

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

**HUR-20-16.35  
LOR-20-0.00**

**CITY OF NORWALK  
VILLAGE OF WAKEMAN  
NORWALK TOWNSHIP  
WAKEMAN TOWNSHIP  
CAMDEN TOWNSHIP  
PITTSFIELD TOWNSHIP  
HURON COUNTY  
LORAIN COUNTY**

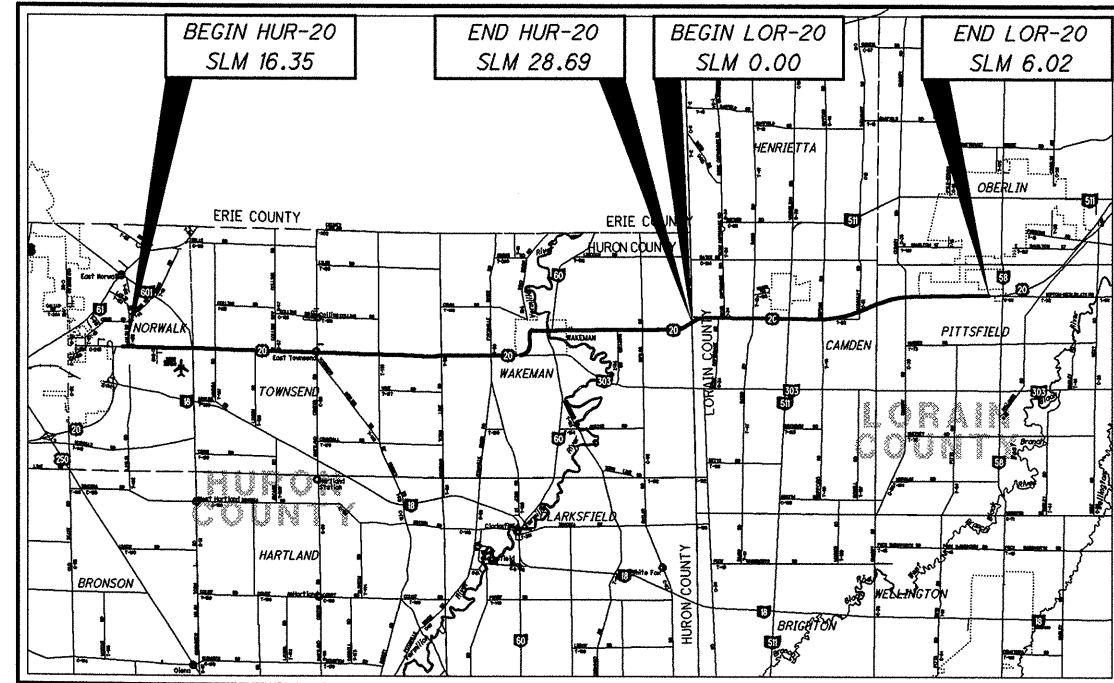
**PROJECT DESCRIPTION**

THIS PROJECT IS 18.36 MILES LONG AND WILL INCLUDE PAVEMENT PLANING, PAVEMENT REPAIR, SHOULDER REPAIR, RESURFACING WITH ASPHALT CONCRETE, PROFILE AND SUPERELEVATION CORRECTION IN WAKEMAN, ADDITION OF A LEFT TURN LANE AT WESTERN RESERVE SCHOOL, ADJUSTMENT OF CASTINGS WHERE NECESSARY, GUARDRAIL, PAVEMENT MARKINGS AND MINOR STRUCTURE REHABILITATION WORK.

PROJECT EARTH DISTURBED AREA: 2.3 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.0 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 4.9 ACRES

**2005 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.



**LOCATION MAP**

LATITUDE: N 41° 15' 17" LONGITUDE: W 82° 24' 6"

SCALE IN MILES



PORTION TO BE IMPROVED .....  
INTERSTATE & DIVIDED HIGHWAY .....  
UNDIVIDED STATE & FEDERAL ROUTES .....  
OTHER ROADS .....

**DESIGN DESIGNATION**

SEE SHEET 2

NHS PROJECT..... YES

**DESIGN EXCEPTIONS**

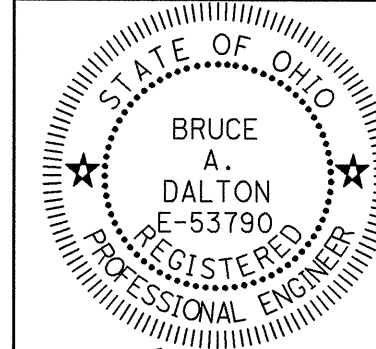
NONE

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ENGINEERS SEAL:

ROADWAY, PAVEMENT & STRUCTURES		STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	7/16/04	GR-4.2	1/19/07	MT-105.11	10/18/02		
BP-4.1	7/16/04	GR-5.1	4/18/03				
BP-5.1	7/28/00			TC-41.20	1/19/01	800	10-19-07
BP-7.1	1/19/07			TC-42.20	7/16/04	802	4-15-05
CB-1.2	7/15/05	MH-1.1	7/19/02	TC-52.10	1/19/07	832	4-25-06
		RM-1.1	4/21/06	TC-52.20	1/19/07	848	4-15-05
DM-4.3	7/19/02			TC-65.10	1/21/05		
DM-4.4	7/19/02	MT-96.10	4/19/02	TC-65.11	1/21/05	953	4-15-05
		MT-96.20	4/19/02	TC-71.10	1/19/07		
GR-1.1	7/16/04	MT-96.25	4/20/01	TC-72.20	1/21/05		
GR-2.1	1/16/04	MT-97.10	9/05/06	TC-73.10	1/19/01		
GR-2.4	4/18/03	MT-97.12	9/05/06				
GR-3.1	1/19/07	MT-99.20m	1/30/95				
GR-3.4	1/20/06	MT-101.20	10/18/02				
GR-4.1	4/18/03	MT-105.10	10/18/02				



SIGNED: *Bruce Dalton*  
DATE: 10-17-07

PLAN PREPARED BY:



**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 HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED *John Hart*  
DATE 10/17/07 DISTRICT DEPUTY DIRECTOR

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

DESIGN FILE: I:\projects\77284\77284GT001.dgn  
WORKSTATION: mr0bins1 DATE: 10/17/2007

FEDERAL PROJECT NO. **E040(593)**

PID NO. **77284**

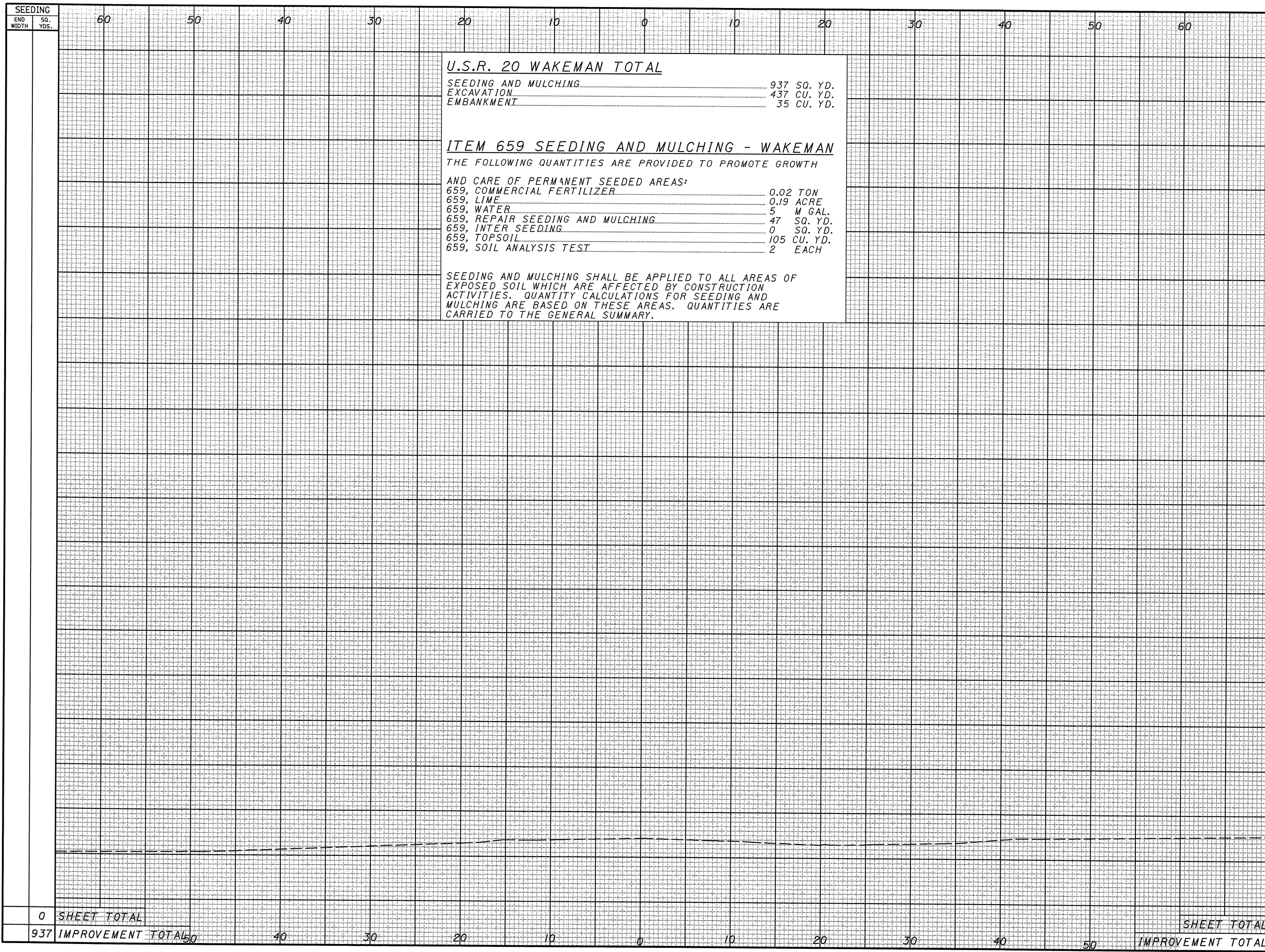
CONSTRUCTION PROJECT NO. **NONE**

RAILROAD INVOLVEMENT **NONE**

**HUR-20-16.35  
LOR-20-0.00**

**1**  
107

DESIGNER: I:\projects\77284\77284XS002.dgn  
 WORKSHEET: DATE: 10/19/2007



**U.S.R. 20 WAKEMAN TOTAL**  
 SEEDING AND MULCHING ..... 937 SQ. YD.  
 EXCAVATION ..... 437 CU. YD.  
 EMBANKMENT ..... 35 CU. YD.

**ITEM 659 SEEDING AND MULCHING - WAKEMAN**  
 THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH  
 AND CARE OF PERMANENT SEEDED AREAS:  
 659, COMMERCIAL FERTILIZER ..... 0.02 TON  
 659, LIME ..... 0.19 ACRE  
 659, WATER ..... 5 M GAL.  
 659, REPAIR SEEDING AND MULCHING ..... 47 SQ. YD.  
 659, INTER SEEDING ..... 0 SQ. YD.  
 659, TOPSOIL ..... 105 CU. YD.  
 659, SOIL ANALYSIS TEST ..... 2 EACH

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL WHICH ARE AFFECTED BY CONSTRUCTION ACTIVITIES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE AREAS. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

END WIDTH	SEEDING SQ. YDS.	END AREA		VOLUME	
		CUT	FILL	CUT	FILL
60					
50					
40					
30					
20					
10					
0					
10					
20					
30					
40					
50					
60					
0	SHEET TOTAL				
937	IMPROVEMENT TOTAL			0	0
				437	59

**HUR-20-16.35**  
**LOR-20-0.00**

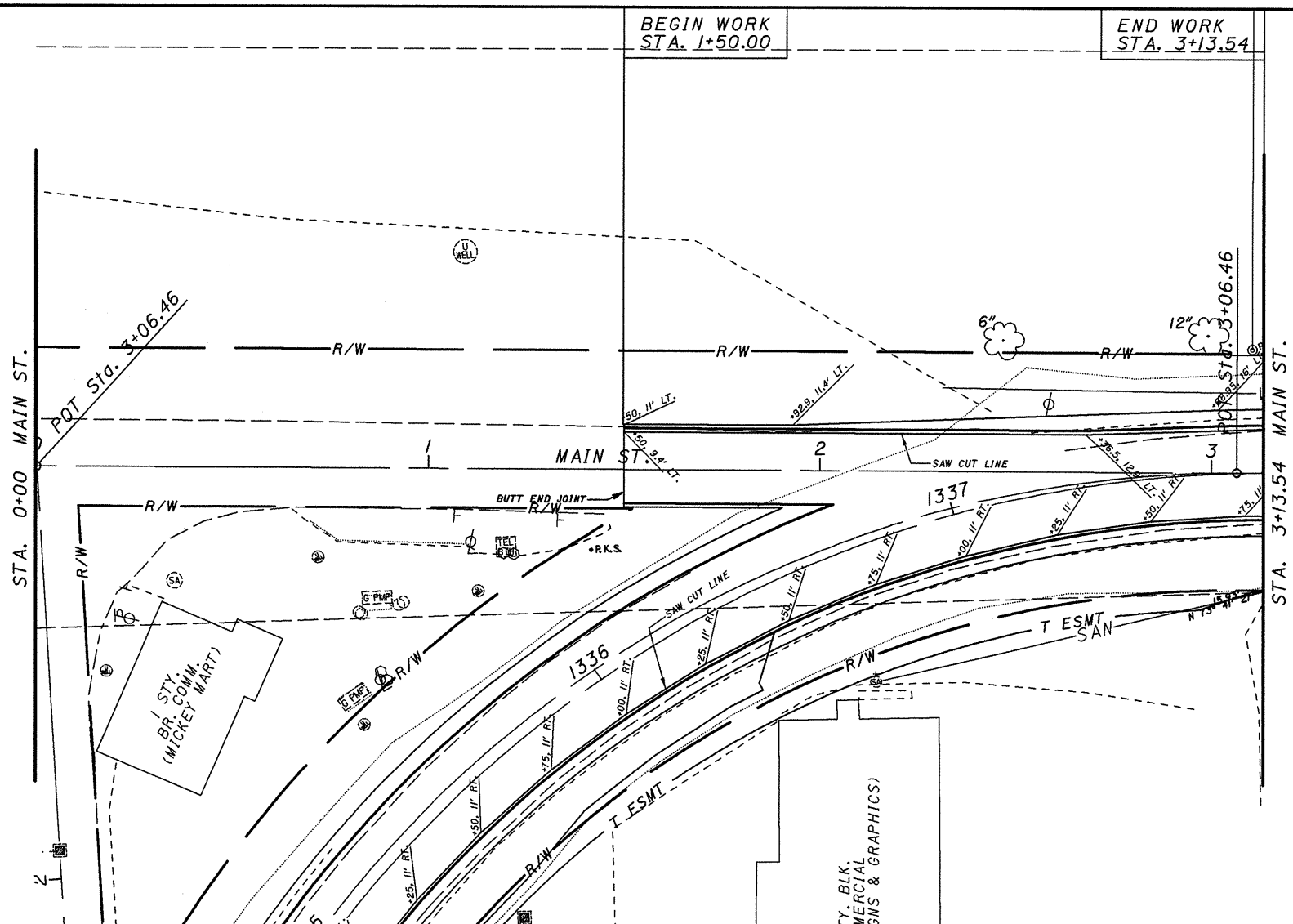
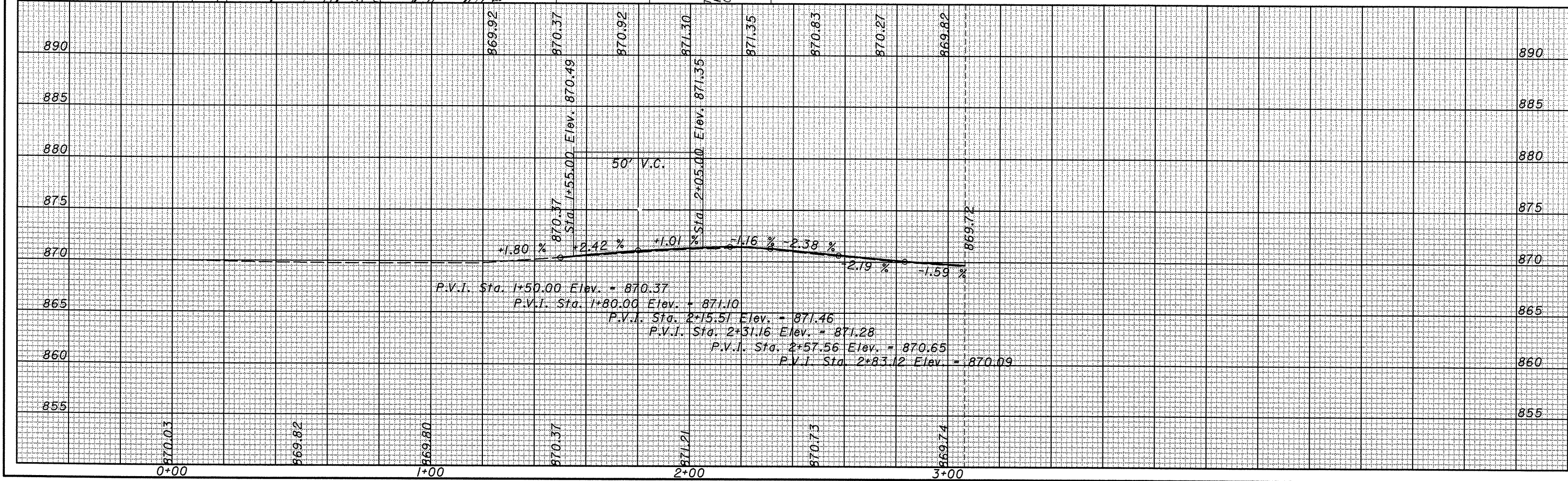
**US 20 CROSS SECTIONS**  
**STA. 1340+00**

CALCULATED: SJD  
 CHECKED: BAD

72  
107



I:\projects\77284\77284GP\_Si.dgn  
 DATE: 10/10/2007



**PLAN AND PROFILE - MAIN ST.**  
**STA. 0+00 TO STA. 3+13.54**

HUR-20-16.35  
 LOR-20-0.00

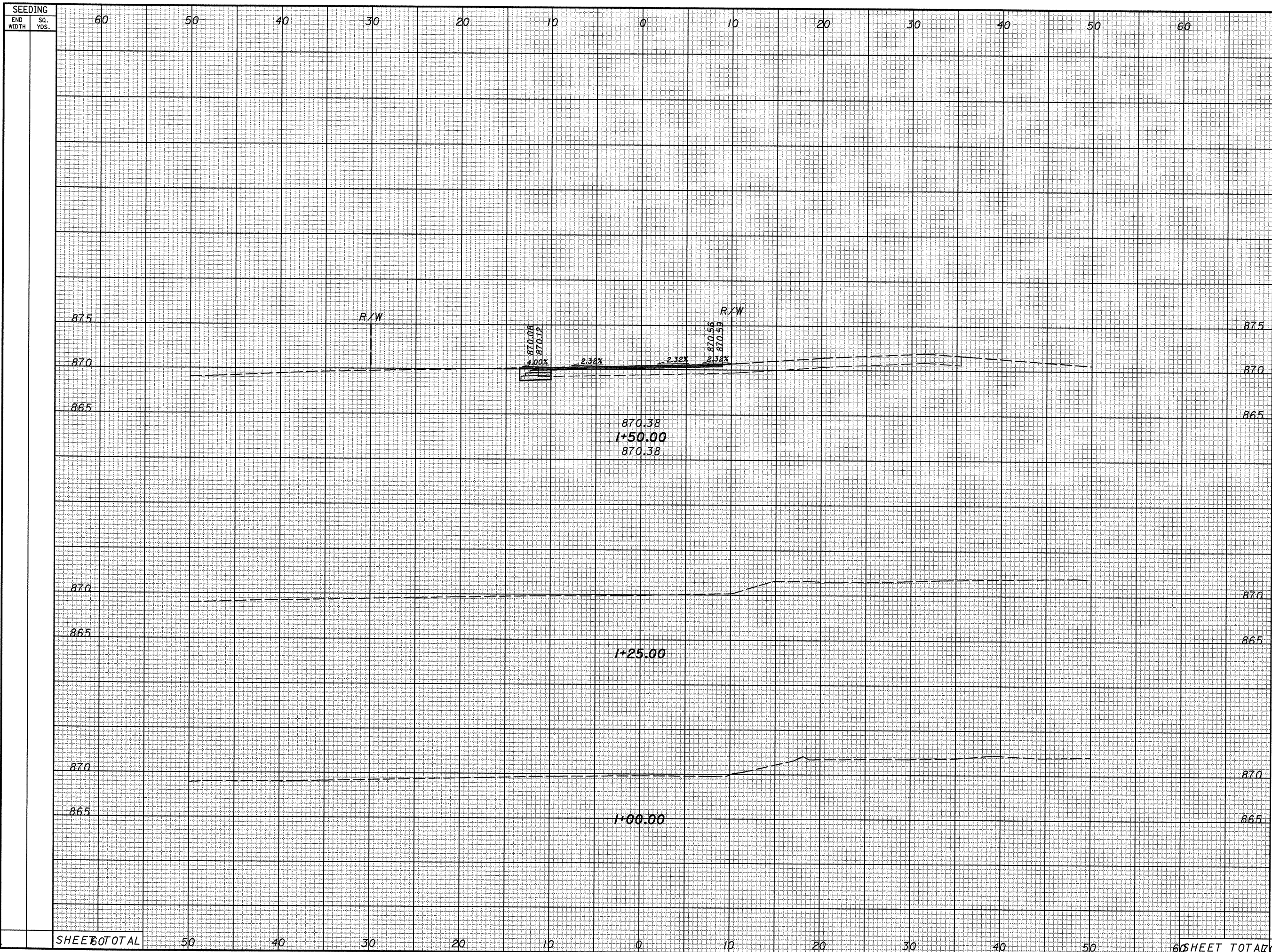
73  
 107

CALCULATED: SJD  
 CHECKED: MJS

0 20 40  
 HORIZONTAL SCALE IN FEET



I:\projects\77284\77284XS004.dgn  
 10/10/2007  
 DWG

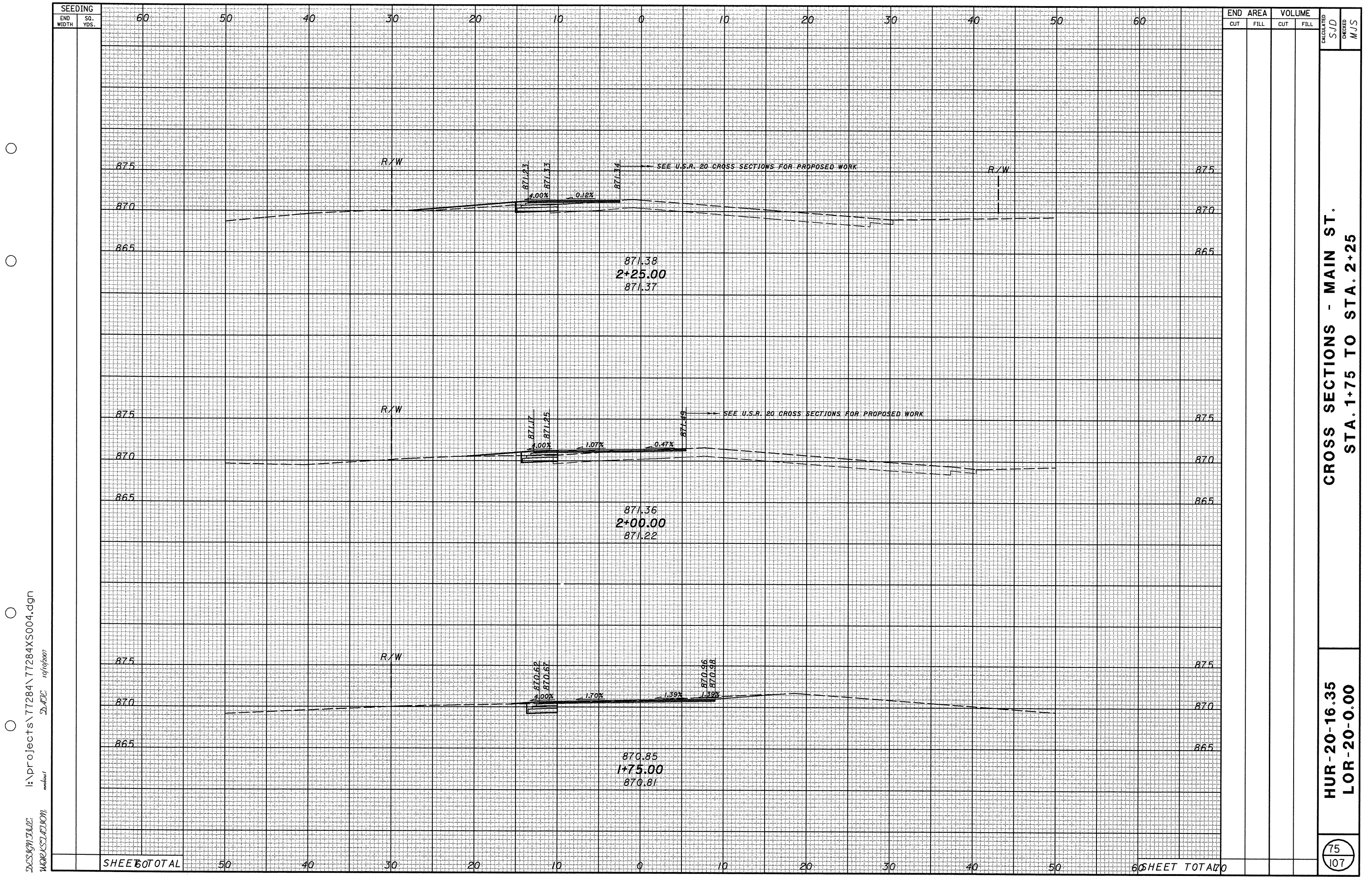


SEEDING		STATIONING												END AREA		VOLUME		CALCULATED SJD	CHECKED MJS			
END WIDTH	SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	CUT	FILL	CUT			FILL		

CROSS SECTIONS - MAIN ST.  
 STA. 1+00 TO STA. 1+50

HUR-20-16.35  
 LOR-20-0.00

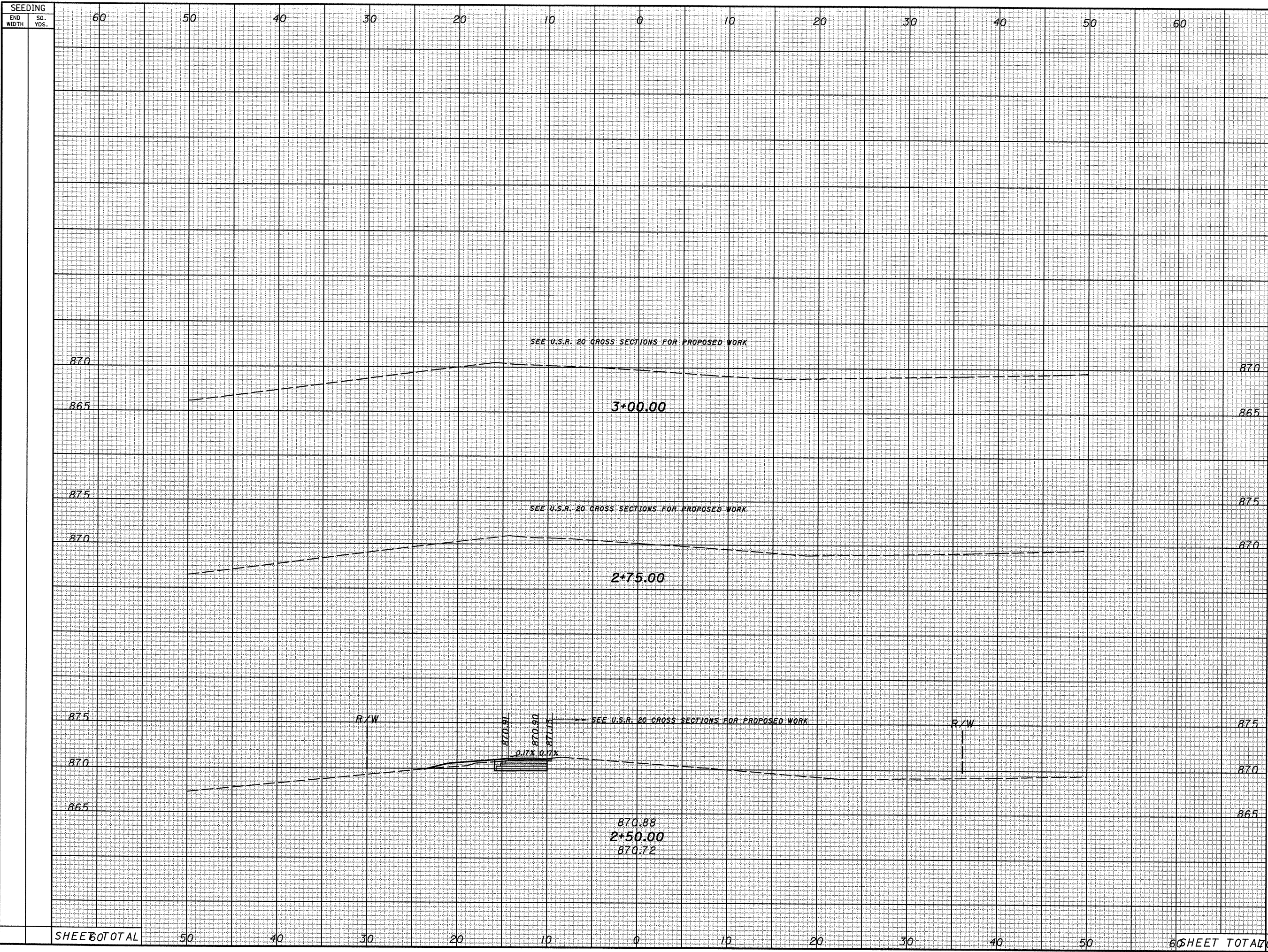




I:\projects\77284\77284XS004.dgn  
 DATE: 10/10/2007  
 DWG: 21.42E  
 DESIGNED BY: [unreadable]  
 CHECKED BY: [unreadable]

CROSS SECTIONS - MAIN ST.  
 STA. 1+75 TO STA. 2+25





CROSS SECTIONS - MAIN ST.  
STA. 2+50 TO STA. 3+00

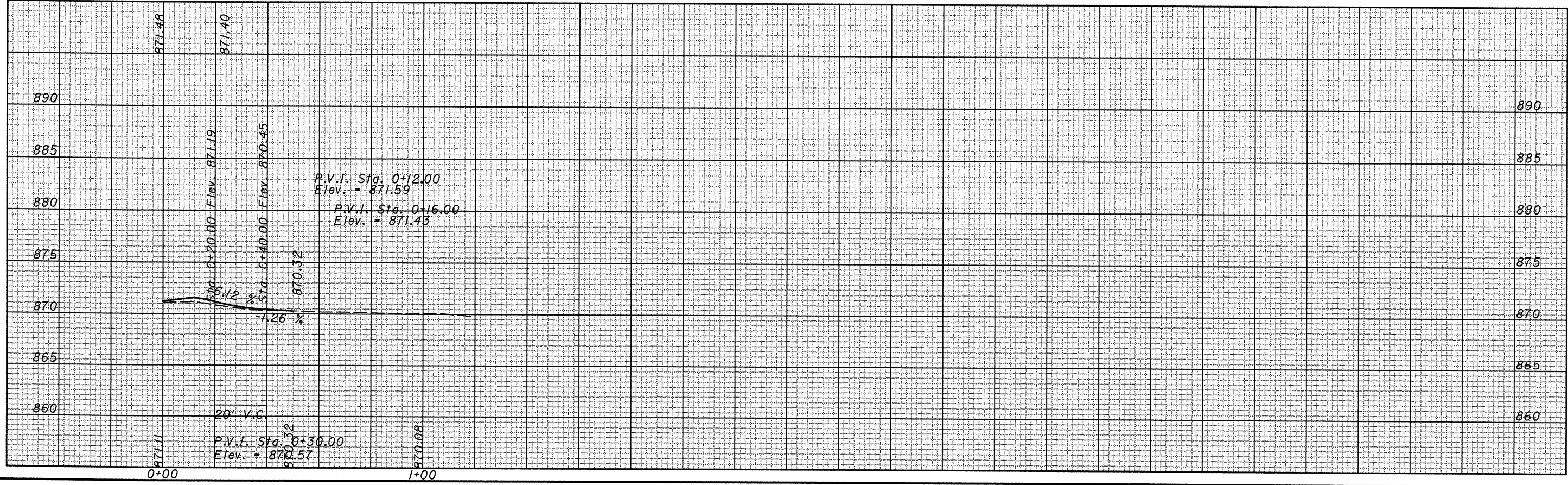
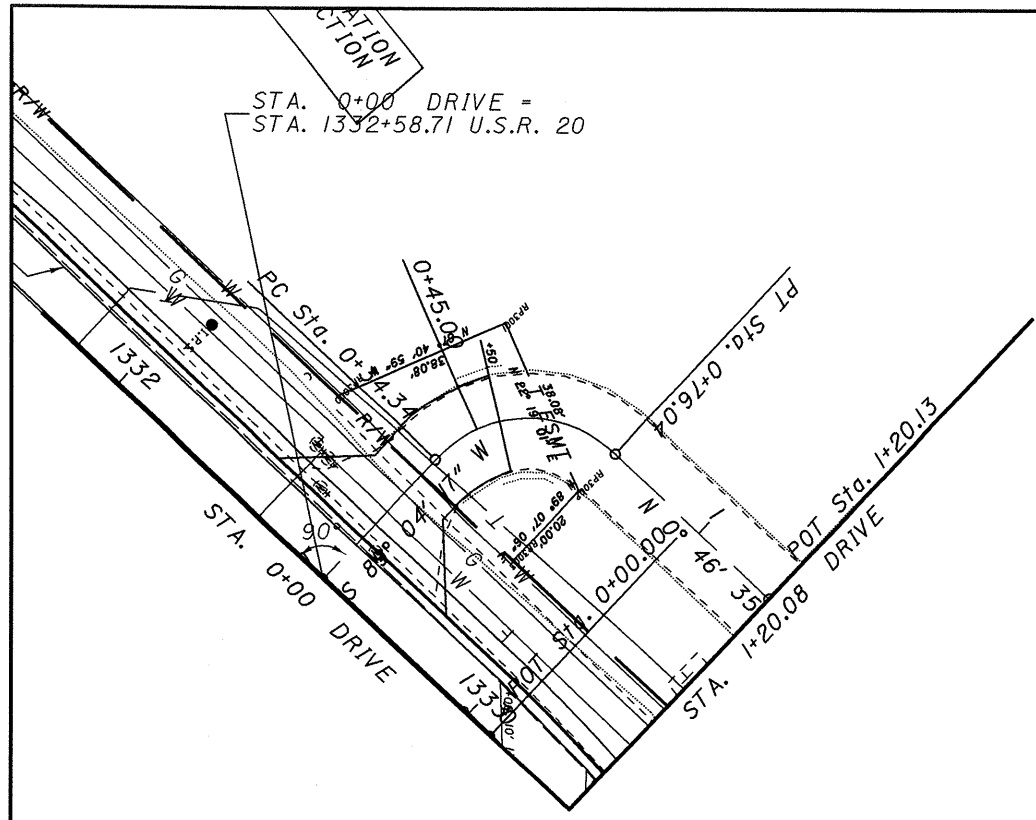
HUR-20-16.35  
LOR-20-0.00

I:\projects\7284\7284XS004.dgn  
DATE: 10/10/2007  
DRAWN BY: mshar1

SHEET TOTAL 50 40 30 20 10 0 10 20 30 40 50 60 SHEET TOTAL 60



DESIGNER: I:\projects\7284\7284GP\_DR.dgn  
 MORSE/JNO/M  
 DATE: 10/10/2007



**PLAN AND PROFILE - DRIVEWAY**  
**STA. 0+00 TO STA. 1+20.08**

HUR-20-16.35  
 LOR-20-0.00

77  
 107

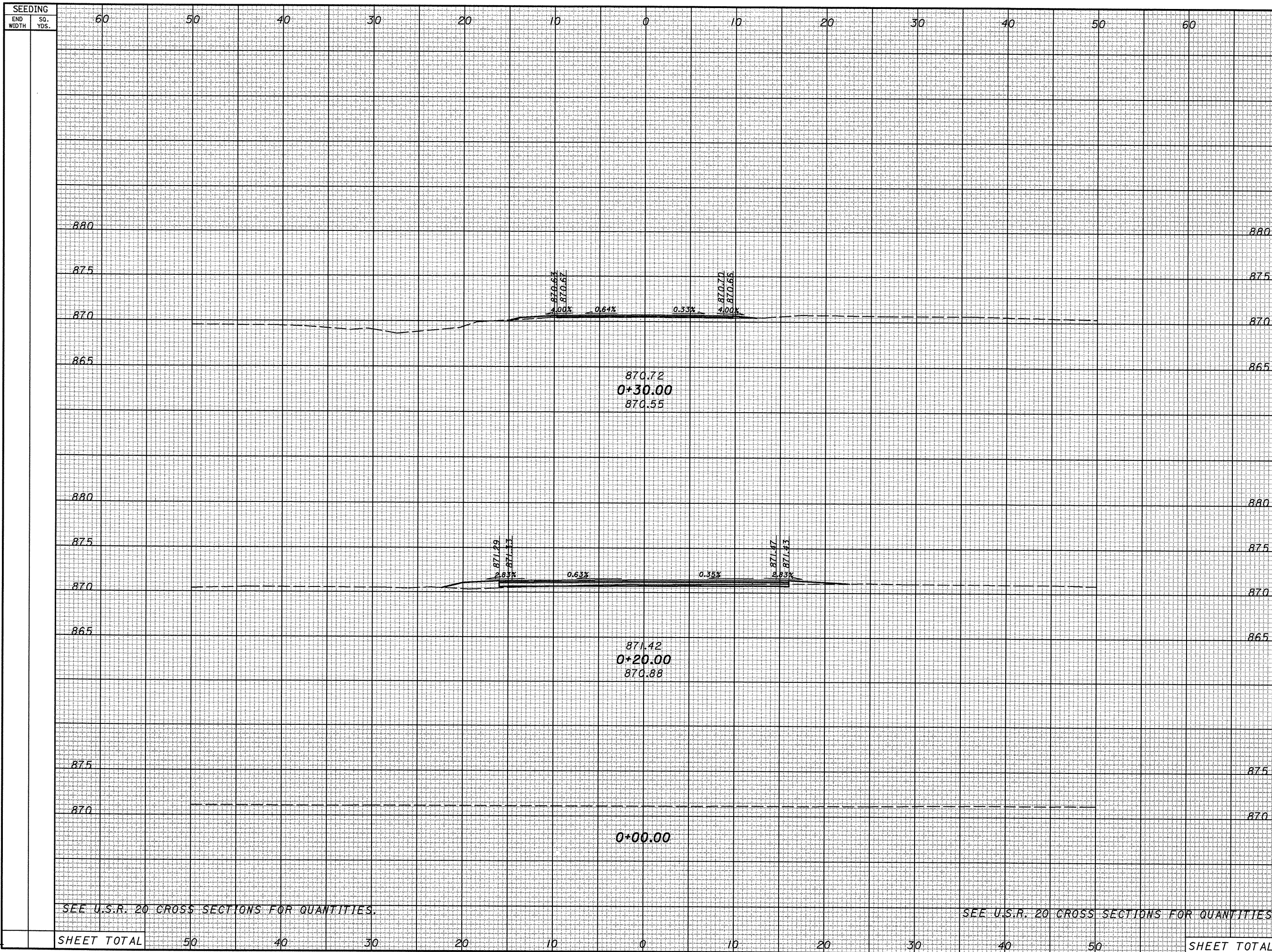
CALCULATED SJD  
 CHECKED MJS

0 10 20  
 HORIZONTAL  
 SCALE IN FEET

I:\projects\7284\7284XS-DR.dgn

DATE: 10/10/2007

WORKSHEET: NOM



SEE U.S.R. 20 CROSS SECTIONS FOR QUANTITIES.

SEE U.S.R. 20 CROSS SECTIONS FOR QUANTITIES.

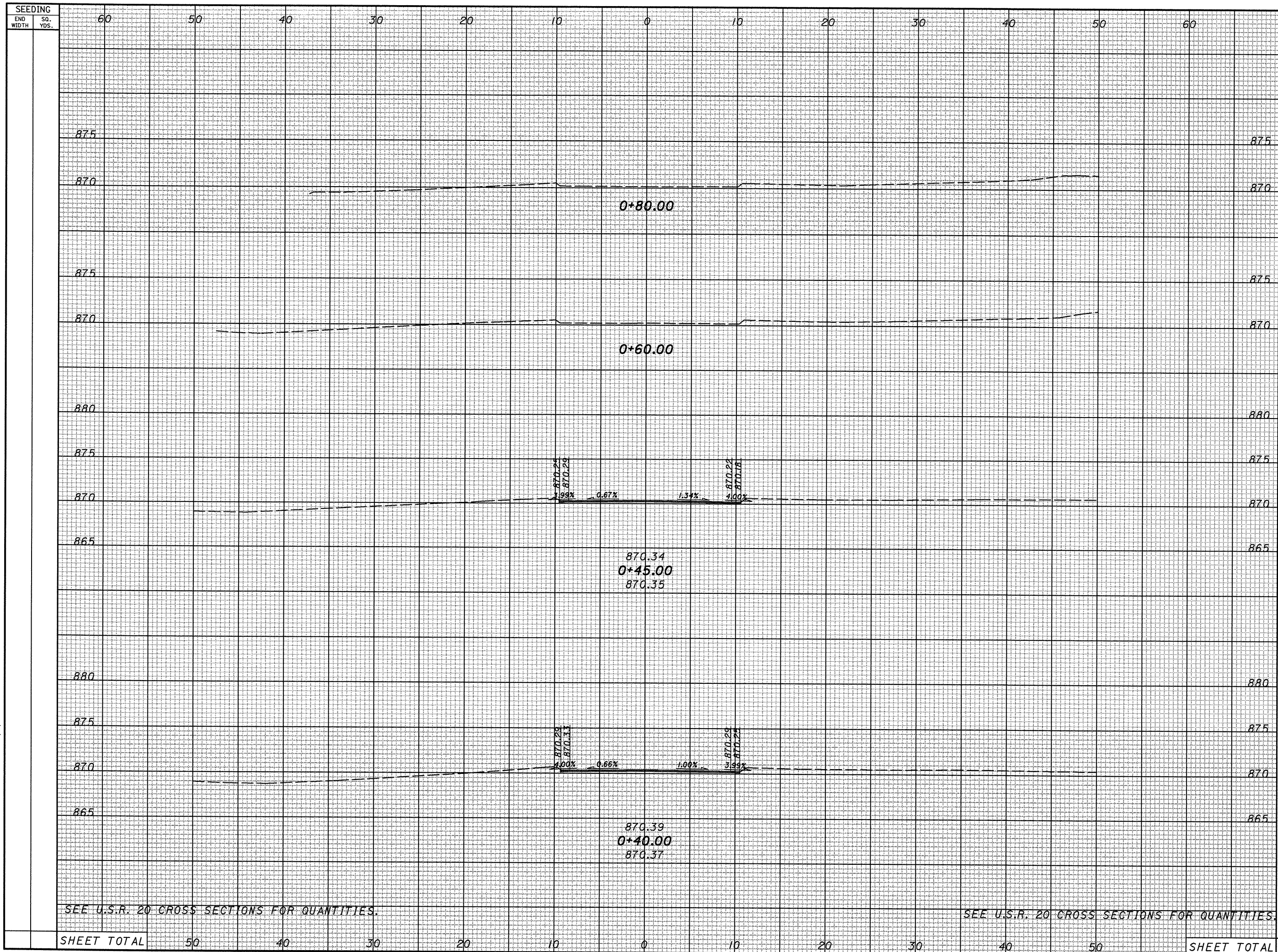
END	AREA	VOLUME		CALCULATED	CHECKED								
		CUT	FILL			SJD	MJS						
60													
50													
40													
30													
20													
10													
0													
10													
20													
30													
40													
50													
60													
SHEET TOTAL		50	40	30	20	10	0	10	20	30	40	50	SHEET TOTAL

CROSS SECTIONS - DRIVE  
STA. 0+00 TO STA. 0+30

HUR-20-16.35  
LOR-20-0.00



DESIGNER: I:\projects\77284\77284XS\_DR.dgn  
 DATE: 10/10/2007  
 MODIFIED:



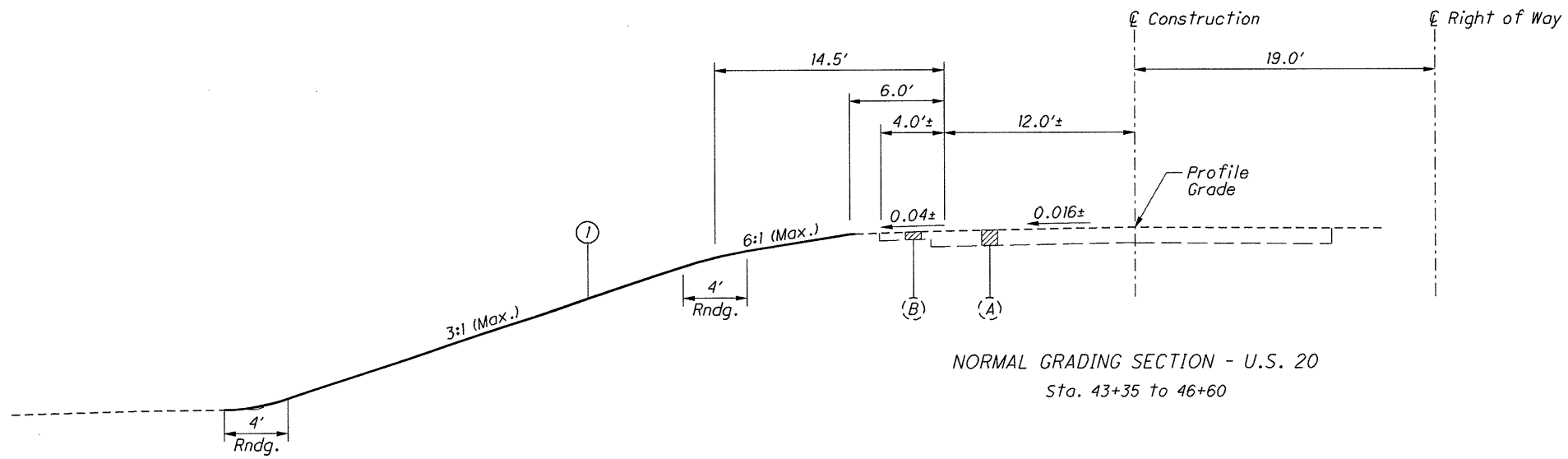
END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED SJD  
 CHECKED MJS

**HUR-20-16.35**  
**LOR-20-0.00**

**CROSS SECTIONS - DRIVE**  
**STA. 0+40 TO STA. 0+80**

79  
 107



NORMAL GRADING SECTION - U.S. 20  
 Sta. 43+35 to 46+60

LEGEND

- ① ITEM 659 - Seeding and Mulching
- (A) 9"± Asphalt over 7"± Reinforced Concrete
- (B) 6"± Asphalt



DESIGN FILE: I:\projects\77284\Struct\LOR20\_0270\sheets\77284GN001.dgn  
WORKSTATION: hyaryah DATE: 10/10/2007

ROUNDING

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

EXISTING PLANS

EXISTING PLANS ENTITLED LOR-20-1.66 (CONSTRUCTION YEAR 1939) MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

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.

UTILITIES

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

<b>GAS</b> Columbia Gas of Ohio 3101 North Ridge Road East Lorain, Ohio 44055 440-240-6123	<b>TELEPHONE</b> Verizon 83 Townsend Avenue Norwalk, Ohio 44857 419-706-3775
--	--

<b>ELECTRIC</b> Lorain-Medina Rural Electric P.O. Box 158 Wellington, Ohio 44090 800-222-5673	<b>CABLE</b> GLW Broadband 993 Commerce Drive Grafton, Ohio 44044 440-926-3230
---	--

**WATER**  
Rural Lorain County Water Authority  
42401 S.R. 303, P.O. Box 567  
LaGrange, Ohio, 44050  
440-355-6060

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

ITEM 201 - 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.

ITEM 659 - SEEDING AND MULCHING

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

- 659, SOIL ANALYSIS TEST - 2 EACH
- 659, TOPSOIL - 147 CU YD  
(111 CU YD/1000 SQ YD)(1327 SQ YD) = 147.30 CU YD
- 659, SEEDING AND MULCHING - 1327 SQ YD
- 659, REPAIR SEEDING AND MULCHING - 66 SQ YD  
(0.05)(1327 SQ YD) = 66.35 SQ YD
- 659, COMMERCIAL FERTILIZER - 0.18 TON  
(1 TON/7410 SQ YD)(1327 SQ YD) = 0.18 TON
- 659, LIME - 0.27 ACRE  
(1 ACRE/4840 SQ YD)(1327 SQ YD) = 0.27 ACRE
- 659, WATER - 7 M GAL  
(0.0054 M GAL/1 SQ YD)(1327 SQ YD) = 7.17 M GAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

ITEM 614, MAINTAINING TRAFFIC

AT STRUCTURE LOR-20-0272, ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT EXCEPT THAT CLOSURE OF ONE LANE MAY OCCUR DURING SHOULDER WORK WITH MINOR ENCROACHMENT AS PER STANDARD DRAWING MT-97.10. WORK TIME RESTRICTIONS APPEARING ELSEWHERE IN THE PLANS APPLY TO THIS LOCATION AS WELL.

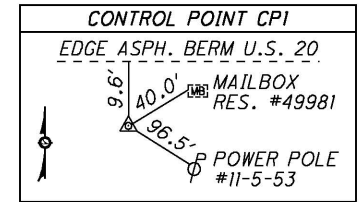
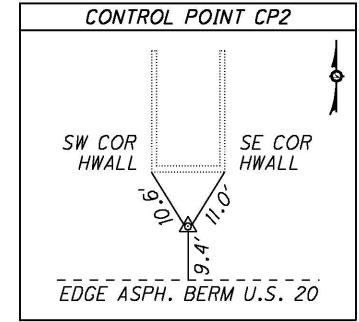
ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING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

CALCULATED  
HYH  
CHECKED  
DCM

GENERAL NOTES FOR STRUCTURE LOR-20-0272

HUR-20-16.35  
LOR-20-0.00

THE GPS COORDINATE DATA INFORMATION FOR THE BENCHMARKS, CONTROL POINTS AND CENTERLINE WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING.

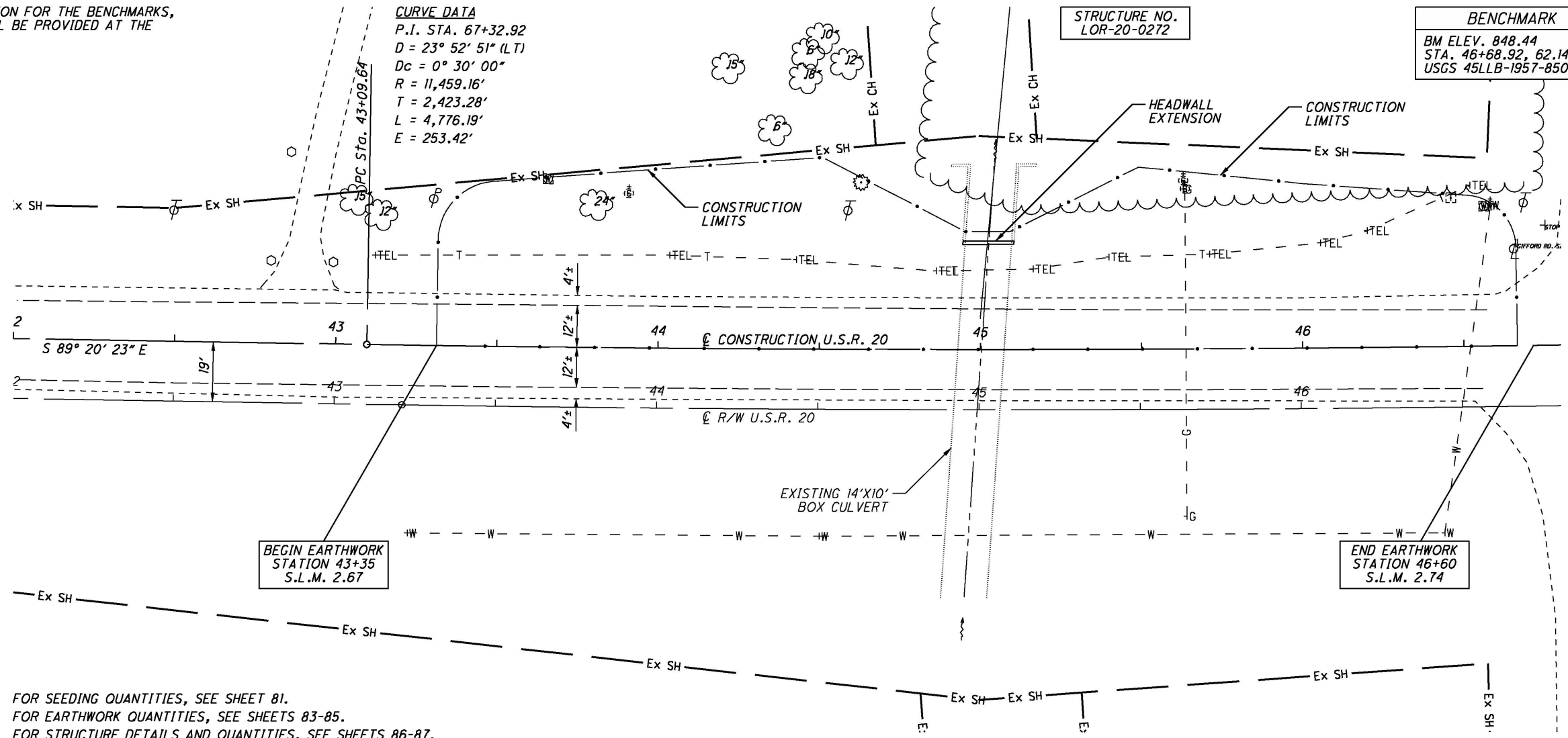


**BENCHMARK**  
CPI ELEV. 846.82  
STA. 35+72.48, 26.04' RT.  
IRON REBAR, YELLOW CAP

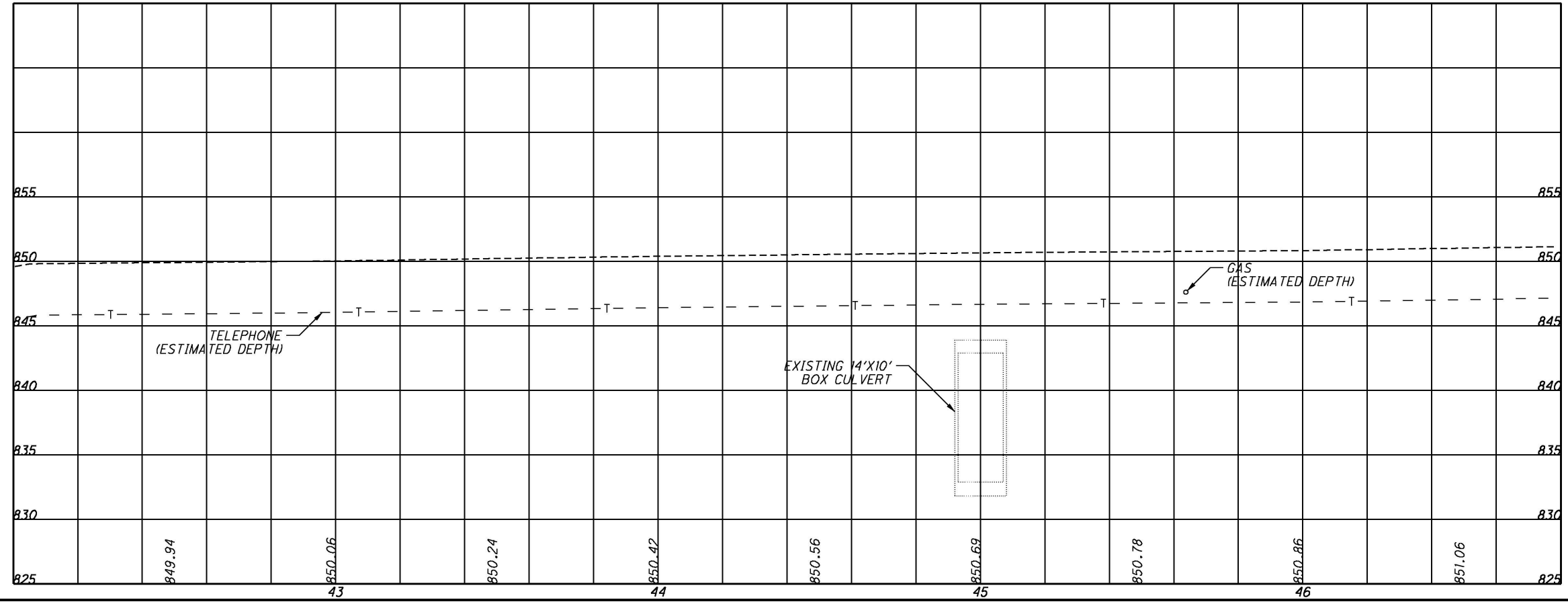
**CURVE DATA**  
P.I. STA. 67+32.92  
D = 23° 52' 51" (LT)  
Dc = 0° 30' 00"  
R = 11,459.16'  
T = 2,423.28'  
L = 4,776.19'  
E = 253.42'

**STRUCTURE NO.**  
LOR-20-0272

**BENCHMARK**  
BM ELEV. 848.44  
STA. 46+68.92, 62.14' LT.  
USGS 45LLB-1957-850

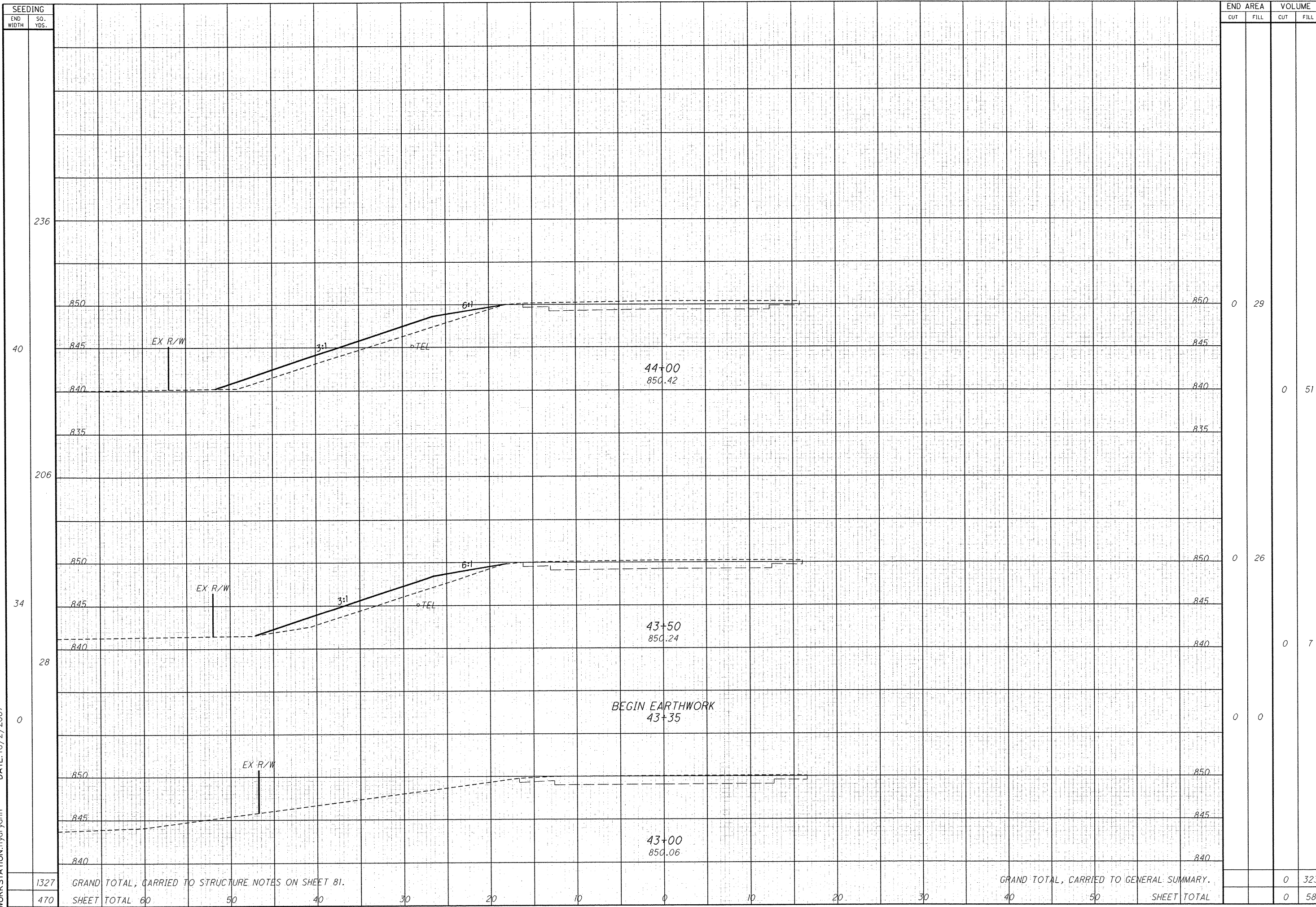


FOR SEEDING QUANTITIES, SEE SHEET 81.  
FOR EARTHWORK QUANTITIES, SEE SHEETS 83-85.  
FOR STRUCTURE DETAILS AND QUANTITIES, SEE SHEETS 86-87.





DESIGN FILE: i:\projects\77284\Struct\LOR020\_0270\sheets\77284XS001.dgn  
 WORKSTATION:hyryanh DATE:10/2/2007



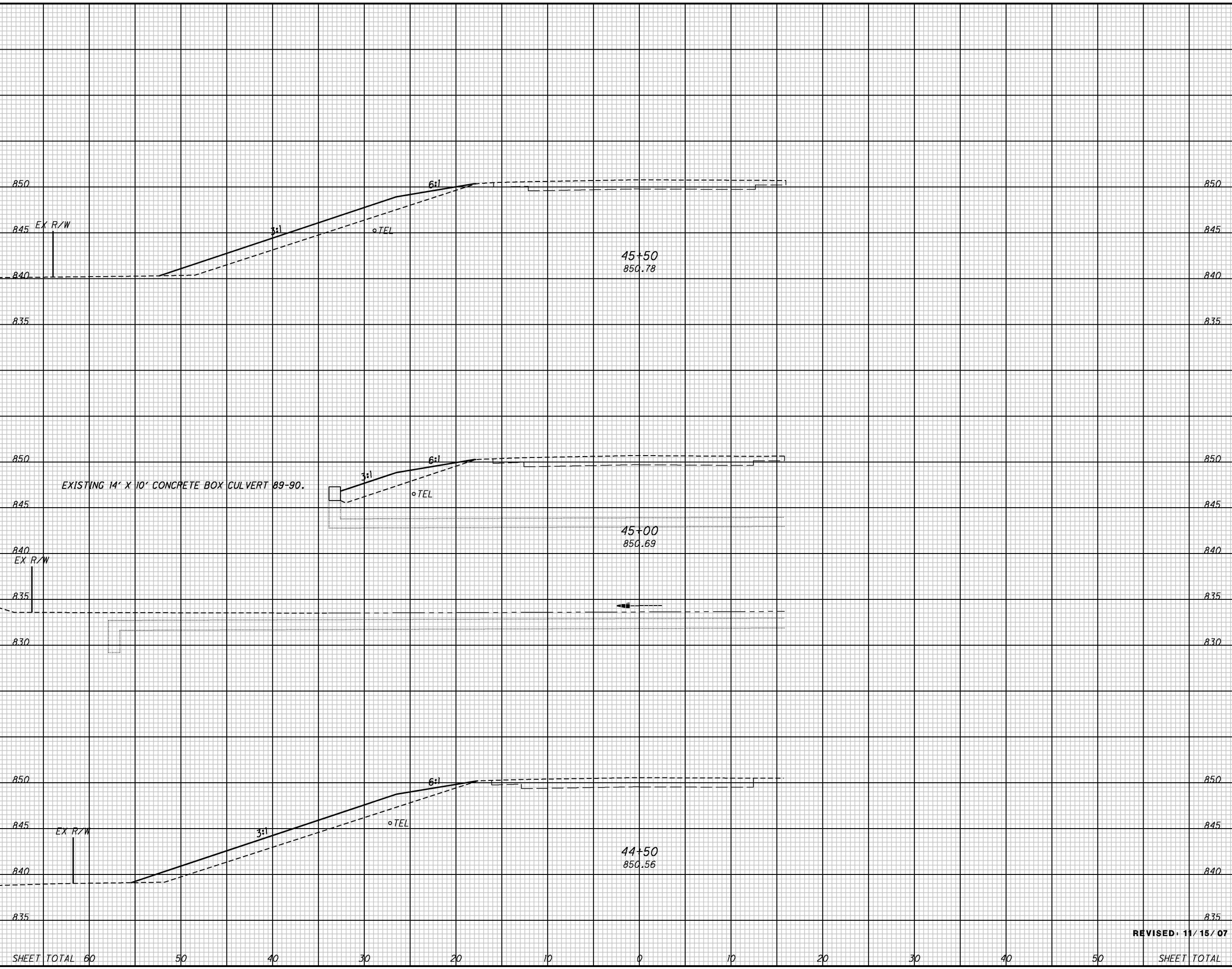
CROSS SECTIONS  
 STA. 43+00.00 TO STA. 44+00.00

HUR-20-16.35  
 LOR-20-0.00

83  
 107

DESIGN FILE: i:\projects\77284\Struct\LOR020\_0270\sheets\77284XS001.dgn  
 WORKSTATION: sdeer DATE: 11/15/2007

SEEDING	END WIDTH	SQ. YDS.	END AREA		VOLUME	
			CUT	FILL	CUT	FILL
256			0	37		
48			0	48		
175			0	15		
15			0	52		
167			0	41		
45			0	65		
598	SHEET TOTAL	60			0	165



END AREA	VOLUME	CALCULATED	HYH	CHECKED	DCM
0	37				
0	48				
0	15				
0	52				
0	41				
0	65				

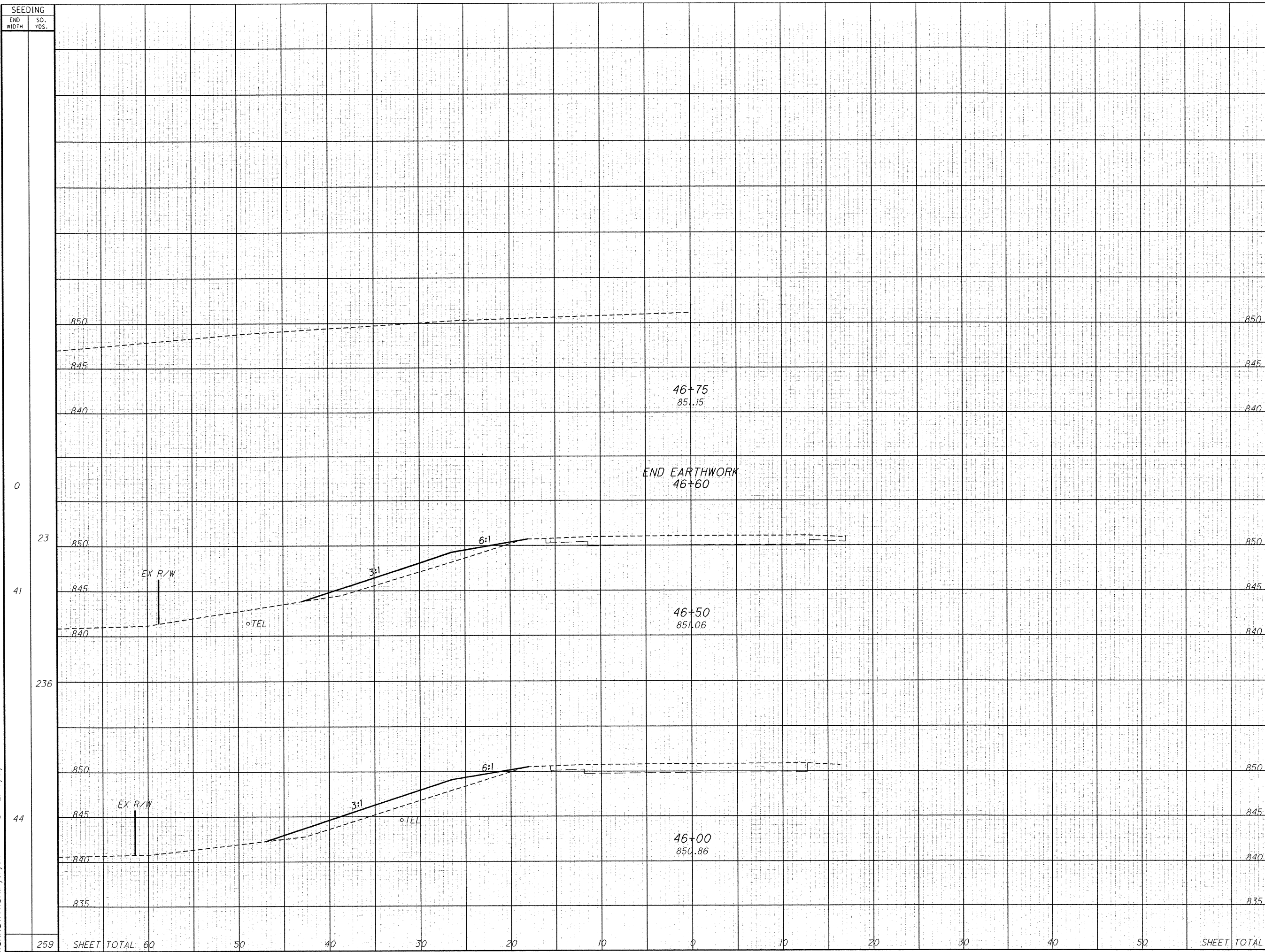
**CROSS SECTIONS**  
**STA. 44+50.00 TO STA. 45+50.00**  
**HUR-20-16.35**  
**LOR-20-0.00**  
 (84 / 107)

REVISED: 11/15/07

SHEET TOTAL



DESIGN FILE: I:\projects\77284\Struct\LOR020\_0270\sheets\77284X5001.dgn  
 WORKSTATION: hyryanh DATE: 10/2/2007



SEEDING		END AREA		VOLUME	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL
		0	0	0	3
		0	17	0	39
		0	25	0	58
259	SHEET TOTAL	60		0	100

**CROSS SECTIONS**  
**STA. 46+00.00 TO STA. 46+75.00**  
**HUR-20-16.35**  
**LOR-20-0.00**  
 CALCULATED: 85  
 CHECKED: 107  
 DCM

DESIGN FILE: I:\projects\77284\Struct\LOR020\_0270\sheets\77284DC001.dgn  
 WORKSTATION:hyar:yanh  
 DATE: 10/2/2007

**EXISTING STRUCTURE**

TYPE: 14'-0" x 10'-0" CONCRETE BOX CULVERT WITH FULL-HEIGHT HEADWALLS

SPANS: 14'-0"

ROADWAY: 2 - 12' LANES, 4' PAVED SHOULDERS

LOADING: H-15-33

SKEW: 4° LEFT FORWARD (AS BUILT)

APPROACH SLABS: NONE

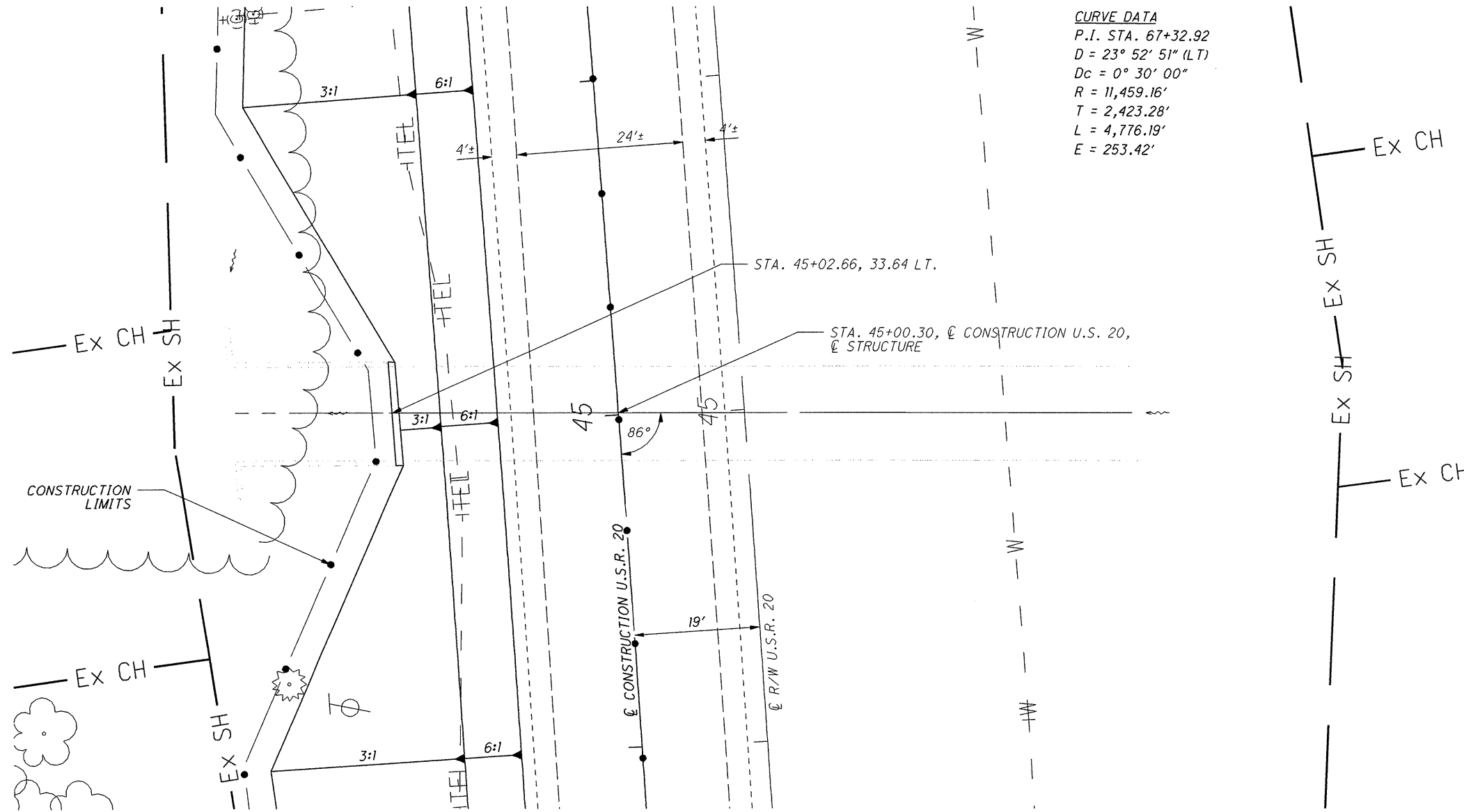
ALIGNMENT: TANGENT

CROWN: VARIES

STRUCTURAL FILE NUMBER: 4701895

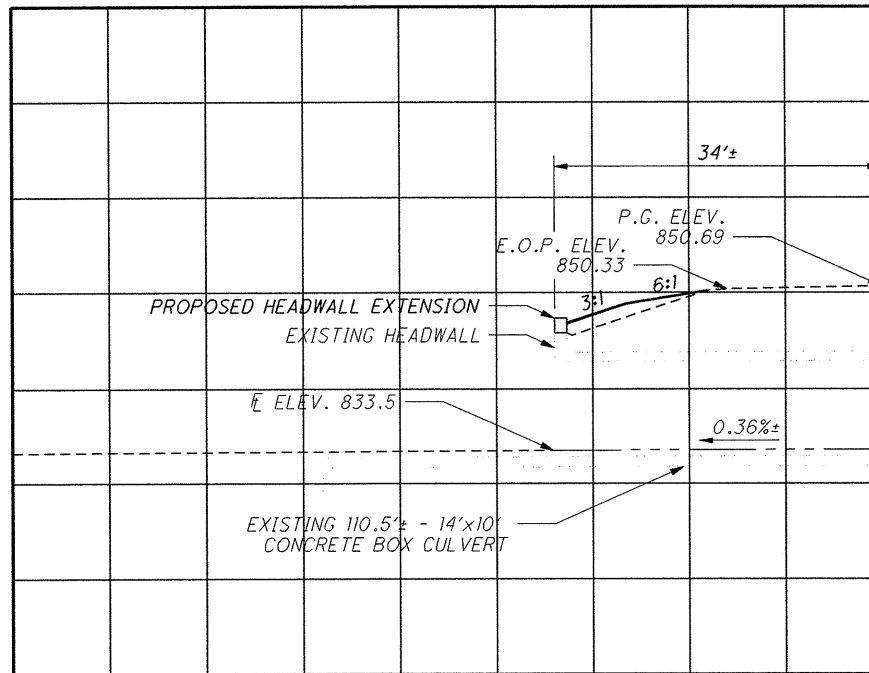
DATE BUILT: 1939

DISPOSITION: TO REMAIN



**CURVE DATA**  
 P.I. STA. 67+32.92  
 D = 23° 52' 51" (LT)  
 Dc = 0° 30' 00"  
 R = 11,459.16'  
 T = 2,423.28'  
 L = 4,776.19'  
 E = 253.42'

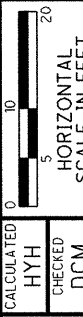
PLAN VIEW



HALF PROFILE VIEW

**NOTES**

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR HEADWALL DETAILS AND ESTIMATED QUANTITIES, SEE SHEET 2 OF 2.



STRUCTURE PLAN AND PROFILE  
 LOR-20-0272

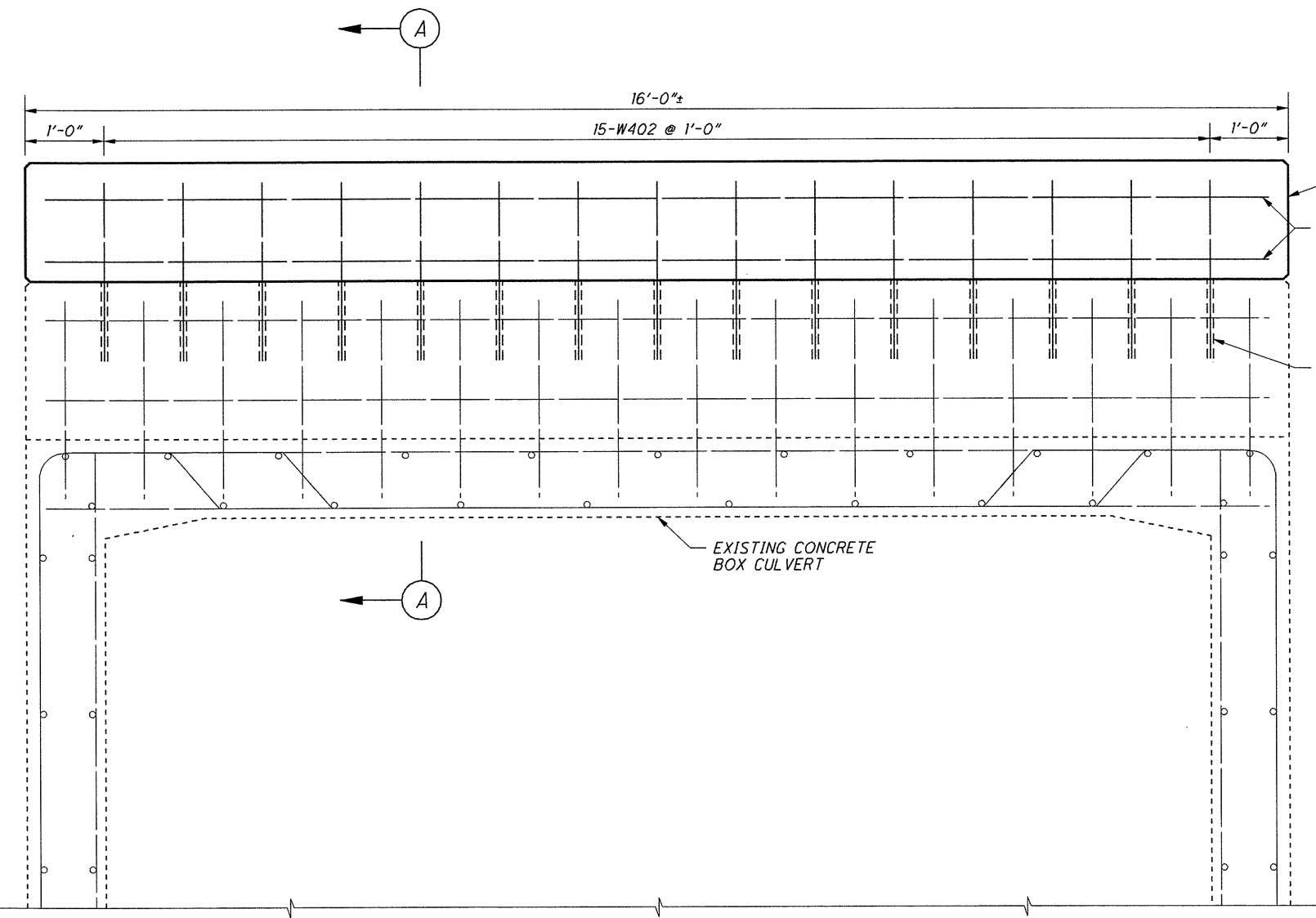
HUR-20-16.35  
 LOR-20-0.00

1 / 2

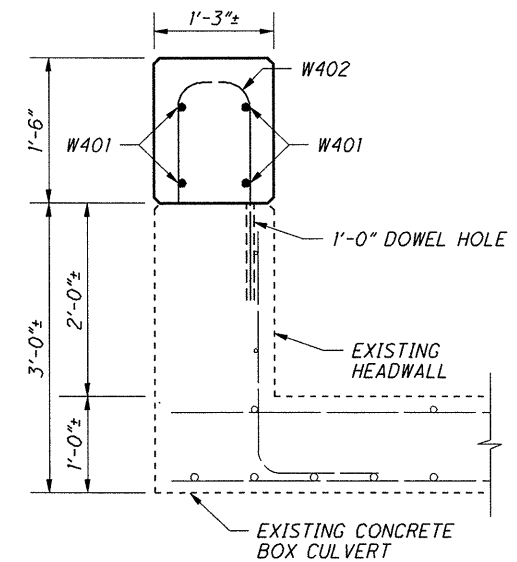
86  
 107



DESIGN FILE: I:\projects\77284\Struct\LOR020\_0270\sheets\77284DC002.dgn  
 WORKSTATION:hyar\yanh DATE:10/2/2007



PARTIAL END VIEW

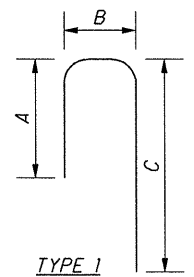


SECTION A-A

LEGEND  
 B.F. - BOTH FACES  
 TYP. - TYPICAL

REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C
W401	4	15'-6"	41	STR			
W402	15	4'-1"	41	1	1'-3"	0'-9"	2'-3"
		TOTAL	82				



TYPE 1

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
509	10000	82	POUND	EPOXY COATED REINFORCING STEEL
510	10000	15	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	46601	1.1	CU YD	CLASS C CONCRETE, HEADWALL, AS PER PLAN

QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET.

DESIGN DATA

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4.0 KSI  
 REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

ITEM 511, CLASS C CONCRETE, HEADWALL, AS PER PLAN  
 THE COURSE AGGREGATE FOR THIS ITEM SHALL BE LIMESTONE.

BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE HEADWALL EXTENSION SHALL BE INCLUDED WITH ITEM 511 - CLASS C CONCRETE, HEADWALL, AS PER PLAN. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL. PAYMENT FOR DOWEL HOLES SHALL BE INCLUDED WITH ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT.

NOTES

- INSTALL REINFORCING STEEL WITH 3" CLEARANCE FROM THE CONCRETE SURFACE.
- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, W401 IS A NO. 4 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- EXPOSED EDGES TO BE BEVELED 3/4".

CALCULATED  
 HYH  
 CHECKED  
 DCM

HEADWALL DETAIL  
 LOR-20-0272

HUR-20-16.35  
 LOR-20-0.00

2 / 2

87  
 107

STRUCTURE HUR-20-1774 (SFN 3901394)

FUNDING: 80-FEDERAL/ 20-STATE

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
SPECIAL	51631300	102	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	92

STRUCTURE HUR-20-2226 (SFN 3901416)

FUNDING: 80-FEDERAL/ 20-STATE

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	98500	.3	CU YD	REMOVAL MISC.: CONCRETE	89
601	27000	23	CU YD	DUMPED ROCK FILL, TYPE C	

STRUCTURE HUR-20-2283 (SFN 3901440)

FUNDING: 80-FEDERAL/ 20-STATE

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	98500	.3	CU YD	REMOVAL MISC.: CONCRETE	89

STRUCTURE HUR-20-2562 (SFN 3901505)

FUNDING: 80-FEDERAL/ 20-STATE

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	98200	96	FT	REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL	89
512	10050	509	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	10300	1396	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
516	10901	96	FT	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN	89

STRUCTURE LOR-20-0217 (SFN 4701852)

FUNDING: 80-FEDERAL/ 20-STATE

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
512	10100	67	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
SPECIAL	51631300	80	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	97

STRUCTURE LOR-20-0272 (SFN 4701895)

FUNDING: 80-FEDERAL/ 20-STATE

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
509	10000	82	POUND	EPOXY COATED REINFORCING STEEL	
510	10000	15	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	46601	1.1	CU YD	CLASS C CONCRETE, HEADWALL, AS PER PLAN	87

DESIGN FILE: I:\projects\7284\Structure\HURLOR20\strsum.dgn  
 WORKSTATION: dmollens DATE: 10/1/2007

DESIGN AGENCY  
 DISTRICT THREE  
 OFFICE OF PRODUCTION

DATE  
 10/07  
 REVIEWED  
 DJV

DRAWN  
 GTS  
 CHECKED  
 DCM

STRUCTURE SUMMARY

HUR-20-16.35  
 LOR-20-0.00

88  
 107



DESIGN FILE: I:\projects\77284\structure\strnote.dgn  
 WORKSTATION: dmo\lens DATE: 10/1/2007

**REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:**

BP-3.1	DATED	7/16/04
MT-97.10	DATED	9/05/06
MT-105.10	DATED	10/18/02
MT-105.11	DATED	10/18/02

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 INCLUDING THE 2003, 2004, 2005 AND 2006 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN DATA:**

CONCRETE CLASS C -  $f'_c = 4,000$  psi  
 REINFORCING STEEL - ASTM A615 OR A996 GRADE 60  
 MINIMUM  $F_y = 60,000$  psi.

**DECK PROTECTION METHOD:**

SEALING WITH HMWM RESIN

**EXISTING PLANS:**

EXISTING PLANS FOR STRUCTURES:

STRUCTURE	PLAN	YEAR
HUR-20-1774	HUR-20-27.010	1999
HUR-20-2226	HUR-20-17.56	1964
HUR-20-2283	HUR-20-17.56	1964
HUR-20-2562	WAKEMAN BRIDGE OVER VERMILION RIVER	1932
	HUR-20-24.73	1982
LOR-20-0217	LOR-20-0216	1987
LOR-20-0272	OBERLIN- NORWALK ROAD	1939

**PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:**

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES IF TAPER DIMENSIONS ARE NOT GIVEN IN THE PLAN.

**ITEM 202- REMOVAL MISC.: CONCRETE**

THIS ITEM SHALL BE USED TO REMOVE THE 2'-0" WIDE X 1" THICK CONCRETE OVERLAY ON THE APPROACH SLABS. THE CONCRETE OVERLAY SHALL BE REMOVED WITHOUT DAMAGING THE EXISTING APPROACH SLAB.

PAYMENT FOR THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR THE ABOVE ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 202- REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL**

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING COMPRESSION SEAL GLAND WITHIN THE EXISTING STEEL ARMOR.

PAYMENT FOR THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR THE ABOVE ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 516- ELASTOMERIC COMPRESSION SEAL, AS PER PLAN:**

THIS ITEM SHALL BE USED TO CLEAN THE EXISTING STEEL ARMOR AND INSTALL THE NEW ELASTOMERIC COMPRESSION SEAL GLAND INTO THE EXISTING STEEL ARMOR.

THE ELASTOMERIC COMPRESSION SEAL SHALL BE TYPE WJ-300 AS MANUFACTURED BY WATSON BOWMAN ACME CORP., 95 PINEVIEW DRIVE, AMHERST, NEW YORK 14228, TYPE CV-3000 AS MANUFACTURED BY D.S. BROWN, 300 EAST CHERRY STREET, NORTH BALTIMORE, OHIO 45872 OR AN APPROVED EQUAL.

THE EXISTING STEEL ARMOR CLEANING AND THE INSTALLATION OF THE NEW SEAL SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

PAYMENT FOR THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR THE ABOVE ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGN AGENCY  
 DISTRICT THREE  
 OFFICE OF PRODUCTION

DATE 10/07  
 REVIEWED DJV  
 STRUCTURE FILE NUMBER  
 DRAWN GTS  
 GTS  
 CHECKED DCM

STRUCTURE GENERAL NOTES

HUR-20-16.35  
 LOR-20-0.00

DESIGN FILE: I:\projects\77284\BStruct\HURLOR20\25665BRTRTREAT.dgn  
 WORKSTATION: dmo\llens DATE: 10/2/2007

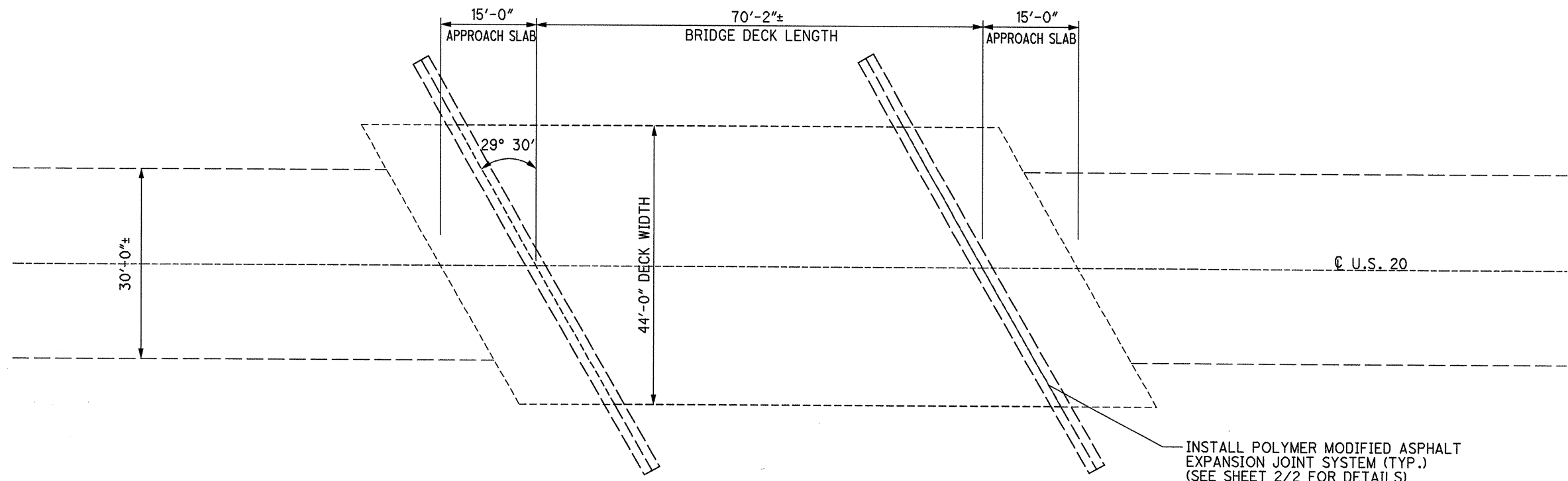
PART	COUNTY, ROUTE, BRIDGE NO.	LOCATION	STRUCTURE TYPE	BRIDGE DECK DATA					ROADWAY DATA			
				LENGTH (BRIDGE DECK)	WIDTH	BRIDGE DECK AREA	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	EXISTING APPROACH SLAB WIDTH	EXISTING APPROACH SLAB LENGTH	
				FT.	FT.	SQ. YD.			FT.	FT.	FT.	
A	* HUR-20-1774	OVER RATTLESNAKE CREEK	SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM	70'-2"	44'	343	29° 30' R.F.	ASPHALT	30'	44'-0"	15'-0"	
A	** HUR-20-2226	OVER TRIBUTARY OF VERMILION RIVER	SINGLE SPAN CONCRETE SLAB	25'-6"	43'-0"	122	0°	CONCRETE	30'	24'-0"	25'-0"	
A	** HUR-20-2283	OVER TRIBUTARY OF VERMILION RIVER	SINGLE SPAN CONCRETE SLAB	15'-0"	42'-3"	71	0°	CONCRETE	30'	24'-0"	25'-0"	
A	+ HUR-20-2449	OVER TRIBUTARY OF VERMILION RIVER	SINGLE SPAN CONCRETE SLAB	14'-0"	38'-8"	60	6° 20' L.F.	CONCRETE	31'			
A	** HUR-20-2562	OVER VERMILION RIVER	CONCRETE DECK ARCH	312'-0"	40'-0"	1396	0°	CONCRETE	40'	40'-0"	25'-0"	
B	++ LOR-20-0217	OVER EAST FORK OF VERMILION RIVER	SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM	61'-2"	40'-0"	272	0°	ASPHALT	33'	40'-0"	15'-0"	
B	■ LOR-20-0272	OVER EAST FORK OF VERMILION RIVER	REINFORCED CONCRETE BOX CULVERT				4° L.F.	ASPHALT	32'			

- \* PLANE 1" ACROSS BRIDGE DECK AND APPROACHES. TAPER INTERMEDIATE COURSE FROM 1" TO 0" IN 100' FROM BRIDGE DECK, OMIT INTERMEDIATE COURSE ON BRIDGE DECK. TAPER INTERMEDIATE COURSE FROM 0" TO 1" IN 100' BEYOND THE BRIDGE DECK, PAVE SURFACE COURSE 1/2" ALONG TAPERED PORTION AND BRIDGE DECK. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK). (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES).
- \*\* OMIT PLANING AND RESURFACING ON BRIDGE DECK, TAPER INTERMEDIATE COURSE FROM 1" TO 0" IN 100' FROM BRIDGE DECK, OMIT INTERMEDIATE COURSE ON BRIDGE DECK. TAPER INTERMEDIATE COURSE FROM 0" TO 1" IN 100' BEYOND THE BRIDGE DECK, PAVE SURFACE COURSE 1/2" ALONG TAPERED PORTION. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK). (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES).
- + OMIT PLANING AND RESURFACING ON BRIDGE DECK, TAPER INTERMEDIATE COURSE FROM 1" TO 0" IN 100' FROM BRIDGE DECK, OMIT INTERMEDIATE COURSE ON BRIDGE DECK. TAPER INTERMEDIATE COURSE FROM 0" TO 1" IN 100' BEYOND THE BRIDGE DECK, PAVE SURFACE COURSE 1/2" ALONG TAPERED PORTION. (NO STRUCTURE WORK). (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES).
- ++ TAPER THE PLANING FROM 1" TO 2 1/2" DEEP IN 100' FROM THE BRIDGE DECK. PLANE 2 1/2" DEEP ACROSS THE BRIDGE DECK. TAPER THE PLANING FROM 2 1/2" TO 1" DEEP IN 100' BEYOND THE BRIDGE DECK. PAVE FULL WIDTH FOR BOTH COURSES OVER THE STRUCTURE (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK). (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES).
- PLANE AND PAVE OVER STRUCTURE (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK). (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES).

DESIGN AGENCY: DISTRICT THREE  
 OFFICE OF PRODUCTION  
 DATE: 10/07  
 REVIEWED: DJV  
 DRAWN: GTS  
 CHECKED: DCM  
 BRIDGE TREATMENT  
 HUR-20-16.35  
 LOR-20-0.00  
 90  
 107



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 WORKSTAT\DESIGN\LEN\ATE\01/2007



ITEM	QUANTITY	UNIT	DESCRIPTION
SPECIAL	102	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

- 1) GUARDRAIL NOT SHOWN.
- 2) INSTALL POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM  
SEE DETAILS ON SHEET 2/2.

DESIGN AGENCY <b>DISTRICT THREE</b> OFFICE OF PRODUCTION	REVIEWED DJV	DATE 10/07	STRUCTURE FILE NUMBER 3901394	PLAN VIEW HUR-20-1774 OVER FORK OF RATTLESNAKE CREEK
DESIGNED GTS	DRAWN GTS	CHECKED DCM	REVISIONS	HUR-20-16.35 LOR-20-0.00
				1 / 2
				91 107

# GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

**ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM**

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570)546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800)528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716)691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570)693-2810

**MATERIALS:**

**BRIDGING PLATE:**

MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

**BINDER:**

TYPE: POLYMER MODIFIED ASPHALT  
 SOFTENING POINT: 180 DEGREES F. MIN.  
 FLOW: 3 mm. MAX. AT 140 DEGREES F.  
 PENETRATION: 9 mm. MAX. AT 77 DEGREES F.  
 1 mm. MIN AT 0 DEGREES F.  
 ASTM D 3407  
 DUCTILITY: 40 cm. MIN. ASTM D 113  
 RESILIENCE: 60% MIN. AT 77 DEGREES F.  
 TENSILE ADHESION: 700% MIN.  
 SPECIFIC GRAVITY: 1.10 \* 0.05  
 POURING TEMP: 350 - 390 DEGREES F.

**AGGREGATE:**

TYPE: CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT

**GRADATION**

THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

**BACKER ROD:**

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

**INSTALLATION PROCEDURES:**

**SAWING AND SURFACE PREPARATION:**

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3,000 FEET PER

SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

**SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)**

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1-1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

**BOND BREAKER:**

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

**BINDER COAT:**

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF 1/2" THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL MELTER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

**BUILD-UP OF JOINT LAYERS:**

**AGGREGATE PREPARATION:**

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

**AGGREGATE PROPORTION AND LAYER THICKNESS:**

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN 3/4 OF AN INCH NOR EXCEEDING 2-1/2 INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN 1/2 INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

**MAINTENANCE OF TRAFFIC:**

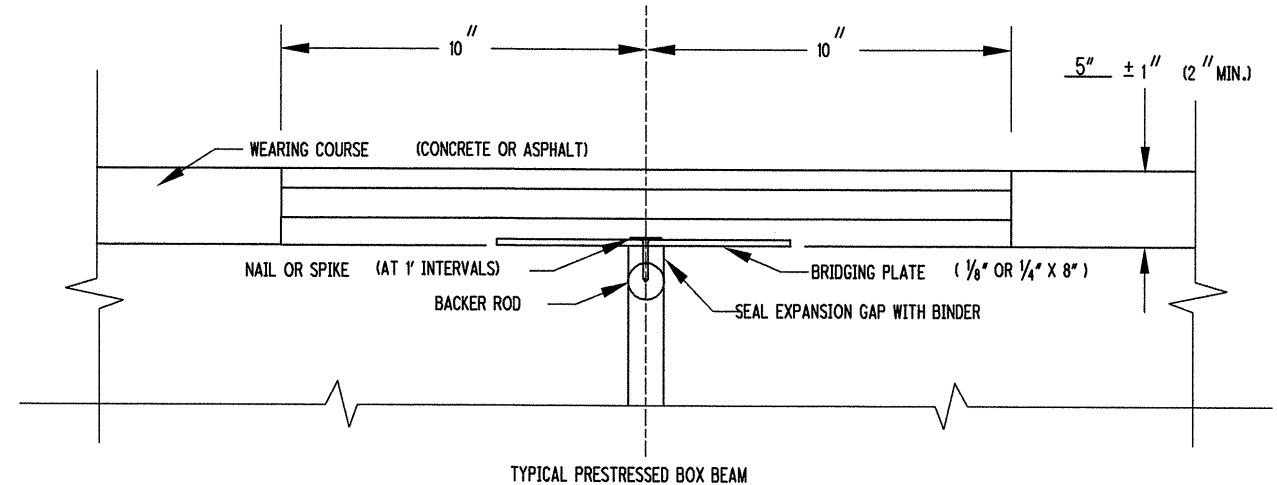
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

**TESTING:**

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T OFFICE OF MATERIALS MANAGEMENT.

**METHOD OF MEASUREMENT AND BASIS OF PAYMENT:**

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES INCLUDING THE REMOVAL OF THE EXISTING POLYMER JOINT AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM.



HUR-20-1774 SFN 3901394			
ITEM	DESCRIPTION	UNIT	QUANTITY
SPECIAL	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	FT	102

QUANTITY CARRIED TO SHEET NO. 91

DESIGN FILE: i:\projects\77284\Struct\HURLOR20\hur20-1774.ssd.dgn  
 WORKSTATION: dmollens  
 DATE: 10/1/2007

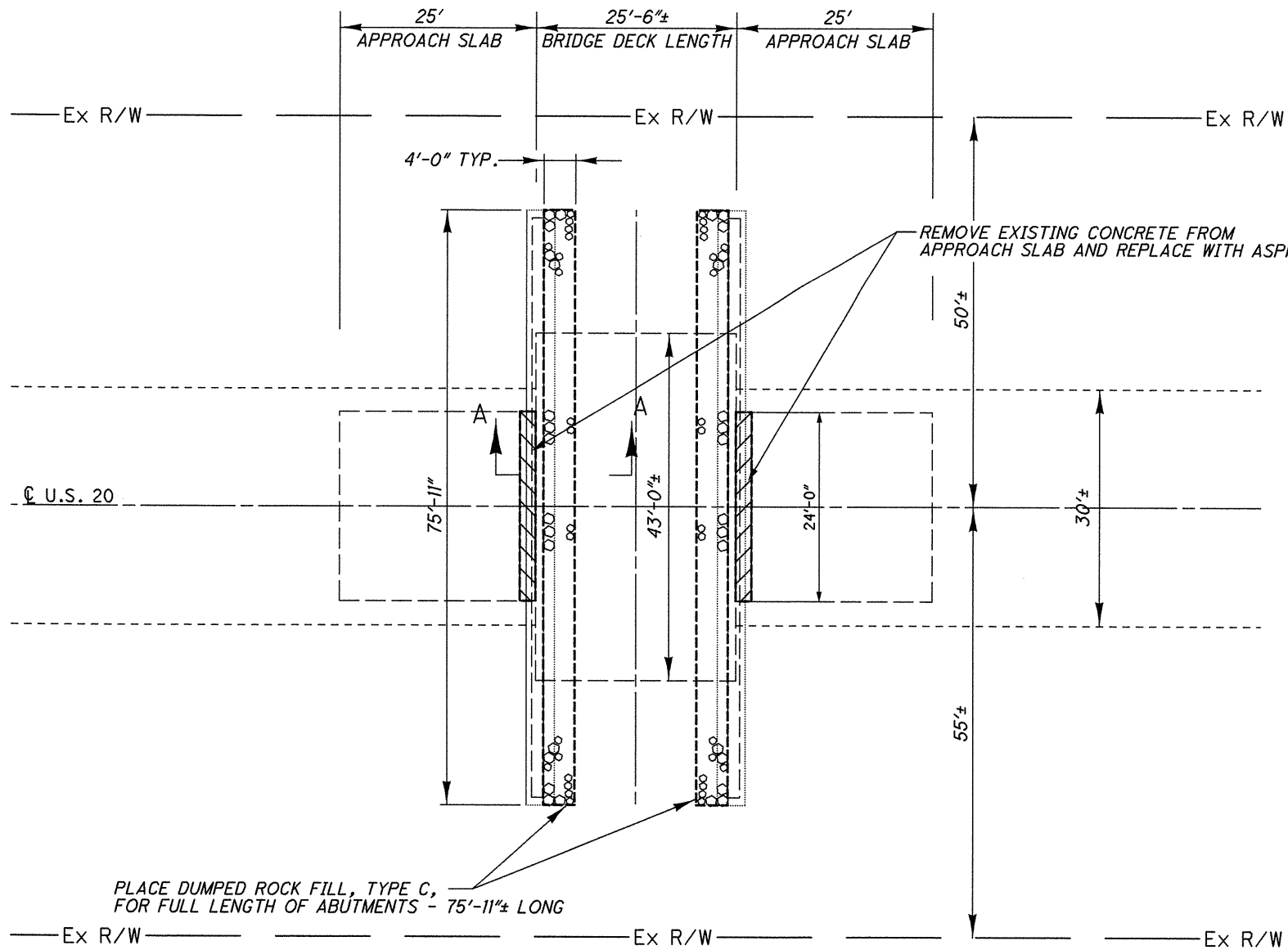
DATE	10-20-96	10-17-03	04-15-05
REVISION			
CHECKED	DCM		DJV
CALCULATED			

DESIGNED	MAM	BRWN	MAM
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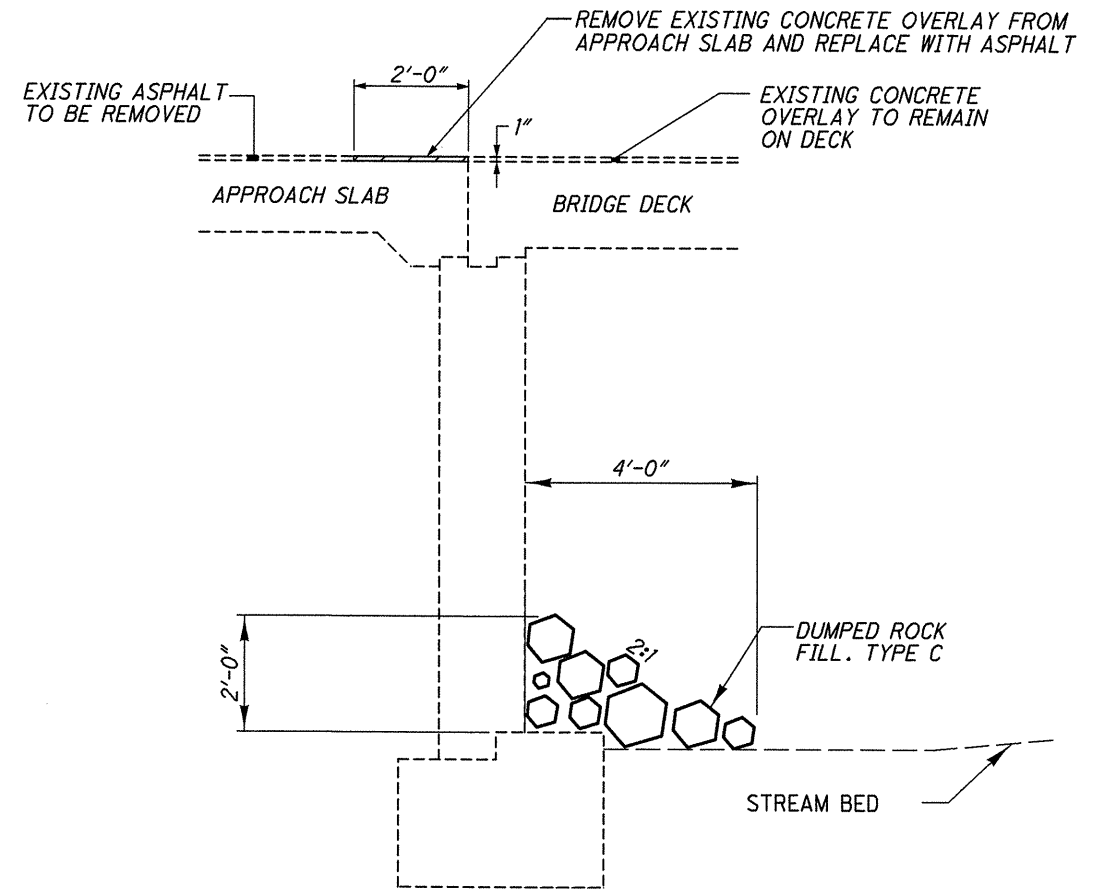
POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM  
 HUR-20-1774 OVER FORK OF RATTLESNAKE CREEK

HUR-20-16.35  
 LOR-20-0.00





PLAN VIEW



SECTION A-A  
DUMPED ROCK LENGTH = 75'-11"± LONG

NOTES:

- 1) GUARDRAIL NOT SHOWN.
- 2) PLACE DUMPED ROCK FILL ALONG ENTIRE LENGTH OF BOTH ABUTMENTS.
- 3) REMOVE 2' WIDE CONCRETE OVERLAY ON APPROACH SLABS.

ITEM	QUANTITY	UNIT	DESCRIPTION
202	.3	CU YD	REMOVAL MISC.: CONCRETE
601	23	CU YD	DUMPED ROCK FILL, TYPE C

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

DESIGN FILE: I:\projects\77284\Structure\HURLOR20\hur20-2226sd.dgn  
 WORKSTATION: dmo\lens DATE: 10/1/2007

DESIGN AGENCY  
 DISTRICT THREE  
 OFFICE OF PRODUCTION

DATE  
 10/07  
 REVIEWED  
 DJV  
 STRUCTURE FILE NUMBER  
 3901416

DRAWN  
 GTS  
 REVISION

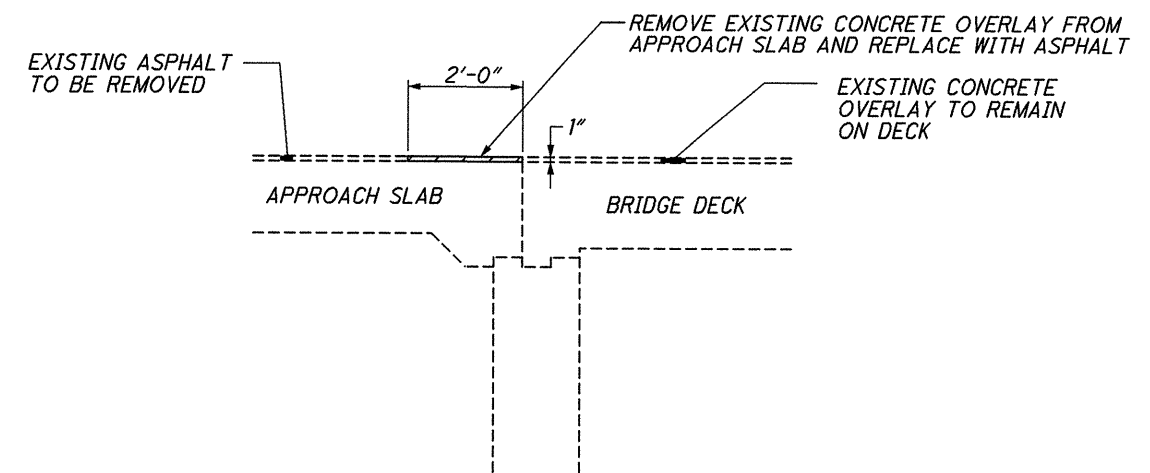
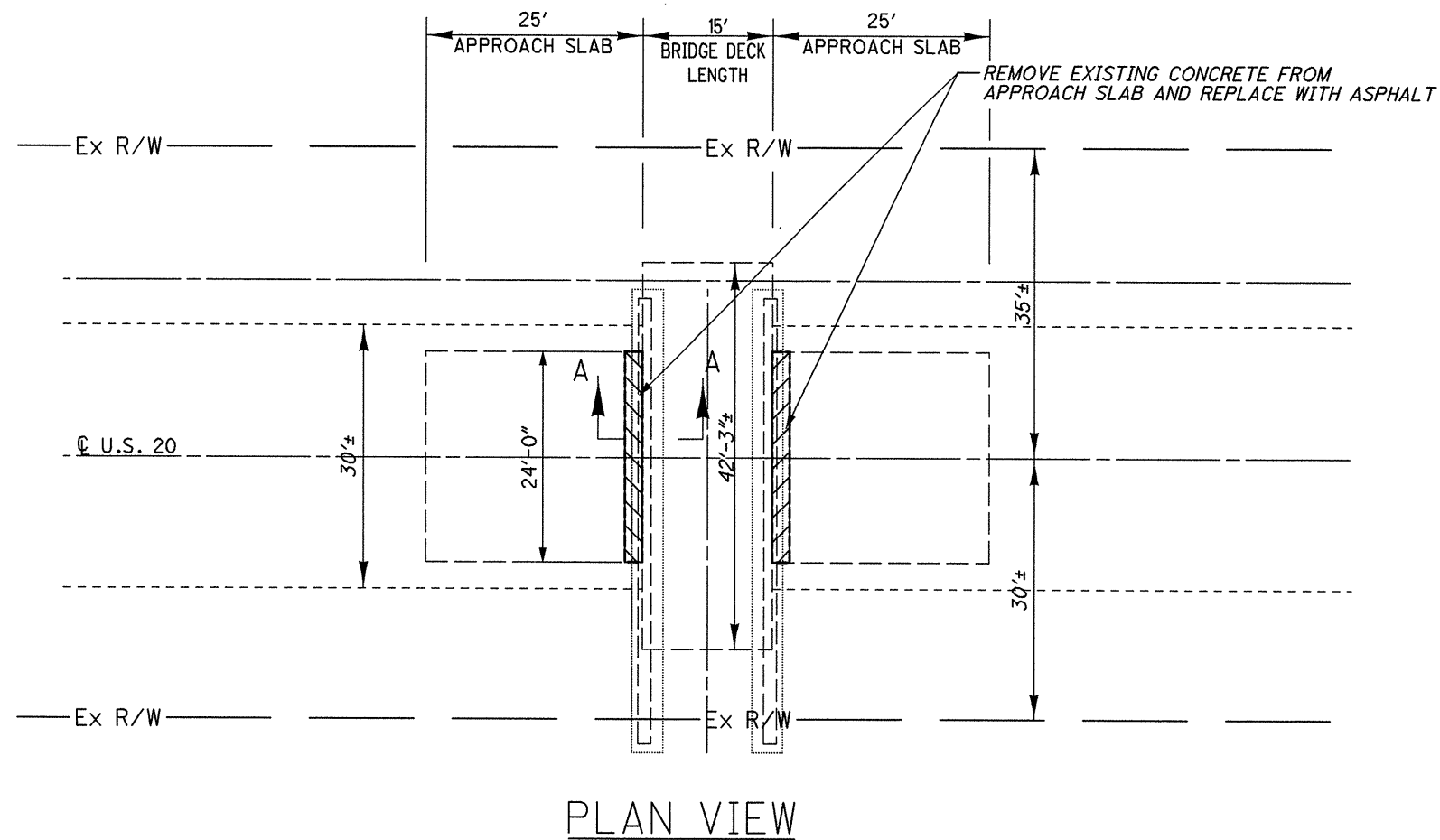
DESIGNED  
 GTS  
 CHECKED  
 DCM

PLAN VIEW  
 HUR-20-2226 OVER TRIBUTARY OF VERMILION RIVER

HUR-20-16.35  
 LOR-20-0.00

1 / 1

93  
 107



SECTION A-A

ITEM	QUANTITY	UNIT	DESCRIPTION
202	.3	CU YD	REMOVAL MISC.: CONCRETE

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

- 1) GUARDRAIL NOT SHOWN.
- 2) REMOVE 2' WIDE CONCRETE OVERLAY ON APPROACH SLABS.

DESIGN FILE: I:\projects\7284\Structure\HURLOR20\hur20-2283sd.dgn  
 WORKSTATION: dmlens DATE: 10/1/2007

DESIGN AGENCY  
 DISTRICT THREE  
 OFFICE OF PRODUCTION

REVIEWED	DATE
DJV	10/07
STRUCTURE FILE NUMBER	3901440

DESIGNED  
 GTS  
 CHECKED  
 DCM

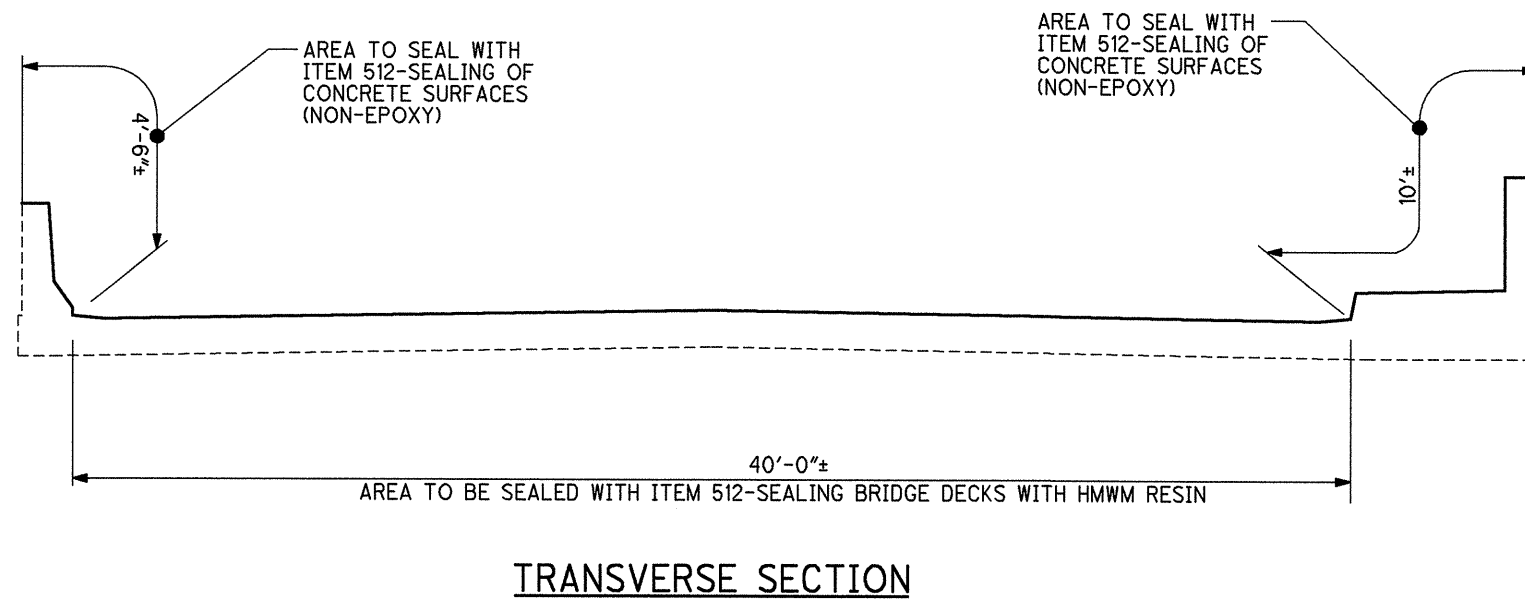
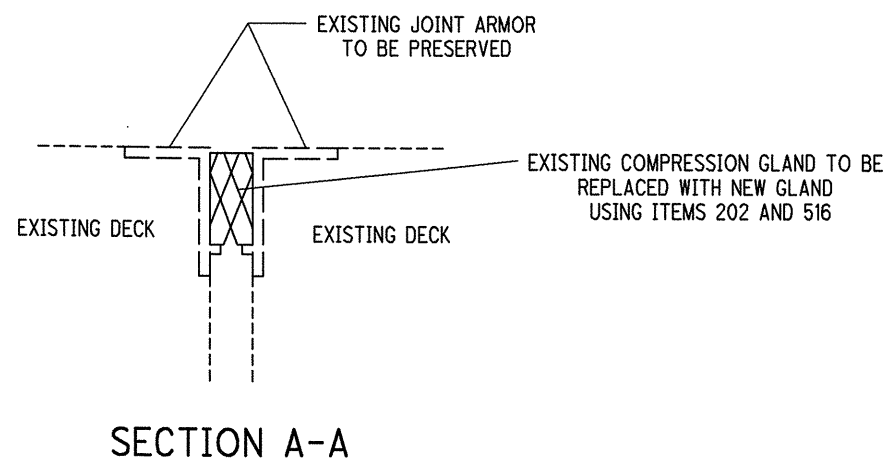
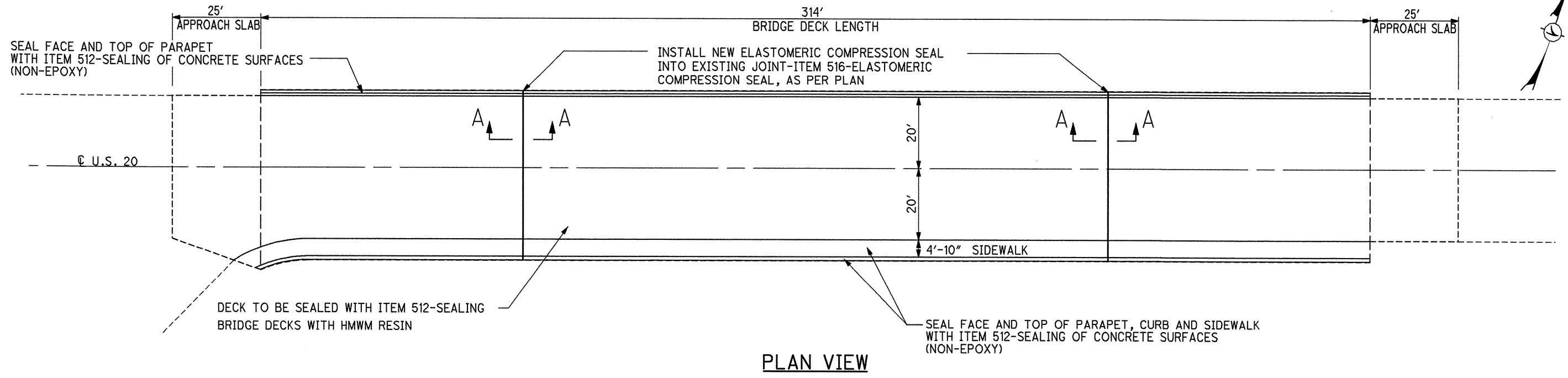
DRAWN  
 GTS  
 REVISED

HUR-20-2283 OVER TRIBUTARY OF VERMILION RIVER

HUR-20-16.35  
 LOR-20-0.00

1 / 1  
 94  
 107

DESIGN FILE: I:\projects\77284\Struct\HURLOR20\hur20-2562sd.dgn  
 WORKSTATION: dmollens DATE: 10/1/2007



ITEM	QUANTITY	UNIT	DESCRIPTION
202	96	FT	REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL
512	509	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)
512	1396	SQ YD	SEALING BRIDGE DECKS WITH HMWM RESIN
516	96	FT	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

- 1) GUARDRAIL NOT SHOWN.
- 2) SEAL DECK AS DETAILED ABOVE
- 3) SEAL PARAPETS, CURB AND SIDEWALK AS DETAILED ABOVE.
- 4) REMOVE EXISTING AND INSTALL NEW COMPRESSION SEAL GLAND AT LOCATIONS SHOWN ABOVE.

DESIGN AGENCY: DISTRICT THREE OFFICE OF PRODUCTION

REVIEWED: DJV DATE: 10/07 STRUCTURE FILE NUMBER: 3901505

DRAWN: GTS CHECKED: DCM

DESIGNED: GTS

PLAN VIEW

HUR-20-2562 OVER VERMILION RIVER

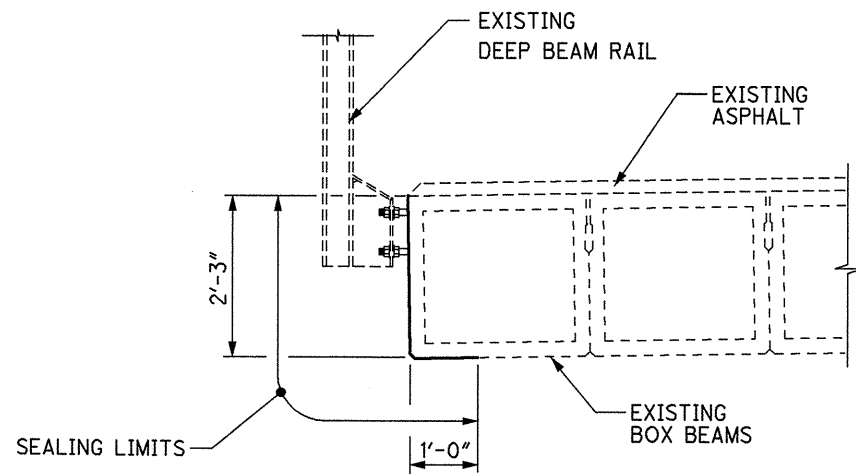
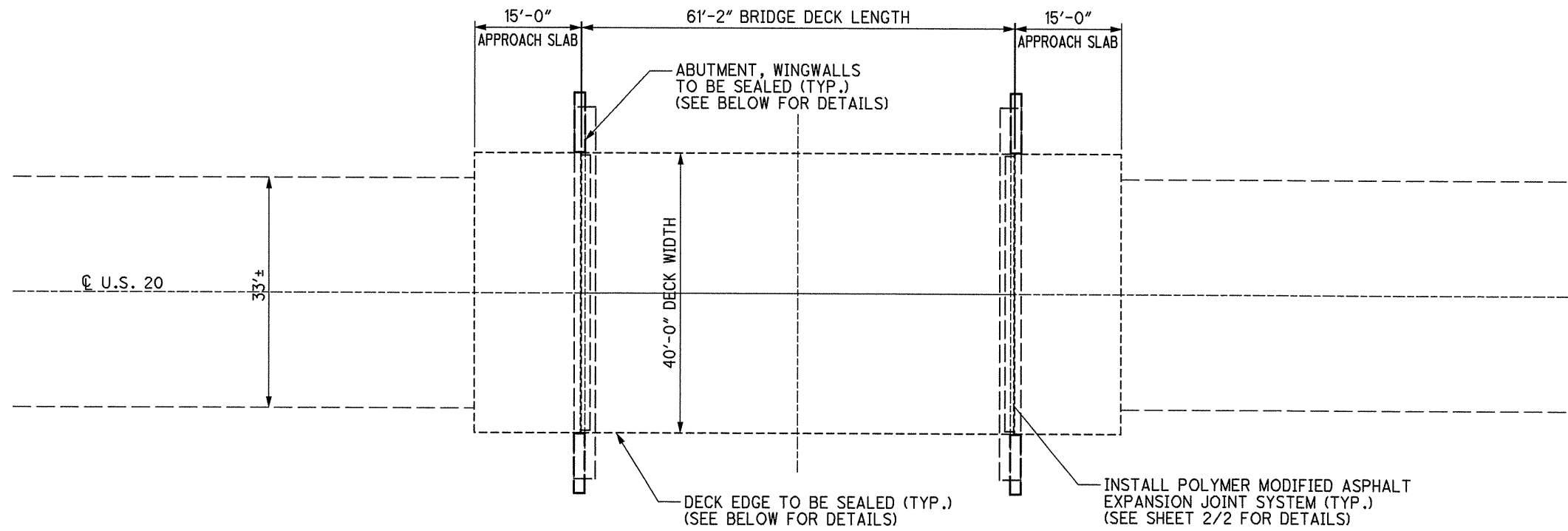
HUR-20-16.35  
LOR-20-0.00

1 / 1

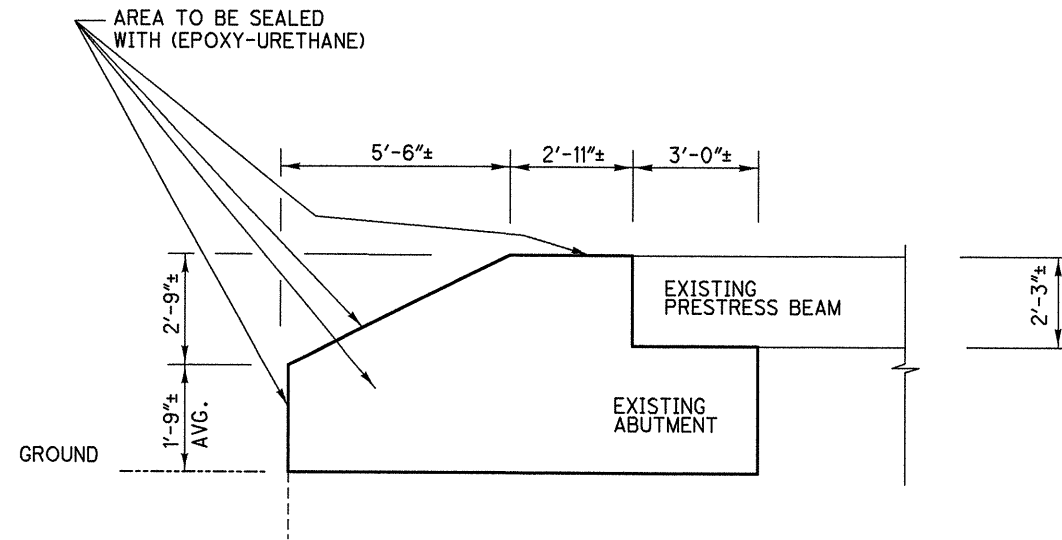
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107



DESIGN FILE: I:\projects\77284\Struct\HURLOR20\lor20-0217sd.dgn  
 WORKSTATION:dmollens DATE:10/12/2007



**TYPICAL DECK EDGE SEALING**  
 (BEAM SEALING LENGTH = 60'±)



**TYPICAL SECTION AT WINGWALL**  
 (WINGWALLS ARE 1'-6" THICK)

ITEM	QUANTITY	UNIT	DESCRIPTION
512	67	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SPECIAL	80	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

**NOTES:**

- 1) GUARDRAIL NOT SHOWN.
- 2) SEAL DECK, CURB AND SIDEWALK WITH ITEM 512.AS DETAILED ABOVE.
- 3) SEAL PARAPET WITH ITEM 512.AS DETAILED ABOVE.
- 4) INSTALL POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM. SEE SHEET 2 / 2 FOR DETAILS.

DESIGN AGENCY  
**DISTRICT THREE**  
 OFFICE OF PRODUCTION

REVIEWED  
 DATE 10/07  
 DJW  
 STRUCTURE FILE NUMBER 390188B

DESIGNED  
 GTS  
 CHECKED  
 DCM

PLAN VIEW  
 LOR-20-0217 OVER FORK OF VERMILION RIVER

HUR-20-16.35  
 LOR-20-0.00

1 / 2

96  
 107

# GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

## ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570)546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800)528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716)691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570)693-2810

### MATERIALS:

#### BRIDGING PLATE:

MILD STEEL  $\frac{1}{8}$ " OR  $\frac{1}{4}$ " THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

#### BINDER:

TYPE: POLYMER MODIFIED ASPHALT  
 SOFTENING POINT: 180 DEGREES F. MIN.  
 FLOW: 3 mm. MAX. AT 140 DEGREES F.  
 PENETRATION: 9 mm. MAX. AT 77 DEGREES F.  
 1 mm. MIN AT 0 DEGREES F.  
 ASTM D 3407  
 DUCTILITY: 40 cm. MIN. ASTM D 113  
 RESILIENCE: 60% MIN. AT 77 DEGREES F.  
 TENSILE ADHESION: 700% MIN.  
 SPECIFIC GRAVITY: 1.10 \* 0.05  
 POURING TEMP: 350 - 390 DEGREES F.

#### AGGREGATE:

TYPE: CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT

#### GRADATION

THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

#### BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

### INSTALLATION PROCEDURES:

#### SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3,000 FEET PER

SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

### SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF  $\frac{1}{8}$ " OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN  $\frac{1}{8}$ " AND 1-1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

### BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

### BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF  $\frac{1}{2}$ " THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL MELTER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

### BUILD-UP OF JOINT LAYERS:

#### AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

#### AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN  $\frac{3}{4}$  OF AN INCH NOR EXCEEDING 2-1/2 INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN  $\frac{1}{2}$  INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

### MAINTENANCE OF TRAFFIC:

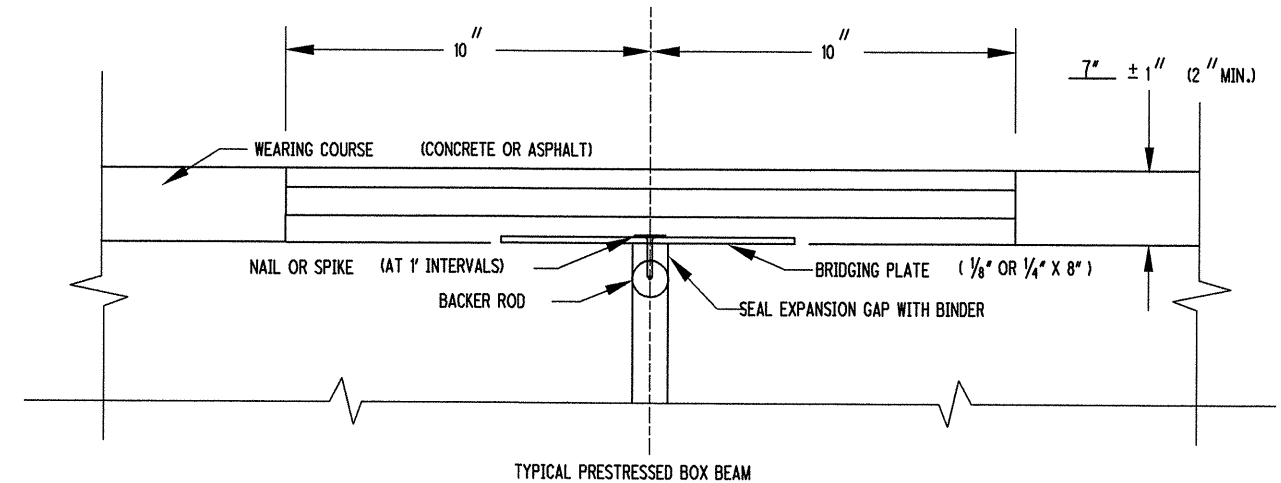
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

### TESTING:

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T OFFICE OF MATERIALS MANAGEMENT.

### METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES INCLUDING THE REMOVAL OF THE EXISTING POLYMER JOINT AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM.



COST TO REMOVE EXISTING POLYMER JOINT IS INCLUDED WITH PLACING THE NEW POLYMER JOINT

LOR-20-0217 SFN 4701852			
ITEM	DESCRIPTION	UNIT	QUANTITY
SPECIAL	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	FT	80

QUANTITY CARRIED TO SHEET NO. 96

DESIGN FILES\PROJECTS\77284\STRUCT\HURLOR20\LOR20-0217SD.DGN  
WORKSTAT\0811EN\DATE\0/2/2007

DATE REVISION  
 9-28-96  
 9-17-03  
 04-15-05

DESIGNED  
 MAM  
 DRAWN  
 MAM

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM  
 LOR-20-0217 OVER EAST FORK OF VERMILION RIVER

HUR-20-16.35  
 LOR-20-0.00

2 / 2  
 97  
 107

UTILITY OWNERS	
ELECTRIC	OHIO EDISON COMPANY 2508 WEST PERKINS AVE. SANDUSKY, OHIO 44870 (419) 627-6889
TELEPHONE	VERIZON 83 TOWNSEND AVE. NORWALK, OHIO 44857 (419) 744-3619
GAS	COLUMBIA GAS OF OHIO 7080 FRY ROAD MIDDLEBURG HTS., OHIO 44130 (440) 891-2428
SANITARY & WATER	NORTHERN OHIO RURAL WATER P.O. BOX 96 COLLINS, OHIO 44826 (419) 668-7213

# RIGHT OF WAY LEGEND SHEET HUR-20-16.35 HURON COUNTY

## VILLAGE OF WAKEMAN, LOTS 76 - 79 WAKEMAN TOWNSHIP, SECTION 3, GREAT LOT 35

**PROJECT DESCRIPTION**  
THIS IS A RESURFACING PROJECT THAT WILL INCLUDE THE CORRECTION OF THE PROFILE AND SUPER ELEVATION OF A HORIZONTAL CURVE IN WAKEMAN. ALSO INCLUDED IS THE ADDITION OF A LEFT TURN LANE FOR WAKEMAN SCHOOL AT S.L.M. 22.50.

**PROJECT DESCRIPTION**  
ODOT PLAN: HUR-SH 290, SEC. "P" (1932)  
MERRITT HYDE'S ADDITION, PLAT VOL.2, PAGE 8  
SURVEY PLAT BOOK 7, PAGE 58  
GRALEY ACRES SUBDIVISION NO. 1, PLAT VOL. 9, PAGE 38  
HURON COUNTY ROAD RECORD, VOL. 6, PAGES 120 -  
DEED VOL. 120. PAGES 585 - 590

**NOTE:**  
THE LOCATION OF THE UNDERGROUND UTILITIES 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
- SH - STANDARD HIGHWAY EASEMENT
- T - TEMPORARY EASEMENT

**BASIS FOR BEARINGS:**

THE BEARINGS SHOWN HEREON ARE RELATIVE TO AN ASSUMED MERIDIAN AND ARE FOR THE PURPOSE OF INDICATING DIRECTIONAL VARIATION FOR THIS PROJECT ONLY.

**INDEX OF SHEETS:**

R/W LEGEND SHEET	1
CENTERLINE PLAT	2
PROPERTY MAP	3
SUMMARY OF ADDITIONAL R/W	4
R/W TOPOGRAPHIC SHEETS	5,7
R/W BOUNDARY SHEETS	6,8

**R/W DONATION:**

R/W PLAN SHEET	9,10
----------------	------

**PLANS PREPARED BY:**

FIRM NAME : ODOT DISTRICT THREE  
 PLANS PREPARED BY: PETER W. SNYDER  
 FIELD REVIEW BY: PETER W. SNYDER  
 DATE COMPLETED: \_\_\_\_\_  
 OWNERSHIP VERIFIED BY: NORTHWEST REGION  
 DATE COMPLETED: \_\_\_\_\_  
 DATE COMPLETED: 12-15-2006

**CONVENTIONAL SYMBOLS**

County Line	-----	Ditch / Creek (Ex)	-----
Township Line	-----	Ditch / Creek (Pr)	-----
Section Line	-----	Tree Line (Ex)	~~~~~
Corporation Line	-----	Ownership Hook Symbol	Example
Fence Line (Ex)	x-x-x-x	Property Line Symbol	Example
Center Line	-----	Break Line Symbol	Example
Right of Way (Ex)	-----	Tree (Pr)	☼
Right of Way (Pr)	-----	Tree (Ex)	☼
Standard Highway Ease.(Ex)	-----	Shrub (Ex)	☼
Temporary Right of Way	-----	Tree (Remove)	☼
Channel Ease. (Pr)	-----	Shrub (Remove)	☼
Utility Ease. (Ex)	-----	Evergreen (Ex)	☼
Railroad	-----	Stump	☼
Guardrail (Ex)	-----	Evergreen (Remove)	☼
Construction Limits	-----	Stump (Remove)	☼
Edge of Pavement (Ex)	-----	Wetland (Pr)	☼
Edge of Pavement (Pr)	-----	Grass (Pr)	☼
Edge of Shoulder (Ex)	-----	Aerial Target	☼
Edge of Shoulder (Pr)	-----	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)	☼

I, JAMES E. KENYON, P. S. HAVE CONDUCTED A SURVEY OF THE EXISTING CONDITIONS FOR THE OHIO DEPARTMENT OF TRANSPORTATION, BETWEEN NOVEMBER 2005 AND JANUARY 2006. THE RESULTS OF THE 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 1129-019-001 AND THOSE MARKINGS SUBSEQUENTLY BEING SURVEYED AS A PART OF THIS PROJECT.


AS PART OF THIS PROJECT I HAVE RE-ESTABLISHED THE LOCATIONS OF THE EXISTING RIGHT OF WAY FOR PROPERTY TAKES CONTAINED HEREIN.

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 OTHERWISE NOTED.

THE WORDS I AND MY AS USED HEREIN ARE TO MEAN THAT EITHER MYSELF OR SOMEONE WORKING UNDER MY DIRECT SUPERVISION.

James E. Kenyon  
 JAMES E. KENYON, PROFESSIONAL LAND SURVEYOR NO. 6891,      12-15-06  
 DATE

SURVEYORS SEAL



SIGNED: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DESIGN FILE: I:\Projects\77284\RW\946RL001.dgn  
 WORKSTATION: pany66r  
 DATE: 12/15/2006

RIGHT OF WAY  
LEGEND SHEET

HUR-20-16.35

FEDERAL  
PROJECT NO.

PTD NO.  
77284

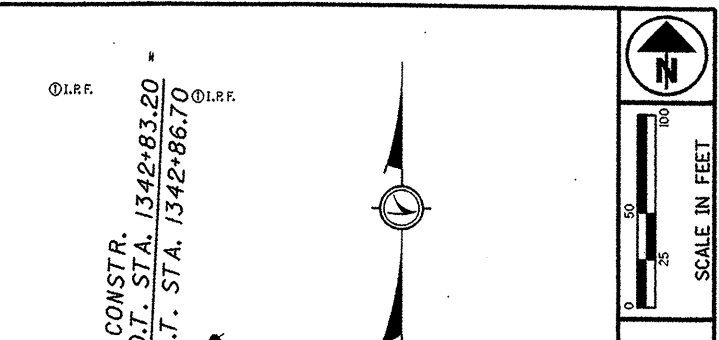
CALCULATED  
CHECKED

1/10

98  
107



HUR-20-25.15  
 HURON COUNTY  
 VILLAGE OF WAKEMAN  
 WAKEMAN TOWNSHIP  
 SECTION 3



GREAT LOT 34

GREAT LOT 35

NOTE:

STATIONS ARE ON THE CENTERLINE OF RIGHT OF WAY, UNLESS OTHERWISE SHOWN.

**BASIS FOR BEARINGS:**

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. THESE BEARING ARE TO AN ASSUMED MERIDIAN AND ARE TO BE USED TO DELINEATE ANGLES ONLY.

**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.R.F. IRON PIN FOUND
- ⊙ I.R.F. IRON PIN FOUND W/ ID CAP
- ⊙ I.R.S. IRON PIN SET W/ ID CAP
- ⊙ I.R.P. IRON PIPE FOUND
- ⊙ I.R.S. IRON PIPE SET
- ⊙ P.K. P.K. NAIL FOUND
- ⊙ P.K. P.K. NAIL SET

**CURVE DATA**  
 @ R/W U.S.R. 20  
 P.I. STA. 1336+12.95  
 $\Delta = 93^\circ 34' 10''$  RT.  
 $D_c = 19^\circ 53' 55''$   
 $R = 287.94'$   
 $T = 306.46'$   
 $L = 470.23'$   
 $E = 132.57'$   
 $CH = N 45^\circ 54' 11'' E, 419.69'$

**CURVE DATA**  
 @ CONSTR. U.S.R. 20  
 P.I. STA. 1336+12.95  
 $\Delta = 93^\circ 34' 10''$  RT.  
 $D_c = 19^\circ 25' 20''$   
 $R = 295.00'$   
 $T = 313.98'$   
 $L = 481.76'$   
 $E = 135.82'$

MONUMENTS TO BE SET DURING CONSTRUCTION				
STATION	DISTANCE FROM @ R/W		@ MONUMENTS	REFERENCE MONUMENTS
	LEFT	RIGHT		
U.S.R. 20				
P.O.T. 1327+92.00	0	0	1	
P.C. 1333+06.49	0	0	1	
P.T. 1337+76.73	0	0	1	
P.O.T. 1342+86.70	0	0	1	
TOTAL (CARRIED TO GENERAL SUMMARY)			4	

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

THE PLACING OF MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE CENTERLINE MONUMENT ASSEMBLY BOX(S) WILL BE INSTALLED BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN WITH CAP MARKING THE ACTUAL CENTERLINE STATION POINT AND ANY REFERENCE MONUMENTS ARE TO BE SET BY THE DISTRICT THREE SURVEY DEPARTMENT.

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.



I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE BY THE OHIO DEPARTMENT OF TRANSPORTATION IN 2005 & 2006.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

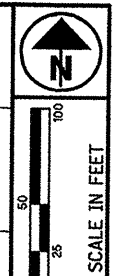
BY James E. Kenyon  
 JAMES E. KENYON  
 SURVEYOR NO. 6891 DATE 12-15-06

RECEIVED _____, 20__
RECORDED _____, 20__
BOOK _____ PAGE _____
COUNTY RECORDER

PID NO. 77284  
 R/W DESIGNER: PMS  
 R/W REVIEWER: PMS  
 CENTERLINE PLAT  
 HUR-20-16.35  
 2 / 10  
 99  
 107

DESIGN FILE: h:\projects\77284\RW\77284R002.dgn  
 WORKSTATION: pms06r  
 DATE: 12/15/2006

HUR-20-25.15  
 HURON COUNTY  
 VILLAGE OF WAKEMAN  
 WAKEMAN TOWNSHIP  
 SECTION 3



PTD NO.  
**77284**

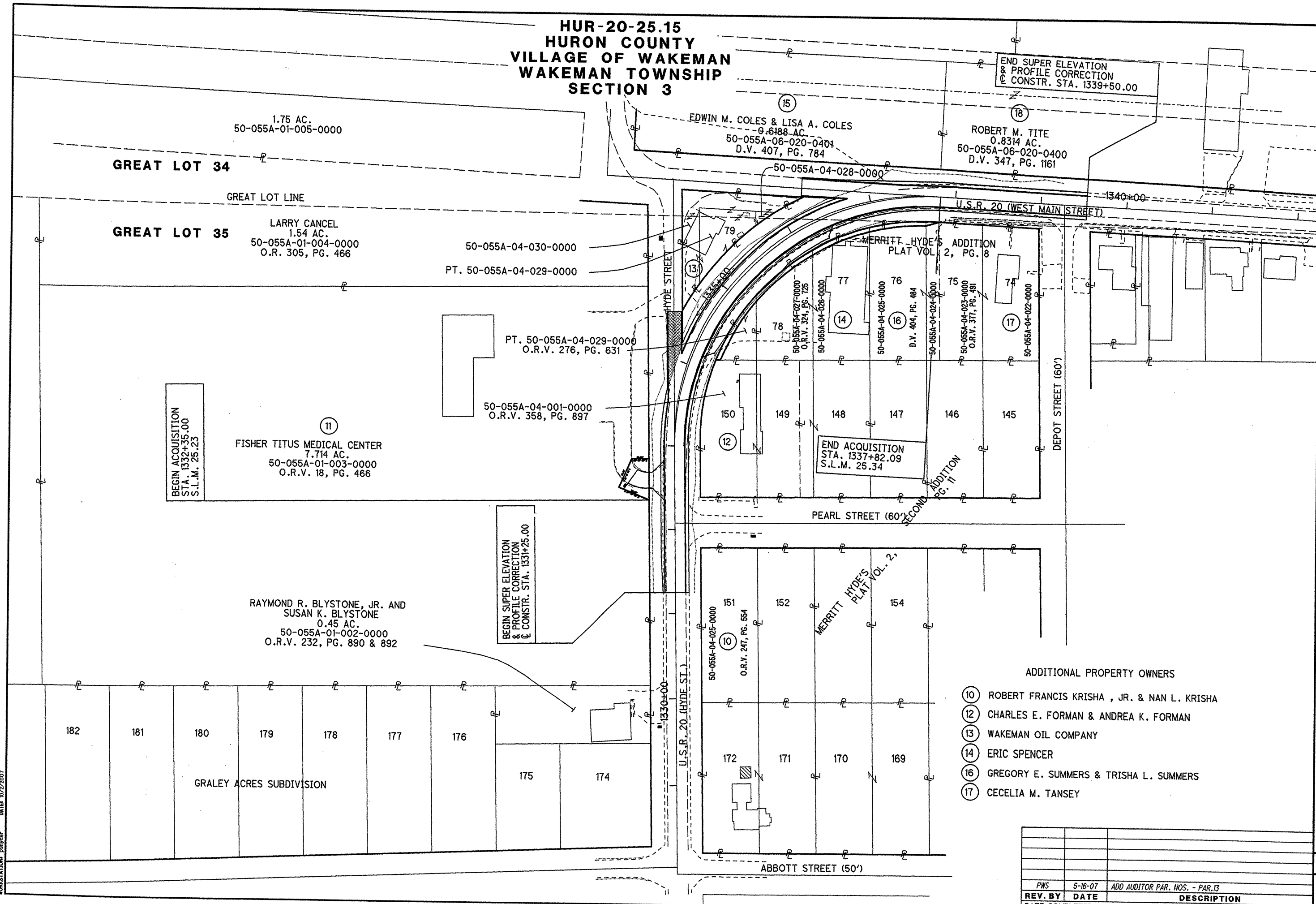
R/W DESIGNER  
 PWS  
 R/W REVIEWER

**PROPERTY MAP**

**HUR-20-16.35**

3 / 10

100  
 107



- ADDITIONAL PROPERTY OWNERS
- ⑩ ROBERT FRANCIS KRISHA, JR. & NAN L. KRISHA
  - ⑫ CHARLES E. FORMAN & ANDREA K. FORMAN
  - ⑬ WAKEMAN OIL COMPANY
  - ⑭ ERIC SPENCER
  - ⑯ GREGORY E. SUMMERS & TRISHA L. SUMMERS
  - ⑰ CECELIA M. TANSEY

PWS	5-16-07	ADD AUDITOR PAR. NOS. - PAR.13
REV. BY	DATE	DESCRIPTION
DATE COMPLETED:		12-15-2006

DESIGN FILE: I:\projects\187284\187284.dwg  
 WORKSTATION: pswdsc  
 DATE: 07/2/2007

1.75 AC.  
 50-055A-01-005-0000

**GREAT LOT 34**

GREAT LOT LINE

**GREAT LOT 35**

LARRY CANCEL  
 1.54 AC.  
 50-055A-01-004-0000  
 O.R. 305, PG. 466

50-055A-04-030-0000  
 PT. 50-055A-04-029-0000

PT. 50-055A-04-029-0000  
 O.R.V. 276, PG. 631

50-055A-04-001-0000  
 O.R.V. 358, PG. 897

BEGIN ACQUISITION  
 STA. 1332+35.00  
 S.L.M. 25.23

⑪  
 FISHER TITUS MEDICAL CENTER  
 7.714 AC.  
 50-055A-01-003-0000  
 O.R.V. 18, PG. 466

RAYMOND R. BLYSTONE, JR. AND  
 SUSAN K. BLYSTONE  
 0.45 AC.  
 50-055A-01-002-0000  
 O.R.V. 232, PG. 890 & 892

BEGIN SUPER ELEVATION  
 & PROFILE CORRECTION  
 @ CONSTR. STA. 1331+25.00

EDWIN M. COLES & LISA A. COLES  
 0.6188 AC.  
 50-055A-06-020-0404  
 D.V. 407, PG. 784

ROBERT M. TITE  
 0.8314 AC.  
 50-055A-06-020-0400  
 D.V. 347, PG. 1161

END SUPER ELEVATION  
 & PROFILE CORRECTION  
 @ CONSTR. STA. 1339+50.00

END ACQUISITION  
 STA. 1337+82.09  
 S.L.M. 25.34

182

181

180

179

178

177

176

GRALEY ACRES SUBDIVISION

175

174

151

152

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172

171

170

169

78

77

76

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150

149

148

147

146

145

12

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17

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15

1340+00

HYDE STREET

U.S.R. 20 (WEST MAIN STREET)

DEPOT STREET (60')

PEARL STREET (60')

U.S.R. 20 (HYDE ST.)

ABBOTT STREET (50')

MERRITT HYDE'S ADDITION  
 PLAT VOL. 2, PG. 8

SECOND ADDITION  
 PG. 11

MERRITT HYDE'S  
 PLAT VOL. 2,

**TOTAL NUMBER OF :**

4 OWNERSHIPS          0 OWNERSHIPS WITH STRUCTURES INVOLVED  
 6 PARCELS  
 0 TOTAL TAKES

**GRANTEE:**  
 ALL RIGHT OF WAY ACQUIRED IN THE NAME OF  
 THE STATE OF OHIO, UNLESS OTHERWISE SHOWN.

**AREAS IN ACRES WITH SQUARE FEET IN PARENTHESIS**

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL NO.	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			VOLUME	PAGE								LEFT	RIGHT			BOOK	PAGE
1-9	NOT USED																
10	ROBERT FRANCIS KRISHA, JR. & NAN L. KRISHA	2,4	O.R. 247	554	50-055A-05-025-0000	0.2758	-	-	-	-	NONE	-	0.2758		LOT 151 - NO R/W REQUIRED		
11T	FISHER TITUS MEDICAL CENTER	2,4	O.R. 18	466	50-055A-01-003-0000	7.714	-	0.0281	-	0.0281	NONE	7.714	-	STATE	FOR GRADING		
										( 1224 S.F.)							
12	CHARLES E. FORMAN & ANDREA K. FORMAN	2,4	O.R. 358	897	50-055A-04-001-0000	0.2363	-	-	-	-	NONE	-	0.2363		LOT 150 - NO R/W REQUIRED		
					50-055A-04-002-0000	0.1894	-	-	-	-	NONE	-	0.1894		LOT 149 - NO R/W REQUIRED		
	TOTAL					0.4257	-	-	-	-	NONE	-	0.4257				
13T	WAKEMAN OIL COMPANY	2,4	D. 276	631	50-055A-04-028-0000	0.0043	-	-	-	-	NONE	0.0043	-		PT. LOT 78 - NO R/W REQUIRED		
					50-055A-04-029-0000	0.1217	-	0.0098	-	0.0098	NONE	0.0749	0.0468	STATE	FOR GRADING		
										( 427 S.F.)							
					50-055A-04-030-0000	0.1050	-	-	-	-	NONE	0.1050	-		NO LOT NUMBER - NO R/W REQUIRED		
	TOTAL					0.2310	-	0.0098	-	0.0098	NONE	0.1842	0.0468				
14T	ERIC SPENCER	2,4	O.R. 324	725	50-055A-04-027-0000	0.1600	-	0.0098	-	0.0098	NONE	-	0.1600	STATE	PT. LOT 78 FOR GRADING		
14T-1					50-055A-04-026-0000	0.2179	-	0.0082	-	0.0082	NONE	-	0.2179	STATE	LOT 77 FOR GRADING		
										( 357 S.F.)							
	TOTAL					0.3779	-	0.0180	-	0.0180	-	-	0.3779				
15	EDWIN M. COLES & LISA A. COLES	2,4	D. 407	784	50-055A-06-020-0401	0.6188	-	-	-	-	NONE	-	0.6188		NO R/W REQUIRED		
					50-055A-06-020-0501	0.4075	-	-	-	-	NONE	-	0.4075		NO R/W REQUIRED		
	TOTAL					1.0263	-	-	-	-	-	-	1.0263				
16T	GREGORY E. SUMMERS & TRISHA L. SUMMERS	2,4	D. 404	484	50-055A-04-025-0000	0.2425	-	0.0076	-	0.0076	NONE	-	0.2425	STATE	LOT 76 FOR GRADING		
16T-1					50-055A-04-024-0000	0.0571	-	0.0009	-	0.0009	NONE	-	0.0571	STATE	PT. LOT 75 FOR GRADING		
										( 39 S.F.)							
	TOTAL					0.2996	-	0.0085	-	0.0085	-	-	0.2996				
17	CECELIA M. TANSEY	2,4	D. 377	491	50-055A-04-023-0000	0.1860	-	-	-	-	NONE	-	0.1860		PT. LOT 75 - NO R/W REQUIRED		
					50-055A-04-022-0000	0.2370	-	-	-	-	NONE	-	0.2370		LOT 74 - NO R/W REQUIRED		
	TOTAL					0.4030	-	-	-	-	-	-	0.4030				
18	ROBERT M. TITE	2,4	D. 347	1161	50-055A-06-020-0400	0.8314	-	-	-	-	NONE	0.8314	-		NO R/W REQUIRED		

FEDERAL PROJECT NO. 77284  
 PID NO. 77284  
 STATE JOB NO. 437117  
 SUMMARY OF ADDITIONAL RIGHT OF WAY  
 HUR-20-16.35

**LEGEND:**

WL = FEE SIMPLE WITH LIMITATION OF ACCESS  
 WD = WARRANTY DEED  
 SH = STANDARD HIGHWAY EASEMENT  
 T = TEMPORARY EASEMENT

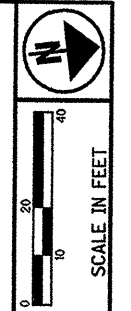
NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

REV. BY	DATE	DESCRIPTION
PWS	5-16-07	ADD AUDITOR PAR. NOS., ADJUSTED RECORD AREAS - PAR. 13
DATE COMPLETED:		12-15-2006



HUR-20-25.15  
 HURON COUNTY  
 VILLAGE OF WAKEMAN  
 WAKEMAN TOWNSHIP  
 SECTION 3, GREAT LOT 35



11  
 FISHER TITUS MEDICAL CENTER  
 7.714 AC.  
 50-055A-01-003-0000  
 O.R.V. 18, PG. 466

BEGIN ACQUISITION  
 STA. 1332+35.00  
 S.L.M. 25.23

BEGIN SUPERELEVATION  
 & PROFILE CORRECTION  
 STA. 1331+25.00

1 STY.  
 FR. RES.  
 # 30

50-055A-04-030-0000

S 0° 52' 54" E

ASPHALT  
 PARKING  
 AREA  
 6 SPACES

PTD NO.  
 77284

R/W DESIGNER  
 PWS  
 R/W REVIEWER

RIGHT OF WAY PLAN  
 STA. 1330+00 TO STA. 1335+00

HUR-20-16.35

5 / 10

102  
 107

1330+00  
 N 0° 52' 54" W

1331+00  
 R/W & CONSTR. U.S.R. 20

1332+00

1333+00

1334+00

R/W HYDE ST.  
 N 0° 52' 54" W  
 R/W U.S.R. 20  
 CONSTR. U.S.R. 20

1330+00  
 N 0° 52' 54" W

N 0° 52' 54" W

13 - 2" TREES

10  
 ROBERT FRANCIS KRISHA, JR.  
 AND NAN L. KRISHA  
 50-055A-05-025-0000  
 O.R.V. 247, PG. 554  
 NO R/W REQ'D.

LOT 151

ROBERT KRISHA, JR.  
 AND NAN KRISHA  
 50-055A-05-024-0000  
 D.V. 329, PG. 1150

LOT 152

LOT 153

R/W PEARL STREET (60')

N 89° 15' 17" E

50-055A-04-001-0000  
 LOT 150  
 2 STY.  
 FR. RES.  
 # 56  
 GAR.

50-055A-04-002-0000

LOT 149

50-055A-04-003-0000

50-055A-04-004-0000

LOT 148

CURVE DATA  
 R/W U.S.R. 20  
 P.I. STA. 1336+12.95  
 Δ = 93° 34' 10" (RT)  
 Dc = 19° 53' 55"  
 R = 287.94'  
 T = 306.46'  
 L = 470.23'  
 E = 132.57'  
 CH = N 45° 54' 11" E, 419.69'

13T

LOT 79

LOT 78

13

WAKEMAN OIL COMPANY  
 PT. 50-055A-04-029-0000  
 D.V. 276, PG. 631

14

ERIC SPENCER  
 50-055A-04-027-0000  
 O.R.V. 324, PG. 725

12

CHARLES E. FORMAN AND  
 ANDREA K. FORMAN  
 50-055A-04-001-0000  
 O.R.V. 358, PG. 897  
 NO R/W REQUIRED

MATCH LINE STA. 1335+00  
 US 20

13

GRAVEL  
 PARKING  
 AREA

REV. BY	DATE	DESCRIPTION
PWS	5-16-07	ADD AUDITOR PAR. NOS. - PAR. 13
DATE COMPLETED:		12-15-2006

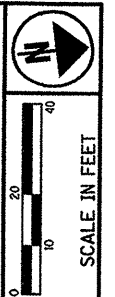
DESIGN FILE: I:\projects\77284\77284R001.dgn  
 WORKSTATION: psnyder  
 DATE: 10/2/2007

**HUR-20-25.15  
HURON COUNTY  
VILLAGE OF WAKEMAN  
WAKEMAN TOWNSHIP  
SECTION 3, GREAT LOT 35**

**CURVE DATA  
TEMP. R/W TAKES**

**CURVE 1**  
 $\Delta = 19^\circ 59' 49''$  (RT)  
 $Dc = 22^\circ 12' 46''$   
 $R = 257.94'$   
 $T = 45.47'$   
 $L = 90.02'$   
 $CH = N 31^\circ 02' 08'' E, 89.57'$

**CURVE 2**  
 $\Delta = 18^\circ 15' 58''$  (LT)  
 $Dc = 22^\circ 39' 07''$   
 $R = 252.94'$   
 $T = 40.66'$   
 $L = 80.64'$   
 $CH = S 30^\circ 37' 25'' W, 80.30'$



PID NO.  
**77284**

C/W DESIGNER  
PWS  
R/W REVIEWER

**RIGHT OF WAY PLAN BOUNDARY SHEET  
STA. 1330+00 TO STA. 1335+00**

**HUR-20-16.35**

6 / 10

103  
107

**11**  
FISHER TITUS MEDICAL CENTER  
7.714 AC.  
50-055A-01-003-0000  
O.R.V. 18, PG. 466

PT. 50-055A-04-030-0000

1 STY. FR. RES. # 30  
5/8" IRON PIN FD. W/ CAP " SPENCER  
P.L.S. 8561"  
1329+48.18  
30.20'

1" IRON PIPE FD.  
1330+16.06  
30.32'

1332+50.00  
65.00'

1332+85.00  
50.00'

N 89° 07' 06" E  
20.00'

1332+85.00  
30.00'

S 0° 52' 54" E

1332+35.00  
30.00'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
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38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

N 67° 40' 59" E  
38.08'

1330+00  
N 0° 52' 54" W

1331+00  
R/W & CONSTR. U.S.R. 20

P.I. 1332+07.99

1332+00

1333+00

1/2" IRON PIN FD.  
1334+15.58  
29.66'

1334+00

1334+00

1334+00

R/W U.S.R. 20  
CONSTR. U.S.R. 20

1/2" IRON PIN FD.  
1329+95.66  
30.19'

**10**  
ROBERT FRANCIS KRISHA, JR.  
AND NAN L. KRISHA  
50-055A-05-025-0000  
O.R.V. 247, PG. 554  
NO R/W REQ'D.

LOT 151

ROBERT KRISHA, JR.  
AND NAN KRISHA  
50-055A-05-024-0000  
D.V. 329, PG. 1150

LOT 152

1/2" IRON PIN FD.

LOT 153

R/W PEARL STREET (60')

N 89° 15' 17" E

**CURVE DATA  
R/W U.S.R. 20**  
P.I. STA. 1336+12.95  
 $\Delta = 93^\circ 34' 10''$  (RT)  
 $Dc = 19^\circ 53' 55''$   
 $R = 287.94'$   
 $T = 306.46'$   
 $L = 470.23'$   
 $E = 132.57'$   
 $CH = N 45^\circ 54' 11'' E, 419.69'$

50-055A-04-002-0000  
LOT 149

1" IRON PIPE FD.

1334+18.92  
35.00'

**13T**

LOT 79

**13**

WAKEMAN OIL COMPANY  
PT. 50-055A-04-029-0000  
D.V. 276, PG. 631

**14**

ERIC SPENCER  
50-055A-04-027-0000  
O.R.V. 324, PG. 725

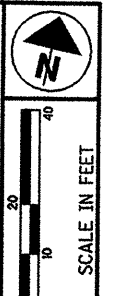
**12**

CHARLES E. FORMAN AND  
ANDREA K. FORMAN  
50-055A-04-001-0000  
O.R.V. 358, PG. 897  
NO R/W REQUIRED

PWS	5-16-07	ADD AUDITOR PAR. NOS. - PAR. 13
REV. BY	DATE	DESCRIPTION
DATE COMPLETED:		12-15-2006

DESIGN FILE: h:\p\o\fact\877284\BRM\77284R\p002.dgn  
WORKSTATION: pswydr DATE: 10/22/2007

HUR-20-25.15  
**HURON COUNTY**  
**VILLAGE OF WAKEMAN**  
**WAKEMAN TOWNSHIP**  
**SECTION 3**



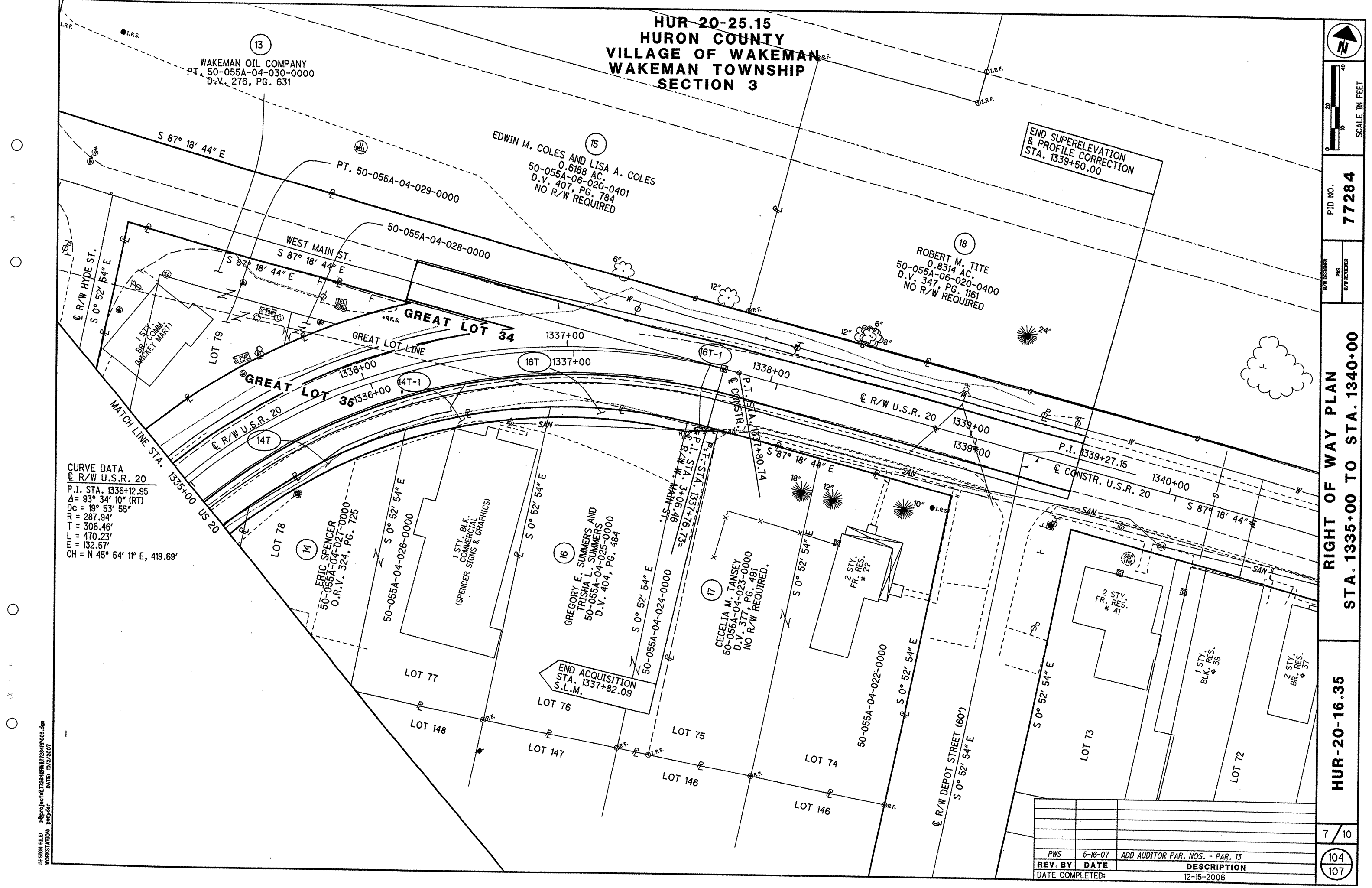
WAKEMAN OIL COMPANY  
 PT. 50-055A-04-030-0000  
 D.V. 276, PG. 631

EDWIN M. COLES AND LISA A. COLES  
 0.6188 AC.  
 50-055A-06-020-0401  
 D.V. 407, PG. 784  
 NO R/W REQUIRED

ROBERT M. TITE  
 0.8314 AC.  
 50-055A-06-020-0400  
 D.V. 347, PG. 1161  
 NO R/W REQUIRED

END SUPERELEVATION  
 & PROFILE CORRECTION  
 STA. 1339+50.00

**CURVE DATA**  
 @ R/W U.S.R. 20  
 P.I. STA. 1336+12.95  
 $\Delta = 93^\circ 34' 10''$  (RT)  
 $Dc = 19^\circ 53' 55''$   
 $R = 287.94'$   
 $T = 306.46'$   
 $L = 470.23'$   
 $E = 132.57'$   
 $CH = N 45^\circ 54' 11'' E, 419.69'$



END ACQUISITION  
 STA. 1337+82.09  
 S.L.M.

REV. BY	DATE	DESCRIPTION
PWS	5-16-07	ADD AUDITOR PAR. NOS. - PAR. 13
DATE COMPLETED:	12-15-2006	

HUR-20-16.35  
 RIGHT OF WAY PLAN  
 STA. 1335+00 TO STA. 1340+00  
 PID NO. 77284  
 SCALE IN FEET  
 7/10  
 104  
 107

DESIGN FILE: I:\projects\7284\7284R\7284R003.dgn  
 WORKSTATION: pnydwr DATE: 10/2/2007



HUR-20-25.15  
 HURON COUNTY  
 VILLAGE OF WAKEMAN  
 WAKEMAN TOWNSHIP  
 SECTION 3



PID NO.  
**77284**

RIGHT OF WAY PLAN BOUNDARY SHEET  
 STA. 1335+00 TO STA. 1340+00

HUR-20-16.35

8 / 10  
 105  
 107

13  
 WAKEMAN OIL COMPANY  
 50-055A-04-030-0000  
 D.V. 276, PG. 631

15  
 EDWIN M. COLES AND LISA A. COLES  
 0.6188 AC.  
 50-055A-06-020-0401  
 D.V. 407, PG. 784  
 NO R/W REQUIRED

18  
 ROBERT M. TITE  
 0.8314 AC.  
 50-055A-06-020-0400  
 D.V. 347, PG. 1161  
 NO R/W REQUIRED

14  
 ERIC SPENCER  
 50-055A-04-027-0000  
 O.R.V. 324, PG. 725

16  
 GREGORY E. SUMMERS AND  
 TRISHA L. SUMMERS  
 50-055A-04-025-0000  
 D.V. 404, PG. 484

17  
 CECELIA M. TANSEY  
 50-055A-04-023-0000  
 D.V. 377, PG. 491  
 NO R/W REQUIRED.

CURVE DATA  
 @ R/W U.S.R. 20  
 P.I. STA. 1336+12.95  
 Δ = 93° 34' 10" (RT)  
 Dc = 19° 53' 55"  
 R = 287.94'  
 T = 306.46'  
 L = 470.23'  
 E = 132.57'  
 CH = N 45° 54' 11" E, 419.69'

CURVE DATA  
 TEMP. R/W TAKES

CURVE 1  
 Δ = 19° 59' 49" (RT)  
 Dc = 22° 12' 46"  
 R = 257.94'  
 T = 45.47'  
 L = 90.02'  
 CH = N 31° 02' 08" E, 89.57'

CURVE 2  
 Δ = 18° 15' 58" (LT)  
 Dc = 22° 39' 07"  
 R = 252.94'  
 T = 40.66'  
 L = 80.64'  
 CH = S 30° 37' 25" W, 80.30'

CURVE 3  
 Δ = 18° 51' 30" (RT)  
 Dc = 22° 12' 46"  
 R = 257.94'  
 T = 42.84'  
 L = 84.90'  
 CH = N 50° 27' 48" E, 84.51'

CURVE 4  
 Δ = 19° 30' 01" (LT)  
 Dc = 22° 39' 07"  
 R = 252.94'  
 T = 43.46'  
 L = 86.09'  
 CH = S 49° 30' 24" W, 85.67'

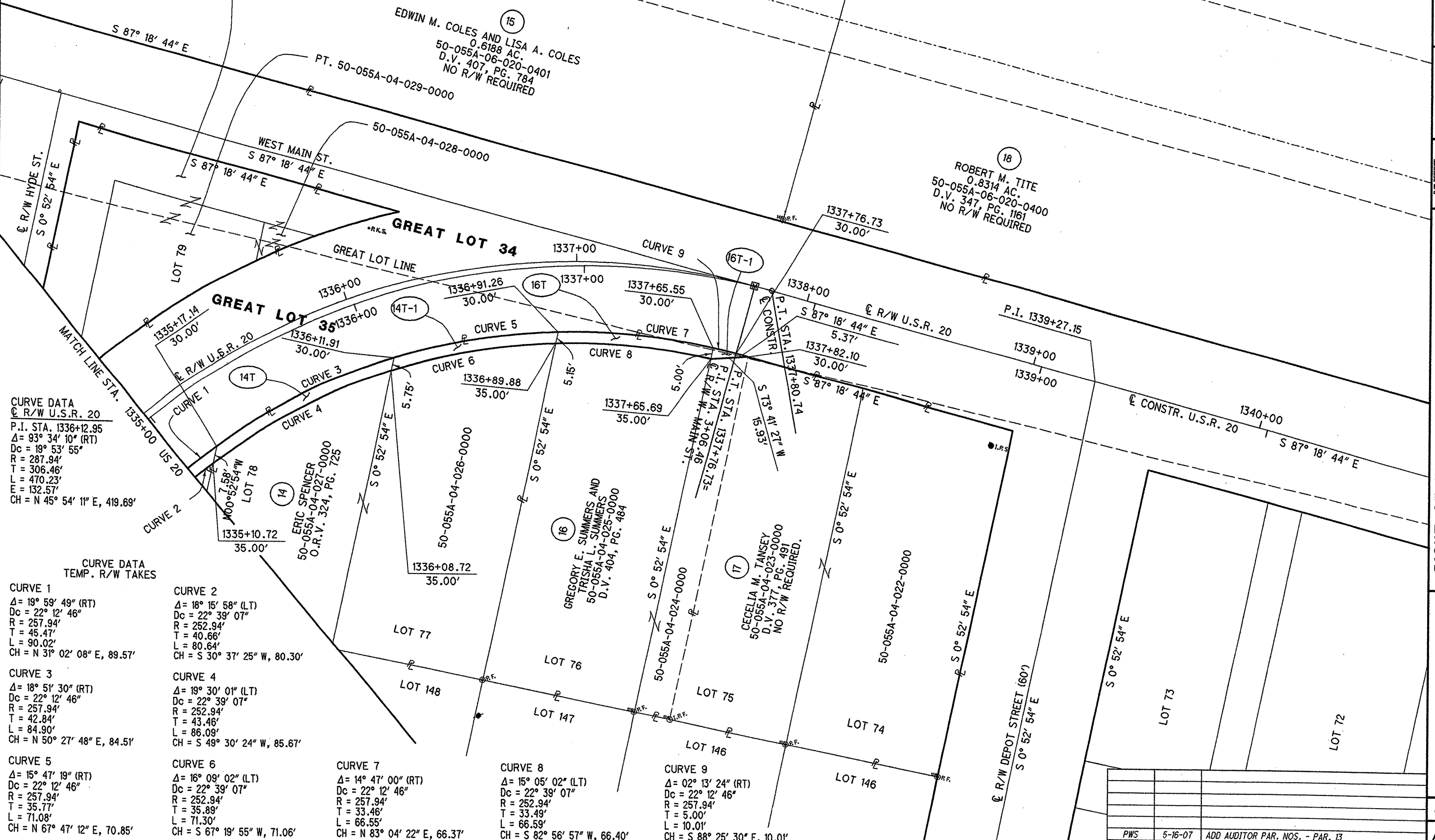
CURVE 5  
 Δ = 15° 47' 19" (RT)  
 Dc = 22° 12' 46"  
 R = 257.94'  
 T = 35.77'  
 L = 71.08'  
 CH = N 67° 47' 12" E, 70.85'

CURVE 6  
 Δ = 16° 09' 02" (LT)  
 Dc = 22° 39' 07"  
 R = 252.94'  
 T = 35.89'  
 L = 71.30'  
 CH = S 67° 19' 55" W, 71.06'

CURVE 7  
 Δ = 14° 47' 00" (RT)  
 Dc = 22° 12' 46"  
 R = 257.94'  
 T = 33.46'  
 L = 66.55'  
 CH = N 83° 04' 22" E, 66.37'

CURVE 8  
 Δ = 15° 05' 02" (LT)  
 Dc = 22° 39' 07"  
 R = 252.94'  
 T = 33.49'  
 L = 66.55'  
 CH = S 82° 56' 57" W, 66.40'

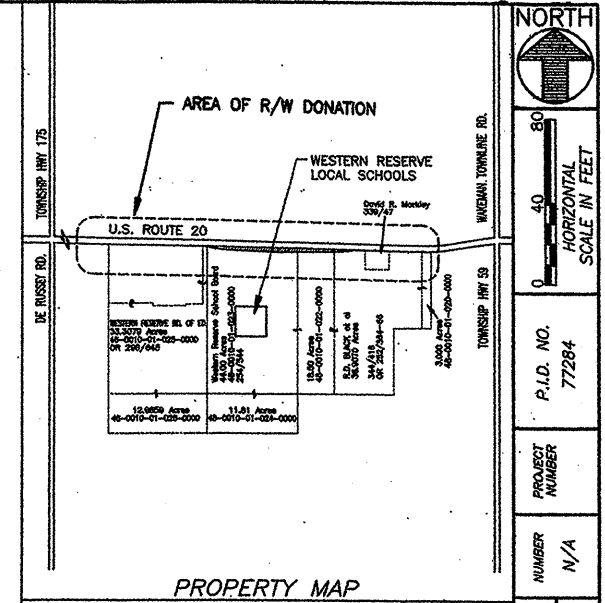
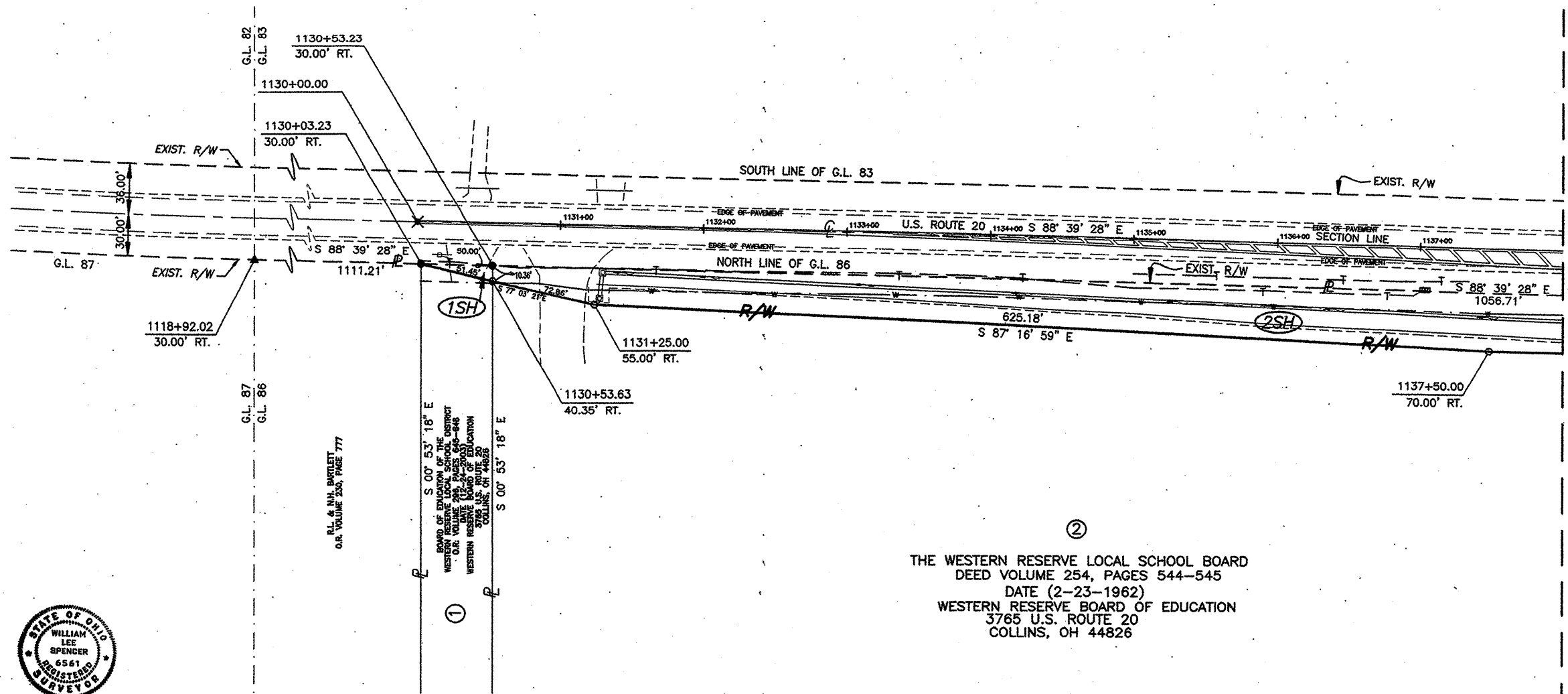
CURVE 9  
 Δ = 02° 13' 24" (RT)  
 Dc = 22° 12' 46"  
 R = 257.94'  
 T = 5.00'  
 L = 10.01'  
 CH = S 88° 25' 30" E, 10.01'



DESIGN FILE: I:\projects\77284\1635\1635.dwg  
 WORKSTATION: pnyder  
 DATE: 10/2/2007

REV. BY	DATE	DESCRIPTION
PWS	5-16-07	ADD AUDITOR PAR. NOS. - PAR. 13
DATE COMPLETED:	12-15-2006	

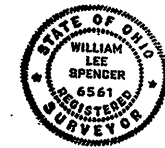
HUR-20-21.40  
 HURON COUNTY, OHIO  
 TOWNSEND TOWNSHIP, SECTION 1  
 GREAT LOTS 85 & 86  
 T-4N, R-21W



MONUMENT LEGEND & CONVENTIONAL SIGNS

- ORIGINAL LOT LINE ———
- RIGHT-OF-WAY ——— R/W ———
- EXISTING RIGHT-OF-WAY ——— EXIST. R/W ———
- CENTER LINE ——— C ———
- PROPERTY LINE ——— P ———
- 5/8" IPIN w/CAP FOUND (KELSER No.7871) — ▲
- 5/8" IPIN w/CAP FOUND (RILEY No.6925) — ●
- 5/8" IPIN w/CAP FOUND (W.SPENCER No.6561) ●
- 5/8" IPIN w/CAP SET (W.SPENCER No.6561) — ○
- SURVEY MARKER FOUND ——— X

②  
 THE WESTERN RESERVE LOCAL SCHOOL BOARD  
 DEED VOLUME 254, PAGES 544-545  
 DATE (2-23-1962)  
 WESTERN RESERVE BOARD OF EDUCATION  
 3765 U.S. ROUTE 20  
 COLLINS, OH 44826



William L. Spencer, Surveyor  
 THE ESTABLISHMENT OF THE PROPERTY LINES AND BOUNDARIES FOR "WESTERN RESERVE SCHOOL BOARD" AS SHOWN HEREON ARE BASED UPON A BOUNDARY SURVEY FOR THE WESTERN RESERVE SCHOOL BOARD DATED FEBRUARY 8, 2006 BY WILLIAM L. SPENCER. DISTANCES ARE GIVEN IN FEET AND DECIMAL PARTS THEREOF. BEARINGS ARE REFERENCED TO AN ASSUMED MERIDIAN AND ARE USED TO INDICATE ANGLES ONLY.  
 \*INDICATES IRON MONUMENTS TO BE SET (5/8" DIA. BY 30" LONG REBAR PER HURON COUNTY ENGINEER). IRON PINS ARE TO BE SET (5/8" DIA. BY 30" LONG REBAR WITH IDENTIFICATION W/SPENCER 6561) AT ALL PROPERTY CORNERS. ALL OF THE ABOVE IS CORRECT TO MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF.

*William L. Spencer*  
 WILLIAM LEE SPENCER  
 REG. SURVEYOR NO. 6561

RECEIVED \_\_\_\_\_, 2006  
 RECORDED \_\_\_\_\_, 2006  
 DOCUMENT No. \_\_\_\_\_  
 COUNTY RECORDER

NOTE:  
 THE BEARINGS REFERENCED HEREIN ARE RELATIVE TO AN ASSUMED MERIDIAN AND ARE FOR INDICATING DIRECTIONAL VARIATION FOR THIS PROJECT ONLY

REF., ROAD RECORDS  
 BK 1, PG 163  
 BK 3, PG 105  
 FOR STATE ROAD TO BE LAYED OUT FROM EAST OF NORWALK THROUGH HURON AND LORAIN COUNTY AGREEABLE TO AN ACT PASSED FEB. 19th A.D. 1833 BY THE LEGISLATURE OF THE STATE OF OHIO.

REV. BY	DATE	DESCRIPTION

TOTAL NUMBER OF:  
 3 OWNERSHIPS  
 4 PARCELS  
 0 TOTAL TAKES

0 OWNERSHIPS WITH STRUCTURES INVOLVED  
 0 OWNERSHIPS WITH "P" ITEMS

SUMMARY OF ADDITIONAL RIGHT OF WAY  
 NET RESIDUE = RECORD AREA - TOTAL P.R.O. - NET TAKE  
 AREA IN ACRES

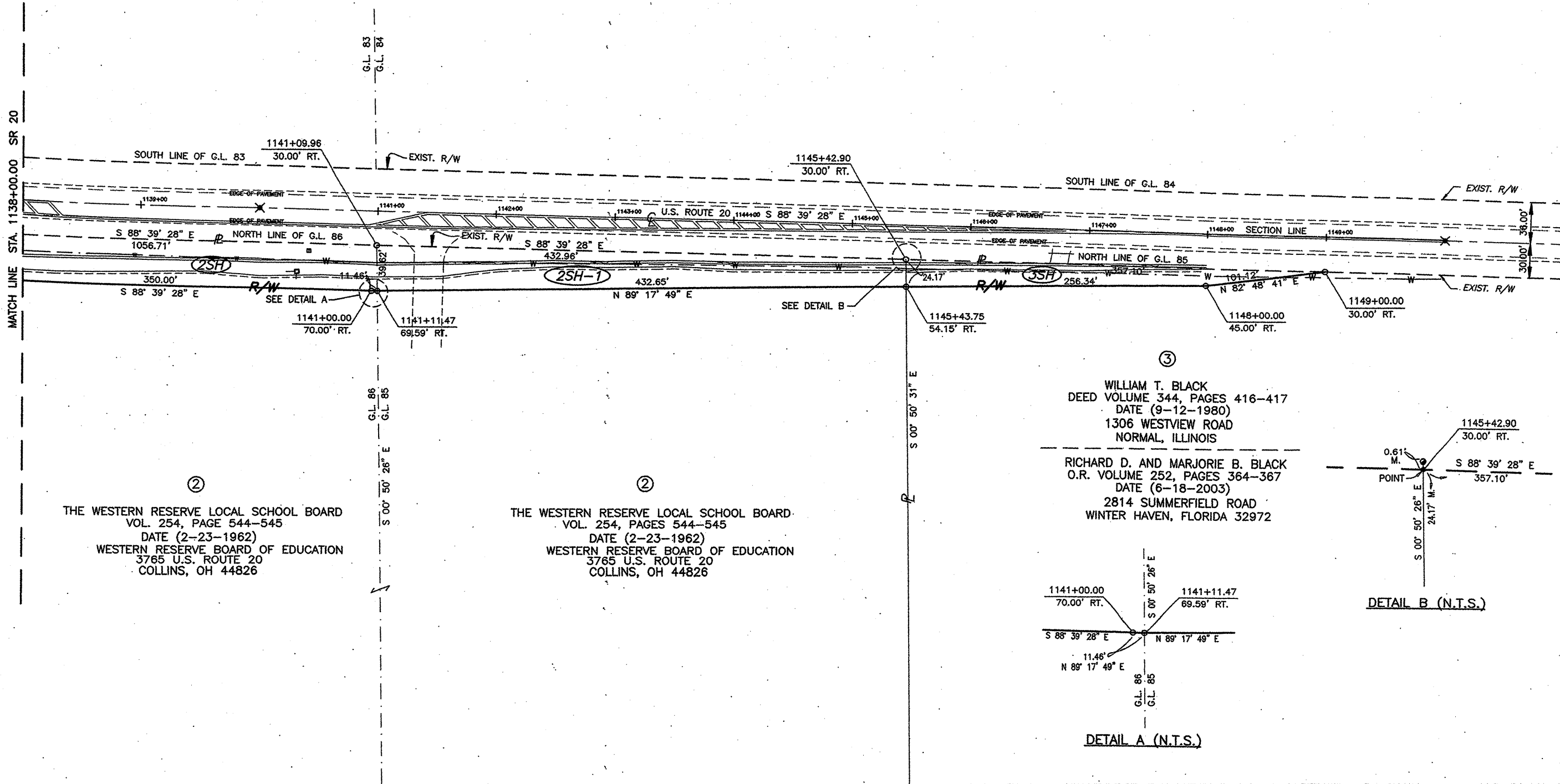
PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA (AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALITY	AS ACQUIRED DOCUMENT No.
			BOOK	PAGE								LEFT	RIGHT			
1 SH	BOARD OF EDUCATION OF THE WESTERN RESERVE LOCAL SCHOOL DISTRICT		O.R.V. 296	645-648	48-0010-01-025-0000	33.3079	0.000	0.0059	0.000	0.0059			33.3020			
					48-0010-01-026-0000	12.6659	0.000	0.000	0.000	0.000			12.6659			
2 SH	THE WESTERN RESERVE LOCAL SCHOOL BOARD		D.V. 254	544-545	48-0010-01-023-0000	44.00	0.000	0.8265	0.000	0.8265			43.1735			
					48-0010-01-024-0000	11.81	0.000	0.000	0.000	0.000			11.81			
2 SH-1					48-0010-01-022-0000	18.50	0.000	0.3168	0.000	0.3168			18.1832			
3 SH	RICHARD D. BLACK AND MARJORIE B. BLACK (2/3 INTEREST)		O.R.V. 252	364-367	48-0010-01-021-0000	36.9079	0.000	0.1326	0.000	0.1326			36.7753			
					48-0010-01-020-0000	3.000	0.000	0.000	0.000	0.000			3.00			
	WILLIAM T. BLACK (1/3 INTEREST)		D.V. 344	416-417												

NORTH  
 HORIZONTAL SCALE IN FEET  
 P.I.D. NO. 77284  
 PROJECT NUMBER N/A  
 NUMBER N/A  
 R/W DESIGNER  
 R/W REVIEWER  
 RIGHT-OF-WAY PLAN  
 HUR-20-21.40  
 1/2  
 9/10  
 106/107

HUR-20-21.40  
 HURON COUNTY, OHIO  
 TOWNSEND TOWNSHIP, SECTION 1  
 GREAT LOTS 85 & 86  
 T-4N, R-21W



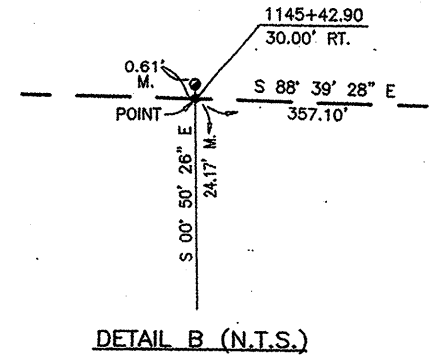
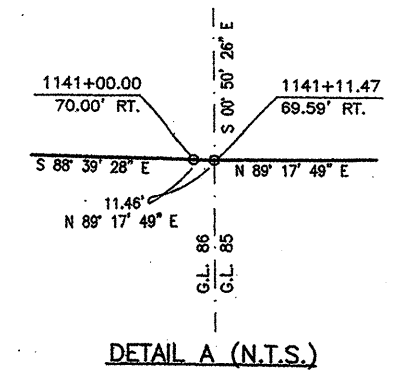
P.I.D. NO. 77284  
 PROJECT NUMBER N/A  
 NUMBER N/A  
 R/W DESIGNER R/W REVIEWER



②  
 THE WESTERN RESERVE LOCAL SCHOOL BOARD  
 VOL. 254, PAGE 544-545  
 DATE (2-23-1962)  
 WESTERN RESERVE BOARD OF EDUCATION  
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 THE WESTERN RESERVE LOCAL SCHOOL BOARD  
 VOL. 254, PAGES 544-545  
 DATE (2-23-1962)  
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 3765 U.S. ROUTE 20  
 COLLINS, OH 44826

③  
 WILLIAM T. BLACK  
 DEED VOLUME 344, PAGES 416-417  
 DATE (9-12-1980)  
 1306 WESTVIEW ROAD  
 NORMAL, ILLINOIS  
 RICHARD D. AND MARJORIE B. BLACK  
 O.R. VOLUME 252, PAGES 364-367  
 DATE (6-18-2003)  
 2814 SUMMERFIELD ROAD  
 WINTER HAVEN, FLORIDA 32972



RECEIVED \_\_\_\_\_, 2006  
 RECORDED \_\_\_\_\_, 2006  
 DOCUMENT No. \_\_\_\_\_  
 COUNTY RECORDER

REV. BY	DATE	DESCRIPTION

RIGHT-OF-WAY PLAN

HUR-20-21.40

2/2  
 10/10  
 107/107