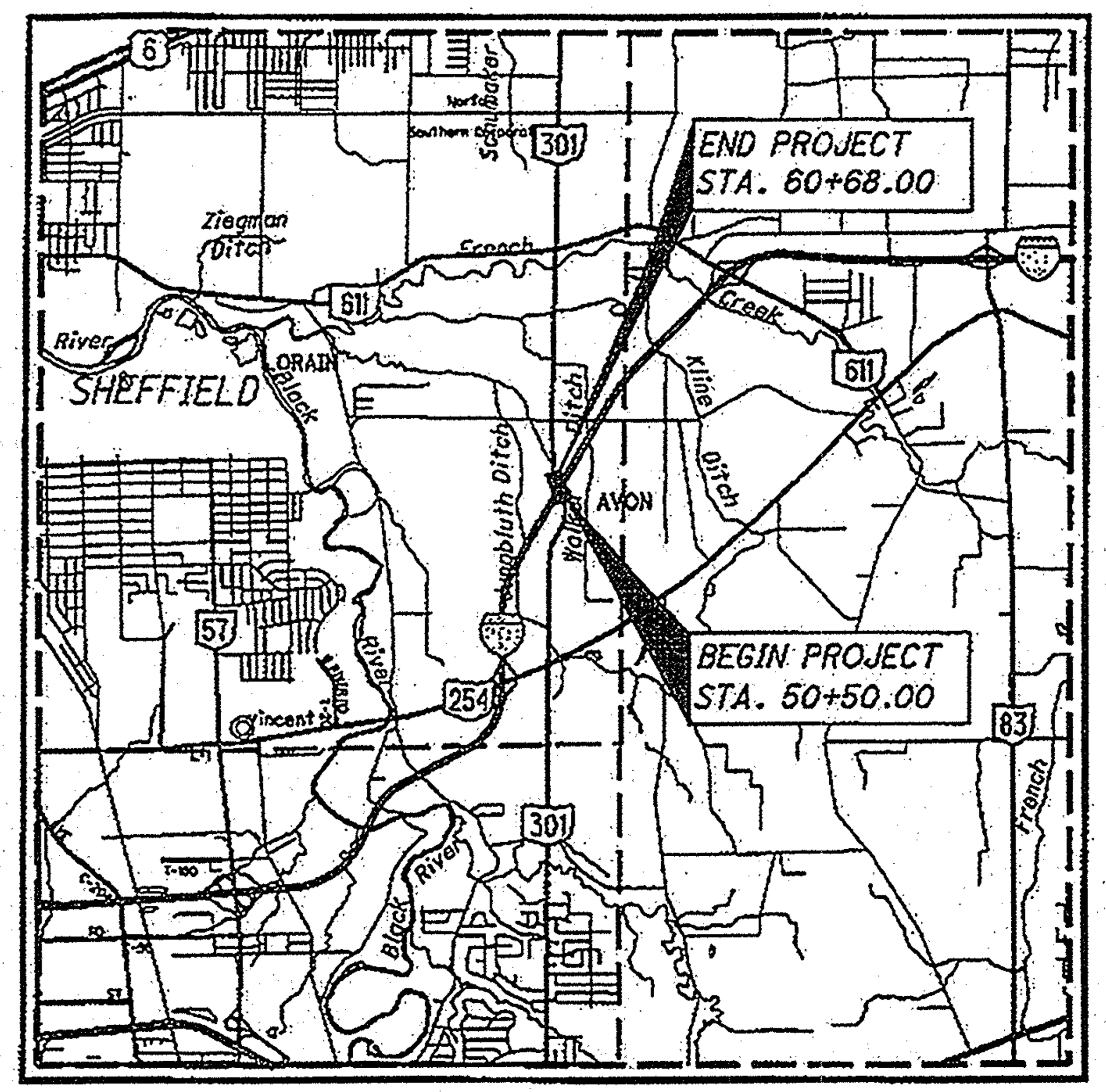
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
LOR-301-23.49

CITY OF SHEFFIELD
LORAIN COUNTY



LOCATION MAP

LATITUDE: 41°26'36" LONGITUDE: 82°04'30"

SCALE IN MILES

0 1 2 3 4

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

DESIGN DESIGNATION

	IR-90	S.R. 301
CURRENT ADT (2012)	60960	9280
DESIGN YEAR ADT (2032)	82230	10450
DESIGN HOURLY VOLUME (2032)	7400	1050
DIRECTIONAL DISTRIBUTION	0.60	0.55
TRUCKS (24 HOUR B&C)	0.14	0.05
Td	0.08	0.04
DESIGN SPEED	70	45
LEGAL SPEED	65	45
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN INTERSTATE	URBAN ARTERIAL
NHS PROJECT	NO	NO

DESIGN EXCEPTIONS

NONE

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
DIVISION OF ENGINEERING
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223

ENGINEERS SEAL:
STRUCTURES
STATE OF OHIO
CURTIS JAMES WOOD
E-69704
REGISTERED
PROFESSIONAL ENGINEER
SIGNED: Curtis Wood
DATE: 10/27/2011

ENGINEERS SEAL:
ROADWAY
STATE OF OHIO
TERESA SILLECK
E-57860
REGISTERED
PROFESSIONAL ENGINEER
SIGNED: Teresa Silleck
DATE: 10/27/2011

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	10/19/07	GR-1.1	7/16/04	MT-35.10	4/20/01	AS-1-81	7/19/02		
BP-4.1	7/16/04	GR-2.1	1/16/04	MT-95.30	7/17/09	BR-2	7/19/02		
BP-5.1	7/28/00	GR-3.1	10/16/09	MT-101.60	4/17/09	GSD-1-96	7/19/02		
		GR-4.2	1/19/07	MT-101.70	4/15/11	SICD-1-96	7/15/11		
CB-2.1	7/15/05	GR-6.2	4/16/10	MT-102.20	4/17/09	VPF-1-90	4/15/11		
				MT-105.10	1/16/09				
DM-1.1	1/21/11	HW-2.1	7/30/07						
DM-1.4	7/15/11			TC-41.20	1/19/01				
DM-4.1	1/21/11	RM-1.1	7/15/11	TC-42.20	1/21/11				
DM-4.3	4/17/09	RM-4.2	10/15/10	TC-52.10	1/19/07				
DM-4.4	4/17/09	RM-4.3	10/16/09	TC-52.20	1/19/07				
		RM-4.5	10/16/09	TC-65.10	1/21/05				
F-2.1	7/28/00	RM-4.6	4/16/10	TC-65.11	1/21/05				
F-3.1	4/16/10								
F-3.3	7/28/00								
F-3.4	7/28/00								

SUPPLEMENTAL SPECIFICATIONS	
800	5/25/12
832	5/5/09
898	7/15/11

SPECIAL PROVISIONS

PROJECT DESCRIPTION

REPLACEMENT OF THE EXISTING 4-SPAN S.R. 301 (ABBE RD.) STRUCTURE OVER I-90 WITH A NEW 4-SPAN STRUCTURE, RAISING THE PROFILE OF S.R. 301 (ABBE RD.), PROVIDING A MINIMUM OF 16.5' OF VERTICAL CLEARANCE ABOVE I-90. ASSOCIATED ROAD WORK ON S.R. 301.

PROJECT EARTH DISTURBED AREA:	4.10 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	1.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	5.35 ACRES

LIMITED ACCESS

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

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 CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 10.

APPROVED Allen C Biehl
DATE 2-21-12 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray
DATE 3-1-12 DIRECTOR, DEPARTMENT OF TRANSPORTATION

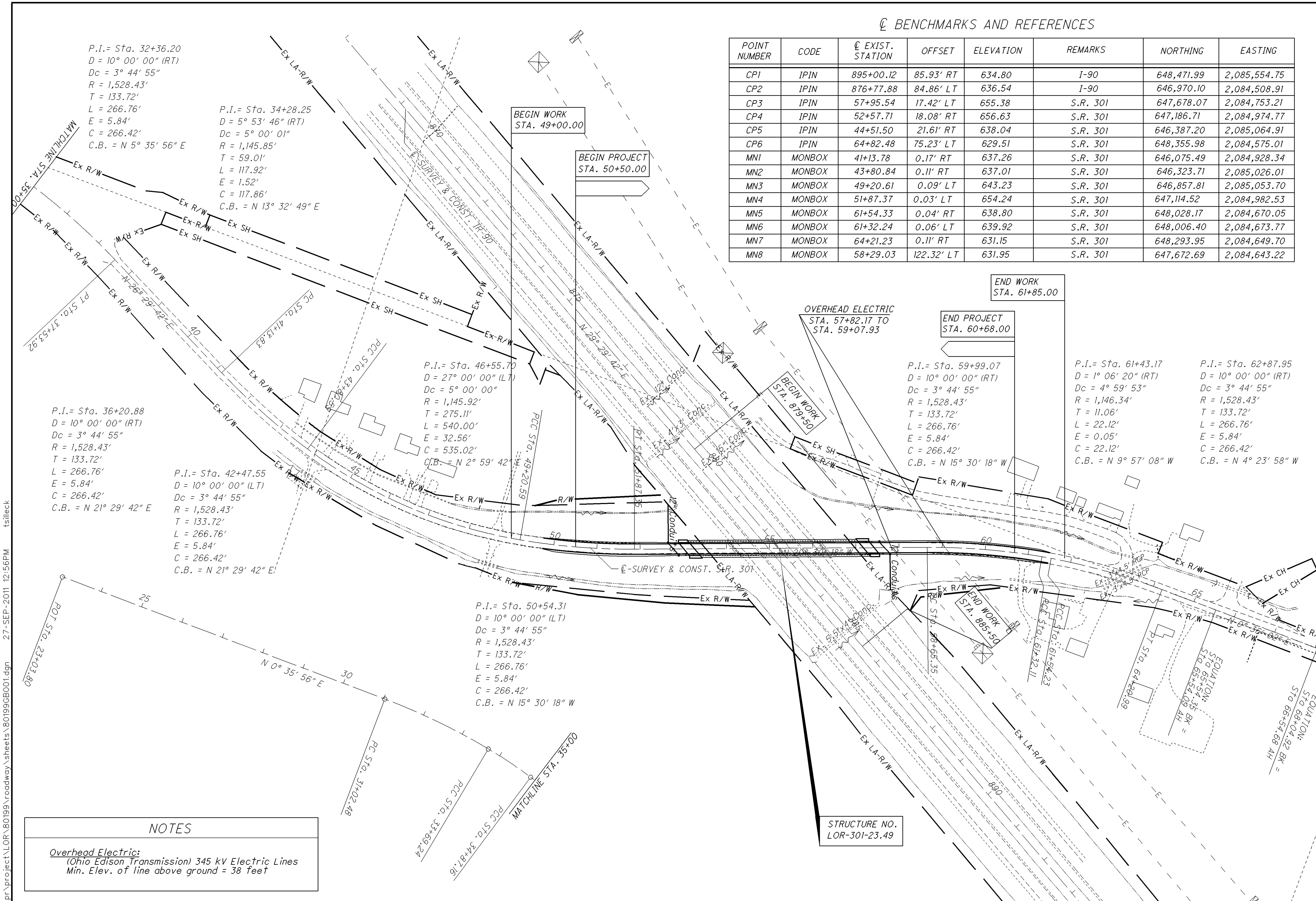
FEDERAL PROJECT NO. E120347

PID NO. 80199

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

LOR-301-23.49



℄ BENCHMARKS AND REFERENCES

POINT NUMBER	CODE	℄ EXIST. STATION	OFFSET	ELEVATION	REMARKS	NORTHING	EASTING
CP1	IPIN	895+00.12	85.93′ RT	634.80	I-90	648,471.99	2,085,554.75
CP2	IPIN	876+77.88	84.86′ LT	636.54	I-90	646,970.10	2,084,508.91
CP3	IPIN	57+95.54	17.42′ LT	655.38	S.R. 301	647,678.07	2,084,753.21
CP4	IPIN	52+57.71	18.08′ RT	656.63	S.R. 301	647,186.71	2,084,974.77
CP5	IPIN	44+51.50	21.61′ RT	638.04	S.R. 301	646,387.20	2,085,064.91
CP6	IPIN	64+82.48	75.23′ LT	629.51	S.R. 301	648,355.98	2,084,575.01
MN1	MONBOX	41+13.78	0.17′ RT	637.26	S.R. 301	646,075.49	2,084,928.34
MN2	MONBOX	43+80.84	0.11′ RT	637.01	S.R. 301	646,323.71	2,085,026.01
MN3	MONBOX	49+20.61	0.09′ LT	643.23	S.R. 301	646,857.81	2,085,053.70
MN4	MONBOX	51+87.37	0.03′ LT	654.24	S.R. 301	647,114.52	2,084,982.53
MN5	MONBOX	61+54.33	0.04′ RT	638.80	S.R. 301	648,028.17	2,084,670.05
MN6	MONBOX	61+32.24	0.06′ LT	639.92	S.R. 301	648,006.40	2,084,673.77
MN7	MONBOX	64+21.23	0.11′ RT	631.15	S.R. 301	648,293.95	2,084,649.70
MN8	MONBOX	58+29.03	122.32′ LT	631.95	S.R. 301	647,672.69	2,084,643.22

NOTES

Overhead Electric:
(Ohio Edison Transmission) 345 kV Electric Lines
Min. Elev. of line above ground = 38 feet

HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED TLS CHECKED

SCHEMTIC PLAN S.R. 301 AT I-90

LOR-301-23.49

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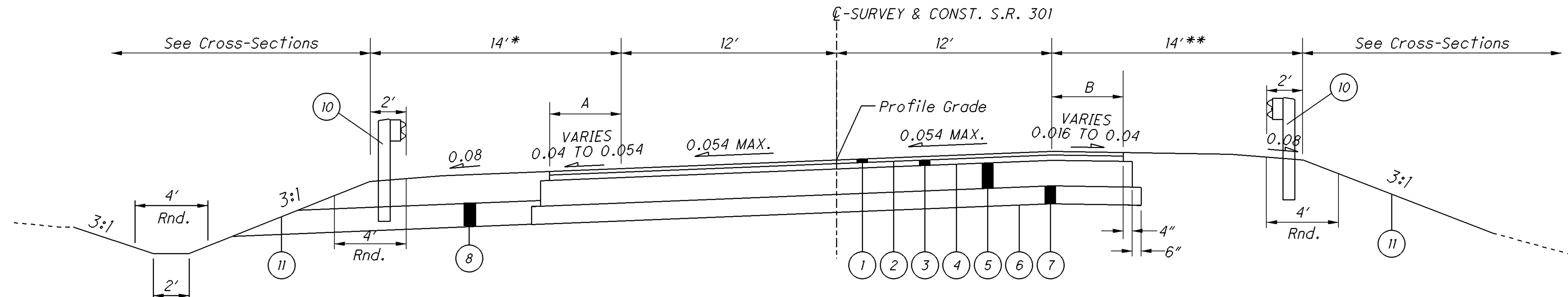
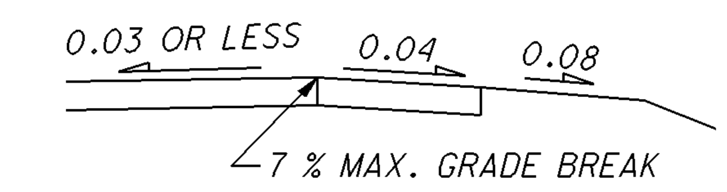


NORMAL SECTION: S.R. 301

SECTION APPLIES : ℄ - STA. 49+75.00 TO STA. 52+64.90

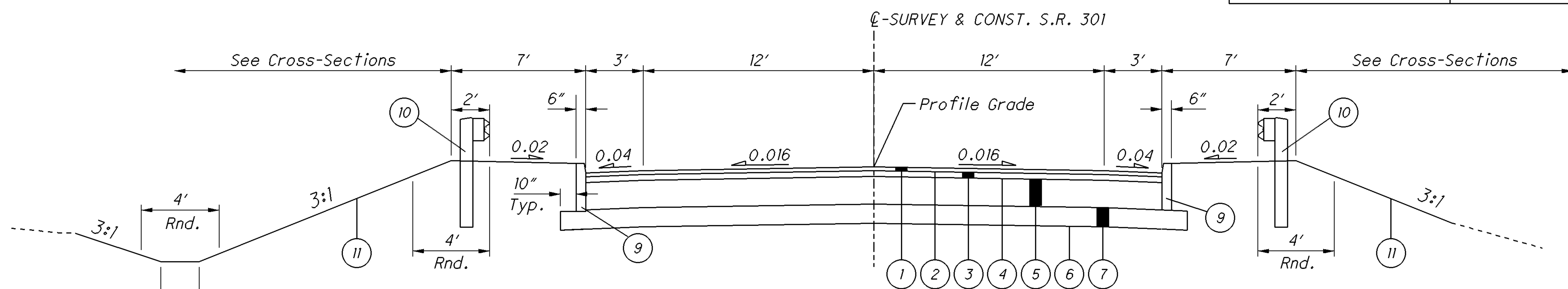


HIGH SIDE SUPERELEVATION GRADE BREAK (TYPICAL)

* Varies 14' To 10' From Sta. 51+87.56 To Sta. 52+47.56

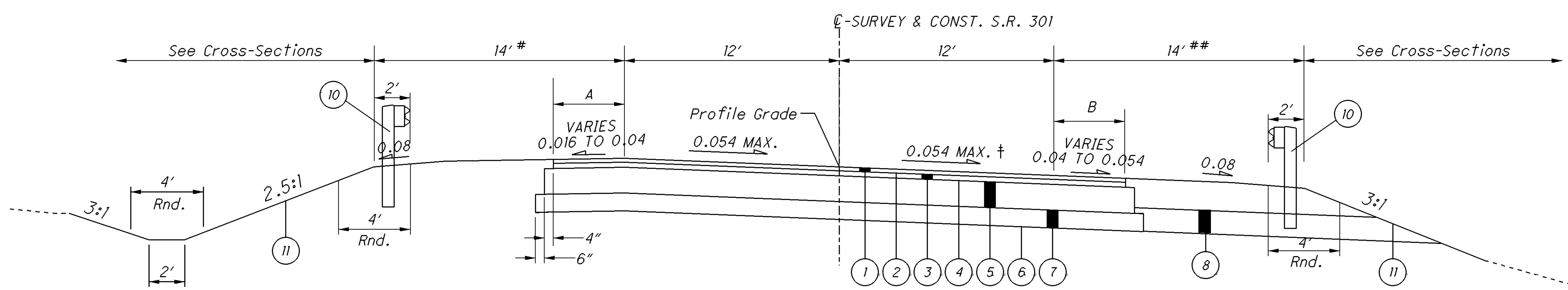
** Varies 14' To 10' From Sta. 52+12.74 To Sta. 52+72.74

STA. TO STA.	A	LENGTH	STA. TO STA.	B	LENGTH
49+75.00 TO 50+50.00	VARIES 1.0' - 4.0'	75.00	49+75.00 TO 50+00.00	VARIES 1.0' - 4.0'	25.00
50+50.00 TO 52+27.00	4.0'	177.00	50+00.00 TO 52+52.00	4.0'	252.00
52+27.00 TO 52+52.00	VARIES 4.0' - 3.0'	25.00	52+52.00 TO 52+77.00	VARIES 4.0' - 3.0'	25.00



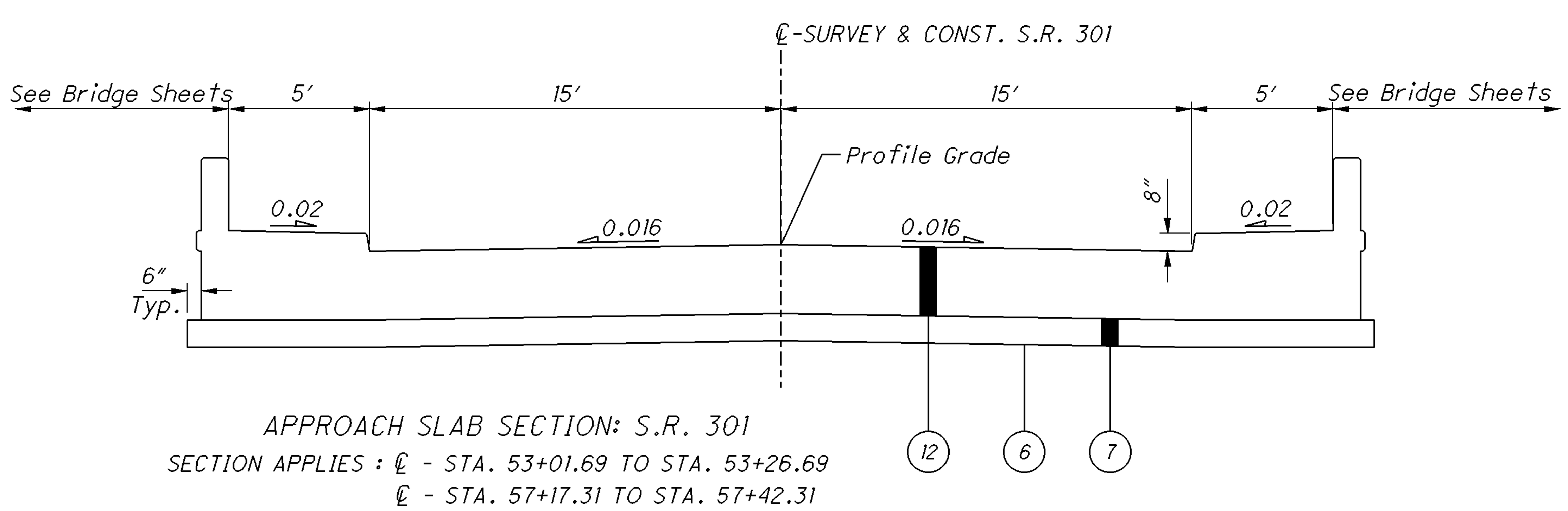
NORMAL SECTION: S.R. 301

SECTION APPLIES : ℄ - STA. 52+64.90 TO STA. 53+01.69
℄ - STA. 57+42.31 TO STA. 57+78.90



NORMAL SECTION: S.R. 301

SECTION APPLIES : ℄ - STA. 57+78.90 TO STA. 61+50.00



APPROACH SLAB SECTION: S.R. 301

SECTION APPLIES : ℄ - STA. 53+01.69 TO STA. 53+26.69
℄ - STA. 57+17.31 TO STA. 57+42.31

LEGEND

1. ITEM 442 - 1.25" ASPHALT CONCRETE SURFACE COURSE, 9.5 mm, TYPE A (448), AS PER PLAN
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.040 GAL./SQ. YD.)
3. ITEM 442 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A (448), AS PER PLAN
4. ITEM 407 - TACK COAT (0.075 GAL./SQ. YD.)
5. ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 CONSTRUCTED IN 4" + 5" LIFTS
6. ITEM 204 - SUBGRADE COMPACTION
7. ITEM 304 - 6" AGGREGATE BASE
8. ITEM 605 - AGGREGATE DRAINS
9. ITEM 609 - CURB, TYPE 6
10. ITEM 606 - GUARDRAIL, TYPE 5 OR 5A
11. ITEM 659 - SEEDING AND MULCHING
12. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN
13. ITEM 622 - CONCRETE BARRIER, TYPE D
14. ITEM 302 - 9" ASPHALT CONCRETE BASE, PG64-22
15. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (3")

A ±10" EXISTING ASPHALT AND AGGREGATE BASE

STA. TO STA.	A	LENGTH	STA. TO STA.	B	LENGTH
57+67.00 TO 57+92.00	VARIES 3.0' - 4.0'	25.00'	57+92.00 TO 58+17.00	VARIES 3.0' - 4.0'	25.00'
57+92.00 TO 61+25.00	4.0'	333.00'	58+17.00 TO 60+68.00	4.0'	251.00'
61+25.00 TO 61+50.00	VARIES 4.0' - 1.0'	25.00'	60+68.00 TO 61+50.00	VARIES 4.0' - 1.0'	82.00'

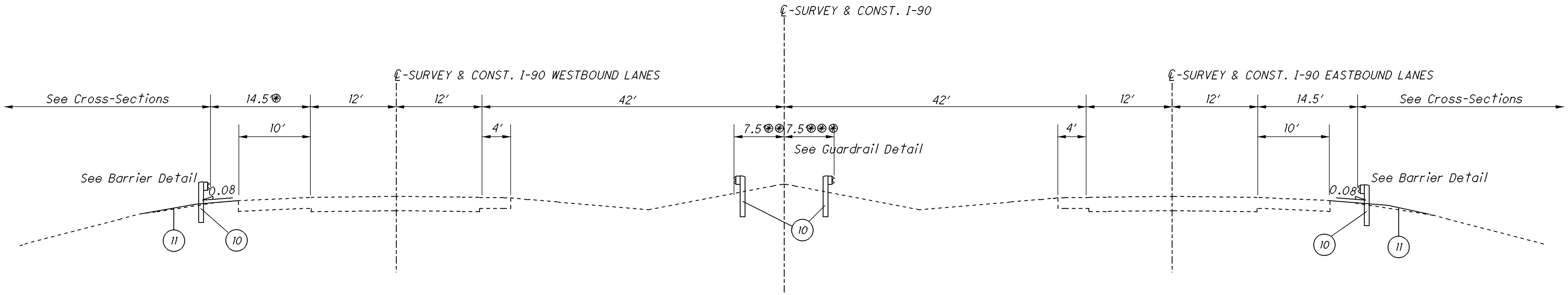
Varies 10' To 14' From Sta. 57+71.26 To Sta. 58+31.26

Varies 10' To 14' From Sta. 57+96.45 To Sta. 58+56.45

† Slope Varies 0.054 To 0.068 From Sta. 61+32.11 To Sta. 61+50.00

TYPICAL SECTIONS

LOR-301-23.49

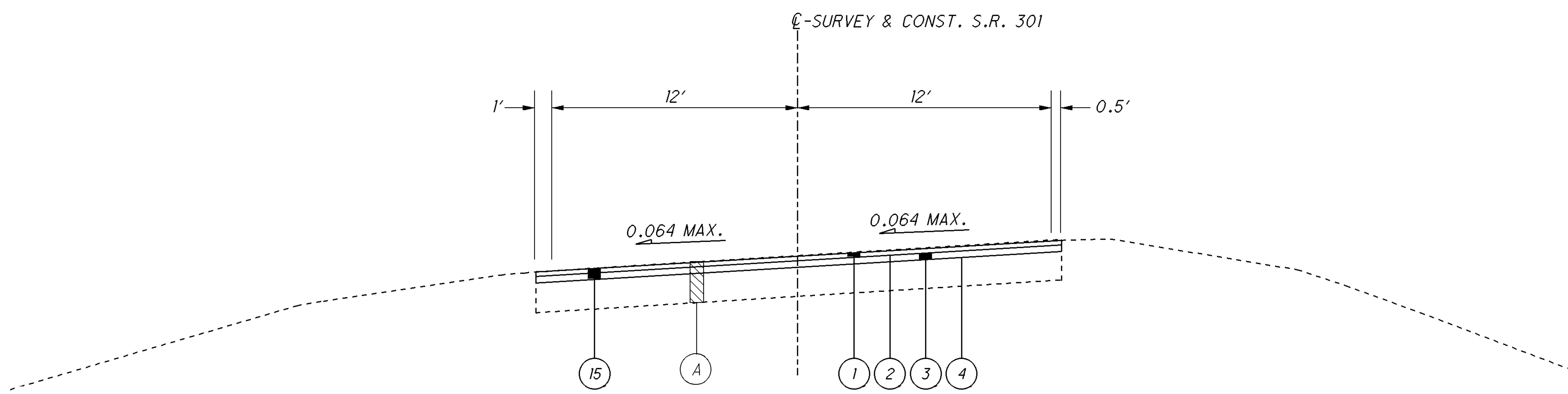


⊛ Varies 14.5' To 16.5' From Sta. 883+84.31 To Sta. 881+34.31
⊛⊛ Varies 7' To 0' From Sta. 882+84.88 To Sta. 883+84.88

EXISTING SECTION: I-90

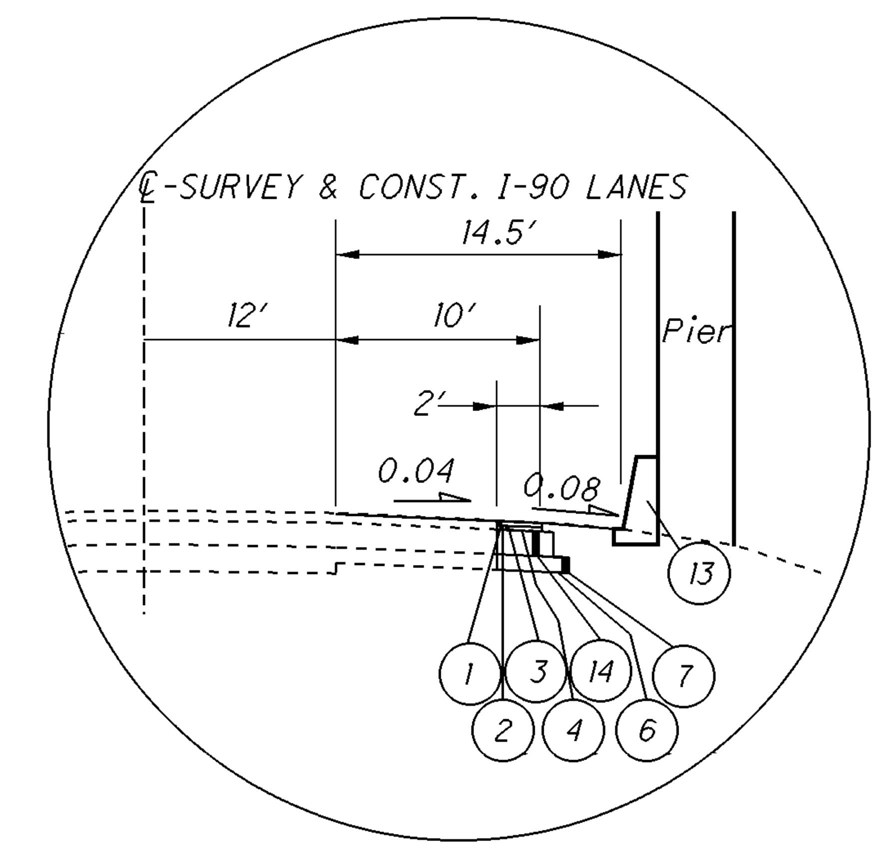
SECTION APPLIES : ℄ - STA. 880+25.86 TO STA. 881+50.86 EB
℄ - STA. 883+53.06 TO STA. 884+78.06 WB

⊛⊛⊛ Varies 0' To 7' From Sta. 881+18.88 To Sta. 882+18.88



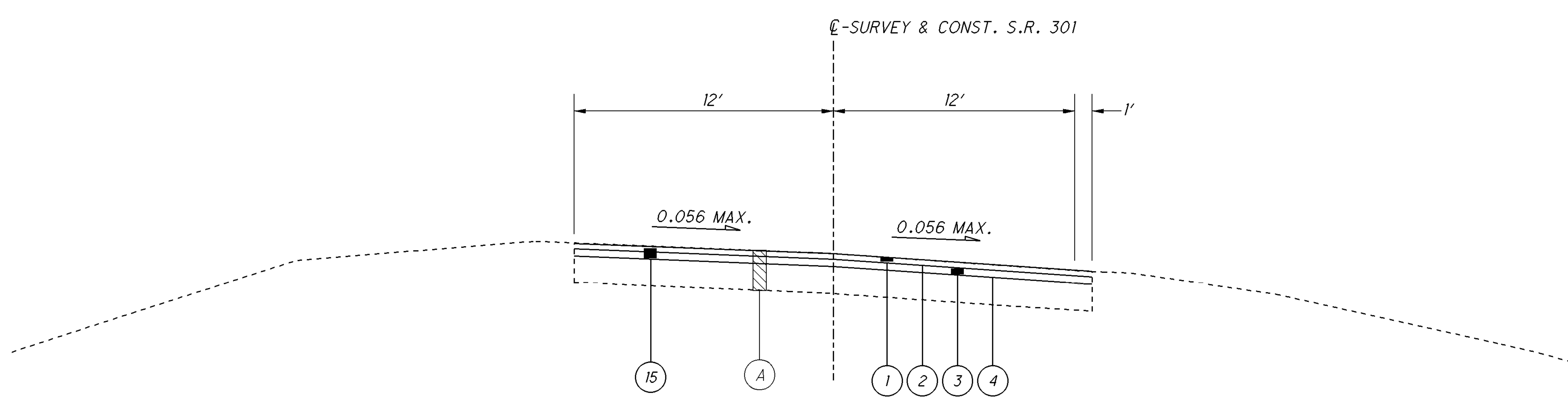
MILL & OVERLAY SECTION: S.R. 301

STA. 49+50.00 TO STA. 49+75.00



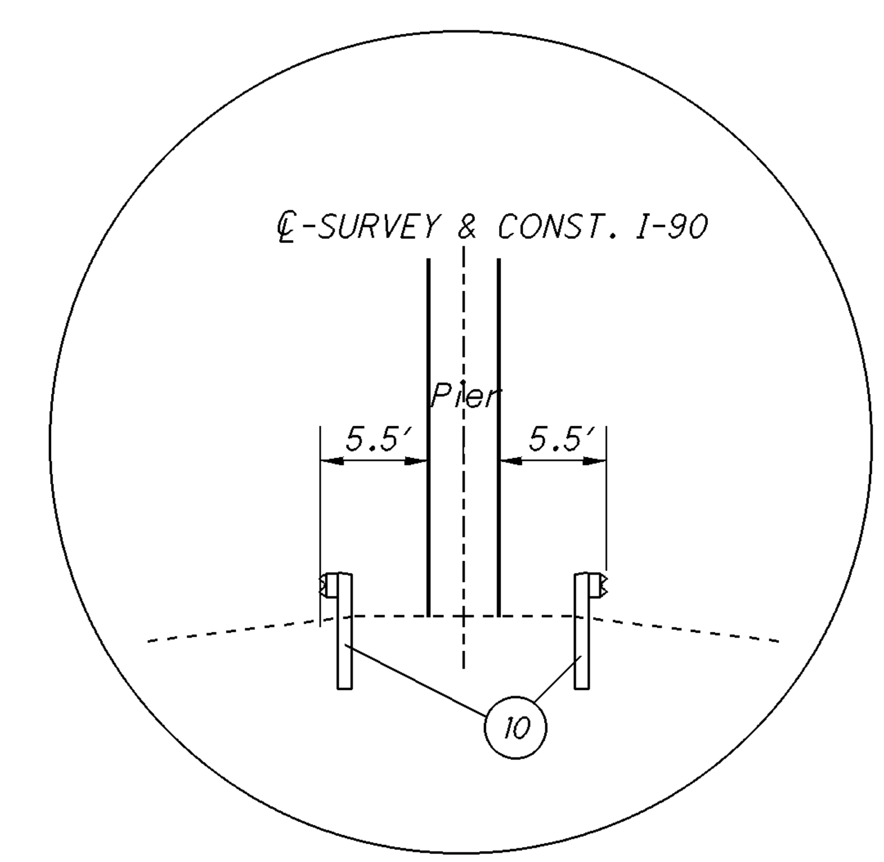
BARRIER DETAIL

STA. 881+48.76 TO STA. 881+98.76 EB
STA. 883+05.17 TO STA. 883+55.17 WB



MILL & OVERLAY SECTION: S.R. 301

STA. 61+43.78 TO STA. 61+75.00



GUARDRAIL DETAIL

STA. 882+18.88 TO STA. 882+84.88

See Sheet 3 For Legend

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EXISTING TYPICAL SECTIONS

LOR-301-23.49

UTILITIES

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

OHIO EDISON TRANSMISSION
DAVID KOZY
76 SOUTH MAIN STREET
AKRON, OHIO 44308
330-384-5194

VILLAGE OF SHEFFIELD (WATER, SANITARY)
KEN KACZAY
4820 DETROIT ROAD
ELYRIA, OHIO 44035
440-949-6209

FRENCH CREEK WASTE WATER TREATMENT PLANT
LOU COVER
2350 ABBE ROAD
SHEFFIELD VILLAGE, OHIO 44054
440-934-5251

RURAL LORAIN COUNTY WATER AUTHORITY
JIM TRUESDELL
42401 S.R. 303, P.O. BOX 567
LAGRANGE, OHIO 44050
440-355-6060

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.

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 03

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (CORS 96)
ELLIPSOID: GRS 80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: SPC 3402 (OH S)
COMBINED SCALE FACTOR: 0.999937391

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

DEENERGIZING ELECTRIC TRANSMISSION LINES

OHIO EDISON SHALL DEENERGIZE THE EXISTING OVERHEAD ELECTRIC TRANSMISSION LINES WHERE REQUIRED. NOTIFY OHIO EDISON AT LEAST 90 DAYS PRIOR TO CONSTRUCTION ACTIVITIES THAT REQUIRE DEENERGIZING THE EXISTING OVERHEAD ELECTRIC TRANSMISSION LINES.

THE EXISTING OVERHEAD ELECTRIC TRANSMISSION LINES MAY ONLY BE DEENERGIZED FOR SHORT PERIODS OF TIME.

WORK LIMITS

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

ROUNDING

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

FENCE LENGTHS

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

ITEM 204 - PROOF ROLLING

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

ITEM 204 - PROOF ROLLING 4 HOUR.

CLEARING AND GRUBBING

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

ITEM 604 - MONUMENT ASSEMBLY REMOVED AND RESET

REMOVE AND RESET MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AT THE FOLLOWING LOCATIONS:

STA. 51+87.35, ℄
STA. 58+65.34, ℄
STA. 61+32.18, 0.05 LT

THE FOLLOWING QUANTITY HAS BEEN ADDED TO THE GENERAL SUMMARY FOR THE ABOVE DESCRIBED WORK.

604, MONUMENT ASSEMBLY REMOVED AND RESET 3 EACH

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE, AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

THE FOLLOWING QUANTITY HAS BEEN ADDED TO THE PLANS FOR THE ABOVE DESCRIBED WORK

605, AGGREGATE DRAINS 234 FT

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	1463 CU YD
659, SEEDING AND MULCHING	13187 SQ YD
659, REPAIR SEEDING AND MULCHING	659 SQ YD
659, INTER-SEEDING	659 SQ YD
659, COMMERCIAL FERTILIZER	1.78 TON
659, LIME	2.72 ACRES
659, WATER	75 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.

SHEET NO.	203 EXCAVATION CU YD	203 EMBANKMENT CU YD	659 SEEDING AND MULCHING SQ YD
20	47	322	683
21	581	4945	4715
22	113	2591	1542
23	252	2464	2838
24	439	1121	2644
27	0	13	282
28	0	5	130
29	0	3	86
30	0	4	81
31	0	18	186
TOTAL	1432	11486	13187 *

* TOTAL CARRIED TO SEEDING AND MULCHING NOTE ON THIS SHEET.

ITEM 442 ASPHALT CONRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS,
FOR Nmax. USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE SOURCE GROUP LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM 442 ASPHALT CONCRETE, INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN

THIS ITEM SHALL BE USED FOR CORRECTION OF CROWN, PROFILE AND ANY OTHER IRREGULARITIES.

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS,
FOR Nmax. USE 75 GYRATIONS.

USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 30 PERCENT.

APPLY 703.05 FOR COURSE AND FINE AGGREGATE EXCEPT GRADATION FOR FINE AGGREGATE DOES NOT APPLY.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM SPECIAL - MISC.: VERTICAL CLEARANCE

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 3 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 3 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURE: LOR-301-23.49

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL - MISC.: VERTICAL CLEARANCE, 1 EACH

ITEM 606 - ANCHOR ASSEMBLY, TYPE B

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.

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.

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

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

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.

CALCULATED
CHECKED

GENERAL NOTES

LOR-301-23.49

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (419) 207-7182, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

3. A QUANTITY OF 10 CU. YDS. OF 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

DETOUR NOTIFICATION - SR 301

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (800-276-4188) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT.
ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

DETOUR DURATION - SR 301

THE DETOUR SHALL BEGIN MAY 1, 2013. THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE 120 CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES AS PER 108.07 OF THE CMS OF OVERRUN OF DETOUR LIMITATION TIME TO BE ASSESSED. THE CONTRACTOR WILL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

LANE CLOSURES - IR 90

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
http://plcm.dot.state.oh.us

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DAMAGES IN THE AMOUNT OF $700 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

ONE LANE CLOSURE WILL BE PERMITTED AT NIGHT FOR BRIDGE PAINTING AND SHALL BE DONE IN ACCORDANCE WITH SCD MT-95.30, AND LANE SHIFTING IN ACCORDANCE WITH SCD MT-102.20.

STOPPAGE OF MAINLINE TRAFFIC - IR 90

ANY TIME TRAFFIC MUST BE COMPLETELY STOPPED ON A FREEWAY OR INTERSTATE, IT SHALL BE DONE IN THE FOLLOWING MANNER: THE COMPLETE TRAFFIC STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY SHALL BE NO MORE THAN 10 MINUTES IN ANY ONE CONSECUTIVE 30 MINUTE PERIOD.

A MINIMUM OF TWO (2) LAW ENFORCEMENT OFFICERS (LEO) WITH PATROL CARS SHALL BE USED TO PACE MOTORISTS TO A STOP. THERE SHALL BE ONE LEO FOR EACH LANE ON THE FREEWAY.

AFTER TRAFFIC HAS BEEN SLOWED, ONE (1) PATROL CAR SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACKUP OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF FREEWAY ENTRANCES, THE CONTRACTOR SHALL PLACE FLAGGERS ON THE RAMPS TO STOP TRAFFIC. PATROL CARS SHALL HAVE FLASHING BEACONS TO PROVIDE ADEQUATE VISIBILITY TO APPROACHING MOTORISTS.

THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROAD WORK AHEAD" (W20-1-48) ONE MILE AHEAD OF THE STOP LOCATION, PREPARE TO STOP" (W3-H5-48) 3/4 MILE AHEAD OF THE STOP LOCATION, AND "STOP AHEAD" (W3-1-48) SIGNS 1/4 MILE AHEAD OF THE STOP LOCATION. EACH SIGN SHALL BE EQUIPPED WITH A TYPE B FLASHING BARRICADE WARNING LIGHT IN ACCORDANCE WITH SECTION 7G-6 OF THE OMUTCD.

A PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN, TO BE ON ODOT'S PREAPPROVED LIST, SHALL BE PLACED 1.5 TO 2 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE ODOT PUBLIC INFORMATION OFFICE, 419-207-7182, THREE (3) DAYS PRIOR TO ANY MAINLINE TRAFFIC STOPPAGE.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS) - IR 90

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

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

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.

ABBE RD WILL BE
CLOSED (date)
FOR 120 DAYS
INFO: 419-207-7182

W20-H13-60

TRAFFIC CONTROL INSPECTOR - IR 90

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

DUST CONTROL

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

ITEM 616, WATER 2 M. GAL

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 57 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 19 EACH OF ITEM 614 OBJECT MARKER, ONE-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY. BARRIER REFLECTORS SHALL BE STACKED IN SETS OF THREE, AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.70.

PROTECTION OF WORK AREA - IR 90

THE FOLLOWING QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER AND HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

614, WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), 4 EACH
622, PORTABLE CONCRETE BARRIER, 32", 1880 FT

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENT 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 THE FOLLOWING TRAFFIC CONTROL TASKS:

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

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 FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). 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.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S 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 WITH THE APPROPRIATE AGENCIES 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 LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL 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 HIS/HER SHIFT.

LEOS (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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 160 HOURS

THE HOURS PAID SHALL INCLUDE ANY 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 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN - IR-90

THE SIGN SHALL BE SET AND WORKING 5 CALENDAR DAYS IN ADVANCE OF THE MAINTENANCE OF TRAFFIC SET. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A PORTABLE 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 WEBSITE AT HTTP://WWW.DOT.STATE.OH.US/DIVISIONS/CONSTRUCTIONMGT/MATERIALS/.

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 RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PCMS LOCATIONS SHALL BE LOCATED IN ADVANCE OF THE BEGINNING AND END OF THE PROJECT TO NOTIFY THE TRAVELLING PUBLIC OF CONSTRUCTION WORK BEING DONE. 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 YET PROTECTED FROM TRAFFIC. 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 ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 6 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 PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PREPROGRAMMED 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.

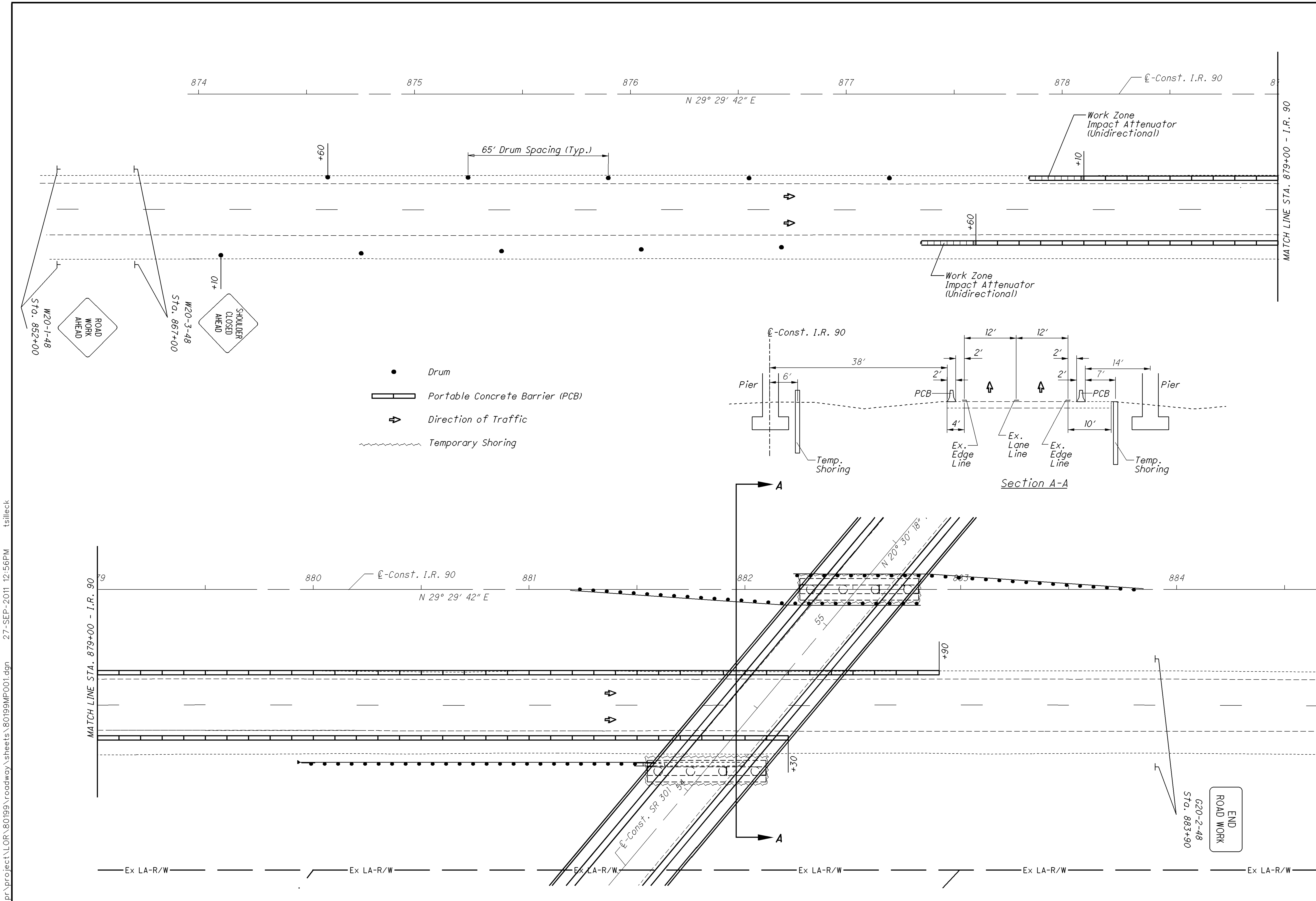
(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

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, IN- CLUDING 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
250 DAYS



MAINTENANCE OF TRAFFIC DETAILS
EASTBOUND I-90 PCB PLACEMENT

LOR-301-23.49

HORIZONTAL SCALE IN FEET

CALCULATED CHECKED

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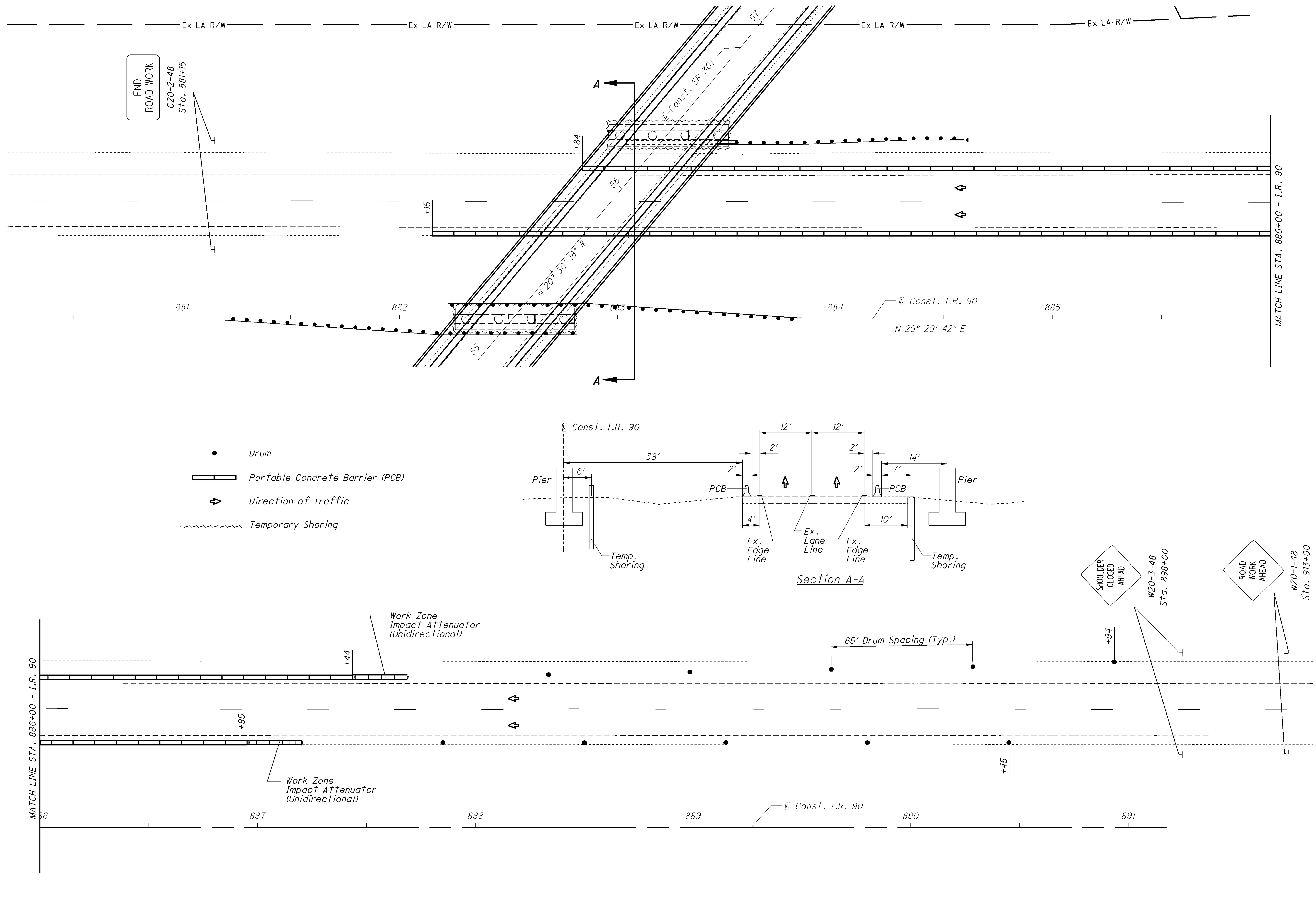

MAINTENANCE OF TRAFFIC DETAILS
WESTBOUND I-90 PCB PLACEMENT

LOR-301-23.49

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70

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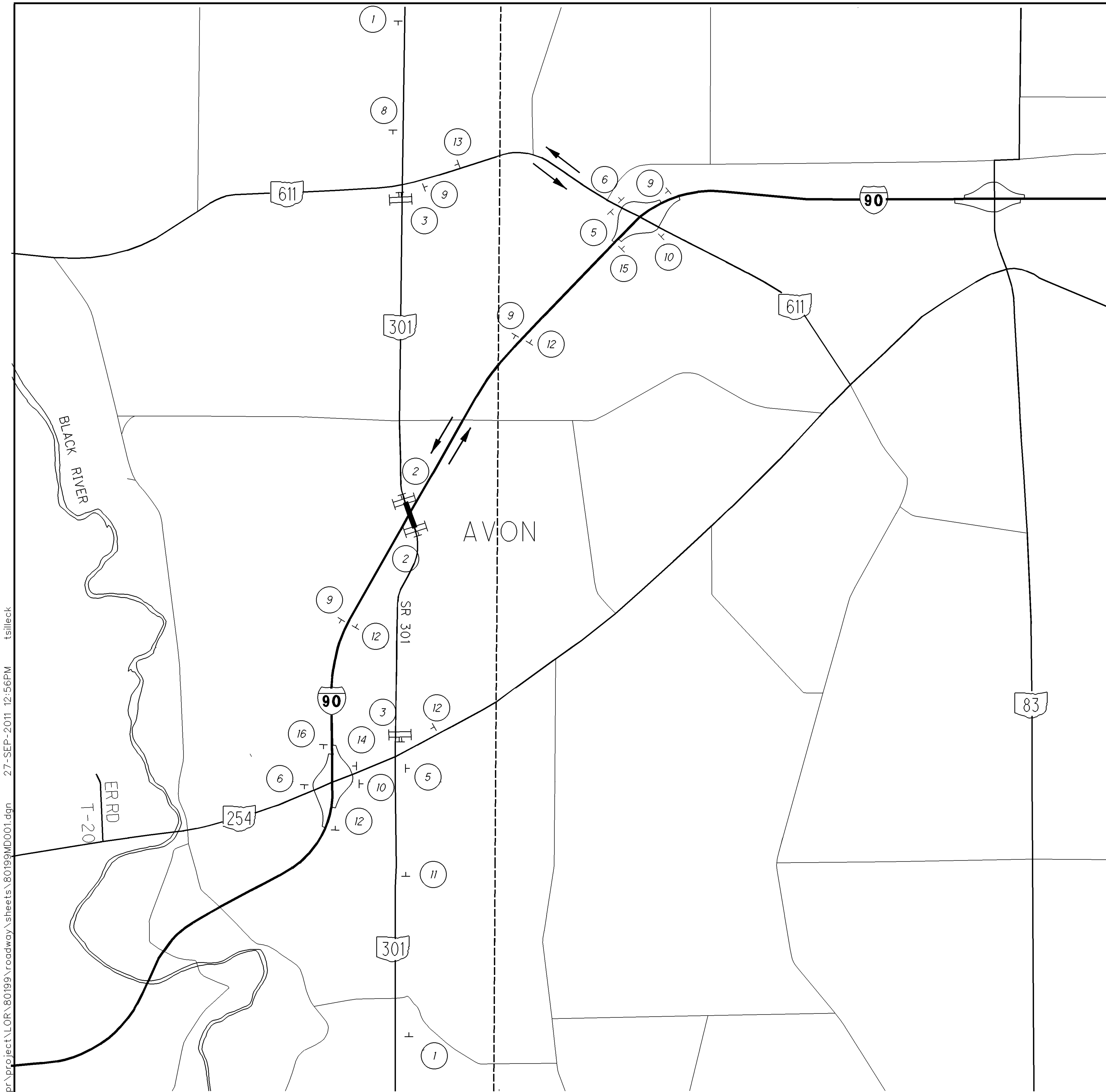

1 — DETOUR AHEAD — W20-2-36

2 — ROAD CLOSED — R11-2-48
ON GATES / BARRICADES AS PER MT-101.60

3 — BRIDGE OUT 1/3 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B-60
DETOUR — M4-10L-48
ON BARRICADES AS PER MT-101.60

5 — DETOUR M4-8-24 / SR 301 D3-1-24 / SOUTH M3-3-24 / M6-1R-24

6 — DETOUR M4-8-24 / SR 301 D3-1-24 / SOUTH M3-3-24 / M6-1L-24

7 — DETOUR M4-8-24 / SR 301 D3-1-24 / SOUTH M3-3-24 / M5-1R-24

8 — DETOUR M4-8-24 / SR 301 D3-1-24 / SOUTH M3-3-24 / M5-1L-24

9 — DETOUR M4-8-24 / SR 301 D3-1-24 / SOUTH M3-3-24 / M6-3-24

10 — DETOUR M4-8-24 / SR 301 D3-1-24 / NORTH M3-1-24 / M6-1L-24

11 — DETOUR M4-8-24 / SR 301 D3-1-24 / NORTH M3-1-24 / M5-1L-24

12 — DETOUR M4-8-24 / SR 301 D3-1-24 / NORTH M3-1-24 / M6-3-24

13 — DETOUR M4-8-24 / SR 301 D3-1-24 / NORTH M3-1-24 / M5-1R-24

14 — DETOUR M4-8-24 / SR 301 D3-1-24 / NORTH M3-1-24 / M6-1R-24

15 — DETOUR M4-8-24 / SR 301 D3-1-24 / NORTH M3-1-24 / M6-2R-24

16 — DETOUR M4-8-24 / SR 301 D3-1-24 / SOUTH M3-3-24 / M6-2R-24

N

CALCULATED TLS CHECKED

DETOUR PLAN

LOR-301-23.49

5	13	14	25	31	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									ROADWAY	
LUMP					201	11000	LUMP		CLEARING AND GRUBBING	
	100				202	30700	100	FT	CONCRETE BARRIER REMOVED	
	1728				202	38000	1728	FT	GUARDRAIL REMOVED	
	462				202	75000	462	FT	FENCE REMOVED	
			1432		203	10000	1432	CU YD	EXCAVATION	
			11443	43	203	20000	11486	CU YD	EMBANKMENT	
		2614			204	10000	2614	SQ YD	SUBGRADE COMPACTION	
4					204	45000	4	HOUR	PROOF ROLLING	
	92				512	10100	92	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
3					604	40000	3	EACH	MONUMENT ASSEMBLY REMOVED AND RESET	5
	1475				606	13000	1475	FT	GUARDRAIL, TYPE 5	
	6				606	26000	6	EACH	ANCHOR ASSEMBLY, TYPE B	
	2				606	26100	2	EACH	ANCHOR ASSEMBLY, TYPE E	
	2				606	26500	2	EACH	ANCHOR ASSEMBLY, TYPE T	
	6				606	35000	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
	440				607	15000	440	FT	FENCE, TYPE 47	
	148				609	24510	148	FT	CURB, TYPE 4-C	
	100				622	24000	100	FT	CONCRETE BARRIER, TYPE D	
	2				622	25050	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
	40				626	00100	40	EACH	BARRIER REFLECTOR	
1					SPECIAL	69098000	1	EACH	MISC.: VERTICAL CLEARANCE	5
									EROSION CONTROL	
2					659	00100	2	EACH	SOIL ANALYSIS TEST	
1463					659	00300	1463	CU YD	TOPSOIL	
13187					659	10000	13187	SQ YD	SEEDING AND MULCHING	
659					659	14000	659	SQ YD	REPAIR SEEDING AND MULCHING	
659					659	15000	659	SQ YD	INTER-SEEDING	
1.78					659	20000	1.78	TON	COMMERCIAL FERTILIZER	
2.72					659	31000	2.72	ACRE	LIME	
75					659	35000	75	M GAL	WATER	
					832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
					832	30000	20000	EACH	EROSION CONTROL	
									DRAINAGE	
	3.6				601	21050	3.6	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
	0.4				602	20000	0.4	CU YD	CONCRETE MASONRY	
	73				603	04400	73	FT	12" CONDUIT, TYPE B, 707.33	
	178				603	05200	178	FT	12" CONDUIT, TYPE F, 707.05 TYPE C	
	4				604	00400	4	EACH	CATCH BASIN, NO. 3	
234					605	31100	234	FT	AGGREGATE DRAINS	
									PAVEMENT	
		139			254	01000	139	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
		639			301	46000	639	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		7			302	46000	7	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		435			304	20000	435	CU YD	AGGREGATE BASE	
		202			407	10000	202	GALLON	TACK COAT	
		108			407	14000	108	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
		23			408	10000	23	GALLON	PRIME COAT	
		94			442	10501	94	CU YD	ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448), AS PER PLAN	5
		3			442	10510	3	CU YD	ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448) (DRIVEWAYS)	
		131			442	20201	131	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), AS PER PLAN	5

CALCULATED TLS CHECKED

GENERAL SUMMARY

LOR-301-23.49

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SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			6	7					34										
																		TRAFFIC CONTROL	
									76					630	03100	76	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
									13					630	80100	13	SQ FT	SIGN, FLAT SHEET	
									5					630	85100	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
									4					630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
									0.29					642	00100	0.29	MILE	EDGE LINE, TYPE 1	
									0.14					642	00300	0.14	MILE	CENTER LINE, TYPE 1	
									0.17					646	10000	0.17	MILE	EDGE LINE	
									0.08					646	10200	0.08	MILE	CENTER LINE	
																		STRUCTURES OVER 20' SPAN	
																		STRUCTURE LOR-301-23.49	36
																		MAINTENANCE OF TRAFFIC	
			160											614	11110	160	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	6
			4											614	12336	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
			LUMP											614	12420	LUMP		DETOUR SIGNING	
			10											614	13000	10	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			57											614	13300	57	EACH	BARRIER REFLECTOR, TYPE B	
			19											614	13350	19	EACH	OBJECT MARKER, ONE WAY	
				250										614	18401	250	DAYS	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	7
			2											616	10000	2	M GAL	WATER	
			1880											622	40020	1880	FT	PORTABLE CONCRETE BARRIER, 32"	
			LUMP											614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16010	4	MONTH	FIELD OFFICE, TYPE B	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED TLS CHECKED

GENERAL SUMMARY

LOR-301-23.49

REF NO.	SHEET NO.	STATION TO STATION		LOCATION	SIDE	202 CONCRETE BARRIER REMOVED	202 GUARDRAIL REMOVED	202 FENCE REMOVED	601 TIED CONCRETE BLOCK MAT, TYPE 1	602 CONCRETE MASONRY	603 12" CONDUIT, TYPE B, 707.33	603 12" CONDUIT, TYPE F, 707.05 TYPE C (W/2-18° BENDS)	603 12" CONDUIT, TYPE F, 707.05 TYPE C (W/2-17° BENDS)	604 CATCH BASIN, NO. 3	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE E	606 ANCHOR ASSEMBLY, TYPE B	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	607 FENCE, TYPE 47	609 CURB, TYPE 4-C	512 SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	622 CONCRETE BARRIER, TYPE D	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	626 BARRIER REFLECTOR
						FT	FT	FT	SY	CY	FT	FT	FT	EACH	FT	EACH	EACH	EACH	EACH	FT	FT	SY	FT	FT	EACH
R1	16,17	49+35	52+60	S.R. 301	RT		425																		
R2	16,17	49+90	53+21	S.R. 301	LT		331																		
R3	18,19	56+83	60+97	S.R. 301	LT		414																		
R4	18,19	57+07	60+78	S.R. 301	RT		371																		
R5	26	880+73	881+60	I.R. 90	RT	50	87																		
R6	26	883+46	884+46	I.R. 90	LT	50	100																		
R7	26	880+00	881+13	I.R. 90	RT			113																	
R8	26	881+60	883+00	I.R. 90	LT			140																	
R9	26	882+20	883+42	I.R. 90	RT			122																	
R10	26	883+89	884+76	I.R. 90	LT			87																	
D1	17	52+65		S.R. 301	LT				1.8	0.2	36	92		1											
D2	17	52+89		S.R. 301	RT									1											
D3	18	57+54		S.R. 301	LT									1											
D4	18	57+79		S.R. 301	RT				1.8	0.2	37		86	1											
GR1	16,17	49+97.56	52+91.31	S.R. 301	LT										250	1			1						6
GR2	16,17	49+47.74	53+16.49	S.R. 301	RT										325	1			1						7
GR3	18,19	57+27.51	60+58.76	S.R. 301	LT										287.5	1			1						7
GR4	18,19	57+52.70	60+58.95	S.R. 301	RT										262.5	1			1						6
GR5	26	879+94.22	881+50.86	I.R. 90	RT										75	1			1						2
GR6	26	881+18.88	882+81.38	I.R. 90	℄, RT										125		1	1							3
GR7	26	882+22.38	883+84.88	I.R. 90	℄, LT										125		1	1							3
GR8	26	883+53.06	884+59.31	I.R. 90	LT										25	1			1						2
F1	16	880+00	880+95	I.R. 90	RT															95					
F2	16	881+55	883+00	I.R. 90	RT															145					
F1	16	882+00	883+30	I.R. 90	LT															130					
F2	16	882+20	884+06	I.R. 90	LT															70					
C1	17	52+52.05	52+89.05	S.R. 301	LT																37				
C2	17	52+77.22	53+14.22	S.R. 301	RT																37				
C3	18	57+29.72	57+66.72	S.R. 301	LT																37				
C4	18	57+54.89	57+91.89	S.R. 301	RT																37				
BR1	26	881+48.76	881+98.76	I.R. 90	RT																	46	50	1	2
BR2	26	883+05.17	883+55.17	I.R. 90	LT																	46	50	1	2
												92	86												
TOTALS CARRIED TO GENERAL SUMMARY						100	1728	462	3.6	0.4	73	178		4	1475	6	2	2	6	440	148	92	100	2	40

CALCULATED TLS
CHECKED MDC

ROADWAY, DRAINAGE & EROSION CONTROL SUBSUMMARY

LOR-301-23.49

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PAVEMENT CALCULATIONS - U.S. 127

STATION RANGE			Route	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW	CADD GENERATED AREA	204 SUBGRADE COMPACT. . (A / 9)	301 9" ASPHALT CONCRETE BASE, PG 64-22 (9*A / 12*27)	302 9" ASPHALT CONCRETE BASE, PG 64-22 (9*A / 12*27)	304 6" AGGREGATE BASE . (6*A / 12*27)	442 1-3/4" ASPHALT CONCRETE INTER. COURSE (1.75*A / 12*27)	442 1-1/4" ASPHALT CONCRETE SURF. COURSE (1.25*A / 12*27)	407 TACK COAT @ 0.075gal/sy . (0.075*A / 9)	407 TACK COAT FOR INTER. COURSE @ 0.040gal/sy (0.040*A / 9)	254 PAVEMENT PLANING, ASPHALT CONCRETE . (A / 9)	442 2" ASPHALT CONCRETE INTER. COURSE (2*A / 12*27)	408 TACK COAT FOR INTER. COURSE @ 0.40gal/sy (0.40*A / 9)
					FEET	FEET	SQ. FT.	SQ. FT.	SQ. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	GAL.	GAL.	SQ. YD.	CU. YD.	GAL.
49+50.00	TO	49+75.00	301	LT/RT	25.00	25.00	625.00						3.38	2.41	5.21	2.78	69.61		
49+75.00	TO	50+50.00	301	LT	75.00	14.50	1087.50		121.00	30.22		20.15	5.87	4.20	9.06	4.83			
49+75.00	TO	50+00.00	301	RT	25.00	14.50	362.50		40.44	10.08		6.73	1.96	1.40	3.02	1.61			
50+50.00	TO	52+27.00	301	LT	177.00	16.00	2832.00		314.83	78.68		52.46	15.30	10.93	23.60	12.59			
50+00.00	TO	52+52.00	301	RT	252.00	16.00	4032.00		448.17	112.01		74.68	21.78	15.56	33.60	17.92			
52+27.00	TO	52+52.00	301	LT	25.00	15.50	387.50		43.22	10.77		7.19	2.09	1.49	3.23	1.72			
52+52.00	TO	52+77.00	301	RT	25.00	15.50	387.50		43.22	10.77		7.19	2.09	1.49	3.23	1.72			
52+52.00	TO	53+01.69	301	LT	49.69	15.00	745.35		82.98	20.71		13.82	4.03	2.88	6.21	3.31			
52+77.00	TO	53+01.69	301	RT	24.69	15.00	370.35		41.32	10.30		6.87	2.00	1.43	3.09	1.65			
57+42.31	TO	57+67.00	301	LT	24.69	15.00	370.35		41.32	10.30		6.87	2.00	1.43	3.09	1.65			
57+42.31	TO	57+92.00	301	RT	49.69	15.00	745.35		82.98	20.71		13.82	4.03	2.88	6.21	3.31			
57+92.00	TO	58+17.00	301	RT	25.00	15.50	387.50		43.22	10.77		7.19	2.09	1.49	3.23	1.72			
57+92.00	TO	58+17.00	301	RT	25.00	15.50	387.50		43.22	10.77		7.19	2.09	1.49	3.23	1.72			
57+92.00	TO	61+25.00	301	LT	333.00	16.00	5328.00		592.17	148.01		98.68	28.78	20.56	44.40	23.68			
58+17.00	TO	60+68.00	301	RT	251.00	16.00	4016.00		446.39	111.56		74.39	21.69	15.49	33.47	17.85			
61+25.00	TO	61+50.00	301	LT	25.00	14.50	362.50		40.44	10.08		6.73	1.96	1.40	3.02	1.61			
60+68.00	TO	61+50.00	301	RT	82.00	14.50	1189.00		132.28	33.04		22.03	6.42	4.59	9.91	5.29			
61+50.00	TO	61+75.00	301	LT/RT	25.00	25.00	625.00						3.38	2.41	5.21	2.78	69.61		
60+90.00	TO	Driveway						508.00	56.61			9.41						3.14	22.59
881+48.76	TO	881+98.76	90	RT	50.00	2.50	125.00				3.48								
883+05.17	TO	883+55.17	90	LT	50.00	2.50	125.00				3.48								
SUBTOTALS									2613.82	638.78	6.96	435.41	130.93	93.52	202.01	107.76	139.22	3.14	22.59
TOTALS CARRIED TO GENERAL SUMMARY									2614	639	7	435	131	94	202	108	139	3	23

CALCULATED TS

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PROJECT DATA

Total Area (Right-Of-Way) ....8.82 Acres	Runoff Coefficient for Pre-Construction Site......0.73
Project Earth Disturbed Area.....................4.10 Acres	Runoff Coefficient for Post Construction Site.....0.74
Contractor Earth Disturbed Area.............1.25 Acres	Soil and Water Conservation Map........Soil Survey of Lorain County, Ohio
NOI Earth Disturbing Activities.................5.35 Acres	Immediate Receiving Waters......Black River
Impervious (Paved) Area for Pre-Construction Site..........0.75 Acres	Subsequent Receiving Water......Lake Erie
Impervious (Paved) Area for Post Construction Site.......0.83 Acres	

PROJECT DESCRIPTION

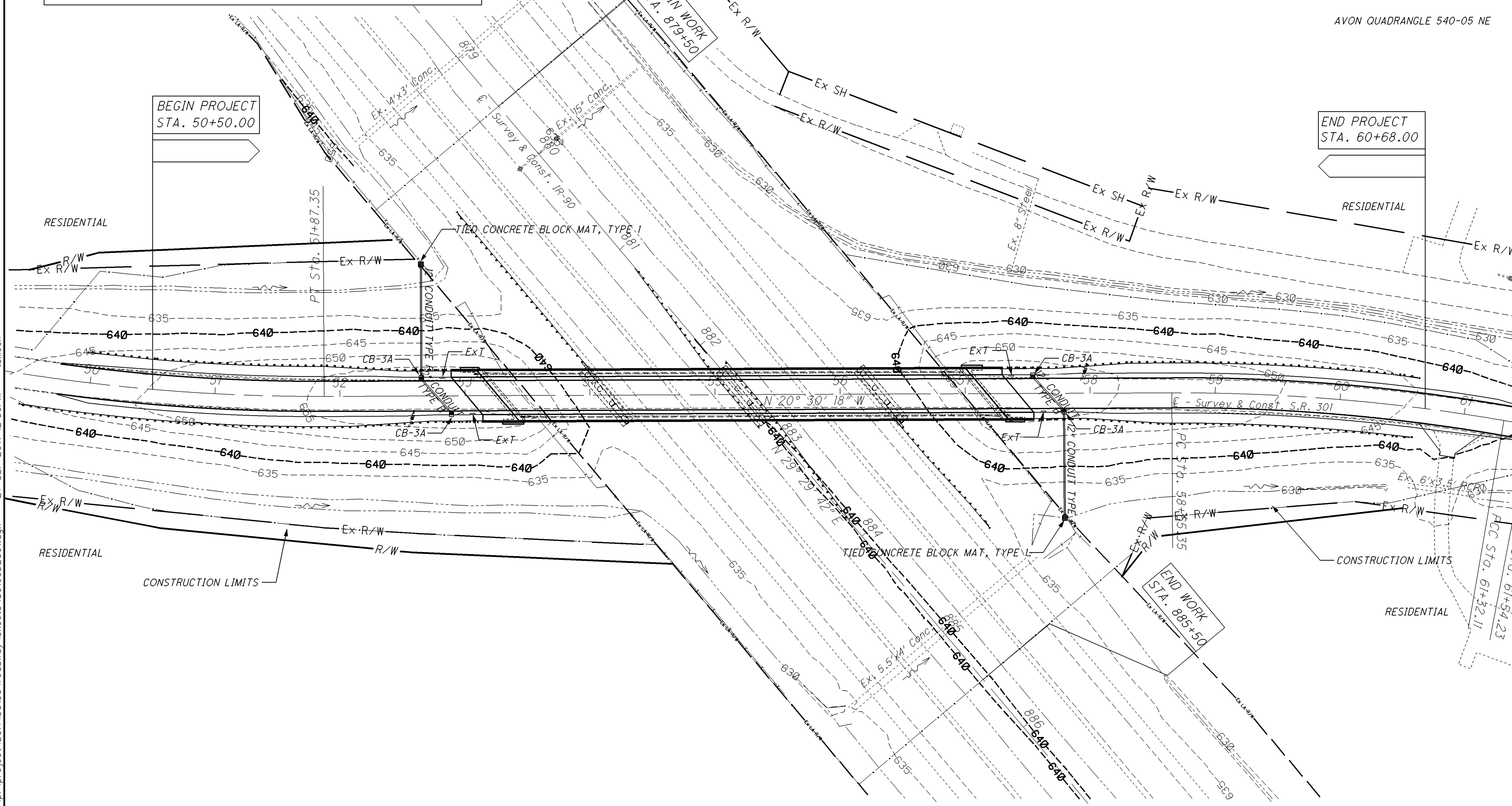
REPLACEMENT OF THE EXISTING 4-SPAN S.R. 301 STRUCTURE OVER I-90 WITH A NEW 4-SPAN STRUCTURE, RAISING THE PROFILE OF S.R. 301, PROVIDING A MINIMUM OF 16.5' OF VERTICAL CLEARANCE ABOVE I-90. ASSOCIATED ROAD WORK ON S.R. 301.

EXFILTRATION TRENCHES (EXT) WERE EMPLOYED AS POST CONSTRUCTION BMP:

STA 52+82 Lt. & STA 53+06 Rt.
STA 57+37 Lt. & STA 57+62 Rt.

LATITUDE: 41°26'36" LONGITUDE: 82°04'30"

AVON QUADRANGLE 540-05 NE



HORIZONTAL SCALE IN FEET 0 20 40 80

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PROJECT SITE PLAN STA. 49+50 TO STA. 61+50

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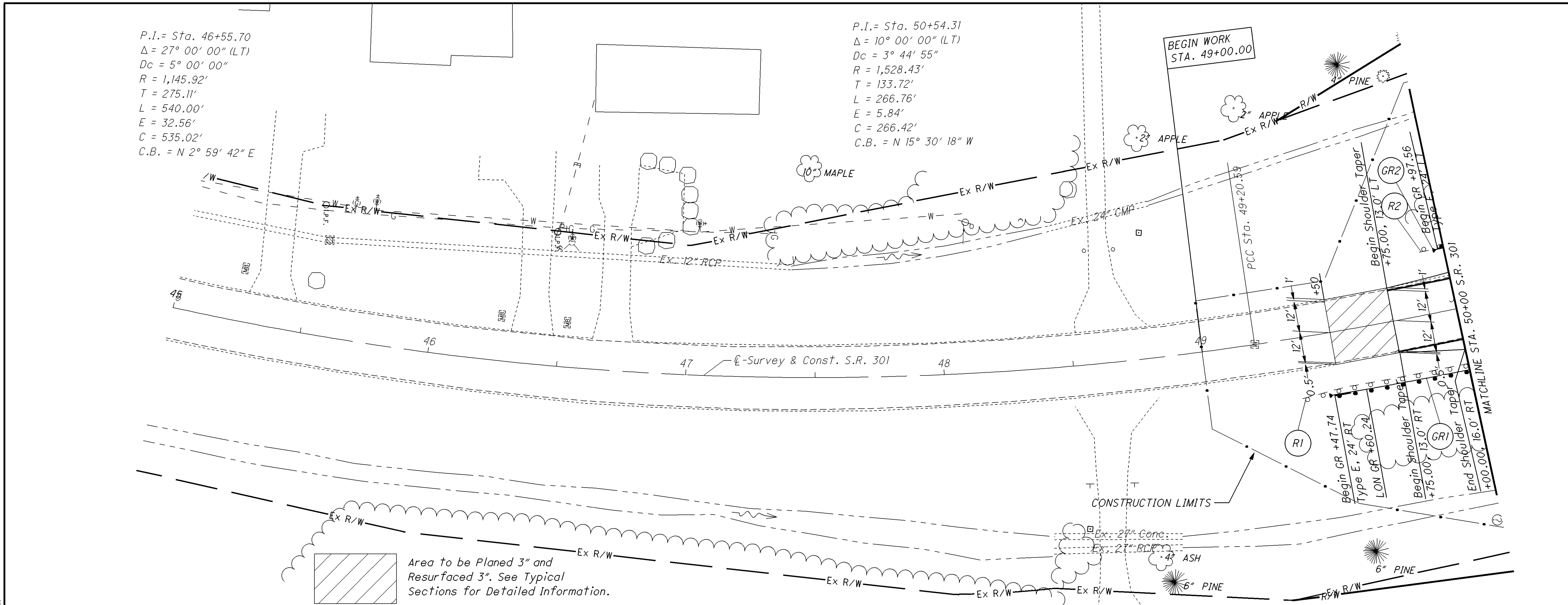

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED

CHECKED

PLAN AND PROFILE STA. 45+00.00 TO STA. 50+00.00

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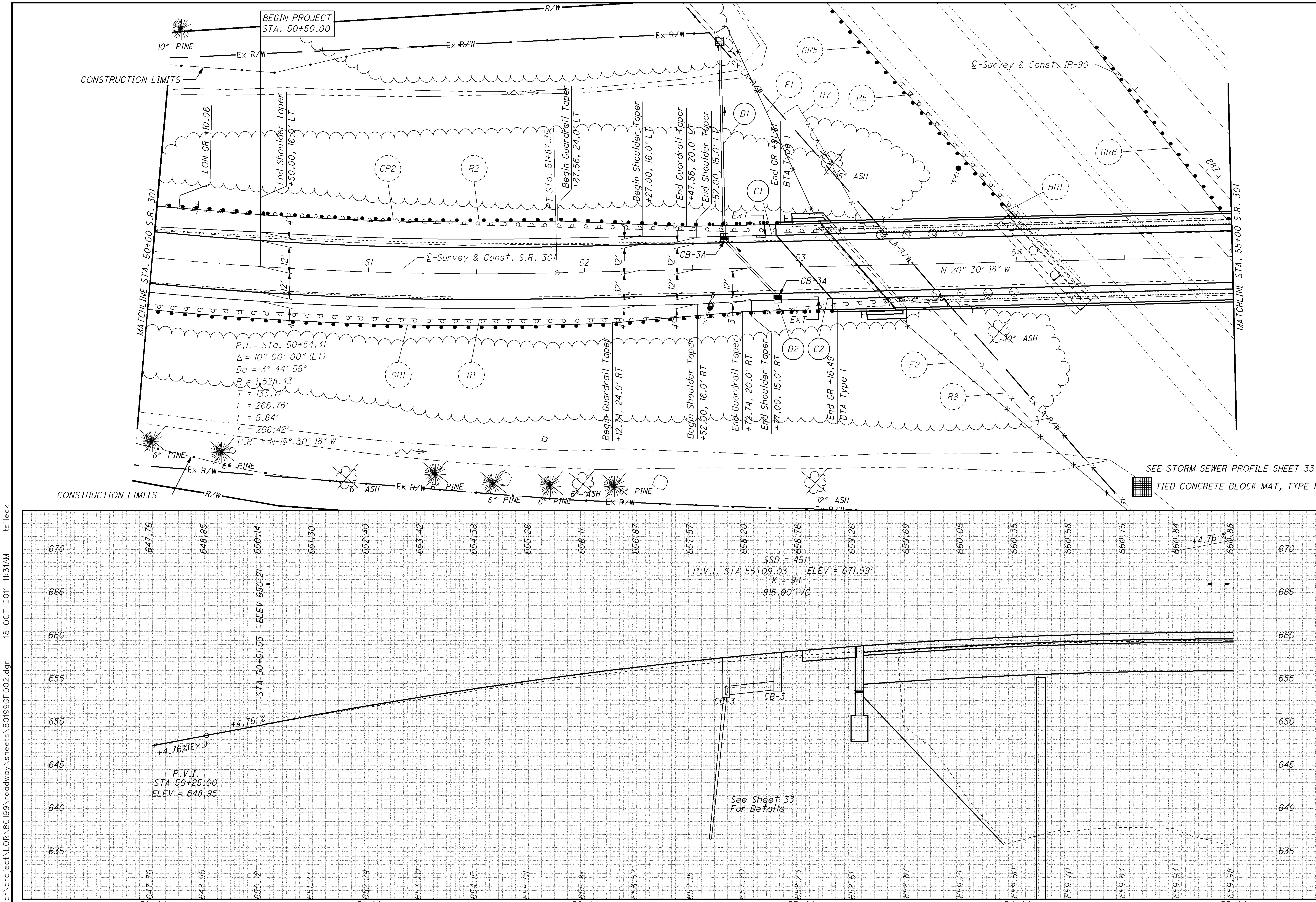

PLAN AND PROFILE

STA. 50+00.00 TO STA. 55+00.00

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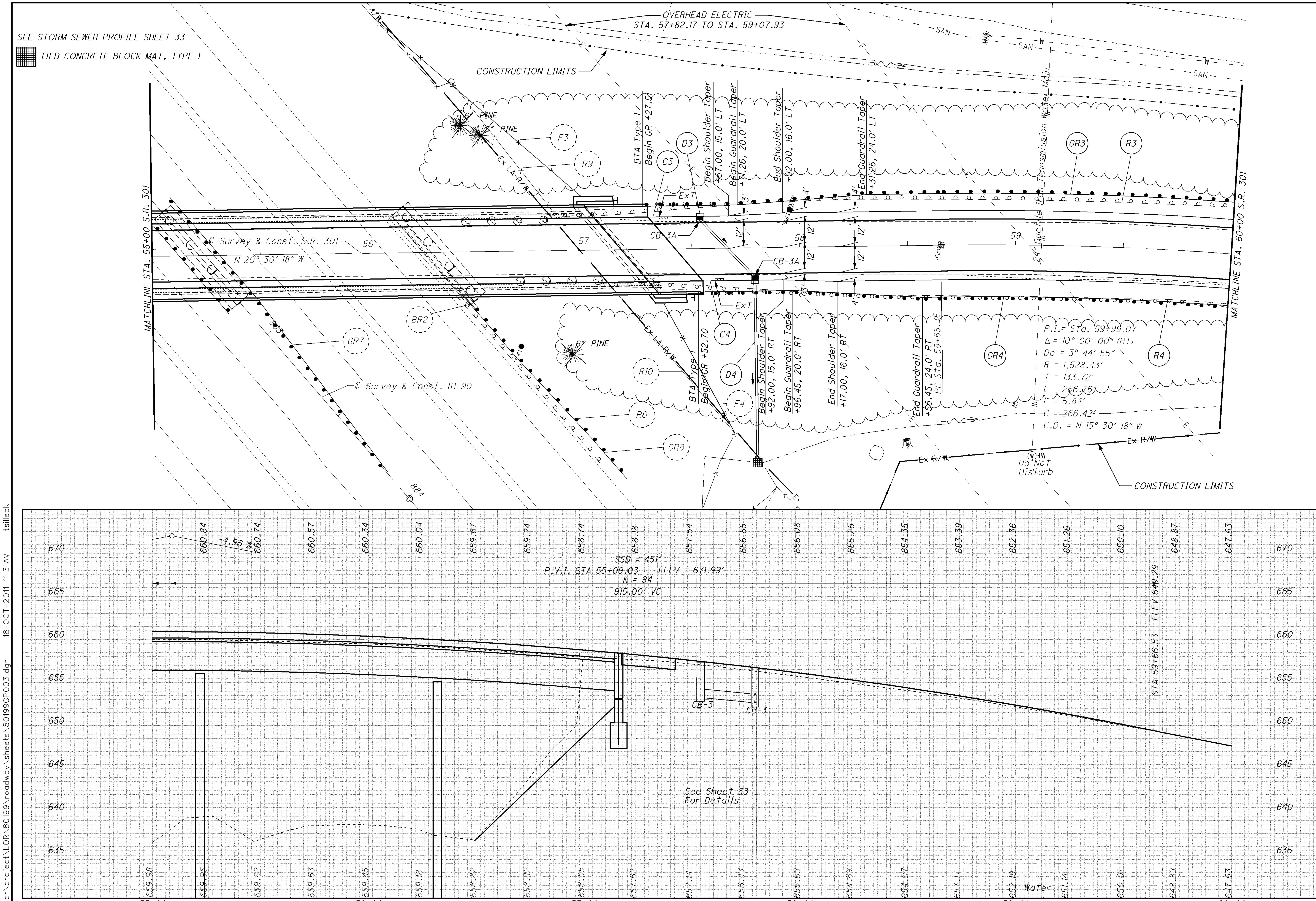

PLAN AND PROFILE
STA. 55+00.00 TO STA. 60+00.00

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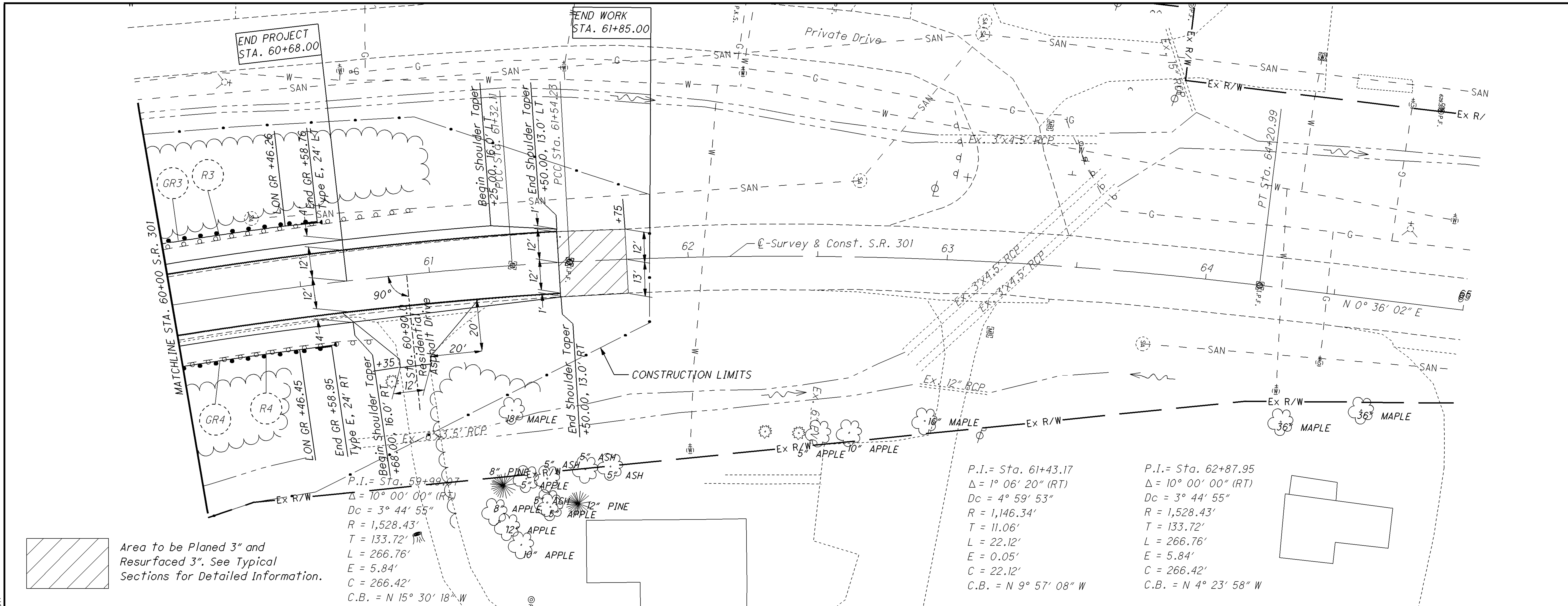

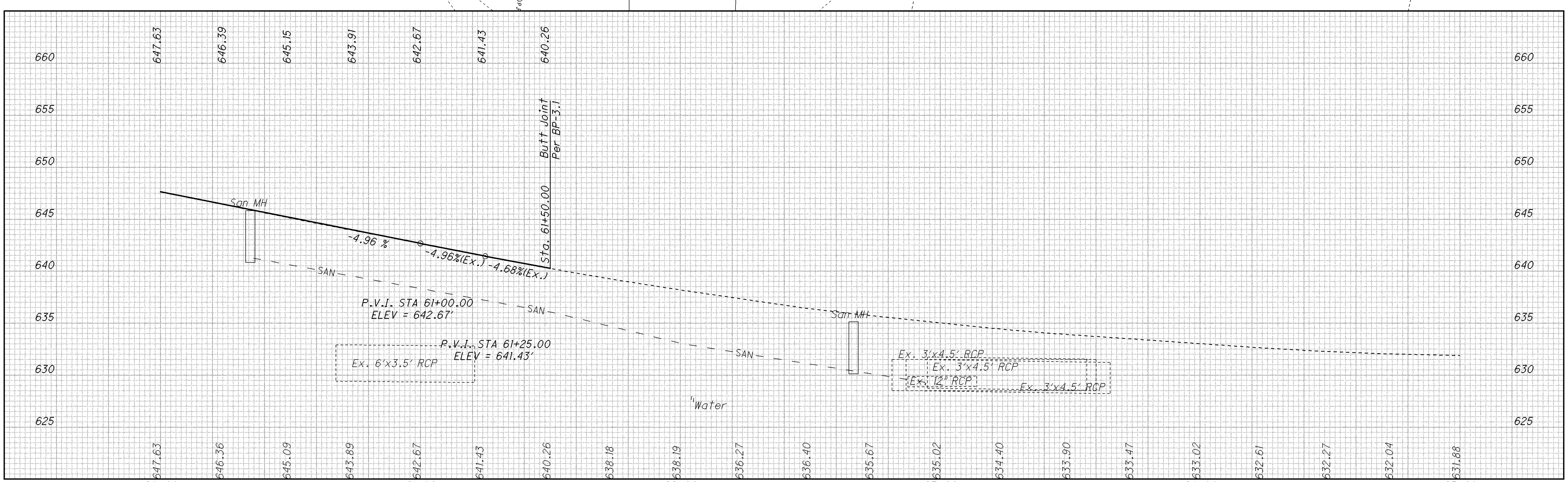

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED

PLAN AND PROFILE
STA. 60+00.00 TO STA. 65+00.00

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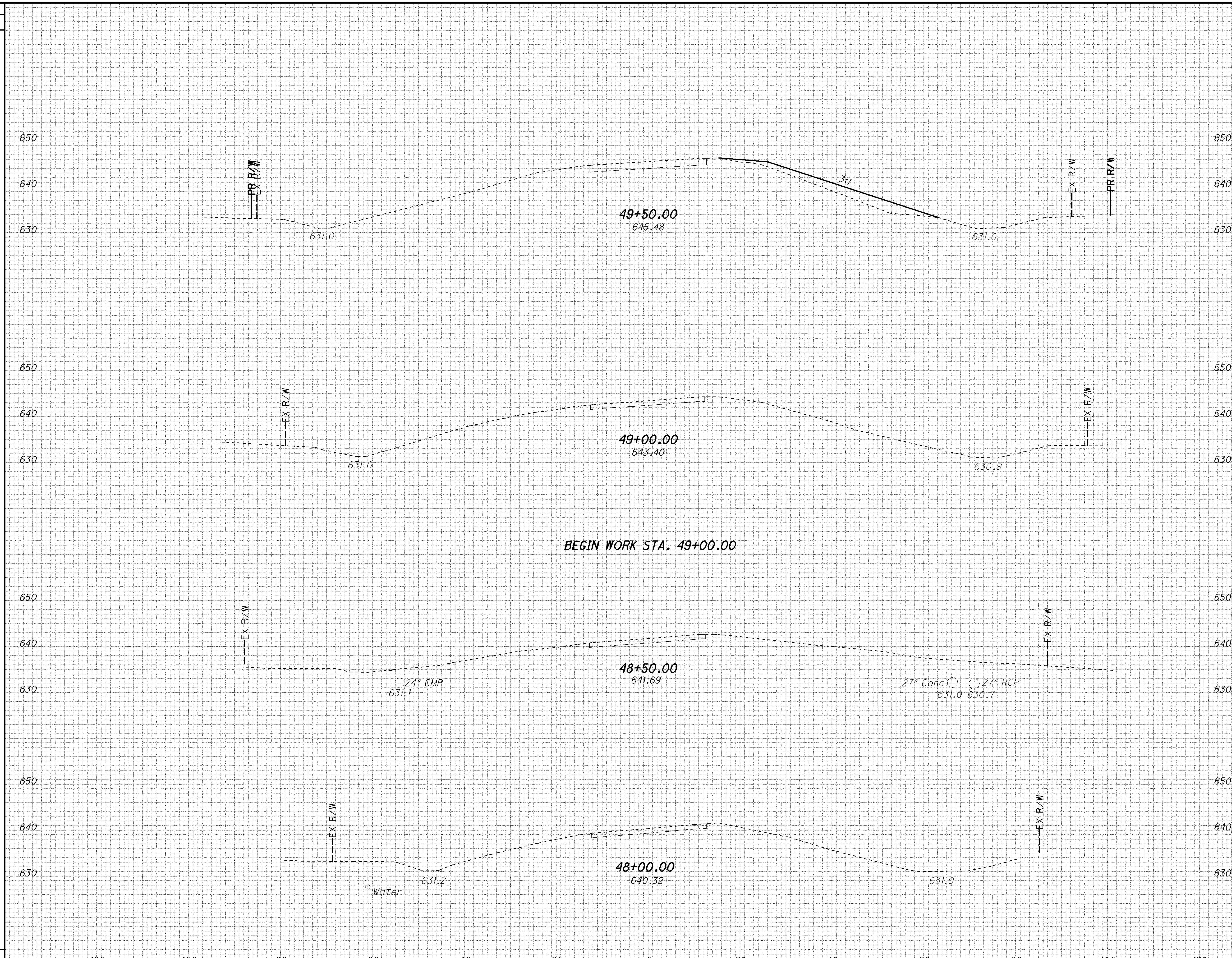
SEEDING	
END WIDTH	SQ. YDS.
	544
50	
	139
0	
	0
0	
	683



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		47	264
0	63		
		0	58
0	0		
		0	0
0	0		
		47	322

CALCULATED
CHECKED

CROSS SECTIONS
STA. 48+00.00 TO STA. 49+50.00

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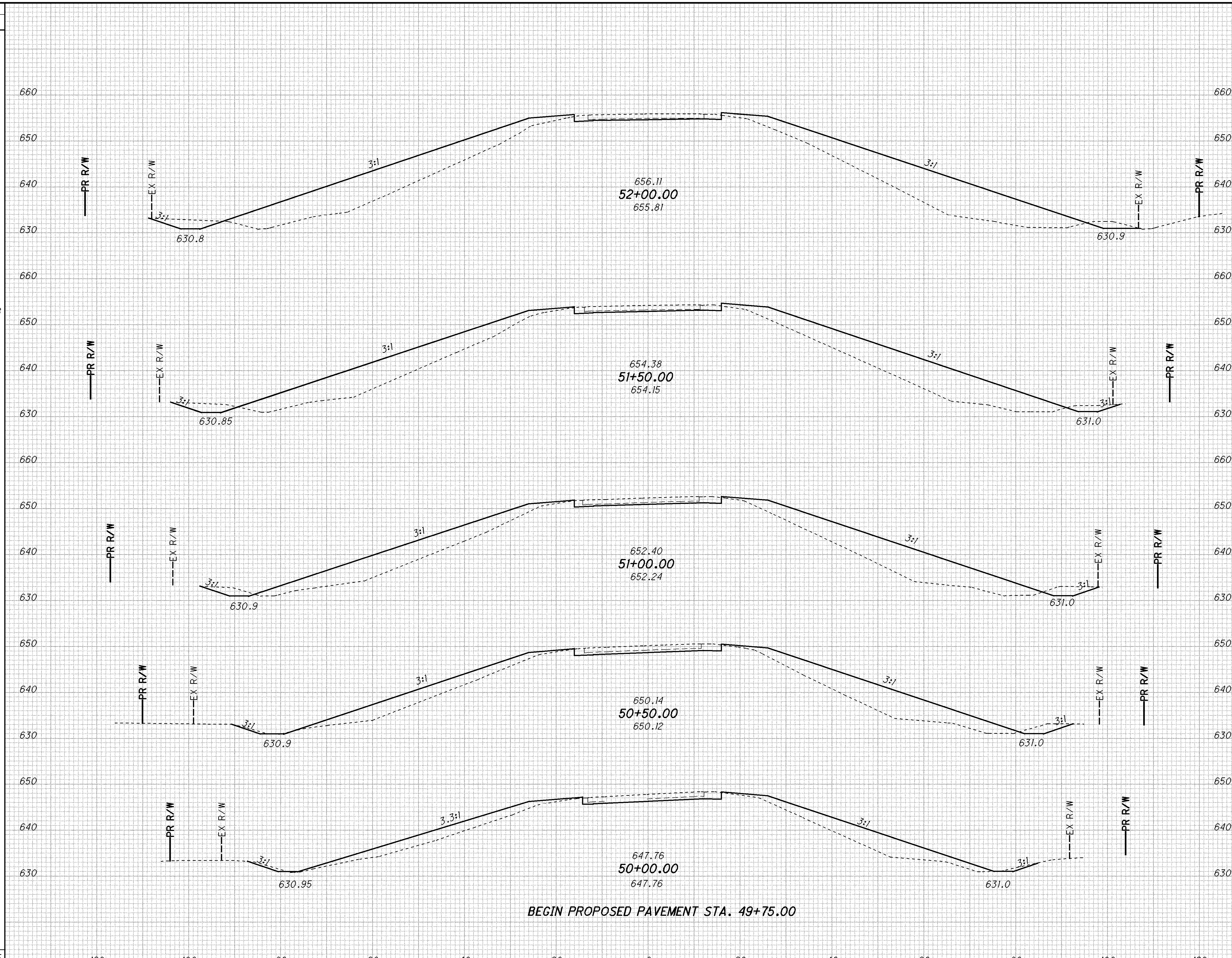
SEEDING	
END WIDTH	SQ. YDS.
	1031
186	
	1008
177	
	956
167	
	889
153	
	831
146	
	4715



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		103	1367
67	716		
		125	1224
68	606		
		128	1033
70	510		
		121	794
61	347		
		104	527
51	222		
		581	4945

CALCULATED
CHECKED

CROSS SECTIONS
STA. 50+00.00 TO STA. 52+00.00

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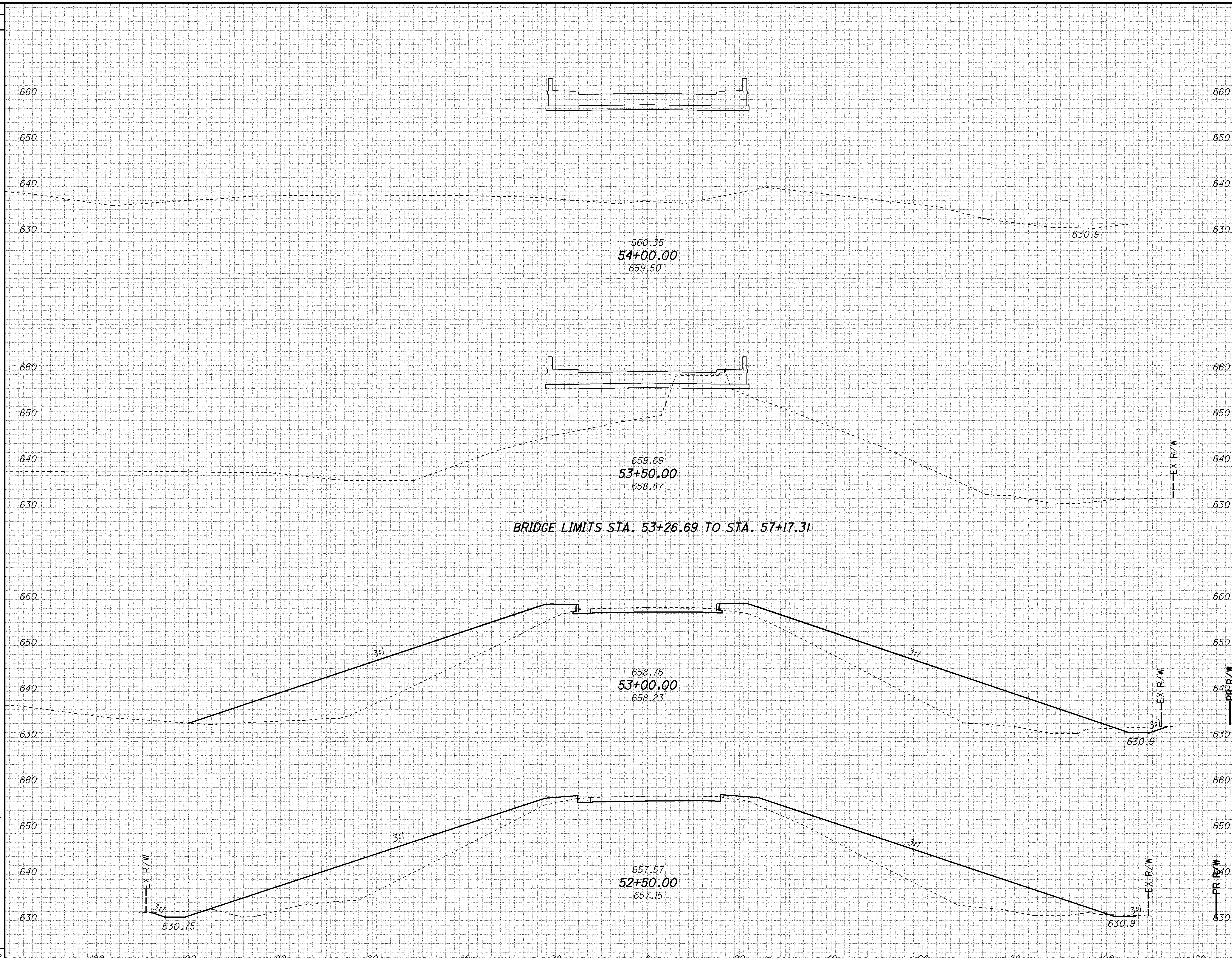
SEEDING	
END WIDTH	SQ. YDS.
	0
0	
	0
0	
	514
185	
	1028
185	
	1542



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0
0	0		
		0	0
0	0		
		36	944
39	1019		
		77	1647
44	760		
		113	2591

CALCULATED

CHECKED

CROSS SECTIONS
STA. 52+50.00 TO STA. 54+00.00

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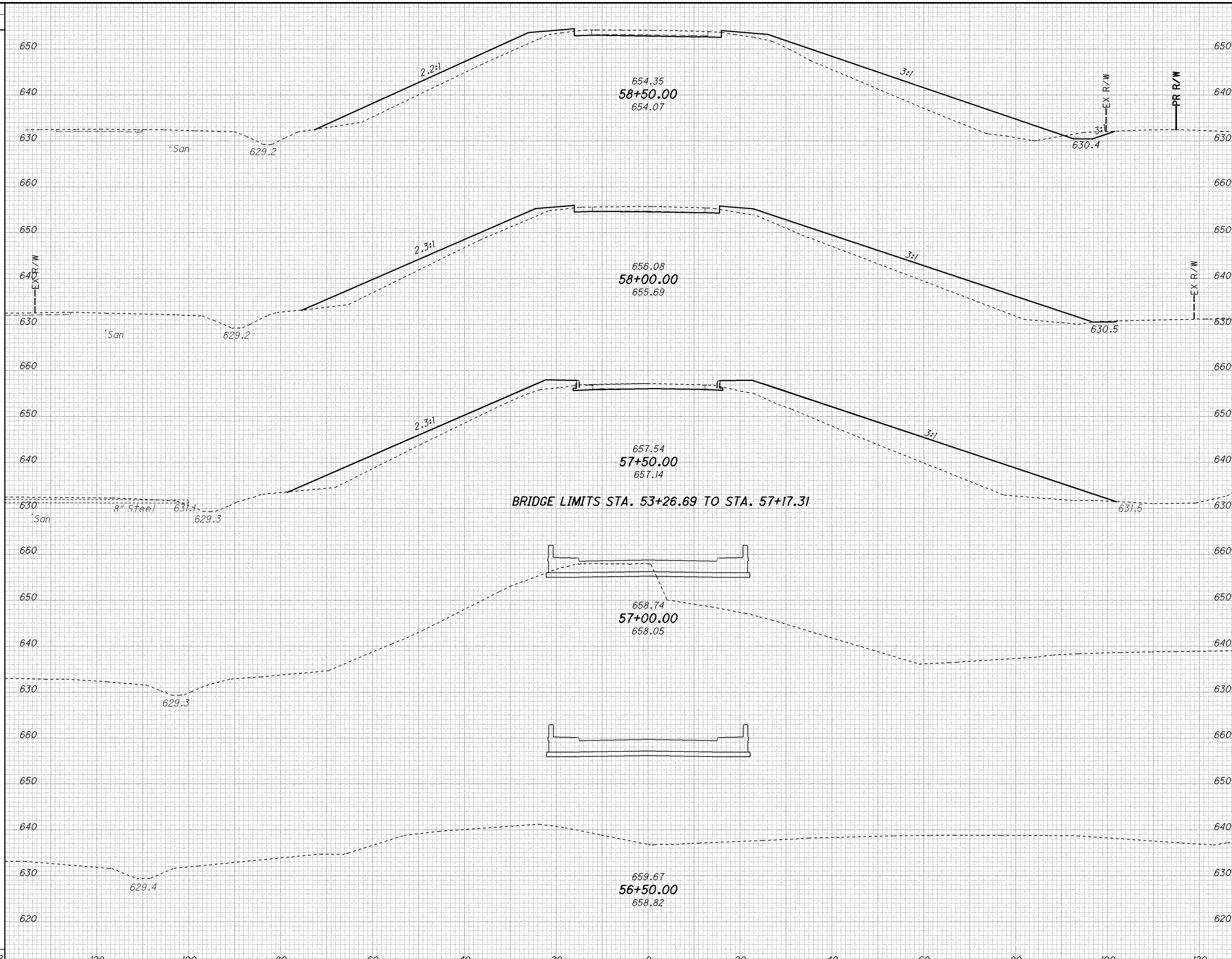
SEEDING END WIDTH	SEEDING SQ. YDS.
	772
144	
	811
148	
	833
152	
	422
0	
	0
0	
	2838



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		87	582
46	361		
		73	645
33	336		
		61	774
33	500		
		31	463
0	0		
		0	0
0	0		
		252	2464

CALCULATED

CHECKED

CROSS SECTIONS
STA. 56+50.00 TO STA. 58+50.00

LOR-301-23.49

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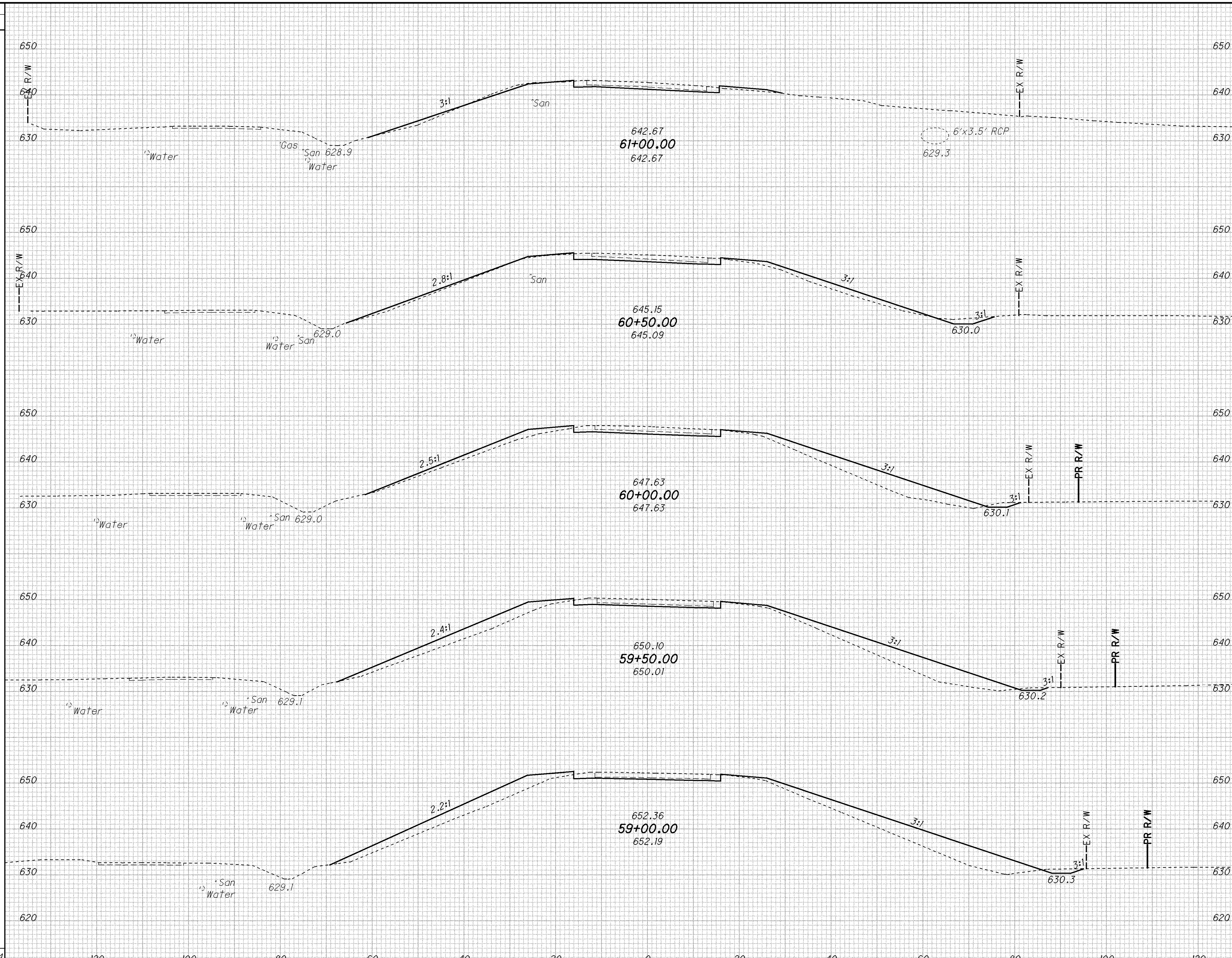
CROSS SECTIONS
STA. 59+00.00 TO STA. 61+00.00



Station	Seeding End Width	Seeding Sq. Yds.	End Area Cut	End Area Fill	Volume Cut	Volume Fill
		169			78	20
61+00.00	61		44	22		
		480			90	69
60+50.00	112		53	52		
		622			95	216
60+00.00	112		50	181		
		656			89	368
59+50.00	124		46	216		
		717			87	448
59+00.00	134		48	268		
Total		2644			439	1121

CALCULATED
CHECKED

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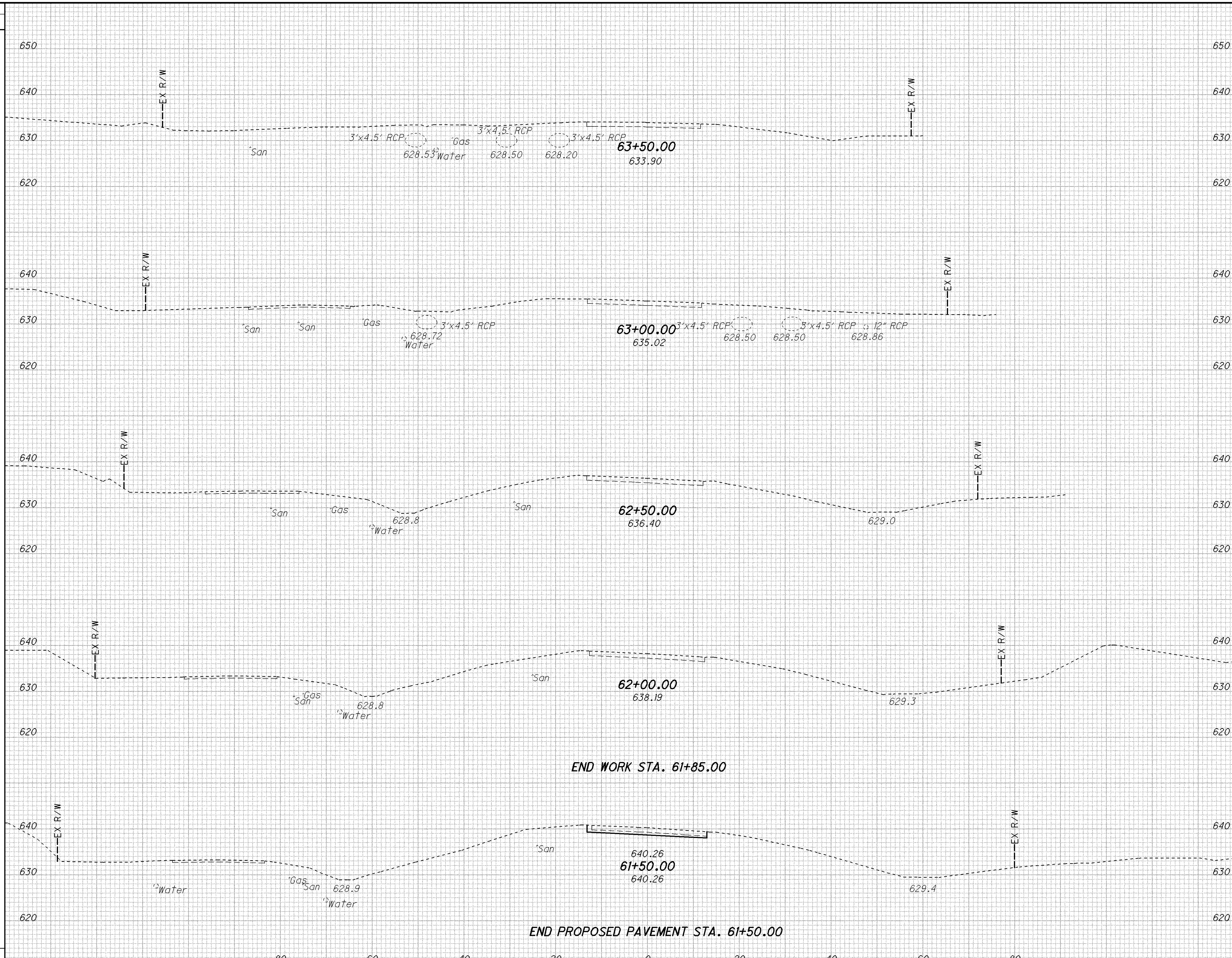


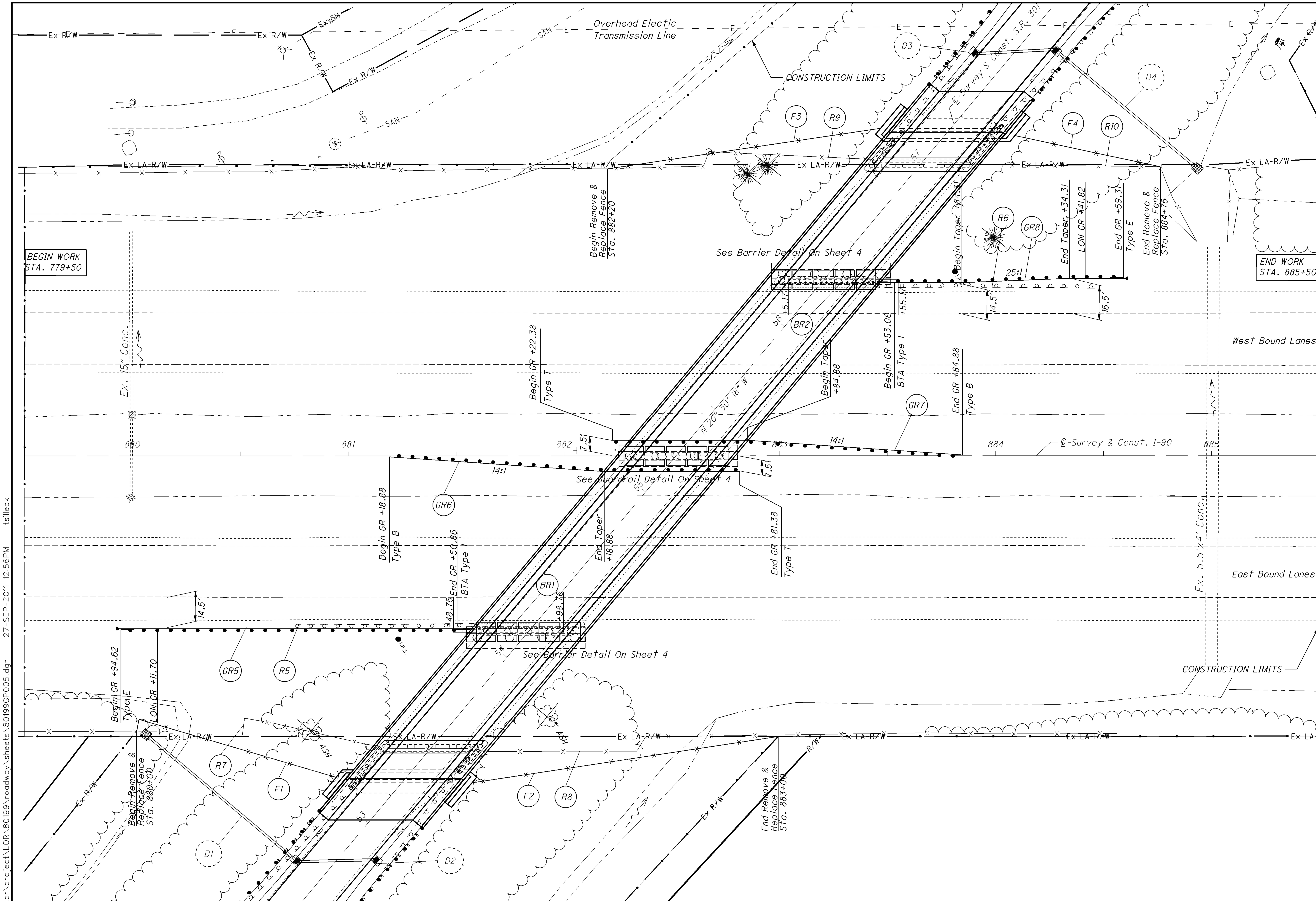
SEEDING	
END WIDTH	SQ. YDS.
0	
	0
0	
	0
0	
	0

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	0
0	0		
		0	0
40	0		
		0	0

CALCULATED
CHECKED

CROSS SECTIONS
STA. 61+50.00 TO STA. 63+50.00

LOR-301-23.49



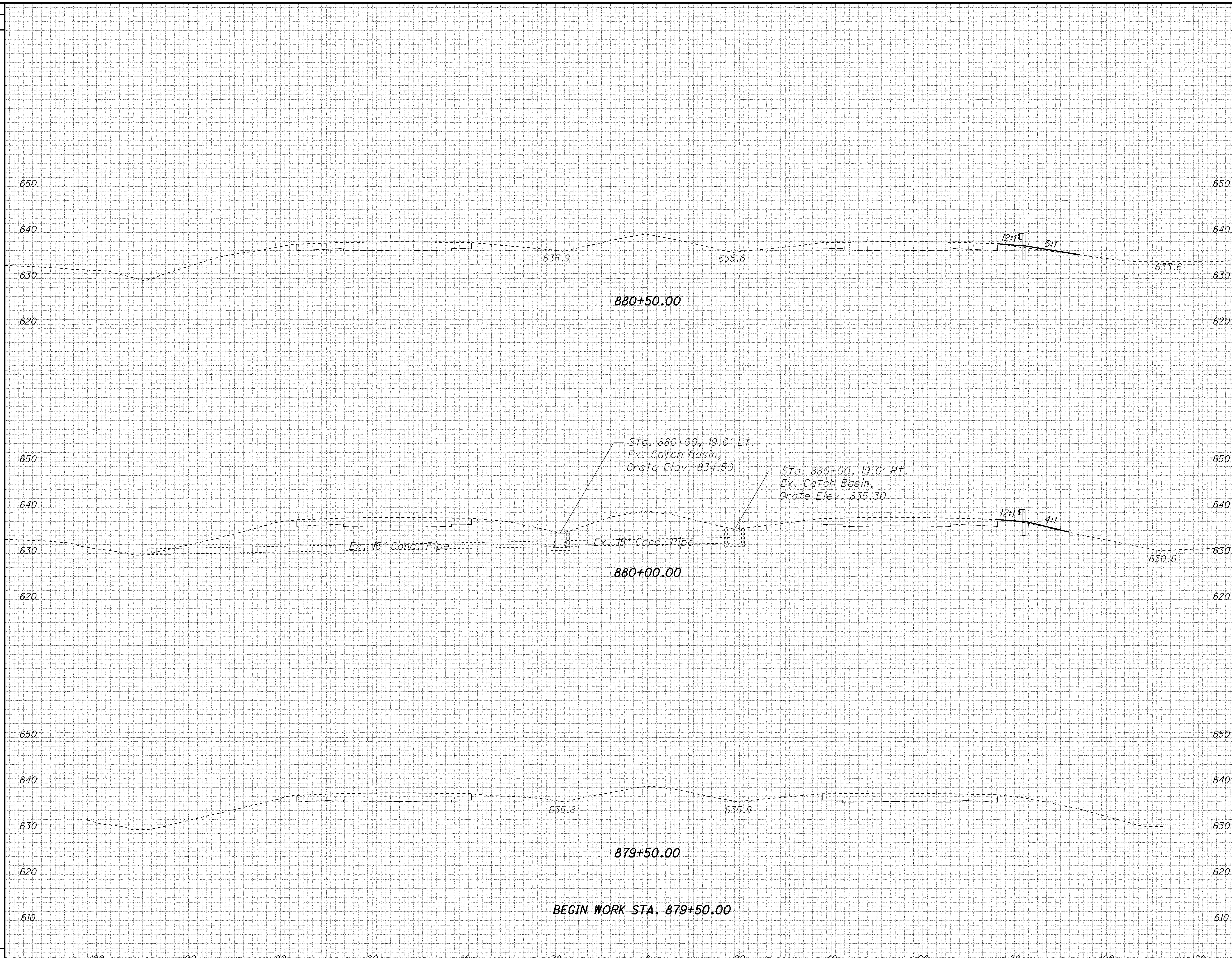
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED
CHECKED

PLAN VIEW I-90
STA. 879+50 TO STA. 885+50

LOR-301-23.49

SEEDING END WIDTH	SEEDING SQ. YDS.
	144
18	
	94
16	
	44
0	
	282



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		0	6
0	3		
		0	5
0	2		
		0	2
0	0		
		0	13

CALCULATED

CHECKED

CROSS SECTIONS
STA. 879+50.00 TO STA. 880+50.00

LOR-301-23.49

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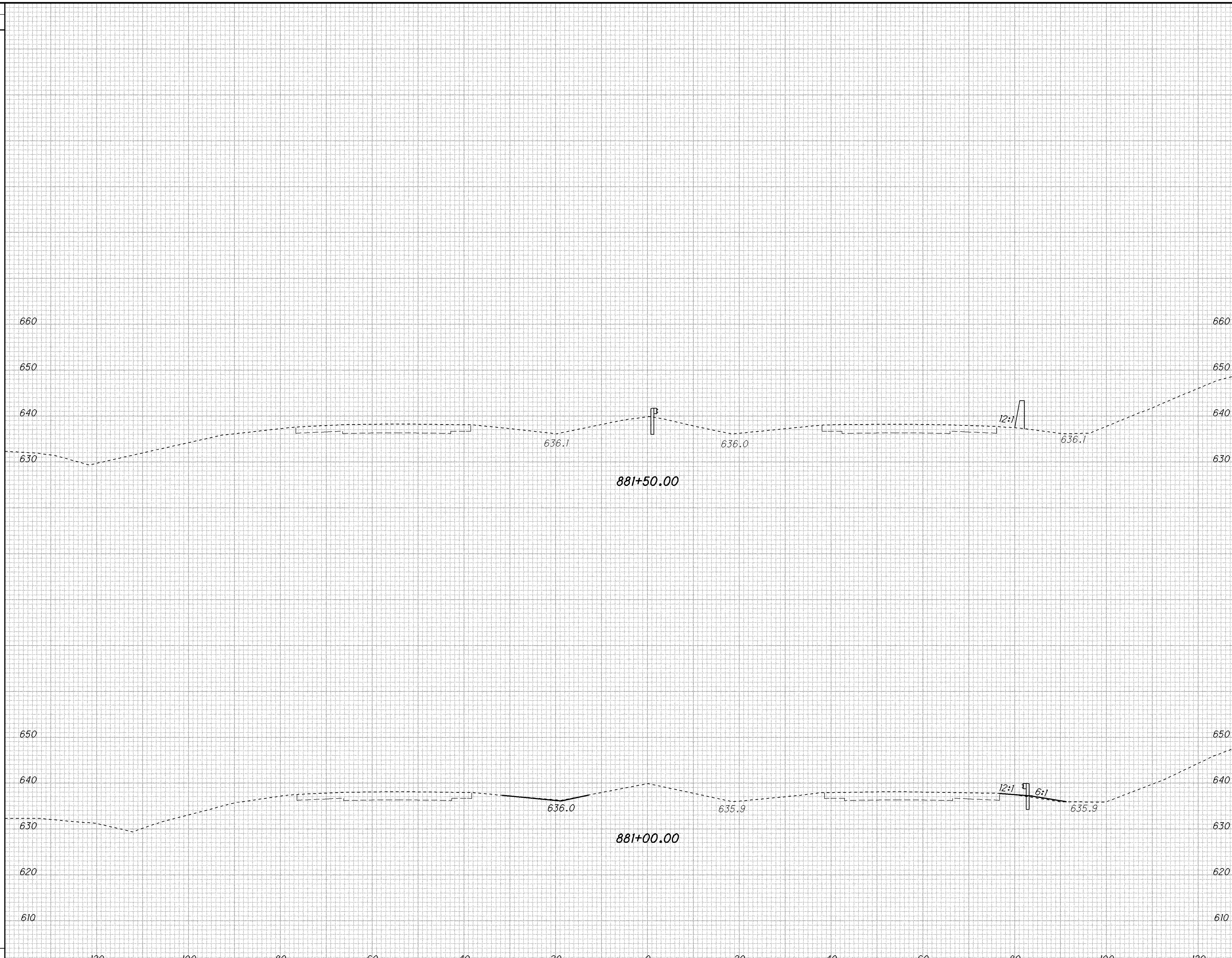
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
	36			0	1
0		0	0		
	94			0	4
34		0	4		
	130			0	5



CALCULATED

CHECKED

CROSS SECTIONS
STA. 881+00.00 TO STA. 881+50.00

LOR-301-23.49

28
70

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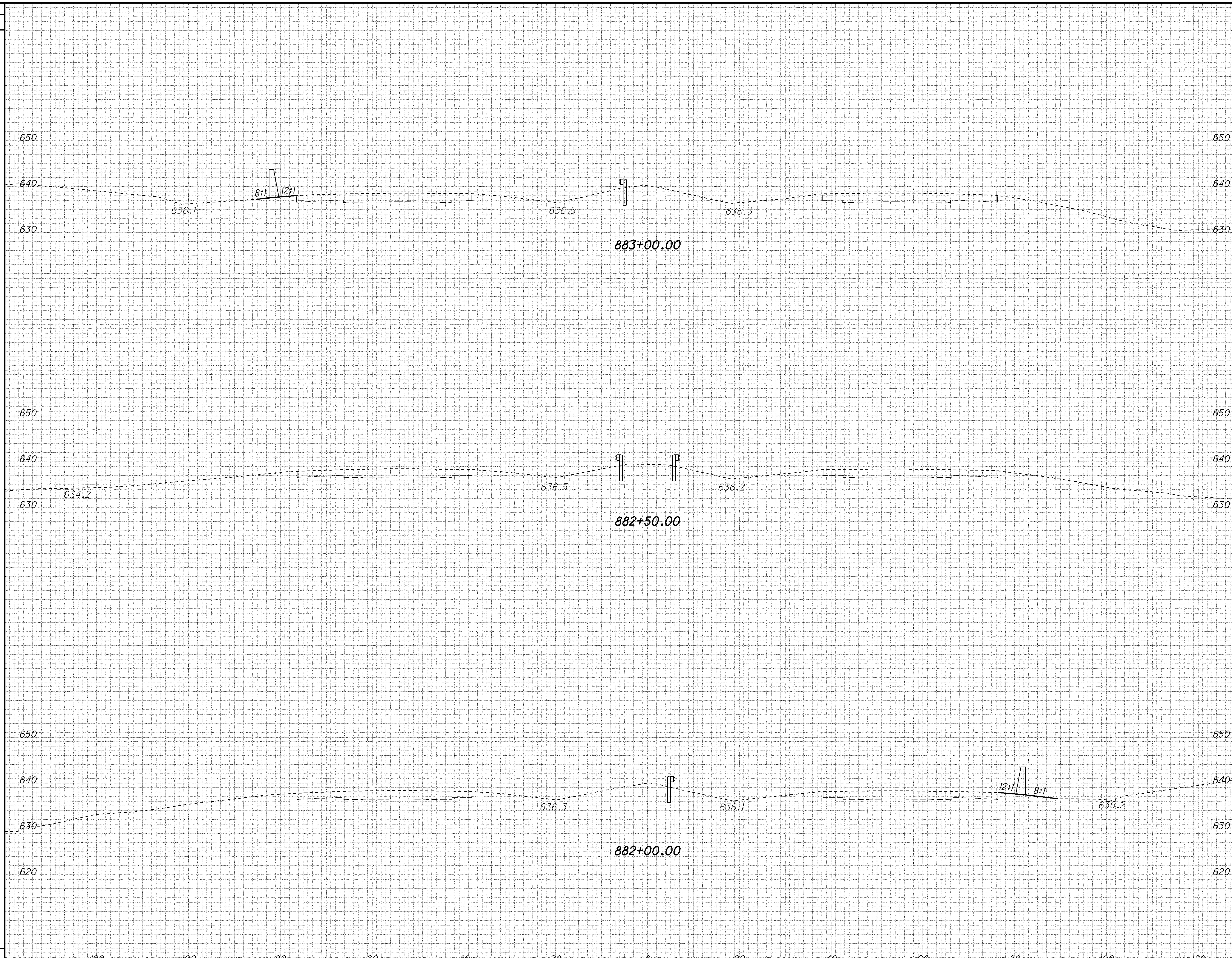
SEEDING	
END WIDTH	SQ. YDS.
	25
9	
	25
0	
	36
13	
	86



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	1
0	1		
		0	1
0	0		
		0	1
0	1		
		0	3

CALCULATED

CHECKED

CROSS SECTIONS
STA. 882+00.00 TO STA. 883+00.00

LOR-301-23.49

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SEEDING	
END WIDTH	SQ. YDS.
	81
0	
	0
0	
	81

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	4
0	0		
		0	0
0	0		
		0	4

CALCULATED

CHECKED

CROSS SECTIONS
STA. 883+50.00 TO STA. 884+00.00

LOR-301-23.49

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SEEDING	
END WIDTH	SQ. YDS.
0	
	53
19	
	133
29	
	186

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	7
0	8		
		0	11
0	4		
		0	18

CALCULATED
CHECKED

CROSS SECTIONS
STA. 884+50.00 TO STA. 885+50.00

LOR-301-23.49

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SUPERELEVATION TABLE

P.I. STA. 50+54.31 | Dc = 3° 44′ 55″

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
645.93		-0.70	-0.0580	12.00	49+75.00	646.63	12.00	0.0540	0.65		647.28	EXISTING
647.11		-0.65	-0.0540	12.00	50+00.00	647.76	12.00	0.0540	0.65		648.41	
648.30		-0.65	-0.0540	12.00	50+25.00	648.95	12.00	0.0540	0.65		649.60	
649.49		-0.65	-0.0540	12.00	50+50.00	650.14	12.00	0.0540	0.65		650.79	
650.65		-0.65	-0.0540	12.00	50+75.00	651.30	12.00	0.0540	0.65		651.95	
651.75	185:1	-0.65	-0.0540	12.00	51+00.00	652.40	12.00	0.0540	0.65		653.05	
652.77		-0.65	-0.0540	12.00	51+25.00	653.42	12.00	0.0540	0.65		654.07	
652.86		-0.65	-0.0540	12.00	51+27.35	653.51	12.00	0.0540	0.65	185:1	654.16	FS
653.86		-0.52	-0.0430	12.00	51+50.00	654.38	12.00	0.0430	0.52		654.90	
654.88		-0.40	-0.0330	12.00	51+75.00	655.28	12.00	0.0330	0.40		655.68	
655.40		-0.32	-0.0270	12.00	51+87.35	655.70	12.00	0.0270	0.32		656.02	PT
655.86		-0.25	-0.0210	12.00	52+00.00	656.11	12.00	0.0210	0.25		656.36	
656.36		-0.19	-0.0160	12.00	52+14.00	656.55	12.00	0.0160	0.19		656.74	
656.68		-0.19	-0.0160	12.00	52+25.00	656.87	12.00	0.0110	0.13		657.00	
657.31		-0.19	-0.0160	12.00	52+47.35	657.50	12.00	0.0000	0.00		657.50	LEVEL/ST
657.38		-0.19	-0.0160	12.00	52+50.00	657.57	12.00	-0.0010	-0.01		657.56	
658.01		-0.19	-0.0160	12.00	52+75.00	658.20	12.00	-0.0120	-0.14		658.06	
658.20		-0.19	-0.0160	12.00	52+82.95	658.39	12.00	-0.0160	-0.19		658.20	NC

SUPERELEVATION TABLE

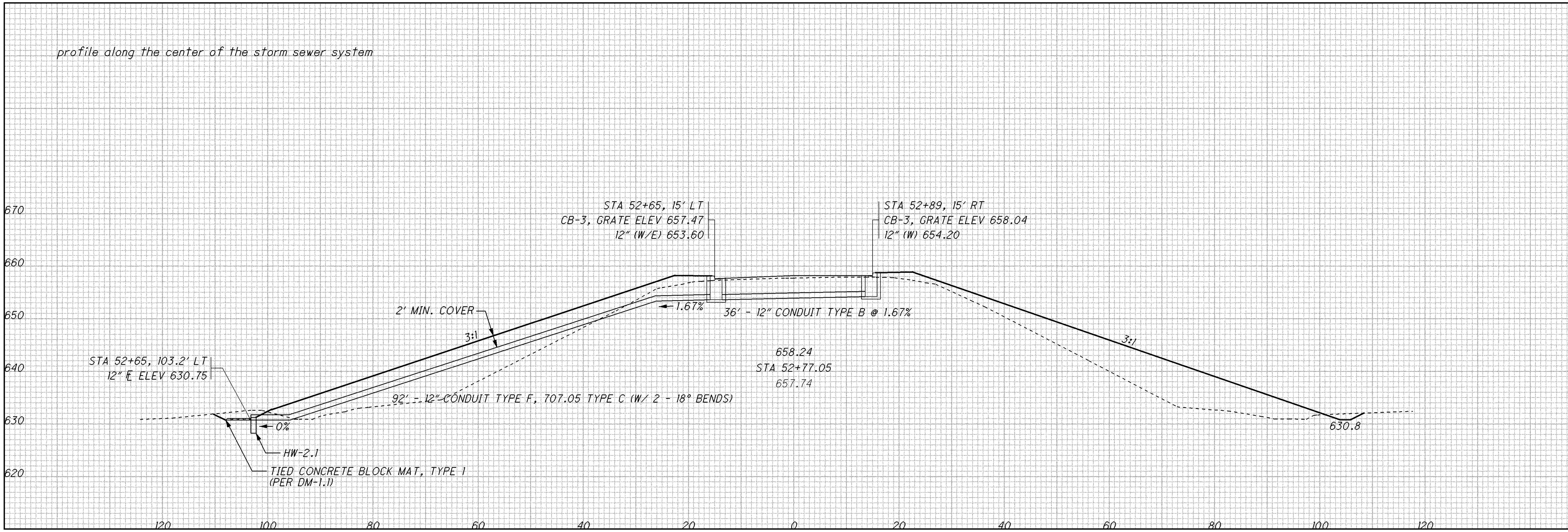
P.I. STA. 59+99.07 | Dc = 3° 44′ 55″

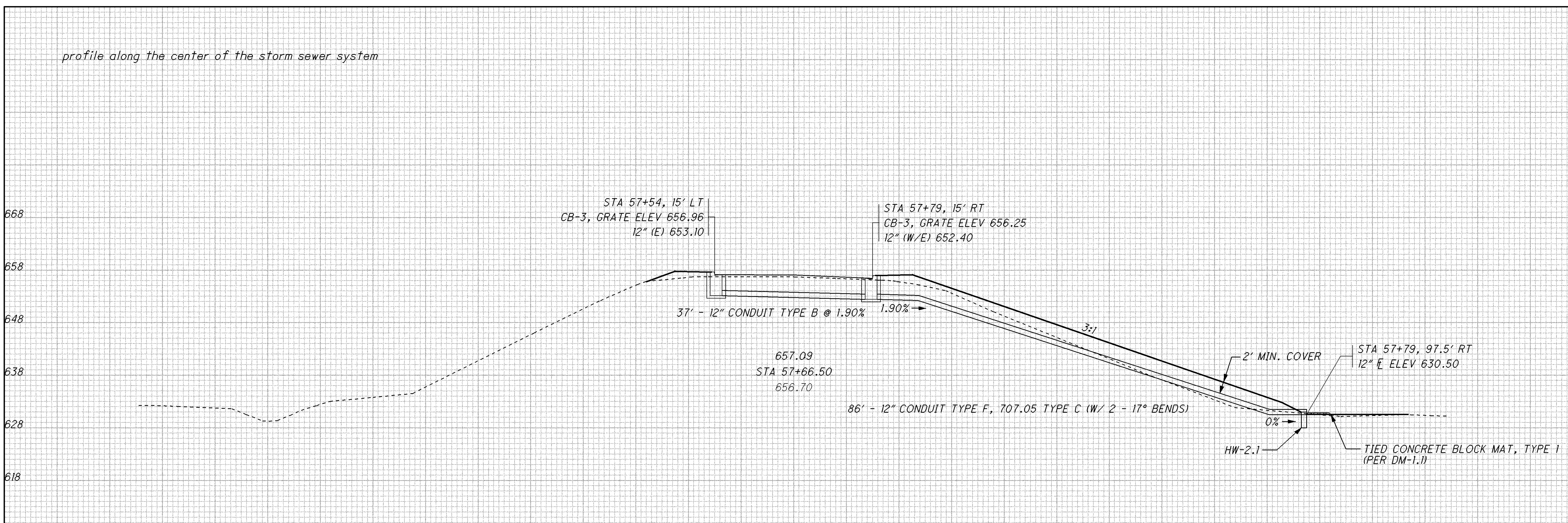
LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	REMARKS
656.81		-0.19	-0.0160	12.00	57+69.75	657.00	12.00	-0.0160	-0.19		656.81	NC
656.69		-0.16	-0.0130	12.00	57+75.00	656.85	12.00	-0.0160	-0.19		656.66	
656.06		-0.02	-0.0020	12.00	58+00.00	656.08	12.00	-0.0160	-0.19		655.89	
655.91		0.00	0.0000	12.00	58+05.35	655.91	12.00	-0.0160	-0.19		655.71	LEVEL/TS
655.36		0.11	0.0090	12.00	58+25.00	655.25	12.00	-0.0160	-0.19		655.06	
654.90		0.19	0.0160	12.00	58+41.11	654.71	12.00	-0.0160	-0.19		654.52	
654.62		0.24	0.0200	12.00	58+50.00	654.38	12.00	-0.0200	-0.24		654.14	
654.12		0.32	0.0270	12.00	58+65.35	653.80	12.00	-0.0270	-0.32		653.48	PC
653.77		0.38	0.0320	12.00	58+75.00	653.39	12.00	-0.0320	-0.38		653.01	
652.88	185:1	0.52	0.0430	12.00	59+00.00	652.36	12.00	-0.0430	-0.52		651.84	
651.91		0.65	0.0540	12.00	59+25.35	651.26	12.00	-0.0540	-0.65		650.61	FS
650.75		0.65	0.0540	12.00	59+50.00	650.10	12.00	-0.0540	-0.65		649.45	
649.52		0.65	0.0540	12.00	59+75.00	648.87	12.00	-0.0540	-0.65	185:1	648.22	
648.28		0.65	0.0540	12.00	60+00.00	647.63	12.00	-0.0540	-0.65		646.98	
647.04		0.65	0.0540	12.00	60+25.00	646.39	12.00	-0.0540	-0.65		645.74	
645.80		0.65	0.0540	12.00	60+50.00	645.15	12.00	-0.0540	-0.65		644.50	
644.56		0.65	0.0540	12.00	60+75.00	643.91	12.00	-0.0540	-0.65		643.26	
643.32		0.65	0.0540	12.00	61+00.00	642.67	12.00	-0.0540	-0.65		642.02	
642.08		0.65	0.0540	12.00	61+25.00	641.43	12.00	-0.0540	-0.65		640.78	
641.80		0.65	0.0540	12.00	61+32.11	641.15	12.00	-0.0540	-0.65		640.50	EXISTING/PCC
640.76		0.50	0.0420	12.00	61+50.00	640.26	12.00	-0.068	-0.82		639.44	EXISTING

CALCULATED TLS
CHECKED MDC

SUPERELEVATION TABLE
SR 301

LOR-301-23.49





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CALCULATED MLC
CHECKED MDC

STORM SEWER PROFILE
STA 52+77.05 & STA 57+62.50

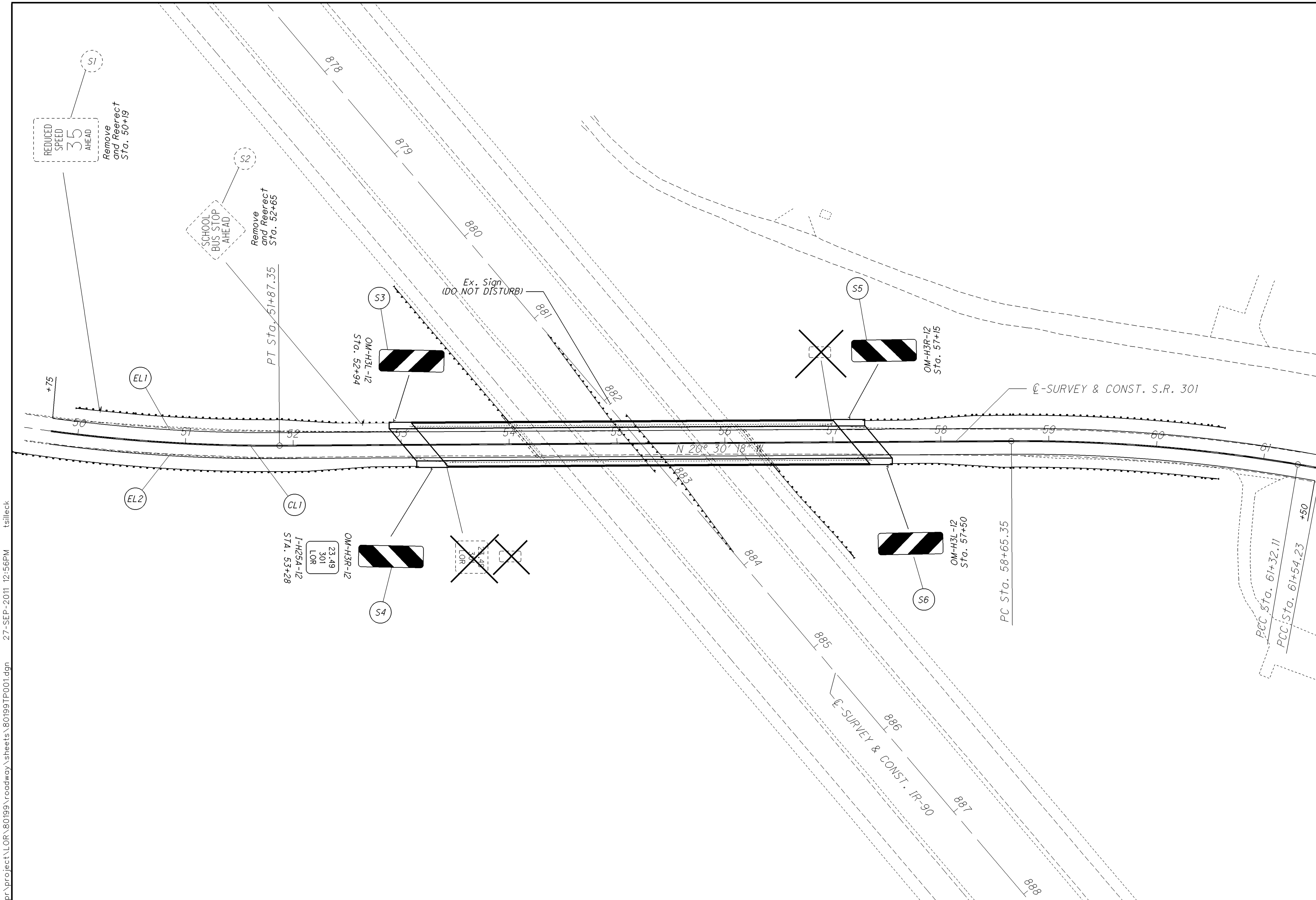
LOR-301-23.49

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	CODE	SIZE	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT)	630 SIGN, FLAT SHEET (SQ FT)	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)	642 EDGE LINE, TYPE 1 (WHITE) (FT)	642 CENTER LINE, TYPE 1 (DOUBLE SOLID) (FT)	646 EDGE LINE (WHITE) (FT)	646 CENTER LINE (DOUBLE SOLID) (FT)
35	S1	SR 301	50+19		LT			13		1	1				
35	S2	SR 301	52+65		LT			13		1	1				
35	S3	SR 301	52+94		LT	OM-H3L-12	12" x 36"	12.5	3.00						
35	S4	SR 301	53+28		RT	OM-H3R-12	12" x 36"	12.5	3.00	2	1				
			53+28		RT	I-H25A-12	12" x 12"		1.00						
35	S5	SR 301	57+15		LT	OM-H3R-12	12" x 36"	12.5	3.00	1	1				
35	S6	SR 301	57+50		RT	OM-H3L-12	12" x 36"	12.5	3.00						
35	EL1	SR 301	49+65	52+91.6	LT							326.6			
35			52+91.6	57+32.3	LT									440.7	
35			57+32.3	61+60	LT							427.7			
35	EL2	SR 301	49+65	53+11.7	RT							346.7			
35			53+11.7	57+52.4	RT									440.7	
35			57+52.4	61+60	RT							407.6			
35	CL1	SR 301	49+65	53+01.6	℄								336.6		
35			53+01.6	57+42.3	℄										440.7
35			57+42.3	61+60	℄								417.7		
												1508.6 FT = 0.29 MI	754.3 FT = 0.14 MI	881.4 FT = 0.17 MI	440.7 FT = 0.08 MI
TOTALS CARRIED TO GENERAL SUMMARY								76	13	5	4	0.29	0.14	0.17	0.08

CALCULATED TLS
CHECKED MDC

TRAFFIC CONTROL SUBSUMMARY

LOR-301-23.49



HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED

CHECKED

TRAFFIC CONTROL PLAN
S.R. 301 & IR-90

LOR-301-23.49

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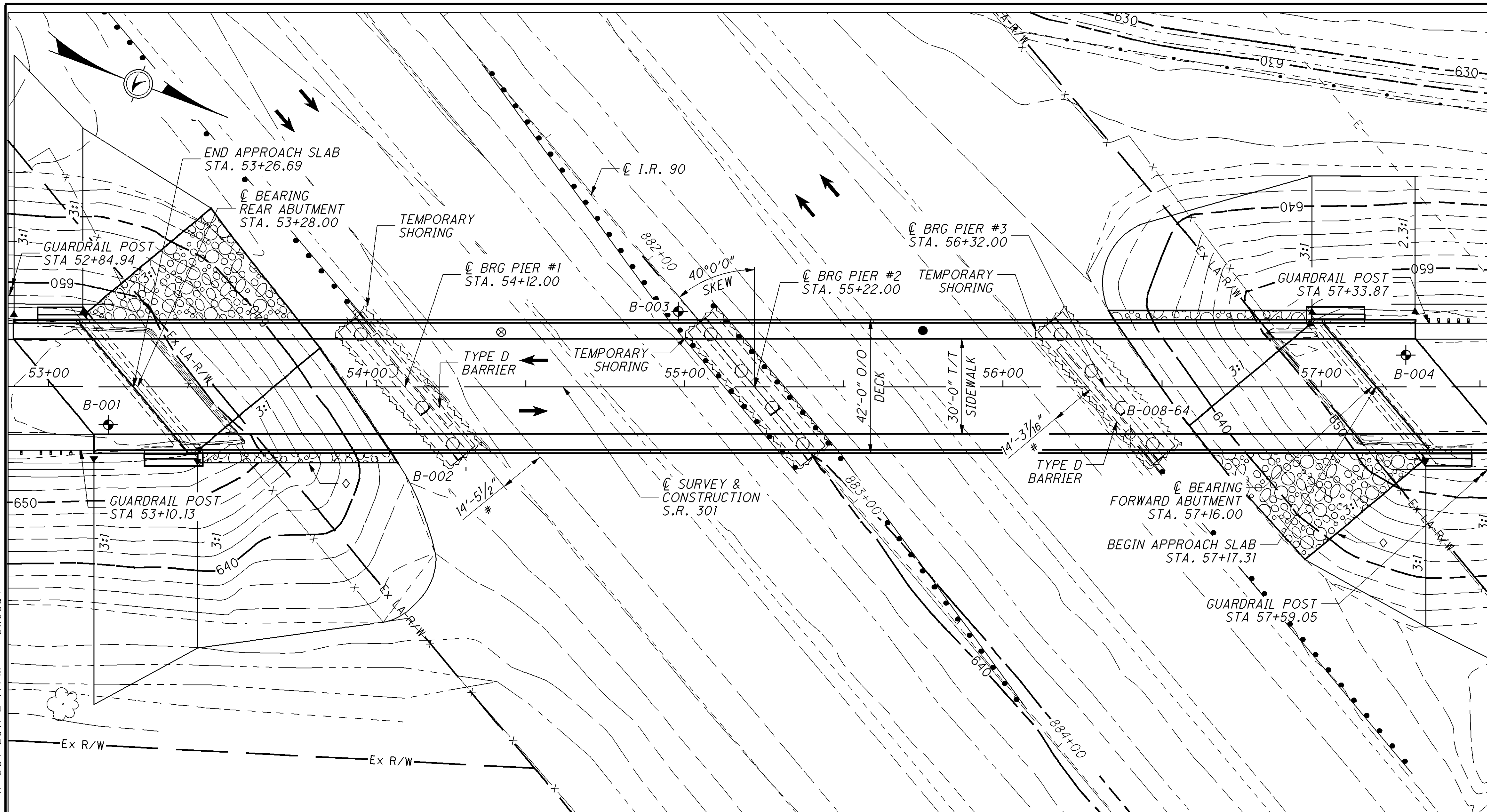
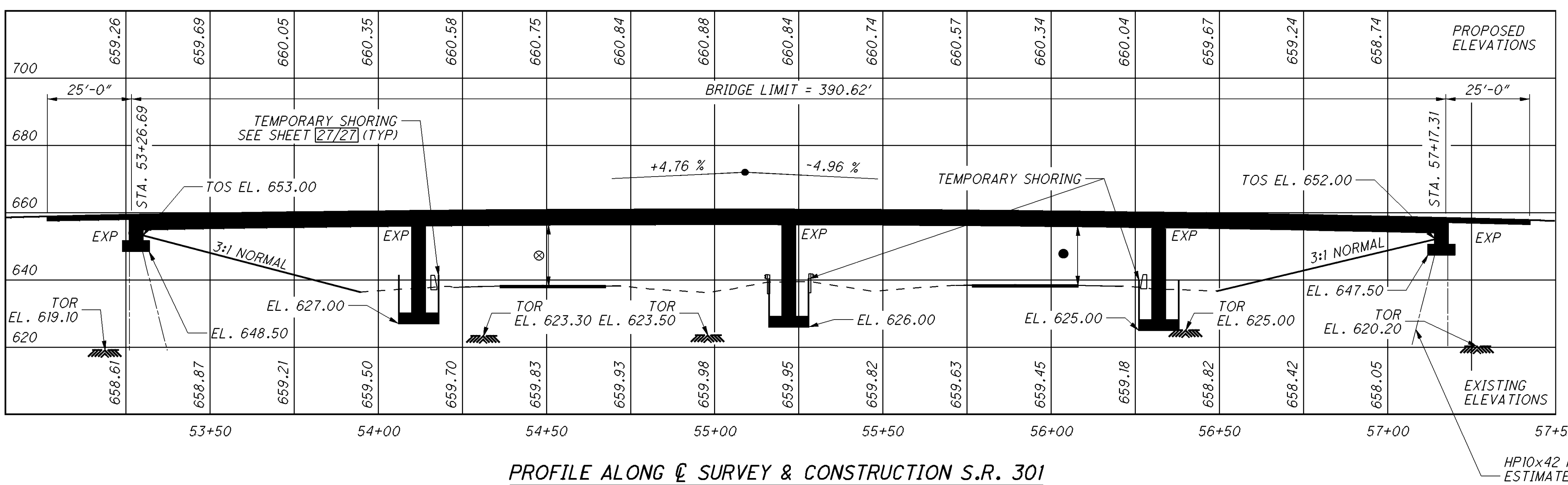


PLAN



PROFILE ALONG ℄ SURVEY & CONSTRUCTION S.R. 301

NOTES

BRIDGE TERMINAL ASSEMBLIES SHALL BE TYPE 1.
FOR BENCHMARK AND BRIDGE TERMINAL ASSEMBLY INFORMATION, SEE ROADWAY PLAN SHEETS

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2012 ADT = 9280 2012 ADTT = 464
2032 ADT = 10450 2032 ADTT = 523
DIRECTIONAL DISTRIBUTION = 0.55

LEGEND

- BORING LOCATION
- HISTORICAL BORING LOCATION
- ◇ - CRUSHED AGGREGATE SLOPE PROTECTION
- TOS - TOP OF SLOPE
- TOR - TOP OF ROCK
- EXP - EXPANSION BEARING
- ⊗ 17'-7" ACTUAL MINIMUM VERTICAL CLEARANCE
- ● 16'-9" ACTUAL MINIMUM VERTICAL CLEARANCE
- 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
- # 14'-0" REQUIRED LATERAL CLEARANCE

VERTICAL CURVE DATA

LENGTH = 915.00'
PVI STA = 55+09.03
PVI EL = 671.99'
g1 = +4.76% g2 = -4.96%

EXISTING STRUCTURE

TYPE: CONTINOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 69'-6"; 2 @ 106'-6"; 69'-6" C/C BEARINGS
ROADWAY: 30'-0" F/F OF 2'-0" SAFETY CURB
LOADING: CF400 (57)
SKEW: 40°0'0" RF
WEARING SURFACE: ASPHALT - 5" THICK
APPROACH SLABS: AS-1-54 (25' LONG, (MODIFIED)
ALIGNMENT: TANGENT
CROWN: 3/16" /FT
STRUCTURAL FILE NUMBER: 4706722
DATE BUILT: 7/1/1970
DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: 4-SPAN CONTINOUS A572/A709 STEEL BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON CAP & COLUMN PIERS AND SEMI-INTEGRAL ABUTMENTS
SPANS: 84'-0"; 110'-0"; 110'-0"; 84'-0" C/C BEARING
ROADWAY: 30'-0" TOE/TOE SIDEWALK
SIDEWALKS: 5'-0" WIDE
LOADING: HL93 FUTURE WEARING SURFACE: 60 PSF
SKEW: 40°0'0" RF
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 25' LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE N 41°-26'-36"
LONGITUDE W 82°-04'-30"

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
CJW	MRB	CJW		TAA	6/01/10

STRUCTURE FILE NUMBER 4706730

LORAIN COUNTY
STA. 53+26.69
STA. 57+17.31

SITE PLAN

BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81 REVISED 7/19/02

BR-2-98 REVISED 7/19/02

GSD-1-96 REVISED 7/19/02

SICD-1-96 REVISED 7/19/02

VPF-1-90 REVISED 4/15/11

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

898 DATED 7/15/11

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2007, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

SPECIAL DESIGN SPECIFICATIONS

SPECIAL DESIGN SPECIFICATIONS: THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS LARSA 4D. THE SUPERSTRUCTURE WAS ANALYZED USING LARSA FOR THE ASSUMED CONSTRUCTION LOADS SPECIFIED IN THE PLANS.

LOAD MODIFIER FOR OPERATIONAL IMPORTANCE

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.0 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

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

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 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

REMOVE THE ENTIRE STRUCTURE EXCEPT AS SHOWN ON SHEET 27/27 TO AVOID INTERFERING WITH PLACEMENT OF THE PROPOSED STRUCTURE.

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 170 KIPS PER PILE FOR THE HP10x42 ABUTMENT PILES.

REAR ABUTMENT PILES:
18 PILES 35 FEET LONG, ORDER LENGTH
FORWARD ABUTMENT PILES:
18 PILES 35 FEET LONG, ORDER LENGTH

FOUNDATION BEARING RESISTANCE

FOUNDATION BEARING RESISTANCE: PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 6.4 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 6.7 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 9.0 KIPS PER SQUARE FOOT.

UTILITY LINES

UTILITY LINES: THE UTILITY(IES) SHALL BARE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

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.

APPROACH SLAB REINFORCING "A" BAR & "C" BAR LENGTHS SHALL BE MODIFIED AS SHOWN ON SHEET 20/27. ALL APPROACH SLAB REINFORCING STEEL SHALL BE PAID FOR UNDER
ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN

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.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), THE CONCRETE QUANTITIES OF THE PARAPET AND SIDEWALK ON BOTH THE BRIDGE DECK AND THE APPROACH SLABS ARE INCLUDED FOR PAYMENT.

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 A REFINED SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.25 KIPS FOR A TOTAL MACHINE LOAD OF 10.0 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

GENERAL NOTES
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN

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 THROUGH 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	REQUIREMENT
THICKNESS, INCHES	D751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM	D751	700 X 700 (LONG. X TRANS.)
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS, MINIMUM	D751	9
BURST STRENGTH, PSI, MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 OF, 1800 BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, -40 DEG. F, BEND AROUND¼" 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.

ITEM SPECIAL - STRUCTURE MISC.: VIBRATION MONITORING

MONITOR GROUND VIBRATIONS CAUSED BY PILE DRIVING SO THAT THE PILE DRIVING WORK CAN BE CONTROLLED IN ORDER TO MINIMIZE THE POTENTIAL DAMAGE TO EXISTING STRUCTURES.

RETAIN AN EXPERIENCED VIBRATION SPECIALIST TO ESTABLISH THE ACCEPTABLE VIBRATION LIMITS AND TO PERFORM THE VIBRATION MONITORING. USE A VIBRATION SPECIALIST THAT IS AN EXPERT IN THE INTERPRETATION OF VIBRATION DATA AND WHO MEETS ONE OF THE FOLLOWING CRITERIA: 1) IS A REGISTERED ENGINEER WITH AT LEAST TWO YEARS OF PROVEN EXPERIENCE IN MONITORING VIBRATIONS ON SIMILAR CONSTRUCTION PROJECTS, OR 2) HAS AT LEAST FIVE YEARS OF PROVEN EXPERIENCE IN MONITORING VIBRATIONS ON SIMILAR CONSTRUCTION PROJECTS. DO NOT USE A VIBRATION SPECIALIST THAT IS AN EMPLOYEE OF THE CONTRACTOR.

SUBMIT A RESUME OF THE CREDENTIALS OF THE PROPOSED VIBRATION SPECIALIST AT OR BEFORE THE PRECONSTRUCTION CONFERENCE. INCLUDE IN THE RESUME A LIST OF CONSTRUCTION PROJECTS ON WHICH THE VIBRATION SPECIALIST WAS RESPONSIBLY IN CHARGE OF MONITORING THE VIBRATIONS. LIST A DESCRIPTION OF THE PROJECTS, WITH DETAILS OF THE VIBRATION INTERPRETATIONS MADE ON THE PROJECT. LIST THE NAMES AND TELEPHONE NUMBERS OF PROJECT OWNERS WITH SUFFICIENT KNOWLEDGE OF THE PROJECTS TO VERIFY THE SUBMITTED INFORMATION. OBTAIN APPROVAL OF THE VIBRATION SPECIALIST BEFORE BEGINNING ANY PILE WORK. ALLOW 30 DAYS FOR THE REVIEW OF THIS DOCUMENTATION.

USE SEISMOGRAPHS CAPABLE OF CONTINUOUSLY RECORDING THE PEAK PARTICLE VELOCITY FOR THREE MUTUALLY PERPENDICULAR COMPONENTS OF VIBRATION, AND PROVIDING A PERMANENT RECORD OF THE ENTIRE VIBRATION EVENT. USE A SUFFICIENT NUMBER OF SEISMOGRAPHS TO PROVIDE REDUNDANCY IN CASE ONE DEVICE SHOULD FAIL. SUBMIT A PLAN OF THE PROPOSED SEISMOGRAPH LOCATIONS TO THE ENGINEER FOR REVIEW.

THE VIBRATION SPECIALIST SHALL PERFORM THE FOLLOWING:

1. MEASURE THE AMBIENT GROUND VIBRATIONS NEAR EXISTING STRUCTURES BEFORE PILE DRIVING BEGINS.
2. ESTABLISH VIBRATIONS LIMITS TO MINIMIZE POTENTIAL DAMAGE TO EXISTING STRUCTURES AND EXPLAIN WHY THEY ARE BEING USED TO THE ENGINEER BEFORE DRIVING PILES NEAR EXISTING STRUCTURES.
3. MONITOR GROUND VIBRATIONS DURING PILE DRIVING.
4. IMMEDIATELY INFORM THE CONTRACTOR AND ENGINEER IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED.
5. FURNISH THE DATA RECORDED AND INCLUDE THE FOLLOWING:
   - A. IDENTIFICATION OF SEISMOGRAPH
   - B. DISTANCE AND DIRECTION OF SEISMOGRAPH FROM PILE DRIVING.
   - C. START TIME AND DURATION OF PILE DRIVING.
   - D. LIST OF PILES DRIVEN DURING EACH MONITORING INTERVAL.

THE CONTRACTOR SHALL IMMEDIATELY SUSPEND ALL PILE DRIVING IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED. EVALUATE ALTERNATIVE CONSTRUCTION PROCEDURES, SUCH AS PREBORED HOLES, TO REDUCE THE VIBRATIONS.

SUBMIT A FINAL REPORT WHICH CONTAINS ALL MEASUREMENTS, INTERPRETATIONS, AND RECOMMENDATIONS TO THE ENGINEER. SUBMIT THREE COPIES OF THE REPORT.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURE MISC.: VIBRATION MONITORING. THE DEPARTMENT WILL PAY THE FINAL TWENTY PERCENT AFTER THE ENGINEER RECEIVES THE FINAL REPORT.

THE DEPARTMENT WILL PAY ACCORDING TO CMS 109.05 FOR ALTERNATIVE CONSTRUCTION PROCEDURES THAT THE ENGINEER DETERMINES ARE NECESSARY TO REDUCE VIBRATIONS.

ASBESTOS NOTIFICATION AND REMOVAL

AN ASBESTOS SURVEY OF THE BRIDGE SCHEDULED FOR DEMOLITION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. APPROXIMATELY 50 SQ. FT. OF CATEGORY II REGULATED ASBESTOS CONTAINING MATERIALS WERE IDENTIFIED IN THE PARAPET JOINT COMPOUND (EST. 44 SQ. FT.) AND SEALANT ON THE RAIL BOLTS (EST. 8 SQ. FT.) ON THE BRIDGE INDENTIFIED AS LOR-301-23.49 (SFN 4706730) FOR ABBE ROAD OVER I-90. THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE (OAC) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS.

THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF NESHAP ON SITE TO DIRECT THE REMOVAL OF THE ASBESTOS CONTAINING MATERIAL.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FROM PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL COMPLETE THE FORM AND RETURN IT TO THE DISTRICT CONSTRUCTION ENGINEER ALONG WITH THE PERMIT FEE IF APPLICABLE. THE COMPLETION OF THIS FORM MAY BE PERFORMED AT THE PRE-CONSTRUCTION MEETING. THE DISTRICT CONSTRUCTION ENGINEER SHALL SUBMIT THE FORM AND CONTRACTORS FEE TO THE OEPA DISTRICT OFFICE AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE DISTRICT CONSTRUCTION ENGINEER SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE CONTRACTOR. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OF THE STRUCTURE UNTIL THE ABOVE REQUIREMENTS ARE MET.

INFORMATION ON THE FORM WILL INCLUDE:

- THE CONTRACTOR'S NAME AND ADDRESS.
- THE ASBESTOS REMOVAL SUB-CONTRACTOR'S NAME AND ADDRESS.
- THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL.
- THE DATES AND HOURS OF OPERATION FOR THE ASBESTOS REMOVAL.
- A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.
- A DESCRIPTION OF THE PLANNED DEMOLITION AND THE METHOD(S) TO BE USED.
- A DESCRIPTION OF THE WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE SITE.
- THE NAME AND ADDRESSES OF WASTE TRANSPORTERS TO BE USED ON THE PROJECT.
- THE NAME AND ADDRESSES OF THE WASTE DISPOSAL FACILITY (LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OEPA TO BE USED).
- A DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBED, PULVERIZED OR REDUCED TO POWDER.

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT, DISTRICT 3 OFFICE AT 906 N. CLARK ST., ASHTABULA, OHIO 44805.

BASIS OF PAYMENT

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE, SUBMIT AND COMPLY WITH THE OEPA NOTIFICATION FORM AND TO REMOVE, TRANSPORT AND DISPOSE OF THE ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE UNDER THE CONTRACT LUMP SUM PRICE BID FOR ITEM SPECIAL- ASBESTOS ABATEMENT.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

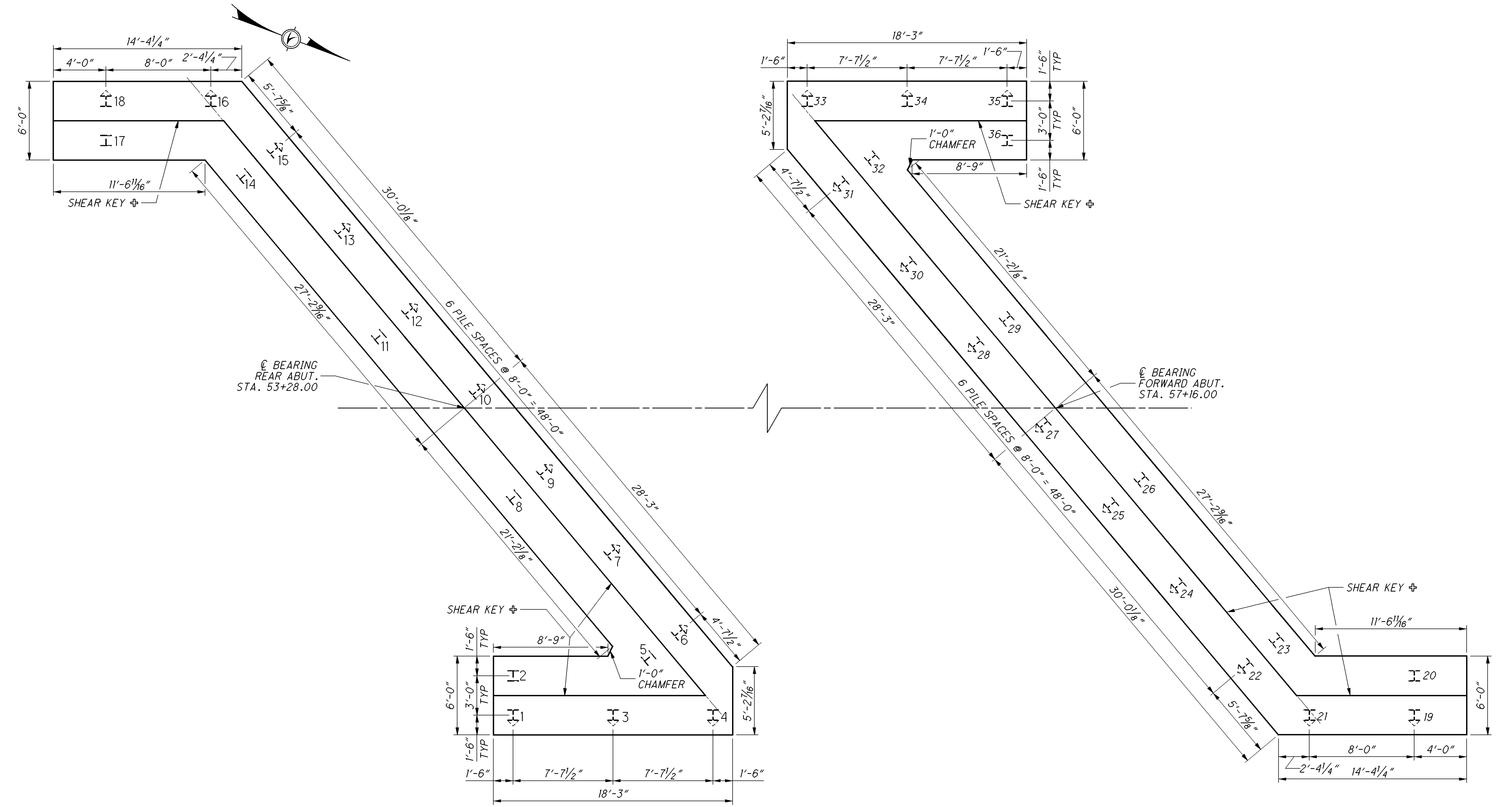
DESIGNED CJW | DRAWN CJW | REVIEWED TAA | DATE 6/01/10 | CHECKED MRB | REVISED | STRUCTURE FILE NUMBER 4706730

GENERAL NOTES (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/27
202	22900	200	SQ YD	APPROACH SLAB REMOVED			200		
202	23500	1393	SQ YD	WEARING COURSE REMOVED			1393		
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	27/27
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00100	1260	FT	STEEL PILES HP10X42, FURNISHED	1260				
507	00150	1260	FT	STEEL PILES HP10X42, DRIVEN	1260				
509	10000	225071	POUND	EPOXY COATED REINFORCING STEEL	17937	65151	141983		
512	10100	2154	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	45	482	1627		
513	10040	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL 2				LUMP	
513	20000	5760	EACH	WELDED STUD SHEAR CONNECTORS			5760		
514	00300	LUMP		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				LUMP	
514	00400	LUMP		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				LUMP	
516	13600	31	SQ FT	1" PREFORMED EXPANSION JOINT FILLER			31		
516	13900	160	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	160				
516	14021	133	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	133				3/27
516	44200	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (BEARING: 18"x23"x3.07", LOAD PLATE: 20"x25"x2")		6			
516	44201	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (BEARING: 18"x23"x3.07", LOAD PLATE: 20"x25"xBEVEL)		12			25/27
516	44301	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (BEARING: 14½"x19"x4.80", LOAD PLATE: 16½"x21"x1½")	12				23/27
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC				LUMP	
518	40000	112	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	112				
518	40012	104	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE	104				
SPECIAL	53000200	LUMP		STRUCTURE MISC.: PRECONSTRUCTION CONDITION SURVEY				LUMP	3/27
SPECIAL	53000200	LUMP		STRUCTURE MISC.: VIBRATION MONITORING				LUMP	3/27
601	20000	953	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	953				
607	39910	740	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC			740		
SPECIAL	69071000	LUMP		ASBESTOS ABATEMENT				LUMP	
898	10201	539	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN			539		2/27
898	10705	234	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN			234		2,20/27
898	11001	232	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN			232		2/27
898	20100	226	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)		226			
898	20150	50	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT)	50				
898	20300	332	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)	118	214			



NOTES & LEGEND

ALL ABUTMENT PILES ARE HP10x42

- PILE TO BE DRIVEN STRAIGHT

- PILE TO BE DRIVEN AT A 4:1 BATTER

✣ - FOR SHEAR KEY DETAILS, SEE SHEET 10/27.

FOR PIER FOUNDATION DETAILS, SEE SHEETS 11/27 , 12/27 & 13/27

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DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA DATE 6/01/10
STRUCTURE FILE NUMBER 4706730

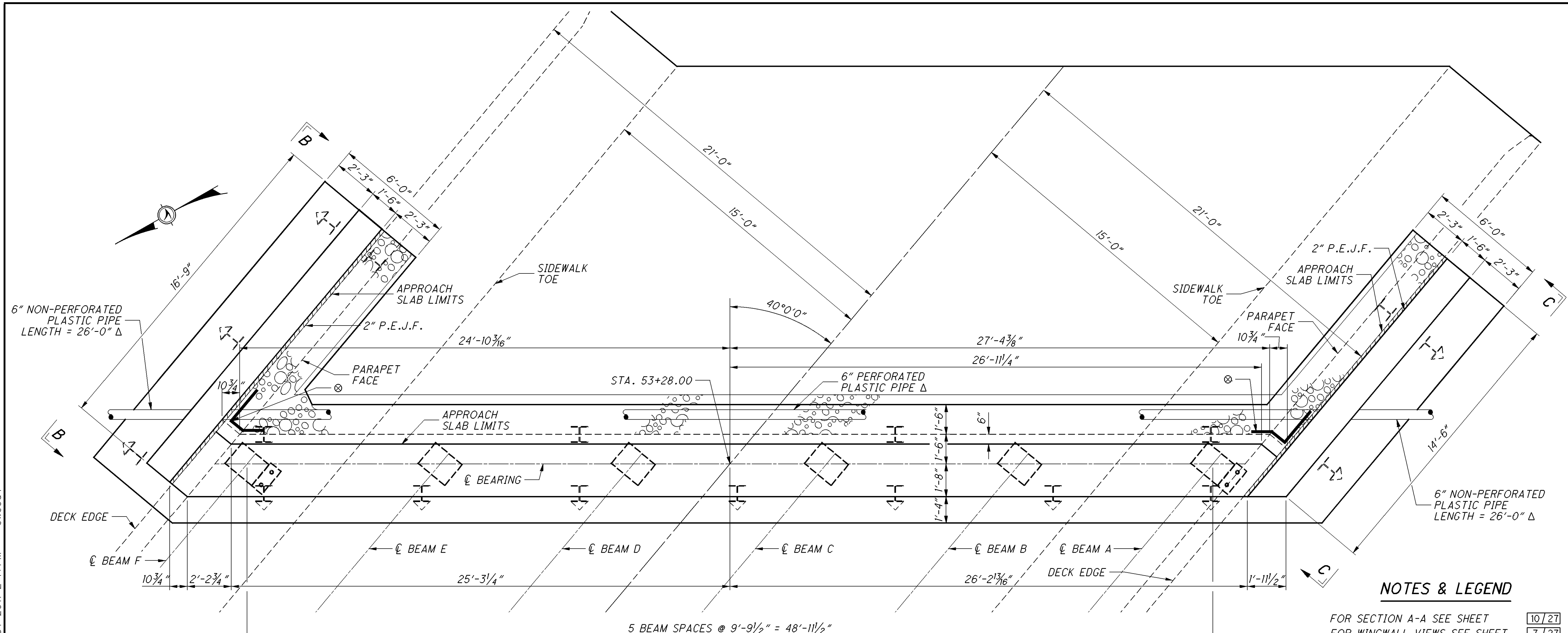
DESIGNED CJW DRAWN CJW REVISED
CHECKED MRB

ABUTMENT FOUNDATION PLAN

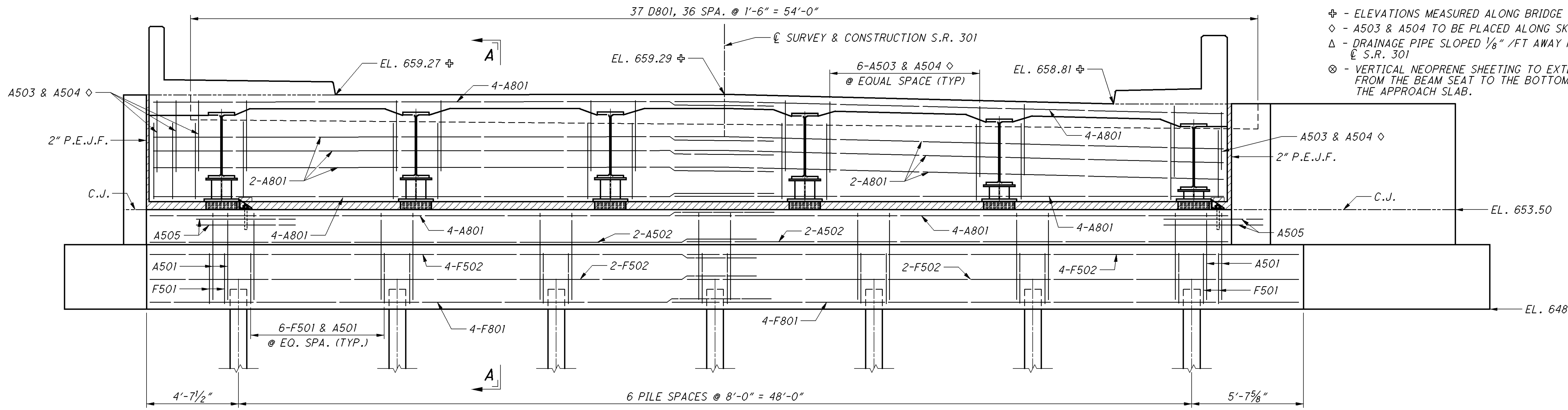
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49

PID No. 80199



PLAN



ELEVATION

NOTES & LEGEND

FOR SECTION A-A SEE SHEET 10/27
FOR WINGWALL VIEWS SEE SHEET 7/27
FOR FOUNDATION PLAN SEE SHEET 5/27
FOR ADDITIONAL NOTES SEE SHEET 10/27

✣ - ELEVATIONS MEASURED ALONG BRIDGE LIMITS
◇ - A503 & A504 TO BE PLACED ALONG SKEW
Δ - DRAINAGE PIPE SLOPED ⅛" /FT AWAY FROM ℄ S.R. 301
⊗ - VERTICAL NEOPRENE SHEETING TO EXTEND FROM THE BEAM SEAT TO THE BOTTOM OF THE APPROACH SLAB.

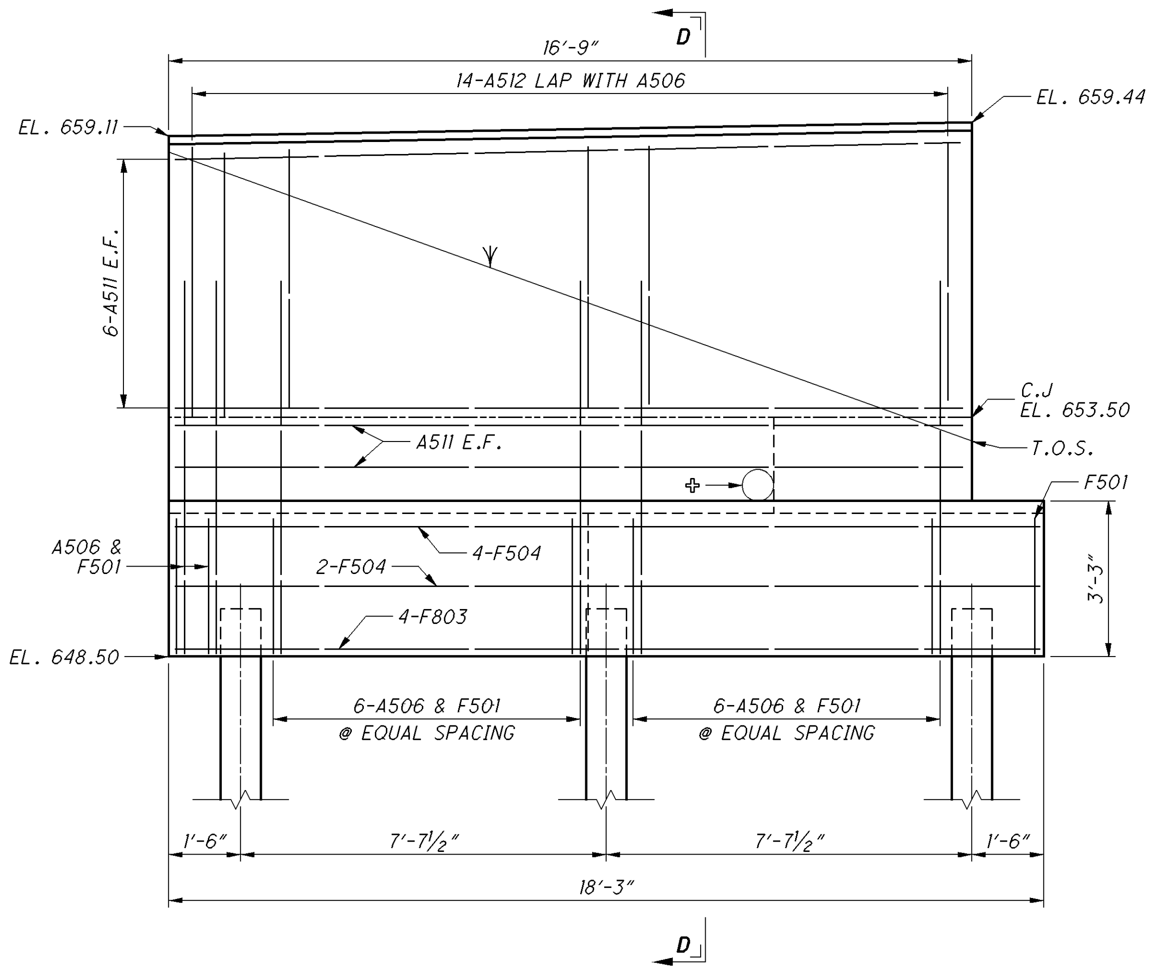
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

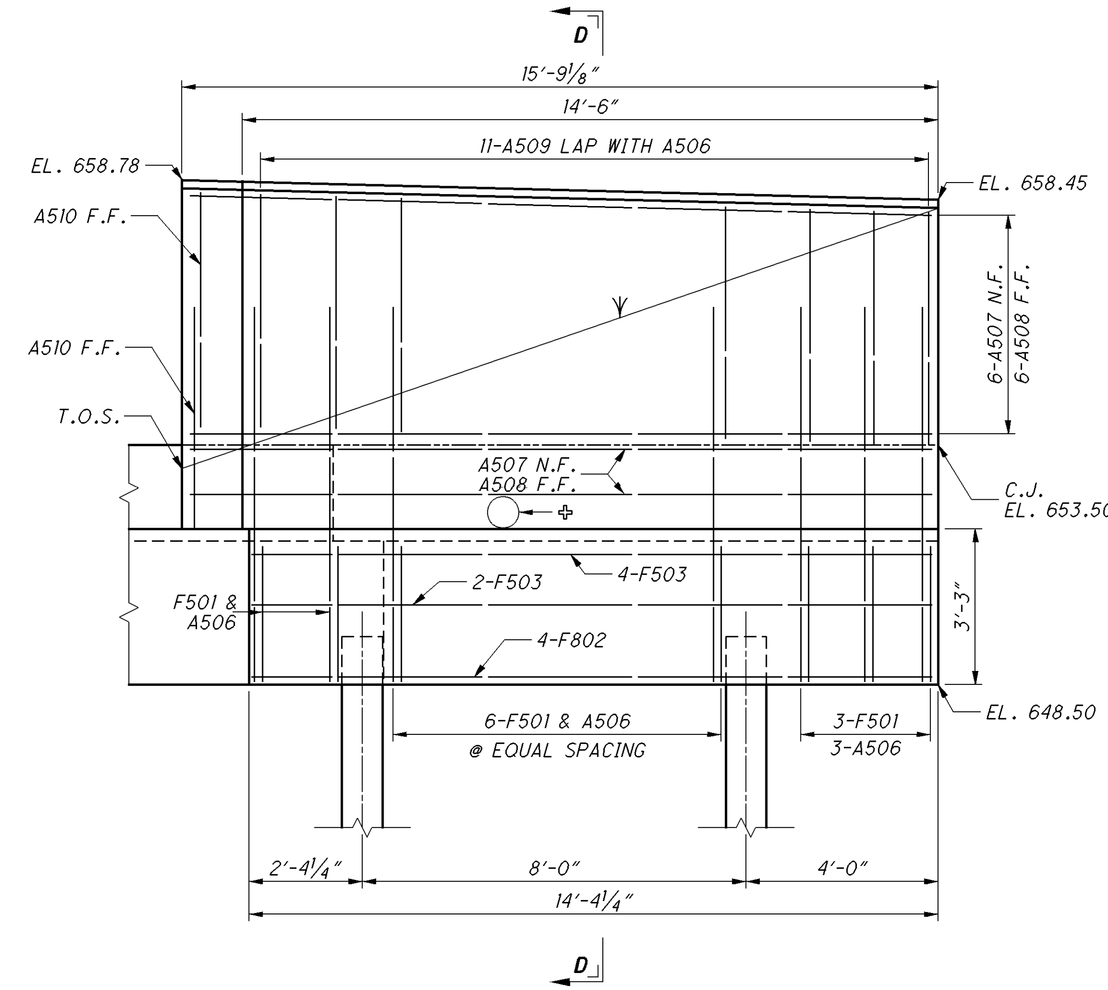
REAR ABUTMENT DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-2349
PID No. 80199

6/27



VIEW B-B



VIEW C-C

NOTES & LEGEND

FOR SECTION D-D SEE SHEET 10/27

E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE
T.O.S. - TOP OF SLOPE
C.J. - CONSTRUCTION JOINT

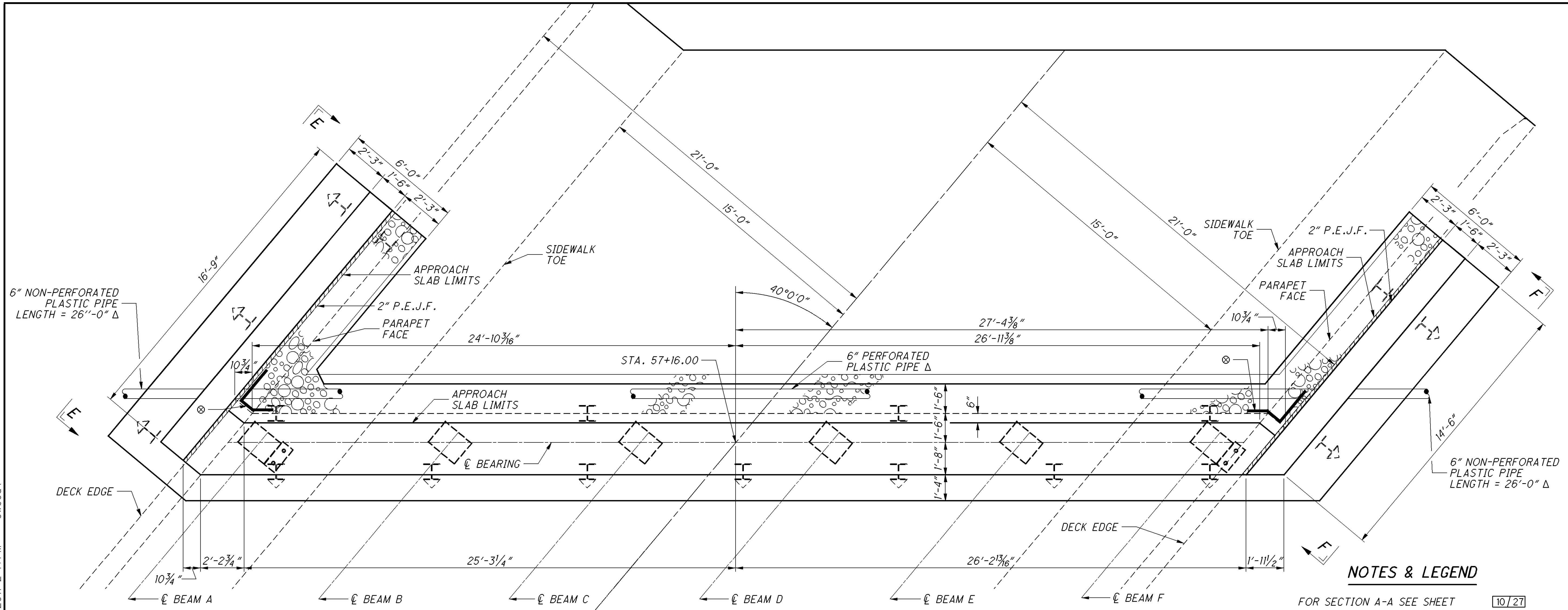
✚ - 6" NON-PERFORATED PLASTIC PIPE TO
EXTEND THROUGH WINGWALLS

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

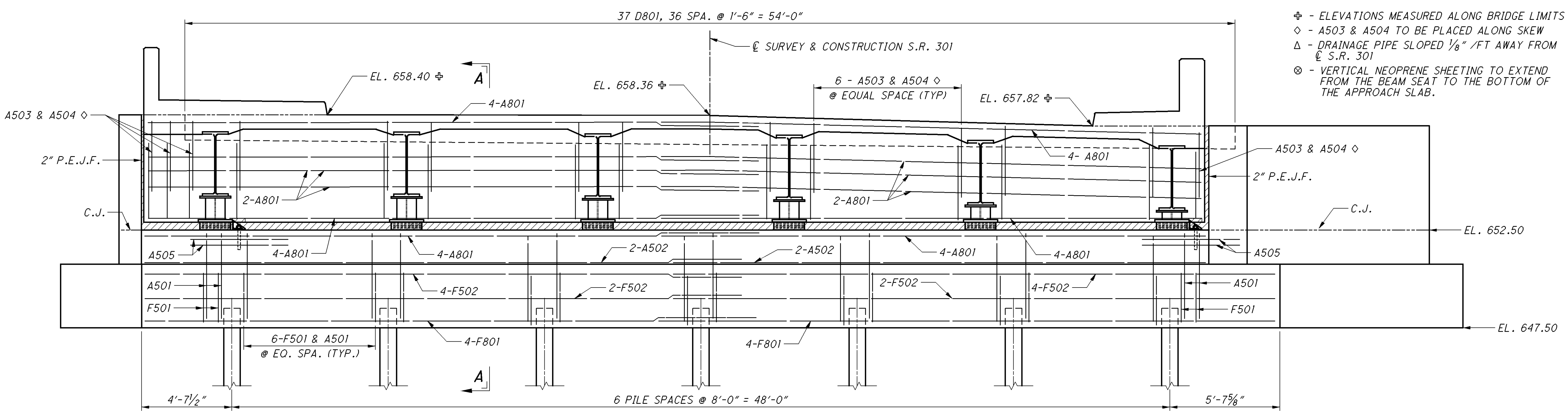
DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

REAR ABUTMENT DETAILS (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199



PLAN



ELEVATION

NOTES & LEGEND

FOR SECTION A-A SEE SHEET	10/27
FOR WINGWALL VIEWS SEE SHEET	9/27
FOR FOUNDATION PLAN SEE SHEET	5/27
FOR ADDITIONAL NOTES SEE SHEET	10/27

✥ - ELEVATIONS MEASURED ALONG BRIDGE LIMITS
◇ - A503 & A504 TO BE PLACED ALONG SKEW
Δ - DRAINAGE PIPE SLOPED 1/8" /FT AWAY FROM ℄ S.R. 301
⊗ - VERTICAL NEOPRENE SHEETING TO EXTEND FROM THE BEAM SEAT TO THE BOTTOM OF THE APPROACH SLAB.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

FORWARD ABUTMENT DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

8/27

43/70

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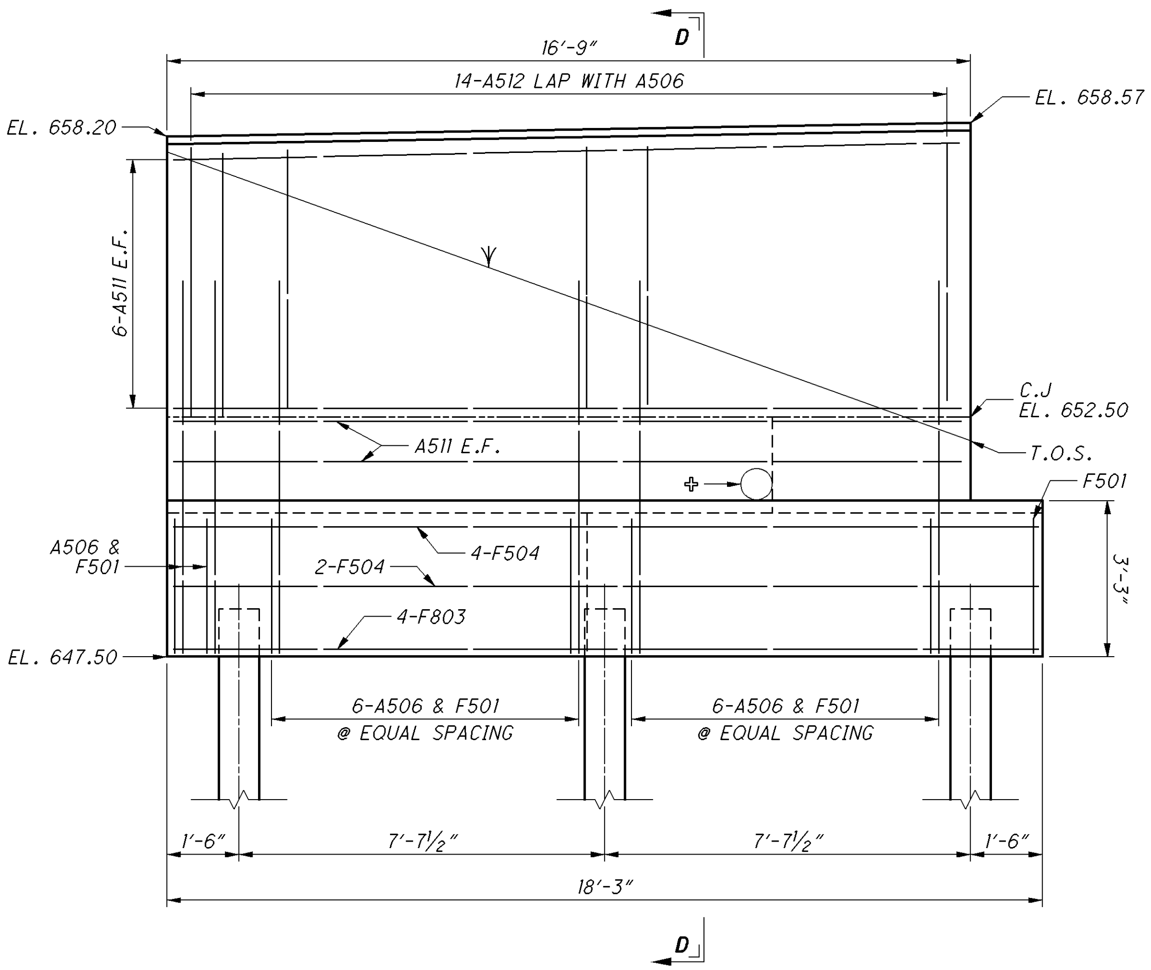
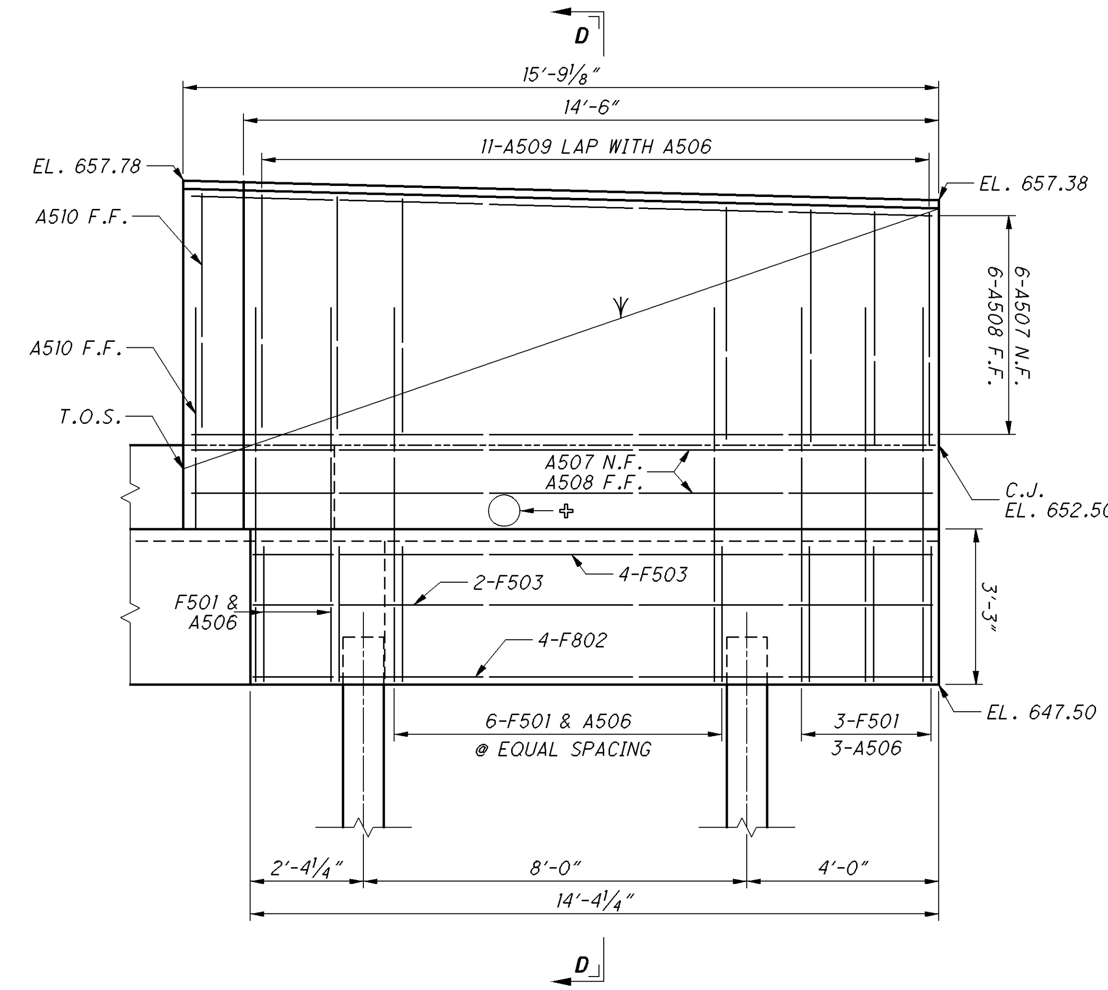


VIEW E-E



VIEW F-F

NOTES & LEGEND

FOR SECTION D-D SEE SHEET 10/27

E.F. - EACH FACE
N.F. - NEAR FACE
F.F. - FAR FACE
T.O.S. - TOP OF SLOPE
C.J. - CONSTRUCTION JOINT

✣ - 6" NON-PERFORATED PLASTIC PIPE TO
EXTEND THROUGH WINGWALLS

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA DATE 6/01/10
STRUCTURE FILE NUMBER 4706730
DRAWN CJW REVISED
DESIGNED CJW CHECKED MRB

FORWARD ABUTMENT DETAILS (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

9/27

44/70

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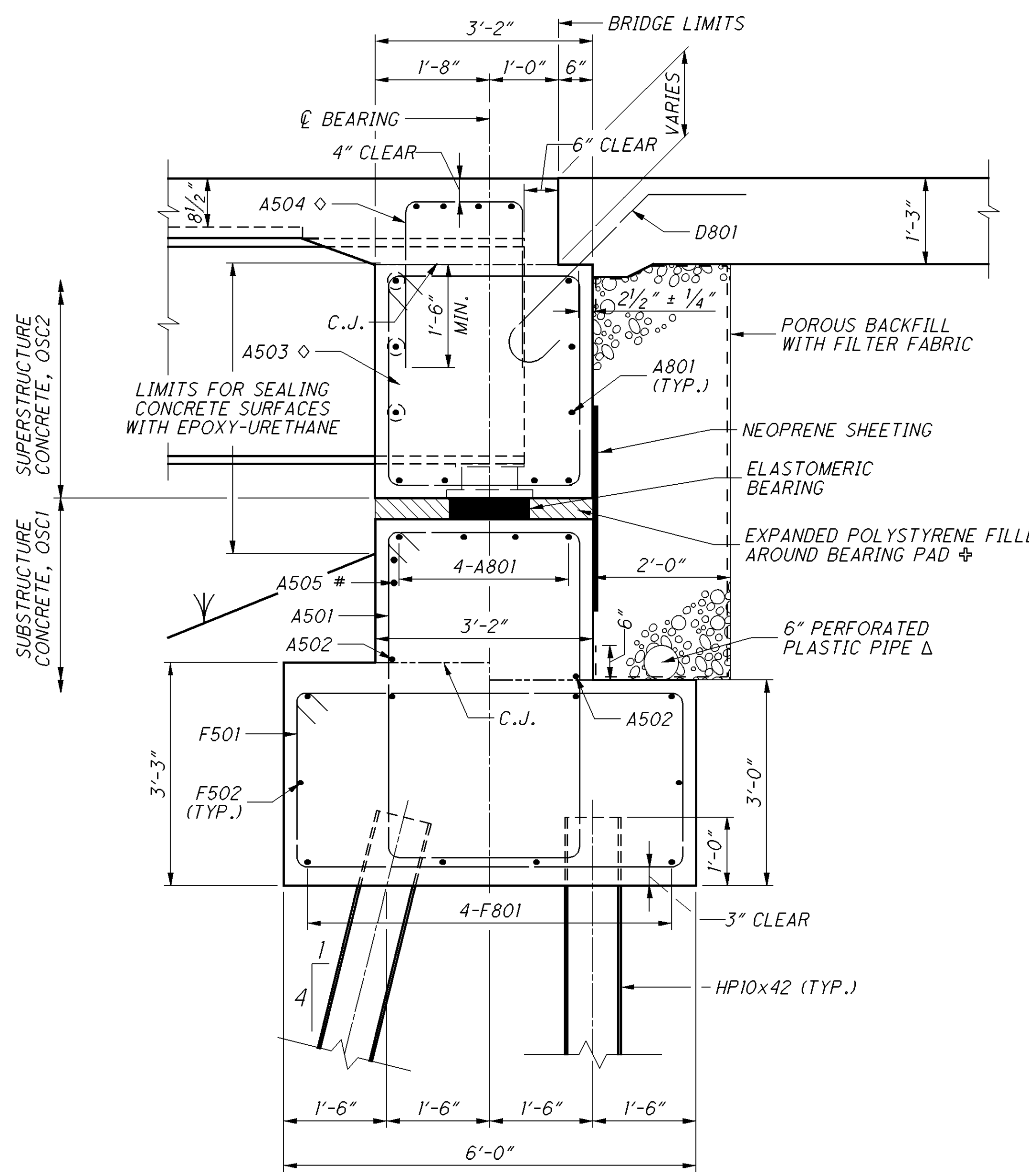
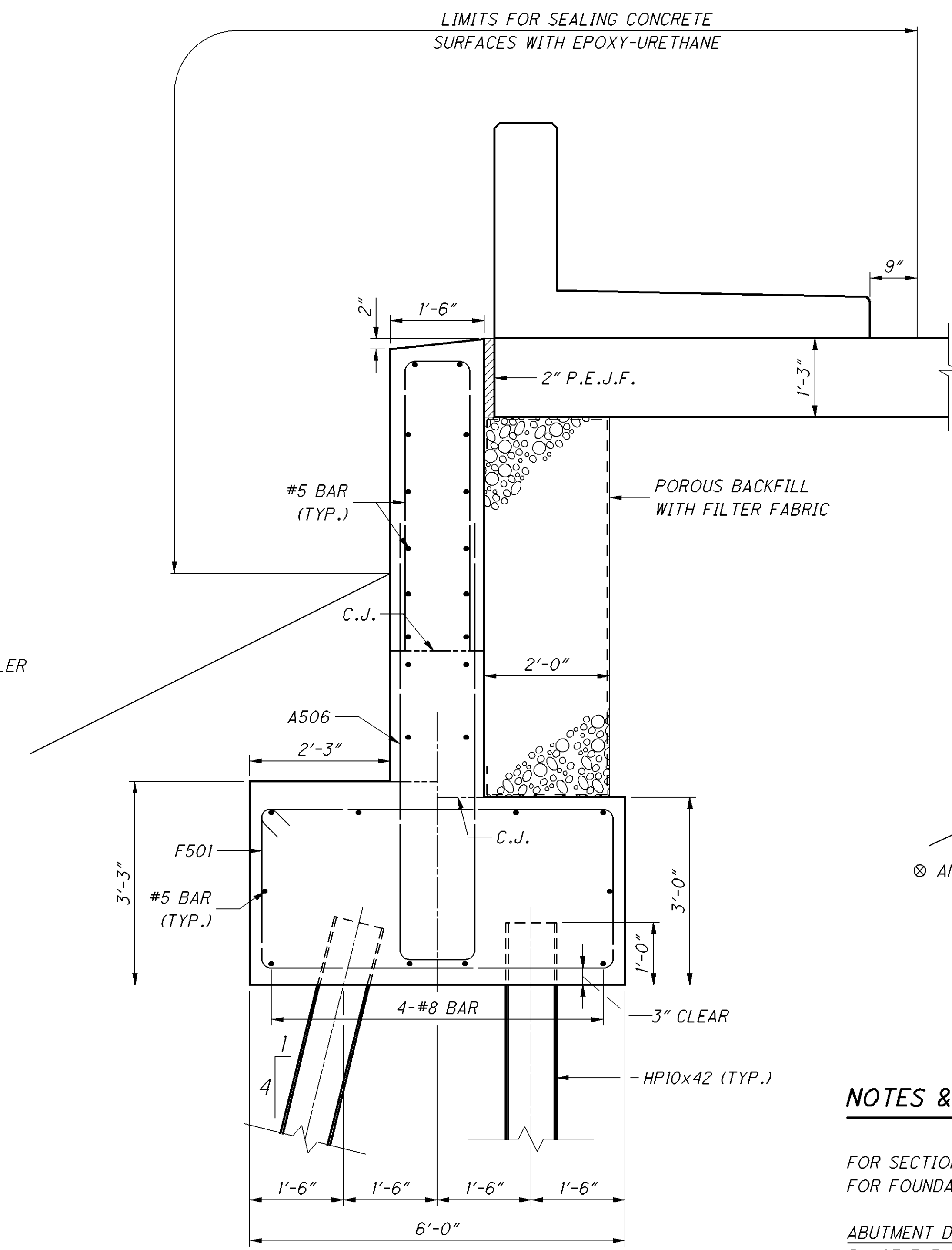
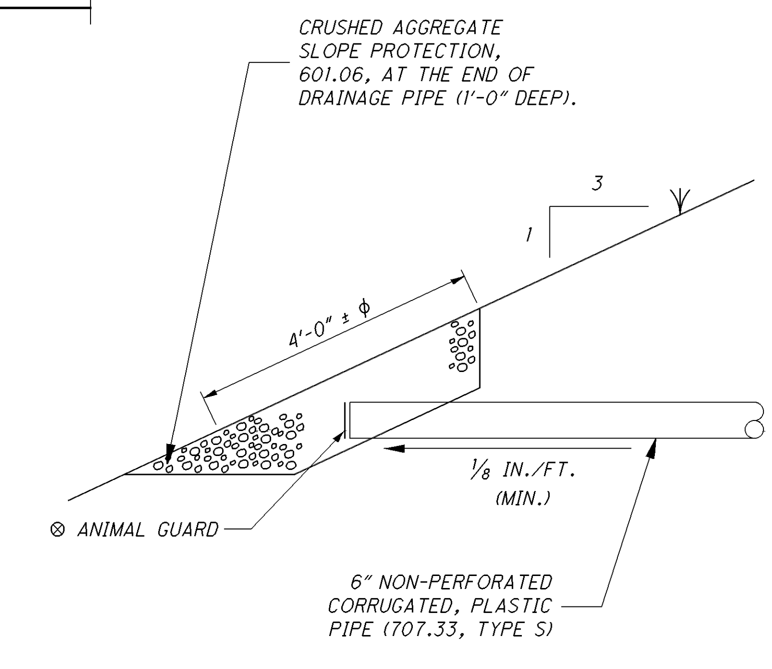


SECTION A-A



SECTION D-D



PIPE OUTLET DETAIL

NOTES & LEGEND

FOR SECTION SEE SHEETS 6/27 - 9/27
FOR FOUNDATION PLAN SEE SHEET 5/27

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE:
PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.

MINIMUM #5 BAR LAP LENGTH = 2'-6"
MINIMUM #8 BAR LAP LENGTH = 5'-0"

C.J. - CONSTRUCTION JOINT
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

◇ - A503 & A504 TO BE PLACED ALONG SKEW

Δ - DRAINAGE PIPE SLOPED ⅛" /FT AWAY FROM ℄ S.R. 301

✥ - TO BE INCLUDED WITH SUPERSTRUCTURE CONCRETE FOR PAYMENT. CONSIDERED AS INCIDENTAL TO ITEM.

⊗ - TO BE INCLUDED IN ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE FOR PAYMENT

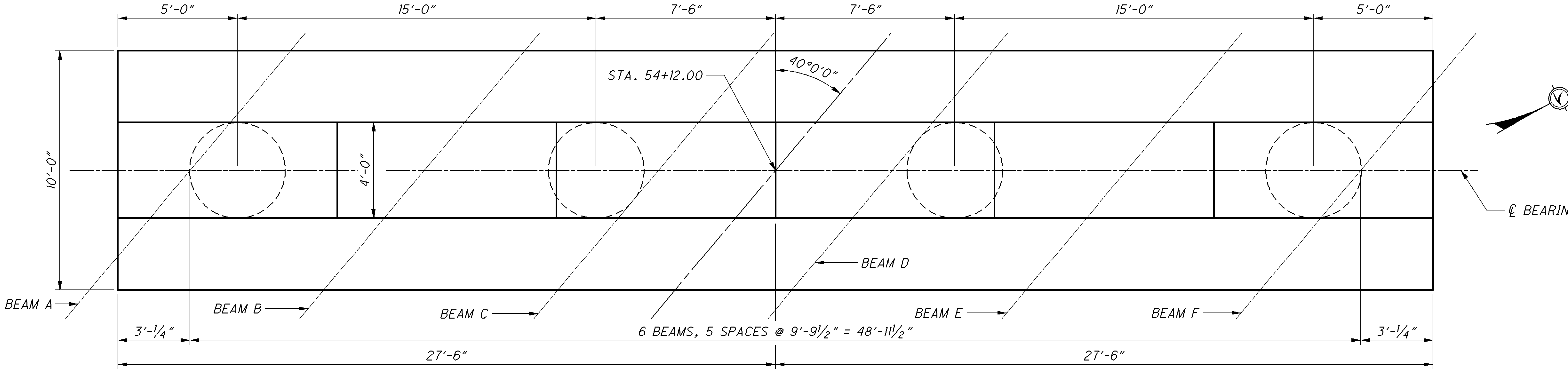
- A505 BARS TO BE PLACED IN FRONT OF RETAINER CLIP ANCHORS

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

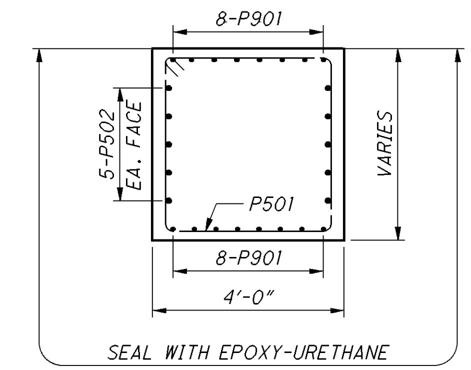
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
CJW	MRB	CJW		TAA	6/01/10	4706730

MISCELLANEOUS DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

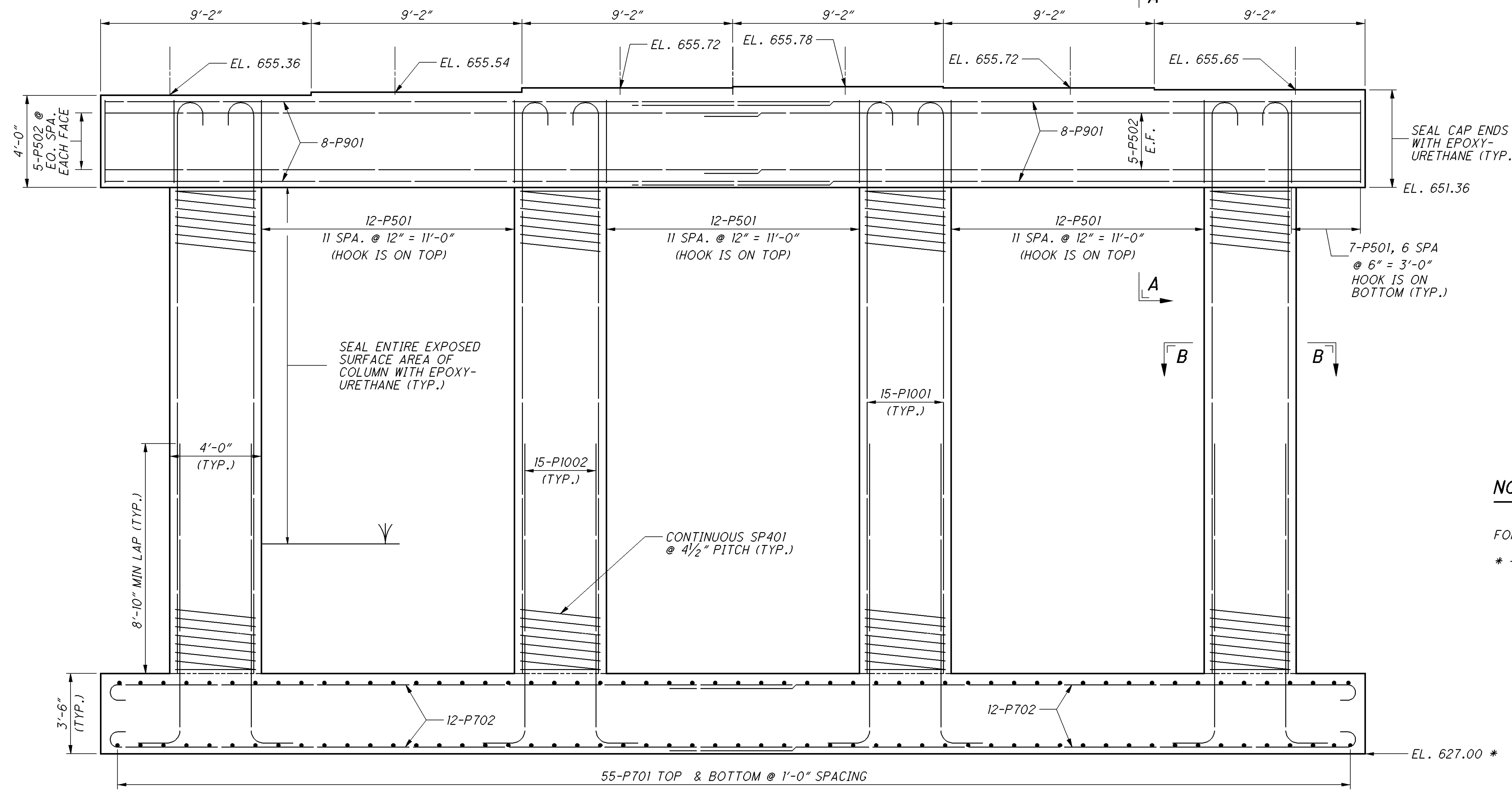
LOR-301-23.49
PID No. 80199



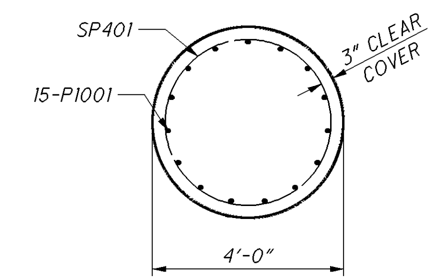
PLAN



SECTION A-A



ELEVATION



SECTION B-B

NOTES

FOR FOUNDATION PLAN SEE SHEET 5/27

* - PIER FOOTINGS SHALL EXTEND TO BOTTOM OF EXISTING FOOTING OR THE ELEVATION SHOWN ON PLANS, WHICHEVER IS LOWER.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

PIER #1 DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

11/27

46/70

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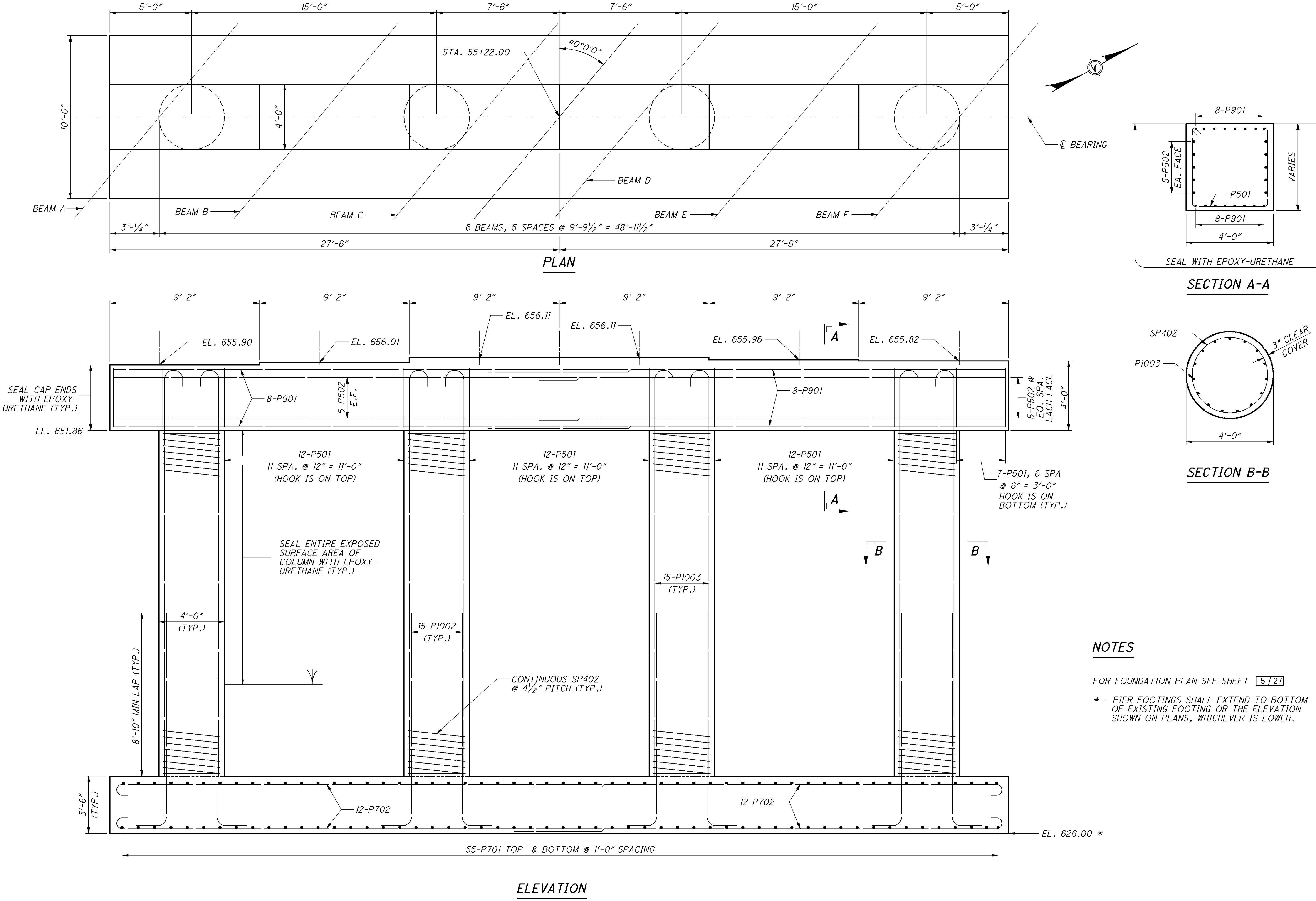


NOTES

FOR FOUNDATION PLAN SEE SHEET 5/27

* - PIER FOOTINGS SHALL EXTEND TO BOTTOM OF EXISTING FOOTING OR THE ELEVATION SHOWN ON PLANS, WHICHEVER IS LOWER.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED: TAA | DATE: 6/01/10 | STRUCTURE FILE NUMBER: 4706730

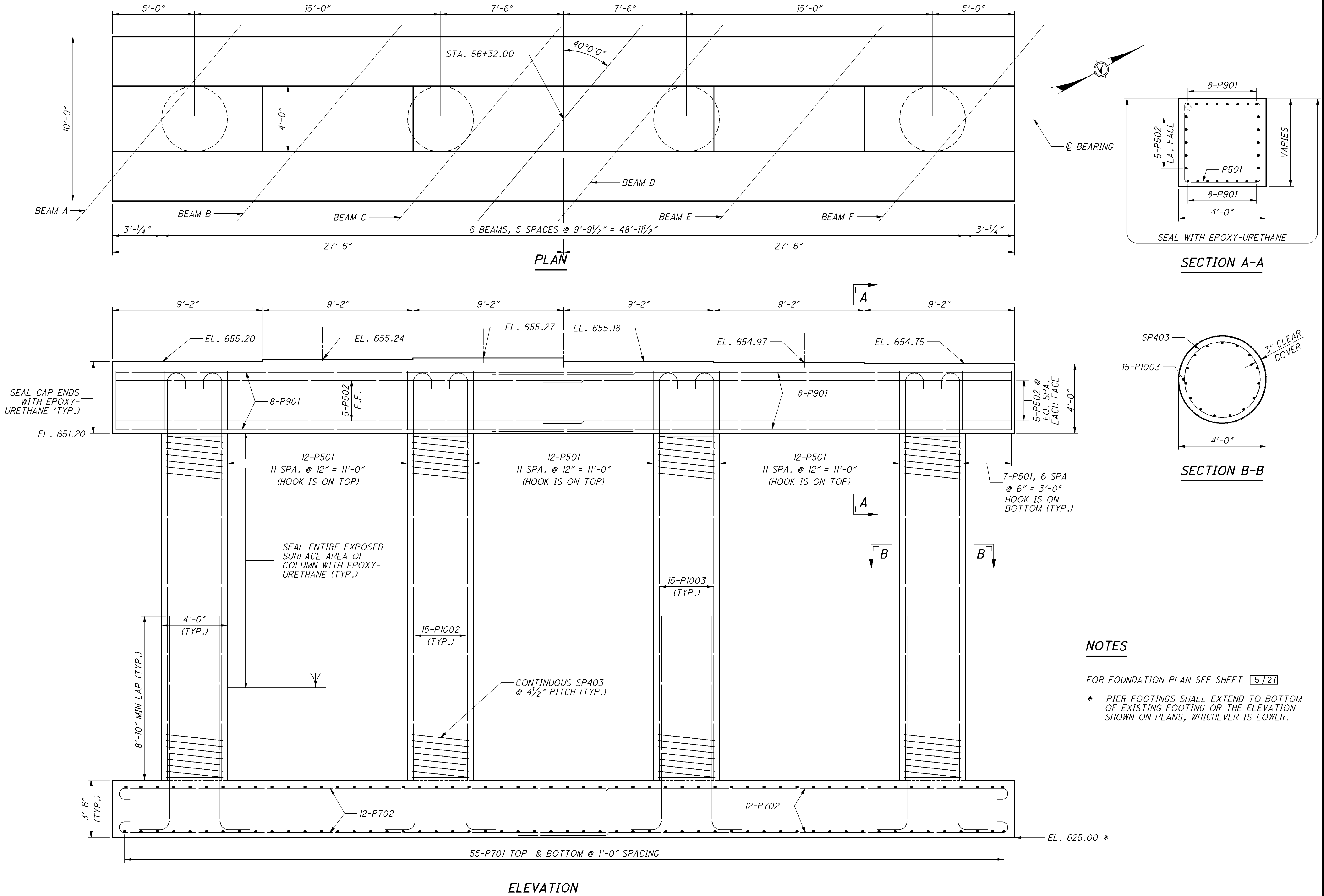
DRAWN: CJW | REVISED:

DESIGNED: CJW | CHECKED: MRB

PIER #2 DETAILS

BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199



NOTES

FOR FOUNDATION PLAN SEE SHEET 5/27

* - PIER FOOTINGS SHALL EXTEND TO BOTTOM OF EXISTING FOOTING OR THE ELEVATION SHOWN ON PLANS, WHICHEVER IS LOWER.

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

DESIGNED: CJW | CHECKED: MRB | DRAWN: CJW | REVISED: | REVIEWED: TAA | DATE: 6/02/10 | STRUCTURE FILE NUMBER: 4706730

PIER #3 DETAILS

BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

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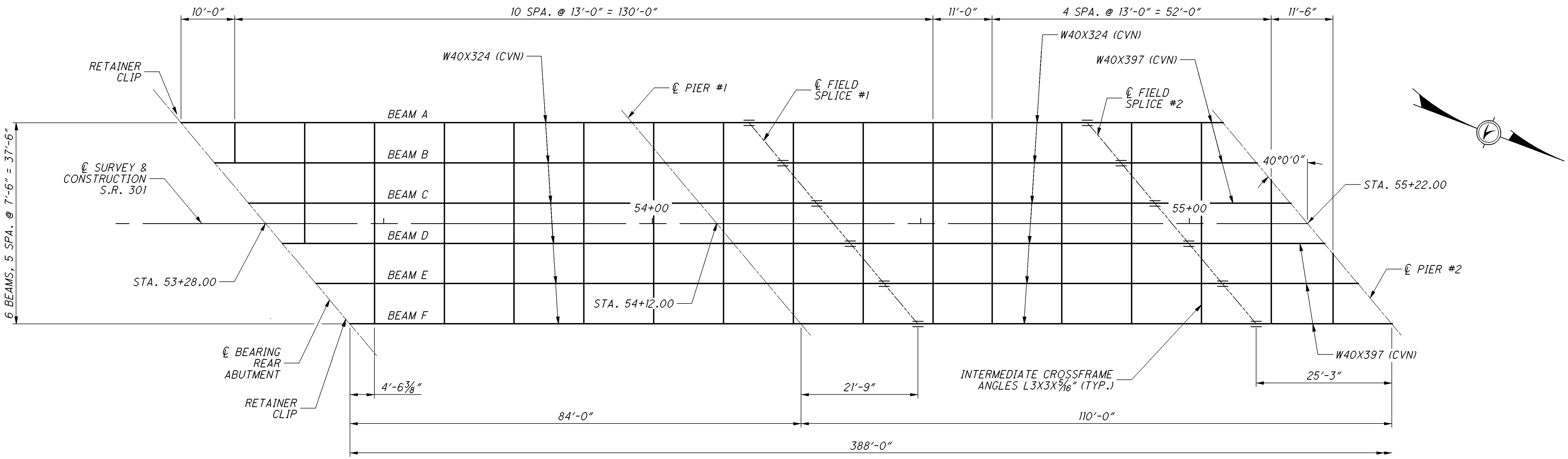
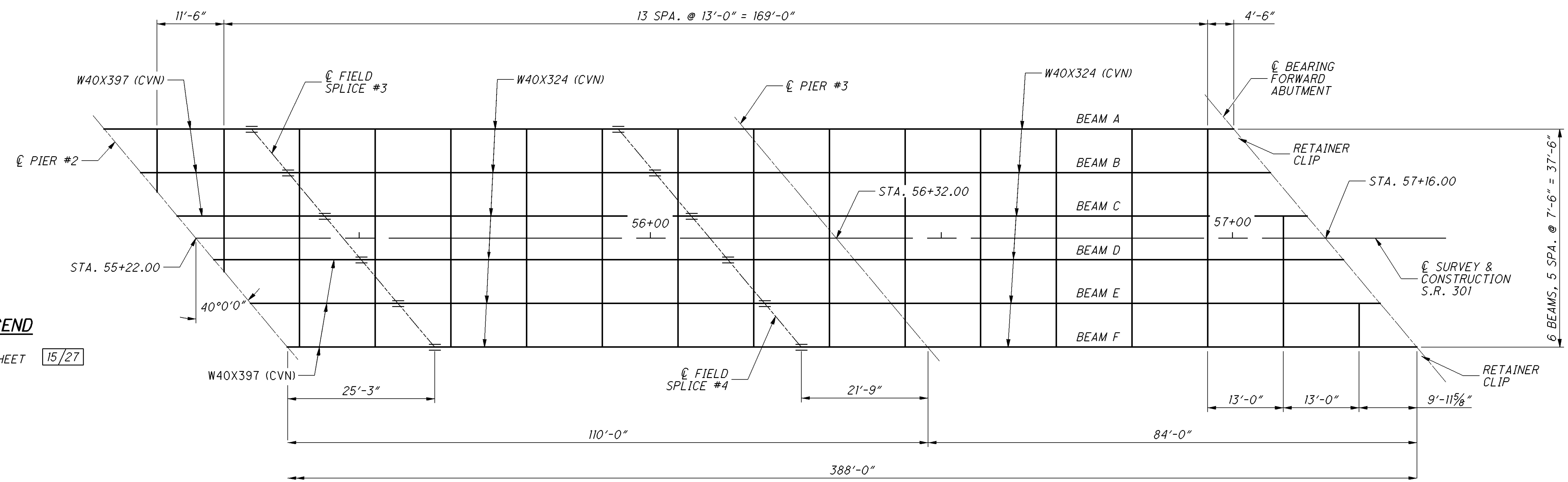


FRAMING PLAN

REAR ABUTMENT TO PIER #2



FRAMING PLAN

PIER #2 TO FORWARD ABUTMENT

NOTES & LEGEND

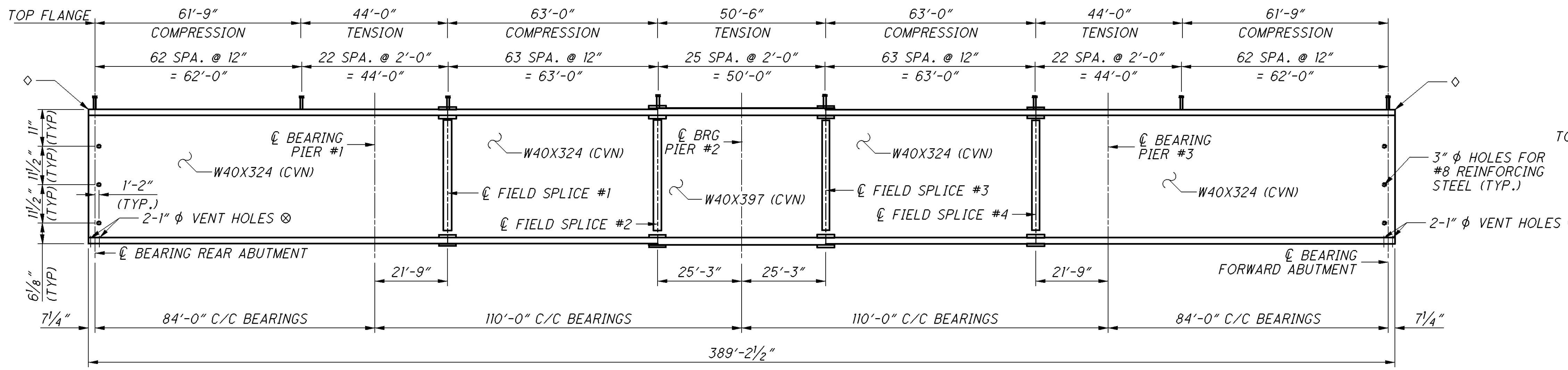
FOR NOTES SEE SHEET 15/27

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

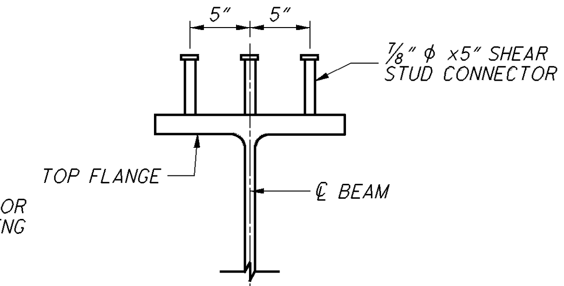
SUPERSTRUCTURE DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

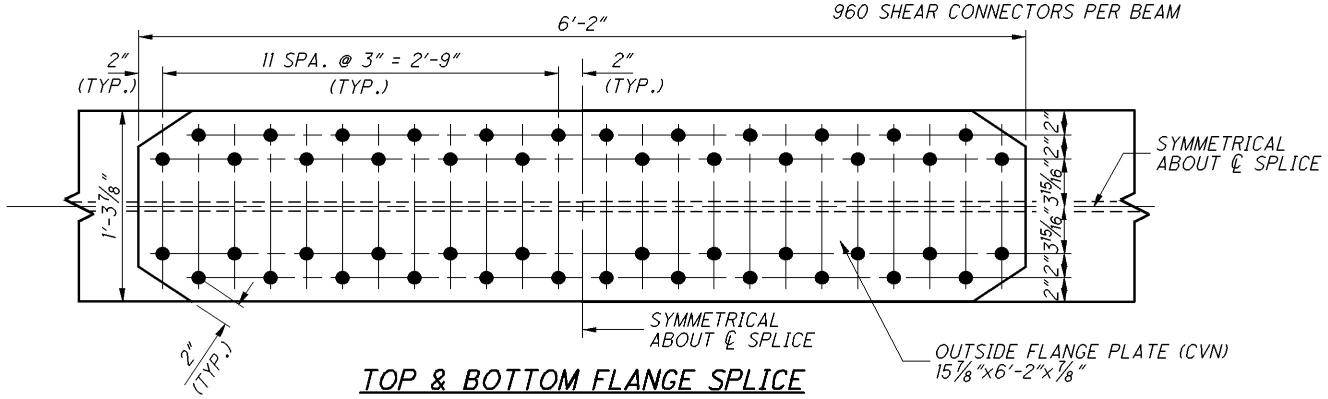


BEAM ELEVATION

(EXAGGERATED VERTICAL SCALE)
960 SHEAR CONNECTORS PER BEAM



SHEAR CONNECTOR DETAIL



TOP & BOTTOM FLANGE SPLICE

(48 BOLTS PER FLANGE)

NOTES & LEGEND

WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5⁄16" FOR GREATER THAN ¾" THICK.

CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

3" ϕ HOLES DRILLED INTO PROPOSED BEAMS SHALL BE PAID UNDER ITEM 513 STRUCTURAL STEEL. THIS PAYMENT IS INCIDENTAL TO THE PAY ITEM

HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 UNLESS OTHERWISE NOTED.

ALL BEAM LENGTH DIMENSIONS ARE @ 60° F.

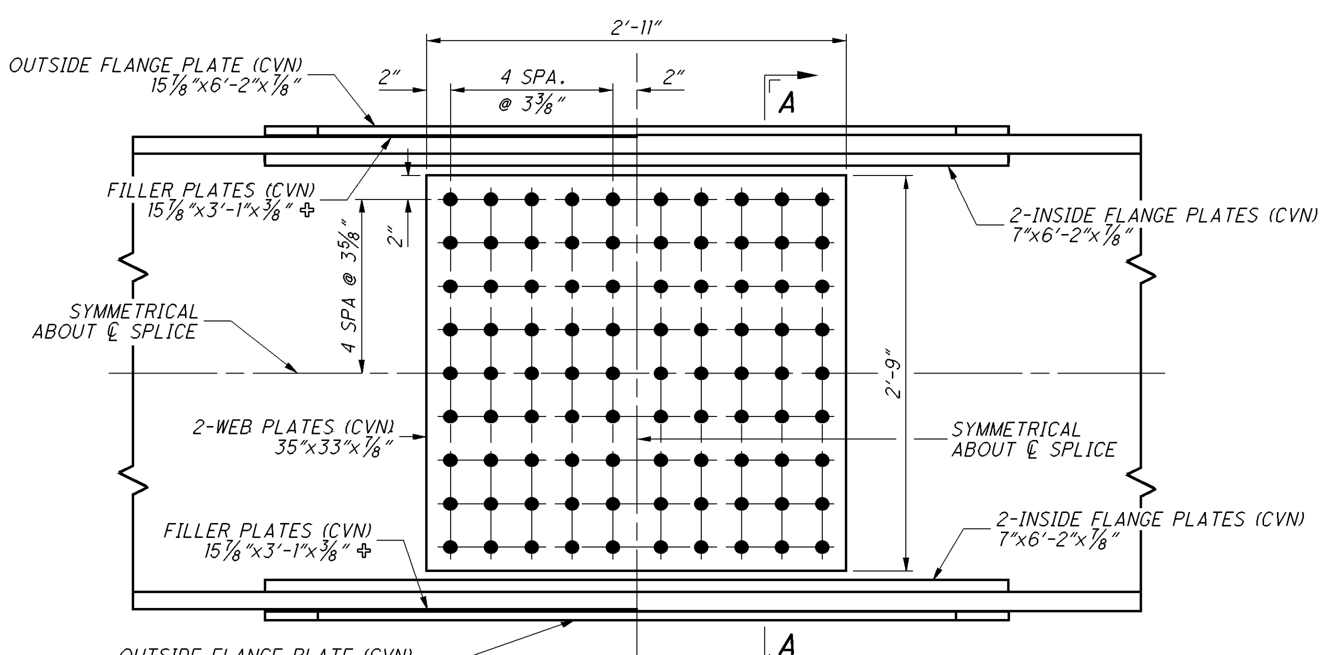
ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50.

LATERAL AND LONGITUDINAL SPACING OF WELDED STUD CONNECTORS MAY BE ALTERED AT FIELD SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FLANGE SPLICE BOLTS PROVIDED THAT AT LEAST THE NUMBER OF STUDS SPECIFIED IN THE BEAM ELEVATION ARE PROVIDED.

⊗ - 1" ϕ HOLES DRILLED INTO PROPOSED BEAM FLANGES SHALL BE PAID UNDER ITEM 513 STRUCTURAL STEEL. THIS PAYMENT IS INCIDENTAL TO THE PAY ITEM. FOR DETAILS SEE SHEET 23/27.

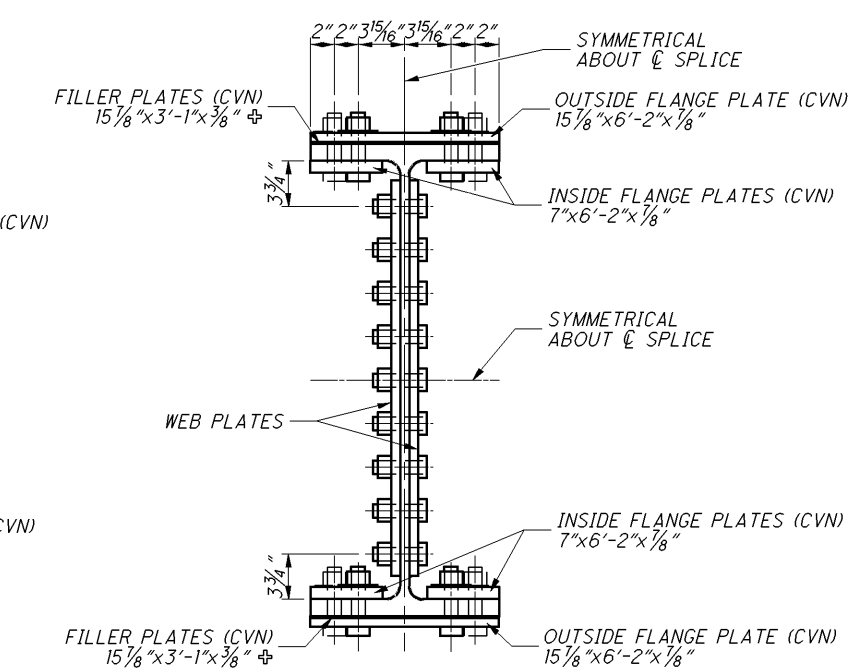
✚ - FILLER PLATES ONLY REQUIRED FOR FIELD SPLICES 2 & 3

◇ - THE TOP BEAM FLANGE NEED IS TO BE CLIPPED AT THE ABUTMENTS AS IS SHOWN IN SICD-1-96

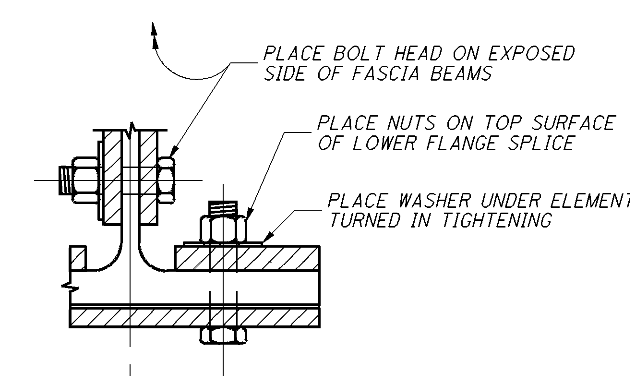


WEB SPLICE

(90 WEB BOLTS)



SECTION A-A



PARTIAL SECTION

DESIGN AGENCY: ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION

REVIEWED TAA | DATE 6/01/10 | STRUCTURE FILE NUMBER 4706730

DRAWN CJW | REVISED

DESIGNED CJW | CHECKED MRB

SUPERSTRUCTURE DETAILS (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

15/27

50/70

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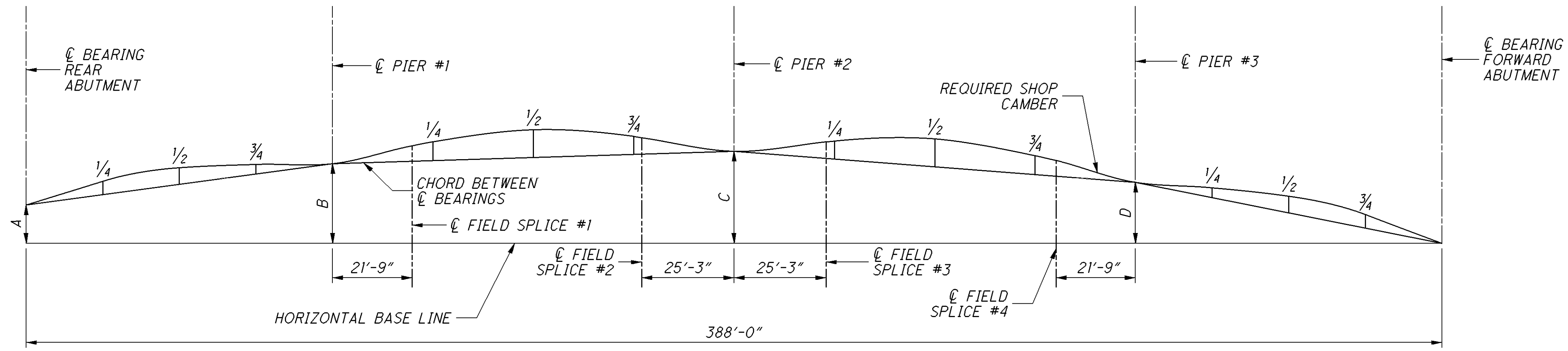

BLOCKING AND CAMBER DIAGRAM

(STEEL IN UNLOADED POSITION)

BLOCKING HEIGHTS

	BEAM A	BEAM B	BEAM C	BEAM D	BEAM E	BEAM F
A	3 5/16"	6 3/8"	9 1/2"	1' - 5/8"	1' - 3 3/4"	1' - 6 7/8"
B	1' - 6 7/8"	1' - 9 5/16"	1'-11 3/4"	2' - 2 3/16"	2' - 4 5/8"	2' - 7 1/16"
C	2' - 1 5/8"	2' - 3 3/16"	2' - 4 3/4"	2' - 6 5/16"	2' - 7 7/8"	2' - 9 7/16"
D	1' - 5"	1' - 5 11/16"	1' - 6 5/16"	1' - 7"	1' - 7 11/16"	1' - 8 3/8"

DEFLECTION AND CAMBER

	SPAN 1			SPAN 2					SPAN 3					SPAN 4		
LOCATION OF POINT	1/4	1/2	3/4	SPLICE #1	1/4	1/2	3/4	SPLICE #2	SPLICE #3	1/4	1/2	3/4	SPLICE #4	1/4	1/2	3/4
BEAM DEFLECTION	3/16	3/16	1/16	1/8	3/16	5/16	3/16	1/8	1/8	3/16	5/16	3/16	1/8	1/16	3/16	3/16
REMAINING NON-COMPOSITE DL DEFLECTION	3/8	7/16	3/16	5/16	7/16	3/4	3/8	5/16	5/16	3/8	3/4	7/16	5/16	3/16	7/16	3/8
COMPOSITE DL DEFLECTION ✣	1/8	1/8	1/16	1/8	1/8	1/4	1/8	1/8	1/8	1/8	1/4	1/8	1/8	1/16	1/8	1/8
VERTICAL CURVE CORRECTION	13/16	1 1/8"	13/16	1 1/4	1 7/16	1 15/16	1 7/16	1 3/8	1 3/8	1 7/16	1 15/16	1 7/16	1 1/4	13/16	1 1/8	13/16
SHOP CAMBER	1 1/2	1 15/16"	1 3/16	1 13/16	2 1/4	3 1/4	2 1/8	1 15/16	1 15/16	2 1/8	3 1/4	2 1/4	1 13/16	1 3/16	1 15/16	1 1/2

NOTES & LEGEND

FOR ADDITIONAL NOTES SEE SHEETS 15/27

DL - DEAD LOAD

✣ - COMPOSITE DEAD LOAD DEFLECTION IS THE DEFLECTION CAUSED BY THE WEIGHT OF THE PARAPETS, FENCES & SIDEWALKS.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA DATE 6/01/10
STRUCTURE FILE NUMBER 4706730
DRAWN CJW REVISED
DESIGNED CJW CHECKED MRB

SUPERSTRUCTURE DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

LOCATION	LEFT EDGE OF DECK		BEAM A		LEFT TOE OF S.W.		BEAM B		BEAM C		P.G.		BEAM D		BEAM E		RIGHT TOE OF S.W.		BEAM F		RIGHT EDGE OF DECK	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
BEGIN A.S.	52+89.10	658.19	NA		52+89.10	658.28	NA		NA		53+01.69	658.80	NA		NA		53+14.28	658.81	NA		53+14.28	658.81
℄ R.ABUT.	53+10.38	658.64	53+12.27	658.71	53+15.41	658.84	53+18.56	658.96	53+24.85	659.20	53+28.00	659.31	53+31.15	659.31	53+37.44	659.30	53+40.59	659.29	53+43.73	659.29	53+45.62	659.28
1/4 SPAN	53+31.38	659.08	53+33.27	659.15	53+36.41	659.27	53+39.56	659.38	53+45.85	659.61	53+49.00	659.72	53+52.15	659.71	53+58.44	659.68	53+61.59	659.67	53+64.73	659.66	53+66.62	659.65
1/2 SPAN	53+52.38	659.44	53+54.27	659.51	53+57.41	659.61	53+60.56	659.72	53+66.85	659.93	53+70.00	660.04	53+73.15	660.02	53+79.44	659.98	53+82.59	659.96	53+85.73	659.94	53+87.62	659.93
3/4 SPAN	53+73.38	659.72	53+75.27	659.78	53+78.41	659.88	53+81.56	659.98	53+87.85	660.18	53+91.00	660.27	53+94.15	660.25	54+00.44	660.20	54+03.59	660.17	54+06.73	660.14	54+08.62	660.12
PIER #1	53+94.38	659.95	53+96.27	660.01	53+99.41	660.10	54+02.56	660.20	54+08.85	660.38	54+12.00	660.47	54+15.15	660.44	54+21.44	660.37	54+24.59	660.34	54+27.73	660.30	54+29.62	660.28
℄ F.S.#1	54+16.13	660.21	54+18.02	660.26	54+21.16	660.35	54+24.31	660.43	54+30.60	660.60	54+33.75	660.68	54+36.90	660.64	54+43.19	660.56	54+46.34	660.52	54+49.48	660.48	54+51.37	660.45
1/4 SPAN	54+21.88	660.27	54+23.77	660.32	54+26.91	660.40	54+30.06	660.49	54+36.35	660.65	54+39.50	660.73	54+42.65	660.69	54+48.94	660.61	54+52.09	660.57	54+55.23	660.52	54+57.12	660.49
1/2 SPAN	54+49.38	660.49	54+51.27	660.53	54+54.41	660.61	54+57.56	660.68	54+63.85	660.83	54+67.00	660.90	54+70.15	660.85	54+76.44	660.75	54+79.59	660.70	54+82.73	660.64	54+84.62	660.61
3/4 SPAN	54+76.88	660.56	54+78.77	660.60	54+81.91	660.66	54+85.06	660.73	54+91.35	660.86	54+94.50	660.92	54+97.65	660.86	55+03.94	660.74	55+07.09	660.68	55+10.23	660.61	55+12.12	660.58
℄ F.S.#2	54+79.13	660.56	54+81.02	660.60	54+84.16	660.66	54+87.31	660.73	54+93.60	660.85	54+96.75	660.91	54+99.90	660.85	55+06.19	660.73	55+09.34	660.67	55+12.48	660.61	55+14.37	660.57
PIER #2	55+04.38	660.54	55+06.27	660.58	55+09.41	660.63	55+12.56	660.69	55+18.85	660.80	55+22.00	660.85	55+25.15	660.78	55+31.44	660.64	55+34.59	660.57	55+37.73	660.50	55+39.62	660.46
℄ F.S.#3	55+29.63	660.53	55+31.52	660.56	55+34.66	660.61	55+37.81	660.66	55+44.10	660.75	55+47.25	660.79	55+50.40	660.72	55+56.69	660.56	55+59.84	660.48	55+62.98	660.40	55+64.87	660.35
1/4 SPAN	55+31.88	660.53	55+33.77	660.56	55+36.91	660.61	55+40.06	660.65	55+46.35	660.74	55+49.50	660.79	55+52.65	660.71	55+58.94	660.55	55+62.09	660.47	55+65.23	660.39	55+67.12	660.34
1/2 SPAN	55+59.38	660.43	55+61.27	660.46	55+64.41	660.49	55+67.56	660.53	55+73.85	660.60	55+77.00	660.64	55+80.15	660.55	55+86.44	660.38	55+89.59	660.29	55+92.73	660.20	55+94.62	660.14
3/4 SPAN	55+86.88	660.19	55+88.77	660.20	55+91.91	660.23	55+95.06	660.26	56+01.35	660.32	56+04.50	660.34	56+07.65	660.25	56+13.94	660.05	56+17.09	659.95	56+20.23	659.85	56+22.12	659.79
℄ F.S.#4	55+92.63	660.12	55+94.52	660.13	55+97.66	660.16	56+00.81	660.19	56+07.10	660.24	56+10.25	660.26	56+13.40	660.17	56+19.69	659.97	56+22.84	659.87	56+25.98	659.76	56+27.87	659.70
PIER #3	56+14.38	659.84	56+16.27	659.85	56+19.41	659.88	56+22.56	659.89	56+28.85	659.93	56+32.00	659.95	56+35.15	659.84	56+41.44	659.63	56+44.59	659.52	56+47.73	659.41	56+49.62	659.35
1/4 SPAN	56+35.38	659.58	56+37.27	659.59	56+40.41	659.61	56+43.56	659.62	56+49.85	659.64	56+53.00	659.65	56+56.15	659.54	56+62.44	659.31	56+65.59	659.20	56+68.73	659.08	56+70.62	659.01
1/2 SPAN	56+56.38	659.29	56+58.27	659.29	56+61.41	659.30	56+64.56	659.30	56+70.85	659.31	56+74.00	659.31	56+77.15	659.19	56+83.44	658.95	56+86.59	658.83	56+89.73	658.71	56+91.62	658.63
3/4 SPAN	56+77.38	658.91	56+79.27	658.91	56+82.41	658.91	56+85.56	658.91	56+91.85	658.90	56+95.00	658.89	56+98.15	658.77	57+04.44	658.51	57+07.59	658.38	57+10.73	658.25	57+12.62	658.18
℄ F.ABUT.	56+98.38	658.44	57+00.27	658.44	57+03.41	658.43	57+06.56	658.42	57+12.85	658.40	57+16.00	658.39	57+19.15	658.26	57+25.44	657.99	57+28.59	657.85	57+31.73	657.72	57+33.62	657.63
END A.S.	57+29.72	657.73	NA		57+29.72	657.83	NA		NA		57+42.31	657.75	NA		NA		57+54.90	657.18	NA		57+54.90	657.18

SCREED ELEVATIONS

LOCATION OF POINT	SPAN 1			SPAN 2					SPAN 3					SPAN 4		
	1/4	1/2	3/4	SPLICE #1	1/4	1/2	3/4	SPLICE #2	SPLICE #3	1/4	1/2	3/4	SPLICE #4	1/4	1/2	3/4
SLAB & COMPOSITE DL DEFLECTION	1/2	5/8	1/4	7/16	9/16	15/16	1/2	7/16	7/16	1/2	15/16	9/16	7/16	1/4	5/8	1/2

DEFLECTION USED FOR SCREED ELEVATIONS, INCHES

NOTES & LEGEND

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

FOR ADDITIONAL NOTES SEE SHEETS 15/27

P.G. - PROFILE GRADE
S.W. - SIDEWALK
A.S. - APPROACH SLAB
F.S. - FIELD SPLICE
R. - REAR
F. - FORWARD
DL - DEAD LOAD

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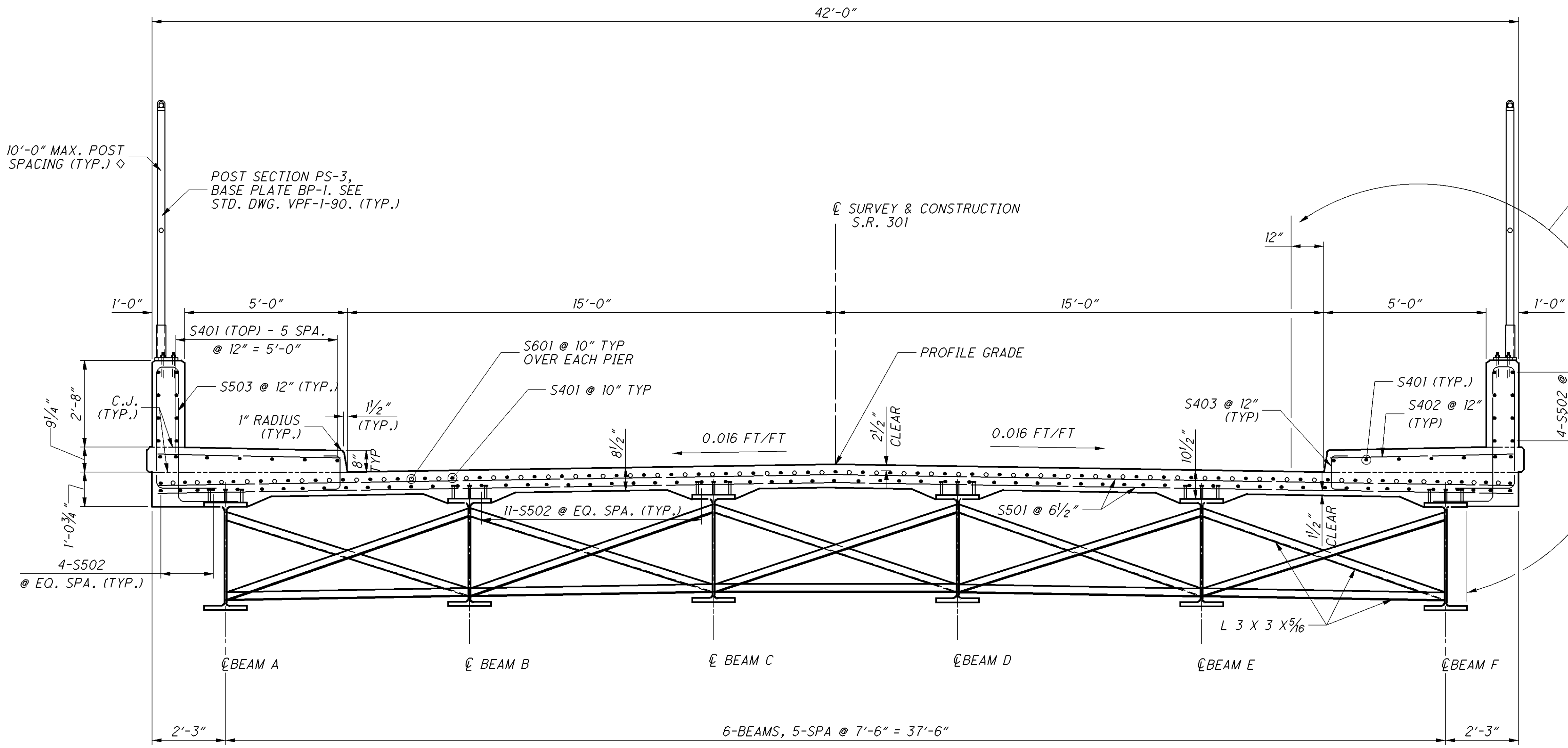
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION
DESIGNED CJW
DRAWN CJW
REVIEWED TAA
DATE 6/01/10
STRUCTURE FILE NUMBER 4706730
CHECKED MRB
REVISED

SUPERSTRUCTURE DETAILS (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199



TRANSVERSE SECTION

NOTES & LEGEND

DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS +/- 3 INCHES.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS.

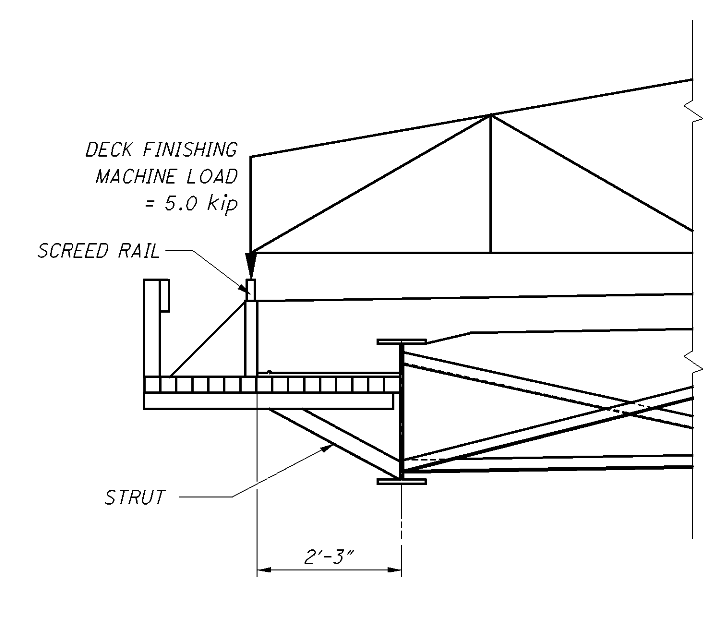
FOR CROSS-FRAME CONNECTION DETAILS SEE STD DWG GSD-1-96.

REINFORCING STEEL MAY BE FIELD OR SHOP BENT TO ACCOMODATE THE CROWN OF THE DECK. PAYMENT SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL

CONSTRUCTION LOADING: THE TOTAL, UNFACTORED WEIGHT OF FORMWORK ON THE OVERHANG INCLUDING FALSEWORK, EDGEFORM, AND RAILING WAS ASSUMED TO BE 0.106 KIPS/FT. THE TOTAL WEIGHT OF THE DECK FINISHING MACHINE WAS ASSUMED TO BE 10.0 KIPS. IF THE CONTRACTOR USES FORMWORK LOADS THAT EXCEED THESE ASSUMPTIONS,THE CONTRACTOR SHALL REANALYZE THE SUPERSTRUCTURE USING A REFINED ANALYSIS METHOD AND SUBMIT THE CALCULATIONS TO THE ENGINEER FOR APPROVAL. SEE CONSTRUCTION LOADING DETAIL FOR ADDITIONAL DESIGN ASSUMPTIONS.

C.J. - CONSTRUCTION JOINT
E.F. - EACH FACE

◇ - FOR MORE DETAILS SEE SHEET 21/27



CONSTRUCTION LOADING

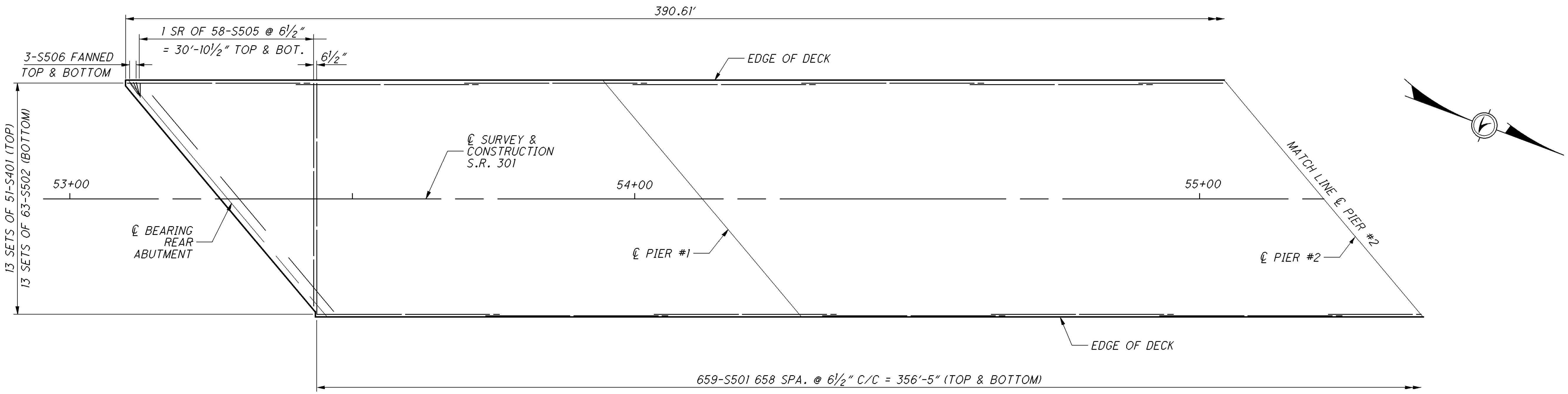
DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA | DATE 6/01/10
STRUCTURE FILE NUMBER 4706730
DRAWN CJW | REVISED
DESIGNED CJW | CHECKED MRB

TRANSVERSE SECTION
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

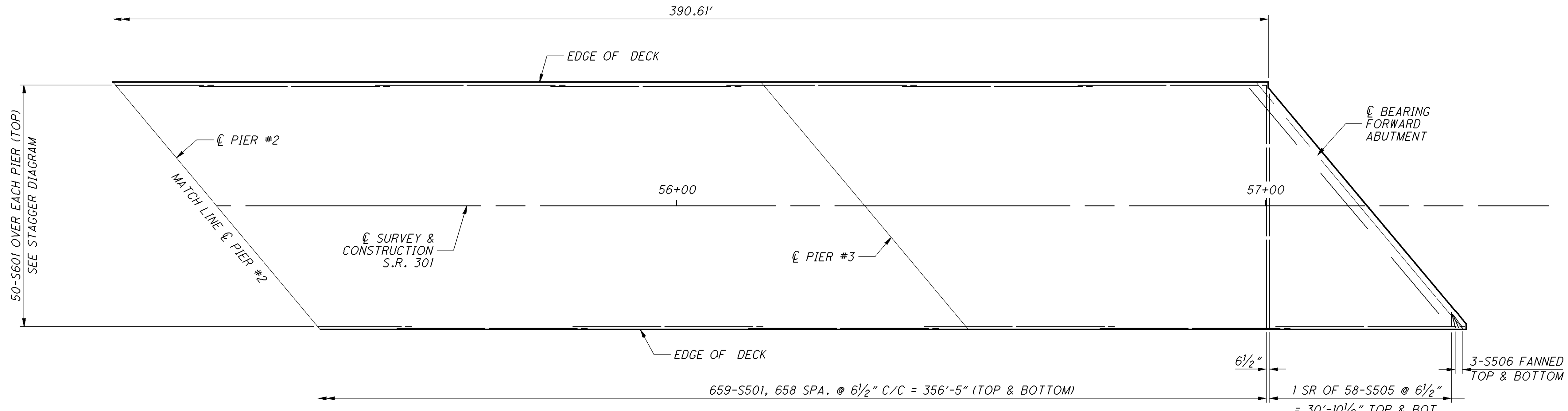
LOR-301-23.49
PID No. 80199

18/27



DECK PLAN ✣

REAR ABUTMENT TO PIER #2



DECK PLAN ✣

PIER #2 TO FORWARD ABUTMENT

NOTES & LEGEND

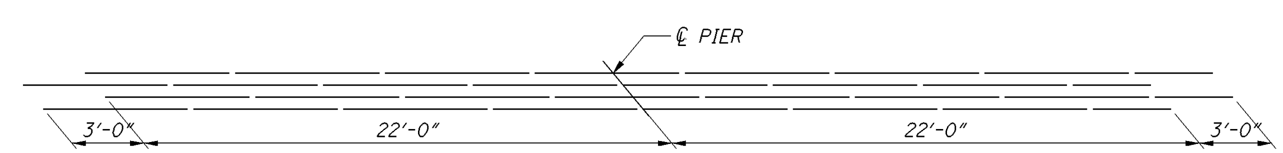
THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS.

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

FOR ADDITIONAL DETAILS, SEE SHEET 18/27.

#4 BAR MINIMUM LAP = 2'-0"
#5 BAR MINIMUM LAP = 2'-6"

✣ - SIDEWALK AND PARAPET REINFORCING NOT SHOWN FOR CLARITY. FOR REINFORCING CALL OUT, SEE SHEETS 20/27 & 21/27.



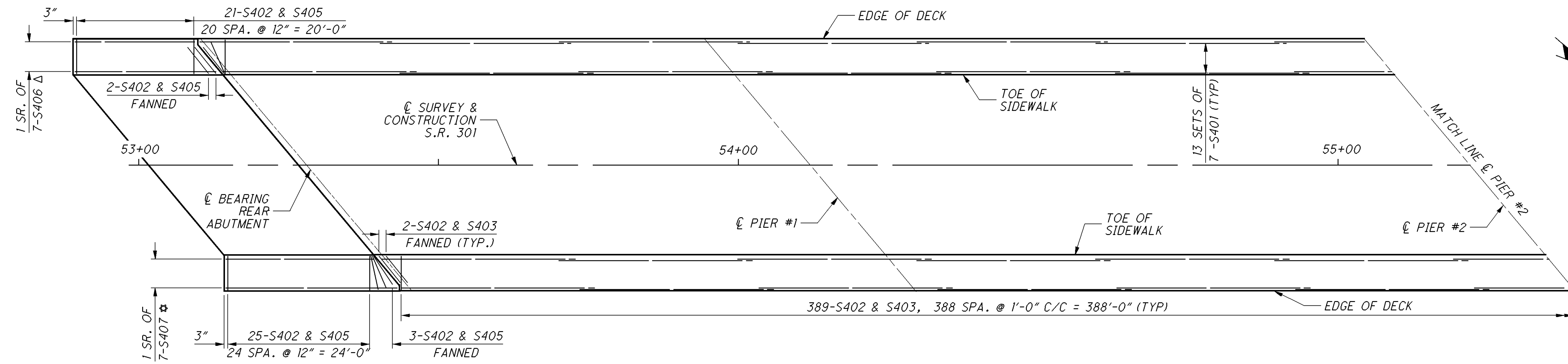
STAGGER OF S601 BARS OVER PIERS

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA	DATE 6/01/10	STRUCTURE FILE NUMBER 4706730
DRAWN CJW	REVISED	
DESIGNED CJW	CHECKED MRB	

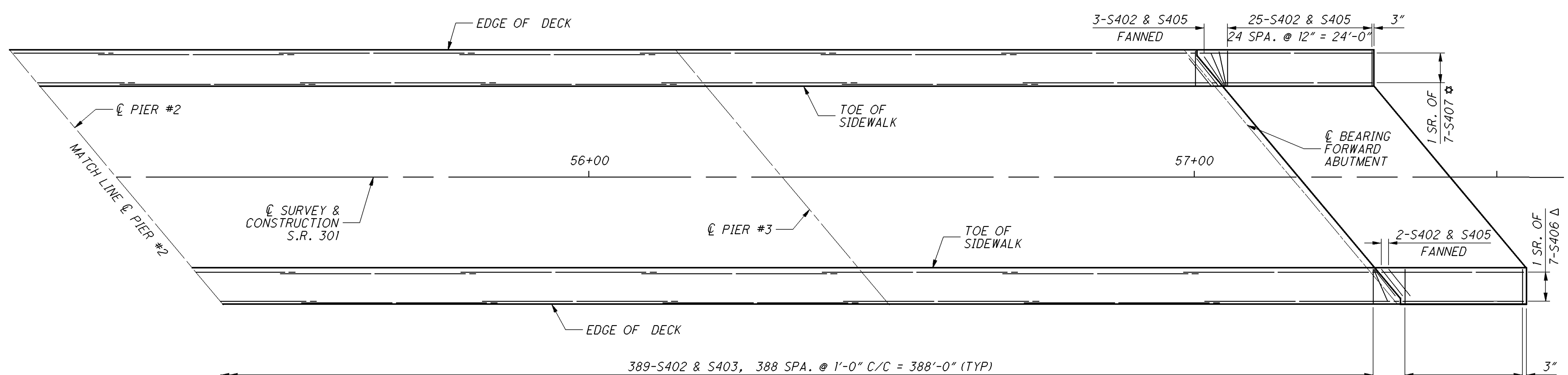
DECK PLAN
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199



SIDEWALK PLAN ✥

REAR ABUTMENT TO PIER #2



SIDEWALK PLAN ✥

PIER #2 TO FORWARD ABUTMENT

NOTES & LEGEND

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

#4 BAR MINIMUM LAP = 2'-0"

✥ - DECK AND PARAPET REINFORCING NOT SHOWN FOR CLARITY. FOR REINFORCING CALL OUT, SEE SHEETS 19/27 & 21/27.

APPROACH SLAB REINFORCING "A" BAR & "C" BAR LENGTHS IN STANDARD DRAWING AS-1-81 SHALL BE MODIFIED AS DESCRIBED:

Δ - ON NORTH EAST AND SOUTH WEST CORNERS THE 10 BARS UNDER THE SIDEWALK SHALL BE A SERIES FROM 19'-9" TO 24'-0"

✡ - ON NORTH WEST AND SOUTH EAST CORNERS THE 10 BARS UNDER THE SIDEWALK SHALL BE A SERIES FROM 24'-6" TO 28'-9"

DESIGN AGENCY: ODOT CENTRAL OFFICE OFFICE OF PRODUCTION

REVIEWED TAA	DATE 6/01/10	
STRUCTURE FILE NUMBER 4706730		
DRAWN CJW	REVISED	
DESIGNED CJW	CHECKED MRB	

DECK PLAN (CONTINUED)

BRIDGE NO. LOR-301-2349

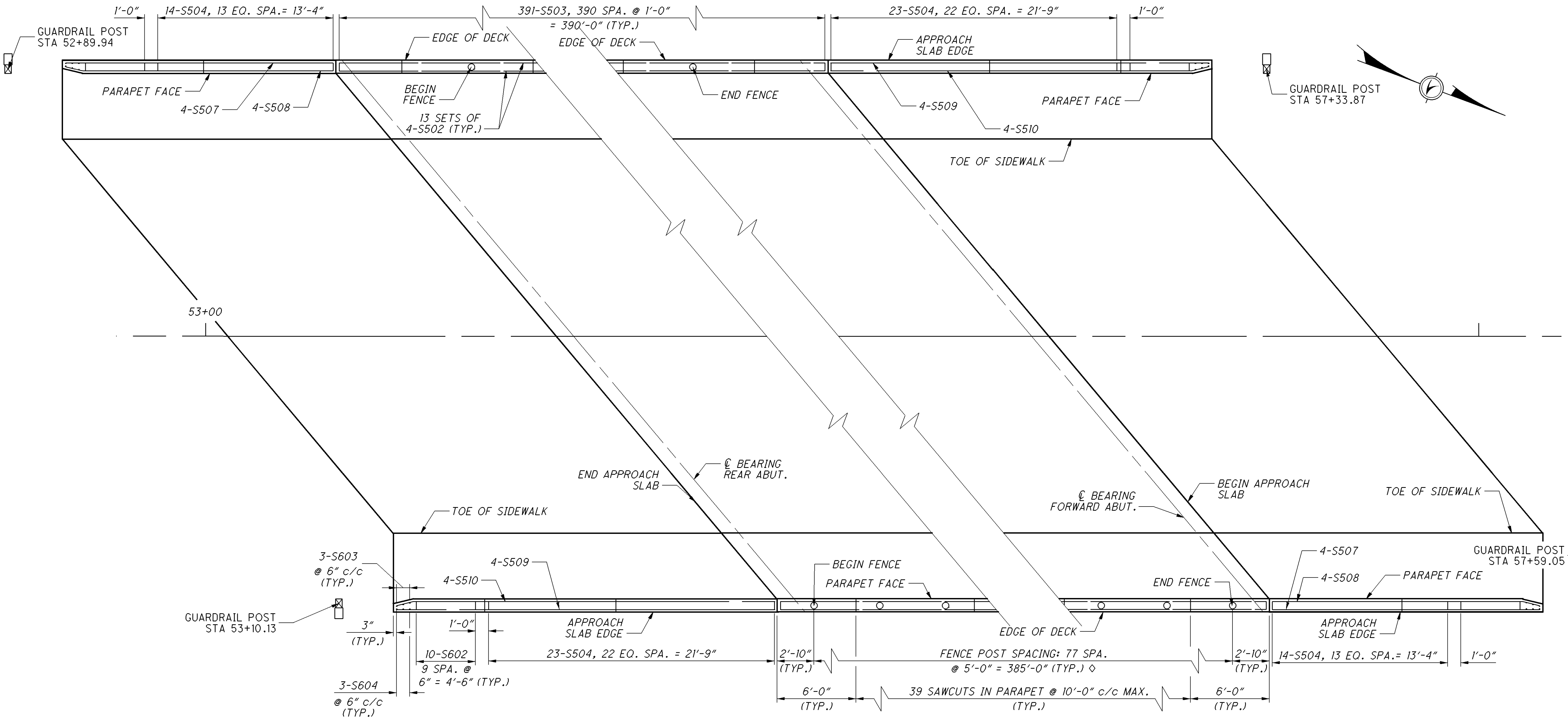
S.R. 301 OVER I.R. 90

LOR-301-23.49

PID No. 80199

20/27

55/70



PARAPET PLAN ✣

NOTES & LEGEND

ALL REINFORCING STEEL IS TO BE EPOXY COATED.

#5 BAR MINIMUM LAP = 2'-6"

✣ - DECK AND SIDEWALK REINFORCING NOT SHOWN FOR CLARITY. FOR REINFORCING CALL OUT, SEE SHEETS 19/26 & 20/26 .

◇ - SEE STD. DWG. VPF-1-90 FOR MORE DETAILS

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED	DATE
TAA	6/01/10
STRUCTURE FILE NUMBER	
4706730	

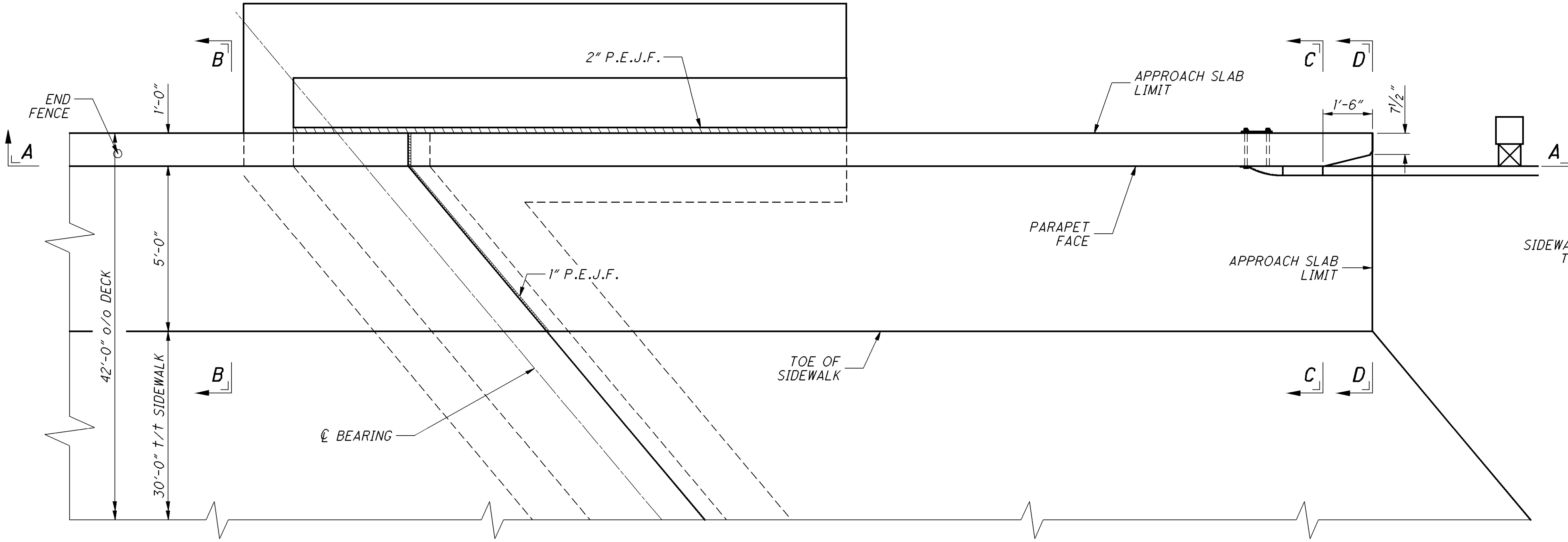
DESIGNED	DRAWN	CHECKED	REVISED
CJW	CJW	MRB	

DECK PLAN (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

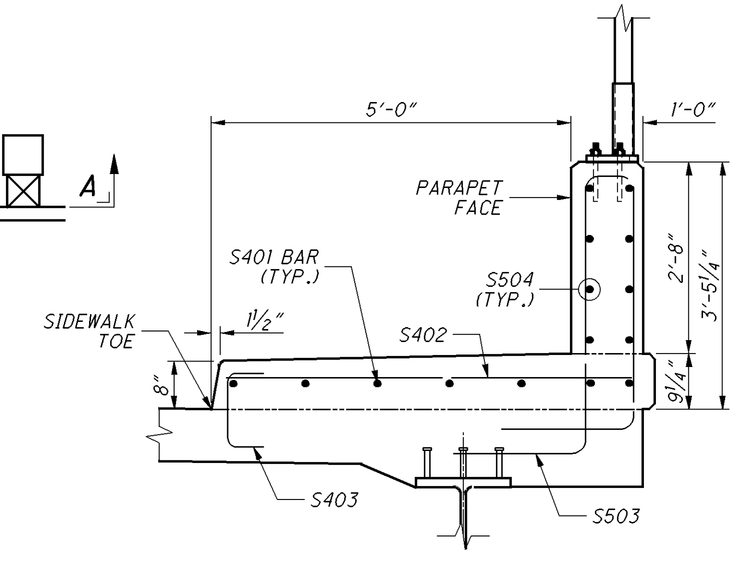
LOR-301-23.49
PID No. 80199

21/27

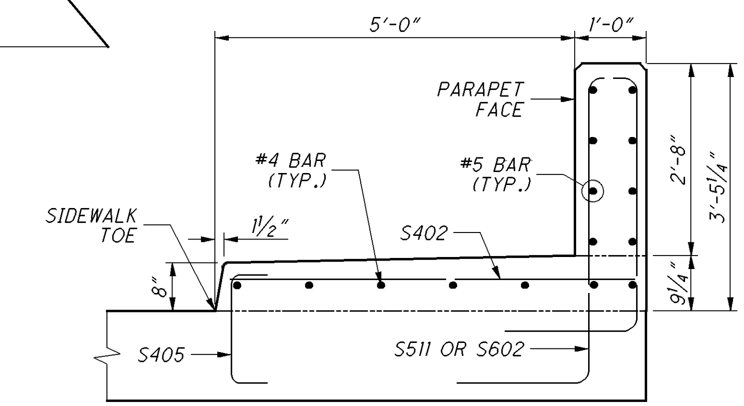
56/70



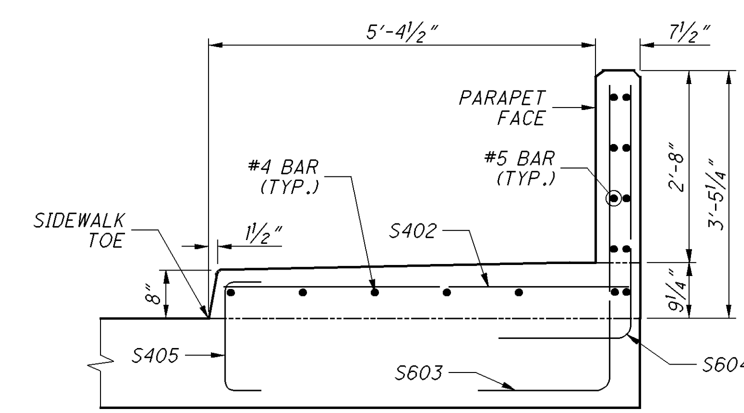
PART PLAN AT ABUTMENT



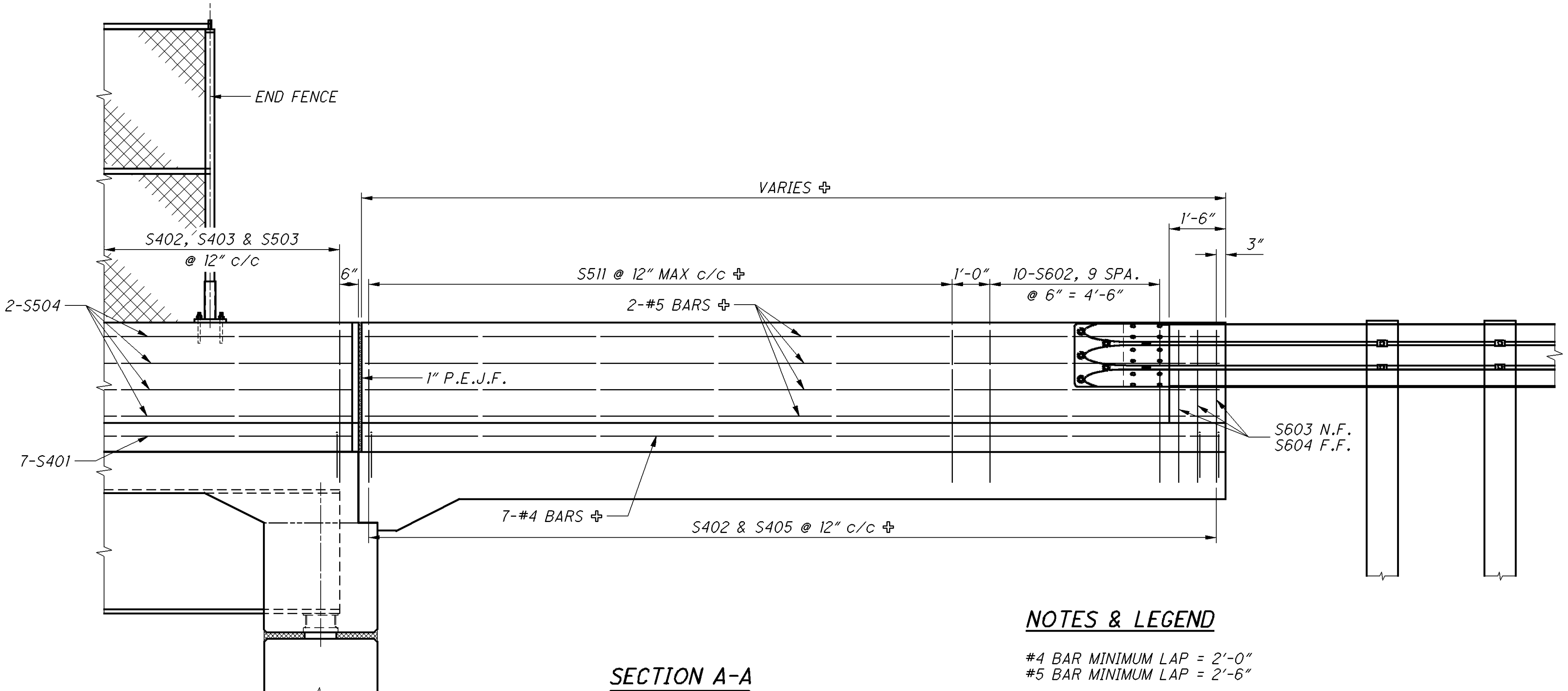
SECTION B-B



SECTION C-C



SECTION D-D



SECTION A-A

NOTES & LEGEND

#4 BAR MINIMUM LAP = 2'-0"
#5 BAR MINIMUM LAP = 2'-6"

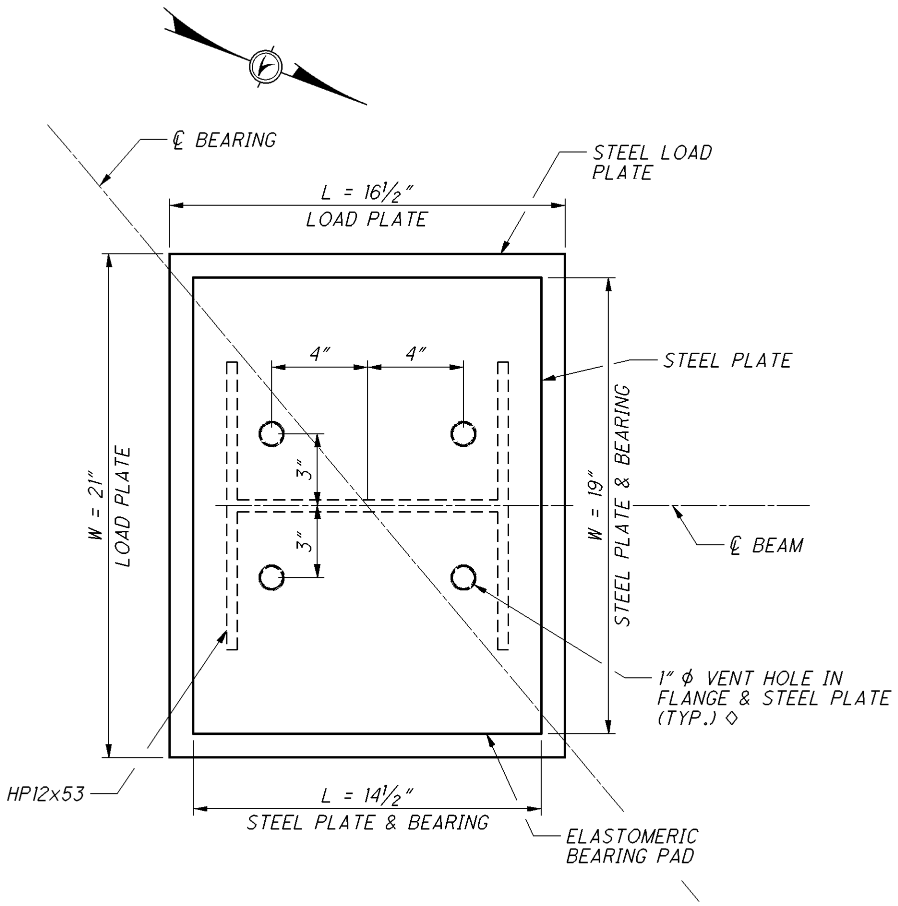
N.F. - NEAR FACE
F.F. - FAR FACE
P.E.J.F - PREFORMED EXPANSION JOINT FILLER

✚ - SKEW REQUIRES DIMENSION & REINFORCEMENT TO VARY.
FOR REINFORCING CALL OUT, SEE SHEETS 20/27 & 21/27.

DESIGN AGENCY	ODOT CENTRAL OFFICE, OFFICE OF PRODUCTION
REVIEWED	TAA
DATE	6/01/10
STRUCTURE FILE NUMBER	4706730
DRAWN	CJW
REVISED	
DESIGNED	CJW
CHECKED	MRB

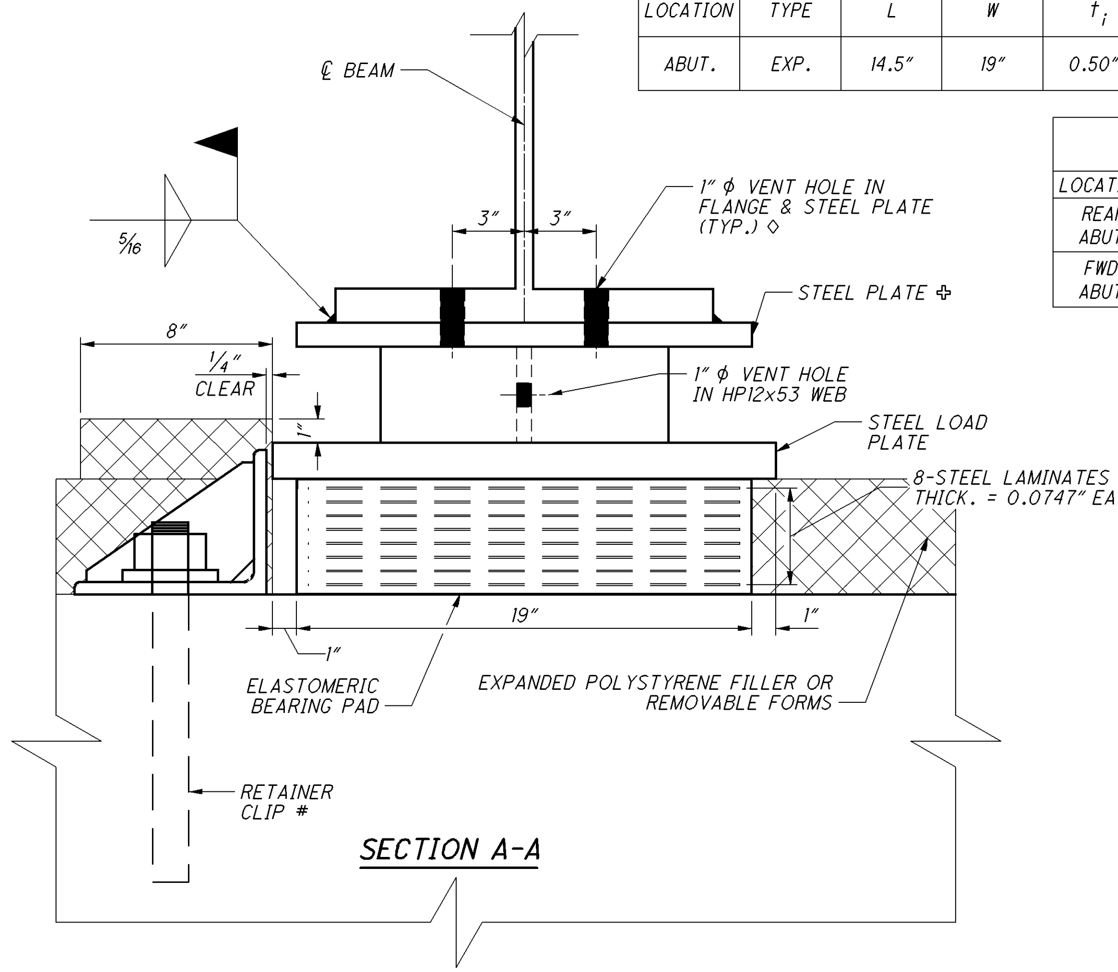
PARAPET DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199



PLAN

(REAR ABUTMENT BEARING SHOWN)



SECTION A-A

ABUTMENT BEARING TABLE								SERVICE LIMIT STATE DESIGN LOAD		
LOCATION	TYPE	L	W	t_i	t_e	n_{ie}	n_s	STEEL LOAD PLATE	DL	LL	TOTAL
ABUT.	EXP.	14.5″	19″	0.50″	0.35″	7	8	16.5″x21″x1.5″	103 K	59 K	162 K

H-PILE 'H' DIMENSION						
LOCATION	BEAM A	BEAM B	BEAM C	BEAM D	BEAM E	BEAM F
REAR ABUT.	4⅝″	7½″	10⅜″	11¾″	11⅝″	11½″
FWD. ABUT.	13 5⁄16″	13⅛″	12⅞″	11⅛″	7⅞″	4⅝″

STEEL PLATE	
LOCATION	THICKNESS
REAR ABUT.	14.5″x19″xBEVEL ✥
FWD. ABUT.	14.5″x19″xBEVEL ✥

NOTES & LEGEND

BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80 °F OR LOWER THAN 40 °F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60 °F (+/-) 10 °F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60 °F (+/-) 10 °F.

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

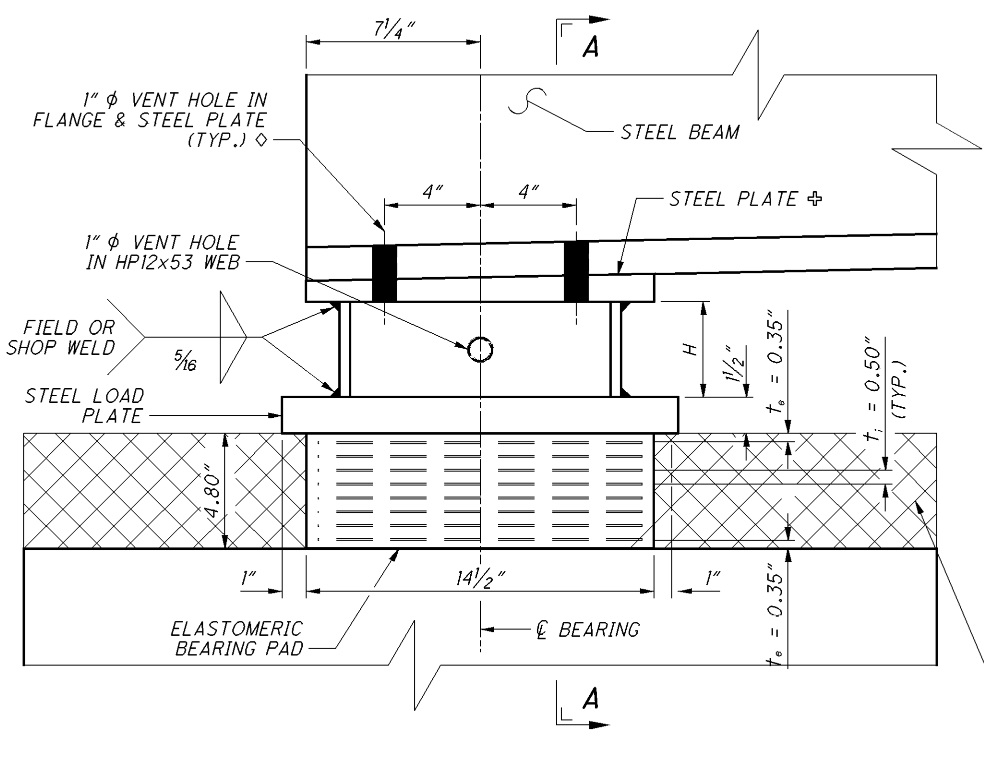
H-PILE, STEEL PLATE, AND VENT HOLES IN STEEL PLATE AND H-PILE WEB TO BE INCLUDED IN ITEM 516 FOR PAYMENT.

t_i - THICKNESS OF INTERNAL ELASTOMER LAYER
t_e - THICKNESS OF EXTERNAL ELASTOMER LAYER
n_{ie} - NUMBER OF INTERNAL ELASTOMER LAYERS
n_s - NUMBER OF INTERNAL STELL LAMINATES, THICKNESS = 0.0747″

✥ - TOP STEEL PLATE IS BEVELED. SEE STEEL PLATE DETAIL FOR THICKNESSES & ORIENTATION

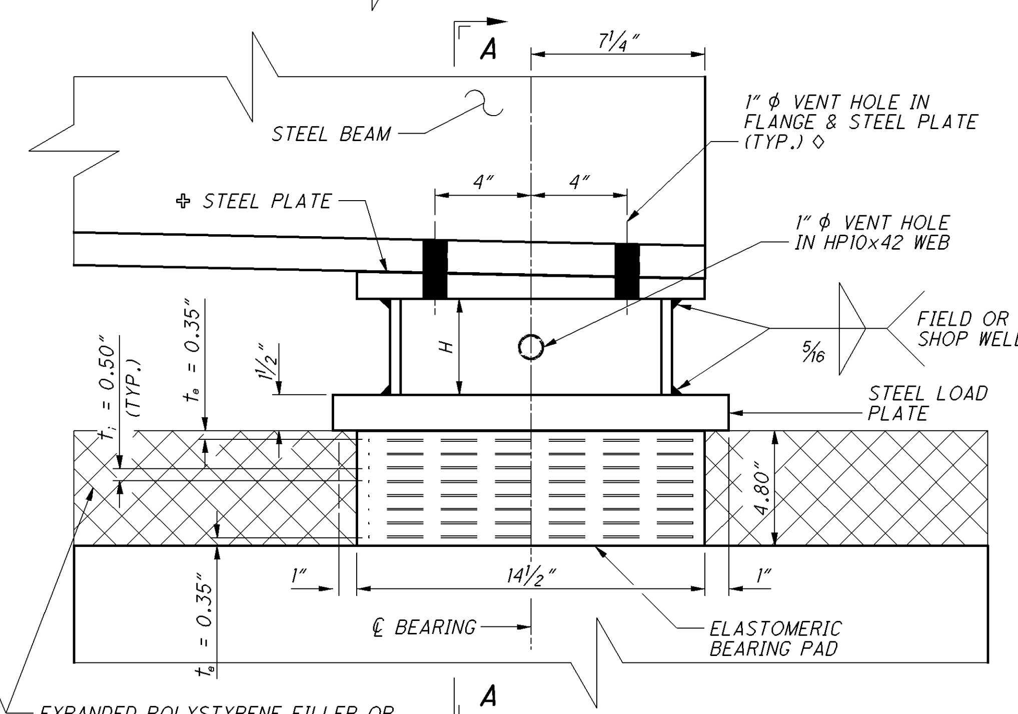
- FOR ADDITIONAL DETAILS SEE SHEET 24/27

◇ - 1″ ϕ HOLES DRILLED INTO PROPOSED BEAM FLANGES SHALL BE PAID UNDER ITEM 513 STRUCTURAL STEEL. THIS PAYMENT IS INCIDENTAL TO THE PAY ITEM.

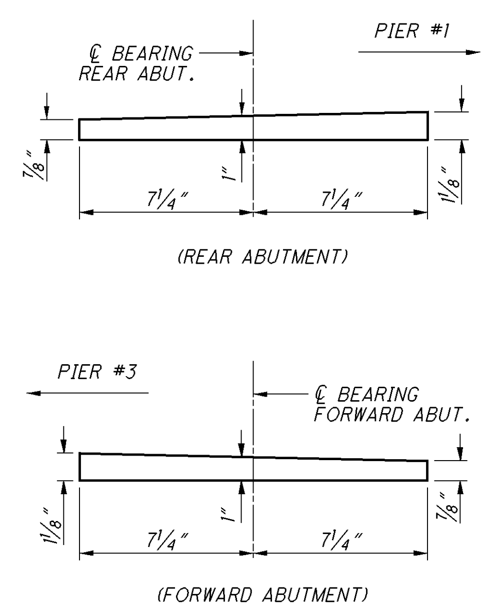


ELEVATION - REAR ABUTMENT

EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS



ELEVATION - FORWARD ABUTMENT



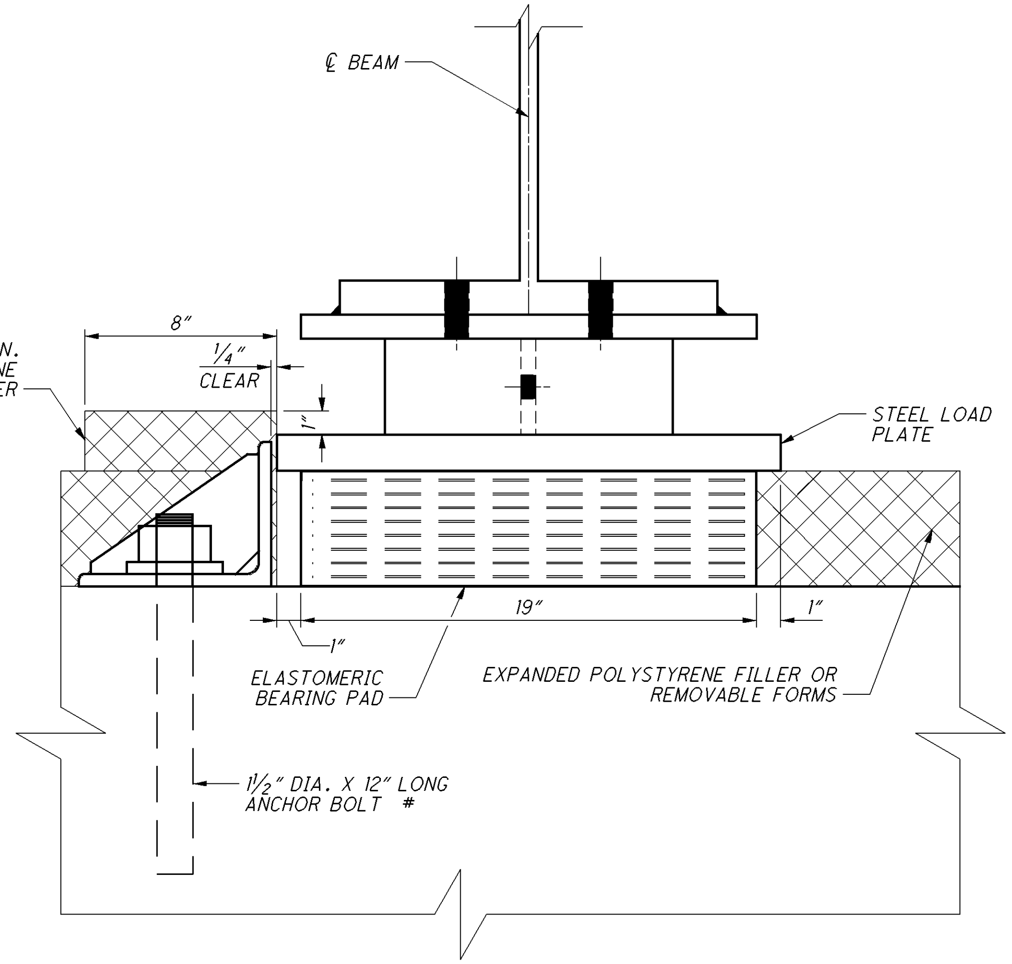
STEEL PLATE DETAIL

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED CJW	DRAWN CJW	REVIEWED TAA	DATE 6/01/10
CHECKED MRB	REVISED	STRUCTURE FILE NUMBER 4706730	

ABUTMENT BEARING DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

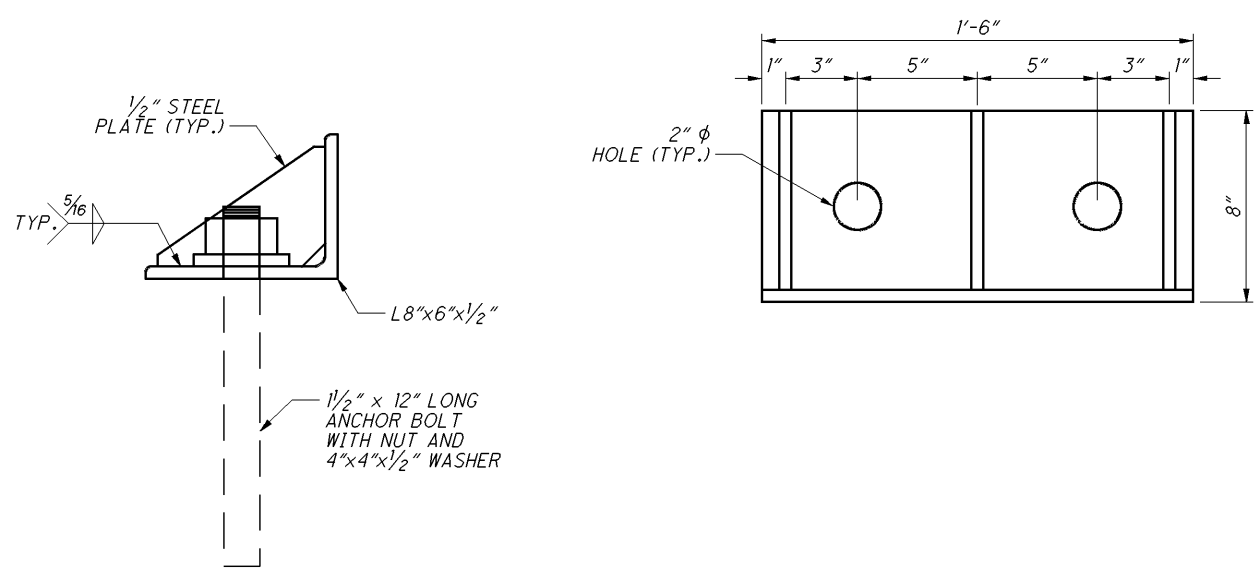


SECTION A-A

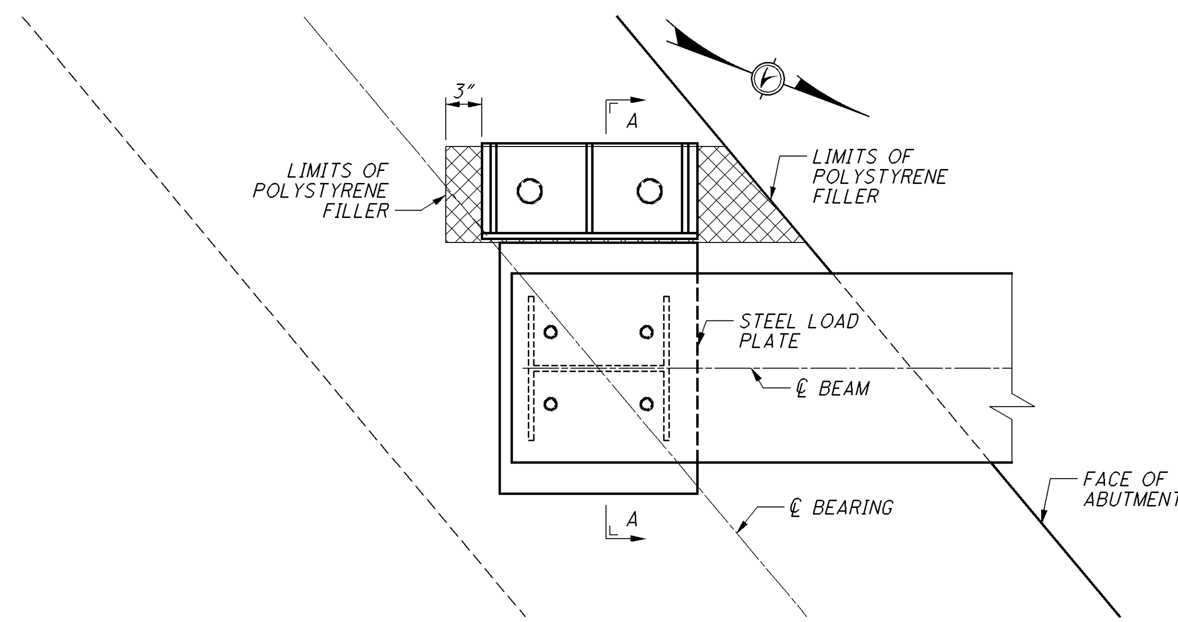
NOTES & LEGEND

BEARING RETAINERS: THE COSTS FOR FURNISHING AND INSTALLING THE STEEL RETAINER ASSEMBLIES, INCLUDING THE POLYSTYRENE, WILL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE FOR THE ELASTOMERIC BEARINGS. FOR ADDITIONAL INFORMATION SEE ODOT STANDARD DRAWING SICD-1-96.

- REINFORCING STEEL IN THE VICINITY OF THE BEARING RETAINER SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF THE BEARING RETAINER ANCHOR HOLES.



RETAINER CLIP DETAILS



RETAINER CLIP PLAN

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/01/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

ABUTMENT BEARING DETAILS (CONTINUED)
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

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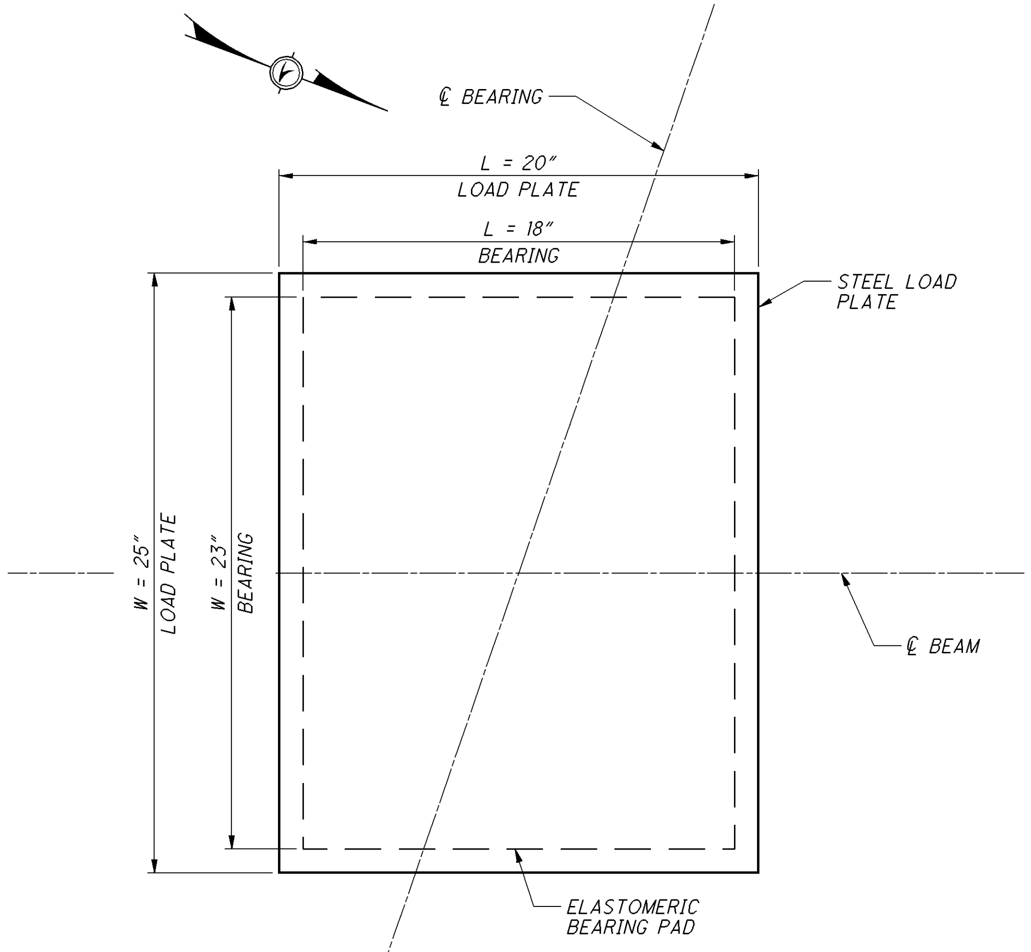
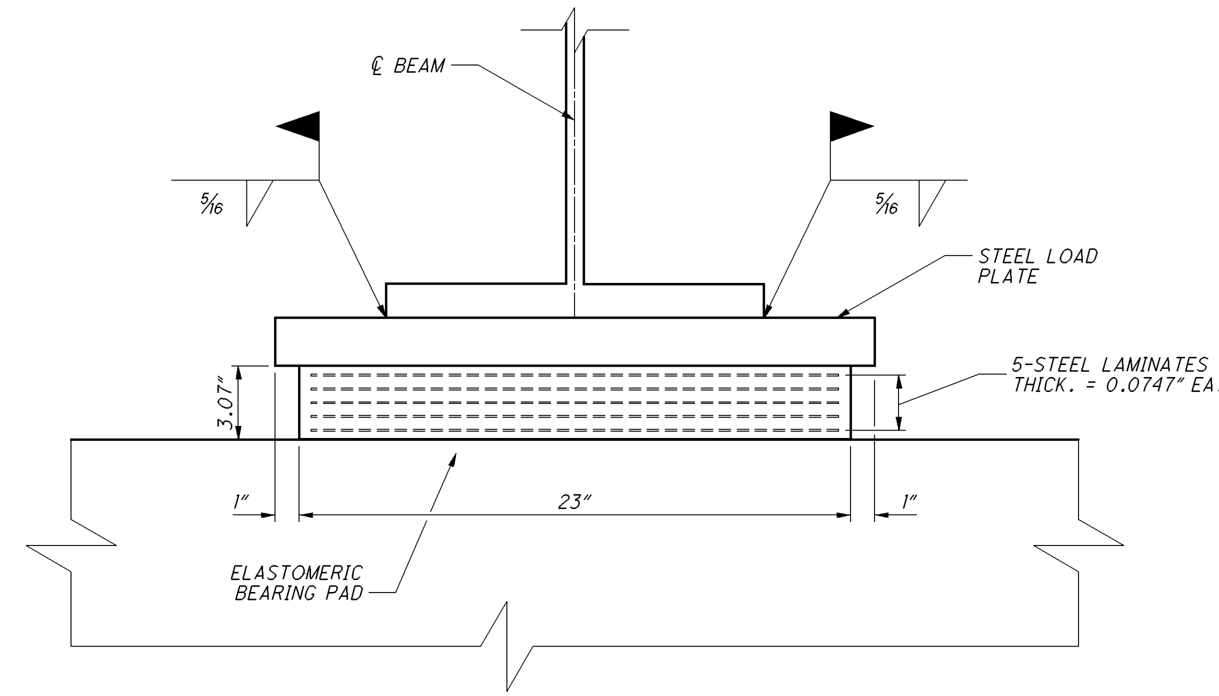
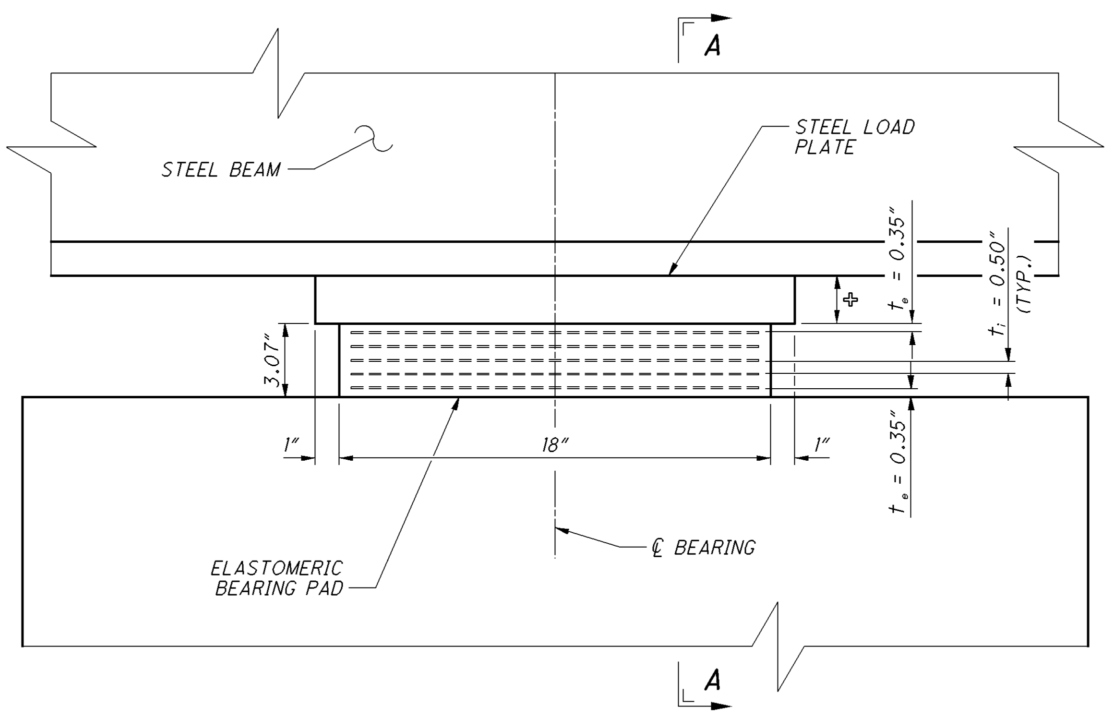


PLAN



SECTION A-A

PIER BEARING TABLE									SERVICE LIMIT STATE DESIGN LOAD		
LOCATION	TYPE	L	W	t_i	t_e	n_{ie}	n_s	STEEL LOAD PLATE	DL	LL	TOTAL
PIER #1	EXP.	18"	23"	0.50"	0.35"	4	5	20"x25"xBEVEL ✣	272 K	113 K	385 K
PIER #2	EXP.	18"	23"	0.50"	0.35"	4	5	20"x25"x2"	291 K	115 K	406 K
PIER #3	EXP.	18"	23"	0.50"	0.35"	4	5	20"x25"xBEVEL ✣	272 K	113 K	385 K



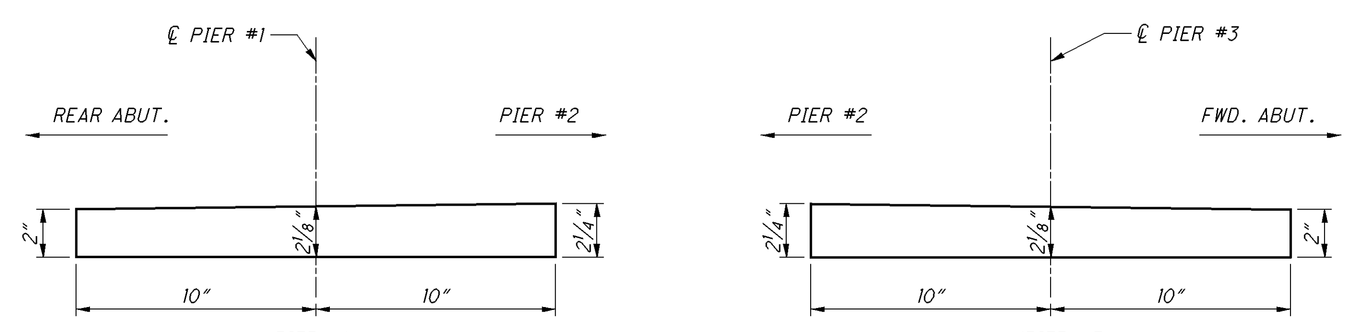
ELEVATION

NOTES & LEGEND

FOR ADDITIONAL NOTES SEE SHEET 23/27

t_i - THICKNESS OF INTERNAL ELASTOMER LAYER
t_e - THICKNESS OF EXTERNAL ELASTOMER LAYER
n_{ie} - NUMBER OF INTERNAL ELASTOMER LAYERS
n_s - NUMBER OF INTERNAL STELL LAMINATES, THICKNESS = 0.0747"

✣ - SEE LOAD PLATE DETAILS FOR PIERS #1 & 3 THICKNESSES & ORIENTATIONS. PIER #2 HAS A CONSTANT LOAD PLATE THICKNESS OF 2".



LOAD PLATE DETAILS

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA | DATE 6/01/10 | STRUCTURE FILE NUMBER 4706730
DRAWN CJW | REVISED
DESIGNED CJW | CHECKED MRB

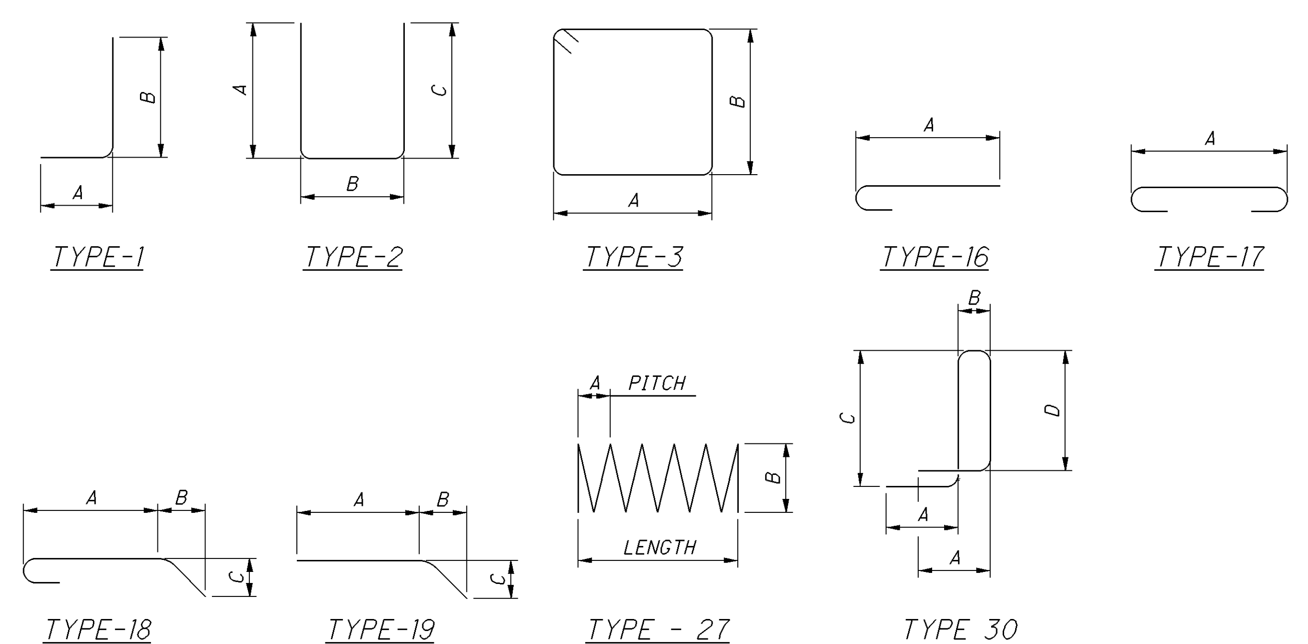
PIER BEARING DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
F501	66	66	132	17'-0"	2340	3	2'-7"	5'-7"					
F502	12	12	24	30'-5"	760	STR							
F503	6	6	12	14'-0"	175	STR							
F504	6	6	12	17'-9"	222	STR							
F801	8	8	16	31'-5"	1340	STR							
F802	4	4	8	14'-0"	299	STR							
F803	4	4	8	17'-9"	379	STR							
A501	40	40	80	15'-2"	1266	3	2'-10"	4'-5"					
A502	4	4	8	28'-5"	237	STR							
A503	34	34	68	14'-6"	1028	3	3'-8"	3'-3"					
A504	34	34	68	8'-10"	627	2	2'-11"	3'-3"	2'-11"				
A505	4	4	8	5'-0"	42	STR							
A506	25	25	50	16'-5"	856	2	7'-9"	1'-2"	7'-9"				
A507	8	8	16	14'-2"	236	STR							
A508	8	8	16	15'-4"	256	STR							
A509	11	11	22	10'-3"	235	2	4'-8"	1'-2"	4'-8"				
A510	2	2	4	4'-10"	20	STR							
A511	16	16	32	16'-3"	542	STR							
A512	14	14	28	11'-5"	381	2	5'-3"	1'-2"	5'-3"				
A801	36	36	72	29'-9"	5719	STR							
D801	37	37	74	5'-8"	1120	18	3'-6"	1'-0"	1'-0"				
			SUB-TOTAL		17,937								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	845	32'-4"	18251	STR							
S402	888	5'-7"	3312	STR							
S403	786	2'-5"	1269	2	0'-10"	1'-0"	0'-10"				
S405	102	2'-11"	199	2	0'-10"	1'-6"	0'-10"				
	2 SR	19'-9"									
S406	OF	TO	205	STR							0'-8 ½"
	7	24'-0"									
	2 SR	24'-6"									
S407	OF	TO	249	STR							0'-8 ½"
	7	28'-9"									
S501	1318	41'-6"	57049	STR							
S502	1027	32'-4"	34633	STR							
S503	782	10'-6"	8564	30	1'-6"	0'-8"	3'-10"	3'-6"			
S504	74	10'-11"	843	30	1'-6"	0'-8"	4'-3"	3'-6"			
	4 SR	2'-6"									
S505	OF	TO	5081	STR							0'-7 ¾"
	58	39'-6"									
S506	12	2'-6"	32	STR							
S507	8	20'-5"	170	STR							
S508	8	20'-6"	171	19	19'-0"	1'-6"	0'-4 ½"				
S509	8	28'-9"	240	STR							
S510	8	28'-9"	240	19	27'-3"	1'-6"	0'-4 ½"				
S601	150	47'-0"	10589	STR							
S602	40	11'-5"	686	30	1'-10"	0'-8"	4'-3"	3'-6"			
S603	12	5'-11"	107	1	1'-10"	4'-3"					
S604	12	5'-2"	93	1	1'-10"	3'-6"					
		SUB-TOTAL	141,983								

MARK	NUMBER				LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER #1	PIER #2	PIER #3	TOTAL				A	B	C	D	E	R	INC
PIERS														
P501	50	50	50	150	15'-4"	2399	3	3'-8"	3'-8"					
P502	20	20	20	60	29'-0"	1815	STR							
P701	110	110	110	330	11'-0"	7420	17	9'-6"						
P702	48	48	48	144	30'-9"	9051	16	30'-0"						
P901	32	32	32	96	32'-0"	10445	STR							
P1001	60			60	25'-11"	6691	16	24'-6"						
P1002	60	60	60	180	12'-11"	10004	1	1'-3"	12'-0"					
P1003		60	60	120	27'-5"	14157	16	26'-0"						
SP401	4			4	21'-0"	1715	27	0'-4 ½"	3'-6"					
SP402		4		4	22'-6"	1831	27	0'-4 ½"	3'-6"					
SP403			4	4	22'-9"	1851	27	0'-4 ½"	3'-6"					
				SUB-TOTAL		67,379								



BAR DIMENSIONS ARE SHOWN OUT TO OUT UNLESS OTHERWISE NOTED.
ALL REINFORCING STEEL TO BE EPOXY COATED.

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN INDICATED BY THE FIRST DIGIT.

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

REVIEWED TAA DATE 6/01/10
STRUCTURE FILE NUMBER 4706730

DRAWN CJW REVISED

DESIGNED CJW CHECKED MRB

REINFORCING STEEL LIST
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

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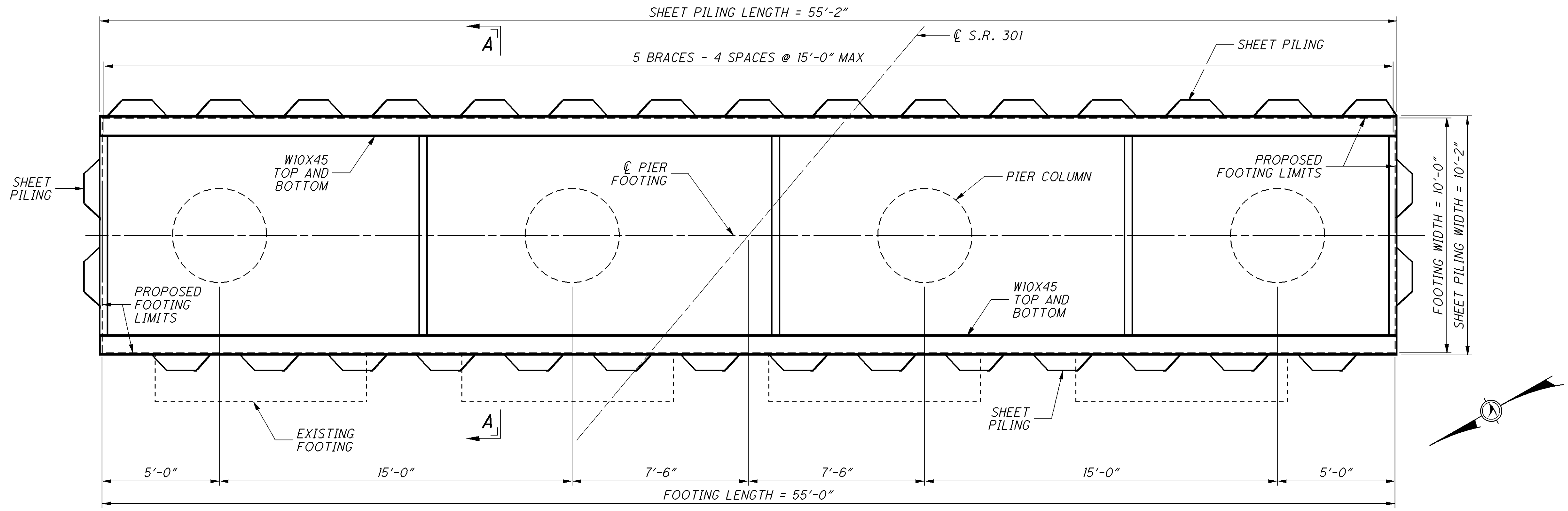
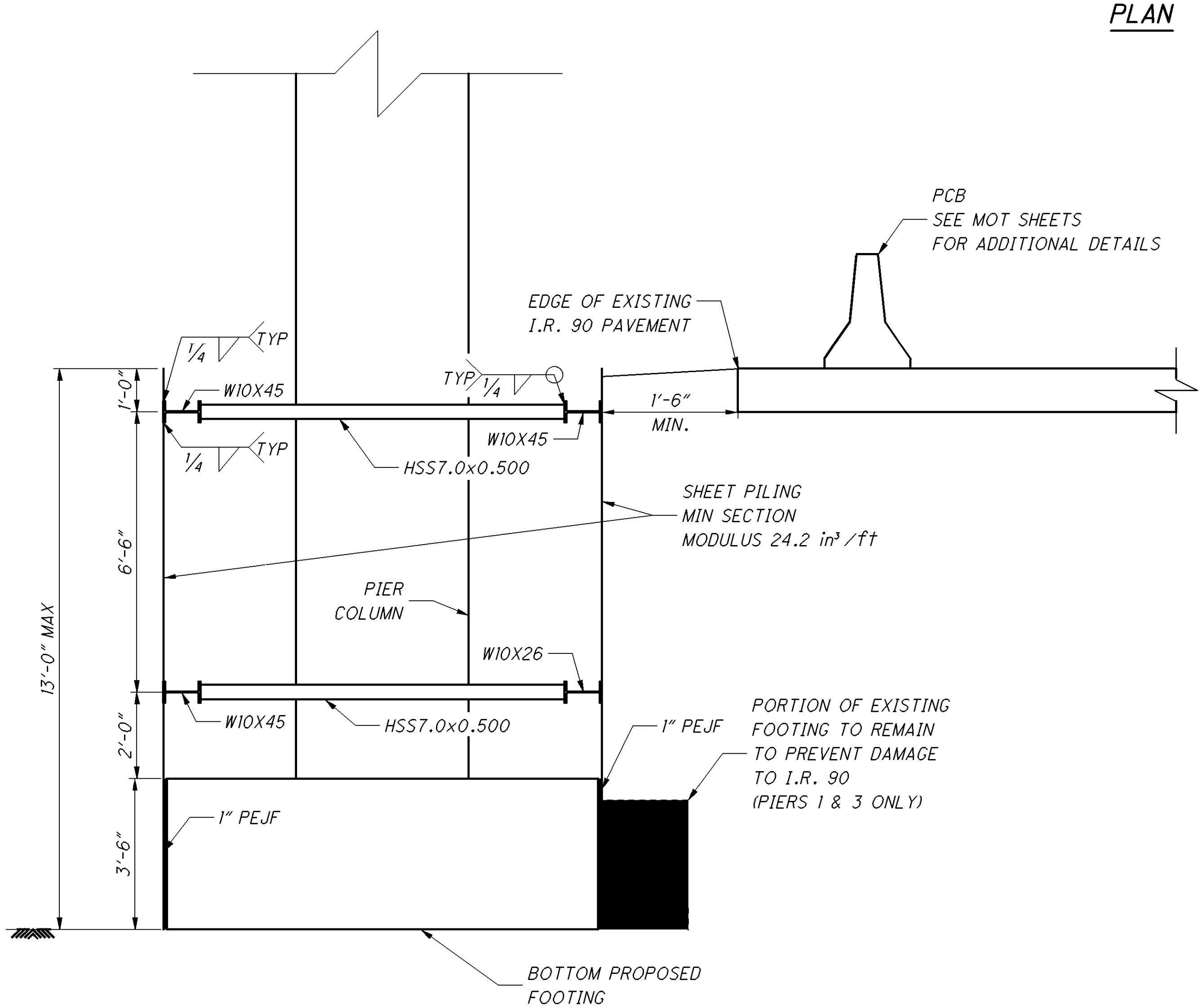


PLAN



SECTION A-A

NOTES

1" PEJF TO BE PLACED BETWEEN SHEET PILING AND FOOTING CONCRETE AROUND ENTIRE FOOTING PERIMETER

DESIGN AGENCY
ODOT CENTRAL OFFICE
OFFICE OF PRODUCTION

DESIGNED	DRAWN	REVIEWED	DATE
CJW	CJW	TAA	6/02/10
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRB		4706730	

TEMPORARY SHORING DETAILS
BRIDGE NO. LOR-301-2349
S.R. 301 OVER I.R. 90

LOR-301-23.49
PID No. 80199

27/27

62/70

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RIGHT OF WAY LEGEND SHEET
LOR-301-23.45

LORAIN COUNTY, SHEFFIELD TOWNSHIP
ORIGINAL LOT No. 4
T 7 N R 17 W

UTILITIES

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

WATER & SANITARY SEWERS:
VILLAGE OF SHEFFIELD (WATER, SAN.)
4820 DETROIT ROAD
ELYRIA, OH 44035
PHONE: 440-949-6209

GAS:
COLUMBIA GAS OF OHIO
7080 FRY ROAD
MIDDLEBURG HTS., OH 44130
PHONE: 440-891-2459

CABLE TELEVISION:
TIME WARNER CABLE
576 TERNES AVENUE
ELYRIA, OH 44035
PHONE: 440-366-0417 x625

WINDSTREAM
560 TERNES AVENUE
ELYRIA, OH 44035
PHONE 440-329-4247

TELEPHONE:
CENTURY TELEPHONE
1730 WEST 19TH STREET
LORAIN, OH 44052
PHONE: 440-244-8330

ELECTRIC:
OHIO EDISON TRANSMISSION
76 S. MAIN STREET
AKRON, OH 44308
PHONE 330-384-5194

OHIO EDISON COMPANY
6326 LAKE AVENUE
ELYRIA, OH 44035
PHONE 440-326-3268

NOTES: 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.

PARCEL TYPE LEGEND:
WD = WARRANTY DEED
SH = STANDARD HIGHWAY EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT
FL = FLOW EASEMENT
U = UTILITY EASEMENT
V = IN NAME OF ANOTHER STATE AGENCY, LPA, ETC.

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING

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) MB , Mailbox (Pr) MB
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex) W
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)
Sanitary Line (Ex) SAN
Water Line (Ex) W
Gas Line (Ex) G
Underground Electric Line (Ex) E
Underground Telephone Line (Ex) T

PROJECT DESCRIPTION

REPLACEMENT OF THE EXISTING 4-SPAN S.R. 301 (ABBE RD.) STRUCTURE OVER I-90 WITH A NEW 4-SPAN STRUCTURE, RAISING THE PROFILE OF S.R. 301 (ABBE RD.), PROVIDING A MINIMUM OF 16.5' OF VERTICAL CLEARANCE ABOVE I-90. ASSOCIATED ROAD WORK ON S.R. 301.

PROJECT CONTROL

STATE PLANE GRID : OHIO NORTH ZONE
PROJECT ADJUSTMENT FACTOR : 0.999967865
(SEE SHEET 3 FOR MORE DETAILS)

INDEX OF SHEETS:

PLANS PREPARED BY:

FIRM NAME : O.D.O.T. CENTRAL OFFICE
PLANS PREPARED BY: MICHAEL JAMES WARE
FIELD REVIEW BY: GLS
DATE COMPLETED: 02/08/2010
OWNERSHIP VERIFIED BY: MJW
DATE COMPLETED: 02/08/2010
DATE COMPLETED: 02/09/2010

I, Michael James Ware, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in 2007. 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 0514038091, and OGPUPS Confirmation Number 54480, and those markings subsequently being surveyed as a part of this project.

As a part of this project I have reestablished the locations of the existing property lines and the existing centerline of 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, Section Corners and other points, as shown herein.

Any monuments to be set will be done so in accordance with OAC 4733-37 as cited below.

All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys" unless noted otherwise.

The words I and my as used herein are to mean either myself or someone working under my direct supervision.

______________________ Date:____________

Michael James Ware, Professional Land Surveyor 8054

SURVEYORS SEAL

STATE OF OHIO
MICHAEL JAMES WARE
S-8054
REGISTERED
PROFESSIONAL SURVEYOR

SIGNED:
DATE:

FEDERAL PROJECT NO. --
PID NO. 80199
CALCULATED GLS
CHECKED MJW

RIGHT OF WAY LEGEND SHEET

LOR-301-23.49

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LOR-301-23.49

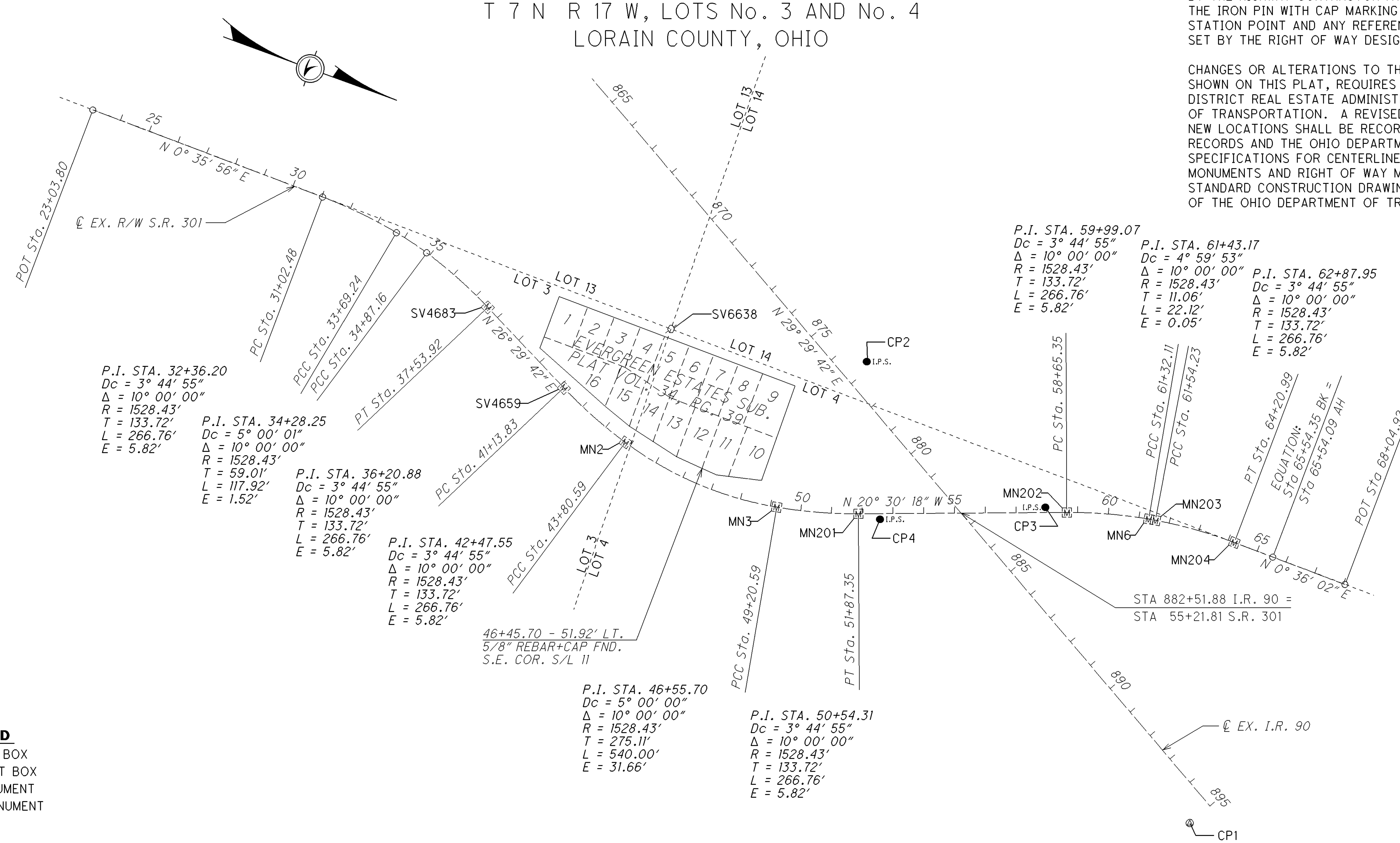
NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING: LOR-90-13.01 (1966)

SHEFFIELD TOWNSHIP
T 7 N R 17 W, LOTS No. 3 AND No. 4
LORAIN COUNTY, OHIO

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY OF S.R. 301.

THE PLACING OF MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE CENTERLINE MONUMENT ASSEMBLY BOX(ES) 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 RIGHT OF WAY DESIGN CONSULTANT.

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 (REVISED 7/18/2008) 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
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

I, Michael James Ware, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in 2007. The results of that survey are contained herein.

As a part of this project I have reestablished the locations of the existing property lines and the existing centerline of Right of Way for property takes contained herein.

As a part of this work I have set monuments at the proposed Property corners, Section Corners, or other points, as shown herein.

Any monuments to be set will be done so in accordance with OAC 4733-37 as cited below.

All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys" unless noted otherwise.

The words I and my as used herein are to mean either myself or someone working under my direct supervision.

-- Date:------------

Michael James Ware, Professional Land Surveyor 8054

BASIS FOR BEARINGS:

The bearings shown herein are relative to Grid North of the Ohio State Plane Coordinate System, North Zone (SPC3401), NAD83 (CORS96) Datum from GPS observations made in July, 2007 from CORS.

RECEIVED ____________, 20____
RECORDED ____________, 20____
BOOK ____________ PAGE ______
COUNTY RECORDER

SURVEYORS SEAL

STATE OF OHIO MICHAEL JAMES WARE S-8054 REGISTERED PROFESSIONAL SURVEYOR

SIGNED:
DATE:

HORIZONTAL SCALE IN FEET 0 100 200 400

PID NO. 80199

R/W DESIGNER GLS
R/W REVIEWER MJW

CENTERLINE PLAT

LOR-301-23.49

1/2
2/8

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PROJECT GROUND COORDINATES - US SURVEY FEET

SR 301 ALIGNMENT

	CENTERLINE R/W SR 301		CONTROL POINTS USED			
NAME	STATION	OFFSET(ft)	NORTH(ft)	EAST(ft)	ELEVATION(ft)	FEATURE
CS4	23+03.80	℄	644327.2850	2084608.0555		POT
CS6	31+02.48	℄	645125.9214	2084616.4036		PC
CS7	33+69.24	℄	645391.0727	2084642.3967		PCC
CS8	34+87.16	℄	645505.6573	2084670.0054		PCC
CS9	37+53.92	℄	645753.5498	2084767.6278		PT
CS10	41+13.83	℄	646075.6597	2084928.1908		PC
CS11	43+80.59	℄	646323.5522	2085025.8133		PCC
CS12	49+20.59	℄	646857.8388	2085053.7673		PCC
CS13	51+87.35	℄	647114.5652	2084982.5466		PT
CS14	58+65.35	℄	647749.6082	2084745.0506		PC
CS15	61+32.11	℄	648006.3347	2084673.8299		PCC
CS16	61+54.23	℄	648028.1208	2084670.0072		PCC
CS17	64+20.99	℄	648293.7581	2084649.5701		PT
CS18	65+54.35	℄	648427.1110	2084650.9679		POT
CS5	68+04.92	℄	648677.93	2084653.60		POT

STATE PLANE GRID COORDINATES - METERS

SR 301 ALIGNMENT

HORZ. DATUM - NAD83(2007), OHIO NORTH ZONE — VERT. DATUM - NAVD88 GPS DERIVED

NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION
CS4	196385.0382	635369.3878		
CS6	196628.4553	635371.9323		
CS7	196709.2709	635379.8547		
CS8	196744.1953	635388.2696		
CS9	196819.7506	635418.0240		
CS10	196917.9268	635466.9621		
CS11	196993.4821	635496.7166		
CS12	197156.3278	635505.2367		
CS13	197234.5756	635483.5293		
CS14	197428.1309	635411.1427		
CS15	197506.3788	635389.4353		
CS16	197513.0190	635388.2702		
CS17	197593.9828	635382.0411		
CS18	197634.6275	635382.4671		
CS5	197711.0739	635383.2685		

SR 301 MONUMENTATION

	CENTERLINE R/W SR 301		MONUMENTS USED FOR ALIGNMENT			
NAME	STATION	OFFSET(ft)	NORTH(ft)	EAST(ft)	ELEVATION(ft)	FEATURE
SV4683	37+53.79	0.41 RT	645753.2498	2084767.9376	637.71	MONBOX
SV4659	41+13.76	0.26 RT	646075.4841	2084928.3934	637.46	MONBOX
MN2	43+80.79	0.14 RT	646323.7092	2085026.0080	637.01	MONBOX
MN3	49+20.57	0.08 LT	646857.8067	2085053.6960	643.23	MONBOX
MN201	51+87.35	℄	647114.5652	2084982.5466	654.24	MONBOX
MN202	58+65.34	℄	647749.6020	2084745.0536	652.66	MONBOX
MN6	61+32.18	0.05 LT	648006.3977	2084673.7660	639.92	MONBOX
MN203	61+54.26	0.08 RT	648028.1557	2084670.0510	638.80	MONBOX
MN204	64+21.12	0.11 RT	648293.8834	2084649.6787	631.15	MONBOX

SR 301 MONUMENTATION

HORZ. DATUM - NAD83(2007), OHIO NORTH ZONE — VERT. DATUM - NAVD88 GPS DERIVED

MONUMENTS TO BE REMOVED AND RESET

NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION	604E 40000	604E 40500
SV4683	196819.6592	635418.1184	194.373	1" IRON PIN IN MONUMENT ASSY. (NO CAP)		
SV4659	196917.8732	635467.0239	194.299	1" IRON PIN IN MONUMENT ASSY. (NO CAP)		
MN2	196993.5300	635496.7759	194.162	1" IRON PIN IN MONUMENT ASSY. (NO CAP)		
MN3	197156.3180	635505.2150	196.058	1" IRON PIN IN MONUMENT ASSY. (NO CAP)		
MN201	197234.5756	635483.5293	199.412	MONUMENT ASSEMBLY TO BE REMOVED AND RESET PER RM-1.1	1	
MN202	197428.1290	635411.1436	198.931	MONUMENT ASSEMBLY TO BE REMOVED AND RESET PER RM-1.1	1	
MN6	197506.3980	635389.4158	195.048	MONUMENT ASSEMBLY TO BE REMOVED AND RESET PER RM-1.1	1	
MN203	197513.0296	635388.2835	194.708	1" IRON PIN IN MONUMENT ASSY. (NO CAP)		
MN204	197594.0210	635382.0742	192.374	1" IRON PIN IN MONUMENT ASSY. (NO CAP)		
					==========	==========
				TOTAL MONUMENTS - QUANTITY CARRIED TO GENERAL SUMMARY	3	0

PROJECT CONTROL POINTS

	CENTERLINE SURVEY I-90					
NAME	STATION	OFFSET(ft)	NORTH(ft)	EAST(ft)	ELEVATION(ft)	FEATURE
CP1	895+00.12	85.93 RT	648471.9892	2085554.7540	634.80	GOVCON
CP2	876+77.88	84.86 LT	646970.0050	2084508.9120	636.54	IPIN
	CENTERLINE R/W SR 301					
CP3	57+95.48	17.42 LT	647678.0676	2084753.2110	655.38	IPIN
CP4	52+57.65	17.99 RT	647186.7142	2084974.7700	656.63	IPIN
SV6638	42+46.87	379.42 LT	646336.2651	2084629.2918	635.36	RSPK

PROJECT CONTROL POINTS

HORZ. DATUM - NAD83(2007), OHIO NORTH ZONE — VERT. DATUM - NAVD88 GPS DERIVED

NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION
CP1	197648.3060	635657.9329	193.486	ALUMINUM DISK IN CONCRETE 'LOR I90 16.95'
CP2	197190.5150	635339.1698	194.019	5/8" ODOT TRAV
CP3	197406.3260	635413.6299	199.760	5/8" ODOT TRAV
CP4	197256.5660	635481.1591	200.141	5/8" ODOT TRAV
SV6638	196997.3569	635375.8605	193.658	R.R. SPIKE FND. 4" DEEP AT LOT CORNER 3-13-14-4

RIGHT OF WAY MONUMENTS TO BE SET BEFORE CONSTRUCTION

	CENTERLINE R/W SR 301					
NAME	STATION	OFFSET(ft)	NORTH(ft)	EAST(ft)	ELEVATION(ft)	FEATURE
RE87	49+20.59	100.00 RT	646876.0709	2085152.0912		IPINS
RE17	49+43.04	84.08 LT	646863.3412	2084967.0752		IPINS
RP14	50+00.00	105.00 LT	646911.0290	2084935.1608		IPINS
RP10	50+65.00	110.00 RT	647028.5458	2085126.5559		IPINS
RP15	52+47.22	125.00 LT	647126.8574	2084844.4940		IPINS
RP12	52+57.34	125.00 RT	647223.9079	2085075.1097		IPINS
RP13	54+65.39	135.00 RT	647422.2753	2085011.5999		IPINS
RE63	58+25.00	146.64 RT	647763.1822	2084896.5335		IPINS
RP16	58+50.00	115.00 RT	647775.5151	2084858.1409		IPINS
RP17	60+60.00	81.18 RT	647954.3188	2084767.6769		IPINS

RIGHT OF WAY MONUMENTS TO BE SET BEFORE CONSTRUCTION

HORZ. DATUM - NAD83(2007), OHIO NORTH ZONE — VERT. DATUM - NAVD88 GPS DERIVED

R/W MONUMENTS PAID TO BE RESET

NAME	NORTH(m)	EAST(m)	ORTHO HT(m)	DESCRIPTION		604E 40500
RE87	197161.8847	635535.2049		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RE17	197158.0049	635478.8138		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP14	197172.5397	635469.0865		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP10	197208.3577	635527.4220		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP15	197238.3222	635441.4521		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP12	197267.9023	635511.7417		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP13	197328.3628	635492.3845		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RE63	197432.2681	635457.3133		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP16	197436.0271	635445.6116		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
RP17	197490.5248	635418.0390		3/4" REBAR SET 'ODOT R/W - DISTRICT 3'		
					==========	==========
				TOTAL - MONUMENTS PAID TO BE RESET		0

NOTE: PROJECT coordinates are scaled from GRID coordinates about the N=0, E=0 origin point.

PROJECT ADJ. FACTOR = 3.280938766 (Metric Grid to Project Feet) MEAN PROJECT LATITUDE - 41° 26' 35" (SCALE FACTOR - 0.999967865)

ENG./METRIC CONV.= 3.2808333333 US SURVEY FOOT CONVERSION FACTOR (1200m = 3937 U.S. Survey feet) MEAN PROJECT ELEVATION - 633 FT.

State Plane Grid Coordinates derived by means of averaging multiple 2+ hour Static GPS sessions observed at point CP1, solved through the National Geodetic Survey's Online Positioning User Service (OPUS).

All control points having a CP prefix were located using Rapid Static observation and processed through TGO software. Grid values multiplied by the PAF to obtain project values in feet.

PID NO. **80199**

R/W DESIGNER GLS

R/W REVIEWER MJW

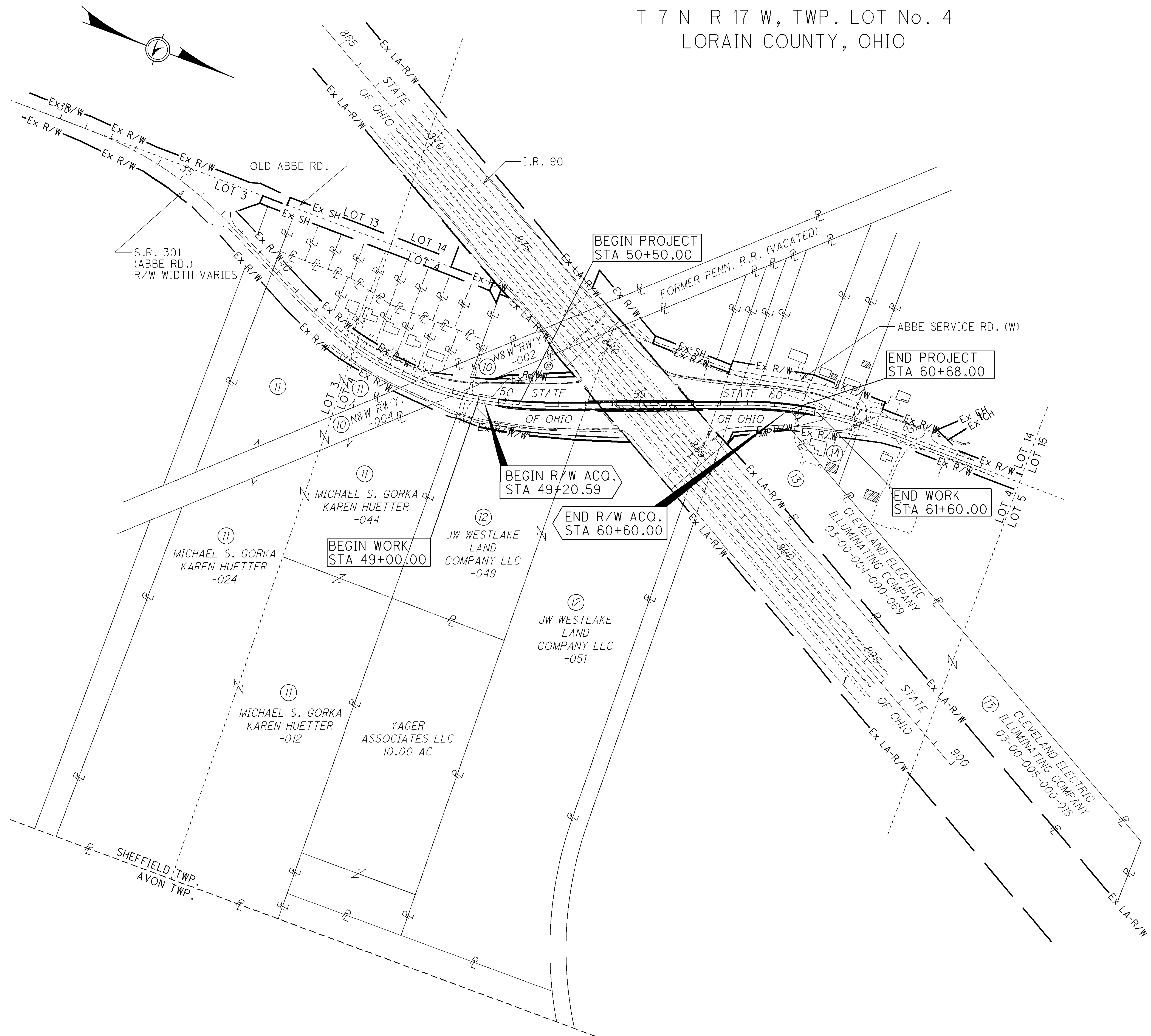
CENTERLINE PLAT

LOR-301-23.49

2/2

3/8

LOR-301-23.49
SHEFFIELD TOWNSHIP
T 7 N R 17 W, TWP. LOT No. 4
LORAIN COUNTY, OHIO



NOTE: PARCELS LABELED 'STATE OF OHIO' WERE ACQUIRED UNDER LOR-90-13.01 PLANS (1965-1967)

PARCEL NO.	OWNER/ A.P.N.
10	NORFOLK & WESTERN RAILWAY
	03-00-003-502-004 2.640 AC
	03-00-003-502-002 0.440 AC
11	MICHAEL S. GORKA
	and KAREN HUETTER
	03-00-004-000-024 19.560 AC
	03-00-004-000-044 6.760 AC
	03-00-004-000-012 12.500 AC
12	JW WESTLAKE LAND COMPANY LLC
	03-00-004-000-049 7.970 AC
	03-00-004-000-051 20.700 AC
13	CLEVELAND ELECTRIC
	ILLUMINATING COMPANY
	03-00-004-000-069 5.440 AC
	03-00-005-000-015 4.950 AC
14	HARRY R. GERENT
	03-00-004-000-040 0.490 AC

REV. BY	DATE	DESCRIPTION
MJW	08/01/11	OWNER CHANGE PARCEL 12
MJW	01/12/11	CHANGED PARCEL 13-WD TO 13-T

DATE COMPLETED: 02/09/2010

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 80199

R/W DESIGNER GLS
R/W REVIEWER MJW

PROPERTY MAP

LOR-301-23.49

4/8

66/70

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TOTAL NUMBER OF :

2 OWNERSHIPS   0 TOTAL TAKES
4 PARCELS   0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE
GROSS TAKE - PRO IN TAKE = NET TAKE

ALL AREAS IN ACRES

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

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	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
1-9	NOT USED													STATE	ALL RECORD AREAS PER AUDITOR		
															UNLESS NOTED OTHERWISE		
10	NORFOLK & WESTERN RAILWAY	6	DV 97	98	0300003502004	2.640	0.000								NO ADDITIONAL R/W REQUIRED		
	(FORMERLY PENNSYLVANIA LINES LLC)														MANAGED BY NORFOLK SOUTHERN CORPORATION		
					0300004502002	0.440	0.000								* BOULDER ENCROACHES		
															* WOOD POSTS ENCROACH		
11	MICHAEL S. GORKA	6	DV 1392	660	0300004000044	6.760	0.000								NO ADDITIONAL R/W REQUIRED		
	and KAREN HUETTER														LOT 4		
					0300004000012	12.500	0.000								LOT 4		
					0300004000024	19.560	0.000								LOT 3		
12-WD1	JW WESTLAKE LAND COMPANY LLC	6,7	INST 2010	0344504	0300004000049	7.970	0.000	0.087	0.000	0.087		0.219	7.579		LOT 4		
															* SIGNS ENCROACH		
12-WD2		6,7						0.085	0.000	0.085					* STEEL POST ENCROACHES		
															* (2) BOULDERS ENCROACH		
12-WD3		7	INST 2010	0344504	0300004000051	20.700	0.000	0.068	0.000	0.068			20.632		LOT 4		
					TOTAL	28.670	0.000	0.240	0.000	0.240		0.219	28.211		28.430 AC TOTAL RESIDUE		
13-T	CLEVELAND ELECTRIC	8	DV 961	739	0300004000069	5.440	0.000	0.058	0.000	0.058			5.440		GRADING - LOT 4		
	ILLUMINATING COMPANY		DV 974	174											* BOULDER, STEEL POST ENCROACHES		
					0300005000015	4.950	0.000								LOT 5		
					TOTAL	10.390	0.000	0.058	0.000	0.058			5.440				
14	HARRY R. GERENT	8	INST 1998	0568396	0300004000040	0.490	0.000								NO ADDITIONAL R/W REQUIRED		
															* (4) BOULDERS ENCROACH		
														STATE			

PARCEL TYPE LEGEND:
WD = WARRANTY DEED
SH = STANDARD HIGHWAY EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT
U = UTILITY EASEMENT

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

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

O.R. = OFFICIAL RECORD VOLUME
D.R. = DEED RECORD

+ DENOTES REMOVAL ITEMS, FOR DESCRIPTION OF REMOVAL ITEMS SEE CORRESPONDING RIGHT OF WAY PLAN SHEET

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
MJW	08/01/11	OWNER CHANGE PARCEL 12
MJW	01/12/11	CHANGED PARCEL 13-WD TO 13-T
MJW	05/05/10	REVISED OWNERS RECORD - PARCEL 13

FIELD REVIEW BY: GLS   DATE: 02/08/2010
OWNERSHIP VERIFIED BY: MJW   DATE: 02/08/2010
DATE COMPLETED: 02/09/2010

FEDERAL PROJECT NO. --
PID NO. 80199
STATE JOB NO. 437613
R/W DESIGNER GLS
R/W REVIEWER MJW

SUMMARY OF ADDITIONAL RIGHT OF WAY

LOR-301-23.49

5/8

67/70

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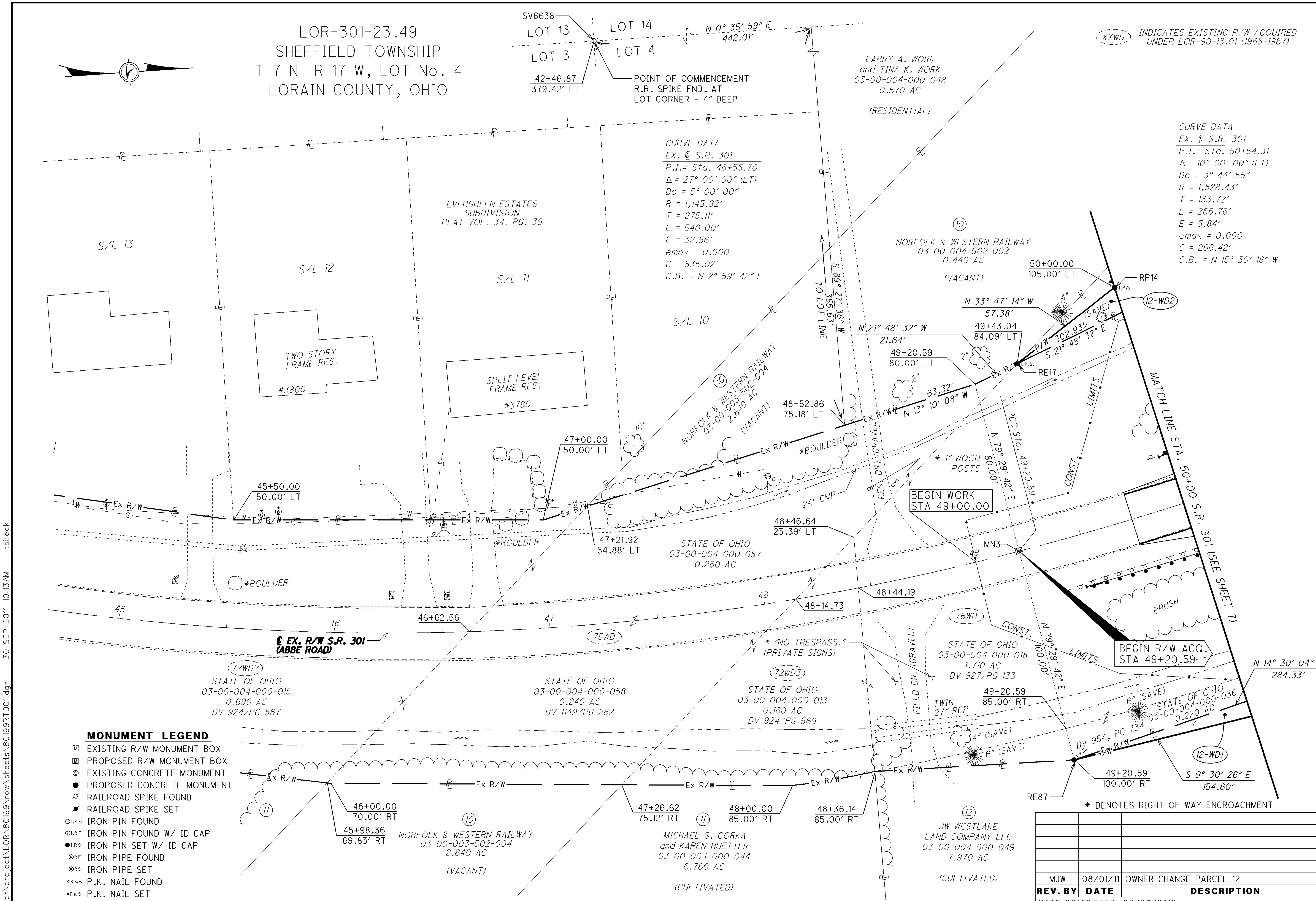

REV. BY	DATE	DESCRIPTION
MJW	08/01/11	OWNER CHANGE PARCEL 12

DATE COMPLETED: 02/09/2010

HORIZONTAL SCALE IN FEET

PID NO. 80199

R/W DESIGNER GLS
R/W REVIEWER MJW

RIGHT OF WAY TOPO SHEET
STA. 45+00 TO STA. 50+00

LOR-301-23.49

6 / 8

68 / 70

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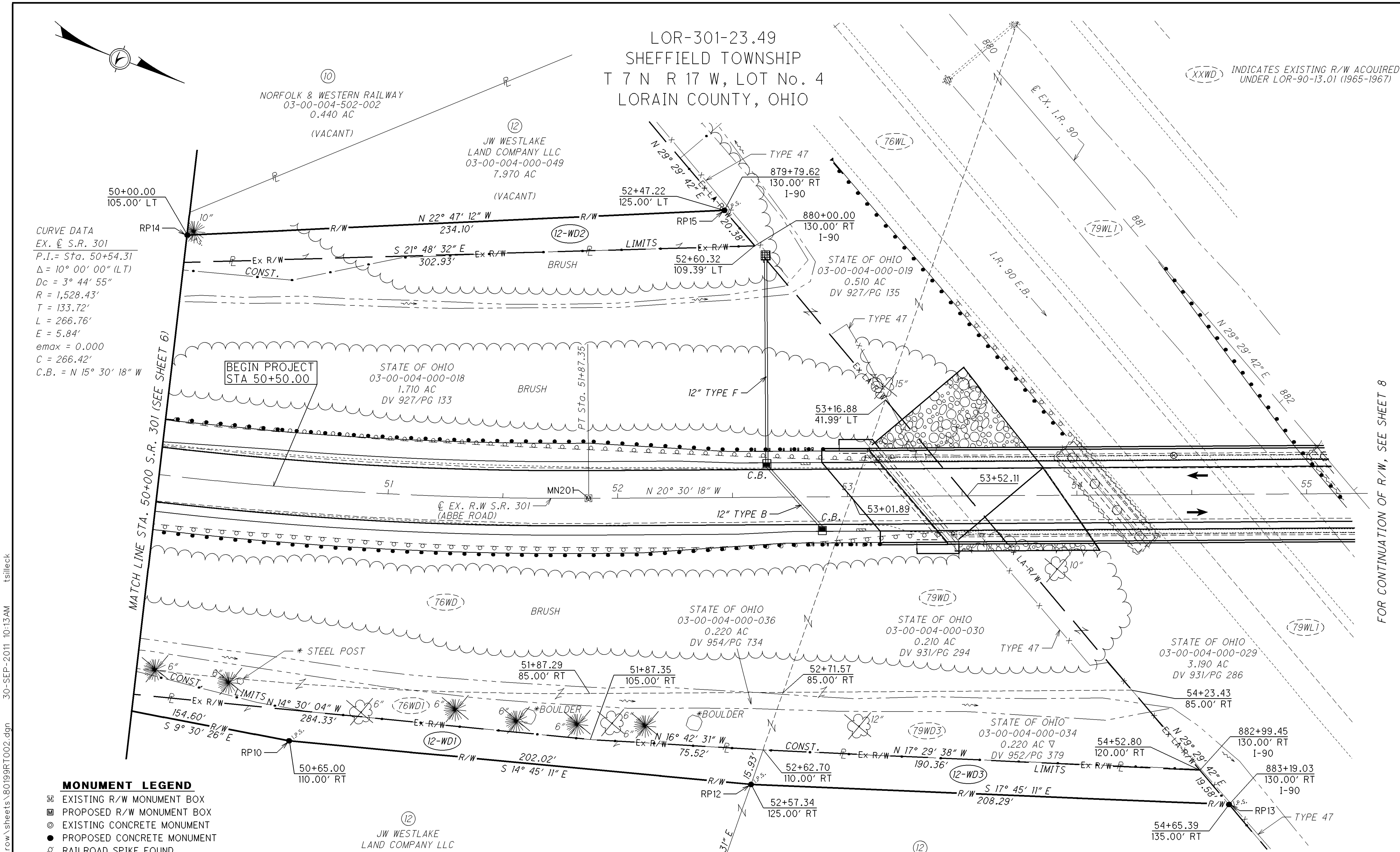


MONUMENT LEGEND

- 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
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
MJW	08/01/11	OWNER CHANGE PARCEL 12

DATE COMPLETED: 02/09/2010

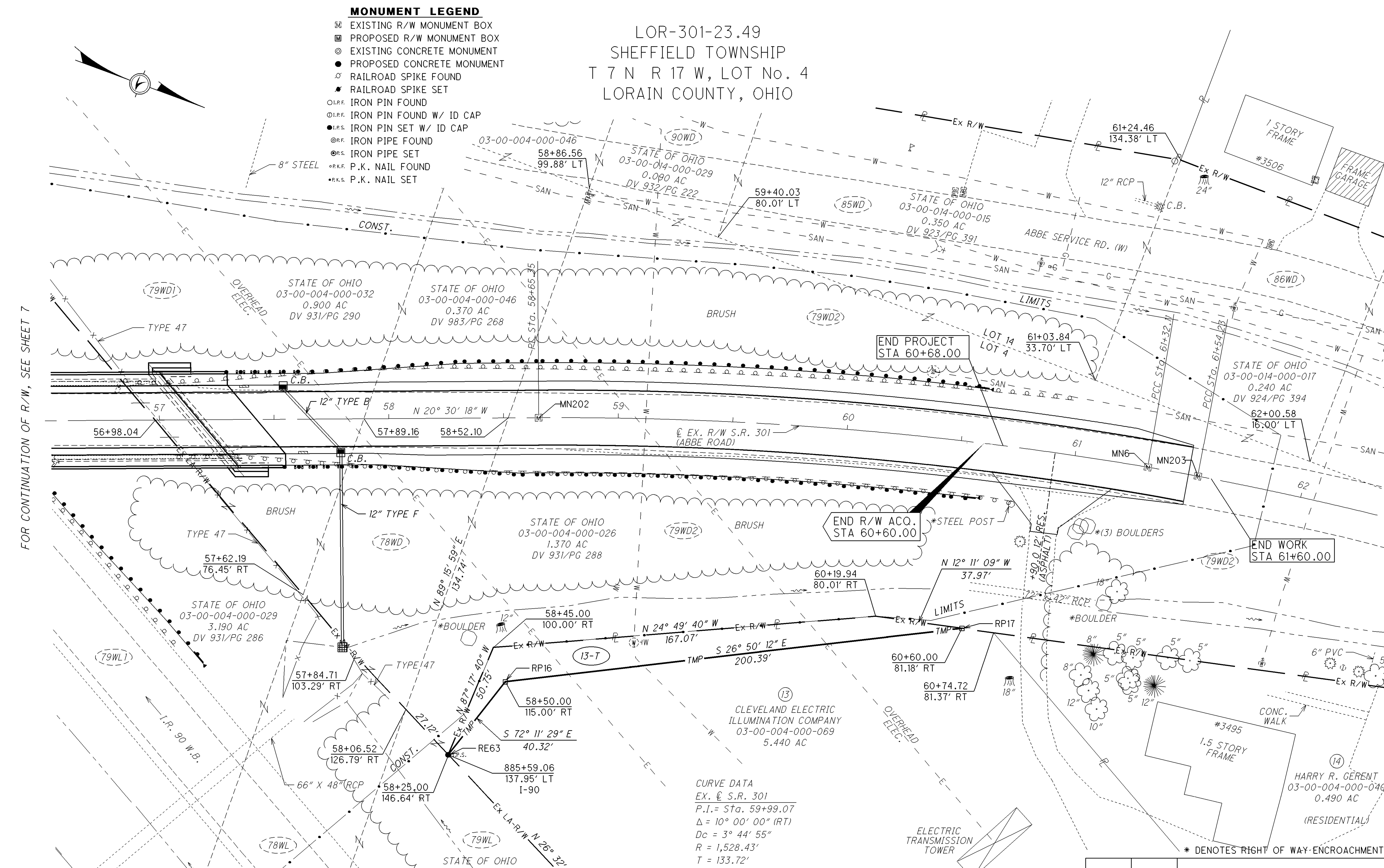
PID NO. 80199

R/W DESIGNER GLS
R/W REVIEWER MJW

RIGHT OF WAY TOPO SHEET
STA. 50+00 TO STA. 55+00

LOR-301-23.49

7 / 8



MJW	01/12/11	CHANGED PARCEL 13-WD TO 13-T
REV. BY	**DATE**	**DESCRIPTION**

DATE COMPLETED: 02/09/2010

HORIZONTAL SCALE IN FEET

PID NO. 80199

R/W DESIGNER GLS
R/W REVIEWER MJW

RIGHT OF WAY TOPO SHEET STA. 57+00 TO STA. 62+00

LOR-301-23.49

8/8

70/70

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PROJECT DESCRIPTION

REPLACEMENT OF THE EXISTING 4-SPAN S.R. 301 (ABBE RD.) STRUCTURE OVER I-90 WITH A NEW 4-SPAN STRUCTURE, RAISING THE PROFILE OF S.R. 301 (ABBE RD.) TO PROVIDE A MINIMUM OF 16.5' OF VERTICAL CLEARANCE ABOVE I-90. ASSOCIATED ROAD WORK ON S.R. 301.

HISTORIC RECORDS

HISTORIC BORINGS WERE OBTAINED FROM ODOT OFFICE OF GEOTECHNICAL ENGINEERING FOR THE ORIGINAL STRUCTURAL FOUNDATION INVESTIGATION OF BRIDGE NO. LOR-90-17.00 WHICH IS SR 301 OVER IR 90 COMPLETED IN 1964. PLANS INDICATED THAT IR 90 WAS CONSTRUCTED NEAR EXISTING GRADE AND SR 301 WAS RELOCATED OVER IR 90 THROUGH AN EMBANKMENT AND 4-SPAN BRIDGE. BORINGS B-001-64, DRILLED FOR THE REAR ABUTMENT, AND B-008-64, DRILLED FOR PIER 3, WERE UTILIZED IN THE CURRENT PROJECT DESIGN AND ARE SHOWN WITHIN THIS EXPLORATION.

GEOLOGY

THE PROJECT IS LOCATED WITHIN THE GLACIATED ERIE LAKE PLAIN WHICH IS CHARACTERIZED BY RELATIVELY FLAT TERRAIN WITH MAJOR STREAM VALLEYS LOCATED IN DEEP GORGES. GENERALLY, THIN LACUSTRINE SOILS AND BEACH DEPOSITS ARE ENCOUNTERED OVER SHALE OF UPPER DEVONIAN AGE.

RECONNAISSANCE

THE PAVEMENT WAS NOTED AS BEING IN POOR CONDITION WITH CRACKED AND PATCHED SECTIONS AT THE APPROACHES. THE STRUCTURE WAS NOTED AS HAVING CRACKING AND SPALLING CONCRETE AND HEAVY CORROSION ON THE BEAMS.

SURROUNDING LAND USE WAS NOTED AS BEING A MIX OF AGRICULTURAL, RESIDENTIAL LAWN AND IR 90 ROADWAY.

SUBSURFACE EXPLORATION

FOUR (4) BORINGS, B-001 THROUGH B-004, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN FEBRUARY 5 THROUGH 20, 2008. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3 1/4-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5-FOOT INTERVALS FOR THE FULL DEPTH OF THE SOIL. THE HAMMER SYSTEM USED WAS LAST CALIBRATED IN FEBRUARY 20, 2007, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) IS 83.4%. ALL BORINGS WERE ADVANCED INTO BEDROCK AND SAMPLED (AASHTO T225) USING AN N SERIES WIRELINE CORE BARREL, WATER METHOD.

ADDITIONALLY, TWO (2) DRIVE SAMPLE-CORE BORINGS, B-001-64 AND B-008-64, WERE UTILIZED FROM HISTORIC RECORDS. THESE BORINGS WERE COMPLETED ON DECEMBER 2, 1964 AND NOVEMBER 19, 1964, RESPECTIVELY, BY MEANS OF ROTARY-TYPE DRILL WITH SAMPLES COLLECTED AT 2.5-FOOT INTERVALS FOR THE FULL DEPTH OF THE SOIL.

EXPLORATION FINDINGS

B-001 AND B-004 WERE DRILLED THROUGH THE APPROACH EMBANKMENTS AND ENCOUNTERED A MIXTURE OF COHESIVE AND GRANULAR SOILS. COHESIVE SOILS ENCOUNTERED WITHIN THE EMBANKMENT FILL RANGED FROM SANDY SILT (A-4a) TO CLAY (A-7-6) IN STIFF TO VERY STIFF CONSISTENCY. THE GRANULAR SOILS ENCOUNTERED WERE PREDOMINATELY STONE FRAGMENTS WITH SAND AND SILT IN MEDIUM DENSE TO DENSE COMPACTNESS. THE EMBANKMENT FOUNDATION SOILS WERE SILT AND CLAY (A-6a) IN VERY STIFF CONSISTENCY AND SANDY SILT (A-4a) IN HARD CONSISTENCY FOR B-001 AND B-004, RESPECTIVELY. ELASTIC CLAY (A-7-5) WAS ENCOUNTERED IN B-004 BETWEEN ELEVATIONS 635 AND 630 FT. THE REMAINING BORING WERE DRILLED AT, OR CLOSE TO, GRADE OF IR-90. THESE BORINGS ENCOUNTERED PREDOMINATELY COHESIVE SOILS CONSISTING OF SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) IN STIFF TO VERY STIFF COMPACTNESS. OCCASIONAL LAYERS OF GRANULAR SANDY SILT (A-4a), COARSE TO FINE SAND (A-3a) IN MEDIUM DENSE COMPACTNESS AND STONE FRAGMENTS WITH SAND AND SILT (A-2-4) IN DENSE COMPACTNESS WERE ENCOUNTERED.

BEDROCK WAS ENCOUNTERED IN ALL BORINGS BETWEEN ELEVATION 619.1 AND 628.0 FT. BEDROCK CONSISTED OF MODERATELY STRONG GRAYISH BLACK SHALE WITH RQD VALUES RANGING FROM 40% TO 52% WITH TYPICALLY NO LOSS.

SEEPAGE WAS NOTED ONLY AT ELEVATIONS 631.5 AND 646.5 FT IN B-001 AND B-004, RESPECTIVELY. B-001 THROUGH B-004 WERE DRY PRIOR TO CORING OF BEDROCK. NO WATER ELEVATIONS WERE NOTED ON THE HISTORIC BORINGS.

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 JANUARY 2008.

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.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
GRAVEL AND/OR STONE FRAGMENTS	*A-1-a (0)*	*1*	*-*
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b (0)*	*2*	*1*
COARSE AND FINE SAND	*A-3a (0)*	*1*	*-*
GRAVEL AND/OR ST. FRAGS WITH SAND AND SILT	*A-2-4 (0)*	*9*	*1*
GR. AND/OR ST. FRAGS WITH SAND, SILT AND CLAY	*A-2-6 (1)*	*1*	*-*
SANDY SILT	*A-4a (2)*	*9*	*-*
SILT AND CLAY	*A-6a (5)*	*10*	*-*
SILTY CLAY	*A-6b (4)*	*1*	*-*
ELASTIC CLAY	*A-7-5 (11)*	*2*	*-*
CLAY	*A-7-6 (7)*	*1*	*-*
	TOTAL	*37*	*2*
SHALE	*VISUAL*		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	*VISUAL*		

BORING LOCATION - PLAN VIEW

HISTORIC BORING LOCATION - PLAN VIEW - LOR-IR90-13.01, 1964

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.

X/Y NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
X= NUMBER OF BLOWS FOR FIRST 6 INCHES
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES

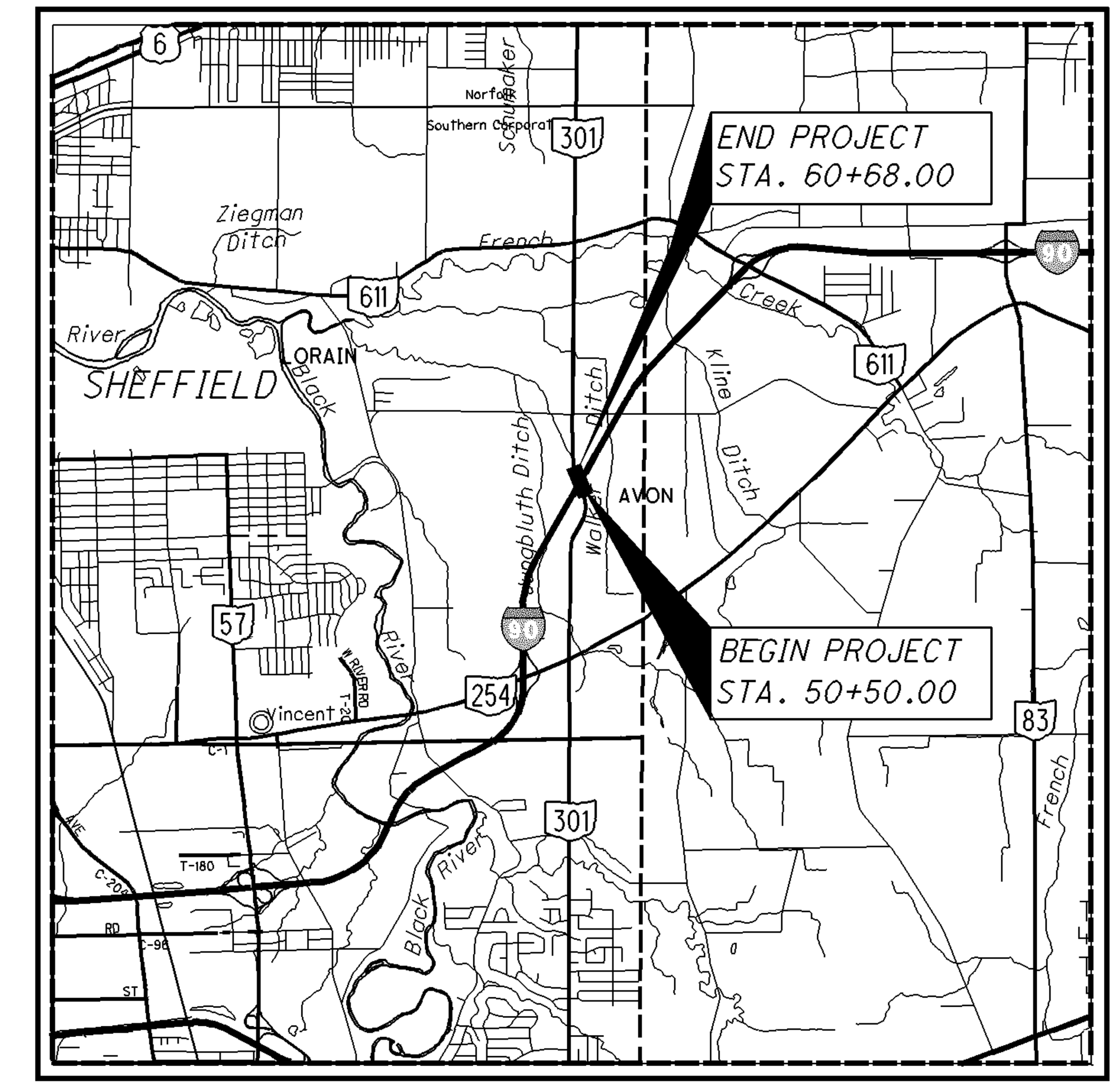
W— INDICATES FREE WATER ELEVATION.

SS INDICATES A SPLIT-SPOON SAMPLE.

TR INDICATES TOP OF ROCK ELEVATION.

NP INDICATES A NON-PLASTIC SAMPLE.

HISTORIC BORING DESCRIPTIONS	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
SANDY SILT	*A-4a*	*2*	*-*
SILT AND CLAY	*A-6a*	*1*	*-*
	TOTAL	*3*	*0*
SHALE	*VISUAL*		



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

PARTICLE SIZE DEFINITIONS

	12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
			No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	

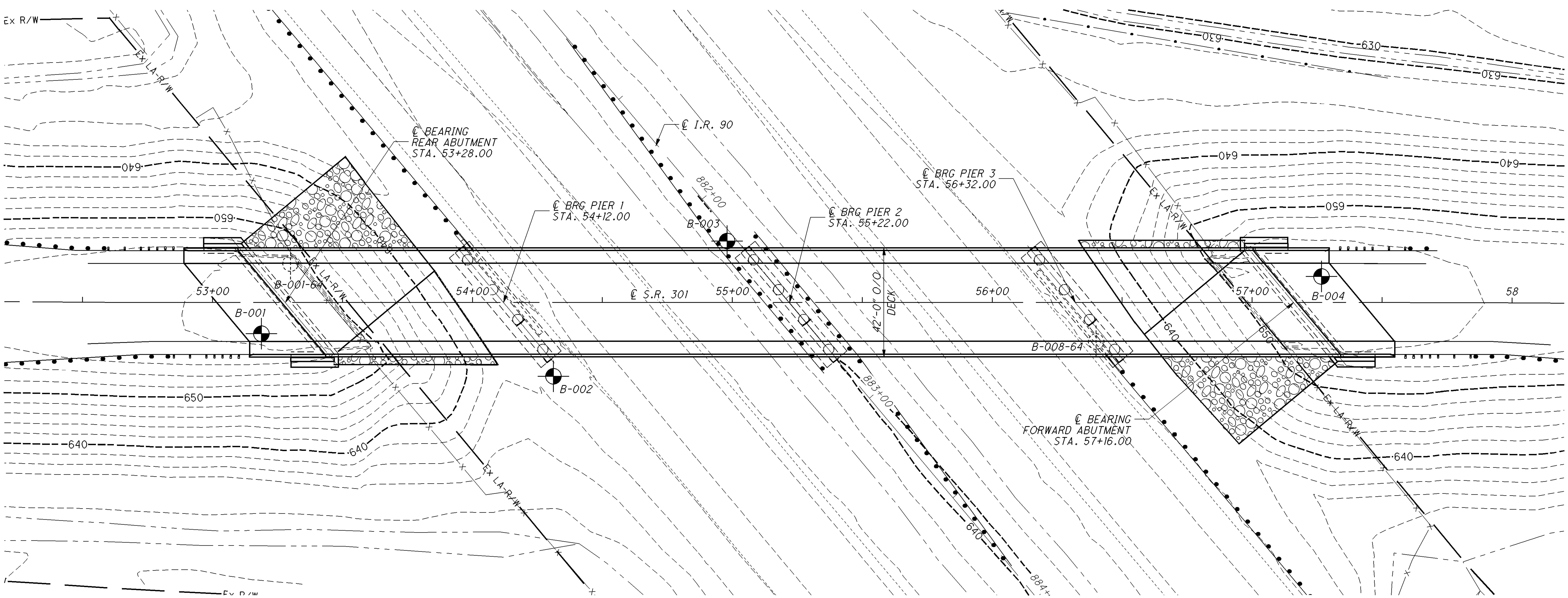
RECON. - ST 01/28/08
DRILLING - KAM 02/05-20/08
DRAWN - JAG 01/09
REVIEWED - CM 01/09
REVISED - BKL 02/10

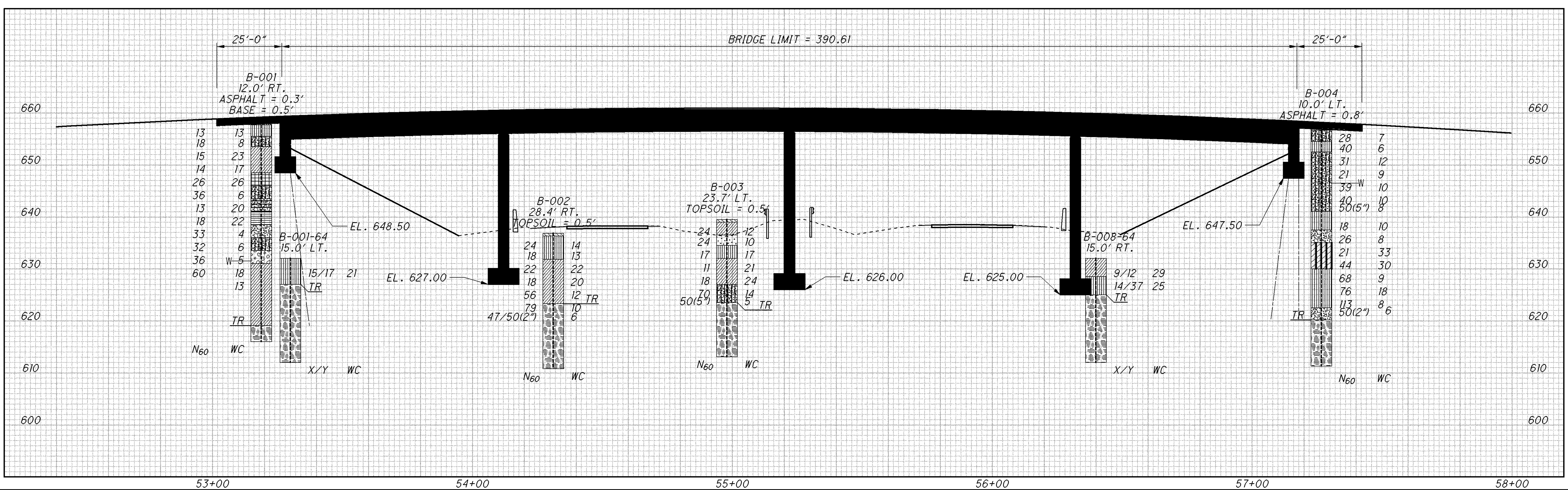
DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING
1600 W. BROAD ST. COLUMBUS, OH 43223

PID NO. 80199

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LOR-301-2349 OVER I.R.90

LOR-301-23.49





STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. LOR-301-2349 OVER I.R. 90

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN JAG
CHECKED CM

LOR-301-23.49

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PROJECT: LOR-301-23.49 TYPE: STRUCTURE - BRIDGE PID: 80199 BRIDGE ID: 2349 START: 2/5/08 END: 2/6/08	DRILLING FIRM / OPERATOR: ODOT / SABO SAMPLING FIRM / LOGGER: ODOT / MCLEISH DRILLING METHOD: 3.25" HSA / NQ2 SAMPLING METHOD: SPT / NX	DRILL RIG: CME 55 HAMMER: AUTOMATIC CALIBRATION DATE: 2/20/07 ENERGY RATIO (%): 83.4	STA / OFFSET: 53+18.8, 12.0' RT. ALIGNMENT: ℄ SR 301 ELEV: 658.5 FT (MSL) EOB: 42.5 FT COORDS: 1254373.826, 2084950.315

EXPLORATION ID: *B-001-08*
PAGE 1 of 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 658.5	DEPTHS	SPT / RQD	N60	REC %	HP (TSF)	SAMPLE ID	GRADATION (%) GR	CS	FS	SI	CL	ATTRBRG. LL	PL	PI	WC	ODOT CLASS (GI)	SNI
4" ASPHALT	658.2																(VISUAL)	
6" AGGREGATE BASE	657.7																(VISUAL)	
VERY STIFF GRAY SANDY SILT, SOME STONE FRAGMENTS, LITTLE CLAY, DAMP	655.5	1–3	4 3 6	13	100	3.50	SS-1	29	16	15	21	19	23	14	9	13	A-4a (1)	
MEDIUM DENSE GRAY STONE FRAGMENTS WITH SAND & SILT, LITTLE CLAY, DAMP	653.5	4–5	7 7 6	18	100	-	SS-2	58	9	7	13	13	27	17	10	8	A-2-4 (0)	
STIFF BROWN WITH GRAY SILT & CLAY, SOME STONE FRAGMENTS, LITTLE SAND, MOIST		6–7	7 4 7	15	100	2.00	SS-3	22	4	9	31	34	34	21	13	23	A-6a (7)	
@ 8.5'; "AND" STONE FRAGMENTS, DAMP	648.5	8–10	3 4 6	14	100	1.75	SS-4	48	9	7	17	19	36	23	13	17	A-6a (1)	
VERY STIFF GRAY WITH BROWN CLAY, "AND" STONE FRAGMENTS, SOME SILT, TRACE SAND, DAMP	646.0	11–12	5 7 12	26	100	2.25	SS-5	41	2	6	25	26	45	26	19	26	A-7-6 (7)	
DENSE GRAY WITH BROWN STONE FRAGMENTS WITH SAND & SILT, TRACE CLAY, DAMP	643.5	13–15	12 14 12	36	100	-	SS-6	64	11	5	12	8	28	19	9	6	A-2-4 (0)	
MEDIUM DENSE GRAY WITH BROWN STONE FRAGMENTS WITH SAND, SILT & CLAY, MOIST	641.0	16–17	8 4 5	13	100	-	SS-7	50	9	6	17	18	34	21	13	20	A-2-6 (1)	
STIFF GRAY WITH BROWN SILTY CLAY, "AND" STONE FRAGMENTS, TRACE SAND, DAMP	638.5	18–20	3 6 7	18	100	1.50	SS-8	44	4	6	21	25	38	22	16	22	A-6b (4)	
DENSE GRAY STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP	636.0	21–22	24 12 12	33	100	-	SS-9	63	12	6	13	6	26	21	5	4	A-1-b (0)	
DENSE GRAY STONE FRAGMENTS WITH SAND & SILT, LITTLE CLAY, DAMP	633.5	23–25	10 14 9	32	100	-	SS-10	44	16	9	17	14	28	20	8	6	A-2-4 (0)	
DENSE GRAY STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, DAMP	631.5	26–27 W	21 18 8	36	100	-	SS-11	66	14	7	9	4	24	20	4	5	A-1-a (0)	
HARD BROWN WITH GRAY SILT & CLAY, "AND" STONE FRAGMENTS, TRACE SAND, DAMP	631.0	28–30	14 19 24	60	100	4.00	SS-12	40	3	6	31	20	34	22	12	18	A-6a (4)	
@ 31.0'; LITTLE SAND @ 32.5'; SOME STONE FRAGMENTS, CONTAINS COBBLES	619.1	31–39 TOR	12 15 59	-	89	4.00	SS-13	43	6	8	28	15	33	21	12	13	A-6a (2)	
SHALE, GRAYISH BLACK, SLIGHTLY WEATHERED, MODERATELY STRONG, LAMINATED, CARBONACEOUS, HIGHLY FRACTURED TO FRACTURED; RQD 46%, NO LOSS.	616.0	40–42 EOB	14		95		RC-1										CORE	

NOTES: TUBE WET @ 27.0'; HOLE DRY BEFORE CORING; LOST CORE WATER RETURN @ 38.3'
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE GROUT (PUMPED)

LOR-301-23.49

STRUCTURE FOUNDATION EXPLORATION
BORING LOG B-001

DRAWN JAG
CHECKED CWP

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PROJECT: LOR-301-23.49
TYPE: STRUCTURE - BRIDGE
PID: 80199 BRIDGE ID: 2349
START: 2/11/08 END: 2/12/08

DRILLING FIRM / OPERATOR: ODOT / SABO
SAMPLING FIRM / LOGGER: ODOT / MCLEISH
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NX

DRILL RIG: CME 55
HAMMER: AUTOMATIC
CALIBRATION DATE: 2/20/07
ENERGY RATIO (%): 83.4

STA / OFFSET: 54+31.2, 28.4' RT.
ALIGNMENT: ℄ SR 301
ELEV: 636.8 FT (MSL) EOB: 26.0 FT
COORDS: 1254456.494, 2084937.670

EXPLORATION ID: B-002-08
PAGE 1 of 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 636.8	DEPTHS	SPT / RQD	N60	REC %	HP (TSF)	SAMPLE ID	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	SNI
6" TOPSOIL	636.3																(VISUAL)	
VERY STIFF GRAY SANDY SILT, SOME CLAY, LITTLE GRAVEL, DAMP			6 8 9	24	100	2.50	SS-1	19	14	20	22	25	25	16	9	14	A-4a (2)	
@ 3.5'; SOME GRAVEL, LITTLE CLAY	631.8		5 6 7	18	100	3.00	SS-2	29	15	19	19	18	23	16	7	13	A-4a (0)	
VERY STIFF BROWN & GRAY SILT & CLAY, SOME STONE FRAGMENTS, LITTLE SAND, DAMP			4 6 10	22	100	3.00	SS-3	21	3	7	57	12	37	23	14	22	A-6a (8)	
@ 8.5' - 10.0'; TRACE STONE FRAGMENTS			4 5 8	18	100	4.00	SS-4	8	6	9	35	42	33	21	12	20	A-6a (9)	
@ 11.0'; HARD, SOME SAND	623.3	TOR	12 18 22	56	100	4.50	SS-5	21	8	15	28	28	27	16	11	12	A-6a (5)	
SHALE, GRAYISH BLACK, MODERATELY WEATHERED, MODERATELY STRONG, LAMINATED, CARBONACEOUS, FRACTURED, RQD 45%, LOSS 2%.			17 26 31	79	100	4.50	SS-6	-	-	-	-	-	-	-	-	10	ROCK (V)	
			47 50/2"	-	94	4.00	SS-7	-	-	-	-	-	-	-	-	6	ROCK (V)	
	610.8	EOB	45		98		RC-1										CORE	

NOTES: HOLE DRY BEFORE CORING; GOOD WATER RETURN WHILE CORING
ABANDONMENT METHODS, MATERIALS, QUANTITIES: AQUAGEL; DRY

PROJECT: LOR-301-23.49
TYPE: STRUCTURE - BRIDGE
PID: 80199 BRIDGE ID: 2349
START: 2/19/08 END: 2/20/08

DRILLING FIRM / OPERATOR: ODOT / SABO
SAMPLING FIRM / LOGGER: ODOT / MCLEISH
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NX

DRILL RIG: CME 55
HAMMER: AUTOMATIC
CALIBRATION DATE: 2/20/07
ENERGY RATIO (%): 83.4

STA / OFFSET: 54+98.0, 23.7' LT.
ALIGNMENT: ℄ SR 301
ELEV: 639.5 FT (MSL) EOB: 26.4 FT
COORDS: 1254512.695, 2084852.770

EXPLORATION ID: B-003-08
PAGE 1 of 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 639.5	DEPTHS	SPT / RQD	N60	REC %	HP (TSF)	SAMPLE ID	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	SNI
6" TOPSOIL	639.0																(VISUAL)	
VERY STIFF GRAY WITH BROWN SILT & CLAY, SOME GRAVEL, LITTLE SAND, LITTLE ROOTS, DAMP	636.5		5 8 9	24	56	3.00	SS-1	28	7	11	21	33	29	17	12	12	A-6a (5)	
MEDIUM DENSE GRAY WITH BROWN COARSE & FINE SAND, LITTLE GRAVEL, LITTLE SILT, LITTLE CLAY, DAMP	634.5		6 8 9	24	67	-	SS-2	19	27	25	15	14	NP	NP	NP	10	A-3a (0)	
MEDIUM DENSE GRAY WITH BROWN SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, MOIST	632.0		3 5 7	17	100	-	SS-3	14	17	29	25	15	NP	NP	NP	17	A-4a (1)	
STIFF GRAY WITH BROWN SILT & CLAY, SOME GRAVEL, LITTLE SAND, MOIST			2 3 5	11	78	1.50	SS-4	28	5	8	31	28	35	22	13	21	A-6a (6)	
@11.0'; BROWN & GRAY	627.0		6 5 8	18	89	2.00	SS-5	26	4	8	33	29	33	22	11	24	A-6a (6)	
VERY DENSE GRAY STONE FRAGMENTS WITH SAND & SILT, LITTLE CLAY, MOIST	623.5	TOR	23 24 26	70	100	-	SS-6	36	17	12	24	11	25	19	6	14	A-2-4 (0)	
SHALE, GRAYISH BLACK, MODERATELY WEATHERED, MODERATELY STRONG, LAMINATED, CARBONACEOUS, FRACTURED, RQD 40%, NO LOSS.			50/5"	-	83	-	SS-7	-	-	-	-	-	-	-	-	5	ROCK (V)	
	613.1	EOB	40		100		RC-1										CORE	

NOTES: HOLE DRY BEFORE CORING; GOOD WATER RETURN WHILE CORING
ABANDONMENT METHODS, MATERIALS, QUANTITIES: AQUAGEL; DRY

4/6 LOR-301-23.49

STRUCTURE FOUNDATION EXPLORATION BORING LOGS B-002 AND B-003

DRAWN JAG
CHECKED CWP

PROJECT: LOR-301-23.49
TYPE: STRUCTURE - BRIDGE
PID: 80199 BRIDGE ID: 2349
START: 2/6/08 END: 2/6/08

DRILLING FIRM / OPERATOR: ODOT / CAREY
SAMPLING FIRM / LOGGER: ODOT / MCLEISH
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NX

DRILL RIG: CME 55
HAMMER: AUTOMATIC
CALIBRATION DATE: 2/20/07
ENERGY RATIO (%): 83.4

STA / OFFSET: 57+26.7, 10.0' LT.
ALIGNMENT: ℄ SR 301
ELEV: 657.5 FT (MSL) EOB: 46.2 FT
COORDS: 1254706.502, 2084789.679

EXPLORATION ID: B-004-08
PAGE 1 of 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 657.5	DEPTHS	SPT / ROD	N60	REC %	HP (TSF)	SAMPLE ID	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	SNI
10" ASPHALT	656.7																(VISUAL)	
MEDIUM DENSE GRAY WITH BROWN STONE FRAGMENTS WITH SAND & SILT, TRACE CLAY, FILL, DAMP	654.5	2–3	9 11 9	28	100	-	SS-1	57	15	6	14	8	28	21	7	7	A-2-4 (0)	
STIFF GRAY SANDY SILT, "AND" STONE FRAGMENTS, LITTLE CLAY, FILL, DAMP	652.5	4–5	6 9 20	40	100	1.50	SS-2	40	11	4	31	14	25	18	7	6	A-4a (2)	
DENSE GRAY STONE FRAGMENTS WITH SAND & SILT, TRACE CLAY, FILL, DAMP		6–7	5 8 14	31	44	-	SS-3	58	6	4	18	14	31	21	10	12	A-2-4 (0)	
		9–10	6 6 9	21	33	0.50	SS-4	62	9	4	15	10	-	18	-	9	A-2-4 (V)	
@ 11.0' - 12.5'; TRACE CLAY	646.5	W 11–12	5 11 17	39	100	-	SS-5	58	14	7	14	7	27	17	10	10	A-2-4 (0)	
		14–15	12 15 14	40	100	-	SS-6	52	12	5	19	12	27	18	9	10	A-2-4 (0)	
@ 16.0'; VERY STIFF, TRACE CLAY, BOULDER -- DRILLERS DESCRIPTION	641.1	16	50/5"	-	83	-	SS-7	57	16	8	14	5	25	18	7	8	A-2-4 (0)	
STIFF GRAY SANDY SILT, "AND" STONE FRAGMENTS, LITTLE CLAY, FILL, DAMP	637.5	19–20	9 8 5	18	100	2.00	SS-8	39	15	8	23	15	27	18	9	10	A-4a (1)	
MEDIUM DENSE GRAY WITH BROWN STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, FILL, DAMP	635.0	21–22	12 11 8	26	100	-	SS-9	62	12	6	14	6	23	18	5	8	A-1-b (0)	
VERY STIFF, GRAY ELASTIC CLAY, "AND" SILT, LITTLE SAND, LITTLE GRAVEL, SLIGHTLY ORGANIC, LITTLE ROOTS, MOIST		24–25	6 6 9	21	100	3.00	SS-10	14	5	10	41	30	50	33	17	33	A-7-5 (12)	
@ 26.0'; DARK GRAY, SOME SILT, SOME GRAVEL	630.0	26–27	10 18 14	44	100	2.50	SS-11	26	3	7	33	31	50	33	17	30	A-7-5 (10)	
HARD BROWN SANDY SILT, SOME GRAVEL, SOME CLAY, GLACIAL TILL, DAMP		29–30	20 22 27	68	100	4.50	SS-12	24	8	14	32	22	24	15	9	9	A-4a (4)	
@ 31.0'; GRAY		31–32	19 24 31	76	56	4.00	SS-13	24	14	11	29	22	29	20	9	18	A-4a (3)	
@ 33.5'; LITTLE CLAY	622.5	34–35	25 37 44	113	78	-	SS-14	33	19	11	25	12	25	18	7	8	A-4a (0)	
HARD GRAY STONE FRAGMENTS WITH SAND, LITTLE SILT, LITTLE CLAY, CONTAINS COBBLES & BOULDERS, DAMP	620.2	36 / TOR 37	50/2"	-	83	-	SS-15	-	-	-	-	-	-	-	-	6	A-1-b (V)	
SHALE, GRAYISH BLACK, MODERATELY WEATHERED, MODERATELY STRONG, LAMINATED, CARBONACEOUS, FRACTURED, ROD 52%, NO LOSS. @ 37.3' - 38.9'; MODERATELY WEATHERED, HIGHLY FRACTURED @ 42.1'; THIN CLAY SEAM @ 43.2' - 45.9'; HIGH ANGLE FRACTURE @ 45.8' - 46.2'; HIGH ANGLE FRACTURE	611.3	37–46 EOB	46		100		RC-1										CORE	

NOTES: HOLE DRY BEFORE CORING, GOOD WATER RETURN WHILE CORING; TUBE WET @ 11.0'
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE; DRY

STRUCTURE FOUNDATION EXPLORATION
BORING LOG B-004

DRAWN JAG CHECKED CWP

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LOG OF BORING

Date Started 12-2-64 | Sampler: Type S S | Dia. 1 3/8" | Water Elev.
Date completed 12-2-64 | Casing Length | Dia.
Boring No. B-1 | Station & Offset 53+30, 15' LT. (REAR ABUTMENT) | Surface Elev. 632.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft	Loss ft	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHT. Class
632.0	0														
629.5	2														
	4	15/17			Brown Sandy Gravelly Silt	1	41	7	9	20	23	27	7	21	
627.0					TOP OF ROCK										
	6–10		1.4	3.6	Shale, black, carbonaceous, fissile, medium-firm, broken with many thick clay seams in top 9.0'. Core loss 28%.										
	10–15		4.4	0.6											
	15–20		5.0	0.0											
612.0	20				BOTTOM OF BORING										

LOG OF BORING

Date Started 11-19-64 | Sampler: Type S S | Dia. 1 3/8" | Water Elev.
Date completed 11-19-64 | Casing Length | Dia.
Boring No. B-8 | Station & Offset 56+40, 15' RT. (FORWARD PIER) | Surface Elev. 632.0

Elev.	Depth	Std. Pen. (N)	Rec. ft	Loss ft	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHT. Class
632.0	0														
629.5	2														
	4	9/12			Dark Grayish-Brown Silt and Clay, Trace of Organic	1	0	3	8	51	38	35	11	29	
627.0	6	14/37			Brown and Gray Silt with Stone Fragments	2	45	8	7	18	22	30	7	25	
625.0					TOP OF ROCK										
	7–10		0.8	2.2	Shale, black, carbonaceous, fissile, medium-firm, broken with few thin clay seams in top 8.0'. Core loss 22%.										
	10–15		4.3	0.7											
	15–20		5.0	0.0											
612.0	20				BOTTOM OF BORING										

NOTE: BORING ELEVATIONS CORRECTED TO MATCH THE GROUND SURVEY FOR THIS PROJECT BY LOWERING THE BORING ELEVATIONS FROM THE 1964 PLAN BY ONE FOOT.

LOR-301-23.49

STRUCTURE FOUNDATION EXPLORATION
HISTORIC BORING LOGS B-1 AND B-8

DRAWN JAG
CHECKED CM