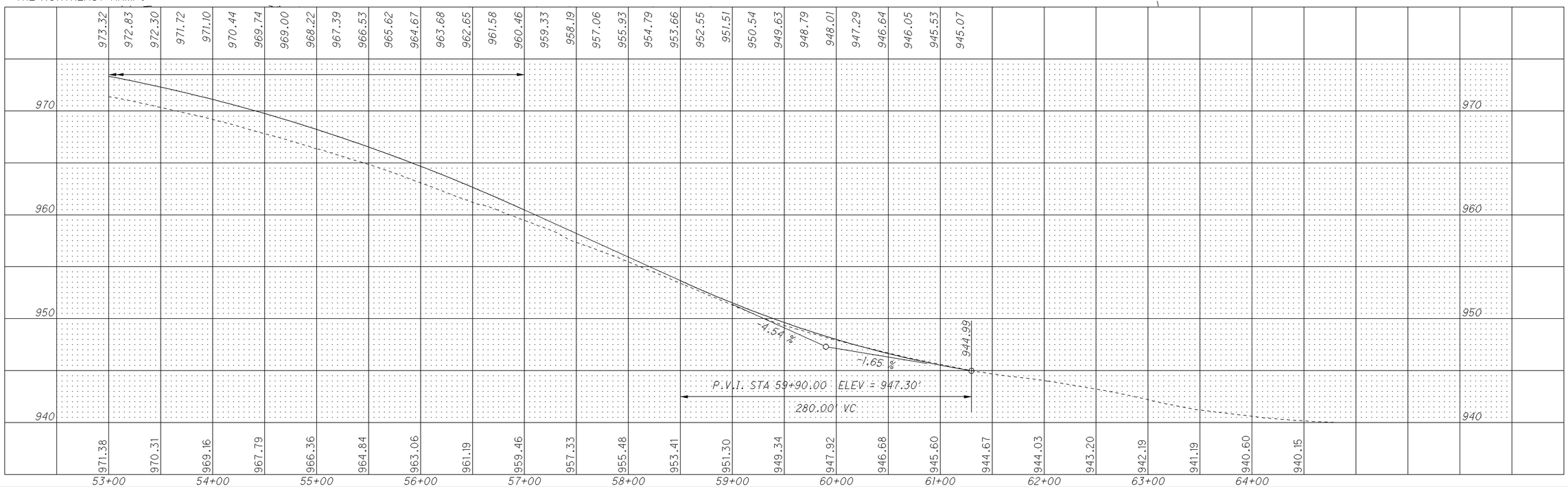
NOTE:
ACCESS TO DRIVES WILL BE MAINTAINED AT ALL TIMES. QUANTITIES HAVE BEEN PROVIDED ITEM 410 AND ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC. (SEE SEQUENCE OF CONSTRUCTION FOR ADDITIONAL DETAILS)

NOTE:
S.R. 158 FROM STA. 58+00 TO STA. 61+30, THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR TRAFFIC UNTIL S.R. 158 FROM STA. 55+00 TO STA. 57+20 HAS BEEN COMPLETED AND OPENED TO TRAFFIC.
FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF CONSTRUCTION AND THE DETOUR MAP.

NOTE:
THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL CLOSE THE EXIT RAMP AS PER STANDARD CONSTRUCTION DRAWING MT-98.29.
FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF OPERATIONS (PHASE 2) AND THE DETOUR MAP FOR THE NORTHEAST RAMP.

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON THE NORTHEAST RAMP THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL DETOUR NORTHEAST RAMP TRAFFIC.
THE CONTRACTOR SHALL HAVE 21 (TWENTY-ONE) CONSECUTIVE DAYS TO CONSTRUCT THE PAVEMENT IN THIS AREA.
FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF OPERATIONS (PHASE 2) AND THE DETOUR MAP FOR THE NORTHEAST RAMP.

NOTE:
FOR CONSTRUCTION OF THE PAVEMENT ON S.R. 158 FROM STA. 55+00± TO STA. 57+20±, THE CONTRACTOR AS DIRECTED BY THE PROJECT ENGINEER SHALL CONSTRUCTED THE PROPOSED PAVEMENT.
THE CONTRACTOR SHALL OPEN S.R. 158 TO TRAFFIC AFTER THE PAVEMENT IN THIS AREA HAS BEEN COMPLETED AND TRAFFIC CONTROL DEVICES HAS BEEN NSTALLED.
FOR ADDITIONAL DETAILS, SEE THE SEQUENCE OF CONSTRUCTION AND THE DETOUR MAP.



HORIZONTAL SCALE IN FEET
0 50 100

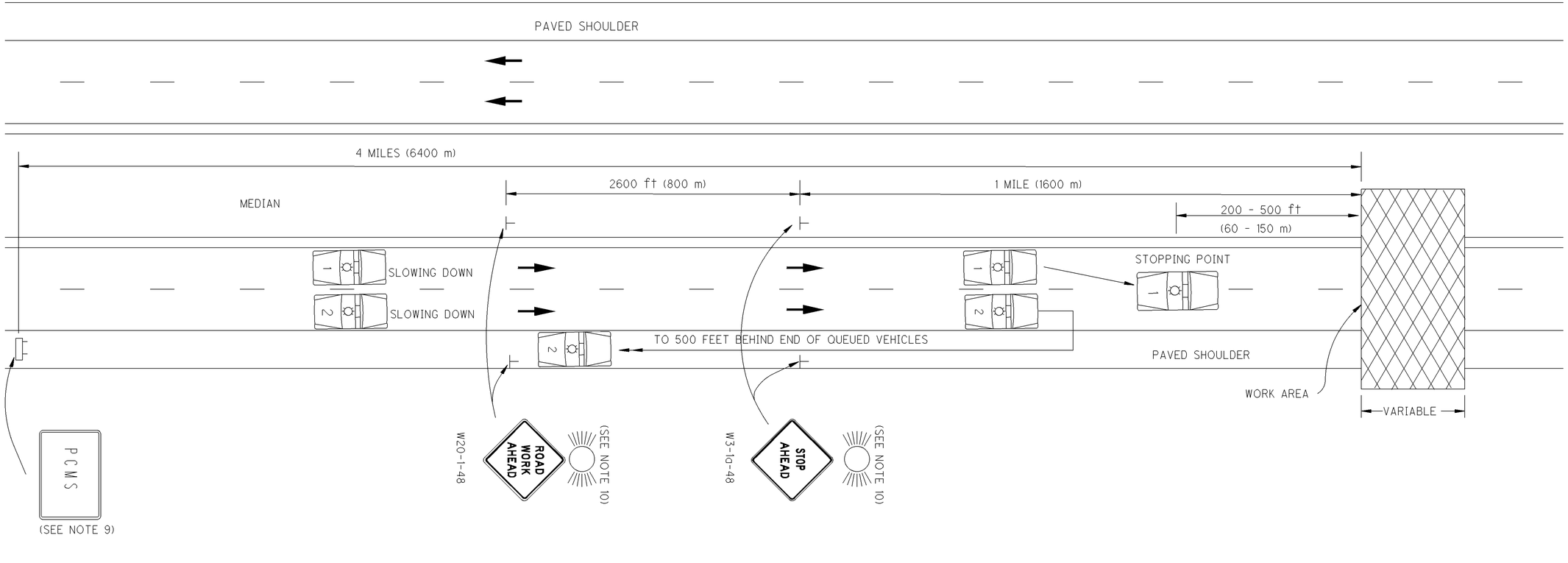
CALCULATED J.C.
CHECKED R.J.G.

MAINTENANCE OF TRAFFIC S.R. 158 PHASE 2 STA. 53+00.00 TO STA. 60+50.00

LIC-158-0.56

41
219

PLPR050.DGN XX/XX/XX



1. This type of highway closure shall be used for all construction, maintenance and utility operations when the duration of closure will not exceed 15 minutes.

2. A minimum of two Law Enforcement Officers (LEO) with patrol cars per direction shall be provided to block traffic and pace motorists to a stop. The number of patrol cars shall equal the number of lanes closed on the highway.

3. Patrol cars, with lights flashing, should enter the stream of traffic at approximately 3 miles before the point of closure. At approximately 2 miles before the point of closure, they should begin the gradual slow down. Traffic shall be brought to a complete stop a safe distance, between 200 and 500 feet (60 and 150 m), from the work area. This slowing operation shall take no more than 10 minutes. After traffic has been stopped, one patrol car shall travel along the roadway shoulder 500 feet (150 m) behind the end of the queued vehicles.

4. The Contractor shall not begin work until traffic has been brought to a complete stop.

5. All entrance ramps located between the stopped traffic and the work area shall be closed.

6. After the highway has been closed and reopened via this procedure, both of the following requirements shall have been met before implementation of another short duration closure, except with the approval of the Engineer:
   A. A minimum period of 15 minutes shall have elapsed
   B. The queued traffic shall have dissipated

7. The time frame for stopping traffic shall be specified.

8. The public shall be given advance notice of the upcoming closure by providing Portable Changeable Message signs at the site in advance of the scheduled closing. Closure information should also be provided to the Engineer.

9. An ODOT approved Portable Changeable Message Sign, Class 1, shall be provided during operation. The message sign shall be placed at approximately 4 miles (6400 meters) in advance of the closure or as directed by the Engineer. The message sign shall read "ROAD CLOSED AHEAD" (2 sec.), "PREPARE TO STOP" (2 sec.)

10. The Contractor shall erect and maintain 48 inch "ROAD WORK AHEAD" and "STOP AHEAD" signs on each side of the highway. Each sign shall be equipped with one Type A flashing warning light and one flare. There shall be one flare at each sign on both sides of the roadway. The flare shall be replaced if it burns out.

SHORTDURATION.DGN 9-20-2011

OFFICE OF TRAFFIC ENGINEERING

DESIGNED SHB | REVIEWED LAM

REVISION DATE 10/15/10 | CHECKED

PID NUMBER 209960

PLAN INSERT SHEET

SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY

LIC-158-0.56

SHEET NUMBER																		PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
18	19	20		48	49	50	51		53	53A		87	94	142	144	181	210	FED./STATE 90/10	FED./STATE 80/20						
																								ROADWAY	
LUMP																		LUMP		201	11000	LUMP		CLEARING AND GRUBBING	
														4	2			4	2	202	20010	6	EACH	HEADWALL REMOVED	
					1,121	3,679	3,387		1,017									9,204		202	23000	9,204	SQ. YD.	PAVEMENT REMOVED	
				6,531														4,451	2,080	202	23010	6,531	SQ. YD.	PAVEMENT REMOVED, ASPHALT	
										112								112		202	30700	112	FT.	CONCRETE BARRIER REMOVED	
									24									24		202	32000	24	FT.	CURB REMOVED	
														446				276	170	202	35100	446	FT.	PIPE REMOVED, 24" AND UNDER	
															70				70	202	35200	70	FT.	PIPE REMOVED, OVER 24"	
										2,050								2,050		202	38000	2,050	FT.	GUARDRAIL REMOVED	
														1				1		202	58000	1	EACH	MANHOLE REMOVED	
		850																850		202	75000	850	FT.	FENCE REMOVED	
		1																1		SPECIAL	20266000	1	EACH	DRILLED WATER WELL ABANDONED	20
									344				23,737					11,990	12,091	203	10000	24,081	CU. YD.	EXCAVATION	
													10,143					9,732	411	203	20000	10,143	CU. YD.	EMBANKMENT	
												648						648		203	35120	648	CU. YD.	GRANULAR MATERIAL, TYPE C	
				13,993	2,719	6,460	6,066		1,756									28,714	2,280	204	10000	30,994	SQ. YD.	SUBGRADE COMPACTION	
	11																	10	1	204	45000	11	HOUR	PROOF ROLLING	
																	8	1	7	604	40500	8	EACH	REFERENCE MONUMENT	
																	10	7	3	604	40520	10	EACH	RIGHT-OF-WAY MONUMENT	
										1,550								1,200	350	606	13000	1,550	FT.	GUARDRAIL, TYPE 5	
										175								175		606	15500	175	FT.	GUARDRAIL, BARRIER DESIGN, TYPE 5	
										9								5	4	606	26100	9	EACH	ANCHOR ASSEMBLY, TYPE E	
										3								3		606	26500	3	EACH	ANCHOR ASSEMBLY, TYPE T	
										2								2		606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
										2								2		606	35100	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
										2								2		606	60012	2	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	
		550																550		607	15000	550	FT.	FENCE, TYPE 47	
	25																	25		SPECIAL	69065010	25	TON	WORK INVOLVING SOLID WASTE	20
																								EROSION CONTROL	
												127						127		653	10000	127	CU. YD.	TOPSOIL FURNISHED AND PLACED	
													44,299					34,945	9,354	659	00510	44,299	SQ. YD.	SEEDING AND MULCHING, CLASS 2	
	2,216																	2,096	120	659	14000	2,216	SQ. YD.	REPAIR SEEDING AND MULCHING	
	2,216																	2,096	120	659	15000	2,216	SQ. YD.	INTER-SEEDING	
	8																	7	1	659	20000	8	TON	COMMERCIAL FERTILIZER	
	10																	9	1	659	31000	10	ACRE	LIME	
	279																	229	50	659	35000	279	M. GAL.	WATER	
																1,391		1,391		671	15000	1,391	SQ. YD.	EROSION CONTROL MAT, TYPE A	
																		LUMP		832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
																		100,000		832	30000	100,000	EACH	EROSION CONTROL	

CALCULATED J.C.
CHECKED R.G.

GENERAL SUMMARY

LIC-158-0.56

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
20		48	49	50	51	52	53		142	144		FED./STATE 90/10	FED./STATE 80/20						
																		DRAINAGE	
										17			17	601	11000	17	SQ.YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
										23			23	601	32100	23	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
	5								143			143	5	601	32200	148	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
									2	6		6	2	602	20000	8	CU.YD.	CONCRETE MASONRY	
	200								156			156	200	603	00900	356	FT.	6" CONDUIT, TYPE B	
	200												200	603	01400	200	FT.	6" CONDUIT, TYPE E	
	200								414			414	200	603	01500	614	FT.	6" CONDUIT, TYPE F	
									133				133	603	04900	133	FT.	12" CONDUIT, TYPE D	
									49			49		603	06100	49	FT.	15" CONDUIT, TYPE C	
									178			178		603	06400	178	FT.	15" CONDUIT, TYPE D	
									93			93		603	06700	93	FT.	15" CONDUIT, TYPE F, 707.05, TYPE C	
									75			75		603	07200	75	FT.	18" CONDUIT, TYPE A	
									68			68		603	07900	68	FT.	18" CONDUIT, TYPE D	
									35			35		603	10900	35	FT.	24" CONDUIT, TYPE D	
										78			78	603	26000	78	FT.	72" CONDUIT, TYPE A, 706.02 OR 78" CONDUIT, TYPE A 707.01 GALVANIZED OR	
																		ALUMINUM (0.168), 707.02 GALVANIZED OR ALUMINUM (0.109) OR 707.12 (0.109)	
									4			4		604	00401	4	EACH	CATCH BASIN, NO. 3, AS PER PLAN	20
									2			2		604	34500	2	EACH	MANHOLE ADJUSTED TO GRADE	
									20			16	4	604	36600	20	EACH	PRECAST REINFORCED CONCRETE OUTLET	
									10,938			9,977	961	605	11100	10,938	FT.	6" SHALLOW PIPE UNDERDRAINS, 30" DEEP	
									160			160		605	11100	160	FT.	6" SHALLOW PIPE UNDERDRAINS, 707.32, TYPE CP OR 707.41	
									100			100		605	13300	100	FT.	6" UNCLASSIFIED PIPE UNDERDRAINS	
	300												300	605	13402	300	FT.	6" UNCLASSIFIED PIPE UNDERDRAINS. FOR SPRINGS	
									3,184			955	2,229	605	14000	3,184	FT.	6" BASE PIPE UNDERDRAINS, 18" DEEP	
	300											300		605	32200	300	FT.	AGGREGATE DRAINS FOR SPRINGS	
																		PAVEMENT	
						45,832						45,832		254	01000	45,832	SQ. YD.	PAVEMENT PLANING, ASPHALT CONCRETE	
			1,174	408								808	774	301	46000	1,582	CU. YD.	ASPHALT CONCRETE BASE, PG64-22	
			2,291	396	1,010	946		344				4,456	531	304	20000	4,987	CU. YD.	AGGREGATE BASE	
			349	123			3,438					3,751	159	407	10000	3,910	GALLON	TACK COAT	
			233	82			2,292					2,483	124	407	14000	2,607	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
							1,910					1,910		442	10000	1,910	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446)	
							2,228					2,228		442	10100	2,228	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
			226	80								218	88	446	46040	306	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28	
			194	68								111	151	446	50000	262	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	
								1,017					1,017	452	12000	1,017	SQ. YD.	8" NON-REINFORCED CONCRETE PAVEMENT	
			8,903	569	5,830	5,478						20,780		452	14000	20,780	SQ. YD.	10" NON-REINFORCED CONCRETE PAVEMENT	
			20	20								40		609	24000	40	FT.	CURB, TYPE 4-A	
																		WATER WORKS	
									10			10		638	01000	10	FT.	6" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, ASTM SDR 26	
									1			1		638	10600	1	EACH	FIRE HYDRANT AND GATE VALVE REMOVED AND RESET	
	1											1		638	10800	1	EACH	VALVE BOX ADJUSTED TO GRADE	

CALCULATED J.C.
CHECKED R.G.

GENERAL SUMMARY

LIC-158-0.56

84T00_GGS_001.DGN 10-13-2011

SHEET NUMBER															PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
19			53A		158B		160	163							FED./ STATE 90/10	FED./ STATE 80/20						
																					TRAFFIC CONTROL	
3.52															3.52		618	40600	3.52	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
							250								225	25	621	00100	250	EACH	RPM	
163															138	25	621	54000	163	EACH	RAISED PAVEMENT MARKER REMOVED	
					315										315		625	23306	315	FT.	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	
					85										85		625	25402	85	FT.	CONDUIT, 2", 725.05	
					60										60		625	29200	60	FT.	TRENCH, 48" DEEP	
					2										2		625	30700	2	EACH	PULL BOX, 725.08, 18"	
					2										2		625	32000	2	EACH	GROUND ROD	
					1										1		625	34001	1	EACH	POWER SERVICE, AS PER PLAN	158A
					60										60		625	36000	60	FT.	PLASTIC CAUTION TAPE	
			64												53	11	626	00100	64	EACH	BARRIER REFLECTOR	
								293							120	173	630	02100	293	FT.	GROUND MOUNTED SUPPORT, NO. 2 POST	
								168							168		630	03100	168	FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
								186							186		630	06500	186	FT.	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
					46										46		630	07500	46	FT.	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	
								36							36		630	07600	36	FT.	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
								6							6		630	08600	6	EACH	SIGN POST REFLECTOR	
					2			14							16		630	09000	16	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
								56							46	10	630	80100	56	SQ. FT.	SIGN, FLAT SHEET	
					171										171		630	81201	171	SQ. FT.	SIGN ERECTED, EXTRUSHEET, AS PER PLAN	158A
					2			14							16		630	84500	16	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
								2							2		630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
								72							61	11	630	85100	72	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
								41							27	14	630	86002	41	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
								14							14		630	86102	14	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
							4.19								3.77	0.42	644	00100	4.19	MILE	EDGE LINE	
							1.94								1.94		644	00200	1.94	MILE	LANE LINE	
							0.39									0.39	644	00300	0.39	MILE	CENTER LINE	
							2,116								2,116		644	00400	2,116	FT.	CHANNELIZING LINE	
							31								31		644	00500	31	FT.	STOP LINE	
							302								302		644	00700	302	FT.	TRANSVERSE/DIAGONAL LINE	
							2								2		644	01300	2	EACH	LANE ARROW	
							1.99								1.79	0.20	646	10000	1.99	MILE	EDGE LINE	
							0.30									0.30	646	10200	0.30	MILE	CENTER LINE	
							1,801								1,801		646	10300	1,801	FT.	CHANNELIZING LINE	
							154								154		646	10400	154	FT.	STOP LINE	
							118								118		646	10600	118	FT.	TRANSVERSE/DIAGONAL LINE	
							70								70		646	10800	70	SQ.FT.	ISLAND MARKING	
							20								20		646	20300	20	EACH	LANE ARROW	
							6								6		646	20400	6	EACH	WORD ON PAVEMENT, 72"	

CALCULATED J.C.
CHECKED R.G.

GENERAL SUMMARY

LIC-158-0.56

SHEET NUMBER													PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								174		198			FED./STATE 90/10	FED./STATE 80/20						
																			TRAFFIC SIGNALS	
								740					740		625	25400	740	FT.	CONDUIT, 2", 725.04	
								4,262					4,262		625	25402	4,262	FT.	CONDUIT, 2", 725.05	
								441					441		625	25502	441	FT.	CONDUIT, 3", 725.05	
								168					168		625	25902	168	FT.	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
								4,598					4,598		625	29003	4,598	FT.	TRENCH, 24" DEEP, AS PER PLAN	163C
										4			4		625	29920	4	EACH	STRUCTURE JUNCTION BOX	
								24					24		625	30700	24	EACH	PULL BOX, 725.08, 18"	
								10					10		625	30706	10	EACH	PULL BOX, 725.08, 24"	
								8					8		625	32001	8	EACH	GROUND ROD, AS PER PLAN	163C
								1					1		625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
								10					10		632	04911	10	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACK PLATE, AS PER PLAN	163B
								2					2		632	04921	2	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 5-SECTION, 12" LENS, 1-WAY, WITH BACK PLATE, AS PER PLAN	163B
								12					12		632	25000	12	EACH	COVERING OF SIGNAL HEAD	
								25					25		632	26500	25	EACH	DETECTOR LOOP	
								689					689		632	30300	689	FT.	MESSENGER WIRE, 7 STRAND, 7/16" DIAMETER WITH ACCESSORIES	
								689					689		632	30600	689	FT.	TETHER WIRE, WITH ACCESSORIES	
								878					878		632	40700	878	FT.	SIGNAL CABLE, 7 CONDUCTOR, NO.14 AWG	
								991					991		632	53202	991	FT.	INTERCONNECT CABLE, 6 PAIR, NO.19, SOLID, REA (PE-39)	
								8					8		632	64000	8	EACH	STRAIN POLE FOUNDATION	
								7,983					7,983		632	65200	7,983	FT.	LOOP DETECTOR LEAD-IN CABLE	
								1,182					1,182		632	69400	1,182	FT.	SERVICE CABLE, 2 CONDUCTOR, NO.8 AWG	
								1					1		632	70001	1	EACH	POWER SERVICE, AS PER PLAN	163B
								8					8		632	83000	8	EACH	STRAIN POLE, TC-81.10, DESIGN 10	
								2					2		632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	163B
								2					2		633	01681	2	EACH	CONTROLLER UNIT, TYPE 2070L, WITH CABINET, TYPE 332, AS PER PLAN	163B
								2					2		633	67000	2	EACH	CABINET RISER	
								2					2		633	67101	2	EACH	CABINET FOUNDATION, AS PER PLAN	163B
								2					2		633	67200	2	EACH	CONTROLLER WORK PAD	
								2					2		633	75001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	163B

CALCULATED J.C.
CHECKED R.G.

GENERAL SUMMARY

LIC-158-0.56

84700_GGS_001.DGN 10-13-2011

SHEET NUMBER													PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
19	21	22	23	24	25		32				36		FED./STATE 90/10	FED./STATE 80/20						
																			MAINTENANCE OF TRAFFIC	
	50												50		410	12000	50	CU.YD.	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
	100												100		410	13000	100	CU.YD.	TRAFFIC COMPACTED SURFACE, TYPE C	
			250										250		614	11110	250	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
					18								18		614	11500	18	MONTH	WORKSITE TRAFFIC SUPERVISOR	
											8		8		614	12338	8	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL) 24" HAZARDS	
											7		7		614	12346	7	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) 24" HAZARDS	
							LUMP						LUMP		614	12420	LUMP		DETOUR SIGNING	
			6										6		614	12500	6	EACH	REPLACEMENT SIGN	
			25										25		614	12600	25	EACH	REPLACEMENT DRUM	
	100												100		614	13000	100	CU.YD.	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
											70		70		614	13300	70	EACH	BARRIER REFLECTOR, TYPE B	
											70		70		614	13350	70	EACH	OBJECT MARKER, ONE WAY	
		2,700											2,700		614	18401	2,700	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	22
											3.60		3.60		614	20100	3.60	MILE	WORK ZONE LANE LINE, CLASS 1, 642 PAINT	
											1.37		1.18	0.19	614	21100	1.37	MILE	WORK ZONE CENTER LINE, CLASS 1, 642 PAINT	
											11.24		10.86	0.38	614	22100	11.24	MILE	WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	
											8,015		8,015		614	23200	8,015	FT.	WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	
											360		360		614	24200	360	FT.	WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT	
											309		309		614	26200	309	FT.	WORK ZONE STOP LINE, CLASS 1, 642 PAINT	
											23		23		614	30200	23	EACH	WORK ZONE ARROW, CLASS 1, 642 PAINT	
											9		9		614	31200	9	EACH	WORK ZONE WORD ON PAVEMENT, 72", CLASS 1, 642 PAINT	
				3									3		614	40051	3	EACH	BUSINESS ENTRANCE SIGN, AS PER PLAN	24
			LUMP										LUMP		615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
			3,531										3,531		615	20000	3,531	SQ.YD.	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
136													136		616	10000	136	M. GAL.	WATER	
											2,860		2,860		622	40020	2,860	FT.	PORTABLE CONCRETE BARRIER, 32"	
											440		440		622	40040	440	FT.	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
																			FOR STRUCTURE - LIC-158-0097 QUANTITIES, SEE SHEET 181	
													LUMP		SPECIAL	10810000	LUMP		CPM PROGRESS SCHEDULE	
	LUMP												LUMP		614	11000	LUMP		MAINTAINING TRAFFIC	
													18		619	16020	18	MONTH	FIELD OFFICE, TYPE C	
													LUMP		623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
													LUMP		624	10000	LUMP		MOBILIZATION	

CALCULATED J.C.
CHECKED R.G.

GENERAL SUMMARY

LIC-158-0.56

84700_GGS_001.DGN 10-13-2011

STATION TO STATION ℄ SURVEY AND CONSTRUCTION S.R. 158	SIDE	LENGTH	PAVEMENT WIDTH	PAVEMENT AREA (* BY COMPUTER)	202 PAVEMENT REMOVED, ASPHALT CONCRETE	204 SUBGRADE COMPACTION	304 6" AGGREGATE BASE	301 9" ASPHALT CONCRETE BASE, PG 64-22	452 10" NON-REINFORCED CONCRETE PAVEMENT	407 TACK COAT @ 0.075 GAL./SQ. YD.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.050 GAL./SQ. YD.	446 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H	446 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28		609 CURB, TYPE 4-A
		FT.	FT.	SQ. YD.	SQ. YD.	SQ. YD.	CU.YD.	CU. YD.	SQ. YD.	GAL.	GAL.	CU. YD.	CU. YD.		FT.
S.R. 158															
STA. 29+00.00 - STA. 30+00.00		100.00	21.70 AVG.	241.1	222.2	241.1	40.2	60.3		18.1	12.1	10.0	11.7		
STA. 30+00.00 - STA. 35+40.00		540.00	24.0	1,440.0	1,200.0	1,440.0	240.0	360.0		108.0	72.0	60.0	70.0		
STA. 35+40.00 - STA. 38+35.00		295.00	30.00 AVG.	983.3	655.6	983.3	163.9	245.8		73.7	49.2	41.0	47.8		
STA. 38+35.00 - STA. 45+71.55		736.55	36.0	2,946.2	1,636.8	2,946.2	491.0		2,946.2						
STA. 45+71.55 - STA. 46+99.38		127.83	48.00 AVG.	681.8	284.1	681.8	113.6		681.8						
STA. 46+99.38 - STA. 49+50.63		251.25	60.0	1,675.0	558.3	1,675.0	279.2		1,675.0						
BRIDGE LIMITS															
STA. 49+50.63 - STA. 51+64.73		BRIDGE LIMITS (INCLUDING APPROACH SLABS)													
STA. 51+64.73 - STA. 54+00.69		235.96	60.0	1,573.1	524.4	1,573.1	262.2		1,573.1						
STA. 54+00.69 - STA. 55+28.48		127.79	48.00 AVG.	681.5	113.6	681.5	113.6		681.5						
STA. 55+28.48 - STA. 57+21.96		193.00	36.0	772.0	428.9	772.0	128.7		772.0						
STA. 57+21.96 - STA. 59+45.00		223.04	36.0	892.2	495.6	892.2	148.7	223.1		66.9	44.6	37.2	43.4		
STA. 59+45.00 - STA. 61+30.00		185.00	27.50 AVG.	565.3	411.1	565.3	94.2	141.3		42.4	28.3	23.6	27.5		
SHOULDER															
STA. 29+00.00 - STA. 29+50.00	RT.	50.00	2.0	11.1		19.4	2.6	3.2		0.8	0.6	0.5	0.6		
STA. 29+50.00 - STA. 30+00.00	RT.	50.00	3.00 AVG.	16.7		25.0	3.5	4.6		1.3	0.6	0.7	0.8		
STA. 30+00.00 - STA. 38+35.00	RT.	835.00	4.0	371.1		510.3	74.7	100.5		27.8	18.6	15.5	18.0		
STA. 38+35.00 - STA. 45+71.55	RT.	736.55	4.0	327.4		450.1	61.4		327.4						
STA.46+99.38 - STA. 49+50.63	RT.	251.25	3.0	83.8		125.6	16.3		83.8						10.0
BRIDGE LIMITS															
STA. 49+50.63 - STA. 51+64.73		BRIDGE LIMITS (INCLUDING APPROACH SLABS)													
STA. 51+64.73 - STA. 53+91.11	RT.	226.38	3.0	75.5		113.2	14.7		75.5						10.0
STA. 55+28.46 - STA. 57+21.96	RT.	193.50	4.0	86.0		118.3	16.1		86.0						
STA. 58+28.32 - STA. 60+80.00	RT.	251.68	4.0	111.9		153.8	22.5	30.3		8.4	5.6	4.7	5.4		
STA. 60+80.00 - STA. 61+30.00	RT.	50.00	3.00 AVG.	16.7		25.0	3.5	4.6		1.3	0.8	0.7	0.8		
TOTALS CARRIED TO THE GENERAL SUMMARY					6,530.6	13,992.2	2,290.6	1,173.7	8,902.3	348.7	232.4	193.9	226.0		20.0

CALCULATED J.C.

CHECKED R.G.

PAVEMENT & SHOULDER CALCULATIONS S.R. 158

LIC-158-0.56

PCS_001.DGN 12/3/2009

STATION TO STATION ℄ SURVEY AND CONSTRUCTION S.R. 158 S.R. 158 SHOULDER	SIDE	LENGTH FT.	PAVEMENT WIDTH FT.	PAVEMENT AREA (* BY COMPUTER) SQ. YD.	202 PAVEMENT REMOVED SQ. YD.	204 SUBGRADE COMPACTION SQ. YD.	304 6" AGGREGATE BASE CU.YD.	301 9" ASPHALT CONCRETE BASE, PG 64-22 CU. YD.	452 10" NON-REINFORCED CONCRETE PAVEMENT SQ. YD.	407 TACK COAT @ 0.075 GAL./SQ. YD. GAL.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.050 GAL./SQ. YD. GAL.	446 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H CU. YD.	446 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28 CU. YD.		609 CURB, TYPE 4-A FT.
STA. 29+00.00 - STA. 29+50.00	LT.														
		50.0	2.0	11.1		19.4	2.6	3.2		0.8	0.6	0.5	0.6		
STA. 29+50.00 - STA. 30+00.00	LT.														
		50.0	3.00 AVG.	16.7		25.0	3.5	4.6		1.3	0.8	0.7	0.8		
STA. 30+00.00 - STA. 38+35.00	LT.														
		835.0	4.0	371.1		510.3	74.7	100.5		27.8	18.6	15.5	18.0		
STA. 38+35.00 - STA. 45+71.54	LT.														
		736.54	4.0	327.4		450.1	61.4		327.4						
STA. 47+08.77 - STA. 49+50.63	LT.														
		241.86	3.0	80.6		120.9	15.7		80.6						10.0
BRIDGE LIMITS															
STA. 49+50.63 - STA. 51+64.73															
		BRIDGE LIMITS (INCLUDING APPROACH SLABS)													
STA. 51+64.73 - STA. 54+00.69	LT.														
		235.96	3.0	78.7		118.0	15.3		78.7						10.0
STA. 55+28.48 - STA. 57+13.02	LT.														
		184.54	4.0	82.0		112.8	15.4		82.0						
STA. 58+39.59 - 60+80.00	LT.														
		240.41	4.0	106.8		146.9	21.5	28.9		8.0	5.3	4.5	5.2		
STA. 60+80.00 - STA. 61.30.00	LT.														
		50.0	3.00 AVG.	16.7		25.0	3.5	4.6		1.3	0.8	0.7	0.8		
APPROACHES															
S.R. 158 (WEST)															
STA. 532+10.43 - STA. 532+60.43		50.0	VARIES	*267.0	280.0	267.0	44.5	66.8		20.0	13.4	11.1	13.0		
(RADIUS) STA. 532+10.43 - STA. 532+60.43	RT.	78.54	4.0	34.9		48.0	7.0	9.5		2.6	1.7	1.5	1.7		
(RADIUS) STA. 532+10.43 - STA. 532+60.43	LT.	78.54	4.0	34.9		48.0	7.0	9.5		2.6	1.7	1.5	1.7		
KELLER ROAD															
STA. 717+41.21 - STA. 717+76.21		35.0	VARIES	*200.0	271.0	200.0	33.3	50.0		15.0	10.0	8.3	9.7		
STA. 717+76.2 - STA. 719+50.00		173.79	29.50 AVG.	569.6	569.6	627.6	89.9	129.9		42.7	28.5	23.7	27.7		
TOTALS CARRIED TO THE GENERAL SUMMARY					1,120.6	2,719.0	395.3	407.5	568.7	122.1	81.4	68.0	79.2		20.0

CALCULATED J.C.
CHECKED R.G.

PAVEMENT, SHOULDER & APPROACH ROAD CALCULATIONS S.R. 158

LIC-158-0.56

PCS_001.DGN 12/3/2009

STATION TO STATION ℄ SURVEY AND CONSTRUCTION RAMPS	SIDE	LENGTH	PAVEMENT WIDTH	PAVEMENT AREA * BY COMPUTER	202 PAVEMENT REMOVED		204 SUBGRADE COMPACTION		304 6" AGGREGATE BASE	452 10" NON-REINFORCED CONCRETE PAVEMENT						
		FT.	FT.	SQ. YD.	SQ. YD.		SQ. YD.		CU. YD.	SQ. YD.						
N.W. RAMP																
STA. 710+58.81 - STA. 719+15.23		856.42	16.0	1,522.5	1,522.5		1,522.5		253.8	1,522.5						
STA. 719+15.23 - STA. 720+01.57		86.34	VARIES	*323.0	378.0		323.0		53.8	323.0						
STA. 710+58.81 - STA. 711+00.00	LT.	41.19	7.0 AVG.	32.0			38.9		5.7	32.0						
STA. 711+00.00 - STA. 719+70.16	LT.	870.16	6.0	580.1			725.1		104.7	580.1						
(RADIUS) STA. 719+70.16 - STA. 720+01.57	LT.	61.10	5.0 AVG.	33.9			44.1		6.2	33.9						
STA. 710+58.81 - STA. 719+15.23	RT.	856.42	3.0	285.5			428.2		55.5	285.5						
(RADIUS) STA. 719+15.23 - STA. 720+01.57	RT.	96.00	3.0	32.0			48.0		8.0	32.0						
N.E. RAMP																
STA. 719+01.12 - STA. 719+98.82		97.70	VARIES	*421.0	330.0		421.0		70.2	421.0						
STA. 719+98.82 - STA. 721+00.00		222.18	24.0	589.8	395.0		589.8		98.3	589.8						
STA. 722+21.00 - STA. 722+71.00		50.00	20.0 AVG.	111.1	88.9		111.1		18.5	111.1						
STA. 722+71.00 - STA. 728+13.15		542.15	16.0	963.8	963.8		963.8		160.6	963.8						
(RADIUS) STA. 719+01.12 - STA. 719+32.17	LT.	61.10	5.0 AVG.	33.9			44.1		6.2	33.9						
STA. 719+32.17 - STA. 727+50.00	LT.	817.83	6.0	545.2			681.5		100.0	545.2						
STA. 727+50.00 - STA. 728+00.00	LT.	50.00	7.0 AVG.	38.9			47.2		6.9	38.9						
STA. 728+00.00 - STA. 728+13.15	LT.	13.15	8.0	11.7			13.9		2.1	11.7						
(RADIUS) STA. 719+01.12 - STA. 719+98.82	RT.	101.20	3.0	33.7			50.6		6.6	33.7						
STA. 719+98.82 - STA. 728+13.15	RT.	814.33	3.0	271.4			407.2		52.8	271.4						
SUB-TOTALS																
TOTALS (CARRIED TO THE GENERAL SUMMARY)					3,678.2		6,460.0		1,009.9	5,829.5						

CALCULATED J.C.

DRAWN R.G.

PAVEMENT CALCULATIONS NORTHWEST & NORTHEAST RAMPS

LIC-158-0.56

STATION TO STATION ℄ SURVEY AND CONSTRUCTION RAMPS	SIDE	LENGTH	PAVEMENT WIDTH	PAVEMENT AREA * BY COMPUTER	202 PAVEMENT REMOVED		204 SUBGRADE COMPACTION		304 6" AGGREGATE BASE	452 10" NON-REINFORCED CONCRETE PAVEMENT						
		FT.	FT.	SQ. YD.	SQ. YD.		SQ. YD.		CU. YD.	SQ. YD.						
S.W. RAMP																
STA. 712+05.41 - STA. 717+36.00		530.39	16.0	943.3	943.3		943.3		157.2	943.3						
STA. 717+36.00 - STA. 717+86.00		50.00	20.0 AVG.	111.1	88.9		111.1		18.5	111.1						
STA. 717+86.00 - STA. 720+20.25		234.25	24.0	624.7	416.4		624.7		104.1	624.7						
STA. 720+20.25 - STA. 721+17.42		97.17	VARIES	*418.0	294.0		418.0		69.7	418.0						
STA. 712+05.41 - STA. 720+20.25	LT.	814.84	3.0	271.6			407.4		52.8	271.6						
(RADIUS) STA. 720+20.25 - STA. 721+17.42	LT.	100.92	3.0	33.6			50.5		6.5	33.6						
STA. 712+05.41 - STA. 712+08.00	RT.	2.59	8.0	2.3			2.7		0.4	2.3						
STA. 712+08.00 - STA. 712+58.00	RT.	50.00	7.0 AVG.	38.9			47.2		6.9	38.9						
STA. 712+58.00 - STA. 720+85.77	RT.	827.77	6.0	551.8			689.8		99.6	551.8						
(RADIUS) STA. 720+85.77 - 721+17.42	RT.	61.10	5.0 AVG.	33.9			44.1		6.2	33.9						
S.E. RAMP																
STA. 719+53.95 - STA. 720+41.13		87.18	VARIES	*325.0	352.0		325.0		54.2	325.0						
STA. 720+41.13 - STA. 727+67.69		726.56	16.0	1,291.7	1,291.7		1,291.7		215.3	1,291.7						
(RADIUS) STA. 719+53.95 - STA. 720+41.13	LT.	96.78	3.0	32.3			48.4		6.3	32.3						
STA. 720+41.13 - STA. 727+67.69	LT.	726.56	3.0	242.2			363.3		47.1	242.2						
(RADIUS) STA. 719+53.95 - STA. 719+85.33	RT.	61.10	5.0 AVG.	33.9			44.1		6.2	33.9						
STA. 719+85.33 - STA. 727+50.00	RT.	764.67	6.0	509.8			637.2		92.0	509.8						
STA. 727+50.00 - STA. 727+67.69	RT.	17.69	7.0 AVG.	13.8			16.7		2.5	13.8						
SUB-TOTALS																
TOTALS (CARRIED TO THE GENERAL SUMMARY)					3,386.3		6,065.2		945.5	5,477.9						

CALCULATED J.C.

DRAWN R.G.

PAVEMENT CALCULATIONS SOUTHWEST & SOUTHEAST RAMPS

LIC-158-0.56

STATION TO STATION ℄ SURVEY AND CONSTRUCTION I.R. 70	SIDE	LENGTH	PAVEMENT WIDTH	PAVEMENT AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE					407 TACK COAT @ 0.075 GAL./SQ. YD.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.050 GAL./SQ. YD.	442 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	442 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)		
		FT.	FT.	SQ. YD.	SQ. YD.					GAL.	GAL.	CU. YD.	CU. YD.		
EASTBOUND LANES															
STA. 696+00.00 - STA. 704+05.00		805.00	38.0	3,398.9	3,398.9					254.9	169.9	141.6	165.2		
STA. 704+05.00 - STA. 705+05.00		100.00	43.0 AVG.	477.8	477.8					35.8	23.9	19.9	23.2		
STA. 705+05.00 - STA. 708+00.00		295.00	48.0	1,573.3	1,573.3					118.0	78.7	65.6	76.5		
STA. 708+00.00 - STA. 712+10.89		410.89	61.50 AVG.	2,807.7	2,807.7					210.6	140.4	117.0	136.5		
STA. 712+10.89 - STA. 727+68.08		1,557.19	38.0	6,574.8	6,574.8					493.1	328.7	274.0	319.6		
STA. 727+68.08 - STA. 733+97.69 (BK.)		629.61	46.50 AVG.	3,253.0	3,253.0					244.0	162.7	135.5	158.1		
STA. 549+99.97 (AH.) - STA. 557+50.00		750.03	47.0 AVG.	3,916.8	3,916.8					293.8	195.8	163.2	190.4		
STA. 557+50.00 - STA. 558+50.00		100.00	38.0	422.2	422.2					31.7	21.1	17.6	20.5		
WESTBOUND LANES															
STA. 696+00.00 - STA. 697+00.00		100.00	38.0	422.2	422.2					31.7	21.1	17.6	20.5		
STA. 697+00.00 - STA. 708+00.00		1,100.00	49.50 AVG.	6,050.0	6,050.0					453.8	302.5	252.1	294.1		
STA. 708+00.00 - STA. 710+56.19		256.19	68.0 AVG.	1,935.7	1,935.7					145.2	96.8	80.7	94.1		
STA. 710+56.19 - STA. 728+10.90		1,754.71	38.0	7,408.8	7,408.8					555.7	370.4	308.7	360.2		
STA. 728+10.90 - STA. 732+80.69		469.79	61.50 AVG.	3,210.2	3,210.2					240.8	160.5	133.8	156.1		
STA. 732+80.69 - STA. 733+97.69 (BK.)		117.00	48.0	624.0	624.0					46.8	31.2	26.0	30.3		
STA. 549+99.97 (AH.) - STA. 551+00.00		100.03	48.0	533.5	533.5					40.0	26.7	22.2	25.9		
STA. 551+00.00 - STA. 552+00.00		100.00	43.0 AVG.	477.8	477.8					35.8	23.9	19.9	23.2		
STA. 552+00.00 - STA. 558+50.00		650.00	38.0	2,744.5	2,744.5					205.8	137.2	114.4	133.4		
TOTALS CARRIED TO THE GENERAL SUMMARY					45,831.2					3,437.5	2,291.5	1,909.8	2,227.8		

CALCULATED J.C.

CHECKED R.G.

PAVEMENT CALCULATIONS I.R. 70

LIC-158-0.56

PCS_001.DGN 12/3/2009

MARK	SEE SHEET	SURVEY AND CONSTRUCTION	SIDE	DESCRIPTION	EXISTING SURFACE	AREA (CALCULATED BY COMPUTER)	202		203	204			304		452	
							PAVEMENT REMOVED	CURB REMOVED	EXCAVATION	SUBGRADE COMPACTION			6" AGGREGATE BASE		8" NON-REINFORCED CONCRETE PAVEMENT	
						SQ. YD.	SQ. YD.	FT.	CU. YD.	SQ. YD.			CU. YD.		SQ. YD.	
		S.R. 158														
1-D	59	STA. 34+30.6	LT.	FIELD DRIVE	AGGREGATE	298.3			49.7	298.3			49.7			
2-D	59	STA. 35+16.2	RT.	FIELD DRIVE	AGGREGATE	228.6			38.1	228.6			38.1			
3-D	59	STA. 37+86.0	LT.	FIELD DRIVE	AGGREGATE	75.7			12.6	75.7			12.6			
4-D	59-60	STA. 40+35.2	RT.	COMM.DRIVE	CONCRETE	621.8	621.8	24.0	103.6	621.8			103.6		621.8	
5-D	60	STA. 41+17.7	LT.	RES. DRIVE	AGGREGATE	75.2			12.5	75.2			12.5			
6-D	60	STA. 42+70.0	LT.	COMM.DRIVE	CONCRETE	236.4	236.4		39.4	236.4			39.4		236.4	
7-D	60	STA. 42+71.5	RT.	COMM.DRIVE	CONCRETE	157.9	157.9		26.3	157.9			26.3		157.9	
8-D	61	STA. 60+42.0	LT.	FIELD DRIVE	AGGREGATE	61.6			61.6	61.6			61.6			
TOTALS (CARRIED TO GENERAL SUMMARY)							1,016.1	24.0	343.8	1,755.5			343.8		1,016.1	

CALCULATED

CHECKED

DRIVE CALCULATIONS

LIC-158-0.56

DRIVES.PCS 5/4/06

MARK	SHEET NO.	PROPOSED LOCATIONS	SIDE	202		606							626			COMMENTS
				GUARDRAIL REMOVED	CONCRETE BARRIER REMOVED	GUARDRAIL, TYPE 5	GUARDRAIL, BARRIER DESIGN, TYPE 5	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	BARRIER REFLECTOR, TYPE A YELLOW (50' SPACING)	BARRIER REFLECTOR, TYPE A2 (50' SPACING)	BARRIER REFLECTOR, TYPE B2 (50' SPACING)	
				FT.	FT.	FT.	FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
		S.R. 158														
1-GR	59	STA. 29+37.5 - STA. 32+00.0	LT.			212.5		2						7		
2-GR	59	STA. 29+64.7 - STA. 31+52.2	RT.			137.5		2						5		
3-GR	66	STA. 48+83.2 - STA. 49+70.7	RT.	150.0		62.5		1			1			4	* 5	* BRIDGE PARAPET
4-GR	66	STA. 48+90.1 - STA. 49+77.6	LT.	150.0		62.5		1				1		4	* 5	* BRIDGE PARAPET
5-GR	66	STA. 51+36.7 - STA. 52+74.2	RT.	187.5		112.5		1				1		4		
6-GR	60-61	STA. 51+43.6 - STA. 53+06.1	LT.	187.5		137.5		1			1			5		
7-GR	61	(N.W. RAMP) STA. 716+50.0 - (S.R. 158 WEST) STA. 53+60.4	LT./RT.	575.0		650.0		1	1					15		
		I.R. 70														
		EASTBOUND LANES														
8-GR	66-67	STA. 718+17.5 - STA. 720+36.5	MED.	275.0		87.5	87.5		1	1			5			
9-GR	66-67	STA. 718+54.0 - STA. 720+21.5	RT.	112.5	56.0											REMOVAL ONLY
		I.R. 70														
		WESTBOUND LANES														
10-GR	67	STA. 719+54.0 - STA. 721+73.0	MED.	250.0		87.5	87.5		1	1			5			
11-GR	67	STA. 719+70.0 - STA. 721+90.0	LT.	162.5	56.0											REMOVAL ONLY
		SUB-TOTALS											10	44	10	
		TOTALS CARRIED TO THE GENERAL SUMMARY		2,050.0	112.0	1,550.0	175.0	9	3	2	2	2	64			

CALCULATED J.C. CHECKED C.Y.

GUARDRAIL QUANTITIES

LIC-158-0.56

53A
219

SR158_GSS_001.DGN 8/17/2011

NORTHWEST RAMP

BASELINE SURVEY & CONSTRUCTION	LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	PROFILE GRADE	PAVEMENT WIDTH	PAVEMENT SLOPE	RIGHT EDGE OF PAVEMENT	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
710+67.62	962.48	6.0	-0.040	962.72	16.0	0.035	963.28	-0.035	3.0	963.18	BEGIN NORTHWEST RAMP
710+75.00	962.42	6.0	-0.040	962.66	16.0	0.037	963.26	-0.033	3.0	963.16	
710+97.12	962.21	6.0	-0.044	962.47	16.0	0.044	963.17	-0.026	3.0	963.09	SC STATION 710+97.12
711+00.00	962.17	6.0	-0.045	962.44	16.0	0.045	963.15	-0.025	3.0	963.08	
711+25.00	961.95	6.0	-0.052	962.26	16.0	0.052	963.09	-0.018	3.0	963.04	
711+50.00	961.75	6.0	-0.060	962.11	16.0	0.060	963.06	-0.010	3.0	963.03	
711+75.00	961.61	6.0	-0.067	962.01	16.0	0.067	963.08	-0.067	3.0	962.88	
711+88.59	961.55	6.0	-0.071	961.98	16.0	0.071	963.12	-0.071	3.0	962.90	BEGIN FULL SUPER
712+00.00	961.53	6.0	-0.071	961.96	16.0	0.071	963.10	-0.071	3.0	962.88	
712+25.00	961.52	6.0	-0.071	961.95	16.0	0.071	963.09	-0.071	3.0	962.87	
712+50.00	961.55	6.0	-0.071	961.98	16.0	0.071	963.12	-0.071	3.0	962.90	
712+75.00	961.63	6.0	-0.071	962.06	16.0	0.071	963.20	-0.071	3.0	962.98	
713+00.00	961.76	6.0	-0.071	962.19	16.0	0.071	963.33	-0.071	3.0	963.11	
713+25.00	961.91	6.0	-0.071	962.34	16.0	0.071	963.48	-0.071	3.0	963.26	
713+30.00	961.94	6.0	-0.071	962.37	16.0	0.071	963.51	-0.071	3.0	963.29	
713+50.00	962.05	6.0	-0.071	962.48	16.0	0.071	963.62	-0.071	3.0	963.40	
713+75.00	962.20	6.0	-0.071	962.63	16.0	0.071	963.77	-0.071	3.0	963.55	
714+00.00	962.35	6.0	-0.071	962.78	16.0	0.071	963.92	-0.071	3.0	963.70	
714+11.71	962.42	6.0	-0.071	962.85	16.0	0.071	963.99	-0.071	3.0	963.77	END FULL SUPER; CS STATION
714+25.00	962.52	6.0	-0.068	962.93	16.0	0.068	964.02	-0.068	3.0	963.82	
714+50.00	962.69	6.0	-0.063	963.07	16.0	0.063	964.07	-0.063	3.0	963.88	
714+75.00	962.88	6.0	-0.057	963.22	16.0	0.057	964.13	-0.013	3.0	964.09	
715+00.00	963.06	6.0	-0.052	963.37	16.0	0.052	964.20	-0.018	3.0	964.14	
715+18.00	963.18	6.0	-0.048	963.47	16.0	0.048	964.23	-0.022	3.0	964.16	
715+25.00	963.23	6.0	-0.046	963.51	16.0	0.046	964.25	-0.024	3.0	964.18	
715+50.00	963.42	6.0	-0.041	963.66	16.0	0.041	964.31	-0.029	3.0	964.22	
715+75.00	963.57	6.0	-0.040	963.81	16.0	0.035	964.37	-0.035	3.0	964.27	
716+00.00	963.72	6.0	-0.040	963.96	16.0	0.030	964.43	-0.040	3.0	964.31	
716+25.00	963.86	6.0	-0.040	964.10	16.0	0.024	964.49	-0.040	3.0	964.37	
716+50.00	964.01	6.0	-0.040	964.25	16.0	0.019	964.55	-0.040	3.0	964.43	
716+61.71	964.08	6.0	-0.040	964.32	16.0	0.016	964.58	-0.040	3.0	964.46	BEGIN NORMAL SLOPE; ST STA.
716+75.00	964.16	6.0	-0.040	964.40	16.0	0.016	964.66	-0.040	3.0	964.54	
717+00.00	964.31	6.0	-0.040	964.55	16.0	0.016	964.81	-0.040	3.0	964.69	
717+25.00	964.45	6.0	-0.040	964.69	16.0	0.016	964.95	-0.040	3.0	964.83	
717+50.00	964.60	6.0	-0.040	964.84	16.0	0.016	965.10	-0.040	3.0	964.98	
717+75.00	964.75	6.0	-0.040	964.99	16.0	0.016	965.25	-0.040	3.0	965.13	
718+00.00	964.90	6.0	-0.040	965.14	16.0	0.016	965.40	-0.040	3.0	965.28	
718+25.00	965.07	6.0	-0.040	965.31	16.0	0.016	965.57	-0.040	3.0	965.45	
718+50.00	965.32	6.0	-0.040	965.56	16.0	0.016	965.82	-0.040	3.0	965.70	
718+75.00	965.62	6.0	-0.040	965.86	16.0	0.016	966.12	-0.040	3.0	966.00	
719+00.00	965.99	6.0	-0.040	966.23	16.0	0.016	966.49	-0.040	3.0	966.37	
719+25.00	966.39	6.0	-0.040	966.63	SEE INTERSECTION DETAIL SHEET 125						
719+50.00	966.79	6.0	-0.040	967.03							
719+61.00	966.97	6.0	-0.040	967.21							
719+75.00				967.43							
720+00.00				967.83							
720+01.57				967.85							END NORTHWEST RAMP

CALCULATED C.Y.
CHECKED

NORTHWEST RAMP SUPERELEVATION TABLE

LIC-158-0.56

SR158_NW_GSE_004.DGN 10/5/11

SOUTHWEST RAMP

BASELINE SURVEY & CONSTRUCTION	LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	PAVEMENT WIDTH	PAVEMENT SLOPE	PROFILE GRADE	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
712+05.41	958.80	3.0	-0.036	958.90	16.0	0.034	958.36	-0.040	8.0	958.04	BEGIN SOUTHWEST RAMP
712+25.00	958.63	3.0	-0.029	958.72	16.0	0.041	958.06	-0.041	7.3	957.76	
712+50.00	958.47	3.0	-0.020	958.53	16.0	0.050	957.73	-0.050	6.3	957.41	
712+58.00	958.43	3.0	-0.017	958.48	16.0	0.053	957.63	-0.053	6.0	957.31	CS STATION 712+58.00
712+75.00	958.26	3.0	-0.017	958.31	16.0	0.053	957.45	-0.053	6.0	957.13	
712+79.00	958.22	3.0	-0.016	958.27	16.0	0.054	957.41	-0.054	6.0	957.09	
713+00.00	958.16	3.0	-0.016	958.09	16.0	0.054	957.22	-0.054	6.0	956.89	
713+25.00	958.00	3.0	-0.015	957.93	16.0	0.055	957.05	-0.055	6.0	956.72	
713+50.00	957.89	3.0	-0.014	957.82	16.0	0.056	956.93	-0.056	6.0	956.60	
713+75.00	957.84	3.0	-0.014	957.77	16.0	0.056	956.87	-0.056	6.0	956.53	
714+00.00	957.85	3.0	-0.013	957.77	16.0	0.057	956.86	-0.057	6.0	956.52	
714+25.00	957.90	3.0	-0.012	957.82	16.0	0.058	956.90	-0.058	6.0	956.55	
714+50.00	958.02	3.0	-0.012	957.94	16.0	0.058	957.01	-0.058	6.0	956.66	
714+75.00	958.18	3.0	-0.011	958.11	16.0	0.059	957.16	-0.059	6.0	956.81	
715+00.00	958.39	3.0	-0.011	958.31	16.0	0.059	957.37	-0.059	6.0	957.02	
715+08.00	958.49	3.0	-0.010	958.41	16.0	0.060	957.45	-0.060	6.0	957.09	BEGIN FULL SUPER; CS STATION
715+25.00	958.56	3.0	-0.010	958.59	16.0	0.060	957.63	-0.060	6.0	957.27	
715+50.00	958.88	3.0	-0.010	958.91	16.0	0.060	957.95	-0.060	6.0	957.59	
715+75.00	959.25	3.0	-0.010	959.28	16.0	0.060	958.32	-0.060	6.0	957.96	
716+00.00	959.68	3.0	-0.010	959.71	16.0	0.060	958.75	-0.060	6.0	958.39	
716+25.00	960.16	3.0	-0.010	960.19	16.0	0.060	959.23	-0.060	6.0	958.87	
716+50.00	960.70	3.0	-0.010	960.73	16.0	0.060	959.77	-0.060	6.0	959.41	
716+73.71	961.26	3.0	-0.010	961.29	16.0	0.060	960.33	-0.060	6.0	959.97	
716+75.00	961.28	3.0	-0.010	961.31	16.0	0.060	960.36	-0.060	6.0	960.00	END FULL SUPER
717+00.00	961.75	3.0	-0.019	961.81	16.0	0.051	960.99	-0.051	6.0	960.68	
717+25.00	962.21	3.0	-0.027	962.29	16.0	0.043	961.61	-0.043	6.0	961.35	
717+32.92	962.36	3.0	-0.030	962.45	16.0	0.040	961.81	-0.040	6.0	961.57	PT STATION 717+32.92
717+50.00	962.76	3.0	-0.036	962.86	18.2	0.034	962.24	-0.040	6.0	962.00	
717+75.00	963.32	3.0	-0.040	963.44	22.2	0.026	962.87	-0.040	6.0	962.63	
718+00.00	963.80	3.0	-0.040	963.92	24.0	0.017	963.50	-0.040	6.0	963.26	
718+03.97	963.86	3.0	-0.040	963.98	24.0	0.016	963.60	-0.040	6.0	963.36	
718+25.00	964.26	3.0	-0.040	964.38	24.0	0.010	964.13	-0.040	6.0	963.89	
718+50.00	964.72	3.0	-0.040	964.84	24.0	0.003	964.76	-0.040	6.0	964.52	
718+75.00	965.19	3.0	-0.040	965.31	24.0	-0.003	965.39	-0.040	6.0	965.15	
718+77.00	965.22	3.0	-0.040	965.34	24.0	-0.004	965.44	-0.040	6.0	965.20	
719+00.00	965.64	3.0	-0.040	965.76	24.0	-0.010	966.01	-0.040	6.0	965.77	
719+25.00	966.11	3.0	-0.040	966.23	24.0	-0.017	966.64	-0.040	6.0	966.40	
719+35.26	966.30	3.0	-0.040	966.42	24.0	-0.020	966.90	-0.040	6.0	966.66	PC STATION 719+35.26
719+50.00	966.57	3.0	-0.040	966.69	24.0	-0.024	967.27	-0.024	6.0	967.13	
719+57.19	966.71	3.0	-0.040	966.83	24.0	-0.026	967.45	-0.022	6.0	967.32	MINIMUM SUPER REACHED
719+75.00	967.21	3.0	-0.040	967.33	24.0	-0.021	967.84	-0.030	6.0	967.66	
720+00.00	967.84	3.0	-0.040	967.96	24.0	-0.014	968.30	-0.040	6.0	968.06	
720+25.00	SEE INTERSECTION DETAIL SHEET 124					-0.007	968.71	-0.040	6.0	968.47	
720+44.77						-0.002	969.02	-0.040	6.0	968.78	PT STATION 720+44.77
720+50.00						-0.001	969.11	-0.040	6.0	968.87	
720+75.00						0.006	969.51	-0.040	6.0	969.27	
721+00.00						0.013	969.92				
721+17.42						0.018	970.20				END SOUTHWEST RAMP

CALCULATED C.Y.
CHECKED

SOUTHWEST RAMP SUPERELEVATION TABLE

LIC-158-0.58

10/5/11
SR158_SW_GSE_003.DGN

NORTHEAST RAMP

BASELINE SURVEY & CONSTRUCTION	LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	PROFILE GRADE	PAVEMENT WIDTH	PAVEMENT SLOPE	RIGHT EDGE OF PAVEMENT	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
719+01.12	SEE INTERSECTION DETAIL SHEET 125			967.86	24.0	0.027	SEE INTERSECTION DETAIL SHEET 125				BEGIN NORTHEAST RAMP
719+25.00				967.48	24.0	0.020					
719+50.00	966.84	6.0	-0.040	967.08	24.0	0.014					
719+72.68	966.47	6.0	-0.040	966.71	24.0	0.007					PC STATION 719+72.68
719+75.00	966.44	6.0	-0.040	966.68	24.0	0.007					
720+00.00	966.04	6.0	-0.040	966.28	24.0	0.000	966.28	-0.040	3.0	966.16	
720+25.00	965.58	6.0	-0.040	965.82	24.0	-0.007	965.65	-0.040	3.0	965.53	
720+50.00	965.03	6.0	-0.040	965.27	24.0	-0.014	964.94	-0.040	3.0	964.82	
720+62.90	964.70	6.0	-0.040	964.94	24.0	-0.017	964.52	-0.040	3.0	964.40	PT STATION 720+62.90
720+75.00	964.37	6.0	-0.040	964.61	24.0	-0.021	964.11	-0.040	3.0	963.99	
720+83.00	964.14	6.0	-0.040	964.38	24.0	-0.023	963.83	-0.040	3.0	963.71	MINIMUM SUPER REACHED
721+00.00	963.61	6.0	-0.040	963.85	24.0	-0.018	963.41	-0.040	3.0	963.29	
721+25.00	962.79	6.0	-0.040	963.03	24.0	-0.011	962.76	-0.040	3.0	962.64	
721+50.00	961.97	6.0	-0.040	962.21	24.0	-0.005	962.10	-0.040	3.0	961.98	
721+75.00	961.16	6.0	-0.040	961.40	24.0	0.002	961.46	-0.040	3.0	961.34	
722+00.00	960.34	6.0	-0.040	960.58	24.0	0.009	960.80	-0.040	3.0	960.68	
722+24.64	959.54	6.0	-0.040	959.78	23.4	0.016	960.15	-0.040	3.0	960.03	
722+25.00	959.53	6.0	-0.040	959.77	23.4	0.016	960.15	-0.040	3.0	960.03	
722+50.00	958.71	6.0	-0.040	958.95	19.4	0.025	959.43	-0.040	3.0	959.31	
722+75.00	957.90	6.0	-0.040	958.14	16.0	0.033	958.67	-0.037	3.0	958.56	
722+95.69	957.22	6.0	-0.040	957.46	16.0	0.040	958.10	-0.030	3.0	958.01	PC STATION 722+95.69
723+00.00	957.07	6.0	-0.041	957.32	16.0	0.041	957.98	-0.029	3.0	957.90	
723+25.00	956.20	6.0	-0.050	956.50	16.0	0.050	957.30	-0.020	3.0	957.24	
723+50.00	955.34	6.0	-0.058	955.69	16.0	0.058	956.62	-0.012	3.0	956.59	
723+54.90	955.17	6.0	-0.060	955.53	16.0	0.060	956.49	-0.010	3.0	956.46	BEGIN FULL SUPER
723+75.00	954.51	6.0	-0.060	954.87	16.0	0.060	955.83	-0.010	3.0	955.80	
724+00.00	953.70	6.0	-0.060	954.06	16.0	0.060	955.02	-0.010	3.0	954.99	
724+25.00	952.88	6.0	-0.060	953.24	16.0	0.060	954.20	-0.010	3.0	954.17	
724+50.00	952.07	6.0	-0.060	952.43	16.0	0.060	953.39	-0.010	3.0	953.36	
724+75.00	951.25	6.0	-0.060	951.61	16.0	0.060	952.57	-0.010	3.0	952.54	
725+00.00	950.43	6.0	-0.060	950.79	16.0	0.060	951.75	-0.010	3.0	951.72	
725+11.00	950.08	6.0	-0.060	950.44	16.0	0.060	951.40	-0.010	3.0	951.37	
725+25.00	949.65	6.0	-0.060	950.01	16.0	0.060	950.97	-0.010	3.0	950.94	
725+50.00	948.91	6.0	-0.060	949.27	16.0	0.060	950.23	-0.010	3.0	950.20	
725+70.69	948.35	6.0	-0.060	948.71	16.0	0.060	949.67	-0.010	3.0	949.64	CS STATION 725+70.69
725+75.00	948.23	6.0	-0.059	948.59	16.0	0.059	949.54	-0.011	3.0	949.51	
726+00.00	947.63	6.0	-0.056	947.97	16.0	0.056	948.87	-0.014	3.0	948.83	
726+25.00	947.08	6.0	-0.053	947.40	16.0	0.053	948.25	-0.017	3.0	948.20	
726+50.00	946.59	6.0	-0.050	946.89	16.0	0.050	947.69	-0.020	3.0	947.63	
726+62.46	946.36	6.0	-0.048	946.65	16.0	0.048	947.42	-0.022	3.0	947.36	
726+75.00	946.15	6.0	-0.047	946.43	16.0	0.047	947.18	-0.023	3.0	947.11	
727+00.00	945.76	6.0	-0.043	946.02	16.0	0.043	946.72	-0.027	3.0	946.64	
727+25.00	945.44	6.0	-0.040	945.68	16.0	0.040	946.32	-0.030	3.0	946.24	
727+50.00	945.14	6.0	-0.040	945.38	16.0	0.037	945.97	-0.033	3.0	945.87	
727+75.00	944.90	6.0	-0.040	945.14	16.0	0.034	945.68	-0.036	3.0	945.57	
728+00.00	944.72	6.0	-0.040	944.96	16.0	0.031	945.45	-0.039	3.0	945.33	
728+13.15	944.63	6.0	-0.040	944.87	16.0	0.029	945.33	-0.040	3.0	945.21	END NORTHEAST RAMP

CALCULATED C.Y.
CHECKED

NORTHEAST RAMP SUPERELEVATION TABLE

LIC-158-0.56

SR158_NE_GSE_001.DGN 10/5/11

SOUTHEAST RAMP

BASELINE SURVEY & CONSTRUCTION	LEFT EDGE OF SHOULDER	LEFT SHOULDER WIDTH	LEFT SHOULDER SLOPE	LEFT EDGE OF PAVEMENT	PAVEMENT WIDTH	PAVEMENT SLOPE	PROFILE GRADE	RIGHT SHOULDER SLOPE	RIGHT SHOULDER WIDTH	RIGHT EDGE OF SHOULDER	COMMENTS
719+53.95	SEE INTERSECTION DETAIL SHEET 124				16.0	0.018	970.19	SEE INTERSECTION DETAIL SHEET 124			BEGIN SOUTHEAST RAMP
719+75.00					16.0	0.009	969.85				
720+00.00					16.0	-0.001	969.45	-0.040	6.0	969.21	
720+25.00					16.0	-0.011	969.04	-0.040	6.0	968.80	
720+44.01	968.31	3.0	-0.040	968.43	16.0	-0.019	968.73	-0.040	6.0	968.49	PC STATION 720+44.01
720+50.00	968.17	3.0	-0.040	968.29	16.0	-0.021	968.63	-0.040	6.0	968.39	
720+75.00	967.65	3.0	-0.023	967.72	16.0	-0.032	968.23	-0.040	6.0	967.99	
720+97.43	967.14	3.0	-0.023	967.20	16.0	-0.041	967.86	-0.041	6.0	967.61	BEGIN FULL SUPER
721+00.00	967.06	3.0	-0.033	967.15	16.0	-0.041	967.81	-0.037	6.0	967.59	
721+25.00	966.47	3.0	-0.041	966.59	16.0	-0.041	967.25	-0.029	6.0	967.08	END FULL SUPER
721+50.00	965.93	3.0	-0.030	966.02	16.0	-0.031	966.51	-0.040	6.0	966.27	
721+58.39	965.71	3.0	-0.027	965.79	16.0	-0.027	966.23	-0.040	6.0	965.99	PT STATION 721+58.39
721+75.00	965.27	3.0	-0.027	965.35	16.0	-0.020	965.68	-0.040	6.0	965.44	
721+78.00	965.19	3.0	-0.027	965.27	16.0	-0.019	965.58	-0.040	6.0	965.34	
722+00.00	964.65	3.0	-0.018	964.70	16.0	-0.010	964.86	-0.040	6.0	964.62	
722+25.00	963.92	3.0	-0.040	964.04	16.0	0.000	964.03	-0.040	6.0	963.79	
722+50.00	963.26	3.0	-0.040	963.38	16.0	0.011	963.21	-0.040	6.0	962.97	
722+75.00	962.60	3.0	-0.040	962.72	16.0	0.021	962.38	-0.040	6.0	962.14	
723+00.00	961.89	3.0	-0.040	962.01	16.0	0.028	961.56	-0.040	6.0	961.32	
723+25.00	961.18	3.0	-0.040	961.30	16.0	0.036	960.73	-0.034	6.0	960.52	
723+50.00	960.51	3.0	-0.030	960.60	16.0	0.043	959.91	-0.027	6.0	959.75	
723+75.00	959.83	3.0	-0.020	959.89	16.0	0.051	959.08	-0.050	6.0	958.78	
723+83.35	959.60	3.0	-0.017	959.65	16.0	0.053	958.80	-0.053	6.0	958.48	PC STATION 723+83.35
724+00.00	959.14	3.0	-0.011	959.18	16.0	0.058	958.25	-0.059	6.0	957.90	
724+25.00	958.68	3.0	0.069	958.47	16.0	0.065	957.43	-0.069	6.0	957.02	
724+50.00	958.00	3.0	0.079	957.76	16.0	0.073	956.60	-0.079	6.0	956.13	
724+53.00	957.92	3.0	0.080	957.68	16.0	0.074	956.50	-0.080	6.0	956.02	BEGIN FULL SUPER
724+75.00	957.30	3.0	0.080	957.06	16.0	0.080	955.78	-0.080	6.0	955.30	
725+00.00	956.47	3.0	0.080	956.23	16.0	0.080	954.95	-0.080	6.0	954.47	
725+25.00	955.65	3.0	0.080	955.41	16.0	0.080	954.13	-0.080	6.0	953.65	
725+50.00	954.82	3.0	0.080	954.58	16.0	0.080	953.30	-0.080	6.0	952.82	
725+75.00	954.00	3.0	0.080	953.76	16.0	0.080	952.48	-0.080	6.0	952.00	
726+00.00	953.20	3.0	0.080	952.96	16.0	0.080	951.68	-0.080	6.0	951.20	
726+14.32	952.76	3.0	0.080	952.52	16.0	0.080	951.24	-0.080	6.0	950.76	END FULL SUPER
726+25.00	952.40	3.0	0.080	952.16	16.0	0.077	950.93	-0.080	6.0	950.45	
726+50.00	951.58	3.0	0.080	951.34	16.0	0.070	950.23	-0.080	6.0	949.75	
726+52.00	951.52	3.0	0.080	951.28	16.0	0.069	950.18	-0.080	6.0	949.70	
726+75.00	950.79	3.0	0.071	950.58	16.0	0.062	949.58	-0.071	6.0	949.15	
727+00.00	950.04	3.0	0.061	949.86	16.0	0.055	948.98	-0.061	6.0	948.61	
727+25.00	949.06	3.0	-0.048	949.20	16.0	0.048	948.44	-0.052	6.0	948.13	
727+50.00	948.44	3.0	-0.040	948.56	16.0	0.040	947.92	-0.042	6.0	947.67	
727+67.69	947.99	3.0	-0.040	948.11	16.0	0.035	947.55	-0.035	6.0	947.34	END SOUTHEAST RAMP

CALCULATED C.Y.
CHECKED

SOUTHEAST RAMP SUPERELEVATION TABLE

LIC-158-0.56

SR158_SE_GSE_002.DGN 10/5/11

TR 145 (KELLER DRIVE)

BASELINE SURVEY & CONSTRUCTION	LEFT EDGE OF PAVEMENT	LEFT PAVEMENT SLOPE	LEFT PAVEMENT WIDTH	PROFILE GRADE	RIGHT PAVEMENT WIDTH	RIGHT PAVEMENT SLOPE	RIGHT EDGE OF PAVEMENT	COMMENTS
717+41.21								SEE INTERSECTION DETAIL SHEET 126
717+50.00								
717+75.00	955.75	-0.025	18.32	956.21	18.09	0.025	956.66	
717+84.85	955.68	-0.019	17.97	956.03	17.35	0.019	956.37	PC STATION
718+00.00	955.59	-0.011	17.39	955.77	17.19	0.011	955.95	
718+25.00	955.38	0.004	16.44	955.32	16.27	-0.004	955.26	
718+50.00	955.16	0.018	15.49	954.88	15.34	-0.018	954.60	
718+75.00	954.98	0.033	14.54	954.50	14.42	-0.033	954.03	
718+91.00	954.92	0.042	13.93	954.33	13.83	-0.042	953.75	MAXIMUM SUPERELEVATION
719+00.00	954.75	0.037	13.59	954.25	13.50	-0.037	953.75	
719+25.00	954.40	0.022	12.64	954.12	12.58	-0.022	953.84	
719+50.00	954.20	0.008	11.69	954.11	11.65	-0.008	954.02	MEET EXISTING TR 145

CALCULATED C.Y.
CHECKED

T.R. 145 SUPERELEVATION TABLE

LIC-158-0.56

PLAN AND PROFILE S.R. 158
STA. 28+00.0 TO STA. 40+50.00

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED R.J.G.
CHECKED J.C.

BEGIN PROJECT & WORK
STA. 29+00.00
℄ SURVEY & CONSTRUCTION
S.R. 158
S.L.M. 0.56

FED. NO. E080950

PROPOSED 72" CONDUIT, TYPE A
(SEE CULVERT DETAILS SHEETS 144-146)

CONSTRUCTION LIMITS

ANCHOR ASSEMBLY, TYPE E AS PER STAND. DRWG. GR-5.3

1-GR, 2-EP, 3-EP, 1-C, 1-DP, 1-DR, 3-DR, 2-GR, 1-EP, 2-DR, 2-DP, 3-DP, 4-DR

BEGIN TEMPORARY ROAD STA. 35+60.00

AI Sta. 38+10.08

AI Sta. 40+00.00

MATCHLINE STA. 40+50.00

S.R. 158

80.6' LT.

74.6' LT.

61.0' RT.

63.0' RT.

MEET EXISTING PAVEMENT BUTT JOINT AS PER BP-3.1

EXISTING WELL TO BE ABANDONED AS PER STANDARD CONSTRUCTION DRAWING RM-7.1

℄ SURVEY & CONSTRUCTION S.R. 158

CONSTRUCTION LIMITS

FOR PAVEMENT CALCULATIONS SEE SHEETS 48-53
FOR DRAINAGE DETAILS AND QUANTITIES SEE SHEETS 133-146
FOR TRAFFIC CONTROL, SIGNING AND SIGNAL DETAILS AND QUANTITIES SEE SHEETS 147-175

BEGIN PROJECT
S.R. 158
STA. 29+00.00
S.L.M. 0.56

P.V.I. STA 34+50.00 ELEV = 970.50'
300.00' VC

P.V.I. STA 31+00.00 ELEV = 967.00'
400.00' VC

-1.62 %
+1.00 %
+1.00 %
-0.23 %

PROPOSED 72" CONDUIT, TYPE A

970.25 969.86 969.52 969.21 968.95 968.73 968.55 968.41 968.31 968.25 968.24 968.26 968.33 968.43 968.58 968.77 969.00 969.24 969.45 969.63 969.80 969.93 970.04 970.12 970.18 970.21 970.22 970.20 970.16 970.10 970.04 969.99 969.93 969.87 969.81 969.76 969.70 969.64 969.59 969.53 969.47 969.41 969.36 969.30 969.24 969.19 969.13

980 970 960 950

972.14 971.14 970.25 969.60 969.28 968.99 968.50 968.16 968.18 968.93 970.91 973.48 974.84 975.26 975.76 976.31 976.50 975.95 974.87 973.46 972.12 970.91 970.06 969.56 969.06 968.54

28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00

LIC-158-0.56

59
219

PLPRO50.DGN XX/XX/XX

EXISTING WELL TO REMAIN IN SERVICE. (DO NOT DISTURB)

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 46+00.00 = ℄ SURVEY & CONSTRUCTION SOUTHWEST RAMP STA. 721+38.83

CONSTRUCTION LIMITS

75.4' LT.

70.3' LT.

5-DR

6-DR

12'

21'

21'

STA. 40+50.00

90°

+70.02

90°

+71.48

90°

+17.77

S.R. 158

52.2'

22'

22'

52.0' RT.

7-DR

4-DR

℄ SURVEY AND CONSTRUCTION S.R. 158

EXISTING 12" WATER LINE TO REMAIN IN SERVICE

CONSTRUCTION LIMITS

SOUTHWEST RAMP

BRIDGE NO. LIC-158-0097

BRIDGE TERMINAL ASSEMBLY, TYPE 2 AS PER STAND. DRWG. GR-3.2

PROPOSED ITEM 609 CURB, TYPE 4-A

4-GR

ANCHOR ASSEMBLY, TYPE E AS PER STAND. DRWG. GR-5.3

I.R. 70 EASTBOUND

I.R. 70 WESTBOUND

℄ SURVEY AND CONSTRUCTION I.R. 70

℄ SURVEY & CONST. S.R. 158 STA. 50+57.68 = ℄ SURVEY & CONST. I.R. 70 STA. 719+95.26

BRIDGE TERMINAL ASSEMBLY, TYPE 1 AS PER STAND. DRWG. GR-3.1

6-GR

PROPOSED ITEM 609 CURB, TYPE 4-A

83°30'30"

S.R. 158

STA. 53+00.00

3-GR

5-GR

ANCHOR ASSEMBLY, TYPE E AS PER STAND. DRWG. GR-5.3

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 46+00.00 = ℄ SURVEY & CONSTRUCTION SOUTHEAST RAMP STA. 719+31.17

BRIDGE TERMINAL ASSEMBLY, TYPE 1 AS PER STAND. DRWG. GR-3.1

BRIDGE TERMINAL ASSEMBLY, TYPE 2 AS PER STAND. DRWG. GR-3.2

PROPOSED ITEM 609 CURB, TYPE 4-A

EXISTING 12" WATER LINE TO REMAIN IN SERVICE

PROPOSED ITEM 609 CURB, TYPE 4-A

CONSTRUCTION LIMITS

SOUTHEAST RAMP

CONSTRUCTION LIMITS

FOR PAVEMENT CALCULATIONS SEE SHEETS 48-53
FOR DRAINAGE DETAILS AND QUANTITIES SEE SHEETS 133-146
FOR TRAFFIC CONTROL, SIGNING AND SIGNAL DETAILS AND QUANTITIES SEE SHEETS 147-175
FOR BRIDGE DETAILS AND QUANTITIES SEE SHEETS 176-208, 203A & 208A

EXISTING STRUCTURE (SFN# 4505344)	PROPOSED STRUCTURE (SFN# 4505352)
TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUB-STRUCTURES.	TYPE: 2 SPAN CONTINUOUS STEEL BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON REINFORCED CONCRETE SEMI-INTEGRAL ABUTMENTS AND CAP AND COLUMN PIER
SPANS: 50'-0", 62'-0", 62'-6", 50'-0"	SPANS: 84'-4", 84'-4"
ROADWAY: 28'-0" F/F OF 2'-0" SAFETY CURB	ROADWAY: 66'-0" TOE/TOE PARAPET
LOADING: CF = 400 (S)	LOADING: HL-93
SKEW: 14°-22' L.F.	SKEW: 6°-30'-00" L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE	WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG	APPROACH SLABS: 20 FEET LONG (AS-1-80
ALIGNMENT: TANGENT	ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT	CROWN: 0.0156 FT/FT
STRUCTURAL FILE NUMBER: 4505344	COORDINATES: LATITUDE 39°56'41.56"
DATE BUILT: 1950	LONGITUDE -82°36'00.51"

980
970
960
950

-0.23 %
+2.35 %
P.V.I. STA 45+00.00 ELEV = 968.10'
300.00' VC
15" CONDUIT TYPE A

+2.35 %
-4.54 %
P.V.I. STA 51+80.00 ELEV = 984.07'
1,040.00' VC

41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00

PLPRO50.DGN XX/XX/XX

N

HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED R.J.C.
CHECKED J.C.

PLAN AND PROFILE S.R. 158
STA. 40+50.00 TO STA. 53+00.00

LIC-158-0.56

60
219

CONSTRUCTION LIMITS

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 55+00.00 = ℄ SURVEY & CONSTRUCTION NORTHWEST RAMP STA. 720+24.34

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 57+76.30 = ℄ SURVEY & CONSTRUCTION S.R. 158 WEST STA. 0+00.00

END PROJECT & WORK
STA. 61+30.00
℄ SURVEY & CONSTRUCTION
S.R. 158
S.L.M. 1.19

FED. NO. E080950

ANCHOR ASSEMBLY, TYPE E AS PER STAND. DRWG. GR-5.3

ANCHOR ASSEMBLY, TYPE E AS PER STAND. DRWG. GR-5.3

CONSTRUCTION LIMITS

MEET EXISTING PAVEMENT BUTT JOINT AS PER BP-3.1

50.0' LT.

NORTHWEST RAMP

S.R. 158 WEST

S.R. 158

6-GR

7-GR

8-DR

1-FH

STA. 53+00.00

STA. 65+50.00

℄ SURVEY AND CONSTRUCTION S.R. 158

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 55+00.00 = ℄ SURVEY & CONSTRUCTION NORTHEAST RAMP STA. 718+78.80

EXISTING FIRE HYDRANT AND GATE VALVE TO BE REMOVED AND RESET

CONSTRUCTION LIMITS

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 57+75.14 = ℄ SURVEY & CONSTRUCTION KELLER ROAD STA. 717+23.21

NORTHEAST RAMP

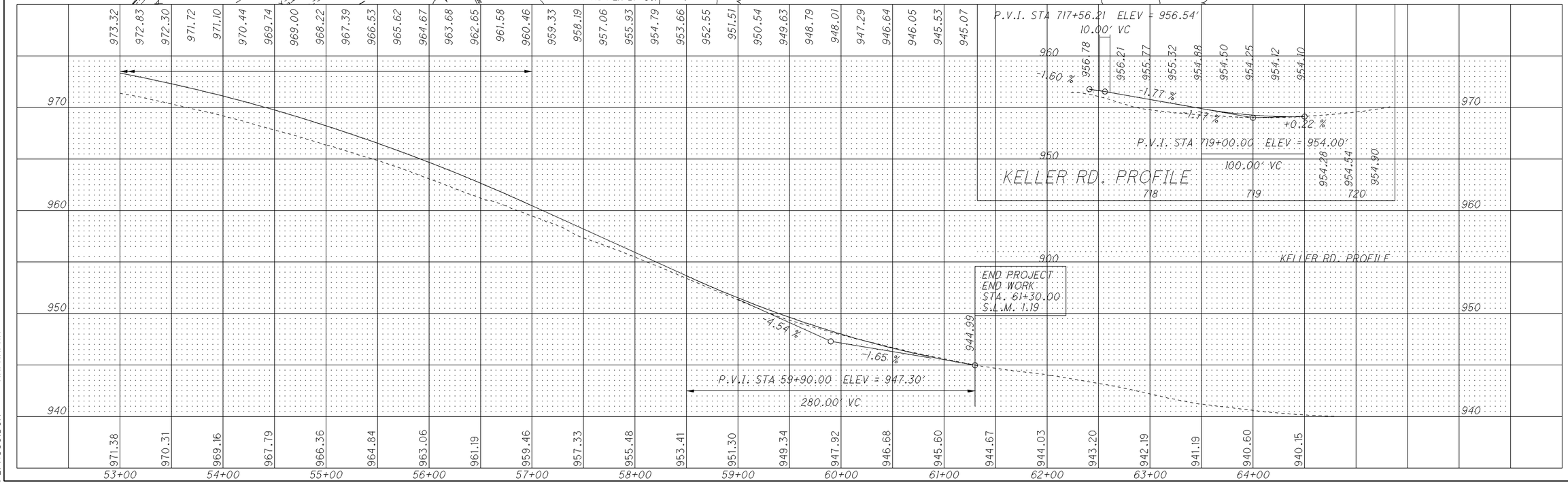
KELLER ROAD

CONSTRUCTION LIMITS

℄ SURVEY AND CONSTRUCTION KELLER ROAD

MEET EXISTING PAVEMENT BUTT JOINT AS PER BP-3.1

FOR PAVEMENT CALCULATIONS SEE SHEETS 48-53
FOR DRAINAGE DETAILS AND QUANTITIES SEE SHEETS 133-146
FOR TRAFFIC CONTROL, SIGNING AND SIGNAL DETAILS AND QUANTITIES SEE SHEETS 147-175



HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED M.M.
CHECKED J.C.

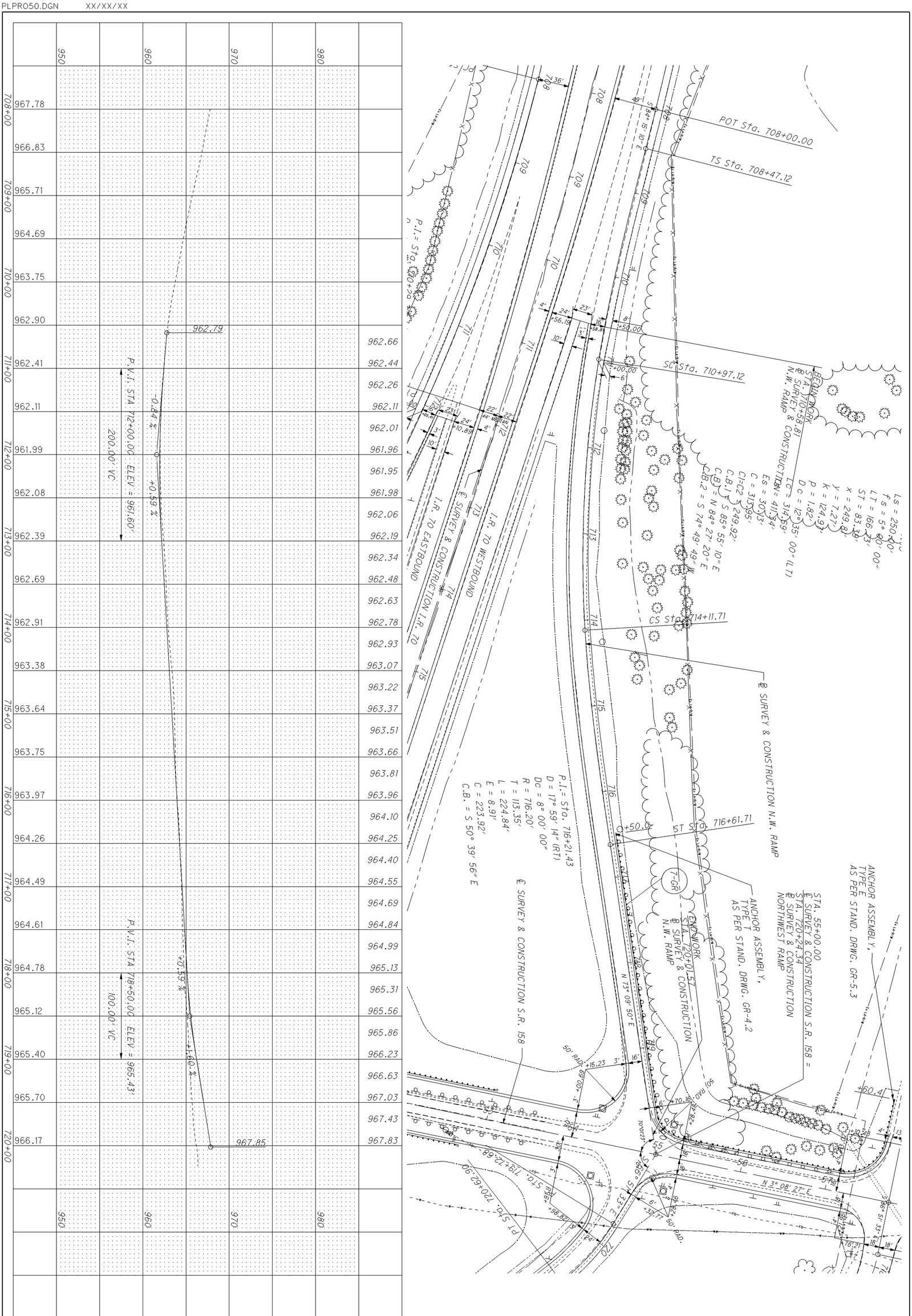
PLAN AND PROFILE S.R. 158 STA. 53+00.00 TO STA. 65+50.00

LIC-158-0.56

61
219

PLPRO50.DGN XX/XX/XX

PLPRO50.DGN XX/XX/XX



62
219

LIC-158-0.56

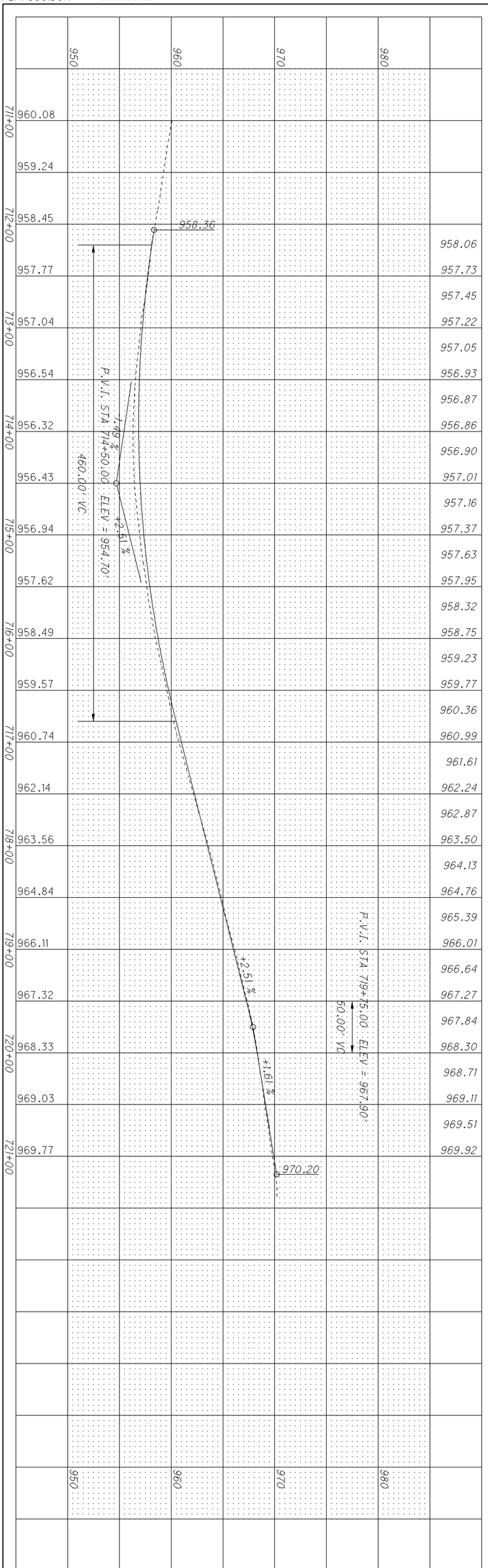
PLAN AND PROFILE NORTHWEST RAMP
STA. 710+58.81 TO STA. 720+01.57

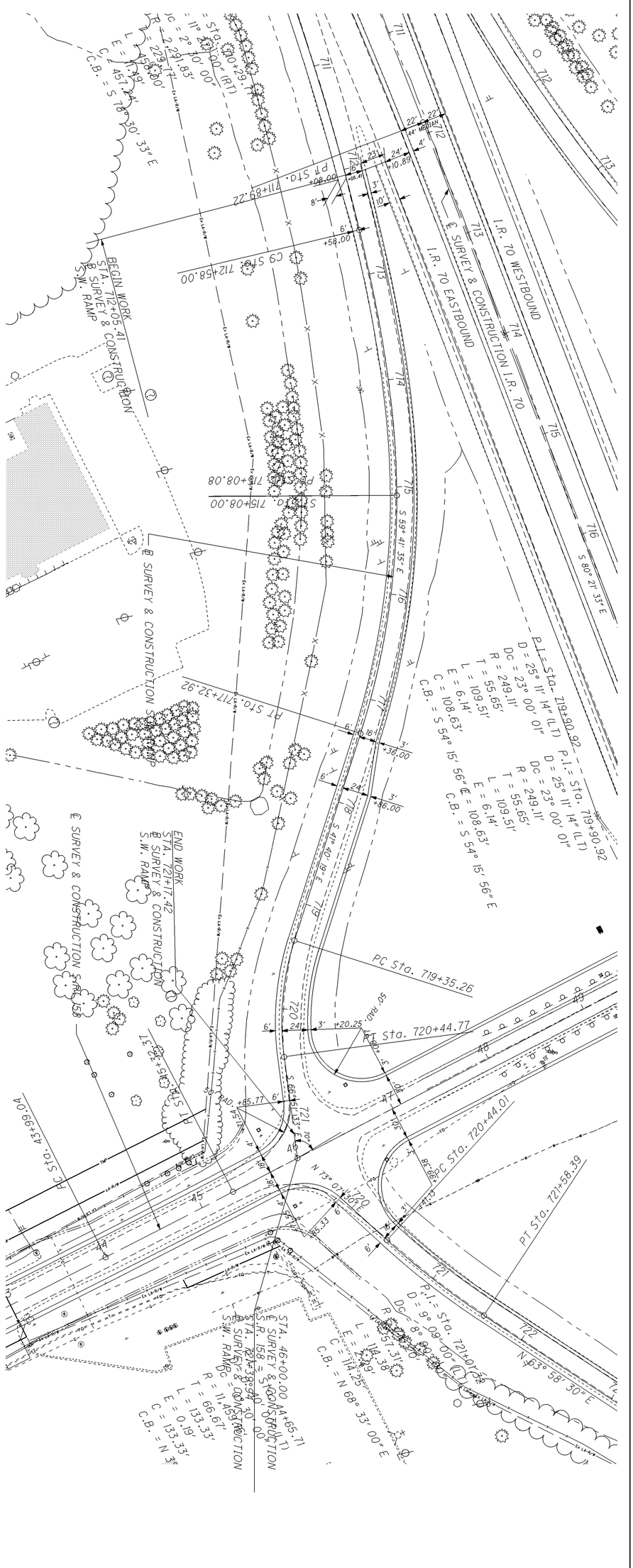
CALCULATED R.J.G.
CHECKED J.C.

0 50 100
HORIZONTAL SCALE IN FEET

N

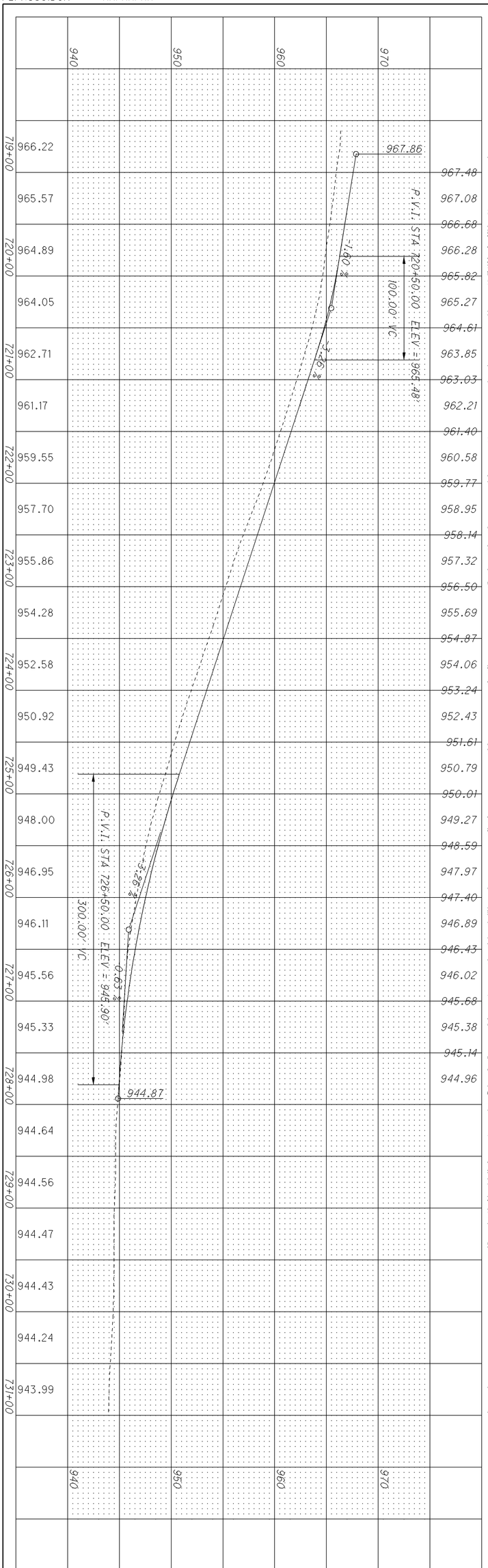
PLPRO50.DGN XX/XX/XX

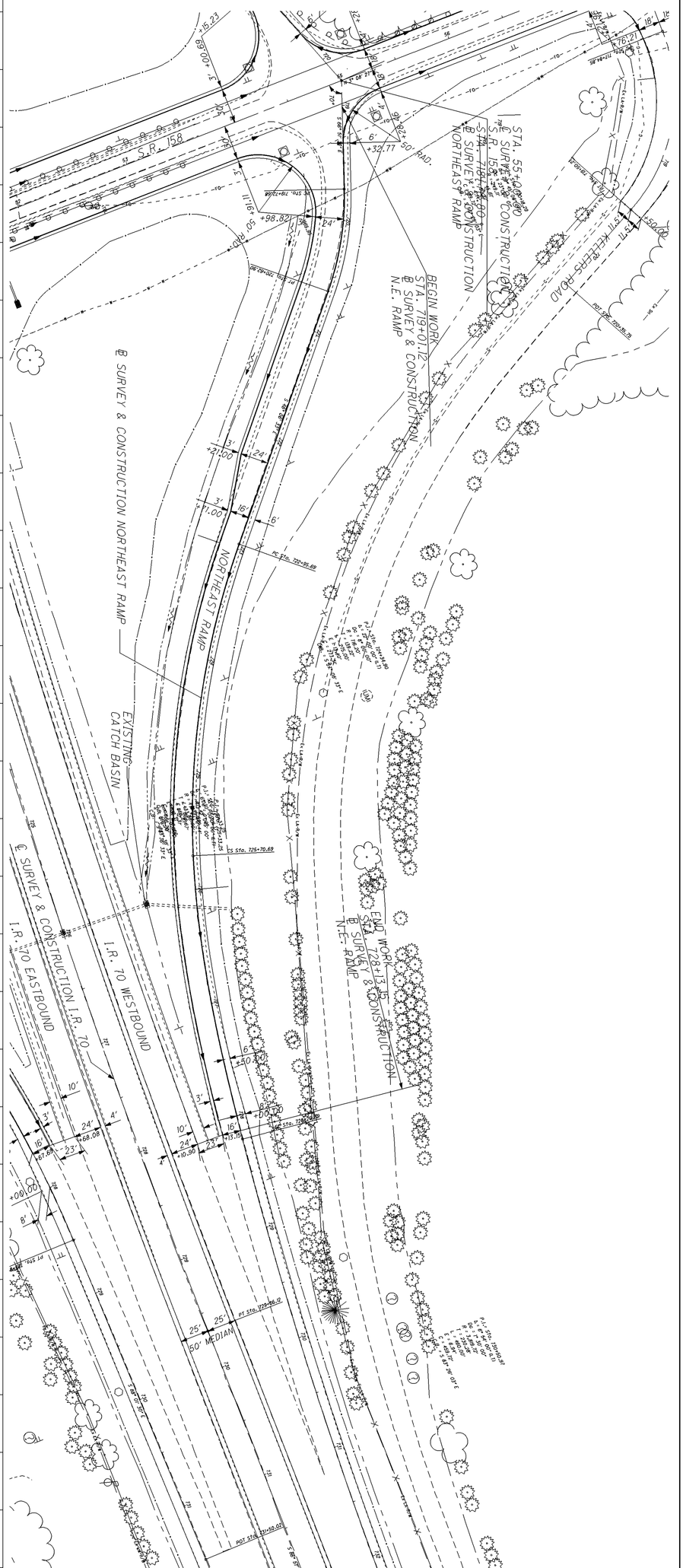




63 / 219	LIC-158-0.56	PLAN AND PROFILE SOUTHWEST RAMP STA. 712+05.41 TO STA. 721+17.42	CALCULATED R.J.G. CHECKED J.C. 0 50 100 HORIZONTAL SCALE IN FEET

PLPRO50.DGN XX/XX/XX





64/219

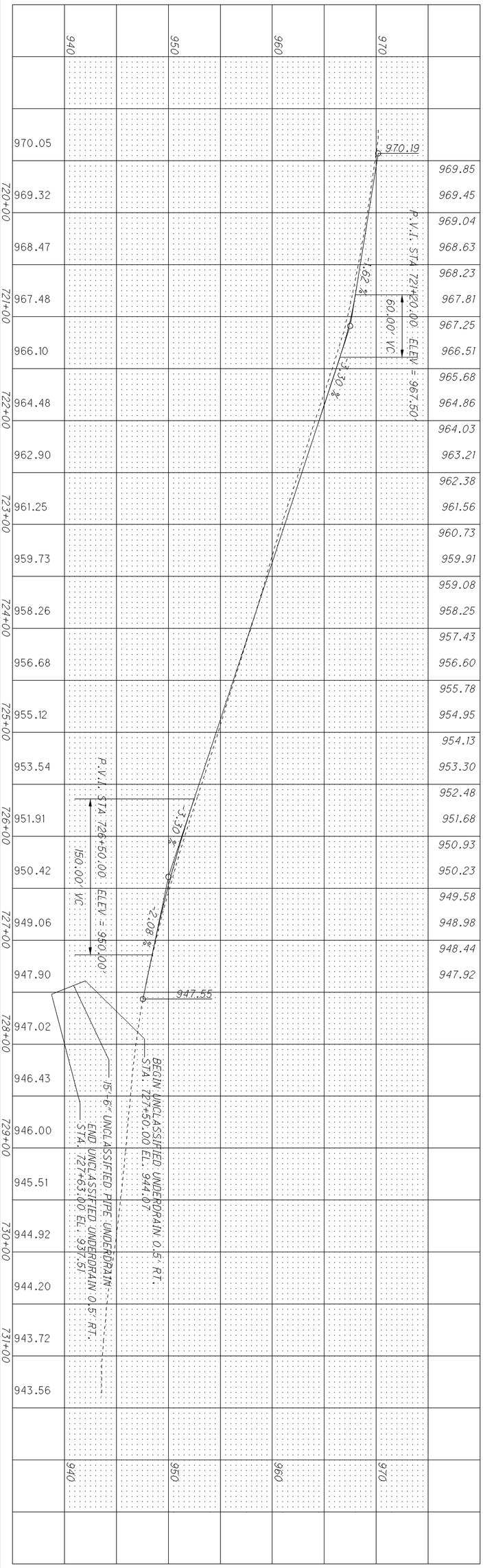
LIC-158-0.56

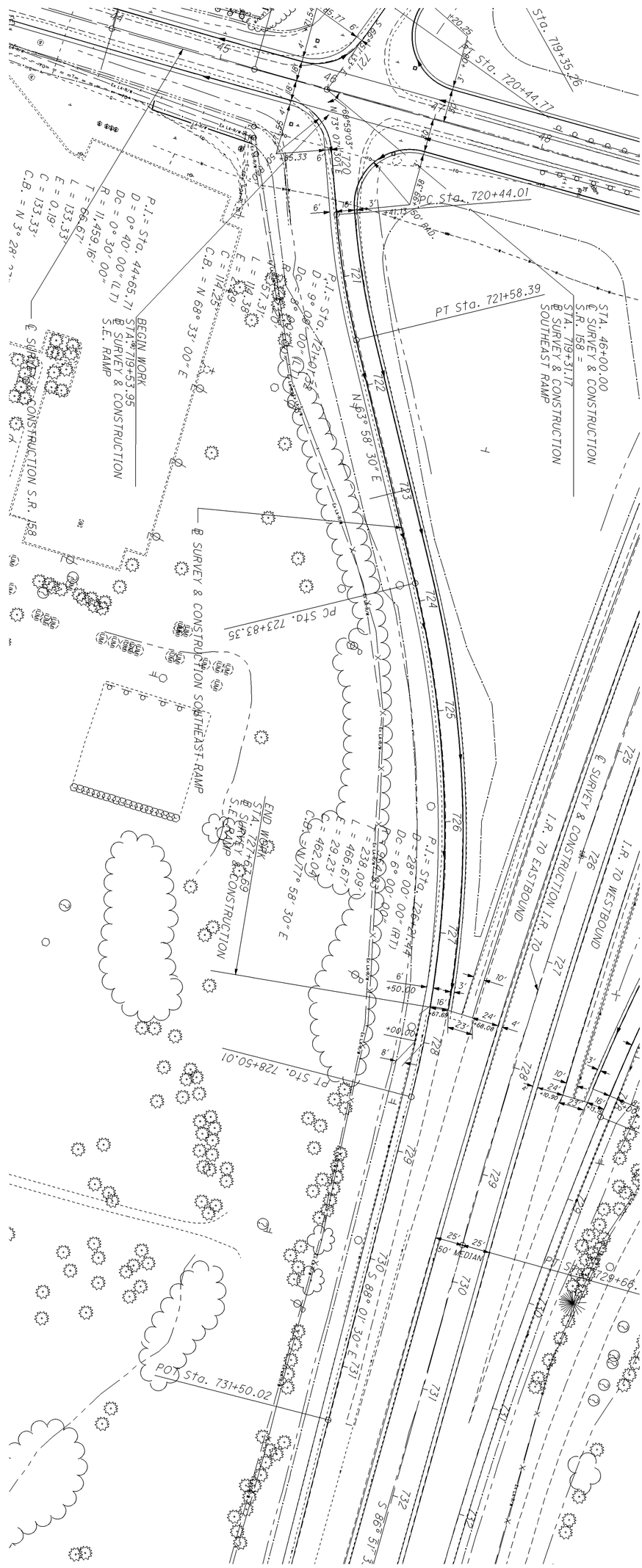
PLAN AND PROFILE NORTHEAST RAMP
STA. 718+97.76 TO STA. 728+20.69

CALCULATED R.J.G.
CHECKED J.C.

0 50 100
HORIZONTAL SCALE IN FEET

PLPRO50.DGN XX/XX/XX





65
219

LIC-158-0.56

PLAN AND PROFILE SOUTHEAST RAMP
STA. 719+53.59 TO STA. 727+67.69

CALCULATED R.J.G.
CHECKED J.C.

0 50 100
HORIZONTAL SCALE IN FEET

N

BEGIN WORK
PAVEMENT PLANING AND RESURFACING
STA. 696+00.00
℄ SURVEY & CONSTRUCTION
I.R. 70

CONSTRUCTION LIMITS

I.R. 70 WESTBOUND

I.R. 70 EASTBOUND

℄ SURVEY & CONSTRUCTION I.R. 70

N 85° 58' 27" E

84" MEDIAN

PC Sta. 698+22.56

STA. 706+50.00

CONSTRUCTION LIMITS

POT Sta. 708+00.00

TS Sta. 708+47.12

SC Sta. 710+97

S 84° 15' 10" E

CONSTRUCTION LIMITS

NORTHWEST RAMP

P.I.= Sta. 716+21.43
D = 17° 59' 14" (RT)
Dc = 8° 00' 00"
R = 716.20'
T = 113.35'
L = 224.84'
E = 8.91'
C = 223.92'
C.B. = S 50° 39' 56" E

ITEM 606
IMPACT ATTENUATOR, TYPE 1
(BIDIRECTIONAL)

8-GR

15:1 FLARE

I.R. 70 WESTBOUND

℄ SURVEY & CONSTRUCTION I.R. 70

S 80° 21' 33" E

I.R. 70 EASTBOUND

STA. 719+00.00

P.I.= Sta. 719+90.92
D = 25° 11' 14" (LT)
Dc = 23° 00' 01"
R = 249.11'
T = 55.65'
L = 109.51'
E = 6.14'
C = 108.63'
C.B. = S 54° 15' 56" E

9-GR

ITEM 606
GUARDRAIL,
BARRIER DESIGN,
TYPE 5

ITEM 202
EXISTING GUARDRAIL
TO BE REMOVED

CONSTRUCTION LIMITS

P.I.= Sta. 710+29.71
D = 11° 27' 00" (RT)
Dc = 2° 30' 00"
R = 2,291.83'
T = 229.77'
L = 458.00'
E = 11.19'
C = 457.24'
C.B. = S 78° 30' 33" E

PC Sta. 708+00.00

PT Sta. 711+68.00

CS Sta. 712+58.00

SOUTHWEST RAMP

S 59° 41' 35" E

CONSTRUCTION LIMITS

HORIZONTAL SCALE IN FEET

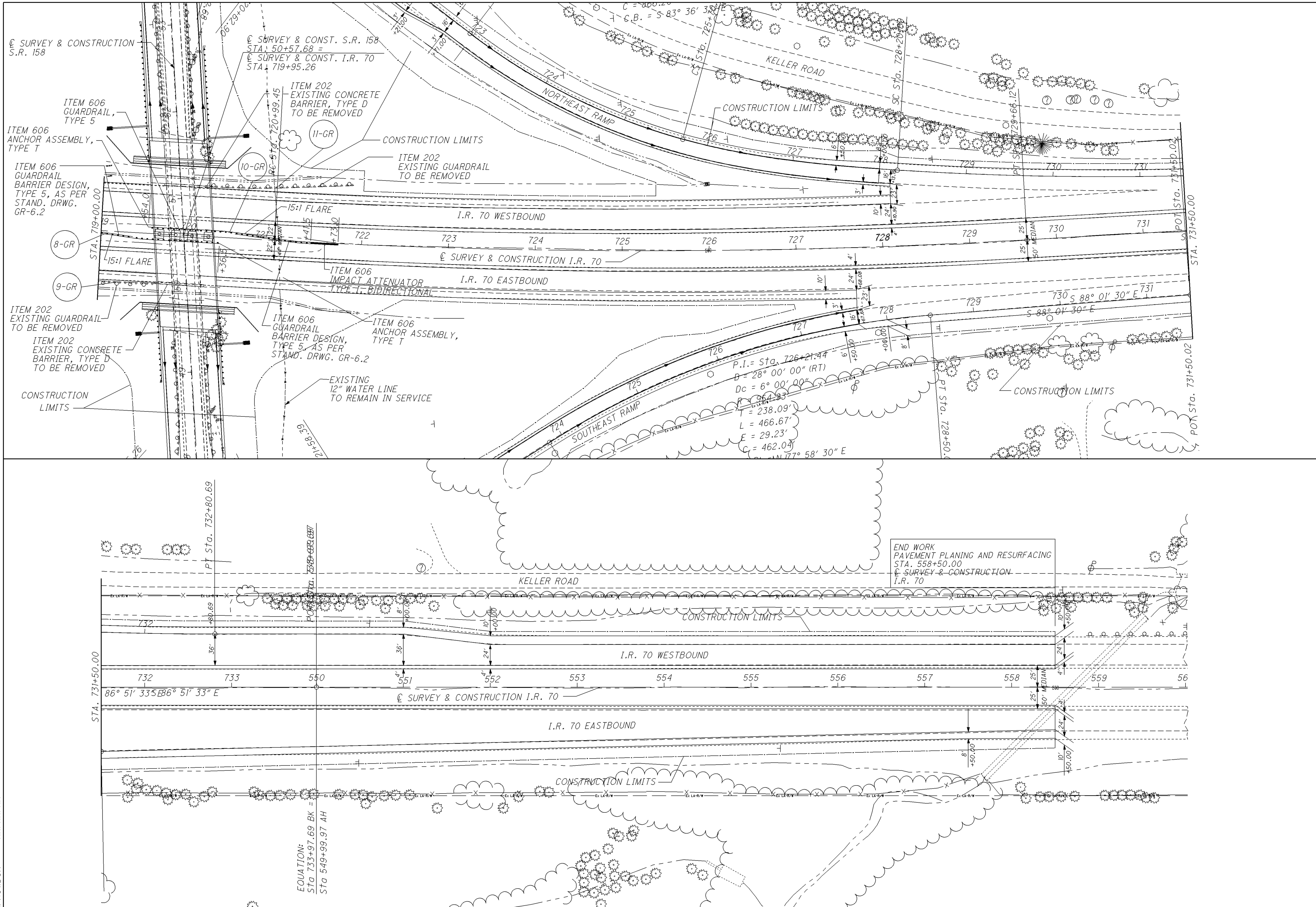
CALCULATED R.J.G.
CHECKED J.C.

PLAN SHEET I.R. 70
STA.694+00.00 TO STA. 719+00.00

LIC-158-0.56

66
219

PLPRO1.DGN XX/XX/XX



℄ SURVEY & CONSTRUCTION S.R. 158
℄ SURVEY & CONST. S.R. 158 STA. 50+57.68 = ℄ SURVEY & CONST. I.R. 70 STA. 719+95.26
ITEM 202 EXISTING CONCRETE BARRIER, TYPE D TO BE REMOVED
ITEM 606 GUARDRAIL, TYPE 5
ITEM 606 ANCHOR ASSEMBLY, TYPE T
ITEM 606 GUARDRAIL BARRIER DESIGN, TYPE 5, AS PER STAND. DRWG. GR-6.2
CONSTRUCTION LIMITS
ITEM 202 EXISTING GUARDRAIL TO BE REMOVED
11-GR
10-GR
8-GR
9-GR
15:1 FLARE
I.R. 70 WESTBOUND
℄ SURVEY & CONSTRUCTION I.R. 70
I.R. 70 EASTBOUND
ITEM 606 IMPACT ATTENUATOR TYPE 1, BIDIRECTIONAL
ITEM 202 EXISTING GUARDRAIL TO BE REMOVED
ITEM 202 EXISTING CONCRETE BARRIER, TYPE D TO BE REMOVED
ITEM 606 GUARDRAIL BARRIER DESIGN, TYPE 5, AS PER STAND. DRWG. GR-6.2
ITEM 606 ANCHOR ASSEMBLY, TYPE T
EXISTING 12" WATER LINE TO REMAIN IN SERVICE
CONSTRUCTION LIMITS
STA. 719+00.00
NORTHEAST RAMP
KELLER ROAD
CONSTRUCTION LIMITS
C.B. = S 83° 36' 3_" E
SOUTHEAST RAMP
P.I.= Sta. 726+21.44
D = 28° 00' 00" (RT)
Dc = 6° 00' 00"
R = 954.93'
T = 238.09'
L = 466.67'
E = 29.23'
C = 462.04'
S 88° 01' 30" E
50' MEDIAN
CONSTRUCTION LIMITS
STA. 731+50.00
STA. 731+50.02
PT Sta. 732+80.69
KELLER ROAD
END WORK PAVEMENT PLANING AND RESURFACING STA. 558+50.00 ℄ SURVEY & CONSTRUCTION I.R. 70
CONSTRUCTION LIMITS
I.R. 70 WESTBOUND
℄ SURVEY & CONSTRUCTION I.R. 70
86° 51' 33" E
I.R. 70 EASTBOUND
CONSTRUCTION LIMITS
EQUATION: Sta 733+97.69 BK = Sta 549+99.97 AH
50' MEDIAN

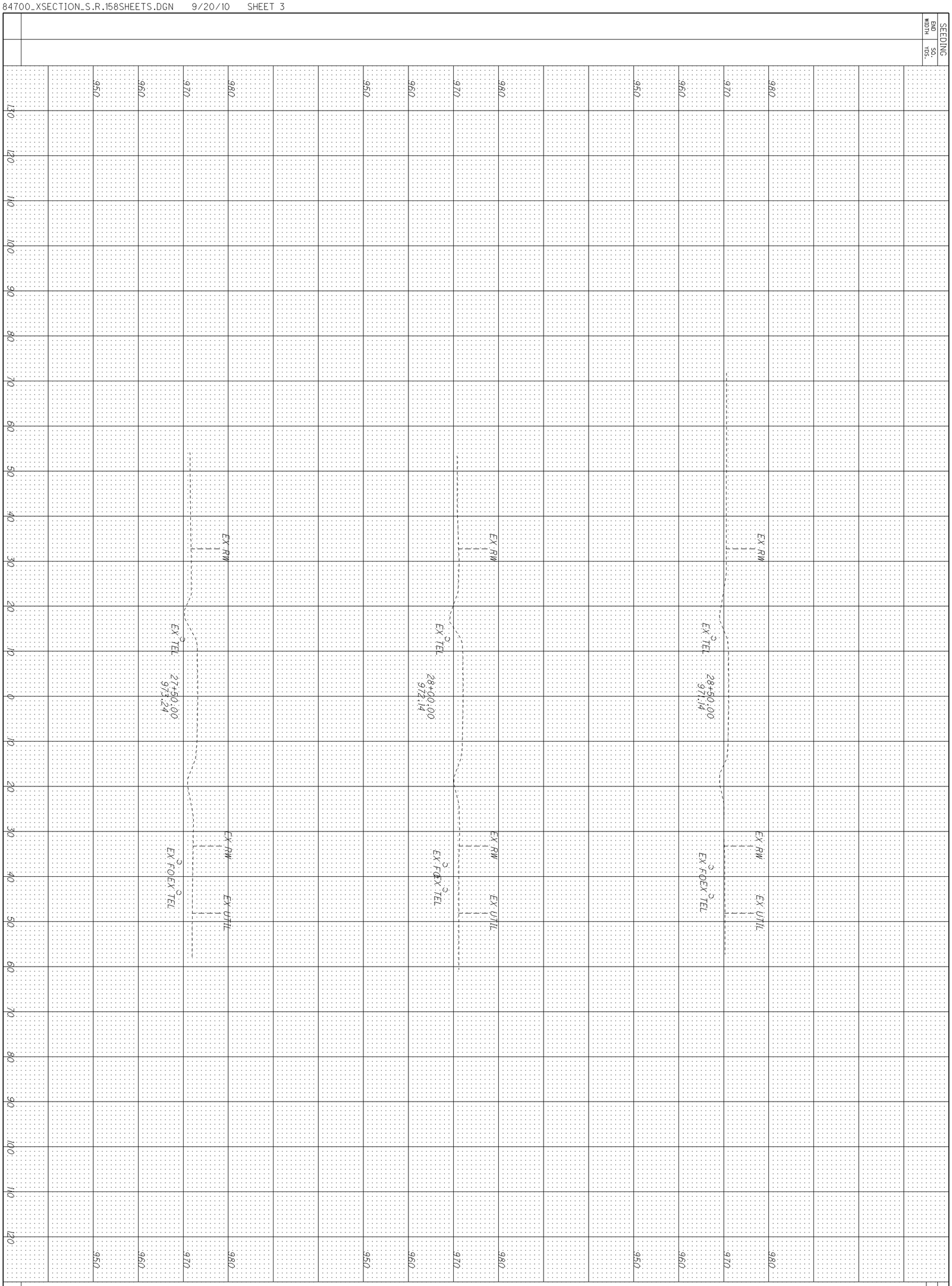
HORIZONTAL SCALE IN FEET

CALCULATED M.M.
CHECKED J.C.

PLAN SHEET I.R. 70
STA. 719+00.00 TO STA. 560+00.00

LIC-158-0.56

PLPRO1.DGN XX/XX/XX



LIC-158-0.56

CROSS SECTIONS S.R. 158
STA. 27+50.00 TO STA. 28+50.00

CALCULATED RJG
CHECKED HAG

SEEDING	
END WIDTH	SQ. YDS.
43	138
56	317
58	455

END AREA		VOLUME	
CUT	FILL	CUT	FILL
65	19	61	18
65	18	115	27
59	11	176	45

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 29+00.00 TO STA. 29+75.00

LIC-158-0.56

69
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 4

SEEDING	
END WIDTH	SQ. YDS.
55	153
55	146
50	130
	429

END AREA		VOLUME	
CUT	FILL	CUT	FILL
77	44		
		84	38
104	37		
		86	30
81	28		
		68	22
		238	90

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158 STA. 30+00.00 TO STA. 30+50.00

LIC-158-0.56

SEEDING	
END WIDTH	SQ. YDS.
54	174
71	214
83	192
	580

END AREA		VOLUME	
CUT	FILL	CUT	FILL
72	35	90	42
122	54	117	51
130	56	96	47
		303	140

CALCULATED RJG

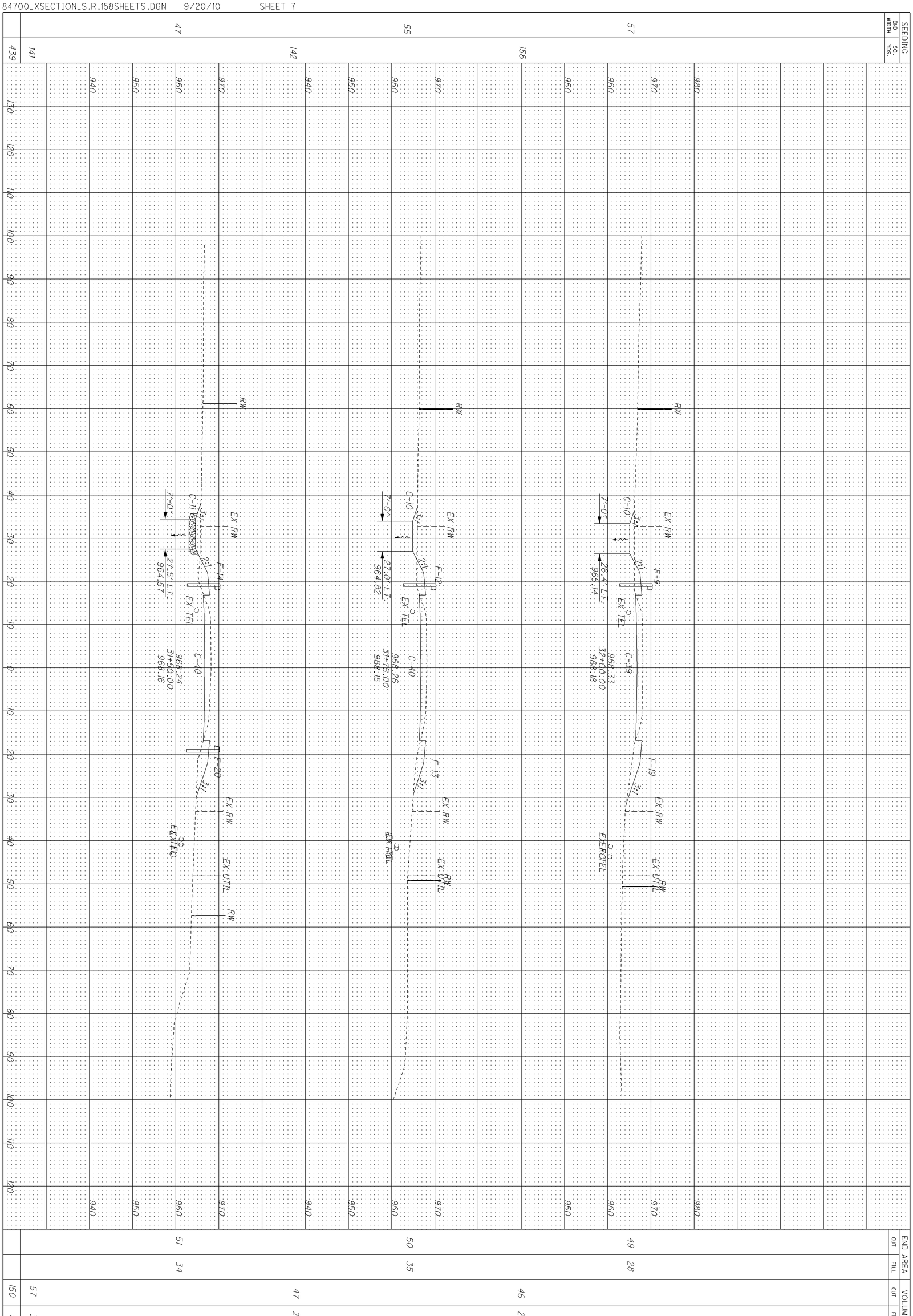
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 30+75.00 TO STA. 31+25.00

LIC-158-0.56

71
219

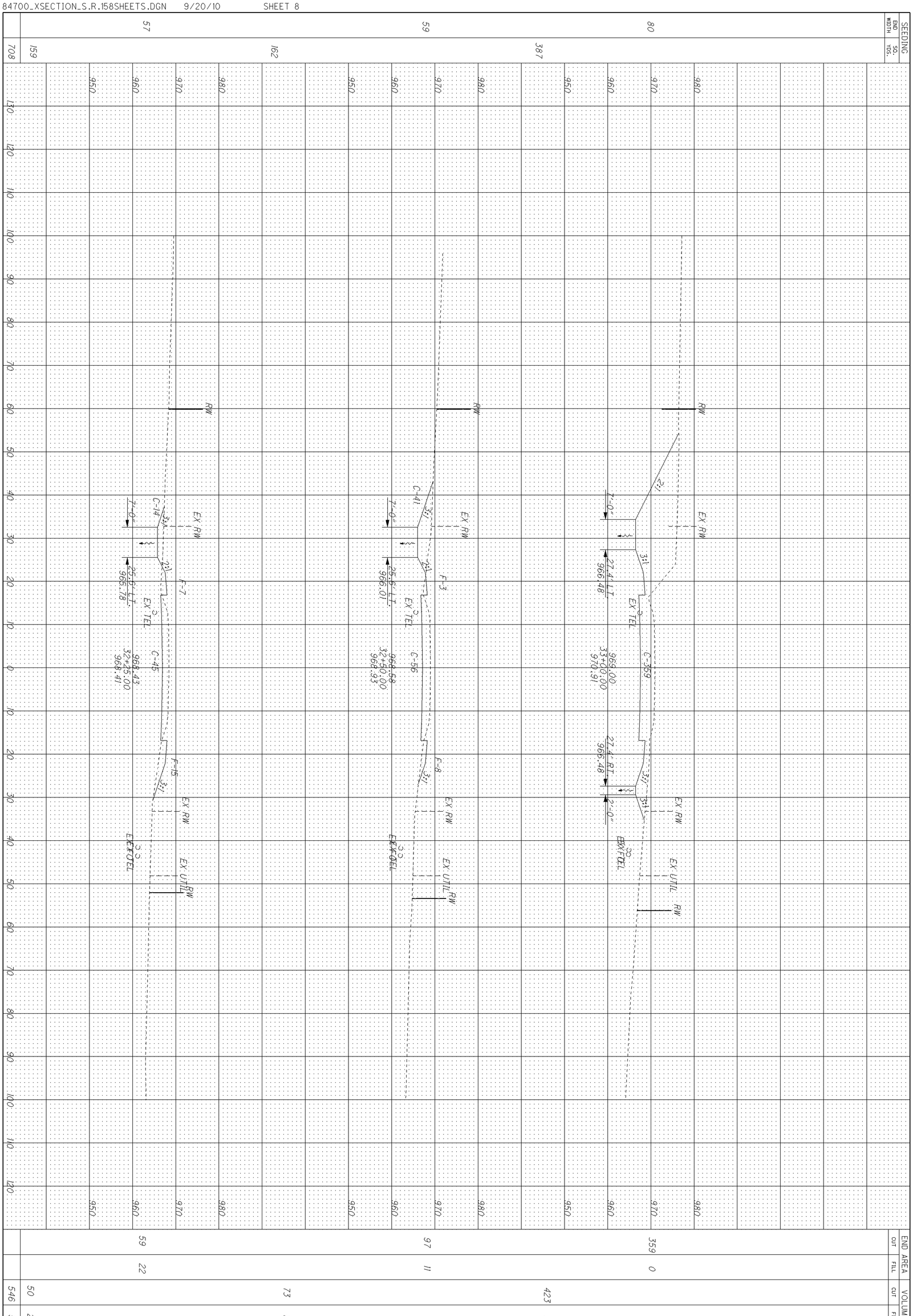
84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 6



LIC-158-0.56

CROSS SECTIONS S.R. 158
STA. 31+50.00 TO STA. 32+00.00

CALCULATED RJG
CHECKED HAG

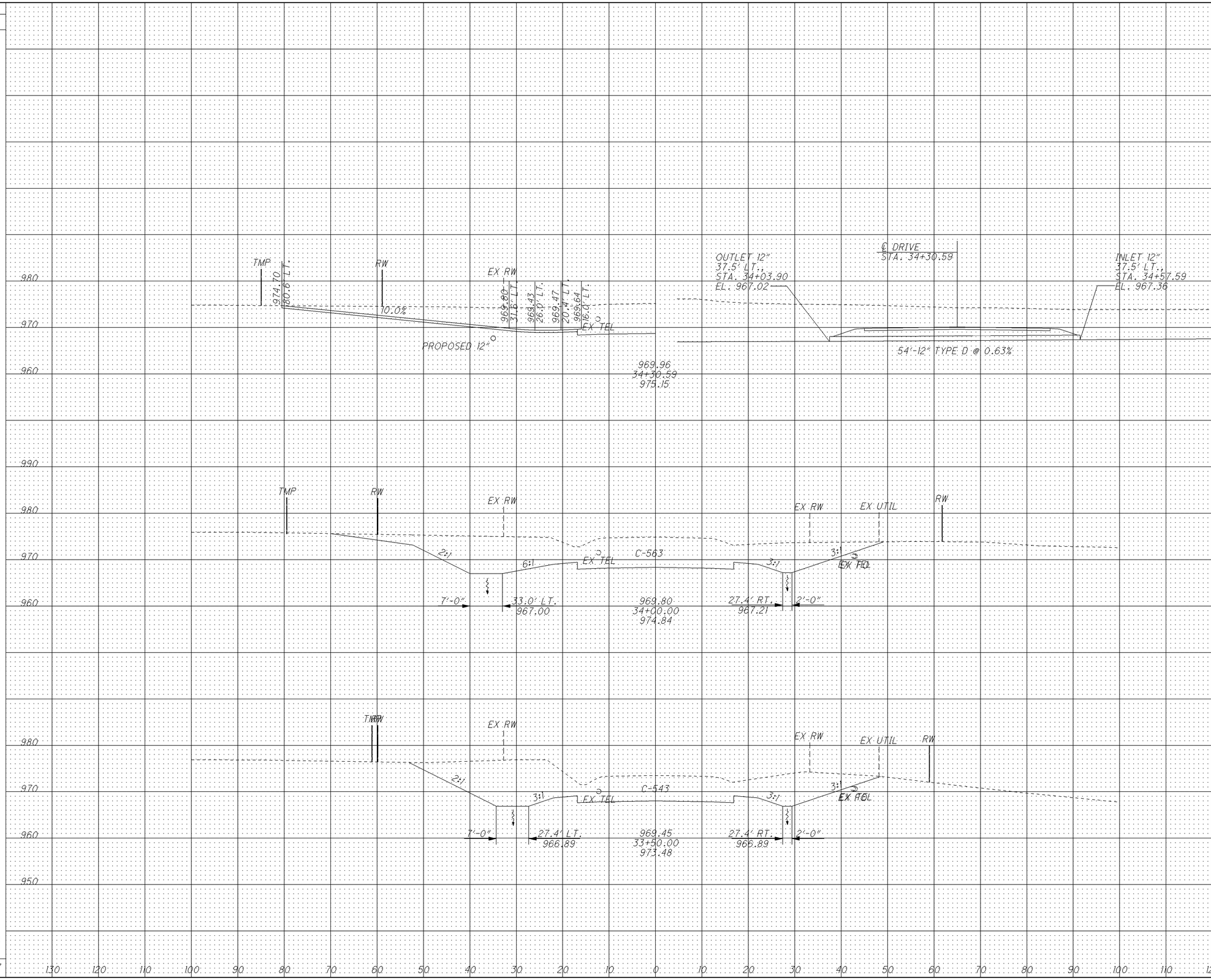


LIC-158-0.56

CROSS SECTIONS S.R. 158
STA. 32+25.00 TO STA. 33+00.00

CALCULATED RJG
CHECKED HAG

SEEDING	
END WIDTH	SQ. YDS.
	109
	559
	92
	478
	1037



END AREA		VOLUME	
CUT	FILL	CUT	FILL
571	0		
		1032	0
543	0		
		836	0
		1868	0

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 33+50.00 TO STA. 34+30.59

LIC-158-0.56

74
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 9

SEEDING	
END WIDTH	SQ. YDS.
	94
	573
	112
	614
	1187

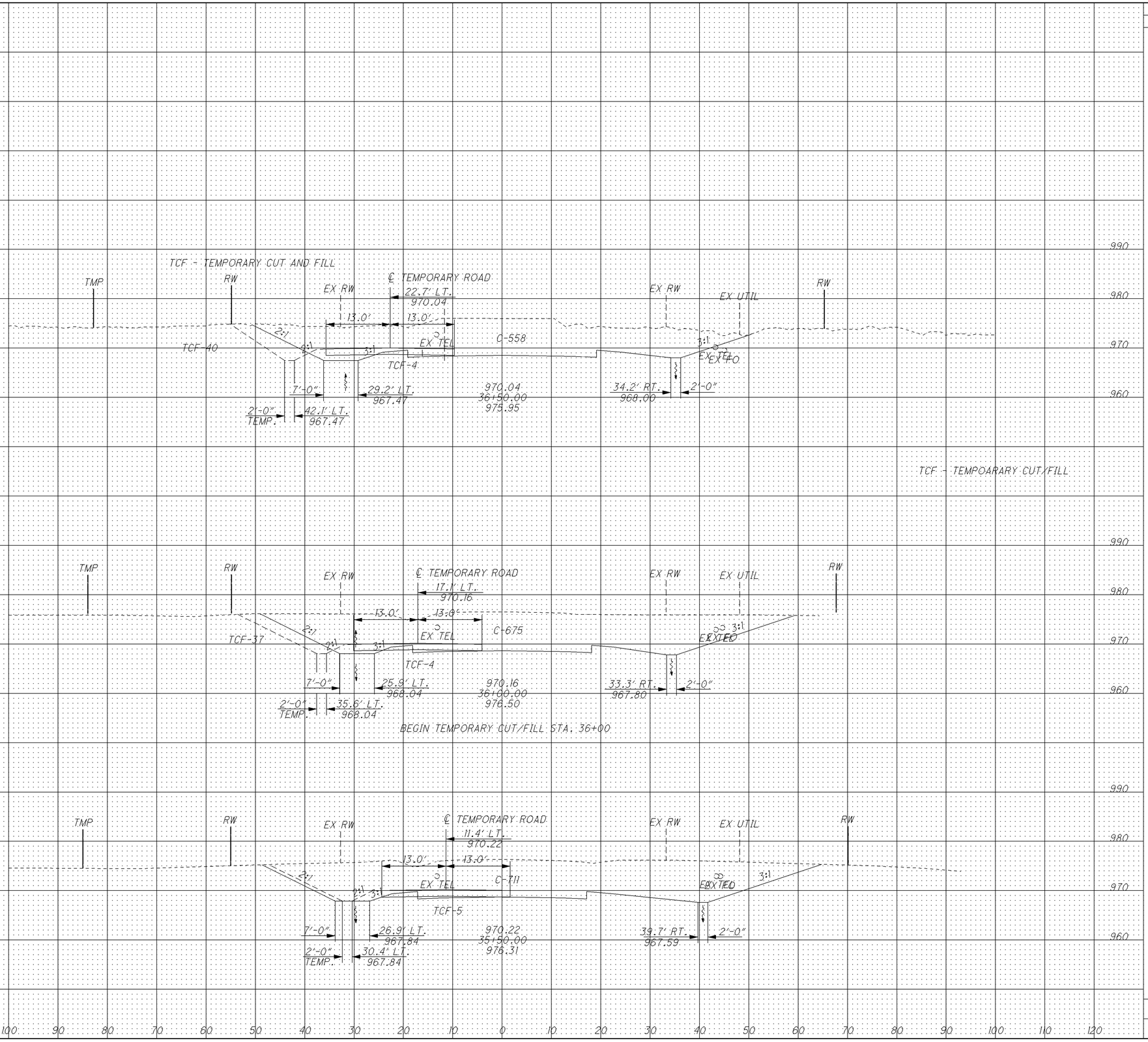
END AREA		VOLUME	
CUT	FILL	CUT	FILL
		537	0
		932	0
		469	0
		963	0
		1895	0

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 34+50.00 TO STA. 35+16.21

LIC-158-0.56

SEEDING	
END WIDTH	SQ. YDS.
	87
	512
	97
	562
	105
	553
	1627



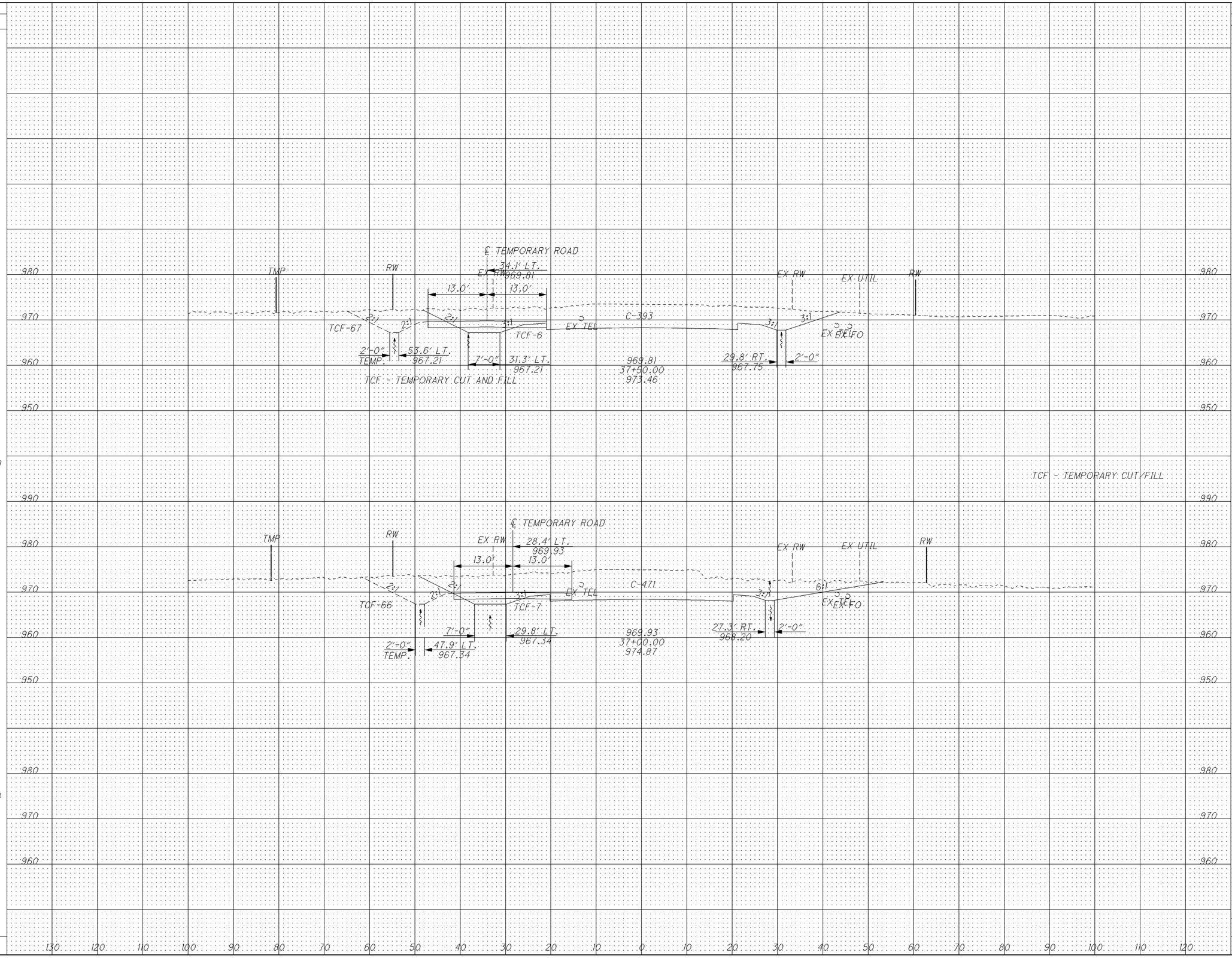
END AREA		VOLUME	
CUT	FILL	CUT	FILL
558	0		
TCF 44	TCF 44		
		1142	0
		TCF 79	TCF 79
675	0		
TCF 41	TCF 41		
		1284	0
711	0		
		1156	0
		3582	0
		TCF 79	TCF 79

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 35+50.00 TO STA. 36+50.00

LIC-158-0.56

SEEDING	
END WIDTH	SQ. YDS.
73	
	439
85	
	478
	917



END AREA		VOLUME	
CUT	FILL	CUT	FILL
393	0		
TCF 73	TCF 73		
		800	0
		TCF 136	TCF 136
471	0		
TCF 73	TCF 73		
		953	0
		TCF 109	TCF 109
		1753	0
		TCF 245	TCF 245

CALCULATED RJG
CHECKED HAG

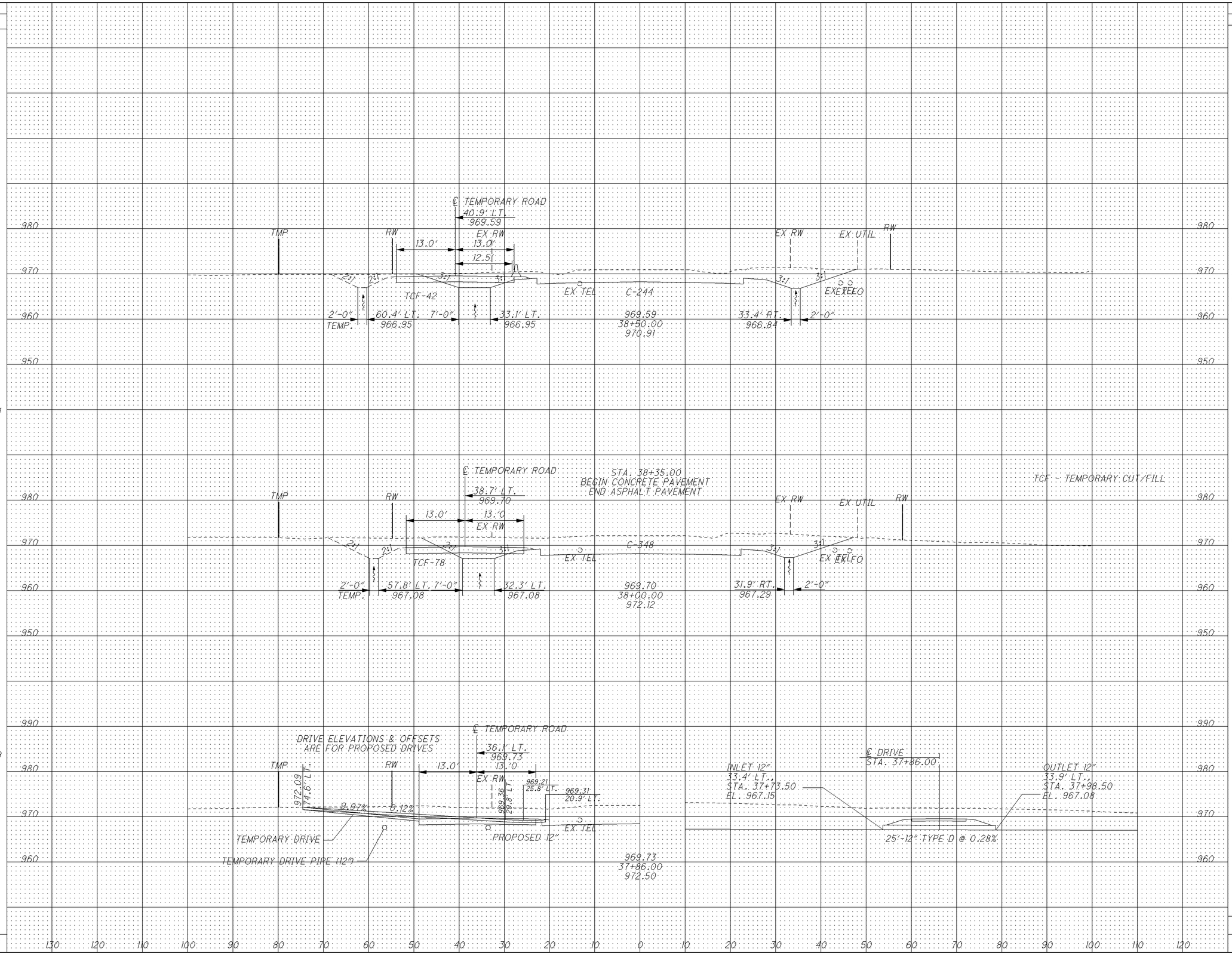
CROSS SECTIONS S.R. 158
STA. 37+00.00 TO STA. 37+50.00

LIC-158-0.56

77
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 12

SEEDING	
END WIDTH	SQ. YDS.
75	
	414
74	
	409
	823



END AREA		VOLUME	
CUT	FILL	CUT	FILL
244	0		
TCF 42	TCF 42		
		549	0
		TCF 112	TCF 112
348	0		
TCF 78	TCF 78		
		687	0
		TCF 140	TCF 140
		1236	0
		TCF 252	TCF 252

CALCULATED RJG
CHECKED HAG

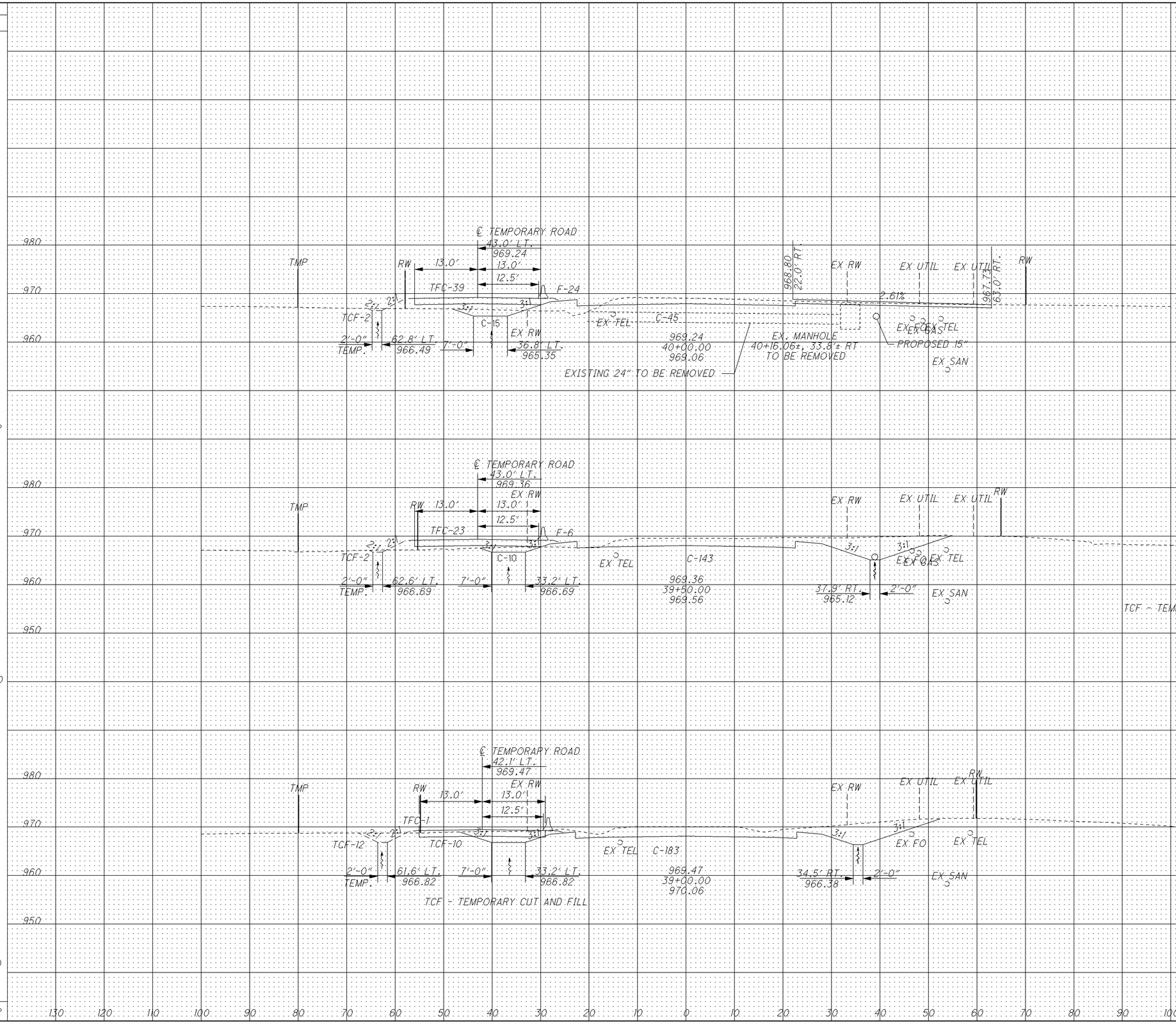
CROSS SECTIONS S.R. 158
STA. 37+86.00 TO STA. 38+50.00

LIC-158-0.56

78
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 13

SEEDING	
END WIDTH	SQ. YDS.
	37
	312
	75
	420
	76
	420
	1152



END AREA		VOLUME	
CUT	FILL	CUT	FILL
60 TCF 41	24 TCF 41		
		198 TCF 62	28 TCF 62
153 TCF 25	6 TCF 25		
		312 TCF 45	6 TCF 45
183 TCF 23	0 TCF 23		
		396 TCF 61	0 TCF 61
		906 TCF 168	34 TCF 168

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 39+00.00 TO STA. 40+00.00

LIC-158-0.56

79
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 14

SEEDING	
END WIDTH	SQ. YDS.
41	
	223
39	
	212
	435

END AREA		VOLUME	
CUT	FILL	CUT	FILL
65 TCF 25	11 TCF 25		
		108 TCF 62	31 TCF 62
51 TCF 41	22 TCF 41		
		103 TCF 76	43 TCF 76
		211 TCF 138	74 TCF 138

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 40+35.23 TO STA. 41+00.00

LIC-158-0.56

80
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 15

SEEDING	
END WIDTH	SQ. YDS.
	82
	473
	88
	359
	832

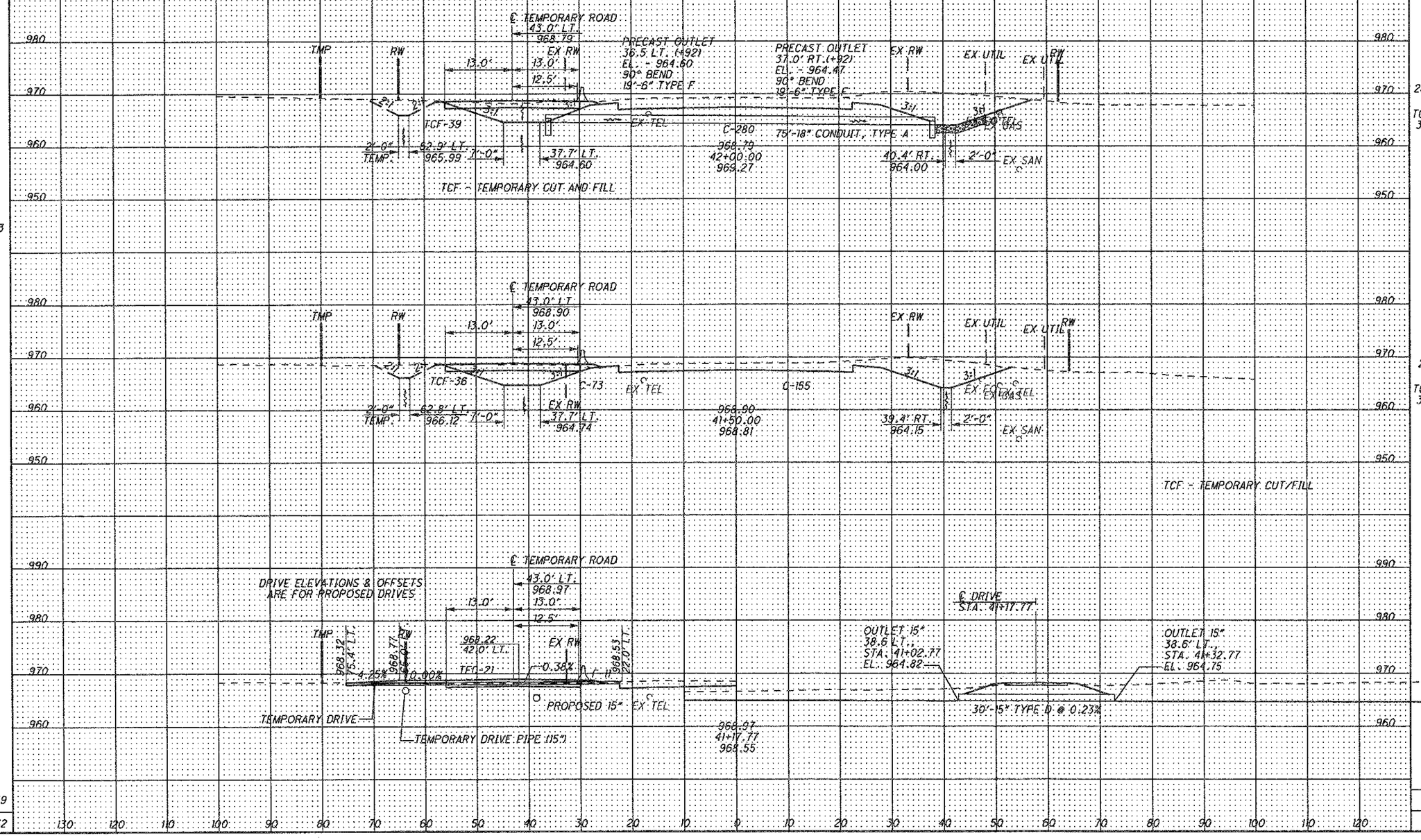
END AREA		VOLUME	
CUT	FILL	CUT	FILL
280	0		
TCF 39	TCF 39		
		471	0
		TCF 70	TCF 70
228	0		
TCF 36	TCF 36		
		272	11
		TCF 57	TCF 57
		743	11
		TCF 127	TCF 127

CALCULATED RJC
CHECKED HAC

CROSS SECTIONS S.R. 158
STA. 41+17.77 TO STA. 42+00.00

LIC-158-0.56

81
219



SEEDING	
END WIDTH	SQ. YDS.
0	
	228
	228

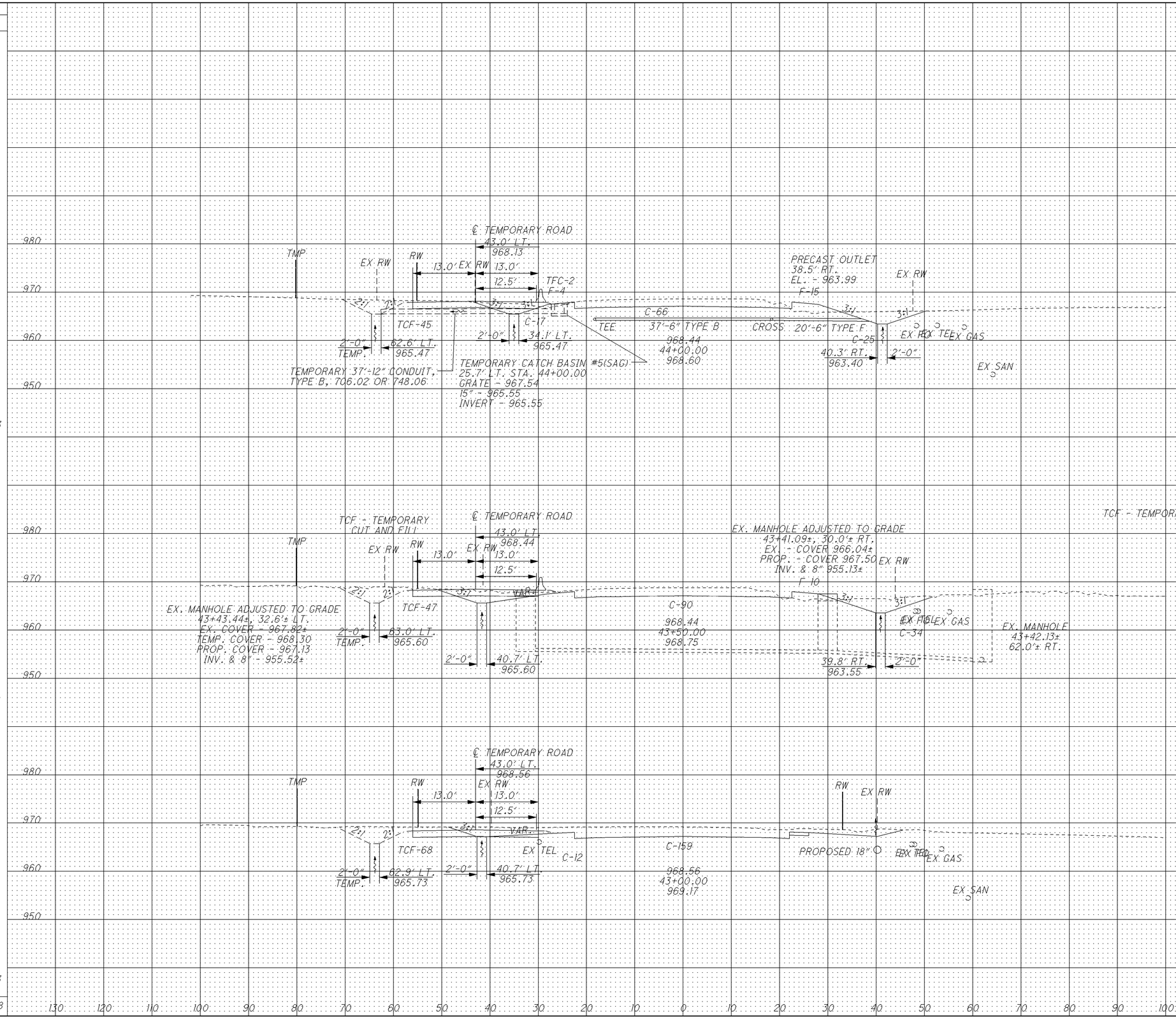
END AREA		VOLUME	
CUT	FILL	CUT	FILL
129 TCF 40	0 TCF 40		
		379 TCF 74	0 TCF 74
		379 TCF 74	0 TCF 74

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 42+50.00 TO STA. 42+71.48

LIC-158-0.56

SEEDING	
END WIDTH	SQ. YDS.
	71
	423
	81
	412
	67
	673
	1508



END AREA		VOLUME	
CUT	FILL	CUT	FILL
108 TCF 47	19 TCF 47		
		215 TCF 87	27 TCF 87
124 TCF 47	10 TCF 47		
		262 TCF 107	10 TCF 107
159 TCF 68	0 TCF 68		
		267 TCF 100	0 TCF 100
		744 TCF 294	37 TCF 294

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 43+00.00 TO STA. 44+00.00

LIC-158-0.56

SEEDING	
END WIDTH	SQ. YDS.
88	
83	475
74	437
	403
	1315

END AREA		VOLUME	
CUT	FILL	CUT	FILL
98 TCF 64	42 TCF 64		
112 TCF 36	43 TCF 36		
86 TCF 37	32 TCF 38		
		195 TCF 93	79 TCF 93
		184 TCF 68	70 TCF 68
		180 TCF 78	48 TCF 78
		559 TCF 239	197 TCF 239

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 44+50.00 TO STA. 45+50.00

LIC-158-0.56

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
				1,712	1,712
49	132	23	51	49	48
0	0	30	0	65	0
0	0	TCF 18	TCF 18	TCF 20	TCF 20
0	0	40	0	128	39
	245	TCF 18	TCF 18	TCF 76	TCF 76
				242	87
	377			TCF 96	TCF 96

INFORMATION ONLY
TOTAL TEMPORARY CUT/FILL
SEE NOTE ON SHEET 23.

980 / 970 / 960 / 950

F-30 4:1 — C-23 — 972.74 47+00.00 972.10 — F-21 4:1

EX FO

EX WATER

MATCHLINE SOUTHWEST RAMP

MATCHLINE SOUTHEAST RAMP

C-30 971.62 46+50.00 971.05

EX FO

EX WATER

END TEMPORARY CUT/FILL
STA. 46+30.00

TEMPORARY CUT/FILL
BACK STA. 46+30.00

℄ TEMPORARY ROAD
42.0' LT.
970.38
13.0'
13.0'
12.5'
2:1
TFC-7
TCF-11

MATCHLINE SOUTHWEST RAMP

MATCHLINE SOUTHEAST RAMP

C-40 970.56 46+00.00 970.19

EX FO

EX WATER

TCF - TEMPORARY CUT AND FILL

TCF - TEMPORARY CUT/FILL

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

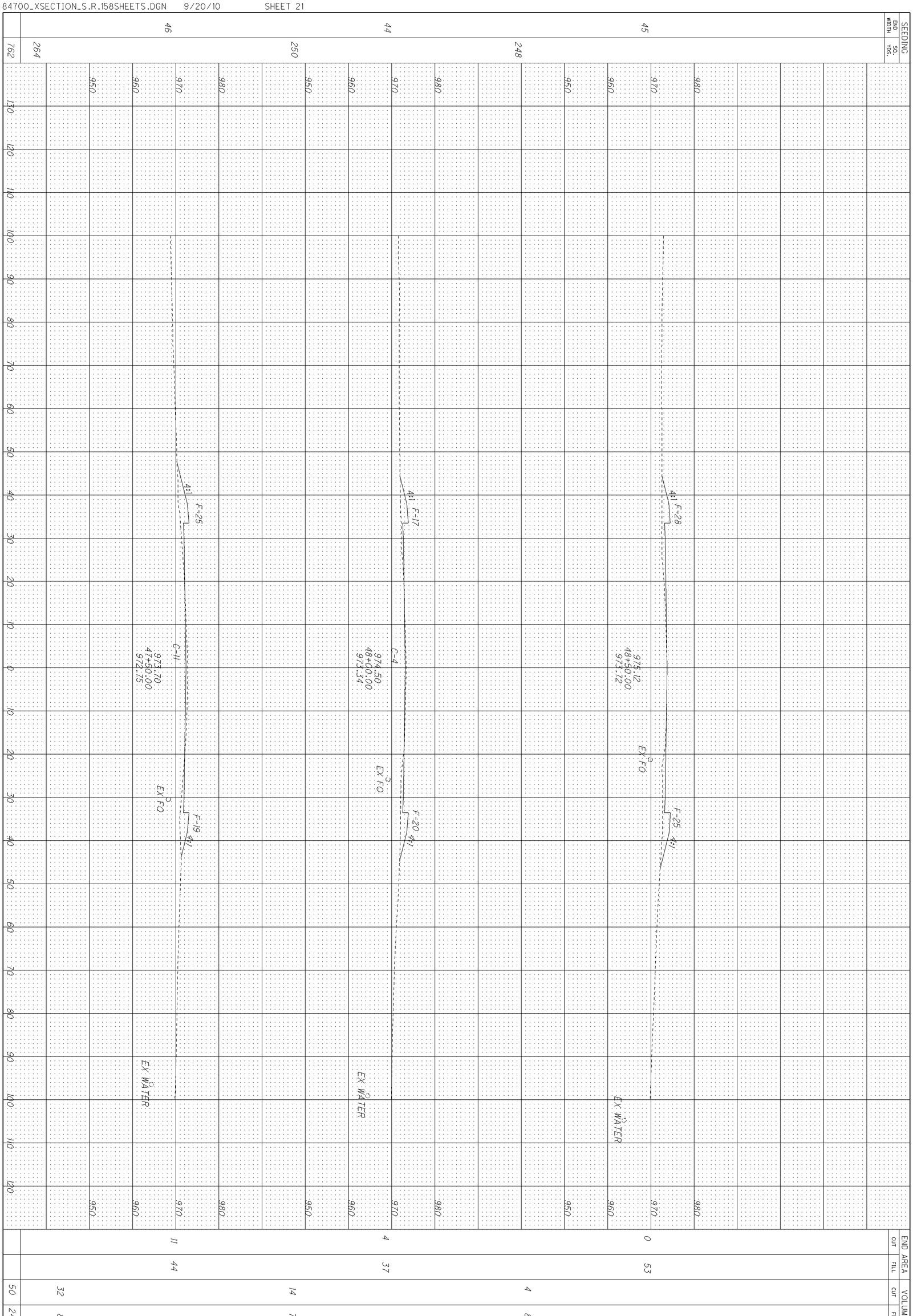
CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 46+00.00 TO STA. 47+00.00

LIC-158-0.56

85
219

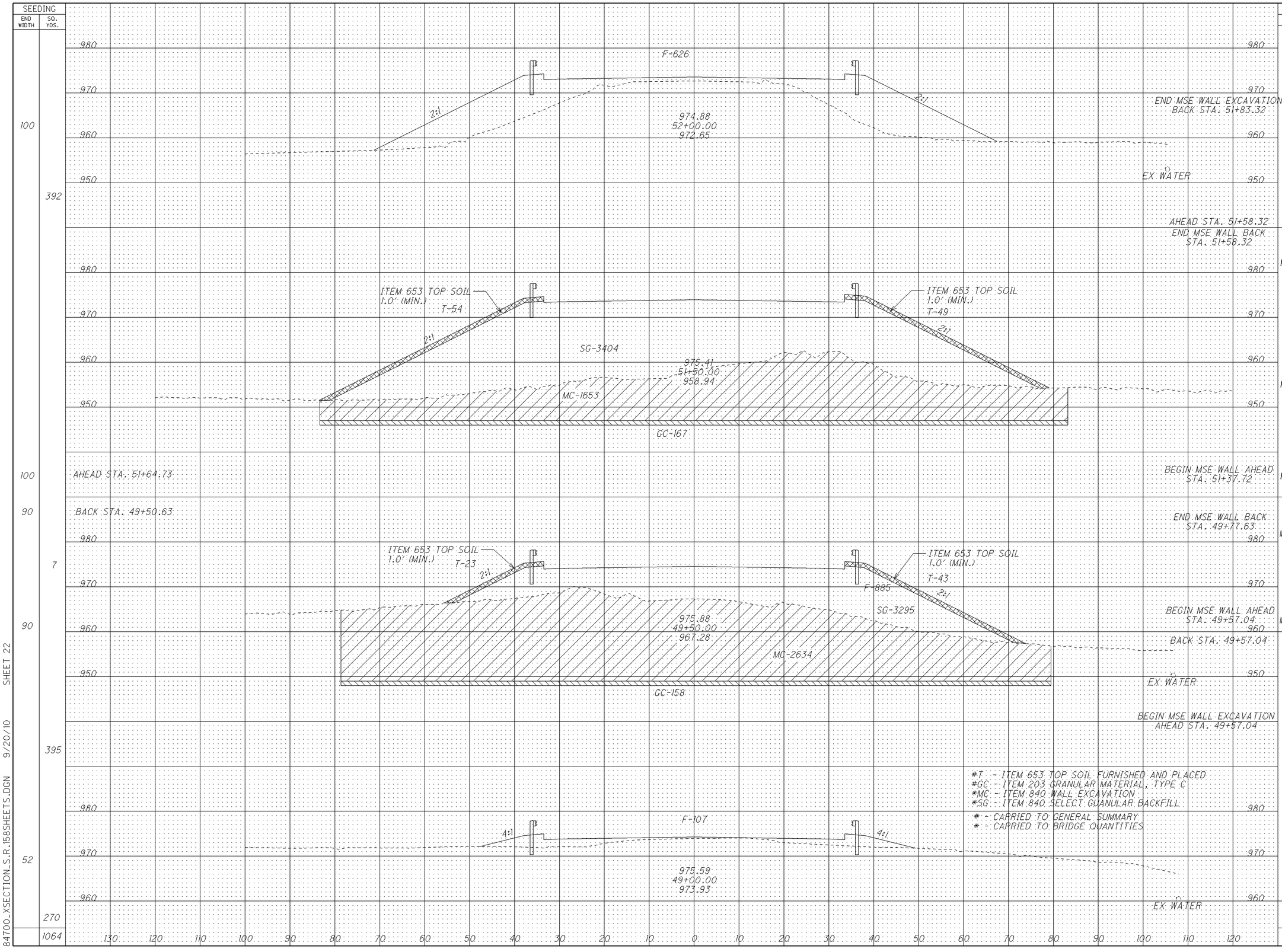
84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 20



LIC-158-0.56

CROSS SECTIONS S.R. 158
STA. 47+50.00 TO STA. 48+50.00

CALCULATED RJG
CHECKED HAG



SEEDING	
END WIDTH	SQ. YDS.
100	392
100	
90	7
90	395
52	
	270
	1064

END AREA		VOLUME	
CUT	FILL	CUT	FILL
MC-0	SG-0		
0	626		
		MC-765	SG-1576
		0	966
0	626		
MC-1653	T-102 GC-167 SG-3404		
		MC-509	T-31 GC-51 SG-875
MC-1653	T-102 GC-167 SG-3404		
		MC-752	T-46 GC-76 SG-1292
MC-1653	T-102 GC-167 SG-3404		
MC-2634	T-66 GC-158 SG-3295		
		MC-2009	T-50 GC-121 SG-2512
MC-2634	T-66 GC-158 SG-3295		
0	885		
		0	231
0	885	MC-1219	SG-1525
MC-0	SG-0		
		0	919
0	107		
		0	149
		#T-127 #GC-648	
#MC-5254	#SG-7180		
		0	1907

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 49+00.00 TO STA. 52+00.00

LIC-158-0.56

87
219

SHEET 22
9/20/10
84700_XSECTION_S.R.158SHEETS.DGN

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RJG
CHECKED HAC

CB #3, A.P.P.
33' LT., STA. 51+85.30
GRATE = 974.34
℄ EL. 15" = 968.92

OUTLET 15"
75.4' LT.
EL. = 955.93

10'-15" CONDUIT, TYPE F
707.05, TYPE C @ 1.00%

975.06
51+85.30
972.75

29'-15" CONDUIT, TYPE F
707.05, TYPE C @ 50.0%

ROCK CHANNEL PROTECTION
TYPE C WITH FILTER
6' X 4' X 1.5'÷27 = 1.33 CU. YD

HW-2.2

8'-15" CONDUIT, TYPE F
707.05, TYPE C @ 1.00%

2:1

PRECAST OUTLET
44.8' LT. (+73.5)
EL. = 971.85

CB #3, A.P.P.
33' RT., STA. 51+67.66
GRATE = 974.53
℄ EL. 6"(W)
℄ EL. 15"(E) = 969.07

37'-6" TYPE B
FOR UNDERDRAIN DETAIL SEE SHEET XX

10'-15" CONDUIT, TYPE F
707.05, TYPE C @ .00%

975.25
51+67.66
970.11

29'-15" CONDUIT, TYPE F
707.05, TYPE C @ 50.0%

7'-15" CONDUIT, TYPE F
707.05, TYPE C @ 1.00%

MC-2454

HW-2.2

OUTLET 15"
75.4' RT.
EL. = 956.00

ROCK CHANNEL PROTECTION
TYPE C WITH FILTER
6' X 4' X 1.5' ÷ 27 = 1.33 CU. YD

CB #3, A.P.P.
33' LT., STA. 49+47.64
GRATE = 975.15
℄ EL. 6"(E) = 971.67
℄ EL. 15"(W) = 966.76

OUTLET 15"
55.7' LT.
EL. = 966.55

PRECAST OUTLET
24.8' RT. (+41.9)
EL. = 971.47

37'-6" TYPE B
FOR UNDERDRAIN DETAIL SEE SHEET XX

22'-15" CONDUIT, TYPE C @ 1.00%

ROCK CHANNEL PROTECTION
TYPE C WITH FILTER
6' X 4' X 1.5' ÷ 27 = 1.33 CU. YD

HW-2.1 OR 2.2

975.87
49+47.64
971.45

SECTIONS FOR STORM SEWERS ONLY

CB #3, A.P.P.
33' RT., STA. 49+30.06
GRATE = 975.06
℄ EL. 15" = 964.17

OUTLET 15"
61.5' RT.
EL. = 963.90

975.78
49+30.06
974.14

27'-15" CONDUIT,
TYPE C @ 1.00%

HW-2.1 OR 2.2

ROCK CHANNEL PROTECTION
TYPE C WITH FILTER
7' X 4' X 1.5' ÷ 27 = 1.46 CU. YD

980 970 960 950

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

CROSS SECTIONS S.R. 158
STA. 49+00.00 TO STA. 52+00.00

LIC-158-0.56

87A
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
83		0	254		
	506			0	540
99		0	329		
				0	173
	484	AHEAD +85	0	292	
		BACK +85	0	368	
		0	368		
				0	447
75				0	341
		AHEAD +25	0	368	
		BACK +25	0	292	
	487			0	425
1477				0	1926

F-254
4:1
4:1
972.30
53+50.00
970.31
EX FO
EX WATER

F-329
4:1
4:1
973.32
53+00.00
971.38
EX FO
EX WATER

END SPECIAL BENCHING
STA. 52+85.00 LT. AND RT.

F-368
2:1
1.5:1
2:1
1.5:1
974.19
52+50.00
972.22
C-40
C-36
EX WATER

BEGIN SPECIAL BENCHING
STA. 52+25.00 LT. AND RT.

980 970 960 950 990

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

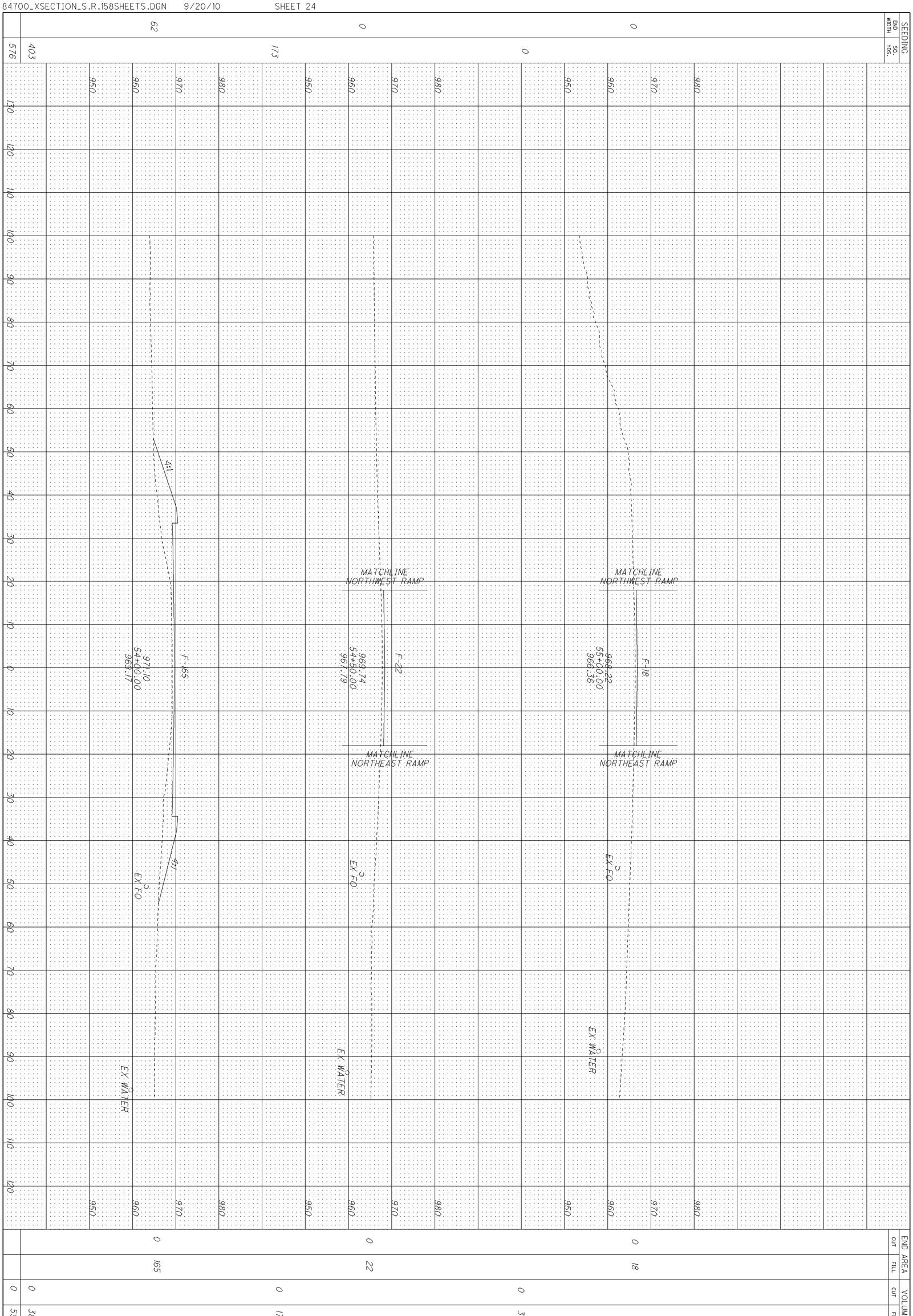
CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 52+50.00 TO STA. 53+50.00

LIC-158-0.56

88
219

SHEET 23
9/20/10
84700_XSECTION_S.R.158SHEETS.DGN



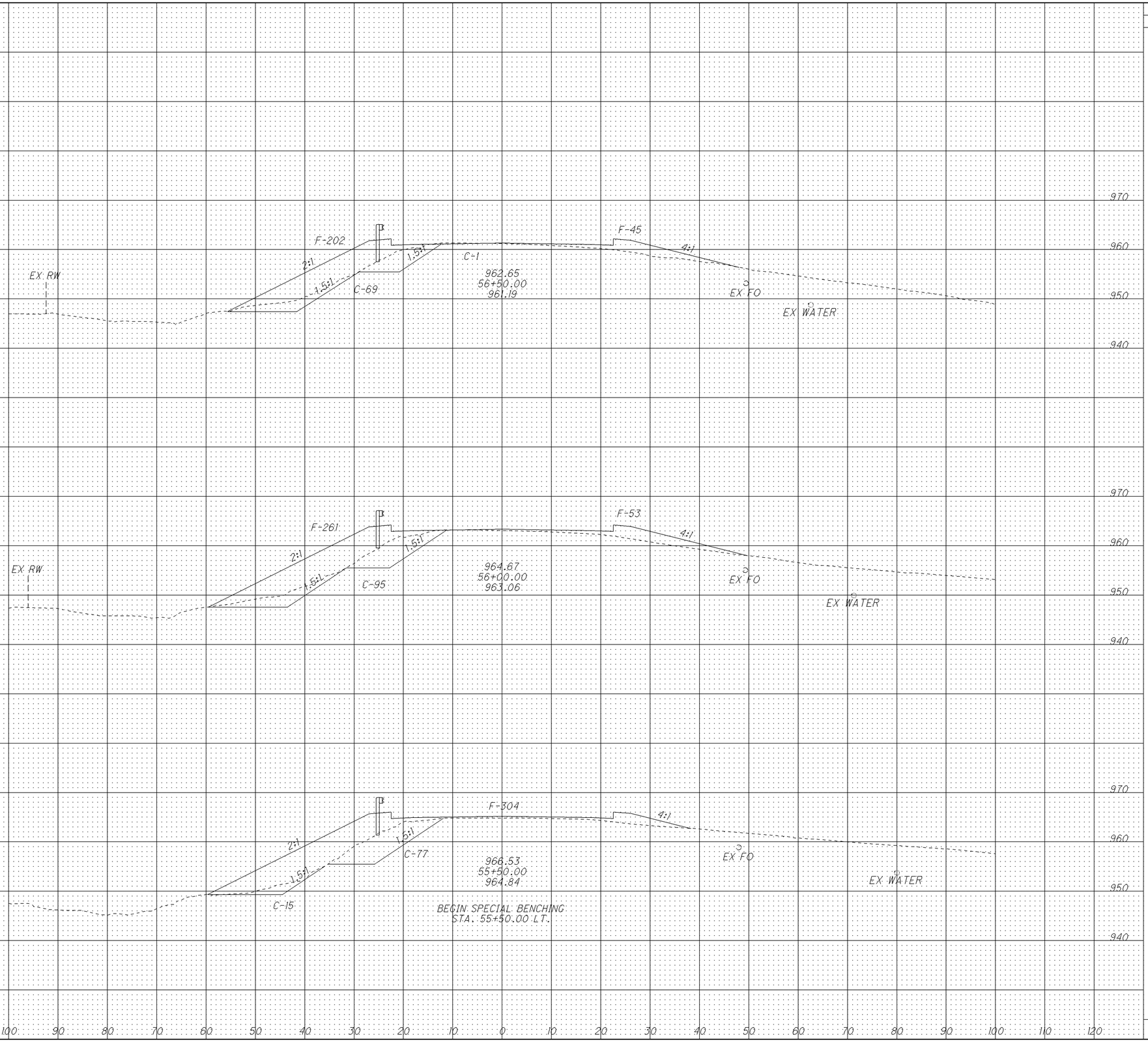
89
219

LIC-158-0.56

CROSS SECTIONS S.R. 158
STA. 54+00.00 TO STA. 55+00.00

CALCULATED RJG
CHECKED HAG

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
80	470	70	247	153	520
89	2464	95	314	174	573
78	217	92	304	86	299
	1157			413	1392



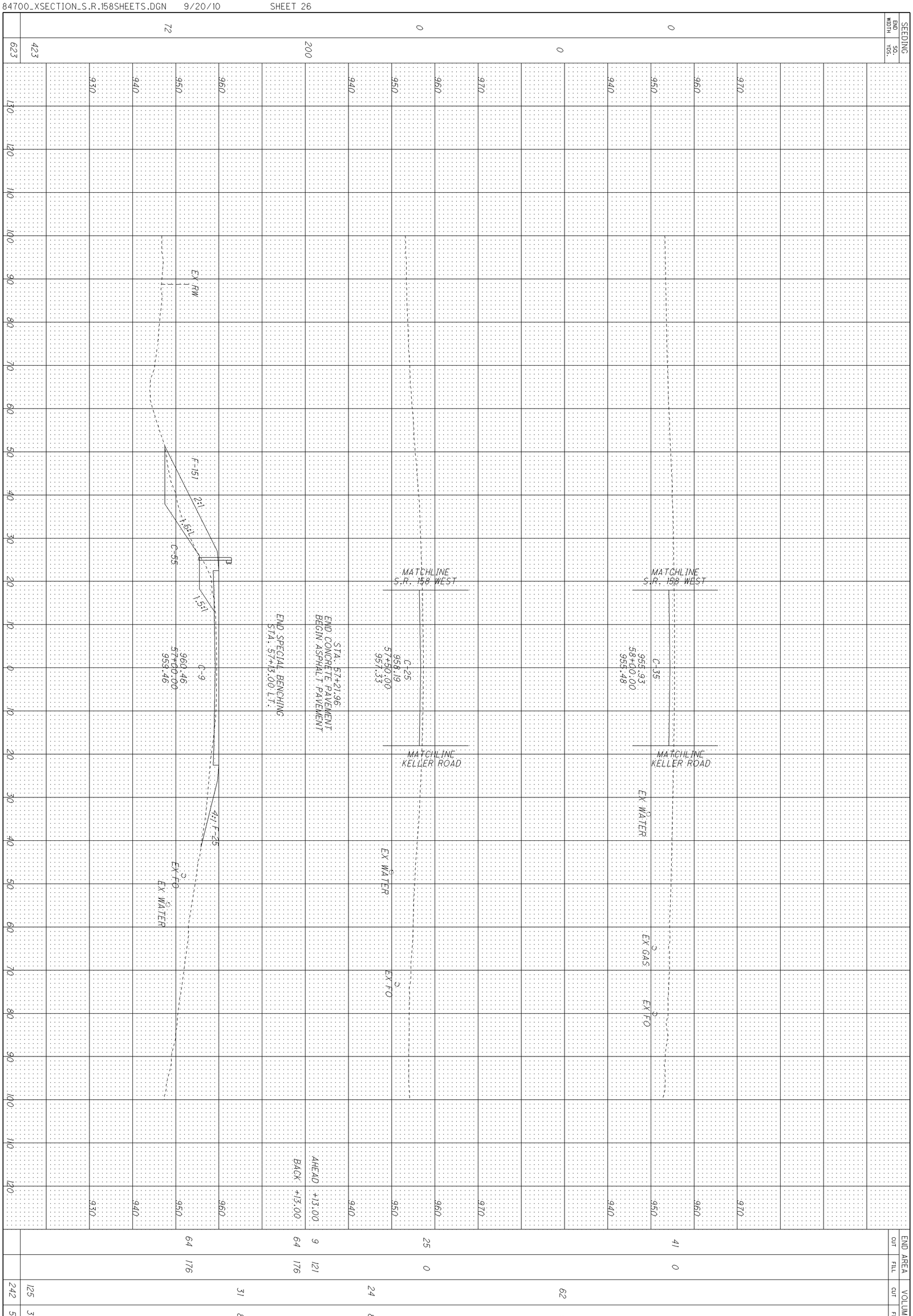
CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 55+50.00 TO STA. 56+50.00

LIC-158-0.56

90
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 25



91
219

LIC-158-0.56

CROSS SECTIONS S.R. 158
STA. 57+00.00 TO STA. 58+00.00

CALCULATED RJG
CHECKED HAG

SEEDING	
END WIDTH	SQ. YDS.
76	442
83	481
90	250
	1173

END AREA		VOLUME	
CUT	FILL	CUT	FILL
191	83	340	127
176	191	163	177
176	191		
130	73	121	68
130	73		
		159	68
		783	440

CALCULATED RJG
CHECKED HAG

EX RW
F-73
3:1
1.5:1
C-14
C-42
EX GAS
C-44
949.63
59+50.00
949.34
F-105
3:1
1.5:1
EX WATER
C-53
EX RW
5'-0"
46.5' LT.
941.74

EX RW
F-93
3:1
1.5:1
C-13
C-55
EX GAS
C-46
951.51
59+00.00
951.30
F-98
1.5:1
3:1
EX WATER
C-62
EX RW
5'-0"
50.1' LT.
942.71

BEGIN SPECIAL BENCHING
STA. 58+75.00 RT.

+75 AHEAD RT SIDE
+75 BACK RT SIDE

F-118
3:1
1.5:1
C-15
C-68
953.66
58+50.00
953.41
F-23
3:1
C-47
EX WATER
EX GAS
5'-0"
54.6' LT.
943.36

960 950 940 930 920

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

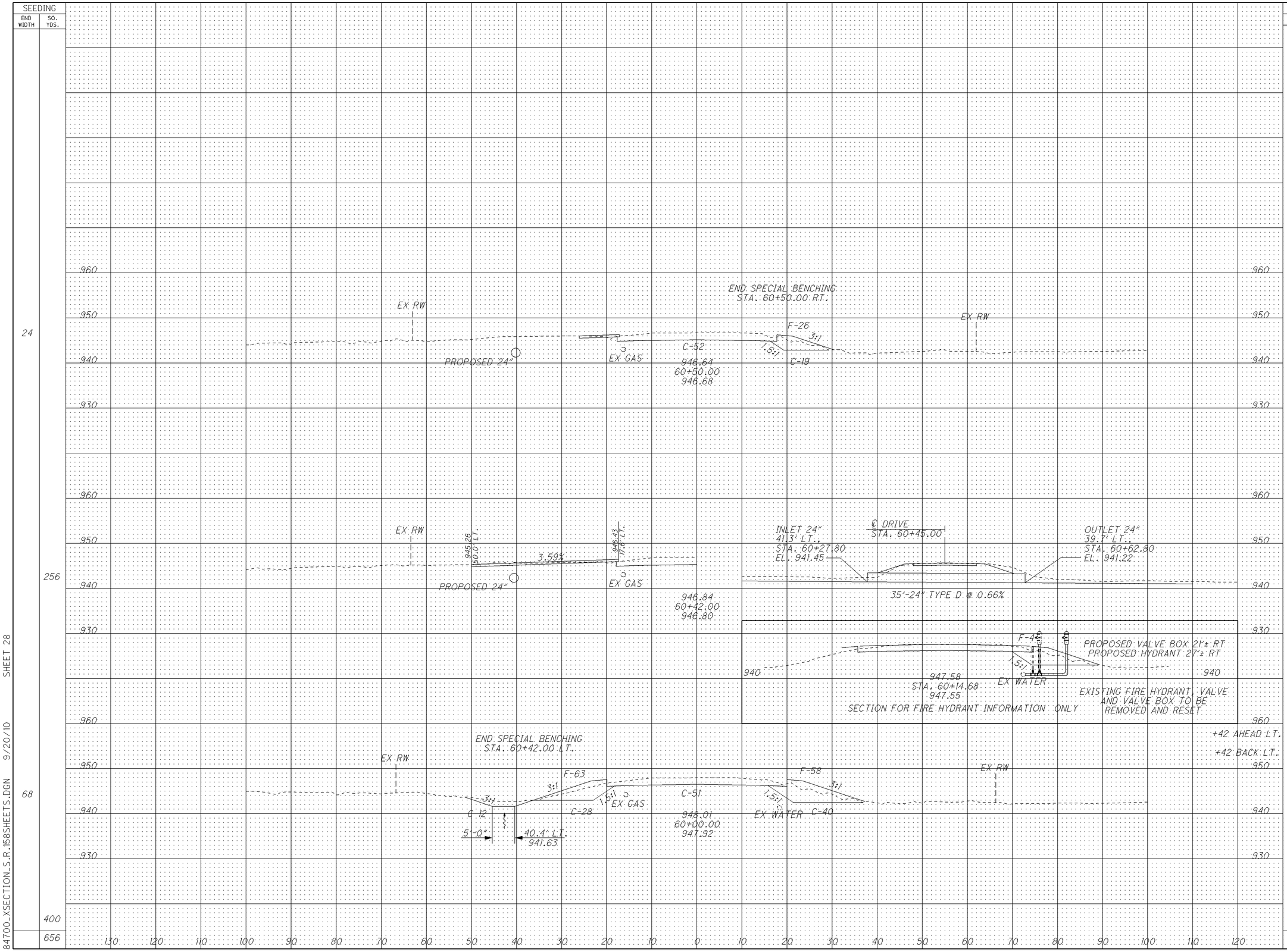
CROSS SECTIONS S.R. 158
STA. 58+50.00 TO STA. 59+50.00

LIC-158-0.56

92
219

SHEET 27
9/20/10
84700_XSECTION_S.R.158SHEETS.DGN

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
24	68	71	26		
	256			48	22
	400			298	189
	656			550	400
				+42 AHEAD LT.	71 121
				+42 BACK LT.	131 121
					131 121
					204 189



CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 60+00.00 TO STA. 60+50.00

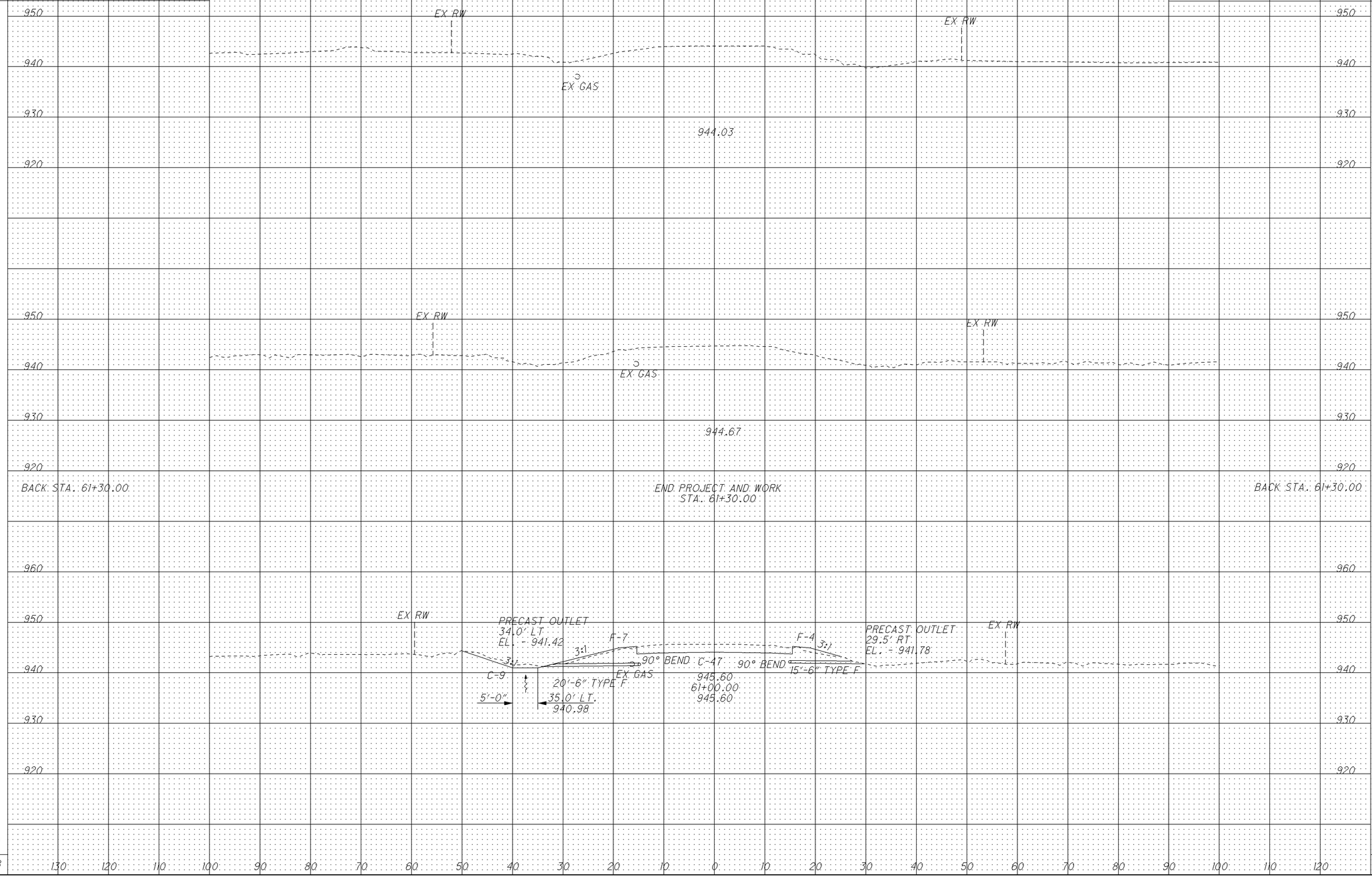
LIC-158-0.56

93
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10 SHEET 28

SEEDING SQ. YDS.	
44,299	TOTALS CARRIED TO SHEET 19 & GENERAL SUMMARY
21,965	S.R. 158 TOTALS
2,079	I.R. 70 TOTALS FROM SHEET 123
4,736	N.W. RAMP TOTALS FROM SHEET 100
5,330	N.E. TOTALS FROM SHEET 112
3,821	S.W. TOTALS FROM SHEET 108
3,906	S.E. RAMP TOTALS FROM SHEET 117
2,205	T.R. 145 TOTALS FROM SHEET 119
257	CHANNEL TOTALS FROM SHEET 146

	VOLUME CUT	VOLUME FILL
TOTALS CARRIED TO SHEET 19 & GENERAL SUMMARY	23,737	10,143
S.R. 158 TOTALS	17,815	8,370
I.R. 70 TOTALS FROM SHEET 123	127	180
N.W. RAMP TOTALS FROM SHEET 100	1,648	431
N.E. TOTALS FROM SHEET 112	864	738
S.W. TOTALS FROM SHEET 108	1,563	40
S.E. RAMP TOTALS FROM SHEET 117	1,369	41
T.R. 145 TOTALS FROM SHEET 119	331	309
CHANNEL TOTALS FROM SHEET 146	20	34



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
59		49	11		
	197			59	13
59		56	11		
	231			118	17
	428			177	30

CALCULATED RJG
CHECKED HAG

CROSS SECTIONS S.R. 158
STA. 61+00.00 TO STA. 62+00.00

LIC-158-0.56

SHEET 29
9/20/10
84700_XSECTION_S.R.158SHEETS.DGN

SEEDING	
END WIDTH	SQ. YDS.
40	239
46	211
46	
	450

END AREA		VOLUME	
CUT	FILL	CUT	FILL
41	1		
		75	3
40	2		
		61	3
40	2		
		136	6

CALCULATED

CHECKED

970
960
950
940
F-1
C-41
962.11
711+50.00
962.11

960
950
F-2
C-40
962.44
711+00.00
962.41

AHEAD STA. 710+58.81
BEGIN WORK
STA. 710+58.81
AHEAD STA. 710+58.81

970
960
950
710+50.00
962.90

970
960
EX RW
710+00.00
963.75

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

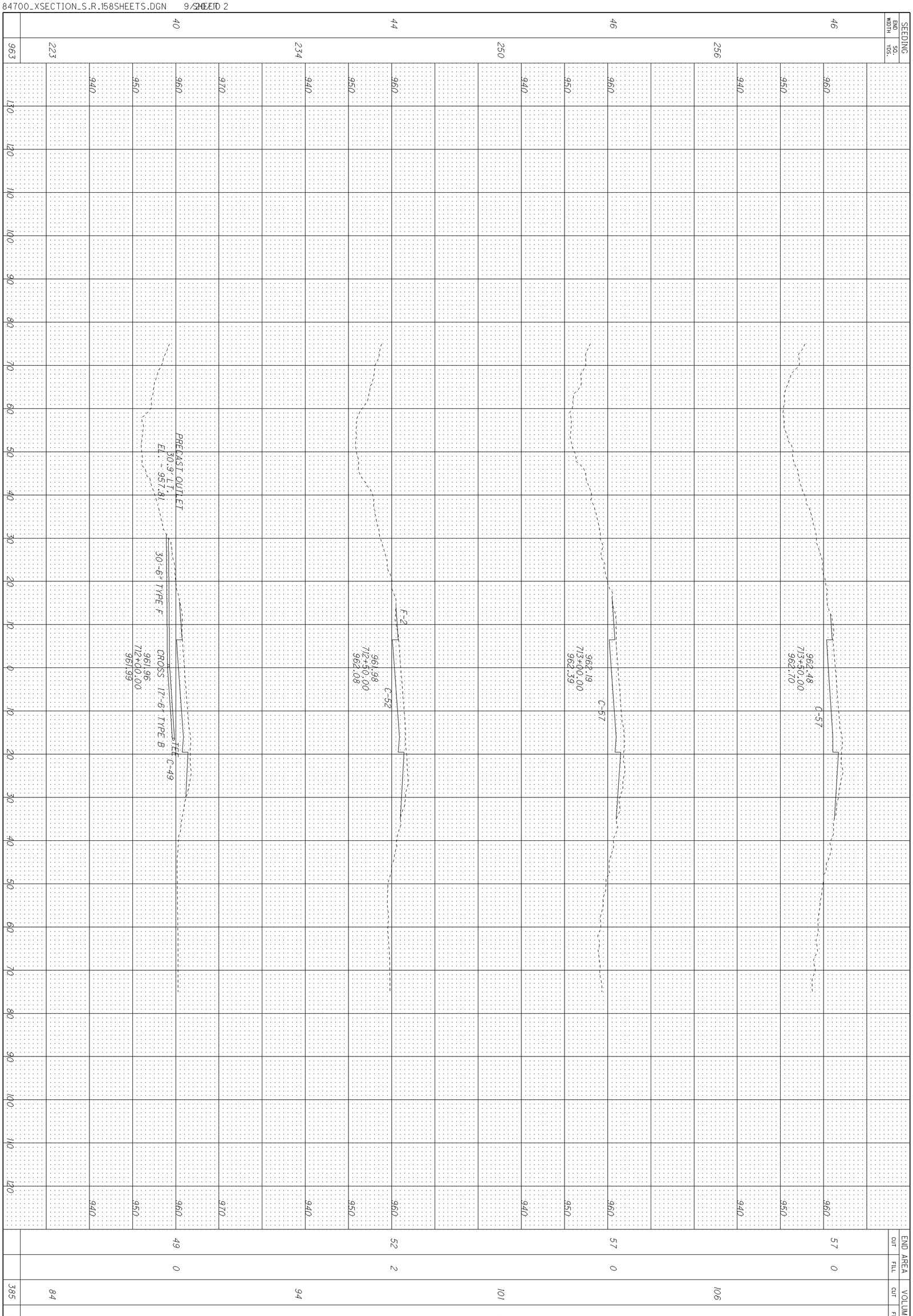
CROSS SECTIONS NORTHWEST RAMP
STA. 710+00.00 TO STA. 711+50.00

LIC-158-0.56

95
219

84700_XSECTION_S.R.158SHEETS.DGN 9/30/2010 1

84700_XSECTION_S.R.158SHEETS.DGN 9/2/2020 SHEET 2



96/219

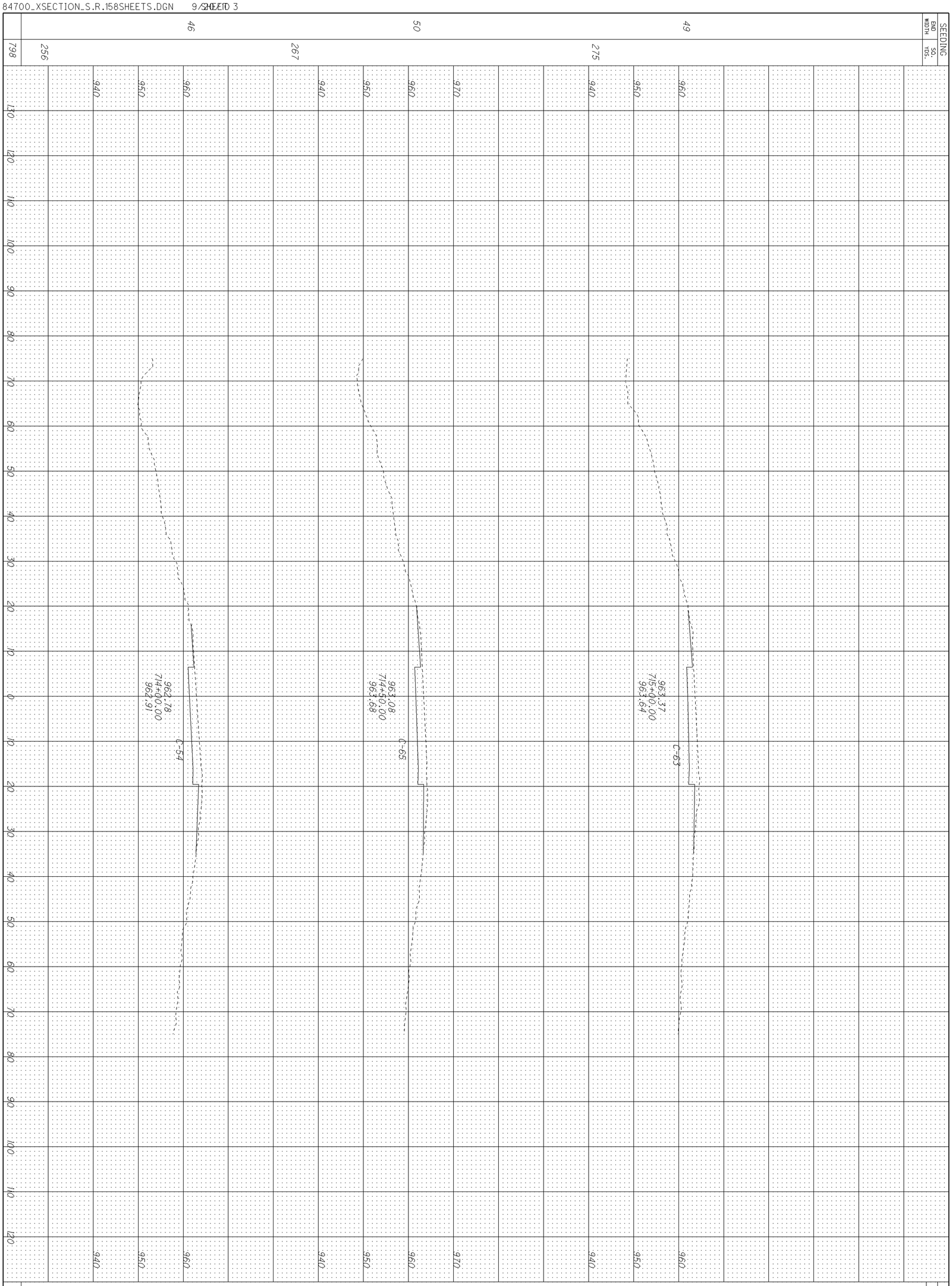
LIC-158-0.56

CROSS SECTIONS NORTHWEST RAMP
STA. 712+00.00 TO STA. 713+50.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/SHEET 3



97/219

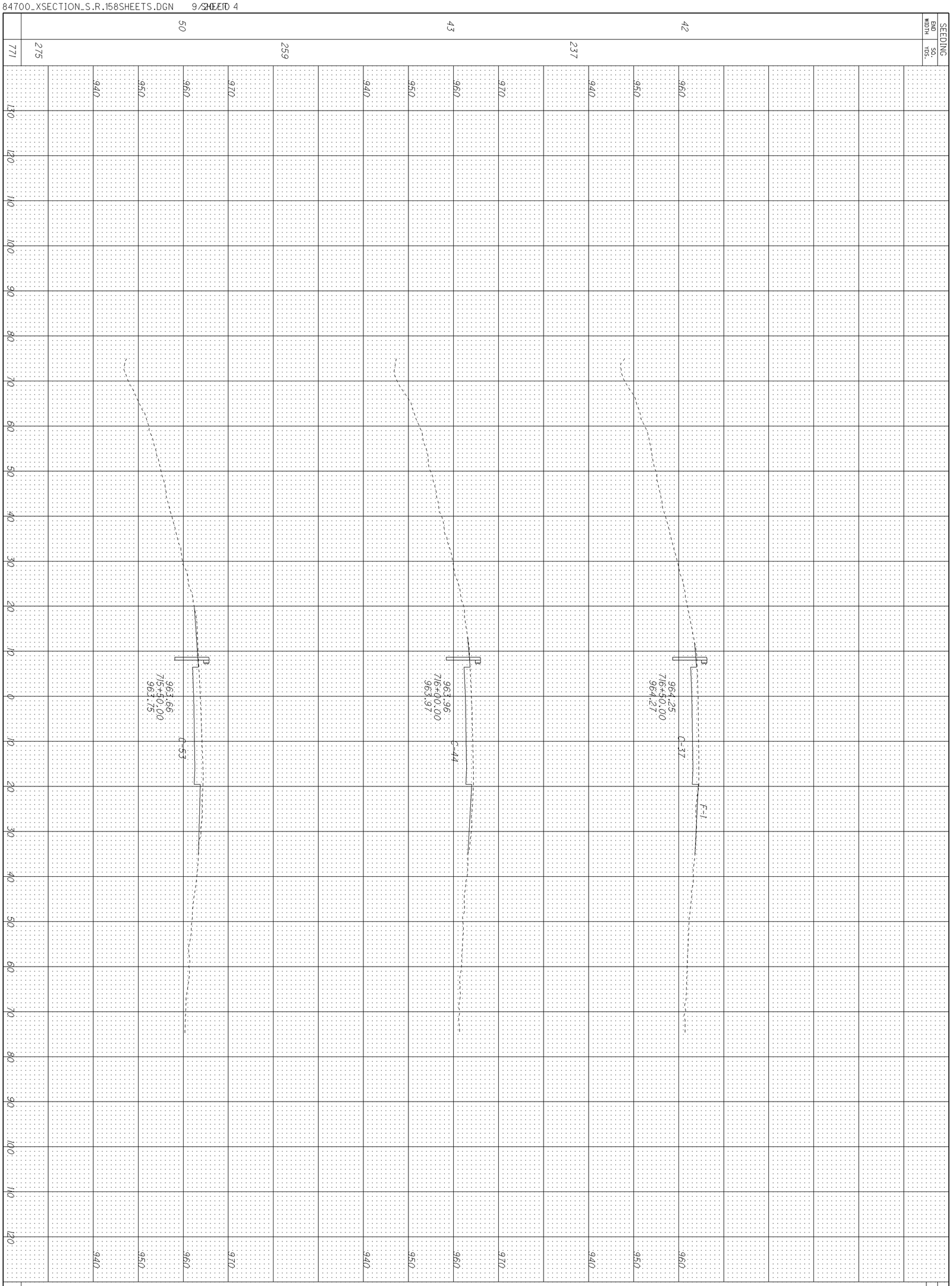
LIC-158-0.56

CROSS SECTIONS NORTHWEST RAMP
STA. 714+00.00 TO STA. 715+00.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/SHEET 4



98
219

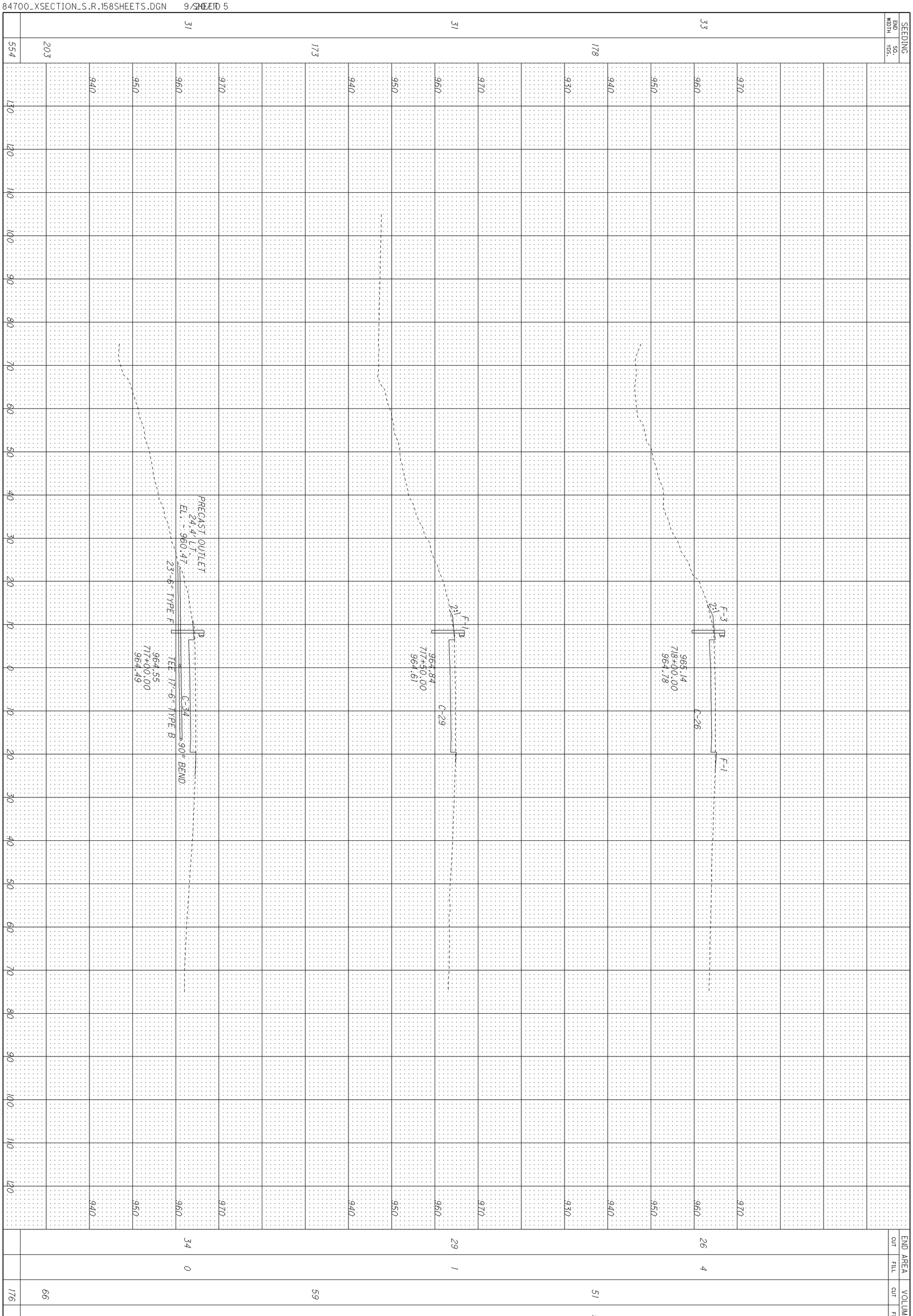
LIC-158-0.56

CROSS SECTIONS NORTHWEST RAMP
STA. 715+50.00 TO STA. 716+50.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/2/2020 SHEET 5



99
219

LIC-158-0.56

CROSS SECTIONS NORTHWEST RAMP
STA. 717+00.00 TO STA. 718+00.00

CALCULATED

CHECKED

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	4736 TOTAL CARRIED TO SHEET 94	TOTALS CARRIED TO SHEET 94		1648	431
59		BACK STA. 720+01.57	BACK STA. 720+01.57	2	18
	338			30	62
59				29	47
	364			126	178
72				107	145
	303			132	151
37				35	18
	195			57	21
	1200			345	412

970 960 950 940 930

F-41 2:1 1.5:1 C-29 967.03 719+50.00 965.70 C-2 F-6

970 960 950 940 930

F-140 2:1 1.5:1 C-92 968.23 719+00.00 965.40 1.5:1 C-15 F-5

970 960 950 940 930

F-17 2:1 5:1 C-11 965.56 718+50.00 965.12 C-24 F-1

970 960 950 940 930

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

CROSS SECTIONS NORTHWEST RAMP
STA. 718+50.00 TO STA. 719+50.00

LIC-158-0.56

100
219

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/SHEET 6

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL		
31	137	35	0	72	0		
18	92	42	0	70	0		
18		42	0				
	229			142	0		

970
960
950
940
970
960
950
940
970
960
950
940

C-33
957.22
713+00.00
957.04

C-42
957.73
712+50.00
957.77

AHEAD STA. 712+05.41
BEGIN WORK
STA. 712+05.41
AHEAD STA. 712+05.41

712+00.00
958.45

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

84700_XSECTION_S.R.158SHEETS.DGN 9/24/2021 SHEET 2

CROSS SECTIONS SOUTHWEST RAMP STA. 712+00.00 TO STA. 713+00.00

LIC-158-0.56

SEEDING		END AREA		VOLUME			
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	CALCULATED	CHECKED
39		27	4				
	220			51	9		
40		28	5				
	203			55	7		
33		31	2				
	178			62	2		
	601			168	18		

970
960
950
940
970
960
950
940
970
960
950
940
970
960
950
940

C-27
F-4
957.01
714+50.00
958.43

*UNDERDRAIN BENDS LOCATED AT STA. 713+78 AND STA. 714+33 SEE S.W. RAMP P&P

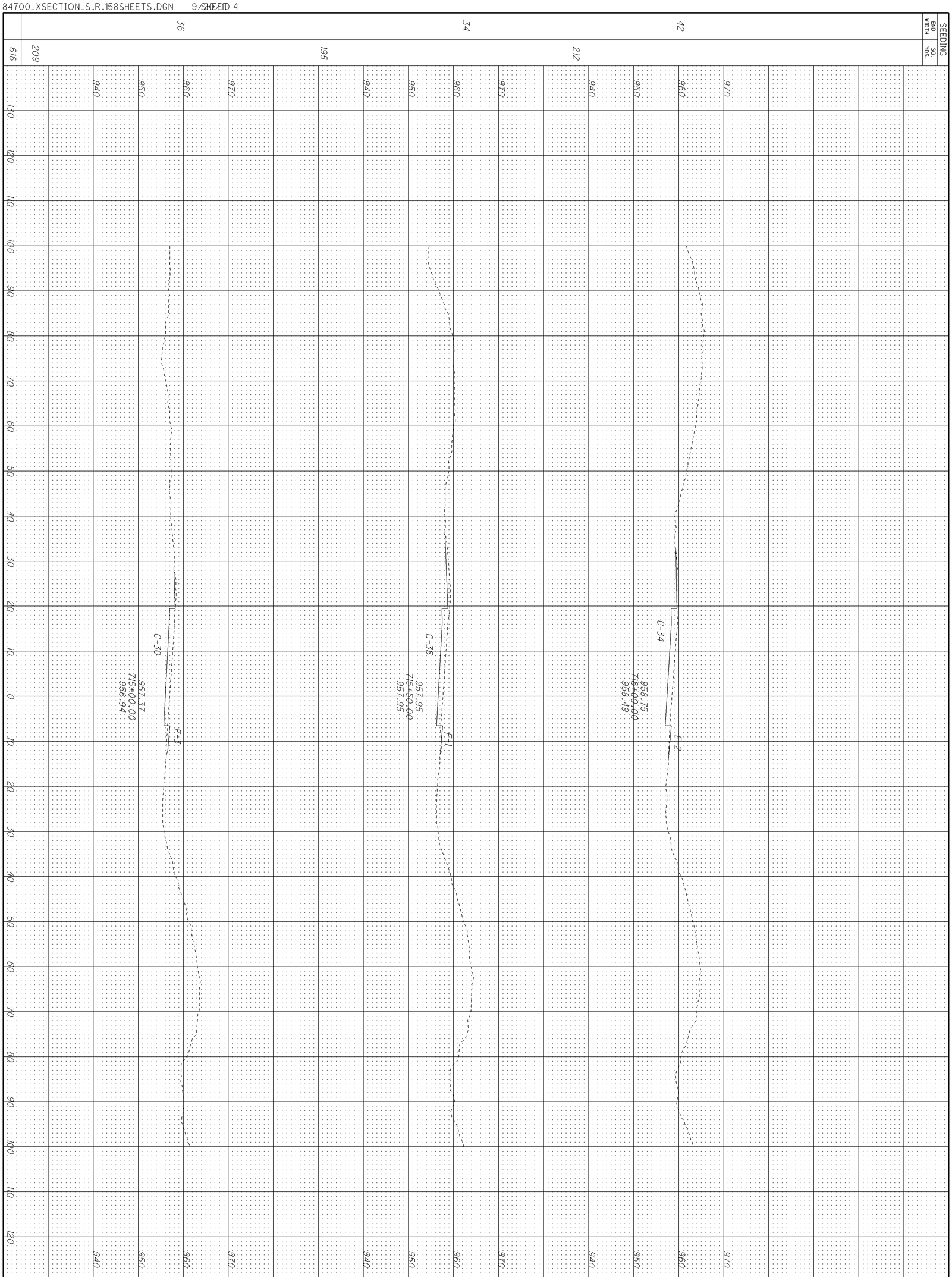
C-28
*90° BEND
17'-6" TYPE B
*CROSS/ *45° BEND
24'-6" TYPE F
F-5
OUTLET INTO EX. C.B. 23.7'± RT., EL. = 952.49±
958.86
714+00.00
958.32

C-31
F-2
956.93
713+50.00
958.54

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

CROSS SECTIONS SOUTHWEST RAMP STA. 713+50.00 TO STA. 714+50.00

LIC-158-0.56



104
219

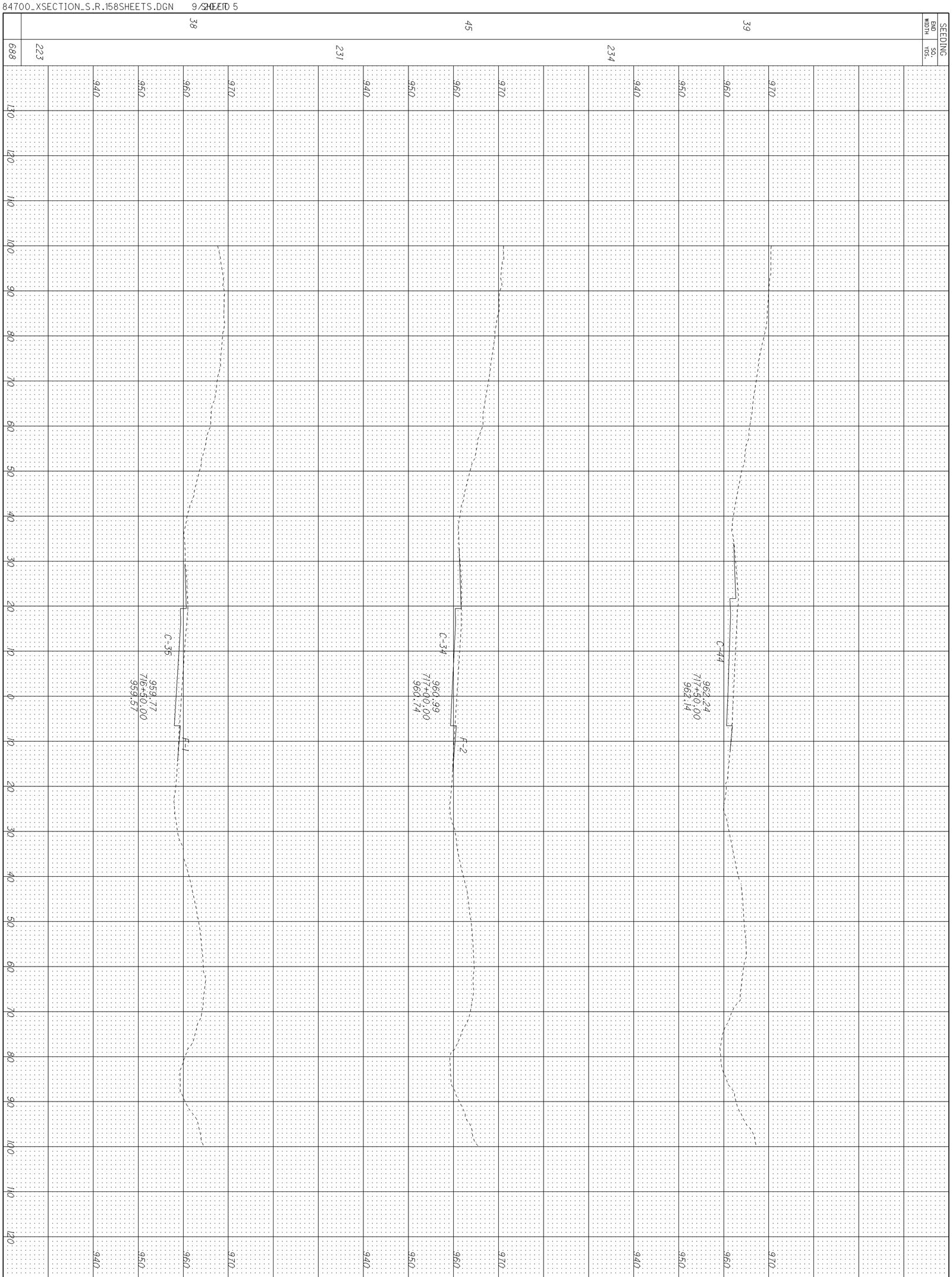
LIC-158-0.56

CROSS SECTIONS SOUTHWEST RAMP
STA. 715+00.00 TO STA. 716+00.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/SHEET 5



105
219

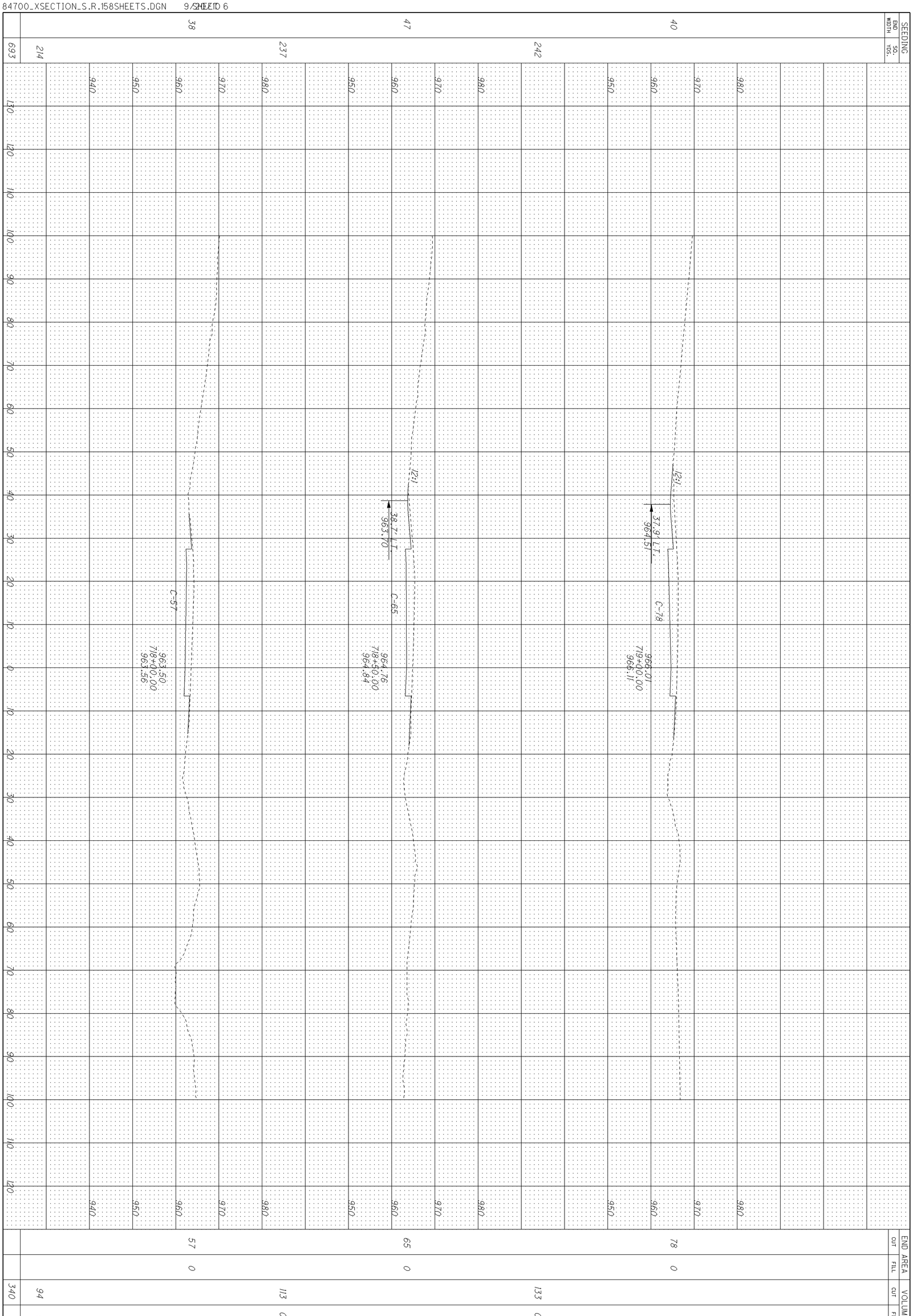
LIC-158-0.56

CROSS SECTIONS SOUTHWEST RAMP
STA. 716+50.00 TO STA. 717+50.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/2/2020 SHEET 6



106
219

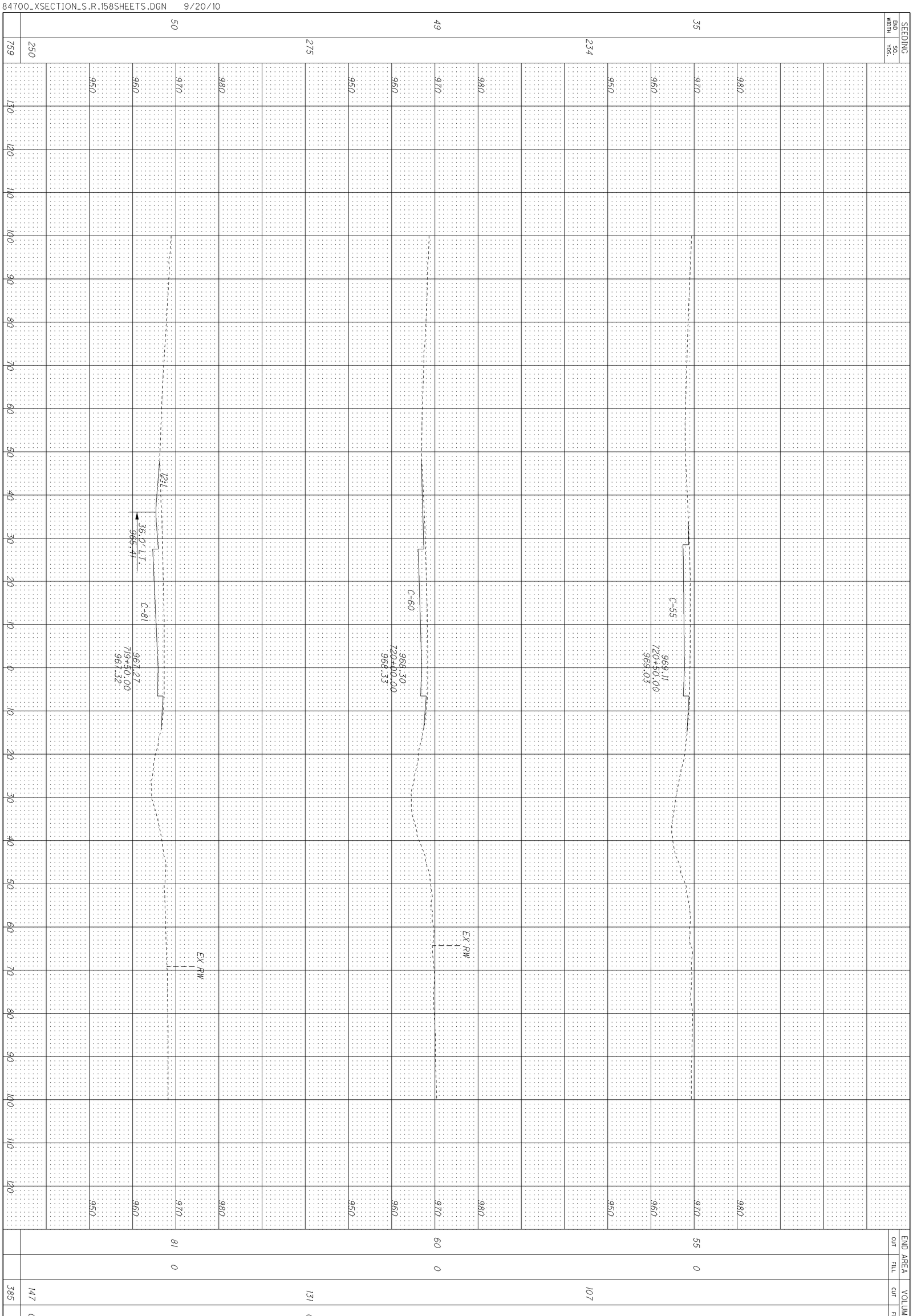
LIC-158-0.56

CROSS SECTIONS SOUTHWEST RAMP
STA. 718+00.00 TO STA. 719+00.00

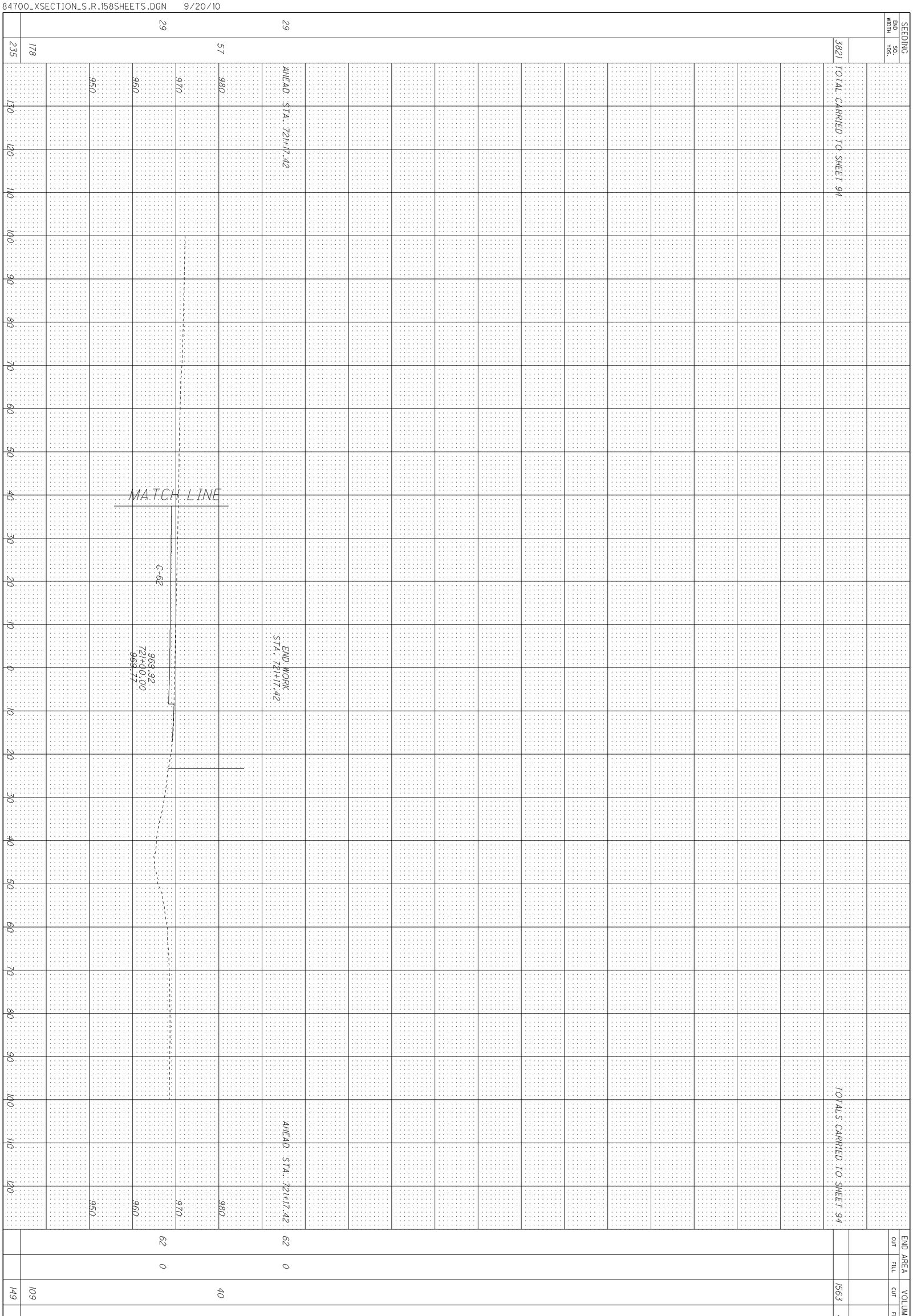
CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10

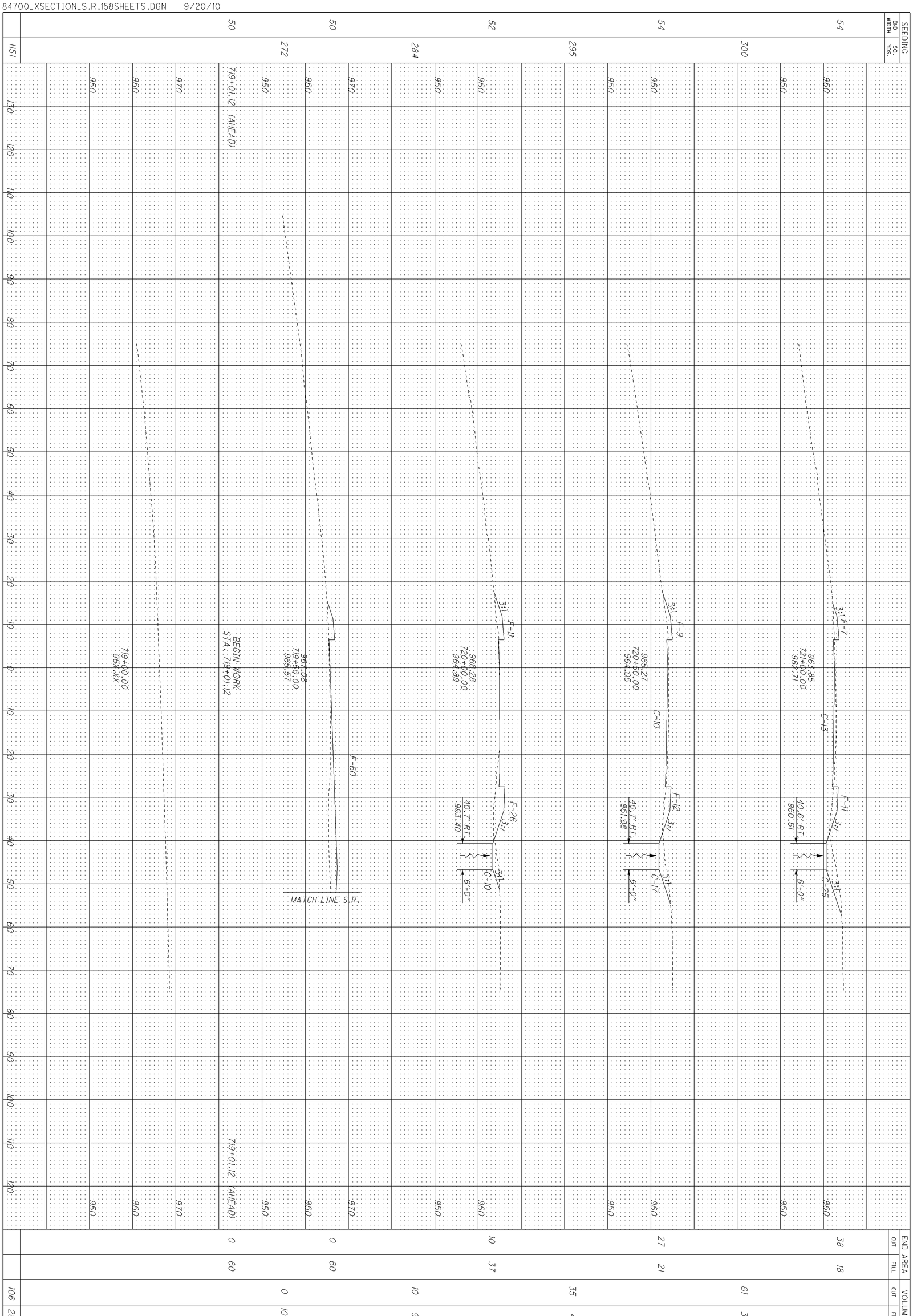


84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



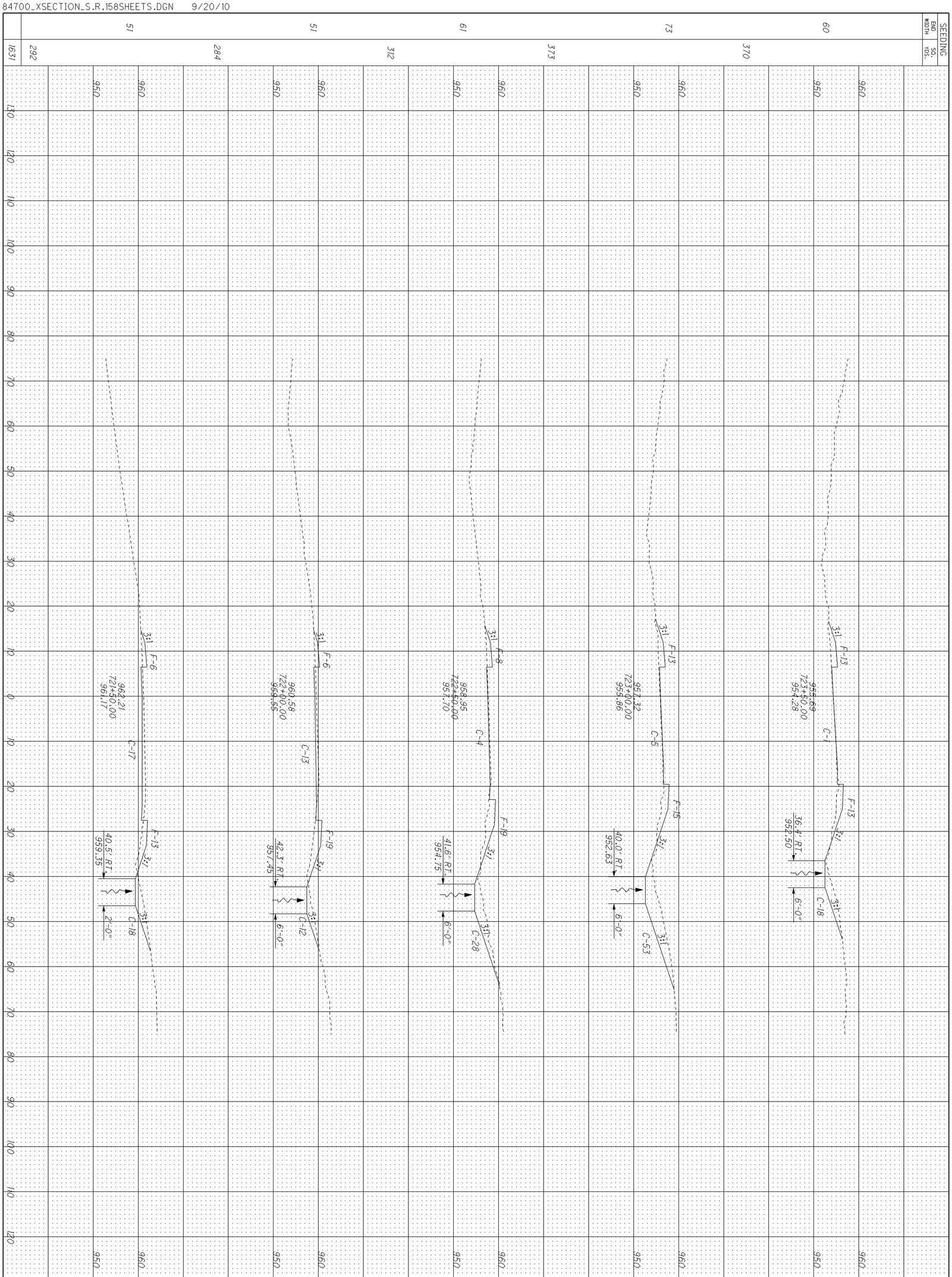
108 / 219	LIC-158-0.56	CROSS SECTIONS SOUTHWEST RAMP STA. 721+00.00 TO STA. 721+00.00	CALCULATED CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



109 / 219	LIC-158-0.56
CROSS SECTIONS NORTHEAST RAMP STA. 719+00.00 TO STA. 721+00.00	CALCULATED CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10

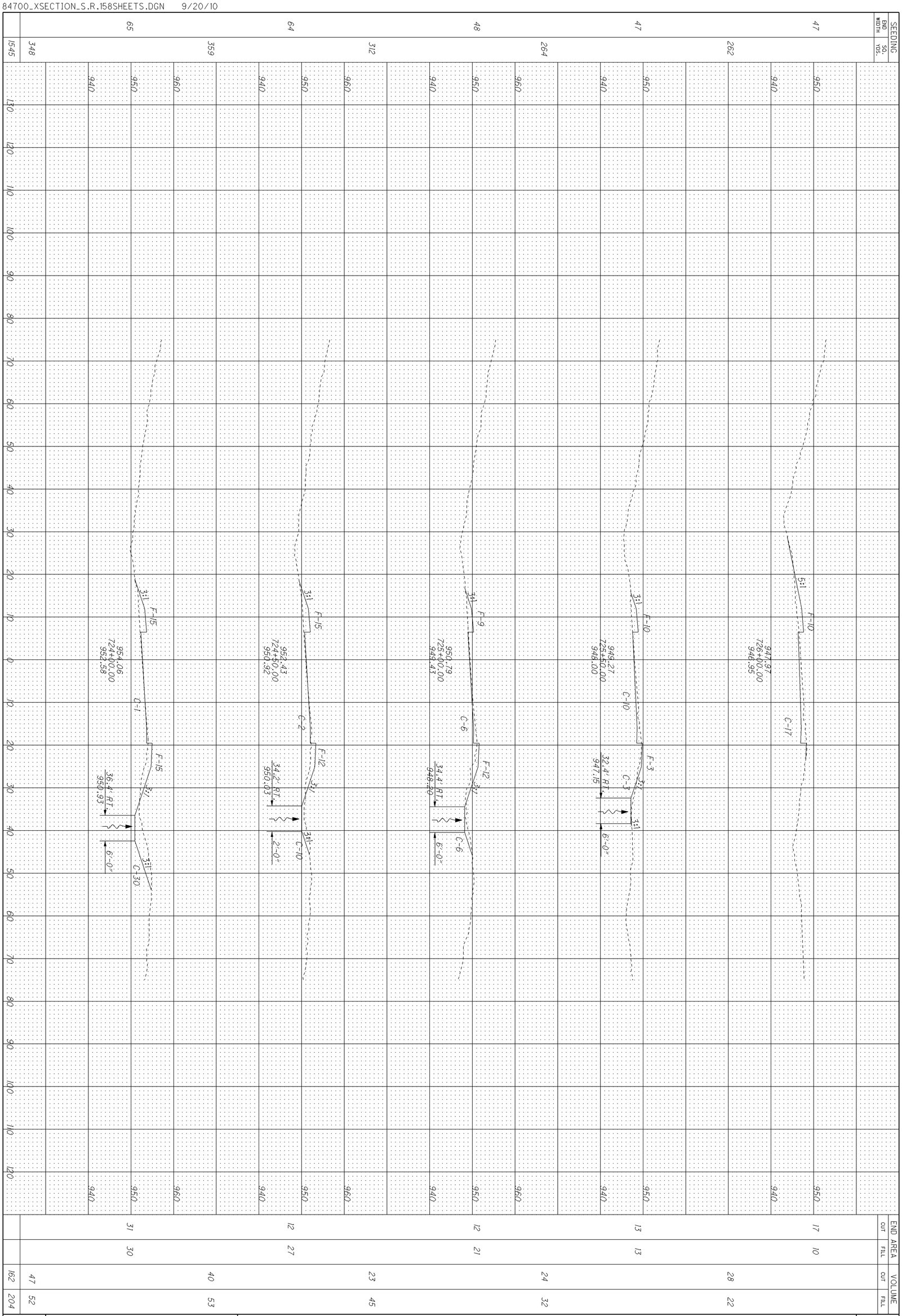


LIC-158-0.56

CROSS SECTIONS NORTHEAST RAMP
STA. 721+50.00 TO STA. 723+50.00

110
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



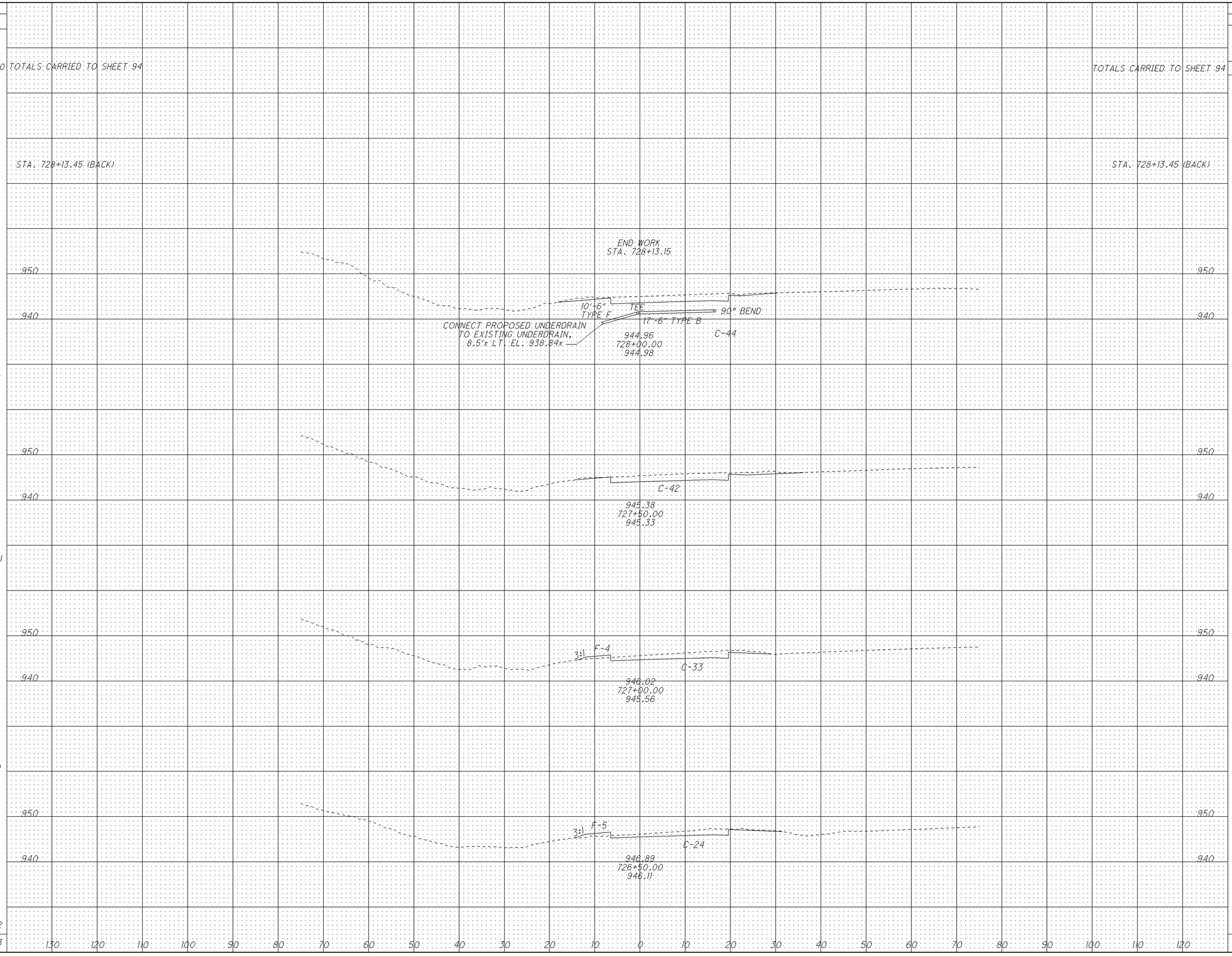
111 / 219	LIC-158-0.56

CROSS SECTIONS NORTHEAST RAMP
STA. 724+00.00 TO STA. 726+00.00

CALCULATED

CHECKED

SEEDING END WIDTH	SEEDING SQ. YDS.	
	5330	TOTALS CARRIED TO SHEET 94
43		STA. 728+13.45 (BACK)
	65	
43		
	245	
45		
	231	
38		
	220	
41		
	242	
	1003	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		864	738
44	0		
		22	0
44	0		
		80	0
42	0		
		70	4
33	4		
		53	9
24	5		
		38	14
		263	27

TOTALS CARRIED TO SHEET 94

STA. 728+13.45 (BACK)

CALCULATED

CHECKED

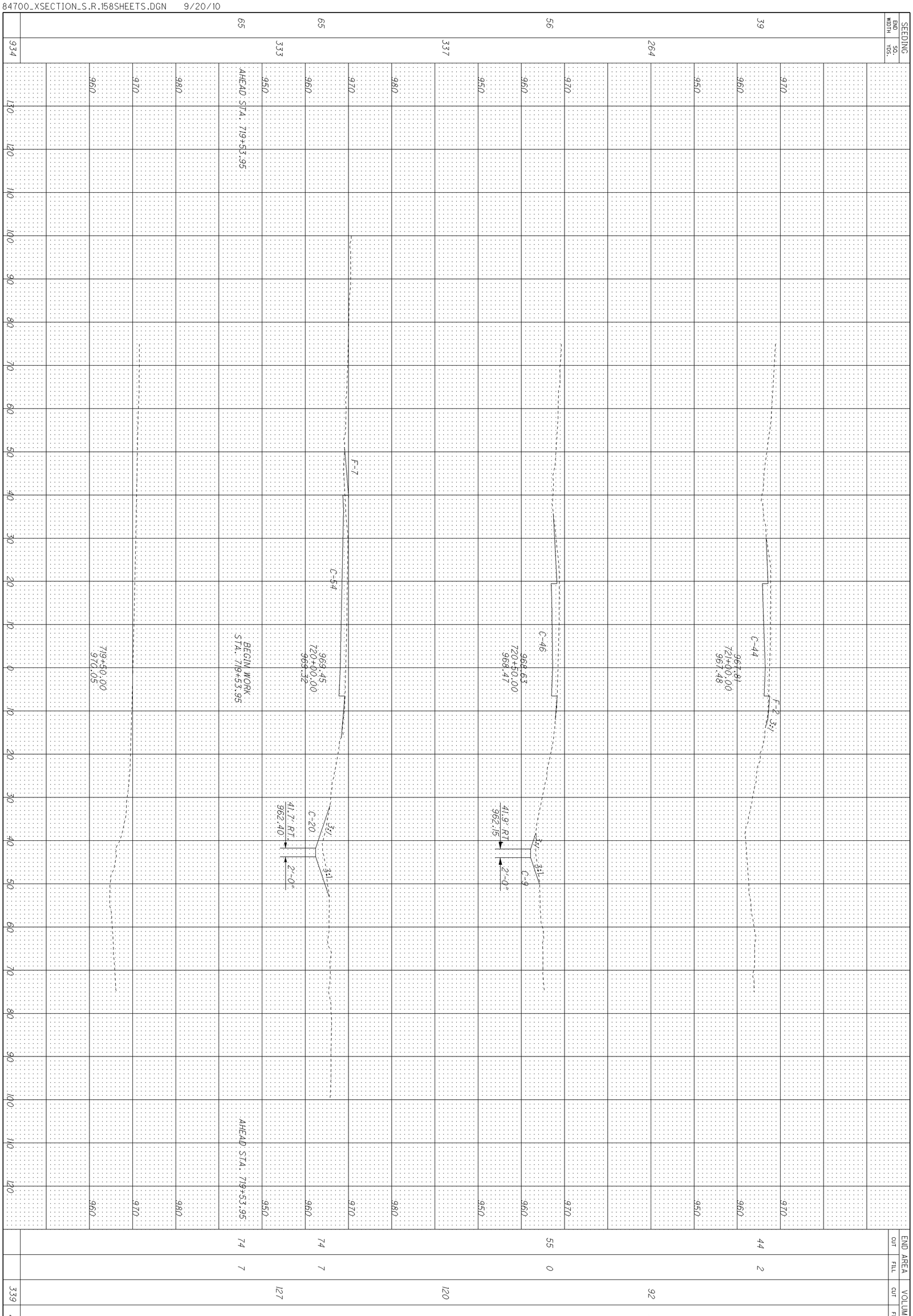
CROSS SECTIONS NORTHEAST RAMP
STA. 726+50.00 TO STA. 728+00.00

LIC-158-0.56

112
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



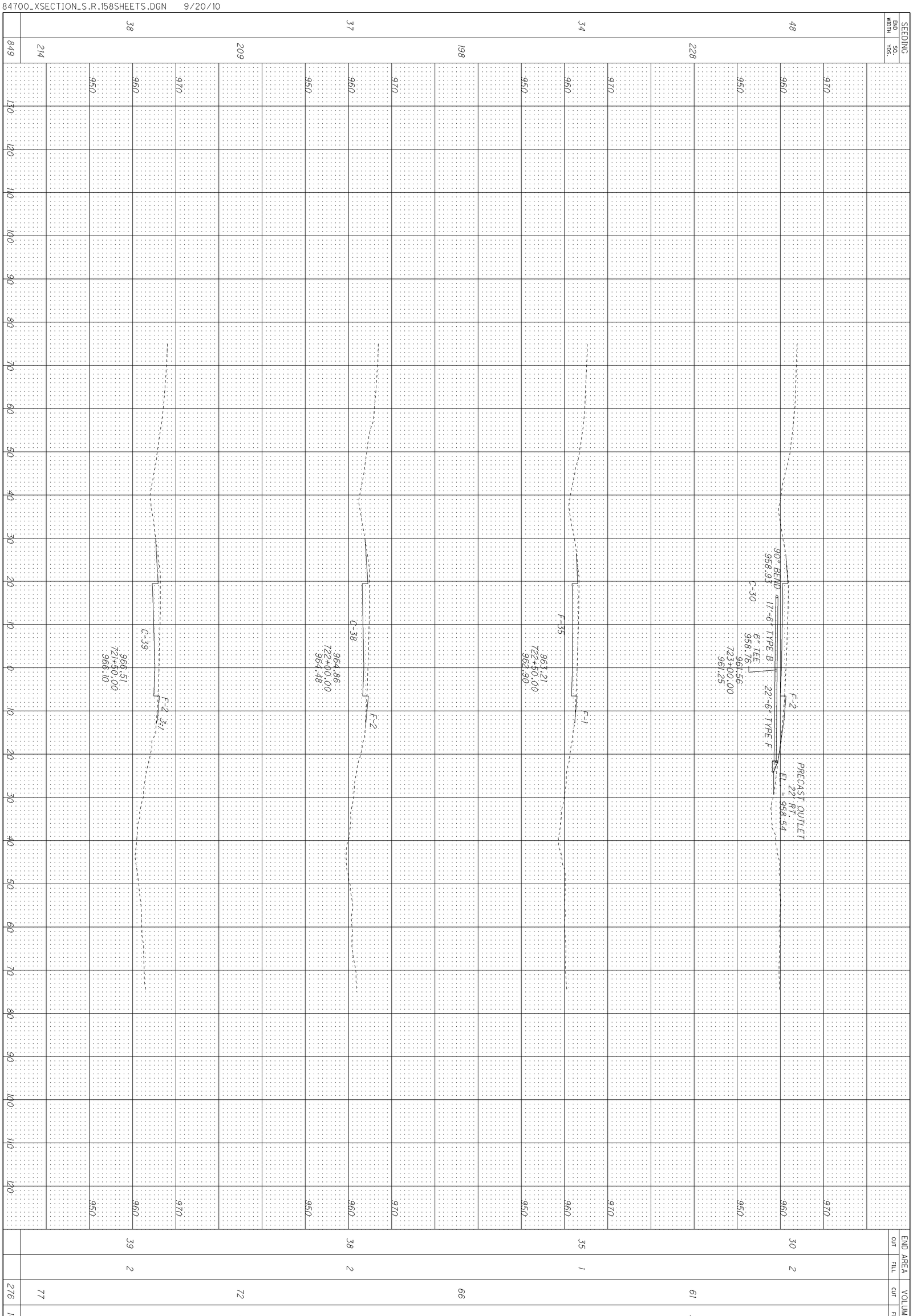
LIC-158-0.56

CROSS SECTIONS SOUTHEAST RAMP
STA. 719+50.00 TO STA. 721+00.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



114
219

LIC-158-0.56

CROSS SECTIONS SOUTHEAST RAMP
STA. 721+50.00 TO STA. 723+00.00

CALCULATED

CHECKED

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
44	234	50	0	81	0	
40	217	37	0	70	0	
38	195	38	0	64	2	
32	223	31	2	55	4	
	869			270	6	

960
950
940
970
960
950
940
970
960
950
940
970
960
950

C-50
954.95
725+00.00
955.12

C-37
956.60
724+50.00
956.68

C-38
958.25
724+00.00
958.25

F-2 3:1
C-31
959.91
723+50.00
959.73

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

CALCULATED | CHECKED

CROSS SECTIONS SOUTHEAST RAMP
STA. 723+50.00 TO STA. 725+00.00

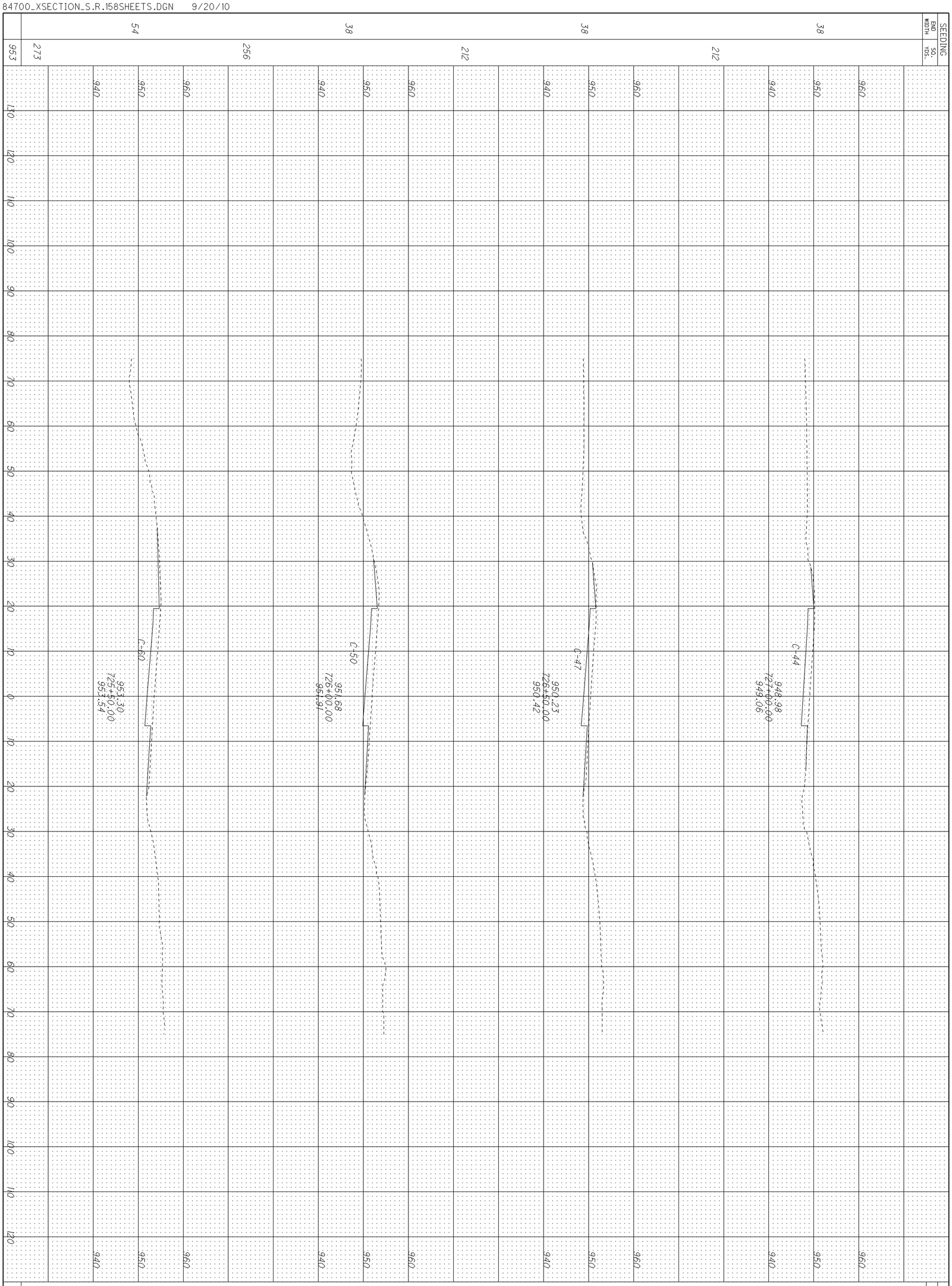
LIC-158-0.56

115
219

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10

217

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
54	273	60	0	102	0
38	256	50	0	102	0
38	212	47	0	90	0
38	212	44	0	85	0
	953			379	0

116
219

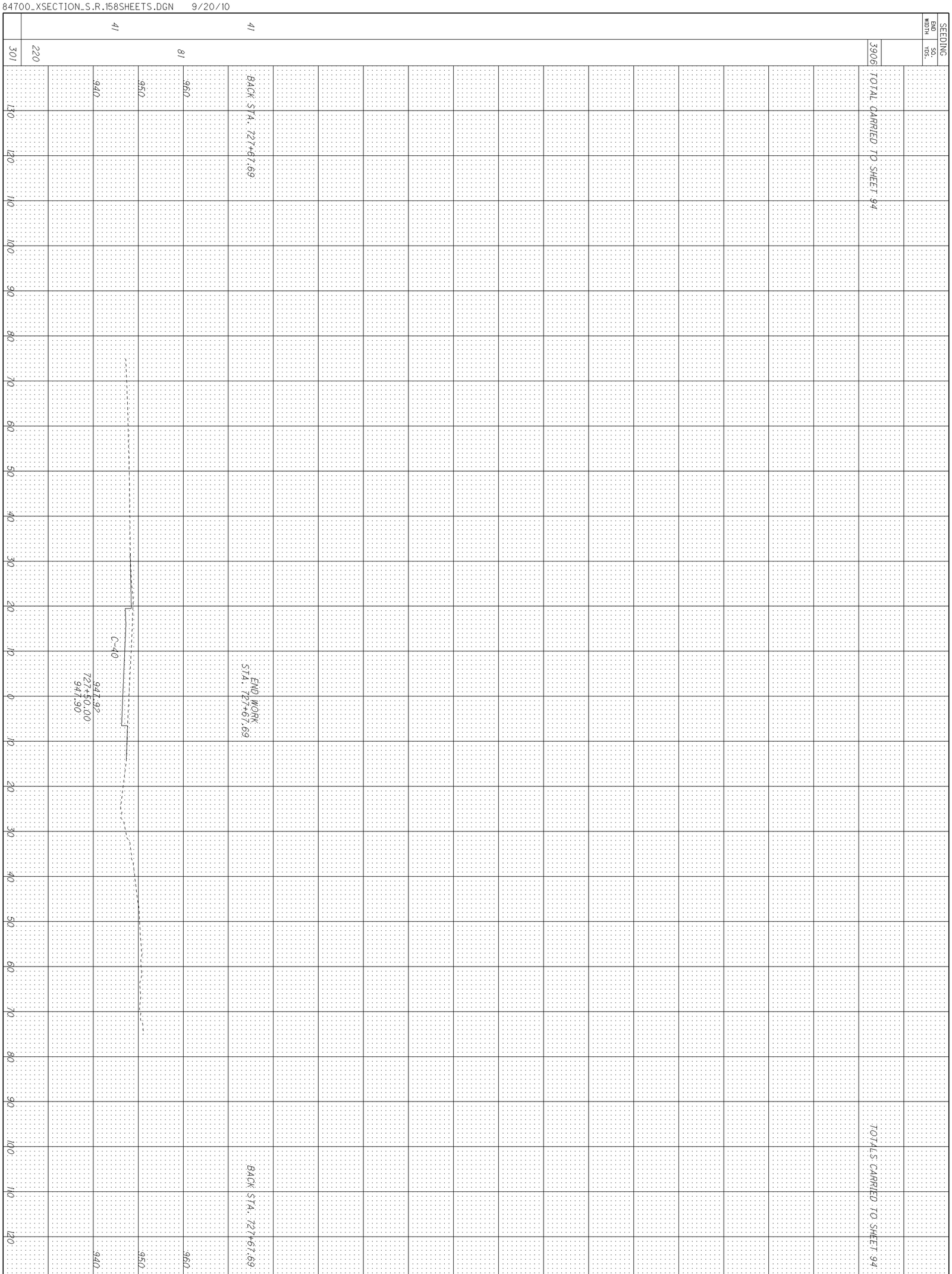
LIC-158-0.56

CROSS SECTIONS SOUTHEAST RAMP
STA. 725+50.00 TO STA. 727+00.00

CALCULATED

CHECKED

84700_XSECTION_S.R.158SHEETS.DGN 9/20/10



117 / 219	**LIC-158-0.56**	**CROSS SECTIONS SOUTHEAST RAMP** **STA. 727+50.00 TO STA. 727+50.00**

CALCULATED

CHECKED

SEEDING	
END WIDTH	SQ. YDS.
29	
	198
42	
	220
37	
	198
34	
	33
34	
	649

950
940

955.32
718+25.00
954.46
EX GAS

955.77
718+00.00
954.75
EX GAS

956.21
717+75.00
955.31
EX GAS

956.87
717+50.00
956.05

BEGIN WORK
STA. 717+41.21

AHEAD +41.21

STA. 717+25.00

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
14	12		
		21	27
8	17		
		18	28
11	13		
		48	17
40	5		
		13	2
40	5		
		100	74

CALCULATED RJG
CHECKED HAG

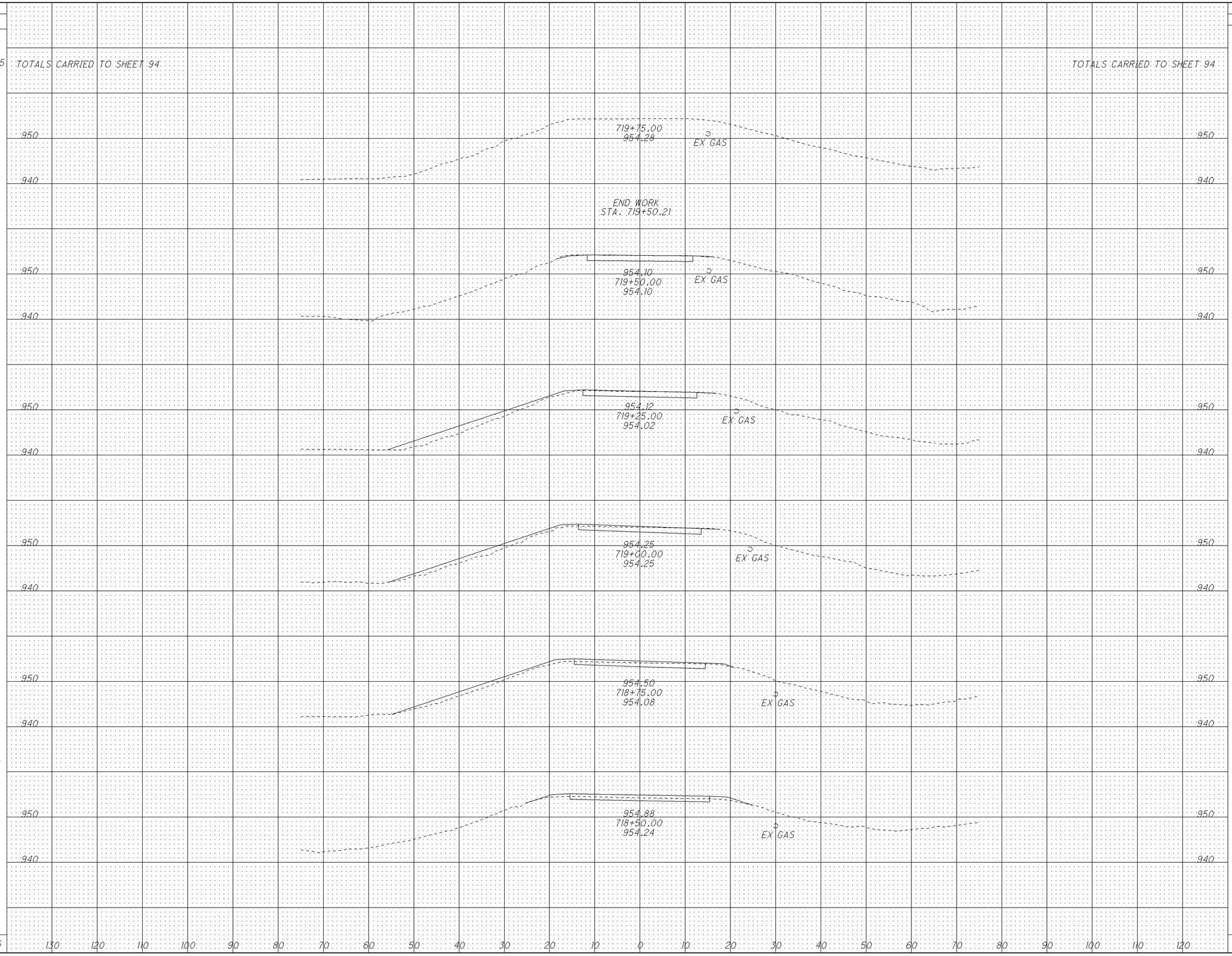
CROSS SECTIONS T.R. 145
STA. 717+23.21 TO STA. 718+25.00

LIC-158-0.56

118
219

84700_XSECTION_T.R.145SHEETS.DGN 9/30/2021 1

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	2205			331	309
32	284	30	1	55	45
70	387	29	47	53	74
69	387	28	33	49	59
70	306	25	30	42	37
40	192	20	9	32	20
	1556			231	235



CALCULATED RJG
CHECKED HAG

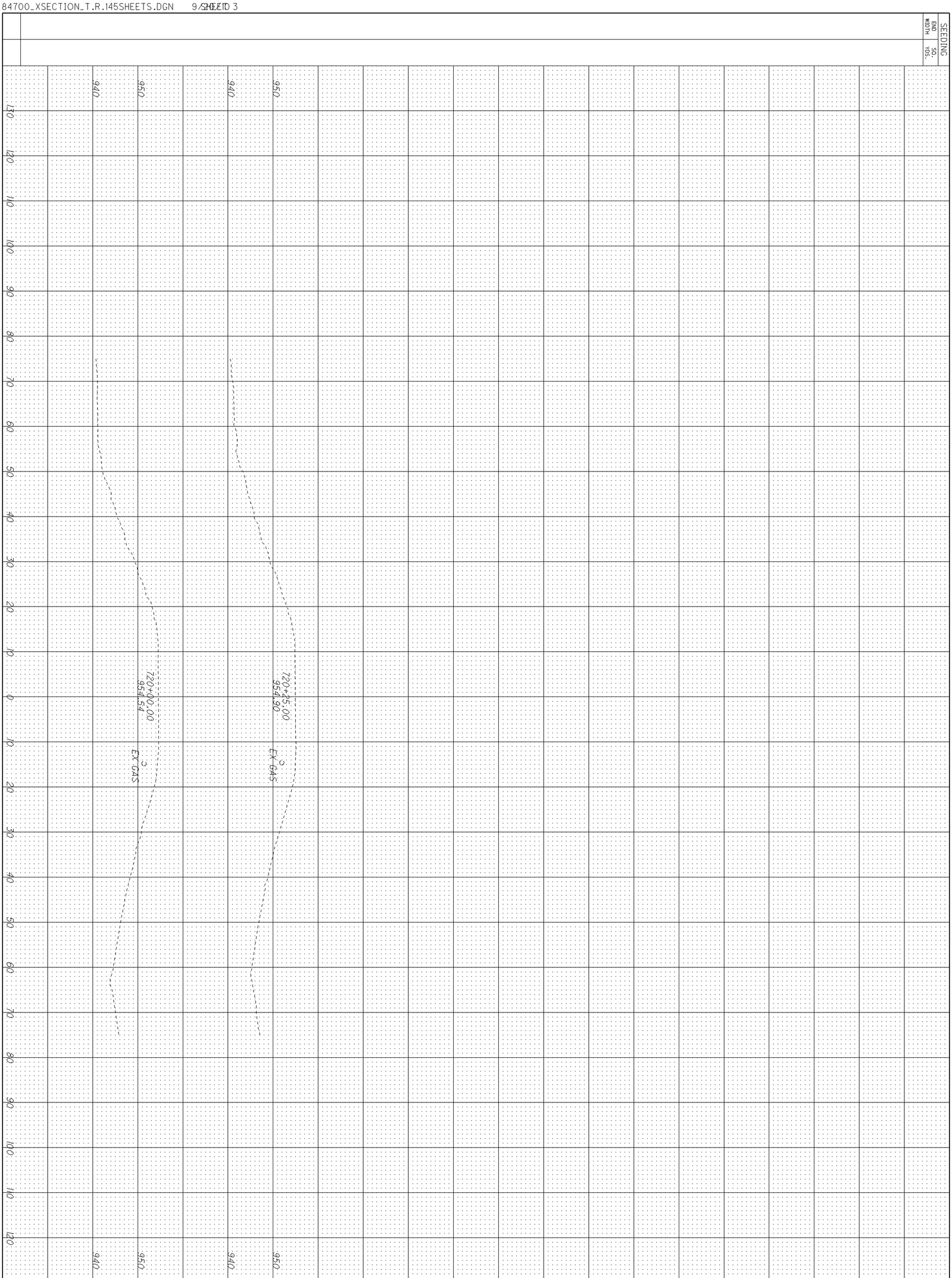
CROSS SECTIONS T.R. 145
STA. 718+50.00 TO STA. 719+75.00

LIC-158-0.56

119
219

84700_XSECTION_T.R.145SHEETS.DGN 9/24/2019 SHEET 2

84700_XSECTION_T.R.145SHEETS.DGN 9/24/2013 SHEET 3



SEEDING	
SQ. YDS.	
END WIDTH	

END AREA	
FILL	
CUT	

VOLUME	
FILL	
CUT	

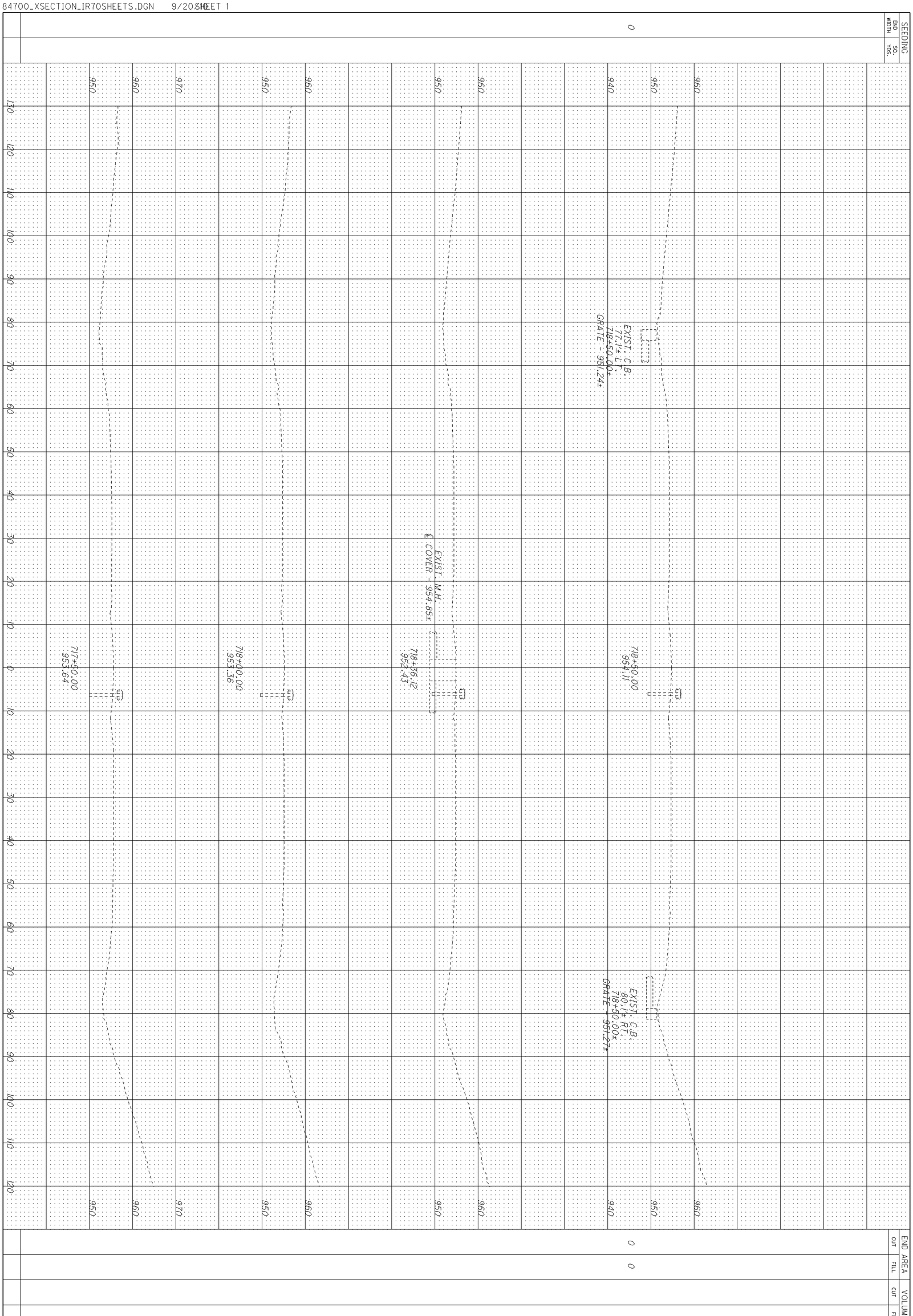
120
219

LIC-158-0.56

CROSS SECTIONS T.R. 145
STA. 720+00.00 TO STA. 720+25.00

CALCULATED RJG
CHECKED HAG

84700_XSECTION_IR70SHEETS.DGN 9/20/18 SHEET 1



121/219

LIC-158-0.56

CROSS SECTIONS I.R. 70
STA. 717+50.00 TO STA. 718+50.00

CALCULATED

CHECKED

SEEDING		END AREA		VOLUME			
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	CALCULATED	CHECKED
60	334	15	14	19	26		
60	334	5	14	12	26		
60	373	8	14	23	58		
74	206	16	48	15	45		
	1247			69	155		

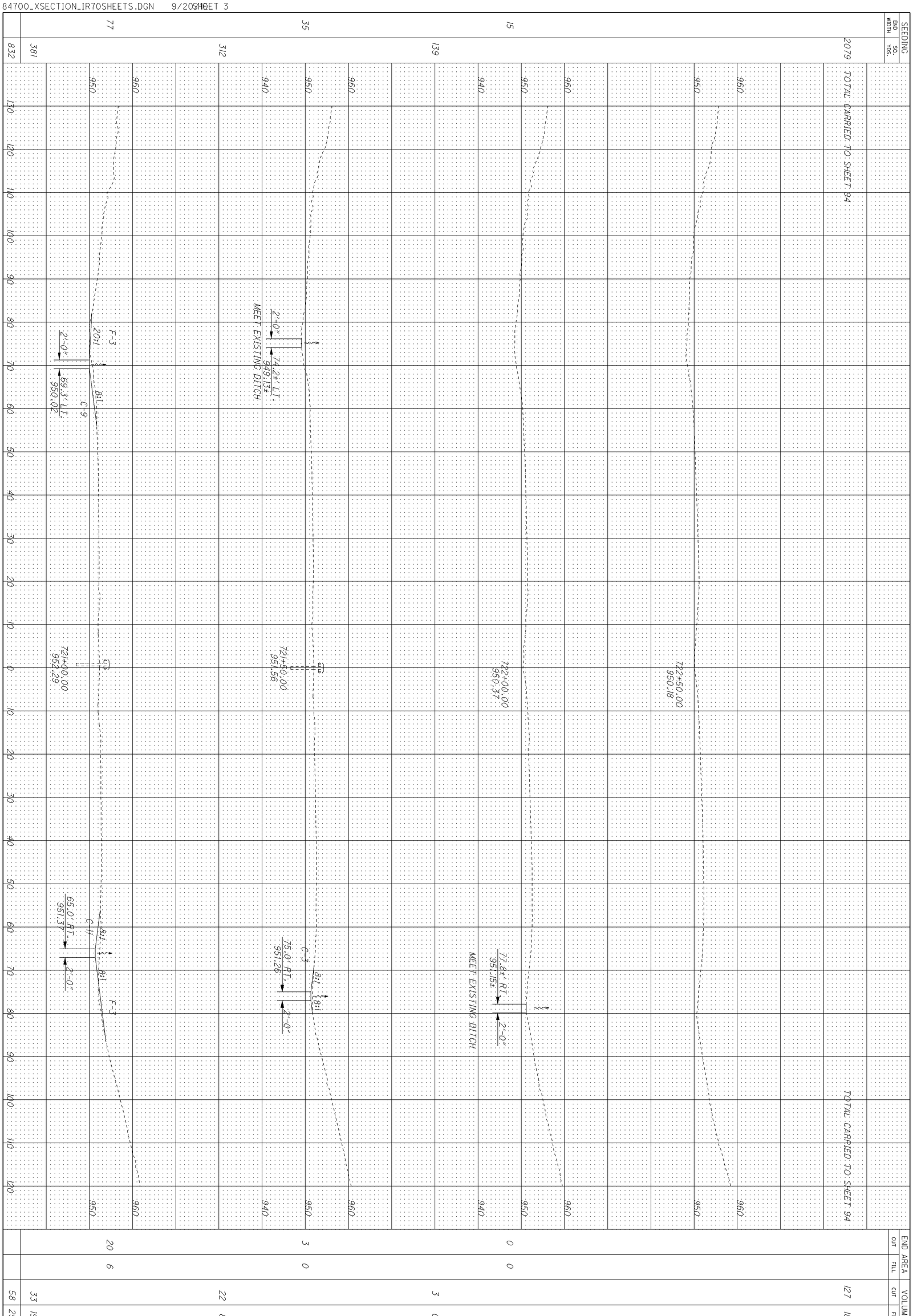
CROSS SECTIONS I.R. 70
STA. 719+00.00 TO STA. 720+50.00

LIC-158-0.56

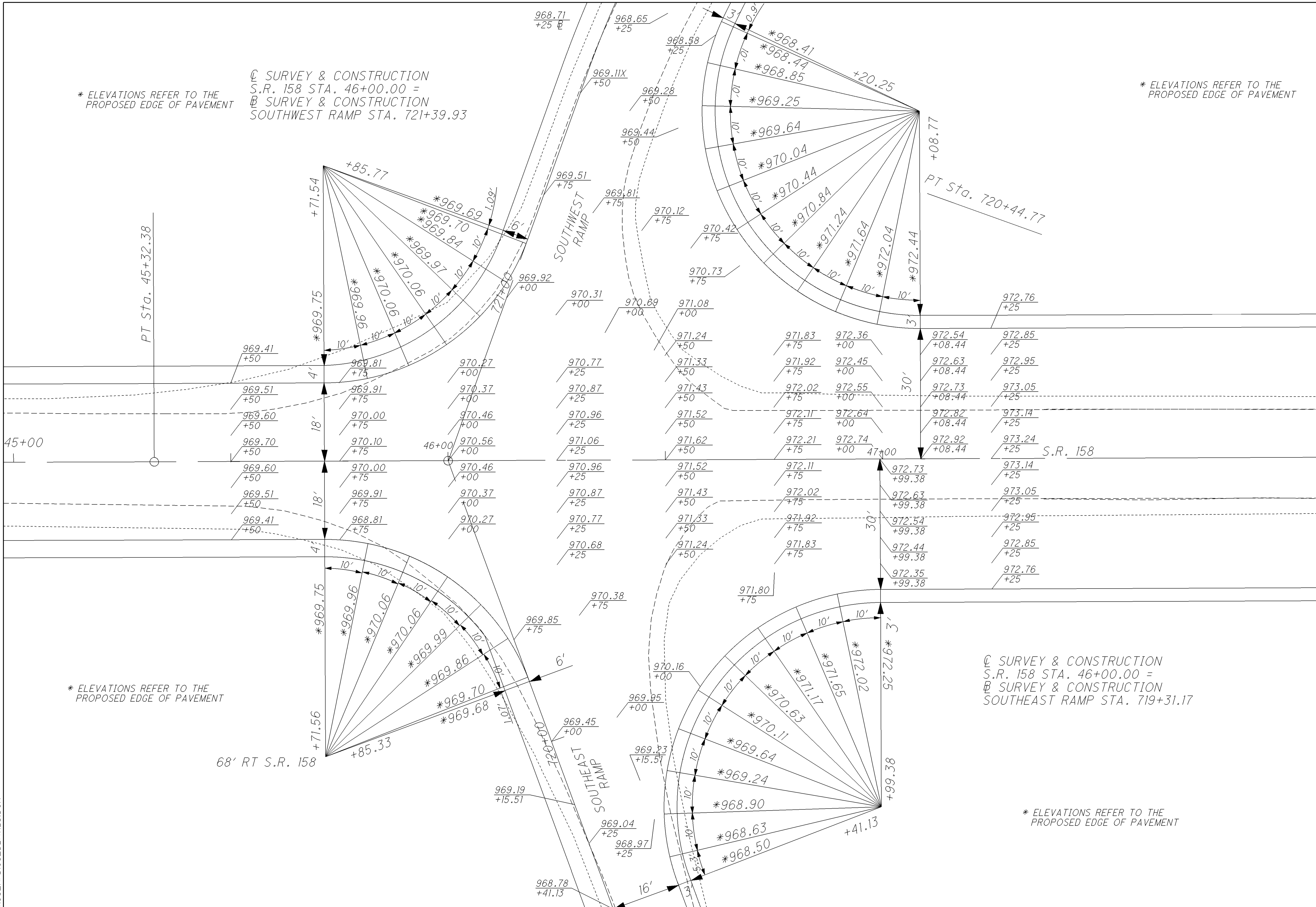
122
219

84700_XSECTION_IR70SHEETS.DGN 9/20SHEET 2

84700_XSECTION_IR70SHEETS.DGN 9/20/2018 SHEET 3



123/219	LIC-158-0.56	CROSS SECTIONS I.R. 70 STA. 721+00.00 TO STA. 722+50.00	CALCULATED CHECKED


* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
℄ SURVEY & CONSTRUCTION S.R. 158 STA. 46+00.00 = ℄ SURVEY & CONSTRUCTION SOUTHWEST RAMP STA. 721+39.93
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
PT Sta. 720+44.77
PT Sta. 45+32.38
SOUTHWEST RAMP
45+00
46+00
47+00
S.R. 158
68' RT S.R. 158
SOUTHEAST RAMP
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
℄ SURVEY & CONSTRUCTION S.R. 158 STA. 46+00.00 = ℄ SURVEY & CONSTRUCTION SOUTHEAST RAMP STA. 719+31.17
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT

SR158_RADIUS_DEATILS.DGN

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

SR 158 RADIUS DEATILS S.W. AND S.E. RAMPS

LIC-158-0.56

* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT

* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT

℄ SURVEY & CONSTRUCTION
S.R. 158 STA. 55+00.00 =
℄ SURVEY & CONSTRUCTION
NORTHWEST RAMP STA. 720+24.34

℄ SURVEY & CONSTRUCTION
S.R. 158 STA. 55+00.00 =
℄ SURVEY & CONSTRUCTION
NORTHEAST RAMP STA. 718+78.60

* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT

* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT

NORTHWEST RAMP

NORTHEAST RAMP

S.R. 158

PC STA. 719+72.68

HORIZONTAL SCALE IN FEET

CALCULATED

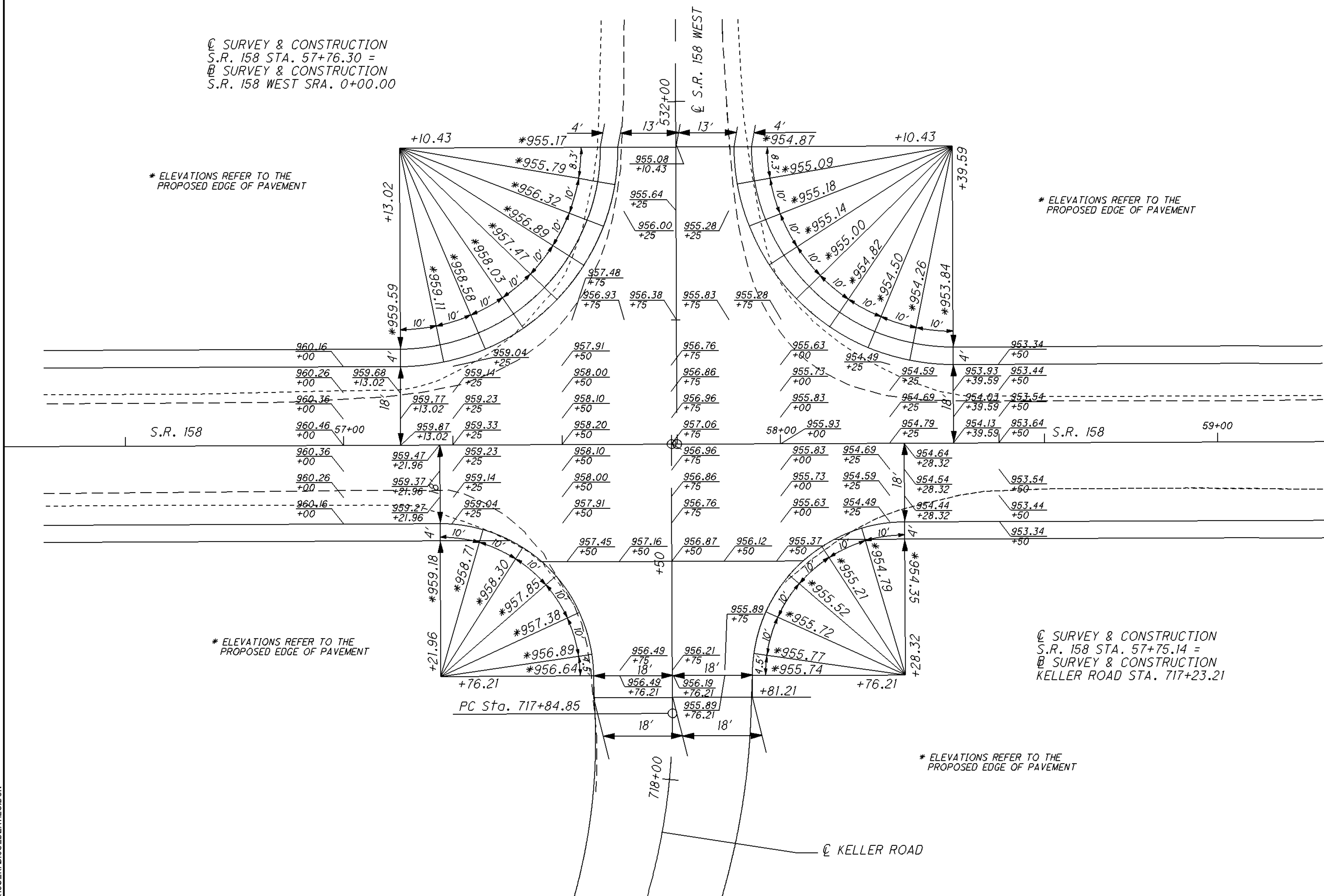
CHECKED

SR 158 RADIUS DEATILS NW AND NE RAMPS

LIC-158-0.56

125
219

SR158_RADIUS_DEATILS.DGN



℄ SURVEY & CONSTRUCTION
S.R. 158 STA. 57+76.30 =
℄ SURVEY & CONSTRUCTION
S.R. 158 WEST SRA. 0+00.00
℄ S.R. 158 WEST
532+00
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
S.R. 158
57+00
58+00
S.R. 158
59+00
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
℄ SURVEY & CONSTRUCTION
S.R. 158 STA. 57+75.14 =
℄ SURVEY & CONSTRUCTION
KELLER ROAD STA. 717+23.21
PC Sta. 717+84.85
718+00
* ELEVATIONS REFER TO THE PROPOSED EDGE OF PAVEMENT
℄ KELLER ROAD

HORIZONTAL SCALE IN FEET

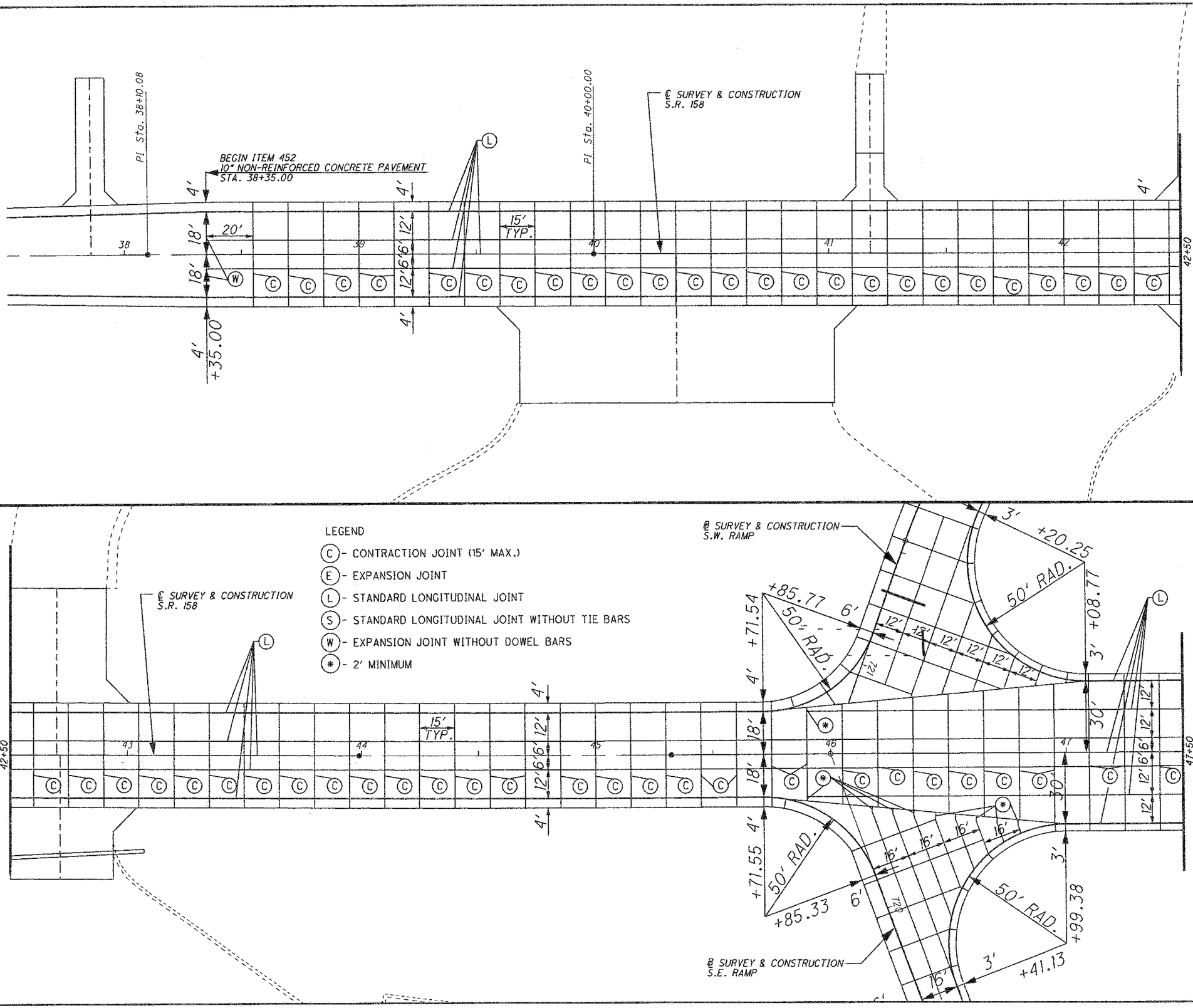
CALCULATED

CHECKED

RADIUS DEATILS S.R. 158 WEST AND KELLER ROAD

LIC-158-0.56

SR158_RADIUS_DEATILS.DGN



N

HORIZONTAL SCALE IN FEET
0 10 20 40

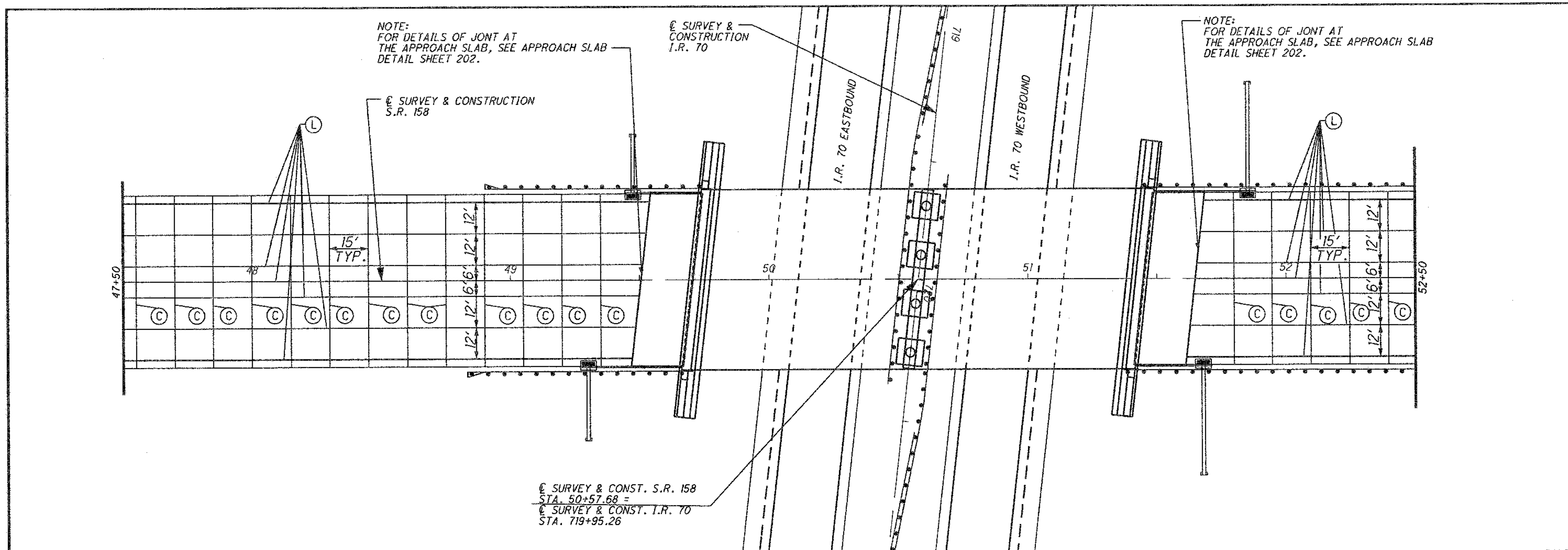
CALCULATED J.C.
CHECKED R.G.

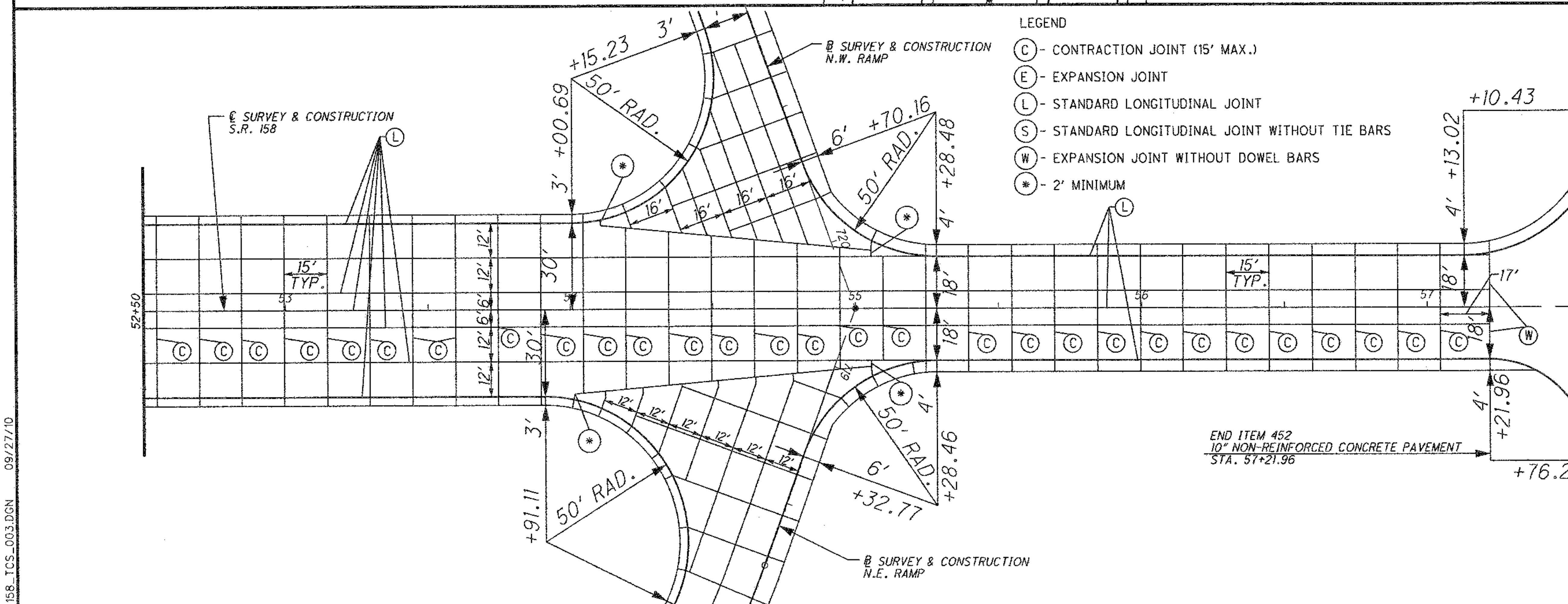
S.R. 158 JOINT DETAILS

LIC-158-0.56

127
219

SR158_JOINTS_002.DGN 3 / 5 /2012





LEGEND

- (C) - CONTRACTION JOINT (15' MAX.)
- (E) - EXPANSION JOINT
- (L) - STANDARD LONGITUDINAL JOINT
- (S) - STANDARD LONGITUDINAL JOINT WITHOUT TIE BARS
- (W) - EXPANSION JOINT WITHOUT DOWEL BARS
- (*) - 2' MINIMUM

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED J.C. CHECKED R.G.

S.R. 158 JOINT DETAILS

LIC-158-0.56

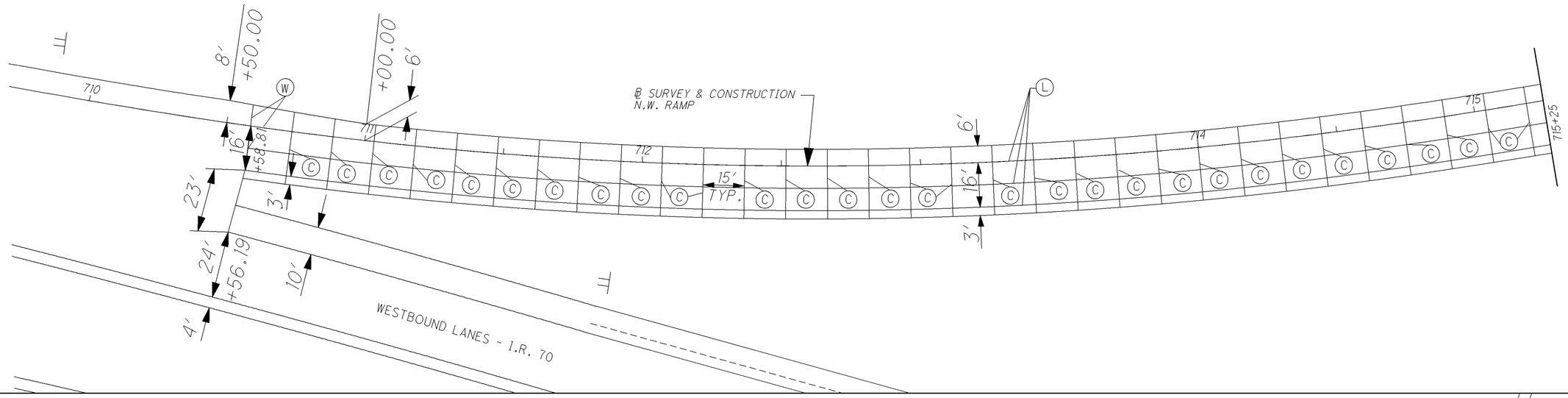
SR158_TCS_003.DGN 09/27/10

NORTHWEST RAMP JOINT DETAILS

LIC-158-0.56

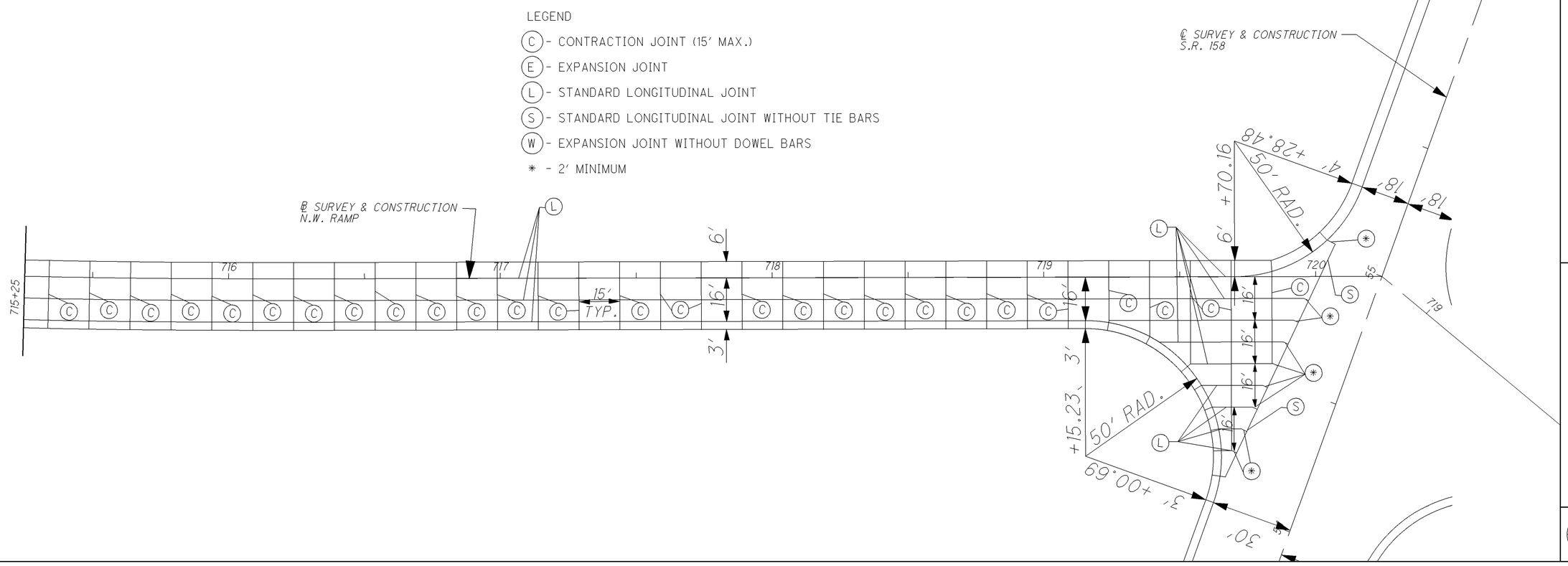
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED J.C.
CHECKED R.G.

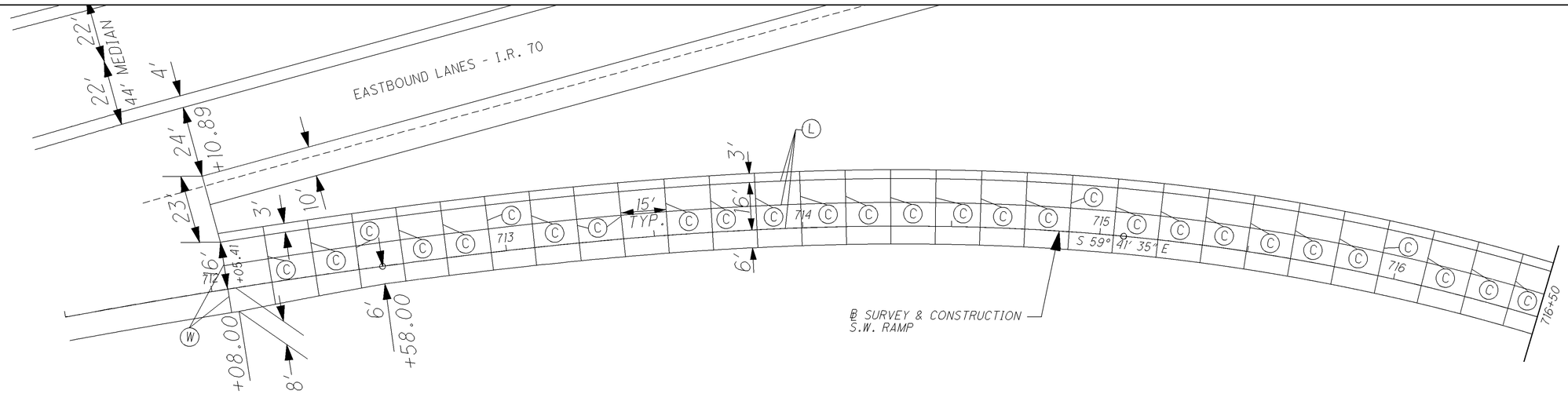


LEGEND

- (C) - CONTRACTION JOINT (15' MAX.)
- (E) - EXPANSION JOINT
- (L) - STANDARD LONGITUDINAL JOINT
- (S) - STANDARD LONGITUDINAL JOINT WITHOUT TIE BARS
- (W) - EXPANSION JOINT WITHOUT DOWEL BARS
- * - 2' MINIMUM



NWRAMP_JOINTS_001.DGN 09/27/10



LEGEND

(C) - CONTRACTION JOINT (15' MAX.)

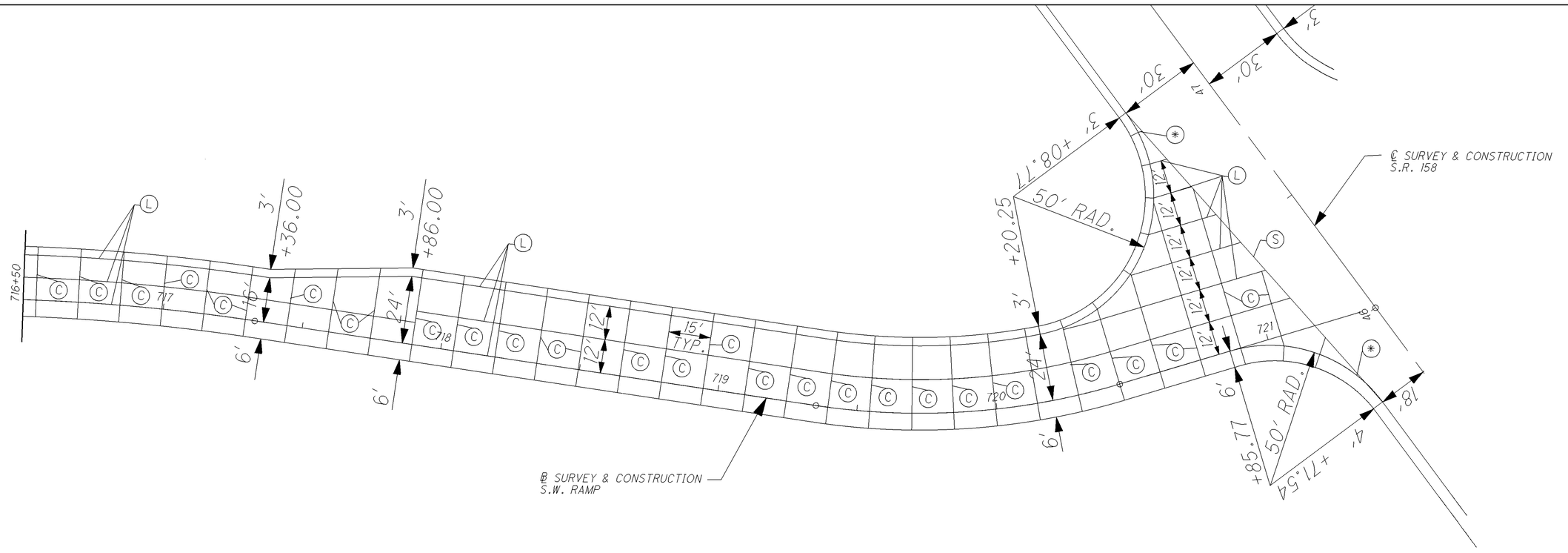
(E) - EXPANSION JOINT

(L) - STANDARD LONGITUDINAL JOINT

(S) - STANDARD LONGITUDINAL JOINT WITHOUT TIE BARS

(W) - EXPANSION JOINT WITHOUT DOWEL BARS

* - 2' MINIMUM



HORIZONTAL SCALE IN FEET
0 10 20 40

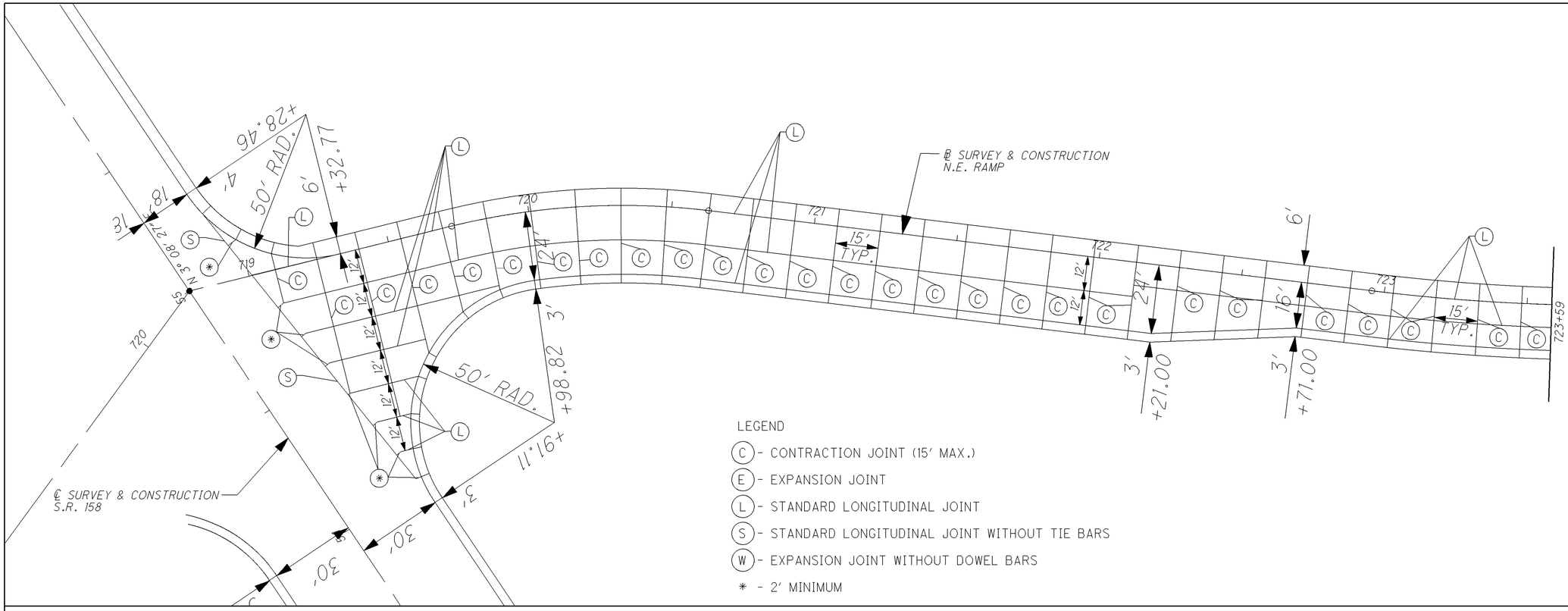
CALCULATED J.C.
CHECKED R.G.

SOUTHWEST RAMP JOINT DETAILS

LIC-158-0.56

130
219

SWRAMP_TCS_001.DGN 09/27/10



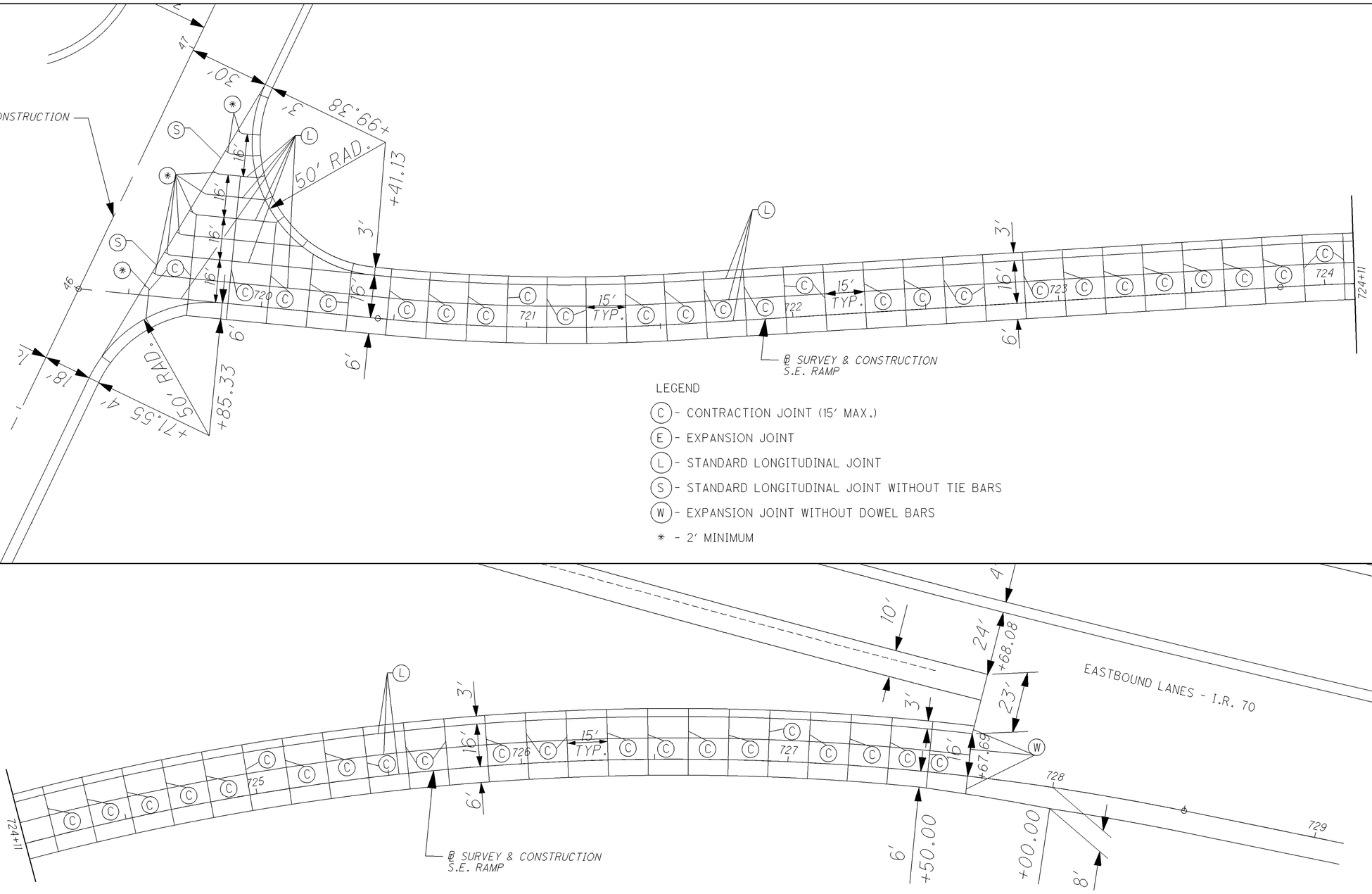
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED J.C.
CHECKED R.G.

NORTHEAST RAMP JOINT DETAILS

LIC-158-0.56

NERAMP_JOINTS_001.DGN 09/27/10



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED J.C.
CHECKED R.G.

SOUTHEAST RAMP JOINT DETAILS

LIC-158-0.56

SERAMP_JONTS_001.DGN 09/27/10

BEGIN PROJECT & WORK
STA. 29+00.00
℄ SURVEY & CONSTRUCTION
S.R. 158
S.L.M. 0.56

FED. NO. E080950

CONSTRUCTION LIMITS

1-C
PROPOSED
72" CONDUIT,
TYPE A

1-EP
2-EP
3-EP
1-UD
2-UD
1-DP
2-DP
3-DP
3-UD
4-UD
4-DP

BEGIN TEMPORARY ROAD
STA. 35+60.00

AT Sta. 38+10.08

AT Sta. 40+00.00

MATCHLINE STA. 40+50.00

S.R. 158

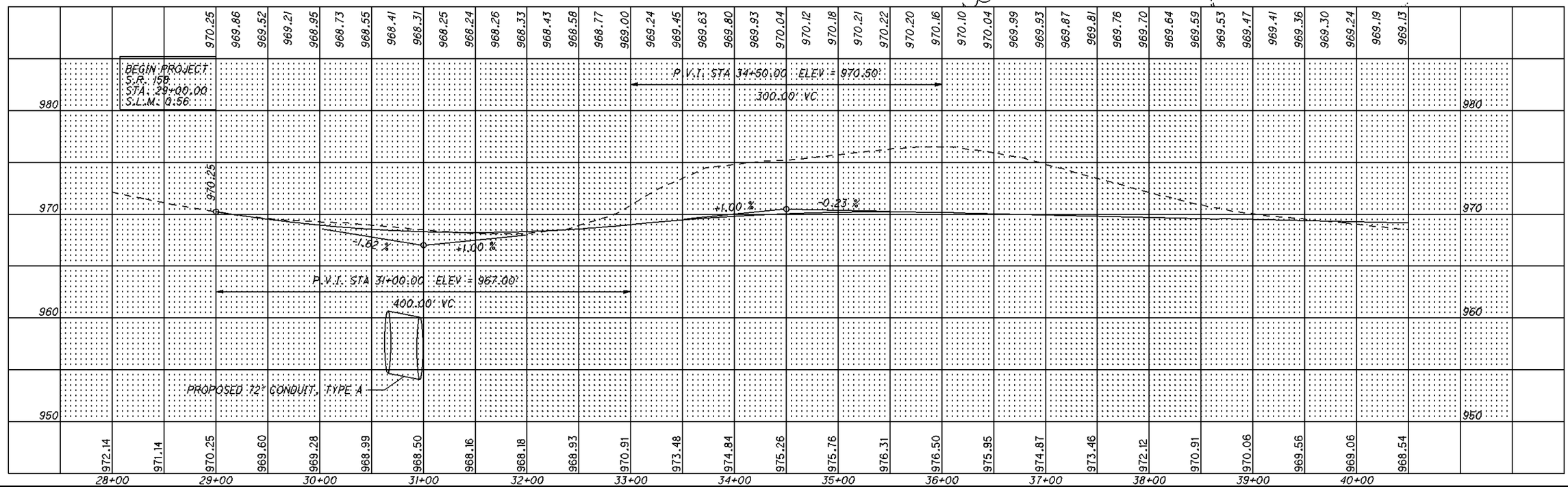
℄ SURVEY & CONSTRUCTION S.R. 158

EXISTING WELL TO BE
ABANDONED AS PER STANDARD
CONSTRUCTION DRAWING RM-7.1

UNDERDRAIN OUTLET LOCATIONS

STA. 30+57, 29' LT - 1-90° BEND, 1-P.R.C.O., 13'-6" TYPE F*
STA. 30+80, 34' RT - 1-90° BEND, 1-P.R.C.O., 18'-6" TYPE F*
STA. 31+25, 28' LT - 1-90° BEND, 1-P.R.C.O., 12'-6" TYPE F*
STA. 31+25, 27' RT - 1-90° BEND, 1-P.R.C.O., 11'-6" TYPE F*

*707.33, 707.41, 707.42 OR 707.45



HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED R.J.G.
CHECKED J.C.

DRAINAGE PLAN AND PROFILE S.R. 158
STA. 28+00.0 TO STA. 40+50.00

LIC-158-0.56

133
219

08/12/11
SR158_DRAINPP_001.DGN

UNDERDRAIN OUTLET LOCATIONS

STA. 41+97, 36.7' LT - 1-90° BEND, 1-P.R.C.O., 19'-6" TYPE F*
STA. 41+97, 40.0' RT - 1-90° BEND, 1-P.R.C.O., 22'-6" TYPE F*
STA. 44+00, 38.5' RT - 1-TEE, 37'-6" TYPE B, 1-P.R.C.O., 20'-6" TYPE F*

*707.33, 707.41, 707.42 OR 707.45

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 46+00.00 = ℄ SURVEY & CONSTRUCTION SOUTHWEST RAMP STA. 721+38.83

℄ SURVEY & CONST. S.R. 158 STA. 50+57.68 = ℄ SURVEY & CONST. I.R. 70 STA. 719+95.26

CONSTRUCTION LIMITS

SOUTHWEST RAMP

PC Sta. 719+35.26

PT Sta. 720+44.77

PC Sta. 43+99.0

PT Sta. 45+32.37

I.R. 70 EASTBOUND

I.R. 70 WESTBOUND

S.R. 158

STA. 40+50.00

STA. 53+00.00

℄ SURVEY & CONSTRUCTION S.R. 158 STA. 46+00.00 = ℄ SURVEY & CONSTRUCTION SOUTHEAST RAMP STA. 719+31.17

PC Sta. 720+44.01

PC Sta. 720+99.45

PT Sta. 721+58.39

SOUTHEAST RAMP

CONSTRUCTION LIMITS

SURVEY AND CONSTRUCTION S.R. 158

CONSTRUCTION LIMITS

4-UD, 1-C, 1-DP, 2-MH, 1-UD, 3-UD, 1-SS, 10-UD, 3-SS, 7-UD, 5-UD, 2-UD, 2-DP, 3-UD, 1-MH, 4-DP, 4A-UD, 9-UD, 4-SS, 8-UD, 6-UD, 2-SS

P.I.= Sta. 44+65.71
D = 0° 40' 00" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 66.67'
L = 133.33'
E = 0.19'
C = 133.33'
C.B. = N 38° 28' 12" E

P.I.= Sta. 721+01.32
D = 9° 08' 00" (LT)
Dc = 6° 00' 00"
R = 218.20'
T = 57.31'
L = 114.38'
E = 2.89'
C = 114.25'
C.B. = N 68° 33' 00" E

P.I.= Sta. 719+90.92
D = 32° 11' 14" (LT)
Dc = 23° 00' 01"
R = 249.11'
T = 55.65'
L = 109.51'
E = 6.14'
C.B. = S 54° 15' 56" E = 108.63'

EXISTING STRUCTURE (SFN# 4505344)

TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUB-STRUCTURES.
SPANS: 50'-0", 62'-6", 62'-6", 50'-0"
ROADWAY: 28'-0" F/F OF 2'-0" SAFETY CURB
LOADING: OF > 400 (S)
SKEW: 14°-22" L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
STRUCTURAL FILE NUMBER: 4505344
DATE BUILT: 1958

PROPOSED STRUCTURE (SFN# 4505352)

TYPE: 2 SPAN CONTINUOUS STEEL BEAM WITH COMPOSITE REINFORCED CONCRETE DECK OR REINFORCED CONCRETE SEMI-INTEGRAL ABUTMENTS AND CAP AND COLUMN PIER
SPANS: 84'-6", 84'-6"
ROADWAY: 68'-0" TOE/TOE PARAPET
LOADING: HL-93
SKEW: 6°-30'-00"
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 20 FEET LONG (AS-1-88)
ALIGNMENT: TANGENT
CROWN: 0.0150 FT/FT
COORDINATES: LATITUDE 39°56'41.56"
LONGITUDE -82°58'00.51"

18" CONDUIT TYPE A

-0.23 %
+2.35 %
P.V.I. STA 45+00.00 ELEV = 968.10'
300.00' VC

+2.35 %
-1.54 %
P.V.I. STA 51+80.00 ELEV = 984.07'
1,040.00' VC

969.13 969.07 969.01 968.96 968.90 968.84 968.79 968.73 968.67 968.61 968.56 968.50 968.44 968.41 968.44 968.51 968.64 968.83 969.07 969.36 969.70 970.10 970.56 971.06 971.62 972.20 972.74 973.24 973.70 974.12 974.50 974.83 975.12 975.38 975.59 975.76 975.88 975.97 976.01 976.02 975.98 975.90 975.78 975.62 975.41 975.17 974.88 974.56 974.19 973.78 973.32

968.54 968.44 968.81 969.27 969.49 969.17 968.75 968.60 968.62 968.79 969.32 970.19 971.05 972.10 972.75 973.34 973.72 973.93 967.28 954.61 953.22 953.19 958.94 972.65 972.22 971.38

41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00

980 970 960 950

HORIZONTAL SCALE IN FEET (0, 50, 100)

CALCULATED R.J.G. CHECKED J.C.

DRAINAGE PLAN AND PROFILE S.R. 158 STA. 40+50.00 TO STA. 53+00.00

LIC-158-0.56

134 / 219

08-12-11

SR158_DRAINPP_002.DGN

UNDERDRAIN OUTLET LOCATIONS

STA. 532+10.43(S.R. 158 WEST), 32' RT - 1-90° BEND, 1-P.R.C.O., 20'-6" TYPE F*
STA. 718+25(KELLER ROAD), 31.3' RT - 1-90° BEND, 1-P.R.C.O., 15'-6" TYPE F*
STA. 61+00, 34' LT - 1-90° BEND, 1-P.R.C.O., 20'-6" TYPE F*
STA. 61+00, 30' RT - 1-90° BEND, 1-P.R.C.O., 16'-6" TYPE F*

*707.33, 707.41, 707.42 OR 707.45

N

0 50 100
HORIZONTAL SCALE IN FEET

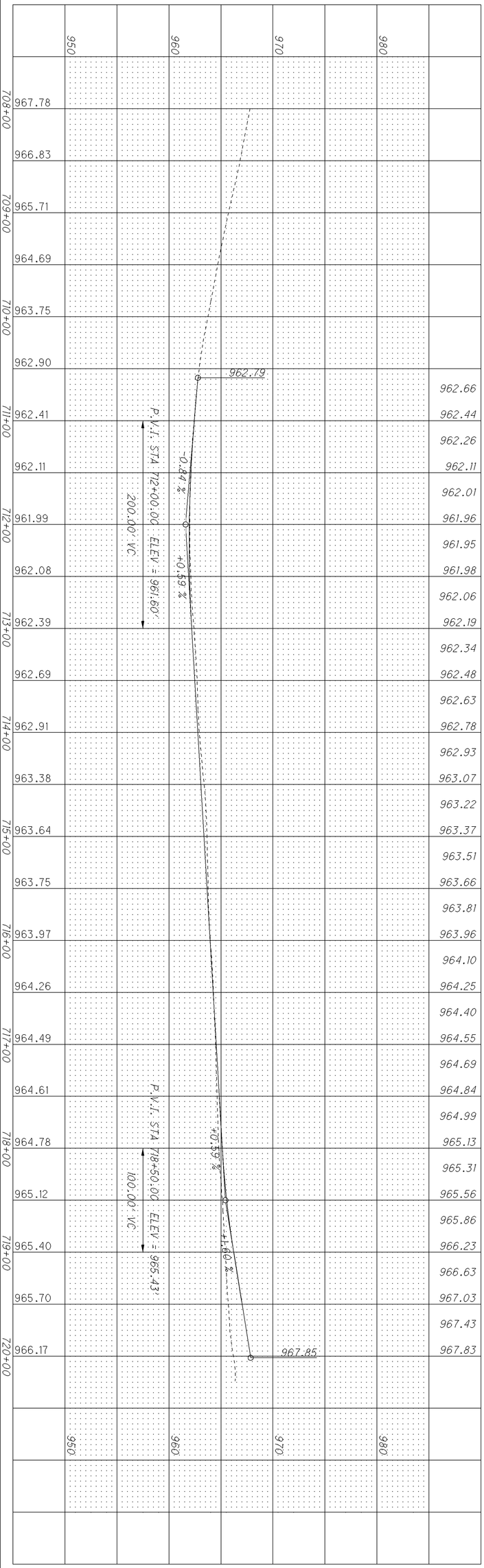
CALCULATED M.M.
CHECKED J.C.

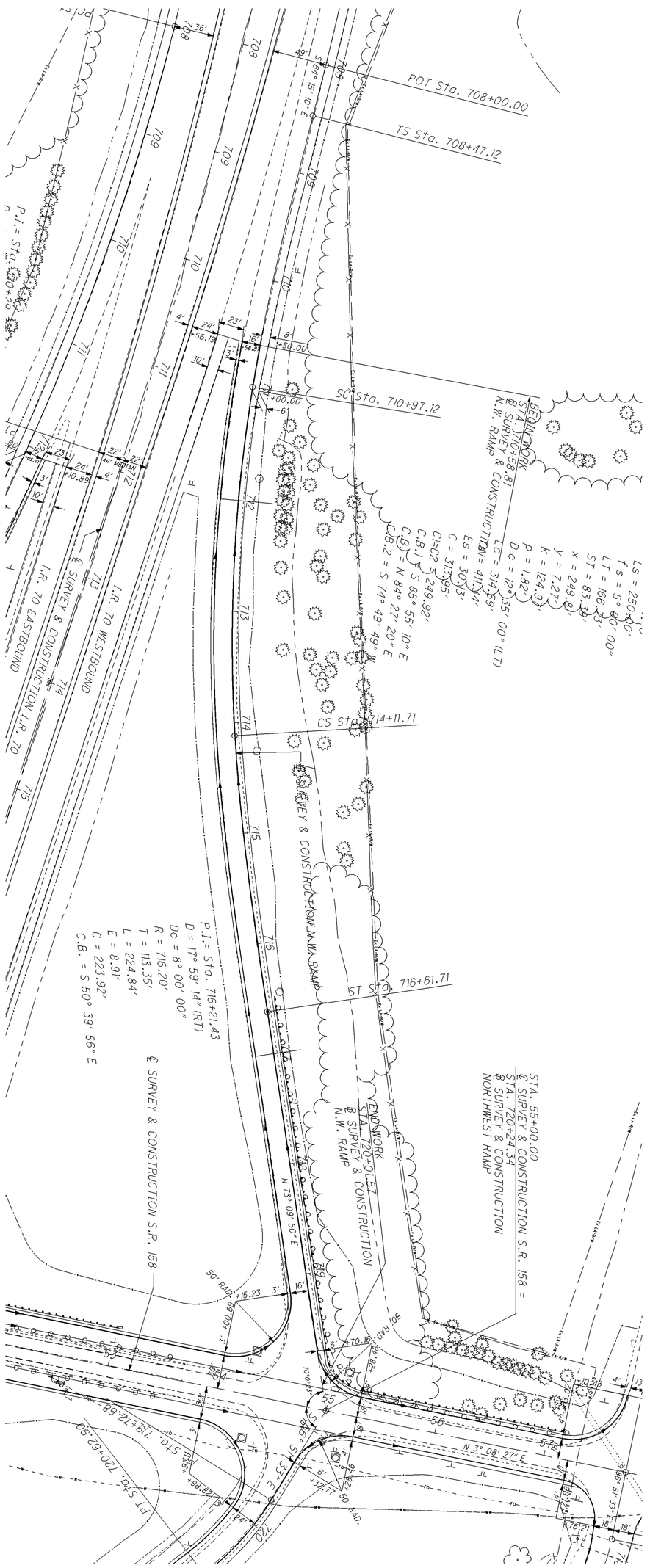
DRAINAGE PLAN AND PROFILE S.R. 158
STA. 53+00.00 TO STA. 65+50.00

LIC-158-0.56

PLPRO50.DGN XX/XX/XX

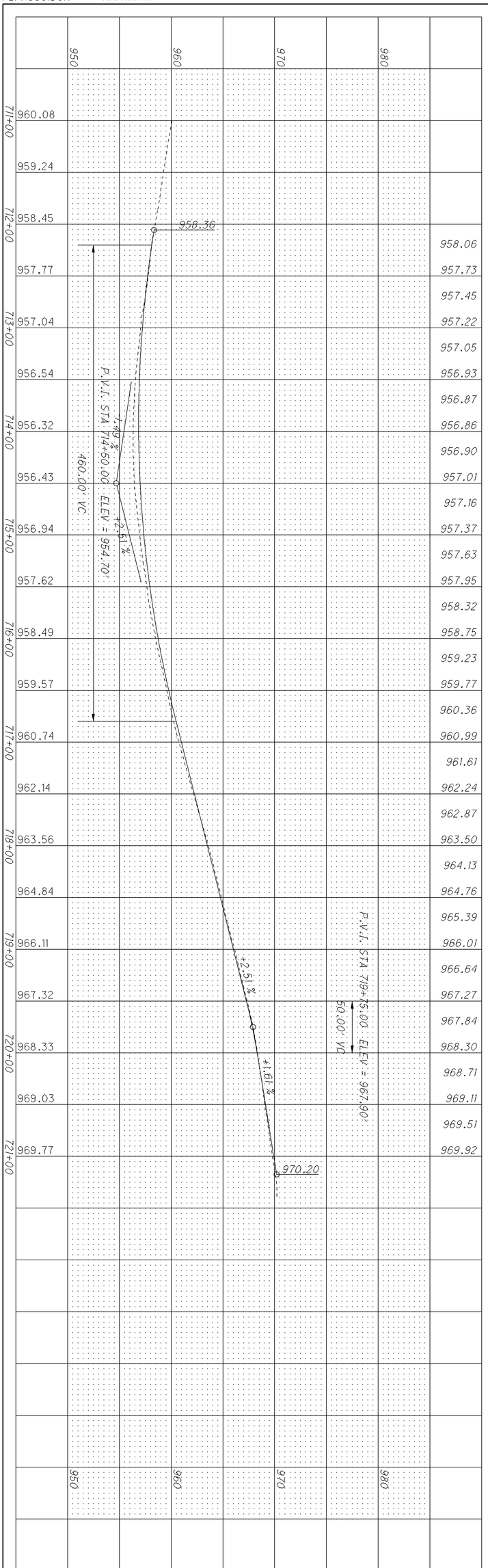
PLPRO50.DGN XX/XX/XX

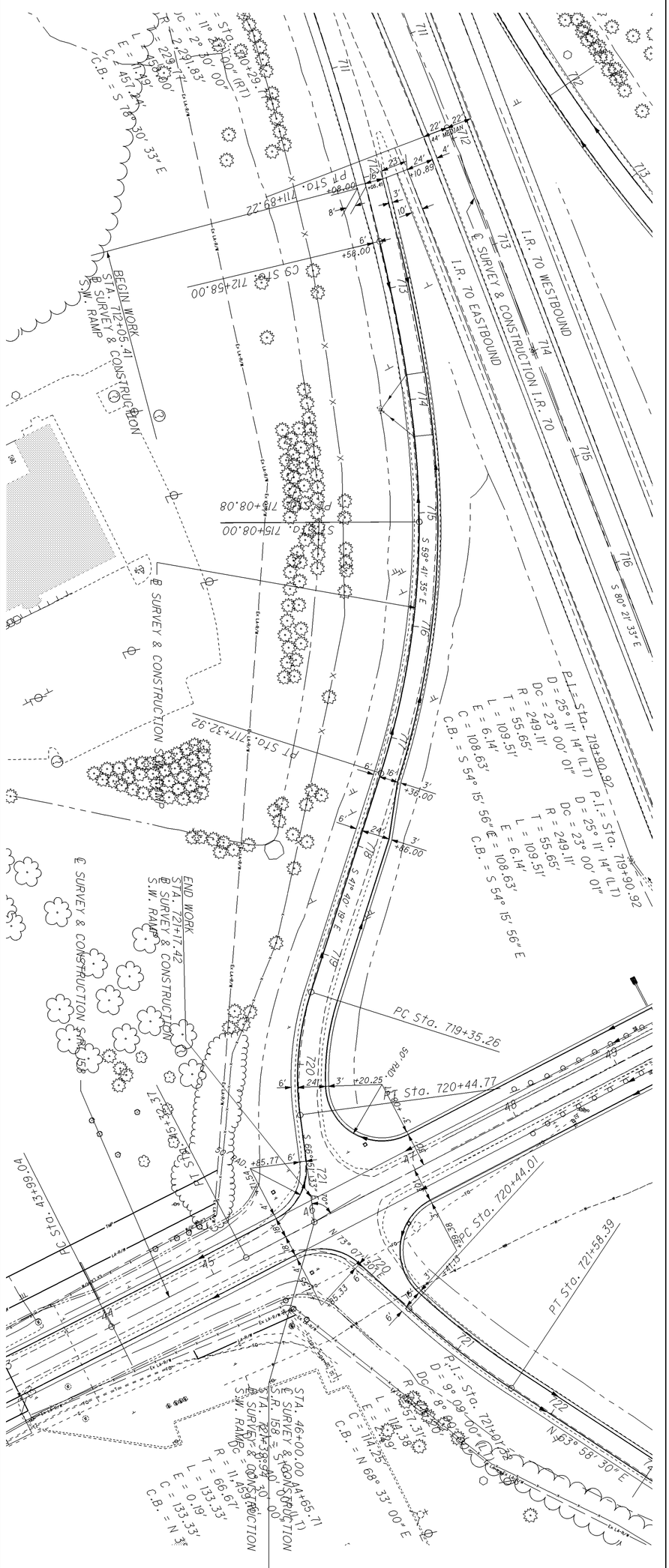




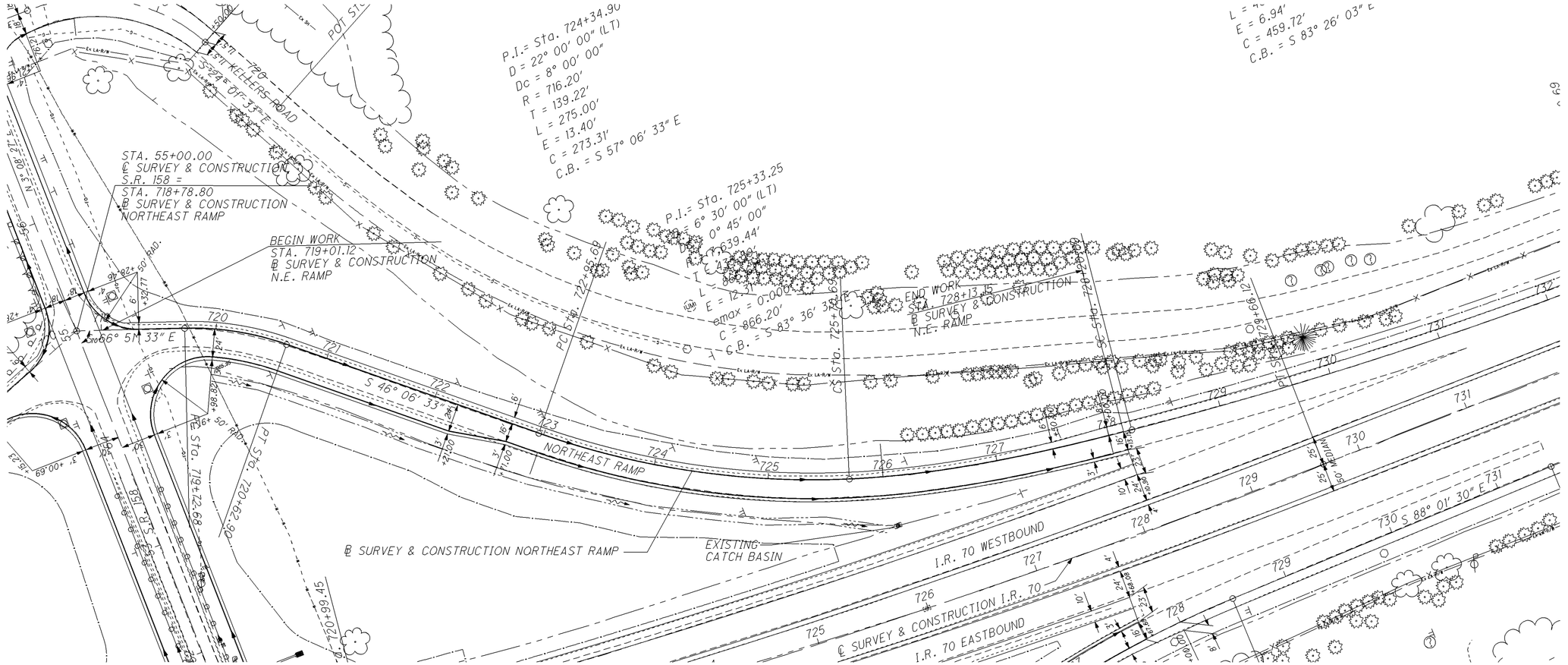
136/219	LIC-158-0.56	DRAINAGE PLAN AND PROFILE N.W. RAMP STA. 710+58.81 TO STA. 720+01.57	CALCULATED R.J.G. / CHECKED J.C.	0 50 100 HORIZONTAL SCALE IN FEET

PLPRO50.DGN XX/XX/XX





137/219	LIC-158-0.56	DRAINAGE PLAN AND PROFILE S.W. RAMP STA. 712+05.41 TO STA. 721+17.42	CALCULATED R.J.G. / CHECKED J.C.	0 50 100 HORIZONTAL SCALE IN FEET	N



HORIZONTAL SCALE IN FEET
0 50 100

CALCULATED R.J.G.
CHECKED J.C.

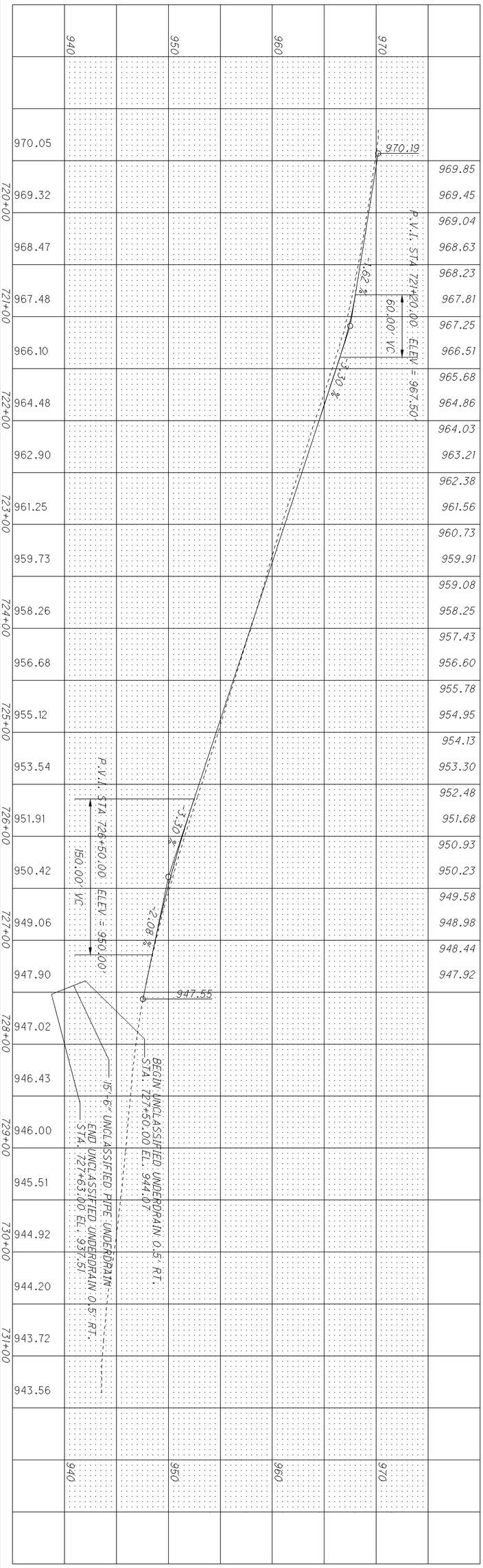
DRAINAGE PLAN AND PROFILE N.E. RAMP
STA. 718+97.76 TO STA. 728+20.69

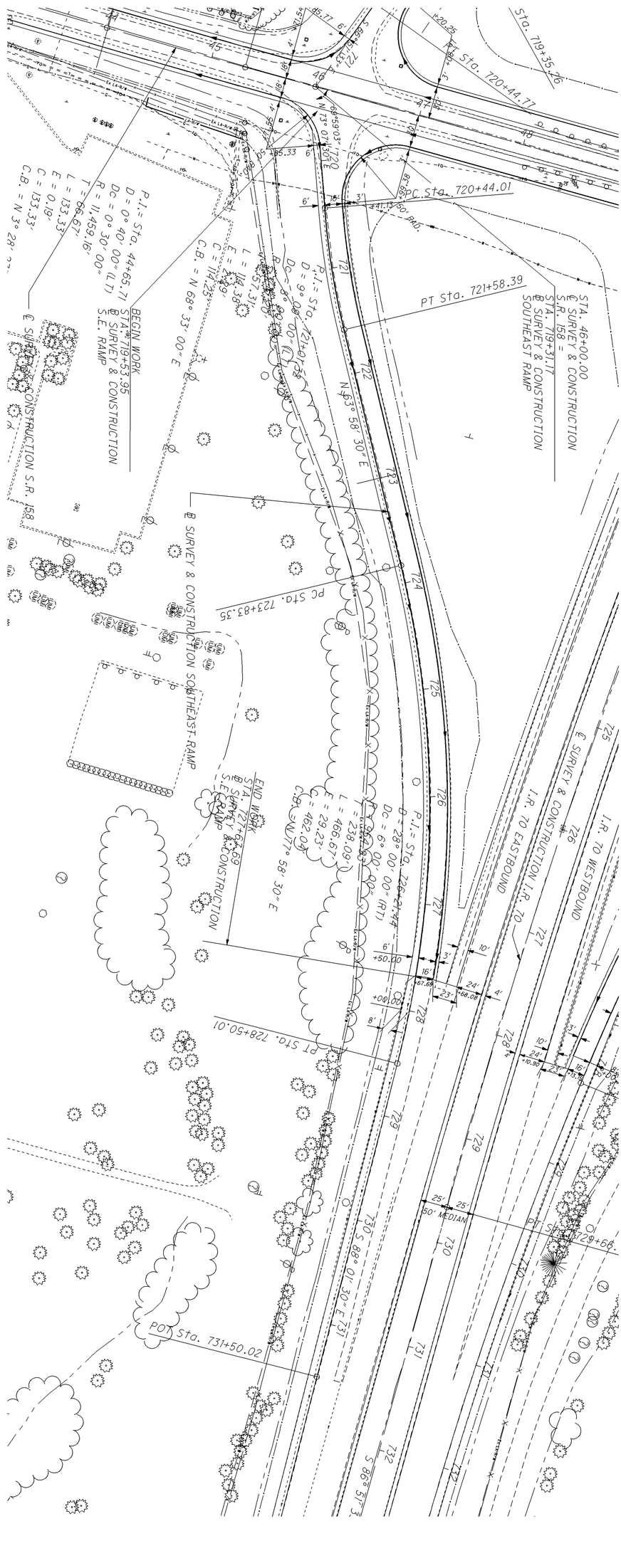
LIC-158-0.56

138
219

PLPRO50.DGN XX/XX/XX

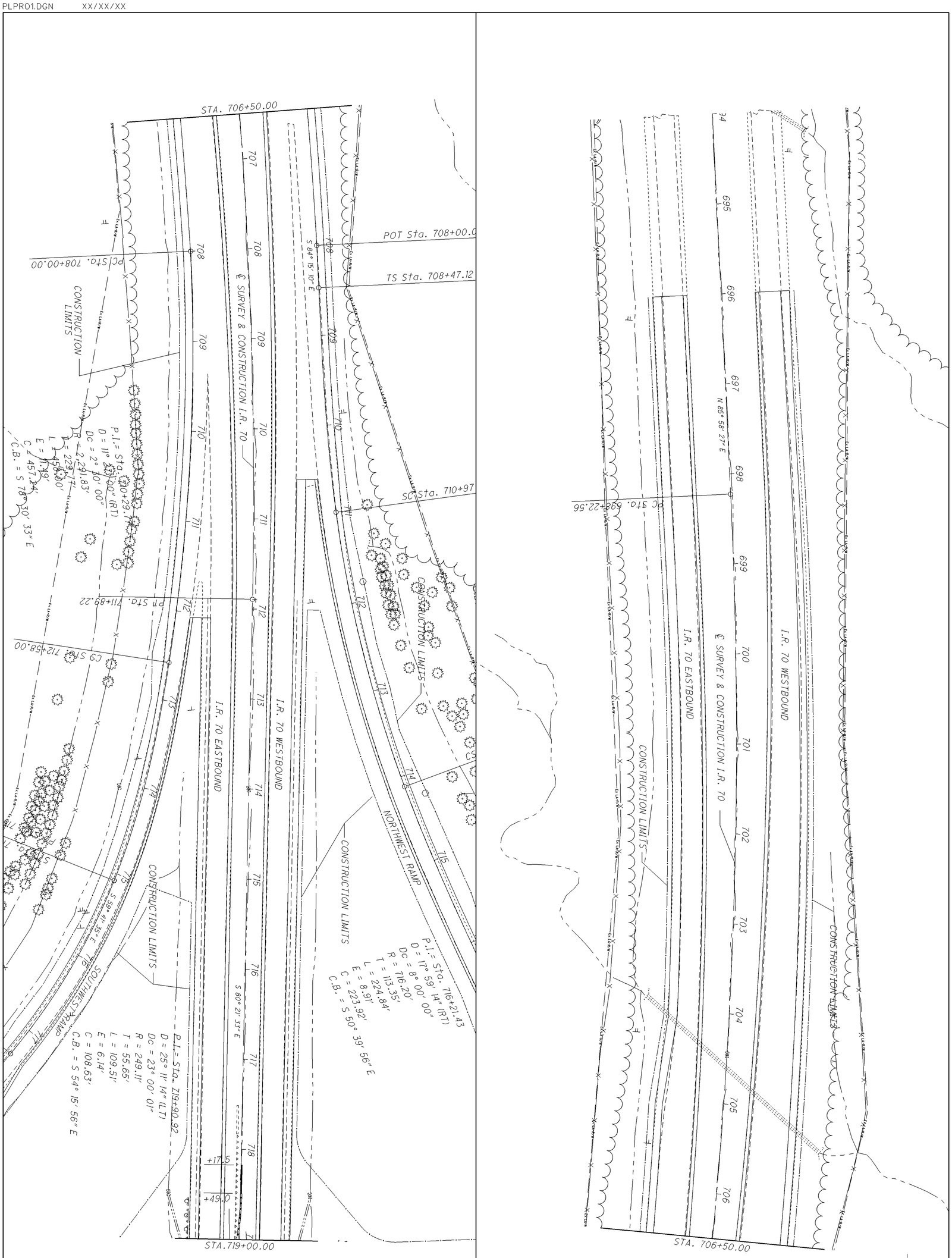
PLPRO50.DGN XX/XX/XX





139 / 219	LIC-158-0.56	DRAINAGE PLAN AND PROLFILE S.E. RAMP STA. 719+53.59 TO STA. 727+67.69	CALCULATED R.J.G. / CHECKED J.C.	0 50 100 HORIZONTAL SCALE IN FEET	N

PLPR01.DGN XX/XX/XX



140 / 219	LIC-158-0.56	DRAINANGE PLAN SHEET I.R. 70 STA.694+00.00 TO STA. 719+00.00	CALCULATED R.J.G. CHECKED J.C.	0 HORIZONTAL SCALE IN FEET	N

℄ SURVEY & CONST. S.R. 158
STA. 50+57.68 =
℄ SURVEY & CONST. I.R. 70
STA. 719+95.26

PC Sta. 720+99.45

CONSTRUCTION LIMITS

NORTHEAST RAMP

C = 880.20'
℄ G.B. = S 83° 36' 32" E

CS Sta. 725+

SC Sta. 728+20

KELLER ROAD

CONSTRUCTION LIMITS

CS Sta. 729+66.12

POT Sta. 731+50.02

STA. 719+00.00

I.R. 70 WESTBOUND

721 722 723 724 725 726 727 728 729 730 731

℄ SURVEY & CONSTRUCTION I.R. 70

I.R. 70 EASTBOUND

STA. 731+50.00

S 88° 01' 30" E

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

SOUTHEAST RAMP

P.I.= Sta. 726+21.44
Δ = 28° 00' 00" (RT)
Dc = 6° 00' 00"
R = 954.93'
T = 238.09'
L = 466.67'
E = 29.23'
C = 462.04'
CH BRG N 77° 58' 30" E

PT Sta. 728+50.

CONSTRUCTION LIMITS

PT Sta. 732+80.69

POT Sta. 731+50.02

KELLER ROAD

CONSTRUCTION LIMITS

I.R. 70 WESTBOUND

732 733 550 551 552 553 554 555 556 557 558 559 56

86° 51' 33" E 86° 51' 33" E

℄ SURVEY & CONSTRUCTION I.R. 70

I.R. 70 EASTBOUND

CONSTRUCTION LIMITS

EQUATION:
Sta 733+97.69 BK =
Sta 549+99.97 AH

PLPRO1.DGN XX/XX/XX

HORIZONTAL SCALE IN FEET

CALCULATED M.M.
CHECKED J.C.

DRAINAGE PLAN SHEET I.R. 70
STA. 719+00.00 TO STA. 560+00.00

LIC-158-0.56

MARK	SEE SHEET	STATION TO STATION	SIDE	202			638		601	602	603										604			605				BENDS AND BRANCHES FOR INFORMATION ONLY					
				PIPE REMOVED 24" AND UNDER	HEADWALL REMOVED	MANHOLE REMOVED	FIRE HYDRANT AND GATE VALVE REMOVED AND RESET	6" WATER MAIN POLYVINLY CHLORIDE PIPE AND FITTINGS, ASTM SDR26	ROCK CHANNEL PROTECTION TYPE C WITH FILTER	CONCRETE MASONRY	6" CONDUIT, TYPE B	6" CONDUIT, TYPE F		12" CONDUIT, TYPE D	15" CONDUIT, TYPE C	15" CONDUIT, TYPE D	15" CONDUIT, TYPE F, 707.05, TYPE C	18" CONDUIT, TYPE A	18" CONDUIT, TYPE D	24" CONDUIT, TYPE D		PRECAST REINFORCED CONCRETE OUTLET	MANHOLE ADJUSTED TO GRADE	CB NO. 3, AS PER PLAN	6" SHALLOW PIPE UNDERDRAIN, 707.32 TYPE CP OR 707.41	6" BASE PIPE UNDERDRAINS (18" DEEP)	6" SHALLOW PIPE UNDERDRAINS (30" DEEP)	6" UNCLASSIFIED PIPE UNDERDRAINS	6" X 45° BEND	6" X 90° BEND	6" X 6" X 6" TEE		6" CROSS	6" END CAPS
		S.R. 16		FT	EACH	EACH	EACH	FT	CU. YD	CU. YD	FT	FT		FT	FT	FT	FT	FT	FT	FT		EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	EACH		EACH	EACH
1-UD	133	29+00 - 30+80	RT									18										1					180			1				1
2-UD	133	29+00 - 30+57	LT									13										1					158			1				1
3-UD	133-134	30+92 - 41+97	RT									33										2				1107			2	1	1			1
4-UD	133-134	30+78 - 41+97	LT									31										2				1122			2	1	1			1
1-DP	133	34+30.60	LT											54																				
2-DP	133	35+16.20	RT											54																				
3-DP	133	37+86.00	LT											25																				
4-DP	133-134	40+35.20	RT	170		1										148																		
1-EP	133	29+75 - 30+59	LT						35																									
2-EP	133	30+50 - 30+97	RT						22																									
3-EP	133	30+65 - 31+50	LT						47																									
1-UD	134	42+02 - 49+49	LT								37																750				1			1
2-UD	134	42+02 - 49+45	RT									20										1					746						1	1
3-UD	134	47+09 - 49+50	LT																							245								1
4A-UD	134	47+00 - 49+43	RT																							247								1
5-UD	134-135	51+72 - 54+00	LT																							233								1
6-UD	134-135	51+65 - 53+91	RT																							230								1
7-UD	134-135	51+70 - 53+00	LT																								256							1
8-UD	134-135	51+66 - 53+00	RT																								269							1
9-UD	134	49+41.9 - 49+50.3	RT/LT																						80									
10-UD	134	51+64.8 - 51+73.5	RT/LT																						80									
		SEE BRIDGE SHEET 186 FOR LOCATIONS	RT/LT																			4												
1-SS	134	49+47.64	LT						1.33	.27					22									1										
2-SS	134	49+30.06	RT						1.67	.27					27									1										
3-SS	134	51+85.30	LT						1.33	.27							47							1										
4-SS	134	51+67.66	RT						1.33	.27							46							1										
1-C	134	42+00	LT/RT						33.3	0.66								75																
1-MH	134	43+41.1±	RT																				1											
2-MH	134	43+43.4±	LT																				1											
1-DP	134	41+17.77	LT	240	2											30																		
2-DP	134	42+71.48	RT																68															
1-UD	135	53+00 - 532+10.43 (S.R. 158 WEST)	LT									20										1					491			1				
2-UD	135	53+00 - 718+25 (KELLER ROAD)	RT									15										1					521			1				
3-UD	135	532+10.43 (S.R. 158 WEST) - 61+00	LT									20										1					333			1				1
4-UD	135	58+12 - 61+00	RT									16										1					290			1				1
1-DP	135	60+42.00	LT	36	2															35														
1-FH	135	60+14.7	RT				1	10																										
		TOTALS THIS SHEET		446	4	1	1		143	1.74	37	186		133	49	178	93	75	68	35		15	2	4	160	3,184	3,994		4	8	3		1	14
		TOTALS FROM SHEET 143									119	228										5					6,944	100	2	6	6		1	17
		TOTALS (CARRIED TO GENERAL SUMMARY)		446	4	1	1	10	143.0	1.74	156	414		133	49	178	93	75	68	35		20	2	4	160	3,184	10,938	100.0	6	14	9		2	31

DRAINAGE QUANTITIES

CALCULATED

CHECKED

LIC-158-0.56

142
219

04/25/11

84700_DRAIN_SUBSUM.DGN

MARK	SEE SHEET	STATION TO STATION	SIDE	202				601		602	603									604					605			BENDS AND BRANCHES FOR INFORMATION ONLY					
				PIPE REMOVED 24" AND UNDER		HEADWALL REMOVED	MANHOLE REMOVED		ROCK CHANNEL PROTECTION TYPE C WITH FILTER	CONCRETE MASONRY	6" CONDUIT, TYPE B	6" CONDUIT, TYPE F		12" CONDUIT, TYPE D		15" CONDUIT, TYPE D	15" CONDUIT, TYPE F, 707.05, TYPE C		24" CONDUIT, TYPE D			PRECAST REINFORCED CONCRETE OUTLET	MANHOLE ADJUSTED TO GRADE	INLET NO. 3, AS PER PLAN	6" BASE PIPE UNDERDRAINS (18" DEEP)	6" SHALLOW PIPE UNDERDRAINS (30" DEEP)	6" UNCLASSIFIED PIPE UNDERDRAINS	6" X 45° BEND	6" X 90° BEND	6" X 6" X 6" TEE		6" CROSS	6" END CAPS
		RAMPS		FT.		EACH	EACH		CU. YD		FT	FT		FT		FT	FT		FT			EACH	EACH	EACH	FOOT	FOOT	FOOT	EACH	EACH	EACH		EACH	EACH
		NORTHWEST RAMP																															
1-UD	*136*	*710+58.82 - 716+99.5*	*LT*									*31*										*1*				*641*					*1*	*2*
2-UD	*136*	*710+58.82 - 716.99.5*	*RT*								*17*															*647*				*1*		*2*
3-UD	*136*	*717+00 - 720+17*	*LT*									*25*										*1*				*331*						*1*
4-UD	*136*	*717+00 - 719+61.75*	*RT*								*17*															*311*						
		NORTHEAST RAMP																															
1-UD	*138*	*719+44.43 - 723+00*	*RT*									*20*										*1*				*396*				*1*		*1*
2-UD	*138*	*718+86.18 - 726+00*	*LT*									*29*										*1*				*728*				*1*		*1*
3-UD	*138*	*723+00.5 - 728+00*	*RT*								*17*															*479*				*1*		*1*
4-UD	*138*	*726+00.5 - 728+00*	*LT*									*10*														*200*					*1*	*1*
		SOUTHWEST RAMP																															
1-UD	*137*	*712+58 - 713+78*	*LT*								*17*															*122*				*1*		*1*
2-UD	*137*	*712+58 - 713+78*	*RT*									*38*														*122*			*1*		*1*	*1*
3-UD	*137*	*713+78.5 - 720+74*	*LT*								*17*															*745*					*1*	*1*
4-UD	*137*	*713+78.5 - 721+32.5*	*RT*									*38*														*768*						*2*
		SOUTHEAST RAMP																															
1-UD	*139*	*719+93.77 - 723+00*	*LT*								*17*															*305*	*50*			*1*		
2-UD	*139*	*719+50 - 723+00*	*RT*									*22*										*1*				*305*	*50*				*1*	*1*
3-UD	*139*	*723+00.5 - 727+67*	*LT*								*17*															*475*				*1*		*1*
4-UD	*139*	*723+00.5 - 727+67*	*RT*									*15*														*470*			*1*		*1*	*1*
		TOTALS CARRIED TO SHEET 142									119	228										5				6,944	100		2	6	6		1	17

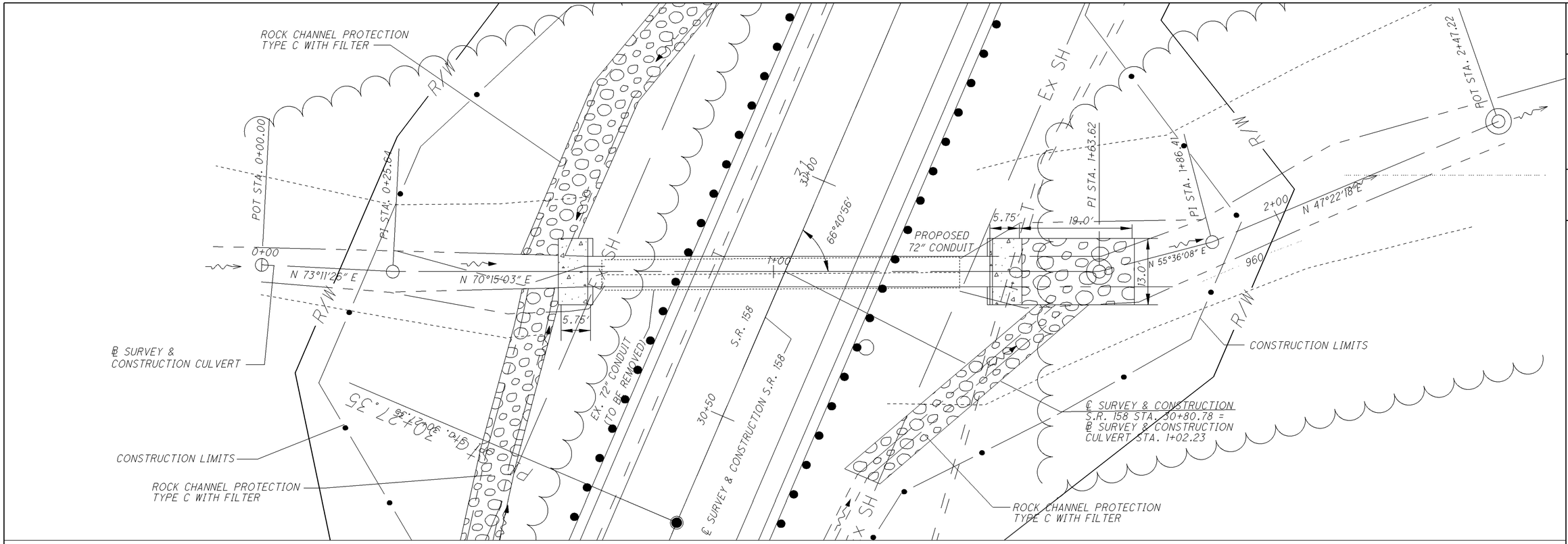
CALCULATED

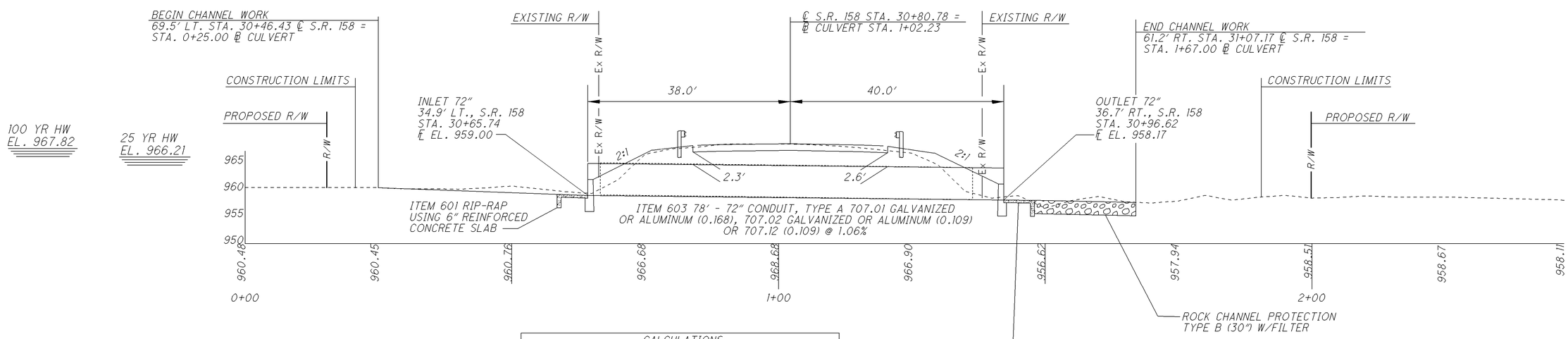
CHECKED

DRAINAGE QUANTITIES

LIC-158-0.56

84700_DRAIN_SUBSUM.DGN 04/25/11





QUANTITIES	
ITEM 202 PIPE REMOVED OVER 24"	70.0 FT.
ITEM 202 HEADWALL REMOVED	2.0 EA.
ITEM 601 RIPRAP USING 6" REINFORCED CONCRETE SLAB	17.0 SQ. YDS.
ITEM 601 ROCK CHANNEL PROTECTION TYPE B (30"), W/FILTER	23.0 CU. YDS.
ITEM 602 CONCRETE MASONRY	6.00 CU. YDS.
ITEM 603 72" CONDUIT TYPE A	78.0 FT.

QUANTITIES CARRIED TO GENERAL SUMMARY

CALCULATIONS

ROCK CHANNEL PROTECTION
TYPE B (30") W/FILTER
19' X 13.0' X 2.5' ÷ 27 = 22.9 CU. YDS.

RIPRAP
13.0' X 5.75' X 2 /9 = 16.6 CU.YDS.

CONCRETE MASONRY
(2.37 X 2)+(13.0' X 2.5' X .5'/27 X 2) = 5.94 CU. YDS.

HYDRAULIC DATA		
DRAINAGE AREA = 314 ACRES		
YEAR	Q (CFS)	V (FPS)
25	228	10.52
100	317	12.12

HORIZONTAL SCALE IN FEET
0

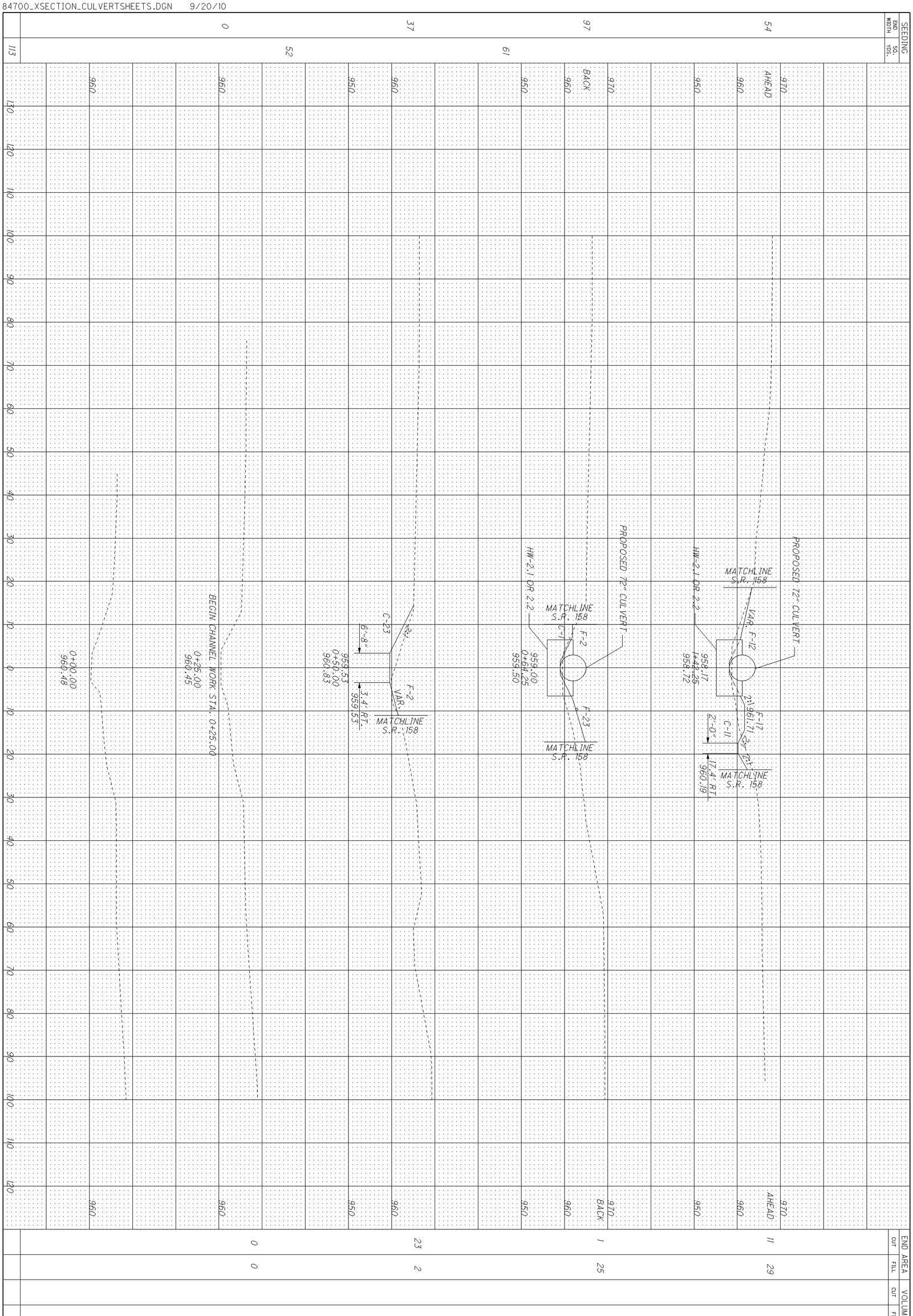
CALCULATED RJG
CHECKED HAG

72" CULVERT DETAIL SHEET
S.R. 158 STA. 30+80.78

LIC-158-0.56

84700_SR158_CULV.DGN 09/28/2010

84700_XSECTION_CULVERTSHEETS.DGN 9/20/10



LIC-158-0.56

CROSS SECTIONS CULVERT
STA. 0+00.00 TO STA. 1+42.25

CALCULATED

CHECKED

145
219

SEEDING			END AREA		VOLUME		
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL	CALCULATED / CHECKED
	257	TOTALS CARRIED TO SHEET 94			20	34	
		960					
		950					
		2+47.22 958.11					
		960					
		960					
		2+25.00 958.67					
		960					
		960					
		2+00.00 958.51					
		960					
43		BACK +67	0	27			
	82				0	17	
		960	0	27			
43		END CHANNEL WORK STA. 1+67.0 VAR. F-16 2:1 2:1 F-11 VAR.					
		950					
		ROCK CHANNEL PROTECTION TYPE, A (36") W/FILTER					
		958.05 1+50.00 956.62					
	42				2	8	
	144				2	25	

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

84700_XSECTION_CULVERTSHEETS.DGN 9/20/10

CROSS SECTIONS CULVERT
STA. 1+50.00 TO STA. 2+47.22

LIC-158-0.56

146
219

EY - EDGE LINE, YELLOW
EW - EDGE LINE, WHITE
LL - LANE LINE
CL - CENTER LINE, DOUBLE SOLID
CH - CHANNELIZING LINE
SL - STOP LINE
CW - CROSSWALK LINE
TL - TRANSVERSE/DIAGONAL LINE
RR - RAILROAD SYMBOL MARKING
AR - LANE ARROW
WD - WORD ON PAVEMENT, 72"

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN IN PLACE
- EXISTING SIGN TO BE REMOVED AND REERECTED
- EXISTING SIGN TO BE REMOVED AND DISPOSED

N

SCALE IN FEET
0 10 20 40
HORIZONTAL

CALCULATED C.Y.
CHECKED J.C.

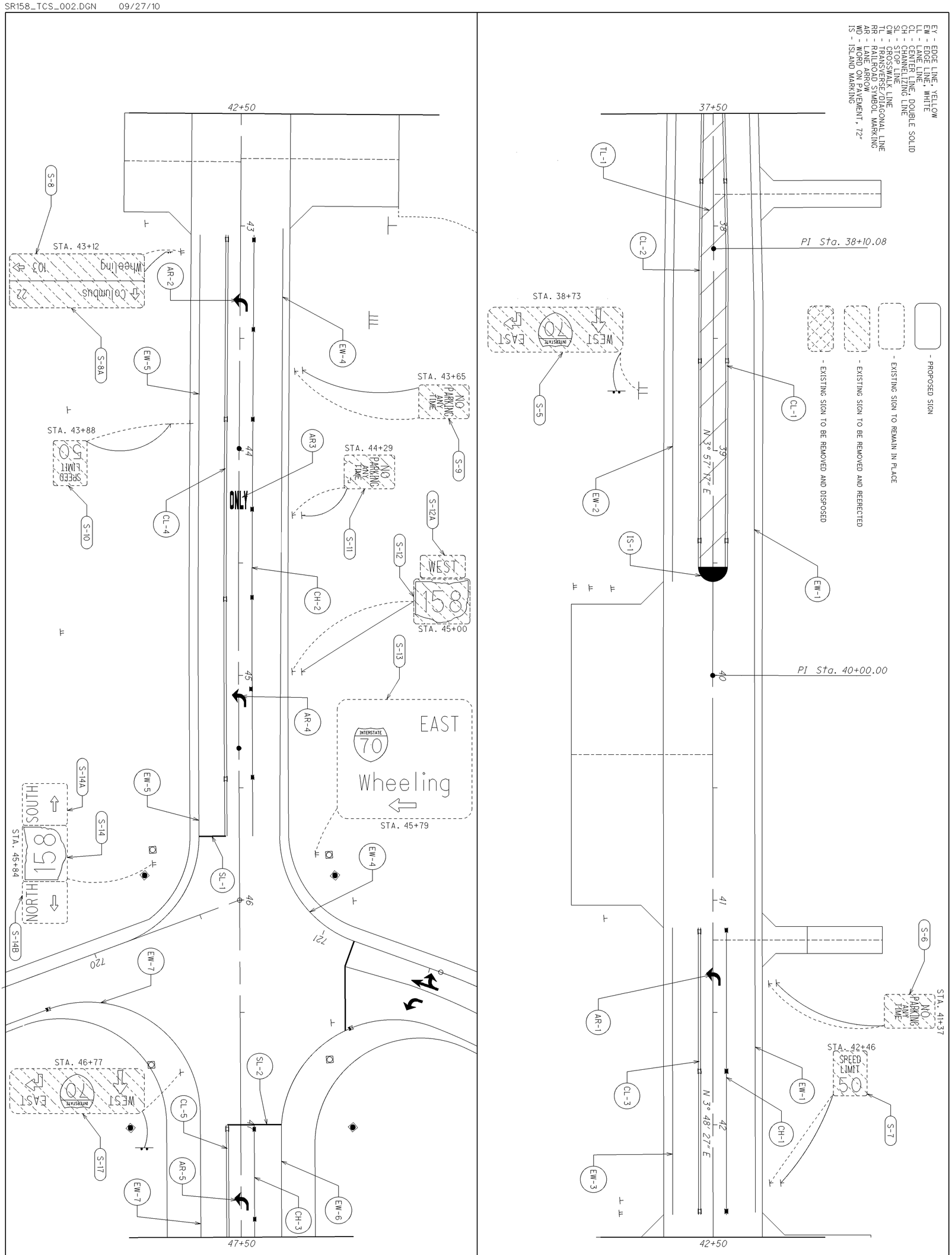
S.R. 158 TRAFFIC CONTROL SHEET
STA. 29+00.00 TO STA. 37+50.00

LIC-158-0.56

147
219

SR158_TCS_001.DGN 09/27/10

SR158_TCS_002.DGN 09/27/10



219 / 148	LIC-158-0.56	S.R. 158 TRAFFIC CONTROL SHEET STA. 37+50.00 TO STA. 47+50.00	CALCULATED C.Y. CHECKED J.C.	0 10 20 40 HORIZONTAL SCALE IN FEET

- EXISTING SIGN TO BE REMOVED AND REERECTED
- EXISTING SIGN TO BE REMOVED AND DISPOSED
- PROPOSED SIGN
- EXISTING SIGN TO REMAIN IN PLACE

EY - EDGE LINE, YELLOW
EW - EDGE LINE, WHITE
LL - LANE LINE
CL - CENTER LINE, DOUBLE SOLID
CH - CHANNELIZING LINE
SL - STOP LINE
CW - CROSSWALK LINE
TL - TRANSVERSE/DIAGONAL LINE
RR - RAILROAD SYMBOL MARKING
AR - LANE ARROW
WD - WORD ON PAVEMENT, 72"

HORIZONTAL SCALE IN FEET
0 10 20 40

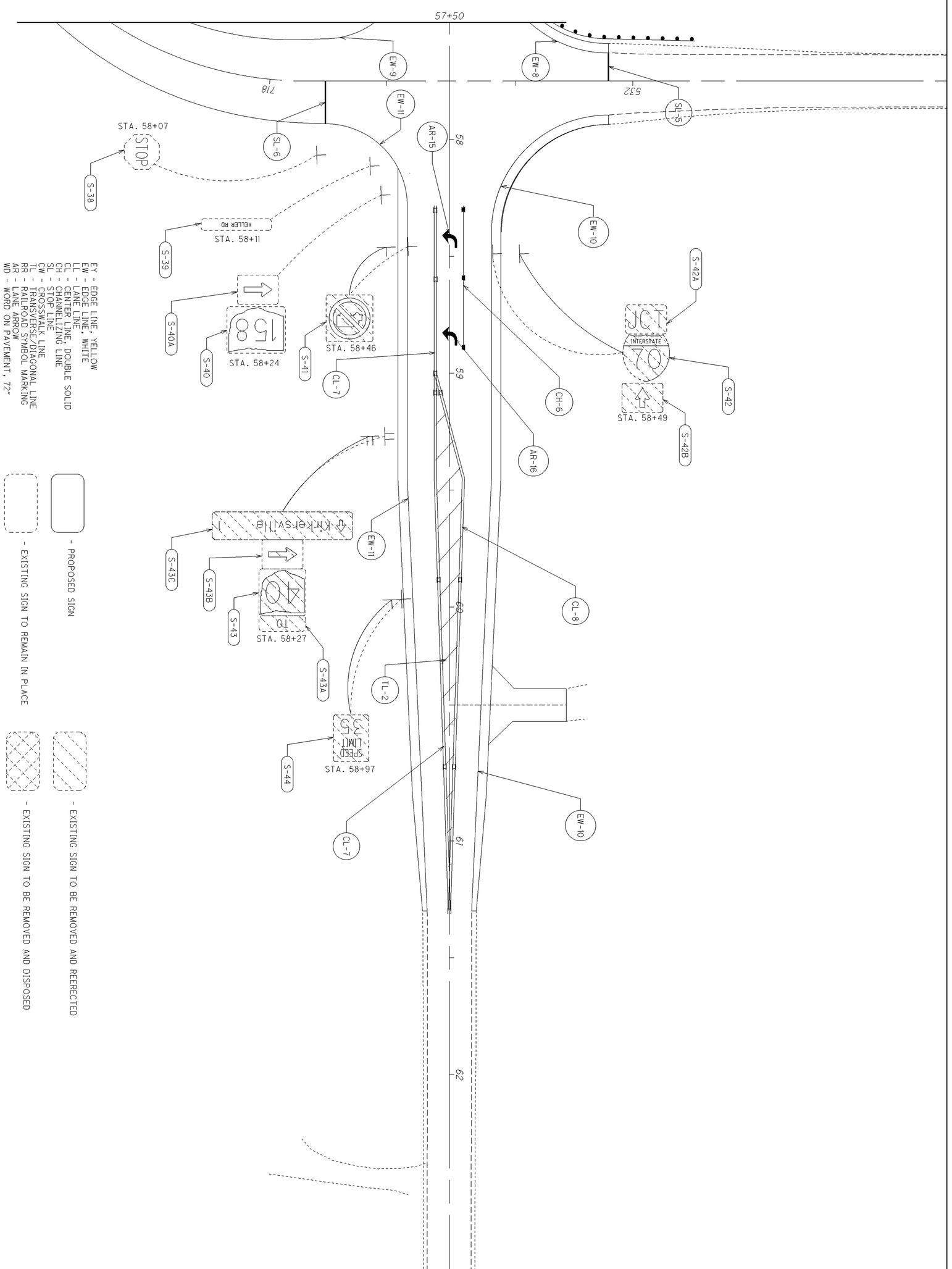
CALCULATED C.Y.
CHECKED J.C.

S.R. 158 TRAFFIC CONTROL SHEET
STA. 47+50.00 TO STA. 57+50.00

LIC-158-0.56

SR158_TCS_003.DGN 09/27/10

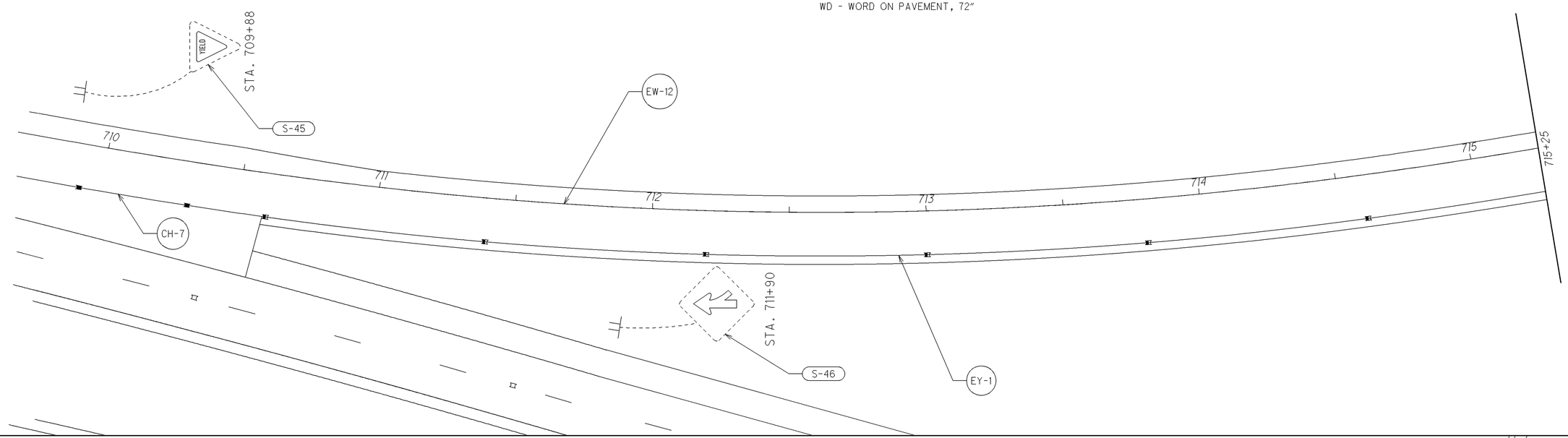
SR158_TCS_004.DGN 09/27/10

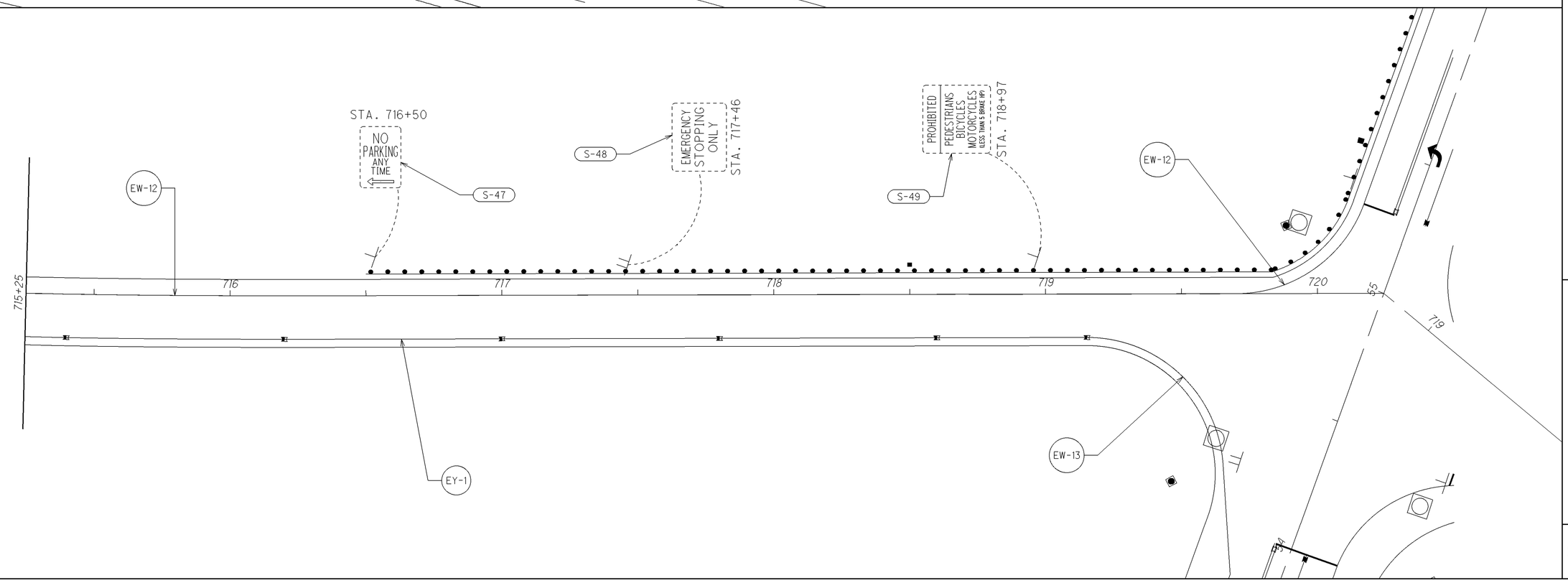


150 / 219	LIC-158-0.56	S.R. 158 TRAFFIC CONTROL SHEET STA. 57+50.00 TO STA. 61+30.00	CALCULATED C.Y. CHECKED J.C.	0 20 10 40 HORIZONTAL SCALE IN FEET

- PROPOSED SIGN
- EXISTING SIGN TO REMAIN IN PLACE
- EXISTING SIGN TO BE REMOVED AND REERECTED
- EXISTING SIGN TO BE REMOVED AND DISPOSED

EY - EDGE LINE, YELLOW
EW - EDGE LINE, WHITE
LL - LANE LINE
CL - CENTER LINE, DOUBLE SOLID
CH - CHANNELIZING LINE
SL - STOP LINE
CW - CROSSWALK LINE
TL - TRANSVERSE/DIAGONAL LINE
RR - RAILROAD SYMBOL MARKING
AR - LANE ARROW
WD - WORD ON PAVEMENT, 72"





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.Y.
CHECKED J.C.

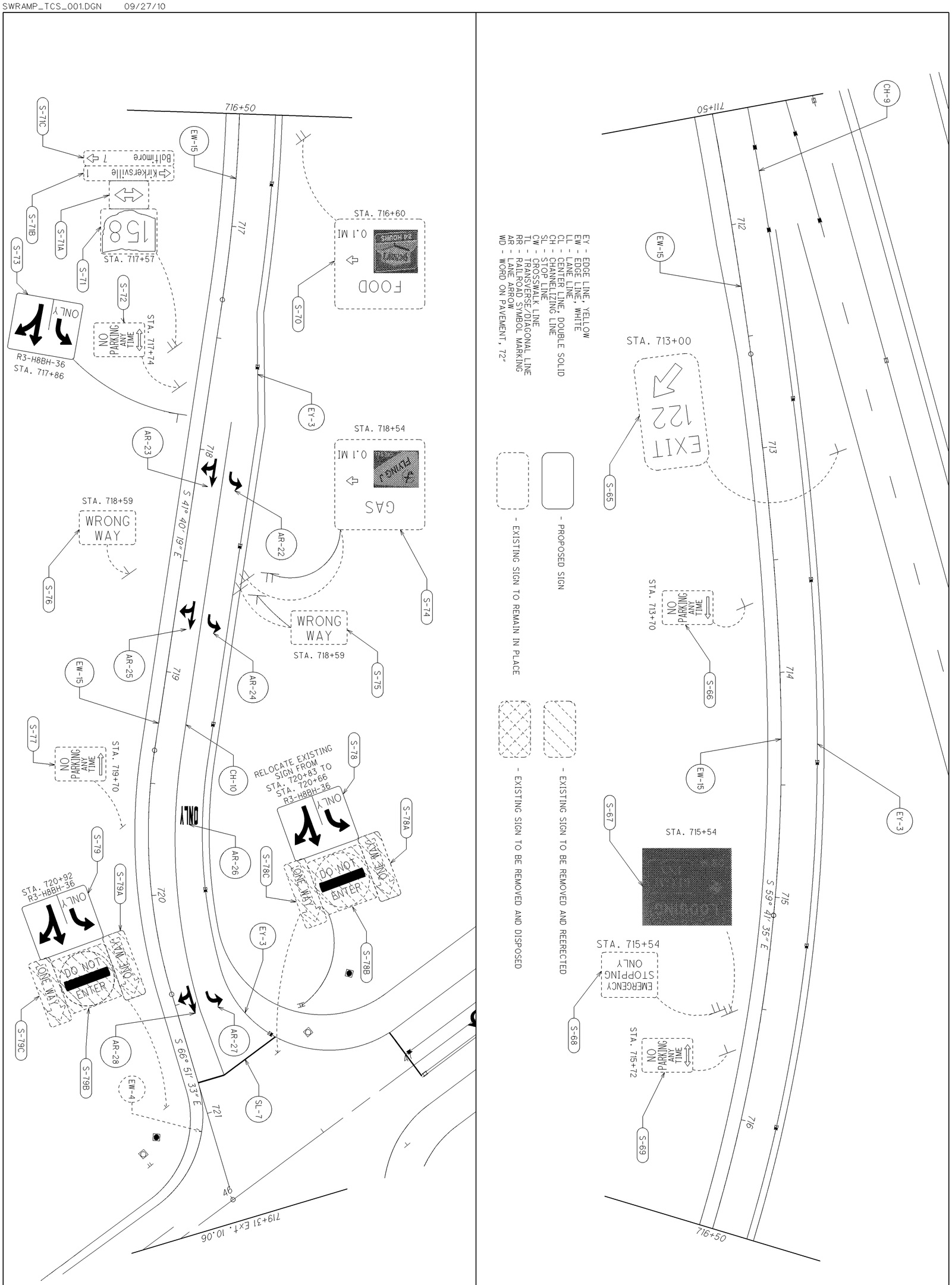
NORTHWEST RAMP TRAFFIC CONTROL SHEET

LIC-158-0.56

151
219

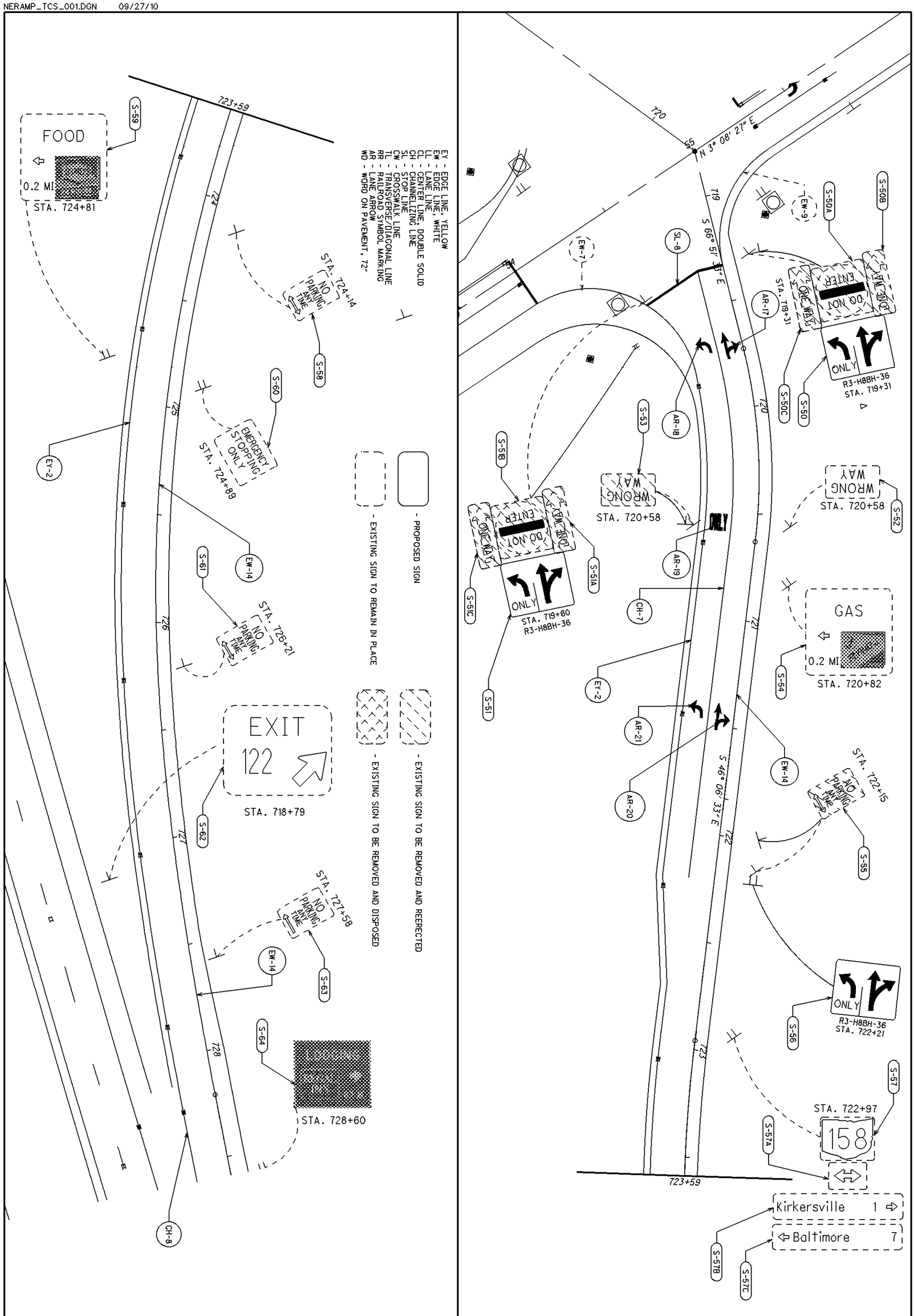
NWRAMP_TCS_001.DGN 09/27/10

SWRAMP_TCS_001.DGN 09/27/10



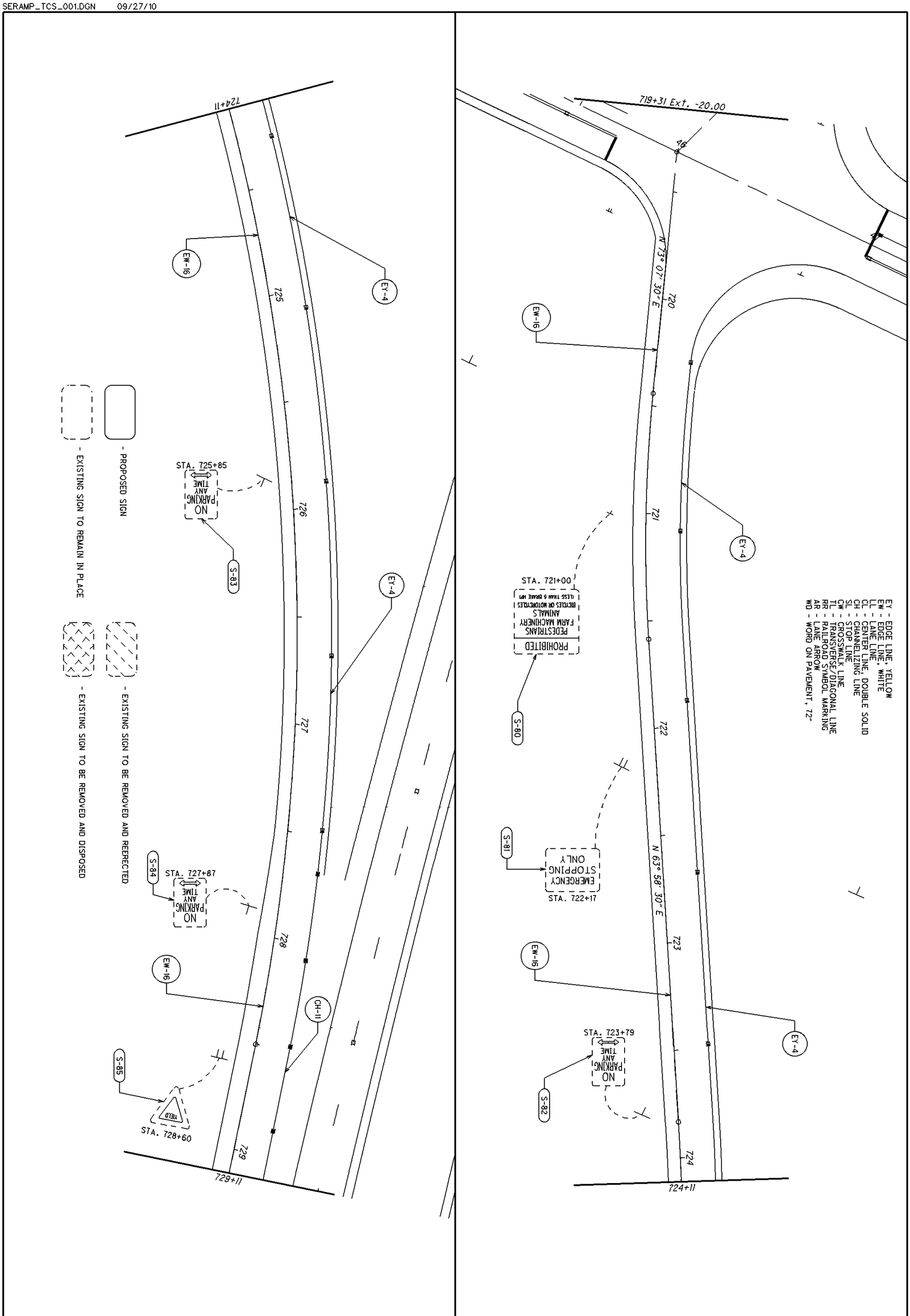
152 / 219	LIC-158-0.56	SOUTHWEST RAMP TRAFFIC CONTROL SHEET	CALCULATED C.Y. / CHECKED J.C.	0 20 / 10 40 HORIZONTAL SCALE IN FEET	N

NERAMP_TCS_001.DGN 09/27/10



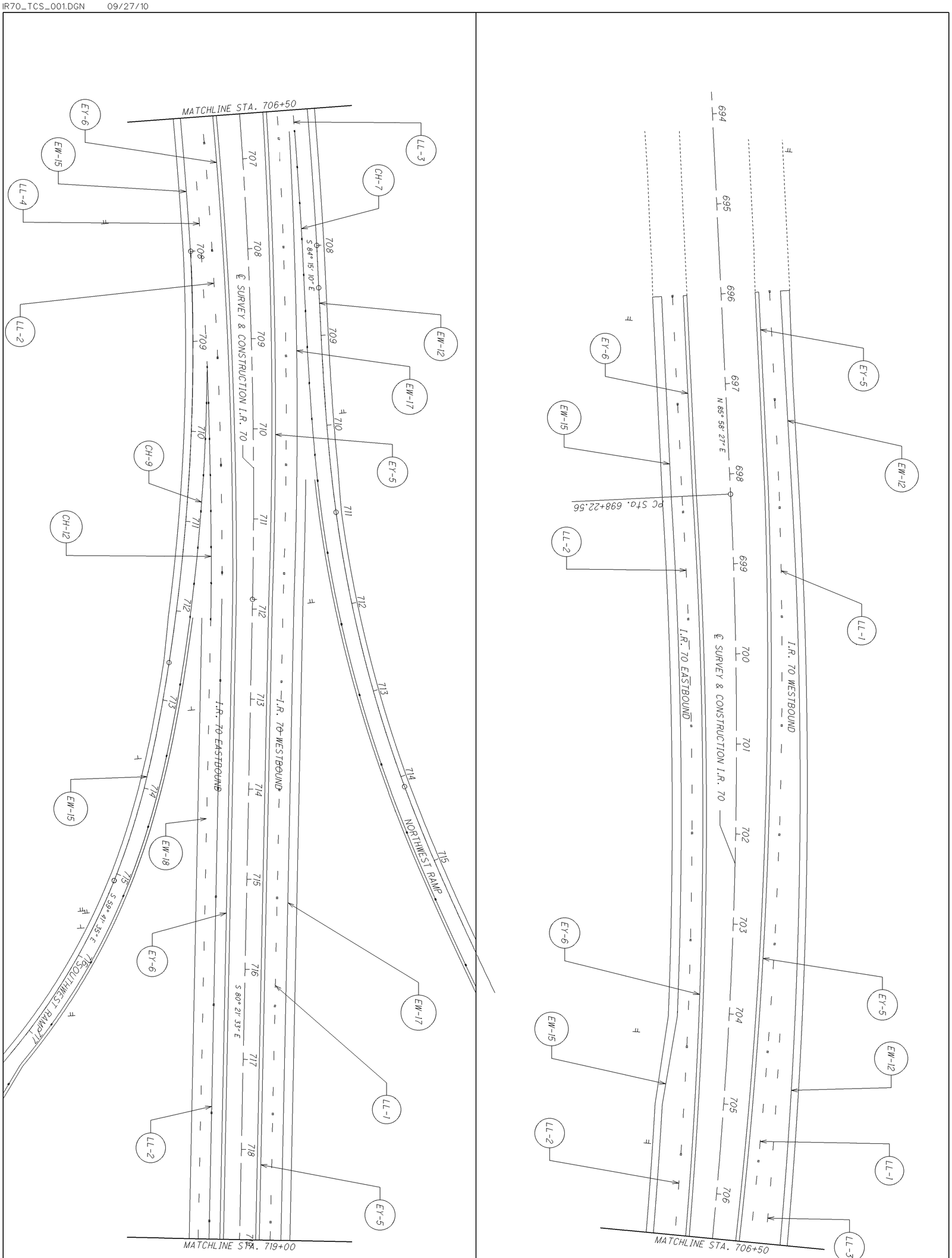
153 / 219	LIC-158-0.56	NORTHEAST RAMP TRAFFIC CONTROL SHEET	CALCULATED C.Y. / CHECKED J.C.	0 20 10 40 HORIZONTAL SCALE IN FEET

SERAMP_TCS_001.DGN 09/27/10



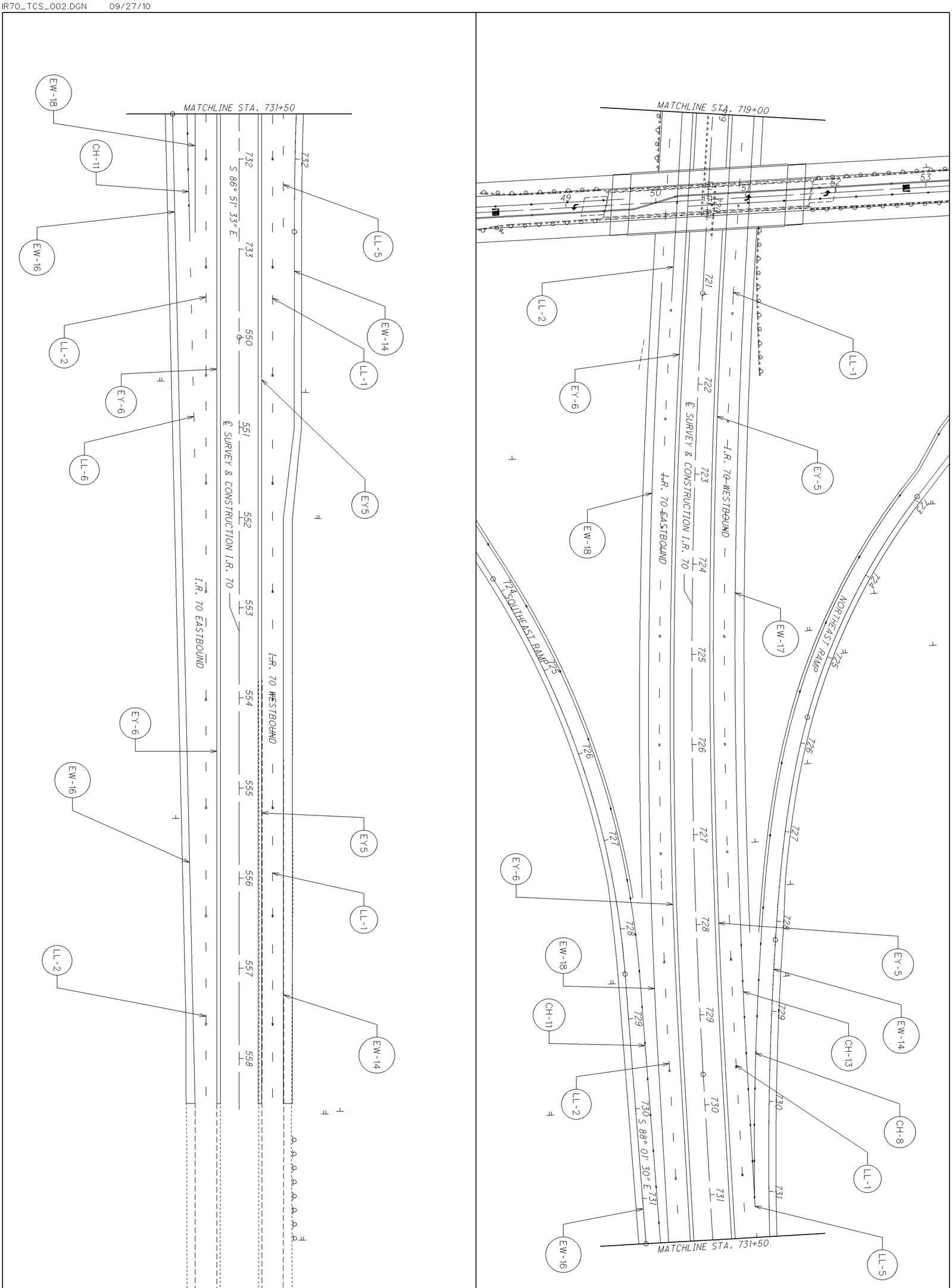
154 / 219	LIC-158-0.56	SOUTHEAST RAMP TRAFFIC CONTROL SHEET	CALCULATED C.Y. / CHECKED J.C.	0 20 40 HORIZONTAL SCALE IN FEET

IR70_TCS_001.DGN 09/27/10



155/219	LIC-158-0.56	I.R. 70 TRAFFIC CONTROL SHEET STA. 694+00 TO STA. 719+00	CALCULATED C.Y. CHECKED J.C.	0 50 25 100 HORIZONTAL SCALE IN FEET

IR70_TCS_002.DGN 09/27/10



156 / 219	LIC-158-0.56	I.R. 70 TRAFFIC CONTROL SHEET STA. 719+00 TO STA. 560+02	CALCULATED C.Y. CHECKED J.C.	0 50 25 100 HORIZONTAL SCALE IN FEET

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

S-27A S-27D
S-27 S-27C
S-27B S-27E
S-27F
S-27G

12'-0"
RELOCATED FROM
STA. 54+24±
29'± LT.

W10X12
18'-9" & 17'-0"

7'-0"
E.S.
E.P.

STA. 54+00.00

12'-0"

WEST INTERSTATE 70 EAST

S-17

RELOCATED FROM
STA. 46+77±

W6X9
14'-7" & 15'-10"

7'-0"
E.P.
E.S.

STA. 46+77.00

19'-0"

RELOCATED FROM
STA. 43+12±
26.5'± RT.

Columbus 22 S-84
Wheeling 103 S-8

W6X9
14'-3" & 13'-9"

7'-0"
E.P.
E.S.

STA. 43+12.00

19'-0"

RELOCATED FROM
STA. 38+73±
33.3'± RT.

WEST INTERSTATE 70 EAST S-5

W6X9
15'-0" & 12'-9"

7'-0"
E.P.
E.S.

STA. 38+73.00

980 975 970 965

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60

84700_xsection_Signsheet.DGN 10/05/11

CROSS SECTIONS SIGNS

LIC-158-0.56

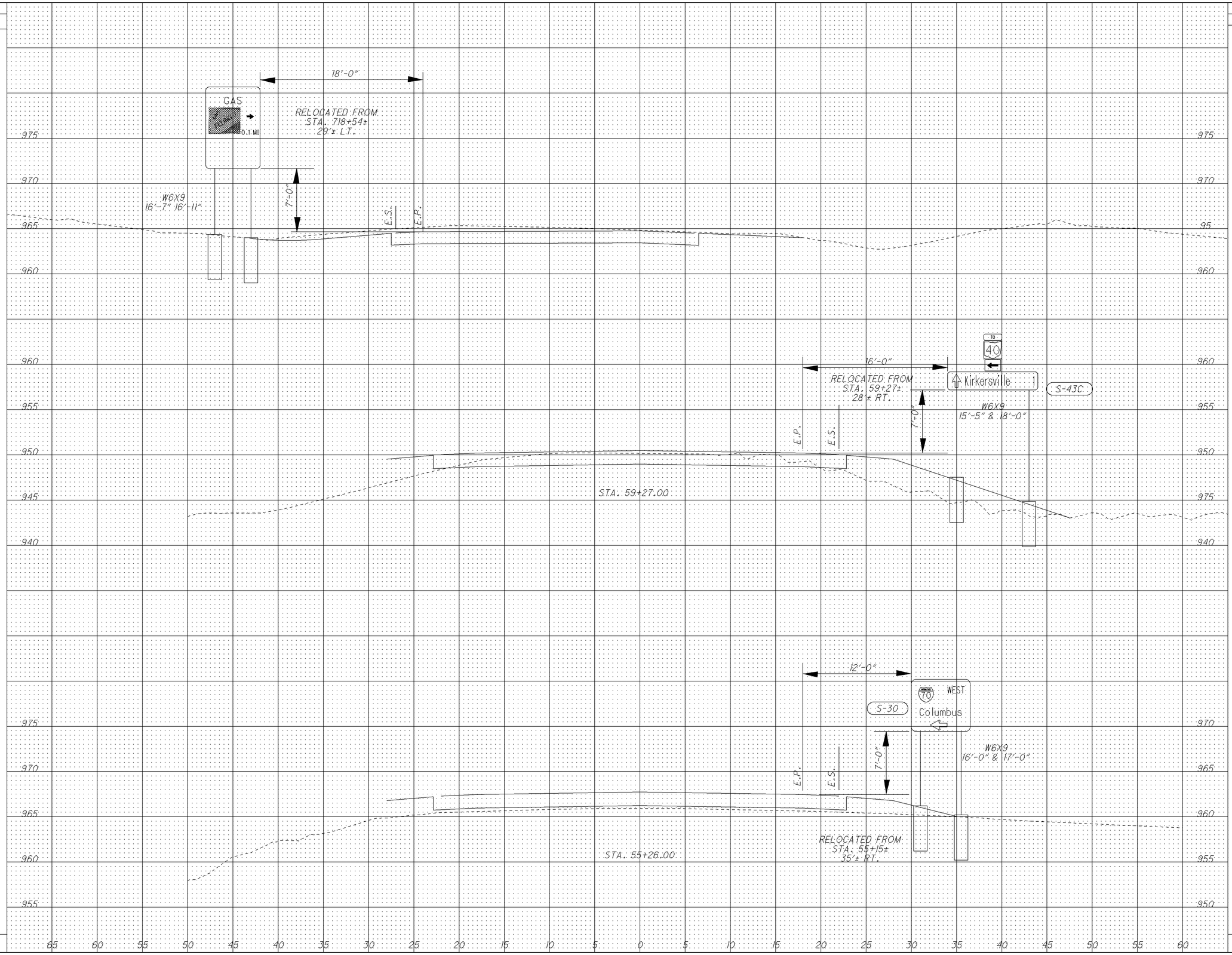
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED

CHECKED

CROSS SECTIONS SIGNS



LIC-158-0.56

84700_xsection_Signsheet.DGN 10/05/11

GENERAL

THE CONTRACTOR SHALL INSTALL THE SIGN AT THE LOCATION SPECIFIED IN THE PLANS UNLESS CHANGES ARE APPROVED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL SURVEY THE SITE BEFORE INSTALLING TO ENSURE THE EDGES OF THE GROUND MOUNTED STRUCTURAL BEAM SUPPORTS AND CONCRETE WORKPAD ARE KEPT AT LEAST TWO FEET FROM THE CENTER OF A DITCH. THE PROJECT ENGINEER MUST APPROVE ADJUSTMENTS TO THE LATERAL OFFSET SIGN DISTANCE. THE EDGE OF THE SIGN MUST BE AT LEAST SIX FEET FROM THE EDGE OF THE SHOULDER.

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.

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

American Electric Power Co.
850 Tech Center Drive
Gahanna, Ohio 43230
Attn: Paul Paxton
614-883-6831

Columbia Gas of Ohio
2429 Linden Avenue
Zanesville, Ohio 43701
Attn: Eric Morrison
740-450-1216

CenturyLink
441 West Broad Street
Pataskala, Ohio 43062
Attn: Dee Reed
740-927-8282

Southwest Licking Community Water and Waste Water District
P.O. Box 215
Etna, Ohio 43018
Attn: Don Rector
740-927-0410

THE STANDARD CONSTRUCTION DRAWINGS LISTED BELOW ARE CONSIDERED TO BE A PART OF THIS PLAN:

DM-4.4	4/17/09
HL-30.11	10/16/09
HL-40.10	1/19/07
TC-41.10	10/19/07
TC-42.10	1/19/07
TC-51.11	1/21/11
TC-51.12	10/21/11

ITEM 614 MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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 ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 625 - PULL BOX, 725.08, 18"

PULL BOX LIDS SHALL BE FABRICATED WITH RAISED LETTERS "ELECTRIC", AS PER 725.08 (B).

ITEM 630 - SIGN ERECTED, EXTRUSHEET, AS PER PLAN

ODOT SHALL PROVIDE THE CONTRACTOR WITH EXTRUSHEET SIGNS WITH ATTACHED LED PANELS TO BE GROUND MOUNTED AS PER PLAN. ODOT SHALL ALSO PROVIDE THE ITS CABINET TO BE MOUNTED TO THE STRUCTURAL BEAM SUPPORTS. THE CONTRACTOR SHALL PICK UP THE SIGN AND ITS CABINET AT THE ODOT CENTRAL SIGN AND SIGNAL SHOP LOCATED AT 1606 W. BROAD STREET, COLUMBUS, OH 43223. THE CONTRACTOR SHALL LET THE BELOW CONTACT PERSON KNOW AT LEAST 10 DAYS IN ADVANCE OF WHEN THE SIGN WILL BE PICKED UP.

NICK HEGEMIER
ODOT TRANSPORTATION ENGINEER
1606 W. BROAD STREET
COLUMBUS, OH 43223
614-387-4099
NICK.HEGEMIER@DOT.STATE.OH.US

THE CONTRACTOR SHALL INSTALL AND MOUNT THE EXTRUSHEET SIGN AND ITS CABINET AND SHALL ALSO INSTALL ALL CONDUITS, FLEXIBLE CONDUITS, AND WIRING NECESSARY TO POWER THE SIGN. THE CONDUIT SHOULD RUN UP THE STEEL BEAM SUPPORT INTO THE ITS CABINET AND THEN FROM THE ITS CABINET INTO THE SIGN HOUSING. ALL CONNECTIONS SHALL BE WEATHERPROOF. THE CONTRACTOR SHALL RUN ALL WIRES FOR POWER INTO THE ITS CABINET AND LEAVE ALL EXCESS SLACK IN THE CABINET WITHOUT MAKING THE CONNECTIONS TO THE SIGN CONTROLLER OR OTHER EQUIPMENT. THE WIRING SHALL HAVE PULL-APART CONNECTIONS LOCATED IN THE NEAREST PULL BOX FROM THE ITS CABINET.

THE ITS CABINET WILL BE MOUNTED TO ONE OF THE BEAM SUPPORTS OF THE SIGN AS SHOWN ON THE SIGN ELEVATION VIEW, SHEET 158C. THE CONTRACTOR SHALL ALSO PROVIDE A CONCRETE WORKPAD AT THE LOCATION OF THE ITS CABINET PER ODOT SPEC 633.11.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCIDENTAL TO THE PRICE FOR ITEM 630, SIGN ERECTED, EXTRUSHEET, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT THE ITEM.

NOTE:

THIS ITEM OF WORK IS TO BE COMPLETED BY THE CONTRACTOR PRIOR TO JULY 4, 2012.

ITEM 625 - POWER SERVICE, AS PER PLAN

THE POWER SUPPLYING AGENCY IS AMERICAN ELECTRIC POWER AND THE CONTACT INFORMATION IS BELOW.

AMERICAN ELECTRIC POWER
Emily Diane Kiser
AEP Ohio - Newark District
777 Hopewell Drive
Heath, OH 43056
740-349-4033 office
740-349-4099 fax

THE ELECTRICAL POWER SERVICE SHALL BE ACCORDING TO THE STATE STANDARDS SPECIFICATION 625.15, 725.19 AND THE STATE STANDARD CONSTRUCTION DRAWING HL- 40.10 AND HL - 40.20 WITH THE EXCEPTIONS AS NOTED:

THE ELECTRICAL SERVICE PROVIDED UNDER THIS ITEM SHALL BE METERED. ALL METER SOCKETS SHALL BE A MANUAL BYPASS METER SOCKET TYPE OR AS REQUIRED BY THE UTILITY. THE ELECTRICAL SERVICE SHALL BE PROVIDED BY THE UTILITY COMPANY AS INDICATED ON THE PLANS, AND SHALL BE CLOSELY COORDINATED WITH THE UTILITY'S REQUIREMENTS.

THE FUSIBLE ELECTRICAL DISCONNECT SWITCH SHALL BE UL LISTED FOR USE AS A SERVICE ENTRANCE WITH A FACTORY INSTALLED NEUTRAL ASSEMBLY. THE SWITCH IS TO BE OF THE HEAVY DUTY TYPE, NEMA 3R, SINGLE THROW, 2-POLE, AND RATED FOR 30A AT 240V OR AS INDICATED IN THE PLANS. THE LUGS IN THE DISCONNECT SHALL BE SIZED TO TERMINATE THE CABLE SIZES AS SHOWN ON THE PLANS. THE DISCONNECT SWITCHES SHALL INCLUDE WATERTIGHT HUBS AND SHALL BE CAPABLE OF BEING LOCKED IN BOTH THE OFF AND ON POSITION. PROVIDE TWO PADLOCKS FOR EACH SWITCH. PADLOCKS AND KEYS SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. THE PADLOCKS AND KEYS ARE CONSIDERED INCIDENTAL TO THE POWER SERVICE. THE FUSES ARE AS INDICATED ON THE PLANS AND SHALL BE 30A, CLASS R FUSES, WITH CLASS R FUSE CLIPS. THE FUSES ARE CONSIDERED INCIDENTAL TO THE POWER SERVICE.

THE PAY ITEM POWER SERVICE, AS PER PLAN DOES NOT REQUIRE THE FURNISHING OR INSTALLATION OF A LIGHTING CONTRACTOR, PHOTOELECTRIC CELL, OR HAND-OFF-AUTOMATIC SWITCH FOR CONTROL OF CONTRACTOR, OR OVER CURRENT PROTECTION DEVICES FOR LIGHTING CIRCUITS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR AND OR TRIM ANY TREES OR BRUSH WITHIN THE HIGHWAY RIGHT OF WAY FOR THE INSTALLATION OF THE POWER SERVICE AND ALL RELATING MATERIALS, INCLUDING THE SERVICE POLE. THE TRIMMING AND CLEARING WILL BE DONE AT THE UTILITIES DISCRETION. NO EXTRA PAYMENT WILL BE MADE FOR TREE OR BRUSH CLEARING AND TRIMMING FOR THE INSTALLATION OF THE POWER SERVICE.

CALCULATED JLS | CHECKED

SIGN - GENERAL NOTES
I.R. 70 (WESTBOUND LANES) - S.L.M. 6.73

LIC-158-0.56

158A
219

NOTE:

THIS ITEM OF WORK IS TO BE COMPLETED BY THE CONTRACTOR PRIOR TO JULY 4, 2012.

SIGNING QUANTITIES CARRIED TO THE GENERAL SUMMARY

ITEM 625	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	315	FT
ITEM 625	CONDUIT, 2", 725.05	85	FT
ITEM 625	TRENCH, 48" DEEP	60	FT
ITEM 625	PULL BOX, 725.08, 18"	2	EACH
ITEM 625	GROUND ROD	2	EACH
ITEM 625	POWER SERVICE, AS PER PLAN	1	EACH
ITEM 625	PLASTIC CAUTION TAPE	60	FT
ITEM 630	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X22	46	FT
ITEM 630	BREAKAWAY STRUCTURAL BEAM CONNECTION	2	EACH
ITEM 630	SIGN ERECTED, EXTRUSHEET, AS PER PLAN	171	SQ FT
ITEM 630	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	2	EACH

EX O/H ELECTRIC

EX POWER POLE C645B3-1

WORK BY OTHERS TO INSTALL AERIAL CONNECTION TO SERVICE POLE

℄ WATKINS ROAD (CO. RD. 42)

ITEM 625 PULL BOX, 725.08, 18"

EX L/A R/W FENCE

50' - ITEM 625 CONDUIT, 2", 725.05 NO. 10 AWG 600 VOLT DISTRIBUTION CABLE (3 CONDUCTOR)

ITEM 625 POWER SERVICE, AS PER PLAN

20' - ITEM 625 CONDUIT, 2", 725.05 NO. 10 AWG 600 VOLT DISTRIBUTION CABLE (3 CONDUCTOR)

5' - ITEM 625 CONDUIT, 2", 725.05 NO. 10 AWG 600 VOLT DISTRIBUTION CABLE (3 CONDUCTOR)

ITS CABINET MOUNT TO BACK OF BEAM (WORK PAD AS PER ODOT SPEC. 633.11

ITEM 625 PULL BOX, 725.08, 18"

ITEM 630 SIGN ERECTED, EXTRUSHEET, AS PER PLAN

CONSTRUCTION LIMITS

EX CONCRETE BARRIER (TO REMAIN IN SERVICE)

EX GUARDRAIL (TO REMAIN IN SERVICE)

STA. 586+80 S.L.M. 6.73

20'

EX DITCH LINE

10' SHOULDER

EX EDGE OF SHOULDER

12' LANE

I.R. 70 - WESTBOUND LANES

12' LANE

4' SHOULDER

BRIDGE NO. LIC-70-0668

42'

586+00

℄ SURVEY & CONSTRUCTION I.R. 70

587+00

588+00

STA. 585+50.00
℄ SURVEY & CONSTRUCTION I.R. 70 =
℄ SURVEY & CONSTRUCTION WATKINS RD.

CALCULATED JLS
CHECKED

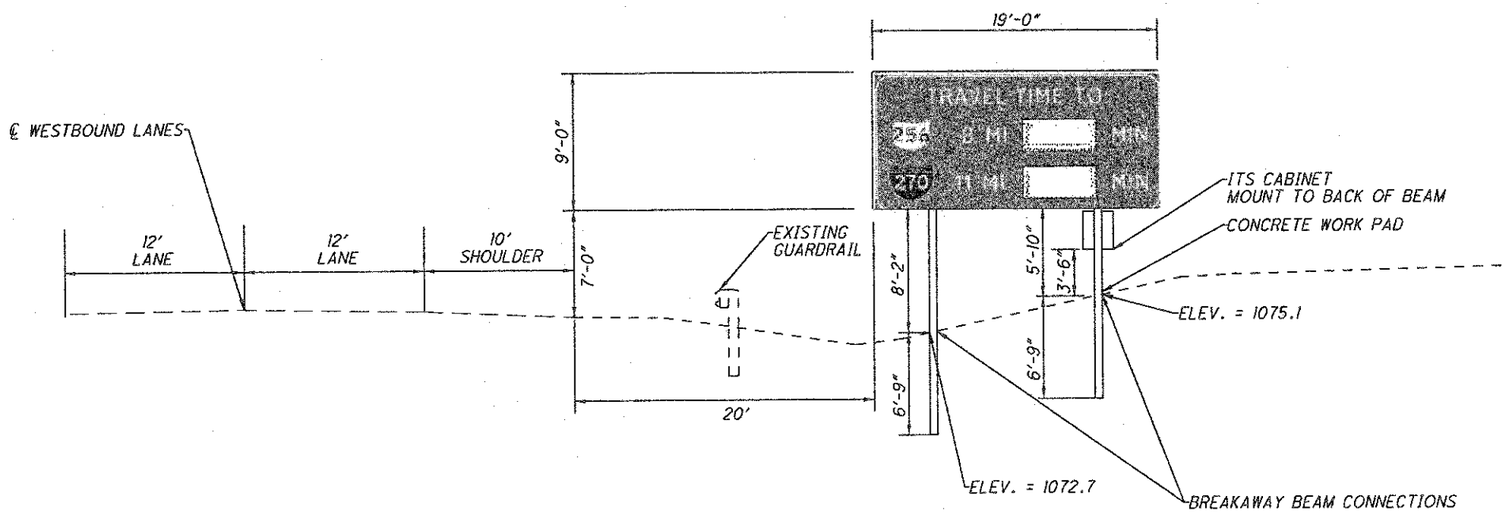
HORIZONTAL SCALE IN FEET

SIGN PLAN VIEW
I.R. 70 (WESTBOUND LANES) - S.L.M. 6.73

LIC-158-0.56

158B
219

P:\FA\82144\Design\Basemaps\82144_design.dgn 2/23/2012 11:21:11 AM jclark



SIGN - ELEVATION VIEW
(STA. 586+80, S.L.M. 6.73)
(WESTBOUND LANES I.R. 70)

SIGN ELEVATION VIEW
I.R. 70 (WESTBOUND LANES) - S.L.M. 6.73

CALCULATED JLS
CHECKED

HORIZONTAL SCALE IN FEET
0

LIC-158-0.56

158C
219

P:\FAI\82144\Design\Basemaps\82144_design.dgn 2/23/2012 11:21:35 AM jclark

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE, WHITE MILE	644 CENTER LINE MILE	644 CHANNELIZING LINE FT	644 STOP LINE FT	644	644 TRANSVERSE/DIAGONAL LINE FT	644 LANE ARROW EACH	644	646 EDGE LINE, WHITE MILE	646 CENTER LINE MILE	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 ISLAND MARKING SQ FT	646 TRANSVERSE/DIAGONAL LINE FT	646 LANE ARROW EACH	646 WORD ON PAVEMENT, 72" EACH	621 FOR INFORMATION ONLY RPM 2-WAY WHITE/RED EACH	621 FOR INFORMATION ONLY RPM 2-WAY YELLOW/YELLOW EACH
147-148	EW-1	S.R. 158	29+00.00	42+39.00	LT	0.173								0.077									
147-148	CL-1	S.R. 158	29+00.00	39+51.80	℄/LT		0.177								0.023								14
147-148	EW-2	S.R. 158	29+00.00	39+58.30	RT	0.177								0.023									
147-148	CL-2	S.R. 158	35+18.50	39+51.80	RT		0.060								0.022								5
147-148	TL-1	S.R. 158	35+18.50	39+51.80	℄						162								118				
148	IS-1	S.R. 158	39+51.80		℄													70					
148	CH-1	S.R. 158	41+12.23	42+40.00	LT											127						3	
148	AR-1	S.R. 158	41+30.00		℄															1			
148	CL-3	S.R. 158	41+12.23	42+40.00	RT										0.024								3
148	EW-3	S.R. 158	41+12.23	42+40.00	RT									0.024									
148	EW-4	S.R. 158	43+01.00	720+85.77(SW RAMP)	LT									0.063									
148	CH-2	S.R. 158	43+04.00	45+71.55	LT											270						7	
148	AR-2	S.R. 158	43+30.00		℄															1			
148	AR-3	S.R. 158	44+18.00		℄																1		
148	AR-4	S.R. 158	45+06.00		℄															1			
148	CL-4	S.R. 158	43+40.00	45+71.55	RT										0.051								3
148	EW-5	S.R. 158	43+40.00	719+85.33(SE RAMP)	RT									0.062									
148	SL-1	S.R. 158	45+71.55		RT												12						
148	SL-2	S.R. 158	47+00.00		℄/LT												24						
148-149	EW-6	S.R. 158	720+76.04(SW RAMP)	54+20.70	LT									0.147									
148-149	CH-3	S.R. 158	47+00.00	49+65.00	LT											264						7	
148	AR-5	S.R. 158	47+30.00		℄															1			
148-149	CL-5	S.R. 158	47+00.00	51+00.00	RT/LT										0.133							9	
148-149	EW-7	S.R. 158	720+27.98(SE RAMP)	719+42.51(NE RAMP)	RT									0.173									
149	AR-6	S.R. 158	48+18.00		℄																1		
149	AR-7	S.R. 158	49+06.00		℄															1			
149	AR-8	S.R. 158	51+06.00		℄															1			
149	AR-9	S.R. 158	51+94.00		℄															1			
149	CH-4	S.R. 158	50+35.00	54+00.00	RT											365							
149	AR-10	S.R. 158	52+82.00		℄																1		
149	AR-11	S.R. 158	53+70.00		℄															1			
149	SL-3	S.R. 158	54+00		℄/RT												24						
149-150	EW-8	S.R. 158	719+70.16(NW RAMP)	532+10.43(SR 158 WEST)	LT	0.007								0.055									
149	SL-4	S.R. 158	55+28.46		LT												12						
149	CL-6	S.R. 158	55+28.46	57+22.00	LT										0.037								4
149	AR-12	S.R. 158	55+58.00		℄															1			
149	AR-13	S.R. 158	56+25.00		℄																1		
149	AR-14	S.R. 158	56+92.00		℄															1			
149	CH-5	S.R. 158	55+28.46	57+22.00	RT											196						6	
149-150	EW-9	S.R. 158	719+32.77(NE RAMP)	717+76.21(TR 145)	RT	0.004								0.055									
150	EW-10	S.R. 158	532+10.43(SR 158 WEST)	61+30.00	LT	0.070																	
150	CH-6	S.R. 158	58+23.31	58+90.00	LT			62														3	
150	AR-15	S.R. 158	58+38.00		℄							1											
150	AR-16	S.R. 158	58+80.00		℄							1											
150	CL-8	S.R. 158	59+00.00	61+30.00	RT/LT		0.044																4
150	CL-7	S.R. 158	58+23.31	61+30.00	RT		0.057																7
150	TL-2	S.R. 158	58+00.00	61+30.00	℄						140												
150	EW-11	S.R. 158	717+76.21(TR 145)	61+30.00	RT	0.068																	
150	SL-5	S.R. 158	532+10.43(SR 158 WEST)		RT				12														
150	SL-6	S.R. 158	717+76.21(TR 145)		LT				19														
TOTALS CARRIED TO SHEET 160						0.499	0.338	62.0	31.0		302.0	2.0		0.679	0.290	1,222.0	72.0	70.0	118.0	10.0	4.0	35	40

CALCULATED RJG
CHECKED HAC

PAVEMENT MARKING SUBSUMMARY

LIC-158-0.56

159
219

09/26/11
SR158_PM_TSS_002.DGN

PAVEMENT MARKING SUBSUMMARY

CALCULATED RJG
CHECKED HAG

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE, YELLOW MILE	644 EDGE LINE, WHITE MILE	644 LANE LINE MILE	644 CENTER LINE MILE	644 CHANNELIZING LINE FT	644 STOP LINE FT	644 ISLAND MARKING SQ FT	644 TRANSVERSE/DIAGONAL LINE FT	644 LANE ARROW EACH	644 WORD ON PAVEMENT, 72" EACH	646 EDGE LINE, YELLOW MILE	646 EDGE LINE, WHITE MILE	646 CENTER LINE MILE	646	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 ISLAND MARKING SQ FT	646 TRANSVERSE/DIAGONAL LINE FT	646 LANE ARROW EACH	646 WORD ON PAVEMENT, 72" EACH	621 FOR INFORMATION ONLY RPM 1-WAY WHITE EACH	RPM 2-WAY WHITE/RED EACH	RPM 2-WAY YELLOW/RED EACH	RPM 2-WAY YELLOW/YELLOW EACH
151 & 155	EW-12	I.R. 70/NORTHWEST RAMP	696+00.00	719+70.00(NW RAMP)	LT		0.279										0.173											
155-156	LL-1	I.R. 70	696+00.00	558+50.00	LT			0.882																	39			
155-156	EY-5	I.R. 70	696+00.00	558+50.00	LT	0.882																						
155-156	EY-6	I.R. 70	696+00.00	558+50.00	RT	0.882																						
155-156	EW-15	I.R. 70/SOUTHWEST RAMP	696+00.00	720+85.77(SW RAMP)	RT		0.301										0.167											
155-156	LL-2	I.R. 70	696+00.00	558+50.00	RT			0.882																	39			
155	LL-3	I.R.70	704+18.00	706+73.40	LT			0.049																		11		
151 & 156	CH-7	I.R. 70/NORTHWEST RAMP	706+73.40	710+58.81(NW RAMP)	LT					388																		
155 - 156	EW-17	I.R. 70	706+73.40	728+10.90	LT		0.405																					
155	LL-4	I.R. 70	707+21.86	709+30.00	RT			0.039																				
155	CH-9	I.R. 70/SOUTHWEST RAMP	43+01.00	712+03.00(SW RAMP)	RT					280																7		
155	CH-12	I.R. 70	43+01.00	712+10.89	RT					280																8		
155 - 156	EW-18	I.R. 70	712+10.89	732+81.40	RT		0.390																					
153 & 156	EW-14	NORTHEAST RAMP/I.R. 70	719+32.77	558+50.00	LT		0.271										0.168									7		
153 & 156	CH-8	NORTHEAST RAMP/I.R. 70	728+13.16	731+06.04	LT					295																8		
156	CH-13	I.R. 70	728+15.47	731+06.04	LT					295																		
156	LL-5	I.R. 70	731+06.04	732+97.72	LT			0.037																				
154 & 156	EW-16	SOUTHEAST RAMP/I.R. 70	719+85.33	558+50.00	RT		0.280										0.149											
154 & 156	CH-11	SOUTHEAST RAMP/I.R. 70	727+67.69	732+81.40	℄/LT					516																13		
156	LL-6	I.R. 70	732+81.40	54+20.70	LT			0.050																				
155	EY-1	NORTHWEST RAMP	710+58.81	719+70.20	LT											0.163											12	
55	EW-13	NORTHWEST RAMP	719+15.23	54+20.70 SR 158	RT												0.014											
153	SL-8	NORTHEAST RAMP	719+32.77	719+42.51	RT																41							
153	AR-17	NORTHEAST RAMP	719+63.00		RT																			1				
153	AR-18	NORTHEAST RAMP	719+63.00		RT																			1				
153	AR-19	NORTHEAST RAMP	720+51.00		RT																				1			
153	AR-20	NORTHEAST RAMP	721+39.00		RT																			1				
153	AR-21	NORTHEAST RAMP	721+39.00		RT																			1				
153	CH-7	NORTHEAST RAMP	719+32.77	722+21.00	RT															284								
153	EY-2	NORTHEAST RAMP	719+42.51	728+13.16	RT											0.166											11	
152	EY-3	SOUTHWEST RAMP	712+03.00	720+76.00	LT											0.166											11	
152	CH-10	SOUTHWEST RAMP	717+86.00	720+85.77	LT															295								
152	AR-22	SOUTHWEST RAMP	718+16.00		LT																			1				
152	AR-23	SOUTHWEST RAMP	718+16.00		LT																			1				
152	AR-24	SOUTHWEST RAMP	718+80.00		LT																			1				
152	AR-25	SOUTHWEST RAMP	718+80.00		LT																			1				
152	AR-26	SOUTHWEST RAMP	719+68.00		LT																				1			
152	AR-27	SOUTHWEST RAMP	720+56.00		LT																			1				
152	AR-28	SOUTHWEST RAMP	720+56.00		LT																			1				
152	SL-7	SOUTHWEST RAMP	720+76.00	720+85.77	LT																41							
154	EY-4	SOUTHEAST RAMP	720+27.58	727+67.69	LT											0.141											10	
		TOTALS THIS SHEET				1.764	1.926	1.939		2,054.0						0.636	0.671			579.0	82.0			10.0	2.0	78	54	44	
		TOTALS FROM SHEET 159					0.499		0.388	62.0	31.0		302.0	2.0			0.679	0.300		1,222.0	72.0	70.0	118.0	10.0	4.0		35		40
																						118.0						
		TOTALS CARRIED TO GENERAL SUMMARY				4.189		1.939	0.388	2,116.0	31.0		302.0	2.0		1.986		0.300		1,801.0	154.0	70.0	118.0	20.0	6.0	78	88	44	40
																										250		

LIC-158-0.56

160
219

09/26/11
SR158_PM_TSS_002.DGN

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT		630 GROUND MOUNTED SUPPORT, NO. 3 POST FT		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 SIGN POST REFLECTOR EACH	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 SIGN, FLAT SHEET SQ FT		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH		630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH		630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH		630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH		630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH		631					
147	S-1	S.R. 158	31+93	LT	TO BE REMOVED														1				1											
147	S-1A	S.R. 158	31+93	LT	TO BE REMOVED														1															
147	S-2	S.R. 158	32+00	LT	W2-1	30X30	11								6.25																			
147	S-2A	S.R. 158	32+00	LT	W16-H8	12X48									4.0																			
147	S-3	S.R. 158	34+38	RT	REMAIN IN PLACE																													
147	S-4	S.R. 158	36+58	RT	TO BE RELOCATED		11															1		1										
147	S-4A	S.R. 158	36+58	RT	TO BE RELOCATED																	1												
148	S-5	S.R. 158	38+73	RT	TO BE RELOCATED						15'-0"/12'-9"			2			2					1				2								
148	S-6	S.R. 158	41+37	LT	TO BE RELOCATED		10															1		1										
148	S-7	S.R. 158	42+26	LT	TO BE RELOCATED		10															1		1										
148	S-8	S.R. 158	43+12	RT	TO BE RELOCATED						14'-3"/13'-9"			2			2					1				2								
148	S-8A	S.R. 158	43+12	RT	TO BE RELOCATED																	1												
148	S-9	S.R. 158	43+65	LT	TO BE RELOCATED		10															1		1										
148	S-10	S.R. 158	43+88	RT	TO BE RELOCATED		10															1		1										
148	S-11	S.R. 158	44+29	LT	TO BE RELOCATED		10															1		1										
148	S-12	S.R. 158	45+00	LT	TO BE RELOCATED		12															1		1										
148	S-12A	S.R. 158	45+00	LT	TO BE RELOCATED																	1												
148	S-13	S.R. 158	45+79	LT	REMAIN IN PLACE																													
148	S-14	S.R. 158	45+84	RT	REMAIN IN PLACE																													
148	S-14B	S.R. 158	45+84	RT	REMAIN IN PLACE																													
148	S-14C	S.R. 158	45+84	RT	REMAIN IN PLACE																													
148	S-15	NOT USED																																
148	S-16	NOT USED																																
148	S-17	S.R. 158	46+77	RT	TO BE RELOCATED						14'-7"/15'-10"			2			2					1				2								
149	S-18	S.R. 158	48+28	LT	TO BE RELOCATED		12															1		1										
149	S-18A	S.R. 158	48+28	LT	TO BE RELOCATED																	1												
149	S-19	S.R. 158	48+28	RT	TO BE RELOCATED				13													1		1										
149	S-19A	S.R. 158	48+28	RT	TO BE RELOCATED																	1												
149	S-19B	S.R. 158	48+28	RT	TO BE RELOCATED																	1												
149	S-20	S.R. 158	49+33	RT	TO BE RELOCATED		8															1		1										
149	S-20A	S.R. 158	49+33	RT	TO BE RELOCATED																	1												
149	S-21	S.R. 158	49+48	LT	TO BE RELOCATED		10															1		1										
149	S-22	S.R. 158	49+40	RT	TO BE RELOCATED		10															1		1										
149	S-23	S.R. 158	51+76	LT	TO BE RELOCATED		10															1		1										
149	S-24	S.R. 158	51+69	RT	TO BE RELOCATED		10															1		1										
149	S-25	S.R. 158	53+00	LT	TO BE RELOCATED				13													1		1										
149	S-25A	S.R. 158	53+00	LT	TO BE RELOCATED																	1												
149	S-25B	S.R. 158	53+00	LT	TO BE RELOCATED																	1												
149	S-26	S.R. 158	53+00	RT	TO BE RELOCATED				13													1		1										
149	S-26A	S.R. 158	53+00	RT	TO BE RELOCATED																	1												
149	S-26B	S.R. 158	53+00	RT	TO BE RELOCATED																	1												
149	S-27	S.R. 158	54+24	LT	TO BE RELOCATED				32			18'-9"/17'-0"		2			2					1				2								
149	S-27A	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-27B	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-27C	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-27D	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-27E	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-27F	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-27G	S.R. 158	54+24	LT	TO BE RELOCATED																	1												
149	S-28	NOT USED																																
149	S-29	S.R. 158	55+17	LT	TO BE RELOCATED		2-10															1		2										
149	S-29A	S.R. 158	55+17	LT	TO BE RELOCATED																	1												
149	S-29B	S.R. 158	55+17	LT	REMAIN IN PLACE																	1												
149	S-30	S.R. 158	55+15	RT	TO BE RELOCATED						16'-0"/17'-0"			2			2					1				2								
149	S-31	S.R. 158	55+36	LT	TO BE RELOCATED		10															1				2								
SUB-TOTALS CARRIED TO SHEET 163							174		71		119.17	35.75		10	10.25		10		2			43		19		12								

CALCULATED C.Y.
CHECKED

SIGNING SUBSUMMARY

LIC-158-0.56

9/26/11
SR158_TSS_001.DGN

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE	630 GROUND MOUNTED SUPPORT, NO. 2 POST		630 GROUND MOUNTED SUPPORT, NO. 3 POST		630 SIGN, FLAT SHEET		630 SIGN POST REFLECTOR		630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	630 BREAKAWAY STRUCTURAL BEAM CONNECTION	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	631
							FT		FT		SQ FT		SQ FT		EACH		EACH		FT	EACH	EACH	
149	S-32	S.R. 158	55+72	RT	TO BE RELOCATED		12								1		1					
149	S-32A	S.R. 158	55+72	RT	TO BE RELOCATED										1							
149	S-33	S.R. 158	56+20	RT	TO BE RELOCATED		10								1		1					
149	S-34	S.R. 158	56+50	RT	TO BE RELOCATED		2-10								1		2					
149	S-35	S.R. 158	57+36	RT	REMAIN IN PLACE																	
149	S-35A	S.R. 158	57+36	RT	REMAIN IN PLACE																	
149	S-36	S.R. 158	57+39	RT	REMAIN IN PLACE																	
149	S-36A	S.R. 158	57+39	RT	REMAIN IN PLACE																	
149	S-36B	S.R. 158	57+39	RT	REMAIN IN PLACE																	
149	S-37	S.R. 158	57+44	LT	REMAIN IN PLACE																	
150	S-38	S.R. 158	58+07	RT	REMAIN IN PLACE																	
150	S-39	S.R. 158	58+11	RT	REMAIN IN PLACE																	
150	S-40	S.R. 158	58+24	RT	REMAIN IN PLACE																	
150	S-40A	S.R. 158	58+24	RT	REMAIN IN PLACE																	
150	S-41	S.R. 158	58+46	RT	TO BE RELOCATED		10								1		1					
150	S-42	S.R. 158	58+49	LT	TO BE RELOCATED				13						1		1					
150	S-42A	S.R. 158	58+49	LT	TO BE RELOCATED										1							
150	S-42B	S.R. 158	58+49	LT	TO BE RELOCATED										1							
150	S-43	S.R. 158	59+27	RT	TO BE RELOCATED		7		6						1		1		15'-5"/18'-0"	2	2	
150	S-43A	S.R. 158	59+27	RT	TO BE RELOCATED										1							
150	S-43B	S.R. 158	59+27	RT	TO BE RELOCATED										1							
150	S-43C	S.R. 158	59+27	RT	TO BE RELOCATED				2-13						1		2					
150	S-44	S.R. 158	59+97	RT	TO BE RELOCATED		10								1		1					
150																						
NORTHWEST RAMP																						
151	S-45	NORTHWEST RAMP	709+88	LT	TO REMAIN																	
151	S-46	NORTHWEST RAMP	711+90	RT	TO REMAIN																	
151	S-47	NORTHWEST RAMP	716+50	LT	TO REMAIN																	
151	S-48	NORTHWEST RAMP	717+46	LT	TO REMAIN																	
151	S-49	NORTHWEST RAMP	718+97	LT	TO REMAIN																	
151																						
NORTHEAST RAMP																						
153	S-50	NORTHEAST RAMP	719+31	LT	R3-H8BH 36 X 30				13		7.5		1									
153	S-50A	NORTHEAST RAMP	719+31	LT	TO BE RELOCATED										1		2					
153	S-50B	NORTHEAST RAMP	719+31	LT	TO BE RELOCATED										1							
153	S-50C	NORTHEAST RAMP	719+31	LT	TO BE RELOCATED										1							
153	S-51	NORTHEAST RAMP	719+60	RT	R3-H8BH 36 X 30				13		7.5		1									
153	S-51A	NORTHEAST RAMP	719+41	RT	TO BE RELOCATED										1		2					
153	S-51B	NORTHEAST RAMP	719+41	RT	TO BE RELOCATED										1							
153	S-51C	NORTHEAST RAMP	719+41	RT	TO BE RELOCATED										1							
153	S-52	NORTHEAST RAMP	719+31	LT	REMAIN IN PLACE																	
153	S-53	NORTHEAST RAMP	720+58	RT	TO BE RELOCATED		10						1		1		1					
153	S-54	NORTHEAST RAMP	720+82	LT	REMAIN IN PLACE																	
153	S-55	NORTHEAST RAMP	722+15	LT	TO BE RELOCATED		10								1		1					
153	S-56	NORTHEAST RAMP	722+24	LT	R3-H8BH 36 X 30		10				7.5											
153	S-57	NORTHEAST RAMP	722+97	LT	REMAIN IN PLACE																	
153	S-57A	NORTHEAST RAMP	722+97	LT	REMAIN IN PLACE																	
153	S-57B	NORTHEAST RAMP	722+97	LT	REMAIN IN PLACE																	
153	S-57C	NORTHEAST RAMP	722+97	LT	REMAIN IN PLACE																	
153	S-58	NORTHEAST RAMP	724+14	LT	REMAIN IN PLACE																	
153	S-59	NORTHEAST RAMP	724+81	RT	REMAIN IN PLACE																	
153	S-60	NORTHEAST RAMP	724+89	LT	REMAIN IN PLACE																	
153	S-61	NORTHEAST RAMP	726+21	LT	REMAIN IN PLACE																	
153	S-62	NORTHEAST RAMP	718+79	RT	REMAIN IN PLACE																	
153	S-63	NORTHEAST RAMP	727+58	LT	REMAIN IN PLACE																	
153	S-64	NORTHEAST RAMP	728+60	LT	REMAIN IN PLACE																	
SUB-TOTALS CARRIED TO SHEET 163							99		71		22.5		3		21		16		33.42	2	2	

CALCULATED C.Y.
CHECKED

SIGNING SUBSUMMARY

LIC-158-0.56

SR158_TSS_001.DGN 9/26/11

SIGNING SUBSUMMARY

CALCULATED C.Y.
CHECKED

630

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE	GROUND MOUNTED SUPPORT, NO. 2 POST		GROUND MOUNTED SUPPORT, NO. 3 POST		GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12		SIGN POST REFLECTOR	BREAKAWAY STRUCTURAL BEAM CONNECTION	SIGN, FLAT SHEET		GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION		REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL
							FT		FT		FT	FT		EACH	EACH	SQ FT		EACH		EACH		EACH		EACH		EACH
		SOUTHWEST RAMP																								
152	S-65	SOUTHWEST RAMP	713+00	LT	REMAIN IN PLACE																					
152	S-66	SOUTHWEST RAMP	713+71	RT	REMAIN IN PLACE																					
152	S-67	SOUTHWEST RAMP	715+54	RT	REMAIN IN PLACE																					
152	S-68	SOUTHWEST RAMP	715+54	RT	REMAIN IN PLACE																					
152	S-69	SOUTHWEST RAMP	715+72	RT	REMAIN IN PLACE																					
152	S-70	SOUTHWEST RAMP	716+60	LT	REMAIN IN PLACE																					
152	S-71	SOUTHWEST RAMP	717+57	RT	REMAIN IN PLACE																					
152	S-71A	SOUTHWEST RAMP	717+57	RT	REMAIN IN PLACE																					
152	S-71B	SOUTHWEST RAMP	717+57	RT	REMAIN IN PLACE																					
152	S-71C	SOUTHWEST RAMP	717+57	RT	REMAIN IN PLACE																					
152	S-72	SOUTHWEST RAMP	717+74	RT	REMAIN IN PLACE																					
152	S-73	SOUTHWEST RAMP	717+86	RT	R3-H8BH 36 X 30	10										7.5										
152	S-74	SOUTHWEST RAMP	718+54	LT	TO BE RELOCATED					16'-7"/16'-11"					2			2				1				2
152	S-75	SOUTHWEST RAMP	718+59	LT	TO BE RELOCATED	10								1								1		2		
152	S-76	SOUTHWEST RAMP	718+59	RT	REMAIN IN PLACE																					
152	S-77	SOUTHWEST RAMP	719+70	LT	REMAIN IN PLACE																					
152	S-78	SOUTHWEST RAMP	720+66	RT	R3-H8BH 36 X 30			13						1		7.5										
152	S-78A	SOUTHWEST RAMP	720+83	LT	TO BE RELOCATED																	1		2		
152	S-78B	SOUTHWEST RAMP	720+83	LT	TO BE RELOCATED																	1				
152	S-78C	SOUTHWEST RAMP	720+83	LT	TO BE RELOCATED																	1				
152	S-79	SOUTHWEST RAMP	720+92	LT	R3-H8BH 36 X 30			13						1		7.5										
152	S-79A	SOUTHWEST RAMP	720+92	LT	TO BE RELOCATED																	1		2		
152	S-79B	SOUTHWEST RAMP	720+92	LT	TO BE RELOCATED																	1				
152	S-79C	SOUTHWEST RAMP	720+92	LT	TO BE RELOCATED																	1				
		SOUTHEAST RAMP																								
154	S-80	SOUTHEAST RAMP	721+00	RT	REMAIN IN PLACE																					
154	S-81	SOUTHEAST RAMP	722+17	RT	REMAIN IN PLACE																					
154	S-82	SOUTHEAST RAMP	723+79	RT	REMAIN IN PLACE																					
154	S-83	SOUTHEAST RAMP	725+85	RT	REMAIN IN PLACE																					
154	S-84	SOUTHEAST RAMP	727+87	RT	REMAIN IN PLACE																					
154	S-85	SOUTHEAST RAMP	728+60	RT	REMAIN IN PLACE																					
		TOTALS THIS SHEET				20		26		33.50				3	2	22.5		2				8		6		2
		TOTALS FROM SHEET 161				174		71		119.17	35.75				10	10.25		10		2		43		19		12
		TOTALS FROM SHEET 162				99		71		33.42				3	2	22.5		2				21		16		
		TOTALS CARRIED TO GENERAL SUMMARY				293.0		168		186	36			6.0	14	55.25		14		2.0		72.0		41.0		14.0

LIC-158-0.56

SR158_TSS_001.DGN 9/26/11

GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC CONTROL EQUIPMENT AND MATERIALS IN CONFORMANCE TO THESE PLANS AND SPECIFICATIONS AND THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (2008) AND ALL SUPPLEMENTAL SPECIFICATIONS. BEFORE ANY EQUIPMENT IS ORDERED OR INSTALLATION IS BEGUN, THREE (3) SETS OF A COMPLETE SCHEDULE OF EQUIPMENT INCLUDING CATALOG CUTS, DIAGRAMS, DRAWINGS, BROCHURES OR OTHER DESCRIPTIVE DATA SHALL BE SUBMITTED TO THE ENGINEER. ONE COPY WILL BE RETURNED MARKED "APPROVED" IF FOUND SATISFACTORY. WORK MAY BEGIN WHEN THE APPROVED COPY IS RECEIVED BY THE CONTRACTOR.

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF WORK FOR THE PROJECT TO THE PROJECT ENGINEER FOR APPROVAL. THIS SCHEDULE SHALL BE SUBMITTED NOT LESS THAN TWO (2) WEEKS IN ADVANCE OF STARTING WORK.

REFERENCE TO A PARTICULAR TRADE NAME, MANUFACTURER'S CATALOG OR MODEL NUMBER IS MADE FOR DESCRIPTIVE PURPOSES TO GUIDE THE BIDDER. IN INTERPRETING THE REQUIREMENTS OF THE CONTRACT, THEY SHOULD NOT BE CONSTRUED AS EXCLUDING PROPOSALS ON OTHER MATERIALS, EQUIPMENT OR SUPPLIES THAT ARE EQUAL TO OR BETTER THAN THOSE REFERRED TO.

ANY EQUIPMENT OR MATERIAL NOT SPECIFICALLY CALLED FOR IN THESE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND SUCCESSFULLY OPERATING SYSTEM SHALL BE FURNISHED AS INCIDENTAL TO THE CONTRACT. PAYMENT FOR SUCH ITEMS WILL BE MADE UNDER THE APPROPRIATE RELATED ITEM AT THE CONTRACT BID PRICE, COMPLETE AND IN PLACE.

PLAN AND SPECIFICATION COMPLIANCE

THESE SPECIFICATIONS, TOGETHER WITH THE ACCOMPANYING PLANS, ARE INTENDED TO DESCRIBE THE TYPE, SIZE AND LOCATION OF THE PRODUCTS AND MATERIALS TO BE PROVIDED AND INSTALLED UNDER VARIOUS BID ITEMS RELATED TO TRAFFIC CONTROL. THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC CONTROL DEVICES AND RELATED MATERIALS IN COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS, AS WELL AS THE 2008 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE TRAFFIC ENGINEERING MANUAL, AND THE STANDARD CONSTRUCTION DRAWINGS ISSUED BY THE OHIO DEPARTMENT OF TRANSPORTATION. THESE SPECIFICATIONS SET FORTH THE MINIMUM PERFORMANCE AND OPERATING REQUIREMENTS OF THE TRAFFIC CONTROL ITEMS REFERRED TO HEREIN.

TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL MEET OR EXCEED THE STANDARDS SPECIFIED IN THE FOLLOWING DOCUMENTS:

(A) SPECIFICATIONS LISTED IN THIS PLAN
(B) NEMA STANDARDS PUBLICATION NO. TS1-1989 AND/OR TS2-1992 (OR CURRENT NEMA ISSUE) SECTIONS 1, 2, 5, 6, 8, 11, 13, & 14.
(C) 2008 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 625, 632, 633, 725, 732 AND 733.

IN CASE OF A CONFLICTING SPECIFICATION STATEMENT, THE SPECIFICATION DOCUMENT HIERARCHY SHALL BE IN THE ORDER LISTED FROM (A) – HIGHEST TO (C) - LOWEST.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

A) FOR EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME THE INSTALLATIONS ARE FIRST DISTURBED UNTIL THEY HAVE BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

B) FOR NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL PROVIDE THE STATE AND THE ENGINEER ADDRESSES AND PHONE NUMBERS WHERE THE CONTRACTOR'S MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL ALSO PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS CONTINUALLY AVAILABLE 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MIS-ALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK INTO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AND THE SIGNAL SHALL BE BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8 HOUR PERIOD AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHEN MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHEN OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHEN THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, WITHIN THE PERIODS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15. ANY SUBSEQUENT BILLINGS TO THE STATE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY STATE FORCES WILL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS WHICH REQUIRE HANDLING DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN SECTION 632.25.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 180 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 AND INTERCONNECTION ITEMS.

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.

ELECTRICAL INSPECTION BY STATE LICENSED INSPECTOR

MOST ELECTRIC COMPANIES REQUIRE THAT ALL NEW OR RELOCATED ELECTRIC SERVICE ENCLOSURES ARE TO BE INSPECTED BY A LICENSED STATE INSPECTOR PRIOR TO CONNECTION TO A UTILITY DISTRIBUTION LINE. THIS IS A NEW SITUATION FOR ODOT BECAUSE INSPECTIONS ARE NOW BEING REQUIRED FOR TRAFFIC CONTROL DEVICES.

THE CONTRACTOR SHALL HIRE A LICENSED ELECTRICAL INSPECTOR(S); PAY THE APPROPRIATE FEE(S), AND ADVISE THE ODOT PROJECT ENGINEER OF THE TIME OF THE INSPECTION(S) SO THAT HE/SHE MAY HAVE A REPRESENTATIVE IN ATTENDANCE. IT IS TO BE NOTED THAT THE INSPECTION DOES NOT SUBSTITUTE FOR ODOT'S FINAL INSPECTION, NOR DOES IT SUPERSEDE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

THE COST OF THE INSPECTIONS SHALL BE CONSIDERED AS INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE TRAFFIC CONTROL DEVICES.

DESIGNED RJG CHECKED BB

TRAFFIC SIGNAL GENERAL NOTES

TRAFFIC

LIC-158-0.56

163A
219

82752_sgn_01.dgn 12/10/08

STRAIN POLE FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR STRAIN POLE FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH SCD 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 SCD TC-21.20 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES 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 633, CONTROLLER UNIT, TYPE 2070L, WITH CABINET, TYPE 332, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 633 AND 733, THE FOLLOWING REQUIREMENTS SHALL APPLY:

A PERMANENT MARKING DECAL SHALL BE CLEARLY AFFIXED TO THE CONTROLLER SHOWING DATE OF DELIVERY TO THE PROJECT. CPU BOARDS SHALL CONTAIN THE CURRENT OS IMAGE VERSION, AS LISTED ON THE LATEST ODOT-APPROVED CALTRANS QUALIFIED PRODUCT LIST. CONTROLLERS SHALL BE SHIPPED TO THE ODOT SIGNAL SHOP, 1606 WEST BROAD STREET, COLUMBUS, OHIO 43223, EITHER DIRECTLY OR VIA THE ODOT DISTRICT OFFICE (CONTACT BRIAN BOSCH AT 740-323-5182). ANY CONTROLLERS DELIVERED TO THE ODOT SIGNAL SHOP THAT DO NOT CONTAIN THE LATEST CALTRANS CPU OS IMAGE VERSION WILL BE REJECTED AND RETURNED TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE CPU TO THE CURRENT CALTRANS OS IMAGE VERSION. THE ODOT SIGNAL SHOP WILL LOAD CONTROLLERS RECEIVED WITH THE REQUIRED SOFTWARE. THE CONTROLLER WILL THEN BE PERFORMANCE TESTED BY THE ODOT SIGNAL SHOP. EVERY EFFORT SHALL BE MADE TO HAVE LOADING AND PERFORMANCE TESTING COMPLETED BY THE ODOT SIGNAL SHOP WITHIN 2 WEEKS OF RECEIPT OF AN INDIVIDUAL CONTROLLER; LARGER GROUPS OF CONTROLLERS SUBMITTED AT THE SAME TIME MAY TAKE LONGER. SHOULD ANY CONTROLLER FAIL THIS PERFORMANCE TEST AFTER BEING LOADED WITH ODOT-LICENSED SOFTWARE, THE SOFTWARE WILL BE REMOVED BY THE ODOT SIGNAL SHOP AND THE CONTROLLER REJECTED. REJECTED CONTROLLERS WILL BE RETURNED, EITHER DIRECTLY TO THE CONTRACTOR OR TO THE ODOT DISTRICT OFFICE. CONTROLLERS PASSING THE PERFORMANCE TEST WILL BE LABELED BY THE ODOT SIGNAL SHOP WITH THE OS IMAGE NUMBER, CPU SERIAL NUMBER, SOFTWARE REVISION NUMBER, AND UPLOAD DATE. THIS LABEL IS NOT TO BE REMOVED BY THE CONTRACTOR AND SERVES AS PROOF THAT THE CONTROLLER HAS BEEN LOADED, TESTED AND APPROVED FOR INITIAL INSTALLATION ON THE PROJECT. SUCH PROOF DOES NOT ALTER THE REQUIRED 10-DAY PERFORMANCE TEST OUTLINED IN CMS SECTIONS 632 AND 633.

THE CONTRACTOR SHALL NOT REASSIGN THE DETECTOR INPUTS IN ORDER TO REDUCE THE NUMBER OF 2-CHANNEL DETECTOR UNITS SUPPLIED, BUT SHALL USE THE STANDARD CALTRANS INPUT FILE DESIGNATIONS.

THE CONTRACTOR SHALL PROVIDE AND INSTALL A GENERATOR POWER PANEL AS SPECIFIED ON SHEET 163D TO THE CONTROLLER CABINET. INSTALLATION SHALL INCLUDE ALL THE HARDWARE AND INCIDENTALS NECESSARY TO PROVIDE AUXILIARY POWER TO THE CONTROLLER CABINET THROUGH THE GENERATOR POWER PANEL

632 VEHICULAR SIGNAL HEAD, (LED), COLOR, BY TYPE, (WITH BACKPLATE), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

MOUNTING HARDWARE: (SELECT ITEMS AS NEEDED)

1. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.

2. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.

THE DEPARTMENT WILL MEASURE "VEHICULAR SIGNAL HEAD, (LED), COLOR, BY TYPE, (WITH BACKPLATE), AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS AS SPECIFIED.

632, REMOVAL OF TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT FIVE, IN ACCORDANCE WITH THE LISTING GIVEN HERE. CONTACT: MR. RON MILLER AT 740-323-5260, TO ARRANGE FOR THE REMOVEL OF THESE ITEMS FROM THE JOB SITE.

ITEMS TO BE REMOVED FOR STORAGE:

CONTROLLER CABINET
STRAIN POLES

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE LOCAL AGENCY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

603 - 4" CONDUIT, TYPE F

A QUANTITY OF 700 FEET OF ITEM 603 4" CONDUIT TYPE F HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE OUT-LETTING OF THE PULL BOXES.

CABINET FOUNDATION, AS PER PLAN

THE CONTROLLER CABINET FOUNDATION SHALL MEET THE REQUIREMENTS OF CMS 633 AND STANDARD DRAWING TC-83.20 EXCEPT THAT THE FOUNDATION SHALL BE EXTENDED IN ORDER TO SUPPORT THE UNINTERRUPTIBLE POWER SUPPLT UNIT.

THIS ITEM SHALL INCLUDE ALL THE MATERIAL, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO PROVIDE A FOUNDATION FOR THE SPECIFIED CONTROLLER CABINET AND THE UNINTERRUPTIBLE POWER SUPPLY UNIT AS SHOWN IN THE PLANS.

632, POWER SERVICE, AS PER PLAN

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:
SOUTH CENTRAL POWER CO.
740-689-6251

POWER SERVICE SHALL BE AS PER CMS ITEM 632 AND SCD TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN 5 FEET 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.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS 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.

633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 100 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 633 AND 733, THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST UNINTERRUPTIBLE POWER SUPPLY (UPS) STATUS INDICATOR LAMPS THAT ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. A 1-INCH WATERPROOF NEMA 4X OR IP66 LAMP WITH A DOMED RED LENS SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS LAMP SHALL BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THE STATUS DISPLAY SHALL BE SOLID 100% DUTY CYCLE (NOT FLASHING). THE LAMP SHALL BE PLACED IN THE UPS CABINET WALL (NOT THE ROOF) IN SUCH A MANNER AS TO BE SEALED FROM WATER INTRUSION AND VISIBLE FROM A VEHICLE AT THE STOP LINE IN THE CLOSEST LANE OF AT LEAST ONE APPROACH TO THE SIGNALIZED INTERSECTION. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC. ALSO INCLUDED IN THIS ITEM SHALL BE A CONCRETE RISER TO MATCH THE CONTROLLER CABINET RISER.

CALCULATED RJG
CHECKED BB

TRAFFIC SIGNAL GENERAL NOTES

LIC-158-0.56

163B
219

76452_sgn_01.dgn dated 7/16/2010

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
   - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
   - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
   - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
   - D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   - E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
   - F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS.
   - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
   - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
   - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
   - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.
   - A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
     - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
     - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
     - III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
     - IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
   - B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.
   - A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
   - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.
   - A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.
   - B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
     - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
     - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

ITEM 625 TRENCH, 24" AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625.13 AND THE STANDARD CONSTRUCTION DRAWINGS, WITHIN EACH TRENCH, THE LOCATION OF UNDERGROUND CABLE OR CONDUIT SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL, APPROXIMATELY 6.0" 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. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPES SHALL BE BURIED IN THE ELECTRIC LINE TRENCH WITH ONE STRIP PLACED APPROXIMATELY 8.0" TO 12.0" BELOW THE FINISHED GRADE. THE TAPE SHALL BE PLACED 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 ALLEN SYSTEM'S, TERRA TAPE OR EQUAL, AS APPROVED BY THE ENGINEER. PAYMENT SHALL BE INCLUDED IN THE BID PRICE PER LINEAR FOOT OF ITEM 625 TRENCH, 24" DEEP, AS PER PLAN, COMPLETE AND IN PLACE.

CALCULATED RJG
CHECKED BB

TRAFFIC SIGNAL GENERAL NOTES

LIC-158-0.56

163C
219

76452_sgn_01.dgn dated 7/16/2010

MATERIAL SPECIFICATIONS FOR GENERATOR POWER PANEL EQUIPMENT

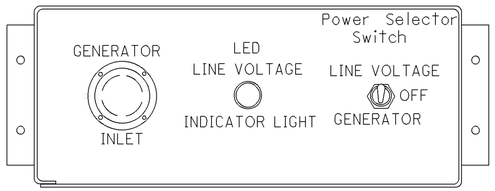
GENERATOR INLET --- The inlet shall be 30 amp, 125/250V, locking, four (4) wire grounding and meet the NEMA configuration number L14-30-P 30A 125/250V specification. The inlet shall be a Hubbell catalog #2715.

LINE VOLTAGE GENERATOR SWITCH --- The switch shall be 30 amp, 125/250V AC, two (2) pole, three (3) position (On, Off, On). The switch shall be a Hubbell catalog #1388.

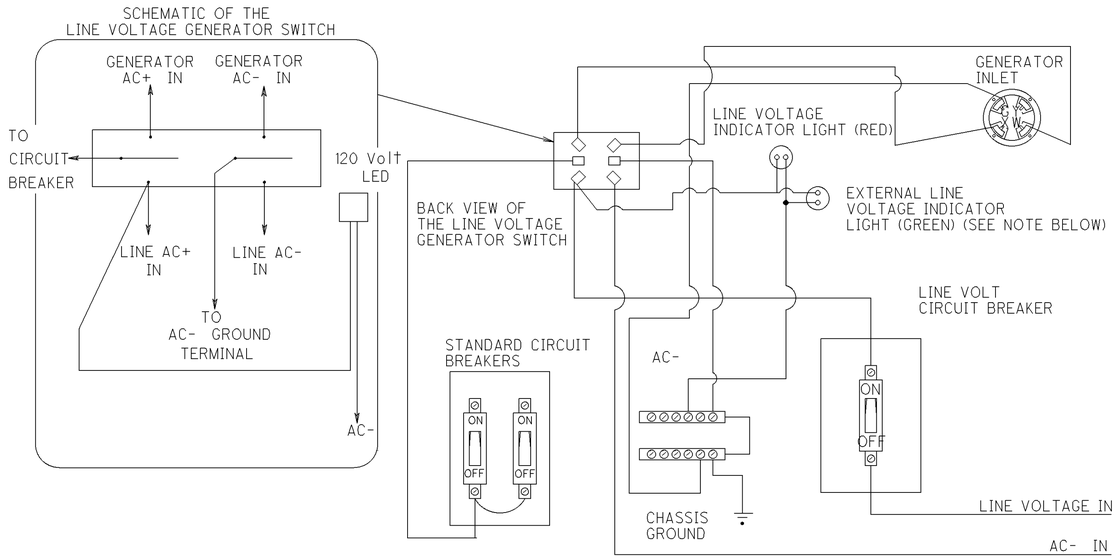
LINE VOLTAGE INDICATOR LIGHT --- The indicator light shall be a 125V AC light emitting diode with a red lens.

LINE VOLTAGE CIRCUIT BREAKER --- The circuit breaker shall be single pole single throw and a minimum of 30 amps. The amperage shall be increased to accomodate greater loads, if necessary. The gauge of the power cable shall be of proper size per the N.E.C.

EXTERNAL LINE VOLTAGE INDICATOR LIGHT --- The indicator light shall be a 1-inch (25mm) waterproof NEMA 4X or IP66 LED lamp with a GREEN lens.



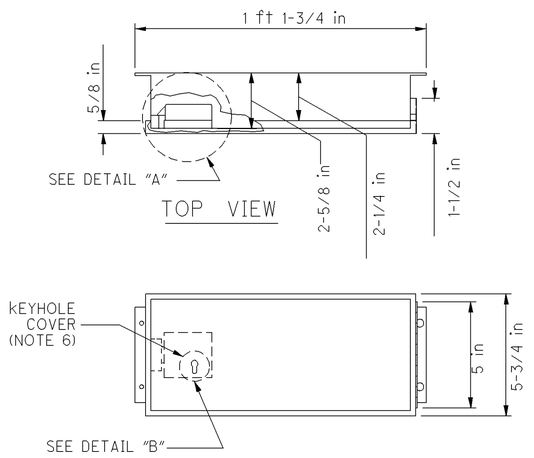
FRONT VIEW OF GENERATOR POWER PANEL



ELECTRICAL HOOKUP DETAIL FOR THE GENERATOR POWER PANEL

NOTE : EXTERNAL LINE VOLTAGE INDICATOR LIGHT required when called for in the plans.
EXTERNAL LINE VOLTAGE INDICATOR LIGHT shall be located on the enclosure exterior for visibility from the adjacent roadway when all cabinet, and generator panel doors are closed.

GENERATOR POWER PANEL ENCLOSURE



NOTES

1. The enclosure shall be constructed Of 1/8 inch thick aluminum.
2. The lock shall be the standard police door type, keyed with the standard flasher door skeleton key.
3. The door shall be sealed with a foam rubber gasket to prevent moisture from entering the enclosure.
4. The enclosure shall be mounted onto the outside of the controller cabinet with non-accessible bolts and sealed with a high quality silicon caulk at all surfaces touching the cabinet.
5. The hinge shall be of stainless steel or equivalent corrosive-resistant material.
6. Keyhole shall be covered with a movable circular aluminum cover with top pivot pin.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 10/21/11 | CHECKED

PIS NUMBER 203010

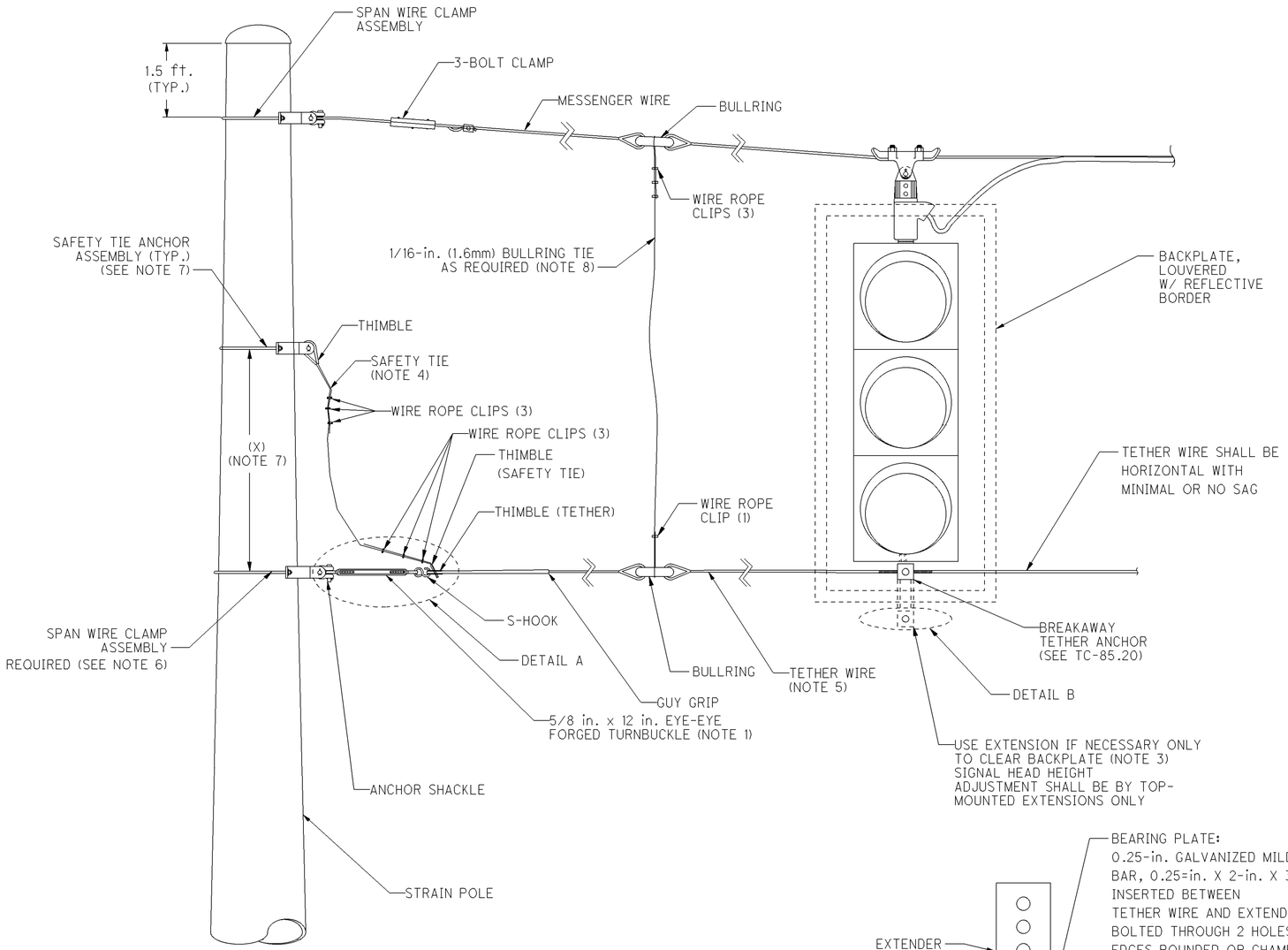
PLAN INSERT SHEET

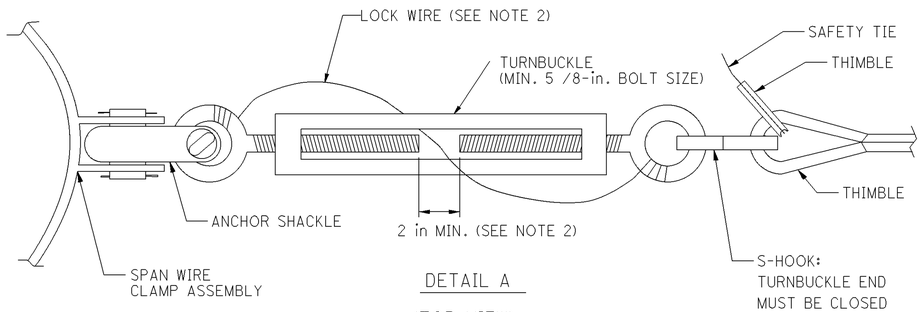
GENERATOR POWER PANEL

LIC-158-0.56

1 / 1

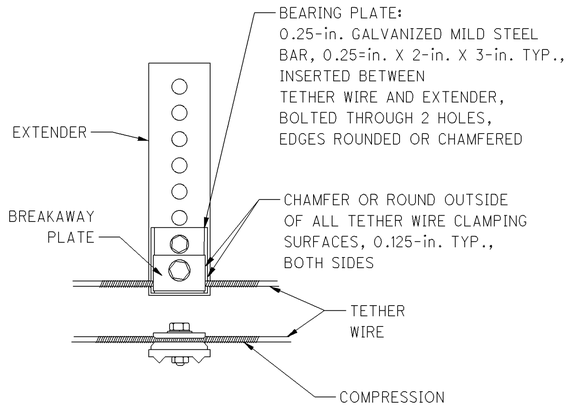
163D 219





DETAIL A

(TOP VIEW)
(NOT TO SCALE)



DETAIL B

(FRONT VIEW)
(BOTTOM VIEW)

NOTES

1. S-Hook is matched to the strain pole design number (see table). S-Hook and turnbuckle are required only at one end of simple spans, all ends of complex spans. S-hook shall be closed at pole end. If S-hook begins to yield during installation, it shall be removed and replaced.
2. Lock wire shall be stainless steel, 1/8 inch soft temper, wound to prevent turning of the turnbuckle body. Finished span shall have at least 2 inches of space for turnbuckle adjustment. Turnbuckle shall not be overtightened. Use 8-inch hand tools, maximum.
3. If signal orientation is not perpendicular to span and tether wire, then use an anchor extension. Clamp assembly must be attached to the flat side of the extender bar.
4. Install safety tie at each turnbuckle. This wire shall be 1x19, 1/8 inch stainless steel. Tie should be slack, but not so slack as to contact pole. Use 3 clips per end at 3-1/4 inch spacing.
5. Tether wire shall be 7-strand ASTM A475 HS or EHS Grade 1/4 inch. On all spans, install tether horizontally. Maintain clearance of 17 feet to 19 feet over roadway.
6. Span wire clamp as per Standard Construction Drawing TC-81.10 required for tether wire attachment. Alternate attachment method shall not be permitted.
7. Safety tie anchor height above tether is adjusted in the field before S-hook is installed. Dimension X (Safety Tie Height) shall be adjusted so that the minimum vertical clearance of the sagging tether wire above the pavement without the S-hook installed is at least 14 feet. Minimum distance between the safety tie clamp and tether clamp shall be 1.5 feet and contain enough slack for head to sway in high winds. Safety tie anchor may be any galvanized or stainless steel pole clamp assembly rated at 3000 pounds. or higher.
8. On spans with bullrings, a tie shall be provided between messenger and tether bullrings if a 14 foot clearance cannot be maintained after S-hook opening. This vertical tie shall be 1x19, 1/16 inch stainless steel. Tie shall be slightly slack, tied back using cast wire rope clips as shown. Wire rope clips shall not be over-tightened.

Strain Pole Design No.	Galvanized Mild Steel S-Hook Wire Diameter (Inches)	S-hook yield point (+10%/-20%) (Pounds)
1	1/4	1000
2	1/4	1000
3	1/4	1000
4	1/4	1000
5	1/4	1000
6	3/8	2000
7	3/8	2000
8	3/8	2000
9	3/8	2000
10	3/8	2000
11	1/2	3300
12	1/2	3300
13	1/2	3300
14	1/2	3300

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 07/15/11 | CHECKED

PIS NUMBER 208521

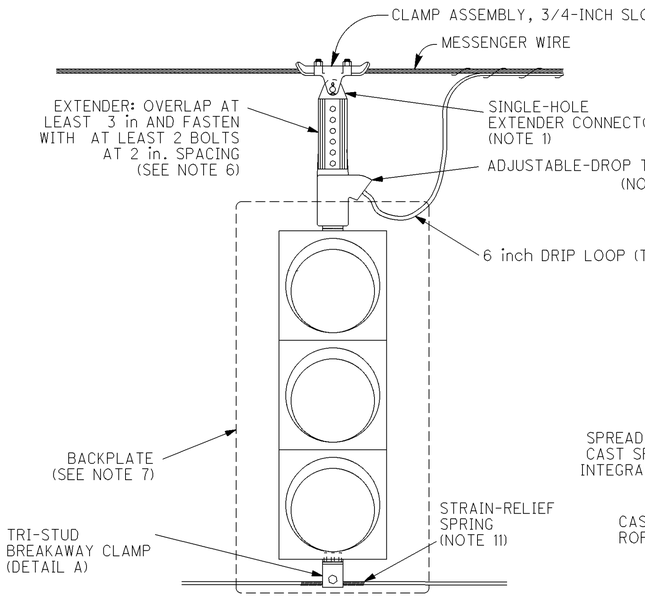
PLAN INSERT SHEET

SIGNAL TETHER ATTACHMENT

LIC-158-0.56

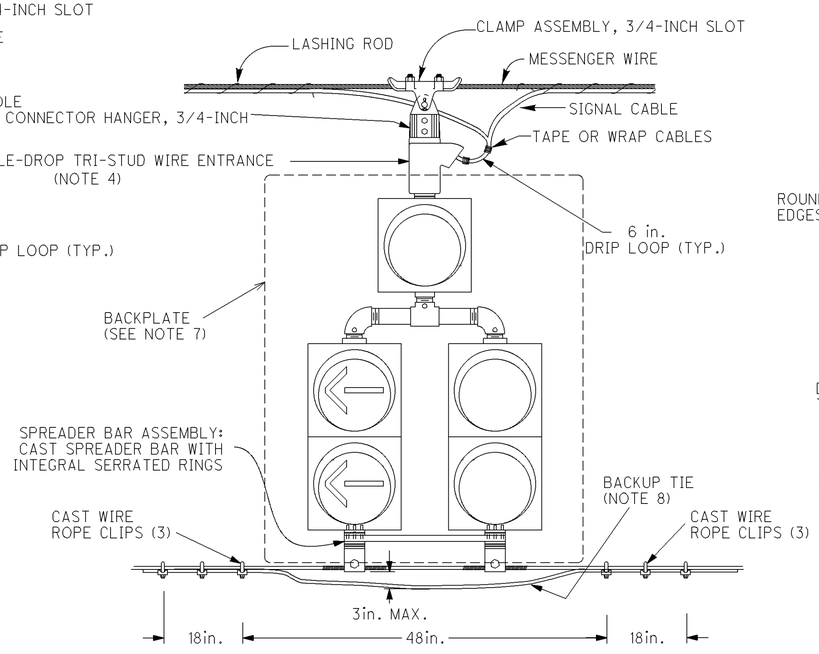
1 / 1

163E
219



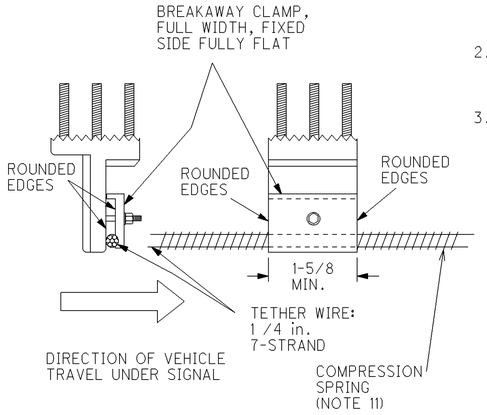
1-4 SECTION SIGNAL HEAD SUSPENSION

(NOTE 10)



5-SECTION SIGNAL HEAD SUSPENSION

(NOTE 10)



DETAIL A: BREAKAWAY TETHER ANCHOR

(TYPICAL, SEE NOTE 6)

NOTES

1. Adjust hanger and span wire clamp to eliminate all play between hanger and clamp by using shim washers as necessary. Cast 3/4-inch aluminum matching clamps and hangers with a tight initial fit shall be used.

2. All signal head assemblies shall be installed in a plumb position and perpendicular to the approach lane.

3. All signal heads shall be installed with their lowest part (including tether attachment hardware and backplates) with a clearance above the roadway pavement at all points of 17 feet to 19 feet It is intended that this clearance be obtained without the use of bottom extenders, but rather by the careful selection of foundation heights, attachment heights, span wire sag, and other factors during the installation. If the installation cannot be adjusted to the proper clearance the contractor shall advise the engineer of all signals which exceed the maximum. The engineer will, in consultation with the maintaining agency, direct the use of extenders or waive the maximum clearance requirement for each head. If extenders are necessary, adjustable signal hangers as detailed may be used. Only top extenders shall be used; see Note 6.

4. Signal head rotation shall be prevented by the use of serrated rings and tri-studs or other positive devices incorporated in the signal housing and at critical locations in the supporting hardware. Only single-piece tri-stud entrance ports shall be used, not inserts.

5. All conductors shall have adequate clearance between hangers, thimbles, bullrings, etc. in order to avoid damage from rubbing.

6. For all tethered installations, breakaway tether anchor(s) shall be installed in bottom bracket. Bottom tether anchor extender shall be used only if there is interference between backplate and tether wire. Signal height adjustment shall be made by top-mounted extenders only. Breakaway clamp shall be full width with rounded edges. Clamp shall compress tether wire only against a flat surface (Detail A).

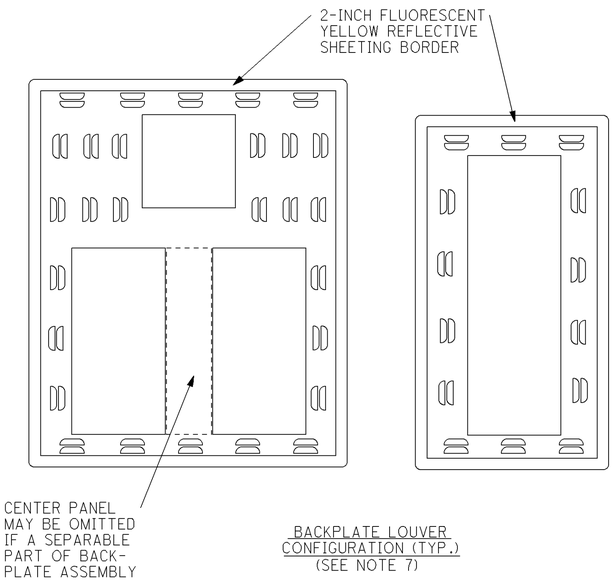
7. All backplates shall have louvers and 2 inch fluorescent yellow reflective border. Border shall not be applied over louvers. Louvers shall be oriented to scoop air from the front side and oriented with the openings facing alternate directions by groups, as shown. Louver open area shall be at least 8 percent of the total backplate area.

8. Backup tie shall be 1/4-inch, 7-strand wire identical to tether wire. Three cast wire rope clips on each side shall be used with 18in. ovelap and spacing as shown. Tie shall hang no lower than 16.5 feet. above pavement, and must not rub against the breakaway clamp. Ties under 3-section heads are recommended in windy areas; shall be installed if specified in plans, or if directed by the Engineer. Spacing of clips may be adjusted to accomodate adjacent heads. Closely spaced adjacent heads may share a single backup tie and wire rope clips; there shall be a minimum of three wire rope clips between heads.

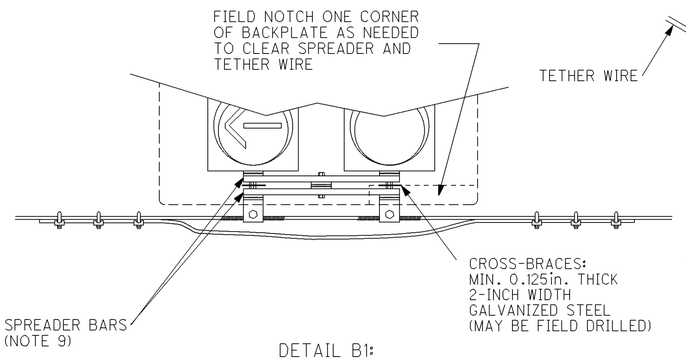
9. On diagonal spans, a double spreader bar assembly shall be used. Each spreader bar shall be cast aluminum or steel with intergral serrations, 2 on the ends, one in the middle on the opposite side. These shall be attached as shown in Details B1 and B2.

10. Multi-way heads with backplates shall not be used on tethered spans. Existing multi-way heads shall be separated as directed by the Engineer. Rewire as necessary to separate the heads per the proper alignment.

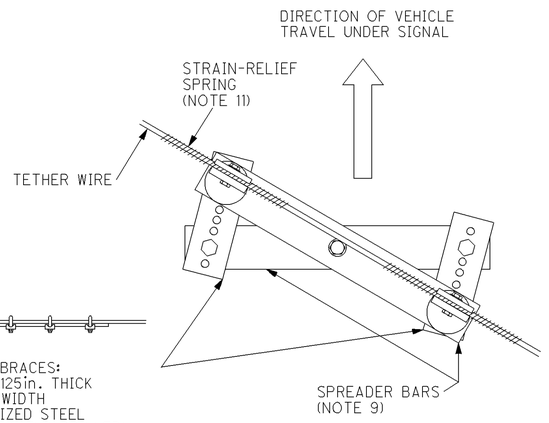
11. Compression spring, 0.375-inch OD, 0.054-inch wire diameter, 10-12 coils per inch, stainless steel 6-inch minimum length.



BACKPLATE LOUVER CONFIGURATION (TYP.)
(SEE NOTE 7)



DETAIL B1:
DOUBLE SPREADER BARS AND CROSS-BRACING ON DIAGONAL SPANS
(FRONT VIEW)



DETAIL B2:
DOUBLE SPREADER BARS AND CROSS-BRACING ON DIAGONAL SPANS
(BOTTOM VIEW)

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 10/21/11 | CHECKED

PIS NUMBER 208522

PLAN INSERT SHEET

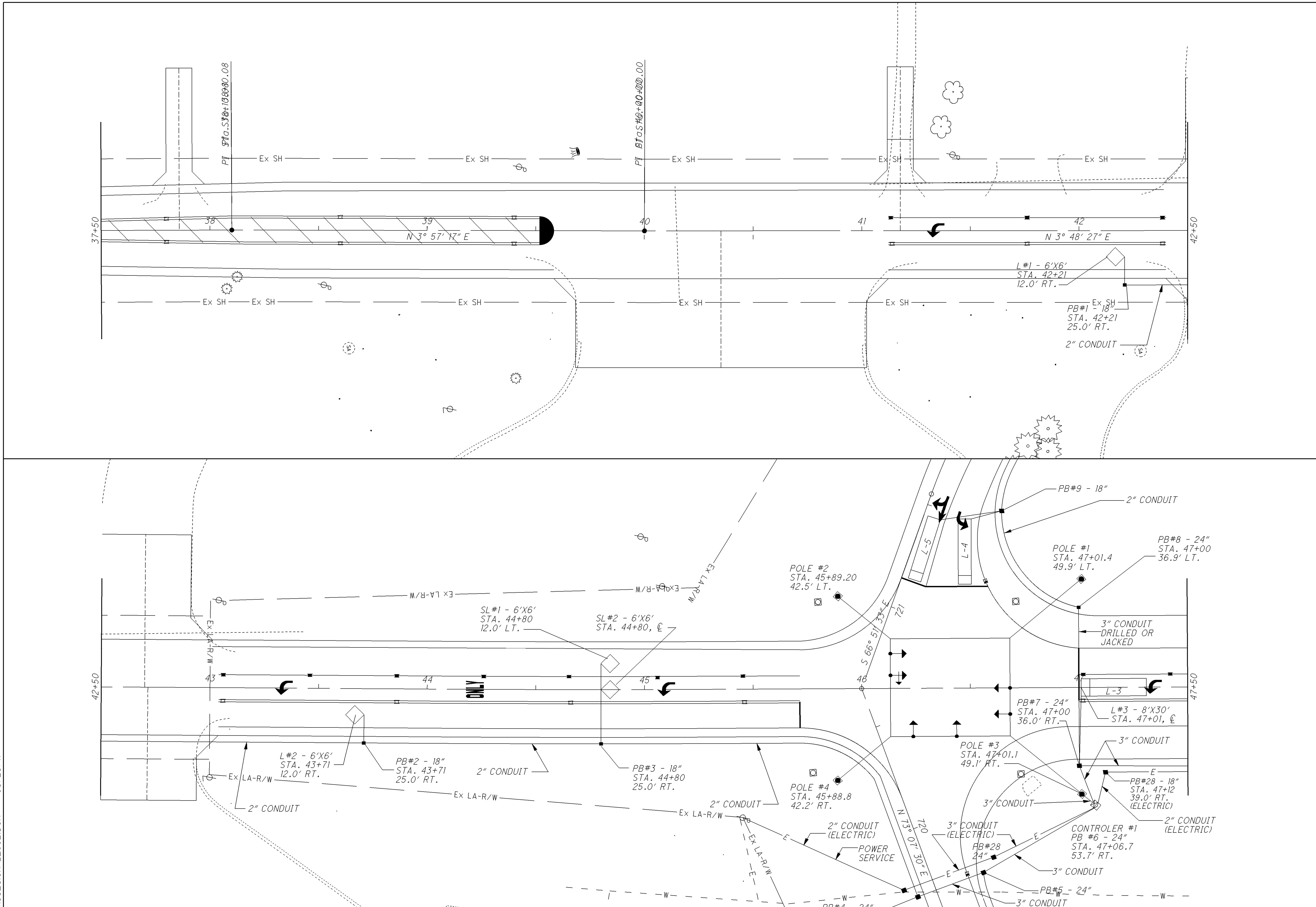
OVERHEAD SIGNAL ATTACHMENTS, SPAN WIRE

LIC-158-0.56

1 / 1

163F
219

P:\LIC\84700\Design\Roadway\Plan_Sheets\Traffic Signals\overheadsignalattachments.dgn 11/3/2011 7:15:43 AM rgossett



Ex SH
PI Sta. 38+08.08
PI Sta. 40+00.00
37+50
38
39
40
41
42
42+50
N 3° 57' 17" E
N 3° 48' 27" E
L#1 - 6'X6'
STA. 42+21
12.0' RT.
PB#1 - 18"
STA. 42+21
25.0' RT.
2" CONDUIT
PB#9 - 18"
2" CONDUIT
POLE #1
STA. 47+01.4
49.9' LT.
PB#8 - 24"
STA. 47+00
36.9' LT.
POLE #2
STA. 45+89.20
42.5' LT.
L-5
L-4
Ex LA-R/W
SL#1 - 6'X6'
STA. 44+80
12.0' LT.
SL#2 - 6'X6'
STA. 44+80, ℄
S 66° 51' 33" E
721
3" CONDUIT
DRILLED OR
JACKED
43
44
ONLY
45
46
47
47+50
L-3
L#3 - 8'X30'
STA. 47+01, ℄
PB#7 - 24"
STA. 47+00
36.0' RT.
L#2 - 6'X6'
STA. 43+71
12.0' RT.
PB#2 - 18"
STA. 43+71
25.0' RT.
2" CONDUIT
PB#3 - 18"
STA. 44+80
25.0' RT.
POLE #3
STA. 47+01.1
49.1' RT.
3" CONDUIT
PB#28 - 18"
STA. 47+12
39.0' RT.
(ELECTRIC)
POLE #4
STA. 45+88.8
42.2' RT.
2" CONDUIT
3" CONDUIT
2" CONDUIT
(ELECTRIC)
2" CONDUIT
(ELECTRIC)
POWER
SERVICE
N 73° 07' 30" E
720
3" CONDUIT
(ELECTRIC)
PB#28
24"
CONTROLER #1
PB #6 - 24"
STA. 47+06.7
53.7' RT.
3" CONDUIT
PB#5 - 24"
3" CONDUIT
PB#4 - 24"

N

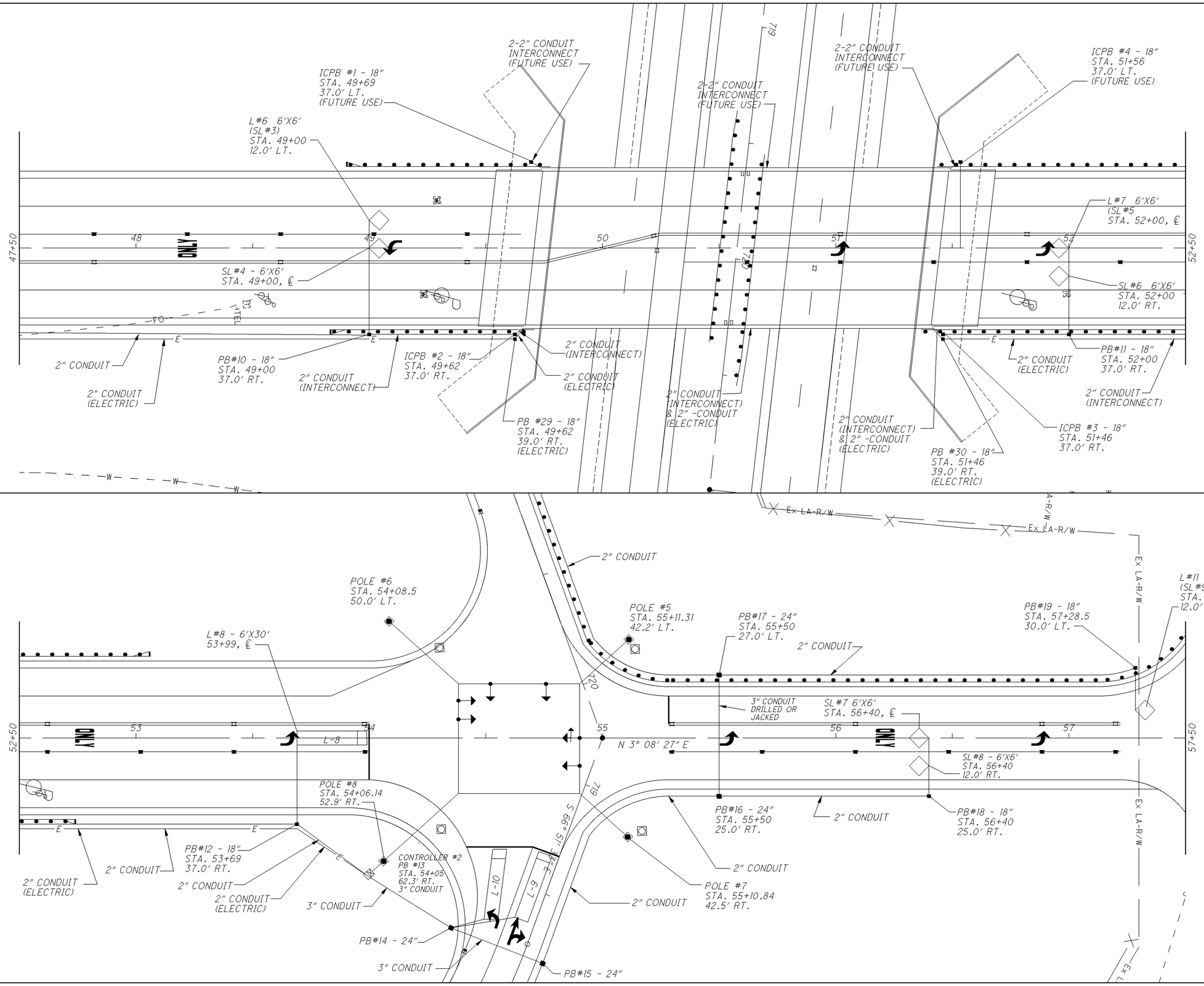
0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED RJG
CHECKED BB

S.R. 158 SIGNAL SHEET

LIC-158-0.56

SR158_SIGNAL_002.DGN 08/25/11



N

HORIZONTAL SCALE IN FEET
0 10 20 40

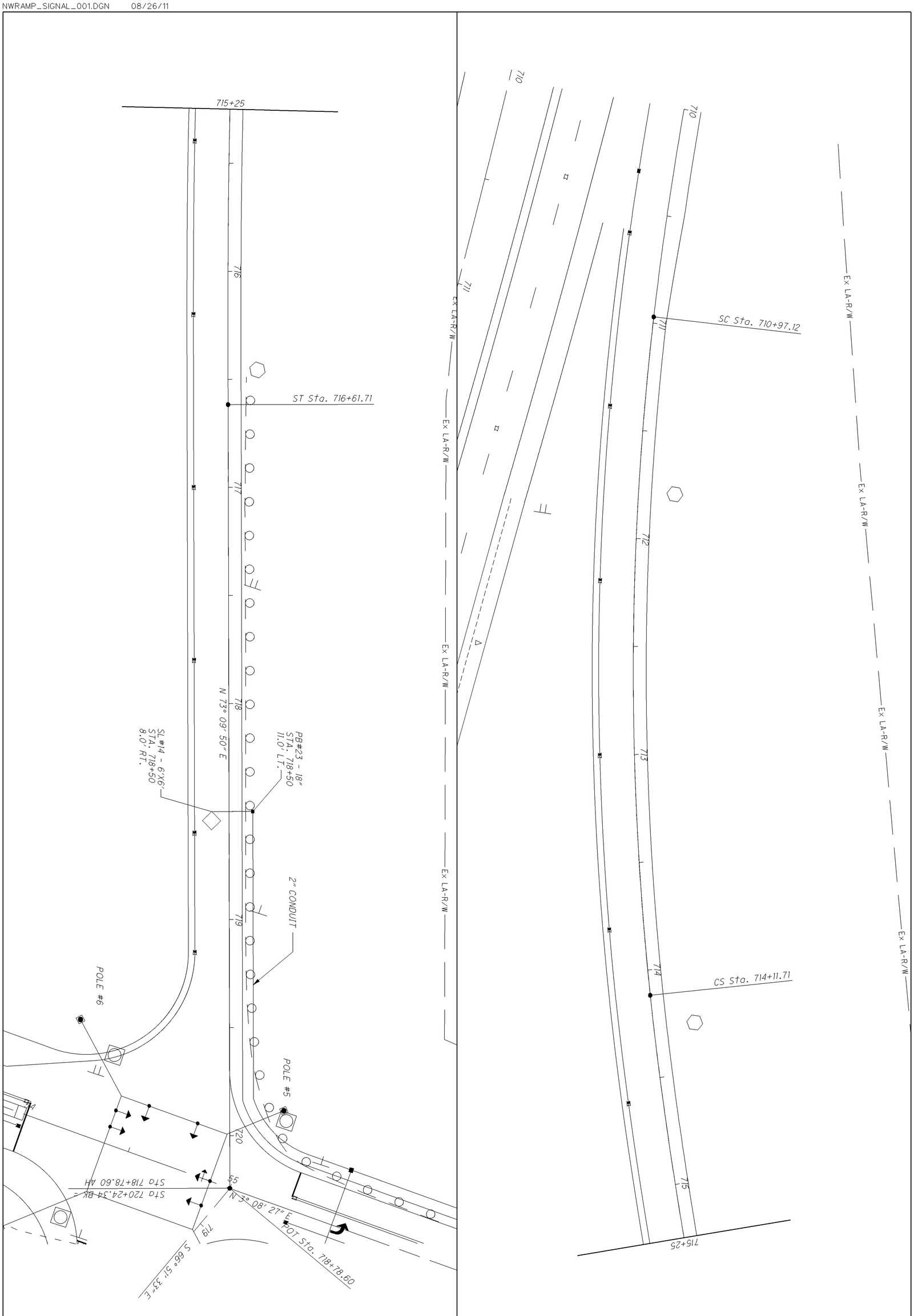
CALCULATED RJG
CHECKED BB

S.R. 158 SIGNAL SHEET

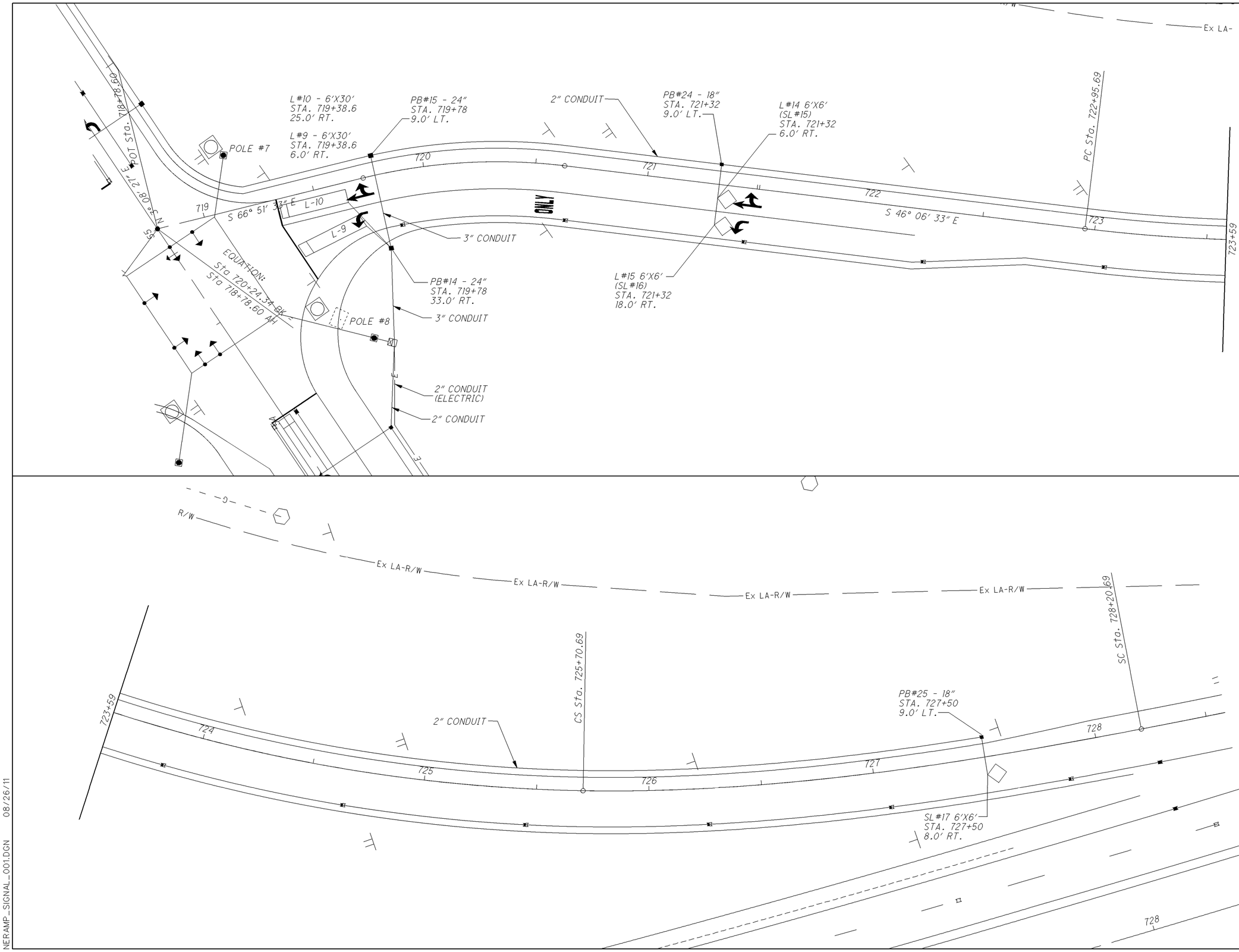
LIC-158-0.56

SR158_TCS_003.DGN 09/27/10

NWRAMP_SIGNAL_001.DGN 08/26/11



166 / 219	LIC-158-0.56	NORTHWEST RAMP SIGNAL SHEET	CALCULATED RJG / CHECKED BB	0 10 20 40 HORIZONTAL SCALE IN FEET	N



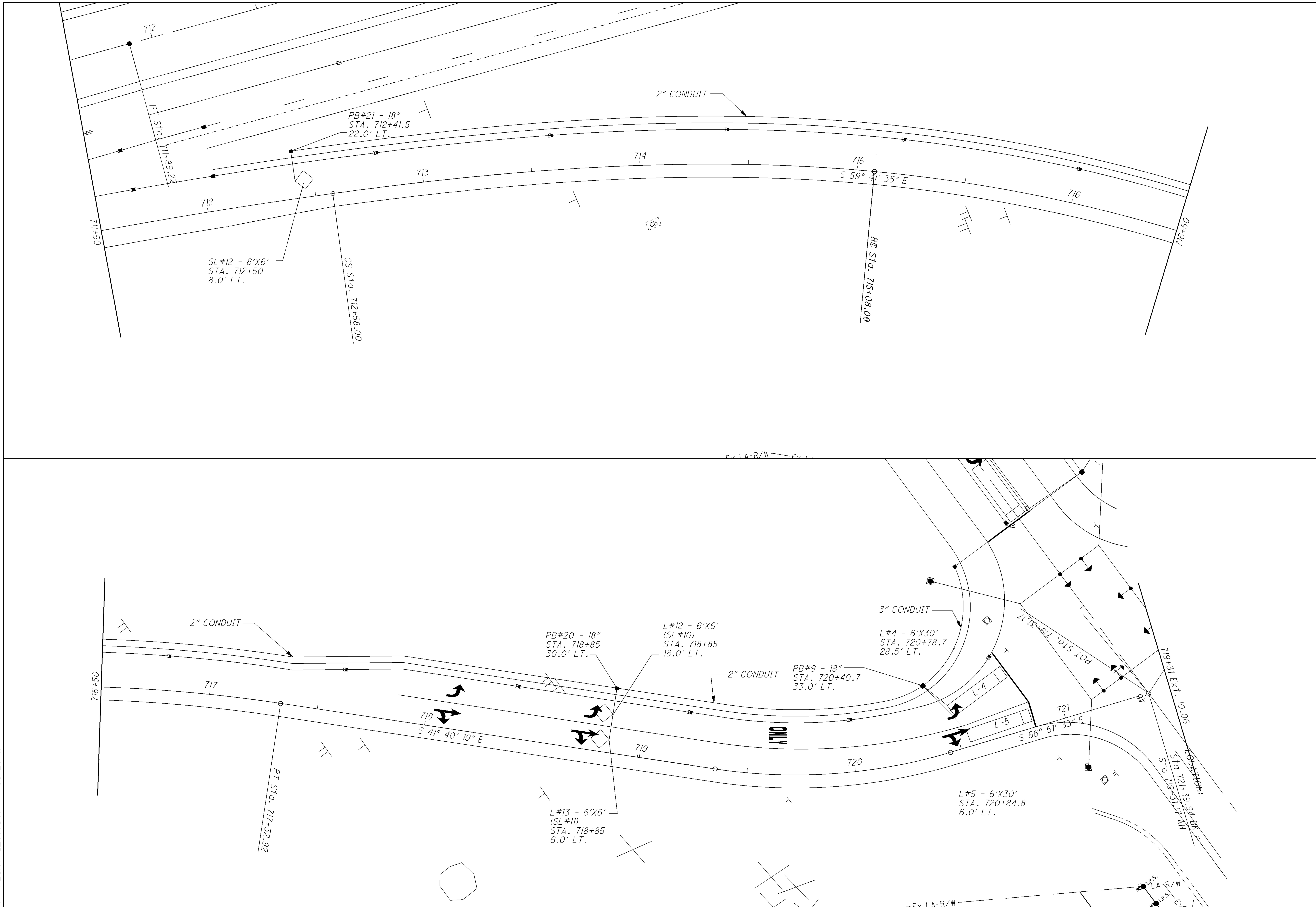
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RJG
CHECKED BB

NORTHEAST RAMP SIGNAL SHEET

LIC-158-0.56

NERAMP_SIGNAL_001.DGN 08/26/11



2" CONDUIT
PB#21 - 18"
STA. 712+41.5
22.0' LT.
712
713
714
715
716
PT Sta. 711+89.22
711+50
716+50
S 59° 41' 35" E
SL#12 - 6'X6'
STA. 712+50
8.0' LT.
CS Sta. 712+58.00
BC Sta. 715+08.00
CB
Ex LA-R/W
2" CONDUIT
717
718
719
720
721
S 41° 40' 19" E
S 66° 51' 33" E
PB#20 - 18"
STA. 718+85
30.0' LT.
L#12 - 6'X6'
(SL#10)
STA. 718+85
18.0' LT.
2" CONDUIT
PB#9 - 18"
STA. 720+40.7
33.0' LT.
3" CONDUIT
L#4 - 6'X30'
STA. 720+78.7
28.5' LT.
L-4
L-5
ONLY
POT Sta. 719+31.17
719+31 Ext. 10.06
L#13 - 6'X6'
(SL#11)
STA. 718+85
6.0' LT.
PT Sta. 717+32.92
L#5 - 6'X30'
STA. 720+84.8
6.0' LT.
EQUATION:
Sta 721+39.94 BK =
Sta 719+31.17 AH
Ex LA-R/W
LA-R/W
I.P.S.

N

HORIZONTAL SCALE IN FEET

0 10 20 40

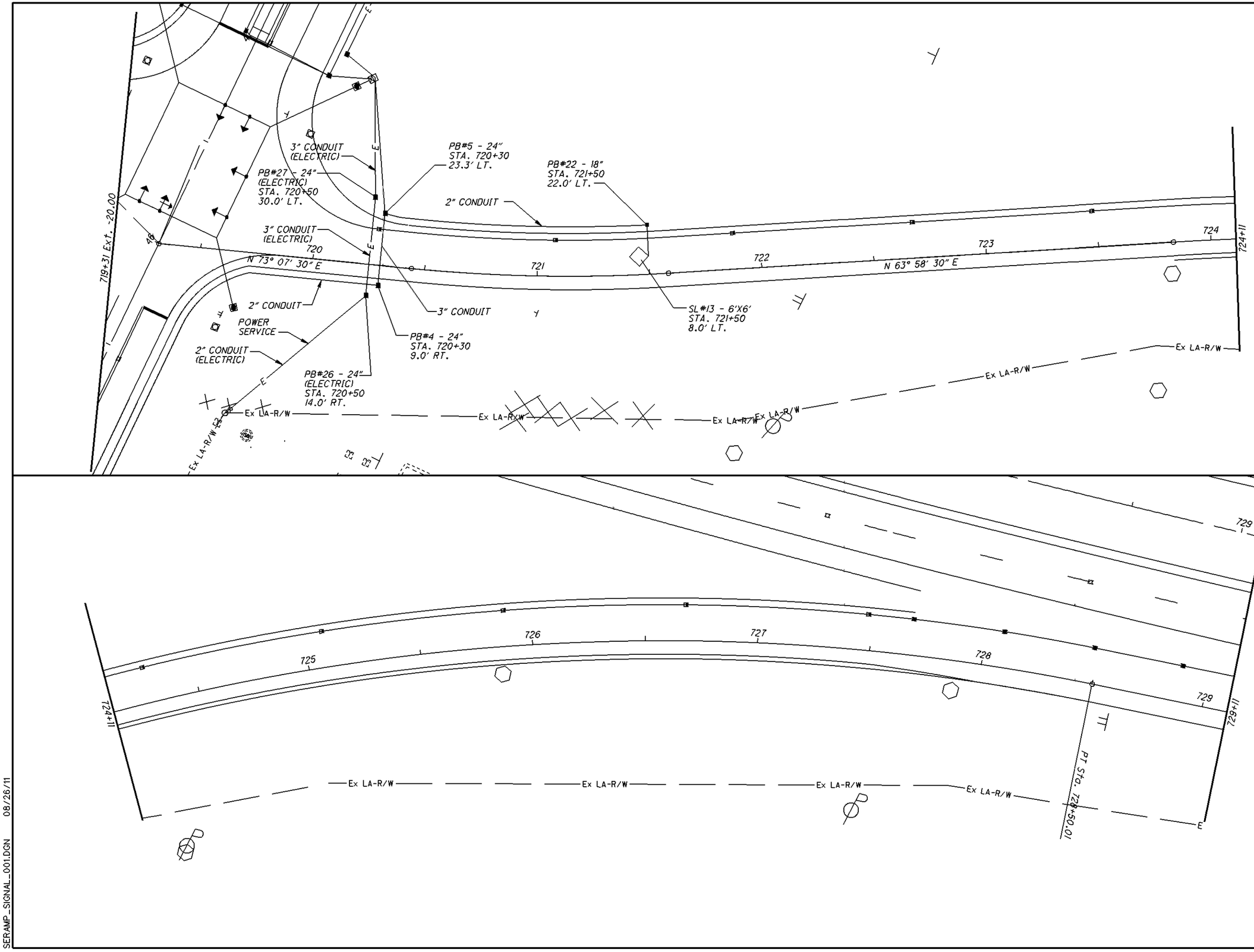
CALCULATED RJG

CHECKED BB

SOUTHWEST RAMP SIGNAL SHEET

LIC-158-0.56

SWRAMP_SIGNAL_001.DGN 08/26/11



SERAMP_SIGNAL_001.DGN 08/26/11

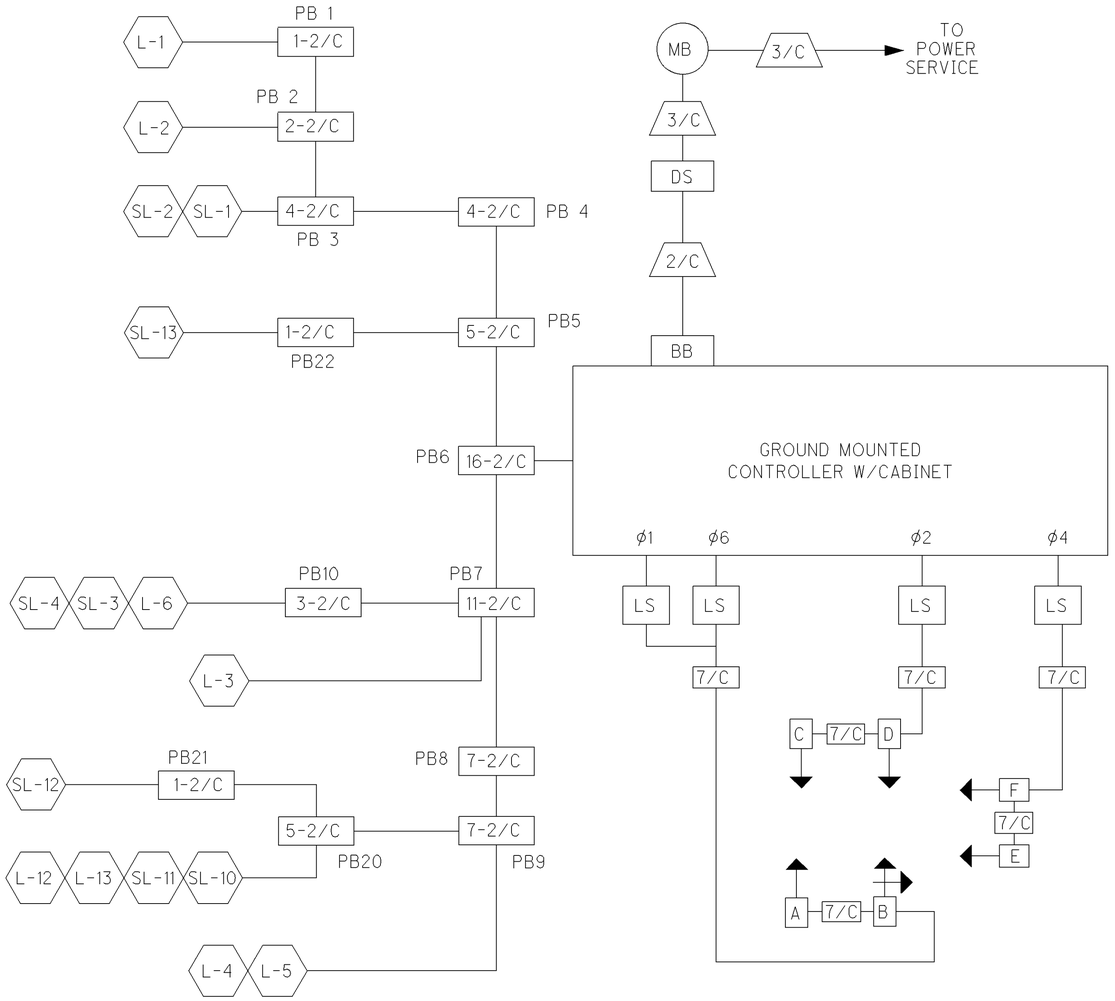
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RJG
CHECKED BB

SOUTHEAST RAMP SIGNAL SHEET

LIC-158-0.56

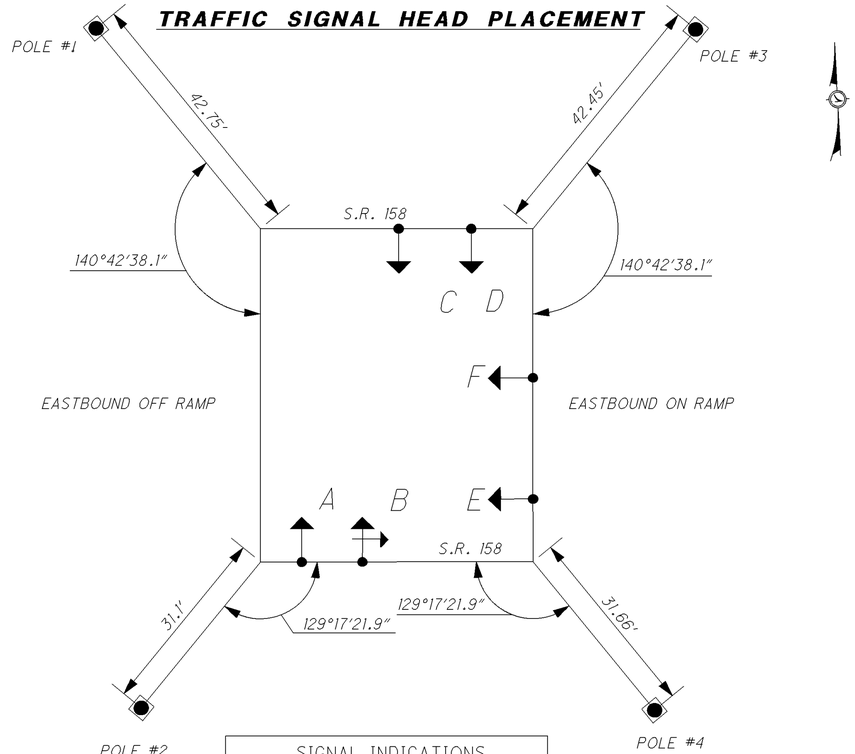
TRAFFIC SIGNAL WIRING DIAGRAM



LEGEND

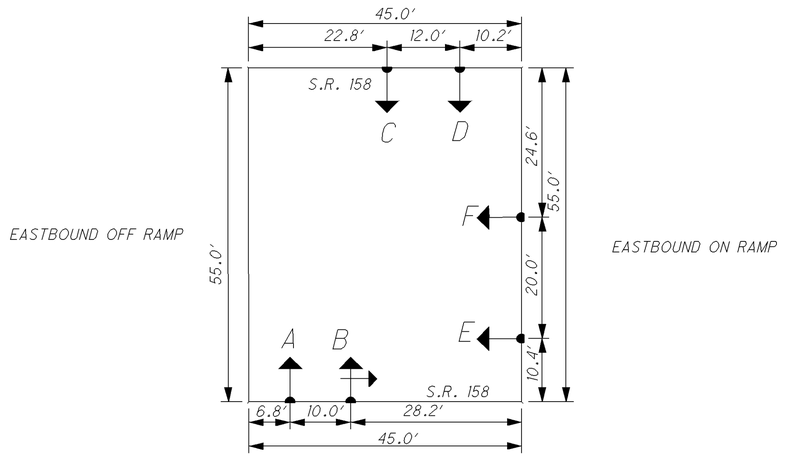
- SIGNAL HEAD WITH TURN ARROW
- SIGNAL HEAD
- L-1 — VEHICLE DETECTOR LOOP
- DS — 30 AMP DISCONNECT SWITCH
- BB — BATTERY BACKUP
- MB — METER BASE
- 2/C OR 3/C #8 AWG POWER CABLE
- LS — LOAD SWITCH
- 2/C — 2/C #14 AWG (LEAD-IN CABLE)
- 7/C — 7/C #14 AWG SIGNAL CABLE

TRAFFIC SIGNAL HEAD PLACEMENT



SIGNAL INDICATIONS
ALL 12" LENS

SIGNAL: B	SIGNAL: A,C,D,E,F
R, Y, Y, G, G	R, Y, G



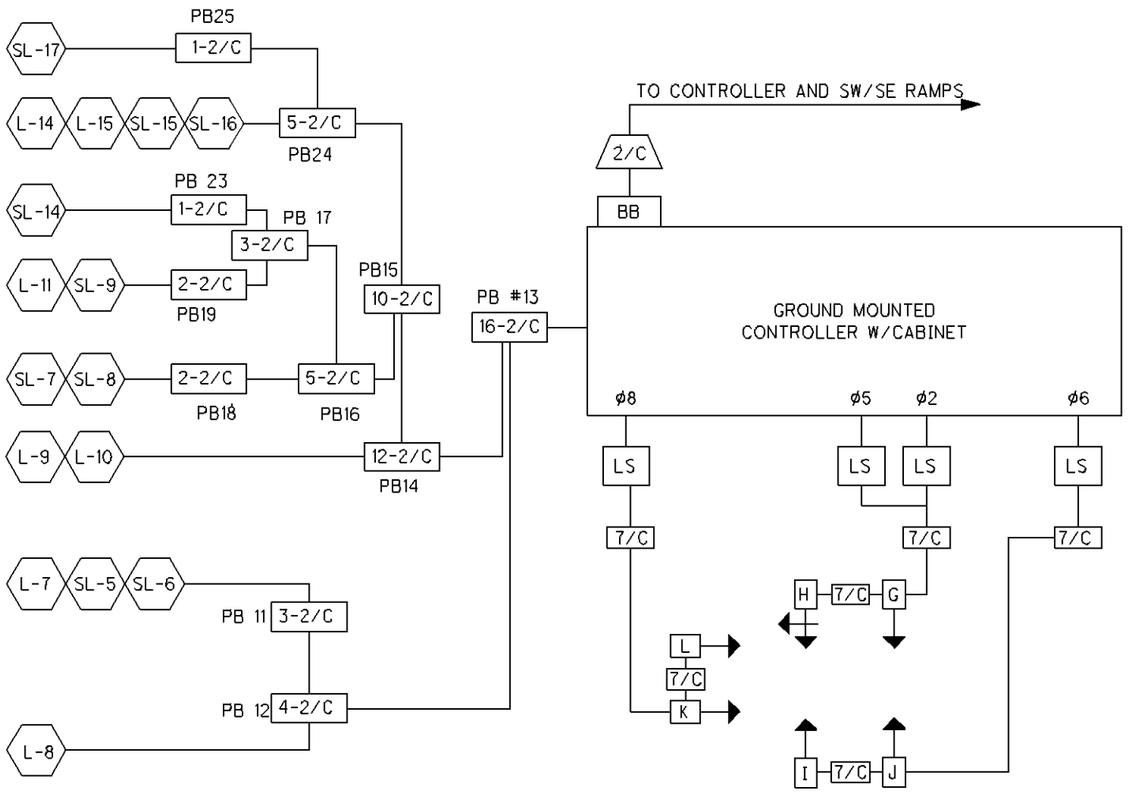
CALCULATED RJG
CHECKED BB

TRAFFIC SIGNAL PLAN DETAILS EASTBOUND RAMPS

LIC-158-0.56

SR158_SDS_04.DGN 8/31/11

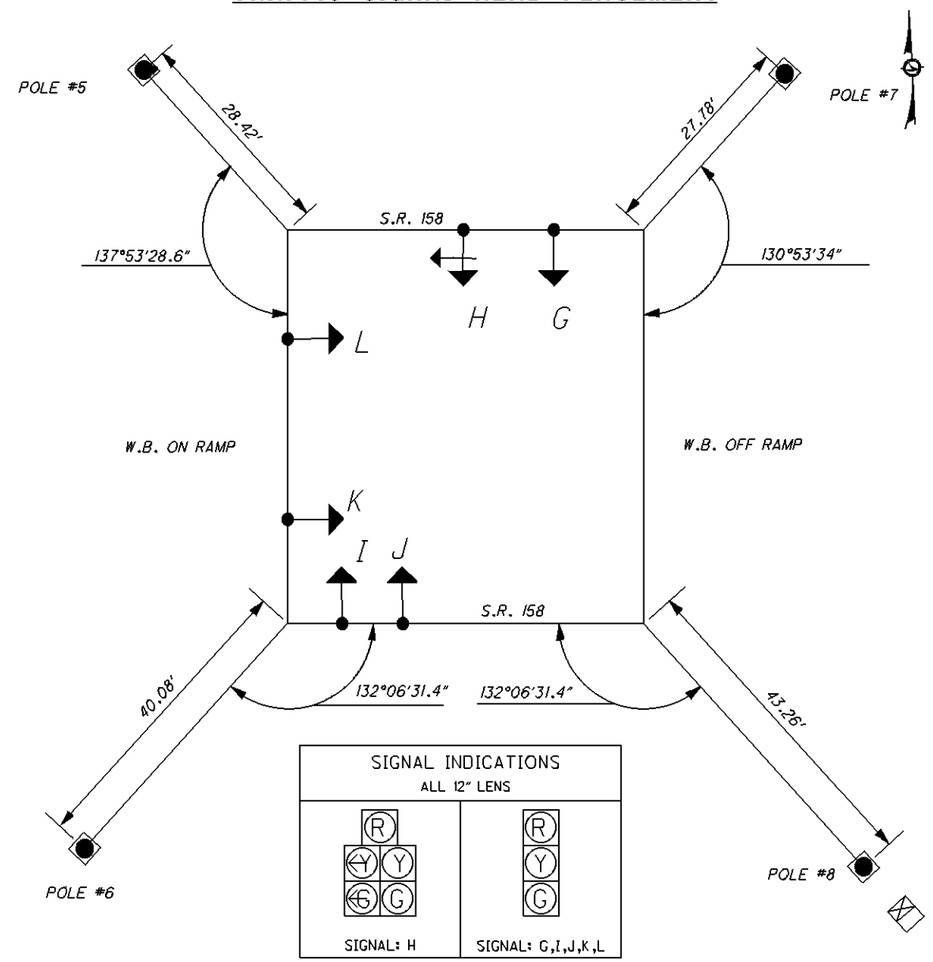
TRAFFIC SIGNAL WIRING DIAGRAM

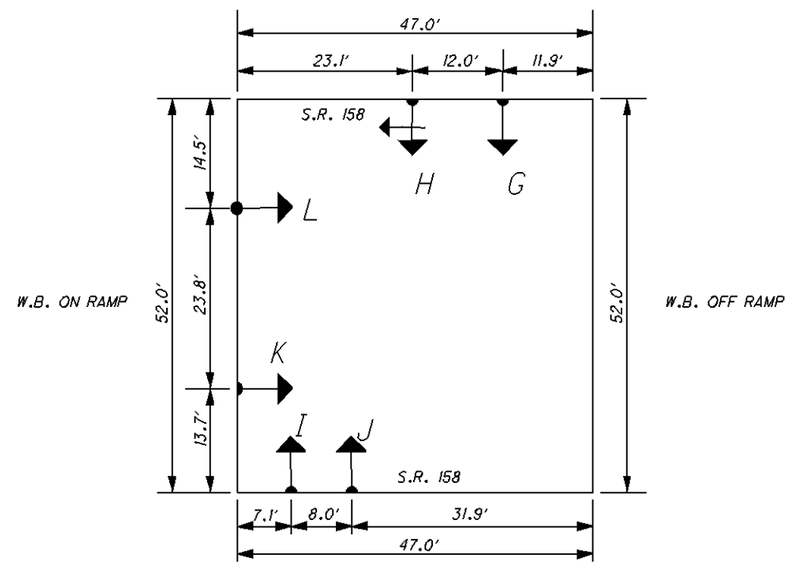


LEGEND

- SIGNAL HEAD WITH TURN ARROW
- SIGNAL HEAD
- L-1 — VEHICLE DETECTOR LOOP
- DS — 30 AMP DISCONNECT SWITCH
- BB — BATTERY BACKUP
- MB — METER BASE
- 2/C OR 3/C #8 AWG POWER CABLE
- LS — LOAD SWITCH
- 2/C — 2/C #14 AWG (LEAD-IN CABLE)
- 7/C — 7/C #14 AWG SIGNAL CABLE

TRAFFIC SIGNAL HEAD PLACEMENT





CALCULATED RJG
DRAWN BB

TRAFFIC SIGNAL PLAN DETAILS WESTBOUND RAMPS

LIC-158-0.56

171
219

SR158_SDS_04.DGN 8/31/11

EASTBOUND ON/OFF RAMP SIGNALS

SIGNAL DISPLAY SCHEDULE

PHASE	Ø1 & Ø6		Ø2 & Ø6		Ø4		FLASH
HEAD	R/W	C/L	R/W	C/L	R/W	C/L	
A	G	Y	G	Y	R	R	Y
B	G ←G	G ←Y	G	Y	R	R	Y
C	R	R	G	Y	R	R	Y
D	R	R	G	Y	R	R	Y
E	R	R	R	R	G	Y	R
F	R	R	R	R	G	Y	R

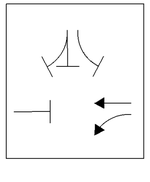
TRAFFIC SIGNAL DETECTOR CHART

LOOP DESIGNATION	CONTROLLER PHASE	SIZE (FT)	PULSE OR PRESENCE	EXTENSION (SEC.)	DELAY (SEC.)	DELAY INHIBITED DURING	CONNECT TO DETECTOR UNIT (Unit-Channel)	LOOP DETECTION TYPE
L-1		6'X6'	PULSE					
L-2		6'X6'	PULSE					
L-3		6'X30'	PRESENCE					P.D.
L-4		6'X30'	PRESENCE					P.D.
L-5		6'X30'	PRESENCE		8 SEC			P.D.
L-6		6'X6'	PULSE					
L-12		6'X6'						
L-13		6'X6'						
SL-1		6'X6'	PULSE					
SL-2		6'X6'						
SL-3		6'X6'						
SL-4		6'X6'	PULSE					
SL-10		6'X6'						
SL-11		6'X6'						
SL-12		6'X6'	PULSE					
SL-13		6'X6'	PULSE					

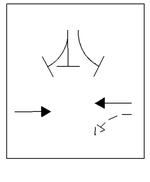
P.D. - POWERHEAD DETECTION LOOP

SIGNAL PHASING

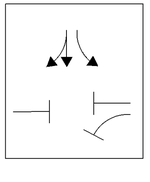
ϕ 1 & ϕ 6



ϕ 2 & ϕ 6



ϕ 4



WESTBOUND ON/OFF RAMP SIGNALS

SIGNAL DISPLAY SCHEDULE

PHASE	Ø5 & Ø2		Ø2 & Ø6		Ø8		FLASH
HEAD	R/W	C/L	R/W	C/L	R/W	C/L	
G	G	Y	G	Y	R	R	Y
H	G ←G	G ←Y	G	Y	R	R	Y
I	R	R	G	Y	R	R	Y
J	R	R	G	Y	R	R	Y
K	R	R	R	R	G	Y	R
L	R	R	R	R	G	Y	R

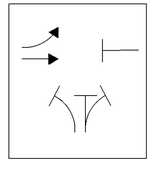
TRAFFIC SIGNAL DETECTOR CHART

LOOP DESIGNATION	CONTROLLER PHASE	SIZE (FT)	PULSE OR PRESENCE	EXTENSION (SEC.)	DELAY (SEC.)	DELAY INHIBITED DURING	CONNECT TO DETECTOR UNIT (Unit-Channel)	LOOP DETECTION TYPE
L-7	6	6'X6'	PULSE					
L-8	6	6'X6'	PULSE					
L-9	7	6'X30'	PRESENCE					P.D.
L-10	4	6'X30'	PRESENCE					P.D.
L-11	4	6'X30'	PRESENCE		8 SEC			P.D.
L-14	3	6'X6'	PULSE					
L-15		6'X6'	PULSE					
SL-5		6'X6'						
SL-6		6'X6'						
SL-7		6'X6'	PULSE					
SL-8		6'X6'	PULSE					
SL-9		6'X6'						
SL-14		6'X6'	PULSE					
SL-15		6'X6'						
SL-16		6'X6'						
SL-17		6'X6'	PULSE					

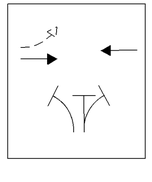
P.D. - POWERHEAD DETECTION LOOP

SIGNAL PHASING

ϕ 2 & ϕ 5



ϕ 2 & ϕ 6



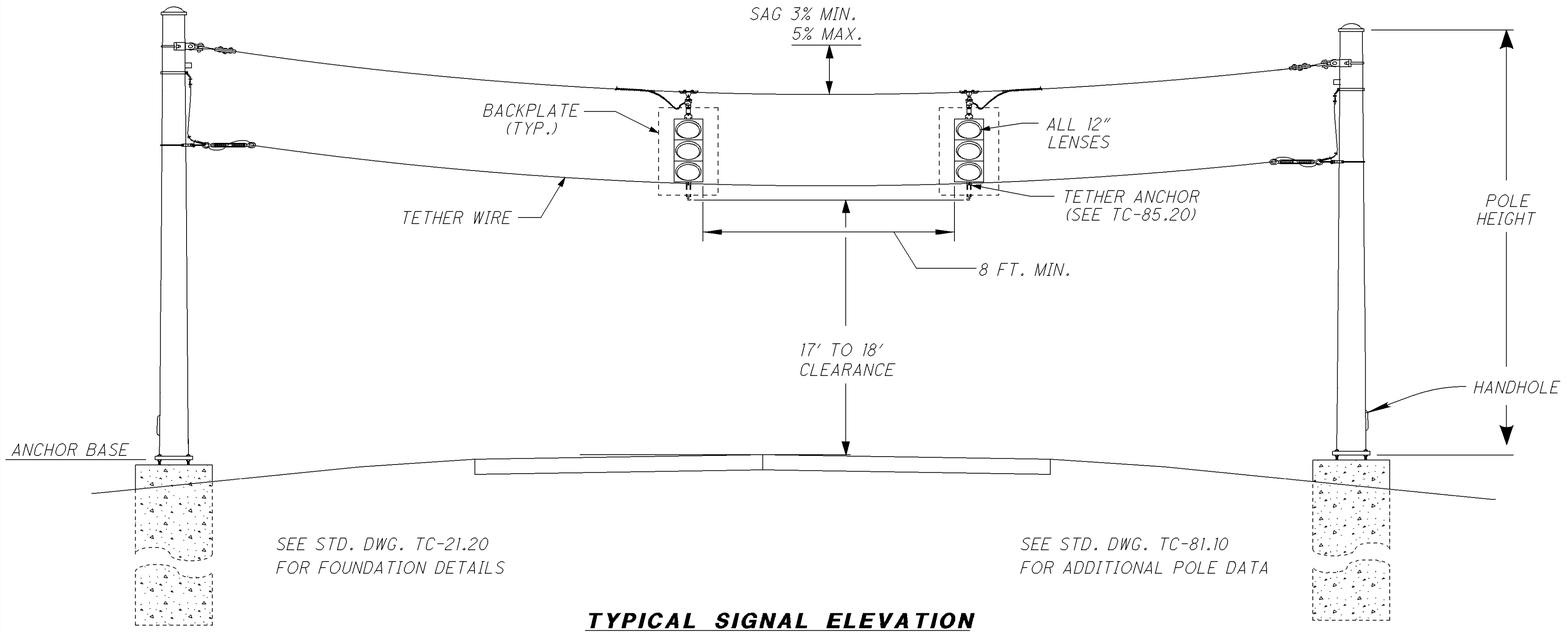
ϕ 8

CALCULATED RJG
CHECKED BB

TRAFFIC SIGNAL PLAN DETAILS

LIC-158-0.56

84700_SDS_05.DGN 9/01/2011



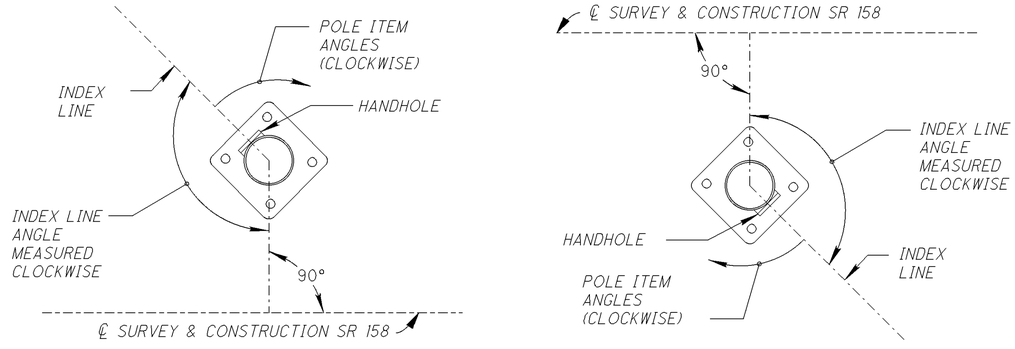
TYPICAL SIGNAL ELEVATION

NOTES:

(1) THE CONTRACTOR SHALL ATTACH THE MESSENGER WIRE AT A HEIGHT THAT PROVIDES ADEQUATE CLEARANCE TO THE SIGNAL HEADS AS SHOWN IN THE SIGNAL ELEVATION VIEW. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE THE PROPER CLEARANCE WITHOUT THE USE OF DROP PIPES.

(2) ELECTRICAL SERVICE SHALL BE AS PER TC-83.10, AND ORIENTATED AT THE ANGLE SHOWN IN THE TABLE.

SIGNAL POLE DIAGRAM



SUPPORT NO.	REFERENCE ROADWAY	MINIMUM STANDARD DESIGN NO.	POLE HEIGHT (FEET)	STATION	OFFSET	FOUNDATION ELEVATION	INDEX LINE ANGLE	ANGLES FROM INDEX LINE		
								POWER SERVICE	CABLE ENTRANCE 12" FROM TOP	HANDHOLE
1	SR 158	10	32	46+88.91	57.5' LT.	968.51	225.0°		180°	0°
2	SR 158	10	32	45+91.90	46.0' LT.	968.60	135.0°		180°	0°
3	SR 158	10	32	46+82.00	55.5' RT.	969.24	135.0°		180°	0°
4	SR 158	10	32	45+91.75	45.8' RT.	968.32	225.0°		180°	0°

SIGNAL POLE ORIENTATION CHART EASTBOUND RAMPS

SUPPORT NO.	REFERENCE ROADWAY	MINIMUM STANDARD DESIGN NO.	POLE HEIGHT (FEET)	STATION	OFFSET	FOUNDATION ELEVATION	INDEX LINE ANGLE	ANGLES FROM INDEX LINE		
								POWER SERVICE	CABLE ENTRANCE 12" FROM TOP	HANDHOLE
5	SR 158	10	32	55+09.02	45.2' LT.	963.63	225.0°		180°	0°
6	SR 158	10	32	54+17.22	55.0' LT.	965.27	135.0°		180°	0°
7	SR 158	10	32	55+08.82	45.3' RT.	964.74	135.0°		180°	0°
8	SR 158	10	32	54+10.40	57.0' RT.	965.94	225.0°		180°	0°

SIGNAL POLE ORIENTATION CHART WESTBOUND RAMPS

CALCULATED RJG CHECKED BB

TRAFFIC SIGNAL PLAN DETAILS

LIC-158-0.56

84700_SDS_01.DGN 8/30/2011

SHEET NO.	LOCATION BR = BULL RING	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, 2", 725.05 FT	625 CONDUIT, 3", 725.05 FT	625 CONDUIT JACKED OR DRILLED, 725.04, 3" FT	625 TRENCH, 24" DEEP, AS PER PLAN FT	625 PULL BOX, 725.08, 18" EACH	625 PULL BOX, 725.08, 24" EACH	625 GROUND ROD, AS PER PLAN EACH	632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 3-SECTION, 12" LENS, 1-WAY WITH BACKPLATE, A.P.P. EACH	632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY WITH BACKPLATE, A.P.P. EACH	632 COVERING OF VEHICULER SIGNAL HEAD EACH	632 DETECTOR LOOP EACH	632 LOOP DETECTOR LEAD-IN CABLE FT.	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG. FT.	632 POWER SERVICE, AS PER PLAN EACH	632 SERVICE CABLE, 2-CONDUCTOR, NO. 8 AWG. FT.	632 POWER CABLE, 3-CONDUCTOR, NO. 8 AWG. FT.	632 TETHER WIRE, WITH ACCESSORIES FT.	632 STRAIN POLE FOUNDATION EACH	632 STRAIN POLE, TYPE TC-81.10, DESIGN 10 EACH	632 MESSENGER WIRE, 7 STRAND, 7/16" DIAMETER WITH ACCESSORIES FT.	632 REMOVAL OF TRAFFIS SIGNAL INSTALLATION, AS PER PLAN EACH	633 CONTROLLER WORK PAD EACH	633 CABINET FOUNDATION' AS PER PLAN EACH	633 CABINET RISER EACH	633 CONTROLLER UNIT, TYPE 2070L, WITH CABINET, TYPE 332, AS PER PLAN EACH	633 UNINTERRUPTABLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN EACH	625 STRUCTURE GROUNDING SYSTEM EACH
	S.R. 158 SOUTH OF BRIDGE																													
164	PB#1 TO PB#2		150			150	1						1	160																
164	PB#2 TO PB#3		109			109	1						1	238																
164	PB#3 TO PB#4		190			190	1						2	800																
164	PB#5 TO PB#6			61		61		1						355																
164	PB#6 TO CONTROLLER #1			10		5		1						195											1	1	1	1	1	1	
164	PB#10 TO PB#7		200			200	1						2	420																
164	PB#8 TO PB#7				73			1					1	415																
164	PB#7 TO PB#6			19		19		1						174																
164	POLE #1 TO POLE #1 (BR)								1											43	1	1	43							
164	POLE #1 (BR TO POLE #2 (BR)																			55			55							
164	POLE #2 TO POLE #2 (BR)								1											32	1	1	32							
164	POLE #2 (BR) TO POLE #4 (BR)									1	1	2			54					45			45							
164	POLE #4 TO POLE #4 (BR)								1											32	1	1	32							
164	POLE #4 (BR) TO POLE #3 (BR)									2		2			168					55			55							
164	POLE #1 (BR) TO POLE #3 (BR)									2		2			38					45			45							
164	POLE #3 (BR) TO POLE #3								1						205					43	1	1	43							
164	EXISTING POWER POLE TO PB#26			100		100											100													
164	PB#26 TO PB#27			44		44	1										54													
164	PB#27 TO CONTROLLER			54		54	1										64													
164	CONTROLLER TO PB#28		17			17	1										27													
164-165	PB#28 TO PB#29		250			250	1										250													
165	PB#29 TO PB#30 (BRIDGE)	185					1										380													
	S.R. 158 NORTH OF BRIDGE																													
165	PB#11 TO PB#12		170			170	1						2	360																
165	PB#12 TO PB#13		38			38	1						1	144																
165	PB#19 TO PB#17		180			180	1						1	190																
165	PB#17 TO PB#16		52		52			1						124																
165	PB#18 TO PB#16		90			90	1						2	200																
165	PB#16 TO PB#15		120			120		1						520																
165	PB#14 TO PB#13			43	43			1					2	477																
165	PB#13 TO CONTROLLER#2			10		5								180											1	1	1	1	1	1	
165	POLE #5 TO POLE #5 (BR)								1											29	1	1	29							
165	POLE #5 (BR) TO POLE #7 (BR)									1	1	2			37					47			47							
165	POLE #7 TO POLE #7 (BR)								1											29	1	1	29							
165	POLE #7 (BR) TO POLE #8 (BR)														52					52			52							
165	POLE #5 (BR) TO POLE #6 (BR)									2		2			49					52			52							
165	POLE #6 TO POLE #6 (BR)								1											39	1	1	39							
165	POLE #6 (BR) TO POLE #8 (BR)									2		2			100					47			47							
165	POLE #8 (BR) TO POLE #8								1						130					44	1	1	44							
165	POLE #8 TO CONTROLLER#2			15		5									45	1	26													
165	PB#31 TO PB#13		261			261											271													
165	PB#13 TO CONTROLLER			10				1									10													
	TOTAL SIGNAL QUANTITES THIS SHEET	185	2,197	366	168	2,438	13	8	8	10	2	12	15	4,868	878	1	1,182		689	8	8	689	2	2	2	2	2	2		
	TOTALS FROM SHEET 175		1,947	75		2,022	7	2					10	3,115															1	
	TOTALS FROM INTERCONNECT QUANTITIES	555	118			138	4																							991
	TOTALS CARRIED TO GENERAL SUMMARY	740	4,262	441	168	4,598	24	10	8	10	2	12	25	7,983	878	1	1,182		689	8	8	689	2	2	2	2	2	2	1		991

SHEET NO.	INTERCONNECT QUANTITIES LOCATION	625 CONDUIT, 2" 725.04 FT.	625 CONDUIT, 2" 725.05 FT.	625 TRENCH 24" DEEP AS PR PLAN FT.	625 PULL BOX, 725.08, 18" EACH	632 INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39) FT.
165	CONTROLLER#1 TO PB#6					15
165	PB#6 TO PB#7					30
165	PB#7 TO PB#10					210
165	PB#10 TO ICPB#2		63	63	1	73
165	ICPB#2 TO ICPB#3	185		10	1	390
165	ICPB#3 TO PB#11		55	55		65
165	PB#11 TO PB#12					135
165	PB#12 TO PB#13					55
165	PB#13 TO CONTROLLER#2					18
165	ICPB#1 TO ICPB#4(FUTURE USE)	370		10	2	
	INTERCONNECT QUANTITIES	555	118	138	4	991

CALCULATED RJG
CHECKED BB

TRAFFIC SIGNAL SUBSUMMARY S.R. 158

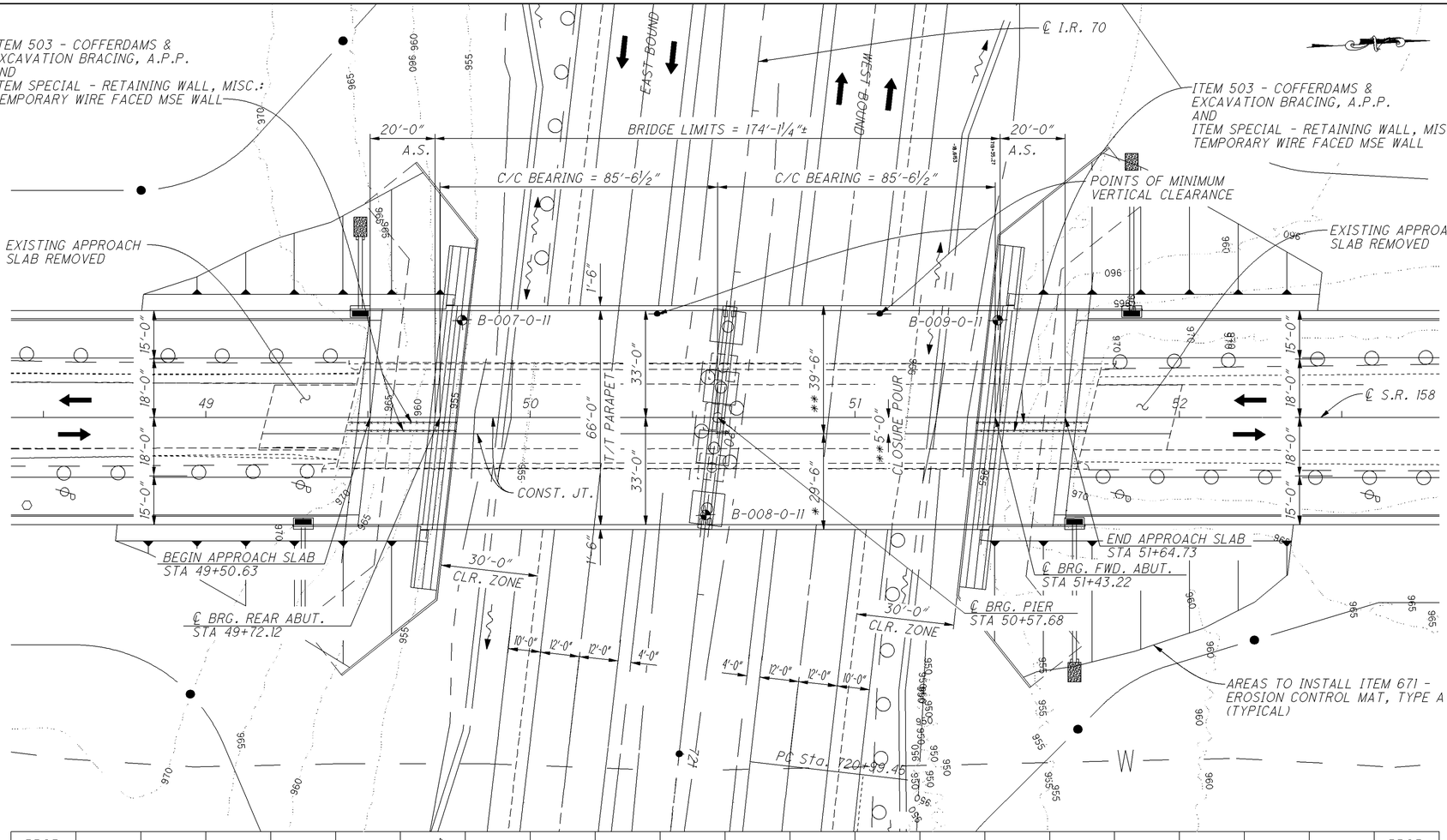
LIC-158-0.56

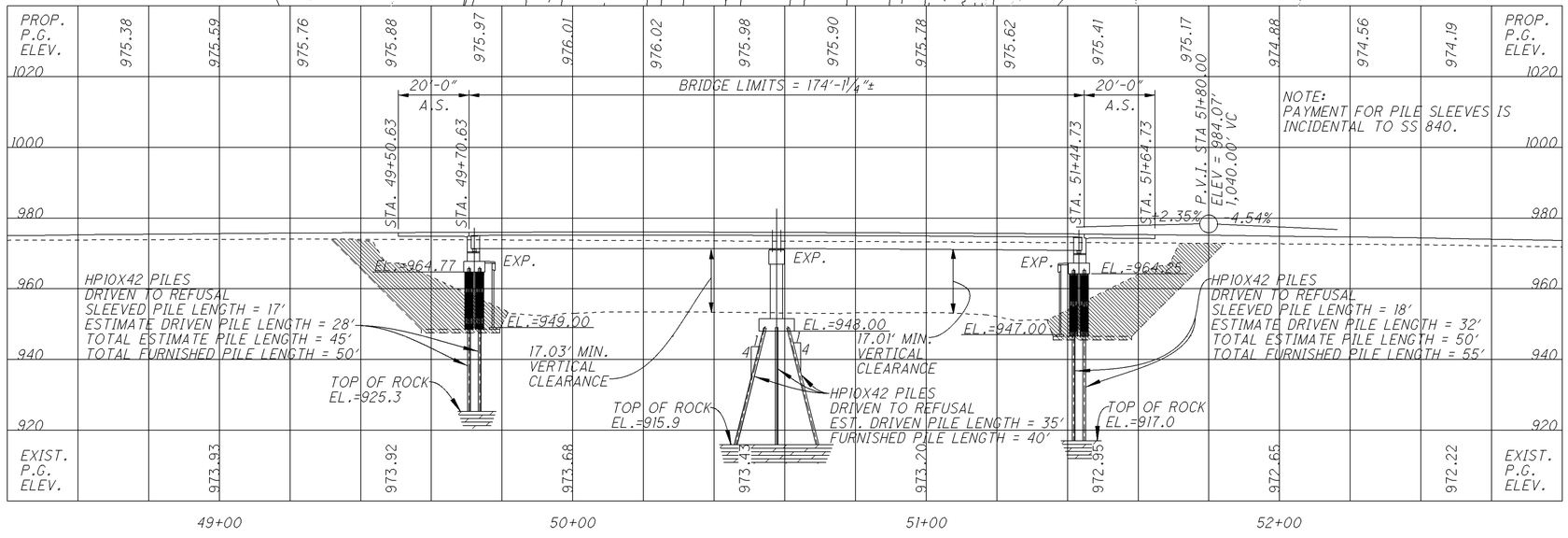
SHEET NO.	LOCATION	625							632																	
		CONDUIT, 2", 725.05	CONDUIT,3", 725.05	CONDUIT JACKED OR DRILLED, 725.04, 3"	TRENCH, 24" DEEP, AS PER PLAN	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 24"	STRUCTURE GROUNDING SYSTEM				DETECTOR LOOP	LOOP DETECTOR LEAD-IN CABLE													
	S.R. 158 RAMPS @ I.R. 70	FT	FT	FT	FT	EACH	EACH	EACH				EACH	FT.													
166	NORTHWEST RAMP																									
166	PB#23 TO PB#17	196			196	1						1	206													
167	NORTHEAST RAMP																									
167	PB#25 TO PB#24	617			617	1						1	627													
167	PB#24 TO PB#15	154			154	1						2	492													
167	PB#15 TO PB#14		42		42		1						364													
168	SOUTHWEST RAMP																									
168	PB#21 TO PB#20	658			658	1						1	668													
168	PB#20 TO PB#9	143			143	1						2	459													
168	PB#9 TO PB#8	62			62	1						2	360													
169	SOUTHEAST RAMP																									
169	PB#22 TO PB#5	117			117	1						1	127													
169	PB#4 TO PB#5		33		33		1						172													
179	BRIDGE - LIC-158-0097							1																		
	TOTALS CARRIED TO SHEET 174	1,947	75		2,022	7	2	1				10	3,115													

CALCULATED RJG CHECKED BB

TRAFFIC SIGNAL SUBSUMMARY (N.W., N.E., S.W. & S.E. RAMPS)

LIC-158-0.56





BENCHMARK DATA

BM #1
TOP OF ⅝" REBAR WITH O.D.O.T. CAP; 25.00 FEET LEFT OF EXISTING S.R. 158 CENTERLINE STATION 47+04.16
ELEVATION = 970.338

BM #2
TOP OF 1" REBAR WITH PUNCH MARK; 91.47 FEET RIGHT OF EXISTING S.R. 158 CENTERLINE STATION 50+46.04
ELEVATION = 952.148

BM #3
TOP OF ⅝" REBAR WITH O.D.O.T. CAP; 22.39 FEET RIGHT OF EXISTING S.R. 158 CENTERLINE STATION 55+41.81
ELEVATION = 964.115

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 18/219

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2013 ADT = 9,260 2013 ADTT = 2,038
2033 ADT = 11,750 2033 ADTT = 2,585
DIRECTIONAL DISTRIBUTION = 60%

LEGEND

- BORING LOCATION
- ▨ - APPROXIMATE LIMITS OF MSE WALL EXCAVATION OPERATION
- * - PHASE 1 CONSTRUCTION
- ** - PHASE 2 CONSTRUCTION
- ● 17'-0" REQUIRED MINIMUM VERTICAL CLEARANCE
  17.03' PROPOSED MINIMUM VERTICAL CLEARANCE (REAR SPAN)
  17.01' PROPOSED MINIMUM VERTICAL CLEARANCE (FWD. SPAN)

EXISTING STRUCTURE (SFN: 4505344)

TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUB-STRUCTURES.

SPANS: 50'-0"; 62'-6"; 62'-6"; 50'-0"
ROADWAY: 28'-0" F/F OF 2'-0" SAFETY CURB
LOADING: CF = 400 (51)
SKEW: 14°-22' L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 20'-0" WIDE X 25'-0" LONG
ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT
STRUCTURAL FILE NUMBER: 4505344
DATE BUILT: 1958

PROPOSED STRUCTURE (SFN: 4505352)

TYPE: 2 SPAN CONTINUOUS PRESTRESSED CONCRETE I GIRDER WITH REINFORCED CONCRETE DECK ON REINFORCED CONCRETE SEMI-INTEGRAL ABUTMENTS AND CAP AND COLUMN PIER
SPANS: 85'-6½", 85'-6½"
ROADWAY: 66'-0" TOE/TOE PARAPET
LOADING: HL-93
SKEW: 6°-30'-00" L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 20 FEET LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT
COORDINATES: LATITUDE 39°56'41.56"
LONGITUDE -82°36'00.51"

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

LICKING COUNTY
STA. 48+75.00
STA. 52+75.00

SITE PLAN
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

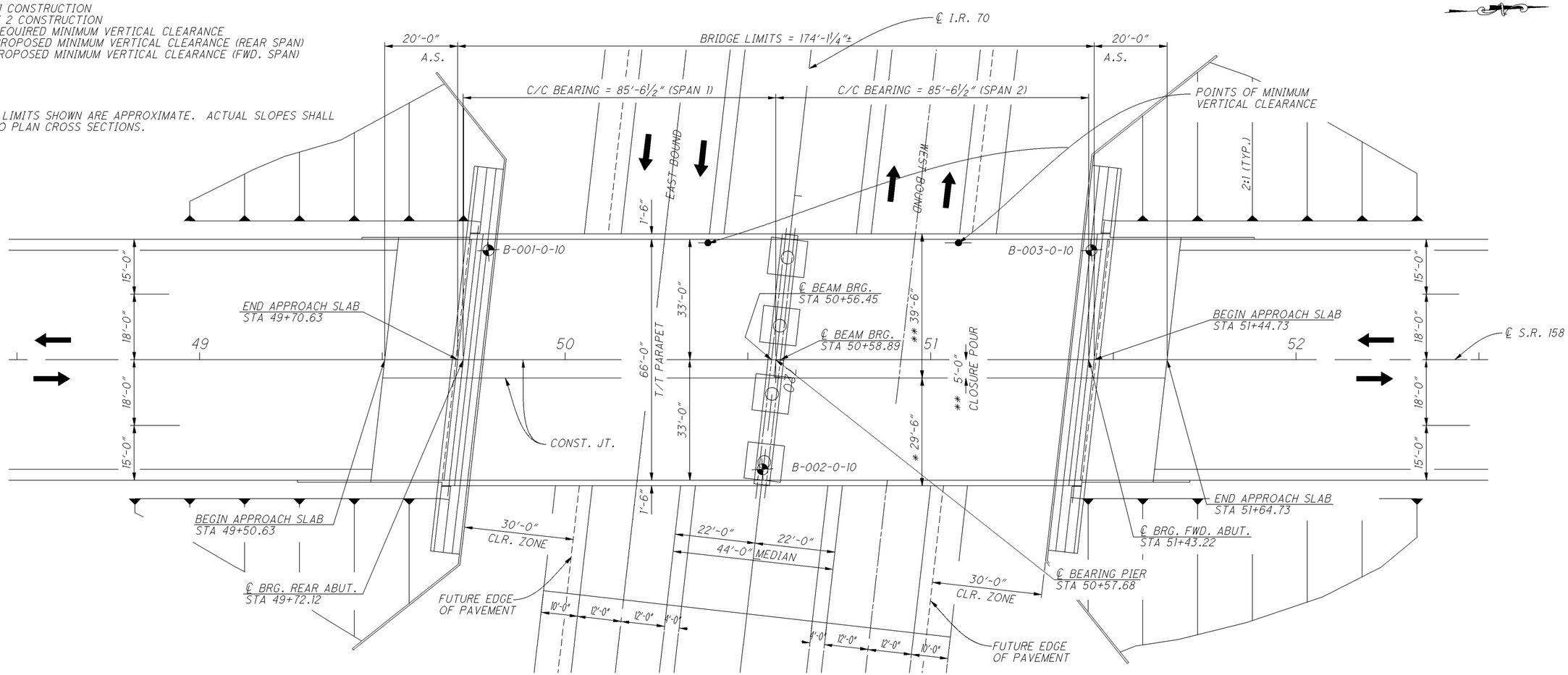
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\ General\84700_BSP_001.DGN (SCALE=20.000) DATE: 10/14/10

LEGEND

* - PHASE 1 CONSTRUCTION
** - PHASE 2 CONSTRUCTION
● -17'-0" REQUIRED MINIMUM VERTICAL CLEARANCE
17.03' PROPOSED MINIMUM VERTICAL CLEARANCE (REAR SPAN)
17.01' PROPOSED MINIMUM VERTICAL CLEARANCE (FWD. SPAN)

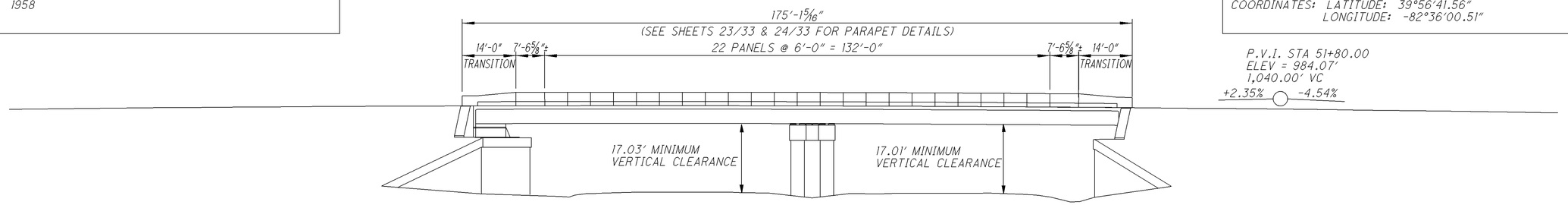
NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.



EXISTING STRUCTURE (SFN: 4505344)

TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUB-STRUCTURES.
SPANS: 50'-0"; 62'-6"; 62'-6"; 50'-0"
ROADWAY: 28'-0" F/F OF 2'-0" SAFETY CURB
LOADING: CF = 400 (51)
SKEW: 14°-22' L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG
ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT
STRUCTURAL FILE NUMBER: 4505344
DATE BUILT: 1958



PROPOSED STRUCTURE (SFN: 4505352)

TYPE: 2 SPAN CONTINUOUS PRESTRESSED CONCRETE I GIRDER WITH REINFORCED CONCRETE DECK ON REINFORCED CONCRETE SEMI-INTEGRAL ABUTMENTS AND CAP AND COLUMN PIER
SPANS: 85'-6½", 85'-6½"
ROADWAY: 66'-0" TOE/TOE PARAPET
LOADING: HL-93
SKEW: 6°-30'-00" L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 20 FEET LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT
COORDINATES: LATITUDE: 39°56'41.56"
LONGITUDE: -82°36'00.51"

P.V.I. STA 51+80.00
ELEV = 984.07'
1,040.00' VC
+2.35% -4.54%

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

BRIDGE PLAN & ELEVATION
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

2 / 33

177
219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPE_001.DGN (SCALE=20.000) DATE: 9/20/11

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81 DATED/REVISED 7/19/02
PCB-91 DATED/REVISED 7/19/02
PSID-1-99 DATED/REVISED 7/18/08
SICD-1-96 DATED/REVISED 7/19/02
SBR-1-99 DATED/REVISED 7/19/02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
840 DATED/REVISED 10/21/2011
898 DATED/REVISED 7/15/2011

DESIGN SPECIFICATIONS
DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2010, INCLUDING THE 2010 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007 EXCEPTED AS NOTED ELSEWHERE IN THE PLANS.

LOAD MODIFIER FOR OPERATIONAL IMPORTANCE
OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING
DESIGN LOADING: DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA
DESIGN DATA:
CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QSC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7000 PSI.
COMPRESSIVE STRENGTH (RELEASE) - 5000 PSI

PRESTRESSING STRAND:
AREA = 0.167 SQUARE INCHES
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL.
2.5" CONCRETE COVER.

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202 - WEARING COURSE REMOVED
THIS ITEM SHALL BE PERFORMED ON THE EXISTING:

APPROACH SLABS
- STA 49+18.79 TO STA 49+43.79
- STA 51+73.43 TO STA 51+98.43
QUANTITY = (25'x20')x2/9 = 111.11 S.Y.

BRIDGE DECK
- STA 49+43.79 TO STA 51+73.43
QUANTITY = (229.46'x28')/9 = 714.44 S.Y

TOTAL QUANTITY CARRIED TO BRIDGE SUMMARY:
111.11 S.Y. + 714.44 S.Y. = 826 S.Y.

PILE DRIVING CONSTRAINTS
PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV) OR TO REFUSAL ON BEDROCK, CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PILE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. AT LEAST THREE FEET OF PILE MUST EXTEND ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF CMS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV OR TO REFUSAL ON BEDROCK UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND A 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV OR TO REFUSAL ON BEDROCK. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH. IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

PILES TO BEDROCK
PILES TO BEDROCK: DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING WEAK BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING STRONG BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. INSTEAD OF DRIVING TO REFUSAL, THE CONTRACTOR MAY PERFORM DYNAMIC LOAD TESTING ACCORDING TO C&MS 523 TO ESTABLISH A DRIVING CRITERIA FOR EACH PILE TYPE AND CAPACITY. ESTABLISH THE DRIVING CRITERIA TO ACHIEVE AN ULTIMATE BEARING VALUE THAT IS 1.5 TIMES THE TOTAL FACTORED LOAD GIVEN BELOW FOR THE PILES. PAYMENT FOR DYNAMIC LOAD TESTING PERFORMED AT THE CONTRACTOR'S OPTION IS INCLUDED IN THE UNIT PRICE PAY ITEM FOR PILES DRIVEN.

THE TOTAL FACTORED LOAD IS 151 KIPS PER PILE FOR THE REAR AND FORWARD ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 202 KIPS PER PILE FOR THE PIER PILES.

REAR ABUTMENT PILES:
HP10X42 PILES 50 FEET LONG, ORDER LENGTH
PIER PILES:
HP10X42 PILES 40 FEET LONG, ORDER LENGTH
FORWARD ABUTMENT PILES:
HP10X42 PILES 55 FEET LONG, ORDER LENGTH

PILE SPLICES
PILE SPLICES: IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
262 RUTHERFORD BLVD.
CLIFTON, NEW JERSEY 07014

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | REVIEWED DTF | DATE 11-1-2011
CHECKED TAG | REVISED | STRUCTURE FILE NUMBER 4505352

BRIDGE NOTES
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

ITEM 507, STEEL POINTS OR SHOES, AS PER PLAN

ITEM 507, STEEL POINTS, AS PER PLAN: USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. FURNISH STEEL POINTS FROM THE FOLLOWING MANUFACTURES/SUPPLIERS: ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014, PHONE: (973)773-8400, (800)526-9047, FAX: (973) 773-8442; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015, PHONE: (704)821-8200, (888)423-8721, FAX: (704)821-8201; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417, PHONE: (201)337-5748, FAX: (201)337-9022; VERSA STEEL INC., 1618 N.E. FIRST AVE., PORTLAND, OREGON 97232, PHONE: (503)287-9822, (800)678-0814, FAX: (503)287-7483; VERSABITE PILING ACCESSORIES, 1704 TOWER INDUSTRIAL DR., MONROE, NORTH CAROLINA 28110, PHONE: (800)280-9950, (704)225-1566, FAX: (704)225-1567; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27/A27M 65/35 [450/240] - CLASS 2 - HEAT TREATED OR AASHTO M103/M103M 65/35 [450/240] - HEAT TREATED. WELD THE PILE POINTS TO THE PILE IN ACCORDANCE WITH AWS D1.5 OR THE MANUFACTURER'S WRITTEN WELDING PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED. SUBMIT A NOTARIZED COPY OF THE MILL TEST REPORT TO THE ENGINEER.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN: FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN: THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

THE BRIDGE DECK SHALL BE POURED PARALLEL TO THE SUBSTRUCTURE ORIENTATION (IE. PARALLEL TO THE SKEW ANGLE).

ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN

A 2¼" DEEP X ½" WIDE STRIP SHALL BE SAWCUT OUT OF ALL APPROACH SLAB SURFACE CONCRETE ABUTTING THE ENDS OF THE DECK AFTER THE DECK AND APPROACH SLABS HAVE BEEN CONSTRUCTED. IN LIEU OF SAWCUTTING AFTER CONSTRUCTION OF CONCRETE, THIS JOINT MAY BE FORMED PRIOR TO THE APPROPRIATE POUR PHASE. JOINT SEALER AS PER 705.04 SHALL BE USED TO FILL AND SEAL THE JOINT CREATED.

BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN

CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING BRIDGE RAILING INCLUDING BRACKETS SO AS NOT TO DAMAGE THE RAILING. THE REMOVED RAILING AND BRACKETS SHALL BE STORED ON THE JOB SITE WHERE IT WILL NOT BE DAMAGED. ONCE THE RAILING IS REMOVED THE LICKING COUNTY MANAGER SHALL BE NOTIFIED AT 740-323-5233 THAT THE RAILING IS READY TO BE PICKED UP BY STATE FORCES.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1 1/4" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE 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 1/4 INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

TEMPORARY SHEET PILING IS REQUIRED TO CONSTRUCT THE MSE WALLS ON THIS PROJECT AS PER THE PROPOSED MAINTENANCE OF TRAFFIC PLANS. THESE NOTES AND REQUIREMENTS ARE SPECIFIC TO EACH WALL REQUIRED.

TEMPORARY SHEET PILING SHALL BE INSTALLED AS REQUIRED TO FACILITATE CONSTRUCTION OF THE TEMPORARY WIRE FACED MSE WALL AND MAINTAIN TRAFFIC ON THE CURRENT S.R. 158. THE SHEETING SHALL BE DRIVEN PRIOR TO EXCAVATING FOR THE MSE WALLS AND TEMPORARY WIRE FACED MSE WALL.

THE CONTRACTOR SHALL PREPARE A DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05 AND 503. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING.

DECK PLACEMENT DESIGN ASSUMPTIONS:

DECK PLACEMENT DESIGN ASSUMPTIONS:
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.3 KIPS FOR A TOTAL MACHINE LOAD OF 10.6 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

HIGH STRENGTH BOLTS

HIGH STRENGTH BOLTS SHALL BE 1 ⅛" DIAMETER A325, TYPE I, GALVANIZED.

ITEM 515 - INTERMEDIATE DIAPHRAGMS, AS PER PLAN

IN LIEU OF THE OPTIONS STATED IN STD. DWG. PSID-1-99, THE INTERMEDIATE DIAPHRAGMS FOR THIS STRUCTURE SHALL BE STEEL MC 18 X 42.7 SECTIONS AS PER DETAILED IN STD. DWG. PSID-1-99.

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BNS_001.DGN (SCALE=1.000) DATE: 10/3/11

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

BRIDGE NOTES
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

WELDING

WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300 DEGREES F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BEARING REPOSITIONING

BEARING REPOSITIONING: IF THE GIRDERS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80 DEGREES F OR LOWER THAN 40 DEGREES F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60 DEGREES F (+/-) 10 DEGREES F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60 DEGREES F (+/-) 10 DEGREES F.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.5 (METHOD B) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. PERFORM THE LONG-TERM COMPRESSION PROOF LOAD TEST IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6 AND 18.7.4.5.

SCREED ELEVATIONS

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

ITEM 625 - STRUCTURE GROUNDING SYSTEM

IN ORDER TO PROPERLY GROUND THIS STRUCTURE, A QUANTITY OF 1 EACH - STRUCTURE GROUNDING SYSTEM IS CARRIED IN THE GENERAL SUMMARY, SHEET 46/219.

DECK SLAB CONCRETE QUANTITY

DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE TOPPING THICKNESSES SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP OF THE TOP FLANGE ALONG THE CENTERLINE OF THE I-BEAM ARE THEORETICAL DIMENSIONS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. THE DEPARTMENT WILL PAY FOR SUPERSTRUCTURE CONCRETE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE THEORETICAL HAUNCH DEPTHS AT MID-SPAN AND AT EACH BEAM BEARING EVEN THOUGH DEVIATION FROM THE DIMENSIONS SHOWN MAY BE NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE ACTUAL CAMBER FOR EACH MEMBER WILL BE THE TOP OF BEAM ELEVATION AT MID-SPAN MINUS THE AVERAGE TOP OF BEAM ELEVATION AT EACH BEARING. THE ACTUAL TOPPING THICKNESS AT MID-SPAN WILL BE THE THEORETICAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.

ABUTMENT DIAPHRAGM CONCRETE, PHASED CONSTRUCTION:

PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. A POSSIBLE SEQUENCE AND THESE LIMITS ARE SHOWN ON SHEET 19/33. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.

ITEM 671 - EROSION CONTROL MAT, TYPE A

PLACE THIS ITEM AS SHOWN ON THE SITE PLAN (SHEET 1/33)
REAR LEFT = 100' X 25.5026' AVG. WIDTH = 2550.26 S.F.
REAR RIGHT = 100' X 27.1217' AVG. WIDTH = 2712.17 S.F.
FORWARD LEFT = 100' X 34.7394' AVG. WIDTH = 3473.94 S.F.
FORWARD RIGHT = 100' X 37.8690' AVG. WIDTH = 3786.90 S.F.

GRAND TOTAL = 12,523.27 S.F. ÷ 9 = 1,391 SQ YD

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" x #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THRUOGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE 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 6 INCHES, ±, 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 6 INCHES, ±, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, 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 SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" 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, INCHES	D751	0.094±0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. x TRANS.)	D751	700 x 700
ADHESIVE STRIP, 1" WIDE x 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212°F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, -40°F, BEND AROUND ¼" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

CONSTRUCTION SEQUENCE

SEE GENERAL NOTES FOR MAINTENANCE OF TRAFFIC NOTES AND MAINTENANCE OF TRAFFIC DETAIL SHEETS TO PLAN SEQUENCE OF OPERATIONS. SEE SHEET 7/33 FOR BRIDGE PHASE CONSTRUCTION DETAILS.

SURFACE SMOOTHNESS FOR BRIDGES AND BRIDGE APPROACHES

SEE GENERAL NOTES SHEET 18/219.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

BRIDGE NOTES
BRIDGE NO. LIC-158-0097
S.R. 158 OVER T.R. 70

LIC-158-0.56

ITEM	ITEM EXT.	GRAND TOTAL		DESCRIPTION	SUPER.	ABUT.	PIERS	GENERAL	SEE SHEET NUMBER
				EROSION CONTROL					
671	15000	1391	SQ YD	EROSION CONTROL MAT, TYPE A **				1391	5/33
				DRAINAGE					
604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET **				4	
				LIGHTING					
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM **				1	
				STRUCTURES 20 FOOT AND OVER					
202	11002	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN					
202	22900	111	SQ YD	APPROACH SLAB REMOVED				111	
202	23500	826	SQ YD	WEARING COURSE REMOVED				826	
202	38601	474	FT	BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN				474	4/33
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					4/33
503	21300	LUMP		UNCLASSIFIED EXCAVATION					
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					
507	00100	3530	FT	STEEL PILES HP10X42, FURNISHED		2730	800		
507	00150	3170	FT	STEEL PILES HP10X42, DRIVEN		2470	700		
507	93301	72	EACH	STEEL POINTS OR SHOES, AS PER PLAN		52	20		4/33
509	10000	148,684	POUND	EPOXY COATED REINFORCING STEEL	108271	12901	27512		
515	15010	18	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 3	18				
515	20001	48	EACH	INTERMEDIATE DIAPHRAMS, AS PER PLAN	48				4/33, 13/33,& 15/33
516	13600	56	SQ FT	1" PREFORMED EXPANSION JOINT FILLER		56			
516	14021	161	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	161				5/33
516	14600	135	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB	135				27/33
516	31011	133	FT	2" DEEP JOINT SEALER, AS PER PLAN				133	4/33
516	44100	36	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE	36				
				(NEOPRENE) (1'-10" x 1'-1" x 2.9985")					
518	21200	88	CU YD	POROUS BACKFILL WITH FILTER FABRIC		88			
518	40000	192	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		192			
518	40010	12	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		12			
SPECIAL	610E60000	LUMP		SPECIAL - RETAINING WALL, MISC.: TEMPORARY WIRE FACED MSE WALL					28/33
840	20001	6160	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN					28/33 - 33A/33
840	21000	5254	CU YD	WALL EXCAVATION					
840	22000	816	SQ YD	FOUNDATION PREPARATION					
840	23000	7780	CU YD	SELECT GRANULAR BACKFILL					
840	25010	857	FT	6" DRAINAGE PIPE, PERFORATED					
840	25020	8	FT	6" DRAINAGE PIPE, NON-PERFORATED					
840	26000	381	FT	CONCRETE COPING					
840	26050	6160	SQ FT	AESTHETIC SURFACE TREATMENT					
840	27000	5	DAY	ON-SITE ASSISTANCE					
840	28000	LUMP		SGB INSPECTION AND COMPACTION TESTING					
898	10211	433	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN	433				4/33
898	10703	298	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=13"), AS PER PLAN				298	4/33, 26/33,& 27/33
898	11001	54	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN	54				4/33
898	20100	70	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)			70		
898	20160	211	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)		211			
898	20300	52	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)			52		

** - QUANTITY CARRIED TO THE GENERAL SUMMARY

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

REVIEWED DTF | DATE 11-1-2011 | STRUCTURE FILE NUMBER 4505352

DRAWN JDR | REVISED

DESIGNED JDR | CHECKED TAG

BRIDGE SUMMARY
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

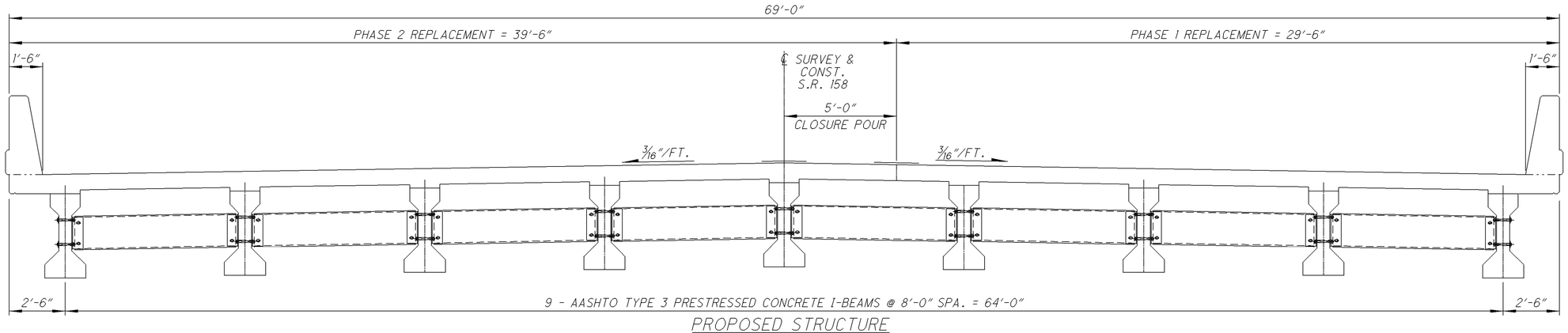
LIC-158-0.56

6 / 33

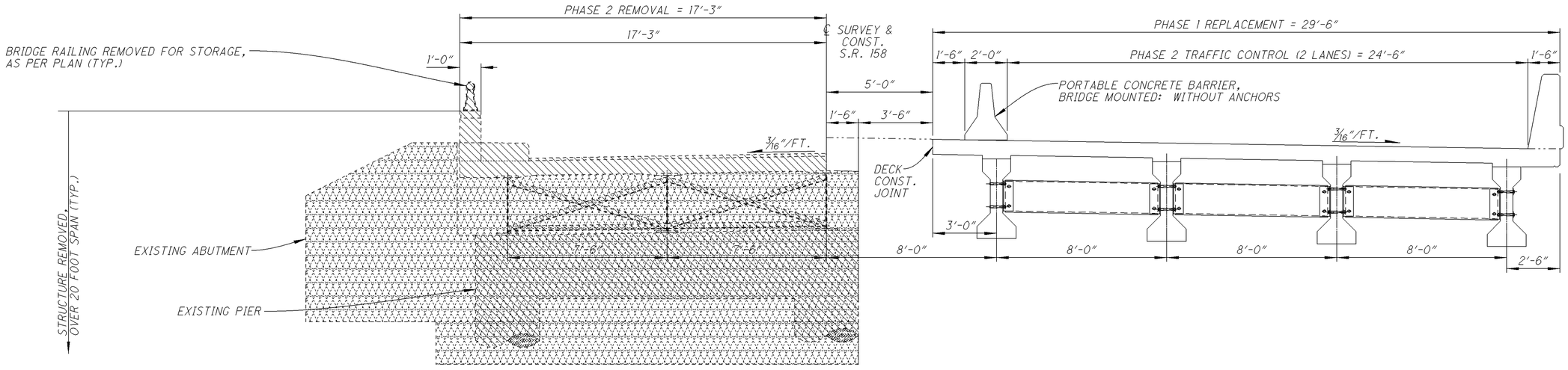
181 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BGS_001.DGN (SCALE=1.000) DATE: 10/23/11

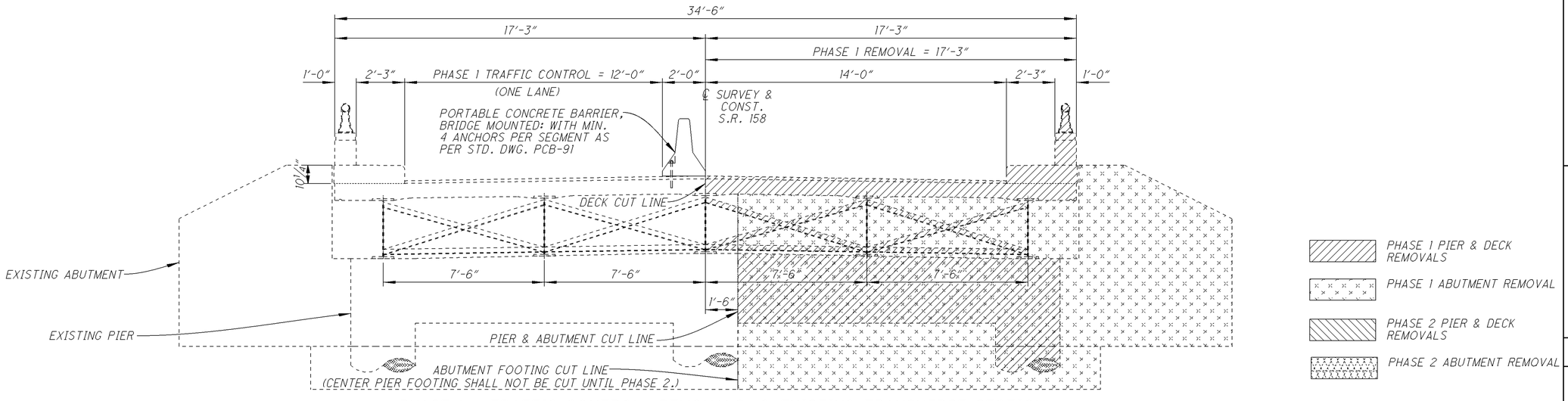
1 LANE (PHASE 1) & 2 LANES (PHASE 2) MAINTAINED



PROPOSED STRUCTURE



PHASE 2 - TRAFFIC CONTROL & REMOVALS



PHASE 1 - TRAFFIC CONTROL, REMOVALS, & EXISTING TRANSVERSE SECTION

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

TRAFFIC CONTROL & PHASE DIAGRAMS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

7 / 33

182 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\ General\84700_MOT_001.DGN (SCALE=2.666) DATE: 9/3/10

NOTE:
ALL PILES ARE HP10X42

LEGEND:
BATTERED PILING
(#) — PILING NUMBER

℄ PILES
℄ BEARING
℄ SURVEY & CONST. S.R. 158
106'-0"
6'-0"
3'-0"
1'-6"
1'-6"
1'-6"
5'-0"
5'-0"
4'-6"
3'-6"
6°30'0" SKEW TYP.
STA. 51+43.22 - FWD.
OFFSET: 0.00'
DECK CONST. JT.
ABUT. CONST. JT.
STA. 51+49.22
OFFSET: 52.66' LT.
57'-6" - PHASE 2 REPLACEMENT
2 ROWS - HP10X42 PILES - 12 SPA @ 8'0" = 96'-0"
48'-6" - PHASE 1 REPLACEMENT
STA. 51+37.22
OFFSET: 52.66' RT.

FORWARD ABUTMENT

10'-0" TYP.
7'-0" TYP.
3'-6" TYP.
3'-6" TYP.
1'-6" TYP.
1'-6" TYP.
1'-6" TYP.
10'-0" TYP.
7'-0" TYP.
3'-6" TYP.
1'-6" TYP.
STA. 50+61.43
OFFSET: 32.97' LT.
18'-9 7/16"
33'-2 3/16"
18'-9 7/16"
66'-4 3/8"
STA. 50+57.68 - PIER
OFFSET: 0.00'
PIER CONST. JT.
18'-9 7/16"
33'-2 3/16"
STA. 50+53.92
OFFSET: 32.97' RT.

STA. 49+78.14
OFFSET: 52.66' LT.
5'-0"
57'-6" - PHASE 2 REPLACEMENT
2 ROWS - HP10X42 PILES - 12 SPA @ 8'0" = 96'-0"
48'-6" - PHASE 1 REPLACEMENT
STA. 49+66.14
OFFSET: 52.66' RT.
5'-0"
4'-6"
3'-6"
5'-0"
6'-0"
1'-6"
1'-6"
3'-0"
6'-0"
1'-6"
℄ PILES
℄ BEARING
STA. 49+72.12 - REAR
OFFSET: 0.00'
ABUT. CONST. JT.
DECK CONST. JT.
℄ SURVEY & CONST. S.R. 158
106'-0"

PIER

REAR ABUTMENT

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

PILING LAYOUT
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

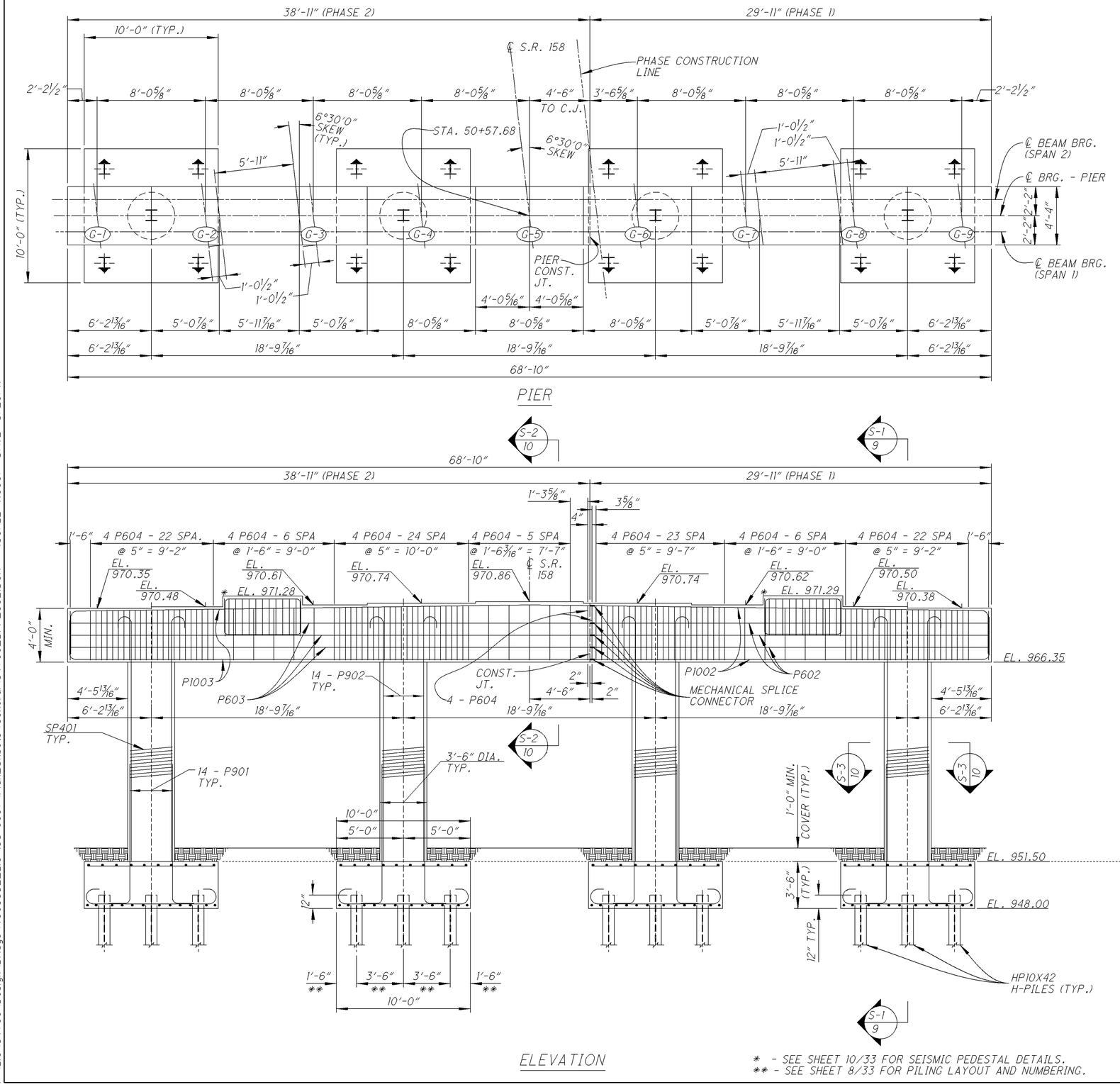
LIC-158-0.56

8 / 33

183
219

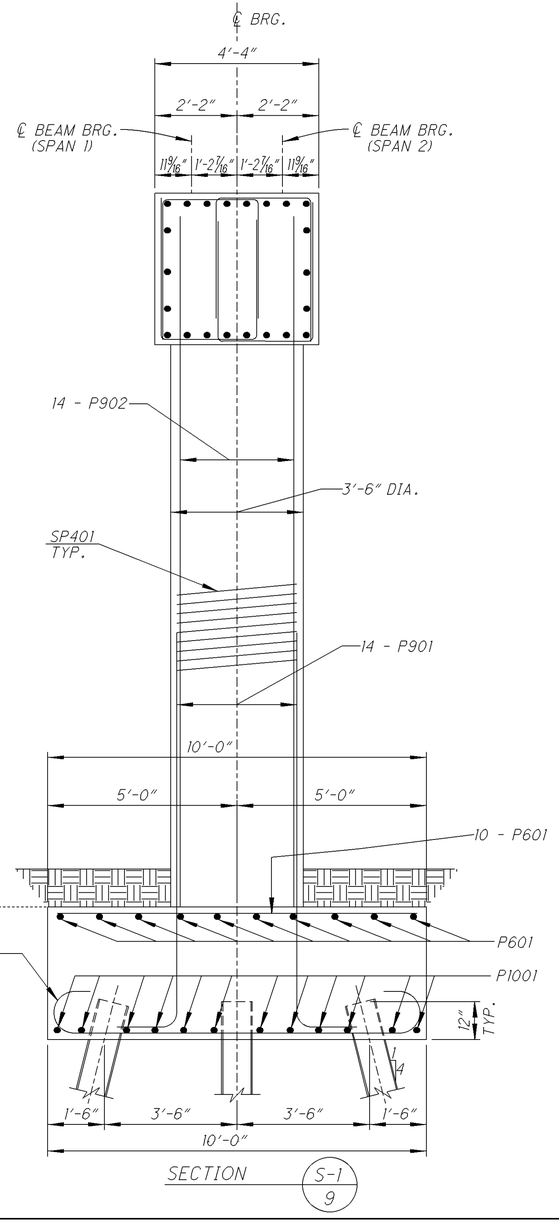
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPP_001.DGN (SCALE=4.000) DATE: 8/26/11

BATTERED PILING



ELEVATION

* - SEE SHEET 10/33 FOR SEISMIC PEDESTAL DETAILS.
** - SEE SHEET 8/33 FOR PILING LAYOUT AND NUMBERING.



SECTION S-1 / 9

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

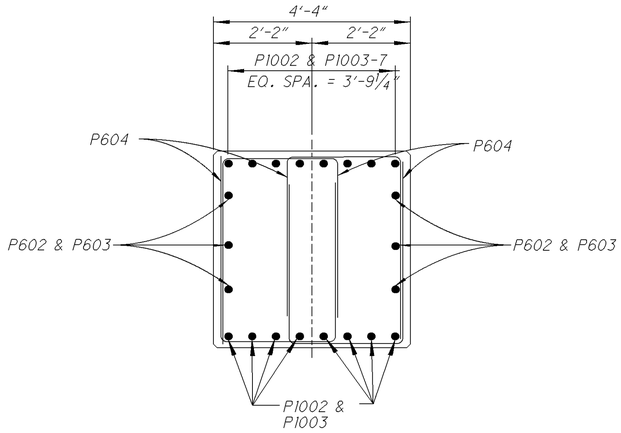
DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

PIER DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

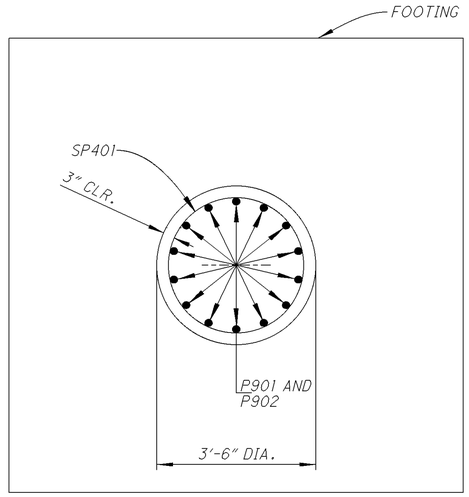
LIC-158-0.56

9 / 33

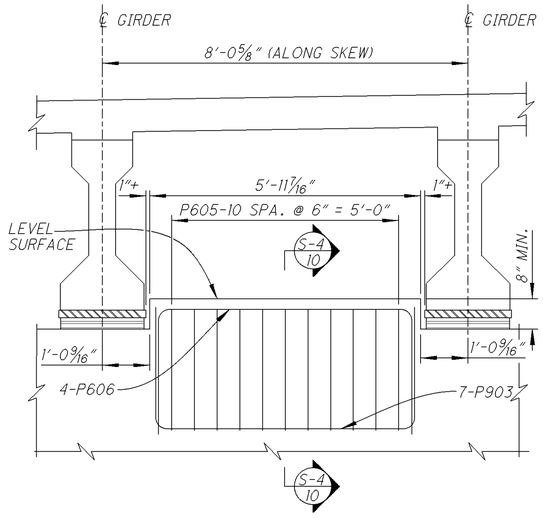
184 / 219



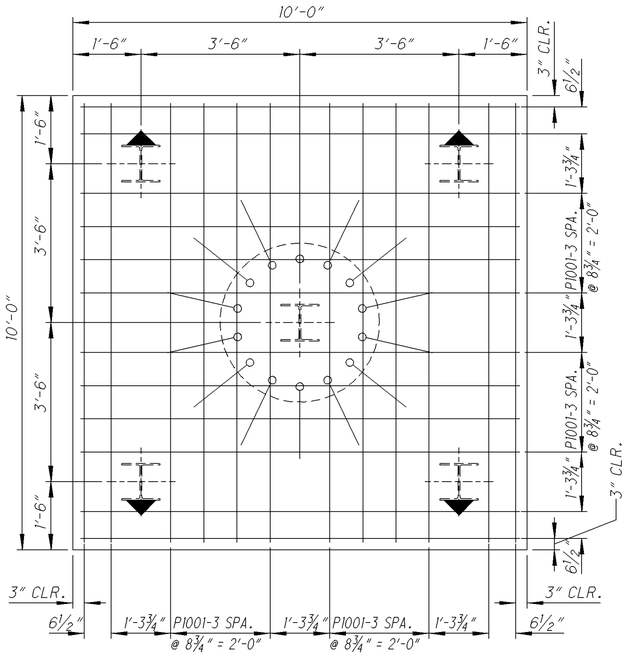
SECTION S-2 / 9



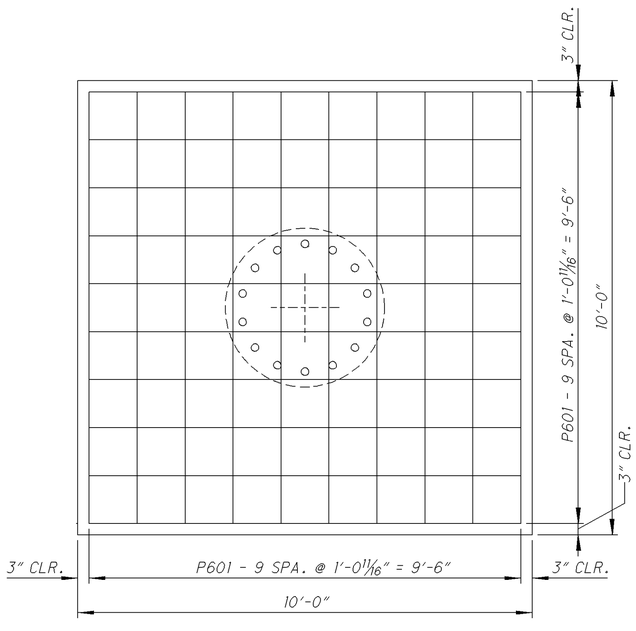
SECTION S-3 / 9



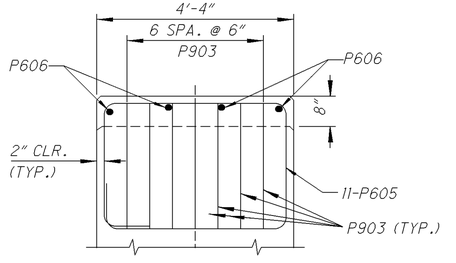
SEISMIC PEDESTAL DETAIL
(SHOWN NORMAL TO FACE OF PIER CAP)



FOOTING PLAN (BOTTOM MAT)



FOOTING PLAN (TOP MAT)



SECTION S-4 / 10

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

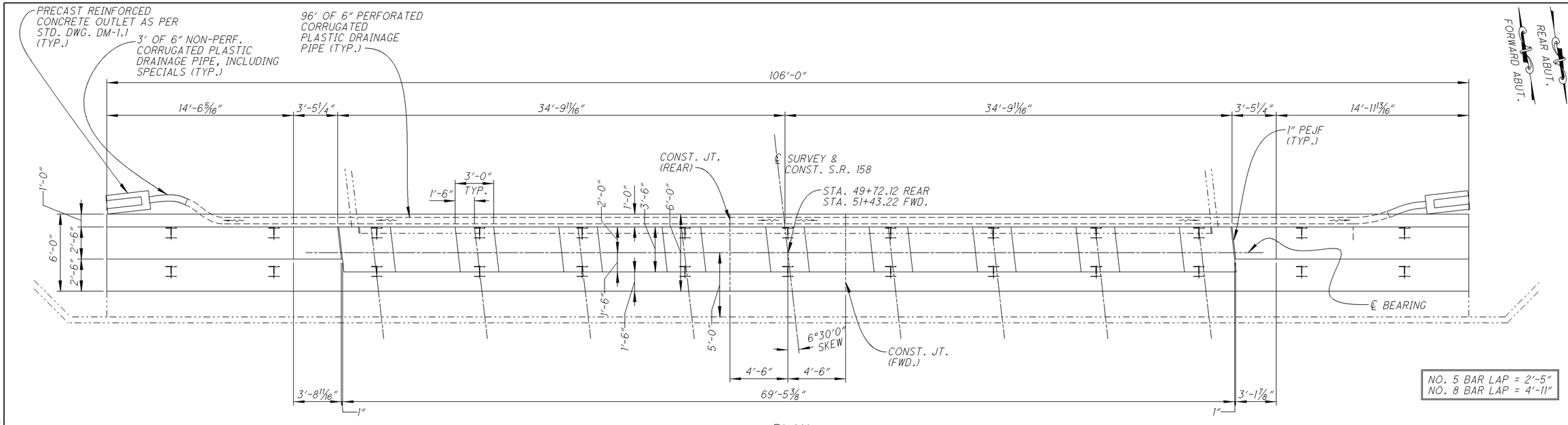
PIER DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

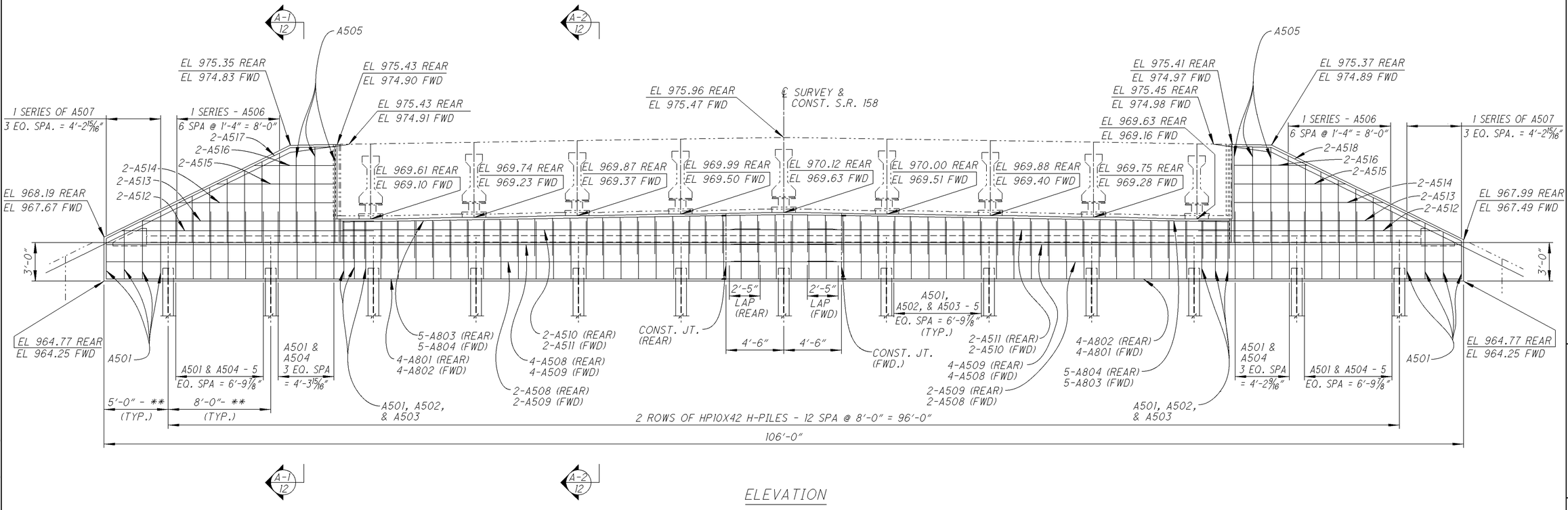
10 / 33

185 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPP_003.DGN (SCALE=1.6667) DATE: 9/26/11



PLAN



ELEVATION

NOTE: (REAR) = APPLICABLE TO REAR ABUTMENT ONLY
(FWD) = APPLICABLE TO FORWARD ABUTMENT ONLY

** - SEE SHEET 8/33 FOR PILING LAYOUT AND NUMBERING

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | REVIEWED DTF | DATE 11-1-2011
CHECKED TAG | REVISED | STRUCTURE FILE NUMBER 4505352

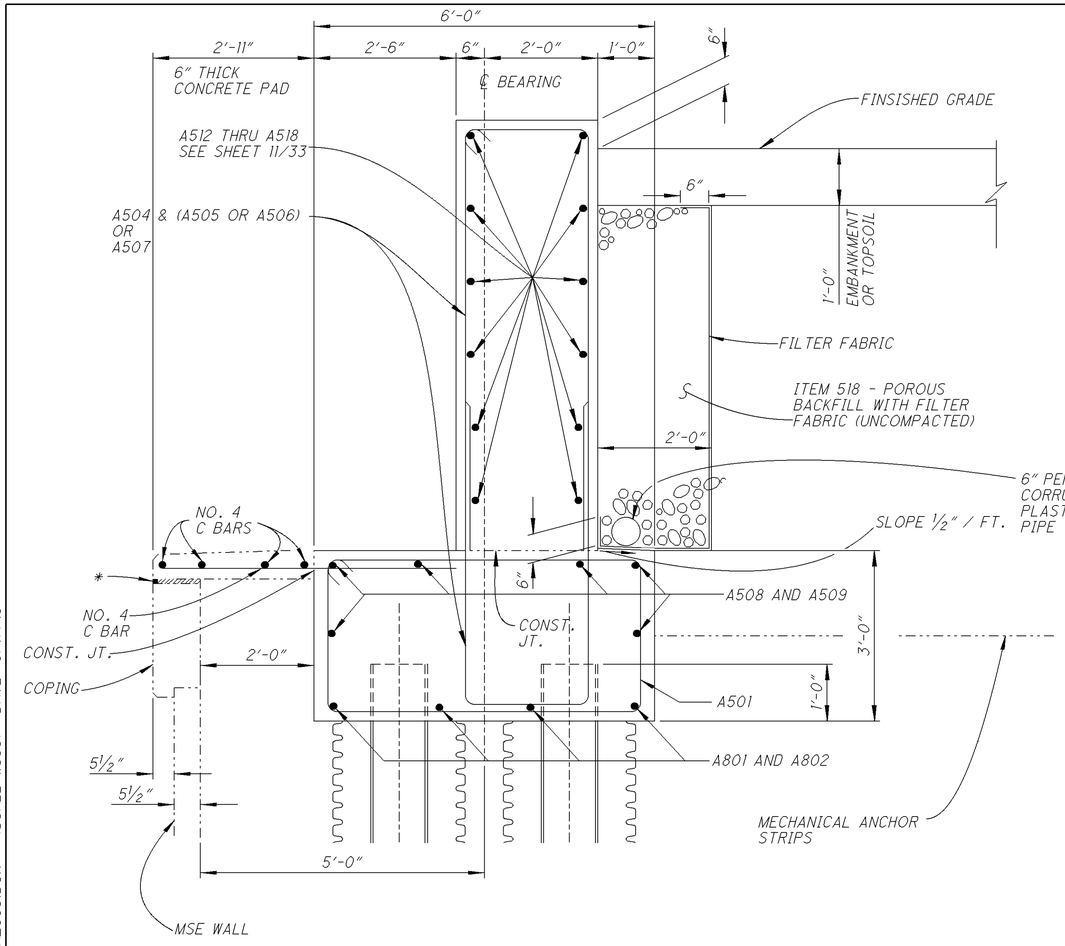
PROPOSED REAR & FORWARD ABUTMENT DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

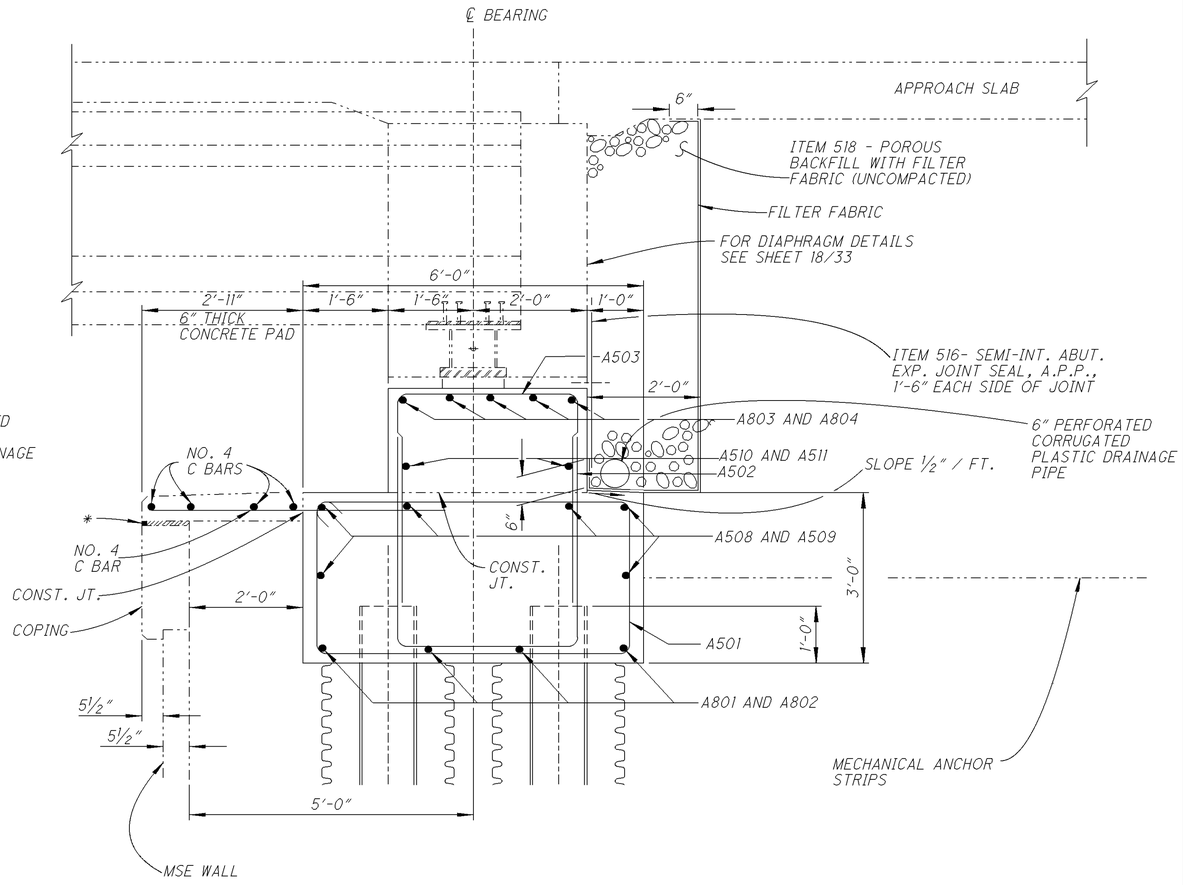
11 / 33

186
219

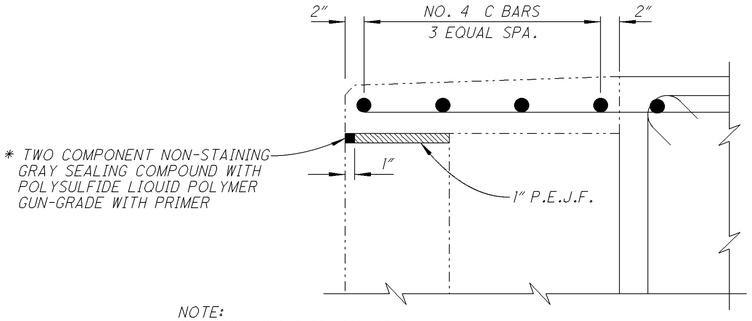
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPA_001.DGN (SCALE=4.000) DATE: 6/6/11



SECTION A-1 / 11



SECTION A-2 / 11



NOTE:
SEALING COMPOUND AND 1" P.E.J.F. CARRIED WITH MSE WALL FOR PAYMENT.

NOTE:
FOR ADDITIONAL 6" CONCRETE PAD DETAILS AND QUANTITIES INCLUDING "C" BARS SCHEDULE SEE SHEETS 28/33 THRU 33A/33.

NOTE:
CONTRACTOR SHALL DESIGN THE MECHANICAL ANCHOR STRIPS FOR THE RESISTANCE OF 7.0 KIPS PER FOOT OF WALL. PAYMENT FOR THE METAL ANCHOR STRIPS SHALL BE INCIDENTAL TO MSE WALL ITEM.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | REVIEWED DTF | DATE 11-1-2011
CHECKED TAG | REVISED | STRUCTURE FILE NUMBER 4505352

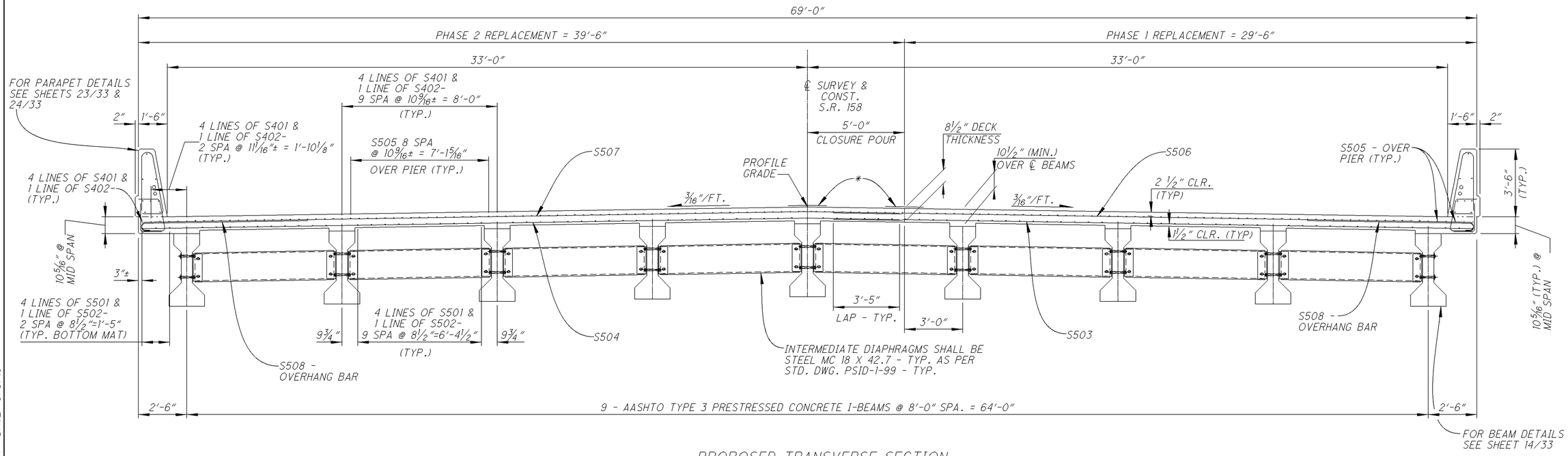
PROPOSED ABUTMENT DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

12 / 33

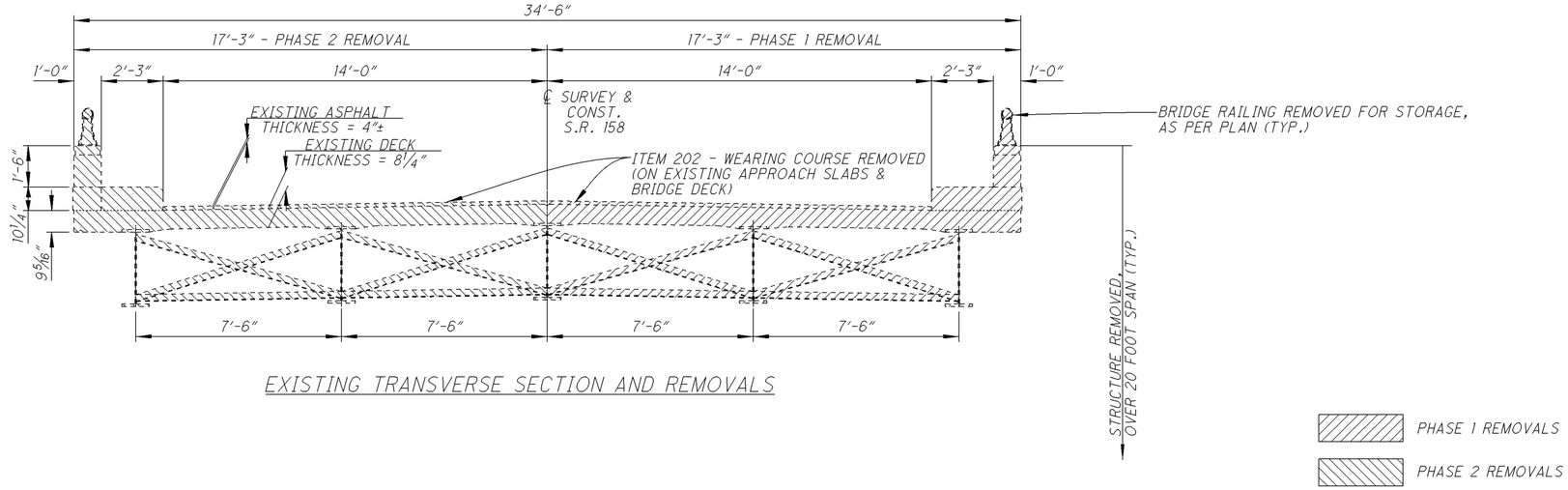
187 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\ General\84700_BPA_003.DGN (SCALE=1.333) DATE: 9/17/10



PROPOSED TRANSVERSE SECTION

* ALL LONGITUDINAL CONSTRUCTION JOINTS SHALL BE SEALED 2'-0" IN WIDTH WITH HMWM RESIN (SEE PROPOSAL NOTE). DECK SLAB SEALING TO BE INCLUDED IN ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN



EXISTING TRANSVERSE SECTION AND REMOVALS

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

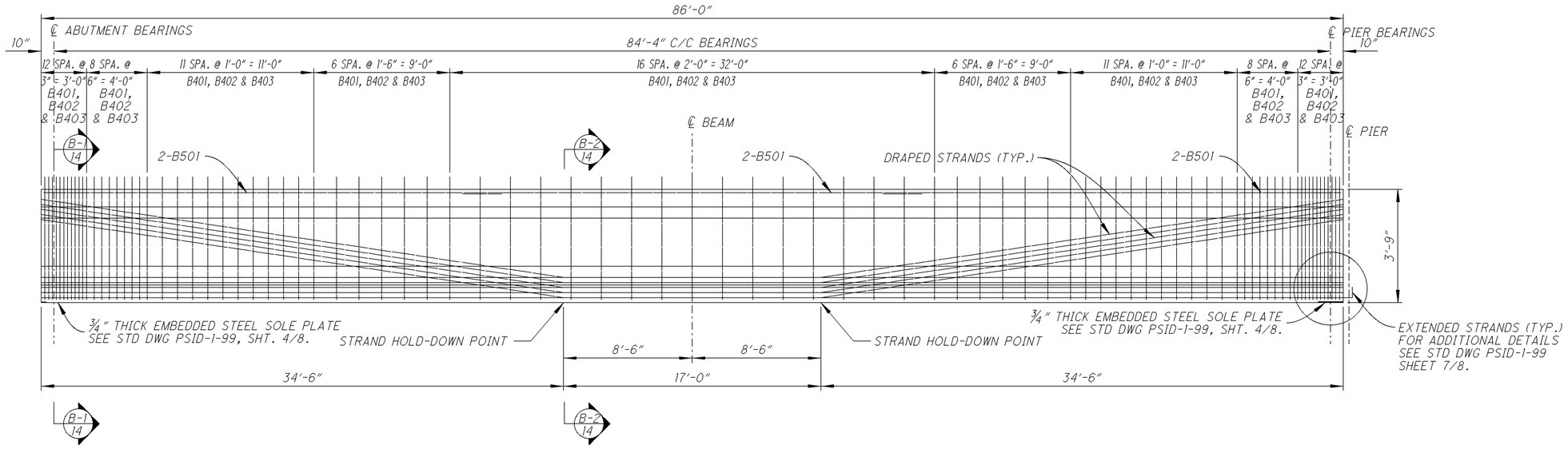
BRIDGE TRANSVERSE SECTION
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

13 / 33

188 / 219

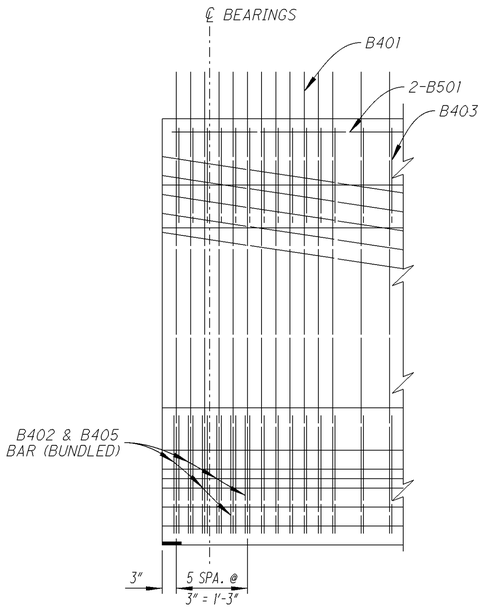
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BTS_001.DGN (SCALE=2.666) DATE: 9/3/10



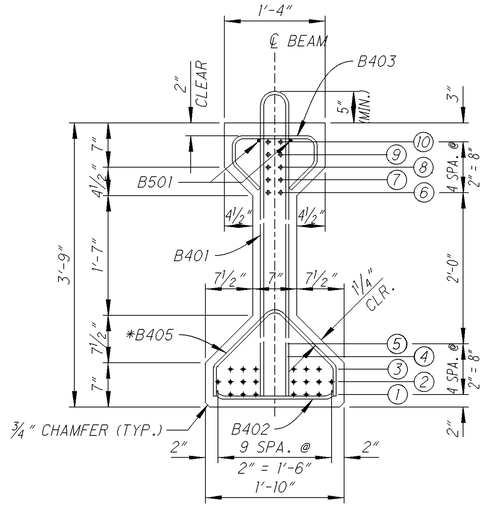
BEAM ELEVATION

(GIRDERS 1-9 SPANS 1&2)

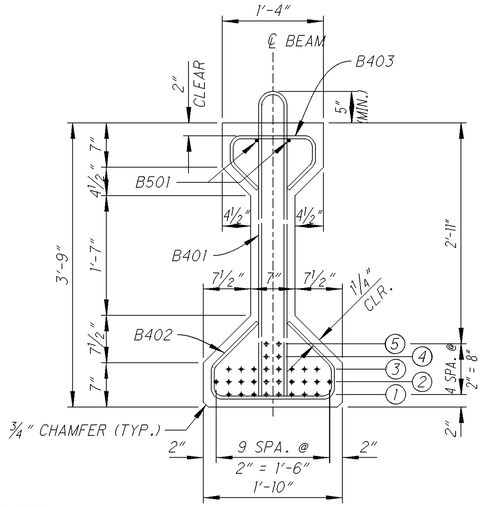
I-BEAM
LAP LENGTH
No. 5 = 2'-6"



ANCHORAGE REINFORCEMENT

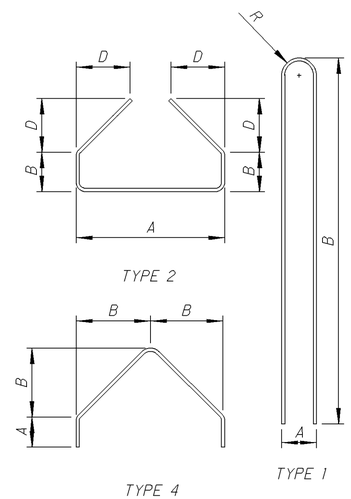


SECTION B-1 / 14



SECTION B-2 / 14

* - (ANCHORAGE STEEL ONLY)



BENDING DIAGRAMS

MARK	TYPE	DIMENSIONS				
		A	B	C	D	R
B401	1	4½"	4'-1"			1¾"
B402	2	1'-7½"	5¼"	7"	7"	
B403	2	1'-1½"	4½"	4"	4"	
B405	4	5¼"	9¾"			
B501	1	30'-3"				

NOTE:
SEE BRIDGE STANDARD DRAWING PSID-1-99 SHEET 1 TO 8 FOR OTHER DETAILS AND NOTES NOT SHOWN.

BEAM MARK	NUMBER OF STRANDS PER ROW																				TOTAL STRANDS	CONCRETE STRENGTHS		B401 BARS REQ'D.	B402 BARS REQ'D.	B403 BARS REQ'D.	B405 BARS REQ'D.	B501 BARS REQ'D.
	END ROW NUMBER										MIDSPAN ROW NUMBER											f'ci	f'c					
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10									
G1	6	8	6	0	0	2	2	2	2	2	8	10	8	2	2	0	0	0	0	0	30	5000	7000	89	89	89	12	6

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

REVIEWED DTF DATE 11-1-2011
STRUCTURE FILE NUMBER 4505352

DRAWN JDR
REVISED

DESIGNED JDR
CHECKED TAG

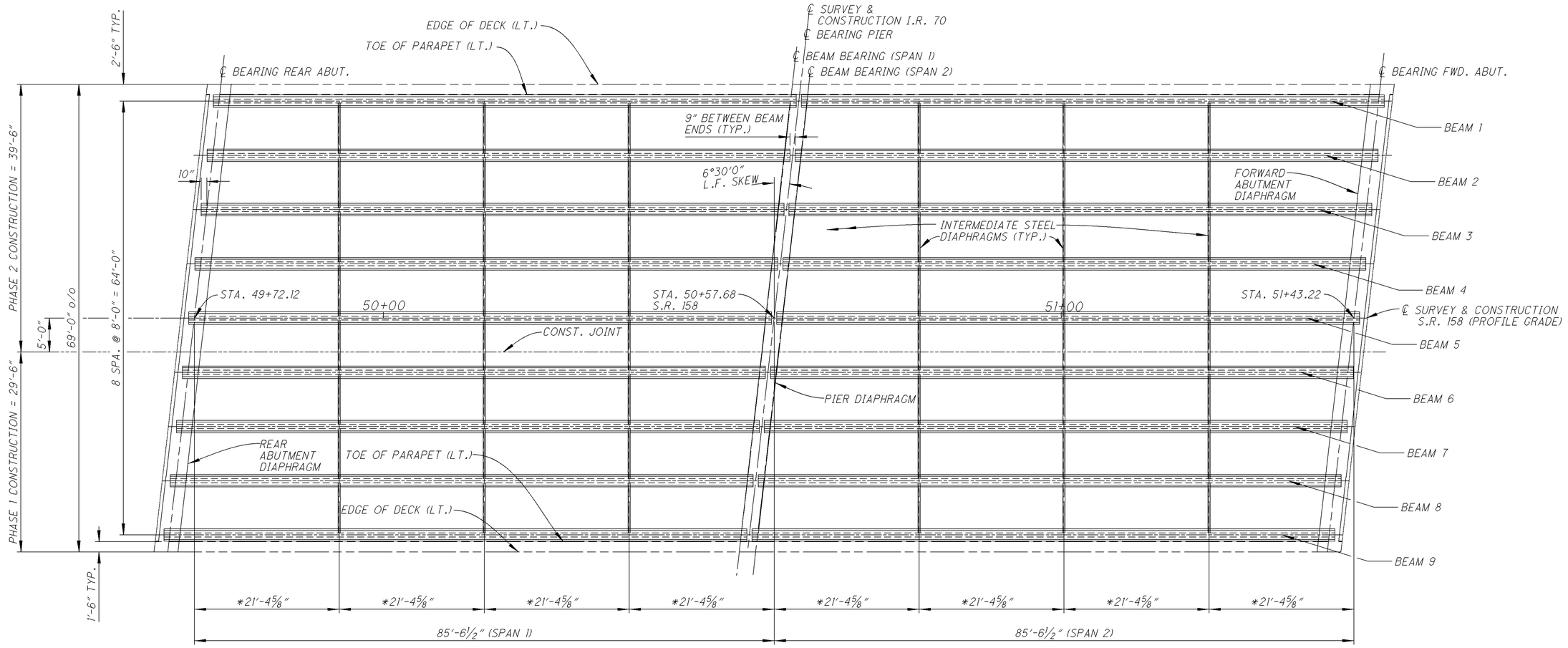
SUPERSTRUCTURE DETRAILS (I-BEAM)
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

14 / 33

189 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\84700_BSD_006.DGN (SCALE - 4.0) 9-27-2011



PROPOSED FRAMING PLAN

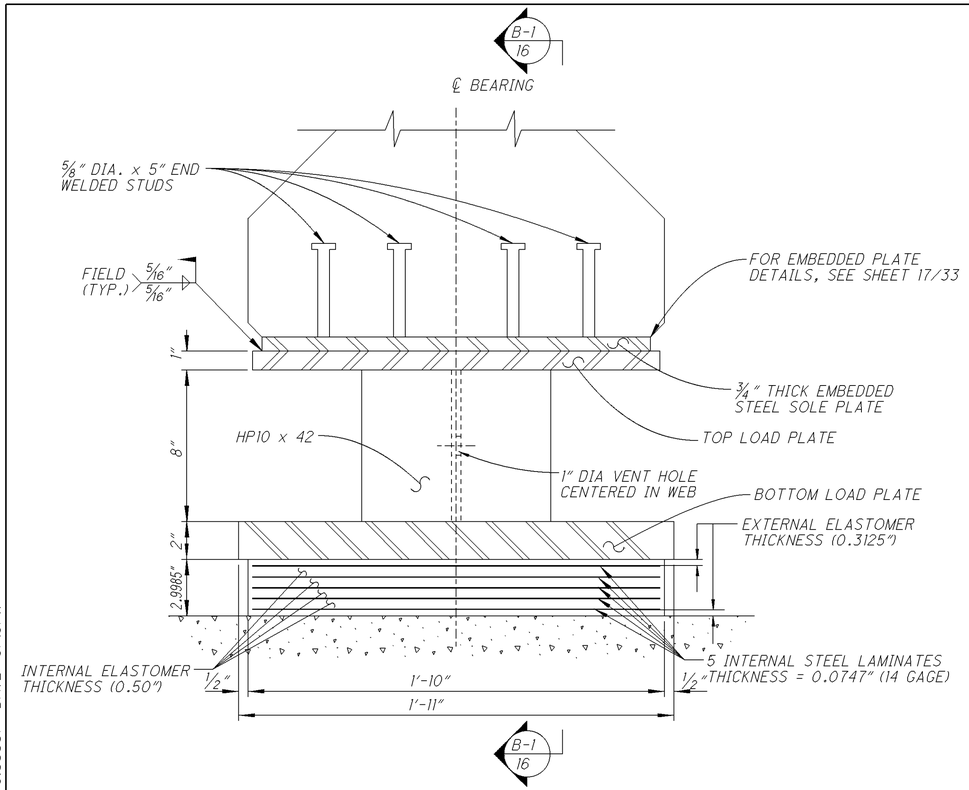
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BFP_001.DGN (SCALE=8.000) DATE: 9/28/10

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

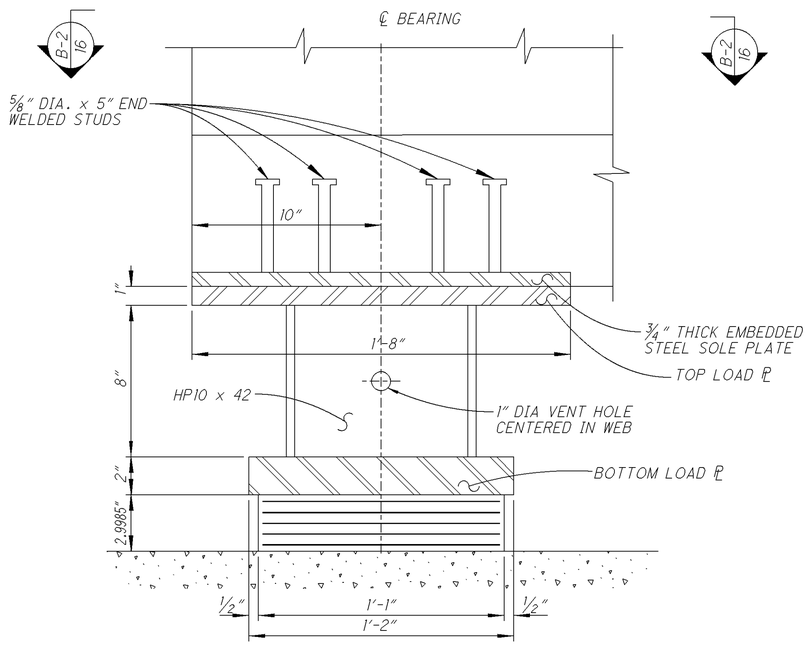
DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

BRIDGE FRAMING PLAN
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56



LAMINATED ELASTOMERIC
EXPANSION BEARINGS @ ABUTMENTS



SECTION B-1 16

LOAD PLATE:
THE STEEL LOAD PLATES SHALL BE MADE OF A572 STEEL. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING:
WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

MARKINGS:
ALL BEARINGS AND LOAD PLATES SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

NOTES:
HP STEEL SHAPE INCLUDED WITH ITEM 516 ELASTOMERIC BEARING FOR PAYMENT.

FOR ADDITIONAL NOTES SEE STD. DWG. SICD-1-96 SHEET 7/7.

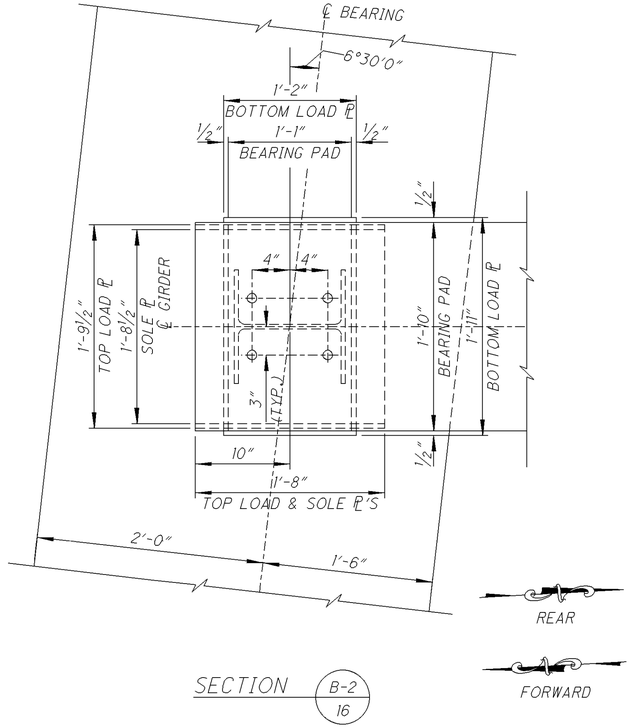
BEARING REPOSITIONING:
IF DECK CONCRETE IS PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE-SIXTH OF THE BEARING HEIGHT AT 60°F ± 10°F, THE BEAMS OR GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

BASIS OF PAYMENT:
THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516, EACH ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

REAR ABUTMENT BEARING PAD: 1'-10" x 1'-1" x 2.9985" (50 DUROMETER)
LOAD PLATE: 1'-11" x 1'-2" x 2"
PIER BEARING PAD: 1'-10" x 1'-1" x 2.9985 (50 DUROMETER)
LOAD PLATE: 1'-11" x 1'-2" x 2"
FWD. ABUTMENT BEARING PAD: 1'-10" x 1'-1" x 2.9985" (50 DUROMETER)
LOAD PLATE: 1'-11" x 1'-2" x2 "

ELASTOMERIC BEARING PAD DESIGN DATA

LOCATION	DL	LL	DL & LL
REAR ABUTMENT	137	71	208
PIER	134	68	202
FWD. ABUTMENT	137	71	208



SECTION B-2 16

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

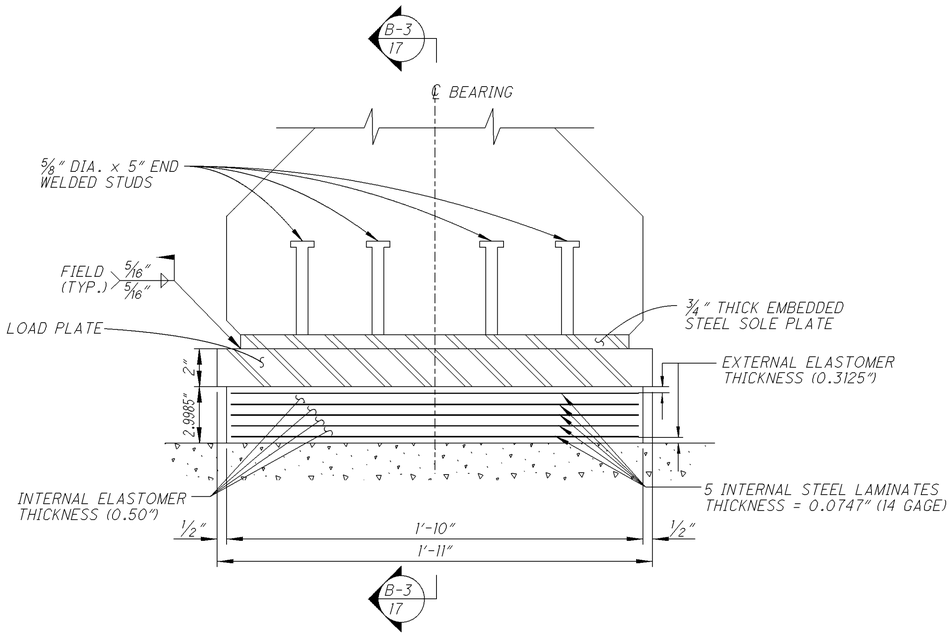
BEARING PAD DETAILS (ABUTMENTS)
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

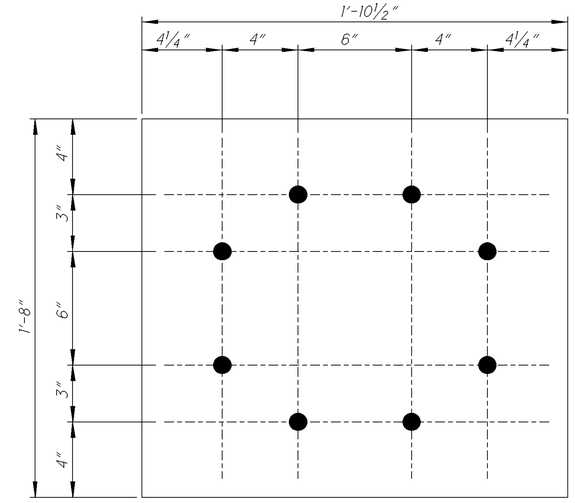
16 / 33

191
219

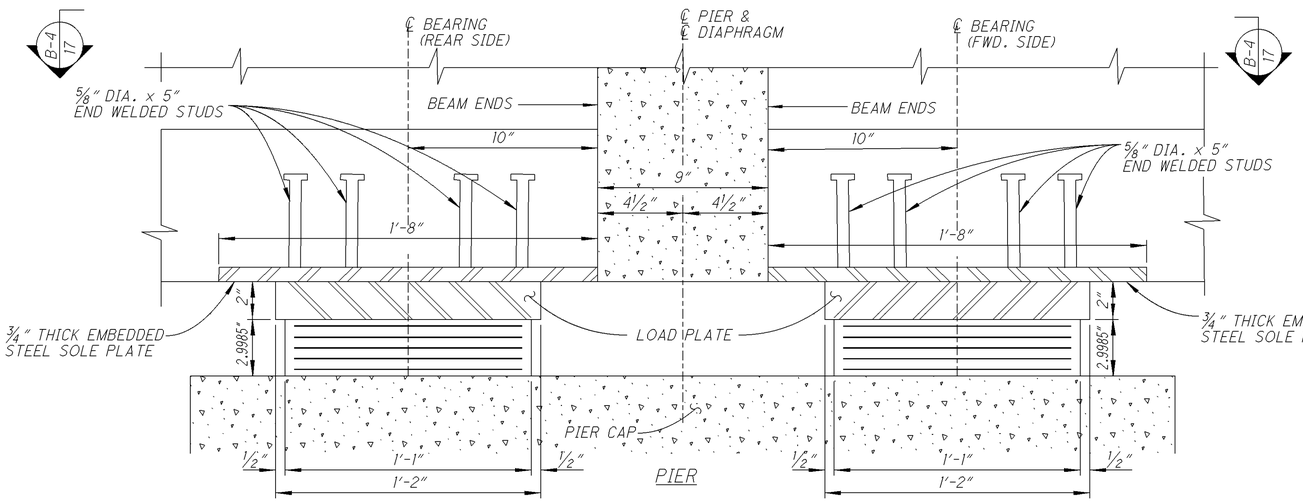
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BBA_001.DGN (SCALE=0.3333) DATE: 6/16/11



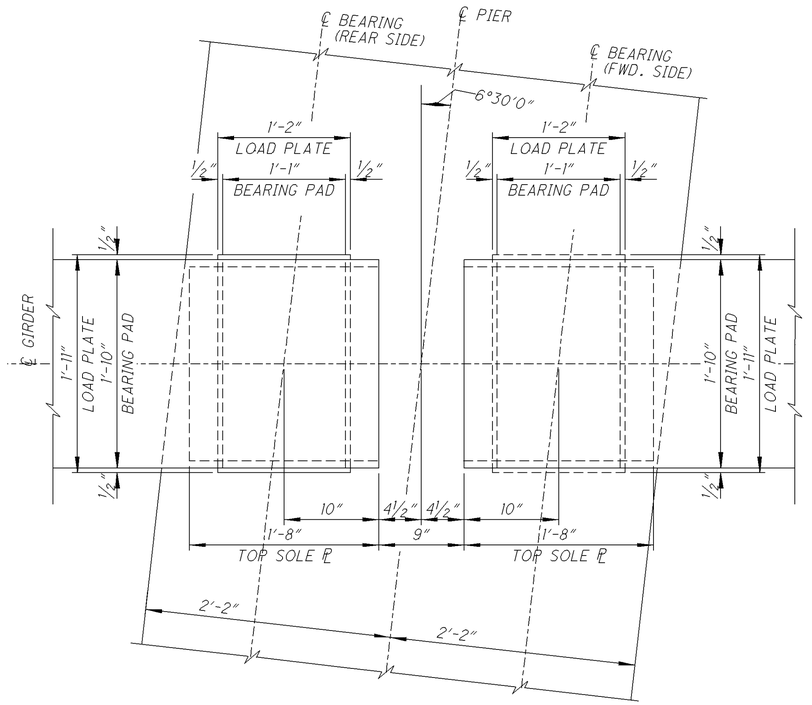
LAMINATED ELASTOMERIC EXPANSION BEARINGS @ PIER



SOLE PLATE (TYP.)



SECTION B-3 17



SECTION B-4 17

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

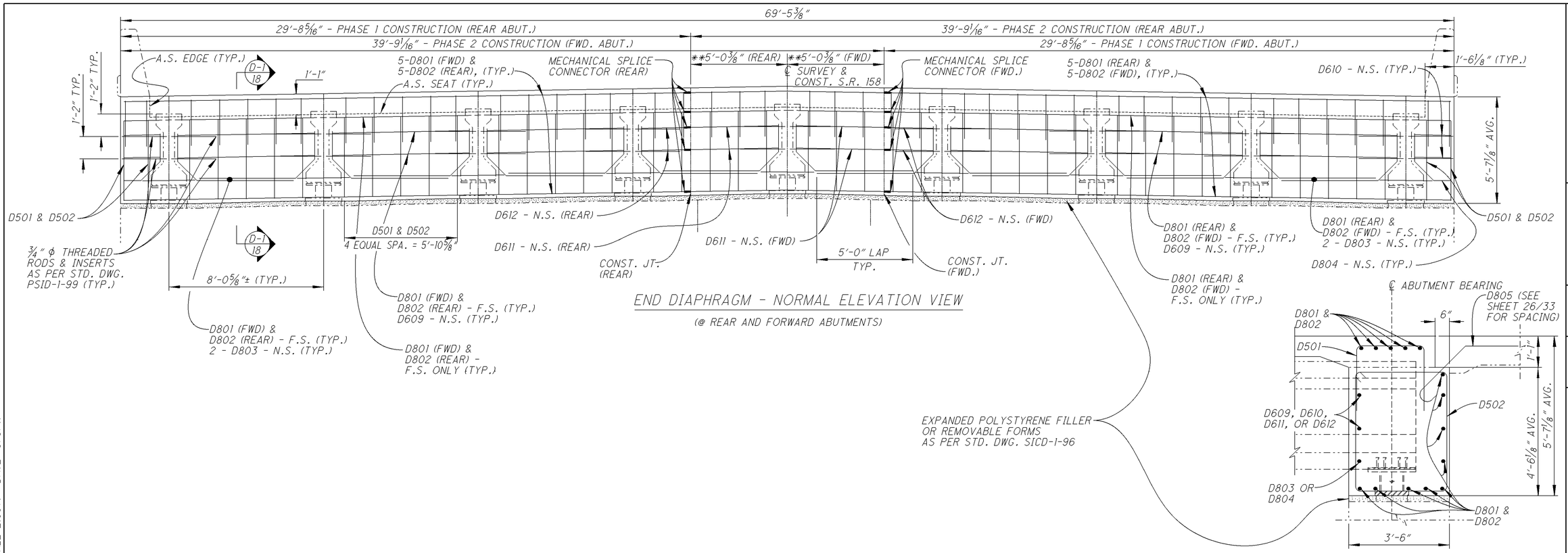
BEARING PAD DETAILS (PIER)
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

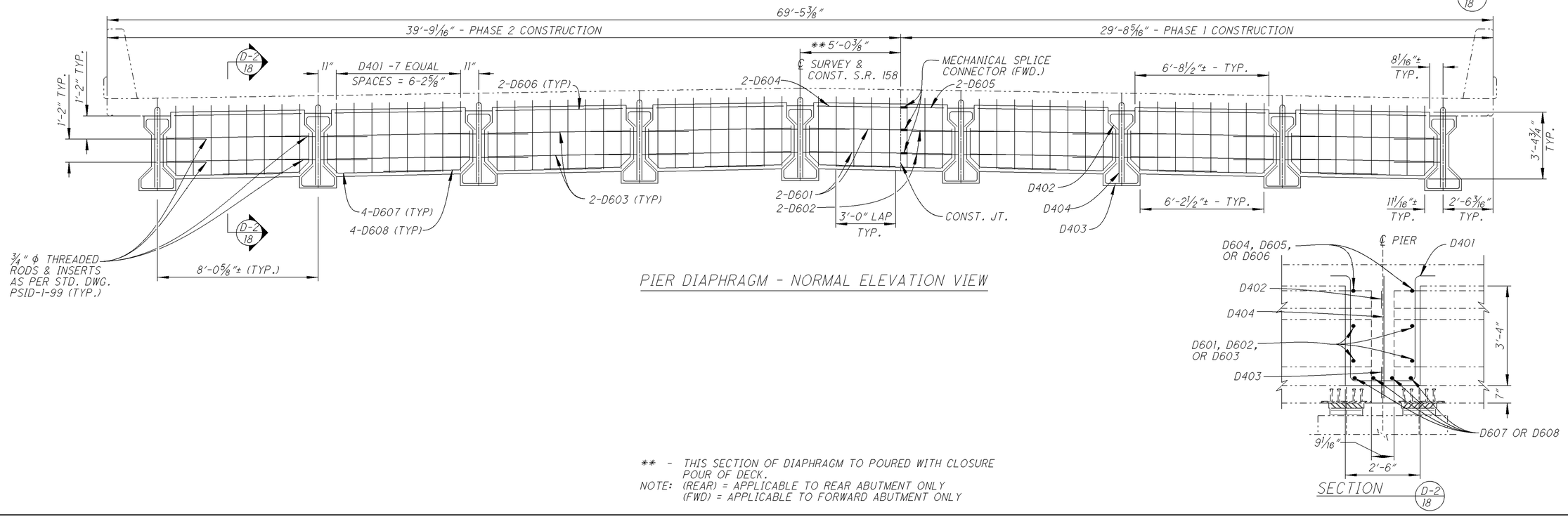
LIC-158-0.56

17 / 33

192 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BBA_001.DGN (SCALE=0.3333) DATE: 6/16/11





** - THIS SECTION OF DIAPHRAGM TO POURED WITH CLOSURE POUR OF DECK.

NOTE: (REAR) = APPLICABLE TO REAR ABUTMENT ONLY
(FWD) = APPLICABLE TO FORWARD ABUTMENT ONLY

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

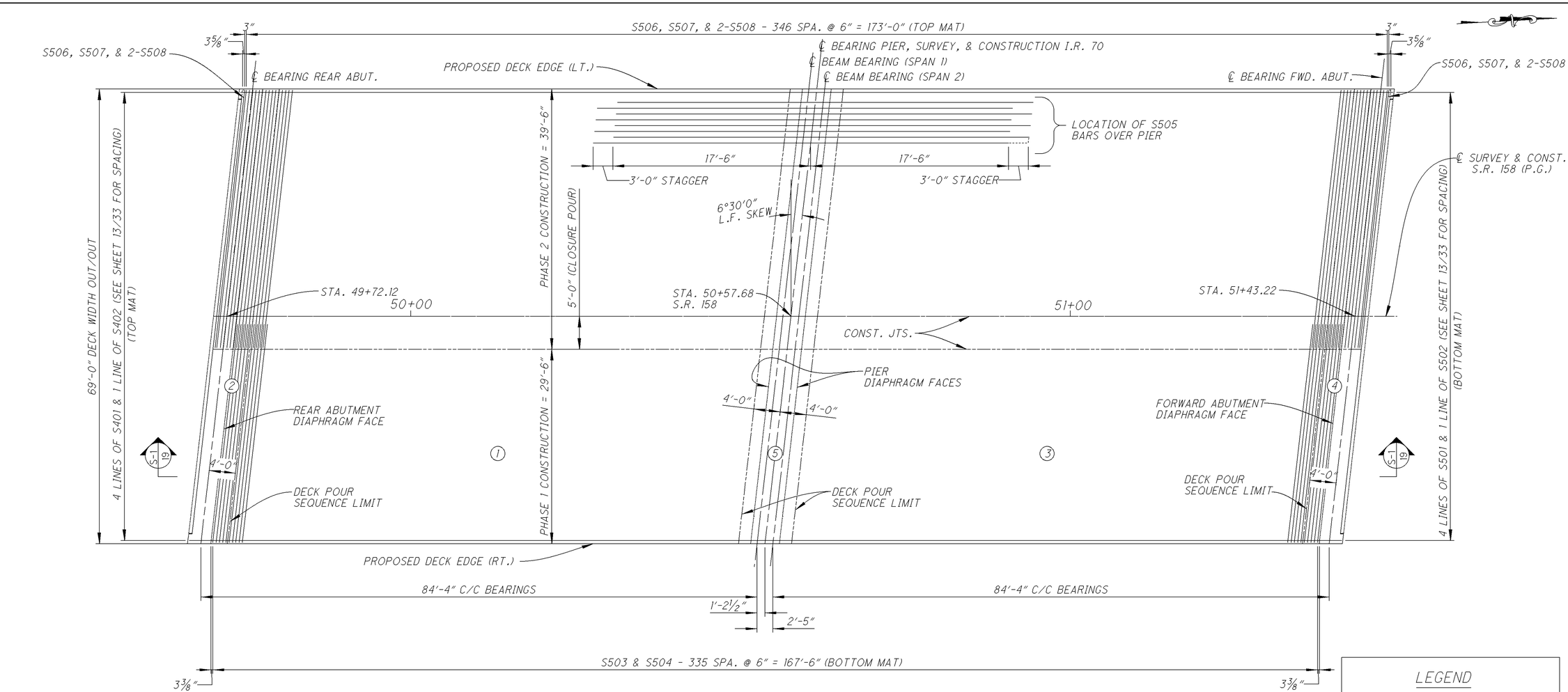
DIAPHRAGM DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

18 / 33

193 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BSD_005.DGN (SCALE=2.667) DATE: 6/6/11

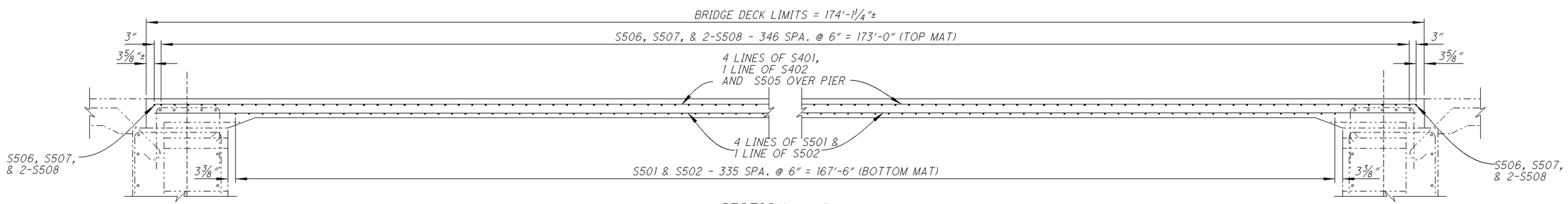


DECK REINFORCING PLAN

LEGEND

(#) - DECK POUR SEQUENCE NUMBER

SUPERSTRUCTURE LAP LENGTHS
NO. 4 = 2'-9"
NO. 5 = 3'-5"



SECTION S-1 19

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

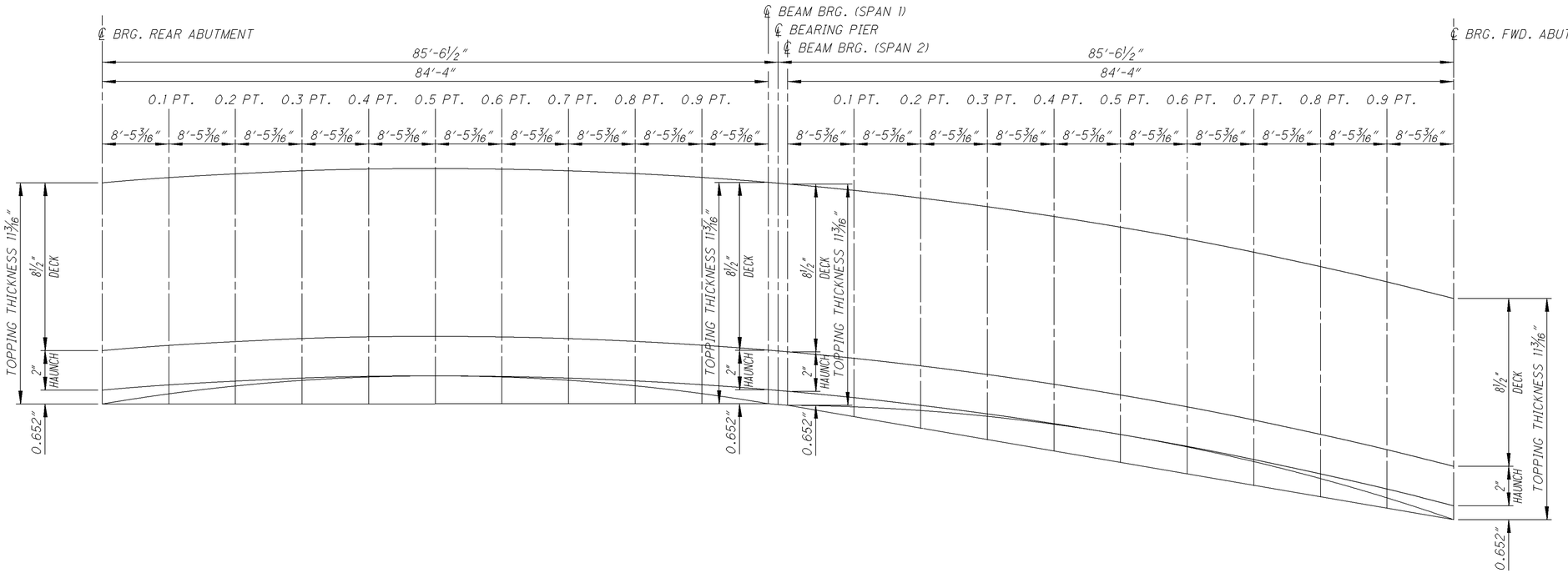
SUPERSTRUCTURE DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

19 / 33

194
219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BSD_004.DGN (SCALE=8.000) DATE: 7/15/11



GIRDER CAMBER

LOCATION	SPAN 1											SPAN 2										
	ABUTMENT	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	PIER	PIER	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	ABUTMENT
CAMBER AT TIME OF RELEASE	0.00"	0.561"	1.031"	1.395"	1.630"	1.709"	1.630"	1.395"	1.031"	0.561"	0.00"	0.00"	0.561"	1.031"	1.395"	1.630"	1.709"	1.630"	1.395"	1.031"	0.561"	0.00"
CAMBER AT TIME OF ERECTION	0.00"	0.989"	1.816"	2.457"	2.870"	3.009"	2.870"	2.457"	1.816"	0.989"	0.00"	0.00"	0.989"	1.816"	2.457"	2.870"	3.009"	2.870"	2.457"	1.816"	0.989"	0.00"
FINAL FUTURE CAMBER	0.00"	1.395"	2.566"	3.472"	4.057"	4.254"	4.057"	3.472"	2.566"	1.395"	0.00"	0.00"	1.395"	2.566"	3.472"	4.057"	4.254"	4.057"	3.472"	2.566"	1.395"	0.00"

ANTICIPATED DECK THICKNESS

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6	GIRDER 7	GIRDER 8	GIRDER 9
REAR ABUTMENT	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"
0.5 PT.	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"
PIER (SPAN 1)	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"
PIER (SPAN 2)	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"
0.5 PT.	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"	10.50"
FORWARD ABUTMENT	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"	11.152"

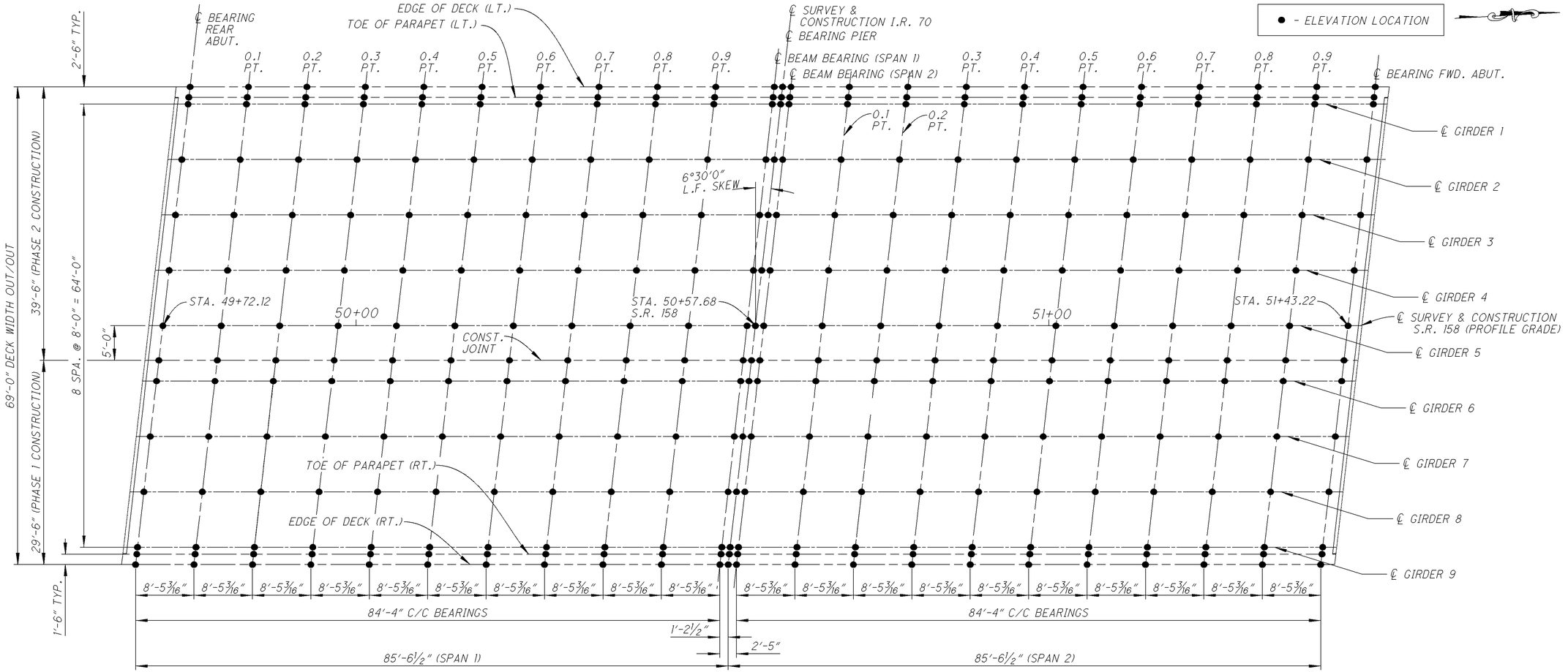
DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

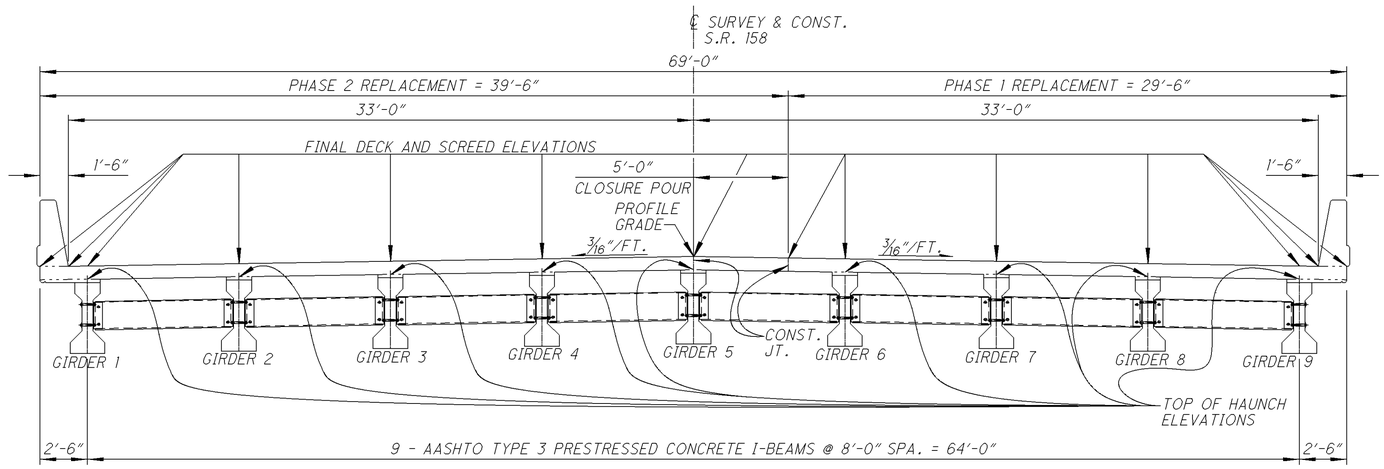
GIRDER CAMBER DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BSD_003.DGN (SCALE=8.000) DATE: 7/22/11



DECK ELEVATION LOCATION PLAN



DECK ELEVATION LOCATION TRANSVERSE SECTION

(N.T.S.)

TOP OF HAUNCH ELEVATIONS

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

SCREED ELEVATIONS

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

DECK ELEVATION LOCATIONS

BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

DECK ELEVATIONS (SPAN 1)

LOCATION	CL BRG. - REAR ABUT.				0.10 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	49+76.05	975.43	975.43	974.73	49+84.49	975.45	975.50	974.79
TOE OF PARAPET (LT.)	49+75.88	975.46	975.46	974.75	49+84.31	975.48	975.52	974.81
CONCRETE I-GIRDER 1	49+75.77	975.47	975.47	974.76	49+84.20	975.49	975.53	974.83
CONCRETE I-GIRDER 2	49+74.85	975.59	975.59	974.89	49+83.29	975.61	975.66	974.95
CONCRETE I-GIRDER 3	49+73.94	975.72	975.72	975.01	49+82.38	975.74	975.78	975.07
CONCRETE I-GIRDER 4	49+73.03	975.84	975.84	975.13	49+81.47	975.86	975.90	975.19
CONCRETE I-GIRDER 5 / P.G.	49+72.12	975.96	975.96	975.25	49+80.56	975.98	976.03	975.32
CONSTRUCTION JOINT	49+71.55	975.88	975.88	975.17	49+79.99	975.90	975.95	975.24
CONCRETE I-GIRDER 6	49+71.21	975.83	975.83	975.13	49+79.64	975.86	975.90	975.19
CONCRETE I-GIRDER 7	49+70.30	975.71	975.71	975.00	49+78.73	975.73	975.77	975.06
CONCRETE I-GIRDER 8	49+69.39	975.58	975.58	974.87	49+77.82	975.60	975.64	974.94
CONCRETE I-GIRDER 9	49+68.47	975.45	975.45	974.74	49+76.91	975.48	975.52	974.81
TOE OF PARAPET (RT.)	49+68.36	975.44	975.44	974.73	49+76.80	975.46	975.50	974.79
EDGE OF DECK (RT.)	49+68.19	975.41	975.41	974.70	49+76.62	975.44	975.48	974.77

LOCATION	0.20 PT.				0.30 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	49+92.92	975.47	975.55	974.84	50+01.36	975.48	975.59	974.88
TOE OF PARAPET (LT.)	49+92.75	975.49	975.57	974.86	50+01.18	975.50	975.61	974.90
CONCRETE I-GIRDER 1	49+92.64	975.51	975.59	974.88	50+01.07	975.52	975.63	974.92
CONCRETE I-GIRDER 2	49+91.72	975.63	975.71	975.00	50+00.16	975.64	975.75	975.04
CONCRETE I-GIRDER 3	49+90.81	975.75	975.83	975.13	49+99.25	975.76	975.87	975.17
CONCRETE I-GIRDER 4	49+89.90	975.88	975.96	975.25	49+98.34	975.89	976.00	975.29
CONCRETE I-GIRDER 5 / P.G.	49+88.99	976.00	976.08	975.37	49+97.43	976.01	976.12	975.41
CONSTRUCTION JOINT	49+88.42	975.92	976.00	975.29	49+96.86	975.93	976.04	975.33
CONCRETE I-GIRDER 6	49+88.08	975.87	975.95	975.25	49+96.51	975.89	976.00	975.29
CONCRETE I-GIRDER 7	49+87.17	975.75	975.83	975.12	49+95.60	975.76	975.87	975.16
CONCRETE I-GIRDER 8	49+86.26	975.62	975.70	974.99	49+94.69	975.63	975.74	975.04
CONCRETE I-GIRDER 9	49+85.34	975.49	975.57	974.87	49+93.78	975.51	975.62	974.91
TOE OF PARAPET (RT.)	49+85.23	975.48	975.56	974.85	49+93.67	975.49	975.60	974.89
EDGE OF DECK (RT.)	49+85.06	975.45	975.54	974.83	49+93.49	975.47	975.58	974.87

LOCATION	0.40 PT.				0.50 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	50+09.79	975.48	975.61	974.90	50+18.23	975.48	975.62	974.91
TOE OF PARAPET (LT.)	50+09.62	975.51	975.64	974.93	50+18.05	975.51	975.64	974.93
CONCRETE I-GIRDER 1	50+09.51	975.52	975.65	974.94	50+17.94	975.52	975.66	974.95
CONCRETE I-GIRDER 2	50+08.59	975.65	975.78	975.07	50+17.03	975.65	975.78	975.07
CONCRETE I-GIRDER 3	50+07.68	975.77	975.90	975.19	50+16.12	975.77	975.91	975.20
CONCRETE I-GIRDER 4	50+06.77	975.89	976.02	975.32	50+15.21	975.90	976.03	975.32
CONCRETE I-GIRDER 5 / P.G.	50+05.86	976.02	976.15	975.44	50+14.30	976.02	976.16	975.45
CONSTRUCTION JOINT	50+05.29	975.94	976.07	975.36	50+13.73	975.94	976.08	975.37
CONCRETE I-GIRDER 6	50+04.95	975.89	976.02	975.31	50+13.38	975.90	976.03	975.32
CONCRETE I-GIRDER 7	50+04.04	975.77	975.90	975.19	50+12.47	975.77	975.91	975.20
CONCRETE I-GIRDER 8	50+03.13	975.64	975.77	975.06	50+11.56	975.65	975.78	975.07
CONCRETE I-GIRDER 9	50+02.21	975.52	975.65	974.94	50+10.65	975.52	975.66	974.95
TOE OF PARAPET (RT.)	50+02.10	975.50	975.63	974.92	50+10.54	975.51	975.64	974.93
EDGE OF DECK (RT.)	50+01.93	975.48	975.61	974.90	50+10.36	975.48	975.62	974.91

LOCATION	0.60 PT.				0.70 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	50+26.66	975.48	975.61	974.90	50+35.10	975.47	975.58	974.87
TOE OF PARAPET (LT.)	50+26.49	975.50	975.63	974.92	50+34.92	975.49	975.60	974.89
CONCRETE I-GIRDER 1	50+26.38	975.52	975.65	974.94	50+34.81	975.51	975.62	974.91
CONCRETE I-GIRDER 2	50+25.46	975.64	975.77	975.06	50+33.90	975.63	975.74	975.04
CONCRETE I-GIRDER 3	50+24.55	975.77	975.90	975.19	50+32.99	975.76	975.87	975.16
CONCRETE I-GIRDER 4	50+23.64	975.89	976.02	975.31	50+32.08	975.89	976.00	975.29
CONCRETE I-GIRDER 5 / P.G.	50+22.73	976.02	976.15	975.44	50+31.17	976.01	976.12	975.41
CONSTRUCTION JOINT	50+22.16	975.94	976.07	975.36	50+30.60	975.94	976.04	975.34
CONCRETE I-GIRDER 6	50+21.82	975.90	976.02	975.32	50+30.25	975.89	976.00	975.29
CONCRETE I-GIRDER 7	50+20.91	975.77	975.90	975.19	50+29.34	975.76	975.87	975.17
CONCRETE I-GIRDER 8	50+20.00	975.65	975.77	975.07	50+28.43	975.64	975.75	975.04
CONCRETE I-GIRDER 9	50+19.08	975.52	975.65	974.94	50+27.52	975.52	975.63	974.92
TOE OF PARAPET (RT.)	50+18.97	975.51	975.63	974.93	50+27.41	975.50	975.61	974.90
EDGE OF DECK (RT.)	50+18.80	975.48	975.61	974.90	50+27.23	975.48	975.59	974.88

DECK ELEVATIONS (SPAN 1)

LOCATION	0.80 PT.				0.90 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	50+43.53	975.46	975.54	974.83	50+51.97	975.44	975.48	974.77
TOE OF PARAPET (LT.)	50+43.36	975.48	975.56	974.85	50+51.79	975.46	975.50	974.79
CONCRETE I-GIRDER 1	50+43.25	975.50	975.57	974.87	50+51.68	975.48	975.52	974.81
CONCRETE I-GIRDER 2	50+42.33	975.62	975.70	974.99	50+50.77	975.60	975.65	974.94
CONCRETE I-GIRDER 3	50+41.42	975.75	975.83	975.12	50+49.86	975.73	975.77	975.06
CONCRETE I-GIRDER 4	50+40.51	975.87	975.95	975.25	50+48.95	975.86	975.90	975.19
CONCRETE I-GIRDER 5 / P.G.	50+39.60	976.00	976.08	975.37	50+48.04	975.98	976.03	975.32
CONSTRUCTION JOINT	50+39.03	975.92	976.00	975.30	50+47.47	975.91	975.95	975.24
CONCRETE I-GIRDER 6	50+38.69	975.88	975.96	975.25	50+47.12	975.86	975.90	975.20
CONCRETE I-GIRDER 7	50+37.78	975.75	975.83	975.13	50+46.21	975.74	975.78	975.07
CONCRETE I-GIRDER 8	50+36.87	975.63	975.71	975.00	50+45.30	975.62	975.66	974.95
CONCRETE I-GIRDER 9	50+35.95	975.51	975.59	974.88	50+44.39	975.49	975.53	974.83
TOE OF PARAPET (RT.)	50+35.84	975.49	975.57	974.86	50+44.28	975.48	975.52	974.81
EDGE OF DECK (RT.)	50+35.67	975.47	975.55	974.84	50+44.10	975.45	975.50	974.79

LOCATION	CL BEAM BRG. (SPAN 1)				CL BRG. - PIER				CL BEAM BRG. (SPAN 2)			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	50+60.40	975.41	975.41	974.71	50+61.61	975.41	975.41	974.70	50+62.82	975.41	975.41	974.70
TOE OF PARAPET (LT.)	50+60.23	975.44	975.44	974.73	50+61.44	975.43	975.43	974.73	50+62.65	975.43	975.43	974.72
CONCRETE I-GIRDER 1	50+60.12	975.45	975.45	974.75	50+61.33	975.45	975.45	974.74	50+62.54	975.45	975.45	974.74
CONCRETE I-GIRDER 2	50+59.20	975.58	975.58	974.87	50+60.41	975.58	975.58	974.87	50+61.62	975.57	975.57	974.87
CONCRETE I-GIRDER 3	50+58.29	975.71	975.71	975.00	50+59.50	975.71	975.71	975.00	50+60.71	975.70	975.70	974.99
CONCRETE I-GIRDER 4	50+57.38	975.84	975.84	975.13	50+58.59	975.83	975.83	975.12	50+59.80	975.83	975.83	975.12
CONCRETE I-GIRDER 5 / P.G.	50+56.47	975.96	975.96	975.26	50+57.68	975.96	975.96	975.25	50+58.89	975.96	975.96	975.25
CONSTRUCTION JOINT	50+55.90	975.89	975.89	975.18	50+57.11	975.88	975.88	975.18	50+58.32	975.88	975.88	975.17
CONCRETE I-GIRDER 6	50+55.56	975.84	975.84	975.13	50+56.77	975.84	975.84	975.13	50+57.98	975.83	975.83	975.13
CONCRETE I-GIRDER 7	50+54.65	975.72	975.72	975.01	50+55.86	975.72	975.72	975.01	50+57.07	975.71	975.71	975.00
CONCRETE I-GIRDER 8	50+53.74	975.60	975.60	974.89	50+54.95	975.59	975.59	974.88	50+56.16	975.59	975.59	974.88
CONCRETE I-GIRDER 9	50+52.82	975.47	975.47	974.77	50+54.03	975.47	975.47	974.76	50+55.24	975.47	975.47	974.76
TOE OF PARAPET (RT.)	50+52.71	975.46	975.46	974.75	50+53.92	975.46	975.46	974.75	50+55.13	975.45	975.45	974.74
EDGE OF DECK (RT.)	50+52.54	975.44	975.44	974.73	50+53.75	975.43	975.43	974.72	50+54.96	975.43	975.43	974.72

DECK ELEVATIONS (SPAN 2)

LOCATION	0.10 PT.				0.20 PT.				0.30 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	50+71.25	975.38	975.42	974.71	50+79.68	975.34	975.42	974.71	50+88.11	975.30	975.41	974.71
TOE OF PARAPET (LT.)	50+71.08	975.40	975.44	974.73	50+79.51	975.37	975.45	974.74	50+87.94	975.33	975.44	974.73
CONCRETE I-GIRDER 1	50+70.97	975.42	975.46	974.75	50+79.40	975.38	975.46	974.75	50+87.83	975.34	975.45	974.75
CONCRETE I-GIRDER 2	50+70.06	975.55	975.59	974.88	50+78.49	975.51	975.59	974.88	50+86.92	975.47	975.58	974.88
CONCRETE I-GIRDER 3	50+69.14	975.67	975.72	975.01	50+77.57	975.64	975.72	975.01	50+86.01	975.60	975.71	975.00
CONCRETE I-GIRDER 4	50+68.23	975.80	975.84	975.13	50+76.66	975.77	975.85	975.14	50+85.09	975.73	975.84	975.13
CONCRETE I-GIRDER 5 / P.G.	50+67.32	975.93	975.97	975.26	50+75.75	975.90	975.98	975.27	50+84.18	975.86	975.97	975.26
CONSTRUCTION JOINT	50+66.75	975.85	975.90	975.19	50+75.18	975.82	975.90	975.19	50+83.61	975.79	975.90	975.19
CONCRETE I-GIRDER 6	50+66.41	975.81	975.85	975.14	50+74.84	975.78	975.86	975.15	50+83.27	975.74	975.85	975.14
CONCRETE I-GIRDER 7	50+65.50	975.69	975.73	975.02	50+73.93	975.66	975.73	975.03	50+82.36	975.62	975.73	975.02
CONCRETE I-GIRDER 8	50+64.59	975.56	975.61	974.90	50+73.02	975.53	975.61	974.91	50+81.45	975.50	975.61	974.90
CONCRETE I-GIRDER 9	50+63.68	975.44	975.48	974.78	50+72.11	975.41	975.49	974.78	50+80.54	975.38	975.49	974.78
TOE OF PARAPET (RT.)	50+63.56	975.43	975.47	974.76	50+71.99	975.40	975.48	974.77	50+80.42	975.36	975.47	974.76
EDGE OF DECK (RT.)	50+63.39	975.40	975.45	974.74	50+71.82	975.37	975.45	974.75	50+80.25	975.34	975.45	974.74

DECK ELEVATIONS (SPAN 2)

LOCATION	0.40 PT.				0.50 PT.				0.60 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	50+96.54	975.26	975.39	974.68	51+04.98	975.21	975.35	974.64	51+13.41	975.16	975.29	974.58
TOE OF PARAPET (LT.)	50+96.37	975.29	975.41	974.71	51+04.80	975.24	975.37	974.66	51+13.24	975.18	975.31	974.61
CONCRETE I-GIRDER 1	50+96.26	975.30	975.43	974.72	51+04.69	975.25	975.39	974.68	51+13.12	975.20	975.33	974.62
CONCRETE I-GIRDER 2	50+95.35	975.43	975.56	974.85	51+03.78	975.38	975.52	974.81	51+12.21	975.33	975.46	974.75
CONCRETE I-GIRDER 3	50+94.44	975.56	975.69	974.98	51+02.87	975.51	975.65	974.94	51+11.30	975.46	975.59	974.88
CONCRETE I-GIRDER 4	50+93.53	975.69	975.82	975.11	51+01.96	975.64	975.78	975.07	51+10.39	975.59	975.72	975.01
CONCRETE I-GIRDER 5 / P.G.	50+92.61	975.82	975.95	975.24	51+01.05	975.77	975.91	975.20	51+09.48	975.72	975.85	975.14
CONSTRUCTION JOINT	50+92.04	975.74	975.87	975.17	51+00.48	975.70	975.83	975.13	51+08.91	975.65	975.78	975.07
CONCRETE I-GIRDER 6	50+91.70	975.70	975.83	975.12	51+00.13	975.65	975.79	975.08	51+08.56	975.60	975.73	975.03
CONCRETE I-GIRDER 7	50+90.79	975.58	975.71	975.00	50+99.22	975.53	975.67	974.96	51+07.65	975.49	975.61	974.91
CONCRETE I-GIRDER 8	50+89.88	975.46	975.59	974.88	50+98.31	975.42	975.55	974.84	51+06.74	975.37	975.50	974.79
CONCRETE I-GIRDER 9	50+88.97	975.34	975.47	974.76	50+97.40	975.30	975.43	974.72	51+05.83	975.25	975.38	974.67
TOE OF PARAPET (RT.)	50+88.85	975.32	975.45	974.74	50+97.29	975.28	975.42	974.71	51+05.72	975.23	975.36	974.65
EDGE OF DECK (RT.)	50+88.68	975.30	975.43	974.72	50+97.11	975.26	975.39	974.68	51+05.55	975.21	975.34	974.63

LOCATION	0.70 PT.				0.80 PT.			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	51+21.84	975.10	975.21	974.50	51+30.27	975.04	975.12	974.41
TOE OF PARAPET (LT.)	51+21.67	975.13	975.24	974.53	51+30.10	975.06	975.15	974.44
CONCRETE I-GIRDER 1	51+21.55	975.14	975.25	974.55	51+29.98	975.08	975.16	974.45
CONCRETE I-GIRDER 2	51+20.64	975.27	975.38	974.68	51+29.07	975.21	975.29	974.59
CONCRETE I-GIRDER 3	51+19.73	975.41	975.52	974.81	51+28.16	975.34	975.43	974.72
CONCRETE I-GIRDER 4	51+18.82	975.54	975.65	974.94	51+27.25	975.48	975.56	974.85
CONCRETE I-GIRDER 5 / P.G.	51+17.91	975.67	975.78	975.07	51+26.34	975.61	975.69	974.98
CONSTRUCTION JOINT	51+17.34	975.59	975.70	975.00	51+25.77	975.53	975.61	974.91
CONCRETE I-GIRDER 6	51+17.00	975.55	975.66	974.95	51+25.43	975.49	975.57	974.86
CONCRETE I-GIRDER 7	51+16.08	975.43	975.54	974.83	51+24.52	975.37	975.45	974.74
CONCRETE I-GIRDER 8	51+15.17	975.31	975.42	974.71	51+23.60	975.25	975.33	974.63
CONCRETE I-GIRDER 9	51+14.26	975.19	975.30	974.60	51+22.69	975.14	975.22	974.51
TOE OF PARAPET (RT.)	51+14.15	975.18	975.29	974.58	51+22.58	975.12	975.20	974.49
EDGE OF DECK (RT.)	51+13.98	975.16	975.27	974.56	51+22.41	975.10	975.18	974.47

LOCATION	0.90 PT.				CL BRG. - FWD. ABUTMENT			
	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)	STATION	FINISHED DECK ELEV. (ft.)	SCREED ELEV. (ft.)	TOP OF HAUNCH SCREED ELEV. (ft.)
EDGE OF DECK (LT.)	51+38.70	974.97	975.02	974.31	51+47.13	974.90	974.90	974.19
TOE OF PARAPET (LT.)	51+38.53	975.00	975.04	974.33	51+46.96	974.93	974.93	974.22
CONCRETE I-GIRDER 1	51+38.41	975.01	975.06	974.35	51+46.85	974.94	974.94	974.23
CONCRETE I-GIRDER 2	51+37.50	975.15	975.19	974.48	51+45.93	975.08	975.08	974.37
CONCRETE I-GIRDER 3	51+36.59	975.28	975.32	974.61	51+45.02	975.21	975.21	974.50
CONCRETE I-GIRDER 4	51+35.68	975.41	975.45	974.75	51+44.11	975.34	975.34	974.63
CONCRETE I-GIRDER 5 / P.G.	51+34.77	975.54	975.59	974.88	51+43.20	975.47	975.47	974.77
CONSTRUCTION JOINT	51+34.20	975.47	975.51	974.80	51+42.63	975.40	975.40	974.69
CONCRETE I-GIRDER 6	51+33.86	975.43	975.47	974.76	51+42.29	975.36	975.36	974.65
CONCRETE I-GIRDER 7	51+32.95	975.31	975.35	974.64	51+41.38	975.24	975.24	974.53
CONCRETE I-GIRDER 8	51+32.03	975.19	975.23	974.52	51+40.47	975.12	975.12	974.41
CONCRETE I-GIRDER 9	51+31.12	975.07	975.12	974.41	51+39.55	975.01	975.01	974.30
TOE OF PARAPET (RT.)	51+31.01	975.06	975.10	974.39	51+39.44	974.99	974.99	974.28
EDGE OF DECK (RT.)	51+30.84	975.04	975.08	974.37	51+39.27	974.97	974.97	974.26

REAR APPROACH SLAB FINISH ELEVATIONS

LOCATION	BEGIN APPR. SLAB		1/2 PT.		END APPR. SLAB	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
Toe of Curb (33' Lt)	49+54.39	975.39	49+64.39	975.42	49+74.39	975.45
CL Surv. & Const. S.R. 158	49+54.39	975.89	49+60.63	975.93	49+70.63	975.96
Const. Joint (5.00' Rt)	49+54.39	975.81	49+60.06	975.85	49+70.06	975.88
Toe of Curb (33' Rt)	49+54.39	975.35	49+56.87	975.40	49+66.87	975.43

FORWARD APPROACH SLAB FINISH ELEVATIONS

LOCATION	BEGIN APPR. SLAB		1/2 PT.		END APPR. SLAB	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
Toe of Curb (33' Lt)	51+48.49	974.91	51+58.49	974.82	51+68.49	974.72
CL Surv. & Const. S.R. 158	51+44.73	975.46	51+54.73	975.37	51+64.73	975.28
Const. Joint (5.00' Rt)	51+44.16	975.39	51+54.16	975.30	51+64.16	975.20
Toe of Curb (33' Rt)	51+40.97	974.98	51+50.97	974.89	51+60.97	974.80

TOP OF HAUNCH ELEVATIONS

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

FINAL DECK SURFACE ELEVATIONS

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

SCREED ELEVATIONS

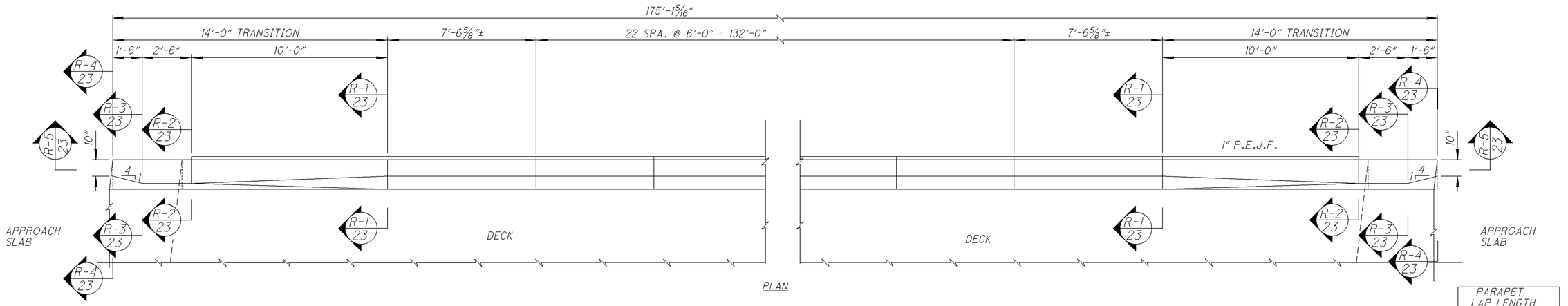
SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

DESIGN AGENCY: OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5
DATE: 11-1-2011
STRUCTURE FILE NUMBER: 4505352
REVIEWED: DTF
DRAWN: JDR
REVISED:
DESIGNED: JDR
CHECKED: TAG

DECK FINAL AND SCREED ELEVATIONS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

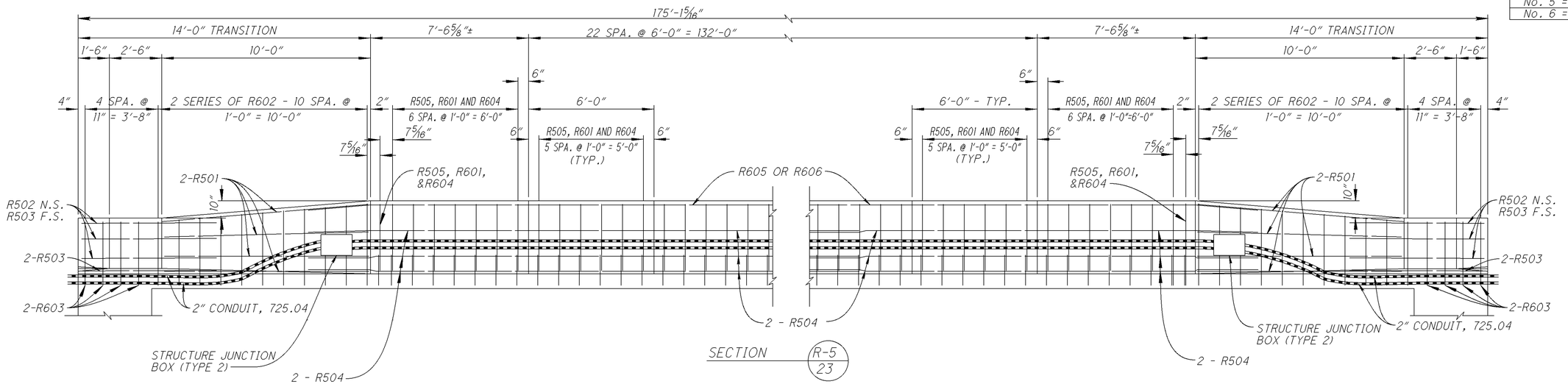
LIC-158-0.56

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\ General\84700_BSD_002.DGN (SCALE=8.000) DATE: 7/22/11

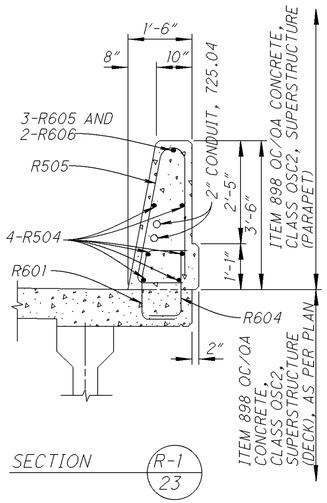


PLAN

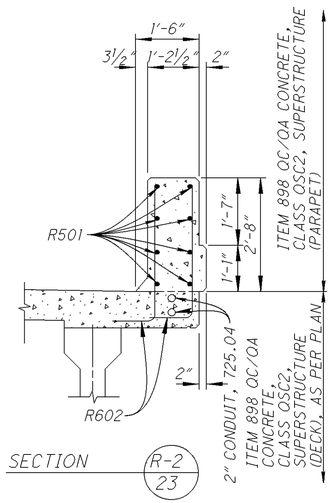
PARAPET LAP LENGTH
No. 5 = 2'-5"
No. 6 = 2'-11"



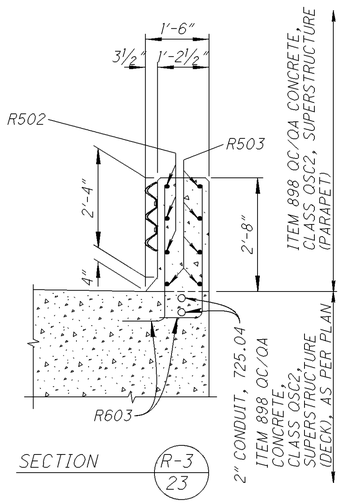
SECTION R-5 / 23



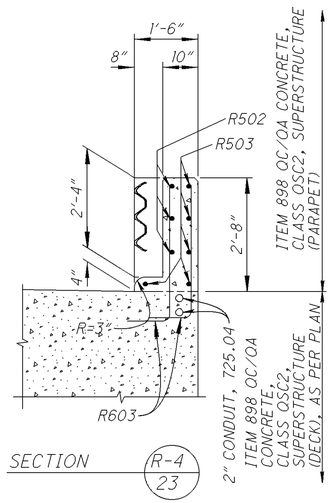
SECTION R-1 / 23



SECTION R-2 / 23



SECTION R-3 / 23



SECTION R-4 / 23

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

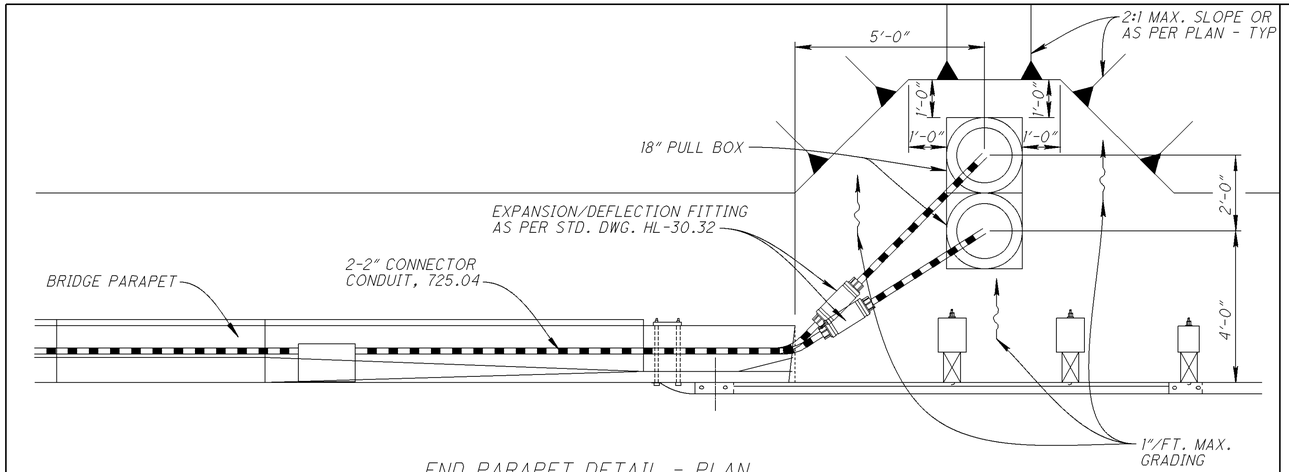
PARAPET DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

23 / 33

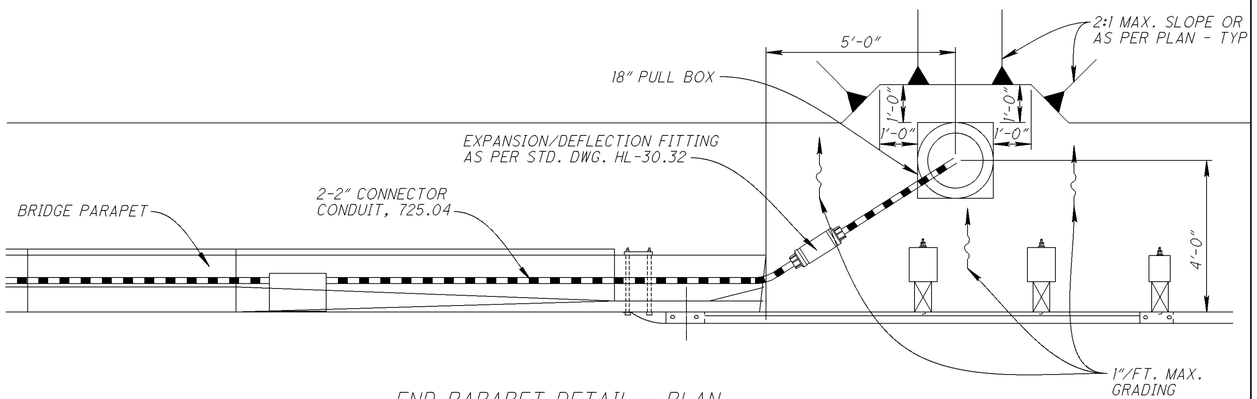
198 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPD_001.DGN (SCALE=2.667) DATE: 8/29/11



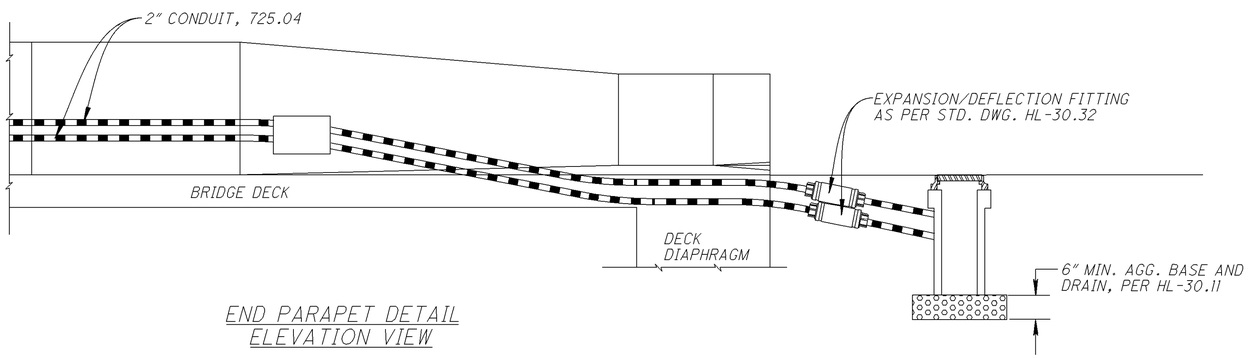
END PARAPET DETAIL - PLAN

(TYP. & SYMMETRICAL - BOTH RIGHT CORNERS OF BRIDGE)



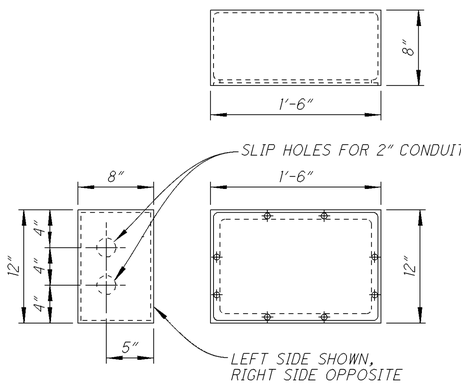
END PARAPET DETAIL - PLAN

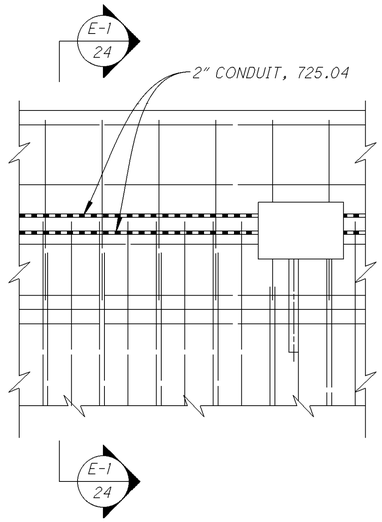
(TYP. & SYMMETRICAL - BOTH LEFT CORNERS OF BRIDGE)



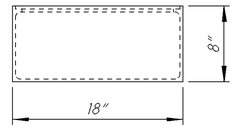
END PARAPET DETAIL
ELEVATION VIEW

TYPICAL CONDUIT TREATMENT
AT END OF BRIDGE PARAPET

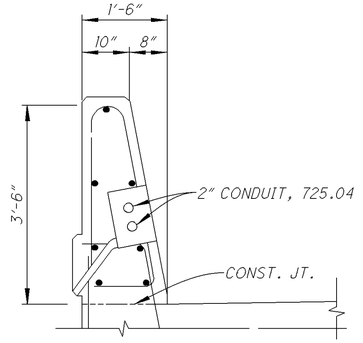




JUNCTION BOX DETAILS



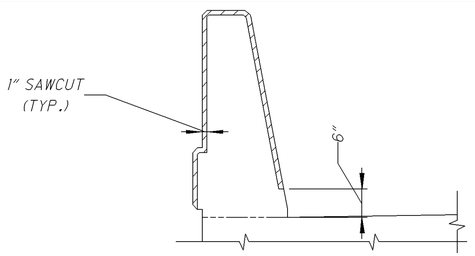
STRUCTURE JUNCTION
BOX DETAILS



SECTION (E-1 / 24)
(TYPICAL)

QUANTITIES

FOR SIGNAL AND LIGHTING QUANTITIES
SEE GENERAL SUMMARY, SHEET 46/219.



DETAIL A

(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 7'-6"

ITEM 625 CONDUIT, 2" 725.05

AS PER CMS 625.12 AFTER INSTALLATION OF THE CONDUIT AND PRIOR TO INSTALLION OF THE CABLES, CHECK EACH CONDUIT RUN BY RODDING OR BY PUSHING A MANDREL THROUGH THE CONDUIT RUN AND REMOVING ANY OBSTRUCTION FOUND.

IF A CONDUIT IS TO REMAIN EMPTY UPON COMPLETION OF THE PROJECT, LEAVE A NO. 10 AWG COPPER CLAD, ALUMINUM CLAD OR GALVANIZED PULL WIRE IN THE CONDUIT AND CAP THE ENDS IN AN APPROVED MANNER.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

PARAPET DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

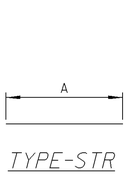
24 / 33

199 / 219

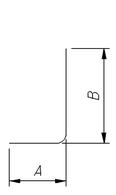
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPD_002.DGN (SCALE=2.000) DATE: 8/29/11

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS											
A501	164	16'-10"	2879	3	5'-6"	2'-8"					
A502	108	11'-9"	1324	2	4'-5"	3'-2"	4'-5"				
A503	108	8'-9"	986	2	2'-11"	3'-2"	2'-11"				
A504	40	12'-5"	518	2	5'-3"	2'-2"	5'-3"				
A505	12	16'-9"	210	2	7'-5"	2'-2"	7'-5"				
A506	4	7'-5"			2'-9"		2'-9"				
	SERIES OF	TO	333	2	TO	2'-2"	TO				
	7	15'-5"			6'-9"		6'-9"				
A507	4	10'-9"				2'-11"					
	SERIES OF	TO	213	3	2'-2"	TO					
	4	14'-10"				5'-0"					
A508	12	51'-0"	638	STR	51'-0"						
A509	12	57'-1"	714	STR	57'-1"						
A510	4	32'-7"	136	STR	32'-7"						
A511	4	39'-0"	163	STR	39'-0"						
A512	8	19'-2"	160	STR	19'-2"						
A513	8	17-7"	147	STR	17-7"						
A514	8	11'-11"	99	STR	11'-11"						
A515	8	8'-11"	74	STR	8'-11"						
A516	8	5'-11"	49	STR	5'-11"						
A517	4	19'-3"	80	19	15'-11"	3'-1"	1'-4"				
A518	4	19'-4"	81	19	16'-6"	2'-7"	1'-3"				
A801	8	48'-3"	1031	STR	48'-3"						
A802	8	57'-3"	1223	STR	57'-3"						
A803	10	29'-10"	797	STR	29'-10"						
A804	10	39'-2"	1046	STR	39'-2"						
ABUTMENTS SUB-TOTAL			12,901								
SUPERSTRUCTURE (DIAPHRAGMS)											
D401	64	10'-2"	435	6	2'-2"	3'-6"					
D402	9	2'-10"	17	4	1'-1½"	4½"	4"	4"			
D403	9	4'-0"	24	4	1'-7½"	4½"	7"	7"			
D404	9	8'-0"	48	5	3'-2"	4'-1"				1¾"	
D501	88	6'-11"	635	2	2'-3"	2'-8"	2'-3"				
D502	88	15'-0"	1377	3	3'-2"	4'-1"					
D601	4	4'-6"	27	STR	4'-6"						
D602	4	2'-6"	15	STR	2'-6"						
D603	28	7'-1"	298	STR	7'-1"						
D604	2	4'-2"	13	STR	4'-2"						
D605	2	2'-2"	7	STR	2'-2"						
D606	14	6'-4"	133	STR	6'-4"						
D607	32	7'-5"	356	20	1'-0"	1'-0"	9"	3'-8"	3'-10"		
D608	32	5'-11"	284	20	1'-0"	1'-0"	9"	2'-9"	2'-7½"		
D609	28	7'-1"	298	STR	7'-1"						
D610	8	1'-10"	22	STR	1'-10"						
D611	4	4'-7"	28	STR	4'-7"						
D612	4	2'-7"	16	STR	2'-7"						
D801	28	29'-6"	2205	STR	29'-6"						
D802	28	39'-7"	2959	STR	39'-7"						
D803	32	7'-10"	669	20	1'-0"	1'-0"	1'-5"	3'-7"	3'-7"		
D804	4	3'-8"	39	20	1'-0"	1'-0"	1'-5"	7½"	7½"		
D805	90	4'-4"	1041	18	2'-5"	8½"	8½"				
DIAPHRAGMS SUB-TOTAL			10,946								

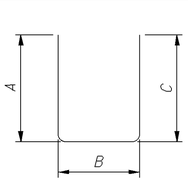
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE (DECK)											
S401	316	40'-0"	8444	STR	40'-0"						
S402	79	24'-10"	1311	STR	24'-10"						
S501	344	40'-0"	14352	STR	40'-0"						
S502	86	27'-6"	2467	STR	27'-6"						
S503	336	33'-2"	11623	STR	33'-2"						
S504	336	39'-5"	13813	STR	39'-5"						
S505	76	38'-0"	3012	STR	38'-0"						
S506	349	33'-9"	12285	7	33'-2"						
S507	349	40'-0"	14560	7	39'-5"						
S508	698	9'-2"	6673	7	8'-7"						
DECK SUB-TOTAL			88,540								
PIER											
SP401	4	14'-11"	1061	9	14'-11"	4½"				1'-6" O.R.	
P601	80	9'-6"	1142	STR	9'-6"						
P602	6	29'-9"	268	STR	29'-9"						
P603	6	38'-9"	349	STR	38'-9"						
P604	448	11'-0"	7402	2	3'-8"	4'-0"	3'-8"				
P605	22	14'-10"	490	10	4'-0"	2'-10"	1'-0"				
P606	8	10'-10"	130	2	2'-10"	5'-6"	2'-10"				
P901	56	10'-9"	2047	1	1'-7"	9'-5"					
P902	56	19'-7"	3729	7	18'-4"						
P903	14	10'-7"	504	2	2'-10"	5'-6"	2'-10"				
P1001	96	12'-4"	5095	8	9'-6"						
P1002	16	33'-10"	2329	1	3'-8"	29'-9"					
P1003	16	43'-1"	2966	1	3'-8"	39'-9"					
PIER SUB-TOTAL			27,512								
SUPERSTRUCTURE (PARAPETS)											
R501	32	10'-0"	334	STR	10'-0"						
R502	12	5'-6"	69	25	1'-8"	2'-4 15/16"	1'-4¼"	1½"	0'-5"		
R503	20	5'-6"	115	STR	5'-6"						
R504	48	40'-0"	2003	STR	40'-0"						
R505	296	7'-5"	2290	23	1'-1"	3'-2"	3'-0"			2¾" I.R.	
R601	296	3'-7"	1593	28	1'-7"	1'-1"					
	8	4'-10"				4'-0"					
R602	SERIES OF	TO	584	1	1'-0"	TO					0'-1"
	11	4'-0"				3'-2"					
R603	32	4'-0"	192	1	1'-0"	3'-2"					
R604	296	2'-6"	1111	1	1'-1"	1'-7"					
R605	6	40'-0"	360	STR	40'-0"						
R606	4	22'-4"	134	STR	20'-11"						
PARAPET SUB-TOTAL			8,785								
GRAND TOTAL			148,684								



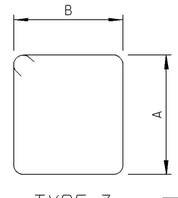
TYPE-STR



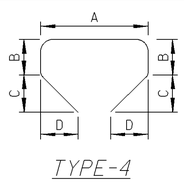
TYPE-1



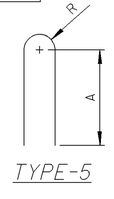
TYPE-2



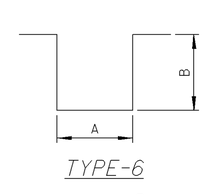
TYPE-3



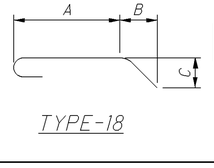
TYPE-4



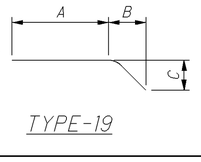
TYPE-5



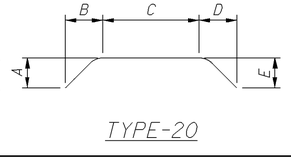
TYPE-6



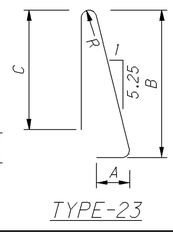
TYPE-18



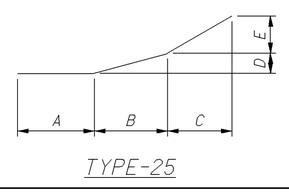
TYPE-19



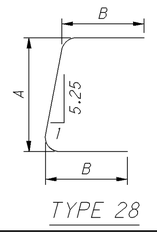
TYPE-20



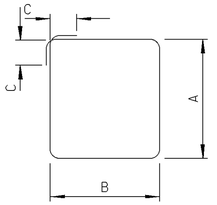
TYPE-23



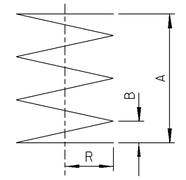
TYPE-25



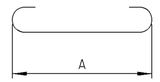
TYPE 28



TYPE-10



TYPE-9



TYPE-8

TYPE-7

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | REVIEWED DTF | DATE 11-1-2011
CHECKED TAG | REVISED | STRUCTURE FILE NUMBER 4505352

REINFORCING STEEL SCHEDULE

BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

25 / 33

200 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BRL_001.DGN (SCALE=1.000) DATE: 8/30/11

67'-0"

7 7/16" | AS1001 - 52 SPA @ 7 7/16"± = 32'-3 3/16" (BOTTOM MAT) | 3 3/4" | 3 3/4" | AS1001 - 52 SPA @ 7 7/16"± = 32'-3 3/16" (BOTTOM MAT) | 7 7/16"

℄ CONSTRUCTION & S.R. 158

A-1 27

FORWARD

REAR

3 5/8" (TYP.)

3" (TYP.)

20'-0"

6" TYP.

AS506 (CURB)
AS506 (TOP MAT)
AS1002 (BOTTOM MAT)

CONST. JT. - REAR

AS504 FWD (TOP MAT)
AS503 REAR (TOP MAT)

EXTRA D805 & AS505 (TOP MAT)-(REAR)

3 5/16" | 3 5/16"

CONST. JT. - FWD.

EXTRA D805 & AS505 (TOP MAT) - (FWD)

AS506 (CURB)
AS506 (TOP MAT)
AS1002 (BOTTOM MAT)

AS503 FWD (TOP MAT)
AS504 REAR (TOP MAT)

AS501 & AS502 - 12 SPA. @ 1'-6"± = 17'-11 5/16" (TOP MAT)
SEE SECTION A-1/27 FOR BOTTOM MAT RE-STEEL SPACING

20'-0"

6°30'0" SKEW

1'-6"± | D805 & AS505 - 21 SPA @ 1'-6"± = 31'-5 3/8" (TOP MAT) | D805 & AS505 - 21 SPA @ 1'-6"± = 31'-5 3/8" (TOP MAT) | 1'-6"±

A-1 27

PLAN

℄ S.R. 158

67'-0"

38'-6" (PHASE 2 - FWD.) | 28'-6" (PHASE 1 - FWD.)

28'-6" (PHASE 1 - REAR) | 38'-6" (PHASE 2 - REAR)

PROFILE GRADE

* | *

AS502 OR AS504 (FWD)
AS501 OR AS503 (REAR)

3'-5" LAP (REAR)

3'-5" LAP (FWD)

3/16"/FT. | 3/16"/FT.

AS501 OR AS503 (FWD)
AS502 OR AS504 (REAR)

13" SLAB THICKNESS

3" CLEAR.

3" CLEAR.

AS507 (TYP.)

AS502 (FWD)
AS501 (REAR)

POROUS BACKFILL or GRANULAR MATERIAL, TYPE B

D805 & AS505 (REAR)

CONST. JT. - (REAR)

CONST. JT. - (FWD.)

D805 & AS505 (FWD)

AS501 (FWD)
AS502 (REAR)

PROPOSED CURB RUNS ENTIRE LENGTH OF APPROACH SLAB.

R=3" | 5" | 4" | 6"

ELEVATION

* ALL LONGITUDINAL CONSTRUCTION JOINTS SHALL BE SEALED 2'-0" IN WIDTH WITH HMWM RESIN (SEE PROPOSAL NOTE) APPROACH SLAB SEALING TO BE INCLUDED IN ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=13"), AS PER PLAN

NOTE: FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.
NOTE: (REAR) = APPLICABLE TO REAR ABUTMENT ONLY
(FWD) = APPLICABLE TO FORWARD ABUTMENT ONLY
NOTE: FOR APPROACH SLAB FINISH ELEVATIONS, SEE SHEET 22/33.

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General - 84700_BPA_001.DGN (SCALE=2.667) DATE: 6/6/11

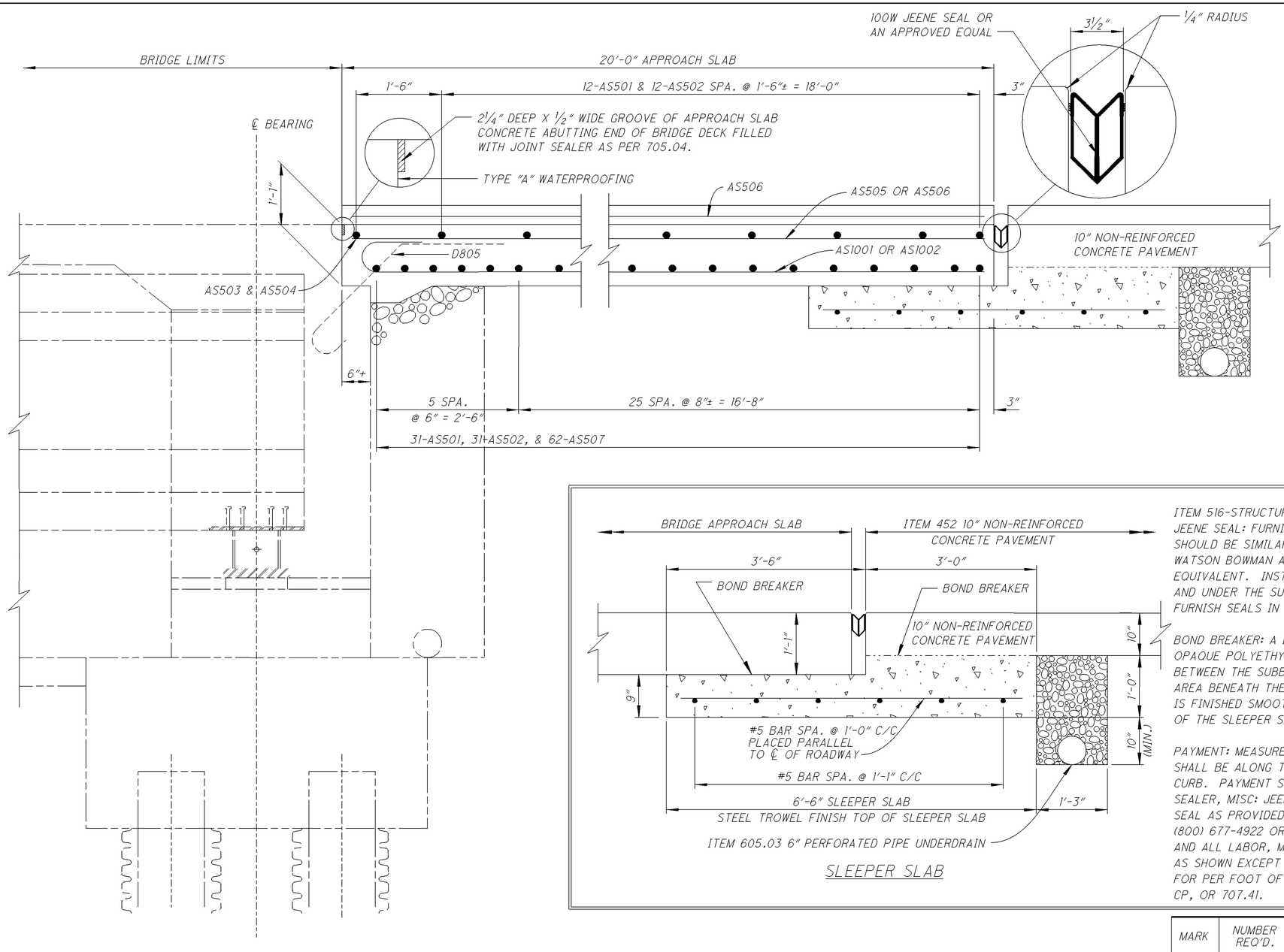
DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | REVIEWED DTF | DATE 11-1-2011
CHECKED TAG | REVISED | STRUCTURE FILE NUMBER 4505352

REAR & FORWARD APPROACH SLAB DETAILS

BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56



SECTION A-1 / 26

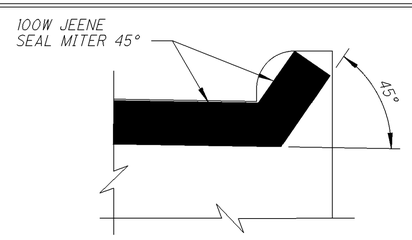
NOTE:
TYPE "A" WATERPROOFING SHALL NOT EXTEND ABOVE THE BOTTOM OF THE GROOVE INTO WHICH THE PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL IS TO BE PLACED. IT SHALL BE APPLIED TO THE ENTIRE AREA OF THE ABUTMENT OR SUPERSTRUCTURE WHICH COMES INTO CONTACT WITH THE APPROACH SLAB.

NOTE:
FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.

NOTE:
FOR APPROACH SLAB FINISH ELEVATIONS, SEE SHEET 22/33.

ITEM	DESCRIPTION	QUANTITY	UNIT
516	STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB	135	FT
518	POROUS BACKFILL WITH FILTER FABRIC	88	CU YD
898	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=13"), AS PER PLAN	298	SQ YD
QUANTITIES CARRIED TO SHEET 6/33.			

QUANTITIES ARE FOR 2 APPROACH SLABS .



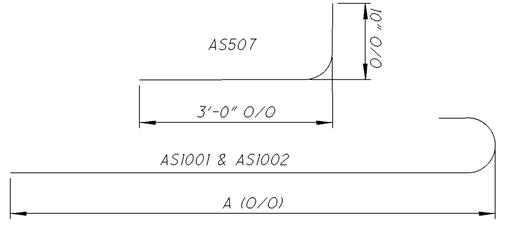
CURB DETAIL

SLEEPER SLAB

ITEM 516-STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB JEENE SEAL: FURNISH MATERIAL CONFORMING TO 705.11. THE SEAL CONFIGURATION SHOULD BE SIMILAR TO THE DETAILS SHOWN HERIN. ACCEPTED MANUFACTURES ARE: WATSON BOWMAN ACME CORP. (MODEL JEENE W PROFILE 100W) OE AN APPROVED EQUIVALENT. INSTALL THE SEAL ACCORDING TO THE MANUFACTURE'S SPECIFICATIONS AND UNDER THE SUPERVISION OF THE MANUFACTURER'S DESIGNATED REPRESENTATIVE. FURNISH SEALS IN ONE CONTIUOUS PIECE UNLESS APPROVED BY THE ENGINEER.

BOND BREAKER: A BOND BREAKER CONSISTING OF TWO 4 FOOT SHEETS OF CLEAR OR OPAQUE POLYETHYLENE FILM, ITEM 705.06, SHALL BE CENTERED ABOVE THE JOINT BETWEEN THE SUBBASE AND THE SLEEPER SLAB. CARE SHALL BE TAKEN IN THE AREA BENEATH THE POLYETHYLENE FILM TO ENSURE THE SURFACE OF THE SUBBASE IS FINISHED SMOOTH AND IS FLUSH WITH OR SLIGHTLY HIGHER THAN THE SURFACE OF THE SLEEPER SLAB. THE FILM SHALL HAVE A NOMINAL THICKNESS OF 4 MILS.

PAYMENT: MEASUREMENT OF THE EXPANSION JOINT FOR PAYMENT PURPOSES SHALL BE ALONG THE CENTERLINE OF THE SLEEPER SLAB AND BETWEEN THE BACKS OF CURB. PAYMENT SHALL BE PER FOOT OF ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC: JEENE SEAL WITH SLEEPER SLAB AND SHALL INCLUDE 100W JEENE SEAL AS PROVIDED BY WATSON BOWMAN ACME CORPORATION, AMHERST, NEW YORK (800) 677-4922 OR AN APPROVED EQUAL, CONCRETE SLEEPER SLAB, RESTEEL AND ALL LABOR, MATERIALS AND INCIDENTIALS NEEDED TO CONSTRUCT THE JOINT AS SHOWN EXCEPT FOR THE PIPE UNDERDRAIN. THE UNDERDRAINS SHALL BE PAID FOR PER FOOT OF ITEM 605- 6" SHALLOW PIPE UNDERDRAIN, ITEM 707.32 TYPE CP, OR 707.41.



BENDING DIAGRAM

MARK	NUMBER REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	R	INC.
APPROACH SLABS								
AS501	88	31'-11"	STR.					
AS502	88	38'-0"	STR.					
AS503	2	31'-4"	STR.					
AS504	2	37'-5"	STR.					
AS505	90	19'-6"	STR.					
AS506	8	19'-0"	STR.					
AS507	124	3'-9"	BENT	3'-0"	10"			
AS1001	212	20'-11"	BENT	19'-6"				
AS1002	4	20'-5"	BENT	19'-0"				

CURB AND RE-STEEL TO BE INCLUDED FOR PAYMENT IN ITEM 898 QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=13"), AS PER PLAN

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | CHECKED TAG | REVIEWED DTF | DATE 11-1-2011 | REVISED | STRUCTURE FILE NUMBER 4505352

REAR & FORWARD APPROACH SLAB DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

27 / 33

202 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\General\84700_BPA_002.DGN (SCALE=1.000) DATE: 6/6/11

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS INCLUDING THE ODOT BRIDGE DESIGN MANUAL.

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SUPPLEMENT SPECIFICATION 840 DATED 10/21/2011

DESIGN LOADING:

HL-93 LOADING
FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT

DESIGN DATA:

CLASS C CONCRETE, MISC: COPING - COMPRESSIVE STRENGTH 4000 PSI

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI

DESIGN SUBMITTALS:

THE CONTRACTOR IS HEREBY NOTIFIED THAT THE MSE RETAINING WALL SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS PROVIDED IN SUPPLEMENTAL SPECIFICATION 840. AFTER THE AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT MSE RETAINING WALL DETAIL DESIGN PLANS (4 SETS), DESIGN CALCULATIONS (2 SETS), AND SHOP DRAWINGS PER 501.04 TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL BY THE DIRECTOR. THE PLANS FOR RETAINING WALLS SHALL BE PREPARED BY EITHER THE REINFORCED EARTH COMPANY (RETAINED EARTH AND REINFORCED EARTH WALLS), TENSAR EARTH TECHNOLOGIES, INC. (ARES RETAINING WALL SYSTEM), OR TRICON PRECAST, LTD. (TRICON RETAINED SOIL WALL SYSTEM). THE PLANS SHALL BE SUBMITTED EIGHT WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION OF THE WALLS AND THE CONTRACTOR SHALL ALLOW FOUR WEEKS FOR THE REVIEW BY ODOT.

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE AN UNFACTORED HORIZONTAL STRIP LOAD FROM THE SUPERSTRUCTURE OF 7.0 K/FT APPLIED PERPENDICULAR TO THE FACE OF WALL AT A POINT HALF THE HEIGHT OF THE CONCRETE FOOTING.

ALLOWABLE BEARING PRESSURE FOR THE DESIGN OF THE MSE WALLS:

THE ALLOWABLE BEARING PRESSURE FOR THE DESIGN OF THE MSE WALLS IS 6.0 KSF.

UNDERCUT AND BACKFILL:

PRIOR TO CONSTRUCTION OF THE MSE WALLS, THE EXISTING IN-SITU SOILS, WHERE SPECIFIED IN THE PLANS, SHALL BE REMOVED AND THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH GRANULAR MATERIAL, TYPE C TO THE ELEVATION OF THE BOTTOM OF THE MSE WALL LEVELING PAD. THE SOIL SHOULD BE OVEREXCAVATED TO AT LEAST ELEVATION 947.50 AT THE REAR MSE WALL AND TO AT LEAST 945.50 AT THE FORWARD MSE WALL. IF SOFT OR LOOSE SOILS ARE ENCOUNTERED BELOW THESE ELEVATIONS, THE OVEREXCAVATION MAY NEED TO EXTEND DEEPER. THE LIMITS SHOULD BE VERIFIED AND ADJUSTED AFTER RECEIVING THE FINAL MSE WALL DRAWINGS.

SEALING OF CONCRETE SURFACES (NON-EPOXY (CLEAR)):

SURFACES OF THE MSE WALL PANELS, AS DETAILED IN THE PLANS, SHALL BE SEALED WITH A NON-EPOXY CLEAR SEALER AS PER CMS 512. ALL MATERIAL AND WORK ASSICIATED WITH THIS ITEM IS INCIDENTAL TO ITEM 840 - MSE WALL, AS PER PLAN.

REINFORCING STEEL:
REINFORCING STEEL:

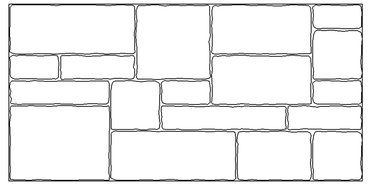
FURNISH AND INSTALL EPOXY COATED REINFORCING STEEL ACCORDING TO CMS 509 AND INCIDENTAL TO ITEM 840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN.

ARCHITECTURAL FINISH:
ARCHITECTURAL FINISH (MSE WALL):

AN AESTHETIC TREATMENT SYSTEM SHALL BE SUCH TO DUPLICATE CLOSELY THE APPEARANCE OF INDIGENOUS SANDSTONE. THE SURFACE FINISH SHALL BE PATTERN #1501 FROM CUSTOM ROCK INTERNATIONAL OR AN APPROVED EQUAL MEETING THE DETAILS SHOWN ON THIS PAGE. THE INTEGRALLY COLORED CONCRETE USING CHROMIX ADMIXTURES SHALL BE COLOR C-12 MESA BEIGE OR C-15 COACHELLA SAND AS PROVIDED BY L.M. SCOFIELD COMPANY, DOUGLASVILLE, GEORGIA (800) 800-9900 OR APPROVED EQUAL. TWO PRECONSTRUCTION PANELS WILL BE REQUIRED, ONE WITH C-12 MESA BEIGE AND ONE WITH C-15 COACHELLA SAND. THE DIRECTOR WILL DECIDE THE COLOR FROM THE TEST SAMPLES.

TWO PRECONSTRUCTION TEST SAMPLES SHALL BE PROVIDED FOR APPROVAL BY THE DIRECTOR. IF THE TEST SAMPLES DO NOT MEET THE APPROVAL OF THE DIRECTOR, THE RESULTS MAY BE GROUNDS TO REJECT THE PROPOSED MSE WALL PANELS OR INTEGRALLY COLORED CONCRETE. THE TEST SAMPLE MUST PASS APPROVAL. FAILURE WILL CONSTITUTE PLACEMENT OF ANOTHER TEST SAMPLE. A FIVE FOOT BY FIVE FOOT TEST SAMPLE SHOULD BE MADE (OR THE SIZE OF THE MSE WALL PANELS). THE MOCK-UP SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS AND PATTERN AS USED ON THE PROJECT. THE SAMPLE SHOULD BE OF THE SAME CEMENT, AGGREGATE SOURCE, AND INTEGRALLY COLORED CONCRETE THAT WILL BE USED TO MAKE THE MSE WALL PANELS. AFTER APPROVAL THE CONCRETE TEST SAMPLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

ALL AESTHETIC TREATMENT INCLUDING THE INTEGRALLY COLORED CONCRETE, SURFACE FINISH, TEST SAMPLES AND ALL OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE SQ. FT. PAYMENT FOR THE MSE WALLS.



CUSTOM ROCK INTERNATIONAL (C.R.I.)
PATTERN # 1501 OR APPROVED EQUAL

LARGE SANDSTONE ASHLAR:
AVERAGE RELIEF = 2"
STONE SIZES = 1' TO 5'

ARCHITECTURAL WALL ELEVATION

MSE WALL PHASED CONSTRUCTION

MSE WALLS WILL BE CONSTRUCTED IN PHASES. IN ORDER TO ENSURE THAT THE WALL COPINGS ARE IN LINE, DO NOT INSTALL PERMANENT COPING ON TOP OF THESE WALLS UNTIL ALL PHASES OF WALL CONSTRUCTION ARE COMPLETE.

THE CONSTRUCTION PHASE NUMBERS SHOWN IN THE MSE WALL PLANS REFER TO THE CONSTRUCTION OF THE MSE WALL, AND DO NOT NECESSARILY CORRESPOND TO THE PROJECT TEMPORARY TRAFFIC CONTROL PHASE NUMBERS.

ITEM SPECIAL - RETAINING WALL MISC.: TEMPORARY WIRE FACED MSE WALL

1.0 GENERAL
THIS WORK CONSISTS OF DESIGNING THE INTERNAL STABILITY OF THE WALL; PREPARING SHOP DRAWINGS; AND FABRICATING AND CONSTRUCTING THE TEMPORARY WIRE FACED MSE WALL. THIS WORK ALSO INCLUDES EXCAVAION FOR THE WALL. THE TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL (TWFMSE WALL) SHALLBE ONE OF THE FOLLOWING PROPRIETARY SYSTEMS OR AN APPROVED EQUAL:

TERRATREL WALL SYSTEM
THE REINFORCED EARTH COMPANY
144 NORTH FARNSWORTH AVE, SUITE 505
AURORA, IL 60505
(630) 898-3334

WELDED WIRE WALL SYSTEM
HILFIKER RETAINING WALLS
T&B STRUCTURAL SYSTEMS
6800 MANHATTAN BLVD., SUITE 304
FORT WORTH, TEXAS 76120
(888) 280-9858

TENSAR GEOGRID WALL SYSTEM
TENSAR INTERNATIONAL CORPORATION
2500 NORTHWINDS PARKWAY
SUITE 500
ALPHARETTA, GA 30009
(888) 828-5126

2.0 MATERIALS
FURNISH THE TWFMSE WALL, INCLUDING THE SOIL REINFORCEMENT, WIRE FACING PANELS, SOIL RETENTION FABRIC, JOINT MATERIALS AND ALL NECESSARY INCIDENTALS FROM ONE OF THE PROPRIETARY MANUFACTURERS LISTED IN SECTION 1.0 OR AN APPROVED EQUAL.

2.1 WIRE FACING
WIRE FACING SHALL BE SHOP FABRICATED OF COLD DRAWN STEEL WIRE CONFORMING TO THE MINIMUM REQUIREMENTS OF ASTM A-82 AND WELDED INTO THE FINISHED CONFIGURATION IN ACCORDANCE WITH ASTM 1-185.

2.2 SOIL REINFORCEMENT
SOIL REINFORCEMENTS MAY BE A STEEL STRIP, WELDED WIRE GRID, OR GEOGRIDS CONFORMING TO ONE OF THE FOLLOWING:

A. STEEL CONFORMING TO ASTM A572, GRADE 65 AND SHAPED ACCORDING TO THE SHOP DRAWING. THE FASTENERS SHALL BE ½" DIAMETER, HEXAGONAL CAP SCREW BOLTS AND NUTS, CONFORMING TO 711.09 (ASTM A325).

B. WELDED WIRE MESH CONFORMING TO THE REQUIREMENTS OF 709.10.

C. GEOGRIDS CONSISTING OF HIGH DENSITY PLYETHYLENE (HDPE) GRIDS FORMED BY A REGULAR NETWORK OF INTEGRALLY CONNECTED TENSILE ELEMENTS.

2.3 SOIL RETENTION FABRIC
THE INSIDE OF THE TWFMSE WALL SHALL HAVE A RETENSION OR FILTER FABRIC PLACED WITHIN THE REINFORCED FILL AS SHOWN IN THE PLANS. RETENTION FABRIC SHALL BE WOVEN POLYPROPYLENE FABRIC. ACCEPTABLE FABRICS INCLUDE "CARTHAGE MILLS - CARTHAGE 15%", "US FABRICS - US 1540", "MIRAFI - FW402", OR APPROVED EQUAL.

3.0 DETAIL DRAWINGS
PREPARE DETAILS DRAWINGS AND DESIGN CALCULATIONS IN ACCORDANCE WITH THE 5TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2010, AND THESE PROVISIONS. IN THE EVENT OF A CONFLICT, THIS SPECIFICATION WILL GOVERN.

THE DETAIL DRAWINGS SHALL INCLUDE THE FOLLOWING INFORMATION:

A. A SITE PLAN FO THE FULL LENGTH OF THE RETAINING WALL.
B. AN ELEVATION VIEW OF THE FULL LENGTH OF THE RETAINING WALL.
C. THE SOIL RIENFORCEMENT LENGTHS.
D. REPRESENTATIVE CROSS-SECTIONS AT EACH DESIGN CHANGE.
E. ACTUAL BEARING PRESSURES.
F. ALLOWABLE BEARING PRESSURE.
G. DESIGN LIFE.
H. ANGLE OF INTERNAL FRICTION OF SELECT GRANULAR MATERIAL.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

MSE WALL NOTES
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

ITEM SPECIAL - RETAINING WALL MISC.: TEMPORARY WIRE FACED MSE WALL (CONTINUED...)

TWO OHIO REGISTERED ENGINEERS, AS DESCRIBED IN SS840, SHALL SIGN, SEAL AND DATE THE DETAIL DRAWINGS, DESIGN CALCULATIONS AND ACCEPTANCE LETTER PROVIDED BY THE STATE.

THIRTY (30) DAYS PRIOR TO THE COMMENCEMENT OF WALL CONSTRUCITON, SUBMIT TO THE ENGINEER, TWO COPIES OF THE DETAIL DRAWINGS ON 11"X17" SHEETS, TWO COPIES OF THE DESIGN CALCULATIONS, AND THE SIGNED ACCEPTANCE LETTER. THE ENGINEER WILL SUBMIT THE DRAWINGS, CALCULATIONS, AND ACCEPTANCE LETTER TO THE OFFICE OF STRUCTURAL ENGINEERING (OSE) FOR INFORMATION. DEPARTMENT APPROVAL IS NOT REQUIRED.

ENSURE THAT THE SHOP DRAWINGS MEET THE REQUIREMENTS FOR MATERIALS. FIELD MEASUREMENTS, CONSTRUCTION REQUIREMENTS AND CONTRACT REQUIREMENTS. COORDINATE DETAILS OF THE WORK TO BE PERFORMED BY OTHER ENTITIES ON THE PROJECT. THE DEPARTMENT WILL NOT MAKE ALLOWANCE FOR ADDITIONAL COST OR DELAYS TO THE CONTRACTOR FOR INCORRECT FABRICATION AS A RESULT OF FAILURE TO COORDINATE OR PERFORM THIS COORDINATION. SUBMIT TWO COPIES OF THE SHOP DRAWINGS ON 11"X17" SHEETS TO THE ENGINEER WITH THE DELIVERY OF THE MATERIALS TO THE PROJECT. DEPARTMENT APPROVAL OF SHOP DRAWINGS IS NOT REQUIRED.

4.0 CONSTRUCTION REQUIREMENTS

4.1 WALL EXCAVATION
PERFORM WALL EXCAVATION TO THE BOTTOM OF THE REINFORCED SOIL MASS IN ACCORDANCE WITH CMS 503. PROVIDE TEMPORARY SHEETING AS REQUIRED TO MAINTAIN TRAFFIC DURING WALL EXCAVATION.

4.2 UNDERCUT AND BACKFILL
REMOVE UNSUITABLE FOUNDATION SOILS BELOW THE REINFORCED SOIL MASS TO THE LIMITS AS NOTED ON SHEET 28/33.

4.3 FOUNDATION PREPARATION
FOR A WIDTH EQUAL TO OR EXCEEDING THE WIDTH OF THE REINFORCED SOIL MASS, LEVEL AND COMPACT THE FOUNDATION SOIL ACCORDING TO ITEM 203.05.

4.4 WALL ERECTION
FOR VERTICAL WALL, VERTICAL TOLERANCES (PLUMBNESS) AND HORIZONTAL ALIGNMENT TOLERANCES SHALL NOT EXCEED 2 INCHES WHEN MEASURED ALONG A 10 FEET STRAIGHT EDGE. FOR VERTICAL WALLS, THE OVERALL VERTICAL TOLERANCE OF THE WALL (PLUMBNESS FROM THE TOP TO BOTTOM) SHALL NOT EXCEED 2 INCHES PER 10 FEET OF WALL HEIGHT.

PLACE SOIL REINFORCEMENT PERPENDICULAR TO THE WALL FACING UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. ATTACH THE REINFORCEMENT TO THE FACING AS DIRECTED BY THE MANUFACTURER'S GUIDELINES. PRIOR TO PLACEMENT OF THE GRANULAR BACKFILL, ENSURE THAT THE REINFORCEMENT IS CONTINUOUS FROM THE WIRE FACING TO THE END OF THE REINFORCING ZONE; PULLED TAUT WITH ENOUGH FORCE TO ELIMINATE WRINKLES OR FOLDS; AND HELD IN A MANNER APPROVED BY THE MANUFACTURER. DO NOT SPLICE THE SOIL REINFORCEMENT OR OPERATE EQUIPMENT DIRECTLY ON THE SOIL REINFORCEMENT.

4.5 SELECT GRANULAR BACKFILL PLACEMENT
PLACE THE SELECT GRANULAR BACKFILL MATERIAL LEVEL UP TO THE ELEVATION OF THE SOIL REINFORCEMENT BEFORE ATTACHING TO THE WIRE FACING. ATTACH AND PLACE SOIL REINFORCEMENTS ACCORDING TO THE RECOMMENDATIONS OF THE MANUFACTURER.

AT THE END OF EACH DAY'S OPERATION, SHAPE THE LAST LEVEL OF EMBANKMENT TO RAPIDLY DIRECT RAIN WATER RUNOFF AWAY FROM THE WALL FACE. DO NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

COMPACT THE REINFORCED ZONE OF FILL WITHOUT DISTURBING OR DISTORTING THE SOIL REINFORCEMENT AND WIRE FACING. PLACE THE EMBANKMENT MATERIAL WITHIN 3 FEET OF THE BACKSIDE OF THE FACING IN 6 TO 8 INCH THICK LIFTS AND COMPACT THIS AREA BY AT LEAST 3 PASSES OF A LIGHT MECHANICAL TAMPER. THIS AREA DOES NOT HAVE TO SATISFY DENSITY TEST REQUIREMENTS.

4.6 EMBANKMENT CONSTRUCTION
CONSTRUCT EMBANKMENT WITHIN THE PLAN SPECIFIED LIMITS OF THE PROPRIETARY WALL EMBANKMENT AND OUTSIDE THE PLAN SPECIFIED LIMITS OF THE SELECT GRANULAR BACKFILL ACCORDING TO CMS 203.

5.0 DESIGN REQUIREMENTS FOR TEMPORARY WIRE FACED MSE WALLS
THE DESIGN OF THE TWFMSE WALL SHALL BE IN STRICT CONFORMANCE WITH THE 5TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2010, SS 840, AND DESIGN REQUIREMENTS LISTED BELOW:

A. THE DESIGN SHALL MEET ALL PLAN REQUIREMENTS. THE RECOMMENDATIONS OF THE WALL SYSTEM SUPPLIERS SHALL NOT OVERRIDE THE MINIMUM PERFORMANCE REQUIREMENTS SHOWN HEREIN. OTHER SYSTEMS OFFERED BY THE APPROVED SUPPLIER SHALL NOT BE SUBMITTED IN LIEU OF THE SYSTEM WHICH IS CALLED FOR IN SECTION 1.0.

B. ONE HUNDRED PERCENT OF THE SOIL REINFORCEMENTS WHICH ARE DESIGNED AND PLACED IN THE REINFORCED EARTH VOLUME SHALL EXTEND TO AND BE CONNECTED TO THE WIRE FACING ELEMENT AS RECOMMENDED BY THE MANUFACTURER.

C. UNDER SERVICE LOADS, THE MINIMUM FACTOR OF SAFETY AT THE CONNECTION BETWEEN THE WIRE FACING AND THE SOIL REINFORCEMENTS SHALL BE 1.5. THE MINIMUM FACTOR OF SAFETY AGAINST REINFORCEMENT PULLOUT SHALL BE 1.5 AT ½" DEFORMATION.

D. COMPUTE THE COEFFICIENT OF LATERAL EARTH PRESSURE KA AND THE APPLICATION OF THE LATERAL FORCES TO THE REINFORCED SOIL MASS FOR EXTERNAL STABILITY ANALYSIS USING THE COULOMB METHOD, BUT ASSUMING NO WALL FRICTION.

E. SOIL PARAMETERS FOR USE IN DESIGN ARE AS FOLLOWS:

FILL ZONE	TYPE OF SOIL	SOIL UNIT WEIGHT	FRICTION ANGLE	COHESION
REINFORCED ZONE	SELECT GRANULAR BACKFILL	120 LBS/CU. FT.	34°	0
RETAINED ZONE	ON-SITE SOIL VARYING FROM SANDY SILT, SOME CLAY	120 LBS/CU. FT.	30°	0

F. THE ALLOWABLE REINFORCEMENT TENSION OF STEEL (INEXTENSIBLE) REINFORCEMENT ELEMENTS FOR STRUCTURAL DESIGN AND CONNECTION (PULLOUT DESIGN SHALL BE BASED ON THE THICKNESS OF THE ELEMENTS AT THE END OF THE STRUCTURE'S DESIGN LIFE. IN ESSENCE, THE MINIMUM THICKNESS OF THE REINFORCEMENT ELEMENTS SHALL BE THAT THICKNESS WHICH WILL PROVIDE FOR THE STRUCTURAL REQUIREMENT PLUS THE SACRIFICED THICKNESS AT THE END OF THE DESIGN LIFE.

G. THE DESIGN LIFE OF THE TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH SYSTEM SHALL BE 3 YEARS. STEEL ELEMENTS FOR THIS WALL ARE NOT REQUIRED TO BE GALVANIZED OR EPOXY COATED.

H. COMPUTE THE INTERNAL STABILITY, INCLUDING DEFINITION OF FAILURE PLANE AND LATERAL EARTH PRESSURE COEFFICIENT, FOR PROPRIETARTY WALL MANUFACTURER ACCORDING TO AASHTO SECTION 11.10.6 INCLUDING THE USE OF THE COHERENT GRAVITY METHOD / FOR INEXTENSIBLE REINFORCEMENT OR THE SIMPLIFIED METHOD FOR EXTENSIBLE SOIL REINFORCEMENT.

I. THE WALL HEIGHT FOR DESIGN PURPOSES SHALL BE MEASURED FROM THE BOTTOM OF THE WIRE FACING UNIT TO THE ELEVATION OF THE TOP WIRE FACING UNIT AT THE FACE OF THE WALL. WHEN THE WALL IS RETAINING A SLOPING SURCHARGE THEN THE WALL HEIGHT SHALL BE DEFINED AS THE EQUIVALENT DESIGN HEIGHT (H) AS SHOWN IN AASHTO FIGURE 3.11.5.8.1-2. THE MINIMUM REINFORCING STRIP LENGTH SHALL BE 70 PERCENT OF THE WALL HEIGHT, AS APPROPRIATELY DEFINED FOR EITHER A LEVEL OR SLOPING BACKFILL.

J. THE YIELD STRENGTH (FY) FOR METALLIC SOIL REINFORCEMENT SHALL BE 65 KSI.

L. THE WALL SYSTEM SHALL ACCOMMODATE UP TO ONE PERCENT DIFFERENTIAL SETTLEMENT ALONG THE LENGTH OF THE WALL IN THE LONGITUDINAL DIRECTION.

M. COMPUTE THE VERTICAL STRESS AT EACH REINFORCEMENT LEVEL BY CONSIDERING LOCAL EQUILIBRIUM OF ALL THE FORCES ACTING ABOVE THE LEVEL UNDER INVESTIGATION. THE VERTICAL STRESS (BEARING PRESSURE) AT EACH REINFORCEMENT LEVEL MAY BE COMPUTED USING THE MEYERHOF METHOD IN THE SAME MANNER AS THE BEARING PRESSURE COMPUTED FOR THE BASE OF THE WALL.

6.0 METHOD OF MEASUREMENT
THE DEPARTMENT WILL MEASURE THE TEMPORARY WIRE FACED MSE WALL SYSTEM AS LUMP SUM.

7.0 BASIS OF PAYMENT
TEMPORARY WIRE FACED MSE WALLS MEASURED, INCLUDING ENGINEERING, DESIGN SUBMITTALS, EXCAVATION, FOUNDATION PREPARATION, WIRE FACED PANELS, SOIL REINFORCEMENT SYSTEM, SOIL RETENSION FABRIC, SELECT GRANULAR BACKFILL, 6" DIAMETER PERFORATED CORRUGATED PLASTIC PIPE WITH FILTER FABRIC, AND ALL INCIDENTALS REQUIRED TO CONSTRUCT THE TWFMSE WALL WILL BE PAID FOR AND INCLUDED IN THE CONTRACT UNIT PRICE LUMP SUM BID FOR "ITEM SPECIAL RETAINING WALL, MISC: TEMPORARY WIRE FACED MSE WALL" UNLESS SEPERATELY ITEMIZED IN THE PLAN.

THE DEPARTMENT WILL PAY FOR UNDERCUT AND BACKFILL QUANTITIES BEYOND THE LIMITS SHOWN IN THE PLANS AS EXTRA WORK, AS DESCRIBED IN 109.05.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	RETAINING WALL, MISC.: TEMPORARY WIRE FACED MSE WALL

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

MSE WALL NOTES
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

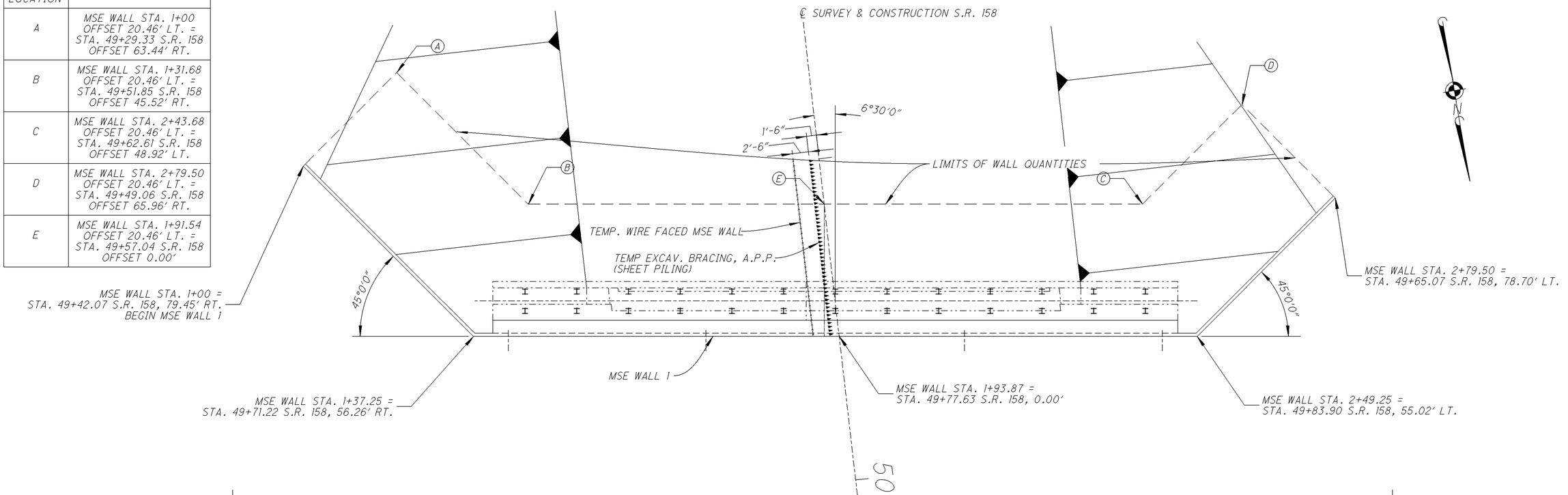
LIC-158-0.56

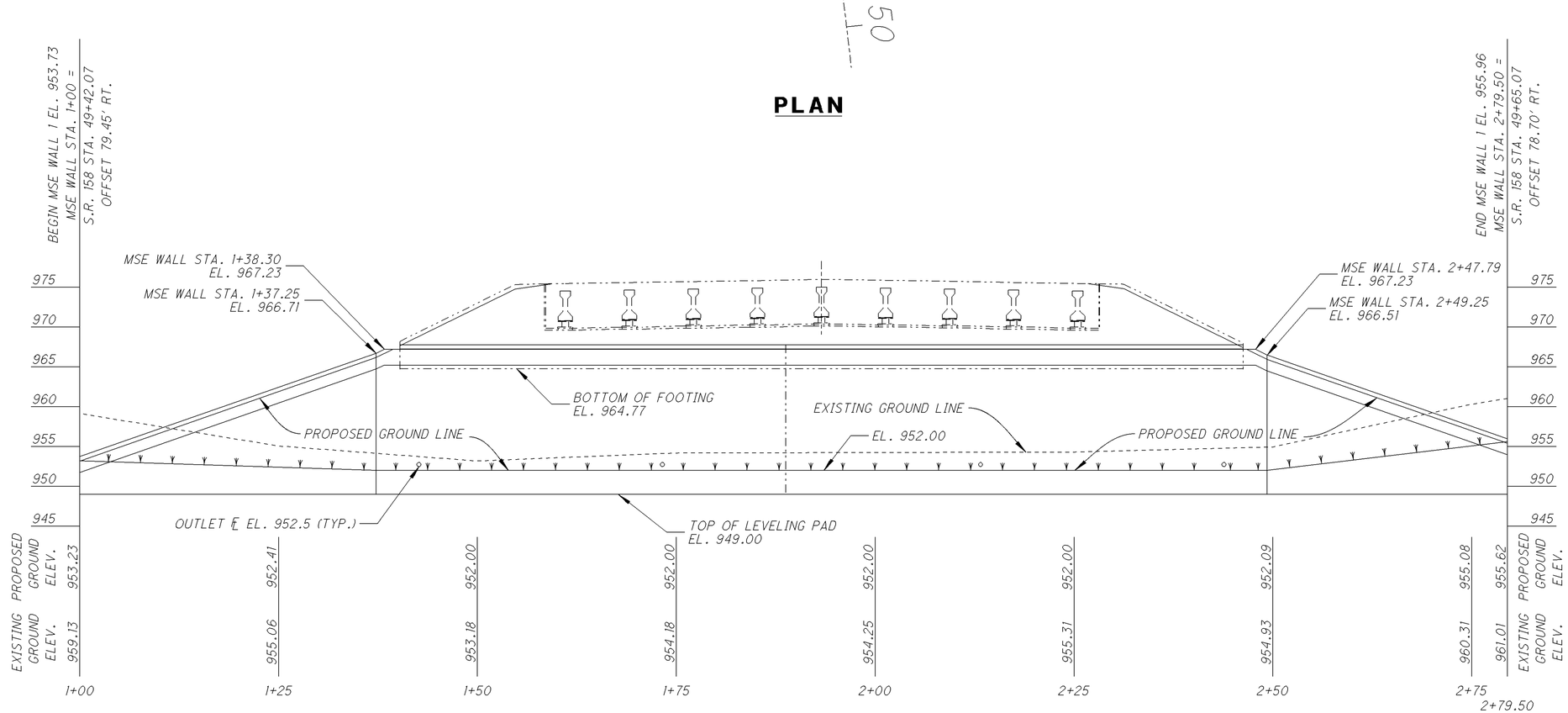
28A / 33

203A
219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\84700_MSE_005.DGN (SCALE •) 10-19-2011

LOCATION	
A	MSE WALL STA. 1+00 OFFSET 20.46' LT. = STA. 49+29.33 S.R. 158 OFFSET 63.44' RT.
B	MSE WALL STA. 1+31.68 OFFSET 20.46' LT. = STA. 49+51.85 S.R. 158 OFFSET 45.52' RT.
C	MSE WALL STA. 2+43.68 OFFSET 20.46' LT. = STA. 49+62.61 S.R. 158 OFFSET 48.92' LT.
D	MSE WALL STA. 2+79.50 OFFSET 20.46' LT. = STA. 49+49.06 S.R. 158 OFFSET 65.96' RT.
E	MSE WALL STA. 1+91.54 OFFSET 20.46' LT. = STA. 49+57.04 S.R. 158 OFFSET 0.00'





DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

MSE WALL 1 PLAN & PROFILE DETAILS

BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

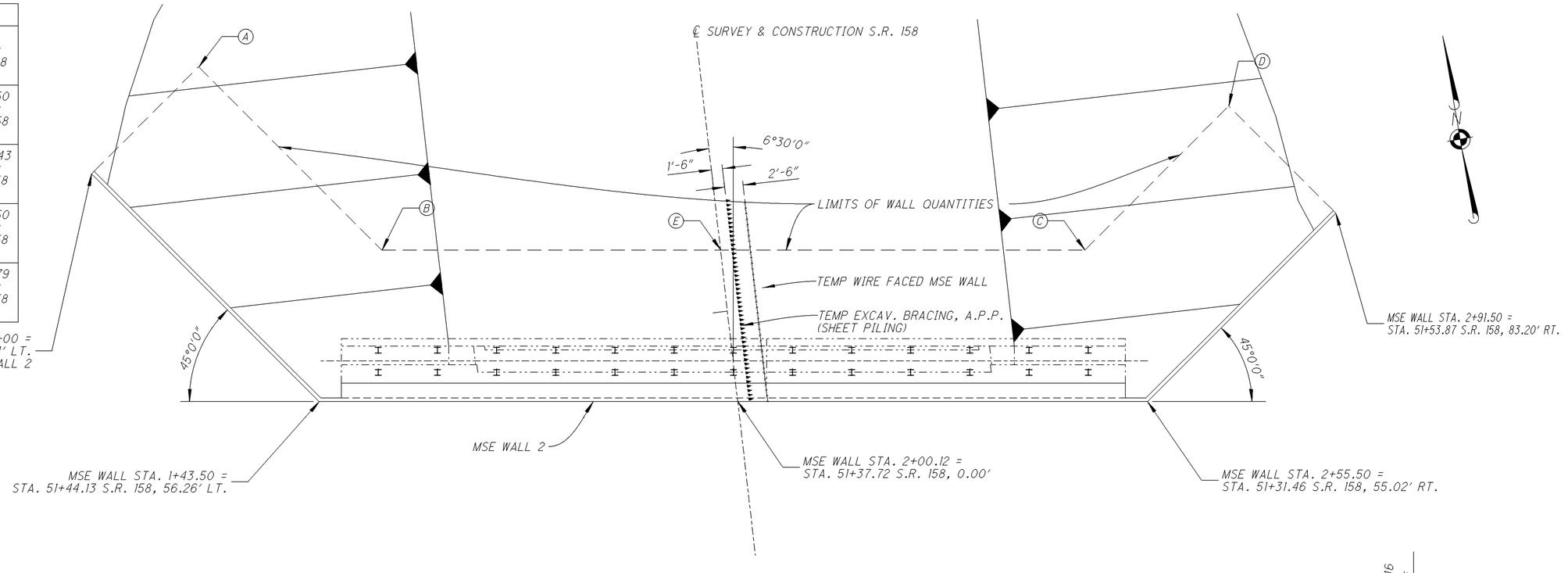
29 / 33

204
219

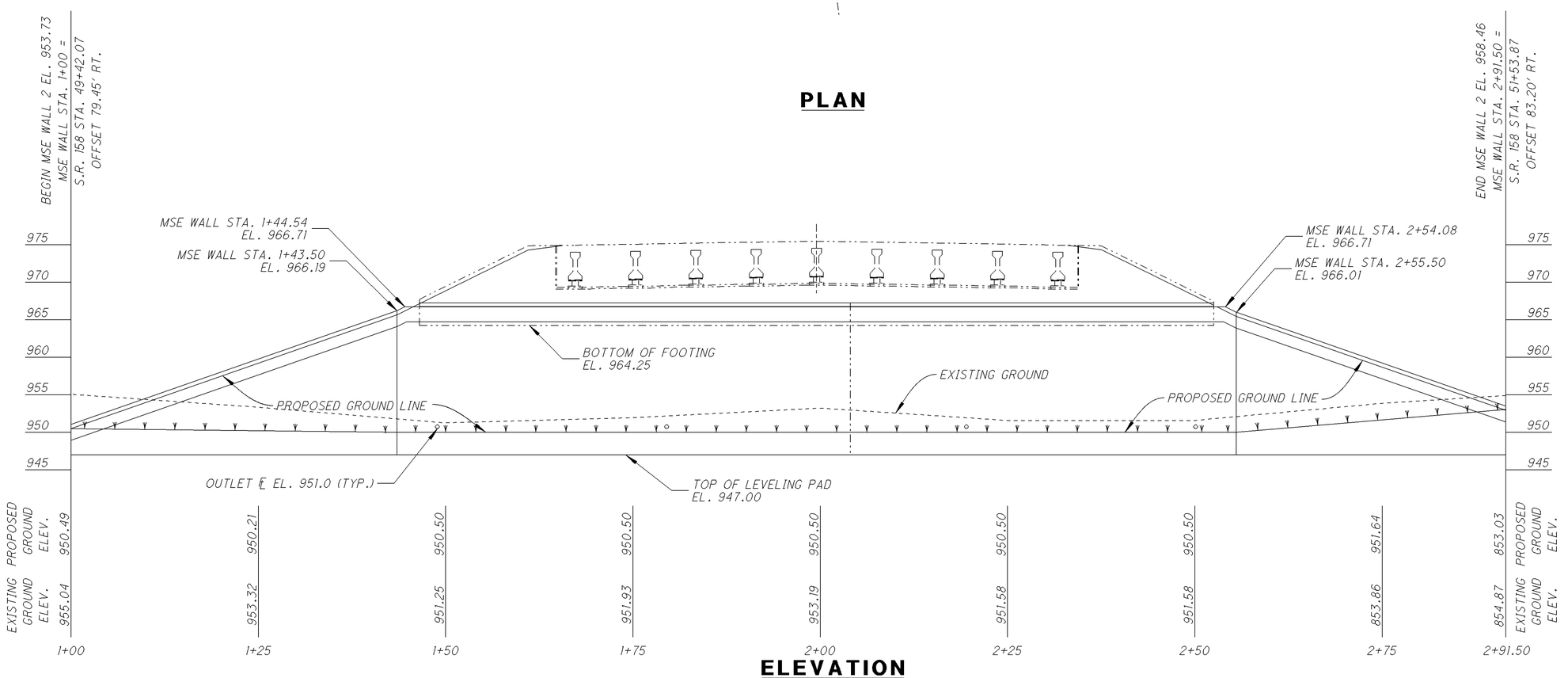
P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\84700_MSE_001.DGN (SCALE = 8.0) 11-18-2011

11-18-2011

LOCATION	
A	MSE WALL STA. 1+00 OFFSET 20.46' LT. = STA. 51+90.91 S.R. 158 OFFSET 67.33' LT.
B	MSE WALL STA. 1+43.50 OFFSET 20.46' LT. = STA. 51+63.50 S.R. 158 OFFSET 45.52' LT.
C	MSE WALL STA. 2+06.43 OFFSET 20.46' LT. = STA. 51+52.74 S.R. 158 OFFSET 48.92' RT.
D	MSE WALL STA. 2+91.50 OFFSET 20.46' LT. = STA. 51+69.88 S.R. 158 OFFSET 70.46' RT.
E	MSE WALL STA. 1+97.79 OFFSET 20.46' LT. = STA. 51+58.32 S.R. 158 OFFSET 0.00'



PLAN



ELEVATION

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

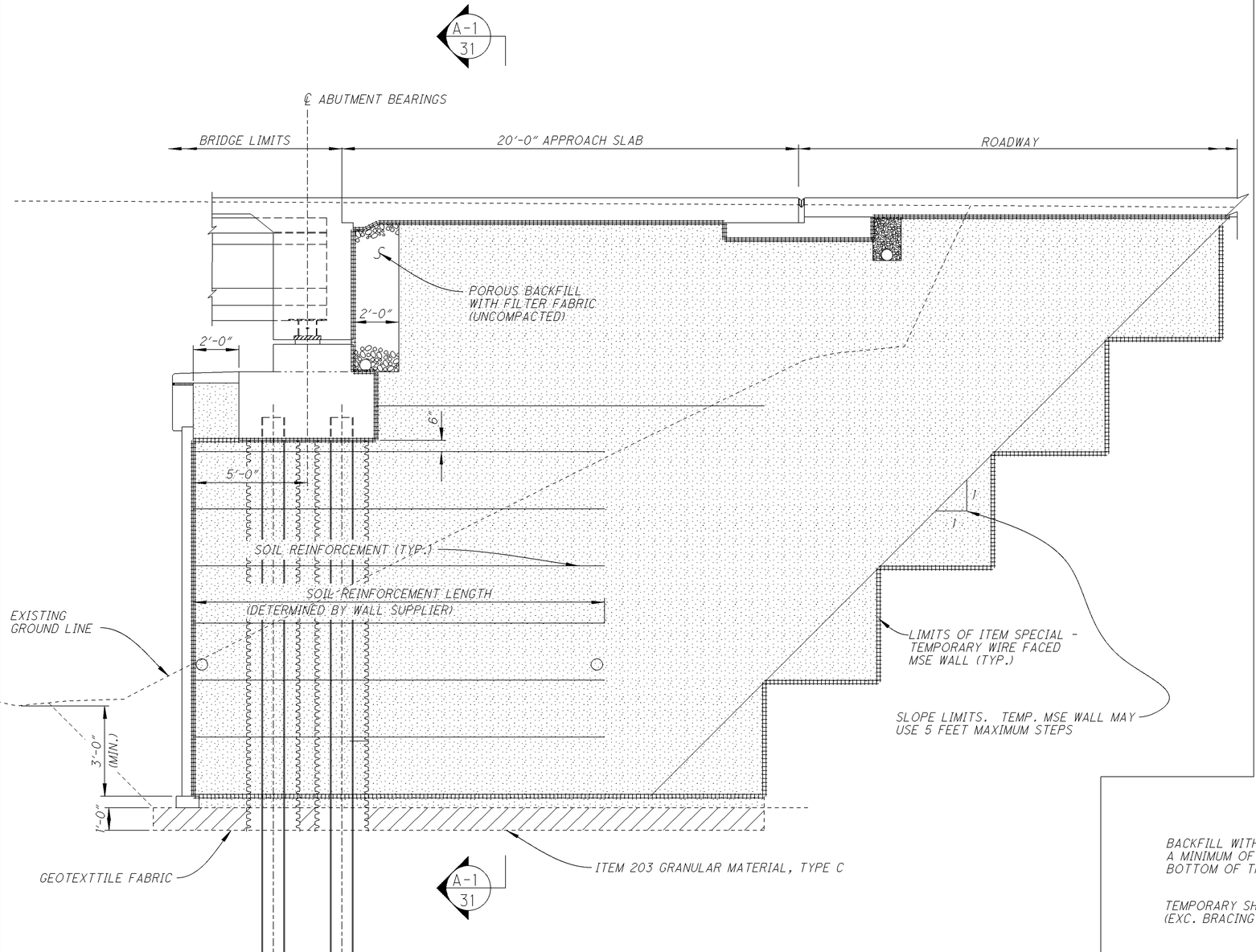
MSE WALL 2 PLAN & PROFILE DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

30 / 33

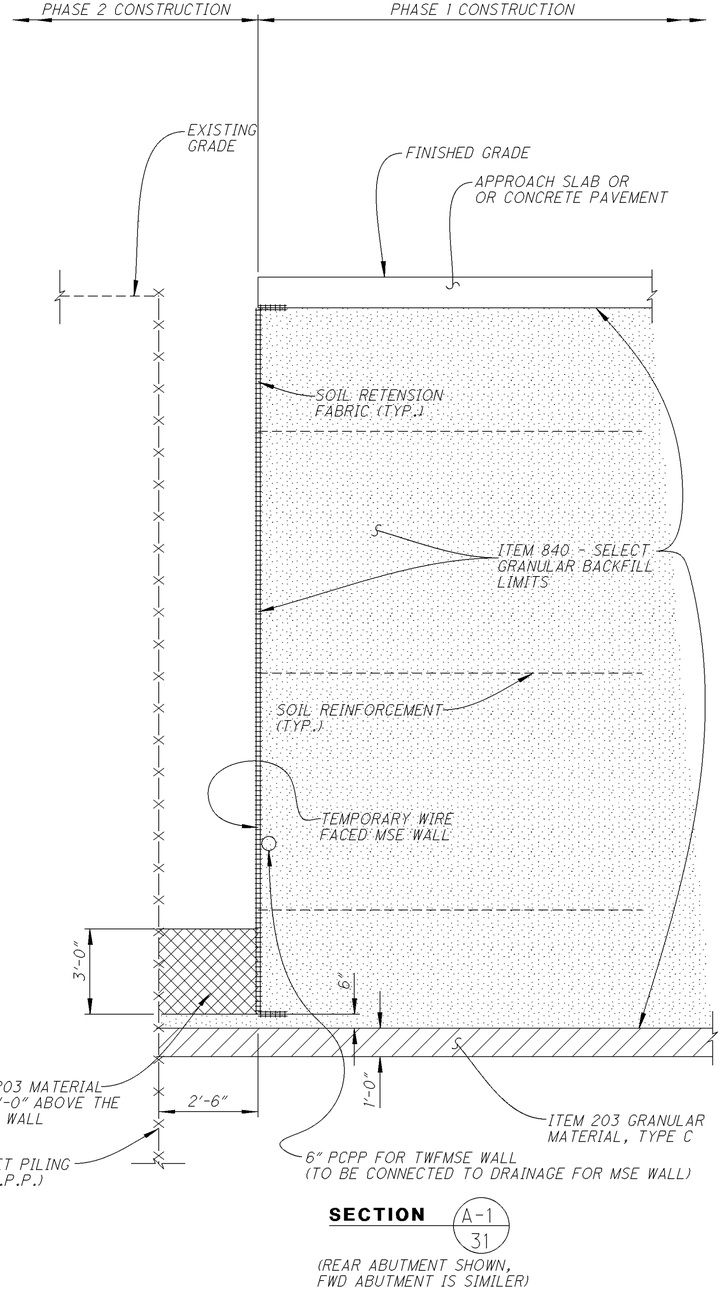
205
219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\84700_MSE_002.DGN (SCALE - 8.0) 11-18-2011



MSE WALL SECTION AT CENTERLINE ABUTMENT BEARINGS & PROPOSED S.R. 158 & **TEMPORARY WIRE FACED MSE WALL ELEVATION AT ABUTMENTS & PROPOSED S.R. 158**

(ALL DIMENSIONS PERPENDICULAR TO MSE WALL)



SECTION A-1 / 31

(REAR ABUTMENT SHOWN, FWD ABUTMENT IS SIMILER)

NOTES:

1. THE BOTTOM ELEVATIONS OF THE TEMPORARY WALLS SHALL MATCH THE ELEVATION OF THE PERMANENT MSE WALLS FOR THE LENGTH OF EACH PERMANENT WALL'S SOIL REINFORCEMENT.

2. THE TOP OF THE TEMPORARY WIRE FACED MSE WALL IS LOCATED AT THE BASE OF THE APPROACH SLAB OR BASE OF CONCRETE PAVEMENT.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

MSE WALL SECTION AND TEMPORARY MSE WALL ELEVATION
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

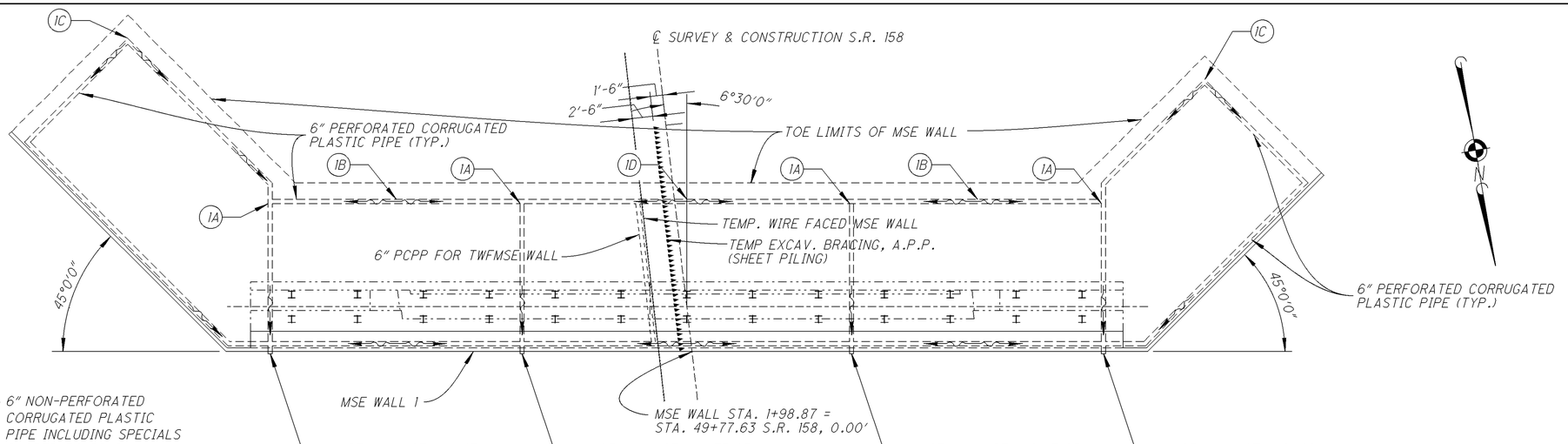
LIC-158-0.56

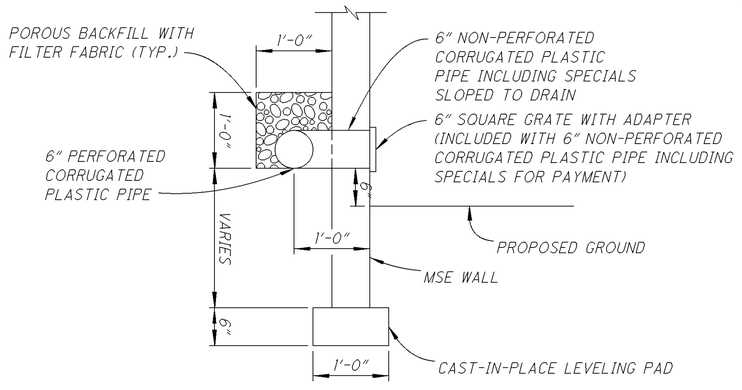
31 / 33

206 / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\

LOCATION	ELEVATION
1A	952.69
1B	952.80
1C	952.97
1D	952.90



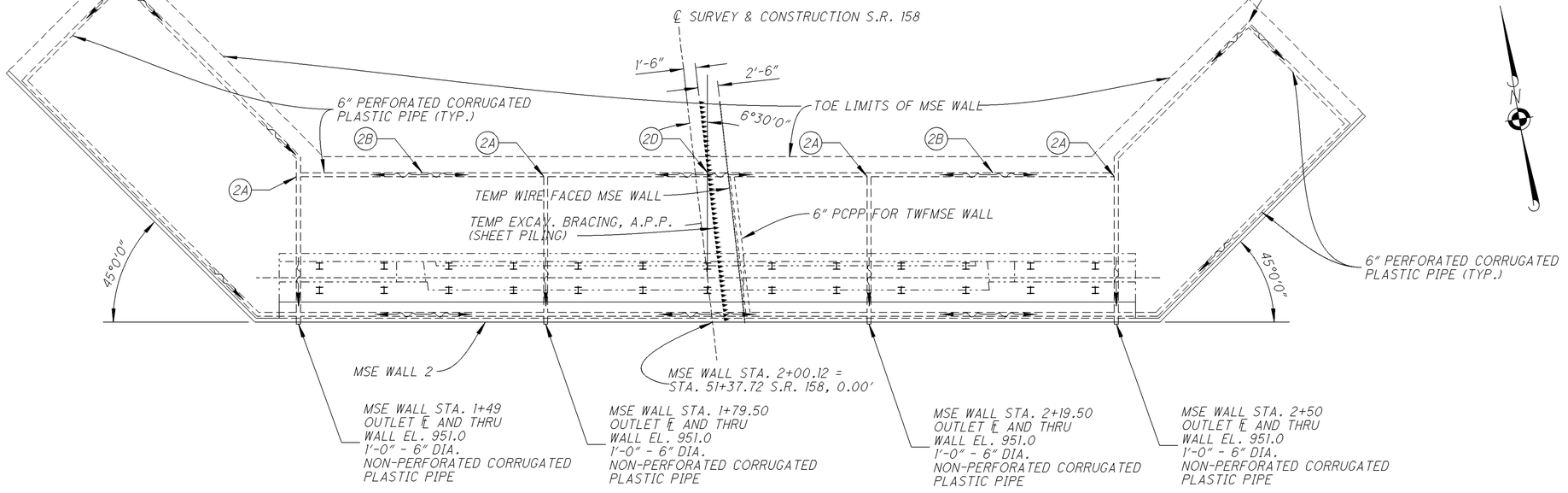


OUTLET DETAIL

MSE WALL DRAINAGE SCHEMATIC FOR MSE WALL 1

(REAR ABUTMENT)

LOCATION	ELEVATION
2A	951.19
2B	951.35
2C	951.52
2D	951.40



MSE WALL DRAINAGE SCHEMATIC FOR MSE WALL 2

(FORWARD ABUTMENT)

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

MSE WALL DRAINAGE DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

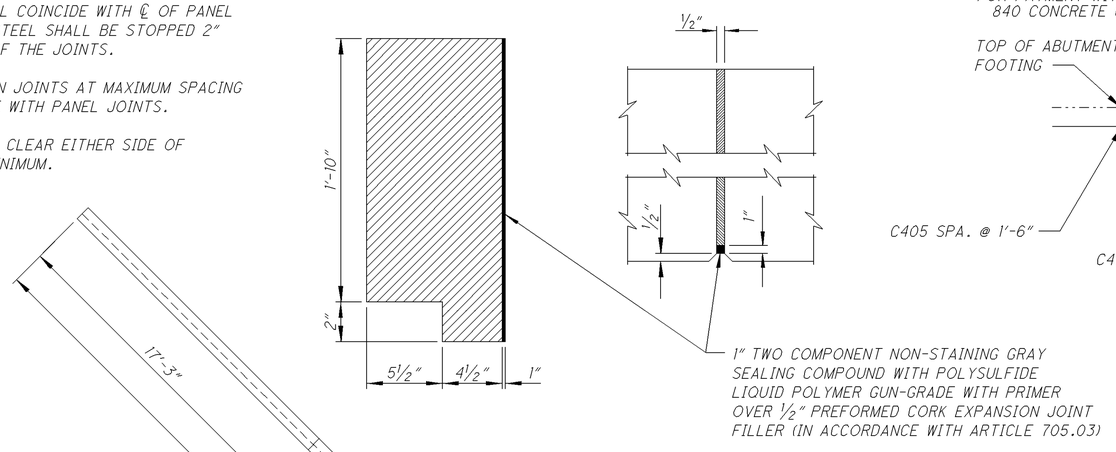
LIC-158-0.56

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\84700_MSE_003.DGN (SCALE = 8.0) 11-18-2011

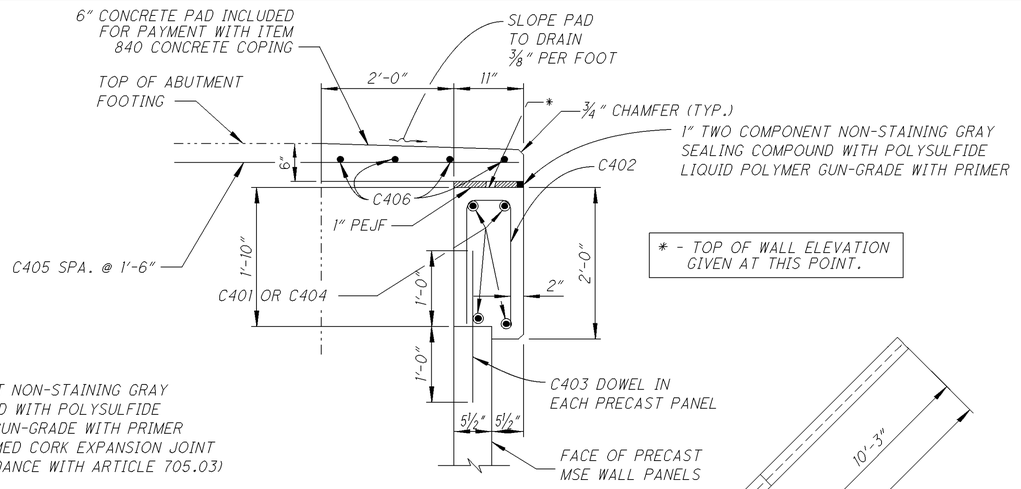
NOTES:
1. JOINTS IN COPING SHALL COINCIDE WITH ℄ OF PANEL JOINT. REINFORCING STEEL SHALL BE STOPPED 2" SHORT OF EACH SIDE OF THE JOINTS.

2. PROVIDE ½" EXPANSION JOINTS AT MAXIMUM SPACING OF 20'-0" TO COINCIDE WITH PANEL JOINTS.

3. VERTICAL STEEL SHALL CLEAR EITHER SIDE OF PANEL JOINTS BY 2" MINIMUM.



MSE WALL COPING PANEL JOINT

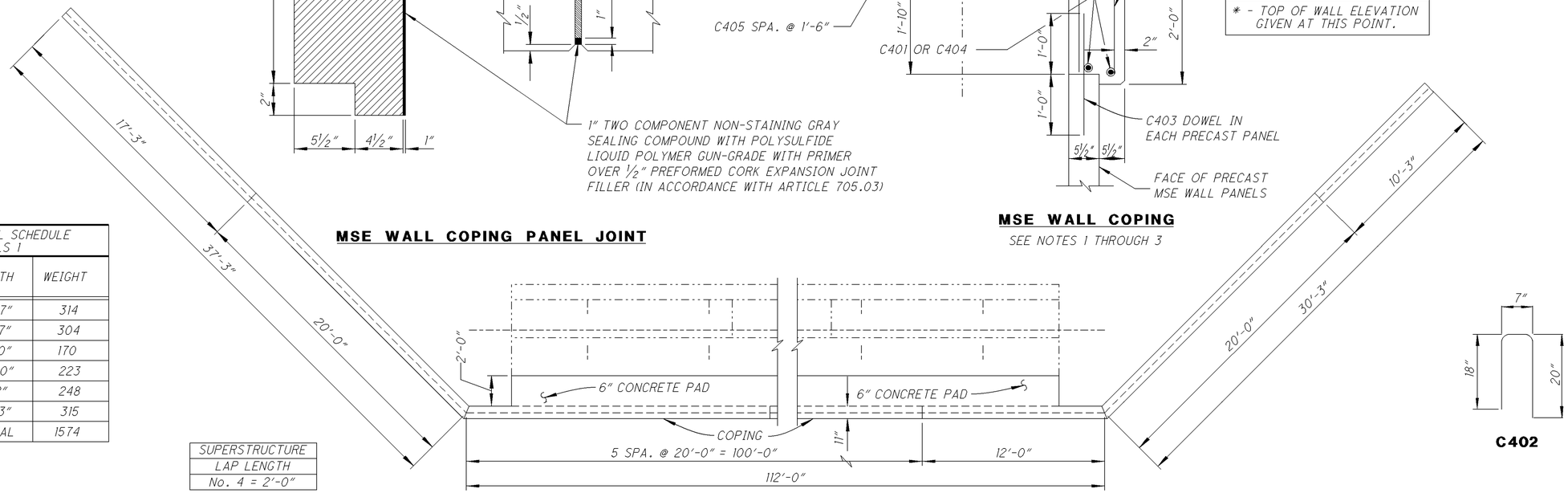


MSE WALL COPING

SEE NOTES 1 THROUGH 3

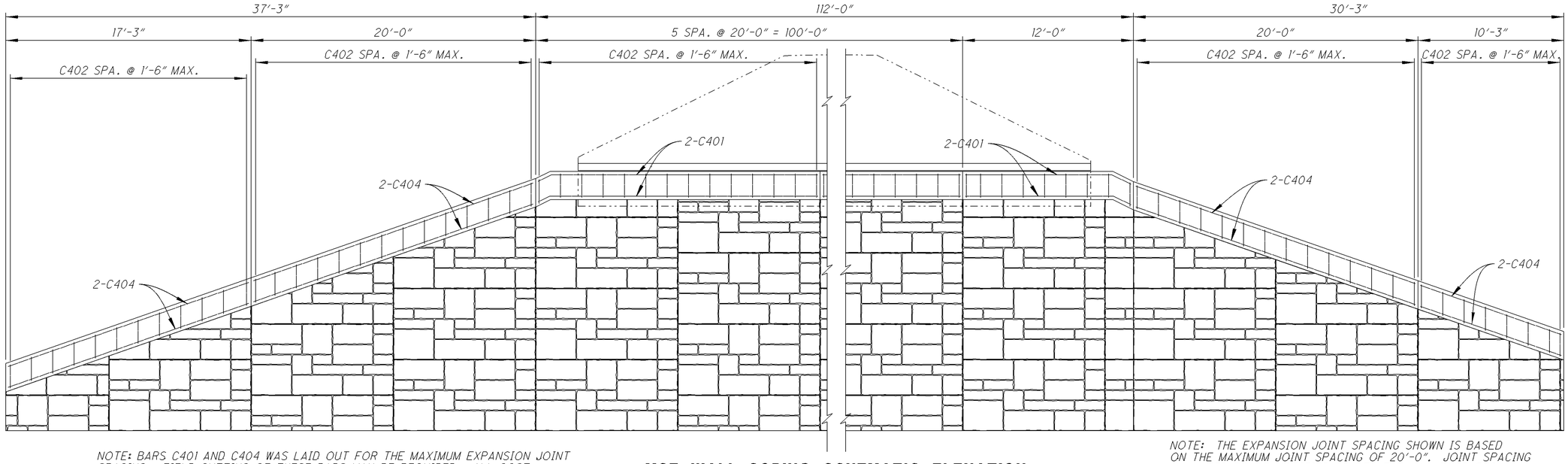
REINFORCEMENT STEEL SCHEDULE FOR MSE WALLS 1			
MARK	NUMBER REQ'D.	LENGTH	WEIGHT
C401	24	19'-7"	314
C402	127	3'-7"	304
C403	127	2'-0"	170
C404	16	20'-10"	223
C405	72	5'-2"	248
C406	12	39'-3"	315
		TOTAL	1574

SUPERSTRUCTURE
LAP LENGTH
No. 4 = 2'-0"



MSE WALL COPING SCHEMATIC PLAN

C402



NOTE: BARS C401 AND C404 WAS LAID OUT FOR THE MAXIMUM EXPANSION JOINT SPACING. FIELD CUTTING OF THESE BARS MAY BE REQUIRED. ALL COST ASSOCIATED WITH CUTTING AND FIXING THE EPOXY COATING SHALL BE INCICENTAL TO ITEM 840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN.

MSE WALL COPING SCHEMATIC ELEVATION

(MEASUREMENTS ALONG FACE OF MSE WALL)

NOTE: THE EXPANSION JOINT SPACING SHOWN IS BASED ON THE MAXIMUM JOINT SPACING OF 20'-0". JOINT SPACING MAY NEED TO BE MODIFIED AS PER THE MANUFACTURES MSE WALL PANEL DESIGN. ALL COST ASSOCIATED WITH THIS SHALL BE PAID FOR IN ITEM 840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED	DRAWN	REVIEWED	DATE
JDR	JDR	DTF	11-1-2011
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TAG		4505352	

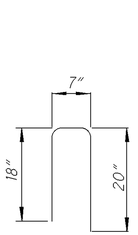
MSE WALL 1 COPING DETAILS
BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

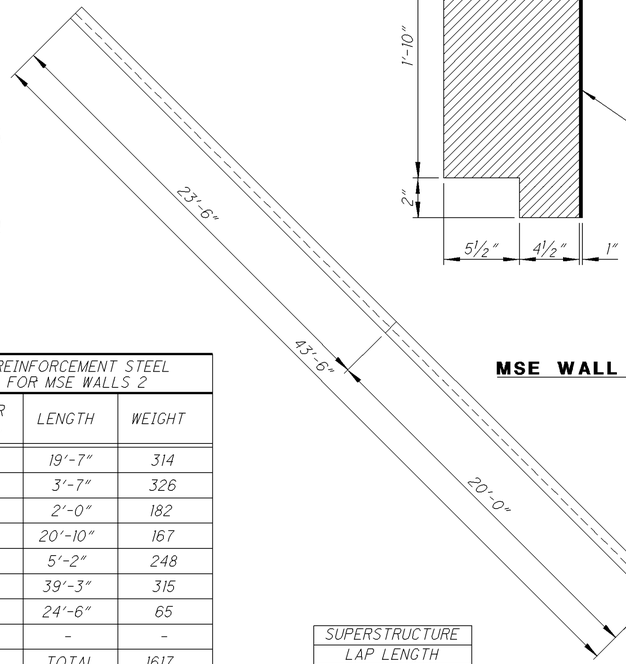
33 / 33

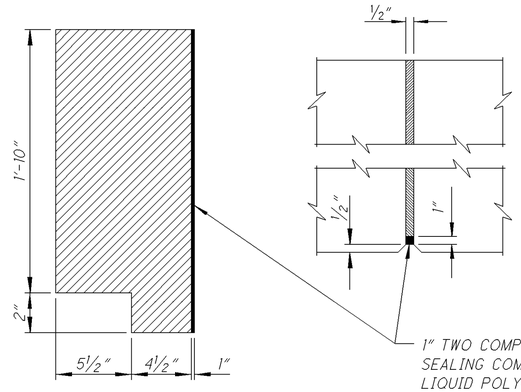
208
219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\MSE_WALLS\84700_MSE_006.DGN (SCALE - 4.0)

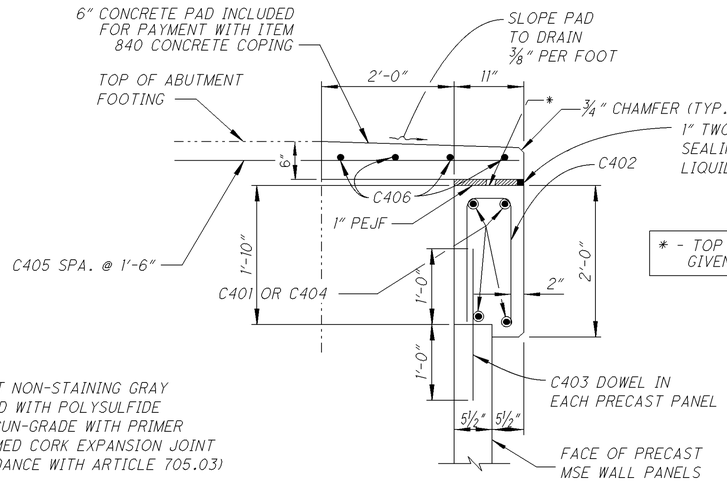


C402





1" TWO COMPONENT NON-STAINING GRAY SEALING COMPOUND WITH POLYSULFIDE LIQUID POLYMER GUN-GRADE WITH PRIMER OVER ½" PREFORMED CORK EXPANSION JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03)



* - TOP OF WALL ELEVATION GIVEN AT THIS POINT.

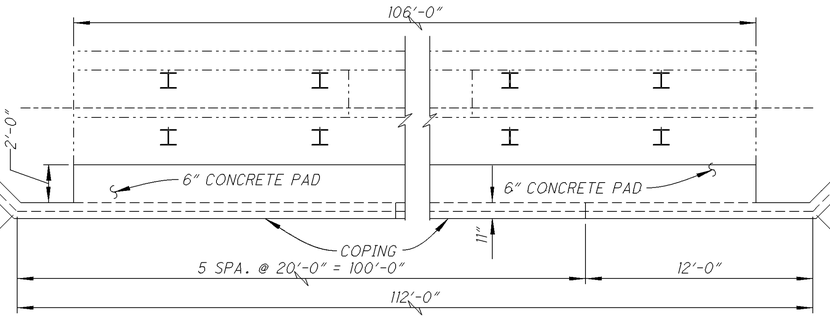
MSE WALL COPING

SEE NOTES 1 THROUGH 3

MSE WALL COPING PANEL JOINT

ESTIMATED REINFORCEMENT STEEL SCHEDULE FOR MSE WALLS 2			
MARK	NUMBER REQ'D.	LENGTH	WEIGHT
C401	24	19'-7"	314
C402	136	3'-7"	326
C403	136	2'-0"	182
C404	12	20'-10"	167
C405	72	5'-2"	248
C406	12	39'-3"	315
C407	4	24'-6"	65
-	-	-	-
		TOTAL	1617

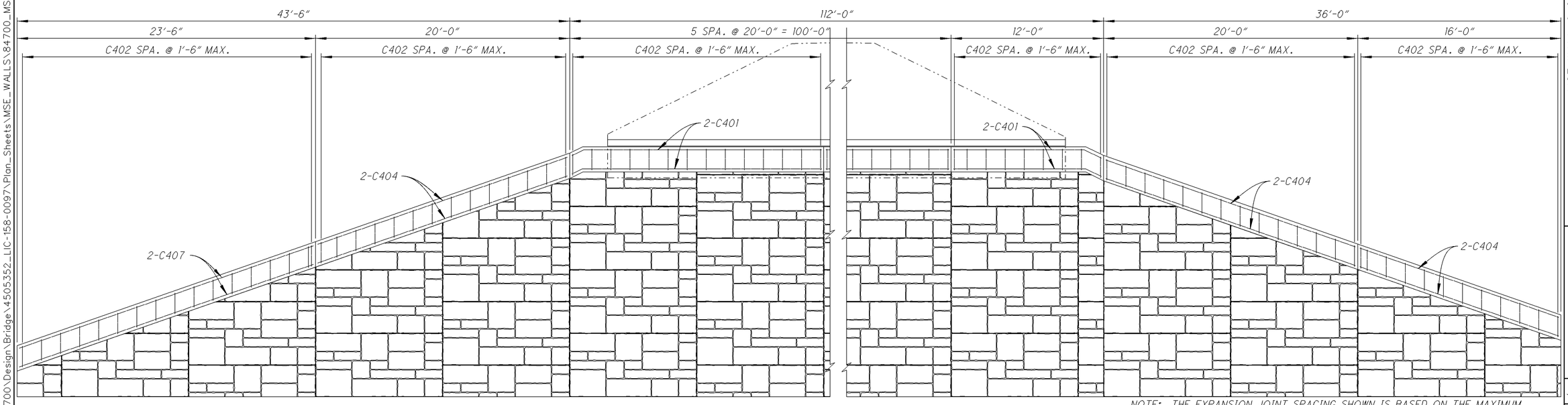
SUPERSTRUCTURE
LAP LENGTH
No. 4 = 2'-0"



MSE WALL COPING SCHEMATIC PLAN

NOTES:

1. JOINTS IN COPING SHALL COINCIDE WITH ℄ OF PANEL JOINT. REINFORCING STEEL SHALL BE STOPPED 2" SHORT OF EACH SIDE OF THE JOINTS.
2. PROVIDE ½" EXPANSION JOINTS AT MAXIMUM SPACING OF 30'-0" TO COINCIDE WITH PANEL JOINTS.
3. VERTICAL STEEL SHALL CLEAR EITHER SIDE OF PANEL JOINTS BY 2" MINIMUM.



NOTE: BARS C401 AND C404 WAS LAID OUT FOR THE MAXIMUM EXPANSION JOINT SPACING. FIELD CUTTING OF THESE BARS MAY BE REQUIRED. ALL COST ASSOCIATED WITH CUTTING AND FIXING THE EPOXY COATING SHALL BE INCICENTAL TO ITEM 840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN.

MSE WALL COPING SCHEMATIC ELEVATION

(MEASUREMENTS ALONG FACE OF MSE WALL)

NOTE: THE EXPANSION JOINT SPACING SHOWN IS BASED ON THE MAXIMUM JOINT SPACING OF 20'-0". JOINT SPACING MAY NEED TO BE MODIFIED AS PER THE MANUFACTURES MSE WALL PANEL DESIGN. ALL COST ASSOCIATED WITH THIS SHALL BE PAID FOR IN ITEM 840 MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5

DESIGNED JDR | DRAWN JDR | REVIEWED DTF | DATE 11-1-2011

CHECKED TAG | REVISED | STRUCTURE FILE NUMBER 4505352

MSE WALL 2 COPING DETAILS

BRIDGE NO. LIC-158-0097
S.R. 158 OVER I.R. 70

LIC-158-0.56

33A / 33

208A / 219

P:\LIC\84700\Design\Bridge\4505352_LIC-158-0097\Plan_Sheets\MSE_WALLS\84700_MSE_007.DGN (SCALE - 4.0)

UTILITY OWNERS	
COLUMBIA GAS OF OHIO 3550 JOHNNY APPLESEED COURT COLUMBUS, OHIO 43231 ATTN: BRIAN KOPACHY 614-315-8610	TIME WARNER CABLE 3760 INTERCHANGE DRIVE COLUMBUS, OHIO 43204 ATTN: TERRY ALLEN 614-255-6349
SOUTH CENTRAL POWER CO. 2780 COONPATH RD., NE P.O. BOX 250 LANCASTER, OHIO 43130 ATTN: PHIL STRINGER 740-689-6251	SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT P.O. BOX 215 ETNA, OHIO 43018 ATTN: DON RECTOR 740-927-0410
CENTURYLINK 441 WEST BROAD STREET PATASKALA, OHIO 43062 ATTN: DEE REED 740-927-8282	

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

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
BS = BILL OF SALE
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT
FL = FLOW EASEMENT
U = UTILITY EASEMENT
A = AERIAL EASEMENT
PRE = PROPERTY RIGHT
SC = SCENIC EASEMENT
V = IN NAME OF ANOTHER STATE AGENCY, LPA, ETC.
R = SPECIAL RESERVATION
WA = WORK AGREEMENT
SA = SPECIAL AGREEMENT AND WAIVER OF DAMAGES

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) , Mailbox (Pr)
Light (Ex) , Telephone Marker (Ex)
Fire Hydrant (Ex) , Water Meter (Ex)
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY LEGEND SHEET LIC-158-0.56

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21)
T17N, R19W, REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

WIDENING AND RESURFACING OF THE RAMPS AT THE S.R. 158 INTERCHANGE WITH I.R. 70. REPLACEMENT OF THE EXISTING BRIDGE OVER I.R. 70 AND WIDENING THE BRIDGE. ADDITION OF TURN LANES ON S.R. 158 SOUTH OF THE INTERSTATE FOR THE TRUCK STOP. REPLACEMENT OF AN EXISTING CMP CULVERT.

PLAN PREPARED BY:

FIRM NAME: ODOT, DISTRICT 5
PLANS PREPARED BY: CANDY SHOEMAKER
FIELD REVIEW BY: JASON STURGEON
OWNERSHIP VERIFIED BY: CHARLES PRICE, JR.
DATE COMPLETED: 11/24/10

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

I, Charles W. Price, Jr., P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in April, 2010. The results of that survey are contained herein.

Underground utility locations are shown for informational purposes only. Though they are believed to be accurate, their location is as marked on the ground by the utility company per OUPS Confirmation Number A007702101 and those markings subsequently being surveyed as a part of this project.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system, NAD 83, South Zone.

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

As a part of this work I have set monuments at the proposed property corners, and other points shown herein.

The iron pins and caps will be 3/4" x 30" rebar with aluminum cap stamped "Odot R/W District 5". All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A Minimum Standards for Boundary Surveys in the State of Ohio" unless so noted.

The words I and my as used herein are to mean that either myself or someone working under my direct supervision.

Charles W. Price, Jr., P.S.
Charles W. Price, Jr., Professional Land Surveyor # 7825

Date: 12-9-10

SURVEYORS SEAL
STATE OF OHIO
CHARLES W. PRICE, JR.
S-7825
REGISTERED SURVEYOR
SIGNED: Charles W. Price, P.S.
DATE: 12-9-10

FEDERAL PROJECT NO.	
PID NO.	84700
RAILROAD INVOLVEMENT	NONE

RIGHT OF WAY LEGEND SHEET
LIC-158-0.56
1 / 11
209 / 219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0001_RTS.dgn 02/10/11

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21)
T17N, R19W, REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE BASED ON THE OHIO STATE PLANE COORDINATES SYSTEM, NORTH ZONE.

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

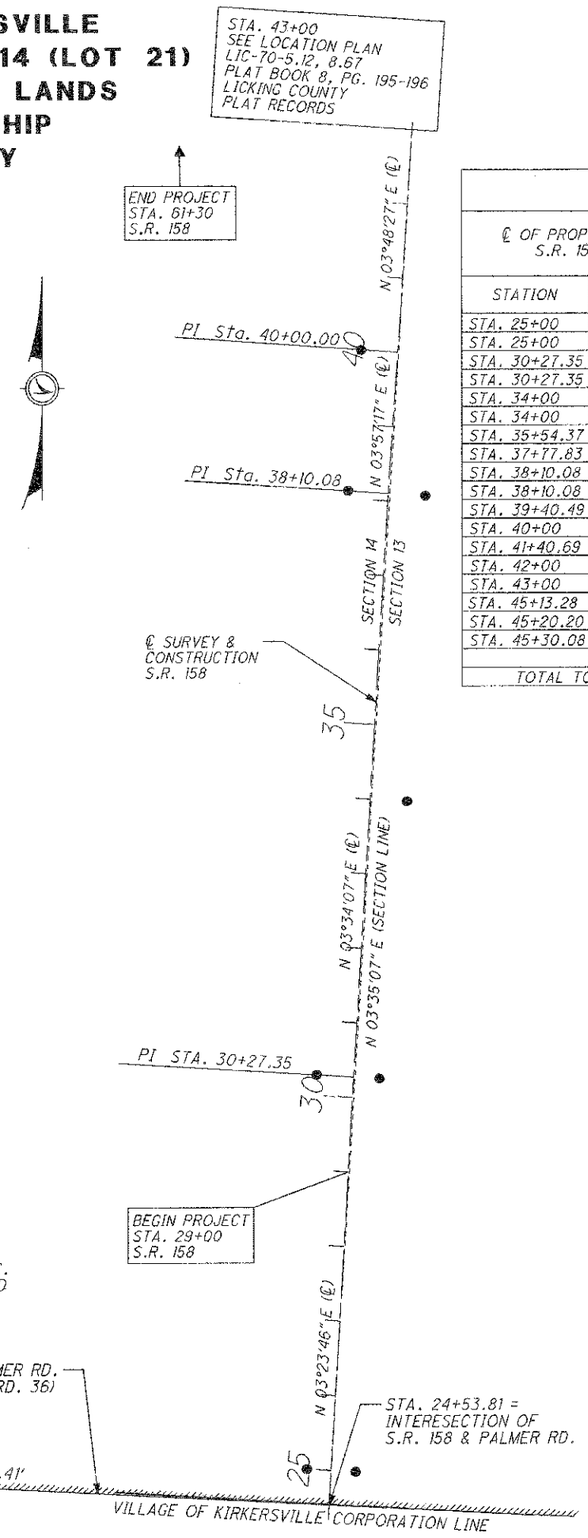
PLACEMENT OF ALL MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE CENTERLINE MONUMENT ASSEMBLY BOX(S) AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION.

THE IRON PIN WITH CAP (WHEN REQUIRED) ARE TO BE INSTALLED SET BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN ON THIS PLAT, REQUIRES PRIOR APPROVAL OF THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 OF THE OHIO DEPARTMENT OF TRANSPORTATION.

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- I.P.F. IRON PIPE FOUND
- I.P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET



MONUMENT TABLE

℄ OF PROP. R/W S.R. 158		PROJECT COORDINATES SEE SURVEY CERTIFICATION		MONUMENTS TO BE SET DURING CONSTRUCTION	R/W MON. EXPECTED TO BE DISTURBED	
STATION	OFFSET	NORTHING (Y)	EASTING (X)	REF. MON. 604E 40500	R/W MON. 604E 40520	DESCRIPTION
STA. 25+00	33' LT.	705,937.8141	1,940,247.3240	1		
STA. 25+00	33' RT.	705,933.9044	1,940,313.2081	1		
STA. 30+27.35	50' LT.	706,465.2451	1,940,261.5926	1		
STA. 30+27.35	35' RT.	706,460.2099	1,940,346.4433	1		
STA. 34+00	60' LT.	706,837.9474	1,940,274.8160		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 34+00	50' RT.	706,831.0985	1,940,384.6026	1		
STA. 35+54.37	55' LT.	706,991.7043	1,940,289.4146		1	IRON PIN SET CLOSE TO CONSTRUCTION LIMITS
STA. 37+77.83	55' LT.	707,214.7287	1,940,303.3232		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 38+10.08	55' LT.	707,246.8390	1,940,305.3258	1		
STA. 38+10.08	50' RT.	707,240.3035	1,940,410.1222	1		
STA. 39+40.49	55' LT.	707,377.3895	1,940,314.3492		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 40+00	50' LT.	707,436.4117	1,940,323.4415	1		
STA. 41+40.69	65' LT.	707,577.6591	1,940,317.8084		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 42+00	65' LT.	707,636.8381	1,940,321.7468		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 43+00	55' LT.	707,735.9533	1,940,338.3654		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 45+13.28	66.80' LT.	707,948.9200	1,940,340.1400		1	EX. IRON PIN FOUND TO BE RESET AT EXACT CORNER
STA. 45+20.20	55.00' LT.	707,955.1299	1,940,352.3128		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
STA. 45+30.08	55.00' LT.	707,964.9421	1,940,352.8574		1	IRON PIN SET INSIDE CONSTRUCTION LIMITS
TOTAL TO GENERAL SUMMARY				8	10	

I, Charles W. Price, Jr., P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in April, 2010. The results of that survey are contained herein.

Underground utility locations are shown for informational purposes only. Though they are believed to be accurate, their location is as marked on the ground by the utility company per OUPS Confirmation Number A007702101 and those markings subsequently being surveyed as a part of this project.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates system, NAD 83, South Zone.

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

As a part of this work I have set monuments at the proposed property corners, and other points shown herein.

The iron pins and caps will be 3/4" x 30" rebar with aluminum cap stamped "Odot R/W District 5". All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A Minimum Standards for Boundary Surveys in the State of Ohio" unless so noted.

The words I and my as used herein are to mean that either myself or someone working under my direct supervision.

Charles W. Price, Jr., P.S.
Charles W. Price, Jr., Professional Land Surveyor # 7825

Date: 12-9-10

SURVEYORS SEAL
STATE OF OHIO
CHARLES W. PRICE, JR. S-7825
REGISTERED SURVEYOR

SIGNED: Charles W. Price, Jr., P.S.
DATE: 12-9-10

RECEIVED DEC. 21, 2010
RECORDED DEC. 21, 2010
INSTRUMENT NUMBER:201012210026310

COUNTY RECORDER

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0001_RCP.dgn 12/07/10

0 50 100 200 HORIZONTAL SCALE IN FEET

PID NO. 84700

R/W DESIGNER C.S
R/W REVIEWER C.P.

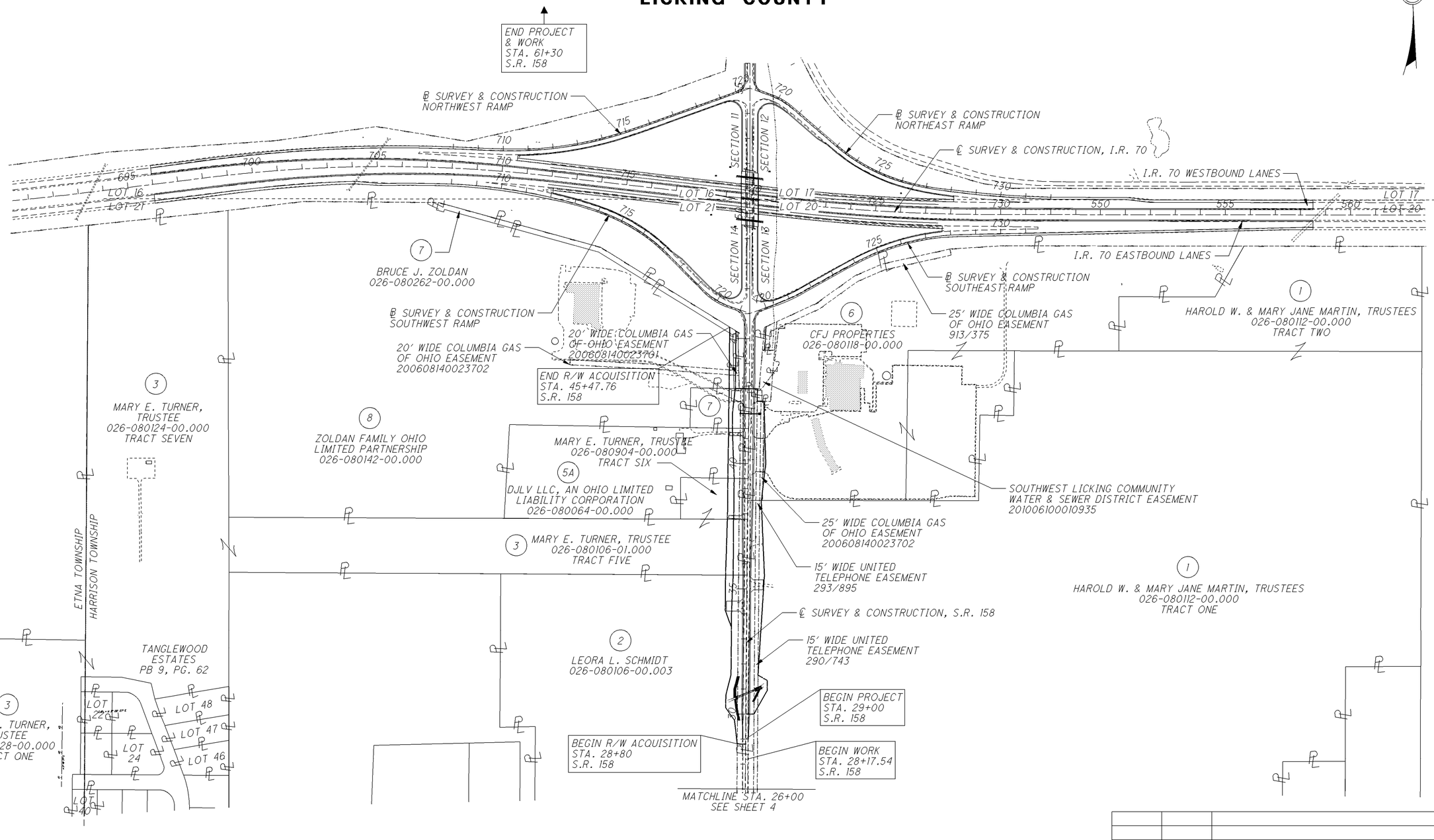
CENTERLINE PLAT

LIC-158-0.56

2 / 11

210 / 219

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY



REV. BY	DATE	DESCRIPTION
CS	8/22/11	CHANGED PARCEL 5 TO 5A FOR NEW OWNER
CS	2/08/11	REVISED PAR. 1 AUD. PAR. NO. FOR TR.2

FIELD REVIEW BY: CS
OWNERSHIP VERIFIED BY: CP
DATE COMPLETED: 12/07/10

HORIZONTAL SCALE IN FEET: 0, 10, 200, 400

PID NO. 84700

STATE JOB NO.

R/W DESIGNER CS
R/W REVIEWER CP

PROPERTY MAP
STA. 26+00 TO STA. 55+00

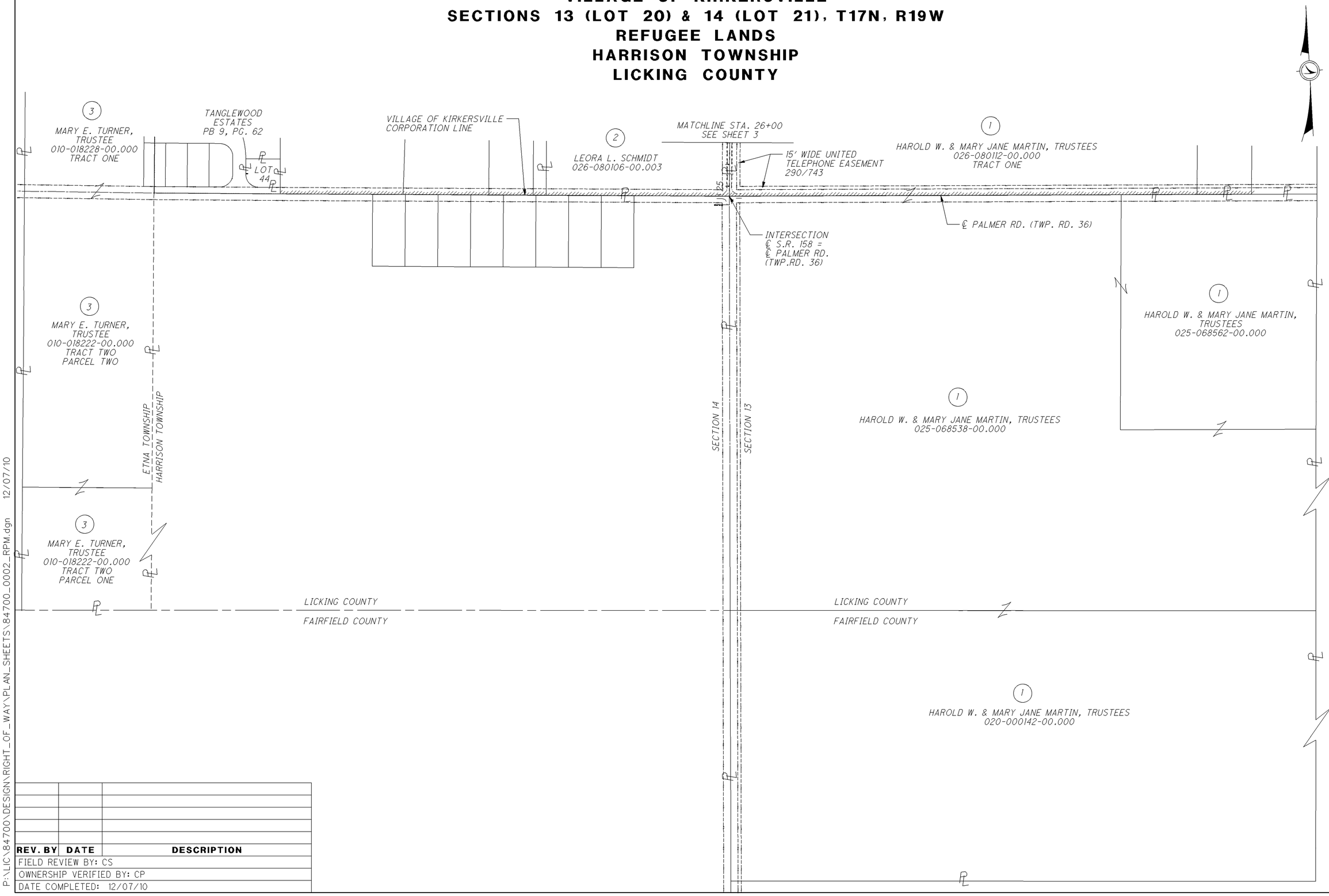
LIC-158-0.56

3 / 11

211 / 219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0001_RPM.dgn 08/16/11

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY



REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY: CS
OWNERSHIP VERIFIED BY: CP
DATE COMPLETED: 12/07/10

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0002_RPM.dgn 12/07/10

HORIZONTAL SCALE IN FEET
0 10 200 400

PID NO. 84700

STATE JOB NO.

R/W DESIGNER CS
R/W REVIEWER CP

PROPERTY MAP
STA. 24+53.81 TO STA. 26+00

LIC-158-0.56

4 / 11

212
219

TOTAL NUMBER OF :

7 OWNERSHIPS
13 PARCELS
0 TOTAL TAKES
0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE
GROSS TAKE - PRO IN TAKE = NET TAKE

ALL AREAS IN

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF STATE OF OHIO UNLESS OTHERWISE SHOWN.

* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD INSTRUMENT NUMBER	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-WD	HAROLD W. & MARY JANE MARTIN, TRUSTEES	6-8	200905190010678	026-080112-00.000	102.619	2.462	1.167	0.606	0.561	NO		109.197	STATE	TRACT ONE		
				026-080112-00.000	9.6	0.000								NO TAKE; TRACT TWO		
			200905190010680	025-068538-00.000	141.51	3.199								NO TAKE		
			200905190010679	025-068562-00.000	22.13	0.619								NO TAKE		
			OR 667 PG. 661	020-000142-00.000	166.52	1.847								NO TAKE; PARCEL IN FAIRFIELD COUNTY		
2-WD	LEORA L. SCHMIDT	6-7	200403110008601	026-080106-00.003	23.249	1.429	0.950	0.542	0.408		21.412			*ENCROACHING FENCE		
2-T		7					0.108	0.000	0.108					FOR TEMPORARY ROADWAY WORK		
3-WD	MARY E. TURNER, TRUSTEE	7	200707250019357	026-080106-01.000	10.0	0.181	0.294	0.181	0.113		9.706			TRACT FIVE		
				026-080904-00.000	1.0	0.131	0.213	0.131	0.082		0.787			TRACT SIX		
3-T		7		026-080106-01.000			0.141	0.000	0.141					FOR TEMPORARY ROADWAY WORK; TRACT FIVE		
				026-080904-00.000			0.094	0.000	0.094					TRACT SIX		
				010-018228-00.000	25	1.457								NO TAKE; TRACT ONE		
				010-018222-00.000	40	0.000								NO TAKE; TRACT TWO PARCEL ONE		
				010-018222-00.000	38.64	0.920								NO TAKE; TRACT TWO PARCEL TWO		
				026-080124-00.000	23.971	0.000								NO TAKE; TRACT SEVEN		
				026-081186-00.000	LOT 22									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
				026-081180-00.000	LOT 24									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
				026-081210-00.000	LOT 40									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
				026-081222-00.000	LOT 44									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
				026-081204-00.000	LOT 46									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
				026-081192-00.000	LOT 47									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
				026-081174-00.000	LOT 48									NO TAKE; TRACT EIGHT, TANGLEWOOD ESTATES, PB. 9, PG. 62		
4	NOT USED															
5A-WD	DJLV LLC, AN OHIO LIMITED LIABILITY CORP.	8-9	201103300006010	026-080064-00.000	7.11	0.156	0.280	0.156	0.124		6.83			* ENCROACHING DRIVEWAY MARKER		
5A-T		8-9					0.092	0.000	0.092					FOR TEMPORARY ROADWAY WORK		
6-WL	CFJ PROPERTIES	10-11	OR 784 PG. 812	026-080118-00.000	26.306	0.329	0.015	0.000	0.015			25.679				
6-WD		8-9	OR 784 PG. 809				0.612	0.329	0.283					ORNAMENTAL TREES TO BE REMOVED		
7-WL	BRUCE J. ZOLDAN	8-11	200409140033121	026-080262-00.000	1.568	0.122	0.060	0.000	0.060		1.280					
7-WD		8-9					0.228	0.122	0.106							
7-T		8-11					0.121	0.000	0.121					FOR TEMPORARY ROADWAY WORK		
8-T	ZOLDAN FAMILY OHIO LTD. PARTNERSHIP	8-11	200302260008603	026-080142-00.000	43.902	0.000	0.081	0.000	0.081					FOR TEMPORARY ROADWAY WORK		
										NO			STATE			

LEGEND:
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
BS = BILL OF SALE
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT
FL = FLOW EASEMENT
U = UTILITY EASEMENT
A = AERIAL EASEMENT
PRE = PROPERTY RIGHT
SC = SCENIC EASEMENT
V = IN NAME OF ANOTHER STATE AGENCY, LPA, ETC.
R = SPECIAL RESERVATION
WA = WORK AGREEMENT
SA = SPECIAL AGREEMENT AND WAIVER OF DAMAGES

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

REV. BY	DATE	DESCRIPTION
CS	08/22/11	CHANGED PARCEL 5 TO 5A FOR NEW OWNER
CS	02/08/11	REVISED PAR. 1 RECORD AREA TR.1 & AUD. NO. TR.2

FIELD REVIEW BY: JASON STURGEON DATE:
OWNERSHIP VERIFIED BY: CHUCK PRICE DATE: 11/24/10
DATE COMPLETED: 12/07/10

FEDERAL PROJECT NO.

PID NO. 84700

STATE JOB NO.

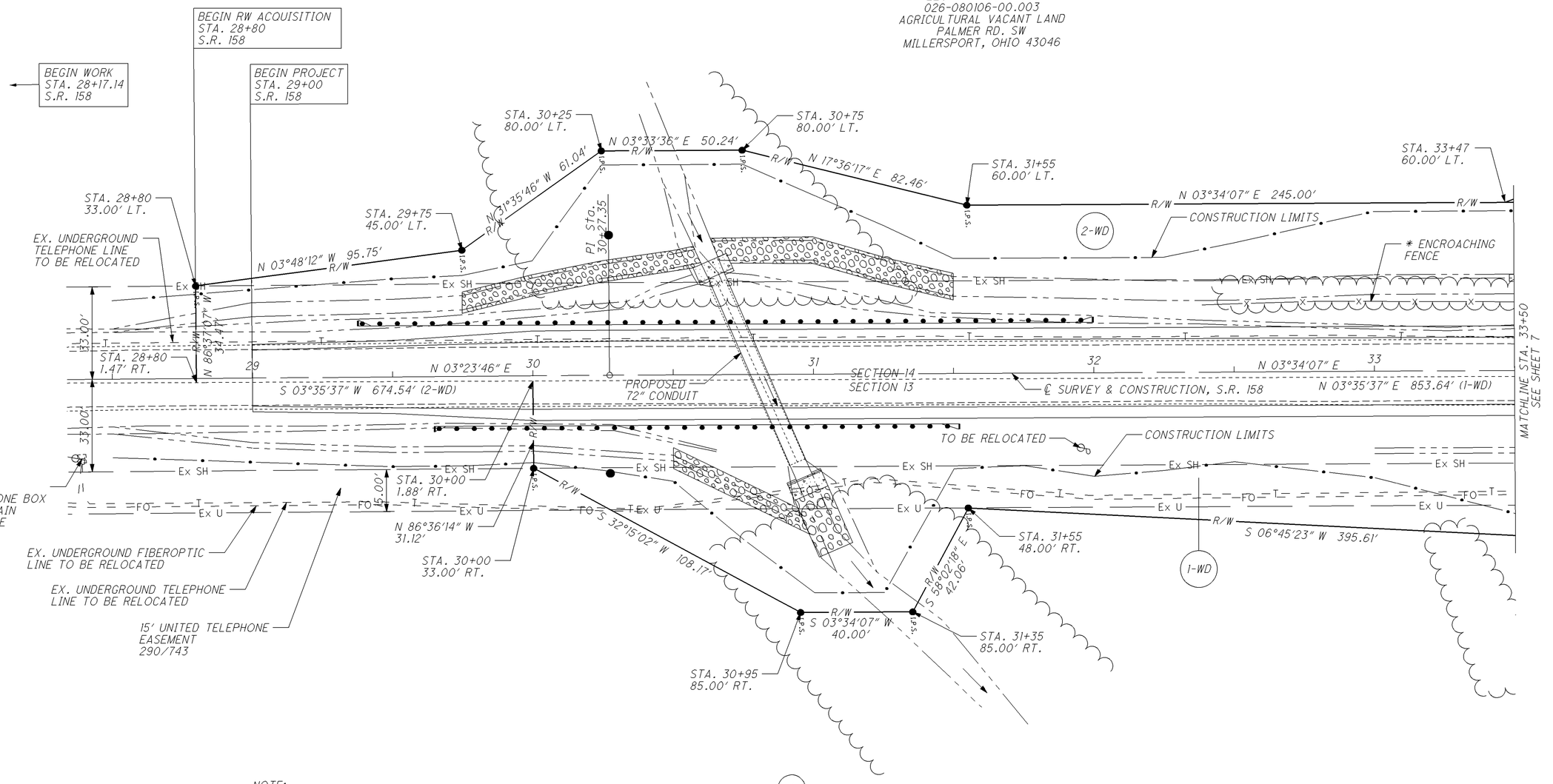
R/W DESIGNER CS
R/W REVIEWER CP

SUMMARY OF ADDITIONAL RIGHT OF WAY

LIC-158-0.56

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0001RSS.DGN 08/22/11

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY



NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 158 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

LIC-70-5.12, 8.67
LIC-40-8.67/LIC-158-0.00

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

LEGEND

◎ - EXISTING R/W MONUMENT
◦ - I.P. FOUND (IRON PIN/REBAR/IRON PIPE/AXLE)
● - ¾" X 30" REBAR WITH ALUMINUM CAP STAMPED "ODOT R/W DISTRICT 5"

REV	DATE	DESCRIPTION

COMPLETION DATE: 12/07/10

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY DETAIL SHEET
STA. 28+50 TO STA. 33+50

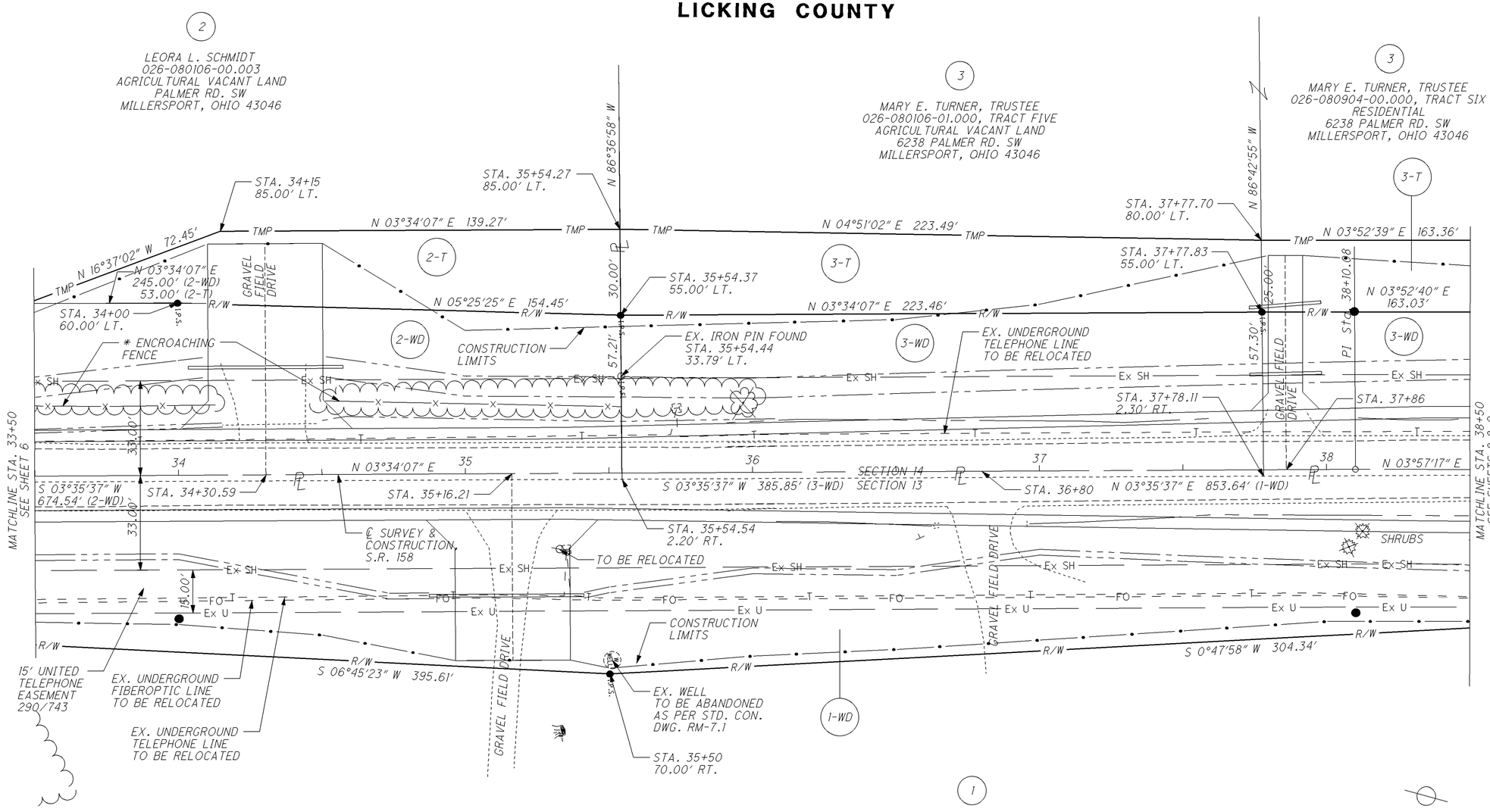
LIC-158-0.56

6 / 11

214 / 219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0001_RDS.dgn 12/07/10

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY



NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 158 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

LIC-70-5.12, 8.67
LIC-40-8.67/LIC-158-0.00

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

LEGEND

◎ - EXISTING R/W MONUMENT
◦ - I.P. FOUND (IRON PIN/REBAR/IRON PIPE/AXLE)
● - ¾" X 30" REBAR WITH ALUMINUM CAP STAMPED "ODOT R/W DISTRICT 5"

REV	DATE	DESCRIPTION

COMPLETION DATE: 12/07/10

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY DETAIL SHEET
STA. 33+50 TO STA. 38+50

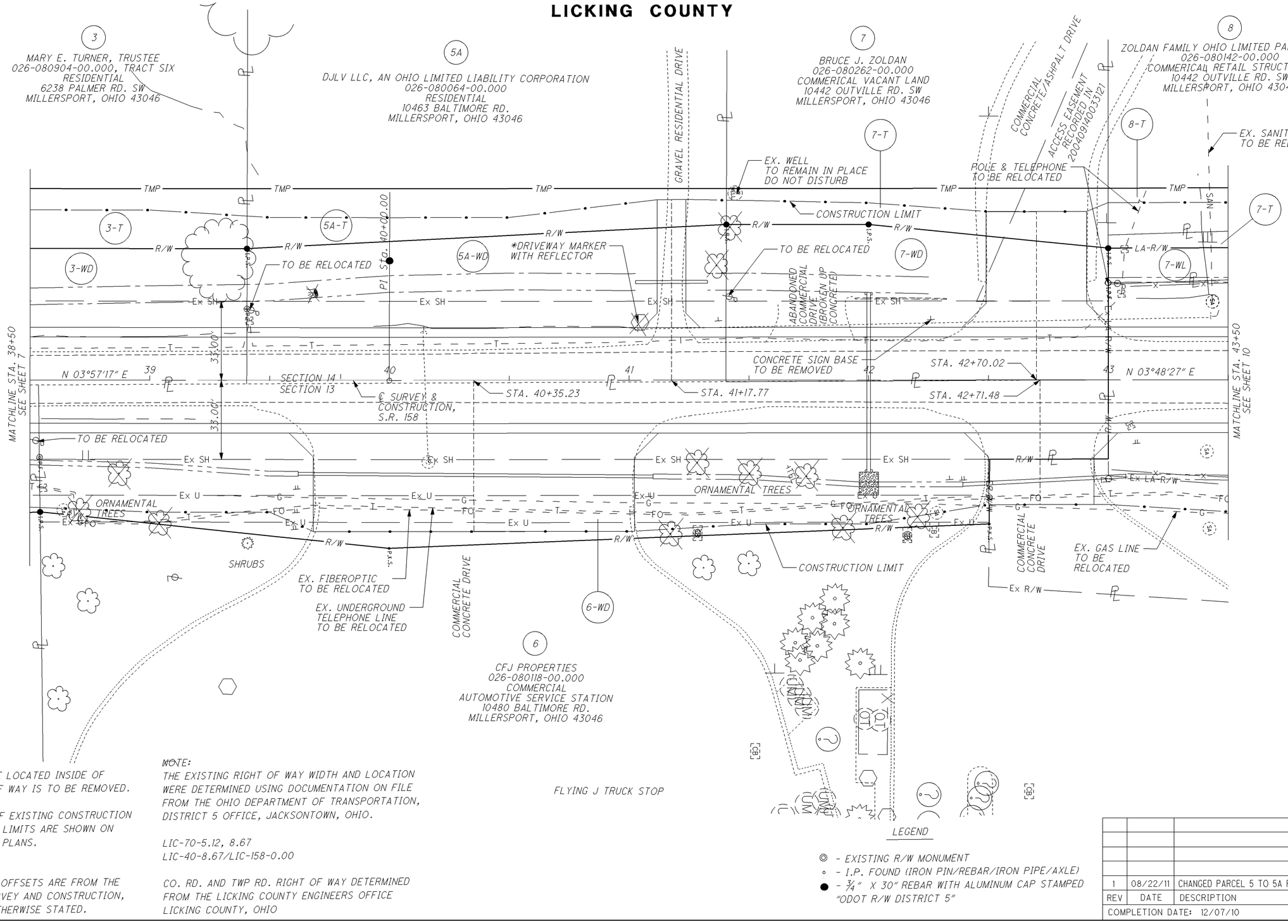
LIC-158-0.56

7 / 11

215
219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0002_RDS.dgn 12/07/10

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY



NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 158 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

LIC-70-5.12, 8.67
LIC-40-8.67/LIC-158-0.00

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

LEGEND

◎ - EXISTING R/W MONUMENT
◦ - I.P. FOUND (IRON PIN/REBAR/IRON PIPE/AXLE)
● - ¾" X 30" REBAR WITH ALUMINUM CAP STAMPED "ODOT R/W DISTRICT 5"

REV	DATE	DESCRIPTION
1	08/22/11	CHANGED PARCEL 5 TO 5A FOR NEW OWNER

COMPLETION DATE: 12/07/10

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY TOPO SHEET
STA. 38+50 TO STA. 43+50

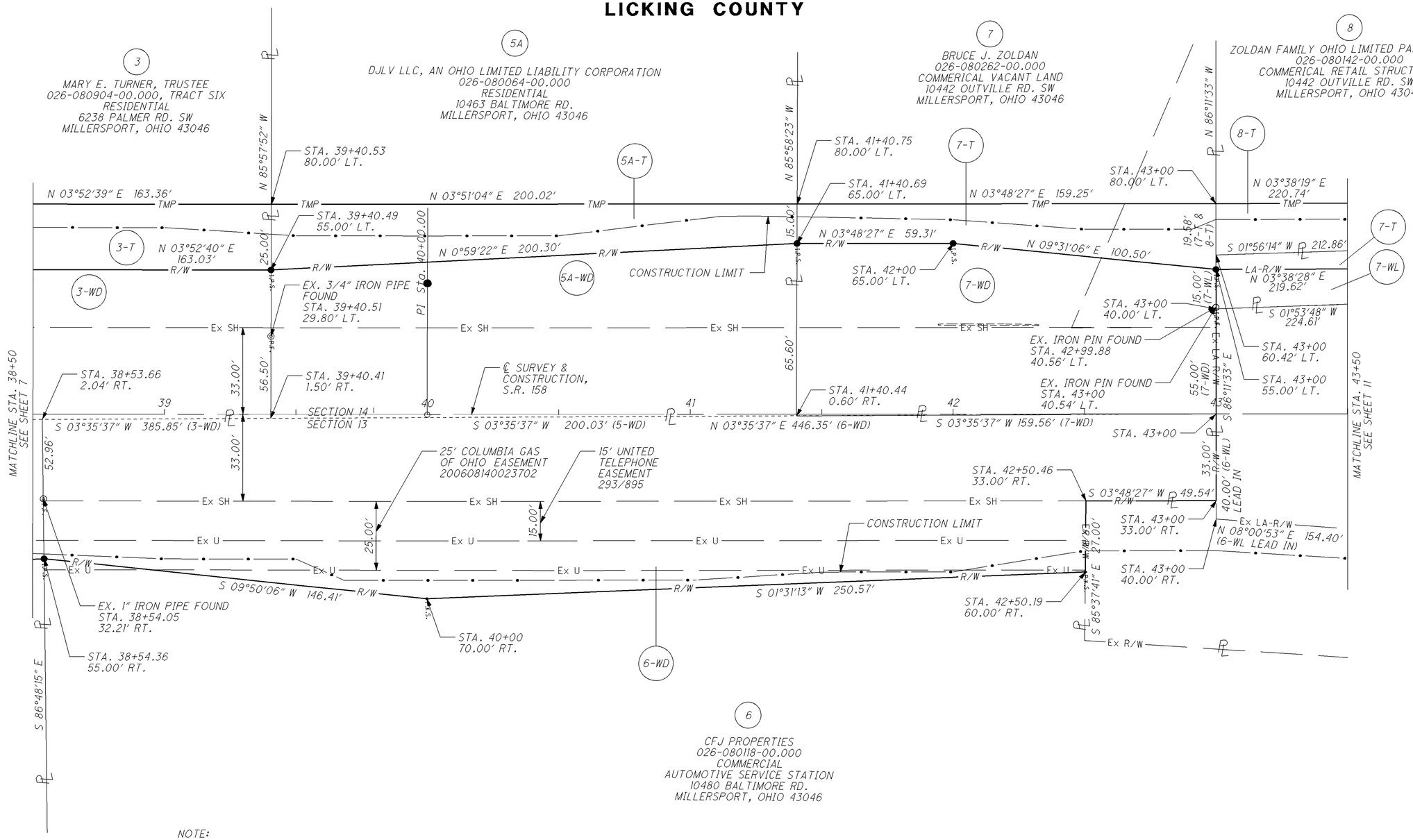
LIC-158-0.56

8 / 11

216
219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0003_RDS.dgn 08/22/11

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY



NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 158 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

LIC-70-5.12, 8.67
LIC-40-8.67/LIC-158-0.00

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

REV	DATE	DESCRIPTION
1	08/22/11	CHANGED PARCEL 5 TO 5A FOR NEW OWNER

COMPLETION DATE: 12/07/10

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY BOUNDARY SHEET
STA. 38+50 TO STA. 43+50

LIC-158-0.56

9 / 11

217 / 219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_003D_RDS.dgn 08/22/11

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY

8
ZOLDAN FAMILY OHIO LIMITED PARTNERSHIP
026-080142-00.000
COMMERICAL RETAIL STRUCTURES
10442 OUTVILLE RD. SW
MILLERSPORT, OHIO 43046

7
BRUCE J. ZOLDAN
026-080262-00.000
COMMERICAL VACANT LAND
10442 OUTVILLE RD. SW
MILLERSPORT, OHIO 43046

P.I.= Sta. 44+65.71
D = 0° 40' 00" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 66.67'
L = 133.33'
E = 0.19'

END R/W ACQUISITION
STA. 45+47.76
S.R. 158

END PROJECT & WORK
STA. 61+30
S.R. 158

MATCHLINE STA. 43+50
SEE SHEET 8

CONSTRUCTION LIMITS
TO REMAIN IN PLACE
TMP
LA-R/W
SHRUBS
PC Sta. 43+99.04
PT Sta. 45+32.37
8-T
7-T
7-WL
6-WL
N 03°48'27" E
N 03°08'27" E
N 66°51'33" W
N 73°07'30" E
SECTION 14
SECTION 13
44
45
46
47
48
720
721
℄ SURVEY & CONSTRUCTION, S.R. 158
℄ SURVEY & CONSTRUCTION SOUTHWEST RAMP
PT Sta. 720+44.77
CONSTRUCTION LIMITS
STA. 46+00 S.R. 158 =
STA. 721+38.88
SOUTHWEST RAMP =
STA. 719+31.17
SOUTHEAST RAMP
EX. FIBEROPTIC & UNDERGROUND TELEPHONE LINES TO BE RELOCATED
EX. GAS LINE TO BE RELOCATED
CONSTRUCTION LIMITS
Ex LA-R/W
LA-R/W
ELECTRIC SIGN "DENNY'S" DO NOT DISTURB
EX. GAS LINE TO BE RELOCATED
Ex R/W
Ex U
"FLYING J'S" RESTAURANT SIGN DO NOT DISTURB
EX. WATERLINE TO REMAIN IN PLACE
EX. UNDERGROUND ELECTRIC LINE TO BE RELOCATED
TELEPHONE PEDESTAL TO REMAIN IN PLACE
POLE TO BE RELOCATED
EX. FIBEROPTIC TO BE RELOCATED
TO BE RELOCATED
PC Sta. 720+44.01
℄ SURVEY & CONSTRUCTION SOUTHEAST RAMP
EX. WATERLINE TO REMAIN IN PLACE
Ex LA-R/W

NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 310 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

LIC-70-5.12, 8.67
LIC-40-8.67/LIC-158-0.00

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

LEGEND
◎ - EXISTING R/W MONUMENT
○ - I.P. FOUND (IRON PIN/REBAR/IRON PIPE/AXLE)
● - ¾" X 30" REBAR WITH ALUMINUM CAP STAMPED "ODOT R/W DISTRICT 5"

REV	DATE	DESCRIPTION

COMPLETION DATE: 12/07/10

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY TOPO SHEET
STA. 43+50 TO STA. 48+50

LIC-158-0.56

10 / 11

218
219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_0004_RDS.dgn 12/07/10

VILLAGE OF KIRKERSVILLE
SECTIONS 13 (LOT 20) & 14 (LOT 21), T17N, R19W
REFUGEE LANDS
HARRISON TOWNSHIP
LICKING COUNTY

8
ZOLDAN FAMILY OHIO LIMITED PARTNERSHIP
026-080142-00.000
COMMERICAL RETAIL STRUCTURES
10442 OUTVILLE RD. SW
MILLERSPORT, OHIO 43046

7
BRUCE J. ZOLDAN
026-080262-00.000
COMMERICAL VACANT LAND
10442 OUTVILLE RD. SW
MILLERSPORT, OHIO 43046

20' COLUMBIA GAS OF OHIO EASEMENT 200608140023702

20.00'

CONSTRUCTION LIMITS

8-T

P.I.= Sta. 44+65.71
D = 0° 40' 00" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 66.67'
L = 133.33'
E = 0.19'

END R/W ACQUISITION
STA. 45+47.76
S.R. 158

STA. 45+21.59
80.00' LT.

EX. IRON PIN FOUND
STA. 45+13.28
66.80' LT.

S 55°10'07" E

N 03°09'11" E
23.85' (7-T)

N 03°10'37" E
9.83'

℄ SURVEY & CONSTRUCTION SOUTHWEST RAMP

END PROJECT & WORK
STA. 61+30
S.R. 158

N 03°38'19" E 220.74' TMP

PT Sta. 45+32.37

PT Sta. 720+44.77

STA. 45+45.51
80.00' LT.

7-T

S 01°56'14" W 212.86'

15.50

7-WL

LA-R/W

N 03°38'28" E 219.62'

S 55°11'01" E
29.38' (7-T)

20.00'

PC Sta. 43+99.04

S 01°53'48" W 224.61'

Ex LA R/W

STA. 45+20.20
55.00' LT.

STA. 45+30.08
55.00' LT.

S 55°11'01" E
9.63'

20' COLUMBIA GAS OF OHIO EASEMENT 200608140023701

EX. 1/2" IRON PIPE FOUND
STA. 45+25.15
47.22' LT.

STA. 45+25
46.80' LT.

CONSTRUCTION LIMITS

N 66°51'33" W

721

720

CONSTRUCTION LIMITS

MATCHLINE STA. 43+50
SEE SHEET 9

N 03°48'27" E

44

SECTION 14

SECTION 13

45

46

N 03°08'27" E

47

48

℄ SURVEY & CONSTRUCTION, S.R. 158

STA. 46+00 S.R. 158 =
STA. 721+38.83
SOUTHWEST RAMP =
STA. 719+31.17
SOUTHEAST RAMP

N 73°07'30" E

720

CONSTRUCTION LIMITS

STA. 44+53.74
51.46' RT.

N 08°00'53" E 154.40'
(6-WL LEAD IN)

Ex LA-R/W

STA. 45+45
59.00' RT.

EX. IRON PIN FOUND
STA. 45+45.38
58.71' RT.

N 08°00'53" E 91.94'

Ex LA-R/W

EX. IRON PIN FOUND
STA. 44+53.75
49.63' RT.

LA-R/W

S 06°20'10" W 94.57'

N 68°24'16" E
6.61'

N 86°33'36" W
8.54'

STA. 45+47.76
65.00' RT.

Ex R/W

Ex U

STA. 44+53.75
60.00' RT.

Ex R/W

Ex U

Ex U

Ex U

PC Sta. 720+44.01

℄ SURVEY & CONSTRUCTION SOUTHEAST RAMP

SOUTHWEST LICKING COMMUNITY WATER & SEWER DISTRICT EASEMENT
201006100010935

6-WL

25.00'

25' COLUMBIA GAS OF OHIO EASEMENT 913/375

Ex LA-R/W

721

NOTES:
ALL EXISTING FENCE LOCATED INSIDE OF PROPOSED RIGHT OF WAY IS TO BE REMOVED.

THE DISPOSITION OF EXISTING CONSTRUCTION ITEMS WITHIN WORK LIMITS ARE SHOWN ON THE CONSTRUCTION PLANS.

NOTE:
ALL STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF SURVEY AND CONSTRUCTION, S.R. 310 UNLESS OTHERWISE STATED.

NOTE:
THE EXISTING RIGHT OF WAY WIDTH AND LOCATION WERE DETERMINED USING DOCUMENTATION ON FILE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 5 OFFICE, JACKSONTOWN, OHIO.

LIC-70-5.12, 8.67
LIC-40-8.67/LIC-158-0.00

CO. RD. AND TWP RD. RIGHT OF WAY DETERMINED FROM THE LICKING COUNTY ENGINEERS OFFICE LICKING COUNTY, OHIO

REV	DATE	DESCRIPTION

COMPLETION DATE: 12/07/10

N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED C.S.
CHECKED C.P.

RIGHT OF WAY BOUNDARY SHEET
STA. 43+50 TO STA. 48+50

LIC-158-0.56

11 / 11

219
219

P:\LIC\84700\DESIGN\RIGHT_OF_WAY\PLAN_SHEETS\84700_004D_RDS.dgn 12/07/10

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF WIDENING AND RESURFACING THE RAMPS, WIDENING AND REPLACING THE BRIDGE OVER IR 70, ADDING TURN LANES ON SR 158 SOUTH OF THE INTERCHANGE AND REPLACING A CMP CULVERT.

HISTORIC RECORDS

NO HISTORIC RECORDS WERE FOUND FOR THIS PROJECT.

GEOLOGY

THE PROJECT IS LOCATED IN A DISSECTED PORTION OF THE GALION GLACIATED LOW PLATEAU PHYSIOGRAPHIC REGION, IN AN AREA WHERE DEEP TO POTENTIALLY EXTREMELY DEEP GLACIAL-DERIVED MATERIALS, FILL MATERIALS AND ALLUVIAL DEPOSITS OVERLIE SHALE, SANDSTONE AND WEATHERED SANDSTONE BEDROCK OF MISSISSIPPIAN AGE. THE ALIGNMENT TRAVERSES FARMLAND AND AN INTERMITTENT STREAM TO THE SOUTH OF THE INTERCHANGE, CROSSES OVER THE IR 70 UNDERPASS AND THEN TRAVERSES MORE FARMLAND AND ANOTHER INTERMITTENT STREAM TO THE NORTH OF THE INTERCHANGE.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS PERFORMED BY DISTRICT 5 PERSONNEL ON FEBRUARY 1, 2011. ADDITIONALLY, OGE PERSONNEL MADE A VISIT TO THE SITE ON AUGUST 9, 2011. CATTAILS WERE OBSERVED IN DRAINAGE DITCHES IN A NUMBER OF PLACES AND ARE SO SHOWN IN THE EXPLORATION. ALSO, A COUPLE BADLY PATCHED AREAS WERE OBSERVED IN THE PAVEMENT IN THE NBL BETWEEN STATIONS 32+85 TO 33+25 AND STATIONS 37+32 TO 37+57. THESE AREAS MAY SIGNIFY POOR FOUNDATION SOILS THAT MAY REQUIRE UNDERCUTTING AS WILL BECOME EVIDENT DURING THE PROOF ROLLING OPERATION.

SUBSURFACE EXPLORATION

TEN MAINLINE BORINGS AND FOUR RAMP BORINGS WERE DRILLED BETWEEN MARCH 10 AND 15, 2011. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3¼-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5 FOOT SPACING. THE HAMMER SYSTEM USED WAS LAST CALIBRATED ON DECMEBER 13, 2010, AT WHICH TIME THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS FOUND TO BE 80.9%.

THREE STRUCTURE BORINGS WERE DRILLED FOR THE STRUCTURE OVER IR 70 BETWEEN MARCH 22 AND 29, 2011. THE BORINGS WERE DRILLED WITH A TRACK MOUNTED ROTARY DRILL RIG, USING 3¼-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5 AND 5.0 FOOT SPACING. THE HAMMER SYSTEM USED WAS LAST CALIBRATED ON MARCH 10, 2009, AT WHICH TIME THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS FOUND TO BE 83.6%. IN ADDITION, BEDROCK WAS CORED IN ALL THREE STRUCTURE BORINGS AS PER AASHTO T225 USING AN NQ SERIES CORE BARREL IN CONJUNCTION WITH THE WATER METHOD.

EXPLORATION FINDINGS

ROADWAY BORINGS: THE BORINGS ENCOUNTERED PRIMARILY SANDY SILTS (A-4a) WITH SOME SILT CLAYS (A-6a AND A-6b) GENERALLY HAVING MOISTURE CONTENTS EITHER BELOW OR IN THE LOWER PORTIONS OF THE PLASTIC RANGE.

TRACE TO MODERATE AMOUNTS OF ORGANIC MATERIAL WERE ENCOUNTERED AT SR 158 STATIONS 42+00, 60+00 AND 63+75 AND NORTHEAST RAMP STATION 722+00.

WET MATERIALS WERE ENCOUNTERED AT SR 158 STATIONS 38+00 AND 60+00 AND SOUTHEAST RAMP STATION 723+00.

STRUCTURE BORINGS: TEST BORINGS B-007-0-11 TRHOUGH B-009-0-11 ENCOUNTERED LOOSE TO DENSE SANDY SILT (IN WHICH THE DENSITY FLUCTUATES WITH DEPTH) OVERLYING SLOPING BEDROCK SURFACE. IN TWO OF THE THREE BORINGS A 2.0 TO 2.6 FOOT THICK GRAVEL WITH SAND (A-1-b) LAYER WAS ENCOUNTERED IN THE MIDDLE OF THE SANDY SILT. TEST BORING B-007 (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) ENOCUNTERED BEDROCK SURFACE AT 27.3 FOOT DEPTH, ELEVATION 925.3 FEET AND CONTINUED TO ADVANCE AN ADDITIONAL 10.7 FEET FOR A TOTAL DEPTH OF 38.0 FEET, ELEVATION 914.6 FEET. BOULDERS WERE ENCOUNTERED IN BORING B-007 AT 13.5 FOOT DEPTH, ELEVATION 939.1 FEET. TEST BORING B-008 (MADE IN THE GENERAL VICINITY OF THE MIDDLE PIER) ENOCUNTERED BEDROCK SURFACE AT 36.8 FOOT DEPTH, ELEVATION 915.9 FEET AND CONTINUED TO ADVANCE AN ADDITIONAL 9.7 FEET FOR A TOTAL DEPTH OF 46.5 FEET, ELEVATION 906.2 FEET. TEST BORING B-009 (MADE IN THE GENERAL VICINITY OF THE FORWARD ABUTMENT) ENOCUNTERED BEDROCK SURFACE AT 35.5 FOOT DEPTH, ELEVATION 917.0 FEET AND CONTINUED TO ADVANCE AN ADDITIONAL 11.0 FEET FOR A TOTAL DEPTH OF 46.5 FEET, ELEVATION 906.0 FEET. BOULDERS WERE ENCOUNTERED IN BORING B-009 AT 8.5 FOOT DEPTH, ELEVATION 944.0 FEET.

FREE WATER WAS OBSERVED AND MEASURED IN BORING B-007 AT 26.0 FOOT DEPTH, ELEVATION 926.6 FEET, BORING B-008 AT 22.4 FOOT DEPTH, ELEVATION 930.3 FEET AND BORING B-009 AT 14.0 FOOT DEPTH, ELEVATION 938.5 FEET.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED APRIL 2010.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	1	1
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	1	1
FINE SAND	A-3	0	1
GRAVEL AND/OR STONE FRAGS. WITH SAND & SILT	A-2-4	1	0
SANDY SILT	A-4a	27	42
SILT AND CLAY	A-6a	9	8
SILTY CLAY	A-6b	3	4
	TOTAL	42	57
WEATHERED SANDSTONE	VISUAL		
SANDSTONE	VISUAL		
SHALE	VISUAL		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		

BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC INDICATES WATER CONTENT IN PERCENT.

N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

W— INDICATES FREE WATER ELEVATION.

▼— INDICATES STATIC WATER ELEVATION.

LOI ORGANIC CONTENT BY LOSS OF IGNITION (AASHTO T267)

● INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.

⊖ INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.

* INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.

TR INDICATES TOP OF ROCK.

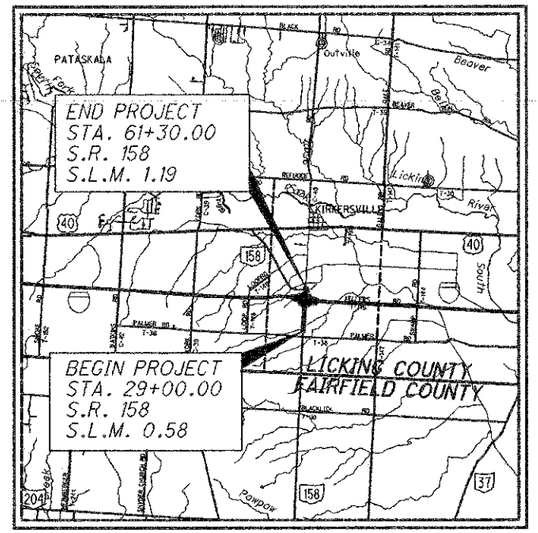
SS INDICATES A SPLIT SPOON SAMPLE.

NP INDICATES A NON-PLASTIC SAMPLE.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

STRUCTURES INCLUDED		
BRIDGE NO.	SFN	SHEET NOS.
LIC-158-0097	4505352	4
BORING LOGS		10-12



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
12"	3"	2.0 mm (No. 10 SIEVE)	0.42 mm (No. 40 SIEVE)	0.074 mm (No. 200 SIEVE)	0.005 mm	

INDEX OF SHEETS	
SUMMARY OF SOIL DATA, SHEET 2	
BORING LOGS, SHEETS 10-12	
LOCATION FROM STA. TO STA.	PLAN & PROFILE SHEET
SR 158	
29+00 41+00	3
41+00 53+00	4
53+00 61+30	5
SOUTHWEST RAMP	
712+05 721+17.42	6
SOUTHEAST RAMP	
719+53.59 727+68	7
NORTHEAST RAMP	
718.78.80 728+13	8
NORTHWEST RAMP	
710+59 720+01.57	9

RECON. - NK 02/01/11

DRILLING - KAM 03/10-15/11

DML 03/22-29/11

DRAWN - JAG 09/11

REVIEWED - MRS 09/11

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING
1600 W. BROAD ST. COLUMBUS, OH 43223

PID NO. 84700

SOIL PROFILE

SOIL

LIC-158-0.56

1 / 12

SUMMARY OF SOIL TEST DATA
SR 158

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-001-0-11	01.50-03.00		SS-1	31	89	12	20	23	35	10	NP	NP	NP	11	A-4a (2) *
STA. 30+00, 8' RT.	03.50-05.00		SS-2	20	78	11	10	14	36	29	24	16	8	14	A-4a (6) *
NORTHING = 706434.4660	06.00-07.50		SS-3	34	89				SAME AS SS-2					13	A-4a (VISUAL)
EASTING = 1940317.9470	08.50-10.00		SS-4	46	100				SAME AS SS-2					11	A-4a (VISUAL)
B-002-0-11	01.50-03.00		SS-1	15	89	10	7	14	39	30	31	16	15	24	A-6a (9)
STA. 34+00, 8' RT.	03.50-05.00		SS-2	26	100	8	9	13	35	35	27	16	11	16	A-6a (7) *
NORTHING = 706833.5170	06.00-07.50		SS-3	23	72				SAME AS SS-2					14	A-6a (VISUAL) *
EASTING = 1940343.2820	08.50-10.00		SS-4	24	100				SAME AS SS-2					14	A-6a (VISUAL)
B-003-0-11	01.50-03.00		SS-1	12	83	5	13	14	43	25	26	16	10	24	A-4a (7) *
STA. 38+00, 8' RT.	03.50-05.00		SS-2	18	100	7	11	13	37	32	27	16	11	18	A-6a (7) *
NORTHING = 707232.9440	06.00-07.50		SS-3	16	100				SAME AS SS-2					16	A-6a (VISUAL)
EASTING = 1940367.3250	08.50-09.20		SS-4	16	100				SAME AS SS-2					19	A-6a (VISUAL)
	09.20-09.50								FINE SAND, TRACE SILT					24	A-3 (VISUAL)
	09.50-10.00								SAME AS SS-2					14	A-6a (VISUAL)
B-004-0-11	01.50-03.00		SS-1	22	78	6	10	14	34	36	26	16	10	15	A-4a (7) *
STA. 42+00, 17' RT.	03.50-05.00		SS-2	24	100	11	11	13	33	32	24	16	8	14	A-4a (6)
NORTHING = 707631.4340	06.00-07.50		SS-3	42	100				SAME AS SS-2					14	A-4a (VISUAL)
EASTING = 1940403.5220	08.50-10.00		SS-4	30	100				SAME AS SS-2					13	A-4a (VISUAL)
B-005-0-11	01.50-03.00		SS-1	19	72	66	15	8	7	4	NP	NP	NP	4	A-1-a (0) *
STA. 45+60, 18' LT.	03.50-05.00		SS-2	11	78				SAME AS SS-1					7	A-1-a (VISUAL)
NORTHING = 707992.8020	06.00-07.50		SS-3	22	100	10	10	14	34	32	24	16	8	14	A-4a (6)
EASTING = 1940391.4770	08.50-10.00		SS-4	47	83				SAME AS SS-3					14	A-4a (VISUAL)
B-006-0-11	01.50-03.00		SS-1	24	100	13	15	16	31	25	24	16	8	17	A-4a (4) *
STA. 47+75, 18' LT.	03.50-05.00		SS-2	19	100	14	9	18	32	27	21	15	6	11	A-4a (5)
NORTHING = 708207.5190	06.00-07.50		SS-3	28	100				SAME AS SS-2					10	A-4a (VISUAL)
EASTING = 1940403.1580	08.50-10.00		SS-4	22	100				SAME AS SS-2					16	A-4a (VISUAL)
B-010-0-11	01.50-03.00		SS-1	28	94	9	10	14	34	33	27	16	11	13	A-6a (7)
STA. 53+75, 18' LT.	03.50-05.00		SS-2	27	100	11	9	16	34	30	24	16	8	15	A-4a (6)
NORTHING = 708806.6150	06.00-07.50		SS-3	24	100				SAME AS SS-2					13	A-4a (VISUAL)
EASTING = 1940436.1620	08.50-10.00		SS-4	31	94				SAME AS SS-2					10	A-4a (VISUAL)
B-011-0-11	01.50-03.00		SS-1	16	50	11	8	13	36	32	28	17	11	16	A-6a (7)
STA. 56+00, 18' RT.	03.50-05.00		SS-2	36	100	17	8	15	39	21	22	15	7	10	A-4a (5)
NORTHING = 709029.2290	06.00-07.50		SS-3	30	83				SAME AS SS-2					12	A-4a (VISUAL)
EASTING = 1940484.3170	08.50-10.00		SS-4	27	100				SAME AS SS-2					14	A-4a (VISUAL)
B-012-0-11	01.50-03.00		SS-1	16	89	9	9	15	43	24	25	17	8	18	A-4a (6) *
STA. 60+00, 15' RT.	03.50-05.00		SS-2	13	61				SAME AS SS-1					26	A-4a (VISUAL)
NORTHING = 709428.8450	06.00-07.50		SS-3	18	100	2	3	7	51	37	35	17	18	24	A-6b (11)
EASTING = 1940503.2490	08.50-10.00		SS-4	22	89				SAME AS SS-3					16	A-6b (VISUAL)
B-013-0-11	01.50-02.30		SS-1	15	94	28	19	19	28	6	NP	NP	NP	10	A-2-4 (0)
STA. 63+75, 8' LT.	02.30-03.00					9	5	9	45	32	32	17	15	23	A-6a (10)
NORTHING = 709804.5000	03.50-05.00		SS-2	11	78	16	5	7	40	32	39	14	25	26	A-6b (13)
EASTING = 1940500.8640	06.00-07.50		SS-3	19	28				SAME AS SS-2					21	A-6b (VISUAL)
	08.50-10.00		SS-4	19	100				SAME AS SS-2					13	A-6b (VISUAL)

SUMMARY OF SOIL TEST DATA
SOUTHWEST RAMP

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-006-1-11	01.50-03.00		SS-1	40	39	16	8	11	33	32	28	17	11	11	A-6a (6) *
STA. 718+00, 24' LT.	03.50-05.00		SS-2	26	72	7	8	14	35	36	28	16	12	15	A-6a (8)
NORTHING = 708249.5230	06.00-07.50		SS-3	15	100				SAME AS SS-2					19	A-6a (VISUAL)
EASTING = 1940163.8210	08.50-10.00		SS-4	18	78				SAME AS SS-2					14	A-6a (VISUAL)

SUMMARY OF SOIL TEST DATA
SOUTHEAST RAMP

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-006-2-11	01.50-03.00		SS-1	32	94	8	10	16	35	31	23	16	7	9	A-4a (6) *
STA. 723+00, 6' RT.	03.50-05.00		SS-2	12	94	6	2	7	50	35	33	17	16	27	A-6b (10)
NORTHING = 708162.9000	06.00-07.50		SS-3	12	100				SAME AS SS-2					22	A-6b (VISUAL)
EASTING = 1940755.8790	08.50-10.00		SS-4	9	100	4	16	32	21	27	23	15	8	25	A-4a (3)
	11.00-12.50		SS-5	22	100	6	11	16	36	31	25	17	8	16	A-4a (6)
	13.50-15.00		SS-6	35	100				SAME AS SS-5					12	A-4a (VISUAL)

SUMMARY OF SOIL TEST DATA
NORTHWEST RAMP

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-010-1-11	01.50-03.00		SS-1	28	94	16	9	13	33	29	25	17	8	12	A-4a (5) *
STA. 716+00, 6' LT.	03.50-05.00		SS-2	16	100	14	9	15	31	31	25	17	8	12	A-4a (5)
NORTHING = 708813.2930	06.00-07.50		SS-3	31	100				SAME AS SS-2					13	A-4a (VISUAL)
EASTING = 1940052.9740	08.50-10.00		SS-4	30	100				SAME AS SS-2					12	A-4a (VISUAL)

SUMMARY OF SOIL TEST DATA
NORTHEAST RAMP

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	OHIO CLASS
B-010-2-11	01.50-03.00		SS-1	12	89	8	9	13	37	33	30	19	11	16	A-6a (7) *
STA. 722+00, 24' RT.	03.50-05.00		SS-2	18	89				SAME AS SS-1					18	A-6a (VISUAL)
NORTHING = 708731.5490	06.00-07.50		SS-3	23	100	5	5	11	45	34	28	21	7	20	A-4a (8)
EASTING = 1940704.4930	08.50-10.00		SS-4	24	100				SAME AS SS-3					24	A-4a (VISUAL)

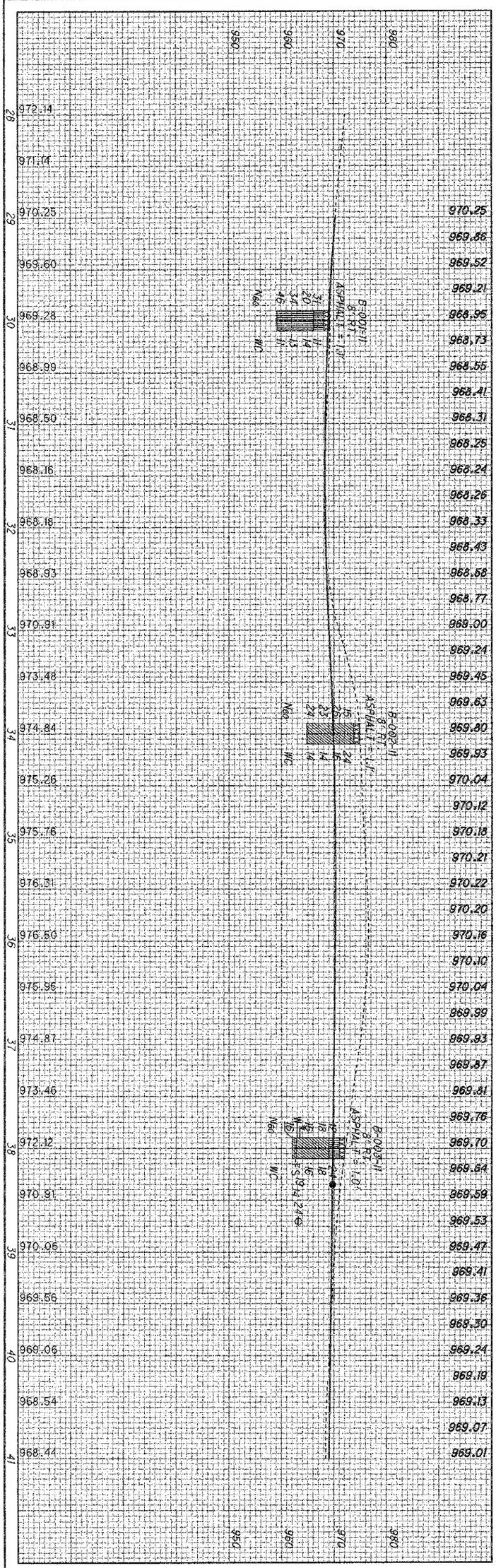
FOR BORINGS B-007-0-11, B-008-0-11 & B-009-0-11 SEE SHEET NOS. 10 THROUGH 12.

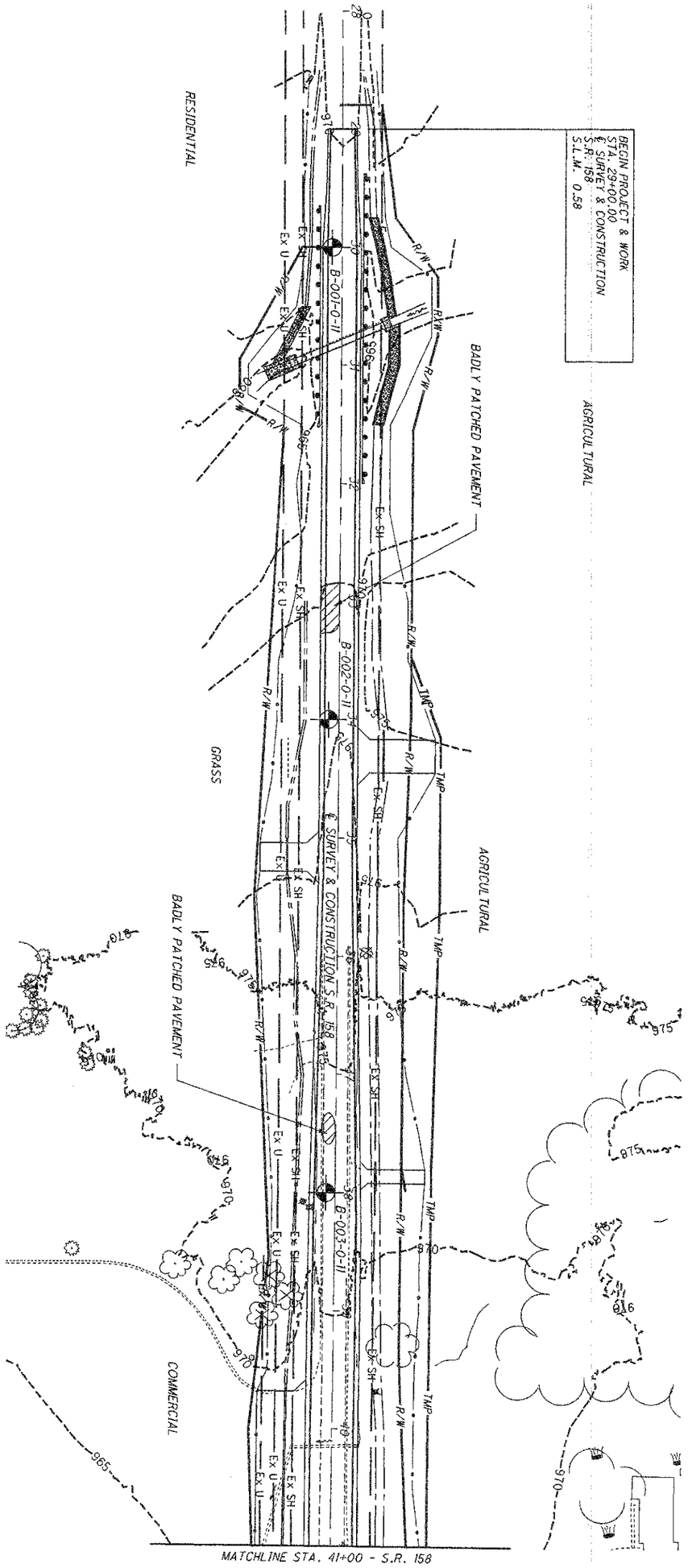
DRAWN JAG CHECKED MRS

SOIL PROFILE

SUMMARY OF SOIL TEST DATA

LIC-158-0.56





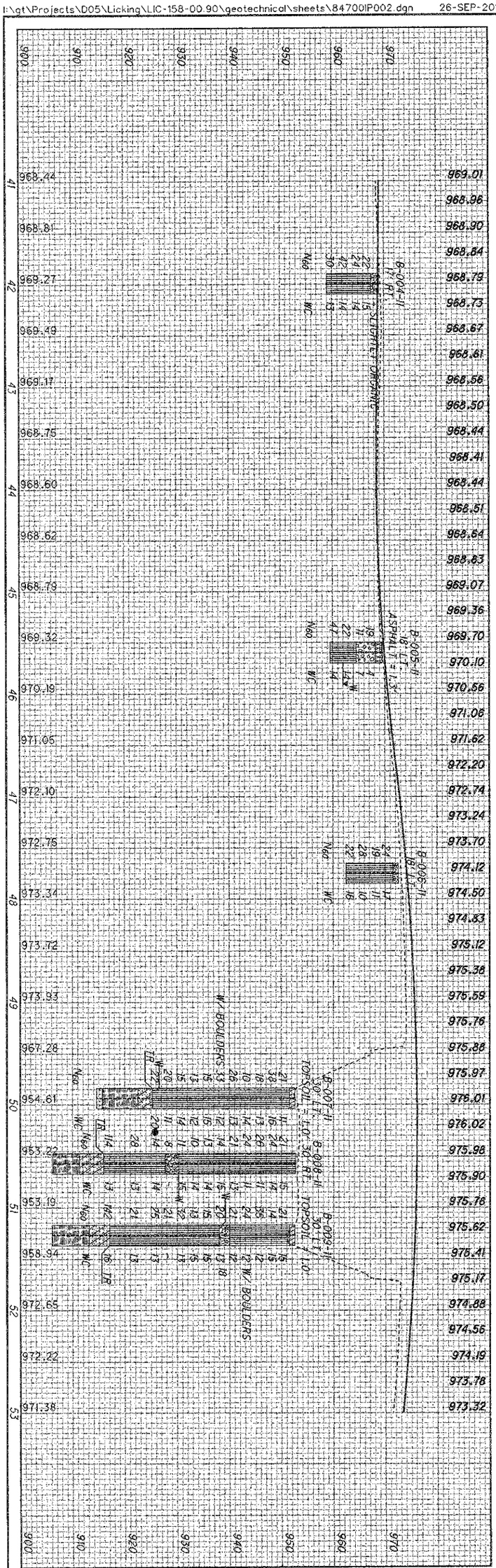
LIC-158-0.56

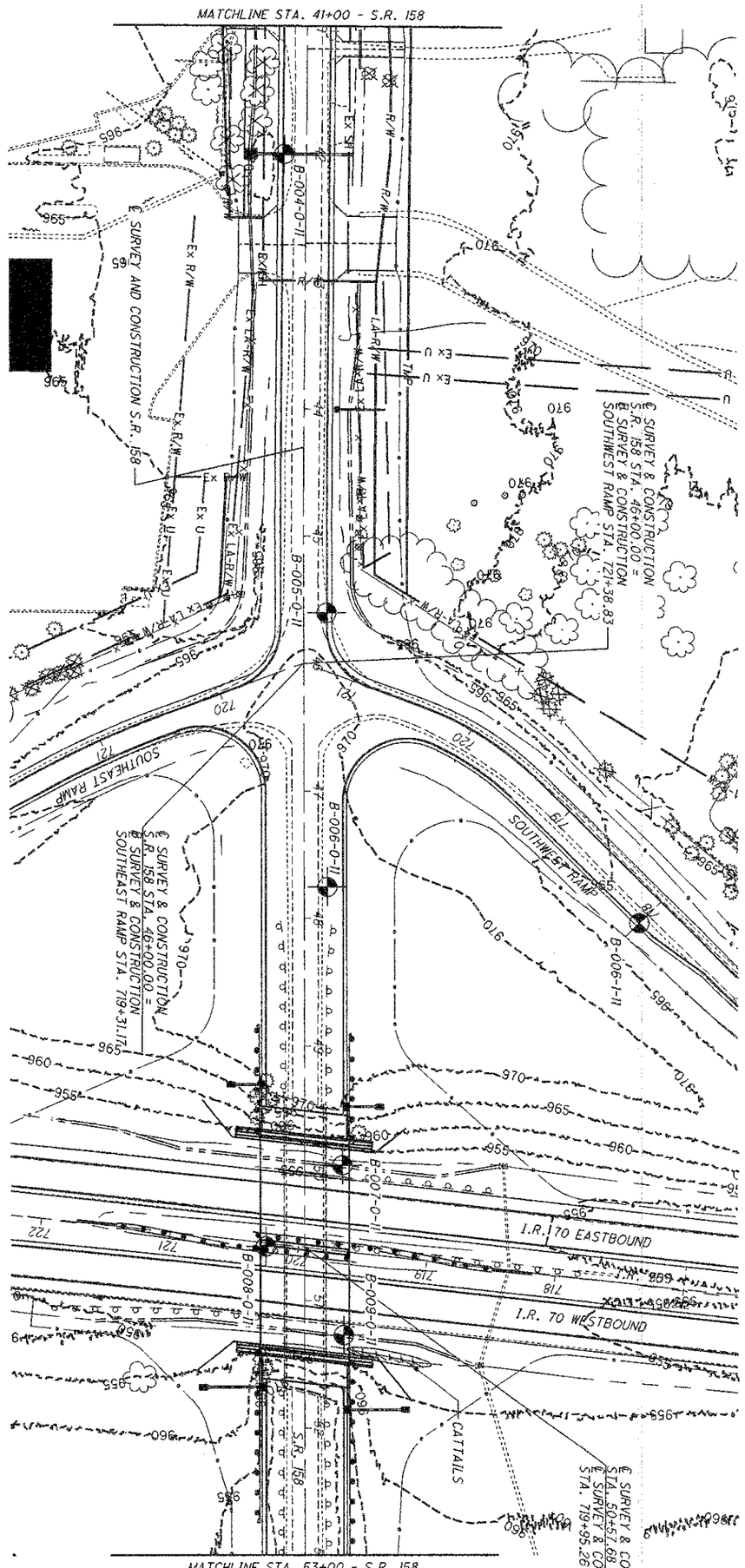
SOIL PROFILE
STA. 28+00 TO STA. 41+00 SR 158

DRAWN JAG
CHECKED MRS

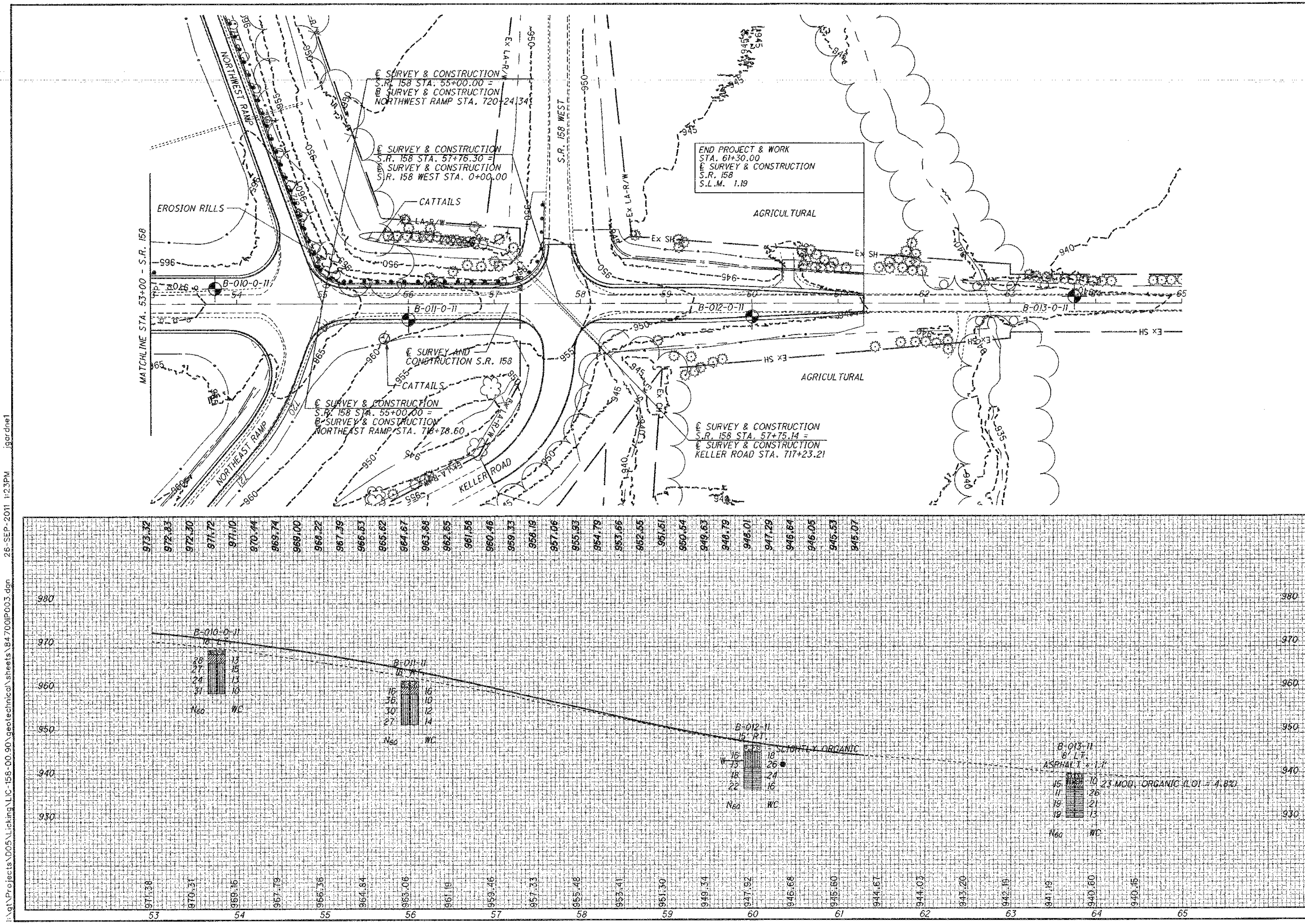
0 50 100
HORIZONTAL SCALE IN FEET

I:\gt\Projects\D05\Licking\LIC-158-00.90\geotechnical\sheets\847001P002.dgn 26-SEP-2011 1:23PM jgardne1





4/12	LIC-158-0.56	SOIL PROFILE STA. 41+00 TO STA. 53+00 SR 158	DRAWN JAG CHECKED MRS	0 50 100 HORIZONTAL SCALE IN FEET	N



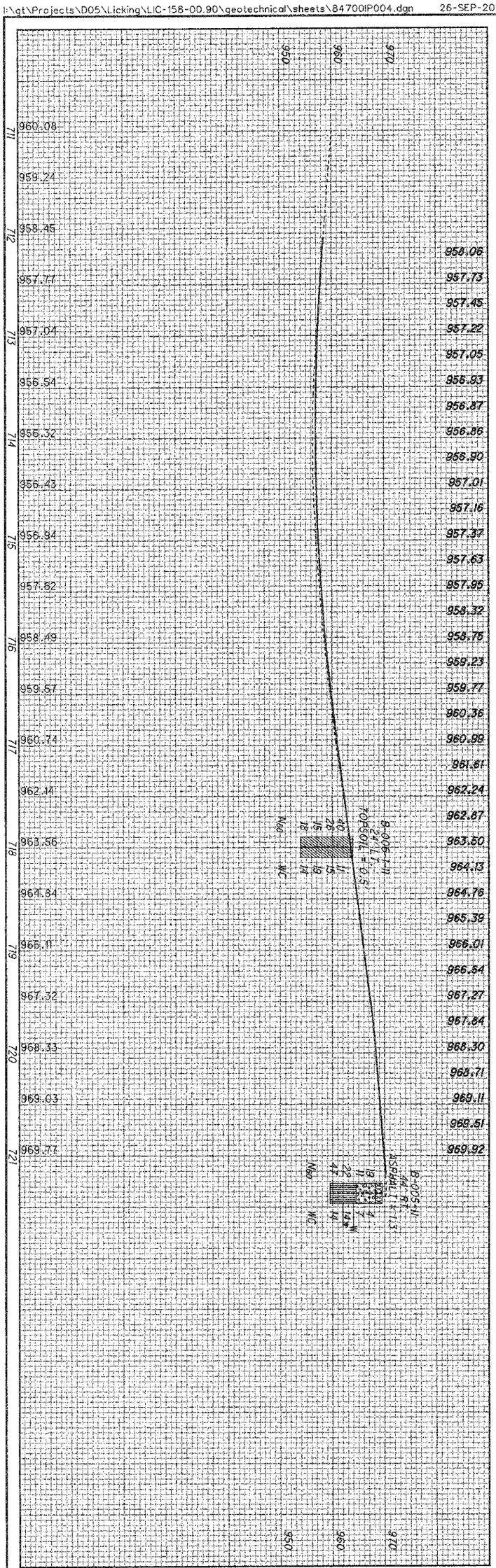
HORIZONTAL SCALE IN FEET

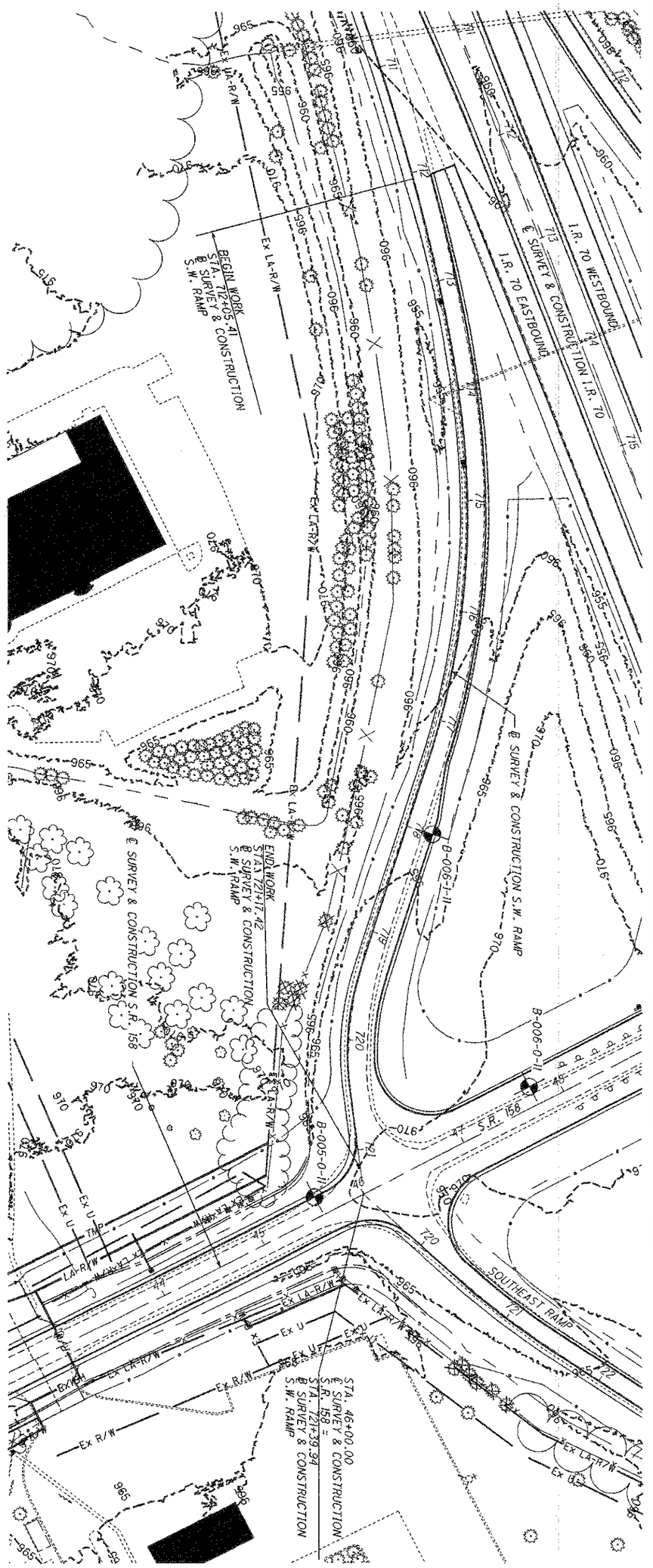
DRAWN JAG
CHECKED MRS

SOIL PROFILE
STA. 53+00 TO STA. 65+00

LIC-158-0.56

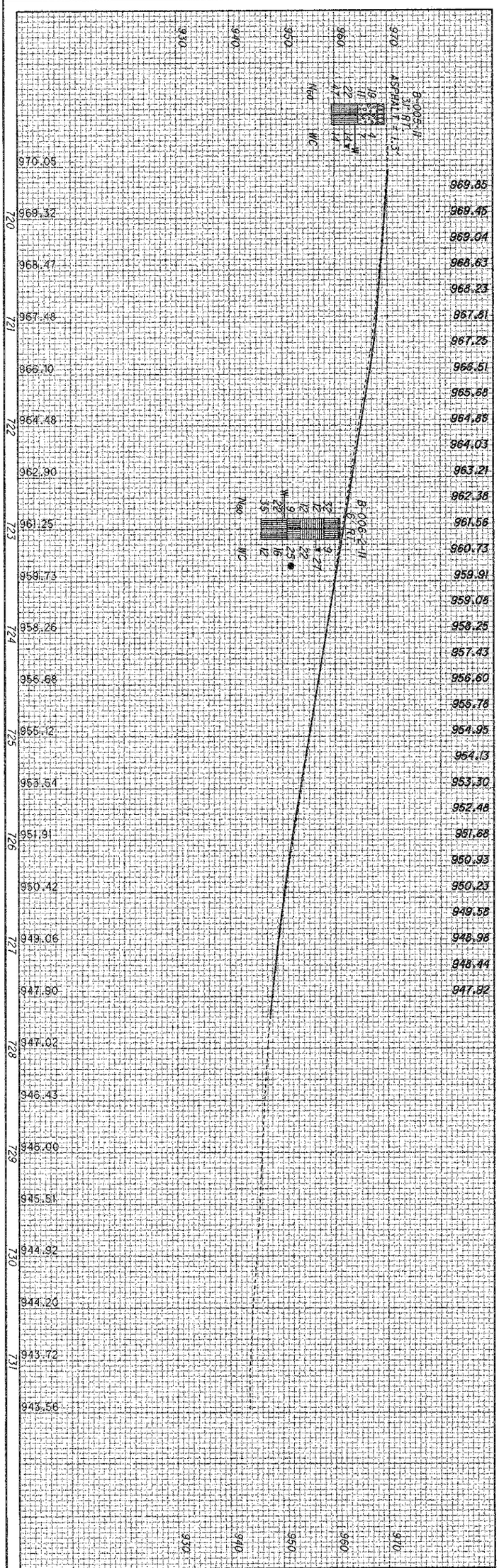
I:\gt\Projects\D05\Licking\LIC-158-00.90\geotechnical\sheets\84700IP004.dgn 26-SEP-2011 1:23PM jgardner1

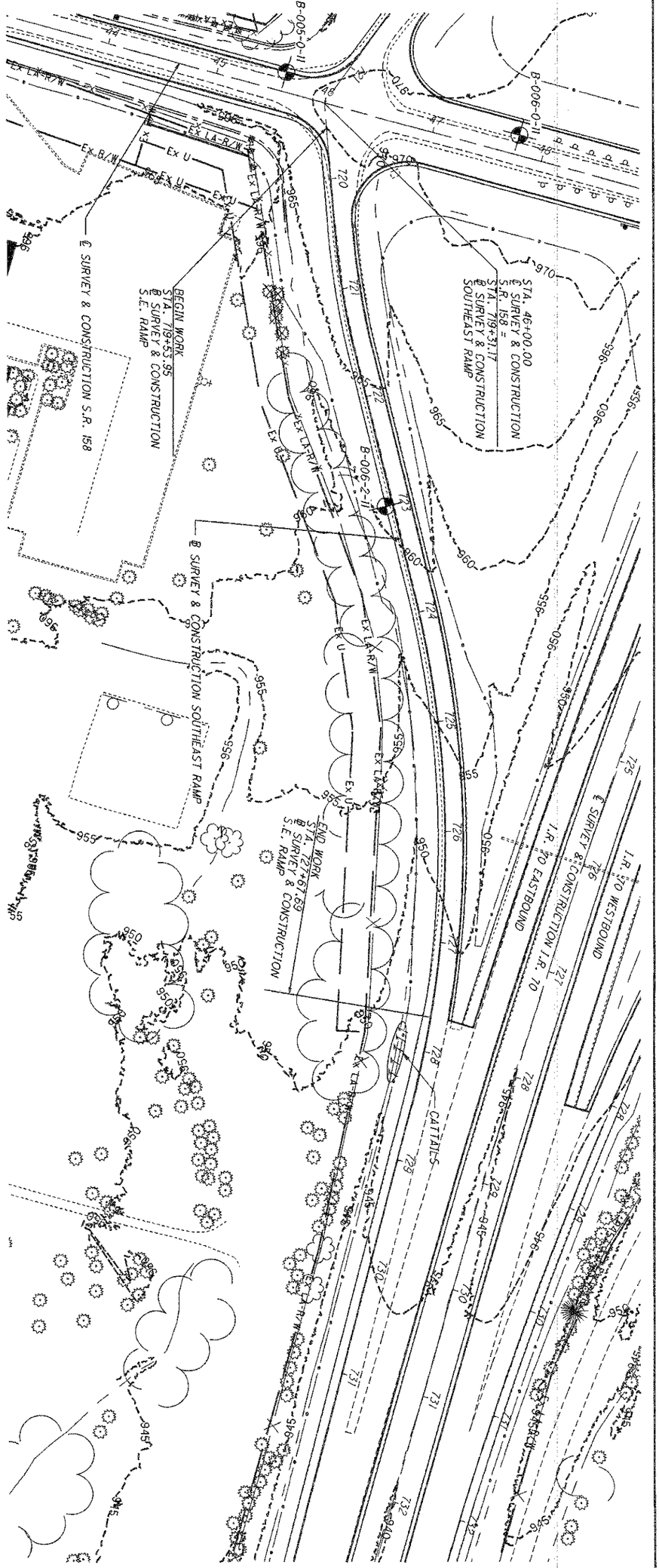




6/12	LIC-158-0.56	SOIL PROFILE STA. 711+00 TO 721+17.42 SOUTHWEST RAMP	DRAWN JAG CHECKED	0 50 100 HORIZONTAL SCALE IN FEET

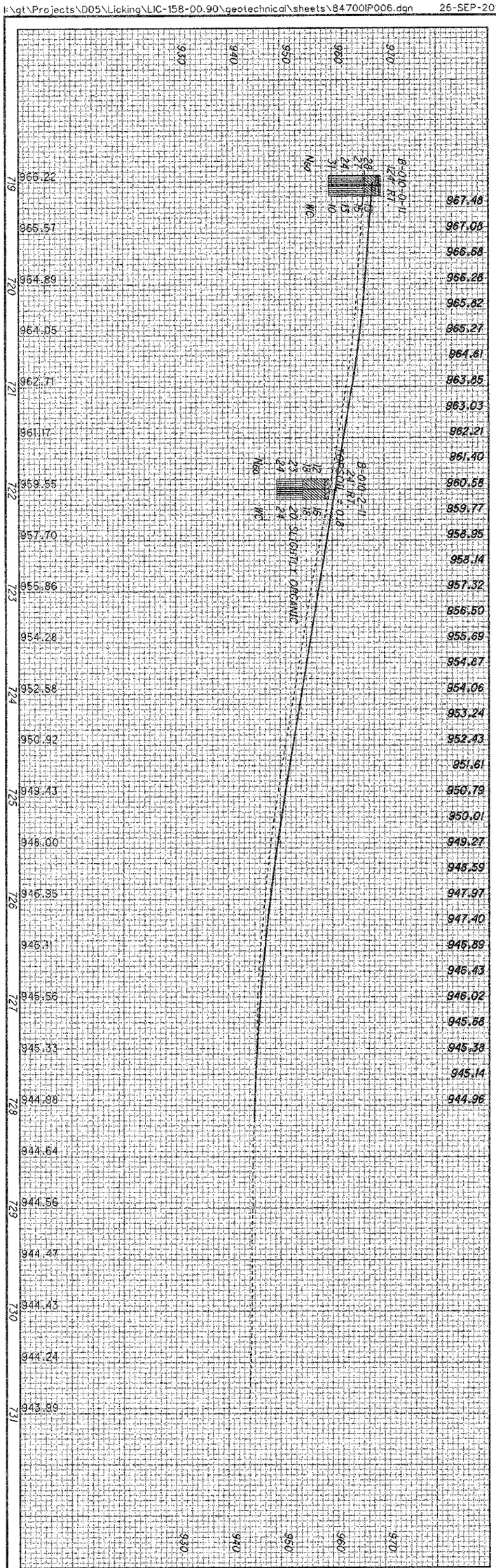
I:\gt\Projects\D05\Licking\LIC-158-00.90\geotechnical\sheets\84700IP005.dgn 26-SEP-2011 1:23PM jgardne1

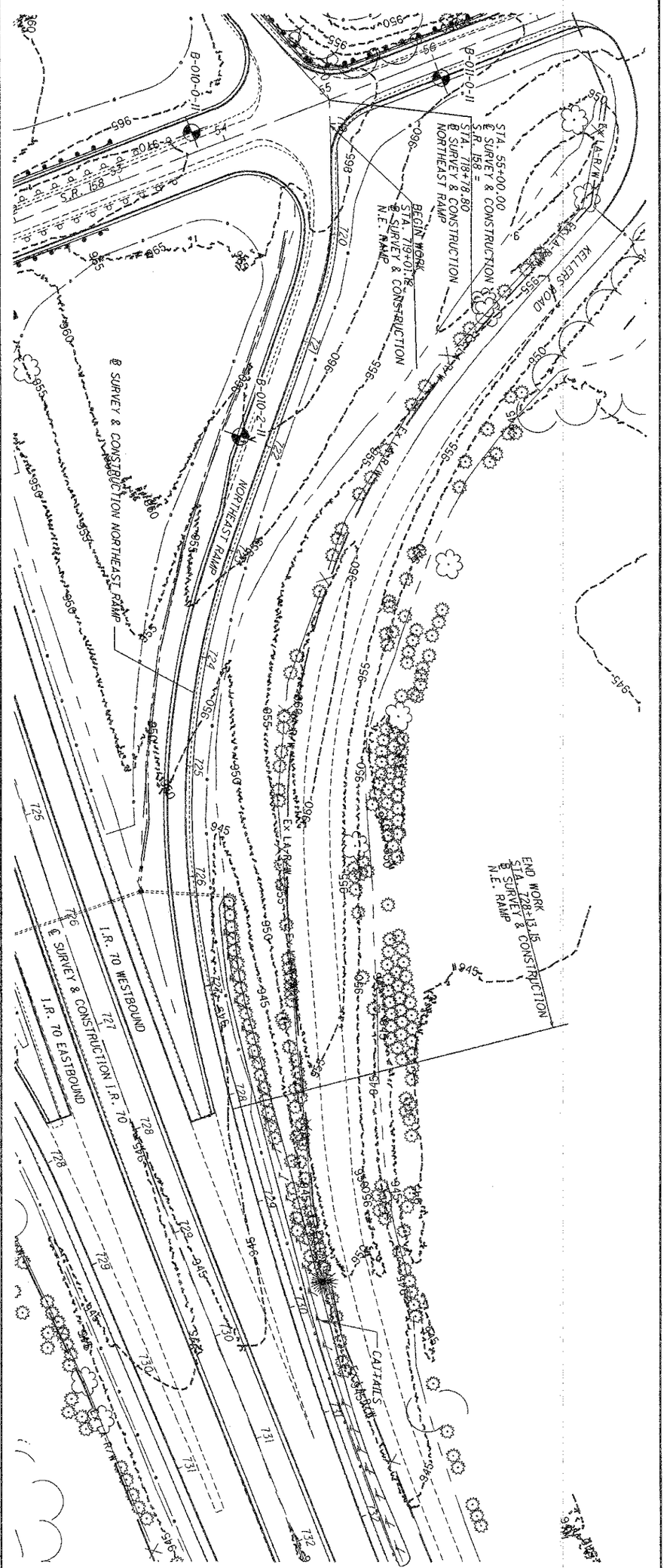




7/12	LIC-158-0.56	SOIL PROFILE STA. 719+53.59 TO 731+50 SOUTHEAST RAMP	DRAWN JAG CHECKED MRS	0 50 100 HORIZONTAL SCALE IN FEET	N

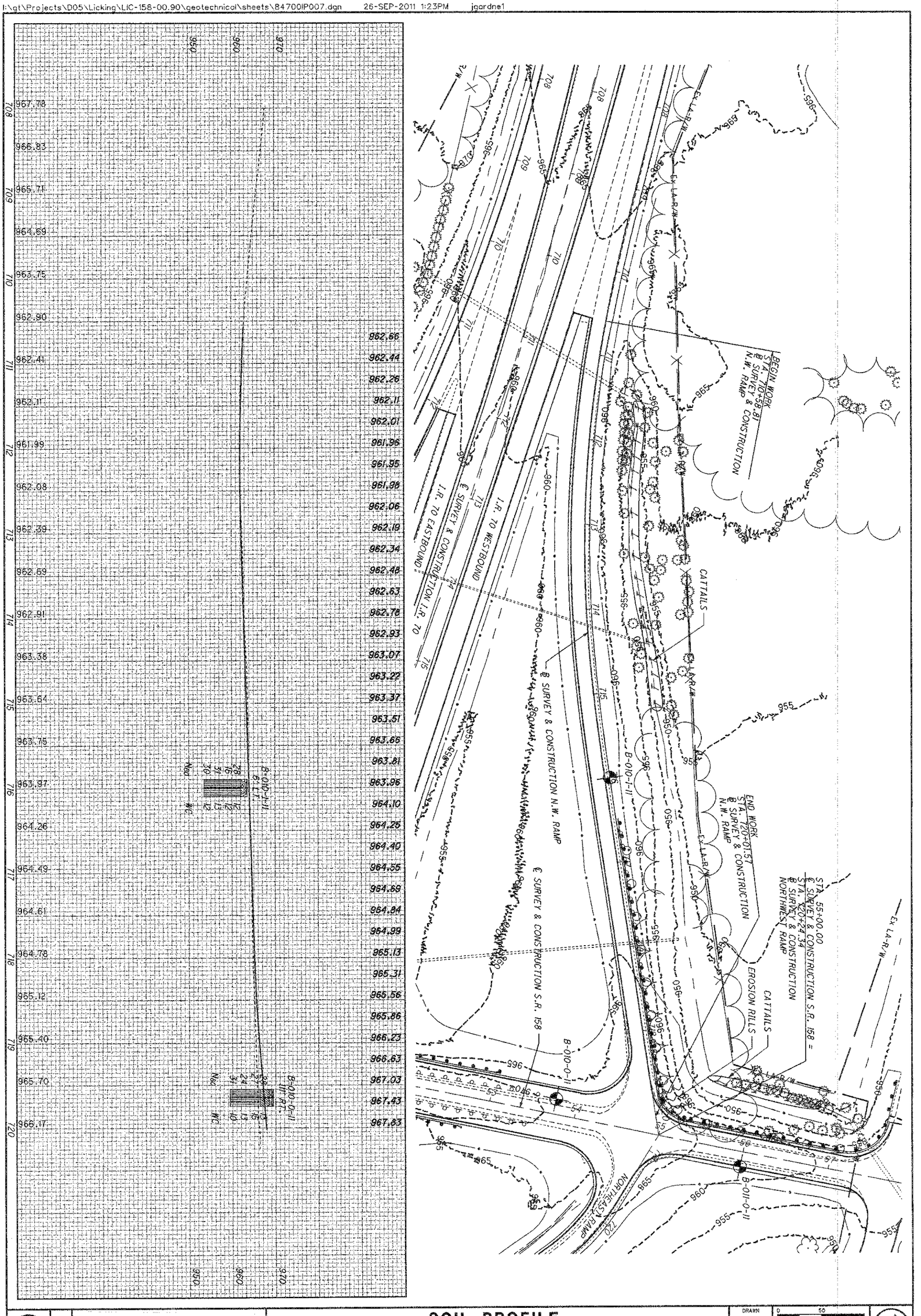
I:\gt\Projects\D05\Licking\LIC-158-00.90\geotechnical\sheets\84700IP006.dgn 26-SEP-2011 1:23PM jgardner1





8/12	LIC-158-0.56	SOIL PROFILE STA. 718+78.80 TO 731+00 NORTHEAST RAMP	DRAWN JAG CHECKED MRS	0 50 100 HORIZONTAL SCALE IN FEET

I:\gt\Projects\D05\Licking\LIC-158-00.90\geotechnical\sheets\84700IP007.dgn 26-SEP-2011 1:23PM jgardne1



9/12	LIC-158-0.56	SOIL PROFILE STA. 708+00 TO 720+01.57 NORTHWEST RAMP	DRAWN JAG CHECKED MRS	0 50 100 HORIZONTAL SCALE IN FEET	N

I:\gt\Projects\D05\Licking\LIC-158-00.90\geotechnical\sheets\84700ZL001.dgn 26-SEP-2011 1:23PM jgardne1

PROJECT: LIC-158-00.90	DRILLING FIRM / OPERATOR: ODOT / PROCTOR	DRILL RIG: CME 850R TRACKED	STATION / OFFSET: 49+94, 30 LT	EXPLORATION ID B-007-0-11
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: ODOT / LEWIS	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 158	
PID: 84700 BR ID: LIC-158-00.97	DRILLING METHOD: 3.75" HSA / NQ2	CALIBRATION DATE: 3/10/09	ELEVATION: 952.6 (MSL) EOB: 38.0 ft	PAGE 1 OF 1
START: 3/23/11 END: 3/24/11	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 83.6	COORD: 708426.503 N, 1940403.621 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 952.6	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
TOP SOIL (12")	951.6																	
STIFF TO VERY STIFF, BROWN AND GRAY, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, DAMP			5 7 8	21	100	SS-1	4.00	14	11	16	37	22	22	16	6	11	A-4a (5)	
			3 16 11	38	67	SS-2	2.00	-	-	-	-	-	-	-	-	16	A-4a (V)	
@5.0'; GRAY			5 6 7	18	100	SS-3	3.25	-	-	-	-	-	-	-	-	13	A-4a (V)	
@7.5'; TRACE GRAVEL			3 3 4	10	56	SS-4	2.00	8	11	16	40	25	23	16	7	14	A-4a (6)	
			4 8 11	26	89	SS-5	3.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
@12.5'; BROWN AND GRAY																		
@13.5' - 15.0'; DRIVING ON BOULDER			9 11 13	33	11	SS-6	2.00	-	-	-	-	-	-	-	-	12	A-4a (V)	
@15.0'; GRAY			3 5 6	15	89	SS-7	2.25	-	-	-	-	-	-	-	-	15	A-4a (V)	
			2 4 5	13	100	SS-8	3.25	-	-	-	-	-	-	-	-	12	A-4a (V)	
			4 4 7	15	100	SS-9	1.75	-	-	-	-	-	-	-	-	14	A-4a (V)	
@22.5'; SOME GRAVEL, LITTLE CLAY																		
			4 6 8	20	100	SS-10	-	23	10	17	37	13	19	16	3	11	A-4a (3)	
@25.0'; WET		W																
	925.3	TR	4 6 10	22	100	SS-11	-	-	-	-	-	-	-	-	-	20	A-4a (V)	
SANDSTONE, GRAY, HIGHLY WEATHERED, MODERATELY STRONG, VERY FINE TO FINE GRAINED, VERY THIN TO THIN BEDDED; RQD 0%, REC 100%.	922.5																	
INTERBEDDED SHALE (60%) AND SANDSTONE (40%), RQD 5%, REC. 100%; **SHALE**, DARK GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG, LAMINATED TO VERY THIN BEDDED, SLIGHTLY ARENACEOUS, RANGES IN THICKNESS FROM 0.1 TO 0.3 FEET; **SANDSTONE**, GRAY, MODERATELY WEATHERED, MODERATELY STRONG, VERY FINE TO FINE GRAINED, VERY THIN TO THIN BEDDED, RANGES IN THICKNESS FROM 0.2 TO 0.8 FEET.	915.7		8		100	NQ2-1											CORE	
SANDSTONE, GRAY, MODERATELY WEATHERED, MODERATELY STRONG, VERY FINE TO FINE GRAINED, VERY THIN TO THIN BEDDED; RQD 46%, REC 100%.	914.6	EOB																

NOTES: DRILLED THROUGH STANDING WATER AT THE SURFACE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED 150 LB. BENTONITE POWDER; 90 GAL. WATER

NEW BORING LOG (11 X 17) - OH DOT.GDT - 9/26/11 12:44 - X:\GINTPROJECTS\2011 COMPLETE\10367.GPJ

PROJECT: LIC-158-00.90	DRILLING FIRM / OPERATOR: ODOT / PROCTOR	DRILL RIG: CME 850R TRACKED	STATION / OFFSET: 50+57, 30 RT	EXPLORATION ID B-008-0-11
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: ODOT / CRONIN	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 158	
PID: 84700 BR ID: LIC-158-00.97	DRILLING METHOD: 3.75" HSA / NQ2	CALIBRATION DATE: 3/10/09	ELEVATION: 952.7 (MSL) EOB: 46.5 ft	PAGE 1 OF 1
START: 3/28/11 END: 3/29/11	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 83.6	COORD: 708486.407 N, 1940466.599 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 952.7	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY STIFF TO HARD, BROWN, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, DAMP			4 5 10	21	100	SS-1	-	14	11	14	35	26	24	16	8	15	A-4a (5)	
			4 7 10	24	100	SS-2	4.5+	14	11	14	36	25	24	16	8	14	A-4a (5)	
@5.0'; BROWN AND GRAY			9 9 10	26	100	SS-3	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	
			4 7 10	24	100	SS-4	-	-	-	-	-	-	-	-	-	11	A-4a (V)	
@10.0'; GRAY			8 6 9	21	100	SS-5	2.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
@12.5'; STIFF, TRACE GRAVEL, MOIST			3 4 6	14	100	SS-6	1.00	9	10	16	37	28	21	14	7	15	A-4a (6)	
@15.0'; DAMP			4 4 5	13	100	SS-7	1.00	-	-	-	-	-	-	-	-	14	A-4a (V)	
@17.5' - 20.0'; MEDIUM STIFF			3 4 3	10	78	SS-8	0.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
@20.0'; MOIST			3 3 5	11	100	SS-9	1.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
	930.3 W																	
VERY LOOSE TO LOOSE, GRAY, **GRAVEL WITH SAND**, WET			0 0 6	8	0	SS-10	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
	927.7																	
MEDIUM STIFF, GRAY, **SANDY SILT**, LITTLE CLAY, TRACE GRAVEL, DAMP			3 4 6	14	100	SS-11	0.50	-	-	-	-	-	-	-	-	14	A-4a (V)	
@27.5'; HARD			9 10 10	28	100	SS-12	4.5+	9	11	19	42	19	19	15	4	13	A-4a (5)	
			20 32 50	114	100	SS-13	-	-	-	-	-	-	-	-	-	13	A-4a (V)	
	915.9 TR																	
SANDSTONE, GRAY, HIGHLY WEATHERED, MODERATELY STRONG, VERY FINE TO FINE GRAINED, VERY THIN TO THIN BEDDED; RQD 0%, REC 100%. @37.2' - 38.1'; HIGH ANGLE, RUST STAINED FRACTURE @37.5' - 40.0'; LOST CORE WATER RETURN																		
@41.0' - 41.5'; LOST CORE WATER RETURN	911.3		22		100	NQ2-1											CORE	
INTERBEDDED SHALE (60%) AND SANDSTONE (40%), RQD 43%, REC. 100%: **SHALE**, DARK GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG, LAMINATED TO VERY THIN BEDDED, SLIGHTLY ARENACEOUS, RANGES IN THICKNESS FROM 0.1 TO 0.3 FEET; **SANDSTONE**, GRAY, MODERATELY WEATHERED, MODERATELY STRONG, VERY FINE GRAINED, VERY THIN BEDDED, RANGES IN THICKNESS FROM 0.2 TO 0.8 FEET	906.2 EOB																	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 50 LB. BENTONITE CHIPS; TREMIED 125 LB. BENTONITE POWDER; 60 GAL. WATER

NEW BORING LOG (11 X 17) - OH DOT.GDT - 9/16/11 08:19 - X:\GINT\PROJECTS\2011 COMPLETE\100987.GPJ

LIC-158-0.56	SOIL PROFILE BRIDGE NO. LIC-158-0097 OVER I.R. 70 BORING LOG B-008-0-11	DRAWN JAG	CHECKED MRS

PROJECT: LIC-158-00.90	DRILLING FIRM / OPERATOR: ODOT / PROCTOR	DRILL RIG: CME 850R TRACKED	STATION / OFFSET: 51+27, 30 LT	EXPLORATION ID B-009-0-11
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: ODOT / LEWIS	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 158	
PID: 84700 BR ID: LIC-158-00.97	DRILLING METHOD: 3.75" HSA / NQ2	CALIBRATION DATE: 3/10/09	ELEVATION: 952.5 (MSL) EOB: 46.5 ft.	PAGE 1 OF 1
START: 3/22/11 END: 3/22/11	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 83.6	COORD: 708559.411 N, 1940410.027 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 952.5	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
TOP SOIL (12")	951.5																	
VERY STIFF TO HARD, BROWN AND GRAY, **SANDY SILT**, SOME GRAVEL, LITTLE CLAY, DAMP @1.5' - 3.0'; TRACE ROOTS			8 9 6	21	89	SS-1	2.25	29	12	16	27	16	29	19	10	15	A-4a (2)	
@3.0'; BROWN WITH GRAY, SOME CLAY, TRACE GRAVEL			3 4 6	14	44	SS-2	4.00	7	10	16	42	25	25	18	7	15	A-4a (6)	
			8 11 14	35	100	SS-3	4.5+	-	-	-	-	-	-	-	-	12	A-4a (V)	
@7.5'; GRAY			6 7 10	24	100	SS-4	4.50	-	-	-	-	-	-	-	-	12	A-4a (V)	
			5 7 8	21	100	SS-5	4.00	-	-	-	-	-	-	-	-	12	A-4a (V)	
	940.0																	
MEDIUM DENSE, GRAY, **GRAVEL WITH SAND**, LITTLE SILT, TRACE CLAY, WET	938.0	W	6 7 7	20	67	SS-6	- 3.00	51 -	20 -	12 -	13 -	4 -	NP -	NP -	NP -	18 13	A-1-b (0) A-4a (V)	
VERY STIFF, GRAY, **SANDY SILT**, SOME CLAY, LITTLE GRAVEL, DAMP			5 6 5	15	89	SS-7	2.25	11	13	15	38	23	21	15	6	15	A-4a (5)	
@17.5' - 20.0'; STIFF			2 5 4	13	89	SS-8	2.00	-	-	-	-	-	-	-	-	15	A-4a (V)	
			14 11 12	32	89	SS-9	3.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
			3 6 9	21	100	SS-10	3.00	-	-	-	-	-	-	-	-	-	A-4a (V)	
			4 7 11	25	100	SS-11	4.00	-	-	-	-	-	-	-	-	13	A-4a (V)	
			4 6 9	21	100	SS-12	3.25	-	-	-	-	-	-	-	-	13	A-4a (V)	
@31.5'; MOIST	917.0	TR	16 51 51	142	78	SS-13	-	-	-	-	-	-	-	-	-	16	A-4a (V)	
SANDSTONE, GRAY, HIGHLY WEATHERED, MODERATELY STRONG, VERY FINE TO FINE GRAINED, VERY THIN TO THIN BEDDED; RQD 0%, REC 100%.	913.1																	
INTERBEDDED SHALE (60%) AND SANDSTONE (40%), RQD 9%, REC. 100%; **SHALE**, DARK GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG, LAMINATED TO VERY THIN BEDDED, SLIGHTLY ARENACEOUS, RANGES IN THICKNESS FROM 0.1 TO 0.3 FEET; **SANDSTONE**, GRAY, MODERATELY WEATHERED, MODERATELY STRONG, VERY FINE TO FINE GRAINED, VERY THIN TO THIN BEDDED, RANGES IN THICKNESS FROM 0.2 TO 0.8 FEET.	906.0	EOB	7		100	NQ2-1											CORE	

NOTES: WATER ENCOUNTERED AT 14.0'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 3 BAG BENTONITE POWDER; 90 GAL. WATER

NEW BORING LOG (11 X 17) - OH DOT.GDT - 9/16/11 08:19 - X:\CINTI\PROJECTS\2011 COMPLETE\100967.GPJ

12/12	LIC-158-0.56	SOIL PROFILE BRIDGE NO. LIC-158-0097 OVER I.R. 70 BORING LOG B-009-0-11	DRAWN JAG CHECKED MRS