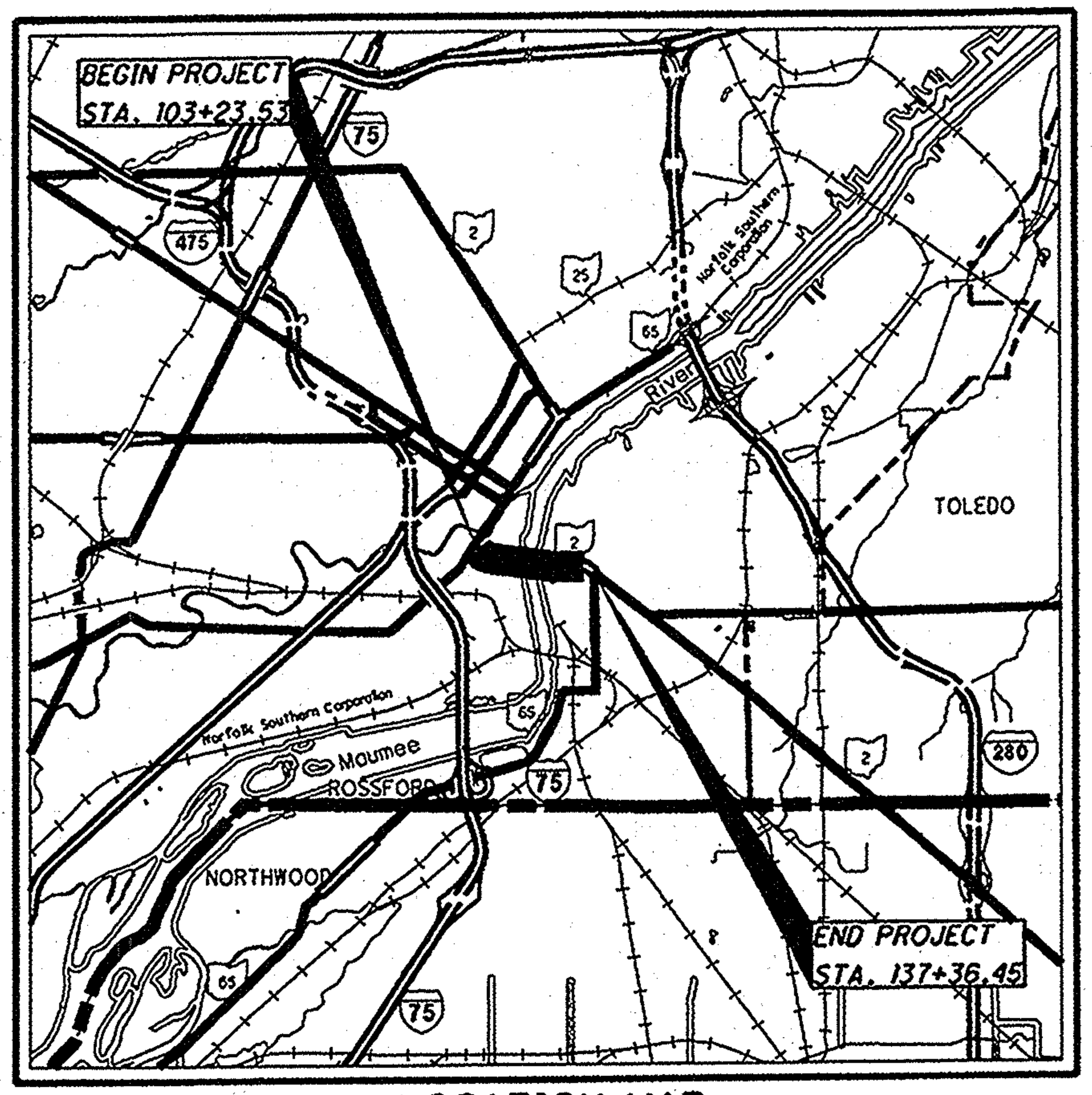
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
LUC-2-18.62
CITY OF TOLEDO
LUCAS COUNTY



LOCATION MAP

LATITUDE: 41°38'30" N LONGITUDE: 83°32'00" W

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
STATE & FEDERAL ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

OPENING YEAR ADT (2010)	25570
DESIGN YEAR ADT (2030)	29640
DESIGN HOURLY VOLUME (2030)	2670
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	3%
DESIGN SPEED	45
LEGAL SPEED	35
DESIGN FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL	
NHS PROJECT	NO

DESIGN EXCEPTIONS

HORIZONTAL CURVATURE & LATERAL CLEARANCE

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:

ARCADIS
ARCADIS U.S., Inc.
1100 SUPERIOR AVENUE, SUITE 1250
CLEVELAND, OHIO 44114
Tel: 216-781-6177 Fax: 216-781-6243
www.arcadis-us.com

INDEX OF SHEETS:

PROJECT DESCRIPTION

THE 0.65 MILE PROJECT INCLUDES THE REHABILITATION OF THE ANTHONY WAYNE BRIDGE (LUC-2-18.62) IN LUCAS COUNTY. THE WORK INCLUDES REHABILITATION OF THE PAVEMENT, BRIDGE REDECKING AND REHABILITATION, TRUSS REPLACEMENT, DRAINAGE REHABILITATION, NEW TRAFFIC CONTROL DEVICES AND LIGHTING.

PROJECT EARTH DISTURBED AREA:	8.5 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.7 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	10.2 ACRES

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.

ARCADIS BRIDGE ENGINEER SEAL:
SHEETS: 73 - 85, 96 - 100, 102-130, 133-149, 156 - 171, 227-235, 237-242, 251 - 256, 260, 262-264, 266-272, 286-297
STATE OF OHIO ROBERT BRYAN BEASLEY E-57770 REGISTERED PROFESSIONAL ENGINEER
SIGNED: Rob B. Beasley
DATE: 10-18-2012

GANNETT FLEMING BRIDGE ENGINEER SEAL:
SHEETS: 86-88, 88A, 131-132, 150-155, 172-194, 236, 243-250, 257-259, 261, 265, 273-277, 277A, 278-279, 279A, 280-285, 298-299
STATE OF OHIO PAUL L. COBLENTZ E-57136 REGISTERED PROFESSIONAL ENGINEER
SIGNED: Paul L. Coblentz
DATE: 10/18/12

ARCADIS LIGHTING ENGINEER SEAL:
SHEETS: 59 - 72
STATE OF OHIO JOHN MICHAEL SIDOTI E-71807 REGISTERED PROFESSIONAL ENGINEER
SIGNED: John M Sidoti
DATE: 10/18/2012

ARCADIS TRAFFIC ENGINEER SEAL:
SHEETS: 10 - 12, 56 - 58
STATE OF OHIO DANIEL R. JOZITY E-69898 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 10-18-12

MODJESKI & MASTERS BRIDGE ENGINEER SEAL:
SHEETS: 89 - 95, 101, 195 - 226
STATE OF OHIO SCOTT R. ESHENAUR E-75935 REGISTERED PROFESSIONAL ENGINEER
SIGNED: S. R. Eshenaur
DATE: 10/18/12

ARCADIS ROADWAY & DRAINAGE ENGINEER SEAL:
SHEETS: 1 - 9, 13 - 55
STATE OF OHIO ANGELA KAY BYRD E-74654 REGISTERED PROFESSIONAL ENGINEER
SIGNED: Angela Kay Byrd
DATE: 10/18/12

STANDARD CONSTRUCTION DRAWINGS									SUPPLEMENTAL SPECIFICATIONS	
AS-1-81	7/19/02	GSD-1-96	7/19/02	MT-101.6	4/17/09	TC-42.20	1/21/11		800	10/19/12
				MT-105.10	1/16/09	TC-52.10	1/19/07		832	5/5/09
BP-2.3	7/16/04	HL-20.13	1/20/12	MT-110.10	1/16/09	TC-52.20	1/19/07		839	4/20/07
BP-3.1	4/20/12	HL-30.11	10/16/09			TC-71.10	1/21/11		861	7/15/11
BP-5.1	7/28/00	HL-30.32	4/17/09	RM-1.1	7/15/11	TC-81.10	10/21/11		892	4/15/05
		HL-30.33	4/17/09	RM-4.3	10/21/11				898	1/21/11
CB-1.1	7/15/05	HL-30.41	10/21/11	RM-4.4	10/16/09	TST-1-99	4/18/08		939	4/18/08
CB-2.2	7/15/05	HL-50.21	7/20/12	RM-4.5	10/16/09					
CB-2.3	7/15/05	HL-60.11	10/21/11	RM-4.6	4/16/10	VPF-1-90	4/15/11			
				RM-5.1	4/18/03					
DM-1.4	7/15/11	HW-2.1	7/30/07							
		HW-2.2	7/30/07	SICD-1-96	7/19/02					
EXJ-4-87	7/19/02								SPECIAL PROVISIONS	
		LA-1.1	10/15/10	TC-21.20	4/15/11					
F-1.1	4/16/10			TC-32.10	1/19/07					
F-3.2	4/16/10	MH-1.2	1/20/06	TC-41.20	1/19/01					

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 10 - 12, AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

APPROVED Todd M Audet P.E.
DATE 22 OCT 12 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray
DATE 10-25-12 DIRECTOR, DEPARTMENT OF TRANSPORTATION

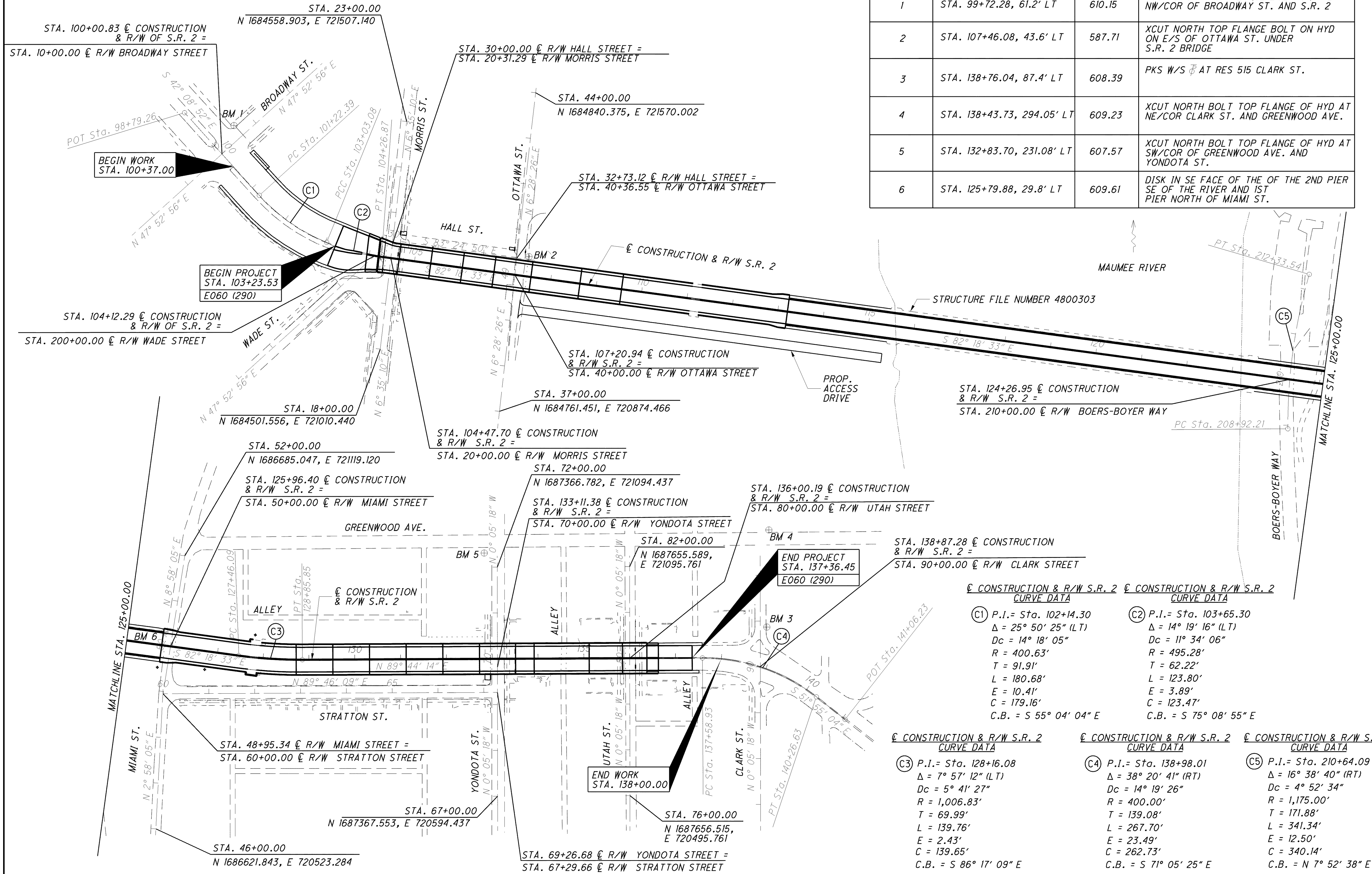
FEDERAL PROJECT NO. E060(290)
PID NO. 80551
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE

LUC-2-18.62

LUC - 2 - 18.62
130058 PID - 80551
DIST 02 3/7/2013

FOR BENCHMARK LOCATIONS SEE THIS SHEET

BENCHMARK INFORMATION			
BENCHMARK	STATION	ELEVATION	DESCRIPTION
1	STA. 99+72.28, 61.2' LT	610.15	XCUT SOUTH TOP FLANGE BOLT ON HYD AT NW/COR OF BROADWAY ST. AND S.R. 2
2	STA. 107+46.08, 43.6' LT	587.71	XCUT NORTH TOP FLANGE BOLT ON HYD ON E/S OF OTTAWA ST. UNDER S.R. 2 BRIDGE
3	STA. 138+76.04, 87.4' LT	608.39	PKS W/S ℘ AT RES 515 CLARK ST.
4	STA. 138+43.73, 294.05' LT	609.23	XCUT NORTH BOLT TOP FLANGE OF HYD AT NE/COR CLARK ST. AND GREENWOOD AVE.
5	STA. 132+83.70, 231.08' LT	607.57	XCUT NORTH BOLT TOP FLANGE OF HYD AT SW/COR OF GREENWOOD AVE. AND YONDOTA ST.
6	STA. 125+79.88, 29.8' LT	609.61	DISK IN SE FACE OF THE OF THE 2ND PIER SE OF THE RIVER AND 1ST PIER NORTH OF MIAMI ST.



℄ CONSTRUCTION & R/W S.R. 2 CURVE DATA

C1 P.I.= Sta. 102+14.30
Δ = 25° 50' 25" (LT)
Dc = 14° 18' 05"
R = 400.63'
T = 91.91'
L = 180.68'
E = 10.41'
C = 179.16'
C.B. = S 55° 04' 04" E

℄ CONSTRUCTION & R/W S.R. 2 CURVE DATA

C2 P.I.= Sta. 103+65.30
Δ = 14° 19' 16" (LT)
Dc = 11° 34' 06"
R = 495.28'
T = 62.22'
L = 123.80'
E = 3.89'
C = 123.47'
C.B. = S 75° 08' 55" E

℄ CONSTRUCTION & R/W S.R. 2 CURVE DATA

C3 P.I.= Sta. 128+16.08
Δ = 7° 57' 12" (LT)
Dc = 5° 41' 27"
R = 1,006.83'
T = 69.99'
L = 139.76'
E = 2.43'
C = 139.65'
C.B. = S 86° 17' 09" E

℄ CONSTRUCTION & R/W S.R. 2 CURVE DATA

C4 P.I.= Sta. 138+98.01
Δ = 38° 20' 41" (RT)
Dc = 14° 19' 26"
R = 400.00'
T = 139.08'
L = 267.70'
E = 23.49'
C = 262.73'
C.B. = S 71° 05' 25" E

℄ CONSTRUCTION & R/W S.R. 2 CURVE DATA

C5 P.I.= Sta. 210+64.09
Δ = 16° 38' 40" (RT)
Dc = 4° 52' 34"
R = 1,175.00'
T = 171.88'
L = 341.34'
E = 12.50'
C = 340.14'
C.B. = N 7° 52' 38" E

HORIZONTAL SCALE IN FEET
0 100 200

CALCULATED AKM
CHECKED PSB

SCHEMATIC PLAN

LUC-2-18.62

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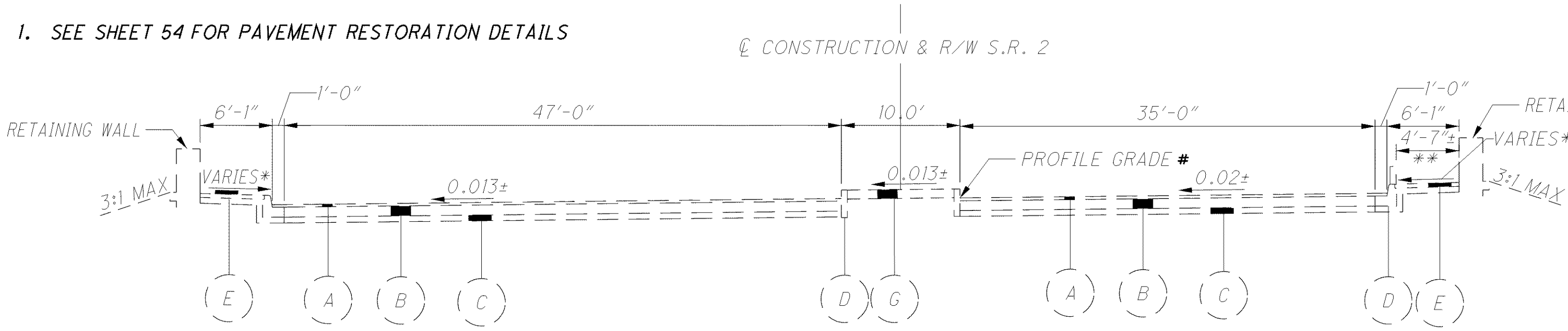
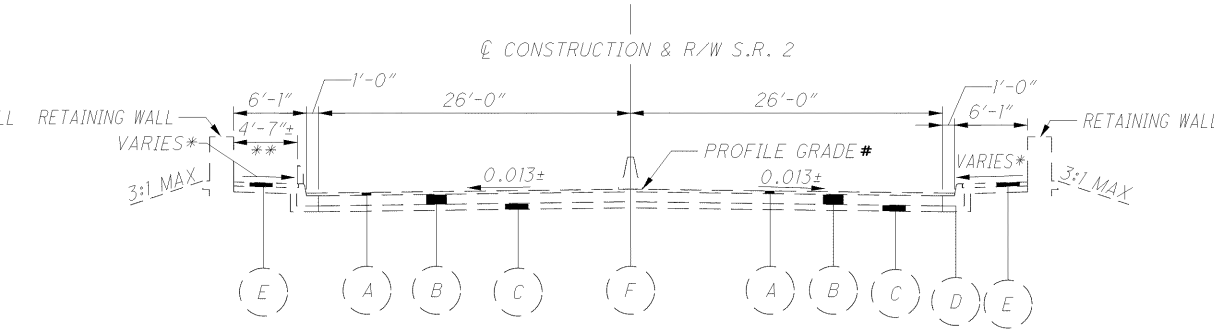
NOTES:

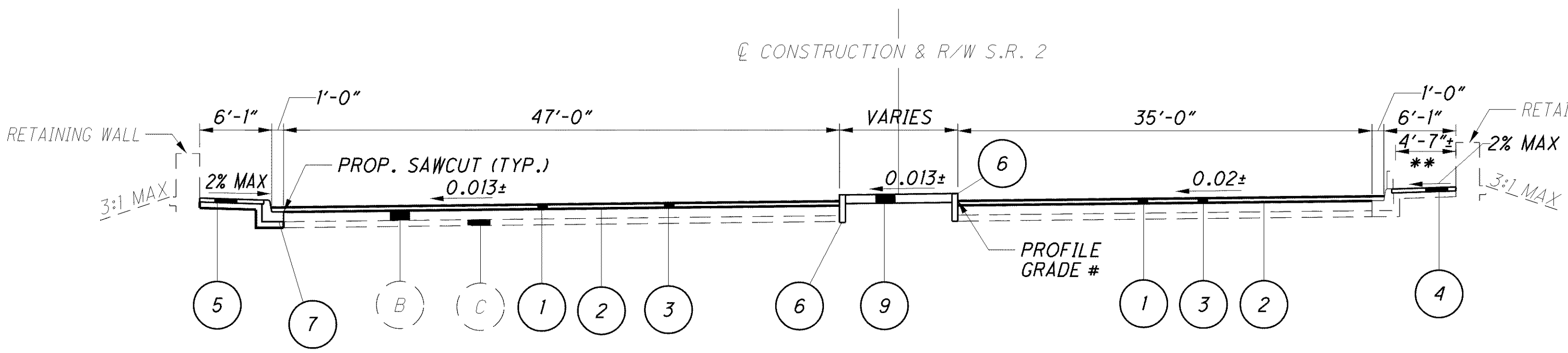
1. SEE SHEET 54 FOR PAVEMENT RESTORATION DETAILS



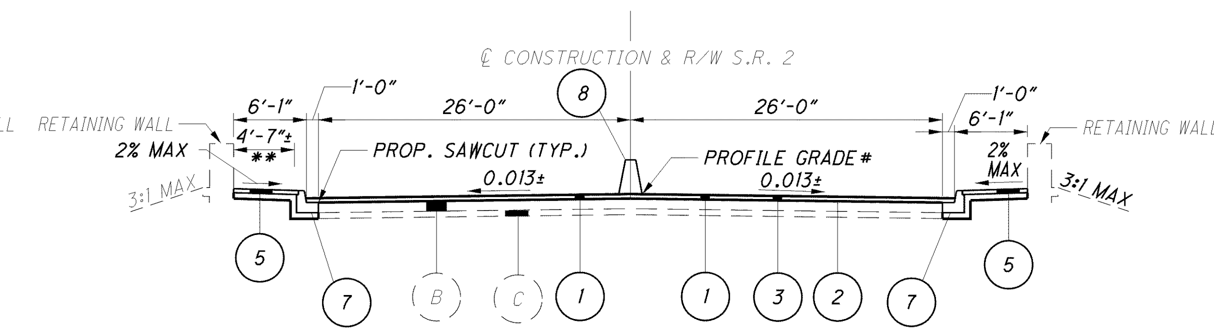
WEST APPROACH EXISTING SECTION - S.R. 2 (CLAYTON STREET)
STA. 103+23.53 TO STA. 103+94.65 = 71.12 FT.



EAST APPROACH EXISTING SECTION - S.R. 2 (CLAYTON STREET)
STA. 136+62.65 TO STA. 137+36.45 = 73.80 FT.



WEST APPROACH PROPOSED SECTION - S.R. 2 (CLAYTON STREET)
STA. 103+23.53 TO STA. 103+94.65 = 71.12 FT.



EAST APPROACH PROPOSED SECTION - S.R. 2 (CLAYTON STREET)
STA. 136+62.65 TO STA. 137+36.45 = 73.80 FT.

LEGEND

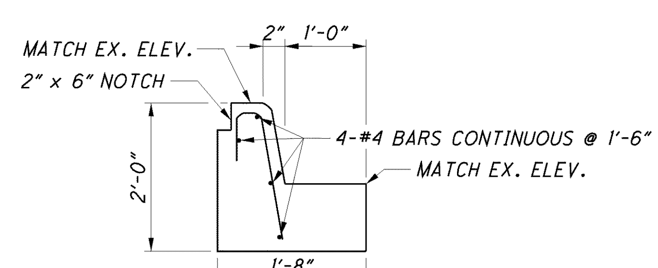
(A)	1.5"± ASPHALT CONCRETE
(B)	9"± REINFORCED CONCRETE
(C)	6"± SUBBASE
(D)	CONCRETE CURB
(E)	4"± CONCRETE WALK
(F)	CONCRETE MEDIAN BARRIER
(G)	CONCRETE MEDIAN

1	ITEM 254 - 1.5"± PAVEMENT PLANING, ASPHALT
2	ITEM 407 - TACK COAT
3	ITEM 448 -1.5"± ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
4	ITEM 608 - 5" CONCRETE WALK
5	ITEM 608 - 5" CONCRETE WALK, AS PER PLAN
6	ITEM 609 - CURB, TYPE 6
7	ITEM 609 - CURB, TYPE 2A, AS PER PLAN
8	ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN (SEE DETAIL SHEET 4)
9	ITEM 608 - 4" CONCRETE WALK

* WALK SLOPE VARIES 0.5% - 5.9% ALL SLOPES OVER 2% ARE NOT IN COMPLIANCE WITH ADA REQUIREMENTS

** NOT IN COMPLIANCE WITH ADA REQUIREMENTS

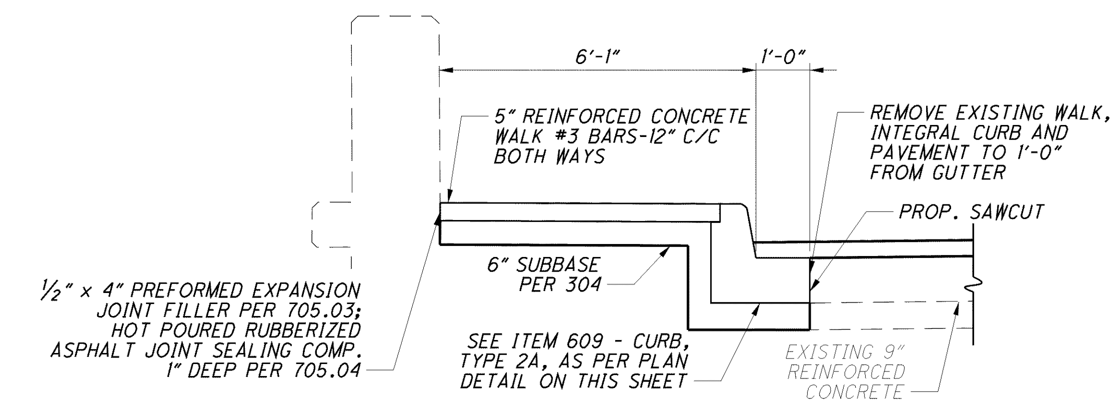
\# PROFILE GRADE AT SOUTH BARRIER TOE



ITEM 609 - CURB, TYPE 2A, AS PER PLAN

PAYMENT:

PAYMENT FOR ITEM 609 - CURB, TYPE 2A, AS PER PLAN SHALL INCLUDE ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT THE CURB AS SHOWN INCLUDING EXCAVATION, CONCRETE FOR CURB AND REINFORCING STEEL COMPLETE IN PLACE.



ITEM 608 - 5" CONCRETE WALK, AS PER PLAN

PAYMENT:

PAYMENT FOR ITEM 608 - 5" CONCRETE WALK, AS PER PLAN SHALL INCLUDE ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT THE WALK AS SHOWN INCLUDING EXCAVATION, SAWCUT, SUBBASE, CONCRETE FOR WALK, REINFORCING STEEL, PREFORMED EXPANSION JOINT FILLER AND ASPHALT JOINT SEALING COMP. COMPLETE IN PLACE.

CALCULATED AKM CHECKED PSB

TYPICAL SECTIONS

LUC-2-18.62

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ITEM 622 - BARRIER TRANSITION

GENERAL: THIS INSERT DETAILS THE BARRIER TRANSITION, TO CONNECT EXISTING NJ CONCRETE BARRIER (SAFETY SHAPE) TO A NEW RUN OF SINGLE SLOPE CONCRETE BARRIER AT LOCATIONS SHOWN ON THE PLANS. FOR NJ BARRIER SHAPE AND OTHER DETAILS SEE THE RESPECTIVE PLAN INSERT SHEETS. FOR SINGLE SLOPE BARRIER DETAILS, SEE SCD RM-4.3 (RM-4.5 FOR TYPE D).

ADJACENT CONCRETE BARRIER RUNS: REMOVE ANY TAPERED END SECTIONS, IMPACT ATTENUATORS, OR OTHER GUARDRAIL HARDWARE FROM EXISTING BARRIER END. THE BARRIER TO BARRIER TRANSITION IS NOT INTENDED TO BE USED AT TRANSITION SECTIONS (THOSE SHOWN ON SCD RM-4.4), INLETS, OR ON TYPE C OR C1 BARRIER. IF PROPOSED ADJACENT SINGLE SLOPE BARRIER IS TYPE A OR A1, THE BARRIER TRANSITON SHOULD CONTAIN HORIZONTAL REINFORCING STEEL SIMILIAR TO THAT REQUIRED IN THE RESPECTIVE SINGLE SLOPE BARRIER. REINFORCEMENT IS NOT SHOWN AND SHOULD BE DETAILED SEPARATELY. THE ADJACENT SINGLE SLOPE END SHOULD BE TERMINATED WITH A REINFORCED END ANCHOR AS DETAILED ON THE SCDS.

BARRIER FACE TRANSITION: TO PREVENT VEHICLE SNAGGING, A SMOOTH TRANSITION FROM THE SAFETY SHAPE FACE TO THE SINGLE SLOPE FACE IS MADE OVER A 20' LENGTH. THE ACTUAL SHAPE OF THE TRANSITION IS DEPENDENT ON BOTH THE ADJACENT NJ BARRIER AND THE SINGLE SLOPE BARRIER TYPES, AS DETAILED ON THE PLANS. THE CONTRACTOR AND ENGINEER WILL AGREE ON A CONSTRUCTION METHOD TO ENSURE A SMOOTH BARRIER FACE.

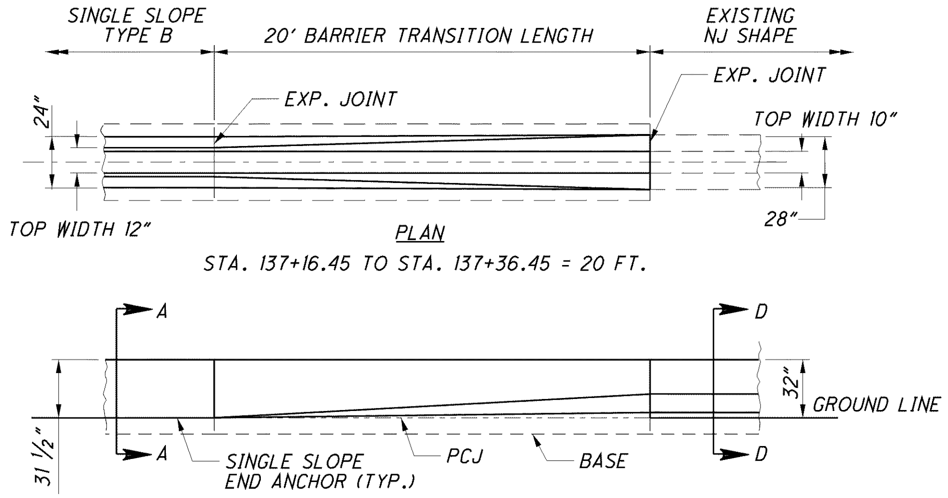
MATERIALS: MATERIALS ARE SAME FOR THOSE SHOWN ON RM-4.3 AND RM-4.5, EXCEPT THAT CAST-IN-PLACE IS THE ONLY ACCEPTABLE METHOD. EDGES MAY BE CHAMFERED OR RADIUSED AS SHOWN ON THOSE DRAWINGS.

CONCRETE BASE: CONSTRUCT BASE AS SHOWN ON THE NJ SHAPE INSERT SHEETS, INCLUDING THE METHODS DETAILING THE FOOTING JOINT, PERMISSIBLE CONSTRUCTION JOINT (PCJ), AND DOWELLING REQUIREMENTS. THE WIDTH OF THE BASE MATCHES THE EXISTING NJ BARRIER.

JOINTS: CONSTRUCT JOINTS AS SHOWN ON RESPECTIVE BARRIER DRAWINGS.

RACEWAYS: WHEN SPECIFIED, PLACE RACEWAY(S) TO MATCH RACEWAY ELEVATION IN ADJOINING SEGMENTS. PLACE TO OBTAIN MAXIMUM CONCRETE COVER.

PAYMENT: THIS BARRIER TRANSITON SHALL INCLUDE ALL MATERIAL AND LABOR NEEDED TO CONSTRUCT THIS 20' SECTION, INCLUDING ANY RACEWAYS, REINFORCING STEEL, DOWELS AND OTHER NECESSARY INCIDENTALS. PAYMENT SHALL BE MADE AT THE UNIT PRICE FOR ITEM 622 - BARRIER TRANSITION, EACH.

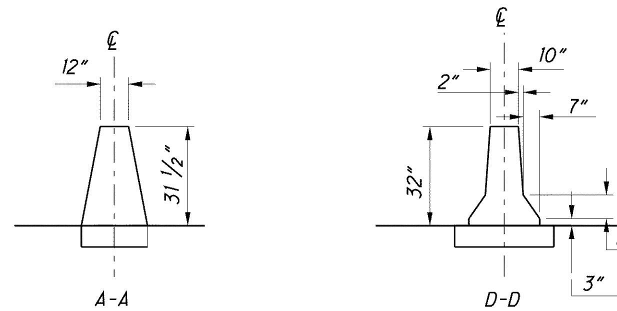


PLAN

STA. 137+16.45 TO STA. 137+36.45 = 20 FT.

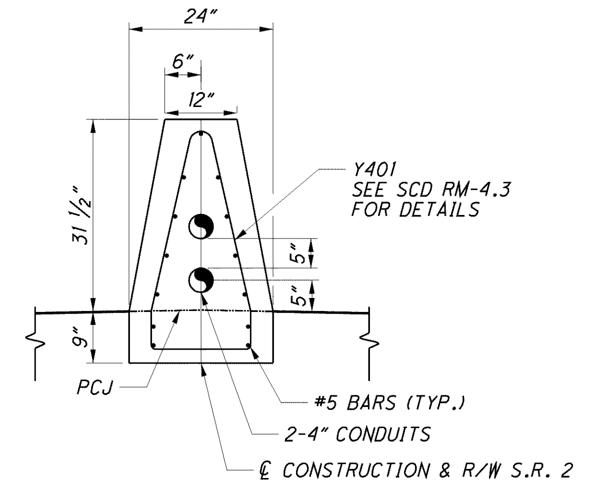
STANDARD LOW BARRIER CONNECTION

ELEVATION



A-A

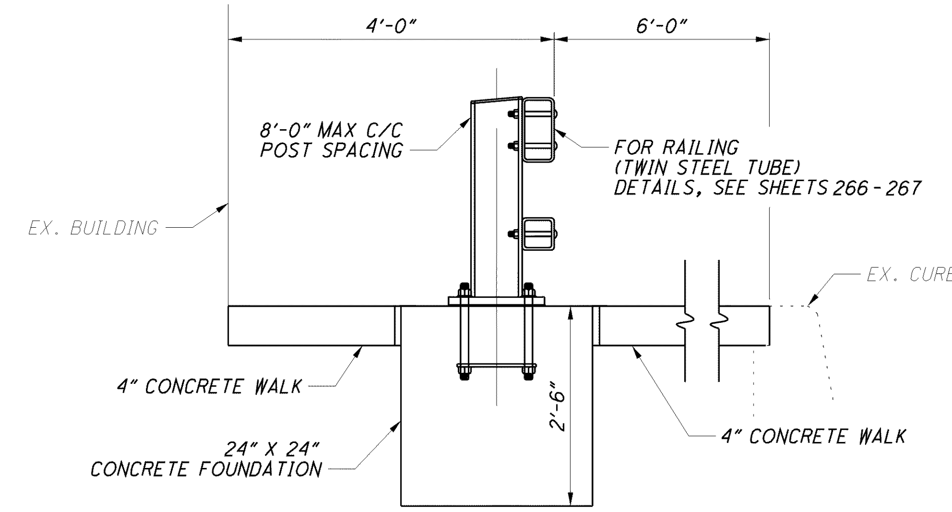
D-D



ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN

PAYMENT:

PAYMENT FOR ITEM - 622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN SHALL INCLUDE ALL MATERIAL AND LABOR NEEDED TO CONSTRUCT THE BARRIER, INCLUDING ANY RACEWAYS, REINFORCING STEEL, DOWELS AND OTHER NECESSARY INCIDENTALS.



ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN "A"
STA. 100+46.00 TO STA. 100+91.00 = 45.0 FT.

PAYMENT:

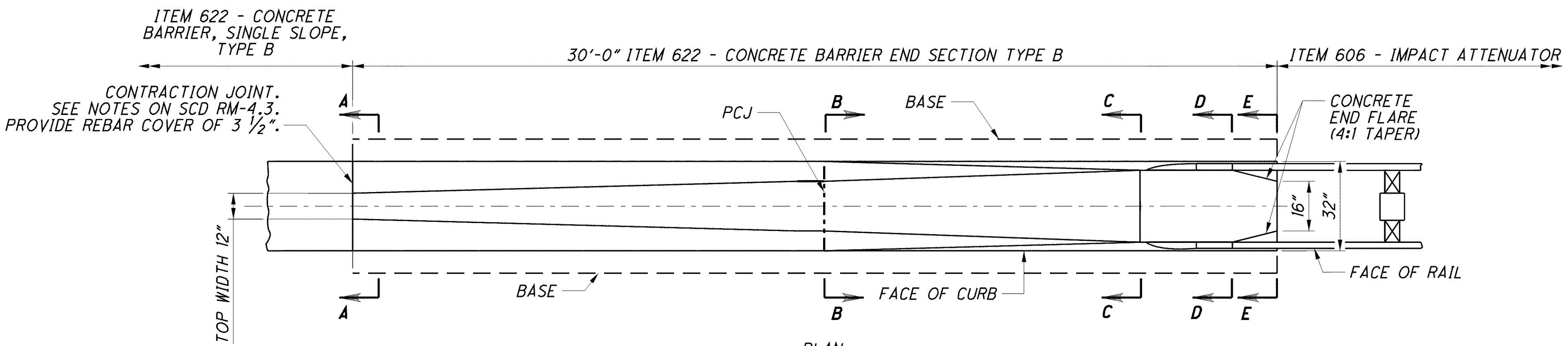
PAYMENT FOR ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN "A" SHALL, INCLUDE ALL STEEL TUBING, STEEL POSTS, POST ANCHOR DEVICES, ANCHOR PLATES, TUBE SPLICE PLATES, STEEL SHIM PLATES, BOLTS, 5/8" ROUND HEAD BOLTS, SLEEVE NUTS, NUTS, CAP SCREWS, WASHERS, OTHER HARDWARE, BEARING PADS, EXCAVATION, CONCRETE FOR FOUNDATION (CLASS C PER 499 & 511), EQUIPMENT, MATERIAL AND LABOR REQUIRED TO CONSTRUCT THE RAILING AS SHOWN COMPLETE IN PLACE. BARRIER SHALL END AS SHOWN ON SHEET 267.

CALCULATED AKM
CHECKED PSB

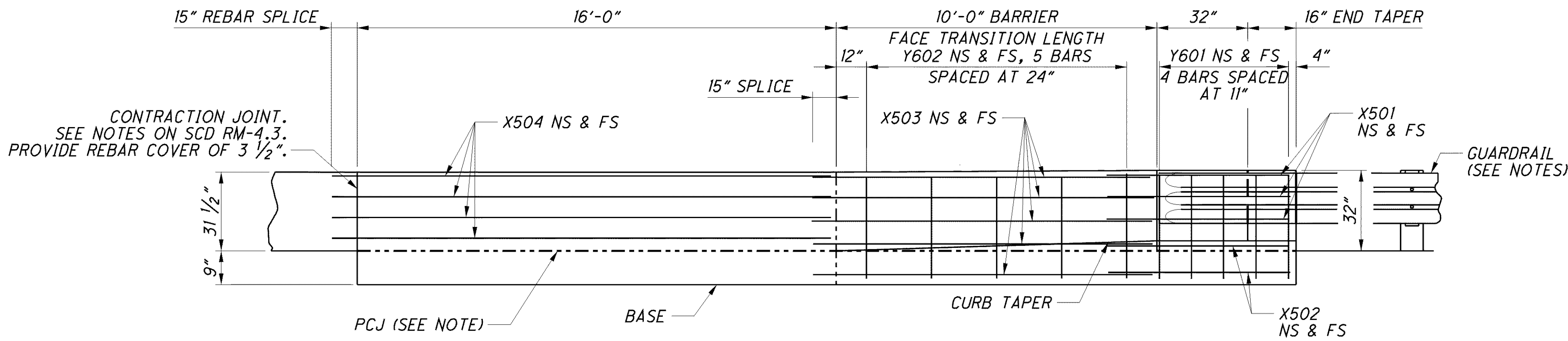
TYPICAL SECTION - MISCELLANEOUS DETAILS

LUC-2-18.62

CALCULATED AKM
CHECKED PSB



PLAN
REINFORCING NOT SHOWN
STA. 103+94.65 TO STA. 103+64.65



ELEVATION
BARRIER END SECTION TYPE B

NOTES:

GENERAL: THIS END SECTION IS TO BE USED IN MEDIAN APPLICATIONS WHEN TRAFFIC IS ON BOTH SIDES AND ATTACHES TO A SINGLE SLOPE CONCRETE BARRIER, TYPE B. SEE SCD RM-4.3 FOR SINGLE SLOPE BARRIER DETAILS AND MATERIALS. PROVIDE 2" [50] CONCRETE COVER OVER REBARS, EXCEPT AS NOTED.

GUARDRAIL: FOR BRIDGE TERMINAL ASSEMBLY AND ATTACHMENT DETAILS SEE SCD GR-3.5. INFORMATION ON IMPACT ATTENUATORS IS FOUND IN LOCATION & DESIGN MANUAL, VOLUME 1, SECTION 603.

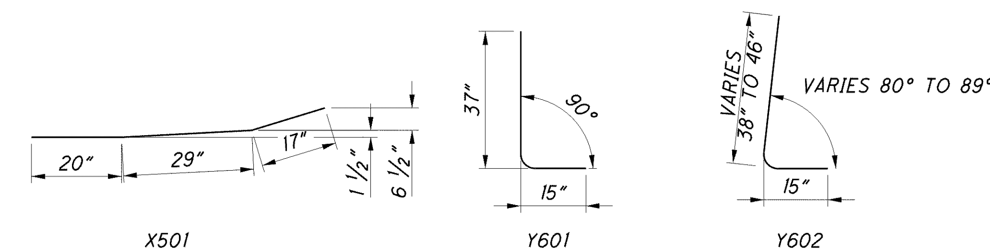
BARRIER FACE TRANSITIONS: TO PREVENT VEHICLE SNAGGING, SMOOTH TRANSITIONS FROM VERTICAL FACES TO THE SINGLE SLOPE FACES ARE MADE OVER A 10' [3000] DISTANCE.

PERMISSIBLE CONSTRUCTION JOINT. IN THE UNREINFORCED BASE SECTION, BARRIER MAY BE PLACED ON TOP OF CONCRETE BASE IF DOWELED AS SHOWN ON SCD RM-4.3.

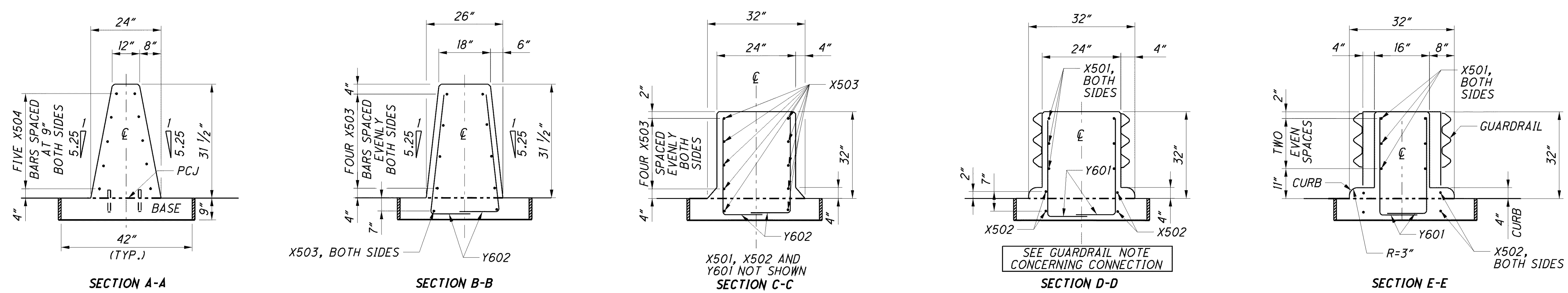
PAYMENT: PAYMENT FOR THE CONCRETE END SECTION SHALL BE MADE AT THE UNIT PRICE FORITEM 622 - CONCRETE BARRIER END SECTION, TYPE B, EACH, AND SHALL INCLUDE ALL MATERIALS, LABOR, AND REINFORCING STEEL REQUIRED TO CONSTRUCT THE BARRIER END SECTION AS SHOWN.

Types B STEEL LIST

MARK	BAR	SHAPE	NO.	LENGTH
X501	#5	BENT	6	5'-6"
X502	#5	STR.	4	5'-6"
X503	#5	STR.	10	11'-1"
X504	#5	STR.	10	17'-2"
Y601	#6	BENT	10	4'-2"
Y602	#6		2 SERIES OF 5	VARIES: 4'-3" TO 5'-3"



BENDING DIAGRAMS



TYPICAL SECTION - MISCELLANEOUS DETAILS

LUC-2-18.62

GENERAL

ROUNDING

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

UTILITIES

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

The Buckeye Cable System
Doug Vaughn
4818 Angola Road
Toledo, Ohio 43615
419.724.9802

Verizon Business
Allan Guest
120 Ravine St.
Akron, Ohio 44303
330.253.8267

AT&T Local
Robert Fey
130 North Erie Street
Room 714
Toledo, Ohio 43604
419.245.5004

Toledo Edison
Darrel Edinger
6099 Angola Rd.
Holland, Ohio 43528
419.249.5218

City of Toledo
Department of Public Service
Division of Transportation
Gary Stookey
110 North Westwood Avenue
Toledo, Ohio 43607
419.245.1300

AT&T Long Distance
Wayne King
7630 Finzel Road
Whitehouse, Ohio 43571
419.351.5999

Columbia Gas of Ohio
Jamie Briehl
3222 W. Central Ave.
Toledo, Ohio 43606
419.539.6066

Toledo Water
Terry Russeau
401 South Erie Street
Toledo, Ohio 43604
419.936.2825

City of Toledo
Division of Engineering Services
Scott Sibley
600 Jefferson Avenue
Toledo, Ohio 43604
419.936.2851

Metroparks of the Toldeo Area
Dave Zenk
Fallen Timbers Field Office
6101 Fallen Timbers Lane
Maumee, Ohio 43537
419.407.9728

UTILITIES

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

EXISTING PLANS

EXISTING PLANS ENTITLED ANTHONY WAYNE BRIDGE CONTRACT NO. 88-60 & LUC-2-18.62 MAY BE INSPECTED IN THE ODOT DISTRICT 2 OFFICE LOCATED AT:
317 EAST POE ROAD
BOWLING GREEN, OHIO 43402-1330

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM RECORDS AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THE SAME.

FOR FURTHER INFORMATION IN REGARD TO THE EXISTING TYPICAL SECTIONS, THE CONTRACTOR SHALL REFER TO THE PREVIOUS CONSTRUCTION PLANS.

THESE PLANS MAY BE REVIEWED AT THE FOLLOWING LOCATION:

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 2 OFFICE
317 EAST POE ROAD
BOWLING GREEN, OHIO 43402-1330

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.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

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.

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWING RM-1.1 AND AT THE LOCATIONS SHOWN ON SHEET NO. 301-302.

THE QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

SURVEYING PARAMETERS

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID 09

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (CORS 96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE - NORTH ZONE
COMBINED SCALE FACTOR: 0.9999684620188

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

CLEARING AND GRUBBING

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

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	19	0	19

ITEM 203 - EXCAVATION, AS PER PLAN

THIS WORK CONSISTS OF DISPOSING OF ALL EXCAVATED MATERIAL OFFSITE. THIS MATERIAL MAY NOT BE USED FOR EMBANKMENT. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS TO DISPOSE OF THE MATERIAL PROPERLY.

ENVIRONMENTAL

STREAM CHANNEL EXCAVATION

STREAM CHANNEL EXCAVATION WITHIN "WATERS OF THE US" IS SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE)REGULATORY JURISDICTION AND WILL REQUIRE AUTHORIZATION BY THE USACE VIA THE WATERWAY PERMITTING PROCESS (404/401). IN ACCORDANCE WITH THE APPLICABLE WATERWAY PERMITS (404/401) STREAM CHANNEL EXCAVATION CAN NOT EXCEED THE QUANTITIES AND/OR SURFACE AREA THAT HAS BEEN PERMITTED. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND WILL BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

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

TEMPORARY CONSTRUCTION FILL

ANY TEMPORARY CONSTRUCTION ACCESS FILL WITHIN "WATERS OF THE US" (EG., STREAMS, WETLANDS) SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION WILL REQUIRE AUTHORIZATION BY THE USACE PRIOR TO THE PLACEMENT OF TEMPORARY FILL VIA THE WATERWAY PERMITTING PROCESS (404/401). ALL TEMPORARY CONSTRUCTION ACCESS FILLS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WATERWAY PERMITS (404/401) AND SHOULD NOT EXCEEDTHE QUANTITIES AND/OR SURFACE AREA OF TEMPORARY FILLTHAT HAS BEEN PERMITTED. ADDITIONALLY, SOME TEMPORARY CONSTRUCTION ACCESS FILLS MAY ONLY BE ALLOWED IN SPECIFIC LOCATIONS, PER THE WATERWAY PERMITS(404/401) AND/OR OTHER ENVIRONMENTAL COMMITMENTS, AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ANY SUCH LOCATIONAL RESTRICTIONS TO AVOID ENVIRONMENTALLY SENSITIVE AREAS. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND ARE BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

CONCURRENT CONSTRUCTION

CONSTRUCTION IN THE MIDDLEGROUNDS METROPARK OWNED BY THE METROPARKS OF THE TOLEDO AREA ON THE WEST SIDE OF THE MAUMEE RIVER WILL BE OCCURING CONCURRENTLY. UPON COMPLETION OF THE CONSTRUCTION ACCESS DRIVE A MINIMUM WIDTH OF 15 FEET MUST BE MAINTAINED FOR ACCESS DURING CONSTRUCTION.

THE CONTRACTOR MUST NOTIFY THE METROPARKS OF THE TOLEDO AREA 14 DAYS PRIOR TO THE START OF CONSTRUCTION ON THE PROPOSED DRAINAGE AND ROADWAY WORK IN THE MIDDLEGROUNDS METROPARK.

ENVIRONMENTAL COMMITMENTS

ENDANGERED SPECIES HABITAT - INDIANA BAT
THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT SUMMER ROOSTING AND BROOD-REARING HABITAT FOR THIS SPECIES. THE SUMMER ROOSTING AND BROOD-REARING HABITAT FOR THE INDIANA BAT CONSISTS OF LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF TREES AND/OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES SHALL BE PERFORMED ONLY AFTER SEPTEMBER 15 AND BEFORE APRIL 15 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITAT.

CONSTRUCTION NOISE
CONSTRUCTION ACTIVITIES INVOLVING THE USE OF POWER-OPERATED EQUIPMENT INCLUDING, BUT NOT LIMITED TO, FRONT LOADERS, BACKHOES, DOZERS, TRACTORS, SCRAPERS, GRADERS, PAVERS, ROLLER COMPACTORS, SLIP-FORM EQUIPMENT, PAVEMENT PLANING EQUIPMENT, DUMP TRUCKS, CONCRETE MIXERS, CONCRETE PUMPS, CRANES, COMPRESSORS, GENERATORS, PUMPS, PILE DRIVERS, JACK HAMMERS, ROCK DRILLS, PNEUMATIC TOOLS, SAWS AND VIBRATORS SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL NOISE ORDINANCES.

STREAM AVOIDANCE
UNLESS SHOWN IN THE PLANS OR DIRECTED BY THE ENGINEER, NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN ANY WATERWAY WITHIN THE PROJECT LIMITS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS, STREAMS OR OTHER WATERS OF THE UNITED STATES.

IN-STREAM WORK
ALL MATERIALS REMOVED FROM THE DITCHES, STREAMS OR WETLANDS MUST BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E., SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. IMMEDIATE REMOVAL IS DEFINED BY THE UNITED STATES ARMY CORPS OF ENGINEERS AS DEPOSITING THE REMOVED

MATERIALS DIRECTLY INTO A TRUCK AND REMOVING THE MATERIAL FROM THE SITE; PLACEMENT OF REMOVED OF MATERIALS INTO A WETLAND OR ON THE BANKS A STREAM, EVEN TEMPORARILY, IS CONSIDERED A FILL AND REQUIRES A PERMIT ACTION. ANY AREAS DISTURBED BY EQUIPMENT ACTIVITIES MUST BE SEEDED TO PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

IN-STREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR STREAM CROSSINGS, COFFERDAMS OR OTHER EQUIPMENT ACCESS PADS. THIS TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND STREAM BOTTOMS RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETED.

BEST MANAGEMENT PRACTICES
SOIL EROSION AND SEDIMENTATION CONTROL WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL.

MECHANICAL EQUIPMENT OPERATION AT STREAM CHANNELS
THE MECHANICAL EQUIPMENT USED TO EXECUTE THE WORK AUTHORIZED HEREIN SHALL BE OPERATED IN SUCH A WAY AS TO MINIMIZE TURBIDITY THAT COULD DEGRADE WATER QUALITY AND ADVERSELY AFFECT AQUATIC PLANT AND ANIMAL LIFE.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES
ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED HEREIN OR DIRECTED BY THE ENGINEER SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THESE CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER.

CONSTRUCTION AND DEMOLITION DEBRIS
THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT CONSTRUCTION DEMOLITION DEBRIS FROM ENTERING ANY WATERWAYS WITHIN THE PROJECT LIMITS. ANY MATERIAL THAT DOES FALL INTO THE WATERWAYS SHALL BE REMOVED AS SOON AS POSSIBLE.

CALCULATED AKM
CHECKED PSB

GENERAL NOTES

LUC-2-18.62

EROSION CONTROL

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT. SEE THE PROJECT SITE PLAN SHEET 23 FOR ADDITIONAL INFORMATION.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST 1 EACH

659, TOPSOIL 1,730 CU. YD.

659, SEEDING AND MULCHING 15,580 SQ. YD.

659, REPAIR SEEDING AND MULCHING 664 SQ. YD

659, INTER-SEEDING 779 SQ. YD.

659, COMMERCIAL FERTILIZER 2.10 TON

659, LIME 3.22 ACRES

659, WATER 86 M. GAL.

659, MOWING 35 M. SQ. FT.

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.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR RE-SEEDING AND MULCHING ANY ADDITIONAL AREAS THAT MAY BE DISTURBED.

659, SEEDING AND MULCHING 7,260 SQ. YD.

WATER

WATERLINE SPECIFICATIONS

ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY OF TOLEDO, DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF ENGINEERING SERVICES, PART "A" SPECIFICATIONS AND CONSTRUCTION STANDARDS, AND THE DEPARTMENT OF PUBLIC UTILITIES RULES AND REGULATIONS.

WATER MAINS SHALL BE INSTALLED, TESTED AND DISINFECTED UNDER THE DIRECT SUPERVISION OF THE DIVISION OF ENGINEERING SERVICES.

ALL MATERIAL SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA.

MATERIALS

THE SPECIFICATIONS OF THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN WATER WORKS ASSOCIATION (AWWA), AND THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) HEREIN REFERRED TO, UNLESS OTHERWISE NOTED, SHALL BE THE LATEST SPECIFICATIONS OF THE RESPECTIVE ORGANIZATIONS.

PIPE SHALL BE ANSI-A21.51 (AWWA C151) DUCTILE CAST IRON, MINIMUM CLASS 52, MEETING THE REQUIREMENTS OF AWWA C151 TABLE 4 OR PRESSURE CLASS 350 MEETING REQUIREMENTS OF AWWA C151 TABLE 2. BRONZE WEDGES SHALL BE USED AT ALL PUSH-ON JOINTS (TWO PER JOINT ON PIPES 12 INCH AND SMALLER AND FOUR PER JOINT ON PIPES LARGER THAN 12 INCH.) PIPE FOR HORIZONTAL DIRECTIONAL BORES SHALL BE CLASS 52 DUCTILE IRON PIPE, WITH FLEXIBLE RESTRAINED JOINTS - TRFLEX, SNAP-LOK, FLEX-RING OR SUPERLOK.

FITTINGS SHALL BE DUCTILE CAST IRON CONFORMING TO ANSI-A21.10 (AWWA C110) WITH A MINIMUM CLASS OF 250 OR ANSI-A21.53 (AWWA C153) AND HAVE MECHANICAL JOINT ENDS WITH DUCTILE IRON RETAINER GLANDS AS SPECIFIED IN ANSI-A21.11 (AWWA C111).

WEDGE ACTION RESTRAINT SHALL BE USED ON ALL MECHANICAL JOINTS. WEDGE ACTION RESTRAINTS SHALL BE EBAA IRON MEGALUG SERIES 1100 OR EQUAL. WEDGE ASSEMBLY COATING SYSTEM SHALL BE MEGA-BOND BY EBAA IRON, OR EQUAL. ALL T-BOLTS AND NUTS SHALL BE COR-BLUE, XYLAN, OR EQUAL.

ALL PIPE AND FITTINGS SHALL HAVE A CEMENT MORTAR LINING, CONFORMING TO ANSI-A21.4 (AWWA C104) AND PETROLEUM-ASPHALTIC OUTSIDE COATING. SPECIAL LININGS MAY BE REQUIRED AT THE REQUEST OF THE CITY FOR SPECIAL CONDITIONS.

ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LAID WITH A POLYETHYLENE ENCASEMENT. PIPE AND POLYETHYLENE ENCASEMENT SHALL BE INSTALLED IN ACCORDANCE WITH ANSI-A21.5 (AWWA C105).

VALVE MANHOLE FRAMES AND COVERS SHALL BE 22 INCHES, NEENAH R-1765, OR EQUAL, ASTM A-48, WITH INTERCHANGEABLE PIECES AND MACHINED HORIZONTAL BEARING SURFACES.

VALVE BOXES SHALL BE THREE (3) PIECE ADJUSTABLE SCREW TYPE, WITH A 5-1/4 INCH SHAFT, WITH CAST IRON FULL-FLANGE RING AND LID, AND A BASE CORRESPONDING TO THE SIZE OF THE VALVE. VALVE BOXES IN PAVEMENT SHALL BE TYLER PIPE 6860 SERIES, OR EQUAL, WITH CAST IRON BODY. VALVE BOXES OUTSIDE PAVEMENT SHALL BE PENTEK ROADWAY 5-245, OR EQUAL, WITH POLY IRON BODY.

RESILIENT-SEATED GATE VALVES 12" AND SMALLER SHALL BE NON-RISING STEM VALVES LIMITED TO VALVES MADE BY AMERICAN, KENNEDY, MUELLER, US PIPE, EJIW OR CLOW VALVE COMPANIES MEETING AWWA C509 OR C515 AS PURCHASED BY THE DIVISION OF WATER DISTRIBUTION. RESILIENT-SEALED VALVES SHALL BE DESIGNED FOR 250 PSI WORKING PRESSURE AND TESTED AT 500 PSI HYDROSTATIC PRESSURE. VALVES ARE TO OPEN BY TURNING RIGHT, OR CLOCKWISE AND SHALL BE FURNISHED WITH A 2 INCH SQUARE OPERATING NUT WITH THE DIRECTION INDICATED BY A CLEARLY VISIBLE ARROW CAST INTO THE VALVE. VALVES SHALL BE SUPPLIED WITH O-RING SEALS AT ALL JOINTS. NO FLAT GASKETS WILL BE ACCEPTED. NUTS AND BOLTS SHALL BE 304 STAINLESS STEEL.

DOUBLE-DISC GATE VALVES 12-INCH AND SMALLER SHALL BE NON- RISING STEM VALVES LIMITED TO VALVES MADE BY AMERICAN, MUELLER, OR EJIW MEETING AWWA C500. NO RESILIENT-SEATED VALVES WILL BE ACCEPTED WHERE DOUBLE-DISC GATE VALVES ARE CALLED OUT ON THE PLANS. DOUBLE-DISC GATE VALVES SHALL BE DESIGNED FOR 200 PSI WORKING PRESSURE AND TESTED AT 400 PSI HYDROSTATIC PRESSURE. VALVES ARE TO OPEN BY TURNING RIGHT, OR CLOCKWISE AND SHALL BE FURNISHED WITH A 2-INCH SQUARE OPERATING NUT WITH THE DIRECTION INDICATED BY A CLEARLY VISIBLE ARROW CAST INTO THE VALVE. VALVES SHALL BE SUPPLIED WITH O-RING SEALS AT ALL JOINTS. NO FLAT GASKETS WILL BE ACCEPTED. NUTS AND BOLTS SHALL BE 304 STAINLESS STEEL.

ALL HYDRANTS SHALL HAVE A TAMPER-RESISTENT COLLAR AROUND AND EXTENDING ABOVE THE OPERATING NUT TO PREVENT UNAUTHORIZED OPERATION OF THE HYDRANT. HYDRANTS SHALL BE LIMITED TO MUELLER SUPER CENTURION 250 (A-423), KENNEDY GUARDIAN K-81A, OR AMERICAN - DARLING B-62-B-5, MEETING AWWA SPECIFICATION C502 AS PURCHASED BY THE DIVISION OF WATER DISTRIBUTION. NUTS AND BOLTS EXPOSED TO SOIL SHALL BE 304 STAINLESS STEEL. PUMPER NOZZLE SHALL BE 5 INCHES INTERNAL DIAMETER WITH STORZ CONNECTOR FROM HARRINGTON, INC OR MUELLER CO. STORZ CONNECTOR SHALL BE AN INTEGRAL PART OF THE HYDRANT ASSEMBLY. HYDRANT EXTERIOR SHALL BE SHOP COATED USING PITTSBURGH PAINT INDUSTRIAL ENAMEL BRILLIANT RED (SAFETY RED) 7-801 WITH WHITE BONNET. AFTER THE HYDRANT IS INSTALLED, THE CONTRACTOR SHALL PAINT THE HYDRANT WITH ONE COAT OF PAINT. STORZ CONNECTOR AND CAP ARE NOT TO BE PAINTED.

HYDRANT DRAIN HOLES WILL BE REQUIRED TO BE PLUGGED IF THE HYDRANTS ARE LOCATED WITHIN (10) TEN FEET OF A SANITARY SEWER, STORM SEWER, OR STORM DRAIN. WHERE THE DRAIN HOLES ARE NOT PLUGGED, A STONE POCKET SHALL BE PLACED AROUND THE BASE OF THE HYDRANT AS SHOWN ON THE STANDARD HYDRANT DRAWING.

TAPPING SLEEVES SHALL BE STAINLESS STEEL WITH A FULL CIRCUMFERENTIAL GASKET

INSTALLATION AND PRESSURE TESTING SHALL BE AS PER AWWA C-600. DISINFECTION SHALL MEET OR EXCEED AWWA C-651.

PROVIDE LETTER OF CERTIFICATION FROM MATERIAL SUPPLIERS STATING THAT ALL MATERIALS MEET CURRENT CITY OF TOLEDO STANDARDS.

NO DEVIATIONS FROM THE ABOVE SPECIFICATIONS WILL BE PERMITTED. DETAILED SPECIFICATIONS CAN BE OBTAINED FROM THE DIVISION OF ENGINEERING SERVICES.

NOTE: THE OHIO ENVIRONMENTAL PROTECTION AGENCY REQUIRES CONFORMANCE TO THE MOST CURRENT EDITION OF "RECOMMENDED STANDARDS FOR WATER WORKS", THIS STANDARD SHALL BE EQUALED OR EXCEEDED FOR WATER LINES. SPECIAL ATTENTION SHALL BE GIVEN TO THE FOLLOWING:

MATERIALS CONFORM TO AWWA STANDARDS
MINIMUM 6" DIA. FIRE PROTECTION
MINIMUM 5' GROUND COVER
PRESSURE TESTING AWWA C-600 OR N.F.P.A. 24*
DISINFECTION AWWA C-651*
10' HORIZONTAL SEPARATION WATER MAIN/SEWER
18" VERTICAL SEPARATION WATER MAIN/SEWER
NO ENTRY AND/OR CONTACT WITH SEWER MANHOLE

ANY DEVIATIONS FROM THE ABOVE WILL NOT BE PERMITTED UNLESS SPECIFICALLY INCLUDED IN THE GENERAL NOTES OR OTHERWISE SHOWN ON THESE PLANS. IN CASES WHERE ONE OR MORE OF THE ABOVE-MENTIONED OHIO-EPA STANDARDS FALL SHORT OF THE CITY OF TOLEDO'S DEPARTMENT OF PUBLIC UTILITIES STANDARDS, THE LATTER SHALL GOVERN.

*NOTE: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THIS TEST PROPERLY AND THE RESPONSIBILITY FOR ADEQUATE SUPERVISION AND APPROVAL RESTS WITH THE APPROPRIATE GOVERNMENTAL AGENCY.

RESTRAINED JOINTS

PIPE JOINTS SHALL BE RESTRAINED PER CITY OF TOLEDO CONSTRUCTION STANDARDS. FITTINGS SHALL BE RESTRAINED BY MEANS OF MECHANICAL JOINTS WITH WEDGE ACTION RESTRAINT, AND THRUST BLOCKING PER CITY OF TOLEDO CONSTRUCTION STANDARDS.

RESTRAINED PUSH-ON JOINTS SHALL BE TYTON JOINTS WITH FIELD LOK GASKETS, FASTITE JOINTS WITH FAST-GRIP GASKETS, OR EQUAL.

NEW CONNECTIONS TO EXISTING MAINS

TAPPING SLEEVES AND VALVE(S) FOR TAPS ON WATER MAINS 12" AND SMALLER WILL BE FURNISHED AND INSTALLED BY THE DIVISION OF WATER DISTRIBUTION. TAPS 12" AND SMALLER, ON WATER MAINS 16" AND LARGER, WILL BE PERFORMED BY THE DIVISION OF WATER DISTRIBUTION, WITH TAPPING SLEEVE AND VALVE FURNISHED BY THE CONTRACTOR. CHLORINATION AND AIR VENT TAPS WILL BE FURNISHED AND INSTALLED BY THE DIVISION OF WATER DISTRIBUTION. ALL EXCAVATION AND BACKFILL SHALL BE PERFORMED BY THE CONTRACTOR. CITY WILL OPERATE ALL EXISTING VALVES REQUIRED TO ISOLATE THE CONNECTION. CONTRACTOR WILL BE REQUIRED TO HANDLE ANY WATER FROM EXISTING CONNECTION.

THE ISOLATION VALVES FOR THE NEW CONNECTION SHALL REMAIN CLOSED, EXCEPT FOR FILLING AND FLUSHING OF NEW MAIN, UNTIL NEW MAIN PASSES PRESSURE AND BACTERIOLOGICAL TESTS. AFTER MAIN HAS PASSED PRESSURE AND BACTERIOLOGICAL TESTING, THE CONTRACTOR SHALL COORDINATE DOMESTIC WATER SERVICE CONNECTIONS WITH THE DIVISION OF WATER DISTRIBUTION. ALL DOMESTIC WATER SERVICES 2" AND SMALLER WILL BE CONNECTED BY THE DIVISION OF WATER DISTRIBUTION. ALL EXCAVATION AND BACKFILL FOR THE DOMESTIC CONNECTIONS WILL ALSO BE PERFORMED BY THE DIVISION OF WATER DISTRIBUTION. A BOIL ADVISORY WILL BE REQUIRED WHEN RESTORING DOMESTIC WATER SERVICE. COORDINATE BOIL ADVISORY WITH DIVISION OF WATER DISTRIBUTION.

THE CITY WILL ABANDON EXISTING WATER MAINS 12" AND SMALLER, AS NECESSARY.

CONTRACTOR SHALL PROVIDE A CONSTRUCTION SEQUENCE BEFORE ANY WORK IS TO BEGIN. SEQUENCE SHALL PROVIDE SCHEDULE OF SHUT DOWNS AS WELL AS NEW TIE-INS. CONTRACTOR SHALL GIVE THE CITY AT LEAST 3 WORK DAYS NOTICE FOR WORK TO BE COMPLETED BY THE DIVISION OF WATER DISTRIBUTION.

TRUNK WATER MAINS (16" AND LARGER) CANNOT BE OUT OF SERVICE BETWEEN JULY 1 AND SEPTEMBER 15 OF ANY YEAR. NO WATERLINES CAN BE OUT OF SERVICE FOR LONGER THAN 2 WEEKS.

TRUNK WATER MAINS (16" AND LARGER) SHALL HAVE A MINIMUM 7 FEET OF COVER. OTHER WATER MAINS SHALL HAVE A MINIMUM 5 FEET OF COVER. WHERE CONFLICTS OCCUR WITH OTHER UTILITIES, A MINIMUM 18 INCH VERTICAL CLEARANCE IS REQUIRED UNLESS OTHERWISE APPROVED BY THE CITY OF TOLEDO.

ITEM 638 - WATER WORK MISC.: WATER MAIN OFFSET

THIS WORK SHALL CONSIST OF COORDINATION WITH THE CITY, FIELD VERIFYING THE DEPTH OF THE EXISTING WATER MAIN, INSTALLING ALL DUCTILE IRON PIPE AND FITTINGS, PRESSURE AND BACTERIOLOGICAL TESTING AND DISINFECTION. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR AND ALL INCIDENTALS REQUIRED COMPLETE IN PLACE.

FOR PRIVATE WATER MAIN WORK THE CONTRACTOR SHALL PERFORM THE ENTIRE WATER MAIN OFFSET AND A BOIL ADVISORY SHALL BE ISSUED PRIOR TO RETURNING THE WATER SERVICE INTO OPERATION.

DRAINAGE

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.
ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE

CALCULATED AKM CHECKED PSB

GENERAL NOTES

LUC-2-18.62

PROJECT WILL BE ACCEPTED BY THE STATE.
ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. ALL NEW PIPE MATERIAL MUST MEET CURRENT CITY OF TOLEDO STANDARDS.

THE FOLLOWING CONDUIT TYPES MAY BE USED FOR NEW CONDUIT: 706.02, 706.03, 706.04, 706.05, 706.08, 707.45, 707.21 OR 707.22, 707.25, 707.12, 707.24, 707.33, 707.41, 707.42 AND 707.43.

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

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

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

ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN

THIS WORK CONSISTS OF APPLYING JOINT FILLER BETWEEN EXISTING PIER FOUNDATIONS AND PROPOSED CATCH BASINS PLACED ON TOP OF OR NEXT TO THE FOUNDATION.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION.

ALL MATERIAL SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 1,200 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42 AND 707.43.

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

603, 6" CONDUIT, TYPE B	100 FT.
603, 8" CONDUIT, TYPE B	100 FT.
603, 6" CONDUIT, TYPE E	100 FT.
603, 6" CONDUIT, TYPE F	100 FT.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

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

SPECIAL, PIPE CLEANOUT 1,000 FT.

PAVEMENT

ASPHALT CONCRETE SURFACE COURSES

IN ADDITION TO THE GUTTER SEALING REQUIREMENTS SPECIFIED ON SCD BP-3.1 AND IN 401.15, AFTER COMPLETION OF THE SURFACE COURSE, THE CONTRACTOR SHALL SEAL, WITH ASPHALT BINDER, THE FOLLOWING LOCATIONS:

1) ALL CASTINGS INCLUDING BUT NOT LIMITED TO MONUMENTS, MANHOLES, WATER VALVES, AND CATCH BASINS.

2) BUTT JOINTS AND FEATHER JOINTS INCLUDING BRIDGE APPROACHES.

3) FORWARD JOINT FOR DRIVEWAY ASPHALT AND TRAILING JOINT WHEN BUTTING TO EXISTING ASHPALT DRIVE.

4) PERIMETER OF ALL PAVEMENT REPAIRS WHEN PAVEMENT REPAIRS ARE NOT OVERLAID WITH ASPHALT CONCRETE.

5) ALL LONGITUDINAL AND TRANSVERSE COLD JOINTS (SHALL BE SEALED PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS).

THE MATERIAL USED SHALL BE A HOT APPLIED PG 64-22 BINDER. THE WIDTH OF THE SEALER SHALL BE 4 INCHES AS PER 401.15. ANY ADDITIONAL COSTS ASSOCIATED WITH THE WORK IDENTIFIED IN THIS NOTE SHALL BE INCLUDED IN THE APPROPRIATE ASPHALT CONCRETE ITEM OF WORK.

PAVEMENT RESTORATION FOR MONUMENT ASSEMBLY INSTALLATIONS

THE FOLLOWING QUANTITIES ARE PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 604 MONUMENT ASSEMBLIES.

ITEM - 301 ASPHALT CONCRETE BASE, PG64-22	2 CU. YD.
ITEM - 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	1 CU. YD.
ITEM - 451 9" REINFORCED CONCRETE PAVEMENT	13 SQ. YD.

THE ABOVE QUANTITIES ARE BASED ON A 301 THICKNESS OF 4" INCHES AND A 448 THICKNESS OF 1.5" AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE MONUMENT ASSEMBLIES.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

ROADWAY

ITEM 202 - PIPE REMOVED

SAND IS NOT PERMITTED AS A BACKFILL MATERIAL FOR TRENCHES OF PIPE REMOVAL AREAS.

ITEM 202 - REMOVAL MISC.: SHED

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF SHEDS ENCROACHING ON THE CITY OF TOLEDO'S PROPERTY. THE SHEDS SHALL BE RELOCATED OUTSIDE THE CITY OF TOLEDO'S PROPERTY AND ONTO THE OWNER'S PROPERTY. THE CONTRACTOR SHALL OBTAIN IN WRITTING AS WHERE TO RELOCATE THE SHED. THE RELOCATED SHED SHALL MEET THE CITY OF TOLEDO ZONING REQUIREMENTS. ALL NECESSARY FEES, APPLICATIONS, SUBMITTALS AND PERMITS SHALL BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOT ACCESS THE PROPERTY UNITL AN AGREEMENT WITH THE PROPERTY OWNER IS OBTAINED.

ITEM 202 - REMOVAL MISC.: SHED SHALL BE PAID FOR ON AN EACH BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 202 - REMOVAL MISC.: FENCE

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF THE FENCE ENCROACHING ON THE CITY OF TOLEDO'S PROPERTY. THE FENCE SHALL BE RELOCATED OUTSIDE THE CITY OF TOLEDO'S PROPERTY AND ONTO THE OWNER'S PROPERTY. THE RELOCATED FENCE SHALL MEET THE CITY OF TOLEDO ZONING REQUIREMENTS. ALL NECESSARY FEES, APPLICATIONS, SUBMITTALS AND PERMITS SHALL BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOT ACCESS THE PROPERTY UNITL AN AGREEMENT WITH THE PROPERTY OWNER IS OBTAINED.

ITEM 202 - REMOVAL MISC.: FENCE SHALL BE PAID FOR ON AN EACH BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 202 - REMOVAL MISC.: WOOD POSTS

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF WOOD POSTS. THE WOOD POSTS SHALL BE REMOVED A MINIMUM OF 18 INCHES BELOW EXISTING GRADE TO ALLOW FOR CONSTRUCTION OTHER CONSTRUCTION ITEMS.

ITEM 202 - REMOVAL MISC.: WOOD POSTS SHALL BE PAID FOR ON AN EACH BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 202 - REMOVAL MISC.: WOOD WALL

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF TWO WOOD WALLS LOCATED UNDER THE STRUCTURE BETWEEN STATION 130+00 AND STA. 132+00. THE WOOD WALLS SHALL BE REMOVED FLUSH WITH THE EXISTING GRADE.

ITEM 202 REMOVAL MISC.: WOOD WALL SHALL BE PAID FOR ON A PER FOOT BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 512 - SEALING OF CONCRETE SURFACES

THIS WORK SHALL CONSIST OF SEALING THE CONCRETE RAILING ON THE SOUTH SIDE OF S.R. 2 FROM THE APPROACH SLAB WEST TO THE END OF THE RAILING NEAR THE INTERSECTION OF S.R. 2 AND BROADWAY STREET.

ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN "A"

SEE SHEET 4 FOR DETAILS AND PAYMENT.

ITEM 608 - 5" CONCRETE WALK, AS PER PLAN

SEE SHEET 3 FOR DETAILS AND PAYMENT.

ITEM 609 - CURB, TYPE 2A, AS PER PLAN

SEE SHEET 3 FOR DETAILS AND PAYMENT.

ITEM 519 - PATCHING CONCRETE STRUCTURE

THIS WORK SHALL CONSIST OF PATCHING THE CONCRETE RAILING ON THE SOUTH SIDE OF S.R. 2 FROM THE APPROACH SLAB WEST TO THE END OF THE RAILING NEAR THE INTERSECTION OF S.R. 2 AND BROADWAY STREET. THE LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 519 - PATCHING CONCRETE STRUCTURE 450 SQ. FT.

ITEM 619 - FIELD OFFICE, TYPE C, AS PER PLAN

A TYPE C FIELD OFFICE IS REQUIRED FOR THIS PROJECT. IN ADDITION TO THE REQUIREMENTS AS DESCRIBED IN ITEM 619 INCLUDE BROADBAND (DSL OR CABLE) ACCESS.

ITEM 619 - FIELD OFFICE, TYPE C, AS PER PLAN 24 MONTHS

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN

CONCRETE BARRIER, SINGLE SLOPE, TYPE B SHALL BE PER THE REQUIREMENTS OF CMS 622 AND SCD RM-4.3, EXCEPT: THE TOP WIDTH OF BARRIER MUST BE 1'-0", BASE WIDTH 2'-0" AND HEIGHT 31 1/2". SEE DETAIL ON SHEET 4.

ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL OR BIDIRECTIONAL)]

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEER'S WEB PAGE. WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 [(SPEED (IN MPH), HAZARD WIDTH (IN INCHES)), (UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS,

CALCULATED AKM
CHECKED PSB

GENERAL NOTES

LUC-2-18.62

HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A

THE PRESSURE RELIEF JOINTS ARE LOCATED AT THE APPROACH SLABS. REFER TO STANDARD CONSTRUCTION DRAWING BP-2.3 FOR DETAILS AND PAYMENT.

ITEM 690 - SPECIAL - BOLLARD

THE REMOVABLE BOLLARDS ARE TO BE PLACED UNDER THE BRIDGE BETWEEN MIAMI STREET AND ANCHORAGE F TO PROTECT THE CABLES. SEE SHEETS 29 - 30 FOR LOCATIONS. REFER TO STANDARD CONSTRUCTION DRAWING RM-5.1 FOR DETAILS AND PAYMENT.

TOLEDO METROPARKS

ITEM 203 - ROADWAY, MISC.: BIOSWALE AGGREGATE

THIS ITEM OF WORK SHALL INCLUDE A STONE PORTION FOR 75% AND A PLANTING PORTION FOR 25% OF THE BIOSWALE AREA.

THE STONE PORTION INCLUDES 1½" DECORATIVE STONE AND 12" STONES PLACED ON TOP OF THE DECORATIVE STONE. SHOP DRAWINGS FOR THE STONES MUST BE SUBMITTED FOR REVIEW. THE PLACEMENT OF THE STONE TO BE DIRECTED BY THE TOLEDO METROPARKS.

THE PLANTING PORTION INCLUDES BIORETENTION SOIL WHICH SHALL BE A UNIFORM MIX THAT IS FREE OF STONES, STUMPS, ROOTS, OR ANYOTHER OBJECT THAT IS LARGER THAN TWO INCHES. THE SOIL MAY CONSIST OF EXISTING SOIL, FURNISHED SOIL, OR A COMBINATION OF BOTH PROVIDED THAT IT MEETS THE FOLLOWING REQUIREMENTS:

PH RANGE : 5.2-7.0

COMPOSITION BY VOLUME:
- 4 PARTS SAND - CMS FINE AGGREGATE AS PER 703
- 2 PARTS COMPOST - CMS 659.06
- 2 PARTS TOPSOIL - CMS 659.05

THOROUGHLY MIX THE BIORETENTION SOIL PRIOR TO PLACMENT. TEST AND ADJUST THE PH AS PER CMS 659.02B. ALL SAND USED SHALL MEET CMS 203.02H, NATURAL GRANULAR MATERIALS.

THIS ITEM SHALL BE PAID FOR ON A SQUARE YARD BASIS AND SHALL INCLUDE ALL 12" STONE, 1½" STONE, BIORETENTION SOIL, LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 604 - DRAINAGE STRUCTURE, MISC.: STORM WATER TROUGH

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING STORM WATER TROUGHS AT THE LOCATIONS SHOWN ON SHEETS 40 - 41 TO PROVIDE AN OUTLET FOR THE BRIDGE DOWNSPOUTS. THE DETAILS ARE TO BE PROVIDED BY THE TOLEDO METROPARKS.

ITEM 604 - DRAINAGE STRUCTURE, MISC.: STORM WATER TROUGH SHALL BE PAID FOR ON A PER FOOT BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 604 - DRAINAGE STRUCTURE, MISC.: 4' CONCRETE TRENCH DRAIN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING 4' WIDE CAST-IN-PLACE TRENCH DRAINS WITH INDUSTRIAL STEEL GRATES TO WITHSTAND HS20 LOADING AT THE LOCATIONS SHOWN ON SHEETS 40 - 41 FOLLOWING THE COMPLETION OF THE BRIDGE CONSTRUCTION ON THE TOLEDO METROPARKS PROPERTY. THE TEMPORARY PIPE INSTALLATIONS WILL BE REMOVED AND THE TRENCH DRAINS WILL PROVIDE AN OUTLET FOR THE STORMWATER TROUGHS AND WILL OUTLET TO THE BIOSWALE. THE TRENCH DRAIN DETAILS ARE TO BE PROVIDED BY THE TOLEDO METROPARKS.

ITEM 604 - DRAINAGE STRUCTURE, MISC.: 4' CONCRETE TRENCH DRAIN SHALL BE PAID FOR ON A PER FOOT BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEET NO. 55 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 1.0 HOURS

ITEM 861 - GEOGRID FOR STABILIZATION

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS THE GEOGRID REQUIRED UNDER THE ACCESS DRIVE. SEE PLAN SHEET NO. 55 FOR ADDITIONAL INFORMATION.

ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION 1,870 SQ. YD.

ITEM 610 - SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING MODULAR BLOCK WALLS ON THE PERIMETER OF THE BIOSWALE SHOWN ON SHEETS 40 - 41. SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW AND INCLUDE AN ENGINEER'S SEAL.

ITEM 610 - SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL SHALL BE PAID FOR ON A SQUARE FOOT BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 661 - PLANTING, MISC.: BIOSWALE PLANTINGS

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PLANTS AT AN 18" SPACING CENTER TO CENTER IN THE PLANTING PORTIONS OF THE BIOSWALE AREA SHOWN ON SHEETS 40 - 41. THE PLANTS MUST INCLUDE THE PLANT SPECIES CALICO ASTER, VIRGINIA WILD RYE, SPIKE RUSHES, DARK GREEN BULRUSH, AND OTHER FACULTATIVE PLANTS LISTED FOR THE MESIC PRAIRIE. THE PLACEMENT OF THE PLANT SPECIES TO BE DIRECTED BY THE TOLEDO METROPARKS.

ITEM 661 - PLANTING, MISC.: BIOSWALE PLANTINGS SHALL BE PAID FOR ON A LUMP SUM BASIS AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK. THE QUANTITY IS PROVIDED IN THE GENERAL SUMMARY.

ITEM 662 - LANDSCAPE WATERING

A LUMP SUM QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS THE REQUIRED WATERING FOR THE BIOSWALE PLANTINGS TO BECOME ESTABLISHED. THE PERIOD OF ESTABLISHMENT BEGINS IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATIONS AND CONTINUES UNTIL OCTOBER 1. THE MINIMUM PERIOD OF ESTABLISHMENT IS ONE GROWING SEASON, JUNE 1 THROUGH OCTOBER 1.

ITEM 614, MAINTAINING TRAFFIC

THIS PROJECT CONSISTS OF BRIDGE REHABILITATION, LIGHTING, MINOR PAVEMENT REPAIR, DRAINAGE IMPROVEMENTS, AND BEST MANAGEMENT PRACTICES. TRAFFIC SHALL BE DETOURED FOR A MAXIMUM OF 19 CONTINUOUS MONTHS. AT OTHER TIMES THE CONTRACTOR MAY CLOSE ONE LANE OF TRAFFIC IN ACCORDANCE WITH SCD MT-95.31 AT TIMES APPROVED BY THE ENGINEER.

NOTICE OF CLOSURE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST TWO WEEKS 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 IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. 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.

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

ITEM 614, DETOUR SIGNING LUMP

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC. THE SIGNS AND BARRICADES SHALL BE PLACED ON SR 2 AT BROADWAY STREET, CLARK STREET AND OAK STREET INTERSECTIONS.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN ON THE PLANS.

IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED.

ANY CHANGES IN TRAFFIC PATTERNS SHALL BE MADE USING L.E.O.'S (UNIFORMED OFF-DUTY CITY POLICE OFFICERS) DURING OFF-PEAK HOURS ONLY.

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

EQUIPMENT AND MATERIAL STORAGE

IN ORDER TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ITEM 614.03. IN ADDITION, THE FOLLOWING PROVISION'S SHALL APPLY:

1. NO EQUIPMENT OR STORED ITEMS SHALL BE STORED ON/IN THE RIGHT OF WAY OF THE SURROUNDING ROADWAYS. ANY DAMAGE TO THE SURROUNDING ROADWAYS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO EXPENSE TO ODOT.

2. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO ODOT.

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

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

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:

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.

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.

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

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 80 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.

MAINTAINING SIDEWALK/PATH TRAFFIC

IN ORDER TO MAINTAIN SIDEWALK TRAFFIC DURING CONSTRUCTION, "SIDEWALK CLOSED" SIGNS SHALL BE USED AT THE POINT OF CLOSURE AND SHALL DIRECT PEDESTRIANS WHERE TO CROSS IN ORDER TO USE THE SIDEWALK/PATH ON THE OTHER SIDE OF THE ROAD OR ANOTHER STREET. REFER TO STANDARD CONSTRUCTION DRAWING MT-110.10 OR THE OMUTCD. CLOSURE TIMES SHALL BE APPROVED BY THE ENGINEER.

AN ALTERNATE PEDESTRIAN CIRCULATION PATH SHALL BE PROVIDED WHENEVER THE EXISTING PEDESTRIAN ACCESS ROUTE IN THE PUBLIC RIGHT-OF-WAY IS BLOCKED BY CONSTRUCTION, ALTERATION AND MAINTENANCE OR OTHER TEMPORARY CONDITIONS. THE ALTERNATE PEDESTRIAN CIRCULATION PATH SHALL MATCH EXISTING CONDITIONS AND/OR COMPLY WITH THE AMERICANS WITH DISABILITIES ACCESSIBILITY GUIDELINES (ADAAG) AND SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE OMUTCD. ALL WORK ASSOCIATED WITH PROVIDING AN ALTERNATE PEDESTIAN PATH SHALL BE INCLUDED IN UNIT PRICE BID PER LUMP SUM FOR ITEM 614 - MAINTAINING TRAFFIC.

CONSTRUCTION TRAFFIC

ALL CONSTRUCTION TRAFFIC SHALL USE ACCEPTABLE TRUCK ROUTES TO ACCESS THE CONSTRUCTION AREA. USE OF LOCAL RESIDENTIAL STREETS IS STRICTLY PROHIBITED UNLESS ALLOWED IN WRITING BY THE LOCAL ENFORCEMENT AUTHORITY.

BOAT TRAFFIC

AT NO TIMES SHALL EQUIPMENT, MATERIALS OR OTHER ITEMS BE ALLOWED BELOW THE EXISTING BOTTOM OF STEEL ABOVE THE MAUMEE RIVER TO ENSURE PROPER CLEARANCE FOR PASSING BOATS.

SIDE ROAD MAINTENANCE OF TRAFFIC

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON THE ADJACENT STREETS TO THE BRIDGE UNLESS OTHERWISE NOTED BELOW.

THE CONTRACTOR MAY CLOSE MORRIS STREET, OTTAWA STREET, MIAMI STREET, YONDOTA STREET AND UTAH STREET DURING OVERHEAD OPERATIONS. CLOSURES WILL BE LIMITED TO NORMAL WORKING HOURS AND SHALL BE REOPENED DURING NON-WORKING HOURS INCLUDING EVENINGS AND WEEKENDS. THE CONTRACTOR SHALL ENSURE NO OVERHEAD HAZARDS EXIST PRIOR TO OPENING THE ROADWAYS TO TRAFFIC. DETOURS SHALL BE TO THE NEXT BLOCK AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL (OMUTCD).

MIAMI STREET SHALL BE OPEN FOR JULY 4TH AND MORRIS STREET SHALL BE OPEN FOR THE RACE FOR THE CURE. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF TOLEDO FOR OFFICIAL DATES AND TIMES OF THE NEEDED OPENING.

SIDE ROAD MAINTENANCE OF TRAFFIC (CONT)

DURING THE TRUSS REMOVAL AND REPLACEMENT AND PIER MODIFICATIONS THE CONTRACTOR SHALL CLOSE MIAMI STREET FOR A MAXIMUM OF 5 DAYS AT A TIME. DURING THE CLOSURE TIME THE CONTRACTOR SHALL DETOUR TRAFFIC TO OAK STREET IN ACCORDANCE WITH THE OMUTCD. PEDESTRIAN TRAFFIC SHALL BE DETOURED AROUND THE BLOCK IN ACCORDANCE WITH THE MAINTAINING SIDEWALK/PATH TRAFFIC NOTE ON THIS SHEET.

LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 FOR EACH CALENDAR DAY THAT ANY INTERSECTING STREET REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. ALL CLOSED STREETS SHALL BE BARRICADED AT THE WORK LIMITS WITH GATES AND BARRICADES PER MT-101.60 AND SIGNED WITH A 'ROAD CLOSED' (R11-2-48) SIGN MOUNTED ON THE BARRICADES. IN ADDITION, A 'ROAD CLOSED AHEAD' (W20-3-36) SIGN SHALL BE INSTALLED AT THE FIRST INTERSECTION BEYOND THE WORK.

BOERS-BOYER WAY AND THE TWO MULTI-USE PATHS SHALL REMAIN OPEN AT ALL TIMES. THE CONTRACTOR SHALL ALLOW VEHICLE TRAFFIC TO CROSS UNDER THE BRIDGE WITH FLAGGERS TO PROTECT THE PUBLIC FROM CROSSING DURING OVERHEAD OPERATIONS. THE CONTRACTOR SHALL PLACE CONSTRUCTION FENCING AND/OR OTHER BARRICADES AT THE LIMITS OF THE OVERHEAD BRIDGE TO PREVENT VEHICLES AND PEDESTRIANS FROM CROSSING UNDER THE BRIDGE IN THE PARKING AREA DURING WORKING HOURS. THE CONTRACTOR SHALL CONSTRUCT A TEMPORARY CANOPY STRUCTURE TO PROTECT THE PATH USERS WHERE THE PATH CROSSES UNDER THE BRIDGE FOR BOTH PATHS. THE CANOPY PROVIDED SHALL BE AT THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR IS TO SCHEDULE OPERATIONS AS TO MINIMIZE THE LENGTH AND NUMBER OF CLOSURES. TIME, LENGTH AND DURATION OF CLOSURES SHALL BE AT THE APPROVAL OF THE ENGINEER. PLEASE SEE NOTE SHEET 80 FOR ADDITIONAL REQUIREMENTS AND DETAILS.

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND REMOVE ALL SIGNS, FENCING, CANOPIES AND BARRICADES, ETC. REQUIRED FOR THE WORK STATED ABOVE. ALL WORK STATED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP FOR ITEM 614 - MAINTAINING TRAFFIC.

SEQUENCE OF CONSTRUCTION

THE PROJECT SHALL BE CONSTRUCTED IN THREE PHASES. IN GENERAL ALL TRAFFIC WILL BE DETOURED DURING CONSTRUCTION FOR PHASES 2 & 3 ONLY. ALL TRAFFIC SHALL BE DETOURED IN ACCORDANCE WITH SHEET 12. SEE SHEET 11 FOR A SCHEMATIC PLAN FOR MAINTENANCE OF TRAFFIC.

PHASE 1
PHASE 1 SHALL CONSIST OF WORK ITEMS NOT AFFECTING TRAFFIC ON THE BRIDGE. WORK ITEMS SHALL CONSIST OF BUT ARE NOT LIMITED TO CABLE INSPECTION, CONCRETE PATCHING, DRAINAGE INSTALLATION, AND PAINTING. SEE BRIDGE PLANS FOR MORE DETAILS.

PHASE 2
PHASE 2 SHALL CONSIST OF REHABILITATION OF THE SUSPENSION SPAN OVER THE MAUMEE RIVER. ALL WORK SHALL BE IN ACCORDANCE WITH SHEET 101. THE CONTRACTOR CAN ELECT TO CONTINUE PHASE 1 WORK CONCURRENTLY WITH PHASE 2. AT THE END OF PHASE 2 ALL SUSPENSION SPAN WORK SHALL BE COMPLETED.

PHASE 3
PHASE 3 SHALL CONSIST OF REHABILITATION OF THE APPROACH SPANS AND THE REPLACEMENT OF THE TRUSS SPANS. AT THE COMPLETION OF PHASE 3 THE CONTRACTOR SHALL OPEN THE BRIDGE TO TRAFFIC. SEE THE BRIDGE PLANS FOR MORE DETAIL.

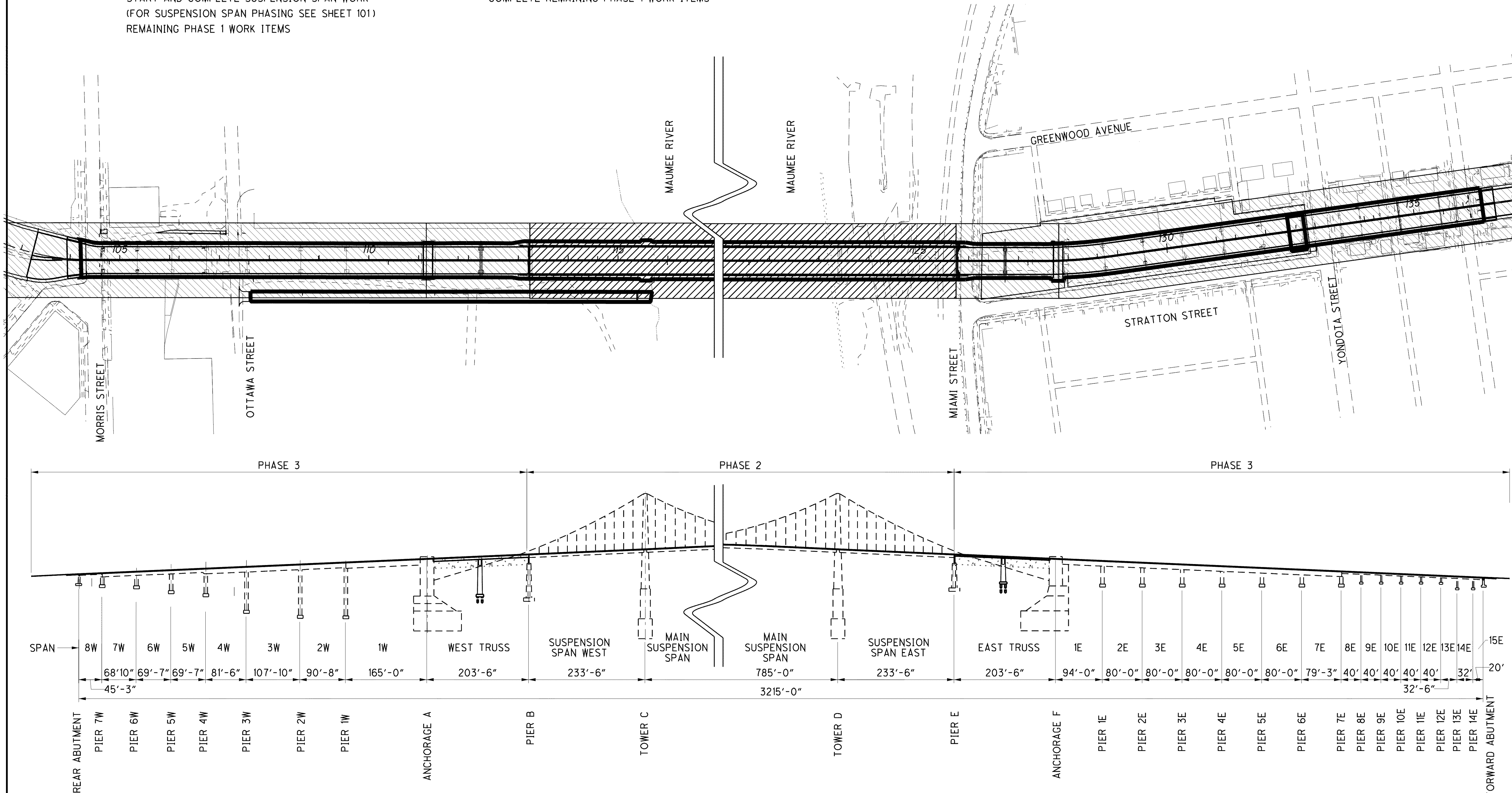
PHASE 1 - ROAD OPEN TO TRAFFIC
WORK ITEMS NOT AFFECTING
TRAFFIC SUCH AS
LOWER TOWER REPAIRS
PATCHING
DRAINAGE
ACCESS ROAD

PHASE 2 - ROAD CLOSED - DETOUR TRAFFIC
START AND COMPLETE SUSPENSION SPAN WORK
(FOR SUSPENSION SPAN PHASING SEE SHEET 101)
REMAINING PHASE 1 WORK ITEMS

PHASE 3 - WINTER MONTHS
ROAD CLOSED - DETOUR TRAFFIC
DEMOLITION OF TRUSSES
FOUNDATIONS
DECK REMOVALS OF APPROACH SPANS
STEEL REPAIRS OF APPROACH SPANS

PHASE 3 - ROAD CLOSED - DETOUR TRAFFIC
COMPLETE TRUSS REPLACEMENT
COMPLETE APPROACH SPANS
COMPLETE REMAINING PHASE 1 WORK ITEMS

APPROXIMATE TOTAL CLOSURE TIME:
ONE CLOSURE FOR 19 MONTHS
TENTATIVE CLOSURE DATES:
3/14 TO 9/15

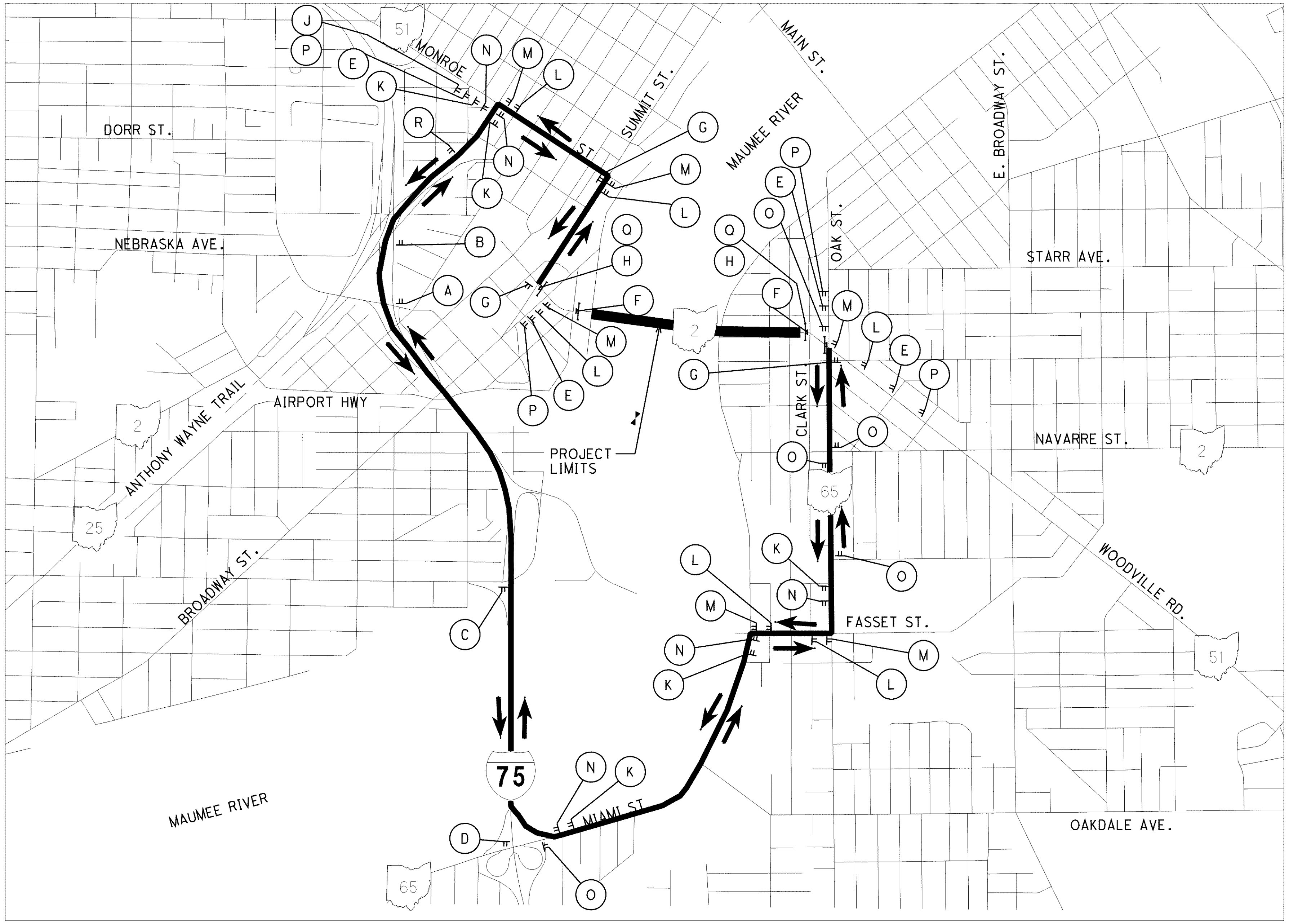


N
0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED DRJ
CHECKED EJA

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN

LUC-2-18.62



NOTES:

1. DETOUR SIGNING LOCATIONS SHALL BE AS PER OMUTCD AND ROAD CLOSURES SHALL BE PER MT-101.60
2. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED
3. DETOUR SIGNS SHALL BE UNCOVERED AND VISIBLE TO TRAFFIC ONLY WHEN THE BRIDGE CLOSURE IS IN EFFECT
4. THE CONTRACTOR SHALL PLACE SIGNS AT THE LOCATIONS NOTED BELOW TO ALERT DRIVERS OF THE CLOSURE PRIOR TO THE ROUTE. FINAL LOCATIONS, SIZE AND WORDING OF SIGNS SHALL BE AS DIRECTED BY THE ENGINEER. SIGNS SHALL BE PLACED IN EACH DIRECTION AT THE DESIGNATED LOCATIONS.

LOCATIONS:
- I-280 AT WOODVILLE ROAD
- I-280 AT SR 2 (NAVARRE AVE)
- I-280 AT SR 25 (GREENBELT PKWY)
- SR 25 (ANTHONY WAYNE TRAIL) AT COLLINGWOOD BLVD

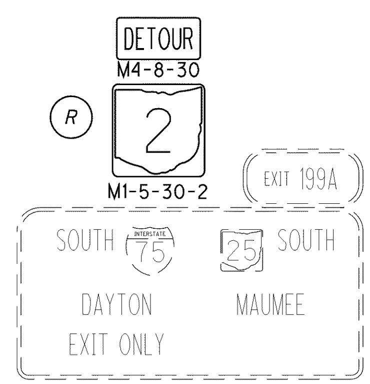
2 CLOSED
OVER MAUMEE RIVER
IN DOWNTOWN TOLEDO
USE ALT ROUTE

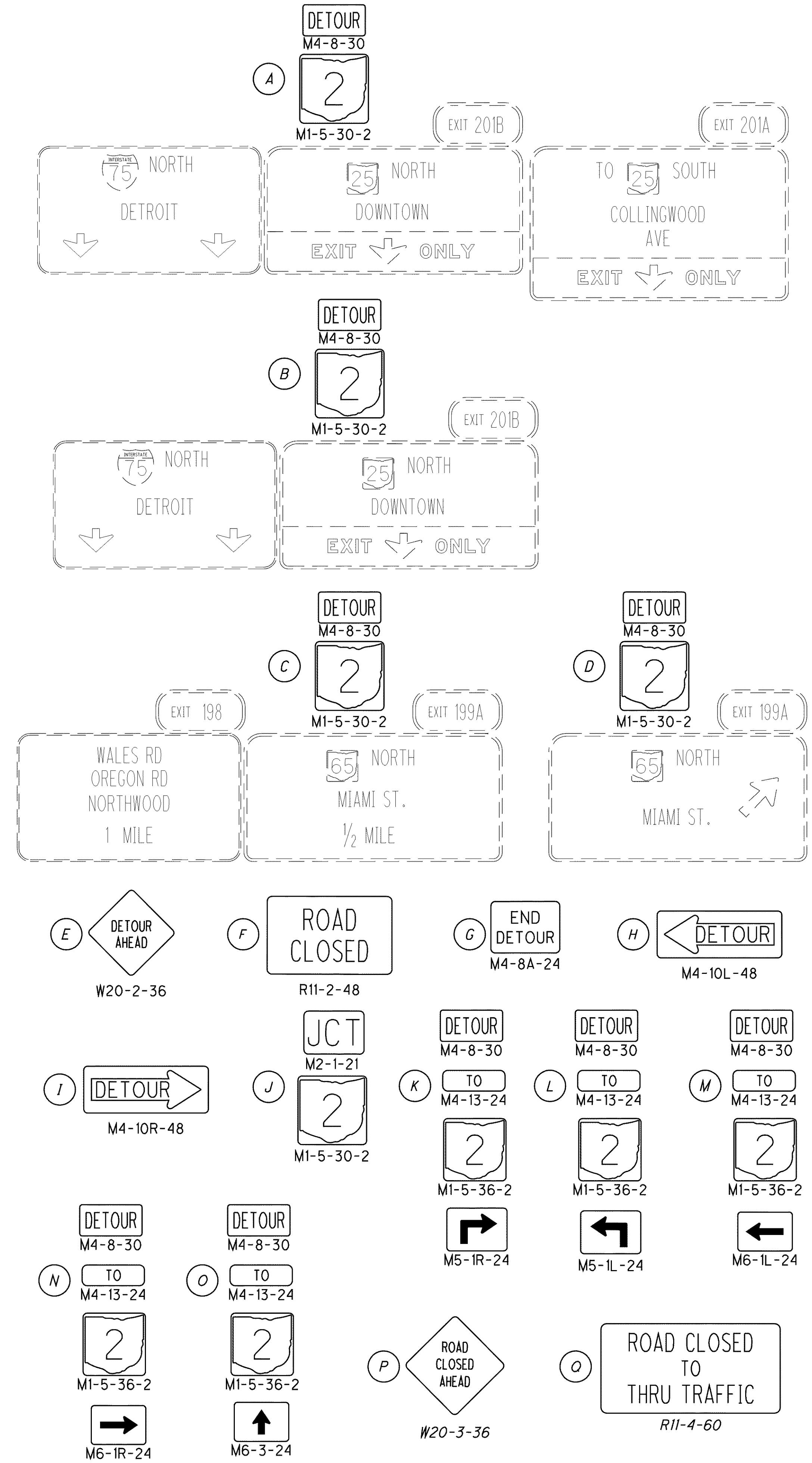
BLACK ON ORANGE

SIZE VARIES DEPENDING ON LOCATION

△TYPE III BARRIER SET ADJACENT TO THE STREET FACING ONCOMING TRAFFIC

LEGEND	
╨	SIGN
╤	TYPE III BARRICADE
▬	WORK AREA
▬	DETOUR ROUTE





HORIZONTAL SCALE IN FEET 0 500 1000 2000

CALCULATED JMM
CHECKED DRJ

DETOUR PLAN

LUC-2-18.62

SHEET NUMBER														FUNDING	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
6	7	8	9	16	17	18	19	20	22	50	62	301	302	01/BRO/BR		EXT.	TOTAL			SHEET NO.
																			ROADWAY	
LUMP															201	11000	LUMP		CLEARING AND GRUBBING	
									206						202	23000	206	SQ YD	PAVEMENT REMOVED	
				5126	1215										202	30000	6341	SQ FT	WALK REMOVED	
					37										202	30700	37	FT	CONCRETE BARRIER REMOVED	
				245	181										202	32000	426	FT	CURB REMOVED	
								320							202	35100	320	FT	PIPE REMOVED, 24" AND UNDER	
								1							202	58000	1	EACH	MANHOLE REMOVED	
								2							202	58100	2	EACH	CATCH BASIN REMOVED	
		1000													202	70100	1000	FT	SPECIAL - PIPE CLEANOUT	8
				1361	368										202	75000	1729	FT	FENCE REMOVED	
				3	1										202	75250	4	EACH	GATE REMOVED	
					2										202	98100	2	EACH	REMOVAL MISC.: SHED	8
					8										202	98100	8	EACH	REMOVAL MISC.: FENCE	8
					7										202	98100	7	EACH	REMOVAL MISC.: WOOD POSTS	8
				63											202	98200	63	FT	REMOVAL MISC.: WOOD WALL	8
											412				202	98200	412	FT	REMOVAL MISC.: REMOVE 1" CONDUIT	59
											6554				202	98200	6554	FT	REMOVAL MISC.: REMOVE 2" CONDUIT	59
											15				202	98200	15	FT	REMOVAL MISC.: REMOVE 2-1/2" CONDUIT	59
											1110				202	98200	1110	FT	REMOVAL MISC.: REMOVE 4" CONDUIT	59
										5428					203	10001	5428	CU YD	EXCAVATION, AS PER PLAN	6
										7218					203	40000	7218	CU YD	BORROW	
					1315										203	98100	1315	SQ YD	ROADWAY, MISC.: BIOSWALE AGGREGATE	9
			1												204	45000	1	HOUR	PROOF ROLLING	
					1870										204	10000	1870	SQ YD	SUBGRADE COMPACTION	
					824										204	30030	824	CU YD	GRANULAR MATERIAL, TYPE D	
					4300										204	50000	4300	SQ YD	GEOTEXTILE FABRIC	
				117											512	10000	117	SQ YD	SEALING OF CONCRETE SURFACES	
				45											517	70001	45	FT	RAILING (TWIN STEEL TUBE), AS PER PLAN	4
		450													519	11100	450	SQ FT	PATCHING CONCRETE STRUCTURE	
												3	1		604	38500	4	EACH	MONUMENT ASSEMBLY	6
													2		604	40900	2	EACH	MONUMENT, MISC.: BARRIER MONUMENT	302
				25											606	13000	25	FT	GUARDRAIL, TYPE 5	
						1									606	60028	1	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL)	
						1326	341								607	20000	1667	FT	FENCE, TYPE CL	
						3									607	50900	3	EACH	GATE, TYPE CL	
						1277	161								608	10000	1438	SQ FT	4" CONCRETE WALK	
						3849	1054								608	12001	4903	SQ FT	5" CONCRETE WALK, AS PER PLAN	3
							4520								610	50010	4520	SQ FT	SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL	9
							55								622	10061	55	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN	4
							1								622	10200	1	EACH	BARRIER TRANSITION	
						1									622	24841	1	EACH	CONCRETE BARRIER END SECTION, TYPE B, AS PER PLAN	5
						32									690	50600	32	EACH	SPECIAL - BOLLARD	9
																			EROSION CONTROL	
								38							601	32010	38	CU YD	ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER	
	1														659	00100	1	EACH	SOIL ANALYSIS TEST	
	1730														659	00300	1730	CU YD	TOPSOIL	
	22840														659	10000	22840	SQ YD	SEEDING AND MULCHING	
	664														659	14000	664	SQ YD	REPAIR SEEDING AND MULCHING	
	779														659	15000	779	SQ YD	INTER-SEEDING	
	2.10														659	20000	2.10	TON	COMMERCIAL FERTILIZER	
	3.22														659	31000	3.22	ACRE	LIME	
	86														659	35000	86	M GAL	WATER	
	35														659	40000	35	M SQ FT	MOWING	
	LUMP														832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
															832	30000	30000	EACH	EROSION CONTROL	

CALCULATED KAS
CHECKED AKM

GENERAL SUMMARY

LUC-2-18.62

SHEET NUMBER									FUNDING	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
8	9	16	17	18	19	20	21	22	01/BRO/BR		EXT.	TOTAL			SHEET NO.
														DRAINAGE	
						151				516	13601	151	SQ FT	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	8
100										603	00900	100	FT	6" CONDUIT, TYPE B	
100										603	01400	100	FT	6" CONDUIT, TYPE E	
100										603	01500	100	FT	6" CONDUIT, TYPE F	
100										603	01800	100	FT	8" CONDUIT, TYPE B	
						335				603	04400	335	FT	12" CONDUIT, TYPE B	
						66				603	04400	66	FT	12" CONDUIT, TYPE B, 706.02	
						214				603	05900	214	FT	15" CONDUIT, TYPE B	
						231				603	05900	231	FT	15" CONDUIT, TYPE B, 706.02	
						25				603	06100	25	FT	15" CONDUIT, TYPE C	
						83				603	07400	83	FT	18" CONDUIT, TYPE B, 706.02	
						52				603	07600	52	FT	18" CONDUIT, TYPE C	
						72				603	52202	72	FT	14" X 23" CONDUIT, TYPE B, 706.04	
						4				604	00850	4	EACH	CATCH BASIN, NO. 3A WITH 2' SUMP	
						4				604	04500	4	EACH	CATCH BASIN, NO. 2-2B	
						3				604	04550	3	EACH	CATCH BASIN, NO. 2-2B WITH 2' SUMP	
							3			604	09500	3	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
							1			604	10100	1	EACH	INLET, SIDE DITCH	
							7			604	31500	7	EACH	MANHOLE, NO. 3	
							1			604	35500	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	
1200										604	50000	1200	POUND	SPECIAL - MISCELLANEOUS METAL	8
							193			604	98100	193	FT	DRAINAGE STRUCTURE, MISC.: STORM WATER TROUGH	9
							220			604	98100	220	FT	DRAINAGE STRUCTURE, MISC.: 4' CONCRETE TRENCH DRAIN	9
							792			605	11100	792	FT	6" SHALLOW PIPE UNDERDRAINS	
														PAVEMENT	
								1075		254	01000	1075	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
2								35		301	46000	37	CU YD	ASPHALT CONCRETE BASE, PG64-22	
								339		304	20000	339	CU YD	AGGREGATE BASE	
								96		407	10000	96	GALLON	TACK COAT	
								6		407	14000	6	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
								6		448	46020	6	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	
1								53		448	47020	54	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
13										451	14000	13	SQ YD	9" REINFORCED CONCRETE PAVEMENT	
		73	54							451	30000	127	FT	SPECIAL - PRESSURE RELIEF JOINT, TYPE A	9
								100		452	10000	100	SQ YD	6" NON-REINFORCED CONCRETE PAVEMENT	
								2		452	12000	2	SQ YD	8" NON-REINFORCED CONCRETE PAVEMENT	
				60	150					609	14001	210	FT	CURB, TYPE 2-A, AS PER PLAN	3
				185	31					609	26000	216	FT	CURB, TYPE 6	
	1870									861	10000	1870	SQ YD	GEOGRID FOR SUBGRADE STABILIZATION	9
														WATER WORK	
							2			638	98000	2	EACH	WATER WORK, MISC.: WATER MAIN OFFSET	7

CALCULATED KAS
CHECKED AKM

GENERAL SUMMARY

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8	9	10	19	56	62	FUNDING 01/BRO/BR	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											LIGHTING	
					6		625	00480	6	EACH	CONNECTION, UNFUSED PERMANENT	
					66		625	00500	66	EACH	CONNECTOR KIT, TYPE II	
					23		625	10615	23	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN	
					23		625	14300	23	EACH	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP	
					6433		625	22990	6433	FT	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	
					3392		625	23000	3392	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
					2305		625	23304	2305	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
					2680		625	23306	2680	FT	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	
					204		625	23308	204	FT	DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE	59
					2154		625	23400	2154	FT	NO. 10 AWG POLE AND BRACKET CABLE	
					367		625	25100	367	FT	CONDUIT, 1", 725.04	
					95		625	25405	95	FT	CONDUIT, 2-1/2", 725.04, AS PER PLAN	59
					3069		625	25605	3069	FT	CONDUIT, 4", 725.051, AS PER PLAN	59
					26		625	29930	26	EACH	MEDIAN JUNCTION BOX	
					7		625	31510	7	EACH	PULL BOX REMOVED	
					33		625	32000	33	EACH	GROUND ROD	
					1		625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
					LUMP		625	38000	LUMP		HIGH VOLTAGE TEST	
					LUMP		625	40000	LUMP		SPECIAL-MAINTAIN EXISTING LIGHTING	59
					24827		625	75550	24827	FT	DISTRIBUTION CABLE REMOVED	
					4		625	98000	4	EACH	LIGHTING, MISC.: REMOVE AND CLEAN LUMINAIRE	59
											TRAFFIC CONTROL	
				531			625	25600	531	FT	CONDUIT, 4", 725.04	
				531			625	29000	531	FT	TRENCH	
				2			625	29930	2	EACH	MEDIAN JUNCTION BOX	
				5			625	30700	5	EACH	PULL BOX, 725.08, 18"	
				4			630	79500	4	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
				34			630	80100	34	SQ. FT.	SIGN, FLAT SHEET	
				2			630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				1			630	87400	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
				1			630	87500	1	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
				2			631	94200	2	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL	
				1			631	94408	1	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL	
				1			631	84300	1	EACH	SIGN WIRED	
				1			631	92000	1	EACH	SIGN FLASHER ASSEMBLY	
				1.33			646	10000	1.33	MILE	EDGE LINE, 4"	
				1.29			646	10100	1.29	MILE	LANE LINE, 4"	
				151			646	10600	151	FEET	TRANSVERSE/DIAGONAL LINE (WHITE)	
											LANDSCAPING	
	LUMP						661	99940	LUMP		PLANTING, MISC.: BIOSWALE PLANTINGS	9
	LUMP						662	30100	LUMP		LANDSCAPE WATERING	9
			2				666	10000	2	EACH	PRUNING EXISTING TREE, 8 TO 16-INCH DIAMETER	
			2				666	10010	2	EACH	PRUNING EXISTING TREE, 16 TO 24-INCH DIAMETER	
											STRUCTURES	
											STRUCTURE GENERAL SUMMARY SEE SHEETS	96
											MAINTENANCE OF TRAFFIC	
		80					614	11110	80	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		LUMP					614	12420	LUMP		DETOUR SIGNING	
											INCIDENTALS	
		LUMP					614	11000	LUMP		MAINTAINING TRAFFIC	
24							619	16021	24	MONTH	FIELD OFFICE, TYPE C, AS PER PLAN	8
							623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
							624	10000	LUMP		MOBILIZATION	

CALCULATED KAS CHECKED AKM

GENERAL SUMMARY

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ROADWAY SUBSUMMARY

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 WALK REMOVED (SQ FT)	202 CONCRETE BARRIER REMOVED (FT)	202 CURB REMOVED (FT)	202 FENCE REMOVED (FT)	202 GATE REMOVED (EACH)	202 REMOVAL MISC.: SHED (EACH)	202 REMOVAL MISC.: FENCE (EACH)	202 REMOVAL MISC.: WOOD POSTS (EACH)	202 REMOVAL MISC.: WOOD WALL (FT)	203 ROADWAY, MISC.: BIOSWALE AGGREGATE (SQ YD)	204 SUBGRADE COMPACTION (SQ YD)	204 GRANULAR MATERIAL, TYPE D (CU YD)	204 GEOTEXTILE FABRIC (SQ YD)	451 SPECIAL - PRESSURE RELIEF JOINT, TYPE A (FT)	512 SEALING OF CONCRETE SURFACES (SQ YD)	517 RAILING (TWIN STEEL TUBE), AS PER PLAN (FT)	606 GUARDRAIL, TYPE 5 (FT)
C-1	24	100+88.00	100+98.00	LT			10														
GR-1	24	100+46.00	100+91.00	LT																45	
W-1	24	100+40.80	100+91.00	LT	507																
W-2	24	100+91.00	102+00.00	LT	611																
W-3	24	100+49.26	102+00.00	RT	955																
B-1	25	103+64.78	103+94.65	CL																	
C-1	25	103+23.53	103+94.65	LT			60														
C-2	25	103+23.53	103+84.58	RT/LT			61														
C-3	25	103+23.53	103+84.58	RT			62														
C-4	25	19+67.65 (MORRIS)	19+77.65 (MORRIS)	LT			10														
C-5	25	19+65.08 (MORRIS)	19+73.92 (MORRIS)	RT			9														
C-6	25	20+05.58 (MORRIS)	20+14.58 (MORRIS)	RT			9														
C-7	25	20+52.56 (MORRIS)	20+61.54 (MORRIS)	RT			9														
GR-1	25	103+53.80	103+64.78	RT																	
GR-2	25	100+49.26	103+94.65	RT															117		
M-1	25	103+94.65		LT/RT														73			
W-1	25	102+00.00	103+94.65	LT	971																
W-2	25	102+00.00	103+94.65	RT	1312																
W-3	25	19+67.65 (MORRIS)	20+31.07 (MORRIS)	LT	664																
W-4	25	20+52.56 (MORRIS)	20+60.07 (MORRIS)	RT	106																
C-1	26	40+50.95 (OTTAWA)	40+59.95 (OTTAWA)	LT			9														
C-2	26	40+49.40 (OTTAWA)	40+55.16 (OTTAWA)	RT			6														
GR-1	27	38+97.63 (OTTAWA)	39+21.63 (OTTAWA)	RT																	25
R-1	29	50+53.40 (MIAMI)		RT					1												
F-1	29	60+55.17 (STRATTON)	61+28.24 (STRATTON)	LT				73													
F-2	29	49+23.90 (MIAMI)	49+92.44 (MIAMI)	RT				69													
F-3	29	50+12.76 (MIAMI)	50+55.19 (MIAMI)	RT				43													
F-4	29	60+34.92 (STRATTON)	61+10.18 (STRATTON)	LT				76													
G-1	29	49+92.44 (MIAMI)	50+12.76 (MIAMI)	RT					1												
M-1	29	60+44.50 (STRATTON)	61+03.92 (STRATTON)	LT																	
M-2	29	60+55.52 (STRATTON)	61+14.95 (STRATTON)	LT																	
R-1	30	64+48.40 (STRATTON)		LT									32								
R-2	30	65+33.18 (STRATTON)		LT									31								
R-3	30	64+09.55 (STRATTON)		LT				56													
F-1	30	61+28.24 (STRATTON)	66+18.43 (STRATTON)	LT				535													
F-2	30	61+10.18 (STRATTON)	65+62.23 (STRATTON)	LT				452													
F-3	30	65+74.72 (STRATTON)	66+18.48 (STRATTON)	LT				44													
G-1	30	65+62.23 (STRATTON)	65+74.72 (STRATTON)	LT				13													
G-2	30	65+35.00 (STRATTON)	65+60.00 (STRATTON)	LT					1												
M-1	30	61+18.78 (STRATTON)	61+63.50 (STRATTON)	LT																	
M-2	30	61+29.80 (STRATTON)	61+74.53 (STRATTON)	LT																	
TOTALS CARRIED TO GENERAL SUMMARY					5126	0	245	1361	3	0	0	0	63	0	0	0	0	73	117	45	25

CALCULATED AKM
CHECKED PSB

LUC-2-18.62

CALCULATED AKM CHECKED PSB

ROADWAY SUBSUMMARY

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 WALK REMOVED	202 CONCRETE BARRIER REMOVED	202 CURB REMOVED	202 FENCE REMOVED	202 GATE REMOVED	202 REMOVAL MISC.: SHED	202 REMOVAL MISC.: FENCE	202 REMOVAL MISC.: WOOD POSTS	202 REMOVAL MISC.: WOOD WALL	203 ROADWAY, MISC.: BIOSWALE AGGREGATE	204 SUBGRADE COMPACTION	204 GRANULAR MATERIAL, TYPE D	204 GEOTEXTILE FABRIC	451 SPECIAL - PRESSURE RELIEF JOINT, TYPE A	512 SEALING OF CONCRETE SURFACES	517 RAILING (TWIN STEEL TUBE), AS PER PLAN	606 GUARDRAIL, TYPE 5
					SQ FT	FT	FT	FT	EACH	EACH	EACH	EACH	FT	SQ YD	SQ YD	CU YD	SQ YD	FT	SQ YD	FT	FT
R-1	31	70+44.67 (YONDOTA)		LT					1												
R-2	31	69+66.53 (YONDOTA)		RT							1										
R-3	31	70+35.36 (YONDOTA)		RT							1										
R-4	31	70+33.52 (YONDOTA)	70+55.30 (YONDATA)	RT							1										
R-5	31	70+32.34 (YONDOTA)	70+55.30 (YONDATA)	RT							1										
R-6	31	80+36.50 (UTAH)		LT							1										
R-7	31	79+51.60 (UTAH)	79+63.67 (UTAH)	RT							1										
R-8	31	80+35.40 (UTAH)	80+46.09 (UTAH)	RT							1										
R-9	31	80+35.60 (UTAH)	80+46.09 (UTAH)	RT							1										
R-10	31	79+63.00 (UTAH)		LT						1											
R-11	31	79+57.00 (UTAH)		RT						1											
B-1	31	136+62.65	137+00.00	CL																	
C-1	31	136+62.65	137+00.00	LT			38														
C-2	31	136+62.65	137+00.00	RT			38														
C-3	31	69+53.86 (YONDOTA)	69+67.64 (YONDOTA)	LT			14														
C-4	31	80+15.25 (UTAH)	80+22.75 (UTAH)	RT			8														
C-5	31	79+77.26 (UTAH)	79+85.77 (UTAH)	RT			9														
F-1	31	66+18.43 (STRATTON)	67+02.65 (STRATTON)	LT				84													
F-2	31	69+50.45 (YONDATA)	70+49.67 (YONDOTA)	LT				100													
F-3	31	66+18.48 (STRATTON)	67+02.50 (STRATTON)	LT				84													
F-4	31	79+63.21 (UTAH)	80+36.14 (UTAH)	LT				73													
M-1	31	136+62.66		LT/RT														54			
W-1	31	136+62.65	137+00.00	LT	208																
W-2	31	136+62.65	137+00.00	RT	207																
W-3	31	69+53.86 (YONDOTA)	69+67.64 (YONDOTA)	LT	161																
R-1	32	136+97.80	137+05.79	LT				16													
R-2	32	137+26.53		LT				11													
B-1	32	137+16.45	137+36.45	CL		20															
B-2	32	137+00.00	137+16.45	CL		17															
C-1	32	137+00.00	137+36.45	LT			37														
C-2	32	137+00.00	137+36.45	RT			37														
P-1	32	137+11.81		LT																	
P-2	32	137+18.20		LT																	
P-3	32	137+54.18		LT																	
W-1	32	137+00.00	137+58.44	LT	341																
W-2	32	137+00.00	137+51.09	RT	298																
R-1	35	38+63.20 (OTTAWA)	39+43.94 (OTTAWA)	RT								7									
A-1	40	1+17.18 (ACCESS)	6+00.00 (ACCESS)	LT/RT											1129	377	1129				
A-2	40	1+54.31 (ACCESS)	6+00.00 (ACCESS)	RT										740		100	1215				
A-1	41	6+00.00 (ACCESS)	9+15.00 (ACCESS)	LT/RT											741	247	741				
A-2	41	6+00.00 (ACCESS)	9+54.52 (ACCESS)	RT										575		100	1215				
TOTALS CARRIED TO GENERAL SUMMARY					1215	37	181	368	1	2	8	7	0	1315	1870	824	4300	54	0	0	0

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	606 IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL) EACH	607 FENCE, TYPE CL FT	607 GATE, TYPE CL EACH	608 4" CONCRETE WALK SQ FT	608 5" CONCRETE WALK, AS PER PLAN SQ FT	609 CURB, TYPE 2-4, AS PER PLAN FT	609 CURB, TYPE 6 FT	610 SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL SQ FT	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN FT	622 BARRIER TRANSITION EACH	622 CONCRETE BARRIER END SECTION, TYPE B, AS PER PLAN EACH	666 PRUNING EXISTING TREE, 8 TO 16-INCH DIAMETER EACH	666 PRUNING EXISTING TREE, 16 TO 24-INCH DIAMETER EACH	690 SPECIAL - BOLLARD EACH
C-1	24	100+88.00	100+98.00	LT							10							
GR-1	24	100+46.00	100+91.00	LT														
W-1	24	100+40.80	100+91.00	LT				507										
W-2	24	100+91.00	102+00.00	LT					611									
W-3	24	100+49.26	102+00.00	RT					955									
B-1	25	103+64.78	103+94.65	CL											1			
C-1	25	103+23.53	103+94.65	LT						60								
C-2	25	103+23.53	103+84.58	RT/LT							61							
C-3	25	103+23.53	103+84.58	RT							62							
C-4	25	19+67.65 (MORRIS)	19+77.65 (MORRIS)	LT							10							
C-5	25	19+65.08 (MORRIS)	19+73.92 (MORRIS)	RT							9							
C-6	25	20+05.58 (MORRIS)	20+14.58 (MORRIS)	RT							9							
C-7	25	20+52.56 (MORRIS)	20+61.54 (MORRIS)	RT							9							
GR-1	25	103+53.80	103+64.78	RT	1													
GR-2	25	100+49.26	103+94.65	RT														
M-1	25	103+94.65		LT/RT														
W-1	25	102+00.00	103+94.65	LT					971									
W-2	25	102+00.00	103+94.65	RT					1312									
W-3	25	19+67.65 (MORRIS)	20+34.07 (MORRIS)	LT				664										
W-4	25	20+52.56 (MORRIS)	20+60.07 (MORRIS)	RT				106										
C-1	26	40+50.95 (OTTAWA)	40+59.95 (OTTAWA)	LT							9							
C-2	26	40+49.40 (OTTAWA)	40+55.16 (OTTAWA)	RT							6							
GR-1	27	38+97.63 (OTTAWA)	39+21.63 (OTTAWA)	RT														
R-1	29	50+53.40 (MIAMI)		RT														
F-1	29	60+55.17 (STRATTON)	61+28.24 (STRATTON)	LT		73												
F-2	29	49+23.90 (MIAMI)	49+92.44 (MIAMI)	RT		69												
F-3	29	50+12.76 (MIAMI)	50+55.19 (MIAMI)			43												
F-4	29	60+34.92 (STRATTON)	61+10.18 (STRATTON)	LT		76												
G-1	29	49+92.44 (MIAMI)	50+12.76 (MIAMI)	RT			1											
M-1	29	60+44.50 (STRATTON)	61+03.92 (STRATTON)	LT														6
M-2	29	60+55.52 (STRATTON)	61+14.95 (STRATTON)	LT														6
R-1	30	64+48.40 (STRATTON)		LT														
R-2	30	65+33.18 (STRATTON)		LT														
R-3	30	64+09.55 (STRATTON)		LT														
F-1	30	61+28.24 (STRATTON)	66+18.43 (STRATTON)	LT		535												
F-2	30	61+10.18 (STRATTON)	65+62.23 (STRATTON)	LT		486												
F-3	30	65+74.72 (STRATTON)	66+18.48 (STRATTON)	LT		44												
G-1	30	65+62.23 (STRATTON)	65+74.72 (STRATTON)	LT			1											
G-2	30	65+35.00 (STRATTON)	65+60.00 (STRATTON)	LT			1											
M-1	30	61+18.78 (STRATTON)	61+63.50 (STRATTON)	LT														10
M-2	30	61+29.80 (STRATTON)	61+74.53 (STRATTON)	LT														10
TOTALS CARRIED TO GENERAL SUMMARY					1	1326	3	1277	3849	60	185	0	0	0	1	0	0	32

CALCULATED AKM
CHECKED PSB

ROADWAY SUBSUMMARY

LUC-2-18.62

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	606 IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL) EACH	607 FENCE, TYPE CL FT	607 GATE, TYPE CL EACH	608 4" CONCRETE WALK SQ FT	608 5" CONCRETE WALK, AS PER PLAN SQ FT	609 CURB, TYPE 2-A, AS PER PLAN FT	609 CURB, TYPE 6 FT	610 SPECIAL - RETAINING WALL, MISC.: MODULAR BLOCK WALL SQ FT	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN FT	622 BARRIER TRANSITION EACH	622 CONCRETE BARRIER END SECTION, TYPE B, AS PER PLAN EACH	666 PRUNING EXISTING TREE, 8 TO 16-INCH DIAMETER EACH	666 PRUNING EXISTING TREE, 16 TO 24-INCH DIAMETER EACH	690 SPECIAL - BOLLARD EACH
R-1	31	70+44.67 (YONDOTA)		LT														
R-2	31	69+66.53 (YONDOTA)		RT														
R-3	31	70+35.36 (YONDOTA)		RT														
R-4	31	70+33.52 (YONDOTA)	70+55.30 (YONDATA)	RT														
R-5	31	70+32.34 (YONDOTA)	70+55.30 (YONDATA)	RT														
R-6	31	80+36.50 (UTAH)		LT														
R-7	31	79+51.60 (UTAH)	79+63.67 (UTAH)	RT														
R-8	31	80+35.40 (UTAH)	80+46.09 (UTAH)	RT														
R-9	31	80+35.60 (UTAH)	80+46.09 (UTAH)	RT														
R-10	31	79+63.00 (UTAH)		LT														
R-11	31	79+57.00 (UTAH)		RT														
B-1	31	136+62.65	137+00.00	CL									38					
C-1	31	136+62.65	137+00.00	LT						38								
C-2	31	136+62.65	137+00.00	RT						38								
C-3	31	69+53.86 (YONDOTA)	69+67.64 (YONDOTA)	LT							14							
C-4	31	80+15.25 (UTAH)	80+22.75 (UTAH)	RT							8							
C-5	31	79+77.26 (UTAH)	79+85.77 (UTAH)	RT							9							
F-1	31	66+18.43 (STRATTON)	67+02.65 (STRATTON)	LT		84												
F-2	31	69+50.45 (YONDATA)	70+49.67 (YONDOTA)	LT		100												
F-3	31	66+18.48 (STRATTON)	67+02.50 (STRATTON)	LT		84												
F-4	31	79+63.21 (UTAH)	80+36.14 (UTAH)	LT		73												
M-1	31	136+62.66		LT/RT														
W-1	31	136+62.65	137+00.00	LT					208									
W-2	31	136+62.65	137+00.00	RT					207									
W-3	31	69+53.86 (YONDOTA)	69+67.64 (YONDOTA)	LT				161										
R-1	32	136+97.80	137+05.79	LT														
R-2	32	137+26.53		LT														
B-1	32	137+16.45	137+36.45	CL										1				
B-2	32	137+00.00	137+16.45	CL									17					
C-1	32	137+00.00	137+36.45	LT						37								
C-2	32	137+00.00	137+36.45	RT						37								
P-1	32	137+11.81		LT												1		
P-2	32	137+18.20		LT												1		
P-3	32	137+54.18		LT													1	
W-1	32	137+00.00	137+58.44	LT					341									
W-2	32	137+00.00	137+51.09	RT					298									
R-1	35	38+63.20 (OTTAWA)	39+43.94 (OTTAWA)	RT													1	
A-1	40	1+17.18 (ACCESS)	6+00.00 (ACCESS)	LT/RT														
A-2	40	1+54.31 (ACCESS)	6+00.00 (ACCESS)	RT								2860						
A-1	41	6+00.00 (ACCESS)	9+15.00 (ACCESS)	LT/RT														
A-2	41	6+00.00 (ACCESS)	9+54.52 (ACCESS)	RT								1660						
TOTALS CARRIED TO GENERAL SUMMARY					0	341	0	161	1054	150	31	4520	55	1	0	2	2	0

CALCULATED AKM
CHECKED PSB

ROADWAY SUBSUMMARY

LUC-2-18.62

DRAINAGE AND WATER SUBSUMMARY

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER (FT)	202 MANHOLE REMOVED (EACH)	202 CATCH BASIN REMOVED (EACH)	516 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN (SQ FT)	601 ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER (CU YD)	603 12" CONDUIT, TYPE B (FT)	603 12" CONDUIT, TYPE B, 706.02 (FT)	603 15" CONDUIT, TYPE B (FT)	603 15" CONDUIT, TYPE B, 706.02 (FT)	603 15" CONDUIT, TYPE C (FT)	603 18" CONDUIT, TYPE B, 706.02 (FT)	603 18" CONDUIT, TYPE C (FT)	603 14" X 23" CONDUIT, TYPE B, 706.04 (FT)	604 CATCH BASIN, NO. 3A WITH 2' SUMP (EACH)	604 CATCH BASIN, NO. 2-2B (EACH)	604 CATCH BASIN, NO. 2-2B WITH 2' SUMP (EACH)
D-1	33	100+89.90	100+40.90	LT				15		50										
D-2	33	100+40.90		LT																
D-1	34	20+30.00 (MORRIS)	19+72.40 (MORRIS)	LT				6		58									1	
D-2	34	19+72.40 (MORRIS)	19+69.50 (MORRIS)	LT/RT				6		32									1	
D-3	34	19+69.50 (MORRIS)	19+69.50 (MORRIS)	RT				18		7								1		
D-4	34	19+69.50 (MORRIS)	20+10.00 (MORRIS)	RT						41										
D-5	34	20+10.00 (MORRIS)	20+10.00 (MORRIS)	RT						7								1		
D-6	34	20+10.00 (MORRIS)	20+57.00 (MORRIS)	RT								47								
D-7	34	20+57.00 (MORRIS)	31+23.00 (HALL)	RT/LT								111								
D-8	34	31+23.00 (HALL)	40+55.50 (OTTAWA)	LT									149							
WW-1	34	20+39.58 (MORRIS)		RT																
WW-2	34	30+40.50 (HALL)		LT																
DR-1	35	40+56.00 (OTTAWA)	40+50.00 (OTTAWA)	RT	6															
D-1	35	40+55.50 (OTTAWA)	40+46.00 (OTTAWA)	LT/RT								56								
D-2	35	40+46.00 (OTTAWA)	40+25.00 (OTTAWA)	RT										25						
D-3	35	40+25.00 (OTTAWA)	39+73.00 (OTTAWA)	RT				9								52			1	
D-4	35	39+73.00 (OTTAWA)	38+89.70 (OTTAWA)	RT				11							83				1	
D-1	37	50+24.18 (MIAMI)		LT			1	16												1
D-2	37	49+73.33 (MIAMI)		LT			1	17												1
DR-1	39	70+21.43 (YONDOTA)	69+70.05 (YONDOTA)	LT	52															
DR-2	39	69+75.92 (YONDOTA)	69.70.05 (YONDOTA)	LT	8															
DR-3	39	69+70.05 (YONDOTA)	69+58.03 (YONDOTA)	LT	34															
DR-4	39	69+70.05 (YONDOTA)		LT		1														
D-1	39	70+21.43 (YONDOTA)	69+69.00 (YONDOTA)	LT						53										
D-2	39	69+69.00 (YONDOTA)	69+68.50 (YONDOTA)	LT						9										
D-3	39	69+68.50 (YONDOTA)	69+58.03 (YONDOTA)	LT				17		28										1
D-4	39	80+19.00 (UTAH)	80+03.46 (UTAH)	RT/LT				18		22								1		
D-5	39	79+81.00 (UTAH)	80+03.46 (UTAH)	RT/LT				18		28								1		
D-6	39	80+03.46 (UTAH)		LT																
D-1	40	2+48.00 (ACCESS)		RT/LT	82								82							
D-2	40	5+14.00 (ACCESS)		RT/LT	66						66									
D-3	40	1+60.00 (ACCESS)	6+00.00 (ACCESS)	RT																
D-1	41	7+09.00 (ACCESS)		RT/LT	72												72			
D-2	41	9+50.00 (ACCESS)		RT					38											
D-3	41	6+00.00 (ACCESS)	9+52.00 (ACCESS)	RT																
TOTALS CARRIED TO GENERAL SUMMARY					320	1	2	151	38	335	66	214	231	25	83	52	72	4	4	3

CALCULATED AKM
CHECKED PSB

LUC-2-18.62

DRAINAGE AND WATER SUBSUMMARY

CALCULATED AKM
CHECKED PSB

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	604 CATCH BASIN RECONSTRUCTED TO GRADE (EACH)	604 INLET, SIDE DITCH (EACH)	604 MANHOLE, NO. 3 (EACH)	604 MANHOLE RECONSTRUCTED TO GRADE (EACH)	604 DRAINAGE STRUCTURE, MISC.: STORM WATER TROUGH (FT)	604 DRAINAGE STRUCTURE, MISC.: 4' CONCRETE TRENCH DRAIN (FT)	605 6" SHALLOW PIPE UNDERDRAINS (FT)	638 WATER WORK, MISC.: WATER MAIN OFFSET (EACH)
D-1	33	100+89.90	100+40.90	LT		1						
D-2	33	100+40.90		LT	1							
D-1	34	20+30.00 (MORRIS)	19+72.40 (MORRIS)	LT								
D-2	34	19+72.40 (MORRIS)	19+69.50 (MORRIS)	LT/RT								
D-3	34	19+69.50 (MORRIS)	19+69.50 (MORRIS)	RT								
D-4	34	19+69.50 (MORRIS)	20+10.00 (MORRIS)	RT			1					
D-5	34	20+10.00 (MORRIS)	20+10.00 (MORRIS)	RT								
D-6	34	20+10.00 (MORRIS)	20+57.00 (MORRIS)	RT			1					
D-7	34	20+57.00 (MORRIS)	31+23.00 (HALL)	RT/LT			1					
D-8	34	31+23.00 (HALL)	40+55.50 (OTTAWA)	LT			1					
DR-1	35	40+56.00 (OTTAWA)	40+50.00 (OTTAWA)	RT								
WW-1	34	20+39.58 (MORRIS)		RT								1
WW-2	34	30+40.50 (HALL)		LT								1
D-1	35	40+55.50 (OTTAWA)	40+46.00 (OTTAWA)	LT/RT			1					
D-2	35	40+46.00 (OTTAWA)	40+25.00 (OTTAWA)	RT			1					
D-3	35	40+25.00 (OTTAWA)	39+73.00 (OTTAWA)	RT								
D-4	35	39+73.00 (OTTAWA)	38+89.70 (OTTAWA)	RT								
D-1	37	50+24.18 (MIAMI)		LT								
D-2	37	49+73.33 (MIAMI)		LT								
DR-1	39	70+21.43 (YONDOTA)	69+70.05 (YONDOTA)	LT								
DR-2	39	69+75.92 (YONDOTA)	69.70.05 (YONDOTA)	LT								
DR-3	39	69+70.05 (YONDOTA)	69+58.03 (YONDOTA)	LT								
DR-4	39	69+70.05 (YONDOTA)		LT								
D-1	39	70+21.43 (YONDOTA)	69+69.00 (YONDOTA)	LT	1							
D-2	39	69+69.00 (YONDOTA)	69+68.50 (YONDOTA)	LT			1					
D-3	39	69+68.50 (YONDOTA)	69+58.03 (YONDOTA)	LT	1							
D-4	39	80+19.00 (UTAH)	80+03.46 (UTAH)	RT/LT								
D-5	39	79+81.00 (UTAH)	80+03.46 (UTAH)	RT/LT								
D-6	39	80+03.46 (UTAH)		LT				1				
D-1	40	2+48.00 (ACCESS)		RT/LT					50	82		
D-2	40	5+14.00 (ACCESS)		RT/LT					73	66		
D-3	40	1+60.00 (ACCESS)	6+00.00 (ACCESS)	RT							440	
D-1	41	7+09.00 (ACCESS)		RT/LT					70	72		
D-2	41	9+50.00 (ACCESS)		RT								
D-3	41	6+00.00 (ACCESS)	9+52.00 (ACCESS)	RT							352	
TOTALS CARRIED TO GENERAL SUMMARY					3	1	7	1	193	220	792	2

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STATION		SIDE	REFERENCE	SHEET NO.	PAVEMENT AREA (CAD)	202 PAVEMENT REMOVED	254 PAVEMENT PLANING, ASPHALT CONCRETE	301 ASPHALT CONCRETE BASE, PG64-22	304 AGGREGATE BASE	407 TACK COAT	407 TACK COAT FOR INTERMEDIATE COURSE	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	452 6" NON-REINFORCED CONCRETE PAVEMENT	452 8" NON-REINFORCED CONCRETE PAVEMENT
					SQ FT	SQ YD	SQ YD	CU YD	CU YD	GALLON	GALLON	CU YD	CU YD	SQ YD	SQ YD
103+23.53	103+94.65	LT/RT	PV-1	25	5700.9		633.4			47.5			26.4		
19+65 (MORRIS)	20+62 (MORRIS)	LT/RT	PV-2	25	755.0	83.9		16.3	14.0	6.3	3.4	3.5	3.5		
31+26 (HALL)	32+55 (HALL)	LT	PV-3	25	642.3				19.8						
32+55 (HALL)	32+66 (HALL)	LT	PV-1	26	65.4	7.3									1.6
40+55 (OTTAWA)		LT/RT	PV-2	26	170.0	18.9		3.7	3.1	1.4	0.8	0.8	0.8		
69+60 (YONDOTA)	70+20 (YONDOTA)	LT	PV-1	31	553.0	61.4		8.5		4.6			2.6		
79+77 (UTAH)	80+22 (UTAH)	LT/RT	PV-2	31	308.0	34.2		6.7	5.7	2.6	1.4	1.4	1.4		
136+62.65	137+00.00	LT/RT	PV-3	31	2016.6		224.1			16.8			9.3		
137+00.00	137+36.45	LT/RT	PV-1	32	1960.1		217.8			16.3			9.1		
1+17.18 (ACCESS)	6+00.00 (ACCESS)	LT/RT	PV-1	40	9694.1				179.5						
1+54.31 (ACCESS)	6+00.00 (ACCESS)	LT/RT	PV-2	40	600.0									66.7	
6+00.00 (ACCESS)	9+15.00 (ACCESS)	LT/RT	PV-1	41	6300.0				116.7						
6+00.00 (ACCESS)	9+15.00 (ACCESS)	LT/RT	PV-2	41	300.0									33.3	
TOTALS CARRIED TO GENERAL SUMMARY						206	1075	35	339	96	6	6	53	100	2

CALCULATED AKM
CHECKED PSB

PAVEMENT CALCULATIONS

LUC-2-18.62

USGS Toledo Quadrangle
OHIO - MICHIGAN
Longitude: 83°-32'-2"*
Latitude: 41°-38'-28"*

*Longitude and Latitude to Approx. Center of Project

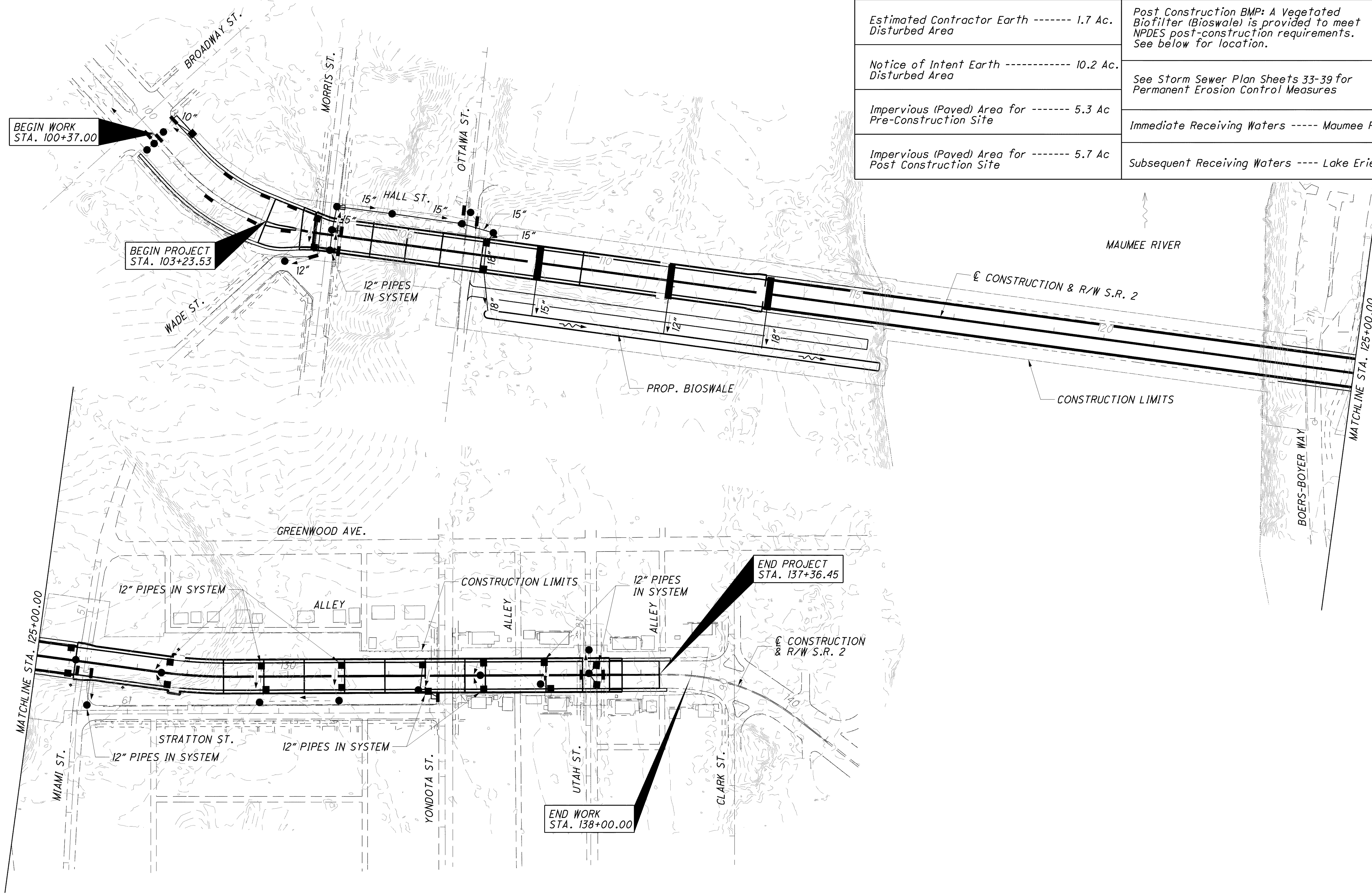
PROJECT DESCRIPTION

THE 0.65 MILE PROJECT INCLUDES THE REHABILITATION OF THE ANTHONY WAYNE BRIDGE (LUC-2-18.62) IN LUCAS COUNTY. THE WORK INCLUDES REHABILITATION OF THE PAVEMENT, BRIDGE REDECKING AND REHABILITATION, TRUSS REPLACEMENT, DRAINAGE REHABILITATION, NEW TRAFFIC CONTROL DEVICES AND LIGHTING.

LEGEND

- Catch Basin, CB 3A, CB 3
- Catch Basin, CB 2-2B, Side Ditch Inlet
- Manhole
- Storm Water Trough

PROJECT DATA	
Total Area (Right of Way) ---------- 9 Ac	Runoff Coefficient for -------- 0.65 Pre-Construction Site
Project Earth Disturbed Area ----- 8.5 Ac	Runoff Coefficient for -------- 0.68 Post Construction Site
Estimated Contractor Earth ------- 1.7 Ac. Disturbed Area	Post Construction BMP: A Vegetated Biofilter (Bioswale) is provided to meet NPDES post-construction requirements. See below for location.
Notice of Intent Earth ------------ 10.2 Ac. Disturbed Area	See Storm Sewer Plan Sheets 33-39 for Permanent Erosion Control Measures
Impervious (Paved) Area for ------- 5.3 Ac Pre-Construction Site	Immediate Receiving Waters ----- Maumee River
Impervious (Paved) Area for ------- 5.7 Ac Post Construction Site	Subsequent Receiving Waters ---- Lake Erie



HORIZONTAL SCALE IN FEET

CALCULATED AKM
CHECKED PSB

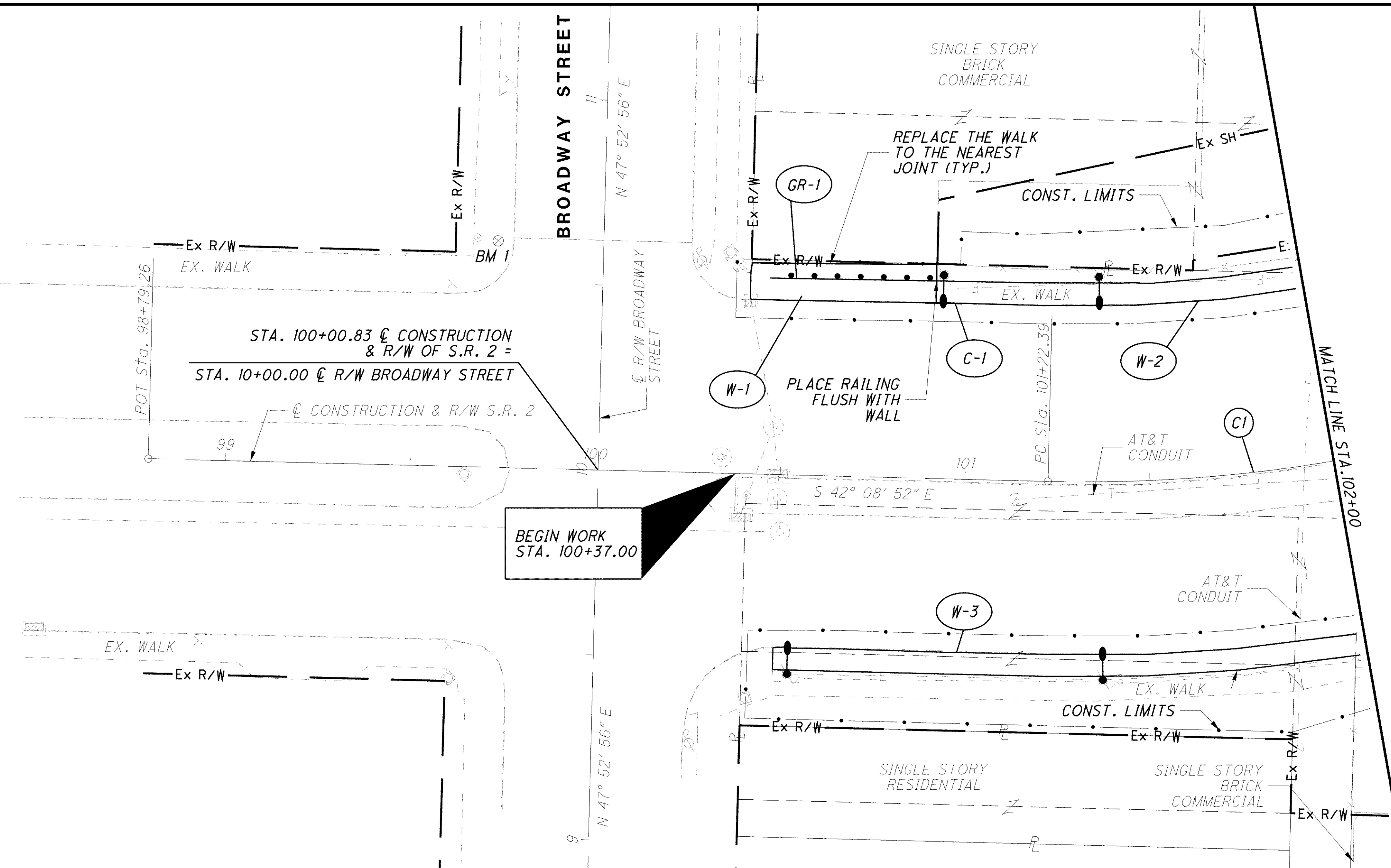
PROJECT SITE PLAN

LUC-2-18.62

NOTES:

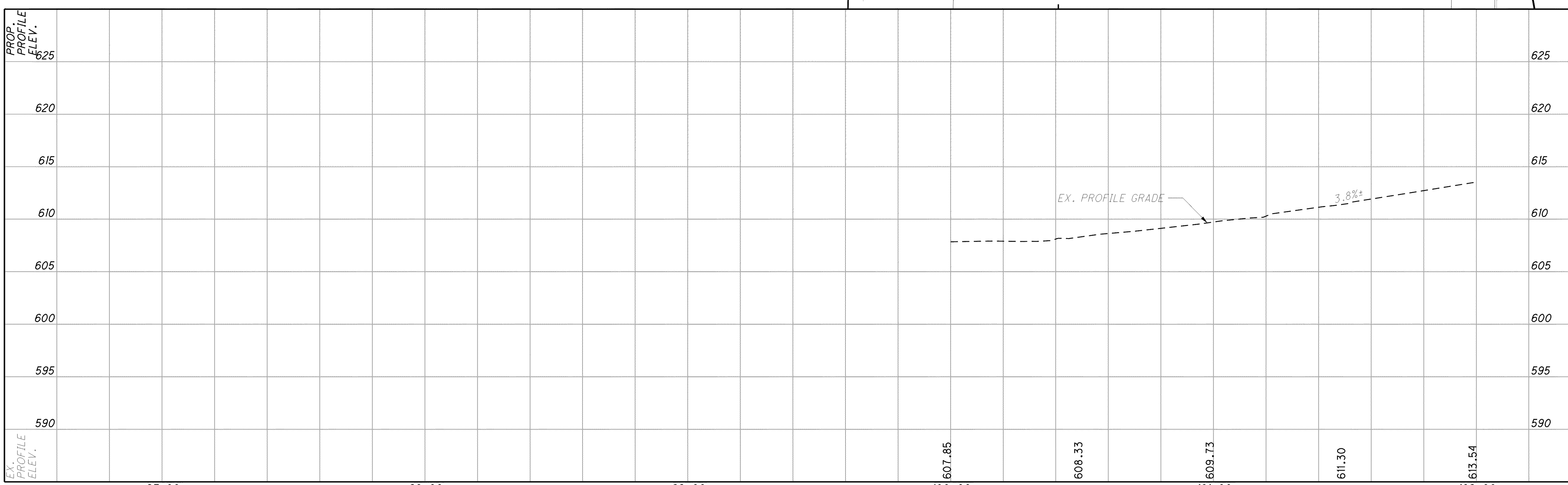
1. SEE SHEET 4 FOR RAILING DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS



℄ CONSTRUCTION & R/W S.R. 2
CURVE DATA

C1 P.I. Sta. 102+14.30
Δ = 25° 50' 25" (LT)
Dc = 14° 18' 05"
R = 400.63'
T = 91.91'
L = 180.68'
E = 10.41'
C = 179.16'
C.B. = S 55° 04' 04" E



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AKM
CHECKED PSB

PLAN AND PROFILE
STA. 97+00 TO STA. 102+00

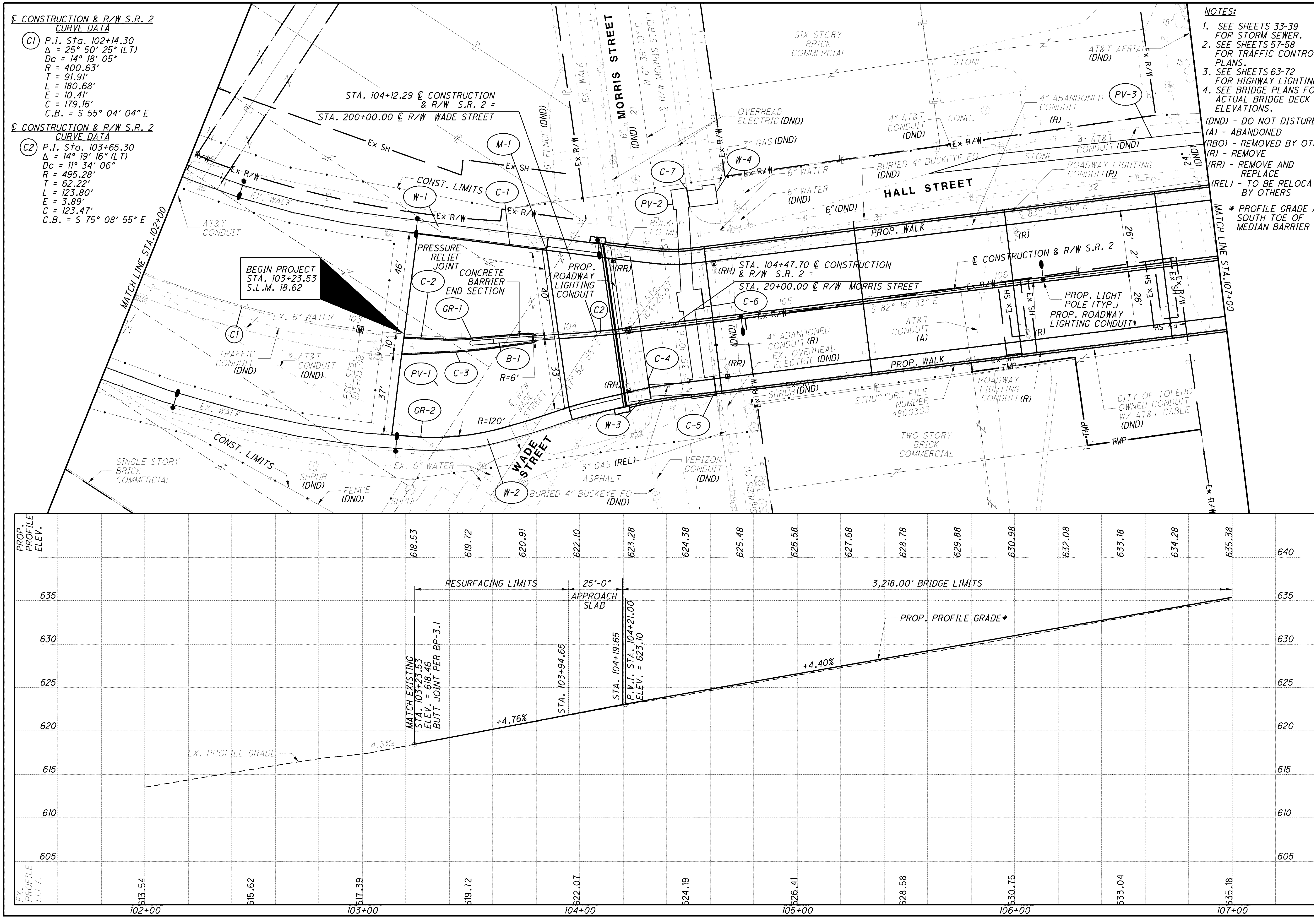
LUC-2-18.62

℄ CONSTRUCTION & R/W S.R. 2
CURVE DATA

C1 P.I. Sta. 102+14.30
Δ = 25° 50′ 25″ (LT)
Dc = 14° 18′ 05″
R = 400.63′
T = 91.91′
L = 180.68′
E = 10.41′
C = 179.16′
C.B. = S 55° 04′ 04″ E

℄ CONSTRUCTION & R/W S.R. 2
CURVE DATA

C2 P.I. Sta. 103+65.30
Δ = 14° 19′ 16″ (LT)
Dc = 11° 34′ 06″
R = 495.28′
T = 62.22′
L = 123.80′
E = 3.89′
C = 123.47′
C.B. = S 75° 08′ 55″ E



NOTES:
1. SEE SHEETS 33-39 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER

HORIZONTAL SCALE IN FEET

CALCULATED AKM
CHECKED PSB

PLAN AND PROFILE
STA. 102+00 TO STA. 107+00

LUC-2-18.62

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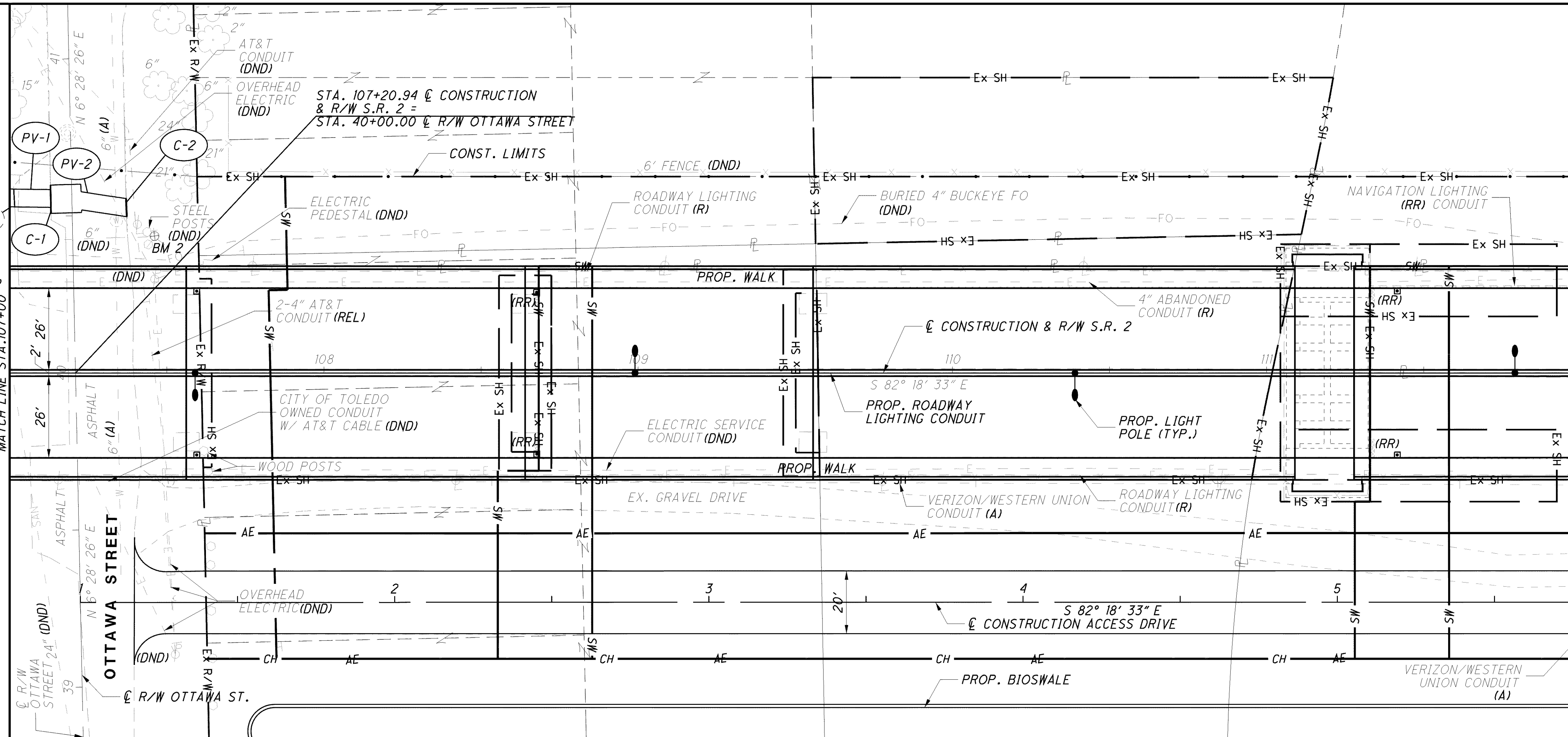
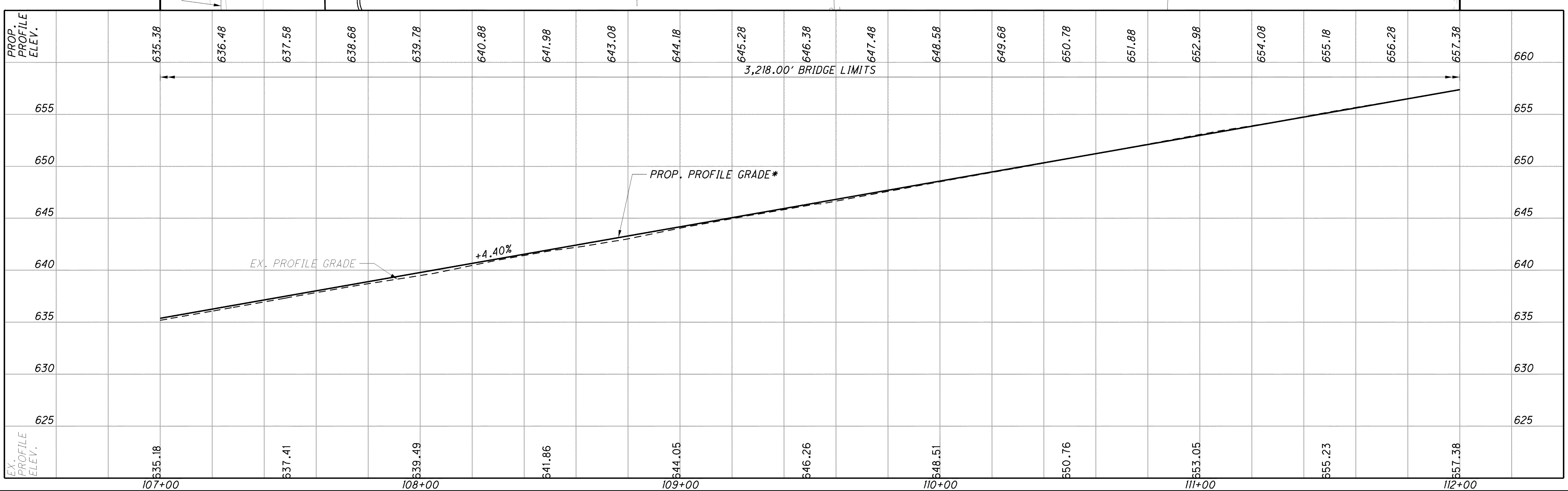
NOTES:

1. SEE SHEETS 33-41 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER





HORIZONTAL SCALE IN FEET

CALCULATED AKM CHECKED PSB

PLAN AND PROFILE STA. 107+00 TO STA. 112+00

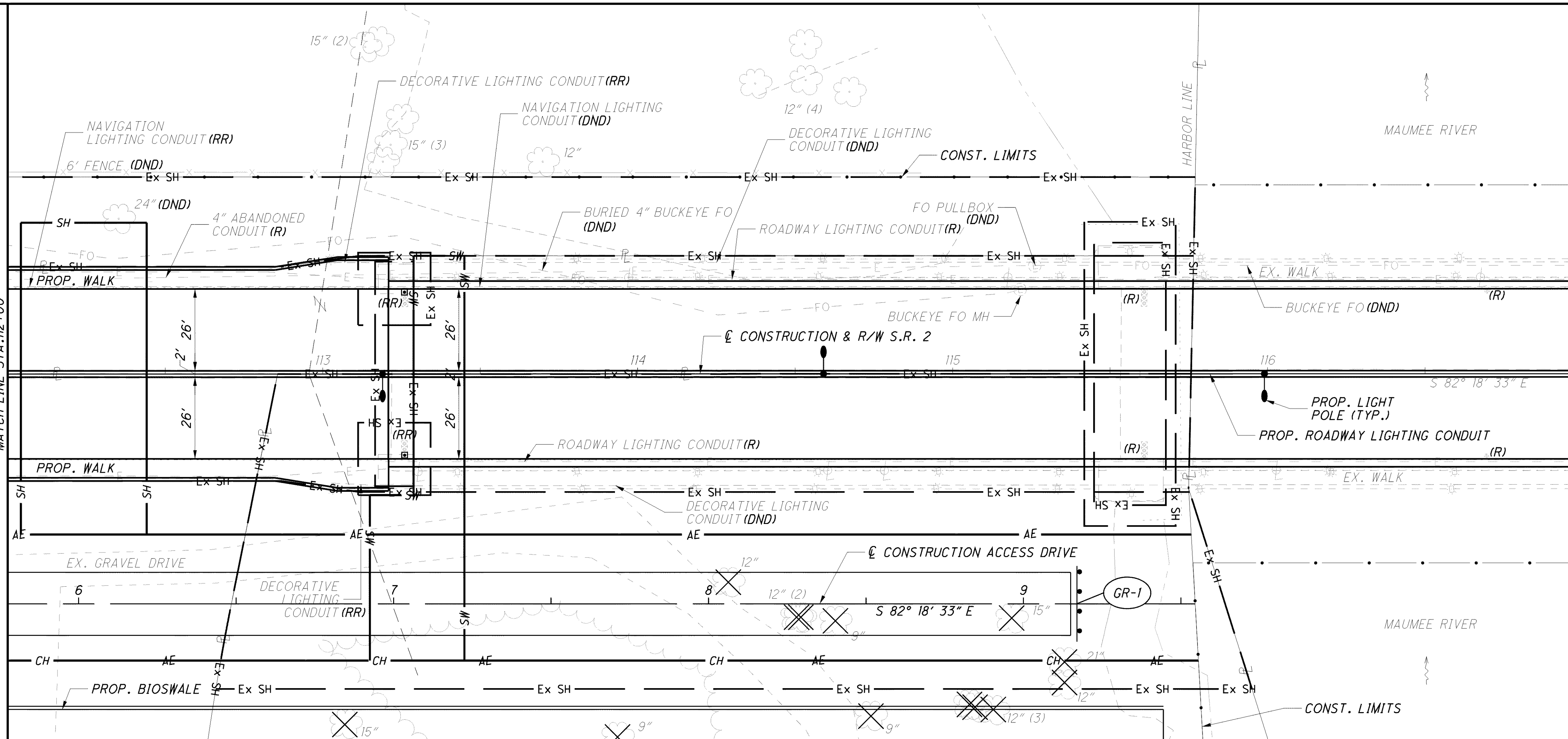
LUC-2-18.62

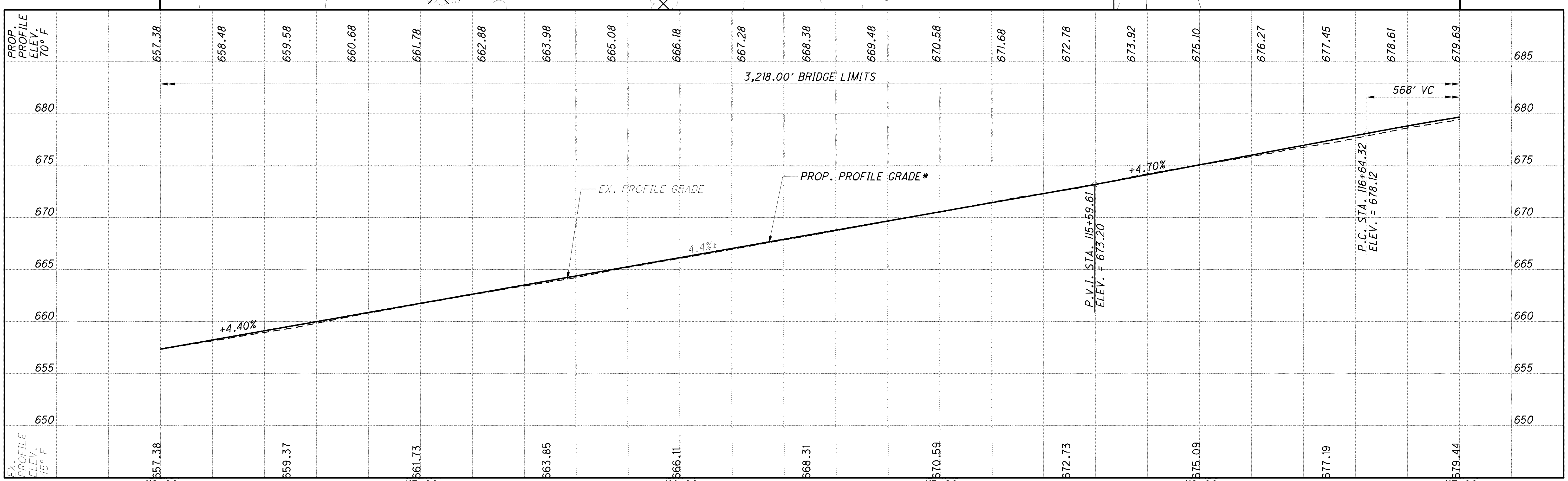
NOTES:

1. SEE SHEETS 33-41 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER





HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AKM
CHECKED PSB

PLAN AND PROFILE STA. 112+00 TO STA. 117+00

LUC-2-18.62

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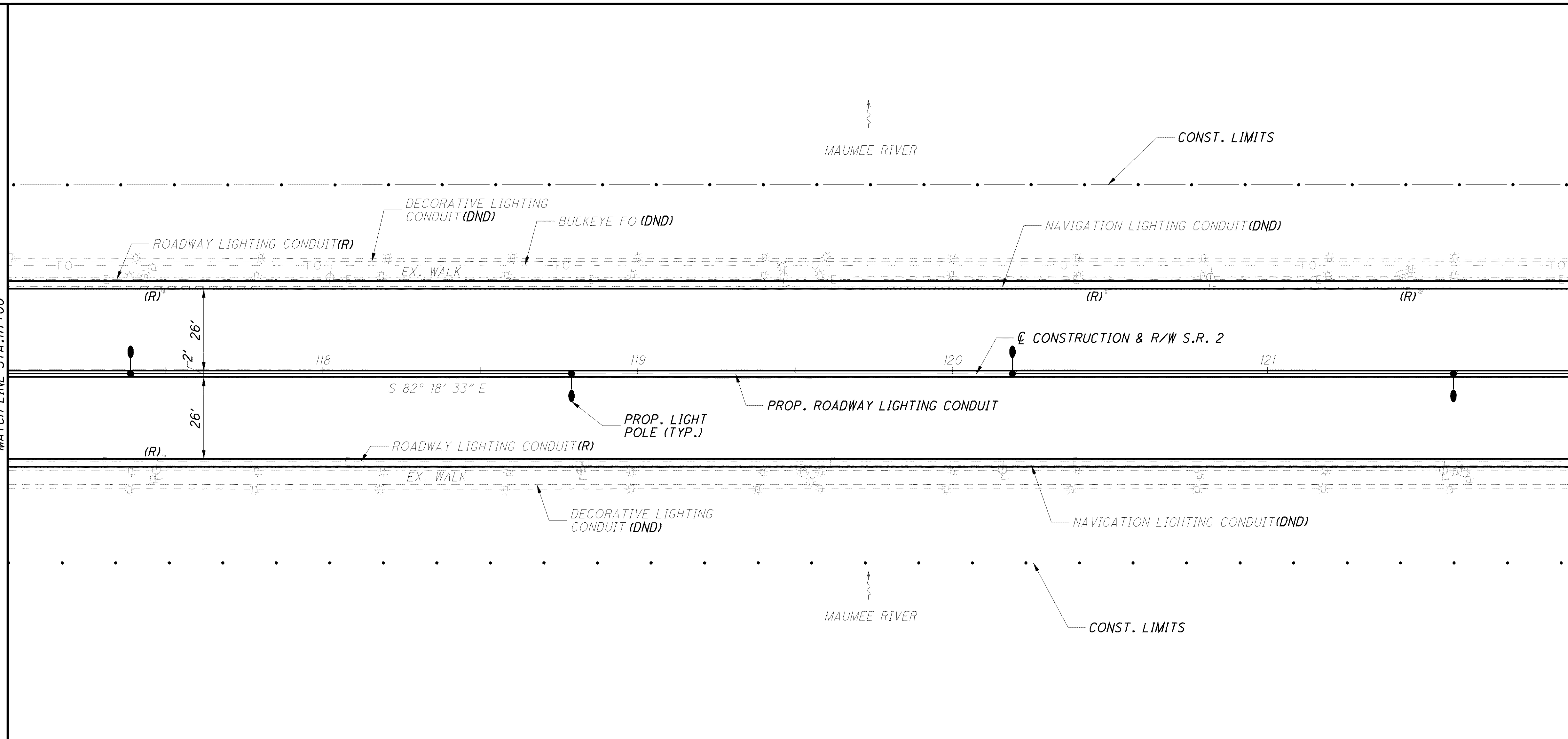
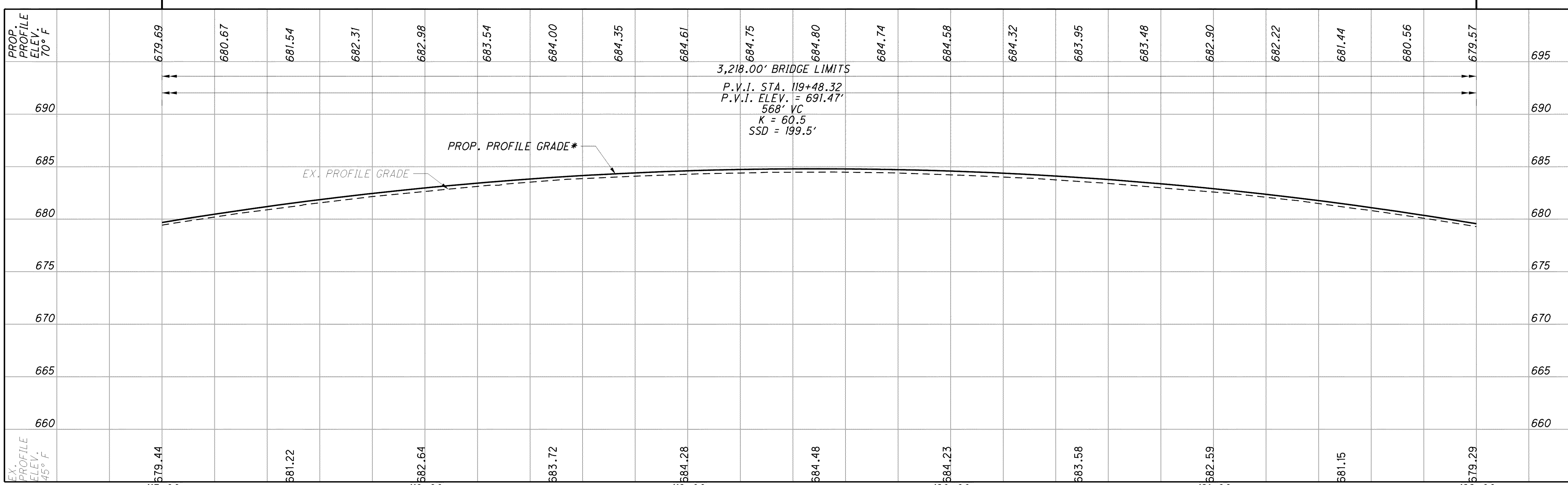
NOTES:

1. SEE SHEETS 33-39 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER





HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AKM
CHECKED PSB

PLAN AND PROFILE
STA. 117+00 TO STA. 122+00

LUC-2-18.62

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NOTES:

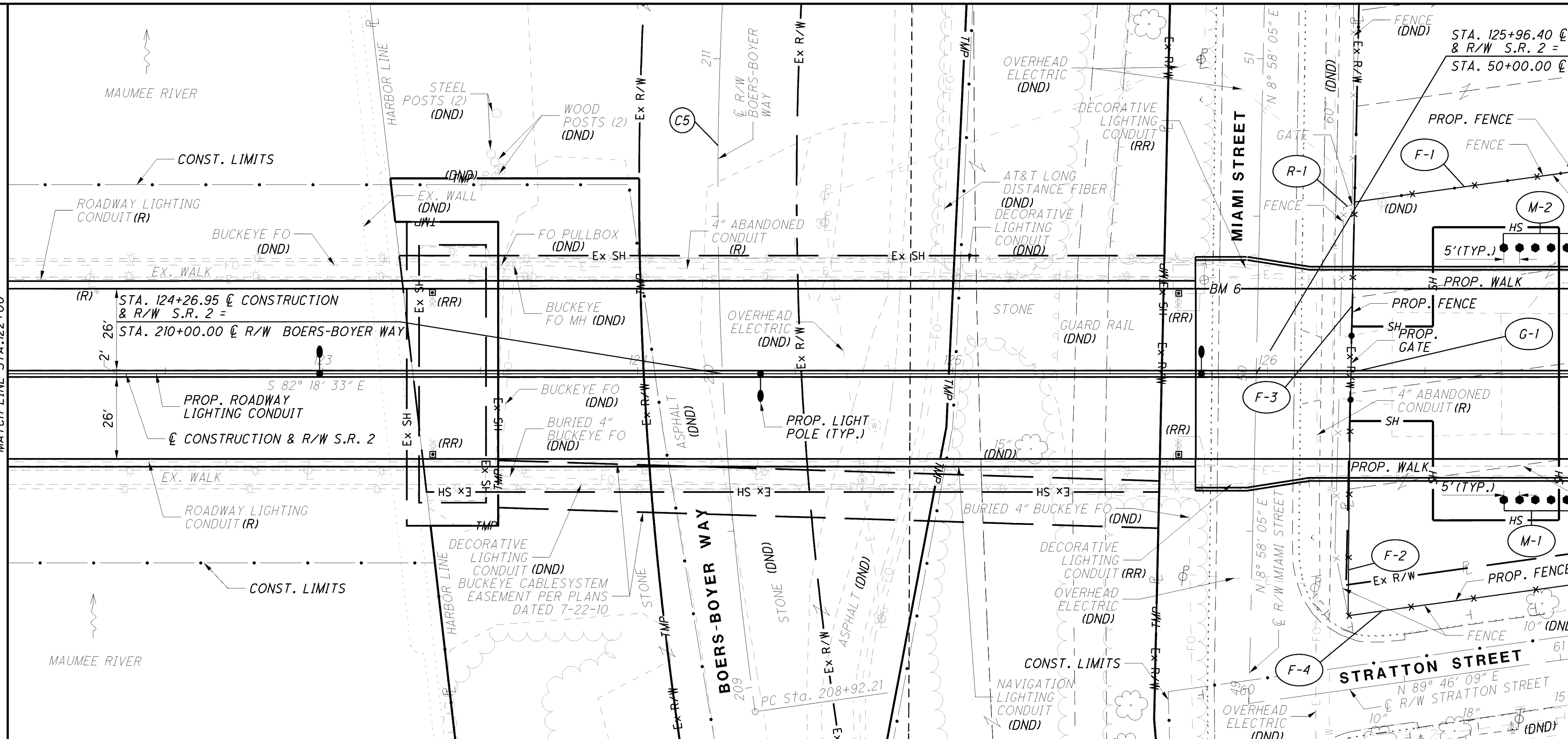
1. SEE SHEETS 33-39 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

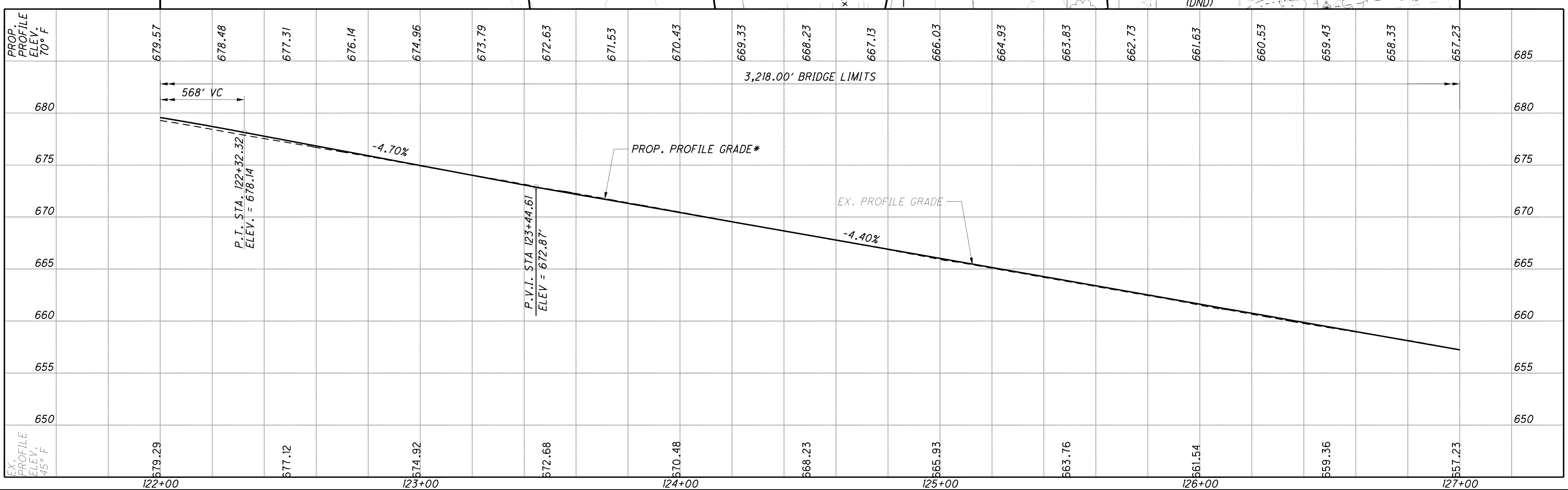
(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER

℄ R/W BOERS-BOYER WAY CURVE DATA

(C5) P.I. Sta. 210+64.09
Δ = 16° 38' 40" (RT)
Dc = 4° 52' 34"
R = 1,175.00'
T = 171.88'
L = 341.34'
E = 12.50'
C = 340.14'
C.B. = N 07° 52' 38" E





CALCULATED AKM
CHECKED PSB

PLAN AND PROFILE
STA. 122+00 TO STA. 127+00

LUC-2-18.62

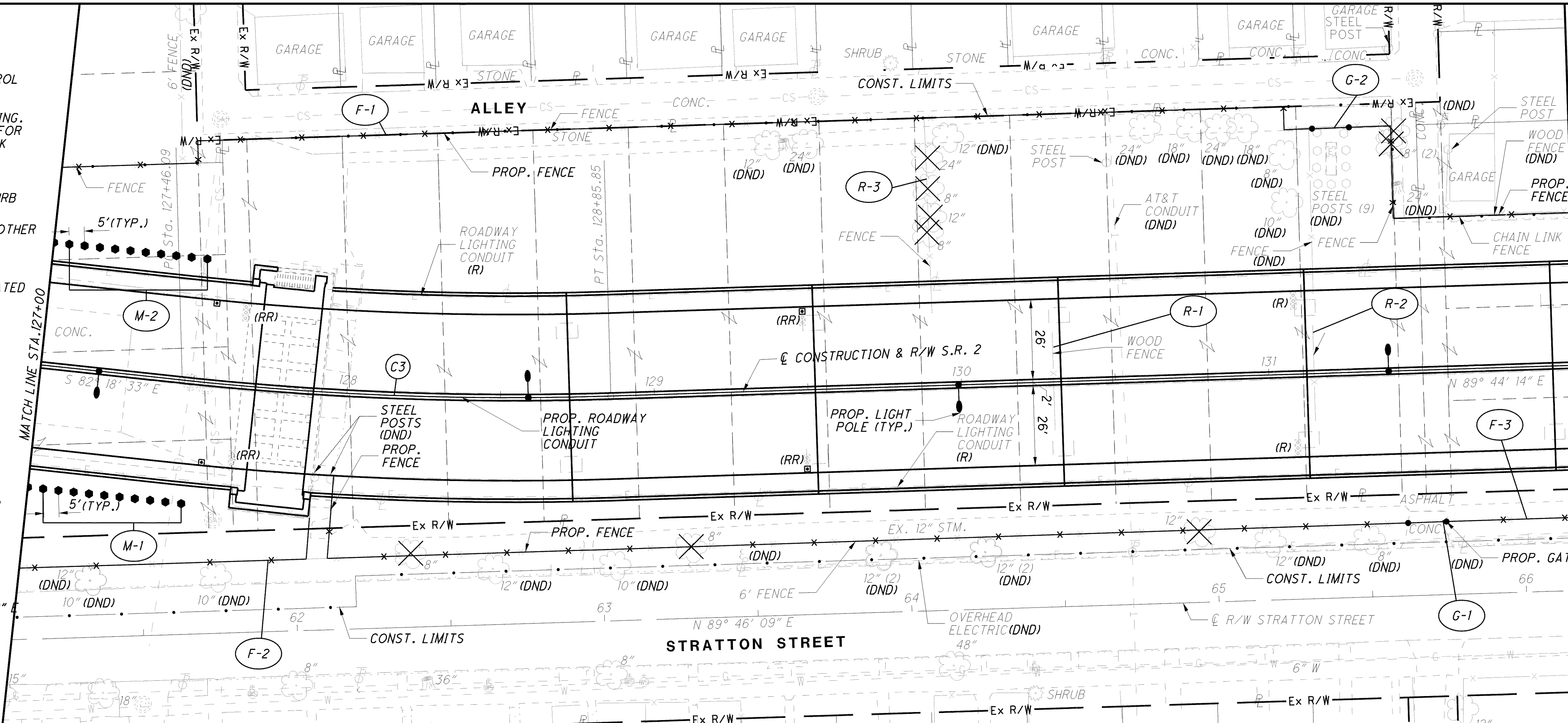
NOTES:
1. SEE SHEETS 33-39 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

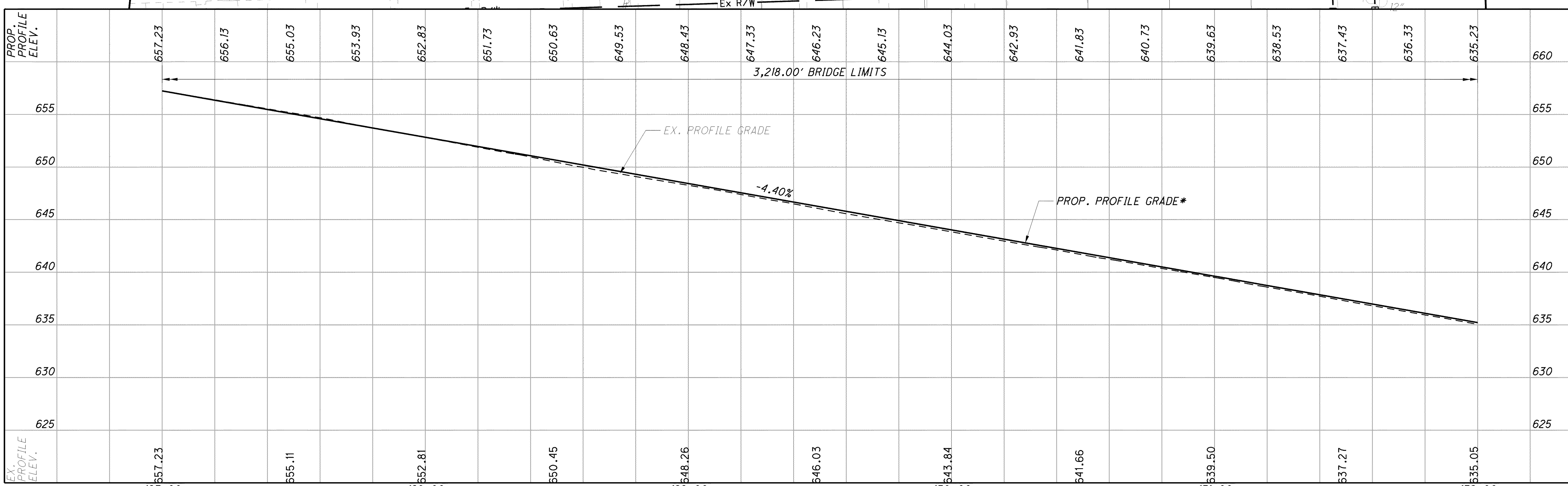
(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER

℄ CONSTRUCTION & R/W S.R. 2 CURVE DATA

(C3) P.I. Sta. 128+16.08
Δ = 7° 57′ 12″ (LT)
Dc = 5° 41′ 27″
R = 1,006.83′
T = 69.99′
L = 139.76′
E = 2.43′
C = 139.65′
C.B. = S 86° 17′ 09″ E





PROP. PROFILE ELEV.

657.23	656.13	655.03	653.93	652.83	651.73	650.63	649.53	648.43	647.33	646.23	645.13	644.03	642.93	641.83	640.73	639.63	638.53	637.43	636.33	635.23

EX. PROFILE ELEV.

657.23	655.11	652.81	650.45	648.26	646.03	643.84	641.66	639.50	637.27	635.05

127+00 128+00 129+00 130+00 131+00 132+00

HORIZONTAL SCALE IN FEET

CALCULATED AKM
CHECKED PSB

PLAN AND PROFILE
STA. 127+00 TO STA 132+00

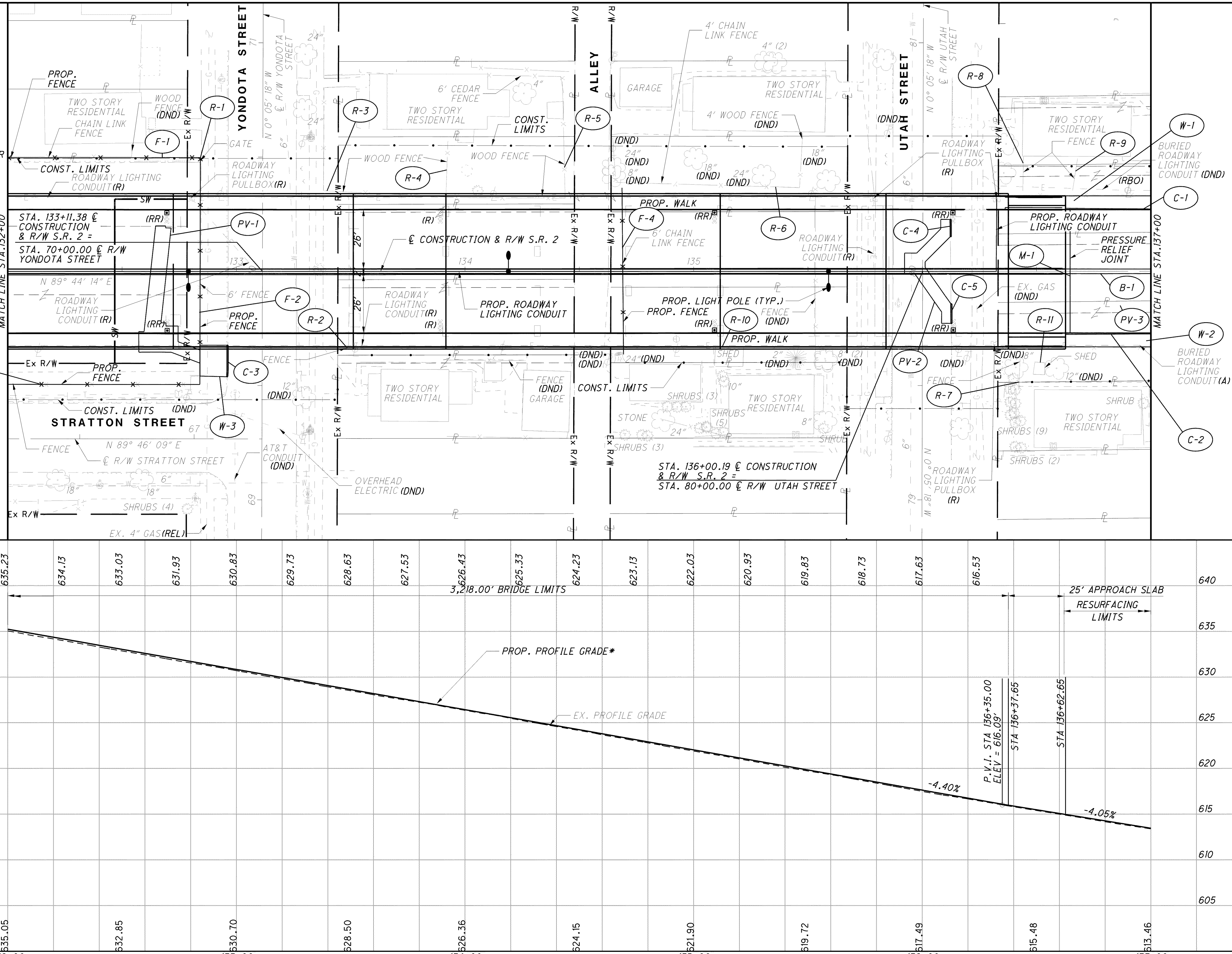
LUC-2-18.62

NOTES:

1. SEE SHEETS 33-39 FOR STORM SEWER.
2. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.
3. SEE SHEETS 63-72 FOR HIGHWAY LIGHTING.
4. SEE BRIDGE PLANS FOR ACTUAL BRIDGE DECK ELEVATIONS.

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED	AKM
CHECKED	PSB

PLAN AND PROFILE
STA. 132+00 TO STA. 137+00

LUC-2-18.62

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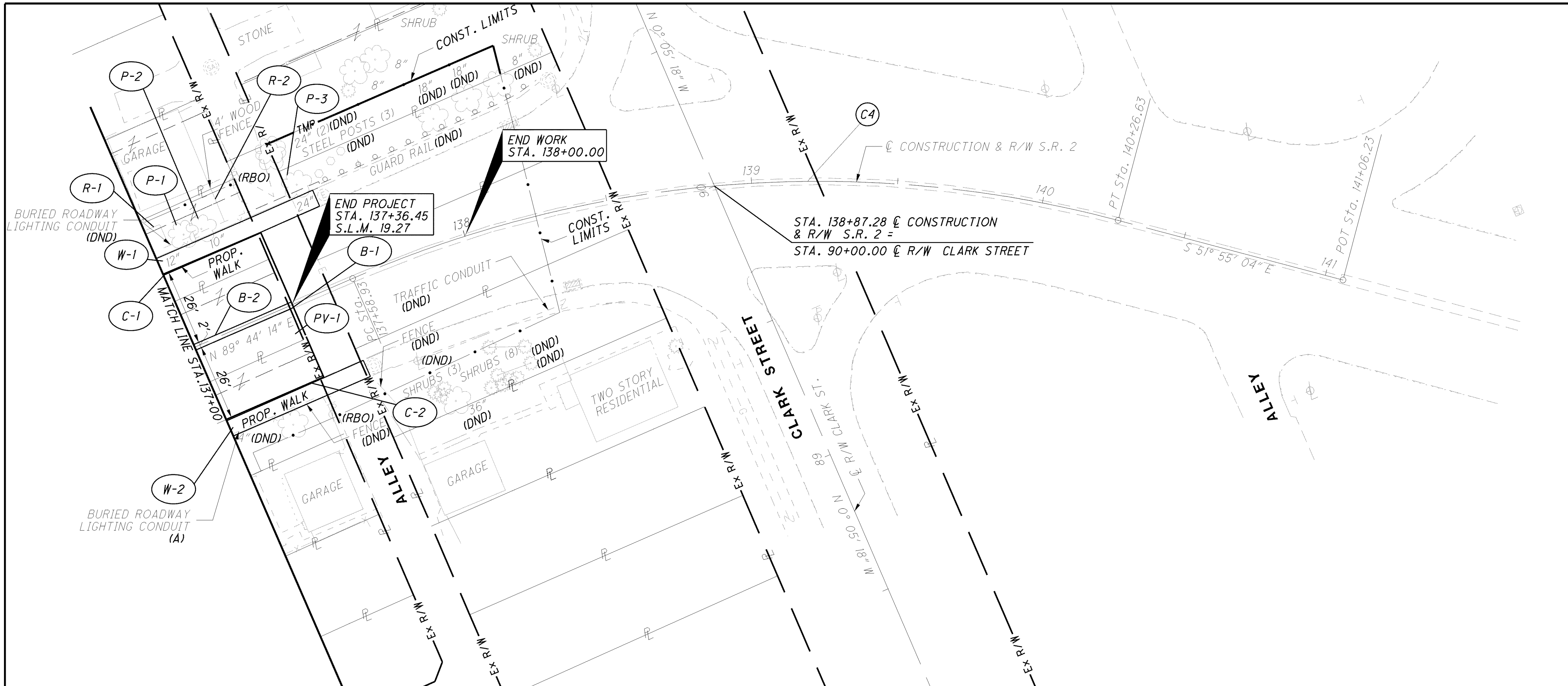


NOTES:

1. SEE SHEETS 57-58 FOR TRAFFIC CONTROL PLANS.

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

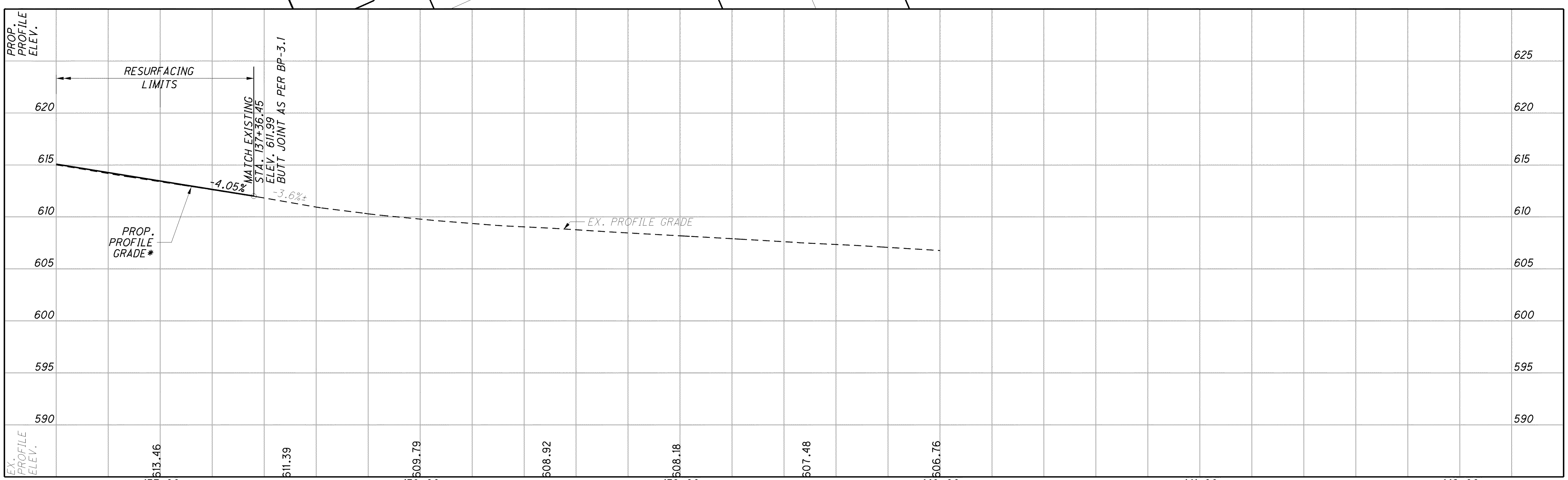
* PROFILE GRADE AT SOUTH TOE OF MEDIAN BARRIER

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AKM
CHECKED PSB

℄ CONSTRUCTION & R/W S.R. 2
CURVE DATA

C4 P.I. Sta. 138+98.01
Δ = 38° 20' 41" (RT)
Dc = 14° 19' 26"
R = 400.00'
T = 139.08'
L = 267.70'
E = 23.49'
C = 262.73'
C.B. = S 71° 05' 25" E



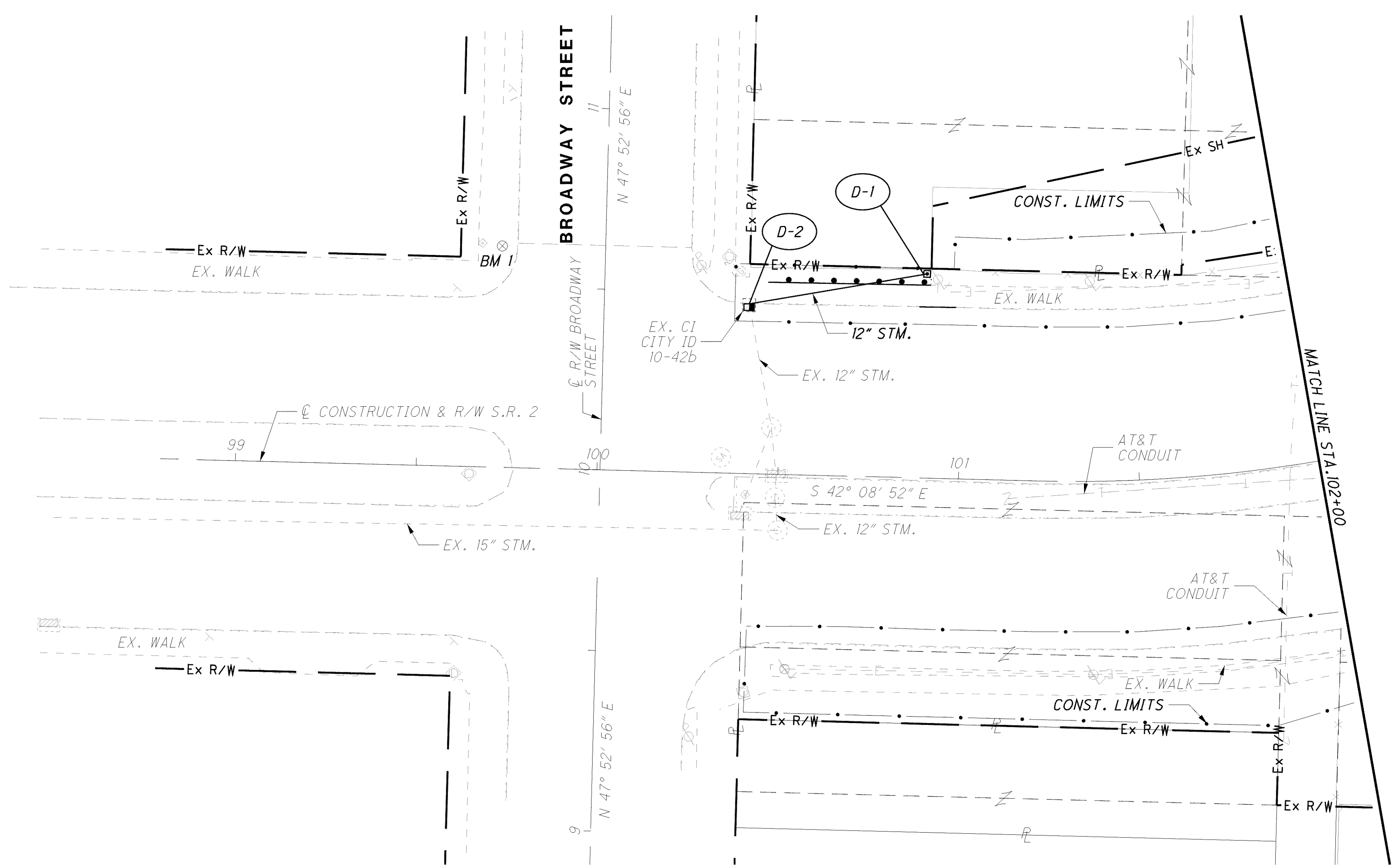
PLAN AND PROFILE
STA. 137+00 TO STA. 142+00

LUC-2-18.62

NOTES:

1. SEE SHEETS 52 - 53 FOR STORM SEWER PROFILES
2. SEE SHEET 54 FOR DRAINAGE AND WATER MAIN OFFSET DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS



HORIZONTAL SCALE IN FEET 0 10 20 40

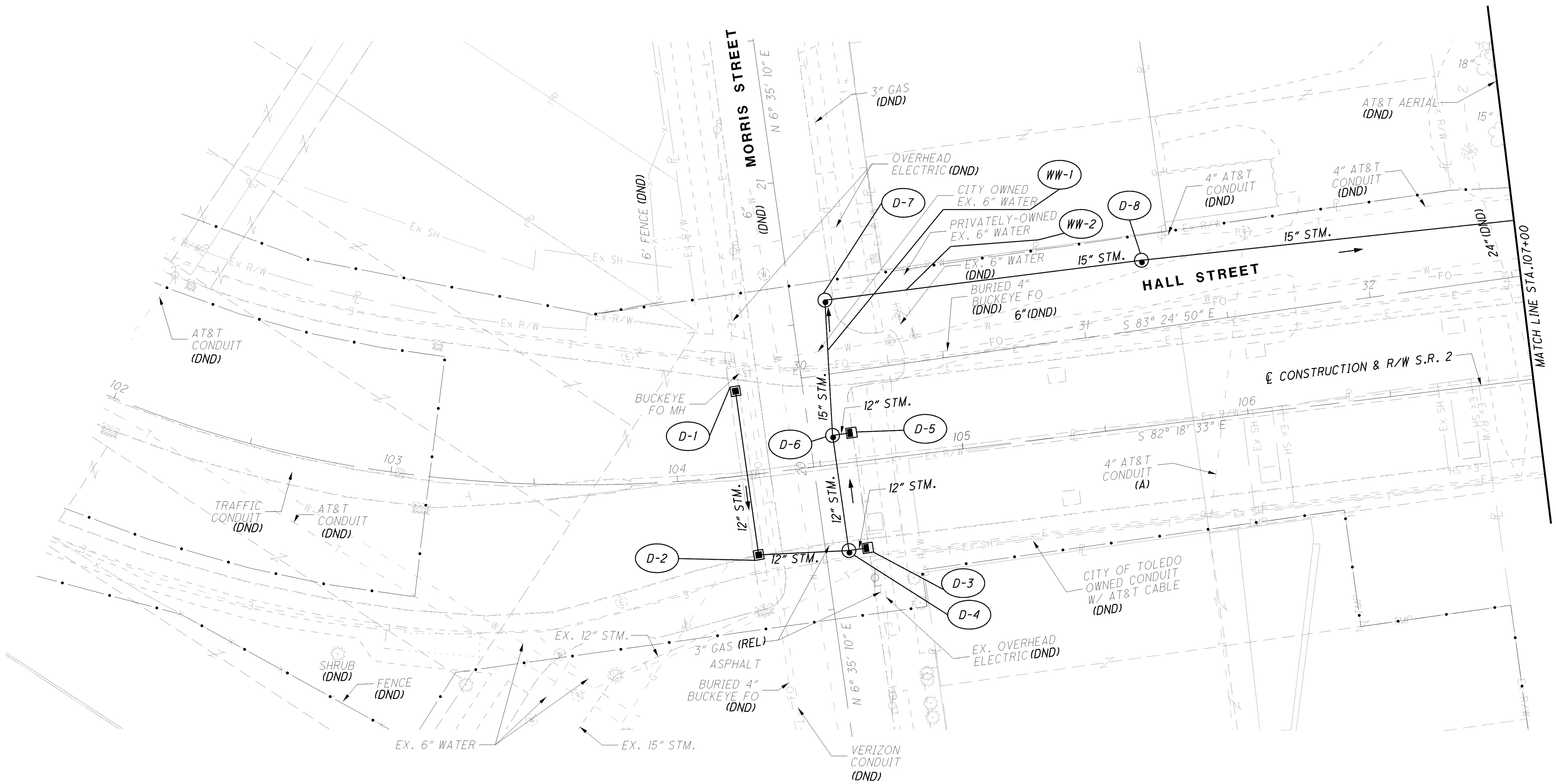
CALCULATED AKM
CHECKED PSB

STORM SEWER PLAN
STA. 97+00 TO 102+00

LUC-2-18.62

NOTES:
1. SEE SHEETS 52 - 53 FOR STORM SEWER PROFILES
2. SEE SHEET 54 FOR DRAINAGE AND WATER MAIN OFFSET DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS

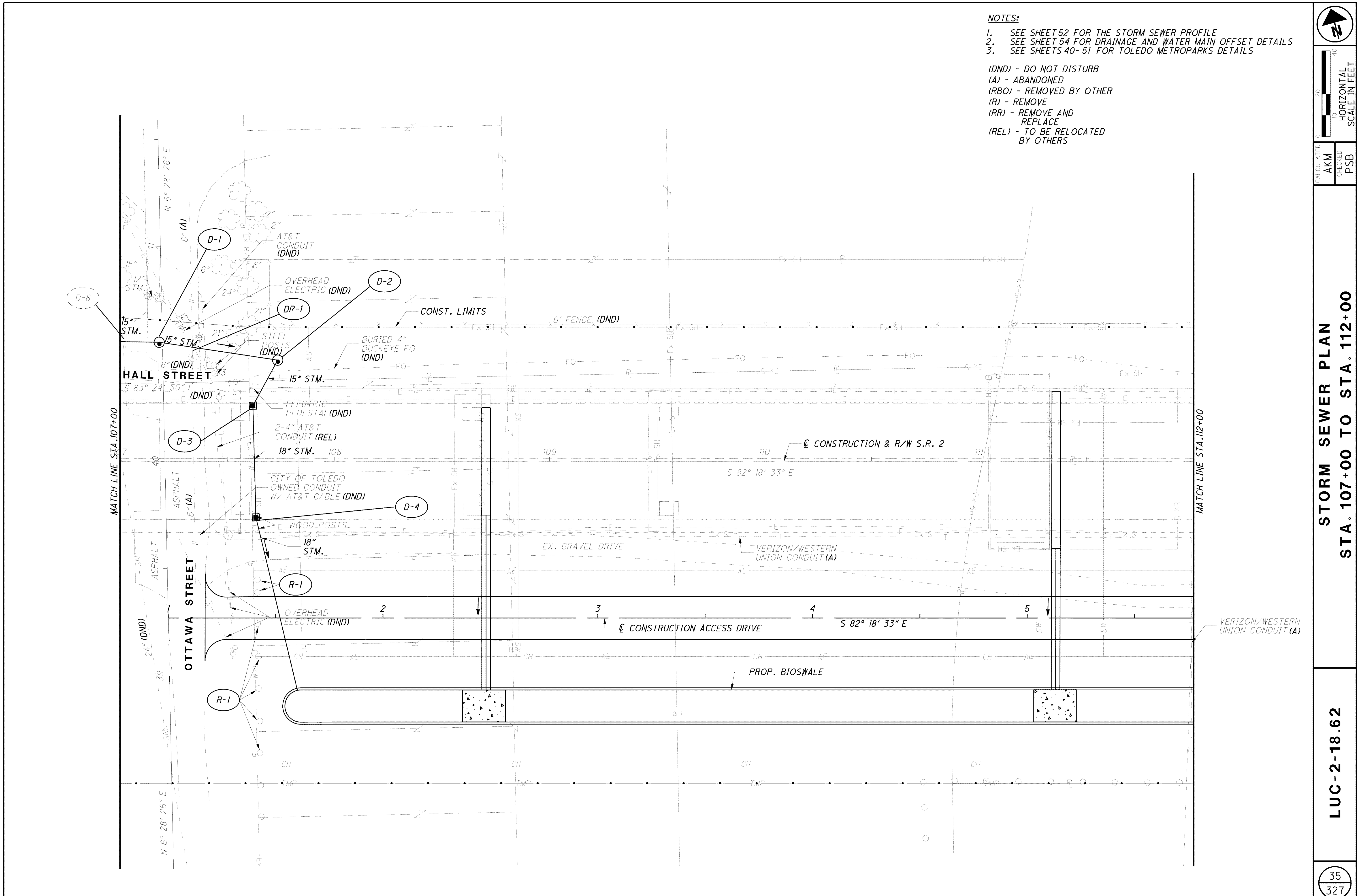


HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AKM
CHECKED PSB

STORM SEWER PLAN
STA. 102+00 TO 107+00

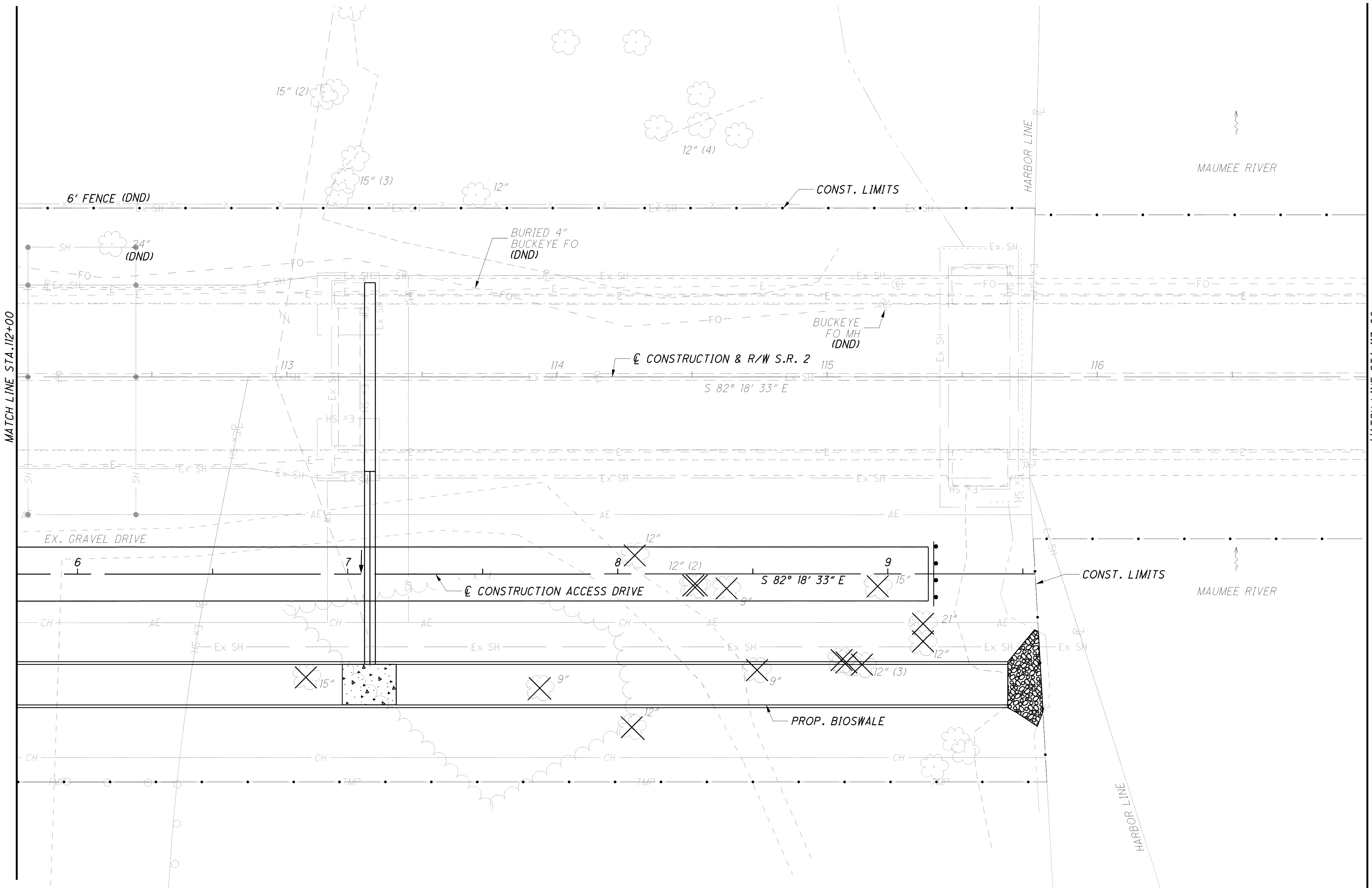
LUC-2-18.62



NOTES:
1. SEE SHEET 52 FOR THE STORM SEWER PROFILE
2. SEE SHEET 54 FOR DRAINAGE AND WATER MAIN OFFSET DETAILS
3. SEE SHEETS 40-51 FOR TOLEDO METROPARKS DETAILS
(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AKM
CHECKED PSB
STORM SEWER PLAN
STA. 107+00 TO STA. 112+00
LUC-2-18.62
35
327
HALL STREET
OTTAWA STREET
MATCH LINE STA.107+00
MATCH LINE STA.112+00
CONST. LIMITS
6' FENCE (DND)
AT&T CONDUIT (DND)
OVERHEAD ELECTRIC (DND)
STEEL POSTS (DND)
BURIED 4" BUCKEYE FO (DND)
15" STM.
ELECTRIC PEDESTAL (DND)
2-4" AT&T CONDUIT (REL)
18" STM.
CITY OF TOLEDO OWNED CONDUIT W/ AT&T CABLE (DND)
WOOD POSTS
EX. GRAVEL DRIVE
VERIZON/WESTERN UNION CONDUIT (A)
℄ CONSTRUCTION & R/W S.R. 2
S 82° 18' 33" E
℄ CONSTRUCTION ACCESS DRIVE
PROP. BIOSWALE
D-1
D-2
D-3
D-4
D-8
DR-1
R-1
S 83° 24' 50" E
N 6° 28' 26" E

NOTES:
1. SEE SHEETS 40-51 FOR TOLEDO METROPARKS DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS



HORIZONTAL SCALE IN FEET

CALCULATED AKM
CHECKED PSB

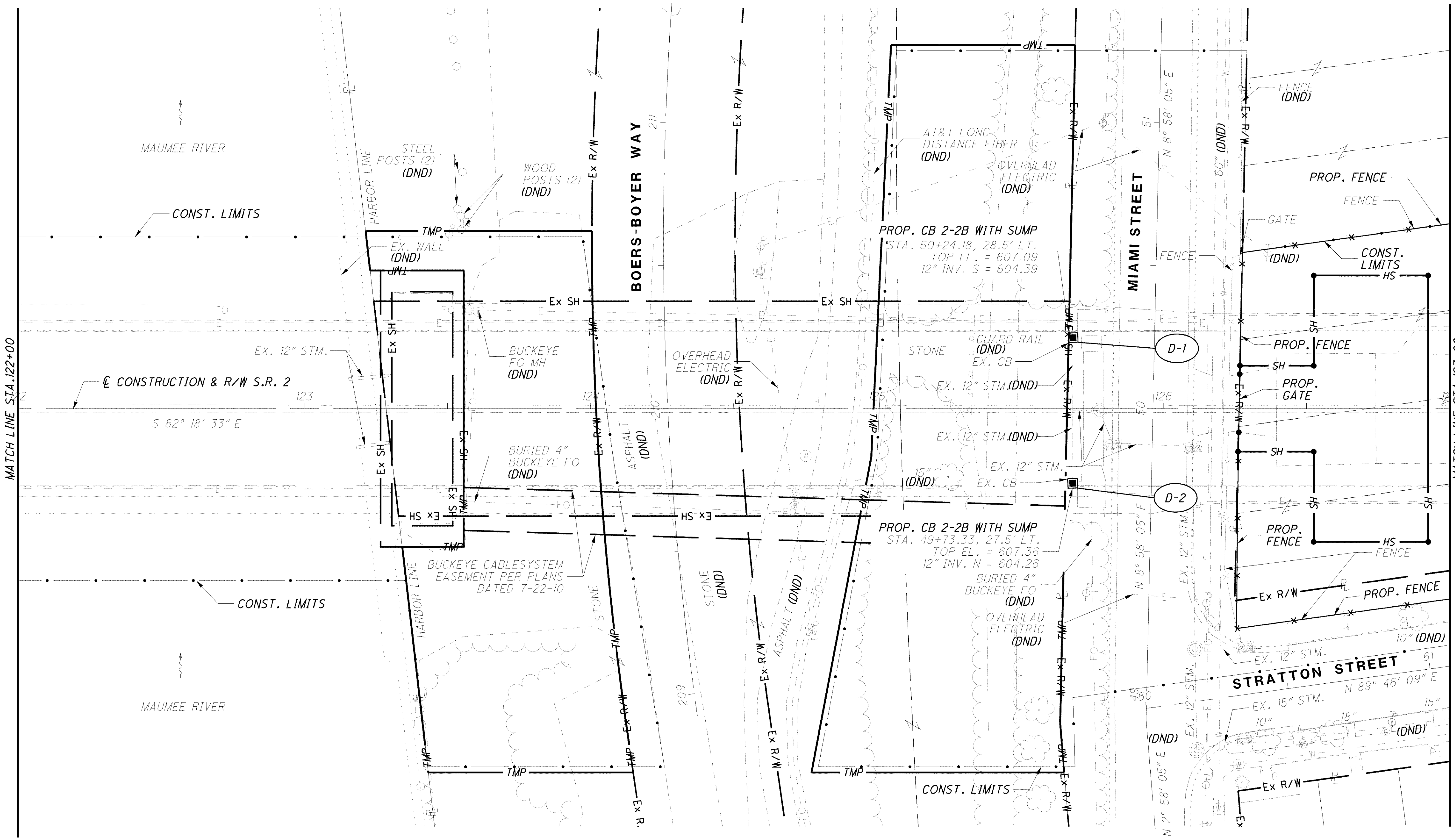
STORM SEWER PLAN
STA. 112+00 TO STA 117+00

LUC-2-18.62

NOTES:

1. SEE SHEETS 52 - 53 FOR STORM SEWER PROFILES
2. SEE SHEET 54 FOR DRAINAGE AND WATER MAIN OFFSET DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS



CALCULATED AKM

CHECKED PSB

HORIZONTAL SCALE IN FEET 0 10 20 40

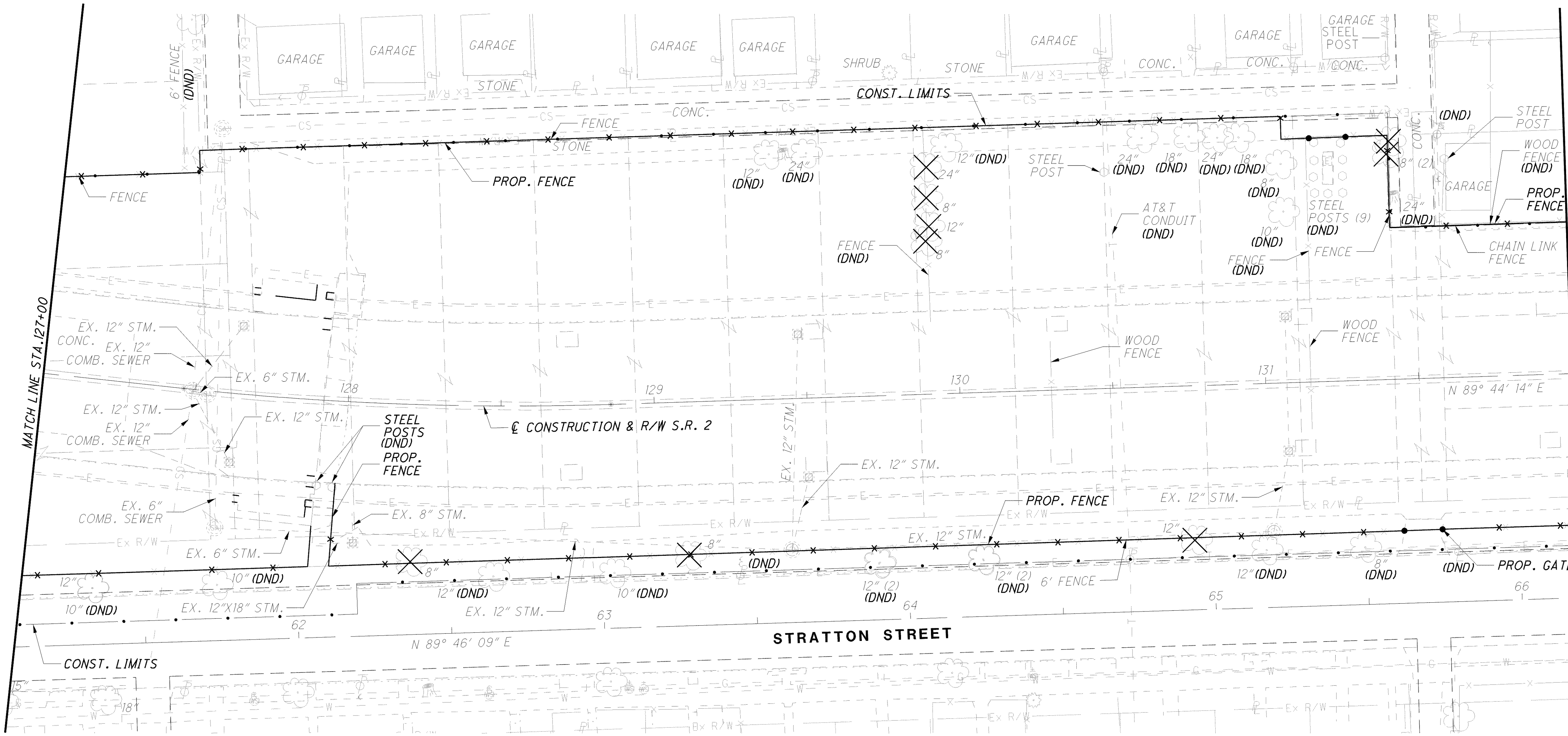
STORM SEWER PLAN
STA. 122+00 TO STA. 127+00

LUC-2-18.62

NOTES:

1. SEE SHEETS 52 - 53 FOR STORM SEWER PROFILES
2. SEE SHEET 54 FOR DRAINAGE AND WATER MAIN OFFSET DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AKM
CHECKED PSB

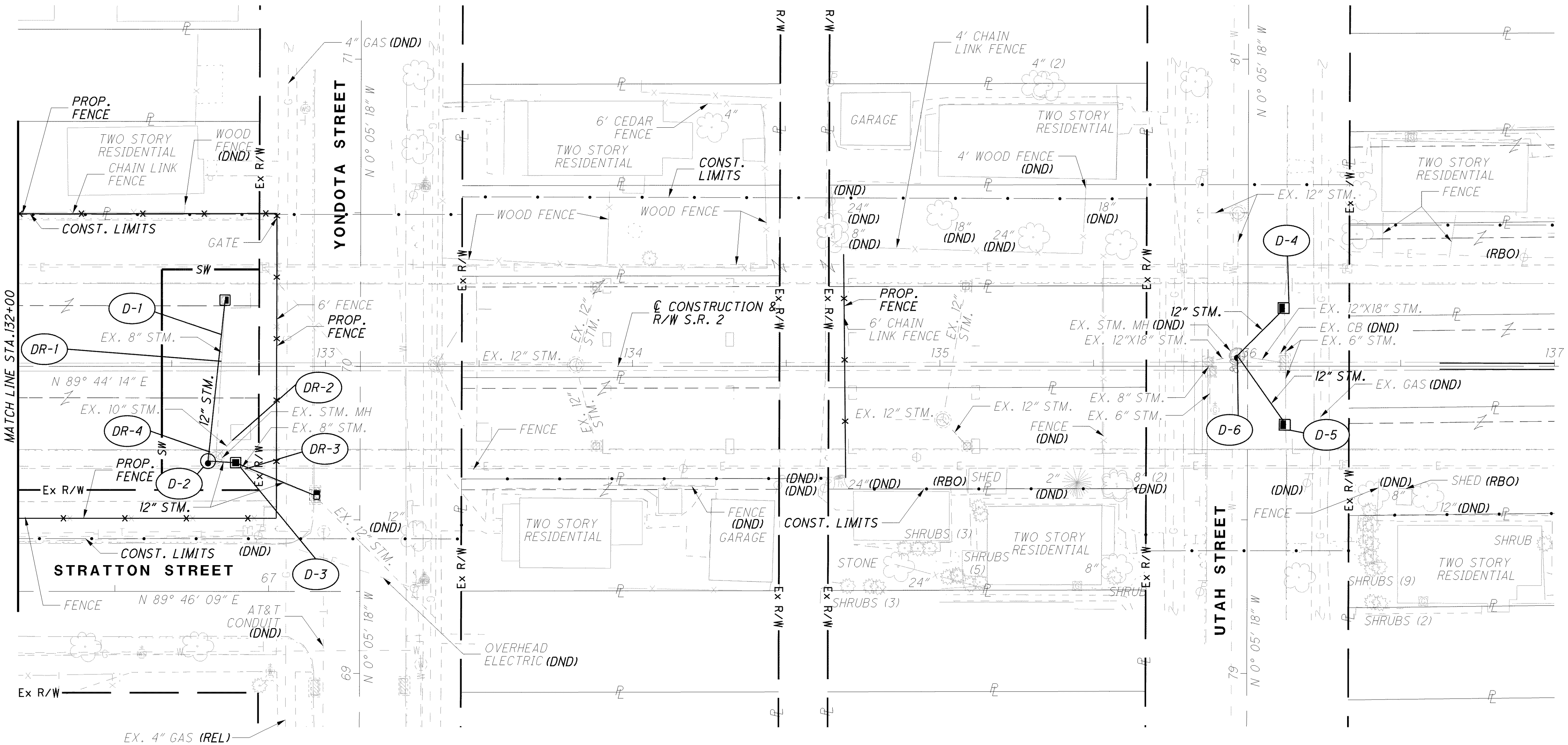
STORM SEWER PLAN
STA. 127+00 TO STA. 132+00

LUC-2-18.62

NOTES:

1. SEE SHEETS 52 - 53 FOR STORM SEWER PROFILES
2. SEE SHEET 54 FOR DRAINAGE AND WATER MAIN OFFSET DETAILS

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS



0 10 20 40
HORIZONTAL SCALE IN FEET

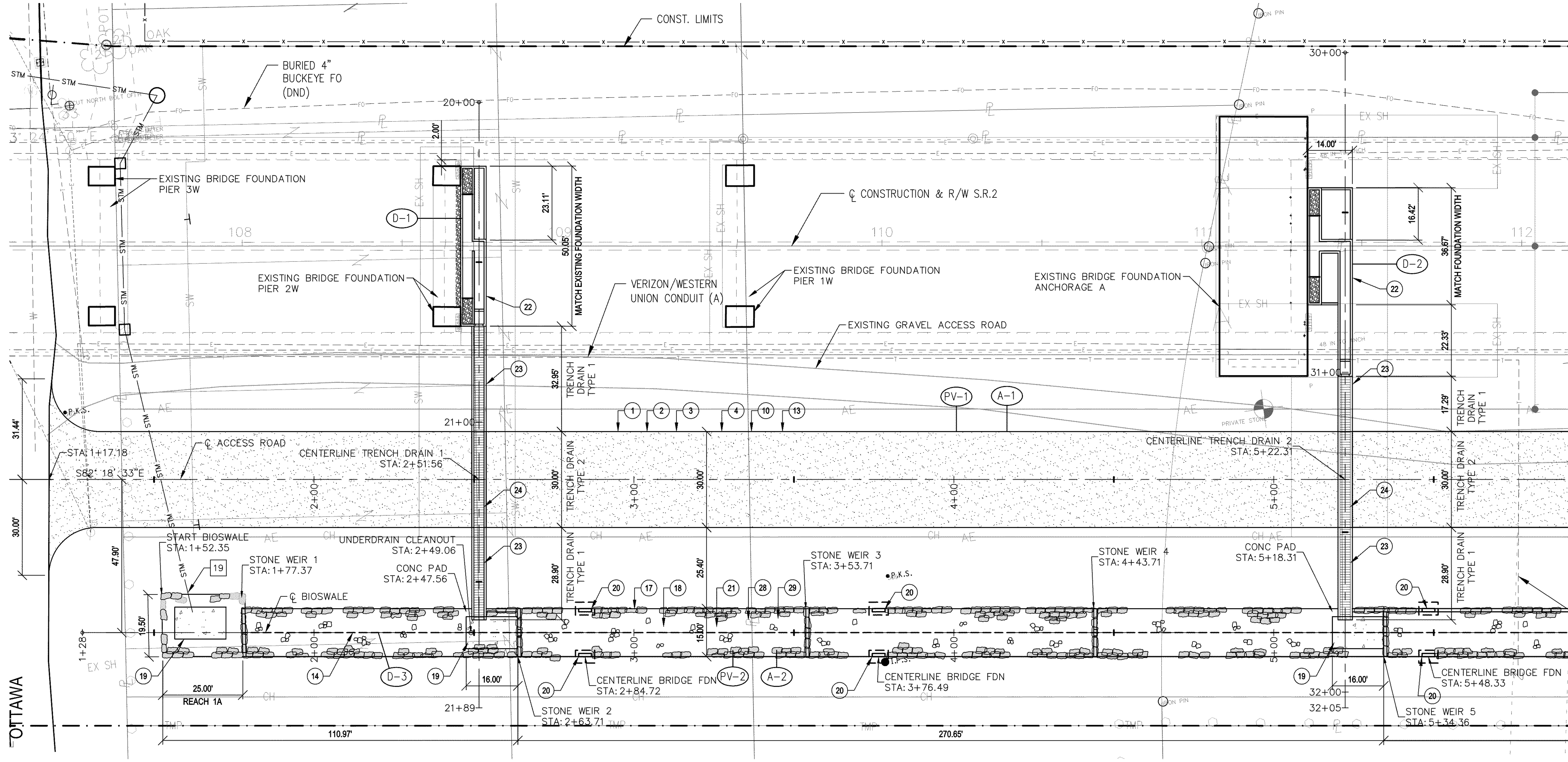
CALCULATED AKM
CHECKED PSB

STORM SEWER PLAN
STA. 132+00 TO STA. 137+00

LUC-2-18.62

NOTE:
1. SEE PROFILES
2. SEE EARTHWORK
3. SEE ACCESS TYPICAL

(DND)
(A)

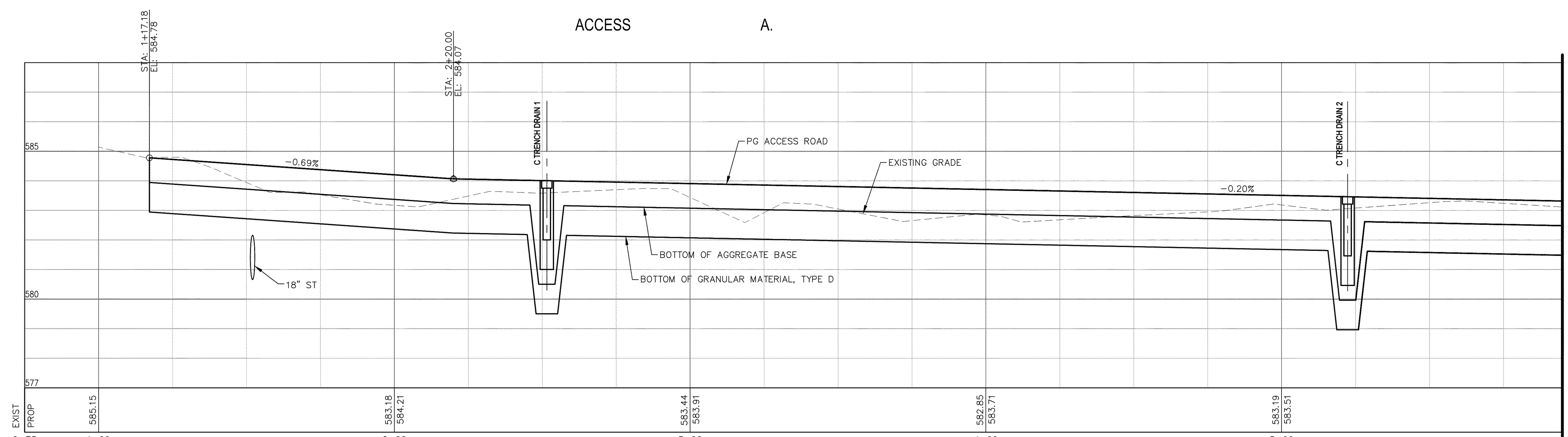


NOTES:
SEE
SEE SECTIONS
SEE FOUNDATION
SEE STORMWATER

40,
44,
51B,

NOTE:
CONTRACTOR
ON
AFTER
COMPLETE
PROPERTY
DRAINS
CONSTRUCTION.

ACCESS A.



NOTE:
1 SEE LEGEND
1 KEYNOTES

HORIZONTAL SCALE

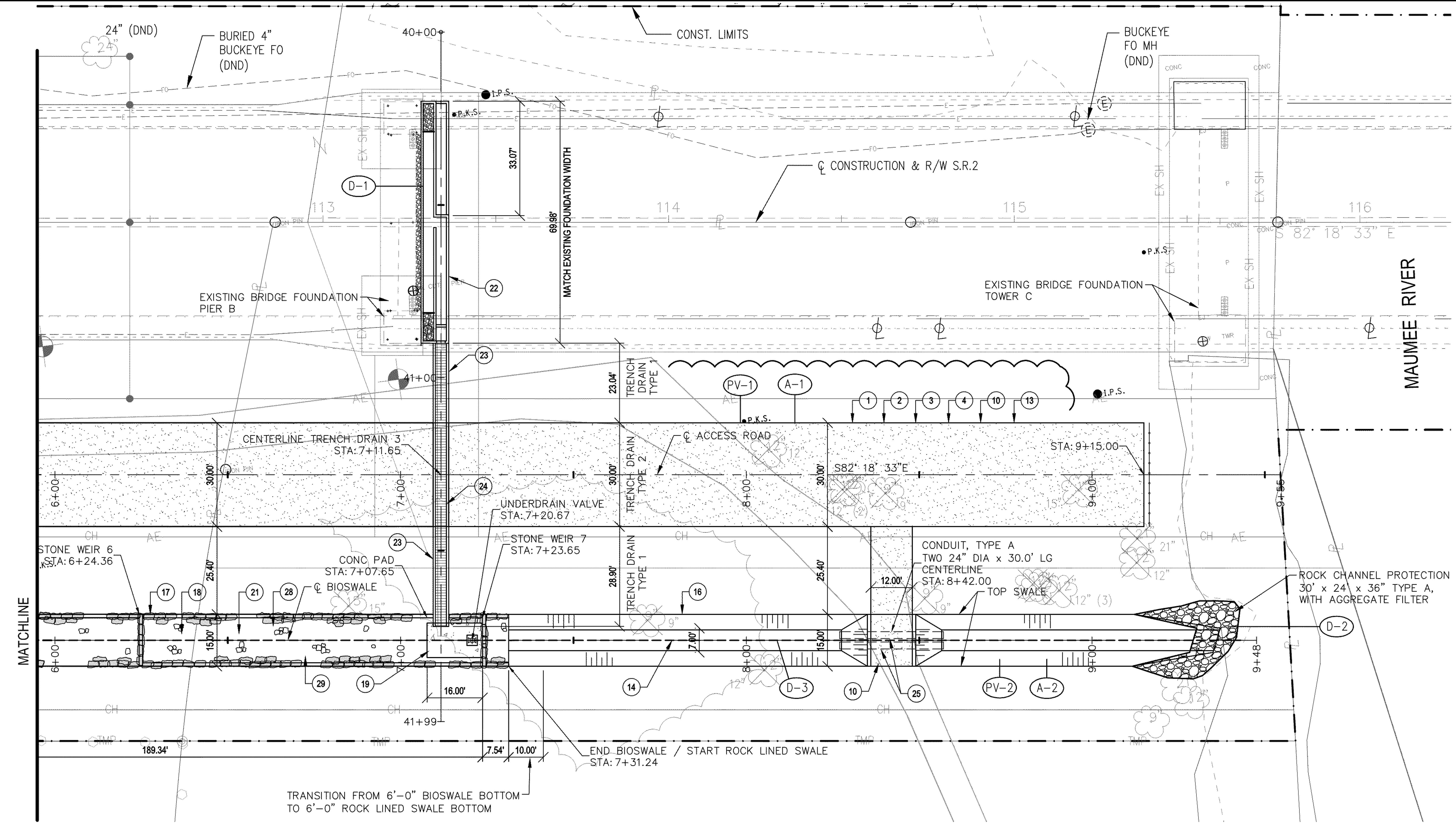
STATE OF OHIO
PATRICK M. DOHER
72833
REGISTERED
PROFESSIONAL ENGINEER

CALCULATED
CHECKED

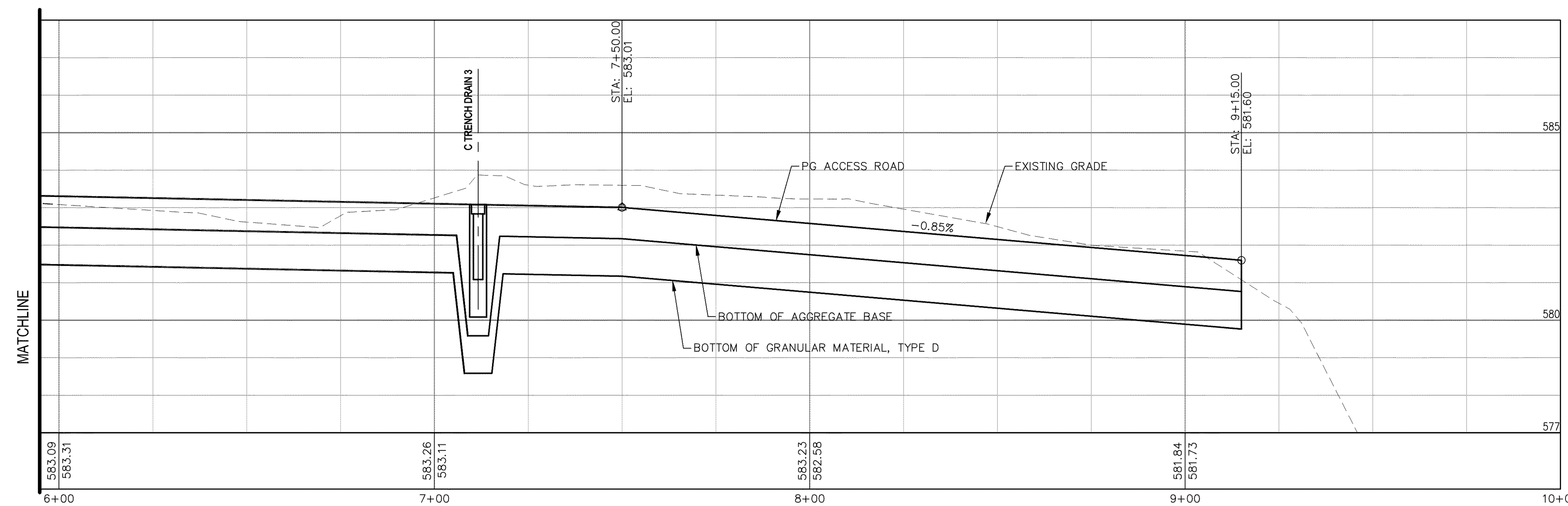
DRAINAGE DETAILS

LUC-2-18.62

FILE:P:\50280.003\CAD\C\Sheet\0280 - LAYOUT - 34x22.dwg USER:rabraham DATE:Mar. 18 2013 TIME: 08:48 am



ACCESS A.



ITEM LEGEND:

1. ITEM 204 - SUBGRADE COMPACTION
2. ITEM 204 - GRANULAR MATERIAL, TYPE D
3. ITEM 204 - PROOF ROLLING
4. ITEM 204 - GEOTEXTILE FABRIC
10. ITEM 304 - AGGREGATE BASE
13. ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION
14. ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN
16. ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITH FILTER
17. ITEM 203 - ROADWAY, MISC.: LANDSCAPE BOULDERS
18. ITEM 203 - ROADWAY, MISC.: BIOSWALE AGGREGATE
19. ITEM 451 - 6" REINFORCED CONCRETE PAVEMENT, AS PER PLAN.
20. ITEM 511 - CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN
21. ITEM 203 - ROADWAY, MISC.: FIELDSTONE COBBLE
22. ITEM 604 - DRAINAGE STRUCTURE, MISC.: STORM WATER TROUGH
23. ITEM 604 - DRAINAGE STRUCTURE, MISC.: TYPE 1 CONCRETE TRENCH DRAIN
24. ITEM 604 - DRAINAGE STRUCTURE, MISC.: TYPE 2 CONCRETE TRENCH DRAIN
25. ITEM 603 - 24" CONDUIT, TYPE A, AS PER PLAN
26. ITEM 659 - TOPSOIL, AS PER PLAN
27. ITEM 659 - SEEDING AND MULCHING, CLASS 3B, AS PER PLAN
28. ITEM 661 - PERENNIALS, AS PER PLAN
29. ITEM 661 - DECIDUOUS SHRUB, 2' HEIGHT, AS PER PLAN

NOTE:
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STORAGE

SURFACE
TRUSSES
UTILIZING
PROVIDED
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METROPARKS.

NOTE:
1. SEE PROFILES
2. SEE EARTHWORK
3. SEE ACCESS TYPICAL

(DND)
(A)

NOTE:
CONTRACTOR
ON
AFTER
COMPLETE
PROPERTY
DRAINS
CONSTRUCTION.

NOTE:
(1) SEE
[1] KEYNOTES

HORIZONTAL SCALE
0 10' 20' 40'

CALCULATED
CHECKED

DRAINAGE DETAILS

LUC-2-18.62

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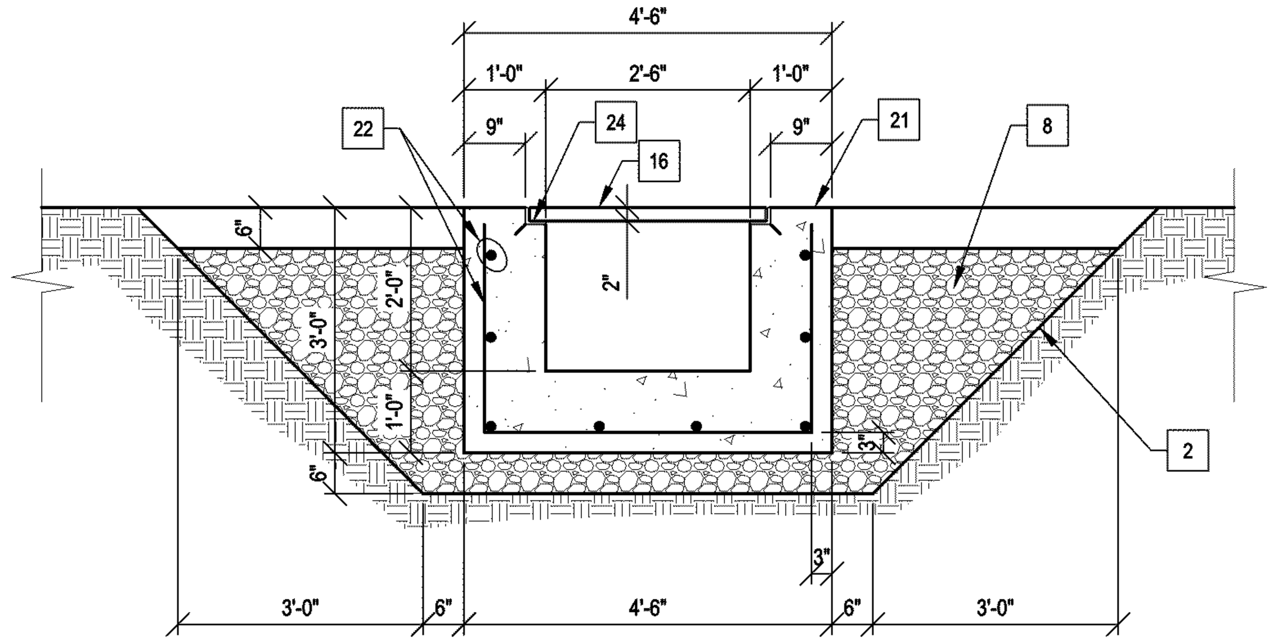
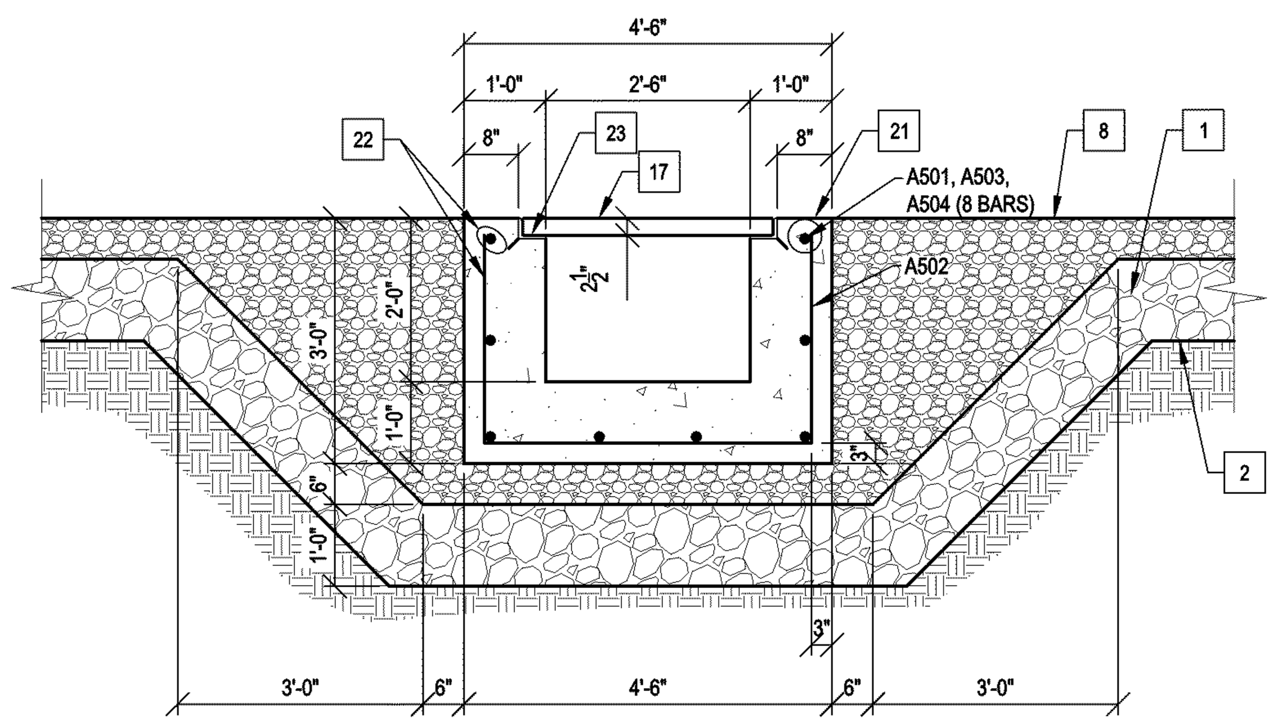


TYPICAL TRENCH DRAIN - TYPE 1

SCALE 1/2" = 1'-0"

NOTE:
1. PAID FOR UNDER ITEM 604 - DRAINAGE STRUCTURE MISC.: TYPE 1 CONCRETE TRENCH DRAIN.
2. TRENCH DRAIN GRATE, GRATE ANCHORAGE AND ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN COST OF THE TRENCH DRAIN ITEM.

GRATE ANCHORING NOTE:
GRATING PANELS TO BE ANCHORED TO STEEL ANGLES WITH A MINIMUM OF FOUR RECESSED ANCHOR BLOCKS PER PANEL. INSTALL REQUIRED APPURTENANCES TO STEEL ANGLES AS REQUIRED BY GRATING MANUFACTURER. TYPICAL TYPE 1 AND TYPE 2 TRENCH DRAINS



TYPICAL TRENCH DRAIN - TYPE 2

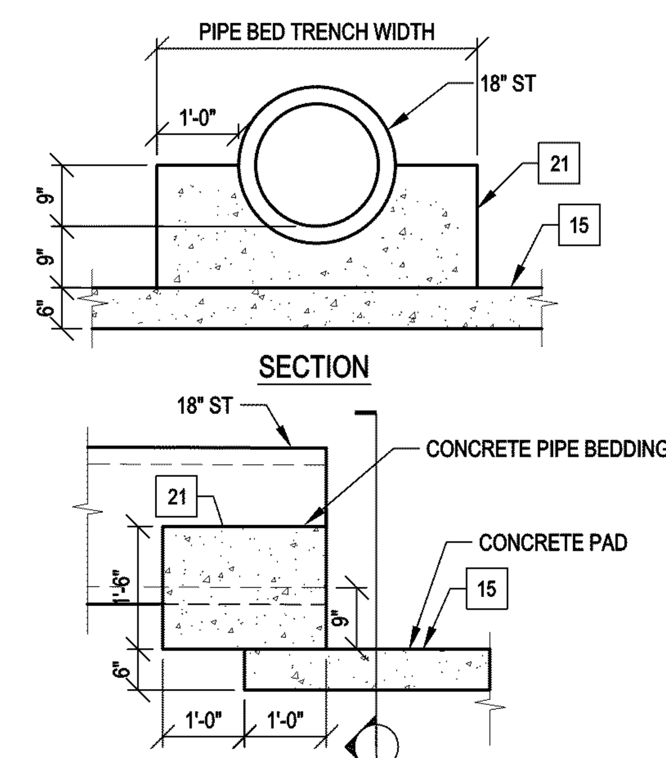
SCALE 1/2" = 1'-0"

NOTE:
1. PAID FOR UNDER ITEM 604 - DRAINAGE STRUCTURE MISC.: TYPE 2 CONCRETE TRENCH DRAIN.
2. TRENCH DRAIN GRATE, GRATE ANCHORAGE AND ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN COST OF THE TRENCH DRAIN ITEM.

TRENCH DRAIN #1 REINFORCING STEEL								
(89'-10" LENGTH OF TRENCH)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A501	40	20.25	845.7	STR	20'-3"	0'-0"	0'-0"	
A502	89	9	835.4	4	2'-6"	4'-0"	0'-0"	
TOTAL WEIGHT			1681.1					

TRENCH DRAIN #2 REINFORCING STEEL								
(76'-3"LENGTH OF TRENCH)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A503	48	15.25	766.3	STR	15'-3"	0'-0"	0'-0"	
A502	76	9	713.4	4	2'-6"	4'-0"	0'-0"	
TOTAL WEIGHT			1479.7					

TRENCH DRAIN #3 REINFORCING STEEL								
(81'-11" LENGTH OF TRENCH)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A504	72	12.2	911.4	STR	10'-0"	0'-0"	0'-0"	
A502	81	9	760.3	4	2'-6"	4'-0"	0'-0"	
TOTAL WEIGHT			1671.8					

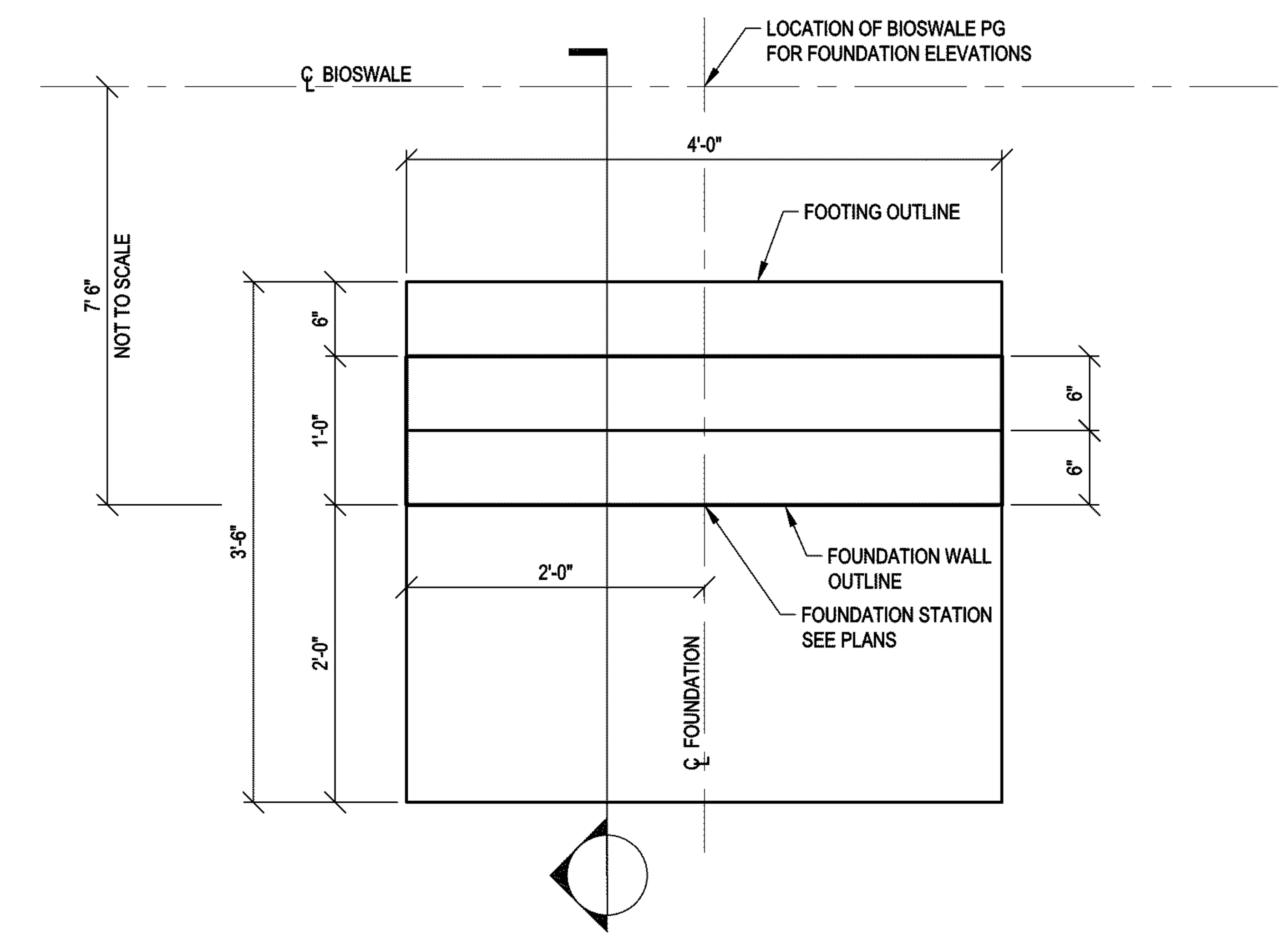


STORM SEWER SUPPORT DETAIL

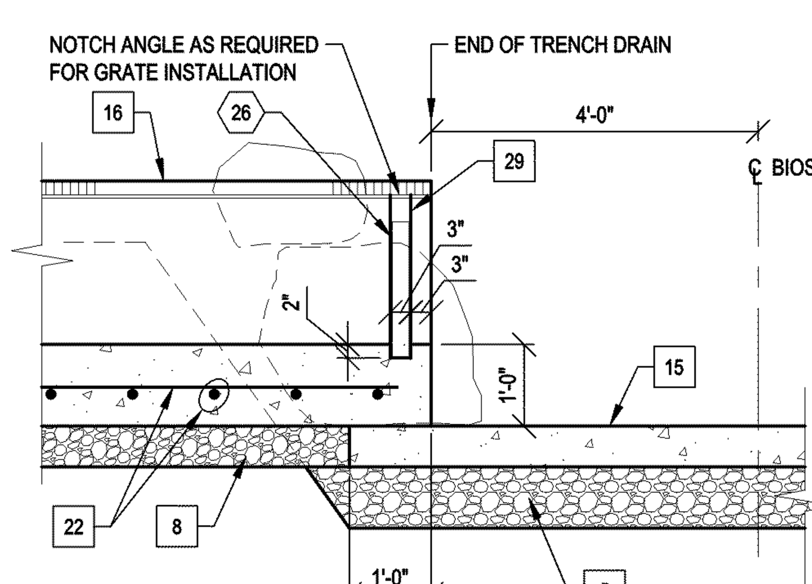
SCALE 1/2" = 1'-0"

NOTE:
1. STORM SEWER SUPPORT INCLUDED IN COST OF ITEM 603 - 18" CONDUIT, TYPE B, 706.02, AS PER PLAN.

PEDESTRIAN BRIDGE FOUNDATION REINFORCING STEEL								
(6 FOUNDATIONS)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A525	24	3.00	75.1	STR	3'-00"	0'-0"	0'-0"	HORIZONTAL BARS
A526	24	3.50	87.6	STR	3'-6"	0'-0"	0'-0"	HORIZONTAL BARS
A527	24	4.75	118.9	3	4'-1"	0'-8"	0'-0"	VERTICAL BARS
TOTAL WEIGHT			281.6					



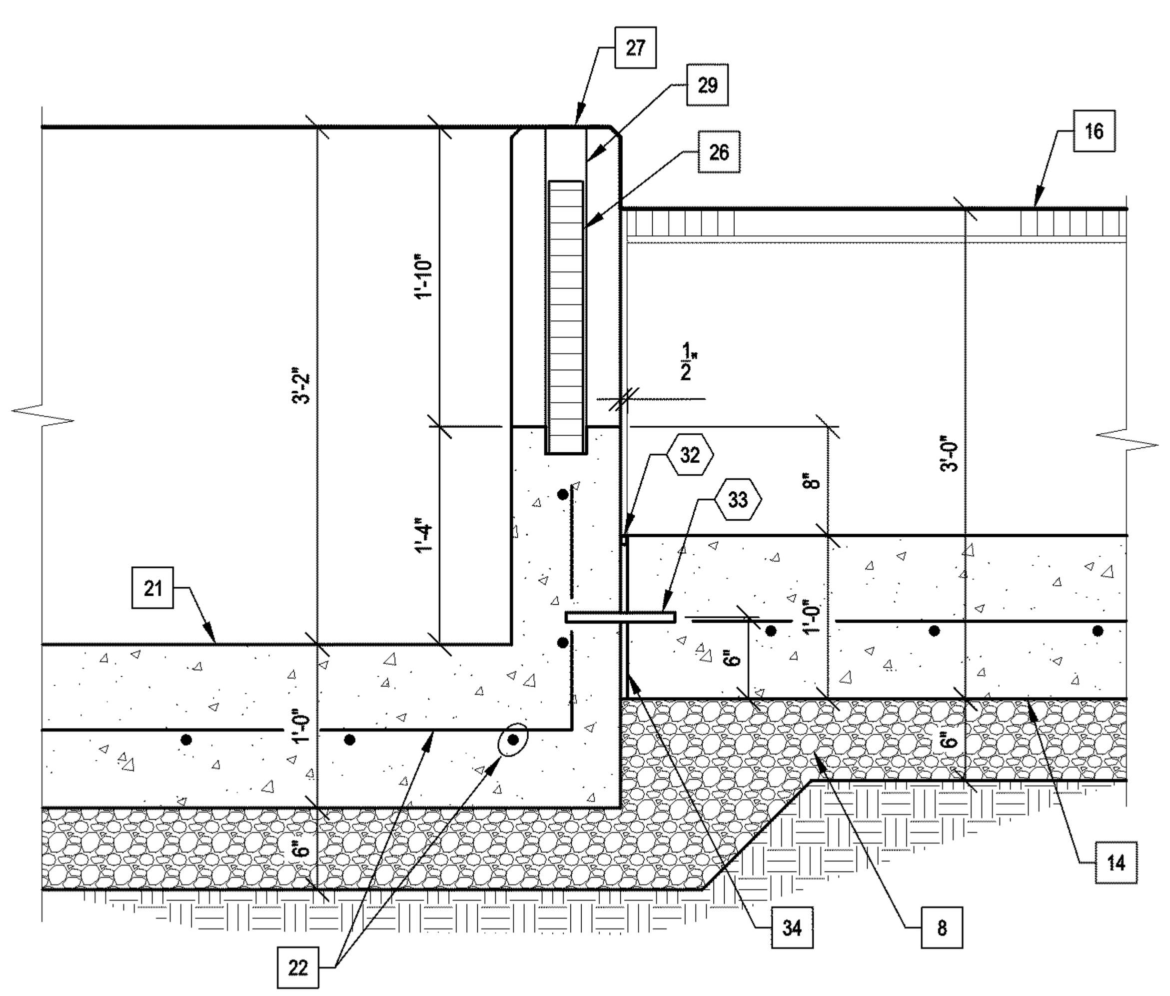
PLAN



TYPICAL TRENCH DRAIN OUTLET TO BIOSWALE

SCALE 1/2" = 1'-0"

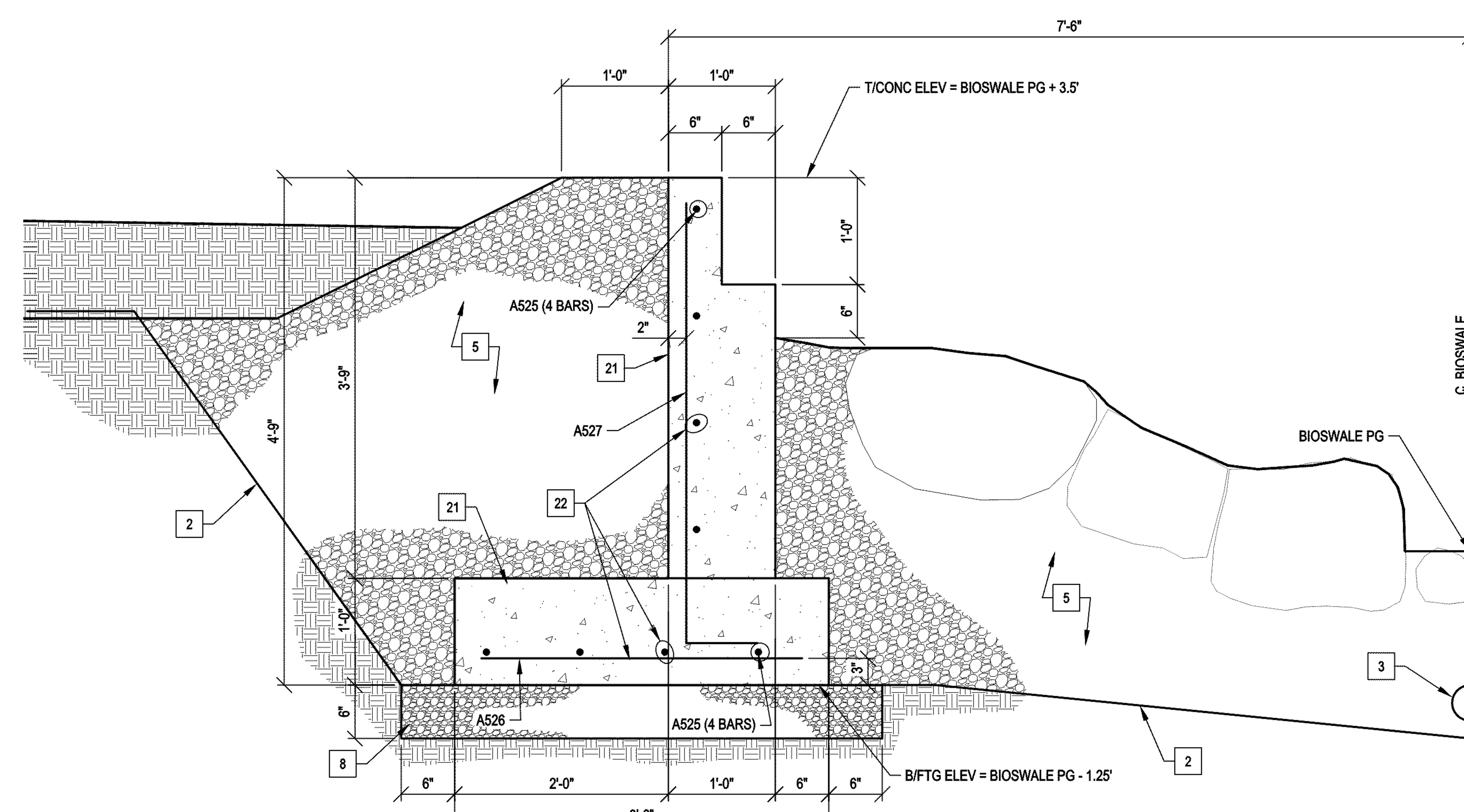
NOTE:
1. PAID FOR UNDER ITEM 604 - DRAINAGE STRUCTURE MISC.: TYPE1 CONCRETE TRENCH DRAIN.
2. ALL ITEMS SHOWN ON THIS DETAIL, EXCEPT 6" CONCRETE PAD AND SIZE 67 STONE TO BE INCLUDED IN COST OF THE TRENCH DRAIN ITEM.



TYPICAL STORMWATER TROUGH TO TRENCH DRAIN CONNECTION

SCALE 1" = 1'-0"

NOTE:
1. PAID FOR UNDER ITEM 604 - DRAINAGE STRUCTURE MISC.: STORM WATER TROUGH.
2. ALL ITEMS SHOWN ON THIS DETAIL EXCEPT CONCRETE TRENCH DRAIN AND GRATE TO BE INCLUDED IN COST OF THE STORM WATER TROUGH ITEM.



SECTION

TYPICAL PEDESTRIAN BRIDGE FOUNDATION

SCALE 1/2" = 1'-0"

NOTE:
1. CONCRETE, REINFORCING STEEL, AGGREGATE BASE, GEOTEXTILE AND SIZE 67 STONE BACKFILL SHALL BE PAID FOR UNDER ITEM 511 - CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN.

NOTE:
1 SEE
1 KEYNOTES

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HORIZONTAL SCALE

CALCULATED

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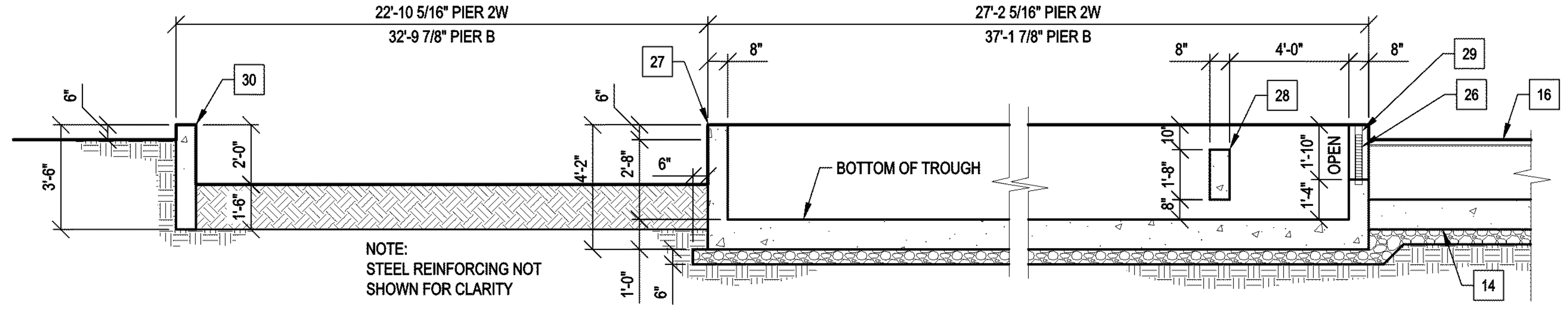
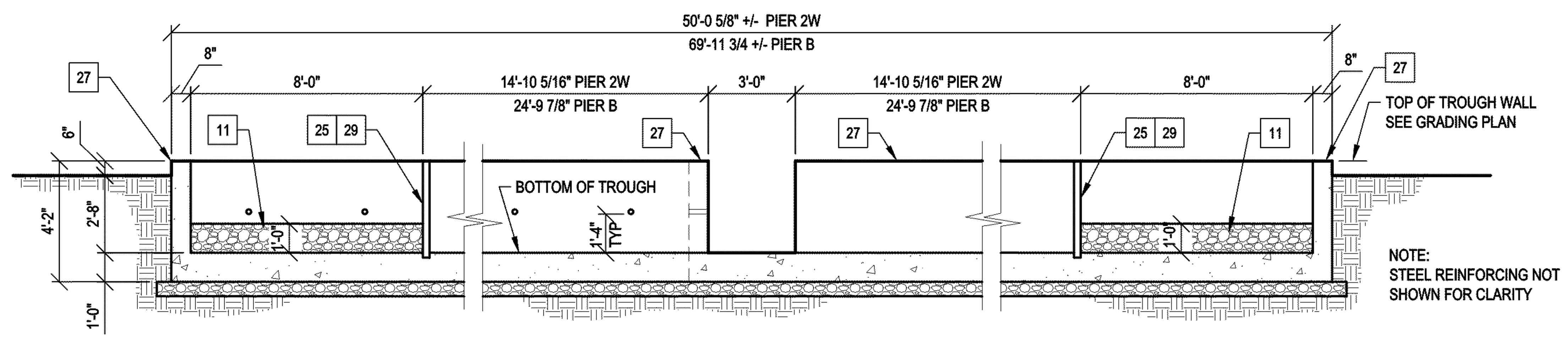
DRAINAGE DETAILS

LUC-2-18.62



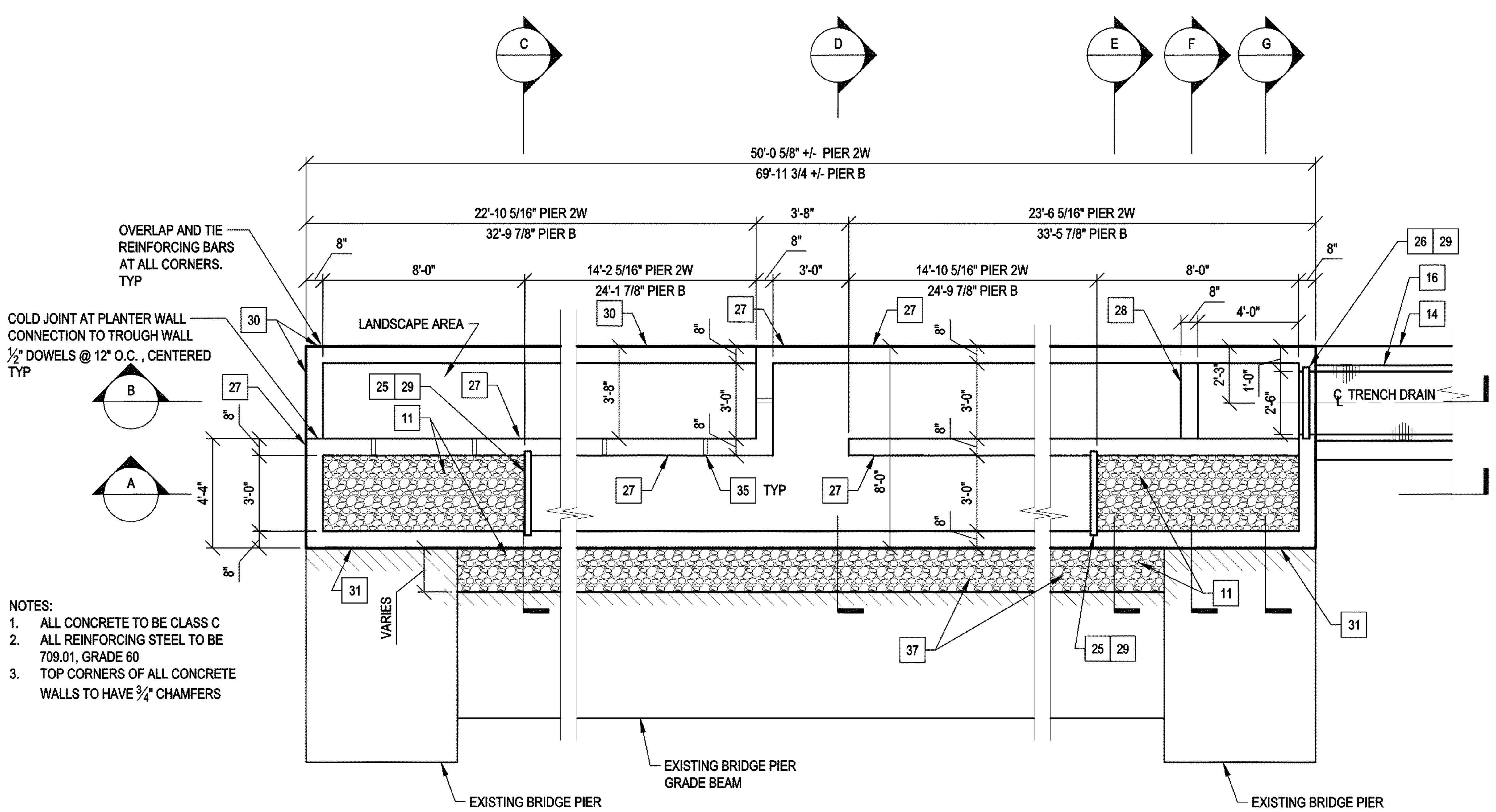
TROUGH SECTION B

SCALE 1/4" = 1'-0"



TROUGH SECTION A

SCALE 1/4" = 1'-0"



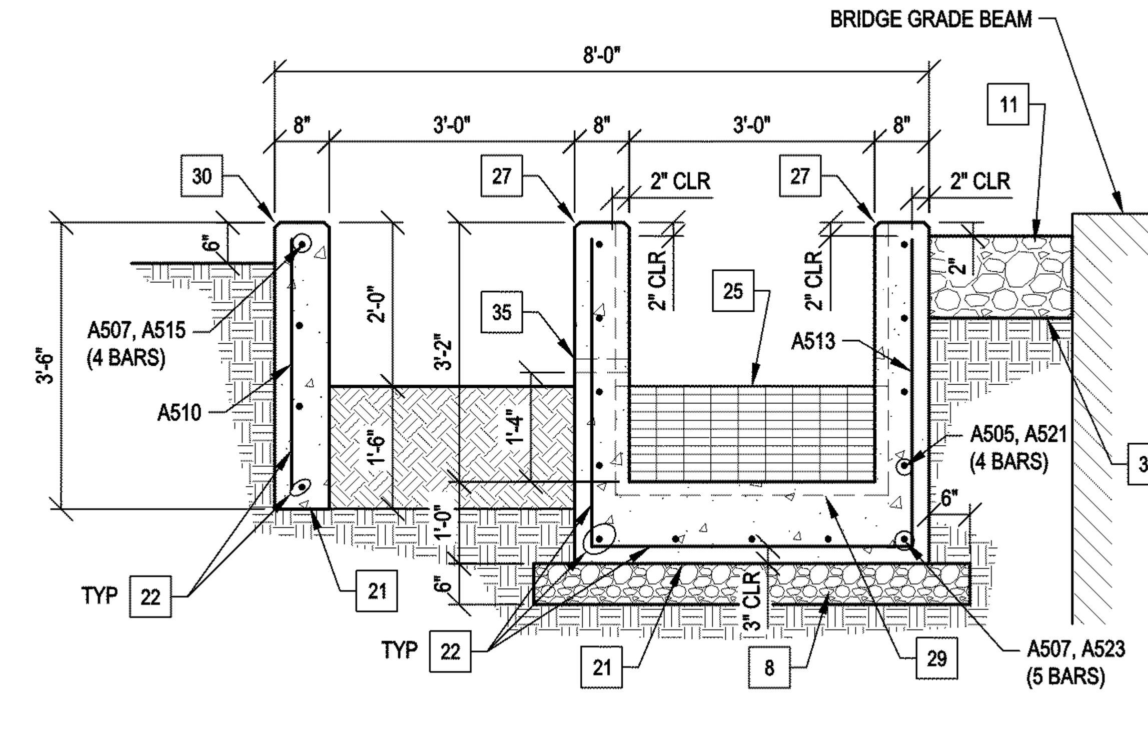
NOTES:
1. ALL CONCRETE TO BE CLASS C
2. ALL REINFORCING STEEL TO BE 709.01, GRADE 60
3. TOP CORNERS OF ALL CONCRETE WALLS TO HAVE ¾" CHAMFERS

STORMWATER TROUGH PLAN

AT BRIDGE PIERS B AND 2W

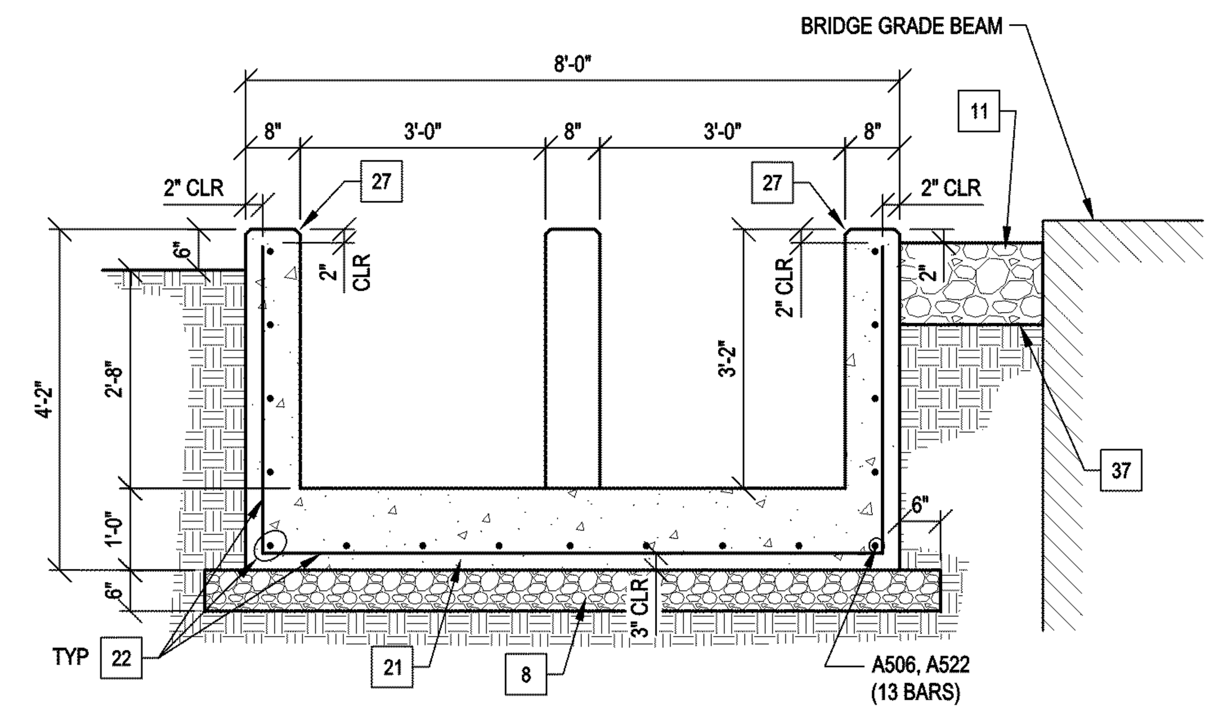
SCALE 1/4" = 1'-0"

NOTE:
1. PAYMENT FOR STORM WATER TROUGH SHALL BE MADE UNDER ITEM 604 DRAINAGE STRUCTURE MISC.: STORM WATER TROUGH. PAYMENT SHALL INCLUDE COST FOR CONCRETE, REINFORCING STEEL, DOWELS, JOINT MATERIALS, GRATE CLOSURE PANELS, TYPE D STONE, AGGREGATE BASE BEDDING, CONCRETE PLANTER CURB, AND ALL ITEMS IN THE STORM WATER TROUGH PLANS AND DETAILS.



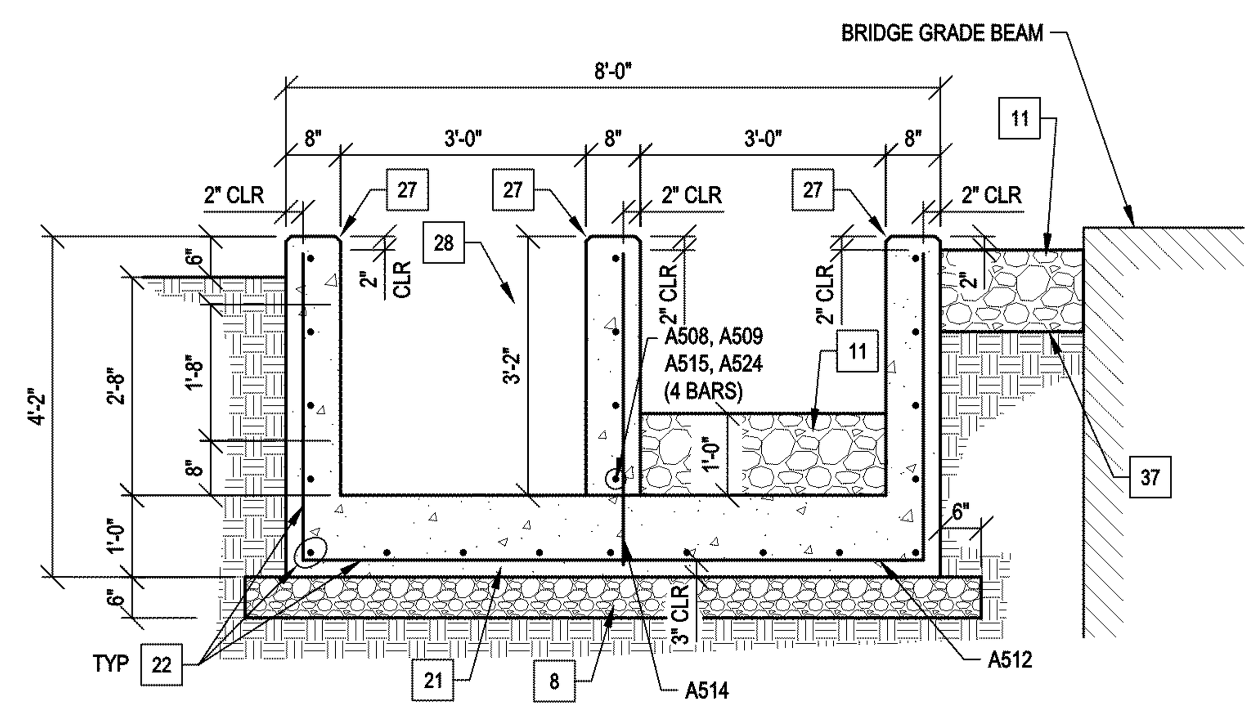
TROUGH SECTION C

SCALE 1/2" = 1'-0"



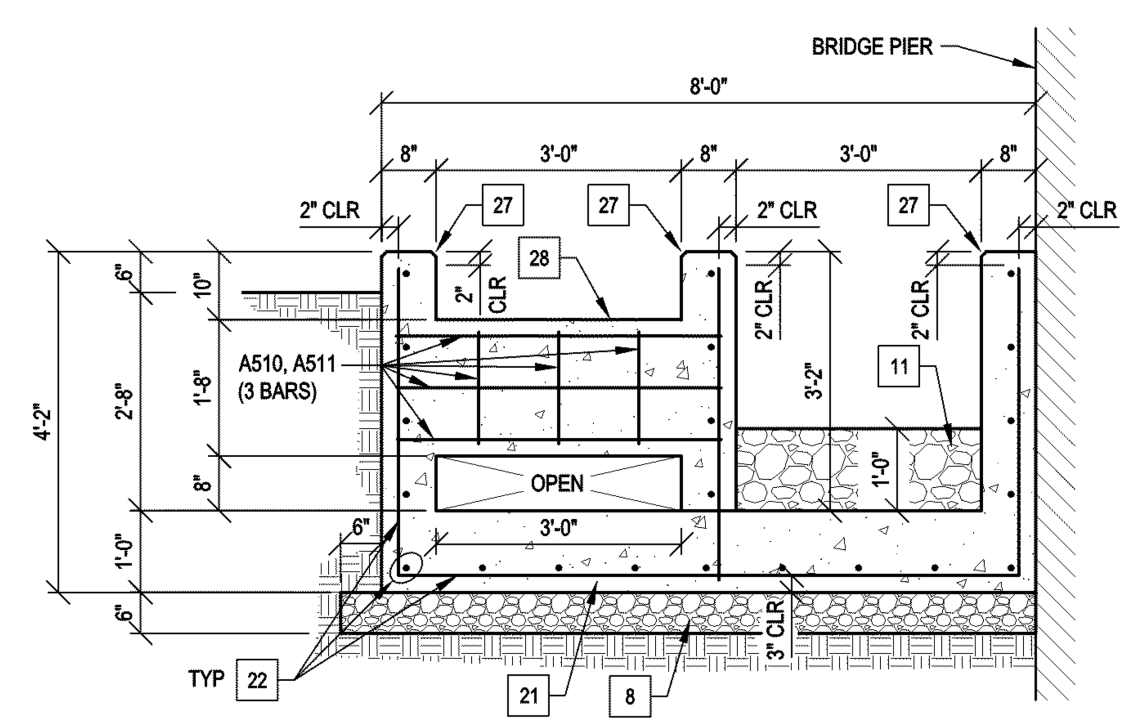
TROUGH SECTION D

SCALE 1/2" = 1'-0"



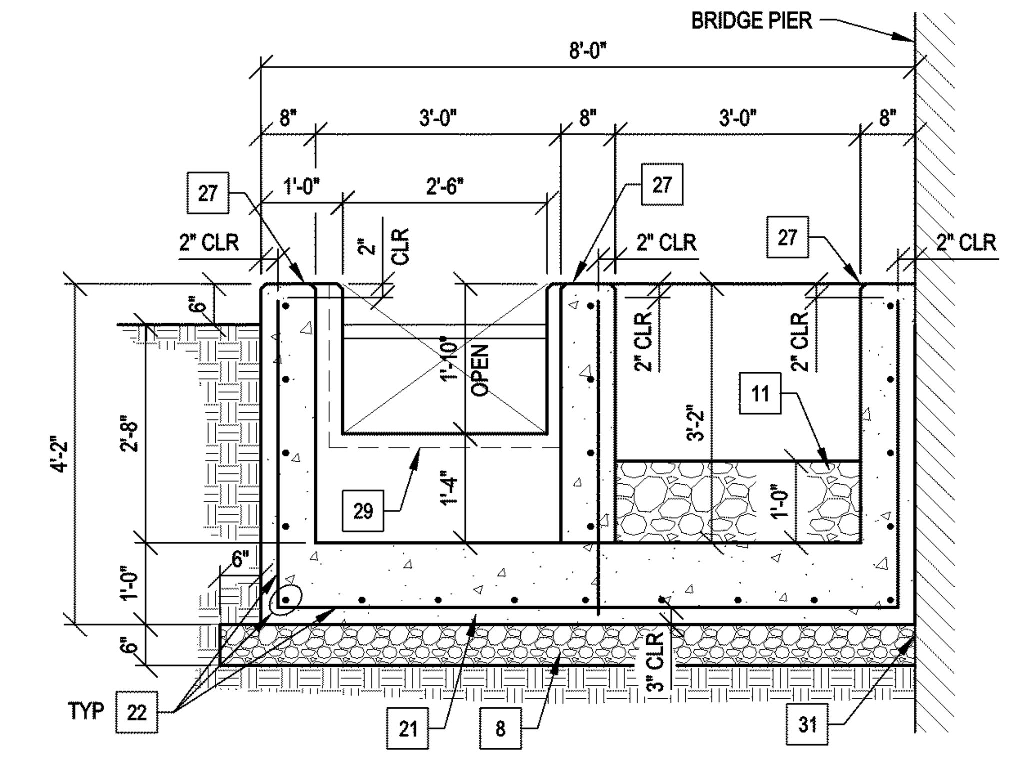
TROUGH SECTION E

SCALE 1/2" = 1'-0"



TROUGH SECTION F

SCALE 1/2" = 1'-0"



TROUGH SECTION G

SCALE 1/2" = 1'-0"

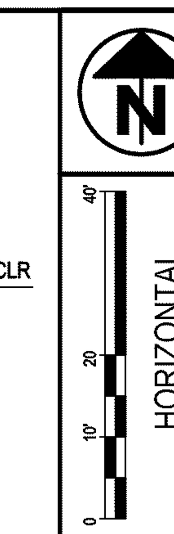
TROUGH DRAIN PIER 2 WEST REINFORCING STEEL (50'-00" LENGTH OF TROUGH)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A505	12	16.2	202.3	STR	16'-2"	0'-0"	0'-0"	WEST
A506	13	26.2	354.8	STR	26'-2"	0'-0"	0'-0"	EAST & BASE
A507	5	21.8	113.9	STR	21'-10"	0'-0"	0'-0"	SMALL BASE
A508	4	22.5	93.9	STR	22'-6"	0'-0"	0'-0"	MIDDLE SECTIONS
A509	4	21.8	91.1	STR	21'-9"	0'-0"	0'-0"	MIDDLE SECTIONS
A510	3	3.0	9.4	STR	3'-0"	0'-0"	0'-0"	HORIZONTAL SECTION
A511	3	1.4	4.4	STR	1'-5"	0'-0"	0'-0"	HORIZONTAL SECTION
A512	27	15.1	424.8	4	3'-9"	7'-7"	0'-0"	LARGE U BARS
A513	22	11.4	262.0	4	3'-9"	3'-11"	0'-0"	SMALL U BARS
A514	45	3.8	179.9	STR	3'-10"	0'-0"	0'-0"	MIDDLE SECTION VERTICALS
A507	4	21.8	91.1	STR	21'-10"	0'-0"	0'-0"	PLANTER WALLS
A510	22	3.0	68.8	STR	3'-0"	0'-0"	0'-0"	PLANTER WALLS VERTICALS
TOTAL WEIGHT			1896.3					

TROUGH DRAIN PIER B REINFORCING STEEL (70'-00" LENGTH OF TROUGH)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A521	27	22.8	643.0	STR	22'-10"	0'-0"	0'-0"	WEST
A522	26	16.2	439.6	STR	16'-2"	0'-0"	0'-0"	EAST & BASE
A523	10	15.9	165.6	STR	15'-10"	0'-0"	0'-0"	SMALL BASE
A515	8	15.9	132.5	STR	15'-10"	0'-0"	0'-0"	MIDDLE SECTIONS
A524	8	16.2	135.3	STR	16'-2"	0'-0"	0'-0"	MIDDLE SECTIONS
A510	3	3.0	9.4	STR	3'-0"	0'-0"	0'-0"	HORIZONTAL SECTION
A511	3	1.4	4.4	STR	1'-5"	0'-0"	0'-0"	HORIZONTAL SECTION
A512	70	15.1	1101.2	4	3'-9"	7'-7"	0'-0"	LARGE U BARS
A513	33	11.4	393.0	4	3'-9"	3'-11"	0'-0"	SMALL U BARS
A514	65	3.8	259.9	STR	3'-10"	0'-0"	0'-0"	MIDDLE SECTION VERTICALS
A515	8	15.8	132.1	STR	15'-10"	0'-0"	0'-0"	PLANTER WALLS
A510	32	3.0	100.1	STR	3'-0"	0'-0"	0'-0"	PLANTER WALLS VERTICALS
TOTAL WEIGHT			3516.0					

NOTE:

(1) SEE

[1] KEYNOTES

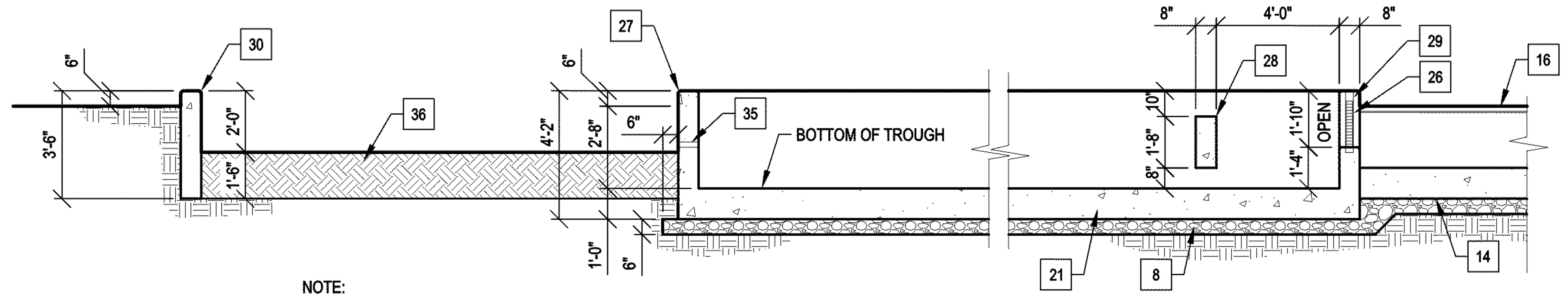


CALCULATED

CHECKED

DRAINAGE DETAILS

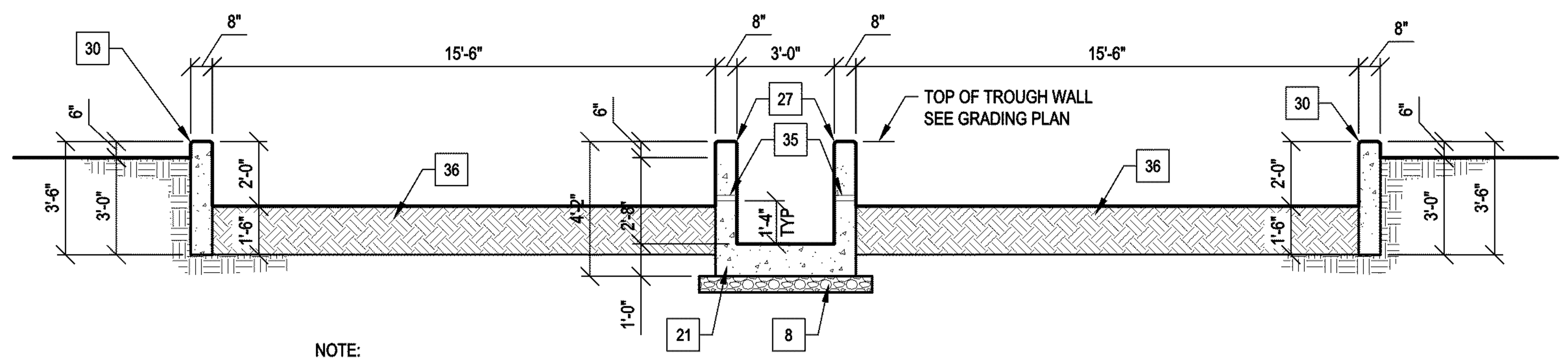
LUC-2-18.62



NOTE:
STEEL REINFORCING NOT SHOWN FOR CLARITY

TROUGH SECTION C

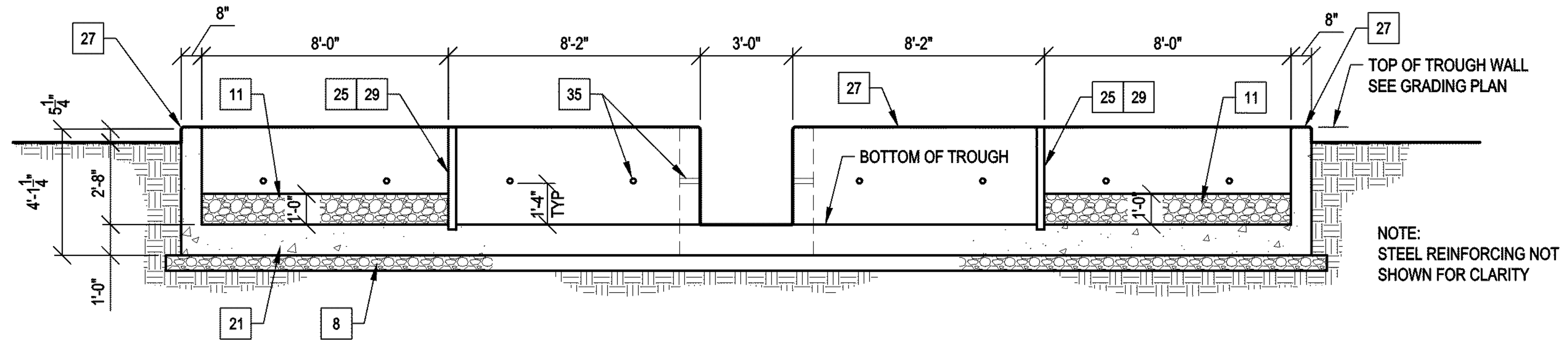
SCALE 1/4" = 1'-0"



NOTE:
STEEL REINFORCING NOT SHOWN FOR CLARITY

TROUGH SECTION B

SCALE 1/4" = 1'-0"

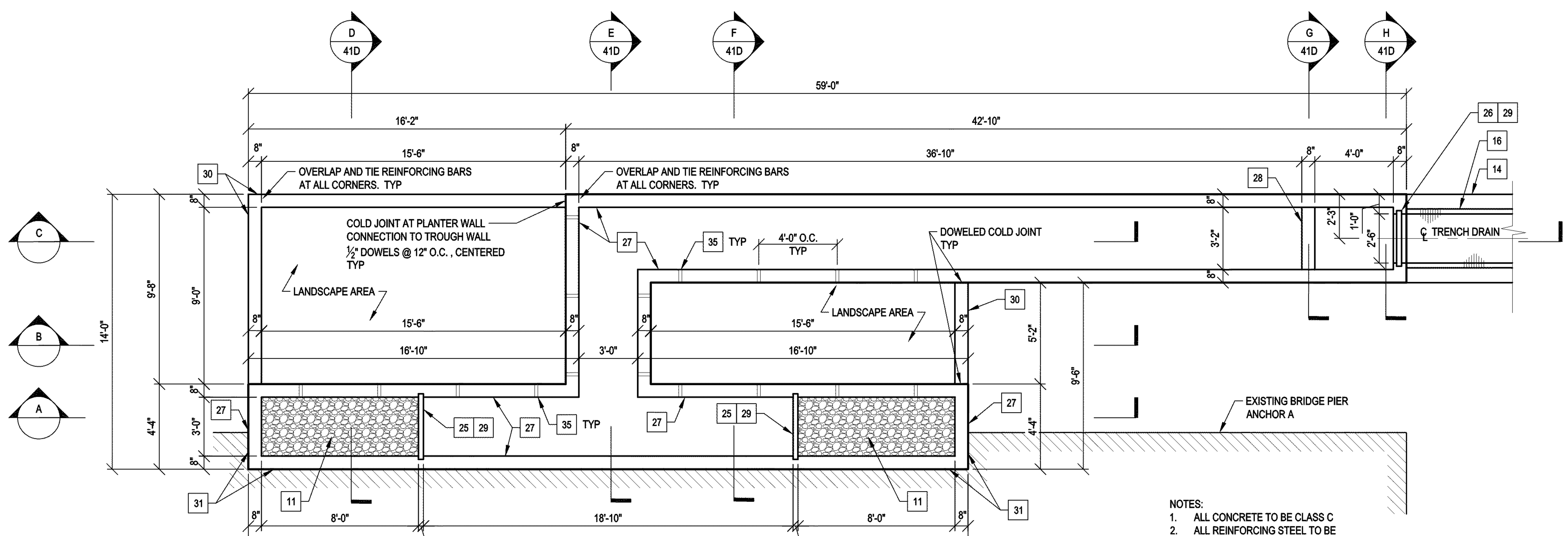


NOTE:
STEEL REINFORCING NOT SHOWN FOR CLARITY

TROUGH SECTION A

SCALE 1/4" = 1'-0"

TROUGH DRAIN PIER A REINFORCING STEEL								
(59'-08" LENGTH OF TROUGH)								
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	REMARKS
A514	16	17.8	297.6	STR	17'-10"	0'-0"	0'-0"	WEST WALL & BASE
A515	4	15.8	66.0	STR	15'-10"	0'-0"	0'-0"	MIDDLE WEST WALL
A516	7	13.0	94.9	STR	13'-0"	0'-0"	0'-0"	MIDDLE HORIZONTAL BARS
A517	14	21.1	307.9	4	3'-9"	13'-7"	0'-0"	MIDDLE U BARS
A518	8	19.0	158.5	STR	19'-0"	0'-0"	0'-0"	MIDDLE EAST WALL
A519	27	14.5	408.3	STR	14'-6"	0'-0"	0'-0"	EAST WALL & BASE
A510	3	3.0	9.4	STR	3'-00"	0'-0"	0'-0"	HORIZONTAL SECTION
A511	3	1.4	4.4	STR	1'-5"	0'-0"	0'-0"	HORIZONTAL SECTION
A513	42	11.4	500.1	4	3'-9"	3'-11"	0'-0"	EAST TROUGH U BARS
A520	36	11.6	434.9	4	3'-9"	4'-1"	0'-0"	WEST TROUGH U BARS
A528	4	15.2	63.3	STR	15'-2"	0'-0"	0'-0"	PLANTER WALLS
A510	16	3.0	50.1	STR	3'-0"	0'-0"	0'-0"	PLANTER WALLS VERTICALS
TOTAL WEIGHT			2395.5					



NOTES:
1. ALL CONCRETE TO BE CLASS C
2. ALL REINFORCING STEEL TO BE 709.01, GRADE 60
3. TOP CORNERS OF ALL CONCRETE WALLS TO HAVE ¾" CHAMFERS

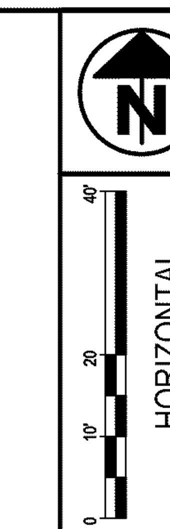
STORMWATER TROUGH PLAN

AT ANCHOR A

SCALE 1/4" = 1'-0"

NOTE:
1. PAYMENT FOR STORM WATER TROUGH SHALL BE MADE UNDER ITEM 604 DRAINAGE STRUCTURE MISC.: STORM WATER TROUGH. PAYMENT SHALL INCLUDE COST FOR CONCRETE, REINFORCING STEEL, DOWELS, JOINT MATERIALS, GRATE CLOSURE PANELS, TYPE D STONE, AGGREGATE BASE BEDDING, CONCRETE PLANTER CURB, AND ALL ITEMS IN THE STORM WATER TROUGH PLANS AND DETAILS.

NOTE:
(1) SEE
[1] KEYNOTES

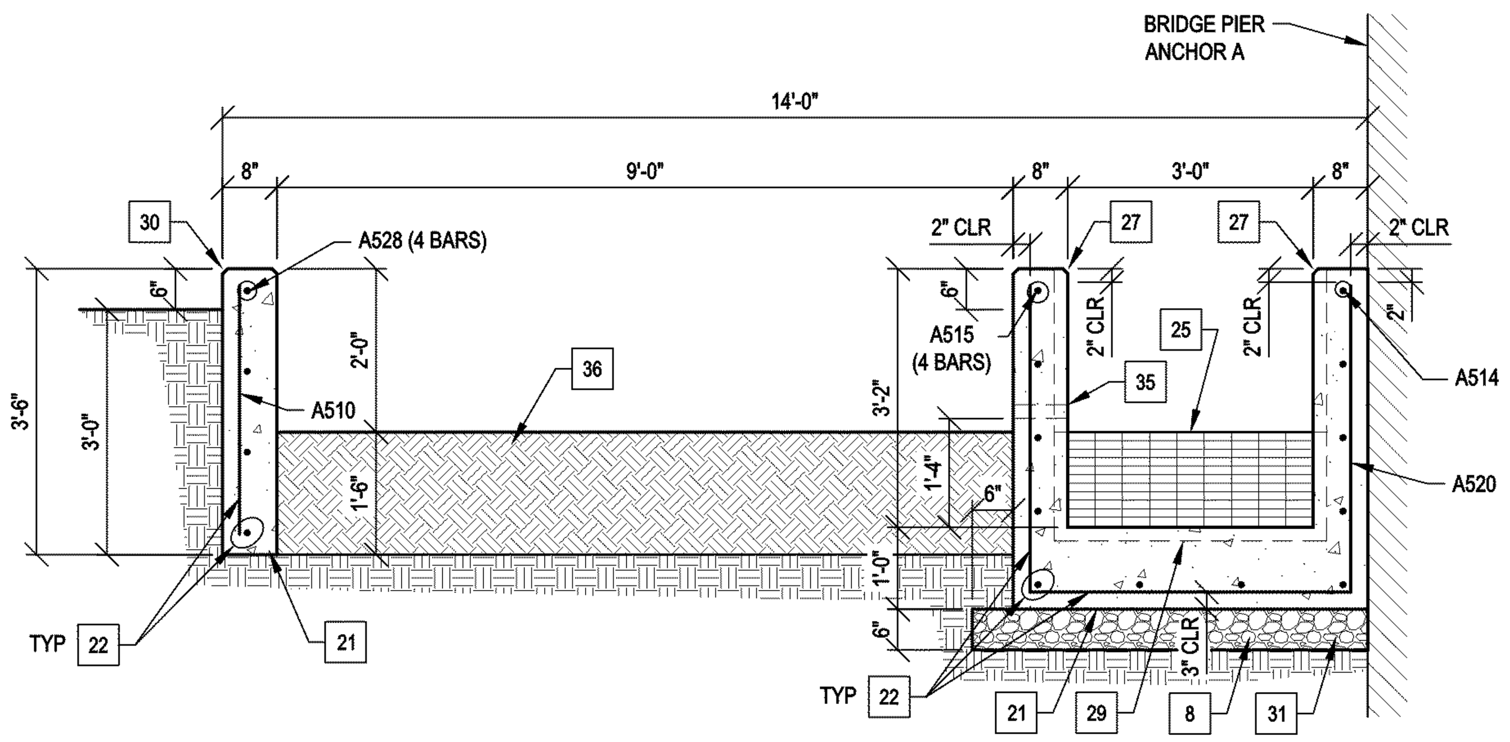


CALCULATED

CHECKED

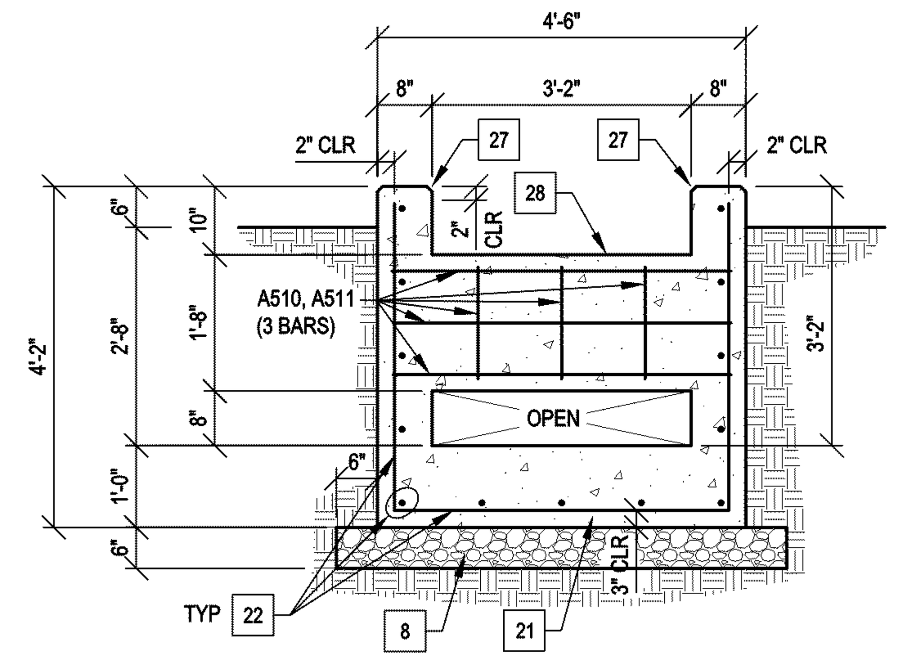
DRAINAGE DETAILS

LUC-2-18.62



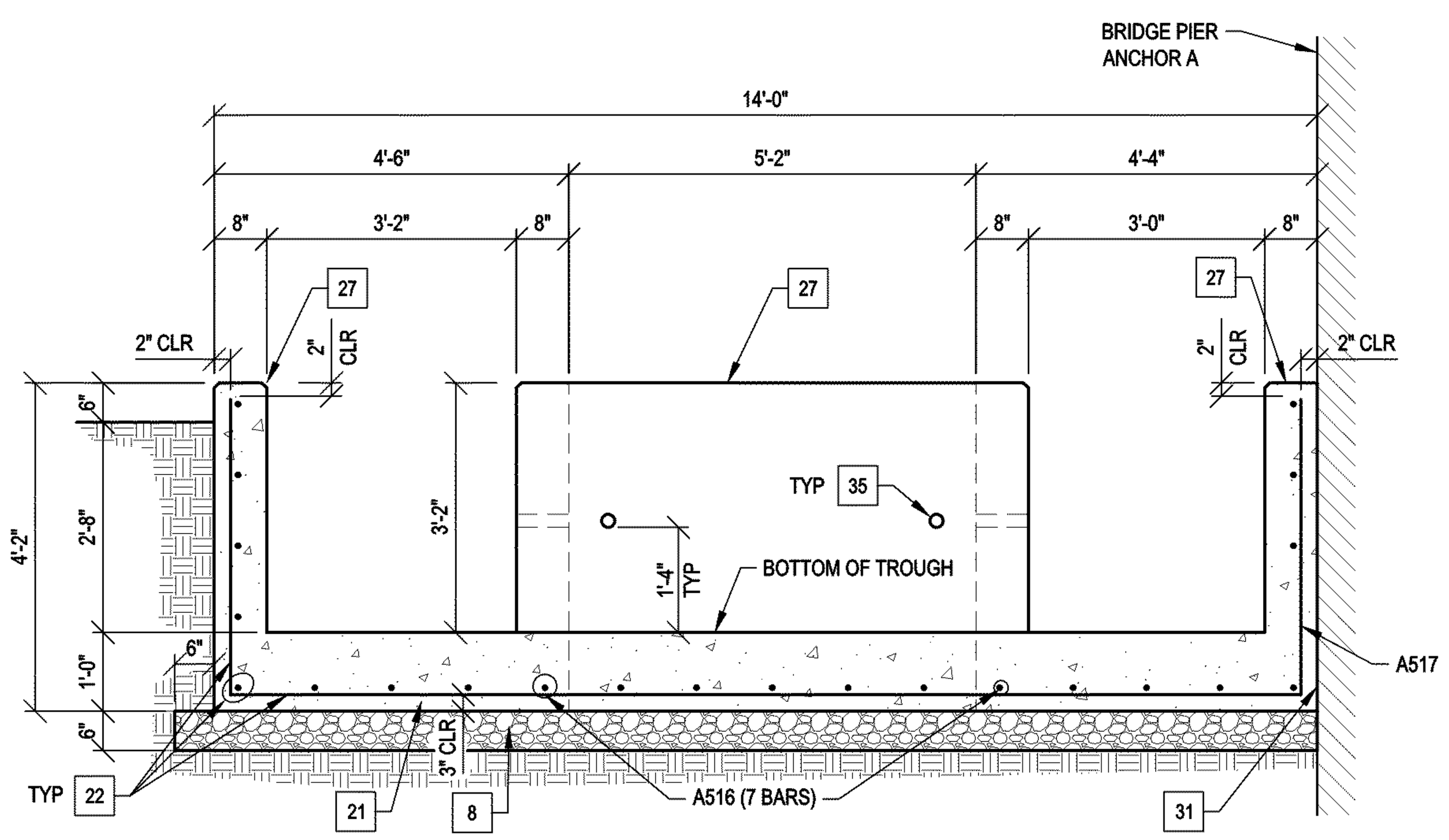
TROUGH SECTION D

SCALE 1/2" = 1'-0"



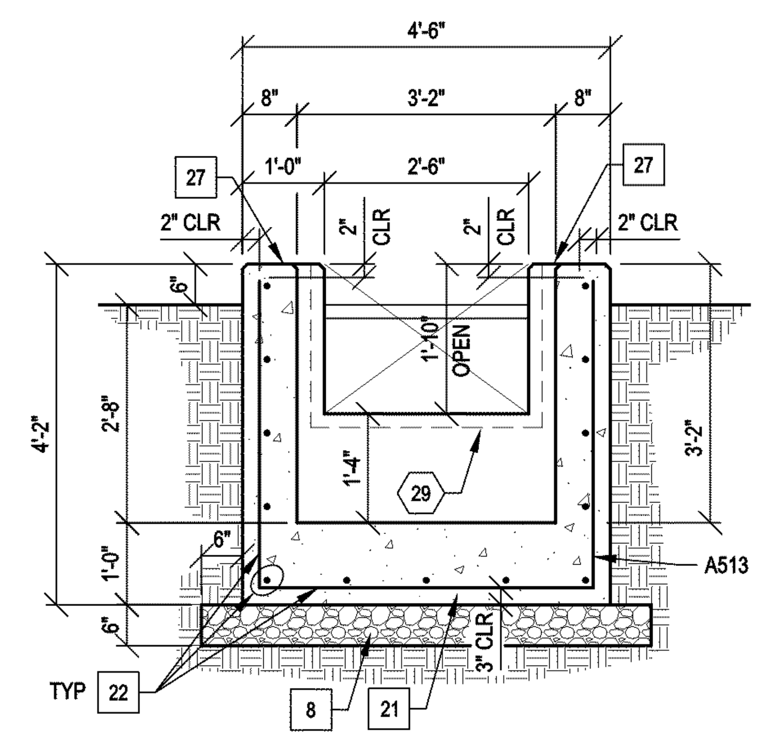
TROUGH SECTION G

SCALE 1/2" = 1'-0"



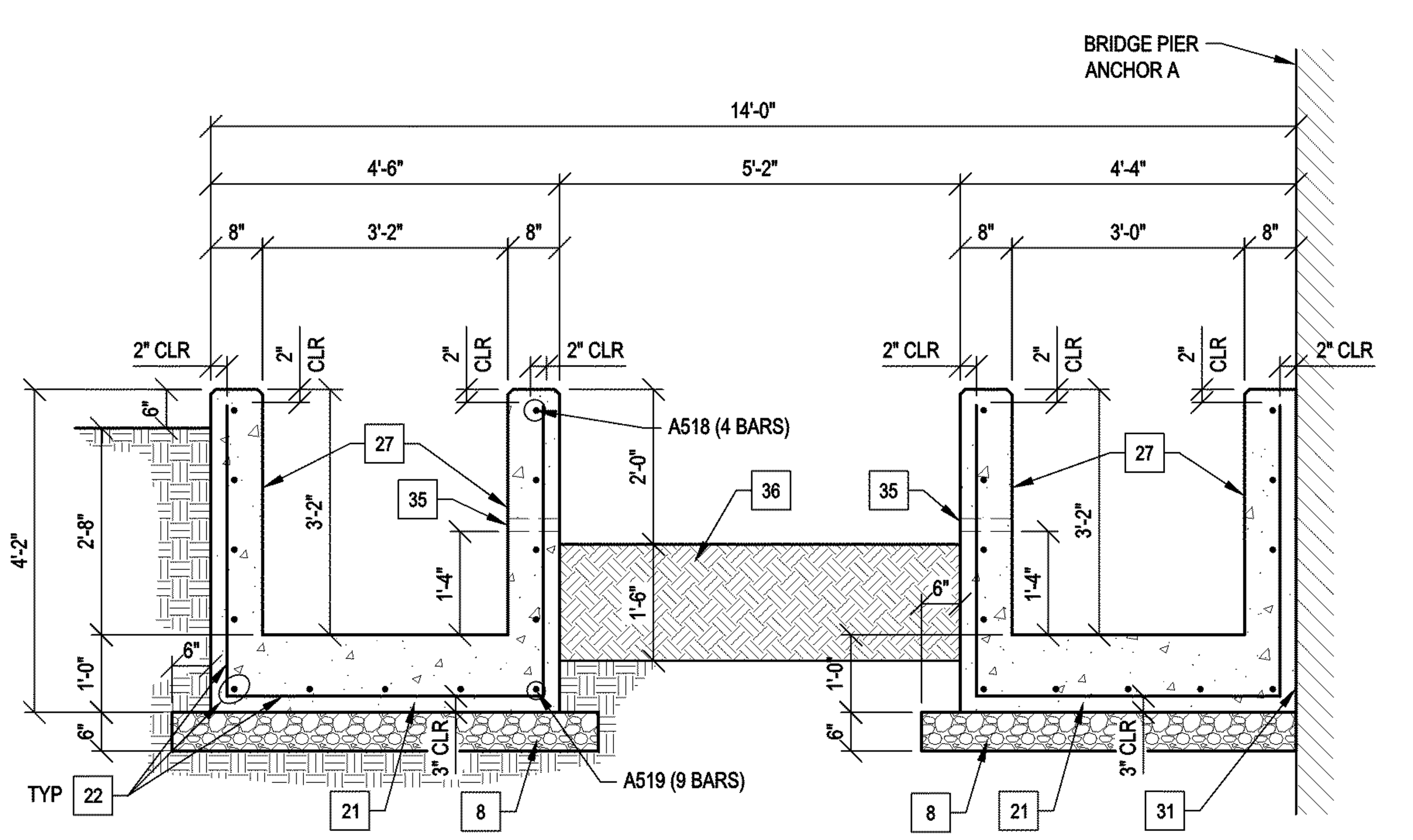
TROUGH SECTION E

SCALE 1/2" = 1'-0"



TROUGH SECTION H

SCALE 1/2" = 1'-0"



TROUGH SECTION F

SCALE 1/2" = 1'-0"

NOTE:

(1) SEE

[1] KEYNOTES

HORIZONTAL SCALE

CALCULATED

CHECKED

DRAINAGE DETAILS

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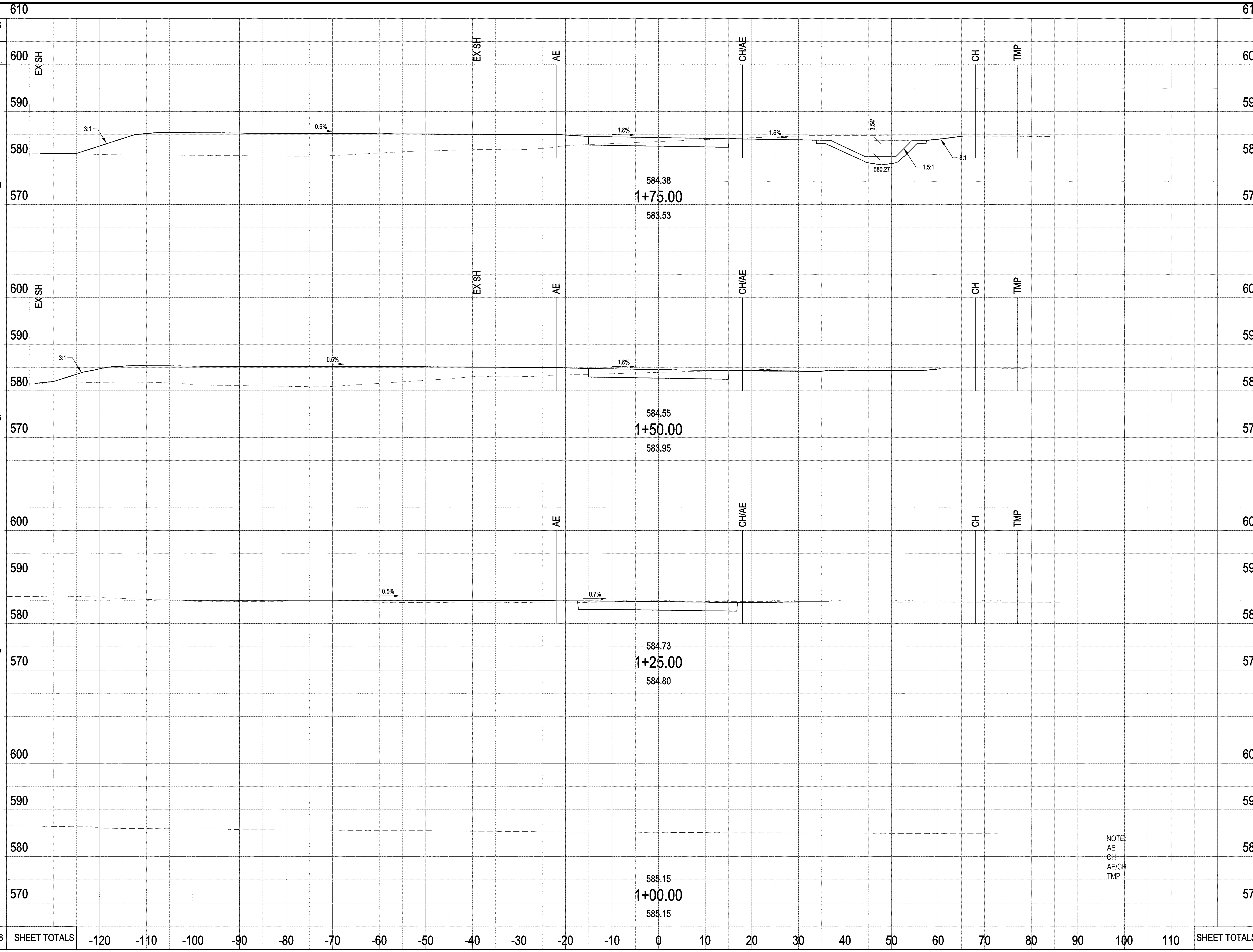
41D
327



SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
144		1+75.00	139	423		
	400				89	361
164		1+50.00	54	356		
	456				55	179
108		1+25.00	65	31		
	300				30	14
0		1+00.00	0	0		
	0					
-	1156	SHEET TOTALS	-	-	174	554

CALCULATED
CHECKED

DRAINAGE DETAILS

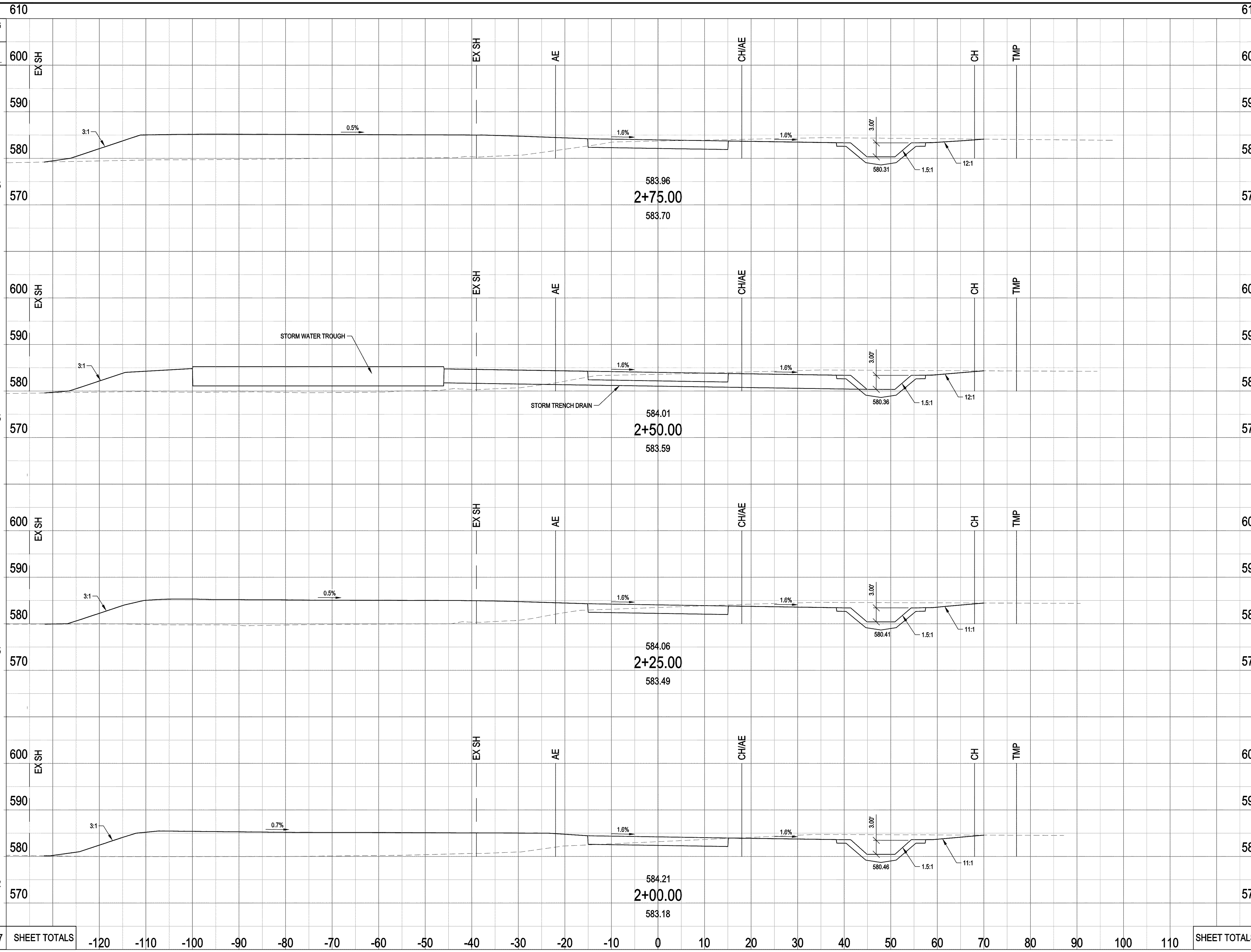
LUC-2-18.62

FILE:P:\50280.003\CAD\C\Sheet\0280 - SECTIONS - 34x22.dwg USER:rabraham DATE:Mar. 18 2013 TIME: 08:49 am

DRAINAGE DETAILS

LUC-2-18.62

SEEDING	
END WIDTH	SQ. YDS.
153	
	425
153	
	425
153	
	425
152	
	422
-	1697

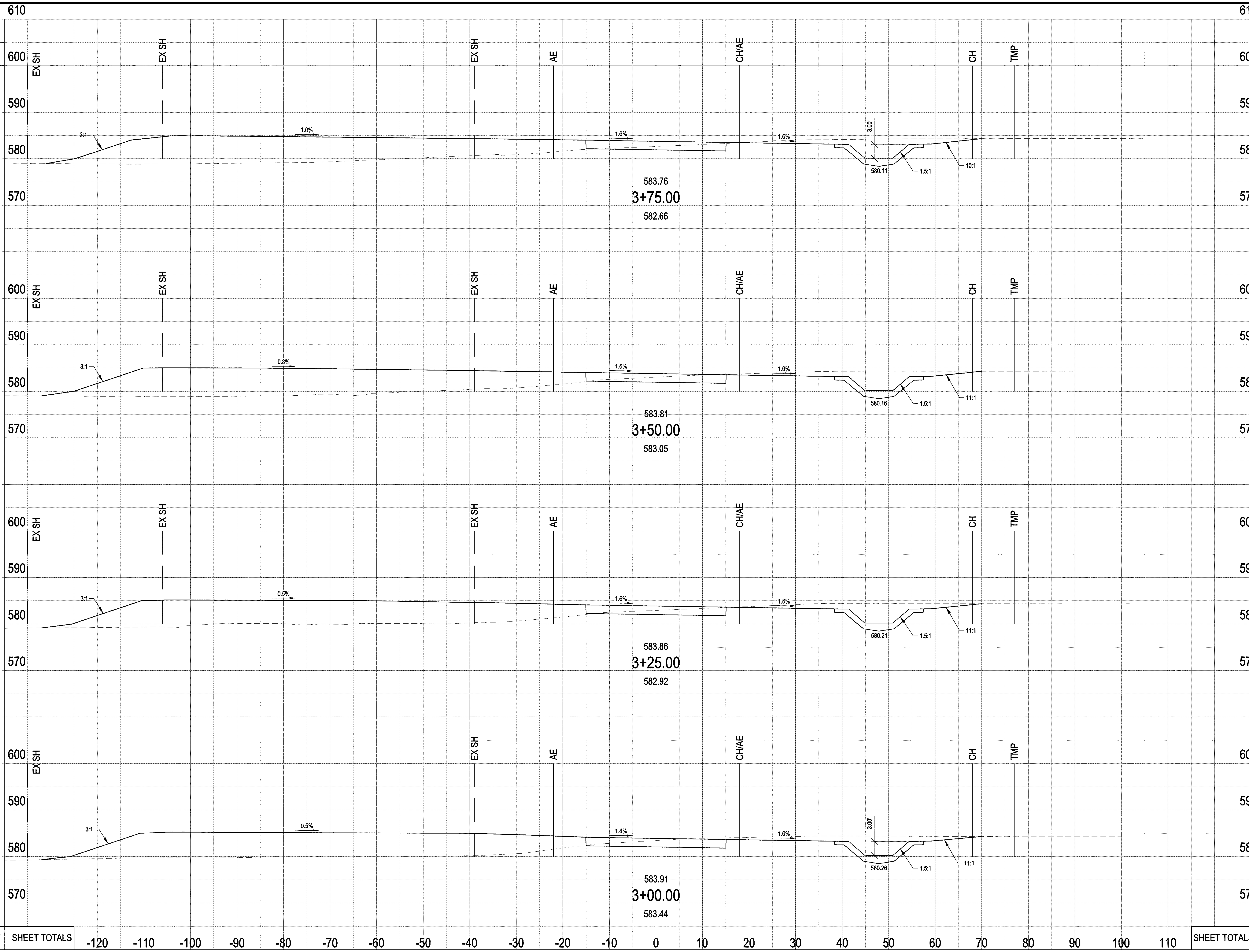


END AREA		VOLUME	
CUT	FILL	CUT	FILL
141	505		
		130	359
140	270		
		129	356
138	498		
		120	460
121	495		
		120	425
-	-	499	1600

SHEET TOTALS

CALCULATED | CHECKED

FILE:P:\50280.003\CAD\C\Sheet\0280 - SECTIONS - 34x22.dwg USER:rabraham DATE:Mar. 18 2013 TIME: 08:49 am



SEEDING	
END WIDTH	SQ. YDS.
152	
	422
153	
	425
153	
	425
153	
	425
-	1697

SHEET TOTALS

END AREA		VOLUME	
CUT	FILL	CUT	FILL
116	496		
		114	473
130	525		
		118	472
124	494		
		122	460
139	500		
		130	465
-	-	484	1870

SHEET TOTALS

CALCULATED

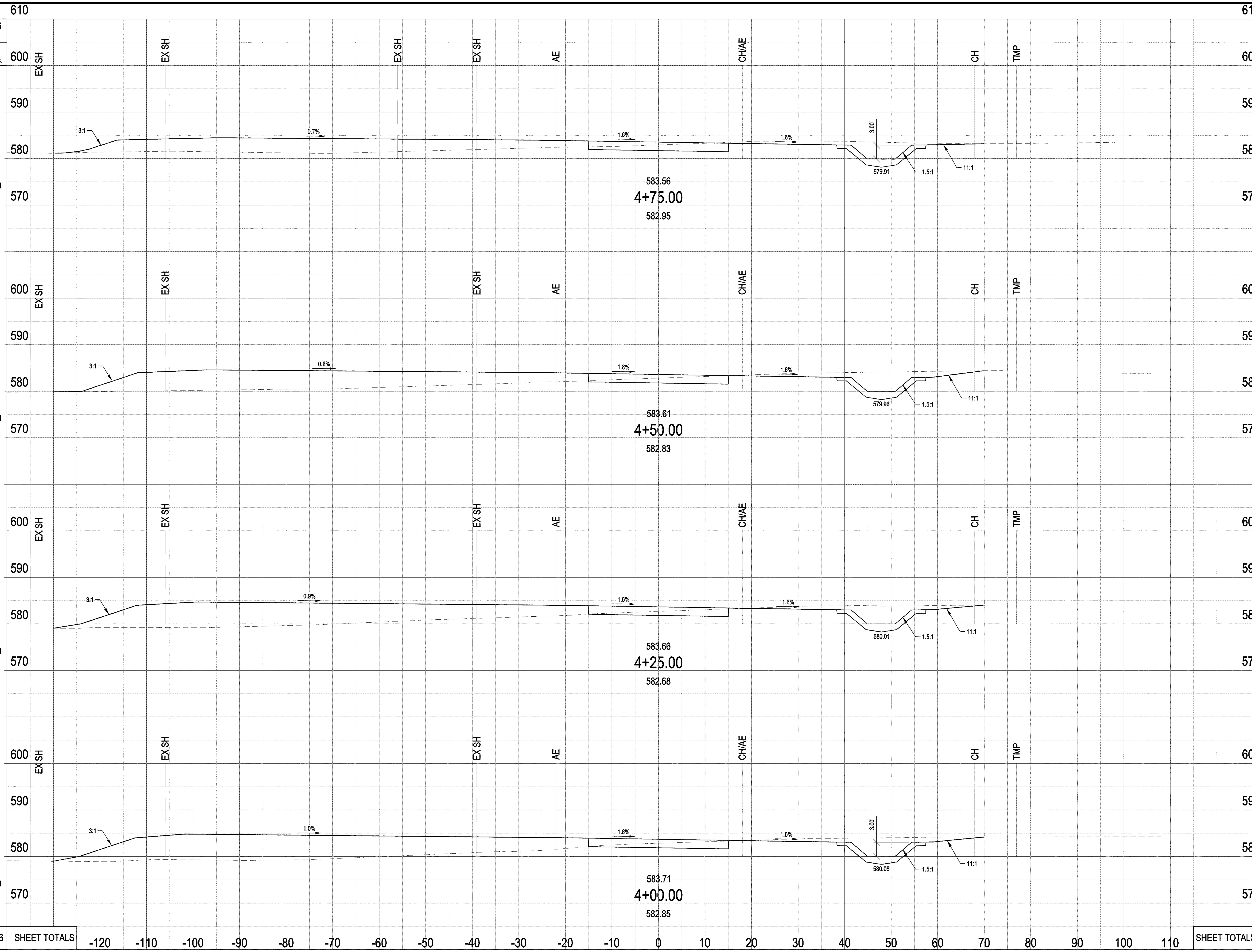
CHECKED

DRAINAGE DETAILS

LUC-2-18.62

SEEDING	
END WIDTH	SQ. YDS.
151	419
151	419
151	419
151	419
-	1676

SHEET TOTALS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
119	270		
		115	287
129	350		
		111	358
112	423		
		106	409
117	460		
		108	443
-	-	440	1497

SHEET TOTALS

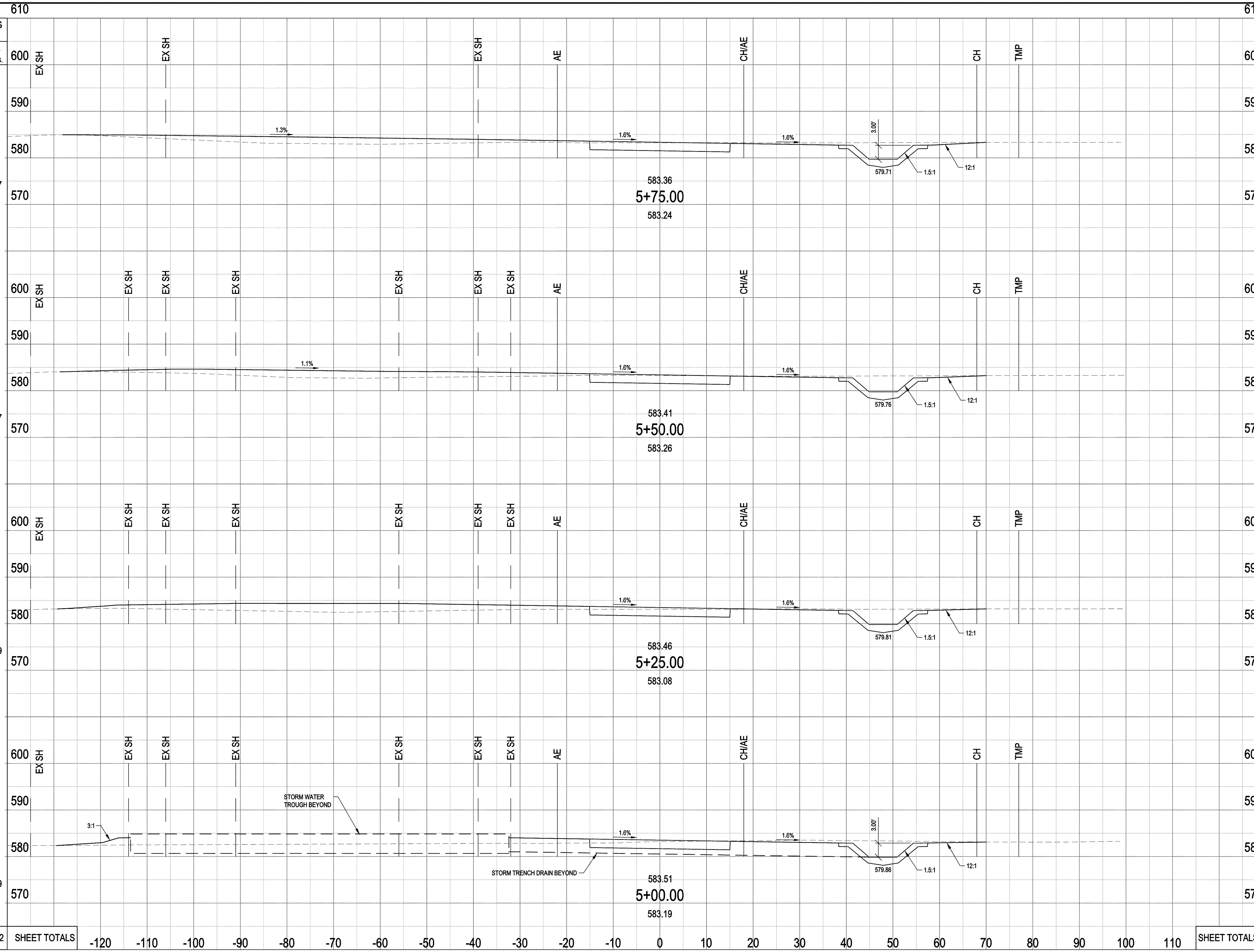
CALCULATED

CHECKED

DRAINAGE DETAILS

LUC-2-18.62

SEEDING	
END WIDTH	SQ. YDS.
150	
	417
150	
	417
151	
	419
151	
	419
-	1672



END AREA		VOLUME	
CUT	FILL	CUT	FILL
127	97		
		114	96
118	110		
		105	115
108	138		
		104	77
117	28		
		110	138
-	-	433	426

SHEET TOTALS

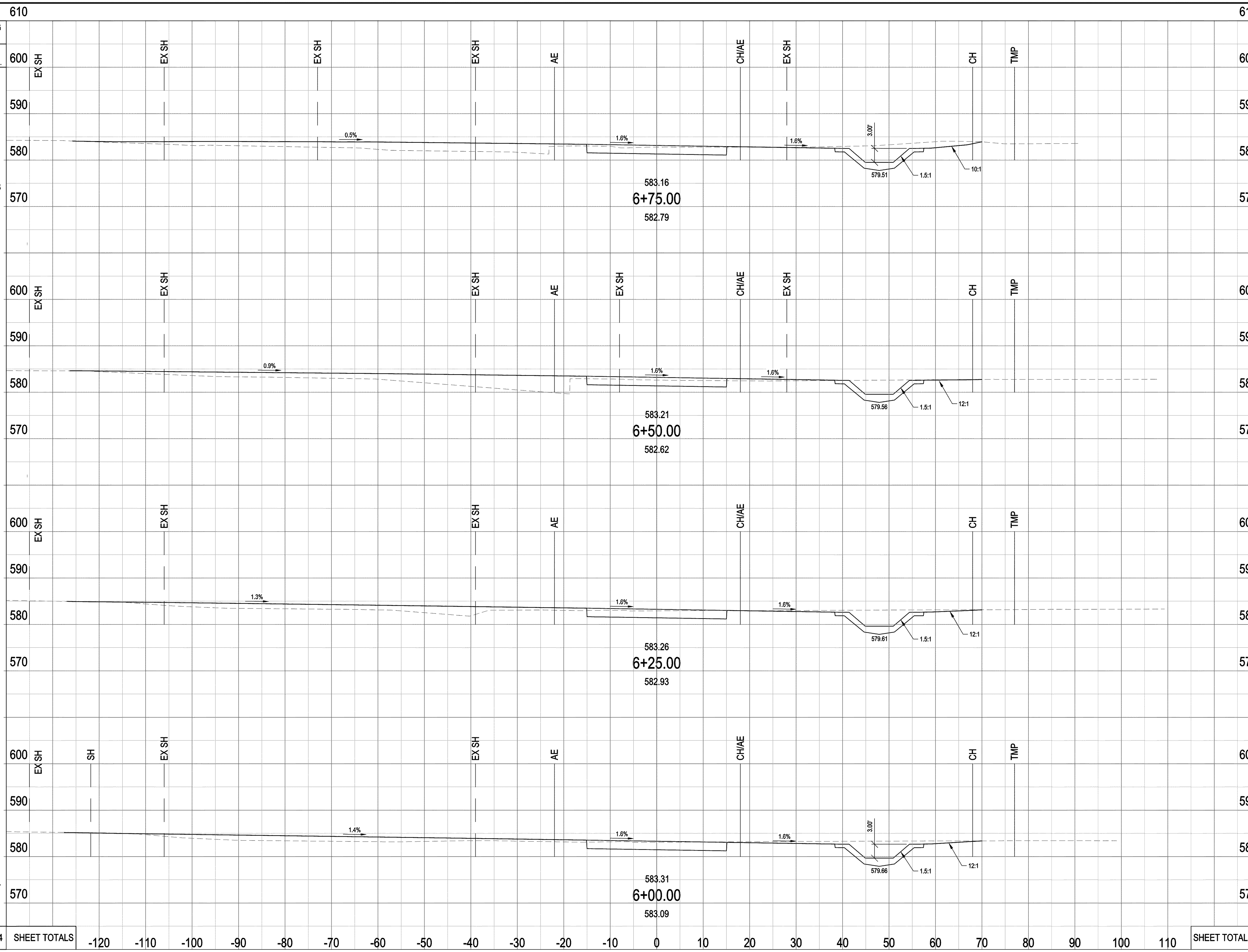
CALCULATED

CHECKED

DRAINAGE DETAILS

LUC-2-18.62

FILE:P:\50280.003\CAD\C\Sheet\0280 - SECTIONS - 34x22.dwg USER:rabraham DATE:Mar. 18 2013 TIME: 08:50 am



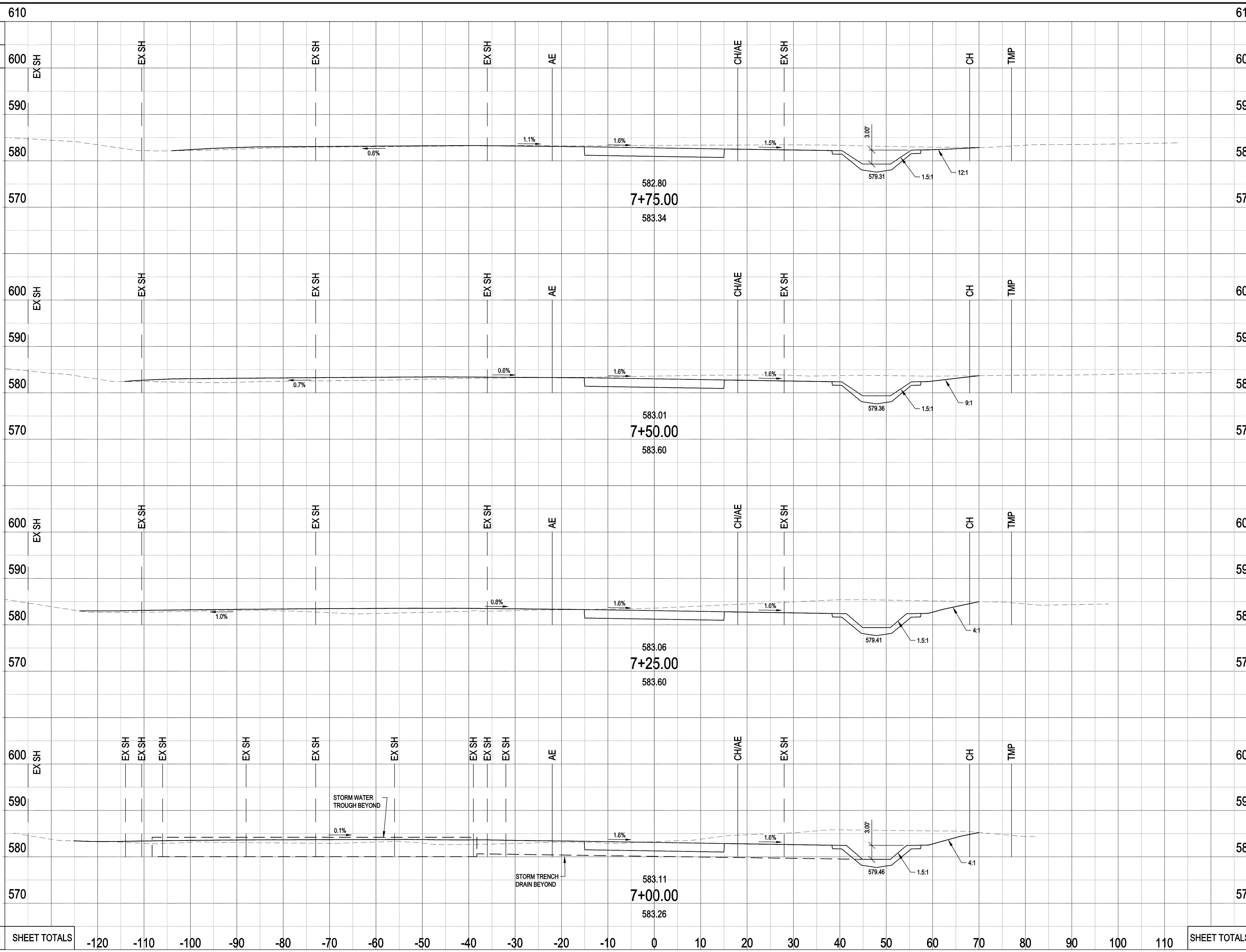
Station	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6+75.00	147		126	123		
		408			102	134
6+50.00	148		94	165		
		411			97	121
6+25.00	148		116	95		
		411			114	79
6+00.00	149		129	75		
		414			119	80
SHEET TOTALS	-	1644	-	-	432	414

CALCULATED

CHECKED

DRAINAGE DETAILS

LUC-2-18.62



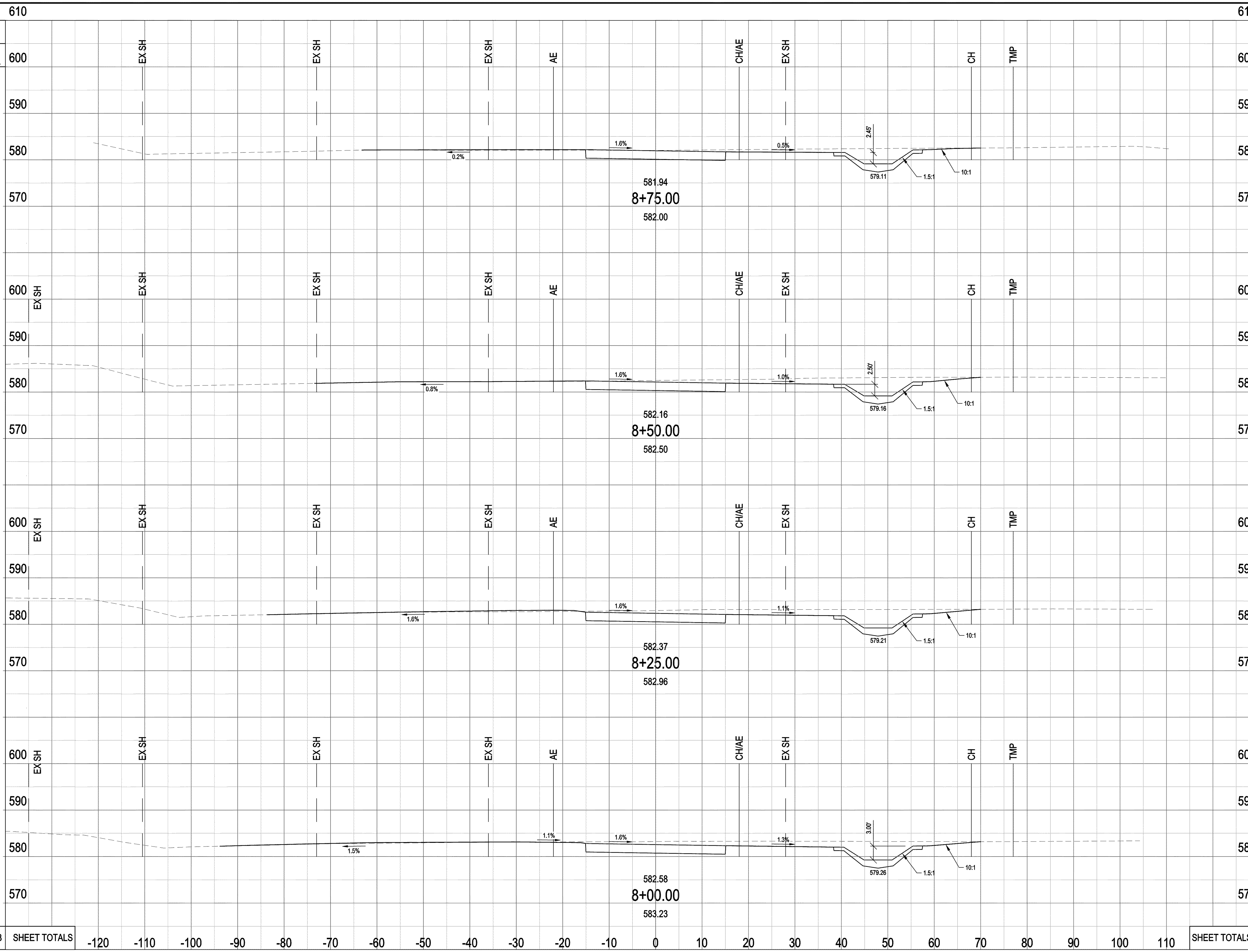
Station	SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
7+75.00	125		173	11		
		347			167	28
7+50.00	135		189	48		
		375			204	48
7+25.00	145		253	56		
		403			236	54
7+00.00	146		257	61		
		406			177	86
SHEET TOTALS	-	1531	-	-	784	216

CALCULATED
CHECKED

DRAINAGE DETAILS

LUC-2-18.62

FILE:P:\50280.003\CAD\C\Sheet\0280 - SECTIONS - 34x22.dwg USER:rabraham DATE:Mar. 18 2013 TIME: 08:50 am



SEEDING	
END WIDTH	SQ. YDS.
84	
	233
94	
	261
105	
	292
114	
	317
-	1103

SHEET TOTALS

END AREA		VOLUME	
CUT	FILL	CUT	FILL
136	4		
		141	2
169	1		
		162	4
182	7		
		168	6
181	5		
		164	7
-	-	635	19

SHEET TOTALS

CALCULATED CHECKED

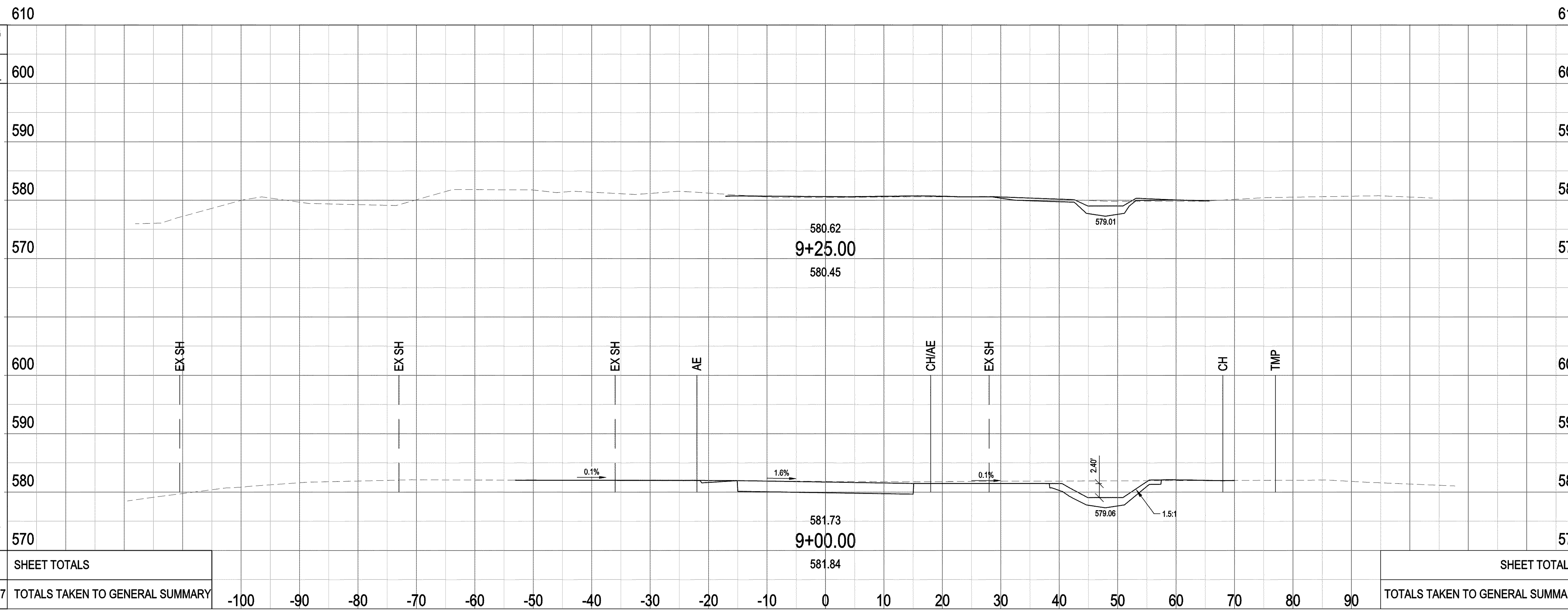
DRAINAGE DETAILS

LUC-2-18.62

FILE:P:\50280.003\CAD\C\Sheet\0280 - SECTIONS - 34x22.dwg USER:rabraham DATE:Mar. 18 2013 TIME: 08:50 am

CALCULATED | CHECKED

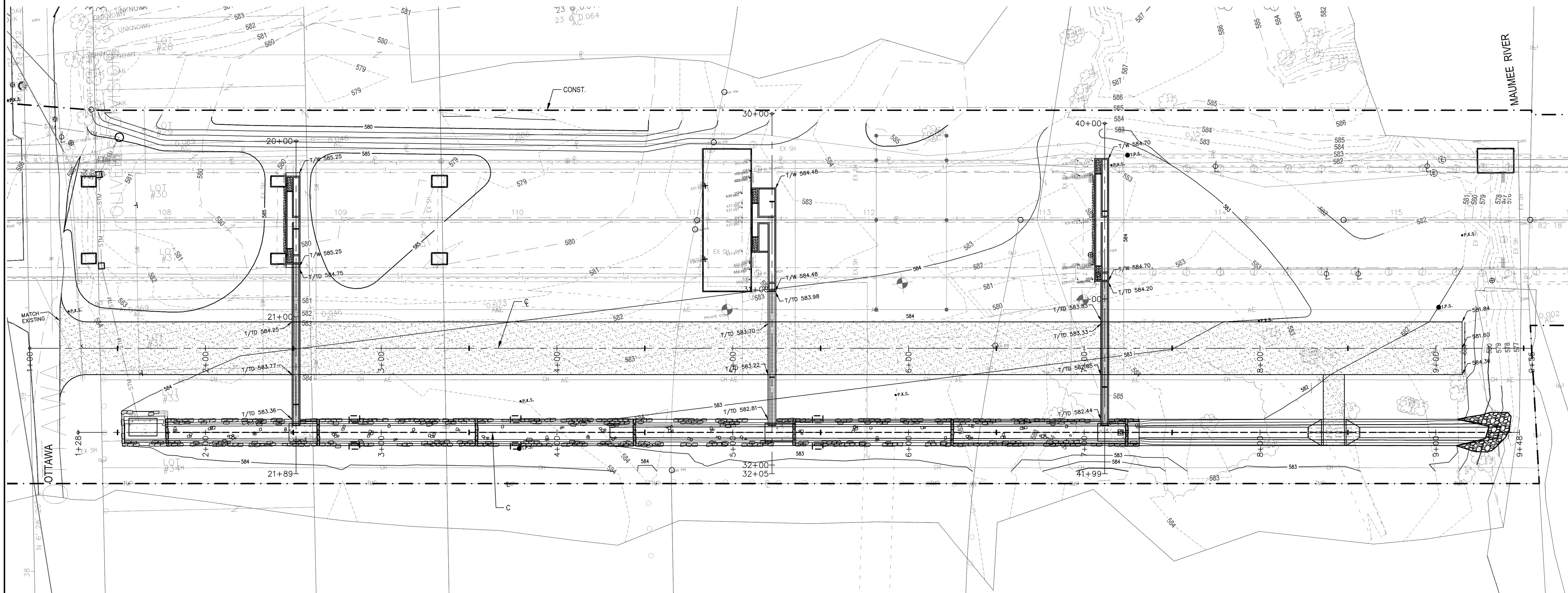
DRAINAGE DETAILS



SEEDING		
END WIDTH	SQ. YDS.	
45	125	
74	206	
-	331	SHEET TOTALS
-	12507	TOTALS TAKEN TO GENERAL SUMMARY

	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
	26	7		
			69	4
	123	2		
			120	3
SHEET TOTALS	-	-	189	7
TOTALS TAKEN TO GENERAL SUMMARY	-	-	4070	6603

LUC-2-18.62

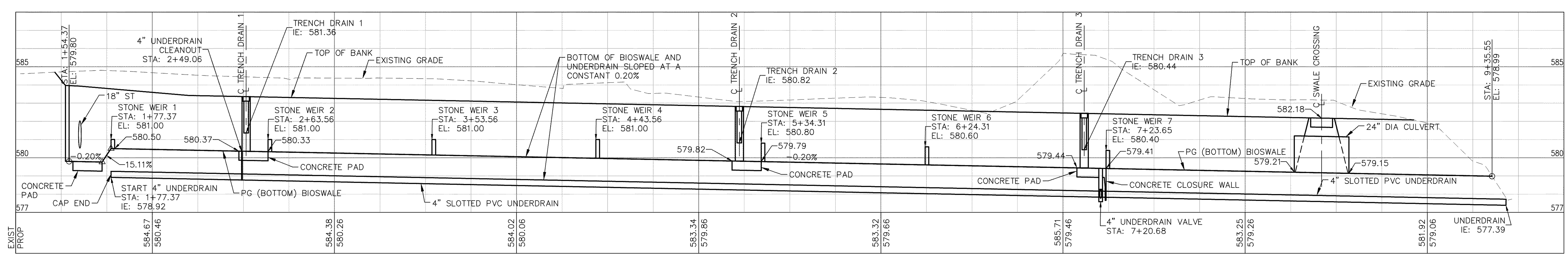


NOTE:

1 SEE

1 KEYNOTES

BIOSWALE



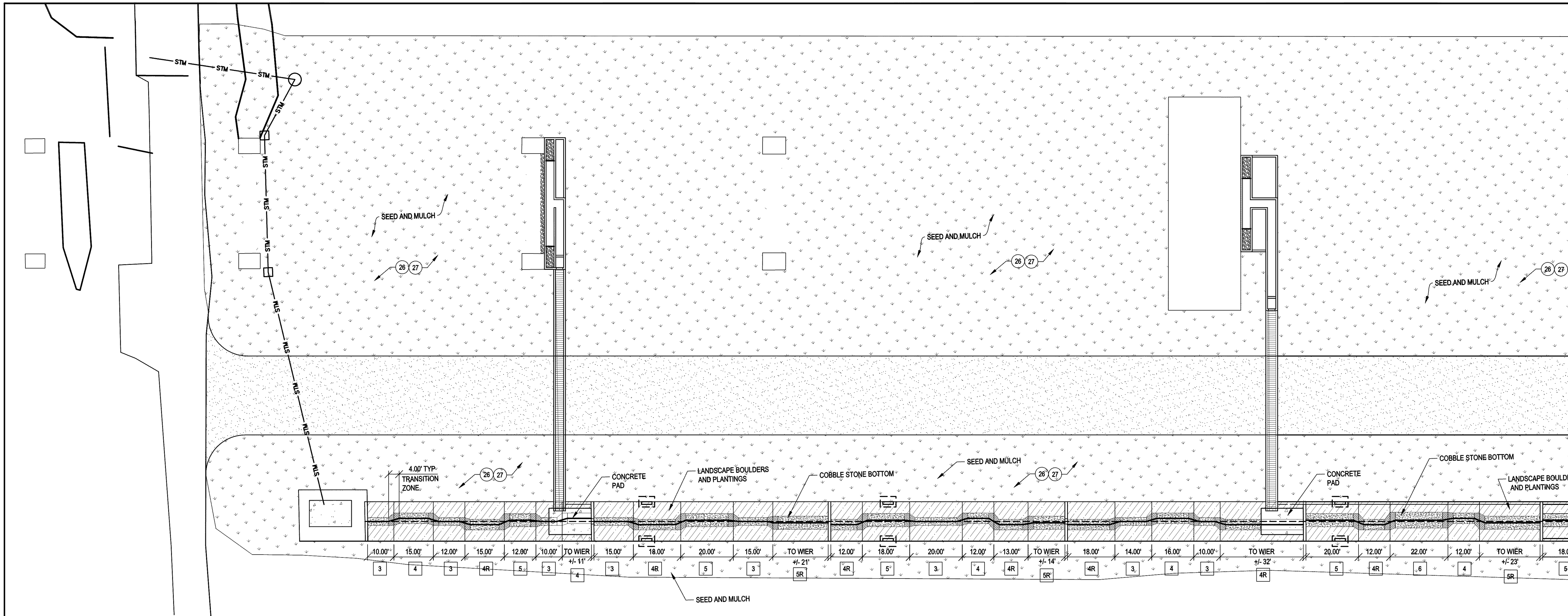
HORIZONTAL SCALE

CALCULATED

CHECKED

DRAINAGE DETAILS

LUC-2-18.62



SEEDING AND MULCHING NOTES

ALL SEED SHALL BE CLASS 3B INSTALLED AT A RATE OF 3 POUNDS PER 1,000 SQUARE FEET.

AREAS OUTSIDE THE LIMITS OF SEEDING DISTURBED BY THE CONTRACTOR SHALL BE RESTORED WITH TOPSOIL SEED AND MULCH AT NO COST TO THE OWNER.

RATES OF COMMERCIAL FERTILIZING FOR SEED BED AMENDMENTS SHALL BE BASED ON TOPSOIL TEST REPORTS. PHOSPHOROUS SHALL BE DELETED FROM THE FERTILIZER GRADE DUE TO THE PROXIMITY OF THE MAUMEE RIVER.

LIMING WILL NOT BE REQUIRED.

HYDROSEEDING WILL NOT BE PERMITTED.

WOOD FIBER MULCH WILL NOT BE PERMITTED. ONLY CLEAN STRAW MULCH FREE OF WEEDS WILL BE ACCEPTED.

PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 659 SEEDING AND MULCHING, CLASS 3B, AS PER PLAN.

MOWINGS NOTES

MAINTENANCE MOWINGS SHALL OCCUR MONTHLY DURING THE GROWING SEASON UNTIL THE PERFORMANCE CONDITIONS (659.23) HAVE BEEN MET. MOWINGS SHALL BE IN ACCORDANCE WITH 659.19 EXCEPT THAT EACH CUTTING WILL REDUCE OVERALL GRASS HEIGHT TO 4 INCHES. IT IS EXPECTED THAT NO MORE THAT 6 CUTTINGS WILL BE REQUIRED FOLLOWING INITIAL SEEDING.

PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 659 MOWING, AS PER PLAN.

TOPSOIL NOTES

ALL TOPSOIL USED FOR METROPARKS SEEDING AND PLANTINGS SHALL BE FURNISHED AND PLACED IN ACCORDANCE WITH ITEM 653.02, EXCEPT THAT TOPSOIL SHALL BE A FERTILE, FRIABLE, SANDY LOAM OR LOAM SURFACE SOIL WITHOUT ADMIXTURE OF SUBSOIL SCREENED TO BE FREE OF STONES, STUMPS, ROOT, TRASH, DEBRIS, AND OTHER MATERIALS DELETERIOUS TO PLANT GROWTH. THE CLAY CONTENT SHALL NOT EXCEED 15%.

TOPSOIL FOR SEED BEDS SHALL BE 4" DEEP AFTER LIGHT COMPACTION.

PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 659 TOPSOIL, AS PER PLAN.

TOPSOIL TESTING NOTES

CONTRACTOR SHALL ENGAGE AN INDEPENDENT LABORATORY OR UNIVERSITY LABORATORY, RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE, WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT THE TESTING INDICATED AND THAT SPECIALIZES IN TYPES OF TESTS TO BE PERFORMED.

MATERIAL TEST REPORTS:

CONDUCT TOPSOIL TESTING FOR SOIL IMPORTED OFF-SITE SOURCES.

... SAMPLE: PROVIDE 1 QUART SAMPLES FOR EACH TOPSOIL TEST UNIT (INCLUDING SOURCE).

... CONDUCT ALL TOPSOIL SAMPLING AND TESTING PRIOR TO DELIVERY FROM OFF-SITE SOURCES.

WHENEVER POSSIBLE, OFF-SITE TOPSOIL SOURCES SHOULD BE REVIEW IN ADVANCE OF APPROVAL TO ENSURE A FULL UNDERSTANDING OF POTENTIAL PROBLEMS ASSOCIATED WITH SOIL CONTAMINANTS AND INVASIVE PLANT SPECIES RETAINED AS SEED IN THE SOIL.

LABORATORY TEST REPORTS: CONDUCT TOPSOIL TESTING FOR EACH SOIL TEST UNIT AS FOLLOWS:

... OFF-SITE LOCATION(S): 1 SAMPLE PER ACRE OF SITE TO BE EXCAVATED.

... OFF-SITE STOCKPILE: 1 SAMPLE PER 1,000 CUBIC YARDS OF STOCKPILED SOIL.

SUBMIT ALL TEST REPORTS FOR APPROVAL. TOPSOIL UNITS THAT DO NOT MEET THE SOIL REQUIREMENTS SPECIFIED UNDER THIS SECTION WILL NOT BE PERMITTED FOR USE AS TOPSOIL.

... FERTILITY: FOR EACH UNAMENDED SOIL TYPE, TEST TOPSOIL FOR ORGANIC MATERIALS, PH, PHOSPHATE, POTASH CONTENT, CALCIUM, MAGNESIUM, ZINC, IRON, AND MANGANESE.

... PHYSICAL PROPERTIES: DETERMINE PERCENT SAND, SILT AND CLAY AND TEXTURAL CLASSIFICATION (USDA) BY HYDROMETER METHOD. IDENTIFY ALL FOREIGN MATERIALS SUCH AS ROCK, ROOTS, AND VEGETATION.

... USE "SUPPLEMENTAL TESTING" BELOW IF SOURCE IS FROM OFF-SITE OR PROJECT SITE IS A BROWNFIELD WHERE TOPSOIL CAPPING IS TO OCCUR. IT IS AN EXPENSIVE PROCEDURE AND MAY NOT BE APPLICABLE TO ALL LOCATIONS.

... SUPPLEMENTAL TESTING: REPORT PRESENCE OF PROBLEM SALTS, MINERALS, OR HEAVY METALS, INCLUDING ALUMINUM, ARSENIC, BARIUM, CADMIUM, CHROMIUM, COBALT, LEAD, LITHIUM, AND VANADIUM. IF SUCH PROBLEM MATERIALS ARE PRESENT, PROVIDE ADDITIONAL RECOMMENDATIONS FOR CORRECTIVE ACTION. IF ANY HEAVY METAL EXCEEDS STATE LISTED BACKGROUND LEVELS FOR HUMAN CONTACT, SOILS WILL NOT BE APPROVED FOR USE ON SITE.

... RECOMMENDATIONS: BASED ON THE TEST RESULTS, THE INDEPENDENT TESTING LABORATORY SHALL STATE RECOMMENDATIONS FOR SOIL TREATMENTS AND SOIL AMENDMENTS TO BE INCORPORATED PRIOR TO SEEDING AND PLANTING. LIST RECOMMENDATIONS IN WEIGHT PER 1000 SQUARE FEET FOR SEEDED AREA AND CUBIC YARD OF PLANT MIXTURE. RECOMMENDATIONS SHALL INCLUDE; NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND ALL SOIL AMENDMENTS REQUIRED FOR THE LONG-TERM GROWTH OF THE SPECIFIED PLANTS AND TURF.

SAMPLING: EACH SOIL TEST UNIT SHALL BE A COMPOSITE OF FIVE TO SEVEN SUBSAMPLES TAKEN THE FULL DEPTH OF PROPOSED SOURCE FOR EACH ACRE OF SURFACE AREA. FOR LARGE STOCKPILES (GREATER THAN 5,000 CUBIC YARDS), PARTIAL EXCAVATION WILL BE REQUIRED FOR COLLECTION OF REPRESENTATIVE SAMPLES. INCLUDE SITE PLAN VERIFYING THE LOCATIONS OF ALL TOPSOIL SAMPLING.

TOPSOIL TEST REPORTS SHALL BE ACCOMPANIED WITH EACH SAMPLE UNIT FOR REVIEW AND APPROVAL BY THE PARKS REPRESENTATIVE.

PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 659 SOIL ANALYSIS TEST.

3	3' BED BIOSWALE SECTION
4	4' BED BIOSWALE SECTION
4R	4' BED BIOSWALE SECTION (REVERSED)
5	5' BED BIOSWALE SECTION
5R	5' BED BIOSWALE SECTION (REVERSED)
6	6' BED BIOSWALE SECTION
6R	6' BED BIOSWALE SECTION (REVERSED)

LEGEND

- BIOSWALE LAYOUT LINE
- BIOSWALE RESTORATION - CENTERLINE OF STONE BOTTOM
- ITEM 659 SEEDING AND MULCHING
- LANDSCAPE BOULDERS AND PLANTINGS
- COBBLE STONE BOTTOM (BIOSWALE)
- TRANSITION ZONE (BIOSWALE)
- PROPOSED ACCESS ROAD

N

HORIZONTAL SCALE IN FEET
0 10' 20' 40'

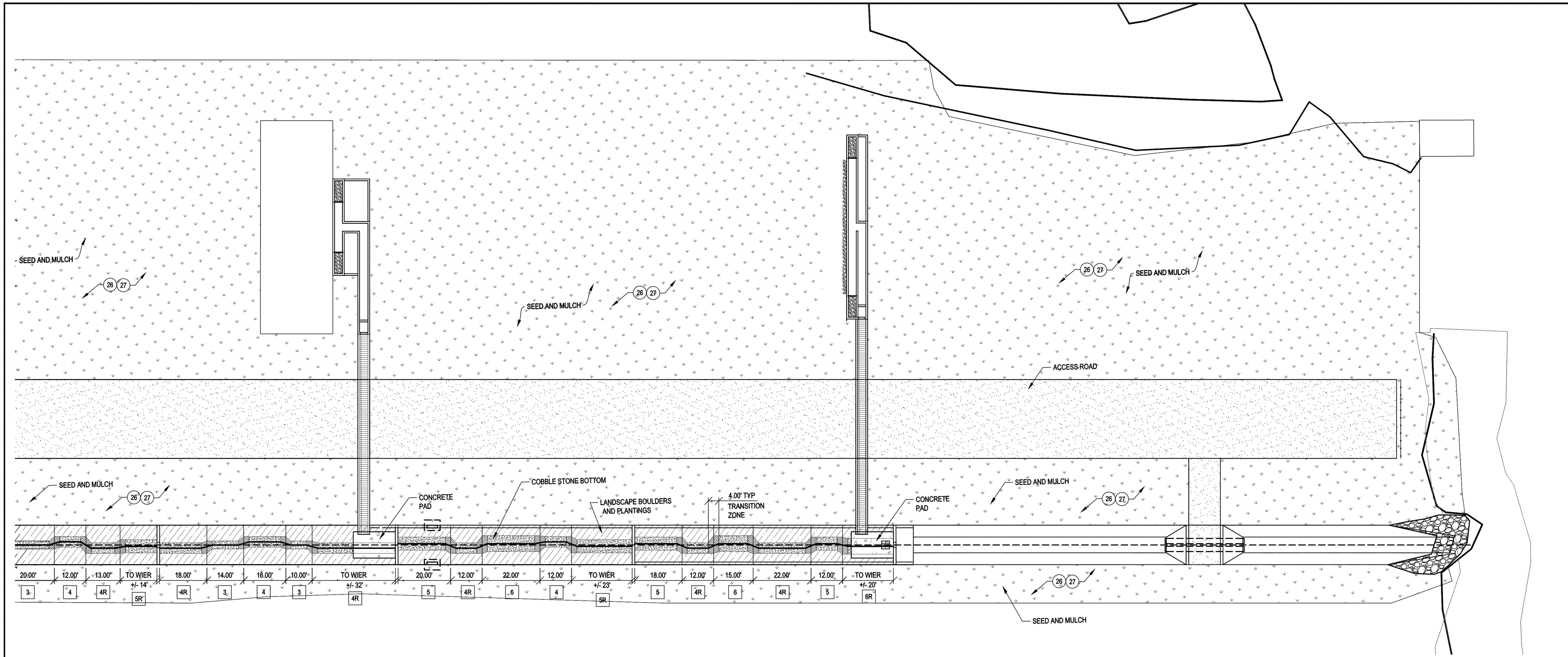
CALCULATED

CHECKED

BIOSWALE AND LANDSCAPING PLAN - TOLEDO METROPARKS

LUC - 2 - 18 . 62

51A
327



3	3' BED BIOSWALE SECTION
4	4' BED BIOSWALE SECTION
4R	4' BED BIOSWALE SECTION (REVERSED)
5	5' BED BIOSWALE SECTION
5R	5' BED BIOSWALE SECTION (REVERSED)
6	6' BED BIOSWALE SECTION
6R	6' BED BIOSWALE SECTION (REVERSED)

LEGEND

- BIOSWALE LAYOUT LINE
- BIOSWALE RESTORATION - CENTERLINE OF STONE BOTTOM
- ITEM 659 SEEDING AND MULCHING
- LANDSCAPE BOULDERS AND PLANTINGS
- COBBLE STONE BOTTOM (BIOSWALE)
- TRANSITION ZONE (BIOSWALE)
- PROPOSED ACCESS ROAD

HORIZONTAL SCALE IN FEET

CALCULATED

CHECKED

BIOSWALE AND LANDSCAPING PLAN - TOLEDO METROPARKS

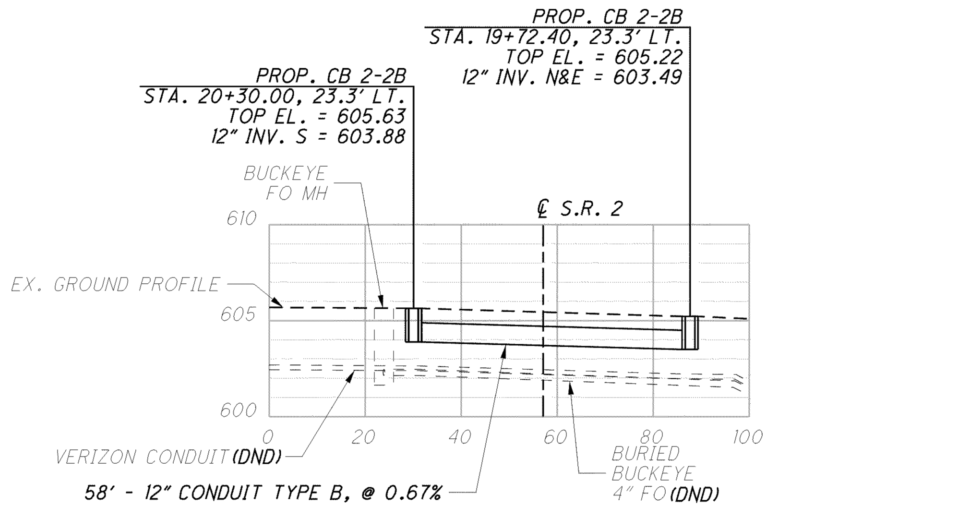
LUC - 2 - 18 . 62

NOTES:

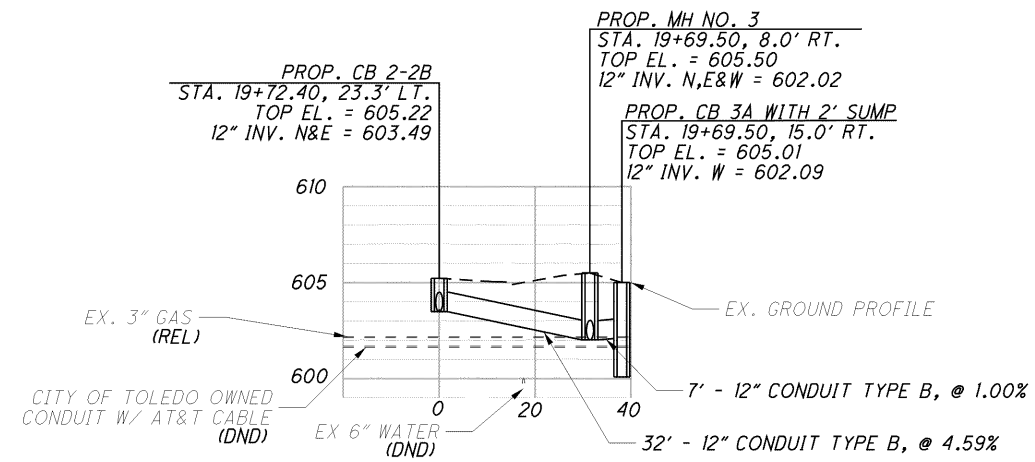
1. ALL STATIONS AND OFFSETS FROM MORRIS STREET UNLESS OTHERWISE NOTED.
2. SEE SHEETS 33-39 FOR STORM SEWER PLANS.

LEGEND

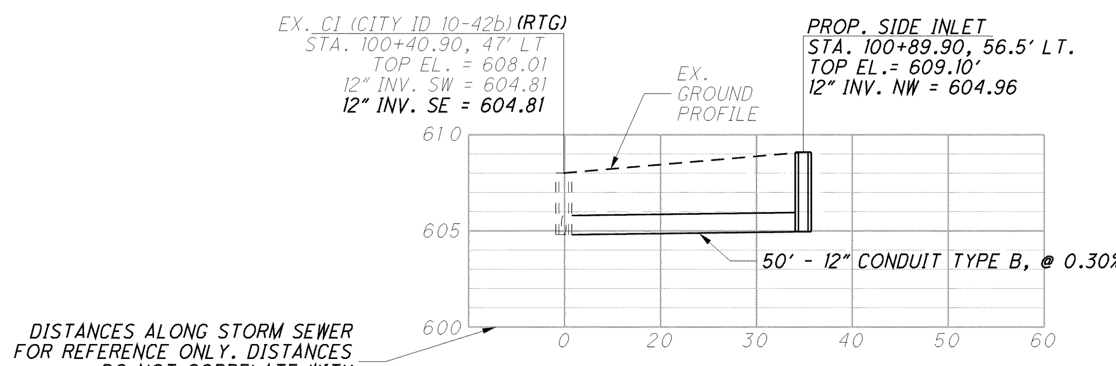
(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS
(RTG) - RECONSTRUCT TO GRADE



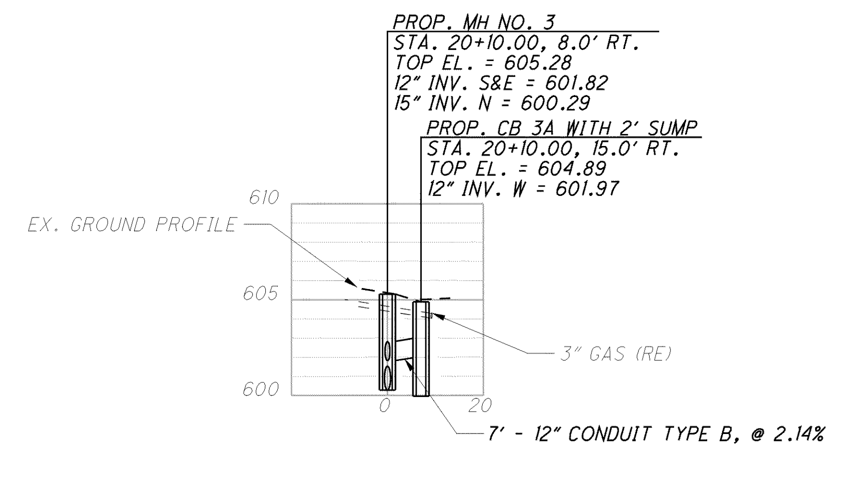
STORM SEWER PROFILE S.R. STA. 104+25 - (ALONG MORRIS STREET)



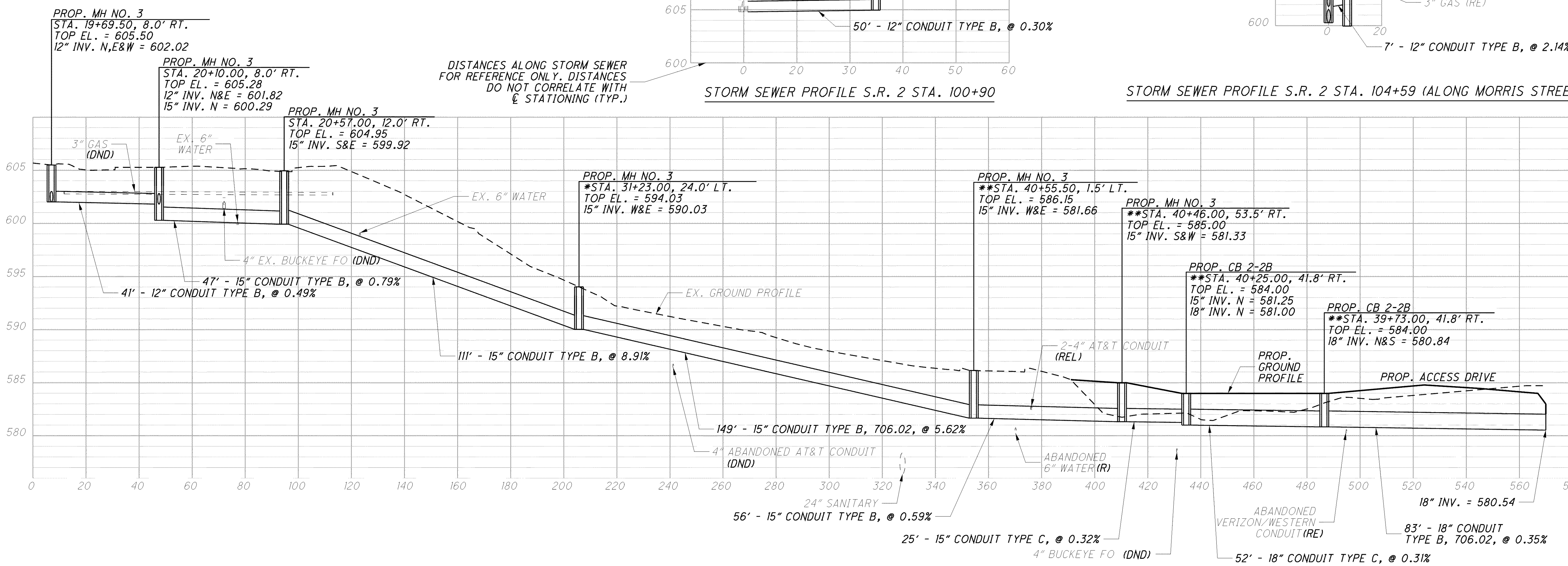
STORM SEWER PROFILE S.R. 2 STA. 104+25 (ALONG MORRIS STREET)



STORM SEWER PROFILE S.R. 2 STA. 100+90



STORM SEWER PROFILE S.R. 2 STA. 104+59 (ALONG MORRIS STREET)



STORM SEWER PROFILE S.R. 2 STA. 113+30 (ALONG MORRIS STREET, HALL STREET AND OTTAWA STREET)

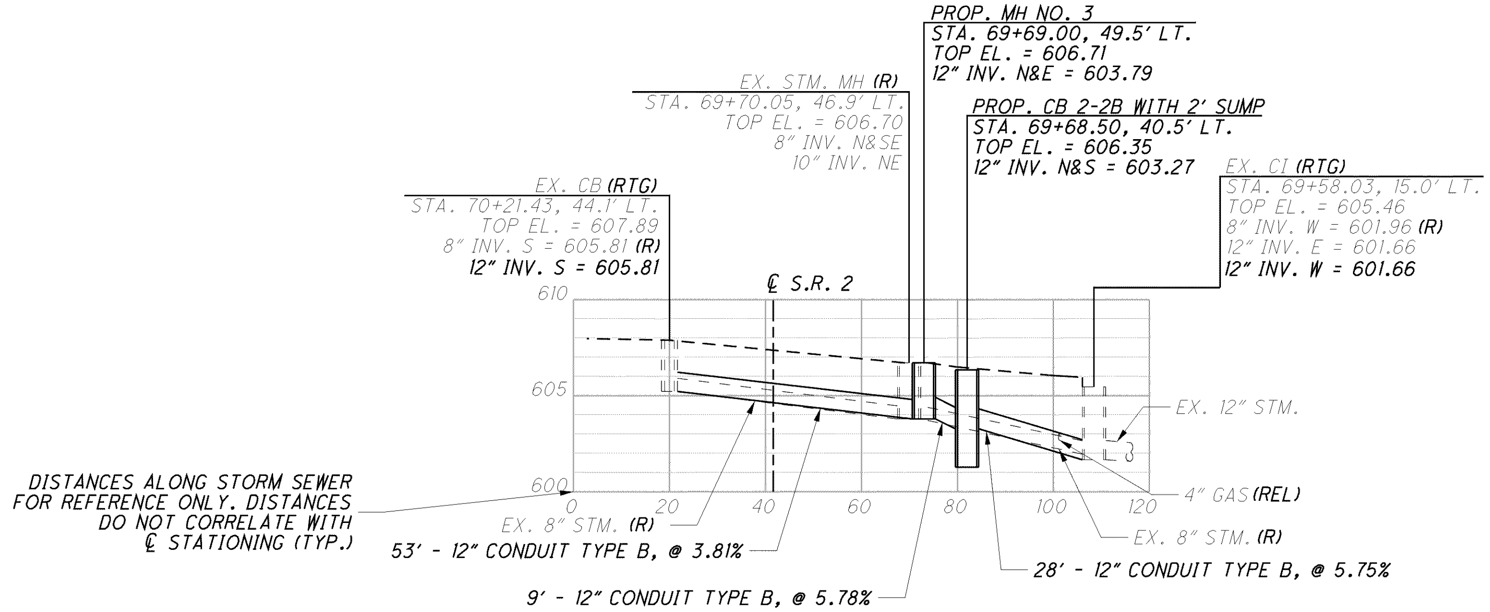
* STATIONS AND OFFSETS FROM HALL STREET
** STATIONS AND OFFSETS FROM OTTAWA STREET

NOTES:

1. SEE SHEETS 33-39 FOR STORM SEWER PLANS.

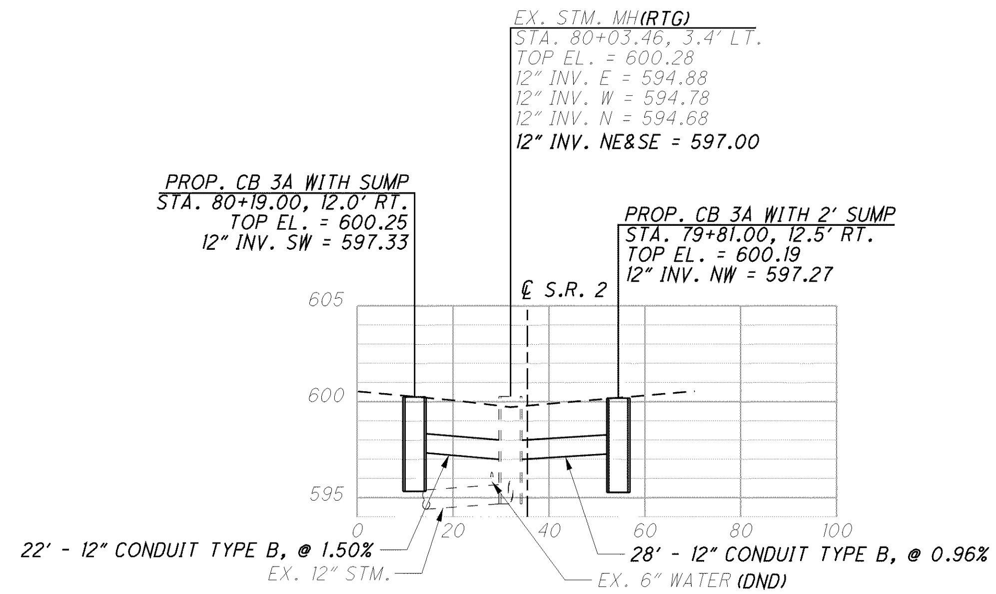
LEGEND

(DND) - DO NOT DISTURB
(A) - ABANDONED
(RBO) - REMOVED BY OTHER
(R) - REMOVE
(RR) - REMOVE AND REPLACE
(REL) - TO BE RELOCATED BY OTHERS
(RTG) - RECONSTRUCT TO GRADE



STORM SEWER PROFILE STA. S.R. 2 132+65 - (ALONG YONDOTA STREET)

(STATIONS AND OFFSETS FROM YONDOTA STREET)



STORM SEWER PROFILE STA. S.R. 2 135+97 (ALONG UTAH STREET)

(STATIONS AND OFFSETS FROM UTAH STREET)

CALCULATED AKM
CHECKED PSB

STORM SEWER PROFILES

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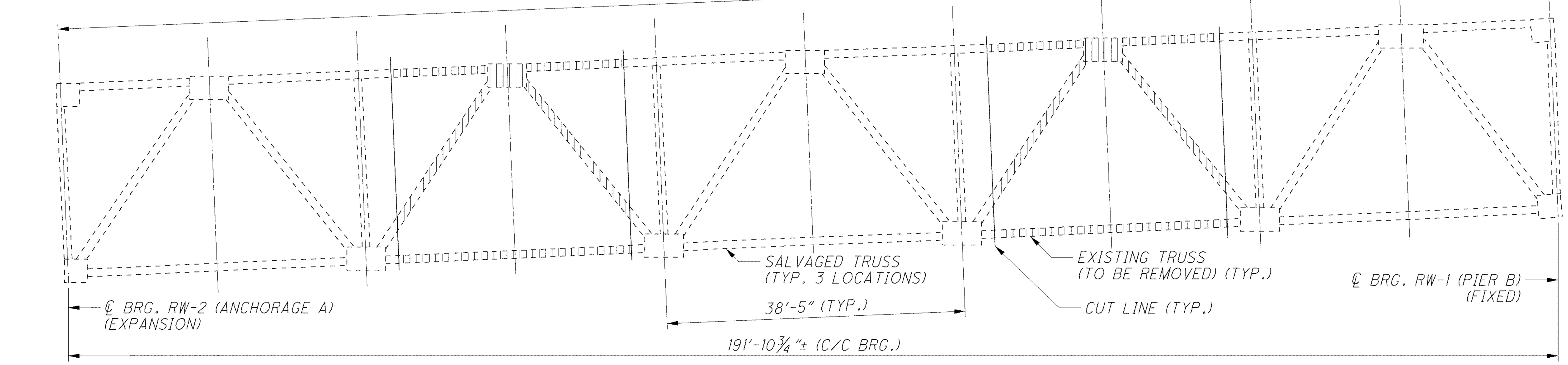
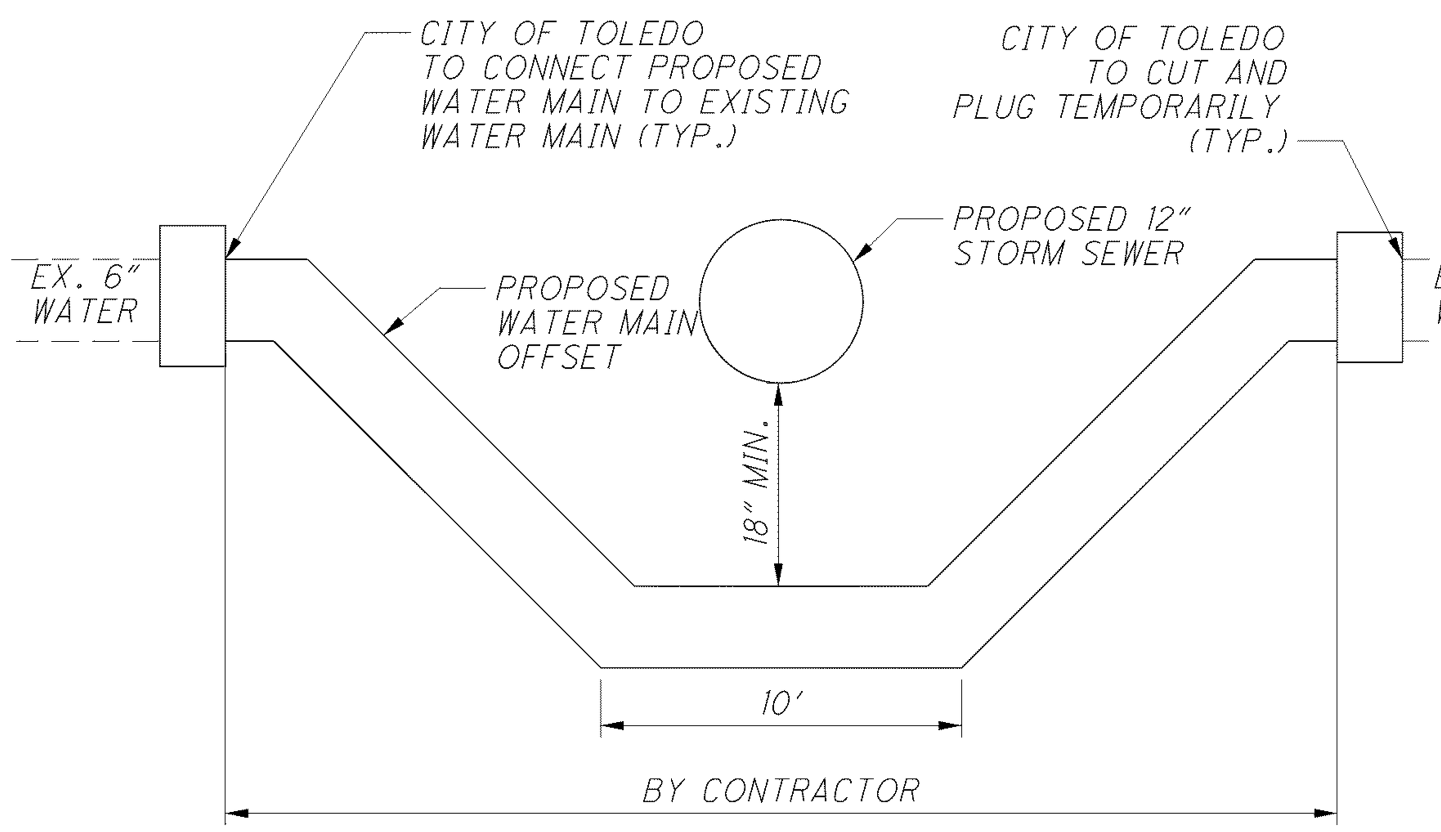
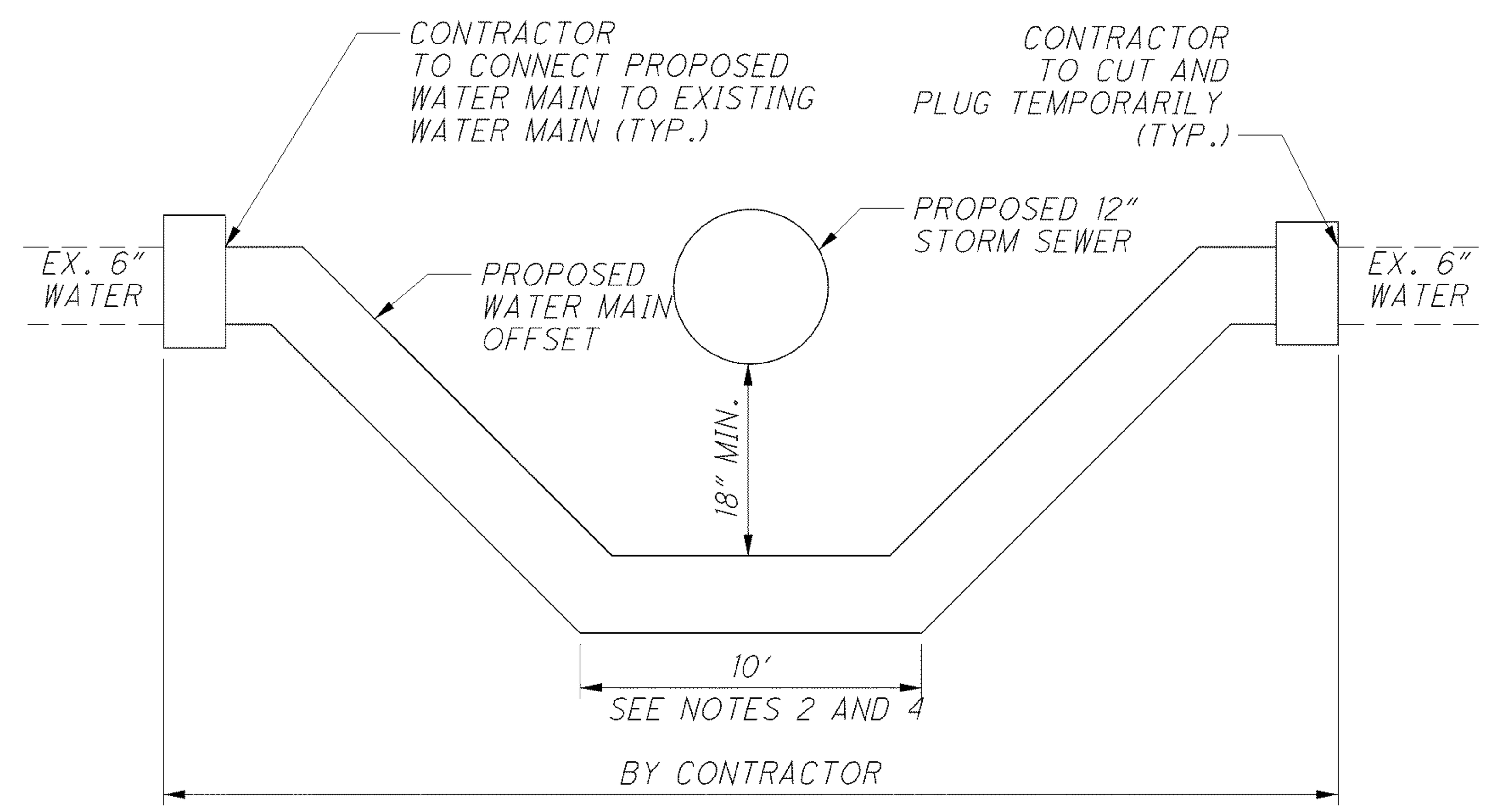
NOTE:
DIMENSIONS TAKEN FROM EXISTING PLANS



EXISTING DECK TRUSS SALVAGE ELEVATION
(SPANS RW-2 AND RW-1 ONLY)



CITY OWNED WATER MAIN OFFSET DETAIL
NOT TO SCALE
SEE NOTES 2 AND 3



PRIVATELY-OWNED WATER MAIN OFFSET DETAIL
NOT TO SCALE

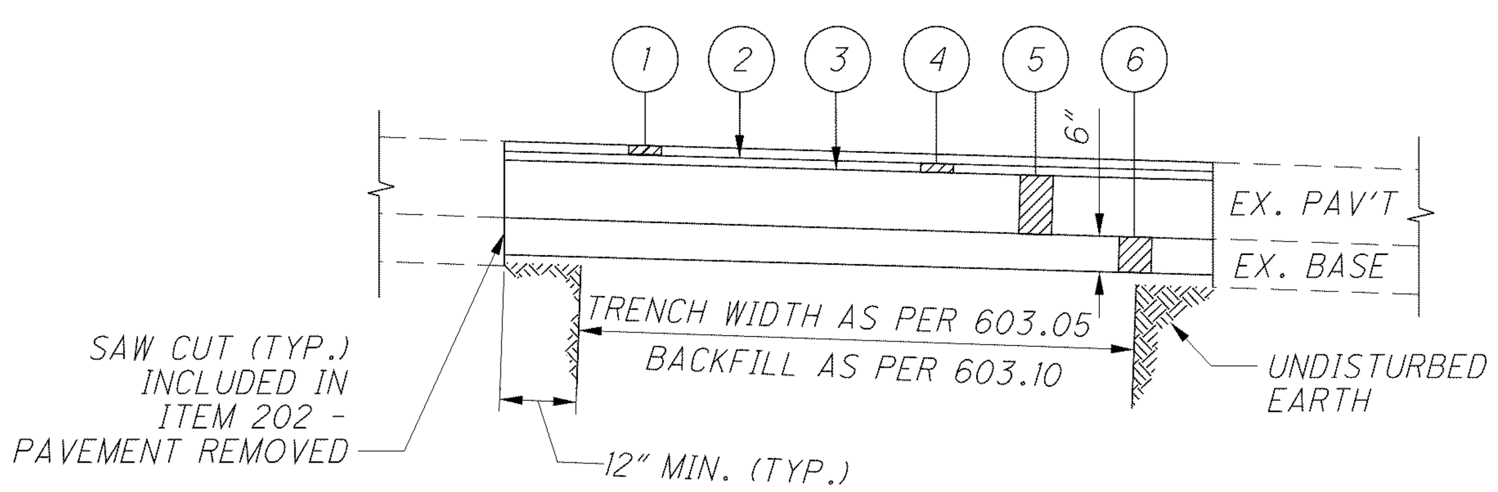
NOTES:

1. SEE SHEETS 34-39 FOR STORM SEWER PLANS.
2. CONTRACTOR TO FIELD VERIFY DEPTH OF EXISTING WATER MAIN PRIOR TO STARTING CONSTRUCTION OF STORM SEWER.
3. COORDINATE WITH THE CITY OF TOLEDO DIVISION OF WATER TO OFFSET EXISTING WATER MAIN.
4. A BOIL ADVISORY SHALL BE ISSUED PRIOR TO RETURNING THE WATER MAIN TO OPERATION.

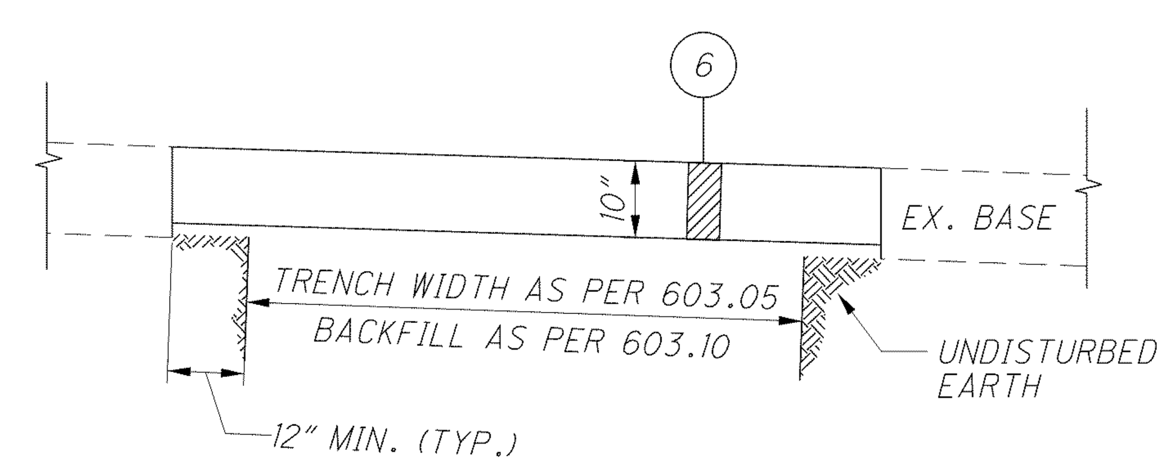
LEGEND

1. ITEM 448 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL./SQ. YD.
3. ITEM 407 - TACK COAT @ 0.075 GAL./SQ. YD.
4. ITEM 448 - 1.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22
5. ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 *
6. ITEM 304 - AGGREGATE BASE
7. ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT

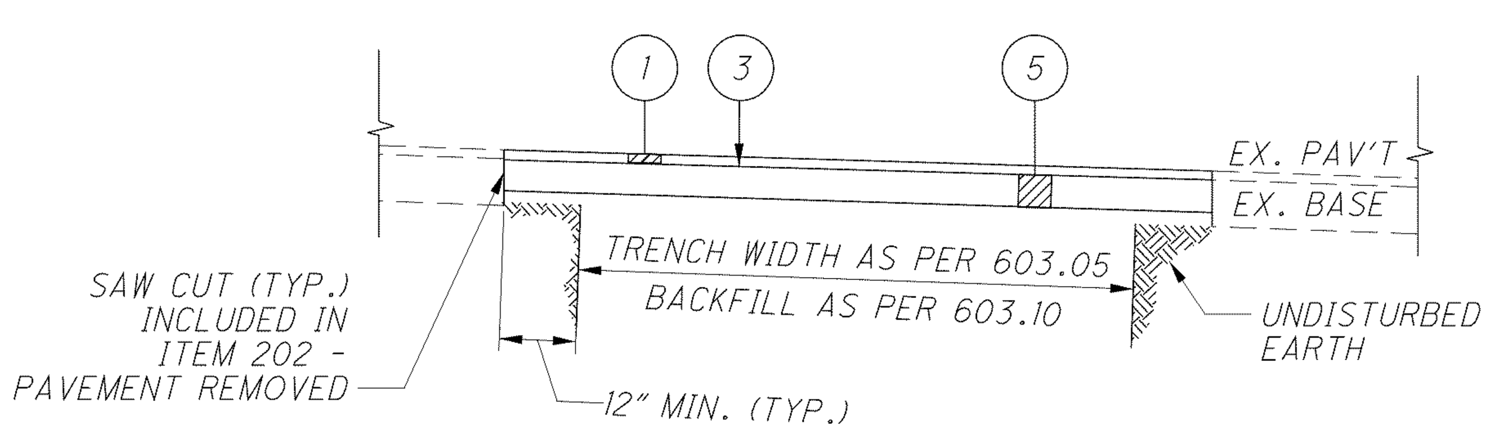
* MATCH EXISTING
(FOR QUANTITIES 7" FOR ROADWAY
AND 5" FOR PARKING LOT)



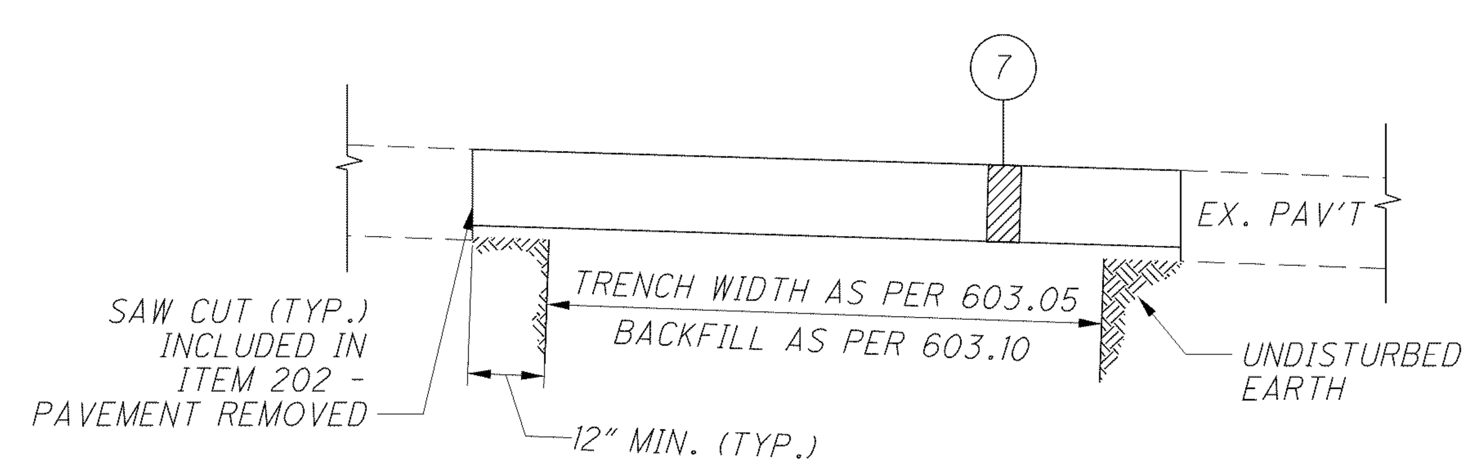
ROADWAY PAVEMENT RESTORATION FOR PIPE INSTALLATIONS
MORRIS STREET, OTTAWA STREET AND UTAH STREET



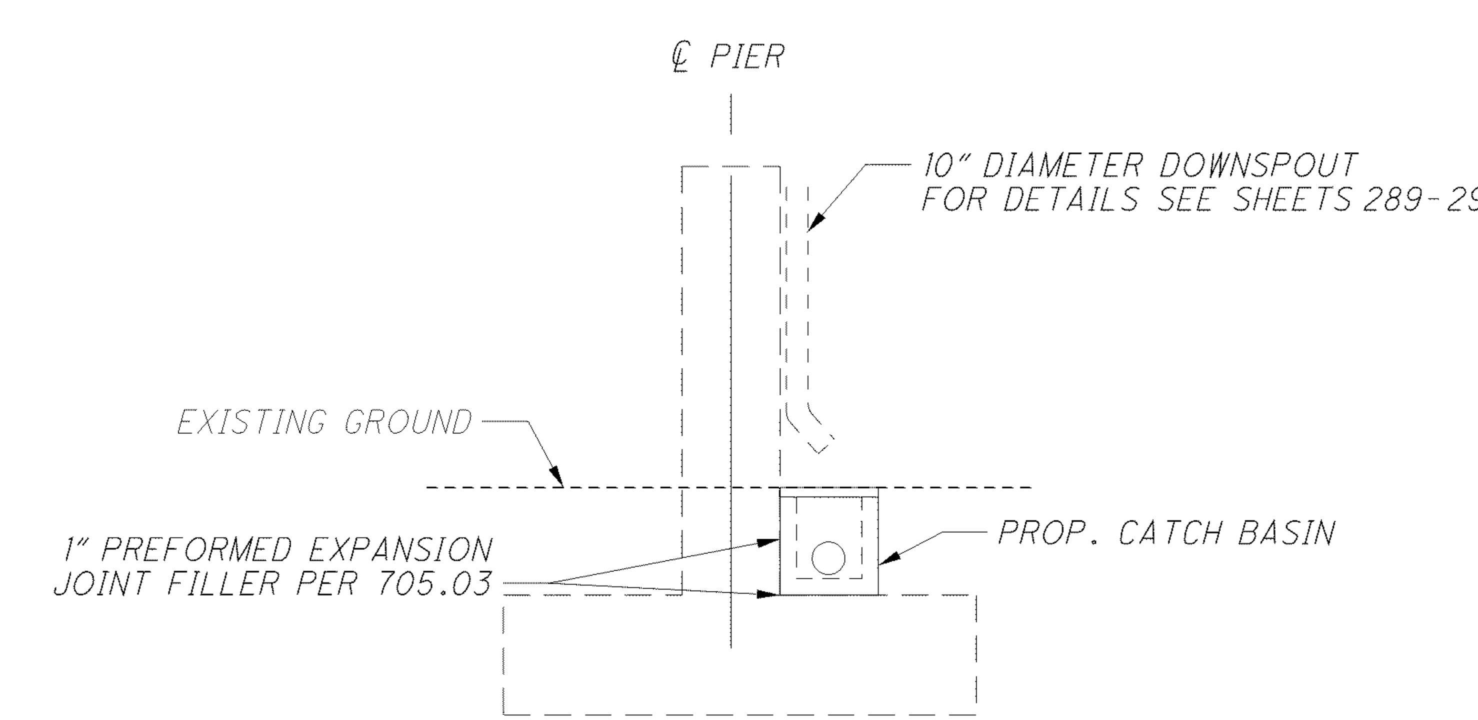
GRAVEL DRIVE PAVEMENT RESTORATION FOR PIPE INSTALLATIONS
HALL STREET



PARKING LOT PAVEMENT RESTORATION FOR PIPE INSTALLATIONS
PARKING LOT WEST OF YONDOTA STREET



CONCRETE DRIVE APRON RESTORATION FOR PIPE INSTALLATIONS
HALL STREET

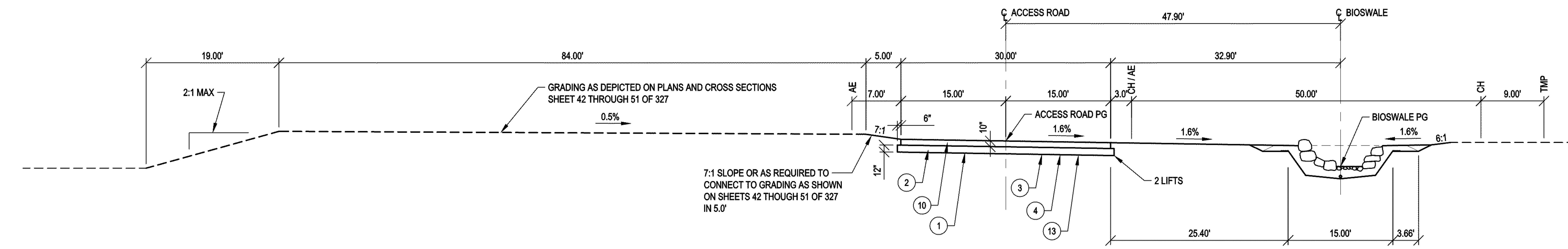


PROPOSED CATCH BASIN DETAIL

CALCULATED AKM
CHECKED PSB

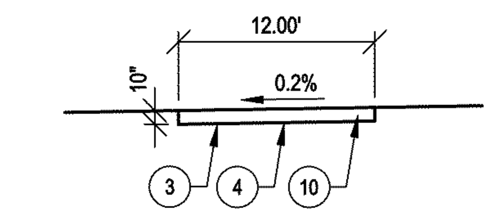
DRAINAGE DETAILS

LUC-2-18.62



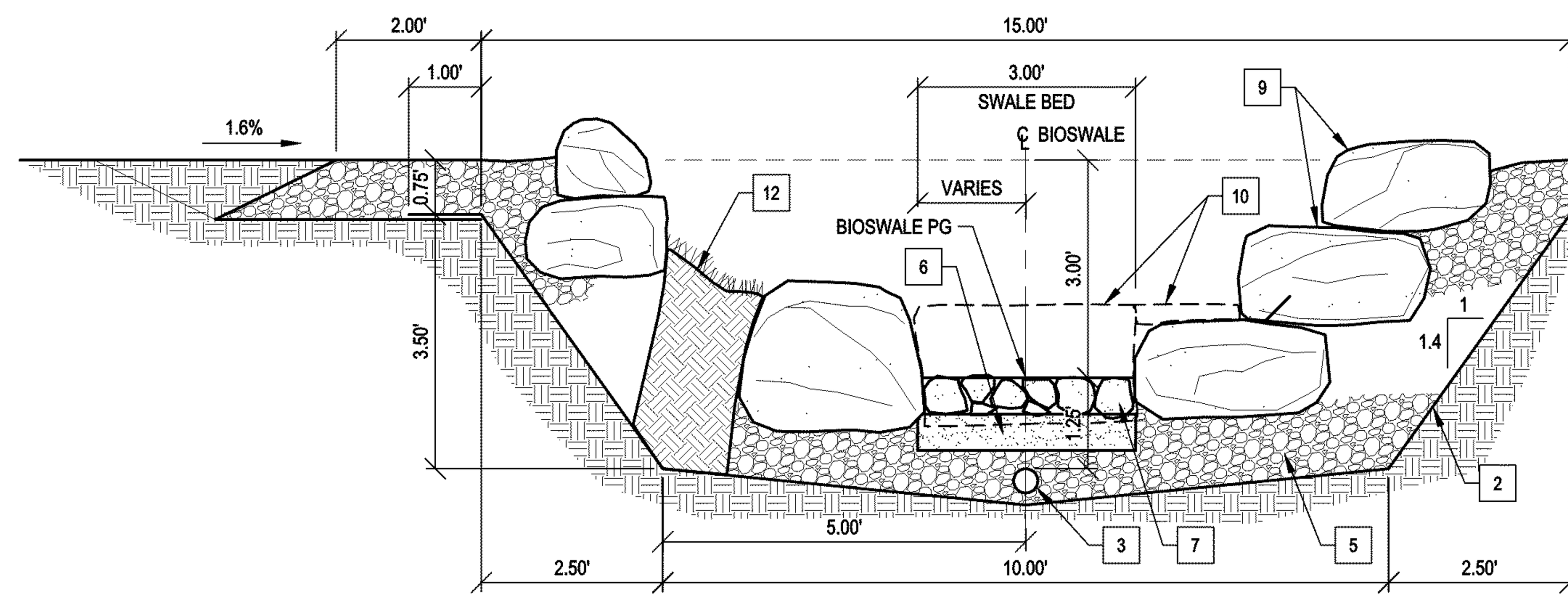
ACCESS ROAD AND BIOSWALE TYPICAL SECTION

LOOKING EAST SCALE 1" = 10'



AGGREGATE DRIVE

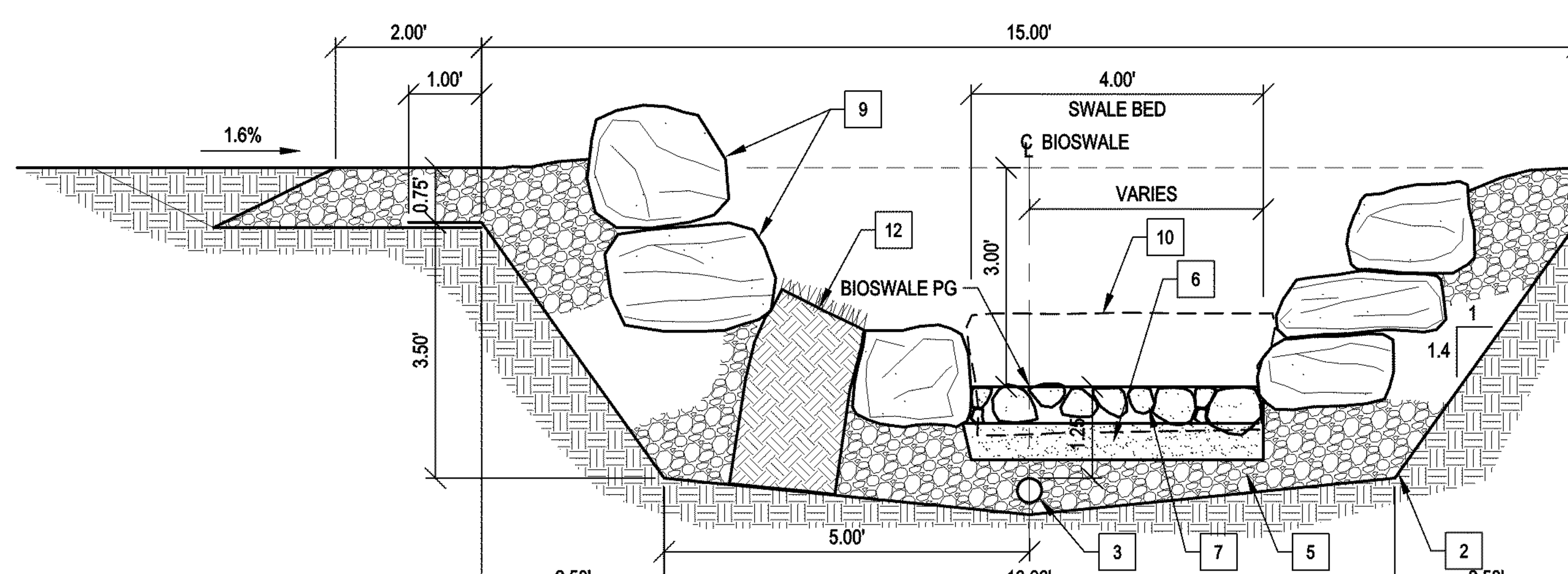
LOOKING SOUTH SCALE 1" = 10'



NOTE:
1. LANDSCAPE BOULDERS TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: LANDSCAPE BOULDERS.
2. SIZE 67 STONE AND GEOTEXTILE TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: BIOSWALE AGGREGATE
3. UNDERDRAIN TO BE PAID FOR AS ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN.
4. PLANTING POCKETS TO BE PAID FOR AS ITEM 661 - PERENNIALS: AS PER PLAN
5. COBBLE AND SAND TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: FIELDSTONE COBBLE

TYPICAL BIOSWALE SECTION - 3' BED

SCALE 1/2" = 1'-0"



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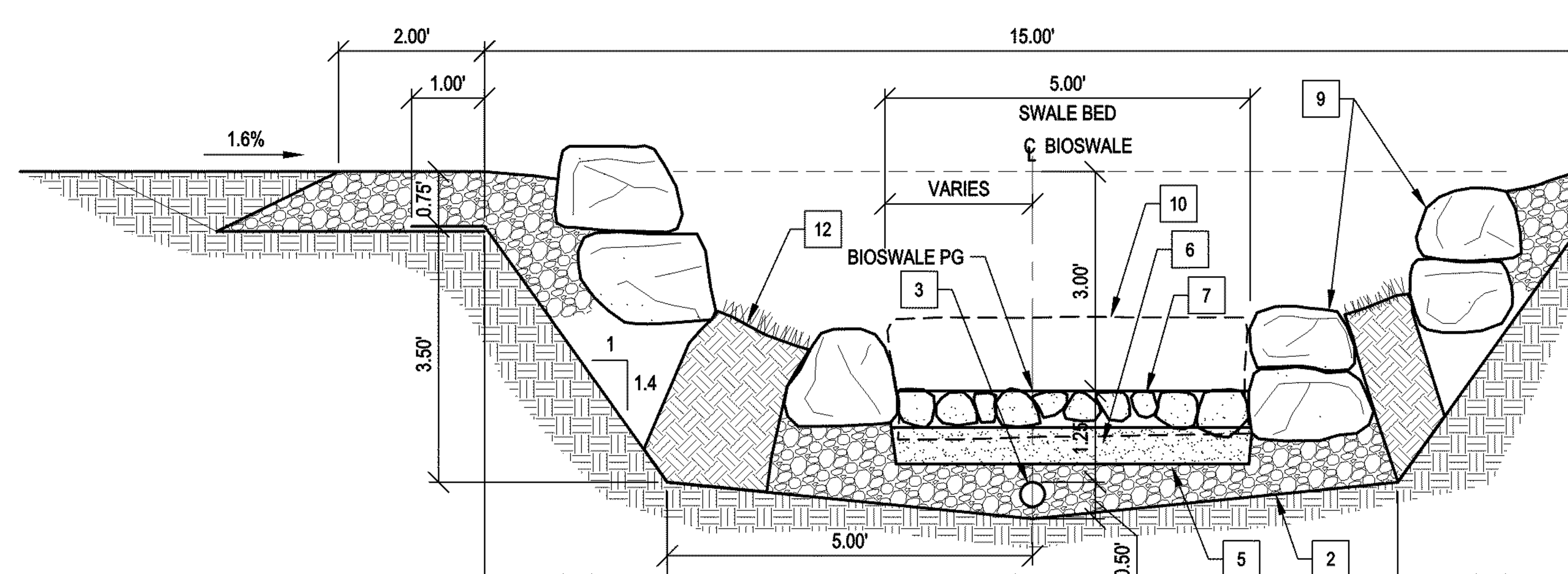
5. COBBLE AND SAND TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: FIELDSTONE COBBLE

TYPICAL BIOSWALE SECTION - 4' BED

SCALE 1/2" = 1'-0"



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4. PLANTING POCKETS TO BE PAID FOR AS ITEM 661 - PERENNIALS: AS PER PLAN
5. COBBLE AND SAND TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: FIELDSTONE COBBLE

TYPICAL BIOSWALE SECTION - 5' BED

SCALE 1/2" = 1'-0"

BIOSWALE LANDSCAPE BOULDER NOTES:

1. LANDSCAPE BOULDERS IN BIOSWALE SHALL BE BEREA SANDSTONE AS SUPPLIED BY CLEVELAND QUARRIES 5270 DEVON DRIVE VERMILLION, OHIO 44089, OR APPROVED EQUAL. CLEVELAND QUARRY CONTACT IS DAVE DUNN (440) 963-4008.
2. LANDSCAPE BOULDERS SHALL BE PROTECTED FROM MACHINE SCARRING AND OTHER DAMAGE DURING DELIVERY AND STORAGE ON SITE. STORE BOULDERS TO AVOID CONTACT WITH SOIL AND IN A MANNER THAT ALLOWS BOULDERS TO BE SELECTED FOR PLACEMENT.
3. LANDSCAPE BOULDERS ARE INTENDED TO BE ARRANGED SO THAT A NATURAL APPEARANCE IS ACHIEVED. BOULDERS SHALL BE INDIVIDUALLY PLACED IN THE SWALE. BOULDERS SHALL BE CAREFULLY PLACED TO AVOID DAMAGE OR SCARRING TO BOULDERS. DO NOT USE BOULDERS WITH MAJOR CRACKS.
4. SIZE RANGE (IN INCHES) OF LANDSCAPE BOULDERS SHALL BE AS FOLLOWS:

LENGTH	WIDTH	HEIGHT
18" MIN., 48" MAX.	14" MIN., 36" MAX.	8" MIN., 24" MAX.

5. DISTRIBUTION OF BOULDER SIZES SHALL BE GENERALLY AS FOLLOWS:

PERCENT OF TOTAL BOULDERS	LENGTH	WIDTH	HEIGHT
33%	18"-30"	14"-24"	8"-12"
33%	30"-42"	24"-30"	12"-18"
33%	42"-48"	30"-36"	18"-24"

6. SUBMIT CERTIFICATION STATING THAT ALL LANDSCAPE BOULDERS WILL BE OF SIMILAR TYPE AND HAVE SIMILAR PROPERTIES.
7. THE COLOR RANGE OF LANDSCAPE BOULDERS MAY VARY, BUT THE GENERAL COLOR RANGE IS BUFF TO TAN.
8. THE TYPICAL SANDSTONE REQUIRED SHALL BE GENERALLY FLAT ON TOP AND BOTTOM AS SHOWN ON THE DRAWINGS. STONE SHALL BE SET SO THAT THEY DO NOT ROCK. CHINKING IS PERMITTED TO ELIMINATE ROCKING AND TO FILL LARGE GAPS BETWEEN STONES. STONES SHALL BE SET GENERALLY FLAT SO THAT THE NATURAL BED GRAIN OF THE STONE IS HORIZONTAL. STONES WITH ROUNDED TOPS ARE PERMITTED AT THE TOP TIER OF STACKED STONES. QUARRY MARKS SUCH AS DRILL HOLES ARE PERMITTED.
9. LANDSCAPE BOULDERS ARE SUBJECT TO APPROVAL BY THE TOLEDO METROPARKS. TOLEDO METROPARKS SHALL BE PRESENT, AND APPROVE IN WRITING ALL STONE AT THE SOURCE PRIOR TO DELIVERY TO THE SITE. NOTIFY THE TOLEDO METROPARKS NO LESS THAN 5 WORKING DAYS BEFORE A REVIEW. PHOTOGRAPHS OF PROPOSED LANDSCAPE BOULDERS MAY BE SUBMITTED PRIOR TO REVIEW BUT WILL NOT SUBSTITUTE AN ACTUAL REVIEW AT THE SOURCE. TOLEDO METROPARKS NOTIFICATION OF ACCEPTANCE OR REJECTION IS ANTICIPATED WITHIN 5 BUSINESS DAYS OF A REVIEW AT THE SOURCE.
10. APPROVAL IS REQUIRED FOR A PROTOTYPE SECTION OF BOULDER PLACEMENT IN THE STORMWATER SWALE. THE TOLEDO METROPARKS SHALL BE PRESENT TO OBSERVE THE PLACEMENT OF LANDSCAPE BOULDERS IN A PROTOTYPE SEGMENT OF SWALE APPROXIMATELY 20 FEET IN LENGTH AND THE FULL WIDTH OF SWALE. THIS PROTOTYPE SEGMENT MAY BE PART OF THE WORK, NOT A SEPARATE MOCK UP. THE PROTOTYPE SECTION SHALL INCLUDE ALL COMPONENTS OF THE COMPLETED STORMWATER SWALE INCLUDING GRAVEL BASE, COBBLE BOTTOM, OPENINGS FOR PLANTING AND BOULDER PLACEMENT. LANDSCAPE BOULDER PLACEMENT WITHIN THE PROTOTYPE SECTION SHALL BE ADJUSTED AS DIRECTED BY THE TOLEDO METROPARKS UNTIL AN ACCEPTABLE CONFIGURATION IS ACHIEVED. THE TOLEDO METROPARKS SHALL PROVIDE WRITTEN NOTICE OF APPROVAL. BOULDER PLACEMENT IN ADDITIONAL SECTIONS OF THE BIOSWALE SHALL NOT BEGIN UNTIL THE CONTRACTOR RECEIVES WRITTEN NOTIFICATION THAT THE PROTOTYPE SECTION HAS BEEN APPROVED. NOTIFY THE TOLEDO METROPARKS NO LESS THAN 5 WORKING DAYS BEFORE A REVIEW. TOLEDO METROPARKS NOTIFICATION OF ACCEPTANCE OR REJECTION IS ANTICIPATED WITHIN 2 BUSINESS DAYS OF A REVIEW OF BOULDER PLACEMENT. SUBSEQUENT BOULDER PLACEMENT SHALL BE SIMILAR IN CHARACTER TO THE APPROVED SECTION.
11. TOLEDO METROPARKS SHALL MAKE PERIODIC VISITS TO THE SITE TO ADVISE ON BOULDER PLACEMENT.
12. ALL BIOSWALE LANDSCAPE BOULDERS SHALL BE PAID FOR UNDER PERTINENT ITEM 203 ROADWAY MISC.: LANDSCAPE BOULDERS.

BIOSWALE UNDERDRAIN NOTES:

1. BIOSWALE UNDERDRAIN TO BE 4" NOMINAL, SLOTTED PVC PIPE, SDR26, 0.010" SLOT WIDTH, 0.25" SLOT SPACING, WITH AN O.D. OPEN AREA OF 3.0 SQUARE INCHES PER FOOT OF PIPE, SOLVENT WELD, BELLED END JOINTS. PIPE TO BE AS MANUFACTURED BY CERTAINTEED OR TOLEDO METROPARKS APPROVED EQUAL. GEOTEXTILE WRAP (SOCK) TO BE PER 712.09, TYPE A. PAYMENT SHALL BE MADE UNDER ITEM 605 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN,
2. BALL VALVE FOR BIOSWALE UNDERDRAIN TO BE 4" DIAMETER, FULL PORT BALL VALVE FOR SCHEDULE 40 / SCHEDULE 80 PIPE, SOCKET ENDS, PVC BODY AND BALL, TPE SEAT, FKM O-RING, AND RED ABS HANDLE. VALVE TO BE AS MANUFACTURED BY WEBSTONE VALVE COMPANY, OR TOLEDO METROPARKS APPROVED EQUAL. PAYMENT SHALL BE MADE UNDER ITEM 605 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN.

MATERIAL KEYNOTES:

1. GRANULAR MATERIAL, ITEM 703.16, TYPE D
2. GEOTEXTILE FABRIC, ITEM 712.09
3. 4" SLOTTED PVC UNDERDRAIN WITH WRAP
4. 4" UNDERDRAIN BALL VALVE
5. CRUSHED STONE, TABLE 703.01-1, SIZE 67
6. NATURAL SAND, ITEM 703.02
7. COBBLE, ROUNDED NATURAL GLACIAL (FIELD STONE), 4"-6"
8. AGGREGATE BASE, ITEM 304, 703.17
9. LANDSCAPE BOULDERS, BEREA SANDSTONE
10. WEIR STONE, BEREA SANDSTONE
11. ROCK CHANNEL PROTECTION, TYPE D, NATURAL STONE
12. PLANTING POCKET, 18" DEEP PLANTING MIX
13. STORM WATER TROUGH
14. TRENCH DRAIN
15. 6" REINFORCED CONCRETE PAVEMENT. CONCRETE PAD, 10'-0" x 16'-0" x 6" THICK, CLASS C CONCRETE WITH 1.0 LB PER CUBIC YARD SYNTHETIC FIBRILLATED FIBER REINFORCEMENT.
16. TRENCH DRAIN GRATE, ADA COMPLIANT, 2"x1/4" BAR, 1/2" SPACE, WELDED CONSTRUCTION, GALVANIZED, ANTI-SKID SURFACE FINISH, WITH FOUR ANCHOR BLOCKS PER GRATING PANEL.
17. TRENCH DRAIN GRATE, RATED FOR H20 LOADING, 2 1/2"x3/16" BAR, 9/16" SPACE, WELDED CONSTRUCTION, GALVANIZED, ANTI-SKID SURFACE FINISH, WITH FOUR ANCHOR BLOCKS PER GRATING PANEL.
18. PEDESTRIAN BRIDGE ABUTMENT
19. 18" CONDUIT, REFER TO SHEET 52 OF 327
20. 24" CONDUIT, TYPE A, 707.33, 30'-0" LONG
21. CONCRETE - CLASS C
22. REINFORCING STEEL, #5 BARS @ 12" O.C.
23. GALVANIZED STEEL ANGLE, 4"x3"x1/2" WITH 2" ANCHORS @ 18" O.C.
24. GALVANIZED STEEL ANGLE, 3"x2 1/2"x 1/2" WITH 2" ANCHORS @ 18" O.C.
25. BAR GRATING, TROUGH CLOSURE, 2 1/2"x3/16" BAR, 9/16" SPACE, WELDED CONSTRUCTION, GALVANIZED, 39" WIDE x 16" HIGH, BANDED
26. BAR GRATING, TRENCH DRAIN CLOSURE, 2 1/2"x3/16" BAR, 9/16" SPACE, WELDED CONSTRUCTION, GALVANIZED, 33" WIDE x 20" HIGH, BANDED
27. TROUGH WALL
28. BAFFLE WALL
29. 3" WIDE x 2" DEEP FORMED POCKET IN CONCRETE TO RECEIVE BAR GRATE
30. CONCRETE PLANTER CURB
31. BOND BREAKER
32. WATER STOP, ONE PART POLYURETHANE, EXTRUDABLE SWELLING, BENTONITE FREE WATERSTOP, SIKASWELL S-2, OR ENGINEER APPROVED EQUAL
33. DOWEL BAR, 1/2" DIAMETER x 8" LONG SMOOTH STEEL, CENTERED ON JOINT, PLACE DOWELS ON BOTTOM AND SIDES OF TRENCH DRAIN TO TROUGH CONNECTION. SPACE DOWELS @ 18" O.C.
34. PREFORMED JOINT FILLER, ITEM 705.03
35. 2" DIAMETER HOLE IN TROUGH WALL, 4'-0" O.C., BOTTOM OF HOLE 1'-4" FROM BOTTOM OF TROUGH
36. PLANTING MIX, 18" DEEP
37. FILTER FABRIC, TYPE B

NOTE:
(1) SEE
[1] KEYNOTES

HORIZONTAL SCALE

CALCULATED
CHECKED

DRAINAGE DETAILS

LUC-2-18.62

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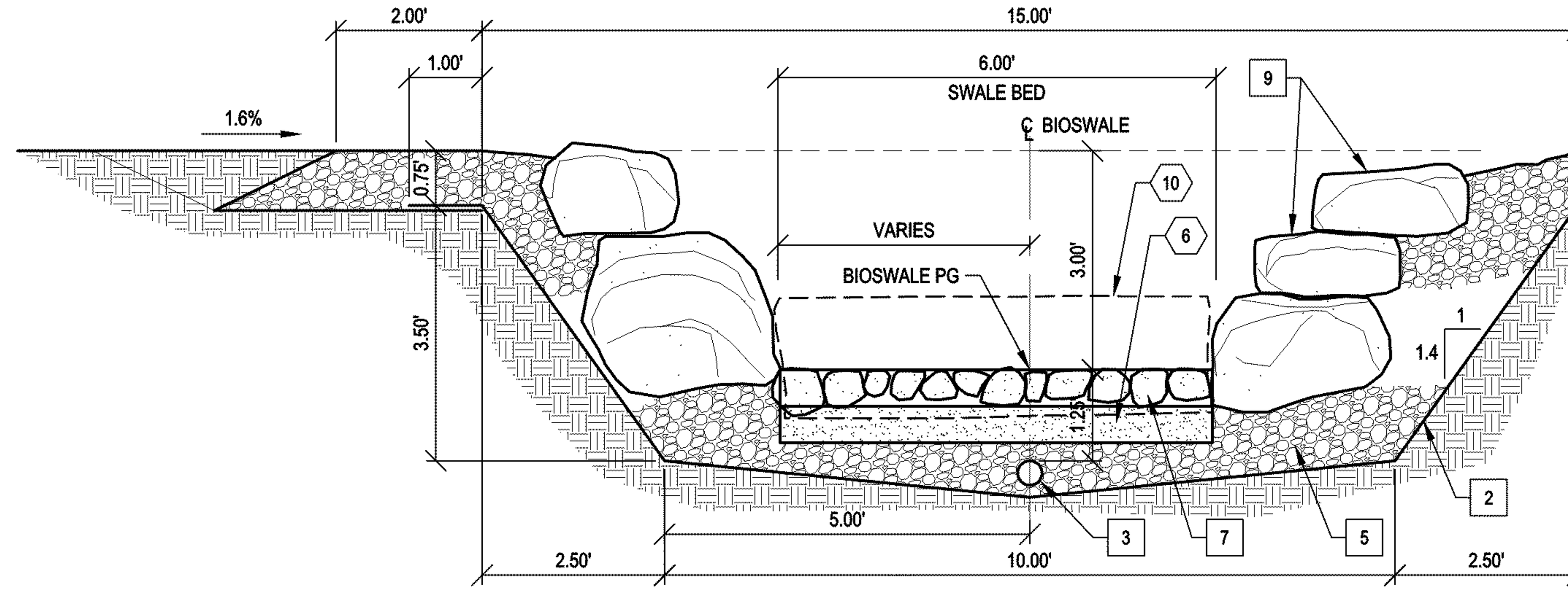

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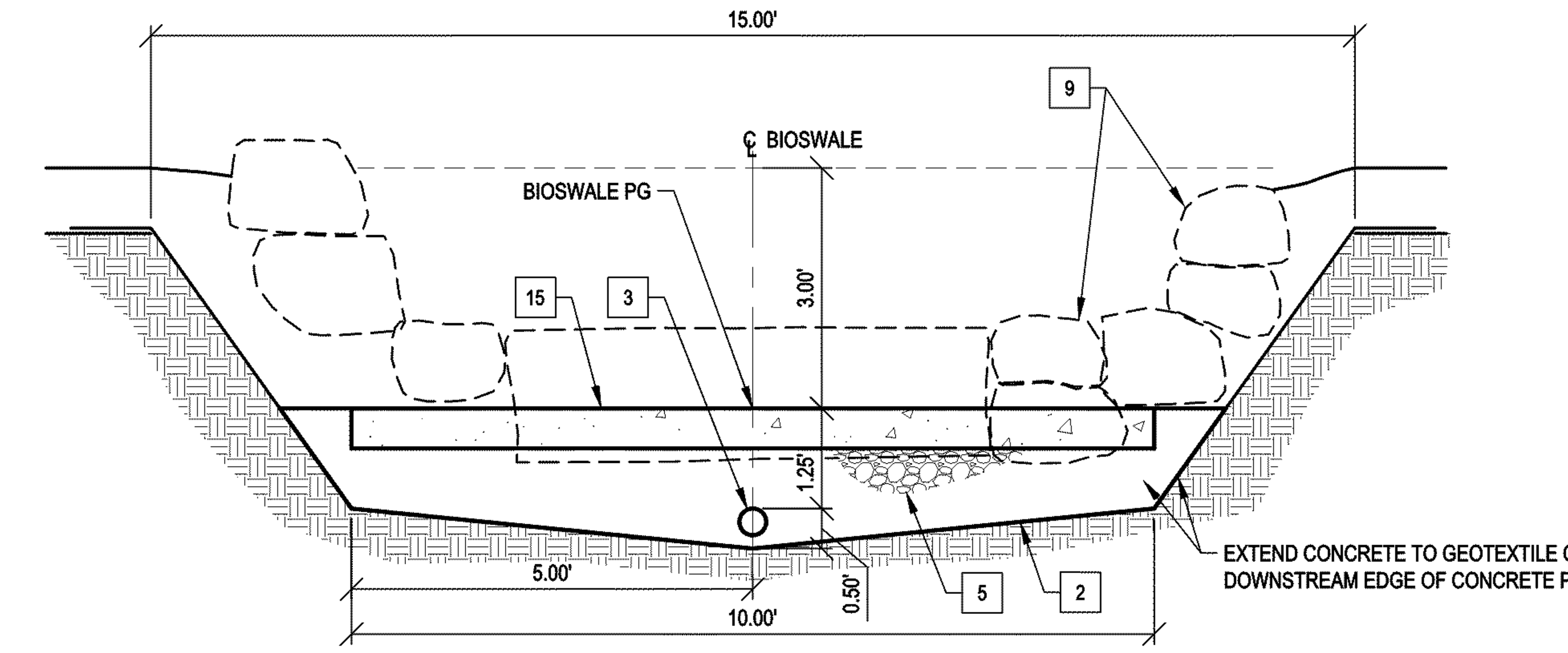
5. COBBLE AND SAND TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: FIELDSTONE COBBLE

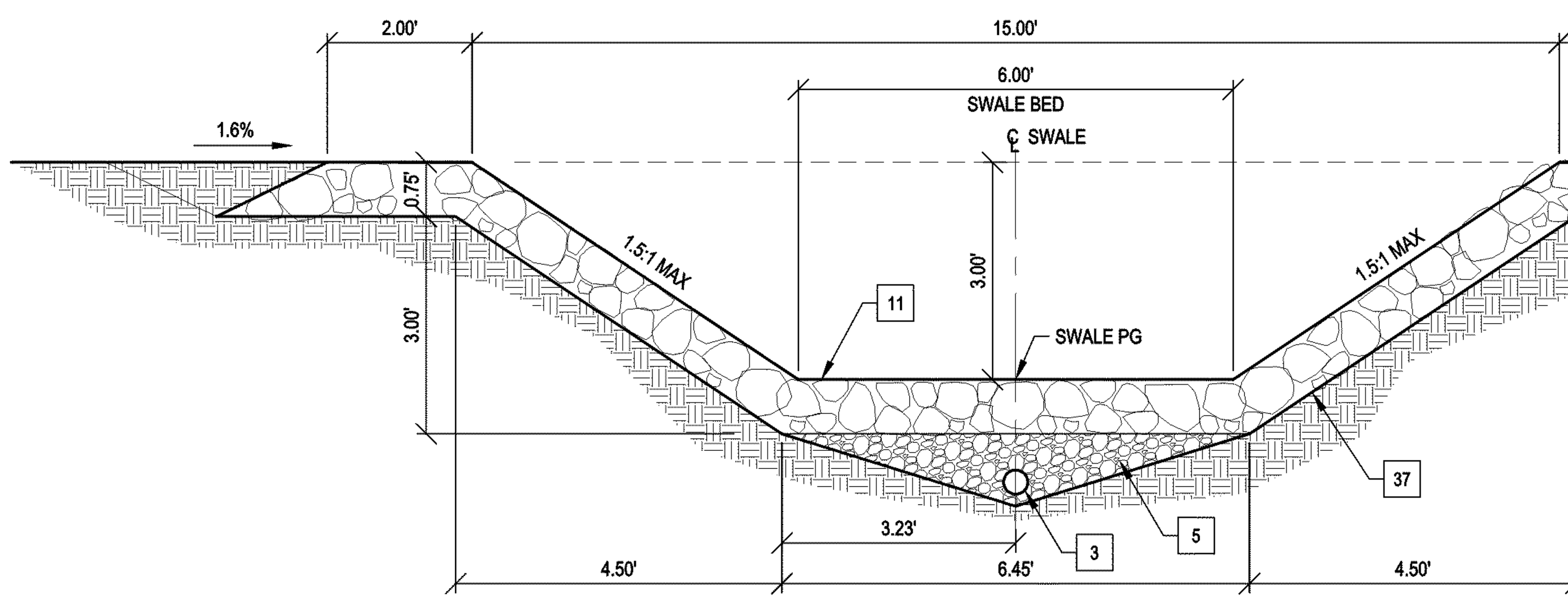
TYPICAL BIOSWALE SECTION - 6' BED

SCALE 1/2" = 1'-0"



CHANNEL CLOSURE WALL AT WEIR 7

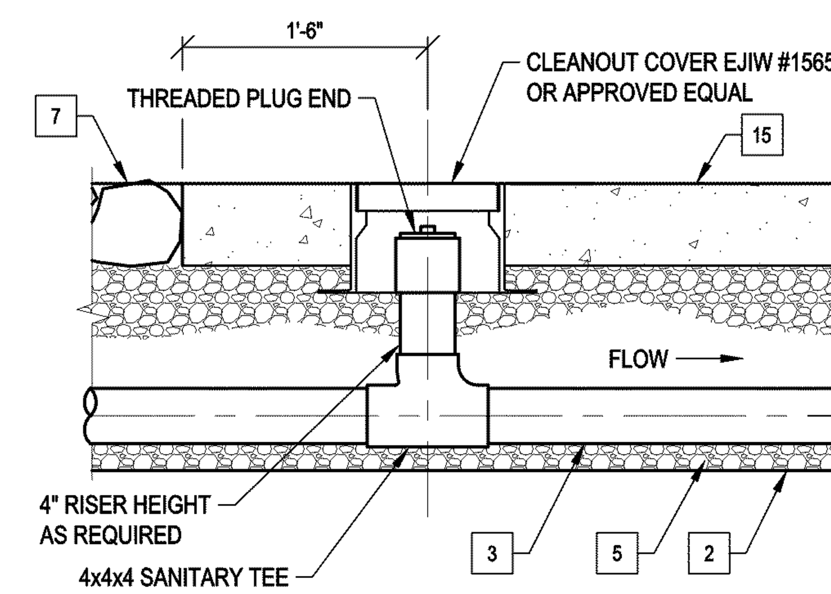
SCALE 1/2" = 1'-0"



NOTE:
1. ROCK CHANNEL PROTECTION AND FILTER FABRIC TO BE PAID FOR AS ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITH FILTER.
2. SIZE 67 STONE TO BE PAID FOR AS ITEM 203 - ROADWAY, MISC.: BIOSWALE AGGREGATE.
3. UNDERDRAIN TO BE PAID FOR AS ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN

TYPICAL ROCK LINED SWALE

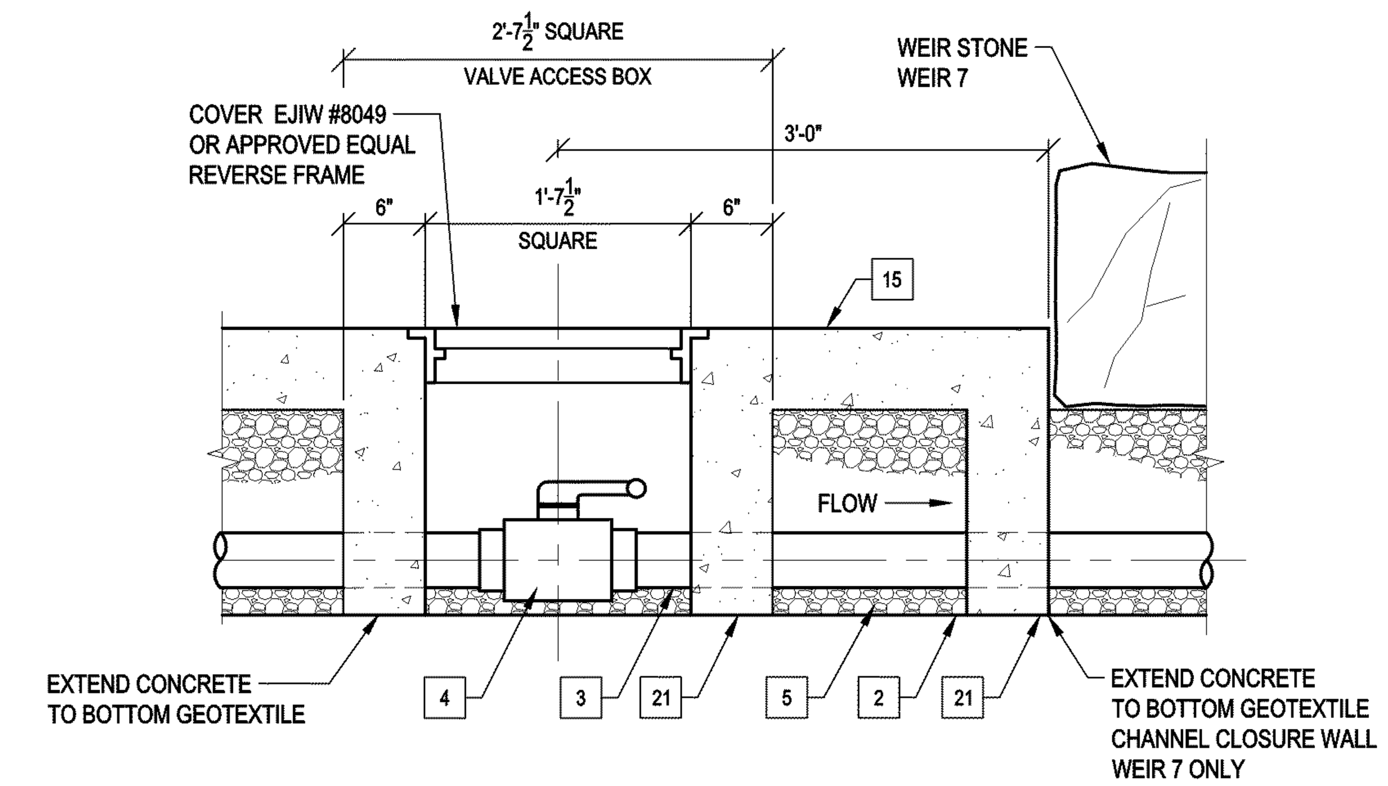
SCALE 1/2" = 1'-0"



UNDERDRAIN CLEANOUT

SCALE 1" = 1'-0"

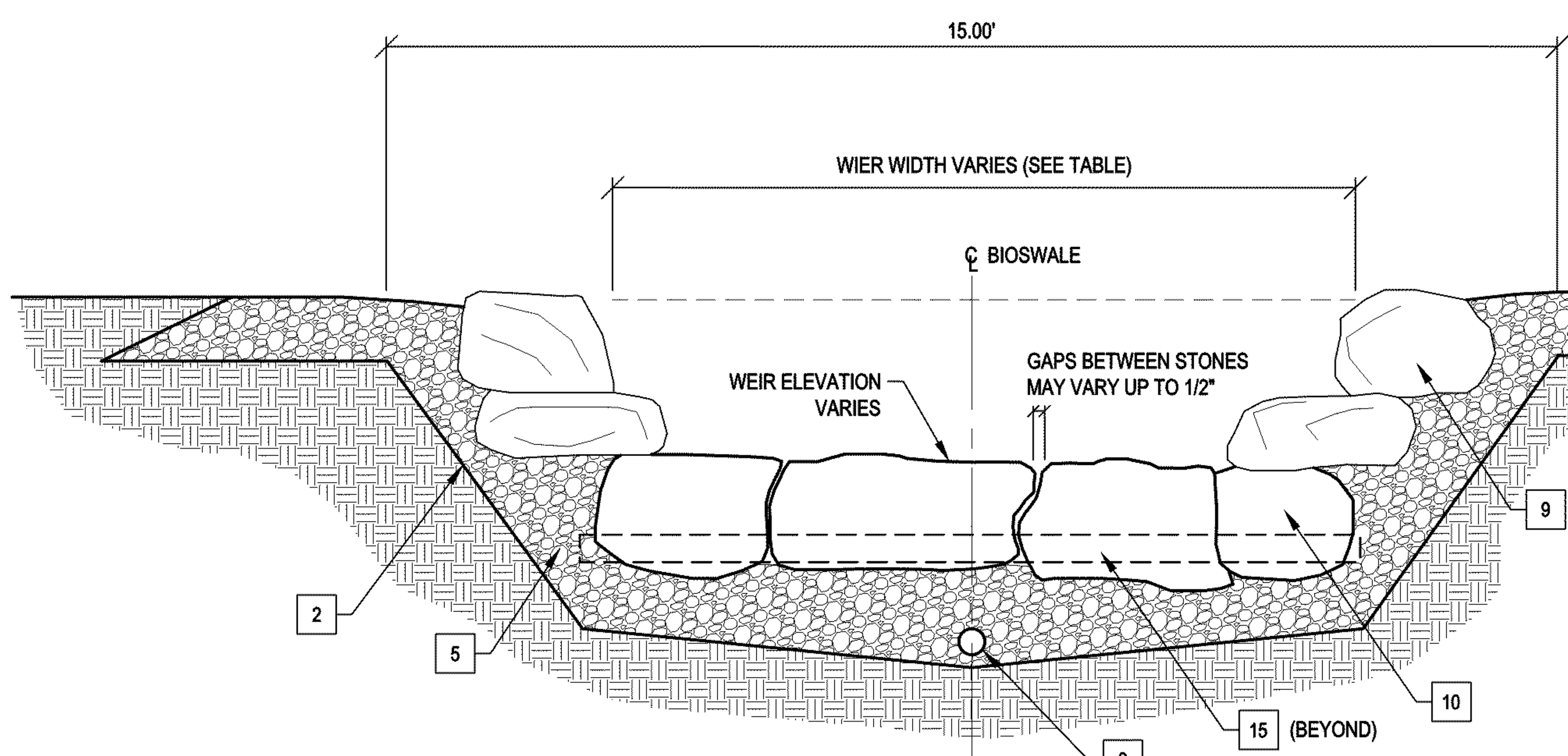
NOTE:
PAYMENT SHALL BE MADE UNDER ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN



UNDERDRAIN BALL VALVE AND CHANNEL CLOSURE WALL

SCALE 1" = 1'-0"

NOTE:
PAYMENT SHALL BE MADE UNDER ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN



NOTE:
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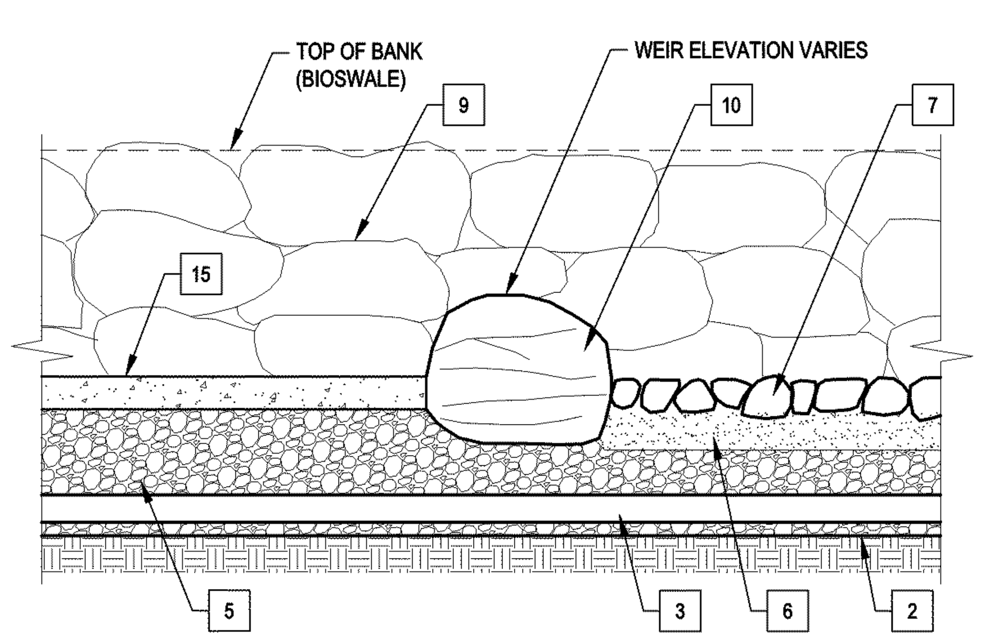
3. UNDERDRAIN TO BE PAID FOR AS ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN.

WEIR WIDTH TABLE

WEIR NUMBER	WEIR WIDTH
1-4	3' - 4'
5-6	5' - 6'
7	6'

TYPICAL WEIR ELEVATION

SCALE 1/2" = 1'-0"



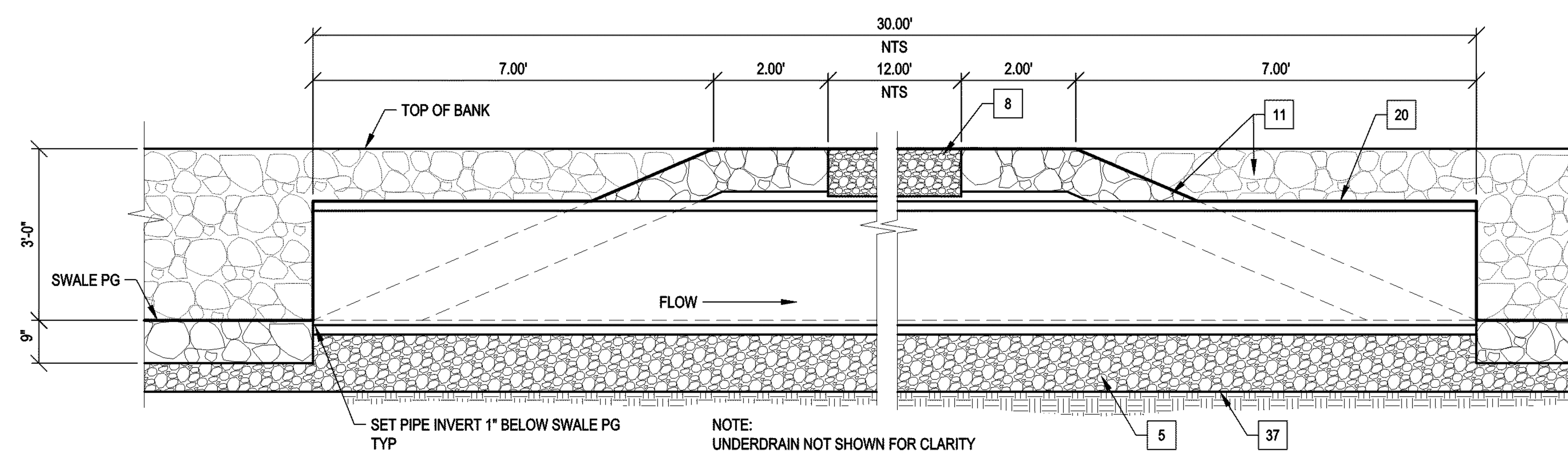
TYPICAL WEIR SECTION

SCALE 1/2" = 1'-0"

NOTE:

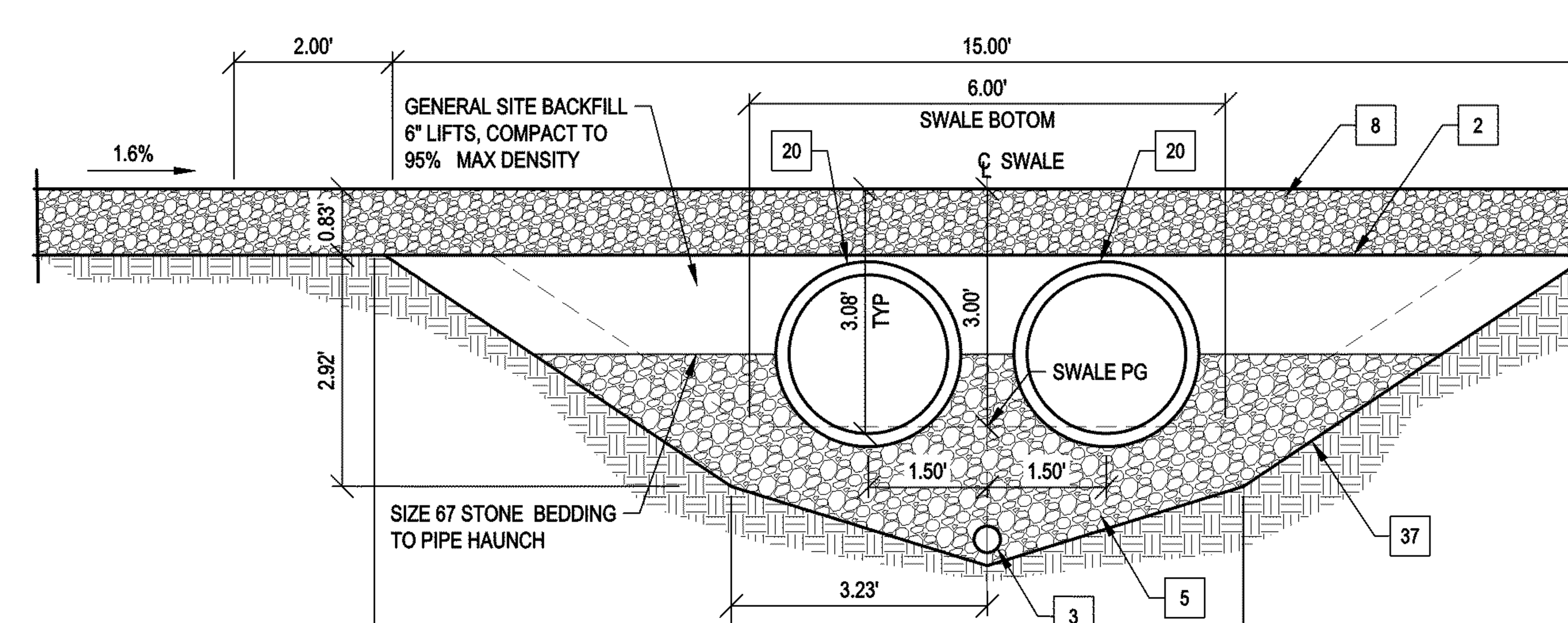
① SEE

[1] KEYNOTES



NOTE:
UNDERDRAIN NOT SHOWN FOR CLARITY

LONGITUDUNAL SECTION



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3. UNDERDRAIN TO BE PAID FOR AS ITEM 605 - 4" SHALLOW PIPE UNDERDRAINS, AS PER PLAN.
4. AGGREGATE BASE TO BE PAID FOR AS ITEM 304 - AGGREGATE BASE.
5. GEOTEXTILE UNDER AGGREGATE BASE TO BE PAID FOR AS ITEM 204 - GEOTEXTILE FABRIC.
6. TYPE A CULVERTS, GENERAL SITE BACKFILL AND COMPACTION TO BE PAID FOR AS ITEM 603 - 24" CONDUIT, TYPE A, AS PER PLAN.

CROSS-SECTION

TYPE A CULVERT - ROCK LINED SWALE CROSSING

SCALE 1/2" = 1'-0"

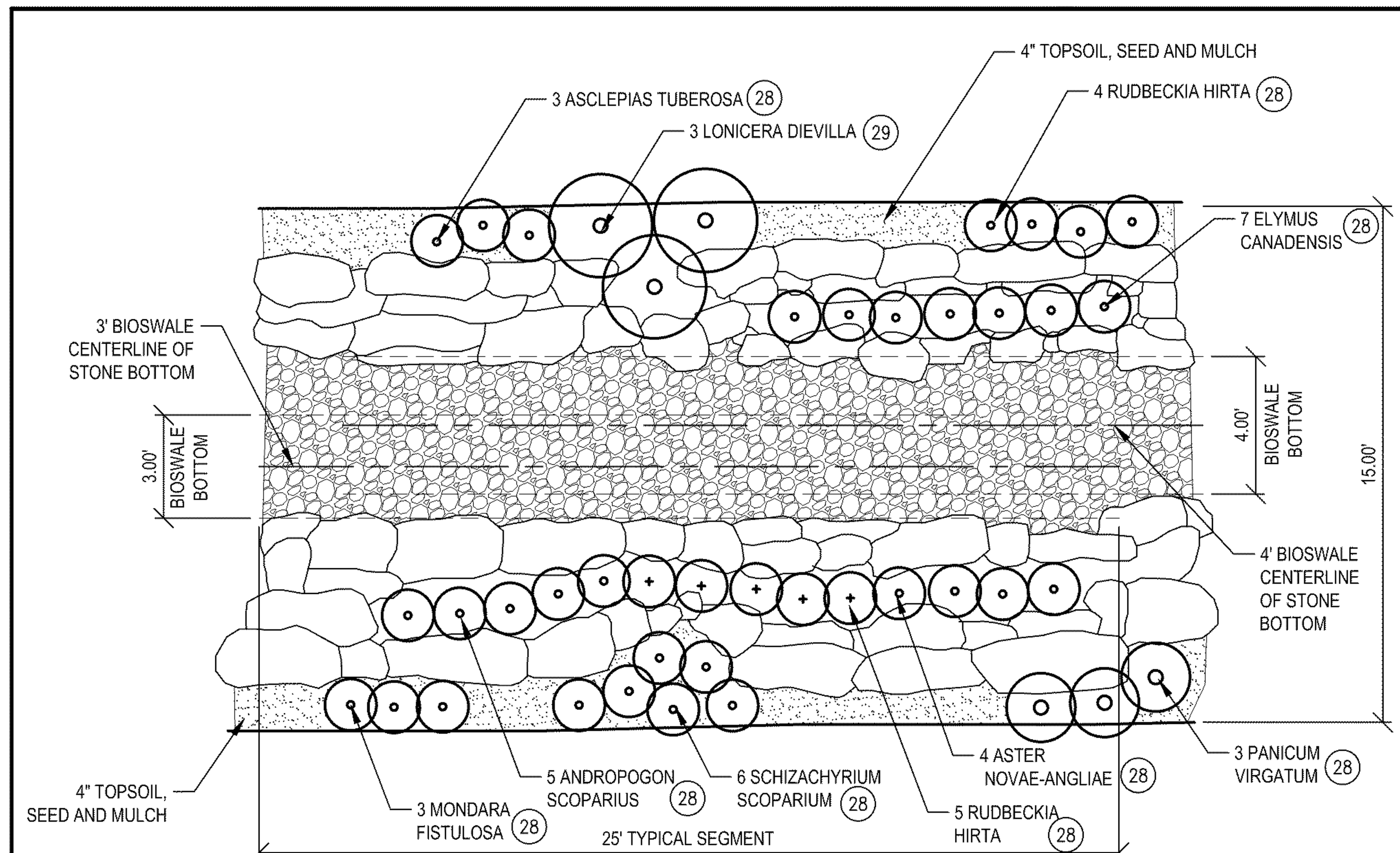
HORIZONTAL SCALE

CALCULATED

CHECKED

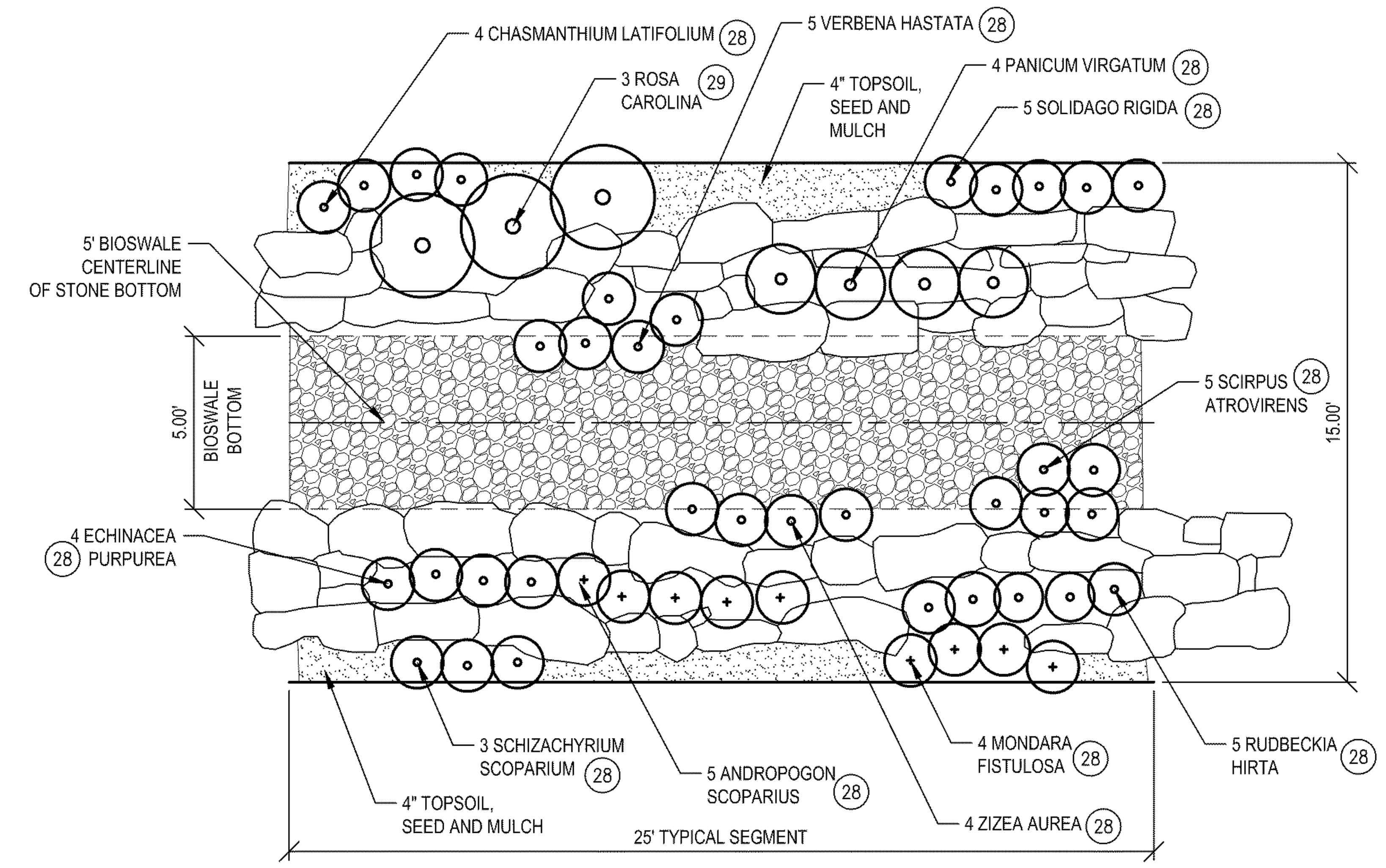
DRAINAGE DETAILS

LUC-2-18.62



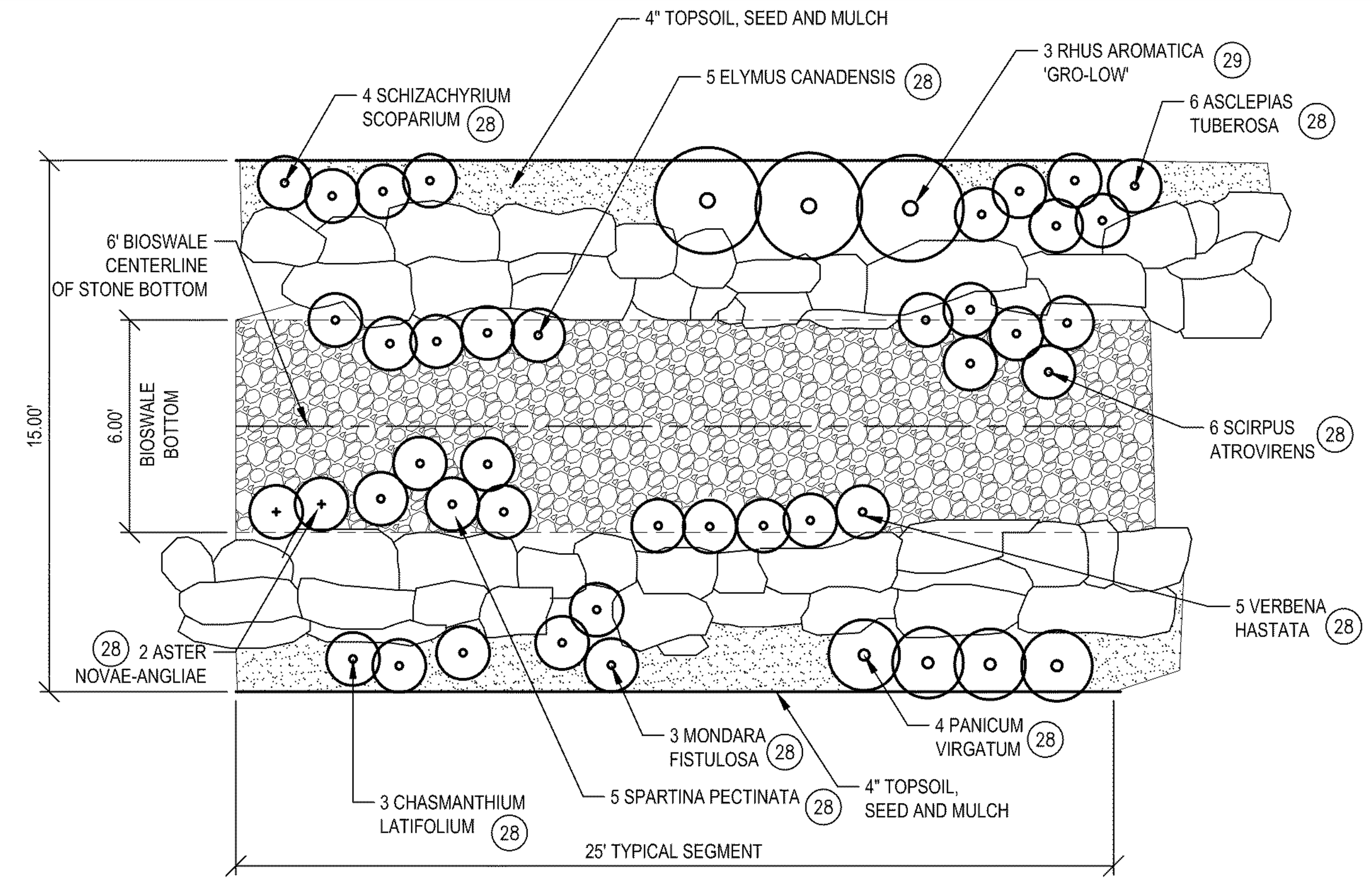
TYPICAL PLANTING LAYOUT: 3-4' BED BIOSWALE

SCALE 1/4" = 1'-0"



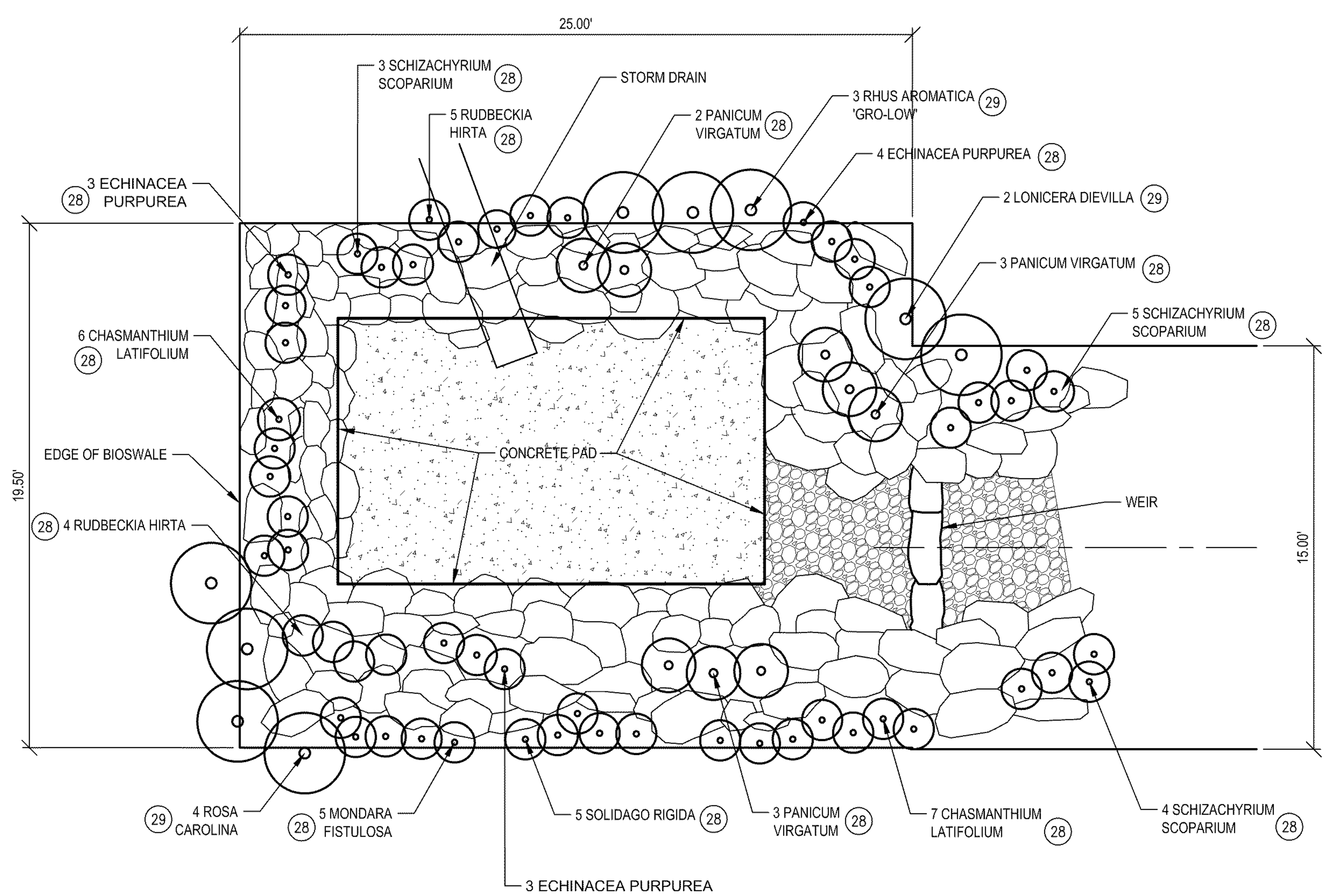
TYPICAL PLANTING LAYOUT: 5' BED BIOSWALE

SCALE 1/4" = 1'-0"



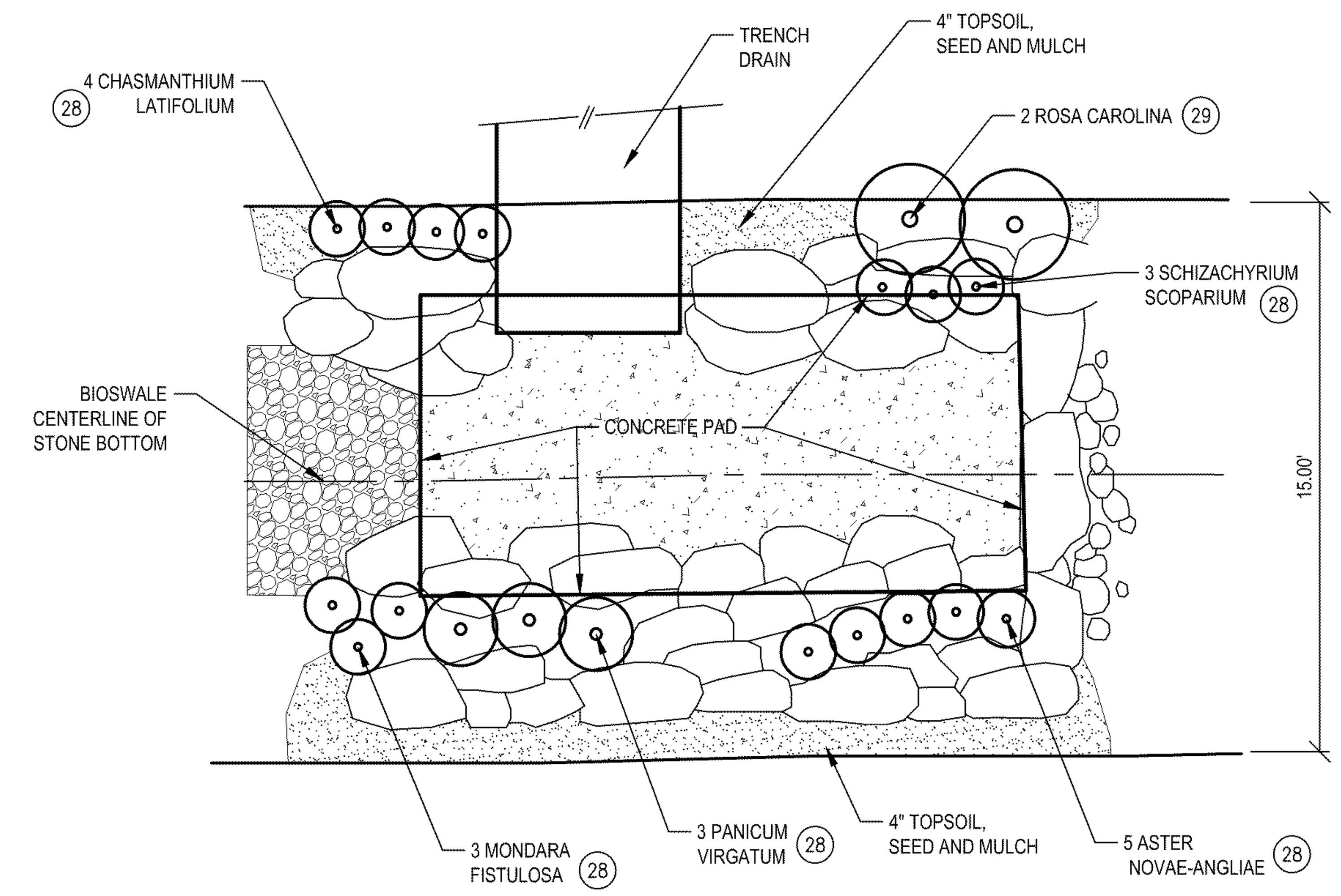
TYPICAL PLANTING LAYOUT: 6' BED BIOSWALE

SCALE 1/4" = 1'-0"



PLANTING LAYOUT AT UPSTREAM END OF BIOSWALE

SCALE 1/4" = 1'-0"



TYPICAL PLANTING LAYOUT AND STONE WEIR AT CONCRETE PAD: 3-4' BED BIOSWALE

SCALE 1/4" = 1'-0"

NOTE:

(1) SEE SHEET 41 FOR ITEM LEGEND

[1] SEE SHEET 55 FOR MATERIAL KEYNOTES

BIOSWALE PLANT LIST

SCIENTIFIC NAME	COMMON NAME	SPACING	QUANTITY	SIZE
DECIDUOUS SHRUBS				
LONICERA DIERVILLA	BUSH HONEYSUCKLE	3' O.C.	50	24" HT. #5 CONT.
RHUS AROMATIC 'GRO-LOW'	GRO-LOW SUMAC	3' O.C.	20	24" SPD. #5 CONT.
ROSA CAROLINA	PASTURE ROSE	3' O.C.	25	24" HT. #5 CONT.
PERENNIALS - FORBS				
ASCLEPIAS TUBEROSA	BUTTERFLY WEED	18" O.C.	60	#1 CONT. WELL-ROOTED
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	18" O.C.	80	#1 CONT. WELL-ROOTED
ECHINACEA PURPUREA	PURPLE CONEFLOWER	18" O.C.	25	#1 CONT. WELL-ROOTED
MONARDA FISTULOSA	BEE BALM	18" O.C.	110	#1 CONT. WELL-ROOTED
RUDBECKIA HIRTA	BLACK-EYED SUSAN	18" O.C.	150	#1 CONT. WELL-ROOTED
SOLIDAGO RIGIDA	STIFF GOLDENROD	18" O.C.	30	#1 CONT. WELL-ROOTED
VERBENA HASTATA	BLUE VERVAIN	18" O.C.	40	#1 CONT. WELL-ROOTED
ZIZEA AUREA	GOLDEN ALEXANDERS	18" O.C.	25	#1 CONT. WELL-ROOTED
PERENNIALS - GRASSES				
ANDROPOGON SCOPARIUS	BIG BLUESTEM	18" O.C.	100	#1 CONT. WELL-ROOTED
PANICUM VIRGATUM	SWITCHGRASS	24" O.C.	90	#1 CONT. WELL-ROOTED
ELYMUS CANADENSIS	CANADA WILD RYE	18" O.C.	90	#1 CONT. WELL-ROOTED
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	18" O.C.	130	#1 CONT. WELL-ROOTED
SCIRPUS ATROVIRENS	DARK GREEN BULRUSH	18" O.C.	40	#1 CONT. WELL-ROOTED
SPARTINA PECTINATA	PRAIRIE CORDGRASS	18" O.C.	15	#1 CONT. WELL-ROOTED
CHASMANTHIUM LATIFOLIUM	WILD RIVER OATS	15" O.C.	90	#1 CONT. WELL-ROOTED

BIOSWALE PLANTING NOTES

THE LANDSCAPE INSTALLER SHALL WORK CLOSELY WITH THE STONE INSTALLER TO ENSURE THAT ADEQUATE PLANTING POCKETS ARE PROVIDED IN ACCORDANCE WITH THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS.

THE PARK REPRESENTATIVE SHALL ASSIST IN THE LAYOUT OF ALL PLANTINGS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY COLOR CODED FLAGGING TO ASSIST IN THE LAYOUT. AT THE TIME OF PLANTING, LAYOUT WILL BE PERFORMED FOR THE ENTIRE BIOSWALE IN ONE OR TWO PHASES ONLY TO ENSURE THE PROPER BALANCE OF SPECIES.

THE PARK REPRESENTATIVE RESERVES THE RIGHT TO INTERCHANGE PLANT SPECIES BETWEEN TYPICAL PLANTING LAYOUT AREAS SHOWN ON THIS SHEET TO ACHIEVE A BALANCED INSTALLATION ACROSS THE ENTIRE BIOSWALE.

ALL PLANT MATERIALS SHALL CONFORM TO THE PLANT LIST REQUIREMENTS. SIZES SHALL BE THE MINIMUM STATED OR LARGER. LARGER PLANTS SHALL RESULT IN NO ADDITIONAL COST TO METROPARKS. ALL MEASUREMENTS AND SUPPLEMENTAL REQUIREMENTS SHALL CONFORM TO THE LATEST EDITION OF THE A.A.N. "STANDARDS FOR NURSERY STOCK"

PLANTING PITS SHALL BE OF THE DEPTH AND SIZE SHOWN ON THE PLANS. BACKFILL THE ENTIRE PIT WITH SPECIFIED PLANTING MIX. EXISTING MATERIAL EXCAVATED FROM THE PLANTING PITS SHALL NOT BE USED AS BACKFILL AND DISPOSED OFF-SITE.

AMEND BACKFILL MIX WITH FERTILIZER IDENTIFIED BY THE SOIL TESTING LABORATORY. PHOSPHOROUS WILL NOT BE PERMITTED DUE TO THE PROXIMITY TO THE MAUMEE RIVER.

USE COMPOSTED BARK MULCH (2" DEEP) ONLY. WOOD PRODUCTS OF ANY TYPE WILL NOT BE PERMITTED. MULCH SAUCERS SHALL BE INSTALLED THROUGHOUT EACH PLANTING AREA LEAVING NO GAPS BETWEEN SANDSTONE BOULDERS. FOR THE PLANTING LOCATED IN THE COBBLE SWALE, MULCH IS NOT REQUIRED AND THE COBBLE SHALL BE CAREFULLY INSTALLED AROUND THE PLANT S TO AVOID INJURY.

ALL PLANTING SAUCERS SHALL BE WEEDED MONTHLY DURING THE PERIOD OF ESTABLISHMENT. HERBICIDES WILL NOT BE PERMITTED. WEED ROOTS SHALL BE THOROUGHLY REMOVED AND DISPOSED OFF-SITE.

THIS WORK SHALL BE PAID FOR UNDER ITEM 661 PERENNIALS, AS PER PLAN, AND ITEM 661 DECIDUOUS SHRUB, 2' HEIGHT, AS PER PLAN.

LANDSCAPE WATERING NOTES

WATER BIOSWALE PLANTINGS UNTIL PLANTING ARE ESTABLISHED. THE PERIOD OF ESTABLISHMENT BEGINS IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATIONS AND CONTINUES UNTIL OCTOBER 1. THE MINIMUM PERIOD OF ESTABLISHMENT IS ONE GROWING SEASON, JUNE 1 THROUGH OCTOBER 1. ALL WATERING SHALL BE COMPLETED IN ACCORDANCE WITH THIS ITEM. ALL PERENNIALS SHALL BE WATERED AT THE RATE SPECIFIED FOR SHRUBS: 12 TO 36 INCHES, HEIGHT FOUND ON TABLE 662.03-1.

THIS WORK SHALL BE PAID FOR UNDER ITEM 662 LANDSCAPE WATERING, AS PER PLAN

N

HORIZONTAL SCALE IN FEET

0 10' 20' 40'

CALCULATED

CHECKED

STONE AND LANDSCAPING PLAN AND DETAILS
TOLEDO METROPARKS

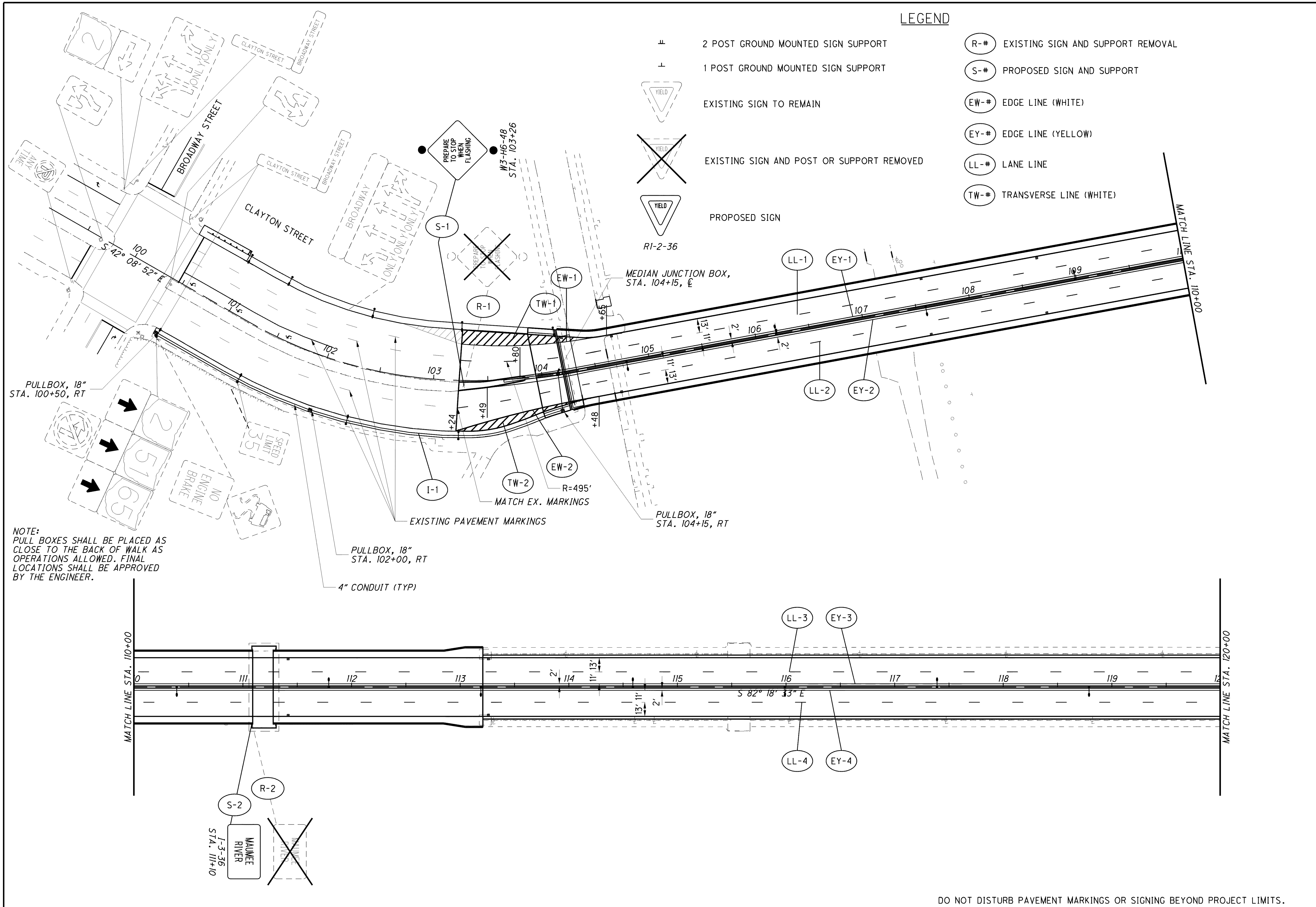
LUC - 2 - 18 . 62

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	CODE	SIZE (INCHES)	646 EDGE LINE, 4" (WHITE)	646 EDGE LINE, 4" (YELLOW)	646 LANE LINE, 4"	646 TRANSVERSE/DIAGONAL LINE (WHITE)	625 CONDUIT, 4", 725.04	625 TRENCH	625 MEDIAN JUNCTION BOX	625 PULL BOX, 725.08, 18"	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED	630 SIGN, FLAT SHEET	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	631 REMOVAL OF LUMINAIRE AND DISPOSAL	631 REMOVAL OF SIGN WIRING AND DISPOSAL	631 SIGN WIRED	631 SIGN FLASHER ASSEMBLY
							FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	SQ. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH
57	EW-1	103+24	104+65	LT			141																
	EW-2	103+24	104+48	RT			124																
	EY-1	103+80	110+00	LT				620															
	EY-2	103+49	110+00	RT				651															
	EY-3	110+00	120+00	LT				1,000															
	EY-4	110+00	120+00	RT				1,000															
	LL-1	103+24	110+00	LT					676														
	LL-2	103+24	110+00	RT					676														
	LL-3	110+00	120+00	LT					1,000														
	LL-4	110+00	120+00	RT					1,000														
	TW-1	103+24	104+65	LT						67													
	TW-2	103+24	104+48	RT						84													
	I-1	100+50	104+15	RT							399	399	1	3									
	R-1	103+26		RT															1	2	1		
	R-2	111+10		RT													1						
	S-1	103+26		RT	W3-H6-48	48 X 48									1	16						1	1
	S-2	111+10		RT	I-3-36	18 X 36									1	4.5							
58	EY-1	120+00	130+00	LT				1,000															
	EY-2	120+00	130+00	RT				1,000															
	EY-3	130+00	137+36	LT				736															
	EY-4	130+00	137+36	RT				736															
	LL-1	120+00	130+00	LT					1,000														
	LL-2	120+00	130+00	RT					1,000														
	LL-3	130+00	137+36	LT					736														
	LL-4	130+00	137+36	RT					736														
	I-1	136+50	137+48	RT							132	132	1	2									
	R-1	123+45		LT													1						
	R-2	134+90		RT														1					
	S-1	123+45		LT	I-3-36	18 X 36									1	4.5							
	S-2	134+90		RT	W3-3-36	36 X 36									1	9							
SUBTOTALS THIS SHEET							265	6743	6824	151	531	531	2	5	4	34	2	1	1	2	1	1	1
							MILE	MILE	MILE	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	EACH	EACH	EACH	EACH	EACH	EACH	EACH
TOTALS CARRIED TO GENERAL SUMMARY							1.33		1.29	151	531	531	2	5	4	34	2	1	1	2	1	1	1

CALCULATED BEH
CHECKED DRJ

SIGNING AND PAVEMENT MARKING SUB-SUMMARY

LUC-2-18.62



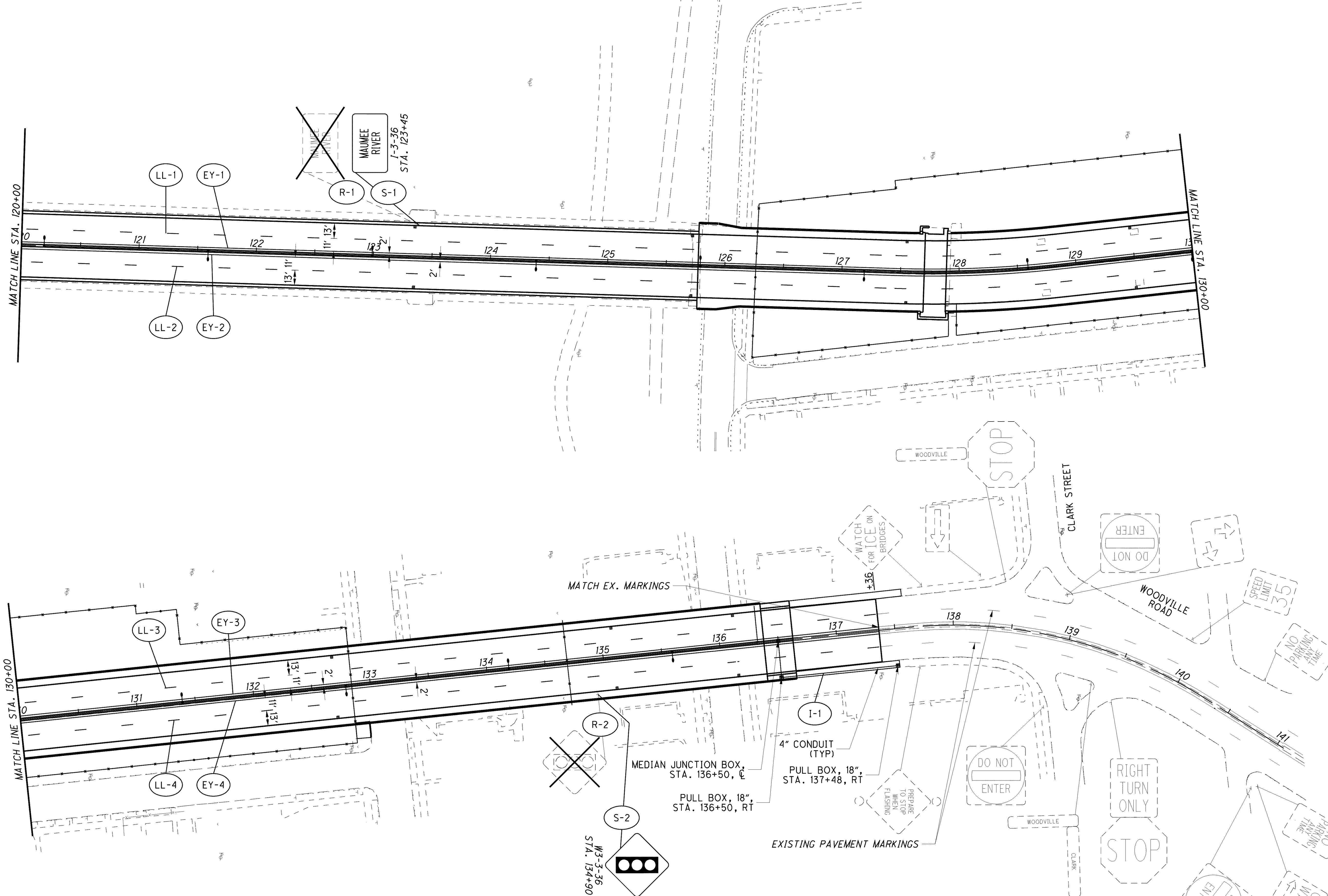
HORIZONTAL SCALE IN FEET

CALCULATED JMM
CHECKED DRJ

SIGNING AND PAVEMENT MARKING PLAN
S.R. 2 STA. 103+24.15 TO STA. 120+00

LUC-2-18.62

DO NOT DISTURB PAVEMENT MARKINGS OR SIGNING BEYOND PROJECT LIMITS.



NOTE:
PULL BOXES SHALL BE PLACED AS CLOSE TO THE BACK OF WALK AS OPERATIONS ALLOWED. FINAL LOCATIONS SHALL BE APPROVED BY THE ENGINEER.

FOR PAVEMENT MARKING AND SIGNING LEGEND SEE SHEET 57

HORIZONTAL SCALE IN FEET 0 20 40 60

CALCULATED JMM
CHECKED DRJ

SIGNING AND PAVEMENT MARKING PLAN S.R. 2 STA. 120+00 TO STA. 137+36.31

LUC-2-18.62

REMOVAL MISC.: REMOVE X" CONDUIT

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, REMOVAL MISC.: REMOVE X" CONDUIT SHALL BE AS FOLLOWS:

CONDUIT REMOVAL SHALL INCLUDE CONDUIT AND ANY ASSOCIATED COUPLINGS, FITTINGS, HANGERS, AND OTHER ACCESSORIES. REFER TO LIGHTING PLANS AND SUBSUMMARIES FOR CONDUIT SIZES.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM 202, REMOVAL MISC.: REMOVE X" CONDUIT FOR EACH LINEAR FOOT OF CONDUIT WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR AND INCEDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, CONDUIT, 2.5", 725.04, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625 AND 725.04, CONDUITS INSTALLED UNDER THIS ITEM SHALL BE ATTACHED TO THE OUTER SIDE OF A BRIDGE CONCRETE PARAPET AND/OR ALONG BRIDGE ABUTMENT. THE CONDUIT SHALL BE SECURED TO THE PARAPET BY TWO-HOLE STRAPS SPACED AT 5 FOOT INTERVALS. TWO HOLES SHALL BE DRILLED 1 INCH INTO THE CONCRETE TO ACCOMMODATE 1/4 INCH DIAMETER STAINLESS STEEL AND/OR EPOXY CONCRETE ANCHORS. PROVIDE EXPANSION/DEFLECTION FITTINGS AT BRIDGE ABUTMENT AND ANY EXPANSION JOINTS.

CONDUIT SHALL BE PVC COATED RIGID GALVANIZED STEEL, WITH SUPPORTS AS REQUIRED PER NEC ARTICLE 344.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID, PER FOOT, OF ITEM 625 CONDUIT, 2.5", 725.04, AS PER PLAN, FURNISHED AND INSTALLED INCLUDING ALL FITTINGS AND APPURTENANCES, JOINTS, BENDS AND GROUND, IN PLACE AND ACCEPTED.

625, LIGHTING, MISC: REMOVE, CLEAN, AND RE-INSTALL LUMINAIRE

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, REMOVE, CLEAN, AND RE-INSTALL LUMINAIRE SHALL BE AS FOLLOWS:

LIGHTING SHALL BE REMOVED, CLEANED, AND STORED WHILE BRIDGE SPAN IS REPLACED. LIGHTING SHALL BE MOUNTED ON NEW BRACKET (BRACKET BY OTHERS).

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, LIGHTING, MISC.: REMOVE, CLEAN, AND RE-INSTALL LUMINAIRE, FOR EACH REMOVE, CLEAN, AND RE-INSTALL LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, PULL BOX REMOVED

THIS ITEM OF WORK WILL CONSIST OF REMOVING AND PROPERLY DISPOSING OF AN EXISTING PULL BOX. THE RESULTANT OPEN-ING SHALL THEN BE BACKFILLED TO GRADE WITH SUITABLE COMPACTED SOIL AND RESTORED TO MATCH THE SURROUNDING AREA.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "PULL BOX REMOVED" FOR EACH PULL BOX REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATER-IALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

625, DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE SHALL BE AS FOLLOWS:

AERIAL CABLE SHALL BE 600V AC INSULATED CONDUCTOR, WITH TYPE RHW/USE INSULATION, WITH MESSENGER CABLE AND SUPPORTS.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER FOOT OF ITEM 625 DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR AND INCEDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, CONDUIT, 4", 725.051, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONDUIT, 4", 725.01, AS PER PLAN SHALL BE AS FOLLOWS:

CONDUIT SHALL INCLUDE EXPANSION/DEFLECTION FITTINGS, USED AT EACH EXPANSION JOINT ON MEDIAN CONCRETE BARRIER. SEE BRIDGE SITE PLANS FOR EXPANSION JOINT LOCATIONS.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER FOOT OF ITEM 625, CONDUIT, 4", 725.01, AS PER PLAN WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR AND INCEDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

CALCULATED JMS
CHECKED PB

LIGHTING GENERAL NOTES

LUC-2-18.62

REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	202 REMOVAL MISC.: REMOVE 1" CONDUIT	202 REMOVAL MISC.: REMOVE 2" CONDUIT	202 REMOVAL MISC.: REMOVE 2-1/2" CONDUIT	202 REMOVAL MISC.: REMOVE 4" CONDUIT	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTOR KIT, TYPE II	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN	625 MEDIAN LIGHT POLE FOUNDATION, 8' DEEP	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	625 DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 CONDUIT, 1", 725.04	625 CONDUIT, 2-1/2", 725.04, AS PER PLAN	625 CONDUIT, 4", 725.051, AS PER PLAN	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 STRUCTURE GROUNDING SYSTEM	625 HIGH VOLTAGE TEST	625 SPECIAL-MAINTAIN EXISTING LIGHTING	625 DISTRIBUTION CABLE REMOVED	625 LIGHTING, MISC.: REMOVE AND CLEAN LUMINAIRE	625 PULL BOX REMOVED
					FT	FT	FT	FT	EA	EA	EA	EA	FT	FT	FT	FT	FT	FT	FT	FT	FT	EA	EA	EA	LUMP	LUMP	FT	EA	EA
R-1	63	LT	SR 2	100+92.95-101+36.89																							162		
R-2	63	LT	SR 2	101+36.89-102+00.00																							219		
R-3	63	RT	SR 2	100+53.27-101+36.73																							282		
R-4	63	RT	SR 2	101+36.73-102+00.00																							219		
WB5	63	LT	SR 2	100+92.95						2								72					1						
E-1	63	LT	SR 2	100+92.95-101+36.89										108		54									1	1			
WB4	63	LT	SR 2	101+36.89						2								72					1						
E-2	63	LT	SR 2	101+36.89-102+00.00										146		73													
WB6	63	RT	SR 2	100+53.27						2								72					1						
E-3	63	RT	SR 2	100+53.27-101+36.73										188		94													
WB7	63	RT	SR 2	101+36.73						2								72					1						
E-4	63	RT	SR 2	101+36.73-102+00.00										146		73													
E-5	63	RT	BROADWAY	100+53.27-100+32.58													204												
R-1	64	LT	SR 2	102+00.00-102+31.11																							123		
R-2	64	RT	SR 2	102+00.00-102+31.48																							123		
R-3	64	LT	MORRIS	104+23.04-104+28.94																							120		
R-4	64	RT	SR 2	103+24.16-104+23.04+/-																							327		
R-5	64	RT	SR 2	104+23.04+/--107+00.00		277																					861		
R-6	64	LT	SR 2	104+23.04-107+00.00		277																					861		
R-7	64	LT	SR 2	104+16.97-104+23.04																							16		
R-8	64	RT	SR 2	102+31.48-103+24.16																							309		
R-9	64	LT	SR 2	102+31.11-103+25.08																							312		
R-10	64	LT	SR 2	103+25.08-104+16.97																							306		
R-11	64	LT	SR 2	104+65.98-107+00.00				234																					
WB3	64	LT	SR 2	102+31.11						2								72					1						
E-1	64	LT	SR 2	102+31.11-103+25.08										208		104													
WB2	64	LT	SR 2	103+25.08						2								72					1						
E-2	64	LT	SR 2	103+25.08-104+16.97										204		102													
WB1	64	LT	SR 2	104+16.97						2								72					1						
E-3	64	LT	SR 2	104+16.97-104+23.04										32		16													
PB-1	64	LT	SR 2	104+23.04			5																						1
E-4	64	LT	MORRIS	104+23.04-104+28.94									80		40														
E-5	64	RT	SR 2	102+31.48-103+24.16										309		103													
PB-2	64	CL	SR 2	104+24.10																		1							
E-6	64	LT/RT	SR 2	104+23.04-104+24.10									120		60					50									
E-7	64	CL	SR 2	104+24.10-104+79.00									132		66						56								
WA1	64	CL	SR 2	104+79.00						2	1	1						62				1	1	1					
E-8	64	CL	SR 2	104+79.00-106+19.00									300		150						140								
WA2	64	CL	SR 2	106+19.00						2	1	1						62				1	1						
E-9	64	CL	SR 2	106+19.00-107+00.00									182		91						81								
WB8	64	LT	SR 2	102+31.48						2								72					1						
WB9	64	LT	SR 2	103+24.16						2								72					1						
E-10	64	LT	SR 2	102+00.00-102+31.11										82		41													
E-11	64	RT	SR 2	102+00.00-102+31.48										82		41													
R-1	65	LT	SR 2	107+00.00-112+00.00		500																					1530		
R-2	65	RT	SR 2	107+00.00-112+00.00		500																					1530		
R-3	65	LT	SR 2	111+19.35-112+00.00	81																						273		
R-4	65	LT	SR 2	107+00.00-112+00.00				550																					
TOTALS CARRIED TO SHEET 62					81	1554	5	784	0	22	2	2	814	1505	407	701	204	772	0	50	277	3	11	1	1	1	7573	0	1

CALCULATED JMS
CHECKED PB

LIGHTING SUBSUMMARY

LUC-2-18.62

REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	202 REMOVAL MISC.: REMOVE 1" CONDUIT	202 REMOVAL MISC.: REMOVE 2" CONDUIT	202 REMOVAL MISC.: REMOVE 2-1/2" CONDUIT	202 REMOVAL MISC.: REMOVE 4" CONDUIT	625 CONNECTION, UNFUSED PERMANENT	625 CONNECTOR KIT, TYPE II	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN	625 MEDIAN LIGHT POLE FOUNDATION, 8' DEEP	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	625 DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 CONDUIT, 1", 725.04	625 CONDUIT, 2-1/2", 725.04, AS PER PLAN	625 CONDUIT, 4", 725.051, AS PER PLAN	625 MEDIAN JUNCTION BOX	625 GROUND ROD	625 STRUCTURE GROUNDING SYSTEM	625 HIGH VOLTAGE TEST	625 SPECIAL-MAINTAIN EXISTING LIGHTING	625 DISTRIBUTION CABLE REMOVED	625 LIGHTING, MISC.: REMOVE AND CLEAN LUMINAIRE	625 PULL BOX REMOVED
					FT	FT	FT	FT	EA	EA	EA	EA	FT	FT	FT	FT	FT	FT	FT	FT	FT	EA	EA	EA	LUMP	LUMP	FT	EA	EA
E-1	65	CL	SR 2	107+00.00-107+59.00									138		69						59								
WA3	65	CL	SR 2	107+59.00						2	1	1						62				1	1						
E-2	65	CL	SR 2	107+59.00-108+99.00									300		150						140								
WA4	65	CL	SR 2	108+99.00						2	1	1						62				1	1						
E-3	65	CL	SR 2	108+99.00-110+39.00									300		150						140								
WA5	65	CL	SR 2	110+39.00						2	1	1						62				1	1						
E-4	65	CL	SR 2	110+39.00-111+79.00									300		150						140								
WA6	65	CL	SR 2	111+79.00						2	1	1						62				1	1						
E-5	65	CL	SR 2	111+79.00-112+00.00									62		31						21								
E-6	65	LT	SR 2	111+19.35-112+00.00											273				81										
R-1	66	LT	SR 2	112+00.00-117+00.00		500																					1530		
R-2	66	RT	SR 2	112+00.00-117+00.00		500																					1530		
R-3	66	LT	SR 2	112+00.00-115+26.22				326																					
R-4	66	LT	SR 2	112+00.00-113+02.38	102																						336		
E-1	66	CL	SR 2	112+00.00-113+19.00									258		129						119								
WA7	66	CL	SR 2	113+19.00						2	1	1						62				1	1						
E-2	66	CL	SR 2	113+19.00-114+59.00									300		150						140								
WA8	66	CL	SR 2	114+59.00						2	1	1						62				1	1						
E-3	66	CL	SR 2	114+59.00-115+99.00									300		150						140								
WA9	66	CL	SR 2	115+99.00						2	1	1						62				1	1						
E-4	66	CL	SR 2	115+99.00-117+00.00									222		111						101								
E-5	66	LT	SR 2	112+00.00-113+02.38											336				102										
E-6	66	LT	SR 2	113+02.38																								1	
E-7	66	RT	SR 2	113+02.99																								1	
R-1	67	LT	SR 2	117+00.00-122+00.00		500																					1530		
R-2	67	RT	SR 2	117+00.00-122+00.00		500																					1530		
E-1	67	CL	SR 2	117+00.00-117+39.00									98		49						39								
WA10	67	CL	SR 2	117+39.00						2	1	1						62				1	1						
E-2	67	CL	SR 2	117+39.00-118+79.00									300		150						140								
WA11	67	CL	SR 2	118+79.00						2	1	1						62				1	1						
EA12	67	CL	SR 2	120+19.00						2	1	1						62				1	1						
E-3	67	CL	SR 2	120+19.00-121+59.00										300		150					140								
EA11	67	CL	SR 2	121+59.00						2	1	1						62				1	1						
E-4	67	CL	SR 2	121+59.00-122+00.00										102		51					41								
R-1	68	LT	SR 2	122+00.00-127+00.00		500																					1530		
R-2	68	RT	SR 2	122+00.00-127+00.00		500																					1530		
R-3	68	RT	SR 2	125+95.05-127+00	105																						525		
E-1	68	CL	SR 2	122+00.00-122+99.00										218		109					99								
EA10	68	CL	SR 2	122+99.00						2	1	1						62				1	1						
E-2	68	CL	SR 2	122+99.00-124+39.00										300		150					140								
EA9	68	CL	SR 2	124+39.00						2	1	1						62				1	1						
E-3	68	CL	SR 2	124+39.00-125+79.00										300		150					140								
EA8	68	CL	SR 2	125+79.00						2	1	1						62				1	1						
E-4	68	CL	SR 2	125+79.00-127+00.00										262		131					121								
E-5	68	LT	SR 2	125+95.83																								1	
E-6	68	RT	SR 2	125+95.05																								1	
E-7	68	RT	SR 2	125+95.05-127+00										525					105										
TOTALS CARRIED TO SHEET 62					207	3000	0	326	0	28	14	14	2578	2007	1898	741	0	868	288	0	1860	14	14	0	0	0	10041	4	0

CALCULATED JMS
CHECKED PB

LIGHTING SUBSUMMARY

LUC-2-18.62

REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION	202 REMOVAL MISC.: REMOVE 1" CONDUIT (FT)	202 REMOVAL MISC.: REMOVE 2" CONDUIT (FT)	202 REMOVAL MISC.: REMOVE 2-1/2" CONDUIT (FT)	202 REMOVAL MISC.: REMOVE 4" CONDUIT (FT)	625 CONNECTION, UNFUSED PERMANENT (EA)	625 CONNECTOR KIT, TYPE II (EA)	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN (EA)	625 MEDIAN LIGHT POLE FOUNDATION, 8' DEEP (EA)	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE (FT)	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE (FT)	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE (FT)	625 NO. 10 AWG 600 VOLT DISTRIBUTION CABLE (FT)	625 DISTRIBUTION CABLE, MISC.: NO. 6 AWG 600 VOLT AERIAL CABLE (FT)	625 NO. 10 AWG POLE AND BRACKET CABLE (FT)	625 CONDUIT, 1", 725.04 (FT)	625 CONDUIT, 2-1/2", 725.04, AS PER PLAN (FT)	625 CONDUIT, 4", 725.051, AS PER PLAN (FT)	625 MEDIAN JUNCTION BOX (EA)	625 GROUND ROD (EA)	625 STRUCTURE GROUNDING SYSTEM (EA)	625 HIGH VOLTAGE TEST (LUMP)	625 SPECIAL-MAINTAIN EXISTING LIGHTING (LUMP)	625 DISTRIBUTION CABLE REMOVED (FT)	625 LIGHTING, MISC.: REMOVE AND CLEAN LUMINAIRE (EA)	625 PULL BOX REMOVED (EA)
R-1	69	LT	SR 2	127+00.00-132+00.00		500																					1530		
R-2	69	RT	SR 2	127+00.00-132+00.00		500																					1530		
R-3	69	RT	SR 2	127+00.00-127+78.69	79																						445		
E-1	69	CL	SR 2	127+00.00-127+19.00										58		29					19								
EA7	69	CL	SR 2	127+19.00						2	1	1						62				1	1						
E-2	69	CL	SR 2	127+19.00-128+59.00										300		150					140								
EA6	69	CL	SR 2	128+59.00						2	1	1						62				1	1						
E-3	69	CL	SR 2	128+59.00-129+99.00										300		150					140								
EA5	69	CL	SR 2	129+99.00						2	1	1						62				1	1						
E-4	69	CL	SR 2	129+99.00-131+39.00										300		150					140								
EA4	69	CL	SR 2	131+39.00						2	1	1						62				1	1						
E-5	69	CL	SR 2	131+39.00-132+00										142		71					61								
E-6	69	RT	SR 2	127+00.00-127+78.69										445					79										
R-1	70	LT	SR 2	132+00.00-137+00.00		500																					1530		
R-2	70	RT	SR 2	132+00.00-137+00.00		500																					1530		
R-3	70	LT	SR 2	136+32.58-136+89.80																							225		
R-4	70	LT	SR 2	136+89.80-137+00.00																							60		
R-5	70	LT	SR 2	132+80.07																									1
R-6	70	LT/CL	SR 2	132+80.07-133+08.93	45																						165		
PB-4	70	LT	SR 2	136+32.58			5																						1
PB-5	70	RT	SR 2	136+31.60			5																						1
E-1	70	CL	SR 2	132+00.00-132+79.00										178		89					79								
EA3	70	CL	SR 2	132+79.00						2	1	1						62				1	1						
E-2	70	CL	SR 2	132+79.00-134+19.00										300		150					140								
EA2	70	CL	SR 2	134+19.00						2	1	1						62				1	1						
E-3	70	CL	SR 2	134+19.00-135+59.00										300		150					140								
EA1	70	CL	SR 2	135+59.00						2	1	1						62				1	1						
E-4	70	CL	SR 2	135+59.00-136+32.36										166		83					73								
PB-3	70	CL	SR 2	136+32.36					3													1							
E-5	70	CL/LT	SR 2	136+32.36-136+32.58										110		55				45									
PB-6	70	CL	SR 2	133+08.93					3													1							
E-6	70	LT	SR 2	136+32.58-136+89.80										150		75													
EC1	70	LT	SR 2	136+89.80						2								80					1						
E-7	70	LT	SR 2	136+89.80-137+00.00										40		20													
R-1	71	LT	SR 2	137+00.00-137+34.76																							198		
E-1	71	LT	SR 2	137+00.00-137+34.76										132		66													
SUBTOTAL					124	2000	10	0	6	16	7	7	0	2921	0	1238	0	514	79	45	932	9	8	0	0	0	7213	0	3
TOTALS FROM SHEET 60					81	1554	5	784	0	22	2	2	814	1505	407	701	204	772	0	50	277	3	11	1	1	1	7573	0	0
TOTALS FROM SHEET 61					207	3000	0	326	0	28	14	14	2578	2007	1898	741	0	868	288	0	1860	14	14	0	0	0	10041	4	4
TOTALS CARRIED TO GENERAL SUMMARY					412	6554	15	1110	6	66	23	23	3392	6433	2305	2680	204	2154	367	95	3069	26	33	1	1	1	24827	4	7

CALCULATED JMS
CHECKED PB

LIGHTING SUBSUMMARY

LUC-2-18.62

SYMBOL LEGEND

- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- EXISTING PULL BOX

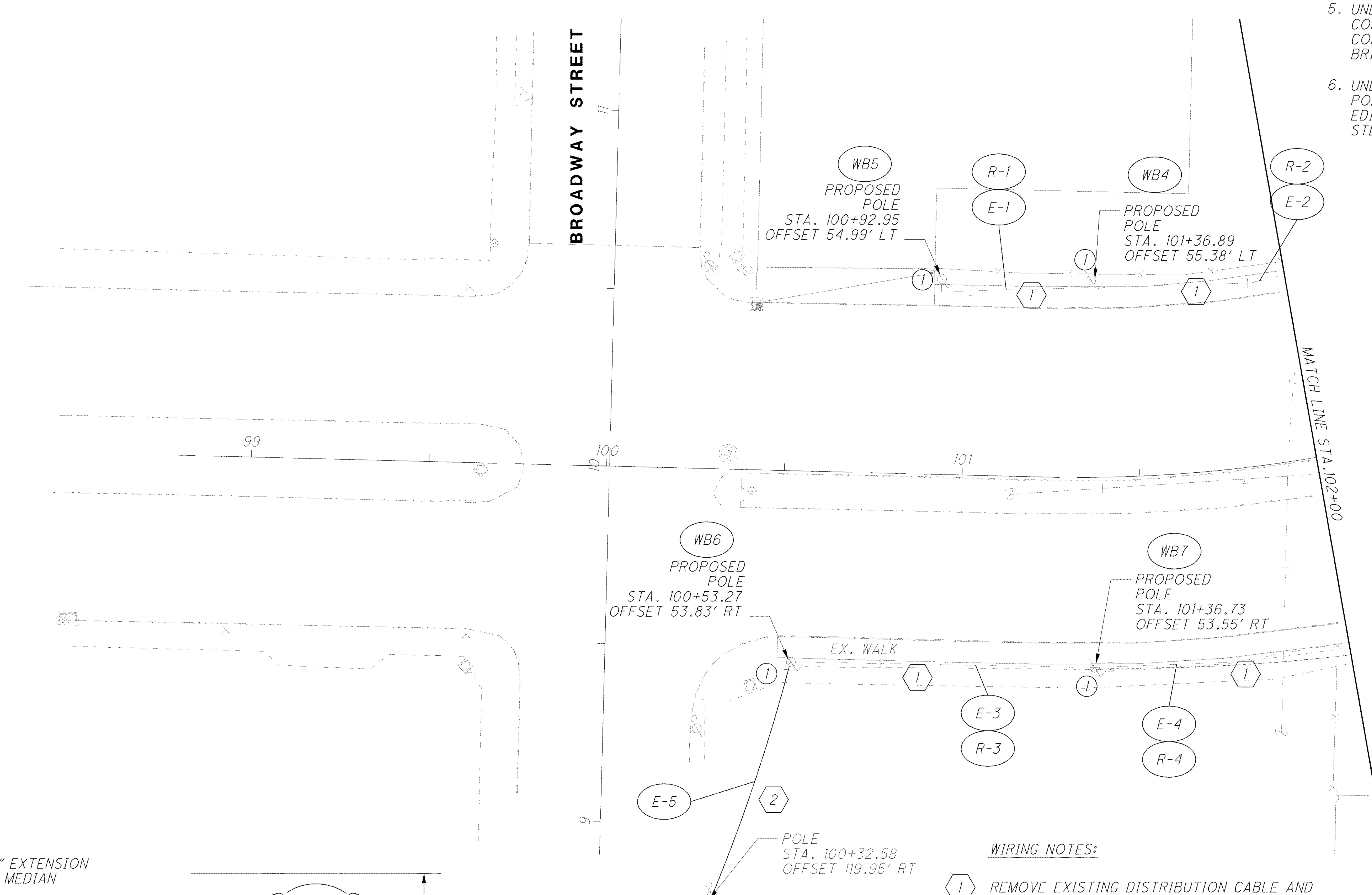
UTILITY LEGEND

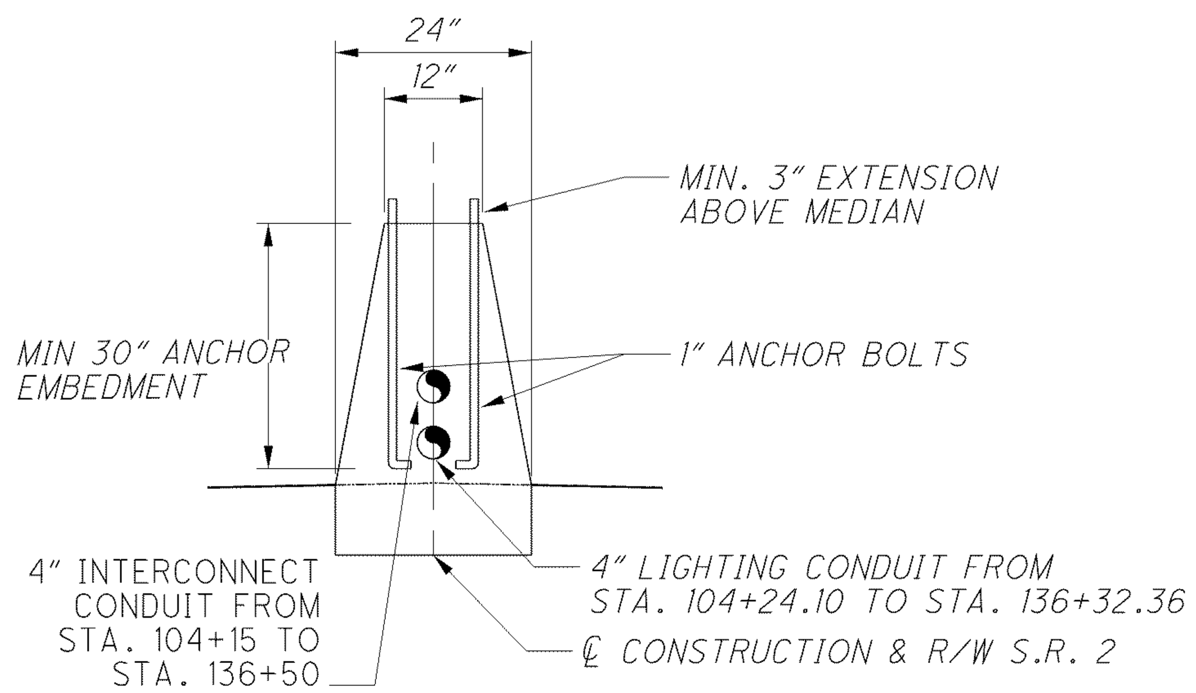
— — — —E— — — —	EXISTING ELECTRIC
— — — —G— — — —	EXISTING GAS
— — — —T— — — —	EXISTING TELEPHONE
— — — — —FO— —	EXISTING FIBER OPTIC

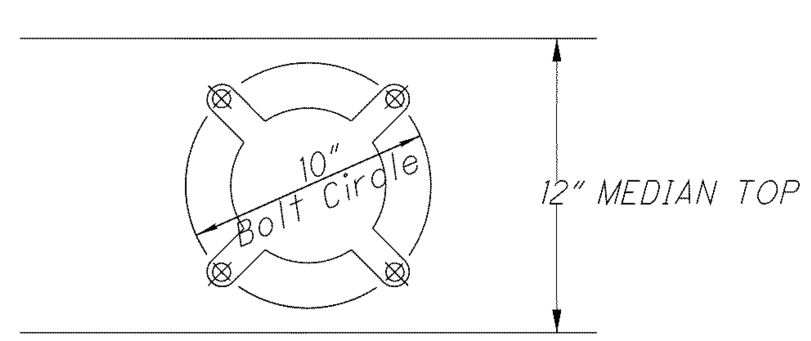
(DND) - DO NOT DISTURB
(A) - TO BE ABANDONED
(REUSE) - REMOVE & REUSE
(RBO) - REMOVED BY OTHER
(P) - PRUNE EXISTING TREE
(R) - REMOVE
(RR) - REMOVE AND REPLACE
RGS - RIGID GALVANISED STEEL
LFMC - LIQUID TIGHT FLEXIBLE METAL CONDUIT

GENERAL NOTES:

1. CIRCUITING FOR MEDIAN MOUNTED LIGHTING SHALL BE SINGLE CONDUCTOR TYPE, RUN IN 4" MEDIAN CONDUIT, SIZED AS INDICATED IN WIRING NOTES.
2. CIRCUITING CROSSING PAVEMENT TO MEDIAN SHALL BE SINGLE CONDUCTOR TYPE, IN 2.5" CONDUIT (TO MATCH EXISTING) SIZED AS INDICATED IN WIRING NOTES.
3. SEE SHEET 72 FOR UTILITY CIRCUIT DIAGRAMS AND ROADWAY LIGHTING FIXTURE SCHEDULE.
4. UNLESS SPECIFICALLY CALLED OUT TO BE REMOVED, EXISTING CONDUIT SYSTEMS ARE TO REMAIN. CONDUIT SYSTEM ROUTING, SOURCE AND LOADS SHALL BE FIELD VERIFIED PRIOR TO REMOVAL.
5. UNLESS NOTED OTHERWISE, EXISTING ROADWAY LIGHTING CONDUIT, PULLBOXES AND CONDUCTORS (INCLUDING AERIAL CONDUCTORS WHERE APPLICABLE) SHALL BE REMOVED FROM BRIDGE. SEE SHEETS 63 THROUGH 71 FOR WORK.
6. UNLESS NOTED OTHERWISE, EXISTING ROADWAY LIGHTING POLES, ARMS AND FIXTURES SHALL BE REMOVED BY TOLEDO EDISON. WHERE POLES ARE BRACKET MOUNTED TO BRIDGE STEEL, REMOVE POLES BUT LEAVE BRACKETS IN PLACE.







PLAN
(TOP VIEW)

LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN

NOTE: COORDINATE WITH TOLEDO EDISON PRIOR TO ANCHOR BOLT INSTALLATION.

WIRING NOTES:

1. REMOVE EXISTING DISTRIBUTION CABLE AND REPLACE WITH (2) #6, (1) #10G., EXISTING CONDUIT
2. (2) #6, AERIAL CABLE
3. (2) #4, (1) #8G., 2.5"C.
4. (2) #4, (1) #8G., 4"C.
5. (2) #6, (1) #10G., 2.5"C.
6. (2) #6, (1) #10G., 4"C.
7. (1) #8G., 4"C.
8. REMOVE EXISTING DISTRIBUTION CABLE AND REPLACE WITH (2) #4, (1) #8G., EXISTING 2.5"C.
9. REMOVE EXISTING DISTRIBUTION CABLE AND REPLACE WITH (2) #6, (1) #10G., EXISTING 2.5"C.

PLAN NOTES:

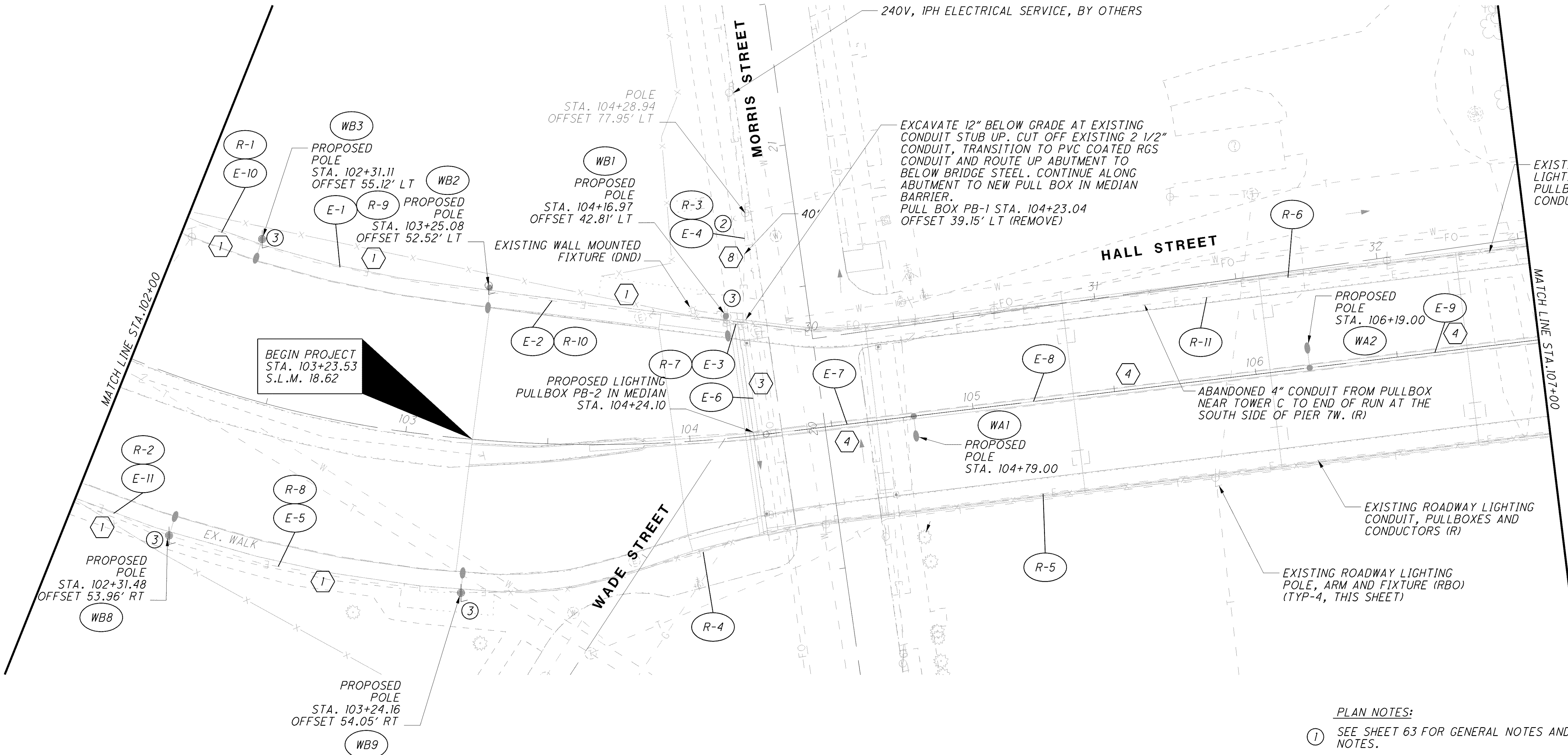
1. EXISTING POLE, ARM AND FIXTURE TO BE REPLACED BY TOLEDO EDISON.

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED DRG
CHECKED JMS

LIGHTING PLAN STA. 97+00 TO STA. 102+00

LUC-2-18.62



PLAN NOTES:

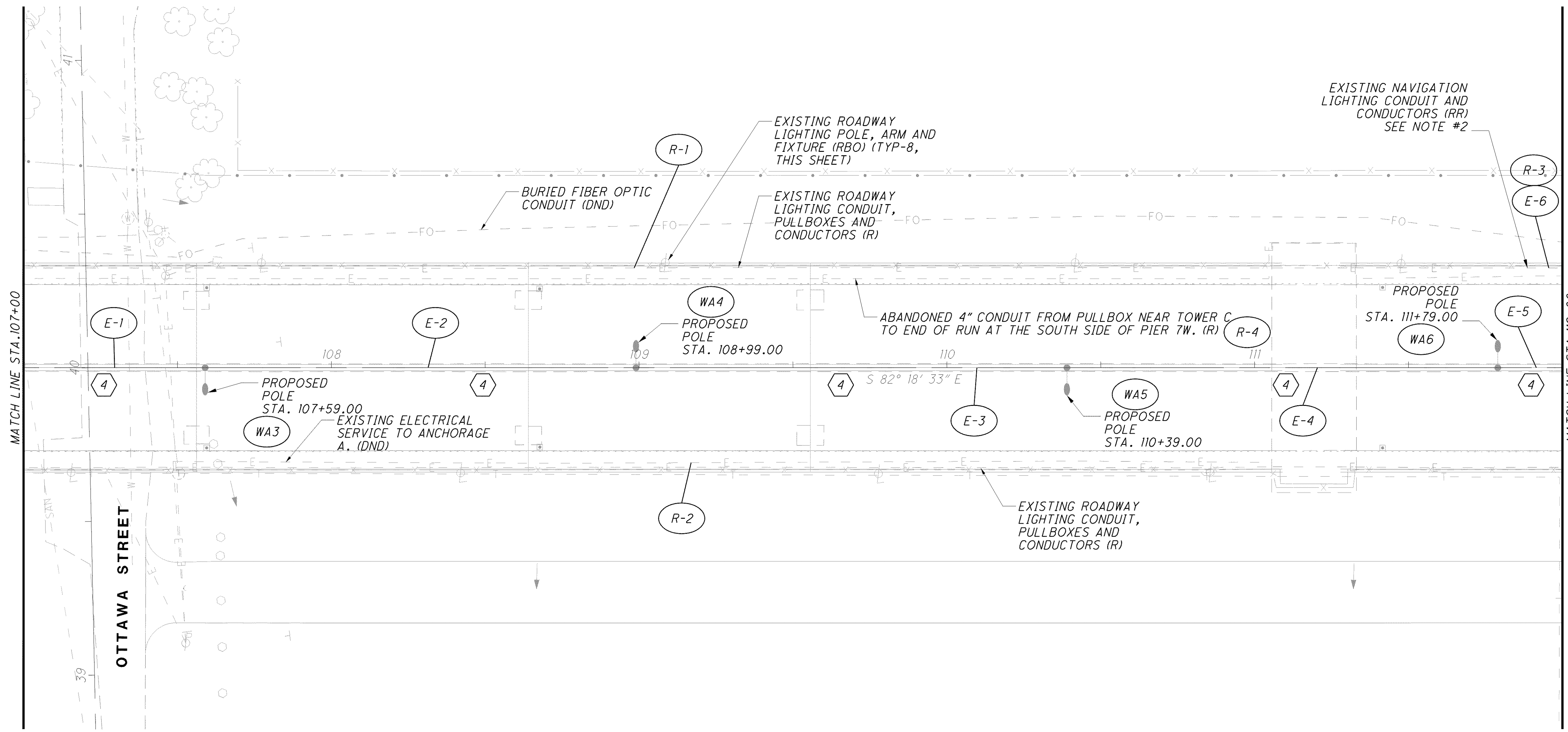
1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. ROUTE NEW 240V. SERVICE IN EXISTING 2" CONDUIT FROM UTILITY CONNECTION POINT ON EXISTING SERVICE POLE TO PROPOSED JUNCTION BOX ON BRIDGE. CONTINUE LIGHTING CIRCUIT AS SHOWN ON PLAN.
3. EXISTING POLE, ARM AND FIXTURE TO BE REPLACED BY TOLEDO EDISON.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN
STA. 102+00 TO STA. 107+00

LUC-2-18.62



PLAN NOTES:

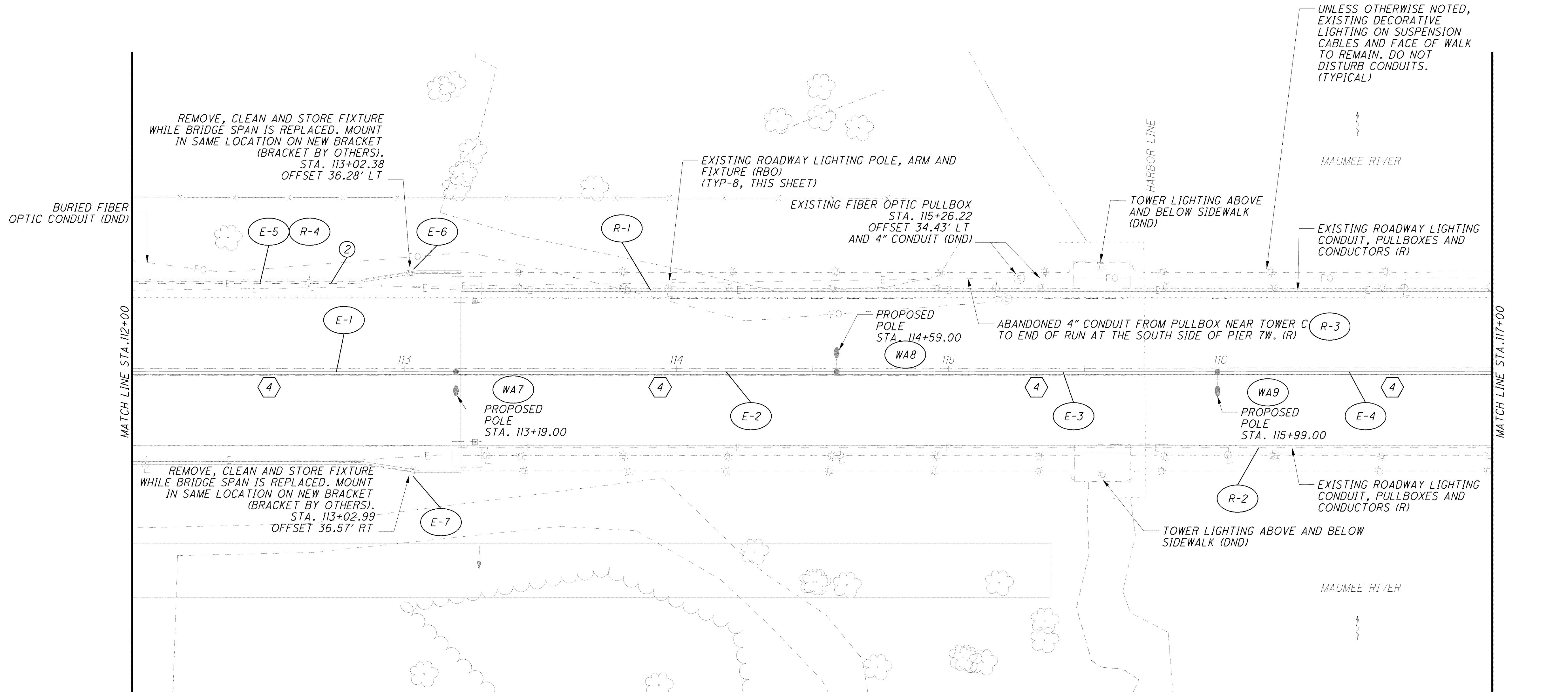
1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. NAVIGATION LIGHTING CONDUIT AND CONDUCTORS, PROVIDE (2)#8 (1)#8GND, 1"C. ON REPLACEMENT SPAN.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN
STA. 107+00 TO STA. 112+00

LUC-2-18.62



PLAN NOTES:

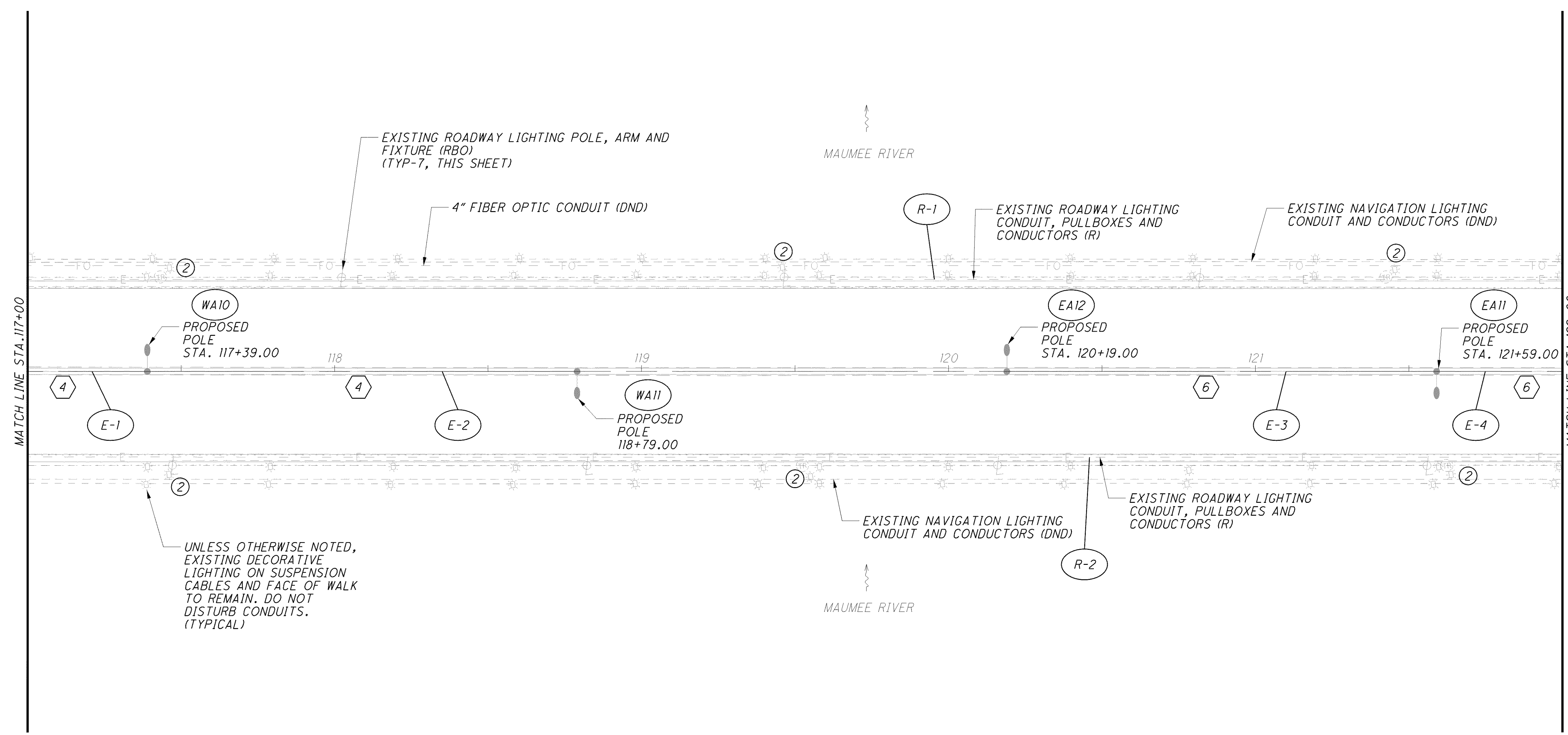
1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. NAVIGATION LIGHTING CONDUIT AND CONDUCTORS, PROVIDE (2)#8 (1)#8GND, 1"C. ON REPLACEMENT SPAN.

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN
STA. 112+00 TO STA. 117+00

LUC-2-18.62



PLAN NOTES:

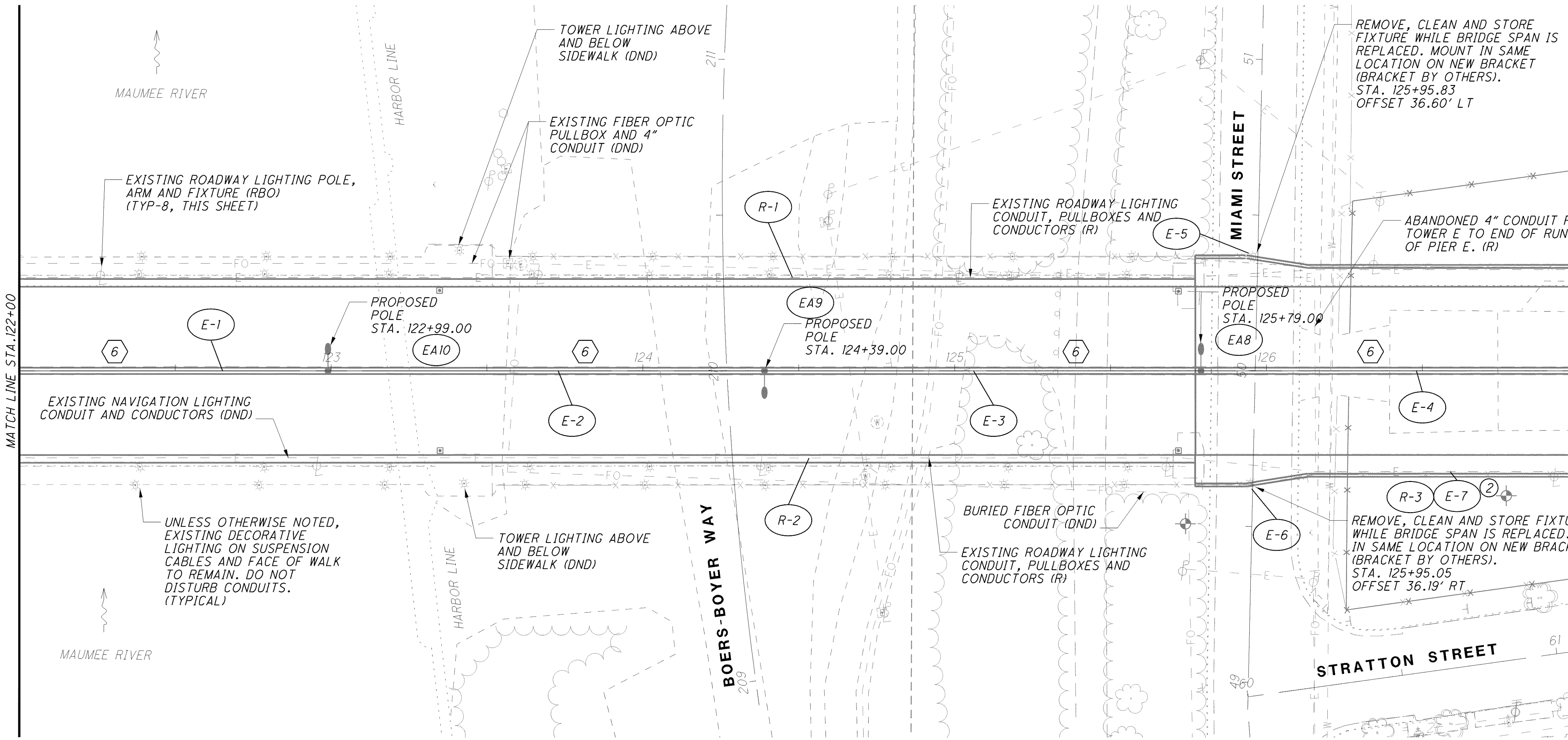
1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. EXISTING MARITIME LIGHTING SUSPENDED BELOW WALK TO REMAIN. DO NOT DISTURB CONDUITS. NORTH NAVIGATION CIRCUIT FED FROM ANCHORAGE A. SOUTH NAVIGATION CIRCUIT FED FROM ANCHORAGE F.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN
STA. 117+00 TO STA. 122+00

LUC-2-18.62



PLAN NOTES:

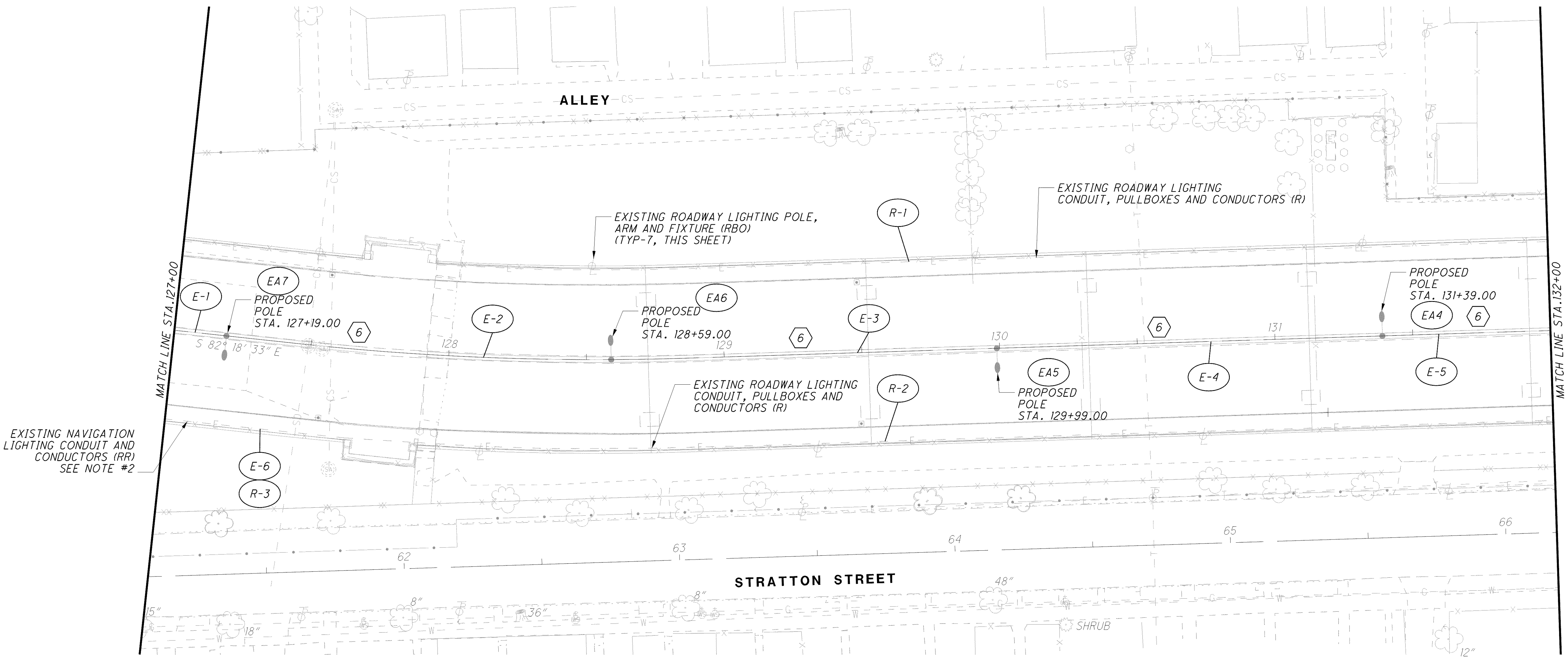
1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. NAVIGATION LIGHTING CONDUIT AND CONDUCTORS, PROVIDE (4)#6 (1)#6GND, 1"C. ON REPLACEMENT SPAN TO REPLACE ORIGINAL CIRCUIT.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN
STA. 122+00 TO STA. 127+00

LUC-2-18.62



PLAN NOTES:

1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. NAVIGATION LIGHTING CONDUIT AND CONDUCTORS, PROVIDE (4)#6 (1)#6GND, 1"C. ON REPLACEMENT SPAN TO REPLACE ORIGINAL CIRCUIT.

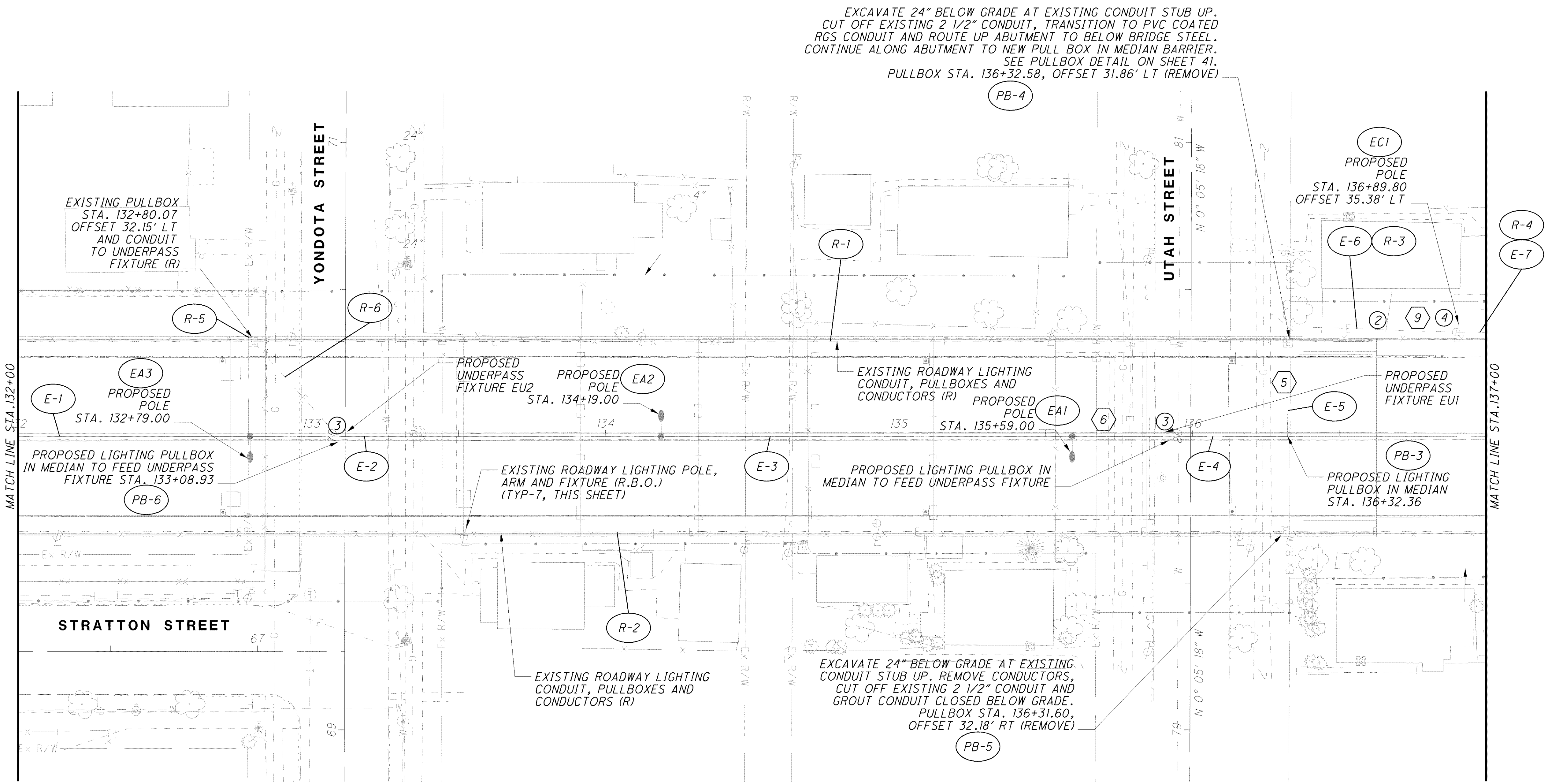
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRG

CHECKED JMS

LIGHTING PLAN STA. 127+00 TO STA 132+00

LUC-2-18.62



PLAN NOTES:

1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. ROUTE NEW 240V. SERVICE IN EXISTING 2.5" CONDUIT FROM UTILITY CONNECTION POINT ON EXISTING SERVICE POLE TO PROPOSED JUNCTION BOX ON BRIDGE. CONTINUE LIGHTING CIRCUIT AS SHOWN ON PLAN.
3. EXISTING UNDERPASS FIXTURE, TO BE REPLACED BY TOLEDO EDISON.
4. EXISTING POLE, ARM AND FIXTURE TO BE REPLACED BY TOLEDO EDISON.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN STA. 132+00 TO STA. 137+00

LUC-2-18.62

PLAN NOTES:

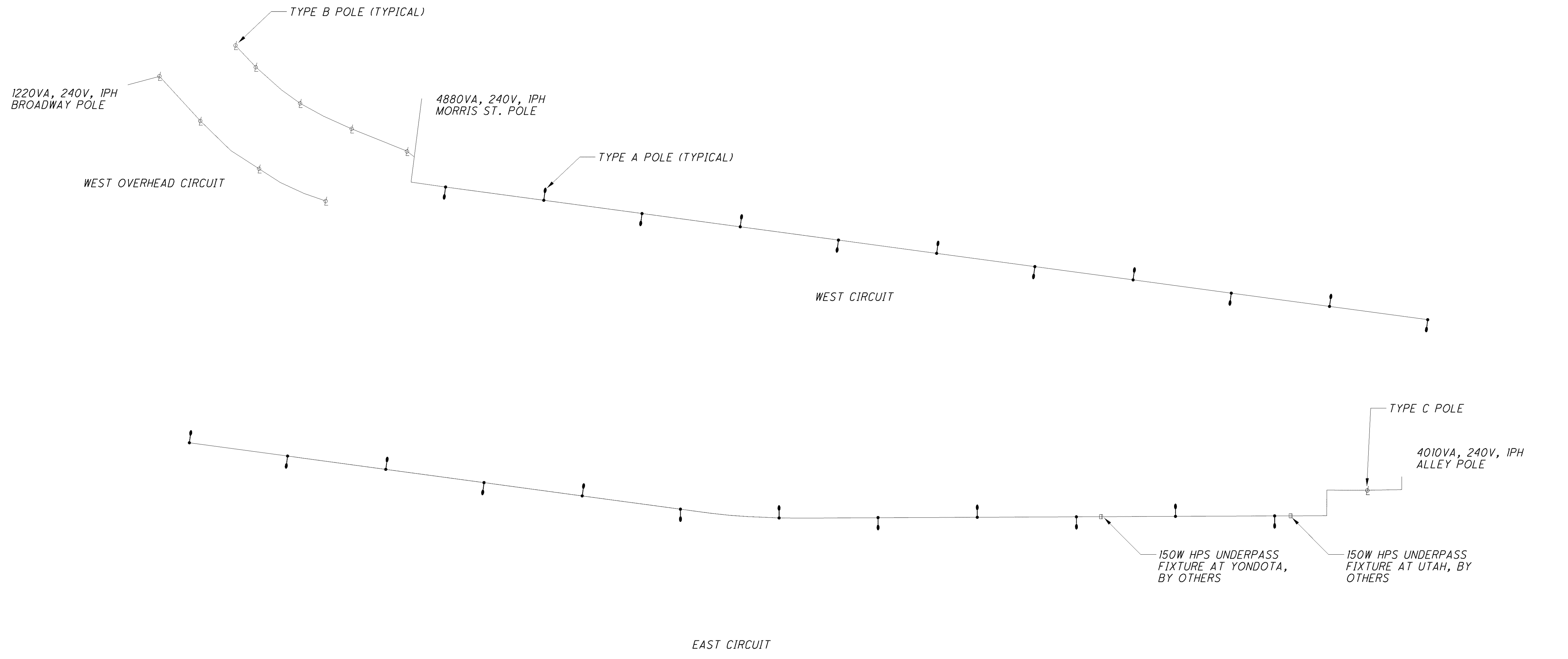
1. SEE SHEET 63 FOR GENERAL NOTES AND WIRING NOTES.
2. ROUTE NEW 240V. SERVICE IN EXISTING 2.5" CONDUIT FROM UTILITY CONNECTION POINT ON EXISTING SERVICE POLE TO PROPOSED JUNCTION BOX ON BRIDGE. CONTINUE LIGHTING CIRCUIT AS SHOWN ON PLAN.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DRC
CHECKED JMS

LIGHTING PLAN
STA. 137+00 TO STA. 142+00

LUC-2-18.62



ROADWAY LIGHTING FIXTURE SCHEDULE

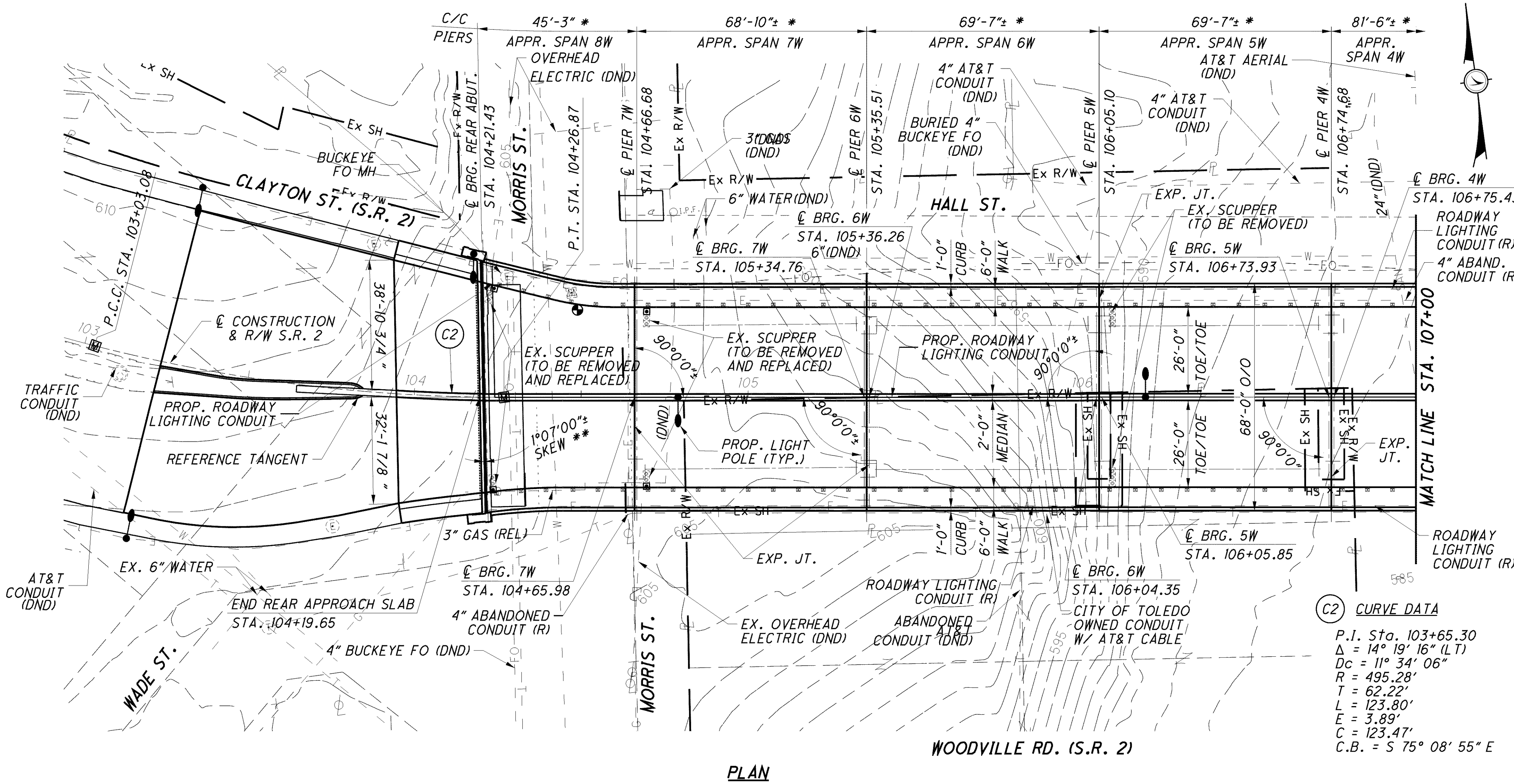
LUMINAIRE TYPE	FIXTURE	IES DISTRIBUTION	ARM LENGH	POLE	MOUNTING HEIGHT
A	CONVENTIONAL ROADWAY LIGHTING FIXTURE WITH DIE-CAST ALUMINUM HOUSING, 250W HPS LAMP, MULTI-VOLT AUTOREG BALLAST, PHOTOCEL RECEPTACLE AND FULL CUTOFF FLAT GLASS LENS. G.E. CAT# M2RC25S0A2GMC3	TYPE III	6'-0"	25'-0" STEEL	30' NOMINAL
B	CONVENTIONAL ROADWAY LIGHTING FIXTURE WITH DIE-CAST ALUMINUM HOUSING, 250W HPS LAMP, MULTI-VOLT AUTOREG BALLAST, PHOTOCEL RECEPTACLE AND FULL CUTOFF FLAT GLASS LENS. G.E. CAT# M2RC25S0A2GMC3	TYPE III	6'-0"	30'-0" STEEL	35' NOMINAL
C	CONVENTIONAL ROADWAY LIGHTING FIXTURE WITH DIE-CAST ALUMINUM HOUSING, 250W HPS LAMP, MULTI-VOLT AUTOREG BALLAST, PHOTOCEL RECEPTACLE AND FULL CUTOFF FLAT GLASS LENS. G.E. CAT# M2RC25S0A2GMC3	TYPE III	10'-0"	30'-0" STEEL	30' NOMINAL
U	WALL MOUNTED UNDERPASS LIGHTING FIXTURE WITH DIE-CAST ALUMINUM HOUSING, 150W HPS LAMP, MULTI-VOLT AUTOREG BALLAST, PHOTOCEL RECEPTACLE AND GLASS LENS. CAT# -	-	-	-	BOTTOM OF BRIDGE STEEL

NOTE: ALL LIGHTING FIXTURES, ARMS AND POLES FURNISHED AND INSTALLED BY TOLEDO EDISON. INFORMATION IS SHOWN FOR REFERENCE ONLY.

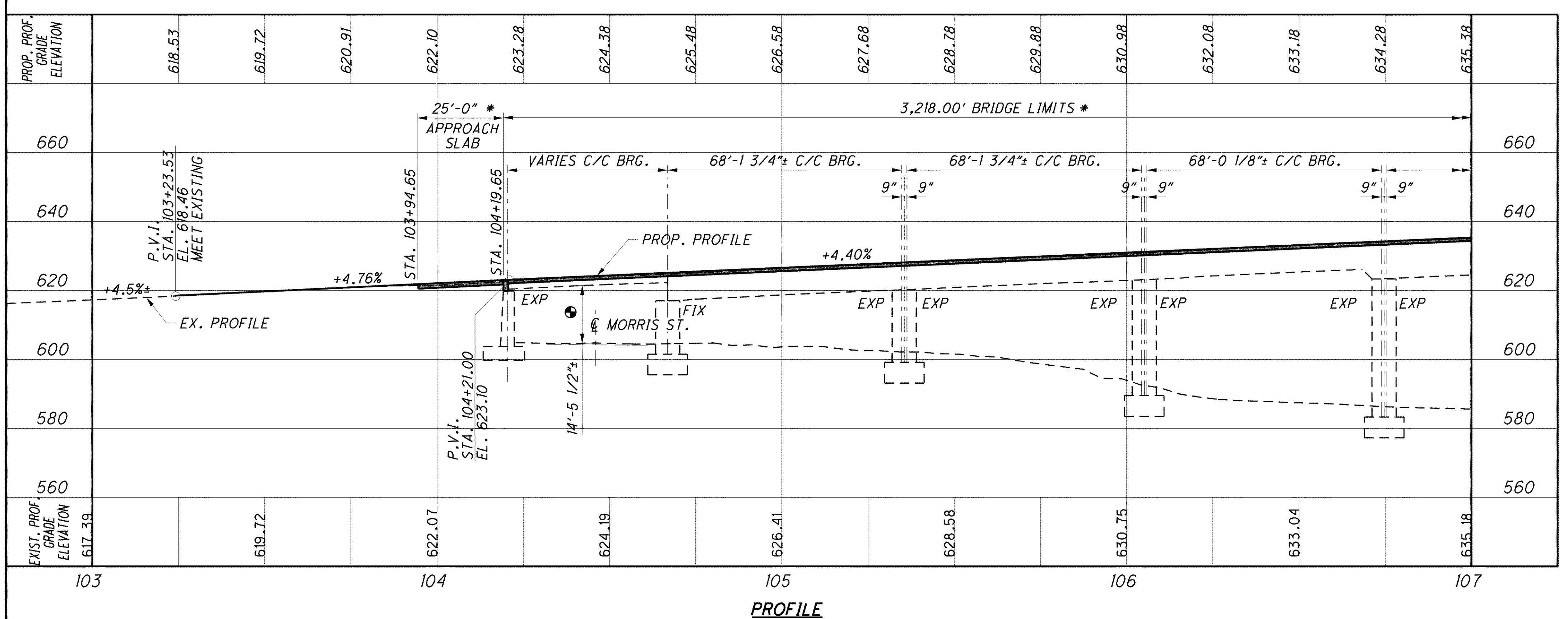
CALCULATED DRG CHECKED JMS

LIGHTING CIRCUIT DIAGRAMS

LUC-2-18.62



PLAN



PROFILE

BENCHMARK DATA

BM-1 STA. 99+72.28 , ELEV. 610.15, OFFSET 61.20' LT.
BM-3 STA. 138+76.04, ELEV. 608.39, OFFSET 87.40' LT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY SCHEMATIC PLAN SHEET 2 OF 327 .

DESIGN TRAFFIC:
2010 ADT = 25,570 2010 ADTT = 770
2030 ADT = 29,640 2030 ADTT = 890

HYDRAULIC DATA

DRAINAGE AREA = 6,397± SQ. MILES
Q (50) = 111,100 CFS V (50) = 5.5 FPS EL. 578.8
Q (100) = 124,300 CFS V (100) = 5.4 FPS EL. 579.6
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 88± FEET.

LEGEND

* - MEASURED ALONG ₵ CONSTRUCTION
** - ANGLE MEASURED WITH RESPECT TO REFERENCE TANGENT
MINIMUM VERTICAL CLEARANCE LOCATION, MIN. REQ'D = 14'-0"
SOIL BORING
FOR LIST OF ABBREVIATIONS, SEE SHEET 8/227 .
FOR CENTER LINE DIAGRAM, SEE SHEET 8/227 .

EXISTING STRUCTURES

TYPE: THREE SUSPENSION SPANS, TWO STEEL TRUSS SPANS, FOURTEEN SIMPLE PLATE GIRDER SPANS AND NINE SIMPLE MULTI-BEAM APPROACH SPANS W/ A REINFORCED CONCRETE DECK, SUPPORTED ON CONCRETE SUBSTRUCTURES.
SPANS: 45'-3"± ₵ BRG. REAR ABUT. / ₵ PIER
VARIES 32'-0"± TO 785'-0"± ₵ / ₵ PIER (26 SPANS)
20'-0"± ₵ PIER / ₵ BRG. FWD. ABUT.
ROADWAY: 54'-0"± F/F CURB INCLUDING 2'-3"± CONCRETE MEDIAN BARRIER
LOADING: H20 (AREA SPECIFICATION 1927)
SKEW: 0°0'0"± FOR PIERS 1W TO 7W, 1E TO 14E, PIER B AND E, ANCHORAGE A, TOWER C & D, FWD. ABUT.
0°0'0"± WITH RESPECT TO REFERENCE TANGENT FOR ANCHORAGE F AND 1°7'0"± FOR REAR ABUT.
WEARING SURFACE: 1 1/4"± SUPERPLASTICIZED DENSE CONC. OVERLAY
APPROACH SLABS: 25'-0"± LONG
ALIGNMENT: TANGENT/VARIES
CROWN: VARIES
DATE BUILT: 1931 MAJOR REHABILITATION: 1961
STRUCTURE FILE NUMBER: 4800303

PROPOSED STRUCTURES

PROPOSED WORK: REHABILITATE EXISTING BRIDGE INCLUDING REPAIRS TO STRUCTURAL STEEL SUPERSTRUCTURE MEMBERS AND REPLACE EACH TRUSS SPAN WITH TWO SPAN PLATE GIRDER SUPERSTRUCTURE. REDECK ALL SPANS INCLUDING NEW 5'-0" SIDEWALKS(EXCEPT IN SUSPENSION SPAN), REPLACE ALL EXPANSION JOINTS, PATCH AND REPAIR REINFORCED CONCRETE SUBSTRUCTURE UNITS INCLUDING ANCHORAGES FOR SUSPENDED SPANS. LIGHTWEIGHT CONCRETE DECK ON SUSPENSION SPANS.
SPANS: 45'-3"± ₵ BRG. REAR ABUT. / ₵ PIER
VARIES 32'-0"± TO 784'-10"± ₵ / ₵ PIER (26 SPANS)
20'-0"± ₵ PIER / ₵ BRG. FWD. ABUT.
ROADWAY: 26'-0" T/T BARRIER EACH SIDE OF A 2'-0" MEDIAN BARRIER WITH 5'-0" SIDEWALKS 1'-1" BARRIER AND 1'-0" CURB.
LOADING: HS20-44 (SUPERSTRUCTURE ONLY),
FWS = 30 P.S.F. (APPR. SPANS AND SUSPENSION SPANS),
FWS = 60 P.S.F. (REPLACEMENT SPANS)
SKEW: 0°0'0" FOR PIERS 1W TO 7W, 1E TO 14E, PIER B AND E, ANCHORAGE A, TOWER C & D, FWD. ABUT.
0°0'0" WITH RESPECT TO REFERENCE TANGENT FOR ANCHORAGE F AND 1°7'0" FOR REAR ABUT.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: (AS-1-81) 25'-0" LONG
ALIGNMENT: TANGENT/VARIES
CROWN: 0.020'/FT.
COORDINATES: LATITUDE 41°38'50" LONGITUDE 83°32'40"

DESIGN AGENCY: ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel: 216-781-6177 Fax: 216-781-6245 www.arcadis-us.com

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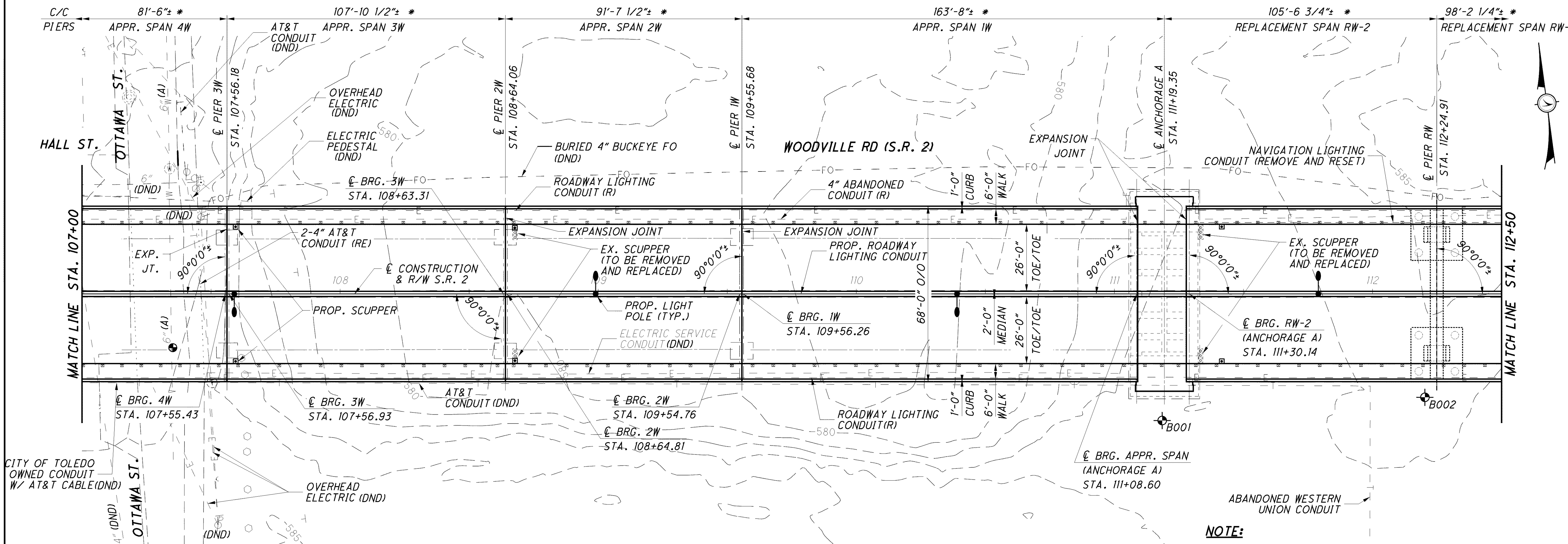
AJM	TMR/MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

LUCAS COUNTY
STA. 104+19.65 TO STA. 136+37.65

SITE PLAN
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

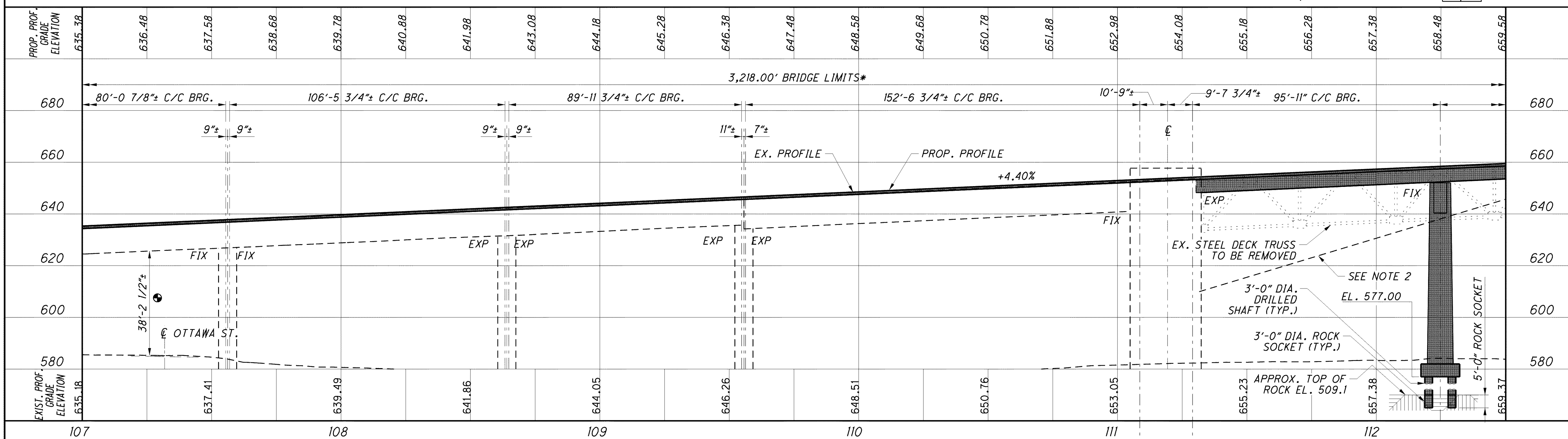
LUC-2-18.62
PID 80551



NOTE:

1. FOR ADDITIONAL NOTES, DATA AND LEGEND SEE SHEET 1/227.
2. FOR REQUIRED PROTECTION OF CABLE DURING REMOVAL SEE NOTE ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN ON SHEET 10/227.

PLAN



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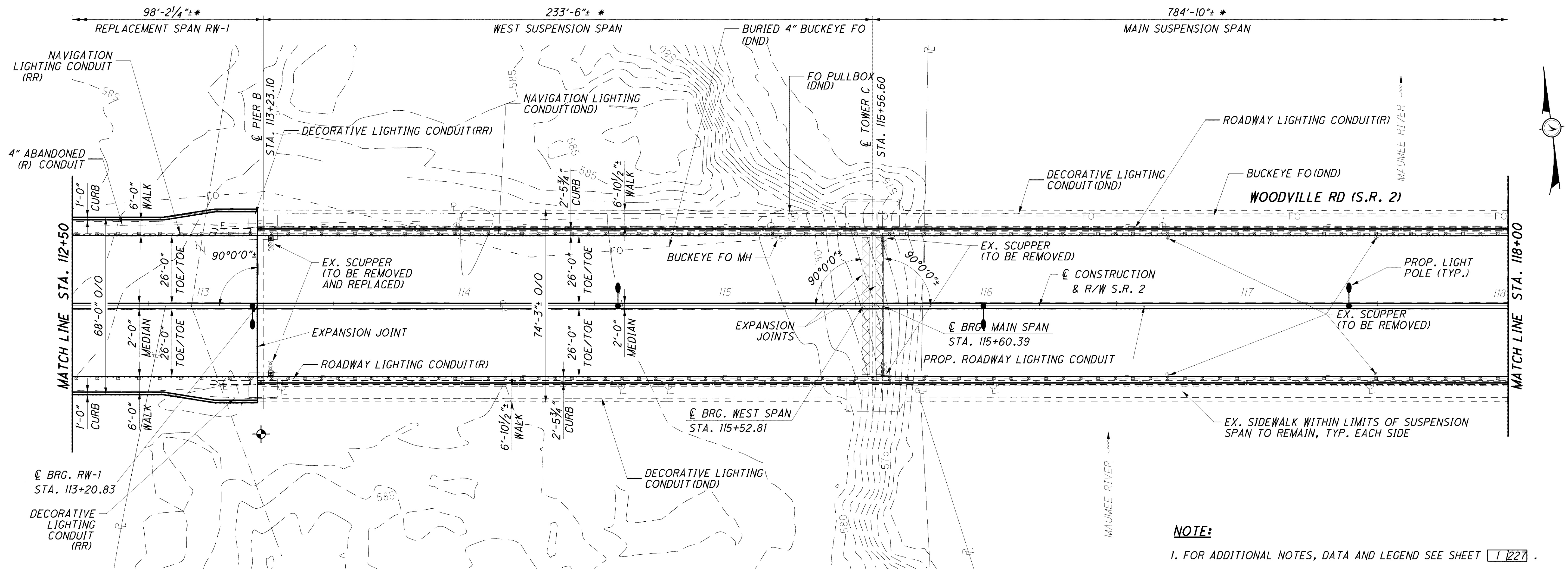
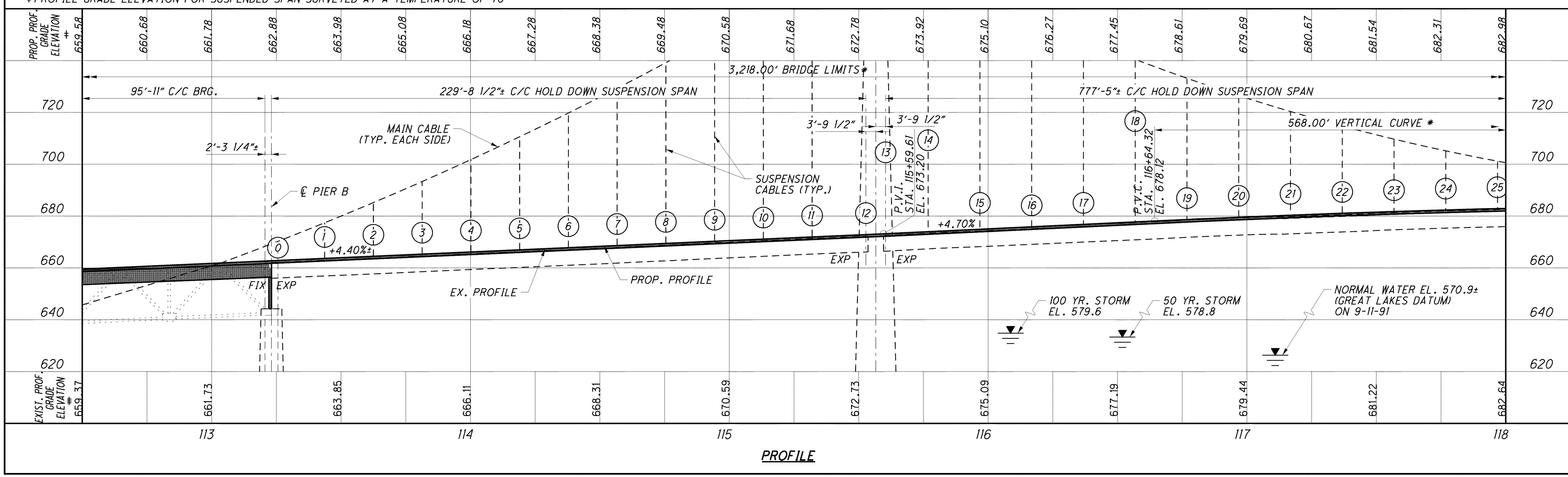


NOTE:

1. FOR ADDITIONAL NOTES, DATA AND LEGEND SEE SHEET 1/227 .
2. NAVIGATION LIGHTING FOR AIR AND WATER SHALL BE MAINTAINED AT ALL TIMES.

* PROFILE GRADE ELEVATION FOR SUSPENDED SPAN BASED ON ASSUMED TEMPERATURE OF 70°
** PROFILE GRADE ELEVATION FOR SUSPENDED SPAN SURVEYED AT A TEMPERATURE OF 70°

PLAN



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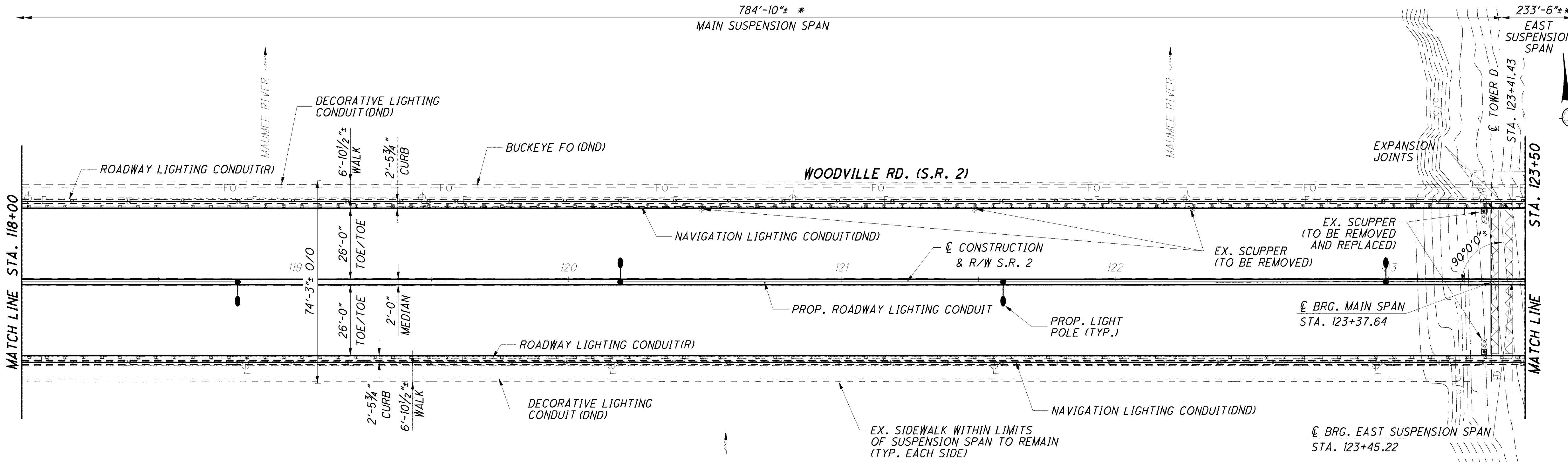


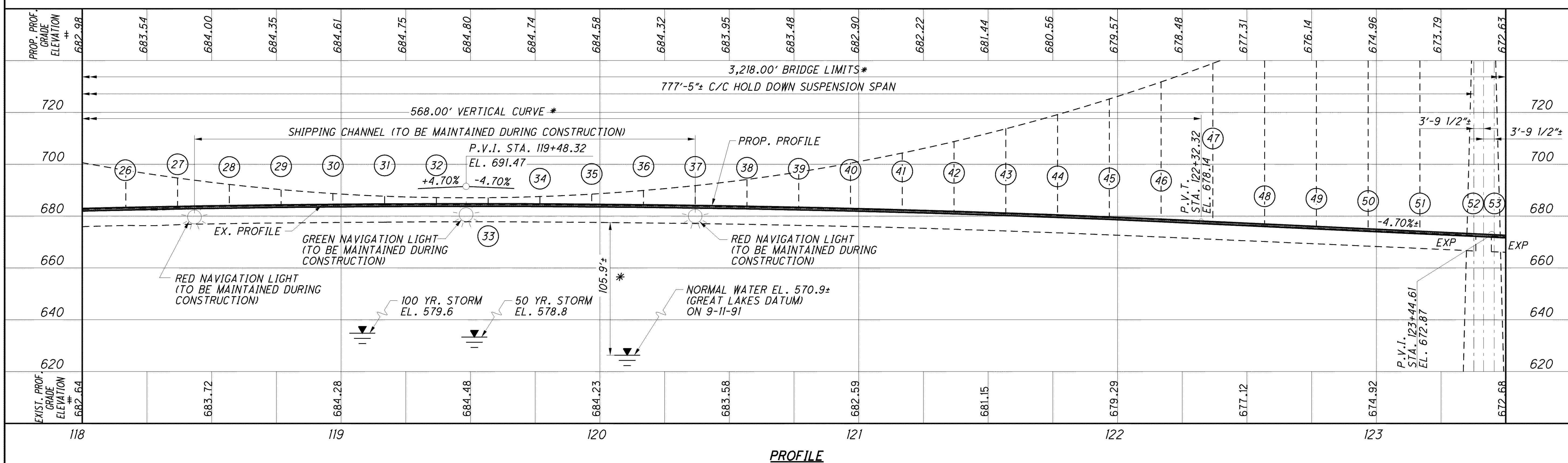
* NO REDUCTION IN VERTICAL CLEARANCE WILL BE PERMITTED DURING THE SHIPPING SEASON FROM APRIL 1 TO DECEMBER 31. ANY WORK PLATFORMS PLACED BELOW THE LOW STELL SHALL BE MOVEABLE WITHIN THE SHIPPING CHANNEL TO ALLOW UNRESTRICTED CLEARANCE.

‡,‡ SEE SHEET 3/227 FOR NOTE

NOTES:

1. FOR ADDITIONAL NOTES, DATA AND LEGEND SEE SHEET 1/227 .
2. ESTIMATED RIVER TRAFFIC IS 250 SHIPS PER YEAR INBOUND AND OUTBOUND.
3. NAVIGATION LIGHTING FOR AIR AND WATER SHALL BE MAINTAINED AT ALL TIMES.

PLAN



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SITE PLAN
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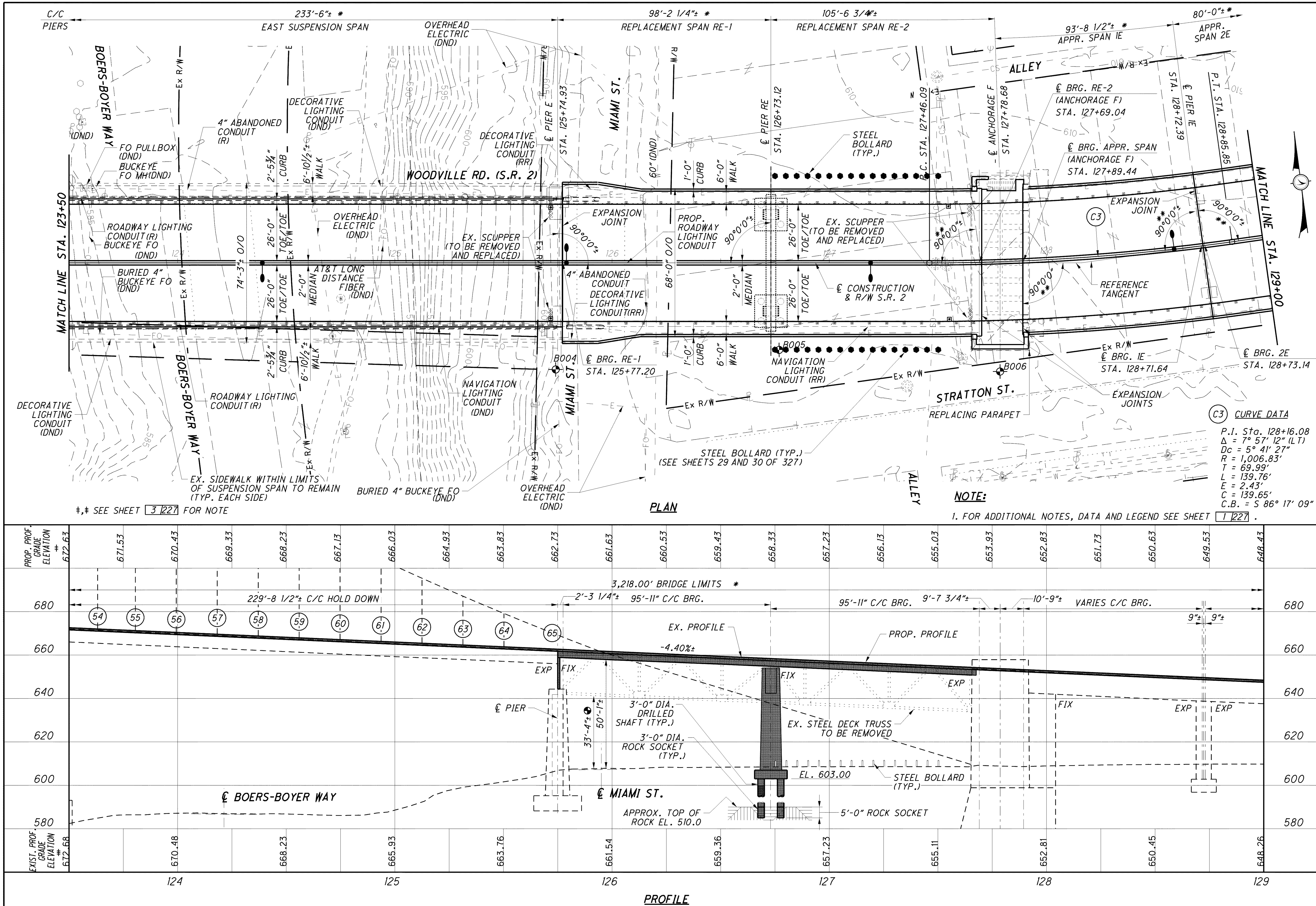
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID 80551

4/227

76/327



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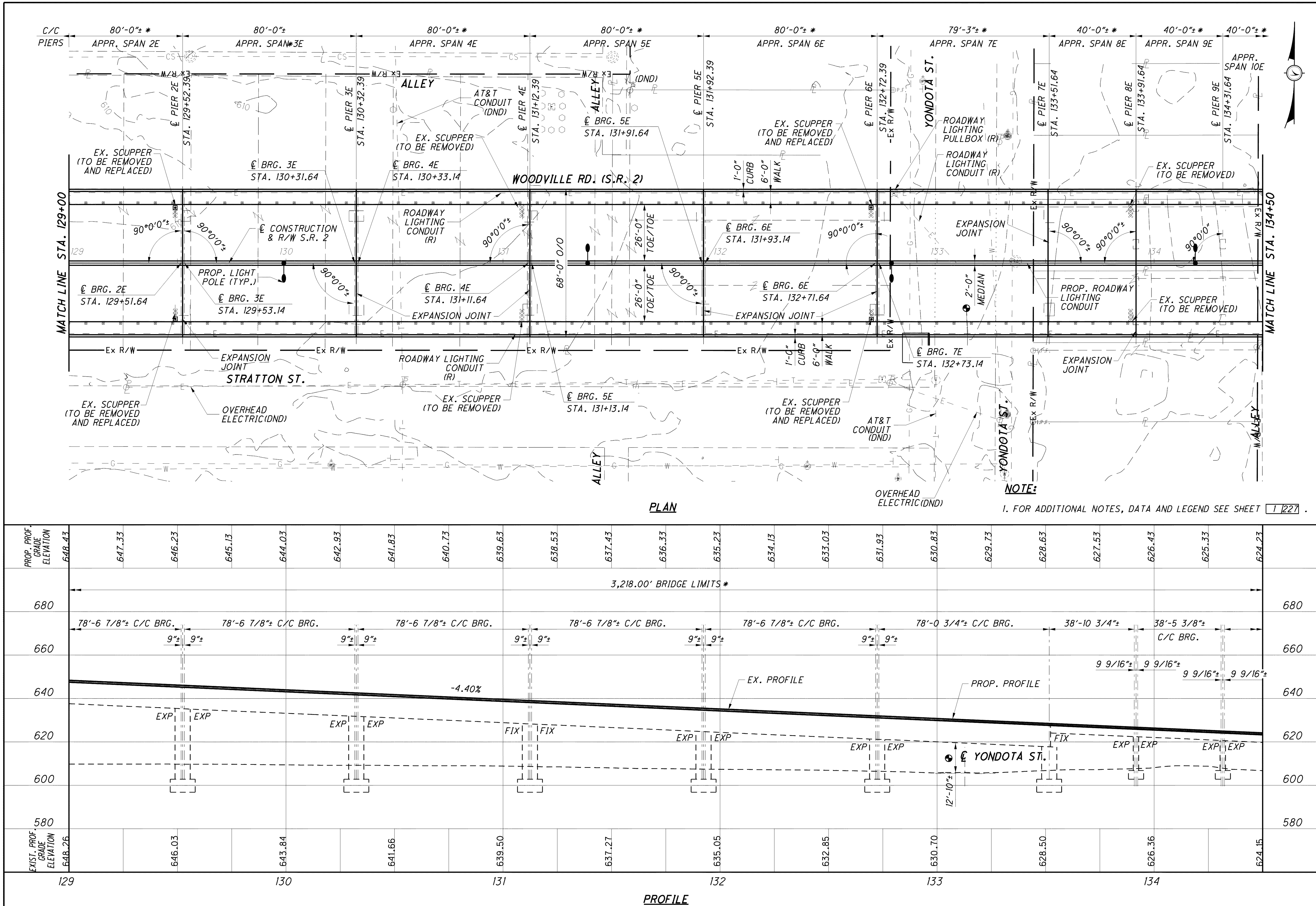

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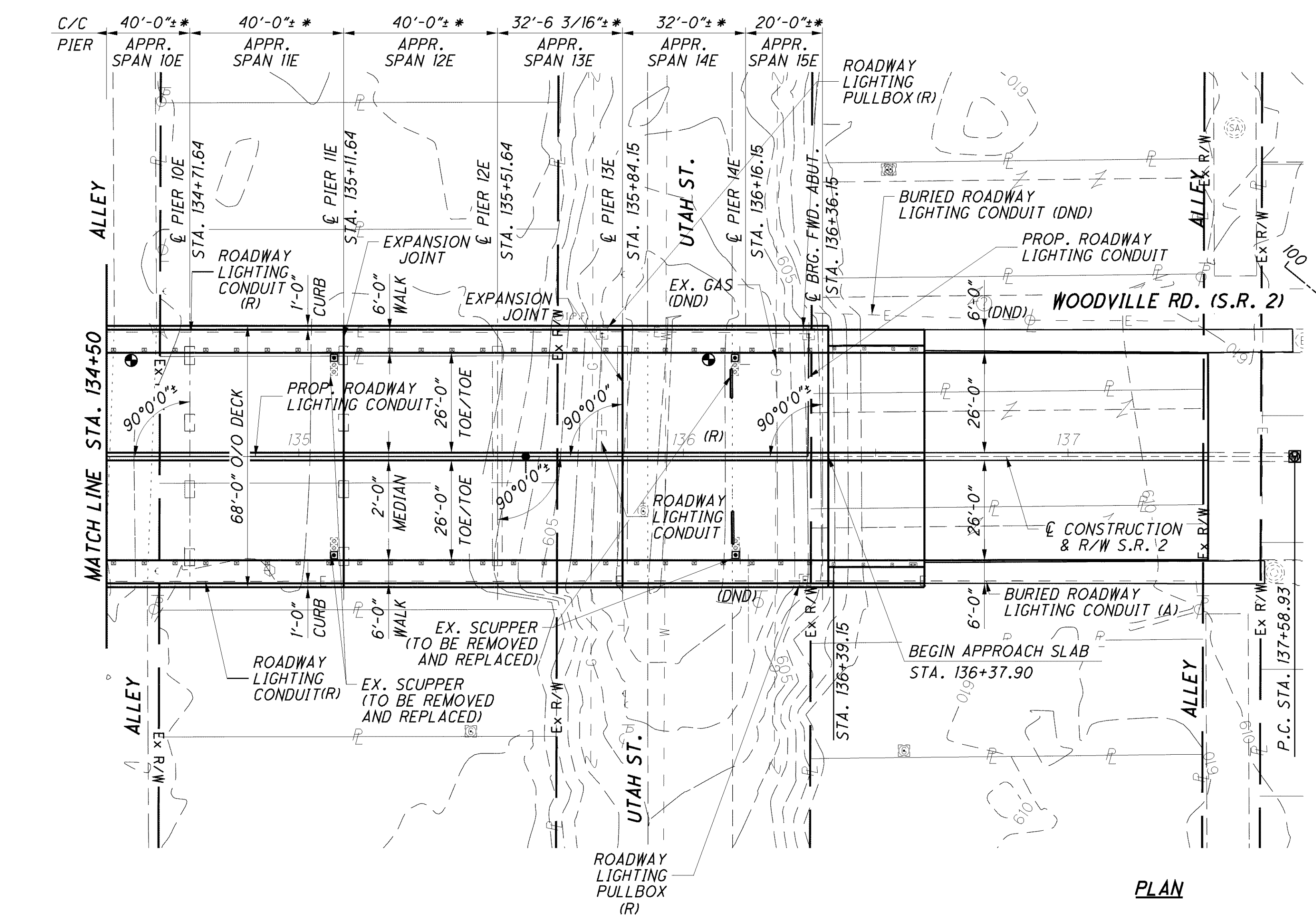
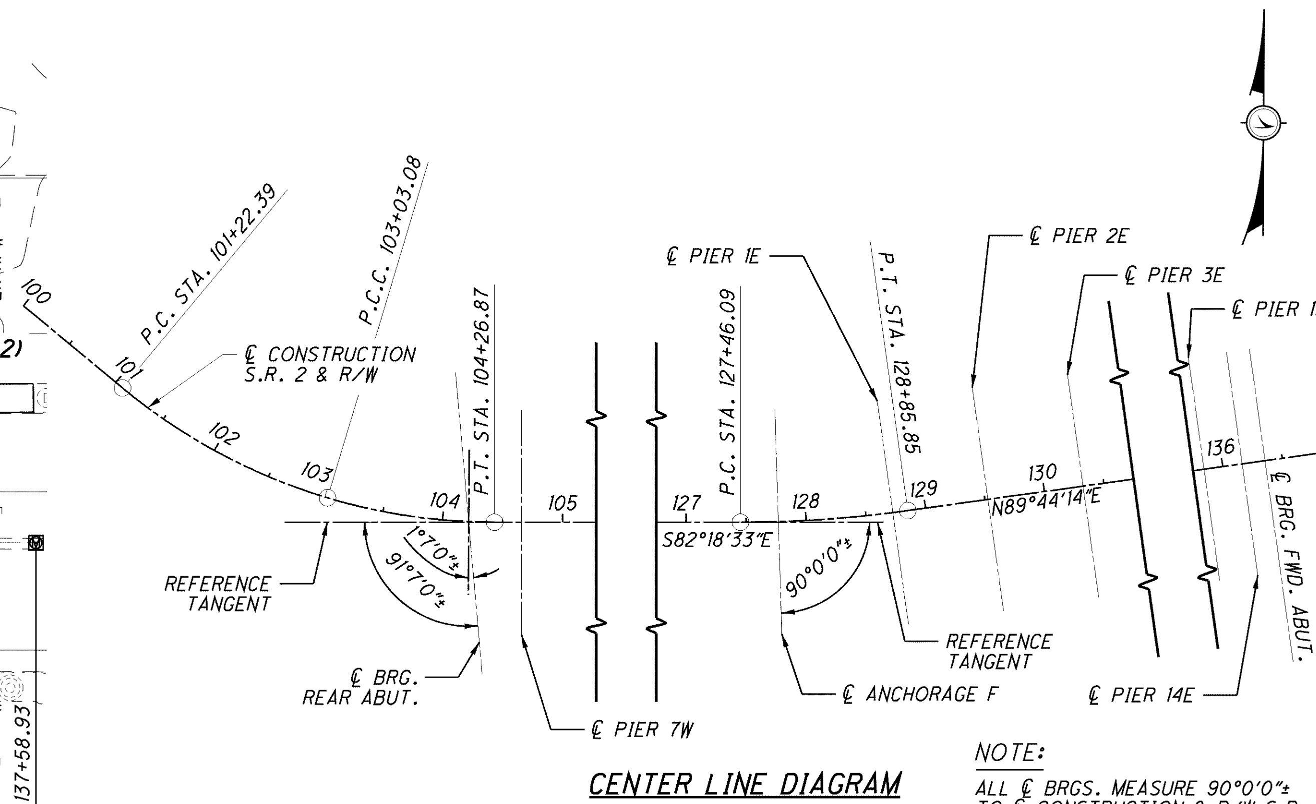


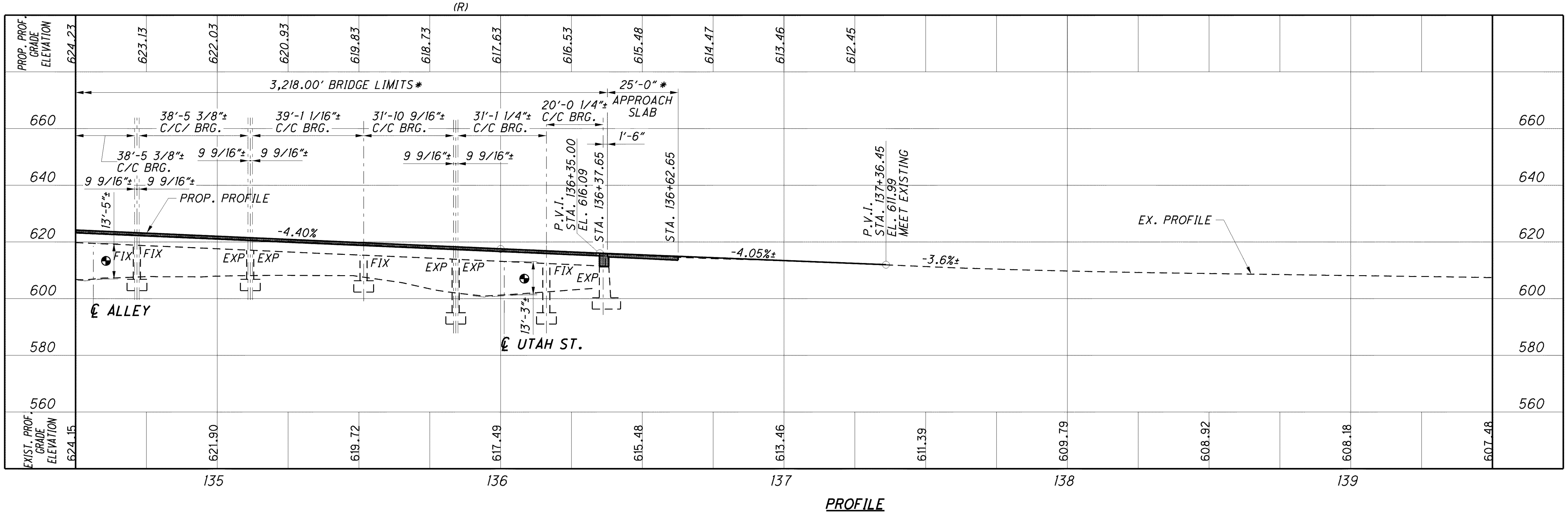
PLAN



CENTER LINE DIAGRAM

NOTE:
ALL ℄ BRGS. MEASURE 90°0'0"± TO ℄ CONSTRUCTION & R/W S.R. 2, UNLESS OTHERWISE NOTED.

NOTE:
1. FOR ADDITIONAL NOTES, DATA AND LEGEND SEE SHEET 1/227 .



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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 REVISED 07-19-02
EXJ-4-87 REVISED 07-19-02
GSD-1-96 REVISED 07-19-02
SICD-1-96 REVISED 07-19-02
VPF-1-90 REVISED 04-15-11

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

892 DATED 04-15-05
898 DATED 01-21-11
1011 DATED 07-30-04
1078 DATED 07-16-11
1080 DATED 04-19-02
1081 DATED 01-15-10
1083 DATED 04-1-05
1084 DATED 04-21-06

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

SPECIAL DESIGN SPECIFICATION

THE SUSPENDED SPANS WERE ANALYZED USING BOTH A DIRECTSOFTWARE IMPLEMENTATION OF THE DEFLECTION THEORY OFSUSPENSION BRIDGES USING A TWO DIMENSIONAL IN-HOUSEPROGRAM AND THE THREE DIMENSIONAL FINITE ELEMENT PROGRAMSAP2000, ACCOUNTING FOR NONLINEAR GEOMETRIC EFFECTS.

SUSPENDED SPAN DEAD LOAD DISTRIBUTION: THE STIFFENING GIRDER WAS ASSUMED TO HAVE ZERO GLOBAL MOMENTS UNDER THE ORIGINAL DESIGN DEAD LOAD OF 13 KIPS PER FOOT OF SPAN. CHANGES IN DEAD LOAD DUE TO MODIFICATION TO THE STRUCTURE WERE APPLIED AS ADDITIONAL LOADINGS. DEAD LOAD WAS ASSUMED TO BE EQUALLY DISTRIBUTED TO EACH STIFFENING GIRDER.

SUSPENDED SPAN LIVE LOAD DISTRIBUTION: LIVE LOAD WAS DISTRIBUTED TO EACH STIFFENER GIRDER USING THE LEVER RULE.

DESIGN LOADING

HS20, CASE I AND THE ALTERNATE MILITARY LOADING. (SUPERSTRUCTURE ONLY)
FUTURE WEARING SURFACE (FWS) OF 30 LBS/SQ. FT. (APPR. SPANS AND SUSPENSION SPANS)
FUTURE WEARING SURFACE (FWS) OF 60 LBS/SQ. FT. (REPLACEMENT SPANS)

DESIGN STRESSES

CONCRETE CLASS QC/QA - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
(LIGHTWEIGHT CONCRETE IN SUSPENSION SPAN)

CONCRETE CLASS QC/QA - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

CONCRETE CLASS S MODIFIED - COMPRESSIVE STRENGTH 4000 PSI (DRILLED SHAFT)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

STRUCTURAL STEEL

ASTM A709 GRADE 50 W - YIELD STRENGTH 50,000 PSI (REPLACEMENT SPAN BEAMS G1 TO G6; STEEL REPAIRS EXCEPT AS NOTED)
ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI (REPLACEMENT SPAN BEAMS S1 AND S2; PIER B AND E STEEL)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL 2 1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

DRILLED SHAFTS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 321 TONS AT PIER RW AND 259 TONS AT PIER RE. THIS LOAD IS RESISTED BY SHAFT END BEARING. THE ALLOWABLE END BEARING PRESSURE IS 369 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

UTILITY LINES

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

PROPOSED WORK

SHALL CONSIST OF, BUT NOT BE LIMITED TO THE FOLLOWING:

1. COMPLETE WORK ON SUSPENSION SPAN
   a. REMOVE BRIDGE DECK AS SHOWN IN THE PLANS
   b. REPLACE EXPANSION JOINTS
   c. REPAIR HOLD-DOWN ASSEMBLY
   d. CABLE REPAIRS
   e. STRUCTURAL STEEL REHABILITATION - TOWER
   f. STRUCTURAL STEEL REHABILITATION - SUPERSTRUCTURE
   g. POUR LIGHTWEIGHT CONCRETE DECK AS SHOWN IN THEPLANS
   h. ERECT GUARDRAIL
   i. REMOVE, PAINT AND REUSE PORTION OF BRIDGE RAILING
   j. INSTALL NEW POSTS AND EXISTING BRIDGE RAILING AND FENCE
   k. PAINT EXISTING BRIDGE RAILING, FENCE POSTS, AND LINE RAILS
   l. REPLACE FENCE FABRIC
   m. INSTALL LIGHT POLES
2. COMPLETE WORK ON APPROACH SPANS
   a. TRUSS SPANS
      i. REMOVE TRUSS SUPERSTRUCTURE
      ii. CONSTRUCT REPLACEMENT PIER
      iii. ERECT STEEL PIER AT PIER B AND E
      iv. POUR CONCRETE AT ANCHORAGE A AND F
      v. ERECT STEEL PLATE GIRDERS
      vi. POUR CONCRETE DECK
      vii. INSTALL STRIP SEAL EXPANSION JOINT
      viii. INSTALL BRIDGE RAILING AND FENCE
      ix. INSTALL LIGHT POLES
   b. MULTI-BEAMS AND TWO-GIRDER SPANS
      i. REMOVE BRIDGE DECK
      ii. REPLACE BEARINGS FOR MULTI-BEAMS SPANS
      iii. REPLACE EXPANSION JOINTS
      iv. CONVERT JOINTS TO CONTINUOUS AT FIXED PIERS FOR MULTI-BEAMS
      v. STRUCTURAL STEEL REHABILITATION
      vi. POUR CONCRETE DECK
      vii. ERECT GUARDRAIL
      viii. REMOVE, PAINT AND REUSE PORTION OF BRIDGE RAILING
      ix. INSTALL NEW POSTS AND EXISTING BRIDGE RAILING AND FENCE
      x. INSTALL LIGHT POLES

ABBREVIATIONS

N.F.	= NEAR FACE	(T.R.)	= TO REMAIN
F.F.	= FAR FACE	(T.B.R.)	= TO BE RELOCATED
E.F.	= EACH FACE	FWD.	= FORWARD
TYP.	= TYPICAL	CONC.	= CONCRETE
MIN.	= MINIMUM	EA.	= EACH
STA.	= STATION	HMWM	= HIGH MOLECULAR WEIGHT METHACRYLATE
SPA.	= SPACES	STD.	= STANDARD
CONST.	= CONSTRUCTION	DWG.	= DRAWING
APPR.	= APPROACH	DIA.	= DIAMETER
EL.	= ELEVATION	(R)	= TO BE REMOVED
C.I.P.	= CAST-IN-PLACE	EXP.	= EXPANSION
BRG.	= BEARING	PARA.	= PARAPET
EX.	= EXISTING	T/T	= TOE TO TOE
PH.	= PHASE	T.B.D.	= TO BE DETERMINED
A.P.P.	= AS PER PLAN	H.S.	= HIGH STRENGTH
R.A.	= REAR ABUTMENT	D.N.D.	= DO NOT DISTURB
F.A.	= FORWARD ABUTMENT	REQ'D	= REQUIRED
PROF.	= PROFILE	W	= WEST APPROACH SPANS
PROP.	= PROPOSED	E	= EAST APPROACH SPANS
DATUR	= DEPICTED ACCORDING TO UTILITY RECORDS, NO ELECTRONIC INFORMATION WAS OBTAINED	RW	= WEST REPLACEMENT SPANS
P.E.J.F.	= PREFORMED EXPANSION JOINT FILLER	RE	= EAST REPLACEMENT SPANS
C.P.P.	= CORRUGATED PLASTIC PIPE	TYP.	= TYPICAL
BOTT.	= BOTTOM	U.N.O.	= UNLESS NOTED OTHERWISE
INV.	= INVERT	REL	= TO BE RELOCATED

CONCRETE MEDIAN PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAW CUT 1 1/4" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAW CUTS AS SHOWN IN THE PROJECT PLANS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4 INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS. AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.22 KIPS FOR A TOTAL MACHINE LOAD OF 9.76 KIPS. A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103". A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN. A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

MAUMEE RIVER COORDINATION

THE CONTRACTOR SHALL CONTACT THE U.S. COAST GUARD WITH A WRITTEN REQUEST AT LEAST 30 DAYS IN ADVANCE OF WORK THAT MAY INHIBIT MARINE TRAFFIC ON THE MAUMEE RIVER, SUSPEND BELOW THE LOW STEEL OF THE EXISTING BRIDGE, OR ENCROACH ON THE ESTABLISHED NAVIGATIONAL VERTICAL OR HORIZONTAL CLEARANCES. THE CONTRACTOR MUST PROVIDE WRITTEN REQUEST TO THE USCG REQUESTING AUTHORIZATION TO CLOSE THE MAUMEE RIVER TO TRAFFIC ON SPECIFIC DAYS. ANY SUCH WORK MUST BE APPROVED BY AND COORDINATED WITH THE U.S. COAST GUARD PRIOR TO PERFORMANCE. CONTACT INFORMATION FOR THE COAST GUARD IS AS FOLLOWS:

MR. SCOTT STRIFFLER
BRIDGE PROGRAM MANAGER
NINTH COAST GUARD DISTRICT
1240 EAST NINTH STREET
CLEVELAND, OHIO 44198-2080
PHONE: 216-902-6056

THE TOLEDO-LUCAS COUNTY PORT AUTHORITY SHALL ALSO BE NOTIFIED OF ANY MAJOR WORK BEING PERFORMED OVER OR ALONG THE MAUMEE RIVER. CONTACT INFORMATION FOR THE TOLEDO-LUCAS COUNTY PORT AUTHORITY IS AS FOLLOWS:

MS. HOLLY KEMLER
ONE MARITIME PLAZA
SUITE 701
TOLEDO, OHIO 443604-1866
PHONE: 419-243-8251

THE US ARMY CORPS OF ENGINEERS SHALL ALSO BE NOTIFIED OF ANY WORK THAT MAY INHIBIT MARINE TRAFFIC ON THE MAUMEE RIVER. CONTACT INFORMATION FOR THE CORPS OF ENGINEERS IS AS FOLLOWS:

MR. PAUL BIJHOUWER
USACE BUFFALO DISTRICT
1776 NIAGARA STREET
BUFFALO, NY. 14207
716-879-4200
TOLDEO OFFICE
419-726-9014

REMOVALS OVER WATER

REASONABLE CARE SHALL BE USED BY THE CONTRACTOR TO PREVENT REMOVED MATERIALS FROM FALLING INTO THE WATER. ANY DROPPED MATERIALS SHALL BE IMMEDIATELY RECOVERED AND DISPOSED OF AWAY FROM THE SITE. REFER TO 104.06 OF THE ODOT CMS FOR ADDITIONAL REQUIREMENTS.

PROTECTION OF TRAFFIC

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL OF THE ABOVE SHALL BE PAID FOR AT THE LUMP SUM PRICE BID FOR ITEM 614. MAINTAINING TRAFFIC.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

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DESIGNED AJM | DRAWN KS | REVIEWED RBB | DATE 10/12
CHECKED CMD | REVISED | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

MASS CONCRETE

DESCRIPTION: THIS ITEM COVERS THE PROCEDURES FOR THE CONTROL OF THE CURING OF MASS CONCRETE BY MONITORING OF INTERNAL TEMPERATURES.

PURPOSE: IT IS THE CONTRACTOR'S RESPONSIBILITY TO PRODUCE A STRUCTURE FREE FROM CRACKS THAT WOULD RESULT FROM HEAT OF HYDRATION DURING CURING OF LARGE CONCRETE CROSS-SECTIONS. FOR THIS PROJECT, ALL CEMENT CONCRETE ELEMENTS WHOSE LEAST DIMENSION IS EQUAL TO OR GREATER THAN 60-INCHES AS SHOWN ON THE PLANS AND AS NOTED IN SECTION 08 SHALL BE CONSIDERED AS MASS CONCRETE.

THE CONTRACTOR SHALL DETERMINE IF OTHER ELEMENTS WILL BE CONSIDERED AS MASS CONCRETE. CONCRETE ELEMENTS THAT COULD HAVE A TEMPERATURE GREATER THAN 160 DEGREES F OR THOSE ELEMENTS THAT MAY THERMALLY CRACK DURING CURING MUST BE TREATED AS MASS CONCRETE.

THERMAL CONTROL PLAN: THE CONTRACTOR SHALL PREPARE A THERMAL CONTROL PLAN THAT DESCRIBES THE PROCEDURES AND MEASURES THAT THE CONTRACTOR INTENDS TO USE TO CONTROL THE TEMPERATURE OF MASS CONCRETE ELEMENTS. THE THERMAL CONTROL PLAN SHALL BE SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.
AS A MINIMUM, THE THERMAL CONTROL PLAN SHALL ADDRESS THE FOLLOWING ITEMS:

A. MIX DESIGN:
GROUND GRANULATED BLAST FURNACE SLAG OR FLY-ASH MAY BE USED IN THE MIX TO REDUCE THE HEAT OF HYDRATION. SLAG OR FLY-ASH MAY BE USED AS A CEMENTITIOUS REPLACEMENT MATERIAL FOR CEMENT UP TO A MAXIMUM LIMIT OF 50% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL IN THE MIX. SLAG AND/OR FLY-ASH SHALL BE FROM A SOURCE APPROVED BY THE ENGINEER, SHALL BE COMPATIBLE WITH THE TYPE OF CEMENT AND THOROUGHLY BLENDED IN THE MIX. OTHER PRECAUTIONS FOR REDUCING THE HEAT OF HYDRATION MAY BE TAKEN, SUCH AS THE ADDITION OF CONTROLLED QUANTITIES OF ICE IN LIEU OF EQUAL QUANTITIES OF MIXING WATER. HOWEVER, THE MIX SHALL CONTAIN NO FROZEN PIECES OF ICE AFTER BLENDING AND MIXING COMPONENTS.

ALL CONSTITUENT MATERIALS SHALL BE COMPATIBLE WITH THE PROPOSED CEMENTS, WORKABILITY ENHANCING ADDITIVES AND WATER REDUCING AGENTS AS NECESSARY TO PROVIDE CONCRETE SATISFYING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

B. CURING
THE CURING PROCEDURES, INCLUDING THE METHOD OF CURING AND THE DURATION OF CURING SHALL BE PROVIDED IN THE THERMAL CONTROL PLAN.

C. ANALYSIS
THE THERMAL CONTROL PLAN SHALL PROVIDE AN ANALYSIS OF THE ANTICIPATED THERMAL DEVELOPMENTS WITHIN THE MASS CONCRETE ELEMENTS FOR THE ANTICIPATED PROJECT TEMPERATURE RANGES USING THE PROPOSED MIX DESIGN, CASTING PROCEDURES AND MATERIALS.

THE ANALYSIS SHALL SHOW COMPLETE DETAILS AND SHALL DETERMINE THE MAXIMUM ALLOWABLE TEMPERATURE DIFFERENTIALS BETWEEN THE HOTTEST POINT OF THE CONCRETE AND THE EXTERIOR FACES BASED ON THE DESIGN ASSUMPTION THAT CRACKING AS A RESULT OF HEART OF HYDRATION SHALL NOT OCCUR.

A COPY OF ANY SOFTWARE MODELS (SUCH AS A SCHMIDT MODEL) WITH THE SITE AND ELEMENT SPECIFIC DATA SHALL BE TRANSMITTED TO THE ENGINEER FOR APPROVAL WITH THE ANALYSIS. THIS SUBMITTAL SHALL INCLUDE ELECTRONIC FILES AND COMPLETE THERMAL CALCULATIONS.

D. MONITORING AND CONTROL
THE THERMAL CONTROL PLAN SHALL DESCRIBE THE MEASURES, PROCEDURES, AND EQUIPMENT THE CONTRACTOR INTENDS TO USE TO MAINTAIN, MONITOR AND CONTROL THE TEMPERATURE DIFFERENTIAL BETWEEN THE INTERIOR AND EXTERIOR OF THE MASS CONCRETE ELEMENTS, WITH A MAXIMUM TEMPERATURE OF 160° F, DURING CURING. DURING CURING, THE MAXIMUM DIFFERENTIAL TEMPERATURES SHALL NOT EXCEED:

FIRST 48 HOURS	40°F
NEXT 2 TO 7 DAYS	50°F
NEXT 8 TO 14 DAYS	60°F

THE THERMAL CONTROL PLAN SHALL DESCRIBE THE TEMPERATURE SENSOR TYPES, LOCATIONS, AND INSTALLATION DETAILS THAT WILL BE USED TO MONITOR THE TEMPERATURE OF MASS CONCRETE ELEMENTS. A DESCRIPTION OF THE TEMPERATURE MONITORING SYSTEM SHALL BE PROVIDED ALONG WITH AN OPERATION PLAN, A RECORDING AND REPORTING PLAN, AND A REMEDIAL ACTION PLAN.

E. MONITORING DEVICES
THE CONTRACTOR SHALL PROVIDE TEMPERATURE-MONITORING DEVICES TO RECORD TEMPERATURE DEVELOPMENT BETWEEN THE INTERIOR AND THE EXTERIOR OF THE MASS CONCRETE ELEMENTS AT LOCATIONS APPROVED BY THE ENGINEER. THE TEMPERATURE SENSORS SHALL BE LOCATED SUCH THAT THE MAXIMUM TEMPERATURE DIFFERENTIAL WITHIN A MASS CONCRETE ELEMENT CAN BE MONITORED. A MINIMUM OF TWO INDEPENDENT SETS OF INTERIOR AND EXTERIOR POINTS SHALL BE MONITORED FOR EACH ELEMENT TO PROVIDE REDUNDANCY IN CASE OF FAILURE OF A DEVICE. THE MONITORING POINTS SHALL BE LOCATED AT THE GEOMETRIC CENTER OF THE ELEMENT FOR THE INTERIOR POINT AND 2-INCHES (50 MM) FROM THE SURFACE ALONG THE SHORTEST LINE FROM THE GEOMETRIC CENTER TO THE NEAREST SURFACE OF THE ELEMENT FOR THE EXTERIOR POINT.

MONITORING DEVICES SHALL CONSIST OF AUTOMATIC SENSING AND RECORDING INSTRUMENTS THAT RECORD INFORMATION AT A MAXIMUM INTERVAL OF ONE HOUR. THESE DEVICES SHALL OPERATE OVER A MAXIMUM RANGE OF 0 TO 180 DEGREES F WITH AN ACCURACY OF + 2 DEGREES F. IN ADDITION, THE CONTRACTOR SHALL TAKE READINGS AND RECORD DATA AT INTERVALS NOT GREATER THAN 6 HOURS TO ENSURE THAT THE AUTOMATIC DEVICES ARE WORKING PROPERLY AND THAT THE TEMPERATURES ARE WITHIN ALLOWABLE LIMITS. THE INTERVALS OF ONE AND SIX HOURS SHALL BEGIN IMMEDIATELY AFTER CASTING IS COMPLETE AND SHALL CONTINUE UNTIL THE MAXIMUM TEMPERATURE DIFFERENTIAL IS REACHED AND BEGINS TO DROP. THESE READINGS SHALL BE TRANSMITTED TO THE ENGINEER AT LEAST DAILY.

METHODS OF CONCRETE CONSOLIDATION SHALL PREVENT DAMAGE TO THE TEMPERATURE MONITORING AND RECORDING SYSTEM. WIRING FROM TEMPERATURE SENSORS CAST INTO THE CONCRETE SHALL BE PROTECTED TO PREVENT MOVEMENT, AND WIRE RUNS SHALL BE KEPT AS SHORT AS POSSIBLE. THE ENDS OF THE TEMPERATURE SENSORS SHALL NOT COME INTO CONTACT WITH A CONCRETE FORM, FORM SUPPORT, OR REINFORCEMENT BAR.

THERMOCOUPLES SHALL BE CONNECTED TO THE RECORDING DEVICE USING TEFLON-SHEATHED WIRE OR SHALL USE WIRELESS TECHNOLOGY. THERMOCOUPLE WIRE, IF USED, SHALL BE PROTECTED FROM ABRASION AND CONCRETE TOOLS BY SECURING THE WIRE TO THE UNDERSIDE OF REINFORCEMENT BARS USING PLASTIC ZIP TIES.

MECHANICAL COOLING: THE CONTRACTOR MAY USE A MECHANICAL COOLING SYSTEM TO CONTROL THE INTERNAL TEMPERATURE OF THE MASS CONCRETE ELEMENTS DURING CURING. IF THE CONTRACTOR ELECTS TO USE A MECHANICAL COOLING SYSTEM, IT SHALL CONFORM TO THE DESIGN OUTLINED IN THE THERMAL COOLING PLAN AND THE FOLLOWING REQUIREMENTS:

MECHANICAL COOLING: THE CONTRACTOR MAY USE A MECHANICAL COOLING SYSTEM TO CONTROL THE INTERNAL TEMPERATURE OF THE MASS CONCRETE ELEMENTS DURING CURING. IF THE CONTRACTOR ELECTS TO USE A MECHANICAL COOLING SYSTEM, IT SHALL CONFORM TO THE DESIGN OUTLINED IN THE THERMAL COOLING PLAN AND THE FOLLOWING REQUIREMENTS:

A. THE MECHANICAL COOLING SYSTEM SHALL BE EMBEDDED WITHIN THE MASS CONCRETE ELEMENT AND SURFACE CONNECTIONS TO COOLING PIPES SHALL BE REMOVABLE TO A DEPTH OF 4-INCHES FROM THE SURFACE.

B. FORMS SHALL BE DESIGNED SUCH THAT FORM REMOVAL SHALL NOT DISRUPT THE COOLING OF A MASS CONCRETE ELEMENT OR THE TEMPERATURE MONITORING OF THE ELEMENT.

C. COOLING PIPES SHALL NOT BREAK OR DEFORM DURING MASS CONCRETE PLACEMENT, AND SHALL BE SECURED TO PREVENT MOVEMENT. DAMAGED COOLING PIPES SHALL BE REMOVED AND REPLACED IMMEDIATELY.

D. THE MECHANICAL COOLING SYSTEM SHALL UNDERGO PRESSURE TESTING FOR LEAKAGE. THE SYSTEM SHALL BE PRESSURIZED TO 29 PSI FOR 30 MINUTES PRIOR TO THE PLACEMENT OF A MASS CONCRETE ELEMENT. COOLING CIRCULATION SHALL BE IN PROGRESS AT THE TIME CONCRETE PLACEMENT BEGINS.

E. AFTER COOLING IS COMPLETED, COOLING PIPES SHALL BE FULLY GROUTED UNDER PRESSURE WITH A NON-SHRINK GROUT MIXTURE THAT CONFORMS TO ASTM C1107 AND ASTM C827 FOR 0.0 PERCENT SHRINKAGE, AND 0.0 PERCENT MINIMUM TO 4.0 PERCENT MAXIMUM EXPANSION. THE PLACEMENT OF NON-SHRINK GROUT SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

F. AFTER THE SURFACE CONNECTIONS TO THE COOLING PIPES ARE REMOVED, THE HOLES SHALL BE REAMED AND FILLED WITH MORTAR.

SUBMITTALS AND QUALIFICATION: THE CONTRACTOR SHALL SUBMIT THE THERMAL CONTROL PLAN, INCLUDING DRAWINGS DETAILING THE THERMAL MONITORING SYSTEM TO BE USED ON EVERY MASS CONCRETE ELEMENT TO THE ENGINEER FOR APPROVAL A MINIMUM OF 30 WORKING DAYS PRIOR TO THE PLACEMENT OF MASS CONCRETE.

PRIOR TO THE FIRST POUR OF MASS CONCRETE, THE CONTRACTOR SHALL PERFORM A TEST OF THE AUTOMATIC AND MANUAL THERMAL SENSING AND RECORDING EQUIPMENT ON AN UNRELATED POUR IN ORDER TO VERIFY THE ACCURACY OF THE PREDICTED TEMPERATURE AND METHODS OF CONTROLLING TEMPERATURE. THE RESULTS FROM THIS TEST SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW AND WRITTEN APPROVAL PRIOR TO POURING A MASS CONCRETE ELEMENT.

MASS CONCRETE PLACEMENT SHALL NOT BEGIN UNTIL THE ENGINEER HAS APPROVED THE CONTRACTOR'S THERMAL CONTROL PLAN AND TEMPERATURE MONITORING SYSTEM.

CONSTRUCTION: THE CONTRACTOR SHALL TAKE MEASURES TO CONTROL DIFFERENTIAL AND ABSOLUTE TEMPERATURES BY THE APPROPRIATE USE OF INSULATED FORMS AND CURING BLANKETS.

IF, DURING THE FIRST 48 HOURS AFTER THE CONCRETE POUR, THE INTERNAL CONCRETE TEMPERATURE DIFFERENTIAL NEARS 40° F, CORRECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO IMMEDIATELY RETARD FURTHER GROWTH IN THE TEMPERATURE DIFFERENTIAL SUCH THAT THE DIFFERENTIAL ULTIMATELY REMAINS WITHIN THE LIMITS DESCRIBED IN THE THERMAL CONTROL PLAN. CORRECTIVE MEASURES SHALL ACCOUNT FOR AND RECOGNIZE THE THERMAL EFFECTS OF ANY COOLING METHODS RELATIVE TO CONCRETE TEMPERATURE DIFFERENTIALS, FURTHERMORE, THE CONTRACTOR SHALL MAKE REVISIONS TO THE APPROVED THERMAL CONTROL PLAN TO MAINTAIN THE REQUIRED LIMITS ON DIFFERENTIAL TEMPERATURE ON ANY REMAINING PLACEMENTS OF MASS CONCRETE. THE CONTRACTOR SHALL OBTAIN THE ENGINEER'S APPROVAL OF REVISIONS TO THE THERMAL CONTROL PLAN PRIOR TO IMPLEMENTATION. NO EXTENSION OF TIME OR COMPENSATION WILL BE MADE FOR REVISIONS OF THE THERMAL CONTROL PLAN.

THE CONTRACTOR'S ATTENTION IS DRAWN TO THE FACT THAT STRENGTH GAIN AND COOLING OF THE MASS CONCRETE POURS CAN TAKE A LONG TIME. THE CONTRACTOR SHALL TAKE ALL SUCH TIME AND STRENGTH CONSIDERATIONS INTO ACCOUNT WHEN PLANNING ITS CONSTRUCTION ACTIVITIES.

DAMAGED ELEMENTS: ANY CRACKING OR DAMAGE TO MASS CONCRETE ELEMENTS THAT ARE DUE TO EXCEEDING THE MAXIMUM TEMPERATURE DURING CONCRETE CURING AND/OR THE MAXIMUM TEMPERATURE DIFFERENTIALS DESCRIBED IN THE THERMAL CONTROL PLAN, AS DETERMINED BY THE ENGINEER, SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. NO EXTENSION OF TIME OR COMPENSATION WILL BE MADE FOR THE REPLACEMENT OF ANY REJECTED MASS CONCRETE ELEMENT.

PRIOR TO ANY REPAIR WORK, THE CONTRACTOR SHALL SUBMIT A WRITTEN REPAIR PROCEDURE TO THE ENGINEER FOR REVIEW AND APPROVAL. THESE REPAIR PROCEDURES MAY INCLUDE, BUT ARE NOT LIMITED TO, EPOXY INJECTION OF CRACKS OR REMOVAL AND REPLACEMENT OF THE DAMAGED MASS CONCRETE ELEMENT.

METHOD OF MEASUREMENT: THE MATERIALS, LABOR, EQUIPMENT, AND INCIDENTAL ITEMS ASSOCIATED WITH CONTROLLING THE HEAT OF HYDRATION FOR MASS CONCRETE WILL NOT BE MEASURED FOR SEPARATE PAYMENT, BUT WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE PAY ITEMS LISTED BELOW AND ANY OTHER CONCRETE ELEMENTS AS DETERMINED BY THE CONTRACTOR UNDER PURPOSE ABOVE.

PIER RW & RE FOOTINGS
PIER RW & RE COLUMNS
PIER RW & RE CAP

BASIS OF PAYMENT: NO SEPARATE PAYMENT SHALL BE MADE FOR THE MATERIALS, LABOR, EQUIPMENT, AND INCIDENTAL ITEMS ASSOCIATED WITH CONTROLLING THE HEAT OF HYDRATION FOR MASS CONCRETE. THESE ITEMS SHALL BE DEEMED TO BE INCIDENTAL TO THE CONCRETE ITEMS.

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DESIGNED	DRAWN	REVIEWED	DATE
AJM	CAF	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKSINCLUDING SIDEWALKS (EXCEPT AS NOTED), MEDIAN PARAPETS, GUARDRAIL, SIDEWALKRAILING AND FENCE POSTS, LINE RAILS AND MESH FABRIC DECKJOINTS, STAY-IN-PLACE FORMS, UTILITY CONDUITS AS NOTED IN THE PLANS, SCUPPERS, PORTIONS OF STRUCTURAL STEEL, EXISTING LUMINARES AND POLES, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLYDURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMSTHAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

DECK REMOVALS - COMPOSITE DECK DESIGNS - STEEL SUPERSTRUCTURES: DUE TO THE PRESENCE OF WELDED STUDS TO THE EXISTING STRUCTURAL STEEL SHOWN ON SHEET 74/227 , SUBMIT A DETAILED PROCEDURE OF THE DECK REMOVAL TO THE ENGINEER AT LEAST 7 DAYS BEFORE CONSTRUCTION BEGINS. DEPARTMENT ACCEPTANCE IS NOT REQUIRED. THE RECOMMENDED PROCEDURE USING HYDRODEMOLITION SHALL INCLUDE ALL DETAILS, EQUIPMENT AND METHODS TO BE USED FOR REMOVAL OF THE CONCRETE OVER THE FLANGES AND AROUND THE STUDS. REPLACE OR REPAIR MAIN STEEL AND STUDS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS [16 KILOGRAMS] FOR REMOVAL WITHIN 18 INCHES [450 MM] OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH [450 MM] LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS [41 KILOGRAMS] UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

REMOVAL OVER WATER: THE CONTRACTOR, AT ALL TIMES, SHALL COMPLY WITH ODOT CMS 107.08. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID CONSTRICTION AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE MAUMEE RIVER. ANY MATERIAL THAT DOES FALL INTO THE RIVER SHALL BE REMOVED AS SOON AS POSSIBLE. MECHANICAL EQUIPMENT USED TO EXECUTE THE WORK OVER WATER SHALL BE OPERATED IN SUCH A WAY AS TO MINIMIZE DIESEL SPRAY. CONCRETE REMOVAL OVER WATER ARE QUANTIFIED SEPERATELY UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (SQ YD) AND ITEM 202, CONCRETE BARRIER REMOVED (FEET).

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

STEEL SURFACES PREPARATION BETWEEN FAYING SURFACES OF NEW TO EXISTING MATERIAL

THE CONTRACTOR SHALL REMOVE ALL LOOSE MILE SCALE, LOOSE RUST, AND OTHER LOOSE DETRIMENTAL FOREIGN MATTER BY POWER WIRE BRUSHING, POWER SANDING, POWER CHIPPING AND POWER TOOL DESCALING PRIOR TO INSTALLATION OF NEW MATERIAL.

ITEM 202 BRIDGE RAILING REMOVED FOR RE-USE, AS PER PLAN

THIS WORK INCLUDES THE REMOVAL OF THE EXISTING RAILING IN BETWEEN POSTS AS SHOWN IN THE DRAWINGS. THE EXISTING POSTS WILL NOT BE REUSED. CAREFULLY REMOVE AND STORE EXISTING BRIDGE RAILING TO BE REUSED AS PER ITEM 202.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY BY THE FOOT. THE DEPARTMENT WILL MEASURE ALONG THE BOTTOM OF THE BRIDGE RAILING FROM CENTER TO CENTER OF END POSTS.

BASIS OF PAYMENT: THE DEPARTMENT WILL MAKE PAYMENT FOR THE COMPLETED AND ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR ITEM 202 BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN.

ITEM 202, PORTION OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

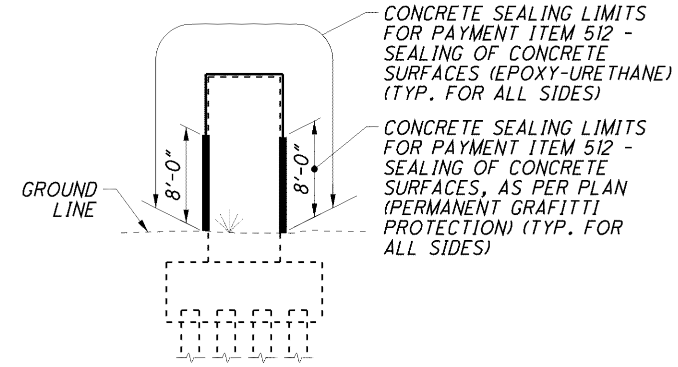
THIS WORK CONSISTS OF THE REMOVAL OF THE FOLLOWING IN THE TRUSS SPANS: CONCRETE DECK, FENCE, RAILING, GUARDRAIL, THE TRUSSES, FLOORBEAMS, STRINGERS, EXPANSION JOINTS, BEARINGS, AND SIDEWALK BRACKETS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED. PERFORM WORK CAREFULLY DURING SUPERSTRUCTURE REMOVAL TO PROTECT PORTIONS OF THE ANCHORAGES AND PIERS THAT ARE TO REMAIN. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. CARE SHALL BE TAKEN NOT TO DAMAGE THE SUSPENSION SPAN CABLE. AT LEAST 7 DAYS BEFORE PERFORMING WORK, SUBMIT A DETAILED PROCEDURE FOR REMOVAL, THAT INCLUDES PROTECTION OF THE EXISTING MAIN SUSPENSION CABLE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OFTHE SAME SIZE AT NO COST TO THE DEPARTMENT. A QUANTITY OF 1500 LBS. HAS BEEN INCLUDED IN THE QUANTITIES. FOR SPLICE LENGTH INFORMATION SEE CMS 509.07.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETESEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE AREAS TO BE SEALED WITH PERMANENT GRAFFITI PROTECTION SHALL INCLUDE THE STAIRCASE RAILINGS AND WALLS AT THE REAR ABUTMENT AND ANCHORAGE F, ABUTMENT FACES, RETAINING WALLS, AND PIERS AS SHOWN BELOW.



LIMITS OF CONCRETE SEALING

ITEM 513 - STRUCTURAL STEEL MISC.

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATIONTO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.04 OR SUPPLY THE ENGINEER WITH "AS BUILT" DRAWINGS MEETING 513.04 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT"DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, ALONG WITH MICROFILM, TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

RIVET REMOVAL:

RIVETS TO BE EXTRACTED FOR BOLT REPLACEMENT SHALL BE PERFORMED BY MECHANICAL METHODS. NO FLAME CUTTING OR PIERCING SHALL BE PERMITTED UNLESS AUTHORIZED BY THE ENGINEER. THE CONTRACTOR SHALL MAKE PROVISIONS TO CATCH RIVET HEADS WHEN WORKING OVER WATER OR OTHER AREAS WHERE THE PUBLIC MUST BE PROTECTED AS PER CMS 107.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 101, FLOOR BEAM TOP FLANGE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF THE FLOOR BEAM TOP FLANGE ANGLES AND COVER PLATES AND INCLUDES PROVIDING TEMPORARY SUPPORT FOR THE STRINGERS, REMOVING RIVETS, REMOVING THE TOP FLANGE BY CUTTING THROUGH THE EXISTING FLOOR BEAM WEB, DISASSEMBLING THE STRINGER SUPPORT CONNECTIONS, FIELD DRILLING HOLES IN EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENRAL NOTE, SPLICING A CUT ROLLED BEAM TEE SECTION TO THE EXISTING WEB FOR THE NEW TOP FLANGE AND REASSEMBLING THE STRINGER CONNECTIONS WITH NEW ANGLES AND ⅞" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAIL, SEE SHEET 95/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM TOP FLANGE REPLACEMENTS BY THE NUMBER OF POUNDS OF STRUCTURAL STEEL COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 101, FLOOR BEAM TOP FLANGE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPES 102 AND 103, FLOOR BEAM BRACKET FLANGE ANGLE REPLACEMENT

THIS WORK CONSISTS OF THE REPAIR OR REPLACEMENT OF PORTIONS OF THE TOP AND/OR BOTTOM FLANGE ANGLES FOR THE CANTILEVERED FLOOR BEAM BRACKETS AND INCLUDES PROVIDING TEMPORARY SUPPORT FOR THE CANTILEVERED BRACKET AND THE ASSOCIATED STRINGERS, REMOVING RIVETS, REMOVING DETERIORATED FLANGE ANGLES OR PORTIONS OF FLANGE ANGLES, REMOVING THE EXISTING TOP FLANGE STRAP PLATE, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE BRACKET FLANGES WITH NEW FLANGE ANGLES AND ⅞" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAILS, SEE SHEET 96/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM BRACKET FLANGE ANGLE REPAIRS BY THE NUMBER OF POUNDS OF STRUCTURAL STEEL INSTALLED, COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 102, FLOOR BEAM BRACKET FLANGE ANGLE REPLACEMENT
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 103, FLOOR BEAM BRACKET FLANGE ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 104, FLOOR BEAM BRACKET TOP FLANGE ANGLE REPAIR

THIS WORK CONSISTS OF THE REPLACEMENT OF PORTIONS OF THE TOP FLANGE ANGLES FOR THE CANTILEVERED FLOOR BEAM BRACKETS, REMOVING RIVETS, REMOVING DETERIORATED TOP FLANGE ANGLES AS INDICATED ON THE PLANS, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE BRACKET TOP FLANGES WITH NEW FLANGE ANGLES AND 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAIL, SEE SHEET 97/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM BRACKET TOP FLANGE ANGLE REPAIRS BY THE NUMBER OF POUNDS OF STRUCTURAL STEEL INSTALLED, COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 104, FLOOR BEAM BRACKET TOP FLANGE ANGLE REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

EXISTING SILICON STEEL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING TO DETERMINE THE COMPLETE CHEMISTRY OF EXISTING SILICON STEEL WHICH AS PART OF THE PROPOSED WORK WILL BE EITHER FLAME CUT OR WELDED. THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR FOR APPROVAL OF PROCEDURES DEVELOPED BY A WELDING ENGINEER FOR FLAME CUTTING AND WELDING OF EXISTING SILICON STEEL. THE COST OF THIS WORK SHALL BE INCLUDED WITH THE APPROPRIATE STRUCTURAL STEEL, MISC. ITEMS FOR PAYMENT.

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AJM	CAF	RBB	10/12
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GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 105, FLOOR BEAM BRACKET BRACING REPAIR

THIS WORK CONSISTS OF THE REPLACEMENT OF GUSSET PLATES AND/OR BRACING ANGLES FOR THE CANTILEVERED FLOOR BEAM BRACKETS, REMOVING RIVETS, DISASSEMBLING THE BRACING CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE BRACING CONNECTION WITH A NEW GUSSET PLATE AND 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAIL, SEE SHEET 97/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM BRACKET BRACING REPAIRS BY THE NUMBER OF EACH COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 105, FLOOR BEAM BRACKET BRACING REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPES 106, 107 AND 109, FASCIA STRINGER REPAIR

THIS WORK CONSISTS OF THE REPLACEMENT OF FASCIA STRINGER BOTTOM FLANGE ANGLES (TYPE 107) OR THE REPLACEMENT OF WEB PLATES AND FLANGE ANGLES (TYPES 106 AND 109), AND INCLUDES PROVIDING TEMPORARY SUPPORT FOR THE STRINGERS, REMOVING RIVETS, REMOVING DETERIORATED PORTIONS OF FLANGE ANGLES AND WEB PLATES, FIELD DRILLING HOLES IN EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE STRINGER WITH NEW FLANGE ANGLES, A NEW WEB PLATE AND 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAILS, SEE SHEET 98/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FASCIA STRINGER REPAIRS BY THE NUMBER OF EACH COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 106, FASCIA STRINGER REPAIR
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 107, FASCIA STRINGER REPAIR
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 109, FASCIA STRINGER REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 108, FASCIA STRINGER REPAIR

THIS WORK CONSISTS OF THE REPLACEMENT OF FASCIA STRINGER FLANGE ANGLES AND WEB PLATES, AND INCLUDES PROVIDING TEMPORARY SUPPORT FOR THE STRINGERS, REMOVING RIVETS, REMOVING THE DETERIORATED PORTIONS OF FLANGE ANGLES AND WEB PLATES, FIELD DRILLING HOLES IN EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXITING STEEL AS PER THE GENERAL NOTE, PROVIDING A NEW END SECTION FOR THE FASCIA STRINGER, AND SPLICING THE NEW SECTION OF STRINGER TO THE EXISTING STRINGER WITH 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAILS, SEE SHEET 98/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FASCIA STRINGER REPAIRS BY THE NUMBER OF EACH COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 108, FASCIA STRINGER REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 110, FLOOR BEAM TOP FLANGE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF A PORTION OF THE FLOOR BEAM TOP FLANGE ANGLES AND COVER PLATES AND INCLUDES PROVIDING TEMPORARY SUPPORT FOR THE STRINGERS, REMOVING RIVETS, REMOVING THE TOP FLANGE BY CUTTING THROUGH THE EXISTING FLOOR BEAM WEB, DISASSEMBLING THE STRINGER SUPPORT CONNECTIONS, FIELD DRILLING HOLES IN EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL AS PER THE GENERAL NOTE, SPLICING A CUT ROLLED BEAM SECTION TO THE EXISTING WEB FOR THE NEW TOP FLANGE AND REASSEMBLING THE STRINGER CONNECTIONS WITH NEW ANGLES AND 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAILS, SEE SHEET 99/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM TOP FLANGE REPLACEMENT BY THE NUMBER OF POUNDS OF STRUCTURAL STEEL COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 110, FLOOR BEAM TOP FLANGE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 111, FLOOR BEAM SEAT REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF THE BUILT-UP FLOOR BEAM SEAT AND INCLUDES PROVIDING TEMPORARY SUPPORT FOR THE FLOOR BEAM, REMOVING RIVETS, REMOVING THE EXISTING SEAT, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL AS PER THE GENERAL NOTE, AND INSTALLING THE NEW SEAT SUPPORT WITH A NEW WEB PLATE AND 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAILS, SEE SHEET 99/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM SEAT REPLACEMENTS BY THE NUMBER OF EACH COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 111, FLOOR BEAM SEAT REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 112, REPLACEMENT OF EXISTING LATERAL BRACING

THIS WORK CONSISTS OF THE REPLACEMENT OF EXISTING LATERAL BRACING MEMBERS AND INCLUDES REMOVING RIVETS, REMOVING THE EXISTING LATERAL BRACING, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL AS PER THE GENERAL NOTE, AND INSTALLING THE NEW LATERAL BRACE AND 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAILS, SEE SHEET 97/227.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE FLOOR BEAM SEAT REPLACEMENTS BY THE NUMBER OF EACH COMPLETED AND ACCEPTED.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 112, REPLACEMENT OF EXISTING LATERAL BRACING
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. IF, DURING THE JACKING OPERATIONS, DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE DEPARTMENT WILL NOT PAY FOR THE COST OF REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

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

INSTALL A 2 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 1/4" X #10 GAGE 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 METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094±0.01
BREAKING STRENGTH, GRAB, LBS MINIMUM (LONG X TRANS)	D751	700X700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212°F, 180° BEND W/O CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, 40°F, BEND AROUND 1/4" 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 517 RAILING MISC.: FENCE AND BRIDGE RAILING

THIS WORK INCLUDES THE CLEANING AND PAINTING OF THE EXISTING RAILING THAT WAS REMOVED FOR RE-USE, FURNISHING AND INSTALLING NEW POSTS, RAILING CONNECTORS, BASE PLATES, AND ANCHOR BOLTS, THE CONNECTION OF THE EXISTING RAILING TO THE NEW POSTS, AND FURNISHING AND INSTALLING FENCE LINE RAILS AND INSTALLATION OF FENCE FABRIC.

EXISTING RAILING MEMBERS OR PORTIONS OF THE EXISTING RAILING INTENDED FOR RE-USE DEEMED UNSATISFACTORY BY THE ENGINEER SHALL BE REPLACED. NEW MEMBERS SHALL BE FABRICATED TO MATCH THE SIZE AND SHAPE OF THE ORIGINAL MEMBERS.

PAINTING: SURFACE PREPERATION AND PAINTING OF EXISTING RAILING, NEW MATERIALS AND VISIBLE HARDWARE SHALL BE IN ACCORDANCE WITH ITEM 514. PAINT MAY BE APPLIED IN THE SHOP BUT AREAS THAT REQUIRE REPAIR IN THE FIELD WILL BE PERFORMED ACCORDING TO 514.22. SUPPLY THE INTERMEDIATE AND FINISH COATS FOR EXISTING AND NEW MATERIAL FROM THE SAME MANUFACTURER. PAINT COLOR OF RAILING, FENCE AND FENCE FABRIC SHALL BE GREY (FEDERAL COLOR NO. 26630)

FENCE: THE FENCE IS INTEGRAL WITH THE BRIDGE RAILING. FENCE FABRIC SHALL BE ATTACHED TO THE NEW POSTS, NEW LINE RAILS AND BRIDGE RAILING. FOR DESCRIPTION OF MATERIALS AND INSTALLATION, REFER TO STANDARD DRAWING VPF-1-90.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY BY THE FOOT. THE DEPARTMENT WILL MEASURE ALONG THE BOTTOM OF THE BRIDGE RAILING FROM CENTER TO CENTER OF END POSTS.

BASIS OF PAYMENT: THE DEPARTMENT WILL MAKE PAYMENT FOR THE COMPLETED AND ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR ITEM 517 RAILING, MISC.: FENCE AND BRIDGE RAILING.

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GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

ITEM 516 - RESET BEARING, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS. INCLUDED SHALL BE THE REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND RE-WELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F [15° C]. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - RESET BEARING, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

CROSSHOLE SONIC LOGGING (CSL) TESTING FOR DRILLED SHAFTS

THIS WORK CONSISTS OF EVALUATING THE STRUCTURAL INTEGRITY OF DRILLED SHAFTS USING THE CROSSHOLE SONIC LOGGING (CSL) TEST METHOD. THE WORK ALSO CONSISTS OF FURNISHING AND INSTALLING ACCESS TUBES REQUIRED TO CONDUCT THE TESTING, AND CORE DRILLING OF CONCRETE TO CONFIRM POSSIBLE DEFECTS.

CSL TESTING MEASURES THE TIME IT TAKES FOR AN ULTRASONIC PULSE TO TRAVEL FROM A SIGNAL SOURCE IN ONE ACCESS TUBE TO A RECEIVER IN ANOTHER ACCESS TUBE. IN UNIFORM, GOOD QUALITY CONCRETE, THE TRAVEL TIME BETWEEN PARALLEL TUBES WILL BE RELATIVELY CONSTANT AND CORRESPOND TO A REASONABLE SIGNAL VELOCITY FROM THE BOTTOM TO THE TOP OF THE DRILLED SHAFT. IN UNIFORM, GOOD QUALITY CONCRETE, CSL TESTING WILL ALSO MEASURE STRONG SIGNAL AMPLITUDE AND ENERGY READINGS. LONG TRAVEL TIMES, LOW SIGNAL AMPLITUDE, OR LOW ENERGY READINGS INDICATE THE PRESENCE OF ANOMALIES THAT MAY CONSIST OF POOR QUALITY CONCRETE, VOIDS, HONEYCOMBS OR SOIL INTRUSIONS. THE SIGNAL MAY BE COMPLETELY LOST BY THE RECEIVER AND CSL RECORDING SYSTEM FOR SEVERE DEFECTS SUCH AS VOIDS AND SOIL INTRUSIONS.

FURNISH MATERIALS CONFORMING TO:

PORTLAND CEMENT 701.02
CHEMICAL ADMIXTURE.......................... 705.12

CEMENT GROUT CONSISTS OF A MIXTURE OF CEMENT AND WATER THAT PROVIDES A MINIMUM 28-DAY COMPRESSIVE STRENGTH EQUAL TO, OR GREATER THAN, THE DRILLED SHAFT CONCRETE. DETERMINE THE COMPRESSIVE STRENGTH OF THE CEMENT GROUT ACCORDING TO ASTM C 39 OR ASTM C 942. ADMIXTURES WHICH CONTROL BLEED, IMPROVE FLOW ABILITY, REDUCE WATER CONTENT, AND RETARD SET MAY BE USED IN THE GROUT IF APPROVED BY THE ENGINEER. FOR GROUT, USE WATER FREE FROM SEWAGE, OIL, ACID, STRONG ALKALIS, VEGETABLE MATTER, CLAY, AND LOAM. POTABLE WATER IS SATISFACTORY FOR USE IN GROUT.

FURNISH ACCESS TUBES CONSISTING OF SCHEDULE 40 STEEL PIPE WITH AN INSIDE DIAMETER BETWEEN 1.5 AND 2.0 INCHES (35 AND 50 MM). ACCESS TUBES SHALL HAVE ROUND, REGULAR INSIDE SURFACES FREE FROM DEFECTS AND OBSTRUCTIONS, INCLUDING ALL PIPE JOINTS, IN ORDER TO PERMIT THE FREE, UNOBSTRUCTED PASSAGE OF THE PROBES. ACCESS TUBES SHALL BE FREE FROM CORROSION TO ENSURE A GOOD BOND TO THE CONCRETE.

SUBMIT THE GROUT MIX AND THE SELECTED PIPE FOR THE ACCESS TUBES WITH THE DRILLED SHAFT INSTALLATION PLAN FOR THE ENGINEER'S ACCEPTANCE. ALSO INCLUDE FOR THE ENGINEER'S ACCEPTANCE THE PROPOSED METHOD FOR JOINING THE PIPE AND FOR ATTACHING THE PIPE TO THE REINFORCING STEEL CAGE.

RETAIN AN EXPERIENCED NONDESTRUCTIVE TESTING (NDT) CONSULTANT TO PERFORM OR SUPERVISE THE CSL TESTING. THE NDT CONSULTANT SHALL HAVE AT LEAST TWO YEARS EXPERIENCE IN CSL TESTING. SUBMIT TO THE ENGINEER FOR APPROVAL A RESUME OF THE CREDENTIALS OF THE PROPOSED NDT CONSULTANT AT LEAST 14 CALENDAR DAYS BEFORE CONSTRUCTING THE DRILLED SHAFTS.

INSTALL ACCESS TUBES IN ALL DRILLED SHAFTS TO PERMIT ACCESS FOR THE CSL TEST EQUIPMENT. USE TABLE NO. 04-1 TO DETERMINE THE NUMBER OF ACCESS TUBES PER SHAFT AND THE TUBE SPACING. IF THE SHAFT DIAMETER VARIES ALONG THE LENGTH OF THE SHAFT, USE THE LARGEST DIAMETER TO DETERMINE THE NUMBER OF ACCESS TUBES.

TABLE 04-1

SHAFT DIAMETER (FEET)	NUMBER OF TUBES	TUBE SPACING (DEGREES)
3.0 TO 5.0	4	90
5.5 TO 7.5	6	60
8.0 TO 9.5	8	45
10.0 TO 12.0	10	36

PROVIDE WATERTIGHT JOINTS, A WATERTIGHT CAP ON THE BOTTOM, AND A REMOVABLE CAP AT THE TOP OF THE ACCESS TUBES. USE THREADED JOINTS OR MECHANICAL COUPLINGS. IF MECHANICAL COUPLINGS ARE USED, RECORD THE LOCATION OF EACH COUPLER. DO NOT WELD JOINTS. DO NOT COVER JOINTS WITH TAPE OR OTHER WRAPPING MATERIAL. ATTACH THE TUBES TO THE INTERIOR OF THE REINFORCING STEEL CAGE SO THAT THE TUBES ARE PARALLEL AND EVENLY SPACED AROUND THE PERIMETER OF THE REINFORCING STEEL CAGE. PROVIDE A MINIMUM CONCRETE COVER OF 3 INCHES. INSTALL THE ACCESS TUBES SO THAT THE BOTTOM OF THE TUBE IS 6 INCHES OR LESS FROM THE BOTTOM OF THE DRILLED SHAFT BUT DOES NOT TOUCH THE BOTTOM OF THE SHAFT. WIRE-TIE OR SECURE THE ACCESS TUBES TO THE REINFORCING STEEL CAGE EVERY 3 FEET. EXTEND THE TOP OF THE ACCESS TUBES AT LEAST 3 FEET ABOVE THE TOP OF THE DRILLED SHAFT. IF THE TOP OF THE DRILLED SHAFT IS BELOW THE SURFACE, EXTEND THE TOP OF THE ACCESS TUBES AT LEAST 2 FEET ABOVE THE GROUND SURFACE. ENSURE THAT THE ACCESS TUBES DO NOT MOVE DURING PLACEMENT OF THE CAGE AND CONCRETE.

WITHIN 4 HOURS OF PLACING THE REINFORCING STEEL CAGE BUT BEFORE PLACING THE CONCRETE, FILL THE ACCESS TUBES WITH CLEAN WATER AND RECAP THE TUBES. AFTER PLACING THE CONCRETE, EXERCISE CARE WHEN REMOVING THE CAPS FROM THE ACCESS TUBES SO AS NOT TO APPLY EXCESS TORQUE, HAMMERING, OR OTHER STRESSES WHICH COULD BREAK THE BOND BETWEEN THE TUBES AND THE CONCRETE. LABEL EACH ACCESS TUBE WITH A UNIQUE IDENTIFIER AT THE TOP OF THE TUBE.

WITHIN 4 HOURS OF PLACING THE REINFORCING STEEL CAGE BUT BEFORE PLACING THE CONCRETE, FILL THE ACCESS TUBES WITH CLEAN WATER AND RECAP THE TUBES. AFTER PLACING THE CONCRETE, EXERCISE CARE WHEN REMOVING THE CAPS FROM THE ACCESS TUBES SO AS NOT TO APPLY EXCESS TORQUE, HAMMERING, OR OTHER STRESSES WHICH COULD BREAK THE BOND BETWEEN THE TUBES AND THE CONCRETE. LABEL EACH ACCESS TUBE WITH A UNIQUE IDENTIFIER AT THE TOP OF THE TUBE.

BEFORE CSL TESTING, SUPPLY THE ENGINEER AND NDT CONSULTANT WITH A RECORD OF THE LENGTH, TOP ELEVATION, BOTTOM ELEVATION, AND DATE OF CONCRETE PLACEMENT FOR ALL DRILLED SHAFTS. PERFORM CSL TESTS IN ACCORDANCE WITH ASTM D 6760 EXCEPT AS MODIFIED BY THIS SPECIFICATION. PERFORM CSL TESTS ON ALL DRILLED SHAFTS. PERFORM THE CSL TEST AT LEAST 72 HOURS AFTER CONCRETE PLACEMENT IN A SHAFT, BUT NO MORE THAN 30 CALENDAR DAYS AFTER CONCRETE PLACEMENT. THE ENGINEER MAY DIRECT A LONGER MINIMUM TIME IF THE DRILLED SHAFT CONCRETE CONTAINS A RETARDING ADMIXTURE OR USES A MIX DESIGN THAT RESULTS IN A LONGER SETTING TIME FOR THE DRILLED SHAFT CONCRETE.

FOR SHAFTS WITH 4 OR 6 ACCESS TUBES, OBTAIN READINGS BETWEEN ALL PAIRS OF TUBES. FOR SHAFTS WITH 8 OR 10 ACCESS TUBES, OBTAIN READINGS BETWEEN ADJACENT PAIRS OF ACCESS TUBE AROUND THE PERIMETER, BETWEEN PAIRS OF ACCESS TUBES ACROSS THE DIAMETER OF THE SHAFT, AND BETWEEN PAIRS OF ACCESS TUBES THAT ARE SPACED AT TWO TIMES THE SPACING SHOWN IN TABLE 04-1. OBTAIN READINGS AT DEPTH INTERVALS OF 0.2 FEET OR LESS. IF POSSIBLE DEFECTS ARE DETECTED, OBTAIN ADDITIONAL READINGS TO CONFIRM THE INITIAL READINGS AT NO ADDITIONAL COST TO THE DEPARTMENT. NOTIFY THE ENGINEER OF POSSIBLE DEFECTS WITHIN 24 HOURS OF TESTING.

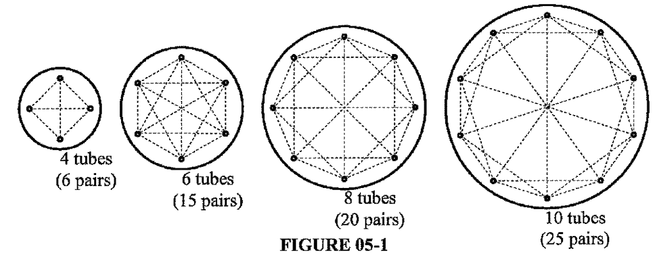

FIGURE 05-1

PRESENT THE CSL TEST RESULTS IN A WRITTEN REPORT. SUPPLY THE ENGINEER WITH TWO COPIES OF THE REPORT WITHIN SEVEN CALENDAR DAYS AFTER COMPLETION OF THE CSL TESTING. THE ENGINEER MAY REQUIRE SEPARATE REPORTS FOR EACH SUBSTRUCTURE DEPENDING ON THE NUMBER OF DRILLED SHAFTS OR THE LENGTH OF THE DRILLED SHAFT CONSTRUCTION SCHEDULE. IF SEPARATE REPORTS FOR EACH SUBSTRUCTURE ARE REQUIRED BY THE ENGINEER, SUPPLY THE REPORT WITHIN SEVEN CALENDAR DAYS AFTER COMPLETION OF TESTING AT THAT GIVEN SUBSTRUCTURE.

IN ADDITION TO THE REPORT REQUIREMENTS IN ASTM D 6760, INDICATE ALL POSSIBLE DEFECTS ON THE CSL LOGS AND INCLUDE A SUMMARY OF ALL POSSIBLE DEFECTS DETECTED DURING THE CSL TESTING. THE SUMMARY SHALL INDICATE FOR EACH POSSIBLE DEFECT:

THE DRILLED SHAFT IDENTIFICATION,

TEST DATE,

NUMBER OF DAYS BETWEEN CONCRETE PLACEMENT AND CSL TESTING,

ACCESS TUBE PAIRS TESTED,

DEPTH BELOW TOP OF SHAFT,

PERCENT WAVE SPEED REDUCTION, AND

AN EVALUATION OF THE DEFECT.

THE ENGINEER WILL EVALUATE THE CSL TEST RESULTS AND DETERMINE IF THE DRILLED SHAFT CONSTRUCTION IS ACCEPTABLE. IF THE CSL TEST RESULTS INDICATE POSSIBLE DEFECTS IN THE DRILLED SHAFT, THE ENGINEER MAY REQUIRE CORING OF THE DRILLED SHAFT TO OBTAIN SAMPLES IN THE AREA OF THE POSSIBLE DEFECT, OR EXCAVATION OF THE DRILLED SHAFT TO EXAMINE THE CONDITION OF THE CONCRETE. THE ENGINEER MAY REQUIRE TESTING OF THE CORE SAMPLES. THE ENGINEER WILL CONSIDER THE CSL TEST RESULTS, THE CONDITION OF THE CONCRETE AS SHOWN BY CORE SAMPLES, RESULTS OF TESTING ON THE CORE SAMPLES, AND OTHER INFORMATION WHEN DETERMINING THE ACCEPTABILITY OF THE DRILLED SHAFT. DO NOT PROCEED WITH CONSTRUCTION OF SUBSTRUCTURES OR STRUCTURES ABOVE A DRILLED SHAFT UNTIL THE ENGINEER HAS ACCEPTED THE DRILLED SHAFT.

IF EXAMINATION OF THE DRILLED SHAFT CONCRETE CONFIRMS THE PRESENCE OF A DEFECT IN THE DRILLED SHAFT, THEN THE DEPARTMENT WILL NOT PAY FOR CORING, TESTING ON THE CORE SAMPLES, OR EXCAVATION COSTS, EVEN IF THE ENGINEER ACCEPTS THE DRILLED SHAFT. IF A DEFECT CANNOT BE CONFIRMED BY CORING, THEN THE DEPARTMENT WILL PAY FOR CORING, TESTING ON THE CORE SAMPLES, AND EXCAVATION COSTS AS EXTRA WORK ACCORDING TO 109.05.

IF THE ENGINEER DETERMINES A DRILLED SHAFT IS NOT ACCEPTABLE, SUBMIT A PLAN FOR REMEDIAL ACTION TO THE ENGINEER FOR APPROVAL. HAVE AN OHIO REGISTERED ENGINEER PREPARE, SIGN, SEAL, AND DATE CALCULATIONS AND WORKING DRAWINGS FOR ALL FOUNDATION ELEMENTS AFFECTED BY THE PLAN. HAVE A SECOND OHIO REGISTERED ENGINEER CHECK, SIGN, SEAL AND DATE THE CALCULATIONS AND WORKING DRAWINGS. THE PREPARER AND CHECKER ARE TWO DIFFERENT ENGINEERS.

IF THE CSL TEST RESULTS INDICATE POSSIBLE DEFECTS IN THE DRILLED SHAFT, THE ENGINEER MAY REQUIRE CORING OF THE DRILLED SHAFT CONCRETE TO OBTAIN SAMPLES IN THE AREA OF THE POSSIBLE DEFECT. IF DIRECTED BY THE ENGINEER, OBTAIN CORE SAMPLES IN ACCORDANCE WITH ASTM D 2113 FOR THE FULL LENGTH OF THE POSSIBLE DEFECT PLUS 3 FEET ABOVE AND BELOW THE POSSIBLE DEFECT, OR AS DIRECTED BY THE ENGINEER. OBTAIN CORE SAMPLES WITH A MINIMUM DIAMETER OF 3.0 INCHES.

USE EITHER A CONVENTIONAL DOUBLE-TUBE, SWIVEL-TYPE CORE BARREL WITH SPLIT LINERS OR A WIRELINE CORE BARREL WITH SPLIT INNER LINERS. USE A NEW DIAMOND CORING BIT. REPLACE THE CORING BIT AND CORE BARREL AS NECESSARY TO ACHIEVE A HIGH PERCENTAGE OF CORE RECOVERY.

RECORD AN ACCURATE LOG OF THE CORING. PLACE THE CORE SAMPLES IN A CRATE AND PROPERLY MARK SHOWING THE DEPTH BELOW THE TOP OF THE DRILLED SHAFT FOR EACH CORE SAMPLE. SUBMIT THE CORE SAMPLES AND TWO COPIES OF THE CORING LOGS TO THE ENGINEER.

AFTER CSL TESTING AND CORING OF THE DRILLED SHAFT CONCRETE IS COMPLETE, REMOVE ALL WATER FROM THE ACCESS TUBES AND ANY CORED HOLES. IF THE TUBES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT REINFORCING. CUTOFF THE TUBES BELOW THE TOP OF THE DRILLED SHAFT REINFORCING. FILL THE TUBES AND HOLES WITH GROUT.

THE DEPARTMENT WILL MEASURE CSL TESTING BY THE NUMBER OF DRILLED SHAFTS ON WHICH CSL TESTING IS PERFORMED.

THE DEPARTMENT WILL PAY FOR CROSSHOLE SONIC LOGGING (CSL) TESTING AFTER BEING PROVIDED THE WRITTEN TEST REPORT AT THE CONTRACT PRICE AS FOLLOWS.

ITEM	UNIT	DESCRIPTION
524	EACH	DRILLED SHAFTS, MISC.: CSL TESTING

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
AJM	CAF	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 607 FENCE REMOVED AND REBUILT, AS PER PLAN

THIS WORK INCLUDES THE REMOVAL OF THE EXISTING FENCE FABRIC INCLUDING TIES, PAINTING EXISTING POSTS, LINE RAILS, BASE PLATES AND OTHER VISIBLE HARDWARE, AND INSTALLATION OF NEW FENCE FABRIC.

PAINTING: PAINTING OF EXISTING FENCE POSTS, LINE RAILS AND VISIBLE HARDWARE SHALL BE IN ACCORDANCE WITH ITEM 514. THE PAINT COLOR SHALL BE FS-595-16440 (GREY).

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY BY THE FOOT. THE DEPARTMENT WILL MEASURE ALONG THE TOP OF THE PARAPET FROM CENTER TO CENTER OF POSTS.

BASIS OF PAYMENT: THE DEPARTMENT WILL MAKE PAYMENT FOR THE COMPLETED AND ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR ITEM 607, FENCE REMOVED AND REBUILT, AS PER PLAN.

ITEM 898, OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN, LIGHTWEIGHT CONCRETE
ITEM 898, OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN, LIGHTWEIGHT CONCRETE

SUSPENSION SPANS ONLY:

GENERAL REQUIREMENTS: THE PROVISIONS OF ITEM 898 SHALL APPLY EXCEPT AS NOTED. COARSE AGGREGATE USED IN THE DESIGN MIX SHALL BE LIGHTWEIGHT AGGREGATE. LIGHTWEIGHT FINE AGGREGATE SHALL NOT BE USED. THE RESULTING CONCRETE DENSITY SHALL BE 125 POUNDS PER CUBIC FOOT.

BASIS OF PAYMENT: PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
898E10211	CU YD	OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN
898E11001	CU YD	OC/OA CONCRETE, CLASS OSC2 SUPERSTRUCTURE (PARAPET)

ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN
ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN, LIGHTWEIGHT CONCRETE

APPROACH AND SUSPENSION SPANS:

IN ADDITION TO THE WORK REQUIREMENTS OF 511 AND SUPPLEMENTAL SPECIFICATION 898, THE CONTRACTOR MAY EITHER PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508 OR DESIGN, BUILD, PROVIDE AND CONSTRUCT GALVANIZED STEEL STAY-IN-PLACE (SIP) FABRICATED METAL FORMS CONFORMING TO CMS 508 AND THESE ADDITIONAL REQUIREMENTS. THE DEPARTMENT WILL NOT SEPARATELY PAY FOR SIP FORMS. THE COST OF THIS WORK IF CHOSEN BY THE CONTRACTOR SHALL BE INCLUDED FOR PAYMENT IN THE PRICE BID FOR ITEM 898. THE DEPARTMENT WILL PAY NO EXTRA FOR ANY ADDITIONAL CONCRETE, REINFORCEMENT STEEL, OR STRUCTURAL STEEL THAT MAY BE REQUIRED WHEN USING SIP FORMS. ANY ADDITIONAL COST AND/OR DESIGN ASSOCIATED WITH THE USE OF SIP FORMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ADDITIONAL DEAD LOAD OF THE SIP FORM PLUS THE WEIGHT OF THE ADDITIONAL CONCRETE SHALL BE DETERMINED FROM THE REQUIRED BEAM SPACING AND DEPTH OF FORM. THIS LOAD WILL BE IN ADDITION TO THE LOADS AS SPECIFIED AS DESIGN LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DESIGN, FABRICATION AND INSTALLATION MODIFICATIONS TO THE BRIDGE COMPONENTS INCLUDING THE BRIDGE BEAMS OR GIRDERS, CAMBER DIAGRAMS, DECK SCREED TABLES, BRIDGE BEARINGS, AND SUBSTRUCTURES. ALL PLAN MODIFICATIONS SHALL BE PREPARED AS PER 501.

DESIGN, BUILD, SIP FORMS WILL NOT BE PETMITTED AT OVERHANGS, AND WITHIN EIGHT FEET OF ALL EXPANSION JOINTS AND FOUR FEET OF ALL THROUGH DECK DRAINAGE SYSTEMS. IN ADDITION SIP FORMS WILL NOT BE PERMITTED WITHIN STRINGER BAYS WHERE CONSTRUCTION IS PHASED OR CLOSURE POURS ARE USED.

SUBMIT CONSTRUCTION PLANS ACCORDING TO 501.05.B.3. DESIGN SIP FORMS TO SUPPORT THE SELF WEIGHT OF SIP FORMS, REINFORCEMENT, WET CONCRETE FOR THE DECK, ANY CONSTRUCTION EQUIPMENT LOADS, AND AT LEAST A 50 PSF LOAD FOR CONSTRUCTION LIVE LOADS. MEET THE DEFLECTION REQUIREMENTS OF 508.

DESIGN SIP FORMS THAT HAVE THE DEPTH OF THE FORM CORRUGATION FILLED WITH CONCRETE.

INCLUDE THE FOLLOWING INFORMATION IN THE CONSTRUCTION PLAN:

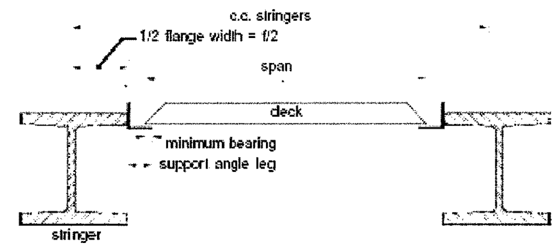
A. DESIGN CALCULATIONS.
B. PHYSICAL PROPERTIES OF THE SIP FORMS (GAGE, SECTION MODULUS, WEIGHT, DEPTH AND PITCH)
C. CROSS SECTION VIEW AND DIMENSIONS OF: SIP FORMS, SUPPORT ANGLES, CHANNEL CLOSURES, SAFETY STOPS, CLIPS, PLATES AND HARDWARE.
D. INCLUDE AN OVERALL LAYOUT PLAN WITH
   1. WORKING POINTS OR CONTROL ELEVATIONS NECESSARY TO SET SUPPORT ANGLES.
   2. TYPICAL AND SPECIFIC CROSS SECTIONS OR DETAILS: SUPPORT CONNECTIONS TO THE STRUCTURAL MEMBERS, SIP FORM CONNECTIONS TO SUPPORTS, FORM LAPS AND CLOSURE SECTIONS.
   3. MINIMUM BEARING LENGTHS (EDGE DISTANCES) OF SIP FORMS TO THE SUPPORT ANGLES.
   4. WELDING DETAILS: SIZE, LENGTH, LOCATIONS, ELECTRODES AND PROCESS.
E. WORKER SAFETY RESTRICTIONS.
F. INSTALLATION INSPECTION CHECK LISTS.

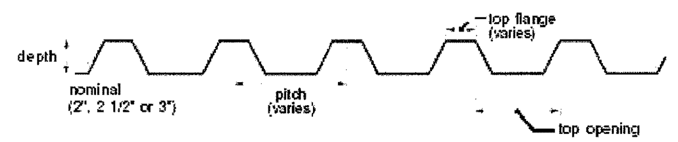
MATERIALS:
SUBMIT 501.06 TEST REPORTS AND WRITTEN ACCEPTANCE LETTERS TO THE ENGINEER. MATELIALS INSPECTION AND ACCEPTANCE IS PERFORMED BY THE ENGINEER AT THE PROJECT SITE. FURNISH FORM, SUPPORT MATERIALS AND HARDWARE CONFORMING THE FOLLOWING:

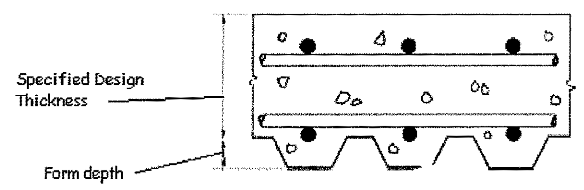
A. FORM AND SUPPORT MATERIAL, ASTM A653 HAVING A COATING DESIGNATION OF G235, AND CONFORMING TO THE MECHANICALPROPERTIES THE DESIGN REQUIRES.
B. PROVIDE DECK FORMS WITH A 2 INCH MINIMUM FORM DEPTH.
C. PROVIDE MINIMUM MATERIAL THICKNESS AS FOLLOWS: SIP FORMS (20 GAGE), SUPPORT ANGLES (12 GAGE) AND SUPPORT BARS (12 GAGE).
D. SUPPLY DECK, SELF DRILLING FASTENERS WITH CADMIUM PLATING PER ASTM B766 WITH MINIMUM THICKNESS OF 5, TEN THOUSANDTHS.(0.0005 INCH). THE HEADS OF THESE FASTENERS WILL BE A HIGHLY VISIBLE COLOR, RED OR OTHER, TO AID INSPECTION.

WELDING:
DO NOT WELD SIP FORMS OR THEIR SUPPORTS TO THE STEEL BRIDGE MEMBERS. SIP SUPPORTS MAY BE WELDED TO ANCHORS CAST INTO PRECAST CONCRETE BRIDGE MEMBERS. PERFORM WELDING PER 513.21

INSTALLATION LIMITATIONS:
A. FIELD CUT SIP FORMS USING MECHANICAL CUTTING METHODS. THERMAL CUTTING IS NOT PERMITTED.
B. PLACE FORMS ON FORM SUPPORTS. DO NOT INSTALL SIP FORMS DIRECTLY TO THE BRIDGE'S STRUCTURAL MEMBERS.
C. ADJUST THE SCREED ELEVATIONS BY PRORATING THE CONCRETE DEAD LOAD DEFLECTION TO ACCOUNT FOR THE ADDITIONAL PERMANENT DEAD LOADS ASSOCIATED WITH CONCRETE FILLED STAY IN PLACE FORMS.
D. SET THE HEIGHT OF THE FORM SUPPORTS TO DEVELOP THE ADJUSTED SCREED ELEVATIONS, DECK THICKNESS AND PLAN PROFILE.
E. PLACE SIP FORMS ON FORM SUPPORTS TO ACHIEVE MINIMUM BEARING LENGTH PER MANUFACTURES DESIGN.
F. CONNECT SIP FORMS TO FORM SUPPORTS BEFORE USING THE SIP AS A WORKING SURFACE AND BEFORE THE END OF EACH WORK SHIFT.
G. PROVIDE SAFETY STOPS TO ELIMINATE HAZARDS FROM SUDDEN UPLIFT AND LATERAL MOVEMENT. AFTER THE DECK CONCRETE MEETS THE LOADING REQUIREMENTS OF C&MS 511.17, REMOVE THE VISIBLE PORTION OF ALL SAFETY STOPS.
H. COATINGS DAMAGED CAUSED BY MECHANICAL CUTTING OR FIELD WELDING NEED NOT BE REPAIRED UNLESS SPECIFIED BY THE SIP FORM MANUFACTURE.
I. FILL THE ENTIRE FORM WITH CONCRETE.
J. THE CONTRACTOR SHALL PROTECT INSTALLED SIP FORMS FROM ANY CLEANING SOLUTIONS, BLASTING OR OTHER WORK OPERATIONS THAT MAY DAMAGE THE FORM COATING. FORMS THAT ARE DAMAGED FROM LACK OF PROTECTION SHALL BE REPAIRED OR REMOVED AS DIRECTED BY THE ENGINEER. IF DIRECTED TO REPAIR, THE DAMAGED AREAS SHALL BE METALIZED AS PER 516.03 AND SUPPLEMENTAL SPECIFICATION 845. ALL COST FOR THE REPAIR OR REMOVAL SHALL BE PAID BY THE CONTRACTOR.







THE ENGINEER WILL CHECK SIP MATERIALS MEET DESIGN REQUIREMENTS AND EVALUATE INSTALLATION BASED ON CONSTRUCTION PLAN.

THE DEPARTMENT WILL NOT SEPARATELY PAY FOR SIP FORMS. THE COST OF THIS WORK IS INCLUDED FOR PAYMENT IN THE PRICE BID FOR THE ITEM FOR WHICH THE SIP FORMS ARE USED.

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
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GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 201, FLOORBEAM TOP FLANGE ANGLE REPLACEMENT

THIS WORK CONSISTS OF THE PARTIAL LENGTH REMOVAL AND REPLACEMENT OF A PAIR OF FLOORBEAM TOP FLANGE ANGLES TO THE LIMITS SHOWN IN THE PLANS, AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS (IF USED) FOR THE STRINGERS, REMOVING EXISTING RIVETS, REMOVING A PORTION OF THE EXISTING FLOORBEAM TOP FLANGE ANGLES, FIELD DRILLING HOLES IN EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, INSTALLING NEW TOP FLANGE ANGLES AND SPLICE PLATES AND REASSEMBLING THE CONNECTIONS WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 101/227.

REMOVAL METHODS: DO NOT FLAME-CUT THE EXISTING STRUCTURAL STEEL. CAREFULLY REMOVE THE TOP FLANGE ANGLES IN A MANNER THAT AVOIDS DAMAGE TO THE REMAINING PORTIONS OF THE STRUCTURE. IN CASE OF DAMAGE TO THE EXISTING STRUCTURE, REPAIR THE STRUCTURE AT NO EXPENSE TO THE DEPARTMENT. SUBMIT THE METHOD OF REPAIR TO THE ENGINEER FOR REVIEW AS PER CMS 501.04, 501.05, & 513.06.

AT THE CONTRACTORS OPTION, AND AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT, ADDITIONAL RIVETS, BEYOND THOSE SHOWN IN THE PLANS, MAY BE REMOVED AND SUBSEQUENTLY REPLACED TO FACILITATE REMOVAL OF THE FLANGE ANGLES. REPLACE THE RIVETS WITH 7/8" DIAMETER HIGH STRENGTH BOLTS AND WASHERS.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 201, FLOORBEAM TOP FLANGE ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 202, FLOORBEAM TOP FLANGE COVER PLATE REPLACEMENT

THIS WORK CONSISTS OF THE REMOVAL AND REPLACEMENT OF THE FLOORBEAM TOP FLANGE COVER PLATE, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING THE EXISTING FLOORBEAM TOP FLANGE COVER PLATE, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, INSTALLING A NEW TOP FLANGE COVER PLATE AND REASSEMBLING THE CONNECTIONS WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 102/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 202, FLOORBEAM TOP FLANGE COVER PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, REPAIR TYPE 203, FLOORBEAM #32 REPAIRS

THIS WORK CONSISTS OF THE REPAIR OF FLOORBEAM #32 AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE FLOORBEAM AND STRINGERS, REMOVING EXISTING RIVETS, THE PARTIAL REMOVAL AND REPLACEMENT OF A PAIR OF FLOORBEAM TOP AND BOTTOM FLANGE ANGLES TO THE LIMITS SHOWN ON THE PLANS, REMOVING AND REPLACING THE TOP AND BOTTOM FLANGE COVER PLATES, REMOVING AND REPLACING FLOORBEAM STIFFENERS, REMOVING AND RE-INSTALLING OR REPLACING FILL PLATES, FIELD DRILLING HOLES IN EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, INSTALLING NEW TOP AND BOTTOM FLANGE SPLICE PLATES AND REASSEMBLING THE CONNECTIONS WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 103/227.

REMOVAL METHODS: DO NOT FLAME-CUT THE EXISTING STRUCTURAL STEEL. CAREFULLY REMOVE THE FLANGE ANGLES IN A MANNER THAT AVOIDS DAMAGE TO THE REMAINING PORTIONS OF THE STRUCTURE. IN CASE OF DAMAGE TO THE EXISTING STRUCTURE, REPAIR THE STRUCTURE AT NO EXPENSE TO THE DEPARTMENT. SUBMIT THE METHOD OF REPAIR TO THE ENGINEER FOR REVIEW AS PER CMS 501.04, 501.05, & 513.06.

THE DEPARTMENT WILL PAY FOR THE REPAIR AND/OR REPLACEMENT OF THE EXISTING STRINGERS, CLIP ANGLES AND CONNECTIONS, CLIP ANGLE FILL PLATES, AND SAFETY HANDRAILS UNDER ITEMS 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPES 214, 213, AND 212 RESPECTIVELY.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10221	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 203, FLOORBEAM #32 REPAIRS
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 204, FLOORBEAM WEB REPAIR

THIS WORK CONSISTS OF REPAIRING FLOORBEAM WEBS AS SHOWN IN THE PLANS, AND INCLUDES GRINDING SMOOTH THE EDGES OF WEB HOLES TO A RADIUS OF 1/8" ± 1/16".

FOR REPAIR DETAIL, SEE SHEET 104/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 204, FLOORBEAM WEB REPAIR

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 205, FLOORBEAM STIFFENER REPLACEMENT

THIS WORK CONSISTS OF THE REMOVAL AND REPLACEMENT OF A FLOORBEAM STIFFENER AS SHOWN IN THE PLANS, AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGERS (WHERE PRESENT), DISCONNECTING THE EX. SAFETY HANDRAIL, REMOVING EXISTING RIVETS AND EXISTING FILL PLATE, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, RE-INSTALLING THE EXISTING FILL PLATE, INSTALLING THE NEW STIFFENER USING NEW 7/8" DIAMETER BOLTS AND WASHERS, AND RE-INSTALLING THE EXISTING SAFETY HANDRAIL AND CONNECTION PLATE USING NEW 3/4" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 104/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 205, FLOORBEAM STIFFENER REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 206, SIDEWALK FASCIA STRINGER SUPPORT REPAIR

THIS WORK CONSISTS OF THE REPLACEMENT OF A PAIR OF SIDEWALK FASCIA STRINGER SUPPORT ANGLES AND INSTALLING STRENGTHENING PLATES TO THE EXISTING SUPPORT BRACKET WEB, AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGERS, REMOVING RIVETS, DISASSEMBLING THE SUPPORT CONNECTION, FIELD DRILLING BOLT HOLES IN THE EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE SUPPORT WITH NEW ANGLES AND 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 105/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 206, SIDEWALK FASCIA STRINGER SUPPORT REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 207, SIDEWALK BRACKET TOP STRAP PLATE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF SIDEWALK BRACKET TOP STRAP PLATES AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE BRACKET, STRINGERS AND SIDEWALK, REMOVING RIVETS, DISASSEMBLING THE EXISTING CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE CONNECTION WITH A NEW PLATE AND 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 106/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 207, SIDEWALK BRACKET TOP STRAP PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 208, SIDEWALK BRACKET WEB STRAP PLATE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF SIDEWALK BRACKET WEB STRAP PLATES AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE BRACKET, STRINGERS AND SIDEWALK, REMOVING RIVETS, DISASSEMBLING THE EXISTING CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE CONNECTION WITH A NEW PLATE AND 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL SEE SHEET 107/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 208, SIDEWALK BRACKET WEB STRAP PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 209, SIDEWALK STRINGER SUPPORT ASSEMBLY WEB REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF SIDEWALK INTERIOR STRINGER SUPPORT ASSEMBLY WEB PLATES AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGERS, REMOVING RIVETS, DISASSEMBLING THE SUPPORT CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE SUPPORT WITH A NEW WEB PLATE AND 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 108/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 209, SIDEWALK STRINGER SUPPORT ASSEMBLY WEB REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C.
DESIGNED EFD/DEK | DRAWN WKB | REVIEWED PLC | DATE 8/12
CHECKED MTO | REVISED | STRUCTURE FILE NUMBER 4800303
GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER
LUC-2-18.62
PID No. 80551

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 210, PIER B INSPECTION ACCESS LADDER REPAIRS

THIS WORK CONSISTS OF REMOVING THE EXISTING GALVANIZED LADDER CAGE AND CONNECTIONS ON THE SOUTH COLUMN OF PIER B AND RE-ATTACHING THE LADDER CAGE ON THE NORTH COLUMN OF PIER B. INCLUDED IN THIS WORK IS THE REMOVAL AND STORAGE OF THE LADDER CAGE, REMOVAL OF THE EXISTING ANCHOR BOLTS, CLEANING AND REPAIRING THE SPALLED CONCRETE AT THE OLD ANCHOR HOLES WITH NON-SHRINK MORTAR AS PER ITEM 519, DRILLING NEW ANCHOR BOLT HOLES AS PER ITEM 510 IN THE NORTH PIER COLUMN; INSTALLING NEW 3/4" DIAMETER EXPANSION ANCHORS, AND RE-ATTACHING THE EXISTING GALVANIZED LADDER CAGE ON THE NORTH PIER COLUMN.

THIS WORK ALSO CONSISTS OF REPAIRING THE CRACKED HOOPS ON THE EXISTING GALVANIZED LADDER CAGE ON TOP OF PIER B BY FIELD WELDING THE CRACKS IN THE HOOPS AS SHOWN IN THE PLANS, AND REPAIRING THE GALVANIZED COATING WITH AN INORGANIC ZINC COATING MEETING THE REQUIREMENTS OF CMS SECTION 514.22 AND AASHTO M-300. APPLICATION SHALL BE MANUFACTURERS RECOMMENDATIONS.

FOR REPAIR DETAILS, SEE SHEET 109/227 .

MATERIALS:
NON-SHRINK MORTAR........CMS 705.22
EXPANSION ANCHORS........CMS 712.01

BASIS OF PAYMENT: PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC: PIER B INSPECTION ACCESS LADDER REPAIR - REPAIR TYPE 210

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 211, INSTALL INSPECTION ACCESS RAILINGS

THIS WORK CONSISTS OF INSTALLING NEW GALVANIZED INSPECTION ACCESS HANDRAILS AND CONNECTIONS ON THE TOWER FLOORBEAMS AS NOTED ON THE PLANS AND INCLUDES FIELD DRILLING PROPOSED 7/8" DIA. HOLES, CLEANING EXISTING FLOORBEAM STEEL, AND ASSEMBLING THE NEW ACCESS HANDRAILS AND CONNECTIONS WITH NEW 3/4" DIAMETER HIGH STRENGTH BOLTS. PROVIDE GALVANIZED STEEL AS PER CMS 711.02.

FOR REPAIR DETAIL, SEE SHEET 110/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 211, INSTALL INSPECTION ACCESS RAILINGS

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 212, REPLACE INSPECTION ACCESS RAILINGS

THIS WORK CONSISTS OF REPLACING EXISTING DETERIORATED GALVANIZED INSPECTION ACCESS HANDRAILS AND CONNECTION MEMBERS IN-KIND, WORK INCLUDES REMOVING EXISTING BOLTS, DISASSEMBLING THE RAILINGS, CLEANING EXISTING STEEL, INSTALLING NEW HANDRAILS AND CONNECTIONS THAT MATCH THE EXISTING USING GALVANIZED STEEL, AND REASSEMBLING THE CONNECTION WITH NEW 3/4" DIAMETER HIGH STRENGTH BOLTS. PROVIDE GALVANIZED STEEL AS PER CMS 711.02.

FOR REPAIR DETAIL, SEE SHEET 110/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 212, REPLACE INSPECTION ACCESS RAILINGS

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 213, ROADWAY STRINGER CONNECTION REPLACEMENT

THIS WORK CONSISTS OF THE DISASSEMBLY, CLEANING, AND REASSEMBLY OF THE ROADWAY STRINGER END CONNECTION AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGERS, REMOVING EXISTING RIVETS, DISASSEMBLING THE CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, REPLACING THE WEB FILL PLATE AND STRINGER CONNECTION ANGLE, AND REASSEMBLING THE CONNECTION WITH NEW 7/8" DIAMETER HIGH STRENGTH BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 111/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 213, ROADWAY STRINGER CONNECTION REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, REPAIR TYPE 214, ROADWAY STRINGER REPLACEMENT

THIS WORK CONSISTS OF REPLACING EXISTING ROADWAY STRINGERS AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORT FOR THE STRINGER, REMOVING EXISTING RIVETS, DISASSEMBLING THE CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, REPLACING THE ROADWAY STRINGER, WEB FILL PLATES AND STRINGER CONNECTION ANGLES, AND REASSEMBLING THE CONNECTION WITH NEW 7/8" DIAMETER HIGH STRENGTH BOLTS.

FOR REPAIR DETAIL, SEE SHEET 111/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10021	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, REPAIR TYPE 214, ROADWAY STRINGER REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPES 215, 216 & 217, LOWER GUSSET PLATE REPAIR

THIS WORK CONSISTS OF STRENGTHENING THE LOWER HORIZONTAL GUSSET PLATES AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE LOWER LATERAL BRACING MEMBER, REMOVING RIVETS, DISASSEMBLING A PORTION OF THE EXISTING CONNECTION AS SHOWN IN THE PLANS, DISCONNECTING THE LOWER LATERAL BRACING CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, ADDING A NEW FILL PLATE AND STRENGTHENING COVER PLATE, AND REASSEMBLING THE CONNECTION WITH NEW 7/8" DIAMETER HIGH STRENGTH BOLTS AND WASHERS.

THE LOWER LATERAL BRACE CONNECTIONS IN ANY BAY MAY ONLY BE DISCONNECTED IF THE LLB MEMBERS IN THE ADJACENT 3 BAYS ARE CONNECTED. NO MORE THAN 3 LOWER LATERAL BRACE CONNECTIONS SHALL BE DISCONNECTED AT ANY GIVE TIME ON THE SUSPENDED SPANS. NO LOWER LATERAL BRACE MEMBERS SHALL BE DISCONNECTED IN WIND SPEEDS GREATER THAN 60 MPH. A BAY IS DEFINED AS THE AREA BETWEEN TWO FLOORBEAMS.

FOR REPAIR DETAILS, SEE SHEETS 112/227 THRU 116/227 .

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 215, LOWER GUSSET PLATE REPAIR
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 216, LOWER GUSSET PLATE REPAIR
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 217, LOWER GUSSET PLATE REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 218A & 218B, LOWER LATERAL BRACING REPAIR

THIS WORK CONSISTS OF REPLACING THE END OF LOWER LATERAL BRACING MEMBERS AND GUSSET PLATE CONNECTION, AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE LOWER LATERAL BRACING CONNECTION, REMOVING RIVETS AND DISASSEMBLING THE EXISTING CONNECTION, REMOVING A PORTION OF THE EXISTING LOWER LATERAL BRACING, FIELD DRILLING THE EXISTING STEEL MEMBERS, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, SPLICING THE NEW LLB MEMBER (WT7x45 OR BUILT-UP T-SECTION) TO THE EXISTING LATERAL BRACING, AND REASSEMBLING THE BRACING TO GUSSET PLATE CONNECTION WITH NEW 7/8" DIAMETER HIGH STRENGTH BOLTS AND WASHERS.

THE LOWER LATERAL BRACE CONNECTIONS IN ANY BAY MAY ONLY BE DISCONNECTED IF THE LLB MEMBERS IN THE ADJACENT 3 BAYS ARE CONNECTED. NO MORE THAN 3 LOWER LATERAL BRACE CONNECTIONS SHALL BE DISCONNECTED AT ANY GIVE TIME ON THE SUSPENDED SPANS. NO LOWER LATERAL BRACE MEMBERS SHALL BE DISCONNECTED IN WIND SPEEDS GREATER THAN 60 MPH. A BAY IS DEFINED AS THE AREA BETWEEN TWO FLOORBEAMS.

FOR REPAIR DETAIL, SEE SHEETS 117/227 & 118/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 218A, LOWER LATERAL BRACING REPAIR
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 218B, LOWER LATERAL BRACING REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 219, FASCIA STRINGER REPAIR

THIS WORK CONSISTS OF REPAIRING THE LOWER PORTION OF THE SUSPENSION SPAN SIDEWALK FASCIA STRINGER AND INCLUDES REMOVING EXISTING RIVETS AND/OR BOLTS, SEPARATING THE EXISTING ANGLE AND WEB PLATE, PREPARING FAYING SURFACES OF EXISTING STEEL PER THE GENERAL NOTE, AND RECONNECTING THE ANGLE AND WEB PLATE WITH NEW 7/8" DIAMETER H.S. BOLTS.

FOR REPAIR DETAIL, SEE SHEET 119/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.:, REPAIR TYPE 219, FASCIA STRINGER REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC. RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 220, FASCIA STRINGER REPAIR

THIS WORK CONSISTS OF INSTALLING A NEW SUSPENSION SPAN SIDEWALK FASCIA STRINGER LOWER FLANGE REPAIR PLATE AND INCLUDES PREPARING FAYING SURFACES OF EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING A NEW LOWER FLANGE REPAIR PLATE WITH NEW 7/8" DIAMETER H.S. BOLTS.

FOR REPAIR DETAIL, SEE SHEET 119/227.
PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 220, FASCIA STRINGER REPAIR

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 221A & 221B, SIDEWALK FASCIA STRINGER ANGLE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF A PAIR OF SIDEWALK FASCIA STRINGER ANGLES AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGER, REMOVING RIVETS, DISASSEMBLING THE ANGLES, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND ATTACHING NEW ANGLES WITH 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 120/227

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 221A & 221B, SIDEWALK FASCIA STRINGER ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 222, TOWER SIDEWALK STRINGER BEARING REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF GUIDE ANGLES AND BEARING PLATE AT TOWER SIDEWALK SUPPORT STRINGERS AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGERS, REMOVING RIVETS, DISASSEMBLING THE SUPPORT CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE SUPPORT WITH NEW ANGLES, BEARING PLATE, AND 3/4" OR 7/8" DIAMETER BOLTS AND WASHERS, AS INDICATED.

FOR REPAIR DETAIL, SEE SHEET 121/227

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 222, TOWER SIDEWALK STRINGER BEARING REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 223, TOWER SIDEWALK BRACKET ANGLE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF A PAIR OF TOWER BRACKET TOP FLANGE ANGLES AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE BRACKET AND STRINGER, REMOVING RIVETS, DISASSEMBLING THE ANGLES, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND REASSEMBLING THE BRACKET WITH NEW ANGLES AND 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAIL, SEE SHEET 122/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 223, TOWER SIDEWALK BRACKET ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 224, TOWER SIDEWALK STRINGER SUPPORT REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF SIDEWALK STRINGER LS1 OR RS1 BEARING PLATE AND GUIDE CHANNEL AND INCLUDES CONSTRUCTING AND SUBSEQUENTLY REMOVING TEMPORARY SUPPORTS FOR THE STRINGER, REMOVING RIVETS, DISASSEMBLING THE SUPPORT CONNECTION, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, FIELD WELDING THE NEW BEARING PLATE / GUIDE CHANNEL ASSEMBLY, AND FILLING THE STRINGER BOTTOM FLANGE OPEN HOLES WITH CAULK.

FOR REPAIR DETAIL, SEE SHEET 122/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 224, TOWER SIDEWALK STRINGER SUPPORT REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 225, REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOORBEAM

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING TOWER C OR D EXPANSION FINGER JOINT AND SUPPORT STEEL AFFIXED TO THE FLOORBEAMS ADJACENT TO TOWER STRUTS, AND REPLACEMENT OF THE FLOORBEAM TOP FLANGE COVER PLATES. THIS REPAIR INCLUDES REMOVING ALL EXISTING EXPANSION JOINT APPURTENANCES INCLUDING CURB PLATES, REMOVING EXISTING RIVETS, REMOVING THE EXISTING FLOORBEAM TOP FLANGE COVER PLATES, FIELD DRILLING NEW 15/16" DIA. FLOORBEAM AND GIRDER BOLT HOLES, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, INSTALLING A NEW TOP FLANGE COVER PLATE WITH NEW 7/8" DIA. BOLTS AND WASHERS AND INSTALLING MISCELLANEOUS PLATES, ANGLES, AND CHANNELS REQUIRED FOR SUPPORT OF THE MODULAR JOINT ASSEMBLY. MISCELLANEOUS DETAILS REQUIRED FOR PROPOSED JOINT SUPPORT LISTED BELOW SHALL ALSO BE FURNISHED, INSTALLED, AND PAID FOR AS PART OF THIS REPAIR ITEM. THIS WORK INCLUDES THE REPAIR OF TWO FLOORBEAMS CONCURRENTLY AT EACH TOWER EXPANSION JOINT.

ALL PROPOSED STEEL AND FASTENERS FURNISHED AND INSTALLED WITH THIS REPAIR SHALL BE GALVANIZED AS PER ODOT CMS 711.02.

THE FOLLOWING JOINT SUPPORT DETAILS SHALL BE GALVANIZED, FURNISHED, INSTALLED, AND PAID FOR AS PART OF REPAIR TYPE 225; (SEE SHEET):
GIRDER & FLOORBEAM CONNECTION ANGLES AN-01, AN-02 AND AN-03; (207A/227)
CURB FLASHING AND SLIDING PLATES PL-01, PL-02, PL-03 AND PL-04; (207A/227)
FLOORBEAM EXTENSION ANGLES EX-01, EX-02 AND EX-03; (212/227 & 207A/227)
OVERHANG ARMORING CHANNELS OA-01, OA-02 AND OA-03; (212/227)

FOR REPAIR DETAILS, SEE SHEETS 204/227 THROUGH 213/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 225, REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOORBEAM
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 226, TOWER STRUT STEEL RETROFIT

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING TOWER C OR D EXPANSION FINGER JOINT SUPPORT STEEL AFFIXED TO THE TOWER STRUT AND REPLACEMENT OF THE TOWER STRUT TOP FLANGE COVER PLATE AND ANGLES, DRILLING NEW 15/16" DIA. HOLES IN THE TOWER STRUT WEBS AND DIAPHRAGMS, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, INSTALLING NEW TOWER STRUT TOP FLANGE ANGLES, REMOVING EXISTING RIVETS PER THE GENERAL NOTE, REMOVING THE EXISTING TOWER STRUT TOP FLANGE COVER PLATE ANGLES AND JOINT SUPPORT STEEL, REMOVING A PORTION OF THE EXISTING TOWER STRUT WEBS, DIAPHRAGMS, AND GUSSET PLATES, AND INSTALLING A NEW TOP FLANGE COVER PLATE AND DIAPHRAGM ANGLES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

DO NOT PERFORM THIS WORK CONCURRENTLY WITH WORK REQUIRED FOR OTHER TOWER REPAIRS. PERFORM THIS WORK ONLY WHILE THE BRIDGE IS CLOSED TO TRAFFIC. PERFORM THIS WORK WITH NO SUSTAINED WIND OVER 40MPH IN THE FORECAST.

CUTTING OF EXISTING TOWER STRUT STEEL MEMBERS TO REMAIN, INCLUDING THE WEBS, DIAPHRAGM PLATES, DIAPHRAGM ANGLES, AND GUSSET PLATES SHALL BE PERFORMED BY PLASMA ARC CUTTING.

ALL PROPOSED STEEL AND FASTENERS FURNISHED AND INSTALLED WITH THIS REPAIR SHALL BE GALVANIZED AS PER ODOT CMS 711.02.

SEE SHEETS 204/227 THROUGH 206/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 226, TOWER STRUT STEEL RETROFIT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 511 - CONCRETE, MISC.: SIDEWALK REPAIR AT PEDESTRIAN RAIL POSTS

THIS WORK CONSISTS OF THE REMOVAL OF EXISTING SIDEWALK CONCRETE A MINIMUM DISTANCE OF 1/2" AWAY FROM THE PROPOSED 4 1/2" O.D. PEDESTRIAN RAIL POST AND INCLUDES SAW-CUTTING AS REQUIRED, DISPOSAL OF WASTE CONCRETE, INSTALLATION OF NEW POST DRIP EDGE, FORMING SIDEWALK EDGE AND BOTTOM, CASTING CEMENT NON-SHRINK GROUT AROUND THE NEW PEDESTRIAN RAIL POST (SLOPED AWAY FROM THE POST), SEALING THE POST PERIMETER AS SPECIFIED IN THE POST SEALING DETAILS, AND REMOVING THE FORMWORK AFTER GROUT HAS CURED.

FOR REPAIR DETAIL, SEE SHEET 187/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
511	81300	EACH	CONCRETE, MISC.: SIDEWALK REPAIR AT PEDESTRIAN RAIL POSTS

ITEM 511 - CONCRETE, MISC.: SIDEWALK REPAIR AT EXISTING LIGHT POST

THIS WORK CONSISTS OF THE PATCHING OF EXISTING SIDEWALK HOLES AT EXISTING LIGHT POST LOCATIONS AND INCLUDES DOWELING #4 DOWEL BARS INTO THE EXISTING SIDEWALK CONCRETE AS PER ODOT C.M.S. 510 USING NONSHRINK/NONMETALLIC GROUT, PLACING WWF REINFORCING AS SPECIFIED IN THE PLANS, FORMING NEW SIDEWALK CONCRETE TO MATCH ADJACENT SIDEWALK SECTIONS, CASTING THE SIDEWALK PATCH USING CONCRETE CONFORMING TO ODOT C.M.S. 499.03 CLASS S, AND REMOVING FORMWORK AFTER CONCRETE PATCH HAS CURED.

FOR REPAIR DETAIL, SEE SHEET 187/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
511	81300	EACH	CONCRETE, MISC.: SIDEWALK REPAIR AT EXISTING LIGHT POST

ITEM 511 - CONCRETE, MISC.: SIDEWALK EDGE REPAIR

THIS WORK CONSISTS OF THE REMOVAL OF EXISTING SIDEWALK CONCRETE TO THE LIMITS SPECIFIED AND INCLUDES SAW-CUTTING AS REQUIRED, DISPOSAL OF WASTE CONCRETE, FORMING SIDEWALK EDGES AND BOTTOM, PLACING SHEAR STUDS AS SPECIFIED IN THE PLANS, PLACING WWF REINFORCING AS SPECIFIED IN THE PLANS, FORMING NEW SIDEWALK SECTION, CASTING THE SIDEWALK PATCH USING CONCRETE CONFORMING TO ODOT C.M.S. 499.03 CLASS S, AND REMOVING FORMWORK AFTER CONCRETE PATCH HAS CURED.

FOR REPAIR DETAIL, SEE SHEET 187/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
511	81300	EACH	CONCRETE, MISC.: SIDEWALK EDGE REPAIR

ITEM 516 - SPECIAL - MODULAR EXPANSION JOINT

THIS WORK CONSISTS OF FURNISHING AND INSTALLING A MODULAR EXPANSION JOINT AND SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TESTING, INSPECTION, SERVICES, AND INCIDENTALS (INCLUDING CLOSURE PLATES AND TEMPORARY JOINT SUPPORTS) NECESSARY TO FURNISH AND INSTALL THE EXPANSION JOINT SYSTEMS AS SPECIFIED ON SHEET 16B/227. MEASUREMENT OF THE MODULAR EXPANSION JOINT SYSTEM WILL BE THE HORIZONTAL LENGTH TAKEN ALONG THE CENTERLINE OF THE JOINT SYSTEM BETWEEN THE LIMITS INDICATED ON THE CONTRACT PLANS AND INCLUDES UPTURNED PORTIONS WITHIN THE CURBS.

FOR JOINT DETAILS, SEE SHEETS 209/227 THROUGH 211/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
516	12400	FT	SPECIAL - MODULAR EXPANSION JOINT

ITEM 511 - CONCRETE, MISC.: DISTRIBUTED GALVANIC ANODES (DGA)

PART 1 - GENERAL

1.01 - SUMMARY

A. THIS SECTION INCLUDES FURNISHING ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO PROPERLY INSTALL DISTRIBUTED GALVANIC ZINC ANODES.
B. THE DISTRIBUTED GALVANIC ZINC ANODE SYSTEM SHALL BE DESIGNED AND SIZED TO PROVIDE 40 YEARS OF CORROSION PROTECTION TO THE FOLLOWING STEEL:
   1. STIFFENING GIRDER WEB (1/2" THICK) WITH CONCRETE CAST AGAINST IT (APPROXIMATELY 20" TALL).
   2. GALVANIZED REINFORCING STEEL IN THE DECK CONCRETE, CONSISTING OF 14-#5 BARS.
   3. GALVANIZED REINFORCING STEEL IN THE CURB CONCRETE, CONSISTING OF 5-#5 BARS AND 3-#8 BARS.
C. THE DISTRIBUTED GALVANIC ZINC ANODE SYSTEM SHALL BE DESIGNED AND SUPPLIED BY A NACE-QUALIFIED FIRM.

1.02 - REFERENCES

A. ACI/ICRI 2008 CONCRETE REPAIR MANUAL.
B. ACI GUIDELINE NO. 222 - CORROSION OF METALS IN CONCRETE.
C. ICRI GUIDELINE 310.1R-2008 GUIDE FOR SURFACE PREPARATION FOR THE REPAIR OF DETERIORATED CONCRETE RESULTING FROM REINFORCING STEEL CORROSION.
D. ASTM A615/ A615M-09 STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BAR FOR CONCRETE REINFORCEMENT.
E. ASTM B6-09 STANDARD SPECIFICATION FOR ZINC.
F. ASTM B418-09 STANDARD SPECIFICATION FOR CAST AND WROUGHT GALVANIC ZINC ANODES.

1.03 - MANUFACTURER TECHNICAL ASSISTANCE

A. THE CONTRACTOR WILL ENLIST AND PAY FOR THE SERVICES OF A CERTIFIED NACE CORROSION TECHNICIAN SUPPLIED BY THE DISTRIBUTED GALVANIC ANODE MANUFACTURER TO PROVIDE ON-SITE TECHNICAL ASSISTANCE FOR THE INITIAL INSTALLATION OF THE CORROSION PROTECTION SYSTEM.
B. THE CONTRACTOR SHALL COORDINATE ITS WORK WITH THE DESIGNATED CORROSION TECHNICIAN TO ALLOW SITE SUPPORT DURING PROJECT STARTUP AND INITIAL ANODE INSTALLATION. THE TECHNICIAN SHALL PROVIDE CONTRACTOR TRAINING FOR VERIFICATION OF GALVANIZED REINFORCING STEEL CONTINUITY AND ANODE INSTALLATION.

1.04 - SUBMITTALS

A. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING SHOWING TYPICAL INSTALLATION DETAILS, SUCH AS DISTRIBUTED ANODE INSTALLATION BETWEEN FLOORBEAM NOTCHES, REINFORCING CONNECTION DETAILS, STIFFENING GIRDER SHEAR BOLT CONNECTION DETAILS AND/OR STIFFENING GIRDER WEB CONNECTION DETAILS. (NO WELDING IS PERMITTED ON THE STIFFENING GIRDER).
B. THE CONTRACTOR SHALL SUBMIT THE LIGHTWEIGHT CONCRETE MIX DESIGN TO THE ANODE MANUFACTURER FOR REVIEW AND CONCURRENCE THAT THE CONCRETE MIX DOES NOT PROHIBIT PROPER GALVANIC PROTECTION.

PART 2 - MATERIALS

2.01 - MATERIALS

A. DISTRIBUTED GALVANIC ANODES SHALL BE AN ALKALI-ACTIVATED ZINC OF THE FOLLOWING NOMINAL DIMENSIONS: 79 IN. (6'-7" FT) LONG BY 3" WIDE BY 1 5/8" DEEP. THE PRE-MANUFACTURED UNITS SHALL CONSIST OF A MINIMUM OF 1.2 POUNDS (545 GRAMS) OF ZINC PER LINEAR FOOT IN COMPLIANCE WITH ASTM B418 TYPE II (Z13000) AND ASTM 86 SPECIAL HIGH GRADE WITH IRON CONTENT OF 15 PPM. THE ZINC SHALL BE ALKALI-ACTIVATED WITH A PH GREATER THAN 14. THE ANODE UNIT SHALL CONTAIN NO ADDED SULFATE NOR SHALL IT CONTAIN CHLORIDE, BROMIDE OR OTHER CONSTITUENTS THAT ARE CORROSIVE TO REINFORCING STEEL AS PER ACI 222R.

   THE ANODE UNITS SHALL BE SUPPLIED WITH A MINIMUM OF TWO LEAD WIRES OF SUFFICIENT LENGTH TO MAKE CONNECTIONS BETWEEN ANODES AND GALVANIZED REINFORCING STEEL, STIFFENING GIRDER SHEAR BOLTS AND/OR STIFFENING GIRDER WEB. THE PRE-MANUFACTURED UNITS SHALL BE SUPPLIED WITH INTERNAL FIBER REINFORCED POLYMER (FRP) MESH REINFORCING.

B. THE GALVANIC PROTECTION SHALL BE GALVANODE DAS DISTRIBUTED ANODE SYSTEM SUPPLIED BY VECTOR CORROSTION TECHNOLOGIES: (WWW. VECTOR-CORROSION.COM) USA: (813) 830-7566, OR APPROVED EQUAL.

   APPLICABILITY FOR EQUALS SHALL INCLUDE:
   1. A ZINC ANODE IS ALKALI-ACTIVATED WITH PH OF 14 OR GREATER.
   2. ANODES SUPPLIED WITH A MINIMUM OF TWO LEAD WIRES OF SUFFICIENT LENGTH.
   3. THE ANODE UNIT DOES NOT CONTAIN ANY CORROSIVE CONSTITUENTS DETRIMENTAL TO REINFORCING STEEL, E.G. CHLORIDE, BROMIDE, ETC.
   4. PROVEN TRACK RECORD OF THE ANODE TECHNOLOGY SHOWING SATISFACTORY FIELD PERFORMANCE WITH A MINIMUM OF THREE PROJECTS OF SIMILAR SIZE AND APPLICATION.
   5. INDEPENDENT THIRD PARTY EVALUATION OF THE ANODE TECHNOLOGY; E.G. HITEC, CONCRETE INNOVATIONS APPRAISAL SERVICE, BRE, ETC.

C. DELIVER, STORE, AND HANDLE ALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

PART 3 - EXECUTION

3.01 - GALVANIZED REINFORCING STEEL CONNECTIONS

A. ENSURE ALL GALVANIZED REINFORCING IS ELECTRICALLY INTERCONNECTED BY TYING TIGHTLY TO OTHER GALVANIZED BARS WITH STEEL TIE WIRE.

3.02 - STIFFENING GIRDER CONNECTIONS

A. ENSURE STIFFENING GIRDER SHEAR BOLTS THAT ARE TO BE TIED TO ANODES PROVIDE PROPER ELECTRICAL CONNECTIVITY.
B. ENSURE ANY STIFFENING GIRDER INTERMEDIATE STIFFENERS TO BE USED AS PART OF A MECHANICAL (SCREWED OR BRAZED/WELDED) ELECTRICAL CONNECTION TO AN ANODE PROVIDES PROPER ELECTRICAL CONNECTIVITY TO THE STIFFENING GIRDER WEB.
C. ENSURE ANY SELF TAPPING SCREWS TO BE USED IN THE 1/2" THICK STIFFENING GIRDER WEB PROVIDES PROPER ELECTRICAL CONNECTIVITY TO THE ANODE AND DOES NOT PENETRATE THE OUTSIDE FACE OF THE STIFFENING GIRDER WEB.

3.03 - DISTRIBUTED GALVANIC ANODE INSTALLATION BETWEEN FLOORBEAM NOTCHES

A. INSTALL ANODE UNITS IMMEDIATELY FOLLOWING PREPARATION OF THE GALVANIZED STEEL REINFORCEMENT. ANODES SHALL BE INSTALLED IMMEDIATELY BEFORE CONCRETE PLACEMENT TO MINIMIZE THE ANODE EXPOSURE.
B. GALVANIC ANODES SHALL BE INSTALLED IN THE LOCATIONS AND SPACING AS SPECIFIED IN THE PLANS. EIGHT (8) GALVANIC ANODES SHALL BE INSTALLED IN EACH CURB SECTION BETWEEN FLOORBEAMS, WITH FOUR (4) EACH IN THE DECK AND CURB CONCRETE.
C. PLACE GALVANIC ANODES AS CLOSE AS PRACTICAL TO THE LOCATIONS SHOWN IN THE PLANS. FOUR (4) ANODES SHALL BE ELECTRICALLY CONNECTED TO THE GALVANIZED REINFORCING AND FOUR (4) ANODES SHALL BE ELECTRICALLY CONNECTED TO THE STIFFENING GIRDER WEB.
D. TWO PAIRS OF ANODES SHALL BE CAST WITH THE DECK CONCRETE, AND TWO PAIRS SHALL BE CAST WITH THE CURB CONCRETE. THE ANODES SHALL BE INTERMEDIATELY SECURED TO THE REINFORCING STEEL TO ALLOW LITTLE OR NO MOVEMENT OF THE ANODE DURING CONCRETE PLACEMENT.
E. ANODE TIE WIRE CONNECTION DETAILS SHALL BE APPROVED BY BOTH THE ANODE MANUFACTURER, THE ENGINEER OF RECORD, AND THE DEPARTMENT. CONNECTION DETAILS SHALL BE DETAILED ON THE SHOP DRAWING SUBMITTAL. GENERAL ANODE TIE WIRE CONNECTION METHODS ARE LISTED BELOW:

   1. GALVANIZED REINFORCING: PLACE ANODE BESIDE OR BENEATH A LONGITUDINAL GALVANIZED REINFORCING BAR. THE ANODE SHALL BE ELECTRICALLY CONNECTED TO A LONGITUDINAL GALVANIZED REINFORCING BAR.

      MECHANICAL: THE ELECTRICAL CONNECTION MAY BE ESTABLISHED USING SUITABLE BRAZING OR WELDING TECHNIQUES, OR WITH APPROVED MECHANICAL METHODS SUCH AS SELF-TAPPING SCREWS.

      TIE WIRE: THE TIE WIRE MAY BE WRAPPED AROUND THE BAR MULTIPLE TIMES AND THEN TWISTED TIGHT USING A REBAR TIE WIRE TWISTING TOOL OR PLIERS TO ALLOW LITTLE OR NO ANODE MOVEMENT DURING CONCRETE PLACEMENT. THE GALVANIZED COATING ON THE REINFORCING SHALL BE REMOVED BY GRINDING OR OTHER MEANS IN THE AREA OF THE ANODE TIE-WIRE CONNECTION.

   2. STIFFENING GIRDER SHEAR BOLT: PLACE ANODE AS CLOSE AS PRACTICAL TO THE SHEAR BOLTS AND SECURE TO THE BOLTS.

      DECK ANODE: THE TIE WIRE SHALL BE WRAPPED AROUND THE BOLT MULTIPLE TIMES AND THEN TWISTED TIGHT USING A REBAR TIE WIRE TWISTING TOOL OR PLIERS TO ALLOW LITTLE OR NO ANODE MOVEMENT DURING CONCRETE PLACEMENT.

      CURB ANODE: A STEEL WIRE OF MINIMUM 9 AWG SIZE MAY BE TIED TO THE STIFFENING GIRDER SHEAR BOLT AND EXTENDED OUT OF THE DECK CONCRETE. DURING THE CURB CONCRETE AND REINFORCING PLACEMENT THE TIE OF AN ANODE SHALL BE ELECTRICALLY CONNECTED TO THE MIN. 9 AWG STEEL WIRE AND EPOXY COATED.

   3. DIRECT STIFFENING GIRDER CONNECTION: PLACE ANODE AS CLOSE AS PRACTICAL TO THE STIFFENING GIRDER WEB. AN ELECTRICAL CONNECTION MAY BE MADE DIRECTLY TO THE 1/2" STIFFENING GIRDER WEB OR 3/8" INTERMEDIATE STIFFENERS WITH SELF TAPPING STEEL SCREWS. IF CONNECTED DIRECTLY TO THE WEB, THE SELF-TAPPING SCREW SHALL NOT PENETRATE THE OUTSIDE FACE OF THE WEB.

      WELDING OR BRAZING THE STIFFENING GIRDER INTERMEDIATE STIFFENER IS ACCEPTABLE. WELDING OR BRAZING THE STIFFENING GIRDER WEB IS PROHIBITED.

F. ALL STIFFENING GIRDER AND GALVANIZED REINFORCING TO ANODE CONNECTIONS SHALL RECEIVE A COAT OF 100% SOLIDS, NON-CONDUCTIVE EPOXY SUCH THAT NO WIRE CONNECTIONS OR BRAZING MATERIAL WILL BE IN CONTACT WITH THE CONCRETE. THE CONTRACTOR SHALL VERIFY ELECTRICAL CONTINUITY BETWEEN THE ANODE AND THE CONNECTED STEEL PRIOR TO COATING WITH EPOXY.

G. ELECTRICAL CONTINUITY
   1. CONFIRM ELECTRICAL CONNECTION BETWEEN ANODE TIE WIRE AND REINFORCING STEEL BY MEASURING DC RESISTANCE (OHM) OR POTENTIAL (MV) WITH A MULTI-METER.
   2. ELECTRICAL CONNECTION IS ACCEPTABLE IF THE DC RESISTANCE MEASURED WITH A MULTI-METER IS LESS THAN I OHM OR THE DC POTENTIAL IS LESS THAN 1 MV.
   3. CONFIRM ELECTRICAL CONTINUITY OF THE GALVANIZED REINFORCING STEEL WITHIN THE CURB OR DECK AREA. IF NECESSARY, ELECTRICAL CONTINUITY SHALL BE ESTABLISHED WITH STEEL TIE WIRE.
   4. ELECTRICAL CONTINUITY BETWEEN TEST AREAS IS ACCEPTABLE IF THE DC RESISTANCE MEASURED WITH MULTI-METER IS LESS THAN I OHM OR THE POTENTIAL IS LESS THAN 1 MV.

PART 4 - CONCRETE MIX DESIGN

CONCRETE MIXTURE SHALL BE OF SUFFICIENT CONSISTENCY TO ENCAPSULATE THE ANODES WITHOUT VOIDS OR SEGREGATION.

CONCRETE SHALL HAVE AN ELECTRICAL RESISTIVITY OF LESS THAN 15,000 OHM-CM.

CONCRETE MIXTURES THAT CONTAIN POZZOLANIC MATERIALS SUCH AS SILICA FUME, GROUND-GRANULATED BLAST-FURNACE SLAG, FLYASH, OR METAKAOLIN WILL REDUCE THE ELECTRICAL CONDUCTIVITY OF THE CONCRETE AND MAY NOT BE SUITABLE FOR USE.

NON-CONDUCTIVE MATERIALS SUCH AS MAGNESIUM AMMONIUM PHOSPHATE CONCRETE OR MORTARS, AND EPOXY MORTARS OR BONDING AGENTS, SHALL NOT BE PERMITTED.

BEFORE CONCRETE PLACEMENT, THE ANODE MANUFACTURER SHALL APPROVE OF THE MIX DESIGN (FOR THE CONCRETE ENCASING THE ANODES ONLY) FOR ITS APPLICABILITY FOR USE WITH THE DISTRIBUTED GALVANIC ANODES PROVIDED.

PART 5 - BASIS OF PAYMENT

EACH DISTRIBUTED GALVANIC ANODE PROVIDED AND INSTALLED WITH ALL INCIDENTALS, INCLUDING PREPARATION OF ELECTRICAL CONNECTIONS TO GALVANIZED REINFORCING AND STIFFENING GIRDER WEB, SHALL BE PAID FOR AT THE UNIT PRICE BID AS FOLLOWS:

ITEM	EXTENSION	UNIT	DESCRIPTION
511	81300	EACH	CONCRETE, MISC.: DISTRIBUTED GALVANIC ANODES (DGA)

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4461 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED EFD | DRAWN EFD | REVIEWED -- | DATE -- | CHECKED -- | REVISED | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 511 SPECIAL - MODULAR EXPANSION JOINT SPECIFICATIONS

PART 1 - GENERAL

THE WORK SHALL CONSIST OF FABRICATING, FURNISHING AND INSTALLING A STRIP SEAL MODULAR EXPANSION JOINT SYSTEM IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND THE REQUIREMENTS OF THE SPECIFICATION.

PART 2 - PRODUCT

2.01 - DESCRIPTION
PROVIDE A MODULAR EXPANSION JOINT SYSTEM THAT IS CAPABLE OF ACCOMMODATING THE STRUCTURES MOVEMENT DETAILED IN THE PLANS. ONLY A CONTINUOUS FULL-LENGTH MODULAR JOINT SYSTEM WILL BE ACCEPTABLE, UNLESS STAGE CONSTRUCTION OR EXCESSIVE LENGTH PROHIBITS MONOLITHIC FABRICATION. THE MODULAR EXPANSION JOINT MANUFACTURER SHALL HAVE AN AISC SIMPLE STRUCTURE CATEGORY SHOP APPROVAL.

2.02 - DESIGN
A) THE MANUFACTURER SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE IN DESIGNING AND FABRICATING MODULAR BRIDGE EXPANSION JOINT SYSTEMS. THE CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATION OF THE MANUFACTURER'S EXPERIENCE.

THE SHOP PLANS AND CALCULATIONS SHALL BE PREPARED, REVIEWED AND APPROVED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER AND SHALL CARRY HIS/HER SIGNATURE AND SEAL. THE REGISTERED PROFESSIONAL ENGINEER SHALL BE A FULL-TIME EMPLOYEE OF THE MANUFACTURER.

B) THE MODULAR EXPANSION JOINT SYSTEM SHALL BE DESIGNED FOR HS-20 TRUCK LOADING AND IMPACT IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LATEST EDITION.

C) THE DESIGN OF THE MODULAR EXPANSION JOINT SYSTEM SHALL CONSIST OF A SINGLE LAYER PREFORMED ELASTOMERIC JOINT SEAL MECHANICALLY HELD IN PLACE BY STEEL EDGE AND SEPARATION BEAMS. EACH ELASTOMERIC SEALING ELEMENT SHALL BE CONTINUOUS AND BE LIMITED TO A MAXIMUM THREE INCHES OF MOVEMENT PER SEAL UNLESS OTHERWISE NOTED. AN INDEPENDENT SUPPORT BAR WELDED TO THE CENTER BEAM SHALL INDIVIDUALLY SUPPORT EACH MACHINED OR EXTRUDED TRANSVERSE CENTER BEAM. THESE SUPPORT BARS SHALL BE SUSPENDED OVER THE JOINT OPENING BY SLIDING ELASTOMERIC BEARINGS. THE MODULAR EXPANSION JOINT SYSTEM SHALL PROVIDE EQUIDISTANT CONTROL OF THE ELASTOMERIC SEALS. THIS EQUIDISTANT CONTROL SYSTEM SHALL BE THE TYPE THAT DEVELOPS ITS MAXIMUM COMPRESSIVE FORCE WHEN THE JOINT IS AT ITS MAXIMUM OPENING.

D) THE EXPANSION JOINT ASSEMBLY SEALS SHALL NOT PROTRUDE ABOVE THE TOP OF THE JOINT.

E) THE ELASTOMERIC SPRINGS AND BEARINGS SHALL BE DESIGNED SO THAT THEY ARE REMOVABLE AND REPLACEABLE. THE REMOVAL AND REINSTALLATION OF THE STRIP SEAL SHALL BE EASILY ACCOMPLISHED FROM ABOVE THE JOINT WITH A 1.25 INCH MINIMUM GAP WIDTH. THESE OPERATIONS SHALL BE DONE WITH PARTIAL CLOSURE OF THE ROADWAY.

2.03 - ACCEPTABLE MANUFACTURERS
ONLY MANUFACTURER'S AND MODULAR JOINT DESIGNS SUCCESSFULLY FATIGUE TESTED AND DOCUMENTED SUCH TESTING BY AN INDEPENDENT AGENCY IN ACCORDANCE WITH NCHRP 402 APPENDIX A WILL BE ALLOWED TO DESIGN, MANUFACTURE AND SUPPLY MODULAR EXPANSION JOINTS AS SHOWN ON THE CONTRACT PLANS. ACCEPTABLE SYSTEMS AND SUPPLIERS OF THE MODULAR EXPANSION JOINT SYSTEM ARE:

D. S. BROWN COMPANY, NORTH BALTIMORE, OH.
WATSON BOWMAN ACME, AMHERST, N.Y.

2.04 - SUBMITTALS
A) SHOP PLANS
THE CONTRACTOR SHALL SUBMIT DETAILS OF THE EXPANSION JOINT SYSTEM TO BE USED TOGETHER WITH INSTALLATION AND WATERPROOFING PLANS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE JOINT ASSEMBLY. THESE DRAWINGS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1) PLANS, ELEVATION AND SECTION OF THE JOINT SYSTEM FOR EACH MOVEMENT RATING AND ROADWAY WIDTH SHOWING DIMENSIONS AND TOLERANCES.
2) ALL ASTM, AASHTO OR OTHER MATERIAL DESIGNATIONS
3) METHOD OF INSTALLATION INCLUDING BUT NOT LIMITED TO SEQUENCE, SETTING RELATIVE TO TEMPERATURE, ANCHORAGE DURING SETTING, INSTALLATION AT CURBS AND LIFTING LOCATIONS AND MECHANISMS.
4) CORROSION PROTECTION SYSTEM.
5) DETAILS OF TEMPORARY SUPPORTS FOR SHIPPING AND HANDLING.
6) DESIGN CALCULATIONS SHALL INCLUDE A FATIGUE DESIGN AND A STRENGTH DESIGN (WHEN APPROPRIATE) FOR ALL STRUCTURAL ELEMENTS, CONNECTIONS AND SPLICES. ALL WELDED CENTERBEAM SPLICES SHALL BE SHOWN ON THE SHOP PLANS.
7) WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-95 BRIDGE WELDING CODE.

B) CERTIFICATES OF COMPLIANCE
AT THE TIME OF SHOP PLAN SUBMITTAL, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE FOLLOWING CERTIFICATIONS FOR REVIEW AND APPROVAL:

1) MANUFACTURER'S CERTIFICATE OF COMPLIANCE WITH THE AISC QUALITY CERTIFICATION PROGRAM - MAJOR STEEL BRIDGES
2) CERTIFICATION THAT WELDING INSPECTION PERSONNEL ARE QUALIFIED AND CERTIFIED AS WELDING INSPECTORS UNDER AWS QC1, STANDARD FOR QUALIFICATION AND CERTIFICATION OF WELDING INSPECTORS

PART 3 - COMPONENTS AND MATERIALS

A. TO AVOID FIELD SPLICES IN THE MODULAR EXPANSION JOINT SYSTEM, ASSEMBLIES SHALL BE DESIGNED, FABRICATED AND DELIVERED TO THE JOB SITE AS A CONTINUOUS UNIT WHENEVER POSSIBLE. THE MAXIMUM LENGTH OF COMPLETED EXPANSION JOINT ASSEMBLIES WILL BE DETERMINED BY PRACTICAL SHIPPING LIMITATIONS. AT THE SITE, THE EXPANSION JOINT SYSTEM SHALL BE STORED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER.

PART 3 - COMPONENTS AND MATERIALS (CONTINUED)

B) THE CONTRACTOR SHALL FURNISH A MANUFACTURER'S CERTIFICATION THAT THE MATERIALS PROPOSED HAVE BEEN PRE-TESTED AND WILL MEET THE REQUIREMENTS AS SET FORTH IN THE SPECIFICATION.

C) DAMAGE TO THE JOINT SYSTEM DURING SHIPPING OR HANDLING WILL BE CAUSE FOR REJECTION OF THE JOINT SYSTEM.

3.01 - STRUCTURAL STEEL EXTRUSIONS OR SHAPES
MATERIAL UTILIZED TO PRODUCE SHAPE SUITABLE TO MECHANICALLY LOCK ELASTOMERIC SEAL SHALL CONFORM TO PROPERTIES OF ASTM A709, GRADE 50. CENTER BEAMS, EDGE BEAMS, AND JOINT ARMOR SHALL BE CHARPY C NOTCH IMPACT TESTED PER ASTM A709 TABLE S1.2, ZONE 2 TEMPERATURE RANGE. TUBE SECTION SHALL BE A501 OR A500, GRADE B.

PROFILE SHALL HAVE A MINIMUM THICKNESS OF 1/4" AS MEASURED FROM THE INTERNAL LOCKING MECHANISM CAVITY TO THE TOP SURFACE OF THE STEEL SHAPE AND SHALL BE CAPABLE OF ACCOMMODATING VARIOUS HORIZONTAL CONDITIONS AND SERVICE LOADS INCLUDING HS-20 LOADING.

THE EDGE BEAM, WHICH RETAINS THE ELASTOMERIC JOINT SEAL LOCATED AT THE OUTSIDE FRAME OF THE MODULAR SYSTEM, SHALL CONSIST OF A STEEL MONOLITHIC SHAPE WITH A MACHINED OR EXTRUDED RETAINER CAVITY. MULTIPLE COMPONENTS WELDED STEEL SHAPES AND ROLLED STEEL, WHICH IS BENT OR CRIMPED TO ACHIEVE FINAL SHAPE, OR SEAL RETAINER CAVITY WILL NOT BE PERMITTED.

THE CENTER BEAMS, WHICH IS FULL PENETRATION WELDED TO INDIVIDUAL SUPPORT BARS, SHALL CONSIST OF A STEEL MONOLITHIC SHAPE WITH A MACHINED OR EXTRUDED RETAINER CAVITY. MULTIPLE COMPONENTS, WELDED STEEL SHAPES AND ROLLED STEEL, WHICH IS BENT OR CRIMPED TO ACHIEVE FINAL SHAPE, OR SEAL RETAINER CAVITY WILL NOT BE PERMITTED. CENTER BEAMS SHALL MAINTAIN A MINIMUM WEIGHT OF 24 LBS. PER FOOT. BEAMS WITH A GREATER WEIGHT PER FOOT MAY ALLOW INCREASED SUPPORT BAR SPACING.

ALL SHOP WELDED CONNECTIONS WHICH SPLICE HORIZONTAL CENTER BEAMS AND EDGE BEAMS SHALL BE FULL PENETRATION WELDMENTS. ALL CENTER BEAMS TO SUPPORT BAR WELDED CONNECTIONS SHALL BE FULL PENETRATION WELDMENTS.

3.02 - ANCHORAGE
PROVIDE CONCRETE ANCHOR STUDS FACTORY WELDED TO STEEL SHAPES AND AS DETAILED ON MANUFACTURER'S DRAWINGS FOR CAST IN-PLACE CONDITIONS. MATERIAL SHALL MEET THE REQUIREMENTS OF ASTM A108 WITH A MAXIMUM SPACING OF 12" O.C. UNLESS PROJECT REQUIREMENTS GOVERN OTHERWISE.

3.03 - UPPER AND LOWER SLIDE BEARINGS AND SPRINGS
ELASTOMERIC, PTFE, URETHANE, AND PREFORMED FABRIC MATERIALS USED IN SUPPORT BAR BEARINGS SHALL BE TESTED AND REPORTED BY THE MANUFACTURER OR AN INDEPENDENT TESTING LABORATORY FOR EACH BEARING AND SPRING TYPE. THE SUBMISSION OF MATERIAL CERTIFICATION AND TESTING DATA SHALL BE PER 501.06. THESE MATERIALS SHALL BE TESTED ACCORDING TO THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT #402 APPENDIX A, "GUIDELINE FOR DURABILITY TESTING OF SPRINGS AND BEARINGS FOR MBEJ".

3.04 - STAINLESS STEEL
THE SUPPORT BARS SHALL INCORPORATE STAINLESS STEEL SLIDING SURFACES AND CONFORM TO ASTM 240, TYPE 304, NO. 8 FINISH WITH A MINIMUM THICKNESS OF 13 GAGE.

3.05 - ELASTOMERIC SEAL
THE DESIGN OF THE ELASTOMERIC SEAL SHALL BE A STRIP SEAL TYPE WHICH PROVIDES THE MOVEMENTS AS SPECIFIED IN THE CONTRACT PLANS. MATERIAL SHALL BE A FLEXIBLE, NON-REINFORCED EXTRUDED NEOPRENE COMPOUND EXHIBITING THE PHYSICAL PROPERTIES LISTED IN THE TABLE BELOW. ALL ELASTOMERIC SEALS SHALL INCORPORATE A UNIQUE LOCKING LUG THAT MECHANICALLY SNAPS INTO A CORRESPONDING EXTRUSION OR MACHINED SHAPE CAVITY TO ENSURE WATERTIGHTNESS AND PROPER JOINT PERFORMANCE. THE ELASTOMERIC SEAL SHALL BE SUPPLIED AND INSTALLED IN ONE CONTINUOUS LENGTH. NO SEALS SHALL BE CUT EXCEPT AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.

PHYSICAL PROPERTIES OF SEAL ELEMENT

PROPERTY	REQUIREMENT	ASTM TEST METHOD
TENSILE STRENGTH	2000 PSI	D412
ELONGATION @ BREAK	250% MIN	D412
HARDNESS, TYPE A DUROMETER	60% ± 5%	D2240 (MODIFIED)
OVEN AGING 70 HRS @ 212°F		
TENSILE STRENGTH	20% LOSS MAX	D573
ELONGATION	30% LOSS MAX	D573
HARDNESS, TYPE A DUROMETER	0 TO +10 POINTS	D2240 (MODIFIED)
OIL SWELL, 70 HRS @ 212°F	45%	D471
OZONE RESISTANCE, 70 HRS @ 104°F	NO CRACKS	D1149
20% STRAIN, 300 PPHM, IN AIR		
LOW TEMPERATURE STIFFENING	0 TO +15 POINTS	D2240 (MODIFIED)
7 DAYS @ 14°F		
HARDNESS (TYPE A DUROMETER)		
COMPRESSION SET, 70 HRS @ 212°F	40% MAX Δ WT.	D395 (METHOD B)

3.06 LUBRICANT ADHESIVE
ELASTOMERIC SEAL SHALL BE INSTALLED UTILIZING A ONE-PART MOISTURE CURING POLYURETHANE AND AROMATIC HYDROCARBON SOLVENT MIXTURE WHICH COMPLIES WITH ASTM D4070.

3.07 SUPPORT BOX ACCESSORIES
ALL MISCELLANEOUS STEEL PLATES FOR SUPPORT BOX CONSTRUCTION, FASTENERS OR CLOSURE PLATES MUST BE A MINIMUM ⅜" THICKNESS. ALL STEEL PLATES UTILIZED TO FORM THE SUPPORT BOXES MUST BE CONTINUOUSLY WELDED TOGETHER FORMING THE SUPPORT BOX. CAULKING OF THE JOINT ASSEMBLY WILL NOT BE PERMITTED.

PART 4 CONSTRUCTION REQUIREMENTS

4.01 - GENERAL
THE EXPANSION JOINT SYSTEM SHALL BE FABRICATED IN ACCORDANCE WITH THE DIMENSIONS, SHAPES, DESIGNS AND DETAILS SHOWN IN THE APPROVED SHOP PLANS AND IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS. ALL EXPANSION JOINT ASSEMBLIES SHALL BE FABRICATED BY THE SAME AISC CERTIFIED MANUFACTURER.

4.02 - CORROSION PROTECTION
ALL EDGE BEAMS AND CENTER BEAMS SHALL BE COATED WITH METALIZED 100% ZINC WIRE. PREPARE THE SURFACE TO BE COATED AND APPLY COATING AS REQUIRED BY THE SOCIETY OF PROTECTIVE COATINGS SSPC-CS-23.00(I). APPLY COATING TO A MINIMUM THICKNESS OF 8 MILS.

ALL OTHER STEEL SURFACES SHALL BE PROTECTED AGAINST CORROSION BY ONE OF THE FOLLOWING METHODS:
A) METALIZED 100% ZINC PREPARED APPLIED AS REQUIRED BY THE SOCIETY OF PROTECTIVE COATINGS SSPC-CS-23.00(I)
B) HOT-DIP GALVANIZED PER ASTM A123, ZINC COATINGS ON IRON AND STEEL PRODUCTS.

AREAS OF STRUCTURAL STEEL THAT ARE IN CONTACT WITH CAST-IN-PLACE CONCRETE SHALL HAVE AN ADDITIONAL COATING. THE COATING SHALL BE THE EPOXY-INTERMEDIATE COAT SPECIFIED IN ODOT C.M.S. 708.02. THE COATING THICKNESS WILL COVER ALL PEAKS, VALLEYS, AND SURFACE ROUGHNESS ATRIBUTED TO METALIZING OR GALVANIZING. THE GALVANIZED OR METALIZED COATING SHALL NOT BE FIELD PAINTED.

DAMAGE TO THE CORROSION PROTECTION SYSTEM SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. REPAIR COATINGS DAMAGED DURING SHIPPING, CONSTRUCTION, OR FIELD WELDING ACCORDING TO ODOT C.M.S. 711.02 (GALVANIZED) OR ASTM A780, ANNEX "A1. REPAIR USING ZINC BASED ALLOYS" (METALIZED).

4.03 - INSTALLATION
A) THE MANUFACTURER OF THE EXPANSION DEVICES MUST HAVE A QUALIFIED TECHNICAL SERVICE REPRESENTATIVE ON THE PROJECT TO SUPERVISE INSTALLATION. WHERE SPECIAL INSTRUCTIONS ARE NOT CONTAINED HEREIN OR ELSEWHERE IN THESE NOTES, DIRECTION FOR THE INSTALLATION SHALL BE ACCORDING TO THE RECOMMENDATIONS OF THE TECHNICAL REPRESENTATIVE. RECOMMENDATIONS MADE BY THE EXPANSION JOINT MANUFACTURER'S INSTALLATION TECHNICIAN, ON OR OFF THE JOB SITE, AND APPROVED BY THE ENGINEER SHALL BE ADHERED TO BY THE CONTRACTOR.THE EXPANSION JOINT MANUFACTURER'S INSTALLATION TECHNICIAN SHALL ADVISE THE CONTRACTOR AND CERTIFY TO THE ENGINEER THAT THE PROPER INSTALLATION PROCEDURES ARE BEING FOLLOWED. ALL CERTIFICATIONS TO THE ENGINEER SHALL BE IN WRITING, SIGNED AND DATED BY THE MANUFACTURER'S INSTALLATION TECHNICIAN. THE COST AND EXPENSES RELATED TO THIS TECHNICAL ASSISTANCE WILL BE CONSIDERED INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

B) THE MODULAR EXPANSION JOINT SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND THE ADVICE OF THE MANUFACTURER'S INSTALLATION TECHNICIAN. TWO WEEKS PRIOR TO THE INTENDED INSTALLATION, THE ENGINEER SHALL BE SUPPLIED WITH TWO COPIES OF THE WRITTEN INSTRUCTIONS. THE PERMANENTLY INSTALLED EXPANSION JOINT SYSTEM SHALL MATCH THE FINISHED ROADWAY PROFILE AND GRADES.

THE EXPANSION JOINT SYSTEM SHALL BE WATER TESTED AFTER INSTALLATION. LEAKS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

C) THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT THE EXPANSION JOINT SYSTEM FROM DAMAGE. SPECIAL CARE SHALL BE EXERCISED AT ALL TIMES TO ENSURE PROTECTION OF THE EXPANSION JOINT SYSTEM. PRIOR TO INSTALLATION OF THE EXPANSION JOINT ASSEMBLY, THE BLOCKOUT AND SUPPORTING SYSTEM SHALL BE PROTECTED FROM DAMAGE AND CONSTRUCTION TRAFFIC. AFTER INSTALLATION OF THE JOINT SYSTEM, CONSTRUCTION LOADS SHALL NOT BE ALLOWED ON THE EXPANSION JOINT DEVICE. THE CONTRACTOR WILL BE REQUIRED TO BRIDGE OVER THE EXPANSION JOINT ASSEMBLY IN A MANNER APPROVED BY THE ENGINEER.

D) THE MODULAR EXPANSION JOINT SYSTEM SHALL BE SET TO THE PROPER WIDTH FOR THE AMBIENT TEMPERATURE AT THE TIME OF SETTING. THIS INFORMATION IS INDICATED IN THE SHOP PLANS.

E) ALL FORMS AND DEBRIS THAT TEND TO INTERFERE WITH THE FREE ACTION OF THE EXPANSION JOINT SYSTEM SHALL BE REMOVED.

4.04 - WATERTIGHTNESS
AFTER THE EXPANSION JOINT SYSTEM HAS BEEN COMPLETELY INSTALLED, IT SHALL BE FLOODED FOR A MINIMUM OF ONE HOUR TO A MINIMUM DEPTH OF THREE INCHES. WATER TIGHTNESS IS INTERPRETED TO BE NO FREE DRIPPING WATER FROM ANY SURFACE ON THE UNDERSIDE OF THE JOINT. IF LEAKAGE IS OBSERVED, THE EXPANSION JOINT SYSTEM SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE REPAIR PROCEDURE SHALL BE RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEK		4800303	

GENERAL NOTES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 301, TOWER STRUT CHORD LACING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER STRUT CHORDS BY REPLACING EXISTING LACING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING A NEW ANGLE WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF LACING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER STRUT CHORD TO TWO NON-ADJACENT LACING ANGLES.

FOR REPAIR DETAIL, SEE SHEET 130/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 301, TOWER STRUT CHORD LACING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 302, TOWER TRUSS BATTEN PLATE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER TRUSS MEMBERS BY REPLACING EXISTING BATTEN PLATE AND BATTEN STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING A NEW PLATE AND ANGLES WITH NEW 3/4" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER TRUSS VERTICAL OR DIAGONAL MEMBER TO TWO NON-ADJACENT BATTEN PLATES.

FOR REPAIR DETAIL, SEE SHEET 130/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 302, TOWER TRUSS BATTEN PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 303, TOWER TRUSS BATTEN END STIFFENING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER TRUSS MEMBERS BY REPLACING EXISTING BATTEN END STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING A NEW ANGLE WITH NEW 3/4" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN STIFFENING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER TRUSS VERTICAL OR DIAGONAL MEMBER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 130/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 303, TOWER TRUSS BATTEN END STIFFENING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 304, TOWER TRUSS BATTEN INTERIOR STIFFENING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER TRUSS MEMBERS BY REPLACING EXISTING BATTEN INTERIOR STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING A NEW ANGLE WITH NEW 3/4" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN STIFFENING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER TRUSS VERTICAL OR DIAGONAL MEMBER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 130/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 304, TOWER TRUSS BATTEN INTERIOR STIFFENING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 305, TOWER TRUSS DIAGONAL LACING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER TRUSS DIAGONALS BY REPLACING EXISTING LACING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING A NEW ANGLE WITH NEW 3/4" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF LACING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER TRUSS DIAGONAL TO TWO.

FOR REPAIR DETAIL, SEE SHEET 130/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 305, TOWER TRUSS DIAGONAL LACING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 306, TOWER CROSS FRAME BATTEN END STIFFENING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER CROSS FRAMES BY REPLACING EXISTING BATTEN END STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING A NEW ANGLE WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN END STIFFENING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER CROSS FRAME MEMBER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 130/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 306, TOWER CROSS FRAME BATTEN END STIFFENING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 307, TOWER CROSS FRAME LACING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER CROSS FRAMES BY REPLACING EXISTING LACING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING A NEW ANGLE WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF LACING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER CROSS FRAME MEMBER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 131/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 307, TOWER CROSS FRAME LACING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 308, TOWER CROSS FRAME DIAGONAL (LONG) BATTEN PLATE, BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET PLATE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING THE TOWER CROSS FRAME BY REPLACING EXISTING BATTEN PLATES, BATTEN STIFFENING ANGLES, LACING ANGLES AND LACING GUSSET PLATES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING NEW PLATES AND ANGLES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

DO NOT PERFORM THIS WORK CONCURRENTLY WITH WORK REQUIRED FOR OTHER TOWER REPAIRS.

LIMIT THE NUMBER OF LACING ANGLES AND LACING GUSSET PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER TO TWO.

LIMIT THE NUMBER OF BATTEN PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER TO TWO NON-ADJACENT BATTEN PLATES.

FOR REPAIR DETAIL, SEE SHEET 132/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 308, TOWER CROSS FRAME DIAGONAL (LONG) BATTEN PLATE, BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPES 309A AND 309B, TOWER CROSS FRAME DIAGONAL (SHORT) BATTEN PLATE, BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET PLATE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING THE TOWER CROSS FRAME BY REPLACING EXISTING BATTEN PLATES, BATTEN STIFFENING ANGLES, LACING ANGLES AND LACING GUSSET PLATES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING NEW PLATES AND ANGLES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

DO NOT PERFORM THIS WORK CONCURRENTLY WITH WORK REQUIRED FOR OTHER TOWER REPAIRS.

LIMIT THE NUMBER OF LACING ANGLES AND LACING GUSSET PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER TO TWO.

LIMIT THE NUMBER OF BATTEN PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER TO TWO NON-ADJACENT BATTEN PLATES.

FOR REPAIR DETAIL, SEE SHEET 132/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPES 309A AND 309B, TOWER CROSS FRAME DIAGONAL (SHORT) BATTEN PLATE, BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 310, REPLACE ENTIRE BOTTOM TOWER STRUT

THIS WORK CONSISTS OF REMOVING THE ENTIRE BOTTOM TOWER STRUT AND REPLACING THE ENTIRE BOTTOM TOWER STRUT WITH NEW STEEL MEMBERS AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, FIELD DRILLING BOLT HOLES IN THE EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTES AND INSTALLING NEW 7/8" DIAMETER BOLTS AND WASHERS.

DO NOT PERFORM THIS WORK CONCURRENTLY WITH WORK REQUIRED FOR OTHER TOWER REPAIRS.

FOR ADDITIONAL REQUIREMENTS AND RESTRICTIONS, SEE SHEETS 135/227 THRU 139/227.

FOR REPAIR DETAILS, SEE SHEETS 135/227 THRU 139/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 310, REPLACE ENTIRE BOTTOM TOWER STRUT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 311, TOWER STRUT CHORD BATTEN END STIFFENING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER STRUT CHORDS BY REPLACING EXISTING BATTEN END STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING NEW ANGLE WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN STIFFENING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER STRUT CHORD TO TWO.

FOR REPAIR DETAIL, SEE SHEET 131/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 311, TOWER STRUT CHORD BATTEN END STIFFENING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 312, TOWER CROSS FRAME BATTEN END AND INTERIOR STIFFENING ANGLE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER CROSS FRAMES BY REPLACING EXISTING BATTEN END AND INTERIOR STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING NEW ANGLES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN END STIFFENING ANGLES REMOVED AT ANY GIVEN TIME ON EACH TOWER CROSS FRAME MEMBER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 131/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 312, TOWER CROSS FRAME BATTEN END AND INTERIOR STIFFENING ANGLE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN, REPAIR TYPE 313, ANCHORAGE INTERIOR

THIS WORK CONSISTS OF REMOVING AREAS OF DETERIORATED CONCRETE AND PATCHING THE CONCRETE WITHIN THE ANCHORAGE CHAMBER AS SHOWN ON THE PLANS.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

FOR REPAIR DETAIL, SEE SHEET 154/227.

THE DEPARTMENT WILL NOT PAY FOR REPLACING REINFORCEMENT DAMAGED DURING CONCRETE REMOVAL.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN, REPAIR TYPE 313, ANCHORAGE INTERIOR

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 314, GROUT FILLING OPEN SHAFT IN ANCHORAGE CONCRETE

THIS WORK CONSISTS OF SURFACE PREPARATION AND FILLING THE OPEN SHAFT IN THE ANCHORAGE CHAMBER WITH GROUT AS SHOWN ON THE PLANS.

FOR REPAIR DETAIL, SEE SHEET 154/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53001100	CU YD	STRUCTURE, MISC.: REPAIR TYPE 314, GROUT FILLING OPEN SHAFT IN ANCHORAGE CONCRETE

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 315, TOWER CROSS FRAME LACING GUSSET REPLACEMENT

THIS WORK CONSISTS OF REPAIRING TOWER CROSS FRAMES BY REPLACING EXISTING LACING GUSSETS AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING NEW PLATES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF LACING GUSSETS REMOVED AT ANY GIVEN TIME ON EACH TOWER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 131/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 315, TOWER CROSS FRAME LACING GUSSET REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 316, TOWER CROSS FRAME END GUSSET REPAIR

THIS WORK CONSISTS OF REPAIRING THE TOWER CROSS FRAME BY REMOVING PACK RUST BETWEEN THE DIAGONAL AND END GUSSETS AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, CLEANING EXISTING STEEL, APPLYING EPOXY PRE-PRIMER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, APPLYING EPOXY-TYPE REPAIR MATERIAL TO CAVITIES AND INSTALLING NEW 7/8" DIAMETER BOLTS AND WASHERS.

COMPLETE THE WORK OF REPAIRING THE TOWER CROSS FRAME END GUSSET ON ONE SIDE OF THE CROSS FRAME BEFORE BEGINNING WORK ON THE OTHER SIDE.
MATERIALS: THE PENETRATING EPOXY PRE-PRIMER SHALL BE A HIGH PERFORMANCE, TWO COMPONENT, CHEMICALLY CURED, 100% SOLIDS, EPOXY PENETRATING SEALER DESIGNED TO BE USED OVER MARGINALLY PREPARED STEEL SURFACES AS MANUFACTURED BY SHERWIN WILLIAMS OR APPROVED EQUAL. THE CURED MATERIAL MAY BE RECOATED OR PAINTED.

EPOXY-TYPE REPAIR MATERIAL SHALL BE A TWO-COMPONENT, NON-SAGGING REPAIR AND REBUILDING MATERIAL MANUFACTURED FOR USE AS A STRUCTURAL STEEL PATCHING MATERIAL, SUCH AS DEVCON PLASTIC STEEL PUTTY (A), MANUFACTURED BY:
ITW DEVCON
30 ENDICOTT STREET
DANVERS, MA 01923
TELEPHONE: (978) 777-1100
FAX: (978) 774-0516,
OR APPROVED EQUAL

THIS MATERIAL IS A STEEL FILLED EPOXY-TYPE PUTTY THAT CURES AT ROOM TEMPERATURE AND IS DESIGNED FOR FILLING, REBUILDING, AND BONDING METAL SURFACES AND IS INTENDED FOR PATCHING AND REPAIRING AREAS WHERE WELDING WOULD BE IMPOSSIBLE OR UNDESIRABLE. THE MATERIAL SHALL BE APPLIED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND CONFORM TO THE FOLLOWING PHYSICAL PROPERTIES:

COLOR - GREY
ADHESIVE TENSILE SHEAR - 2400 PSI MIN. (ASTM D1002)
COMPRESSIVE STRENGTH - 8000 PSI MIN. (ASTM D695)
FLEXURAL STRENGTH - 5000 PSI MIN. (ASTM D790)
MIXED VISCOSITY - PUTTY OR PASTE

FOR REPAIR DETAIL, SEE SHEET 131/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 316, TOWER CROSS FRAME END GUSSET REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 317, TOWER CROSS FRAME DIAGONAL BATTEN PLATE, BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET PLATE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING THE TOWER CROSS FRAME DIAGONAL BY REPLACING EXISTING BATTEN PLATES, BATTEN STIFFENING ANGLES, LACING ANGLES AND LACING GUSSET PLATES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING NEW PLATES AND ANGLES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

DO NOT PERFORM THIS WORK CONCURRENTLY WITH WORK REQUIRED FOR OTHER TOWER REPAIRS.

LIMIT THE NUMBER OF LACING ANGLES AND LACING GUSSET PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER TO TWO.

FOR REPAIR DETAIL, SEE SHEET 133/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 317,TOWER CROSS FRAME DIAGONAL BATTEN PLATE, BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED MDC | CHECKED MJS | DRAWN ELS | REVISED | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 318, TOWER STRUT CHORD BATTEN PLATE REPLACEMENT

THIS WORK CONSISTS OF REPAIRING THE TOWER STRUT CHORD BY REPLACING THE BATTEN PLATE AND BATTEN STIFFENING ANGLES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE AND INSTALLING A NEW PLATE AND ANGLES WITH NEW $\frac{7}{8}$" DIAMETER BOLTS AND WASHERS.

LIMIT THE NUMBER OF BATTEN PLATES REMOVED AT ANY GIVEN TIME ON EACH TOWER CHORD STRUT TO TWO NON-ADJACENT BATTEN PLATES.

FOR REPAIR DETAIL, SEE SHEET 131/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 318, TOWER STRUT CHORD BATTEN PLATE REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 319, TOWER CROSS FRAME CENTER GUSSET REPLACEMENT

THIS WORK CONSISTS OF REPAIRING THE TOWER CROSS FRAME BY REPLACING CENTER GUSSET PLATES AS SHOWN ON THE PLANS, AND INCLUDES REMOVING EXISTING RIVETS, REMOVING EXISTING STEEL, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, APPLYING EPOXY-TYPE REPAIR MATERIAL, AND INSTALLING NEW PLATES AND FILLS WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

PERFORM THIS WORK ON ONLY ONE GUSSET PLATE AT A TIME WITH NO SUSTAINED WIND OVER 40 MPH IN THE FORECAST UNTIL THE REPLACEMENT OF ONE GUSSET AND FILL IS COMPLETED.

REMOVAL SHALL NOT COMMENCE UNTIL NEW GUSSET PLATES HAVE BEEN FABRICATED AND DELIVERED TO THE SITE.

REMOVE RIVETS, GUSSET PLATE AND FILL PLATE. REMOVE PACK RUST, CLEAN SURFACES AND APPLY EPOXY-TYPE REPAIR MATERIAL TO CLEANED SURFACE AGAINST WHICH NEW PLATES WILL BE PLACED.

COMPLETE THE WORK OF REPLACING THE GUSSET AND FILL PLATES ON ONE SIDE OF THE CROSS FRAME BEFORE BEGINNING WORK ON THE OTHER SIDE.

LIMIT THIS WORK TO ONE TOWER CROSS FRAME CENTER GUSSET ON EACH TOWER AT ANY GIVEN TIME. DO NOT PERFORM THIS WORK CONCURRENTLY WITH WORK REQUIRED FOR OTHER TOWER REPAIRS.

MATERIAL: EPOXY-TYPE REPAIR MATERIAL SHALL BE A TWO-COMPONENT, NON-SAGGING REPAIR AND REBUILDING MATERIAL MANUFACTURED FOR USE AS A STRUCTURAL STEEL PATCHING MATERIAL, SUCH AS DEVCON PLASTIC STEEL PUTTY (A), MANUFACTURED BY:
ITW DEVCON
30 ENDICOTT STREET,
DANVERS, MA 01923
TELEPHONE: (978) 777-1100
FAX: (978) 774-0516,
OR APPROVED EQUAL.

THIS MATERIAL IS A STEEL FILLED EPOXY-TYPE PUTTY THAT CURES AT ROOM TEMPERATURE AND IS DESIGNED FOR FILLING, REBUILDING, AND BONDING METAL SURFACES AND IS INTENDED FOR PATCHING AND REPAIRING AREAS WHERE WELDING WOULD BE IMPOSSIBLE OR UNDESIRABLE. THE MATERIAL SHALL BE APPLIED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND CONFORM TO THE FOLLOWING PHYSICAL PROPERTIES:

COLOR - GREY
ADHESIVE TENSILE SHEAR - 2400 PSI MIN. (ASTM D1002)
COMPRESSION STRENGTH - 8000 PSI MIN. (ASTM D695)
FLEXURAL STRENGTH - 5000 PSI MIN. (ASTM D790)
MIXED VISCOSITY - PUTTY OR PASTE

FOR REPAIR DETAIL, SEE SHEET 134/227 .

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 319, TOWER CROSS FRAME CENTER GUSSET REPLACEMENT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 320, ANCHORAGE DOOR REPLACEMENT

THIS WORK CONSISTS OF THE REMOVAL AND REPLACEMENT OF THE ANCHORAGE DOORS AND FRAMES AT THE ENTRANCES TO THE ANCHORAGE CHAMBER AS SHOWN ON THE PLANS. VERIFY ALL DOOR AND FRAME DIMENSIONS WITH FIELD MEASUREMENTS PRIOR TO ORDERING THE NEW DOORS AND FRAMES.

DOOR:
THE DOOR SHALL HAVE A NOMINAL THICKNESS OF $1\frac{3}{4}$", THE DOOR PANELS SHALL BE FABRICATED OF 14 GAUGE TYPE 316 STAINLESS STEEL IN ACCORDANCE WITH ASTM A240 AND CONFORM TO STEEL DOOR INSTITUTE STANDARD SDI-100. DOORS SHALL HAVE PROVISIONS FOR ONE AND ONE-HALF PAIR $4\frac{1}{2}$" X $4\frac{1}{2}$" TEMPLATE TYPE, FULL MORTISE, HEAVYWEIGHT HINGES IN ACCORDANCE WITH ANSI A156.7. DOORS SHALL HAVE PROVISIONS FOR LOCKS INCLUDING "CH" REINFORCEMENTS AND CUTOUTS FOR U. S. GOVERNMENT SERIES 160 (MODIFIED) OR 161 CYLINDRICAL LOCKSETS WITH $2\frac{3}{4}$" BACKSET AND ANSI A115.2 LOCK FRONT. REINFORCEMENT AND CUTOUTS SHALL BE PROVIDED FOR ADDITIONAL BORED AUXILIARY LOCKS BOTH HIGH AND LOW. PROPER REINFORCEMENTS SHALL BE PROVIDED FOR OTHER HARDWARE. LOCK EDGE SHALL BE NONBEVELED AND REINFORCED FULL HEIGHT WITH A 14 GAUGE CHANNEL. HINGE EDGE SHALL BE NONBEVELED AND REINFORCED WITH A CONTINUOUS FULL HEIGHT 11 GAUGE STEEL CHANNEL. FACE SHEETS SHALL BE PROJECTION WELDED TO CHANNELS AT 5" ON CENTERS AND SHALL HAVE FULL HEIGHT VISIBLE SEAMS ON THE DOOR EDGE. DOORS SHALL HAVE A FLUSH TOP AND A FLUSH BOTTOM CHANNEL OF 16 GAUGE WELDED AT A MAXIMUM OF $2\frac{1}{2}$" ON CENTERS. DOORS SHALL BE REINFORCED WITH VERTICAL STEEL STIFFENERS OF 20 OR 22 GAUGE WITH A MINERAL WOOL OR FIBERGLASS BAT BETWEEN EACH STIFFENER. THE COMPLETE UNIT IS CLOSED WITH STEEL PERIMETER CHANNEL PROJECTION WELDED TO PANELS.

FRAME:
THE FRAME SHALL BE COMPATIBLE WITH THE DOOR AND BE CONSTRUCTED TO CONFORM TO STEEL DOOR INSTITUTE STANDARD SDI-100. FRAMES SHALL BE MADE OF 12 GAUGE TYPE 316 STAINLESS STEEL IN ACCORDANCE WITH ASTM A240 AND HAVE BOLTED CORNERS. FRAMES SHALL BE SUPPLIED WITH PRESSURE APPLIED RUBBER SILENCERS, THREE PER STRIKE JAM. FRAMES SHALL HAVE 9 GAUGE STEEL HINGE REINFORCEMENT PLATES PROJECTION WELDED WITH PROVISIONS FOR $4\frac{1}{2}$" X $4\frac{1}{2}$" TEMPLATE TYPE HINGES AND 14 GAUGE STEEL STRIKE REINFORCEMENT PLATE, EXTRUDED AND FORMED TO THE EQUIVALENT OF 10 GAUGE PROJECTION WELDED WITH PROVISIONS FOR UNIVERSAL ANSI A115.1 OR ANSI A115.2 STRIKE. REINFORCEMENT SHALL BE PROVIDED FOR AUXILIARY LOCKS BOTH HIGH AND LOW. FRAMES SHALL BE RIDGIDLY ATTACHED TO EXISTING CONCRETE WITH A MINIMUM OF EIGHT EXPANSION ANCHORS PER OPENING. OPENING BETWEEN FRAME AND EXISTING CONCRETE SHALL BE SEALED WITH CAULK.

THRESHOLD:
THRESHOLDS SHALL BE ALUMINUM WITH A VINYL CURVED UPWARD SEAL. THE FLAT TOP SURFACE OF THE ALUMINUM SHALL BE $\frac{1}{2}$" ABOVE THE CONCRETE FLOOR. THE VINYL SEAL SHALL PROJECT A MINIMUM OF $\frac{3}{16}$" ABOVE THE TOP SURFACE OF THE ALUMINUM THRESHOLD. THE THRESHOLD SHALL BE ANCHORED TO THE CONCRETE FLOOR AND SHALL HAVE A SNUG FIT WITH THE DOOR FRAME.

HINGES:
HINGES SHALL BE COMPATIBLE WITH THE DOOR AND FRAME AND SHALL BE 0.180 GAUGE HEAVYWEIGHT TYPE, FULL MORTISE STAINLESS STEEL BALL BEARING HINGES WITH SECURITY STUDS.

DOOR PULL AND BORED AUXILIARY LOCKS:
THROUGH BOLTED DOOR PULLS SHALL BE TYPE 304 STAINLESS STEEL. AUXILIARY LOCKS SHALL BE STAINLESS STEEL, PROVIDED HIGH AND LOW, AND SHALL BE DEADBOLT OPERATED BY KEY OUTSIDE AND THUMB TURN INSIDE. BORED AUXILIARY LOCKS ON ALL DOORS SHALL BE KEYED ALIKE. KEYS SHALL BE GIVEN TO THE ENGINEER.

HYDRAULIC DOOR HOLDER/CLOSER:
THE HYDRAULIC DOOR HOLDER/CLOSER SHALL BE DIRECTLY MOUNTED ON THE DOOR TO KEEP HINGES FREE FROM ANY STRAIN OR PRESSURE. IT SHALL BE CAPABLE OF BEING LOCKED TO HOLD THE DOOR OPEN. IT SHALL HAVE ADJUSTABLE CLOSING SPEEDS AND SHALL BE ALL STEEL CONSTRUCTION. ITS APPROXIMATE DIMENSIONS SHALL BE 13" LENGTH X $7\frac{1}{2}$" HEIGHT WITH A $2\frac{1}{2}$" PROJECTION.

FOR REPAIR DETAIL, SEE SHEET 154/227 .

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 320, ANCHORAGE DOOR REPLACEMENT

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 321, REPLACEMENT OF GIRDER TOP COVER PLATES AT TOWER

THIS WORK CONSISTS OF REMOVING EXISTING STIFFENING GIRDER COVER PLATES AT THE TOWER AND REPLACING THEM WITH NEW STEEL PLATES AS SHOWN ON THE PLANS AND INCLUDES REMOVING EXISTING RIVETS, CLEANING EXISTING STEEL, PREPARING FAYING SURFACES OF NEW AND EXISTING STEEL PER THE GENERAL NOTE, AND INSTALLING NEW COVER PLATES WITH NEW 7/8" DIAMETER BOLTS AND WASHERS.

FOR REPAIR DETAILS, SEE SHEET 123/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	10201	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 321, REPLACEMENT OF GIRDER TOP COVER PLATES AT TOWER
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED MDC | DRAWN ELS | REVIEWED SRE | DATE 8/12
CHECKED MJS | REVISED | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC-2-1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 322, STIFFENING GIRDER PACK RUST REPAIR

THIS WORK CONSISTS OF REPAIRING THE STIFFENING GIRDER TOP AND BOTTOM FLANGES AT LOCATIONS OF PACK RUST AS SHOWN ON THE PLANS. THIS WORK SHALL BE PERFORMED USING THE FOLLOWING PROCEDURE:

1. REMOVE 4 RIVETS AS SHOWN ON THE PLANS. REMOVE AND MAKE SMOOTH EDGES OF EXISTING STEEL PLATE AFFECTED BY THE PACK RUST.
2. REMOVE ALL CUTTING OIL AND OTHER RESIDUES ASSOCIATED WITH CUTTING, DRILLING, AND GRINDING OF THE METALWORK. USE CLEANING SOLVENTS TO REMOVE GREASE AND CUTTING OIL FROM THE EXISTING STEEL.
3. REMOVE PACK RUST AND BLAST CLEAN EXISTING STEEL.
4. APPLY A PENETRATING EPOXY PRE-PRIMER TO EXISTING STEEL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. FILL PACK RUST CAVITIES WITH AN EPOXY-TYPE REPAIR MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BEFORE HALF OF THE CURING TIME OF THE EPOXY-TYPE REPAIR MATERIAL HAS ELAPSED, INSTALL NEW ⅞" DIAMETER BOLTS AND WASHERS. GRIND THE EPOXY-TYPE REPAIR MATERIAL SMOOTH AFTER IT IS CURED.

MATERIALS: THE PENETRATING EPOXY PRE-PRIMER SHALL BE A HIGH PERFORMANCE, TWO COMPONENT, CHEMICALLY CURED, 100% SOLIDS, EPOXY PENETRATING SEALER DESIGNED TO BE USED OVER MARGINALLY PREPARED STEEL SURFACES AS MANUFACTURED BY SHERWIN WILLIAMS OR APPROVED EQUAL. THE CURED MATERIAL MAY BE RECOATED OR PAINTED.

EPOXY-TYPE REPAIR MATERIAL SHALL BE A TWO-COMPONENT, NON-SAGGING REPAIR AND REBUILDING MATERIAL MANUFACTURED FOR USE AS A STRUCTURAL STEEL PATCHING MATERIAL, SUCH AS DEVCON PLASTIC STEEL PUTTY (A), MANUFACTURED BY:
ITW DEVCON
30 ENDICOTT STREET,
DANVERS, MA 01923
TELEPHONE: (978) 777-1100
FAX: (978) 774-0516,
OR APPROVED EQUAL.

THIS MATERIAL IS A STEEL FILLED EPOXY-TYPE PUTTY THAT CURES AT ROOM TEMPERATURE AND IS DESIGNED FOR FILLING, REBUILDING, AND BONDING METAL SURFACES AND IS INTENDED FOR PATCHING AND REPAIRING AREAS WHERE WELDING WOULD BE IMPOSSIBLE OR UNDESIRABLE. THE MATERIAL SHALL BE APPLIED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND CONFORM TO THE FOLLOWING PHYSICAL PROPERTIES:

COLOR - GREY
ADHESIVE TENSILE SHEAR - 2400 PSI MIN. (ASTM D1002)
COMPRESSIVE STRENGTH - 8000 PSI MIN. (ASTM D695)
FLEXURAL STRENGTH - 5000 PSI MIN. (ASTM D790)
MIXED VISCOSITY - PUTTY OR PASTE

FOR REPAIR DETAIL, SEE SHEET 124/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 322, STIFFENING GIRDER PACK RUST REPAIR
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 323, DECK TO STIFFENING GIRDER CONNECTION

THIS WORK CONSISTS OF CONNECTING THE NEW DECK TO THE STIFFENING GIRDER WITH SHEAR BOLTS AS SHOWN ON THE PLANS, AND INCLUDES CLEANING EXISTING STEEL, FIELD DRILLING HOLES IN EXISTING STEEL, INSTALLING NEW ⅞" DIAMETER ASTM F1554, GRADE 55 SHEAR BOLTS AND CLEANING AND APPLYING A ZINC RICH PRIME COAT TO THE WEB OF THE STIFFENING GIRDER.

HEAVY HEX NUTS SHALL CONFORM TO ASTM A563, GRADE DH AND HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F436. SHEAR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

CONCRETE ADJACENT TO THE STIFFENING GIRDERS SHALL BE PLACED WHEN THE AMBIENT OUTSIDE TEMPERATURE IS BETWEEN 35 DEGREES FAHRENHEIT AND 85 DEGREES FAHRENHEIT.

PAINTING: CLEAN AND APPLY A ZINC RICH PRIME COAT TO EXISTING STEEL SURFACES TO THE APPROXIMATE LIMITS SHOWN ON SHEET 124/227, AS PER THE SPECIFICATIONS OF ITEM 514, PRIOR TO PLACING THE DECK CONCRETE. THE PRIME COAT PAINT COLOR SHALL BE FEDERAL COLOR STANDARD 25190.

FOR REPAIR DETAIL, SEE SHEET 124/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 323, DECK TO STIFFENER GIRDER CONNECTION
514	00057	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
514	00050	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

ITEM 513 - STRUCTURAL STEEL, MISC: REPAIR TYPE 324, LIGHT POLE BRACKET RETROFIT AT SUSPENDED SPANS

THIS WORK CONSISTS OF REMOVING CONDUIT AND LIGHT POLE BRACKETS AND APPURTENANCES AS SHOWN ON THE PLANS AND INCLUDES REMOVING EXISTING H.S. BOLTS, REMOVING EXISTING STEEL, REMOVING EXISTING CONDUITS, CLEANING EXISTING STEEL AND INSTALLING NEW 3/4" DIAMETER BOLTS AND WASHERS IN EXISTING HOLES.

FOR REPAIR DETAIL, SEE SHEET 124/227 .

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 324, LIGHT POLE BRACKET RETROFIT AT SUSPENDED SPANS

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 325, ANCHORAGE CABLE HOOD CAULKING SEALANT

THIS WORK CONSISTS OF THE REMOVAL AND REPLACEMENT OF THE CIRCUMFERENTIAL ANCHORAGE CABLE HOOD CAULKING SEALANT AT EACH OF THE ANCHORAGE CABLE HOODS AS SHOWN ON THE PLANS.

ANCHORAGE CABLE HOOD CAULKING SEALANT SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

FOR REPAIR DETAIL, SEE SHEET 154/227.

MATERIALS: ANCHORAGE CABLE HOOD CAULKING SEALANT SHALL BE A SINGLE COMPONENT, GUN-GRADE, ADHESIVE AND SEALING COMPOUND WITH PERMANENT ELASTICITY (ASTM C920, GRADE NS) OR APPROVED EQUAL.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 325, ANCHORAGE CABLE HOOD CAULKING SEALANT

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPES 326 AND 327, SUSPENDER ROPE SLEEVE REPLACEMENT

THIS WORK CONSISTS OF THE REPLACEMENT OF THE SUSPENDER ROPE STAINLESS STEEL PROTECTIVE SLEEVES AT THE CONNECTION TO THE STIFFENING GIRDER AS SHOWN ON THE PLANS AND INCLUDES REMOVING EXISTING SLEEVES AND CLAMPS, CLEANING ROPES WITH A NON-ABRASIVE METHOD AND INSTALLING NEW STAINLESS STEEL PROTECTIVE SLEEVES, NEOPRENE RUBBER, AND STAINLESS STEEL CLAMPS. DAMAGED SUSPENDER ROPES SHALL BE COATED WITH INORGANIC ZINC RICH PAINT MEETING THE REQUIREMENTS OF AASHTO M-300 AND APPLIED AS PER THE MANUFACTURE'S RECOMMENDATIONS.

FOR REPAIR DETAILS, SEE SHEET 144/225.

MATERIALS: ALL SLEEVES SHALL BE REPLACED WITH 16 GAUGE WEAR RESISTANT HIGH-STRENGTH STAINLESS STEEL SLEEVES AND RATCHETING STAINLESS STEEL, TYPE 316 BAND AND BUCKLE CLAMPS. LINE THE INSIDE OF ALL NEW SLEEVES WITH 1/32" THICK NEOPRENE RUBBER. ALL SLEEVE CLAMPS SHALL BE REPLACED WITH RATCHETING STAINLESS STEEL, TYPE 316 BAND AND BUCKLE CLAMPS. THE TOP JOINT BETWEEN SLEEVE AND THE SUSPENDER ROPE SHALL BE SEALED WITH ELASTOMERIC CAULK ASTM C920 TYPE S.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPES 326 AND 327, SUSPENDER ROPE SLEEVE REPLACEMENT

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 328, SUSPENDER ROPE CONNECTION REPAIR

THIS WORK CONSISTS OF REPAIRING SUSPENDER ROPE CONNECTIONS BY REPLACING MISSING OR LOOSE BOLTS, NUTS AND WASHERS AT THE SUSPENDER ROPE CONNECTIONS TO THE STIFFENING GIRDER AS SHOWN ON THE PLANS AND INCLUDES REMOVING EXISTING H.S. BOLTS, CLEANING EXISTING STEEL AND INSTALLING NEW ⅞" DIAMETER BOLTS AND WASHERS IN EXISTING HOLES.

FOR REPAIR DETAILS, SEE SHEET 144/225.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 328, SUSPENDER ROPE CONNECTION REPAIR

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED MDC | CHECKED MJS | DRAWN ELS | REVISED | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 329, 330 AND 331, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION

THIS WORK CONSISTS OF INSTALLING DRAIN HOLES IN THE ELASTOMERIC CABLE WRAPPING AS SHOWN ON THE PLANS. CABLE DRAIN HOLE INSTALLATION SHALL BE PERFORMED AFTER REPAIR TYPE 334 HAS BEEN COMPLETED AT LOCATIONS WHERE THOSE REPAIRS ARE TO BE PERFORMED AS SHOWN ON THE PLANS.

REPAIR TYPE 329: AT EACH ANCHORAGE CABLE HOOD, INSTALL A 3/8" DIAMETER DRAIN HOLE IN THE ELASTOMERIC CABLE WRAPPING 3 1/2" FROM THE END OF THE HOOD AT THE 6 O'CLOCK POSITION OF THE CABLE.

REPAIR TYPE 330: INSTALL A 1" DIAMETER DRAIN HOLE IN THE ELASTOMERIC CABLE WRAPPING AT THE 6 O'CLOCK POSITION OF THE CABLE AT THE MIDPOINT BETWEEN PANEL POINT 32 AND PANEL POINT 33 (MIDSPAN).

REPAIR TYPE 331: AT ALL CABLE BANDS INSTALL A 3/8" DIAMETER DRAIN HOLE IN THE ELASTOMERIC WRAPPING 3 1/2" FROM THE CABLE BAND END AT THE 6 O'CLOCK POSITION OF THE CABLE AT THE LOW AND HIGH END OF EACH CABLE BAND.

INSTALL ALL DRAIN HOLES WITHOUT DAMAGING THE UNDERLYING WRAPPING WIRE TO THE SATISFACTION OF THE ENGINEER.

FOR REPAIR DETAIL, SEE SHEET 145/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 329, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 330, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 331, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 332, CABLE BAND SEALANT CAULKING

THIS WORK CONSISTS OF THE REMOVAL AND REPLACEMENT OF THE CIRCUMFERENTIAL CABLE BAND SEALANT CAULKING AT BOTH ENDS OF EACH CABLE BAND BETWEEN THE WEDGE SEAL AND THE CABLE BANDS AND ALONG THE LONGITUDINAL JOINTS OF THE CABLE BAND AS SHOWN ON THE PLANS.

CIRCUMFERENTIAL CABLE BAND SEALANT CAULKING AT CABLE BAND ENDS SHALL BE INSTALLED AS SPECIFIED IN REPAIR TYPE 334 AS SHOWN ON THE PLANS.

MATERIAL: CABLE BAND SEALANT CAULKING SHALL BE A SINGLE COMPONENT, GUN-GRADE, ADHESIVE AND SEALING COMPOUND WITH PERMANENT ELASTICITY (ASTM C920, GRADE NS) OR AN APPROVED EQUAL.

FOR REPAIR DETAIL, SEE SHEET 145/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 332, CABLE BAND SEALANT CAULKING

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 333, ANCHORAGE DEHUMIDIFIER AND SUMP PUMP REPLACEMENT

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING ANCHORAGE DEHUMIDIFIER AND SUMP PUMP AND THE INSTALLATION OF NEW ANCHORAGE DEHUMIDIFIER AND NEW SUMP PUMP AT EACH OF THE FOUR ANCHORAGES.

FOR REPAIR LOCATIONS, SEE SHEETS 152/227 THRU 153/227 .

MATERIALS: THE DEHUMIDIFIERS SHALL HAVE A 56 PINT WATER REMOVAL CAPACITY PER DAY AT 80°F WITH 60 PERCENT RELATIVE HUMIDITY AND SHALL HAVE A FULL SIZE PUMP DRAIN TO THE EXISTING SUMP. DEHUMIDIFIERS SHALL BE RATED AT 115 VOLTS-I PHASE AND BE FURNISHED WITH A 10 FOOT POWER CORD. THE UNIT SHALL SHUT OFF WHEN THE LOWEST SET HUMIDITY OCCURS.

WEST ANCHORAGE SUMP PUMPS SHALL BE NON-CLOGGING, HANDLE SOLIDS UP TO 3/4 INCH AND SHALL BE RATED FOR 10 GALLONS PER MINUTE AT 40 FEET OF HEAD WITH A 2 INCH NPT DISCHARGE. PUMPS SHALL BE RATED AT 0.5 HORSEPOWER, 115 VOLTS-I PHASE AND SHALL BE FURNISHED WITH A 10 FOOT POWER CORD.

EAST ANCHORAGE SUMP PUMPS SHALL BE NON-CLOGGING, HANDLE SOLIDS UP TO 3/4 INCH AND SHALL BE RATED FOR 10 GALLONS PER MINUTE AT 55 FEET OF HEAD WITH A 2 INCH NPT DISCHARGE. PUMPS SHALL BE RATED AT 1.0 HORSEPOWER, 230 VOLTS-I PHASE AND SHALL BE FURNISHED WITH A 10 FOOT POWER CORD.

THE NEW SUMP PUMP SYSTEM SHALL INCLUDE CHECKS AND BLEED OFFS TO PREVENT FREEZE UPS IN THE STAND PIPE.

AFTER INSTALLATION, THE CONTRACTOR SHALL DEMONSTRATE THAT BOTH THE DEHUMIDIFIER AND SUMP PUMP SYSTEM ARE WORKING PROPERLY TO THE SATISFACTION OF THE ENGINEER AT EACH ANCHORAGE.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53000400	EACH	STRUCTURE, MISC.: REPAIR TYPE 333, ANCHORAGE DEHUMIDIFIER AND SUMP PUMP REPLACEMENT

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 334, ELASTOMERIC CABLE WRAPPING REPLACEMENT

THIS WORK SHALL CONSIST OF REMOVING AND REPLACING THE ELASTOMERIC CABLE WRAPPING AND WRAPPING COMPONENTS AS SHOWN ON THE PLANS FOR THE FULL LENGTH BETWEEN CABLE BANDS AND BETWEEN ANCHORAGE CABLE HOODS AND CABLE BANDS.

ELASTOMERIC CABLE WRAPPING REPAIR TYPE 334 SHALL BE PERFORMED IN CONJUNCTION WITH REPAIR TYPES 325, 329, 330, 331, AND 332.

MATERIALS: ELASTOMERIC CABLE WRAP SHALL BE BASED ON A CROSS-LINKING CHLOROSULFONATED POLYETHYLENE POLYMER. THE WRAP SHALL BE A THREE-PLY LAMINATED CONSTRUCTION. THE REQUIRED THICKNESS IS 45 MILS ± 3 MILS, SO THAT AFTER APPLYING THE WRAP AT A 50% OVERLAP, THE TOTAL THICKNESS IS APPROXIMATELY 90 MILS.
PHYSICAL PROPERTIES:
MEMBRANE BREAKING STRENGTH (ASTM D751) - 110 POUNDS
MEMBRANE ELONGATION AT BREAK % (ASTM D751) - 120% MIN.
TEAR PROPAGATION (ASTM D751 TONGUE TEAR) - 15 POUNDS
BONDED SEAM STRENGTH, SHEAR (ASTM D751 2" MIN.) - 140 POUNDS
BONDED SEAM STRENGTH, PEEL - 30 POUNDS
HYDROSTATIC RESISTANCE (ASTM D751) - 80 PSI
PUNCTURE RESISTANCE (FTMS 101B METHOD 2031) - 70 POUNDS
LOW TEMPERATURE BEND (ASTM D2136 AT -40°C) - NO CRACKS
OZONE RESISTANCE (ASTM 1149) - NO CRACKS
SHORE A HARDNESS (ASTM D2240) - 85±5

THE ELASTOMERIC CABLE WRAP COLOR SHALL MATCH FEDERAL COLOR STANDARD NO. 16440.

THE WEDGE SEAL AT EACH CABLE BAND SHALL BE EXTRUDED FROM A NON-STAINING COMPOUND USING POLYCHLOROPRENE (NEOPRENE) AS THE SOLE POLYMER. THE WEDGE SEAL SHALL BE DESIGNED WITH TWO GROOVES ON ITS UPPER SURFACE TO ACCEPT CLAMPING STRAPS. THE WEDGE SEAL SHALL ALSO BE SERRATED ON ITS LOWER SURFACE TO PREVENT SLIPPAGE.
PHYSICAL PROPERTIES:
TENSILE STRENGTH (ASTM D412) - 1500 PSI MIN.
ELONGATION (ASTM D412) - 300% MIN.
HARDNESS DUROMETER A (D2240 MODIFIED) - 55±5

THE CLAMPING STRAPS SHALL BE STAINLESS STEEL, GRADE 201. A MINIMUM OF TWO CLAMPING STRAPS SHALL BE USED ON EACH WEDGE SEAL. THE STRAPS SHALL BE A MINIMUM OF 0.025" THICK AND 0.375" WIDE. THE RECOMMENDED CLAMPING STRAP INSTALLATION TORQUE RANGE IS 30 TO 40 IN-LBS. THE STRAPS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

CABLE BAND SEALANT CAULKING SHALL BE A SINGLE COMPONENT, GUN-GRADE, ADHESIVE AND SEALING COMPOUND WITH PERMANENT ELASTICITY (ASTM C920, GRADE NS) OR APPROVED EQUAL.

INSTALLATION: PRIOR TO ANY FIELD WORK, DEVELOP DETAILED ELASTOMERIC CABLE WRAPPING REPLACEMENT PROCEDURES AND SUBMIT THEM TO THE DIRECTOR FOR APPROVAL.

AN ELASTOMERIC ANTI-SLIP COATING THAT IS RECOMMENDED BY THE CABLE WRAP MANUFACTURER SHALL BE APPLIED IN A 6" WIDE STRIP ON THE TOP SURFACE OF THE NEWLY INSTALLED CABLE WRAP FROM THE WESTERN CABLE HOOD AT SIDEWALK LEVEL TO THE EASTERN CABLE HOOD AT SIDEWALK LEVEL ON BOTH CABLES. CLEAN FINE SAND SHALL BE BROADCAST ONTO THE WET ELASTOMERIC COATING.

CIRCUMFERENTAL CABLE BAND SEALANT CAULKING BETWEEN THE WEDGE AND THE CABLE BAND OR ANCHORAGE HOOD IS INCLUDED IN REPAIR TYPES 325 AND 332.

REMOVAL OF THE EXISTING WRAPPING WIRE OR REPAINTING OF THE CABLE IS NOT REQUIRED AS PART OF THIS REPAIR WORK.

FOR REPAIR DETAIL, SEE SHEET 145/227 .

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53001300	FT	STRUCTURE, MISC.: REPAIR TYPE 334, ELASTOMERIC CABLE WRAPPING REPLACEMENT

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MJS		4800303	

GENERAL NOTES
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 336, CABLE COMPACTION

THIS WORK CONSISTS OF RECOMPACTING THE CABLE INTO A CIRCULAR SHAPE AT THE LOCATIONS WHERE THE CABLE WAS PREVIOUSLY OPENED FOR INSPECTION AS SHOWN ON THE PLANS, AND INCLUDES ERECTING ACCESS SCAFFOLD, REMOVING THE TEMPORARY CABLE WRAPPING, MEASURING THE CABLE CIRCUMFERENCE PRIOR TO COMPACTION, COMPACTING THE CABLE WITH AN APPROVED HYDRAULIC COMPACTION MACHINE, PLACING BINDING STRAPS TO HOLD THE CABLE COMPACTION, REMEASURING THE CABLE CIRCUMFERENCE AFTER COMPACTION, CLEANING THE EXISTING CABLE SURFACE, REAPPLYING A ZINC RICH PRIMER TO THE SURFACE OF THE CABLE WIRES AND REMOVING THE ACCESS PLATFORMS.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW DETAILED PROCEDURES FOR ALL WORK TO BE PERFORMED AND THE DETAILS OF ACCESS SCAFFOLDING AND ALL SPECIAL EQUIPMENT (SUCH AS CABLE COMPACTION MACHINERY, HOISTS OR LIFTS) WHICH SHALL BE USED. ALL SPECIAL EQUIPMENT, ACCESS SCAFFOLDING, AND WORK PLATFORMS SHALL BE DESIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF OHIO. NO SHOP FABRICATION OR FIELD WORK SHALL BE PERFORMED UNTIL THE ENGINEER'S APPROVAL IS RECEIVED.

RECOMPACTION SHALL OCCUR IN THE PRESENCE OF THE ENGINEER. THE CONTRACTOR SHALL SUBMIT THE MEASURED CABLE CIRCUMFERENCE BEFORE AND AFTER RECOMPACTION TO THE ENGINEER.

DO NOT RECOMPACT THE CABLE IN RAINY WEATHER, UNLESS THE EXPOSED CABLE CAN BE PROTECTED FROM THE WEATHER. COVER THE EXPOSED CABLE WITH A WATERPROOF TARP WHEN NOT WORKING, AT THE START OF WET WEATHER AND OVERNIGHT.

RECOMPACTING THE SECTION OF THE NORTH CABLE EAST OF THE HOLD-DOWN MAY REQUIRE THE REMOVAL AND REINSTALLATION OF THE CABLE HOOD AT THE SIDEWALK LEVEL.

AFTER THE CABLE HAS BEEN RECOMPACTED, THE CABLE SHALL BE BRUSH-CLEANED USING A STIFF BRISTLED BRUSH. WIRE BRUSHING IS NOT PERMITTED. ALL REMAINING DUST OR LOOSE PARTICLES SHALL BE REMOVED BY VACUUMING METHODS. EVERY PRECAUTION SHALL BE TAKEN TO SAFEGUARD THE PROTECTIVE GALVANIZING ON THE EXPOSED CABLE WIRES. NO SCRAPING OR ABRADING OF THE WIRES WITH METALLIC OR ABRASIVE MATERIAL WILL BE ALLOWED.

AFTER VACUUMING, THE CABLE SURFACE SHALL BE CLEANED WITH A SOFT CLOTH SATURATED WITH MINERAL SPIRITS. PRIOR TO APPLICATION OF THE ZINC RICH PRIMER, THE CONTRACTOR SHALL CERTIFY IN WRITING THAT THE REQUIRED DEGREE OF CLEANLINESS AS SPECIFIED BY THE MANUFACTURER OF THE ZINC RICH PRIMER HAS BEEN ACHIEVED.

THE APPLICATION OF THE ZINC RICH PRIMER SHALL NOT BE MADE IF RAIN IS FORECAST BY THE NATIONAL WEATHER SERVICE WITHIN 8 HOURS OF THE APPLICATION AND AS DIRECTED BY THE ENGINEER.

AT THE LOCATIONS OF THIS REPAIR, THE CABLE IS WRAPPED WITH A TEMPORARY ELASTOMERIC CABLE WRAP TO PROTECT THE CABLE FROM THE WEATHER UNTIL THE CABLE IS RECOMPACTED AND THE NEW ELASTOMERIC CABLE WRAP IS INSTALLED. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE INSTALLATION OF THE NEW ELASTOMERIC CABLE WRAPPING SUCH THAT THE CABLE IS NOT EXPOSED TO THE WEATHER BETWEEN THE TIME OF RECOMPACTION AND THE INSTALLATION OF THE NEW ELASTOMERIC CABLE WRAP.

AN ACOUSTIC MONITORING SYSTEM IS INSTALLED ON THE CABLES OF THE ANTHONY WAYNE BRIDGE. THE ACOUSTIC MONITORING SYSTEM INCLUDES SENSORS, CABLES, AND DATA COLLECTION DEVICES. THE CONTRACTOR SHALL COORDINATE ALL CABLE COMPACTING ACTIVITIES WITH THE COMPANY PERFORMING THE ACOUSTIC MONITORING. IF ANY PORTION OF THE ACOUSTIC MONITORING SYSTEM INTERFERES WITH THE CABLE COMPACTION ACTIVITIES THE CONTRACTOR SHALL ARRANGE TO HAVE THESE ITEMS TEMPORARILY RELOCATED BY THE COMPANY PERFORMING THE ACOUSTIC MONITORING.

DECORATIVE LIGHTING IS INSTALLED ON THE BRIDGE. THE CONTRACTOR SHALL REMOVE STORE AND REINSTALL THE DECORATIVE LIGHTING AS REQUIRED TO PERFORM THE CABLE RECOMPACTION.

MATERIALS: STEEL OR STIFF PLASTIC (KEVLAR) BINDING STRAPS SHALL BE APPLIED AROUND THE CABLE AT INTERVALS OF 12 TO 18 INCHES TO HOLD THE COMPACTION. THE CONTRACTOR SHALL SUBMIT THE METHOD AND MATERIALS TO BE USED FOR BINDING THE CABLE TO THE ENGINEER FOR APPROVAL.

PAINTING: CLEAN AND APPLY A ZINC RICH PRIME COAT TO THE SURFACE OF THE CABLE WIRES TO THE APPROXIMATE LIMITS SHOWN ON SHEET 141/227 AND SHEET 142/227, AS PER THE SPECIFICATIONS OF ITEM 514, PRIOR TO THE INSTALLATION OF THE NEW ELASTOMERIC CABLE WRAP. PAINT SHALL BE ZINC CLAD II LV INORGANIC ZINC-RICH COATING MANUFACTURED BY SHERWIN WILLIAMS, OR APPROVED EQUAL. APPLICATION OF THE ZINC RICH PRIMER SHALL BE INCIDENTAL TO THE CABLE COMPACTION REPAIR.

FOR REPAIR LOACATIONS, SEE SHEET 141/227 AND SHEET 142/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53001300	FT	STRUCTURE, MISC.: REPAIR TYPE 336, CALE COMPACTION

ITEM SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 337, CABLE COMPACTION

THIS REPAIR WILL BE COMPLETED AT THE DIRECTION OF THE ENGINEER. THE GENERAL NOTES AS SHOWN FOR REPAIR TYPE 336 SHALL BE APPLICABLE FOR REPAIR TYPE 337 IF THE ENGINEER DIRECTS THE CONTRACTOR TO PERFORM THE REAPIRS AT THE OPTIONAL REPAIR LOCATIONS SHOWN ON THE PLANS.

MATERIALS: STEEL OR STIFF PLASTIC (KEVLAR) BINDING STRAPS SHALL BE APPLIED AROUND THE CABLE AT INTERVALS OF 12 TO 18 INCHES TO HOLD THE COMPACTION. THE CONTRACTOR SHALL SUBMIT THE METHOD AND MATERIALS TO BE USED FOR BINDING THE CABLE TO THE ENGINEER FOR APPROVAL.

PAINTING: CLEAN AND APPLY A ZINC RICH PRIME COAT TO THE SURFACE OF THE CABLE WIRES TO THE APPROXIMATE LIMITS SHOWN ON SHEET 140/227 AND SHEET 143/227, AS PER THE SPECIFICATIONS OF ITEM 514, PRIOR TO THE INSTALLATION OF THE NEW ELASTOMERIC CABLE WRAP. PAINT SHALL BE ZINC CLAD II LV INORGANIC ZINC-RICH COATING MANUFACTURED BY SHERWIN WILLIAMS, OR APPROVED EQUAL. APPLICATION OF THE ZINC RICH PRIMER SHALL BE INCIDENTAL TO THE CABLE COMPACTION REPAIR.

FOR REPAIR LOACATIONS, SEE SHEET 140/227 AND SHEET 143/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
SPECIAL	53001300	FT	STRUCTURE, MISC.: REPAIR TYPE 337, CALE COMPACTION

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED MJS | CHECKED SRE | DRAWN DTP | REVISED | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM 513 - STRUCTURAL STEEL, MISC.: REPAIR TYPE 335, HOLD-DOWN RETROFIT

PRIOR TO THE HOLD-DOWN RETROFIT WORK, THE CONTRACTOR SHALL HAVE A SURVEYOR REGISTERED IN THE STATE OF OHIO SURVEY THE SUSPENDED SPANS. AT EACH HOLD DOWN LOCATION THE ROADWAY SURFACE ELEVATIONS SHALL BE MEASURED AT THE BASE OF THE ROADWAY MEDIAN ON BOTH SIDES. THE DATE, THE AMBIENT AIR TEMPERATURE, AND THE ELEVATION DATA SHALL BE RECORDED IN THE TABLE PROVIDED ON THIS SHEET. AFTER COMPLETION OF THE HOLD-DOWN RETROFIT WORK, A SECOND SURVEY COLLECTING THE SAME DATA SHALL BE PERFORMED. BOTH SURVEYS SHALL BE PERFORMED ON AN OVERCAST DAY OR AT NIGHT TO MINIMIZE TEMPERATURE EFFECTS. THE AMBIENT AIR TEMPERATURE OF THE SECOND SURVEY SHALL BE WITHIN 10 DEGREES FAHRENHEIT OF THE FIRST SURVEY. IF THE DIFFERENCE BETWEEN THE TWO SURVEY ELEVATIONS IS GREATER THAN ½" THE ENGINEER SHALL BE NOTIFIED. WORK SHALL BE SUSPENDED UNTIL THE CAUSE OF THE DIFFERENCE IS IDENTIFIED AND THE CONTRACTOR HAS PERFORMED MEASURES TO CORRECT THE DIFFERENCE TO THE SATISFACTION OF THE ENGINEER.

TEMPORARY HOLD-DOWN JACKING SYSTEM:

A JACKING SYSTEM FOR THE HOLD-DOWN RETROFIT (REPAIR 335), SHEETS 149/227 THRU 151/227 IS INCLUDED AS PART OF THIS CONTRACT. THE CONTRACTOR CAN USE THIS JACKING SYSTEM OR PROVIDE AN ALTERNATIVE DESIGN. ALTERNATIVE DESIGNS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF OHIO. REGARDLESS OF THE JACKING SYSTEM BEING USED, THE CONTRACTOR MUST DEVELOP A DETAILED JACKING PROCEDURE AND SUBMIT THE PROCEDURE TO THE DIRECTOR FOR APPROVAL PRIOR TO THE START OF WORK.

IT IS ANTICIPATED THAT THE WORK FOR WHICH THIS TEMPORARY HOLD DOWN IS REQUIRED WILL BE PERFORMED PRIOR TO COMMENCEMENT OF THE REDECKING WORK OF THIS CONTRACT. IF THE CONTRACTOR RESCHEDULES THIS WORK HE SHALL DETERMINE THE EFFECT OF THE RESCHEDULED WORK ON THE EXPECTED LOADS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND OPERATION OF THE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING AND SUPPORT PLANS, INCLUDING PROCEDURES SHALL BE SUBMITTEDTO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

PHYSICAL DIMENSIONS AND CAPACITY OF THE JACKING SYSTEM ALONG WITH THE ACTUAL POSITIONS, INCLUDING DIMENSIONS, DEFINING WHERE THE JACKING SYSTEM WILL BE PHYSICALLY LOCATED ON THE STRUCTURE.

PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS FOR ANY TEMPORARY OR PERMANENT SUPPORTS ALONG WITH ACTUAL DETAILS OF THEIR INSTALLED LOCATIONS ON THE STRUCTURE.

A JACKING PLAN SHEET LAYOUT, WITH ADEQUATE DETAILS TO SHOW ALL JACKING POINTS, CALCULATED LOADINGS AT THOSE POINTS, LOCATIONS OF JACKING EQUIPMENT AND TEMPORARY OR PERMANENT SUPPORTS SHALL BE INCLUDED IN THE SUBMITTAL. ANY PHASED CONSTRUCTION, SPECIAL REQUIREMENTS, CLEARANCE REQUIREMENTS, OR SPECIAL CONSTRUCTION DETAILS THAT AFFECT THE JACKING OPERATION AND ANY OTHER DETAILS THE CONTRACTOR DEEMS NECESSARY TO ADEQUATELY VISUALLY DESCRIBE THE JACKING OPERATION SHALL ALSO BE INCLUDED IN THE JACKING PLAN SHEETS.

THE PLAN SHEETS SHALL INCLUDE A STEP BY STEP JACKING PROCEDURE DETAILING ALL STEPS IN THE OPERATION INCLUDING THE REQUIRED WORK DESCRIBED IN THE PROJECT PLANS.

ALL LABOR, EQUIPMENT AND MATERIALS THAT ARE NECESSARY TO INSTALL, MAINTAIN AND REMOVE EACH OF THE FOUR USES OF TEMPORARY HOLD-DOWN JACKING SYSTEM SHALL BE INCLUDED WITH THE COST OF THE WORK FOR REPAIR ITEM 335.

HOLD-DOWN RETROFIT ACCEPTANCE PROCEDURE:

1. ASSEMBLE AND INSTALL JACKING EQUIPMENT AT A HOLD-DOWN LOCATION.

2. PRIOR TO JACKING, THE LOAD IN EACH OF THE FOUR WIRE ROPES AT THE HOLD-DOWN LOCATION SHALL BE DETERMINED. THE LOAD SHALL BE MEASURED INDIRECTLY BY RECORDING THE LOWEST NATURAL FREQUENCY OF THE ROPE WHEN VIBRATING LATERALLY. AN ACCELEROMETER SHALL BE SECURELY ATTACHED TO THE WIRE ROPE BEING TESTED. THE OUTPUT OF THE ACCELEROMETER VERSUS TIME SHALL BE RECORDED IMMEDIATELY AFTER THE WIRE ROPE IS PLUCKED OR STRUCK WITH A WOODEN MALLET. FOR EACH RECORDING, THE ENGINEER SHALL BE ABLE TO READILY DETERMINE THE LOWEST NATURAL FREQUENCY OF THE WIRE ROPE. THREE RECORDINGS FOR EACH ROPE SHALL BE OBTAINED AND FURNISHED TO THE DIRECTOR. THE LOAD IN EACH ROPE SHALL BE COMPUTED USING THE AVERAGE OF THE THREE FREQUENCIES RECORDED. THE LOAD SHALL BE COMPUTED FROM THE FOLLOWING EQUATION:

CABLE LOAD = 0.5336 X (FREQUENCY) X (PANEL HEIGHT)

FOR THIS EQUATION, UNITS ARE: CABLE LOAD IN POUNDS, FREQUENCY IN CYCLES/SECOND, PANEL HEIGHT IN FEET.

3. THE ELEVATION AT THE TOP OF THE STIFFENING GIRDER SHALL BE MEASURED AND RECORDED PRIOR TO JACKING BY A REGISTERED SURVEYOR. THE CONTRACTOR SHALL MEASURE IN THE FIELD THE DIMENSIONS OF THE HOLD DOWN ANCHORAGE ASSEMBLY COMPONENTS.

4. JACKING CAN THEN COMMENCE TO UNLOAD THE WIRE ROPES AND THE HOLD DOWN ANCHORAGE. DETACH THE WIRE ROPES IN ORDER TO PERFORM THE MODIFICATION TO THE HOLD DOWN CABLE BAND. PERFORM THE RETROFIT WORK ON THE HOLD DOWN ANCHORAGE BEFORE REINSTALLING THE WIRE ROPES.

5. AFTER THE WIRE ROPES HAVE BEEN REINSTALLED AND LOAD IN THE JACK REMOVED BUT BEFORE THE JACKING HARDWARE HAS BEEN REMOVED, THE CONTRACTOR SHALL RECORD THE LOWEST NATURAL FREQUENCY FOR EACH OF THE FOUR WIRE ROPES. THREE RECORDINGS FOR EACH ROPE SHALL BE OBTAINED AND FURNISHED TO THE ENGINEER. THE LOAD IN EACH ROPE SHALL BE COMPUTED USING THE AVERAGE OF THE THREE FREQUENCIES RECORDED. THE LOAD SHALL BE COMPUTED WITH THE EQUATION GIVEN IN STEP 2.

6. THE SUM OF THE LOADS OF THE FOUR WIRE ROPES OBTAINED IN STEP 5 SHALL BE COMPARED WITH THAT OBTAINED IN STEP 2. IF THE LOAD IN STEP 5 VARIES FROM THE LOAD IN STEP 2 BY MORE THAN 10 PERCENT, REJACKING, SHIMMING, AND LOAD TESTING SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER.

7. THE LOAD IN EACH OF THE FOUR WIRE ROPES OBTAINED IN STEP 5 SHALL BE COMPARED WITH THE MEAN OF THE FOUR LOADS. A DIFFERENCE OF MORE THAN 15 PERCENT FROM THE MEAN SHALL BE CORRECTED WITH REJACKING, SHIMMING, AND LOAD TESTING TO THE SATISFACTION OF THE ENGINEER.

8. AFTER SATISFYING THE CONDITIONS SET FORTH IN STEPS 6 AND 7, AND WITHOUT LOAD IN THE JACK, THE ELEVATION OF THE TOP OF THE STIFFENING GIRDER SHALL BE MEASURED AGAIN BY A REGISTERED SURVEYOR. IF AFTER CORRECTION FOR TEMPERATURE CHANGE BETWEEN THE STEP 3 AND STEP 8 SURVEY, THE DIFFERENCE BETWEEN THE TWO ELEVATIONS IS GREATER THAN 1/2 INCH, THE ENGINEER SHALL BE NOTIFIED. ADDITIONAL JACKING SHALL NOT BE PERFORMED AND JACKING EQUIPMENT SHALL NOT BE REMOVED UNTIL THE CAUSE OF THE DIFFERENCE IS IDENTIFIED AND THE CONTRACTOR HAS PERFORMED MEASURES TO CORRECT THE DIFFERENCE TO THE SATISFACTION OF THE ENGINEER.

9. ONLY AFTER SATISFYING THE REQUIREMENTS OF STEPS 6, 7 AND 8 MAY JACKING EQUIPMENT BE REMOVED FROM THE PANEL POINT. THE CONTRACTOR SHALL MEASURE IN THE FIELD THE DIMENSIONS OF HOLD-DOWN ANCHORAGE ASSEMBLY COMPONENTS. THE LENGTH OF THE HOLD-DOWN ANCHORAGE ASSEMBLIES SHALL BE IDENTICAL TO THE LENGTH MEASURED IN STEP 3. IF THE LENGTH DIFFERS, THE CAUSE OF THE DIFFERENCE SHALL BE IDENTIFIED AND THE CONTRACTOR SHALL PERFORM MEASURES TO CORRECT THE DIFFERENCE TO THE SATISFACTION OF THE ENGINEER.

EXISTING STEEL TO REMAIN SHALL NOT BE DAMAGED DURING REMOVAL OF EXISTING CONCRETE. ANY DAMAGE TO THE MATERIALS TO REMAIN AS A RESULT OF THE CONTRACTOR'S OPERATIONS, AS DETERMINED BY THE ENGINEER, SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

MATERIALS: ALL STEEL SHALL BE ABRASIVELY CLEANED IN THE SHOP. SHOP PAINTING IS REQUIRED ON THE NEW SECTIONS OF THE HOLD-DOWN ANCHORAGE ASSEMBLIES. THE PAINT COLOR SHALL BE FEDERAL COLOR STANDARD 25190.

NEW PIN PLATES ON THE HOLD-DOWN CABLE BAND SHALL BE GALVANIZED, CONFORMING TO ASTM A123. THESE PLATES SHALL BE HANDLED IN A MANNER THAT WILL PREVENT ABRASION OF THE ZINC COATING AT ANY AND ALL STAGES OF FABRICATION, SHIPPING, AND INSTALLATION. UNDER NO CIRCUMSTANCES SHALL GALVANIZED SURFACES BE DRAGGED OR RUBBED AGAINST CONCRETE, STEEL, OR OTHER ABRASIVE SURFACES. FAILURE TO OBSERVE THIS REQUIREMENT WILL BE CAUSE FOR REJECTION OF THE DAMAGED PIN PLATES.

7 ¾ INCH DIAMETER PINS SHALL BE COMPOSED OF FORGED STEEL CONFORMING TO ASTM A668, CLASS G. NUTS FOR THE 7 ¾ INCH DIAMETER PINS SHALL CONFORM TO ASTM A563 MODIFIED TO PERMIT 6 INCH DIAMETER NUTS AT A 6 UN.

7 ¾ INCH DIAMETER FORGED PINS SHALL BE 100 PERCENT ULTRASONICALLY TESTED IN CONFORMANCE WITH ASTM A388. PINS SHALL BE FREE OF IMPERFECTIONS GREATER THAN ⅛ " IN LENGTH OR WIDTH. IMPERFECTIONS SHALL BE CAUSE FOR REJECTION.

SAND, SCALE, FINS, ETC. SHALL BE REMOVED FROM ALL PIN HOLES. FOR HANDLING SAFETY, ALL SURFACES SHALL HAVE NO SHARP FINS OR OTHER SHARP IRREGULARITIES. BEARING SURFACES SHALL BE MILLED FINISHED PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE PIN.

7 ¾ INCH DIAMETER PINS SHALL BE ASSEMBLED WITH THE HOLD-DOWN ANCHORAGE SECTIONS IN THE SHOP TO ENSURE A SLIDING FIT. IF NECESSARY, THE PIN AND BORED SURFACES SHALL BE LIGHTLY FINISHED TO ENSURE SUCH A SLIDING FIT. THREADS SHALL BE TESTED AND RECUT AS NECESSARY TO ENSURE THAT PIN AND NUTS ARE APPROPRIATELY FINISHED TO FACILITATE INSTALLATION.

HOLD-DOWN ANCHORAGE ASSEMBLIES AND HOLD-DOWN CABLE BAND PIN PLATES SHALL BE SHIPPED ON SUITABLE PALLETS.

STORAGE: HOLD-DOWN ANCHORAGE ASSEMBLIES AND CABLE BAND PIN PLATES THAT ARE NOT INTENDED FOR IMMEDIATE INSTALLATION IN THE STRUCTURE SHALL BE STORED IN THE MANUFACTURER'S PLANT OR BY THE CONTRACTOR. HOLD-DOWN ANCHORAGE AND PIN PLATE STORAGE SHALL BE IN A CLEAN, DRY, AND WELL VENTILATED BUILDING TO ENSURE THAT THE ANCHORAGE ASSEMBLIES AND PIN PLATES ARE ACCOUNTED FOR AND ARE PROTECTED FROM CONTAMINATION WHILE IN STORAGE. THE STORAGE BUILDING SHALL BE LOCKED TO PROTECT THE PROJECT FROM THEFT AND CONSTRUCTION DELAYS THAT SUCH A LOSS WOULD CAUSE.

HOLD-DOWN ANCHORAGE ASSEMBLIES AND CABLE BAND PIN PLATES SHALL BE INDENTIFIED WITH STAMPED METAL TAGS TO ENSURE PROPER PLACEMENT WITHIN THE STRUCTURE. IF TAGS BECOME DAMAGED OR LOST SO THAT THE IDENTIFICATION OF HOLD-DOWN ANCHORAGE ASSEMBLIES OR CABLE BAND PIN PLATES ARE IN DOUBT, ASSEMBLIES OR PLATES SHALL BE RETURNED TO THE FABRICATOR WHERE THEY CAN BE PROPERLY IDENTIFIED AND APPROPRIATELY RETAGGED.

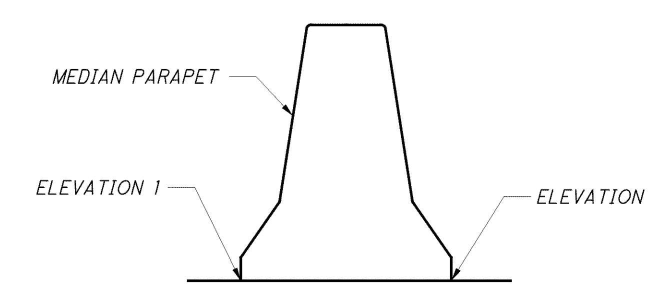
TESTING: AFTER REMOVAL OF THE EXISTING PIN PLATES FROM THE HOLD-DOWN CABLE BAND, THE AREA AFFECTED BY THE WELDS SHALL BE GROUND SMOOTH TO SOUND METAL. PERFORM NON-DESTRUCTIVE TESTING IN ACCORDANCE WITH ASTM A388 TO ENSURE NO CRACKS ARE PRESENT IN THE CABLE BAND. IF CRACKS ARE FOUND, SUSPEND WORK AND INFORM THE ENGINEER.

AFTER INSTALLATION OF HOLD-DOWN CABLE BAND PIN PLATES, REPAIR DAMAGE TO THE METALLIZING OF THE EXISTING CABLE BANDS DUE TO WELD REMOVAL IN ACCORDANCE WITH ASTM A780. THE REPAIR TO THE METALIZING SHALL BE INCIDENTAL TO REPAIR TYPE 335.

FOR REPAIR DETAILS, SEE SHEETS 146/227 THRU 148/227.

PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
513	95030	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 335, HOLD-DOWN RETROFIT
513	95030	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT
898	20001	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE, AS PER PLAN
509	10000	POUND	EPOXY COATED REINFORCING STEEL
510	09950	EACH	DOWEL HOLES WITH CEMENT GROUT



FOR EACH HOLD-DOWN LOCATION, THE PROFILE ELEVATION RECORDED SHALL BE THE AVERAGE OF ELEVATION 1 AND ELEVATION 2.

PROFILE ELEVATIONS: HOLD-DOWN LOCATIONS

PANEL POINT	PRECONSTRUCTION SURVEY DATE: TEMPERATURE; ELEVATION	POSTCONSTRUCTION SURVEY DATE: TEMPERATURE; ELEVATION
0		
65		

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED NDT | CHECKED MJS | DRAWN ELS | REVISED | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

GENERAL NOTES
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ESTIMATED QUANTITIES																AS PER PLAN STRUCTURE SHEET NO.
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	WEST APPROACH SPANS		WEST REPLACEMENT SPANS		SUSPENSION SPANS		EAST REPLACEMENT SPANS		EAST APPROACH SPANS		GENERAL *	
					SUBSTR.	SUPER.	SUBSTR.	SUPER.	SUBSTR.	SUPER.	SUBSTR.	**SUPER.**	SUBSTR.	SUPER.		
202	11201	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP Δ		LUMP Δ				LUMP Δ		LUMP Δ			10
202	11203	LUMP	LUMP	PORTION OF STRUCTURE REMOVED, OVER 20 FOOT SPAN,		LUMP Δ		LUMP Δ				LUMP Δ		LUMP Δ		10
				AS PER PLAN												
202	11305	8,057	SQ YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN						8,057 □						10
202	22900	355	SQ YD	APPROACH SLAB REMOVED											355 Δ	
202	30701	1,240	FT	CONCRETE BARRIER REMOVED						1,240 □						
202	38603	6,284	FT	BRIDGE RAILING REMOVED FOR RE-USE, AS PER PLAN		1,350 Δ		374 Δ		2,528 □		374 Δ		1,658 Δ		10
503	21100	382	CU YD	UNCLASSIFIED EXCAVATION			252 Δ						130 Δ			
509	10000	1,359,864	POUND	EPOXY COATED REINFORCING STEEL	28,487 Δ	245,163 Δ	82,199 Δ	111,909 Δ	1,368 ⊗	405,655 □	51,493 Δ	111,909 Δ	26,412 Δ	295,269 Δ		
509	20001	1,500	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING											1,500 Δ	10
				STEEL, AS PER PLAN												
509	25001	146,870	POUND	REINFORCING STEEL, AS PER PLAN						146,870 □						227
510	10000	1,770	EACH	DOWEL HOLES WITH NON-SHRINK NON-METALLIC GROUT	487 Δ		554 Δ		48 ⊗		662 Δ		19 Δ			
511	81300	1,008	EACH	CONCRETE MISC.: DISTRIBUTED GALVANIC ANODES (DGA)						1,008 □						
511	81300	266	EACH	CONCRETE MISC.: SIDEWALK REPAIR AT PEDESTRIAN RAIL POSTS						266 □						
511	81300	19	EACH	CONCRETE MISC.: SIDEWALK REPAIR AT EXISTING LIGHT POLES						19 □						
511	81300	2	EACH	CONCRETE MISC.: SIDEWALK EDGE REPAIR						2 □						
511	81300	6961	EACH	CONCRETE MISC.: EMBEDDED GALVANIC ANODE	2,301				2,850				1,810			
512	10001	8,340	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT	4,031 Δ		397 Δ		426 Δ	2,040 □	334 Δ		1,112 Δ			10
				GRAFFITI PROTECTION)												
512	10001	2,040	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN SIDEWALK						2,040 □						16
				(PERMANENT GRAFFITI PROTECTION)												
512	10100	20,295	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	4,188 Δ	2,244 Δ	2,544 Δ	670 Δ		2,268 □	1,969 Δ	921 Δ	2,720 Δ	2,771 Δ		
512	10100	4,308	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SIDEWALK,						4,308 □						
				BARRIER AND CURB CONCRETE												
512	10600	129	FT	CONCRETE REPAIR BY EPOXY INJECTION	35 Δ		89 Δ						5 Δ			
512	74000	11,421	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	4,188 Δ		2,544 Δ				1,969 Δ		2,720 Δ			
512	75500	2,040	SQ YD	SPECIAL - SEALING, MISC.: REMOVAL OF EXISTING COATINGS						2,040 □						16
				FROM CONCRETE SIDEWALK												
513	10201	40,177	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		33,477 Δ									6,700 Δ	95
				TYPE 101, FLOOR BEAM TOP FLANGE REPLACEMENT												
513	10201	8,623	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		7,873 Δ									750 Δ	96
				TYPE 102, FLOOR BEAM BRACKET FLANGE ANGLE REPLACEMENT												
513	10201	1,077	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		957 Δ									120 Δ	96
				TYPE 103, FLOOR BEAM BRACKET FLANGE ANGLE REPLACEMENT												
513	10201	141	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR										106 Δ	35 Δ	97
				TYPE 104, FLOOR BEAM BRACKET TOP FLANGE ANGLE REPAIR												
513	10201	1,109	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		1,009 Δ									100 Δ	97
				TYPE 105, FLOOR BEAM BRACKET BRACING REPAIR												
513	10201	1,860	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		1,596 Δ								132 Δ	132 Δ	98
				TYPE 106, FASCIA STRINGER REPAIR												
513	10201	160	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		135 Δ									25 Δ	98
				TYPE 107, FASCIA STRINGER REPAIR												
513	10201	1,599	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		799 Δ								400 Δ	400 Δ	98
				TYPE 108, FASCIA STRINGER REPAIR												
513	10201	1,141	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR		976 Δ									165 Δ	98
				TYPE 109, FASCIA STRINGER REPAIR												
513	10201	9,046	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR										7,236 Δ	1,810 Δ	98
				TYPE 110, FLOOR BEAM TOP FLANGE REPLACEMENT												

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DESIGNED CMD | CHECKED AJM | DRAWN TMR/KAS | REVISED | REVIEWED RBB | DATE 10/12 | STRUCTURE FILE NUMBER 4800303

ESTIMATED QUANTITIES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

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ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	WEST APPROACH SPANS SUBSTR.	WEST APPROACH SPANS SUPER.	WEST REPLACEMENT SPANS SUBSTR.	WEST REPLACEMENT SPANS SUPER.	SUSPENSION SPANS SUBSTR.	SUSPENSION SPANS SUPER.	EAST REPLACEMENT SPANS SUBSTR.	EAST REPLACEMENT SPANS SUPER.	EAST APPROACH SPANS SUBSTR.	EAST APPROACH SPANS SUPER.	GENERAL *	AS PER PLAN STRUCTURE SHEET NO.
513	10201	384	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 111, FLOOR BEAM SEAT REPLACEMENT		192 Δ								96 Δ	96 Δ	99
513	10201	742	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 112, REPLACEMENT OF EXISTING LATERAL BRACING		530 Δ								106 Δ	106 Δ	97
513	10201	6,355	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 201, FLOOR BEAM TOP FLANGE ANGLE REPLACEMENT						5,595 □					760 □	101
513	10201	37,266	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 202, FLOOR BEAM TOP FLANGE COVER PLATE REPLACEMENT						33,756 □					3,510 □	102
513	10201	1,072	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 205, FLOOR BEAM STIFFENER REPLACEMENT						592 □					480 □	104
513	10201	385	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 206, SIDEWALK FASCIA STRINGER SUPPORT REPAIR						285 □					100 □	105
513	10201	224	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 207, SIDEWALK BRACKET TOP STRAP REPLACEMENT						224 □						106
513	10201	780	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYP 208, SIDEWALK BRACKET WEB STRAP PLATE REPLACEMENT						630 □					150 □	107
513	10201	294	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 209, SIDEWALK STRINGER SUPPORT ASSEMBLY WEB REPLACE.						234 □					60 □	108
513	10201	300	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 211, INSTALL INSPECTION ACCESS RAILINGS						300 □						110
513	10201	11,880	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 212, REPLACE INSPECTION ACCESS RAILINGS						10,440 □					1,440 □	110
513	10201	357	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 213, ROADWAY STRINGER CONNECTION REPLACEMENT						147 □					210 □	111
513	10201	2,064	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 215, LOWER GUSSET PLATE REPAIR						1,644 □					420 □	112 THRU 116
513	10201	748	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 216, LOWER GUSSET PLATE REPAIR						498 □					250 □	112 THRU 116
513	10201	964	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 217, LOWER GUSSET PLATE REPAIR						764 □					200 □	112 THRU 116
513	10201	2,590	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 218A, LOWER LATERAL BRACING REPAIR						1,850 □					740 □	117, 118
513	10201	800	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 218B, LOWER LATERAL BRACING REPAIR						400 □					400 □	117, 118
513	10201	28	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 220, FASCIA STRINGER REPAIR						8 □					20 □	119
513	10201	576	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 221, TOWER SIDEWALK FASCIA STRINGER ANGLE REPLACE.						576 □						120
513	10201	360	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 222, TOWER SIDEWALK STRINGER BEARING REPLACEMENT						360 □						121
513	10201	280	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 223, TOWER SIDEWALK BRACKET ANGLE REPLACEMENT						280 □						122
513	10201	216	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 224, TOWER SIDEWALK STRINGER SUPPORT REPLACEMENT						216 □						122
513	10201	4,656	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 225, REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOOR BEAMS						4,656 □						204 THRU 213
513	10201	6,982	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 226, REPLACE EXPANSION JOINT SUPPORT STEEL ATOP TOWER STRUT						6,982 □						204 THRU 213
513	10201	125	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 301, TOWER STRUT CHORD LACING ANGLE REPLACEMENT					100 ⊗						25 ⊗	130
513	10201	4,720	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE 302, TOWER TRUSS BATTEN PLATE REPLACEMENT					4,070 ⊗						650 ⊗	130

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ESTIMATED QUANTITIES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	WEST APPROACH SPANS SUBSTR.	WEST APPROACH SPANS SUPER.	WEST REPLACEMENT SPANS SUBSTR.	WEST REPLACEMENT SPANS SUPER.	SUSPENSION SPANS SUBSTR.	SUSPENSION SPANS SUPER.	EAST REPLACEMENT SPANS SUBSTR.	EAST REPLACEMENT SPANS SUPER.	EAST APPROACH SPANS SUBSTR.	EAST APPROACH SPANS SUPER.	GENERAL *	AS PER PLAN STRUCTURE SHEET NO.
513	10201	620	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					540 ⊗						80 ⊗	130
				TYPE 303, TOWER TRUSS BATTEN END STIFFENEING ANGLE												
				REPLACEMENT												
513	10201	320	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					260 ⊗						60 ⊗	130
				TYPE 304, TOWER TRUSS BATTEN INTERIOR STIFFENING ANGLE												
				REPLACEMENT												
513	10201	40	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					20 ⊗						20 ⊗	130
				TYPE 305, TOWER TRUSS DIAGONAL LACING ANGLE REPLACEMENT												
513	10201	140	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					100 ⊗						40 ⊗	130
				TYPE 306, TOWER CROSS FRAME BATTEN END STIFFENING ANGLE												
				REPLACEMENT												
513	10201	60	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					30 ⊗						30 ⊗	131
				TYPE 307, TOWER CROSS FRAME LACING ANGLE REPLACEMENT												
513	10201	1,790	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					1,620 ⊗						170 ⊗	132
				TYPE 308, TOWER CROSS FRAME DIAGONAL (LONG) BATTEN PLATE,												
				BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET												
				PLATE REPLACEMENT												
513	10201	1,940	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR TYPE					1,760 ⊗						180 ⊗	132
				309A AND 309B, TOWER CROSS FRAME DIAGONAL (SHORT) BATTEN PLATE,												
				BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET												
				PLATE REPLACEMENT												
513	10201	105,440	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					102,440 ⊗						3,000 ⊗	135 THRU 139
				TYPE 310, REPLACE ENTIRE BOTTOM STRUT												
513	10201	240	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					190 ⊗						50 ⊗	131
				TYPE 311, TOWER STRUT CHORD BATTEN END STIFFENING ANGLE												
				REPLACEMENT												
513	10201	80	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					40 ⊗						40 ⊗	131
				TYPE 312, TOWER CROSS FRAME BATTEN END AND INTERIOR												
				STIFFENING ANGLE REPLACEMENT												
513	10201	40	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					20 ⊗						20 ⊗	131
				TYPE 315, TOWER CROSS FRAME LACING GUSSET REPLACEMENT												
513	10201	870	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					790 ⊗						80 ⊗	133
				TYPE 317, TOWER CROSS FRAME DIAGONAL BATTEN PLATE,												
				BATTEN STIFFENING ANGLE, LACING ANGLE AND LACING GUSSET												
				PLATE REPLACEMENT												
513	10201	380	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					190 ⊗						190 ⊗	131
				TYPE 318, TOWER STRUT CHORD BATTEN PLATE REPLACEMENT												
513	10201	8,070	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR					5,370 ⊗						2,700 ⊗	134
				TYPE 319, TOWER CROSS FRAME CENTER GUSSET REPLACEMENT												
513	10201	2,270	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN, REPAIR						2,070 ⊗					200 ⊗	123
				TYPE 321, REPLACEMENT OF GIRDER TOP COVER PLATES AT TOWER												
513	10221	4,183	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, REPAIR						4,183 □						103
				TYPE 203, FLOOR BEAM #32 REPAIRS												
513	10221	38,484	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, REPAIR						34,614 □					3,870 □	111
				TYP 214, ROADWAY STRINGER REPLACEMENT												
513	10221	83,080	POUND	STRUCTURAL STEEL MEMBER, LEVEL 1, AS PER PLAN				36,583 Δ				36,583 Δ		9,914 Δ		90
513	10261	96,488	POUND	STRUCTURAL STEEL MEMBER, LEVEL 3, AS PER PLAN			24,721 Δ	23,523 Δ			24,721 Δ	23,523 Δ				69 THRU 70
513	10281	498,000	POUND	STRUCTURAL STEEL MEMBER, LEVEL 4, AS PER PLAN				249,000 Δ				249,000 Δ				90
513	20000	6,172	EACH	WELDED STUD SHEAR CONNECTORS				2,592 Δ				2,592 Δ		988 Δ		
513	95030	5	EACH	STRUCTURAL STEEL MISC.: REPAIR TYPE 204, FLOOR BEAM						4 □					1 □	104
				WEB REPAIR												
513	95030	1	EACH	STRUCTURAL STEEL MISC.: REPAIR TYPE 210, PIER B INSPECTION						1 □						109
				ACCESS LADDER REPAIRS												

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ESTIMATED QUANTITIES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	WEST APPROACH SPANS SUBSTR.	WEST APPROACH SPANS SUPER.	WEST REPLACEMENT SPANS SUBSTR.	WEST REPLACEMENT SPANS SUPER.	SUSPENSION SPANS SUBSTR.	SUSPENSION SPANS SUPER.	EAST REPLACEMENT SPANS SUBSTR.	EAST REPLACEMENT SPANS SUPER.	EAST APPROACH SPANS SUBSTR.	EAST APPROACH SPANS SUPER.	GENERAL *	AS PER PLAN STRUCTURE SHEET NO.
513	95030	3	EACH	STRUCTURAL STEEL MISC.: REPAIR TYPE 219, FASCIA STRINGER REPAIR						1 □					2 □	119
513	95030	2	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 316, TOWER CROSS FRAME END GUSSET REPAIR					1 ⊗						1 ⊗	131
513	95030	6	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 322, STIFFENING GIRDER PACK RUST REPAIR						5 ⊗					1 ⊗	124
513	95030	1,656	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 323, DECK TO STIFFENING GIRDER CONNECTION						1,616 ⊗					40 ⊗	124
513	95030	19	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 324, LIGHT POLE BRACKET RETROFIT AT SUSPENDED SPANS						19 ⊗						124
513	95030	86	EACH	STRUCTURE STEEL, MISC.: REPAIR TYPE 328, SUSPENDER ROPE CONNECTION REPAIR						68 ⊗					18 ⊗	144
513	95030	4	EACH	STRUCTURAL STEEL, MISC.: REPAIR TYPE 335, HOLD-DOWN RETROFIT					4 ⊗							146 THRU 151
513	95030	20,116	EACH	STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT		2,985 Δ			3,712 ⊗	10,789 ⊗□				665 Δ	1,965 ⊗	95
514	00050	6,816	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL						6,676 ⊗					140 ⊗	124
514	00057	6,816	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN						6,676 ⊗					140 ⊗	124
516	11211	1,691	FT	STRUCTURAL EXPANSION JOINT, INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN		552 Δ		137 Δ		118 □		136 Δ		680 Δ		199 AND 201
516	12201	36	FT	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN						36 □						201 THRU 203
516	12400	112	FT	SPECIAL - MODULAR EXPANSION JOINT						112 □						209 THRU 211
516	14021	66	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN										66 Δ		11
516	44000	26	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (8" x 8" x 1.61")										26 Δ		
516	44000	104	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (8" x 10" x 1.61")										104 Δ		
516	44000	13	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (9" x 9" x 1.50")										13 Δ		
516	44000	13	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (8" x 12" x 1.84")		13 Δ										
516	44100	13	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10" x 12" x 2.06")										13 Δ		
516	44000	13	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10" x 12" x 1.67")										13 Δ		
516	44100	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10" x 18" x 2.80"), AS PER PLAN				6 Δ				6 Δ				196
516	44100	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (18" x 24" x 3.00")				6 Δ				6 Δ				
516	46701	4	EACH	RESET BEARING, AS PER PLAN		4 Δ										12
516	46900	12	EACH	BEARING DEVICE MISC.: FIXED BEARING (F-200), AS PER PLAN		6 Δ						6 Δ				70
516	46900	4	EACH	BEARING DEVICE, MISC.: FIXED STEEL PIN BEARING				2 Δ				2 Δ				69
516	47001	LUMP	LUMP	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN		LUMP Δ								LUMP Δ		11
517	70001	6,485	FT	RAILING (TWIN STEEL TUBE), AS PER PLAN		1,378 Δ		430 Δ		2,504 □		430 Δ		1,743 Δ		194
517	73501	160	FT	RAILING, PIPE, AS PER PLAN	160 Δ											62
517	76300	6,293	FT	RAILING, MISC.: FENCE AND BRIDGE RAILING		1,354 Δ		374 Δ		2,528 □		374 Δ		1,663 Δ		11
518	12201	26	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN		8 Δ		2 Δ		6 □		2 Δ		8 Δ		220
518	21100	36	CU YD	POROUS BACKFILL	22 Δ								14 Δ			
518	40000	141	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	76 Δ								65 Δ			

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ESTIMATED QUANTITIES

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					SUBSTR.	SUPER.	SUBSTR.	SUPER.	SUBSTR.	SUPER.	SUBSTR.	SUPER.	SUBSTR.	SUPER.		
518	40010	63	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	54 Δ								9 Δ			
518	51200	579	FT	10" PIPE DOWNSPOUT, INCLUDING SPECIALS	266 Δ		190 Δ				41 Δ		82 Δ			
518	51300	6	EACH	DOWNSPOUT MODIFICATION						6 □						
519	11101	40	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN, REPAIR TYPE 313, ANCHORAGE INTERIOR			32 ⊗				3 ⊗				5 ⊗	154
SPECIAL	51911900	319	CU YD	PATCHING CONCRETE STRUCTURE, MISC.: PATCHING CONCRETE SUBSTRUCTURES W/ GALVANIC PROTECTIVE SYSTEM	87				167				65			12
524	94704	80	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK			40 Δ				40 Δ					
524	94702	1,303	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK			551 Δ				752 Δ					
524	95100	16	EACH	DRILLED SHAFTS, MISC.: CSL TESTING			8 Δ				8 Δ					12
530	01100	2	CU YD	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 314, GROUT FILLING OPEN SHAFT IN ANCHORAGE CONCRETE							1 ⊗				1 ⊗	154
530	00400	4	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 320, ANCHORAGE DOOR REPLACEMENT			2 ⊗				2 ⊗					154
530	00400	4	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 325, ANCHORAGE CABLE HOOD CAULKING SEALANT			2 ⊗				2 ⊗					154
530	00400	480	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPES 326 AND 327, SUSPENDER ROPE SLEEVE REPLACEMENT						480 ⊗						144
530	00400	4	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 329, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION						4 ⊗						145
530	00400	2	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 330, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION						2 ⊗						145
530	00400	248	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 331, ELASTOMERIC CABLE WRAPPING DRAIN HOLE INSTALLATION						248 ⊗						145
530	00400	124	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 332, CABLE BAND SEALANT CAULKING						124 ⊗						145
530	00400	4	EACH	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 333, ANCHORAGE DEHUMIDIFIER AND SUMP PUMP REPLACEMENT			2 ⊗				2 ⊗					21
530	01300	3,065	FT	SPECIAL - STRUCTURE, MISC.: REPAIR TYPE 334, ELASTOMERIC CABLE WRAPPING REPLACEMENT						3,065 ⊗						145
530	01300	84	FT	SPECIAL - STRUCTURE, MISC.: CABLE COMPACTION						84 ⊗						22
607	35001	350	FT	FENCE REMOVED AND REBUILT, AS PER PLAN											350 Δ	13 , 192
898	10211	4,175	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN		1,330 Δ		589 Δ				589 Δ		1,667 Δ		13 , 192
898	10211	2,124	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN, LIGHTWEIGHT CONCRETE						2,124 □						13
898	10705	355	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN											355 Δ	13
898	11000	281	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)		99 Δ		28 Δ				28 Δ		126 Δ		
898	11001	183	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN, LIGHTWEIGHT CONCRETE						183 □						13
898	11100	33	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE		23 Δ								10 Δ		
898	20001	710	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE	348 Δ		1 Δ		40 ⊗		1 Δ		320 Δ			
898	20101	520	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (PIER ABOVE FOOTING)			341 Δ				179 Δ					
898	20301	216	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (FOOTING)			149 Δ				67 Δ					
990	25400	LUMP	LUMP	LUMP SUM ADJUSTMENT - GENERAL/OTHER ITEMS (SUSPENSION SPAN CONSTRUCTION STAGING)						LUMP □						

* AS DIRECTED BY THE CONSTRUCTION ENGINEER

Δ = DESIGN AGENCY ARCADIS ARCADIS U.S., Inc. CALC. BY: NPB DATE: 10/12 CHK'D BY: MPB DATE: 10/12

□ = DESIGN AGENCY Gannett Fleming ENGINEERS & ARCHITECTS, P.C. CALC. BY: EFD DATE: 10/12 CHK'D BY: PLC/GCK DATE: 10/12

⊗ = DESIGN AGENCY MODJESKI and MASTERS, INC. CALC. BY: MDC DATE: 10/12 CHK'D BY: TS DATE: 10/12

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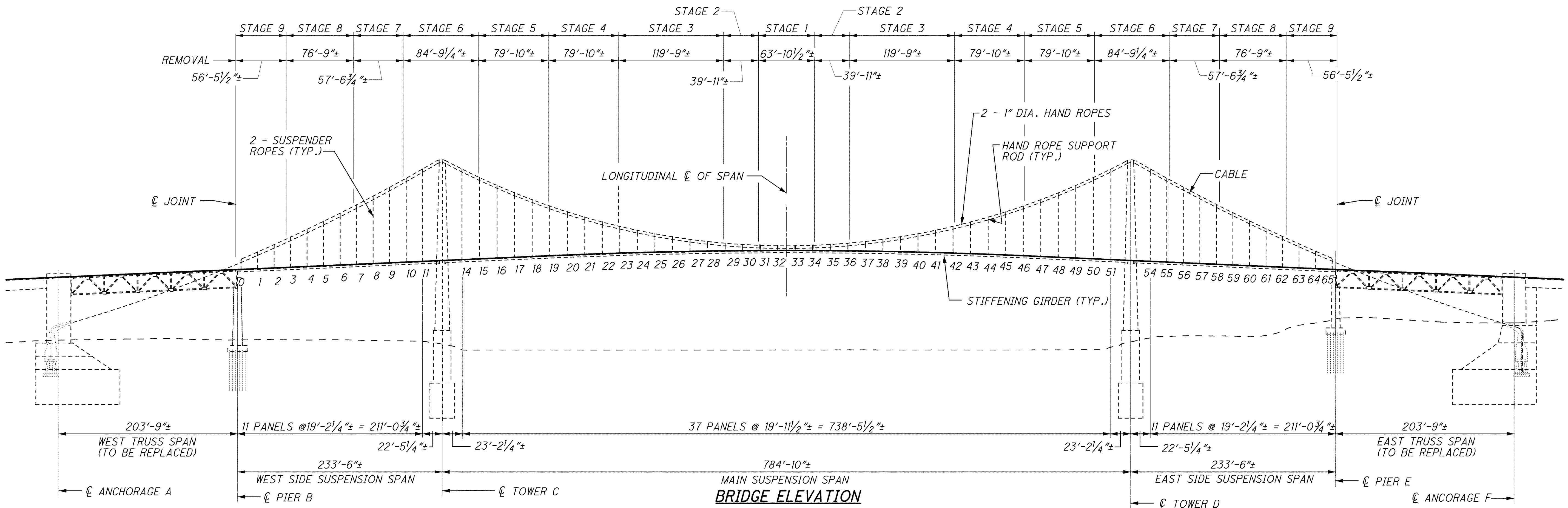
DESIGNED CMD CHECKED AJM DRAWN TMR/KAS REVISED REVIEWED RBB DATE 10/12 STRUCTURE FILE NUMBER 4800303

ESTIMATED QUANTITIES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



BRIDGE ELEVATION
(LOOKING NORTH)
SUSPENDED SPAN CONSTRUCTION STAGING

STAGING NOTES:

1. THE BRIDGE WILL BE CLOSED TO TRAFFIC DURING THE SUSPENDED SPAN RE-DECKING OPERATION. DECK REMOVAL AND REPLACEMENT SHALL BE PERFORMED FOR THE FULL WIDTH OF THE BRIDGE DECK DURING EACH STAGE.

2. THE STAGING ANALYSIS SHOWN ASSUMES THAT DECK REMOVAL AND REPLACEMENT OPERATIONS ARE PERFORMED SYMMETRICALLY ABOUT THE TRANSVERSE AND LONGITUDINAL CENTERLINE OF THE SUSPENDED MAIN SPAN. EACH STAGE SHALL BE PHASED AT THE SAME TIME. THE STAGING ANALYSIS SHOWN ASSUMES THAT THE DIFFERENCE IN THE LENGTH OF REMOVAL AND REPLACEMENT OPERATIONS ON EACH SIDE OF THE LONGITUDINAL CENTERLINE OF THE BRIDGE VARY BY LESS THAN 25% OF THE STAGE LENGTH SHOWN ON EACH SIDE OF THE LONGITUDINAL CENTERLINE OF THE BRIDGE.

3. THE CONTRACTOR SHALL BE PROHIBITED FROM STORING CONSTRUCTION MATERIALS ON THE NEW CONCRETE DECK WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.

4. THE STAGING ANALYSIS SHOWN ASSUMES THAT THE MEDIAN BARRIER IS REMOVED FULL LENGTH PRIOR TO THE START OF DECK REMOVAL AND REPLACEMENT OPERATIONS. THE STAGING ANALYSIS SHOWN ALSO ASSUMES THAT THE NEW CONCRETE DECK AND A PORTION OF THE CONCRETE CURB ARE IN PLACE FOR EACH STAGE PRIOR TO STARTING REMOVAL OF THE SUBSEQUENT STAGE. FOR THE LENGTHS OF NEW CONCRETE DECK POURS AND CONCRETE CURB POURS FOR EACH STAGE, SEE SHEETS 171/227 THRU 178/227 .

5. THE STAGING ANALYSIS SHOWN ASSUMES THAT THE NEW CONCRETE MEDIAN BARRIER AND THE NEW STEEL EDGE BARRIERS ARE INSTALLED AFTER THE ENTIRE DECK IS REPLACED FOR THE FULL LENGTH OF THE SUSPENDED SPANS.

6. THE STAGING SEQUENCE SHOWN IS BASED ON AN ANALYSIS OF THE ALLOWABLE STRESSES IN THE STIFFENING GIRDER. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE SIZE, WEIGHT, TYPE, AND LOCATION OF ALL CONSTRUCTION EQUIPMENT TO BE USED ON THE STRUCTURE AND TO ASSESS THE ADEQUACY OF THE STRUCTURE FOR ITS USE BASED ON THE EXISTING CONDITION OF THE STRUCTURE. NO EQUIPMENT SHALL BE PERMITTED ON THE STRUCTURE THAT WOULD RESULT IN A CONDITION THAT PROVIDES STRESSES IN EXCESS OF THE OPERATING CRITERIA DISCUSSED IN NOTE 7 BELOW.

7. THE ANALYSIS OF THE STAGING SEQUENCE SHOWN IS BASED ON OPERATING STRESS LEVELS IN THE STIFFENING GIRDER. ALLOWABLE OPERATING STRESSES SHALL BE AS SET FORTH IN THE AASHTO MANUAL FOR BRIDGE EVALUATION, 2ND EDITION EXCEPT THE ALLOWABLE OPERATING COMPRESSIVE STRESS IN THE TOP FLANGE SHALL BE TAKEN AS 28.7 KSI AND THE ALLOWABLE OPERATING COMPRESSIVE STRESS IN THE BOTTOM FLANGE SHALL BE TAKEN AS 21.6 KSI.

8. THE STAGING ANALYSIS ASSUMES AN ERECTION TEMPERATURE OF 50 DEGREES FAHRENHEIT WITH A MAXIMUM TEMPERATURE INCREASE OF 50 DEGREES FAHRENHEIT AND A MAXIMUM TEMPERATURE DECREASE OF 35 DEGREES FAHRENHEIT.

9. FOR THE STAGING SEQUENCE SHOWN, CONSTRUCTION LOADS WERE ASSUMED TO BE 1200 POUNDS PER FOOT OF BRIDGE. THE CONSTRUCTION LOAD WAS ASSUMED TO BE EQUALLY DISRIBUTED TO EACH CABLE FOR A TOTAL LOAD OF 600 POUNDS PER FOOT OF BRIDGE PER CABLE. CONSTRUCTION LOADS SHALL BE LIMITED TO A COMBINED TOTAL LENGTH OF 400 FEET ON THE SUSPENDED SPANS DURING THE SUSPENDED SPAN DECK REPLACEMENT.

10. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM FOR THE FINISHING MACHINE THAT IS UTILIZED AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THE CONSTRUCTION LOADING PROVIDED IN NOTE 9.

11. THE CONTRACTOR SHALL NOT EXCEED THE CONSTRUCTION LOADINGS PROVIDED IN NOTE 9 UNLESS DETAILED CALCULATIONS PROVING THAT THE CONTRACTORS PROPOSED LOAD LEVELS DO NOT OVERSTRESS THE STRUCTURE ARE SUBMITTED AND APPROVED. THESE CALCULATIONS SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF OHIO.

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL STAGING DIMENSIONS, SEE DECK PLAN SHEETS 171/227 THRU 178/227 .

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

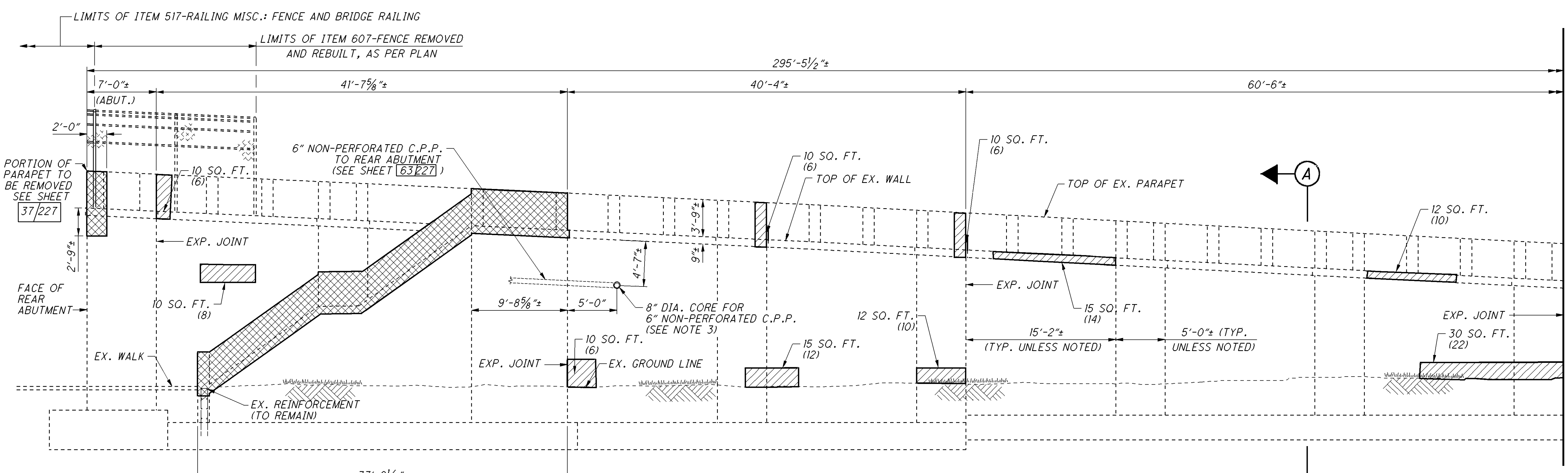
REVIEWED	DATE	STRUCTURE FILE NUMBER
SRE	8/12	4800303

DRAWN	REVISED
MLA	

DESIGNED	CHECKED
MJS	MDC

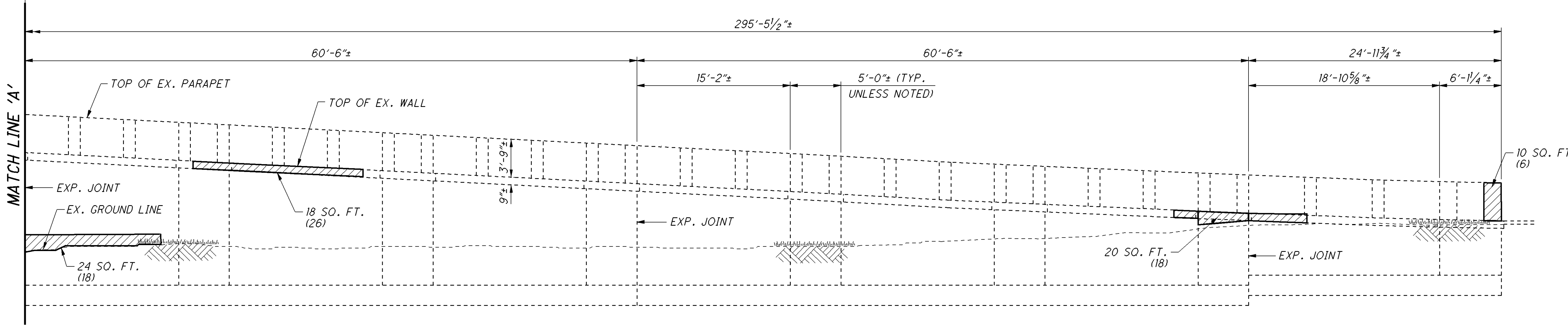
SUSPENDED SPAN CONSTRUCTION STAGING
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



REAR ABUTMENT NORTH RETAINING WALL ELEVATION (LOOKING SOUTH)

TOTAL PATCHING = 134 SQ. FT. X 1.25 = 168 SQ. FT. + 100 GALVANIC ANODES



REAR ABUTMENT NORTH RETAINING WALL ELEVATION (LOOKING SOUTH)

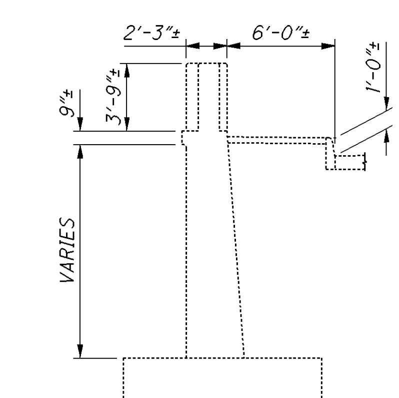
TOTAL PATCHING = 72 SQ. FT. X 1.25 = 90 SQ. FT. + 68 GALVANIC ANODES

LEGEND

(hatched)	AREAS TO BE PATCHED AS PER ITEM 519
(cross-hatched)	AREAS TO BE REMOVED AS PER ITEM 202
( )	INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION COMPLETED MARCH 10, 2011. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AREA INDICATED ON THE DETAILS HAS BEEN INCREASED BY 25% TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. FILL VOID BETWEEN CORE HOLE AND PIPE WITH NON-SHRINK GROUT. INCLUDE WITH ITEM 518 FOR PAYMENT.
4. FOR ADDITIONAL REMOVAL DETAILS OF REAR ABUTMENT NORTH STAIRWAY, SEE SHEET 32/227.



A SECTION

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

REPAIR DETAILS - RETAINING WALLS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

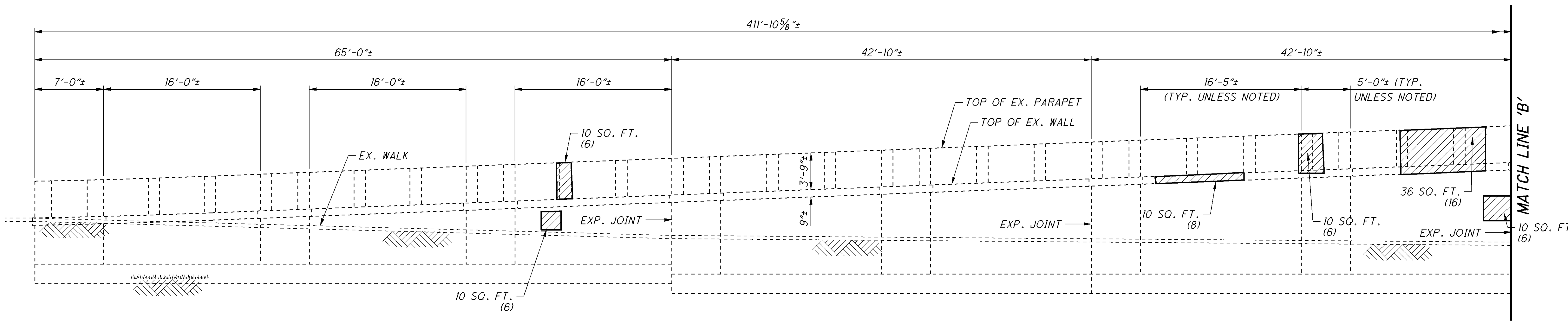
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

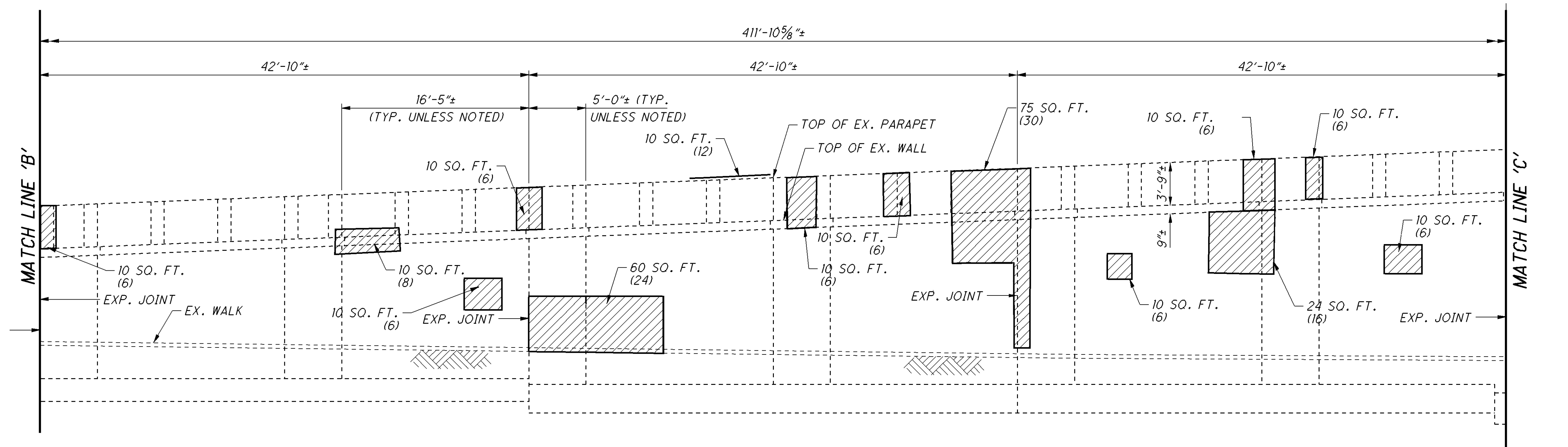
NOTE:

1. FOR NOTES, SEE SHEET $\boxed{30/227}$.



REAR ABUTMENT SOUTH RETAINING WALL ELEVATION (LOOKING NORTH)

TOTAL PATCHING = 86 SQ. FT. X 1.25 = 108 SQ. FT. +_ 48 GALVANIC ANODES



REAR ABUTMENT SOUTH RETAINING WALL ELEVATION (LOOKING NORTH)

TOTAL PATCHING = 269 SQ. FT. X 1.25 = 337 SQ. FT. + 144 GALVANIC ANDOES

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REPAIR DETAILS - RETAINING WALLS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

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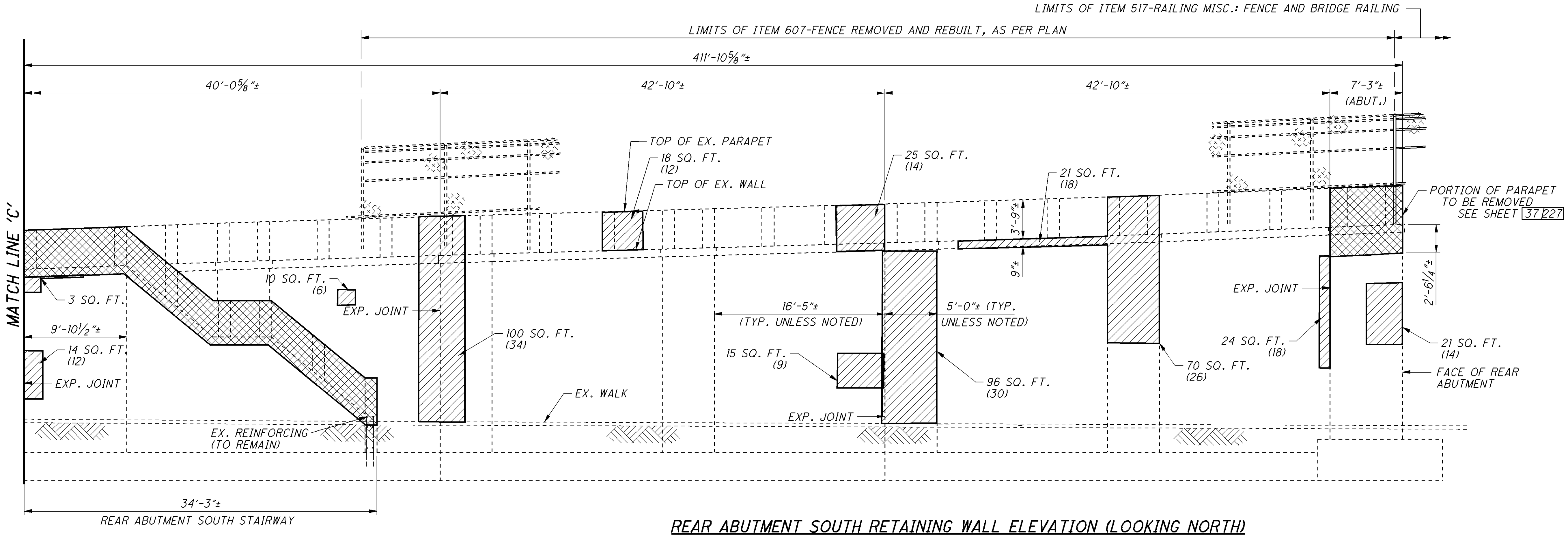
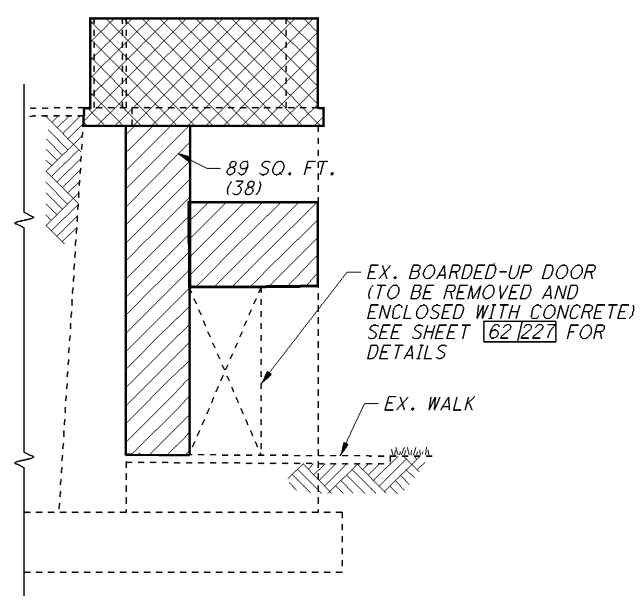
PID No. 80551



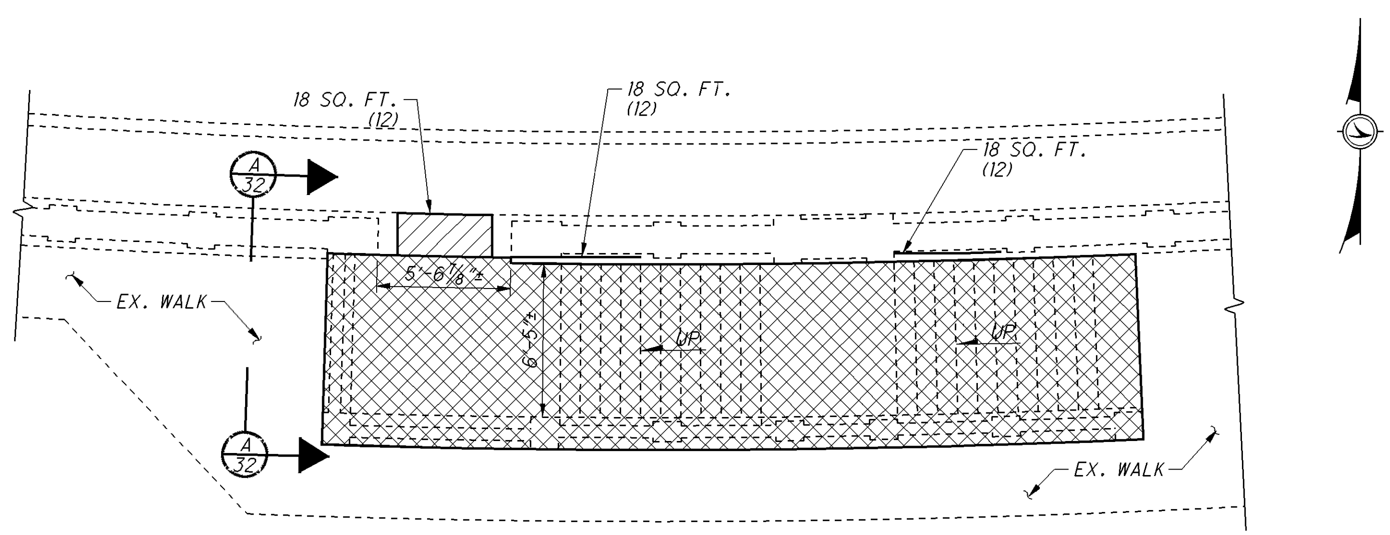
REAR ABUTMENT SOUTH RETAINING WALL ELEVATION (LOOKING NORTH)

TOTAL PATCHING = 407 SQ. FT. X 1.25 = 509 SQ. FT. + 193 GALVANIC ANODES



A/32 VIEW

TOTAL PATCHING = 89 SQ. FT. X 1.25 = 112 SQ. FT. + 38 GALVANIC ANODES



REAR ABUTMENT SOUTH STAIRWAY PLAN

TOTAL PATCHING = 54 SQ. FT. X 1.25 = 68 SQ. FT. + 36 GALVANIC ANODES

LEGEND

(hatched)	AREAS TO BE PATCHED AS PER ITEM 519
(cross-hatched)	AREAS TO BE REMOVED AS PER ITEM 202
( )	INDICATES THE NUMBER OF ESTIMATED GALVANIC ANODES PER PATCH

NOTE:

1. FOR NOTES, SEE SHEET 30/227 .

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REPAIR DETAILS - RETAINING WALLS

BRIDGE NO. LUC - 2 - 1862

STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

PID No. 80551

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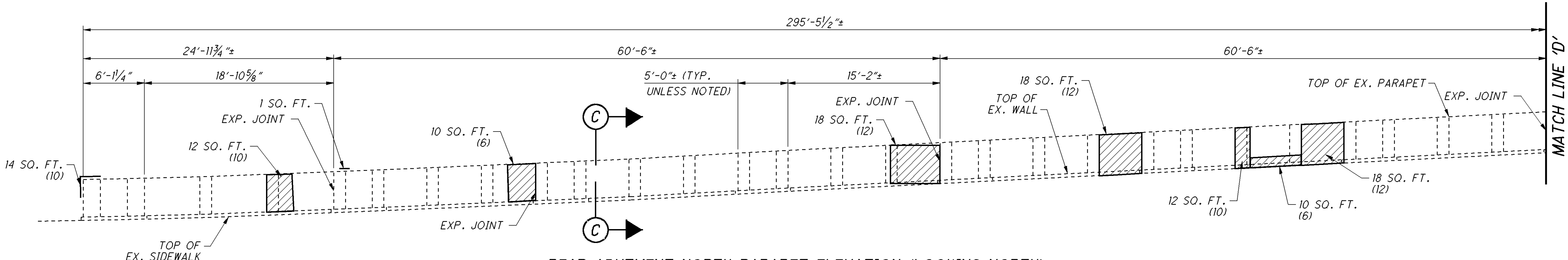
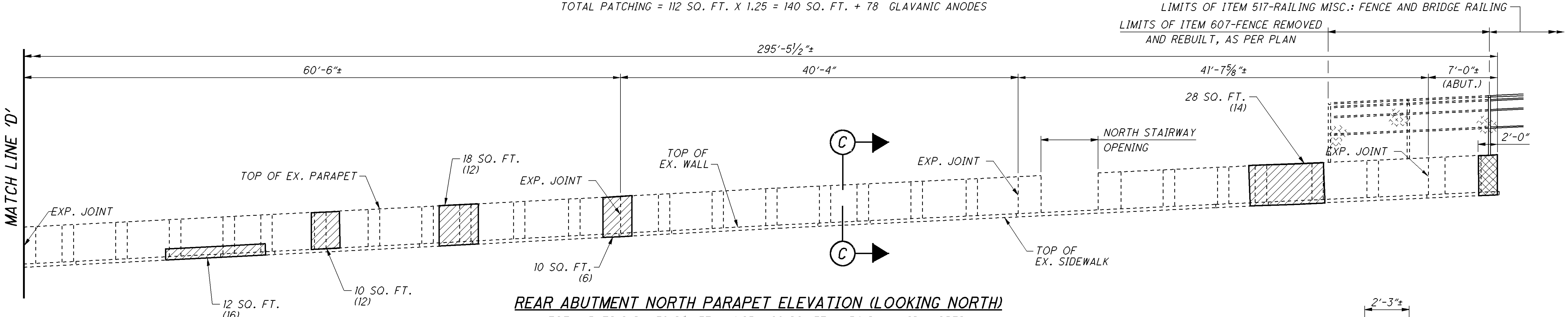


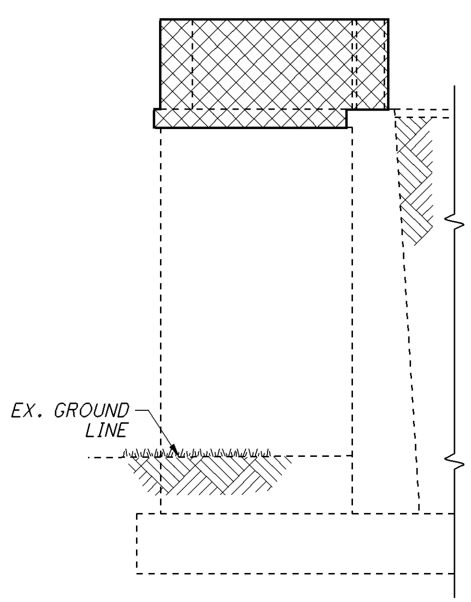
REAR ABUTMENT NORTH PARAPET ELEVATION (LOOKING NORTH)

TOTAL PATCHING = 112 SQ. FT. X 1.25 = 140 SQ. FT. + 78 GLAVANIC ANODES

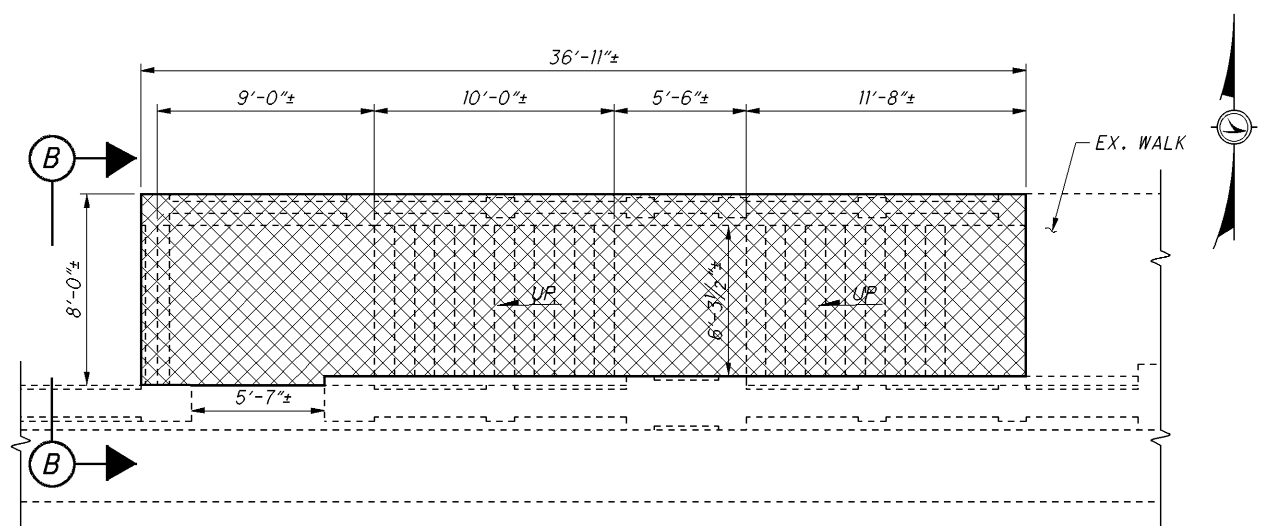


REAR ABUTMENT NORTH PARAPET ELEVATION (LOOKING NORTH)

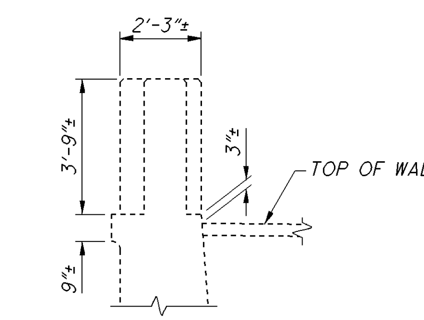
TOTAL PATCHING = 78 SQ. FT. X 1.25 = 98 SQ. FT. + 54 GALVANIC ANODES



B VIEW



REAR ABUTMENT NORTH STAIRWAY PLAN



C/34 C/35 C/36 C SECTION

NOTE:

1. FOR NOTES, SEE SHEET 30/227 .

LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

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REPAIR DETAILS - RETAINING WALLS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

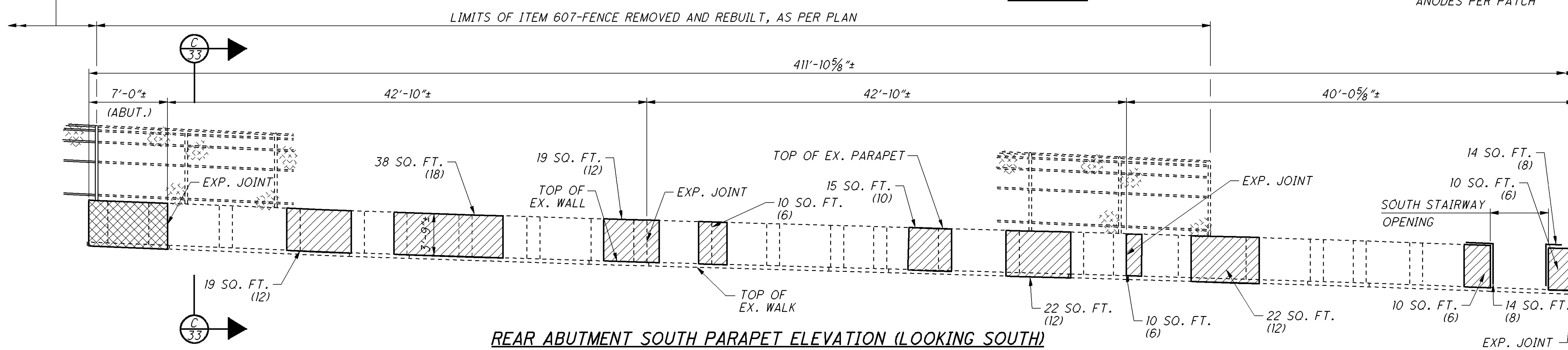
LUC-2-18.62
PID No. 80551

LEGEND

(diagonal hatch)	AREAS TO BE PATCHED AS PER ITEM 519
(cross hatch)	AREAS TO BE REMOVED AS PER ITEM 202
( )	INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

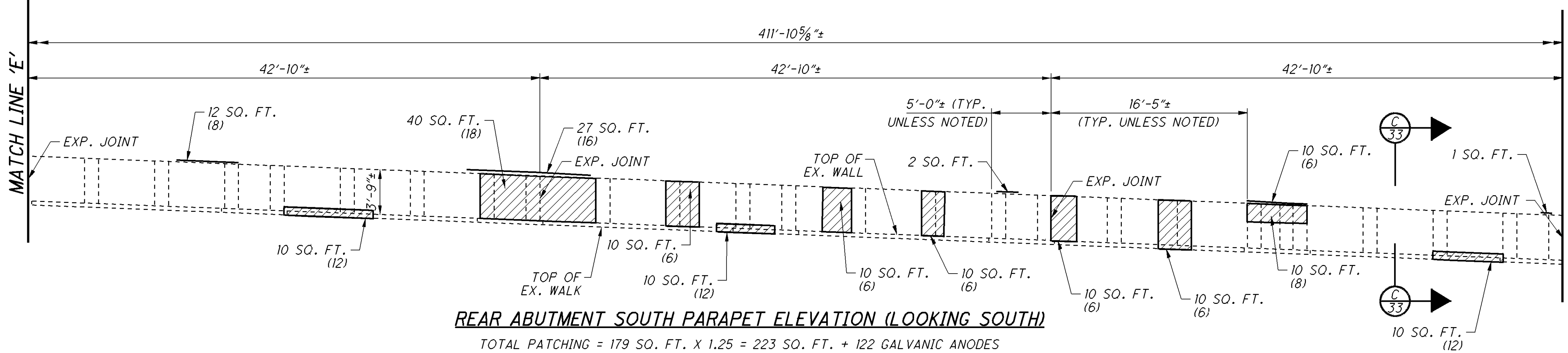
NOTE:

1. FOR NOTES, SEE SHEET 30/227 .



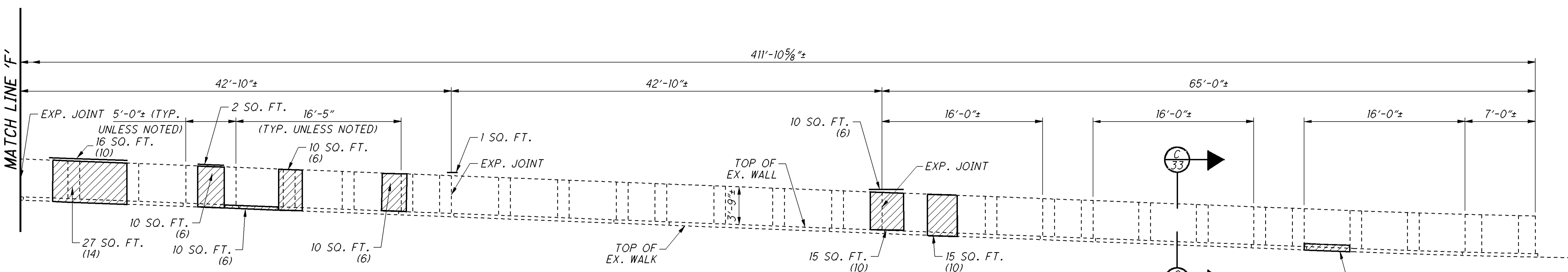
REAR ABUTMENT SOUTH PARAPET ELEVATION (LOOKING SOUTH)

TOTAL PATCHING = 203 SQ. FT. X 1.25 = 254 SQ. FT. + 116 GALVANIC ANODES



REAR ABUTMENT SOUTH PARAPET ELEVATION (LOOKING SOUTH)

TOTAL PATCHING = 179 SQ. FT. X 1.25 = 223 SQ. FT. + 122 GALVANIC ANODES



REAR ABUTMENT SOUTH PARAPET ELEVATION (LOOKING SOUTH)

TOTAL PATCHING = 143 SQ. FT. X 1.25 = 178 SQ. FT. + 92 GALVANIC ANODES

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REPAIR DETAILS - RETAINING WALLS

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

LEGEND

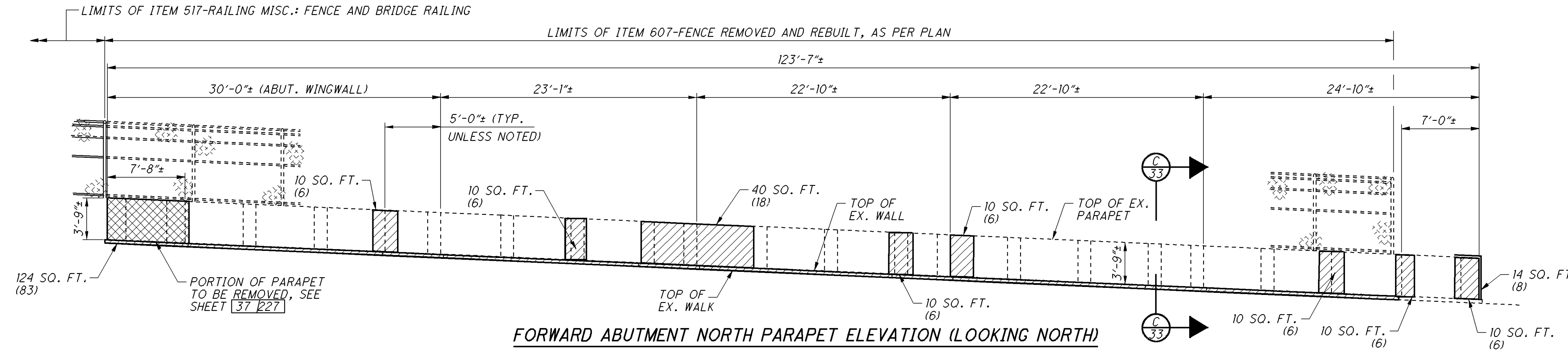
AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

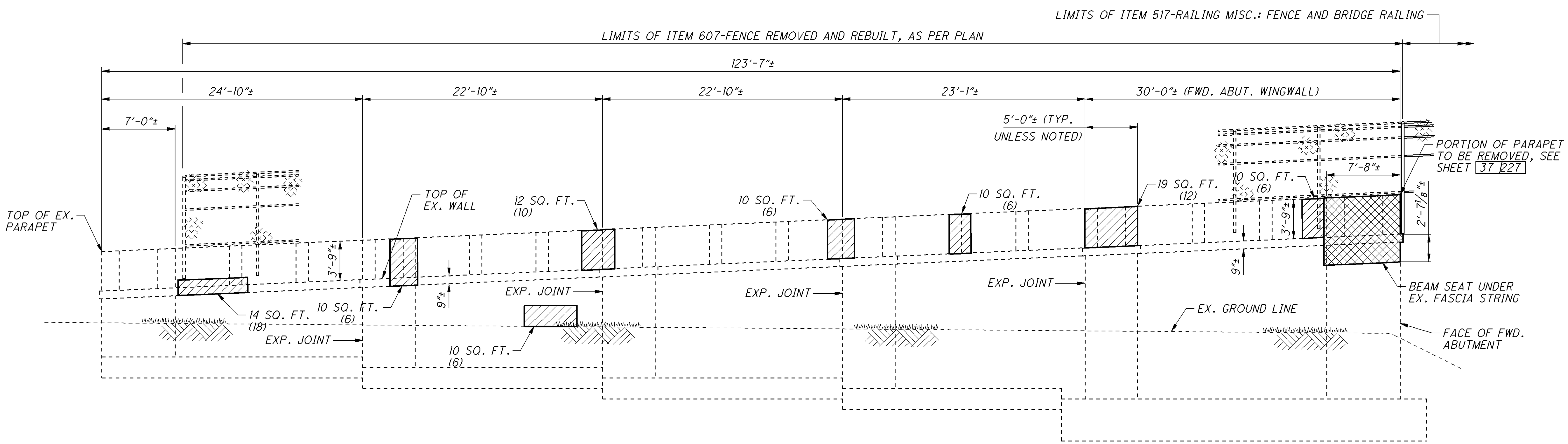
NOTE:

1. FOR NOTES, SEE SHEET 30/227 .



FORWARD ABUTMENT NORTH PARAPET ELEVATION (LOOKING NORTH)

TOTAL PATCHING = 248 SQ. FT. X 1.25 = 310 SQ. FT. + 151 GALVANIC ANODES



FORWARD ABUTMENT NORTH WINGWALL AND RETAINING WALL ELEVATION (LOOKING SOUTH)

TOTAL PATCHING = 93 SQ. FT. X 1.25 = 116 SQ. FT. + 70 GALVANIC ANODES

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REPAIR DETAILS - RETAINING WALLS

BRIDGE NO. LUC - 2 - 1862

STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

PID No. 80551

LEGEND

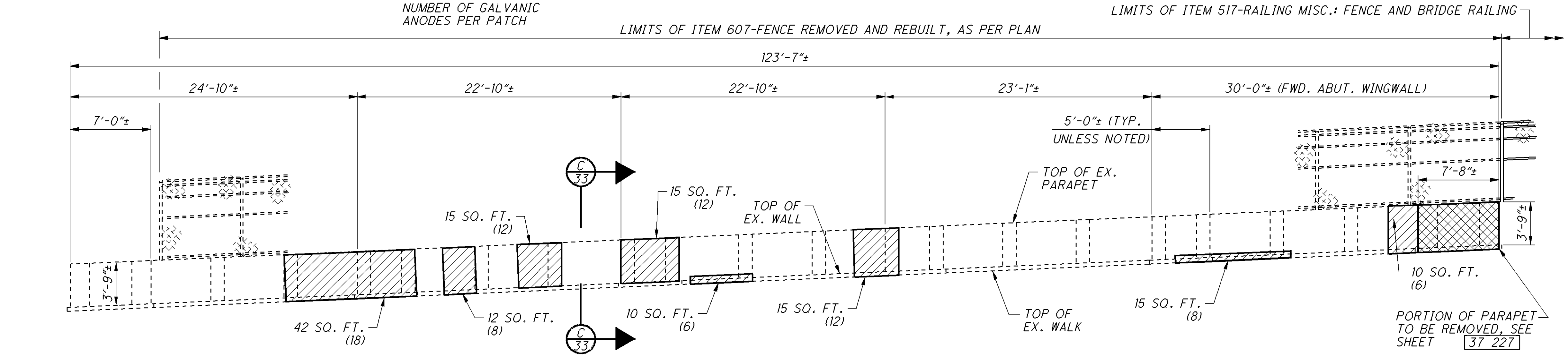
AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

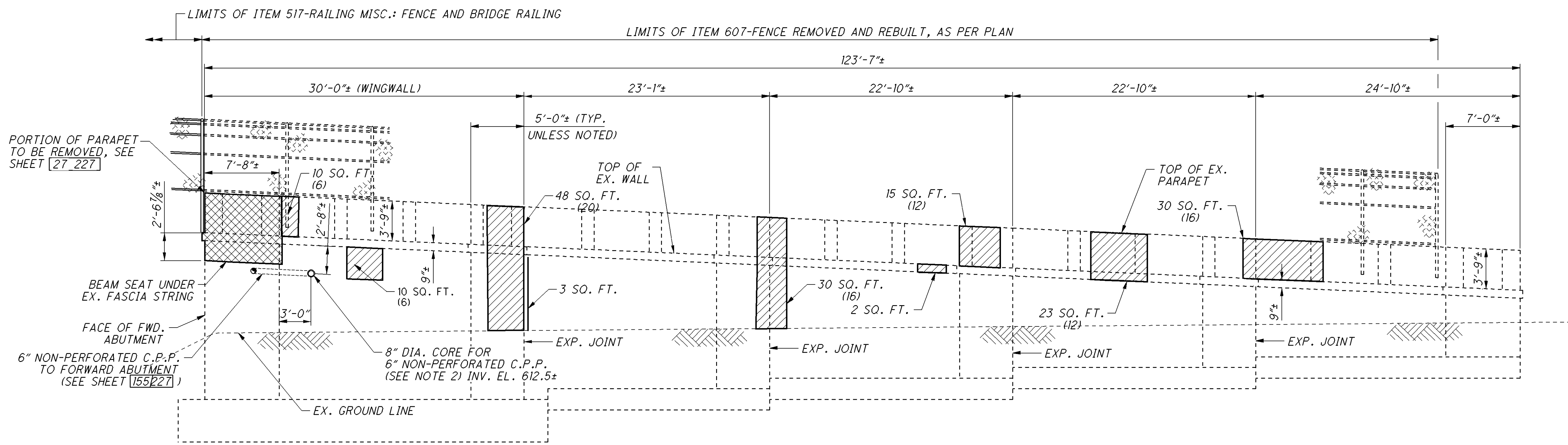
NOTE:

1. FOR NOTES, SEE SHEET 30/227 .
2. FILL VOID BETWEEN CORE HOLE AND PIPE WITH NON-SHRINK GROUT. INCLUDE WITH ITEM 518 FOR PAYMENT.



FORWARD ABUTMENT SOUTH PARAPET ELEVATION (LOOKING SOUTH)

TOTAL PATCHING = 134 SQ. FT. X 1.25 = 167 SQ. FT. + 82 GALVANIC ANODES



FORWARD ABUTMENT SOUTH WINGWALL AND RETAINING WALL ELEVATION (LOOKING NORTH)

TOTAL PATCHING = 166 SQ. FT. X 1.25 = 208 SQ. FT. + 88 GALVANIC ANODES

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REPAIR DETAILS - RETAINING WALLS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

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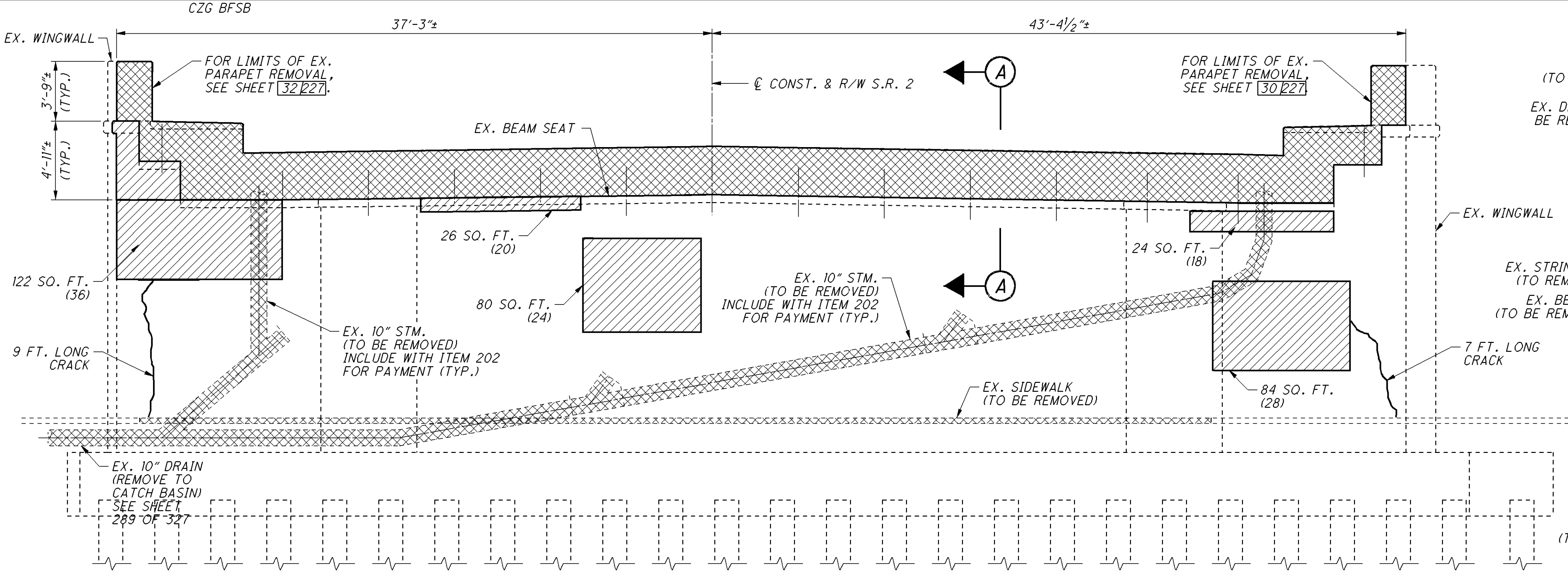
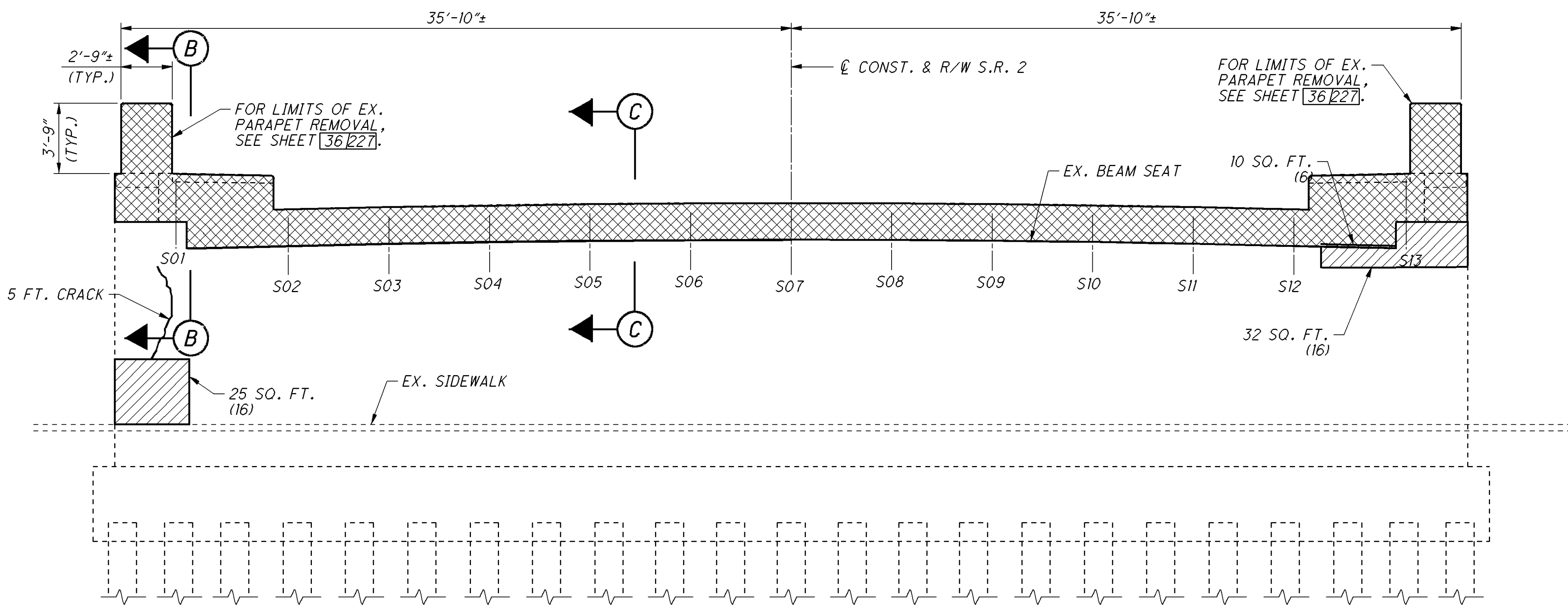


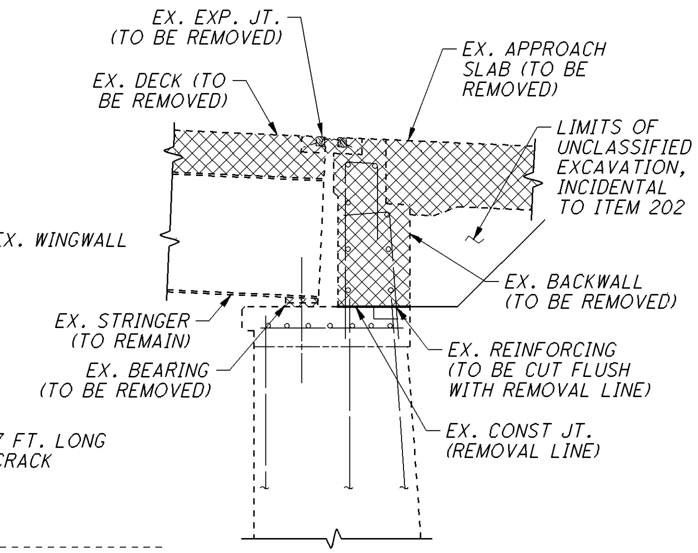
REAR ABUTMENT ELEVATION

TOTAL PATCHING = 336 SQ. FT. X 1.25 = 420 SQ. FT. + 126 GALVANIC ANODES
TOTAL CRACK REPAIR = 16 FEET

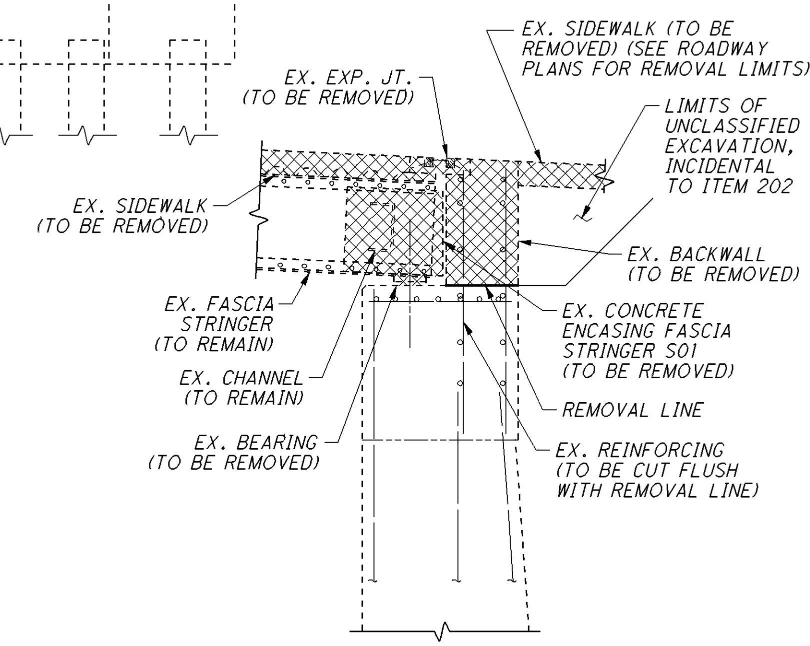


FORWARD ABUTMENT ELEVATION

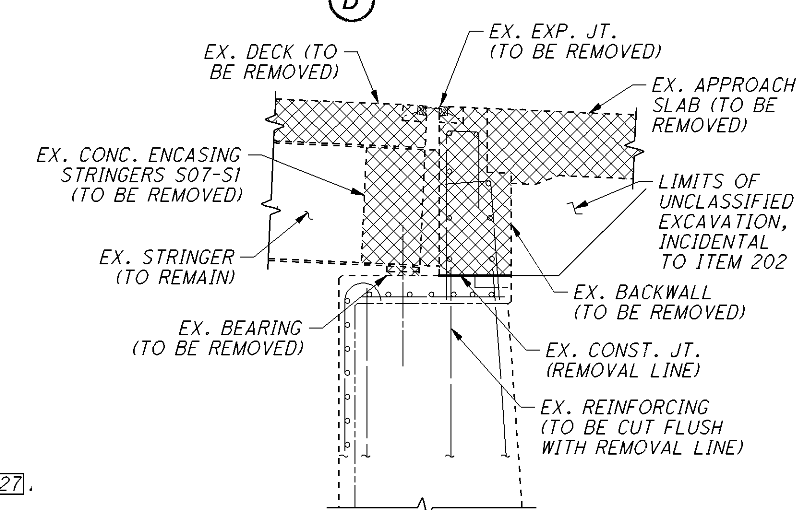
TOTAL PATCHING = 67 SQ. FT. X 1.25 = 84 SQ. FT. + 38 GALVANIC ANODES
TOTAL CRACK REPAIR = 5 FEET



A SECTION



B SECTION



C SECTION

LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTES:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.
2. FOR ABUTMENT DETAILS SEE SHEETS 63/227, 64/227 AND 155/227.
3. FOR BEARING DETAILS SEE SHEETS 196/227 AND 197/227.

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REPAIR DETAILS - ABUTMENTS

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

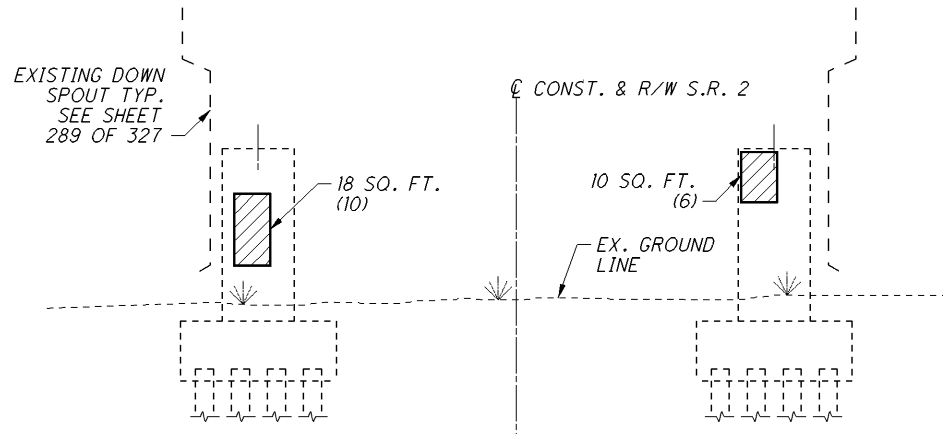
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

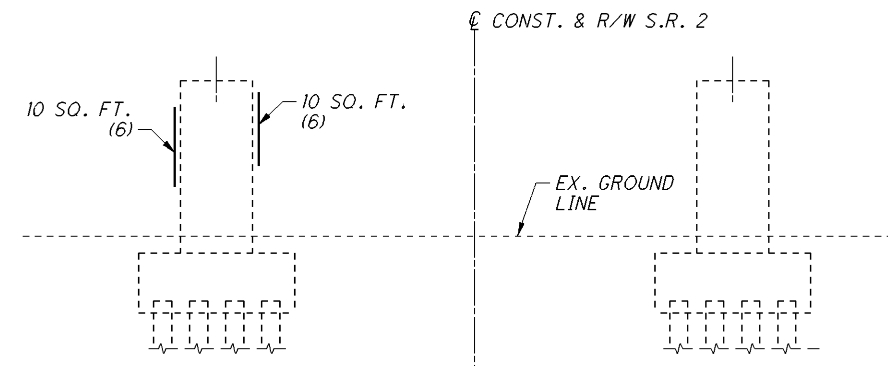
( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



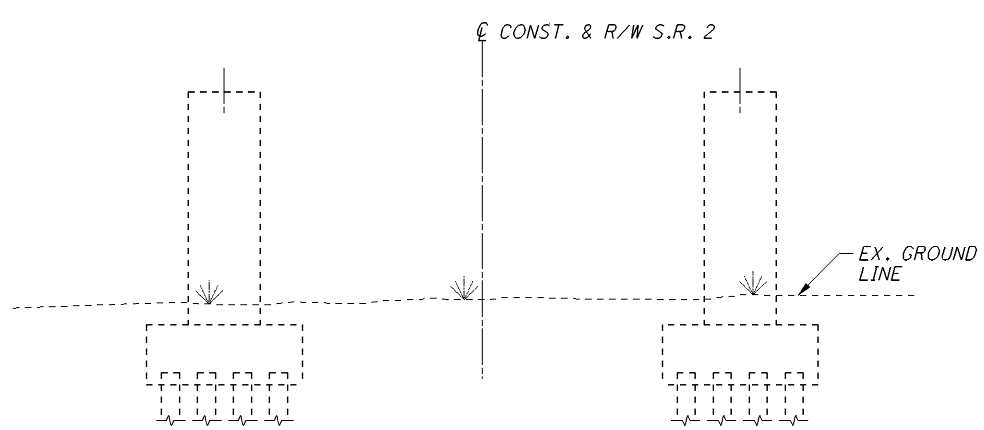
ELEVATION LOOKING WEST



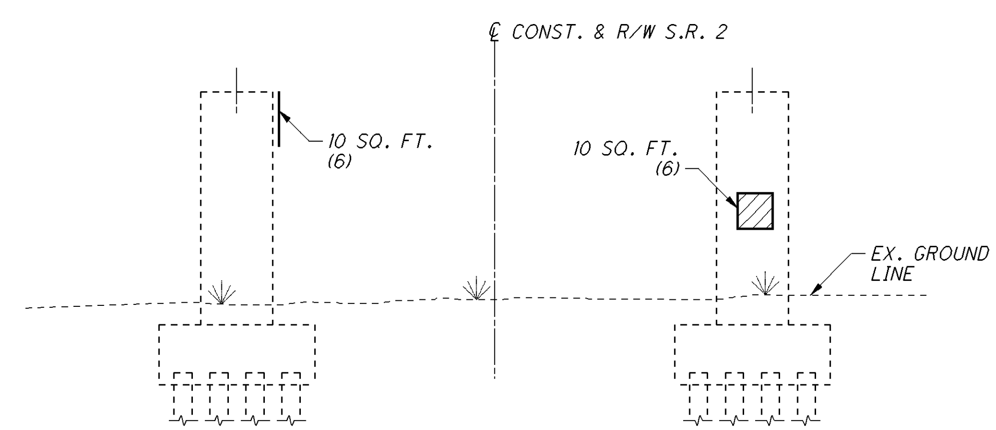
ELEVATION LOOKING EAST

PIER 7W ELEVATIONS

TOTAL PATCHING = 48 SQ. FT. X 1.25 = 60 SQ. FT. + 28 GALVANIC ANODES



ELEVATION LOOKING WEST



ELEVATION LOOKING EAST

PIER 6W ELEVATIONS

TOTAL PATCHING = 20 SQ. FT. X 1.25 = 25 SQ. FT. + 12 GALVANIC ANODES

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REPAIR DETAILS - PIERS 7W & 6W
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

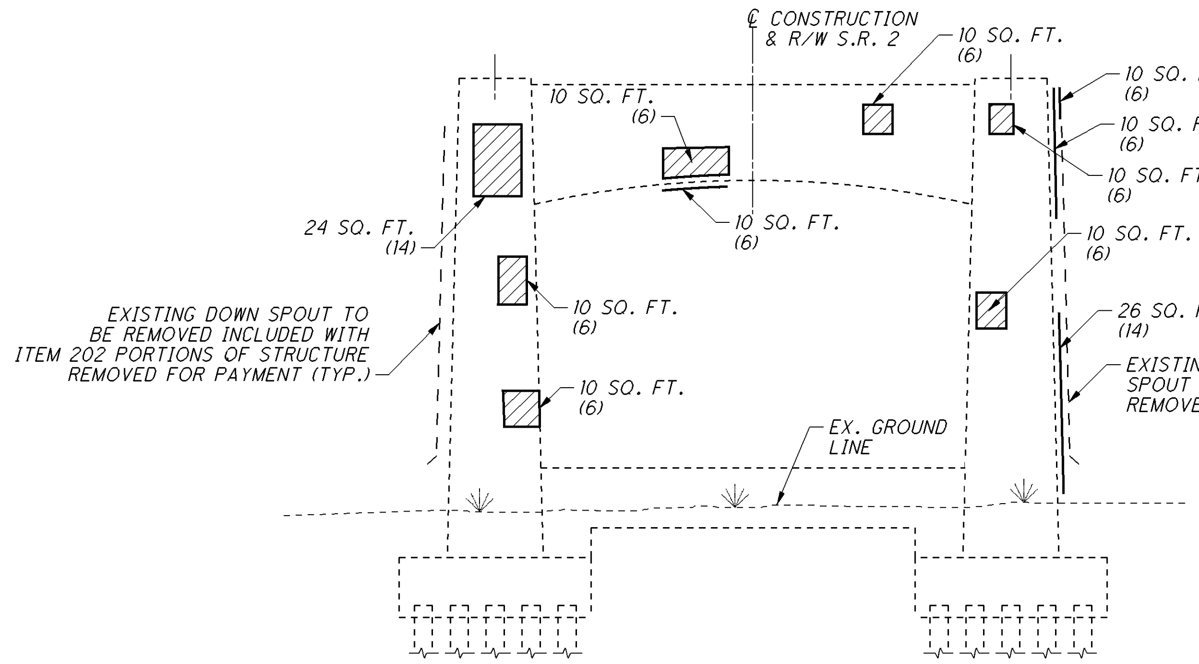
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

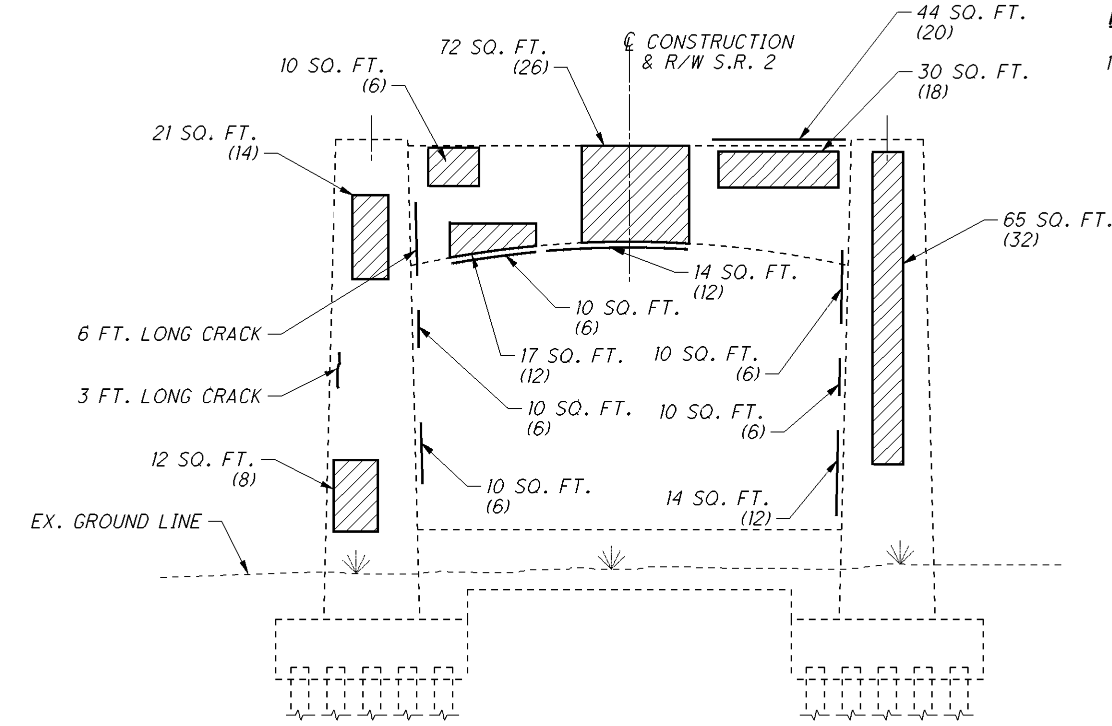
( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



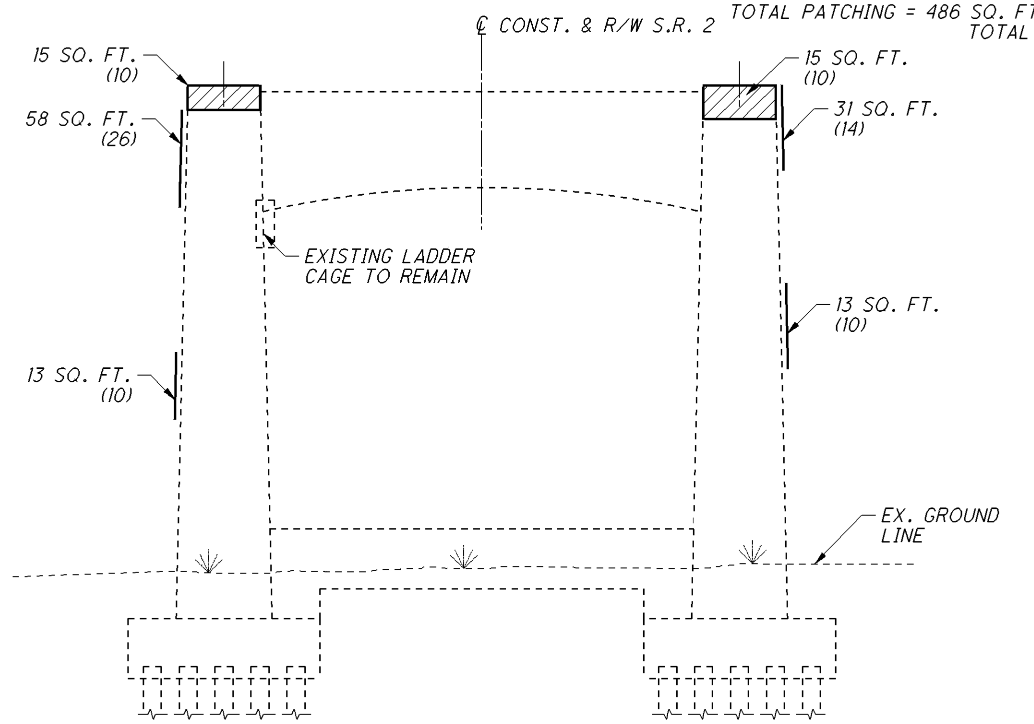
ELEVATION LOOKING WEST



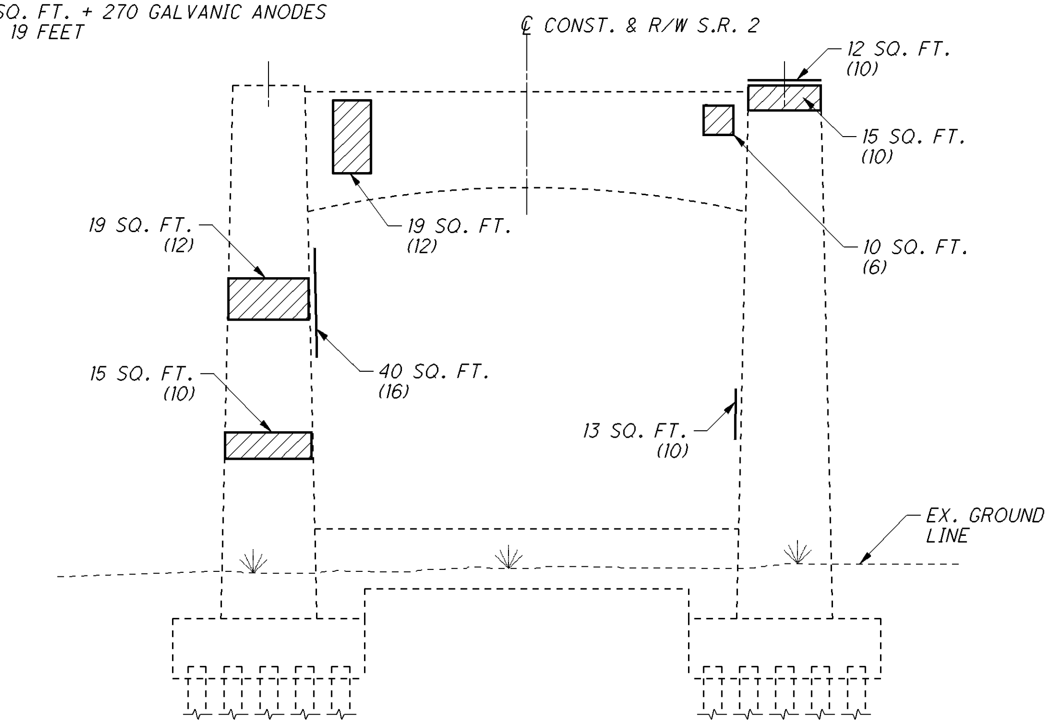
ELEVATION LOOKING EAST

PIER 5W ELEVATIONS

TOTAL PATCHING = 486 SQ. FT. X 1.25 = 608 SQ. FT. + 270 GALVANIC ANODES
TOTAL CRACK REPAIR = 19 FEET



ELEVATION LOOKING WEST



ELEVATION LOOKING EAST

PIER 4W ELEVATIONS

TOTAL PATCHING = 288 SQ. FT. X 1.25 = 360 SQ. FT. + 166 GALVANIC ANODES

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REPAIR DETAILS - PIERS 5W & 4W
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STATE ROUTE 2 OVER MAUMEE RIVER

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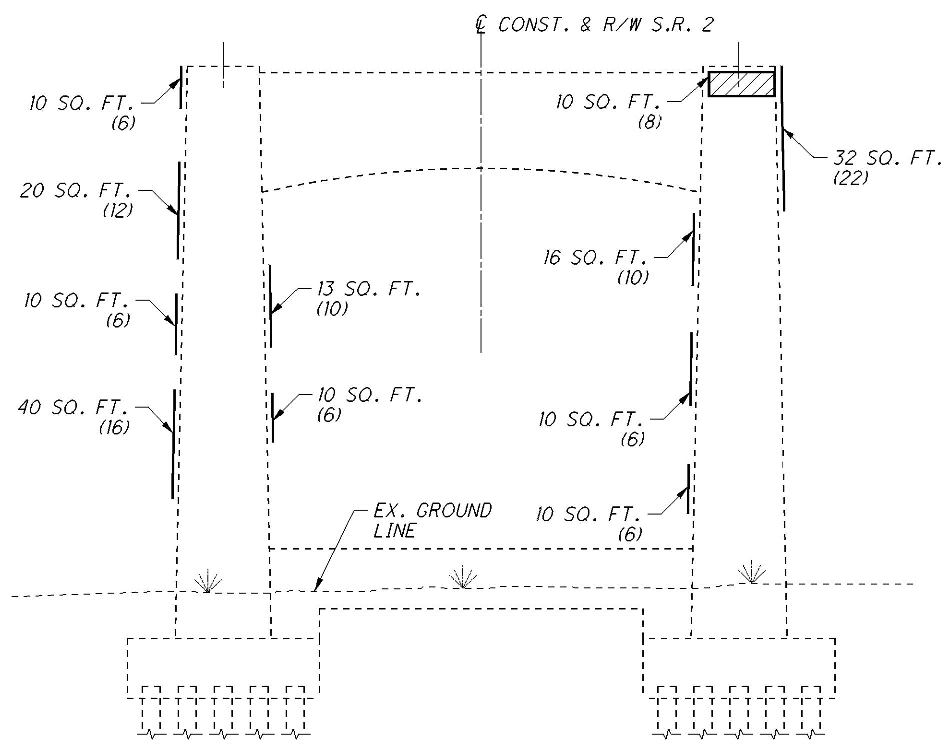
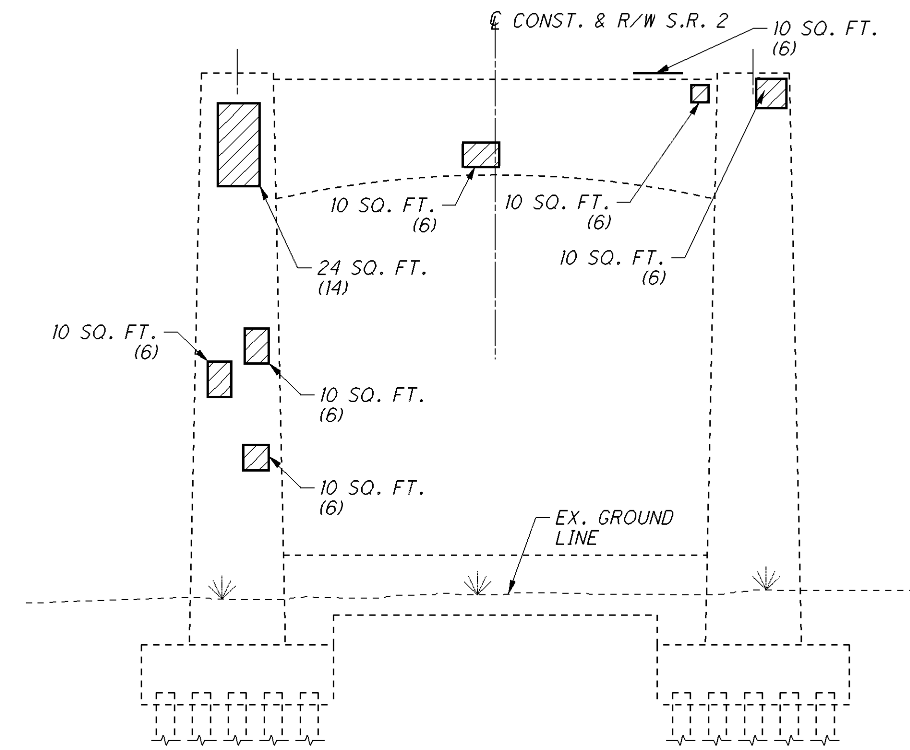
PID No. 80551



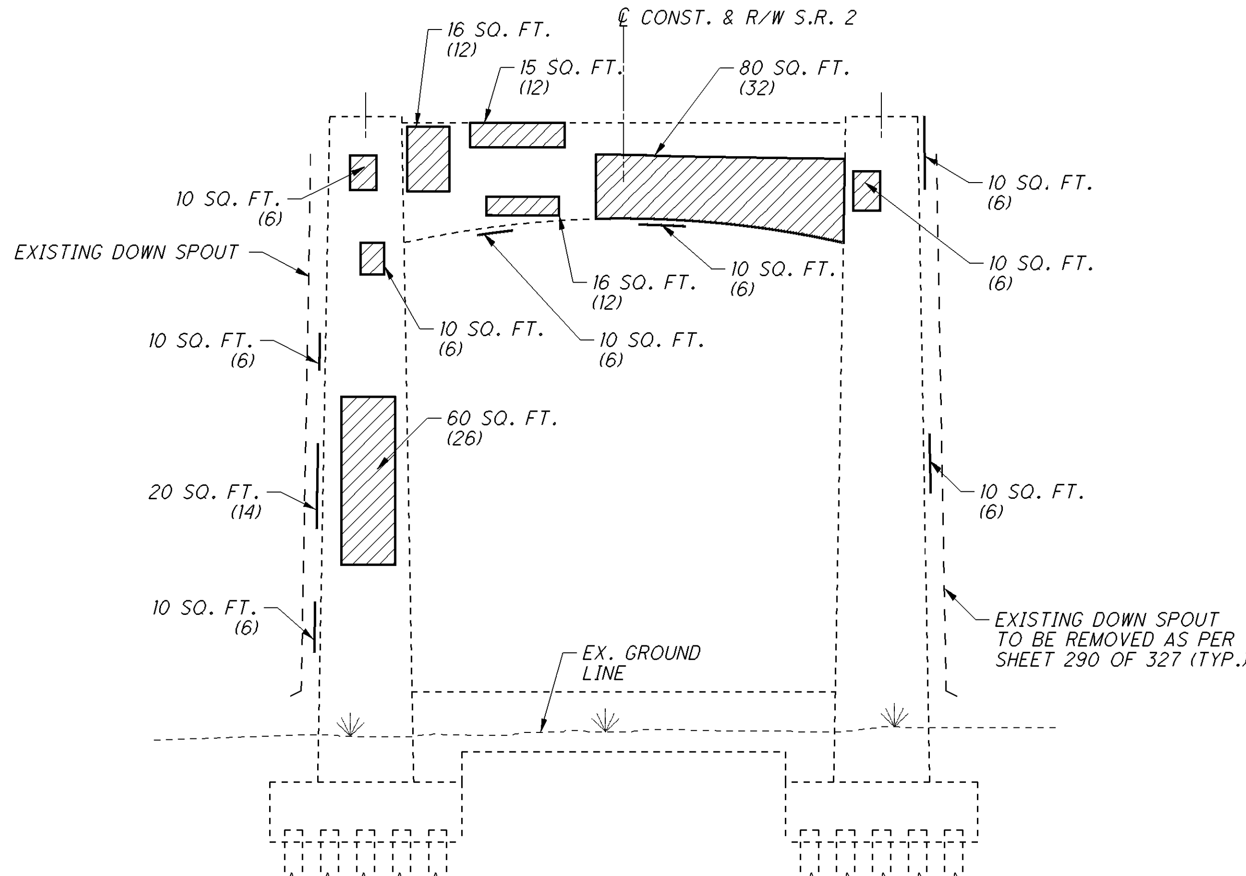
ELEVATION LOOKING WEST



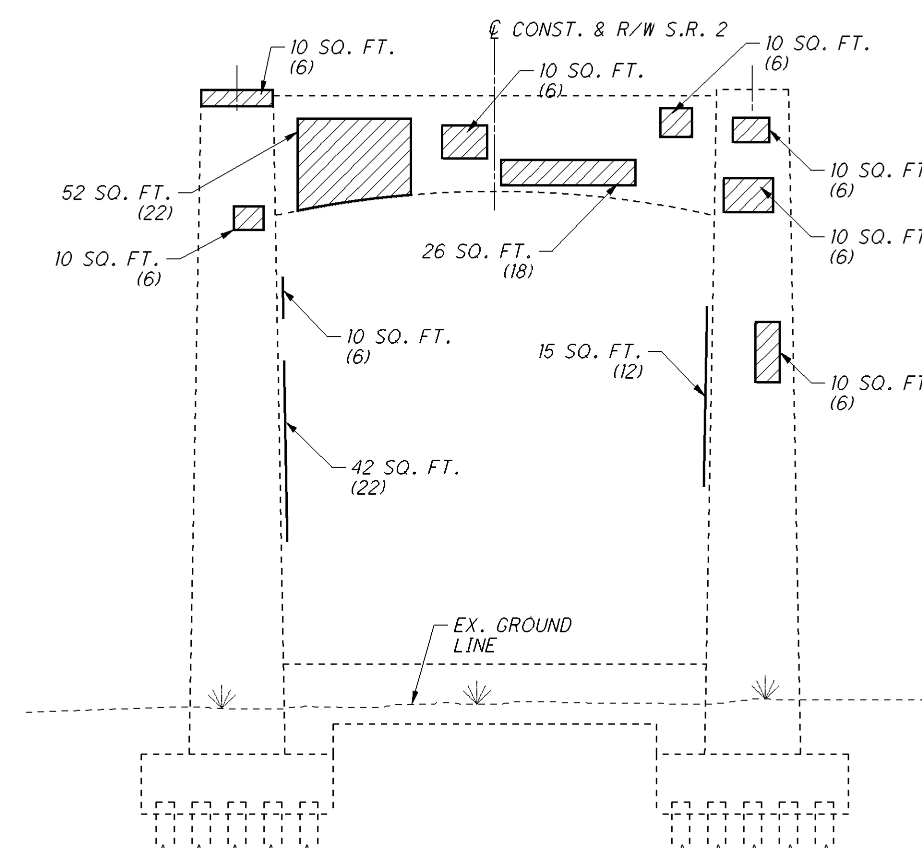
ELEVATION LOOKING EAST

PIER 3W ELEVATIONS

TOTAL PATCHING = 277 SQ. FT. X 1.25 = 346 SQ. FT. + 164 GALVANIC ANODES



ELEVATION LOOKING WEST



ELEVATION LOOKING EAST

PIER 2W ELEVATIONS

TOTAL PATCHING = 502 SQ. FT. X 1.25 = 628 SQ. FT. + 284 GALVANIC ANODES

LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.

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REPAIR DETAILS - PIERS 3W & 2W
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

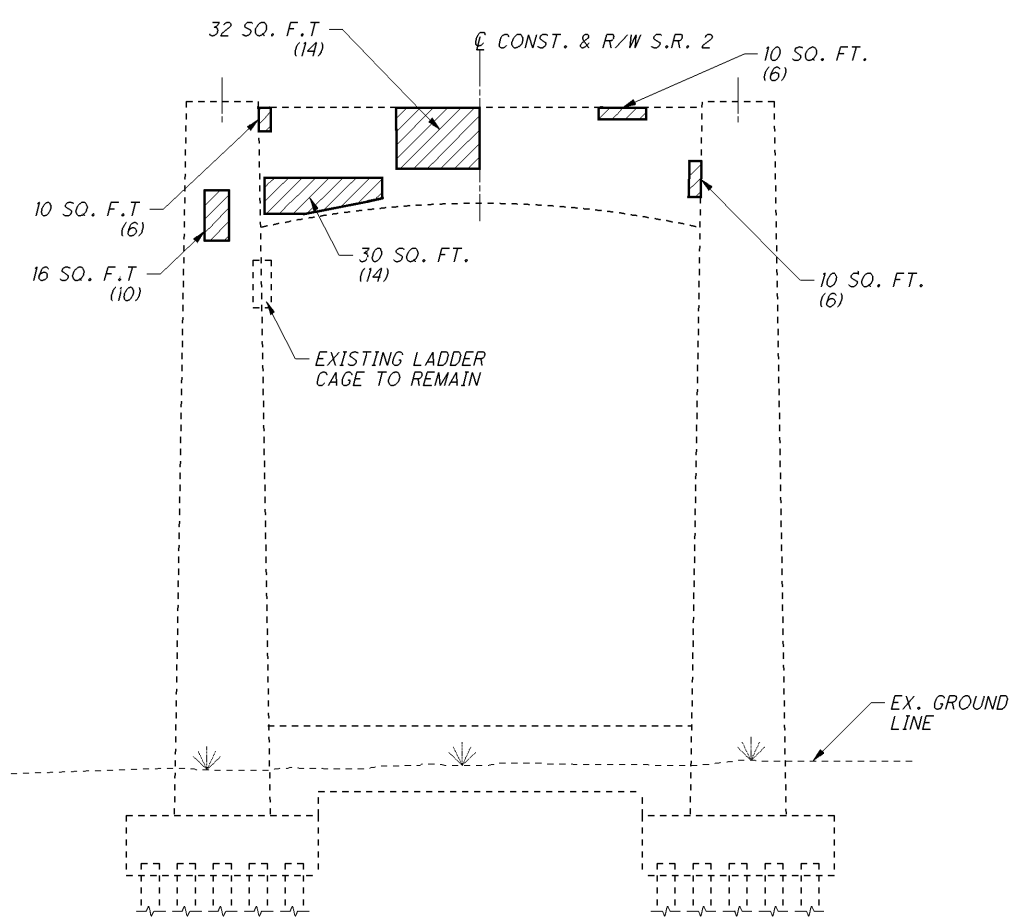
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

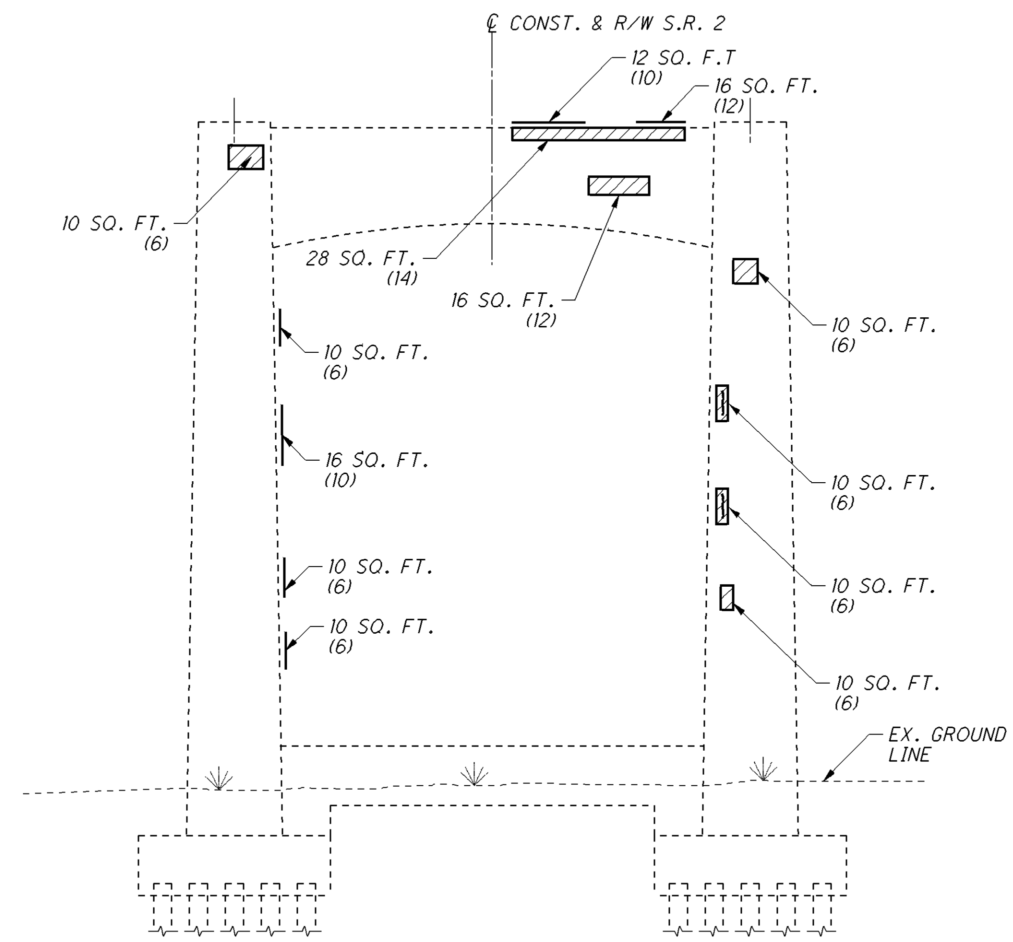
( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



ELEVATION LOOKING WEST



ELEVATION LOOKING EAST

PIER 1W ELEVATIONS

TOTAL PATCHING = 276 SQ. FT. X 1.25 = 345 SQ. FT. + 162 GALVANIC ANODES

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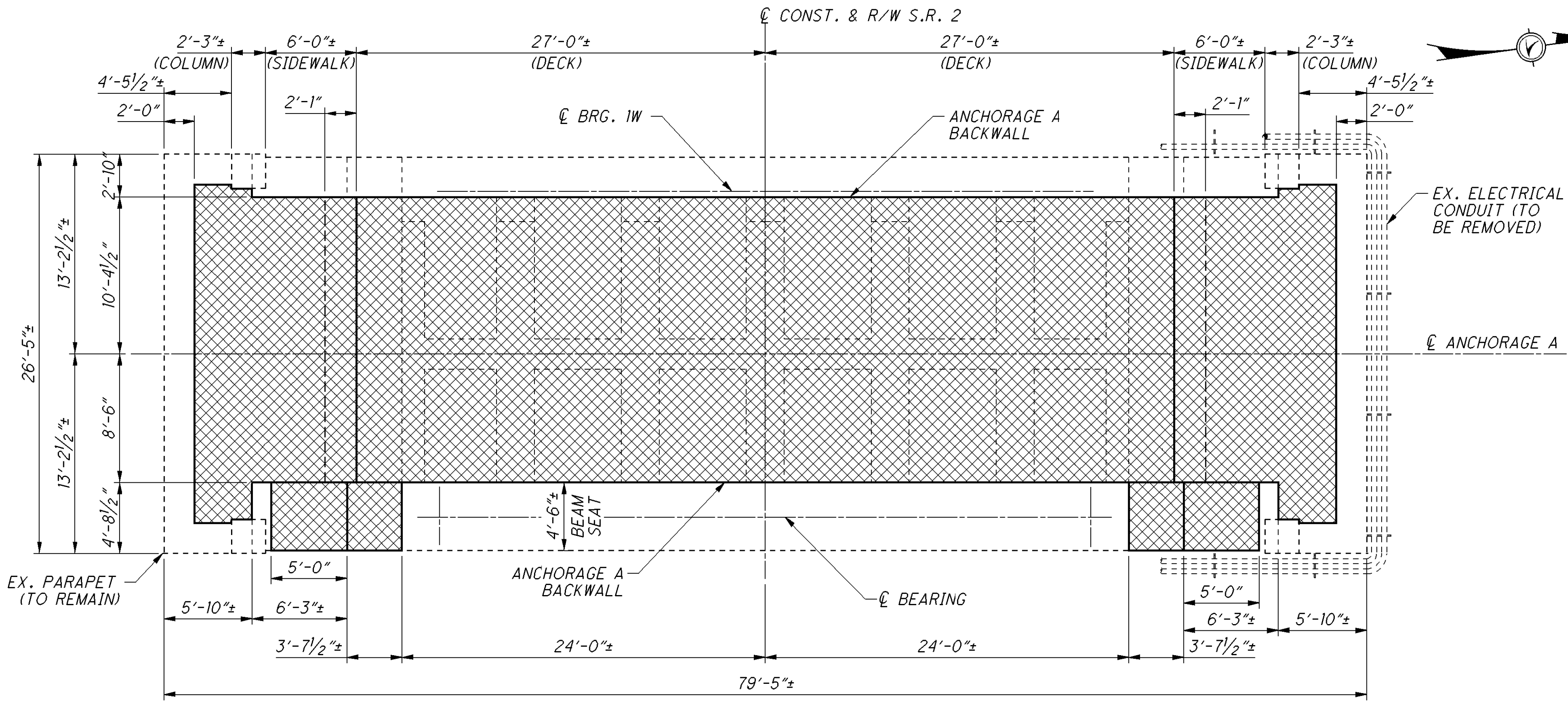
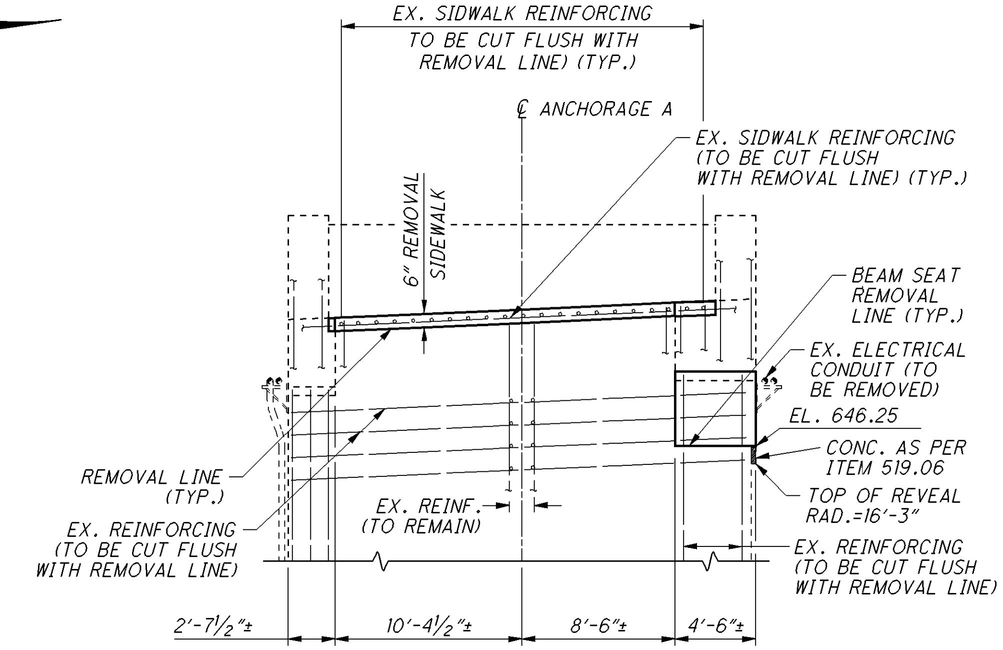
REPAIR DETAILS - PIER 1W
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

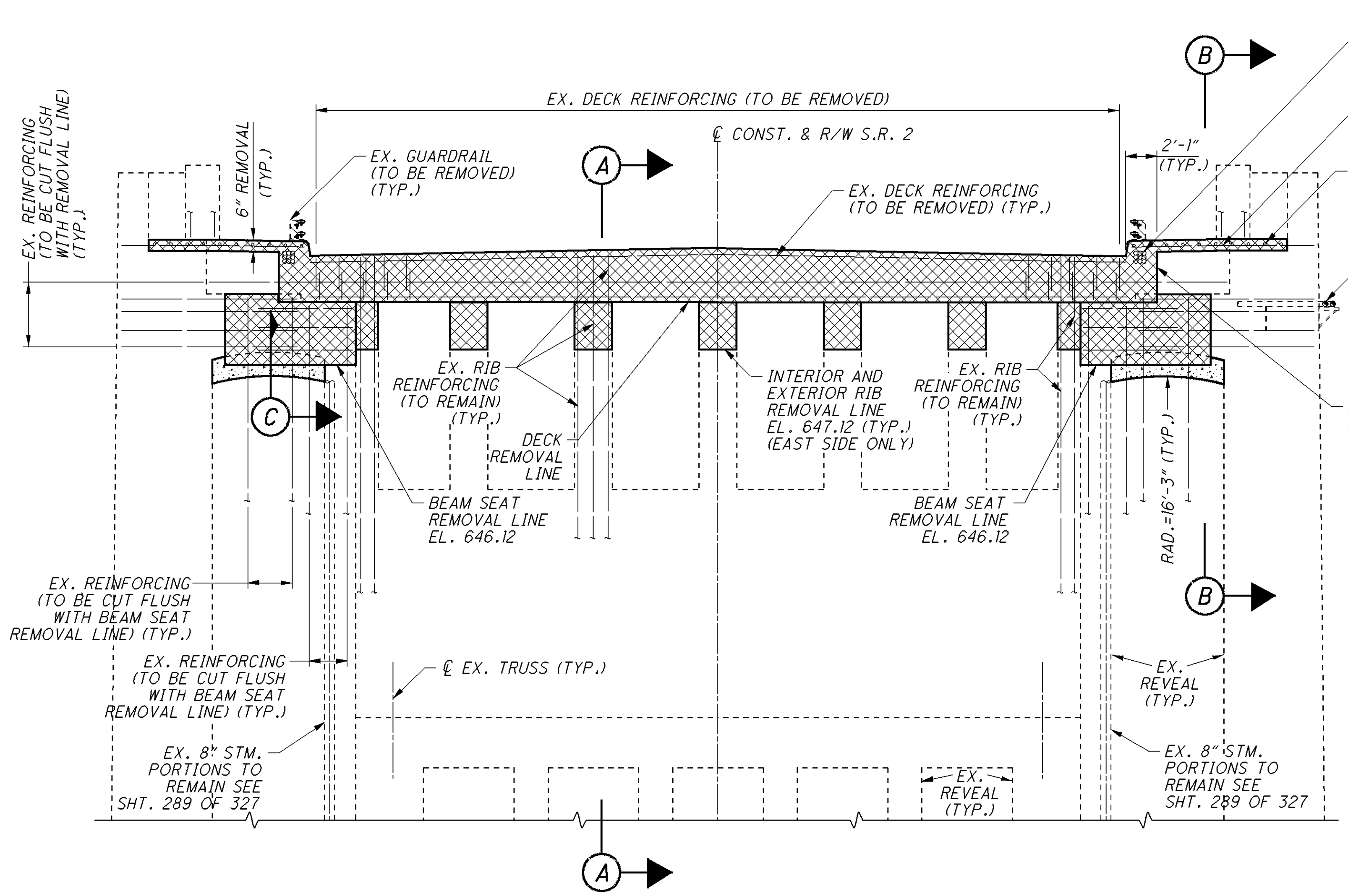
LUC-2-18.62
PID No. 80551



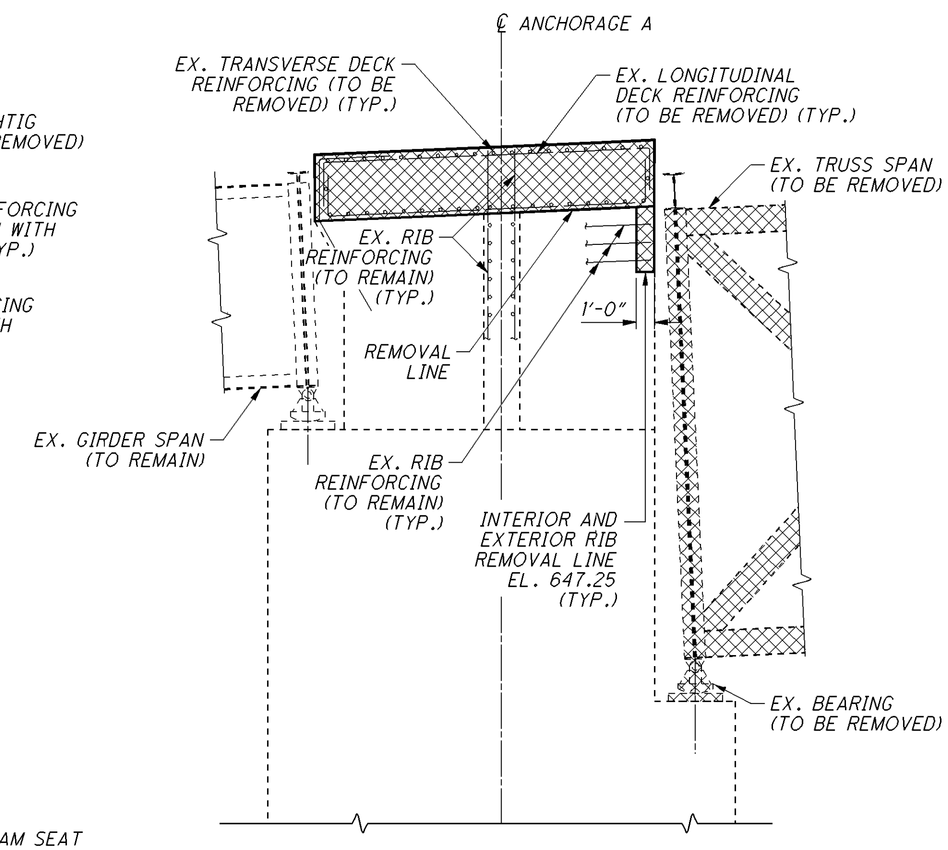
PLAN



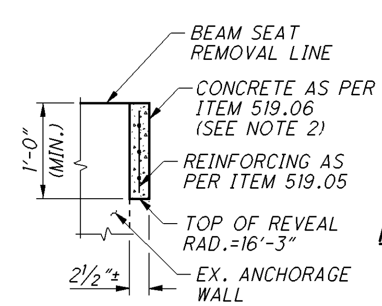
B SECTION
CONCRETE HATCHING NOT SHOWN FOR CLARITY



ELEVATION LOOKING WEST



A SECTION
CONCRETE HATCHING NOT SHOWN FOR CLARITY



C SECTION

NOTES:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.
2. INCLUDE REVEAL CONCRETE WITH ITEM 519 PATCHING CONCRETE STRUCTURES, APP

LEGEND

AREAS OF STRUCTURE TO BE FILLED WITH CONCRETE AS PER 519.05 AND 519.06, SEE NOTE 2

AREAS TO BE REMOVED AS PER ITEM 202

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REPAIR DETAILS - ANCHORAGE A
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

42/227

114/327

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LEGEND

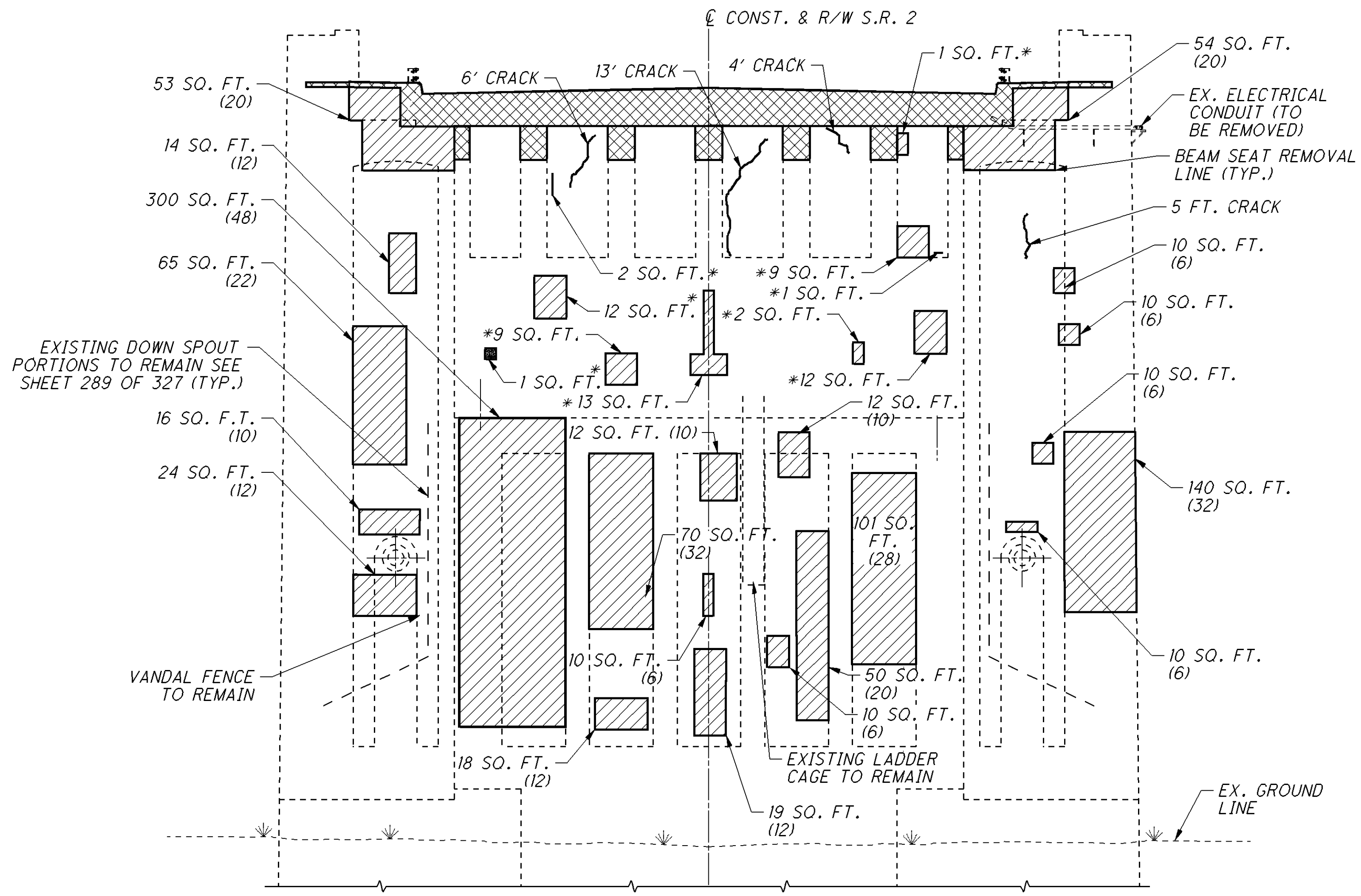
AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

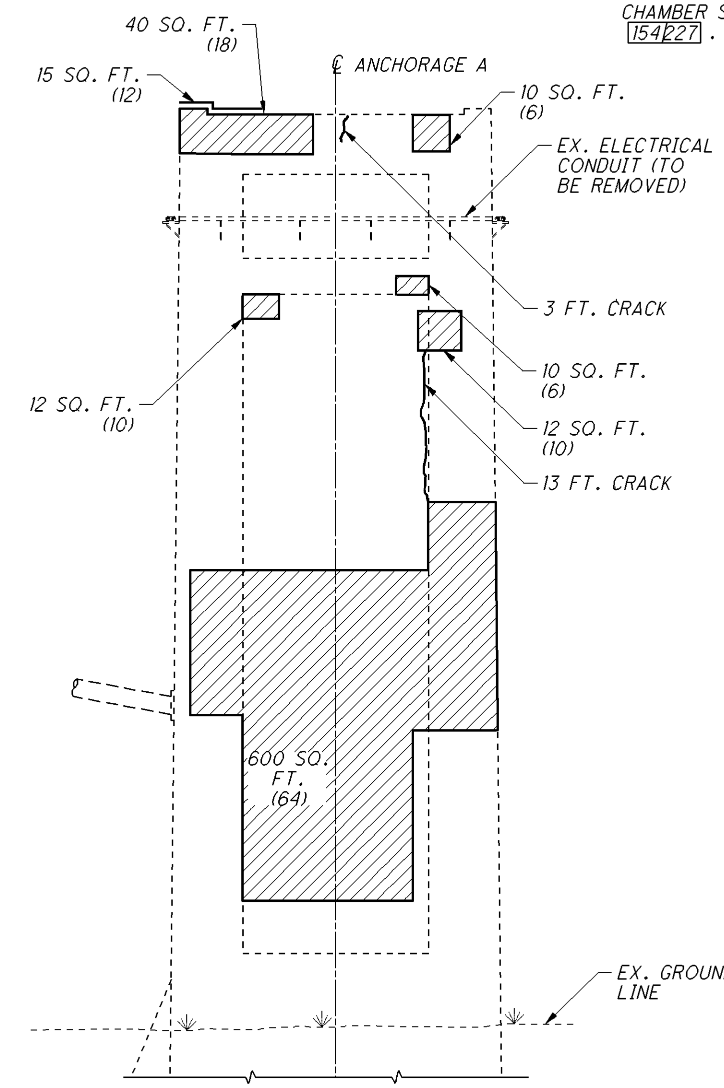
NOTES:

1. FORM PATCHING AND REMOVAL NOTES SEE SHEET 30/227.
2. FRO PATCHING LOCATIONS AND QUANTITIES WITHIN THE ANHORAGE CHAMBER SEE SHEETS 152/227 TRHU 154/227 .



* CONCRETE REMOVED ONLY

ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH

ANCHORAGE A ELEVATIONS

TOTAL PATCHING = 1,707 SQ. FT. X 1.25 = 2,134 SQ. FT. + 510 GALVANIC ANODES
TOTAL AREA REMOVED ONLY = 62 SQ. FT. X 1.25 = 78 SQ. FT.
SUBTOTAL CRACK REPAIR = 44 FEET

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REPAIR DETAILS - ANCHORAGE A
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

LEGEND

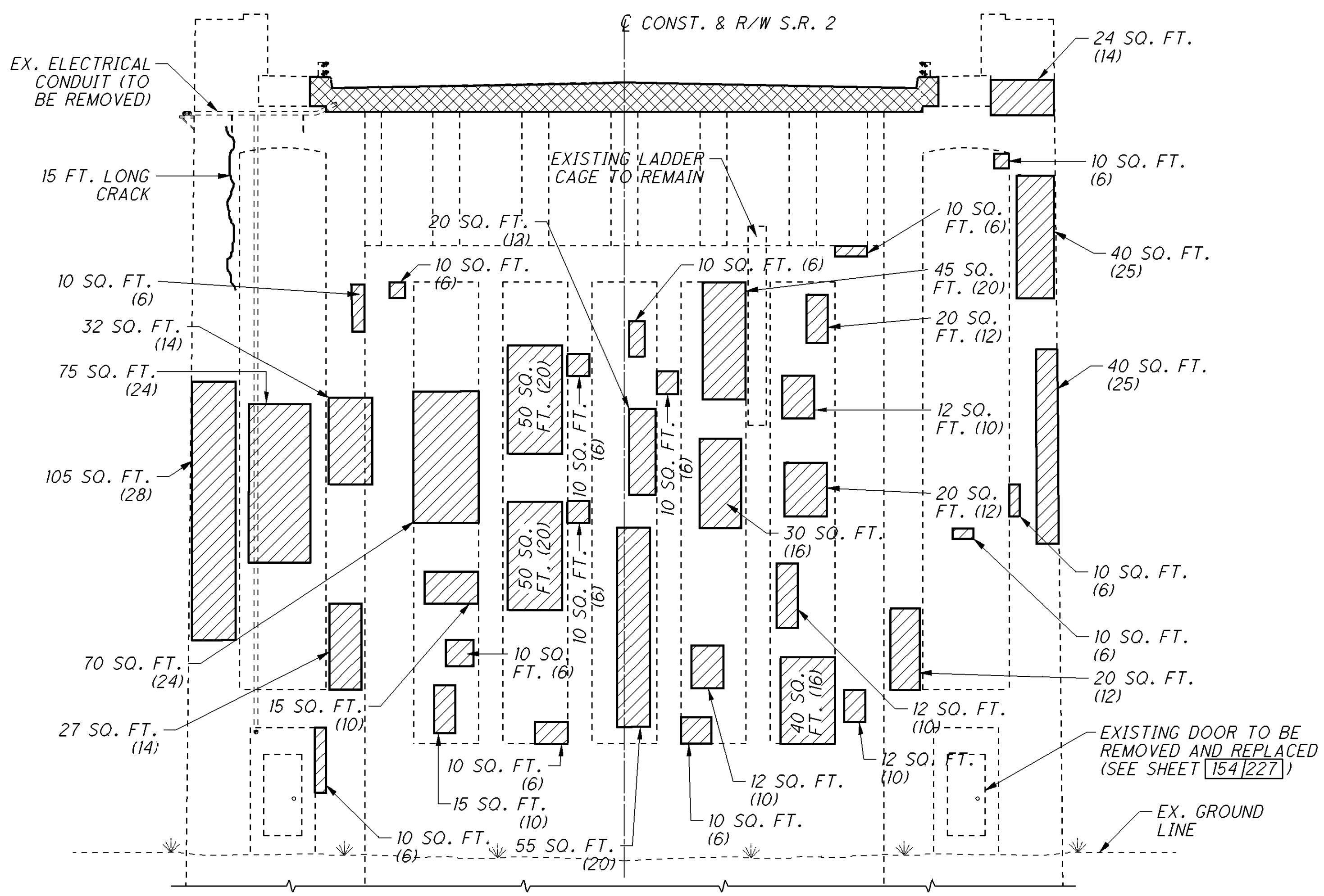
AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

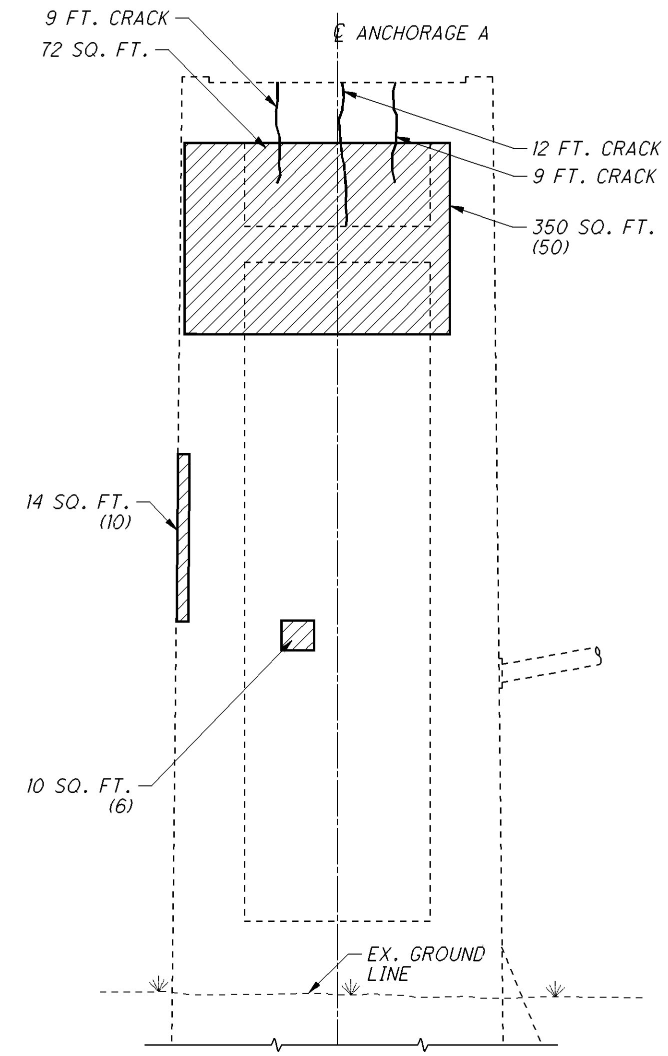
( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTES:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.
2. FOR PATCHING LOCATIONS AND QUANTITIES WITHIN THE ANCHORAGE CHAMBER, SEE SHEET 154/227.



ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

ANCHORAGE A ELEVATIONS

TOTAL PATCHING = 1,358 SQ. FT. X 1.25 = 1,698 SQ. FT. + 520 GALVANIC ANODES
SUBTOTAL CRACK REPAIR = 45 FEET

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REPAIR DETAILS - ANCHORAGE A
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

NOTES:

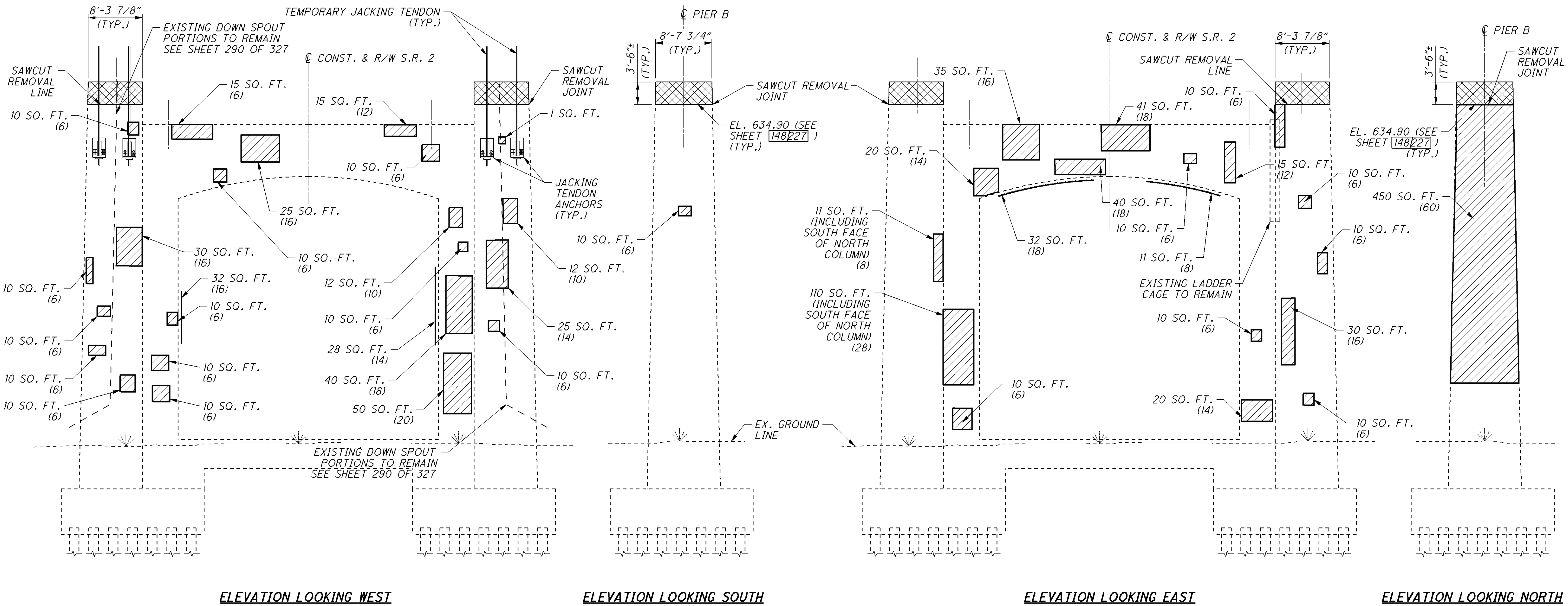
1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.
2. DO NOT REMOVE CONCRETE PRIOR TO INSTALLATION OF TEMPORARY HOLD-DOWN FOR ADDITIONAL DETAILS SEE SHEET 147/227 AND 148/227 .

LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

AREAS TO BE REMOVED AS PER ITEM 202

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH



PIER B ELEVATIONS

TOTAL PATCHING = 1,288 SQ. FT. X 1.25 = 1,610 SQ. FT. + 502 GALVANIC ANODES

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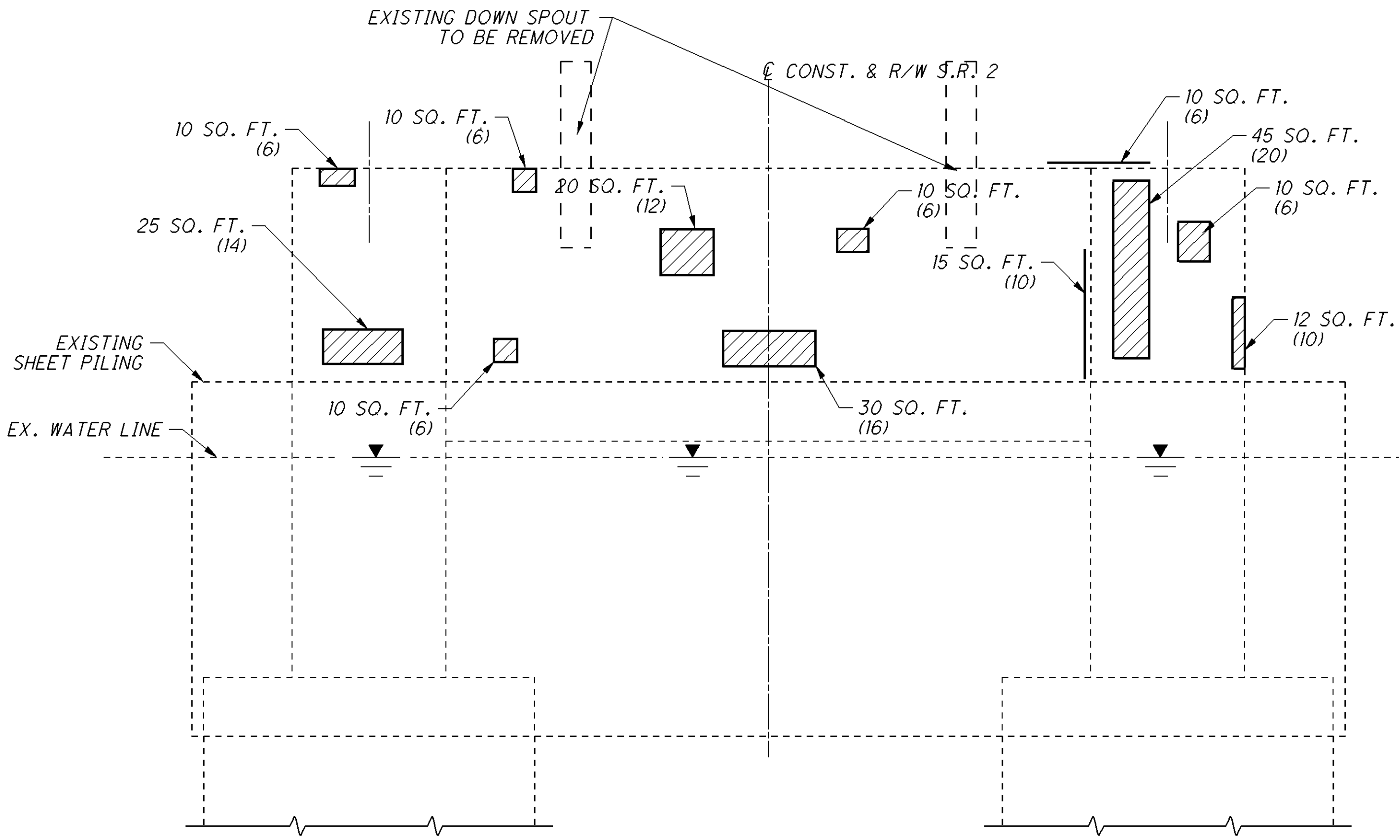
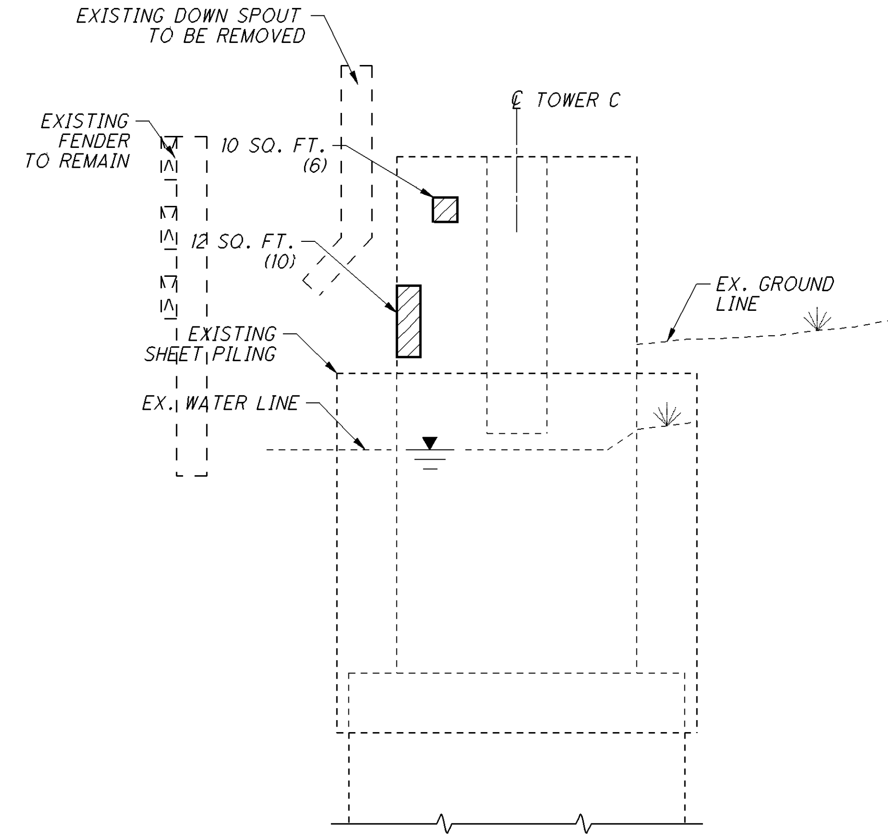
REPAIR DETAILS - PIER B
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

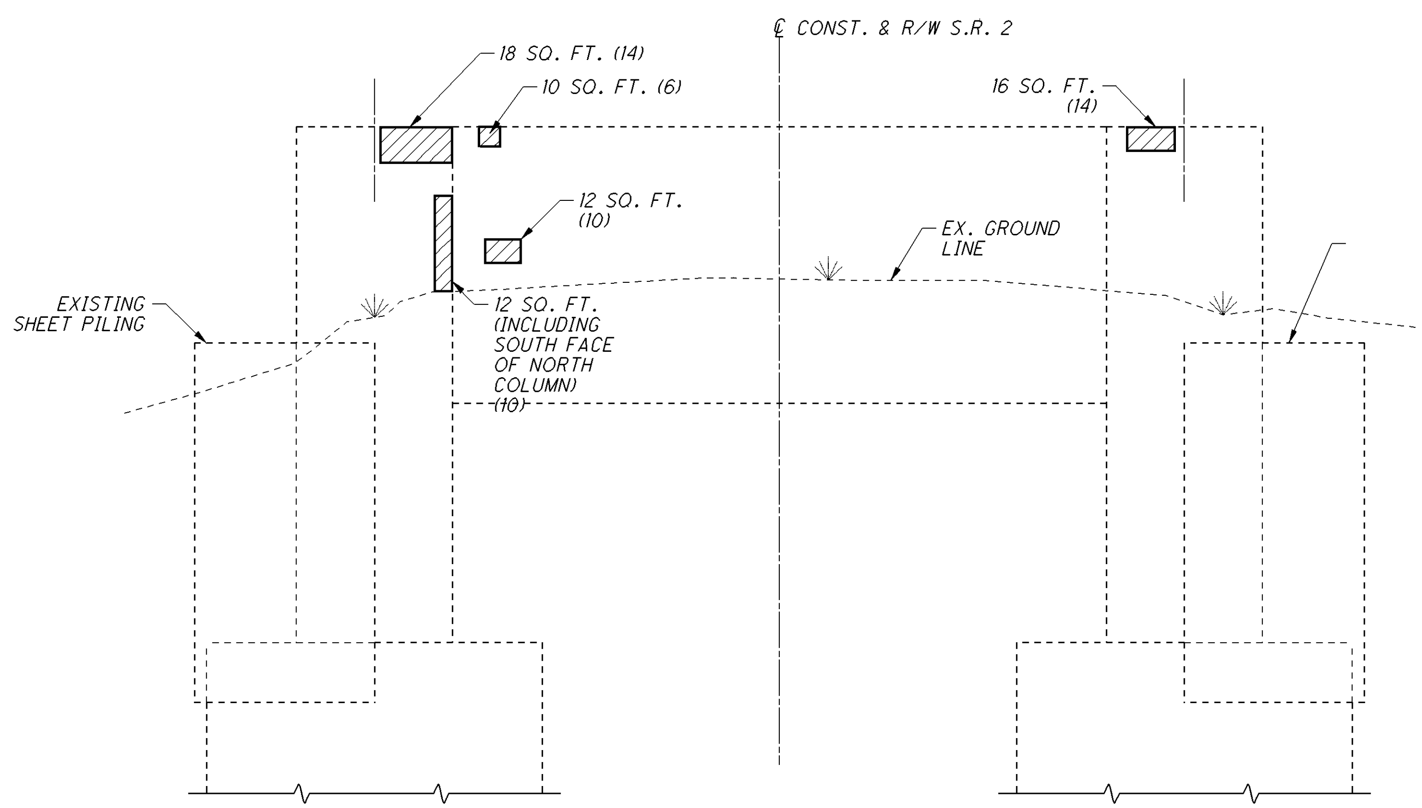
LUC-2-18.62
PID No. 80551



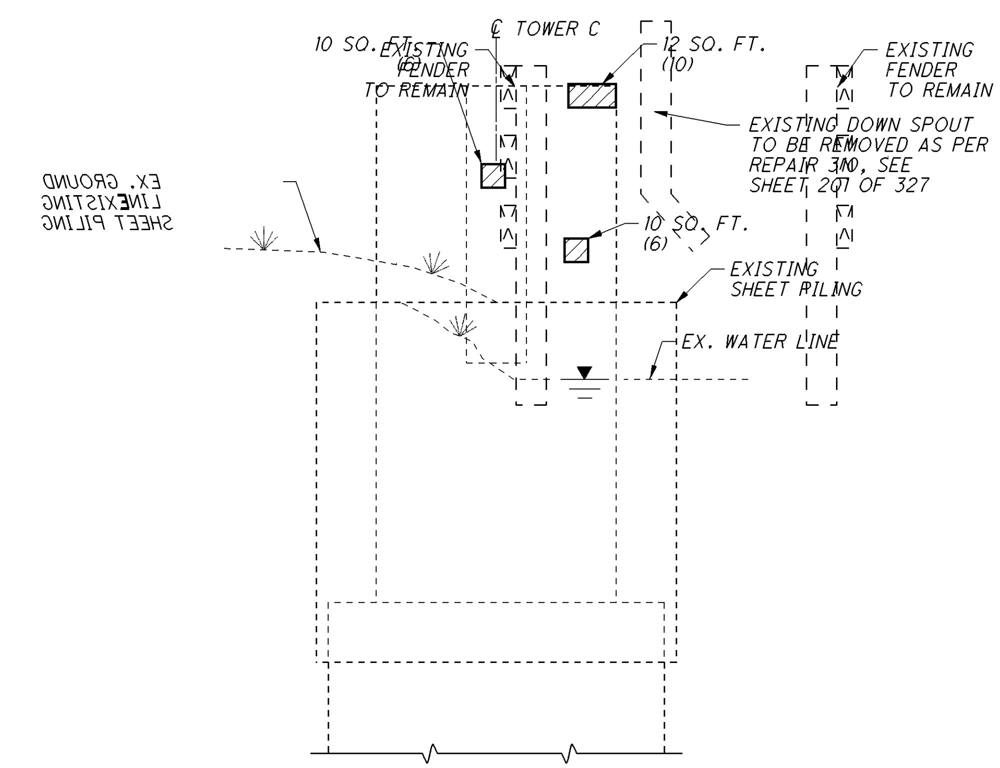
ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH



ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

TOWER C ELEVATIONS

TOTAL PATCHING = 317 SQ. FT. X 1.25 = 396 SQ. FT. + 200 GALCANIC ANODES

LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES THE ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.

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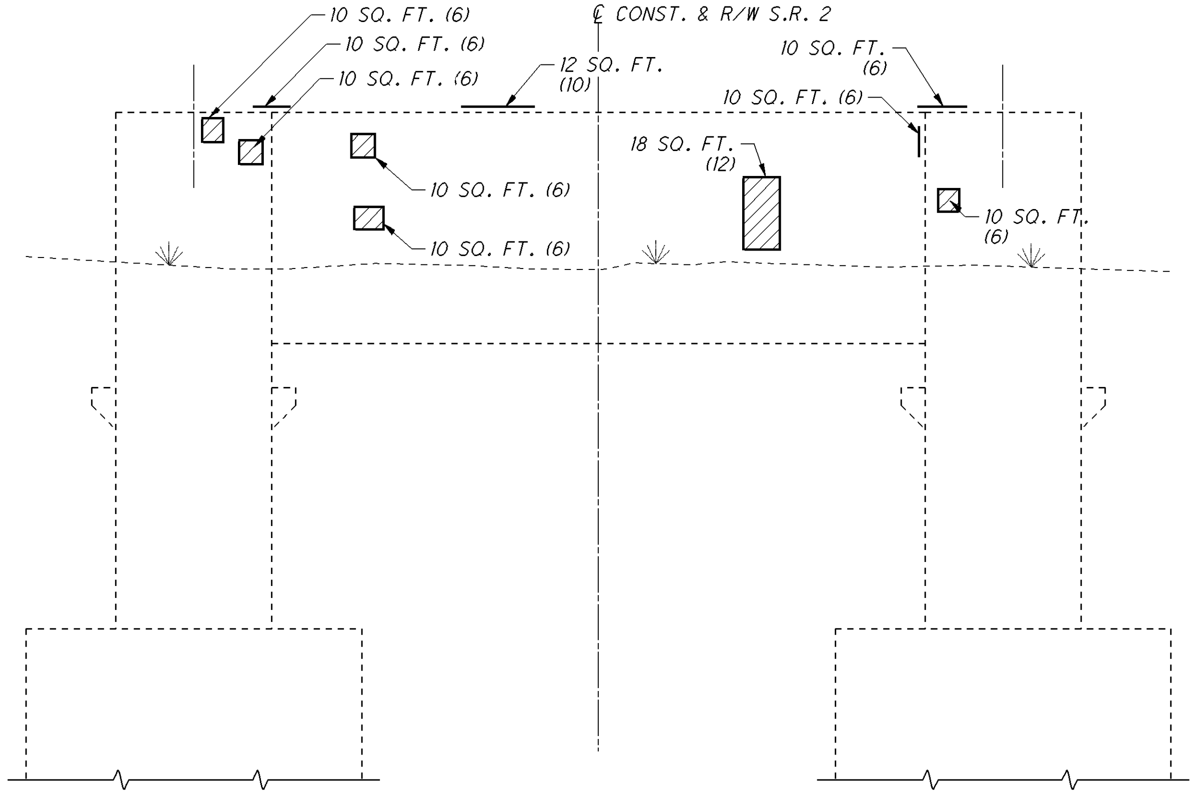
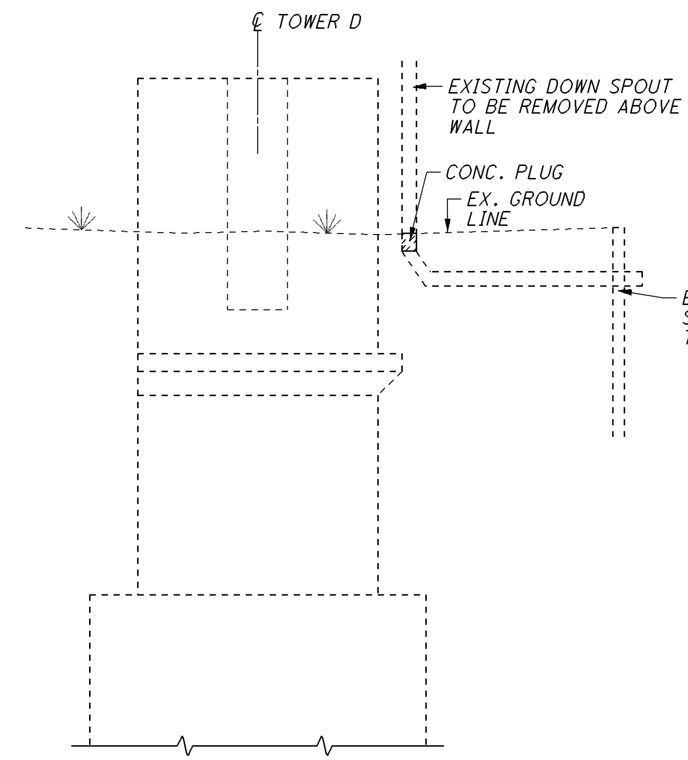
REPAIR DETAILS - TOWER C
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH

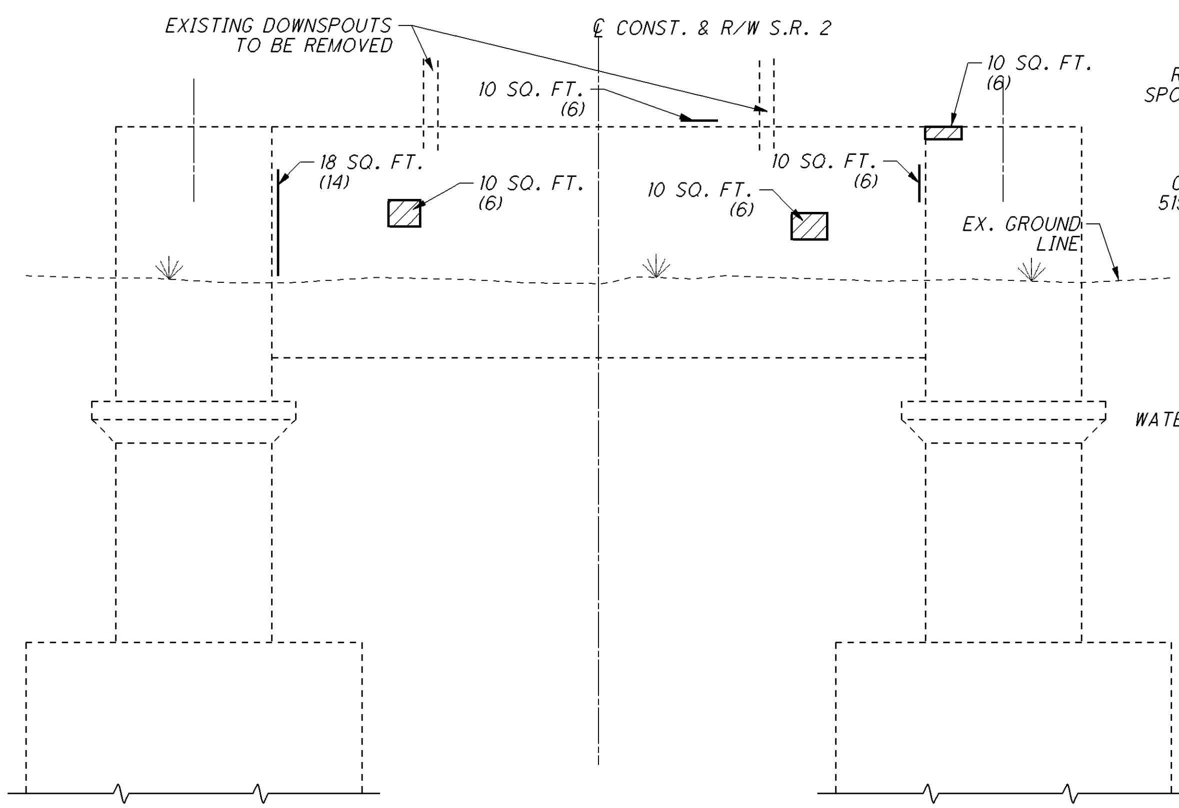
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

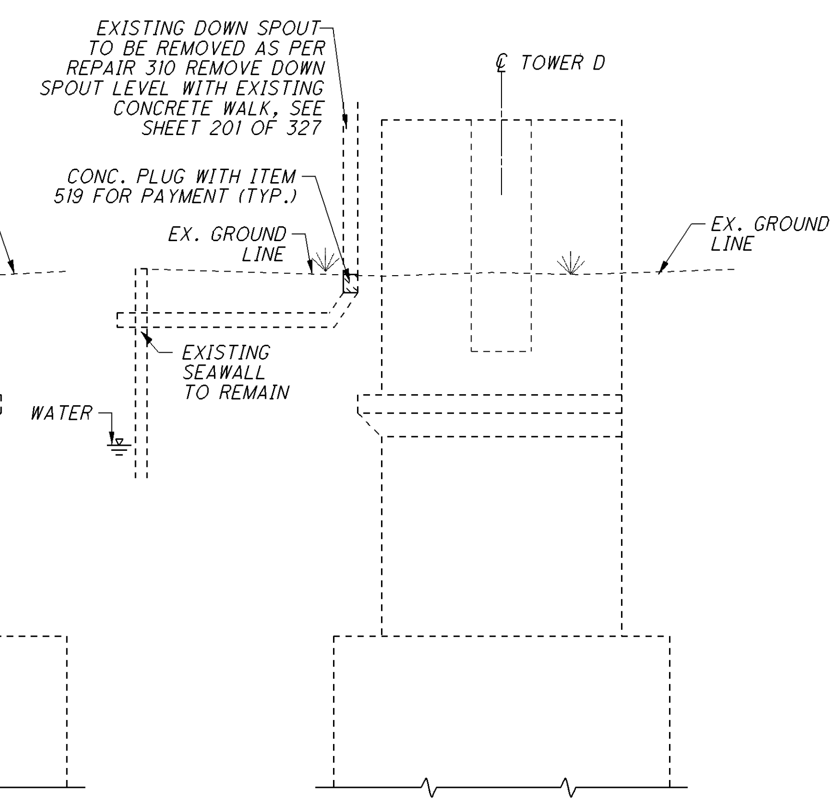
( ) INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

TOWER D ELEVATIONS

TOTAL PATCHING = 168 SQ. FT. X 1.25 = 210 SQ. FT. + 114 GALVANIC ANODES

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AJM		4800303	

REPAIR DETAILS - TOWER D
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

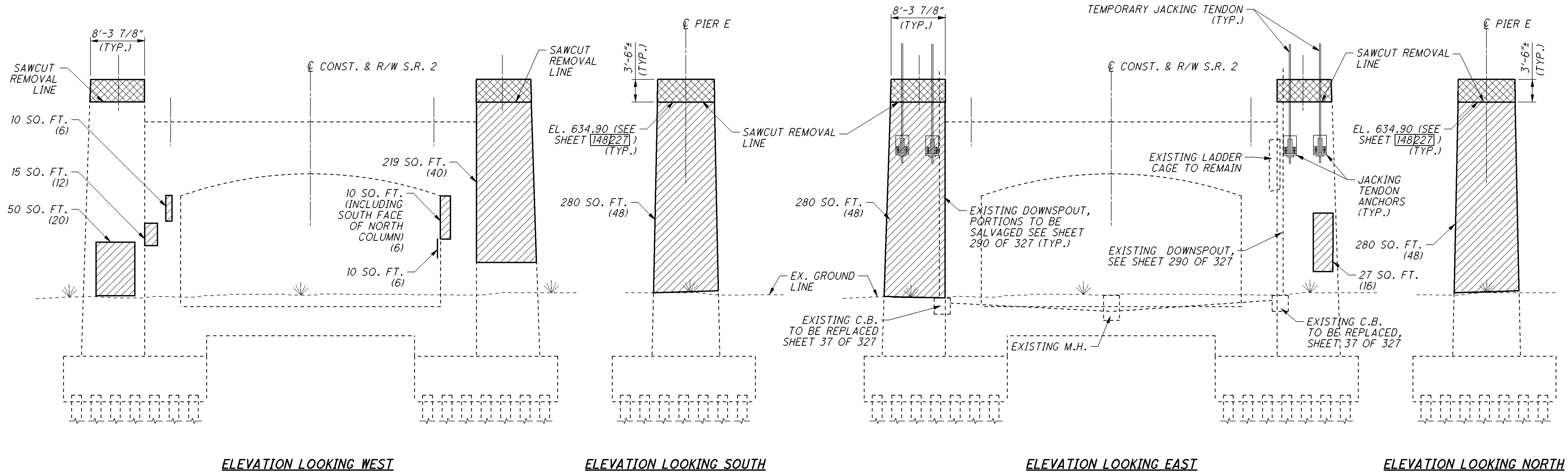
LUC-2-18.62
PID No. 80551

NOTES:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET [illegible]
2. DO NOT REMOVE CONCRETE PRIOR TO INSTALLATION OF TEMPORARY HOLD-DOWN FOR ADDITIONAL DETAILS SEE SHEET 147/227 AND 148/227 .

LEGEND

(hatched)	AREAS TO BE PATCHED AS PER ITEM 519
(cross-hatched)	AREAS TO BE REMOVED AS PER ITEM 202
( )	INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH



PIER E ELEVATIONS

TOTAL PATCHING = 1,170 SQ. FT. X 1.25 = 1,463 SQ. FT. + GALVANIC ANODES

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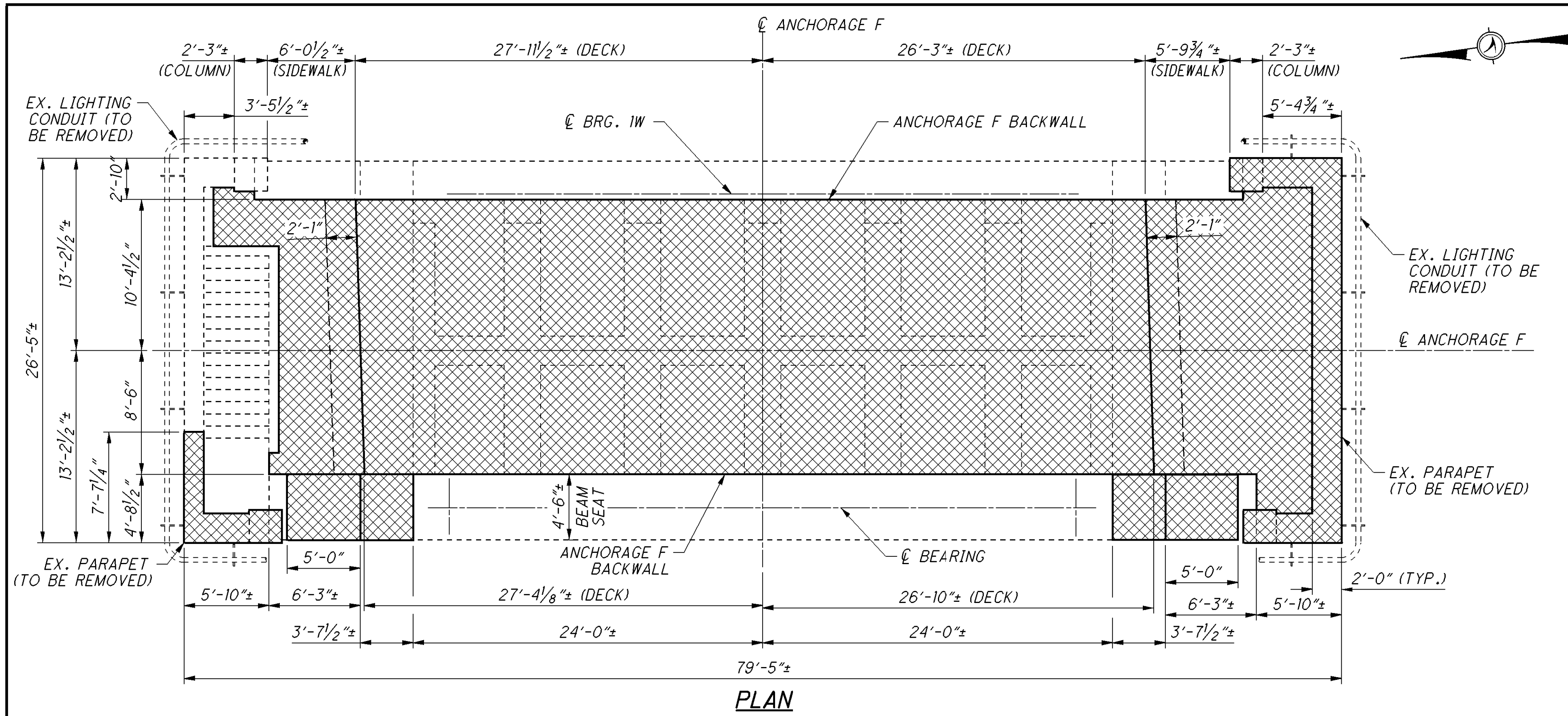
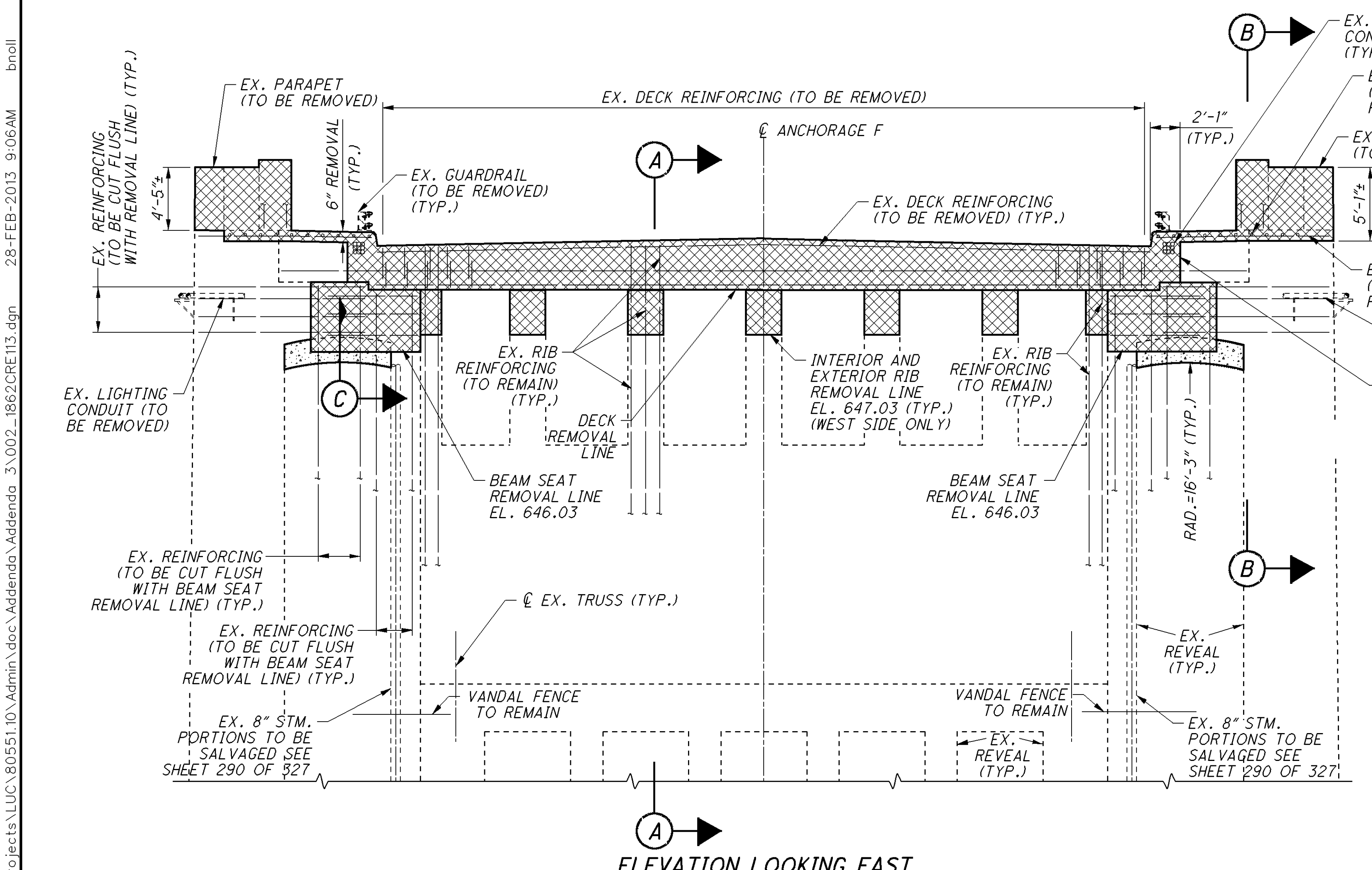
REPAIR DETAILS - PIER E
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

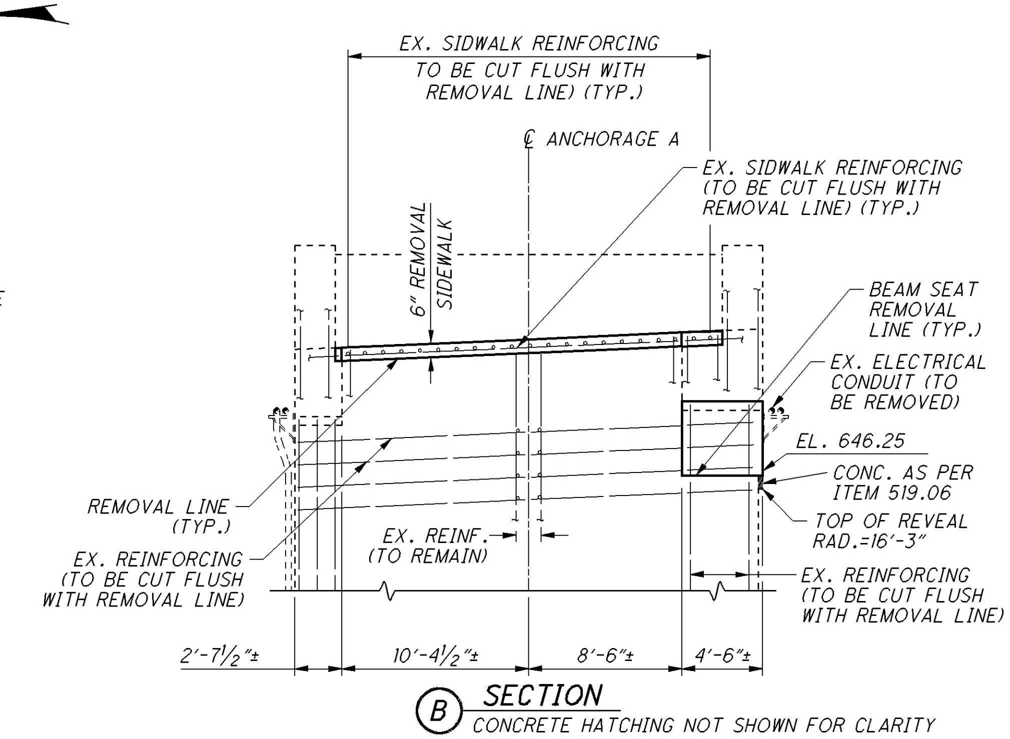
LUC-2-18.62
PID No. 80551



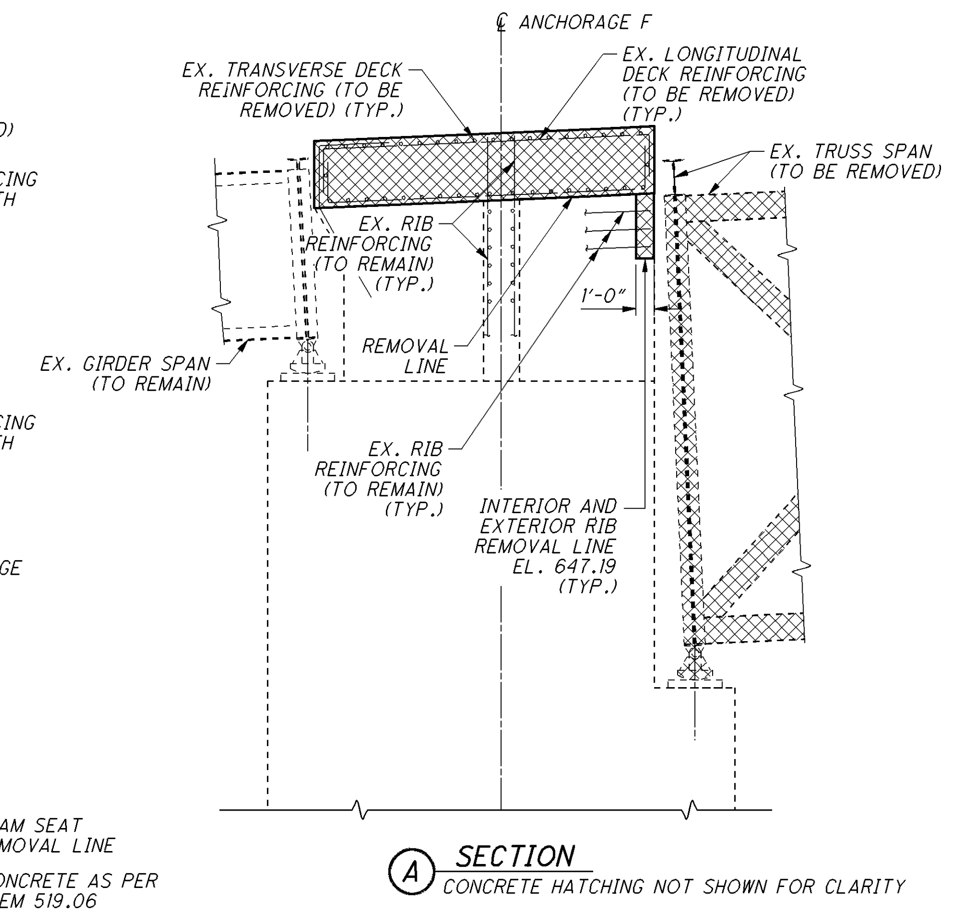
PLAN



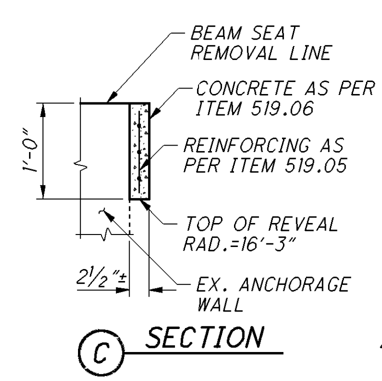
ELEVATION LOOKING EAST



B SECTION
CONCRETE HATCHING NOT SHOWN FOR CLARITY



A SECTION
CONCRETE HATCHING NOT SHOWN FOR CLARITY



C SECTION

NOTES:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.
2. INCLUDE REVEAL CONCRETE WITH ITEM 519 PATCHING CONCRETE STRUCTURES, AS PER PLAN.

LEGEND

AREAS OF STRUCTURE TO BE FILLED WITH CONCRETE AS PER 519.05 AND 519.06, SEE NOTE 2

AREAS TO BE REMOVED AS PER ITEM 202

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REPAIR DETAILS - ANCHORAGE F
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

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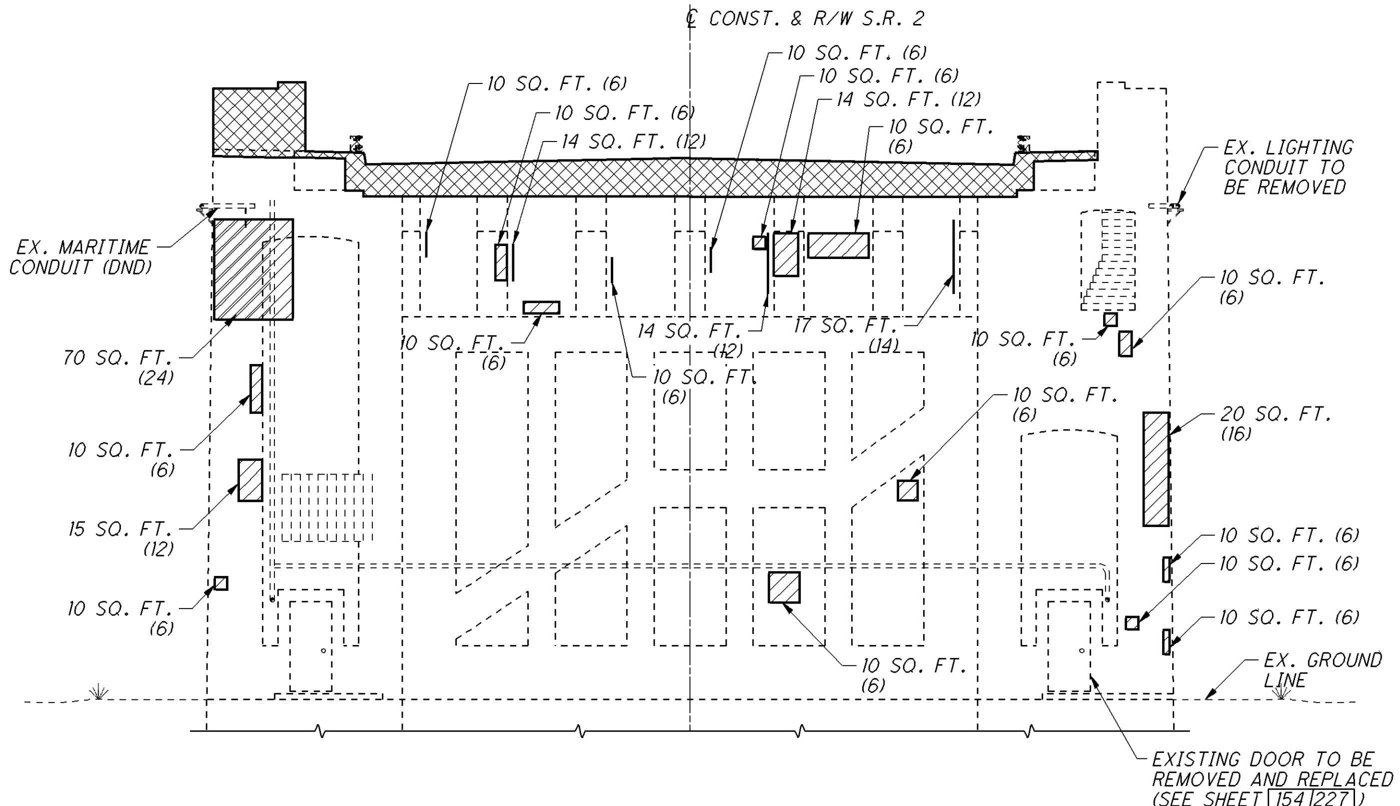
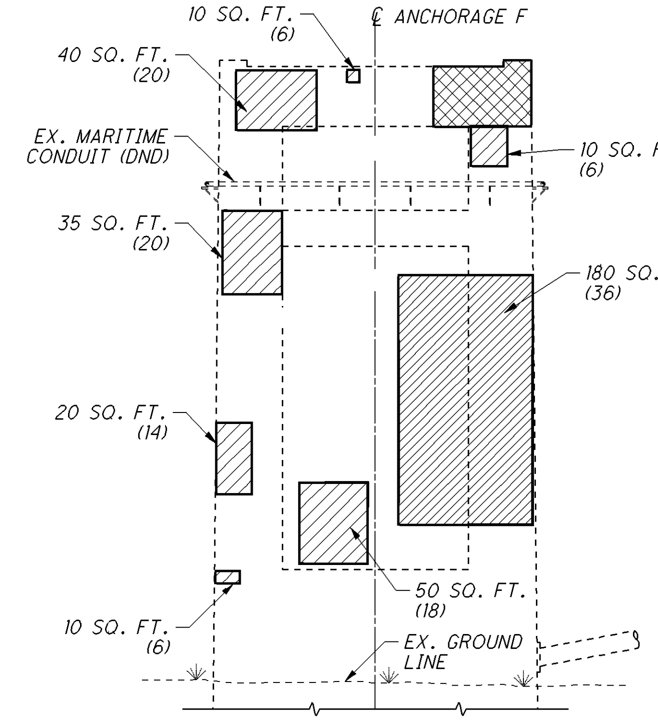
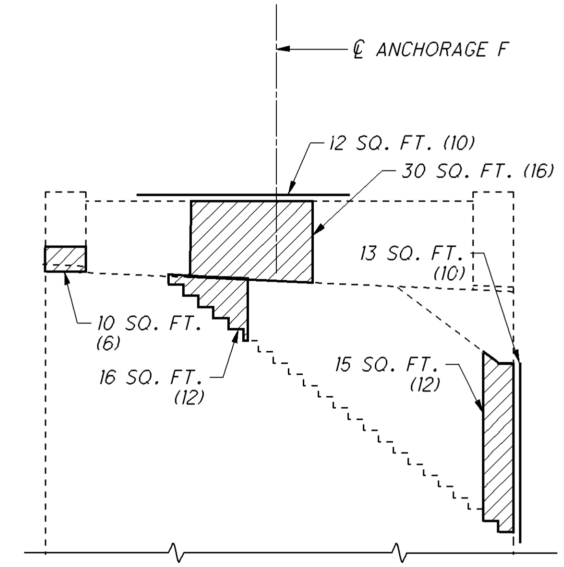


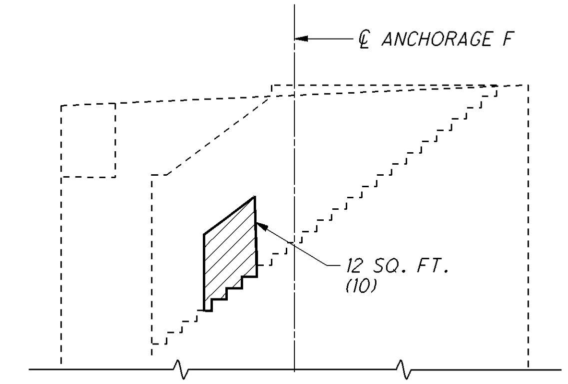
ELEVATION LOOKING WEST



ELEVATION LOOKING SOUTH



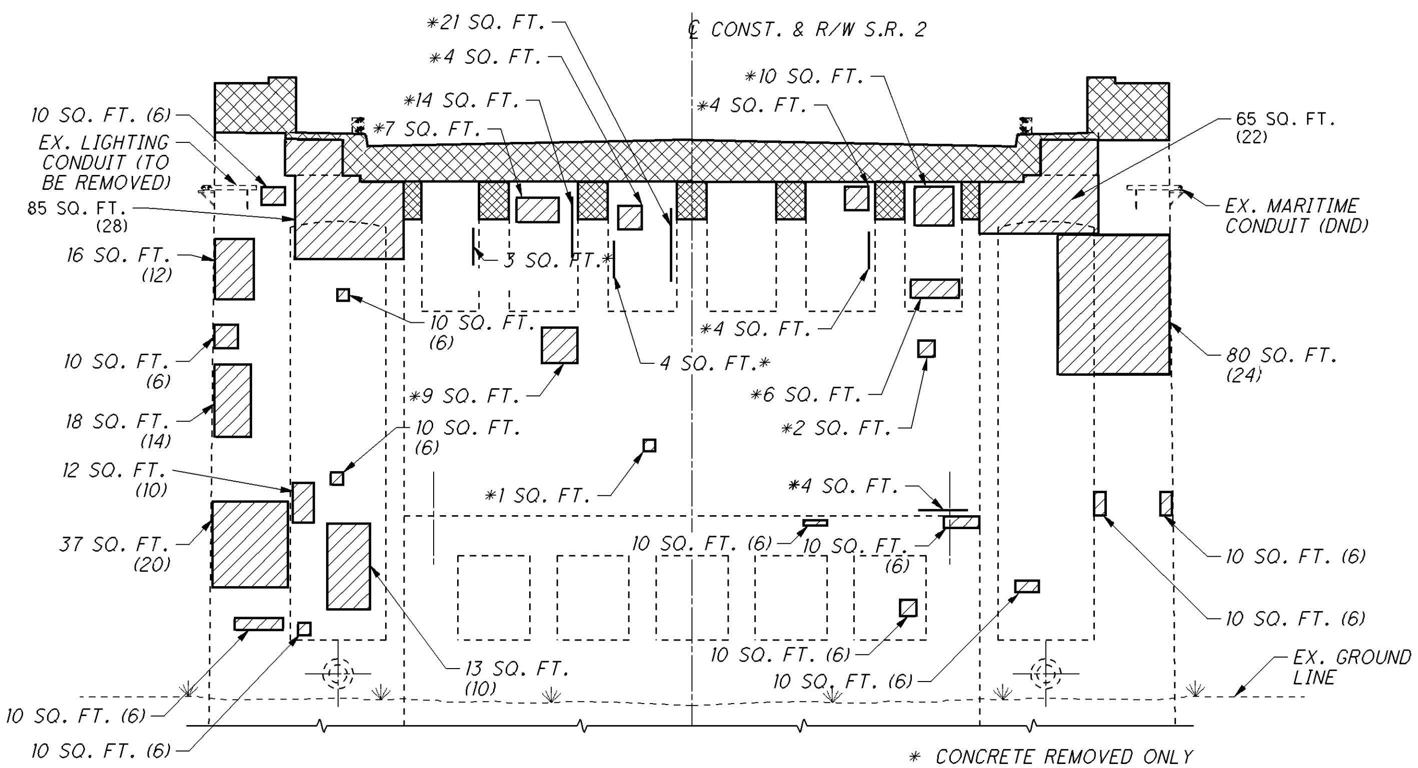
NORTH FACE ELEVATION



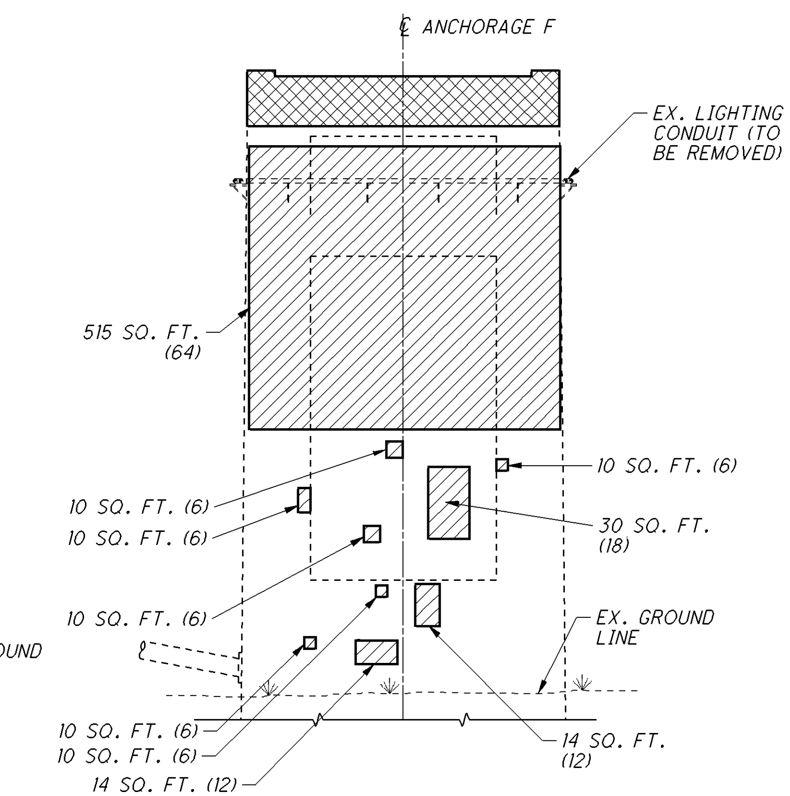
SOUTH FACE ELEVATION

ANCHORAGE F ELEVATIONS

SUBTOTAL PATCHING = 777 SQ. FT. X 1.25 = 971 SQ. FT. + 400 GALVANIC ANODES



ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

ANCHORAGE F ELEVATIONS

SUBTOTAL PATCHING = 1,099 SQ. FT. X 1.25 = 1,374 SQ. FT. + 354 GALVANIC ANODES

TOTAL PATCHING = 2,345 SQ. FT. + 754 GALVANIC ANODES

TOTAL AREA REMOVED ONLY = 97 SQ. FT. X 1.25 = 121 SQ. FT.

LEGEND

AREAS TO BE REMOVED AS PER ITEM 202 (SEE SHEET 49/227)

AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 50/227.

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REPAIR DETAILS - ANCHORAGE F
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

50/227

122/327

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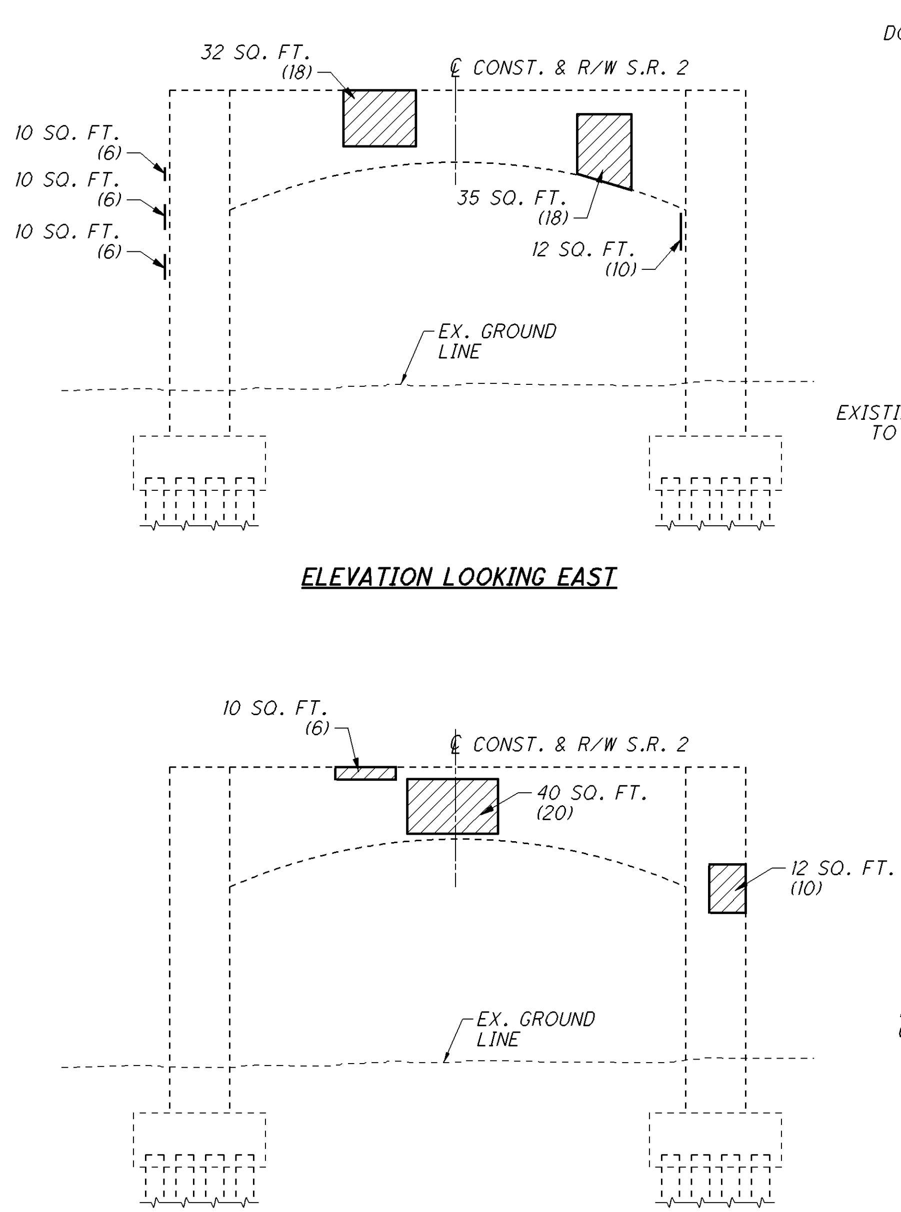
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.

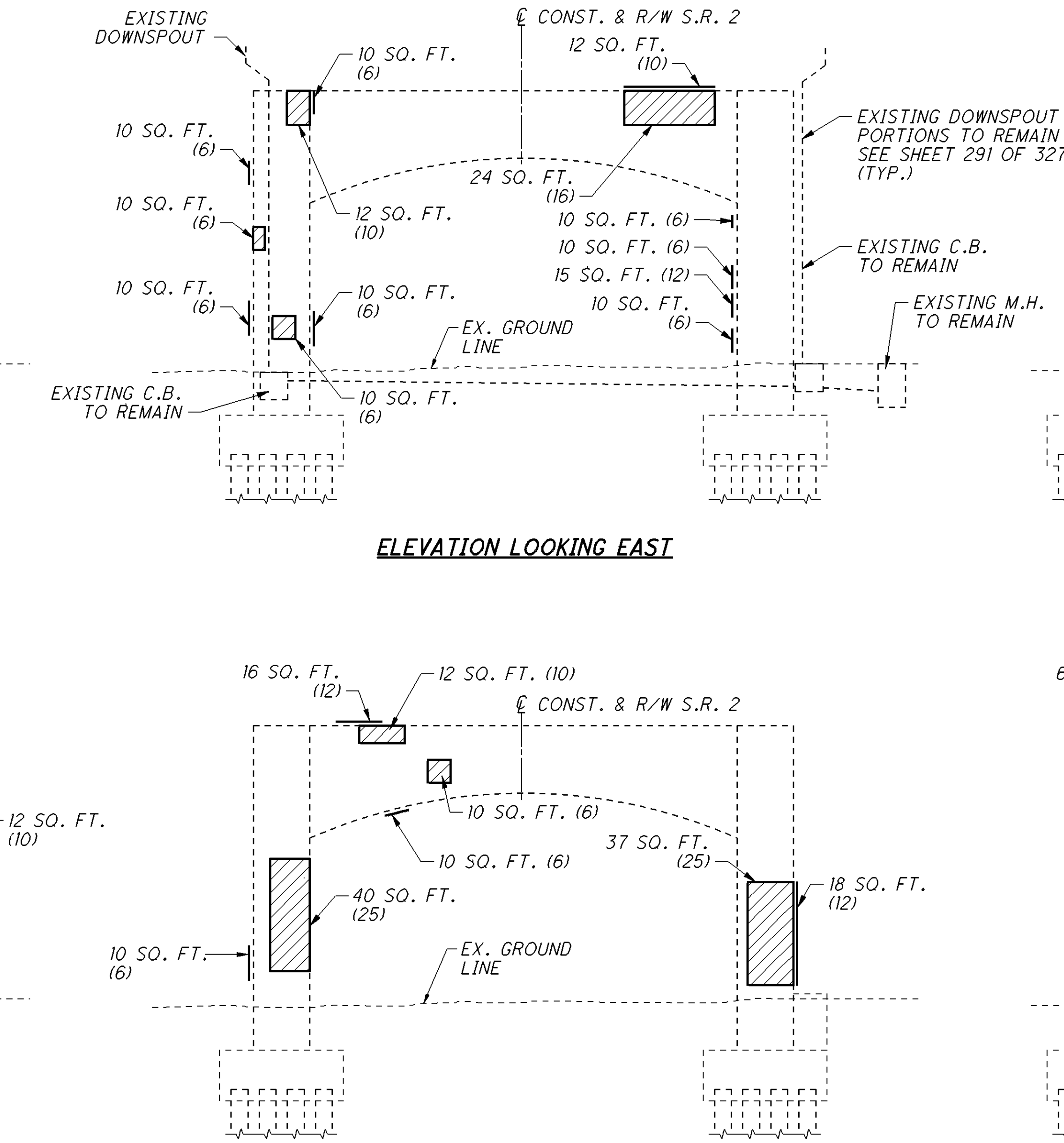


ELEVATION LOOKING EAST

ELEVATION LOOKING WEST

PIER 1E ELEVATIONS

TOTAL PATCHING = 171 SQ. FT. X 1.25 = 214 SQ. FT. + 100 GALVANIC ANODES



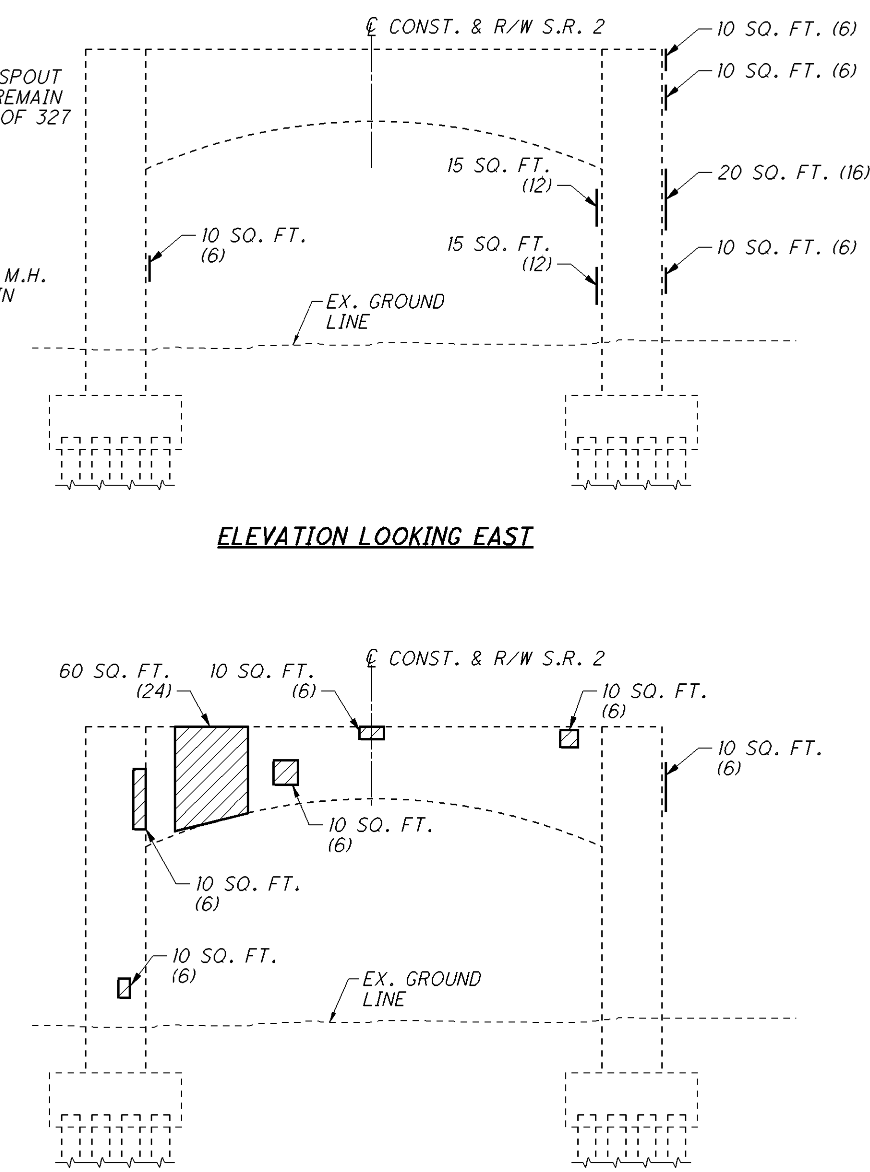
ELEVATION LOOKING EAST

ELEVATION LOOKING WEST

(EX. BRIDGE DRAINAGE TO BE REMOVED)

PIER 2E ELEVATIONS

TOTAL PATCHING = 306 SQ. FT. X 1.25 = 383 SQ. FT. + 204 GALVANIC ANODES



ELEVATION LOOKING EAST

ELEVATION LOOKING WEST

PIER 3E ELEVATIONS

TOTAL PATCHING = 210 SQ. FT. X 1.25 = 263 SQ. FT. + 124 GALVANIC ANODES

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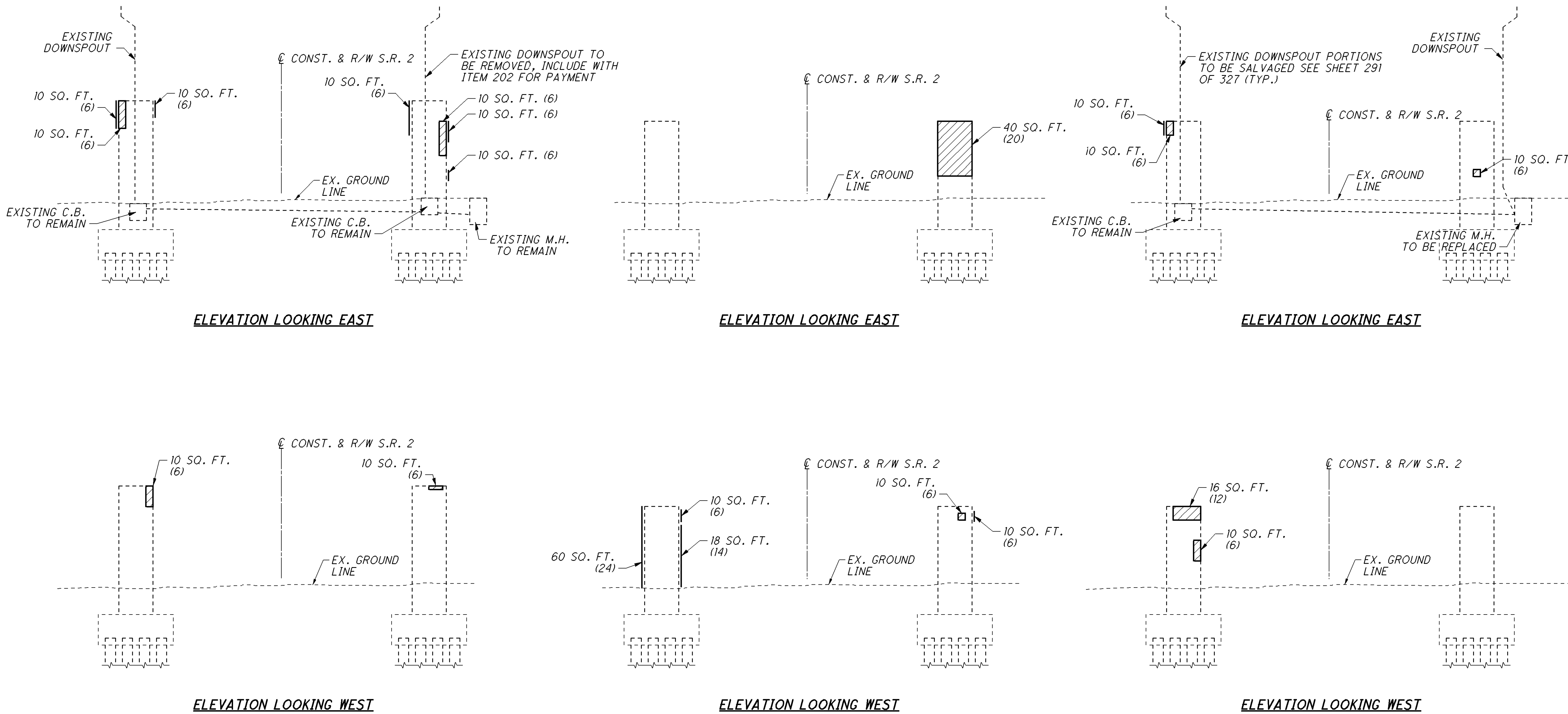
REPAIR DETAILS - PIERS 1E TO 3E

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



PIER 4E ELEVATIONS

TOTAL PATCHING = 90 SQ. FT. X 1.25 = 113 SQ. FT. + 54 GALVANIC ANODES

PIER 5E ELEVATIONS

TOTAL PATCHING = 148 SQ. FT. X 1.25 = 185 SQ. FT. + 76 GALVANIC ANODES

PIER 6E ELEVATIONS

TOTAL PATCHING = 56 SQ. FT. X 1.25 = 70 SQ. FT. + 36 GALVANIC ANODES

LEGEND

(hatched box) AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.

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REPAIR DETAILS - PIERS 4E TO 6E
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

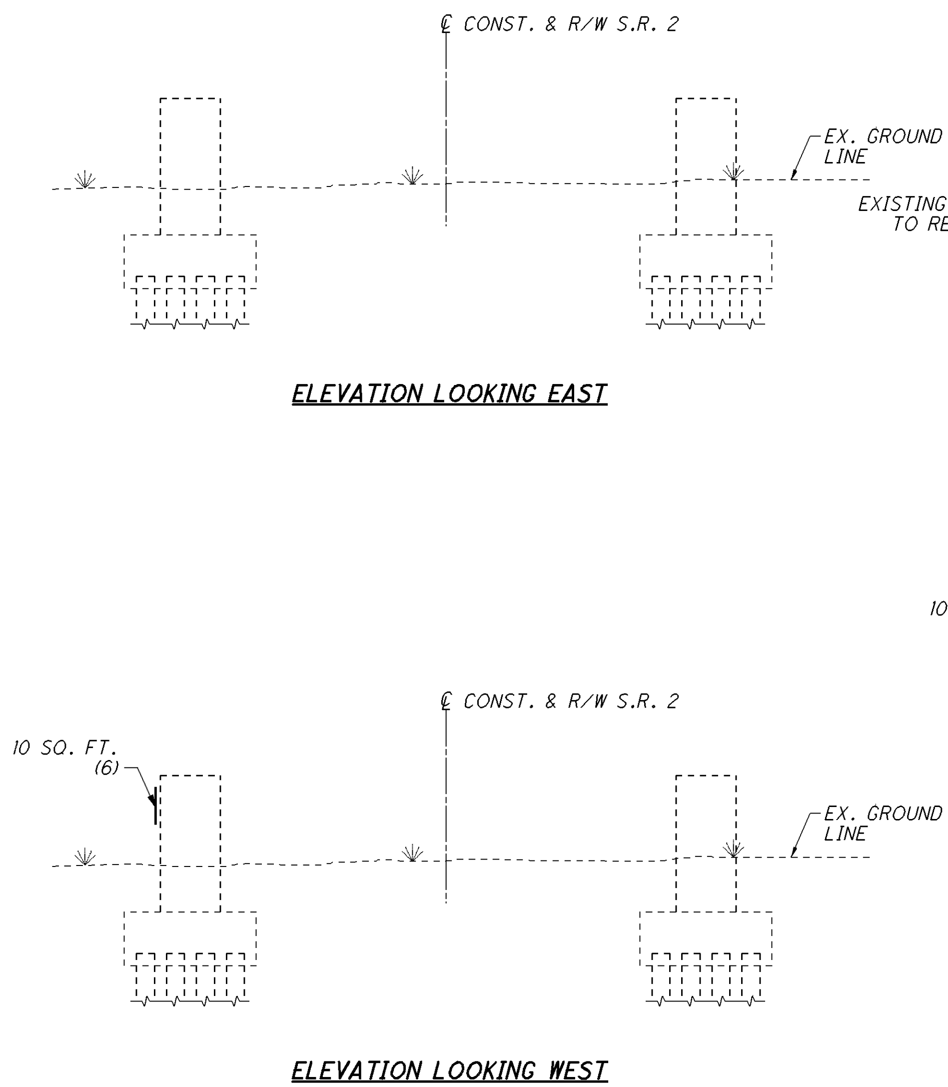
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

( ) INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

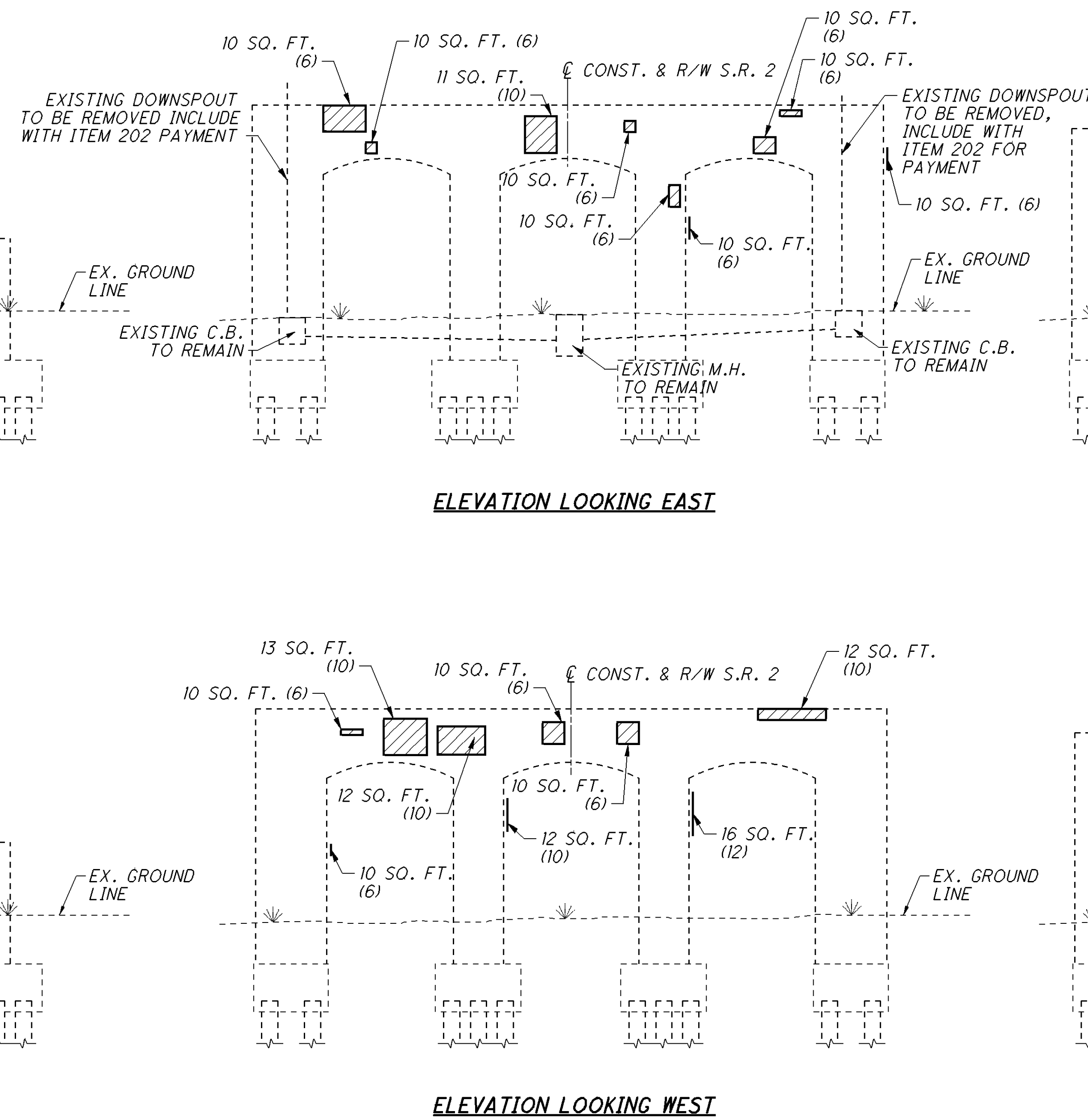
NOTE:

1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



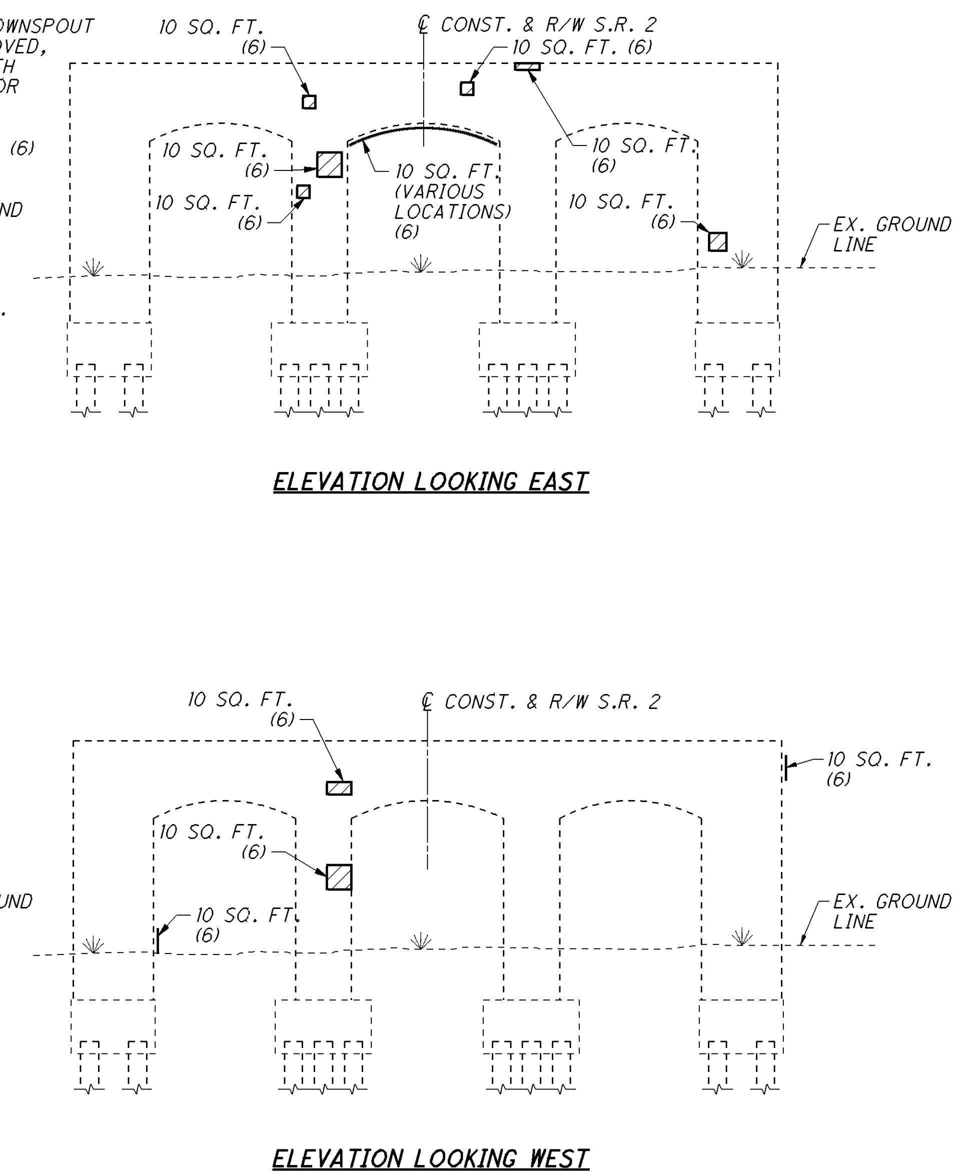
PIER 7E ELEVATIONS

TOTAL PATCHING = 10 SQ. FT. X 1.25 = 13 SQ. FT. + 6 GALVANIC ANODES



PIER 8E ELEVATIONS

TOTAL PATCHING = 196 SQ. FT. X 1.25 = 245 SQ. FT. + 135 GALVANIC ANODES



PIER 9E ELEVATIONS

TOTAL PATCHING = 100 SQ. FT. X 1.25 = 125 SQ. FT. + GALVANIC ANODES

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REPAIR DETAILS - PIERS 7E TO 9E
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

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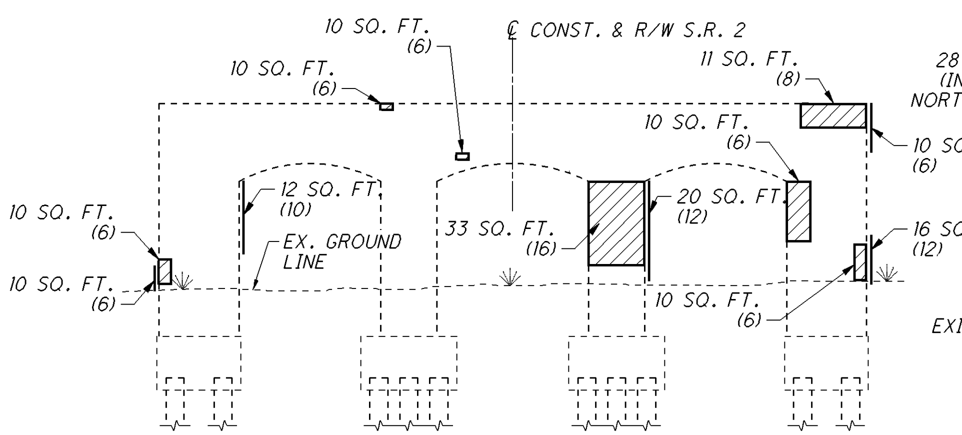
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

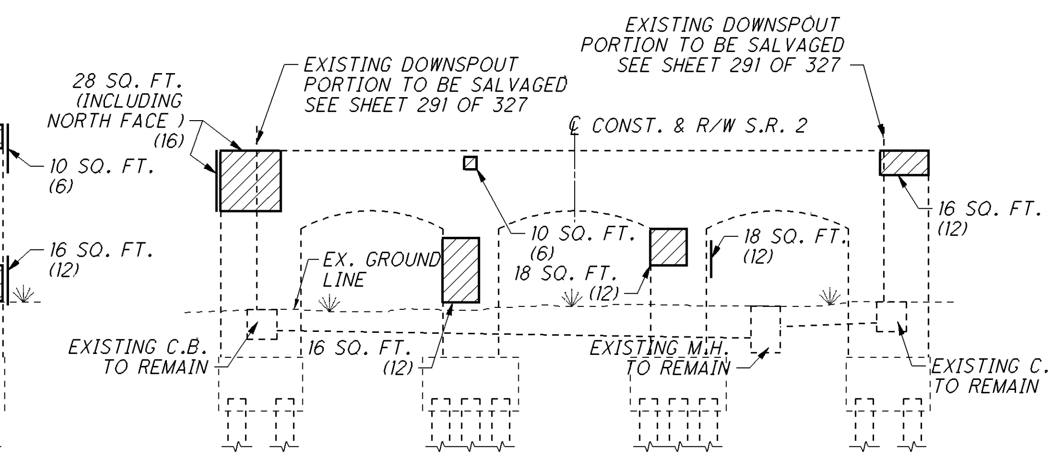
( ) INDICATES ESTIMATED NUMBER OF GALVANIC ANODES PER PATCH

NOTE:

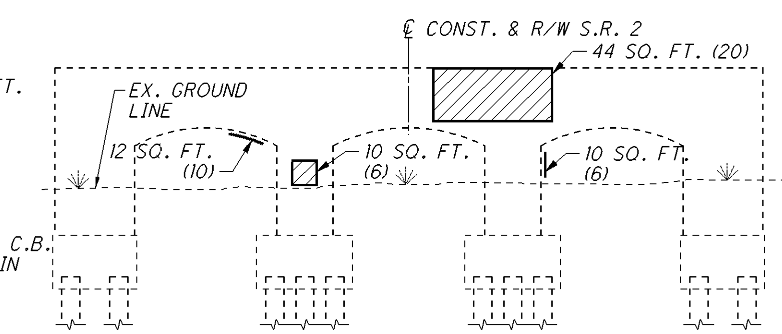
1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



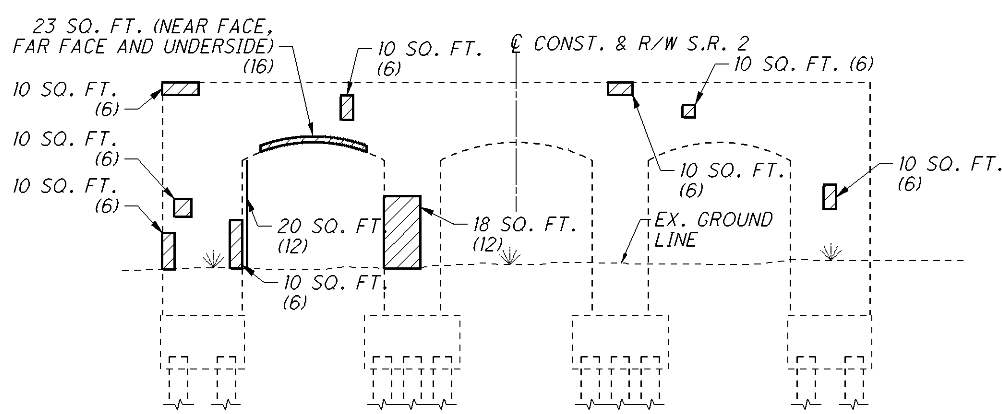
ELEVATION LOOKING EAST



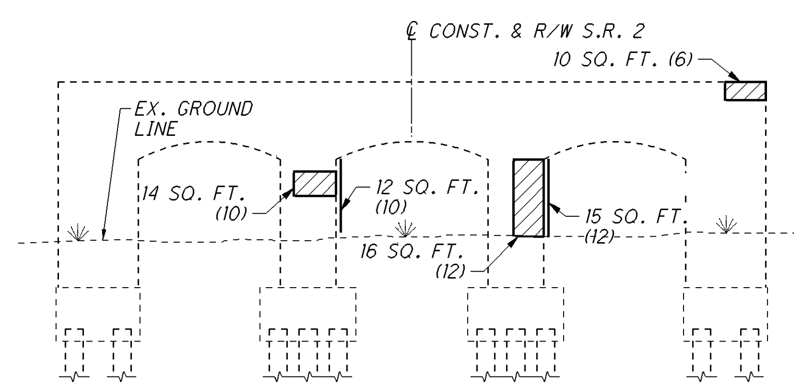
ELEVATION LOOKING EAST



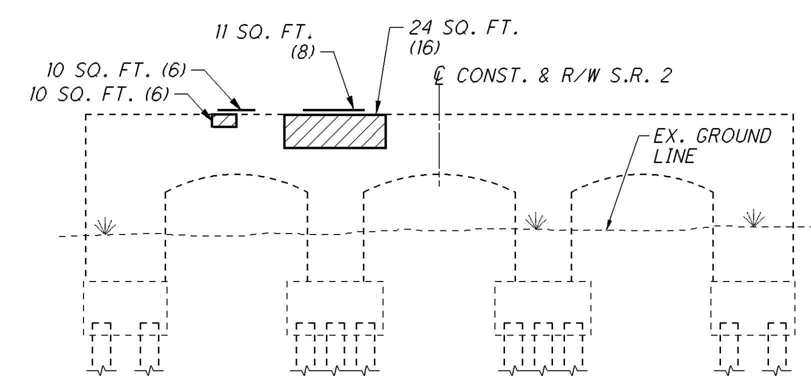
ELEVATION LOOKING EAST



ELEVATION LOOKING WEST



ELEVATION LOOKING WEST



ELEVATION LOOKING WEST

PIER 10E ELEVATIONS

TOTAL PATCHING = 285 SQ. FT. X 1.25 = 356 SQ. FT. + 100 GALVANIC ANODES

PIER 11E ELEVATIONS

TOTAL PATCHING = 173 SQ. FT. X 1.25 = 216 SQ. FT. + 120 GALVANIC ANODES

PIER 12E ELEVATIONS

TOTAL PATCHING = 131 SQ. FT. X 1.25 = 164 SQ. FT. + 78 GALVANIC ANODES

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REPAIR DETAILS - PIERS 10E TO 12E
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

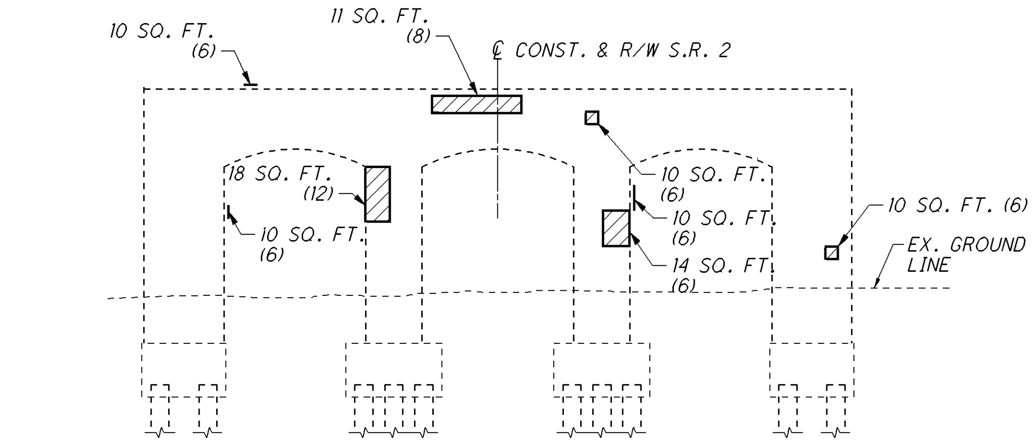
LEGEND

AREAS TO BE PATCHED AS PER ITEM 519

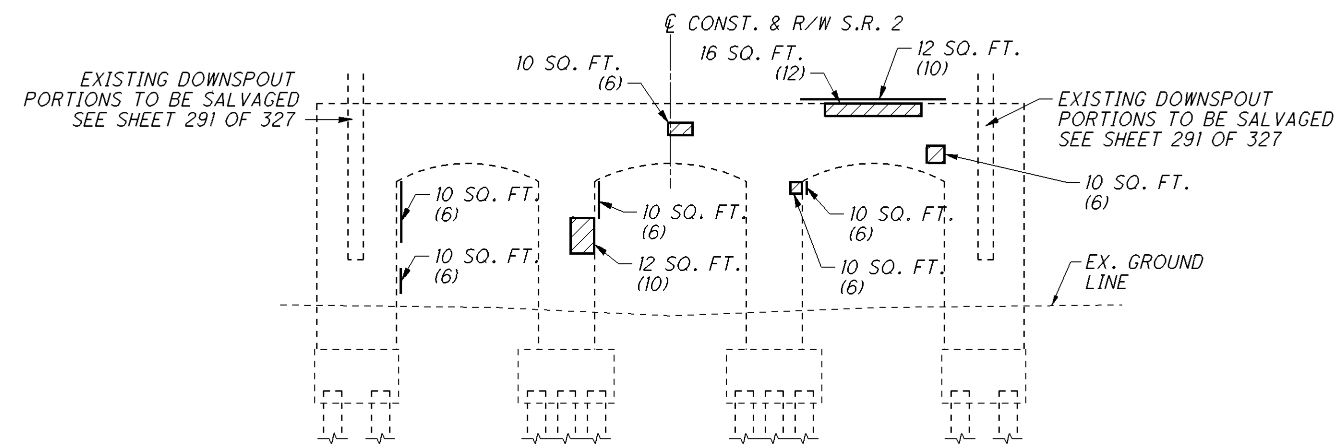
( ) INDICATES ESTIMATED NUMBER OF GLAVANIC ANODES PER PATCH

NOTE:

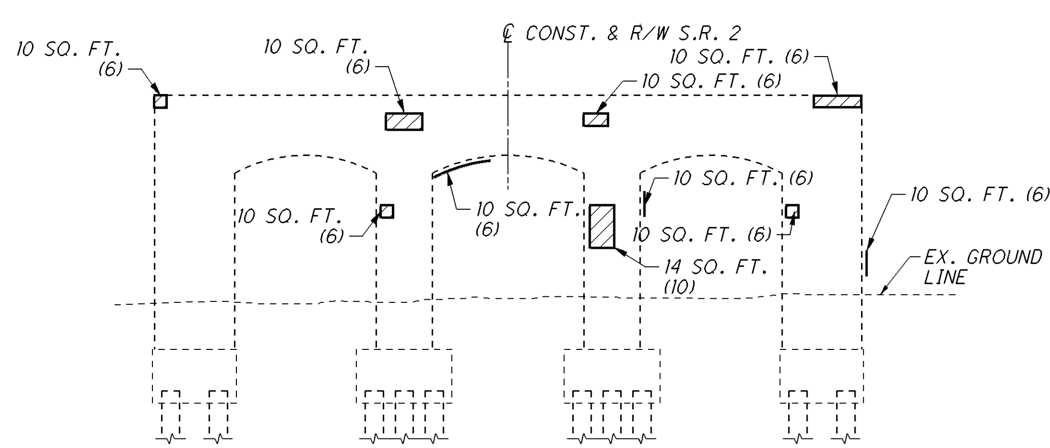
1. FOR PATCHING AND REMOVAL NOTES SEE SHEET 30/227.



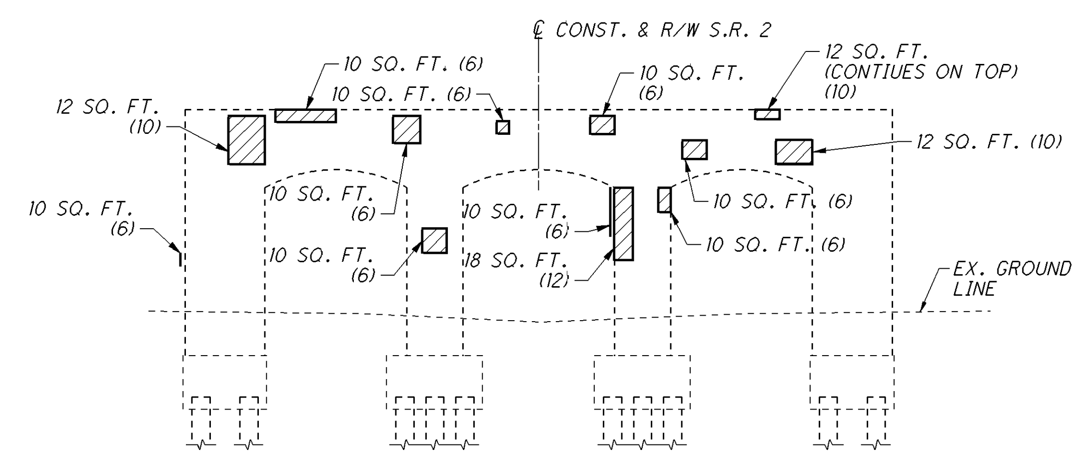
ELEVATION LOOKING EAST



ELEVATION LOOKING EAST



ELEVATION LOOKING WEST



ELEVATION LOOKING WEST

PIER 13E ELEVATIONS

TOTAL PATCHING = 197 SQ. FT. X 1.25 = 247 SQ. FT. + 118 GALVANIC ANODES

PIER 14E ELEVATIONS

TOTAL PATCHING = 256 SQ. FT. X 1.25 = 320 SQ. FT. + 170 GALVANIC ANODES

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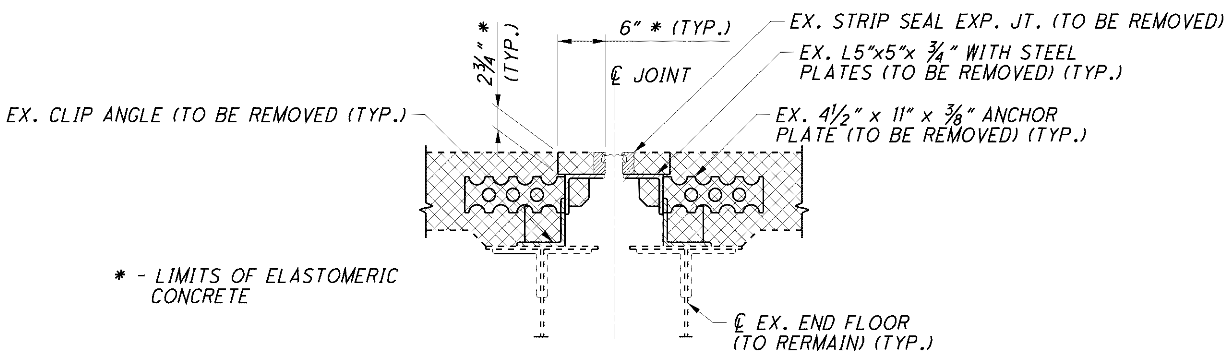
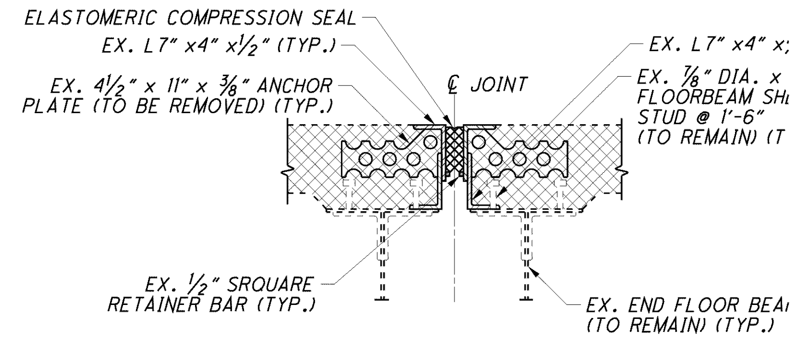
REPAIR DETAILS - PIERS 13E & 14E
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



EXPANSION JOINT REMOVAL DETAIL

(PIERS 5W, 2W, 2E AND 6E SHOWN)
(PIERS 11E AND 13E SIMILAR)
(PIER B AND E SIMILAR)



EXPANSION JOINT REMOVAL DETAIL

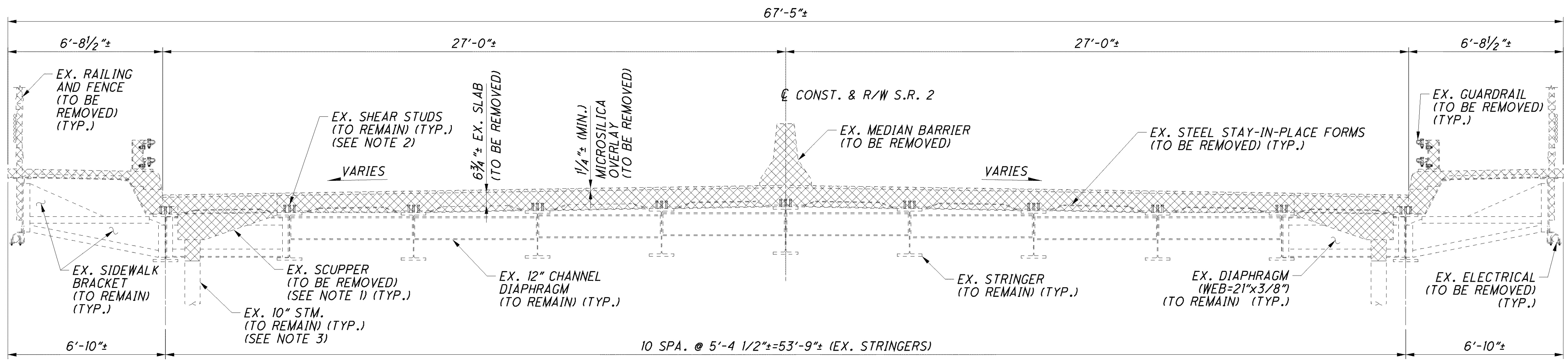
(PIERS 6W, 4W, 3W, 1W, 1E, 3E, 4E AND 5E SHOWN)
PIERS 10E, 12E AND 14E SIMILAR, STRINGERS INSTEAD OF FLOORBEA
(PIERS 7W, 7E SIMILAR, SINGLE FLOORBEAM)
(ANCHORAGE A AND F SIMILAR, FLOORBEAM AND ANCHORAGE SUPPOR

LEGEND

AREAS TO BE REMOVED

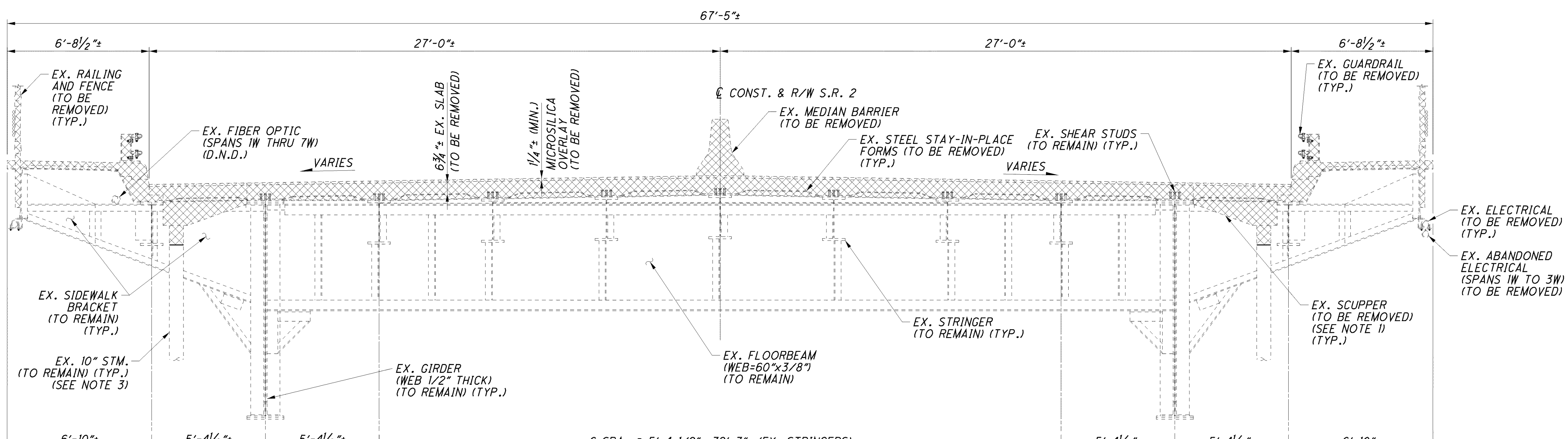
NOTES:

1. ANY BOLTS AND OTHER HARDWARE INCLUDED WITH THE EXISTING SCUPPER UNIT SHALL BE REMOVED AS PER ITEM 202.
2. REFER TO FRAMING PLAN SHEETS FOR LOCATIONS OF EXISTING SHEAR STUDS
3. SEE DRAINAGE DETAILS ON SHEETS 217/227 THRU 220/227 .
4. SEE FRAMING PLAN SHEETS 74/227 THRU 99/227 FOR FLOOR BEAMS, SIDEWALK BRACKET AND STRINGER REPAIR LOCATIONS.



TRANSVERSE SECTION - MULTI-BEAM SPANS

(SPANS 8W AND 8E THROUGH 15 E)



TRANSVERSE SECTION - TWO GIRDER SPANS

(SPANS 7W THROUGH 1W AND 1E THROUGH 7E)

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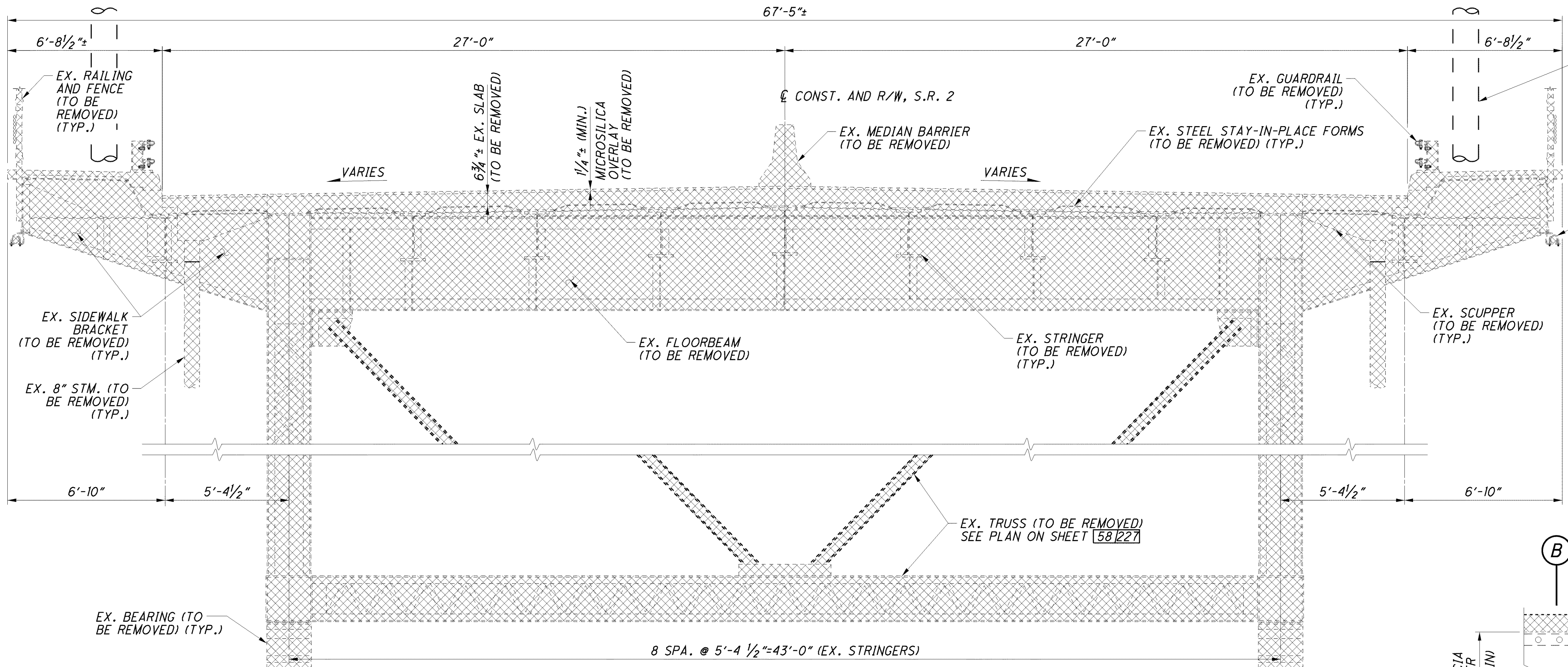
REMOVAL DETAILS - TRANSVERSE SECTIONS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

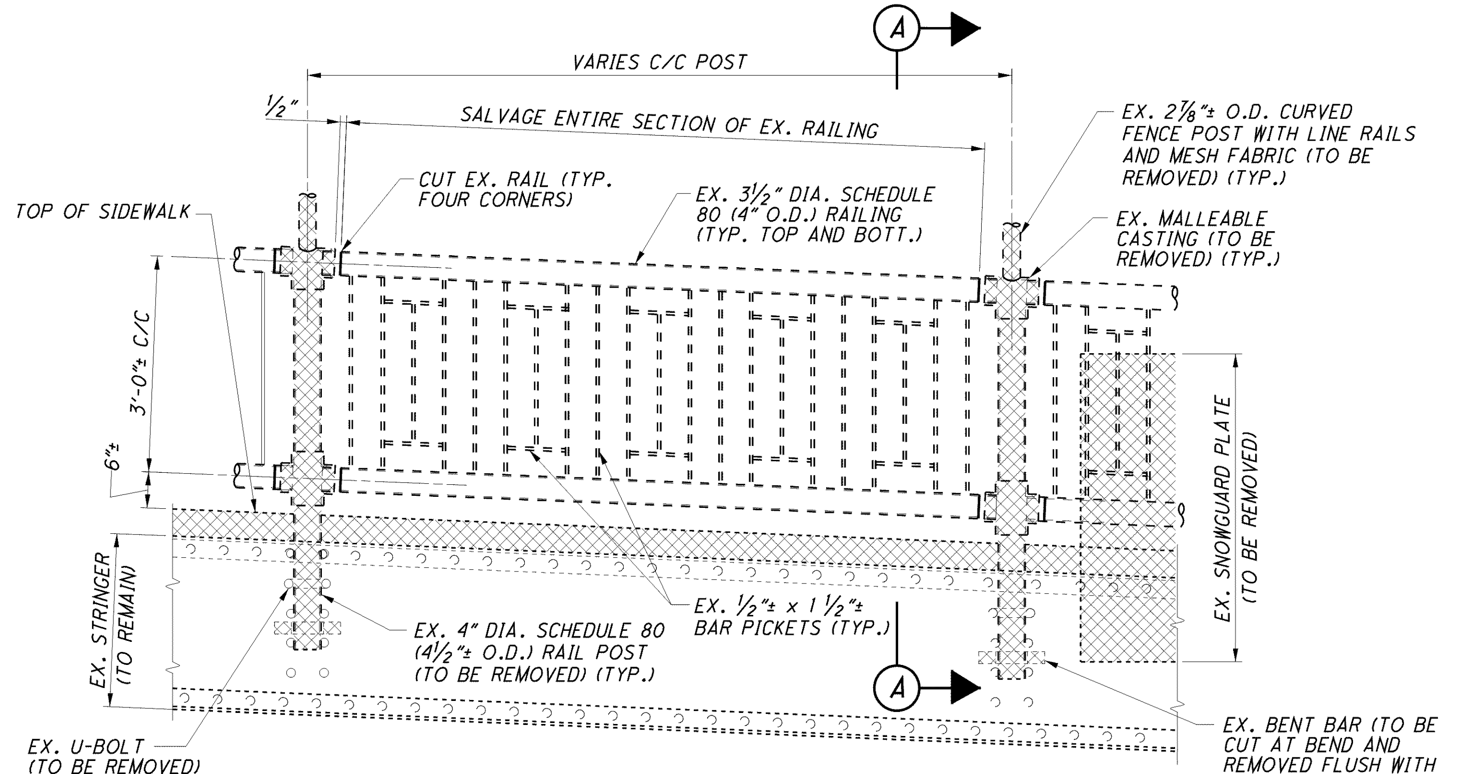


TRANSVERSE SECTION - EXISTING DECK TRUSS SPANS

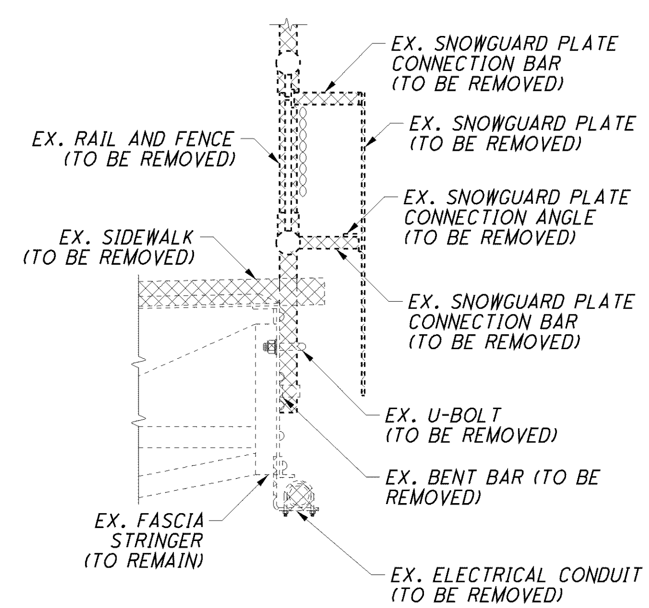
(WEST SPAN AND EAST SPAN TO BE REMOVED)

LEGEND

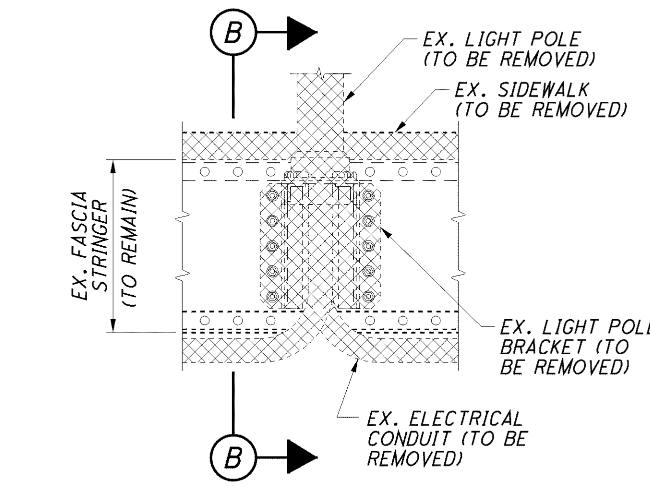
AREAS TO BE REMOVED AS PER ITEM 202



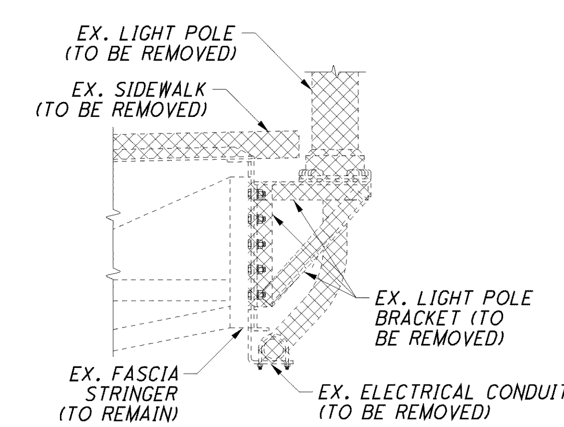
EXISTING RAIL AND FENCE POST REMOVAL DETAIL



A SECTION



EXISTING LIGHT POLE REMOVAL DETAIL



B SECTION

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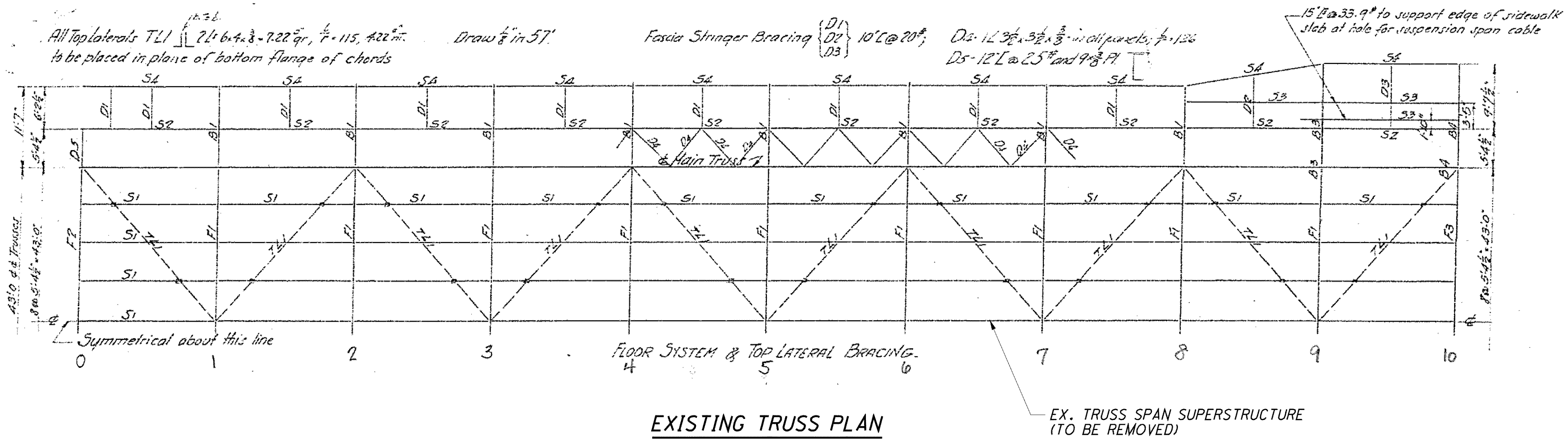
REMOVAL DETAILS - TRANSVERSE SECTION TRUSS SPAN

BRIDGE NO. LUC - 2 - 1862

STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

PID No. 80551



EXISTING TRUSS PLAN

(TYPICAL WEST AND EAST SPANS)

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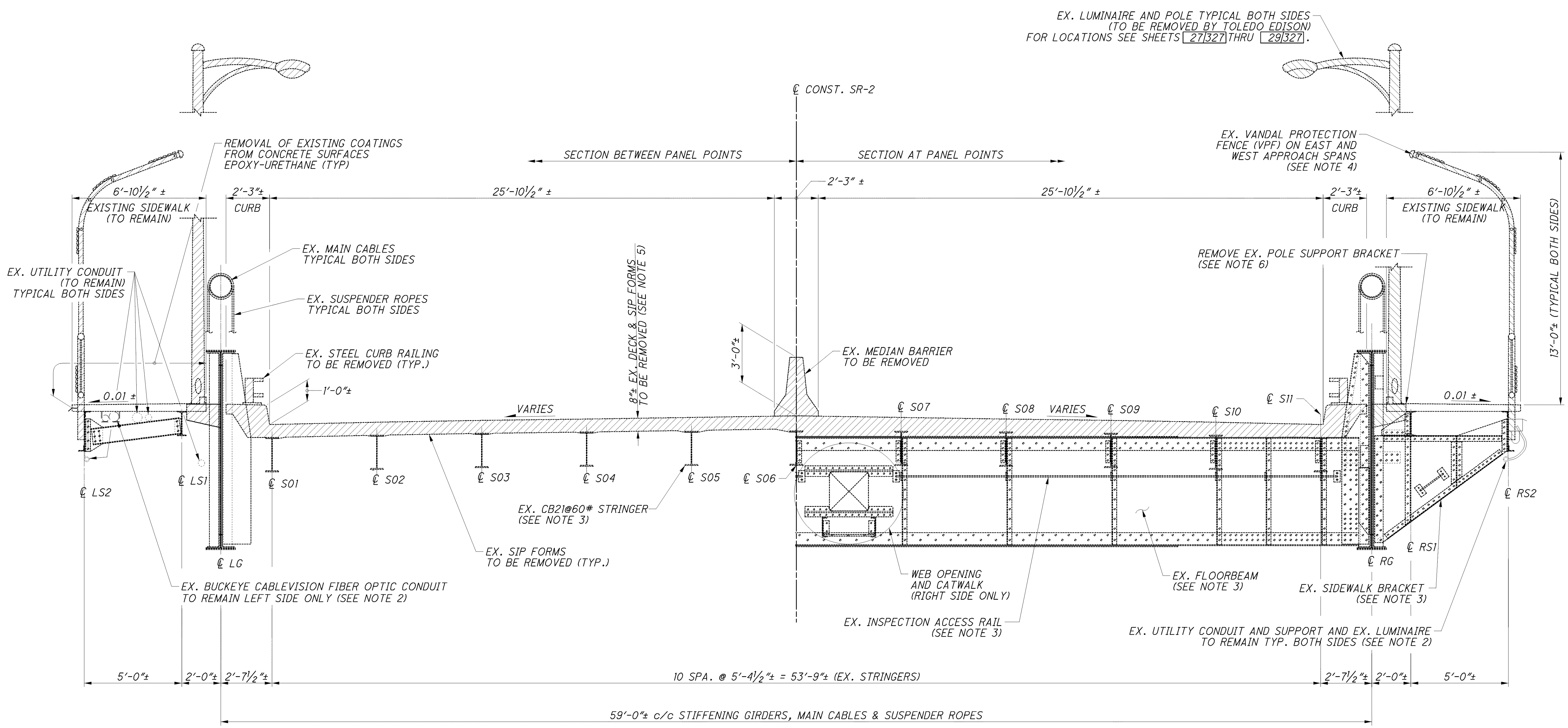
REMOVAL DETAILS - FRAMING PLAN TRUSS SPAN

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



TRANSVERSE SECTION - EXISTING SUSPENSION SPANS

NOTES:

1. [hatched box] DENOTES AREAS TO BE REMOVED.
2. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
3. SEE FRAMING PLAN SHEETS 78/227 THROUGH 83/227 FOR FLOORBEAM, SIDEWALK BRACKET, INSPECTION ACCESS AND STRINGER REPAIR LOCATIONS.
4. EXISTING CONCRETE SIDEWALK PANELS AND STEEL RAILING TO BE RETAINED. EXISTING STEEL PEDESTRIAN RAIL, VPF POSTS AND VPF MESH TO BE REPLACED. SEE SHEETS 60/227 AND 193/227.
5. EXISTING DECK TO BE REMOVED IN STAGES. SEE SUSPENDED SPAN CONSTRUCTION STAGING SHEET 29/227 AND SUSPENSION SPAN DECK PLAN SHEETS 171/227 THROUGH 178/227.
6. FOR REPLACEMENT OF BOLTS IN STIFFENING GIRDER SEE SHEET 124/227. FOR SIDEWALK REPAIR, SEE SHEET 187/227.

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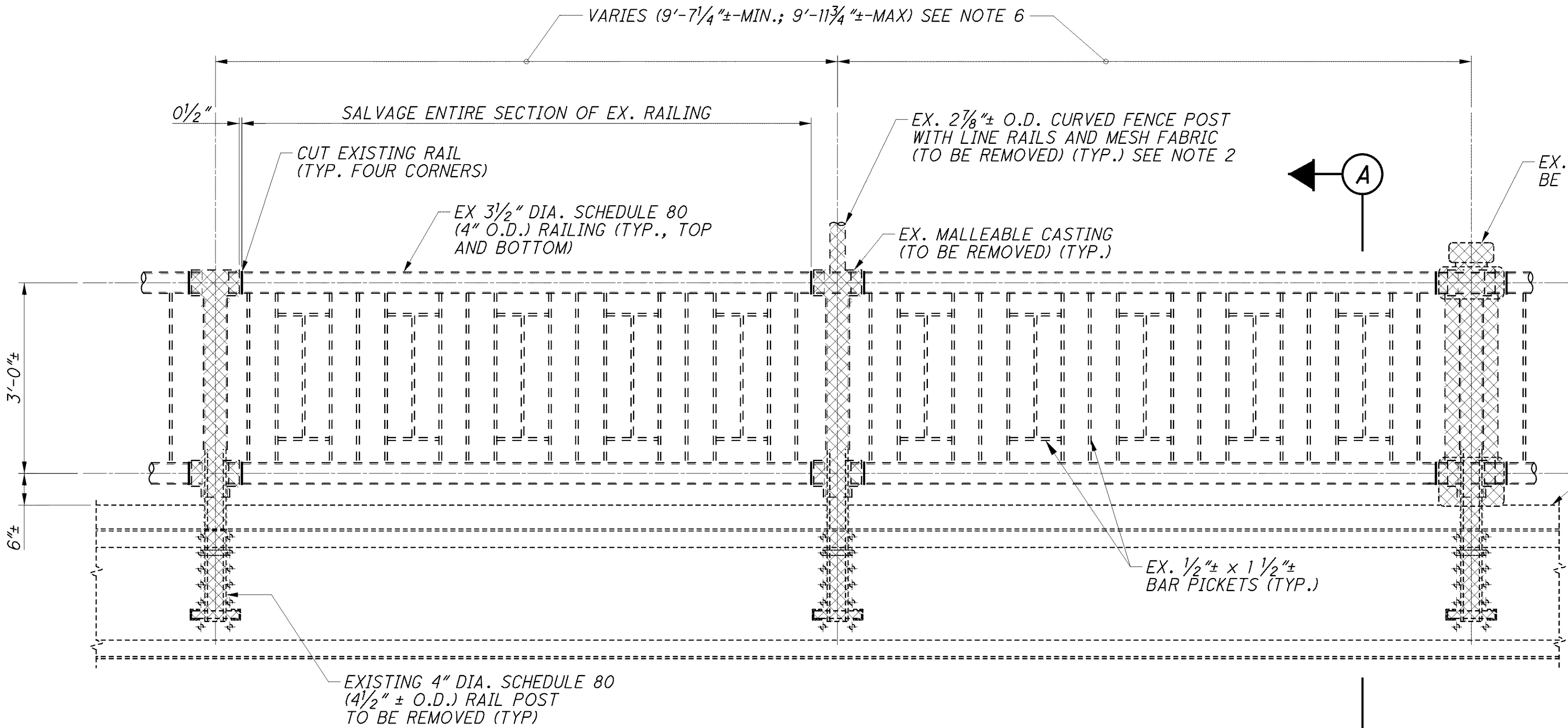
REMOVAL - TRANSVERSE SECTION - SUSPENSION SPAN
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

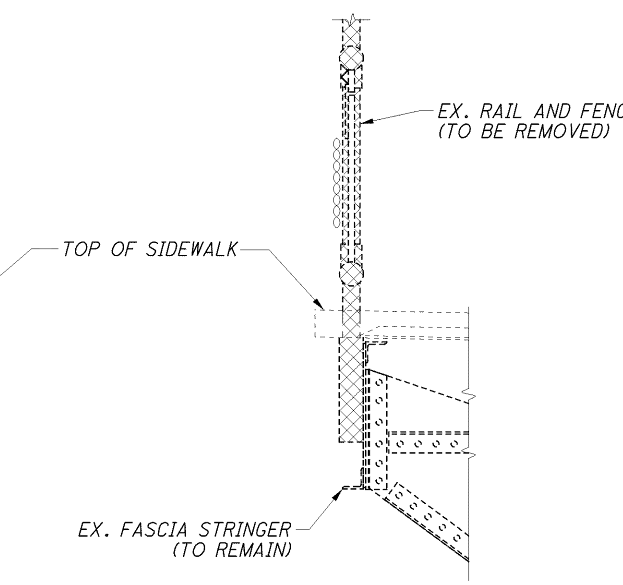
59/227

131/327

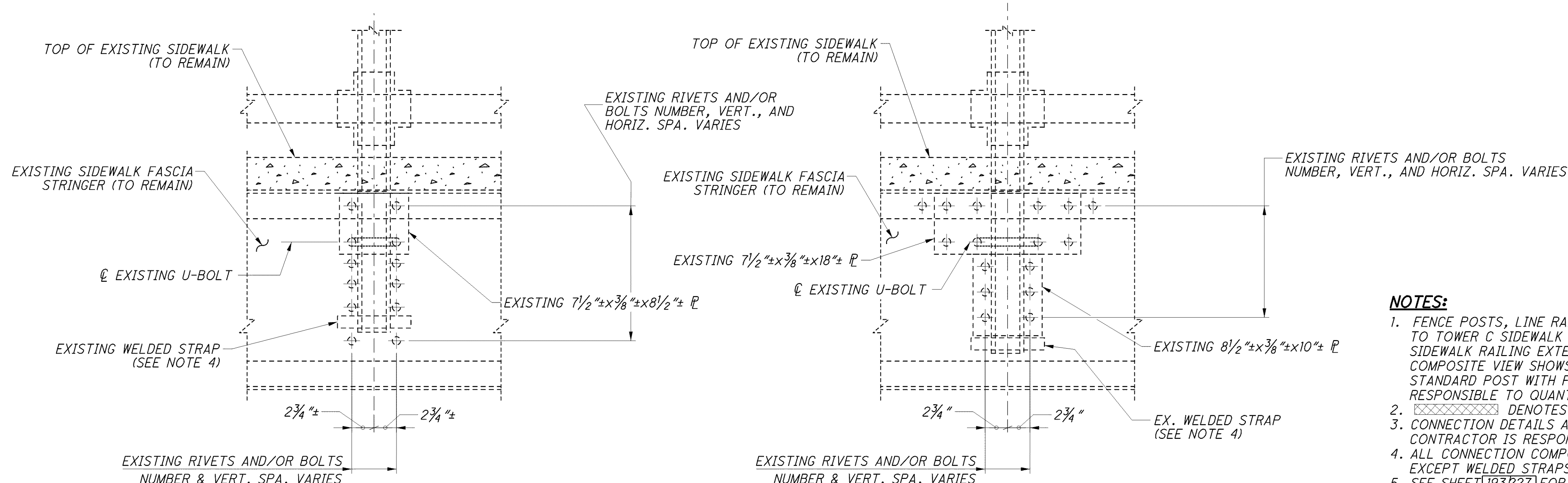


RAIL/FENCE ELEVATION - COMPOSITE VIEW

(SEE NOTE 1)



(A) SECTION



POST CONNECTION REMOVAL - TYPICAL DETAILS

(SEE NOTE 3)

NOTES:

1. FENCE POSTS, LINE RAILS AND MESH FABRIC EXTEND FROM PIER B TO TOWER C SIDEWALK AND FROM TOWER D SIDEWALK TO PIER E. SIDEWALK RAILING EXTENDS FROM PIER B TO PIER E. COMPOSITE VIEW SHOWS POST/RAIL VARIATIONS, E.G. STANDARD POST, STANDARD POST WITH FENCE AND OLD LAMP POST. CONTRACTOR IS RESPONSIBLE TO QUANTIFY IN THE FIELD.
2. ▨ DENOTES AREA TO BE REMOVED.
3. CONNECTION DETAILS ARE REPRESENTATIVE OF PLATES, STRAPS, RIVETS, ETC. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY.
4. ALL CONNECTION COMPONENTS ARE TO BE REMOVED AND REPLACED IN KIND EXCEPT WELDED STRAPS ARE TO BE REMOVED AND REPLACED WITH U-BOLTS.
5. SEE SHEET 193/227 FOR REPLACEMENT / REPAIR DETAILS.
6. SEE SHEET 120/227 FOR TOWER SIDEWALK RAILING POST SPACING.
7. SEE SHEET 193/227 FOR RAIL POST SPACING.

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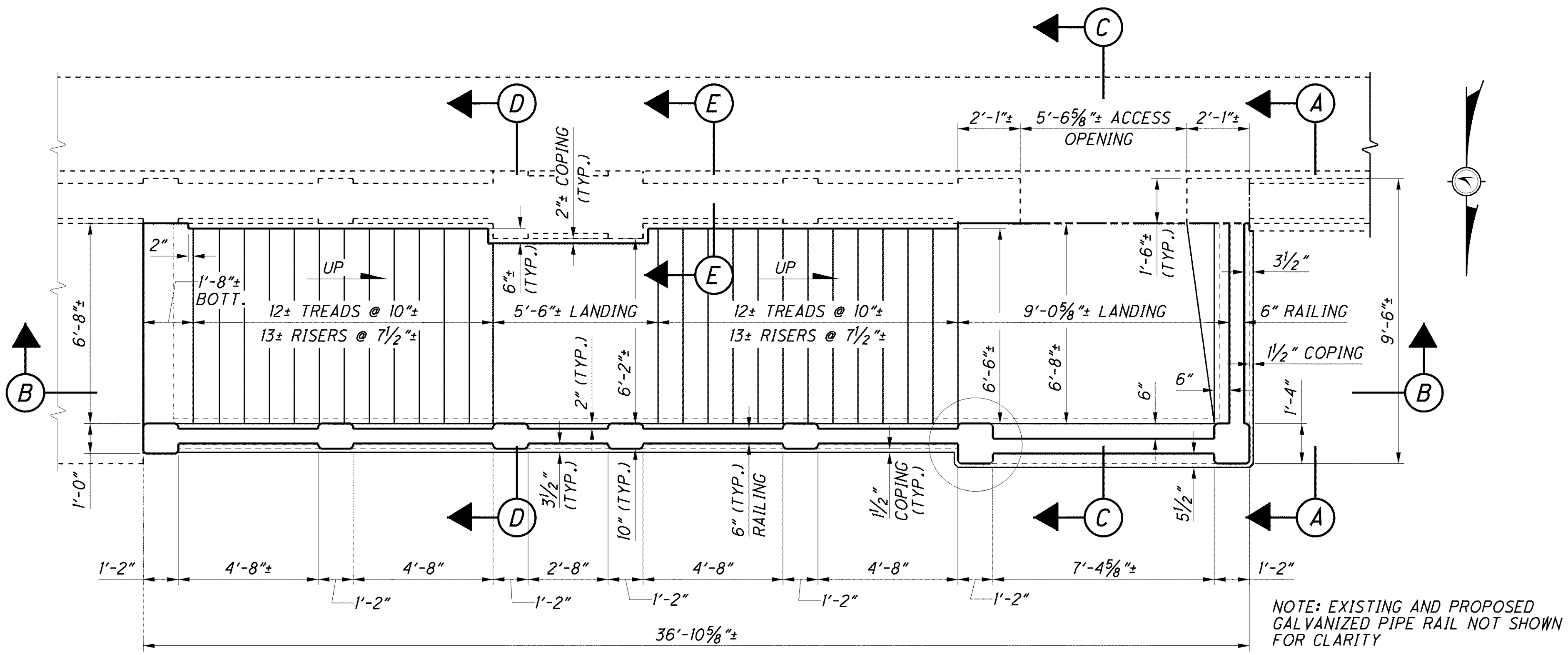
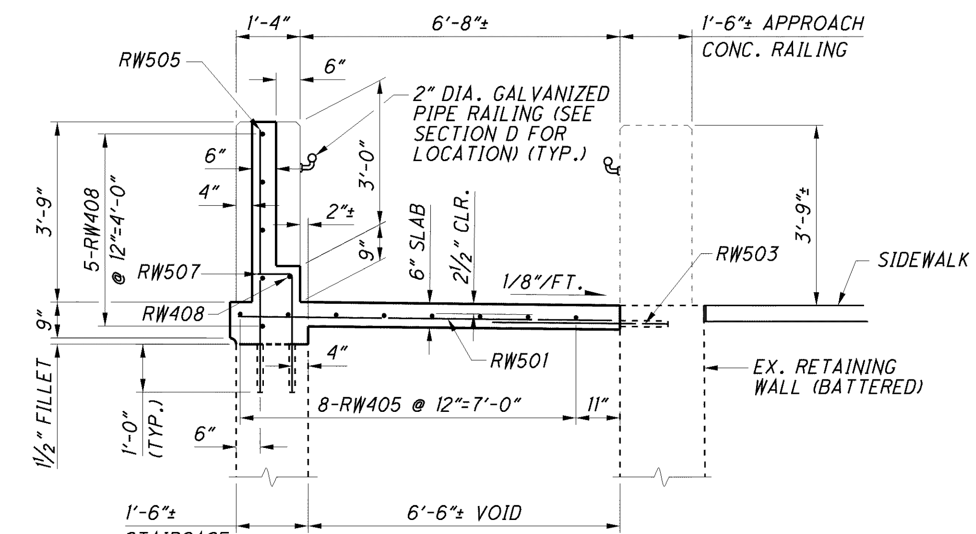
REMOVAL - SIDEWALK RAILING & FENCE - SUSPENSION SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



NORTH RETAINING WALL STAIRWAY PLAN

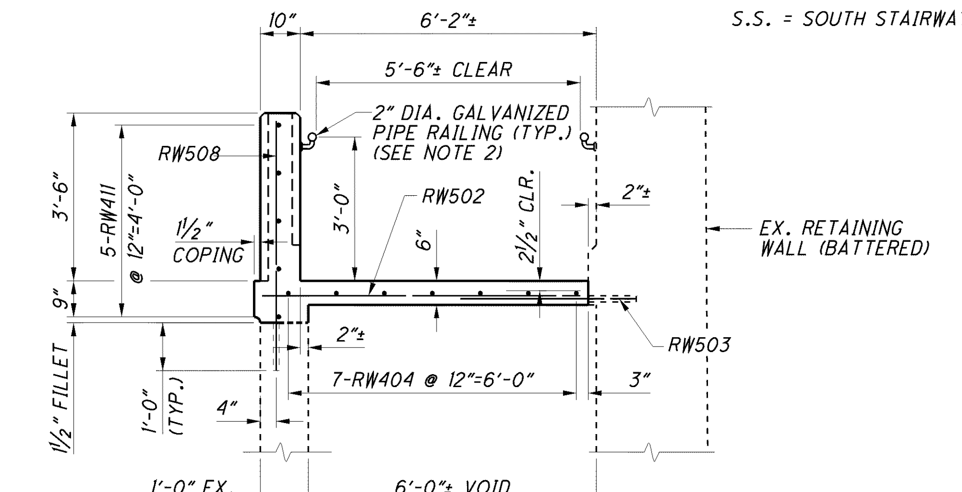


C SECTION

LEGEND:

N.S. = NORTH STAIRWAY

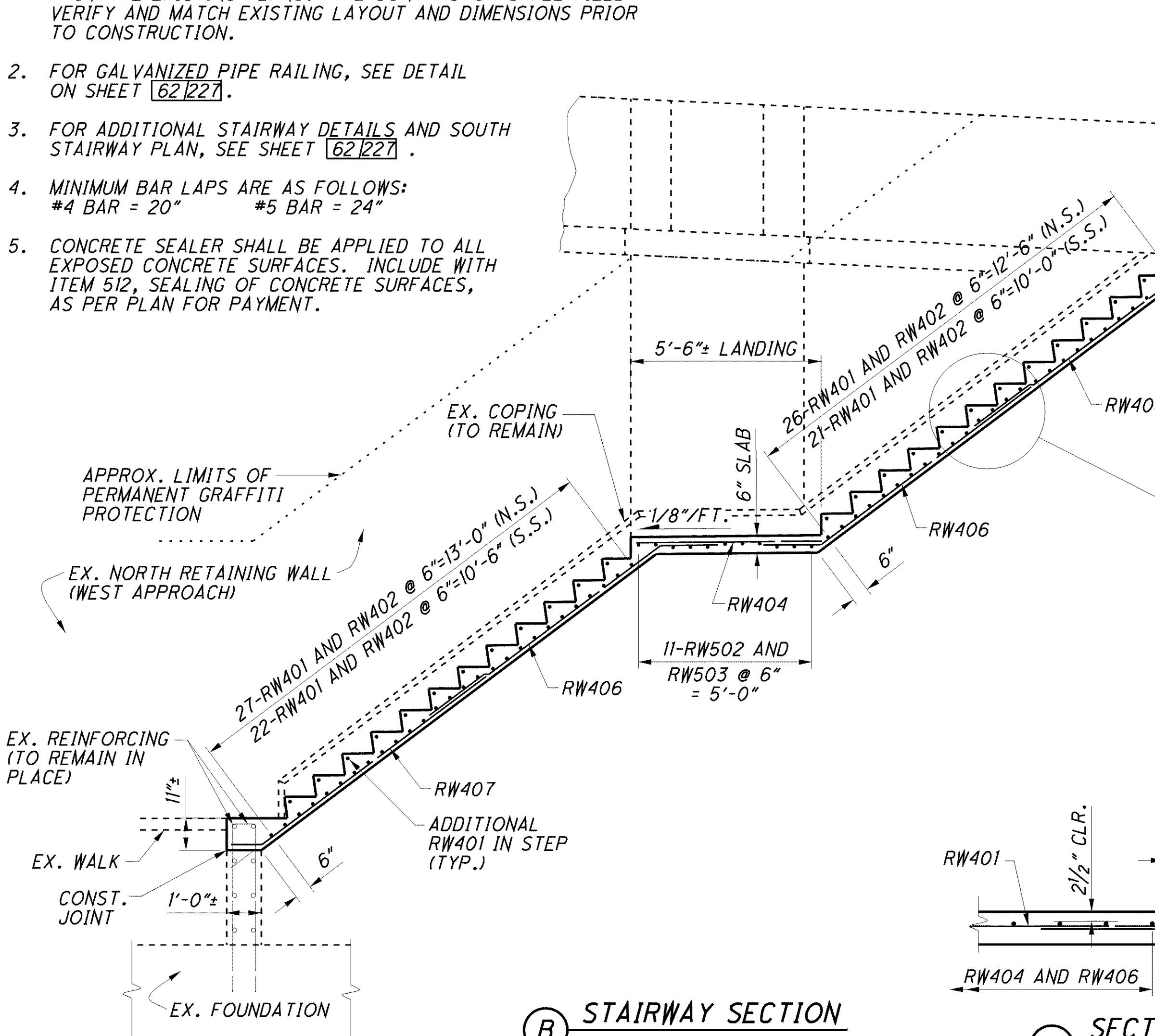
S.S. = SOUTH STAIRWAY



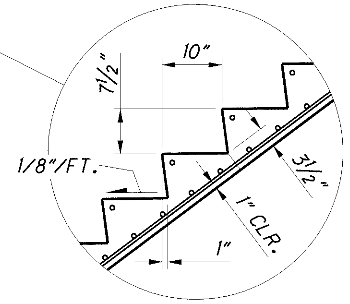
D SECTION

NOTES:

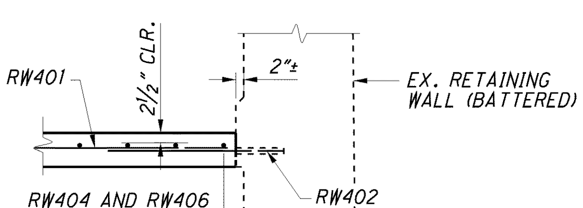
1. ALL STAIRWAY, LANDING AND RAILING DIMENSIONS WERE TAKEN FROM THE EXISTING PLANS. THE CONTRACTOR SHALL FIELD VERIFY AND MATCH EXISTING LAYOUT AND DIMENSIONS PRIOR TO CONSTRUCTION.
2. FOR GALVANIZED PIPE RAILING, SEE DETAIL ON SHEET 62/227.
3. FOR ADDITIONAL STAIRWAY DETAILS AND SOUTH STAIRWAY PLAN, SEE SHEET 62/227.
4. MINIMUM BAR LAPS ARE AS FOLLOWS: #4 BAR = 20" #5 BAR = 24"
5. CONCRETE SEALER SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. INCLUDE WITH ITEM 512, SEALING OF CONCRETE SURFACES, AS PER PLAN FOR PAYMENT.



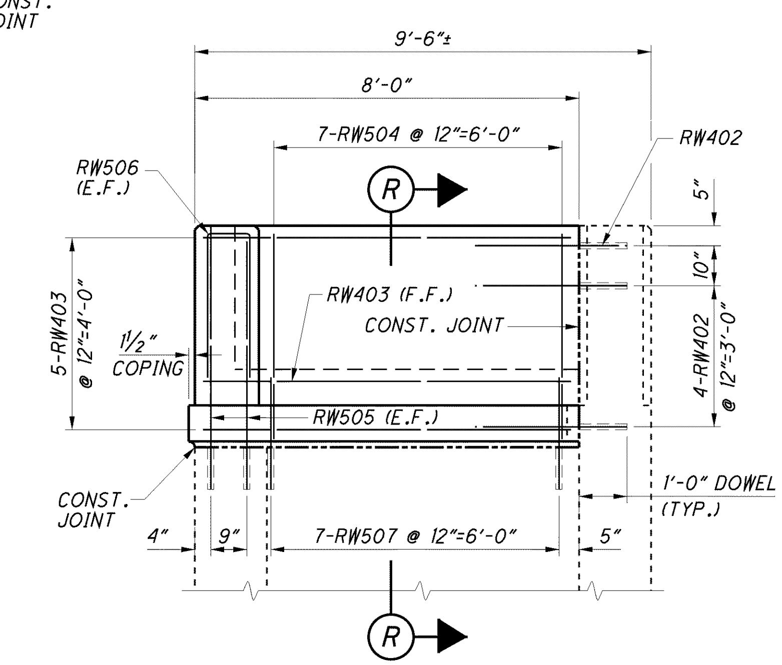
B STAIRWAY SECTION



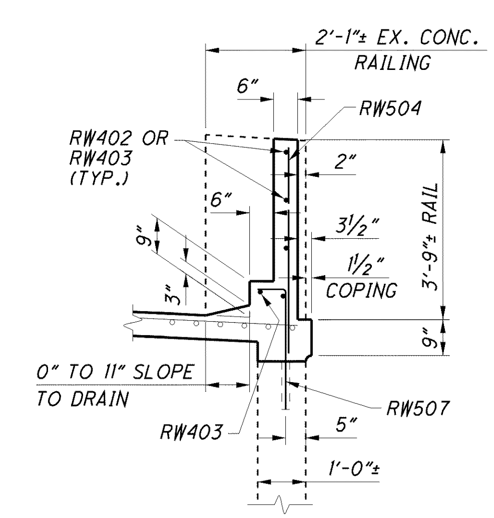
STAIR DETAIL



E SECTION



A VIEW



R SECTION

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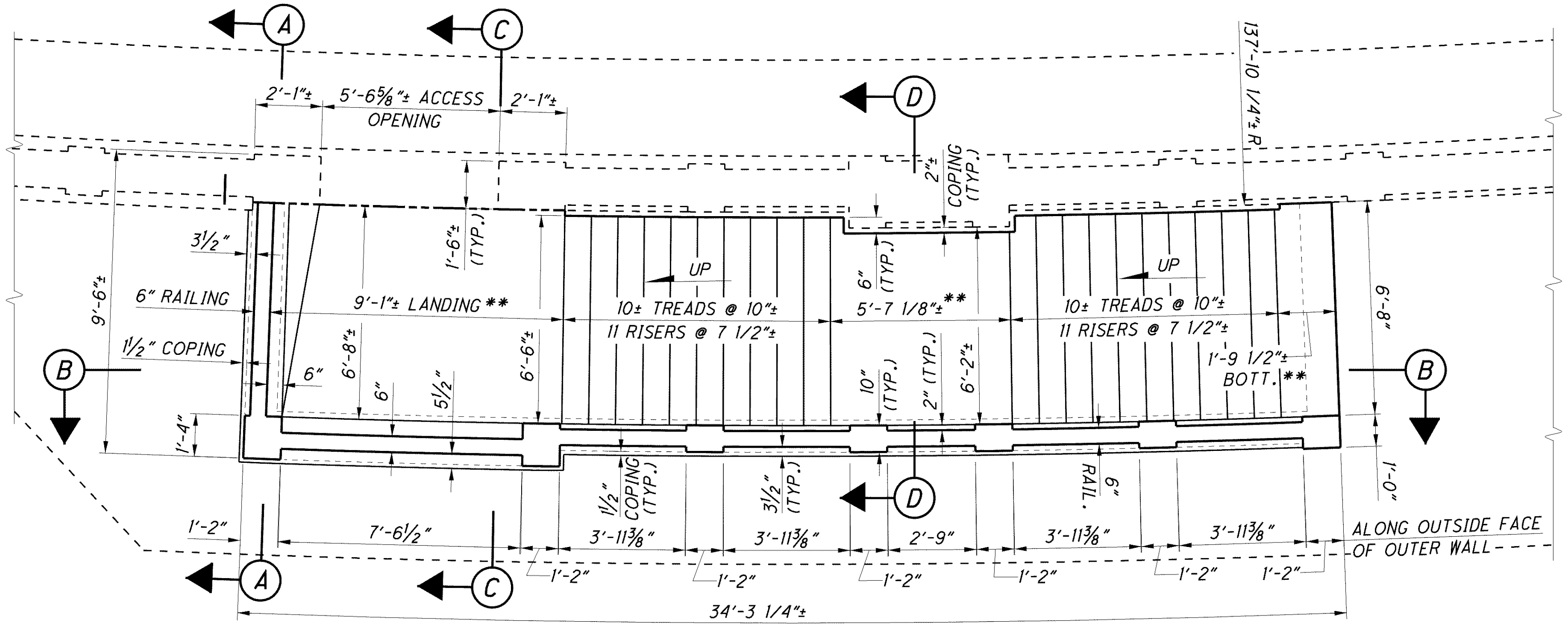
STAIRWAY DETAILS - WEST APPROACH
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

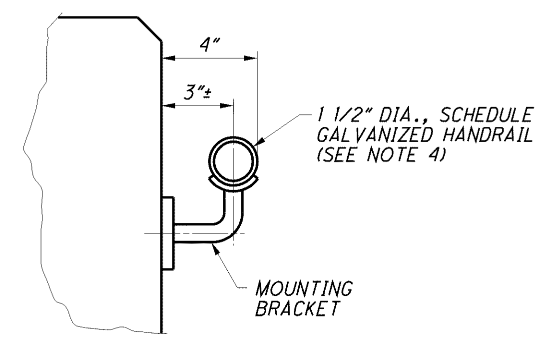
NOTES:

1. FOR ADDITIONAL STAIRWAY DETAILS AND NOTES AND NORTH STAIRWAY PLAN, SEE SHEET 61/227.
2. A 1" CHAMFER SHALL BE PROVIDED ON ALL CONCRETE RAILING CORNERS.
3. A 1 1/2" RADIUS FILLET SHALL BE PROVIDED AT THE BOTTOM OF THE 9" WIDE COPING.
4. REPLACE EXISTING GALVANIZED PIPE RAILING IN KIND. MOUNTING BRACKET, HARDWARE AND HANDRAIL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 517, RAILING, PIPE, AS PER PLAN FOR PAYMENT.

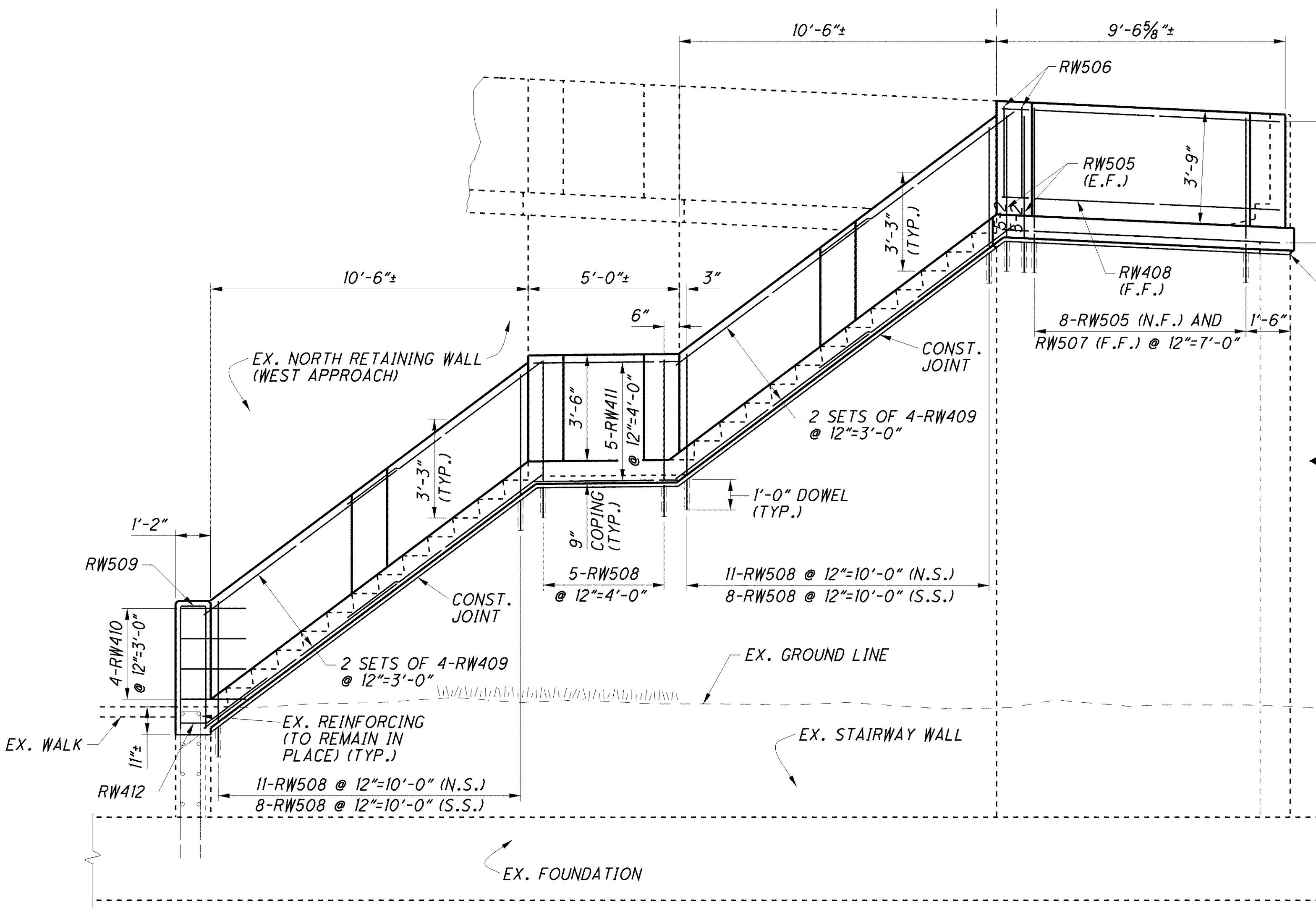


SOUTH RETAINING WALL STAIRWAY PLAN

** DIMENSIONS TAKEN ALONG OUTSIDE FACE OF RETAINING WALL

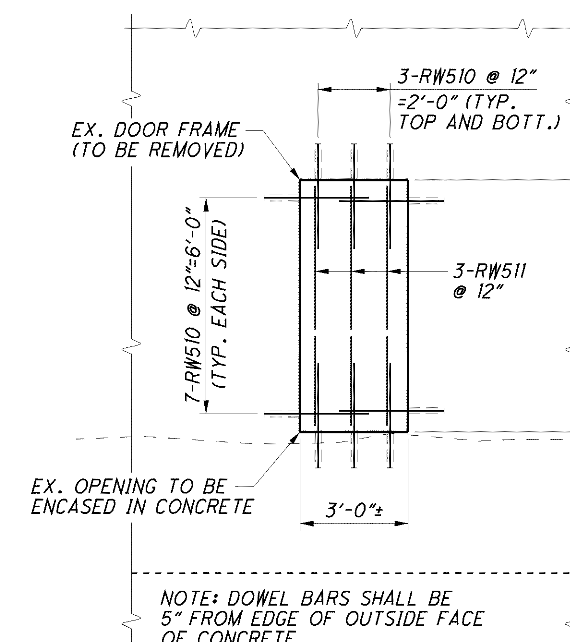


HANDRAIL DETAIL



STAIRWAY RAILING ELEVATION

(NORTH STAIRWAY SHOWN, SOUTH STAIRWAY SIMILAR)



F ACCESS DOOR VIEW

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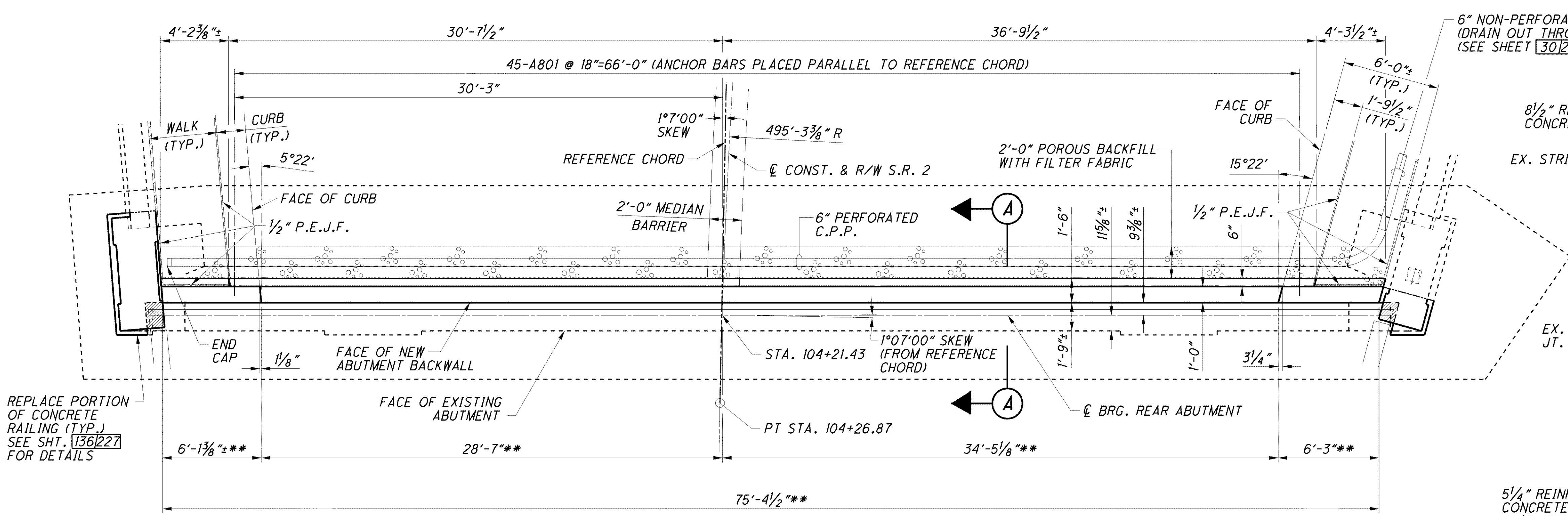
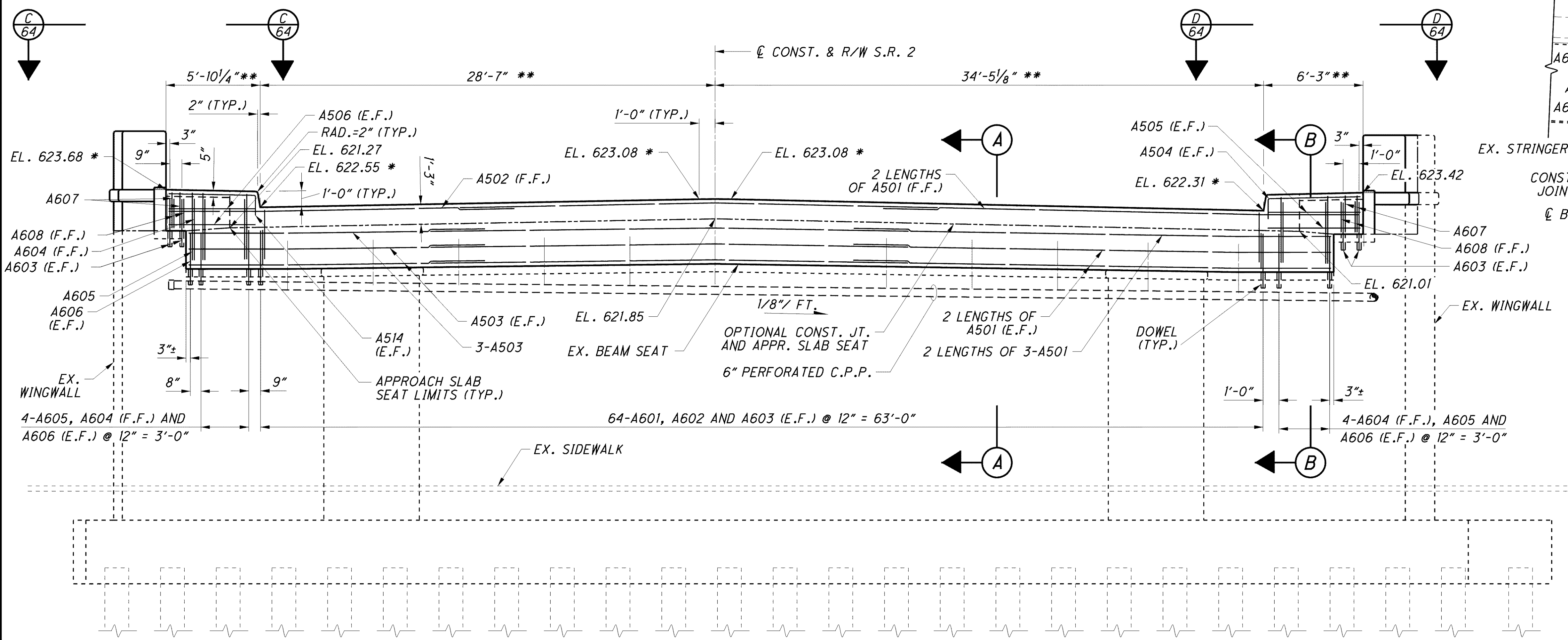
STAIRWAY DETAILS - WEST APPROACH
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

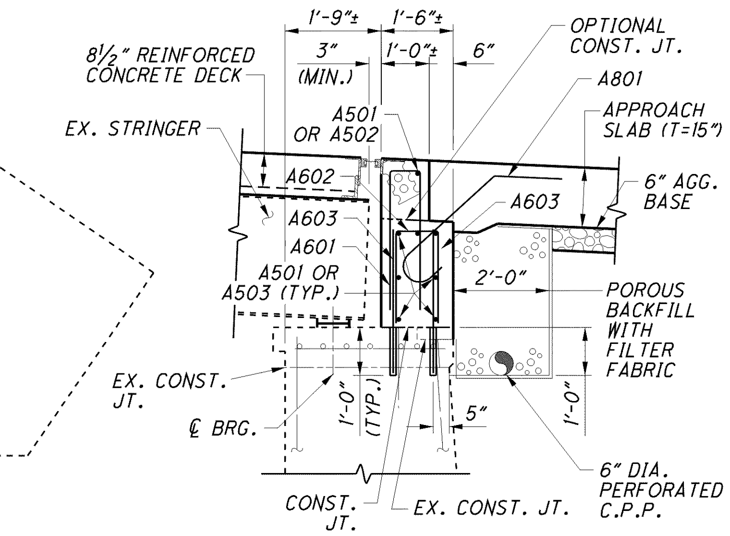
LUC-2-18.62
PID No. 80551



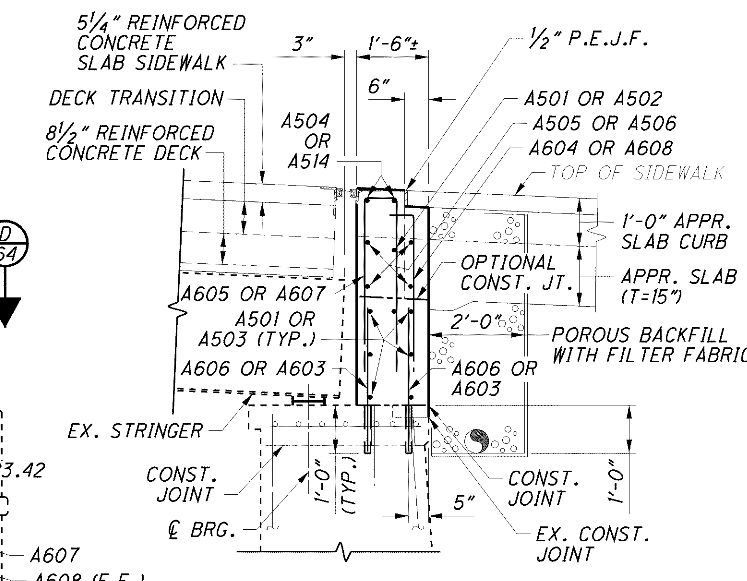
PLAN



ELEVATION



SECTION A



SECTION B

NOTES:

1. FOR ABUTMENT REMOVAL DETAILS SEE SHEET 37/227 .
2. FOR EXPANSION JOINT DETAILS SEE SHEET 198/227 .
3. BACKWALL CONCRETE: IN ADDITION TO 511.10, DO NOT PLACE BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
4. MNIMUM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED:
   #5 BARS = 41"

LEGEND:

* ELEVATIONS TAKEN AT THE FACE OF BACKWALL.

** DIMENSION MEASURED ALONG THE FACE OF BACKWALL.

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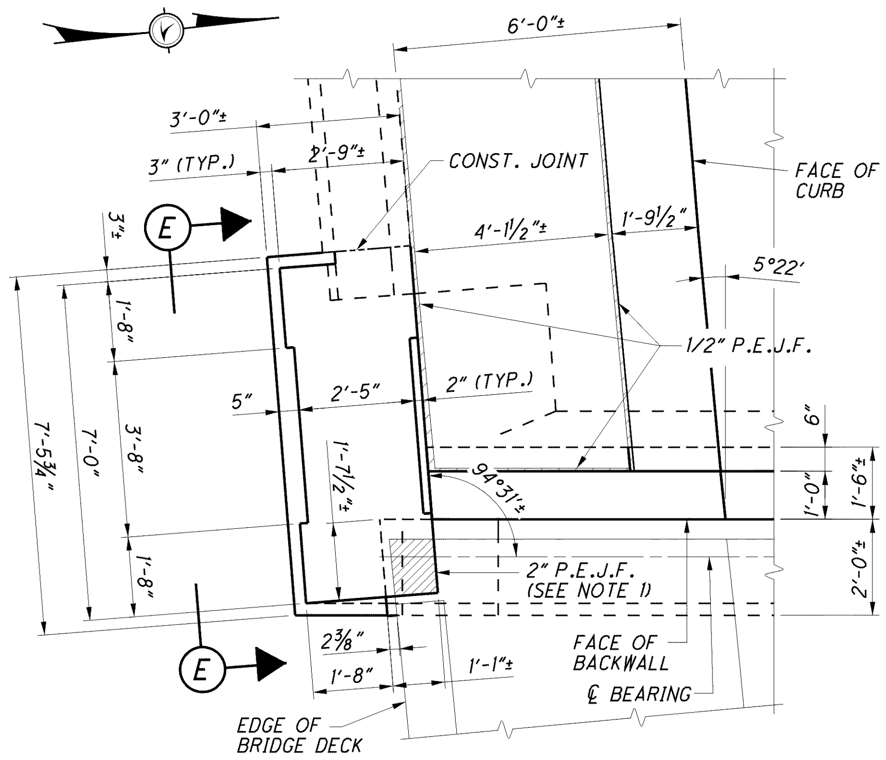
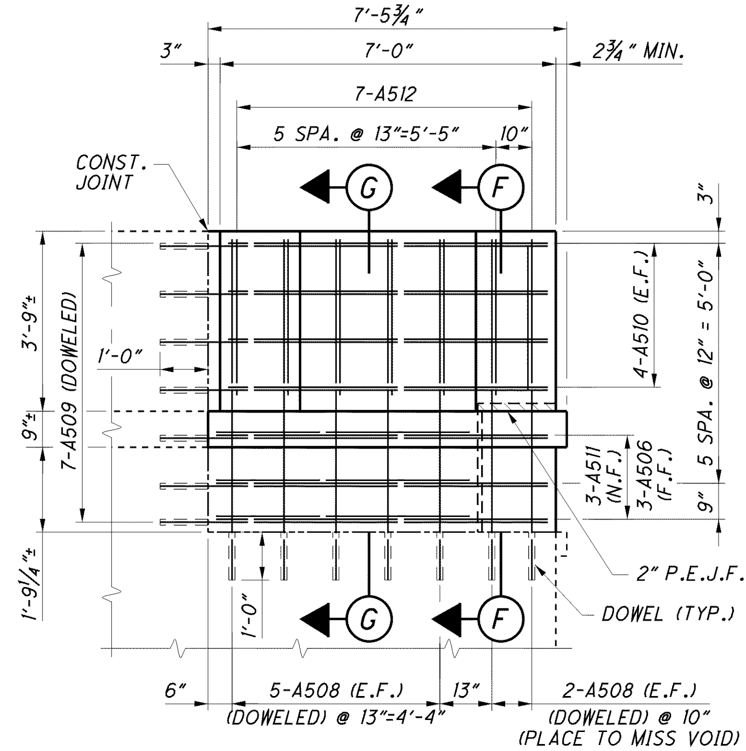
REAR ABUTMENT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

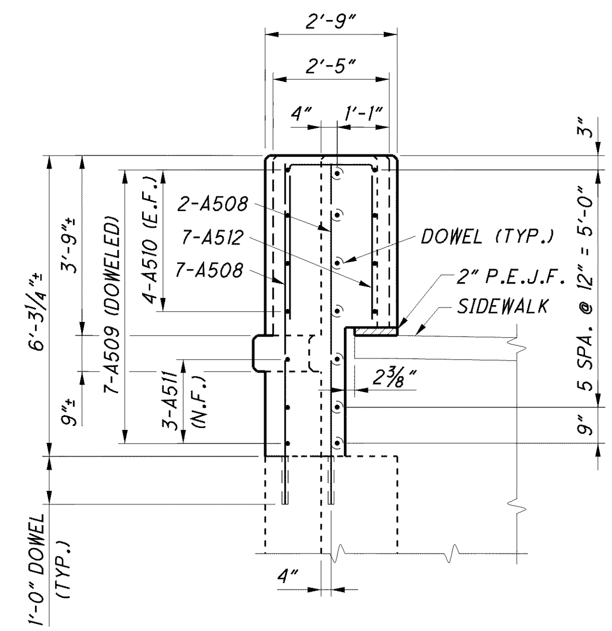
LUC-2-18.62
PID No. 80551



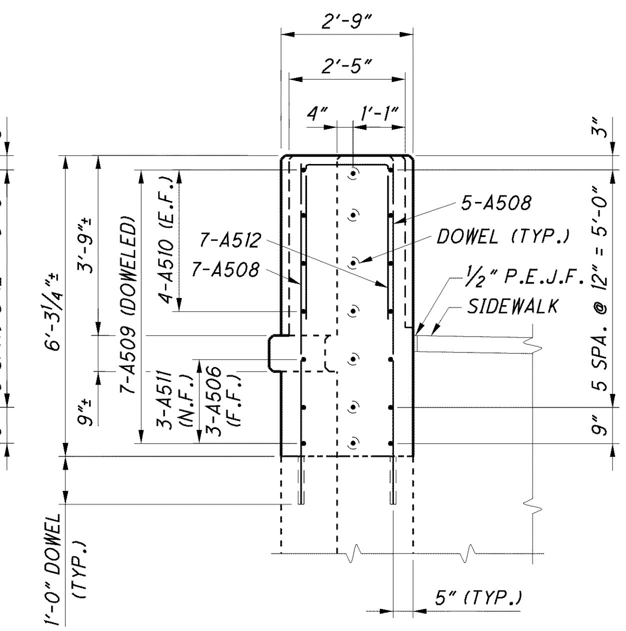
C/63 VIEW



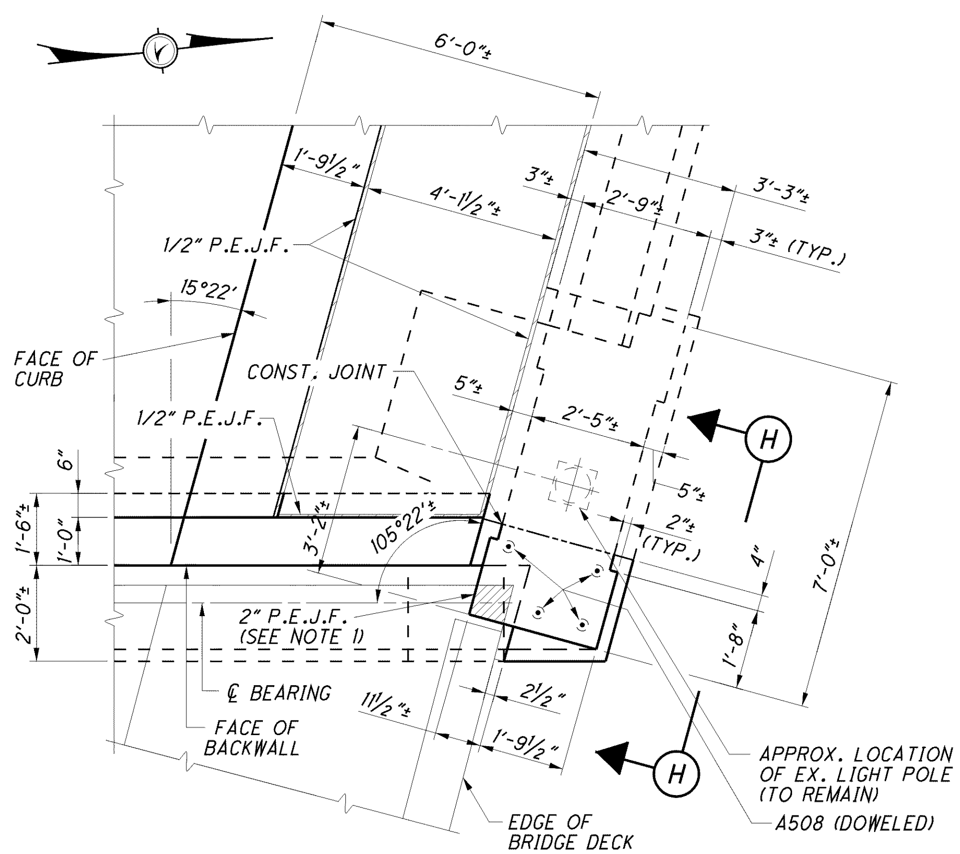
E VIEW



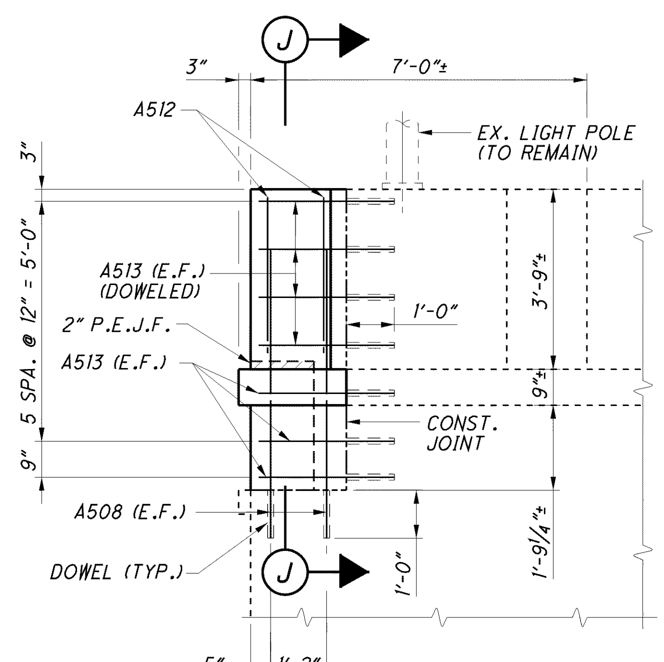
F SECTION



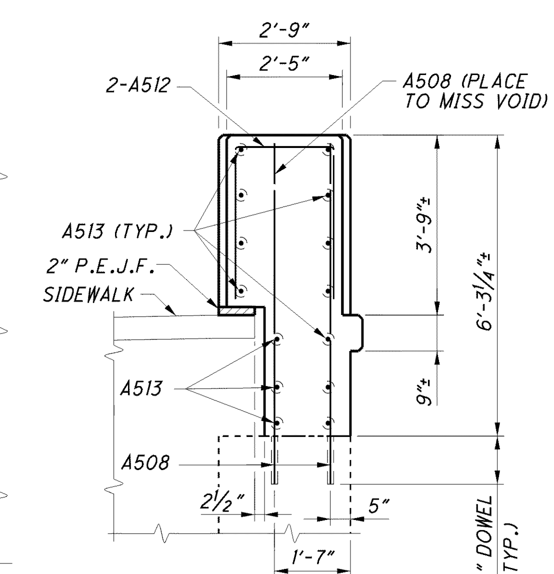
G SECTION



D/63 VIEW



H VIEW



J SECTION

NOTES:

1. PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED BETWEEN THE TOP OF SIDEWALK AND BOTTOM OF PARAPET.
2. PARAPETS SHALL NOT BE CONSTRUCTED UNTIL THE BRIDGE DECK AND SIDEWALKS HAVE BEEN POURED.

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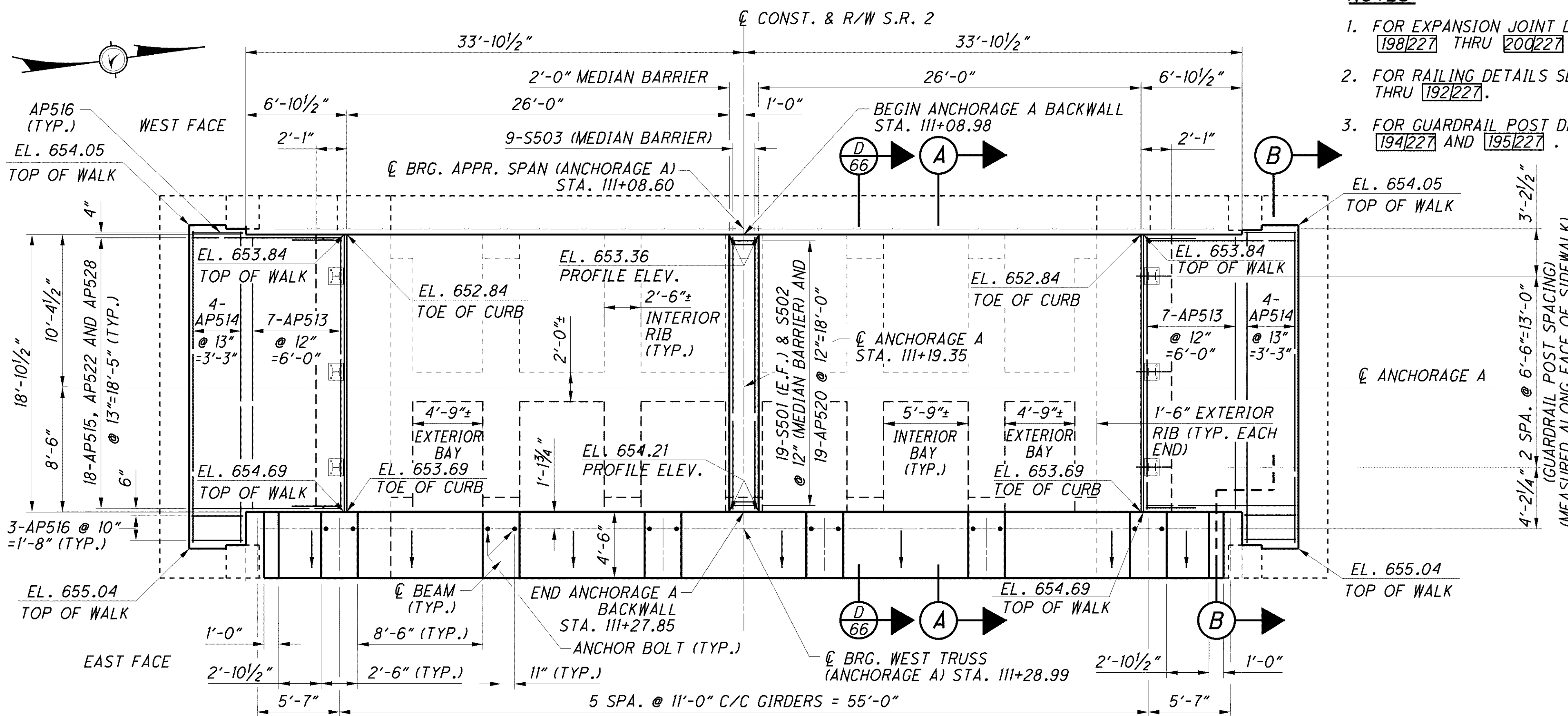
REAR ABUTMENT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

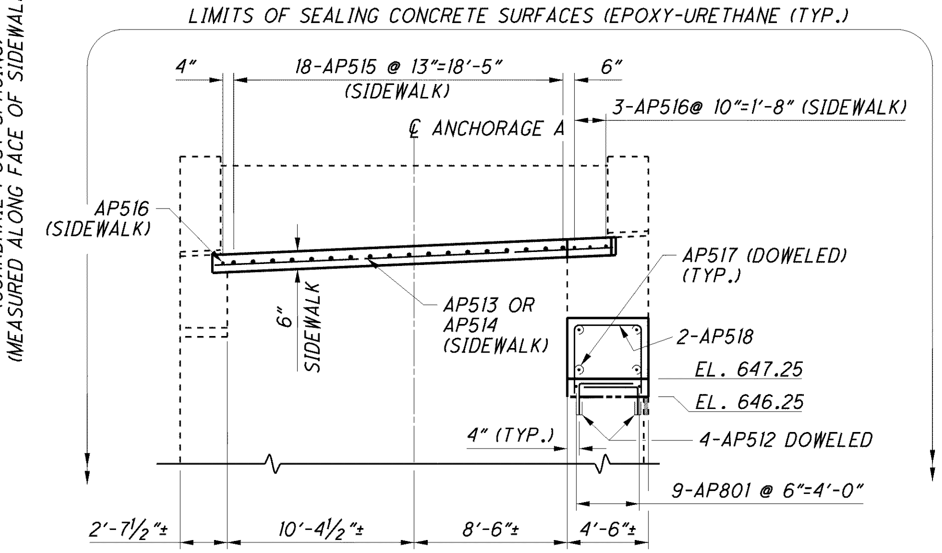
LUC-2-18.62
PID No. 80551

NOTES:

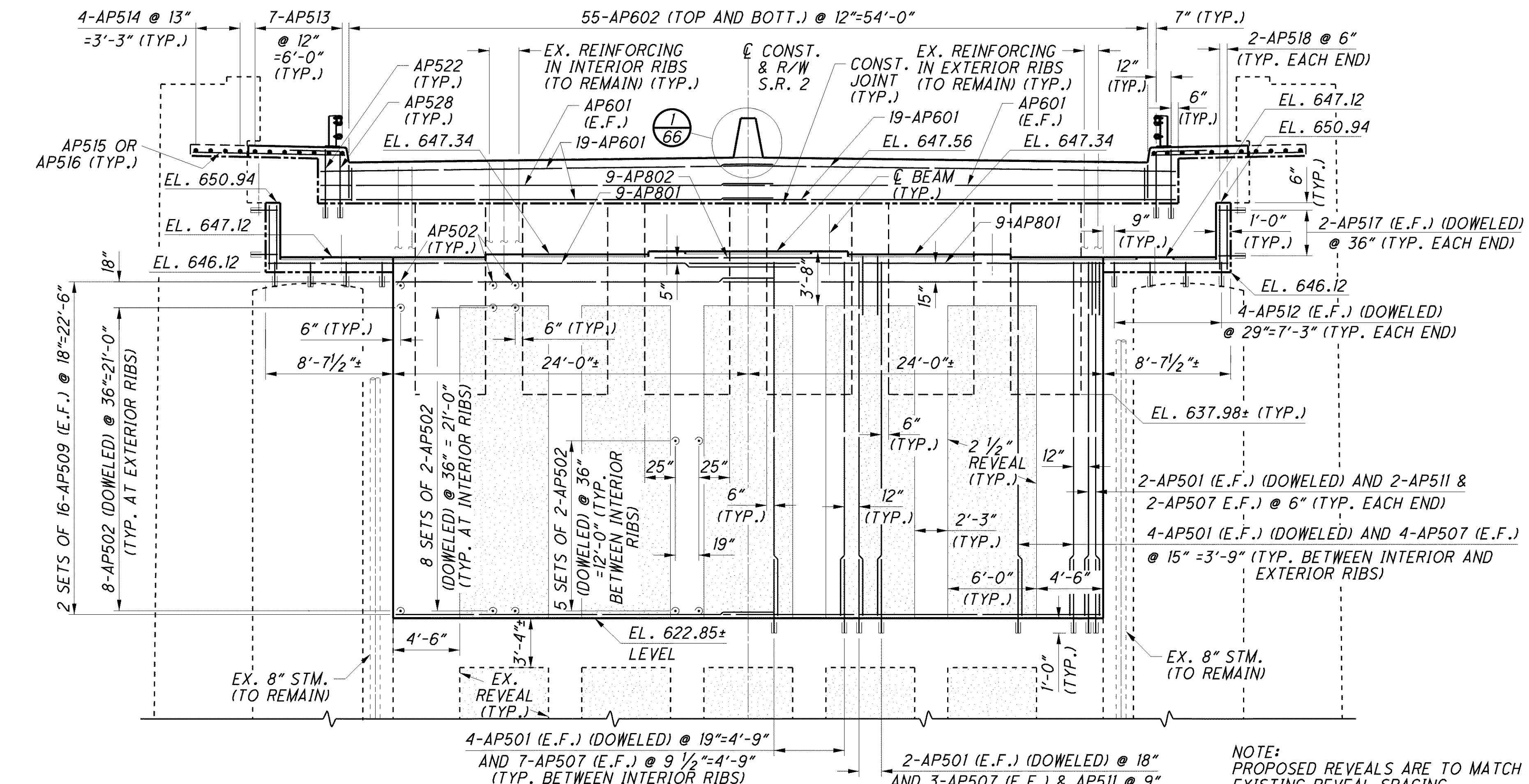
1. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227.
2. FOR RAILING DETAILS SEE SHEETS 188/227 THRU 192/227.
3. FOR GUARDRAIL POST DETAILS SEE SHEETS 194/227 AND 195/227.
4. SCARIFY ALL EXISTING SURFACES WHERE CONCRETE WILL BE PLACED.
5. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 1/8 INCHES AT ABUTMENTS AND 3/16 INCHES AT PIERS TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.
6. MINIMUM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED: #5 BARS = 41" #8 BARS = 96"
7. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.



PLAN



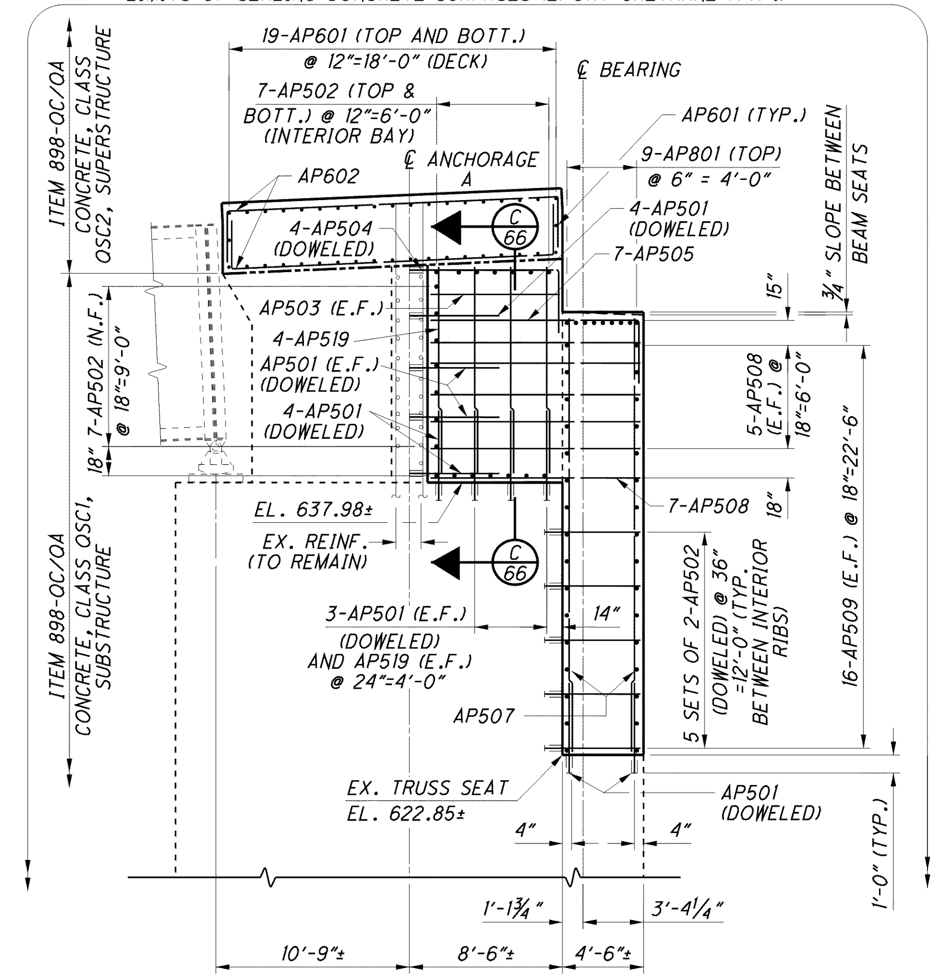
(B) SECTION



NOTE:
PROPOSED REVEALS ARE TO MATCH EXISTING REVEAL SPACING

EAST FACE ELEVATION

(INTERIOR BAYS AND EXTERIOR BAYS REINFORCING NOT SHOWN)



(A) SECTION BETWEEN INTERIOR RIBS

(INTERIOR BAYS SHOWN, EXTERIOR BAYS SIMILAR)

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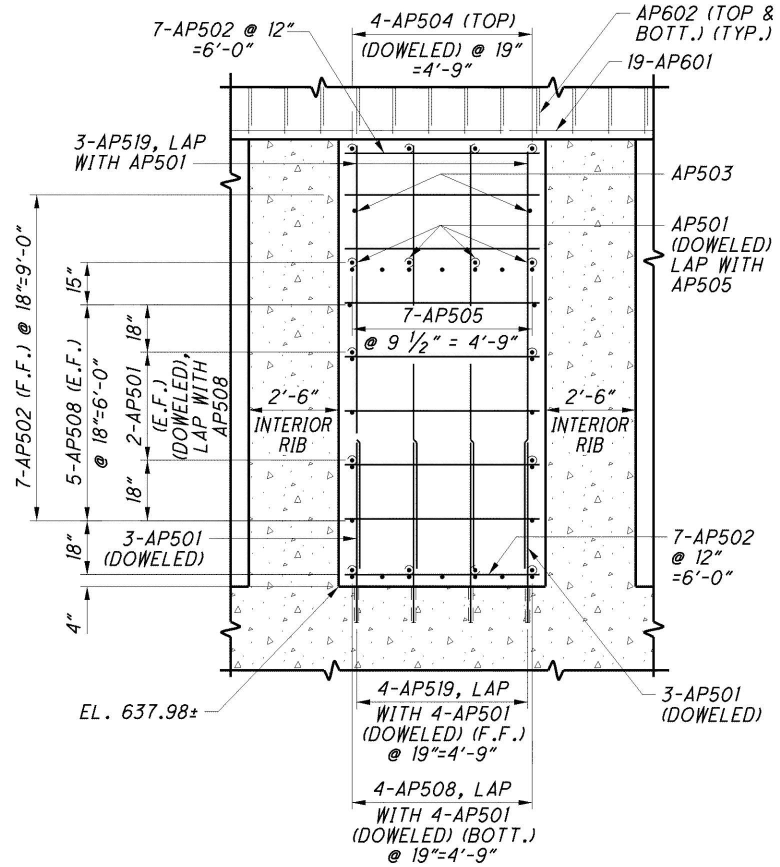
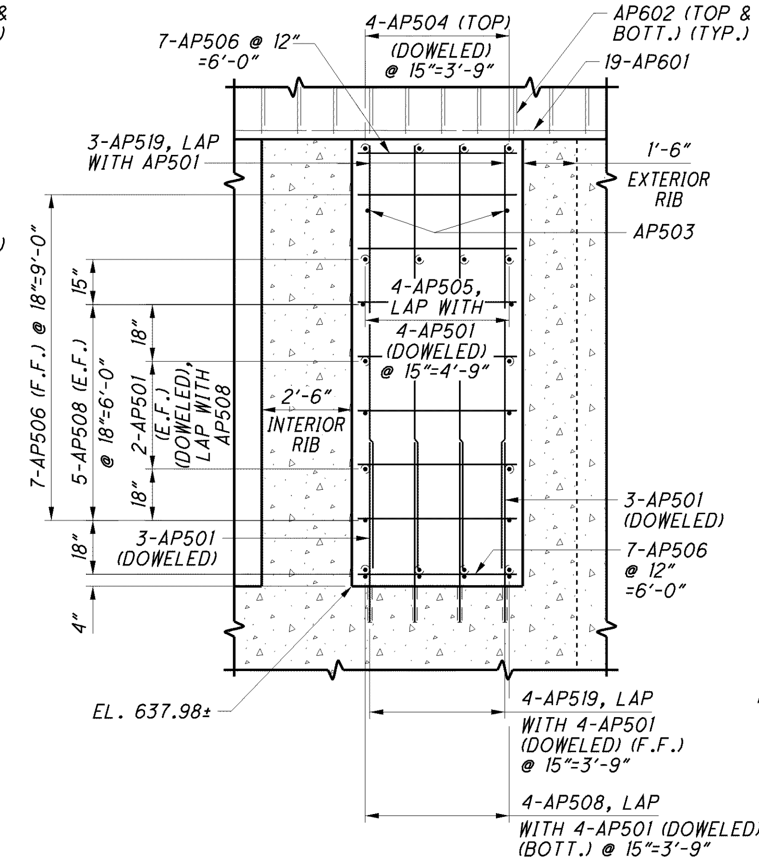
PIER DETAILS - ANCHORAGE A
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

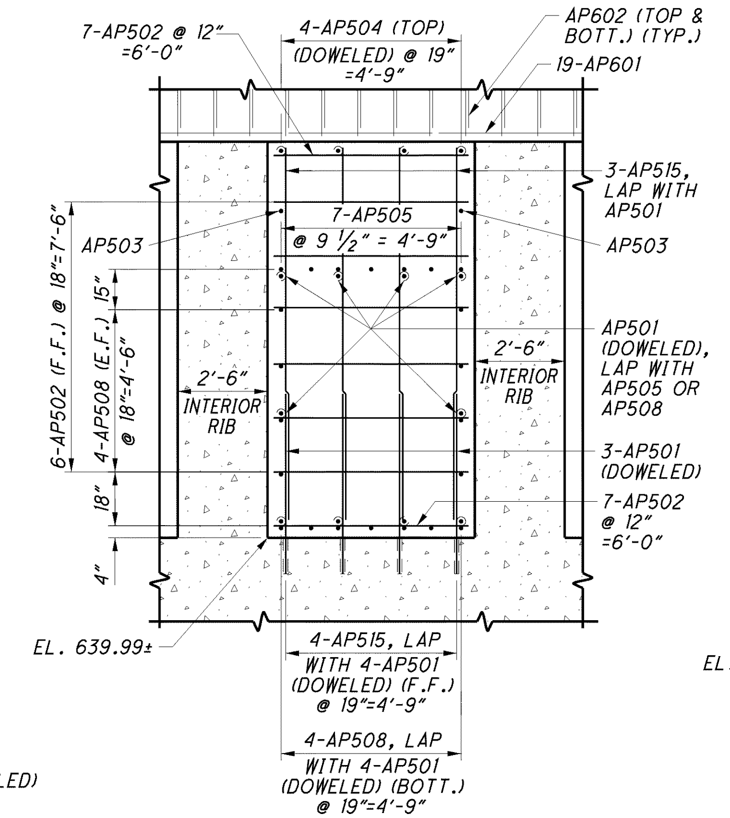
LUC-2-18.62
PID No. 80551



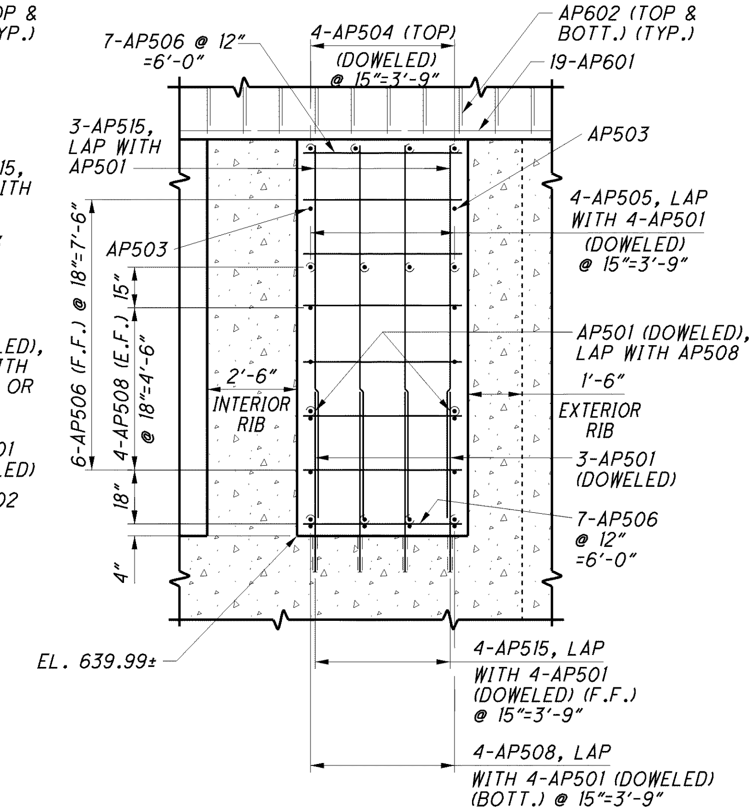
C/65 INTERIOR BAY SECTION



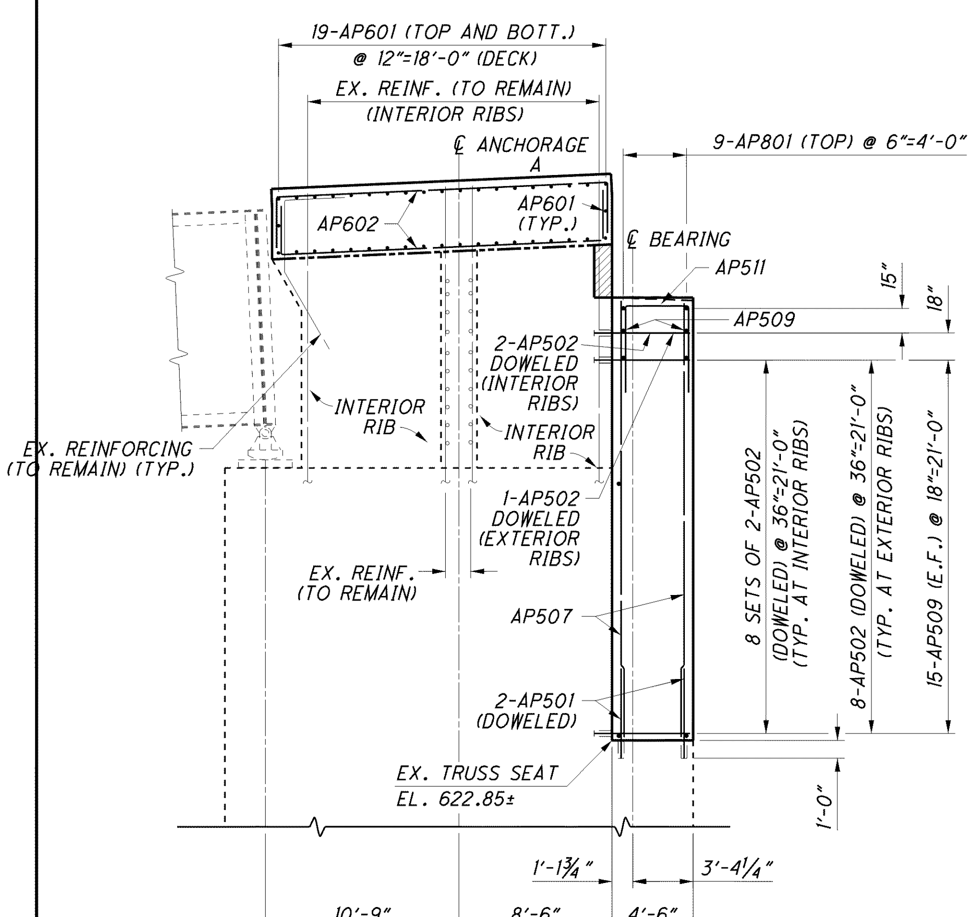
C/65 EXTERIOR BAY SECTION



H/72 INTERIOR BAY SECTION

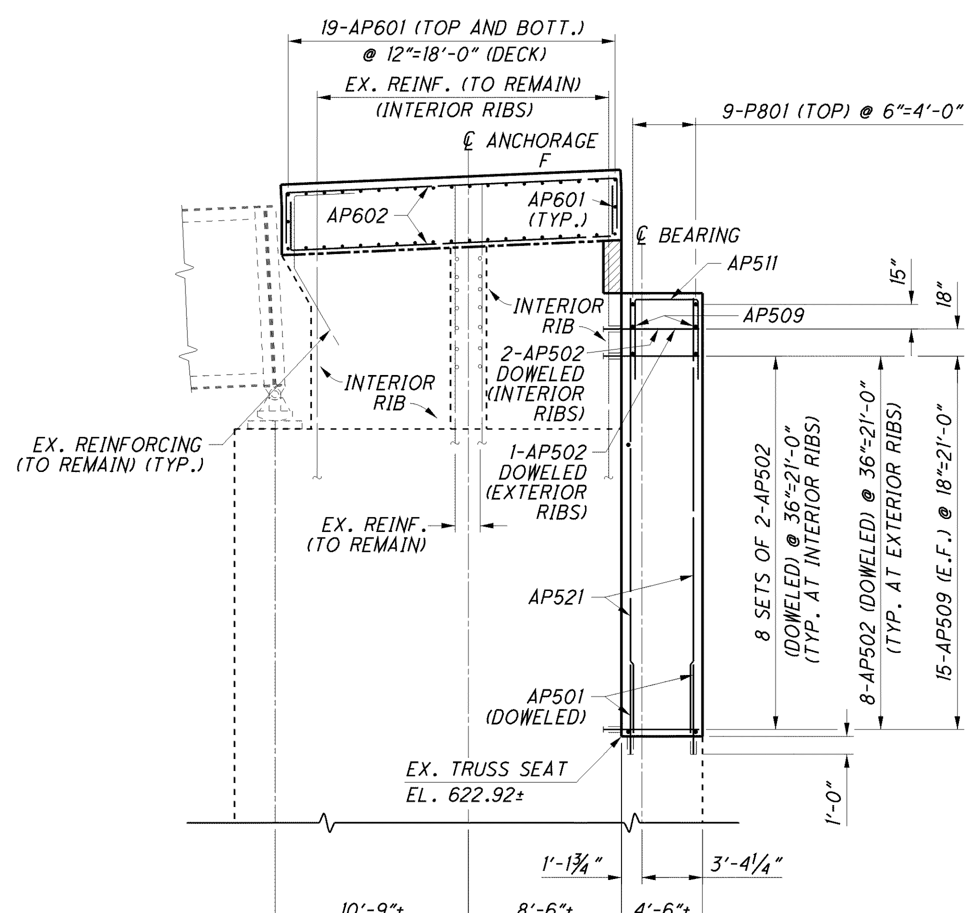


H/72 EXTERIOR BAY SECTION

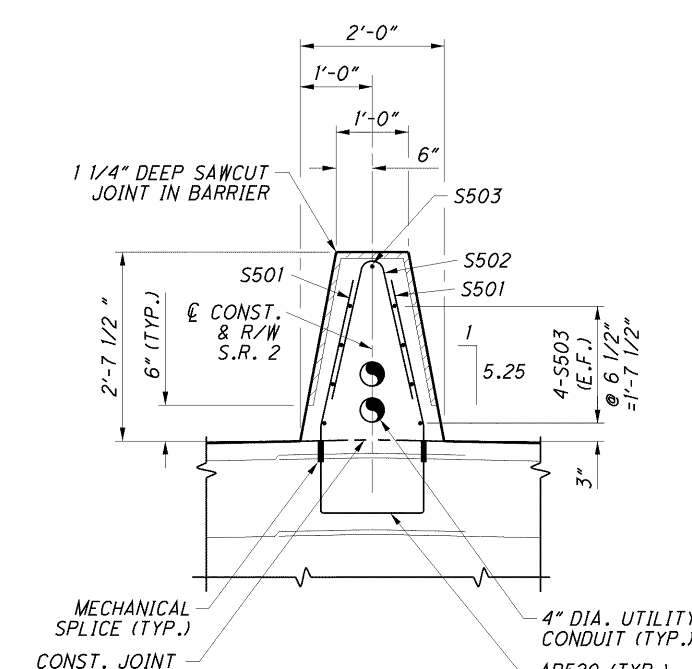


D/65 SECTION THRU INTERIOR RIBS
(AREA THRU INTERIOR RIBS SHOWN, AREA THRU EXTERIOR RIBS SIMILAR)

AREA TO BE INCLUDED WITH ITEM 898-QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE FOR PAYMENT



E/72 SECTION THRU INTERIOR RIBS
(AREA THRU INTERIOR RIBS SHOWN, AREA THRU EXTERIOR RIBS SIMILAR)



I/65/72 DETAIL

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 65/227 .

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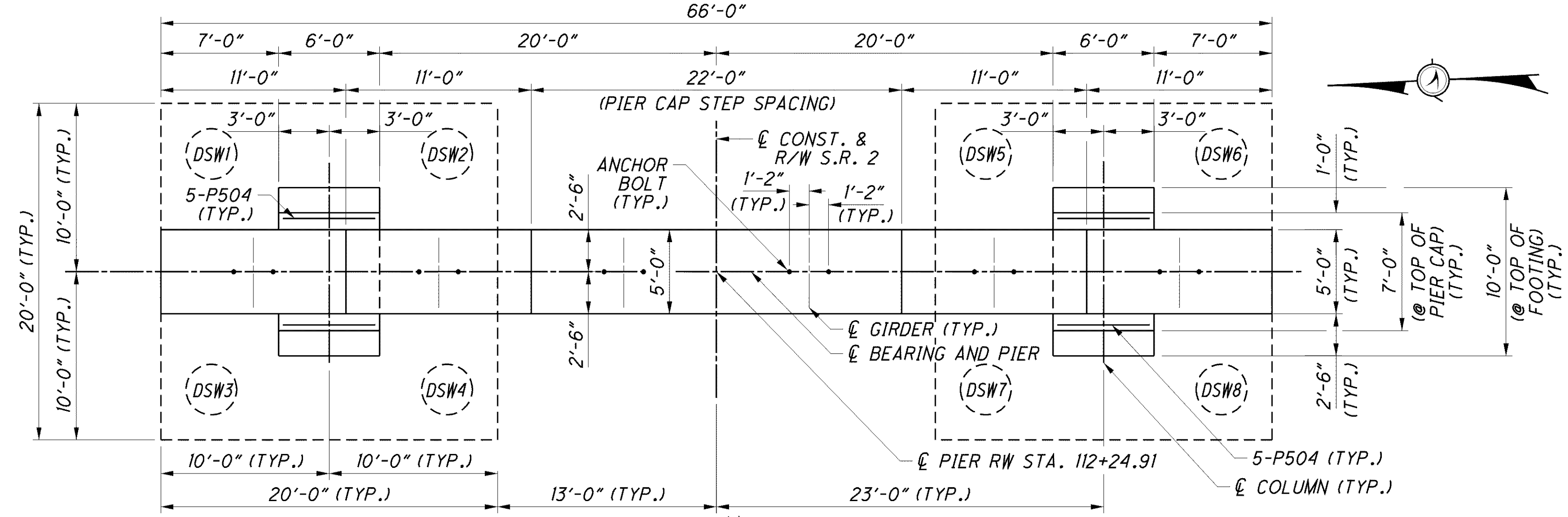
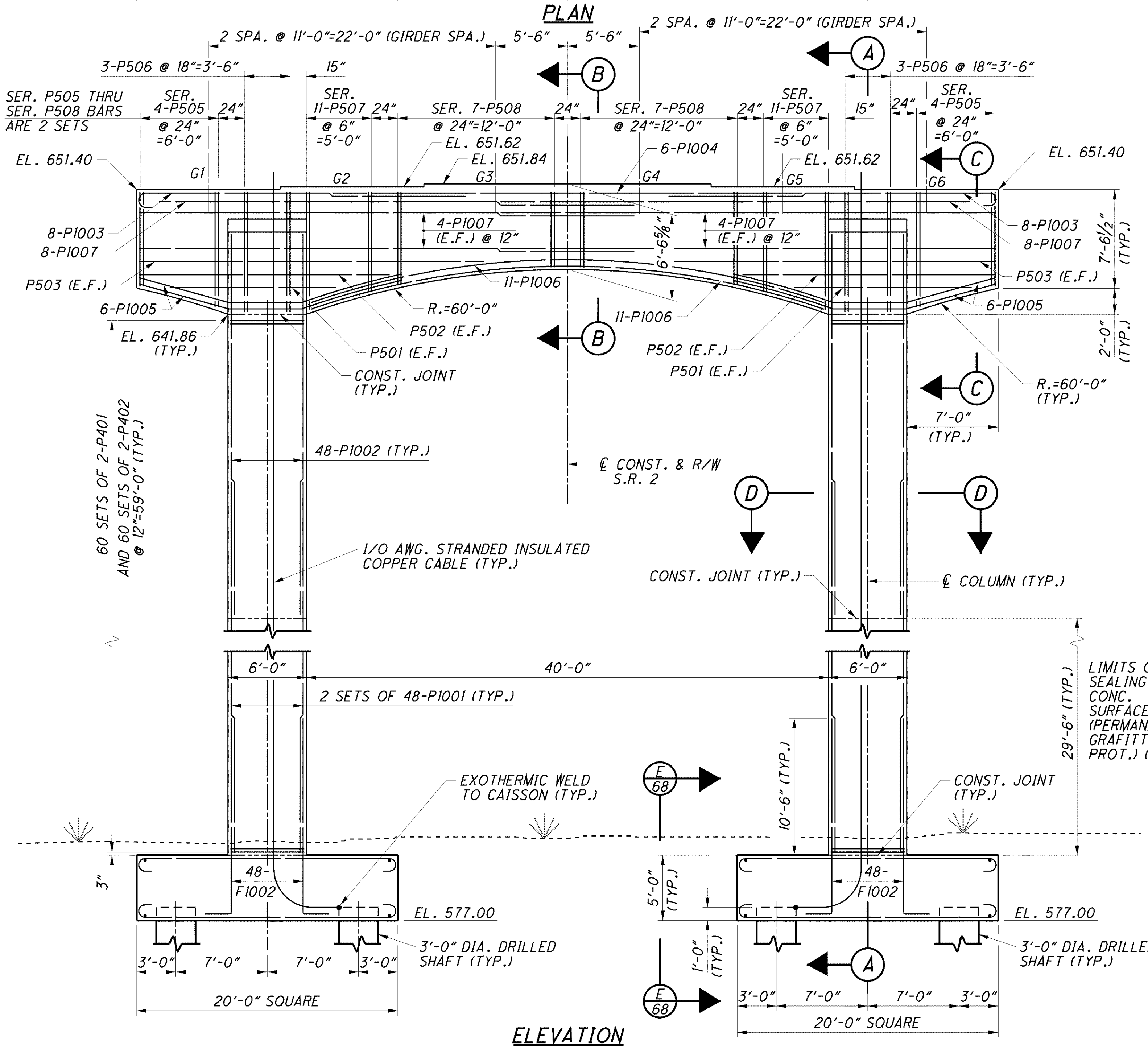
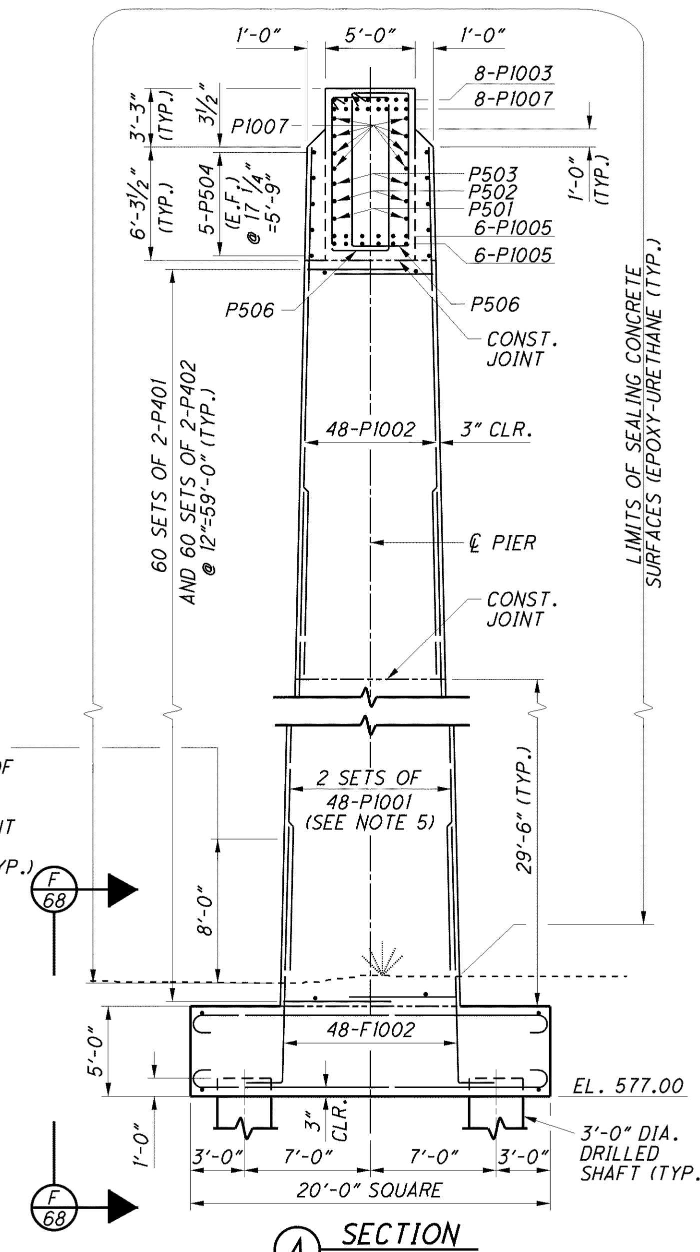
PIER DETAILS - ANCHORAGE A AND F
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

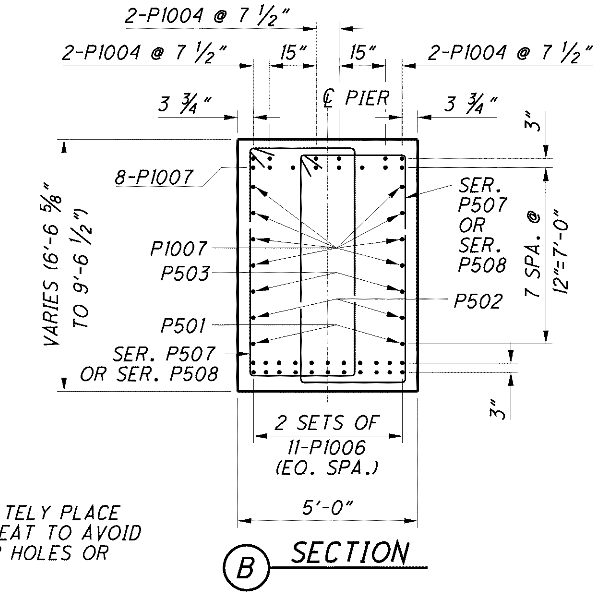


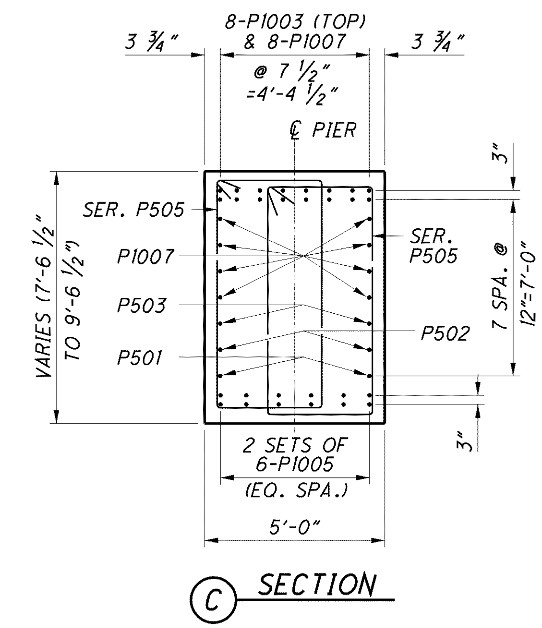


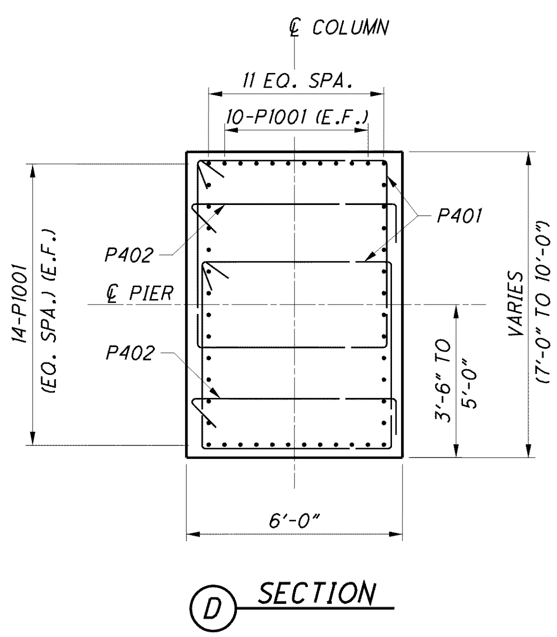


NOTES:

1. MINIMIM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED:
   #10 TOP BARS = 123"
2. FOR BEARING DETAILS SEE SHEET 196/227.
3. SEALING OF BEAM SEATS: IF THE BEAM SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.
4. FOR REINFORCING IN FOOTINGS SEE SHEET 68/227.
5. AT THE OPTION OF THE CONTRACTOR MECHANICAL SPLICES MAY BE SUBSTITUTED FOR LAP SPLICES AT NO ADDITIONAL COST TO THE DEPARTMENT.
6. FOR DRILLED SHAFT DETAILS, SEE SHEET 68/227.
7. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
8. FOR ADDITIONAL STRUCTURE GROUNDING DETAILS, SEE STANDARD DRAWING HL-50.21.







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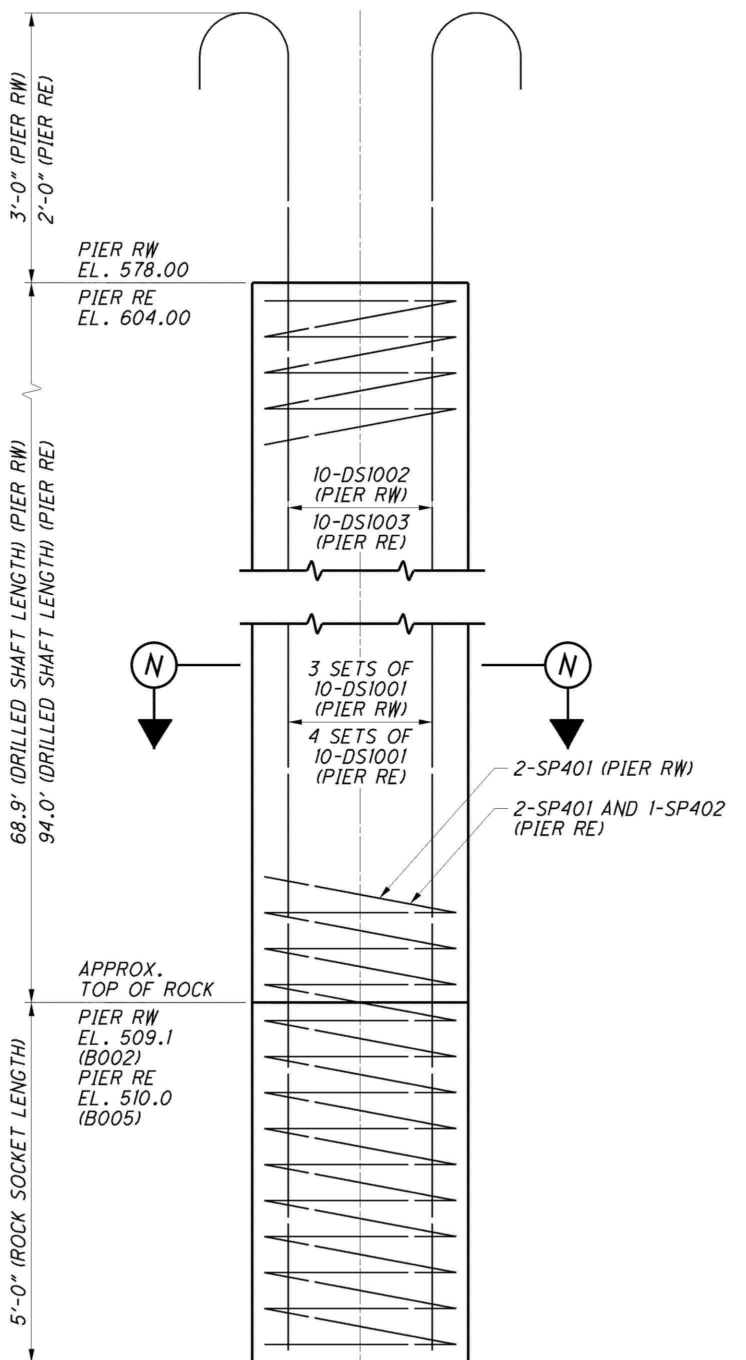
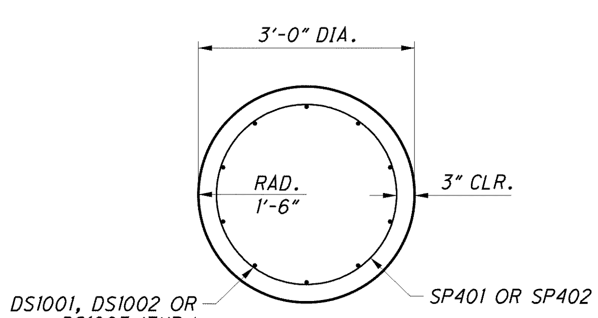
PIER DETAILS - WEST REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



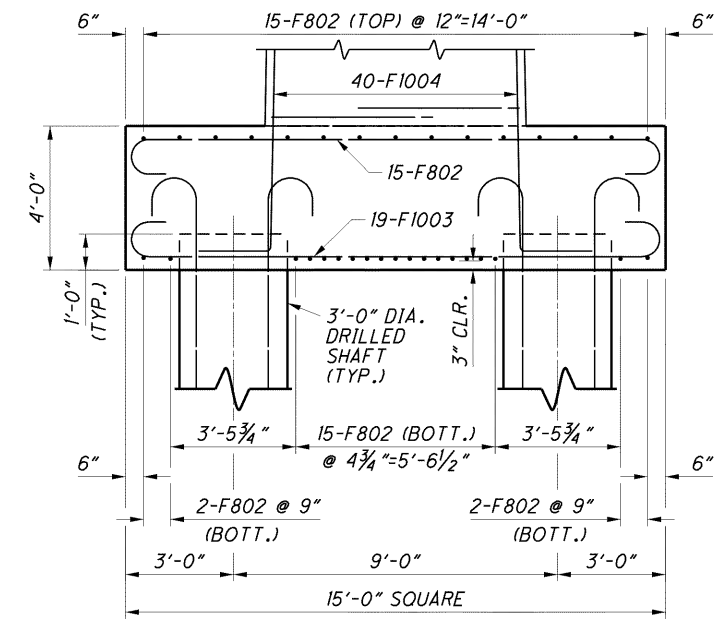
DRILLED SHAFT DETAIL



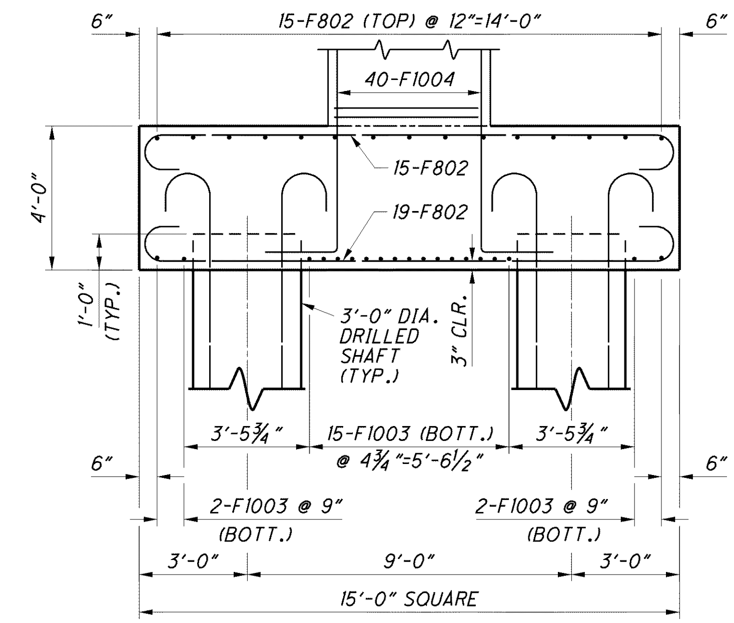
N SECTION

NOTES:

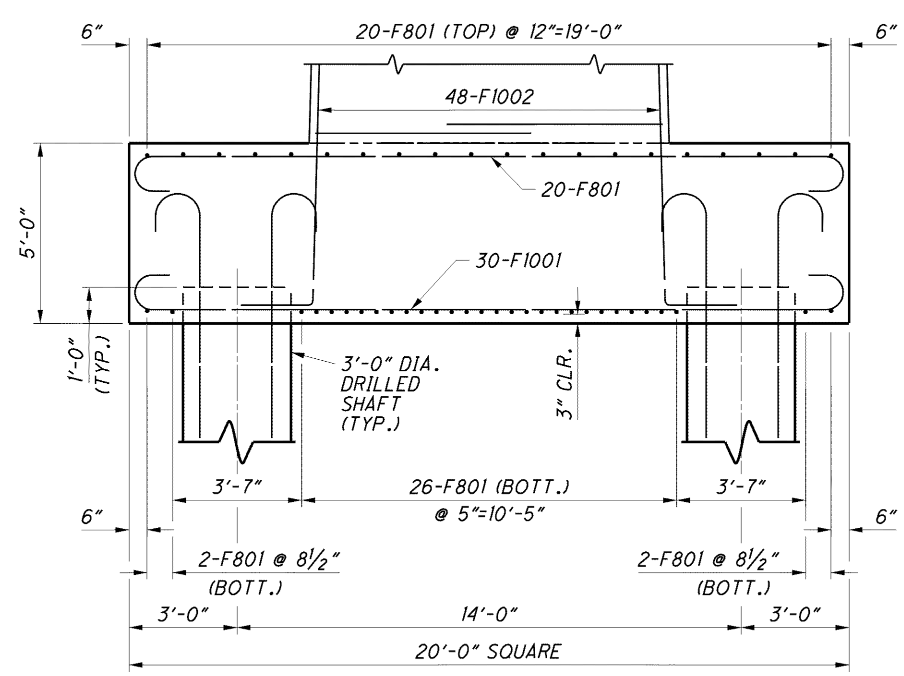
1. FOR ADDITIONAL NOTES SEE SHEET 67/227 .
2. DRILLED SHAFT REINFORCING SHALL BE INCLUDED WITH ITEM 524, DRILLED SHAFT FOR PAYMENT.
3. MINIMIM BAR LAPS FOR DRILLED SHAFT VERTICAL REINFORCING ARE AS FOLLOWS:
   #10 BARS = 123"
4. DRILLED SHAFT SPIRAL REINFORCING SHALL BE SPLICED AS PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS ITEM 509.
5. TO AVOID VERTICAL REINFORCING SPLICE LOCATIONS FOR PIER RE PLACE BAR DS402 AT TOP OF DRILLED SHAFT.
6. FOR DETAILS AND NOTES FOR CROSSHOLE SONIC LOGGING (CSL) TESTING FOR DRILLED SHAFTS SEE SHEET 12/227 .



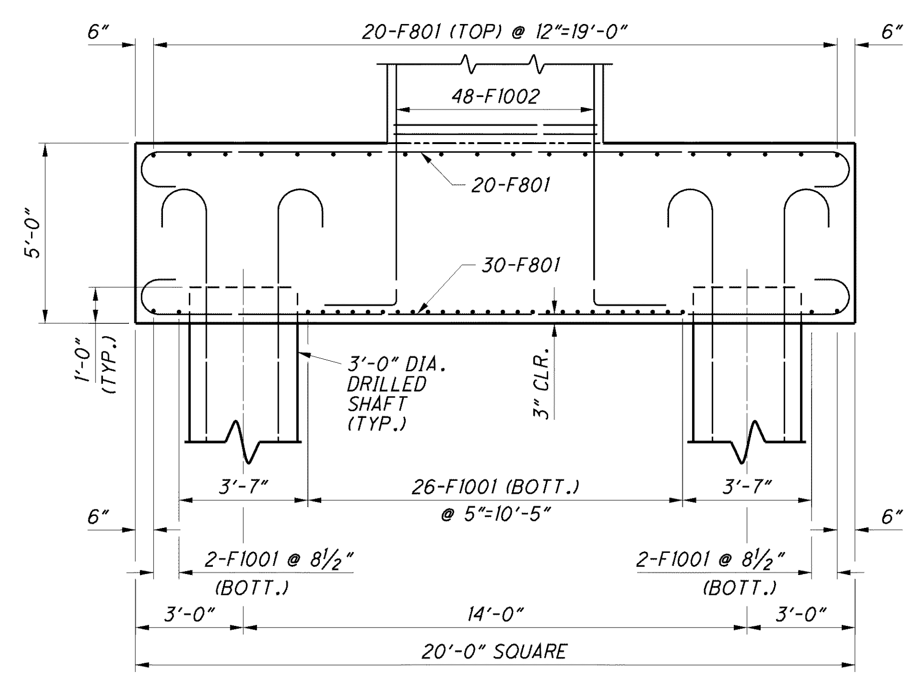
G/71 VIEW



H/71 VIEW



E/67 VIEW



F/67 VIEW

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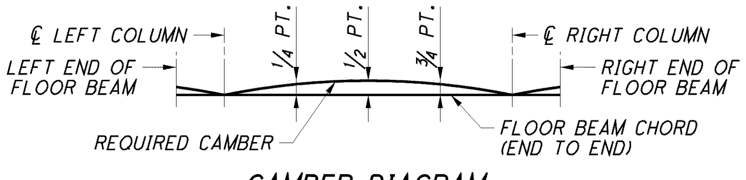
PIER DETAILS - REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



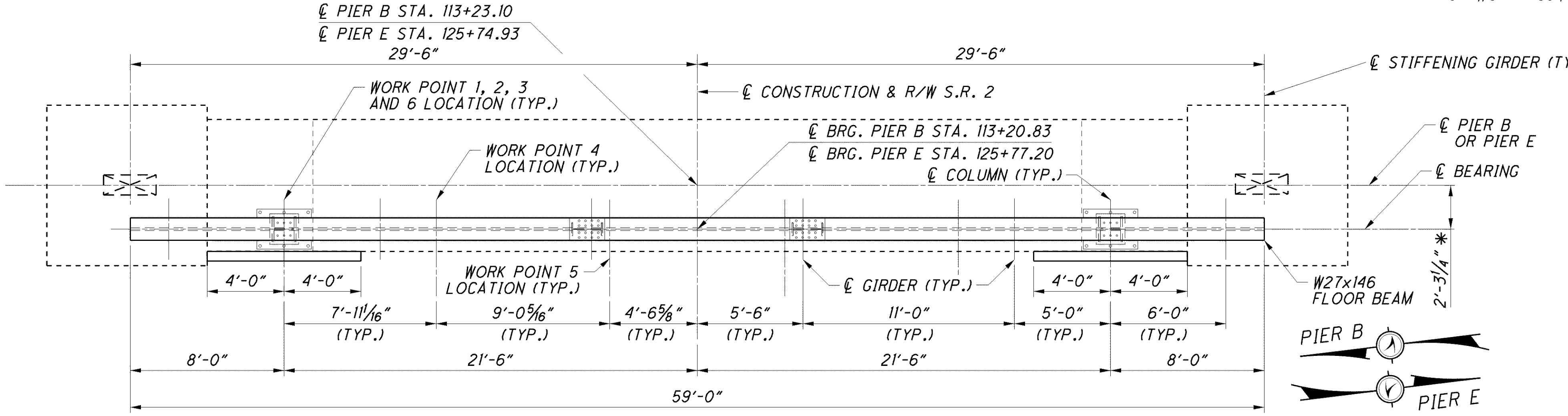
CAMBER DIAGRAM

FLOOR BEAM DEFLECTION AND CAMBER (INCHES)

	LOCATION (POINT)	LEFT END	LEFT COLUMN	1/4	1/2	3/4	RIGHT COLUMN	RIGHT END
FLOOR BEAMS	DEFLECTION DUE TO DEAD LOAD	¼"	0"	1/16"	⅛"	1/16"	0"	¼"
	REQUIRED SHOP CAMBER	¼"	0"	1/16"	⅛"	1/16"	0"	¼"

NOTES:

1. FOR FRAMING PLANS AND DETAILS SEE SHEETS 74/227 THRU 93/227.
2. FOR ADDITIONAL BEARING DETAILS, SEE STANDARD DRAWING FB-1-82.
3. FOR PIER HOLD DOWN DETAILS SEE SHEETS 218/227 THRU 223/227.
4. FOR WORK POINT LOCATIONS SEE SHEET 70/227.
5. HIGH STRENGTH BOLTS SHALL BE ASTM A325, TYPE 1.
6. THE ENTIRE STEEL FRAME INCLUDING BEARINGS, BOLTS AND ALL VISIBLE HARDWARE SHALL BE PRIME PAINTED AS PER ITEM 513. THE INTERMEDIATE AND TOP COAT SHALL BE APPLIED UNDER SEPARATE CONTRACT.
7. FIXED STEEL PIN BEARING SHALL BE CAST STEEL ACCORDING TO 711.07.



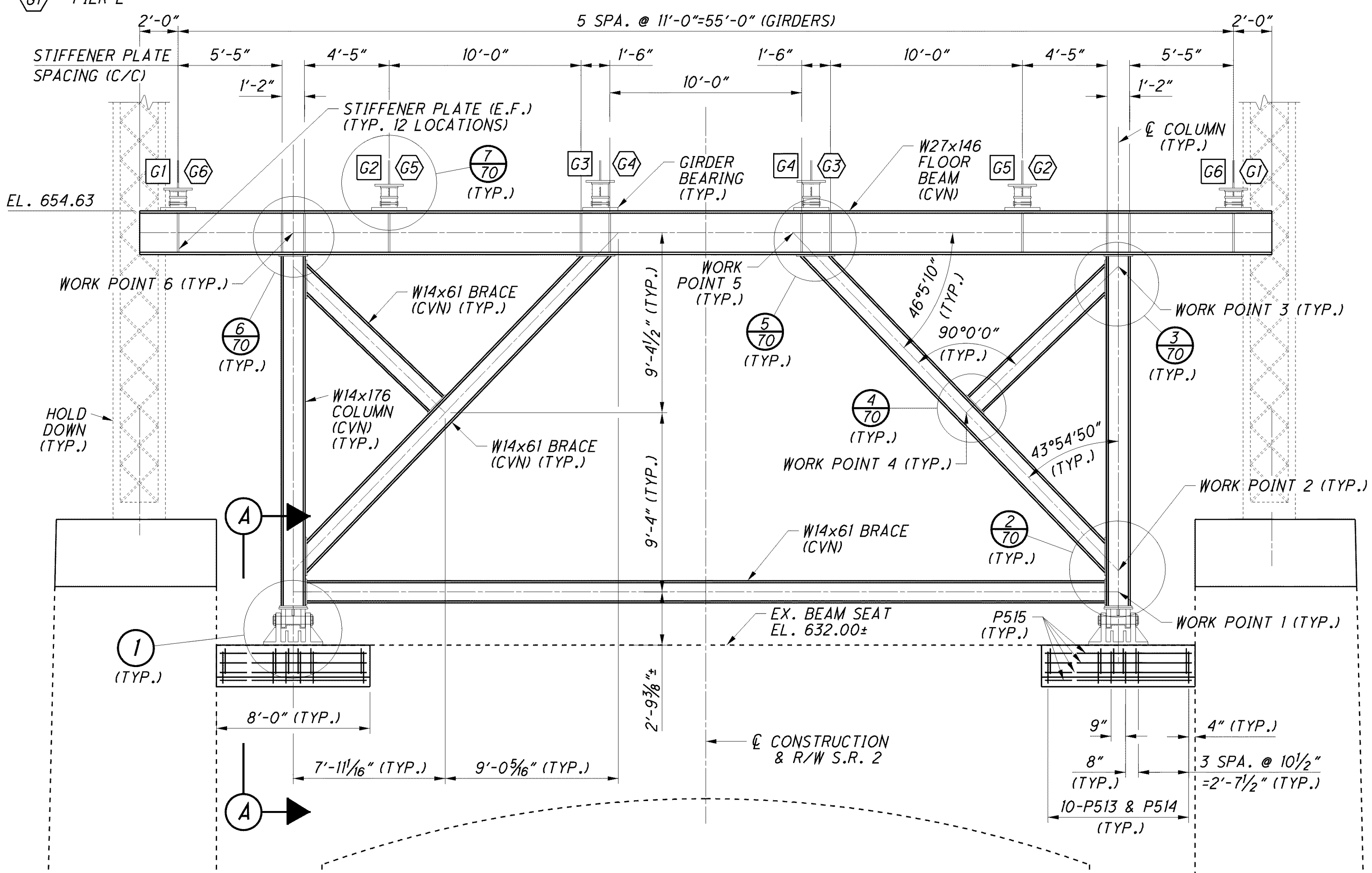
PLAN

(PIER B SHOWN, PIER E SIMILAR)

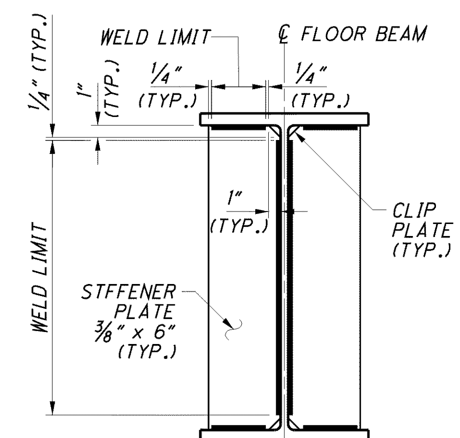
* MEASURED AT TOP OF BEAM SEAT

G1 - PIER B

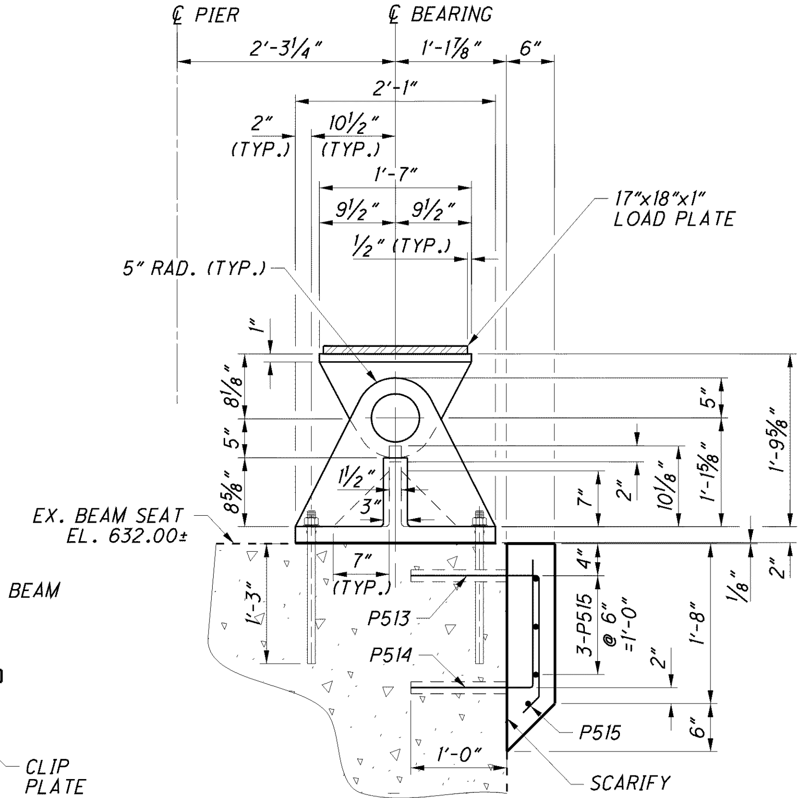
⟨G1⟩ - PIER E



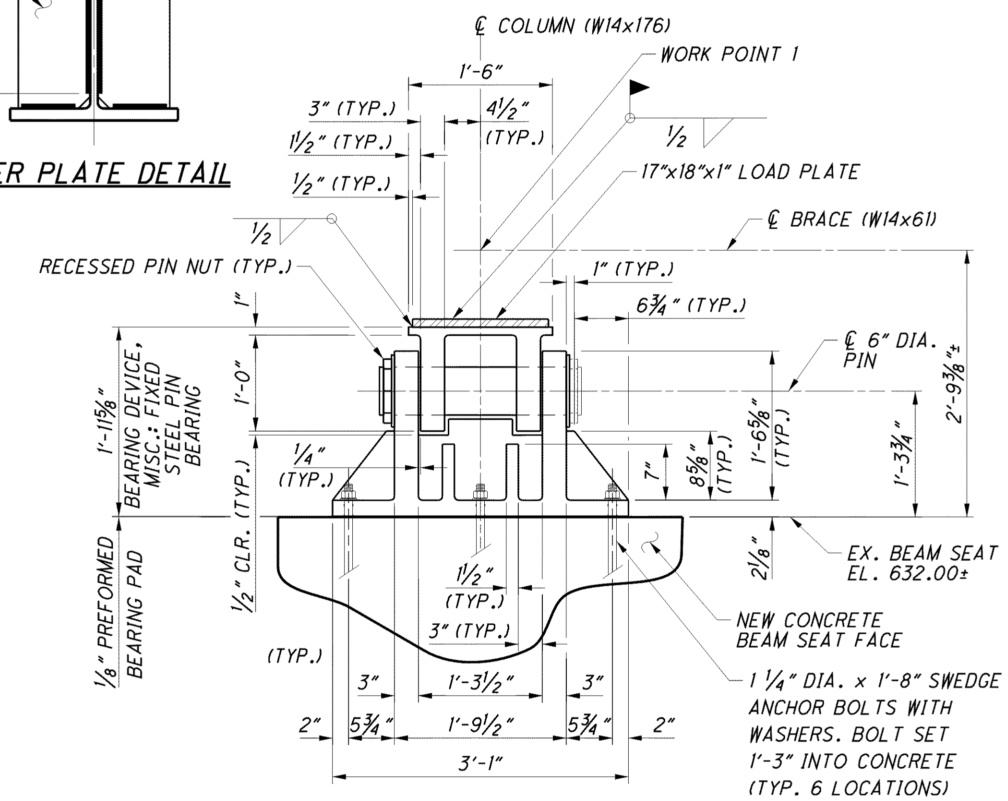
ELEVATION



STIFFENER PLATE DETAIL



A SECTION



1 DETAIL

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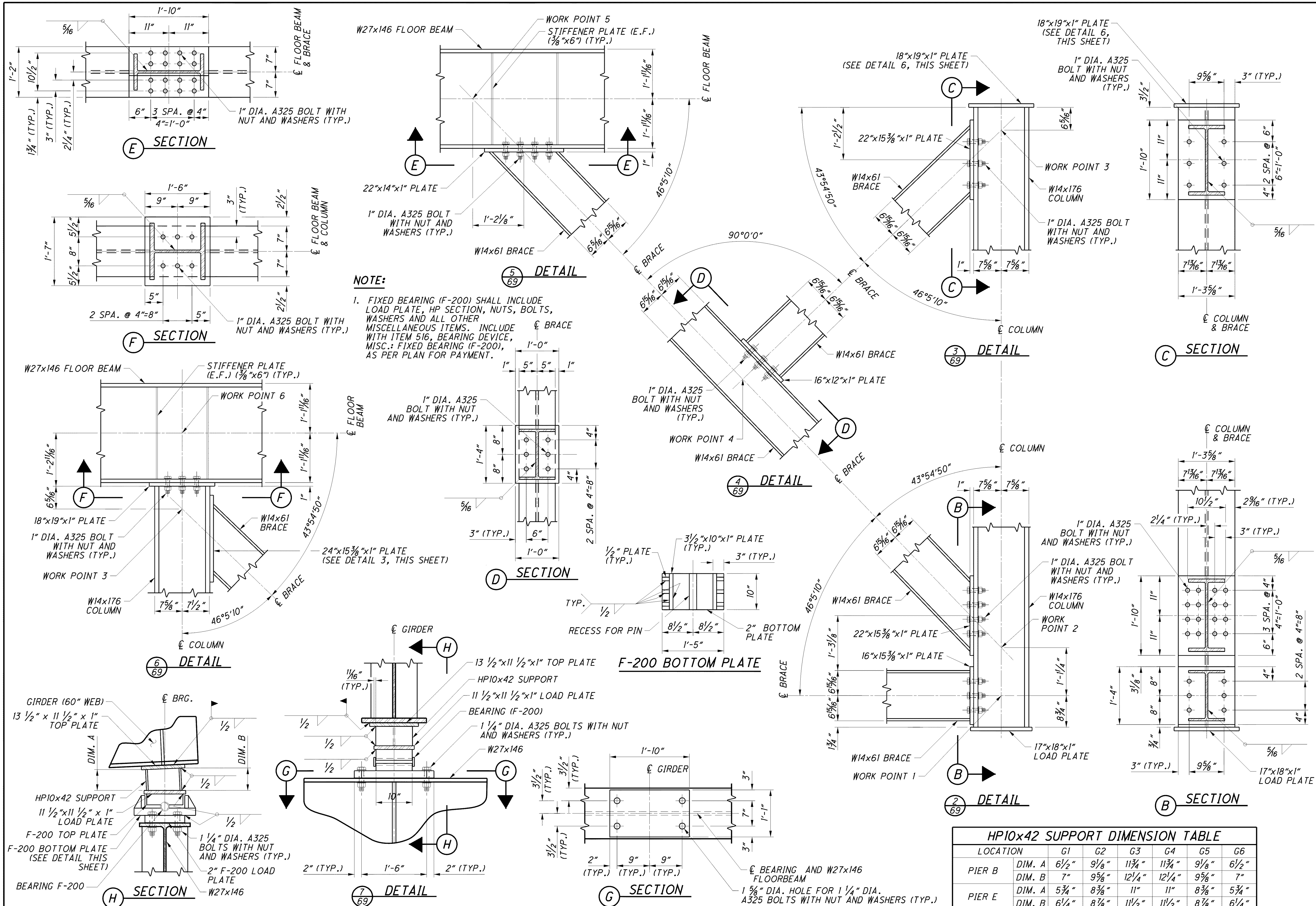
PIER DETAILS B AND E

BRIDGE NO. LUC - 2 - 1862

STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

PID No. 80551



NOTE:

1. FIXED BEARING (F-200) SHALL INCLUDE LOAD PLATE, HP SECTION, NUTS, BOLTS, WASHERS AND ALL OTHER MISCELLANEOUS ITEMS. INCLUDE WITH ITEM 516, BEARING DEVICE, MISC.: FIXED BEARING (F-200), AS PER PLAN FOR PAYMENT.

HP10x42 SUPPORT DIMENSION TABLE

LOCATION		G1	G2	G3	G4	G5	G6
PIER B	DIM. A	6 1/2"	9 1/8"	11 3/4"	11 3/4"	9 1/8"	6 1/2"
	DIM. B	7"	9 5/8"	12 1/4"	12 1/4"	9 5/8"	7"
PIER E	DIM. A	5 3/4"	8 3/8"	11"	11"	8 3/8"	5 3/4"
	DIM. B	6 1/4"	8 7/8"	11 1/2"	11 1/2"	8 7/8"	6 1/4"

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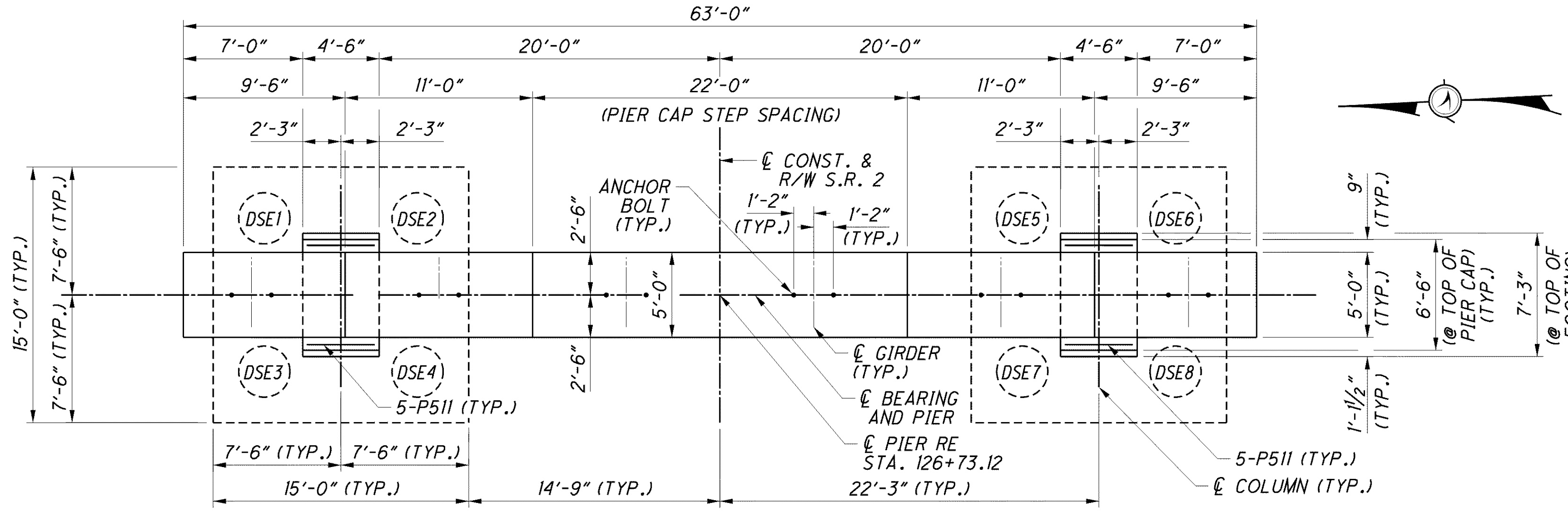
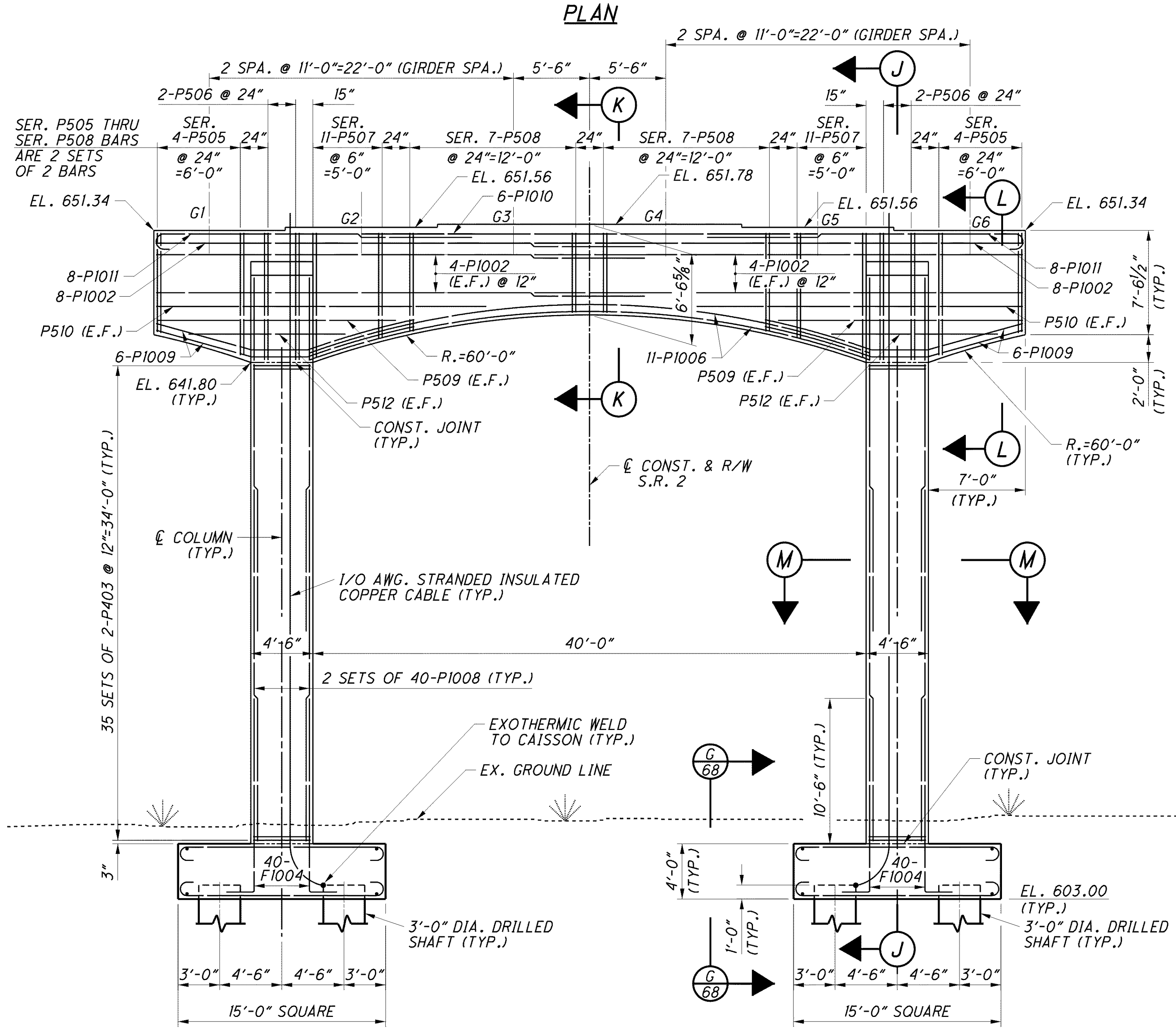
PIER DETAILS B AND E
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



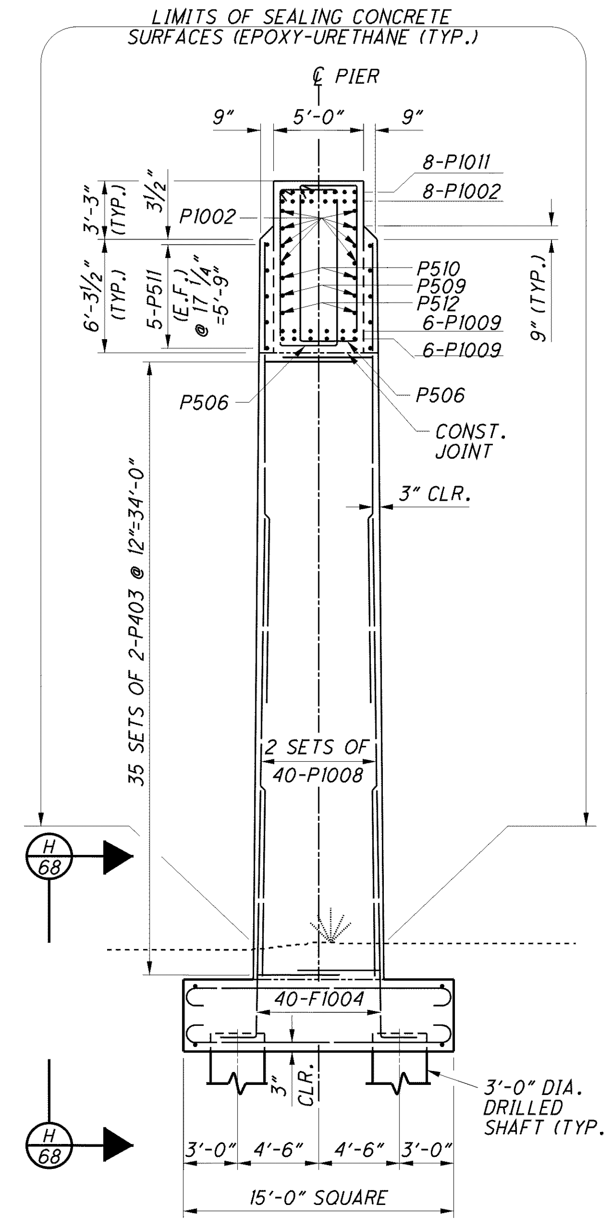
PLAN



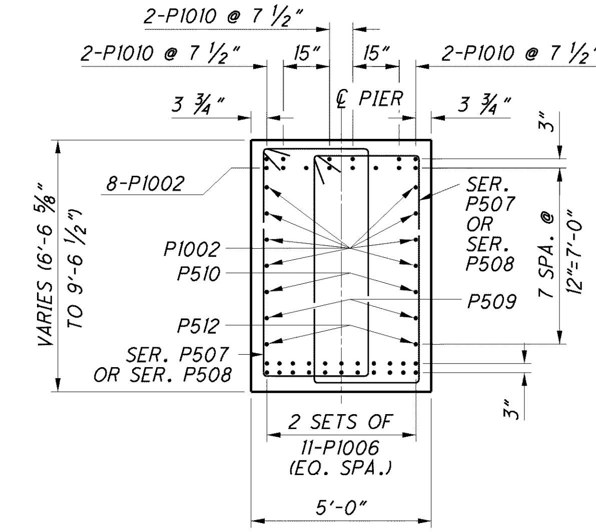
ELEVATION

NOTES:

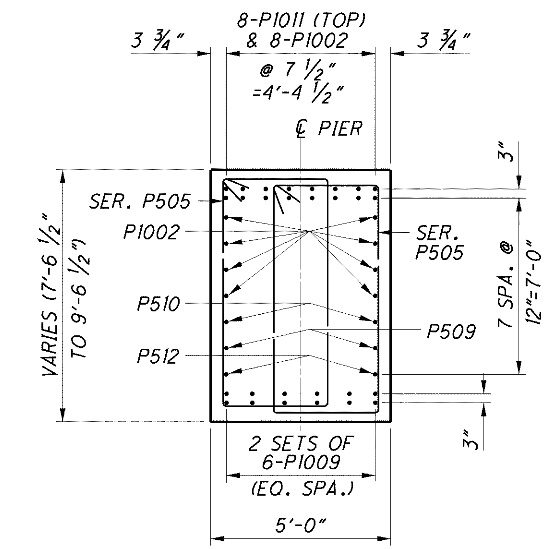
1. MINIMIM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED:
   #10 TOP BARS = 123"
2. FOR BEARING DETAILS SEE SHEET 196/227.
3. DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS.
4. FOR REINFORCING IN FOOTINGS SEE SHEET 68/227.
5. AT THE OPTION OF THE CONTRACTOR MECHANICAL SPLICES MAY BE SUBSTITUTED FOR LAP SPLICES AT NO ADDITIONAL COST TO THE DEPARTMENT.
6. FOR DRILLED SHAFT DETAILS, SEE SHEET 68/227.



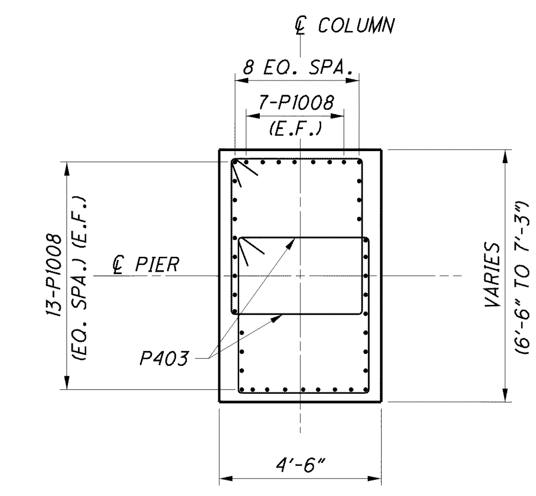
SECTION J



SECTION K



SECTION L



SECTION M

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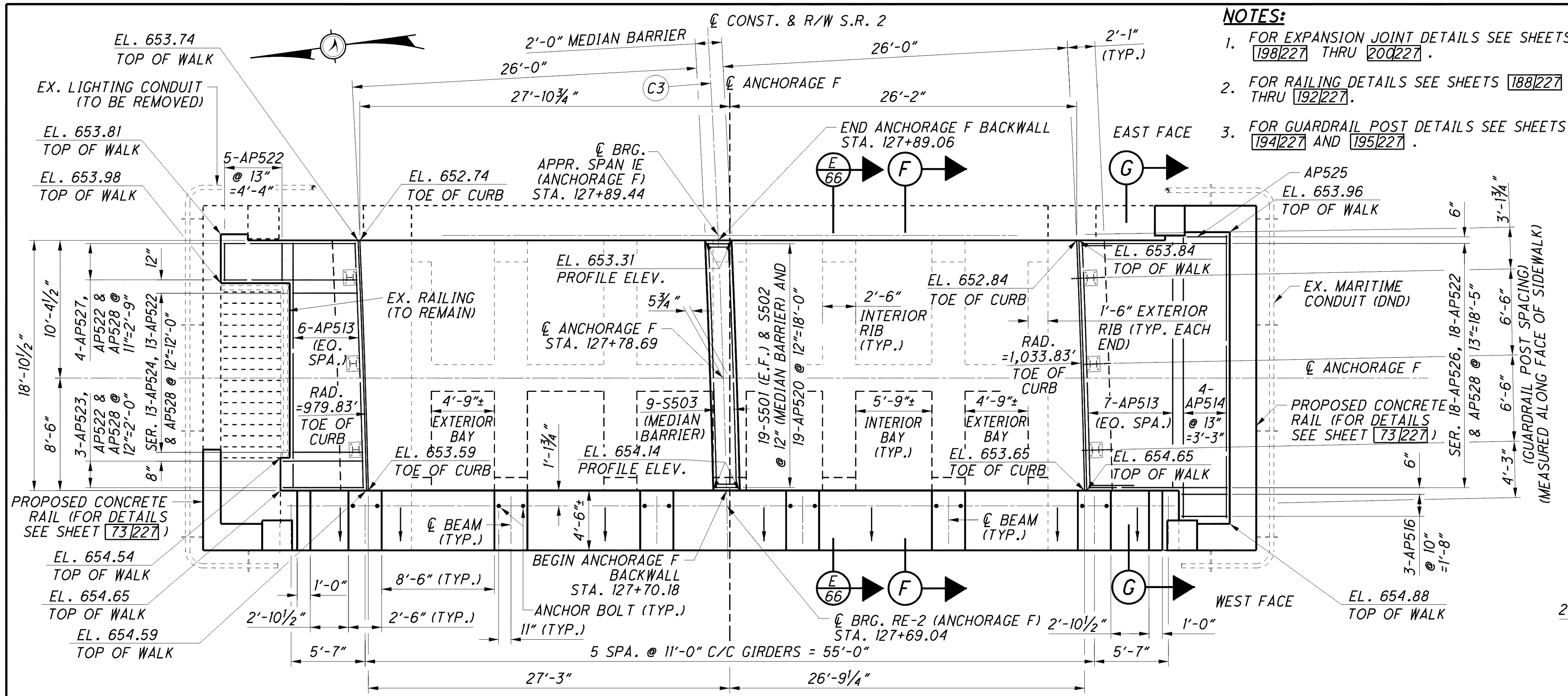
PIER DETAILS - EAST REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

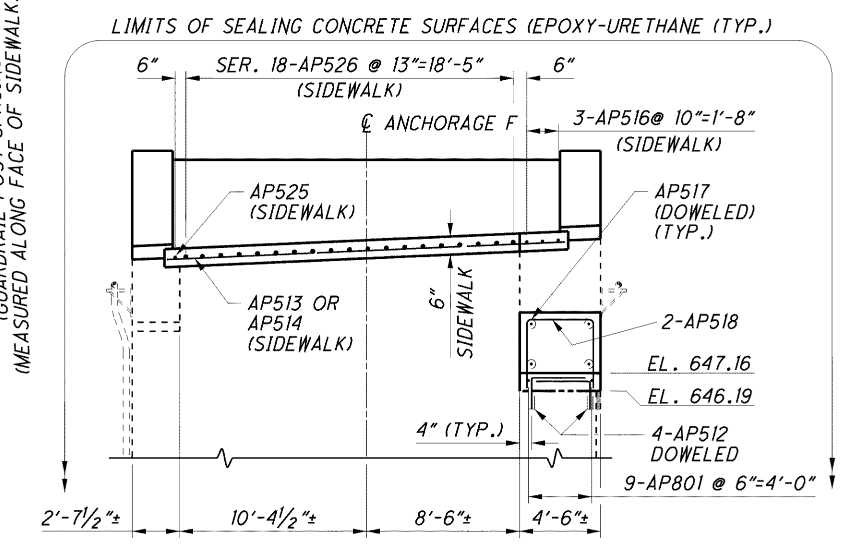
LUC-2-18.62
PID No. 80551



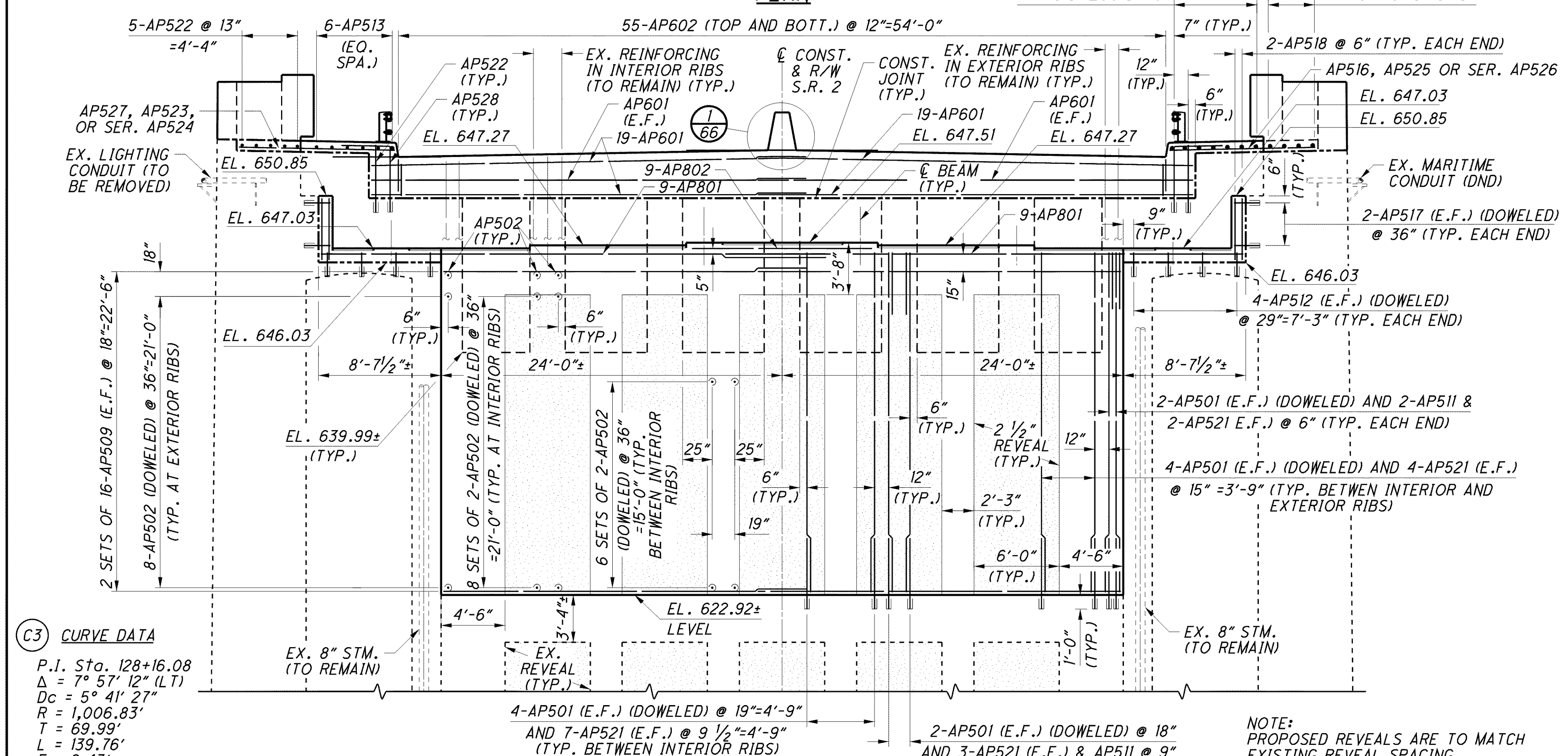
PLAN

NOTES:

1. FOR EXPANSION JOINT DETAILS SEE SHEETS 198|227 THRU 200|227 .
2. FOR RAILING DETAILS SEE SHEETS 188|227 THRU 192|227.
3. FOR GUARDRAIL POST DETAILS SEE SHEETS 194|227 AND 195|227 .
4. SCARIFY ALL EXISTING SURFACES WHERE CONCRETE WILL BE PLACED.
5. FOR ADDITIONAL ANCHORAGE F DETAILS SEE SHEET 73|227 .
6. FOR CURVE DATA SEE C3 ON SHEET 179|227 .
7. MINIMUM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED: #5 BARS = 41" #8 BARS = 96"
8. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.



G SECTION



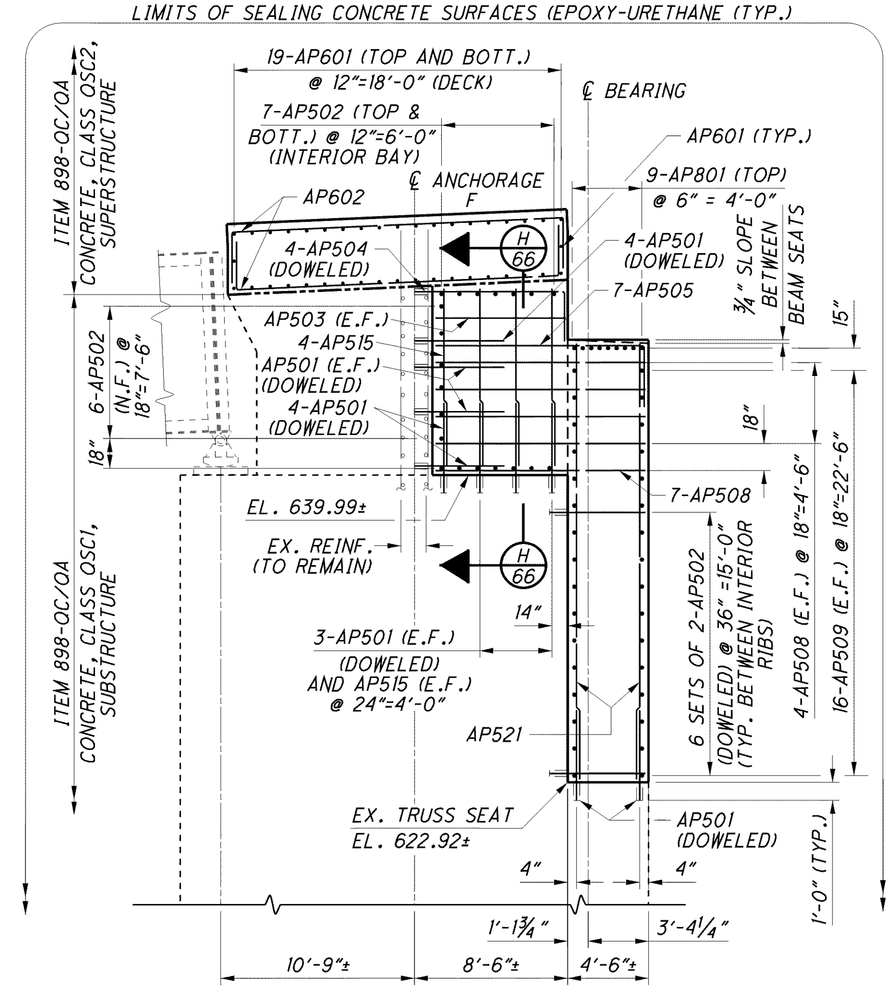
NOTE:
PROPOSED REVEALS ARE TO MATCH EXISTING REVEAL SPACING

C3 CURVE DATA

P.I. Sta. 128+16.08
Δ = 7° 57' 12" (LT)
Dc = 5° 41' 27"
R = 1,006.83'
T = 69.99'
L = 139.76'
E = 2.43'
C = 139.65'
C.B. = S 86° 17' 09" E

WEST FACE ELEVATION

(INTERIOR BAYS AND EXTERIOR BAYS REINFORCING NOT SHOWN)



F SECTION BETWEEN INTERIOR RIBS

(INTERIOR BAYS SHOWN, EXTERIOR BAYS SIMILAR)

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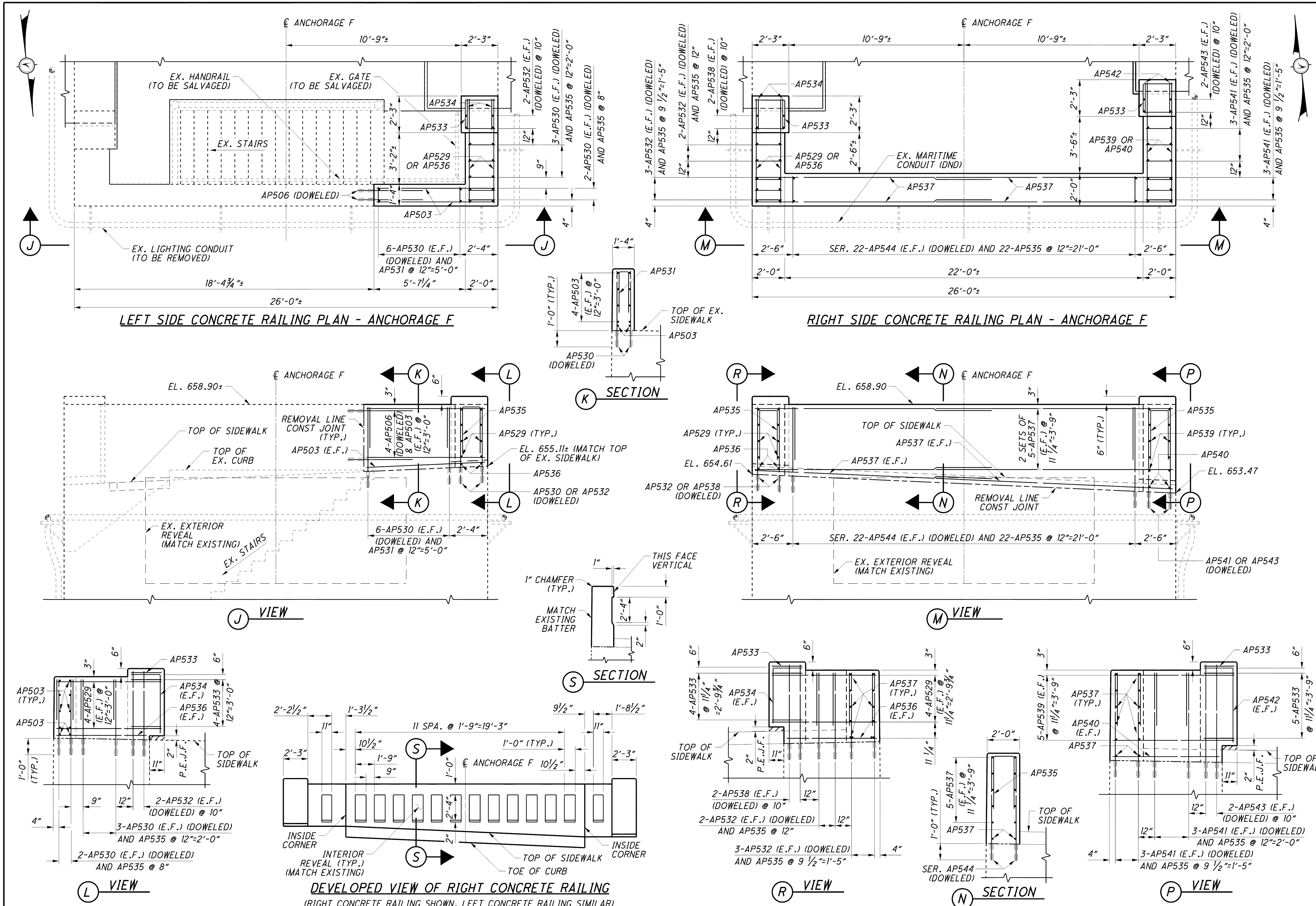
PIER DETAILS - ANCHORAGE F 1 OF 2
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



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PIER DETAILS - ANCHORAGE F 2 OF 2
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
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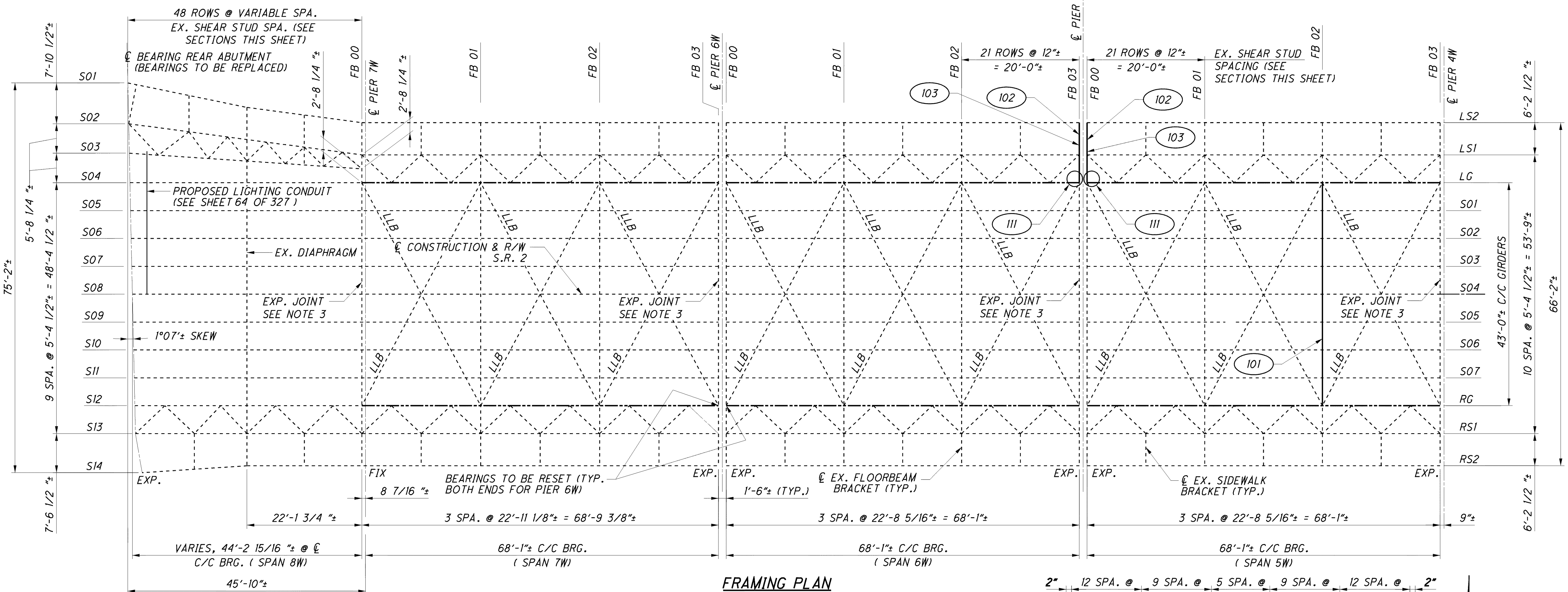
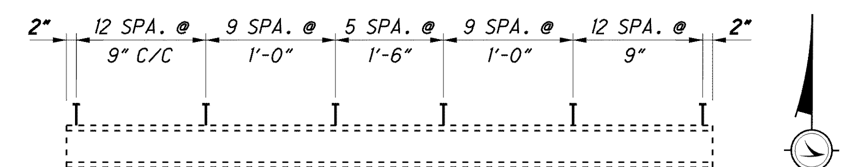
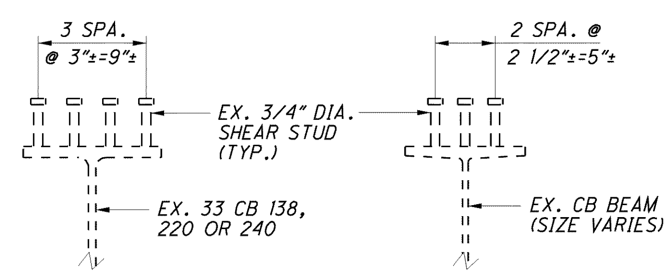


FRAMING PLAN



SHEAR STUD SPACING

IN SPANS 8W, 8E, 9E, 10E, 11E AND 12E



SPAN 8W ONLY

SPANS 6W, 5W, 3W, 2W, 2E, 3E, 6E, 7E AND 9E THRU 15E

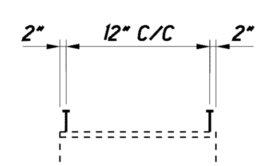
EXISTING SHEAR STUD SECTIONS

NOTE:

1. BEARINGS TO BE AND RESET AS PER GENERAL NOTE ON SHEET 12 227 . THE BEARINGS SHALL BE REPLACED AT THE CONTRACTORS OPTION.
2. FOR REPAIR NOTES REFER TO SHEETS 95 227 THRU 99 227 .
3. FOR EXPANSION JOINT DETAILS SEE SHEETS 198 227 THRU 200 227 .

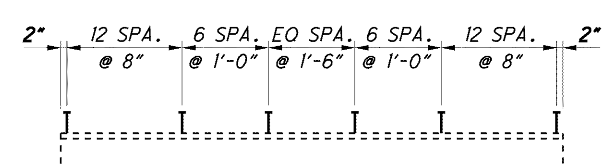
MISCELLANEOUS STEEL REPAIR DETAILS

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
101	REPLACE FLOOR BEAM TOP FLANGE ANGLES AND COVERPLATE WITH WT SECTION	95
102	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES AND TOP FLANGE STRAP PLATE	96
103	REPLACE PORTION OF CANTILEVERED FLOOR BEAM BOTTOM FLANGE ANGLES	96
111	REPLACE FLOOR BEAM BEARING KNEE BRACES	99



SHEAR STUD SPACING

IN CB STRINGER ADJACENT TO STEEL EXPANSION JOINTS @ PIERS 5W, 2W, B, E, 2E AND 6E AND SPAN 15E



SHEAR STUD SPACING

IN SPANS 13E AND 14E

LEGEND

LG = LEFT GIRDER
RG = RIGHT GIRDER
LS = LEFT STRINGER
RS = RIGHT STRINGER
FB = FLOOR BEAM
S = STRINGER
LLB = LOWER LATERAL BRACING
EG = EAST APPROACH GIRDER SPANS
WG = WEST APPROACH GIRDER SPANS
WR = WEST REPLACEMENT SPANS
ER = EAST REPLACEMENT SPANS

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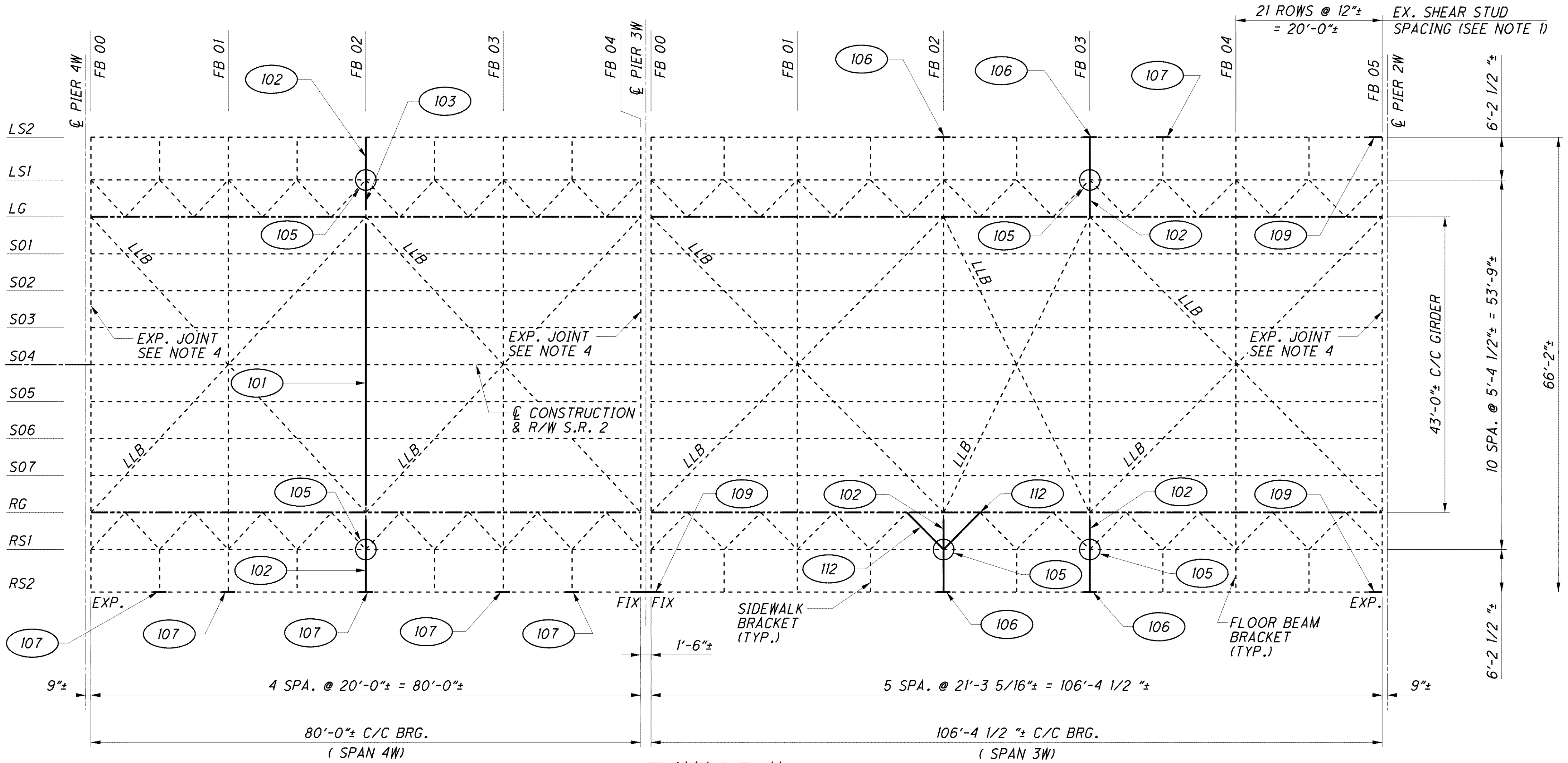
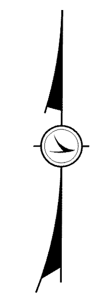
FRAMING PLAN - WEST APPROACH SPANS 1 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN



MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
101	REPLACE FLOOR BEAM TOP FLANGE AND COVER PLATE WITH WT SECTION	95
102	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES AND TOP FLANGE STRAP PLATE	96
103	REPLACE PORTION OF CANTILEVERED FLOOR BEAM BOTTOM FLANGE ANGLES	96
105	REPLACE GUSSET PLATE FOR THE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLE CONNECTION	97
106	REPLACE PORTIONS OF FASCIA STRINGER WEB PLATES AND FLANGES	98
107	REPLACE PORTION OF FASCIA STRINGER BOTTOM FLANGE	98
109	REPLACE PORTIONS OF FASCIA STRINGER WEB PLATES AND BOTTOM FLANGES	98
112	REPLACE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLES	97

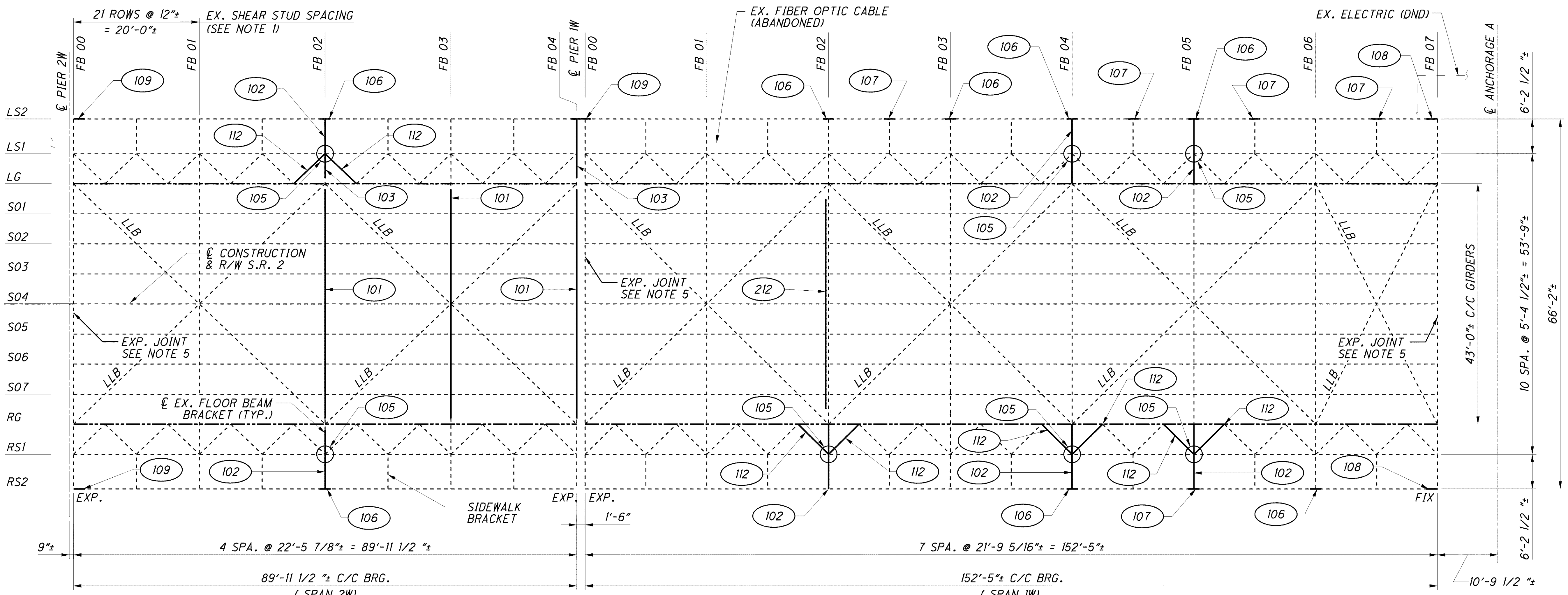
NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. FOR ADDITIONAL NOTES SEE SHEET 74/227.
4. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
DESIGNED AJM | CHECKED CMD | DRAWN CAF | REVISED | REVIEWED RBB | DATE 10/12
STRUCTURE FILE NUMBER 4800303

FRAMING PLAN - WEST APPROACH SPANS 2 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
101	REPLACE FLOOR BEAM TOP FLANGE AND COVER PLATE WITH WT SECTION	95
102	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES AND TOP FLANGE STRAP PLATE	96
103	REPLACE PORTION OF CANTILEVERED FLOOR BEAM BOTTOM FLANGE ANGLES	96
105	REPLACE GUSSET PLATE FOR THE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLE CONNECTION	97
106	REPLACE PORTIONS OF FASCIA STRINGER WEB PLATES AND FLANGES	98
107	REPLACE PORTION OF FASCIA STRINGER BOTTOM FLANGE	98
108	REPLACE PORTIONS OF THE FASCIA STRINGERS TOP AND BOTTOM FLANGE ANGLES, WEB PLATES AND PORTIONS OF THE DIAPHRAGM CONNECTION ANGLES	98
109	REPLACE PORTIONS OF FASCIA STRINGER WEB PLATES AND BOTTOM FLANGES	98
112	REPLACE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLES	97
212	REPLACE CORRODED INSPECTION HANDRAIL	110

NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. FOR ADDITIONAL NOTES SEE SHEET 74/227.
4. GIRDERS LG AND RG ARE MADE OF SILICON STEEL IN SPANS 1W ONLY.
5. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel: 216-781-6177 Fax: 216-781-6243 www.arcadis-us.com

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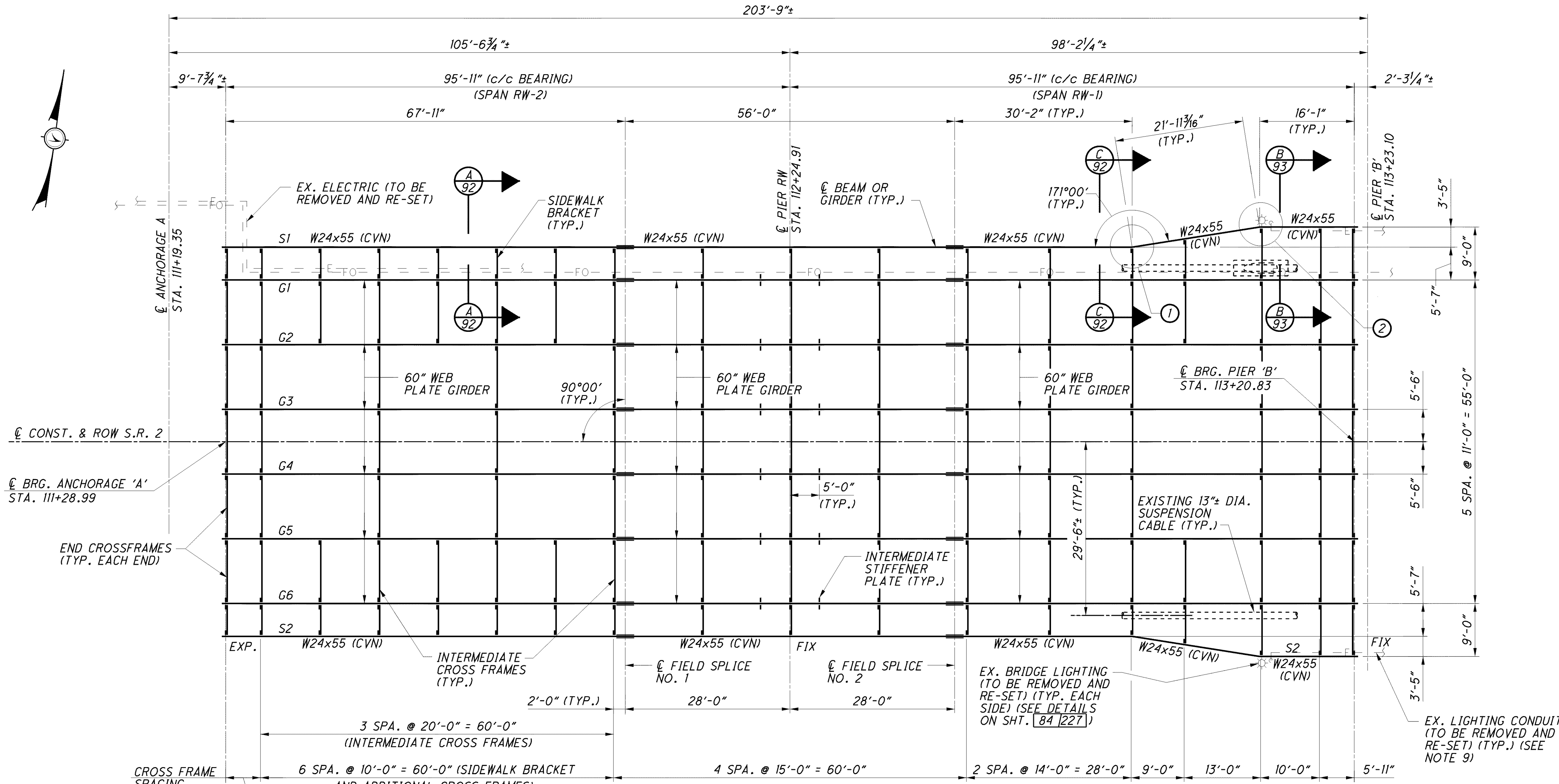
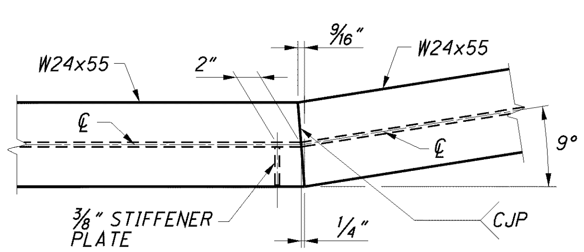
AJM	CAF	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

FRAMING PLAN - WEST APPROACH SPANS 3 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

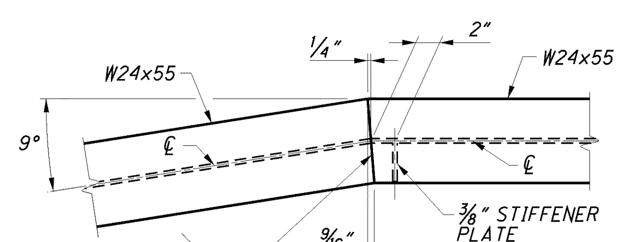
LUC-2-18.62
PID No. 80551



FRAMING PLAN



① DETAIL



② DETAIL

NOTES:

1. INTERMEDIATE CROSSFRAMES SHALL BE TYPE 4. FOR DETAILS AND NOTES SEE O.D.O.T. STANDARD BRIDGE DRAWING GSD-1-96.
2. FOR GIRDER AND BEAM ELEVATIONS, SPLICE DETAILS AND OTHER STEEL DETAILS SEE SHEET 90/227 AND 91/227 .
3. FOR NEW BEARING DETAILS SEE SHEET 196/227 .
4. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
5. FOR CAMBER AND DEFLECTION TABLES SEE SHEET 94/227.
6. FOR STRUCTURAL GROUNDING DETAILS SEE O.D.O.T. STANDARD CONSTRUCTION DRAWING HL-50.21.
7. FOR W24x55 FASCIA STRINGER (S1 AND S2) SPLICE DETAILS AND SIDEWALK BRACKET DETAILS, SEE SHEETS 92/227 AND 93/227 .
8. FOR TYPICAL SECTION SEE SHEET 162/227.
9. REFER TO LIGHTING GENERAL NOTES SHEET 59 OF 327 AND LIGHTING SUBSUMMARY SHEET 61 OF 327 FOR EXISTING BRIDGE LIGHTING REMOVAL AND INSTALLATION QUANTITY.

DESIGN AGENCY ARCADIS

DESIGNED	DRAWN	REVIEWED	DATE
AJM	CAF	RBB	10/12
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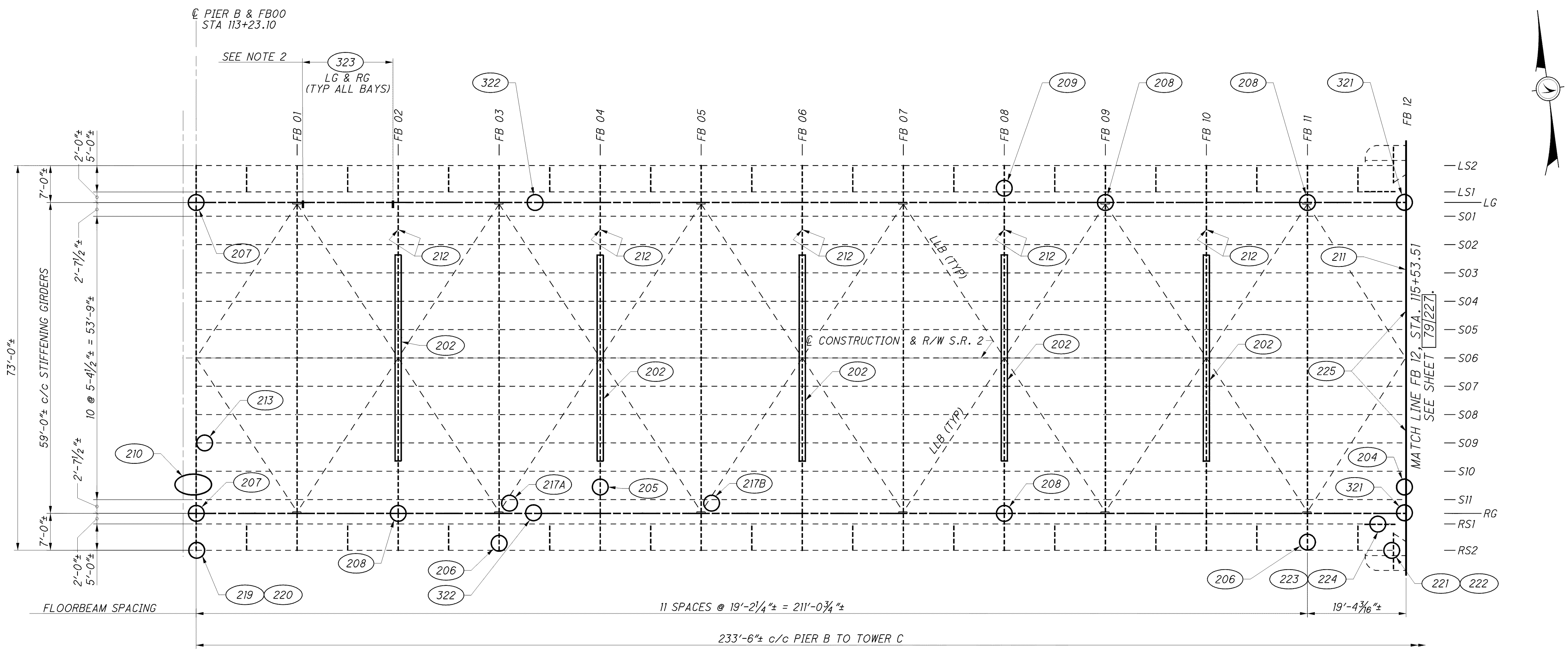
CMD		4800303	

FRAMING PLAN - WEST REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN - WEST SIDE SUSPENSION SPAN

LEGEND:

LG = LEFT (DOWNSTREAM) GIRDER RS# = RIGHT (UPSTREAM) SIDEWALK STRINGER #
RG = RIGHT (UPSTREAM) GIRDER LS# = LEFT (DOWNSTREAM) SIDEWALK STRINGER #
S = ROADWAY STRINGER LLB = LOWER LATERAL BRACING FB = FLOOR BEAM

MISCELLANEOUS STEEL REPAIR DETAILS

REPAIR TYPE SEE NOTE (_)	SCOPE OF WORK	BRIDGE SHT. NO.
202	REPLACE FLOORBEAM TOP FLANGE COVER PLATE	102
204	REPAIR FLOORBEAM WEB HOLE	104
205	REPLACE FLOORBEAM WEB STIFFENER	104
206	REPLACE / STRENGTHEN SIDEWALK FASCIA STRINGER SUPPORT	105
207	REPLACE TOP STRAP PLATE ON SIDEWALK BRACKET	106
208	REPLACE SIDEWALK BRACKET WEB STRAP PLATE	107
209	REPLACE SIDEWALK STRINGER SUPPORT WEB PLATE	108
210	RELOCATE & REPAIR CRACKED LADDER CAGE	109
211	INSTALL NEW INSPECTION ACCESS HANDRAIL	110
212	REPLACE CORRODED INSPECTION HANDRAIL	110
213	REPLACE STRINGER END CONNECTION	111
217A/B	STRENGTHEN LLB GUSSET PLATE	115
219	REPAIR LOWER FLANGE OF FASCIA STRINGER	119
220	STRENGTHEN LOWER FLANGE OF FASCIA STRINGER	119
221 (1)	REPLACE SIDEWALK STRINGER BOTTOM FLANGE ANGLES	120
222 (1)	REPLACE SIDEWALK STRINGER GUIDE ANGLES & BEARING PLATE	121

MISCELLANEOUS STEEL REPAIR DETAILS

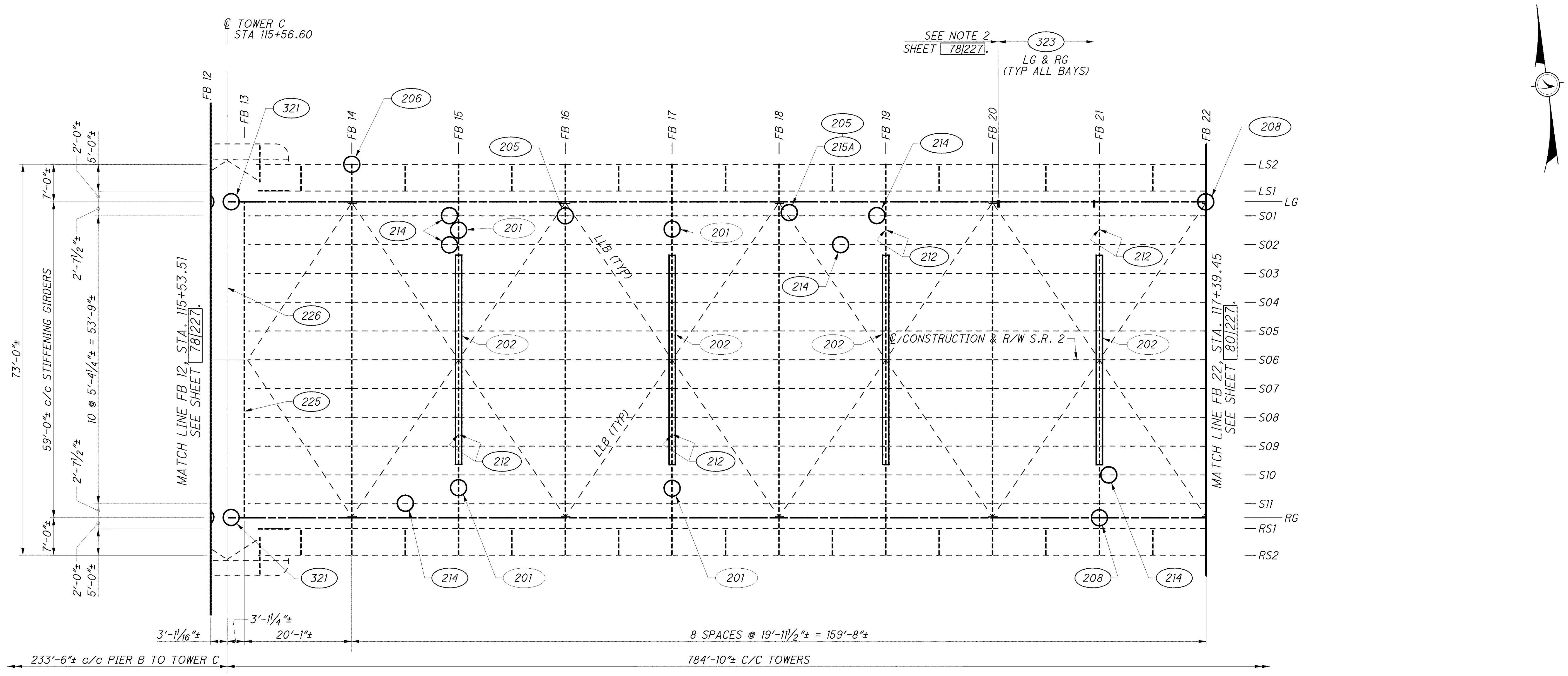
REPAIR TYPE SEE NOTE (_)	SCOPE OF WORK	BRIDGE SHT. NO.
223 (1)	REPLACE TOWER BRACKET TOP FLANGE ANGLES	122
224 (1)	REPLACE SIDEWALK STRINGER GUIDE CHANNEL & BEARING PLATE	122
225	REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOORBEAM	204

MISCELLANEOUS STEEL REPAIR DETAILS (STIFFENING GIRDERS)

REPAIR TYPE SEE NOTE (_)	SCOPE OF WORK	BRIDGE SHT. NO.
321	REPLACE GIRDER TOP COVER PLATES AT TOWER	123
322	REPAIR END OF GIRDER TOP COVER PLATES DAMAGED BY PACK RUST	124
323 (2)	INSTALL ⅞" DIA. SHEAR BOLTS THROUGH NEW HOLES IN GIRDER WEB (EMBEDDED IN CONCRETE DECK)	125

NOTES:

1. TYPICAL REPAIR ON EACH TOWER. SEE SHEET 120/227 FOR ENGLARGED TOWER SIDEWALK FRAMING AND REPAIR LOCATIONS.
2. FOR SHEAR BOLT SPACING AND DETAILS, SEE SHEETS 125/227 AND 185/227. HOLES DRILLED THROUGH INTERMEDIATE STIFFENERS FOR DECK REINFORCING, SEE SHEET 185/227 FOR DETAILS.
3. FOR REPAIR NOTES SEE SHEETS 14/227 THROUGH 23/227.



FRAMING PLAN - MAIN SUSPENSION SPAN

MISCELLANEOUS STEEL REPAIR DETAILS

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
201	REPLACE PORTION OF FLOORBEAM TOP FLANGE	101
202	REPLACE FLOORBEAM TOP FLANGE COVER PLATE	102
205	REPLACE FLOORBEAM STIFFENER	104
206	REPLACE / STRENGTHEN SIDEWALK FASCIA STRINGER SUPPORT	105
208	REPLACE SIDEWALK BRACKET WEB STRAP PLATE	107
212	REPLACE CORRODED INSPECTION HANDRAIL	110
214	REPLACE STRINGER	111
215A	STRENGTHEN EXISTING LOWER LATERAL (LLB) GUSSET	113
225	REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOORBEAM	204
226	REPLACE EXPANSION JOINT SUPPORT STEEL ATOP TOWER STRUT	204

MISCELLANEOUS STEEL REPAIR DETAILS (STIFFENING GIRDERS)

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
321	REPLACE GIRDER TOP COVER PLATES AT TOWER	123
323	INSTALL ⅞" DIA. SHEAR BOLTS THROUGH NEW HOLES IN GIRDER WEB (EMBEDDED IN CONCRETE DECK)	125

NOTES:

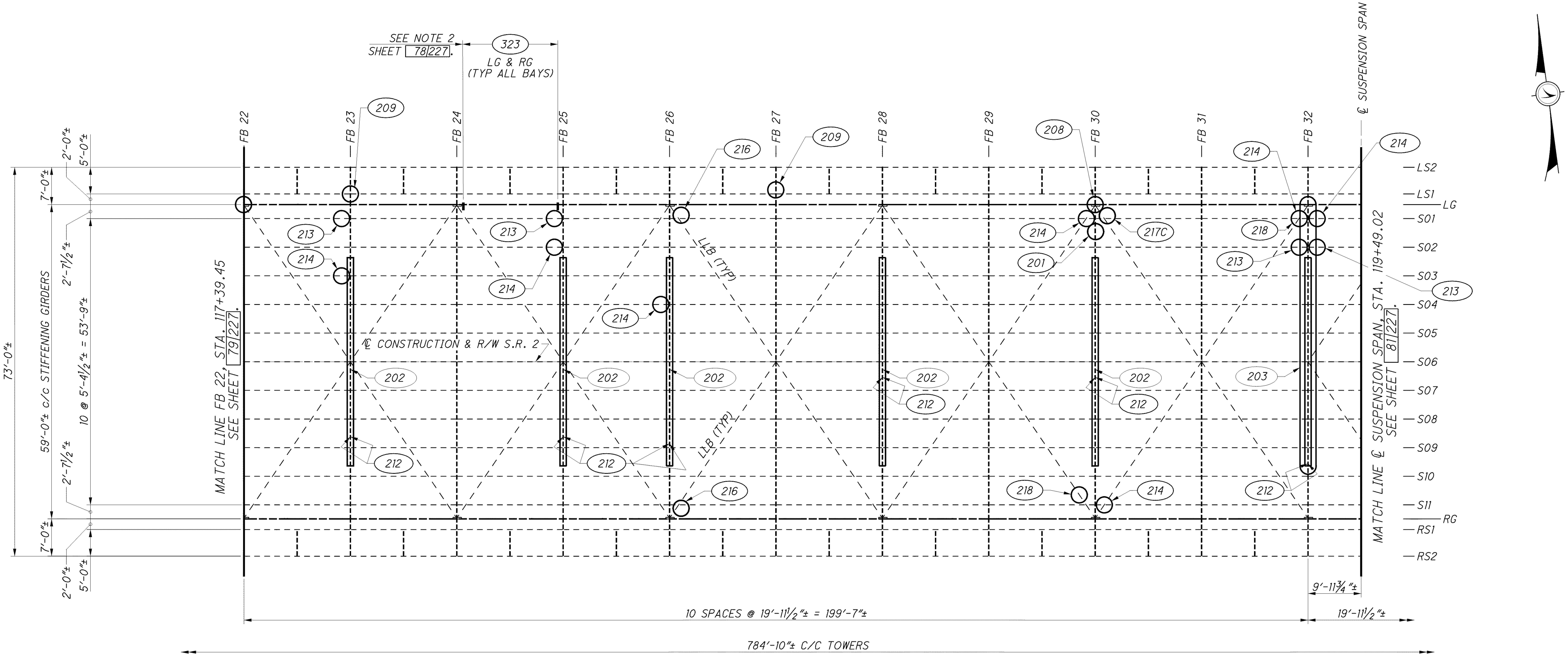
1. FOR FRAMING PLAN ABBREVIATION LEGEND AND NOTES, SEE SHEET 78/227.
2. FOR REPAIR NOTES SEE SHEETS 14/227 THROUGH 23/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY, SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK	EFD/GCK	DEK	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PLC		4800303	

FRAMING PLAN - SUSPENSION SPANS 2 OF 6
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN - MAIN SUSPENSION SPAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
201	REPLACE PORTION OF FLOORBEAM TOP FLANGE	101
202	REPLACE FLOORBEAM TOP FLANGE COVER PLATE	102
203	REPAIR FLOORBEAM END	103
208	REPLACE SIDEWALK BRACKET WEB STRAP PLATE	107
209	REPLACE SIDEWALK STRINGER SUPPORT WEB PLATE	108
212	REPLACE CORRODED INSPECTION HANDRAIL	110
213	REPLACE STRINGER END CONNECTION	111
214	REPLACE STRINGER	111
216	STRENGTHEN EXISTING LOWER LATERAL (LLB) GUSSET PLATE	115
217C	STRENGTHEN EXISTING LOWER LATERAL (LLB) GUSSET PLATE	116
218	REPLACE LOWER LATERAL BRACING MEMBER ENDS	117

MISCELLANEOUS STEEL REPAIR DETAILS (STIFFENING GIRDERS)		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
323	INSTALL ⅞" DIA. SHEAR BOLTS THROUGH NEW HOLES IN GIRDER WEB (EMBEDDED IN CONCRETE DECK)	125

NOTES:

1. FOR FRAMING PLAN ABBREVIATION LEGEND AND NOTES, SEE SHEET 78/227.
2. FOR REPAIR NOTES SEE SHEETS 14/227 THROUGH 23/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
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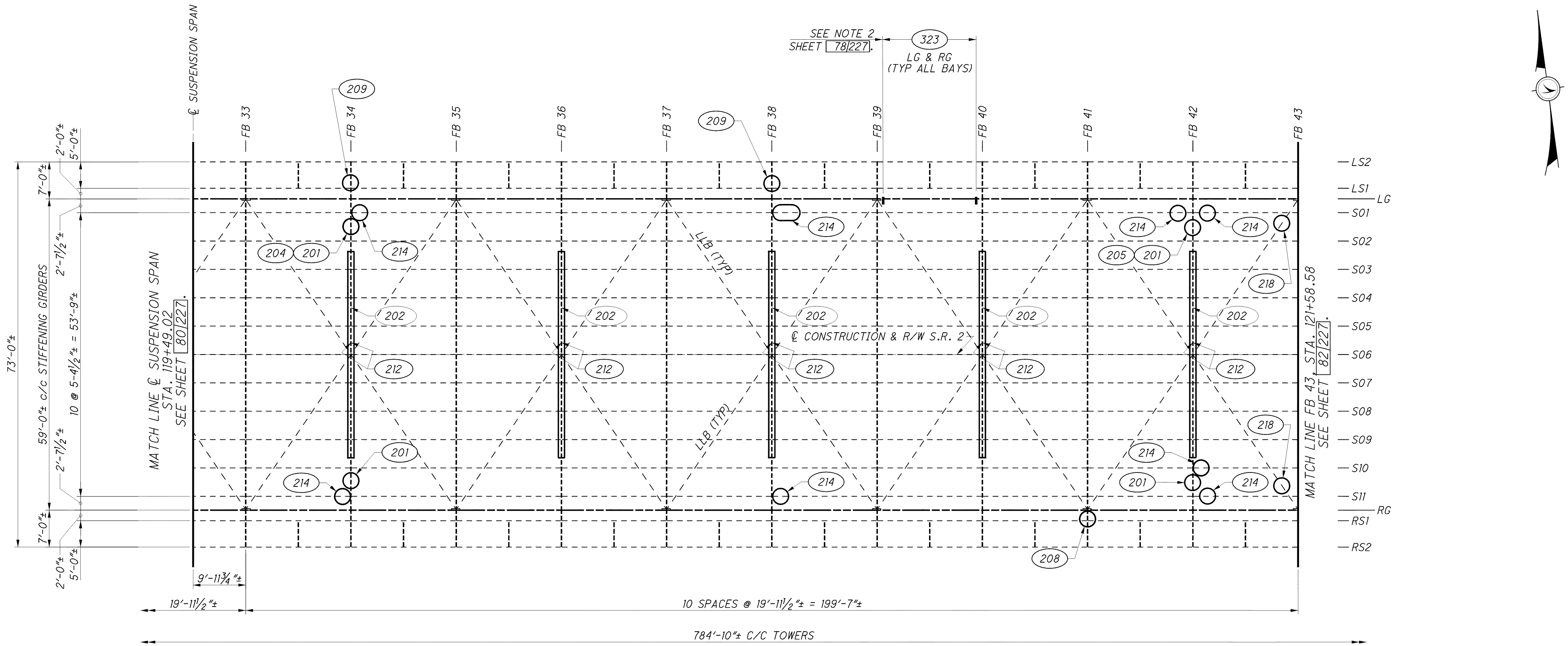
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK	EFD	DEK	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PLC	EFD	4800303	

FRAMING PLAN - SUSPENSION SPANS 3 OF 6
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN - MAIN SUSPENSION SPAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
201	REPLACE PORTION OF FLOORBEAM TOP FLANGE	101
202	REPLACE FLOORBEAM TOP FLANGE COVER PLATE	102
204	REPAIR FLOORBEAM WEB HOLE	104
205	REPLACE FLOORBEAM STIFFENER	104
208	REPLACE SIDEWALK BRACKET WEB STRAP PLATE	107
209	REPLACE SIDEWALK STRINGER SUPPORT WEB PLATE	108
212	REPLACE CORRODED INSPECTION HANDRAIL	110
214	REPLACE STRINGER	111
218	REPLACE LOWER LATERAL BRACING MEMBER ENDS	117

MISCELLANEOUS STEEL REPAIR DETAILS (STIFFENING GIRDERS)		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
323	INSTALL ⅞" DIA. SHEAR BOLTS THROUGH NEW HOLES IN GIRDER WEB (EMBEDDED IN CONCRETE DECK)	125

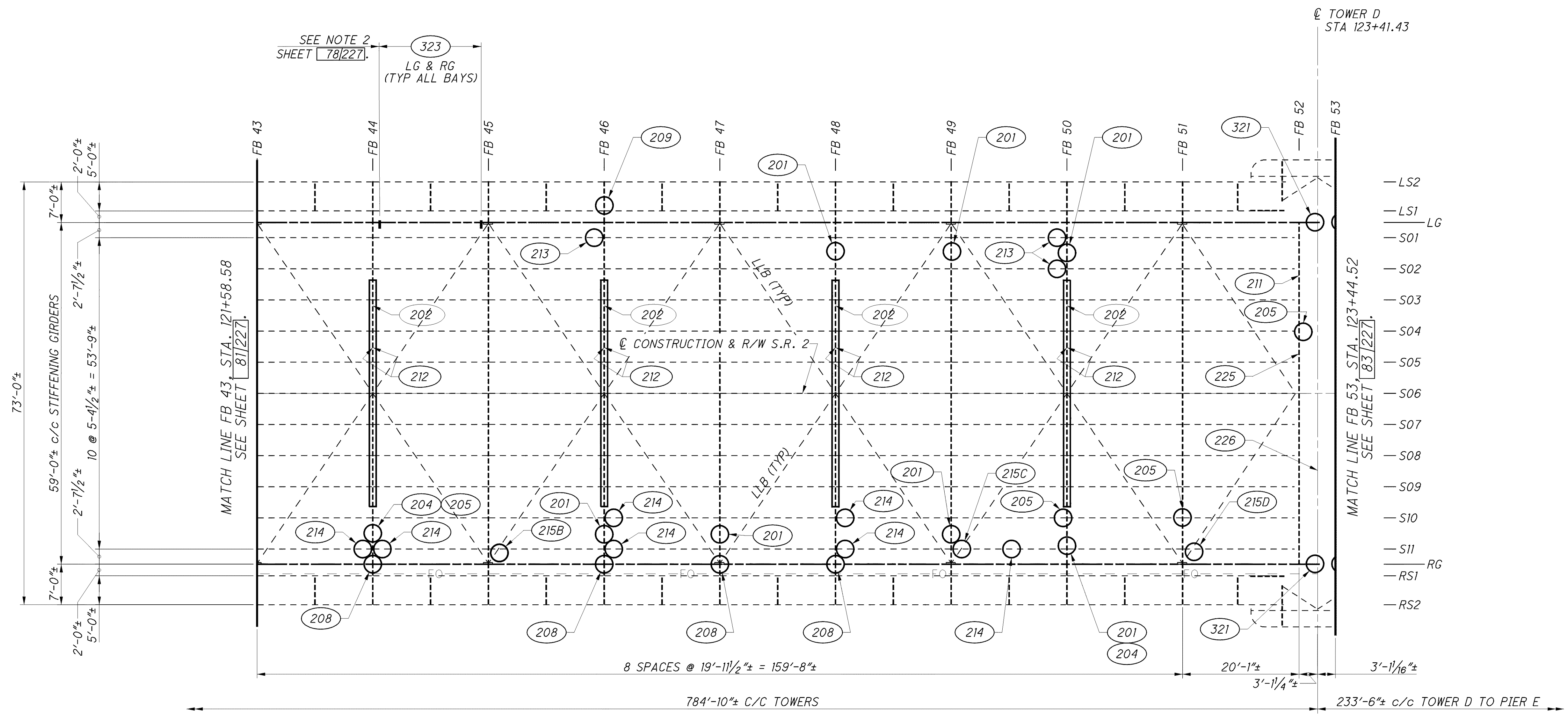
NOTES:
1. FOR FRAMING PLAN ABBREVIATION LEGEND AND NOTES, SEE SHEET 78/227.
2. FOR REPAIR NOTES SEE SHEETS 14/227 THROUGH 23/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK	EFD	DEK	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PLC		4800303	

FRAMING PLAN - SUSPENSION SPANS 4 OF 6
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN - MAIN SUSPENSION SPAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
201	REPLACE PORTION OF FLOORBEAM TOP FLANGE	101
202	REPLACE FLOORBEAM TOP FLANGE COVER PLATE	102
204	REPAIR FLOORBEAM WEB HOLE	104
205	REPLACE FLOORBEAM STIFFENER	104
208	REPLACE SIDEWALK BRACKET WEB STRAP PLATE	107
209	REPLACE SIDEWALK STRINGER SUPPORT WEB PLATE	108
211	INSTALL NEW INSPECTION ACCESS RAIL	110
212	REPLACE CORRODED INSPECTION HANDRAIL	110
213	REPLACE STRINGER END CONNECTION	111
214	REPLACE STRINGER	111
215B	STRENGTHEN LLB GUSSET PLATE	113
215C/D	STRENGTHEN LLB GUSSET PLATE	114
225	REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOORBEAM	204
226	REPLACE EXPANSION JOINT SUPPORT STEEL ATOP TOWER STRUT	204

MISCELLANEOUS STEEL REPAIR DETAILS (STIFFENING GIRDERS)		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
321	REPLACE GIRDER TOP COVER PLATES AT TOWER	123
323	INSTALL ⅞" DIA. SHEAR BOLTS THROUGH NEW HOLES IN GIRDER WEB (EMBEDDED IN CONCRETE DECK)	125

NOTES:

1. FOR FRAMING PLAN ABBREVIATION LEGEND AND NOTES, SEE SHEET 78/227.
2. FOR REPAIR NOTES SEE SHEETS 14/227 THROUGH 23/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
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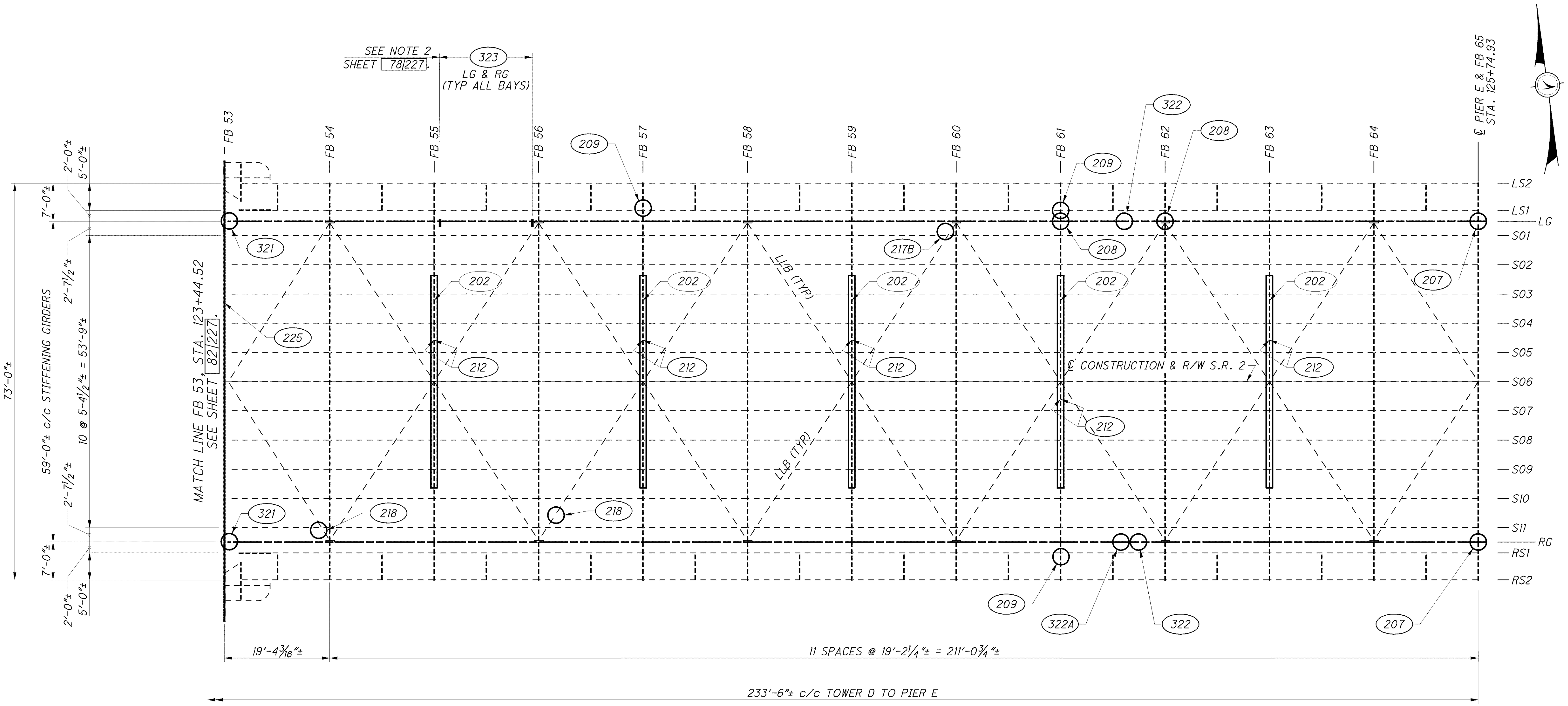
STRUCTURE FILE NUMBER 4800303

FRAMING PLAN - SUSPENSION SPANS 5 OF 6
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN - EAST SIDE SUSPENSION SPAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
202	REPLACE FLOORBEAM TOP FLANGE COVER PLATE	102
207	REPLACE TOP STRAP PLATE ON SIDEWALK BRACKET	106
208	REPLACE SIDEWALK BRACKET WEB STRAP PLATE	107
209	REPLACE SIDEWALK STRINGER SUPPORT WEB PLATE	108
212	REPLACE CORRODED INSPECTION HANDRAIL	110
217B	STRENGTHEN LLB GUSSET PLATE	116
218	REPLACE LOWER LATERAL BRACING ENDS	117
225	REPLACE EXPANSION JOINT SUPPORT STEEL ATOP FLOORBEAM	204

MISCELLANEOUS STEEL REPAIR DETAILS (STIFFENING GIRDERS)		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
321	REPLACEMENT OF GIRDER TOP COVER PLATES AT TOWER	123
322	REPAIR END OF GIRDER TOP COVER PLATES DAMAGED BY PACK RUST	124
322A	REPAIR END OF GIRDER BOTTOM COVER PLATES DAMAGED BY PACK RUST	124
323	INSTALL ⅞" DIA. SHEAR BOLTS THROUGH NEW HOLES IN GIRDER WEB (EMBEDDED IN CONCRETE DECK)	125

NOTES:

1. FOR FRAMING PLAN ABBREVIATION LEGEND AND NOTES, SEE SHEET 78/227.
2. FOR REPAIR NOTES SEE SHEETS 14/227 THROUGH 23/227.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4661 EXECUTIVE PARKWAY SUITE 360 WESTERVILLE, OHIO 43081

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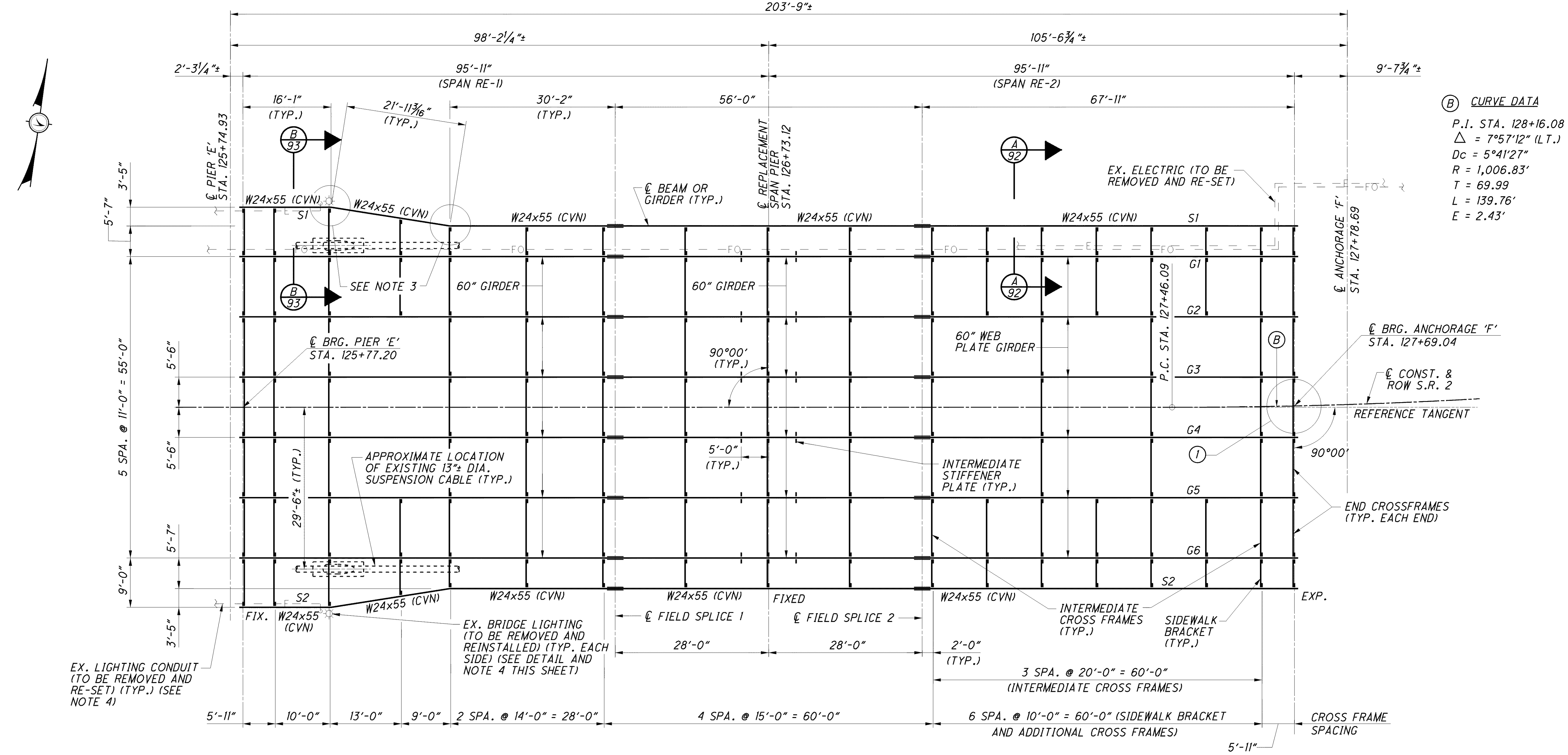
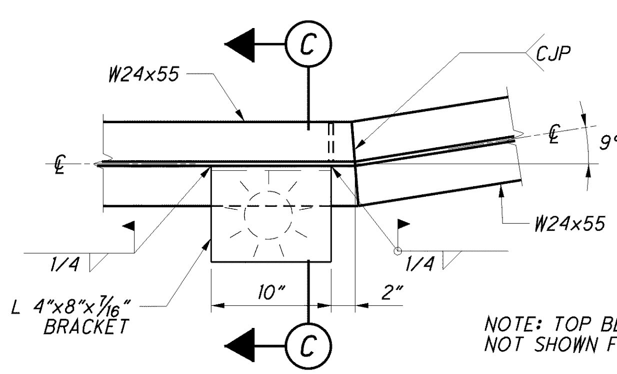
DEK	PLC	EFD		DEK	8/12	4800303

FRAMING PLAN - SUSPENSION SPANS 6 OF 6
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

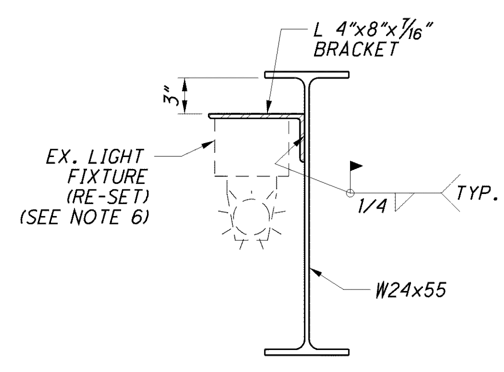
LUC-2-18.62
PID No. 80551



FRAMING PLAN



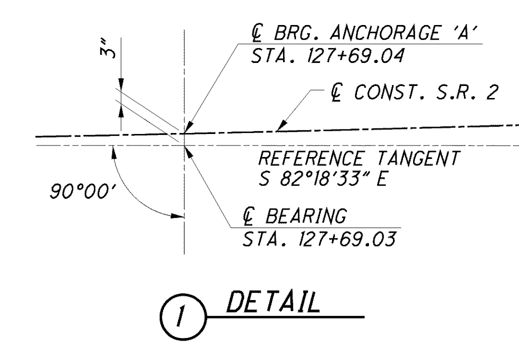
LIGHT MOUNTING BRACKET PLAN



C SECTION

NOTES:

1. FOR CENTERLINE SCHEMATIC DETAIL SEE SHEET 7/227.
2. FOR WEST REPLACEMENT SPAN FRAMING AND ADDITIONAL NOTES SEE SHEET 77/227.
3. REFER TO DETAILS 1 AND 2 ON WEST REPLACEMENT FRAMING PLAN SHEET 77/227 FOR CONNECTION. THE DETAILS ARE ORIENTATED OPPOSITE HAND.
4. REFER TO LIGHTING GENERAL NOTES SHEET 59 OF 327 AND LIGHTING SUBSUMMARY SHEET 61 OF 327 FOR EXISTING BRIDGE LIGHTING REMOVAL AND INSTALLATION QUANTITY.
5. AT LEAST SEVEN (7) DAYS BEFORE PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE TO PROTECT THE SUSPENSION CABLE DURING BEAM ERECTION. THIS SHALL BE INCLUDED WITH ITEM 513 FOR PAYMENT.
6. THE CONTRACTOR SHALL VERIFY THE MOUNTING HOLE PATTERN OF THE EXISTING LIGHT FIXTURE PRIOR TO THE FABRICATION OF THE PROPOSED ANGLE BRACKET.



1 DETAIL

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel: 216-781-6177 Fax: 216-781-6243 www.arcadis-us.com

DESIGNED	DRAWN	REVIEWED	DATE
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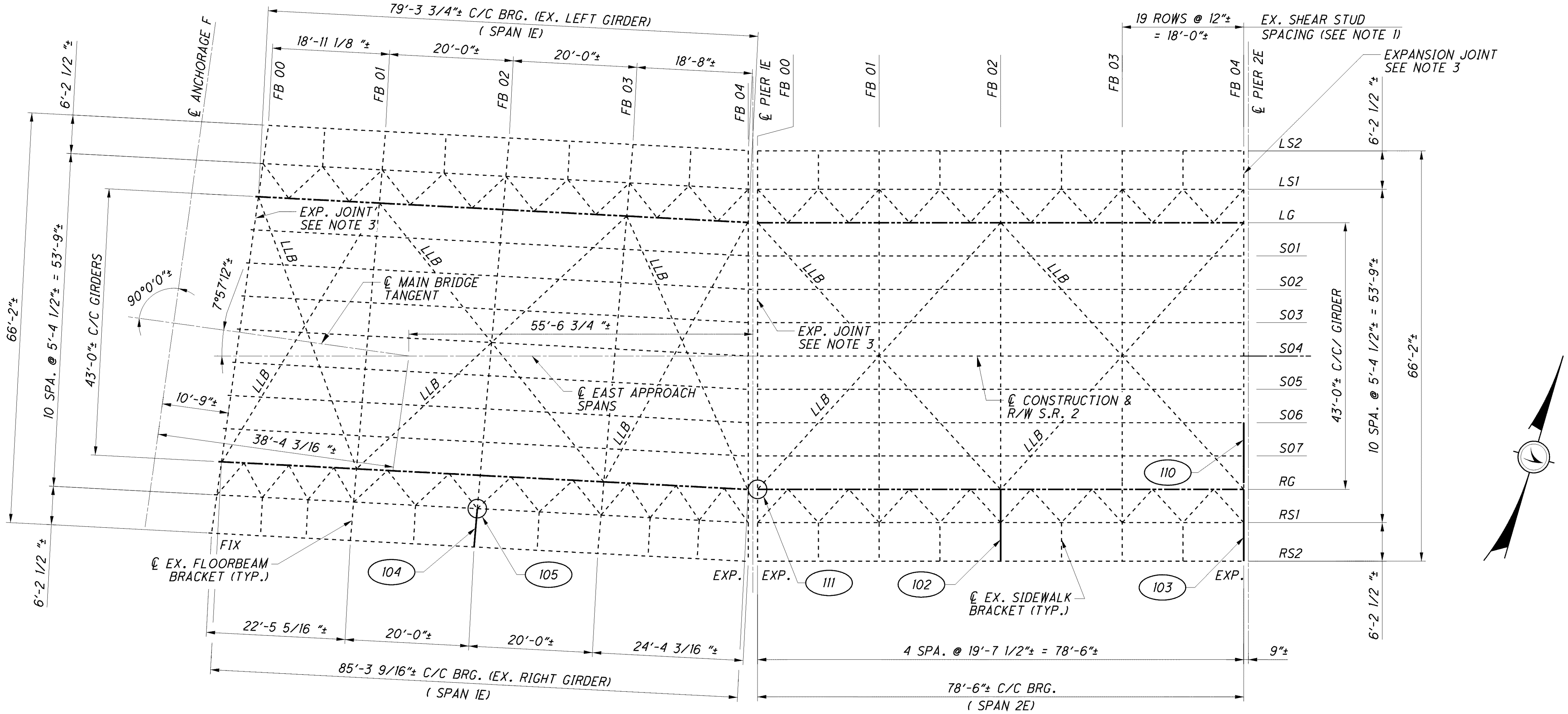
FRAMING PLAN - EAST REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN

MISCELLANEOUS STEEL REPAIR DETAILS

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
102	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES AND TOP FLANGE STRAP PLATE	96
103	REPLACE PORTION OF CANTILEVERED FLOOR BEAM BOTTOM FLANGE ANGLES	96
104	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES	97
105	REPLACE GUSSET PLATE FOR THE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLE CONNECTION	97
110	REPLACE PORTION OF FLOOR BEAM TOP FLANGE ANGLES AND COVER PLATES	99
111	REPLACE FLOOR BEAM BEARING KNEE BRACE	99

NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
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DESIGNED	DRAWN	REVIEWED	DATE
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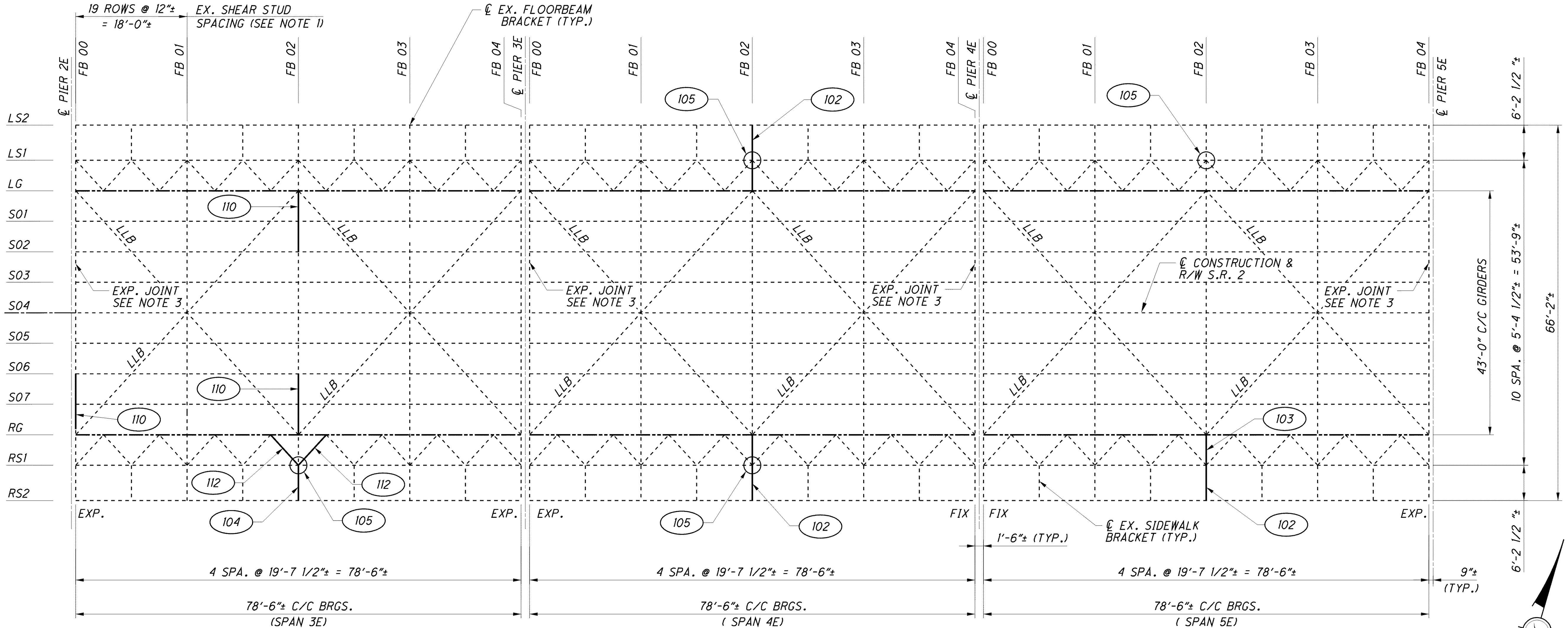
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

FRAMING PLAN - EAST APPROACH SPANS 1 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
102	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES AND TOP FLANGE STRAP PLATE	96
103	REPLACE PORTION OF CANTILEVERED FLOOR BEAM BOTTOM FLANGE ANGLES	96
104	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES	97
105	REPLACE MISSING ANGLE AND GUSSET PLATE FOR THE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLE CONNECTION	97
110	REPLACE PORTION OF FLOOR BEAM TOP FLANGE ANGLES AND COVER PLATES	99
112	REPLACE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLES	97

NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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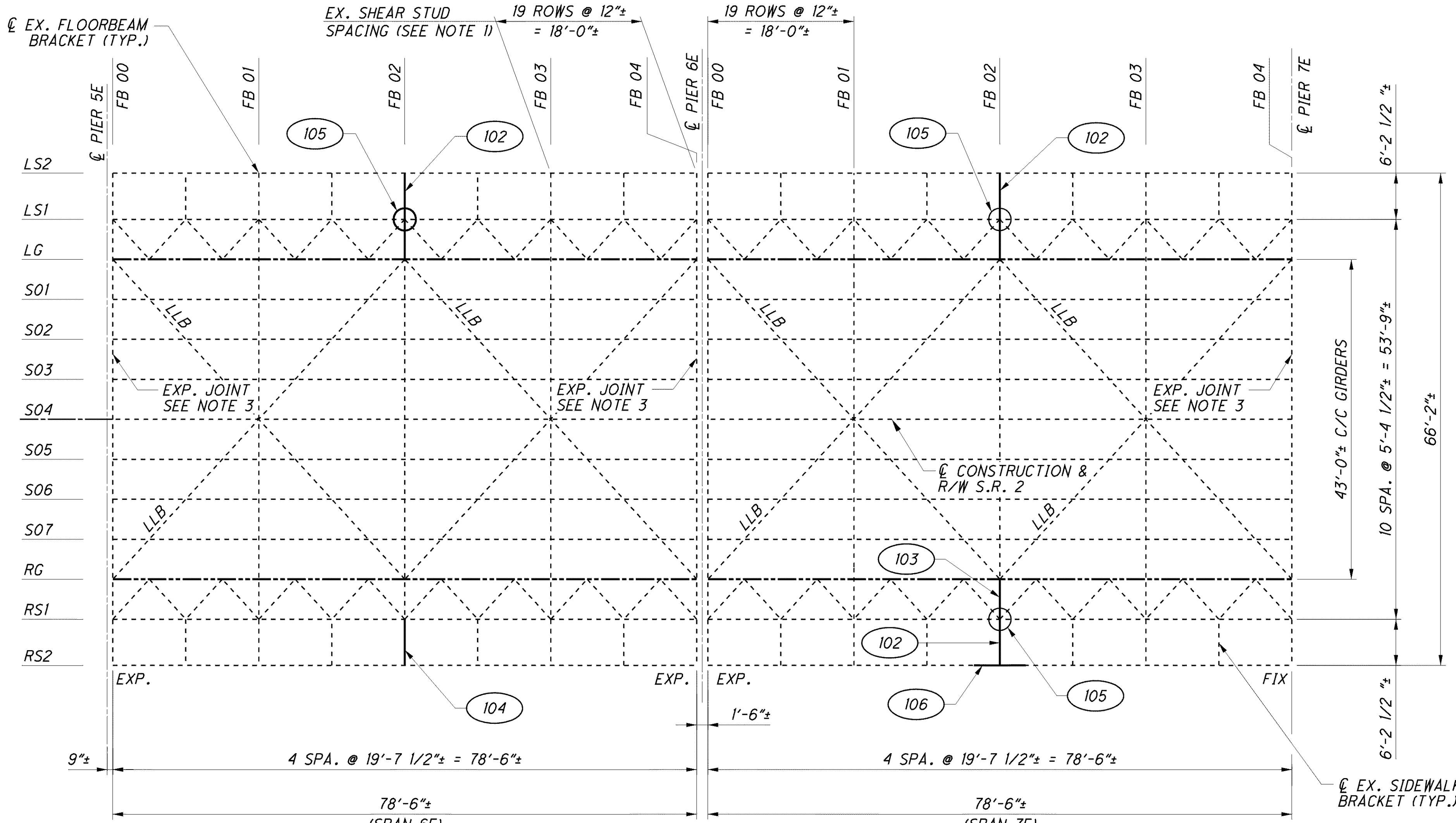
FRAMING PLAN - EAST APPROACH SPANS 2 OF 4

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
102	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES AND TOP FLANGE STRAP PLATE	96
103	REPLACE PORTION OF CANTILEVERED FLOOR BEAM BOTTOM FLANGE ANGLES	96
104	REPLACE PORTION OF CANTILEVERED FLOOR BEAM TOP FLANGE ANGLES	97
105	REPLACE GUSSET PLATE FOR THE CANTILEVERED FLOOR BEAM BRACKET BRACING ANGLE CONNECTION	97
106	REPLACE PORTIONS OF FASCIA STRINGER WEB PLATES AND FLANGES	98

NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227.

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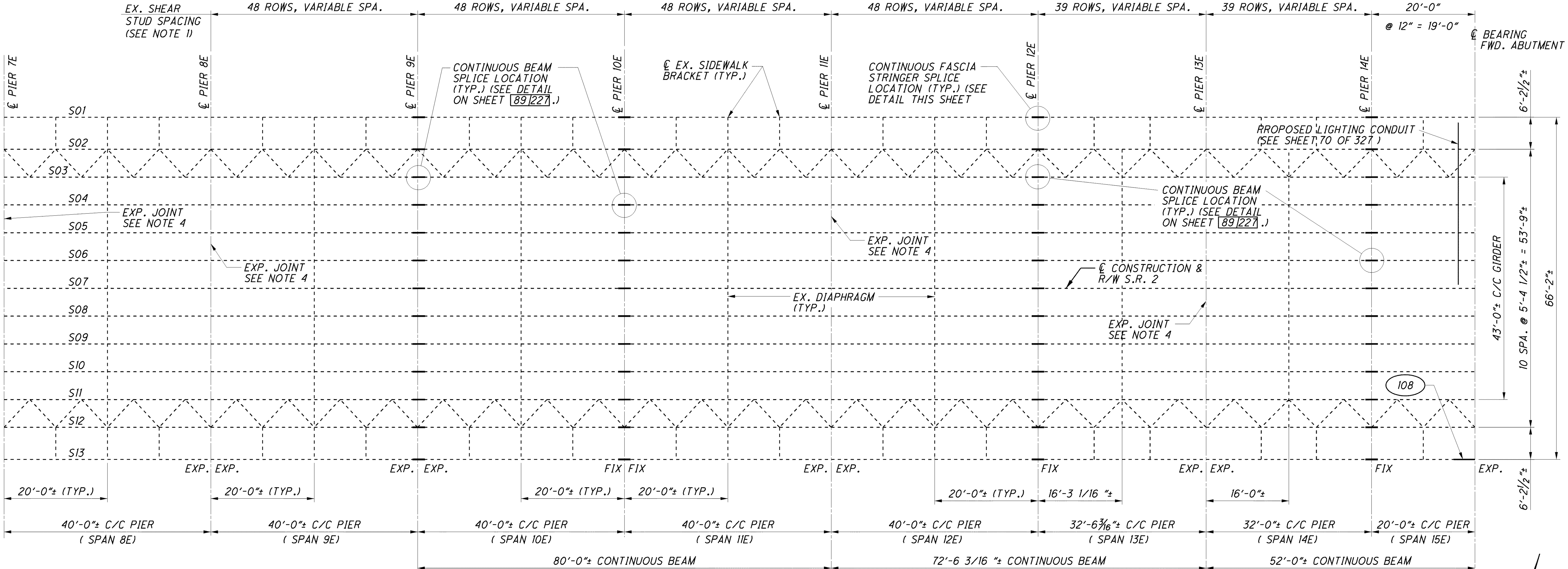
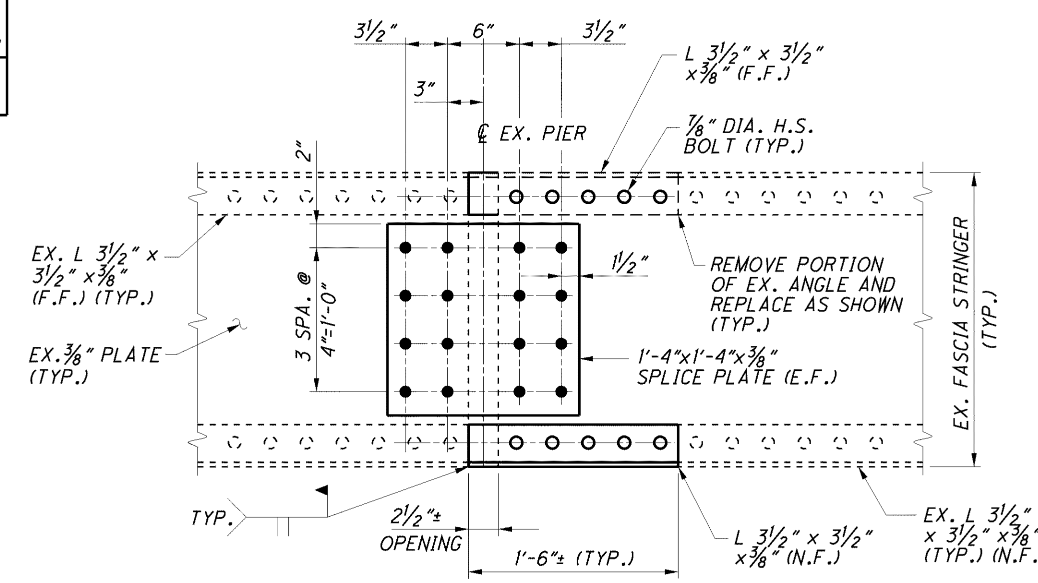
FRAMING PLAN - EAST APPROACH SPANS 3 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



FRAMING PLAN

MISCELLANEOUS STEEL REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
108	REPLACE PORTIONS OF THE FASCIA STRINGER TOP AND BOTTOM FLANGE ANGLES, WEB PLATE AND PORTIONS OF DIAPHRAGM CONNCETION ANGLES	98



FASCIA STRINGER (S01 AND S13) FIELD SPLICE
(TYP. @ PIERS 9E, 10E, 12E, & 14E)

NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. ALL BEARINGS SHALL BE REPLACED FOR THE MULTI-BEAM SPANS AT PIERS 7E THRU 14E. FOR BEARING DETAILS SEE SHEET 196/227 AND 197/227 .
4. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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FRAMING PLAN - EAST APPROACH SPANS 4 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
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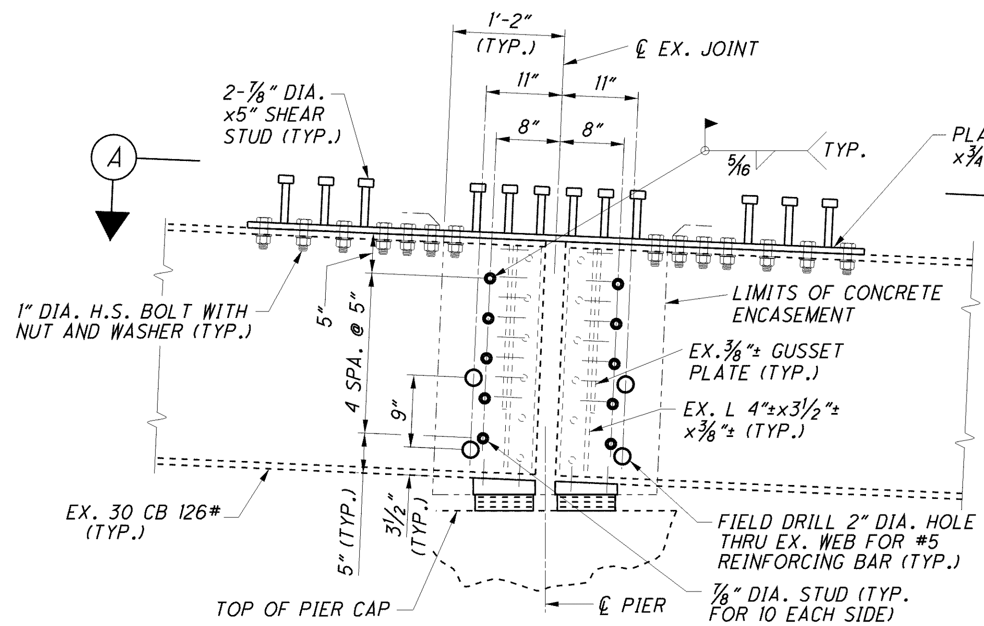
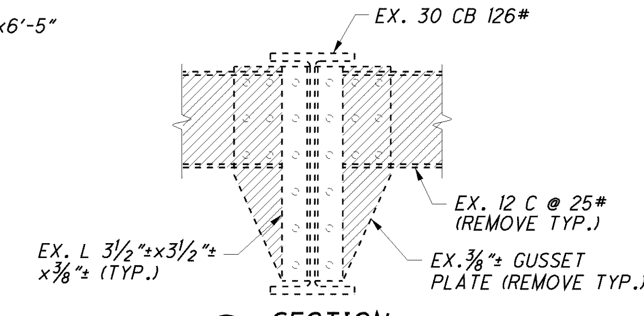


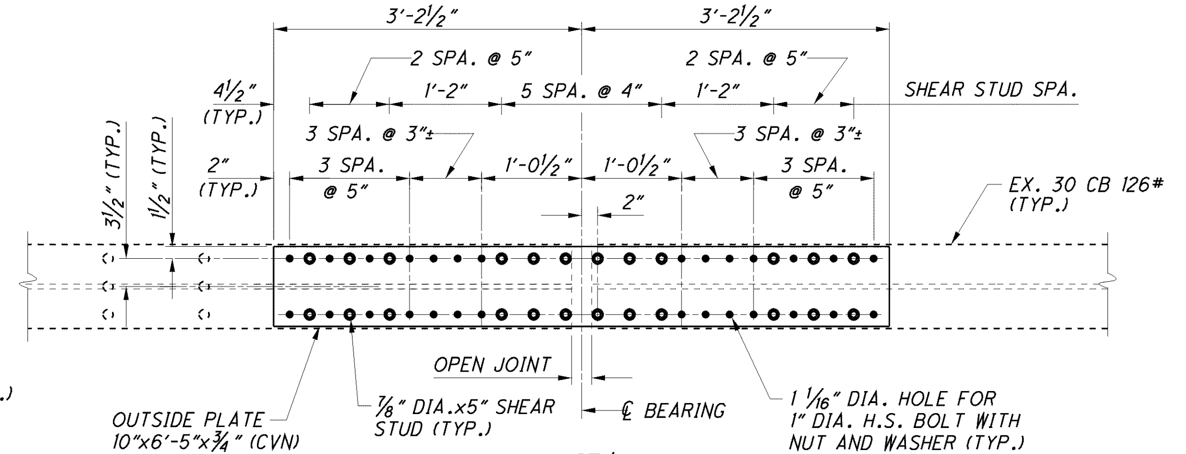
CONTINUOUS BEAM SPLICE DETAIL

(TYPICAL AT PIERS 9E AND 10E)



C SECTION

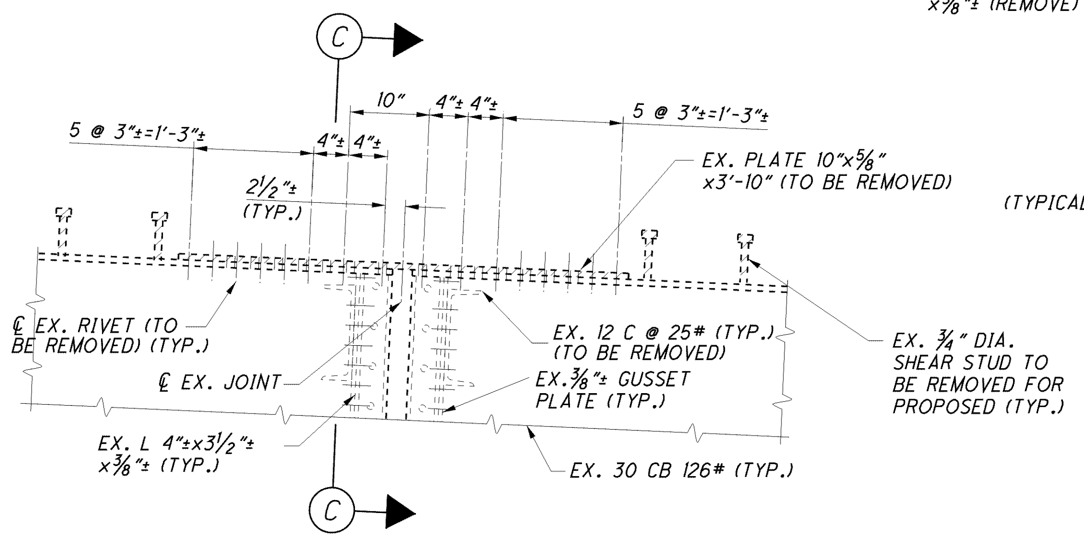
(TYPICAL BETWEEN STRINGERS S3 THRU S11)



A VIEW

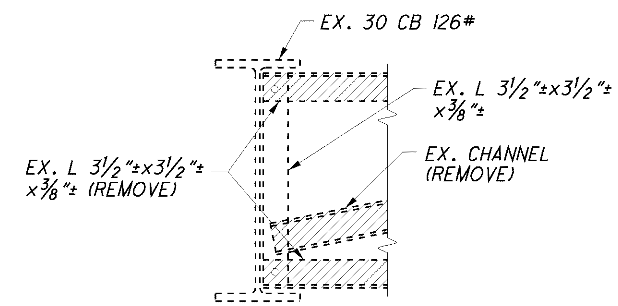
NOTES:

1. FOR EXISTING SHEAR STUD CONNECTOR DETAILS, SEE SHEET 74/227.
2. FOR ADDITIONAL REINFORCING AT PIER 10E, SEE SHEET 156/227.
3. FOR BOLTING LEGEND, SEE SHEET 95/227.
4. FIELD VERIFY EXISTING RIVET SPACINGS FOR STRINGERS S1, S2, S3, S11, S12, AND S13.



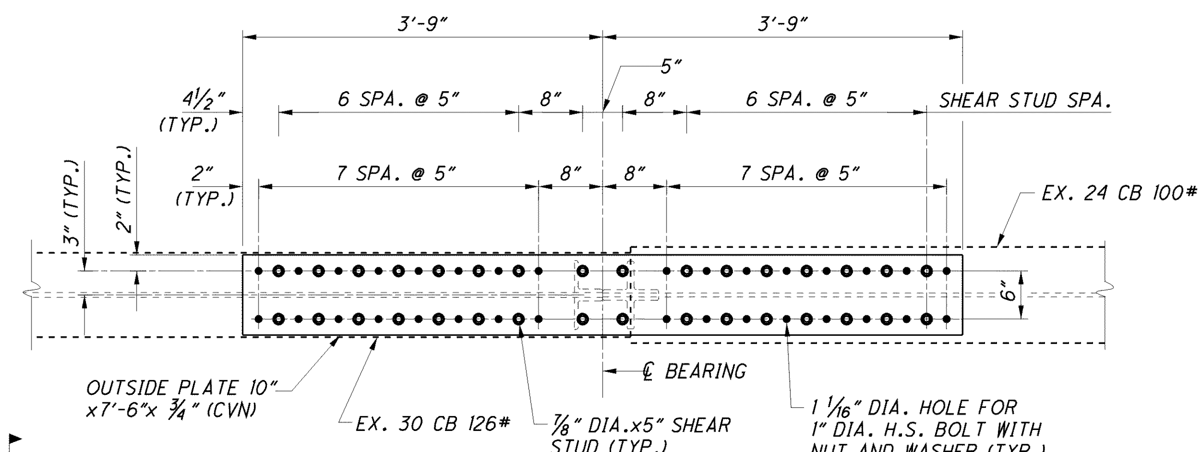
REMOVAL DETAIL

(TYPICAL AT PIER 10E, STRINGERS S4 THRU S10)



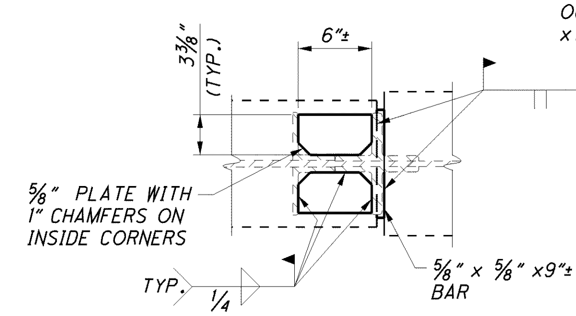
C SECTION

(TYPICAL BETWEEN STRINGERS S2 AND S3, AND S11 AND S12)

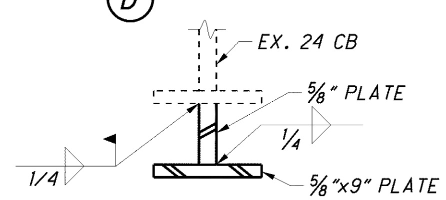


B VIEW

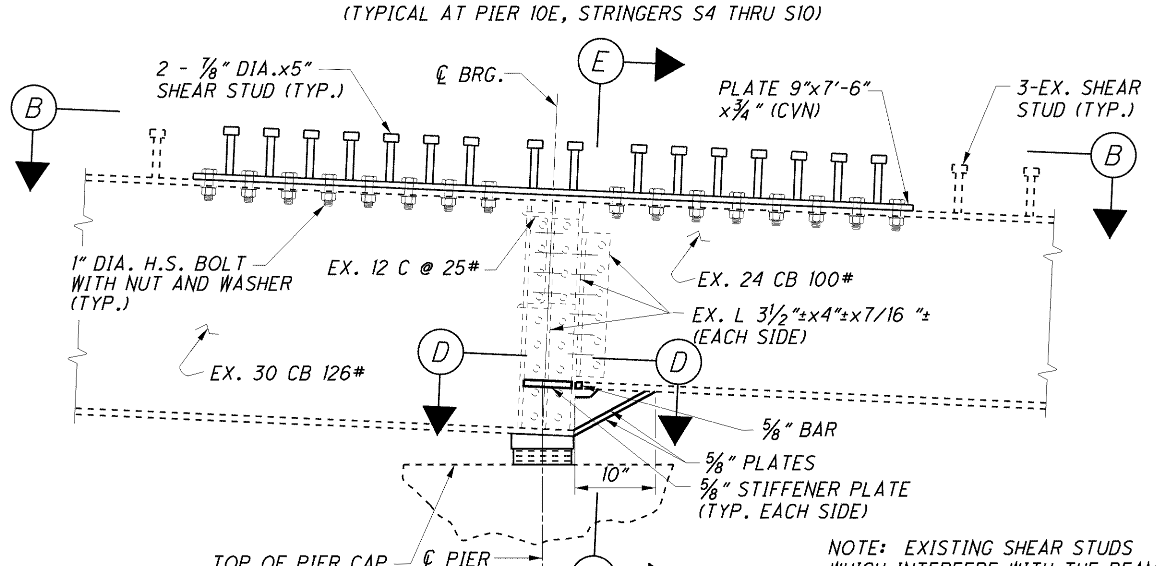
(TYPICAL AT PIER 12E, S3 THRU S11)



D VIEW



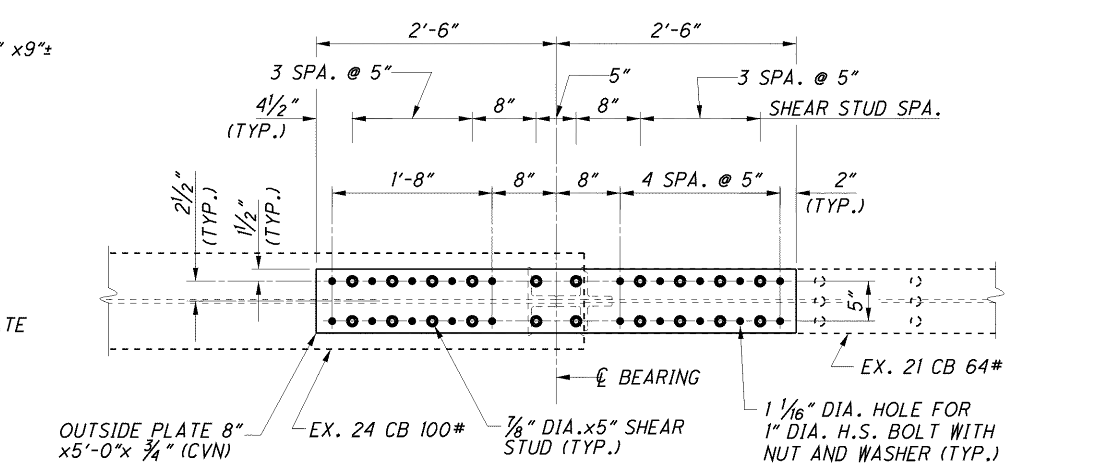
E SECTION



NOTE: EXISTING SHEAR STUDS WHICH INTERFERE WITH THE BEAM SPLICE, SHALL BE REMOVED AND THE REMAINING MATERIAL GROUND SMOOTH.

CONTINUOUS BEAM SPLICE DETAIL

(PIER 12E SHOWN, PIER 14E SIMILAR)



B VIEW

(TYPICAL AT PIER 14E, S3 THRU S11)

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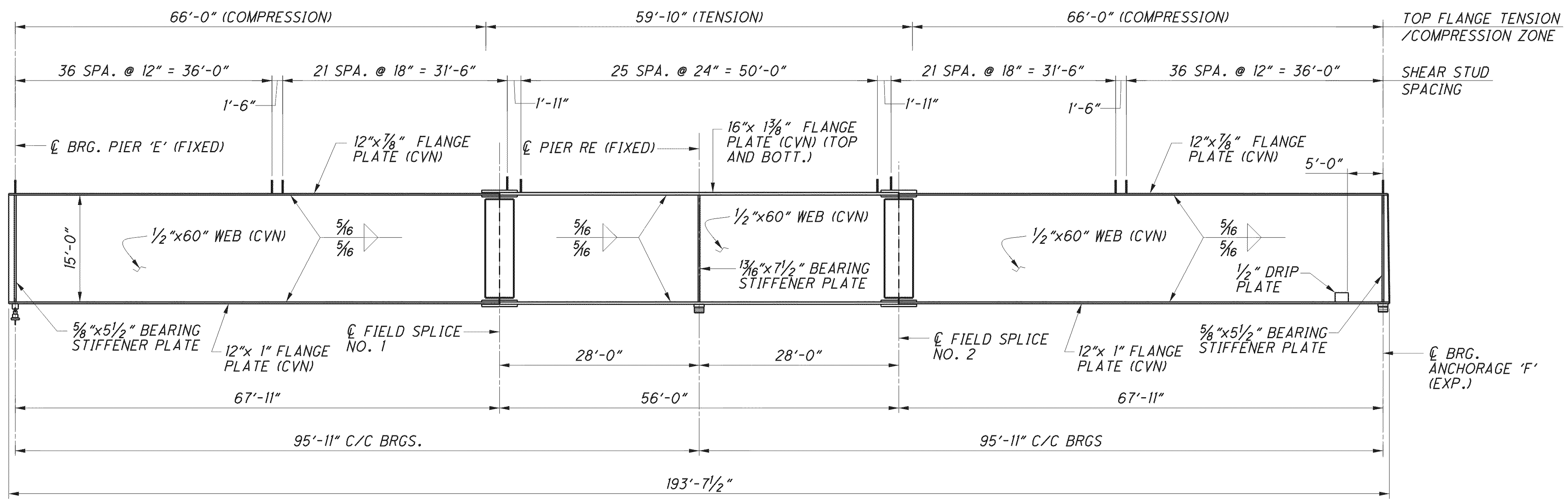
FRAMING DETAILS

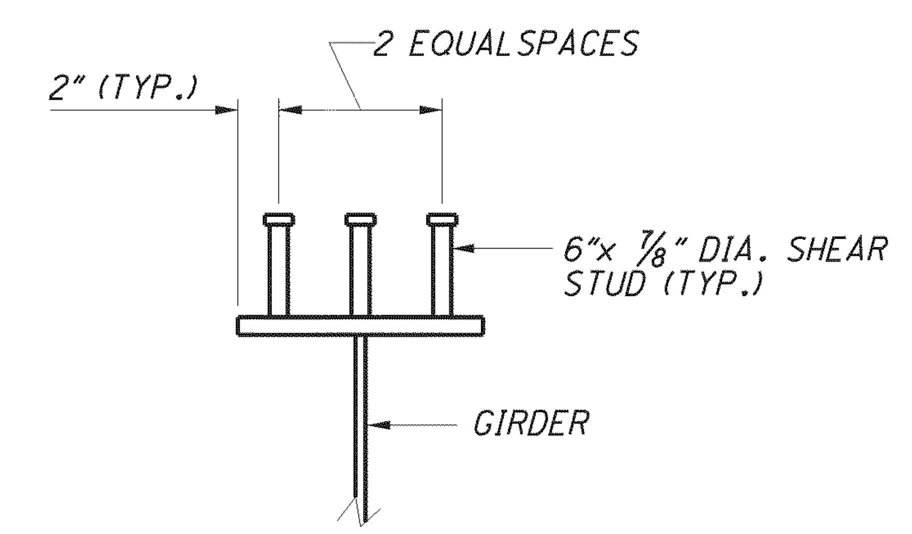
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

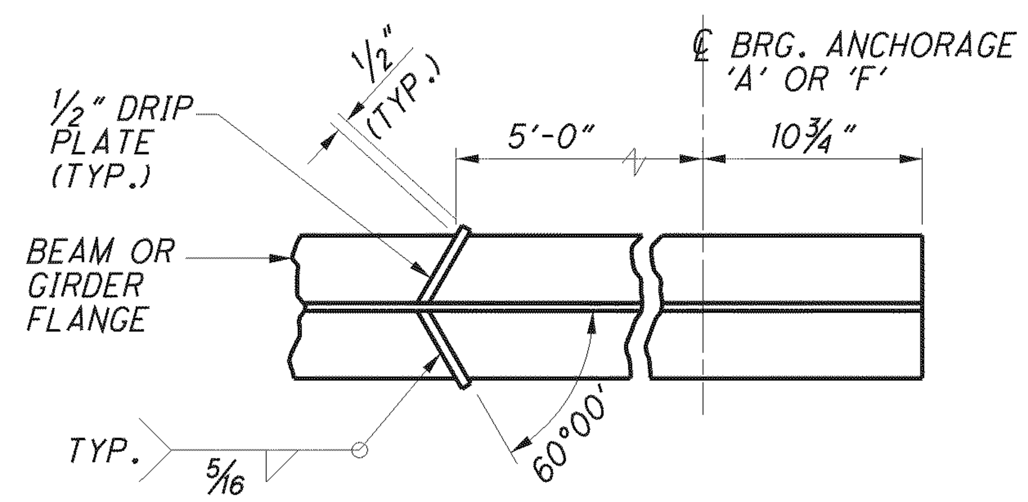


GIRDER ELEVATION

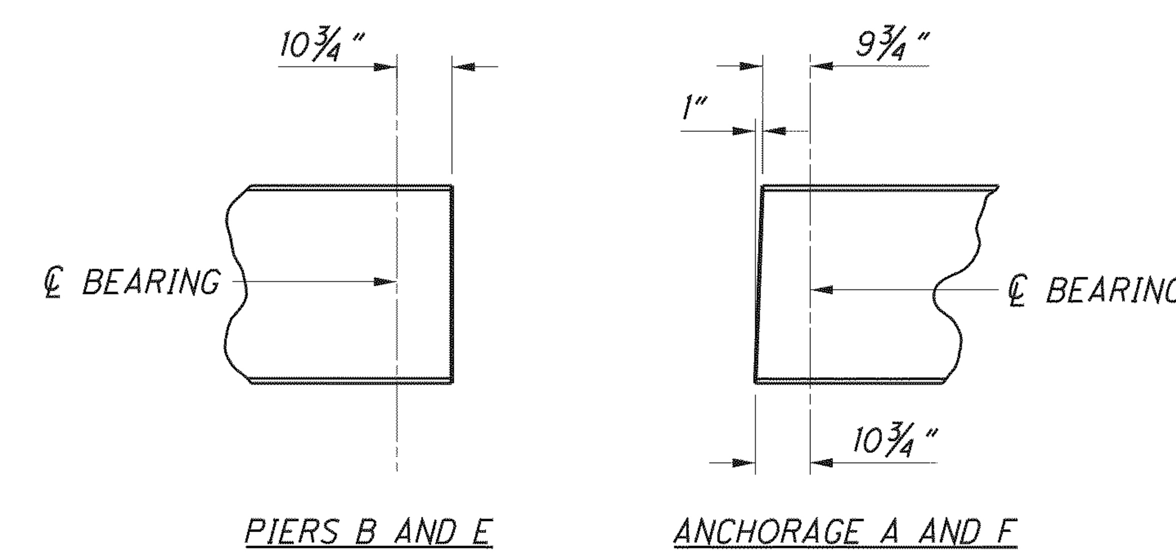
(EAST REPLACEMENT GIRDERS G1 THRU G6 SHOWN, WEST REPLACEMENT GIRDERS OPPOSITE HAND)



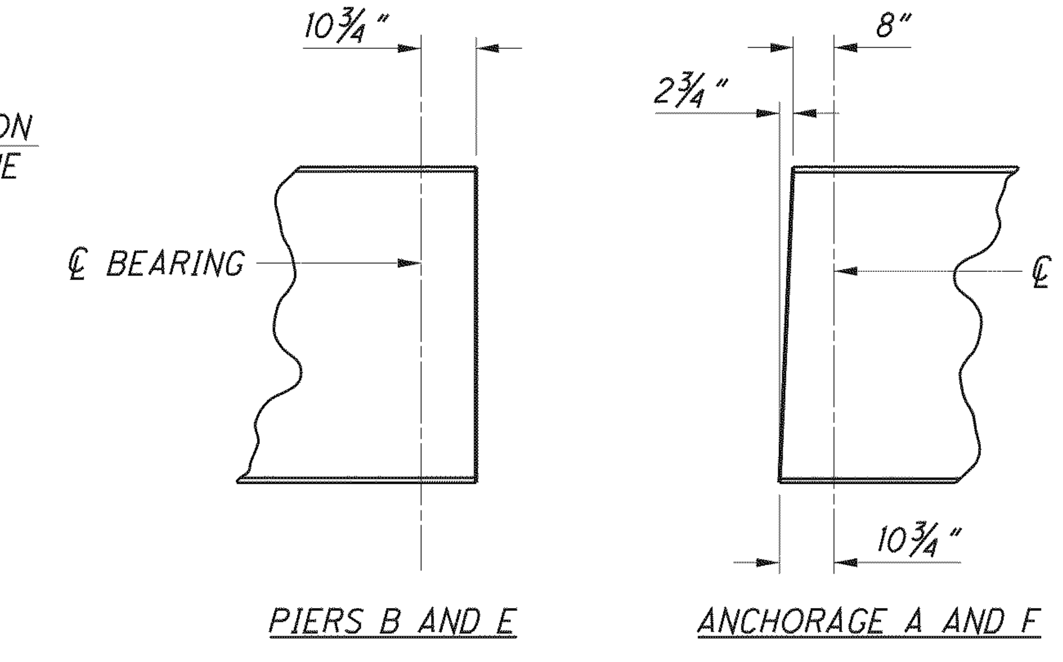
SHEAR STUD CONNECTOR DETAIL



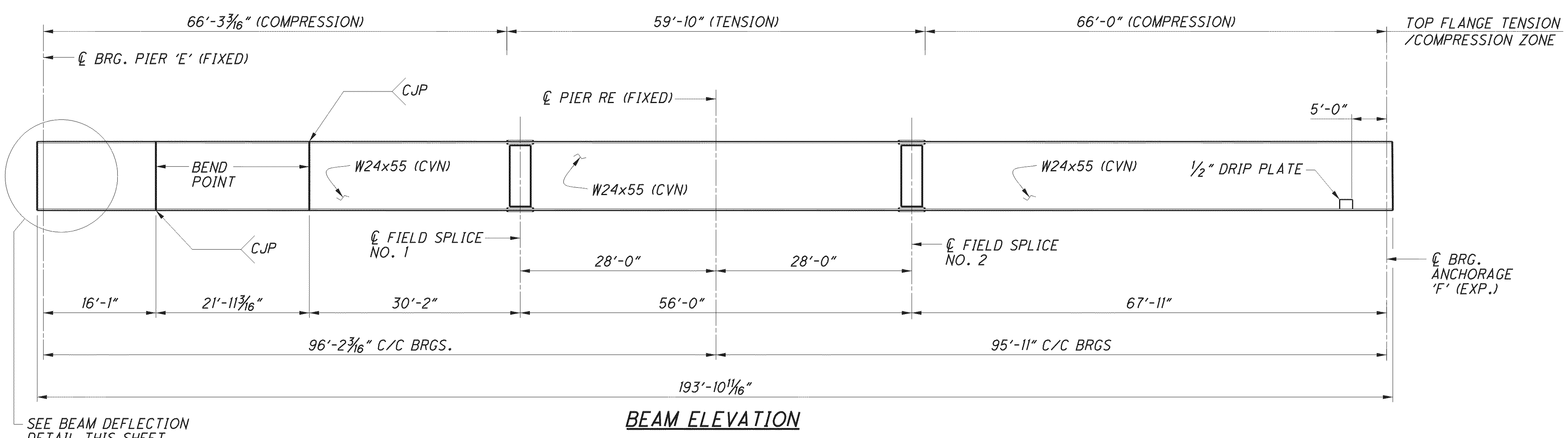
DRIP PLATE DETAIL AT ANCHORAGE



BEAM END DETAIL



GIRDER END DETAIL

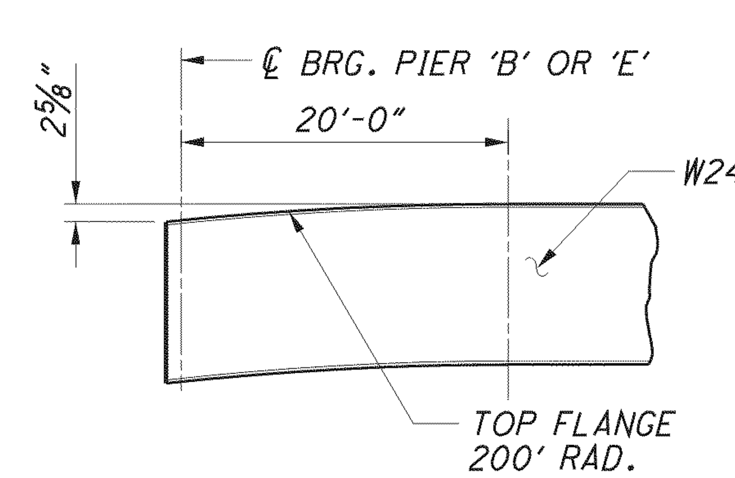


BEAM ELEVATION

(EAST REPLACEMENT BEAMS S1 AND S2 SHOWN, WEST REPLACEMENT BEAMS OPPOSITE HAND)

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A-709, GRADE 50 W.
2. FOR FRAMING PLANS FOR THE WEST AND EAST REPLACEMENT SPANS, SEE SHEETS 77/227 AND 84/227.
3. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
4. FOR DEFLECTION AND CAMBER TABLES, AND CAMBER DIAGRAM SEE SHEET 94/227.
5. FOR NEW BEARING DETAILS SEE SHEETS 70/227 AND 196/227.
6. SHEAR STUD LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO AVOID INTERFERENCE WITH SPLICE PLATES AND BOLT LOCATIONS.
7. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
8. WELD ATTACHMENT OF SUPPORTS FOR THE CONCRETE FINISHING MACHINE TO AREAS OF THE STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM THE EDGE OF THE FLANGE, BE NO MORE THAN 2" LONG, AND AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
9. PARTIAL PAINTING OF A709 GRADE 50W STEEL: PAINT THE LAST 10 FT. OF G2 THRU G5 GIRDER ENDS AND INTERIOR PORTIONS OF G1 AND G6 ADJACENT TO ANCHORAGE A, PIER B, PIER E AND ANCHORAGE F INCLUDING ALL CROSS FRAMES AND OTHER STEEL WITHIN THESE LIMITS. SEE SHEET 92/227 FOR PAINTING LIMITS OF EXTERIOR BEAMS. THE PRIME COAT SHALL BE 708.01. THE INTERMEDIATE AND TOP COAT SHALL BE APPLIED UNDER SEPARATE CONTRACT.
10. FOR GIRDER SPLICE DETAILS SEE SHEET 91/227.
11. FOR INTERMEDIATE STIFFENER AND CONNECTION PLATE SPACING SEE FRAMING PLAN SHEETS 77/227 AND 84/227.
12. FOR INTERMEDIATE STIFFENER AND CONNECTION PLATE DETAILS SEE SHEET 92/227.
13. HIGH STRENGTH BOLTS SHALL BE 1" DIA., ASTM A325 TYPE III, UNLESS NOTED OTHERWISE. ALL BOLTS WITHIN THE LIMITS OF PAINTING SHALL BE GALVANIZED.
14. AT LEAST 7 DAYS BEFORE PERFORMING ANY WORK THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE TO PROTECT THE SUSPENSION CABLE DURING THE BEAM ERECTION. THIS SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL MEMBER, LEVEL 4, AS PER PLAN FOR PAYMENT.



BEAM DEFLECTION DETAIL

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FRAMING DETAILS
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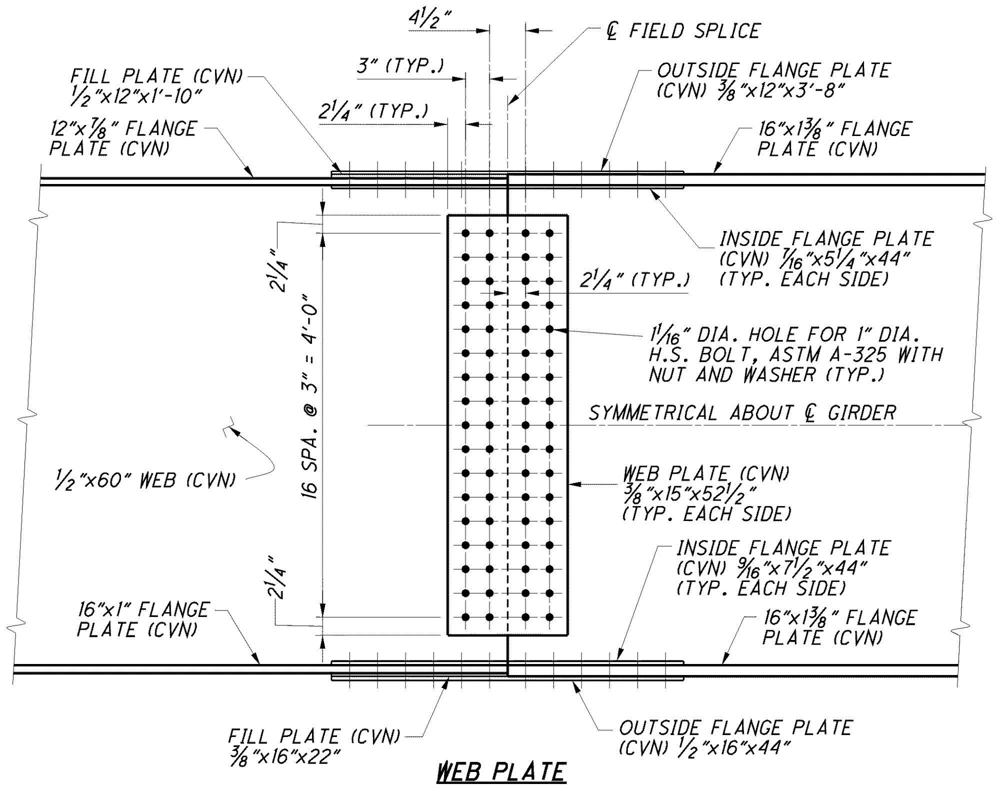
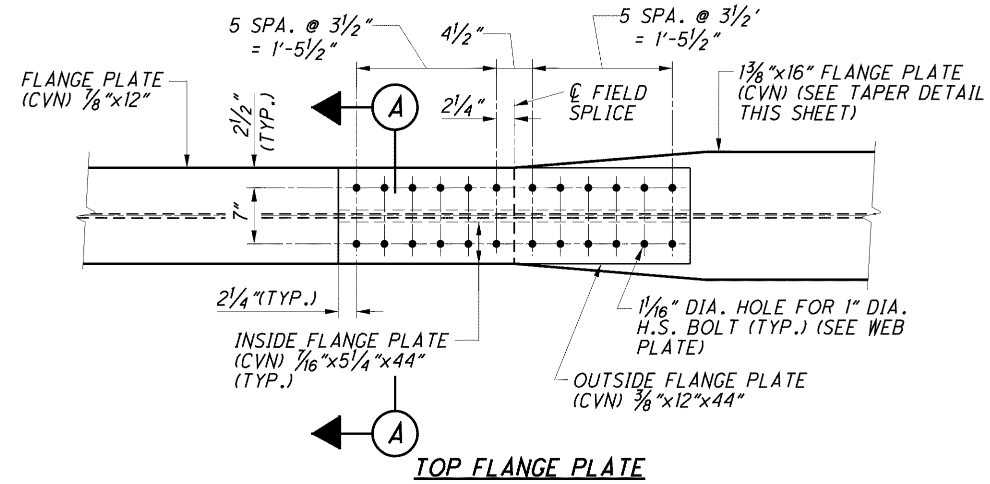
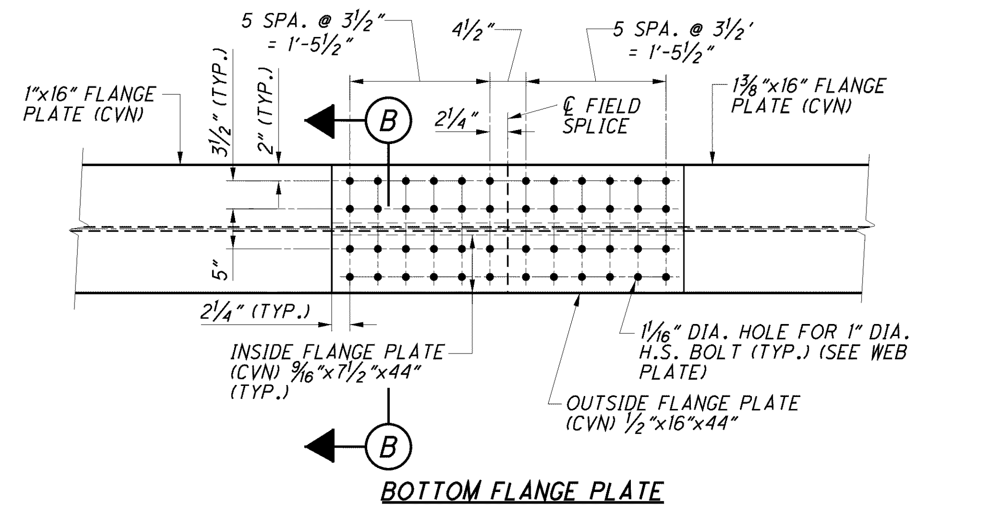
PID No. 80551



WEB PLATE



TOP FLANGE PLATE

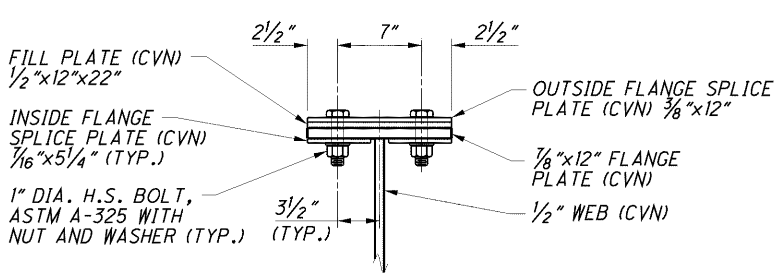


BOTTOM FLANGE PLATE

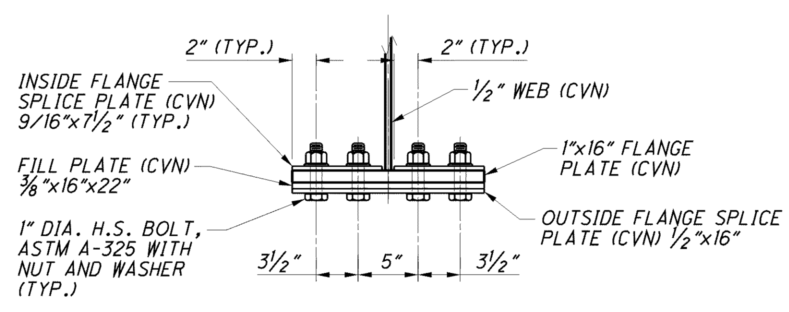
GIRDER FIELD SPLICE DETAILS

NOTES:

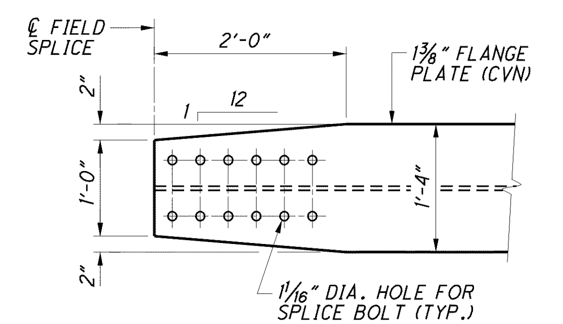
1. ALL STRUCTURAL STEEL SHALL BE ASTM A-709, GRADE 50 W.
2. FOR LEGEND OF ABBREVIATIONS SEE SHEET 74/227.
3. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
4. HIGH STRENGTH BOLTS SHALL BE 1" DIA., ASTM A325 TYPE III, UNLESS NOTED OTHERWISE. ALL BOLTS WITHIN THE LIMITS OF PAINTING SHALL BE GALVANIZED.



A SECTION



B SECTION



TAPERED TOP FLANGE PLATE DETAIL

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FRAMING DETAILS
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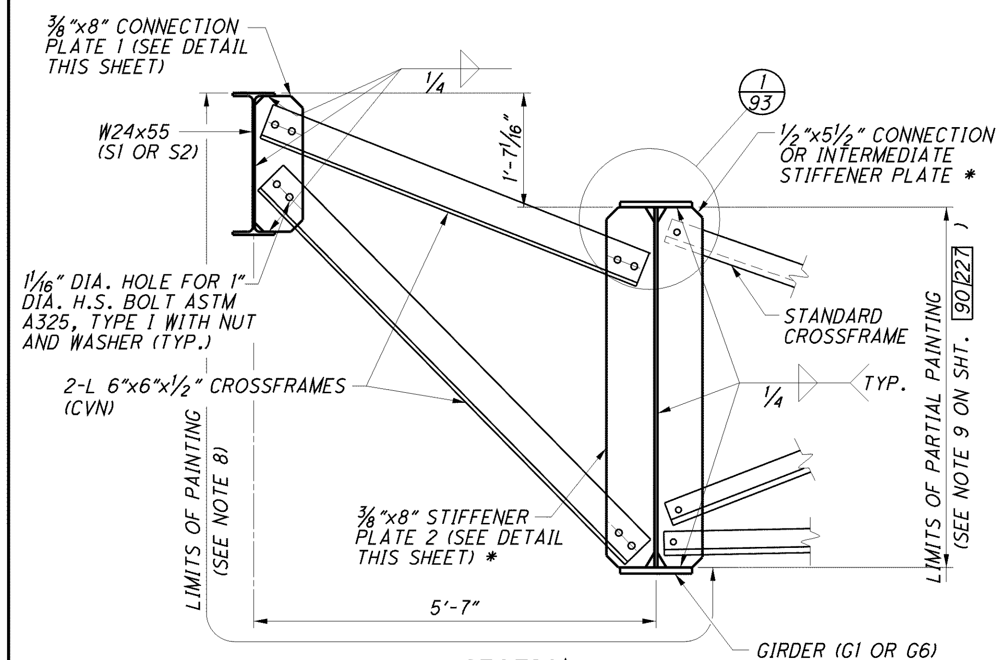
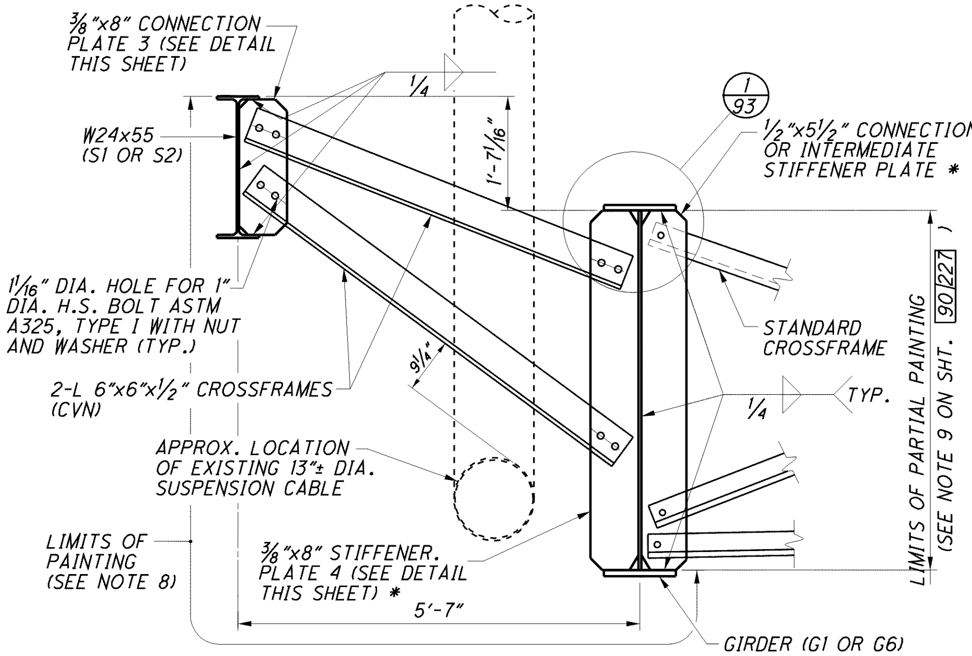
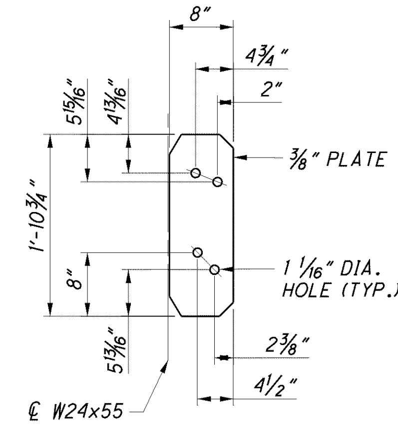


A 77 84 SECTION
(NORMAL SECTION)
(LEFT BAY SHOWN, RIGHT BAY OPPOSITE HAND)



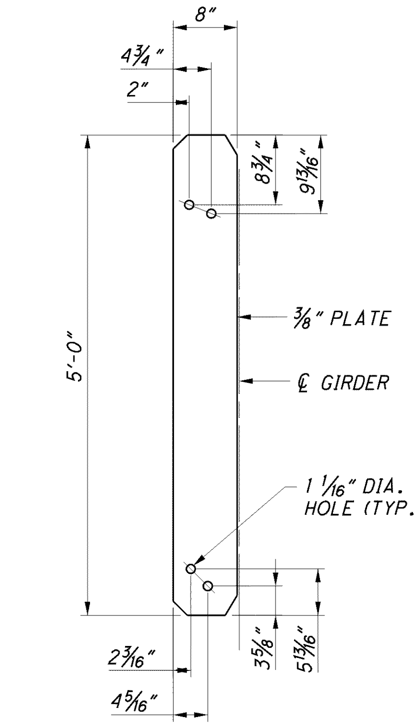
C 77 SECTION
(LEFT BAY SHOWN, RIGHT BAY OPPOSITE HAND)
(SEE NOTE 5)

* 1 3/16"x7 1/2" BEARING STIFFENER PLATE AT PIER
* 5/8"x5 1/2" BEARING STIFFENER PLATE AT ENDS

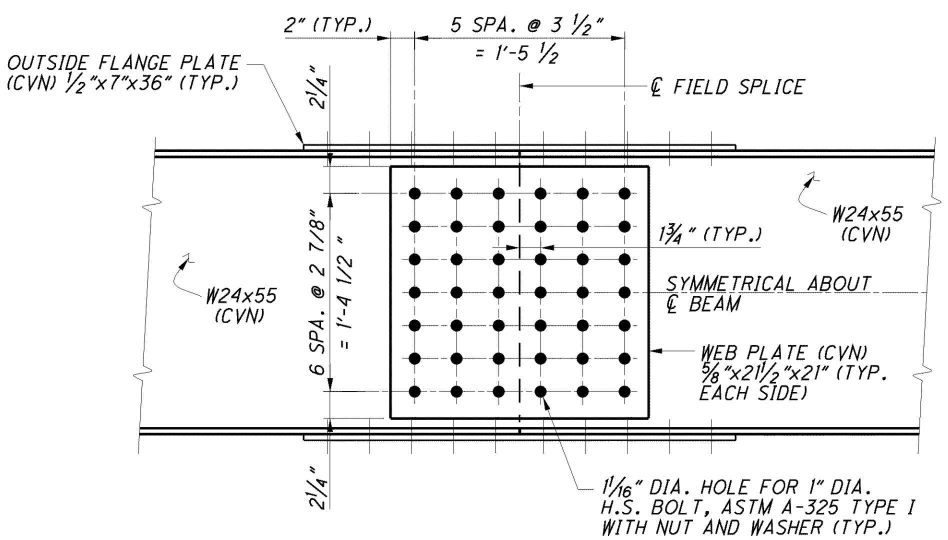


CONNECTION PLATE 1 DETAIL

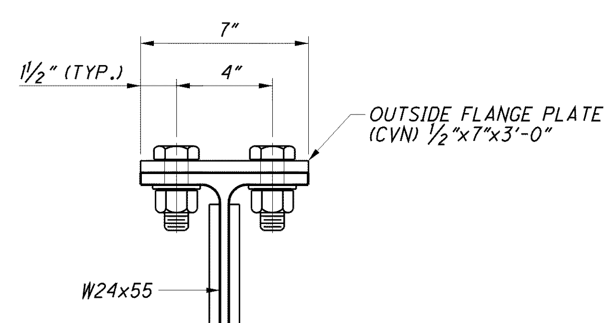
NOTE: FOR INSIDE AND OUTSIDE CLIP DIMENSIONS, REFER TO DETAIL 1 ON SHEET 93/227 .



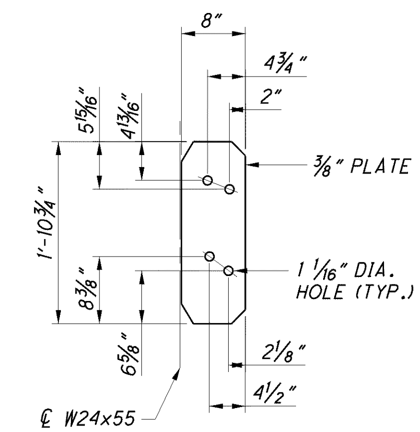
CONNECTION PLATE 2 DETAIL



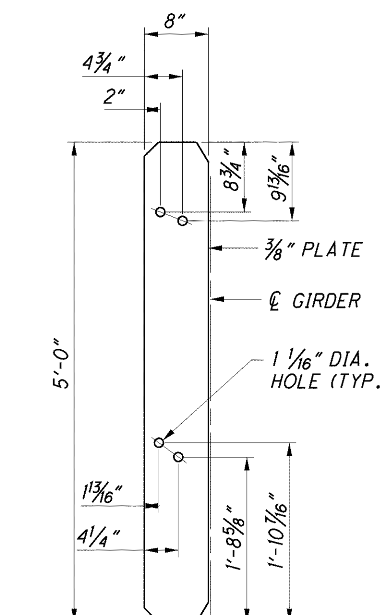
WEB PLATE



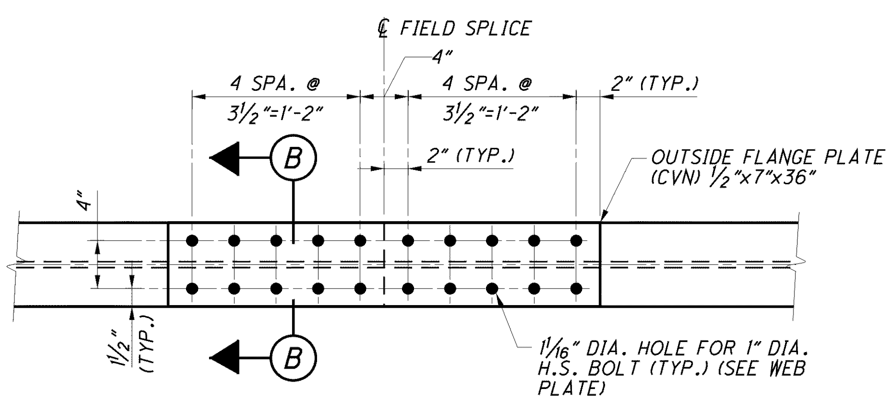
SECTION B-B



CONNECTION PLATE 3 DETAIL



CONNECTION PLATE 4 DETAIL



FLANGE PLATE

BEAM (W24x55) FIELD SPLICE DETAILS

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A-709, GRADE 50 W.
2. FOR FRAMING PLANS FOR THE WEST AND EAST REPLACEMENT SPANS, SEE SHEETS 77/227 AND 84/227 .
3. DURING THE ERECTION OF THE CROSSFRAMES, CARE SHALL BE TAKEN TO INSURE THAT THE BEAMS AND BEARING PARTS REMAIN IN BEARING CONTACT.
4. FOR ADDITIONAL FRAMING DETAILS AND NOTES SEE SHEETS 90/227 AND 93/227 .
5. CROSS FRAME DETAIL ORIENTED SPECIFICALLY TO AVOID INTERFERENCE WITH THE EXISTING SUSPENSION CABLE AT SECTION C ONLY.
6. REFER TO GSD-1-96 FOR STANDARD INTERMEDIATE CROSS FRAME DETAILS AND END CROSS FRAME DETAILS.
7. ALL BOLTS WITHIN THE LIMITS OF PAINTING SHALL BE GALVANIZED. AT ALL OTHER LOCATIONS USE A325, TYPE III BOLTS AS PER 711.09.
8. ALL STEEL WITHIN THE LIMITS SHOWN SHALL BE PAINTED ACCORDING TO ITEM 513. INTERMEDIATE AND TOP COAT SHALL BE APPLIED UNDER SEPARATE CONTRACT.
9. CAMBER IS NOT REQUIRED IN W24x55 BEAM.

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FRAMING DETAILS

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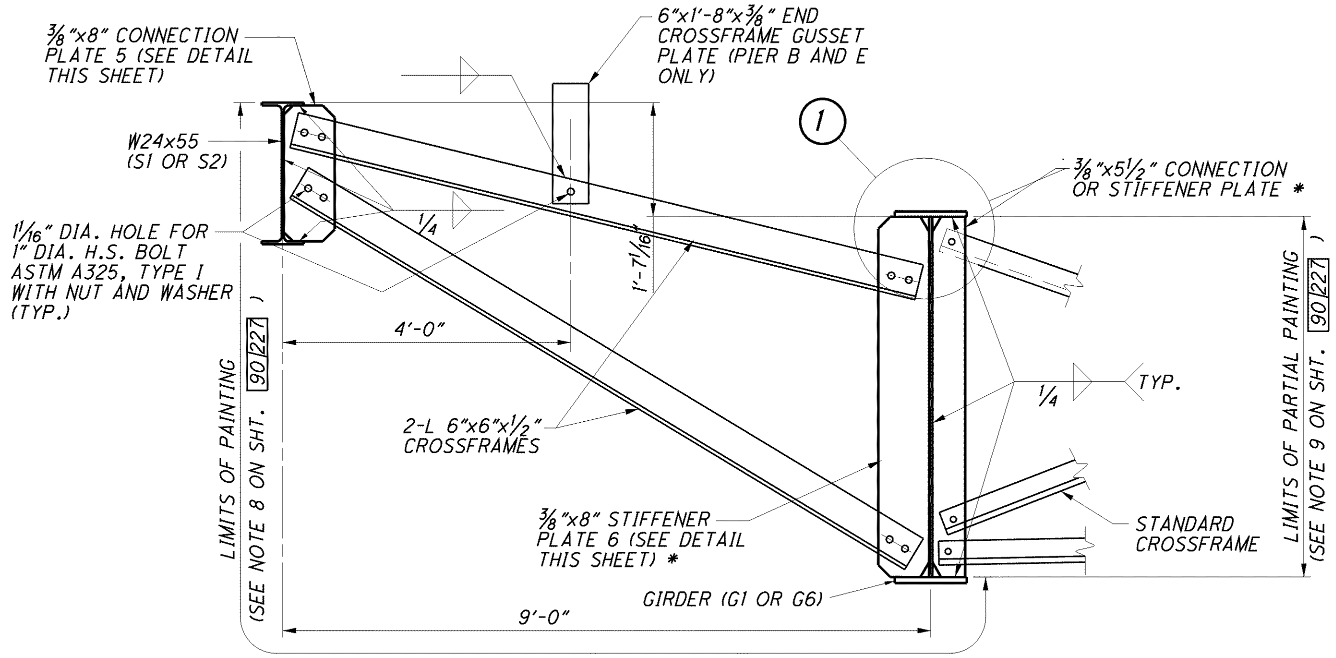
PID No. 80551



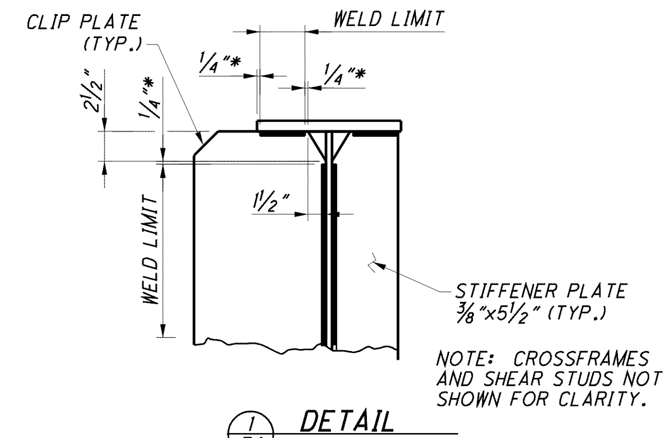
B/77/84 SECTION

(WIDENED SECTION)

(NORTH BAY SHOWN, SOUTH BAY OPPOSITE HAND, SEE SHEETS 90/227 AND 90/227 FOR LOCATIONS)

* 13/16"x7 1/2" BEARING STIFFENER PLATE AT PIER

* 5/8"x5 1/2" BEARING STIFFENER PLATE AT ENDS

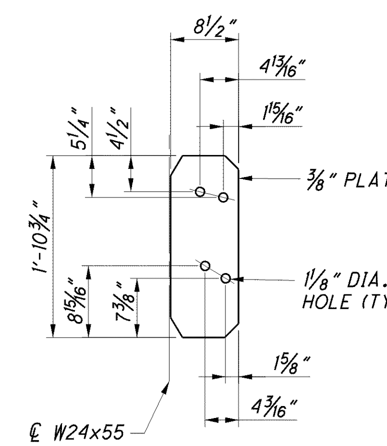


1/74 DETAIL

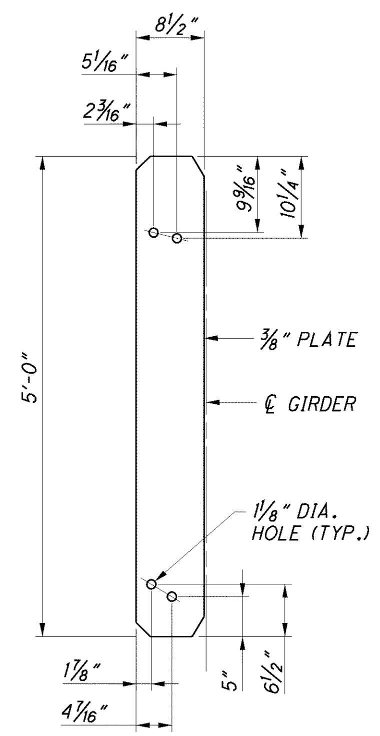
(TYPICAL AT ALL STIFFENER AND CONNECTION PLATE LOCATIONS)

NOTES:

1. FOR ADDITIONAL FRAMING DETAILS AND NOTES SEE SHEET 92/227.
2. FOR SEMI-INTEGRAL SUPERSTRUCTURE DETAILS SEE SHEET 155/227 .



CONNECTION PLATE 5 DETAIL



CONNECTION PLATE 6 DETAIL

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FRAMING DETAILS

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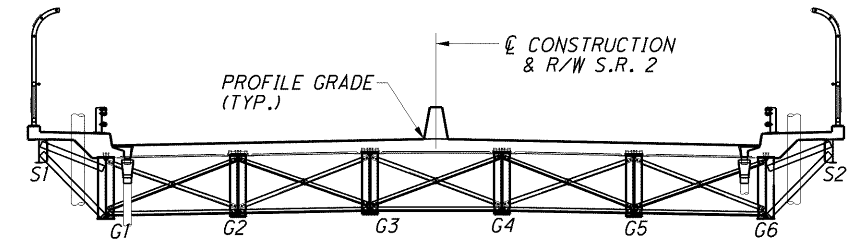
LUC-2-18.62

PID No. 80551



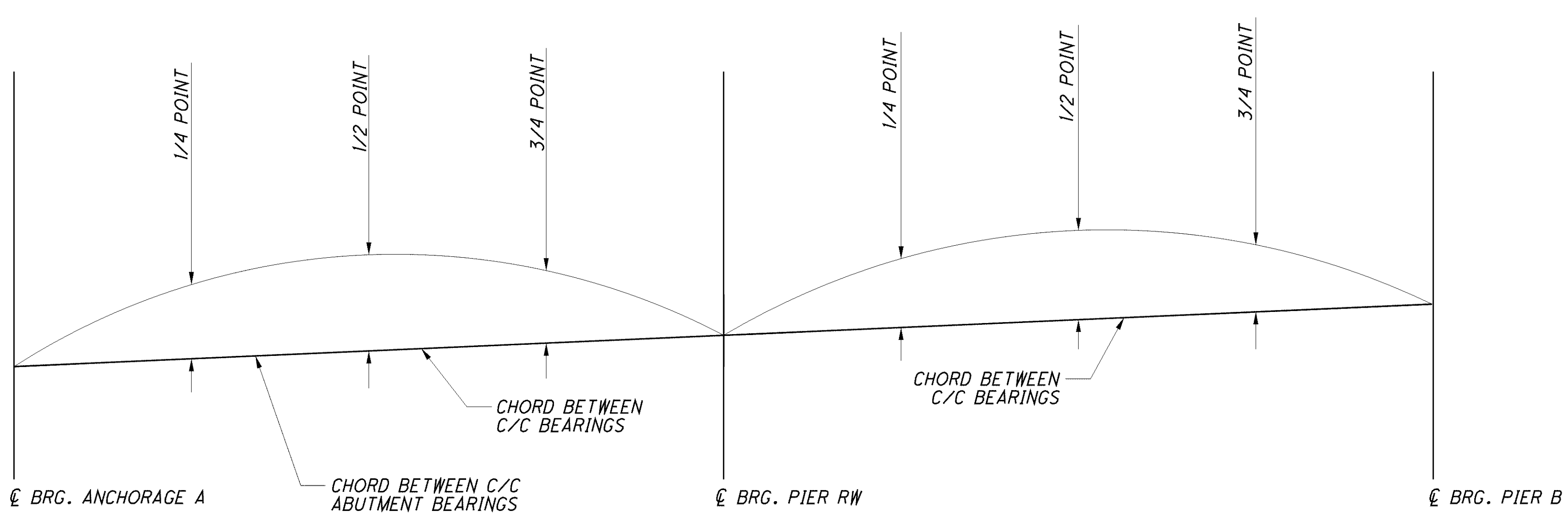
KEY - REPLACEMENT SPANS

DEFLECTION AND CAMBER (INCHES) - APPROACH SPAN RW

LOCATION (POINT)	SPAN RW-2, G1 & G6				SPAN RW-2, G2-G5				SPAN RW-1, G1 & G6				SPAN RW-1, G2-G5			
	1/4 PT.	1/2 PT.	SPLICE	3/4 PT.	1/4 PT.	1/2 PT.	SPLICE	3/4 PT.	1/4 PT.	SPLICE	1/2 PT.	3/4 PT.	1/4 PT.	SPLICE	1/2 PT.	3/4 PT.
DEFLECTION DUE TO WEIGHT OF STEEL	3/16	3/16	1/8	1/8	3/16	3/16	1/8	1/8	1/8	1/8	3/16	3/16	1/8	1/8	3/16	3/16
DEFLECTION DUE TO REMAINING DEAD LOAD	1 1/8	1 5/16	11/16	9/16	1	1 1/8	5/8	1/2	9/16	11/16	1 5/16	1 1/8	1/2	5/8	1 1/8	1
REQUIRED SHOP CAMBER	1 5/16	1 1/2	13/16	11/16	1 3/16	1 5/16	3/4	5/8	11/16	13/16	1 1/2	1 5/16	5/8	3/4	1 5/16	1 3/16

DEFLECTION AND CAMBER (INCHES) - APPROACH SPAN RE

LOCATION (POINT)	SPAN RE-1, G1 & G6				SPAN RE-1, G2-G5				SPAN RE-2, G1 & G6				SPAN RE-2, G2-G5			
	1/4 PT.	1/2 PT.	SPLICE	3/4 PT.	1/4 PT.	1/2 PT.	SPLICE	3/4 PT.	1/4 PT.	SPLICE	1/2 PT.	3/4 PT.	1/4 PT.	SPLICE	1/2 PT.	3/4 PT.
DEFLECTION DUE TO WEIGHT OF STEEL	3/16	3/16	1/8	1/8	3/16	3/16	1/8	1/8	1/8	1/8	3/16	3/16	1/8	1/8	3/16	3/16
DEFLECTION DUE TO REMAINING DEAD LOAD	1 1/8	1 5/16	11/16	9/16	1	1 1/8	5/8	1/2	9/16	11/16	1 5/16	1 1/8	1/2	5/8	1 1/8	1
REQUIRED SHOP CAMBER	1 5/16	1 1/2	13/16	11/16	1 3/16	1 5/16	3/4	5/8	11/16	13/16	1 1/2	1 5/16	5/8	3/4	1 5/16	1 3/16



CAMBER DIAGRAM

APPROACH SPAN RW SHOWN, APPROACH SPAN RE OPPOSITE HAND

DESIGN AGENCY
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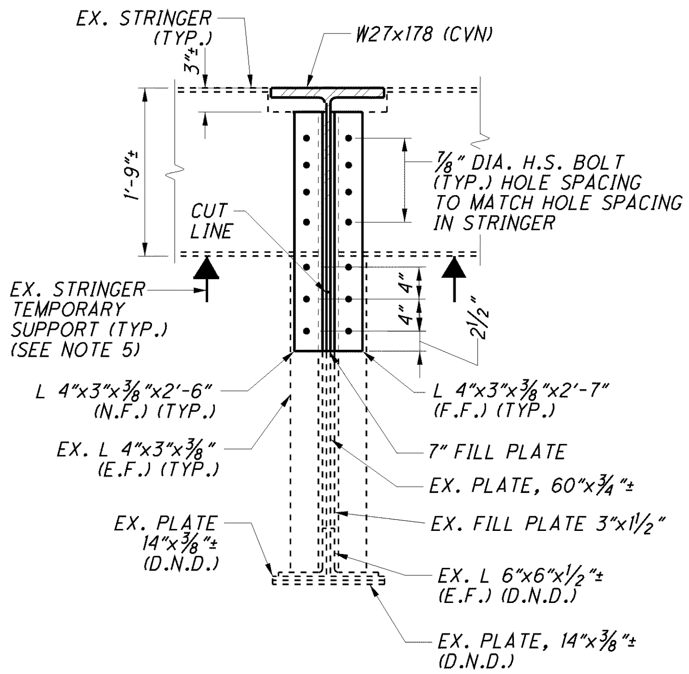
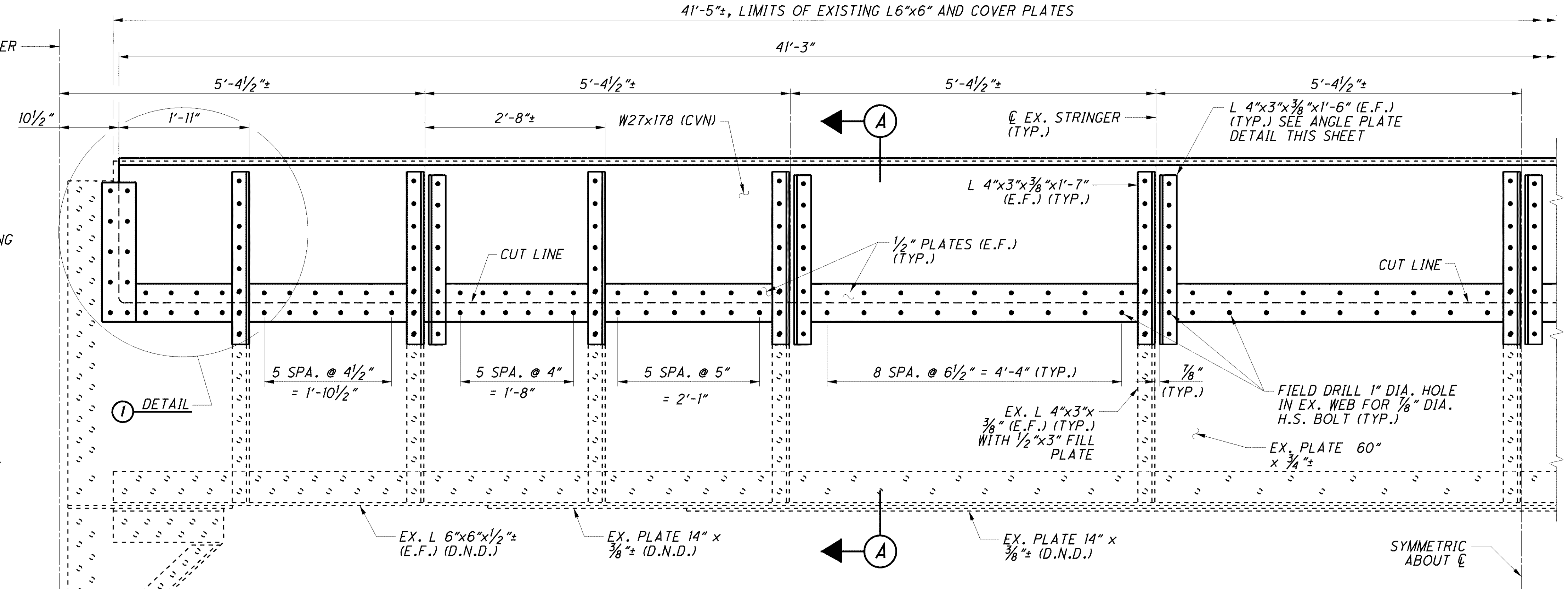
AJM	CAF	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD	.	4800303	

CAMBER AND DEFLECTION
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

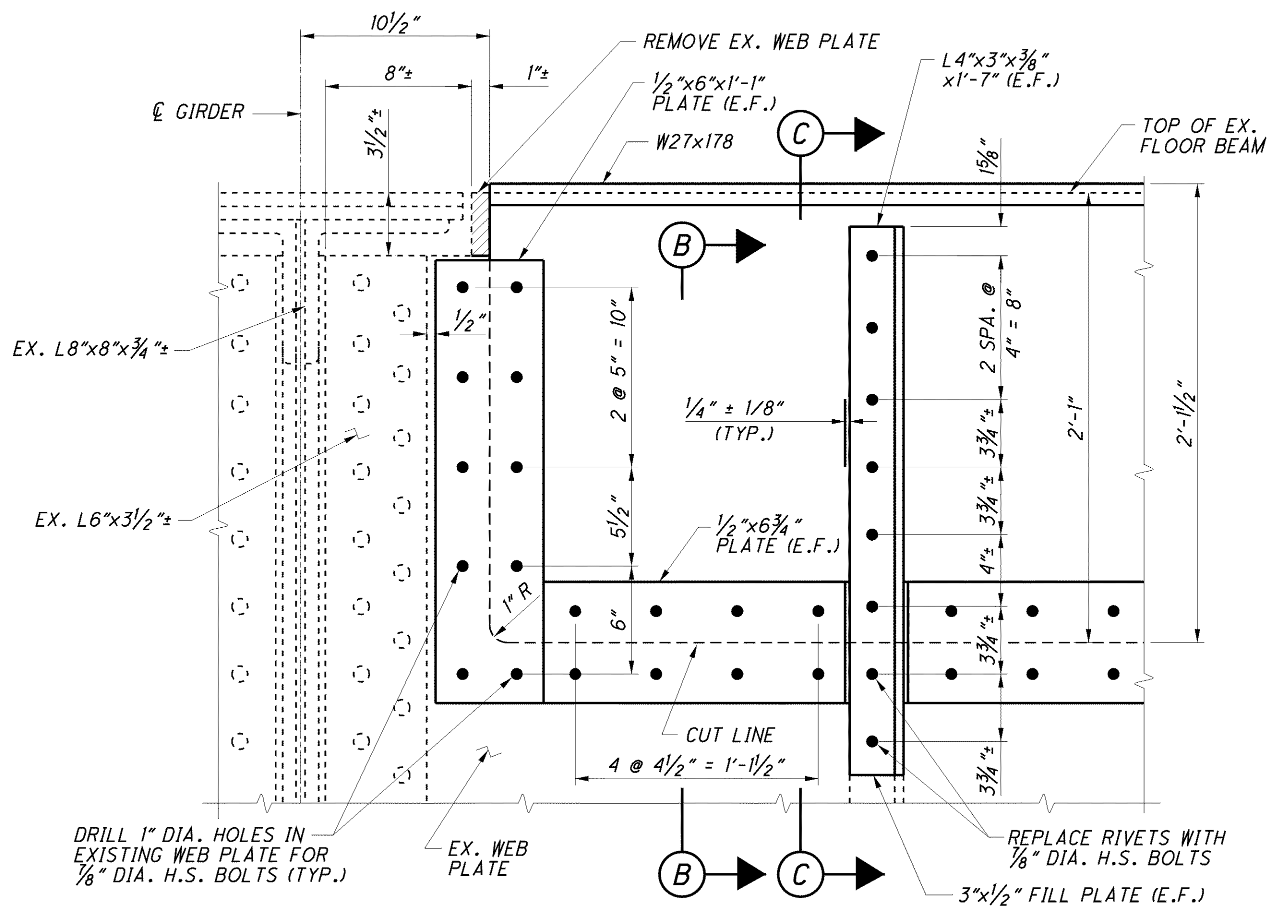
LUC-2-18.62
PID No. 80551



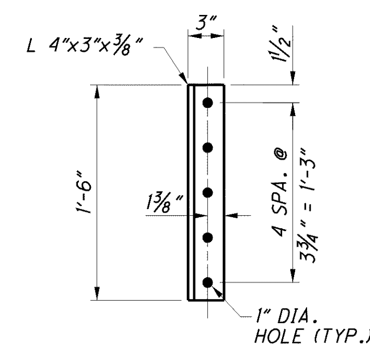
A SECTION



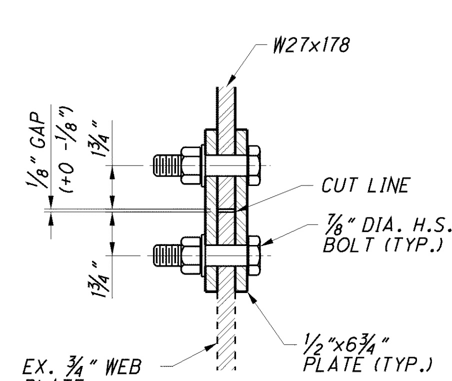
REPAIR TYPE 101



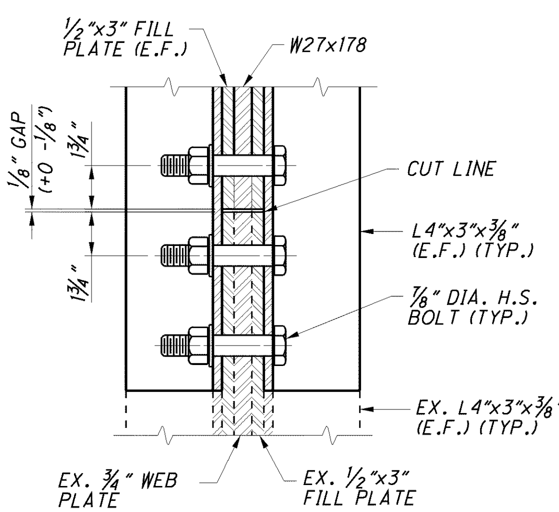
1 DETAIL



ANGLE PLATE DETAIL



B SECTION (WEB SPLICE)



C SECTION (AT STIFFENER ANGLES)

LEGEND

- EXISTING BOLT OR RIVET TO REMAIN
- USING EXISTING HOLES WITH NEW 7/8" DIA. H.S. BOLTS:
  1. CONNECT NEW MATERIAL TO EXISTING MATERIAL
  2. REMOVE, RESET AND CONNECT EXISTING MATERIAL TO EXISTING MATERIAL
- USING NEW HOLES WITH NEW 7/8" DIA. H.S. BOLTS TO CONNECT EXISTING MATERIAL TO EXISTING MATERIAL
- NEW COUNTERSUNK BOLT
- NEW 7/8" DIA. H.S. BOLT CONNECTION:
  1. NEW MATERIAL ONLY
  2. NEW MATERIAL TO EXISTING MATERIAL THROUGH NEW HOLES

NOTES:

1. ALL EXISTING DIMENSIONS ARE AS PER ORIGINAL PLANS AND ARE PLUS OR MINUS "±" UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS AS PER CMS 102.05 AND 105.02, TO ENSURE PROPER FIT OF REPAIRS.
2. ALL EXISTING STEEL IS CARBON STEEL UNLESS NOTED OTHERWISE.
3. EXISTING RIVETS ARE 7/8" DIAMETER.
4. FOR GENERAL NOTES SEE SHEET 95|227.
5. TEMPORARY STRINGER SUPPORT IS REQUIRED FOR REPAIR TYPE 101. THE TEMPORARY SUPPORT SHALL BE INSTALLED PRIOR TO REMOVAL OF ANY PORTION OF THE FLOOR BEAM AND SHALL REMAIN UNTIL ALL REPAIR WORK IS COMPLETED. THE TEMPORARY STRINGER SUPPORTS SHALL NOT BE SUPPORTED BY THE FLOOR BEAM.
6. THE TEMPORARY SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 5 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 275 LB/FT OF CONSTRUCTION LOAD APPLIED TO THE STRINGERS.

   THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 275 LB/FT.
7. FOR LOCATIONS OF REPAIR TYPE 101 SEE SHEETS 74|227 THROUGH 76|227.
8. RIVETS REMOVED AND REPLACED SHALL INCLUDE THE REMOVAL OF THE EXISTING RIVETS, AS REQUIRED BY THE REPAIR DETAILS, AND REPLACING THE RIVETS WITH ASTM-A325 BOLTS. INCLUDE WITH ITEM 513, STRUCTURAL STEEL, MISC.: RIVET REMOVED AND REPLACED WITH ASTM-A325 BOLT FOR PAYMENT.

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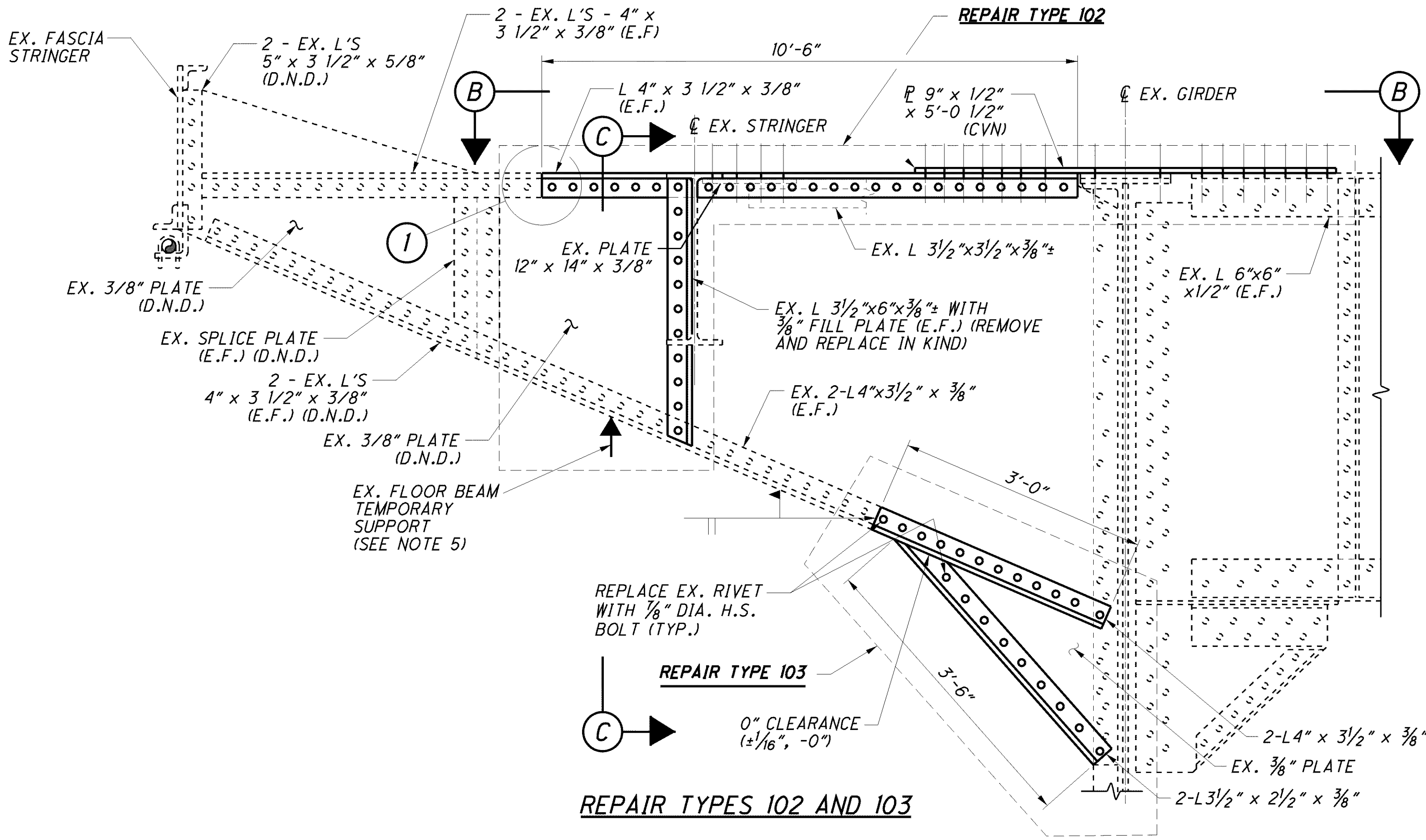
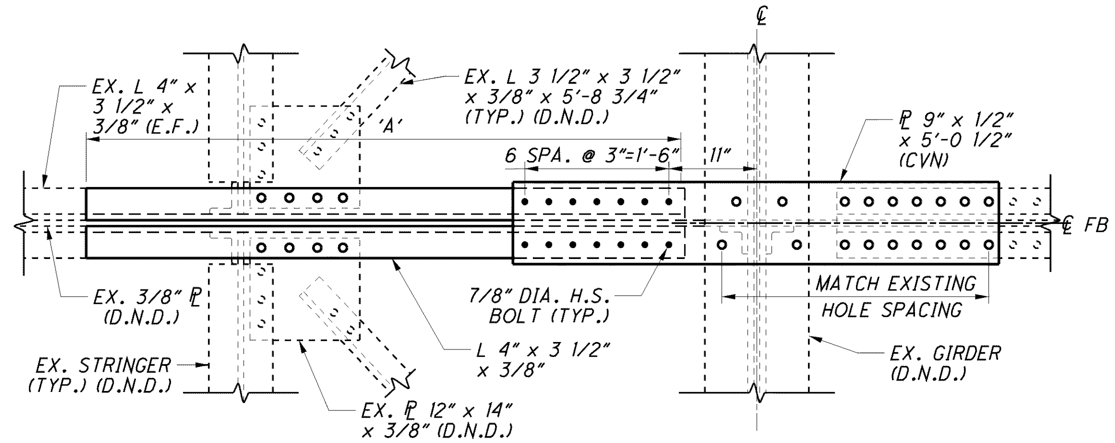
CMD		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 1 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

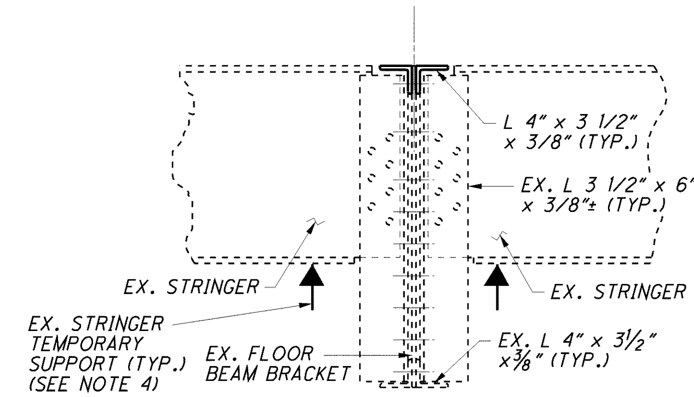
LUC-2-18.62
PID No. 80551



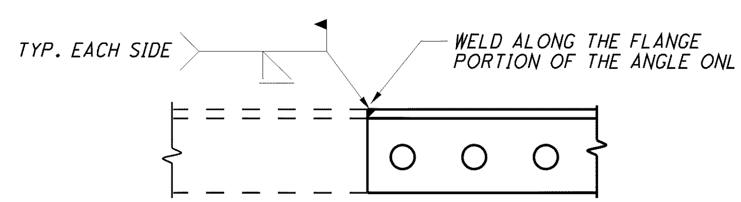
REPAIR TYPES 102 AND 103



B VIEW



C VIEW



1/97 1 DETAIL

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 95/227.
2. FOR BOLT/RIVET FASTENER LEGEND SEE SHEET 95/227 .
3. TEMPORARY STRINGER SUPPORTS SHALL BE INSTALLED PRIOR TO THE REMOVAL OF ANY PORTION OF THE FLOOR BEAM, AND SHALL REMAIN UNTIL ALL REPAIR WORK IS COMPLETED. THE TEMPORARY STRINGER SUPPORTS SHALL NOT BE SUPPORTED BY THE FLOOR BEAM.
4. TEMPORARY SUPPORTS SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 5 KIPS. ALL THE ABOVE REACTIONS INCLUDE AN ALLOWANCE OF 300 LB/FT. OF CONSTRUCTION DEAD LOAD. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN, AND THE AFFECTS OF ANY SPECIFIC CONSTRUCTION LIVE LOADS OR DEAD LOADS EXCEEDING 300 LBS/FT.
5. TEMPORARY SUPPORTS SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 14 KIPS. ALL THE ABOVE REACTIONS INCLUDE AN ALLOWANCE OF 1,000 LB/FT. OF CONSTRUCTION DEAD LOAD. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN, AND THE AFFECTS OF ANY SPECIFIC CONSTRUCTION LIVE LOADS OR DEAD LOADS EXCEEDING 1,000 LBS/FT.
6. FOR LOCATIONS OF REPAIR TYPES 102 AND 103 SEE SHEETS 74/227 THROUGH 76/227 AND 85/227 THROUGH 87/227 .

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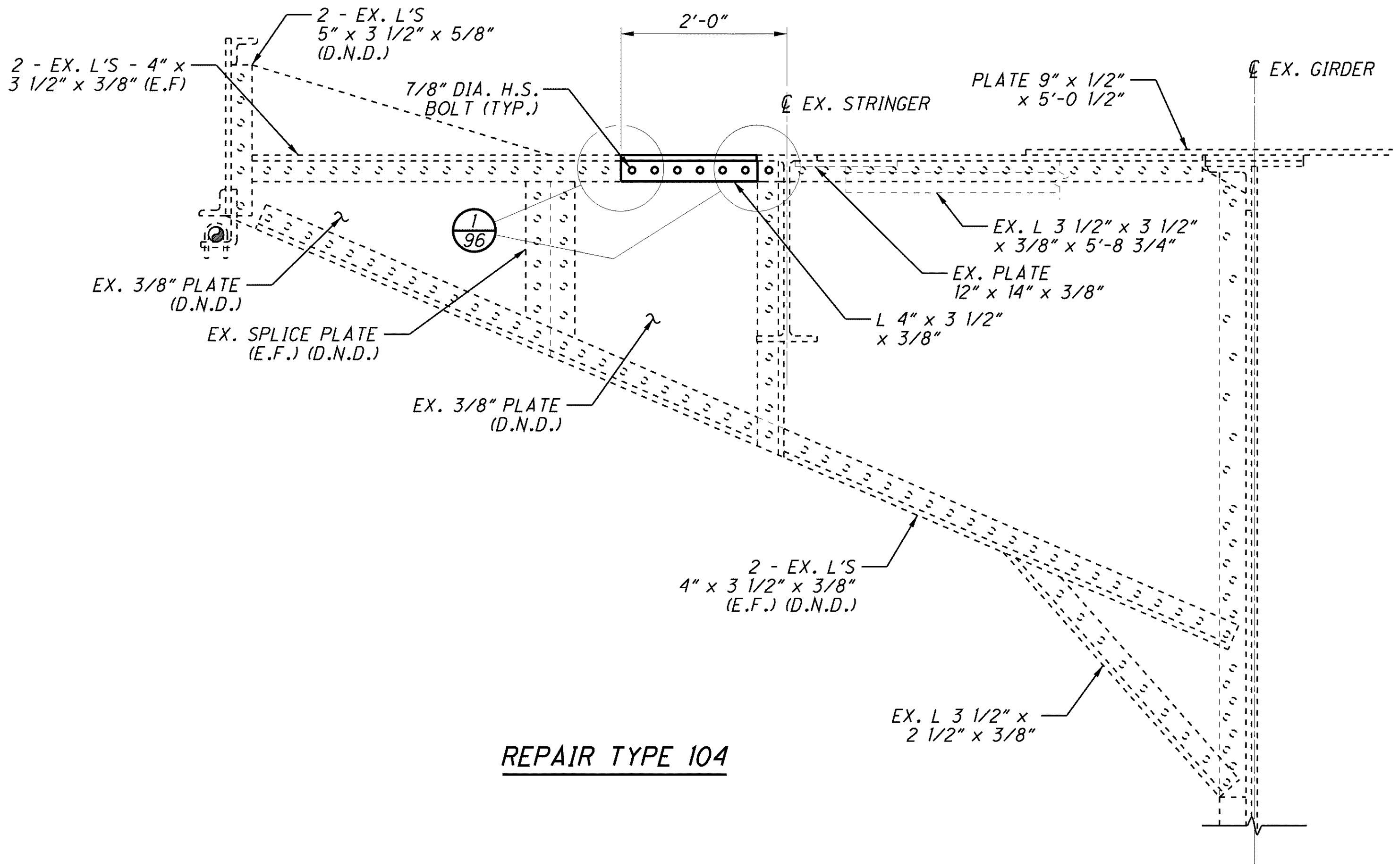
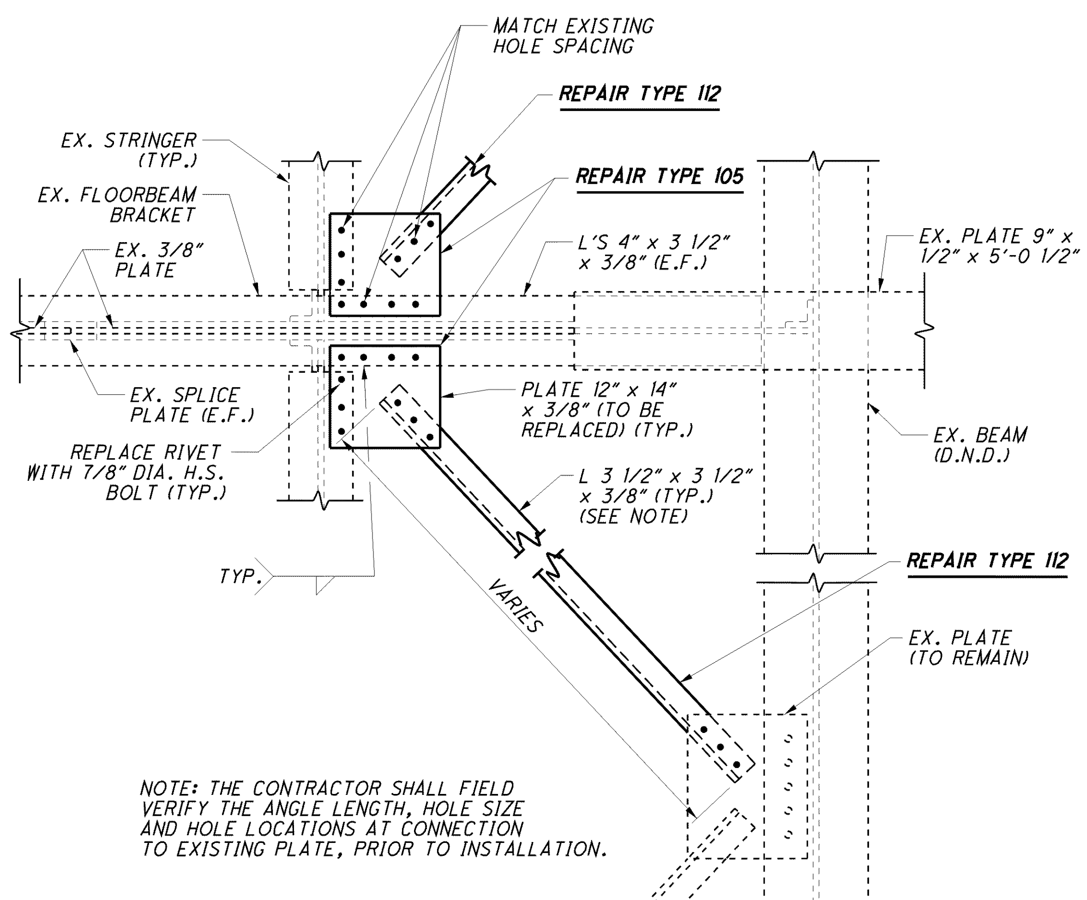
MISCELLANEOUS STEEL REPAIR DETAILS 2 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



REPAIR TYPE 104



NOTE: THE CONTRACTOR SHALL FIELD VERIFY THE ANGLE LENGTH, HOLE SIZE AND HOLE LOCATIONS AT CONNECTION TO EXISTING PLATE, PRIOR TO INSTALLATION.

REPAIR TYPES 105 AND 112

NOTES:

1. FOR ADDITIONAL NOTES AND BOLT/RIVET FASTENER LEGEND, SEE SHEET 95/227 .
2. FOR LOCATIONS OF REPAIR TYPE 104 SEE SHEETS 74/227 AND 85/227 THROUGH 87/227 .
3. FOR LOCATIONS OF REPAIR TYPE 105 SEE SHEETS 75/227 AND 76/227 AND 85/227 THROUGH 87/227 .
4. FOR LOCATIONS OF REPAIR TYPE 112 SEE SHEETS 75/227 AND 76/227 AND 86/227 .

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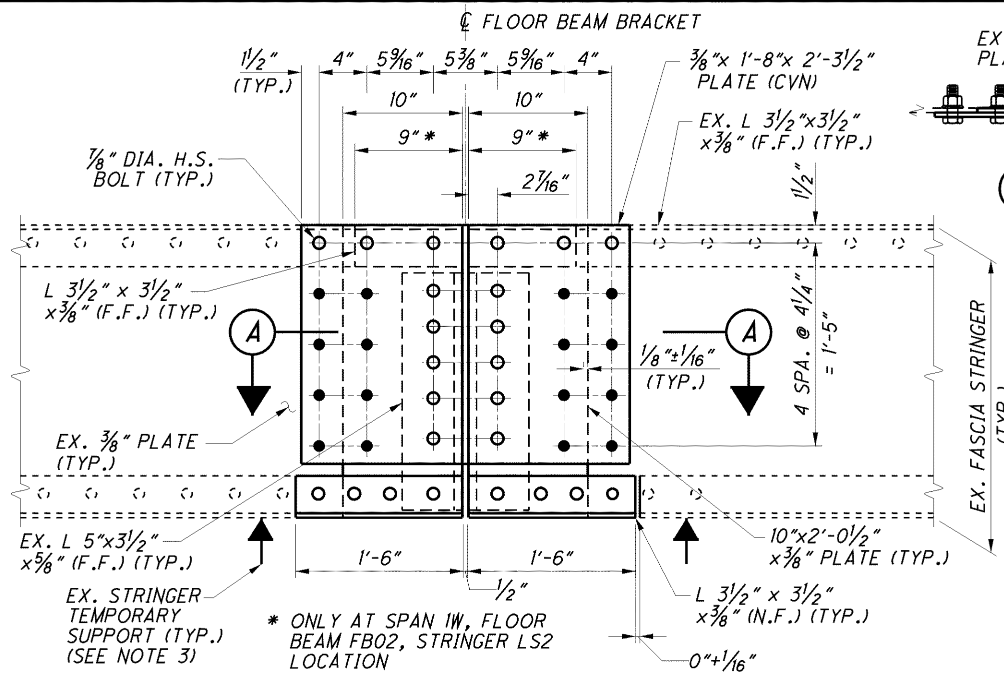
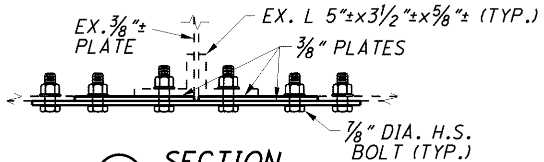
MISCELLANEOUS STEEL REPAIR DETAILS 3 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

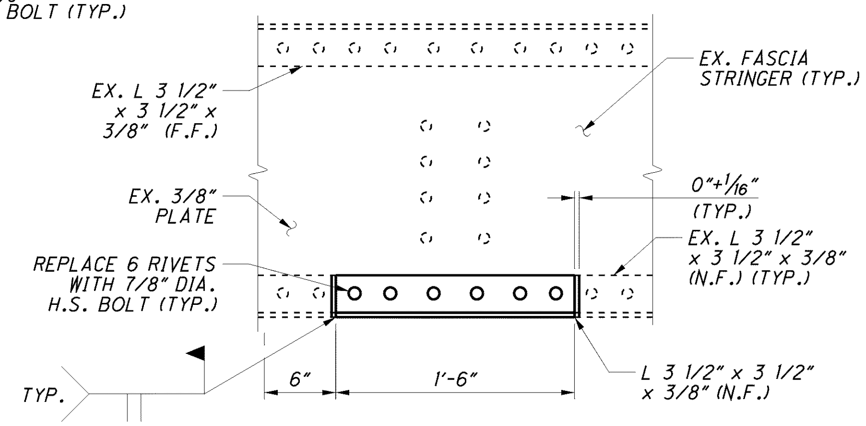
LUC-2-18.62
PID No. 80551



REPAIR TYPE 106



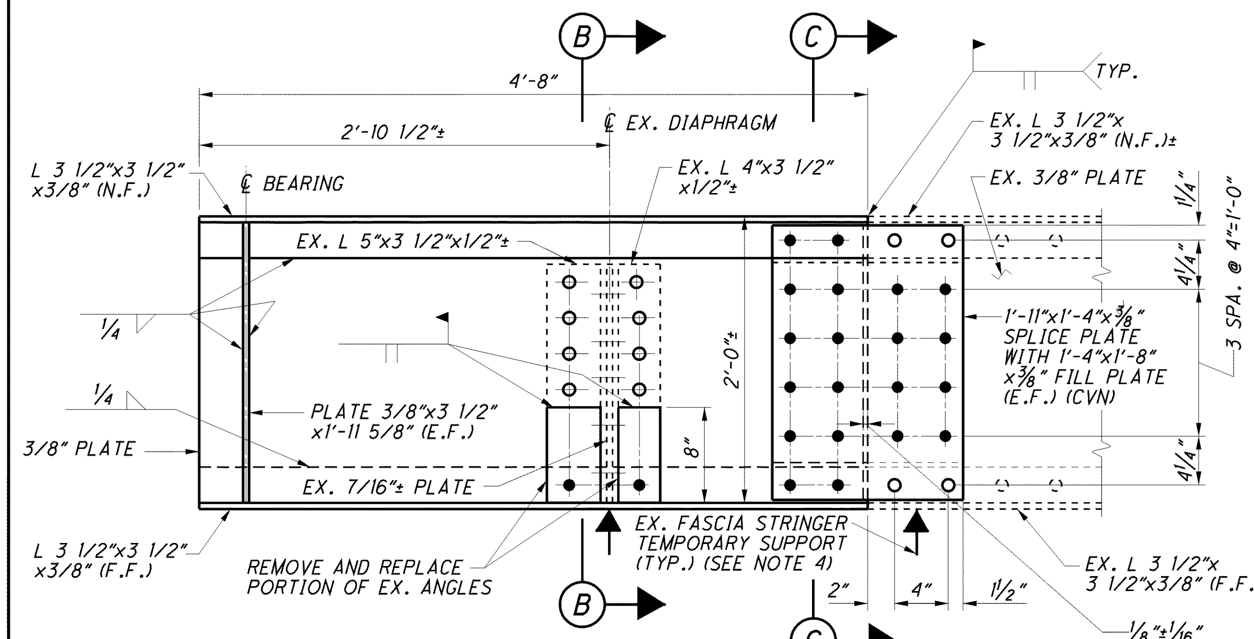
A SECTION



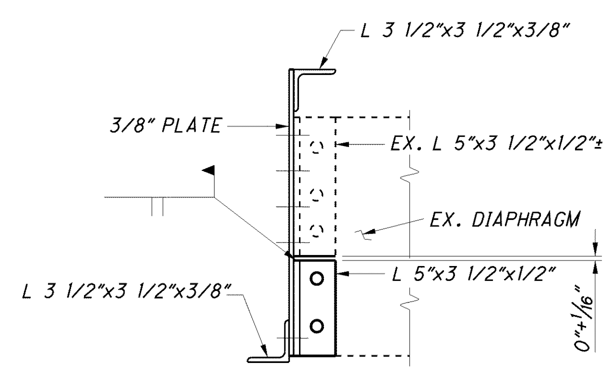
REPAIR TYPE 107

NOTES:

1. FOR BOLT/RIVET FASTENER LEGEND SEE SHEET 95|227.
2. TEMPORARY FASCIA STRINGER SUPPORTS SHALL BE INSTALLED PRIOR TO THE REMOVAL OF ANY PORTION OF THE FLOOR BEAM, AND SHALL REMAIN UNTIL ALL REPAIR WORK IS COMPLETED. THE TEMPORARY STRINGER SUPPORTS SHALL NOT BE SUPPORTED BY THE FLOOR BEAM.
3. TEMPORARY SUPPORTS SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 3 KIPS. ALL THE ABOVE REACTIONS INCLUDE AN ALLOWANCE OF 160 LB/FT. OF CONSTRUCTION DEAD LOAD. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN, AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 160 LBS/FT.
4. FOR ADDITIONAL NOTES SEE SHEET 95|227.
5. FOR LOCATIONS OF REPAIR TYPE 106 SEE SHEETS 75|227, 76|227 AND 87|227.
6. FOR LOCATIONS OF REPAIR TYPE 107 SEE SHEETS 75|227 AND 76|227.
7. FOR LOCATIONS OF REPAIR TYPE 108 SEE SHEETS 76|227 AND 88|227.
8. FOR LOCATIONS OF REPAIR TYPE 109 SEE SHEETS 75|227 AND 76|227.



REPAIR TYPE 108



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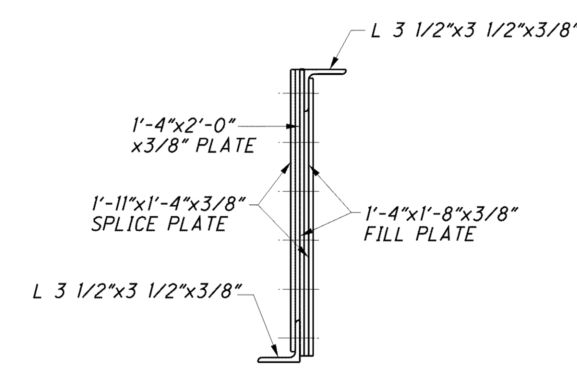
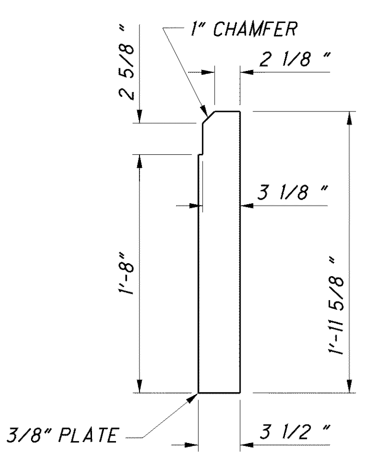
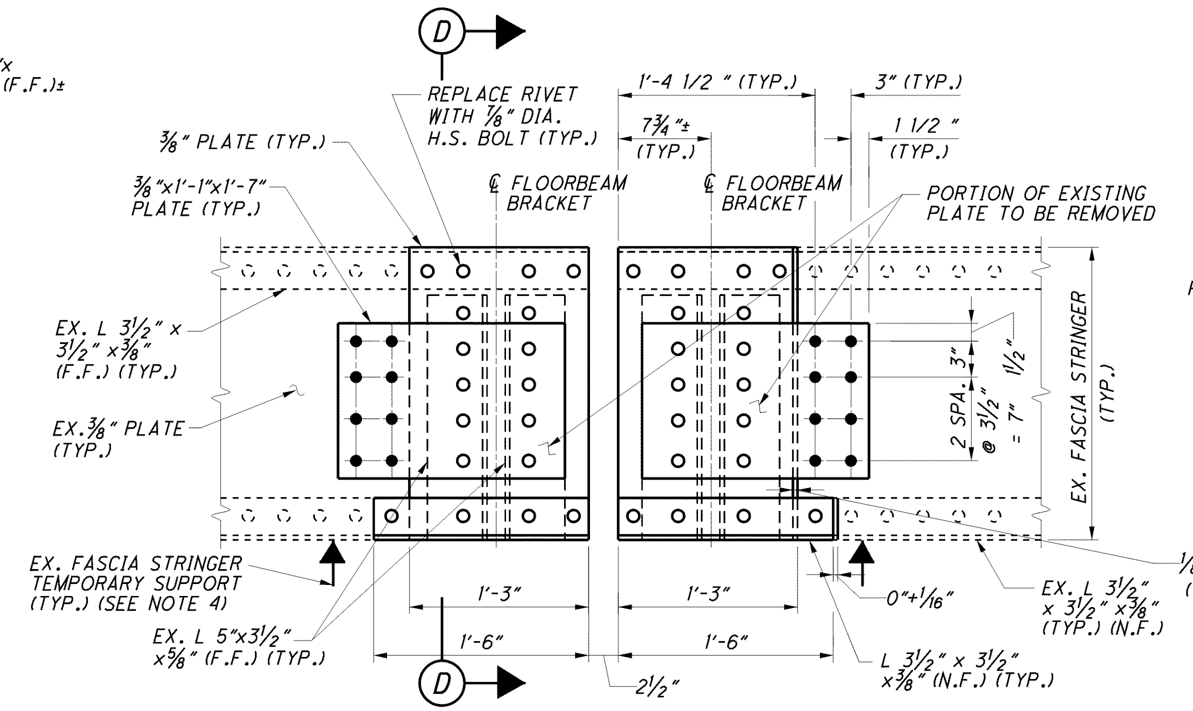


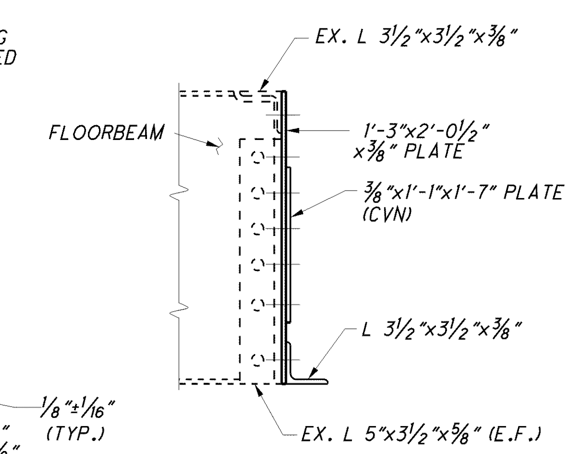
C SECTION



BEARING STIFFENER



REPAIR TYPE 109



D SECTION

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AJM	TRM/CAF	RBB	10/12
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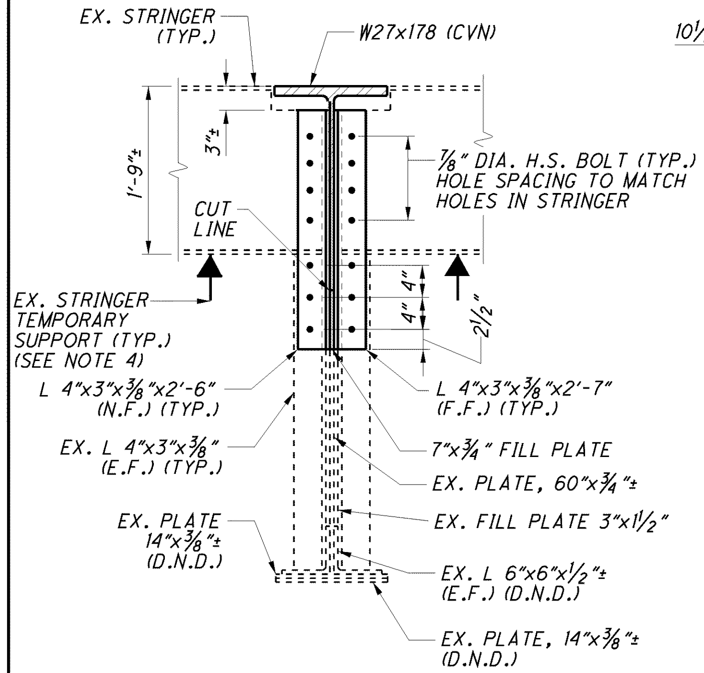
CMD		4800303	

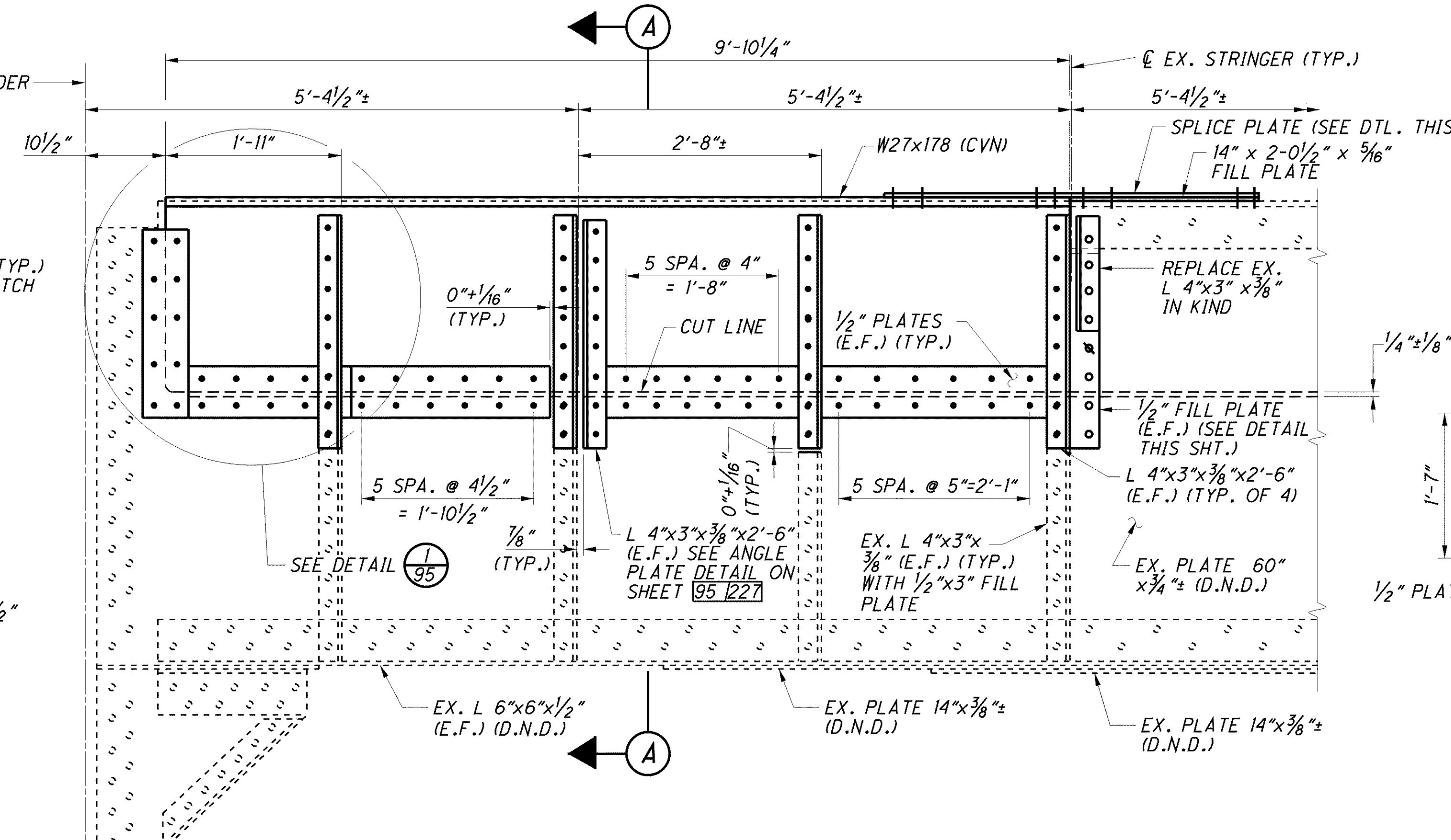
MISCELLANEOUS STEEL REPAIR DETAILS 4 OF 31

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

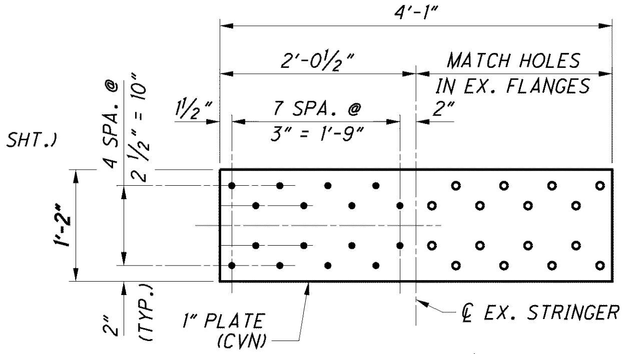
LUC-2-18.62
PID No. 80551



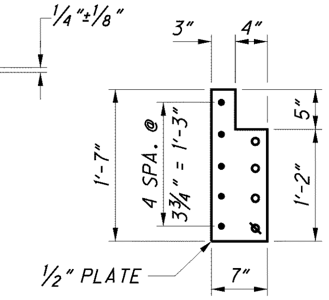
A SECTION



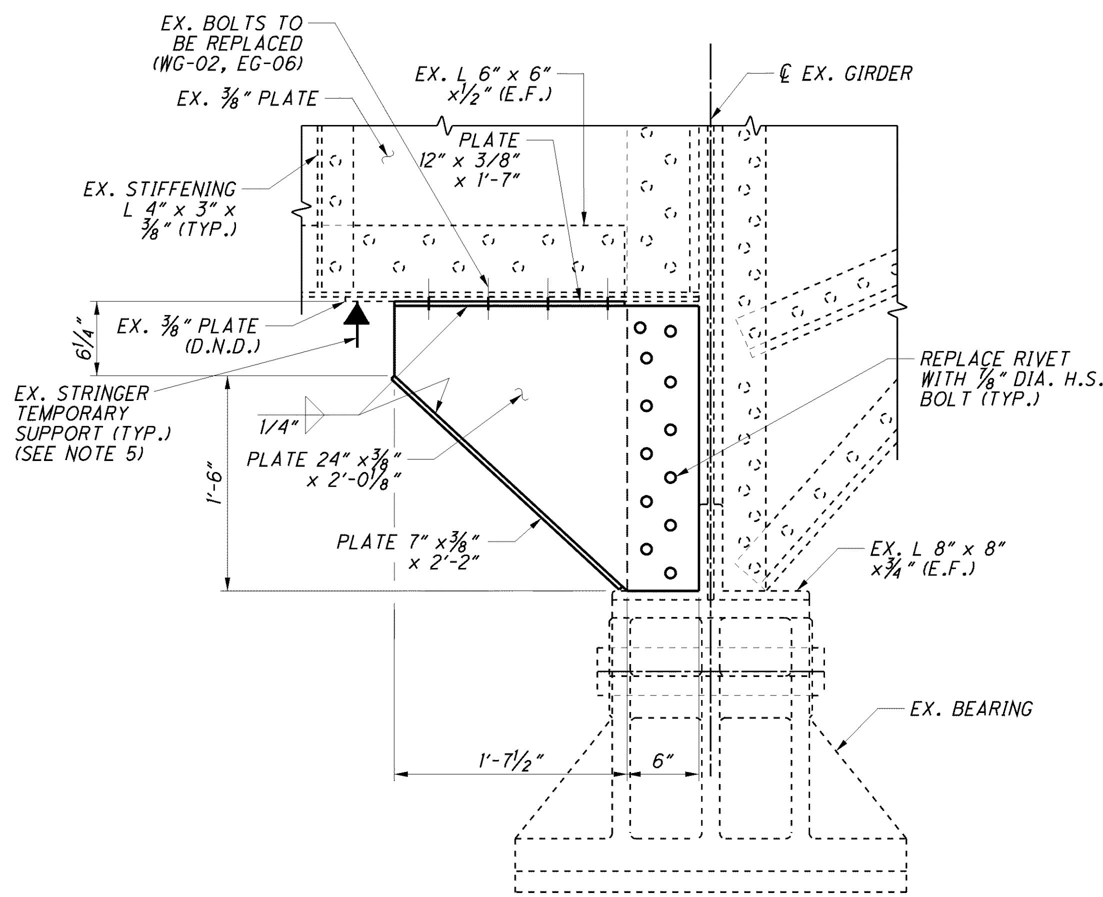
REPAIR TYPE 110



SPLICE PLATE



FILL PLATE



REPAIR TYPE 111

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 95/227.
2. FOR BOLT/RIVET FASTENER LEGEND SEE SHEET 95/227.
3. TEMPORARY STRINGER SUPPORTS SHALL BE INSTALLED PRIOR TO THE REMOVAL OF ANY PORTION OF THE FLOOR BEAM, AND SHALL REMAIN UNTIL ALL REPAIR WORK IS COMPLETED. THE TEMPORARY STRINGER SUPPORTS SHALL NOT BE SUPPORTED BY THE FLOOR BEAM.

   TEMPORARY FLOOR BEAM SUPPORT IS REQUIRED FOR REPAIR TYPE 110. THE TEMPORARY SUPPORT SHALL BE INSTALLED BEFORE REMOVAL OF THE EXISTING TOP FLANGE ANGLES AND SHALL REMAIN UNTIL THE INSTALLATION OF THE TOP FLANGE SPLICE PLATE IS COMPLETE.
4. THE TEMPORARY SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 18 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 500 LB/FT OF CONSTRUCTION LOAD APPLIED TO THE REMAINING FLOOR BEAM TOP FLANGE ANGLES.

   THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 500 LB/FT.
5. THE TEMPORARY SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 60 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 2,000 LB/FT OF CONSTRUCTION LOAD APPLIED TO THE REMAINING FLOOR BEAM TOP FLANGE ANGLES.

   THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 2,000 LB/FT.
6. FOR LOCATIONS OF REPAIR TYPE 110 SEE SHEETS 85/227 AND 86/227.
7. FOR LOCATIONS OF REPAIR TYPE 111 SEE SHEETS 74/227 AND 85/227.

DESIGN AGENCY
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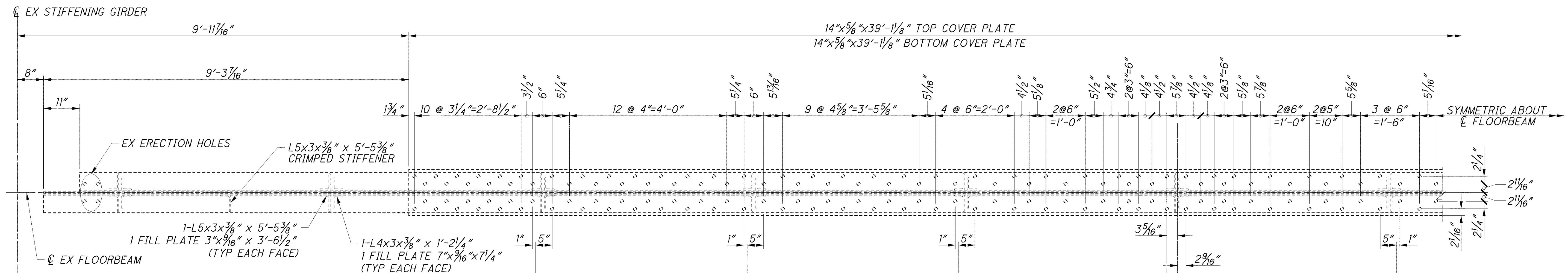
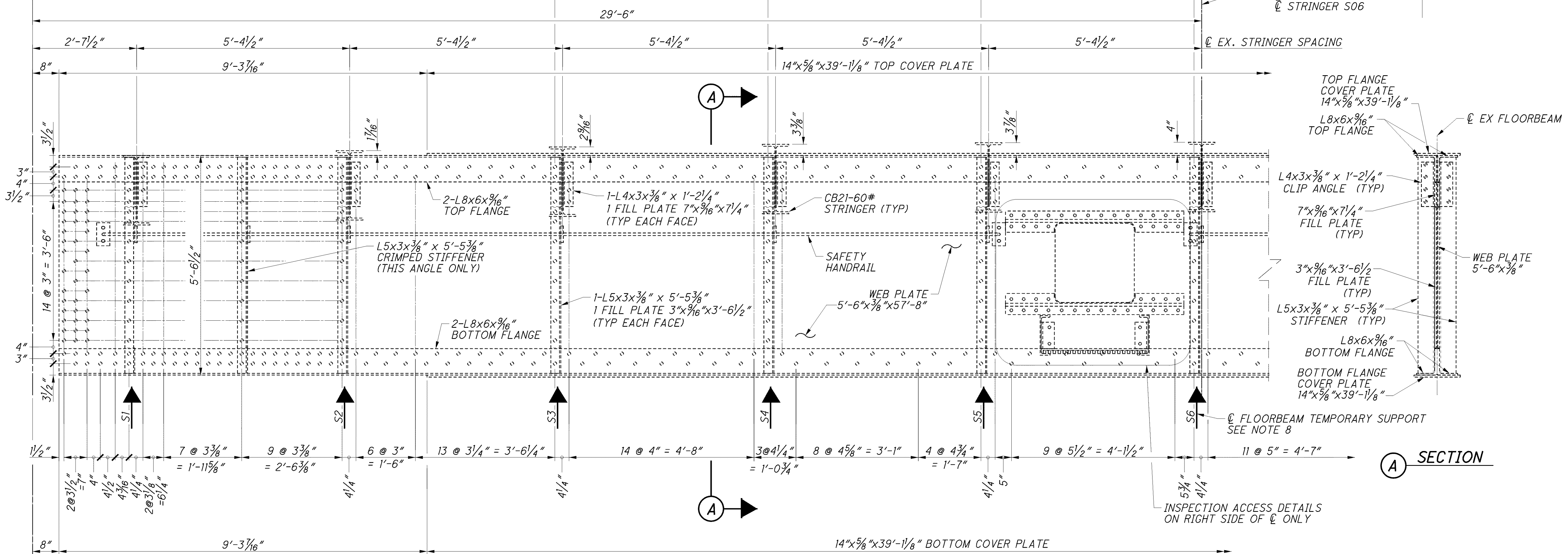
CMD	-	4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 5 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



TYPICAL EXISTING FLOORBEAM HALF PLAN



TYPICAL EXISTING FLOORBEAM HALF ELEVATION

(LOWER LATERAL GUSSET PLATES NOT SHOWN)

NOTES:

1. ALL EXISTING DIMENSIONS ARE AS PER ORIGINAL PLANS AND ARE "±" UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS AS PER CMS 102.05 AND 105.02 TO ENSURE PROPER FIT OF REPAIRS.
2. ALL EXISTING STEEL IS SILICON STEEL UNLESS NOTED OTHERWISE.
3. EXISTING STRINGER AND SIDEWALK BRACKET STEEL IS CARBON STEEL.
4. EXISTING RIVETS ARE ⅞" DIAMETER.
5. FOR GENERAL NOTES, SEE SHEETS 6/227 THROUGH 8/227.
6. FOR BOLT/RIVET LEGEND, SEE SHEET 158/227.
7. FLOORBEAM REPAIR TYPES 201-205 AS SHOWN REFLECT THE REQUIRED REPAIRS TO FLOORBEAMS ONLY. FOR OTHER POSSIBLE REPAIRS IN THE VICINITY OF AN INDIVIDUAL FLOORBEAM, REFER TO THE FRAMING PLAN ON SHEETS 78/227 THROUGH 83/227.
8. TEMPORARY SUPPORT LOCATIONS SHOWN (S1-S6) ARE APPLICABLE FOR REPAIR TYPES 201 AND 203. TEMPORARY SUPPORT ℄ LOCATIONS SHALL BE WITHIN ±3" OF WEB STIFFENER LOCATIONS. SEE SHEETS 101/227 AND 103/227 RESPECTIVELY FOR REQUIREMENTS OF SPECIFIC REPAIRS.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C.

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
EFD	EFD	PLC	8/12	4800303
CHECKED	REVISED			
MTO				

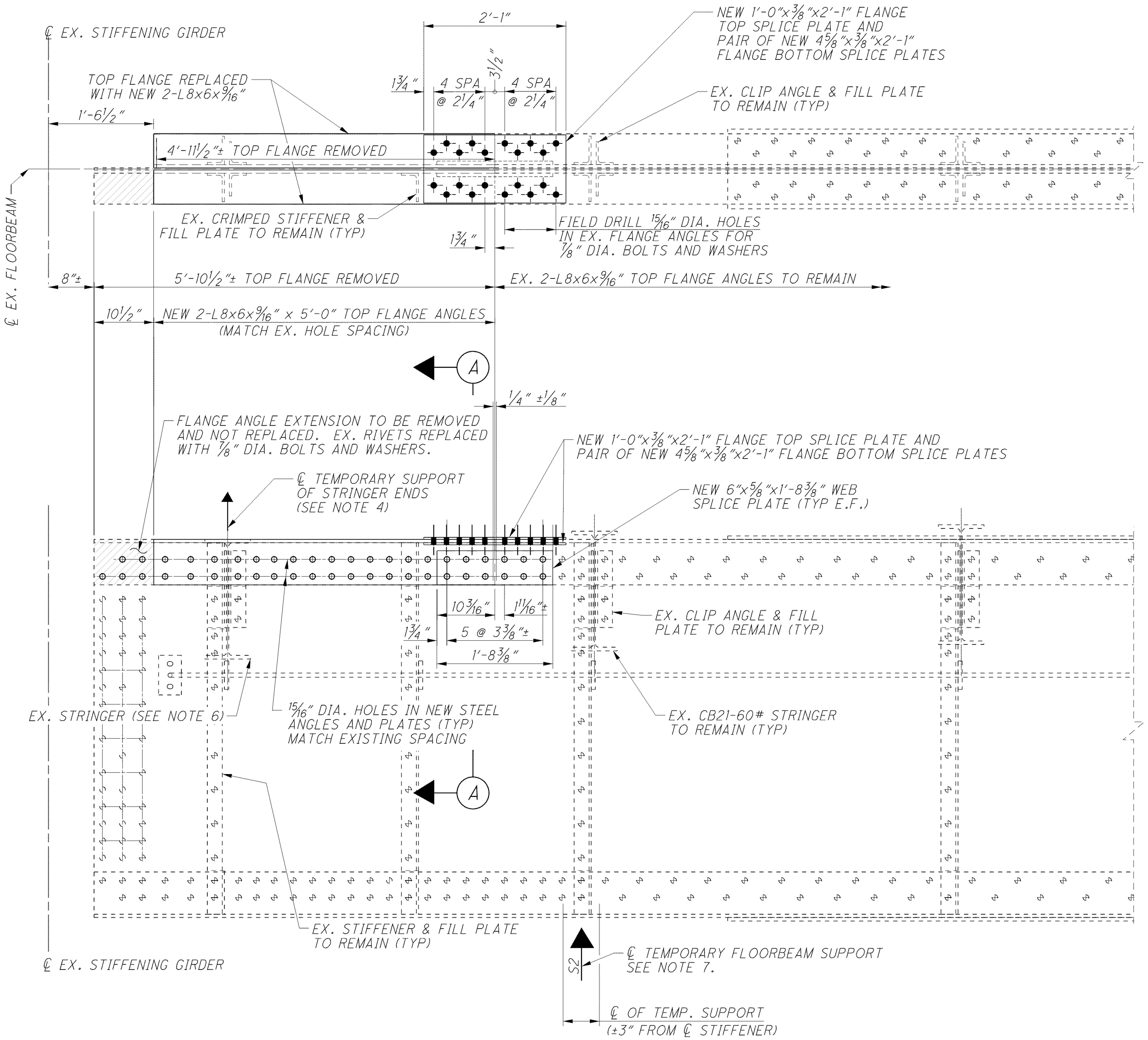
MISCELLANEOUS STEEL REPAIR DETAILS 6 OF 31

BRIDGE NO. LUC - 2 - 1862

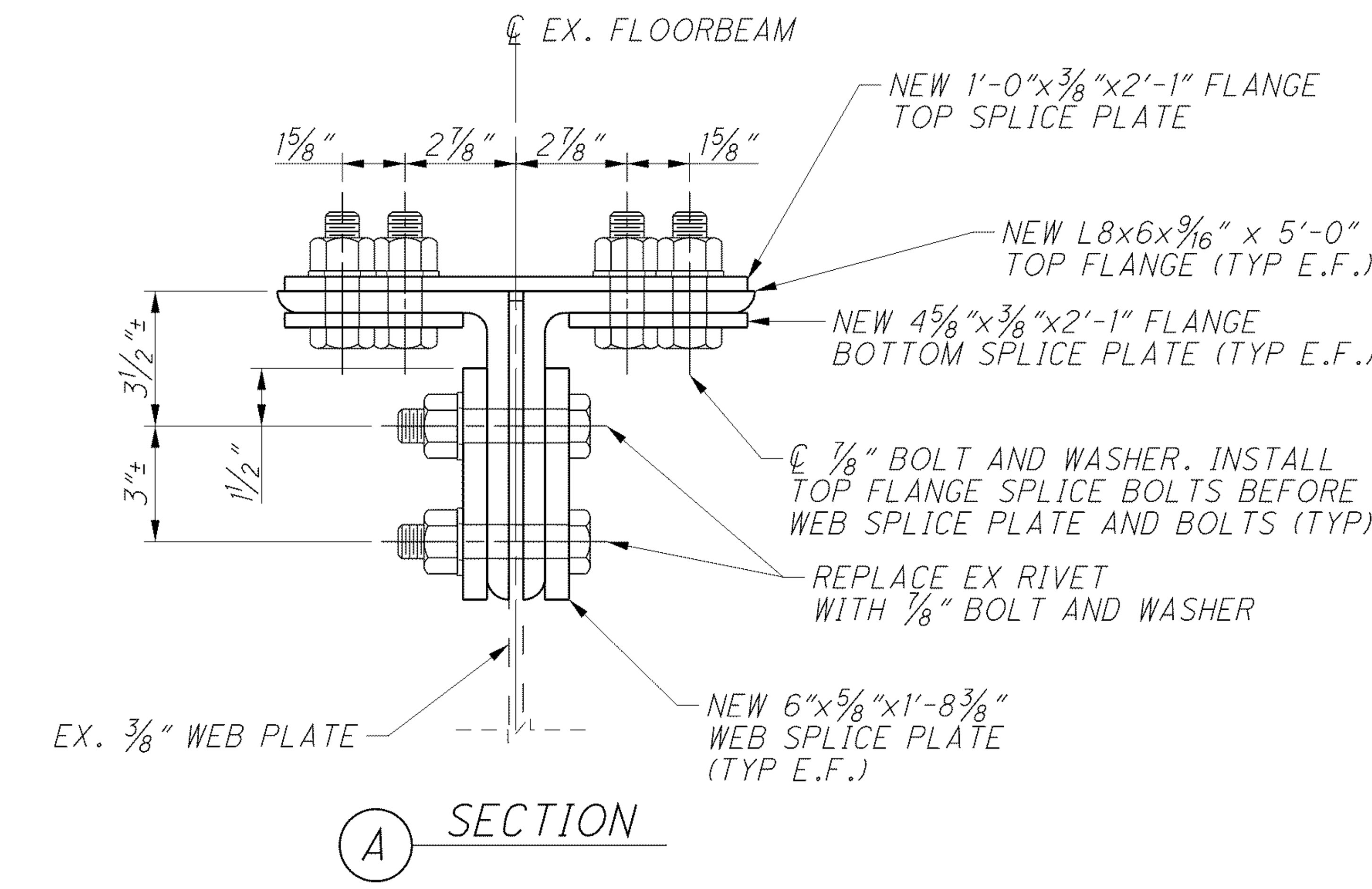
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

PID No. 80551



REPAIR TYPE 201



A SECTION

NOTES:

1. FOR ADDITIONAL NOTES AND EXISTING FLOORBEAM DETAILS AND RIVET SPACINGS NOT SHOWN, SEE SHEET 100/227.
2. FOR LOCATIONS OF REPAIR, SEE SHEETS 78/227 THROUGH 83/227.
3. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
4. FOR REQUIRED CAPACITY OF STRINGER END TEMPORARY SUPPORT (IF USED), SEE EXISTING STRINGER CONNECTION DETAIL ON SHEET 111/227.
5. THE CONTRACTOR HAS THE OPTION TO DISASSEMBLE THE STRINGER CONNECTIONS AND REPLACE THEM PER REPAIR TYPE 213 AT NO ADDITIONAL COST TO THE DEPARTMENT.
6. THIS REPAIR MAY REQUIRE COORDINATION WITH OTHER REPAIR TYPES AT THE SAME LOCATION.
7. TEMPORARY FLOORBEAM SUPPORT IS REQUIRED FOR REPAIR TYPE 201. THE TEMPORARY SUPPORT SHALL BE INSTALLED BEFORE REMOVAL OF THE EXISTING TOP FLANGE ANGLES AND SHALL REMAIN UNTIL THE INSTALLATION OF THE TOP FLANGE SPLICE PLATE IS COMPLETE.

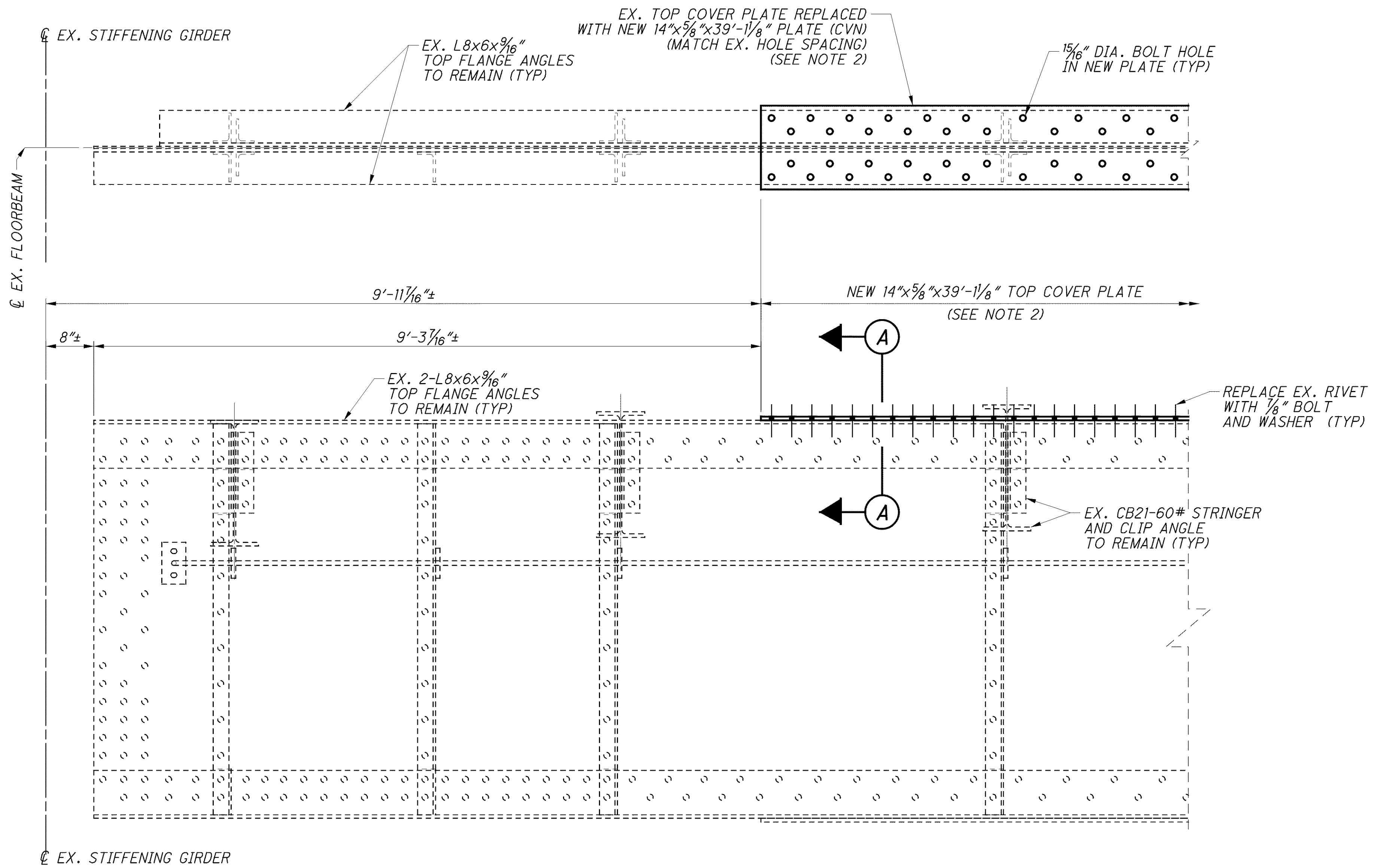
   TEMPORARY SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 66 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 1000 LB/FT OF CONSTRUCTION LOAD APPLIED TO THE REMAINING FLOORBEAM TOP FLANGE ANGLES. CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 1000 LB/FT.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

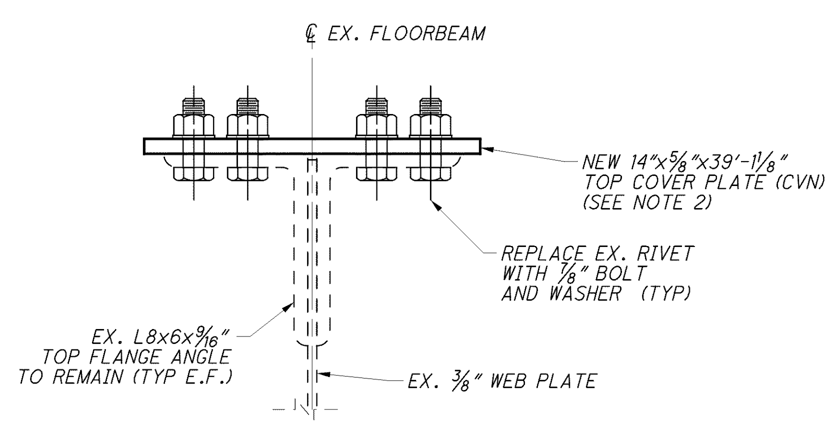
DESIGNED EFD	CHECKED MTO
DRAWN EFD	REVISED EFD
REVIEWED PLC	STRUCTURE FILE NUMBER 4800303
DATE 2/13	

MISCELLANEOUS STEEL REPAIR DETAILS 7 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



REPAIR TYPE 202



A SECTION

NOTES:

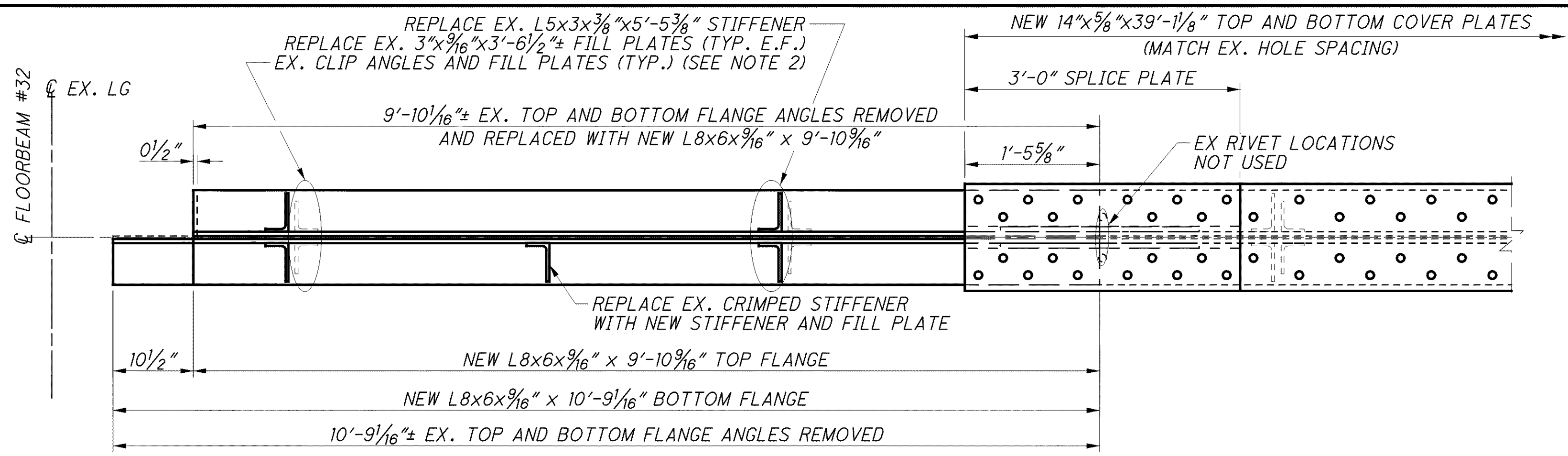
1. FOR ADDITIONAL NOTES AND EXISTING FLOORBEAM DETAILS AND RIVET SPACINGS NOT SHOWN, SEE SHEET 100/227.
2. FLOORBEAM TOP FLANGE COVER PLATE REPLACEMENTS (REPAIR TYPE 202) OCCUR UNDER ALL EXISTING DECK JOINTS (29 TOTAL), AS SHOWN ON THE SUSPENSION SPAN FRAMING PLAN, SHEETS 78/227 THROUGH 83/227.
3. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
4. THIS REPAIR MAY REQUIRE COORDINATION WITH OTHER REPAIR TYPES AT THE SAME LOCATION.
5. REPAIR TYPE 202 CAN BE COMPLETED WITHOUT ANY TEMPORARY SUPPORTS. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY SUPPORT DESIGN AND DETAIL AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 4500 LB/FT.

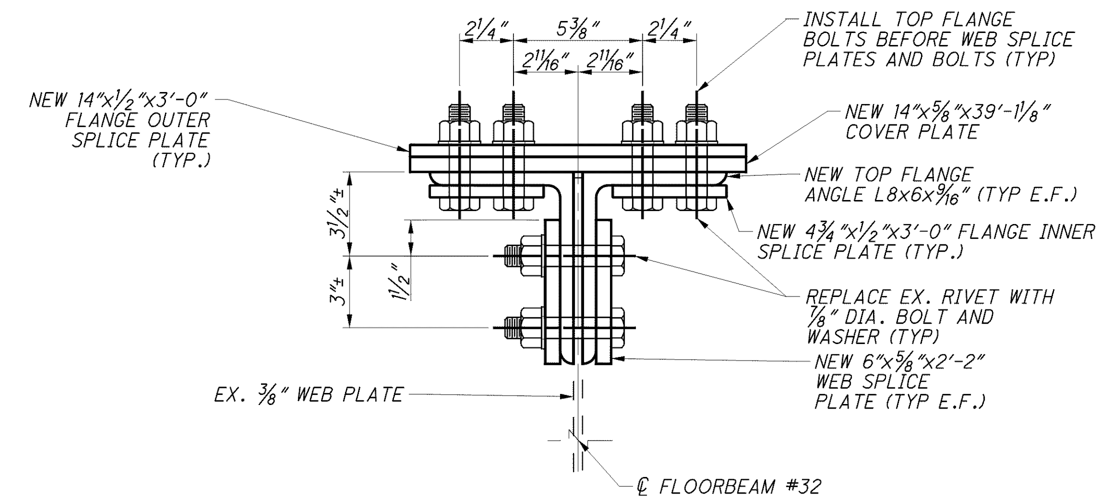
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		48000303	

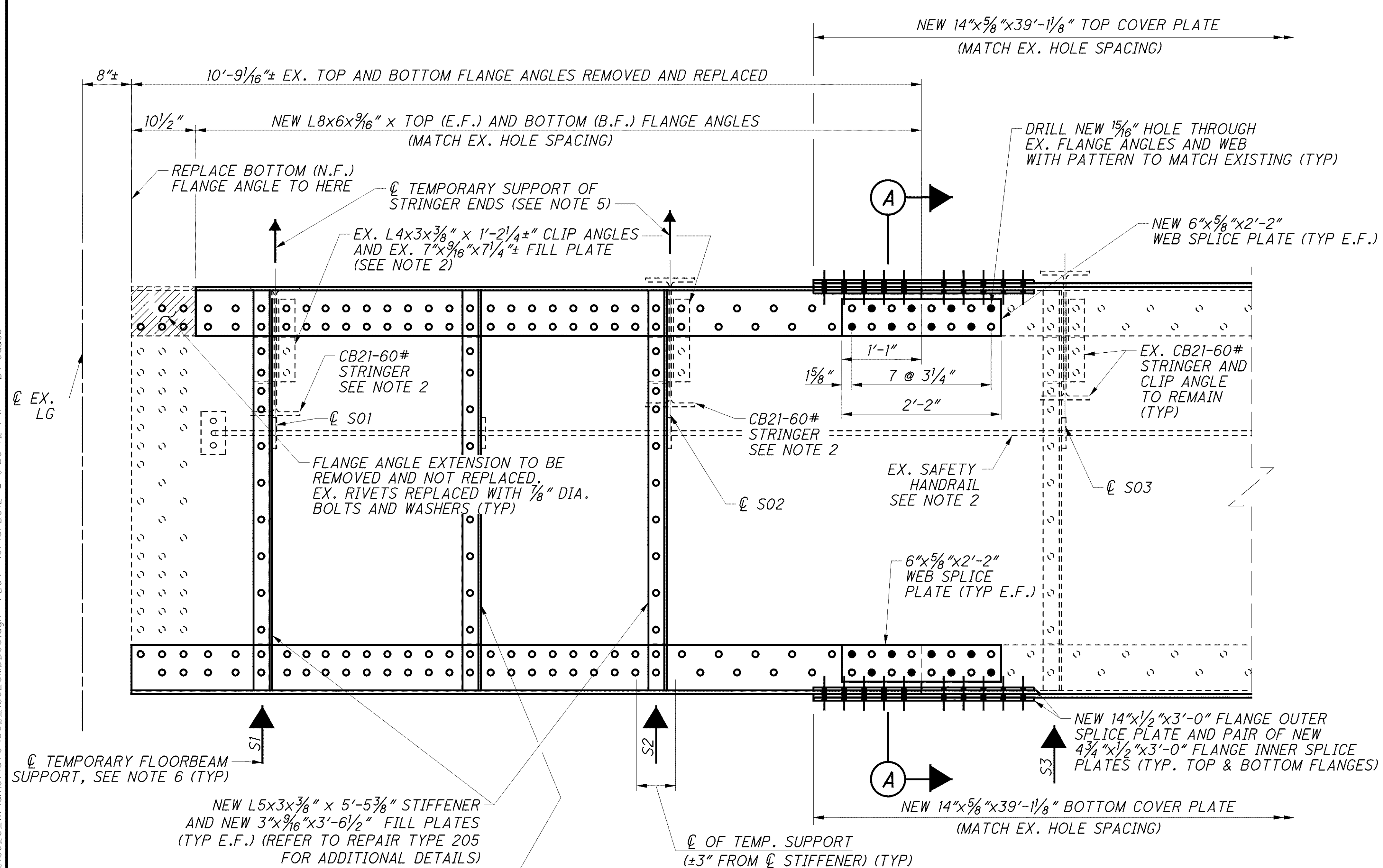
MISCELLANEOUS STEEL REPAIR DETAILS 8 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

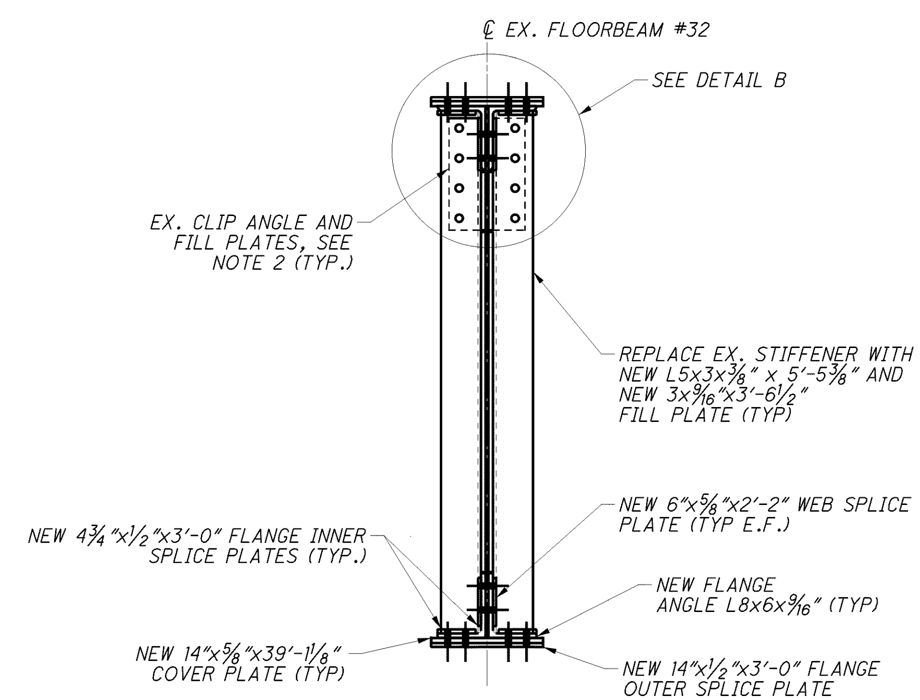
LUC-2-18.62
PID No. 80551





B DETAIL
TOP FLANGE SHOWN; BOTTOM FLANGE MIRRORED





A SECTION

REPAIR TYPE 203

NOTE: FLOORBEAM END REPAIRS APPLY TO LEFT END ONLY.

NOTES:

1. FOR ADDITIONAL NOTES AND EXISTING FLOORBEAM DETAILS AND RIVET SPACINGS NOT SHOWN, SEE SHEET 100/227.
2. EXISTING STRINGERS, CLIP ANGLES AND CONNECTIONS, CLIP ANGLE FILL PLATES, AND SAFETY HANDRAILS ARE REPAIRED AND/OR REPLACED AS PART OF REPAIR TYPES 211, 212, 213 AND 214. SEE FRAMING PLAN SHEET 80/227 FOR ADDITIONAL INFORMATION.
3. FOR REPAIR LOCATIONS, SEE SHEETS 78/227 THROUGH 83/227.
4. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
5. FOR REQUIRED CAPACITY OF STRINGER END TEMPORARY SUPPORT, SEE EXISTING STRINGER CONNETION DETAIL ON SHEET 111/227.
6. TEMPORARY FLOORBEAM SUPPORTS ARE REQUIRED FOR REPAIR TYPE 203. THE TEMPORARY SUPPORTS SHALL BE INSTALLED BEFORE REMOVAL OF THE EXISTING FLANGE ANGLES AND SHALL REMAIN UNTIL THE INSTALLATION OF THE FLANGE SPLICE PLATES IS COMPLETE. SEE SHEET 100/227 FOR THE LOCATIONS OF SUPPORTS S4 THROUGH S6.

   TEMPORARY SUPPORTS S5 & S6 SHALL BE CAPABLE OF SUPPORTING UNFACTORED LOADS OF 22 & 37 KIPS RESPECTIVELY. TEMPORARY SUPPORTS S3 & S4 SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 7 KIPS EACH. TEMPORARY SUPPORTS S1 & S2 SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 3 KIPS EACH. ALL ABOVE LOADS INCLUDE AN ALLOWANCE FOR 1000 LB/FT OF CONSTRUCTION LOAD APPLIED TO THE REMAINING FLOORBEAM TOP FLANGE ANGLES. CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 1000 LB/FT.

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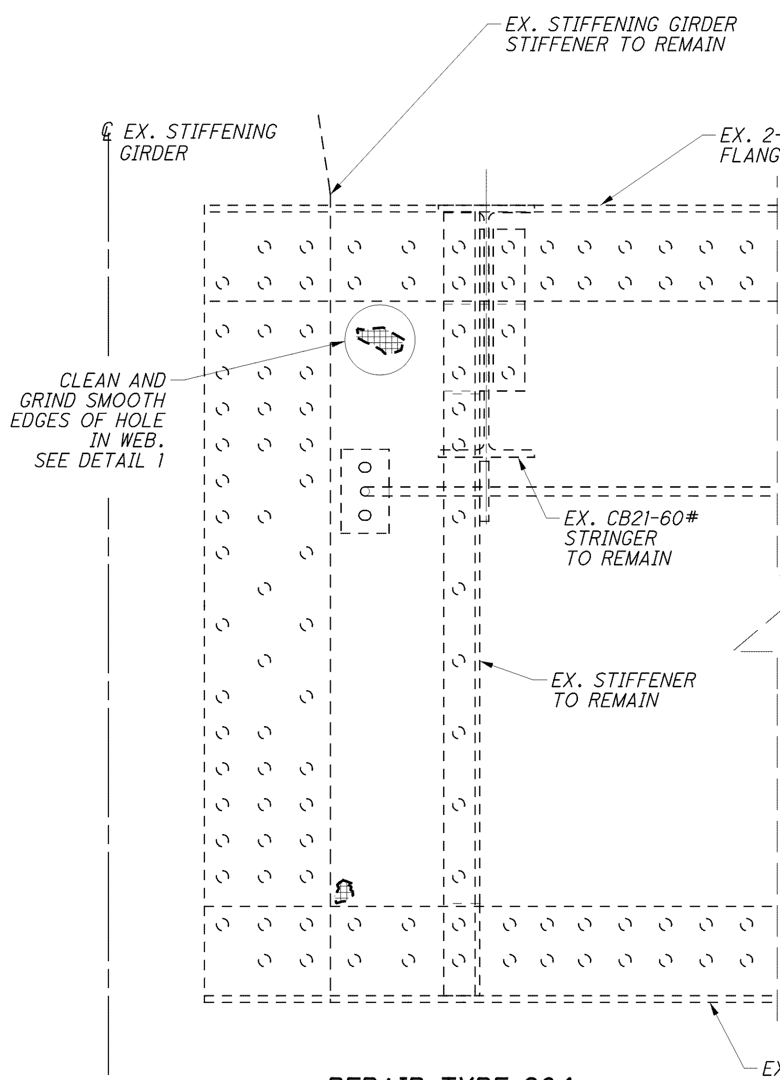
DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4661 EXECUTIVE PARKWAY, SUITE 360 WESTERVILLE, OHIO 43081

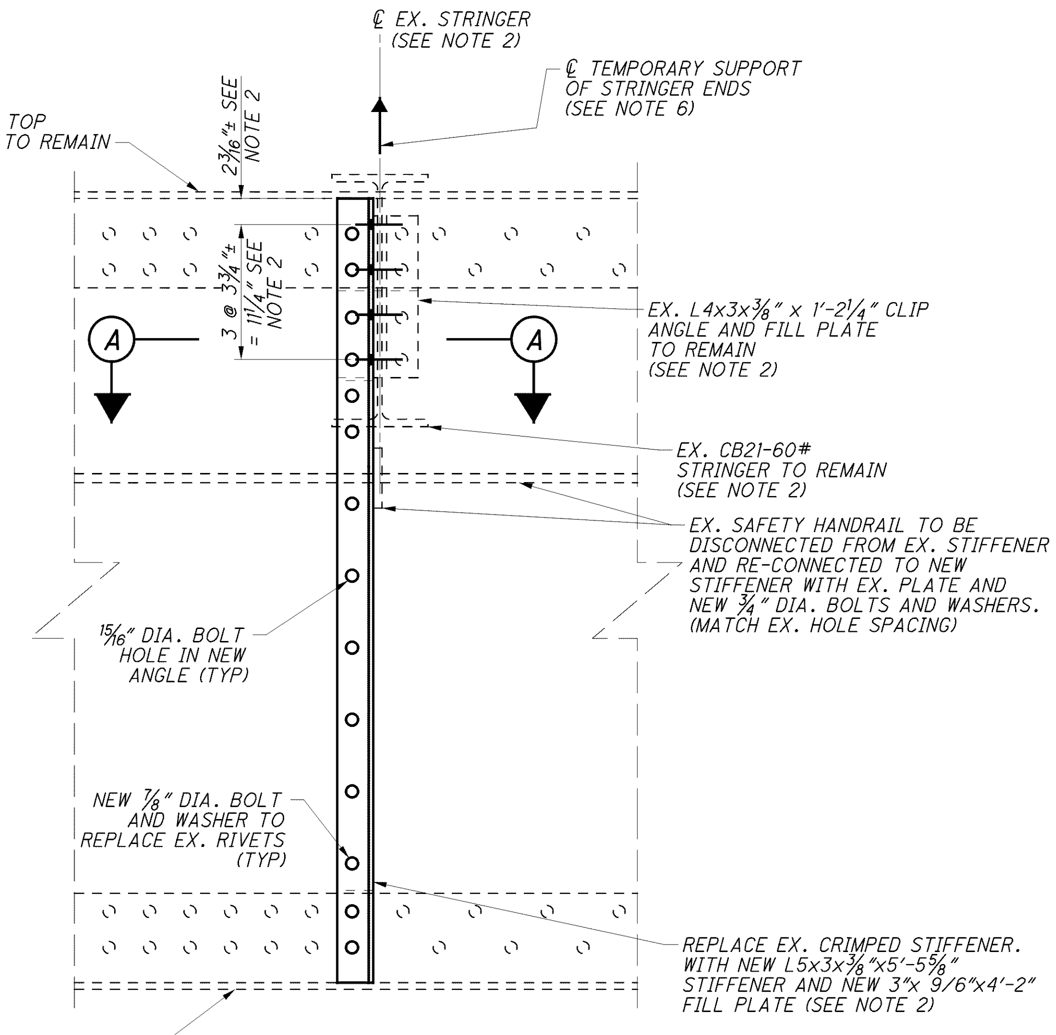
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 9 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

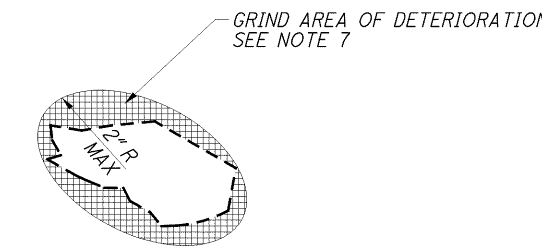
LUC-2-18.62
PID No. 80551



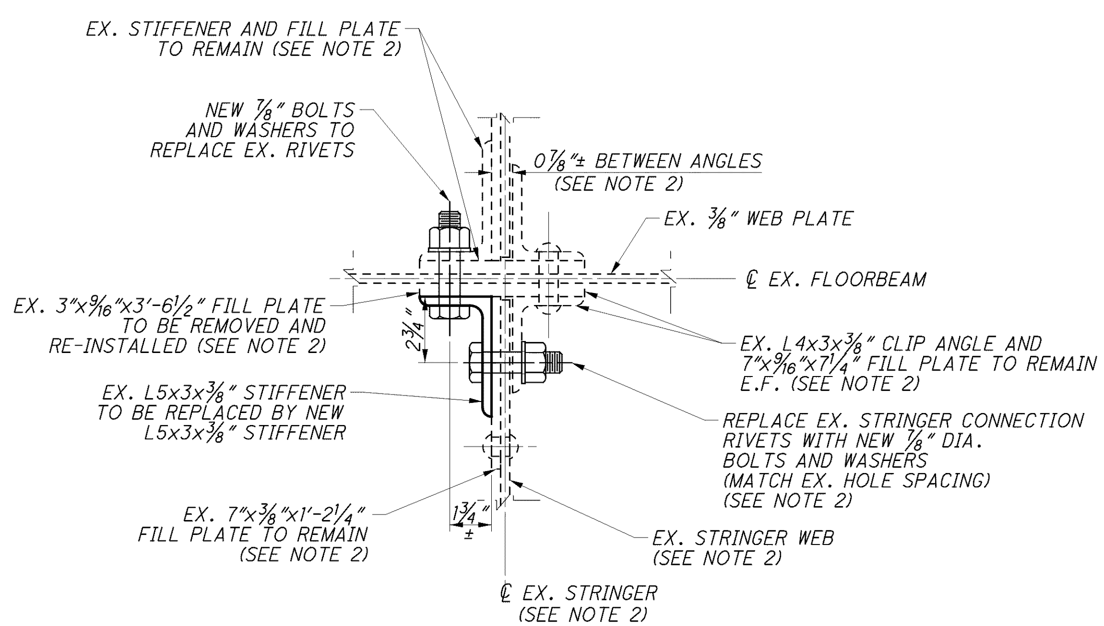
REPAIR TYPE 204



REPAIR TYPE 205



1 DETAIL



A SECTION

NOTES:

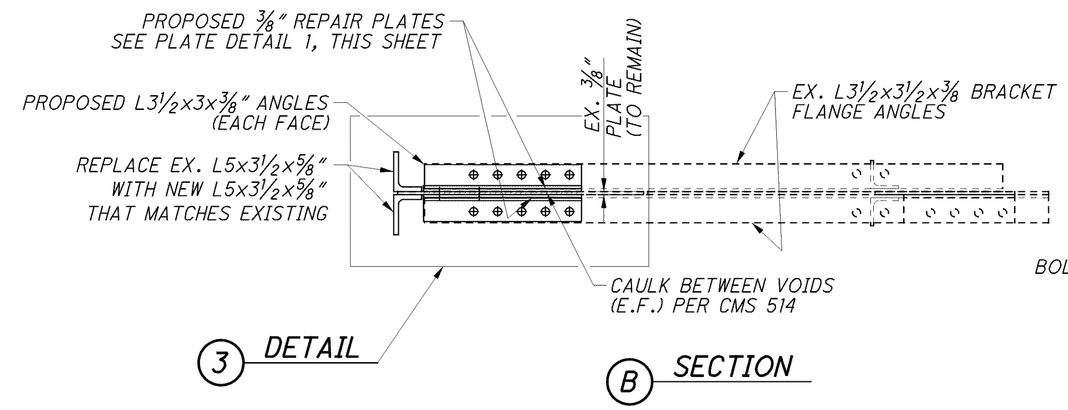
1. FOR ADDITIONAL NOTES AND EXISTING FLOORBEAM DETAILS AND RIVET SPACINGS NOT SHOWN, SEE SHEET 100/227.
2. EXISTING STRINGER AND ASSOCIATED STRINGER CONNECTIONS AND ANGLES ARE NOT PRESENT AT CRIMPED STIFFENERS.
3. FOR REPAIR TYPE 204 LOCATIONS, SEE SHEETS 78/227 THROUGH 83/227.
4. FOR REPAIR TYPE 205 LOCATIONS, SEE SHEETS 78/227 THROUGH 83/227.
5. FOR DESCRIPTIONS OF REPAIR TYPES 204 & 205, SEE SHEET 14/227.
6. TEMPORARY STRINGER SUPPORT IS REQUIRED FOR REPAIR TYPE 205. FOR REQUIRED CAPACITY OF STRINGER END TEMPORARY SUPPORT, SEE EXISTING STRINGER CONNECTION DETAIL ON SHEET 111/227.
7. GRIND DETERIORATED AREAS TO PRODUCE A SMOOTH EDGE. THE THICKNESS OF REMAINING MATERIAL SHOULD BE GREATER THAN 1/4" THICK AT THE GRIND LINE. THE MAXIMUM RADIUS OF ACUTE CORNERS SHOULD NOT EXCEED 2".

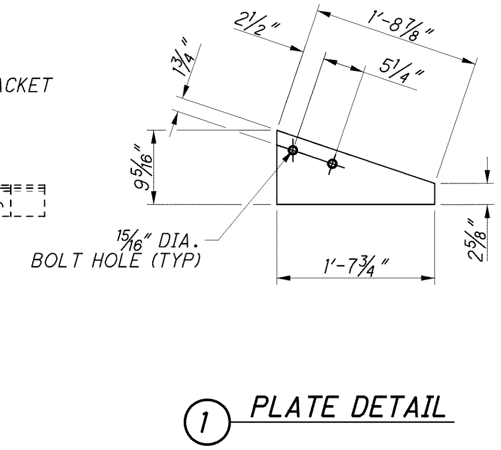
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4401 EXECUTIVE PARKWAY, SUITE 350 WESTERVILLE, OHIO 43081

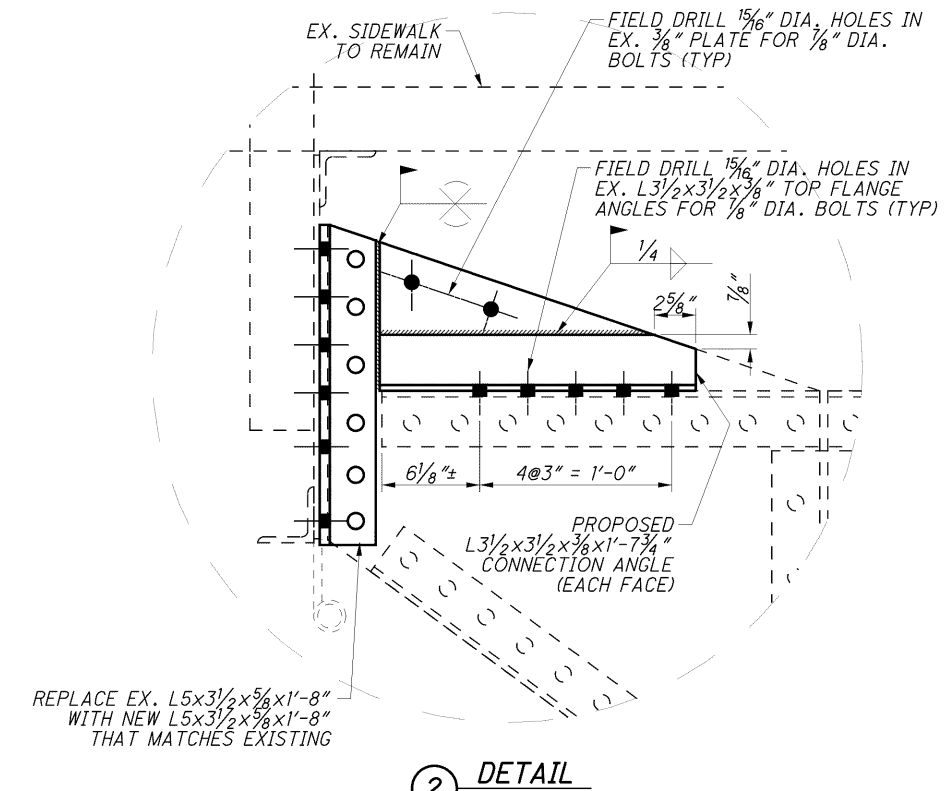
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		4800303	

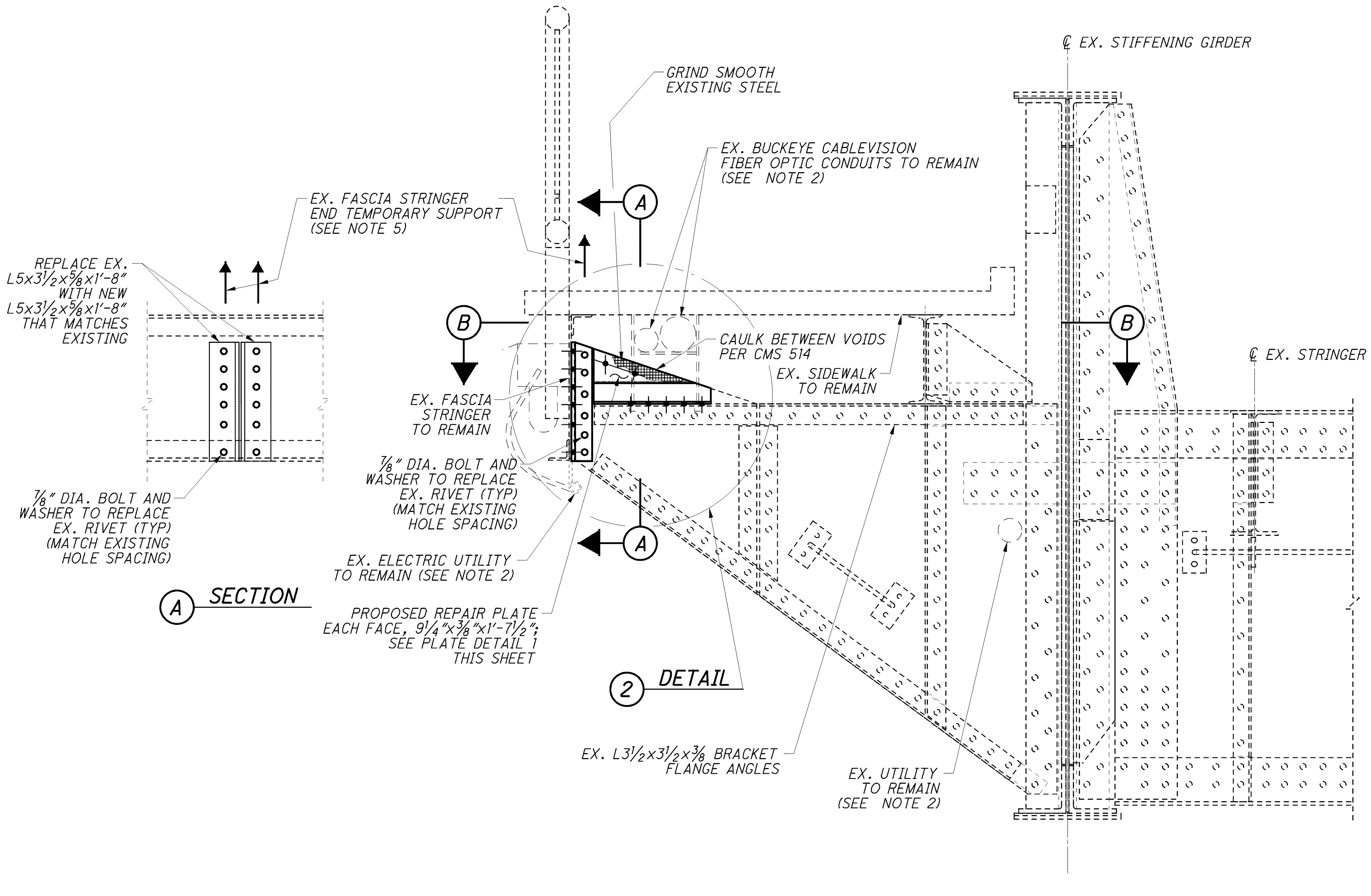
MISCELLANEOUS STEEL REPAIR DETAILS 10 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

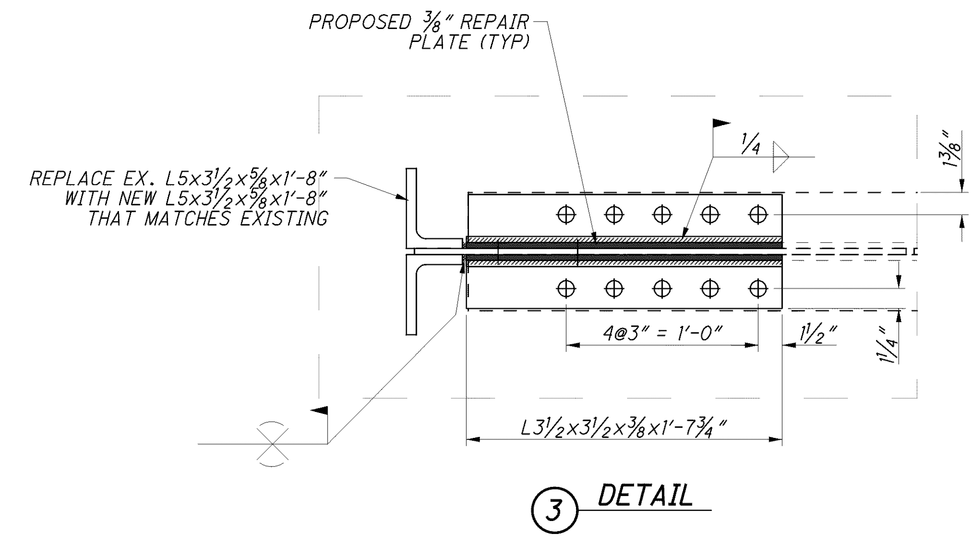








REPAIR TYPE 206



NOTES:

1. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
2. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
3. FOR LOCATIONS OF REPAIR, SEE SHEETS 78/227 THROUGH 83/227.
4. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
5. FASCIA STRINGER TEMPORARY END SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 5 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION LOAD APPLIED TO THE TRIBUTARY AREA OF THE STRINGER. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF ANY CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 50 PSF.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	GCK	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 11 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

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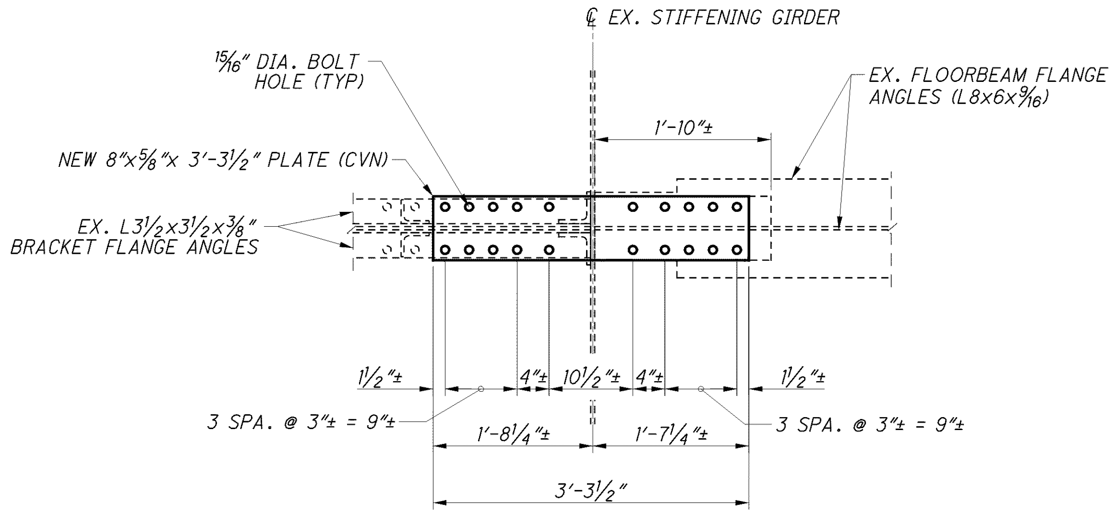
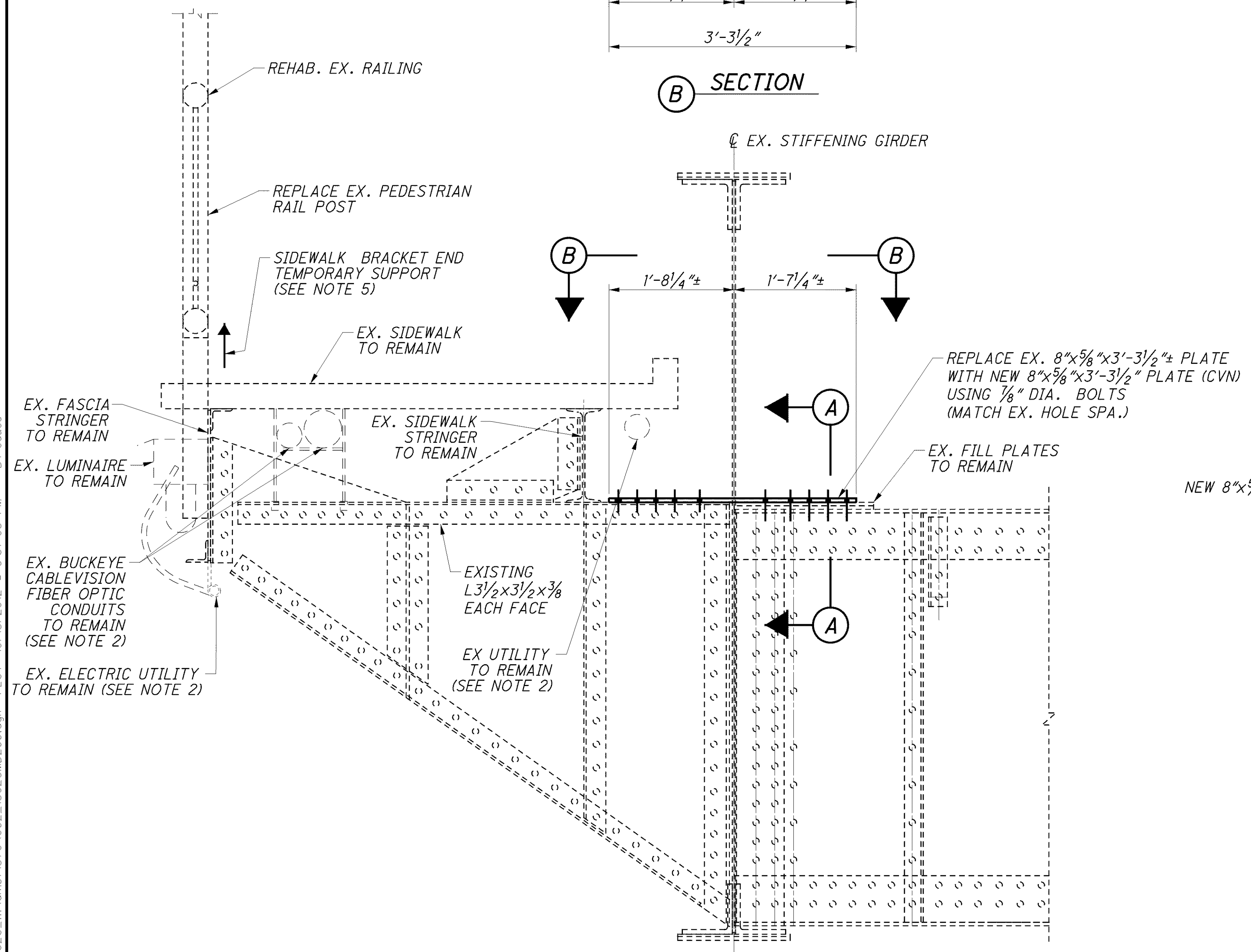
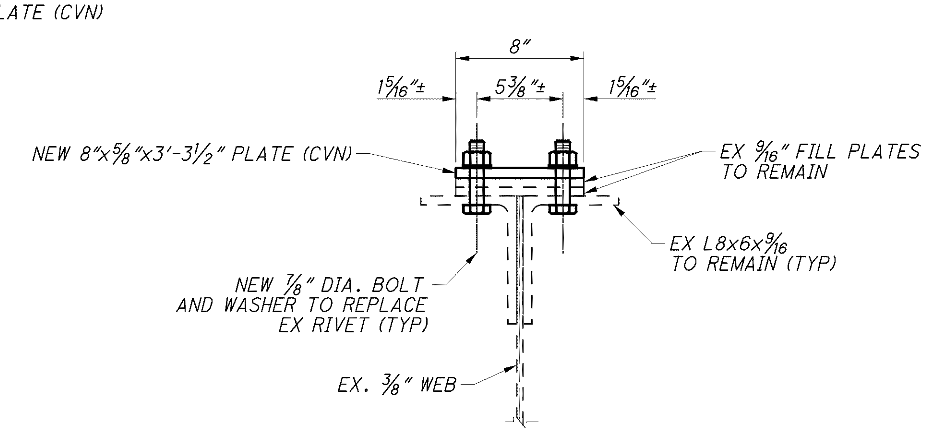


B SECTION





A SECTION

REPAIR TYPE 207

NOTES:

1. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
2. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
3. FOR LOCATIONS OF REPAIR, SEE SHEETS 78/227 THROUGH 83/227.
4. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
5. SIDEWALK BRACKET TEMPORARY END SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 13 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION LOAD APPLIED TO THE SIDEWALK. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND ANY AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 50 PSF.

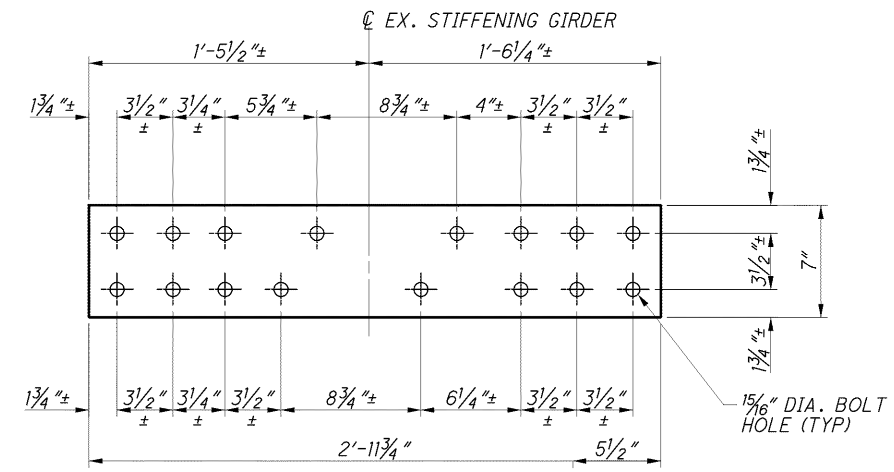
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 360
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	GCK	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		4800303	

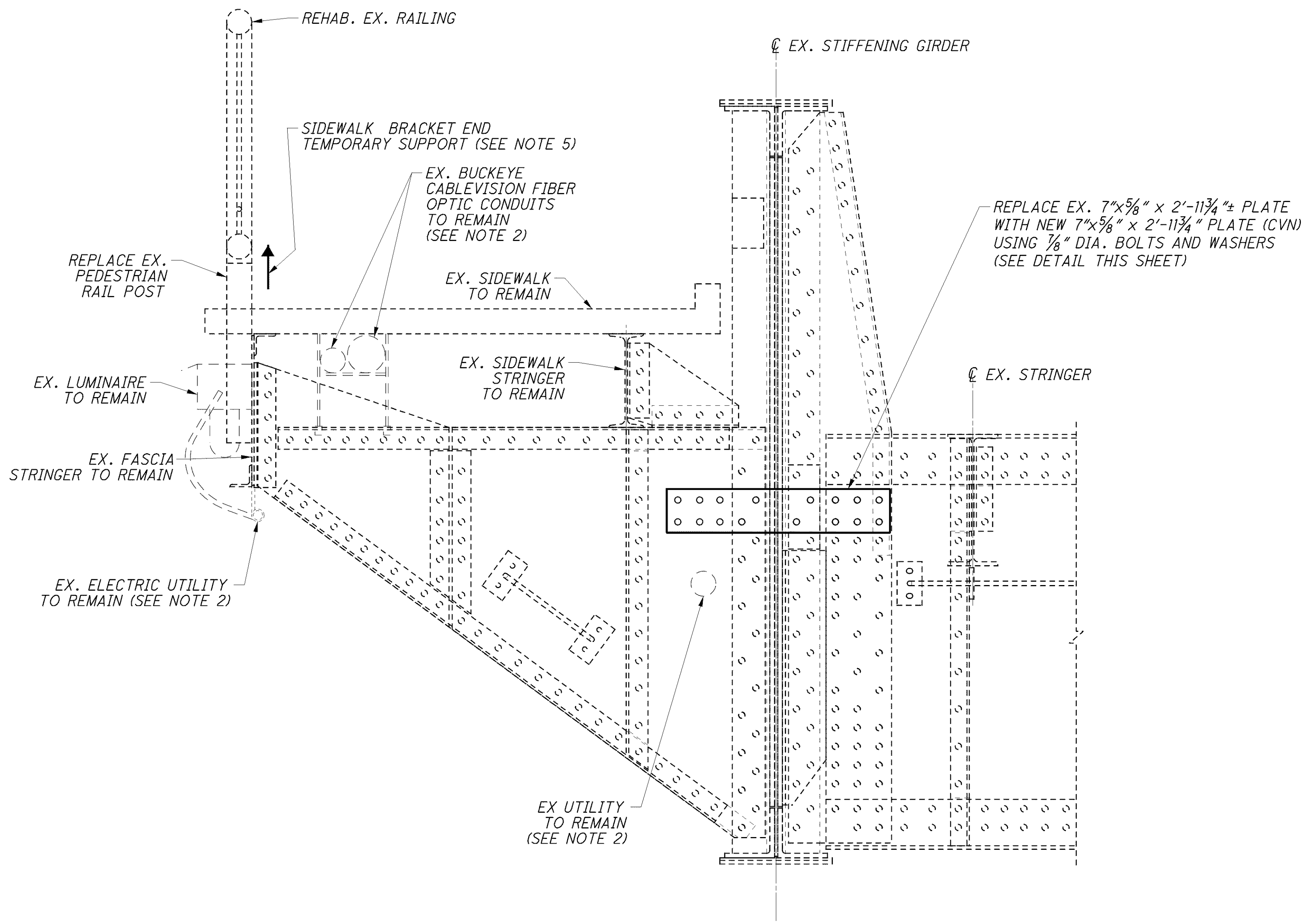
MISCELLANEOUS STEEL REPAIR DETAILS 12 OF 31

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



SIDEWALK BRACKET WEB STRAP PLATE DETAIL (CVN)



REPAIR TYPE 208

NOTES:

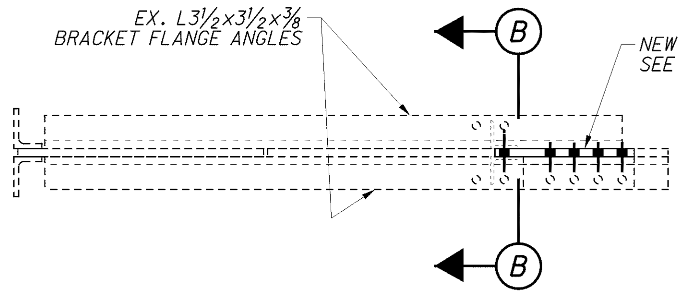
1. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
2. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
3. FOR LOCATIONS OF REPAIR, SEE SHEETS 78/227 THROUGH 83/227.
4. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
5. FOR SIDEWALK BRACKET END TEMPORARY SUPPORT INFORMATION, SEE NOTE 5 ON SHEET 106/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

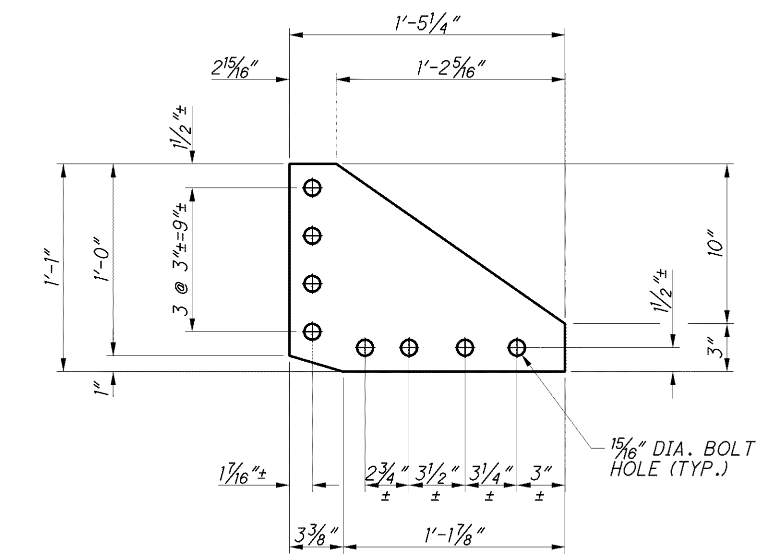
DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	GCK	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 13 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

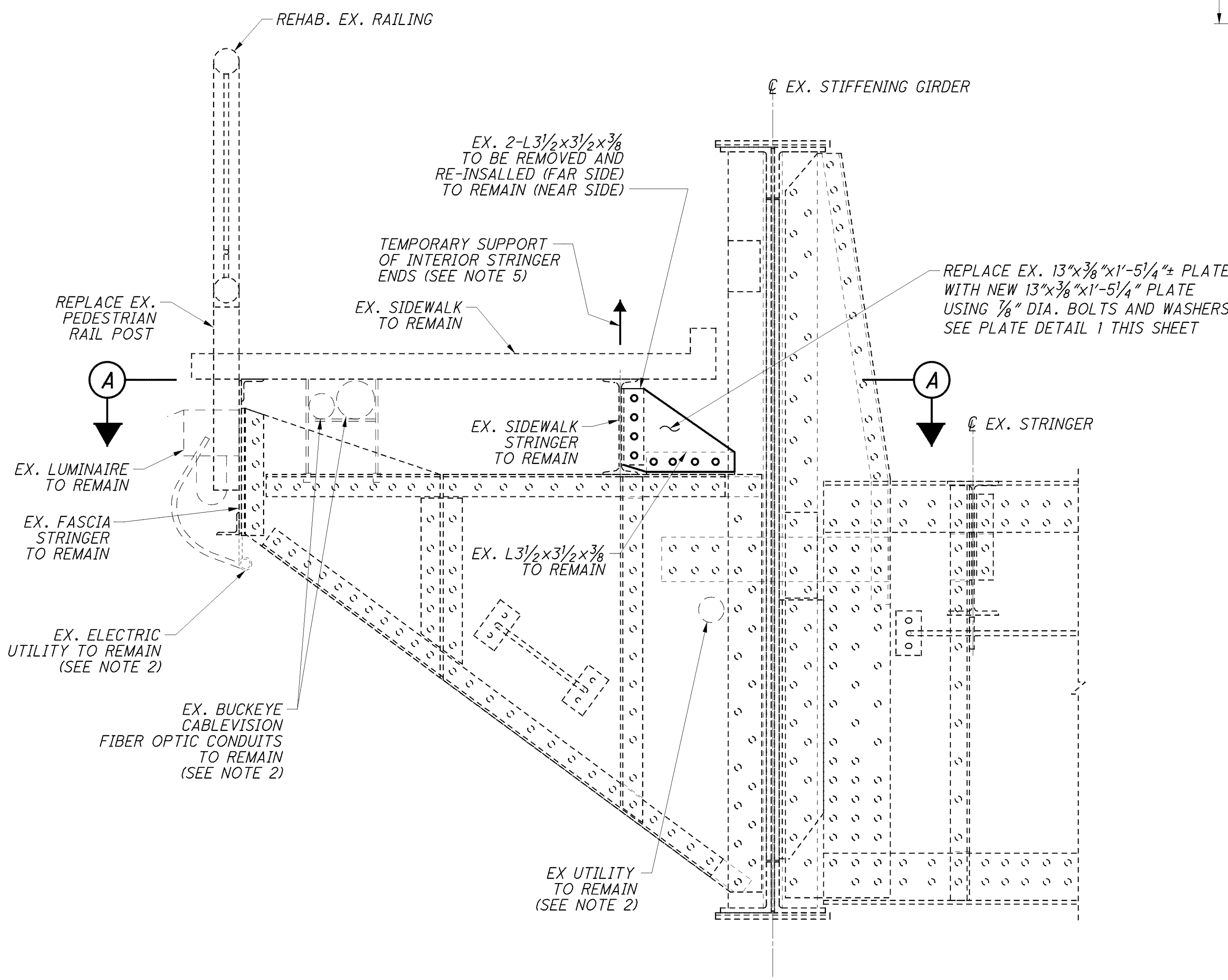
LUC-2-18.62
PID No. 80551



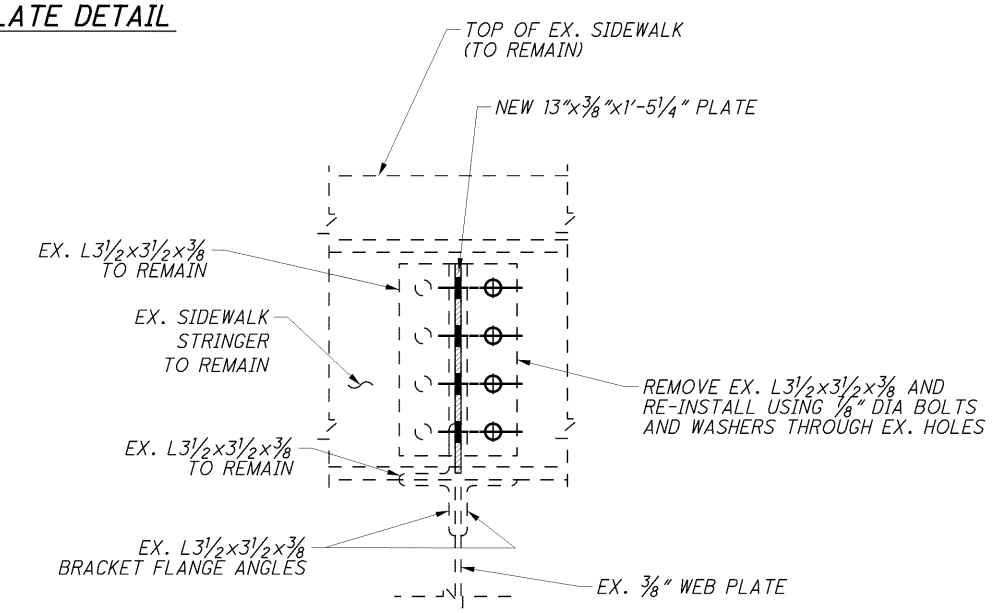
A SECTION



1 PLATE DETAIL



REPAIR TYPE 209



B SECTION

NOTES:

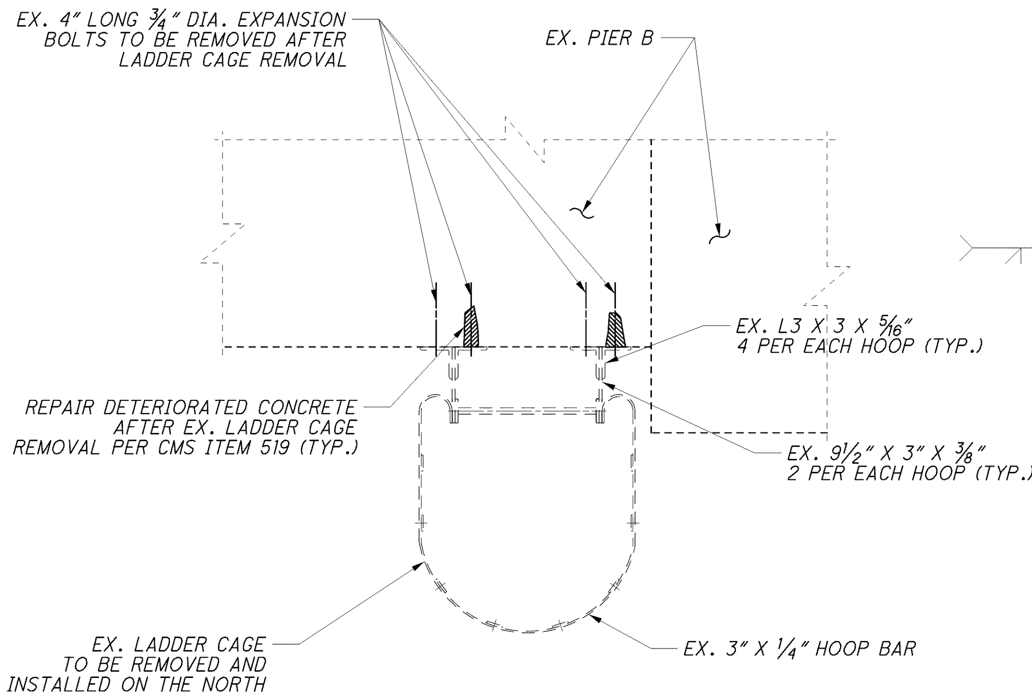
1. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
2. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
3. FOR LOCATIONS OF REPAIR, SEE SHEETS 78/227 THROUGH 83/227.
4. FOR REPAIR DESCRIPTION, SEE SHEET 14/227.
5. INTERIOR STRINGER END TEMPORARY SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED LOAD OF 4.5 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION LOAD APPLIED TO THE TRIBUTARY AREA OF THE STRINGER. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND DETAILS AND THE AFFECTS OF ANY COMBINATION OF CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 50 PSF.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

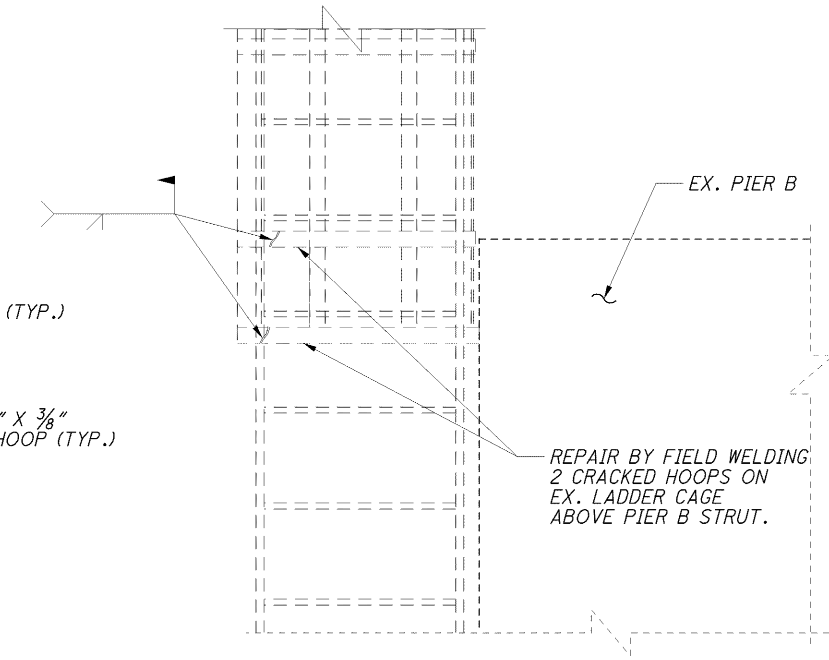
DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MTO		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 14 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

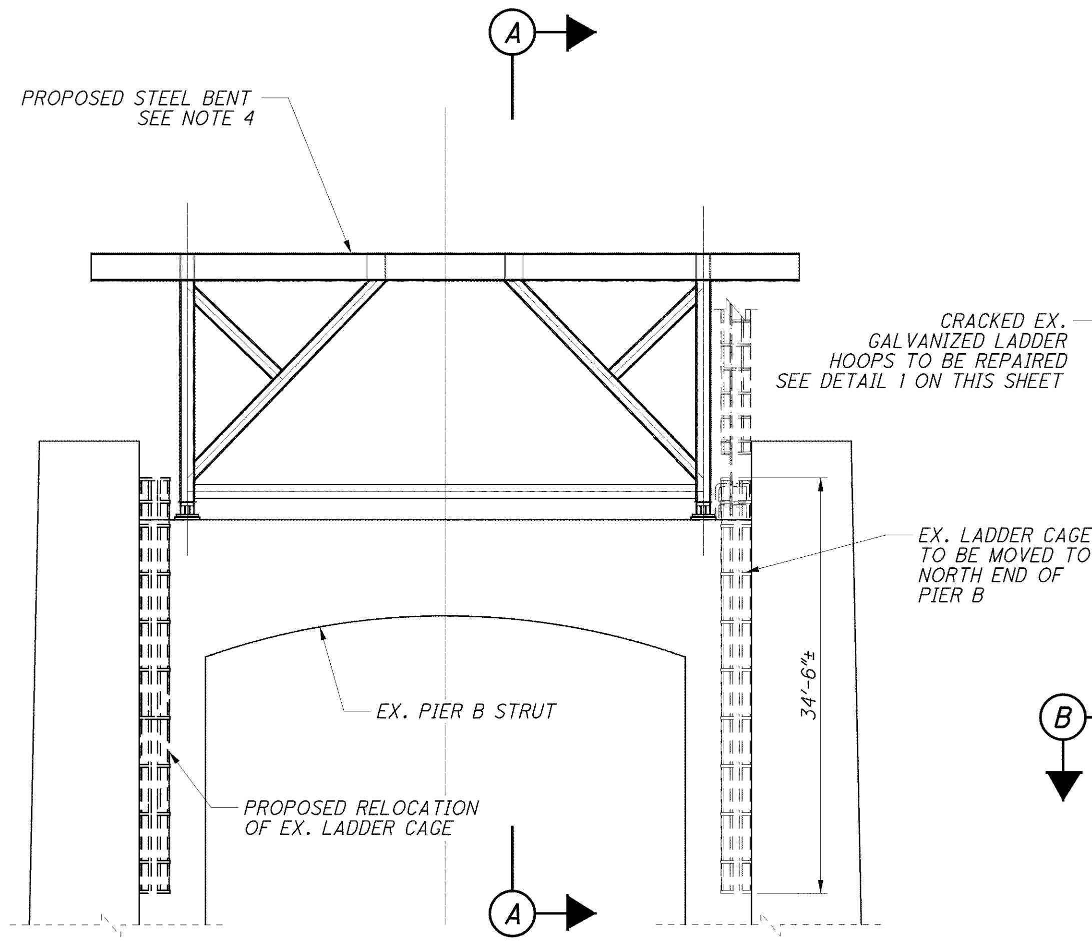
LUC-2-18.62
PID No. 80551



B SECTION

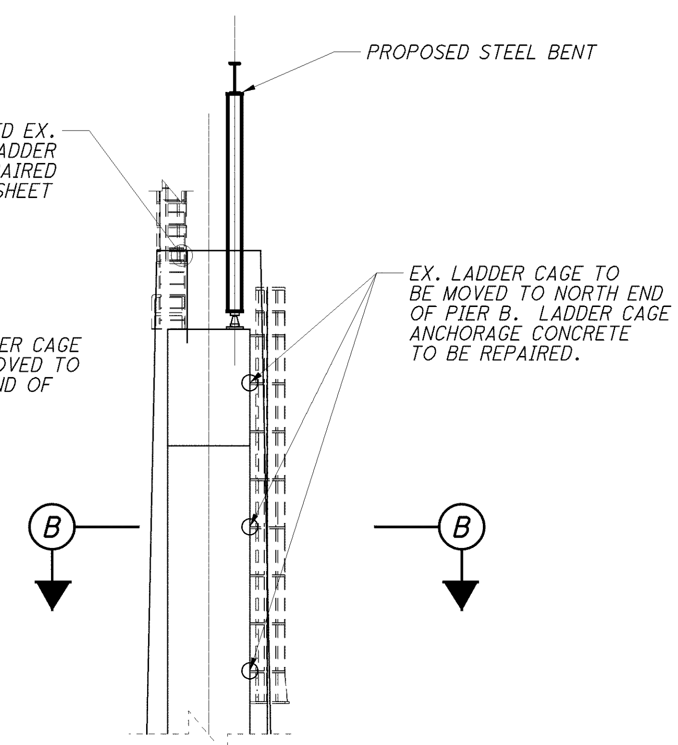


1 DETAIL



PIER B ELEVATION

(WEST FACE)



A SECTION

REPAIR TYPE 210

NOTES:

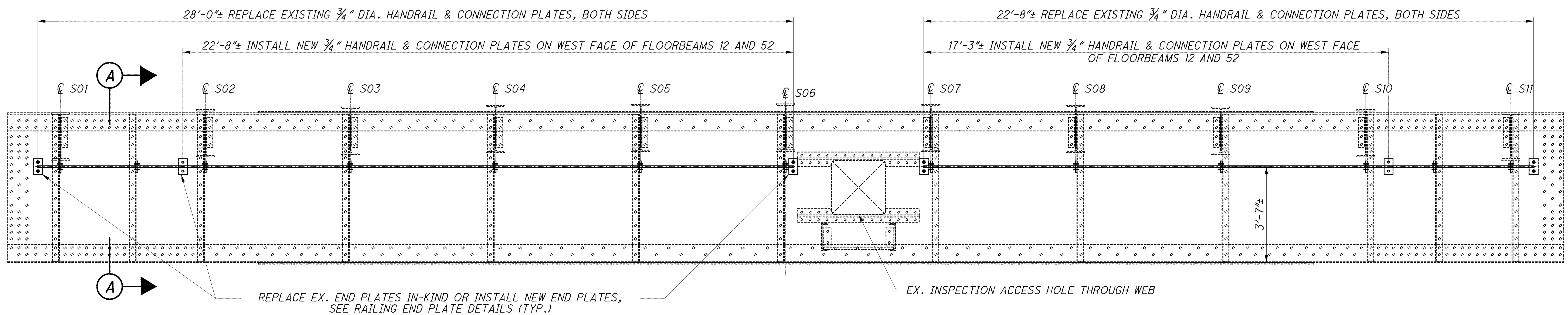
1. RELOCATION OF LADDER CAGE MUST BE COORDINATED WITH PIER B CONCRETE REPAIRS SHOWN ON SHEET 45/227 & 69/227 AND 70/227 .
2. FOR REPAIR LOCATIONS, SEE SHEET 78/227.
3. FOR REPAIR DESCRIPTION, SEE SHEET 15/227.
4. FOR PROPOSED BENT DETAILS, SEE SHEET 69/227 .

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4615 EXECUTIVE PARKWAY SUITE 360 WESTERVILLE, OHIO 43081

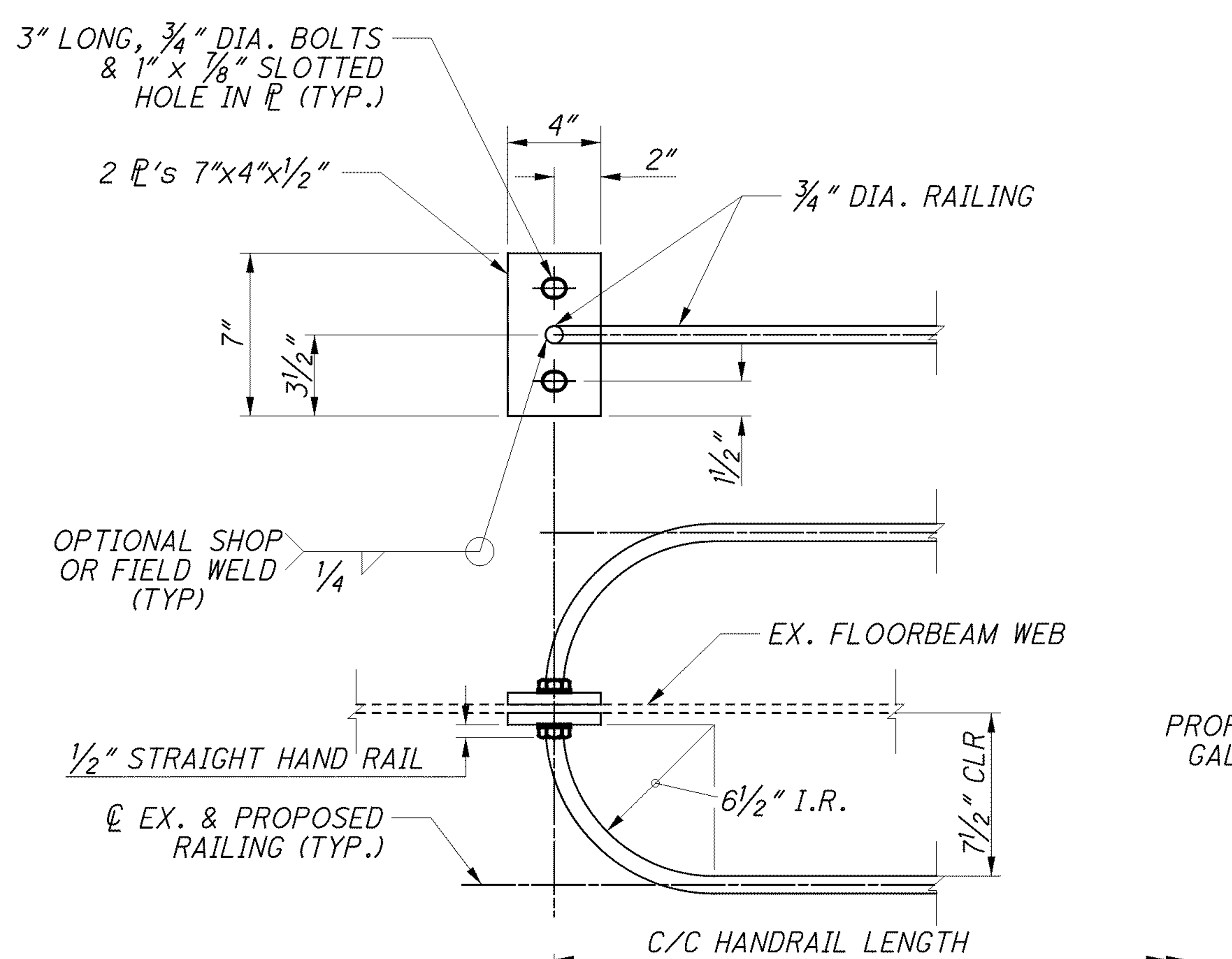
DESIGNED	DRAWN	REVIEWED	DATE
DEK	DEK	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 15 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

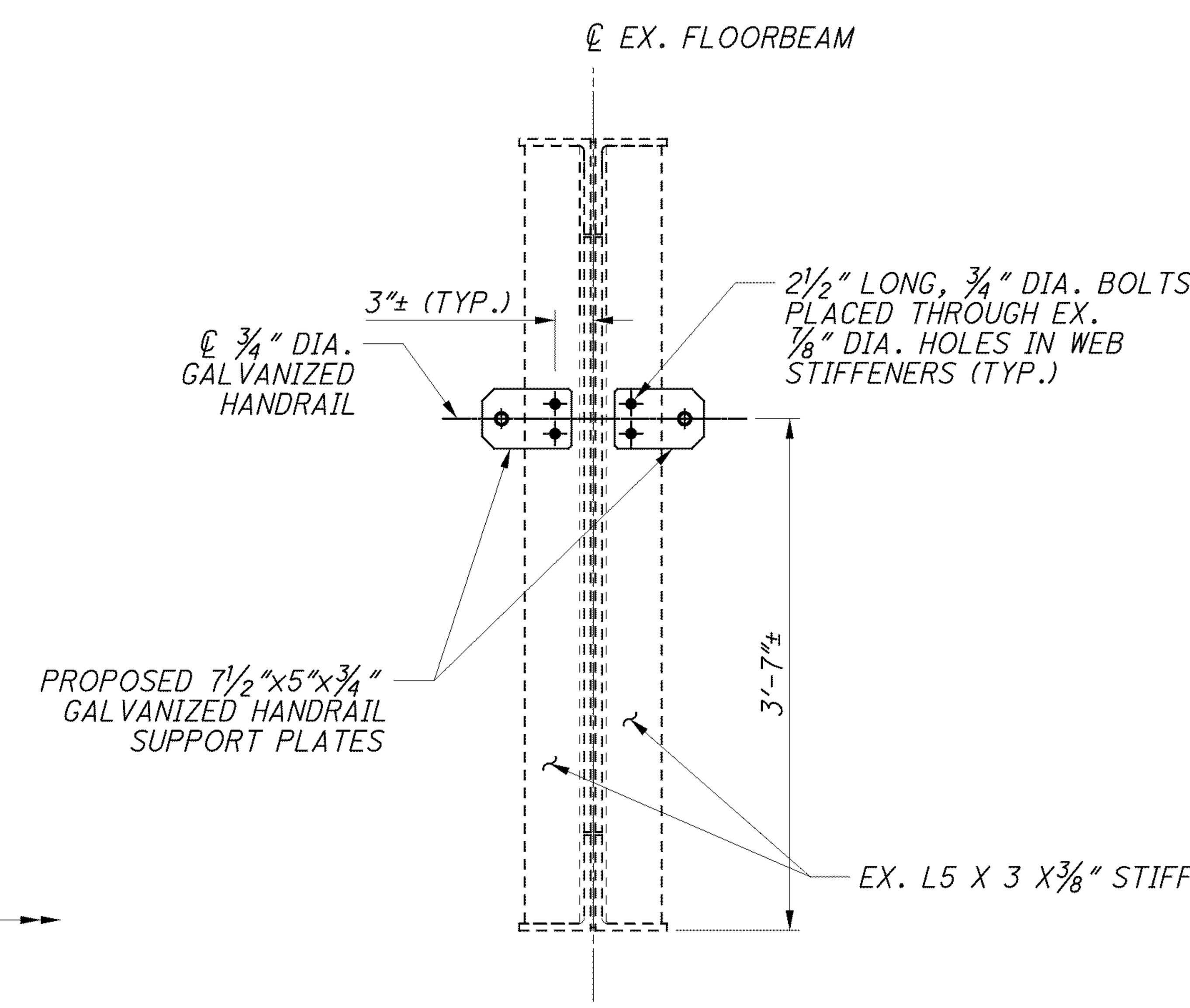
LUC-2-18.62
PID No. 80551



REPAIR TYPE 211 & 212

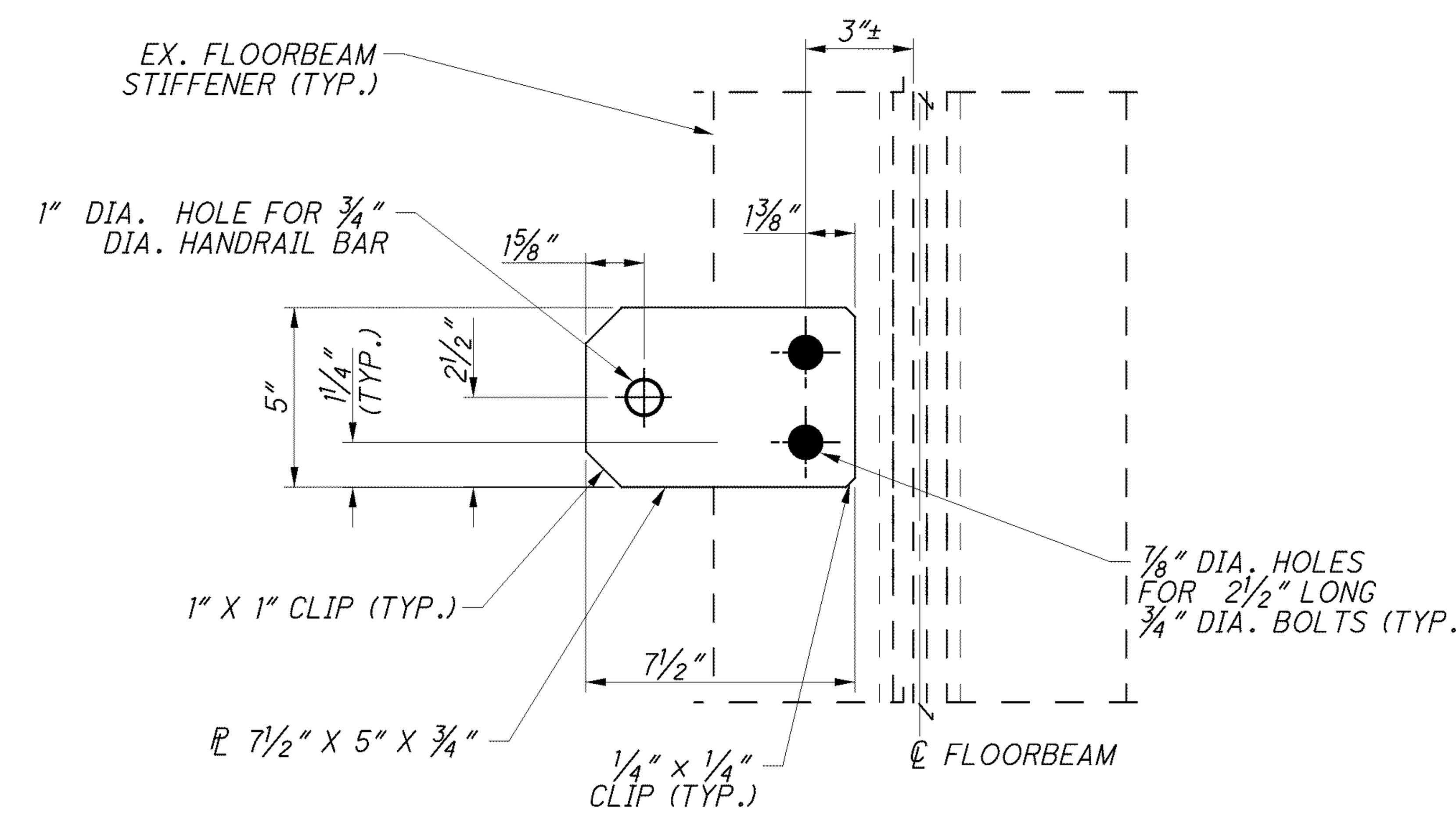


RAILING END PLATE DETAILS



(A) SECTION

(STRINGER CONNECTION NOT SHOWN FOR CLARITY)



RAILING SUPPORT PLATE DETAIL

(PLATE ON OPPOSITE SIDE OF WEB NOT SHOWN FOR CLARITY)

SUSPENSION SPANS INSPECTION ACCESS RAILINGS

REPAIR TYPE	FLOORBEAMS	# OF 17'-3" C/C HANDRAILS PER FB	# OF 22'-8" C/C HANDRAILS PER FB	# OF 28'-0" C/C HANDRAILS PER FB	# OF SUPPORT PLATES PER FB	# OF END PLATES PER FB
211 INSTALL NEW HANDRAIL	12, 52	1	1	0	9	4
212 REPLACE EXIST. HANDRAIL	2, 4, 6, 8, 10, 15, 17, 19, 21, 23, 25, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 55, 57, 59, 61, 63	0	2	2	26	8

NOTES:

1. NEW HANDRAILS, SUPPORT PLATES, END PLATES, BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AS PER CMS 711.02.
2. FOR REPAIR LOCATIONS, SEE SHEET 78/227 THRU 83/227.
3. FOR REPAIR DESCRIPTION, SEE SHEET 15/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4401 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

REVIEWED	DATE
PLC	2/13

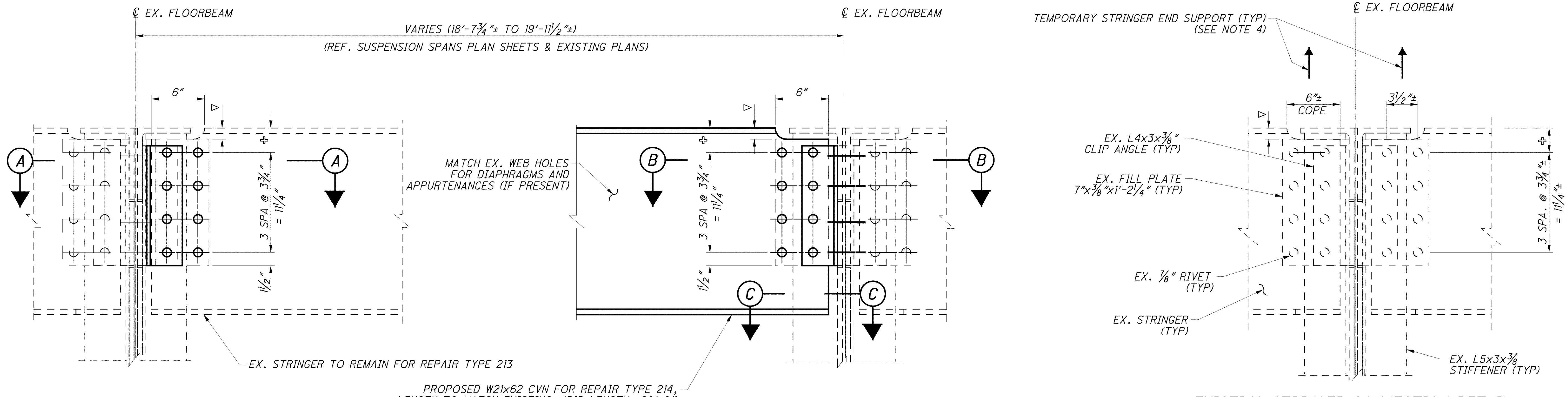
STRUCTURE FILE NUMBER 4800303

DRAWN	REVISED
DEK	EFD

DESIGNED	CHECKED
DEK	LMS

MISCELLANEOUS STEEL REPAIR DETAILS 16 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

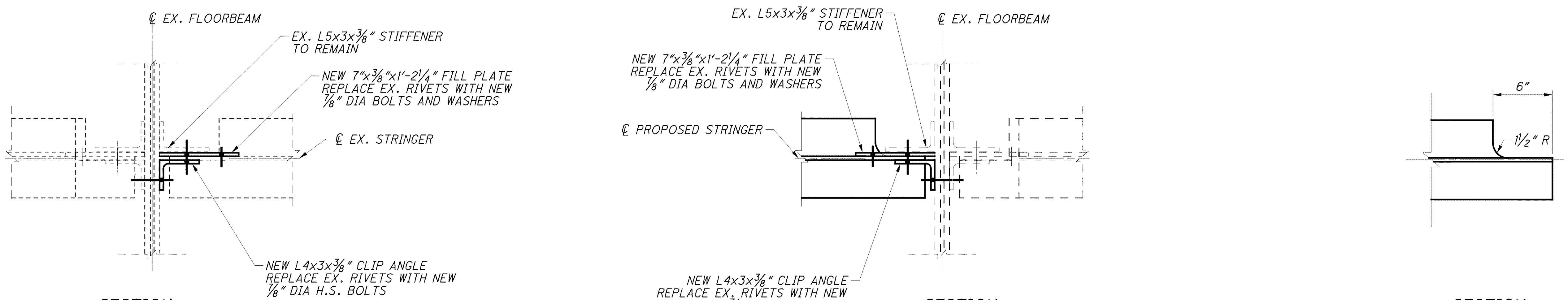
LUC-2-18.62
PID No. 80551



REPAIR TYPE 213

REPAIR TYPE 214

EXISTING STRINGER CONNECTION DETAIL



SECTION (A)

(B) SECTION

(C) SECTION

COPE DIMENSIONS

∇ = 1¼"± FOR S01 AND S11
∇ = 2¹¹⁄₁₆"± FOR S02 AND S10
∇ = 3¹³⁄₁₆"± FOR S03 AND S09

BOLT PATTERN DIMENSIONS

✣ = 2¾"± FOR S01 AND S11
✣ = 4³⁄₁₆"± FOR S02 AND S10
✣ = 5⁵⁄₁₆"± FOR S03 AND S09

NOTES:

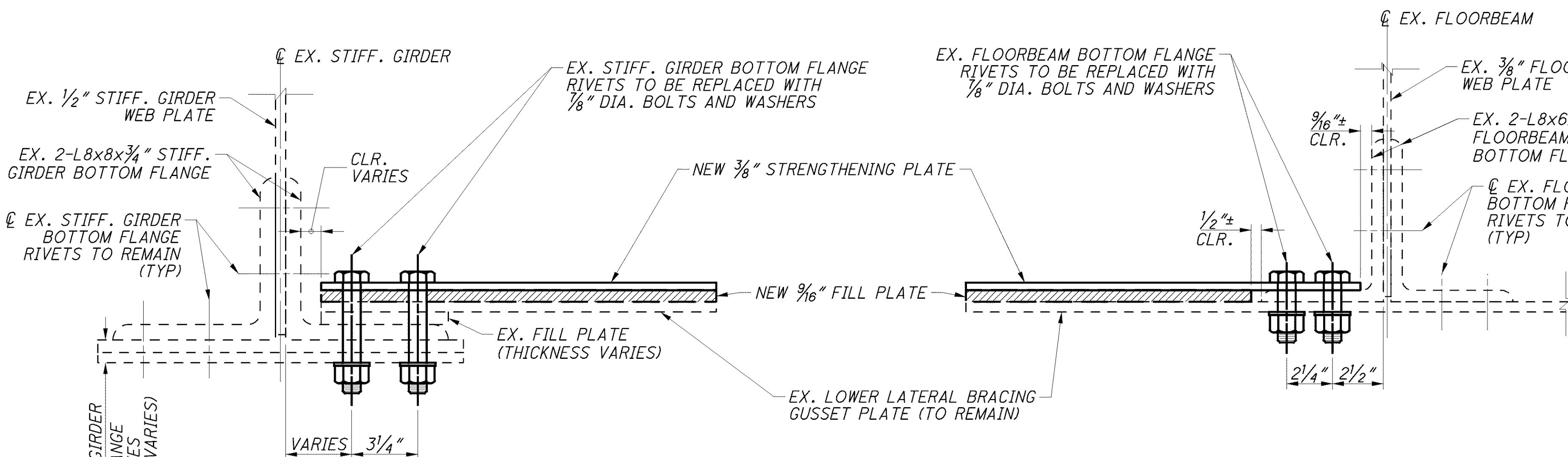
1. FOR ADDITIONAL NOTES AND EXISTING FLOORBEAM DETAILS AND RIVET SPACINGS NOT SHOWN, SEE SHEET 100/227.
2. FOR REPAIR LOCATIONS, SEE SHEETS 78/227 THRU 82/227.
3. FOR REPAIR DESCRIPTIONS, SEE SHEET 15/227.
4. TEMPORARY STRINGER END SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 9 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION DEAD LOAD APPLIED TO THE TRIBUTARY AREA OF THE STRINGER. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND CONTRIBUTION OF ANY CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 50 PSF.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
DEK/EFD	LMS	GCK/WKB		PLC	8/12	4800303

MISCELLANEOUS STEEL REPAIR DETAILS 17 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

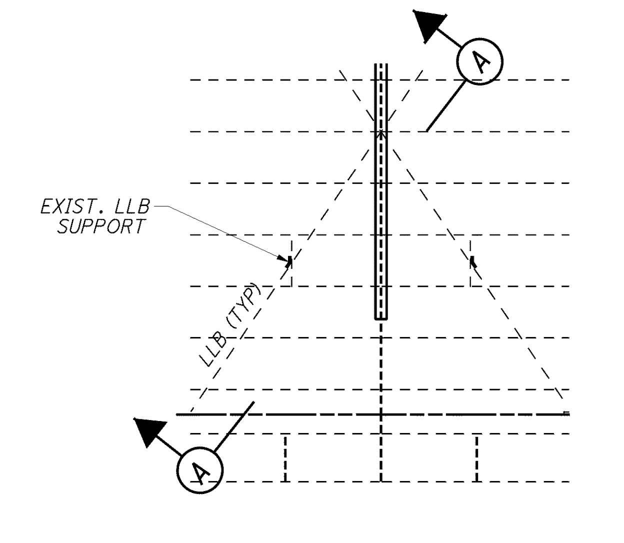
LUC-2-18.62
PID No. 80551



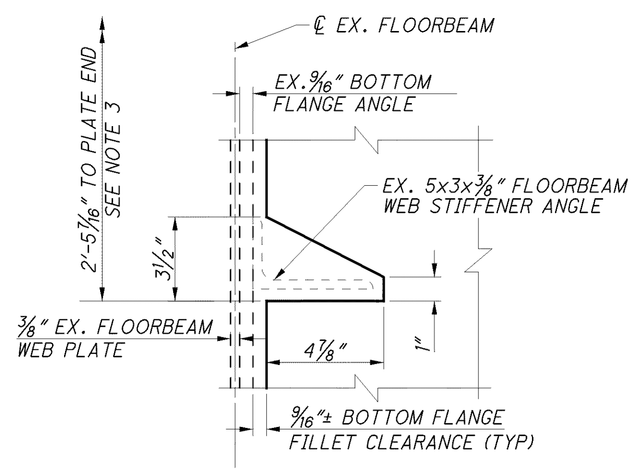
B 113 114 115 116 SECTION AT STIFF. GIRDER
EX. LLB NOT SHOWN FOR CLARITY

A 113 114 115 116 SECTION AT FLOORBEAM
EX. LLB NOT SHOWN FOR CLARITY

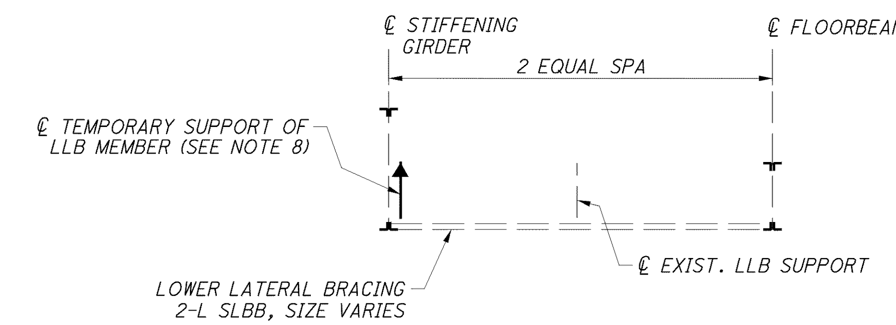
REPAIR TYPE 215, 216 & 217



PLAN - TYPICAL LOWER LATERAL BRACING



C 113 114 115 116 DETAIL
BOLT HOLES NOT SHOWN FOR CLARITY



A SECTION

NOTES:

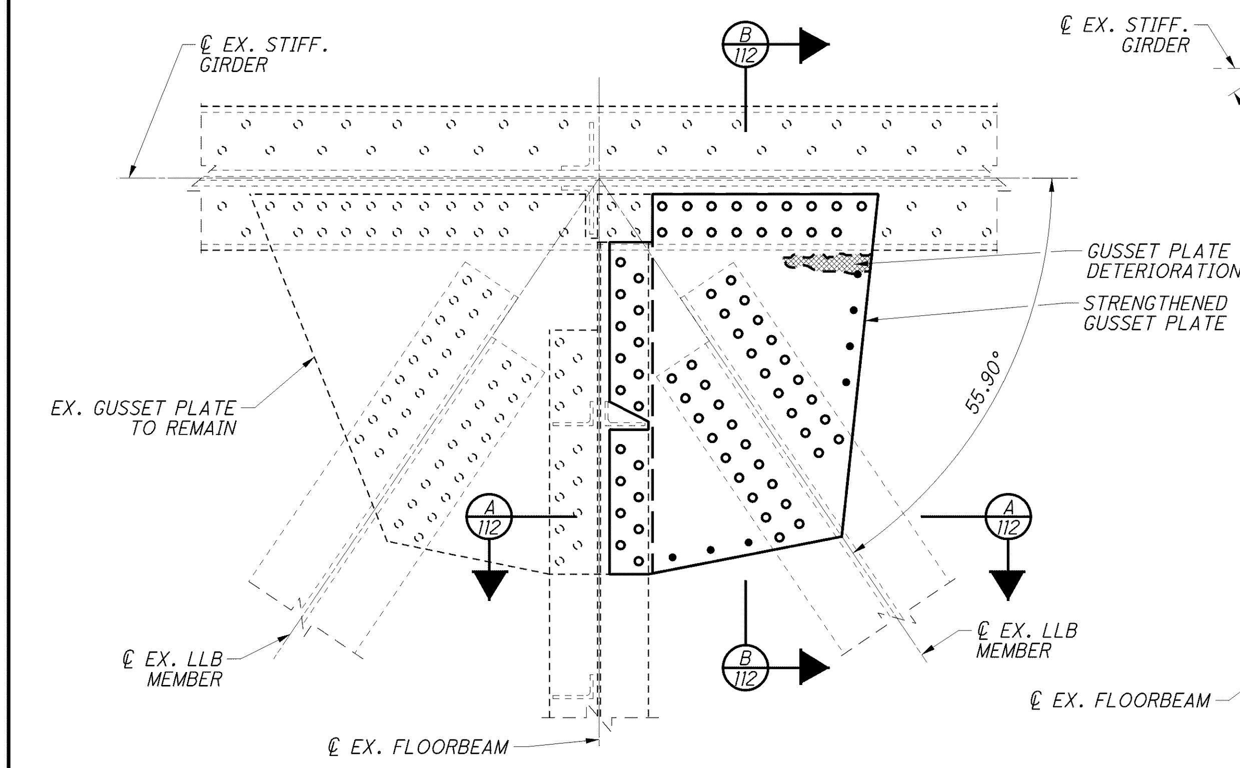
1. FOR ADDITIONAL NOTES AND EXISTING FLOORBEAM DETAILS AND RIVET SPACINGS NOT SHOWN, SEE SHEET 100/227.
2. ▨ = NEW 9/16" FILL PLATE
   LLB = LOWER LATERAL BRACE
3. FOR REPAIR TYPE 215 PLAN AND DETAILS SEE SHEETS 113/227 AND 114/227.
   FOR REPAIR TYPE 216 PLAN AND DETAILS SEE SHEET 115/227.
   FOR REPAIR TYPE 217 PLAN AND DETAILS SEE SHEETS 115/227 AND 116/227.
4. FOR LOWER LATERAL BRACE REPAIRS (REPAIR TYPE 218) SEE SHEET 117/227.
5. GUSSET PLATE DIMENSIONS SHOWN IN THESE PLANS ARE FROM DIMENSIONS AND SCALING OFF OF EXISTING PLANS. ALL DIMENSIONS SHALL BE CONSIDERED "±" AND FIELD VERIFIED UNLESS NOTED OTHERWISE.
6. FOR REPAIR LOCATIONS, SEE SHEETS 78/227 THROUGH 83/227.
7. FOR REPAIR DESCRIPTION, SEE SHEET 15/227.
8. 1.0 KIPS CAPACITY IS REQUIRED FOR TEMPORARY SUPPORT OF LOWER LATERAL BRACING DEAD LOAD FOR REPAIRS 215, 216, 217 & 218.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

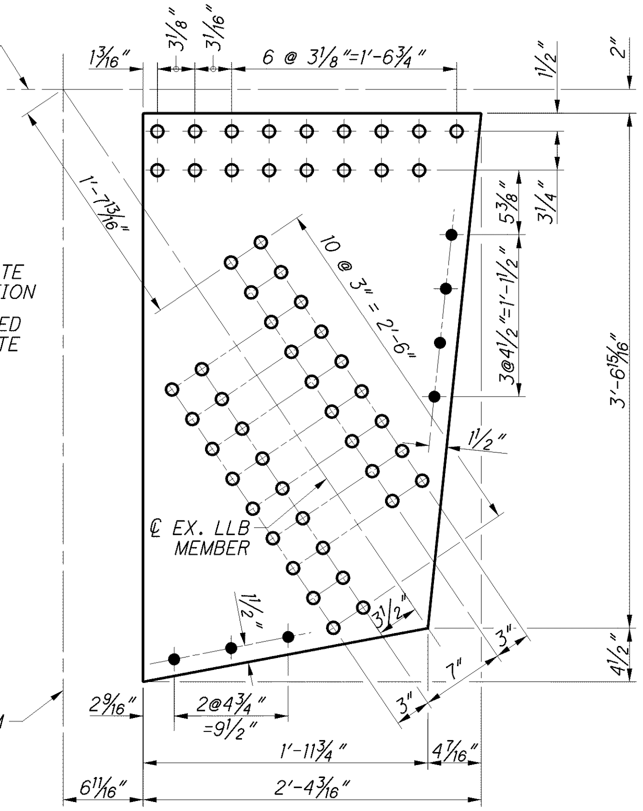
MISCELLANEOUS STEEL REPAIR DETAILS 18 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



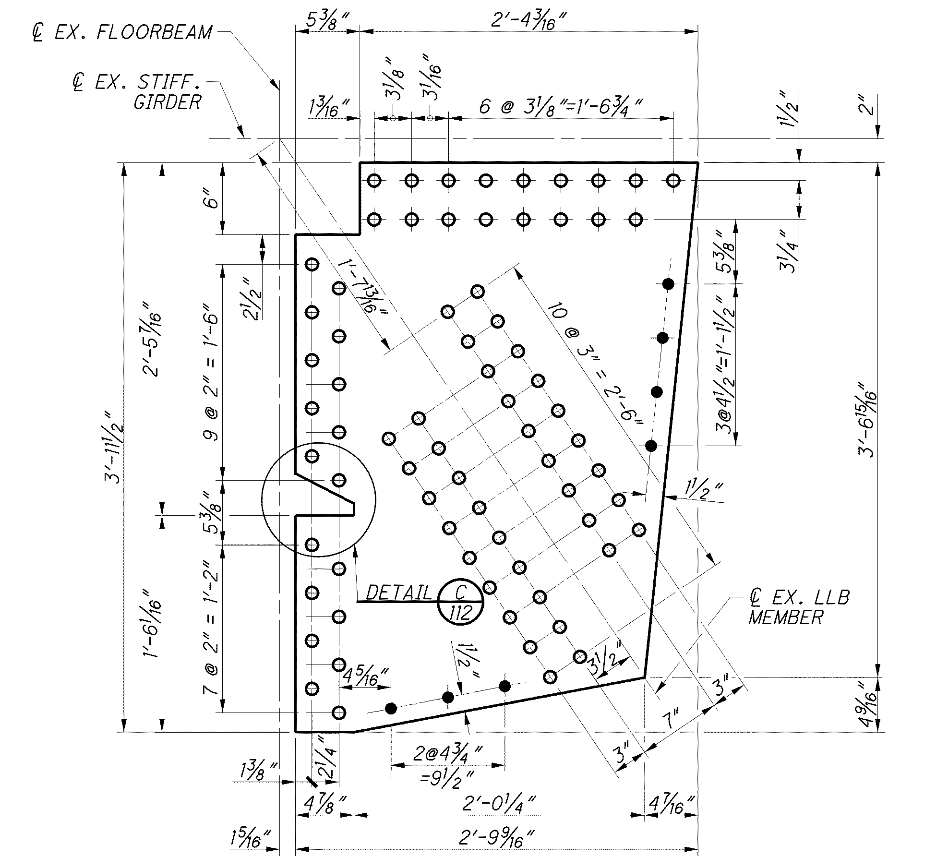
REPAIR TYPE 215A

FLOORBEAM 18 GUSSET PLATE



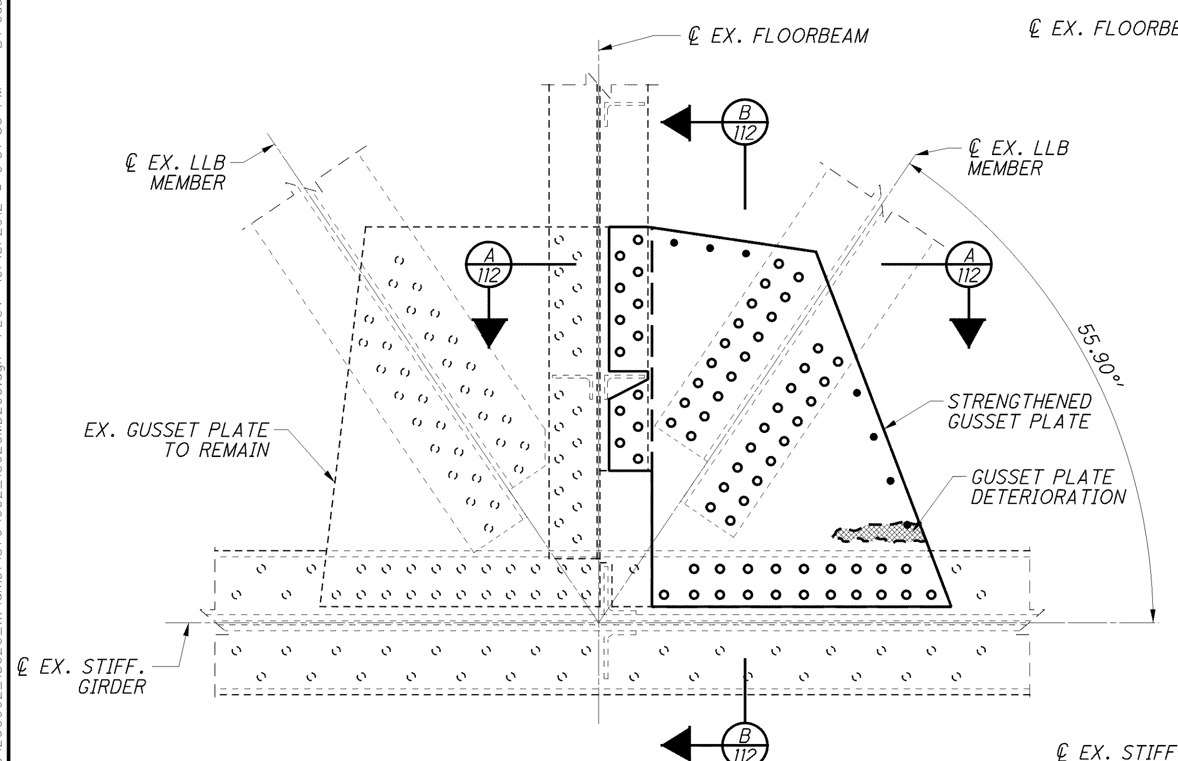
REPAIR TYPE 215A

(FILL PLATE DETAIL)



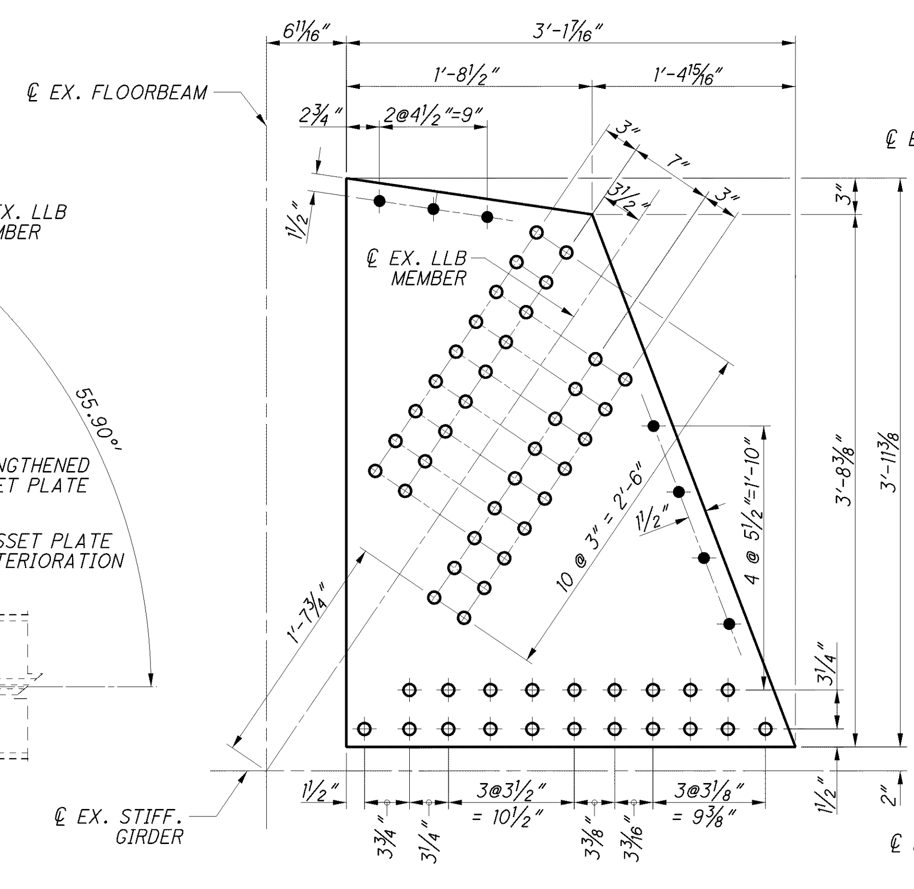
REPAIR TYPE 215A

(STRENGTHENING PLATE DETAIL)



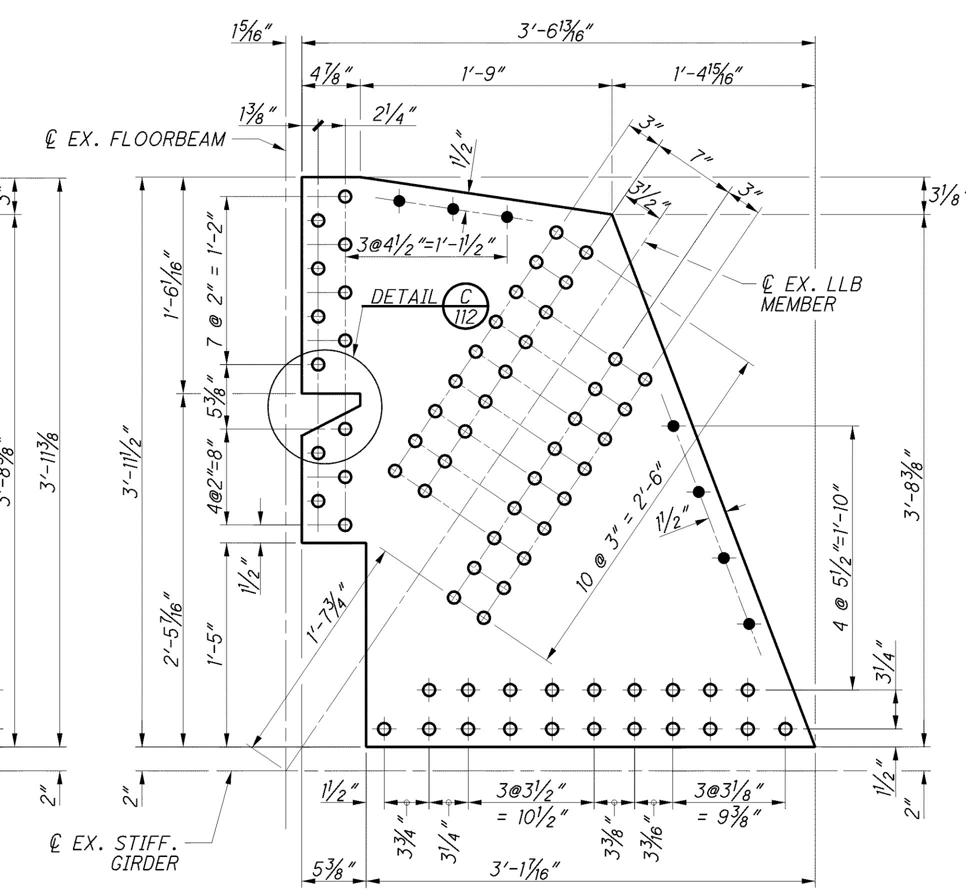
REPAIR TYPE 215B

FLOORBEAM 45 GUSSET PLATE



REPAIR TYPE 215B

(FILL PLATE DETAIL)



REPAIR TYPE 215B

(STRENGTHENING PLATE DETAIL)

NOTES:

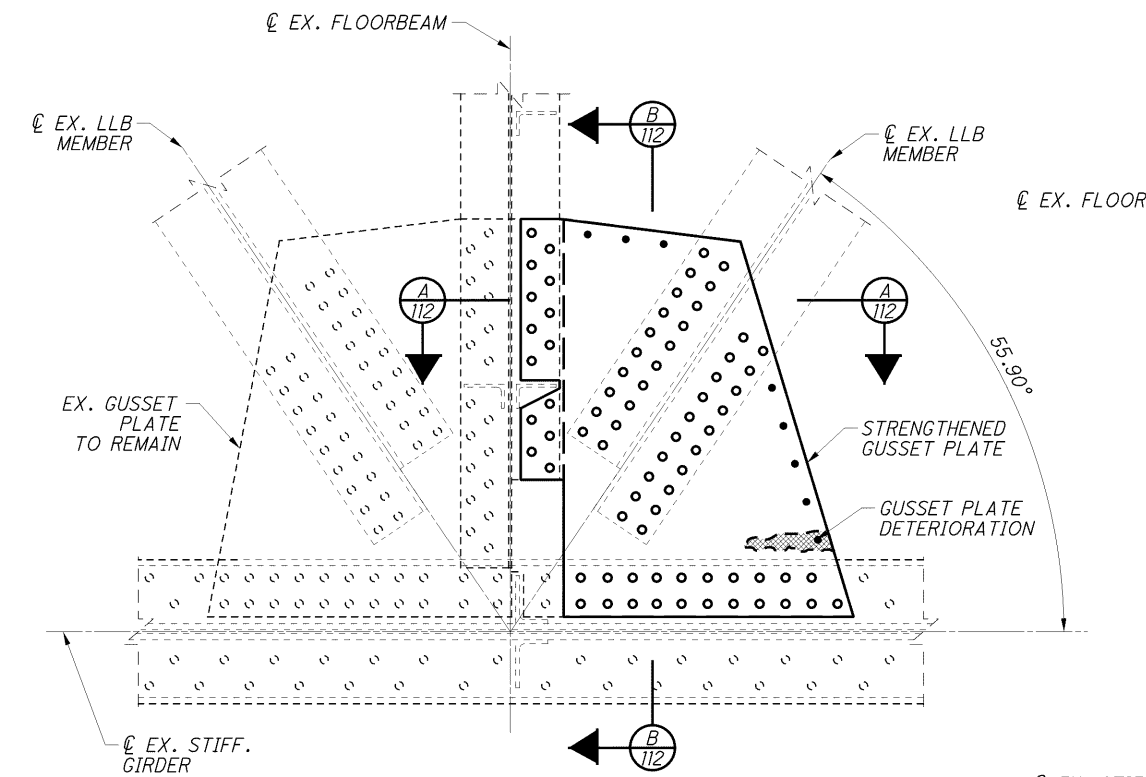
1. FOR ADDITIONAL NOTES AND ABBREVIATIONS SEE SHEET 112/227.
2. ALL PROPOSED HOLES ARE 15/16" DIAMETER.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EFD		4800303	

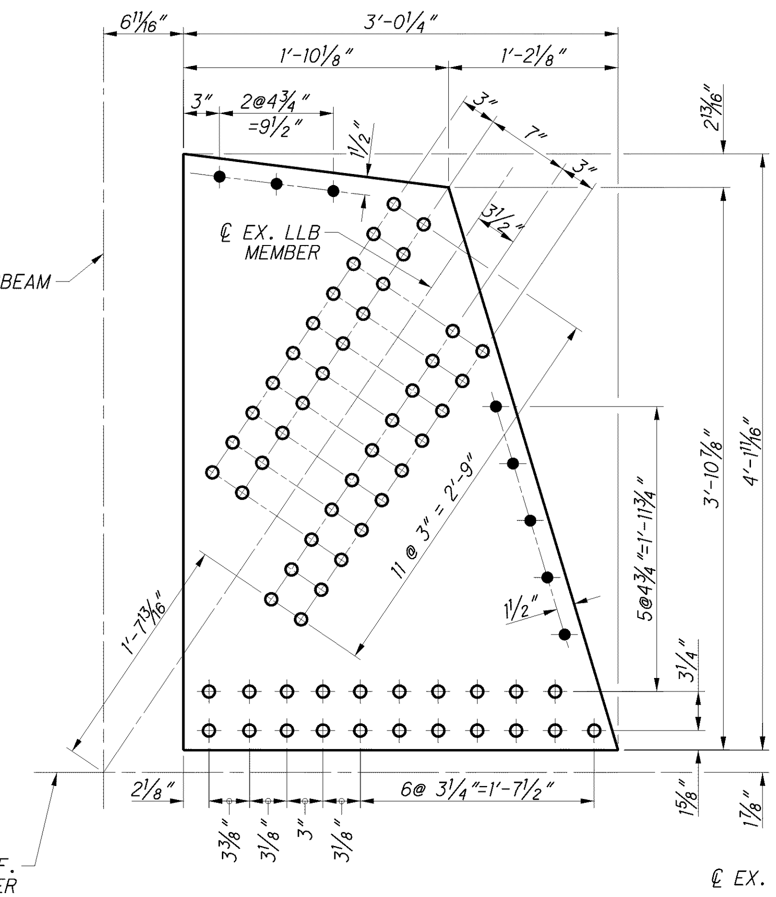
MISCELLANEOUS STEEL REPAIR DETAILS 19 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



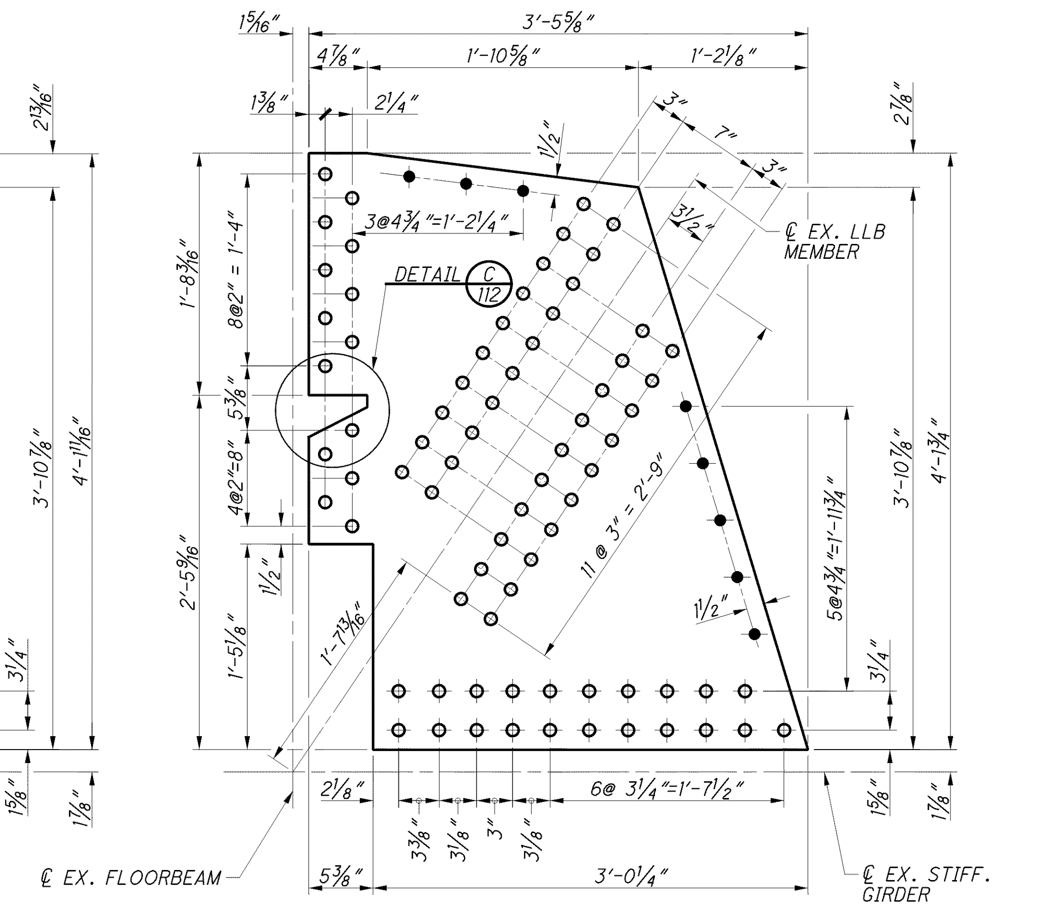
REPAIR TYPE 215C

FLOORBEAM 49 GUSSET PLATE



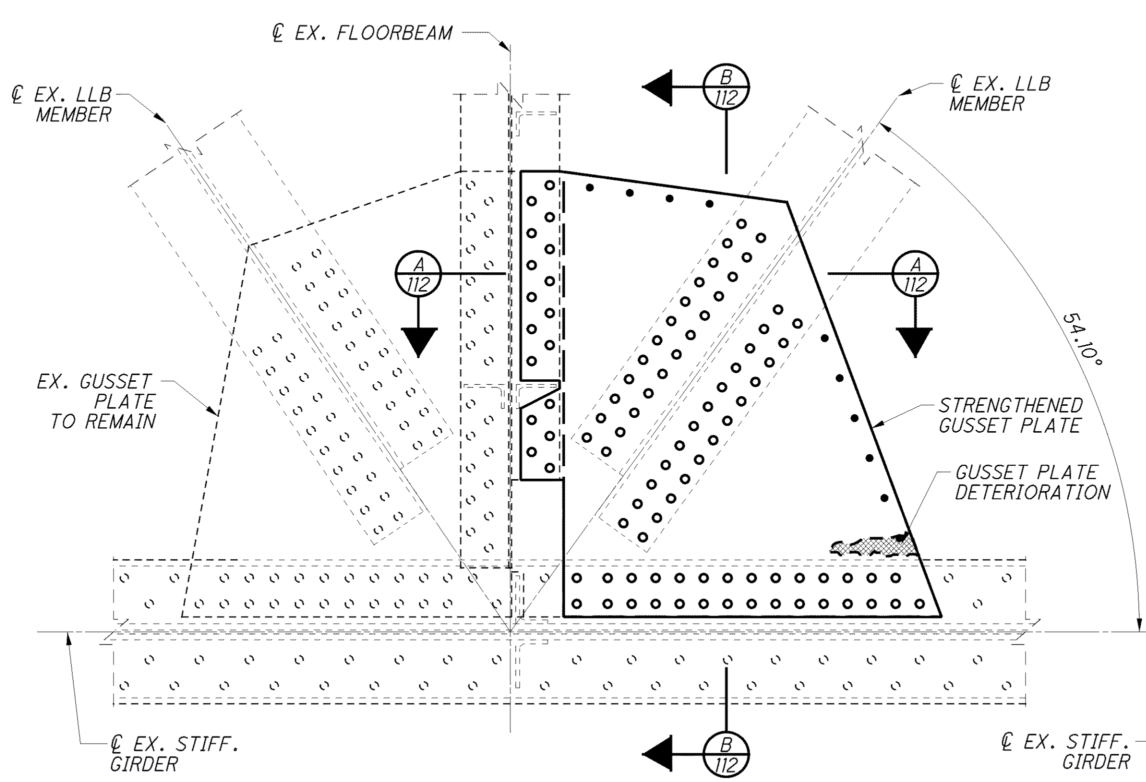
REPAIR TYPE 215C

(FILL PLATE DETAIL)



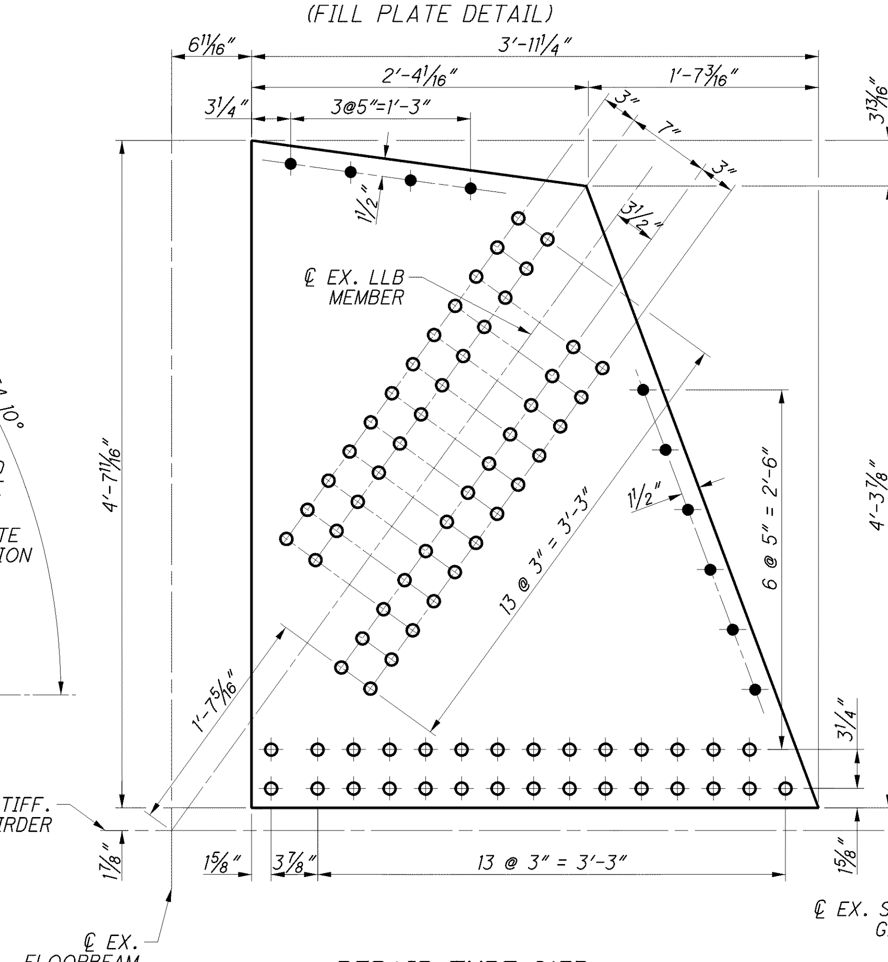
REPAIR TYPE 215C

(STRENGTHENING PLATE DETAIL)



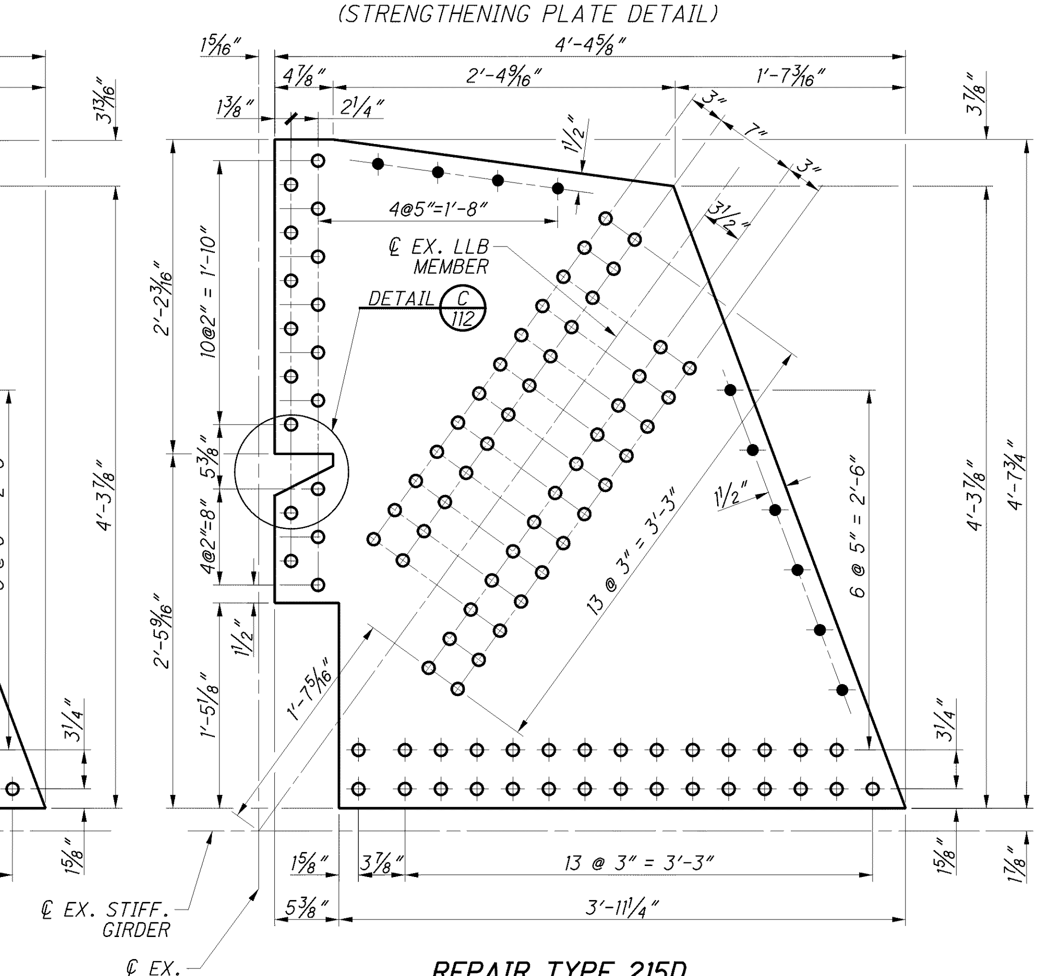
REPAIR TYPE 215D

FLOORBEAM 51 GUSSET PLATE



REPAIR TYPE 215D

(FILL PLATE DETAIL)



REPAIR TYPE 215D

(STRENGTHENING PLATE DETAIL)

NOTES:

1. FOR ADDITIONAL NOTES AND ABBREVIATIONS SEE SHEET 112/227.
2. ALL PROPOSED HOLES ARE 15/16" DIAMETER.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

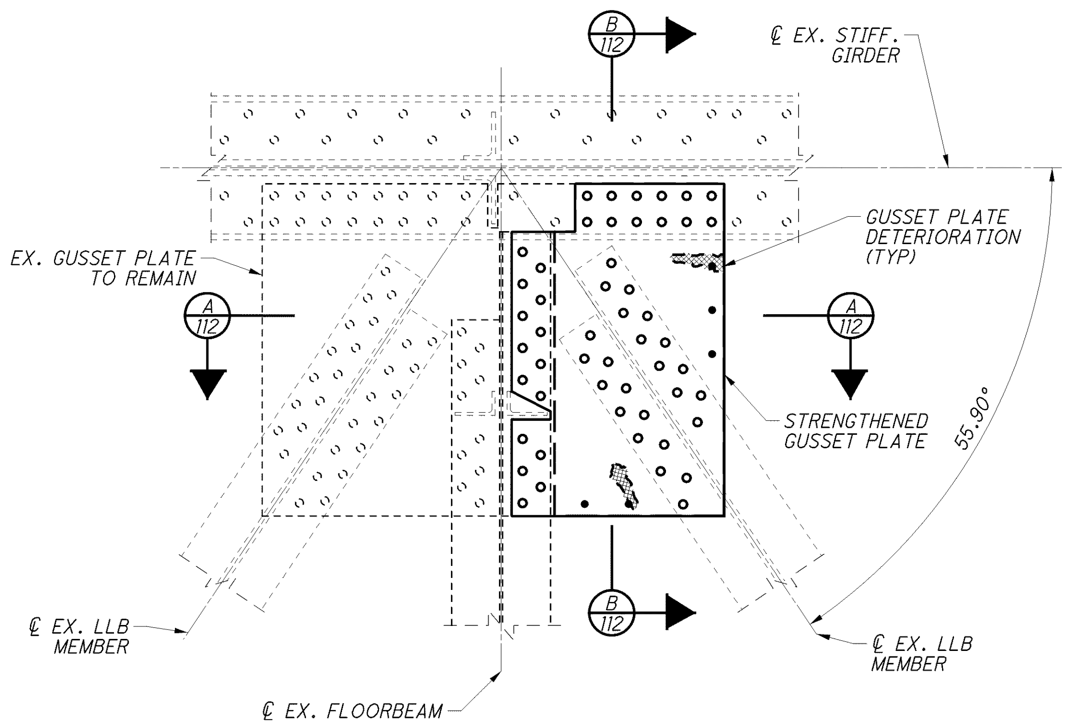
MISCELLANEOUS STEEL REPAIR DETAILS 20 OF 31

BRIDGE NO. LUC - 2 - 1862

STATE ROUTE 2 OVER MAUMEE RIVER

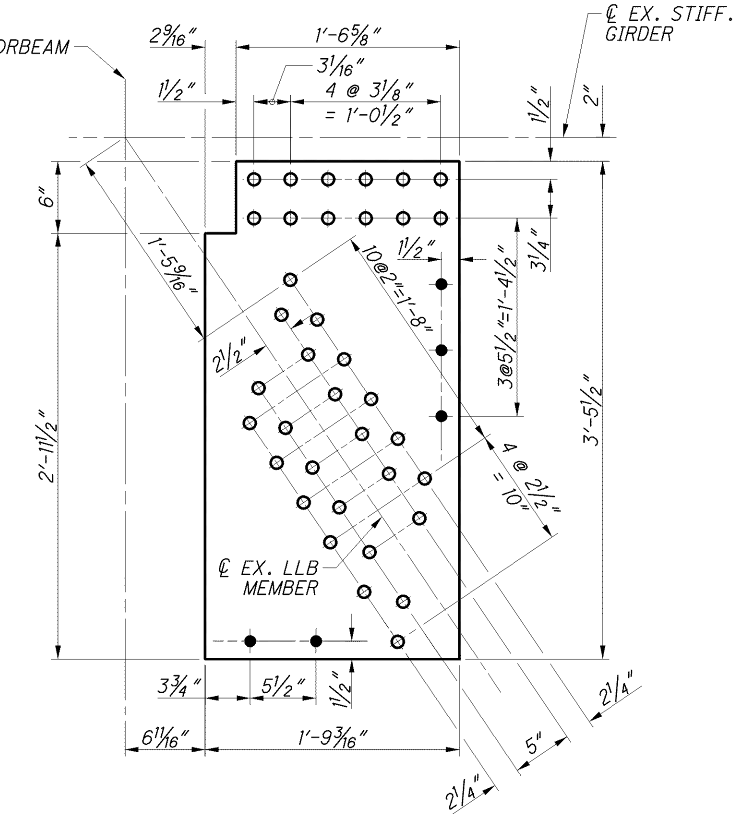
LUC-2-18.62

PID No. 80551



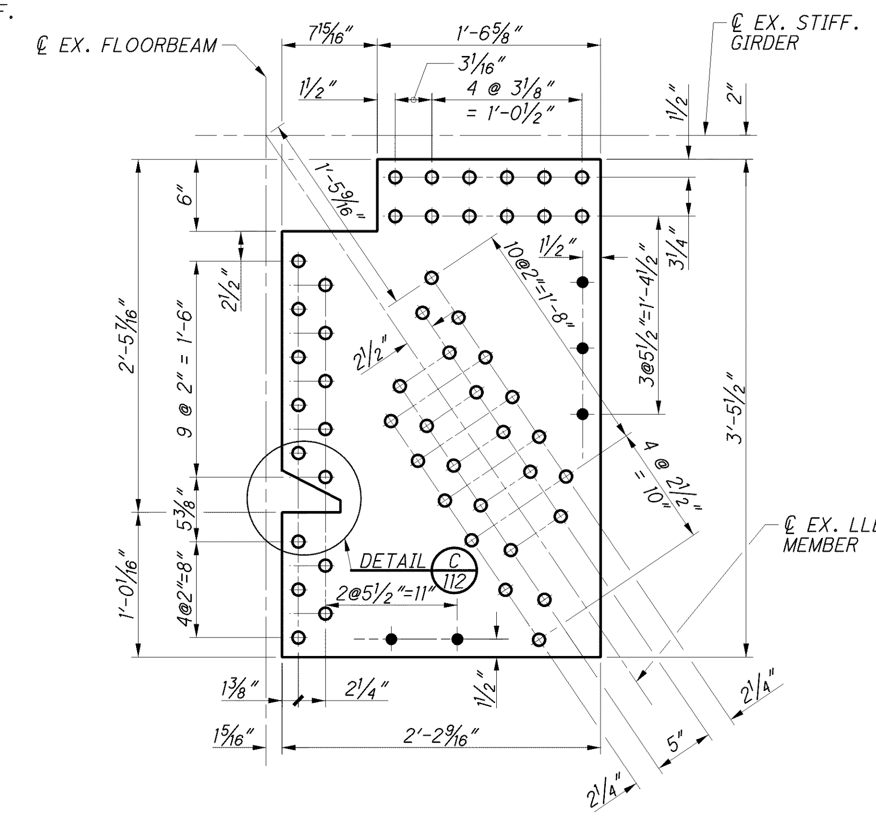
REPAIR TYPE 216

FLOORBEAM 26 GUSSET PLATE
(AT LEFT AND RIGHT GIRDERS)



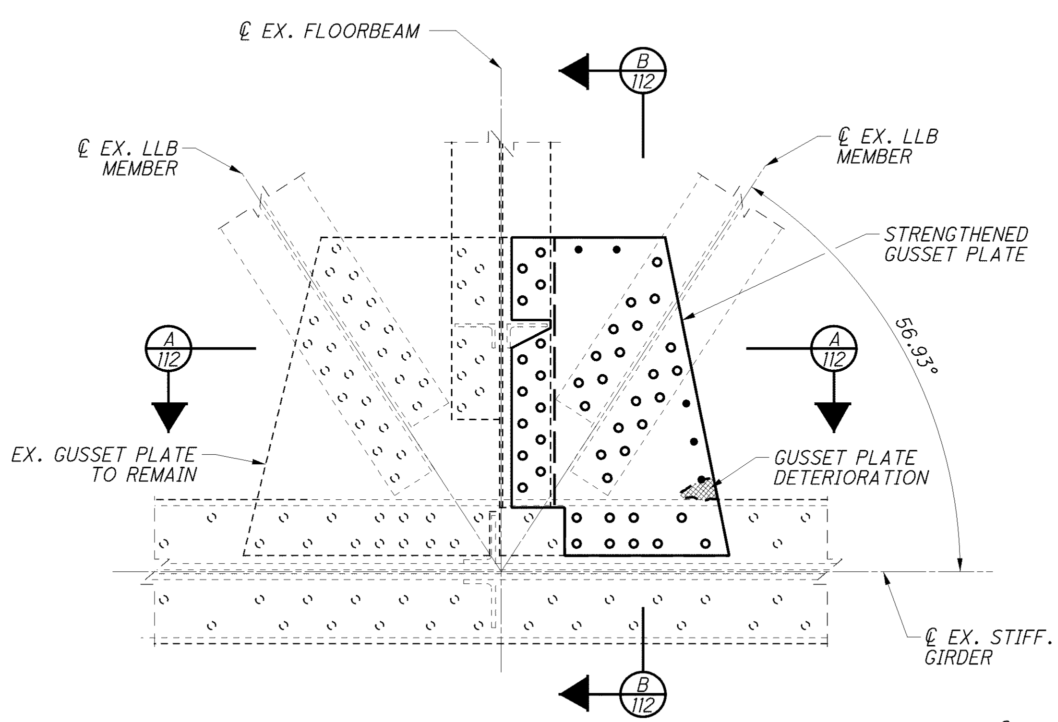
REPAIR TYPE 216

(FILL PLATE DETAIL)



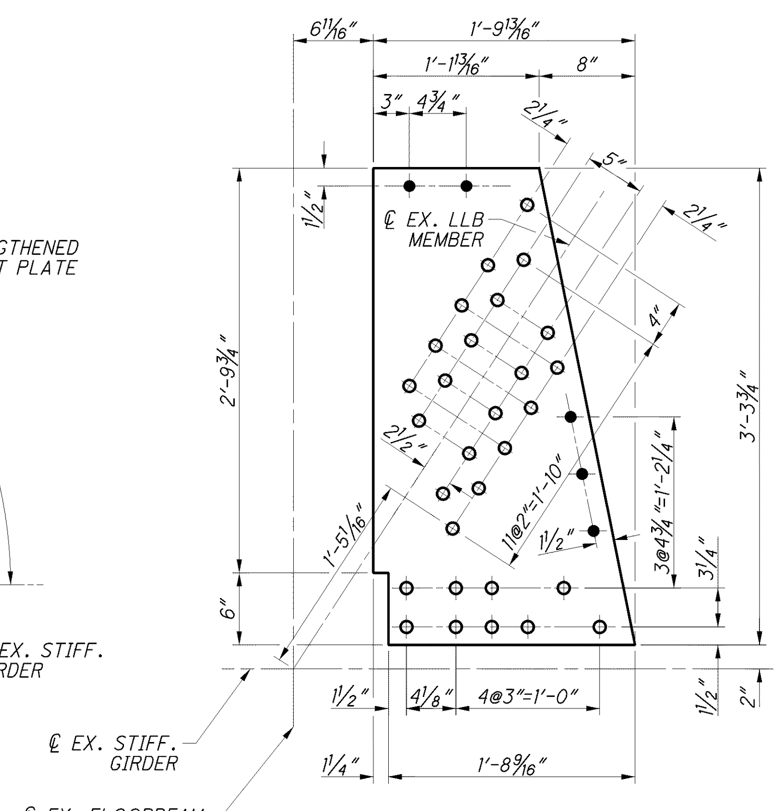
REPAIR TYPE 216

(STRENGTHENING PLATE DETAIL)



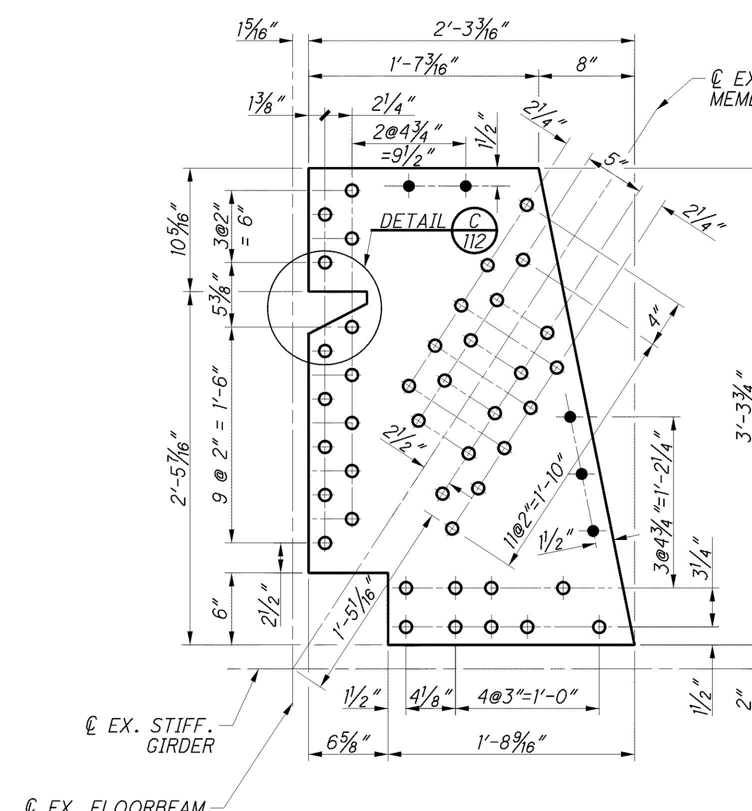
REPAIR TYPE 217A

FLOORBEAM 3 GUSSET PLATE



REPAIR TYPE 217A

(FILL PLATE DETAIL)



REPAIR TYPE 217A

(STRENGTHENING PLATE DETAIL)

NOTES:

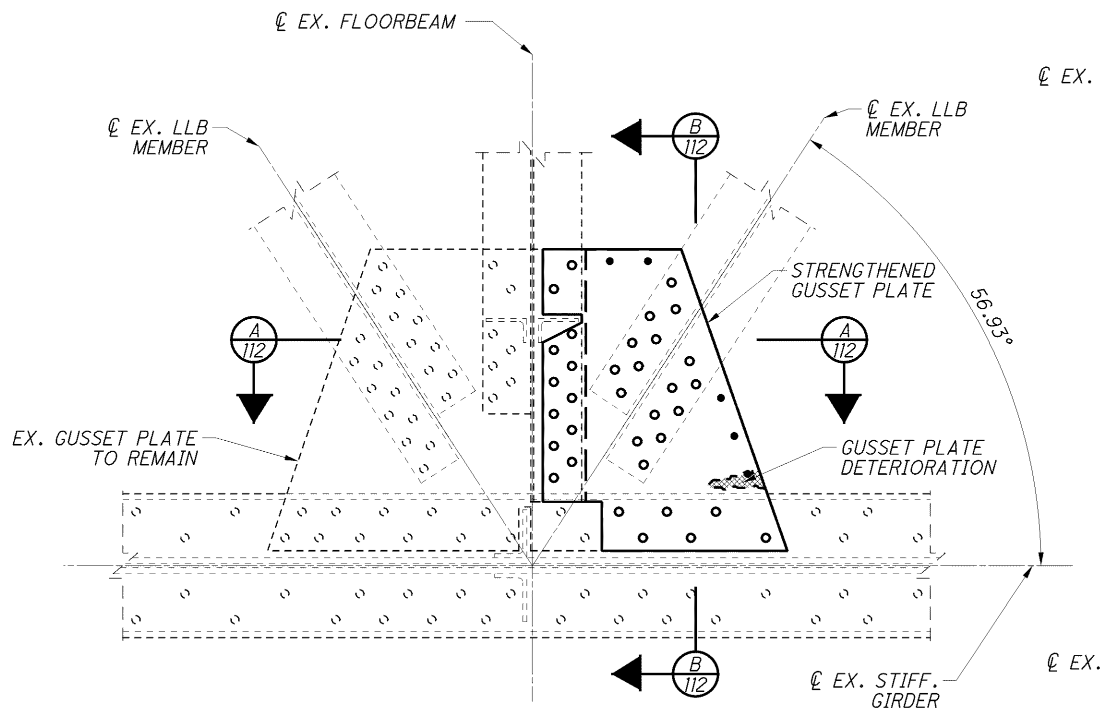
1. FOR ADDITIONAL NOTES AND ABBREVIATIONS SEE SHEET 112/227.
2. ALL PROPOSED HOLES ARE 15/16" DIAMETER.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

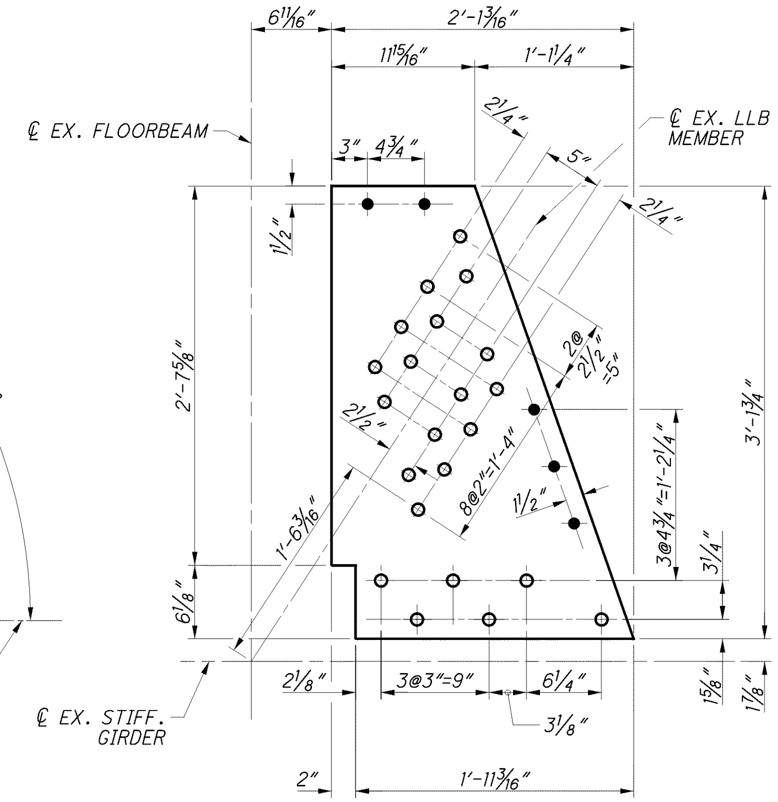
MISCELLANEOUS STEEL REPAIR DETAILS 21 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



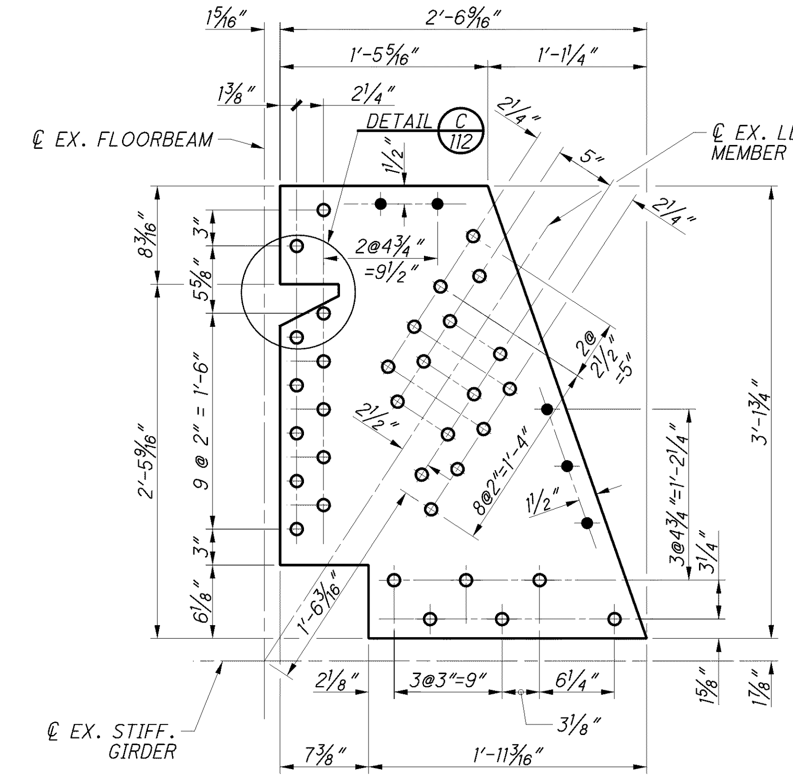
REPAIR TYPE 217B

FLOORBEAM 5 & 60 GUSSET PLATE



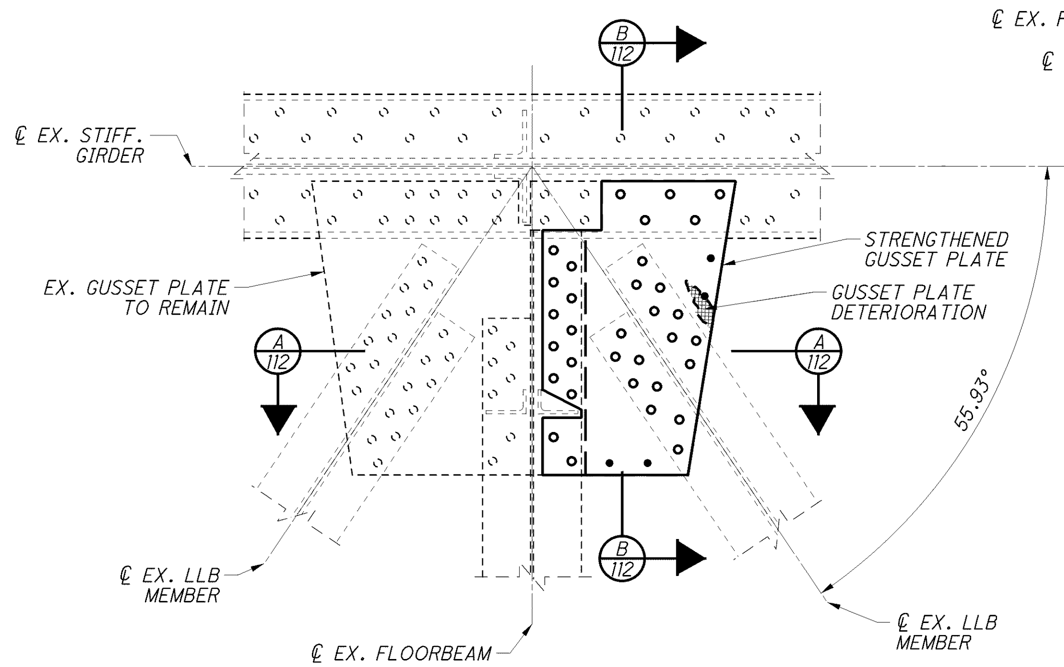
REPAIR TYPE 217B

(FILL PLATE DETAIL)



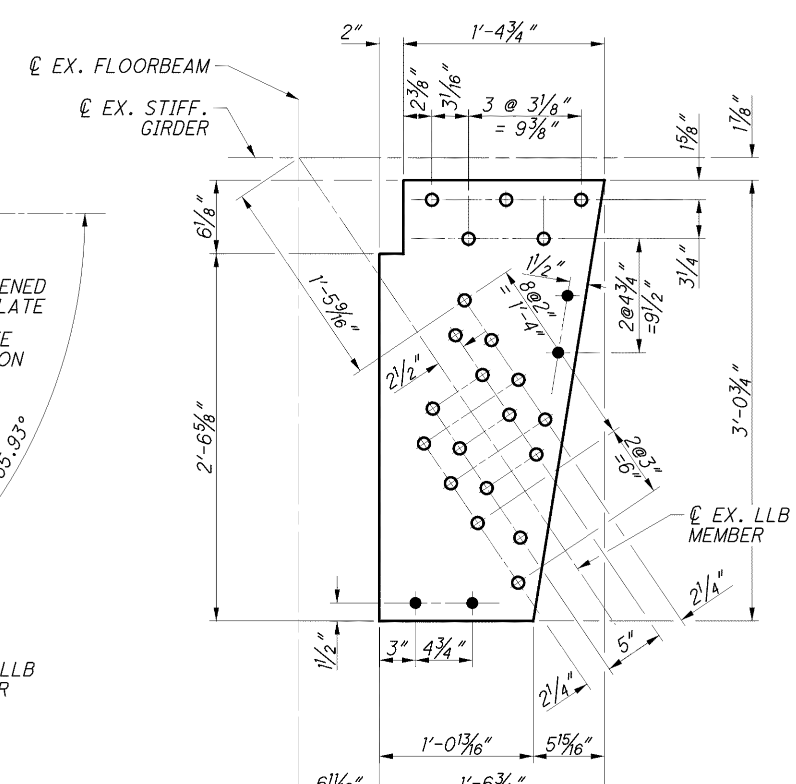
REPAIR TYPE 217B

(STRENGTHENING PLATE DETAIL)



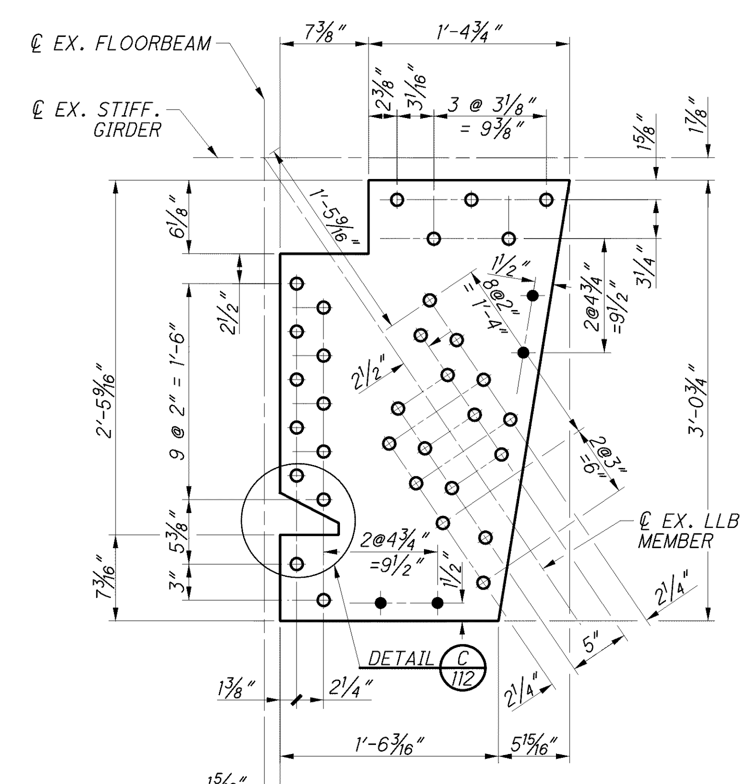
REPAIR TYPE 217C

FLOORBEAM 30 GUSSET PLATE



REPAIR TYPE 217C

(FILL PLATE DETAIL)



REPAIR TYPE 217C

(STRENGTHENING PLATE DETAIL)

NOTES:

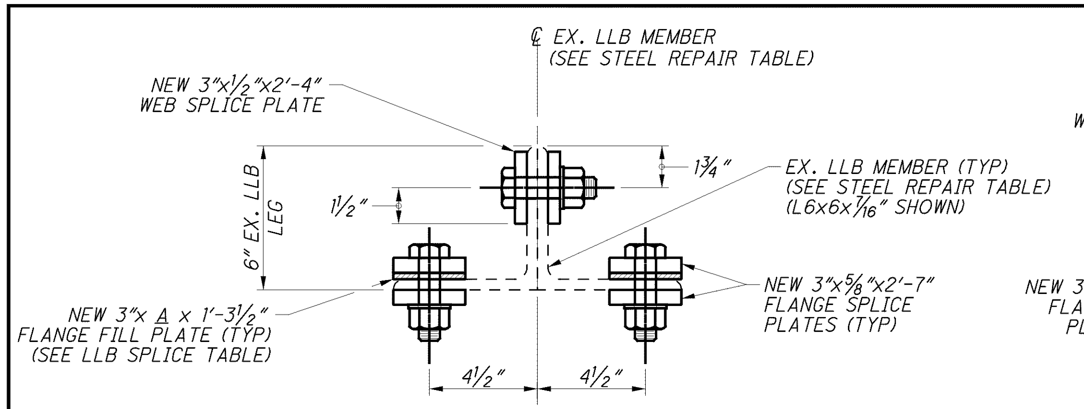
1. FOR ADDITIONAL NOTES AND ABBREVIATIONS SEE SHEET 112/227.
2. ALL PROPOSED HOLES ARE 15/16" DIAMETER.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

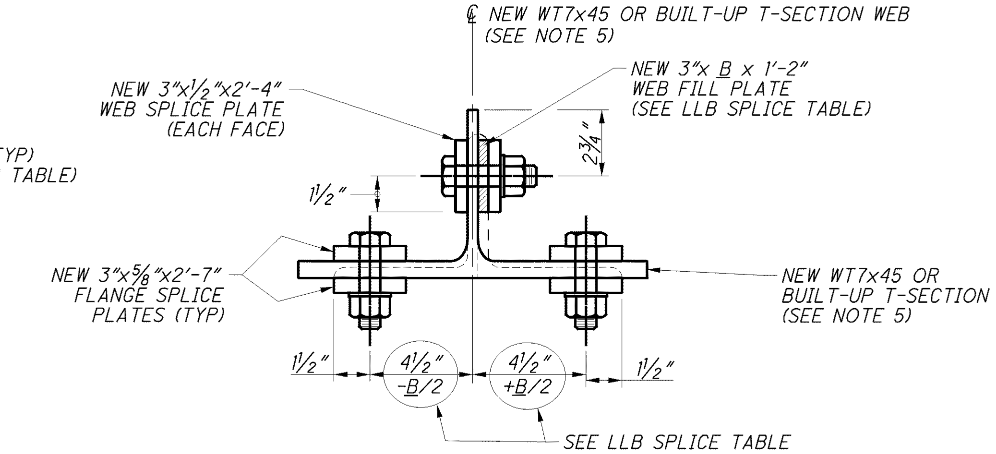
DESIGNED	DRAWN	REVIEWED	DATE
DEK/EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 22 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

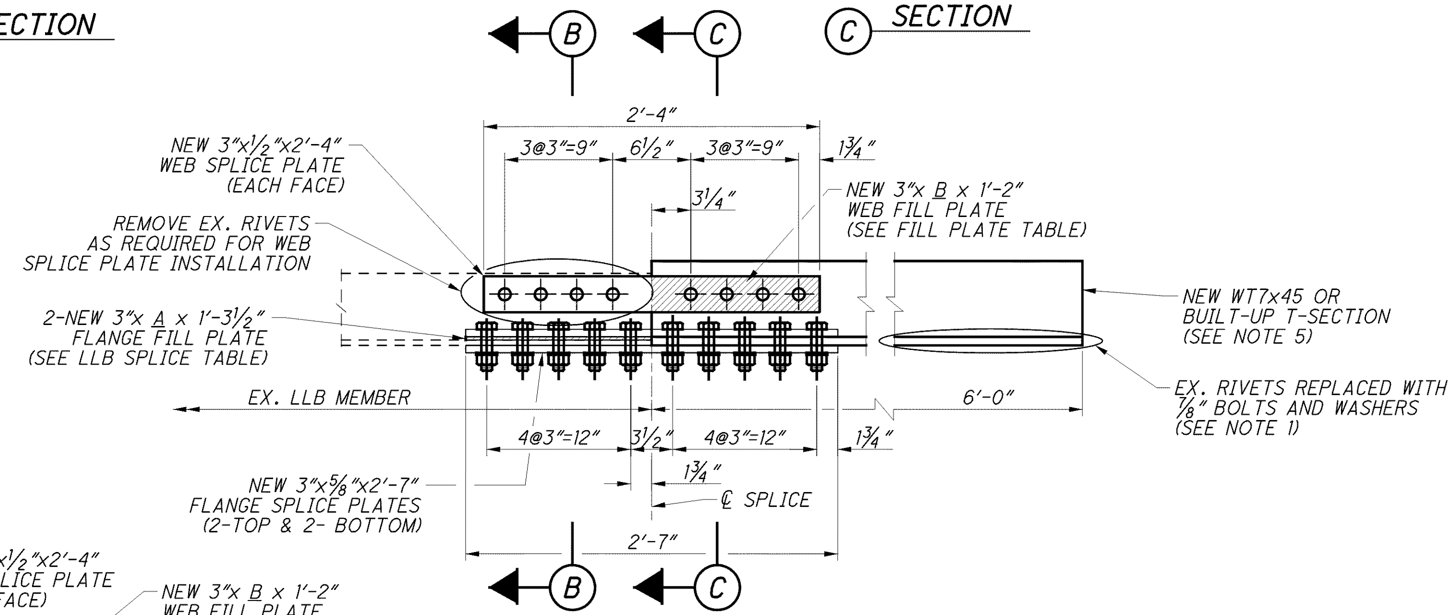
LUC-2-18.62
PID No. 80551



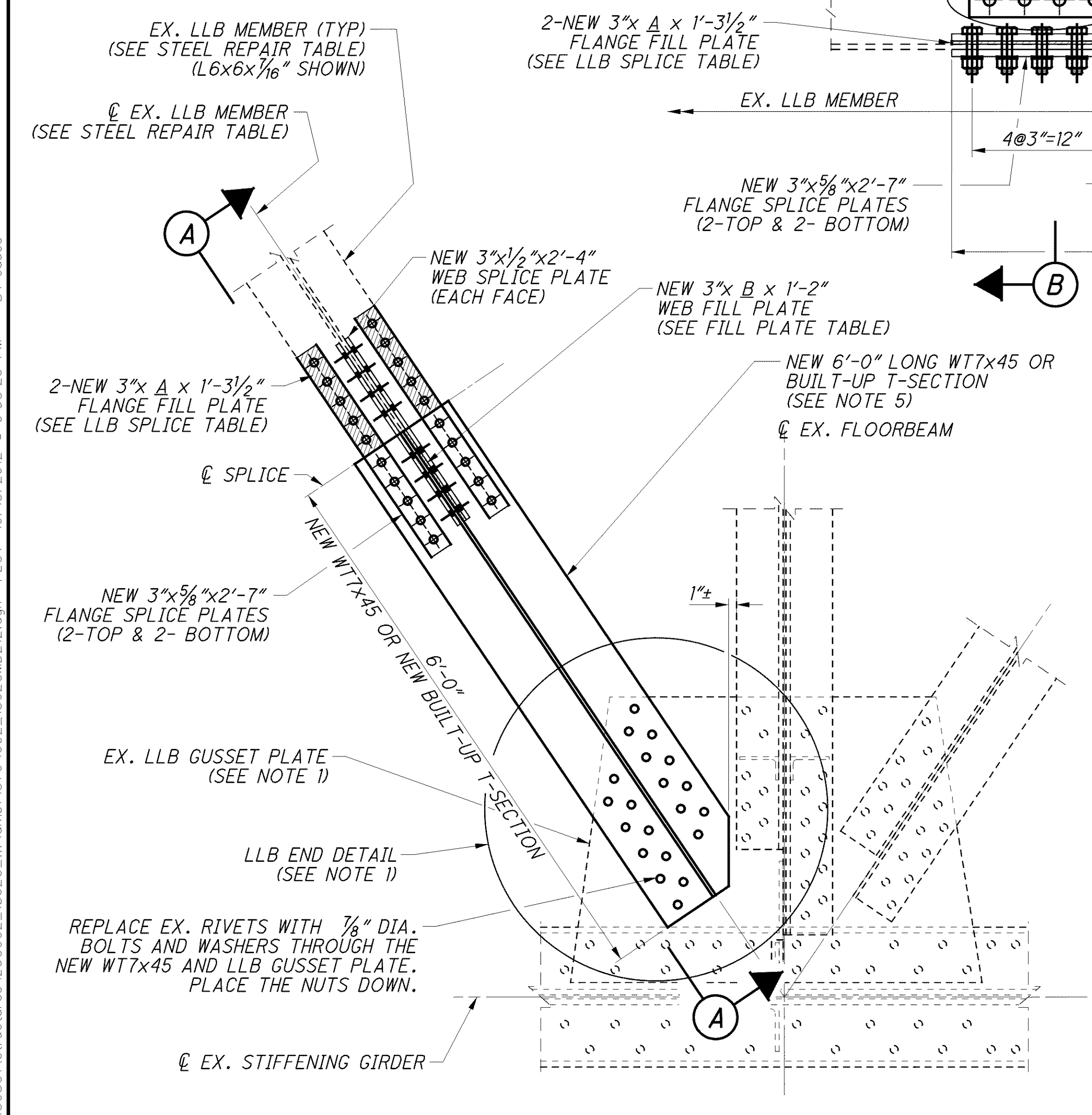
B SECTION



C SECTION

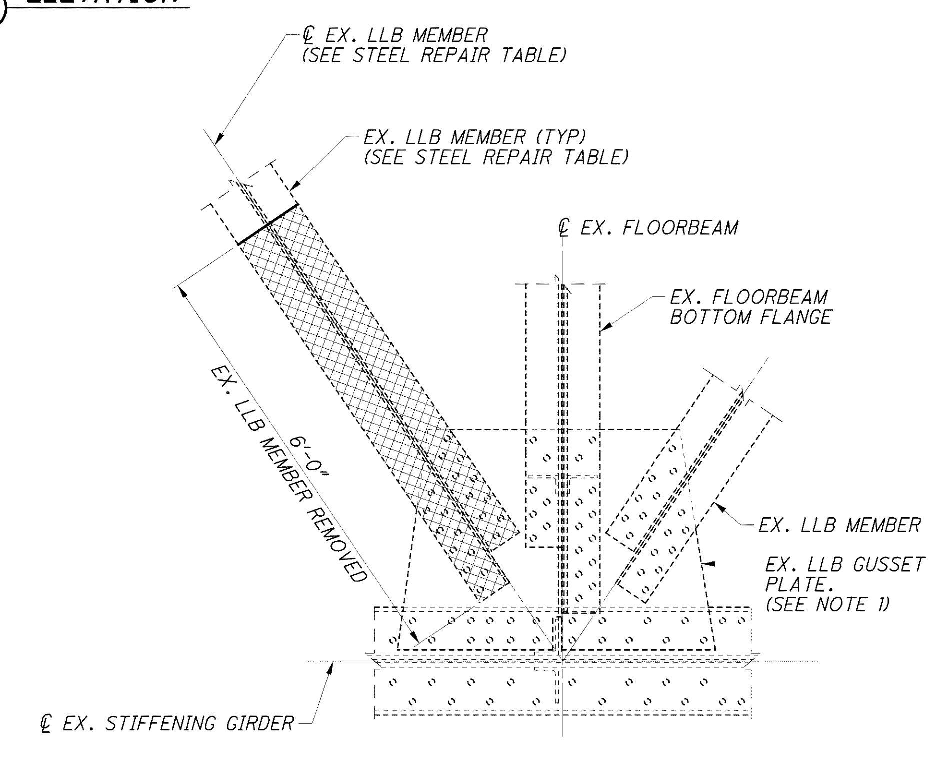


A ELEVATION



REPAIR TYPE 218

SEE NOTE 1



REPAIR TYPE 218 - REMOVAL LIMITS

SEE NOTE 1

LLB SPLICE TABLE

EX. LLB MEMBER	REPLACEMENT MEMBER	FILL PLATE THICKNESS	
		FLANGE: A	WEB: B
2-L6x6x7/16″ SLBB	WT7x45	0.273″	0.435″
2-L6x6x9/16″ SLBB	WT7x45	0.148″	0.685″
2-L8x6x7/16″ SLBB	BUILT-UP	0.313″	0.375″

NOTES:

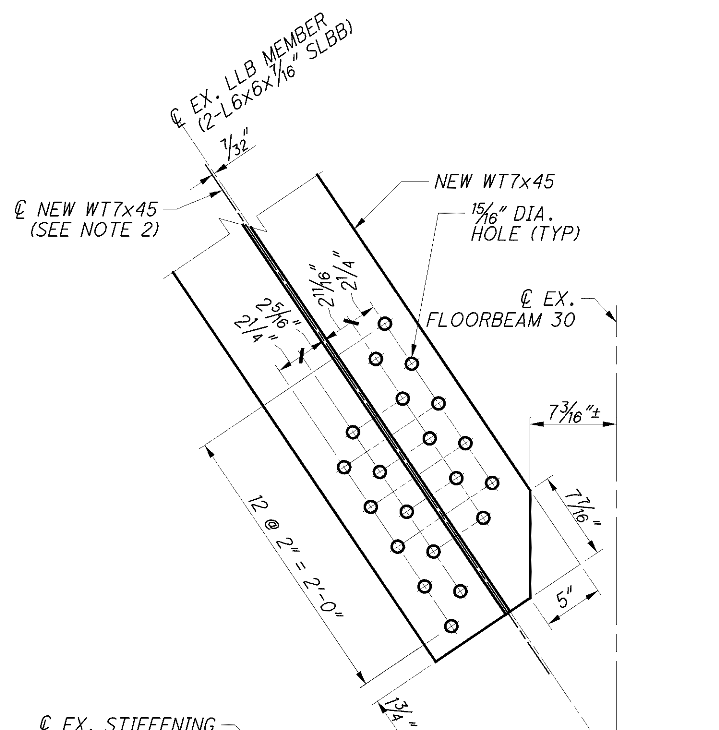
1. LOWER LATERAL BRACING END DETAILS (GUSSET PLATES, RIVETS, AND CLIPPED FLANGE) VARY BY LOCATION. DETAILS SHOWN ON THIS SHEET ARE REPRESENTATIVE.
   FOR ADDITIONAL END DETAILS SEE SHEET 118/227.
   FOR LLB GUSSET PLATE REPAIRS SEE SHEET 112/227.
2. [hatch] = VARIABLE THICKNESS FILL PLATE
   [cross-hatch] = AREA TO BE REMOVED
   LLB = LOWER LATERAL BRACE
   SLBB = SHORT LEGS BACK TO BACK
3. EXISTING LOWER LATERAL BRACE STEEL IS SILICON STEEL.
4. EXISTING RIVETS ARE ⅞″ DIAMETER.
5. NEW WT7x45 SECTION SHALL REPLACE EXISTING 2-L6x6 MEMBERS. NEW BUILT-UP T-SECTION SHALL REPLACE EXISTING 2-L8x6 MEMBERS. SEE SECTION "A" ON SHEET 118/227 FOR BUILT-UP MEMBER DETAILS.
6. FOR REPAIR LOCATIONS, SEE SHEETS 80/227, 81/227 AND 83/227.
7. FOR REPAIR DESCRIPTION, SEE SHEET 15/227.
8. LLB END REACTION FOR TEMPORARY SUPPORT IS 1.0 KIPS. SEE SHEET 112/227 FOR DETAILS.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

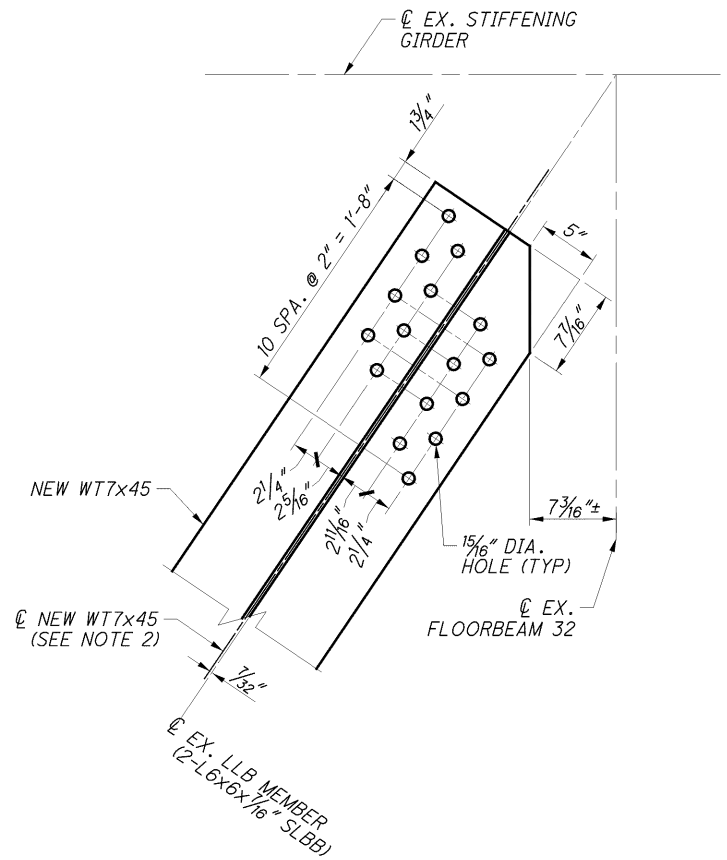
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 23 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

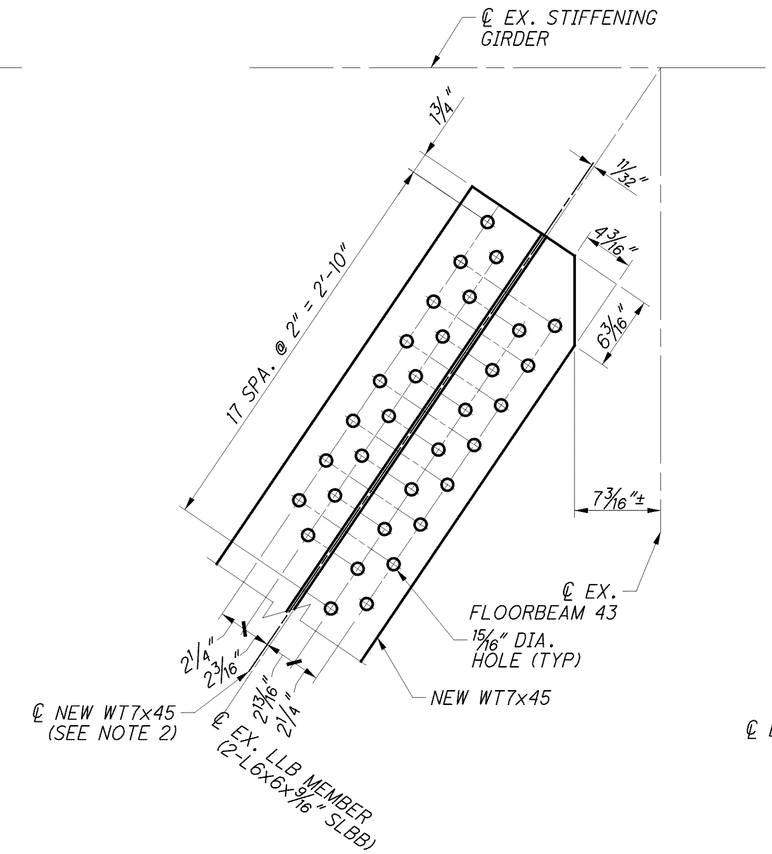
LUC-2-18.62
PID No. 80551



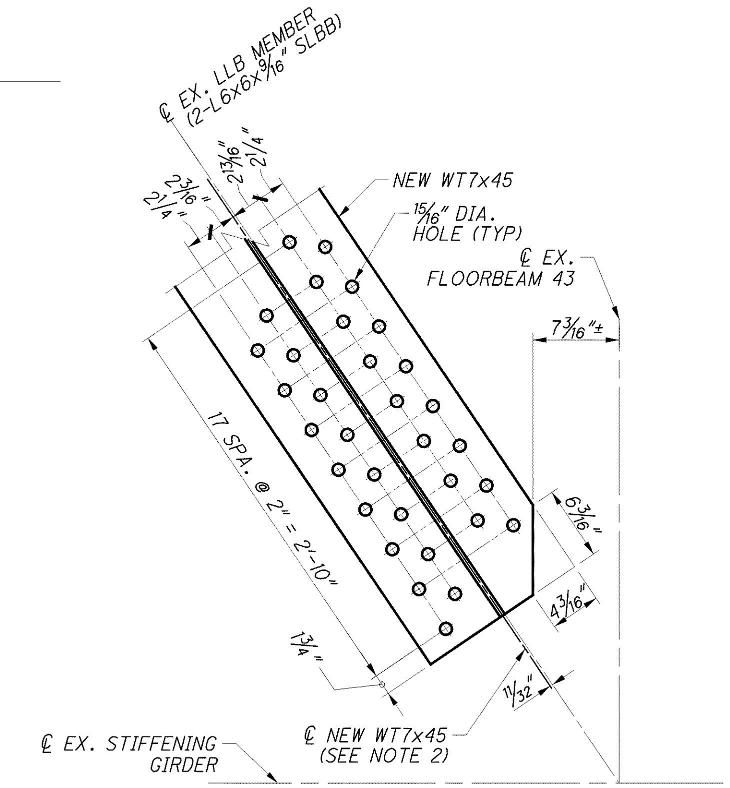
REPAIR TYPE 218A



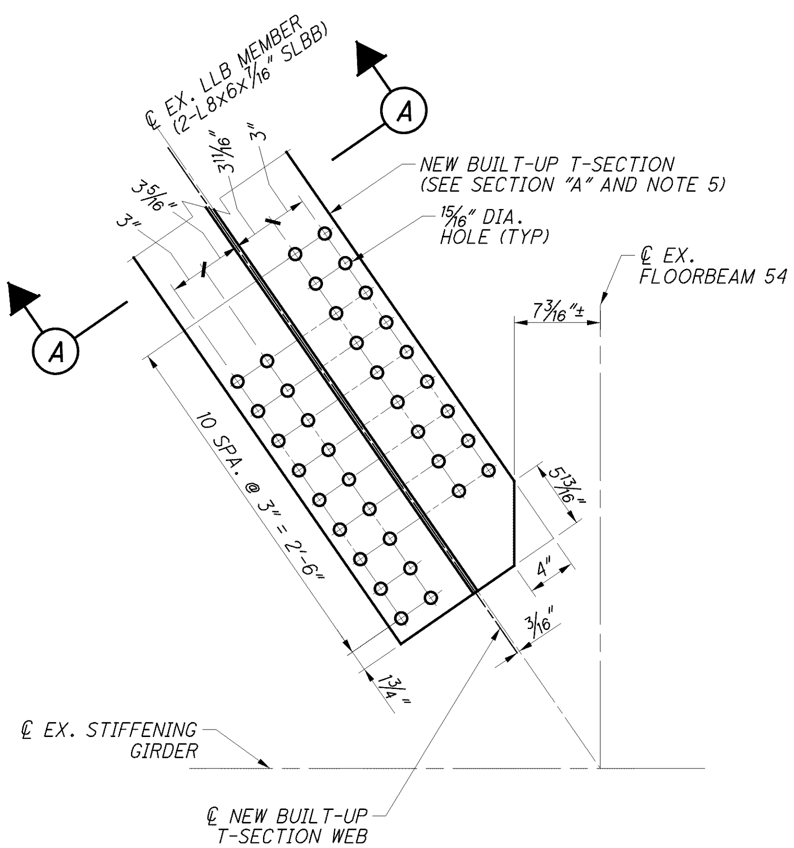
REPAIR TYPE 218A



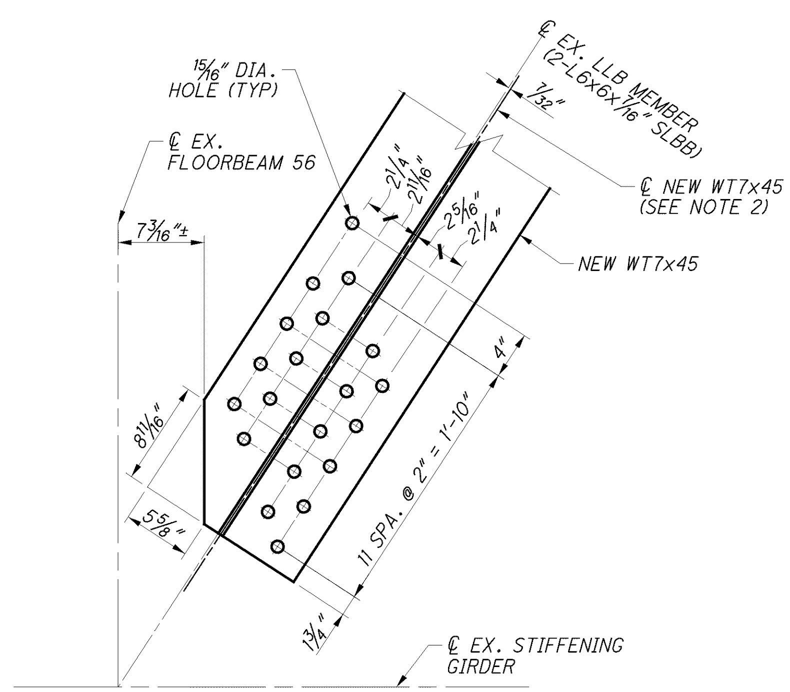
REPAIR TYPE 218A



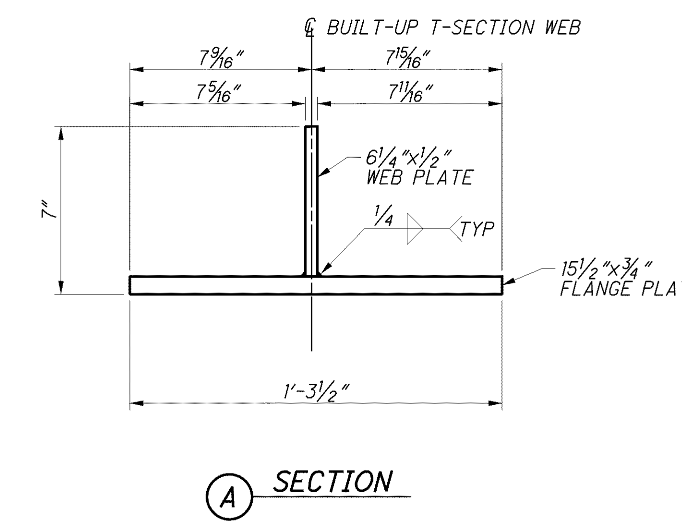
REPAIR TYPE 218A



REPAIR TYPE 218B



REPAIR TYPE 218A



(A) SECTION

NOTES:

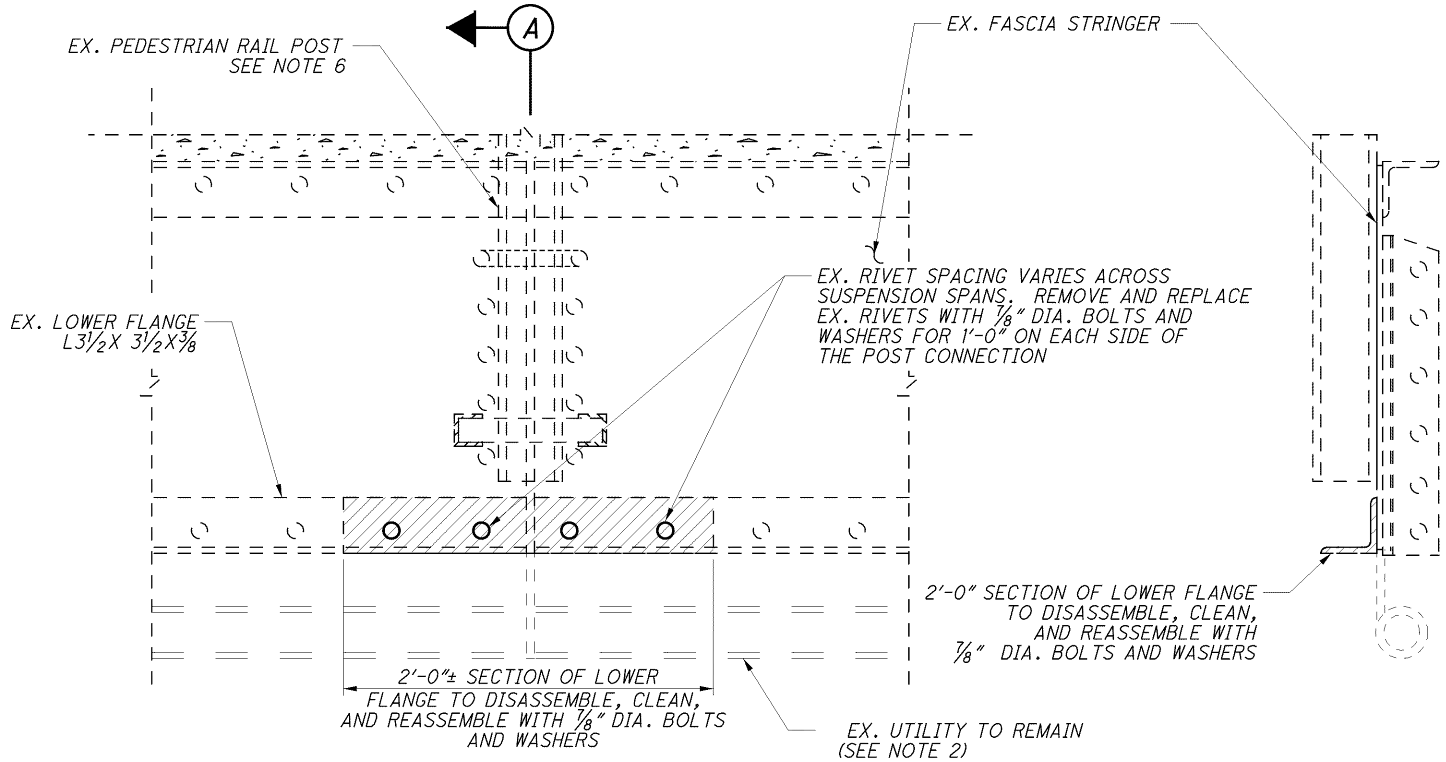
1. LOWER LATERAL GUSSET PLATES ARE NOT SHOWN FOR CLARITY. SEE SHEET 117/227 FOR NOTES AND TYPICAL DETAILS FOR REPAIR TYPE 218.
2. ALL PROPOSED HOLE LOCATIONS ARE DIMENSIONED FROM THE EDGES, ENDS, AND CENTERLINE OF WEB OF THE NEW WT7x45 OR NEW BUILT-UP T-SECTION UNLESS OTHERWISE NOTED.
3. ALL PROPOSED HOLES ARE 15/16" DIAMETER.
4. LLB = LOWER LATERAL BRACE
   SLBB = SHORT LEGS BACK TO BACK
5. NEW WT7x45 SECTION SHALL REPLACE EXISTING 2-L6x6 MEMBERS. NEW BUILT-UP T-SECTION SHALL REPLACE EXISTING 2-L8x6 MEMBERS. SEE SECTION "A" FOR BUILT-UP MEMBER DETAILS.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4661 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD/GCK	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

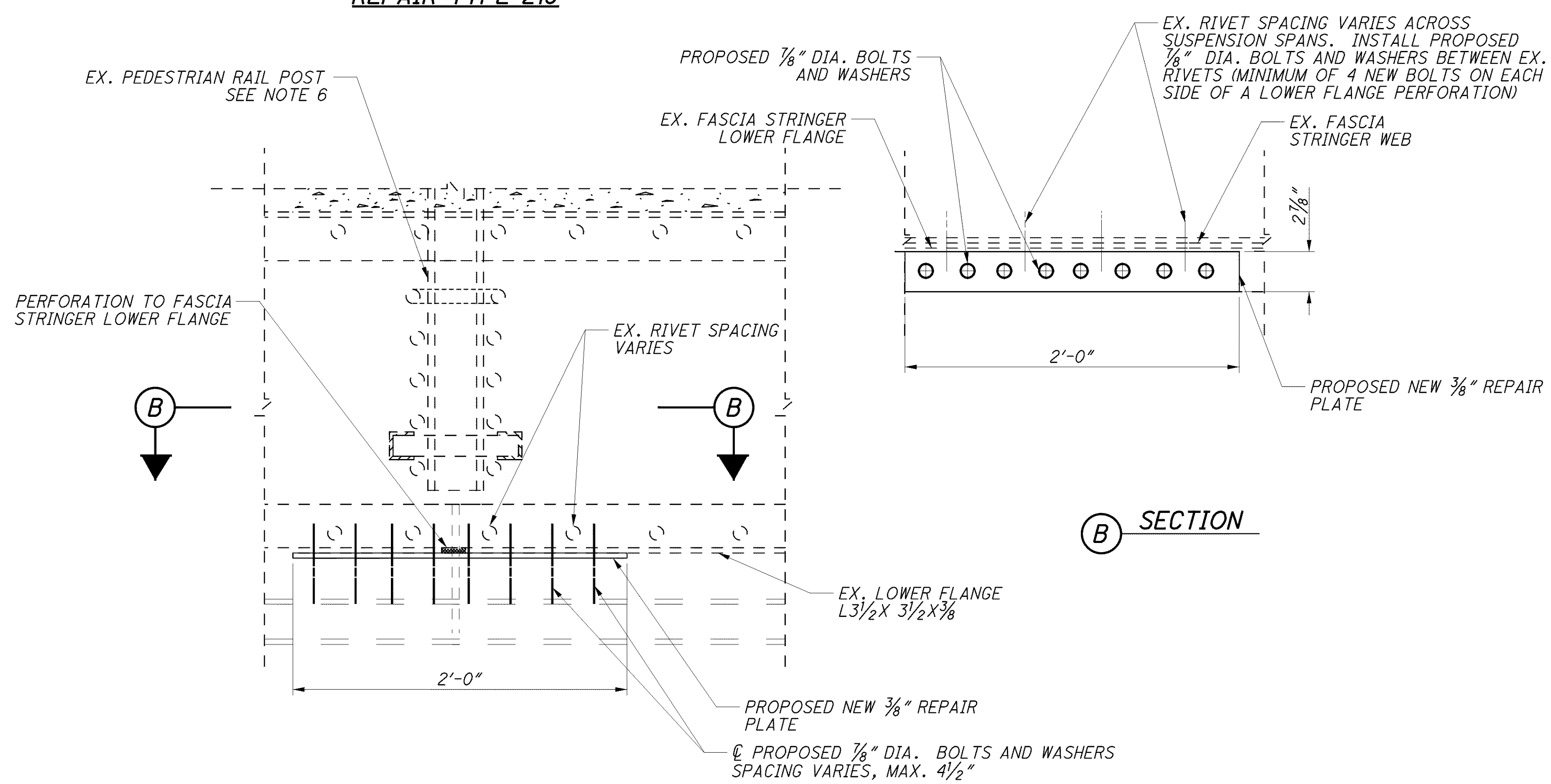
MISCELLANEOUS STEEL REPAIR DETAILS 24 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



REPAIR TYPE 219

A SECTION



REPAIR TYPE 220

B SECTION

NOTES:

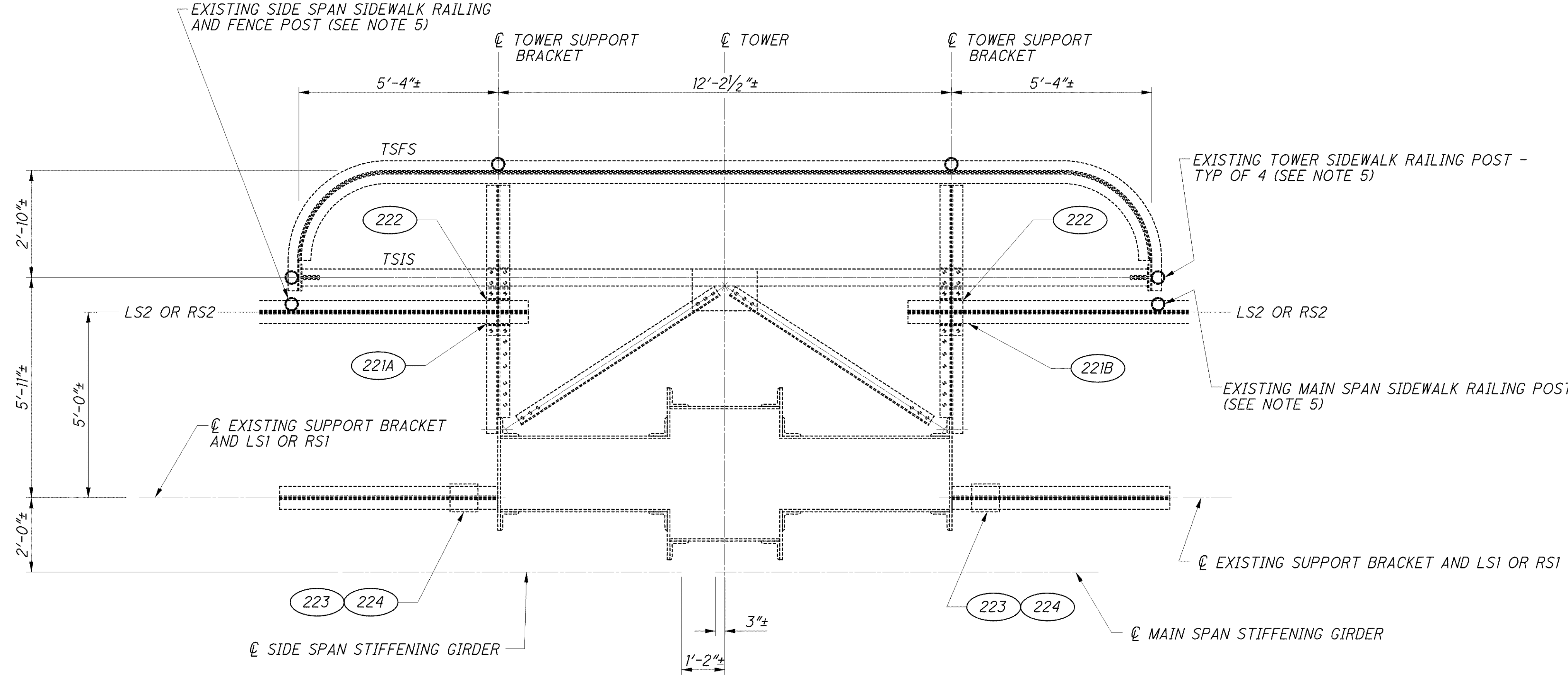
1. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
2. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
3. (hatched) DENOTES AREA TO BE REPAIRED.
4. FOR REPAIR LOCATIONS, SEE SHEETS 79/227 THROUGH 83/227.
5. FOR REPAIR DESCRIPTION, SEE SHEET 15/227.
6. SEE SHEETS 59/227, 60/227, AND 193/227 FOR RAILING REMOVAL AND REPLACEMENT DETAILS.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C.

DESIGNED	DRAWN	REVIEWED	DATE
DEK	DEK/GCK	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 25 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



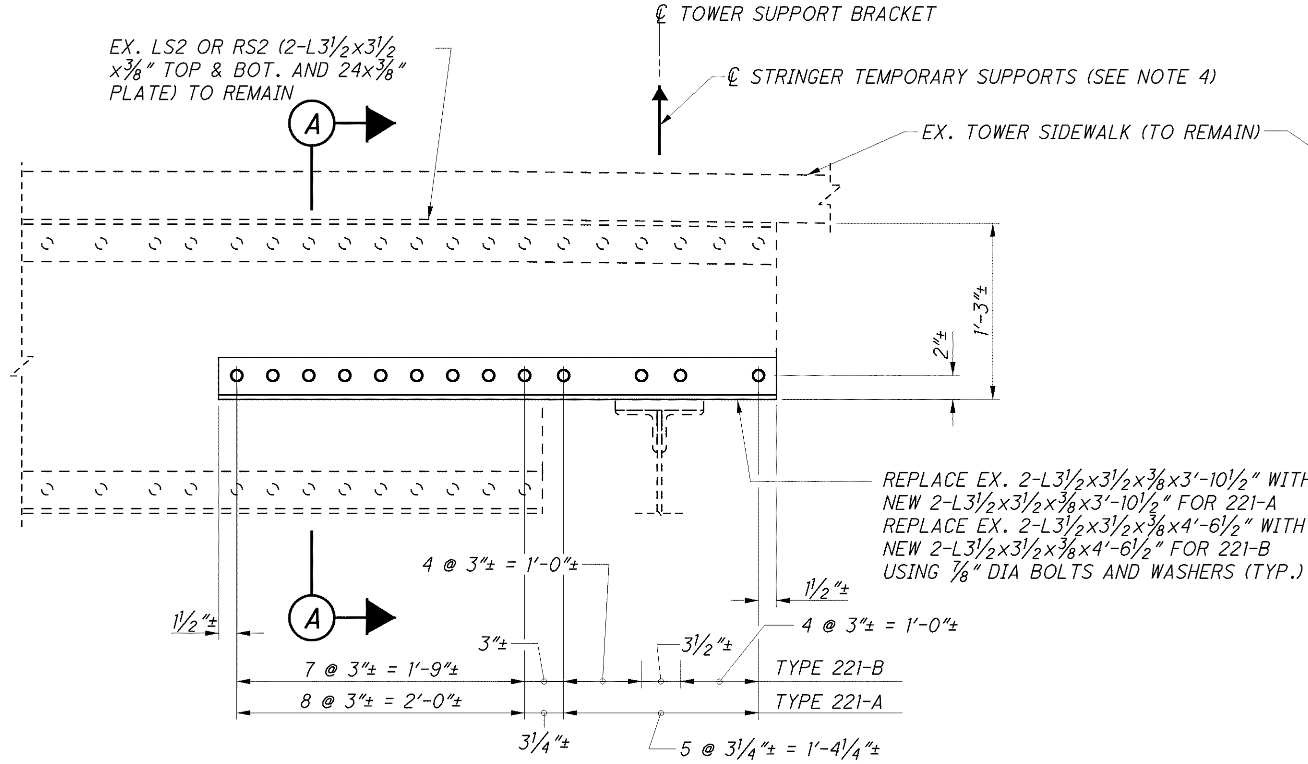
TOWER SIDEWALK FRAMING PLAN

LEGEND:

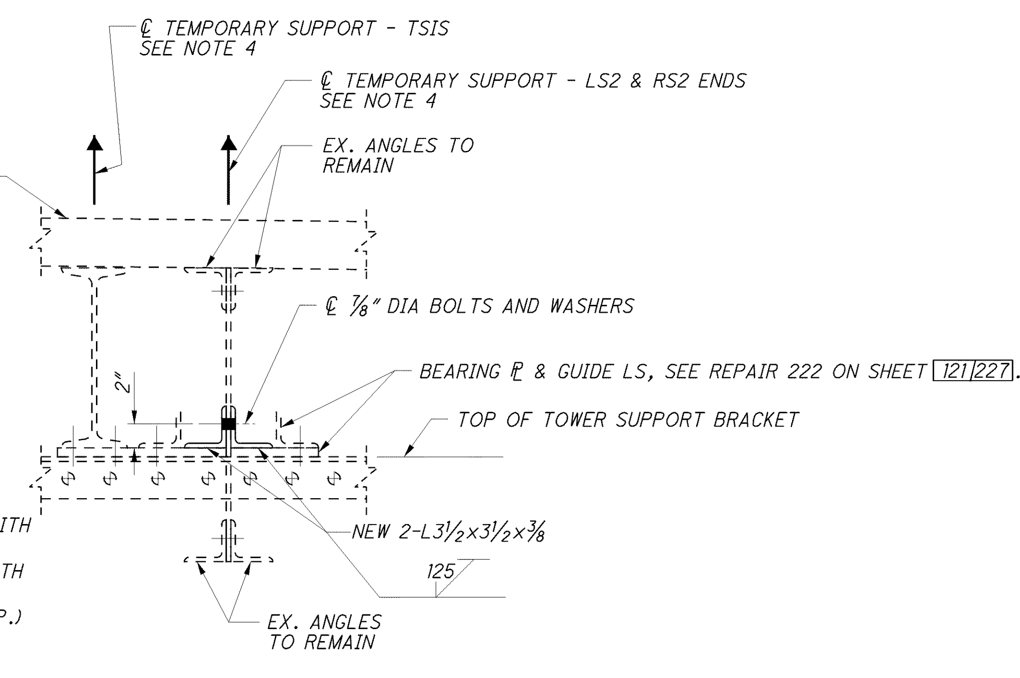
TSFS = TOWER SIDEWALK FASCIA STRINGER
TSIS = TOWER SIDEWALK INTERIOR STRINGER

NOTES:

1. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
2. FOR REPAIR LOCATIONS, SEE SHEET 78/227.
3. FOR REPAIR DESCRIPTION, SEE SHEET 16/227.
4. TOWER SIDEWALK STRINGER TSIS TEMPORARY SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 3 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION DEAD LOAD APPLIED TO THE SIDEWALK. TOWER SIDEWALK FASCIA STRINGERS LS2 AND RS2 TEMPORARY END SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 5 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION DEAD LOAD APPLIED TO THE SIDEWALK.
   THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND CONTRIBUTION OF ANY CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 50 PSF.
5. FOR RAILING AND FENCE REMOVAL, SEE SHEET 60/227.
   FOR RAILING AND FENCE REPLACEMENT, SEE SHEET 193/227.



REPAIR TYPE 221-A
REPAIR TYPE 221-B



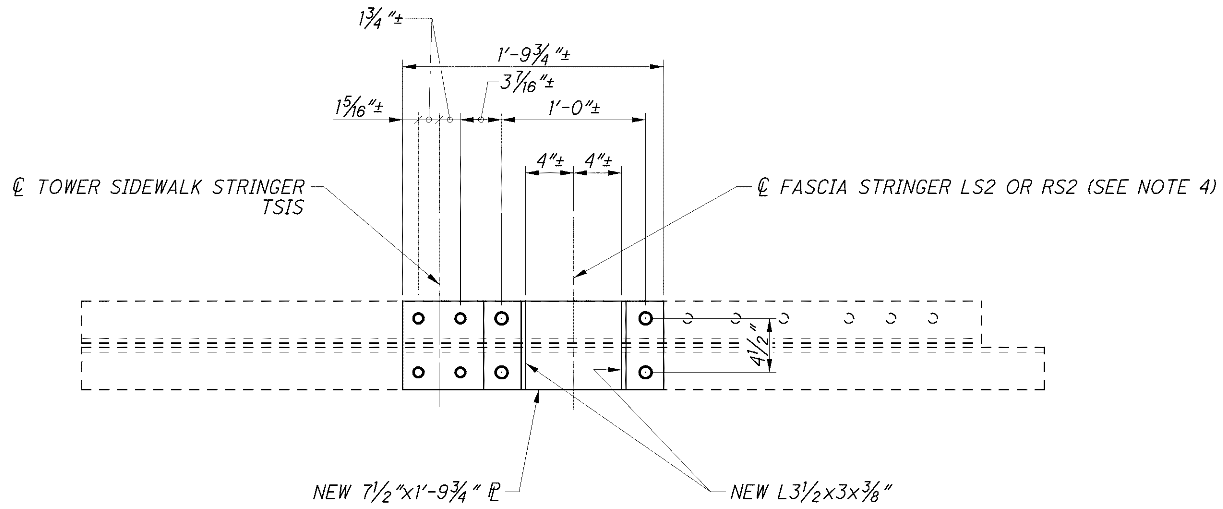
(A) SECTION

Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

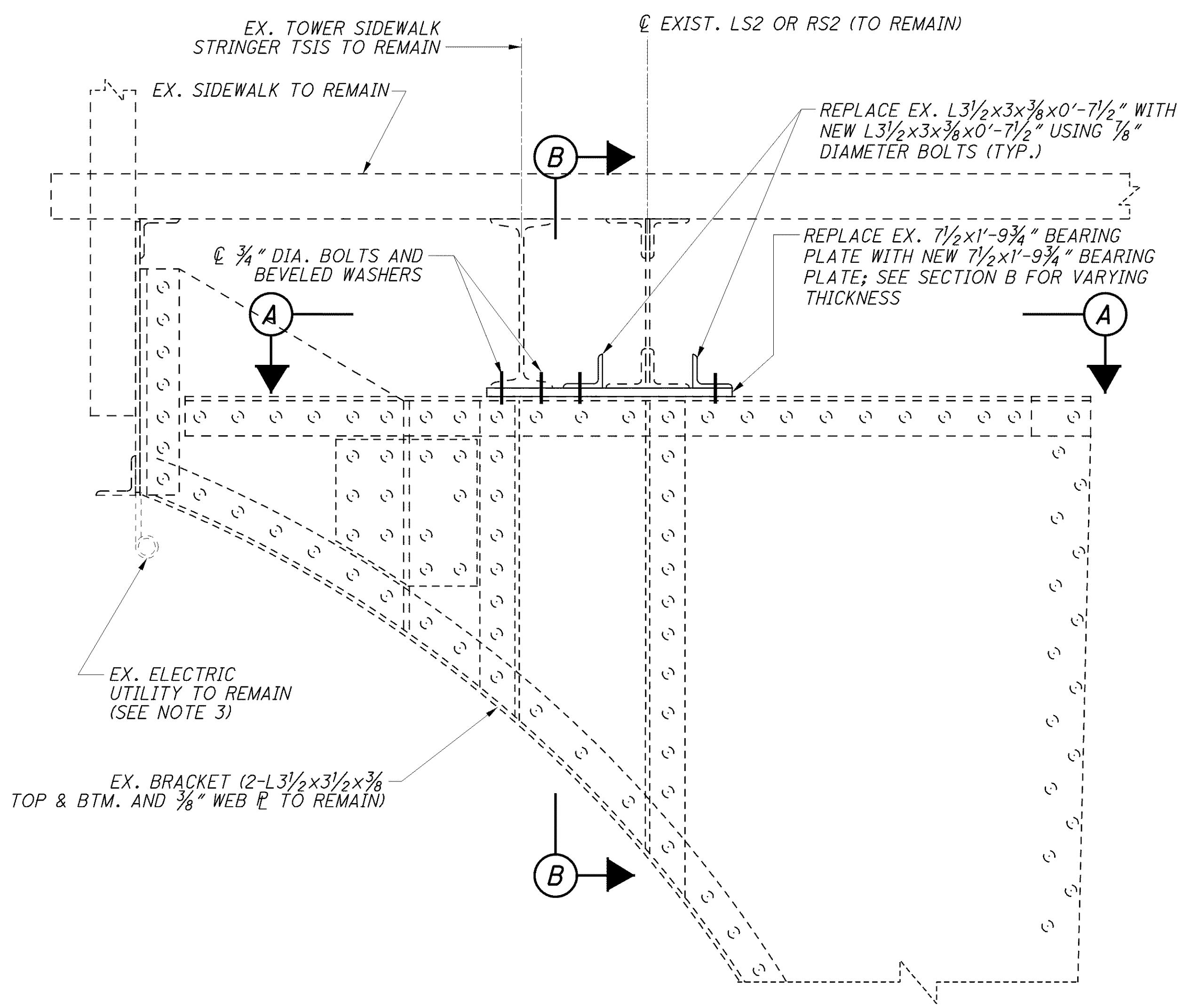
DESIGNED	DRAWN	REVIEWED	DATE
EFD/DEK	JJA	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 26 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

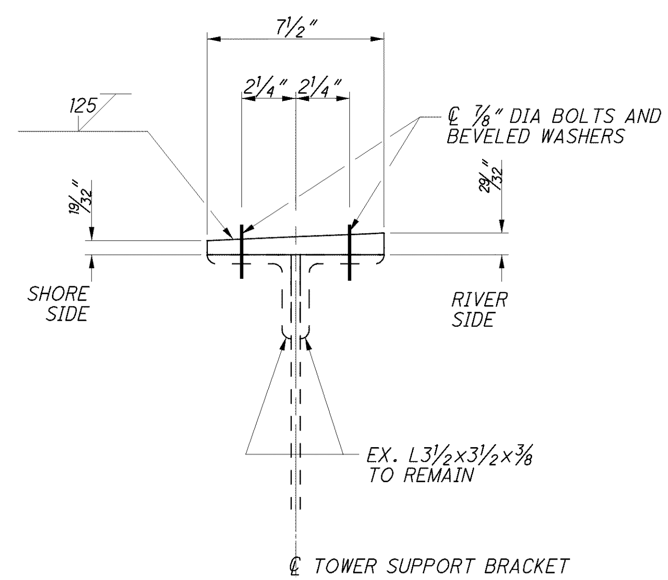
LUC-2-18.62
PID No. 80551



Ⓐ SECTION



REPAIR TYPE 222



Ⓑ SECTION

NOTES:

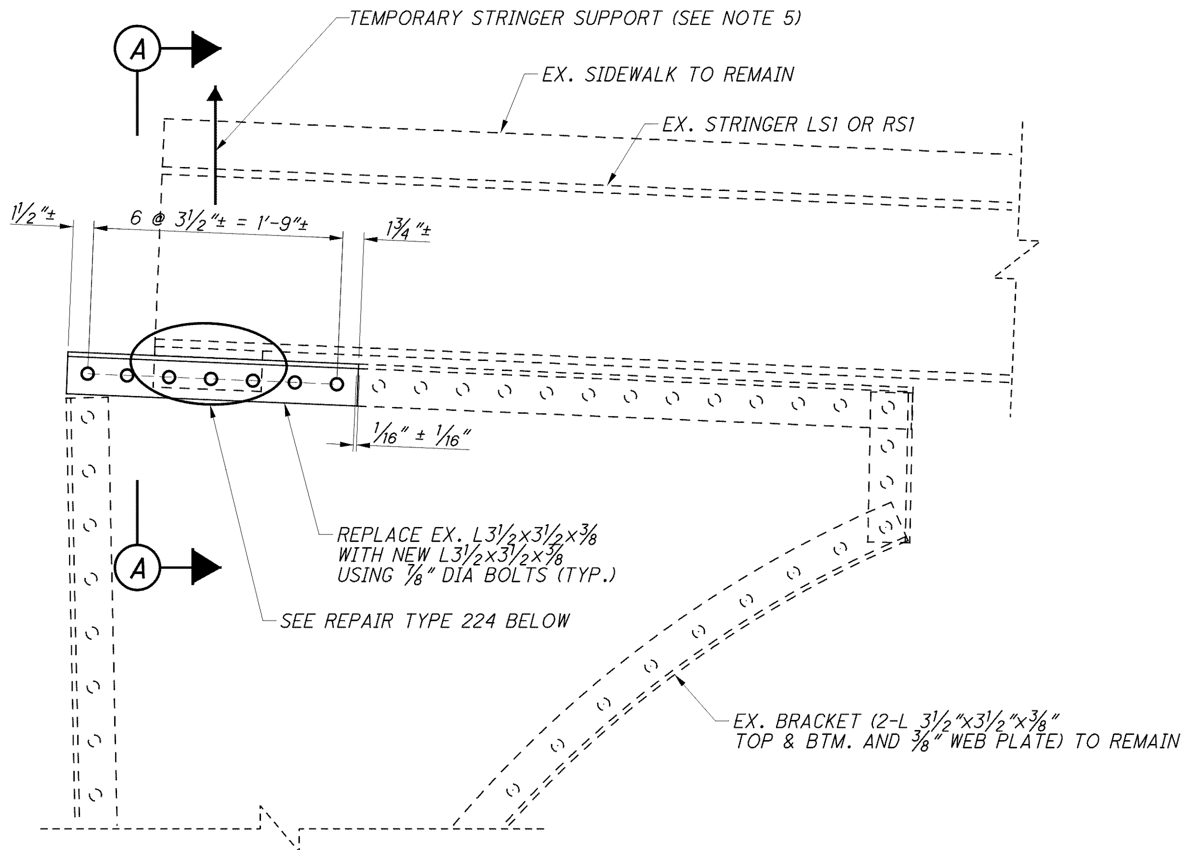
1. FOR TOWER SIDEWALK FRAMING PLAN SEE SHEET 120/227.
2. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
3. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
4. SEE SHEET 120/227 FOR CONCURRENT STRINGER LS2 OR RS2 REPAIR TYPE 221A OR 221B.
5. FOR REPAIR LOCATIONS, SEE SHEETS 78/227 AND 120/227.
6. FOR REPAIR DESCRIPTION, SEE SHEET 16/227.
7. SEE SHEET 120/227 FOR REQUIRED TEMPORARY SUPPORT CAPACITY OF SIDEWALK FASCIA STRINGER LS2 & RS2 AND TOWER SIDEWALK STRINGER TSIS.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

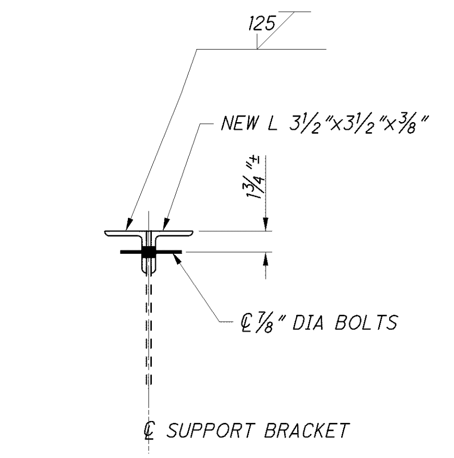
DESIGNED	DRAWN	REVIEWED	DATE
EFD/DEK	JJA	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 27 OF 31
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

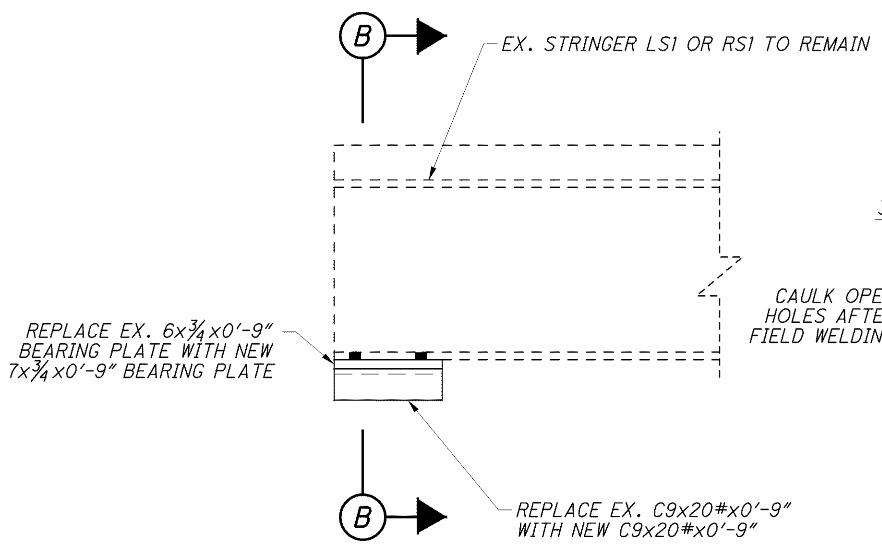


REPAIR TYPE 223

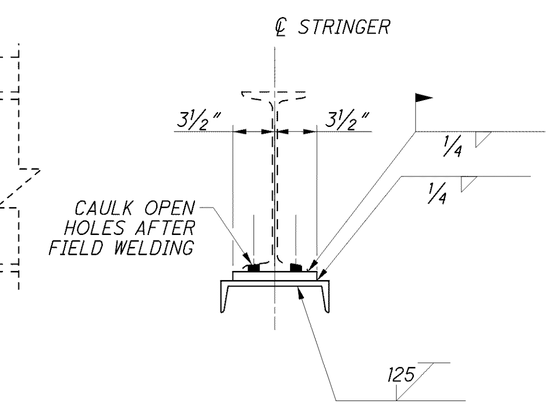


A SECTION

(STRINGER NOT SHOWN FOR CLARITY)



REPAIR TYPE 224



B SECTION

NOTES:

1. FOR TOWER SIDEWALK FRAMING PLAN SEE SHEET 120/227 .
2. SEE SHEET 100/227 FOR ADDITIONAL NOTES.
3. FOR REPAIR LOCATIONS, SEE SHEETS 78/227 AND 120/227 .
4. FOR REPAIR DESCRIPTION, SEE SHEET 16/227.
5. TEMPORARY INTERIOR STRINGER END SUPPORT SHALL BE CAPABLE OF SUPPORTING AN UNFACTORED DEAD LOAD OF 4.5 KIPS, WHICH INCLUDES AN ALLOWANCE FOR 50 PSF CONSTRUCTION DEAD LOAD APPLIED TO THE TRIBUTARY AREA OF THE STRINGER. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT DESIGN AND CONTRIBUTION OF ANY CONSTRUCTION LIVE LOADS AND DEAD LOADS EXCEEDING 50 PSF.

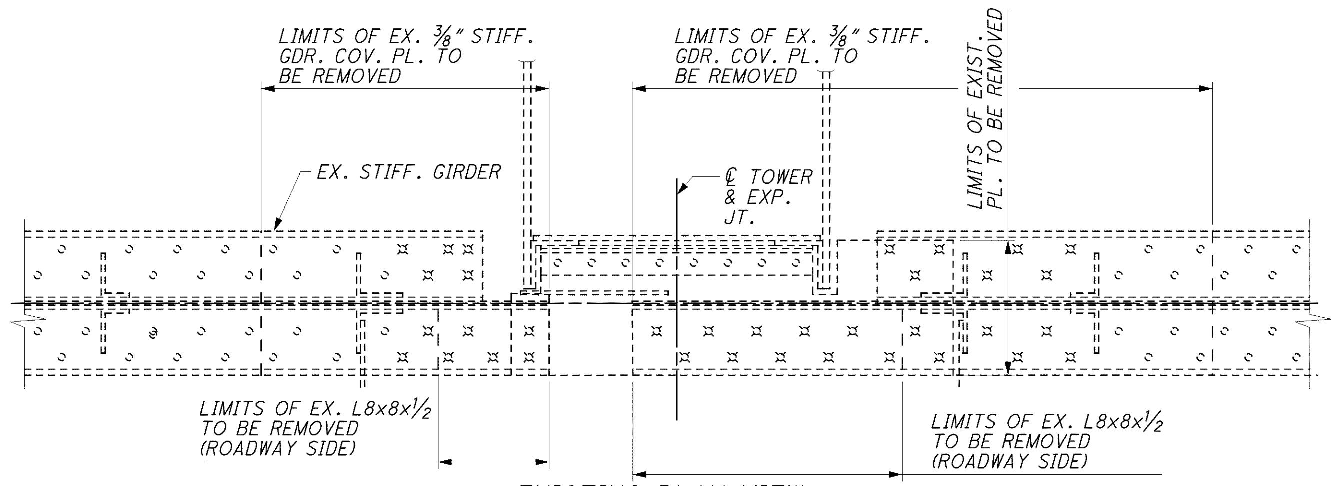
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED EFD/DEK | DRAWN JJA | REVIEWED PLC | DATE 8/12
CHECKED LMS | REVISED | STRUCTURE FILE NUMBER 4800303

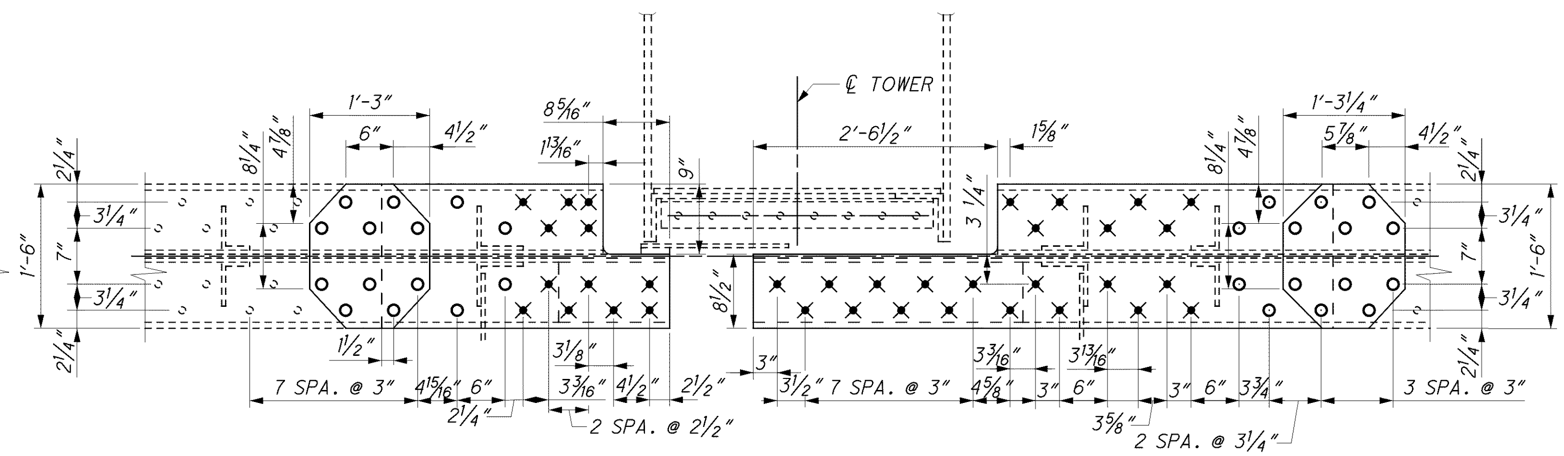
MISCELLANEOUS STEEL REPAIR DETAILS 28 OF 31

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

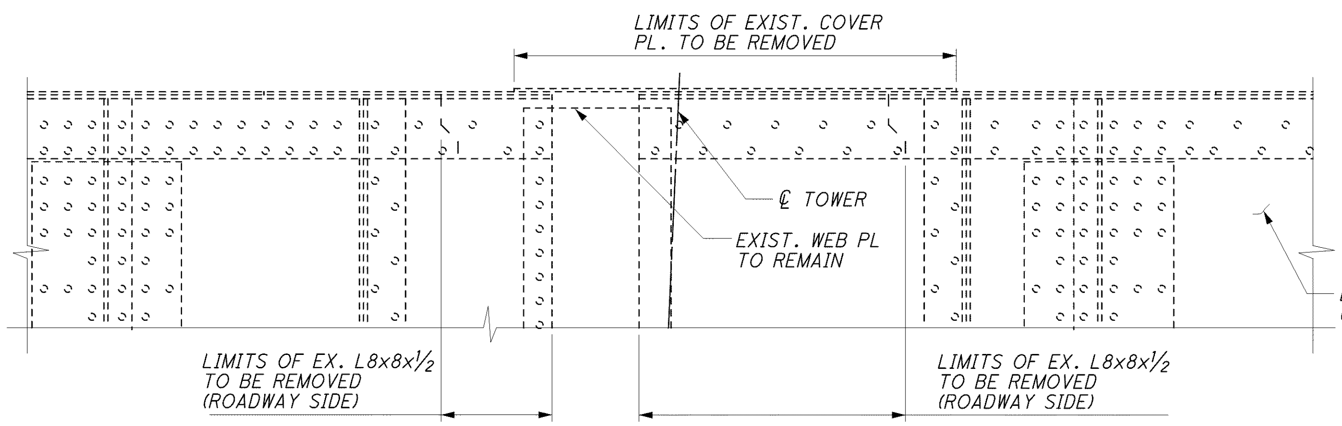
LUC-2-18.62
PID No. 80551



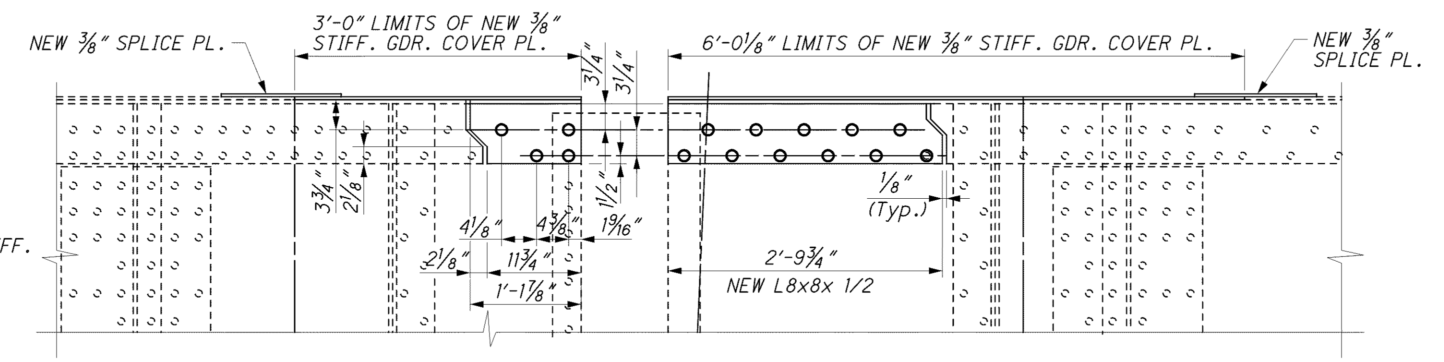
EXISTING PLAN VIEW



NEW PLAN VIEW STIFF. GIRDER COVER PL.
(4 LOCATIONS)



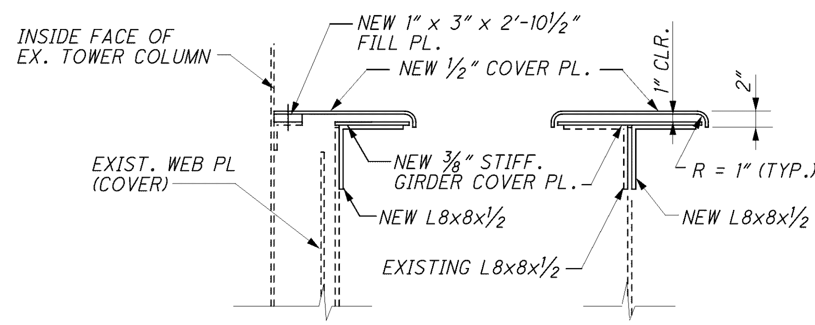
EXISTING ELEVATION



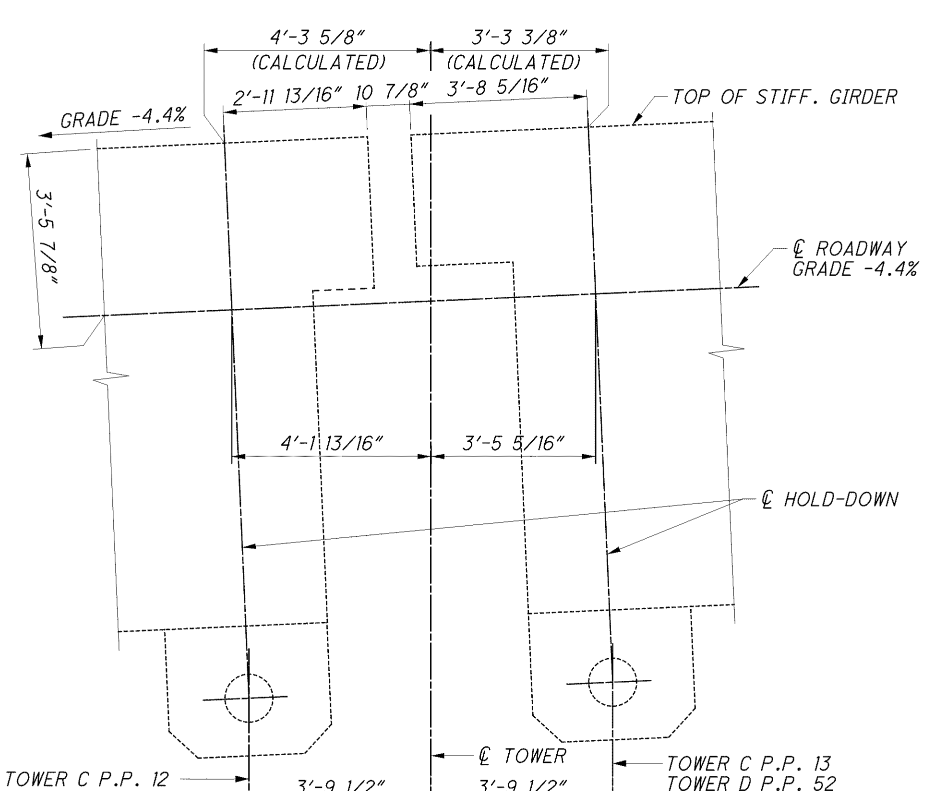
NEW ELEVATION STIFF. GIRDER COVER PL.

REPAIR TYPE 321

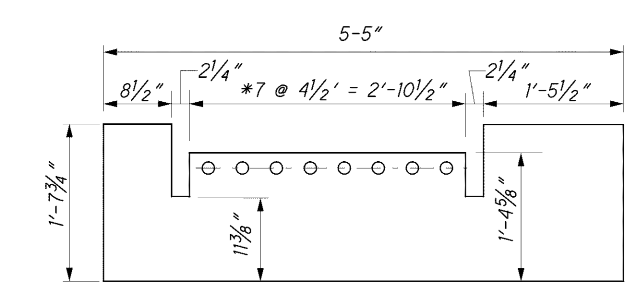
FOR REPAIR LOCATIONS, SEE SHEETS 78/227, 79/227, 82/227, AND 83/227.



SECTION A-A   SECTION B-B

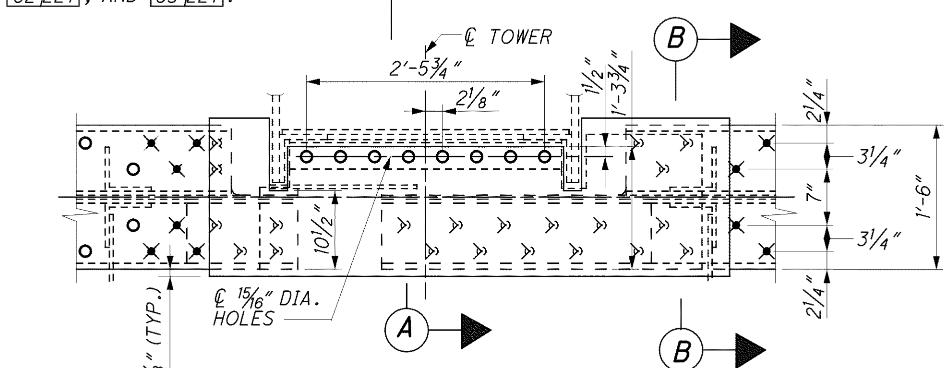


GEOMETRY ELEVATION

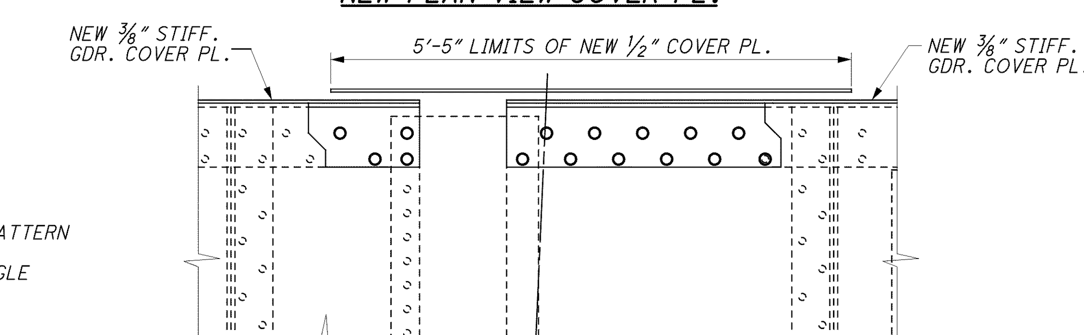


NEW COVER PLATE DETAIL

* MATCH BOLT PATTERN OF THE HOLES ON THE EX. ANGLE



NEW PLAN VIEW COVER PL.



NEW ELEVATION COVER PL.
(4 REQUIRED)

NOTES:

1. ALL EXISTING DIMENSIONS ARE AS PER ORIGINAL PLANS AND ARE "±" UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS AS PER CMS 102.05 AND 105.02 TO ENSURE PRORER FIT OF REPAIRS.
2. CONTRACTOR SHALL VERIFY ALL REPAIR TYPE LOCATIONS IN THE FIELD WITH THE ENGINEER PRIOR TO ORDERING AND FABRICATING MATERIALS.
3. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
4. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.

LEGEND:

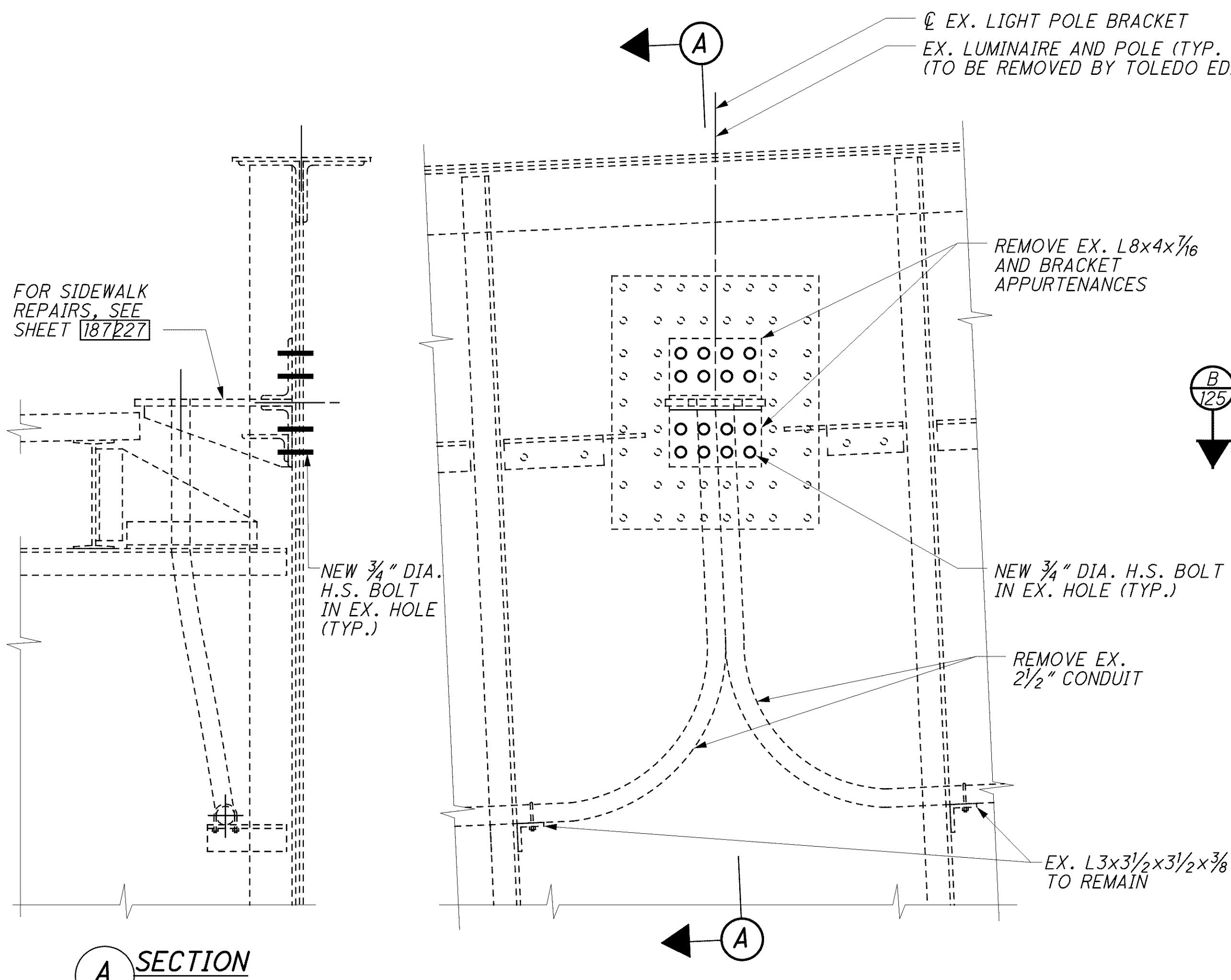
» DENOTES HIDDEN COUNTERSUNK BOLT.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
NDT	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AK		4800303	

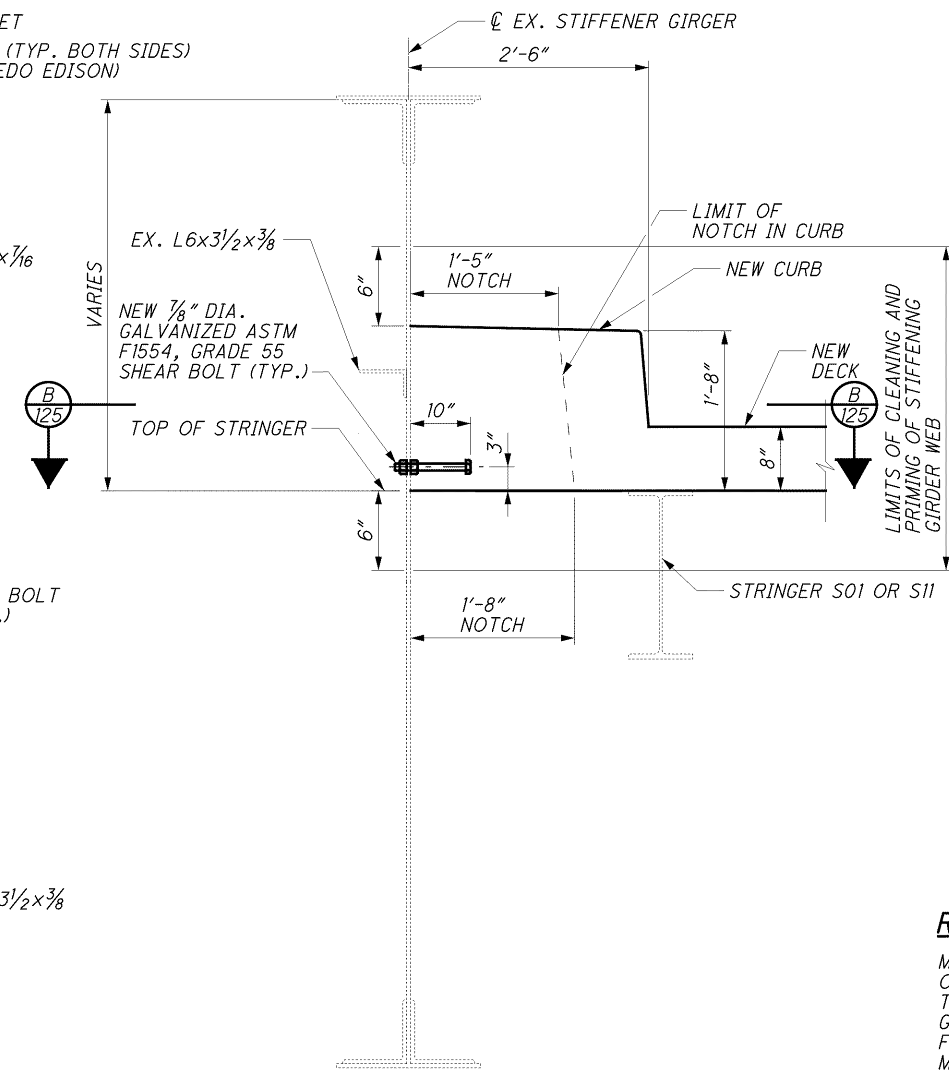
MISCELLANEOUS STEEL REPAIR DETAILS 29 OF 31
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



REPAIR TYPE 324

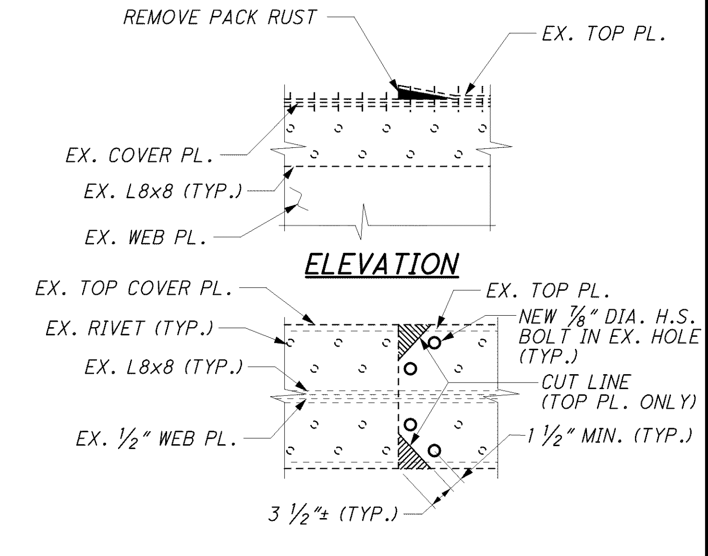
LIGHT POLE BRACKET RETROFIT
AT SUSPENDED SPANS
(19 LOCATIONS)



REPAIR TYPE 323

(REINFORCING STEEL NOT SHOWN FOR CLARITY)
LEFT (DOWNSTREAM) GIRDER SHOWN,
RIGHT (UPSTREAM) GIRDER OPPOSITE HAND

FOR REPAIR LOCATIONS, SEE SHEETS 78/227 THRU 83/227.



PLAN

REPAIR TYPE 322

(TOP FLANGE REPAIRS SHOWN,
BOTTOM FLANGE REPAIRS SIMILAR)

FOR REPAIR LOCATIONS, SEE SHEETS 78/227 AND 83/227.

REPAIR TYPE 324 NOTES:

REPLACE 16 EX. H.S. BOLTS IN STIFFENING GIRDER WEB WITH NEW ASTM A325 3/4" ϕ H.S. BOLTS AFTER BRACKETS ARE REMOVED.

ACTUAL FIELD LOCATIONS VARY.
SEE LIGHTING PLAN SHEETS 66/227 THROUGH 68/227 FOR DISPOSITION OF EXISTING UTILITIES.

REPAIR TYPE 322 NOTES:

MECHANICALLY CUT THE CORNERS OF THE TOP PLATES. SET GAUGE ON BLADE TO 1/16" LESS THAN THICKNESS OF PLATE BEING CUT. CUT THROUGH PLATE, BREAK OFF REMAINING THICKNESS AFTER CUT AND GRIND SMOOTH EDGES OF STEEL PLATE ALONG CUT LINE. DO NOT FLAME-CUT THE EXISTING STRUCTURAL STEEL. MAINTAIN A 1 1/2" MINIMUM SPACE BETWEEN HOLE CENTERLINE AND EDGE OF PLATE.

REMOVE 4 EXISTING RIVETS. REMOVE PACK RUST, CLEAN SURFACES, APPLY EPOXY PRE-PRIMER AND APPLY EPOXY-TYPE REPAIR MATERIAL TO CAVITIES. INSTALL 4 NEW BOLTS IN EXISTING HOLES AS INDICATED.

EXISTING RIVET PATTERN MAY VARY PER LOCATION.

REPAIR TYPE 323 NOTES:

PRIOR TO POURING THE DECK, DRILL NEW HOLES IN THE STIFFENING GIRDER WEB AND INSTALL NEW 7/8" DIA. GALVANIZED ASTM F1554, GRADE 55 SHEAR BOLTS AS SHOWN.

CLEAN AND PRIME COAT INSIDE FACE OF STIFFENING GIRDER WEB FOR AN AREA EXTENDING 0'-6" FROM THE BOTTOM OF THE DECK AND THE TOP OF THE CURB FULL LENGTH OF THE STIFFENING GIRDER.

THIS IS AN APPROXIMATE AREA OF 2.67 SQUARE FEET PER FOOT ALONG THE LENGTH OF THE STIFFENING GIRDER. THE STIFFENING GIRDER SHALL BE CLEANED AND PRIMED BEFORE THE DECK IS POURED.

NOTES:

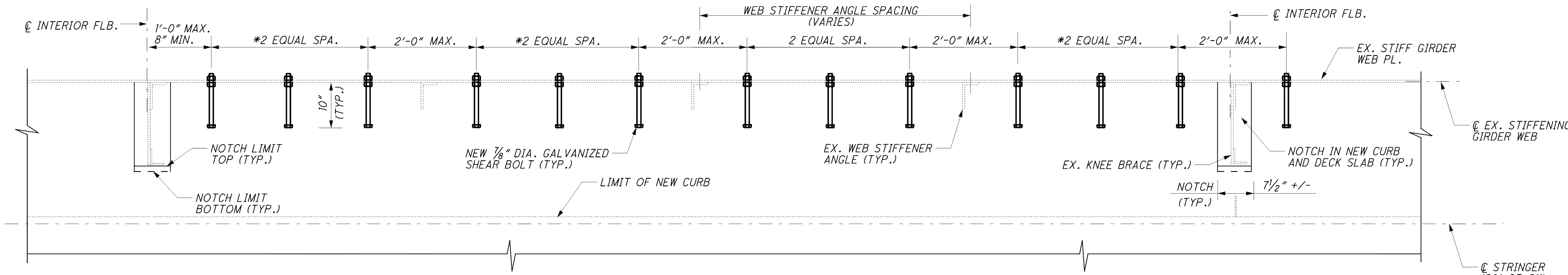
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. FOR DECK REINFORCING, SEE SHEETS 171/227 THRU 178/227.
5. FOR SHEAR BOLT SPACING, SEE SHEET 125/227.
6. FOR TRANSVERSE SECTION AT SUSPENSION SPANS, SEE SHEET 59/227.
7. FOR ADDITIONAL LUMINAIRE AND LIGHT POLE INFORMATION, SEE SHEET 59/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED MJS	CHECKED NDT	DRAWN ELS	REVISED
REVIEWED SRE	DATE 8/12	STRUCTURE FILE NUMBER 4800303	

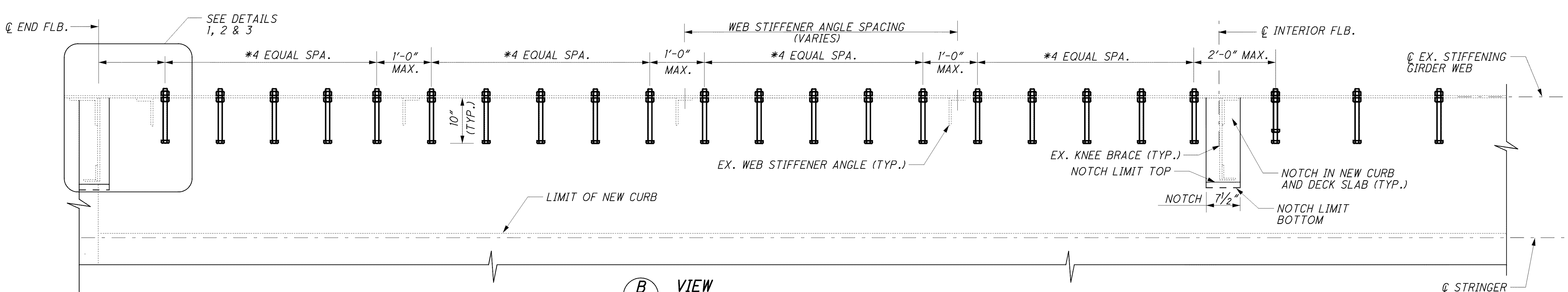
MISCELLANEOUS STEEL REPAIR DETAILS 30 OF 31
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



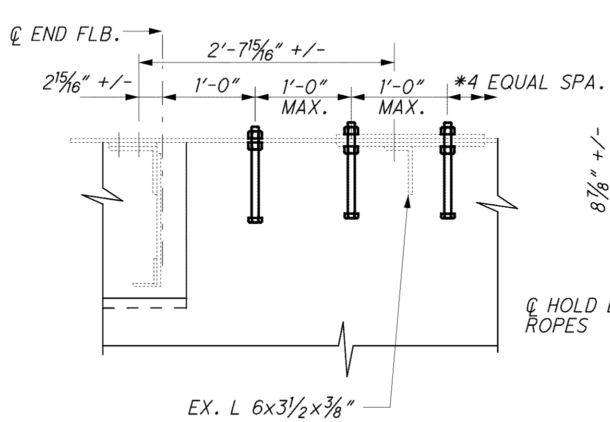
B/124 VIEW
SHEAR BOLT SPACING AT INTERIOR PANELS

* ADJUST SPACING WHEN NECESSARY TO AVOID WEB SPLICE PLATES, FILL PLATES, RIVETS ETC. MAINTAIN MAXIMUM SHEAR BOLT SPACING OF 2'-0" AT INTERIOR PANELS AND 1-0" AT END PANELS

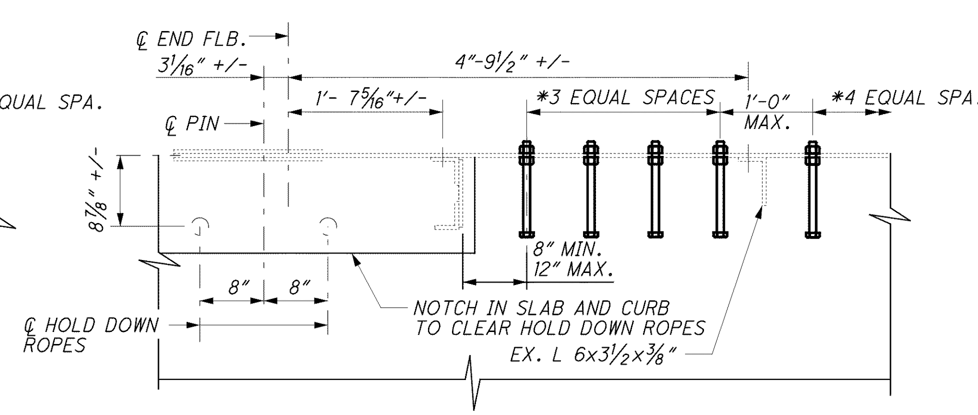


B/124 VIEW
SHEAR BOLT SPACING AT END PANELS

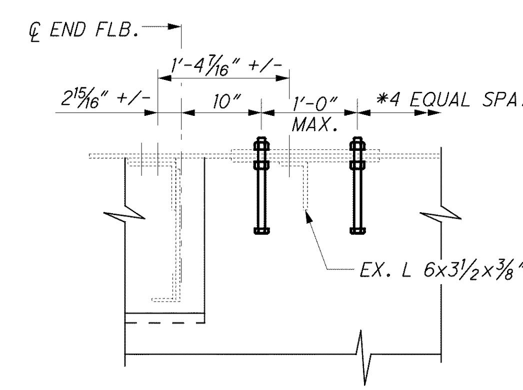
DECK TO STIFFENING GIRDER CONNECTION



1 DETAIL
SIDE SPAN END PANEL AT TOWER



2 DETAIL
SIDE SPAN END PANEL AT PIER



3 DETAIL
MAIN SPAN END PANEL AT TOWER

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. FOR CURB & DECK REINFORCING, SEE SHEETS 171/227 THRU 178/227 AND 185/227 THRU 186/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

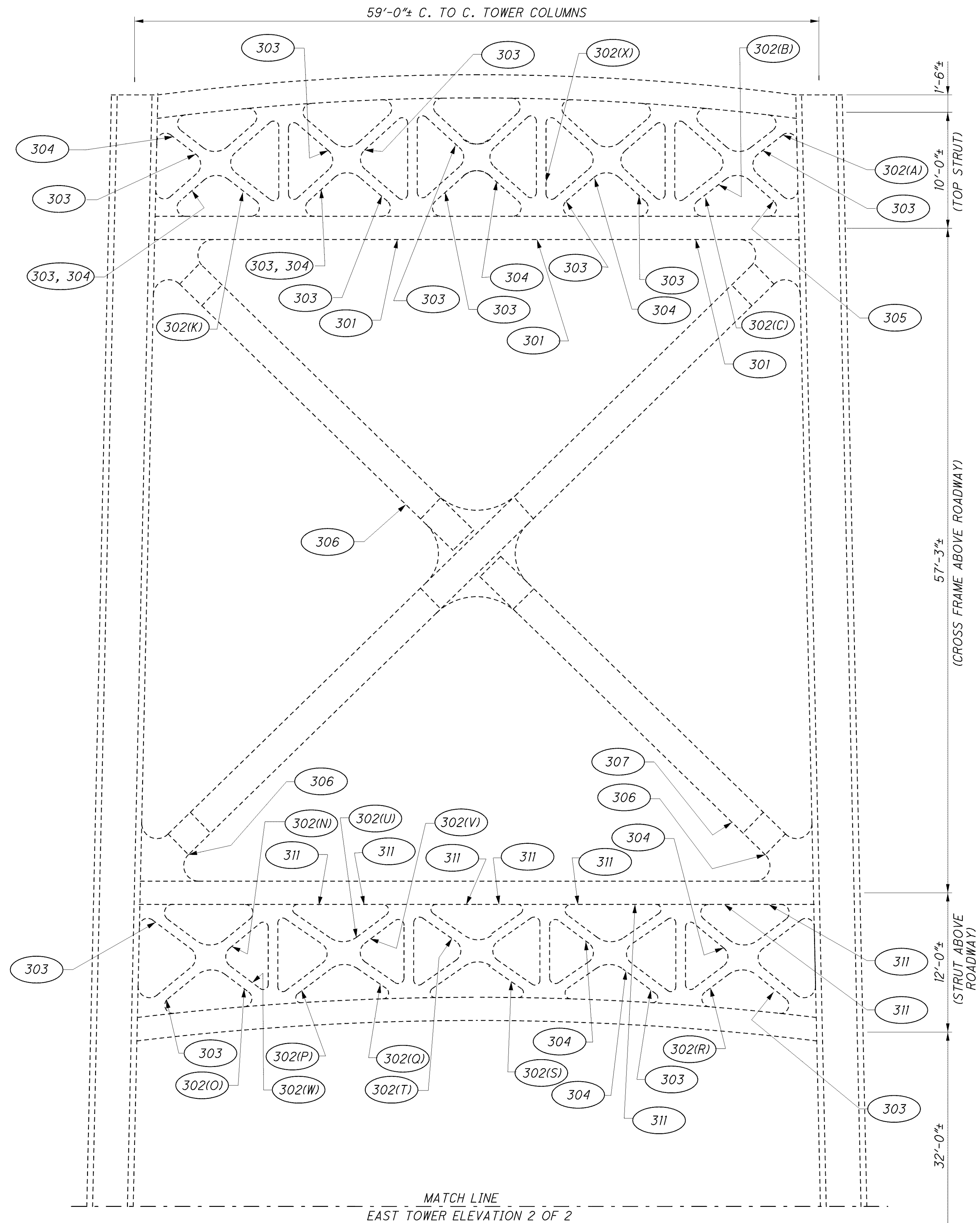
DESIGNED	DRAWN	REVIEWED	DATE
MJS	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AK		4800303	

MISCELLANEOUS STEEL REPAIR DETAILS 31 OF 31
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

125/227

197/327



EXISTING EAST TOWER ELEVATION
(LOOKING WEST)

MISCELLANEOUS STEEL REPAIR DETAILS - EAST TOWER		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
301	REPLACE LACING ANGLE	130
302	REPLACE BATTEN PLATE AND BATTEN STIFFENING ANGLES	130
303	REPLACE BATTEN END STIFFENING ANGLE	130
304	REPLACE BATTEN INTERIOR STIFFENING ANGLE	130
303, 304	REPLACE BATTEN END STIFFENING ANGLE AND BATTEN INTERIOR STIFFENING ANGLE	130
305	REPLACE LACING ANGLE	130
306	REPLACE BATTEN END STIFFENING ANGLE	130
307	REPLACE LACING ANGLE	131
311	REPLACE BATTEN END STIFFENING ANGLE	131

NOTES:

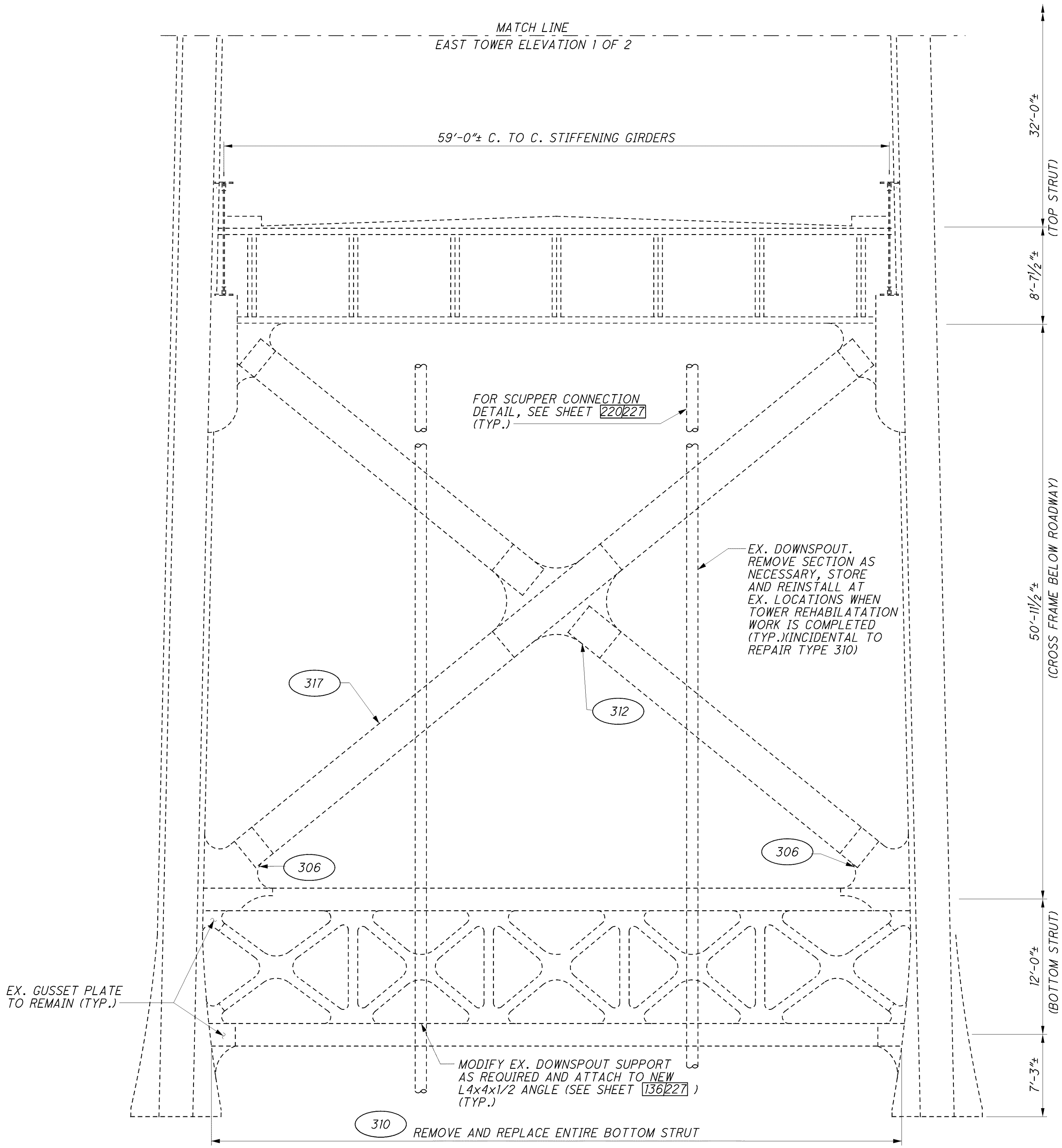
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR REPAIR TYPE 302, THE REPAIR TYPE (_) PREFIX DESIGNATES SPECIFIC DIMENSIONS FOR THE LOCATION CORRESPONDING TO THE TABLE ON SHEET 130/227.

MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

REVIEWED SRE 8/12
STRUCTURE FILE NUMBER 4800303
DRAWN ELS
REVISED
DESIGNED NEK
CHECKED MDC

EAST TOWER ELEVATION 1 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



EXISTING EAST TOWER ELEVATION
(LOOKING WEST)

MISCELLANEOUS STEEL REPAIR DETAILS - EAST TOWER

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
306	REPLACE BATTEN END STIIFFENING ANGLE	130
310	REPLACE ENTIRE BOTTOM STRUT	135 THRU 139
312	REPLACE BATTEN STIIFFENING ANGLES	131
317	REPLACE BATTEN PLATES, BATTEN STIFFENING ANGLES, LACING ANGLES, AND LACING GUSSETS	133

NOTES:

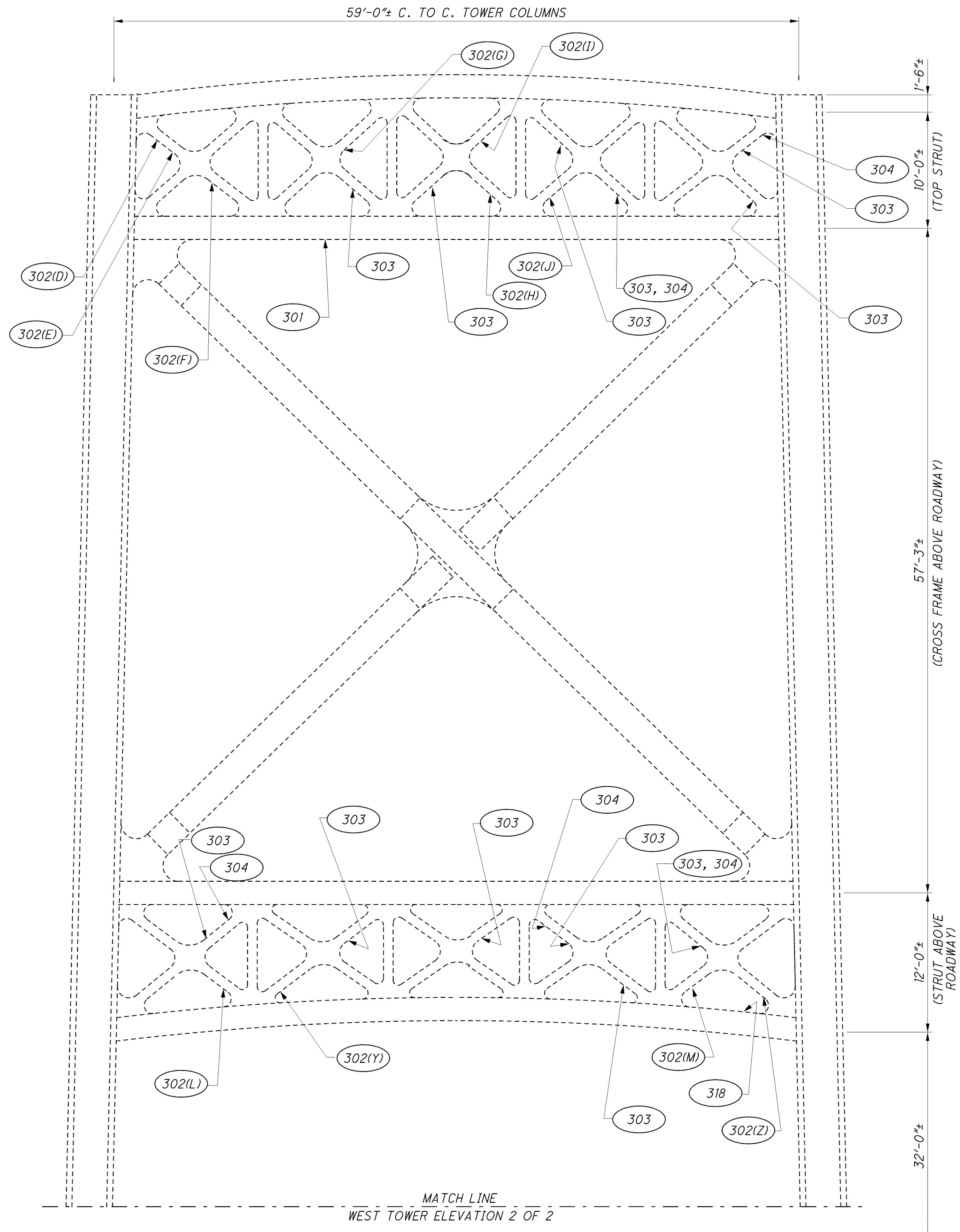
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED NDT	REVISED	STRUCTURE FILE NUMBER 4800303	

EAST TOWER ELEVATION 2 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



EXISTING WEST TOWER ELEVATION
(LOOKING WEST)

MISCELLANEOUS STEEL REPAIR DETAILS - WEST TOWER		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
301	REPLACE LACING ANGLE	130
302	REPLACE BATTEN PLATE AND BATTEN STIFFENING ANGLES	130
303	REPLACE BATTEN END STIFFENING ANGLE	130
304	REPLACE BATTEN INTERIOR STIFFENING ANGLE	130
303, 304	REPLACE BATTEN END STIFFENING ANGLE AND BATTEN INTERIOR STIFFENING ANGLE	130
318	REPLACE BATTEN PLATE AND BATTEN STIFFENING ANGLES	131

NOTES:

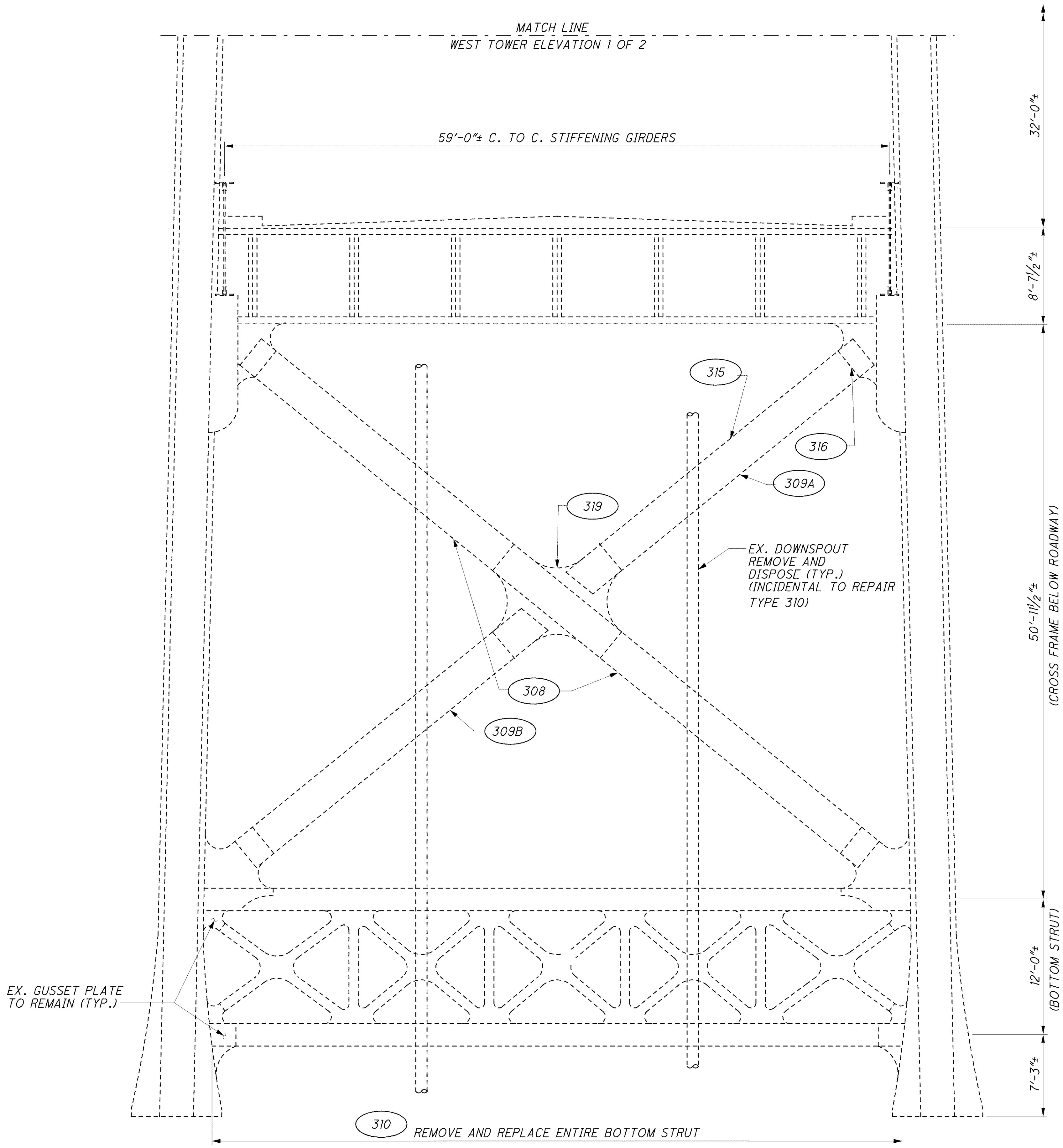
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR REPAIR TYPE 302, THE REPAIR TYPE (_) PREFIX DESIGNATES SPECIFIC DIMENSIONS FOR THE LOCATION CORRESPONDING TO THE TABLE ON SHEET 130/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DATE 8/12
REVIEWED SRE
STRUCTURE FILE NUMBER 4800303
DRAWN ELS
REVISED
DESIGNED NEK
CHECKED MDC

WEST TOWER ELEVATION 1 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



EXISTING WEST TOWER ELEVATION
(LOOKING WEST)

MISCELLANEOUS STEEL REPAIR DETAILS - WEST TOWER

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
308	REPLACE BATTEN PLATES, BATTEN STIFFENING ANGLES, LACING ANGLES, AND LACING GUSSETS	132
309A & 309B	REPLACE BATTEN PLATES, BATTEN STIFFENING ANGLES, LACING ANGLES, AND LACING GUSSETS	132
310	REPLACE ENTIRE BOTTOM STRUT	135 THRU 139
315	REPLACE LACING GUSSET	131
316	CLEAN AND REPAIR BOTH SIDES OF CROSS FRAME TO GUSSET END CONNECTION AREAS	131
319	REPLACE BOTH CROSS FRAME CENTER GUSSETS	134

NOTES:

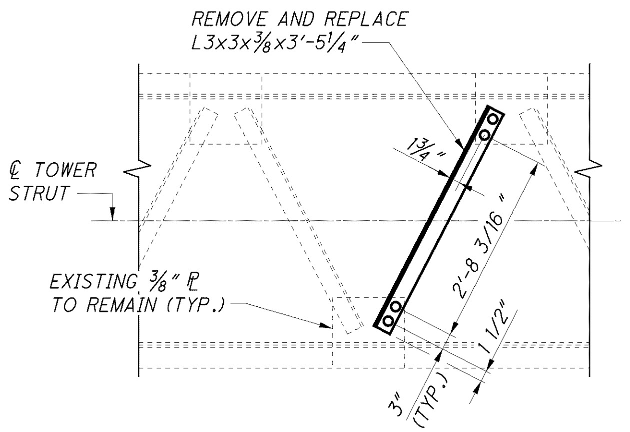
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED MDC | CHECKED NDT | DRAWN ELS | REVISED | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

WEST TOWER ELEVATION 2 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

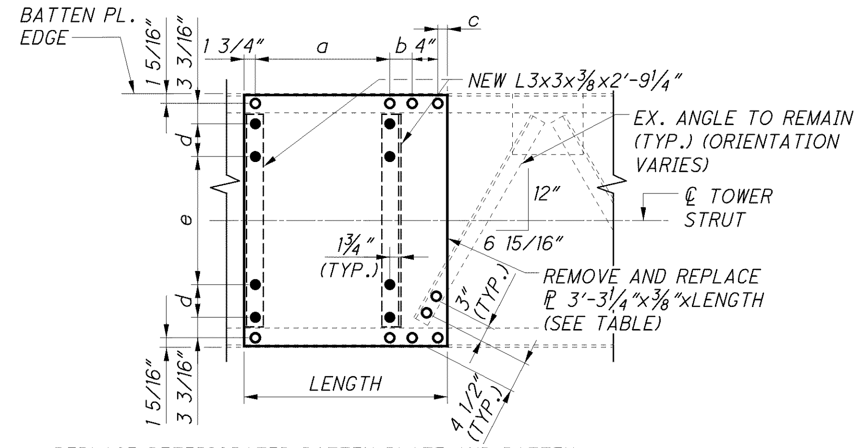


REPLACE DETERIORATED LACING ANGLE WITH NEW LACING ANGLE.

REPAIR TYPE 301

(EX. RIVETS AND NEW BOLTS ARE 7/8" ϕ)

FOR REPAIR LOCATIONS, SEE SHEETS 126/227 AND 128/227.



REPLACE DETERIORATED BATTEN PLATE AND BATTEN STIFFENING ANGLES. NEW BATTEN STIFFENING ANGLES SHALL BE ATTACHED TO UNDERSIDE OF NEW BATTEN PLATE.

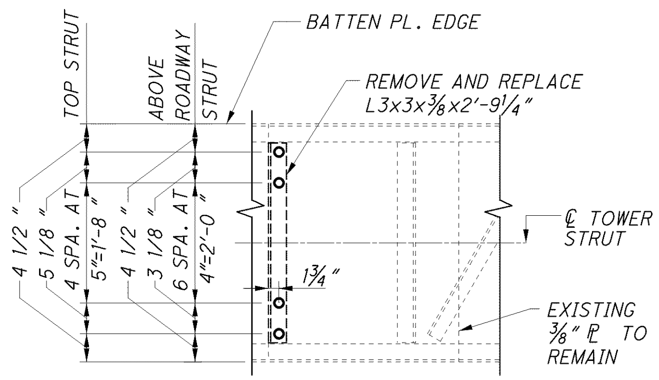
REPAIR TYPE 302

(TOP FLANGE REPLACEMENT SHOWN, BOTTOM FLANGE REPLACEMENT SIMILAR)

(EX. RIVETS AND NEW BOLTS ARE 3/4" ϕ)

FOR REPAIR LOCATIONS, SEE SHEETS 126/227 AND 128/227.

REPAIR TYPE 302 TABLE							
REPAIR TYPE (_) PREFIX	LENGTH	NO. RIVETS REPLACED WITH BOLTS	DIMENSION				
			a	b	c	d	e
302(A)	1' - 6"	26	2 @ 3 3/4" = 0' - 7 1/2"	3 1/4"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(B)	2' - 2 3/8"	32	5 @ 3 1/8" = 1' - 3 5/8"	3 1/2"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(C)	2' - 2 3/8"	32	5 @ 3 1/8" = 1' - 3 5/8"	3 1/2"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(D)	1' - 6"	26	2 @ 3 3/4" = 0' - 7 1/2"	3 1/4"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(E)	1' - 6"	26	2 @ 3 3/4" = 0' - 7 1/2"	3 1/4"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(F)	2' - 2 3/8"	32	5 @ 3 1/8" = 1' - 3 5/8"	3 1/2"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(G)	2' - 3 1/2"	32	5 @ 3 3/8" = 1' - 4 7/8"	3 5/16"	1 9/16"	5 1/8"	4 @ 5" = 1' - 8"
302(H)	2' - 11 7/8"	38	8 @ 3 1/8" = 2' - 1"	3 1/2"	1 5/8"	5 1/8"	4 @ 5" = 1' - 8"
302(I)	2' - 2 1/4"	32	5 @ 3 1/8" = 1' - 3 5/8"	3 3/8"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(J)	2' - 9 7/8"	36	7 @ 3 3/8" = 1' - 11 5/8"	3"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(K)	2' - 2 3/8"	32	5 @ 3 1/8" = 1' - 3 5/8"	3 1/2"	1 1/2"	5 1/8"	4 @ 5" = 1' - 8"
302(L)	2' - 11"	42	8 @ 3" = 2' - 0"	3 9/16"	1 11/16"	3 1/8"	6 @ 4" = 2' - 0"
302(M)	2' - 11"	42	8 @ 3" = 2' - 0"	3 9/16"	1 11/16"	3 1/8"	6 @ 4" = 2' - 0"
302(N)	2' - 0 1/8"	34	4 @ 3 3/8" = 1' - 1 1/2"	3 3/8"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(O)	2' - 11"	42	8 @ 3" = 2' - 0"	3 9/16"	1 11/16"	3 1/8"	6 @ 4" = 2' - 0"
302(P)	2' - 2 3/4"	36	5 @ 3 1/4" = 1' - 4 1/4"	3 1/4"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(Q)	2' - 10"	42	8 @ 3" = 2' - 0"	2 3/4"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(R)	2' - 11"	42	8 @ 3" = 2' - 0"	3 9/16"	1 11/16"	3 1/8"	6 @ 4" = 2' - 0"
302(S)	2' - 0 5/8"	34	4 @ 3 9/16" = 1' - 2 1/4"	3 1/8"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(T)	2' - 0 5/8"	34	4 @ 3 9/16" = 1' - 2 1/4"	3 1/8"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(U)	1' - 11 7/8"	34	4 @3 3/8" = 1' - 1 1/2"	3 1/8"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(V)	1' - 11 7/8"	34	4 @3 3/8" = 1' - 1 1/2"	3 1/8"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(W)	2' - 11"	42	8 @ 3" = 2' - 0"	3 9/16"	1 11/16"	3 1/8"	6 @ 4" = 2' - 0"
302(X)	2' - 5 7/8"	34	6 @ 3 1/4" = 1' - 7 1/2"	3 1/16"	1 9/16"	5 1/8"	4 @ 5" = 1' - 8"
302(Y)	2' - 2 3/4"	36	5 @ 3 1/4" = 1' - 4 1/4"	3 1/4"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"
302(Z)	2' - 5 1/2"	38	6 @ 3 1/8" = 1' - 6 3/4"	3 1/2"	1 1/2"	3 1/8"	6 @ 4" = 2' - 0"

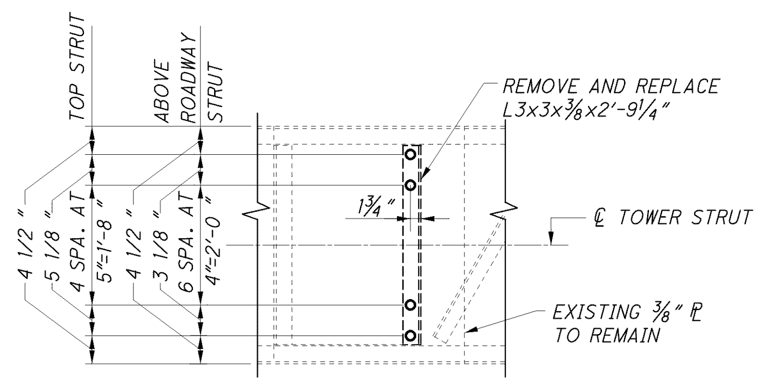


REPLACE DETERIORATED BATTEN STIFFENING ANGLE WITH NEW BATTEN STIFFENING ANGLE. NEW BATTEN STIFFENING ANGLE SHALL BE ATTACHED TO UNDERSIDE OF EXISTING BATTEN PLATE.

REPAIR TYPE 303

(EX. RIVETS AND NEW BOLTS ARE 3/4" ϕ)

FOR REPAIR LOCATIONS, SEE SHEETS 126/227 AND 128/227.

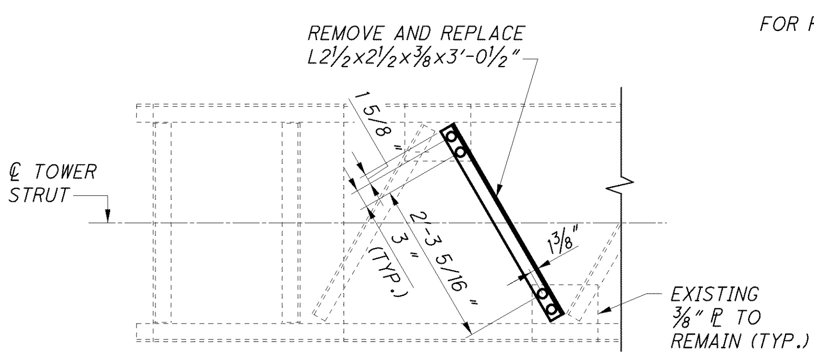


REPLACE DETERIORATED BATTEN STIFFENING ANGLE WITH NEW BATTEN STIFFENING ANGLE. NEW BATTEN STIFFENING ANGLE SHALL BE ATTACHED TO UNDERSIDE OF EXISTING BATTEN PLATE.

REPAIR TYPE 304

(EX. RIVETS AND NEW BOLTS ARE 3/4" ϕ)

FOR REPAIR LOCATIONS, SEE SHEETS 126/227 AND 128/227.

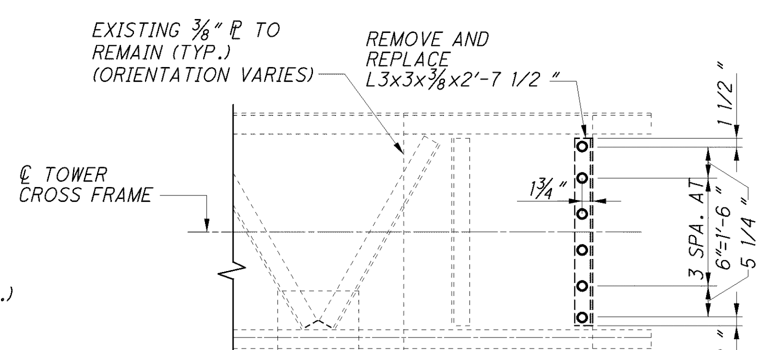


REPLACE DETERIORATED LACING ANGLE WITH NEW LACING ANGLE.

REPAIR TYPE 305

(EX. RIVETS AND NEW BOLTS ARE 3/4" ϕ)

FOR REPAIR LOCATIONS, SEE SHEET 126/227.



REPLACE DETERIORATED BATTEN STIFFENING ANGLE WITH NEW BATTEN STIFFENING ANGLE. NEW BATTEN STIFFENING ANGLE SHALL BE ATTACHED TO UNDERSIDE OF BATTEN PLATE.

REPAIR TYPE 306

(EX. RIVETS AND NEW BOLTS ARE 7/8" ϕ)

FOR REPAIR LOCATIONS, SEE SHEETS 126/227 AND 128/227.

NOTES:

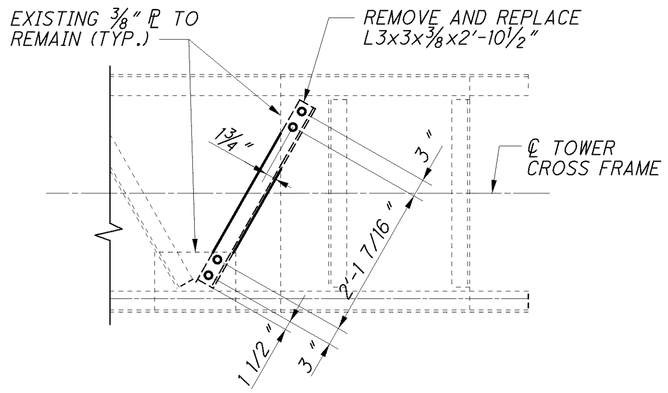
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

REVIEWED SRE | DATE 8/12
STRUCTURE FILE NUMBER 4800303
DRAWN ELS | REVISED
DESIGNED MDC | CHECKED NDT

TOWER REPAIR DETAILS 1 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

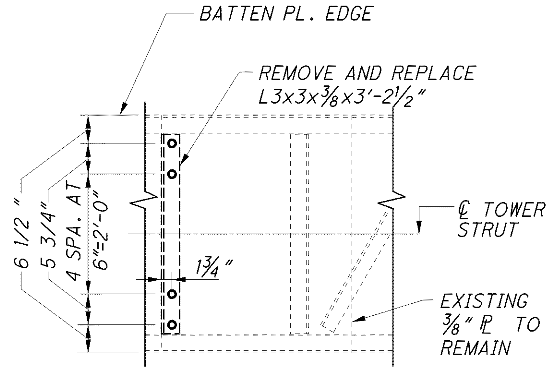
LUC-2-18.62
PID No. 80551



REPLACE DETERIORATED LACING ANGLE WITH NEW LACING ANGLE.

REPAIR TYPE 307

FOR REPAIR LOCATIONS, SEE SHEET 126/227 .

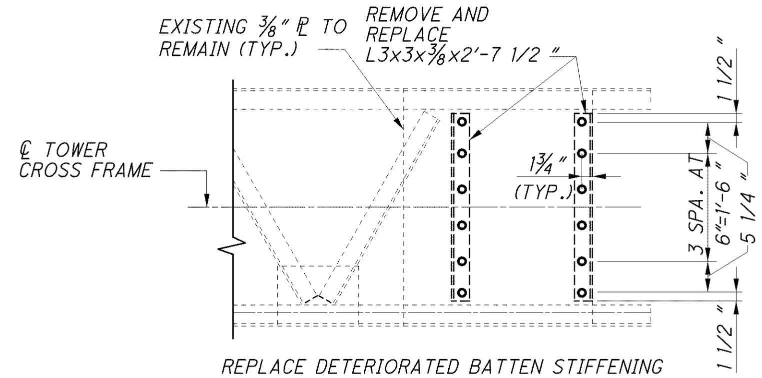


REPLACE DETERIORATED BATTEN STIFFENING ANGLE WITH NEW BATTEN STIFFENING ANGLE.

NEW BATTEN STIFFENING ANGLE SHALL BE ATTACHED TO UNDERSIDE OF EXISTING BATTEN PLATE.

REPAIR TYPE 311

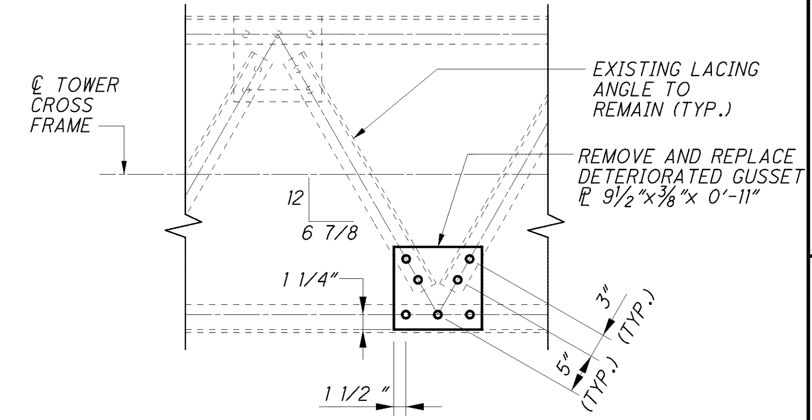
FOR REPAIR LOCATIONS, SEE SHEET 126/227.



REPLACE DETERIORATED BATTEN STIFFENING ANGLES WITH NEW BATTEN STIFFENING ANGLES. NEW BATTEN STIFFENING ANGLES SHALL BE ATTACHED TO UNDERSIDE OF EXISTING BATTEN PLATE.

REPAIR TYPE 312

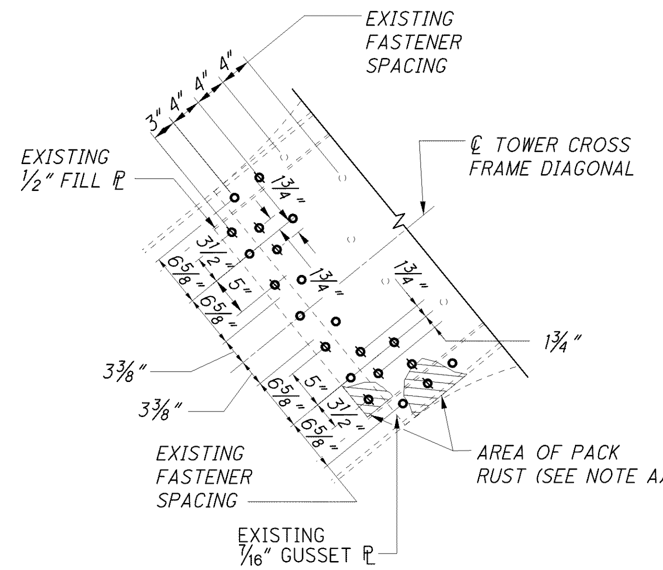
FOR REPAIR LOCATIONS, SEE SHEET 127/227.



REPLACE DETERIORATED GUSSET ℙ.

REPAIR TYPE 315

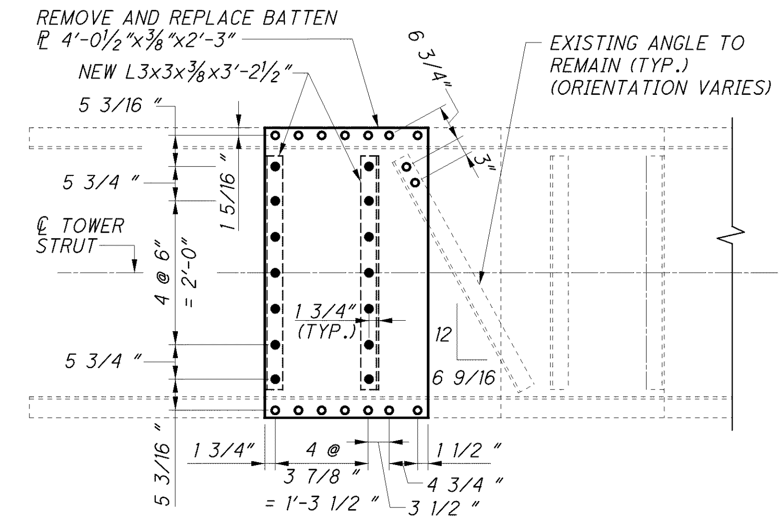
FOR REPAIR LOCATIONS, SEE SHEET 129/227 .



NOTE A:
DRILL NEW HOLES. REMOVE EXISTING RIVETS AS REQUIRED. REMOVE PACK RUST, CLEAN SURFACES, APPLY EPOXY PRE-PRIMER AND APPLY EPOXY-TYPE REPAIR MATERIAL TO CAVITIES. INSTALL NEW BOLTS IN NEW HOLES AND NEW BOLTS IN EXISTING HOLES AS INDICATED. THIS WORK SHALL BE DONE TO BOTH SIDES AT NOTED LOCATIONS.

REPAIR TYPE 316

FOR REPAIR LOCATIONS, SEE SHEET 128/227 .



REPLACE DETERIORATED BATTEN PLATE AND BATTEN STIFFENING ANGLES. NEW BATTEN STIFFENING ANGLES SHALL BE ATTACHED TO UNDERSIDE OF NEW BATTEN PLATE. ASSUMED FIELD ASSEMBLY OF NEW BATTEN PLATE NEW BATTEN STIFFENING ANGLES.

REPAIR TYPE 318

FOR REPAIR LOCATIONS, SEE SHEET 128/227 .

NOTES:

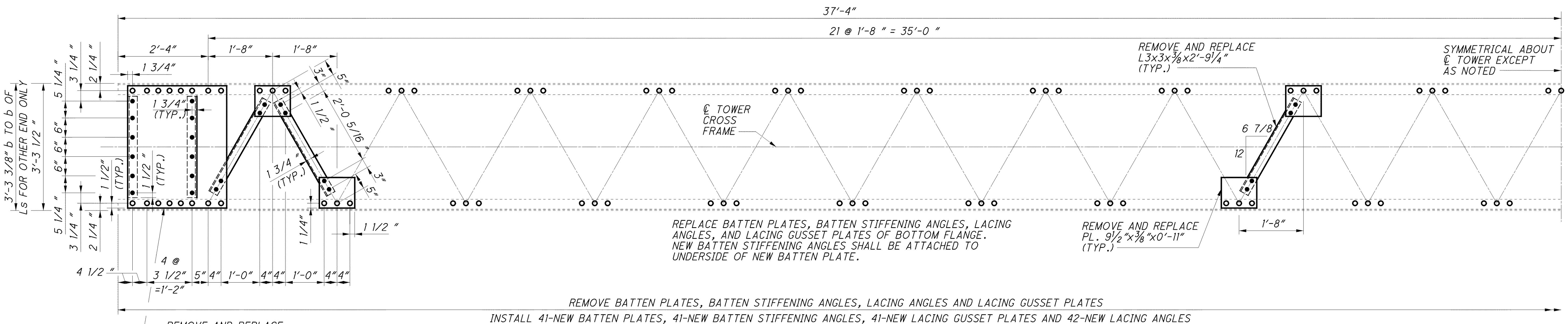
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. ALL EX. RIVETS AND NEW BOLTS ON THIS SHEET ARE ⅞"ϕ.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NDT		4800303	

TOWER REPAIR DETAILS 2 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

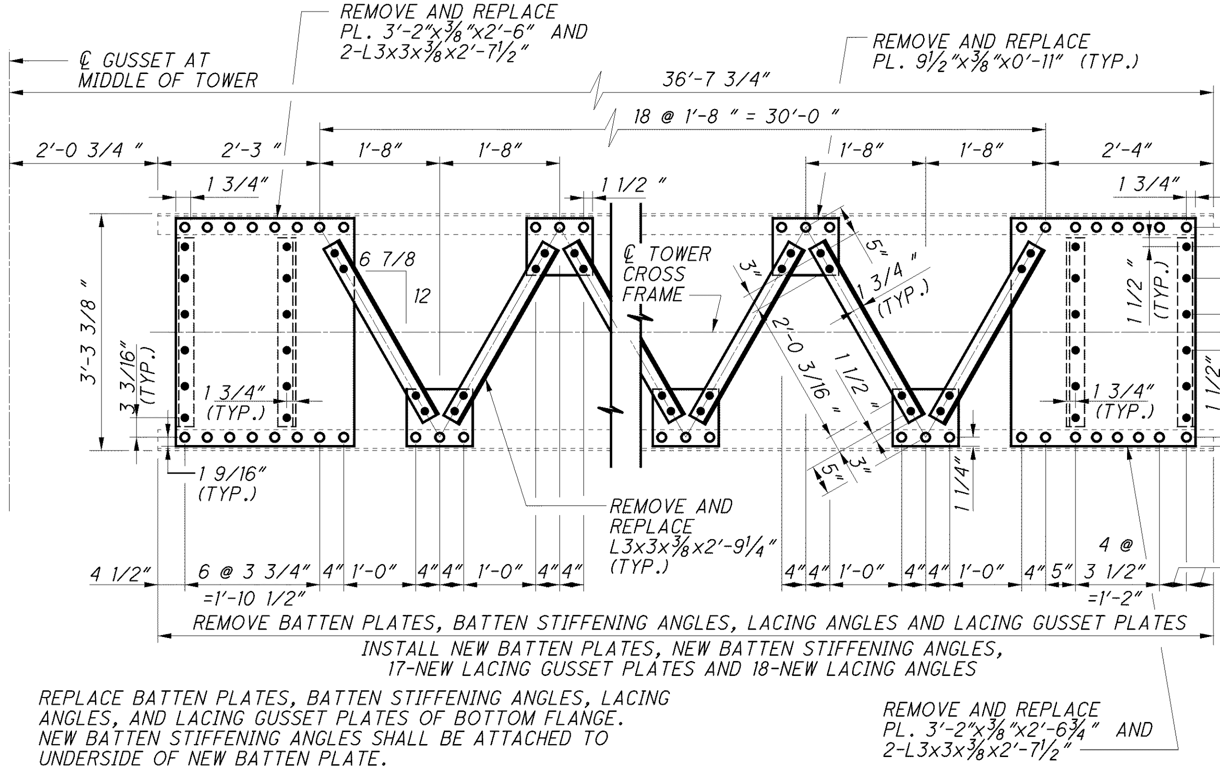
LUC-2-18.62
PID No. 80551

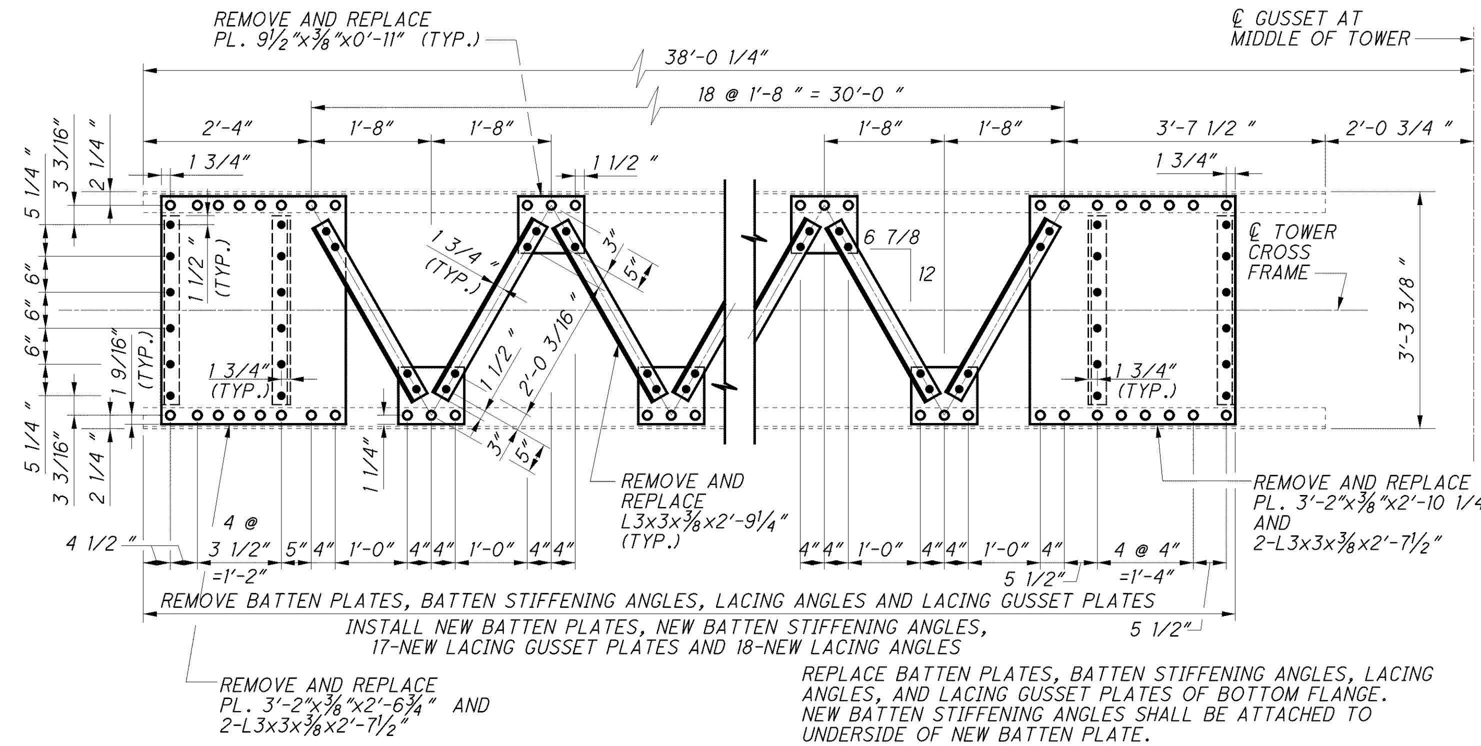


REPAIR TYPE 308

(LOOKING UP)

FOR REPAIR LOCATIONS, SEE SHEET 129/227.





REPAIR TYPE 309A

(LOOKING DOWN)

FOR REPAIR LOCATIONS, SEE SHEET 129/227.

REPAIR TYPE 309B

(LOOKING DOWN)

FOR REPAIR LOCATIONS, SEE SHEET 129/227.

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. ALL EXISTING RIVETS AND NEW BOLTS ON THIS SHEET ARE 7/8" DIA.

DESIGN AGENCY: MODJESKI and MASTERS, INC. 100 Sterling Parkway, Suite 302 Mechanicsburg, PA 17050

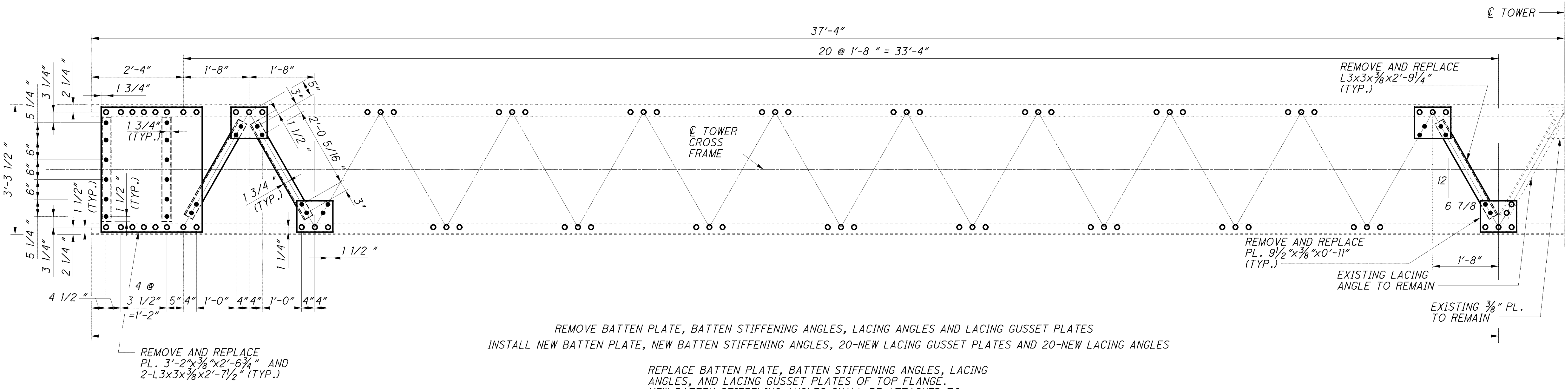
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	STRUCTURE FILE NUMBER	DATE
MDC	NDT	MLA		SRE	4800303	8/12

TOWER REPAIR DETAILS 3 OF 10

BRIDGE NO. LUC -2 -1862 STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

PID No. 80551



REPLACE BATTEN PLATE, BATTEN STIFFENING ANGLES, LACING ANGLES, AND LACING GUSSET PLATES OF TOP FLANGE. NEW BATTEN STIFFENING ANGLES SHALL BE ATTACHED TO UNDERSIDE OF NEW BATTEN PLATE.

REPAIR TYPE 317

(LOOKING DOWN)

FOR REPAIR LOCATIONS, SEE SHEET 127/227.

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. ALL EXISTING RIVETS AND NEW BOLTS ON THIS SHEET ARE 7/8" DIA.

DESIGN AGENCY
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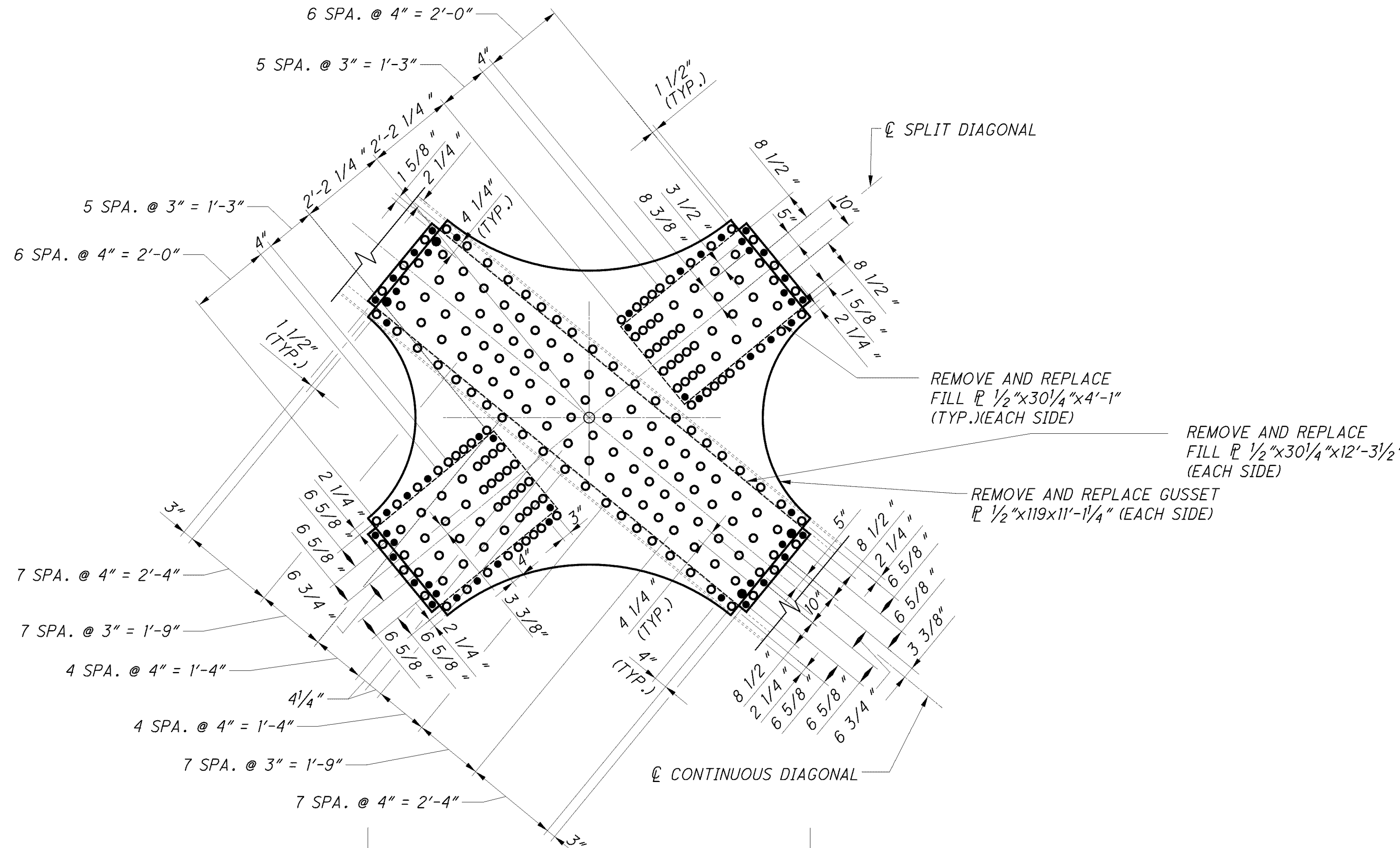
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	MLA	SRE	8/12
CHECKED NDT	REVISED	STRUCTURE FILE NUMBER 4800303	

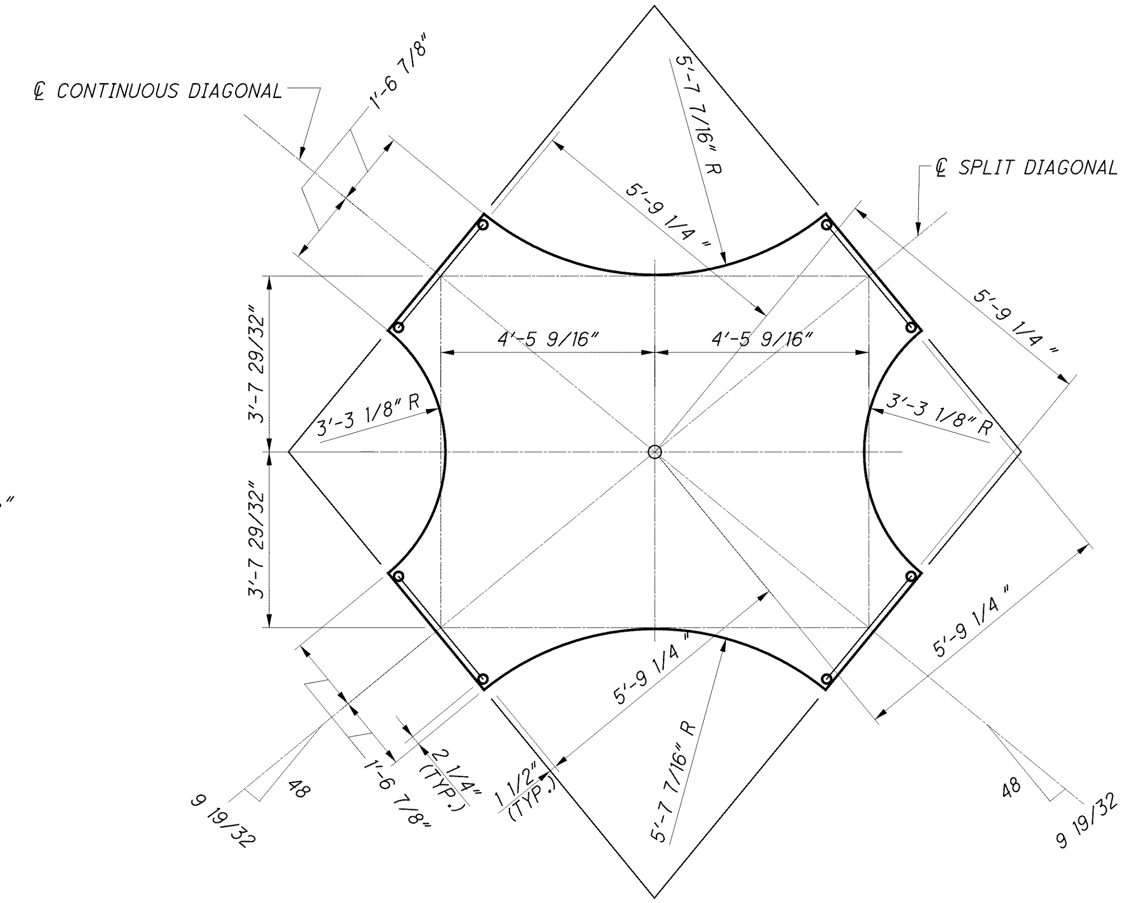
TOWER REPAIR DETAILS 4 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



REPAIR TYPE 319

FOR REPAIR LOCATIONS, SEE SHEET 129/227.



REPAIR TYPE 319-GUSSET PLATE GEOMETRY

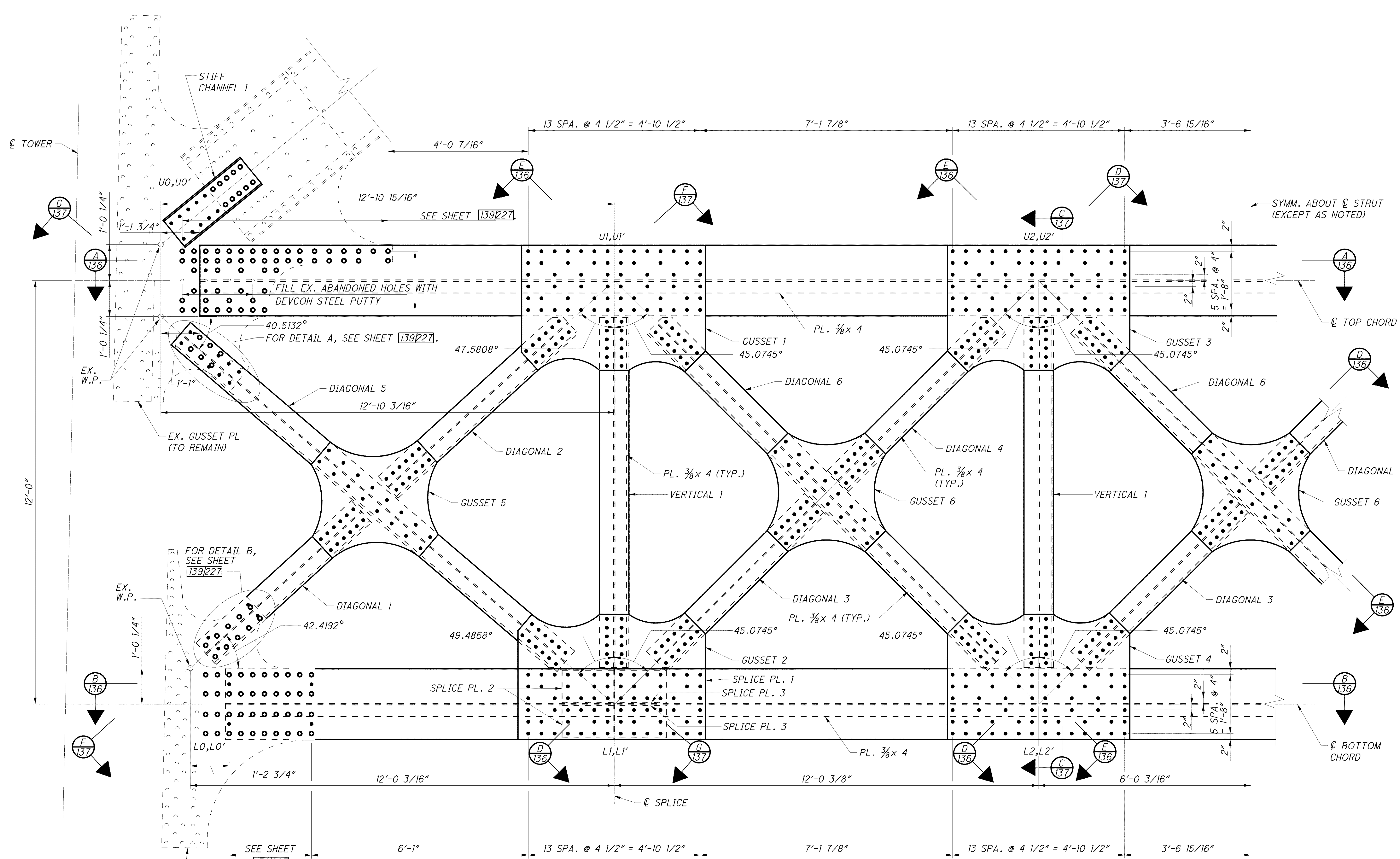
NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. ALL EX. RIVETS AND NEW BOLTS ON THIS SHEET ARE ⅞"φ.

DESIGN AGENCY	MODJESKI and MASTERS, INC. 100 Sterling Parkway, Suite 302 Mechanicsburg, PA 17050
DESIGNED	NEK
CHECKED	MDC
DRAWN	ELS
REVIEWED	SRE
DATE	8/12
STRUCTURE FILE NUMBER	4800303

TOWER REPAIR DETAILS 5 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



ELEVATION - LOWER STRUT-REPAIR TYPE 310

(EAST TOWER SHOWN, WEST TOWER SIMILAR)
(EAST TOWER LOOKING EAST, WEST TOWER LOOKING WEST)

NOTES:

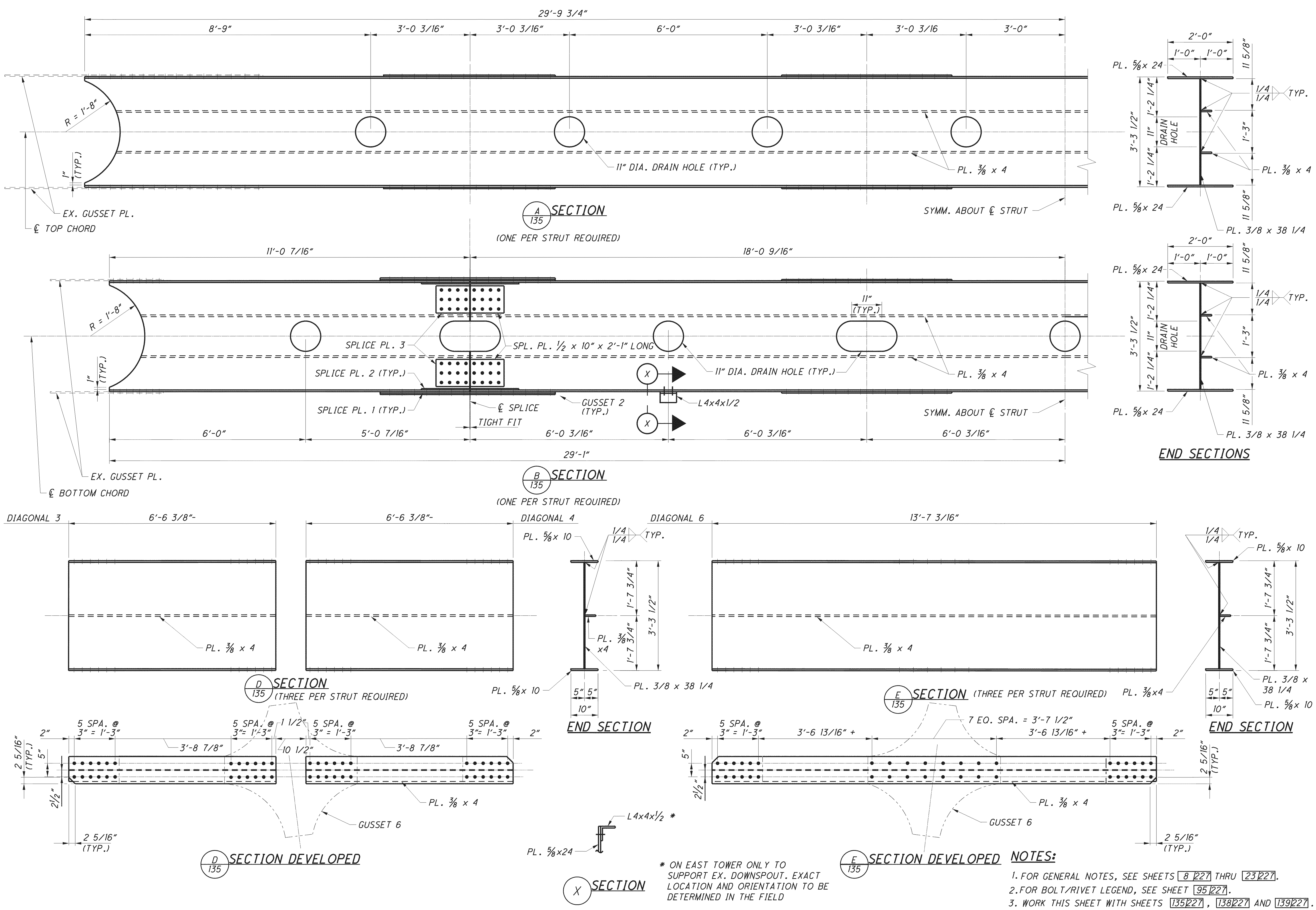
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. WORK THIS SHEET WITH SHEETS 136/227 THRU 139/227.
5. ALL EX. RIVETS AND NEW BOLTS ON THIS SHEET ARE 7/8" ϕ.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NDT		4800303	

TOWER REPAIR DETAILS 6 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



* ON EAST TOWER ONLY TO SUPPORT EX. DOWNSPOUT. EXACT LOCATION AND ORIENTATION TO BE DETERMINED IN THE FIELD

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
3. WORK THIS SHEET WITH SHEETS 135/227, 138/227 AND 139/227.

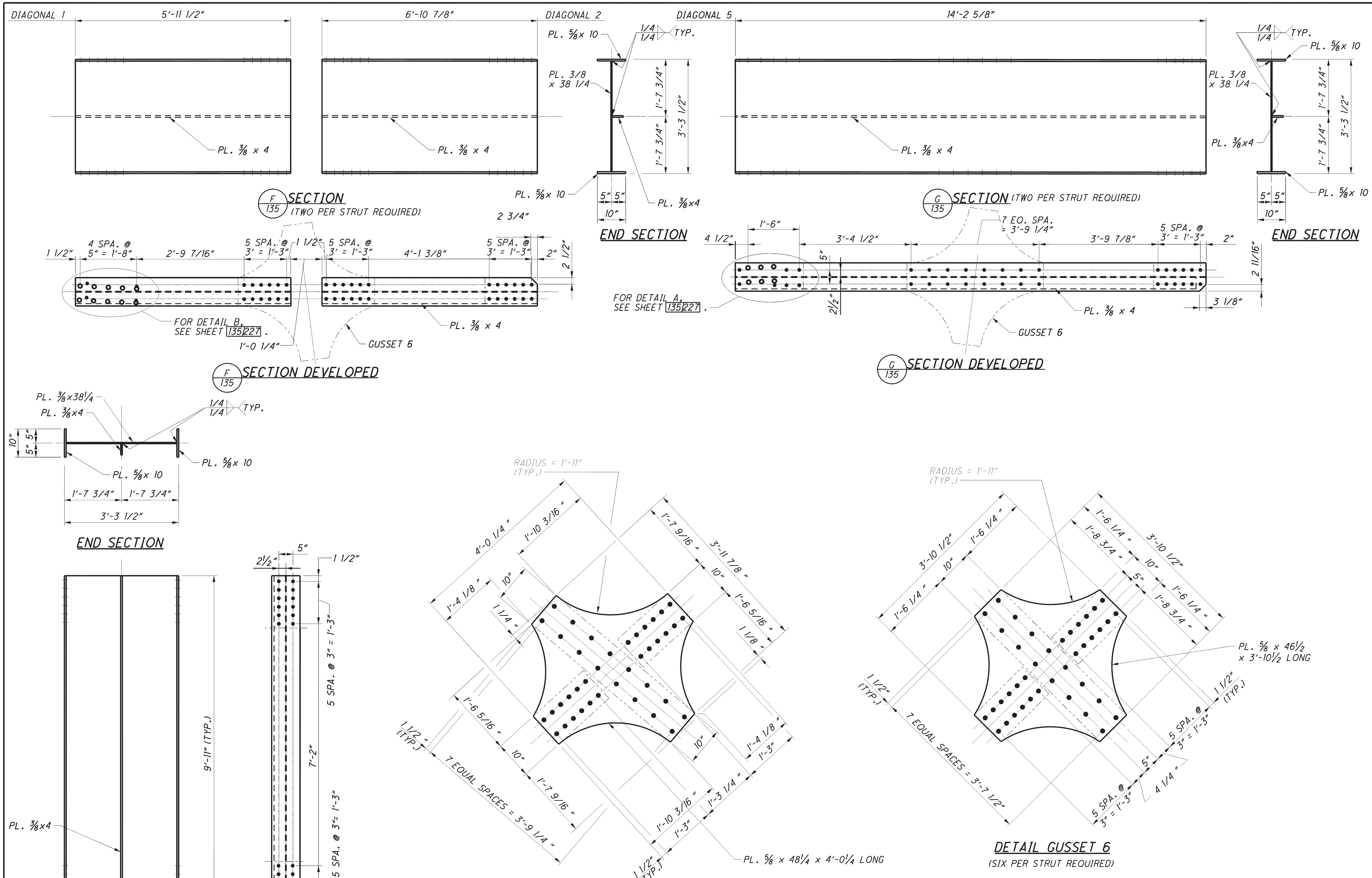
DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NDT	—	4800303	

TOWER REPAIR DETAILS 7 OF 10

BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



NOTES:

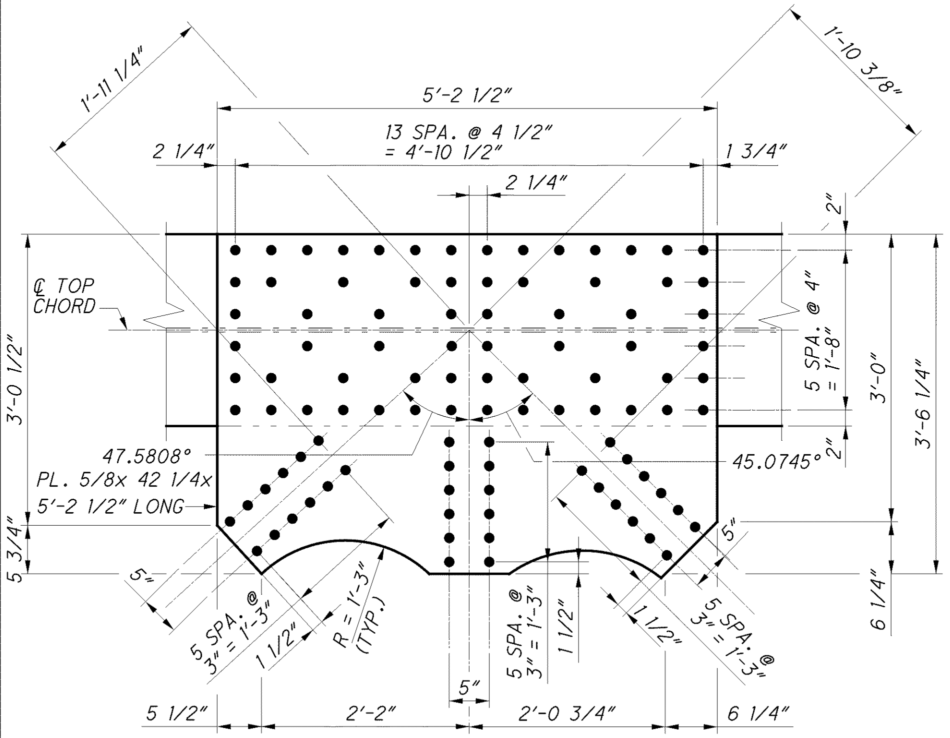
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
3. WORK THIS SHEET WITH SHEETS 135/227, 138/227 AND 139/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NDT	—	4800303	

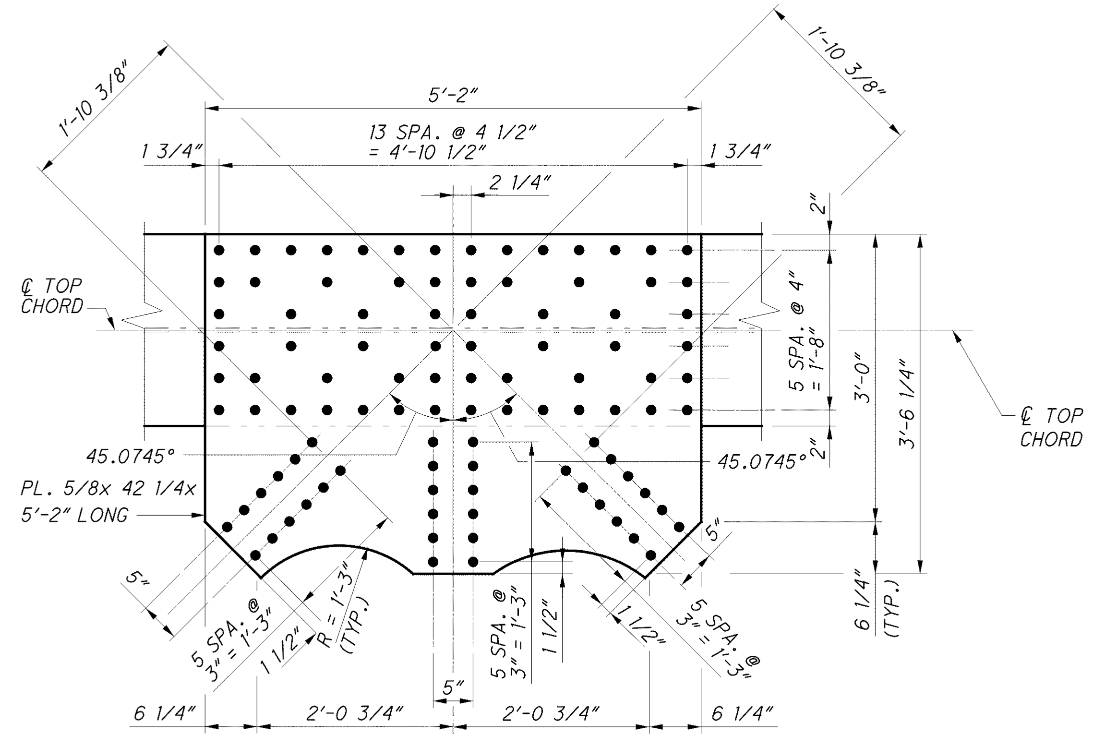
TOWER REPAIR DETAILS 8 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



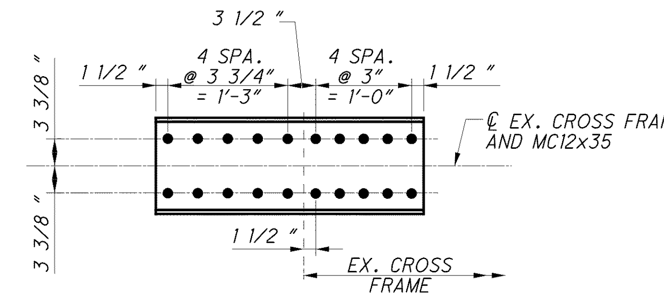
DETAIL GUSSET 1 (U1,U1')

(FOUR PER STRUT REQUIRED)



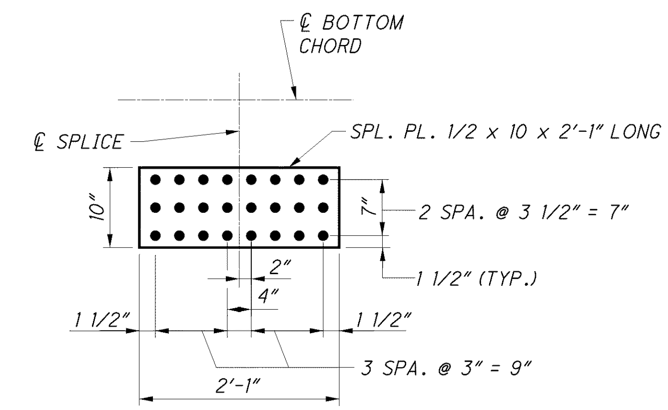
DETAIL GUSSET 3 (U2,U2')

(FOUR PER STRUT REQUIRED)



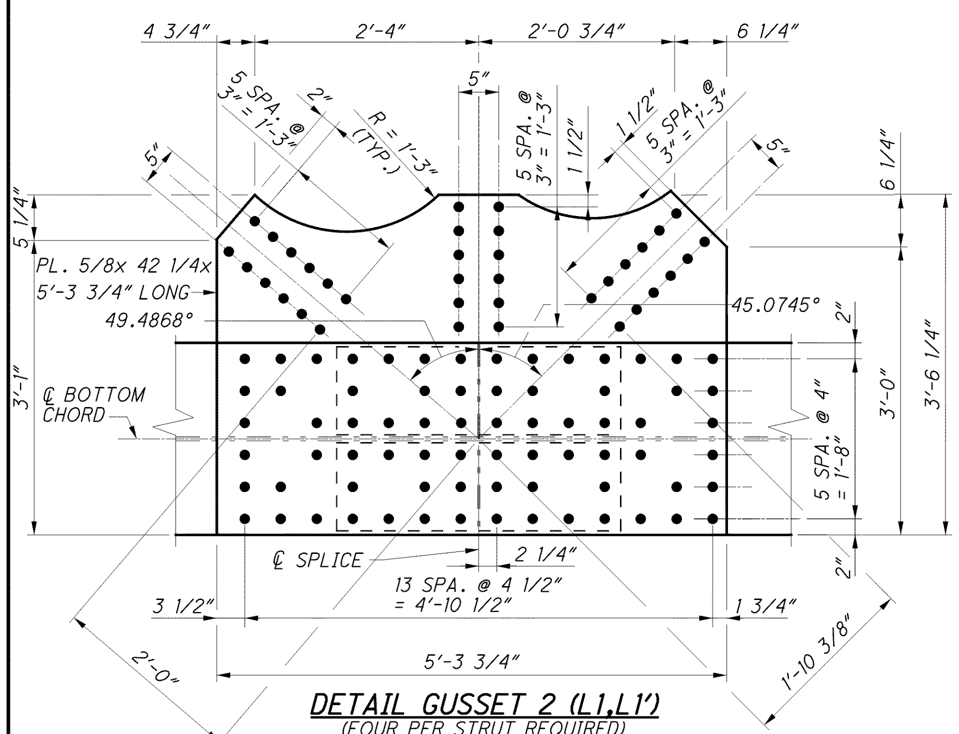
DETAIL STIFF CHANNEL 1

(FOUR PER STRUT REQUIRED)



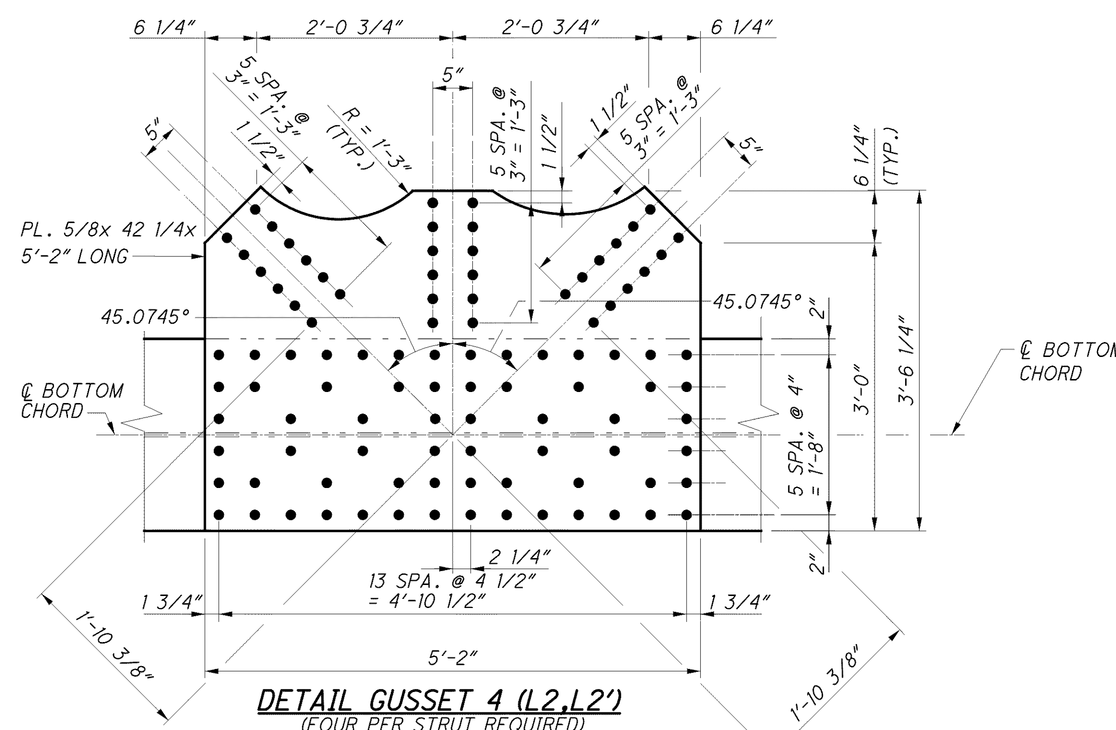
DETAIL SPLICE PL. 3

(EIGHT PER STRUT REQUIRED)



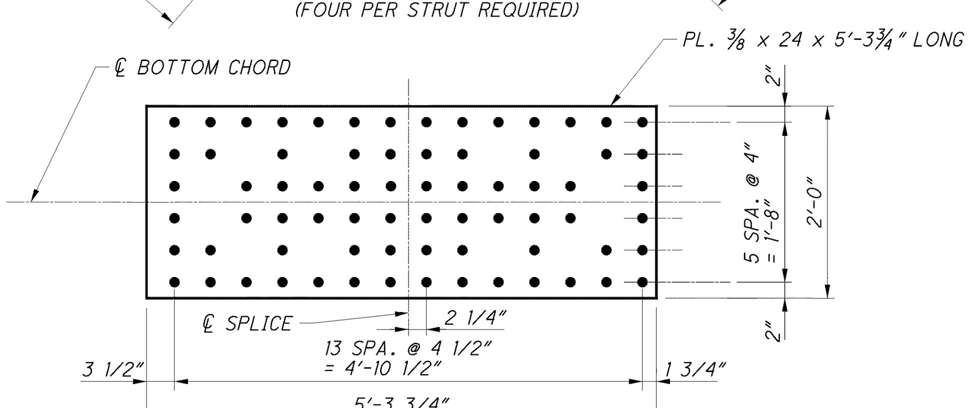
DETAIL GUSSET 2 (L1,L1')

(FOUR PER STRUT REQUIRED)



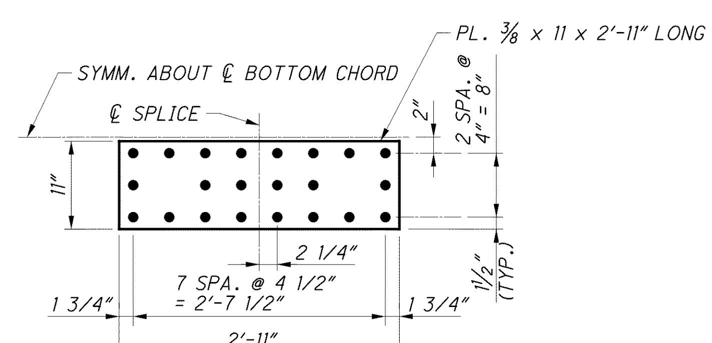
DETAIL GUSSET 4 (L2,L2')

(FOUR PER STRUT REQUIRED)



DETAIL SPLICE PL. 1

(FOUR PER STRUT REQUIRED)



DETAIL SPLICE PL. 2

(EIGHT PER STRUT REQUIRED)

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
3. WORK THIS SHEET WITH SHEETS 135/227, 136/227 AND 139/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
MDC	ELS	SRE	8/12
CHECKED NDT	REVISED	STRUCTURE FILE NUMBER 4800303	

TOWER REPAIR DETAILS 9 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

WORK SEQUENCE FOR REPAIR TYPE 310
PERFORM WORK OF REPAIR TYPE 310 WHILE BRIDGE IS CLOSED TO TRAFFIC.
ASSUMED CONSTRUCTION LOADING FOR REPLACEMENT OF LOWER STRUT.

1. INSTALL NEW GUSSET PLATE STIFFENING CHANNEL ON BOTH GUSSET PLATES AT U0 AND U0' AS SHOWN ON THE PLANS.

2. FABRICATE NEW LOWER STRUTS AND TRANSPORT TO SITE.

3. WITH NO SUSTAINED WIND OVER 40 MPH IN THE FORECAST, DO THE FOLLOWING IN A CONTINUOUS WORK PERIOD NOT TO EXCEED 24 HOURS:

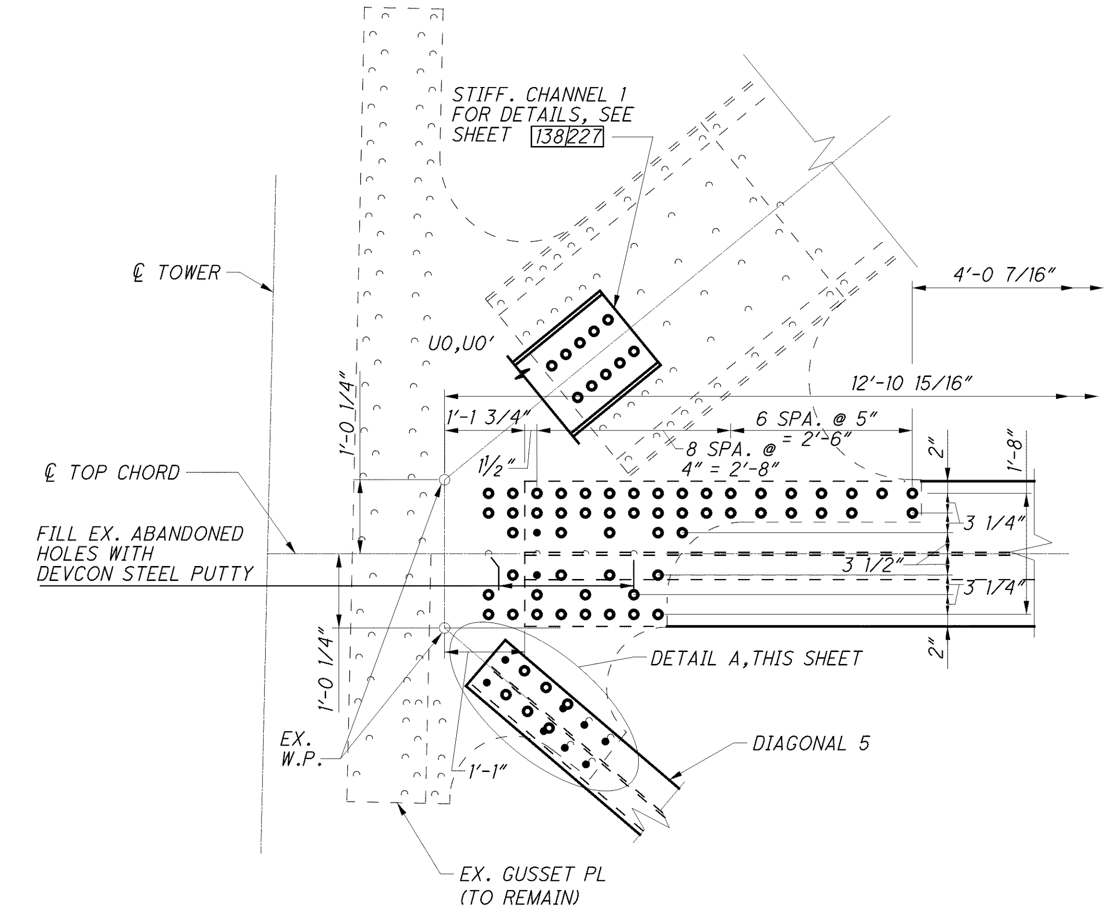
   A. REMOVE EXISTING LOWER STRUT AS SHOWN ON THE PLANS. GUSSET PLATES U0, U0', L0 AND L0' TO REMAIN.

   B. ERECT NEW LOWER STRUT WITHOUT THE BOTTOM CHORD MEMBERS L0-L1 AND L0'-L1' AND WITHOUT THE LOWER HALF OF DIAGONAL MEMBERS L0-U1 AND L0'-U1'.

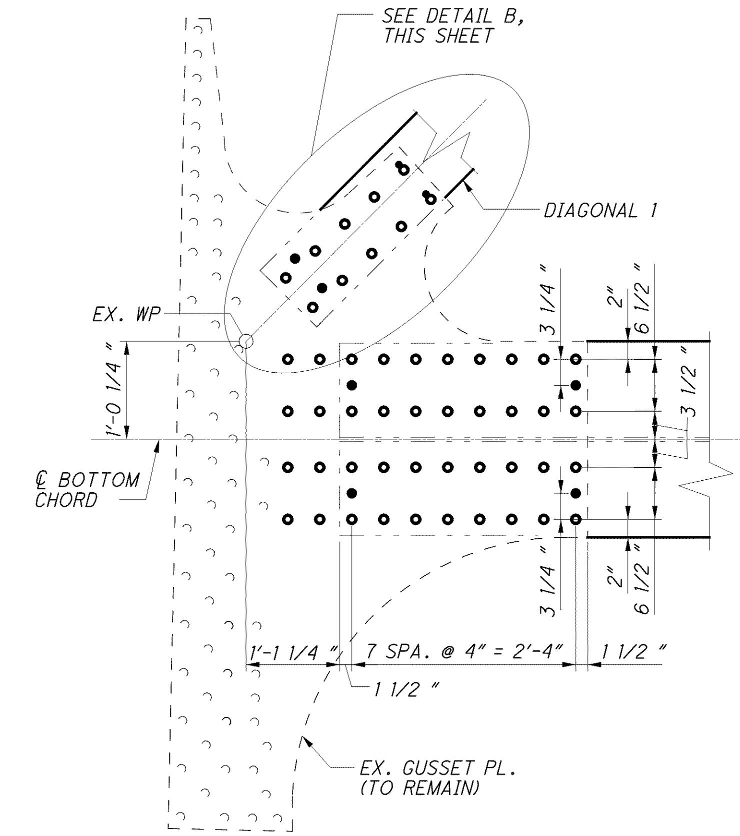
   C. ERECT THE BOTTOM CHORD MEMBERS L0-L1 AND L0'-U1' AND THE LOWER HALF OF DIAGONAL MEMBERS L0-U1 AND L0'-U1'.

4. REPEAT STEPS 1, 2 AND 3 FOR THE LOWER STRUT REPLACEMENT OF THE OTHER TOWER.

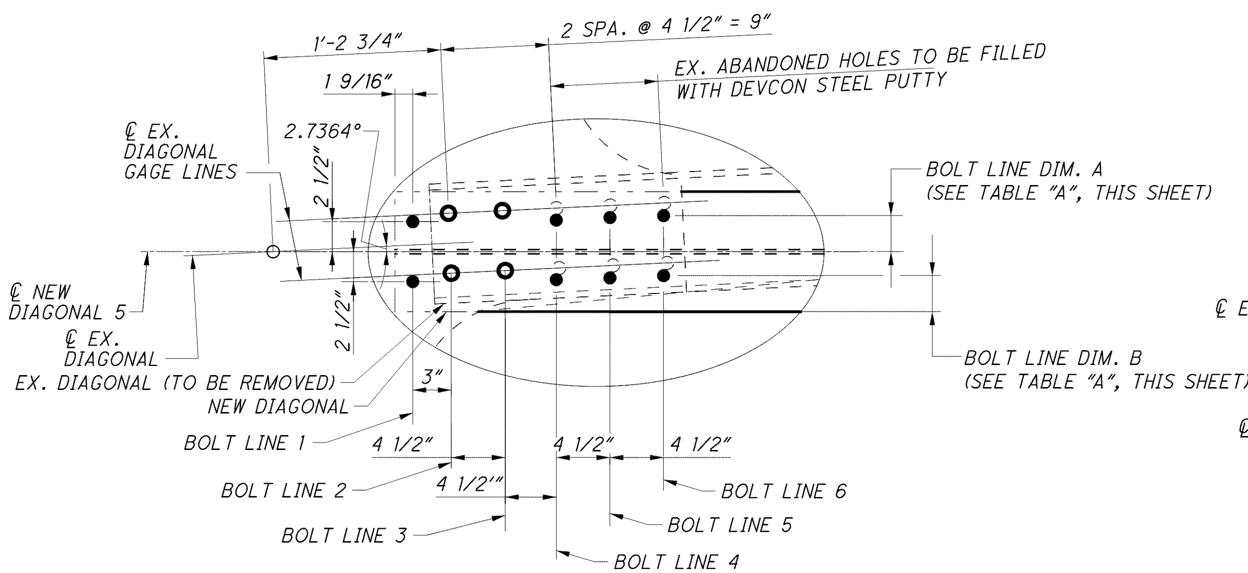
NOTE:
THE PROCEDURE IS A SUGGESTED GENERAL OUTLINE OF THE CONSTRUCTION WORK TO BE PERFORMED. THE CONTRACTOR SHALL SUBMIT A PROCEDURE TO THE ENGINEER FOR APPROVAL.



ELEVATION - EXISTING GUSSET U0,U0'
(EAST TOWER SHOWN, WEST TOWER SIMILAR)

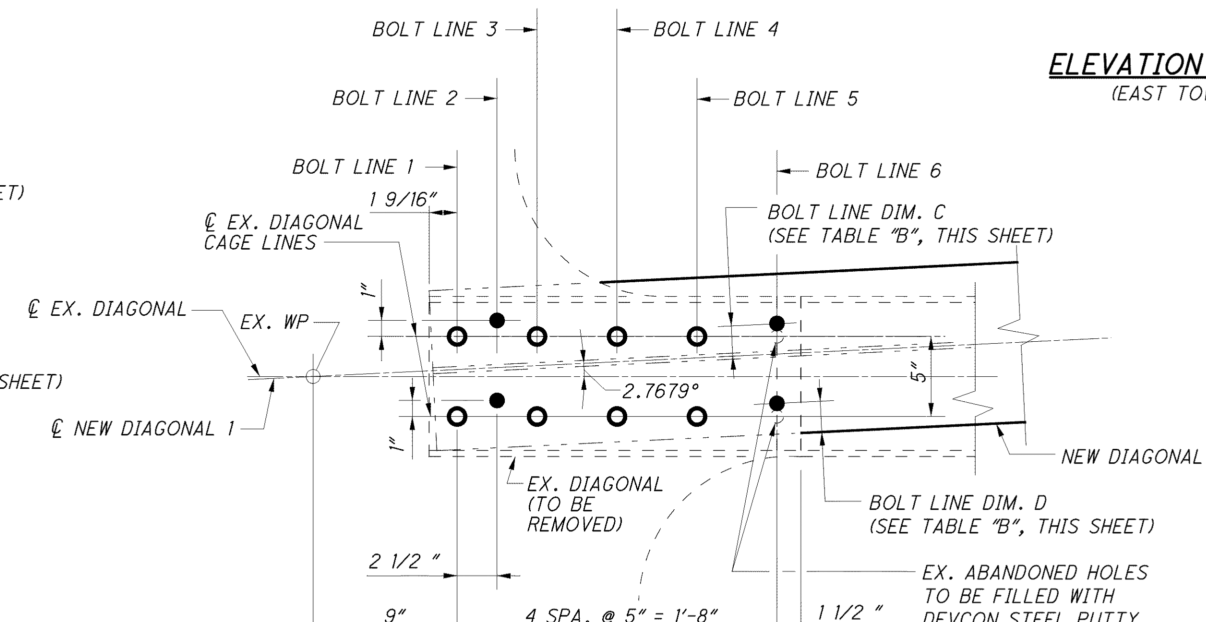


ELEVATION - EXISTING GUSSET L0, L0'
(EAST TOWER SHOWN; WEST TOWER SIMILAR)



DETAIL A

BOLT DIMENSION TABLE "A"		
REF. NO.	BOLT LINE DIM. A	BOLT LINE DIM. B
BOLT LINE 1	2 1/2"	2 1/2"
BOLT LINE 2	3 3/16"	3 3/16"
BOLT LINE 3	3 7/16"	3 7/16"
BOLT LINE 4	2 5/8"	2 5/8"
BOLT LINE 5	2 7/8"	2 7/8"
BOLT LINE 6	3 1/16"	3 1/16"



DETAIL B

BOLT DIMENSION TABLE "B"		
REF. NO.	BOLT LINE DIM. C	BOLT LINE DIM. D
BOLT LINE 1	2 1/16"	2 1/16"
BOLT LINE 2	2 15/16"	2 15/16"
BOLT LINE 3	1 13/16"	1 13/16"
BOLT LINE 4	1 9/16"	1 9/16"
BOLT LINE 5	1 5/16"	1 5/16"
BOLT LINE 6	1 3/8"	1 3/8"

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
3. WORK THIS SHEET WITH SHEETS 135/227 THRU 138/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

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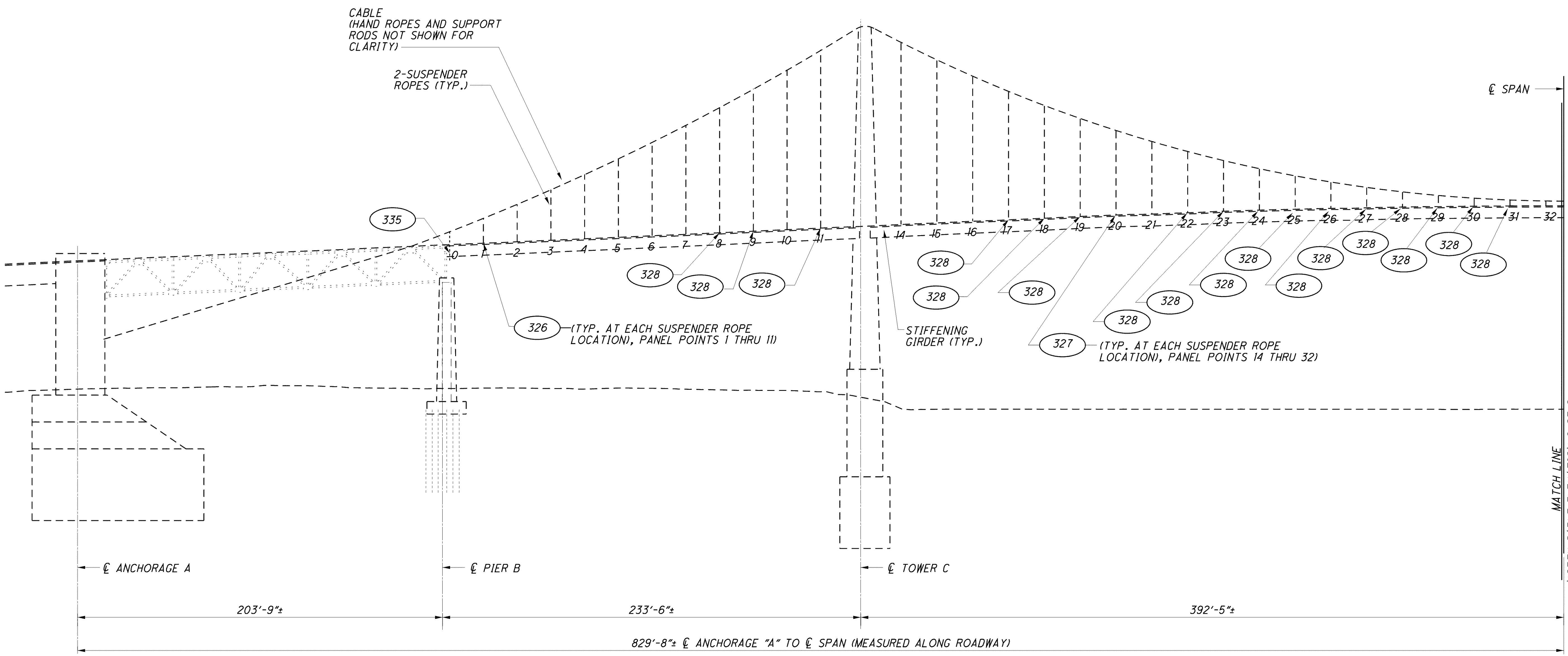
NDT		4800303	

TOWER REPAIR DETAILS 10 OF 10
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



NORTH CABLE - WEST ELEVATION
(LOOKING NORTH)

SUSPENDED SPAN CABLE AND SUSPENDER ROPE REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
326	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 1 THRU 11)	144
327	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION)	144
328	REPLACE MISSING OR LOOSE BOLTS, NUTS, AND/OR WASHERS WITH NEW BOLTS, NUTS, AND WASHERS	144
335	REPAIR NORTH WEST CABLE HOLD-DOWN SYSTEM	146 TO 151

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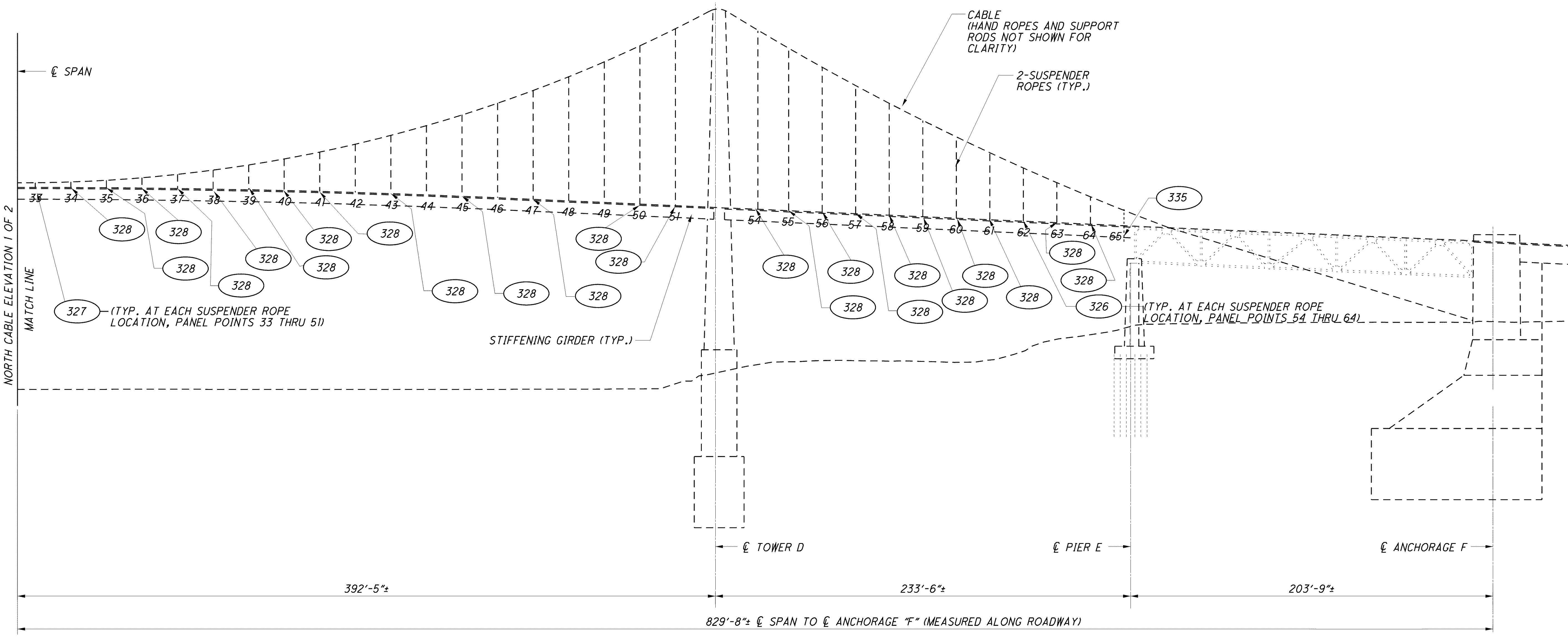
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED SJT | CHECKED MDC | DRAWN MLA | REVISED — | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

NORTH CABLE ELEVATION 1 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



NORTH CABLE - EAST ELEVATION
(LOOKING NORTH)

SUSPENDED SPAN CABLE AND SUSPENDER ROPE REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
326	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 54 THRU 64)	144
327	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 33 THRU 51)	144
328	REPLACE MISSING OR LOOSE BOLTS, NUTS, AND/OR WASHERS WITH NEW BOLTS, NUTS, AND WASHERS	144
335	REPAIR NORTH EAST CABLE HOLD-DOWN SYSTEM	146 TO 151

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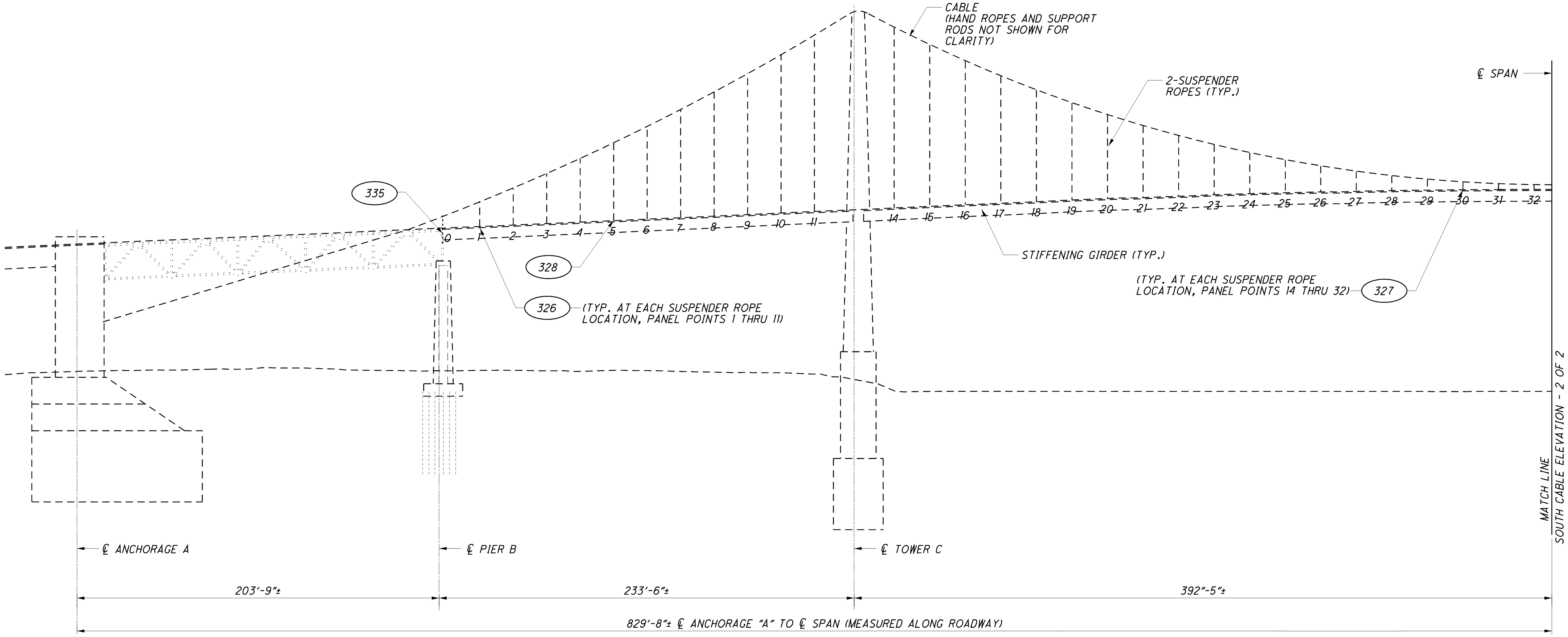
NORTH CABLE ELEVATION 2 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



SOUTH CABLE - WEST ELEVATION
(LOOKING NORTH)

SUSPENDED SPAN CABLE AND SUSPENDER ROPE REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
326	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 1 THRU 11)	144
327	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 14 THRU 32)	144
328	REPLACE MISSING OR LOOSE BOLTS, NUTS, AND/OR WASHERS WITH NEW BOLTS, NUTS, AND WASHERS	144
335	REPAIR SOUTH WEST CABLE HOLD-DOWN SYSTEM	146 TO 151

DESIGN AGENCY
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100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

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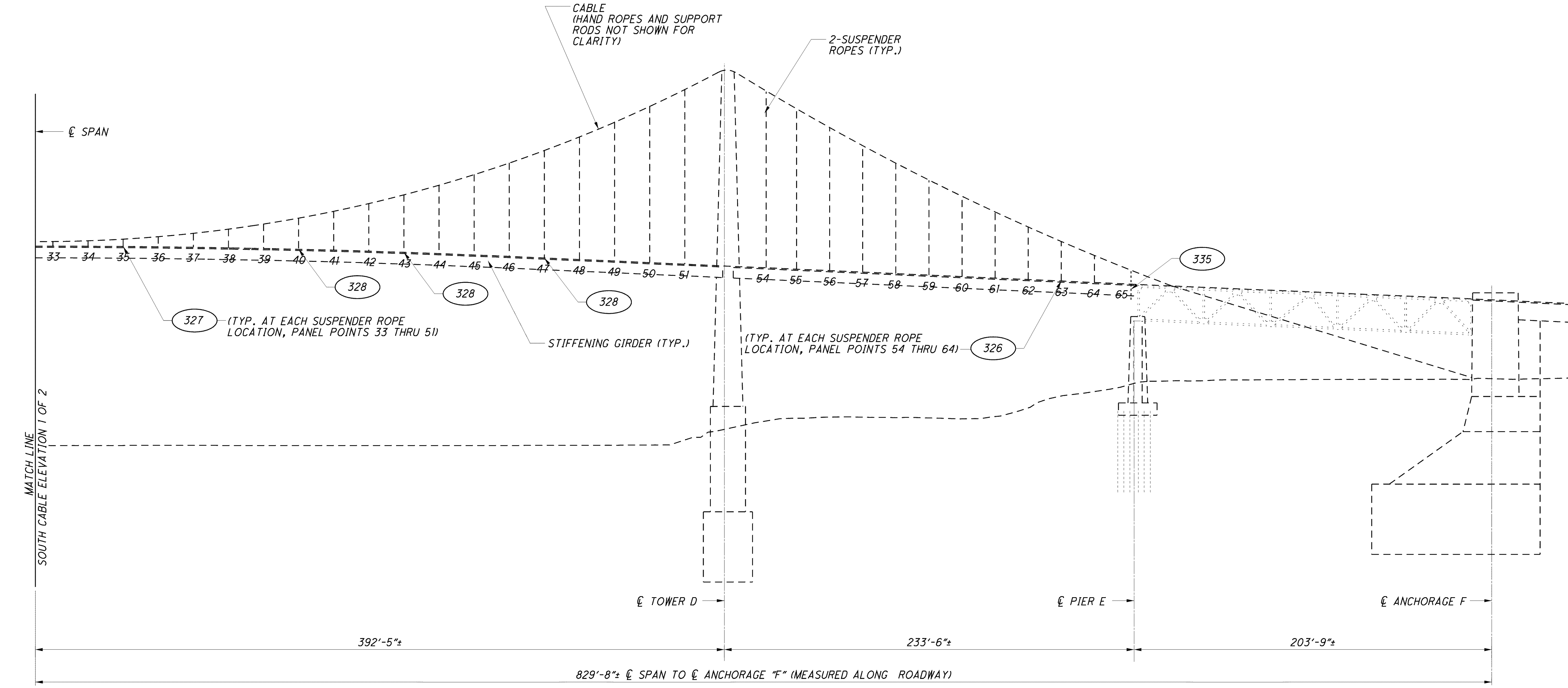
SOUTH CABLE ELEVATION 1 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



SOUTH CABLE - EAST ELEVATION
(LOOKING NORTH)

SUSPENDED SPAN CABLE AND SUSPENDER ROPE REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
326	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 54 THRU 64)	144
327	REPLACE SUSPENDER ROPE SLEEVES AND CLAMPS (TYPICAL AT EACH SUSPENDER ROPE LOCATION, PANEL POINTS 33 THRU 51)	144
328	REPLACE MISSING OR LOOSE BOLTS, NUTS, AND/OR WASHERS WITH NEW BOLTS, NUTS, AND WASHERS	144
335	REPAIR SOUTH EAST CABLE HOLD-DOWN SYSTEM	146 TO 151

DESIGN AGENCY
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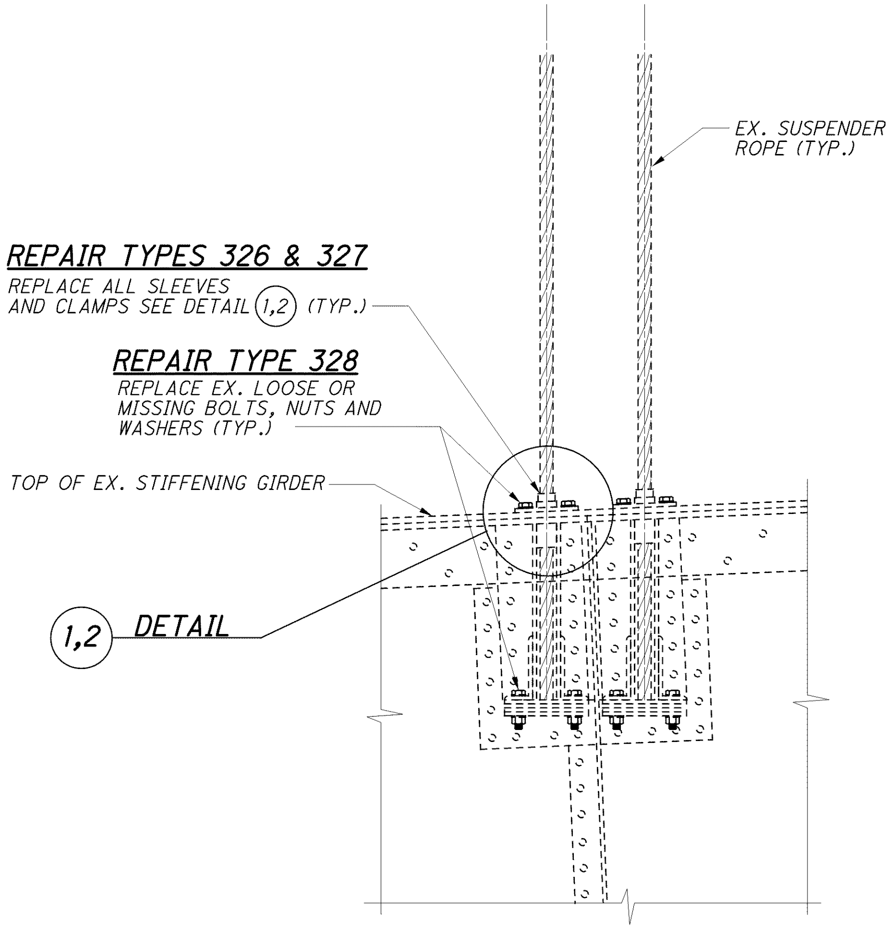
SOUTH CABLE ELEVATION 2 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

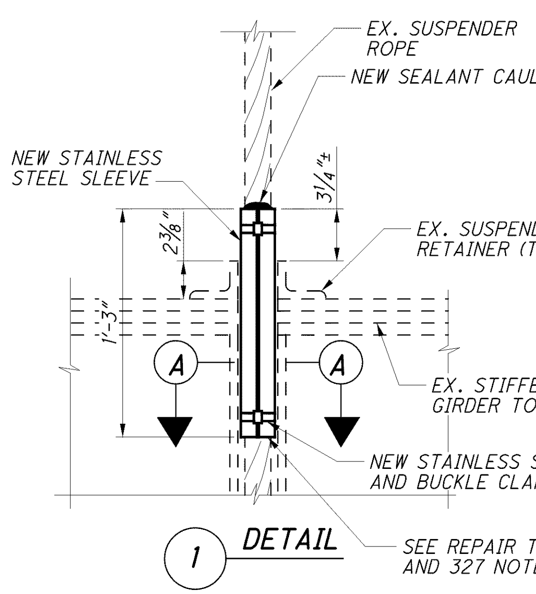
143/227

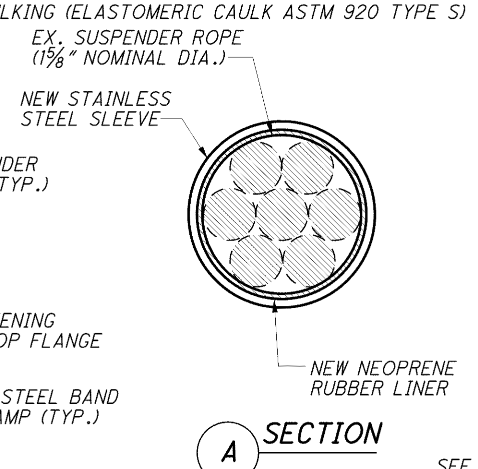
215/327

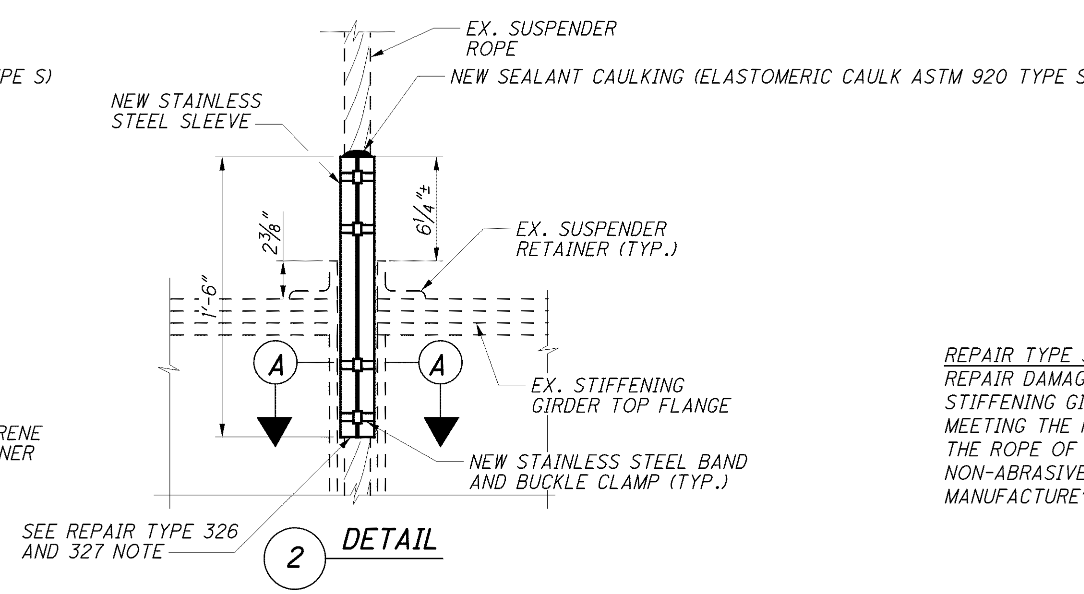


SUSPENDER ROPE REPAIR DETAILS - REPAIR TYPE 326, 327 AND 328

SUSPENDER ROPE REPAIR TYPE 328			
BRIDGE SHT. NO.	PANEL POINT	LOCATION ON STIFFENER GIRDER	NO. REPLACED BOLT, NUT, WASHER ASSEMBLIES
140	8,9	1 EAST AND 1 WEST LOOSE NUTS ON OUTBOARD FACE	4
140	11	1 EAST LOOSE NUT ON INBOARD FACE	1
140	17,19,22,23,25,27,28	1 WEST LOOSE NUT ON OUTBOARD FACE	7
140	18,31	2 WEST LOOSE NUTS - 1 ON OUTBOARD AN 1 ON INBOARD FACE	4
140	24,29	1 WEST LOOSE NUT ON INBOARD FACE	2
140	26	1 WEST LOOSE NUT ON OUTBOARD FACE - BOLT IS REVERSE ORIENTED	1
140	30	1 EAST LOOSE NUT ON OUTBOARD FACE	1
141	34	2 WEST LOOSE NUTS - 1 ON OUTBOARD AND 1 ON INBOARD FACE	2
141	35,36,37,47	1 EAST LOOSE NUT ON OUTBOARD FACE	4
141	38	1 WEST MISSING NUT AND 1 WEST LOOSE NUT ON OUTBOARD FACE, EAST LOOSE NUTS	6
141	39	1 WEST MISSING NUT AND 1 WEST AND 1 EAST LOOSE NUTS ON OUTBOARD FACE	3
141	40	2 WEST LOOSE NUTS - 1 ON OUTBOARD AND 1 ON INBOARD FACE, EAST LOOSE NUTS	6
141	41	1 WEST LOOSE NUT ON OUTBOARD FACE AND 1 EAST MISSING NUT ON INBOARD FACE	2
141	43	1 WEST AND 1 EAST LOOSE NUTS ON OUTBOARD FACE	2
141	45	1 WEST LOOSE NUT ON OUTBOARD FACE AND 1 EAST LOOSE NUT ON INBOARD FACE	2
141	50,58,64	1 WEST LOOSE NUT ON OUTBOARD FACE	3
141	51,61,63	1 EAST LOOSE NUT (FACE UNKNOWN)	3
141	55,56,57,59	1 EAST LOOSE NUT ON INBOARD FACE	4
141	54	1 EAST LOOSE NUT ON OUTBOARD FACE AND 1 EAST AND 1 WEST MISSING NUTS ON INBOARD FACE	3
141	60	2 WEST LOOSE NUTS ON OUTBOARD FACE AND 2 EAST MISSING NUTS ON OUTBOARD FACE	4
142	5	1 WEST LOOSE NUT ON OUTBOARD FACE	1
143	40,43	1 EAST LOOSE NUT ON OUTBOARD FACE	2
143	47	1 EAST LOOSE OR MISSING NUT ON INBOARD FACE	1







REPAIR TYPE 326 AND 327 NOTE:
REPAIR DAMAGED ROPE SURFACES WHICH HAVE RUBBED ON THE STIFFENING GIRDER WITH AN INORGANIC ZINC RICH PAINT MEETING THE REQUIREMENTS OF AASHTO M-300. AFTER CLEANING THE ROPE OF ALL DIRT, RUST OR EXISTING SEALENTS WITH A NON-ABRASIVE METHOD, APPLY THE PAINT AS PER THE MANUFACTURE'S RECOMMENDATIONS.

REPAIR TYPE 326
FOR REPAIR LOCATIONS, SEE SHEETS 140/227 THRU 143/227.

REPAIR TYPE 327
FOR REPAIR LOCATIONS, SEE SHEETS 140/227 THRU 143/227.

NOTES:
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

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STRUCTURE FILE NUMBER 4800303
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DESIGNED SJT CHECKED MDC

SUSPENDER ROPE REPAIR DETAILS
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

LUC-2-18.62
PID No. 80551

SUSPENDED SPAN CABLE REPAIRS
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

DESIGNED	DRAWN	REVIEWED	DATE
SJT	MLA	SRE	8/12
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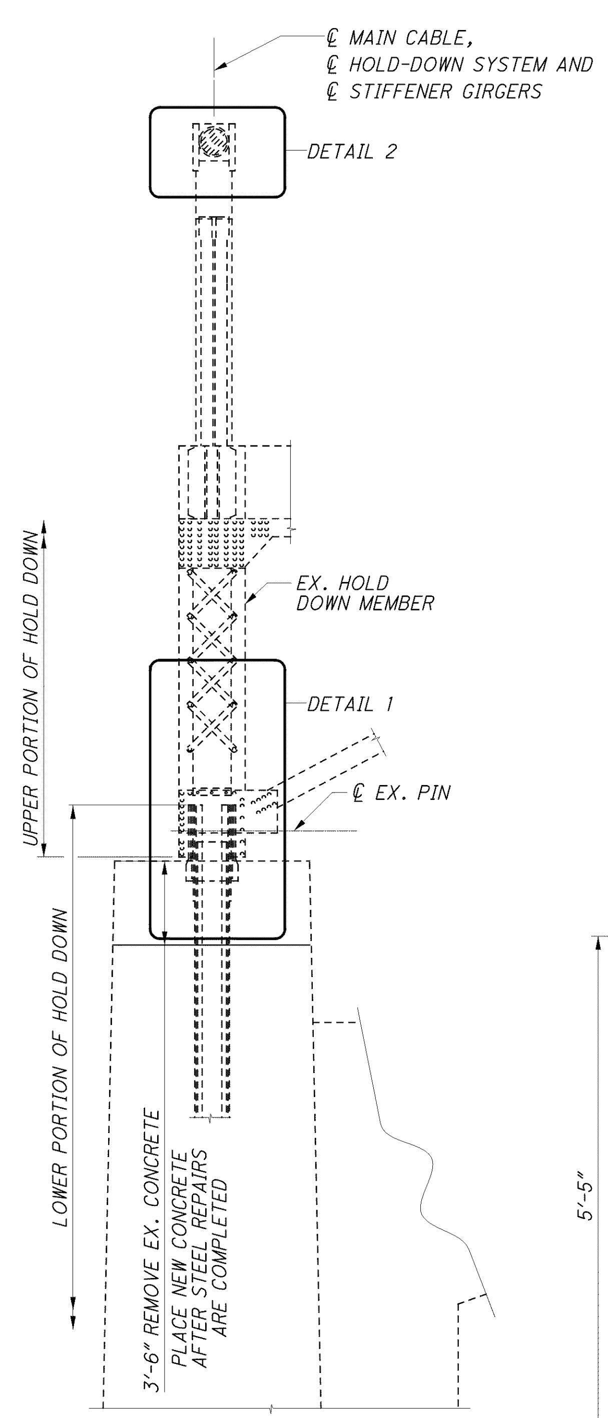
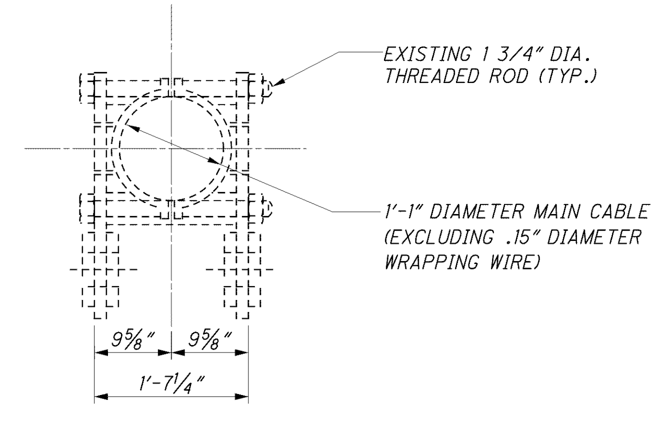
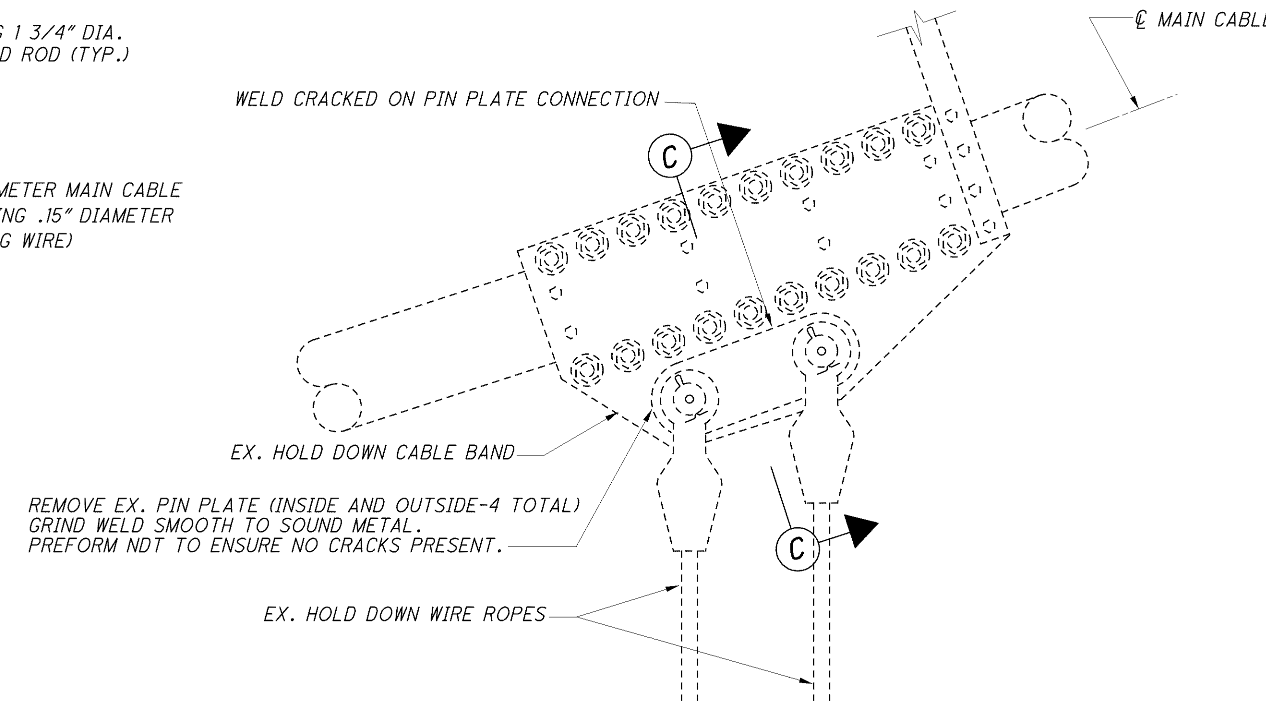
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050



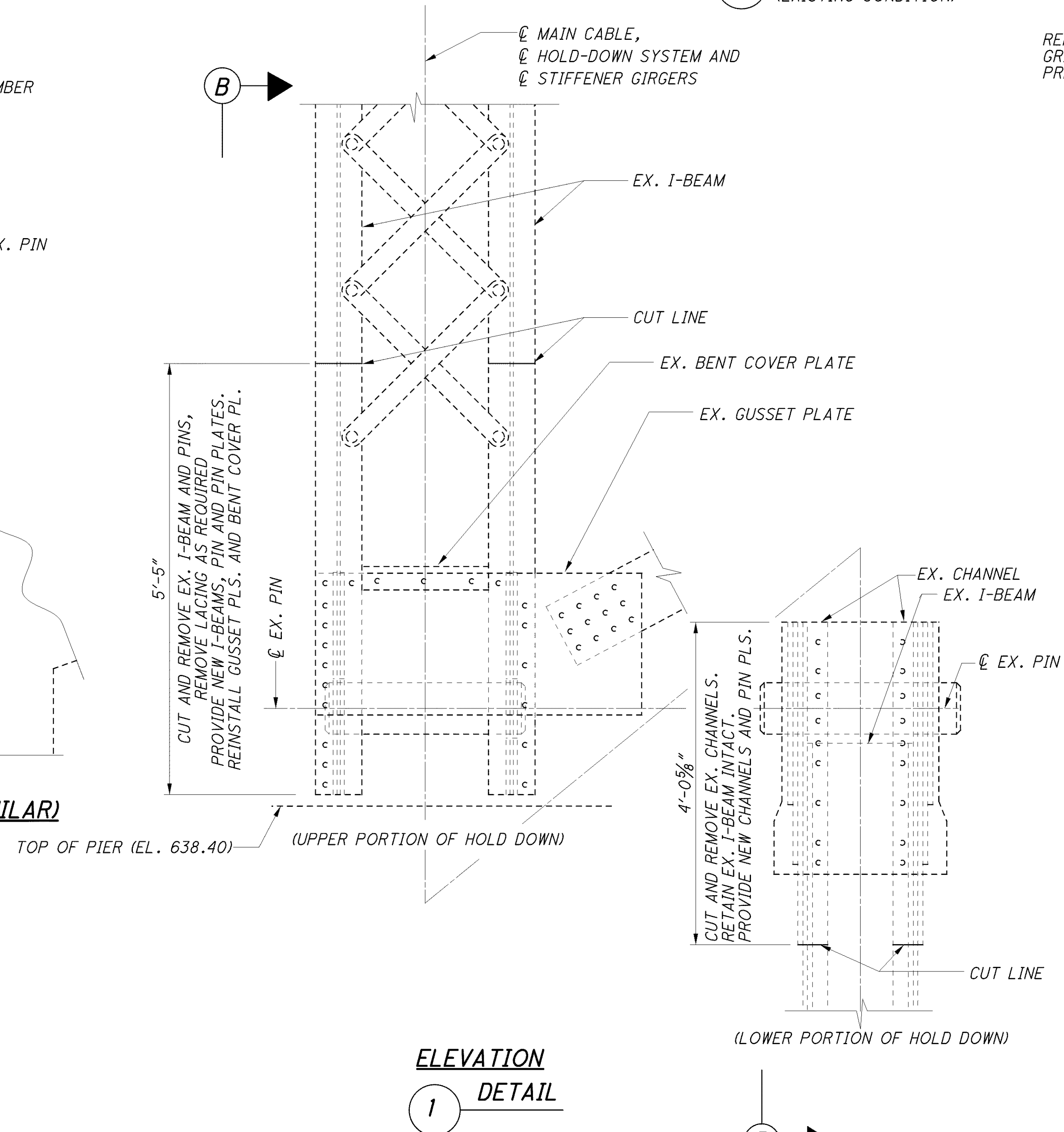
EXISTING
(PIER B SHOWN, PIER E SIMILAR)



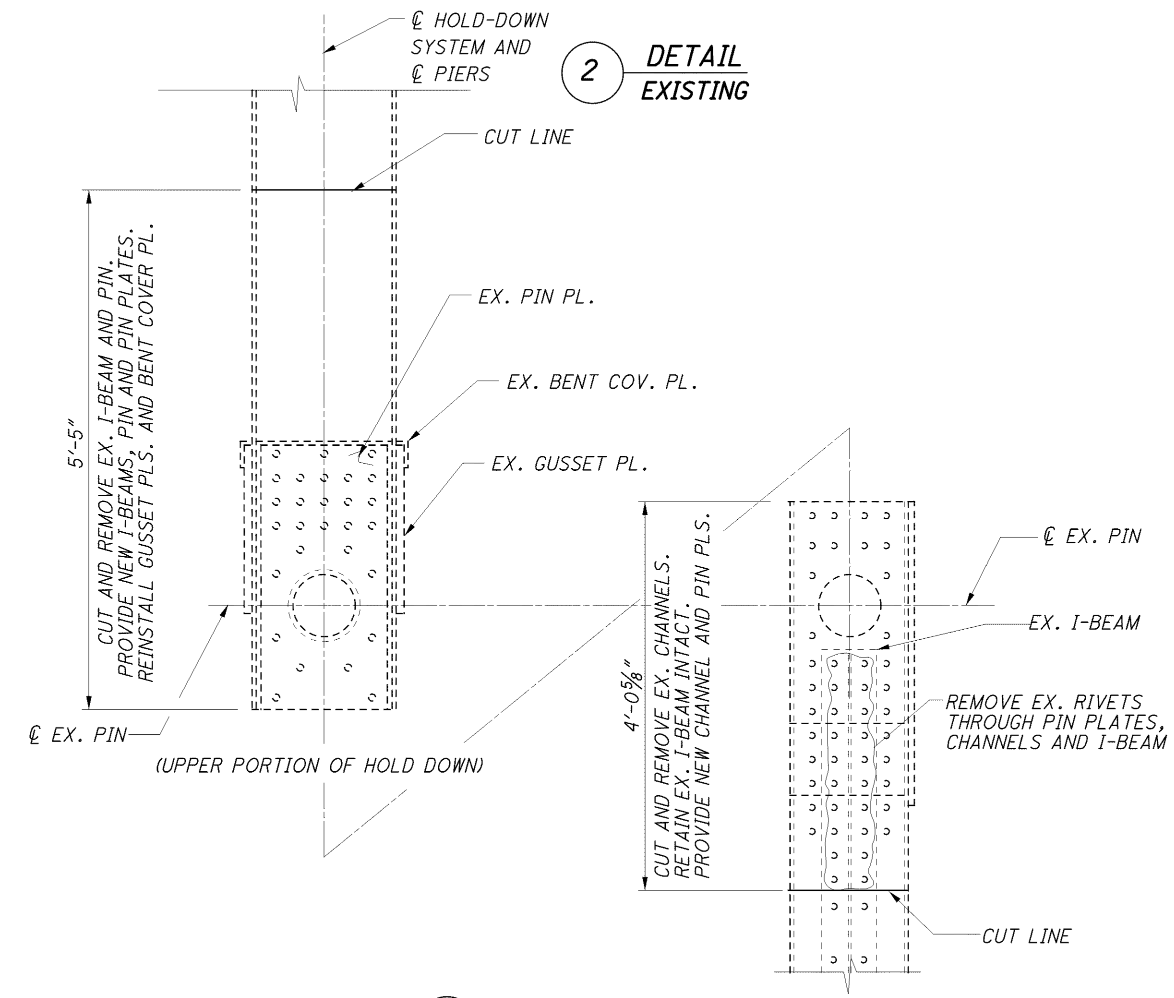
C SECTION
(EXISTING CONDITION)



2 DETAIL
EXISTING



ELEVATION
1 DETAIL



B SECTION

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SHEET 123/227.
3. FOR REPAIRS TO DETAIL 1, DETAIL 2, AND SECTION B-B, SEE SHEET 147/227.

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Mechanicsburg PA 17050

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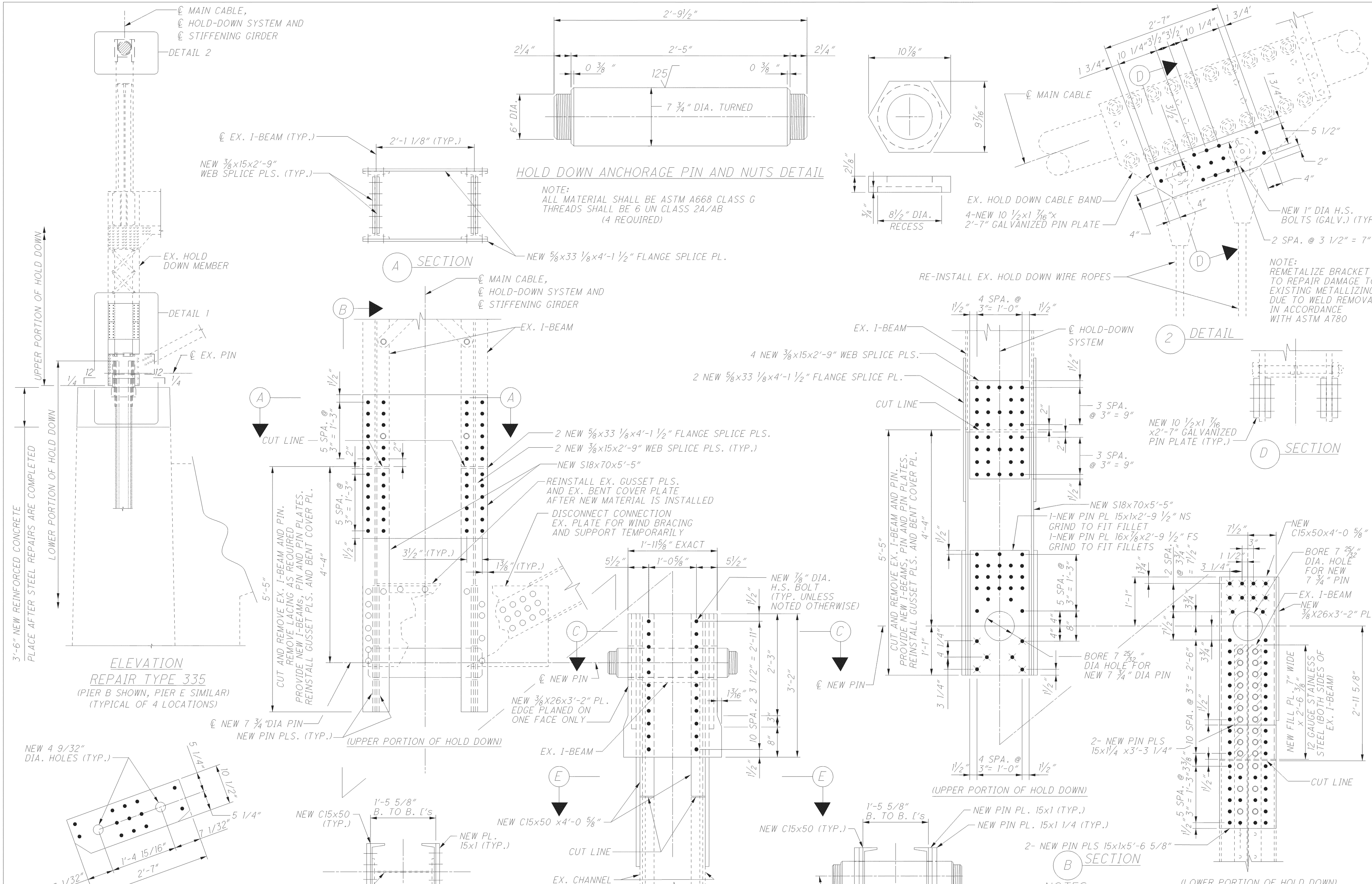
EXISTING HOLD DOWN SYSTEM
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. FOR BOLT/RIVET LEGEND, SEE SHEET 95/227.
4. ALL EX. RIVETS AND NEW BOLTS ON THIS SHEET ARE 7/8" DIA. UNO.

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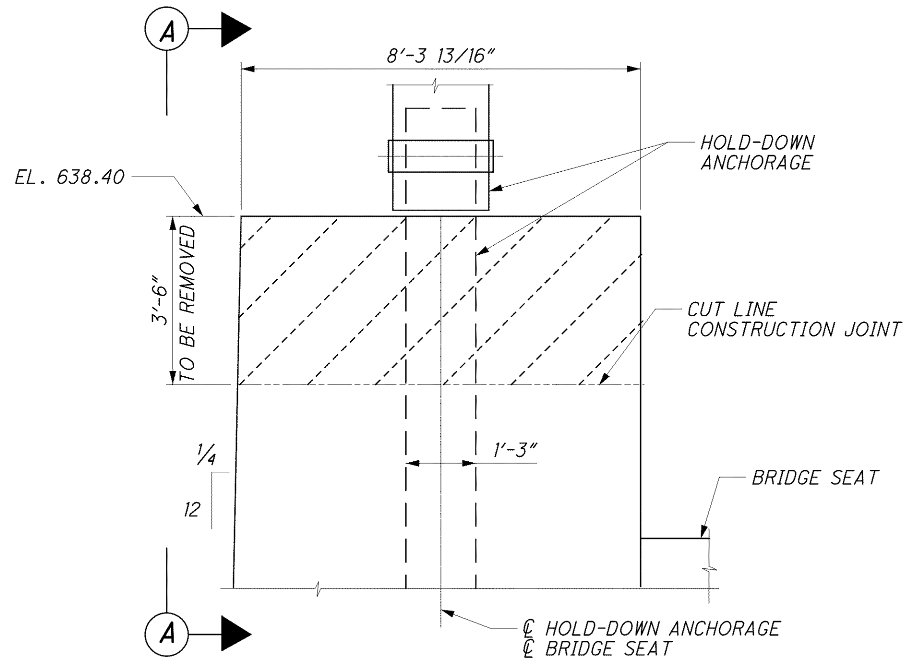
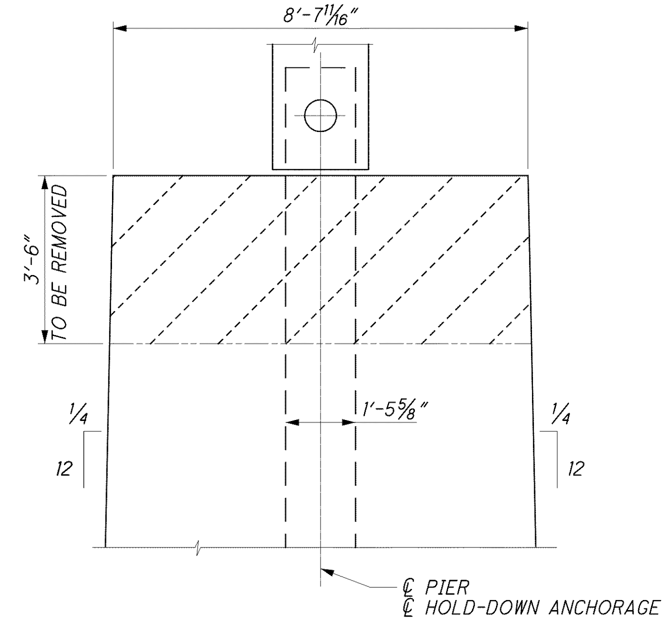
HOLD DOWN SYSTEM REPAIRS 1 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

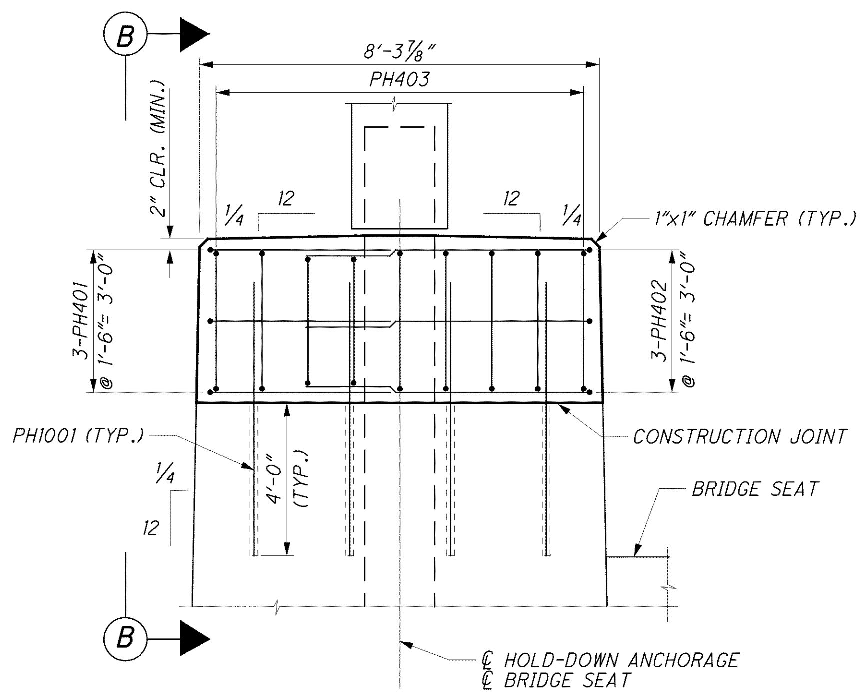


ELEVATION
(PIER B SHOWN, PIER E SIMILAR)

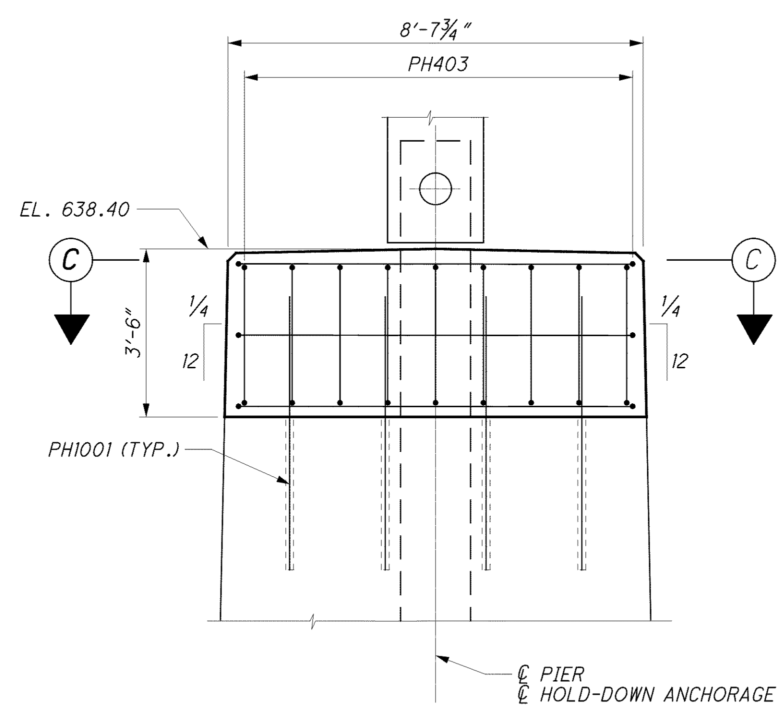


A SECTION

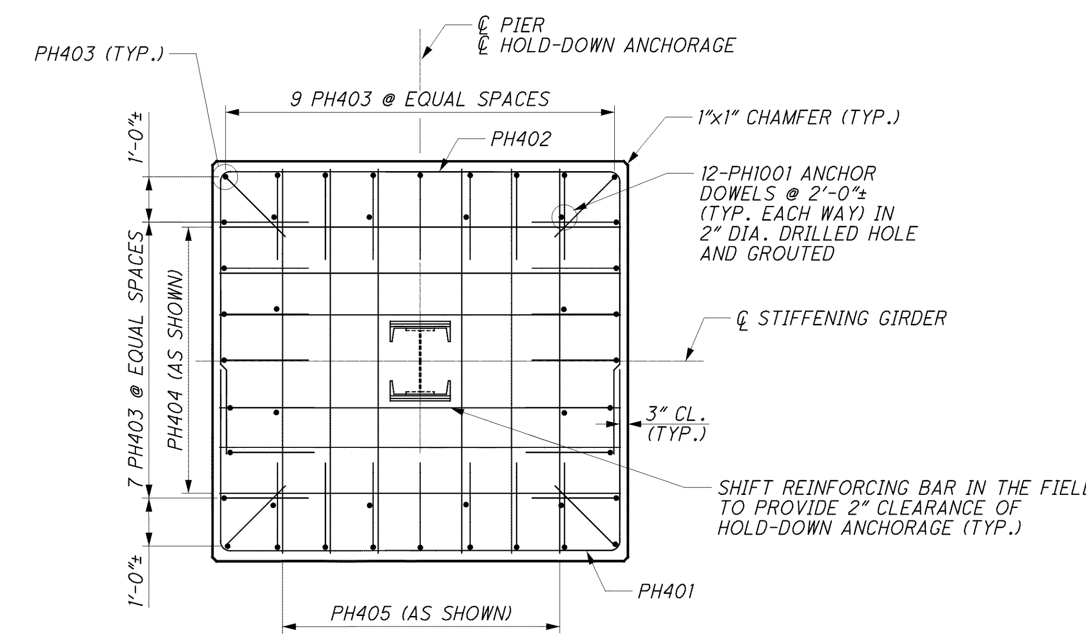
PIER B AND E PIER TOP REMOVAL
(TYPICAL OF FOUR LOCATIONS)



ELEVATION
(PIER B SHOWN, PIER E SIMILAR)



B SECTION



C SECTION

PIER B AND E PIER TOP REPAIR
(TYPICAL OF FOUR LOCATIONS)

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. COORDINATE THIS WORK WITH REMOVAL AND PATCHING OF PIERS SHOWN ON SHEETS 45/227 AND 48/227.
4. FOR REINFORCING SCHEDULE, SEE SHEETS 222/227 AND 223/227.
5. FOR REINFORCING BAR DIAGRAM AND ADDITIONAL NOTES, SEE SHEET 225/227.
6. REPAIRS SHOWN ON THIS SHEET ARE PART OF REPAIR TYPE 335.

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Mechanicsburg PA 17050

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AK		4800303	

HOLD DOWN SYSTEM REPAIRS 2 OF 2
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

WORK SEQUENCE FOR REPAIR TYPE 335
PERFORM WORK OF REPAIR TYPE 335 PRIOR TO BEGINNING REDECKING WORK

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND INSTALLING ALL COMPONENTS, INCLUDING DETERMINING THE EXISTING DIMENSIONS OF BOLT AND RIVET PATTERNS. INCLUDE ALL FIELD MEASURED DIMENSIONS ON THE SHOP DRAWINGS.
2. REMOVE SCUPPER DRAIN PIPE BETWEEN DECK AND JACKING TENDON ANCHORS.
3. INSTALL TEMPORARY JACKING PIER ANCHORAGE ON PIER FACES.
4. ATTACH TEMPORARY JACK BASE TO EXISTING CABLE BAND.
5. INSTALL TEMPORARY CABLE BAND.
6. INSTALL TEMPORARY HOLD-DOWN JACK AND TEMPORARY JACKING BEAM.
7. AS NECESSARY, CORE 3" DIAMETER HOLES THROUGH THE CURB AND SIDEWALK TO ACCOMMODATE INSTALLATION OF TEMPORARY JACKING THREADED BARS. INSTALL TEMPORARY JACKING THREADED BARS.
8. INSTALL TEMPORARY STIFFENING GIRDER SUPPORT BARS AND JACKING SYSTEM.
9. JACK UNTIL THE HOLD-DOWN WIRE ROPES ARE UNLOADED OR UNTIL 110% OF THE CALCULATED JACKING LOAD IS REACHED WHICHEVER COMES FIRST. IF 110% OF THE CALCULATED JACKING LOAD IS REACHED BEFORE THE HOLD-DOWN WIRE ROPES ARE UNLOADED, CEASE JACKING OPERATIONS, UNLOAD JACKS AND NOTIFY THE ENGINEER.
10. INSTALL FILL PLATES AND SECURE THE JACKING BEAM TO THE JACK BASE.
11. DISCONNECT THE HOLD-DOWNS FROM THE EXISTING CABLE BAND. TEMPORARY SUPPORT THE HOLD-DOWN ANCHORAGE.
12. REMOVE PIN PLATES FROM THE HOLD-DOWN CABLE BAND. GRIND WELDS SMOOTH TO SOUND METAL. PERFORM NDT TO CHECK FOR THE PRESENCE OF CRACKS. IF CRACKS ARE FOUND, STOP WORK AND INFORM THE ENGINEER.
13. INSTALL NEW PIN PLATES TO EXISTING CABLE BAND AS SHOWN IN REPAIR TYPE 335 DETAIL 2, SHEET 147/227. REPAIR THE METALLIZING THAT WAS DAMAGED IN ACCORDANCE WITH ASTM A 780.
14. REMOVE PIER CONCRETE TO THE LIMITS INDICATED ON REPAIR TYPE 335 DETAILS.
15. REMOVE PORTIONS OF THE HOLD DOWN ANCHORAGE IN THE VICINITY OF THE 7¾ INCH DIAMETER PIN. MAKE STRUCTURAL REPAIRS TO THE HOLD-DOWN ANCHORAGE. SEE REPAIR TYPE 335 DETAIL A, SHEET 147/227.
16. INSTALL REPAIRED HOLD-DOWN ANCHORAGE ASSEMBLIES. INSTALL THE NEW 7¾ INCH DIAMETER PIN AND NUTS.
17. DRILL AND ANCHOR REINFORCING STEEL IN THE TOP OF THE EXISTING PIER. PLACE NEW CONCRETE AS SHOWN. SLOPE NEW CONCRETE SURFACE AWAY FROM THE HOLD-DOWN ANCHORAGE STEEL.
18. RE-ATTACH HOLD-DOWN WIRE ROPES TO THE HOLD-DOWN ASSEMBLIES AND TO THE EXISTING CABLE BAND.
19. REMOVE TEMPORARY JACKING BEAM SUPPORT THREADED BARS, FILL PLATES AND RELEASE JACKS TO RELOAD HOLD-DOWN WIRE ROPES. TEST TENSION HOLD-DOWN WIRE ROPES.
20. RELEASE TEMPORARY JACKING TENDONS AND SUPPORT FOR THE STIFFENING GIRDER. TEST TENSION HOLD-DOWN WIRE ROPES FOR EQUAL LOADING.
21. REMOVE JACKING APPARATUS INCLUDING TEMPORARY JACKING PIER ANCHORAGE.
22. REPAIR SIDEWALK AND PIER AS REQUIRED AND REINSTALL SCUPPER DRAIN PIPE.

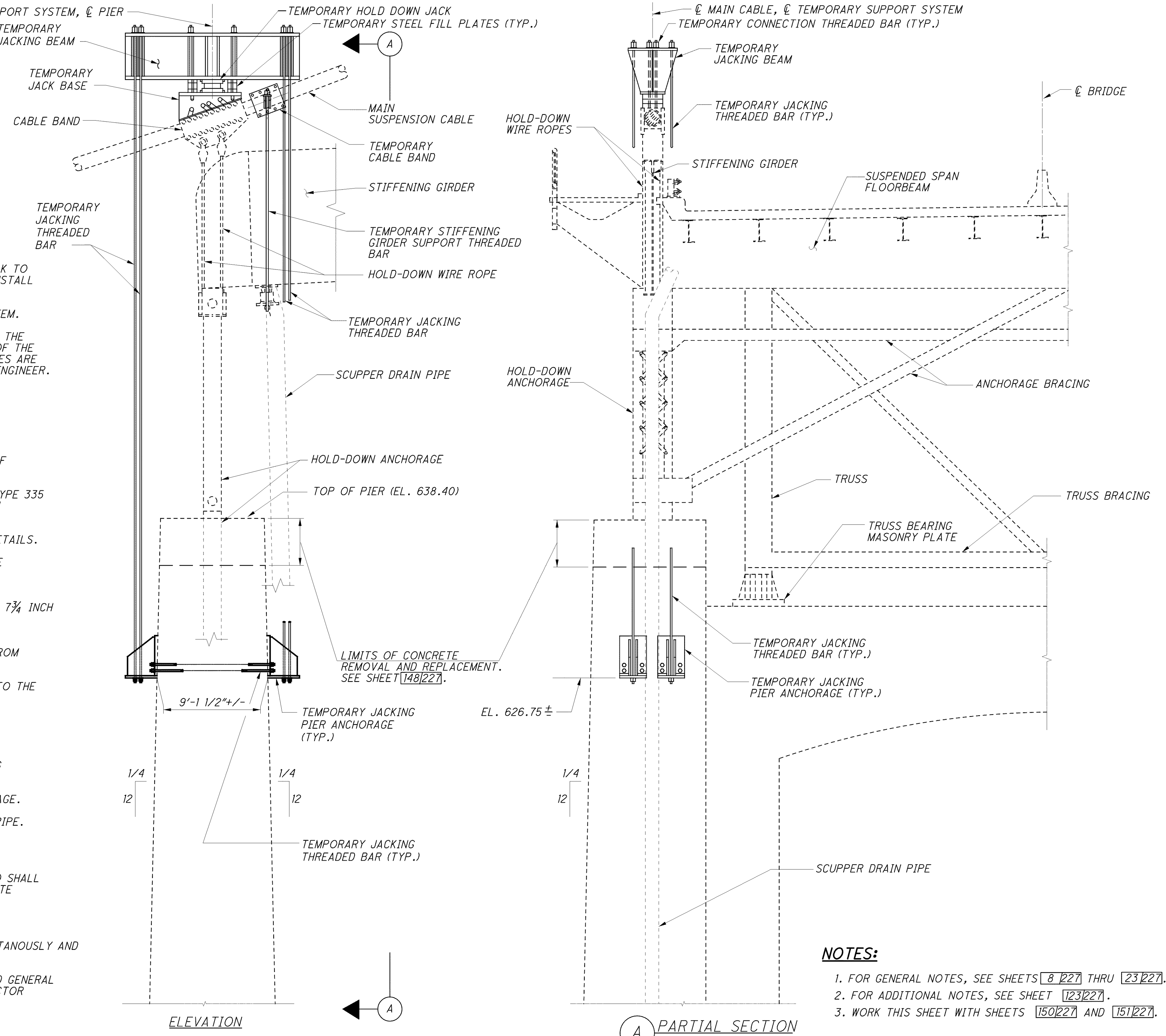
NOTE:
PERFORM HOLD DOWN REPAIRS WHEN BRIDGE IS CLOSED TO TRAFFIC.

FOR EACH HOLD-DOWN LOCATION, WORK SEQUENCE STEPS 9 THROUGH 20 SHALL BE COMPLETED WITHIN 14 CONSECUTIVE DAYS INCLUDING CURING CONCRETE FOR 7 DAYS MIN. PRIOR TO RELOADING HOLD-DOWN ROPES.

DURING JACKING, MOVEMENT OF CONSTRUCTION VEHICLES IS PROHIBTED.

DURING JACKING ALL TEMPORARY JACKING THREADED BARS TO BE SIMULTANOUSLY AND EQUALLY LOADED.

REPAIR PROCEDURES INCLUDED WITH VARIOUS DETAILS ARE A SUGGESTED GENERAL OUTLINE OF THE CONSTRUCTION WORK TO BE PERFORMED. THE CONTRACTOR SHALL SUBMIT HIS METHODS TO THE ENGINEER FOR APPROVAL.



NOTES:

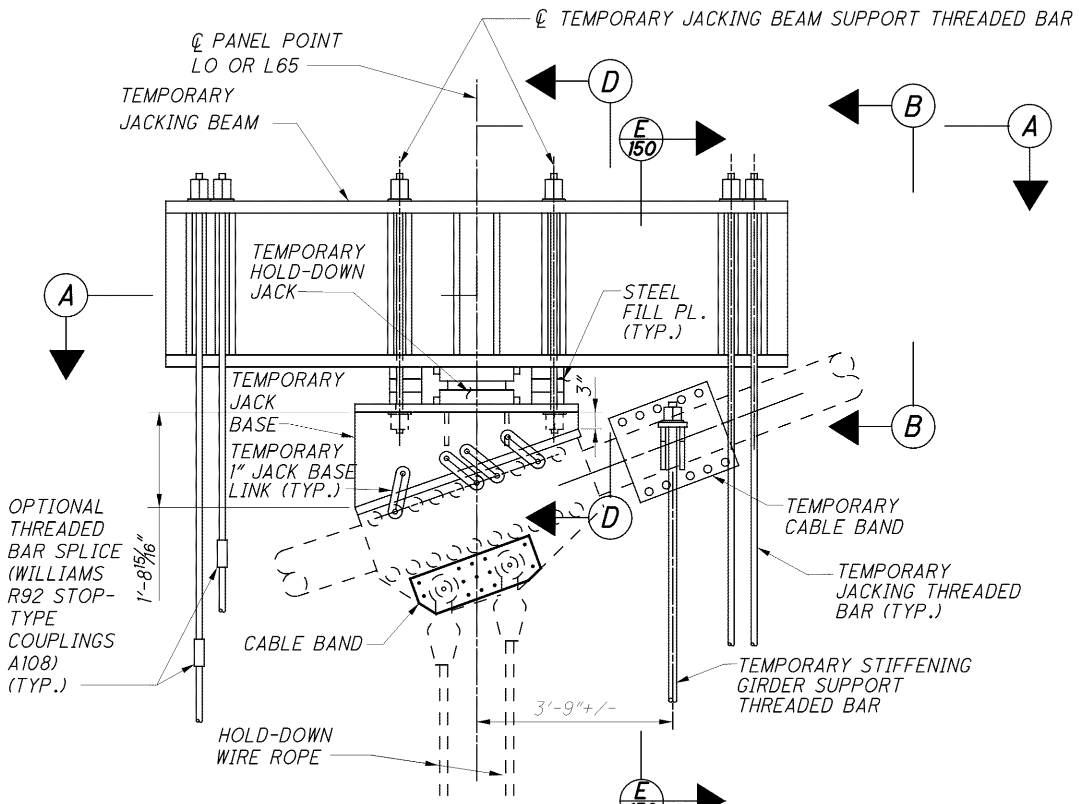
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR ADDITIONAL NOTES, SEE SHEET 123/227.
3. WORK THIS SHEET WITH SHEETS 150/227 AND 151/227.

TEMPORARY HOLD DOWN ASSEMBLY
USE TO PERFORM WORK OF REPAIR TYPE 335

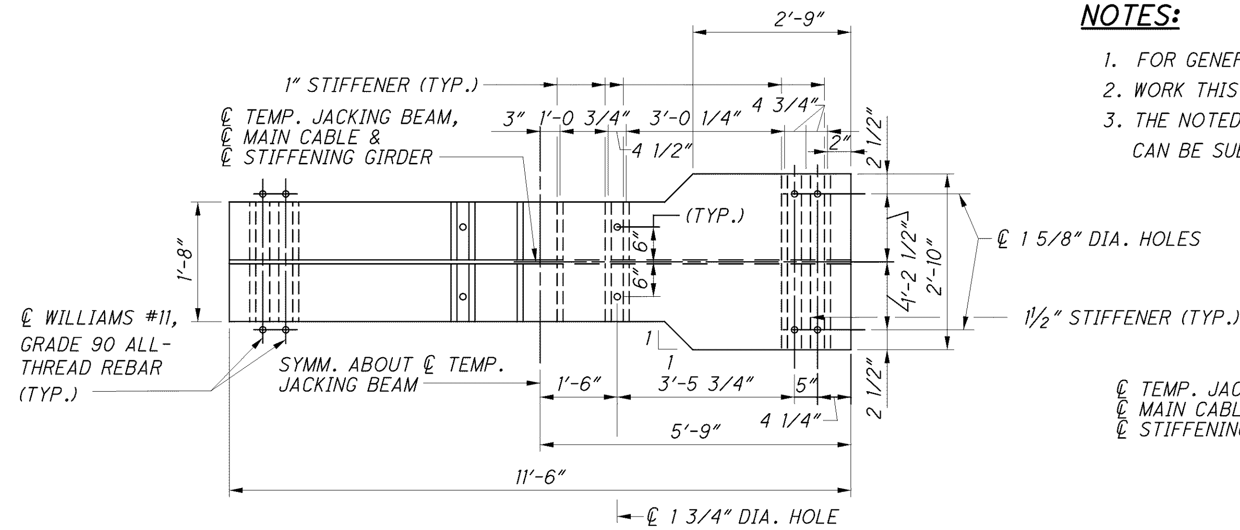
DESIGN AGENCY: MODJESKI and MASTERS, INC. 100 Sterling Parkway, Suite 302 Mechanicsburg PA 17050
DESIGNED NDT | CHECKED AK | DRAWN EAR,ELS | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

TEMPORARY HOLD DOWN 1 OF 3
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



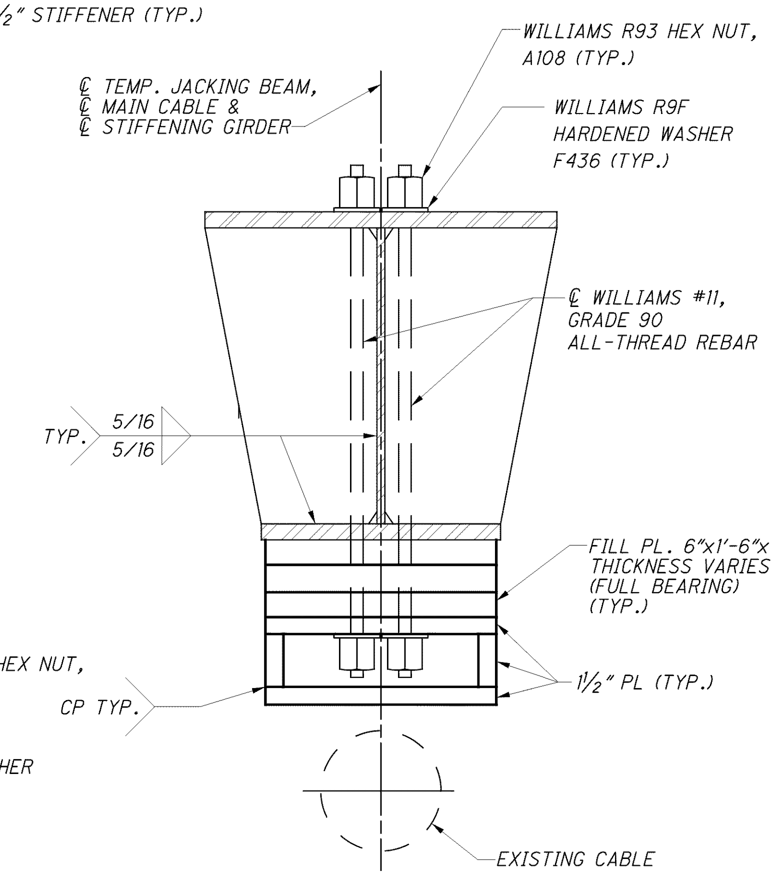
ELEVATION
MAIN SUSPENSION CABLE CONNECTIONS



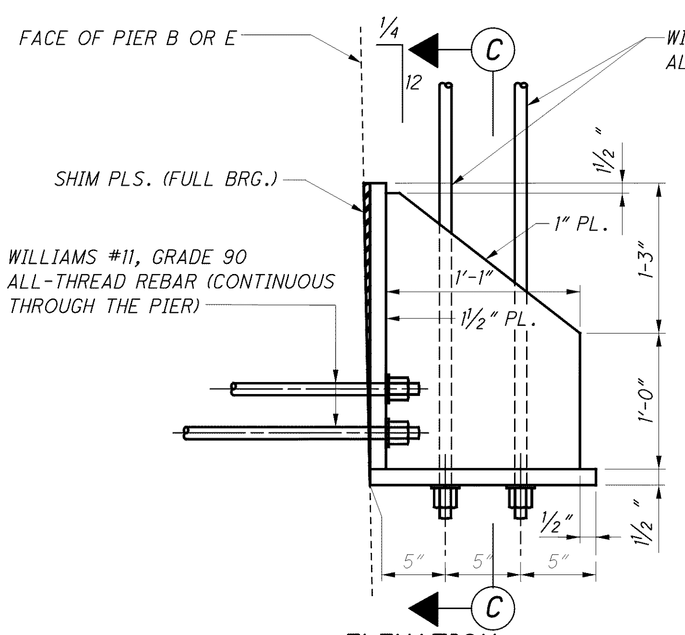
A SECTION

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. WORK THIS SHEET WITH SHEETS 149/227 AND 151/227.
3. THE NOTED WILLIAMS ALL-THREAD REBARS AND APPURTENANCES CAN BE SUBSTITUTED WITH "APPROVED EQUAL".

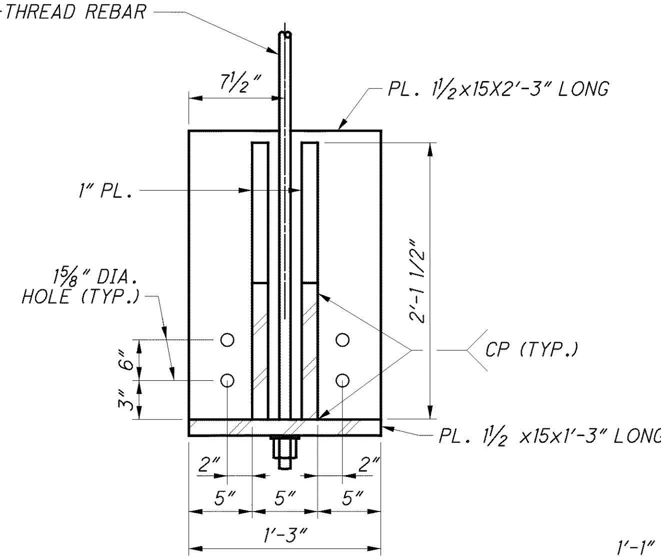


D SECTION

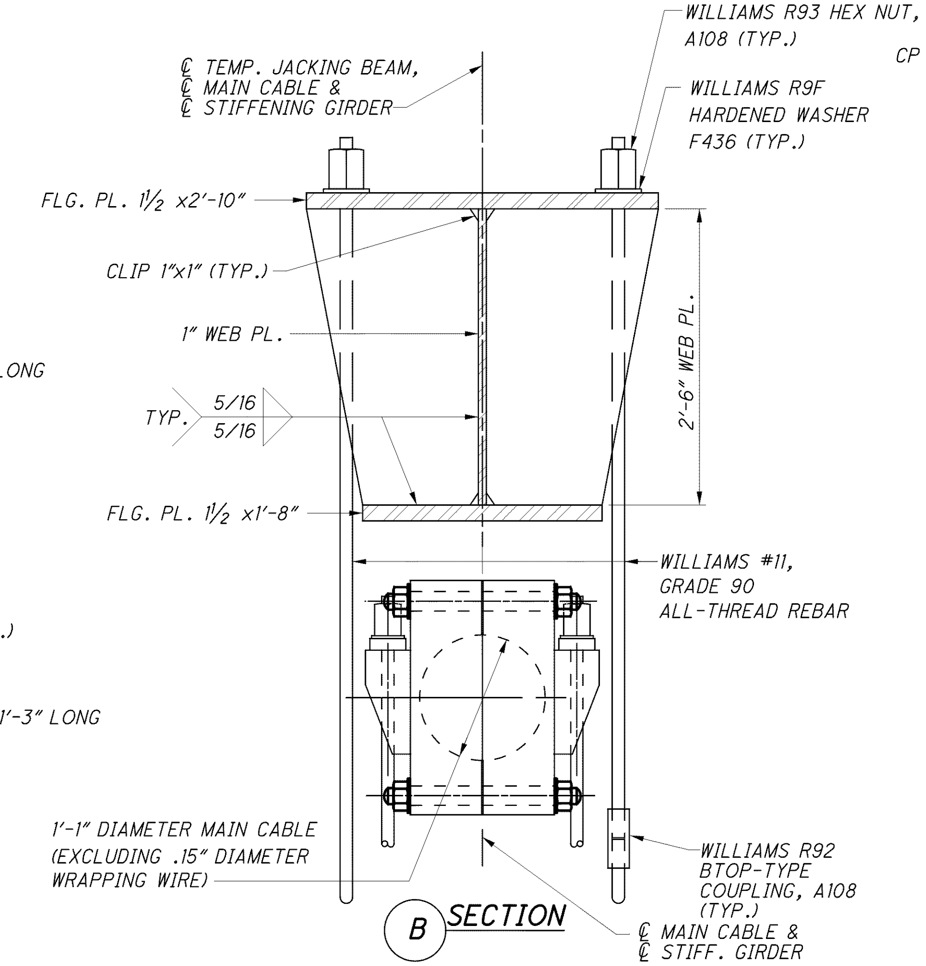


ELEVATION
PIER ANCHORAGE

(FOUR PIER ANCHORAGES PER HOLD-DOWN LOCATION)



C SECTION



B SECTION

JACKING SYSTEM DESIGN DATA	
HOLD-DOWN JACKING SYSTEM:	
HOLD-DOWN FORCE - DEAD LOAD	270 KIPS
ANTICIPATED JACKING DISPLACEMENT	0.188 INCHES
HOLD-DOWN FORCE - TEMPERATURE	12 KIPS
CONSTRUCTION - LIVE LOAD	200 KIPS
GIRDER JACKING SYSTEM:	
GIRDER FORCE - DEAD LOAD	62 KIPS
GIRDER FORCE - TEMPERATURE	8 KIPS
CONSTRUCTION - LIVE LOAD	120 KIPS

TEMPORARY HOLD-DOWN JACKING SYSTEM

DESIGN AGENCY: MODJESKI and MASTERS, INC. 100 Sterling Parkway, Suite 302 Mechanicsburg PA 17050

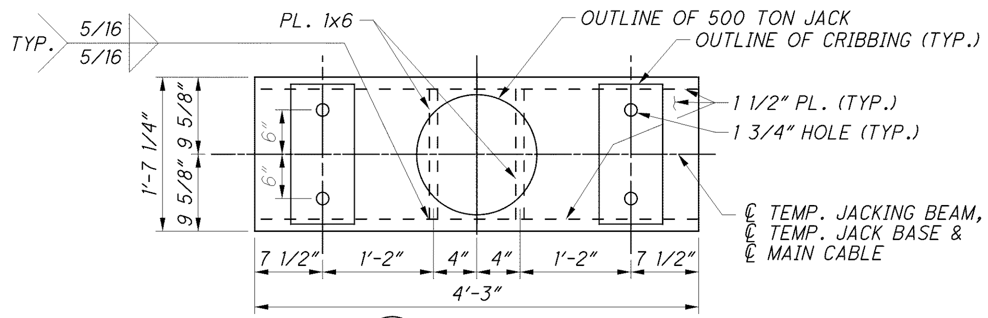
DESIGNED NDT | CHECKED AK | DRAWN ELS | REVIEWED SRE | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

TEMPORARY HOLD DOWN 2 OF 3

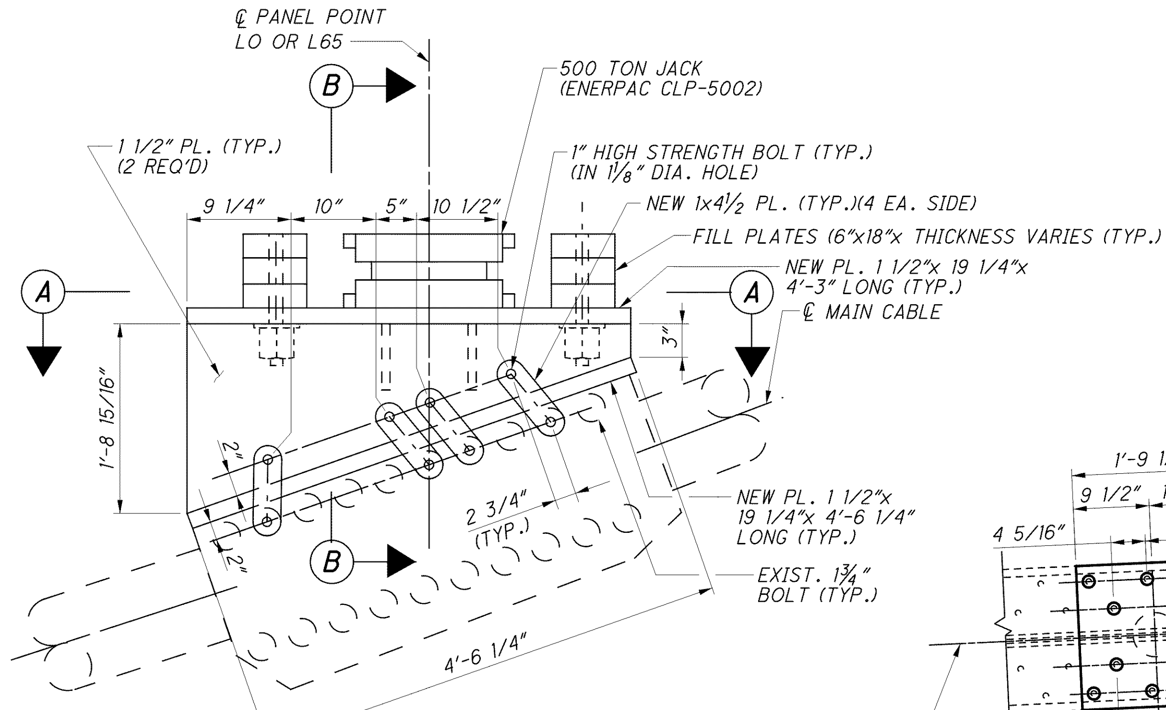
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

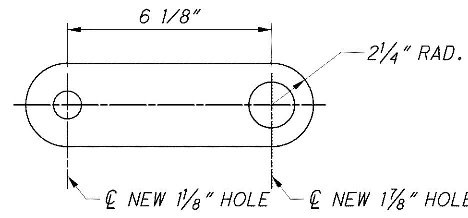
TEMPORARY HOLD-DOWN JACKING SYSTEM



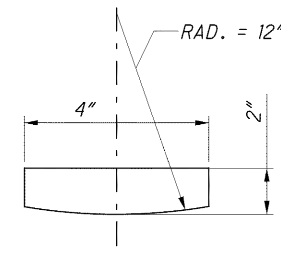
A SECTION



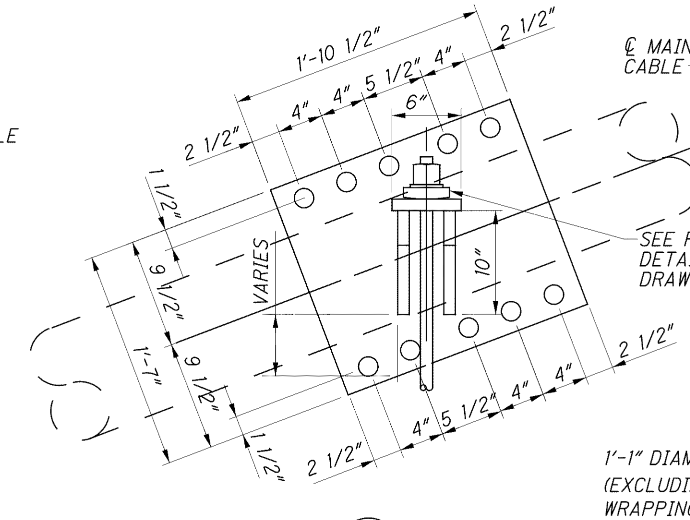
ELEVATION JACK BASE



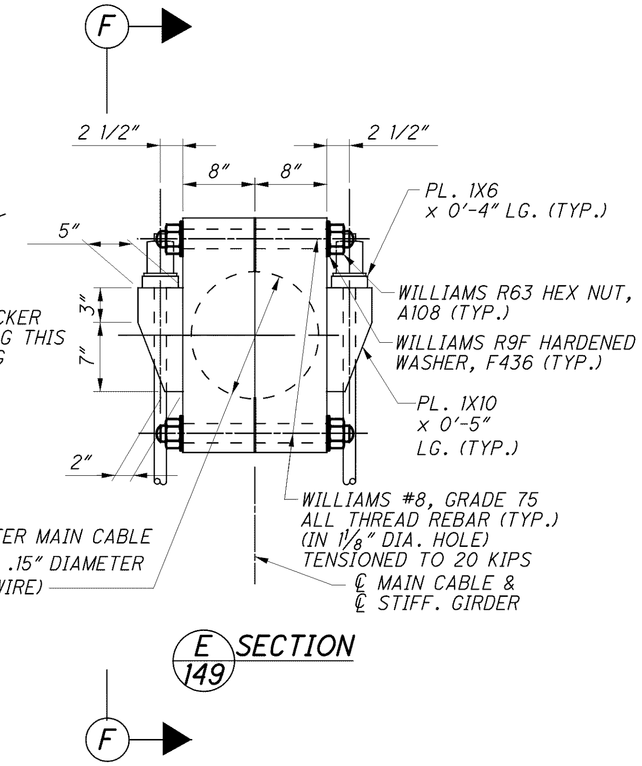
ELEVATION JACK BASE LINK (8 REQUIRED)



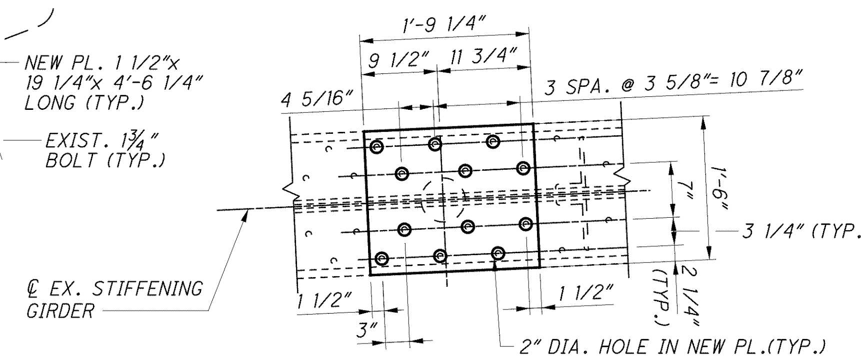
G DETAIL



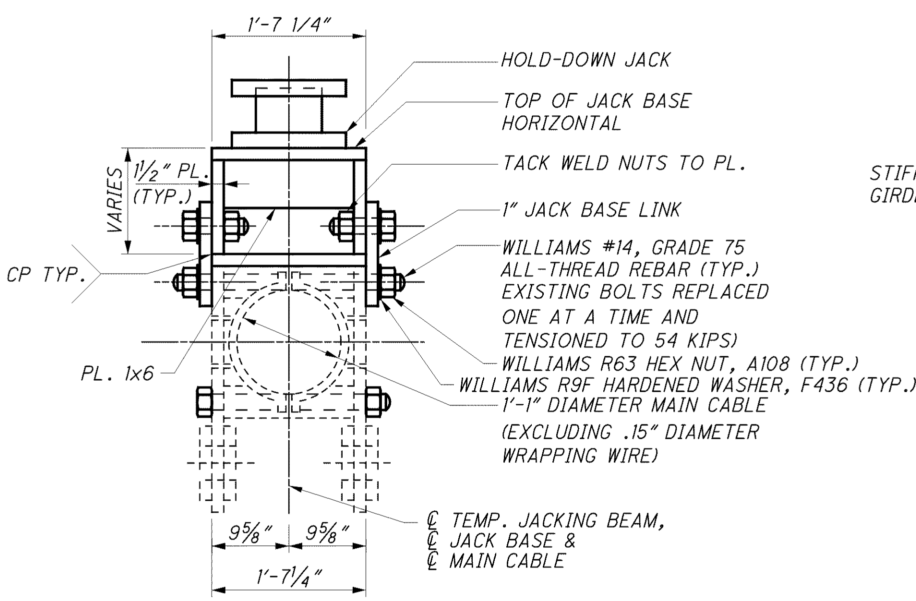
F SECTION



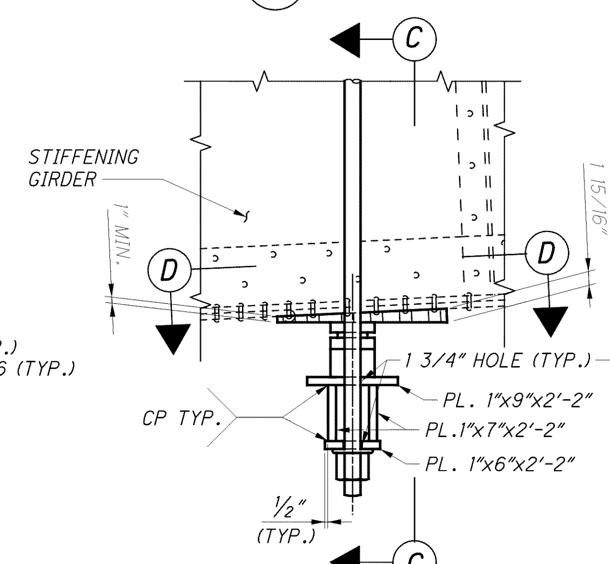
E/149 SECTION



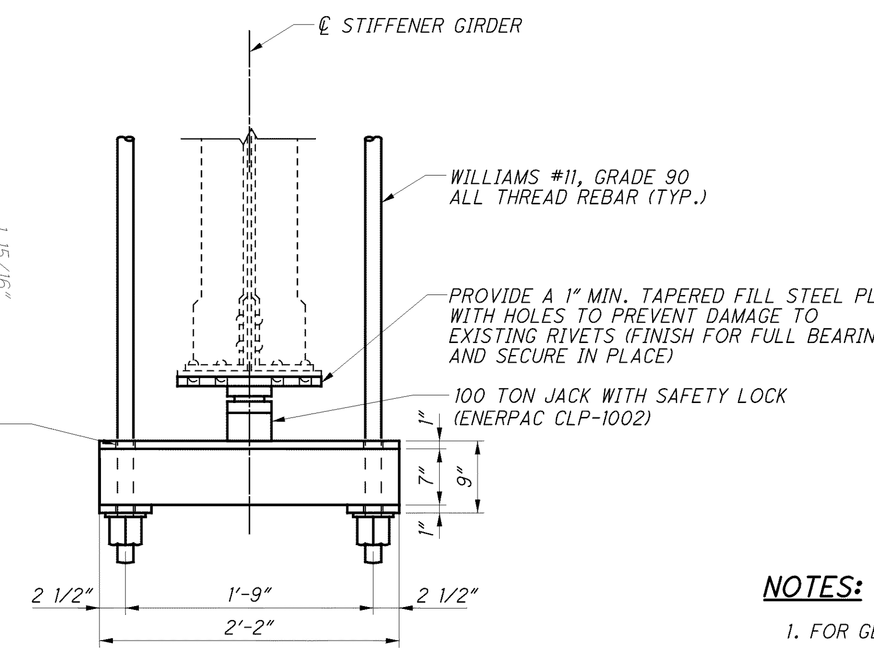
D SECTION



B SECTION



ELEVATION (STIFFENING GIRDER SUPPORT)



C SECTION

NOTES:

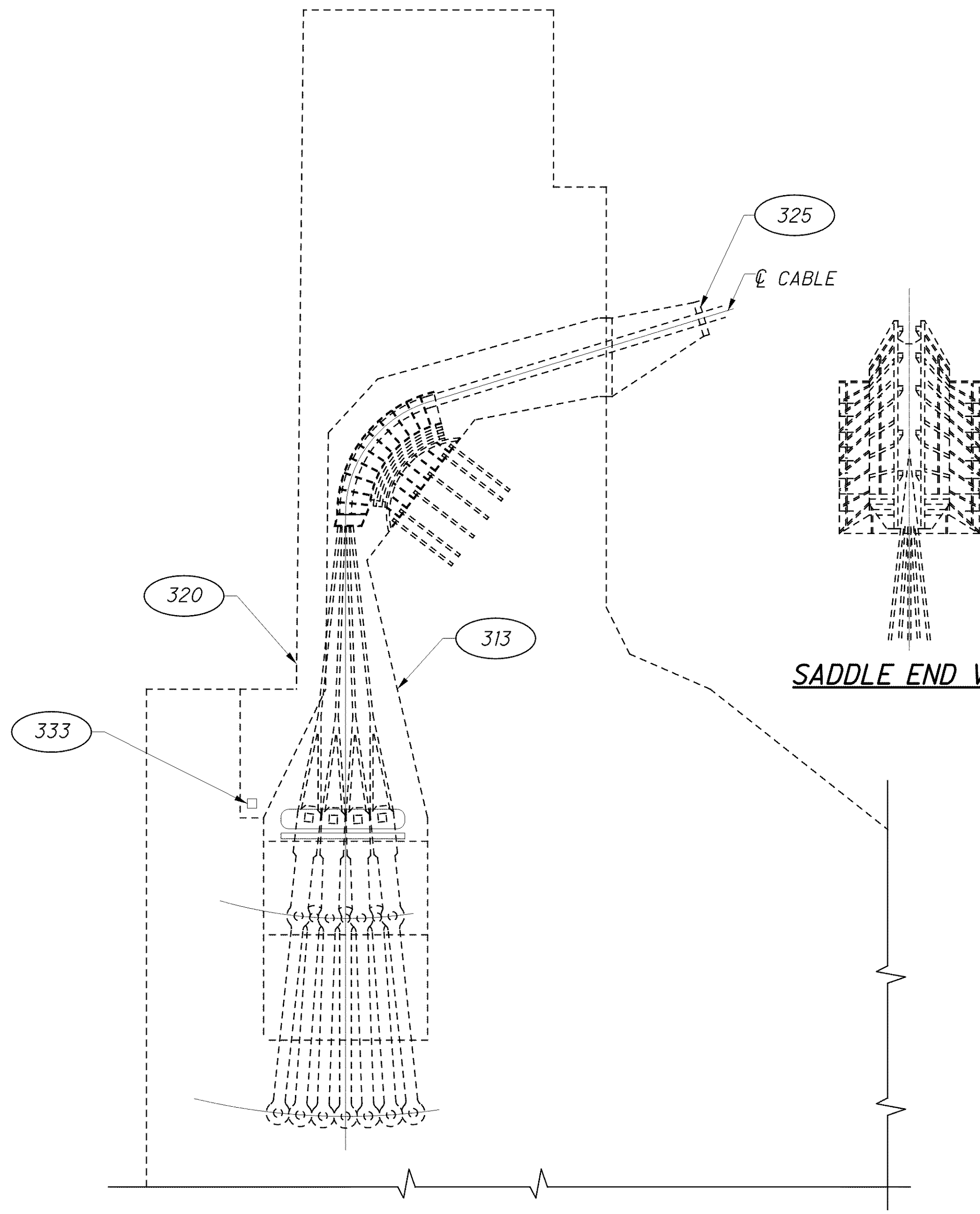
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. WORK THIS SHEET WITH SHEETS 149/227 AND 150/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg PA 17050

DESIGNED NDT | DRAWN ELS | REVIEWED SRE | DATE 8/12 | CHECKED AK | REVISED | STRUCTURE FILE NUMBER 4800303

TEMPORARY HOLD DOWN 3 OF 3
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

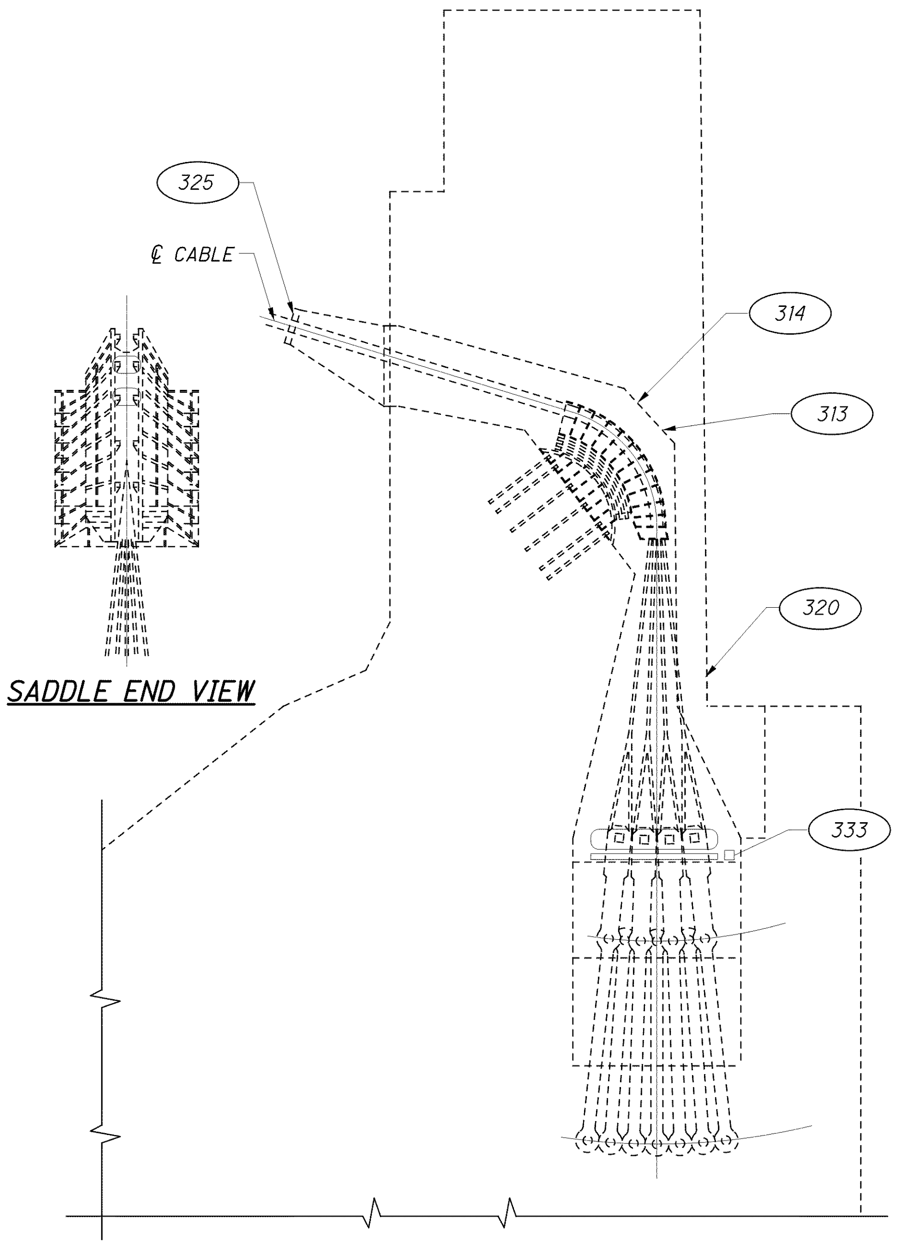
LUC-2-18.62
PID No. 80551



SADDLE END VIEW

WEST ANCHORAGE, SOUTH CHAMBER

SADDLE END VIEW



EAST ANCHORAGE, SOUTH CHAMBER

ANCHORAGE REPAIR DETAILS

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
325	REPLACE CIRCUMFERENTIAL ANCHORAGE CABLE HOOD CAULKING SEALANT	154
320	REPLACE ANCHORAGE DOOR	154
313	REPAIR CONCRETE AT ANCHORAGE CHAMBER WALL	154
333	REPLACE ANCHORAGE DEHUMIDIFIER AND SUMP PUMP	154

ANCHORAGE REPAIR DETAILS

REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
325	REPLACE CIRCUMFERENTIAL ANCHORAGE CABLE HOOD CAULKING SEALANT	154
333	REPLACE ANCHORAGE DEHUMIDIFIER AND SUMP PUMP	154
313	REPAIR CONCRETE ABOVE SADDLE IN ANCHORAGE CHAMBER	154
314	GROUT FILL OPEN SHAFT ABOVE SADDLE IN ANCHORAGE CHAMBER	154
320	REPLACE ANCHORAGE DOOR	154

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.

DESIGN AGENCY
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100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

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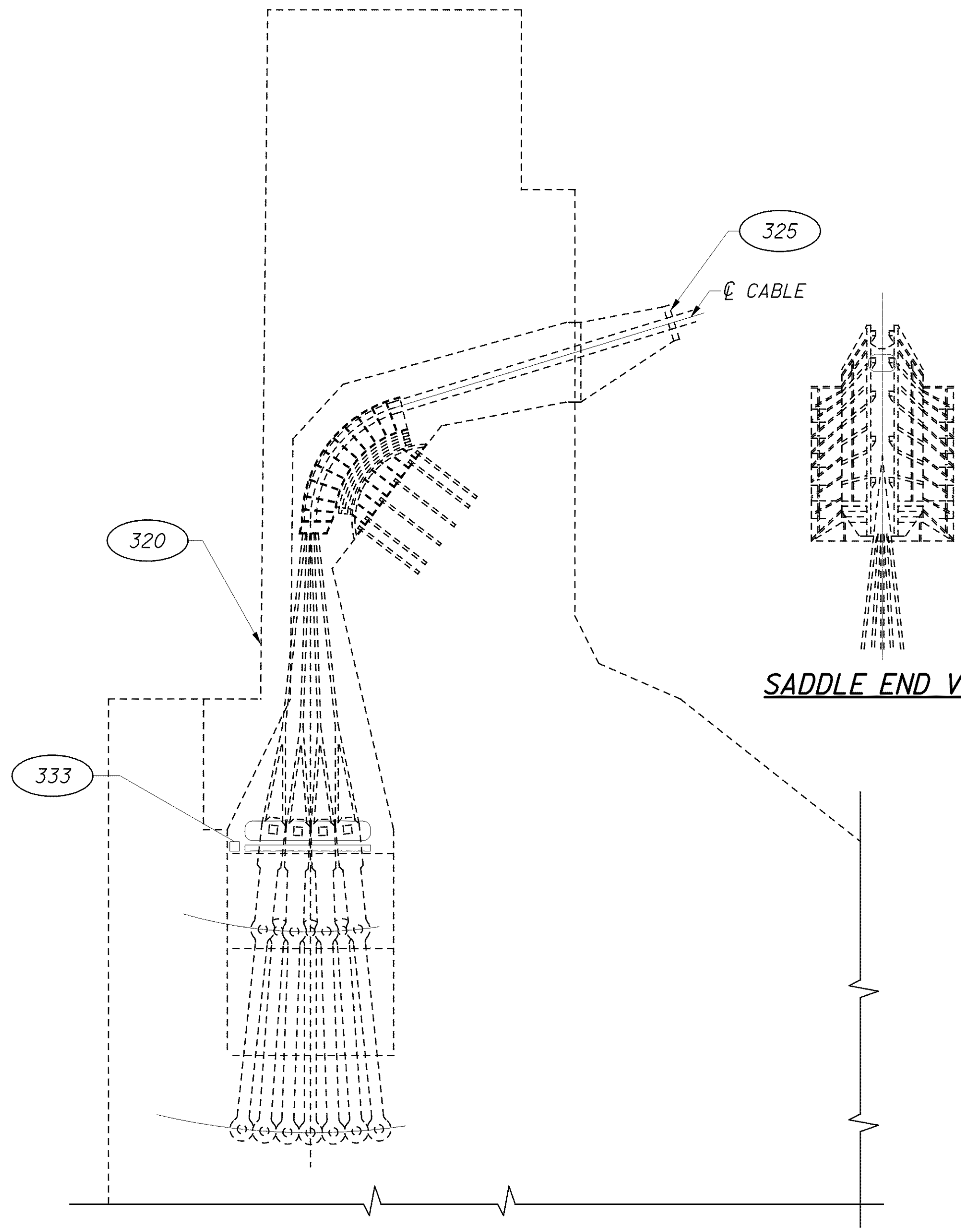
SJT	MLA	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MDC		4800303	

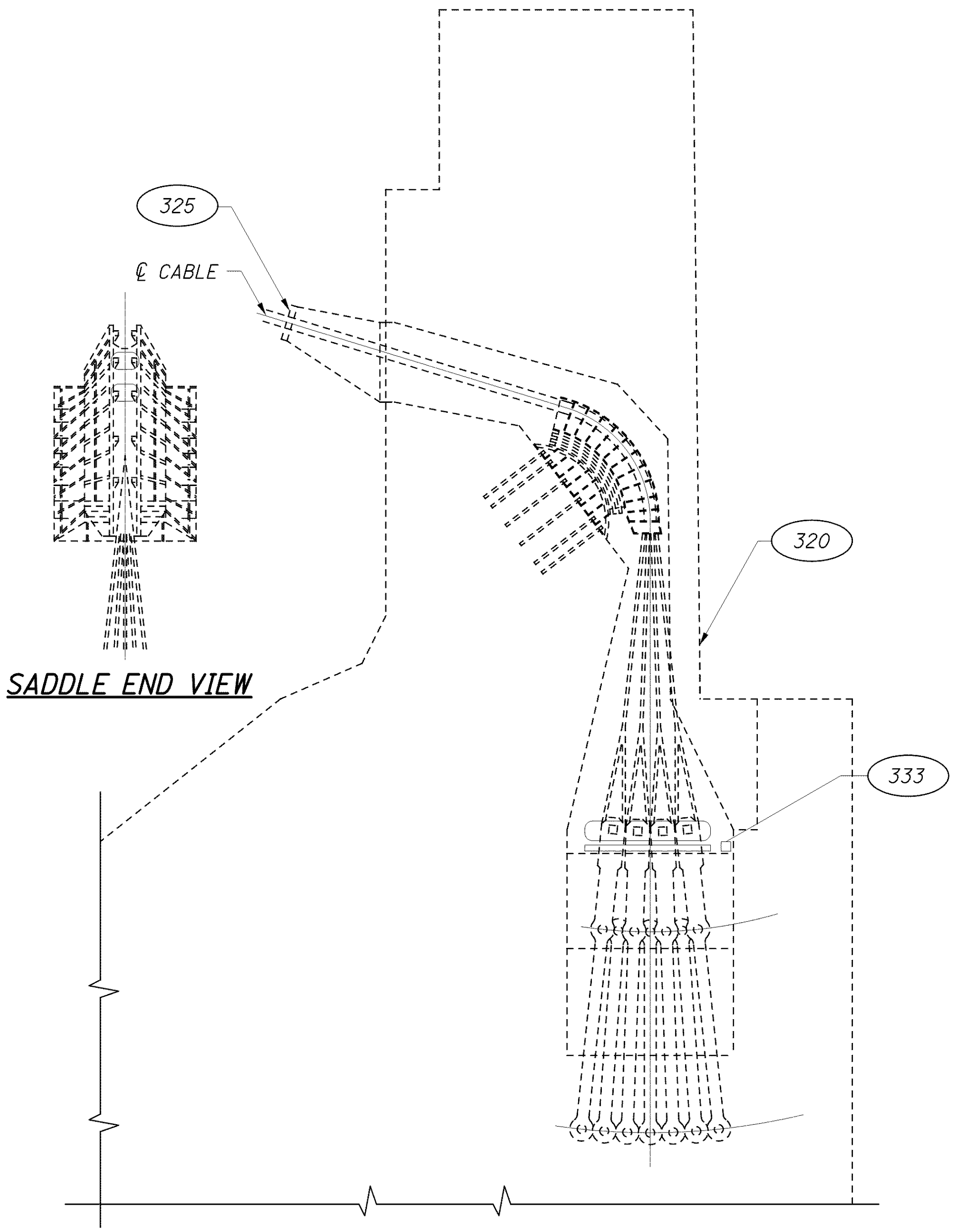
SOUTH CABLE ANCHORAGE ELEVATIONS
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



SADDLE END VIEW

WEST ANCHORAGE, NORTH CHAMBER



SADDLE END VIEW

EAST ANCHORAGE, NORTH CHAMBER

ANCHORAGE REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
325	REPLACE CIRCUMFERENTIAL ANCHORAGE CABLE HOOD CAULKING SEALANT	154
333	REPLACE ANCHORAGE DEHUMIDIFIER AND SUMP PUMP	154
320	REPLACE ANCHORAGE DOOR	154

ANCHORAGE REPAIR DETAILS		
REPAIR TYPE	SCOPE OF WORK	BRIDGE SHT. NO.
325	REPLACE CIRCUMFERENTIAL ANCHORAGE CABLE HOOD CAULKING SEALANT	154
320	REPLACE ANCHORAGE DOOR	154
333	REPLACE ANCHORAGE DEHUMIDIFIER AND SUMP PUMP	154

NOTES:

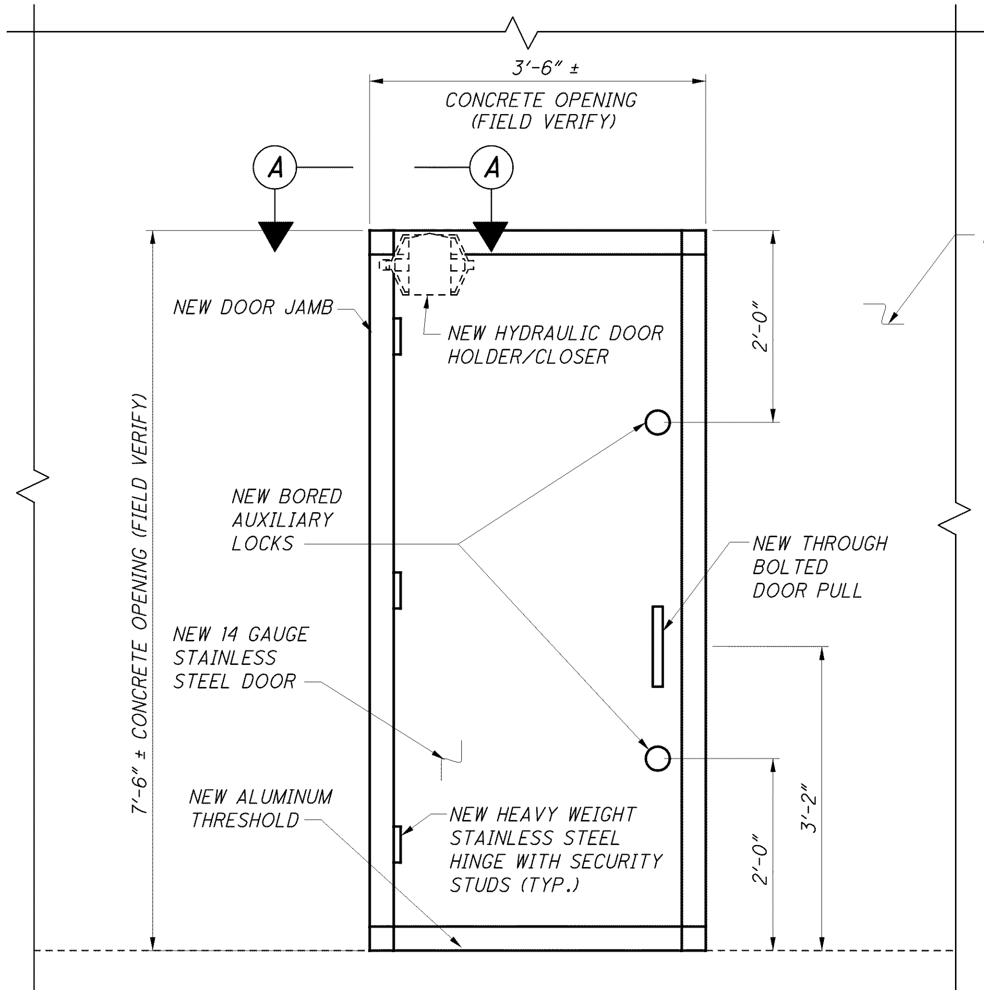
1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
SJT	MLA	SRE	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MDC		4800303	

NORTH CABLE ANCHORAGE ELEVATIONS
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

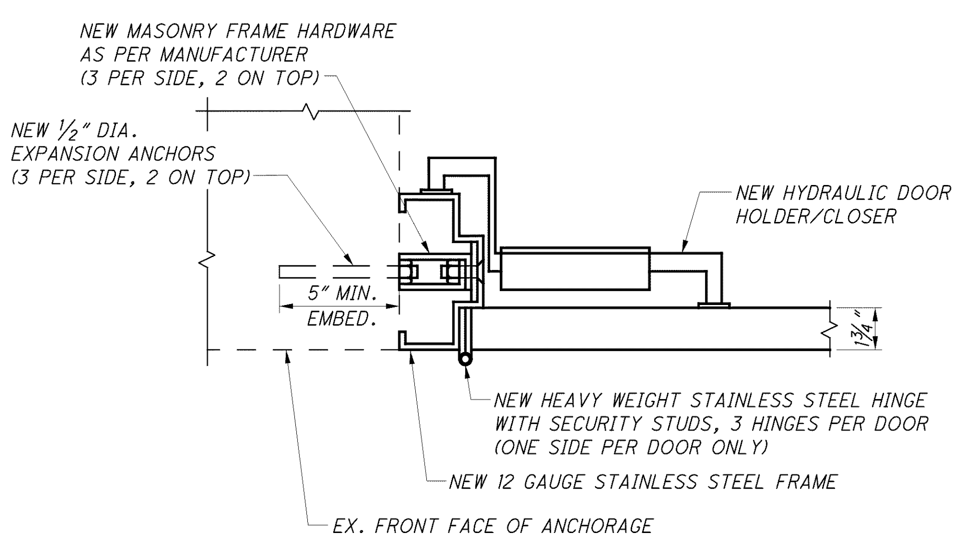
LUC-2-18.62
PID No. 80551



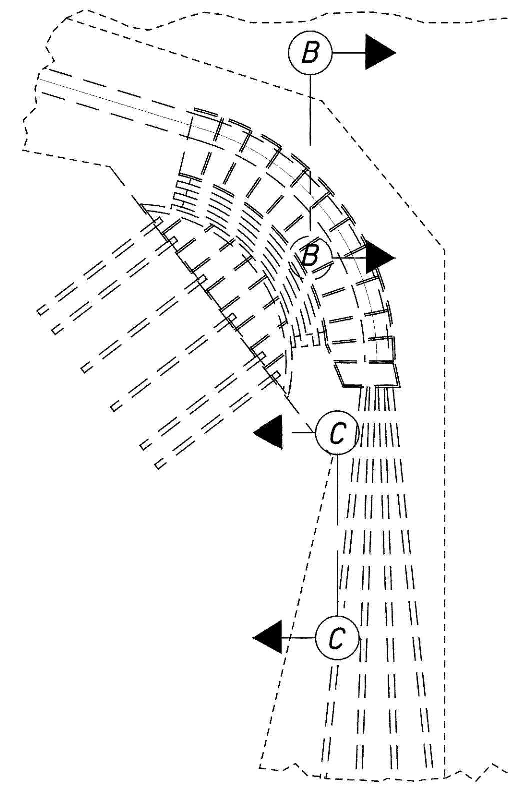
FRONT ELEVATION

REPAIR TYPE 320

FOR REPAIR LOCATIONS, SEE SHEETS 152/227 THRU 153/227.

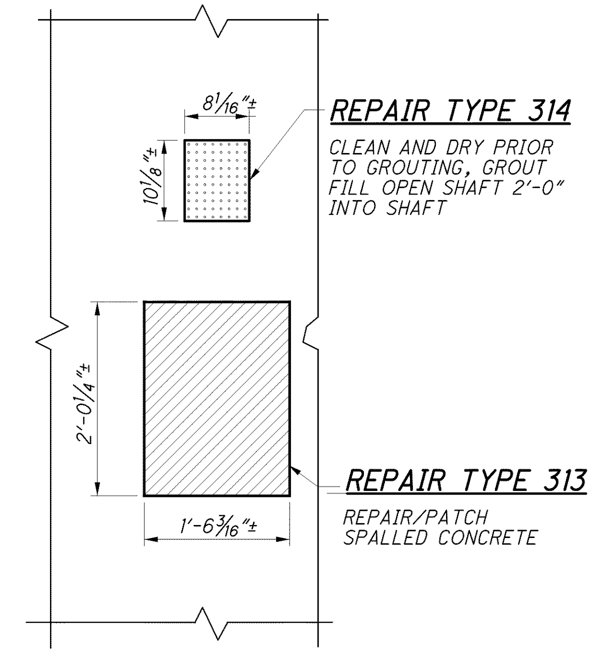


A SECTION

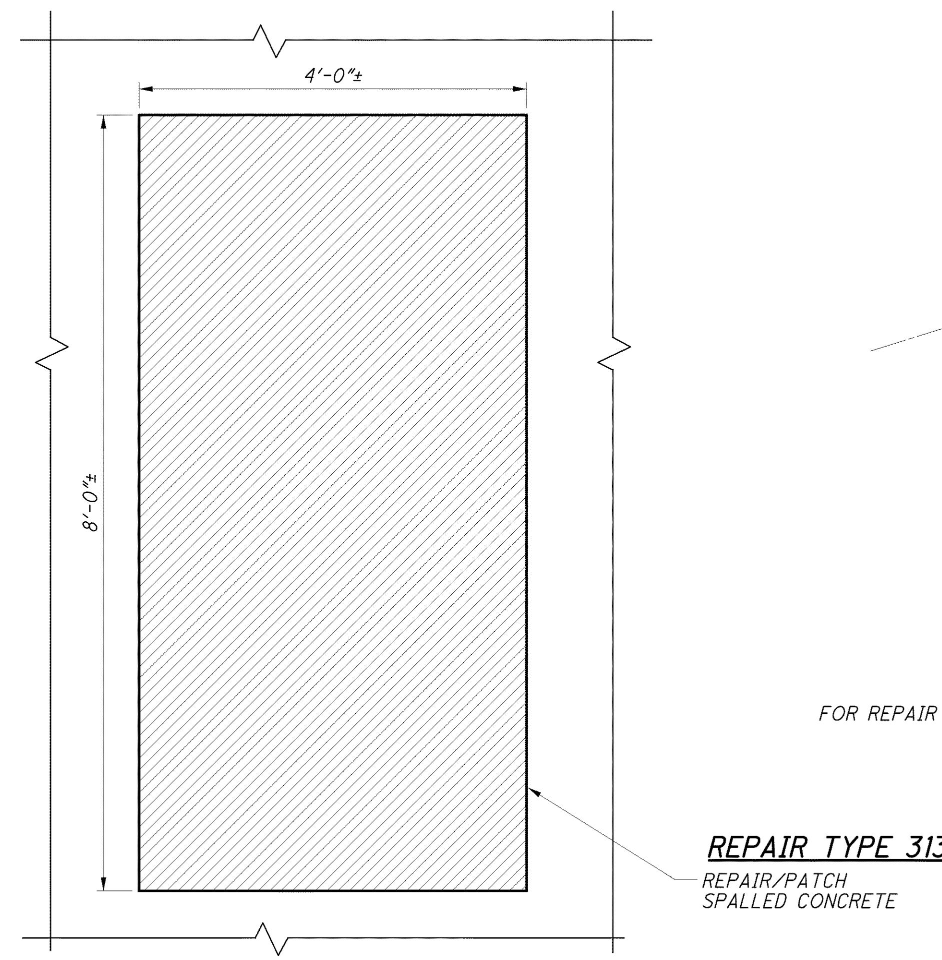


REPAIR TYPE 313 AND 314

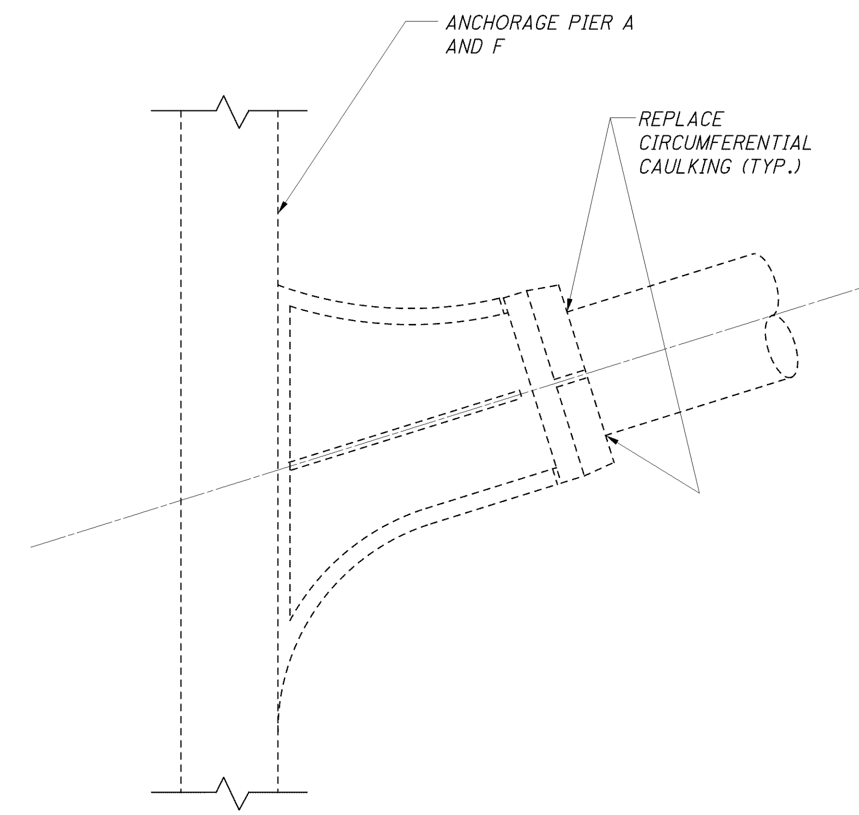
FOR REPAIR LOCATIONS, SEE SHEET 152/225.



B SECTION



C SECTION



REPAIR TYPE 325

FOR REPAIR LOCATIONS, SEE SHEETS 152/227 AND 153/227.

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 8/227 THRU 23/227.
2. FOR DESCRIPTION OF WORK FOR REPAIR TYPE 333, REPLACE ANCHORAGE DEHUMIDIFIER AND SUMP PUMP. SEE SHEET 21/227.

DESIGN AGENCY
MODJESKI and MASTERS, INC.
100 Sterling Parkway, Suite 302
Mechanicsburg, PA 17050

DESIGNED	DRAWN	REVIEWED	DATE
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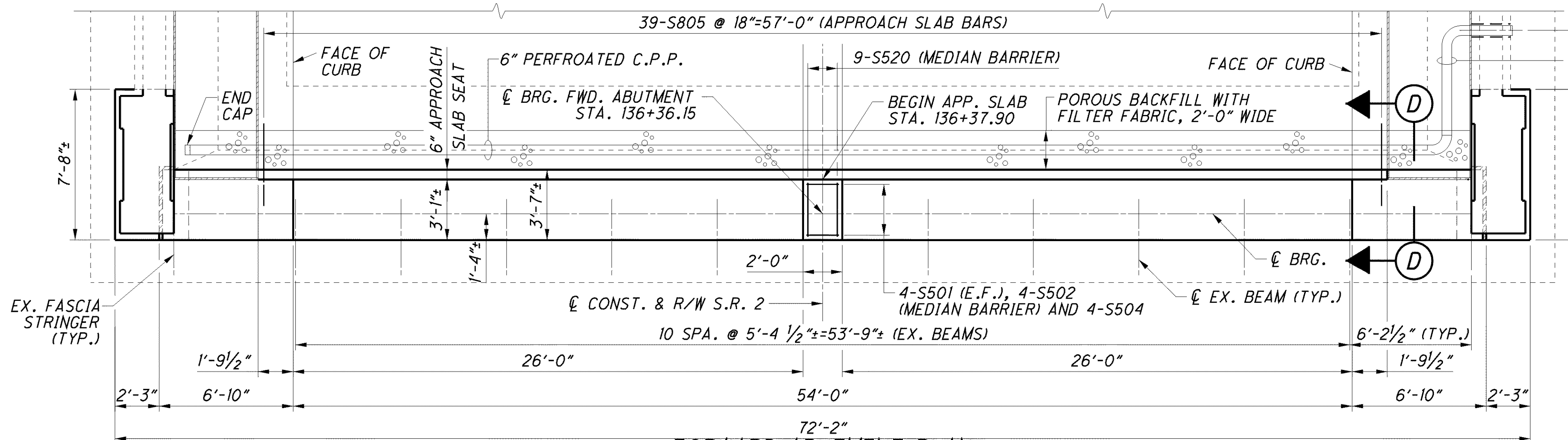
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MDC		4800303	

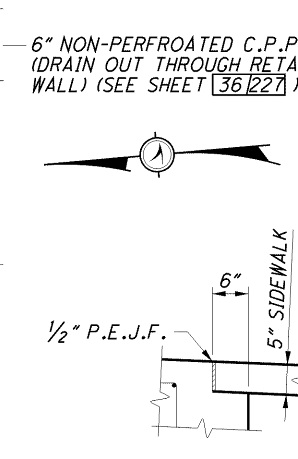
ANCHORAGE REPAIR DETAILS
BRIDGE NO. LUC -2 -1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

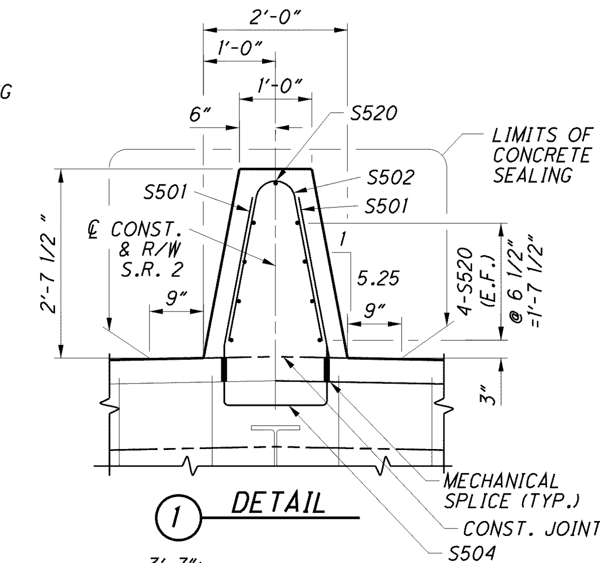


FORWARD ABUTMENT PLAN

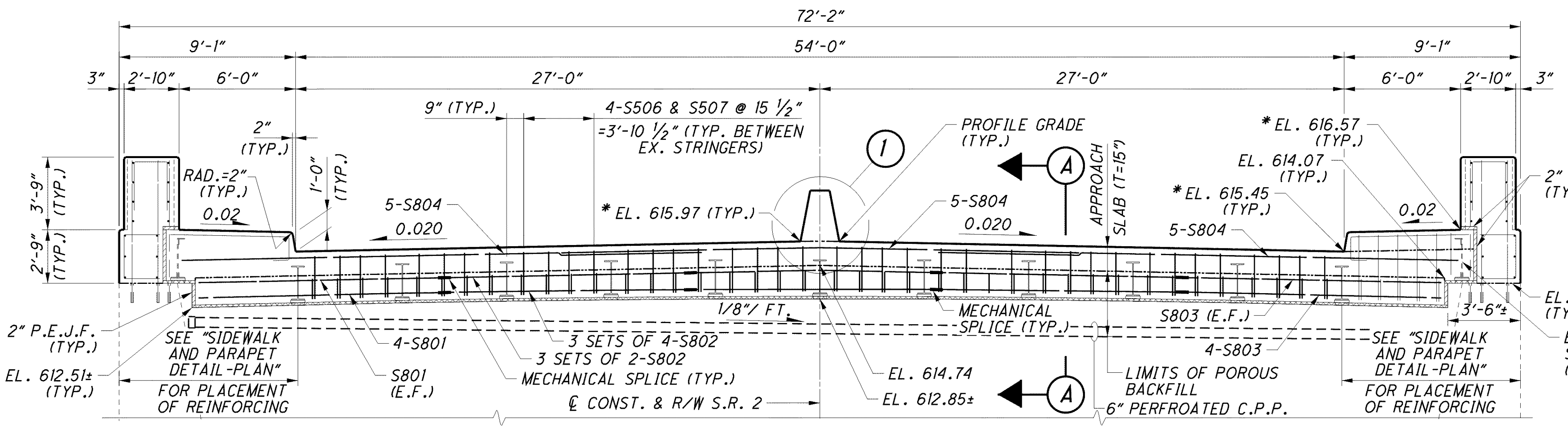
6" NON-PERFROATED C.P.P. (DRAIN OUT THROUGH RETAINING WALL) (SEE SHEET 36/227)



D SECTION

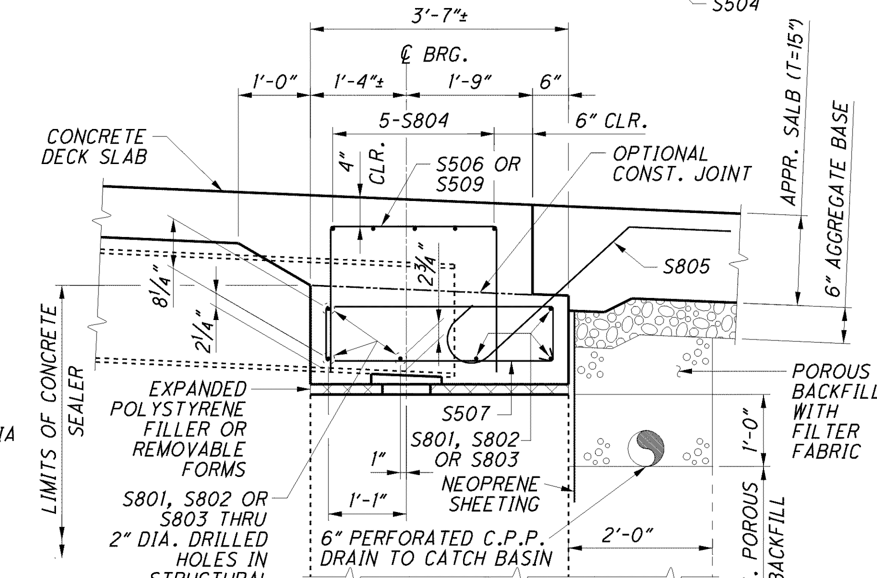


1 DETAIL



ELEVATION

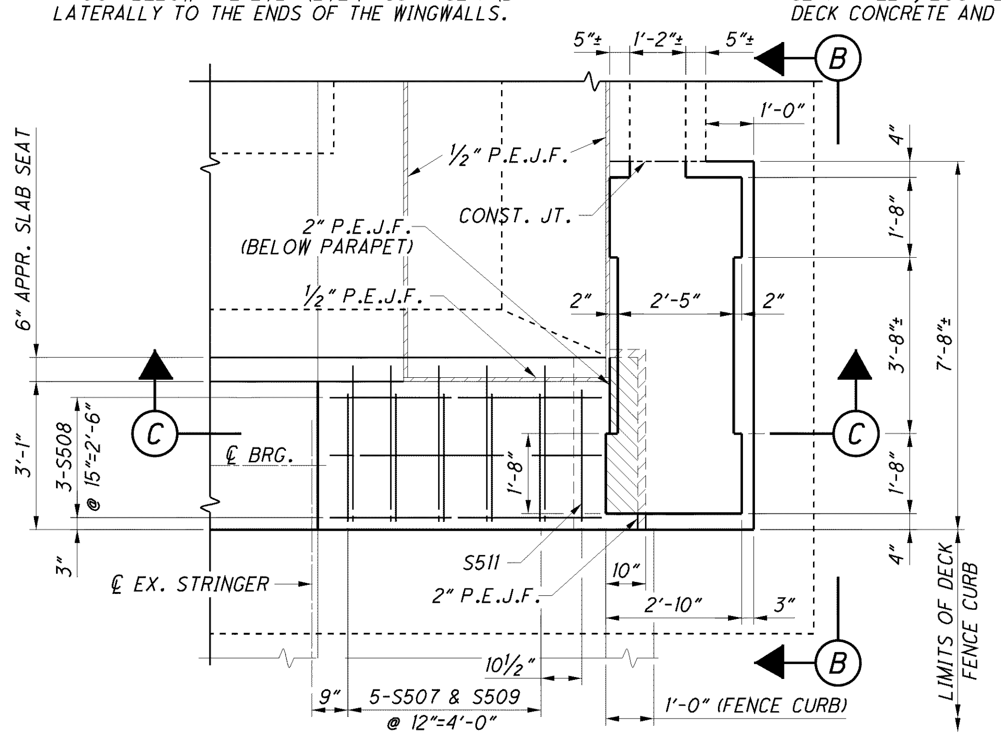
* ELEVATION AT CENTERLINE OF BEARING



A SECTION

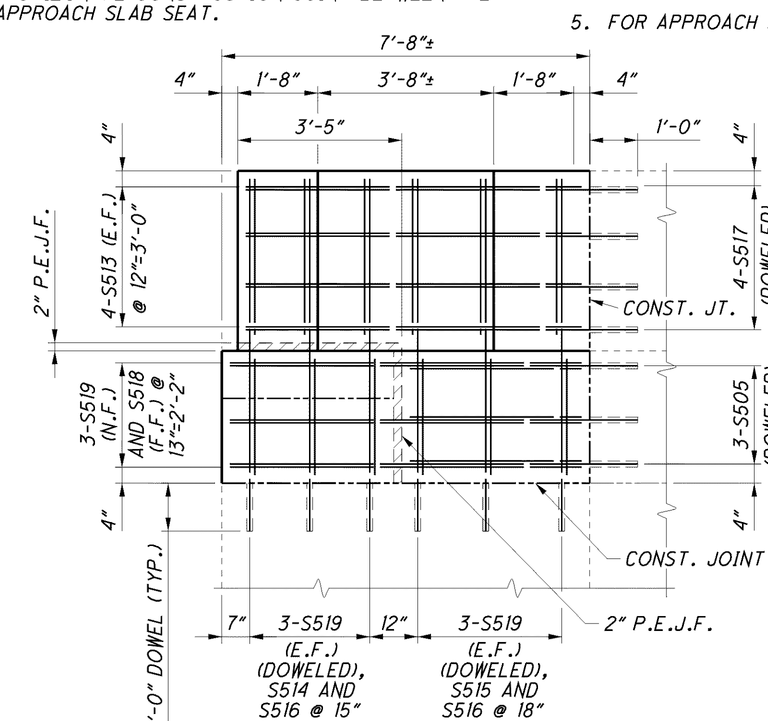
NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANLMENT SURFACE AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DECK CONCRETE AND THE APPROACH SLAB SEAT.
3. FOR REMOVAL DETAILS SEE SHEET 37/227.
4. FOR BEARING DETAILS SEE SHEET 197/227.
5. FOR APPROACH SLABS SEE SHEETS 215/227 AND 216/227.
6. MINIMUM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED: #5 BARS = 41" #8 BARS = 87"

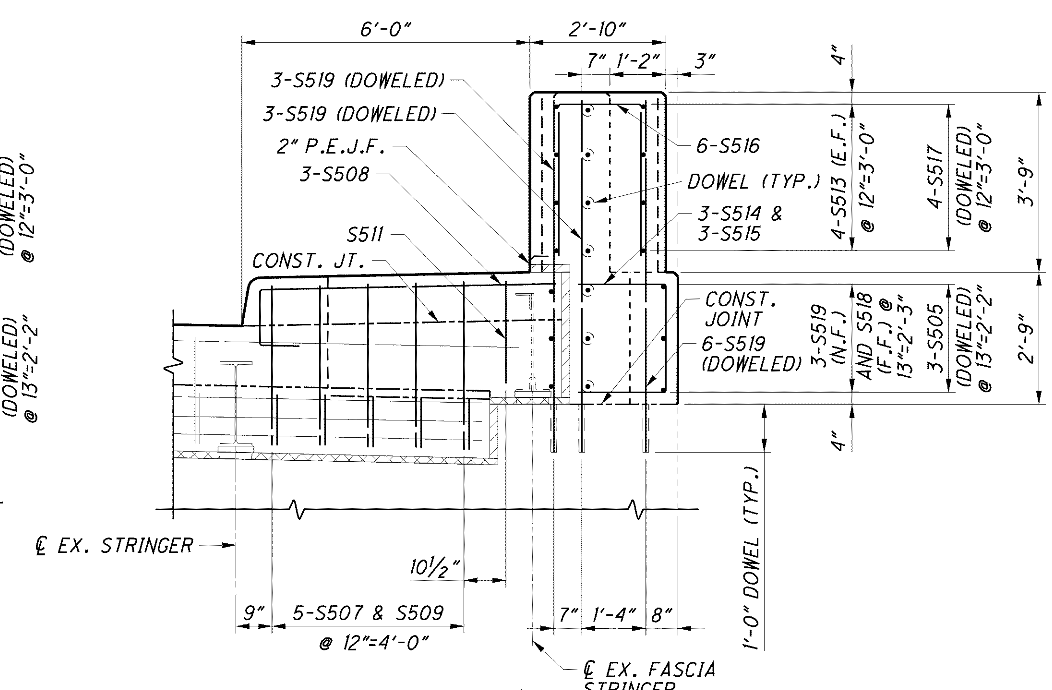


SIDEWALK AND PARAPET DETAIL - PLAN

(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR)



B VIEW



C SECTION

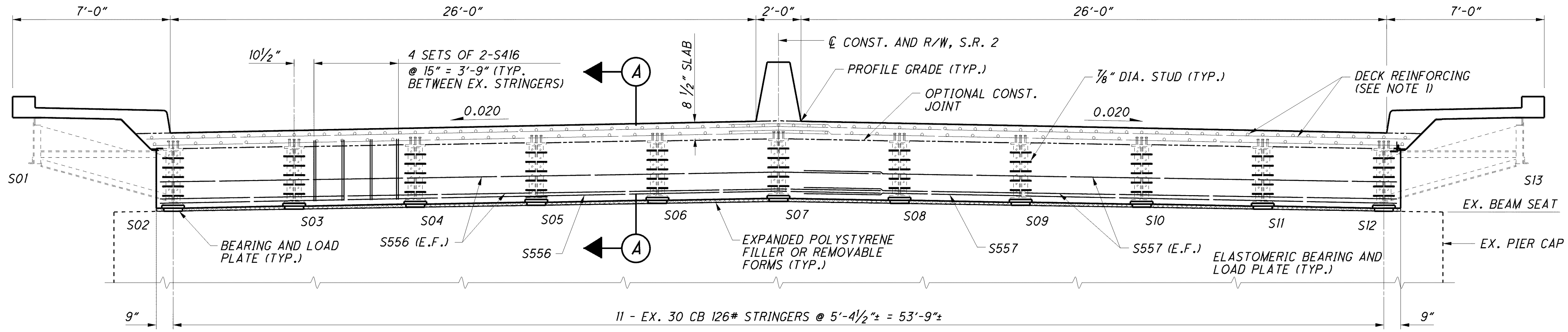
DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel 216-781-6177 Fax 216-781-6243 www.arcadis-us.com

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
CMD	AJM	MPB		RBB	10/12

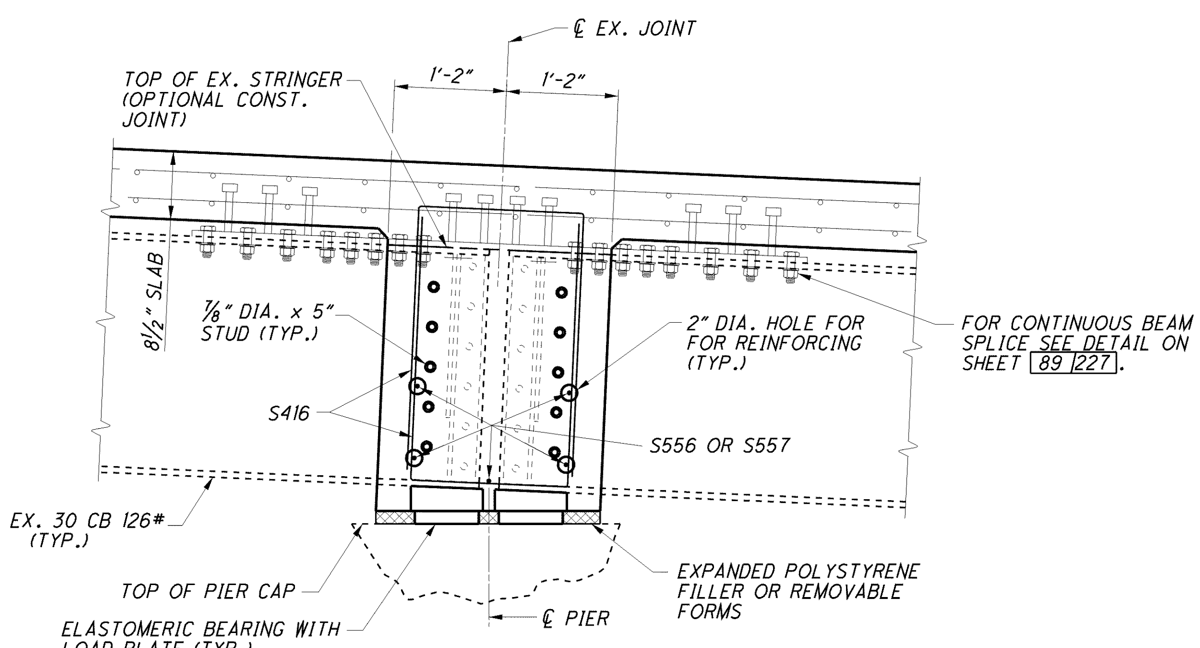
STRUCTURE FILE NUMBER 4800303

SUPERSTRUCTURE DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

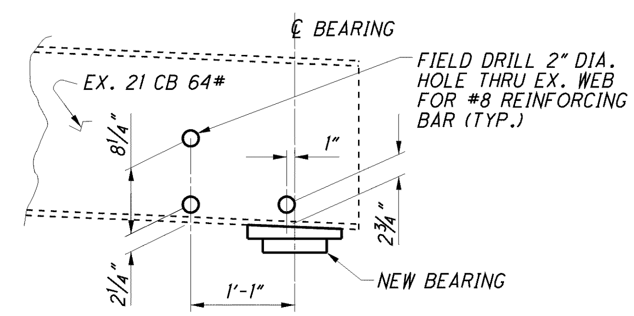
LUC-2-18.62
PID No. 80551



PIER 9E AND 10E CONCRETE DIAPHRAGM ELEVATION



A SECTION



EXISTING BEAM AT SEMI-INTEGRAL SECTION

(TYPICAL AT FORWARD ABUTMENT)

NOTES

1. FOR DECK REINFORCING STEEL SEE TRANSVERSE SECTION SHEET 161/227 AND DECK PLAN SHEET 183/227.
2. ALL BEARINGS SHALL BE REPLACED OVER PIER 10E. FOR BEARING DETAILS SEE SHEET 197/227.
3. FOR CONTINUOUS BEAM SPLICE DETAIL SEE SHEET 89/227.
4. MINIMUM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED:

   #5 BARS = 41"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel: 216-781-6177 Fax: 216-781-6243 www.arcadis-us.com

REVIEWED	DATE
RBB	10/12

STRUCTURE FILE NUMBER 4800303

DRAWN	REVISED
CAF	

DESIGNED	CHECKED
AJM	CMD

SUPERSTRUCTURE DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

SCREED ELEVATION TABLE

SPAN	DESCRIPTION	POINTS A	POINTS B	POINTS C
8W	℄ BRG. REAR ABUT.	622.42	623.12	622.59
	1/4 POINT	623.01	623.63	623.13
	1/2 POINT	623.59	624.14	623.65
	3/4 POINT	624.11	624.63	624.13
	℄ BRG. PIER 7W	624.59	625.11	624.59
7W	℄ BRG. PIER 7W	624.56	625.08	624.56
	1/4 POINT	625.34	625.87	625.34
	1/2 POINT	626.10	626.63	626.10
	3/4 POINT	626.85	627.38	626.85
	℄ BRG. PIER 6W	627.58	628.11	627.58
6W	℄ BRG. PIER 6W	627.65	628.18	627.65
	1/4 POINT	628.42	628.95	628.42
	1/2 POINT	629.18	629.71	629.18
	3/4 POINT	629.92	630.45	629.92
	℄ BRG. PIER 5W	630.65	631.17	630.65
5W	℄ BRG. PIER 5W	630.71	631.24	630.71
	1/4 POINT	631.48	632.01	631.48
	1/2 POINT	632.24	632.77	632.24
	3/4 POINT	632.98	633.51	632.98
	℄ BRG. PIER 4W	633.71	634.23	633.71
4W	℄ BRG. PIER 4W	633.77	634.29	633.77
	1/4 POINT	634.67	635.21	634.67
	1/2 POINT	635.56	636.09	635.56
	3/4 POINT	636.43	636.97	636.43
	℄ BRG. PIER 3W	637.29	637.81	637.29
3W	℄ BRG. PIER 3W	637.36	637.88	637.36
	1/8 POINT	637.97	638.50	637.97
	1/4 POINT	638.57	639.10	638.57
	3/8 POINT	639.17	639.70	639.17
	1/2 POINT	639.76	640.29	639.76
	5/8 POINT	640.34	640.87	640.34
	3/4 POINT	640.91	641.44	640.91
	7/8 POINT	641.48	642.01	641.48
	℄ BRG. PIER 2W	642.04	642.56	642.04
2W	℄ BRG. PIER 2W	642.11	642.63	642.11
	1/4 POINT	643.12	643.66	643.12
	1/2 POINT	644.12	644.66	644.12
	3/4 POINT	645.10	645.64	645.10
	℄ BRG. PIER 1W	646.07	646.59	646.07
1W	℄ BRG. PIER 1W	646.13	646.66	646.13
	1/8 POINT	647.04	647.57	647.04
	1/4 POINT	647.92	648.46	647.92
	3/8 POINT	648.79	649.33	648.79
	1/2 POINT	649.64	650.17	649.64
	5/8 POINT	650.47	651.00	650.47
	3/4 POINT	651.28	651.81	651.28
	7/8 POINT	652.06	652.60	652.06
	℄ BRG. ANCHORAGE 'A'	652.83	653.36	652.83
RW-2	℄ BRG. ANCHORAGE 'A'	653.73	654.25	653.73
	1/4 POINT	654.88	655.39	654.88
	1/2 POINT	655.95	656.46	655.95
	℄ FIELD SPLICE 1	656.78	657.29	656.78
	3/4 POINT	656.94	657.46	656.94
	℄ BRG. PIER	657.95	658.47	657.95

SCREED ELEVATION TABLE

SPAN	DESCRIPTION	POINTS A	POINTS B	POINTS C
RW-1	℄ BRG. PIER	657.95	658.47	657.95
	1/4 POINT	659.05	659.57	659.05
	℄ FIELD SPLICE 2	659.24	659.76	659.24
	1/2 POINT	660.17	660.68	660.17
	3/4 POINT	661.21	661.72	661.21
	℄ PIER 'B'	662.17	662.69	662.17
RE-1	℄ PIER 'E'	662.12	662.64	662.12
	1/4 POINT	661.16	661.67	661.16
	1/2 POINT	660.12	660.62	660.12
	℄ FIELD SPLICE 1	659.19	659.70	659.19
	3/4 POINT	659.00	659.51	659.00
	℄ PIER	657.90	658.42	657.90
RE-2	℄ PIER	657.90	658.42	657.90
	1/4 POINT	656.89	657.40	656.89
	℄ FIELD SPLICE 2	656.72	657.24	656.72
	1/2 POINT	655.90	656.40	655.90
	3/4 POINT	654.83	655.34	654.83
	℄ BRG. ANCHORAGE 'F'	653.68	654.20	653.68
1E	℄ BRG. ANCHORAGE 'F'	652.78	653.30	652.78
	1/4 POINT	651.89	652.43	651.89
	1/2 POINT	651.00	651.53	651.00
	3/4 POINT	650.08	650.62	650.08
	℄ BRG. PIER 1E	649.16	649.68	649.16
2E	℄ BRG. PIER 1E	649.09	649.61	649.09
	1/4 POINT	648.25	648.78	648.25
	1/2 POINT	647.39	647.92	647.39
	3/4 POINT	646.52	647.05	646.52
	℄ BRG. PIER 2E	645.64	646.16	645.64
3E	℄ BRG. PIER 2E	645.57	646.09	645.57
	1/4 POINT	644.73	645.26	644.73
	1/2 POINT	643.87	644.40	643.87
	3/4 POINT	643.00	643.53	643.00
	℄ BRG. PIER 3E	642.12	642.64	642.12
4E	℄ BRG. PIER 3E	642.05	642.57	642.05
	1/4 POINT	641.21	641.74	641.21
	1/2 POINT	640.35	640.88	640.35
	3/4 POINT	639.48	640.01	639.48
	℄ BRG. PIER 4E	638.60	639.12	638.60
5E	℄ BRG. PIER 4E	638.53	639.05	638.53
	1/4 POINT	637.69	638.22	637.69
	1/2 POINT	636.83	637.36	636.83
	3/4 POINT	635.96	636.49	635.96
	℄ BRG. PIER 5E	635.08	635.60	635.08
6E	℄ BRG. PIER 5E	635.01	635.53	635.01
	1/4 POINT	634.17	634.70	634.17
	1/2 POINT	633.31	633.84	633.31
	3/4 POINT	632.44	632.97	632.44
	℄ BRG. PIER 6E	631.56	632.08	631.56
7E	℄ BRG. PIER 6E	631.49	632.01	631.49
	1/4 POINT	630.65	631.18	630.65
	1/2 POINT	629.79	630.32	629.79
	3/4 POINT	628.92	629.45	628.92
	℄ BRG. PIER 7E	628.04	628.56	628.04

SCREED ELEVATION TABLE

SPAN	DESCRIPTION	POINTS A	POINTS B	POINTS C
8E	℄ BRG. PIER 7E	628.04	628.56	628.04
	1/4 POINT	627.63	628.14	627.63
	1/2 POINT	627.20	627.70	627.20
	3/4 POINT	626.75	627.26	626.75
	℄ BRG. PIER 8E	626.28	626.80	626.28
9E	℄ BRG. PIER 8E	626.28	626.80	626.28
	1/4 POINT	625.87	626.38	625.87
	1/2 POINT	625.44	625.94	625.44
	3/4 POINT	624.99	625.50	624.99
	℄ BRG. PIER 9E	624.52	625.04	624.52
10E	℄ BRG. PIER 9E	624.52	625.04	624.52
	1/4 POINT	624.09	624.61	624.09
	1/2 POINT	623.65	624.17	623.65
	3/4 POINT	623.21	623.73	623.21
	℄ BRG. PIER 10E	622.76	623.28	622.76
11E	℄ BRG. PIER 10E	622.76	623.28	622.76
	1/4 POINT	622.33	622.85	622.33
	1/2 POINT	621.89	622.41	621.89
	3/4 POINT	621.45	621.97	621.45
	℄ BRG. PIER 11E	621.00	621.52	621.00
12E	℄ BRG. PIER 11E	621.00	621.52	621.00
	1/4 POINT	620.58	621.09	620.58
	1/2 POINT	620.14	620.65	620.14
	3/4 POINT	619.69	620.21	619.69
	℄ BRG. PIER 12E	619.24	619.76	619.24
13E	℄ BRG. PIER 12E	619.24	619.76	619.24
	1/4 POINT	618.89	619.40	618.89
	1/2 POINT	618.53	619.05	618.53
	3/4 POINT	618.18	618.69	618.18
	℄ BRG. PIER 13E	617.81	618.33	617.81
14E	℄ BRG. PIER 13E	617.81	618.33	617.81
	1/4 POINT	617.47	617.99	617.47
	1/2 POINT	617.12	617.64	617.12
	3/4 POINT	616.76	617.28	616.76
	℄ BRG. PIER 14E	616.40	616.92	616.40
15E	℄ BRG. PIER 14E	616.40	616.92	616.40
	1/4 POINT	616.18	616.70	616.18
	1/2 POINT	615.96	616.48	615.96
	3/4 POINT	615.74	616.26	615.74
	℄ BRG. FORWARD ABUT.	615.52	616.04	615.52

NOTES:

1. FOR KEY DIAGRAMS SEE SHEET $\boxed{158/227}$.
2. SCREED ELEVATIONS SHOWN, REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. SCREED AND TOP OF HAUNCH ELEVATIONS TAKE INTO ACCOUNT THE WEIGHT OF THE SIP FORMS PLUS THE WEIGHT OF THE ADDITIONAL CONCRETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHANGES TO THE SCREED AND TOP OF HAUNCH ELEVATIONS IF TRADITIONAL BRIDGE DECK FORMS ARE USED.

LEGEND

W - WEST APPROACH SPANS
E - EAST APPROACH SPANS
RW - WEST REPLACEMENT SPANS
RE - EAST REPLACEMENT SPANS

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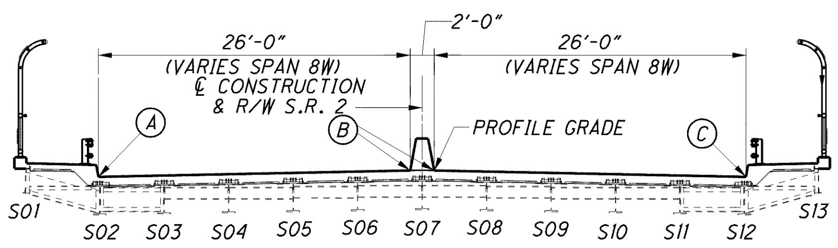
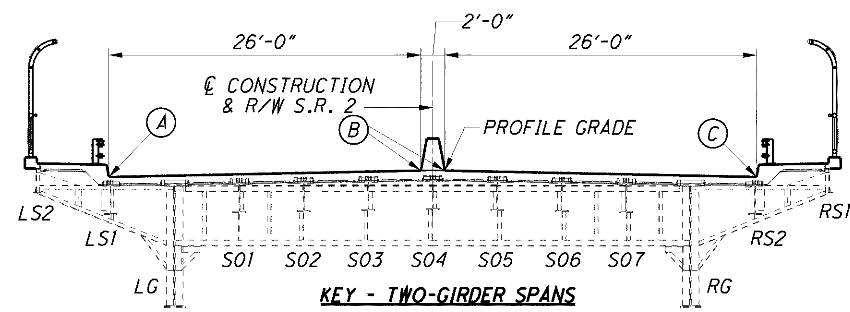
DESIGNED AJM | CHECKED CMD | DRAWN CAF | REVISED . | REVIEWED RBB | DATE 10/12 | STRUCTURE FILE NUMBER 4800303

SCREED TABLES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

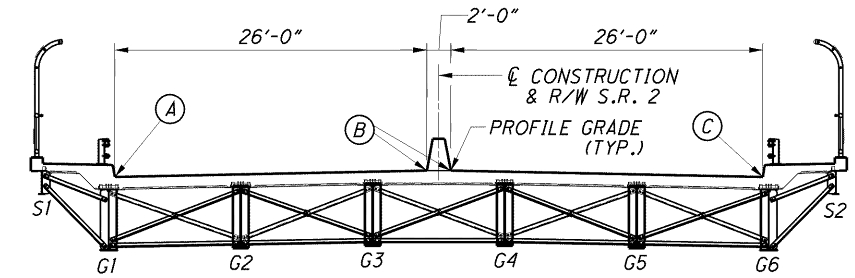
LUC-2-18.62
PID No. 80551



KEY - MULTI-BEAM SPANS
(SPANS 8E THROUGH 15E)



KEY - TWO-GIRDER SPANS
(SPANS 7W THROUGH 1W AND 1E THROUGH 7E)



KEY - REPLACEMENT SPANS
(WEST REPLACEMENT SPAN AND EAST REPLACEMENT SPAN)

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		LS1 AND RS1	S01 AND S07	S03 AND S05
8W	℄ BRG. REAR ABUT.	*	*	*
	1/4 POINT	*	*	*
	1/2 POINT	*	*	*
	3/4 POINT	*	*	*
	℄ BRG. PIER 7W	*	*	*
7W	℄ BRG. PIER 7W	623.85	624.07	624.29
	1/4 POINT	624.63	624.85	625.07
	1/2 POINT	625.40	625.62	625.84
	3/4 POINT	626.14	626.36	626.58
	℄ BRG. PIER 6W	626.88	627.10	627.31
6W	℄ BRG. PIER 6W	626.94	627.16	627.38
	1/4 POINT	627.72	627.94	628.16
	1/2 POINT	628.47	628.69	628.91
	3/4 POINT	629.21	629.43	629.65
	℄ BRG. PIER 5W	629.94	630.16	630.38
5W	℄ BRG. PIER 5W	630.01	630.22	630.44
	1/4 POINT	630.78	631.00	631.22
	1/2 POINT	631.53	631.75	631.98
	3/4 POINT	632.28	632.50	632.72
	℄ BRG. PIER 4W	633.00	633.22	633.44
4W	℄ BRG. PIER 4W	633.07	633.28	633.50
	1/4 POINT	633.97	634.19	634.41
	1/2 POINT	634.86	635.08	635.30
	3/4 POINT	635.73	635.95	636.17
	℄ BRG. PIER 3W	636.59	636.80	637.02
3W	℄ BRG. PIER 3W	636.66	636.87	637.09
	1/8 POINT	637.27	637.48	637.70
	1/4 POINT	637.87	638.09	638.31
	3/8 POINT	638.46	638.68	638.90
	1/2 POINT	639.05	639.27	639.49
	5/8 POINT	639.63	639.85	640.07
	3/4 POINT	640.21	640.43	640.65
	7/8 POINT	640.78	640.99	641.21
	℄ BRG. PIER 2W	641.34	641.55	641.77
2W	℄ BRG. PIER 2W	641.40	641.62	641.83
	1/4 POINT	642.42	642.64	642.86
	1/2 POINT	643.42	643.64	643.86
	3/4 POINT	644.40	644.62	644.84
	℄ BRG. PIER 1W	645.36	645.57	645.79

* - FOR ELEVATIONS SEE TABLE ON SHEET 159/227 .

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		LS1 AND RS1	S01 AND S07	S03 AND S05
1W	℄ BRG. PIER 1W	645.42	645.64	645.86
	1/8 POINT	646.33	646.55	646.77
	1/4 POINT	647.22	647.44	647.66
	3/8 POINT	648.09	648.31	648.53
	1/2 POINT	648.94	649.16	649.38
	5/8 POINT	649.76	649.98	650.20
	3/4 POINT	650.57	650.79	651.01
	7/8 POINT	651.36	651.58	651.80
	℄ BRG. ANCHORAGE 'A'	652.13	652.35	652.56

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		G1 AND G6	G2 AND G5	G3 AND G4
RW-2	℄ BRG. ANCHORAGE 'A'	652.95	653.17	653.39
	1/4 POINT	654.10	654.31	654.53
	1/2 POINT	655.17	655.38	655.60
	℄ FIELD SPLICE 1	656.00	656.21	656.43
	3/4 POINT	656.16	656.38	656.60
	℄ BRG. PIER RW	657.17	657.39	657.61
RW-1	℄ BRG. PIER RW	657.17	657.39	657.61
	1/4 POINT	658.27	658.49	658.71
	℄ FIELD SPLICE 2	658.46	658.68	658.90
	1/2 POINT	659.39	659.60	659.82
	3/4 POINT	660.43	660.64	660.86
	℄ PIER 'B'	661.39	661.61	661.83
RE-1	℄ PIER 'E'	661.34	661.56	661.78
	1/4 POINT	660.38	660.58	660.80
	1/2 POINT	659.33	659.54	659.76
	℄ FIELD SPLICE 1	658.41	658.62	658.84
	3/4 POINT	658.22	658.43	658.65
	℄ PIER RE	657.11	657.33	657.55
RE-2	℄ PIER RE	657.11	657.33	657.55
	1/4 POINT	656.11	656.32	656.54
	℄ FIELD SPLICE 2	655.94	656.15	656.37
	1/2 POINT	655.11	655.32	655.54
	3/4 POINT	654.05	654.25	654.47
	℄ BRG. ANCHORAGE 'F'	652.89	653.11	653.33

NOTES:

1. FOR LEGEND OF ABBREVIATIONS SEE SHEET 157/227.
2. FOR ADDITIONAL TOP OF HAUNCH ELEVATION TABLES SEE SHEET 159/227 .

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		LS1 AND RS1	S01 AND S07	S03 AND S05
1E	℄ BRG. ANCHORAGE 'F'	*	*	*
	1/4 POINT	*	*	*
	1/2 POINT	*	*	*
	3/4 POINT	*	*	*
	℄ BRG. PIER 1E	*	*	*
2E	℄ BRG. PIER 1E	648.39	648.60	648.82
	1/4 POINT	647.54	647.76	647.98
	1/2 POINT	646.69	646.91	647.13
	3/4 POINT	645.82	646.04	646.26
	℄ BRG. PIER 2E	644.93	645.15	645.36
3E	℄ BRG. PIER 2E	644.87	645.08	645.30
	1/4 POINT	644.02	644.24	644.46
	1/2 POINT	643.17	643.39	643.61
	3/4 POINT	642.30	642.52	642.74
	℄ BRG. PIER 3E	641.41	641.63	641.84
4E	℄ BRG. PIER 3E	641.35	641.56	641.78
	1/4 POINT	640.50	640.72	640.94
	1/2 POINT	639.65	639.87	640.09
	3/4 POINT	638.78	639.00	639.22
	℄ BRG. PIER 4E	637.89	638.11	638.32
5E	℄ BRG. PIER 4E	637.83	638.04	638.26
	1/4 POINT	636.98	637.20	637.42
	1/2 POINT	636.13	636.35	636.57
	3/4 POINT	635.26	635.48	635.70
	℄ BRG. PIER 5E	634.37	634.59	634.80
6E	℄ BRG. PIER 5E	634.31	634.52	634.74
	1/4 POINT	633.46	633.68	633.90
	1/2 POINT	632.61	632.83	633.05
	3/4 POINT	631.74	631.96	632.18
	℄ BRG. PIER 6E	630.85	631.07	631.28
7E	℄ BRG. PIER 6E	630.79	631.00	631.22
	1/4 POINT	629.94	630.16	630.38
	1/2 POINT	629.09	629.31	629.53
	3/4 POINT	628.22	628.44	628.66
	℄ BRG. PIER 7E	627.33	627.55	627.76

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		S02 AND S12	S04 AND S10	S06 AND S08
8E	℄ BRG. PIER 7E	627.33	627.55	627.76
	1/4 POINT	626.92	627.13	627.34
	1/2 POINT	626.49	626.69	626.91
	3/4 POINT	626.04	626.25	626.46
	℄ BRG. PIER 8E	625.57	625.79	626.00

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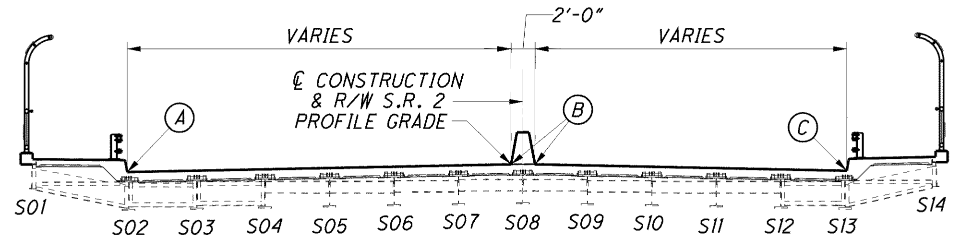
DESIGNED	DRAWN	REVIEWED	DATE
AJM	CAF	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD	-	4800303	

ELEVATION TABLES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		S02 AND S12	S04 AND S10	S06 AND S08
9E	℄ BRG. PIER 8E	625.57	625.79	626.00
	1/4 POINT	625.16	625.37	625.58
	1/2 POINT	624.73	624.93	625.15
	3/4 POINT	624.28	624.49	624.70
	℄ BRG. PIER 9E	623.81	624.03	624.24
10E	℄ BRG. PIER 9E	623.81	624.03	624.24
	1/4 POINT	623.39	623.60	623.81
	1/2 POINT	622.95	623.16	623.37
	3/4 POINT	622.50	622.71	622.93
	℄ BRG. PIER 10E	622.05	622.27	622.48
11E	℄ BRG. PIER 10E	622.05	622.27	622.48
	1/4 POINT	621.62	621.83	622.05
	1/2 POINT	621.19	621.40	621.61
	3/4 POINT	620.75	620.96	621.17
	℄ BRG. PIER 11E	620.29	620.51	620.72
12E	℄ BRG. PIER 11E	620.29	620.51	620.72
	1/4 POINT	619.87	620.08	620.29
	1/2 POINT	619.43	619.64	619.86
	3/4 POINT	619.99	619.20	619.41
	℄ BRG. PIER 12E	618.53	618.75	618.96
13E	℄ BRG. PIER 12E	618.53	618.75	618.96
	1/4 POINT	618.18	618.39	618.61
	1/2 POINT	617.83	618.04	618.25
	3/4 POINT	617.47	617.68	617.90
	℄ BRG. PIER 13E	617.10	617.32	617.53
14E	℄ BRG. PIER 13E	617.10	617.32	617.53
	1/4 POINT	616.76	616.98	617.19
	1/2 POINT	616.42	616.63	616.84
	3/4 POINT	616.06	616.27	616.48
	℄ BRG. PIER 14E	615.70	615.91	616.13
15E	℄ BRG. PIER 14E	615.70	615.91	616.13
	1/4 POINT	615.48	615.69	615.91
	1/2 POINT	615.26	615.47	615.69
	3/4 POINT	615.04	615.25	615.47
	℄ BRG. FORWARD ABUT.	614.82	615.03	615.25



KEY - MULTI-BEAM SPAN
(SPAN 8W)

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS					
		S02	S05	S07	S09	S11	S13
8W	℄ BRG. REAR ABUT.	621.75	622.10	622.32	622.33	622.13	621.92
	1/4 POINT	622.31	622.62	622.84	622.85	622.64	622.44
	1/2 POINT	622.86	623.13	623.35	623.35	623.14	622.94
	3/4 POINT	623.38	623.62	623.84	623.84	623.62	623.42
	℄ BRG. PIER 7W	623.88	624.10	624.31	624.31	624.10	623.88

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS					
		S02	S05	S07	S09	S11	S13
8W	℄ BRG. REAR ABUT.	622.46	622.81	623.03	623.04	622.83	622.63
	1/4 POINT	622.99	623.31	623.53	623.54	623.33	623.12
	1/2 POINT	623.53	623.81	624.03	624.03	623.82	623.61
	3/4 POINT	624.06	624.31	624.52	624.53	624.31	624.10
	℄ BRG. PIER 7W	624.59	624.81	625.02	625.02	624.81	624.59

TOP OF HAUNCH ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS					
		LS1	S01	S03	S05	S07	RS1
1E	℄ BRG. ANCHORAGE 'F'	652.07	652.29	652.50	652.50	652.29	652.07
	1/4 POINT	651.18	651.40	651.62	651.64	651.42	651.20
	1/2 POINT	650.27	650.50	650.72	650.75	650.53	650.31
	3/4 POINT	649.37	649.59	649.81	649.83	649.61	649.39
	℄ BRG. PIER 1E	648.45	648.67	648.88	648.88	648.67	648.45

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS					
		LS1	S01	S03	S05	S07	RS1
1E	℄ BRG. ANCHORAGE 'F'	652.78	653.00	653.21	653.21	653.00	652.78
	1/4 POINT	651.86	652.08	652.29	652.32	652.10	651.89
	1/2 POINT	650.96	651.17	651.39	651.42	651.20	650.99
	3/4 POINT	650.05	650.27	650.48	650.51	650.30	650.08
	℄ BRG. PIER 1E	649.16	649.38	649.59	649.59	649.38	649.16

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		LS1 AND RS1	S01 AND S07	S03 AND S05
7W	℄ BRG. PIER 7W	624.56	624.78	624.99
	1/4 POINT	625.32	625.53	625.75
	1/2 POINT	626.07	626.29	626.50
	3/4 POINT	626.83	627.05	627.26
	℄ BRG. PIER 6W	627.59	627.80	628.02
6W	℄ BRG. PIER 6W	627.65	627.87	628.08
	1/4 POINT	628.40	628.62	628.83
	1/2 POINT	629.15	629.37	629.58
	3/4 POINT	629.90	630.12	630.33
	℄ BRG. PIER 5W	630.65	630.86	631.08
5W	℄ BRG. PIER 5W	630.72	630.93	631.15
	1/4 POINT	631.46	631.68	631.89
	1/2 POINT	632.21	632.43	632.64
	3/4 POINT	632.96	633.18	633.39
	℄ BRG. PIER 4W	633.71	633.93	634.14
4W	℄ BRG. PIER 4W	633.78	633.99	634.21
	1/4 POINT	634.66	634.87	635.09
	1/2 POINT	635.54	635.75	635.97
	3/4 POINT	636.42	636.63	636.85
	℄ BRG. PIER 3W	637.30	637.51	637.73

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		LS1 AND RS1	S01 AND S07	S03 AND S05
3W	℄ BRG. PIER 3W	637.36	637.58	637.79
	1/8 POINT	637.95	638.16	638.38
	1/4 POINT	638.53	638.75	638.96
	3/8 POINT	639.12	639.33	639.55
	1/2 POINT	639.70	639.92	640.13
	5/8 POINT	640.29	640.50	640.72
	3/4 POINT	640.87	641.09	641.30
	7/8 POINT	641.46	641.67	641.89
	℄ BRG. PIER 2W	642.04	642.26	642.47
2W	℄ BRG. PIER 2W	642.11	642.33	642.54
	1/4 POINT	643.10	643.31	643.53
	1/2 POINT	644.09	644.30	644.52
	3/4 POINT	645.08	645.29	645.51
	℄ BRG. PIER 1W	646.07	646.28	646.50
1W	℄ BRG. PIER 1W	646.13	646.35	646.56
	1/8 POINT	646.97	647.19	647.40
	1/4 POINT	647.81	648.02	648.24
	3/8 POINT	648.65	648.86	649.08
	1/2 POINT	649.49	649.70	649.92
	5/8 POINT	650.32	650.54	650.75
	3/4 POINT	651.16	651.38	651.59
	7/8 POINT	652.00	652.21	652.43
	℄ BRG, ANCHORAGE 'A'	652.84	653.05	653.27

NOTES:

1. FOR LEGEND OF ABBREVIATIONS SEE SHEET 157/227.
2. FOR ADDITIONAL FINAL DECK SURFACE ELEVATION TABLES SEE SHEET 160/227 .
3. FOR KEY DIAGRAMS SEE SHEET 158/227 .
4. TOP OF HAUNCH ELEVATIONS SHOWN, REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
5. FINAL DECK SURFACE ELEVATIONS SHOWN, REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.

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DESIGNED AJM | CHECKED CMD | DRAWN CAF | REVISED - | REVIEWED RBB | DATE 10/12 | STRUCTURE FILE NUMBER 4800303

ELEVATION TABLES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		G1 AND G6	G2 AND G5	G3 AND G4
RW-2	℄ BRG. ANCHORAGE 'A'	653.72	653.94	654.16
	1/4 POINT	654.78	655.00	655.22
	1/2 POINT	655.83	656.05	656.27
	℄ FIELD SPLICE 1	656.71	656.93	657.15
	3/4 POINT	656.89	657.11	657.33
	℄ BRG. PIER RW	657.94	658.16	658.38
RW-1	℄ BRG. PIER RW	657.94	658.16	658.38
	1/4 POINT	659.00	659.22	659.44
	℄ FIELD SPLICE 2	659.17	659.39	659.61
	1/2 POINT	660.05	660.27	660.49
	3/4 POINT	661.11	661.33	661.55
	℄ PIER 'B'	662.16	662.38	662.60
RE-1	℄ PIER 'E'	662.11	662.33	662.55
	1/4 POINT	661.05	661.27	661.49
	1/2 POINT	660.00	660.22	660.44
	℄ FIELD SPLICE 1	659.12	659.34	659.56
	3/4 POINT	658.94	659.16	659.38
	℄ PIER RE	657.89	658.11	658.33
RE-2	℄ PIER RE	657.89	658.11	658.33
	1/4 POINT	656.83	657.05	657.27
	℄ FIELD SPLICE 2	656.65	656.87	657.09
	1/2 POINT	655.78	656.00	656.22
	3/4 POINT	654.72	654.94	655.16
	℄ BRG. ANCHORAGE 'F'	653.67	653.89	654.11

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		LS1 AND RS1	S01 AND S07	S03 AND A05
1E	℄ BRG. ANCHORAGE 'F'	*	*	*
	1/4 POINT	*	*	*
	1/2 POINT	*	*	*
	3/4 POINT	*	*	*
	℄ BRG. PIER 1E	*	*	*
2E	℄ BRG. PIER 1E	649.10	649.31	649.53
	1/4 POINT	648.23	648.45	648.66
	1/2 POINT	647.37	647.59	647.80
	3/4 POINT	646.51	646.72	646.94
	℄ BRG. PIER 2E	645.64	645.86	646.07
3E	℄ BRG. PIER 2E	645.58	645.79	646.01
	1/4 POINT	644.71	644.93	645.14
	1/2 POINT	643.85	644.07	644.28
	3/4 POINT	642.99	643.20	643.42
	℄ BRG. PIER 3E	642.12	642.34	642.55
4E	℄ BRG. PIER 3E	642.06	642.27	642.49
	1/4 POINT	641.19	641.41	641.62
	1/2 POINT	640.33	640.55	640.76
	3/4 POINT	639.47	639.68	639.90
	℄ BRG. PIER 4E	638.60	638.82	639.03
5E	℄ BRG. PIER 4E	638.54	638.75	638.97
	1/4 POINT	637.67	637.89	638.10
	1/2 POINT	636.81	637.03	637.24
	3/4 POINT	635.95	636.16	636.38
	℄ BRG. PIER 5E	635.08	635.30	635.51
6E	℄ BRG. PIER 5E	635.02	635.23	635.45
	1/4 POINT	634.15	634.37	634.58
	1/2 POINT	633.29	633.51	633.72
	3/4 POINT	632.43	632.64	632.86
	℄ BRG. PIER 6E	631.56	631.78	631.99
7E	℄ BRG. PIER 6EE6	631.50	631.71	631.93
	1/4 POINT	630.63	630.85	631.06
	1/2 POINT	629.77	629.99	630.20
	3/4 POINT	628.91	629.12	629.34
	℄ BRG. PIER 7E	628.04	628.26	628.47

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		S02 AND S12	S04 AND S10	S06 AND S08
8E	℄ BRG. PIER 7E	628.04	628.26	628.47
	1/4 POINT	627.60	627.82	628.03
	1/2 POINT	627.16	627.38	627.59
	3/4 POINT	626.72	626.94	627.15
	℄ BRG. PIER 8E	626.28	626.50	626.71
9E	℄ BRG. PIER 8E	626.28	626.50	626.71
	1/4 POINT	625.84	626.06	626.27
	1/2 POINT	625.40	625.62	625.83
	3/4 POINT	624.96	625.18	625.39
	℄ BRG. PIER 9E	624.52	624.74	624.95

NOTES:

1. FOR LEGEND OF ABBREVIATIONS SEE SHEET 157/227.
2. FOR ADDITIONAL FINAL DECK SURFACE ELEVATION TABLES SEE SHEET 159/227 .
3. FOR KEY DIAGRAMS SEE SHEET 158/227 .

FINAL DECK SURFACE ELEVATION TABLE

SPAN	DESCRIPTION	BEAMS		
		S02 AND S12	S04 AND S10	S06 AND S08
10E	℄ BRG. PIER 9E	624.52	624.74	624.95
	1/4 POINT	624.08	624.30	624.51
	1/2 POINT	623.64	623.86	624.07
	3/4 POINT	623.20	623.42	623.63
	℄ BRG. PIER 10E	622.76	622.98	623.19
11E	℄ BRG. PIER 10E	622.76	622.98	623.19
	1/4 POINT	622.32	622.54	622.75
	1/2 POINT	621.88	622.10	622.31
	3/4 POINT	621.44	621.66	621.87
	℄ BRG. PIER 11E	621.00	621.22	621.43
12E	℄ BRG. PIER 11E	621.00	621.22	621.43
	1/4 POINT	620.56	620.78	620.99
	1/2 POINT	620.12	620.34	620.55
	3/4 POINT	619.68	619.90	620.11
	℄ BRG. PIER 12E	619.24	619.46	619.67
13E	℄ BRG. PIER 12E	619.24	619.46	619.67
	1/4 POINT	618.89	619.10	619.32
	1/2 POINT	618.53	618.74	618.96
	3/4 POINT	618.17	618.39	618.60
	℄ BRG. PIER 13E	617.81	618.03	618.24
14E	℄ BRG. PIER 13E	617.81	618.03	618.24
	1/4 POINT	617.46	617.68	617.89
	1/2 POINT	617.11	617.32	617.54
	3/4 POINT	616.76	616.97	617.19
	℄ BRG. PIER 14E	616.40	616.62	616.83
15E	℄ BRG. PIER 14E	616.40	616.62	616.83
	1/4 POINT	616.18	616.40	616.61
	1/2 POINT	615.96	616.18	616.39
	3/4 POINT	615.74	615.96	616.17
	℄ BRG. FORWARD ABUT.	615.52	615.74	615.95

* - FOR ELEVATIONS SEE TABLE ON SHEET 159/227 .

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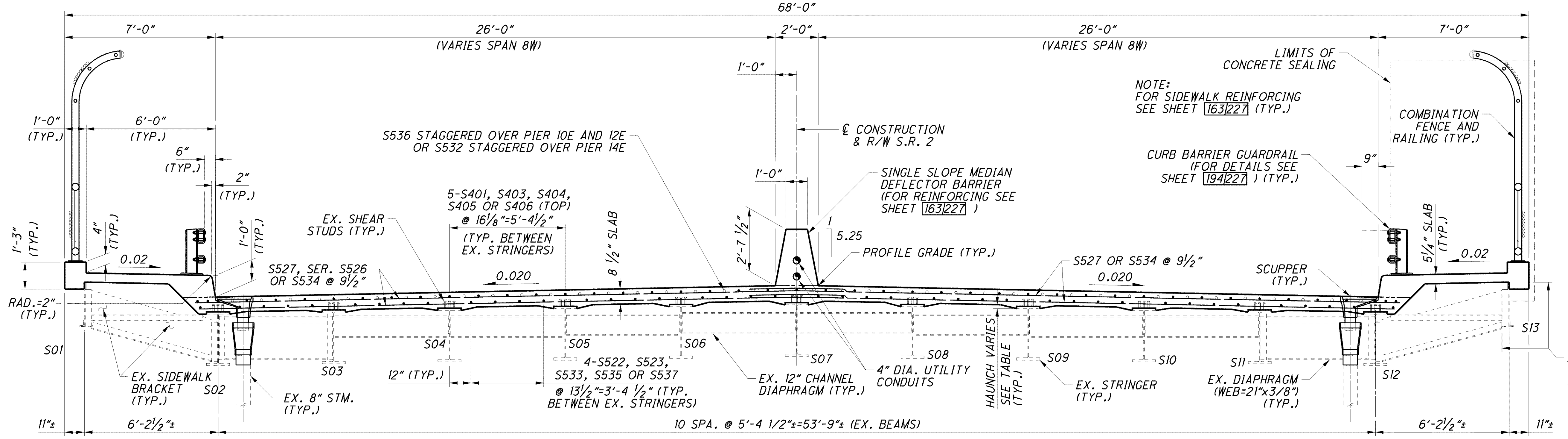
DESIGNED AJM | CHECKED CMD | DRAWN CAF | REVISED - | REVIEWED RBB | DATE 10/12 | STRUCTURE FILE NUMBER 4800303

ELEVATION TABLES
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

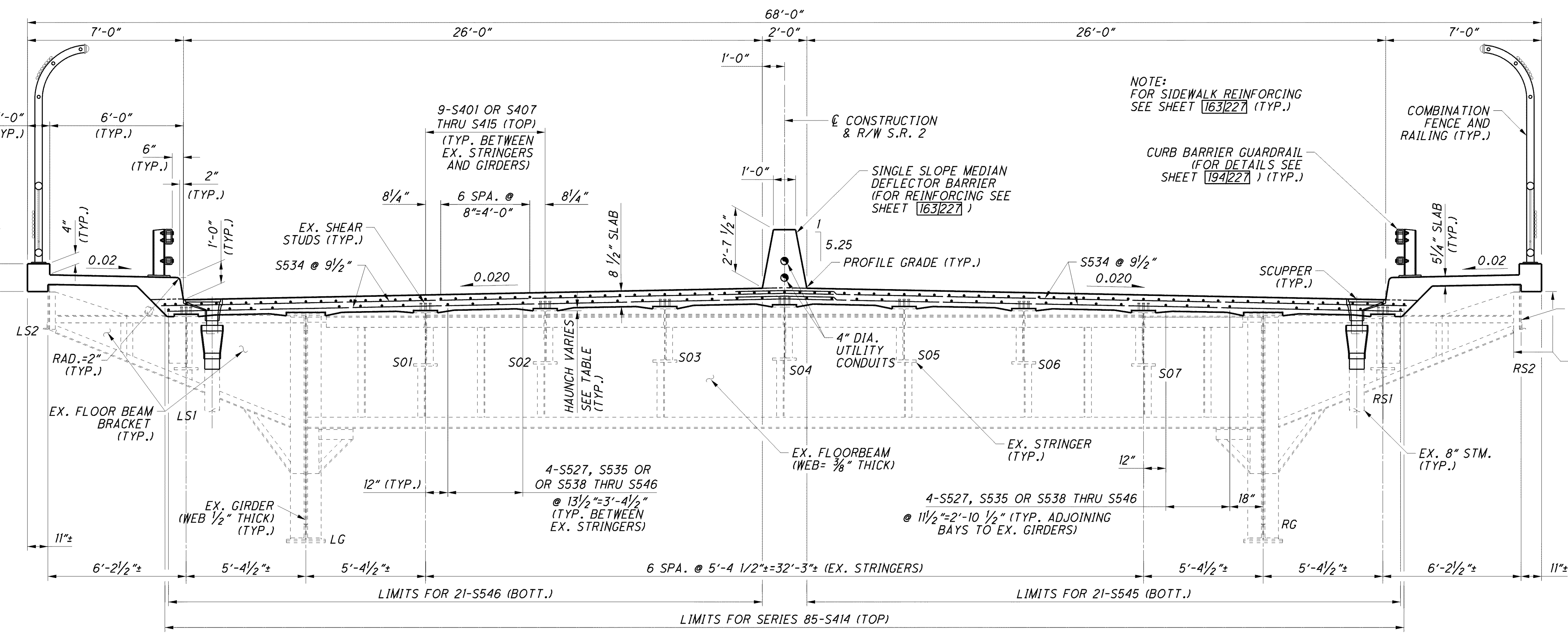


TRANSVERSE SECTION - MULTI-BEAM SPANS

(SPAN 8W, SPANS 8E THROUGH 15 E)

NOTES:

1. FOR LOCATIONS OF EXISTING SHEAR STUDS, SEE FRAMING PLAN, SHEETS 74/227 THRU 76/227 AND 85/227 THRU 88/227 .
2. FOR SCUPPER DETAILS, SEE SHEET 220/227 .
3. FOR TOP OF HAUNCH ELEVATIONS, SEE SHEETS 158/227 AND 159/227 .
4. FOR GUARDRAIL SPACING, SCUPPER LOCATIONS, REINFORCING, AND SIP FORMS, SEE SHEETS 165/227 THRU 184/227 .
5. FOR RAILING DETAILS, SEE SHEETS 188/227 THRU 192/227 .



DECK HAUNCH	
MULTI-BEAM	
S02, S12	1/2"±
S03, S11	3/4"±
S04, S10	5/8"±
S05, S09	1"±
S06, S08	1 7/8"±
S07	3"±
TWO-GIRDER	
LS1, RS1	1/2"±
LG, RG	3/4"±
S01, S07	5/8"±
S02, S06	1"±
S03, S05	1 7/8"±
S04	3"±

TRANSVERSE SECTION - TWO-GIRDER SPANS

(SPANS 7W THROUGH 1W AND 1E THROUGH 7E)

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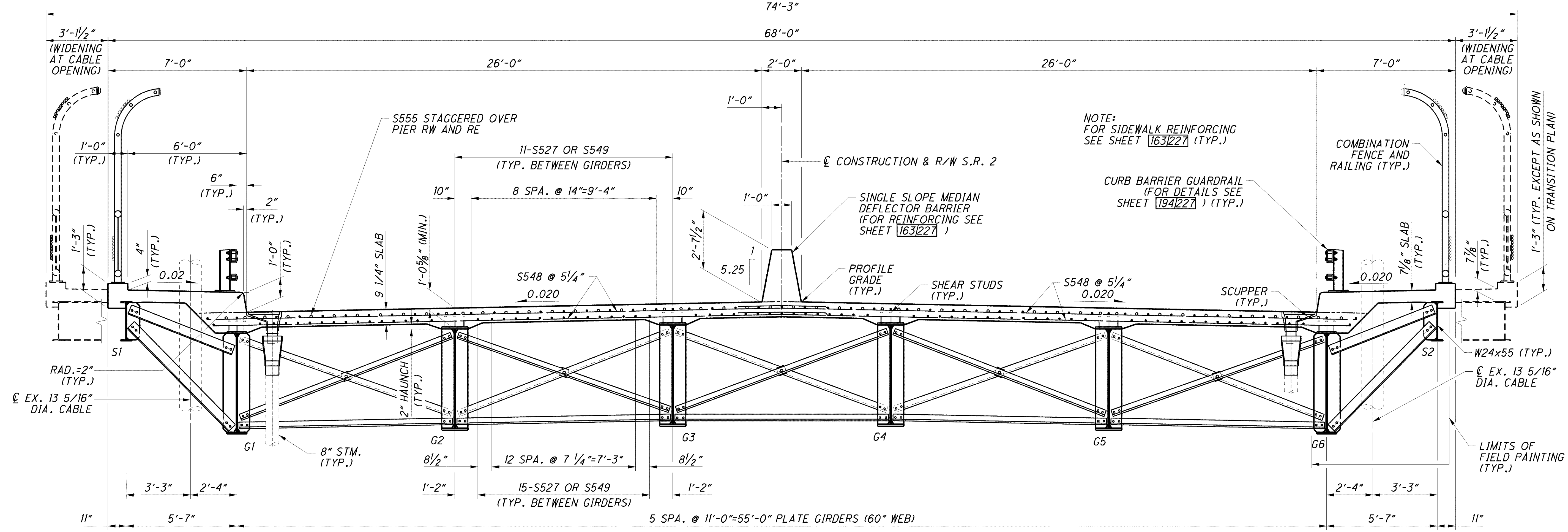
CMD		4800303	

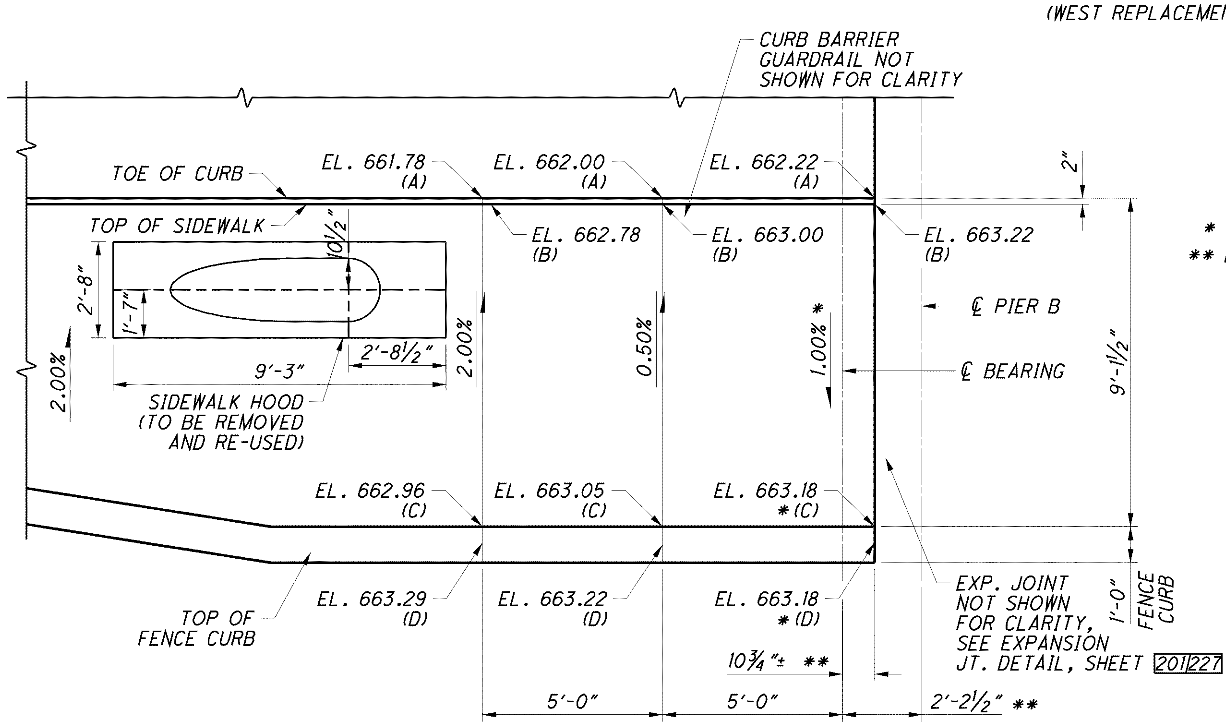
TRANSVERSE SECTIONS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



TRANSVERSE SECTION - REPLACEMENT SPANS

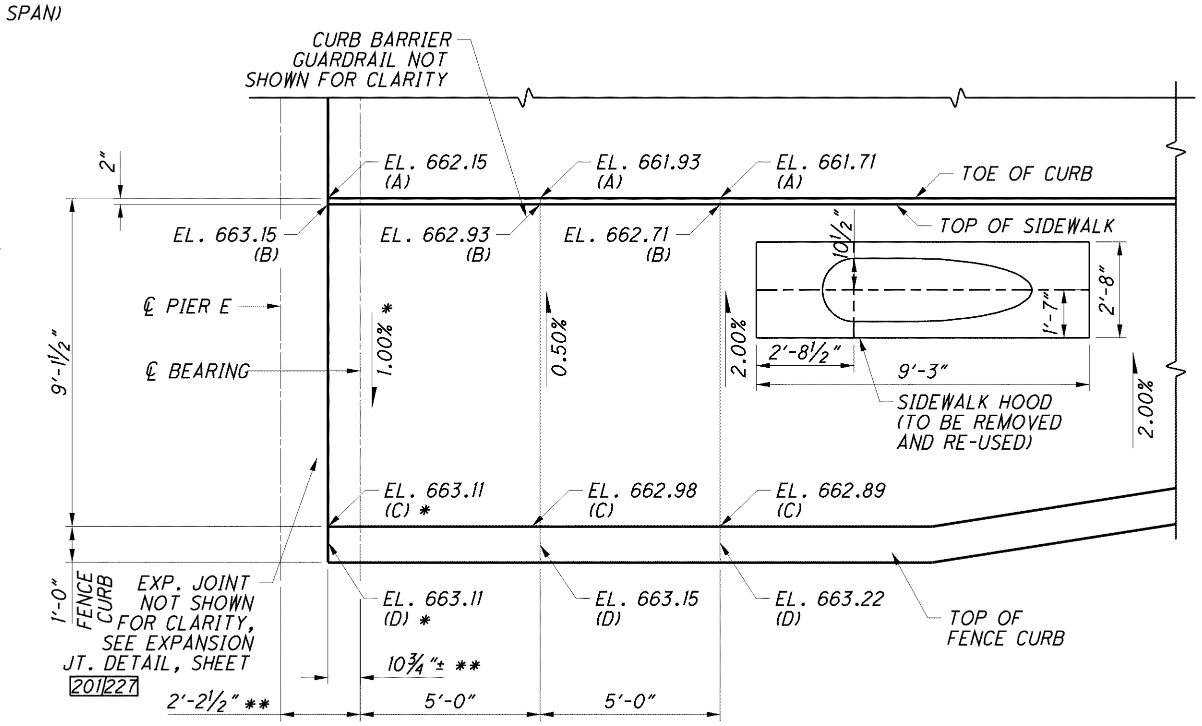
(WEST REPLACEMENT SPAN AND EAST REPLACEMENT SPAN)



* MATCH SUSPENSION SPAN
** MEASURED ALONG PROFILE GRADE

ELEVATION LEGEND

A = TOE OF CURB
B = TOP OF CURB
C = TOE OF FENCE CURB
D = TOP OF FENCE CURB



SIDEWALK CROSS SLOPE TRANSITION PLAN

(RIGHT SIDE SPAN RW-1 SHOWN, LEFT SIDE SIMILAR)

SIDEWALK CROSS SLOPE TRANSITION PLAN

(RIGHT SIDE SPAN RE-1 SHOWN, LEFT SIDE SIMILAR)

NOTES:

1. SEE SHEET 161/227 FOR ADDITIONAL NOTES.
2. FOR FRAMING DETAILS, SEE SHEETS 77/227 AND 89/227 THRU 92/227.
3. AT LEAST 7 DAYS BEFORE PERFORMING ANY WORK THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE TO PROTECT THE SUSPENSION CABLE DURING THE SIDEWALK AND DECK CONCRETE POUR. THIS SHALL BE INCLUDED WITH ITEM 898 - OC/OA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK), AS PER PLAN FOR PAYMENT.

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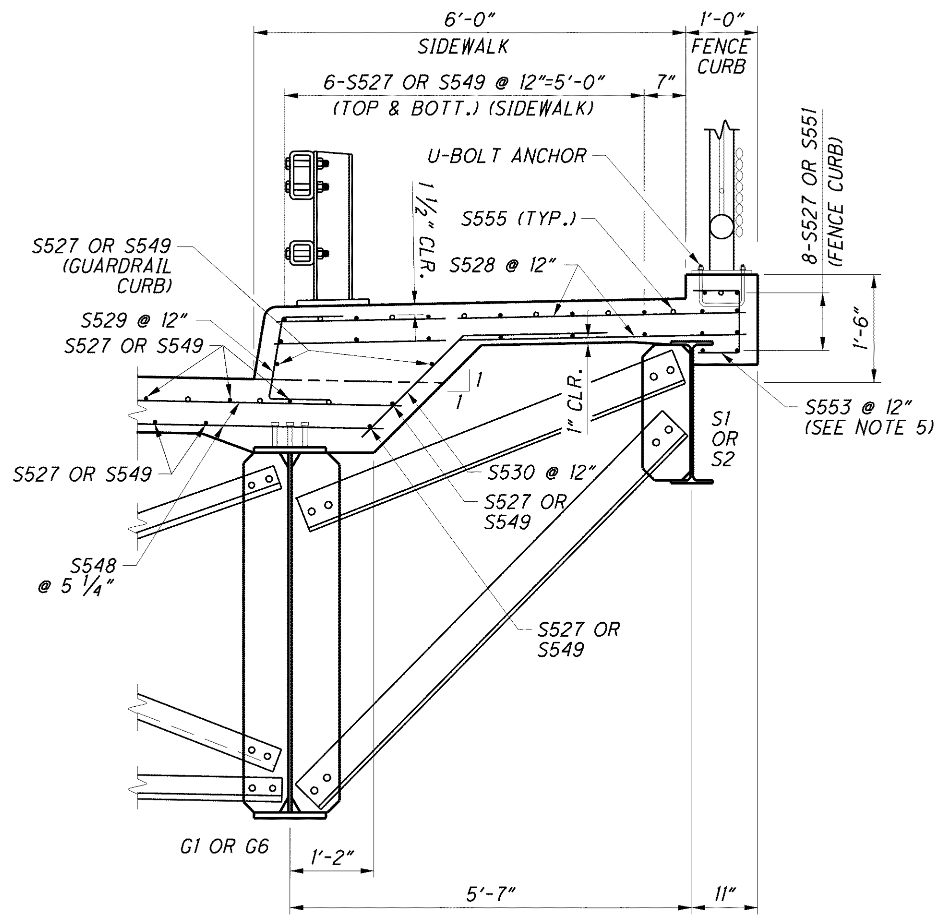
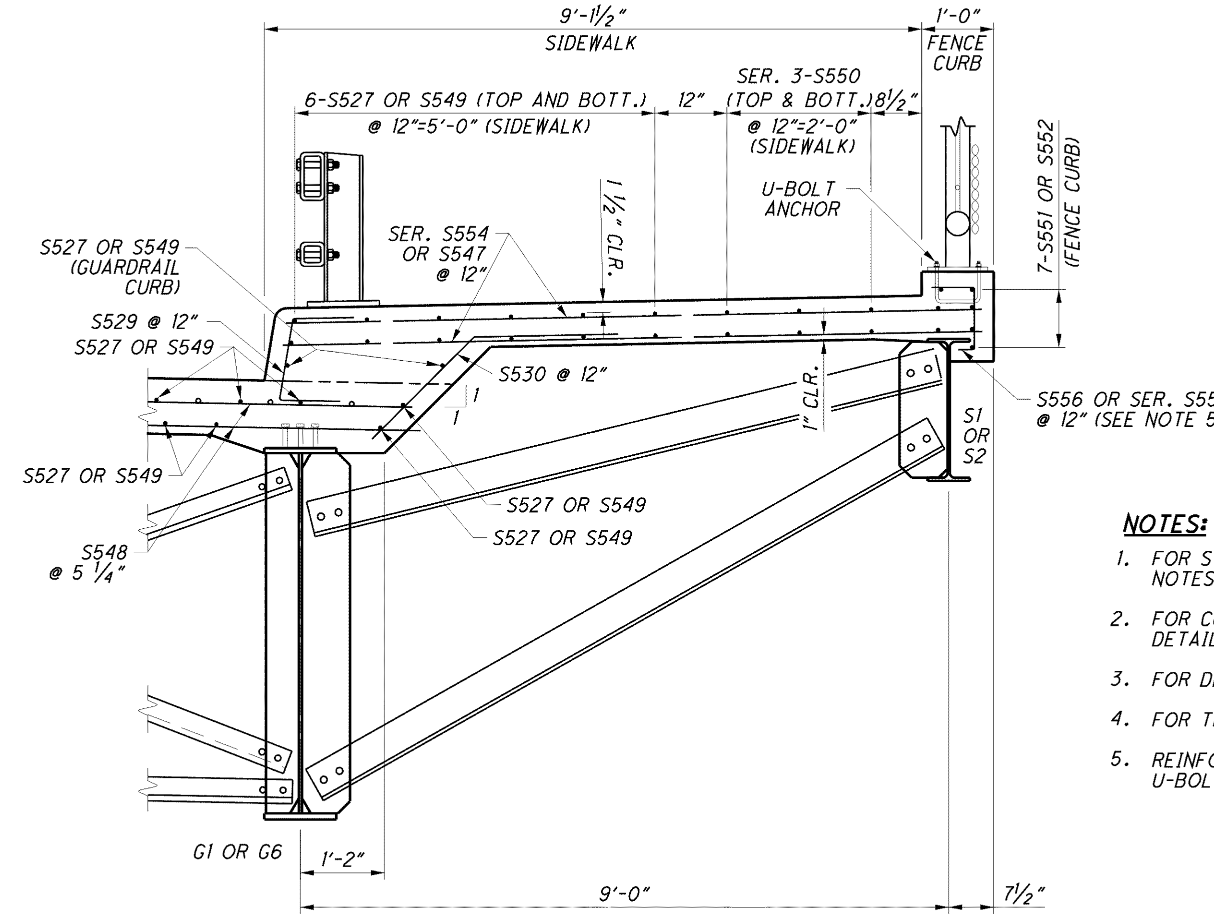
TRANSVERSE SECTIONS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



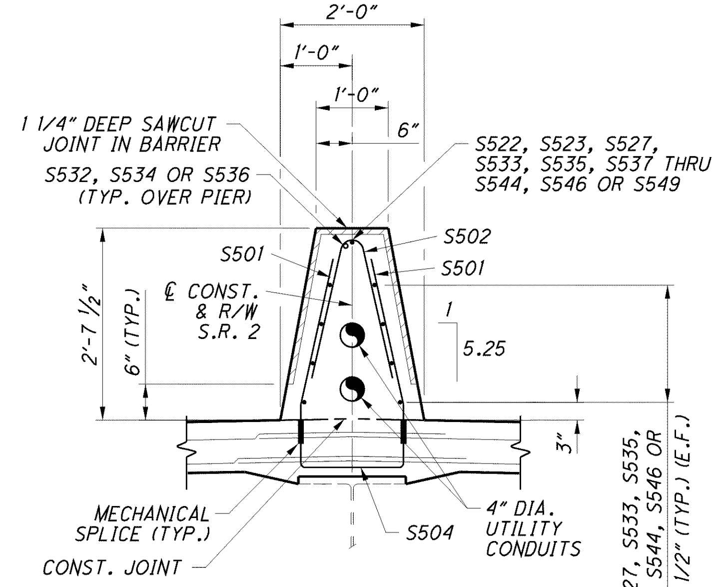
D 170 179 SECTION



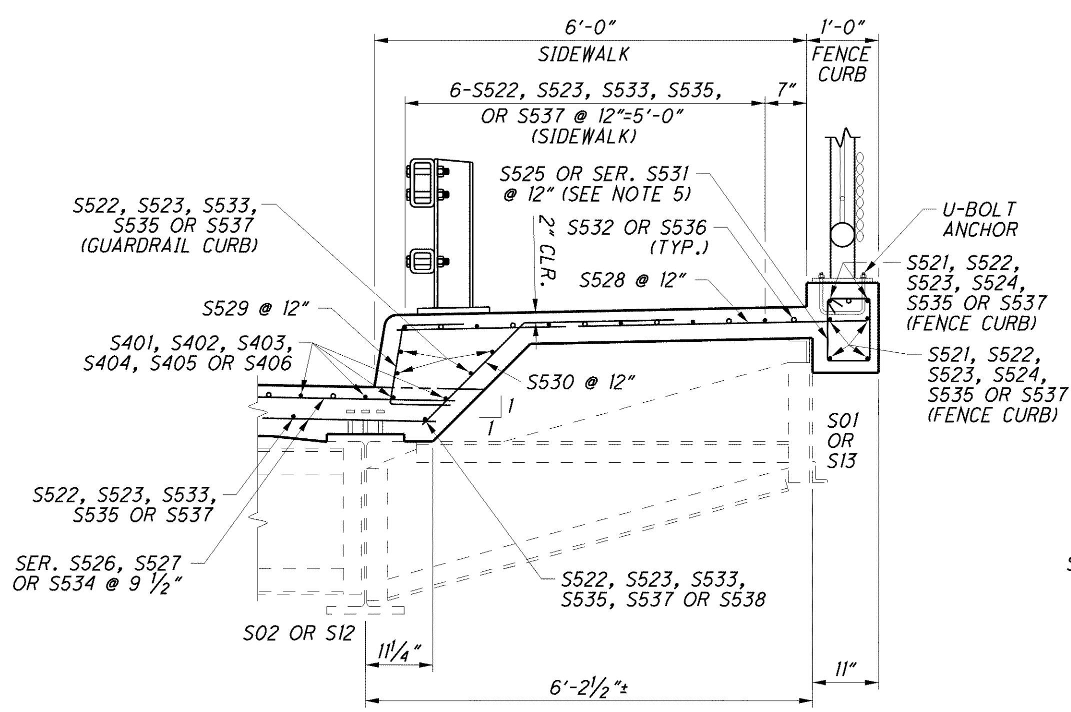
E 170 179 SECTION

NOTES:

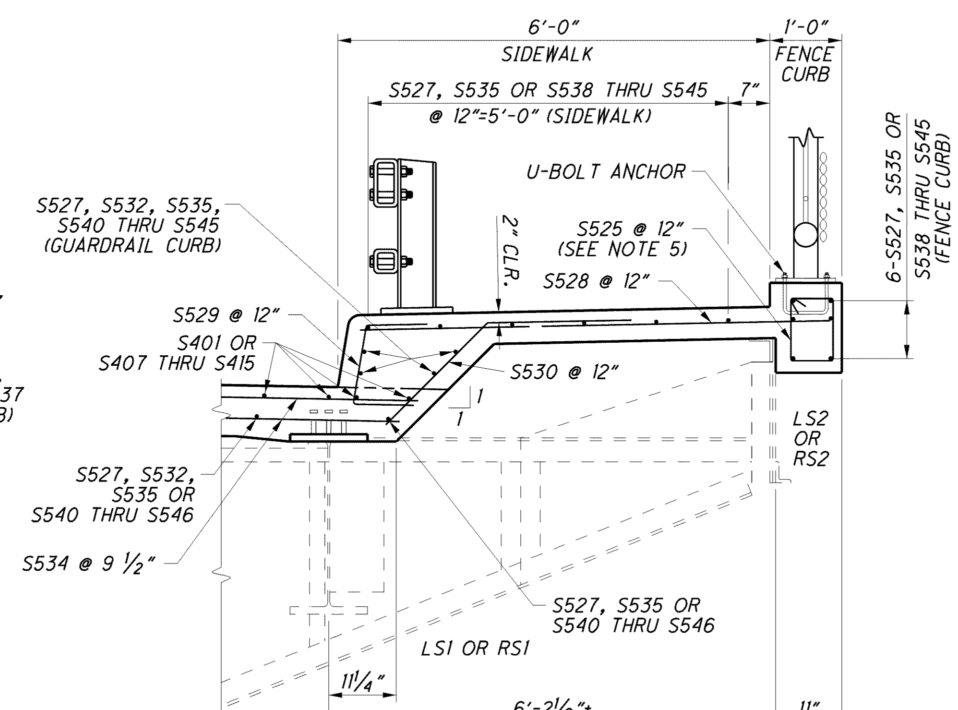
1. FOR STEEL STAY-IN-PLACE FORM NOTES SEE GENERAL NOTES ON SHEET 13/227.
2. FOR CURB BARRIER GUARDRAIL DETAILS AND FENCE DETAILS, SEE SHEETS 191/227 THRU 195/227.
3. FOR DECK PLANS SEE SHEETS 165/227 THRU 184/227.
4. FOR TRANSVERSE SECTIONS SEE SHEET 161/227 AND 195/227.
5. REINFORCING TO BE PLACED TO AVOID FENCE CONNECTION U-BOLT ANCHOR.



A 165 166 167 168 169 170 A 179 180 181 182 183 184 SECTION



B 165 183 184 SECTION



C 166 167 168 169 C 180 181 182 SECTION

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DESIGNED	DRAWN	REVIEWED	DATE
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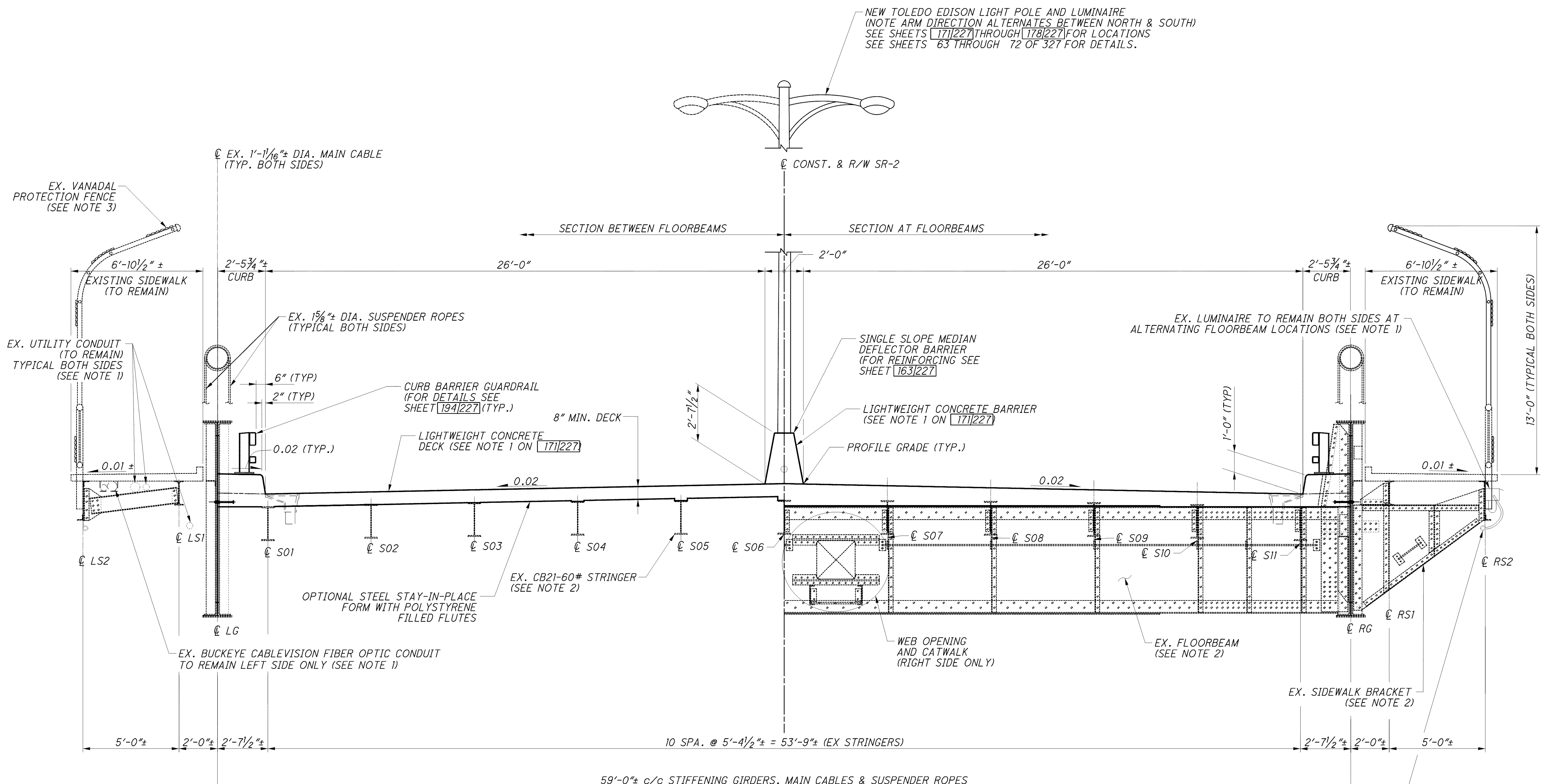
CMD		4800303	

PROPOSED TRANSVERSE SECTIONS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



TRANSVERSE SECTION - SUSPENSION SPANS

NOTES:

1. UTILITIES SHOWN AT REPRESENTATIVE LOCATIONS. ACTUAL FIELD LOCATIONS VARY. SEE SHEETS 1/227 THROUGH 7/227 FOR DISPOSITION OF EXISTING UTILITIES.
2. SEE FRAMING PLAN SHEETS 78/227 THROUGH 83/227 FOR FLOORBEAM, SIDEWALK BRACKET AND STRINGER REPAIRS.
3. EXISTING SIDEWALK RAILING TO BE REMOVED, RECOATED AND REINSTALLED. EXISTING SIDEWALK/VPF POSTS AND VPF MESH TO BE REPLACED. SEE SHEETS 191/227 THROUGH 193/227.
4. SEE SHEETS 171/227 THROUGH 178/227 & 185/227 AND 186/227 FOR DECK AND CURB REINFORCING.
5. SEE SHEET 9/227 FOR STEEL STAY-IN-PLACE FORM SUPPORT NOTES (CONTRACTOR OPTION).
6. SEE SHEET 185/227 FOR SIDEWALK, CURB AND MEDIAN BARRIER SEALING LIMITS.

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DESIGNED EFD | CHECKED PLC | DRAWN EFD | REVISED | REVIEWED PLC | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

TRANSVERSE SECTIONS - SUSPENSION SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

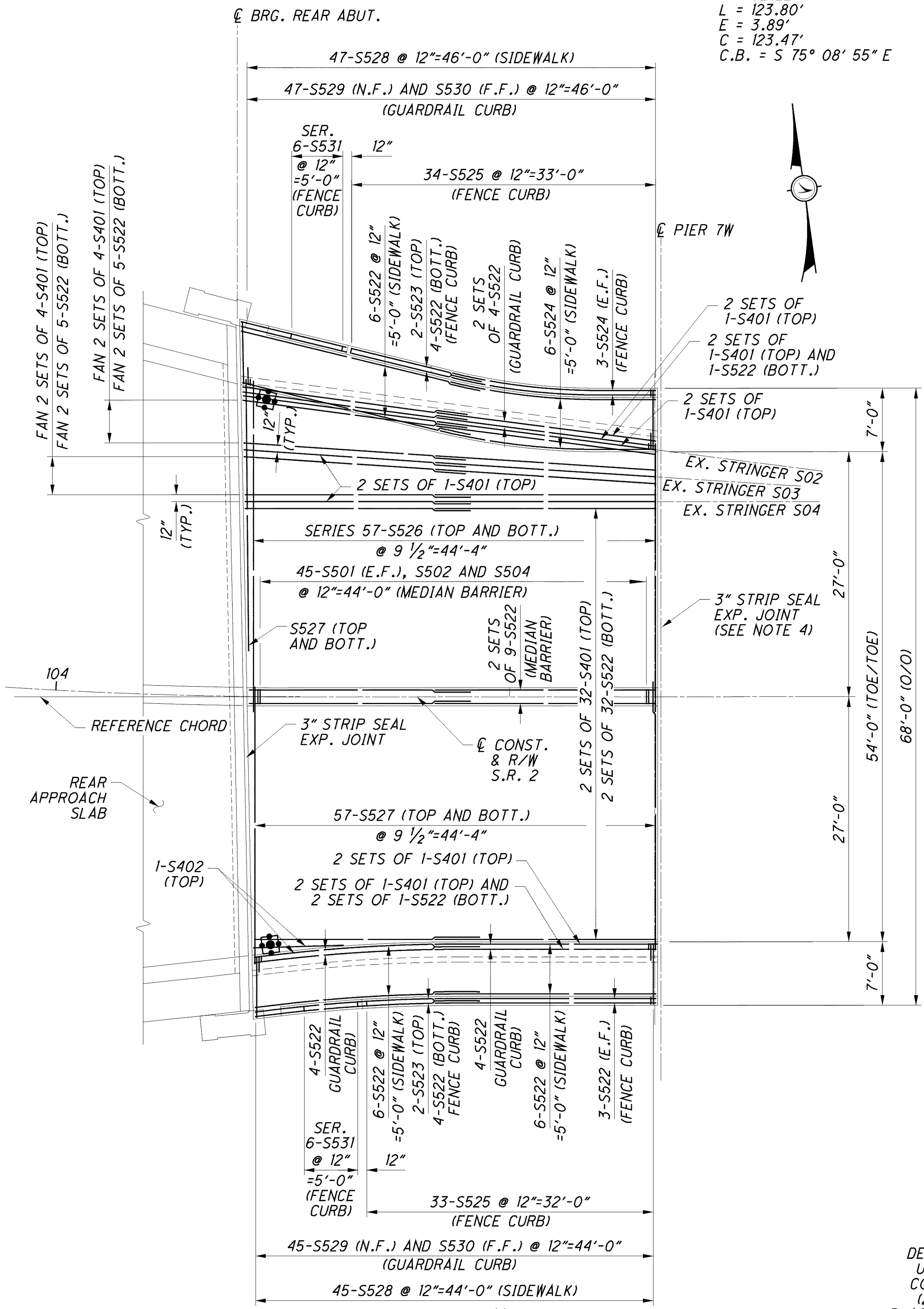
LUC-2-18.62
PID No. 80551

NOTES:

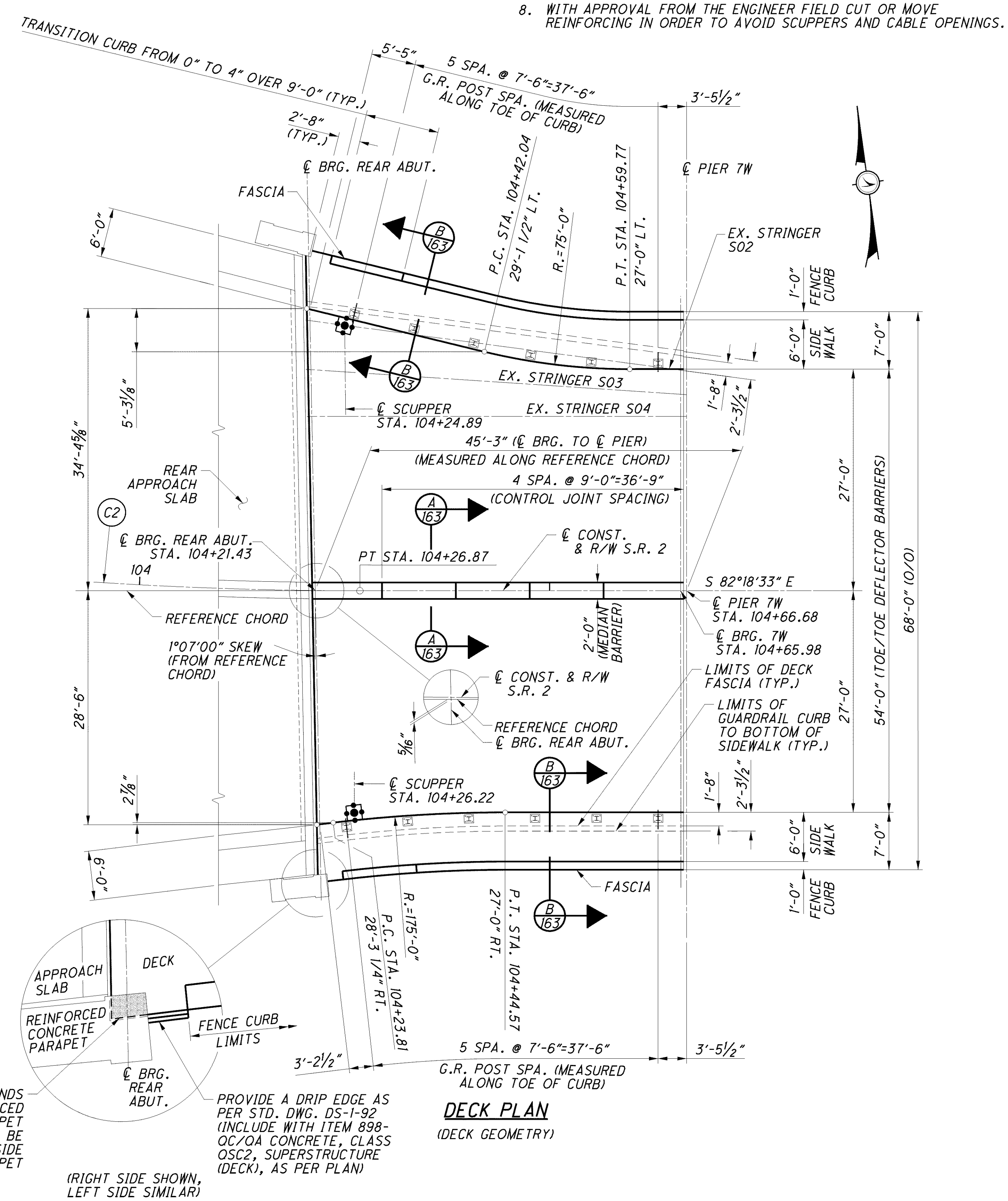
1. FOR TRANSVERSE SECTIONS SEE SHEETS 161/227 THRU 163/227 .
2. FOR FENCE DETAILS SEE SHEETS 188/227 THRU 192/227 .
3. FOR GUARDRAIL DETAILS SEE SHEETS 194/227 AND 195/227 .
4. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .
5. FOR FRAMING PLANS AND DETAILS SEE SHEETS 74/227 THRU 93/227 .
6. FOR SCREED ELEVATIONS SEE SHEET 157/227 .
7. MINIMUM BAR LAPS ARE AS FOLLOWS EXCEPT AS NOTED:
   #4 BARS = 33"   #5 BARS = 41"
8. WITH APPROVAL FROM THE ENGINEER FIELD CUT OR MOVE REINFORCING IN ORDER TO AVOID SCUPPERS AND CABLE OPENINGS.

(C2) CURVE DATA

P.I. Sta. 103+65.30
Δ = 14° 19' 16" (LT)
Dc = 11° 34' 06"
R = 495.28'
T = 62.22'
L = 123.80'
E = 3.89'
C = 123.47'
C.B. = S 75° 08' 55" E



DECK PLAN



DECK PLAN
(DECK GEOMETRY)

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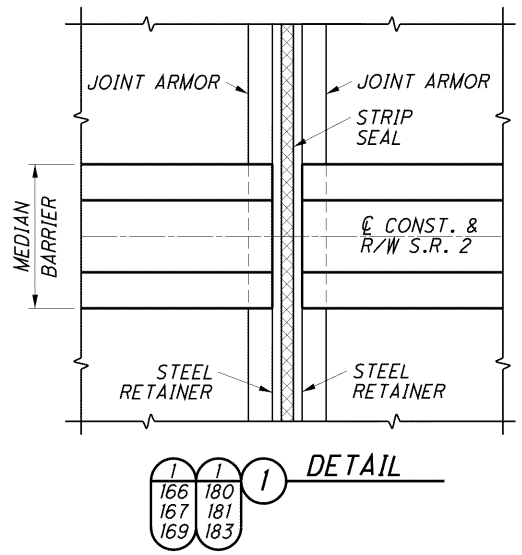
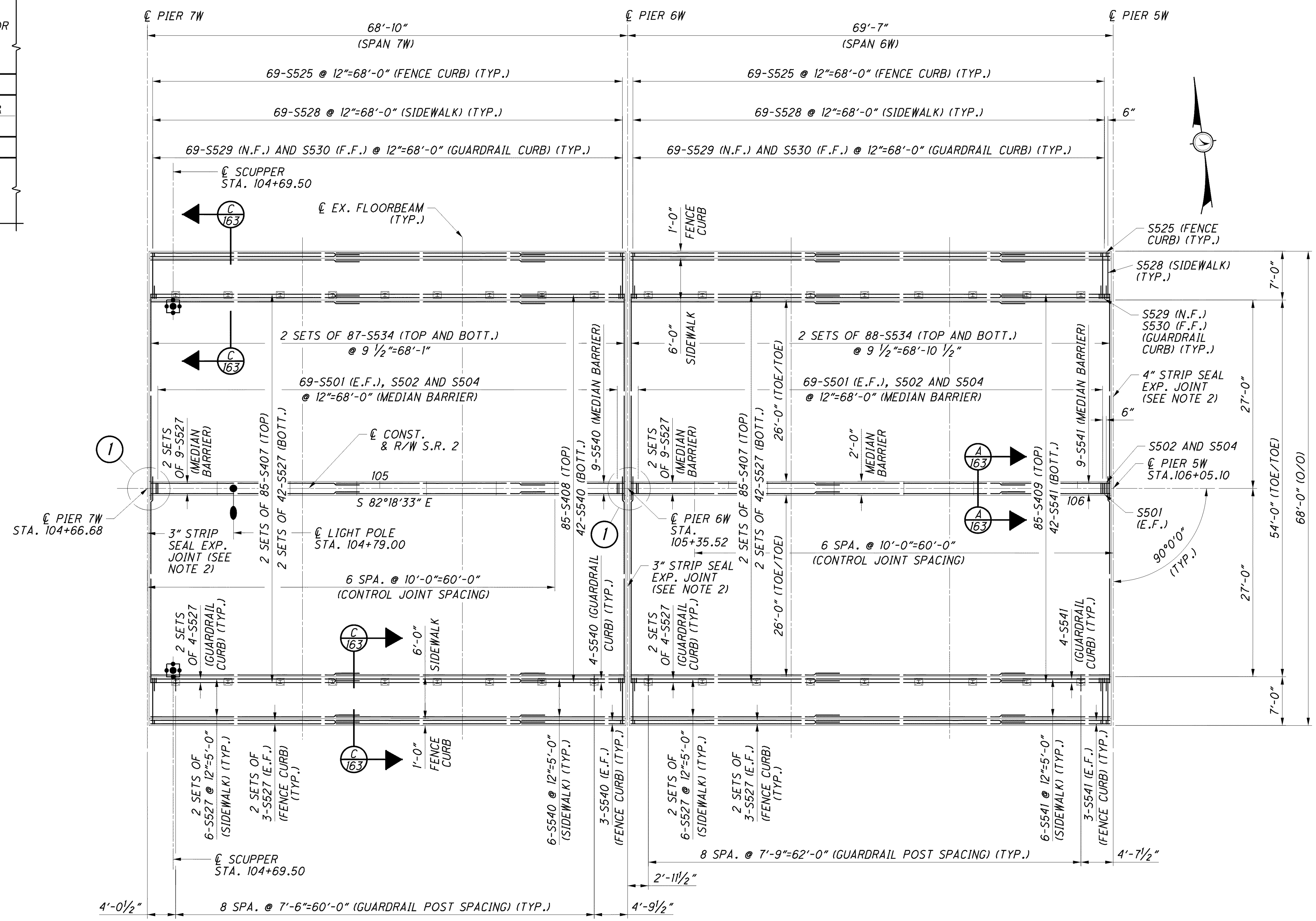
DESIGNED	DRAWN	REVIEWED	DATE
AJM	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

DECK PLAN - WEST MULTI-BEAM SPAN
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551





DECK PLAN

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
2. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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DESIGNED	DRAWN	REVIEWED	DATE
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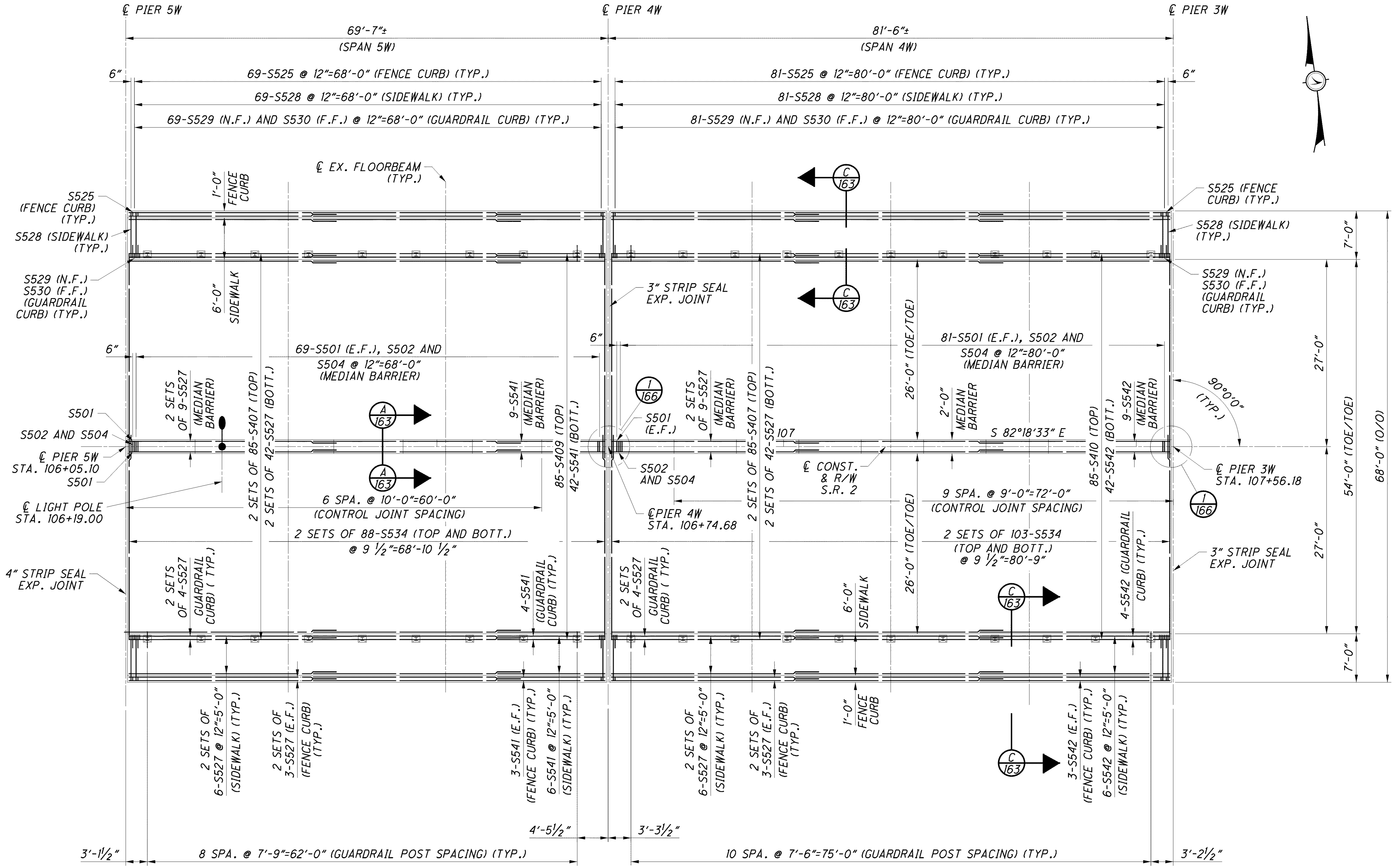
CMD		4800303	

DECK PLAN - WEST TWO-GIRDER SPANS 1 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTE:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .

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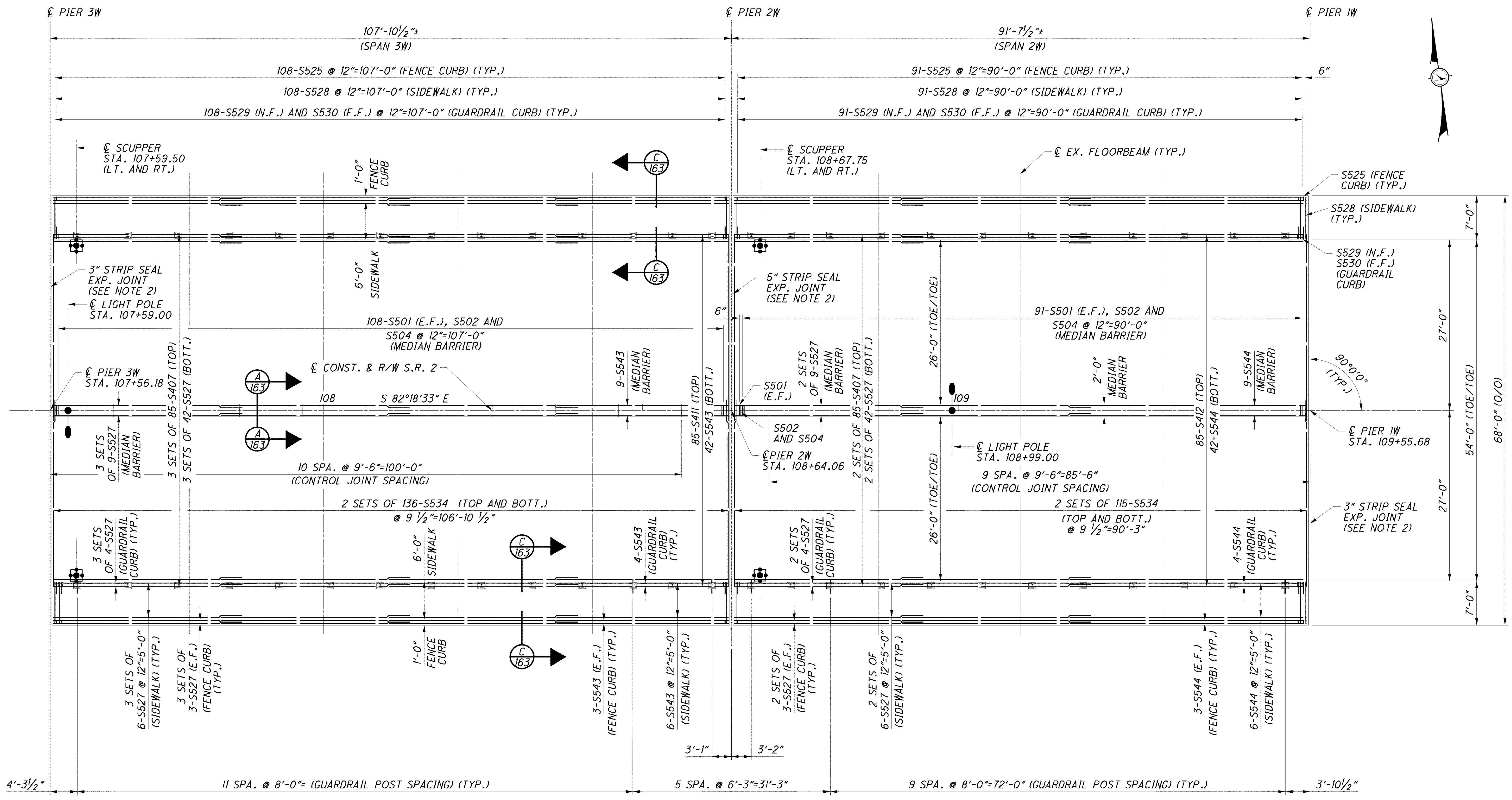
DECK PLAN - WEST TWO-GIRDER SPANS 2 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
2. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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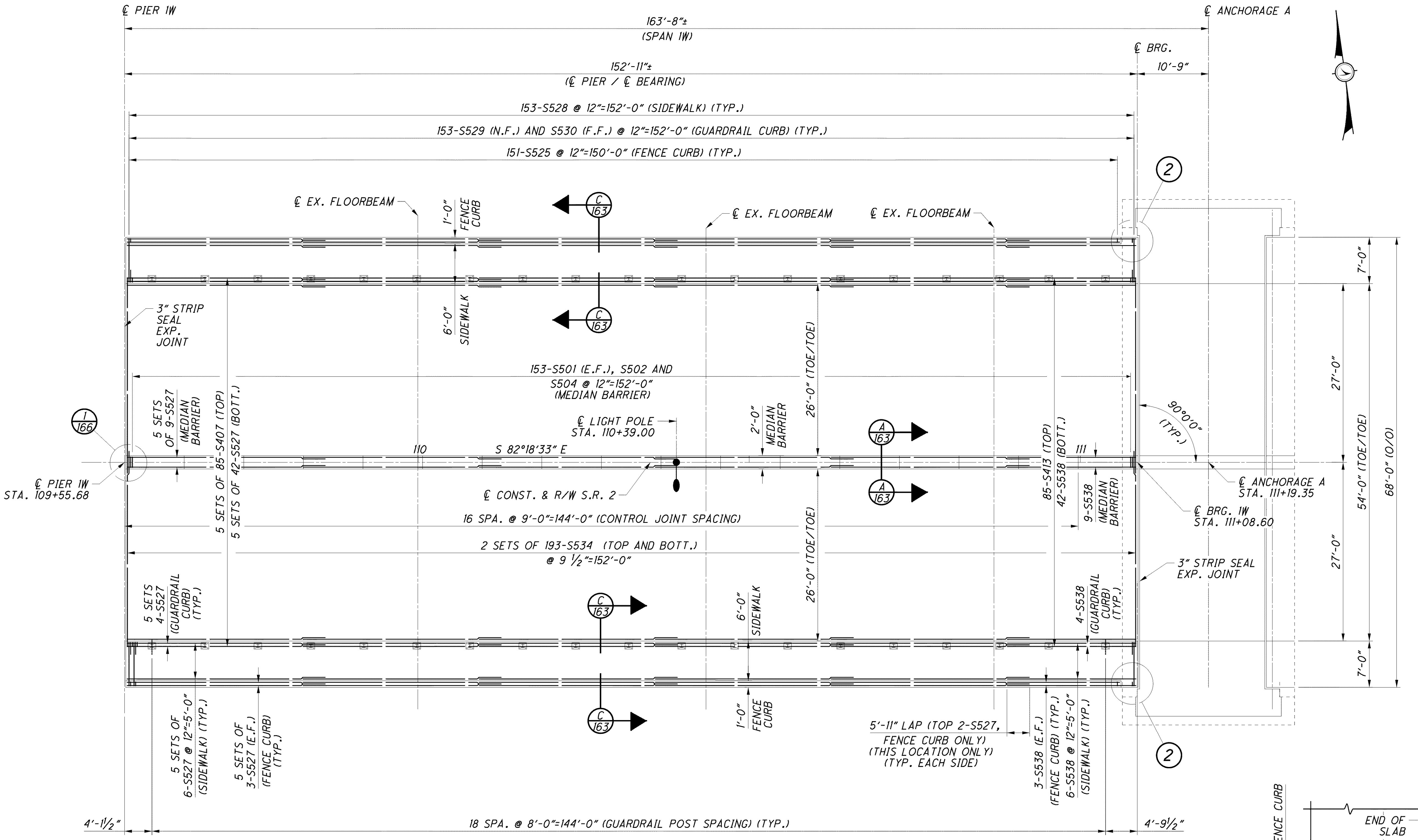
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

DECK PLAN - WEST TWO-GIRDER SPANS 3 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

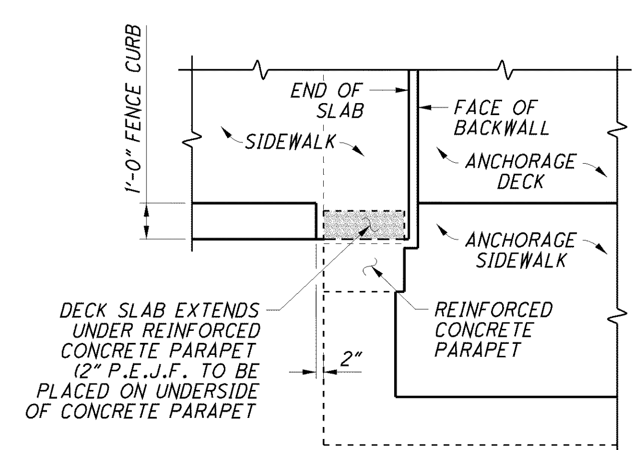
LUC-2-18.62
PID No. 80551

168/227

240/327



DECK PLAN



(2) DETAIL

(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR)

NOTE:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .

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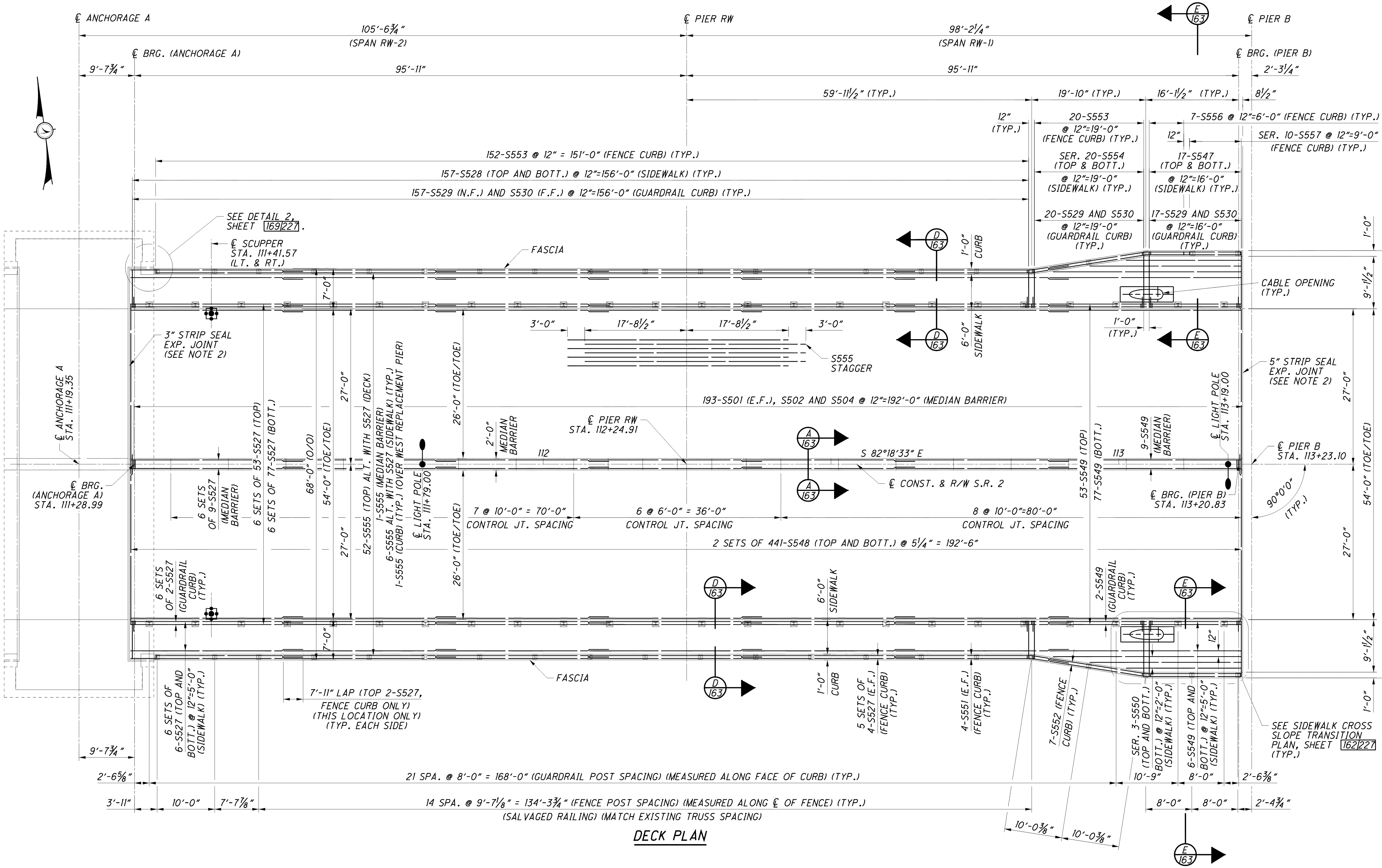
AJM	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

DECK PLAN - WEST TWO-GIRDER SPANS 4 OF 4
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
2. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .



DECK PLAN

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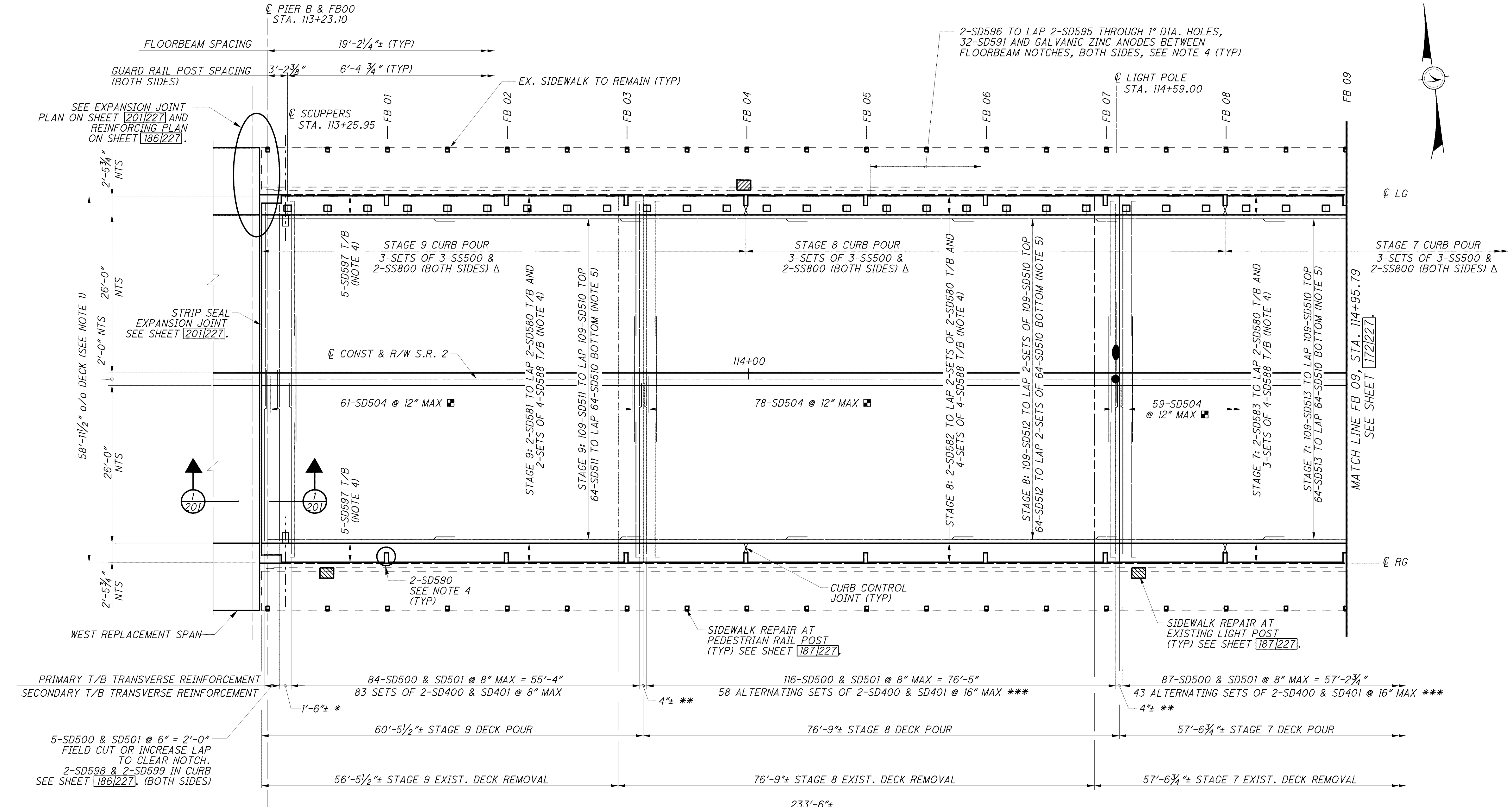
AJM	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

DECK PLAN - WEST REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - WEST SIDE SUSPENSION SPAN

NOTES:

1. LIGHTWEIGHT CONCRETE SHALL BE USED TO CONSTRUCT ALL DECK AND BARRIER COMPONENTS OF THE SUSPENDED SPANS UNLESS NOTED OTHERWISE. ALL LIGHTWEIGHT CONCRETE SHALL BE 125 PSF AND PAID FOR WITH ITEM ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN & ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET), AS PER PLAN. SEE SHEET 8/227 FOR DETAILS.
2. FOR STAGE 1 REMOVAL & REPLACEMENT, SEE SHEETS 174/227 AND 175/227.
3. PRIMARY TOP & BOTTOM TRANSVERSE REINFORCEMENT (#5 BARS) IS SPACED @ 8". SUPPLEMENTAL TOP & BOTTOM TRANSVERSE REINFORCEMENT (#4 BARS) IS ADDED BETWEEN PRIMARY REINFORCING AS INDICATED ON THE DECK PLANS.
4. FOR DECK AND CURB REINFORCING DETAILS ADJACENT TO STIFFENING GIRDERS, SEE SHEETS 185/227 AND 186/227.
5. FOR TRANSVERSE SPACING OF LONGITUDINAL REINFORCING, SEE SHEET 185/227. ADJUST LAP SLICE TO ENSURE 2" CLEAR TO EDGE OF DECK POUR.
6. ONE SET OF PRIMARY TOP AND BOTTOM TRANSVERSE REINFORCING BARS (S500 & S501) SHALL BE PLACED CENTERED ATOP EACH FLOORBEAM. FIELD BEND OR INCREASE LAP SPLICE LENGTH TO ENSURE 2" CLEAR TO FLOORBEAM NOTCH.

SUSPENSION SPAN DECK & CURB MIN. SPLICE LENGTH

#4 EPOXY = 2'-7" (31"), #4 GALV = 1'-8" (20")
#5 EPOXY = 3'-2" (38"), #5 GALV = 2'-2" (26")
#8 EPOXY = 5'-0" (60"), #8 GALV = 4'-3" (51")

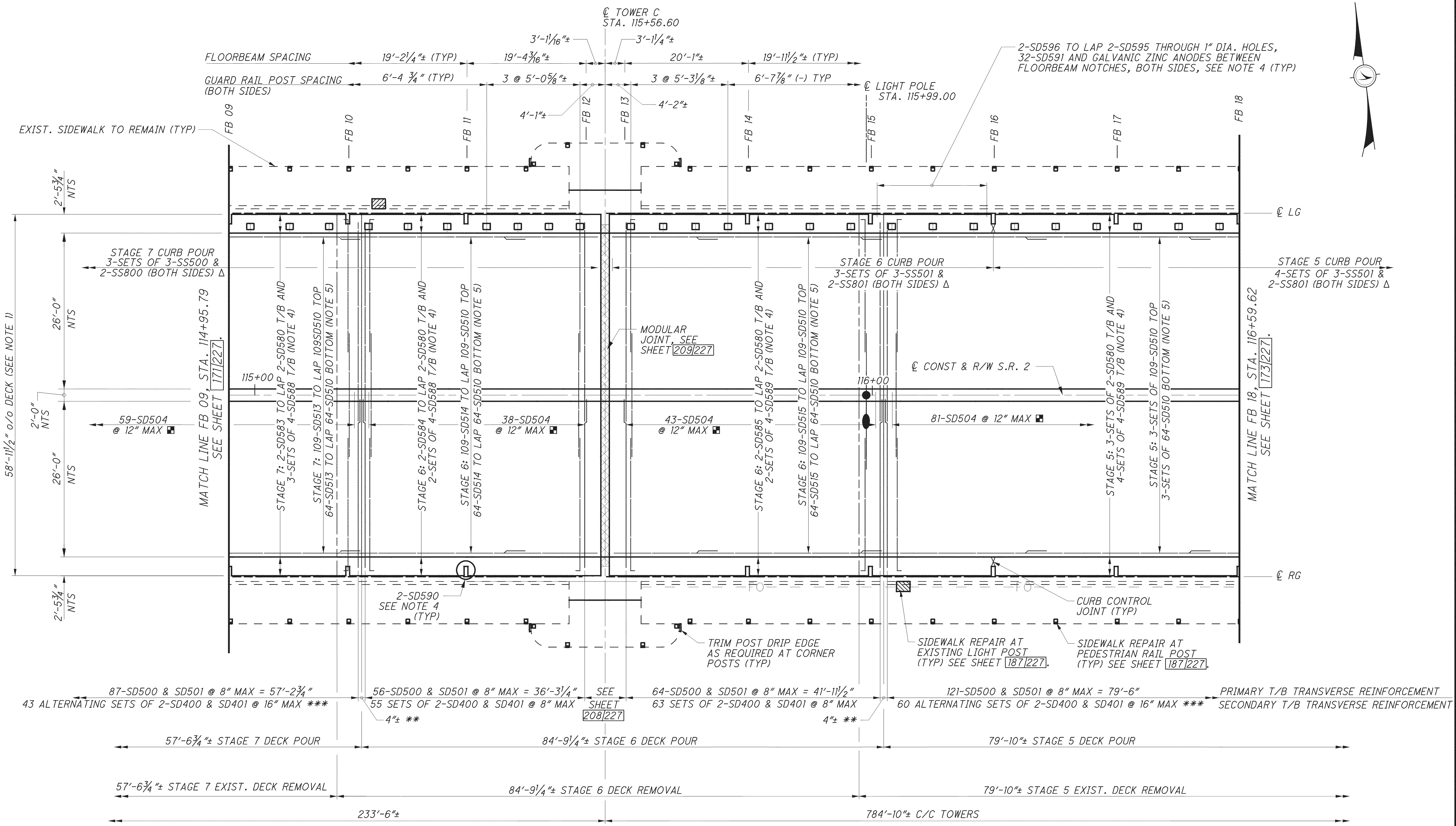
REINFORCING LEGEND

T/B - TOP AND BOTTOM
* - TWO SETS OF PRIMARY TOP AND BOTTOM TRANSVERSE REINFORCING BARS (SD500 & SD501) SHALL BE PLACED ON EITHER SIDE OF SCUPPERS AND ONE SET TO BE PLACED ALONG ℄ SCUPPERS. FIELD TRIM OR INCREASE LAP SPLICE LENGTH TO ENSURE 2" CLEAR TO FLOORBEAM NOTCH AND SCUPPER.
** - 2" CLEAR FROM EDGE OF DECK POUR
*** - SECONDARY TRANSVERSE REINFORCING SHALL ALTERNATE BETWEEN TOP AND BOTTOM MATS ON A STAGGERED PATTERN. SEE SHEET 173/227 FOR DETAILS.
■ - INCLUDES MECHANICAL CONNECTORS, SEE SHEET 163/227 FOR DETAILS.
Δ - CONTINUOUS LONGITUDINAL CURB REINFORCING LISTED FOR EACH CURB POUR. SEE CURB DETAILS ON SHEET 186/227 FOR LONGITUDINAL REINFORCING BETWEEN FLOORBEAM NOTCHES.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
DESIGNED PLC/LMS | DRAWN EFD | REVIEWED PLC | DATE 8/12
CHECKED LMS | REVISED | STRUCTURE FILE NUMBER 4800303

DECK PLAN - SUSPENSION SPANS 1 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - MAIN SUSPENSION SPAN

NOTES:

1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

REVIEWED	DATE
PLC	2/13

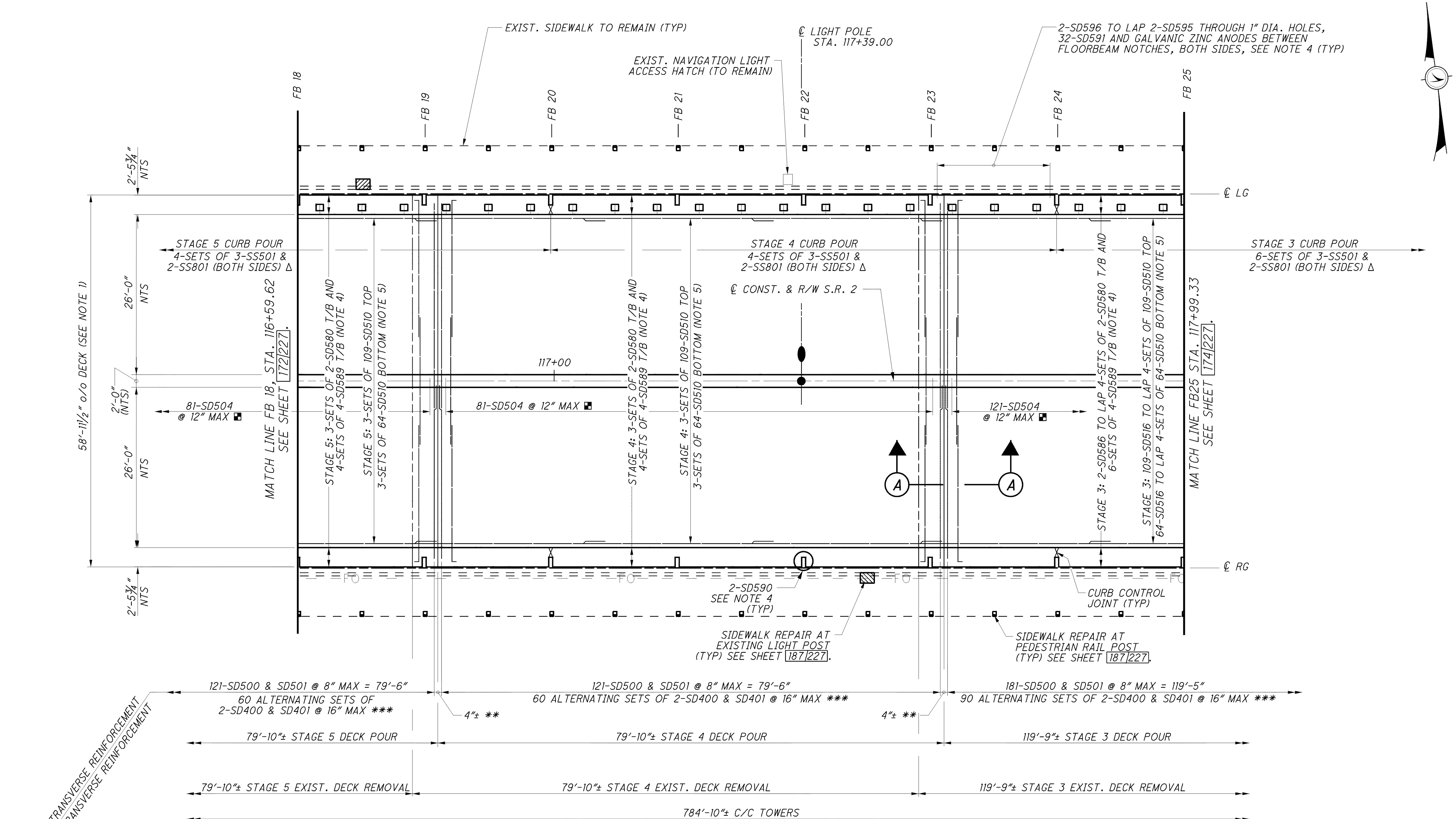
STRUCTURE FILE NUMBER 4800303

DRAWN	REVISED
EFD	EFD

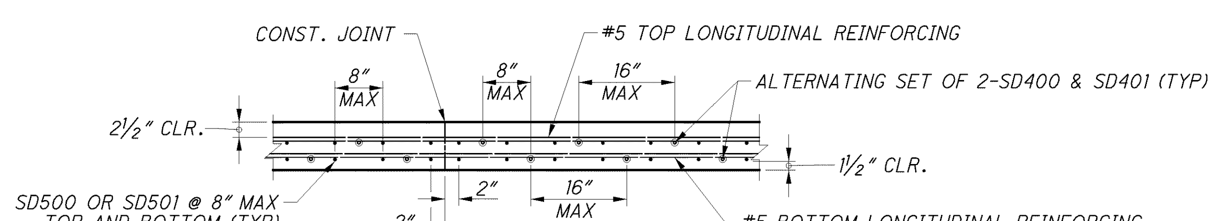
DESIGNED	CHECKED
PLC/LMS	LMS

DECK PLAN - SUSPENSION SPANS 2 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - MAIN SUSPENSION SPAN



(A) TYPICAL ALTERNATING SECONDARY TRANSVERSE REINFORCING

MIN. 8" DECK SHOWN ONLY. SIP FORMS AND FB TOP FLANGES OMITTED FOR CLARITY

NOTES:

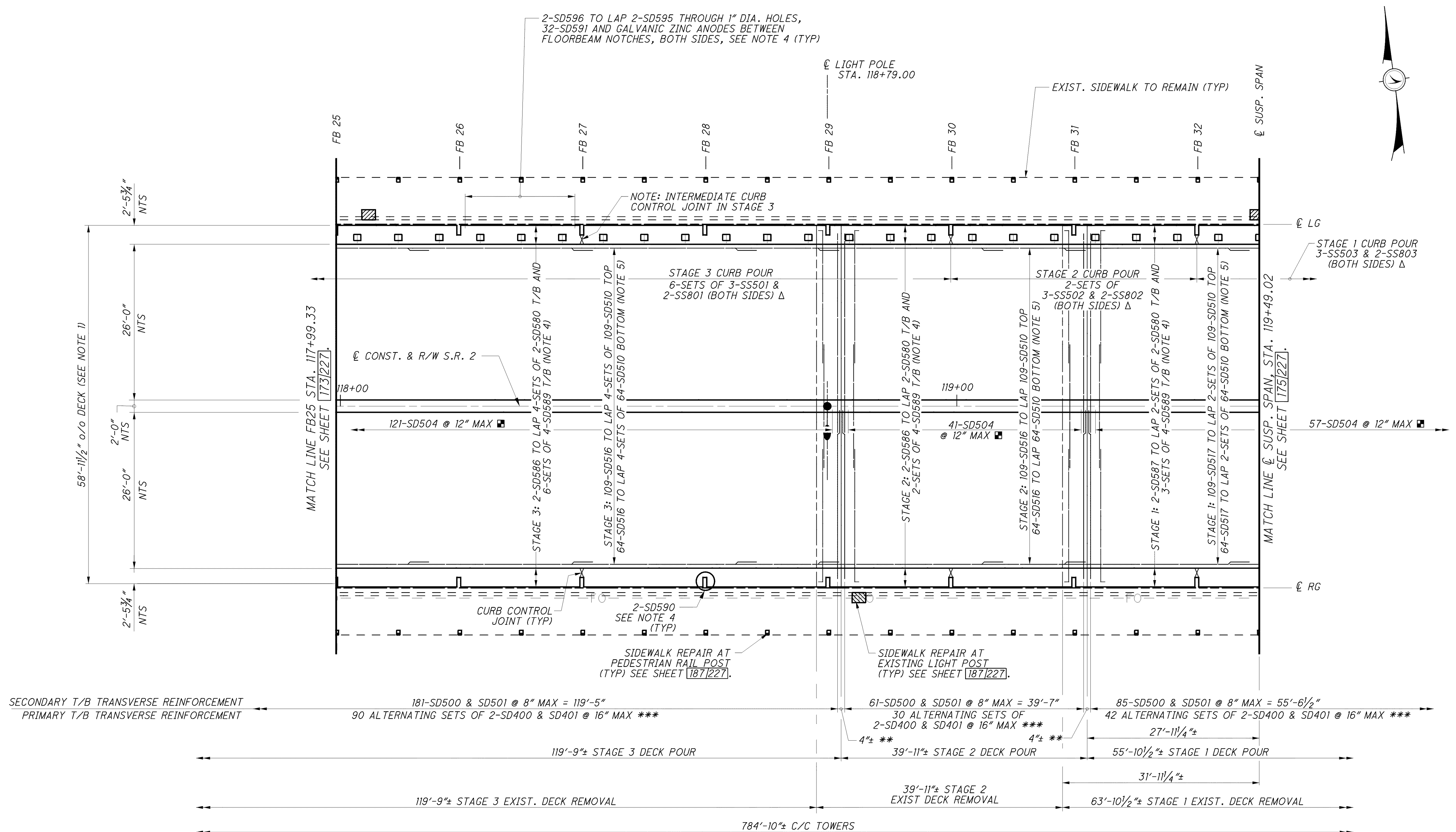
1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4661 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
PLC/LMS	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

DECK PLAN - SUSPENSION SPANS 3 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - MAIN SUSPENSION SPAN

NOTES:

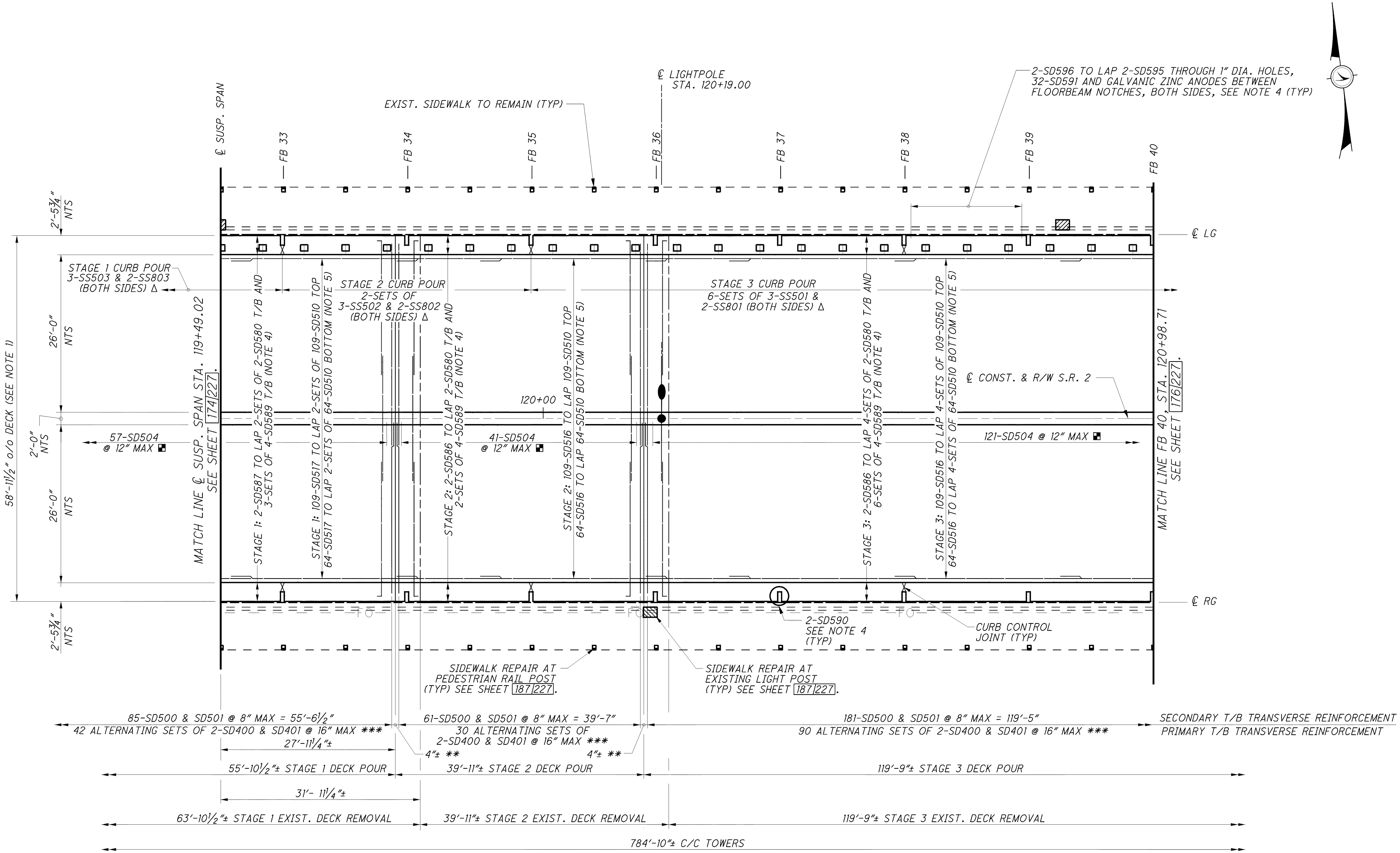
1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
PLC/LMS	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

DECK PLAN - SUSPENSION SPANS 4 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - MAIN SUSPENSION SPAN

NOTES:

1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

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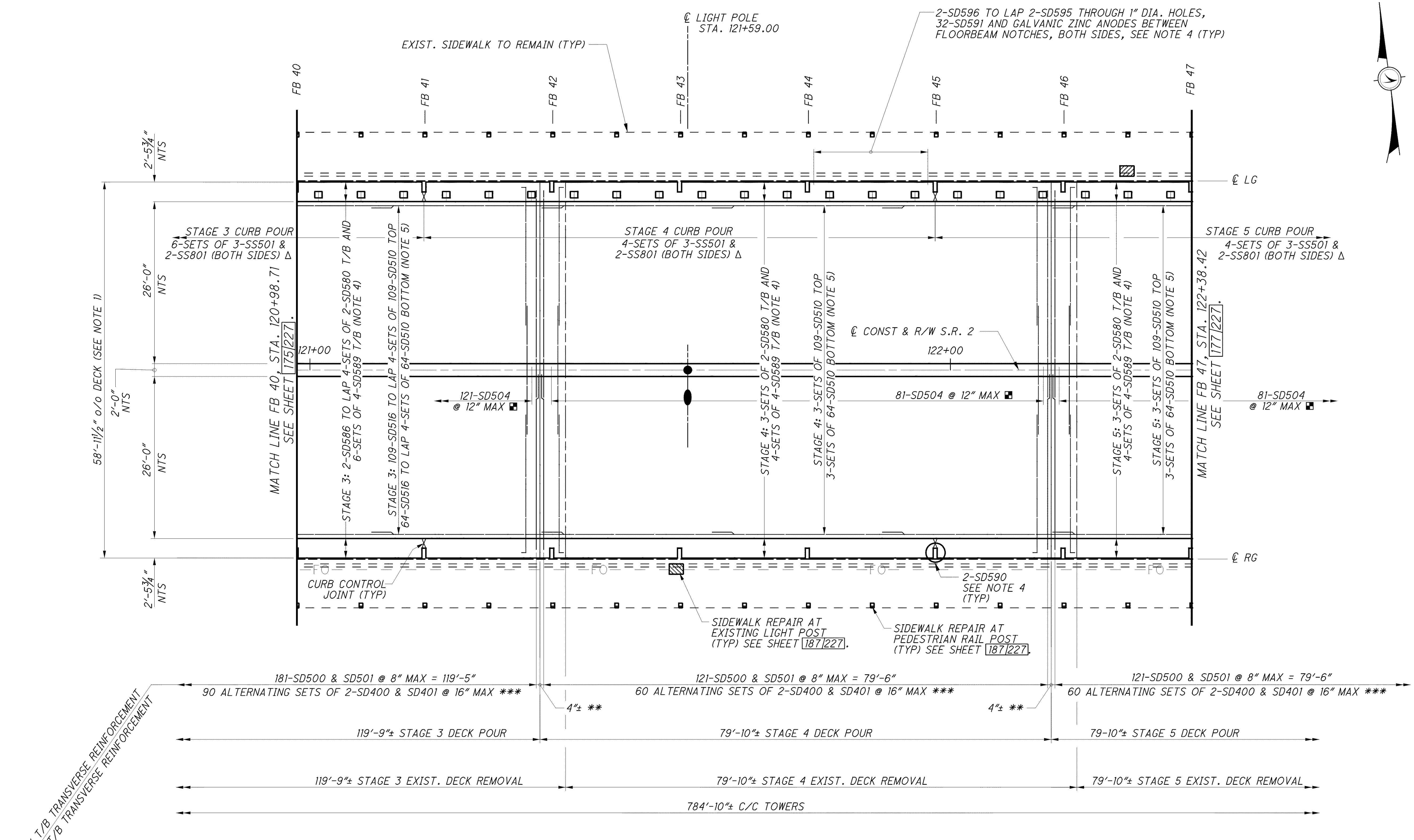
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
PLC/LMS	EFD	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS		4800303	

DECK PLAN - SUSPENSION SPANS 5 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - MAIN SUSPENSION SPAN

NOTES:

1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

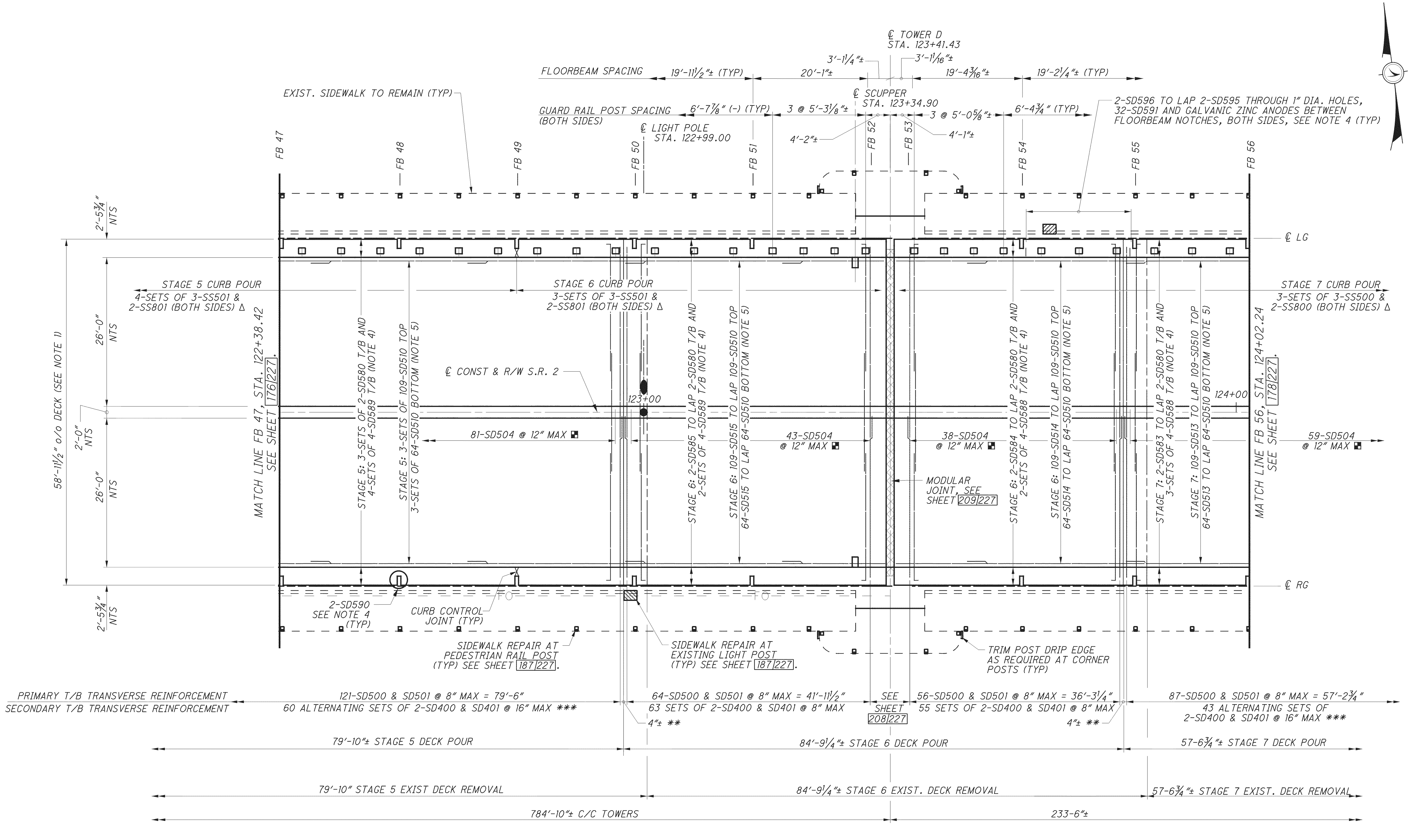
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY, SUITE 360
WESTERVILLE, OHIO 43081

REVIEWED	DATE	STRUCTURE FILE NUMBER
PLC	8/12	4800303

DESIGNED	DRAWN	REVISED
PLC/LMS	EFD	
CHECKED		
LMS		

DECK PLAN - SUSPENSION SPANS 6 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - MAIN SUSPENSION SPAN

NOTES:

1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

DESIGN AGENCY
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ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 360
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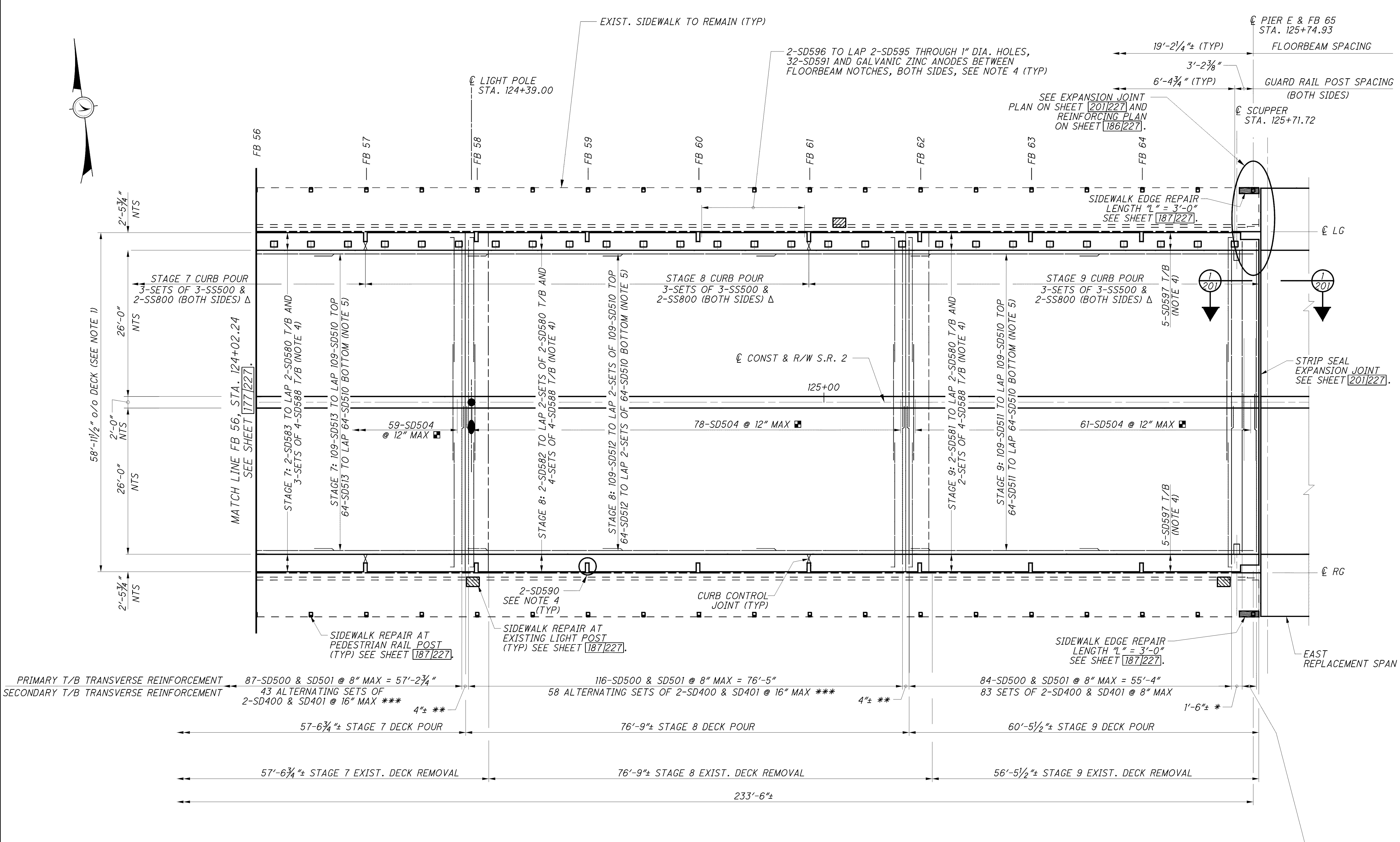
DESIGNED	DRAWN	REVIEWED	DATE
PLC/LMS	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS	EFD	4800303	

DECK PLAN - SUSPENSION SPANS 7 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK/SIDEWALK PLAN - EAST SIDE SUSPENSION SPAN

NOTES:

1. ALL NOTE REFERENCES ARE TO NOTES ON SHEET 171/227, WHICH CONTAINS DECK PLAN NOTES, LEGEND, AND STANDARD SPLICE LENGTHS.

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DESIGNED PLC/LMS | CHECKED LMS | DRAWN EFD | REVISED | REVIEWED PLC | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

DECK PLAN - SUSPENSION SPANS 8 OF 8
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

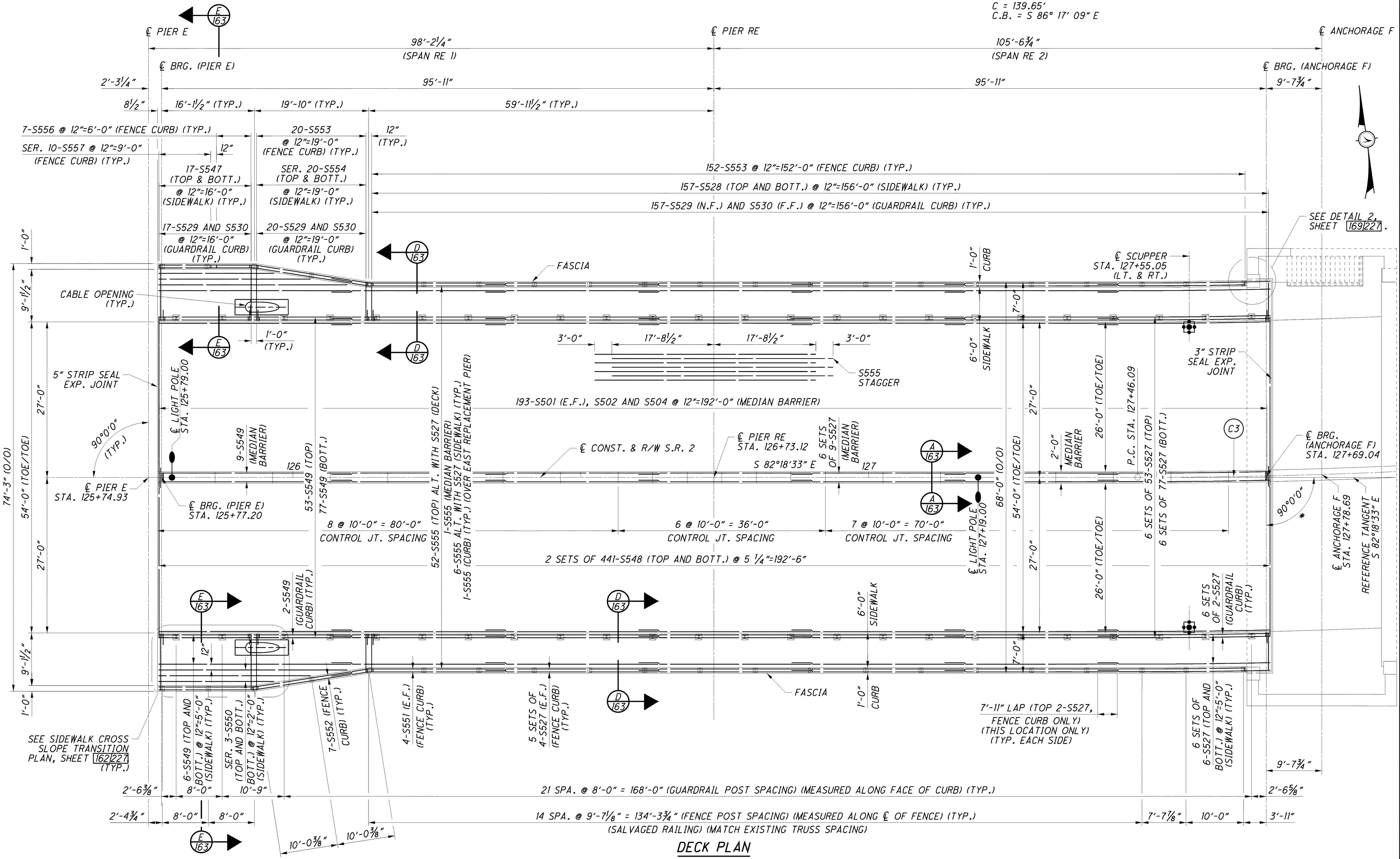
C3 CURVE DATA

P.I. Sta. 128+16.08
Δ = 7° 57′ 12″ (LT)
Dc = 5° 41′ 27″
R = 1,006.83′
T = 69.99′
L = 139.76′
E = 2.43′
C = 139.65′
C.B. = S 86° 17′ 09″ E

NOTE:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .

* ANGLE MEASURED FROM REFERENCE TANGENT



DECK PLAN

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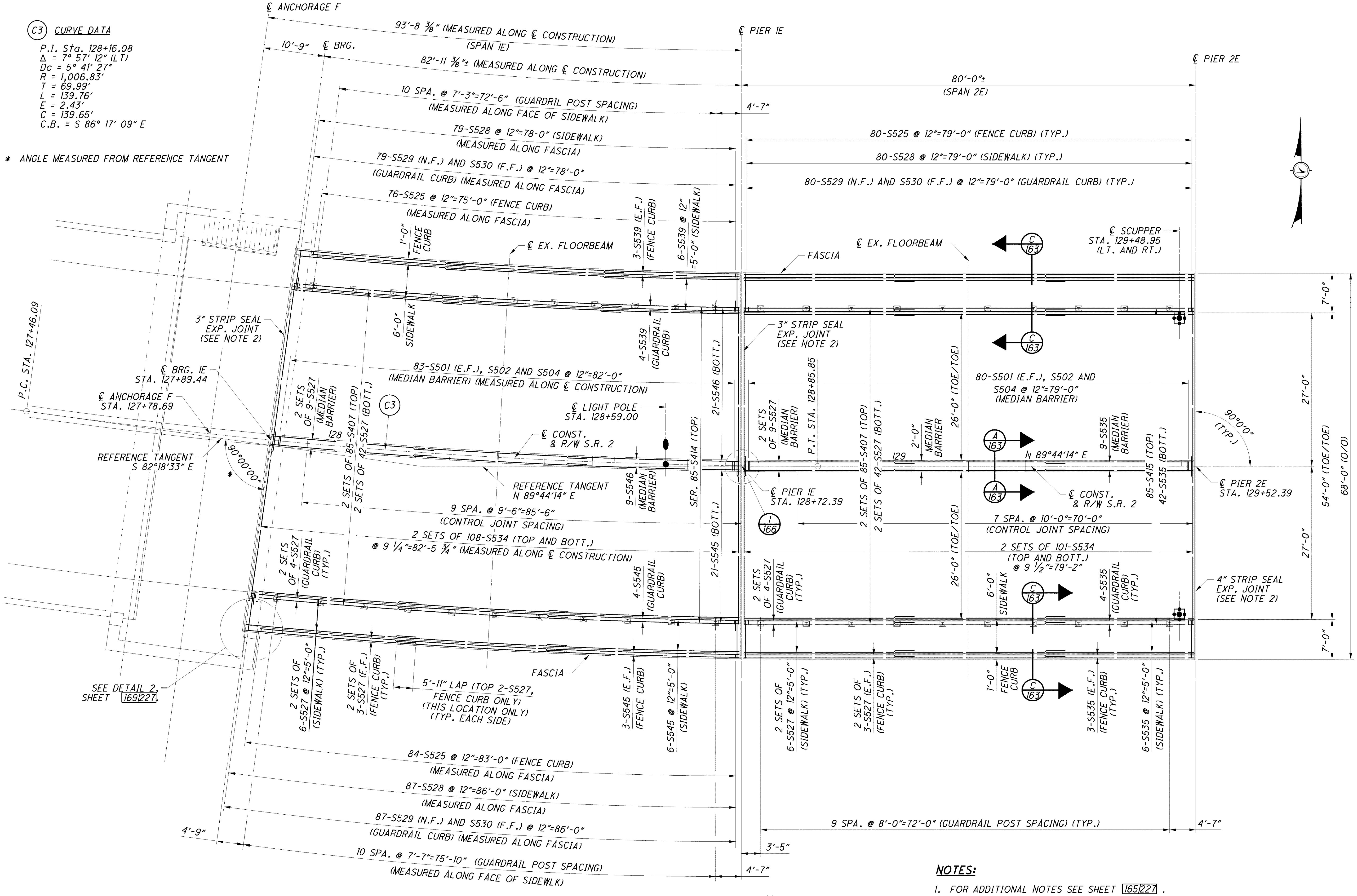
DECK PLAN - EAST REPLACEMENT SPANS

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
2. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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CHECKED	REVISED	STRUCTURE FILE NUMBER	
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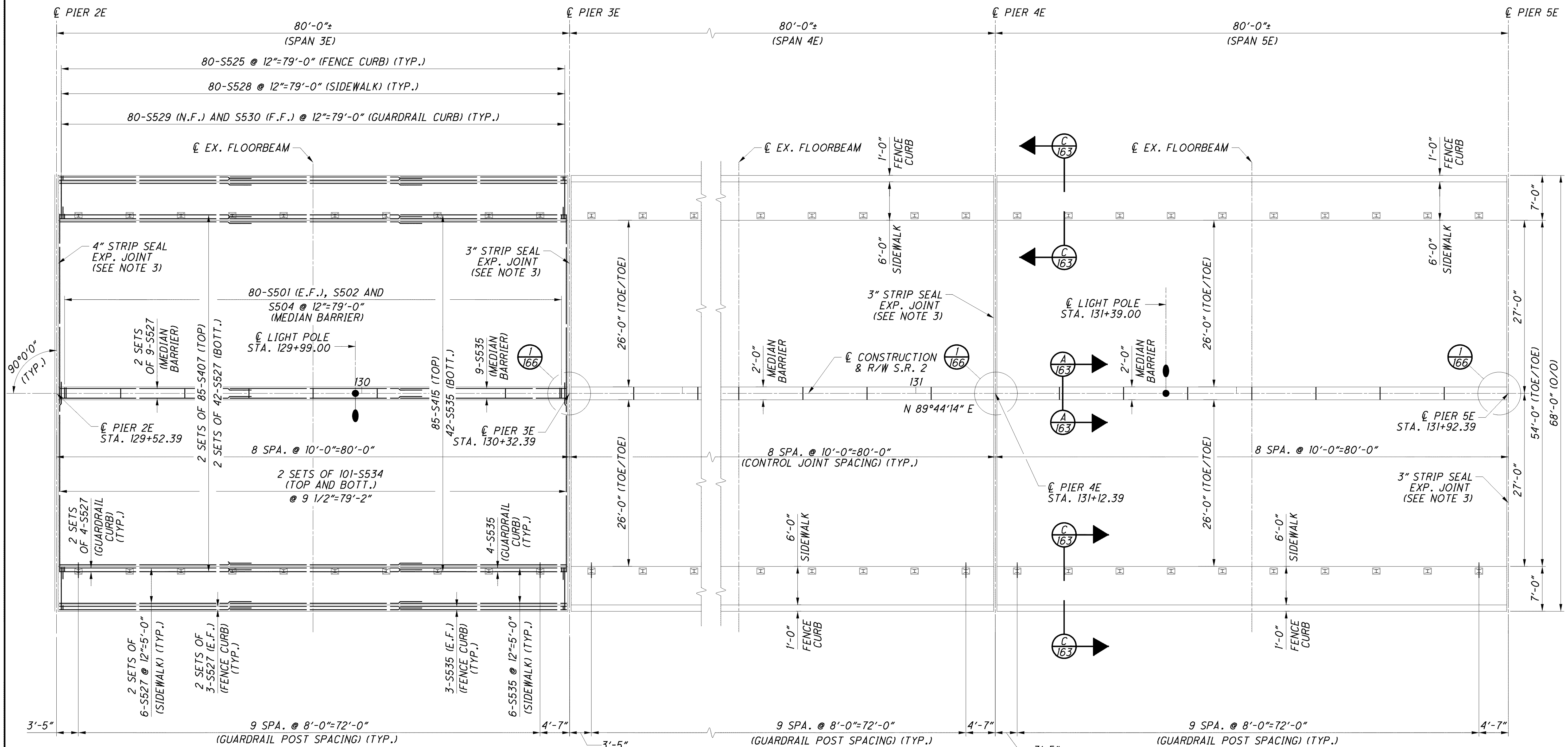
DECK PLAN - EAST TWO-GIRDER SPANS 1 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTES:

1. REINFORCING FOR SPAN 3E SHOWN, REINFORCING FOR SPAN 4E AND SPAN 5E SIMILAR
2. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
3. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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DESIGNED	DRAWN	REVIEWED	DATE
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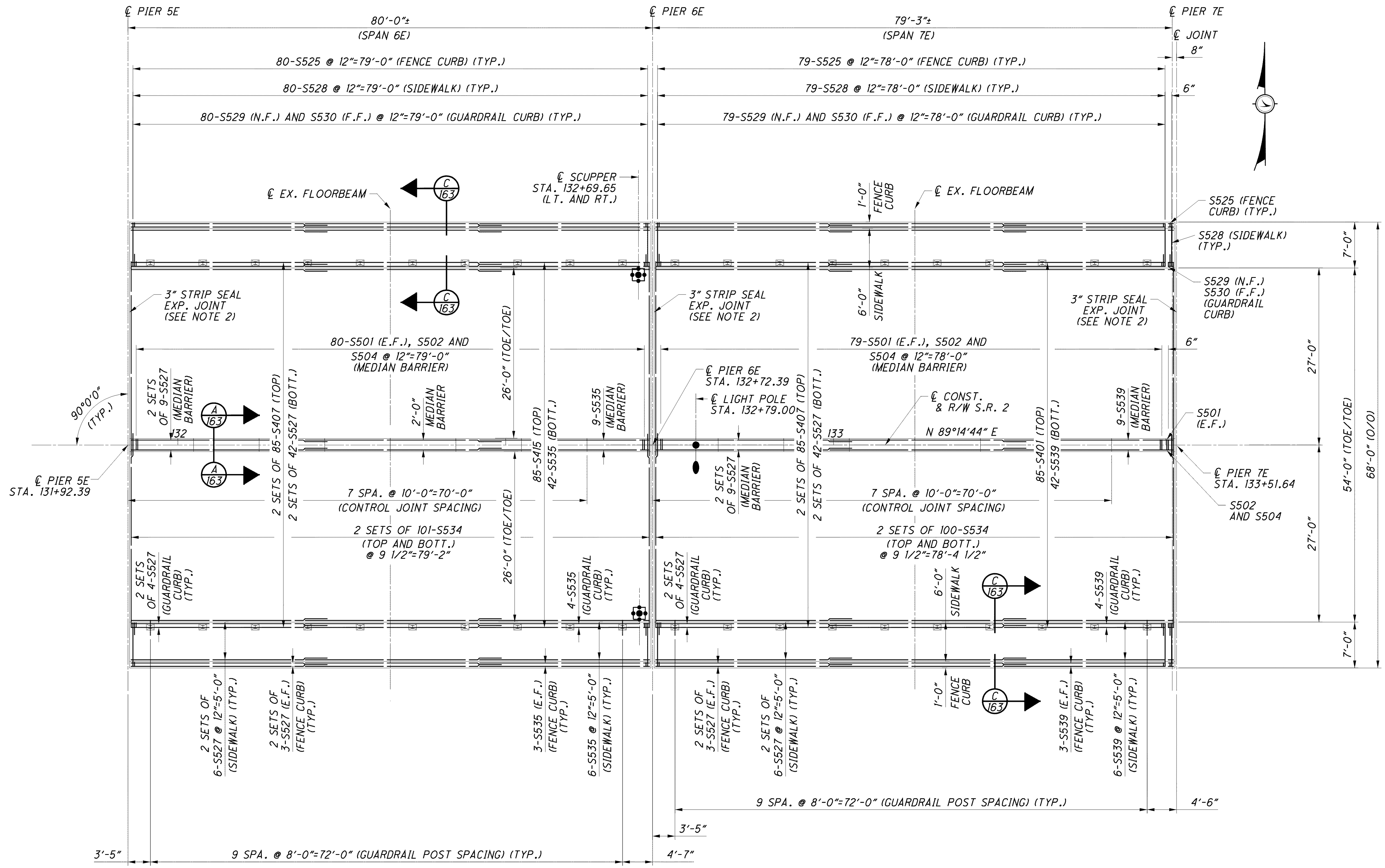
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

DECK PLAN - EAST TWO-GIRDER SPANS 2 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
2. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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DESIGNED	DRAWN	REVIEWED	DATE
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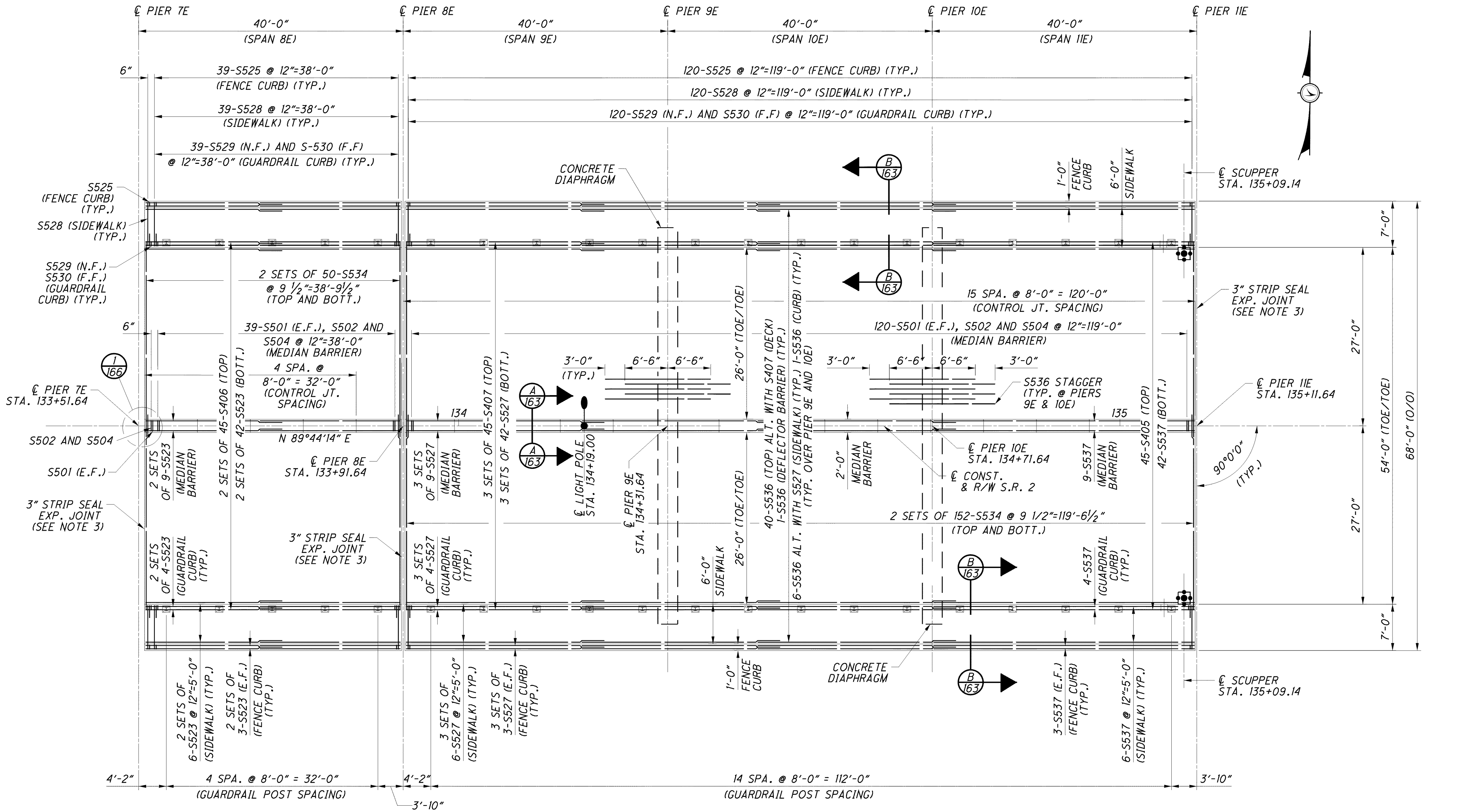
CMD		4800303	

DECK PLAN - EAST TWO-GIRDER SPANS 3 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .
2. FOR CONCRETE DIAPHRAGM DETAILS, SEE SHEET 156/227 .
3. FOR EXPANSION JOINT DETAILS SEE SHEETS 198/227 THRU 200/227 .

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DESIGNED	DRAWN	REVIEWED	DATE
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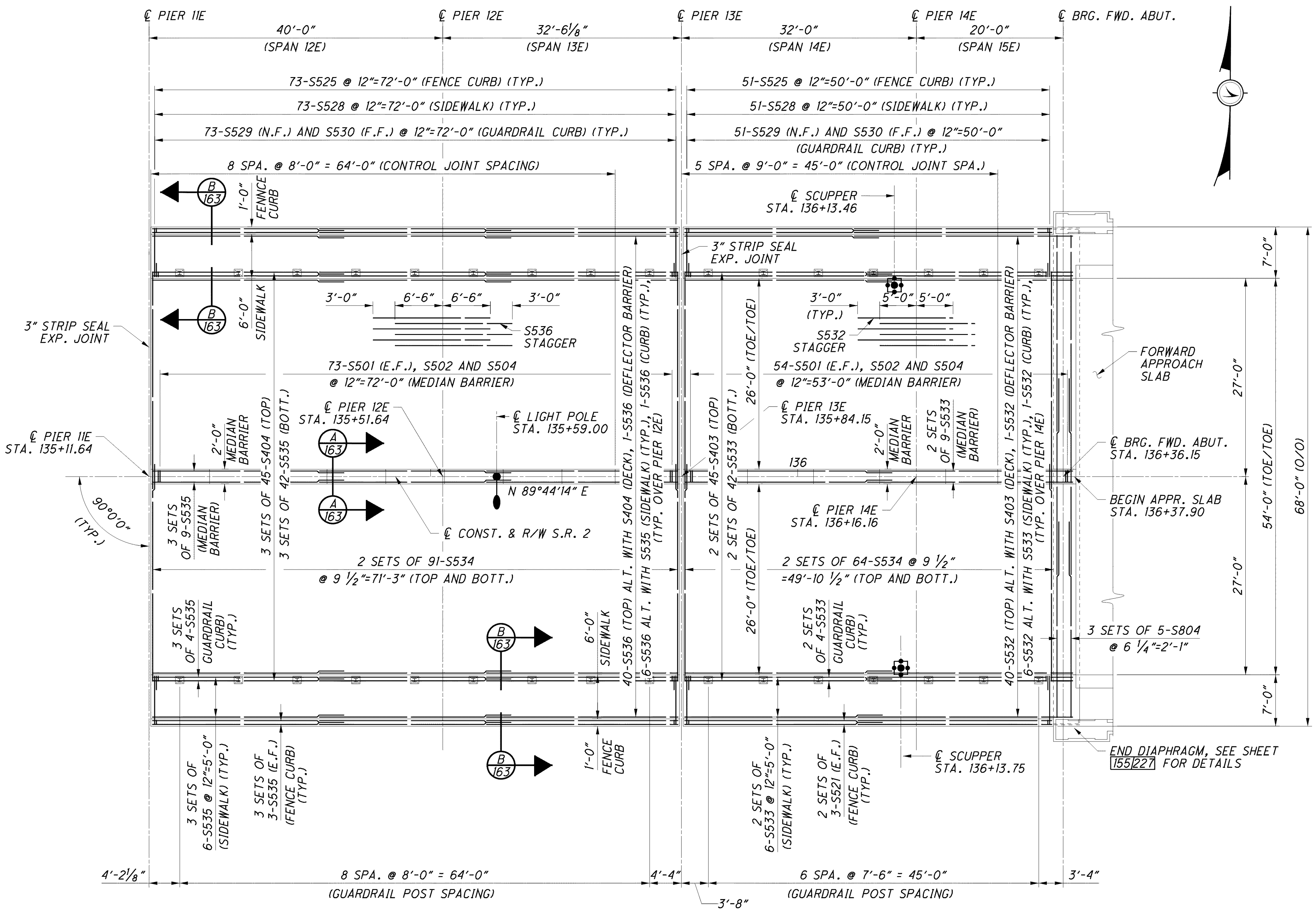
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

DECK PLAN - EAST MULTI-BEAM SPAN 1 OF 2
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



DECK PLAN

NOTE:

1. FOR ADDITIONAL NOTES SEE SHEET 165/227 .

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DESIGNED	DRAWN	REVIEWED	DATE
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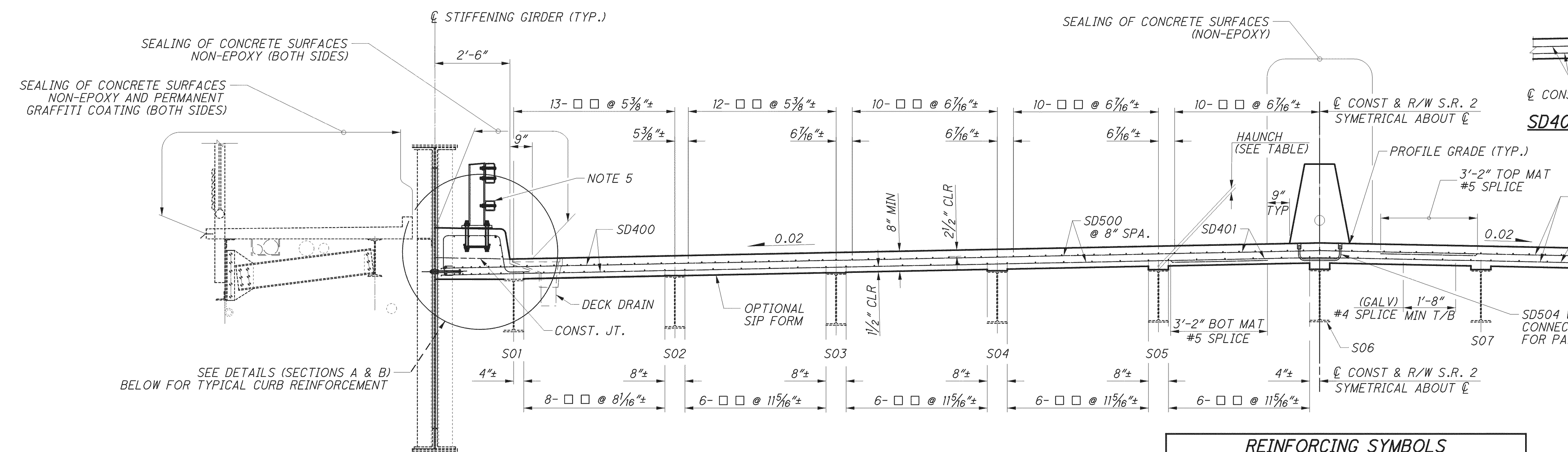
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

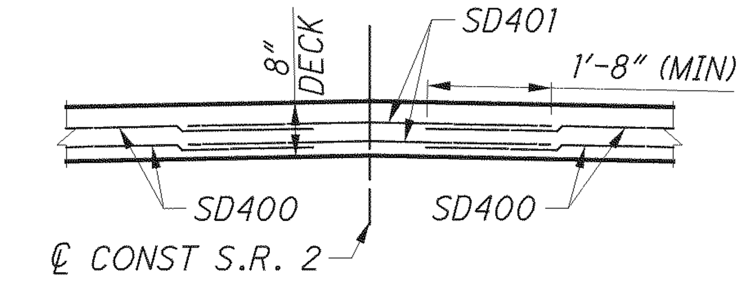
DECK PLAN - EAST MULTI-BEAM SPAN 2 OF 2

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



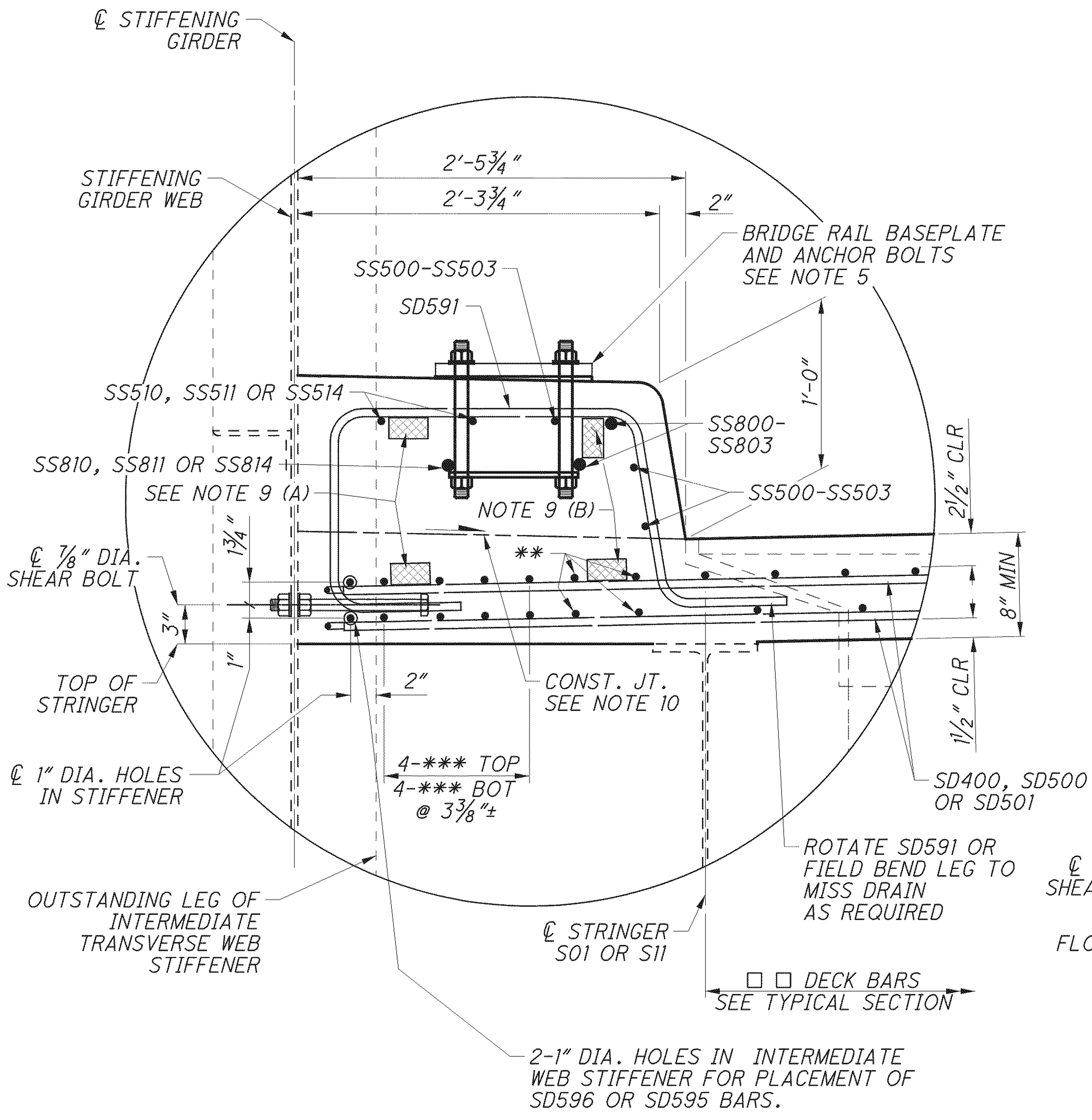
TYPICAL DECK SECTION



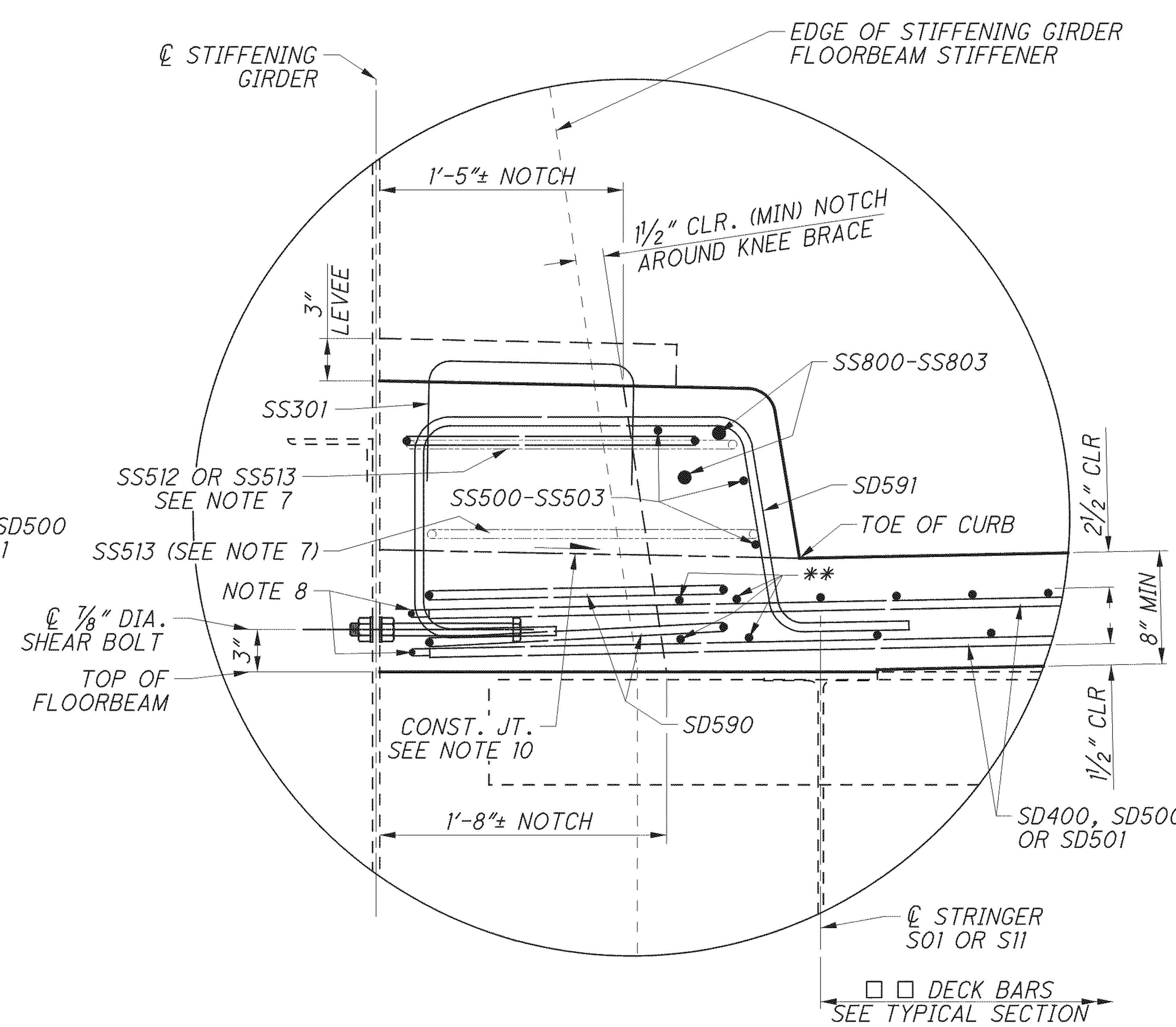
SD400 & SD401 SCHEMATIC

REINFORCING SYMBOLS			
LOCATION	BAR MARKS USED		
	□□	**	***
SIDE SPANS	SD510-SD514	SD580-SD584	SD588, SD597
CENTER SPAN	SD510 AND SD515-SD517	SD580 AND SD585-SD587	SD589

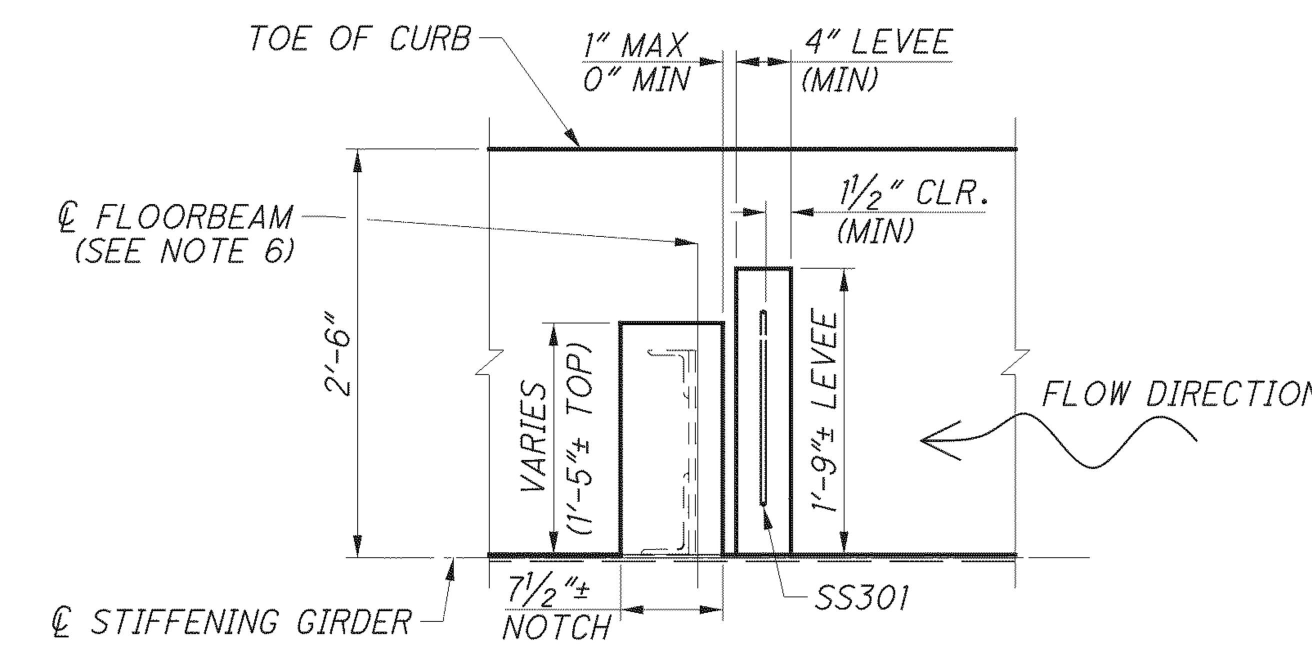
MIN. DECK HAUNCH @ ℄ STRINGER	
S01, S11	¼"
S02, S10	⅛"
S03, S09	¼"
S04, S08	¾"
S05, S07	1½"
S06	2¹¹⁄₁₆"



A/186 SECTION BETWEEN FLOORBEAMS
GUARDRAIL AND POST NOT SHOWN



B/186 SECTION AT FLOORBEAM
GUARDRAIL NOT SHOWN



FLOORBEAM NOTCH AND DRAINAGE LEVEE DETAIL

NOTES:

1. MINIMUM COVER ON REINFORCING IS 2" UNLESS NOTED OTHERWISE.
2. SEE SHEETS 171/227 THROUGH 178/227 FOR REINFORCING PLAN LOCATIONS.
3. SEE SHEET 186/227 FOR CURB REINFORCING PLAN LOCATIONS AND DETAILS.
4. SEE SHEET 125/227 FOR SHEAR BOLT LOCATIONS AND DETAILS.
5. SEE SHEETS 194/227 AND 195/227 FOR BRIDGE RAIL AND POST DETAILS.
6. A 3" TALL LEVEE SHALL BE PLACED ON THE UPHILL FACE OF FLOORBEAM NOTCHES ON BOTH GIRDERS AS FOLLOWS:
   FB00-FB30, EAST SIDE OF THE FLOORBEAM NOTCH
   FB31-FB34, BOTH SIDES OF THE FLOORBEAM NOTCH
   FB35-FB65, WEST SIDE OF THE FLOORBEAM NOTCH
7. 1-SS512 BAR TO BE PLACED CONTINUOUS AROUND FLOORBEAM NOTCHES. 2-SS513 BARS TO BE PLACED ON EITHER SIDE OF CONTROL JOINT FLOORBEAM NOTCHES. SEE SHEET 186/227 FOR DETAILS.
8. THE BENT ENDS OF THE SD400 BARS SHALL BE LAID APPROXIMATELY HORIZONTAL SO THAT ADEQUATE COVER REMAINS AND THE BAR LIES ENTIRELY WITHIN THE DECK CONCRETE.
9. DISTRIBUTED GALVANIC ZINC ANODES TO BE INSTALLED AND ELECTRICALLY CONNECTED TO (A) THE STIFFENING GIRDER; (B) GALVANIZED REINFORCING BARS. SEE SHEET 186/227 FOR DETAILS. SEE SHEET 16A/227 FOR NOTES.
10. CURB CONSTRUCTION JOINT SHALL BE SLOPED A MINIMUM OF 1% AND MAXIMUM OF 3% AWAY FROM THE STIFFENING GIRDER WEB TO MINIMIZE WATER PONDING DURING CONSTRUCTION STAGING.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

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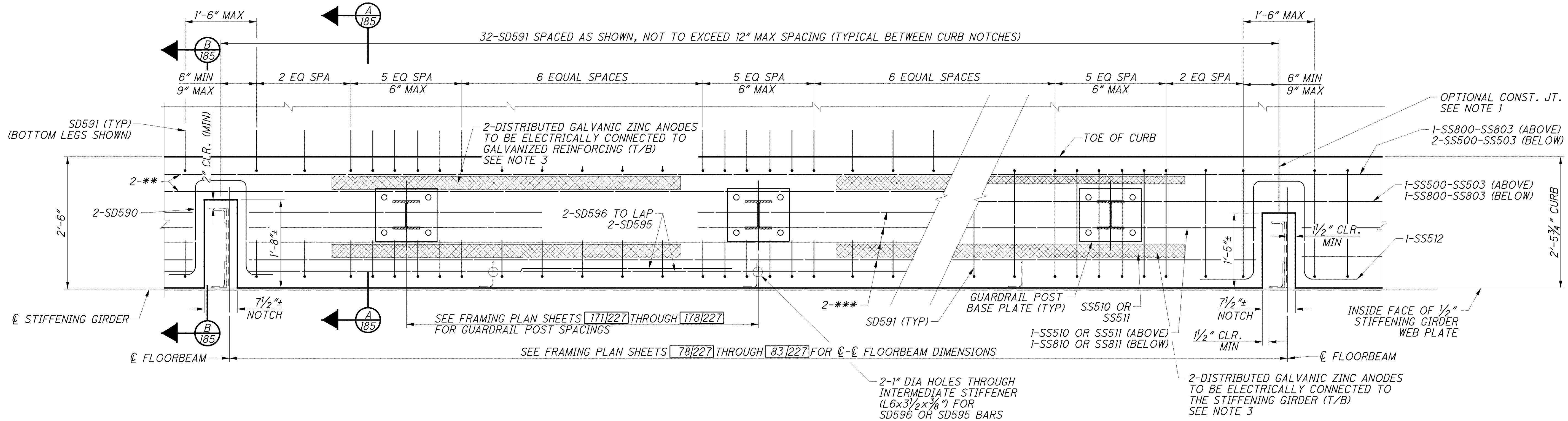
EFD/PLC	LMS	EFD	EFD	PLC	2/13	4800303

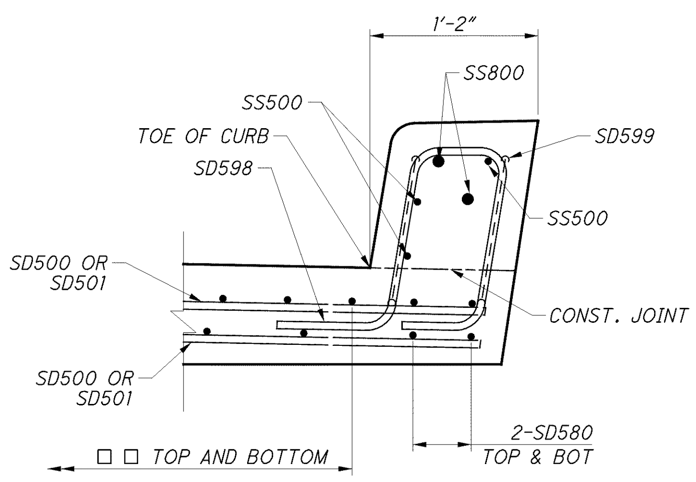
DECK PLAN - DECK REINFORCING DETAILS 1 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

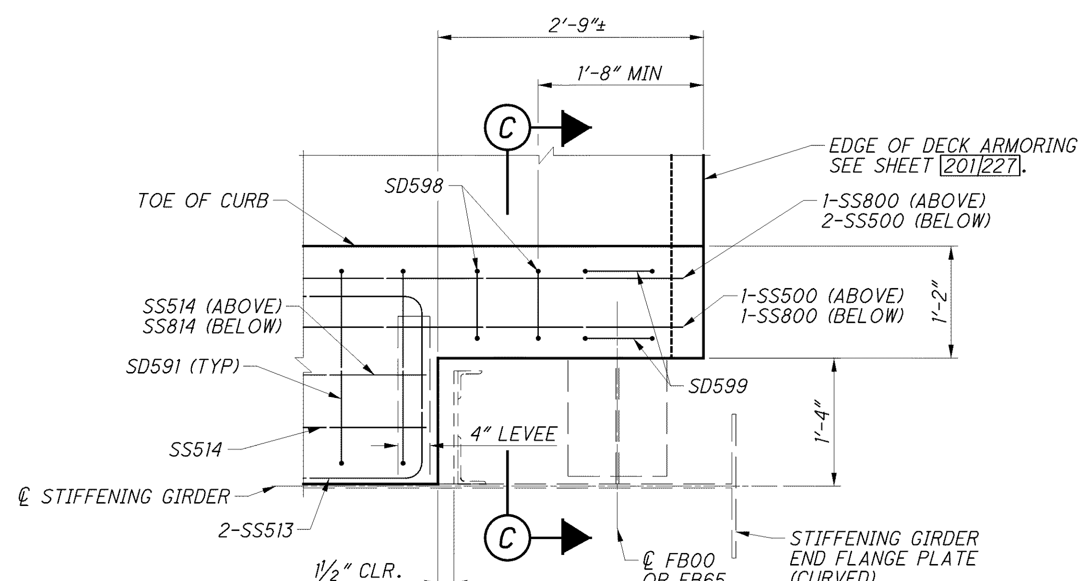


CONTINUOUS CURB REINFORCING DETAIL - DECK LEVEL

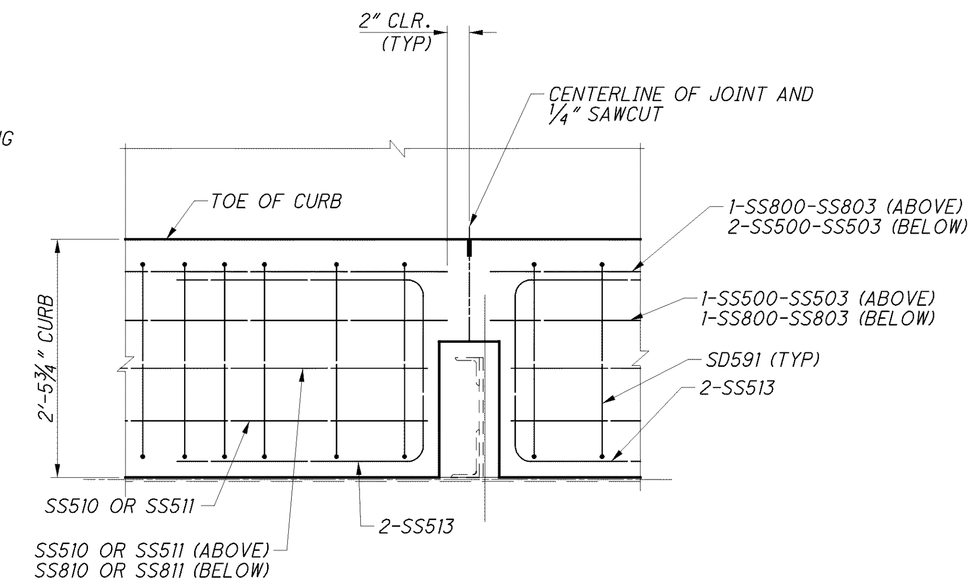
CONTINUOUS CURB REINFORCING DETAIL - CURB LEVEL



C SECTION



CURB DETAIL AT PIERS B & E



CURB CONTROL JOINT REINFORCING DETAIL

NOTES:

1. CURB SHALL BE POURED AFTER DECK STAGE HAS BEEN CAST. CONTROL JOINTS SHALL BE PLACED AT THE CENTERLINE OF BEAM NOTCHES.

   CURB REINFORCING SHALL BE DISCONTINUOUS THROUGH CONTROL JOINTS, AS DETAILED ON THIS SHEET. DECK REINFORCING SHALL BE CONTINUOUS THROUGHOUT.

   SAWCUT 1¼" DEEP CONTROL JOINTS ALONG THE VERTICAL AND HORIZONTAL FACES OF THE CURB AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

   USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON BOTH FACES OF THE CURB. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼"

   PLACE CONTROL JOINTS AT AS SHOWN ON SHEETS 171/227 THROUGH 178/227.

   SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" OF POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S.

2. FOR BAR MARKS DENOTED BY □ □, ** OR ***, SEE SHEET 185/227.

3. DISTRIBUTED GALVANIC ZINC ANODES SHOWN ARE 6'-7" LONG ZINC RODS. INSTALLATION SHALL BE OVERSEEN BY A NACE-QUALIFIED CORROSION TECHNICIAN. SEE SHEET 16A/227 FOR DISTRIBUTED GALVANIC ZINC ANODE NOTES AND SPECIFICATIONS.

DESIGN AGENCY
Gannett Fleming
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EFD	EFD	PLC	8/12
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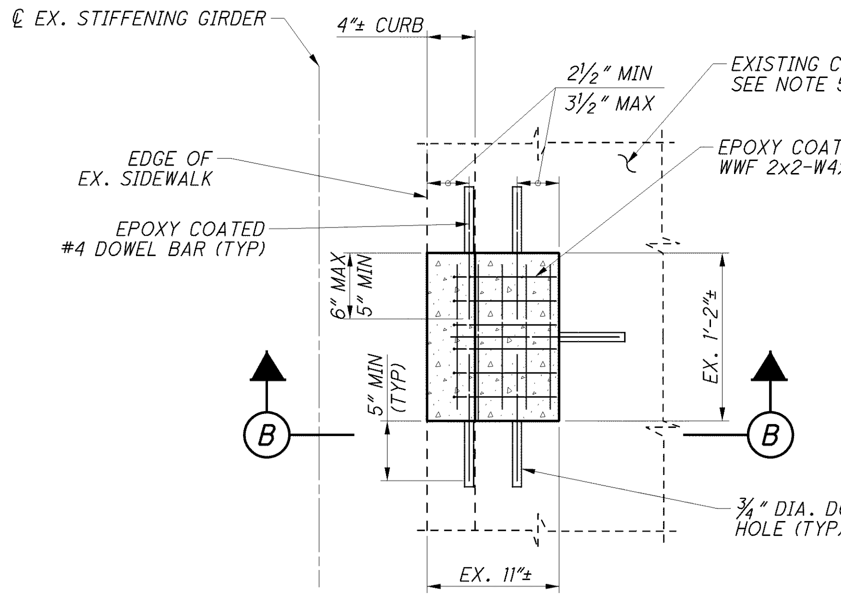
LMS		4800303	

DECK PLAN - DECK REINFORCING DETAILS 2 OF 3

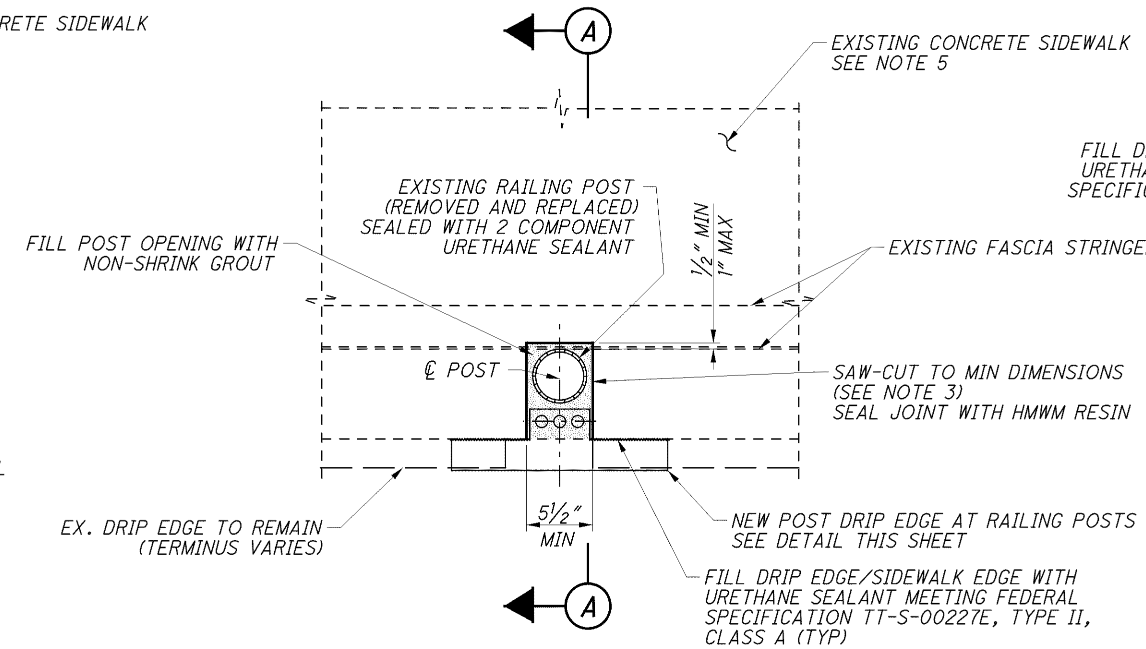
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



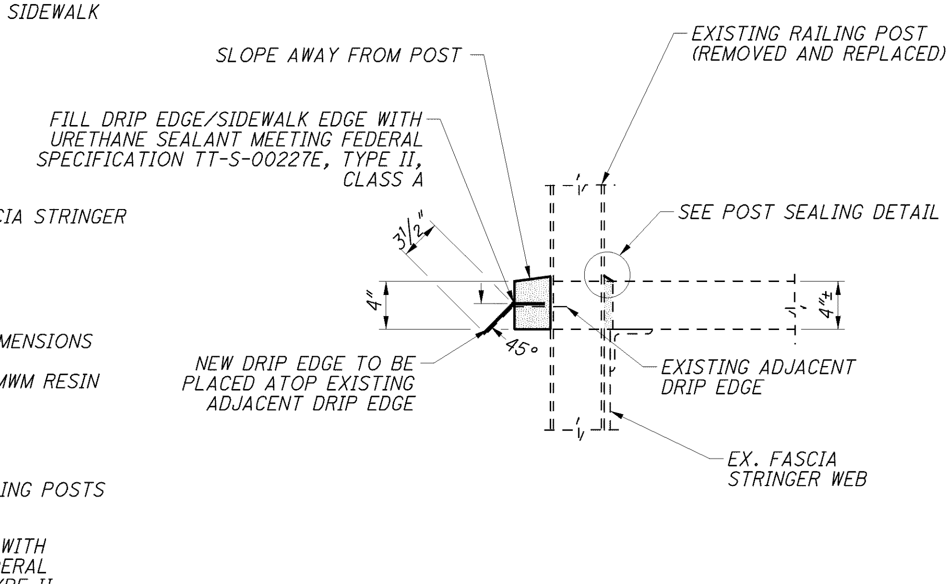
SIDEWALK REPAIR AT EXISTING LIGHT POST - PLAN

(19 LOCATIONS, SEE NOTE 2)

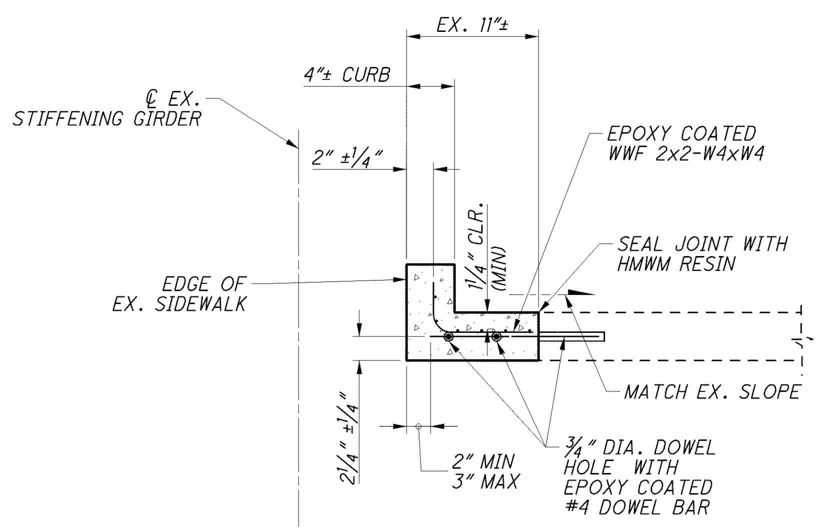


X/193 SIDEWALK REPAIR AT PEDESTRIAN RAIL POSTS

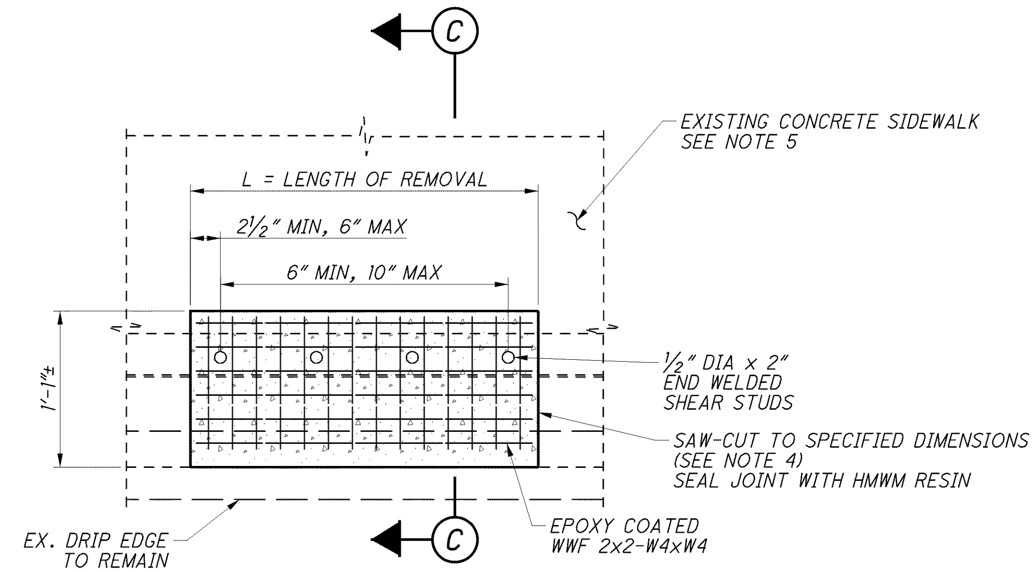
(266 LOCATIONS, SEE NOTE 3)



A SECTION

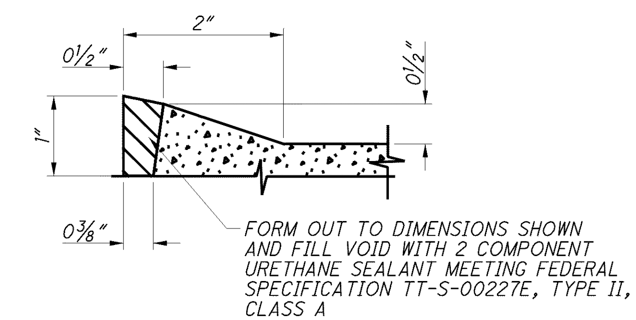


B SECTION

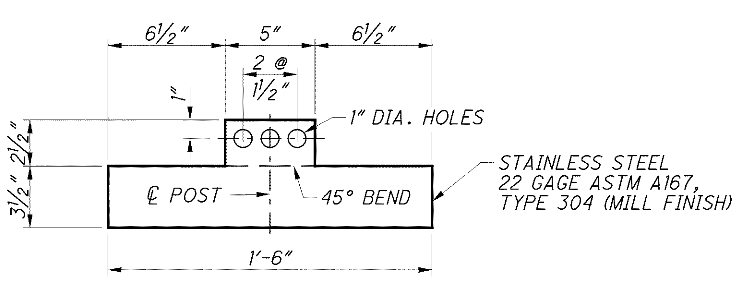


SIDEWALK EDGE REPAIR - PLAN

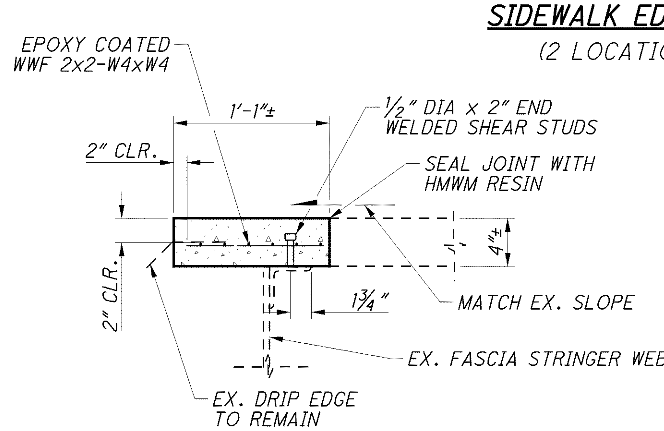
(2 LOCATIONS, SEE NOTE 4)



POST SEALING DETAIL



POST DRIP EDGE DETAIL



C SECTION

SIDEWALK REPAIR NOTES

1. SEE GENERAL NOTES FOR CUT LINE CONSTRUCTION JOINT REQUIREMENTS. SEE SHEETS 171/227 THRU 178/227 FOR SIDEWALK REPAIR LOCATIONS. SEE SHEET 16/227 FOR SIDEWALK REPAIR NOTES AND BASIS OF PAYMENT.
2. EXISTING SIDEWALK OPENINGS FOR EXISTING LIGHT POSTS VARY. SIDEWALK REPAIRS AT LIGHT POSTS SHALL BE COMPLETED AFTER ALL EXISTING LIGHT POSTS AND SUPPORT STEEL ARE REMOVED. SEE SHEET 125/227 FOR EXISTING LIGHT POST SUPPORT STEEL REMOVAL DETAILS.
3. EXISTING PEDESTRIAN RAIL POSTS MAY HAVE AN EXISTING OPENING OF VARYING WIDTH. IF EXISTING OPENING WIDTH IS 5½" OR GREATER NO SAW-CUTTING IS REQUIRED.
GROUT-FILL EXISTING OR NEW POST OPENING AFTER INSTALLATION OF NEW PEDESTRAIN RAIL POST.
4. LENGTH IS SPECIFIED WITH SIDEWALK REPAIR LOCATION. REPAIR AREA SHALL BE SAW CUT TO A NEAT LINE. IF POST IS PRESENT IN REPAIR AREA, THE POST-OPENING DETAILS OF SIDEWALK REPAIR AT PEDESTRIAN RAIL POSTS SHALL ALSO BE INCORPORATED.
5. EXISTING SLAB REINFORCING STEEL NOT SHOWN. EXISTING REINFORCING TO REMAIN AND BE CLEANED BEFORE NEW CONCRETE OR GROUT IS PLACED.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4661 EXECUTIVE PARKWAY SUITE 360 WESTERVILLE, OHIO 43081

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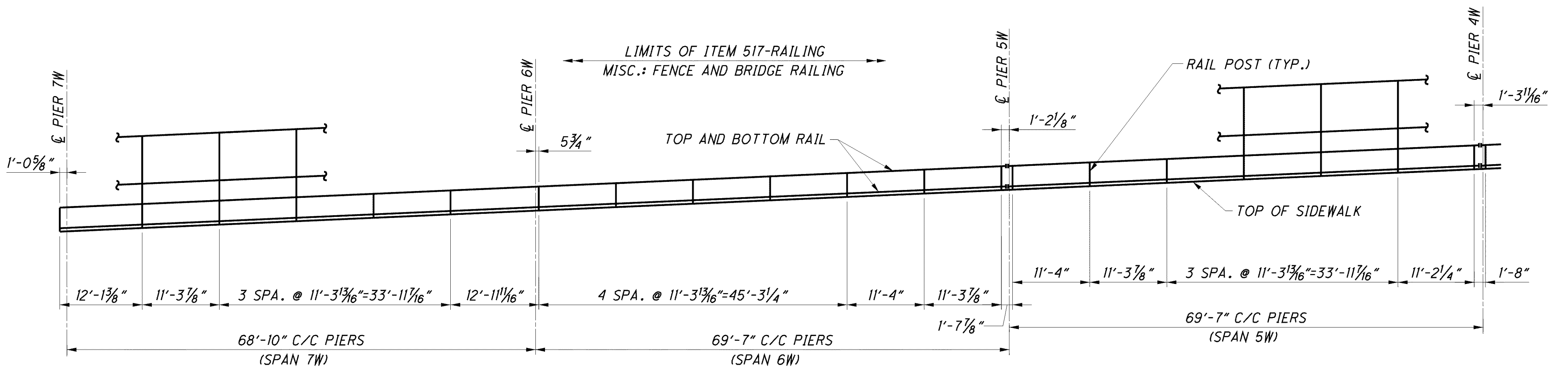
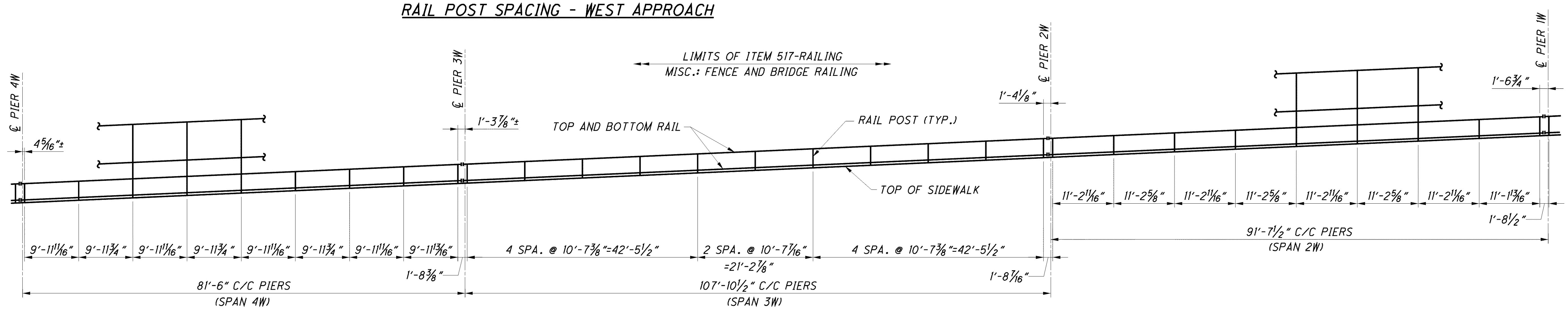
EFD	GCK/WKB	PLC	8/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEK		4800303	

DECK PLAN - SUSPENSION SPAN SIDEWALK REPAIRS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

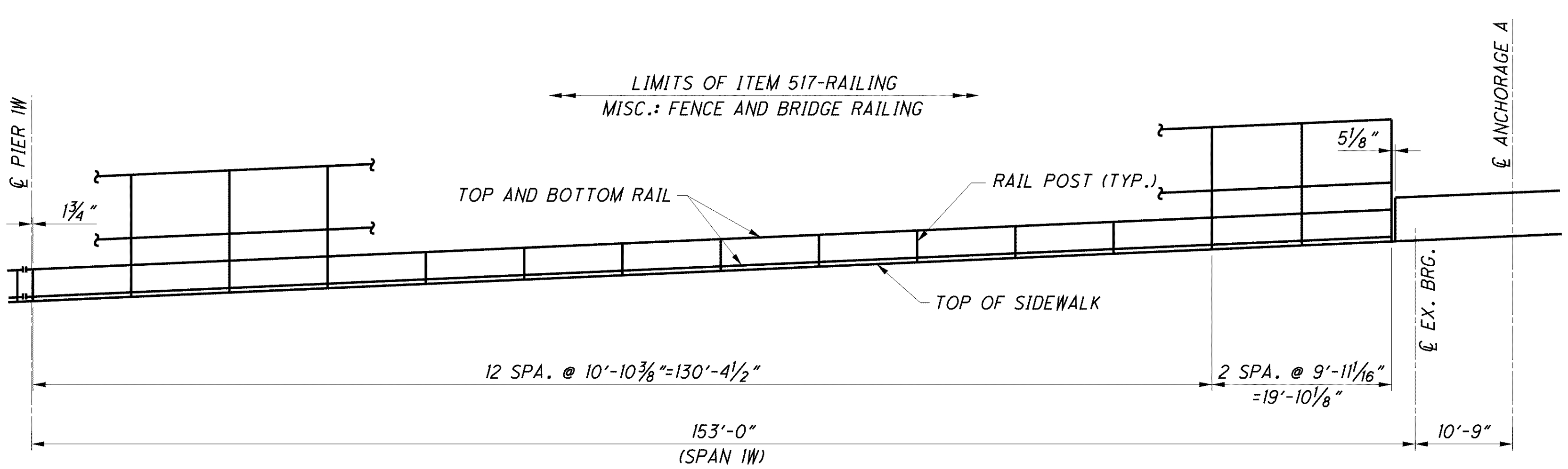
LUC-2-18.62
PID No. 80551



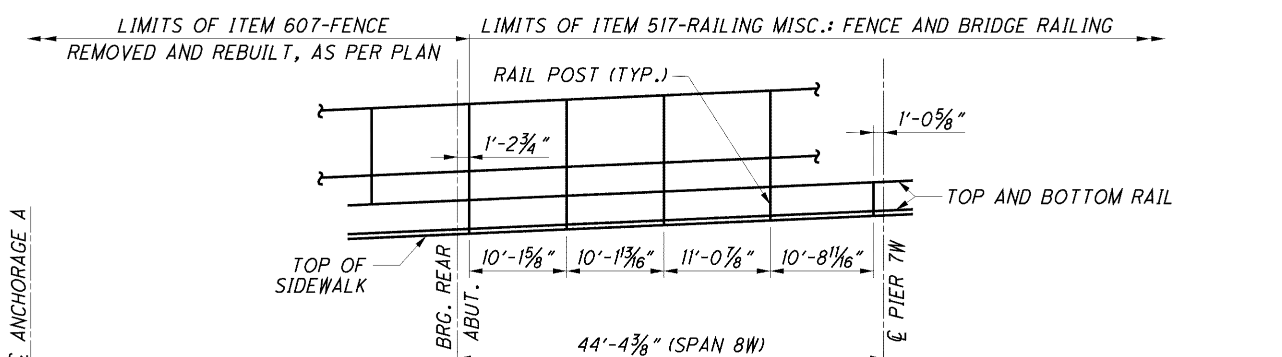
RAIL POST SPACING - WEST APPROACH



RAIL POST SPACING - WEST APPROACH

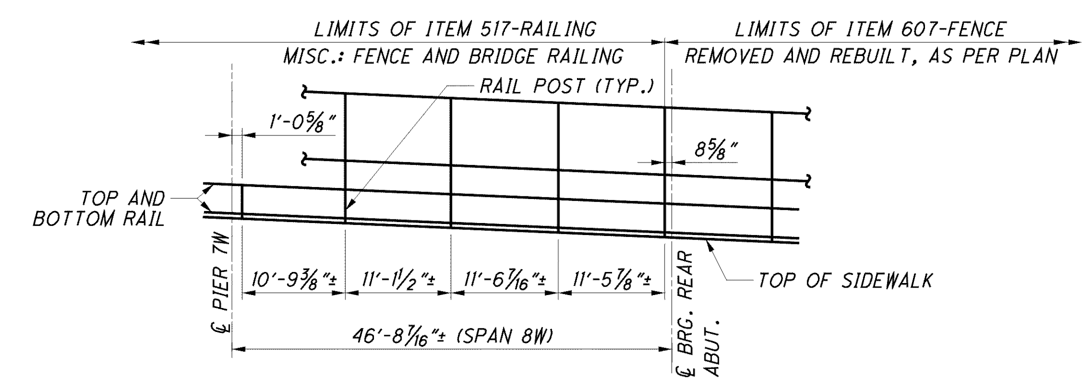


RAIL POST SPACING - WEST APPROACH



RAIL POST SPACING - WEST APPROACH

(SOUTH ELEVATION SHOWN)



RAIL POST SPACING - WEST APPROACH

(NORTH ELEVATION SHOWN)

NOTES:

1. RAIL POST SPACING IS BASED ON THE ORIGINAL SHOP DRAWINGS. RAIL POST SPACING SHALL BE VERIFIED PRIOR TO ANY WORK BEING PERFORMED. DIMENSIONS ARE MEASURED HORIZONTALLY ALONG ORIGINAL WORK LINE 10 1/2" ABOVE BOTTOM OF SIDEWALK STRINGER.
2. FOR RAILING DETAILS SEE SHEET 191/227 .
3. FOR EAST APPROACH RAILING ERECTION DIAGRAM SEE SHEET 190/227 .

DESIGN AGENCY
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ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
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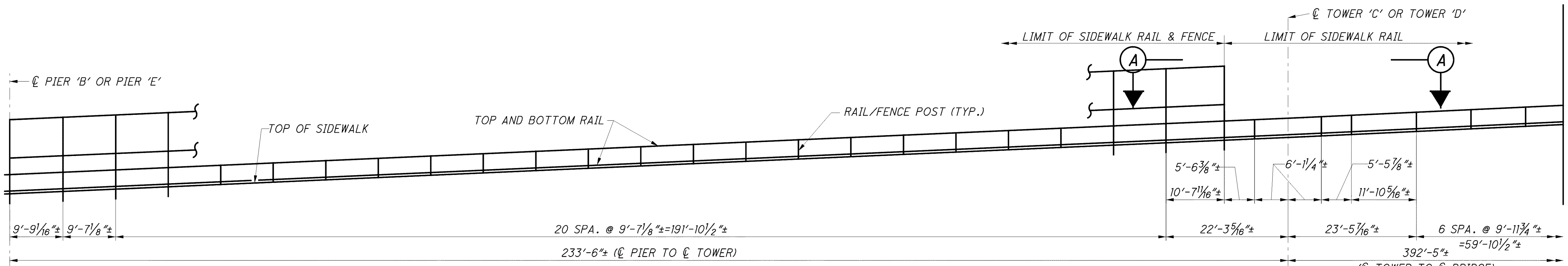
DESIGNED	DRAWN	REVIEWED	DATE
AJM	CAF	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

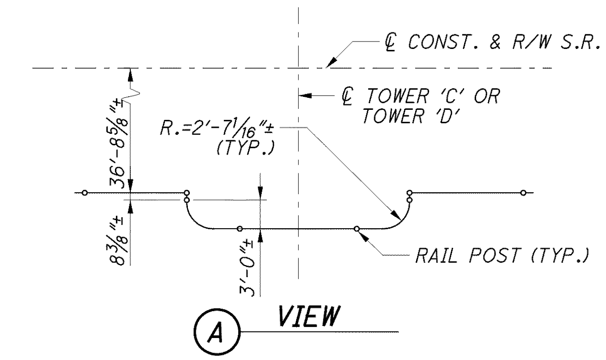
RAILING DETAILS - WEST APPROACH
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

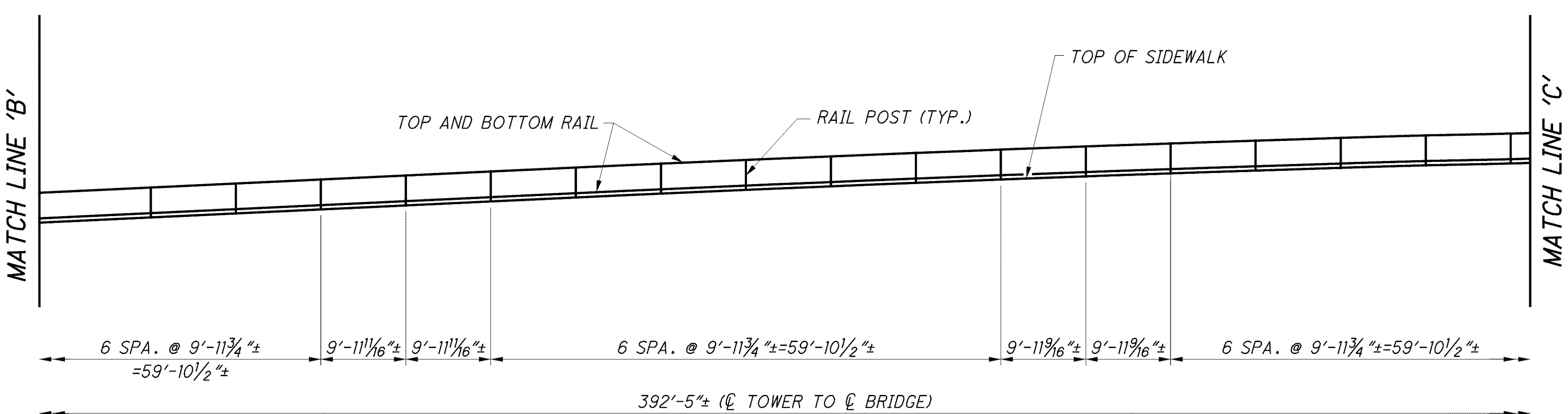


EXISTING AND NEW RAIL POST SPACING - WEST SUSPENSION

(SOUTH ELEVATION OF SUSPENSION SPANS SHOWN, NORTH ELEVATION OF SUSPENSION SPANS SIMILAR)

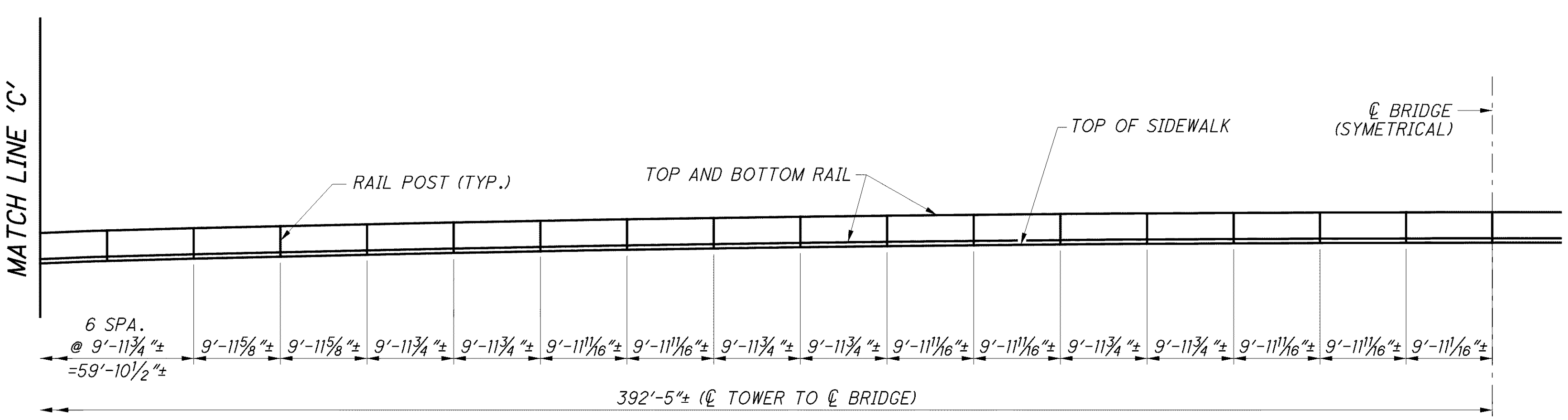


A VIEW



EXISTING AND NEW RAIL POST SPACING - WEST SUSPENSION

(SOUTH ELEVATION OF SUSPENSION SPANS SHOWN, NORTH ELEVATION OF SUSPENSION SPANS SIMILAR)



EXISTING AND NEW RAIL POST SPACING - WEST SUSPENSION

(SOUTH ELEVATION OF SUSPENSION SPANS SHOWN, NORTH ELEVATION OF SUSPENSION SPANS SIMILAR)

NOTES:

1. EXISTING RAIL POST SPACING IS BASED ON THE ORIGINAL SHOP DRAWINGS. RAIL POST SPACING SHALL BE VERIFIED PRIOR TO ANY WORK BEING PERFORMED. DIMENSIONS ARE MEASURED HORIZONTALLY ALONG ORIGINAL WORK LINE 10½"± ABOVE BOTTOM OF SIDEWALK STRINGER.
2. FOR RAILING DETAILS SEE SHEET 191/227.
3. FOR WEST APPROACH RAILING ERECTION DIAGRAM SEE SHEET 188/227. FOR EAST APPROACH RAILING ERECTION DIAGRAM SEE SHEET 190/227.
4. FOR DETAILS OF POST & FENCE REPLACEMENT AND RAILING INSTALLATION, SEE SHEET 193/227.

   FOR SIDEWALK REPAIR DETAILS AT POST REPLACEMENT LOCATIONS, SEE SHEET 187/227.

DESIGN AGENCY
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GF	ARC	PLC	8/12
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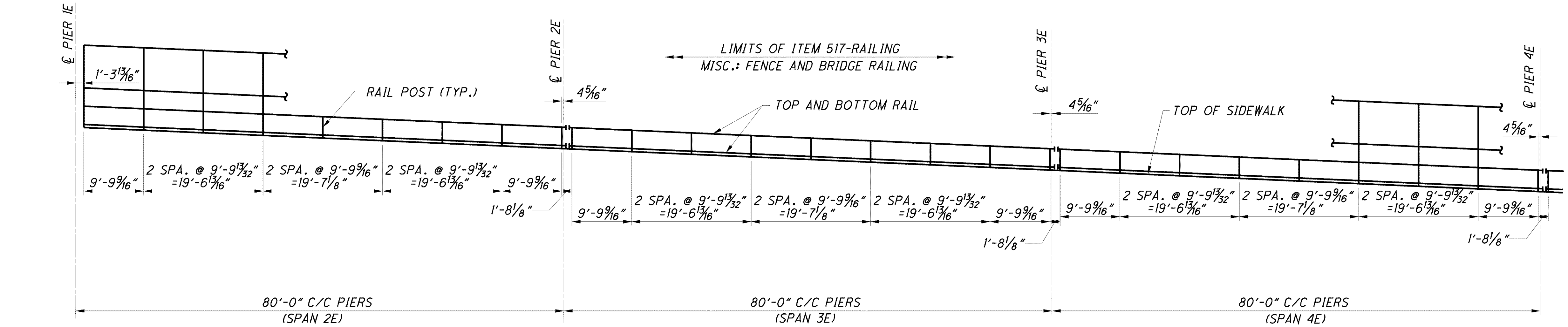
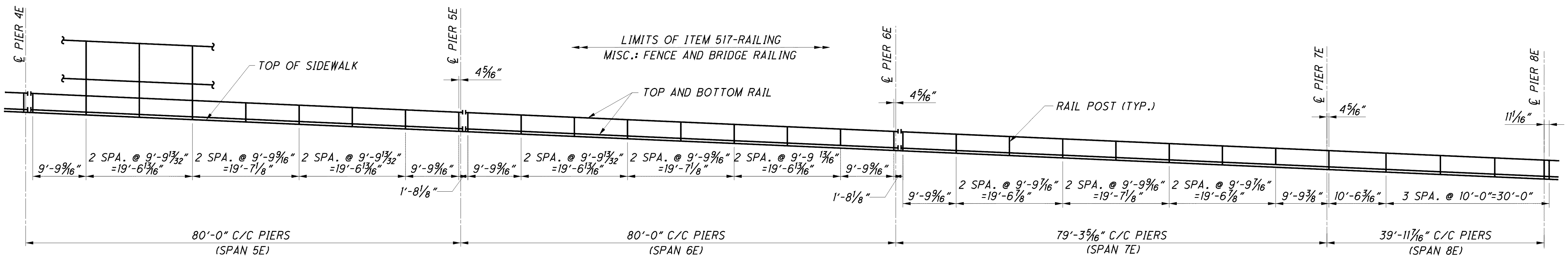
RAILING DETAILS - WEST AND EAST SUSPENSION SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

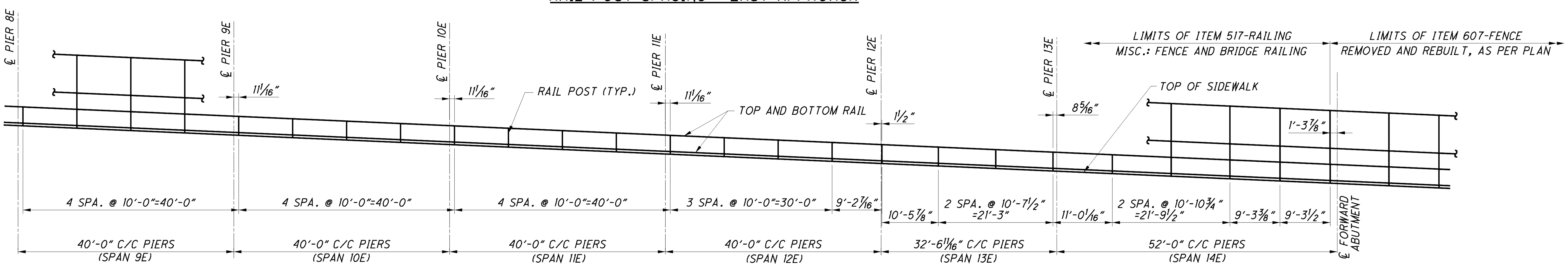
pw:\\...gfpw01\80551\structures\LUC002_1862C...\dms71870\002_1862CRA202.dgn PLOT: 10/18/2012 @ 10:00:44 PM BY: edues



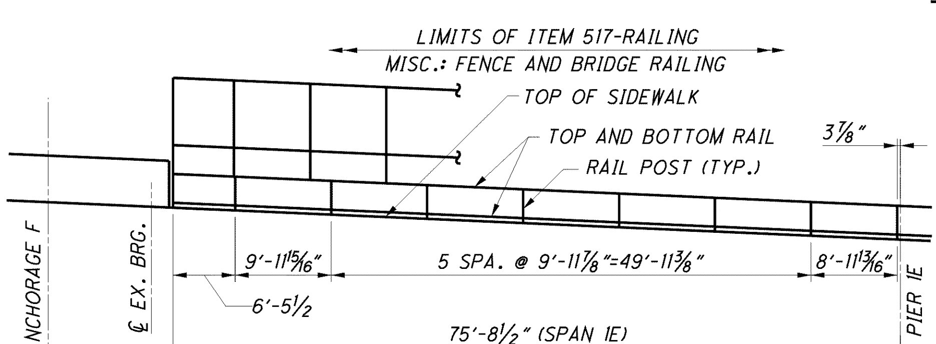
RAIL POST SPACING - EAST APPROACH



RAIL POST SPACING - EAST APPROACH



RAIL POST SPACING - EAST APPROACH

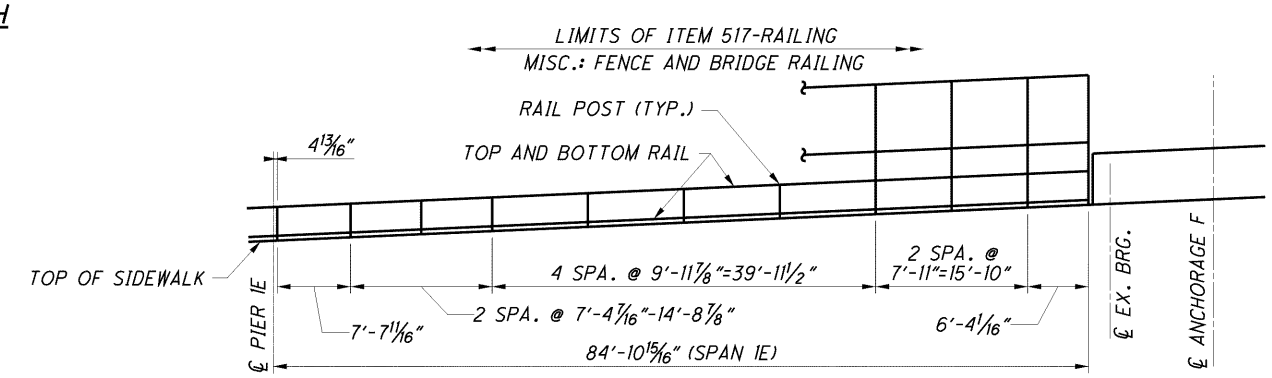


RAIL POST SPACING - EAST APPROACH

(NORTH ELEVATION SHOWN)

NOTES:

1. FOR ADDITIONAL NOTES SEE SHEET $\boxed{188}\boxed{227}$.



RAIL POST SPACING - EAST APPROACH

(SOUTH ELEVATION SHOWN)

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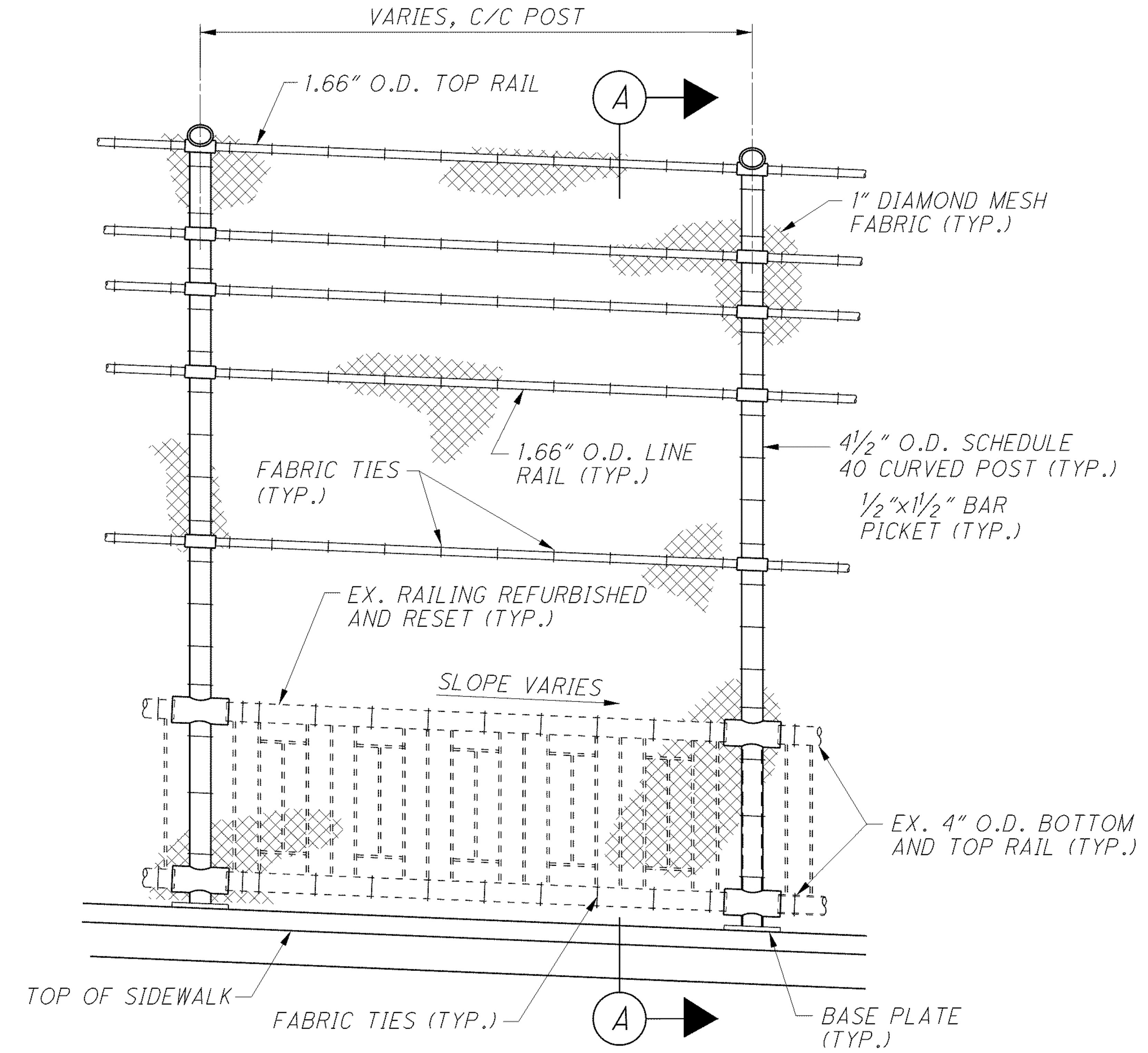
RAILING DETAILS - EAST APPROACH
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

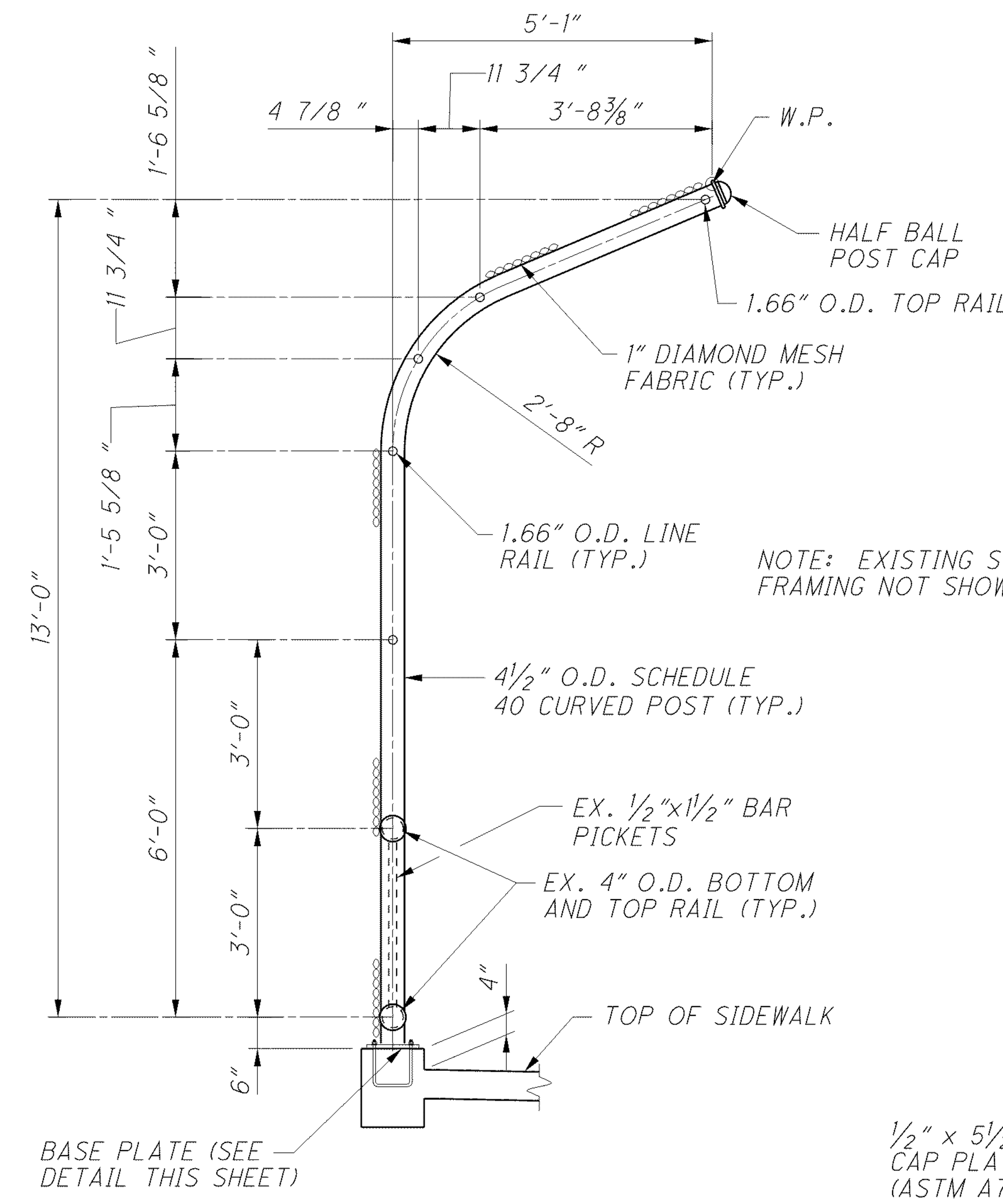
LUC-2-18.62
PID No. 80551

190/227

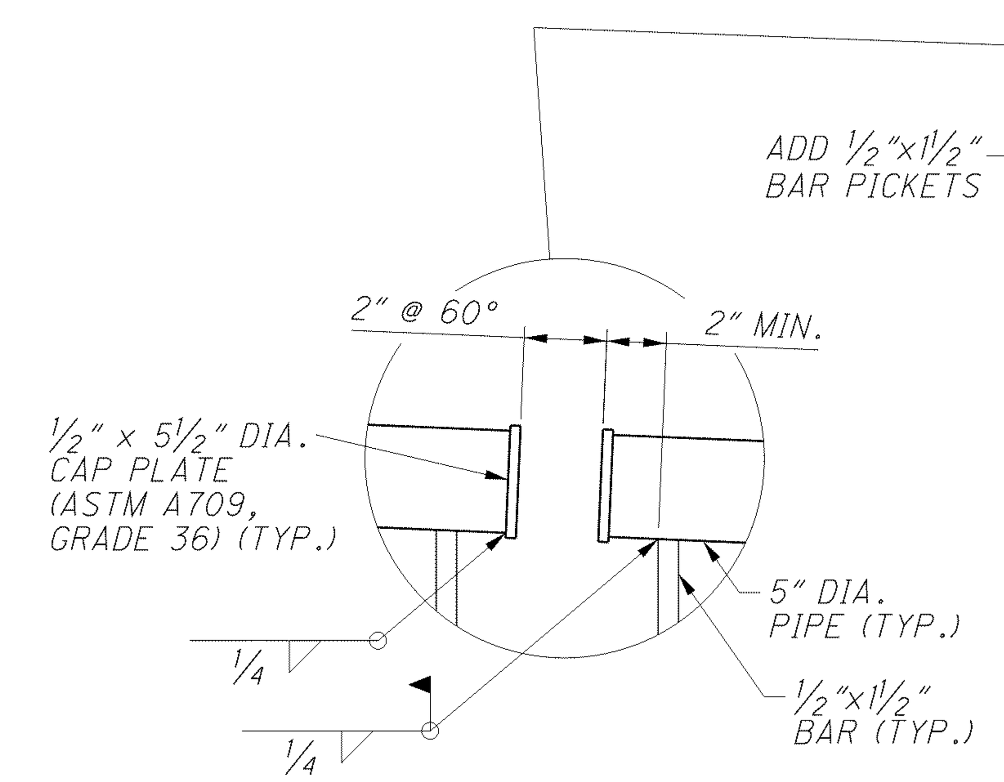
262/327



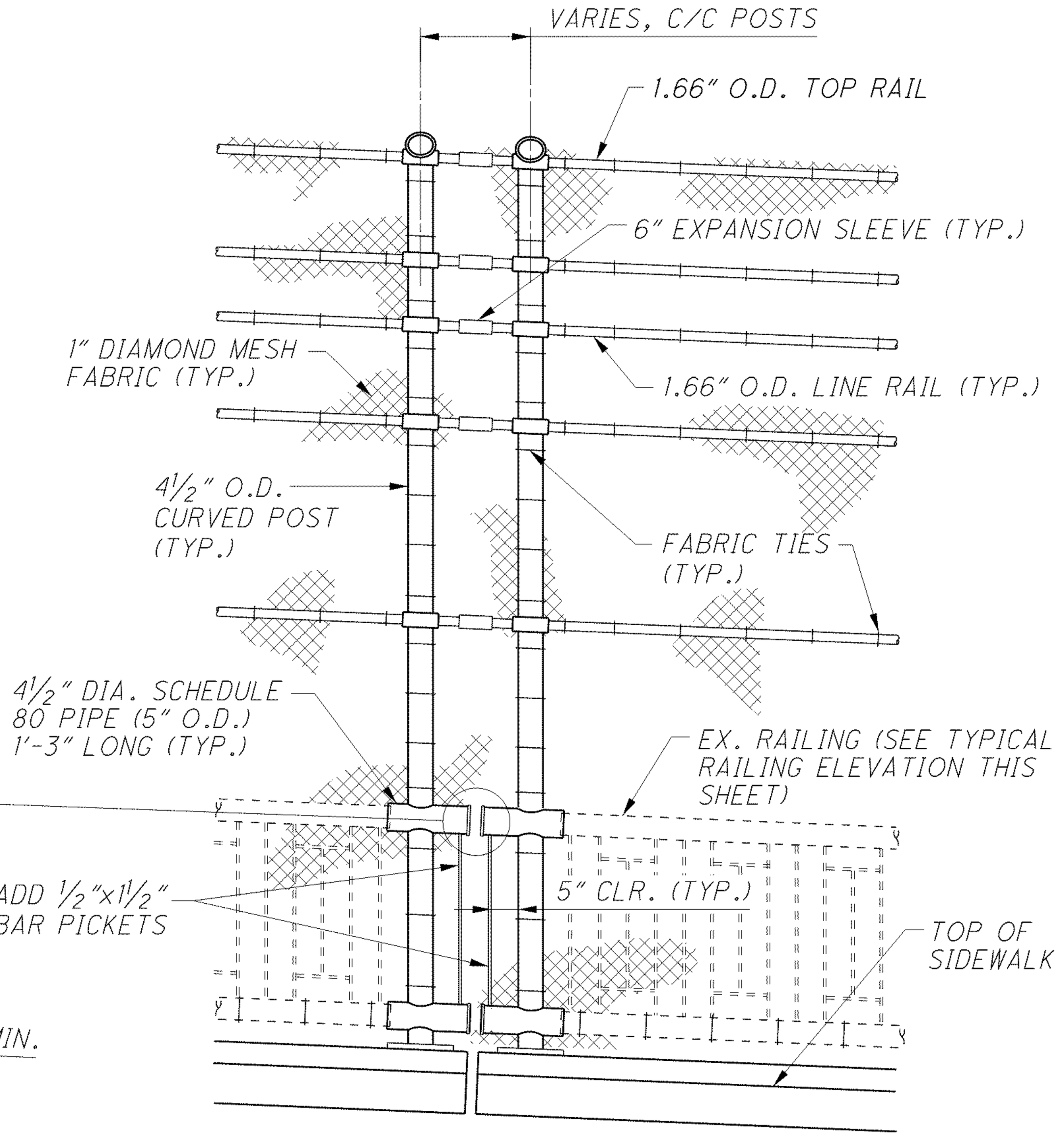
TYPICAL FENCE ELEVATION



A TYPICAL FENCE POST SECTION



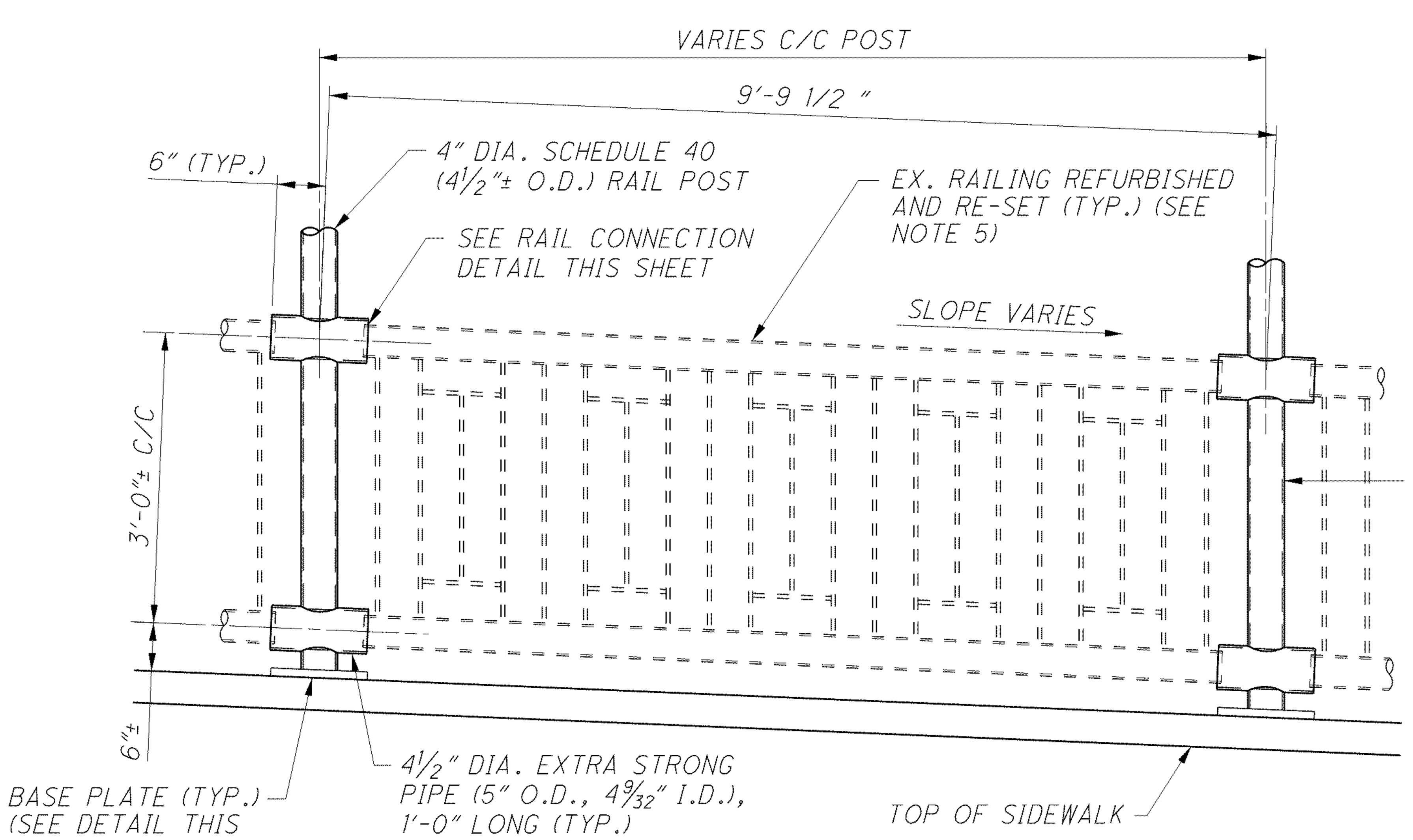
NOTE: TOP RAIL SHOWN, BOTTOM RAIL SIMILAR



TYPICAL EXPANSION JOINT ELEVATION

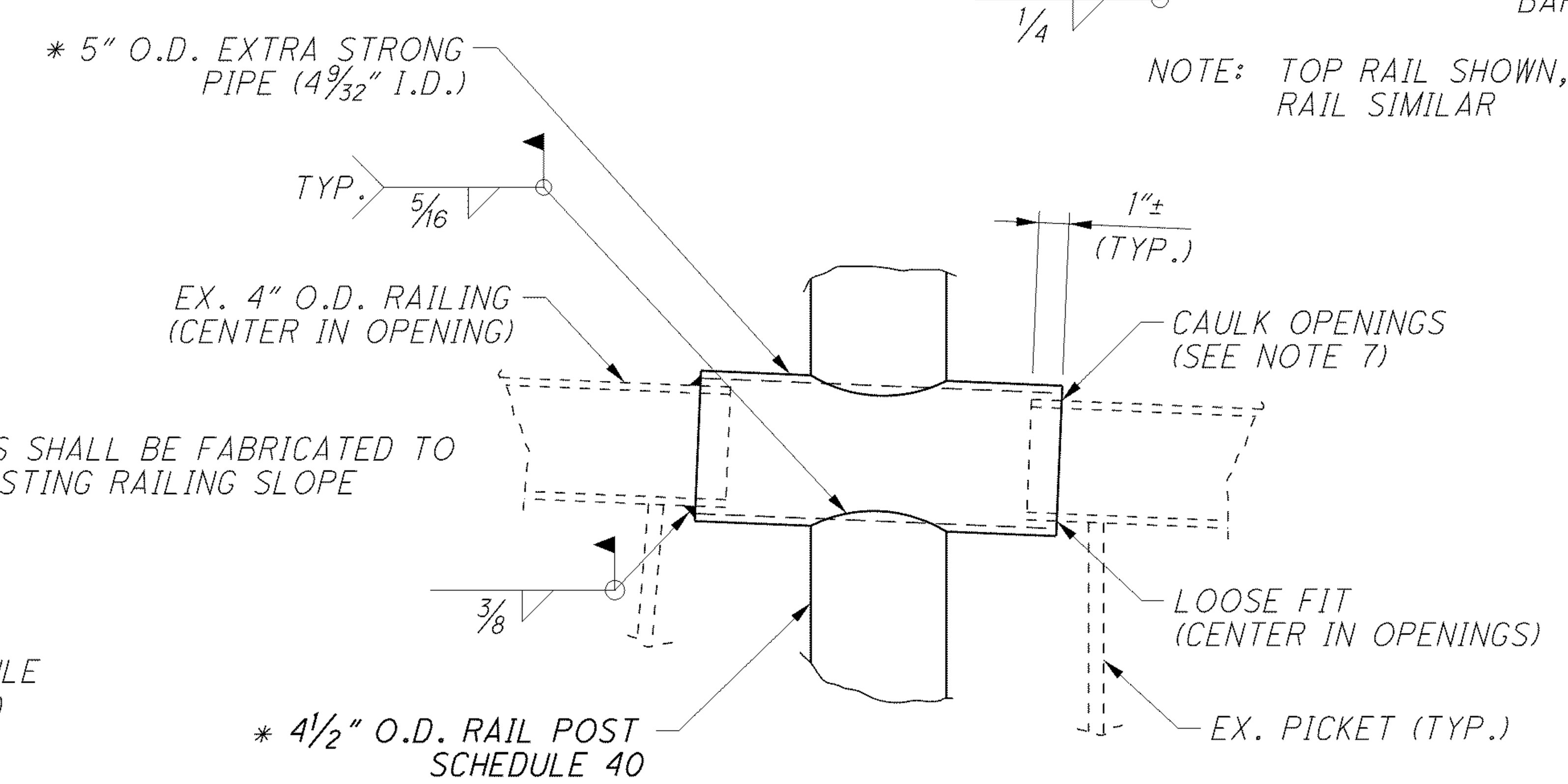
NOTES:

1. FOR WEST APPROACH RAILING ERECTION DIAGRAM SEE SHEET 188/227 .
2. FOR EAST APPROACH RAILING ERECTION DIAGRAM SEE SHEET 190/227 .
3. FOR FENCE DETAILS NOT SHOWN AND ADDITIONAL NOTES, SEE O.D.O.T. STANDARD DRAWING VPF-1-90 SHEETS 1 THRU 7.
4. FOR ADDITIONAL FENCE DETAILS SEE SHEET 192/227 .
5. FOR DETAILS OF THE EXISTING RAILING TO BE REFURBISHED, SEE SHEET 57/227 .
6. THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRE, NUTS, BOLTS, CAULK AND ANY VISUAL HARDWARE SHALL BE FS-595-16440 (GREY).
7. CAULK SHALL COMPLY WITH FEDERAL SPECIFICATION TT-S-00230 C, TYPE 2, CLASS A. INCLUDE WITH ITEM 517 FOR PAYMENT.

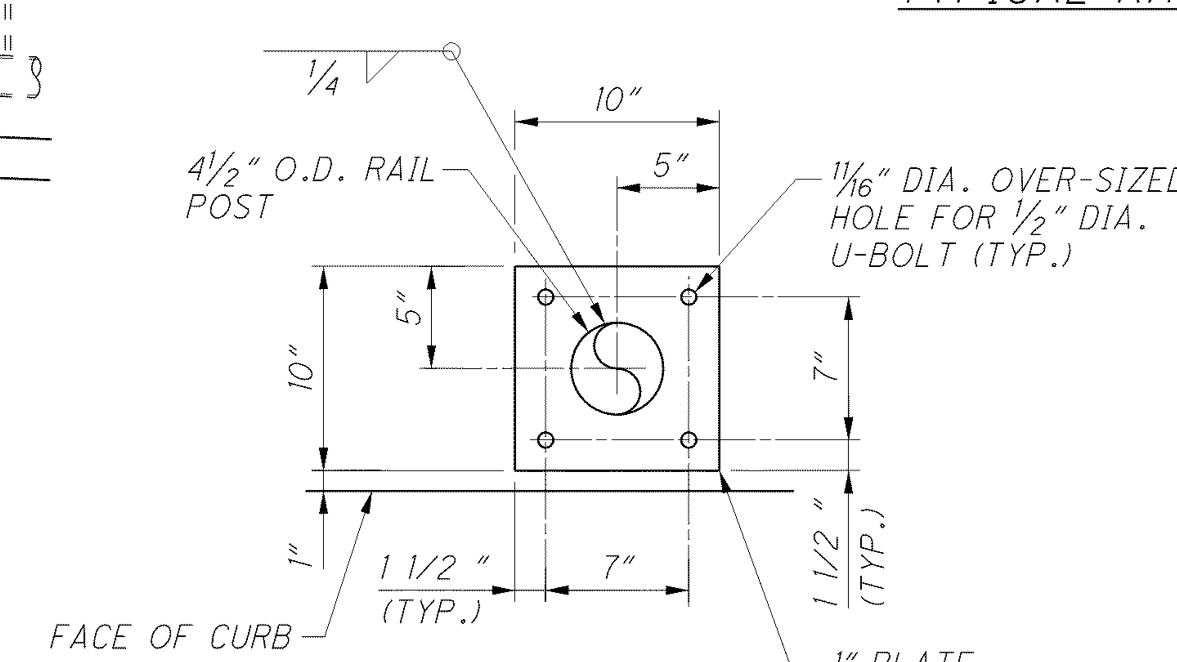


TYPICAL PROPOSED RAILING ELEVATION

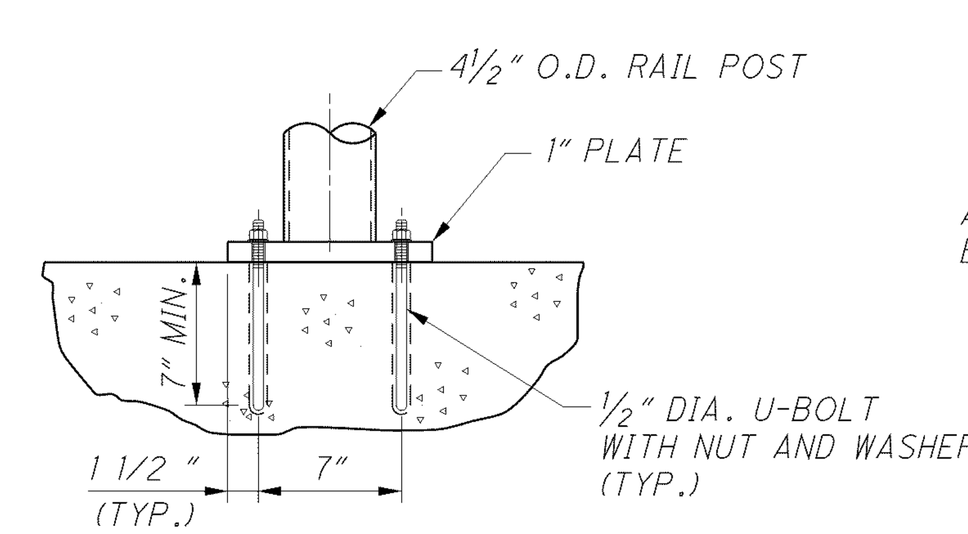
* NEW POSTS SHALL BE FABRICATED TO MATCH EXISTING RAILING SLOPE



TYPICAL RAIL CONNECTION DETAIL

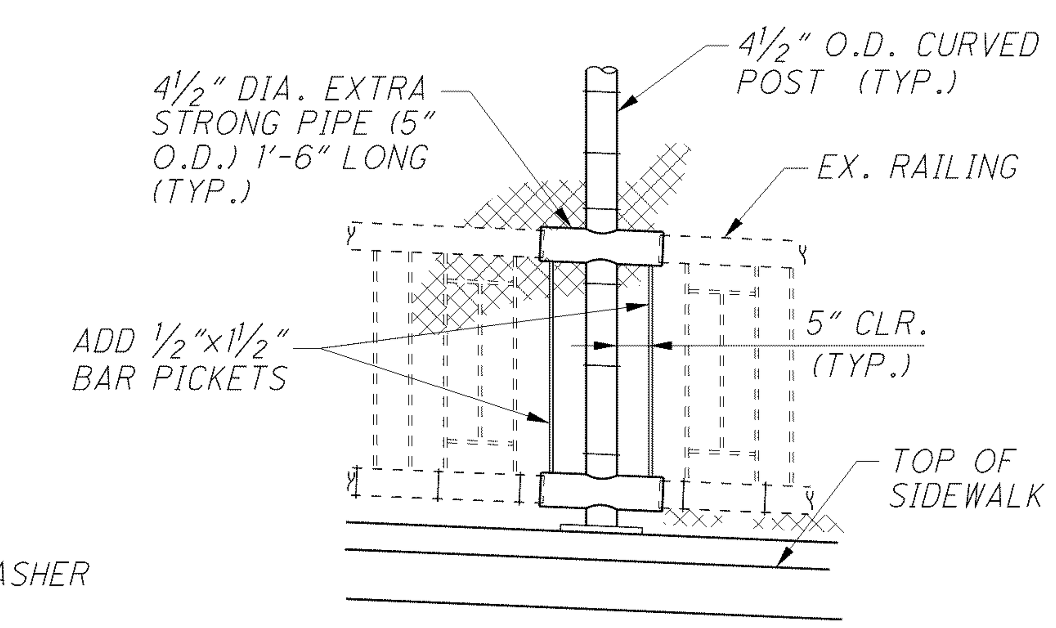


PLAN



ELEVATION

BASE PLATE DETAILS



TYPICAL ELEVATION AT OLD LIGHT POST

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
AJM	CAF	RBB	10/12
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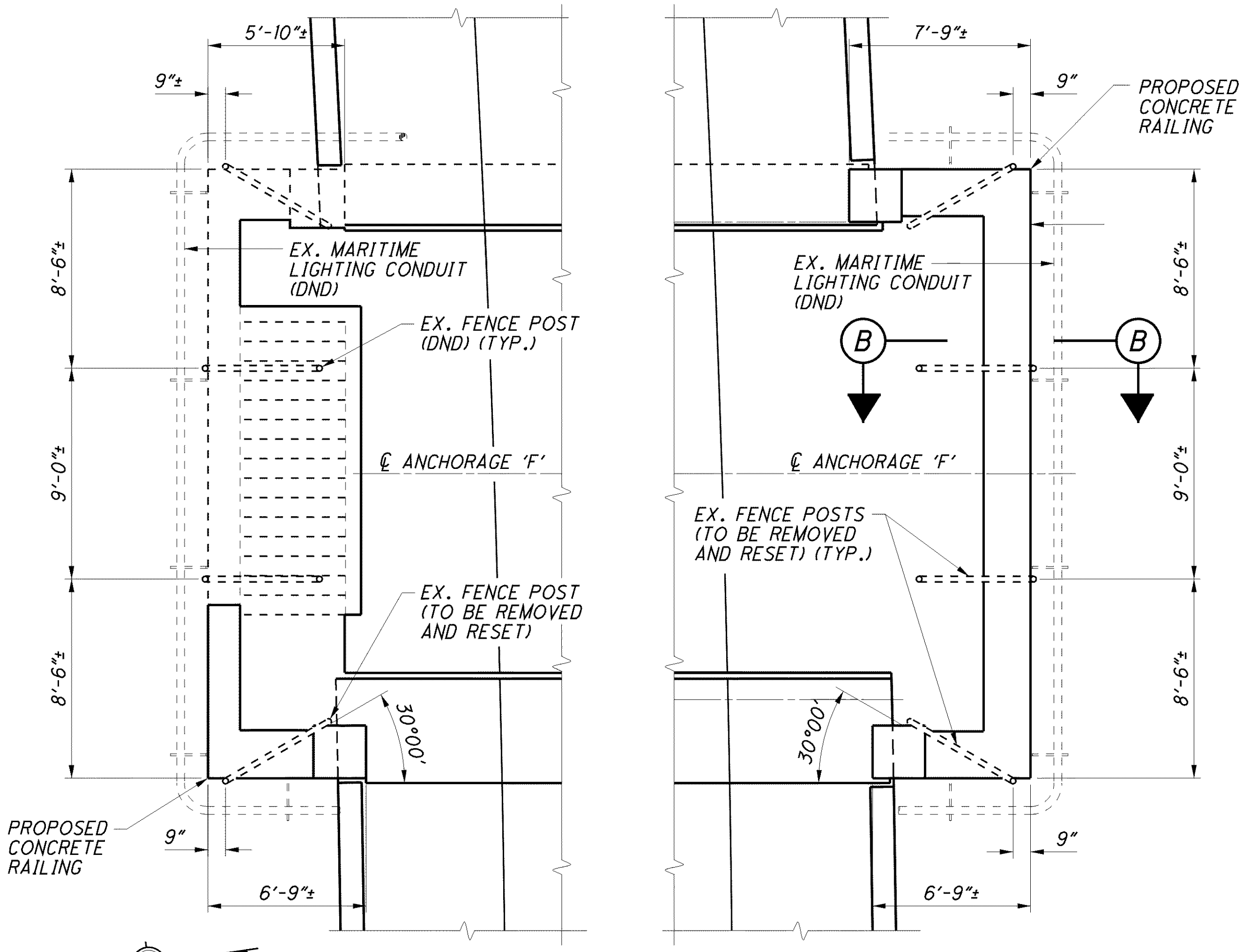
CMD		4800303	

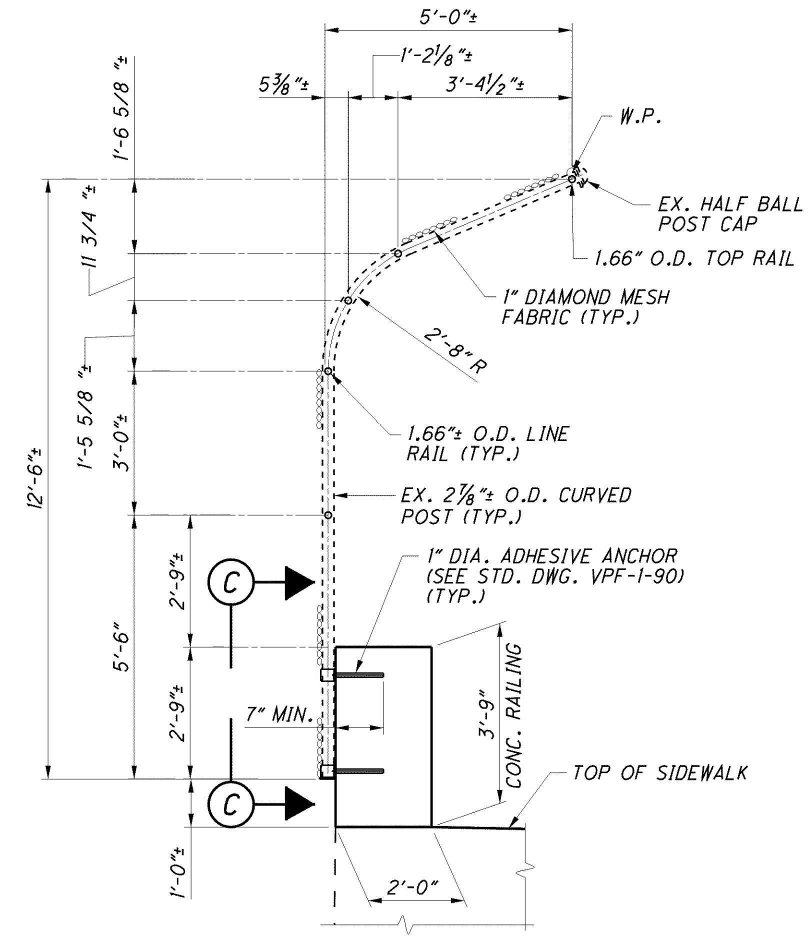
APPROACH RAILING DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



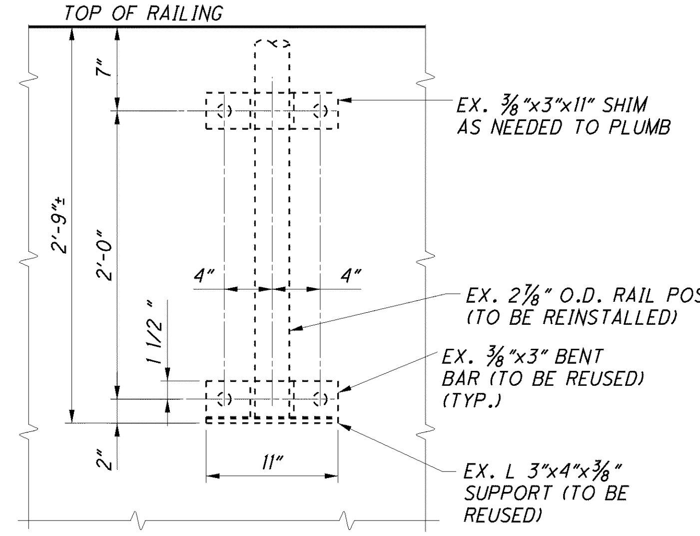
FENCE PLAN AT ANCHORAGE 'F'

(ANCHORAGE 'A' SEE NOTE 1)

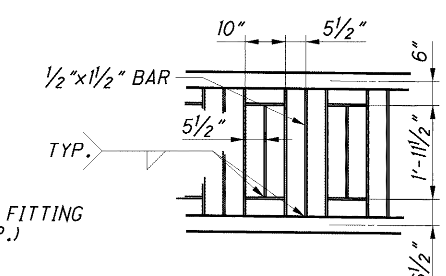


(B) SECTION

(SEE NOTE 5)



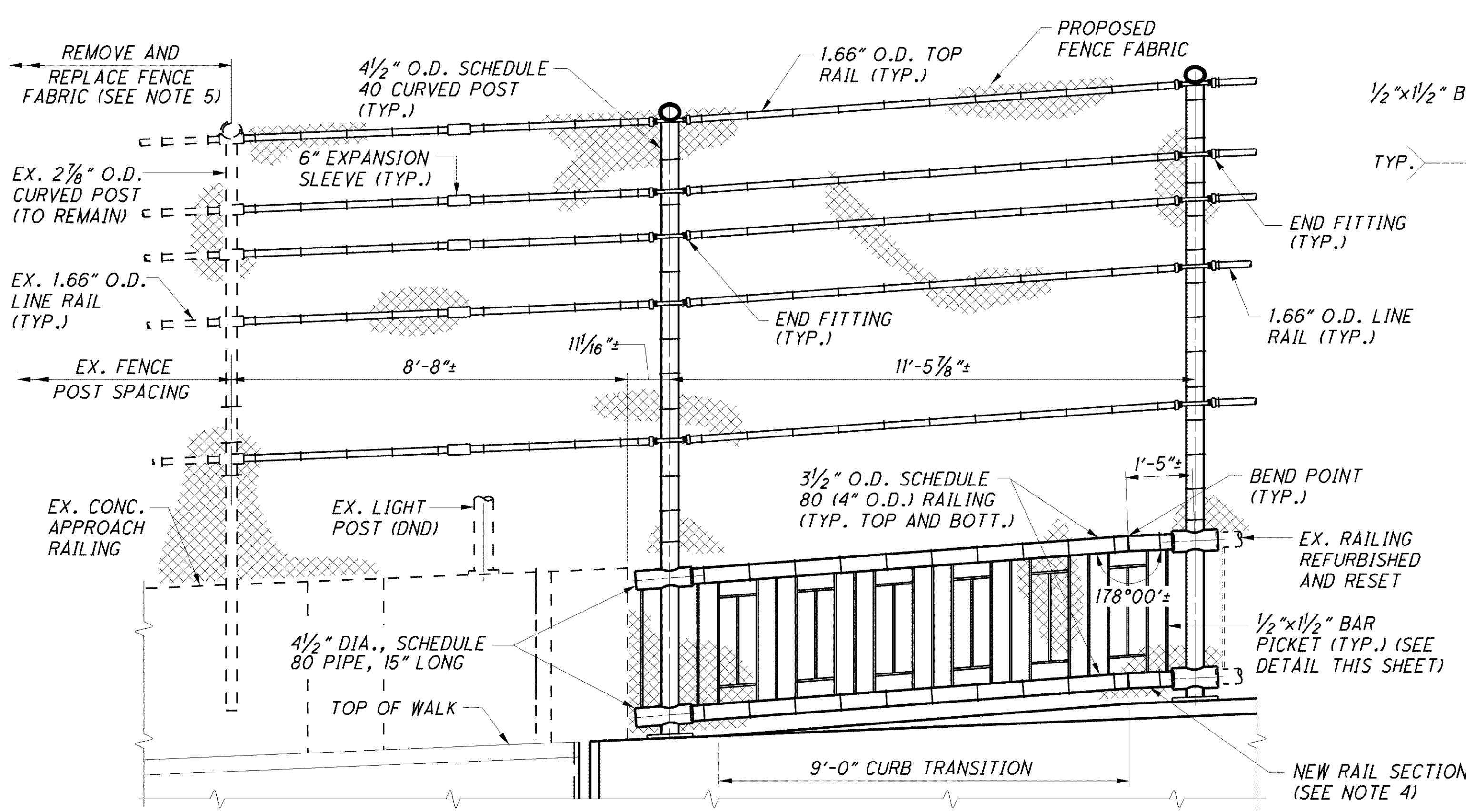
(C) VIEW



PICKET DETAIL

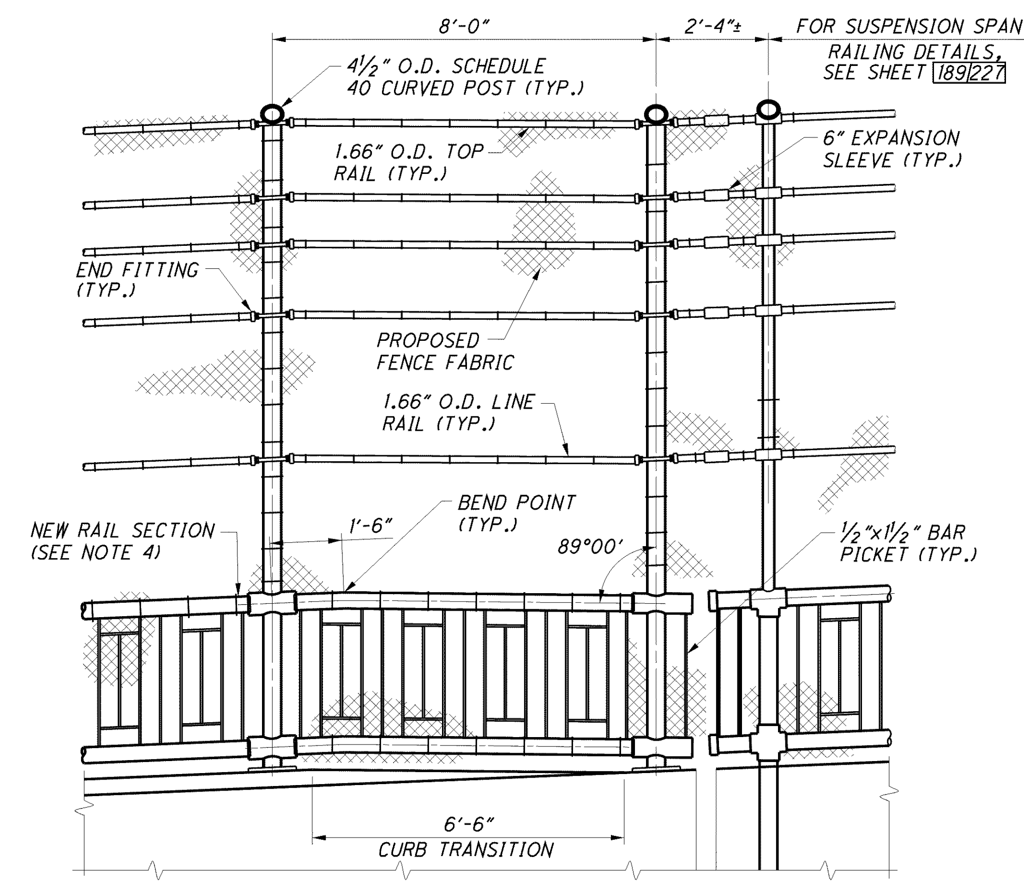
NOTES:

1. EXISTING FENCE POSTS AND LINE RAILS AT ANCHORAGE 'A' SHALL REMAIN IN PLACE. THE EXISTING FENCE FABRIC SHALL BE REPLACED. INCLUDE WITH ITEM 607, FENCE REMOVED AND REBUILT, AS PER PLAN.
2. FOR PROPOSED CONCRETE RAILING DETAILS SEE SHEET 73/227.
3. FOR ADDITIONAL FENCE DETAILS AND NOTES SEE SHEET 191/227 .
4. NEW RAILING SECTIONS TO BE INCLUDED WITH ITEM 517, RAILING, MISC.: FENCE AND BRIDGE RAILING.
5. THE REMOVAL AND RESETTING OF FENCE POSTS AND THE REMOVAL AND REPLACEMENT OF THE FENCE FABRIC SHALL BE INCLUDED WITH ITEM 607, FENCE REMOVED AND REBUILT, AS PER PLAN.



ELEVATION AT END APPROACH

(NORTHWEST CORNER SHOWN, OTHERS SIMILAR)



ELEVATION AT SUSPENSION END

(LEFT SIDE PIER B SHOWN, OTHERS SIMILAR)

DESIGN AGENCY
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AJM	CAF	RBB	10/12
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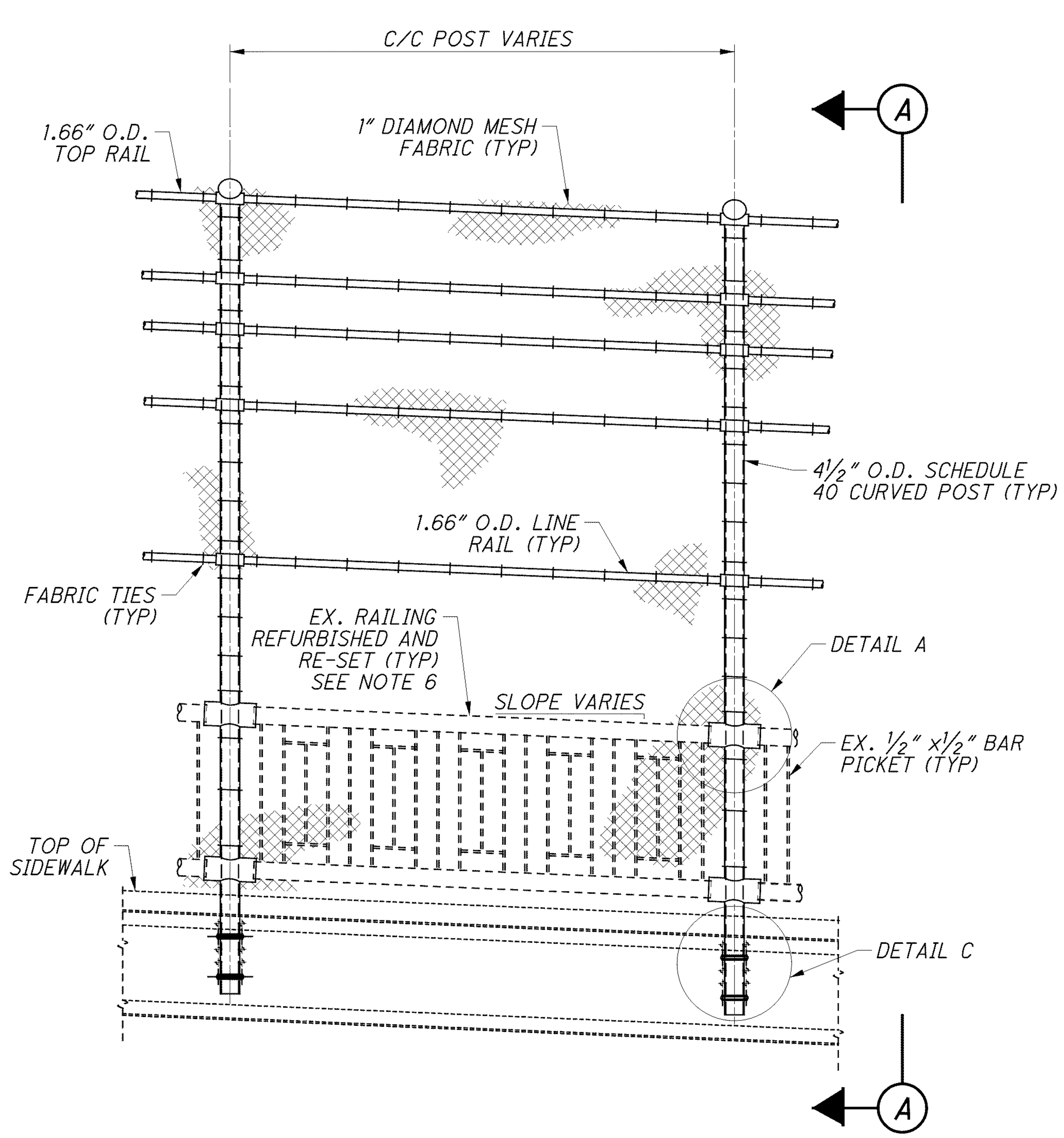
RAILING DETAILS

BRIDGE NO. LUC - 2 - 1862

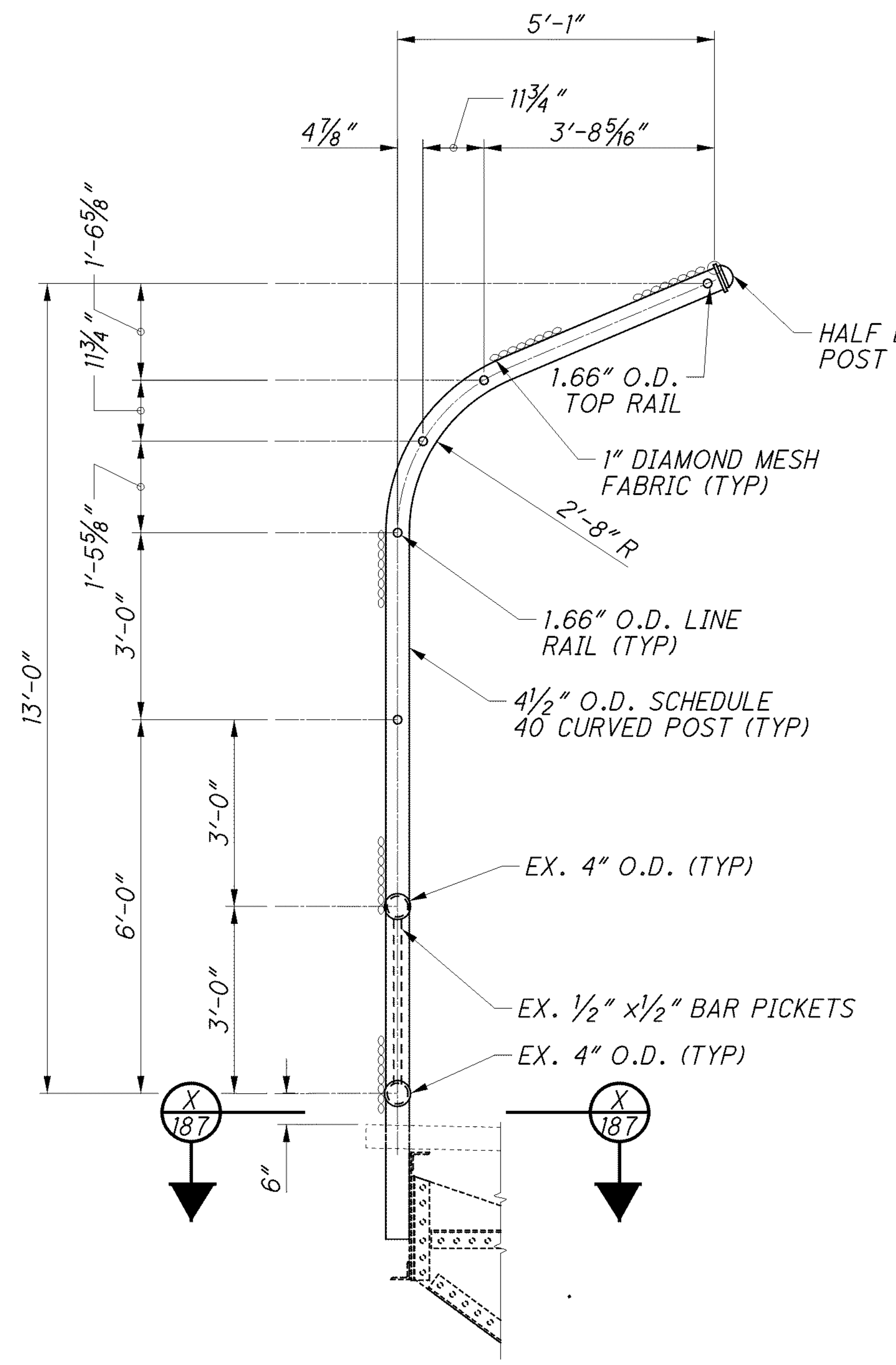
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62

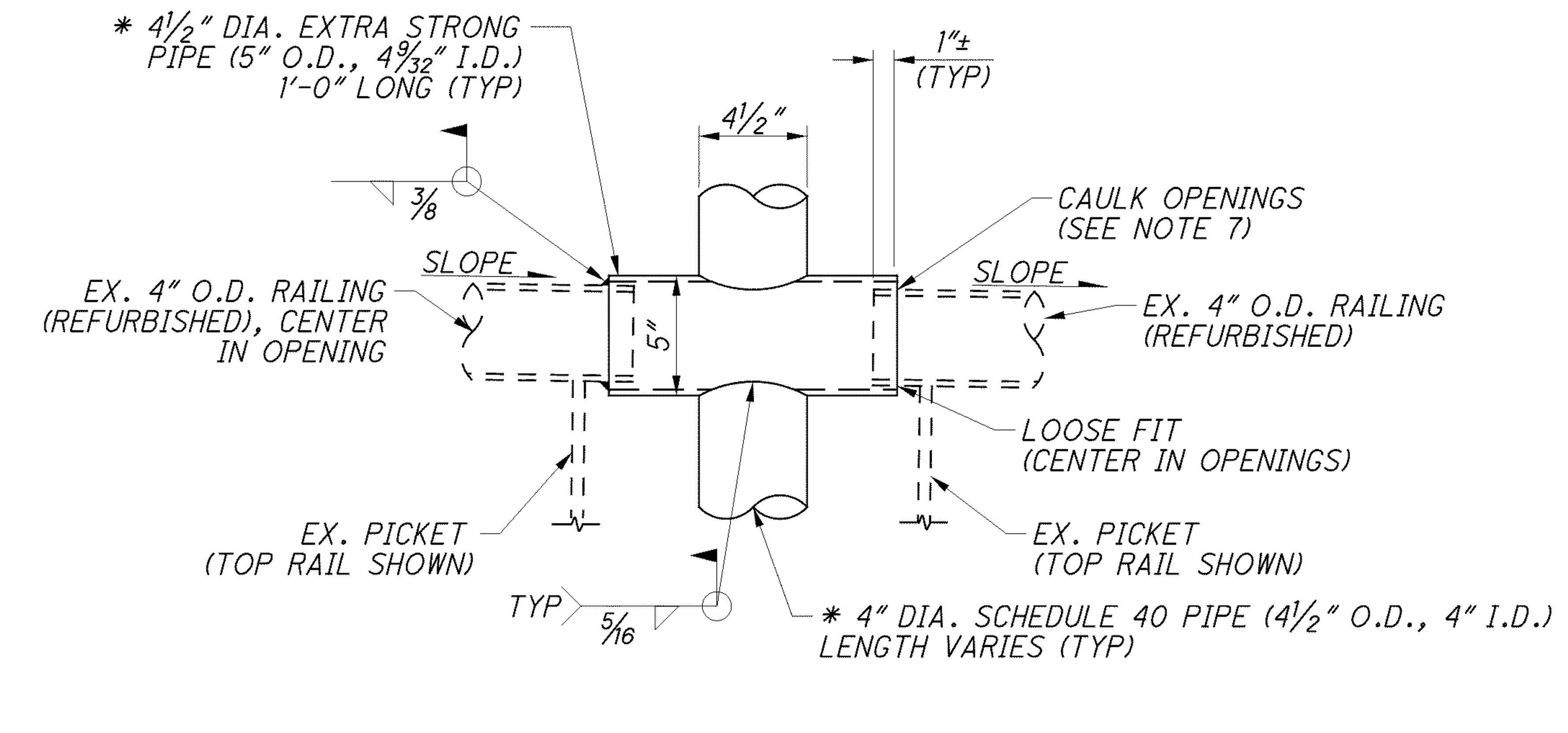
PID No. 80551



TYPICAL PROPOSED FENCE AND RAILING ELEVATION

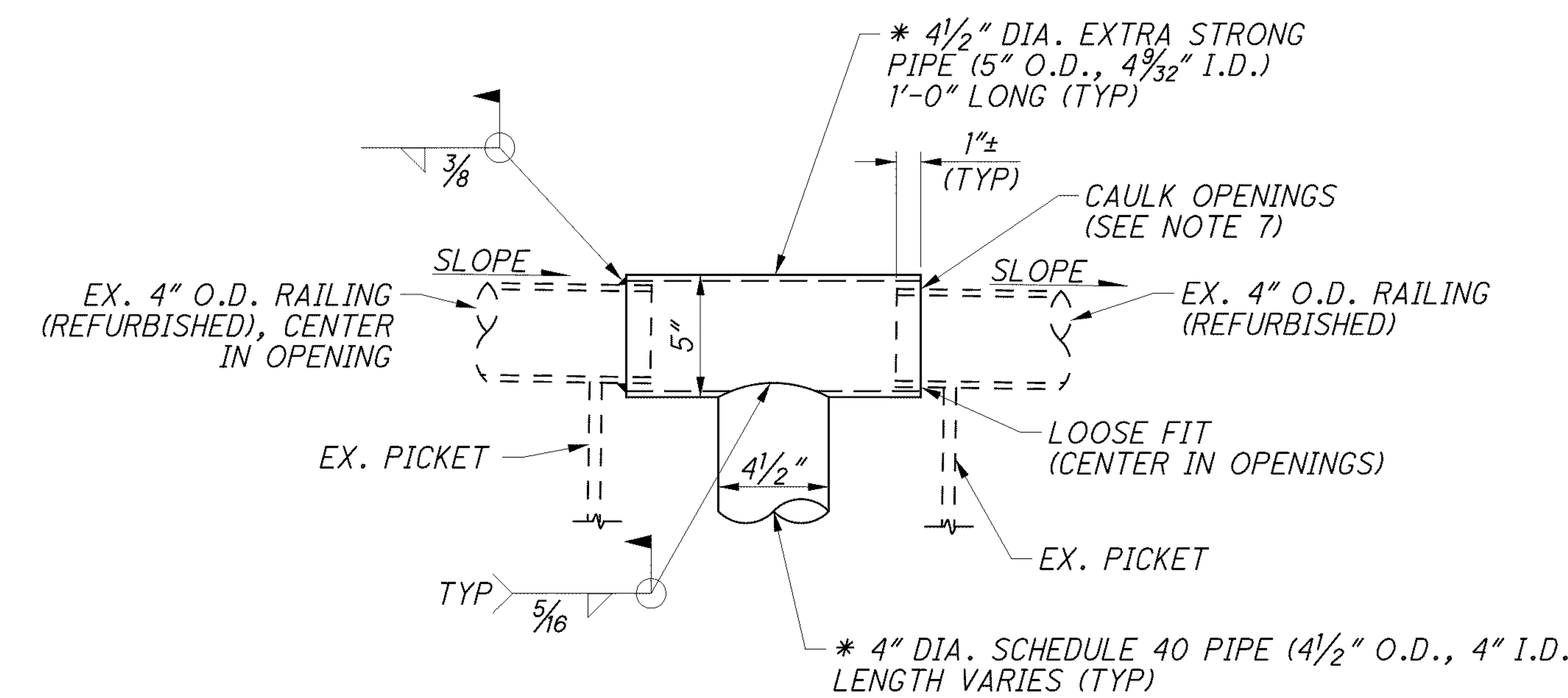


A SECTION

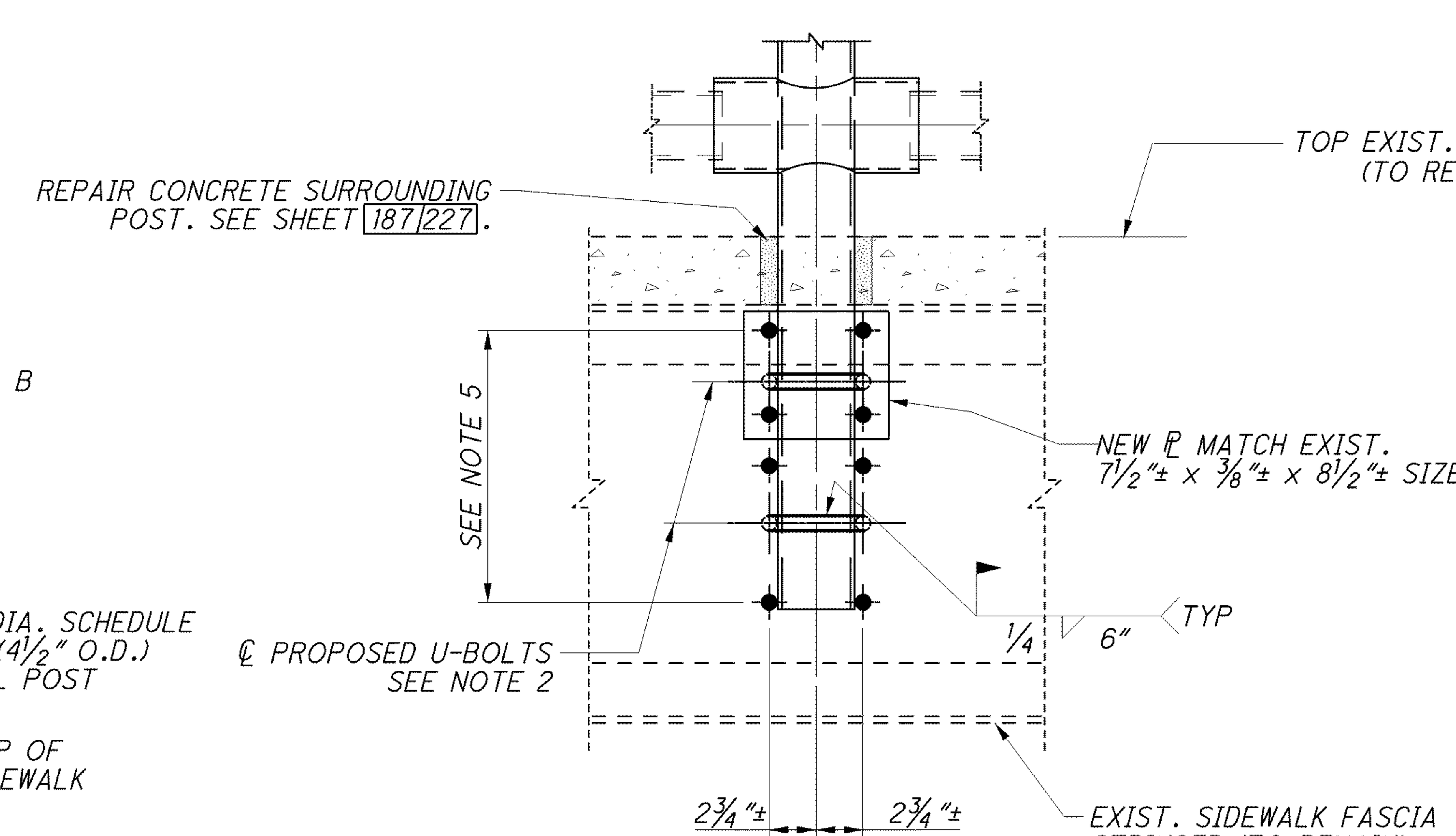


A DETAIL

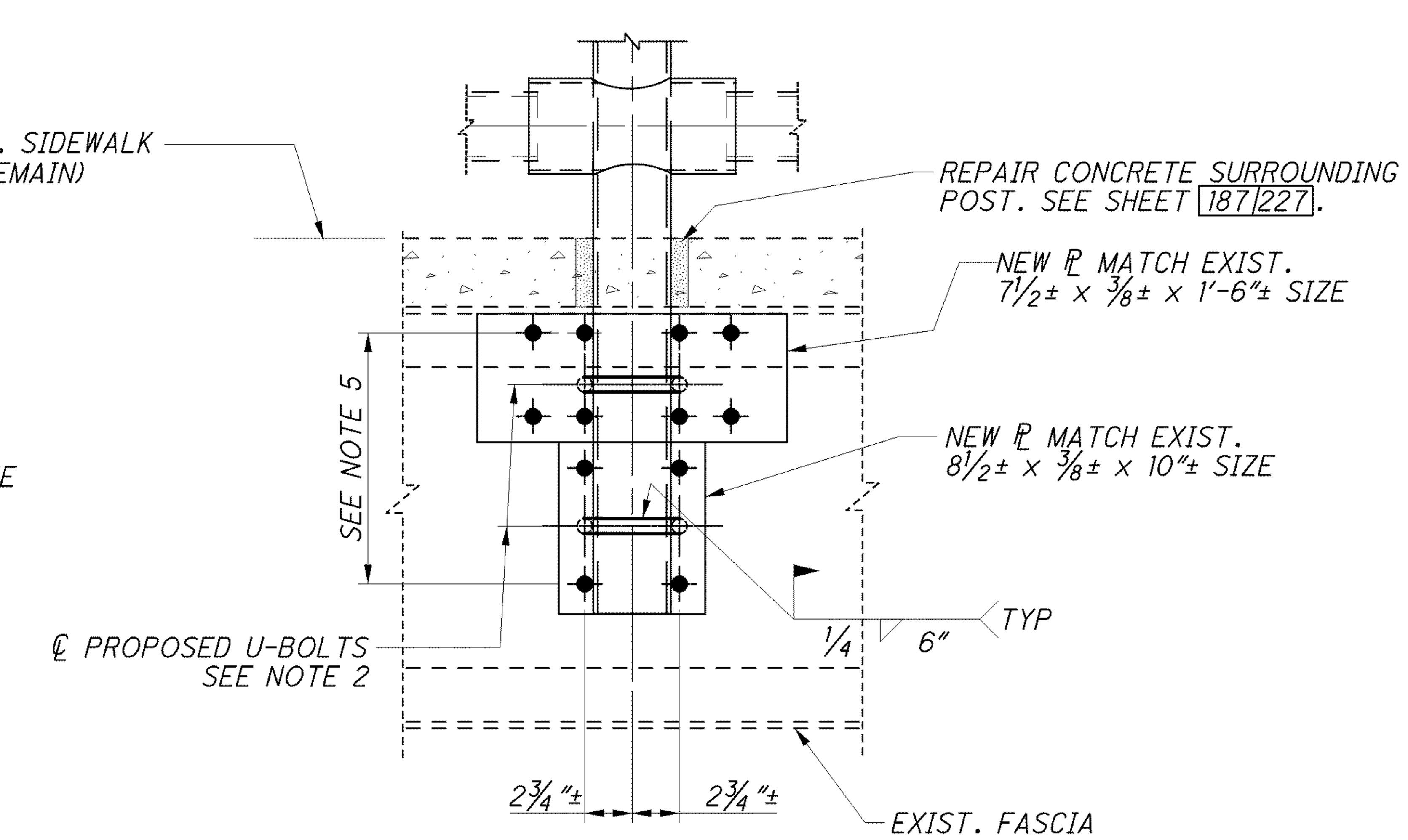
* NEW POSTS SHALL BE FABRICATED TO MATCH EXISTING RAILING SLOPE.



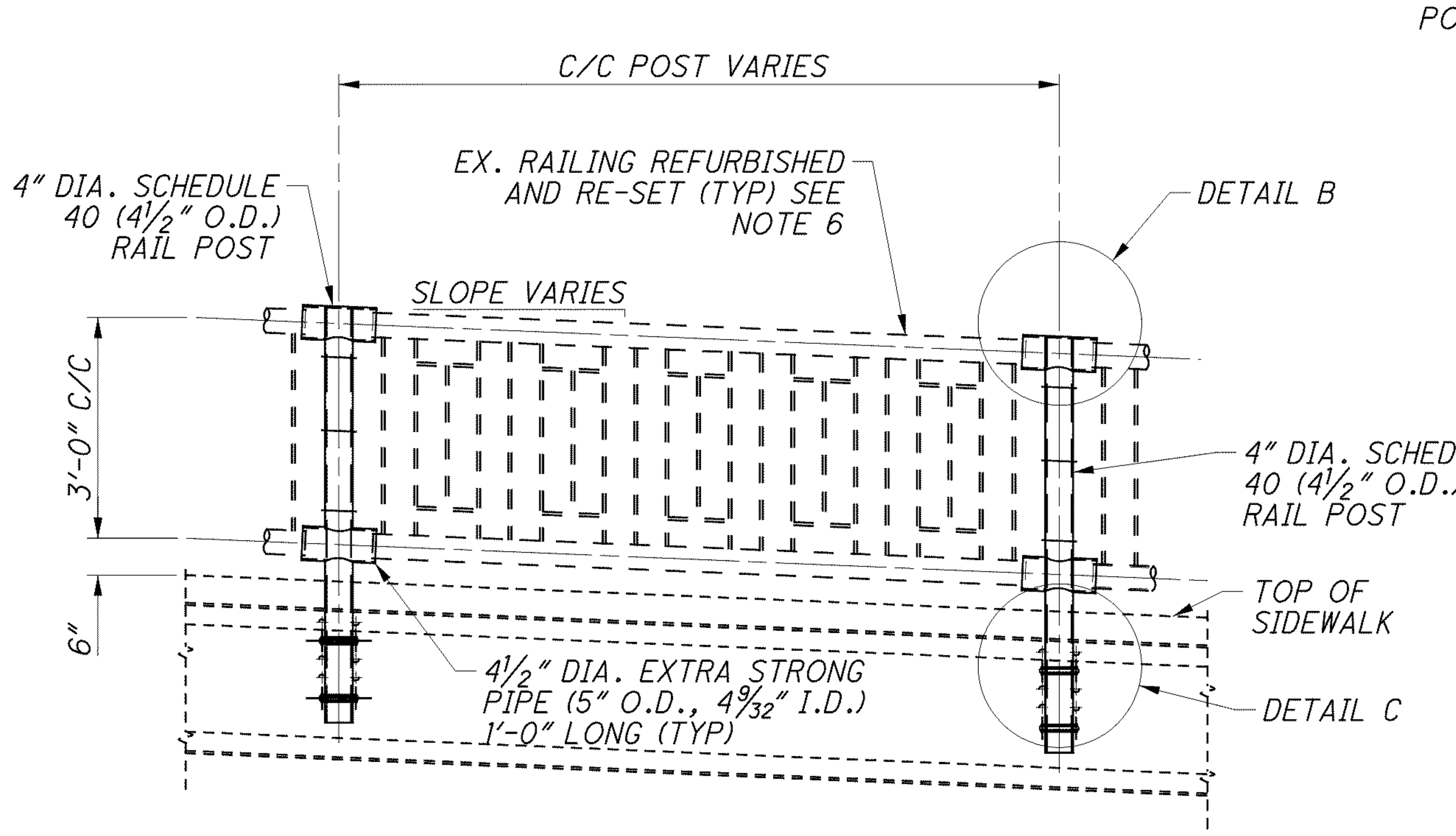
B DETAIL



C DETAIL



C DETAIL



TYPICAL PROPOSED RAILING ELEVATION

NOTES:

1. SEE SHEET 120/227 FOR ADDITIONAL NOTES.
2. PROPOSED U-BOLTS SHALL BE ⅞" DIAMETER. USE EXISTING RIVET HOLES FOR INSTALLATION.
3. [hatched area] DENOTES FENCE MESH AREA.
4. FOR DETAIL OF REPLACEMENT AT OLD LIGHT POST, SEE SHEET 194/227
5. REPLACE EXIST. RIVETS AND/OR BOLTS WITH NEW ⅞" DIA. BOLTS. NUMBER, AND VERTICAL & HORIZONTAL SPACING VARIES
6. SEE ITEM 202 BRIDGE RAILING REMOVED FOR RE-USE, AS PER PLAN ON SHEET 8/327
7. CAULK SHALL COMPLY WITH FEDERAL SPECIFICATION TT-S-00230, TYPE 2, CLASS A. INCLUDE WITH ITEM 517 FOR PAYMENT.

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GCK/PLC	GCK	PLC	3/13
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RAILING DETAILS
BRIDGE NO. LUC - 2 - 1862
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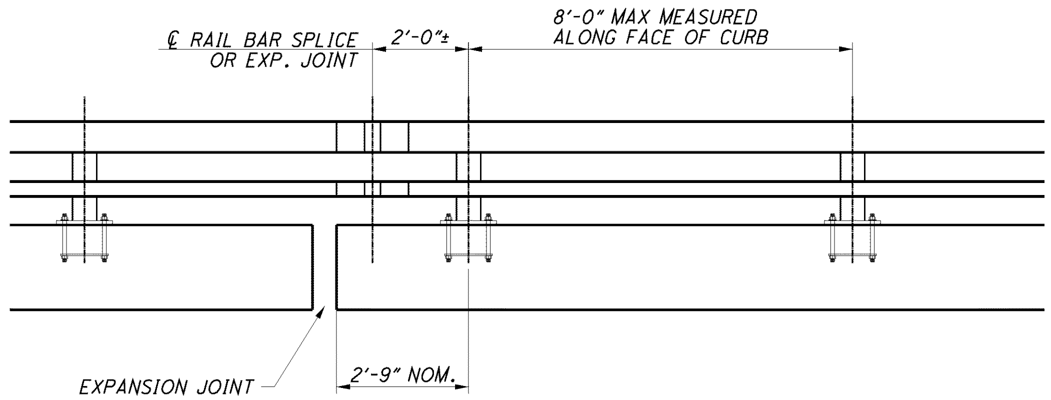
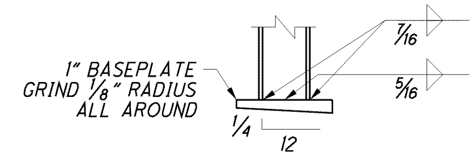
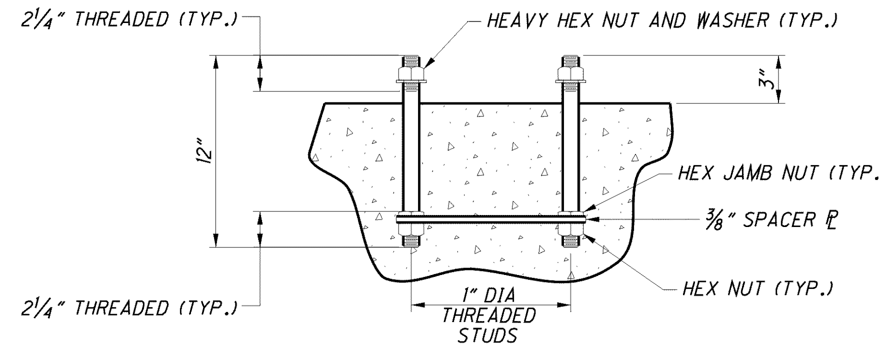
LUC-2-18.62
PID No. 80551



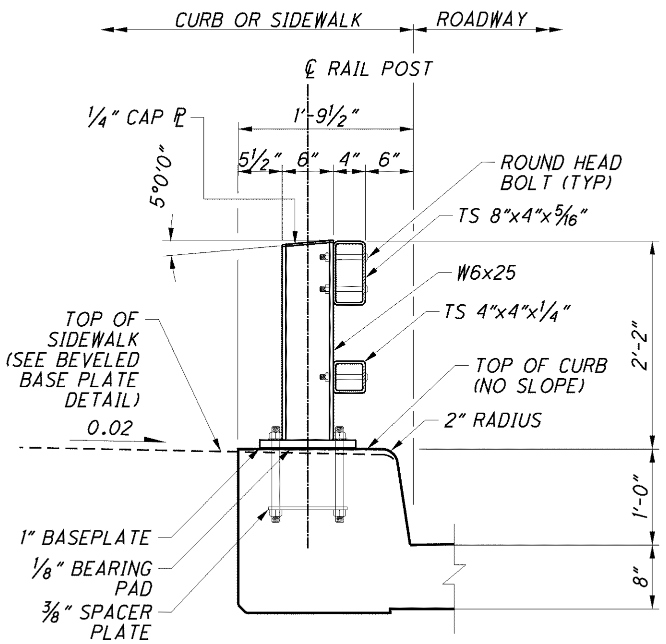
BRIDGE RAILING ELEVATION



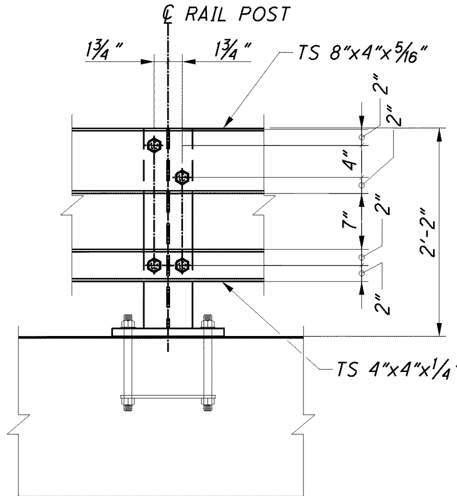
BEVELED BASE PLATE DETAIL
(AT SIDEWALK LOCATIONS ONLY)



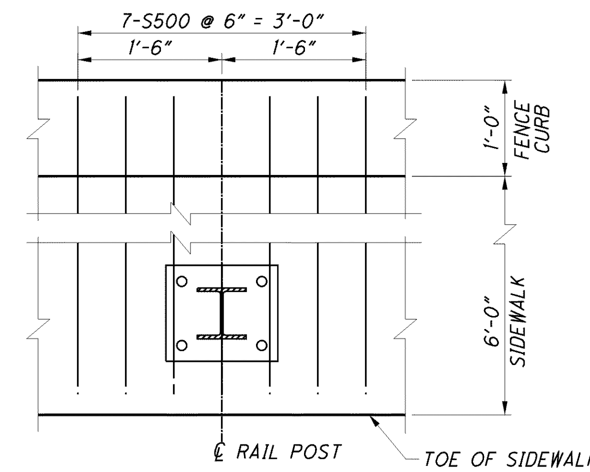
RAIL POST ANCHORAGE



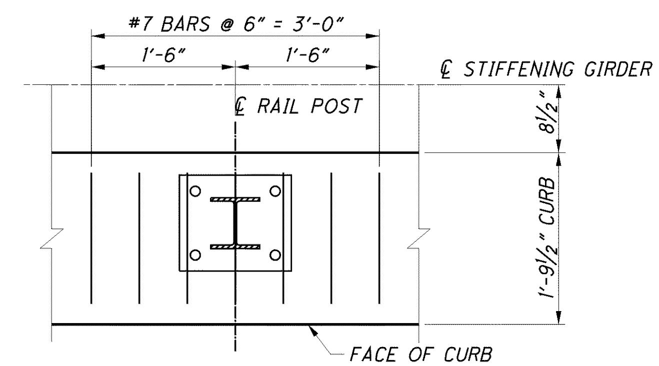
TYPICAL SECTION
(HOLES IN RAILS SHALL BE 1/8" LARGER THAN CONNECTION BOLTS)



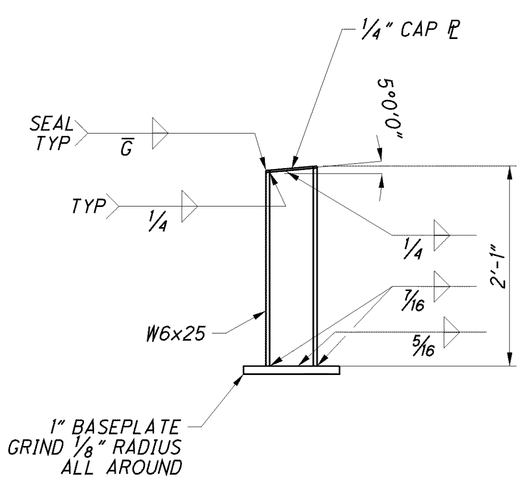
ELEVATION



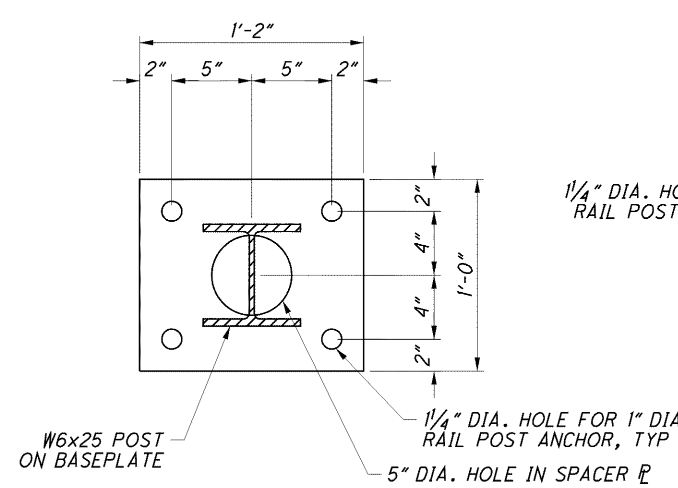
SIDEWALK REINFORCING PLAN
NORMAL REINFORCING NOT SHOWN



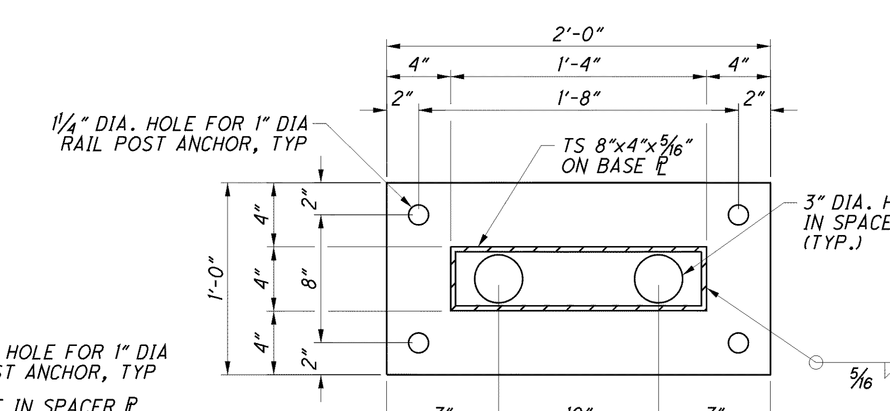
CURB REINFORCING PLAN
NORMAL REINFORCING NOT SHOWN



POST WELD DETAIL
(HOT DIP GALVANIZE AFTER FABRICATION)



BASE PLATE DETAIL
BASE ℙ = 1" THICK
SPACER ℙ = 3/8" THICK



END PLATE DETAIL
BASE ℙ = 1" THICK
SPACER ℙ = 3/8" THICK

NOTES:

DESIGN DATA:

SHAPED STRUCTURAL TUBING:
ASTM A 500 GRADE B Fy=46 KSI
STRUCTURAL STEEL SHAPES AND PLATES:
ASTM A 572 Fy=50 KSI

MATERIALS:

SHAPED STRUCTURAL TUBING SHALL BE AS PER ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS (CMS) ITEM 707.10. IN LIEU OF THE "DROP WEIGHT TEAR TEST" AS PER ASTM E 436, THE MANUFACTURER MAY CHOOSE TO SUPPLY TUBING THAT MEETS IMPACT TOUGHNESS ACCORDING TO AASHTO T 266, "NOTCHED BAR IMPACT TESTING OF METALLIC MATERIALS (CVN)". THE CVN IMPACT REQUIREMENTS SHALL BE 15 FT-LBS AT 0 DEGREES F. FOR EACH HEAT SUPPLIED, THE MANUFACTURER SHALL FURNISH ONE (1) 2"x18" SPECIMEN, MARKED WITH ITS HEAT NUMBER, FOR IMPACT TESTING.

STRUCTURAL STEEL SHAPES, PLATES, AND PLATE WASHERS SHALL BE AS PER CMS ITEM 711.01

GALVANIZING

ALL SHAPED STRUCTURAL TUBES, POSTS, PLATES, HARDWARE AND ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH CMS 711.02. PRIOR TO GALVANIZING, ALL EXPOSED STRUCTURAL TUBING ENDS SHALL BE ROUNDED, AND BURRS SHALL BE REMOVED FROM ALL STEEL TUBING, SHAPES, AND PLATES.

HORIZONTAL CURVATURE:

THE HORIZONTAL RAIL ELEVATIONS, SHALL BE HEAT CURVED AS SPECIFIED BY AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

SPLICES:

TUBE SPLICES ARE TO BE LOCATED SO THAT EACH TUBE SEGMENT SHALL BE CONNECTED TO NOT LESS THAN TWO POSTS. SPLICES IN THE TOP AND BOTTOM TUBES SHALL BE STAGGERED AND SHOULD NOT OCCUR IN THE SAME PANEL.

FASTENERS SHALL CONFORM TO THE FOLLOWING:

ANCHOR BOLTS SHALL CONFORM TO ASTM A449. ALL OTHER BOLTS SHALL CONFORM TO AASHTO M164, TYPE 1, UNLESS NOTED OTHERWISE.

NUTS FOR ANCHOR BOLTS SHALL CONFORM TO ASTM A563. NUTS FOR AASHTO M164. TYPE 1 BOLTS SHALL CONFORM TO AASHTO M291.

TUBULAR STEEL CONNECTION WASHERS SHALL CONFORM TO ASTM F 436, TYPE 1.

BEARING PADS:

BEARING PADS SHALL COMPLY WITH CMS 711.21.

PAYMENT:

PAYMENT FOR ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN SHALL, INCLUDE ALL STEEL TUBING, STEEL POSTS, POST ANCHOR DEVICES, ANCHOR PLATES, TUBE SPLICE PLATES, STEEL SHIM PLATES, BOLTS, 5/8" ROUND HEAD BOLTS, SLEEVE NUTS, NUTS, CAP SCREWS, WASHERS, OTHER HARDWARE AND BEARING PADS.

FOR RAIL (TUBE) DETAILS, SEE SHEET 195/227

FOR POST LOCATIONS, SEE SLAB PLAN AND TRANSVERSE SECTION.

FOR TRANSVERSE SECTION, SEE SHEET 164/227

FOR SLAB PLANS, SEE SHEETS 171/227 AND 178/227

NOTE:

1. SEE DECK PLANS FOR GUARDRAIL POST SPACING, SHEETS 165/227 THRU 184/227 .

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RAILING DETAILS
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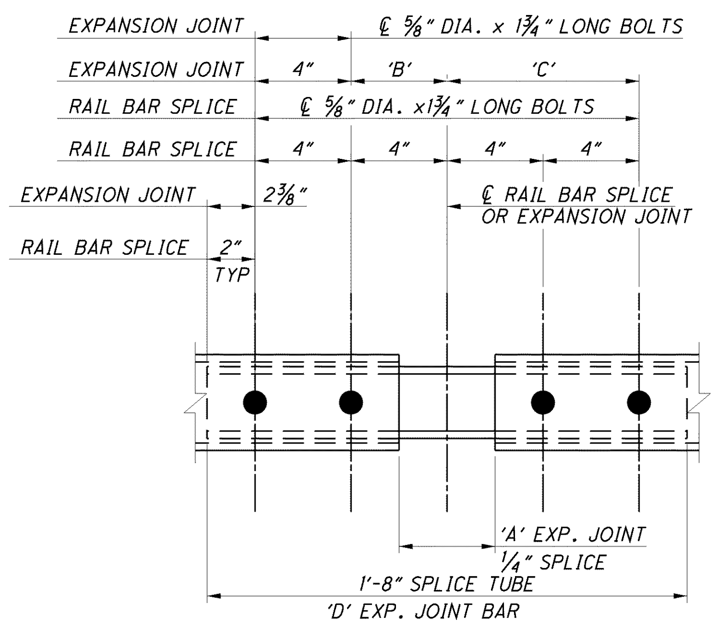


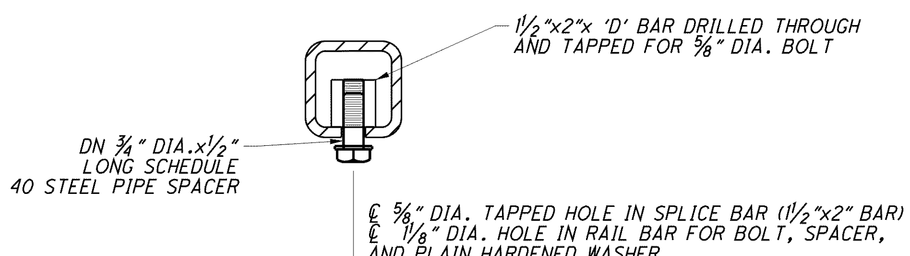
RAIL BAR AND EXPANSION JOINT DETAIL

BOTTOM VIEW

NOTE:

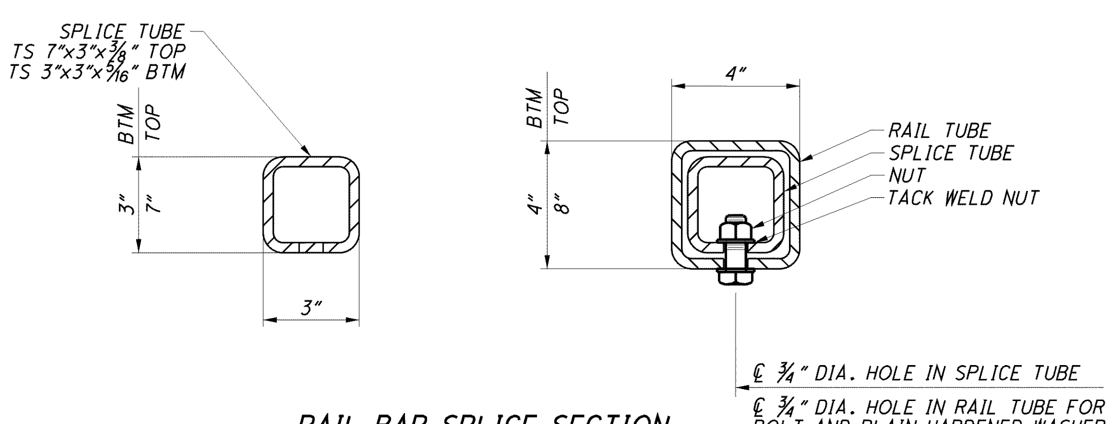
AS SHOWN ABOVE, BOLTS ARE ELIMINATED ON ONE SIDE OF THE EXPANSION JOINT TO ALLOW FOR TRANSVERSE AND LONGITUDINAL MOVEMENT OF THE SUPERSTRUCTURE.

STRIP SEAL	'A'	'B'	'C'	'D'
3"	2"	3"	7"	11 3/4"
4"	4"	5 1/2"	9 1/2"	1'-11 3/4"
5"	5"	6 1/2"	11 1/2"	2'-3 3/4"

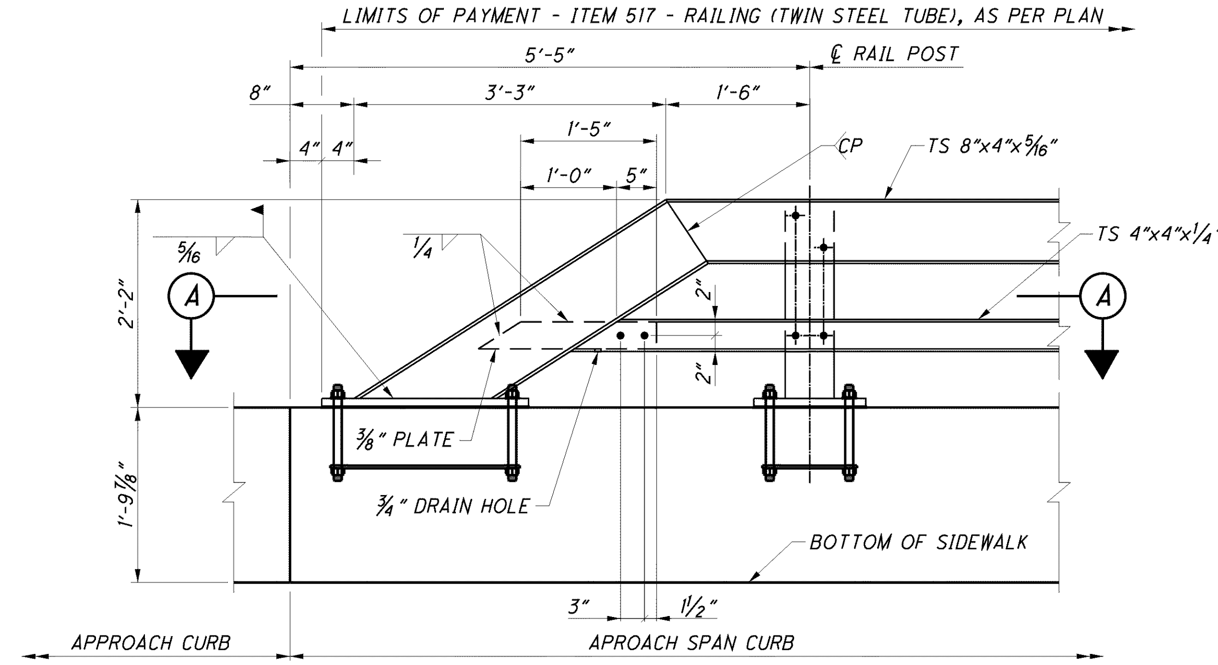


EXPANSION JOINT SECTION

FOR DETAILS NOT SHOWN
SEE RAIL BAR SPLICE SECTION



RAIL BAR SPLICE SECTION

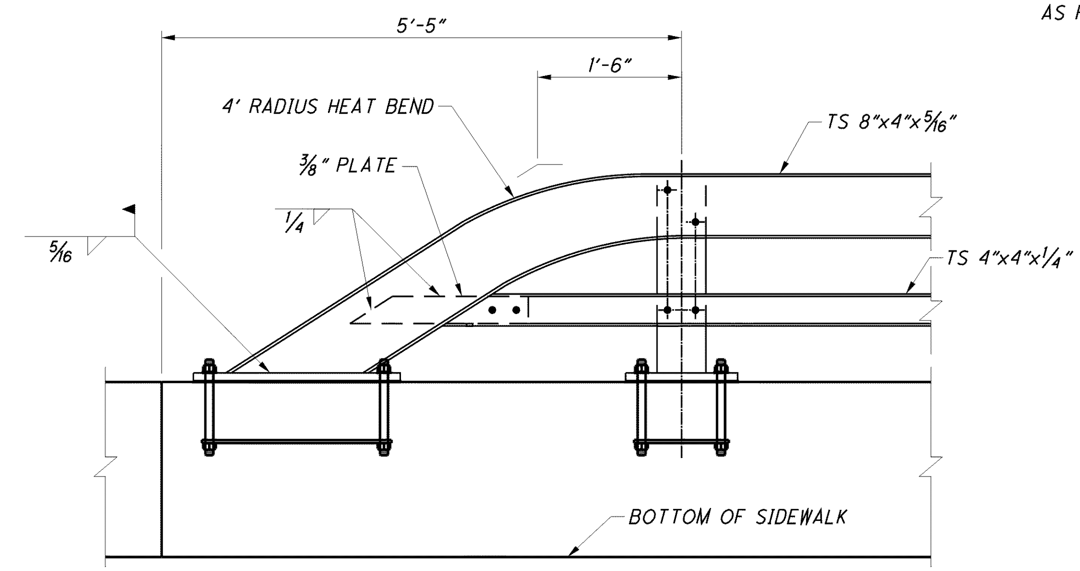


ELEVATION

BARRIER AT ENDS OF APPROACH SPANS

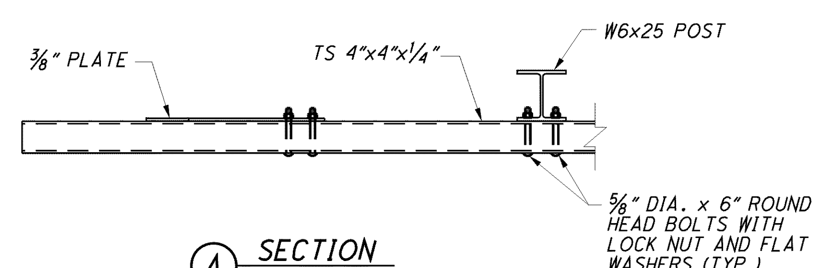
NOTES:

1. FOR POST AND ANCHORAGE DETAILS, SEE SHEET 194/227.
2. FOR NOTES, SEE SHEET 194/227.
3. EXPANSION JOINT OPENING OF 'A' IS SHOWN IN TABLE. ADJUST AS REQUIRED DUE TO TEMPERATURE AT TIME OF CONSTRUCTION.



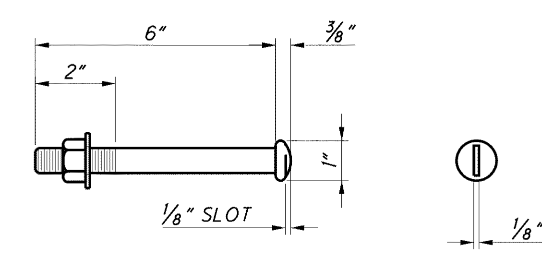
ELEVATION

ALTERNATE RAIL TERMINATION USING RADIAL TUBE
CURB BARRIER AT ENDS OF APPROACH SPANS
FOR CALL OUTS NOT SHOWN, SEE ELEVATION ABOVE
CONTRACTOR SHALL SUBMIT HEAT BENDING PROCEDURE
FOR APPROVAL PRIOR TO FABRICATION



A SECTION

BARRIER AT ENDS OF APPROACH SPANS



5/8" DIA. ROUND HEAD BOLT

WITH WASHER AND LOCK NUT

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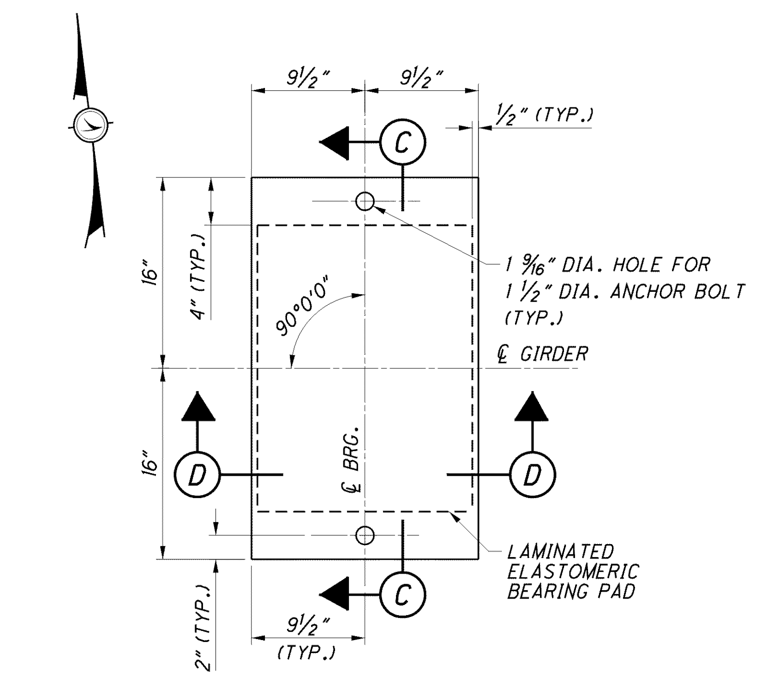
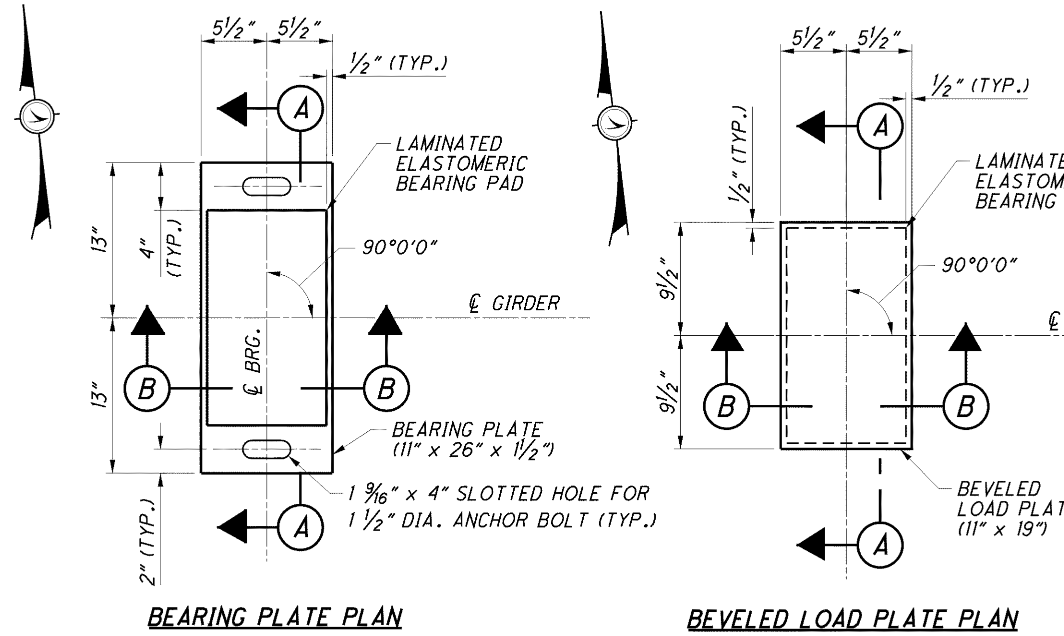
RAILING DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



PIER RW AND RE BEARING PLAN

(PIER RW SHOWN, PIER RE SIMILAR)

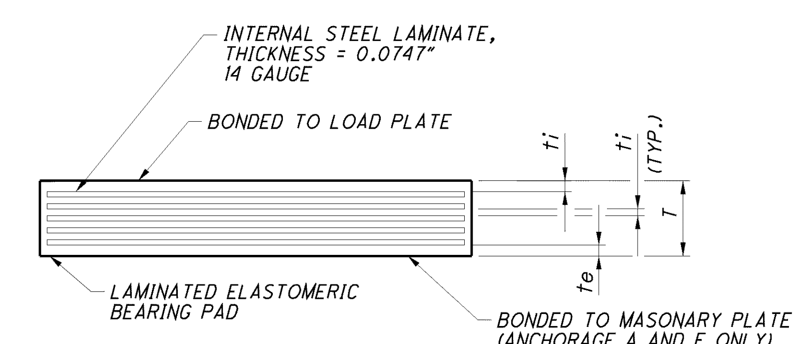


ANCHORAGE A AND F BEARING PLAN

(ANCHORAGE A SHOWN, ANCHORAGE F SIMILAR)

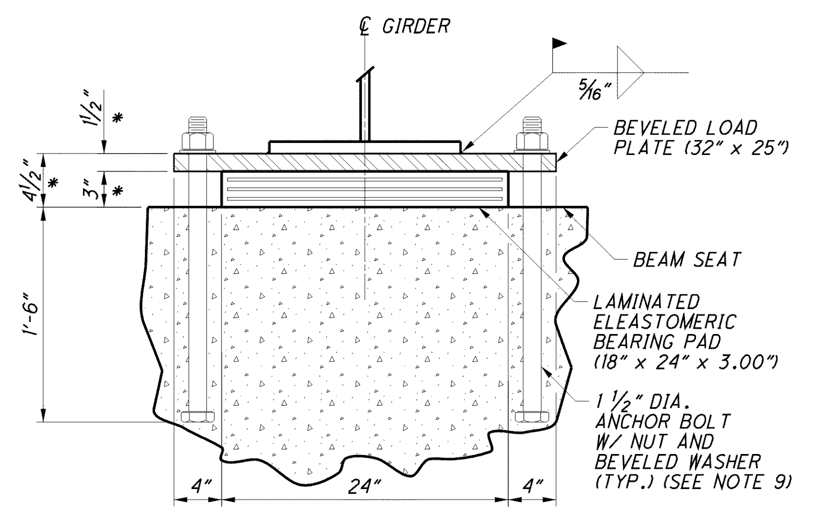
NOTES:

1. IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80 DEGREES F OR LOWER THAN 40 DEGREES F AND THE BEARING SHEAR DEFLECTION EXCEEDS ⅙ OF HEIGHT AT 60 DEGREES F (±) 10 DEGREES F, RAISE THE GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60 DEGREES F (±) 10 DEGREES F.
2. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMERIC BONDED SURFACE DOES NOT EXCEED 300 DEGREES F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6.3 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
4. ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS AS DETAILED INCLUDING THE BEARING PLATE, SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (10"x18"x2.80"), AS PER PLAN FOR PAYMENT.
5. FOR PIER DETAILS SEE SHEETS 67/227, 68/227 AND 71/227.
6. FOR ANCHORAGE A DETAILS SEE SHEETS 65/227 AND 66/227.
7. FOR ANCHORAGE F DETAILS SEE SHEETS 72/227 AND 66/227.
8. FOR FRAMING PLAN AND ADDITIONAL DETAILS AND NOTES SEE SHEETS 77/227 AND 84/227.
9. ANCHOR BOLTS SHALL BE ASTM A449, TYPE III. INCLUDE WITH ITEM 516 FOR PAYMENT.

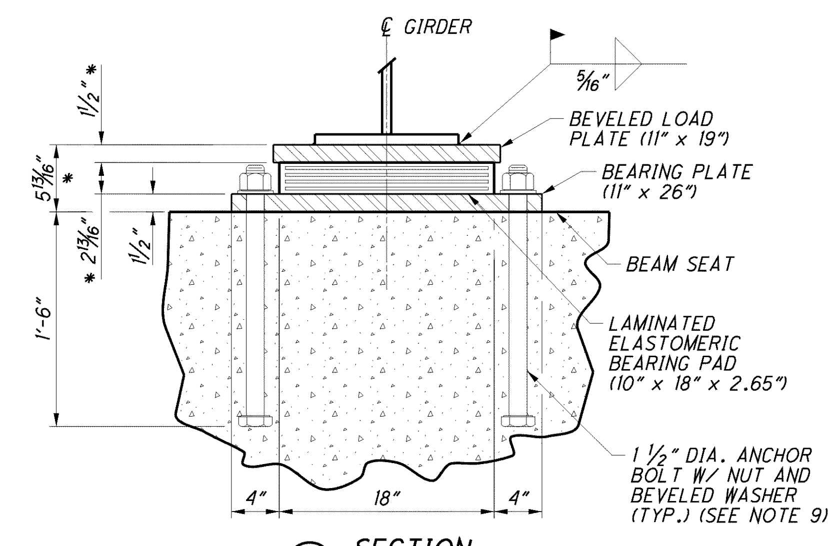


BEARING PAD DETAIL

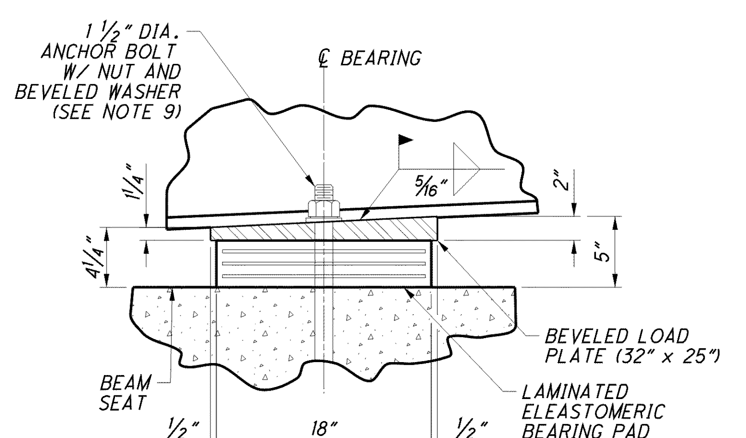
* AT CENTERLINE BEARING



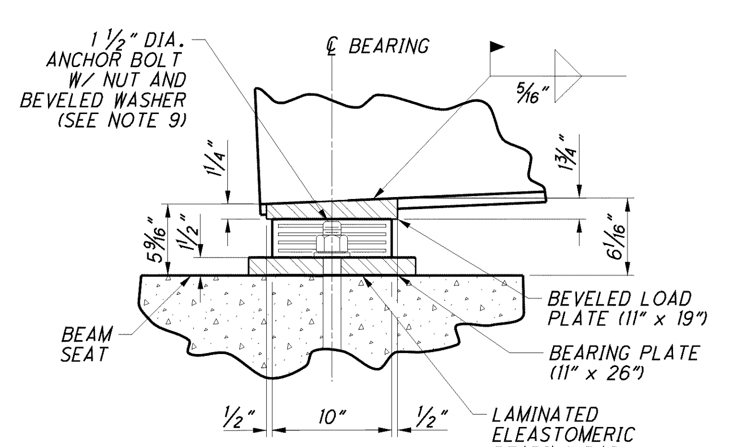
C SECTION



A SECTION



D SECTION



B SECTION

BEARING DATA

LOCATION	60 DUROMETER						
	SIZE L	SIZE W	"DIM. T" (THICKNESS)	t_i	t_e	NUMBER OF t_i	NUMBER OF STEEL LAMINATES
ANCHORAGE A	10"	18"	2.80"	0.500"		5	4
PIER RW	18"	24"	3.00"	0.750"	0.525"	3	3
PIER RE	18"	24"	3.00"	0.750"	0.525"	3	3
ANCHORAGE F	10"	18"	2.80"	0.500"		5	4

BEARING LOAD DATA

LOCATION	DEAD LOAD (KIPS/PAD)	LIVE LOAD (W/O IMPACT) (KIPS/PAD)	DESIGN LOAD (KIPS/PAD)
ANCHORAGE A (GIRDERS G1 AND G6)	93.1	51.8	145.0
ANCHORAGE A (GIRDERS G2 THRU G5)	82.6	65.0	147.6
PIER RW (GIRDERS G1 AND G6)	329.8	82.4	412.2
PIER RW (GIRDERS G2 THRU G5)	294.3	101.3	395.6
PIER RE (GIRDERS G1 AND G6)	329.8	82.4	412.2
PIER RE (GIRDERS G2 THRU G5)	294.3	101.3	395.6
ANCHORAGE F (GIRDERS G1 AND G6)	93.1	51.8	144.9
ANCHORAGE F (GIRDERS G2 THRU G5)	82.6	65.0	147.6

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BEARING DETAILS - REPLACEMENT SPANS
BRIDGE NO. LUC - 2 - 1862
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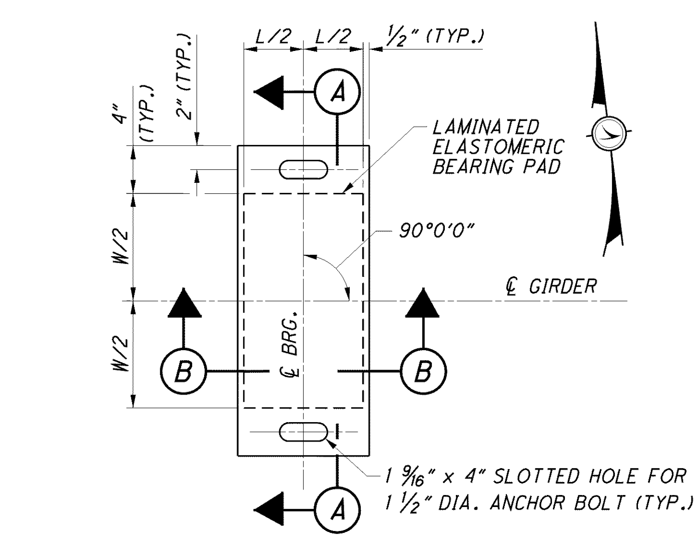
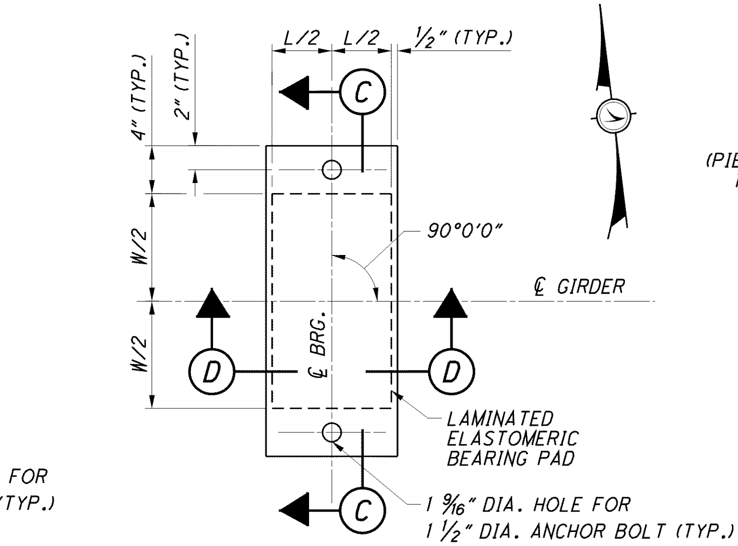


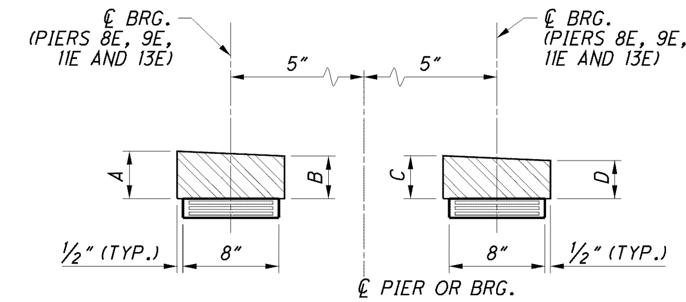
TYPICAL BEARING PLAN

(REAR ABUTMENT, PIERS 8E, 9E, 11E, 13E AND FORWARD ABUTMENT)



TYPICAL BEARING PLAN

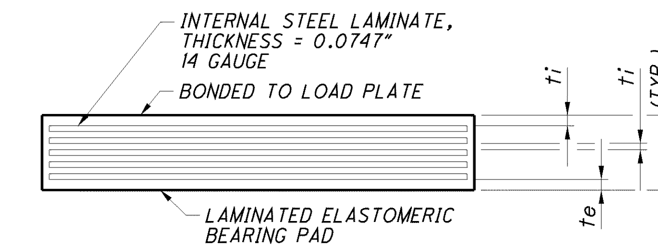
(PIERS 10E, 12E AND 14E)



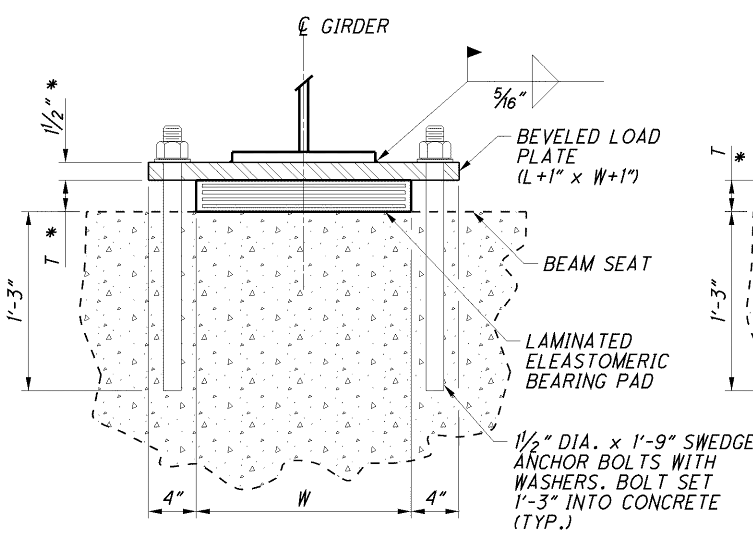
LOAD PLATE ELEVATION

NOTES:

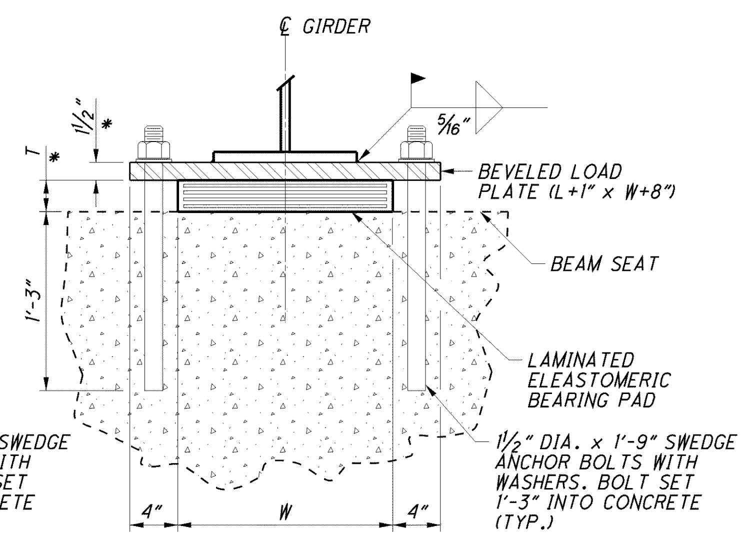
1. FOR ADDITIONAL NOTES SEE SHEET 196/227 .
2. FOR PIER DETAILS SEE SHEETS 67/227 , 68/227 AND 71/227 .
3. FOR ANCHORAGE A DETAILS SEE SHEETS 65/227 AND 66/227 .
4. FOR ANCHORAGE F DETAILS SEE SHEETS 72/227 AND 66/227 .
5. FOR FRAMING PLAN AND ADDITIONAL DETAILS AND NOTES SEE SHEETS 88/227 .
6. LOAD PLATE THICKNESS ARE BASED ON ORIGINAL SHOP DRAWINGS OF EXISTING SOLE AND MASONRY PLATES. CONTRACTOR SHALL VERIFY THE DIMENSION FROM BOTTOM OF BEAM FLANGE TO TOP OF BEAM SEAT.



BEARING PAD DETAIL



A SECTION

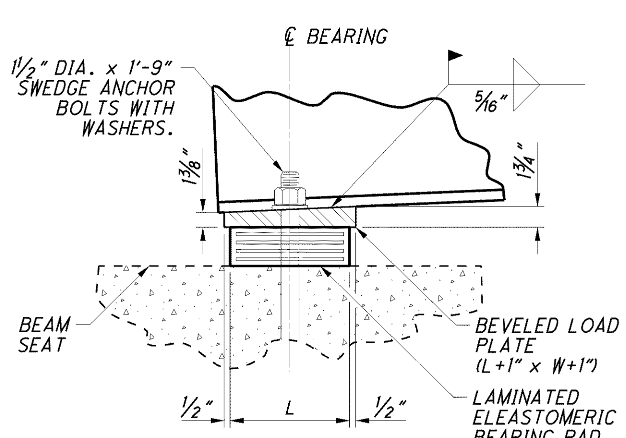


C SECTION

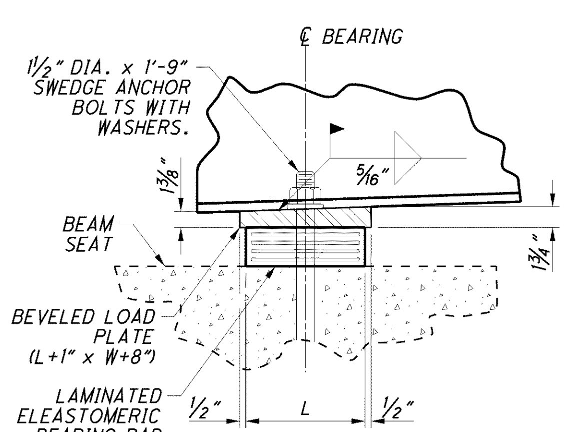
* AT CENTERLINE BEARING

LOAD PLATE THICKNESS						
LOCATION	LENGTH	WIDTH	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D
REAR ABUT.	9"	20"	3 1/16"	2 11/16"		
PIER 8E (WEST)	9"	18"	2 1/2"	2 1/8"		
PIER 8E (EAST)	9"	14"			2 11/16"	2 3/16"
PIER 9E (WEST)	9"	18"	2 7/8"	2 1/2"		
PIER 9E (EAST)	9"	18"			2 1/2'	2"
PIER 10E (WEST)	9"	14"	3 1/16'	2 11/16"		
PIER 10E (EAST)	9"	14"			2 11/16"	2 3/16"
PIER 11E (WEST)	9"	18"	2 7/8"	2 1/2"		
PIER 11E (EAST)	9"	18"			2 1/2"	2"
PIER 12E (WEST)	11"	16"	2 7/16"	1 15/16"		
PIER 13E (WEST)	9"	16"	2 1/2"	2 1/8"		
PIER 13E (EAST)	10"	17"			2 5/16"	1 13/16"
PIER 14E (WEST)	11"	16"	2 9/16"	2 1/16"		
FORWARD ABUT.	9"	16"	2 15/16"	2 9/16"		

BEARING LOAD DATA					
LOCATION	BEAMS	DEAD LOAD (KIPS/PAD)	LIVE LOAD (W/O IMPACT) (KIPS/PAD)	DESIGN LOAD (KIPS/PAD)
REAR ABUTMENT	S2	39.5	29.5	69.0
	S3 TO S12	28.6	32.4	60.9
	S13	37.4	28.3	65.6
PIER 7E (EAST)	S2 & S12	32.8	27.3	60.1
	S3 TO S11	25.0	31.4	56.5
PIER 8E (WEST)	S2 & S12	32.8	27.3	60.1
	S3 TO S11	25.1	31.4	56.5
PIER 8E (EAST)	S2 & S12	32.8	27.3	60.1
	S3 TO S11	25.1	31.4	56.5
PIER 9E (WEST)	S2 & S12	32.8	27.3	60.1
	S3 TO S11	25.1	31.4	56.5
PIER 9E (EAST)	S2 & S12	25.0	26.2	51.2
	S3 TO S11	19.2	30.3	49.5
PIER 10E (WEST)	S2 & S12	44.3	15.0	59.2
	S3 TO S11	34.7	17.0	51.7
PIER 10E (EAST)	S2 & S12	44.3	15.0	59.2
	S3 TO S11	34.7	17.0	51.7
PIER 11E (WEST)	S2 & S12	25.0	26.2	51.2
	S3 TO S11	19.2	30.3	49.5
PIER 11E (EAST)	S2 & S12	26.6	26.5	53.1
	S3 TO S11	20.5	30.6	51.1
PIER 12E (WEST)	S2 & S12	76.4	29.5	105.8
	S3 TO S11	59.0	33.6	92.6
PIER 13E (WEST)	S2 & S12	18.6	24.0	42.6
	S3 TO S11	14.2	28.1	42.3
PIER 13E (EAST)	S2 & S12	21.9	24.5	46.4
	S3 TO S11	16.7	28.5	45.3
PIER 14E (WEST)	S2 & S12	54.9	27.4	82.3
	S3 TO S11	42.2	31.6	73.8
FORWARD ABUTMENT	S2 & S12	9.5	18.8	28.2
	S3 TO S11	7.2	22.9	30.1



B SECTION



D SECTION

BEARING DATA							
	60 DUROMETER						
LOCATION	SIZE L	SIZE W	"DIM. T" (THICKNESS)	t_i	t_e	NUMBER OF t_i	NUMBER OF STEEL LAMINATES
REAR ABUT.	8"	12"	1.84"	0.438"	0.306"	3	3
PIER 8E (WEST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 8E (EAST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 9E (WEST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 9E (EAST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 10E (WEST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 10E (EAST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 11E (WEST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 11E (EAST)	8"	10"	1.61"	0.375"	0.262"	3	3
PIER 12E (WEST)	10"	12"	2.06"	0.375"	0.262"	4	4
PIER 13E (WEST)	8"	8"	1.61"	0.375"	0.262"	3	3
PIER 13E (EAST)	9"	9"	1.50"	0.500"	0.350"	2	2
PIER 14E (WEST)	10"	12"	1.67"	0.563"	0.394"	2	2
FORWARD ABUT.	8"	8"	1.61"	0.375"	0.262"	3	3

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
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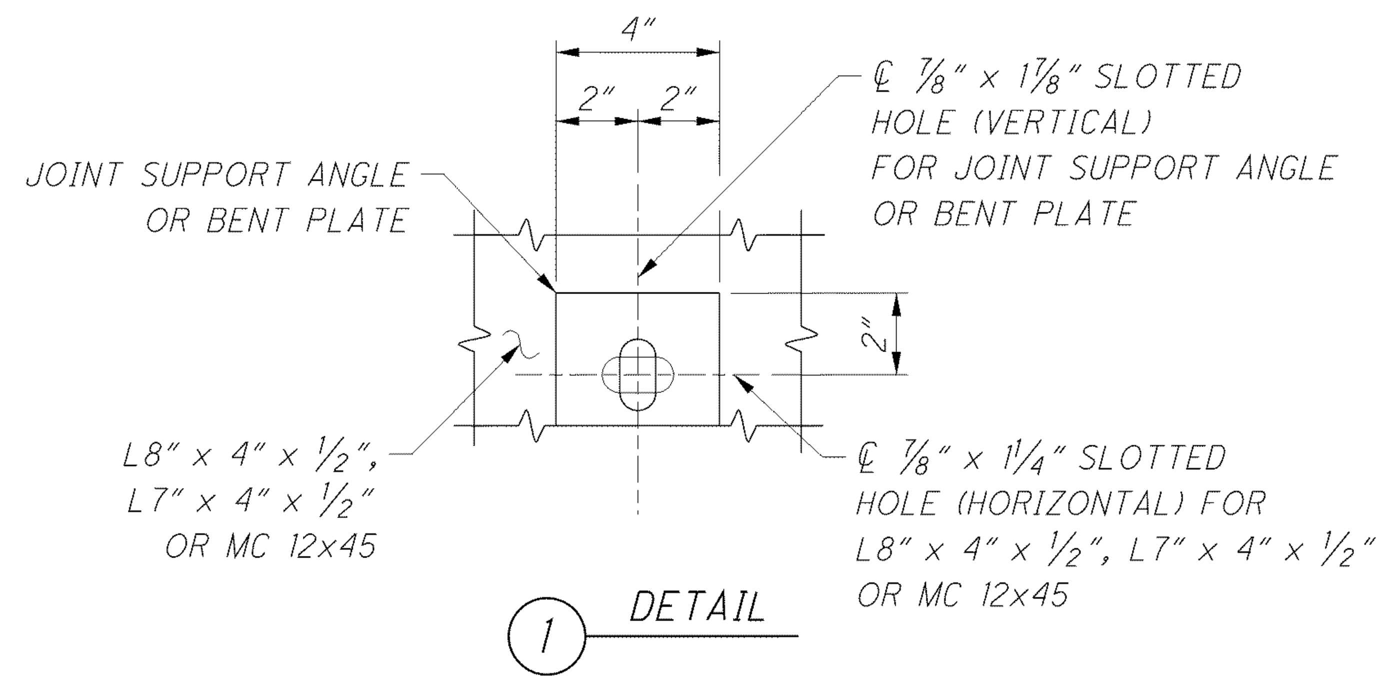
DESIGNED AJM | DRAWN TMR | REVIEWED RBB | DATE 10/12
CHECKED CMD | REVISED | STRUCTURE FILE NUMBER 4800303

BEARING DETAILS - EAST APPROACH SPANS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



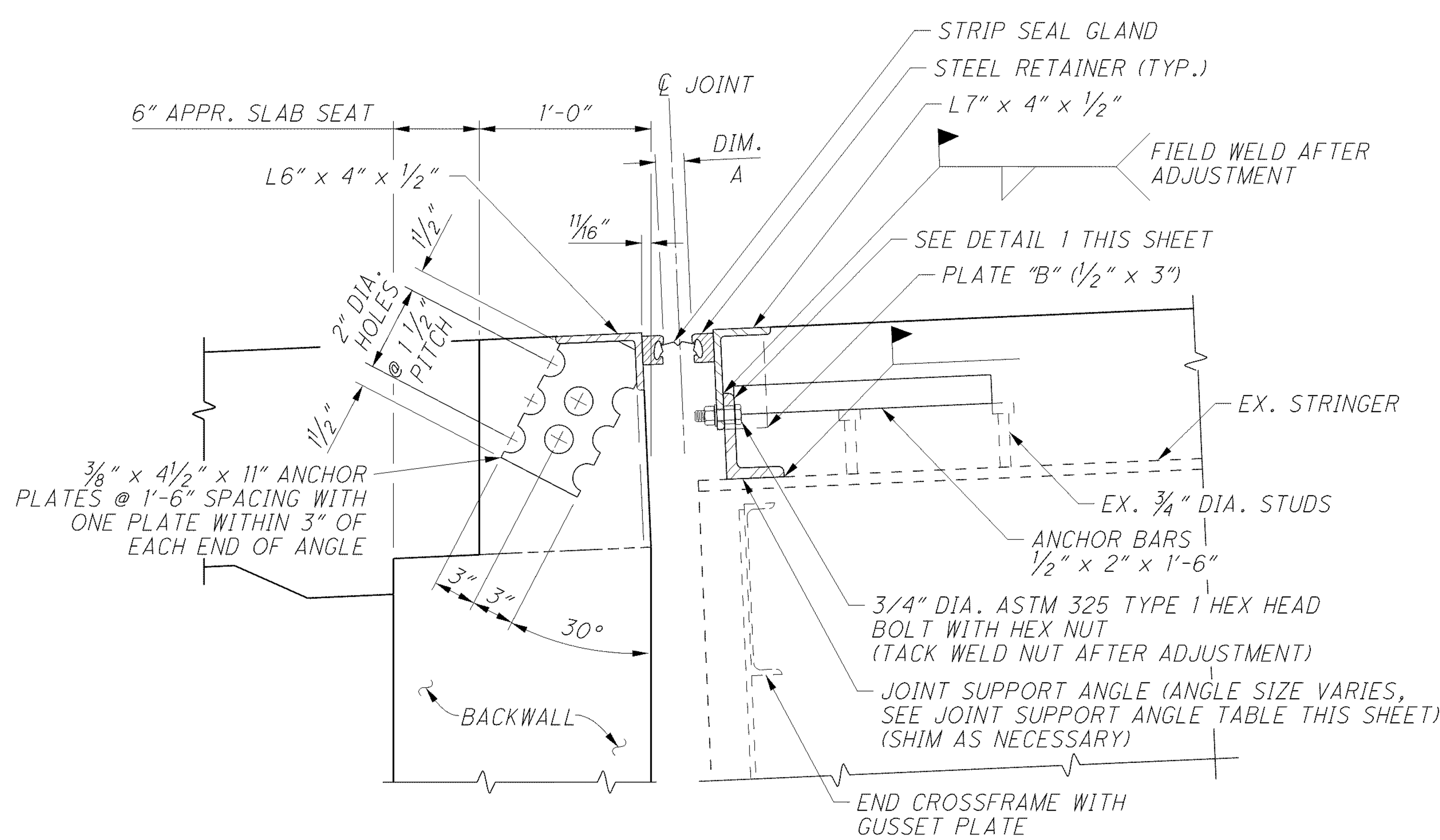
1 DETAIL

TABLE FOR DIMENSION A

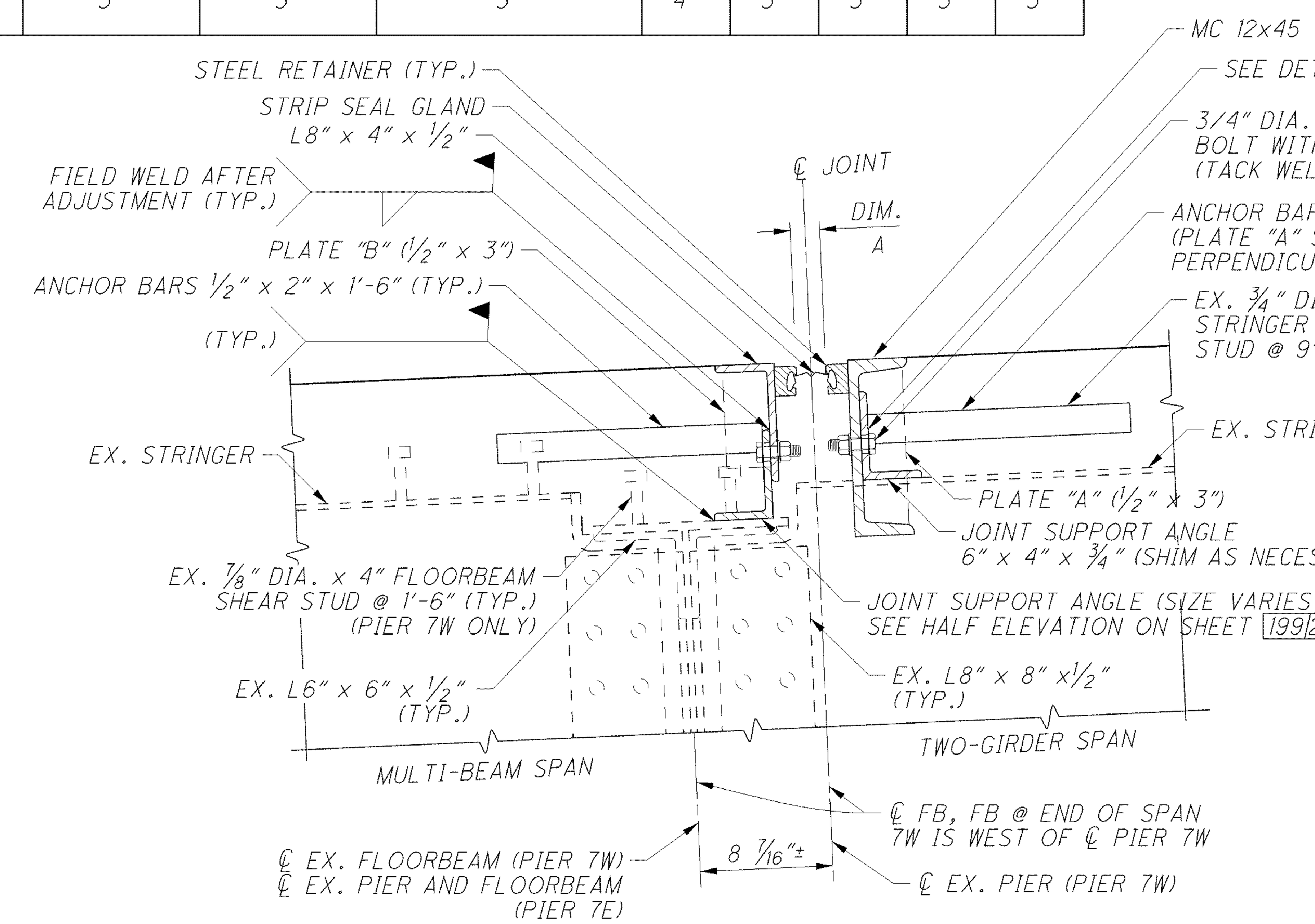
TEMP. (F)	REAR ABUTMENT	PIER 7W,6W,4W,3W, 1W,ANCHORAGE A	PIER 5W	PIER 2W	℄ BRG. SPAN RW-2 ANCHORAGE A	℄ BRG. SPAN RE-2 ANCHORAGE F	ANCHORAGE F 1E,3E,4E,5E,7E	PIER 2E	PIER 6E	PIER 8E	PIER 11E	PIER 13E
	JOINT OPENING											
30	1 13/16"	1 3/4"	2 5/8"	3 3/16"	1 7/8"	1 7/8"	1 3/4"	2 5/8"	2"	1 13/16"	1 7/8"	1 13/16"
40	1 3/4"		2 3/8"	2 7/8"	1 13/16"	1 13/16"		2 3/8"	1 7/8"	1 3/4"	1 13/16"	1 3/4"
50	1 3/4"		2 1/8"	2 5/8"	1 11/16"	1 11/16"		2 1/8"	1 11/16"	1 3/4"	1 3/4"	1 3/4"
60	1 11/16"		1 7/8"	2 5/16"	1 5/8"	1 5/8"		1 7/8"	1 1/2"	1 11/16"	1 11/16"	1 11/16"
70	1 11/16"		1 11/16"	2 1/16"	1 9/16"	1 9/16"		1 5/8"	1 5/16"	1 11/16"	1 5/8"	1 5/8"
80	1 5/8"		1 7/16"	1 3/4"	1 1/2"	1 1/2"		1 3/8"	1 1/8"	1 11/16"	1 1/2"	1 9/16"
90	1 5/8"		1 1/4"	1 7/16"	1 7/16"	1 7/16"		1 1/8"	7/8"	1 5/8"	1 7/16"	1 1/2"
STRIP SEAL GLAND SIZE	3"	3"	4"	5"	3"	3"	3"	4"	3"	3"	3"	3"

NOTES:

1. FOR ADDITIONAL DETAILS, SEE ODOT STANDARD DRAWING EXJ-4-87.
2. FOR FRAMING DETAILS, SEE SHEETS 74/227 THRU 93/227.
3. FOR DECK PLAN DETAILS SEE SHEETS 165/227 THRU 170/227.
4. FOR ADDITIONAL EXPANSION NOTES AND DETAILS SEE SHEETS 199/227 AND 200/227.



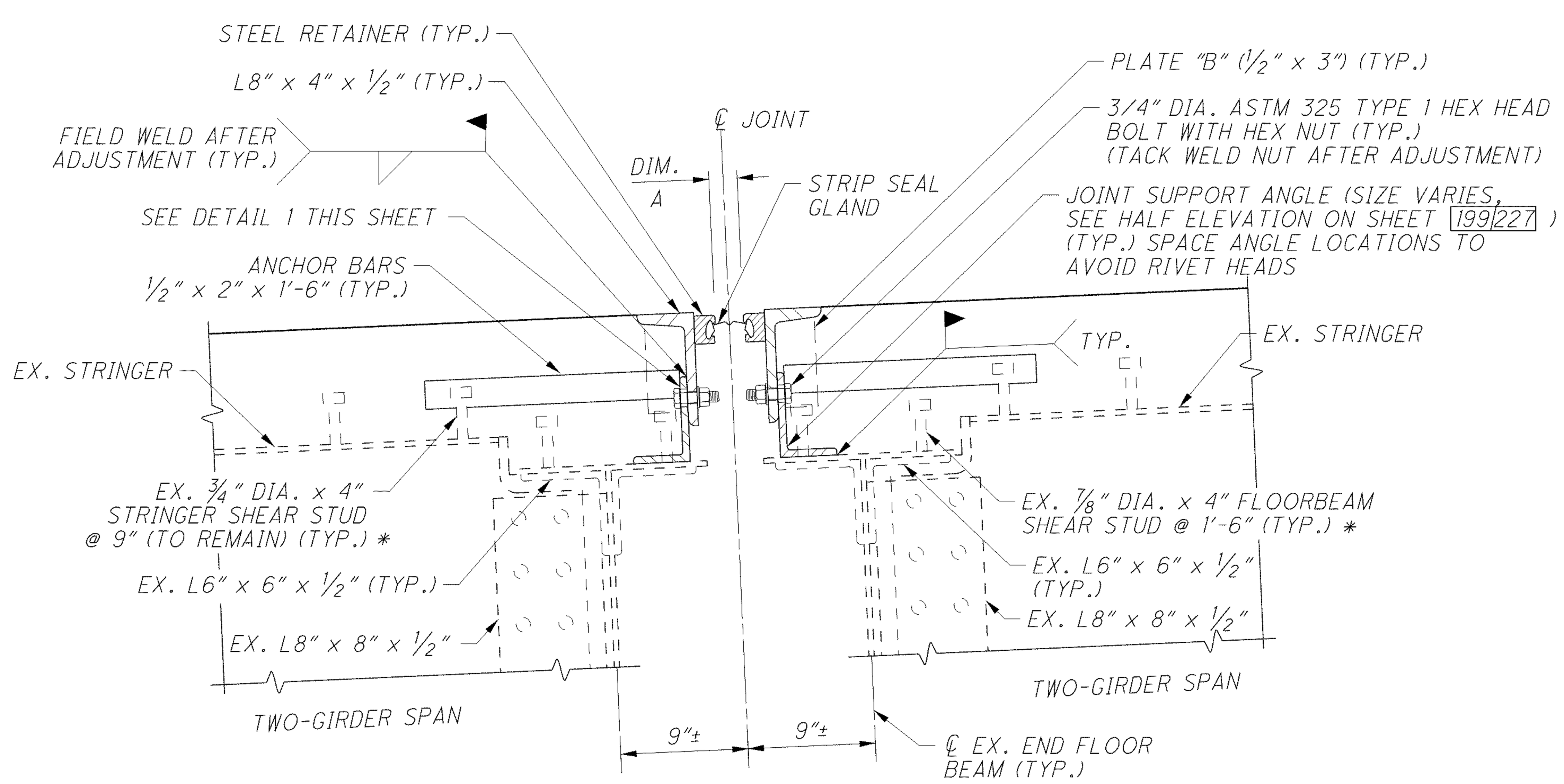
REAR ABUTMENT JOINT DETAIL



TWO-GIRDER - MULTI-BEAM EXPANSION JOINT DETAIL

(PIER 7W SHOWN AND PIER 7E SIMILAR)

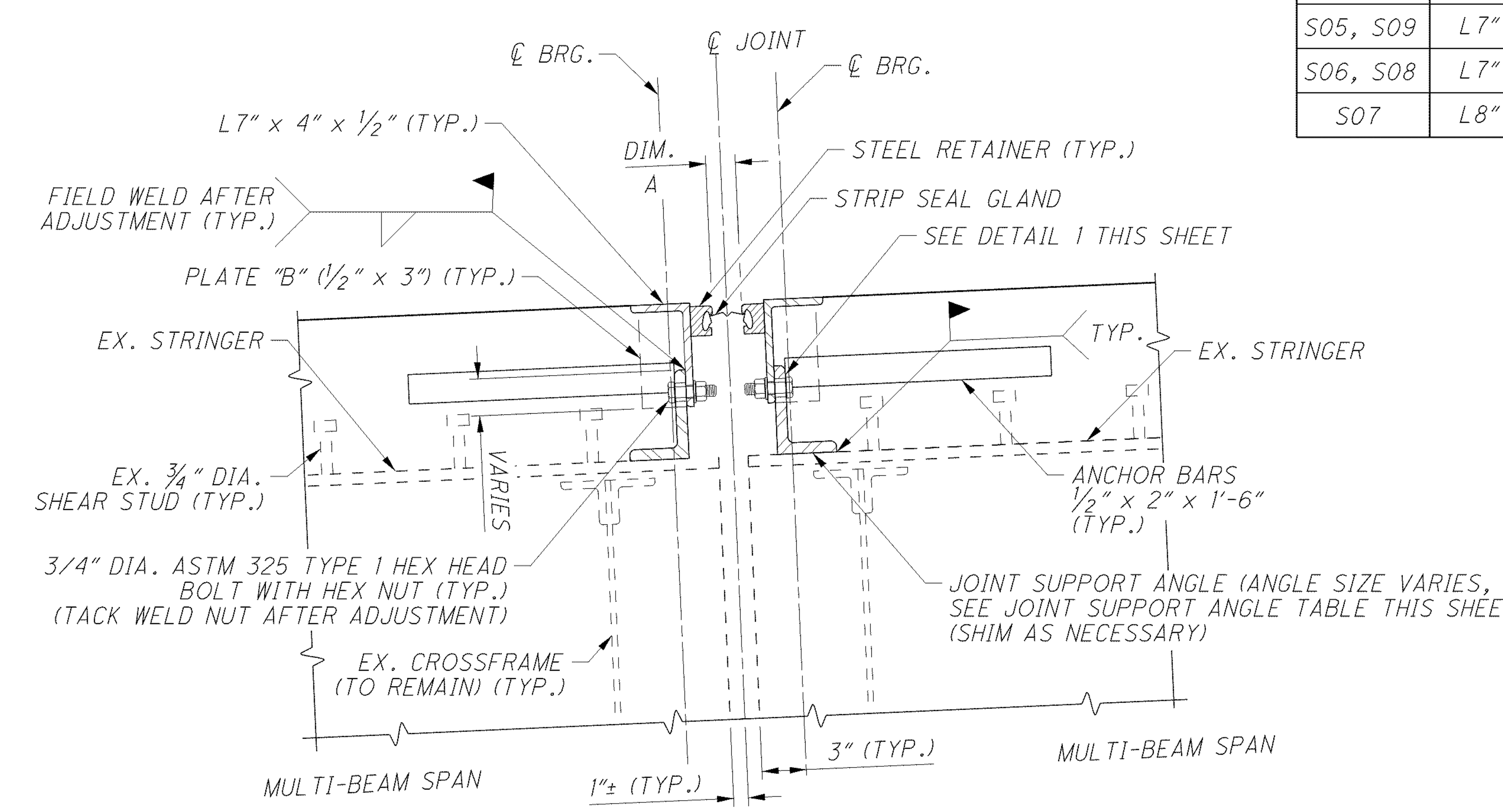
JOINT SUPPORT ANGLE TABLE	
S02, S12	L6" x 4" x 3/4"
S03, S11	L6" x 4" x 3/4"
S04, S10	L6" x 4" x 3/4"
S05, S09	L7" x 4" x 3/4"
S06, S08	L7" x 4" x 3/4"
S07	L8" x 4" x 3/4"



TWO-GIRDER EXPANSION JOINT DETAIL

(PIERS 6W THRU 1W AND 2E THRU 6E)

* - AT PIERS 2W, 5W, 2E AND 6E ONLY



MULTI-BEAM EXPANSION JOINT DETAIL

(PIERS 8E, 11E AND 13E)

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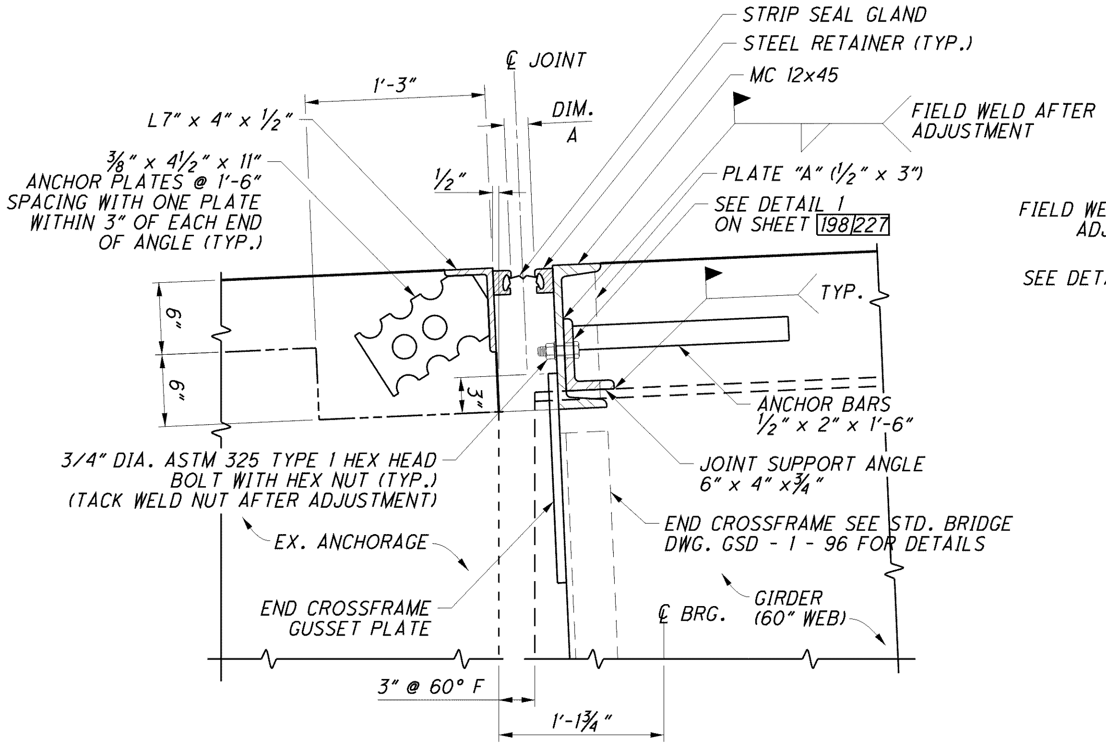
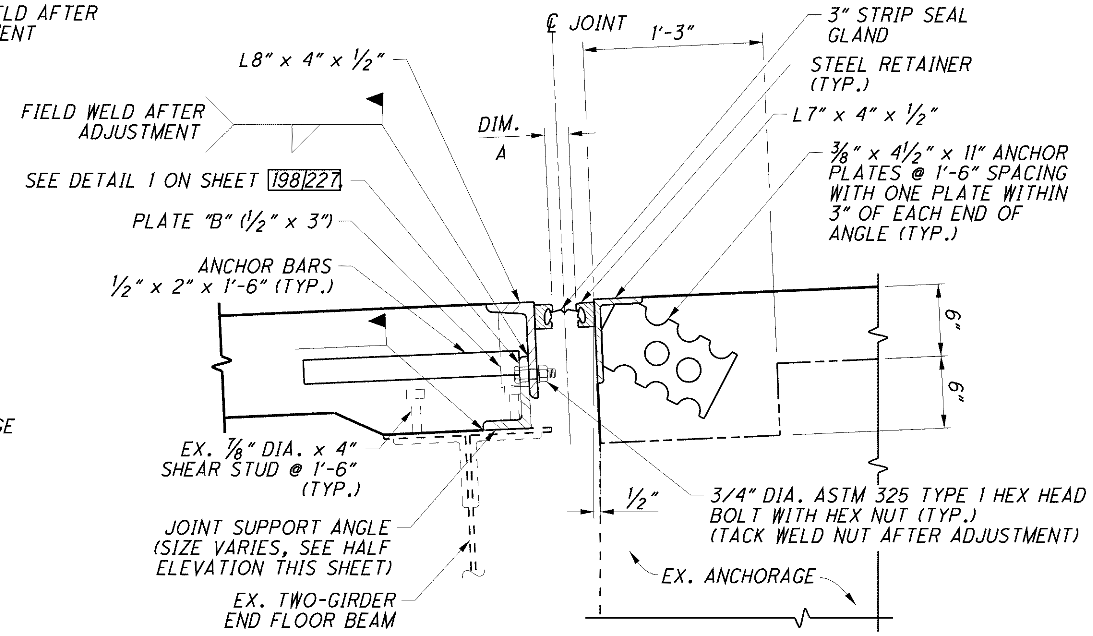
DESIGNED	DRAWN	REVIEWED	DATE
AJM	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



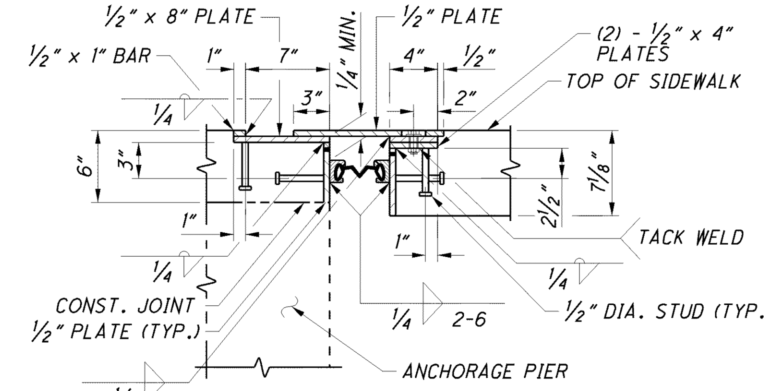
ANCHORAGE - REPLACEMENT SPAN EXPANSION JOINT DETAIL



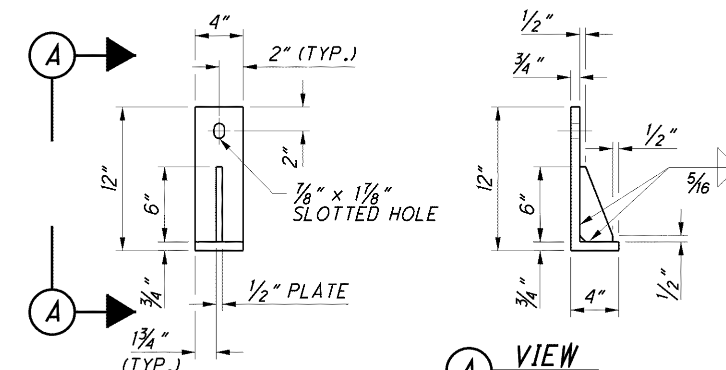
TWO-GIRDER - ANCHORAGE EXPANSION JOINT DETAIL

NOTES:

1. SUPPORT ANGLE POSITIONS SHOWN ARE APPROXIMATE. FINAL POSITIONS ARE DEPENDENT UPON LOCATION OF EXISTING RIVETS IN TOP FLANGE OF END FLOOR BEAM. SUPPORT ANGLES ARE TO BE SET AT APPROXIMATELY 3'-0" CENTERS
2. FOR ANCHORAGE A AND F REPAIR DETAILS SEE SHEETS 65/227, 66/227, 72/227 AND 73/227.
3. SEE SHEET 198/227 FOR SETTING DIMENSION 'A'.
4. FOR ADDITIONAL EXPANSION NOTES AND DETAILS SEE SHEET 198/227 AND 200/227.
5. FOR PIER B AND PIER E EXPANSION NOTES AND DETAILS SEE SHEET 273/227 .

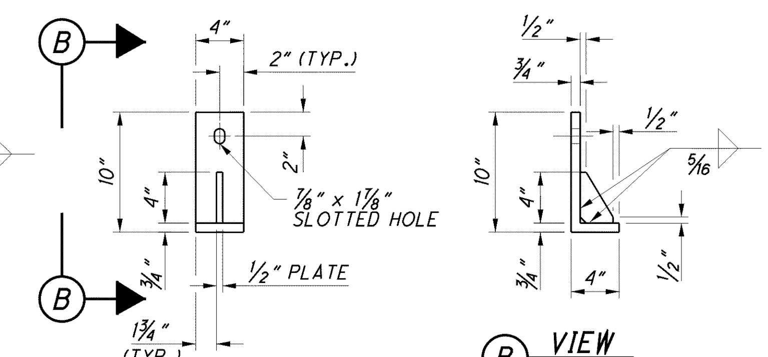


C SECTION
(ANCHORAGE PIERS SHOWN, ALL OTHERS SIMILAR)



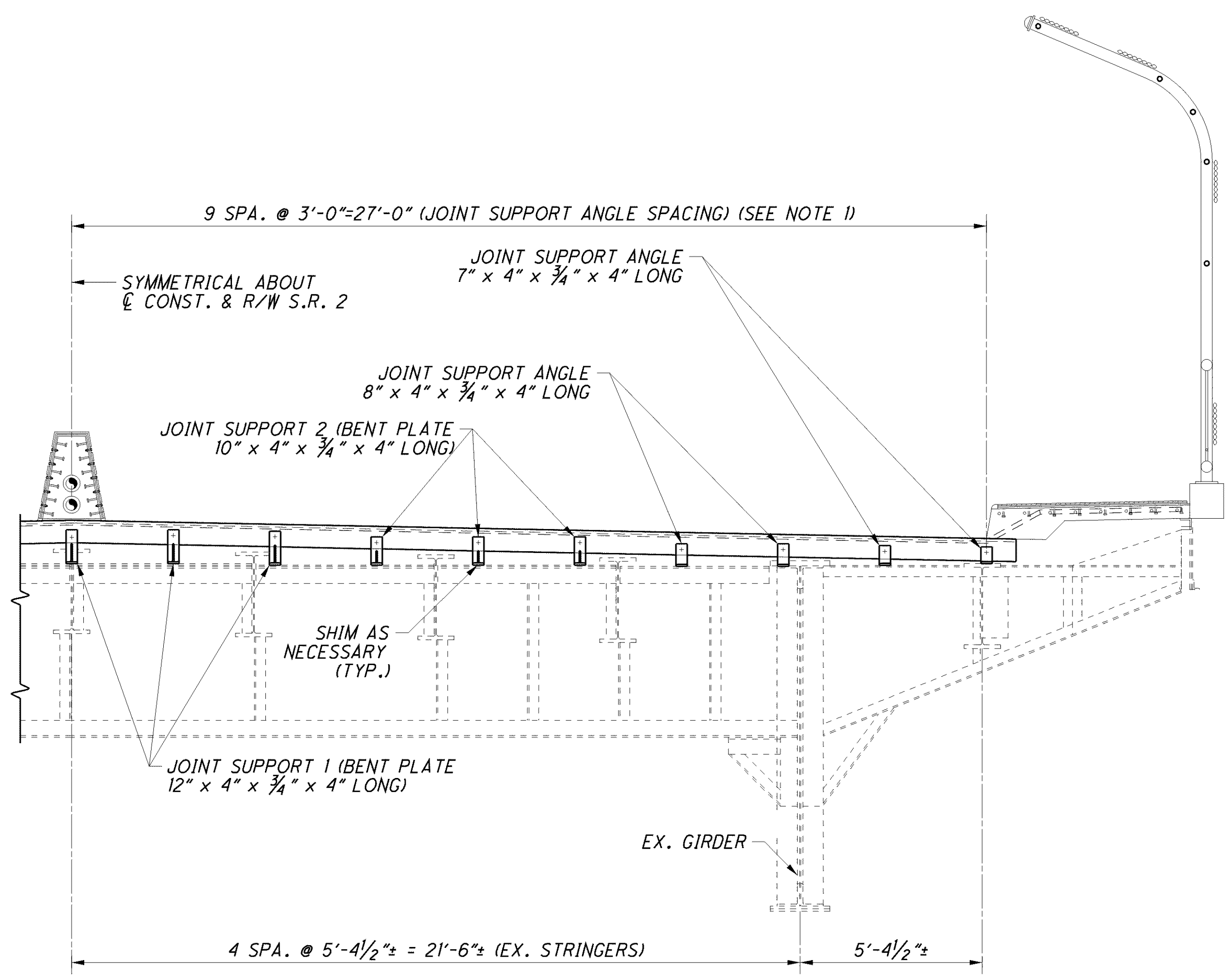
JOINT SUPPORT 1
(BENT PLATE 12" x 4" x 3/4" x 4" LONG)

A VIEW

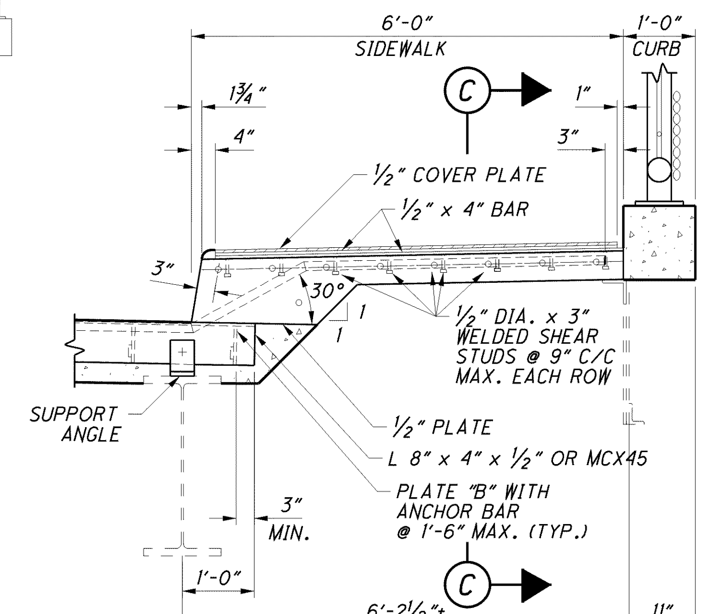


JOINT SUPPORT 2
(BENT PLATE 10" x 4" x 3/4" x 4" LONG)

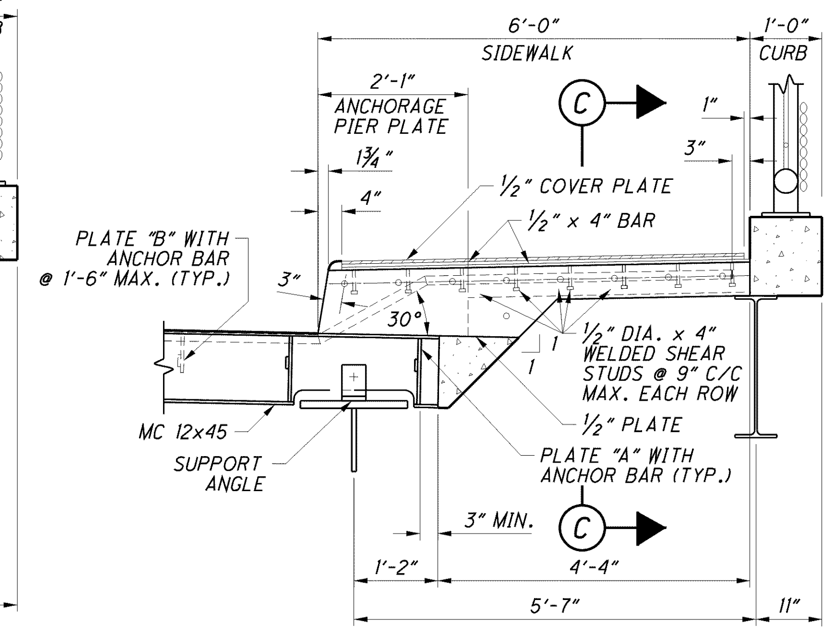
B VIEW



HALF ELEVATION - FLOOR BEAM EXPANSION JOINT SUPPORT ANGLE DETAIL
(PIERS 7W THRU 1W, ℄ BRG. APPR. SPAN ANCHORAGE A, ℄ BRG. APPR. SPAN ANCHORAGE F AND PIERS 1E THRU 7E)



SIDEWALK EXPANSION JOINT DETAIL
(MULTI-BEAM SPAN SHOWN, TWO-GIRDER - MULTI-BEAM SPAN, TWO-GIRDER SPAN AND TWO-GIRDER - ANCHORAGE SPAN SIMILAR)



SIDEWALK EXPANSION JOINT DETAIL
(ANCHORAGE - REPLACEMENT SPAN SHOWN)

DESIGN AGENCY
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ARCADIS U.S., Inc.
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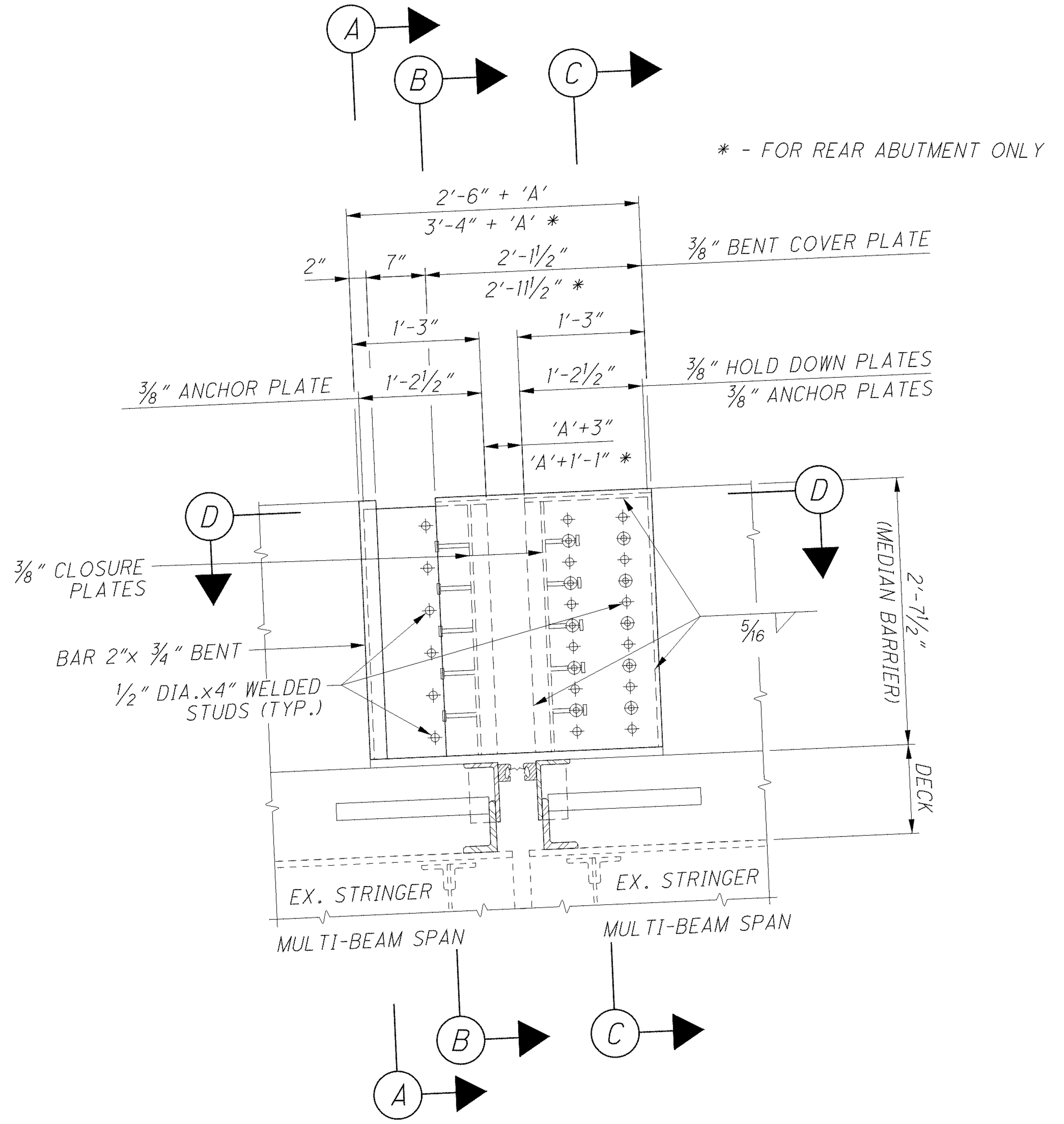
DESIGNED	DRAWN	REVIEWED	DATE
AJM	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

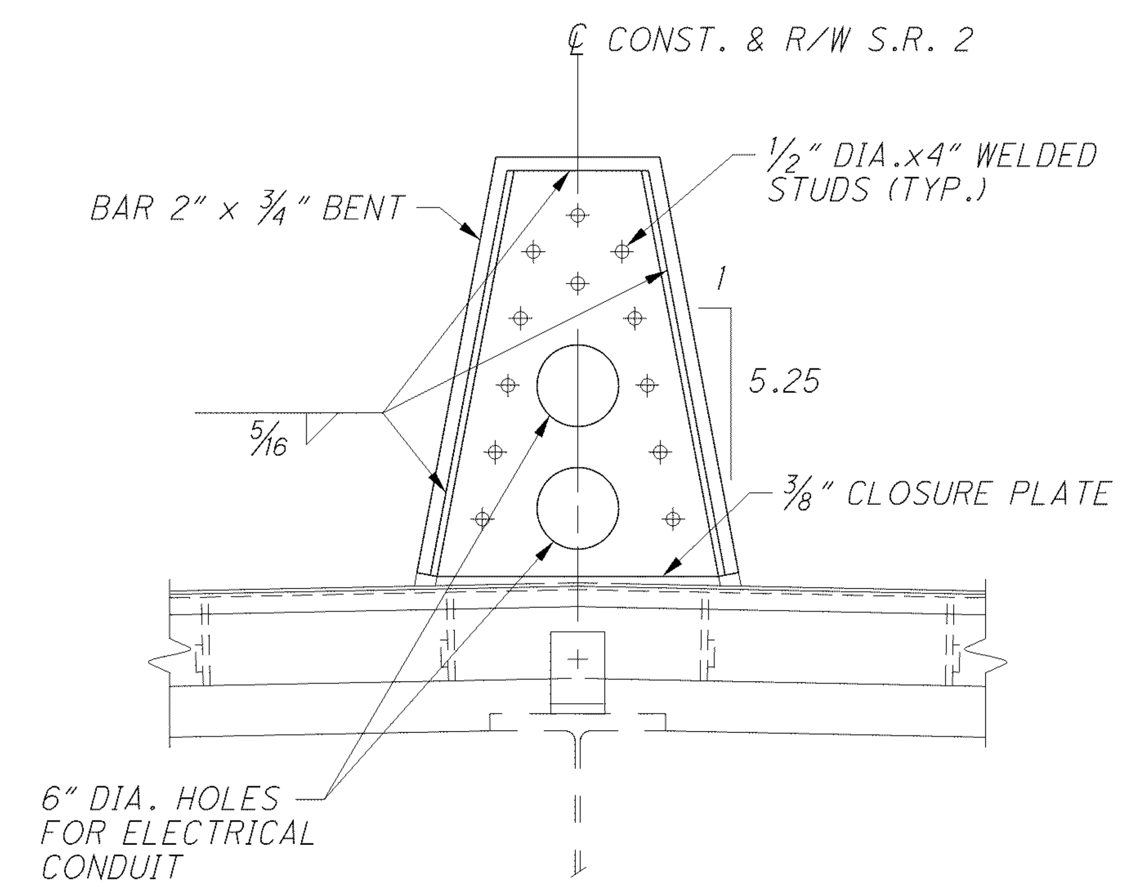
NOTES:

1. FOR ADDITIONAL EXPANSION NOTES AND DETAILS SEE SHEET 198/227 AND 199/227.

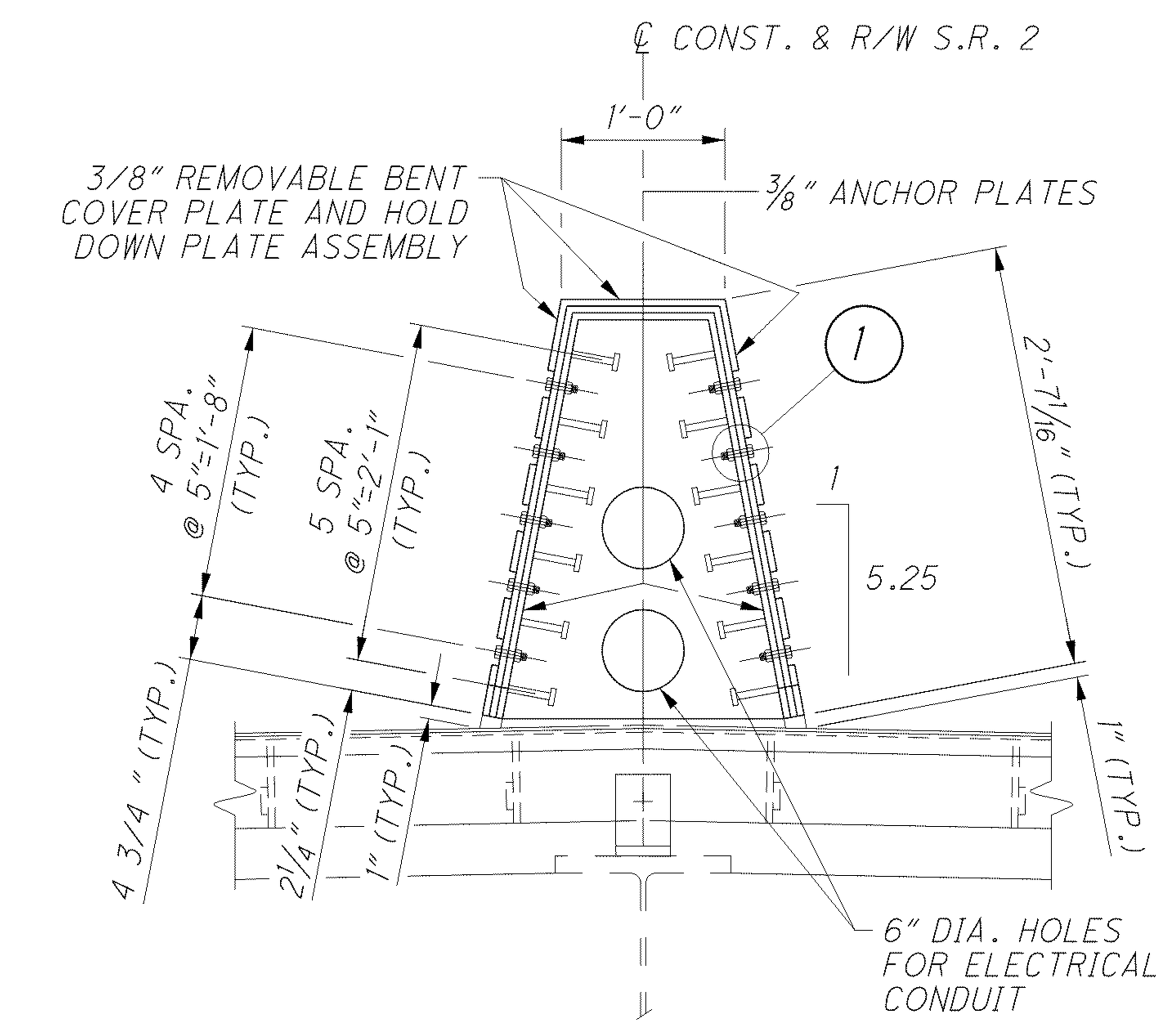


MEDIAN BARRIER EXPANSION JOINT ELEVATION

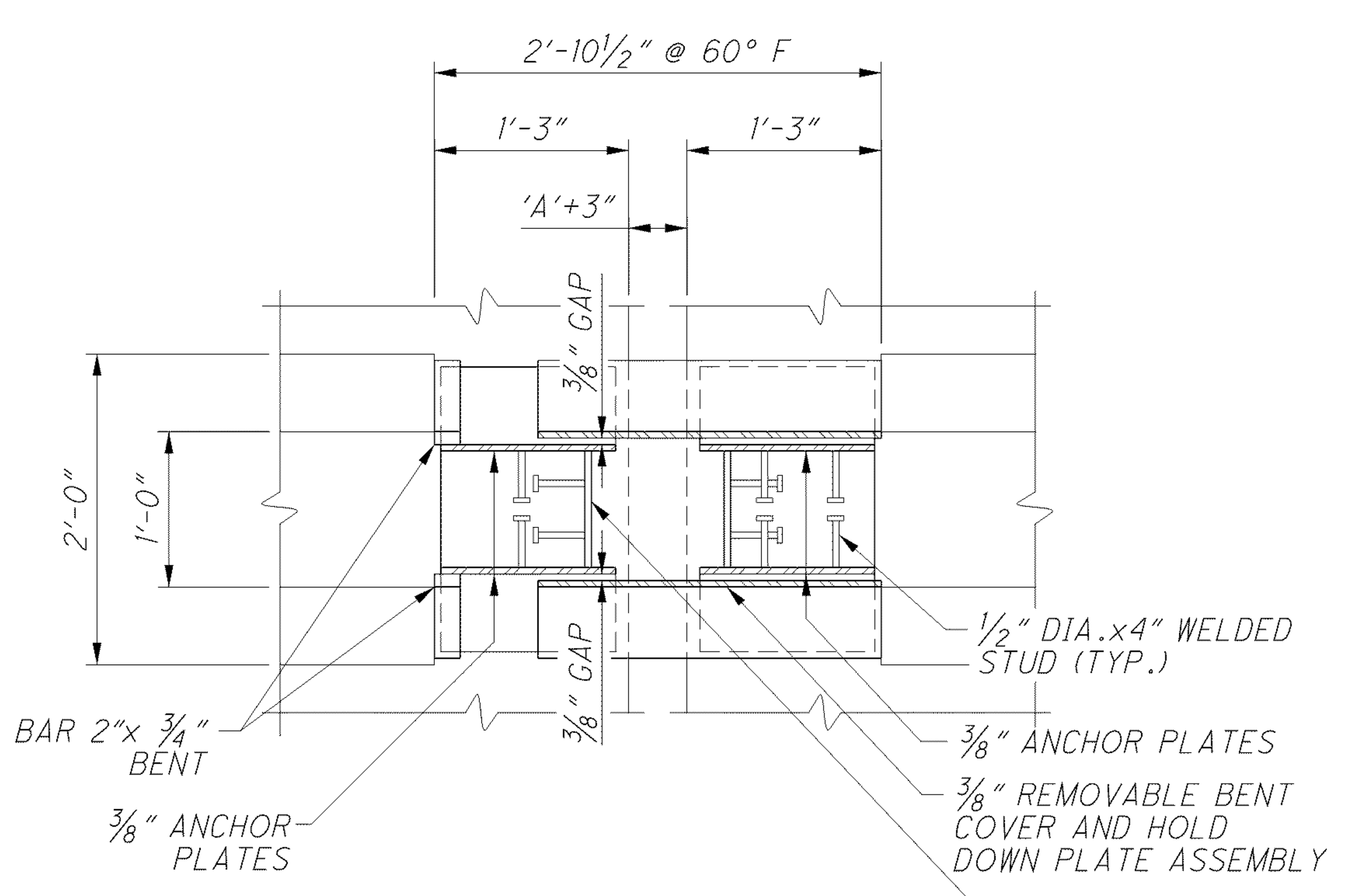
REAR ABUTMENT, PIER 5W, PIER 2W,
REPLACEMENT @ ANCHORAGE A, REPLACEMENT @ ANCHORAGE F,
PIER 2E, PIER 6E, PIER 11E AND PIER 13E



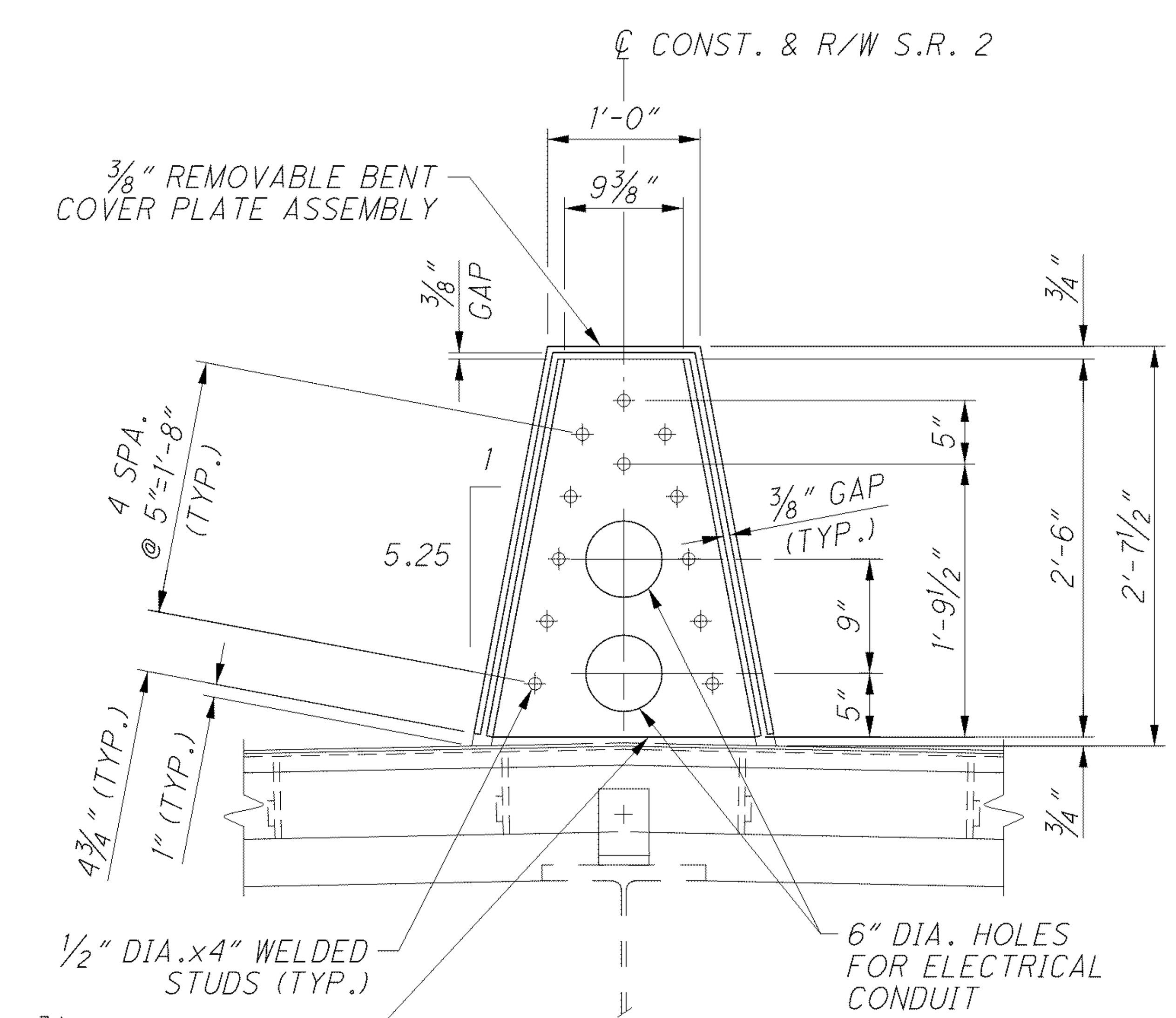
A SECTION



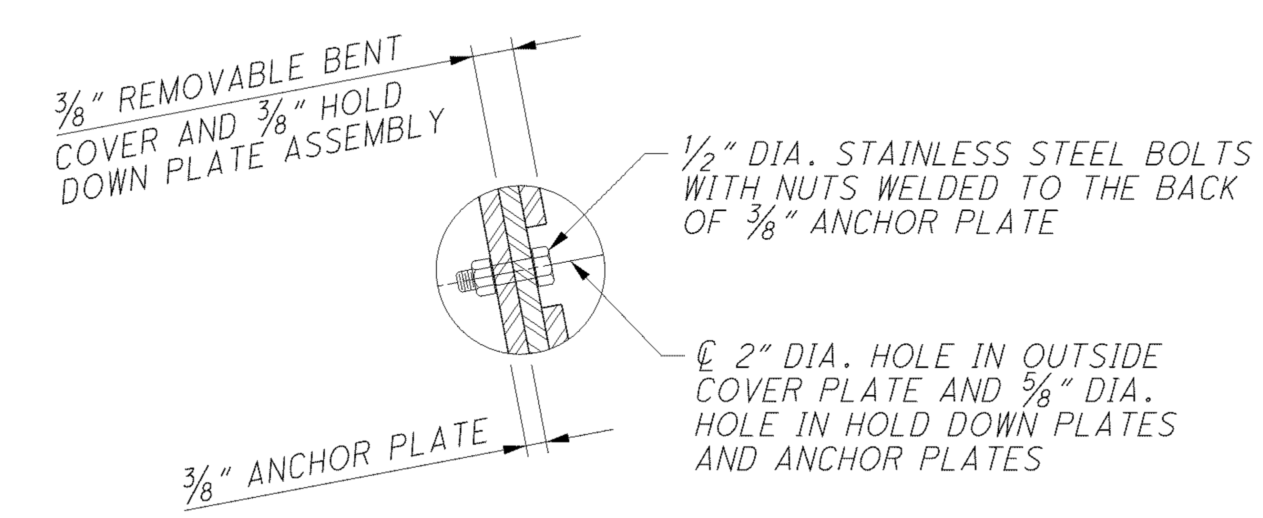
C SECTION



D SECTION



B SECTION



1 DETAIL

DESIGN AGENCY
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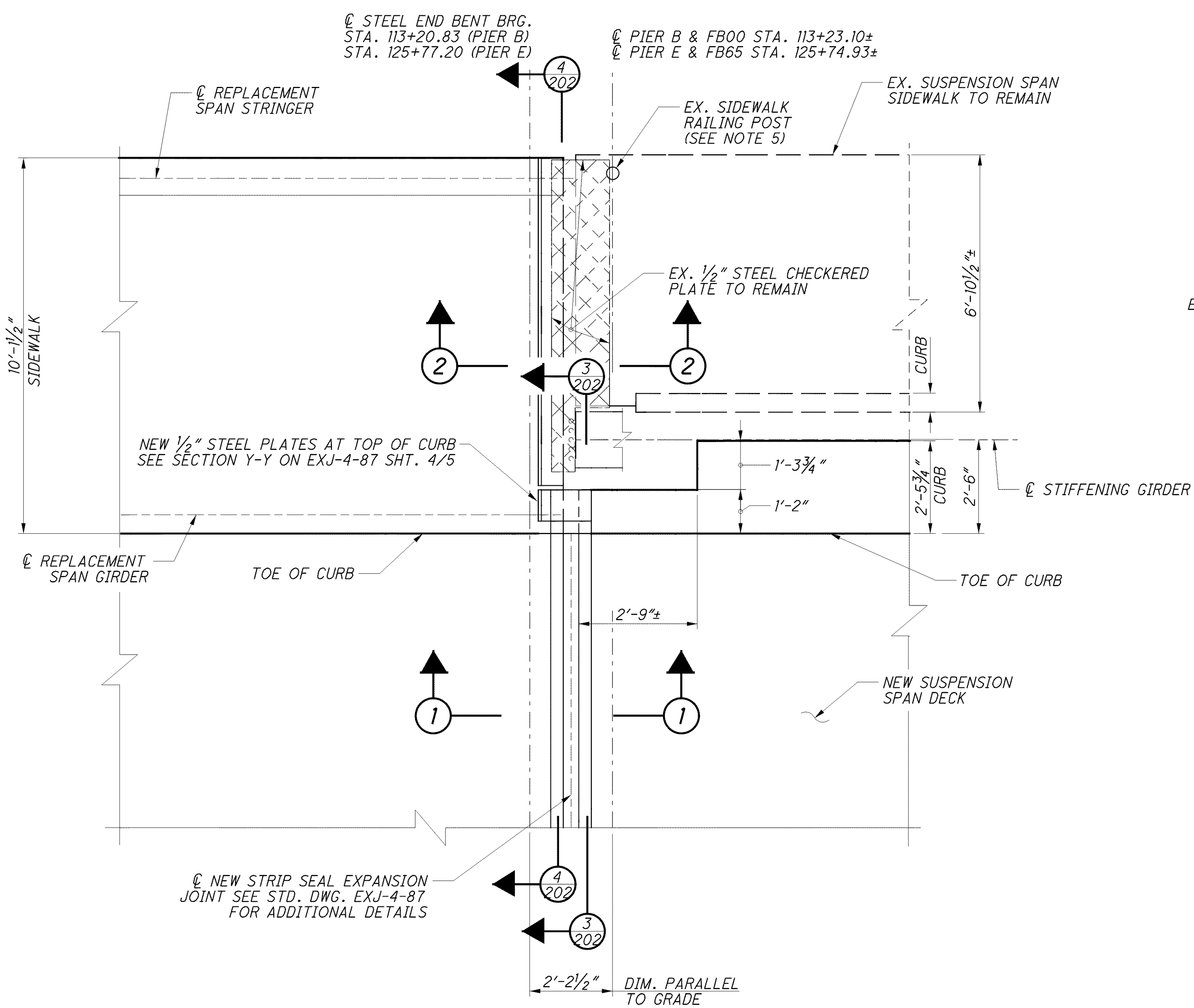
EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

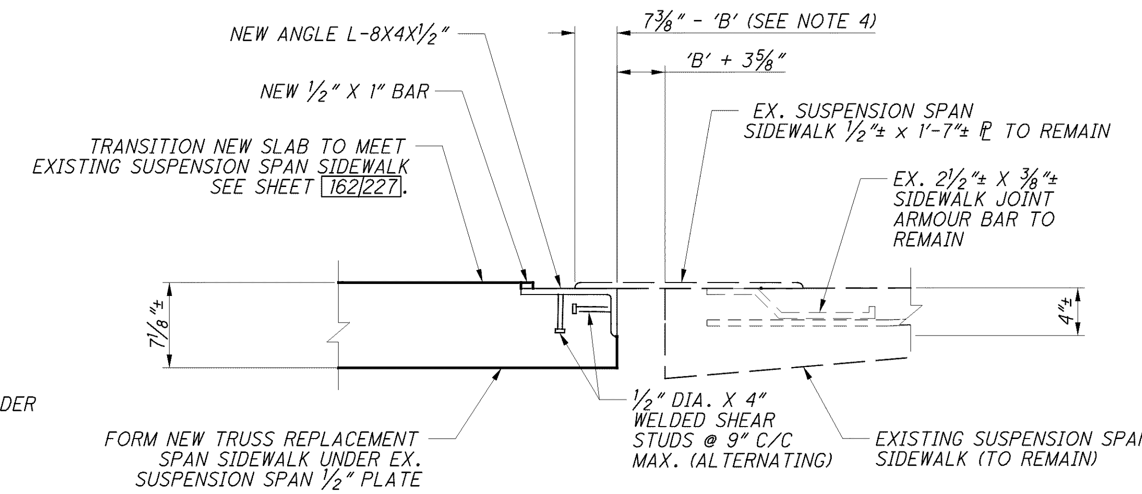


PLAN

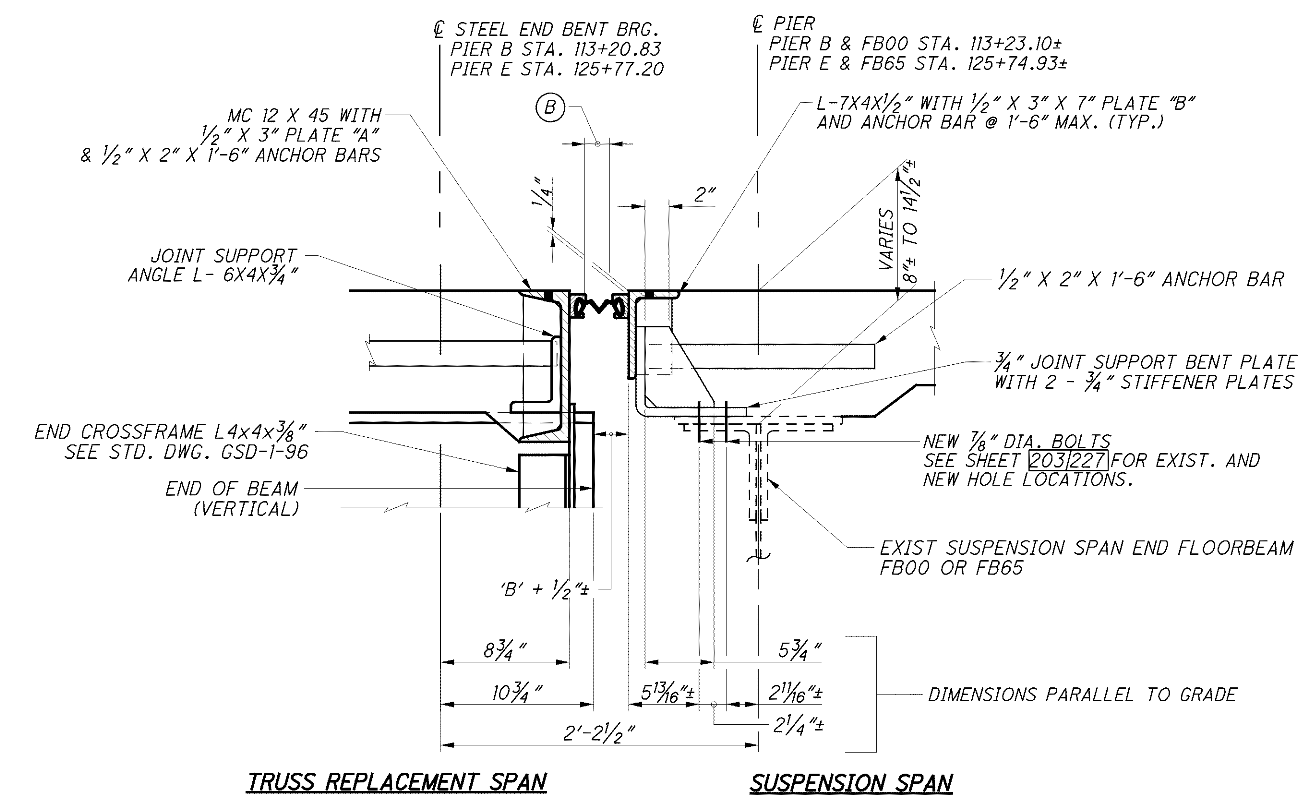
(NORTH SIDE PIER B & SOUTH SIDE PIER E EXPANSION JOINT SHOWN, SOUTH SIDE PIER B & NORTH SIDE PIER E OPPOSITE HAND)

7" STRIP SEAL JOINT WIDTH DIMENSION "B"

JOINT LOCATIONS	TEMPERATURE (°F)						
	30°	40°	50°	60°	70°	80°	90°
PIER B	4 3/4"	4 1/2"	4 1/4"	3 15/16"	3 3/4"	3 1/2"	3 1/4"
PIER E	4 3/4"	4 1/2"	4 1/4"	3 15/16"	3 3/4"	3 1/2"	3 1/4"



(2) SECTION



(1) SECTION

NOTES:

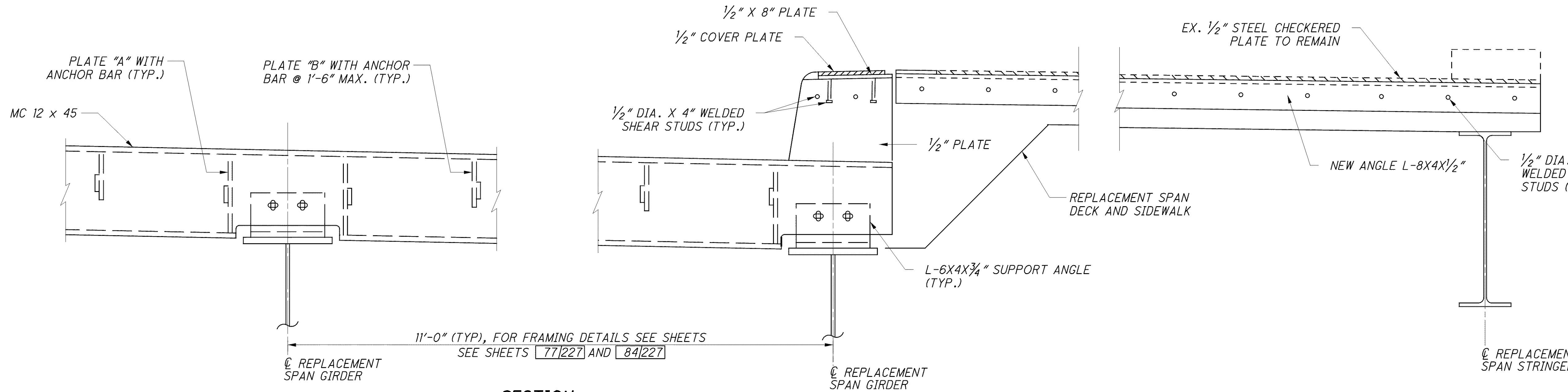
1. THE PIER B & PIER E DECK EXPANSION JOINTS ARE A MODIFICATION OF STANDARD DRAWING EXJ-4-87. THE EXISTING SUSPENSION SPAN SIDEWALK CONCRETE & JOINT MATERIAL WILL REMAIN IN PLACE AND THE TRUSS REPLACEMENT SIDEWALK & JOINT MATERIAL WILL BE FORMED TO MATCH THE EXISTING SUSPENSION SPAN SIDEWALK JOINT.
2. FOR ADDITIONAL JOINT DETAILS AND NOTES, REFER TO ODOT STANDARD DRAWING EXJ-4-87 SHEETS 1 THRU 5. FOR REPLACEMENT SPAN STEEL DETAILS, SEE SHEET 90/227.
3. CONTRACTOR TO VERIFY EXISTING JOINT MATERIAL IN SUSPENSION SPAN SIDEWALK WHEN TRUSS SPAN DECK AND SIDEWALK IS REMOVED.
4. END OF JOINT ARMOURING AND CURB NOTCH LENGTH MAY VARY DUE TO DIFFERENCES IN STEEL RETAINER DETAILS. DIMENSION "B" WILL CONTROL THE FINAL NOTCH LENGTH. SEE SHEET 186/227 FOR ADDITIONAL CURB DETAILS, INCLUDING REINFORCING.
5. EXISTING SIDEWALK RAILING POSTS TO BE REMOVED AND REPLACED. SEE SHEETS 60/227 AND 193/227.
6. THIS JOINT REPLACEMENT WILL BE COMPLETED DURING SUSPENSION SPAN DECK POUR STAGE 9 AND WILL REQUIRE COORDINATION WITH OTHER REPAIRS.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C.

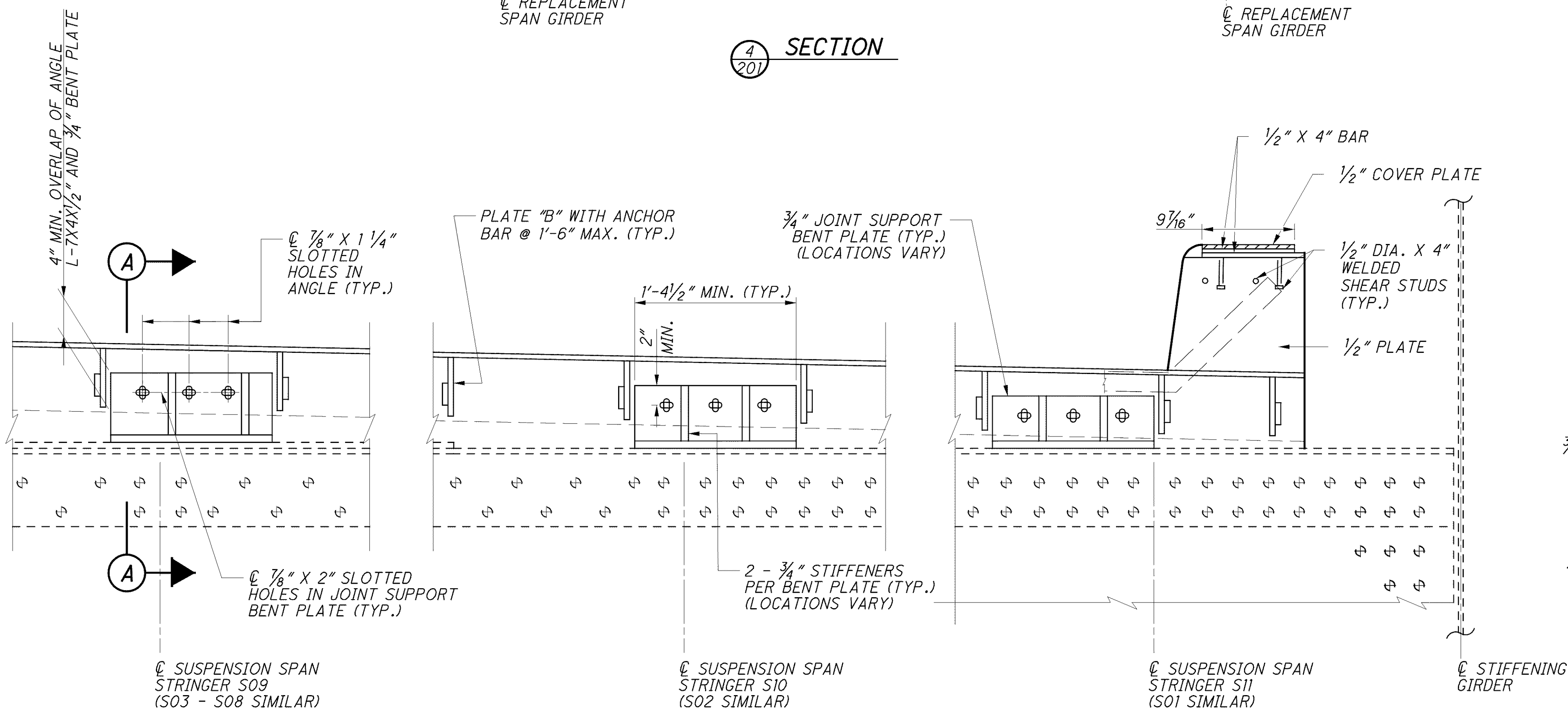
DESIGNED PLC/LMS | CHECKED EFD | DRAWN GCK/LMS | REVIEWED PLC | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

EXPANSION JOINT DETAILS - PIERS B & E 1 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

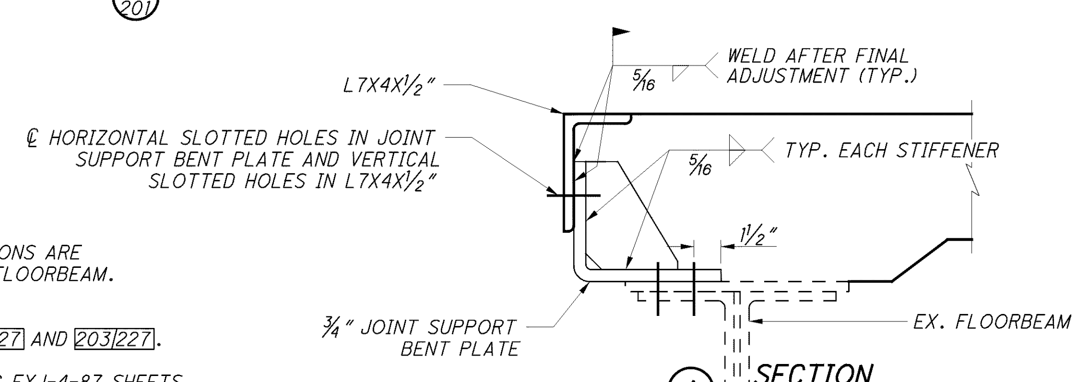
LUC-2-18.62
PID No. 80551



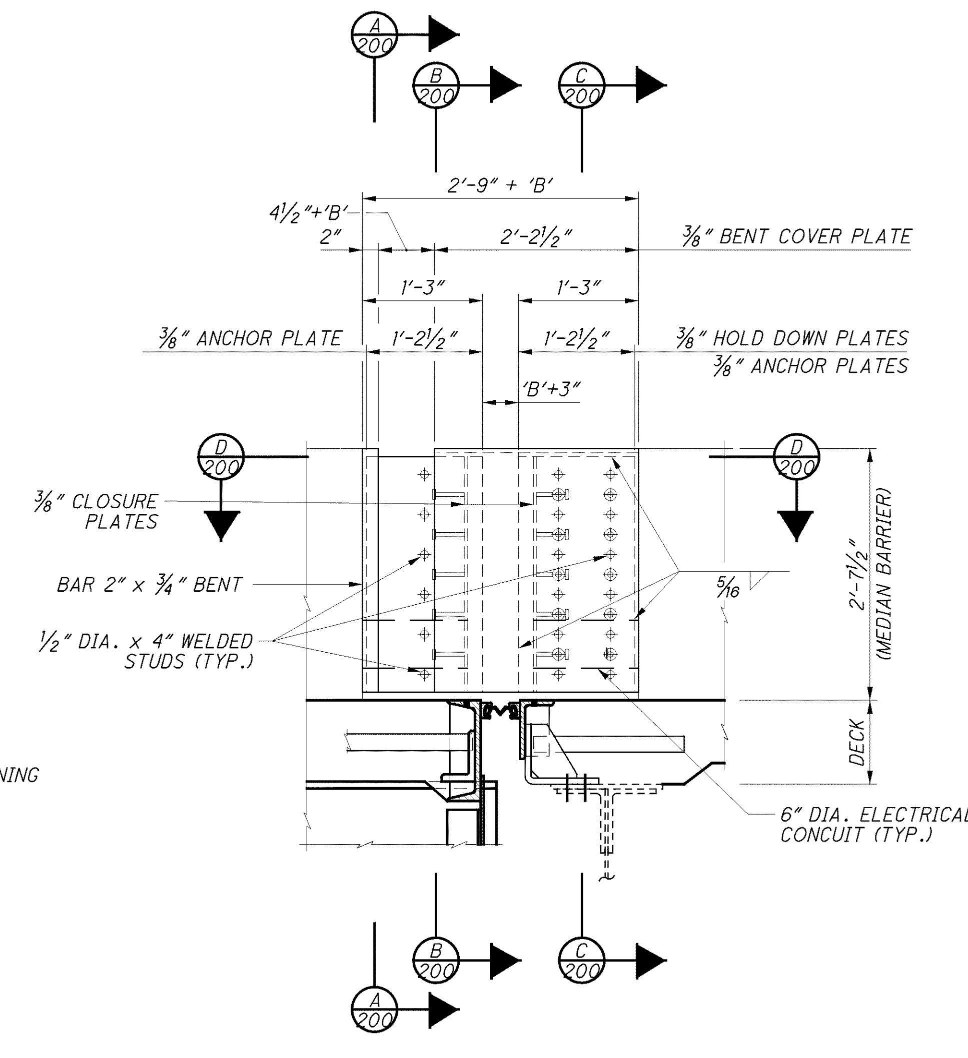
4/201 SECTION



3/201 SECTION



A SECTION



MEDIAN BARRIER EXPANSION JOINT ELEVATION

NOTES:

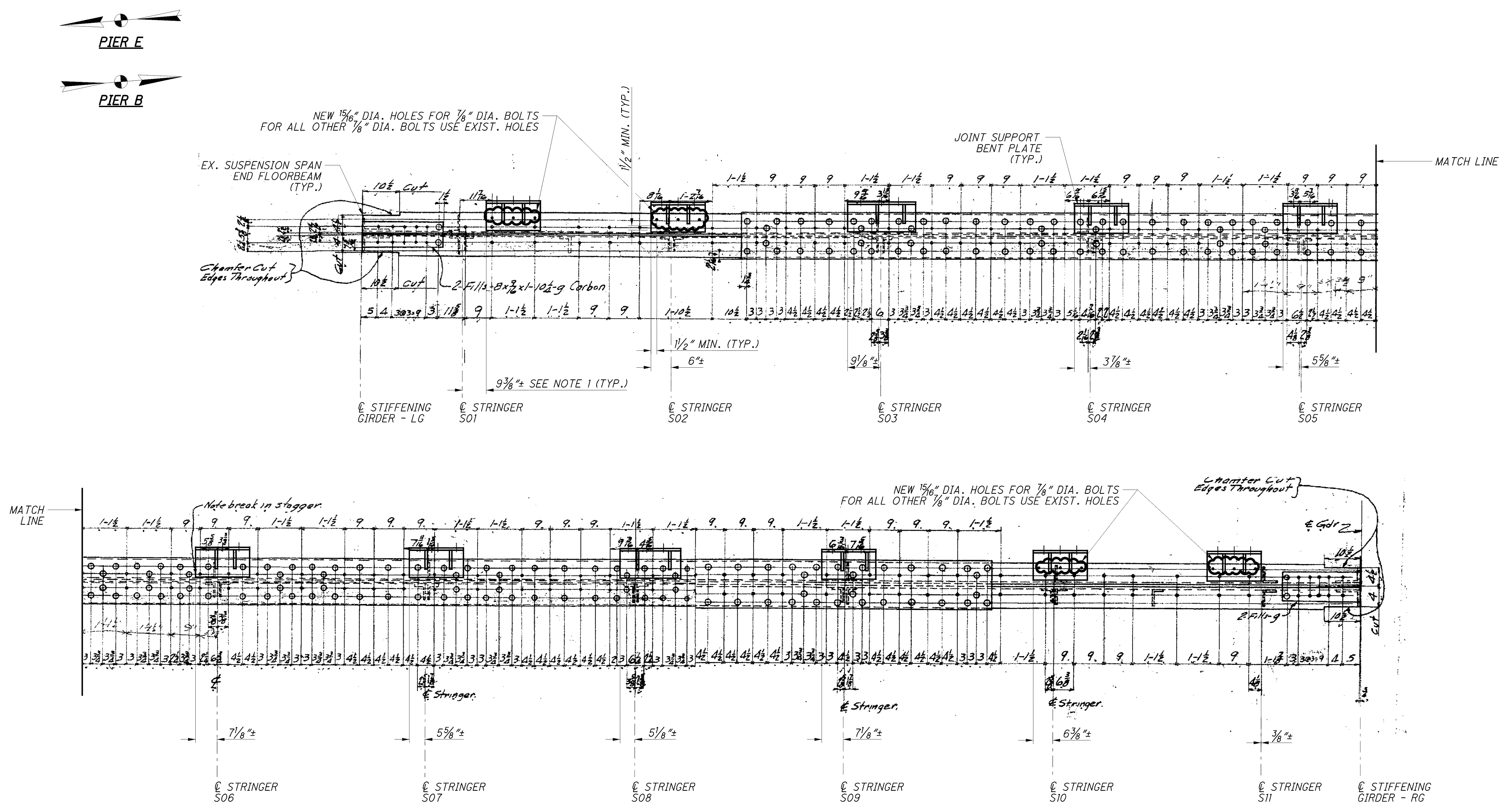
1. JOINT SUPPORT BENT PLATE POSITIONS ARE APPROXIMATE. FINAL POSITIONS ARE DEPENDENT UPON LOCATION OF EXISTING RIVETS IN TOP FLANGE OF END FLOORBEAM. SEE SHEET 203/227.
2. FOR ADDITIONAL EXPANSION JOINT NOTES AND DETAILS SEE SHEETS 201/227 AND 203/227.
3. FOR DETAILS AND NOTES NOT SHOWN, REFER TO ODOT STANDARD DRAWING EXJ-4-87 SHEETS 1 THRU 5.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C.

DESIGNED LMS | CHECKED EFD | DRAWN LMS | REVISED | REVIEWED PLC | DATE 8/12 | STRUCTURE FILE NUMBER 4800303

EXPANSION JOINT DETAILS - PIERS B & E 2 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



PLAN - PIER B & E EXPANSION JOINT SUPPORT PLATE LOCATIONS

NOTES:

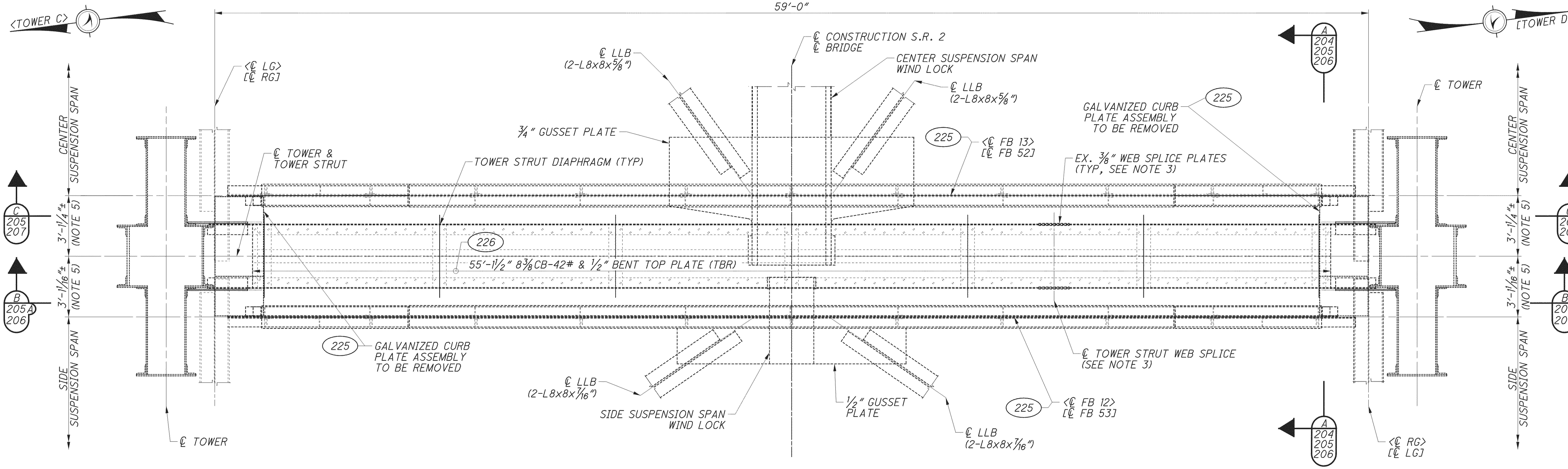
1. JOINT SUPPORT BENT PLATE POSITIONS ARE APPROXIMATE. FINAL POSITIONS ARE DEPENDENT UPON LOCATION OF EXISTING RIVETS IN TOP FLANGE OF END FLOORBEAM.
2. JOINT SUPPORT BENT PLATE STIFFENER AND BOLT LOCATIONS SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING RIVET LOCATIONS AND ADJUST LOCATIONS AS NECESSARY.
3. JOINT SUPPORT BENT PLATE LENGTH VARIES BASED ON LOCATION AND FIT WITH EXISTING RIVETS AND STIFFENERS. BOLT JOINT SUPPORT BENT PLATE TO TOP OF EXISTING SUSPENSION SPAN END FLOORBEAM WITH A MINIMUM OF FOUR 7/8" DIA. BOLTS. PROVIDE A MINIMUM BENT PLATE WIDTH OF 1'-4 1/2". OVERLAP 7X4X1/2" ANGLE WITH JOINT SUPPORT BENT PLATE A MINIMUM OF 4".
4. FOR ADDITIONAL EXPANSION NOTES AND DETAILS SEE SHEETS 201/227 AND 202/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4661 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

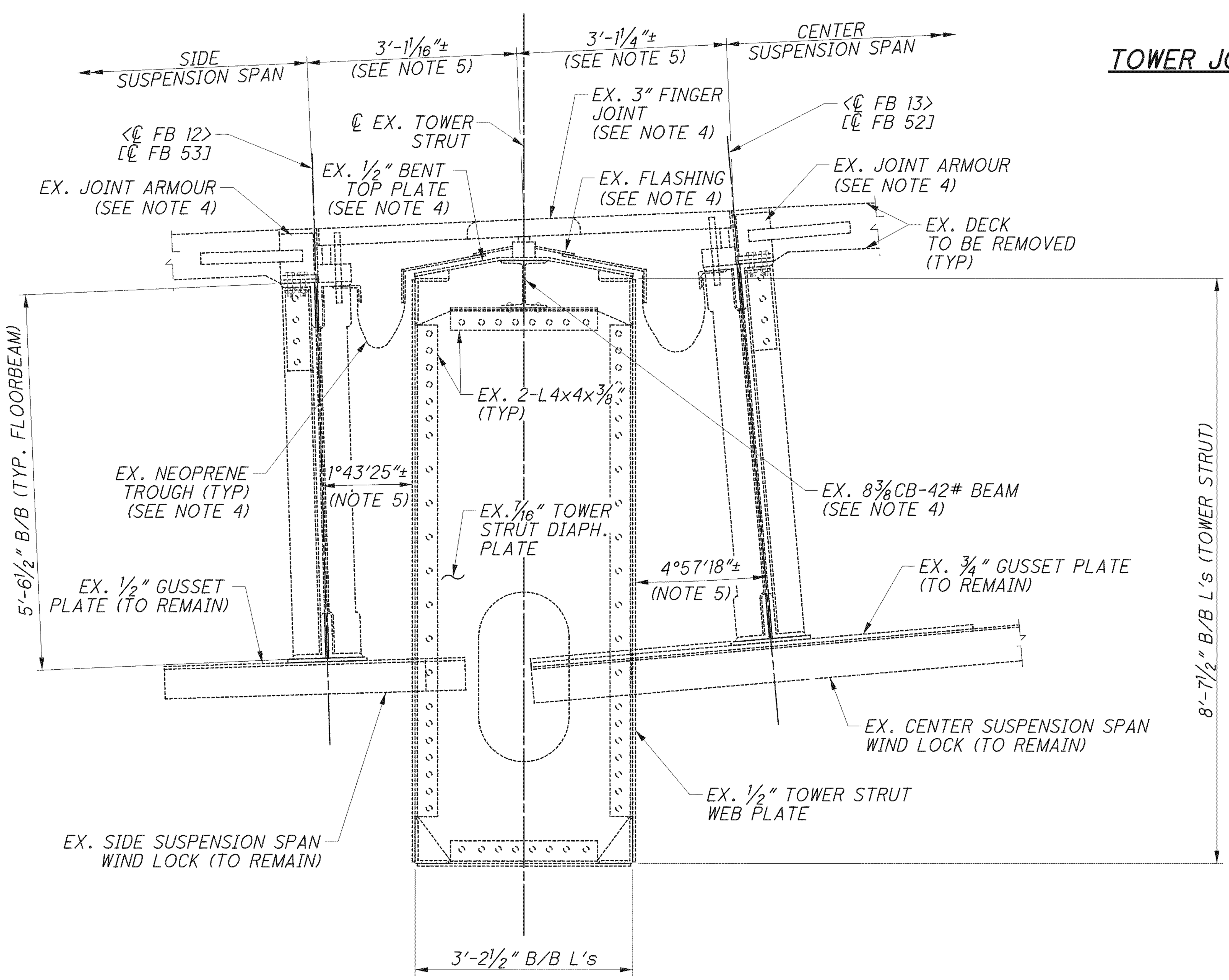
REVIEWED PLC | DATE 8/12
STRUCTURE FILE NUMBER 4800303
DESIGNED LMS | DRAWN LMS | CHECKED EFD | REVISED

EXPANSION JOINT DETAILS - PIERS B & E 3 OF 3
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



TOWER JOINT SUPPORT FRAMING PLAN
(DECK NOT SHOWN)



A/204 SECTION
MIN. VERTICAL DIMENSION SHOWN (AT CURB LINE)
EXISTING DECK AND JOINT SHOWN

NOTES:

1. DIMENSIONS AND CALLOUTS LISTED IN < > ARE FOR TOWER C. DIMENSIONS AND CALLOUTS LISTED IN [ ] ARE FOR TOWER D.
2. B/B = BACK TO BACK LEGS OF ANGLES
   LLB = LOWER LATERAL BRACING
   DIAPH. = DIAPHRAGM
   (###) = BASIS OF PAYMENT FOR REMOVAL (ITEM 513 REPAIR TYPE)
   SEE NOTES ON SHEET 16/227 FOR BASIS OF PAYMENT OF NEW ITEMS.
3. TOWER STRUT WEB SPLICE IS LOCATED ON THE SOUTH SIDE OF TOWER C AND THE NORTH SIDE OF TOWER D.
4. FOR EXISTING JOINT, TOWER STRUT, AND FLOORBEAM REMOVAL DETAILS SEE SHEETS 205/227 AND 205A/227.
5. EXISTING ℄ FLOORBEAM TO ℄ TOWER DIMENSIONS WERE TAKEN AT 55°F±. SEE NEW JOINT DETAILS ON SHEETS 209/227 AND 211/227 FOR NEW CONTROLLING JOINT DIMENSIONS.
6. ALL EXISTING DIMENSIONS FOR FLOORBEAM AND TOWER JOINT DETAILS ARE AS PER ORIGINAL PLANS AND ARE "±" UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS AS PER CMS 102.05 AND 105.02 TO ENSURE PROPER FIT OF REPAIRS.

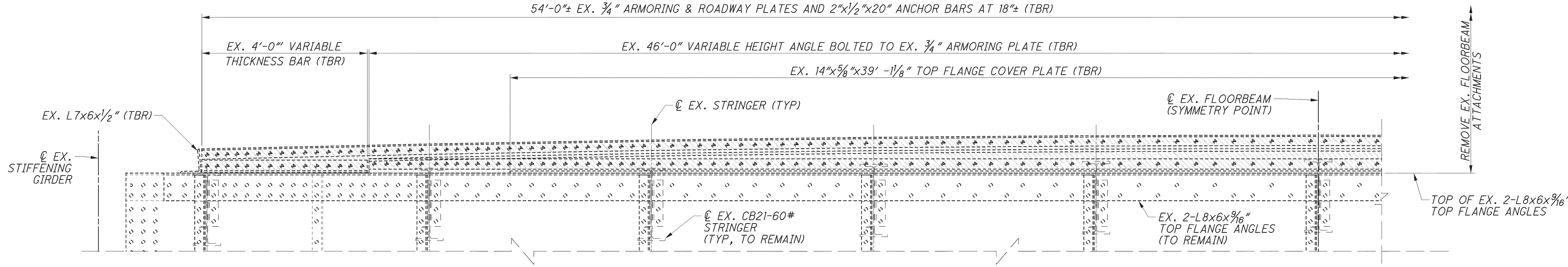
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
EFD	DEK	EFD	EFD	PLC	2/13

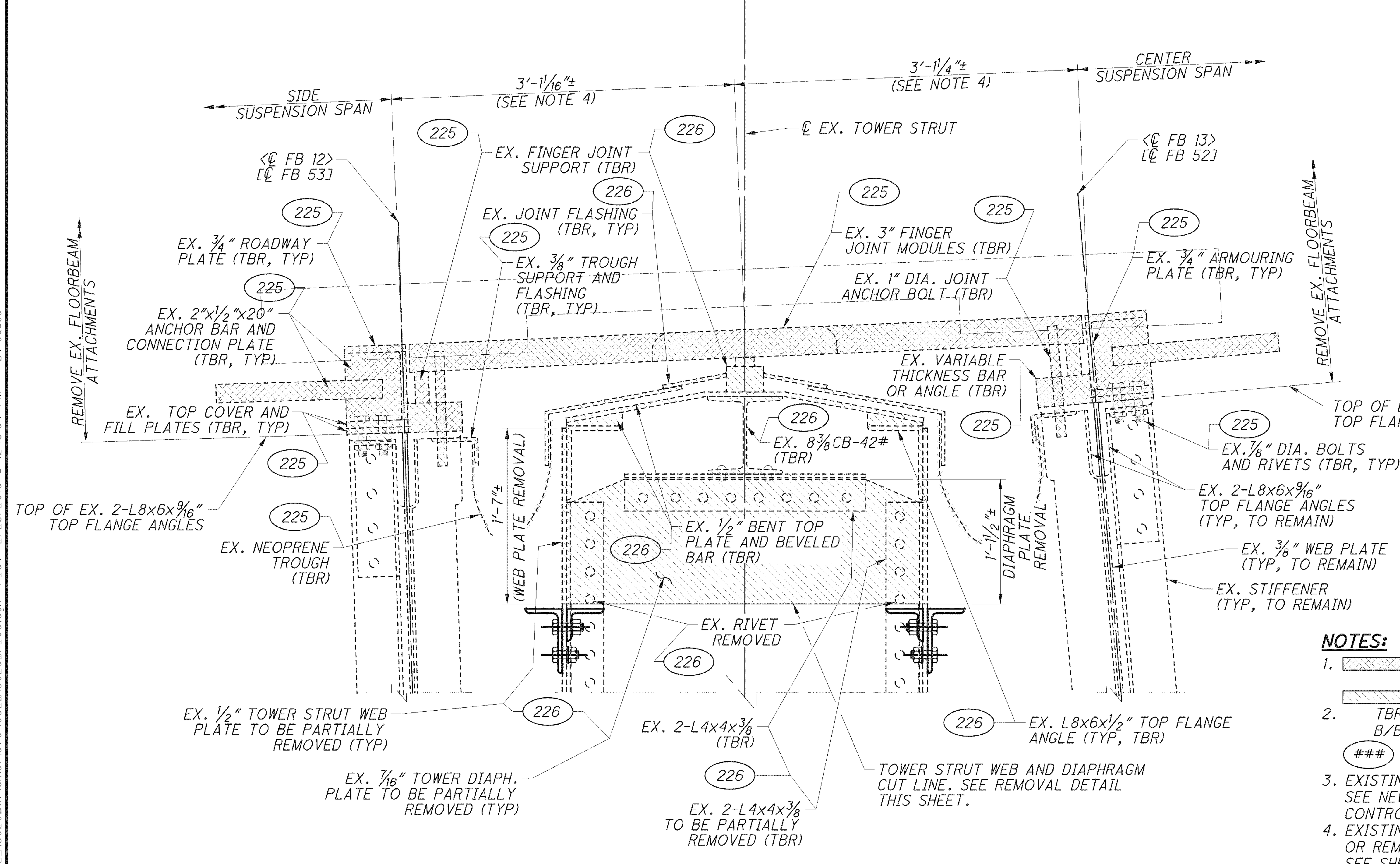
STRUCTURE FILE NUMBER 4800303

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

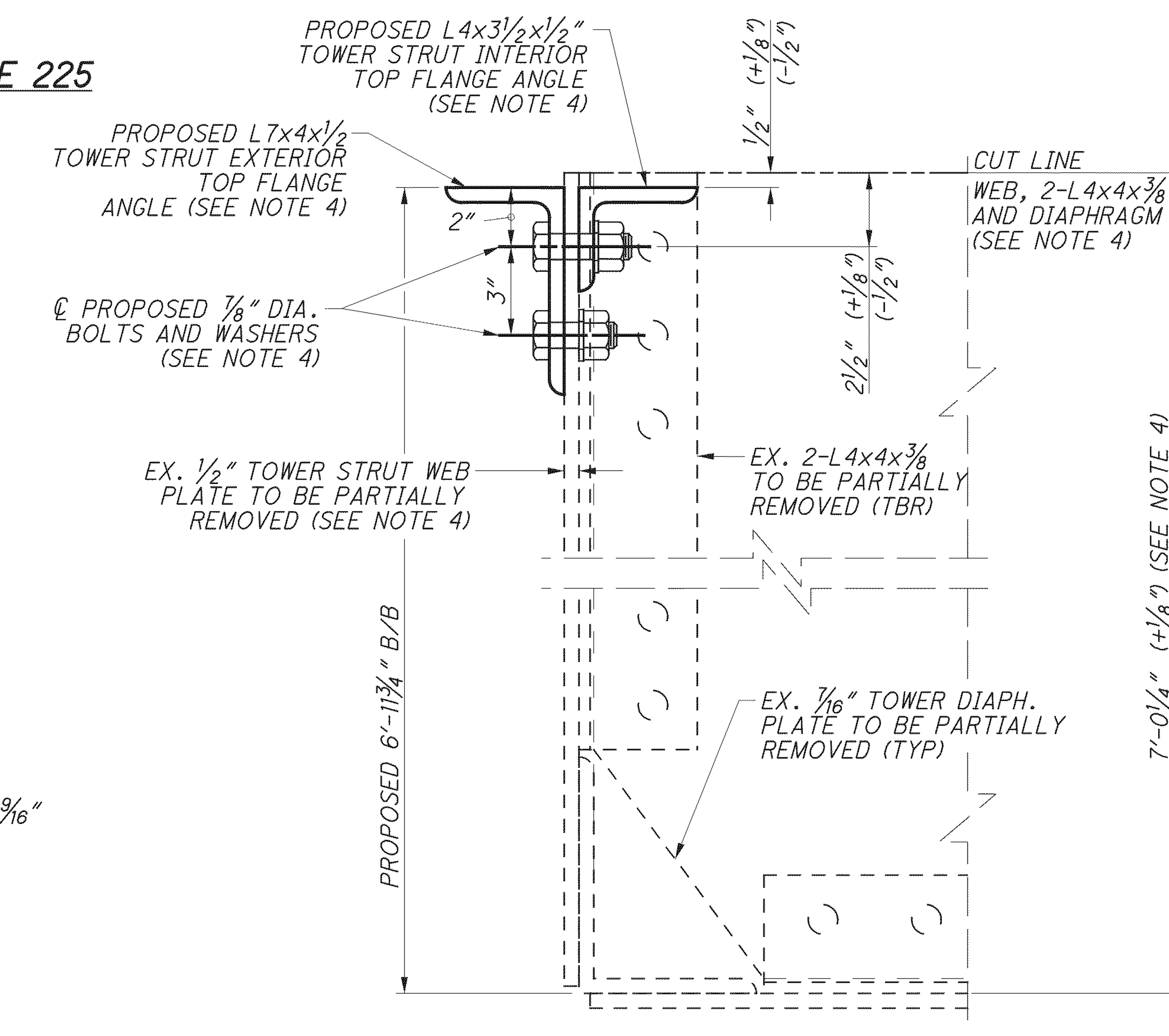
LUC-2-18.62
PID No. 80551



C/204 **HALF ELEVATION - EX. FLOORBEAM STEEL REMOVAL DETAILS - REPAIR TYPE 225**
FB 12/53 SHOWN, FB 13/52 SIMILAR, EX. SLAB NOT SHOWN FOR CLARITY



A/204 **SECTION**
STEEL REMOVAL DETAILS (SEE NOTE 4)



A/205A **REMOVAL DETAIL**
PARTIAL STEEL DETAILS AFTER REMOVAL

NOTES:

1. [hatched] = FLOORBEAM, JOINT, JOINT SUPPORT, AND JOINT FLASHING REMOVAL, REPAIR TYPE 225
   [hatched] = TOWER STRUT STEEL REMOVAL, REPAIR TYPE 226
2. TBR = TO BE REMOVED
   B/B = BACK TO BACK LEGS OF ANGLES
   (###) = REMOVAL BASIS OF PAYMENT (ITEM 513 REPAIR TYPE)
   SEE SHEET 16/227 FOR NOTES AND BASIS OF PAYMENT FOR PROPOSED ITEMS.
3. EXISTING ℄ FLOORBEAM TO ℄ TOWER DIMENSIONS WERE TAKEN AT 55°F±. SEE NEW JOINT DETAILS ON SHEETS 209/227 AND 211/227 FOR NEW CONTROLLING JOINT DIMENSIONS.
4. EXISTING TOWER STRUT WEB PLATES, DIAPHRAGM PLATES AND L8x6x1/2 TOP FLANGE ANGLES SHALL NOT BE CUT OR REMOVED BEFORE THE PROPOSED TOWER STRUT TOP FLANGE ANGLES HAVE BEEN INSTALLED. SEE SHEET 206/227 FOR FURTHER DETAILS OF PROPOSED TOP FLANGE ANGLES.

   THE CONTRACTOR MAY OPTIONALLY ELECT TO INSTALL ONLY THE PROPOSED L7x4x1/2 EXTERIOR ANGLES BEFORE CUTTING AND REMOVING THE EXISTING TOWER STRUT WEB, DIAPHRAGM PLATES, AND TOP FLANGE ANGLES. ALL PROPOSED BOLTS SHALL BE INSTALLED AND FASTENED THROUGH THE PROPOSED L7x4x1/2 AND EXISTING TOWER STRUT WEB BEFORE CUTTING THE EXISTING TOWER STRUT WEB OR DIAPHRAGM PLATES OR REMOVING THE EXISTING TOWER STRUT TOP FLANGE ANGLES. AFTER TOWER STRUT CUTTING AND REMOVAL IS COMPLETE, THE PROPOSED INTERIOR L4x3 1/2x1/2 TOP FLANGE ANGLES SHALL BE INSTALLED ONE AT A TIME, WITH THE TOP ROW OF BOLTS THROUGH THE PROPOSED L7x4x1/2 REMOVED AND REPLACED ONLY AS REQUIRED TO INSTALL A SINGLE PROPOSED L4x3 1/2x1/2 INTERIOR TOWER STRUT FLANGE ANGLE.

   PROPOSED HOLES IN EXISTING TOWER STRUT WEB PLATE SHALL BE 15/16" DIAMETER. ALL HOLES THROUGH LEGS OF NEW TOWER STRUT TOP FLANGE AND DIAPHRAGM ANGLES SHALL BE 1 1/16" DIAMETER.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4151 EXECUTIVE PARKWAY SUITE 360 WESTERVILLE, OHIO 43081

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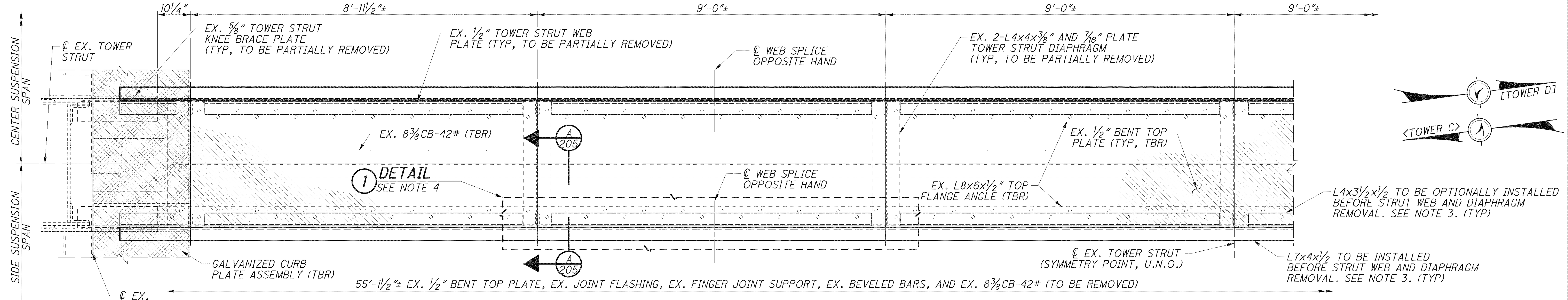
EFD	DEK	EFD	EFD	PLC	2/13

STRUCTURE FILE NUMBER 4800303

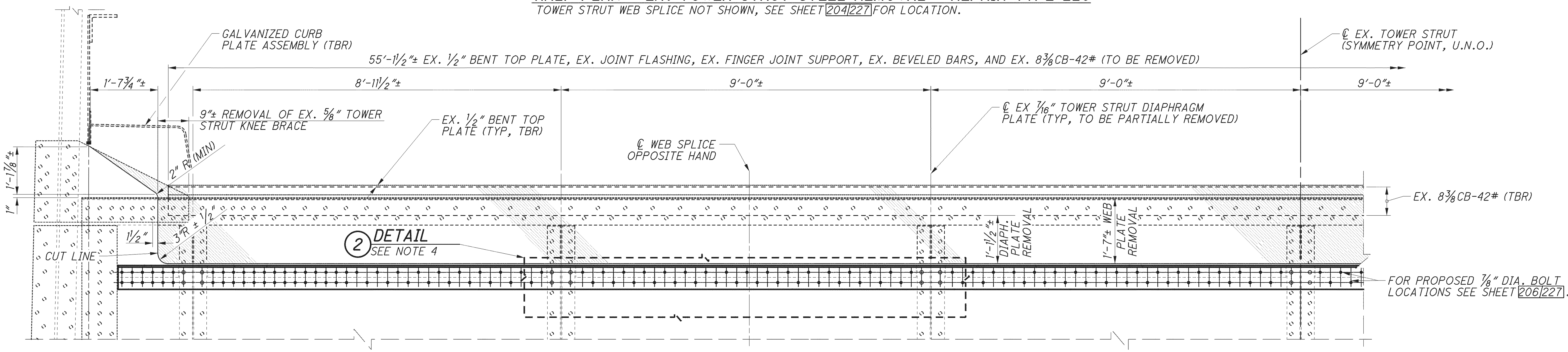
TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



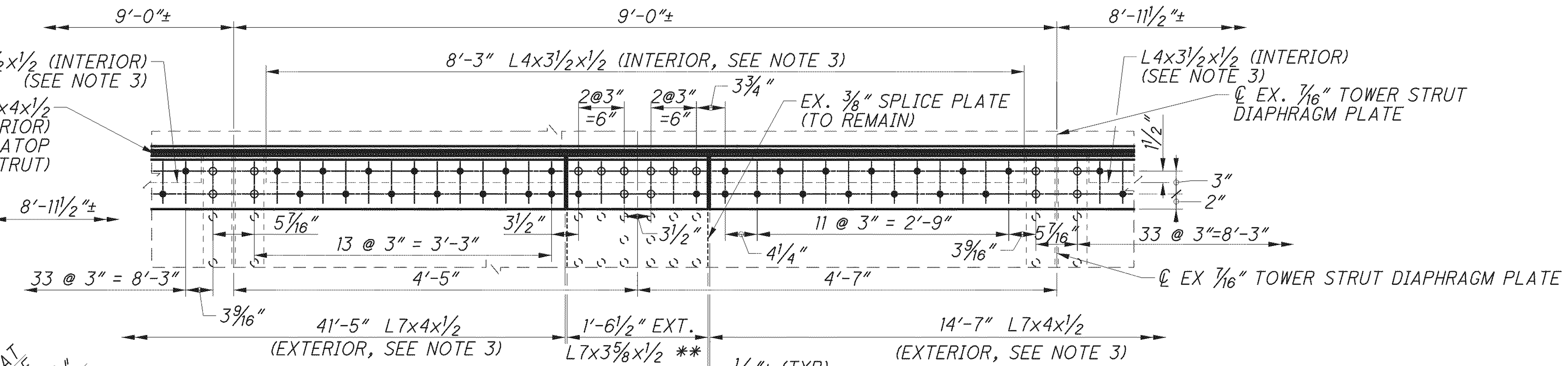
HALF PLAN - EX. TOWER STRUT STEEL REMOVAL - REPAIR TYPE 226

TOWER STRUT WEB SPLICE NOT SHOWN, SEE SHEET 204/227 FOR LOCATION.



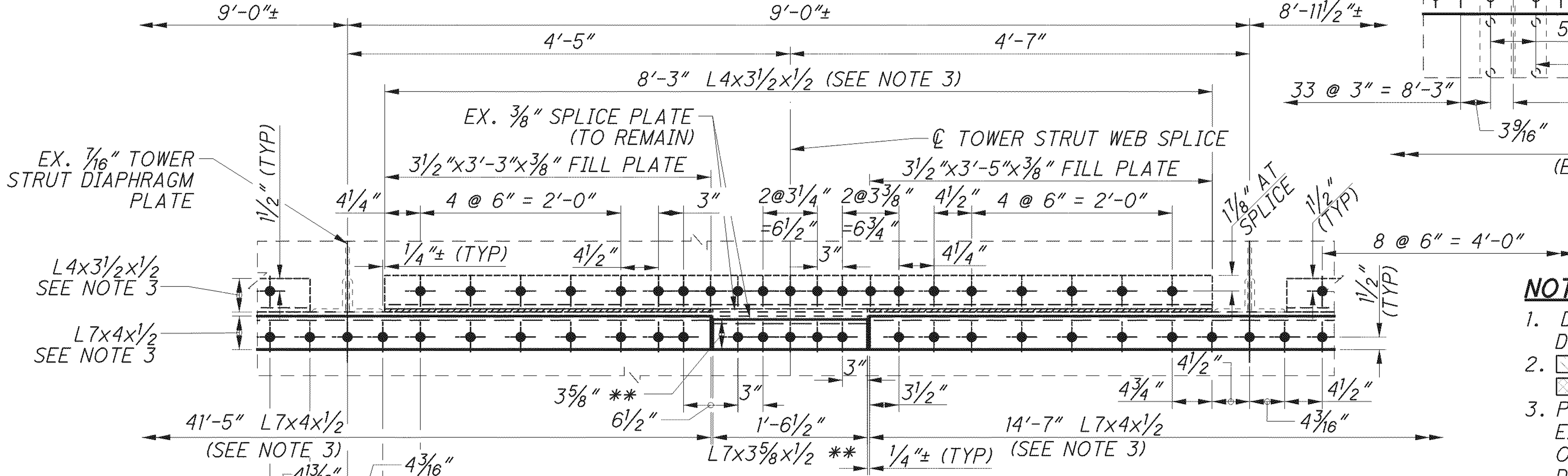
B/204 HALF ELEVATION - EX. TOWER STRUT STEEL REMOVAL DETAILS - REPAIR TYPE 226

TOWER STRUT WEB SPLICE NOT SHOWN, SEE SHEET 204/227 FOR LOCATION.



2 TOWER STRUT SPLICE ELEVATION DETAIL

REMOVAL ITEMS NOT SHOWN FOR CLARITY



1 TOWER STRUT SPLICE PLAN DETAIL

REMOVAL ITEMS NOT SHOWN FOR CLARITY

** REMOVE ⅜″ FROM OUTSTANDING LEG OF L7x4x½

NOTES:

1. DIMENSIONS AND CALLOUTS LISTED IN < > ARE FOR TOWER C. DIMENSIONS AND CALLOUTS LISTED IN [ ] ARE FOR TOWER D.
2. [hatched] = TOWER STRUT STEEL REMOVAL AREA, PAID FOR WITH REPAIR TYPE 226
   [hatched] = GALVANIZED CURB PLATE REMOVAL, PAID FOR WITH REPAIR TYPE 225
3. PROPOSED TOP FLANGE ANGLES TO BE INSTALLED BEFORE PARTIAL REMOVAL OF TOWER STRUT WEB AND DIAPHRAGMS. EACH TOWER STRUT HAS A SINGLE WEB SPLICE BOTH FACES (EAST AND WEST). THE TOWER STRUT WEB SPLICE IS LOCATED ON THE SOUTH END OF TOWER C AND THE NORTH END OF TOWER D. SEE SHEETS 205/227 AND 206/227 FOR ADDITIONAL ANGLE DETAILS AND REMOVAL LIMITS. FOR OPTIONAL INTERIOR ANGLE INSTALLATION NOTES, SEE NOTE 4 ON SHEET 205/227.
4. DETAIL SHOWN ON OPPOSITE END OF TOWER STRUT, AT TOWER STRUT WEB SPLICE LOCATION. SEE SHEET 204/227 FOR TOWER STRUT WEB SPLICE LOCATION.

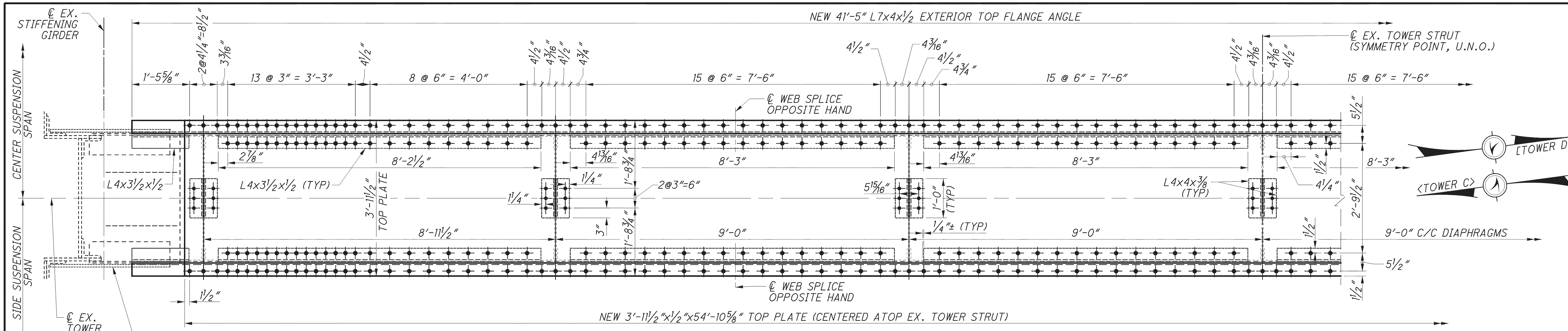
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

REVIEWED PLC	DATE 2/13	STRUCTURE FILE NUMBER 4800303	
DRAWN EFD	REVISED EFD		
DESIGNED EFD	CHECKED DEK		

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

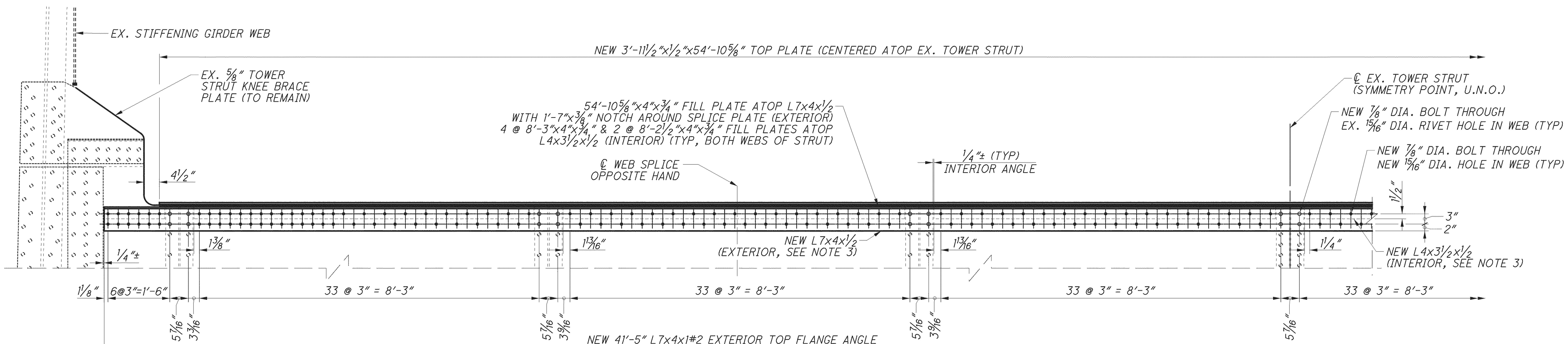
LUC-2-18.62
PID No. 80551

205/A 227



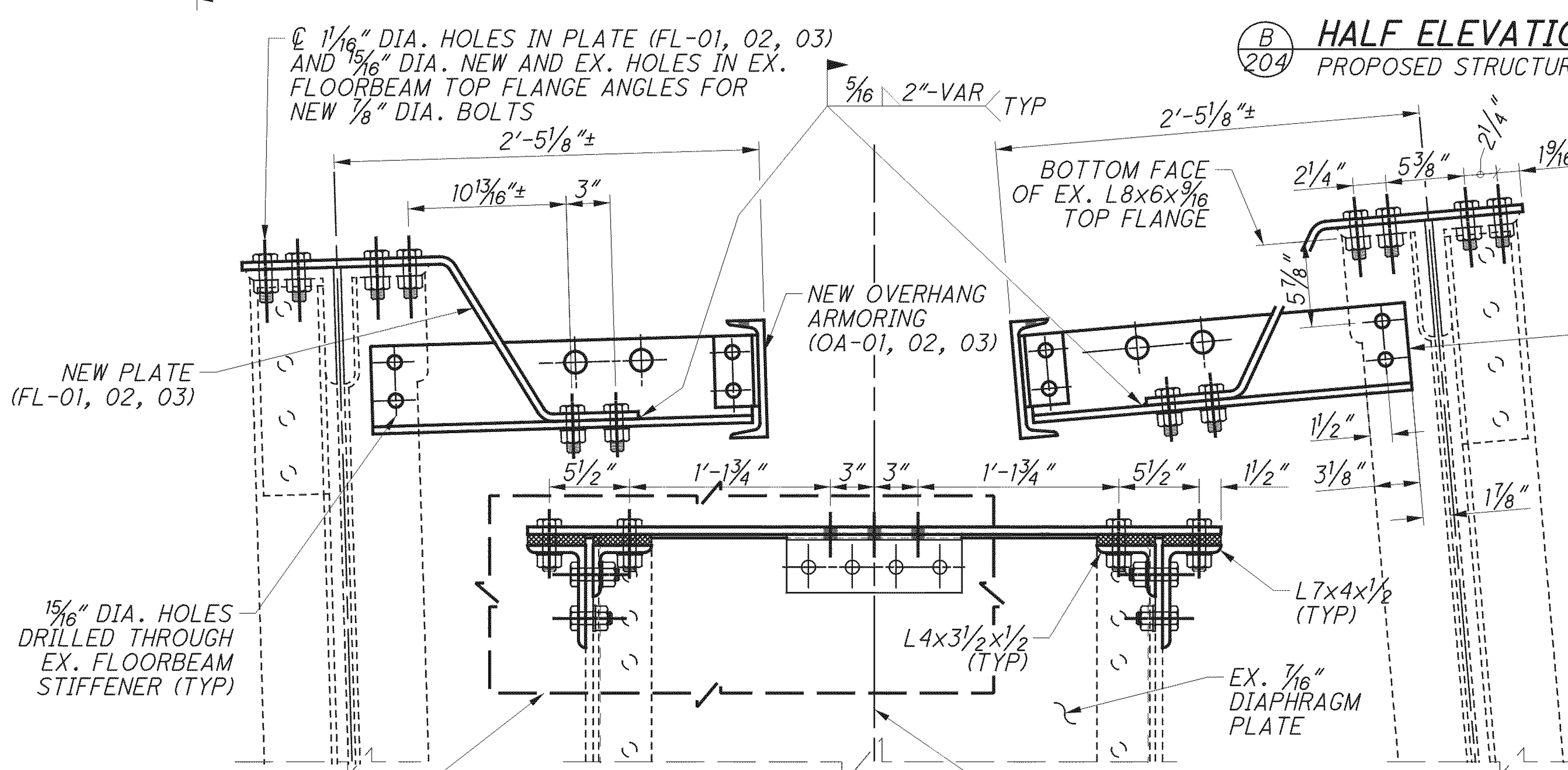
HALF PLAN - TOWER STRUT STEEL DETAILS - REPAIR TYPE 226

PROPOSED STRUCTURAL STEEL DETAILS (SEE SHEET 205A/227 FOR WEB SPLICE DETAILS)



B/204 HALF ELEVATION - TOWER STRUT - REPAIR TYPE 226

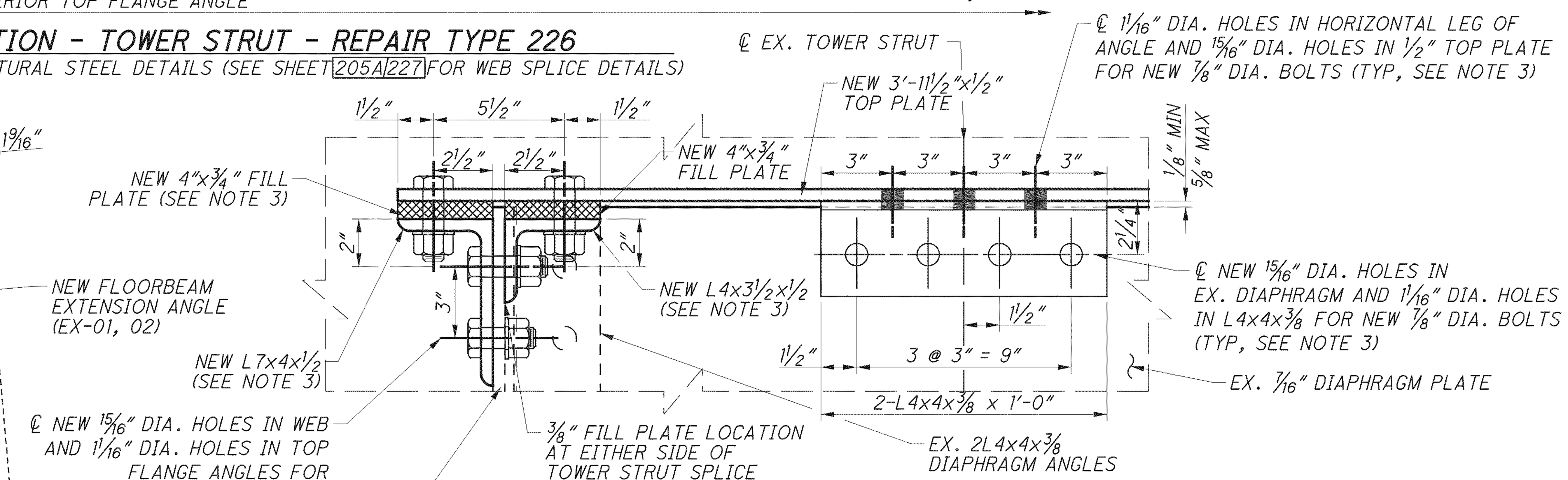
PROPOSED STRUCTURAL STEEL DETAILS (SEE SHEET 205A/227 FOR WEB SPLICE DETAILS)



1 DETAIL

A/204 SECTION

PROPOSED STRUCTURAL STEEL FRAMING (SEE NOTE 2)



1 DETAIL

PROPOSED STRUCTURAL STEEL DETAILS

NOTES:

1. DIMENSIONS AND CALLOUTS LISTED IN < > ARE FOR TOWER C; [ ] ARE FOR TOWER D.
2. FOR NEW FLOORBEAM STEEL DETAILS SEE SHEET 207/227.
3. THE LEGS OF NEW TOP FLANGE ANGLES AND DIAPRAGM ANGLES SHALL HAVE OVERSIZED (1¹⁄₁₆" DIA.) HOLES. THE NEW ⅜" VERTICAL AND ¾" HORIZONTAL FILL PLATES SHALL HAVE OVERSIZED (1¹⁄₁₆" DIA.) HOLES. THE NEW ½" TOWER STRUT TOP PLATE SHALL HAVE STANDARD (¹⁵⁄₁₆" DIA.) HOLES. NEW FIELD DRILLED HOLES THROUGH EXISTING TOWER STRUT WEB AND DIAPHRAGM PLATES SHALL BE STANDARD (¹⁵⁄₁₆" DIA.).

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4461 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

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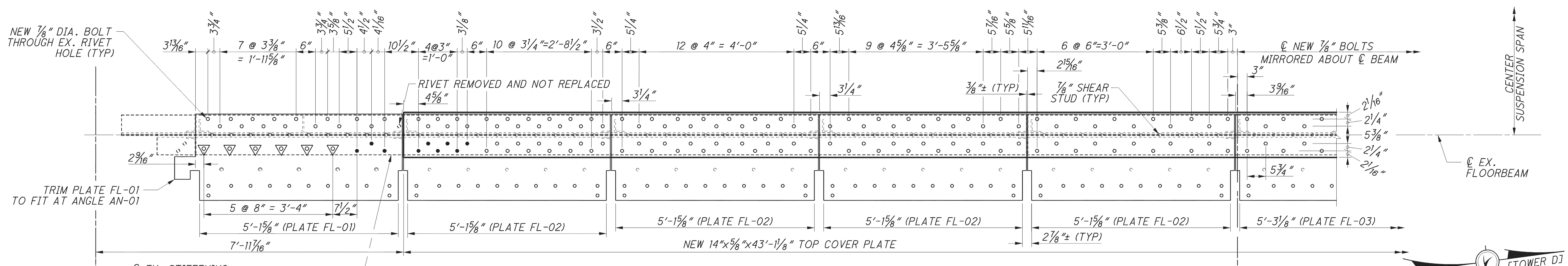
EFD	DEK	EFD	EFD	PLC	2/13	4800303

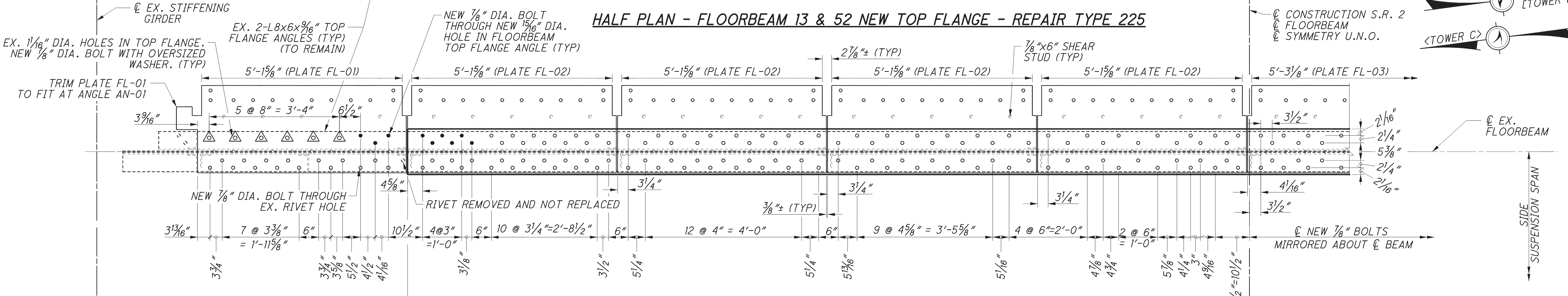
TOWER EXPANSION JOINT DETAILS

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

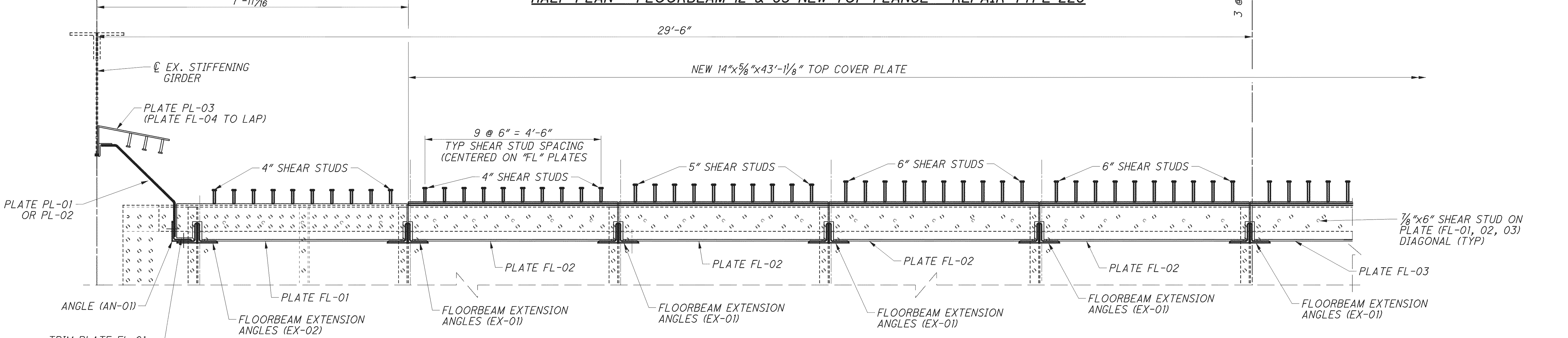
LUC-2-18.62
PID No. 80551



HALF PLAN - FLOORBEAM 13 & 52 NEW TOP FLANGE - REPAIR TYPE 225



HALF PLAN - FLOORBEAM 12 & 53 NEW TOP FLANGE - REPAIR TYPE 225



C/204 HALF ELEVATION - FLOORBEAM - REPAIR TYPE 225

NOTES:

1. NEW 5/8" TOP COVER PLATE AND 1/2" FLASHING PLATES (FL-01, 02, 03) SHALL BE INSTALLED USING 7/8" DIA. BOLTS AND WASHERS THROUGH NEW OVERSIZED (1 1/16" DIA.) HOLES MATCHING EX. AND NEW 15/16" DIA. HOLES IN EX. L8x6x9/16" FLOORBEAM TOP FLANGE.
2. SEE SHEET 206/227 FOR NEW FLOORBEAM FRAMING SECTION.
3. SEE SHEETS 208/227 AND 209/227 FOR CONCRETE DETAILS.
4. SEE SHEETS 210/227 THROUGH 212/227 FOR JOINT DETAILS.
5. SEE SHEET 212/227 FOR PLATE AND ANGLE DETAILS FL-01, FL-02, FL-03 & EX-01.
6. SEE SHEET 207A/227 FOR PLATE AND ANGLE DETAILS DETAILS PL-01, PL-02, PL-03, PL-04, AN-01 & EX-02.
7. GAPS BETWEEN PLATES OF FLOORBEAM OVERHANG PLATES (FL-01, 02, 03) AND ADJACENT STEEL (NEW OR EXISTING) SHALL BE CAULKED AS PER CMS 514.19 AND BE CONSIDERED INCIDENTAL TO REPAIR TYPE 225.

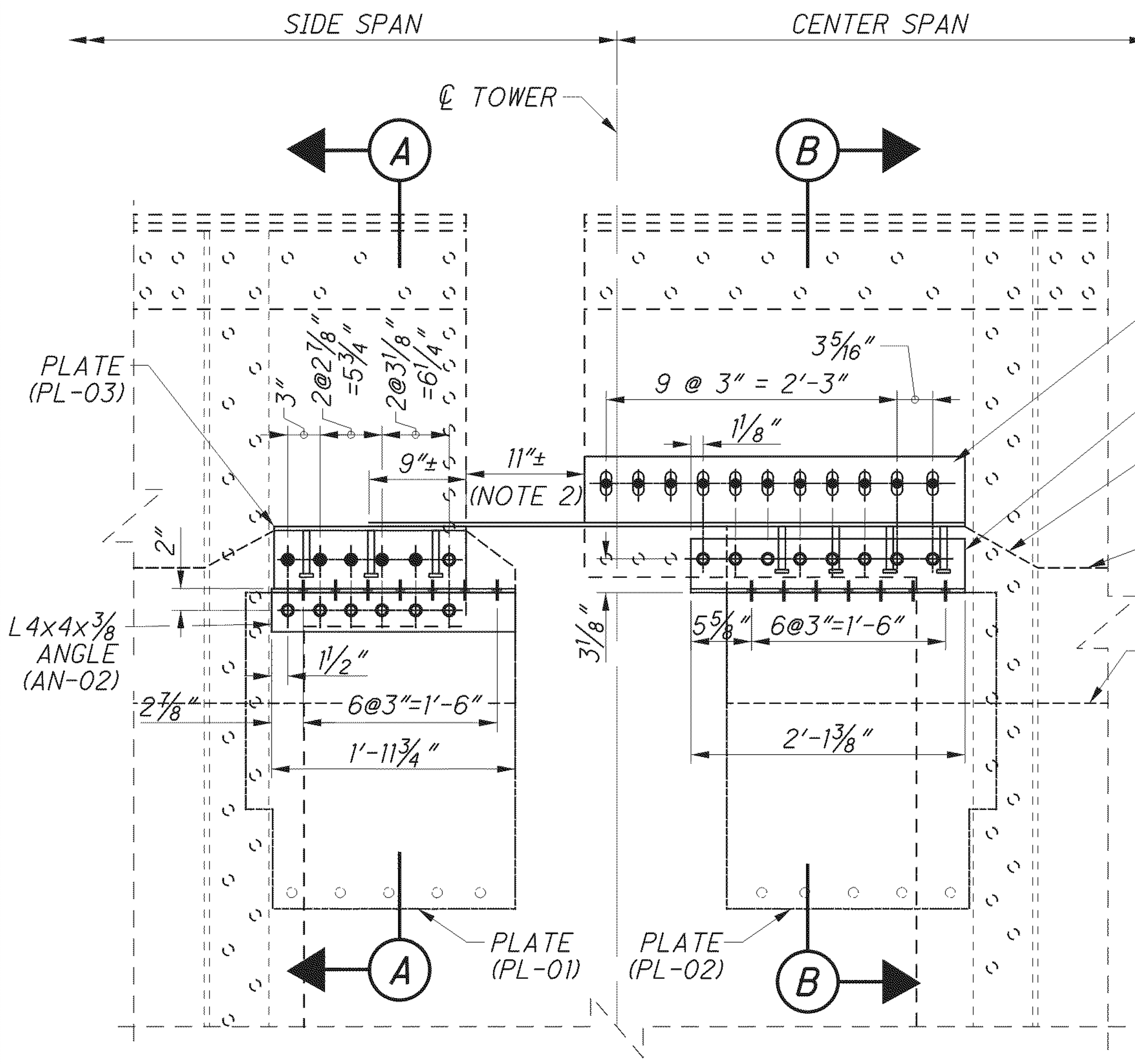
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

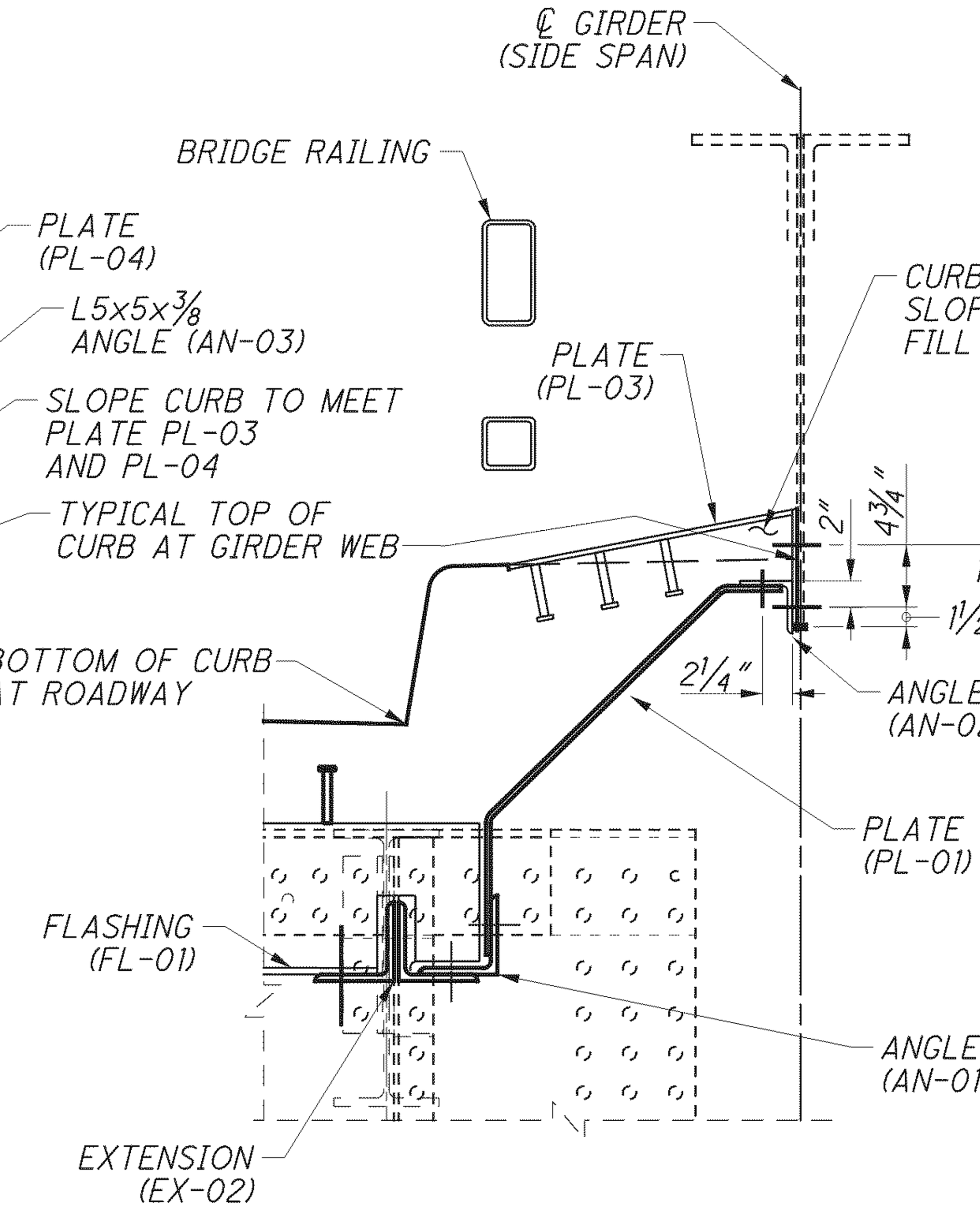
DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
EFD	DEK	EFD	EFD	PLC	2/13

STRUCTURE FILE NUMBER 4800303

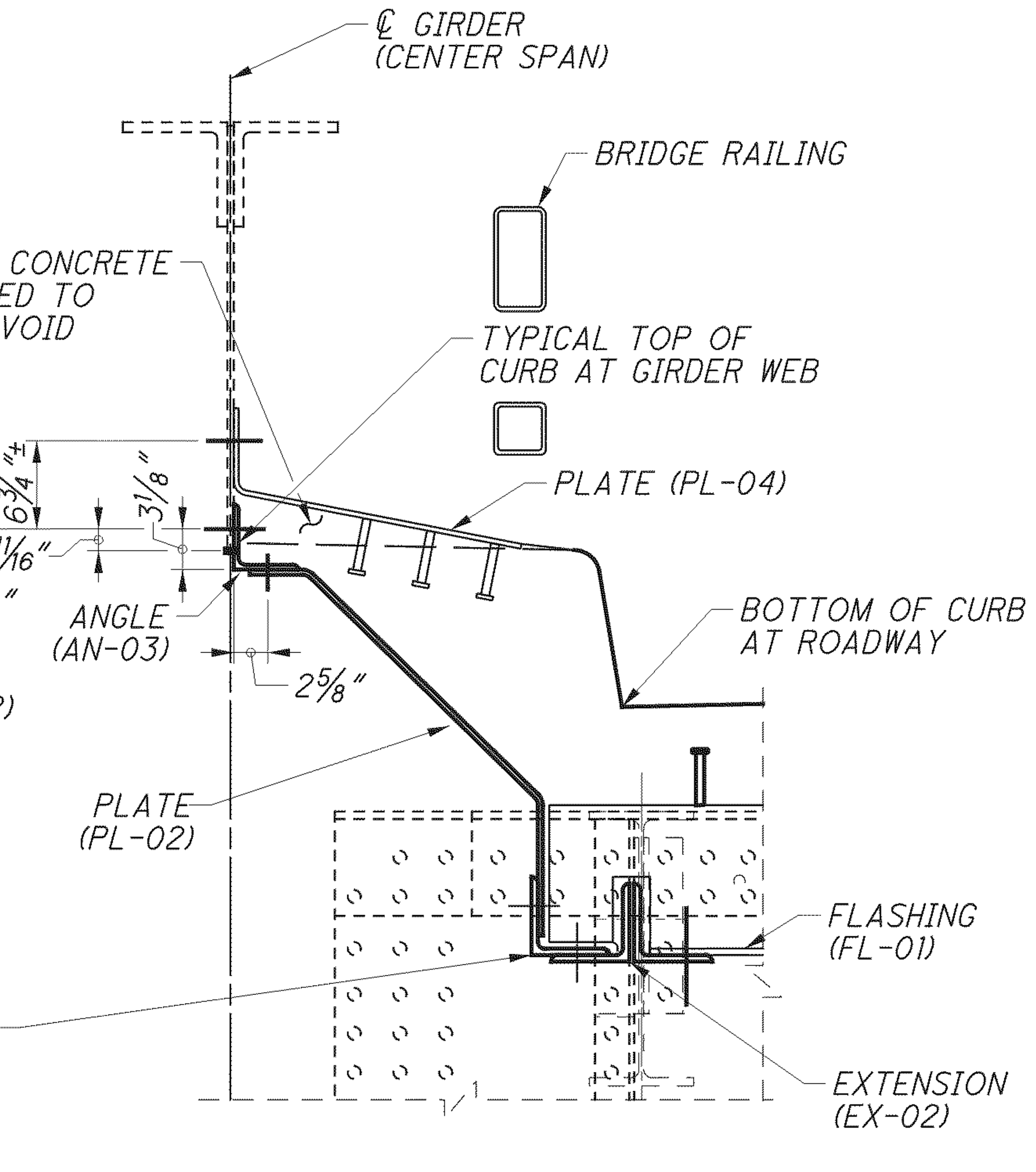
TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

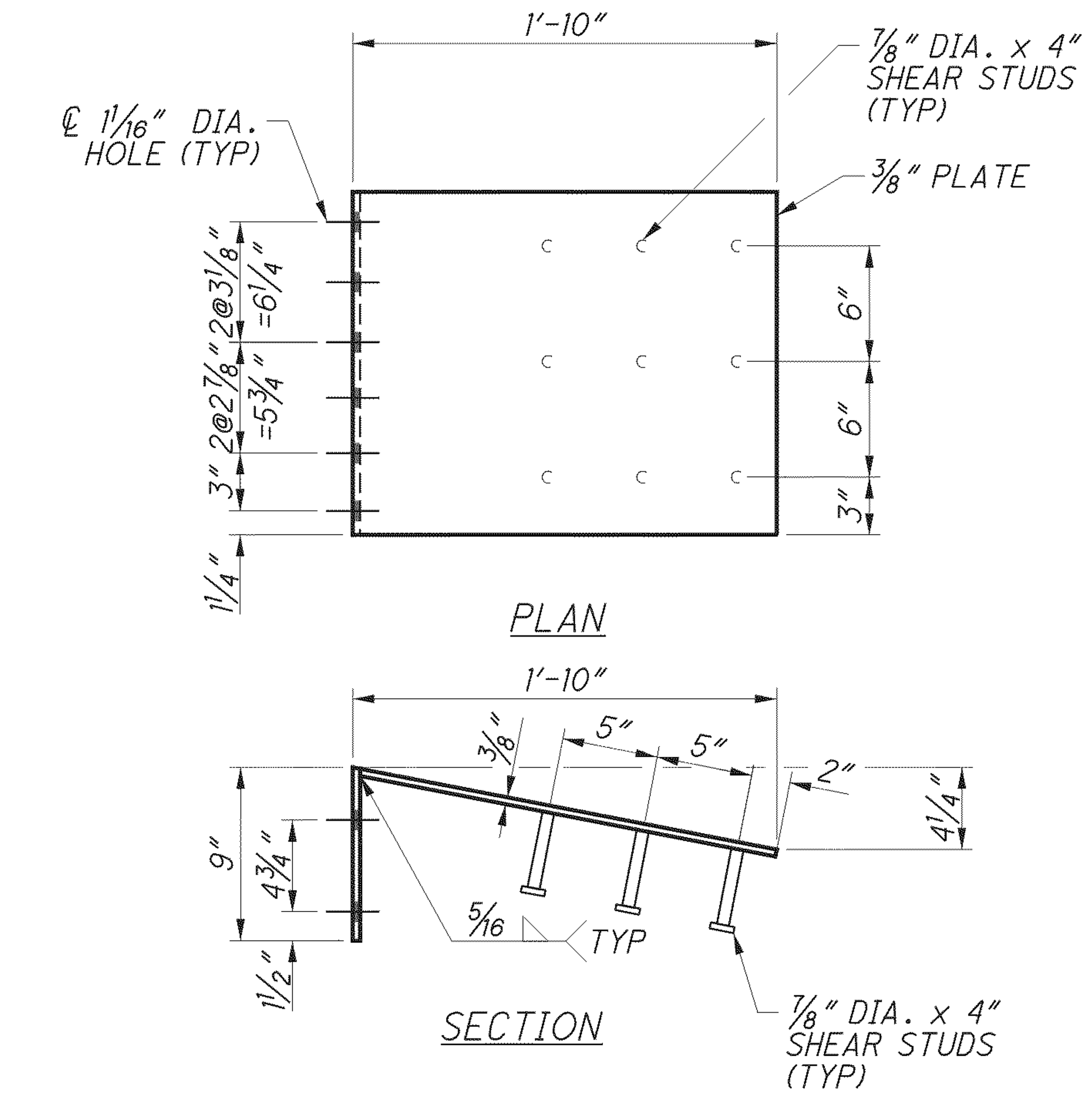




A SECTION



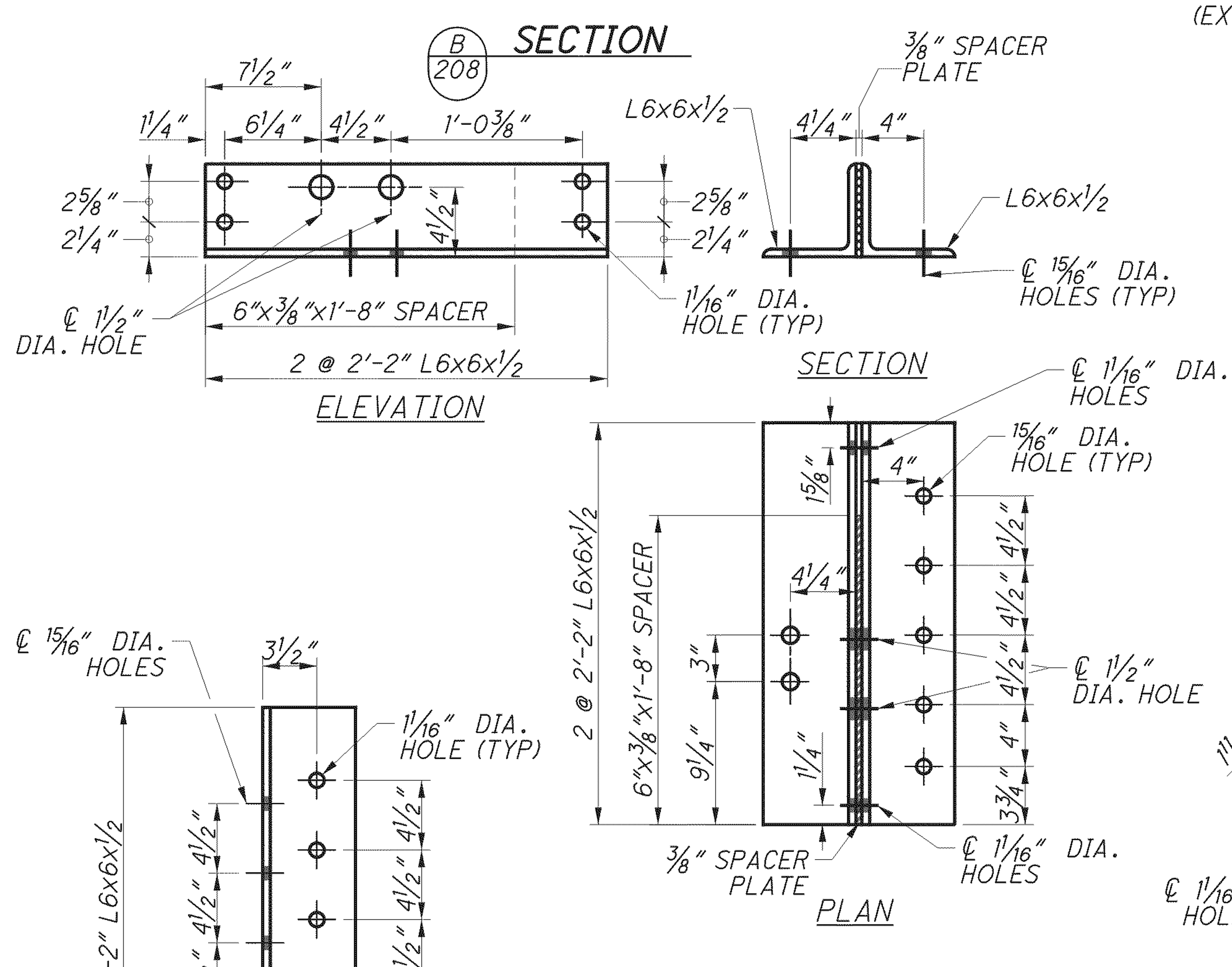
B SECTION



(PL-03) BOTTOM SLIDING PLATE DETAIL

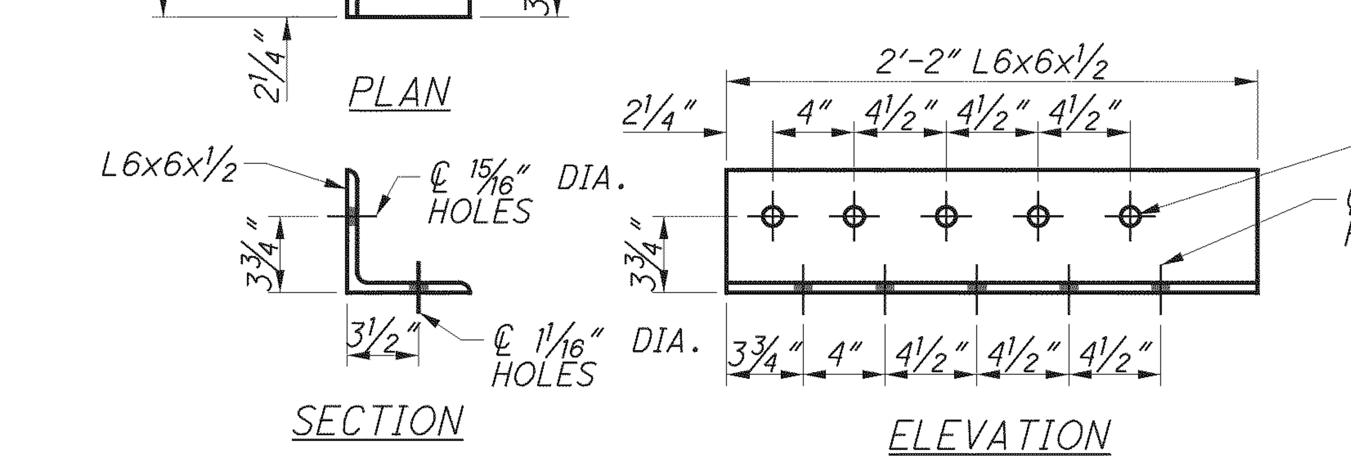
1 AS SHOWN, 1 MIRRORED PER TOWER JOINT

B/208 SECTION



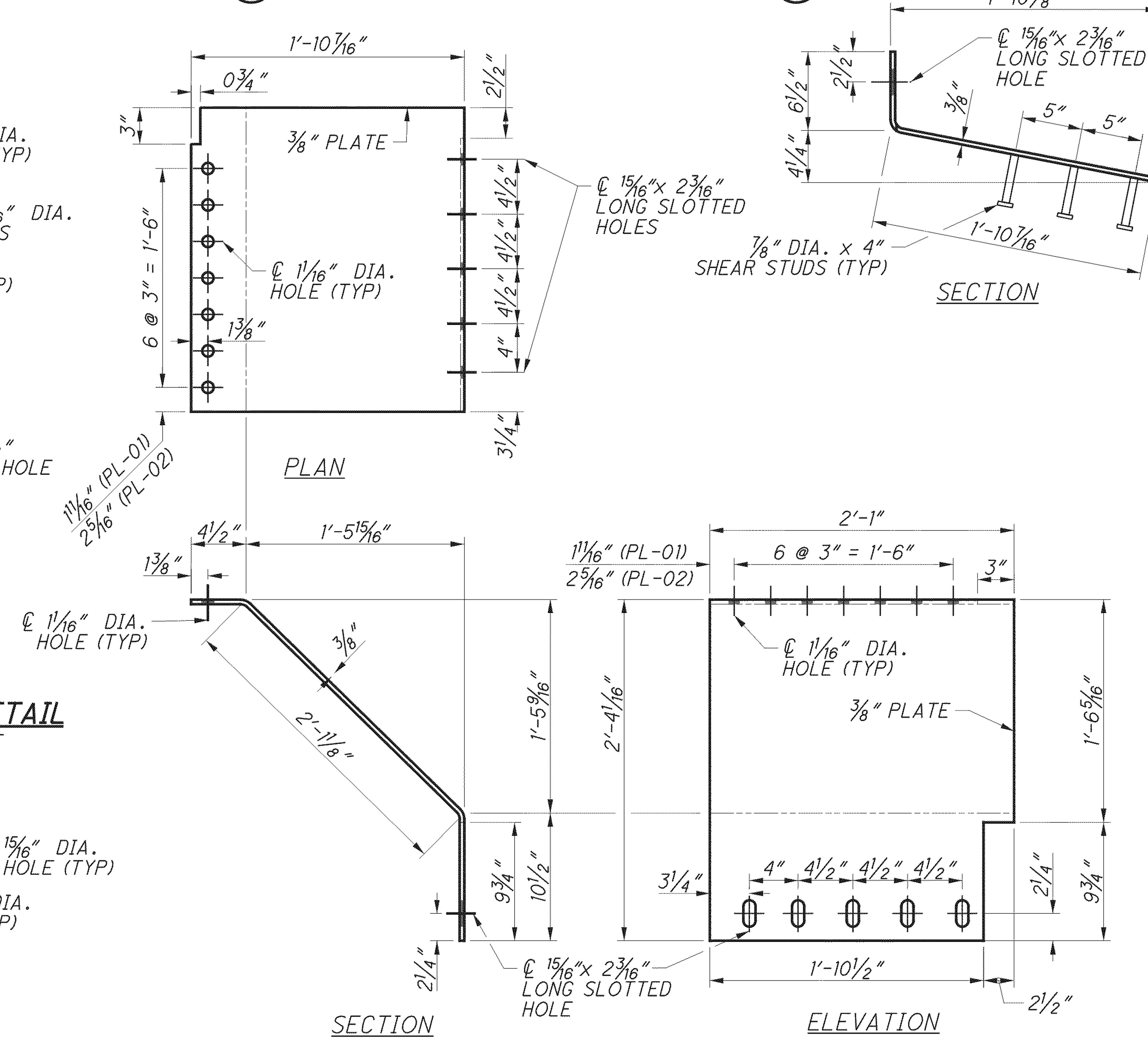
(EX-02) FLOORBEAM EXTENSION DETAIL

2 AS SHOWN, 2 MIRRORED PER TOWER JOINT



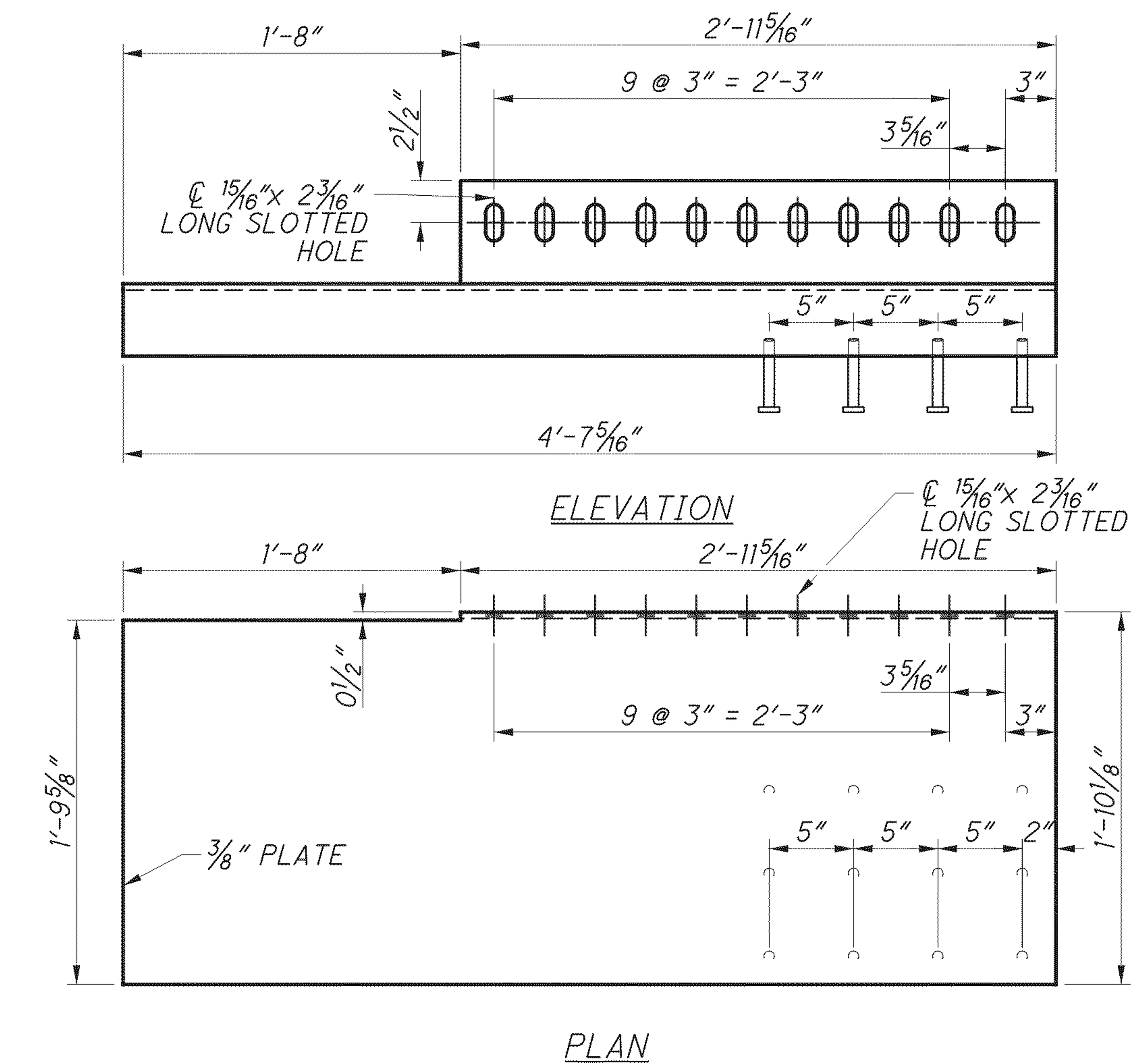
(AN-01) CURB ANGLE DETAIL

1 AS SHOWN, 1 MIRRORED PER TOWER JOINT



(PL-01 & PL-02) CURB PLATE FLASHING DETAIL

2 AS SHOWN, 2 MIRRORED PER TOWER JOINT



(PL-04) TOP SLIDING PLATE DETAIL

1 AS SHOWN, 1 MIRRORED PER TOWER JOINT

NOTES:

1. ALL PLATES, ANGLES, ASSEMBLIES AND FASTENERS DETAILED ON THIS SHEET SHALL BE GALVANIZED AS PER CMS 711.02.
2. EXISTING GIRDER AND FLOORBEAM DIMENSIONS ARE AS PER ORIGINAL BRIDGE DRAWINGS. STIFFENING GIRDER GAP AND SLIDING PLATE OVERLAP IS BASED UPON ORIGINAL DRAWINGS. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AS PER CMS 105.02.
3. PLATES AND DETAILS ON THIS SHEET SHALL BE PAID FOR WITH REPAIR TYPE 225.
4. NEW HOLES IN EXISTING STEEL SHALL BE STANDARD (15/16" DIA.) SIZED.

DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 485 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
EFD	DEK	EFD	EFD	PLC	2/13	4800303

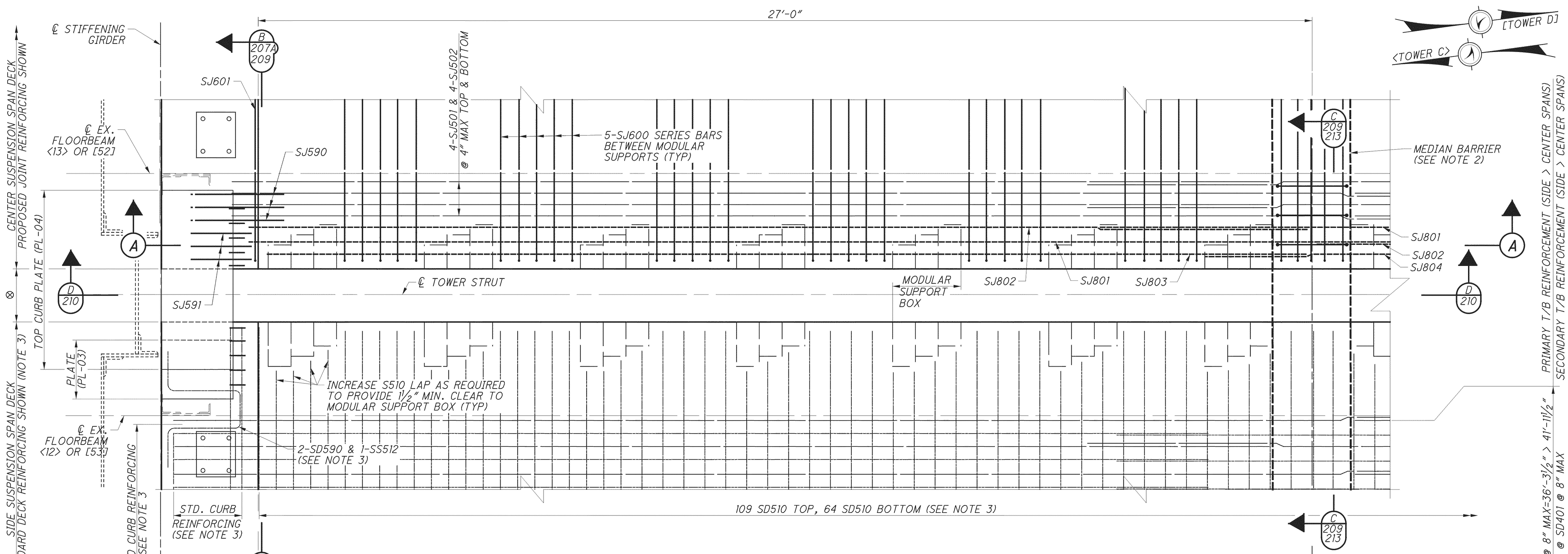
TOWER EXPANSION JOINT DETAILS

BRIDGE NO. LUC - 2 - 1862

STATE ROUTE 2 OVER MAUMEE RIVER

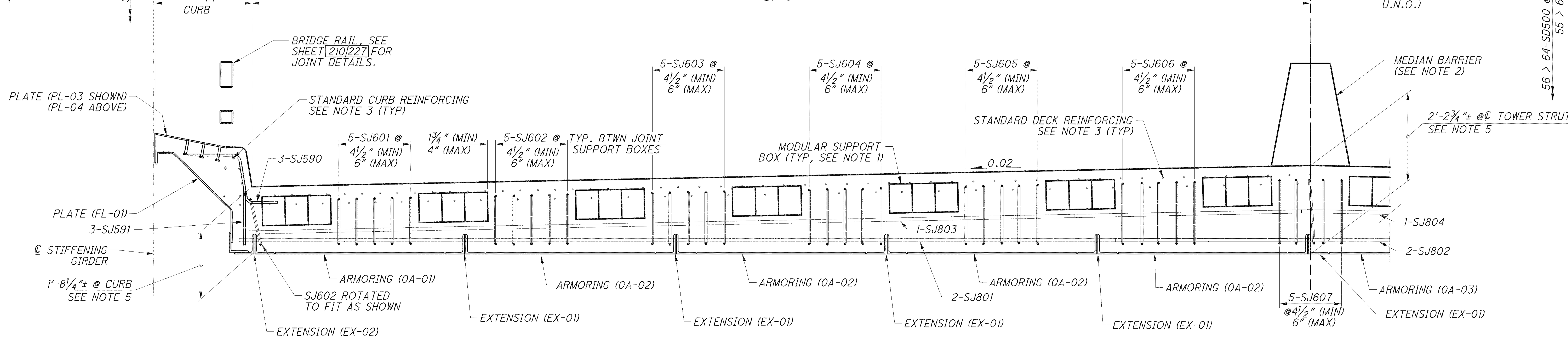
LUC-2-18.62

PID No. 80551



HALF PLAN VIEW - PROPOSED DECK & JOINT DETAILS

STRUCTURAL STEEL DETAILS NOT SHOWN FOR CLARITY



(A) DECK AND JOINT SUPPORT LAYOUT

STRUCTURAL STEEL DETAILS NOT SHOWN FOR CLARITY

NOTES:

1. MODULAR JOINT LAYOUT CONFORMS TO PUBLISHED STANDARDS FOR DS-BROWN STEELFLEX 'D-320' MODULAR JOINT ASSEMBLY. A DS-BROWN 'D-320' OR EQUAL JOINT SHALL BE PROVIDED. CONTRACTOR SHALL VERIFY JOINT LAYOUT DETAILS WITH FINAL JOINT MANUFACTURER.
2. SEE SHEET 163/227 FOR STANDARD BARRIER REINFORCING DETAILS. SEE SHEET 213/227 FOR BARRIER JOINT DETAILS.
3. FOR STANDARD DECK REINFORCING SEE SHEETS 172/227 AND 177/227. DECK REINFORCING IS STANDARD UNTIL ℄ FLOORBEAMS AS SHOWN. NO CURB OR DECK NOTCH WILL BE CAST AT FLOORBEAMS 12-13 OR 52-53.
4. ALL NON-STANDARD REINFORCING DETAILED ON THIS SHEET SHALL BE GALVANIZED.
5. CONCRETE OVERHANG THICKNESS VARIES. DECK SHALL BE SLOPED TO MATCH ADJACENT SPANS AS PER STANDARD HAUNCH DETAILS ON SHEET 185/227.

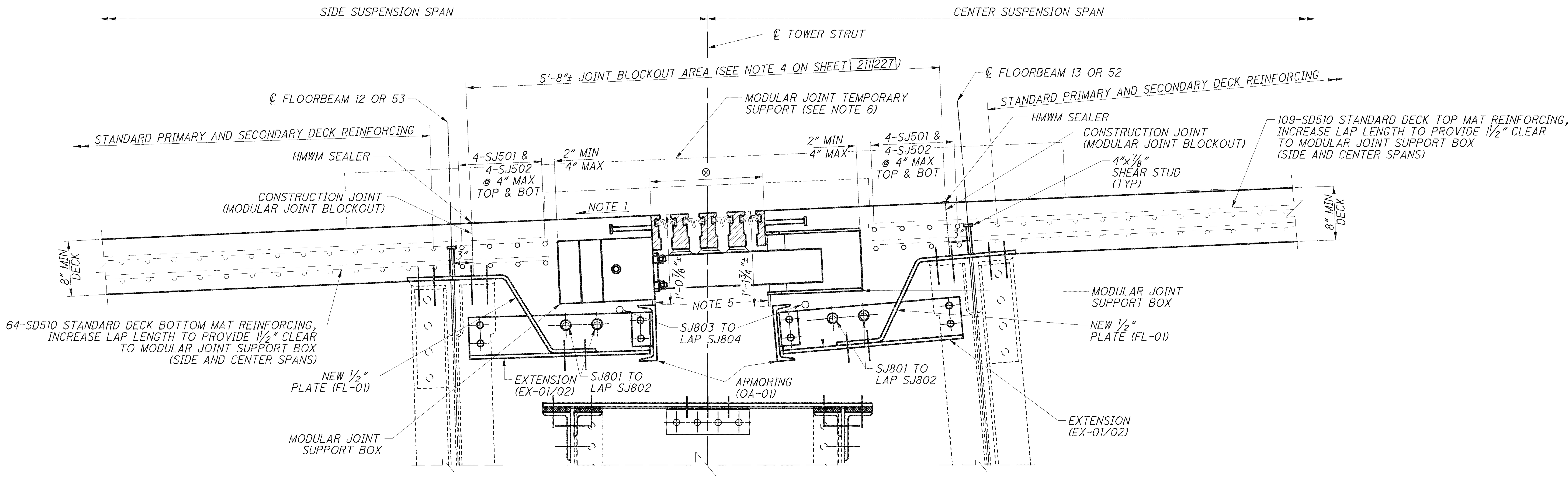
DESIGN AGENCY: Gannett Fleming ENGINEERS & ARCHITECTS, P.C. 4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEK	EFD	4800303	

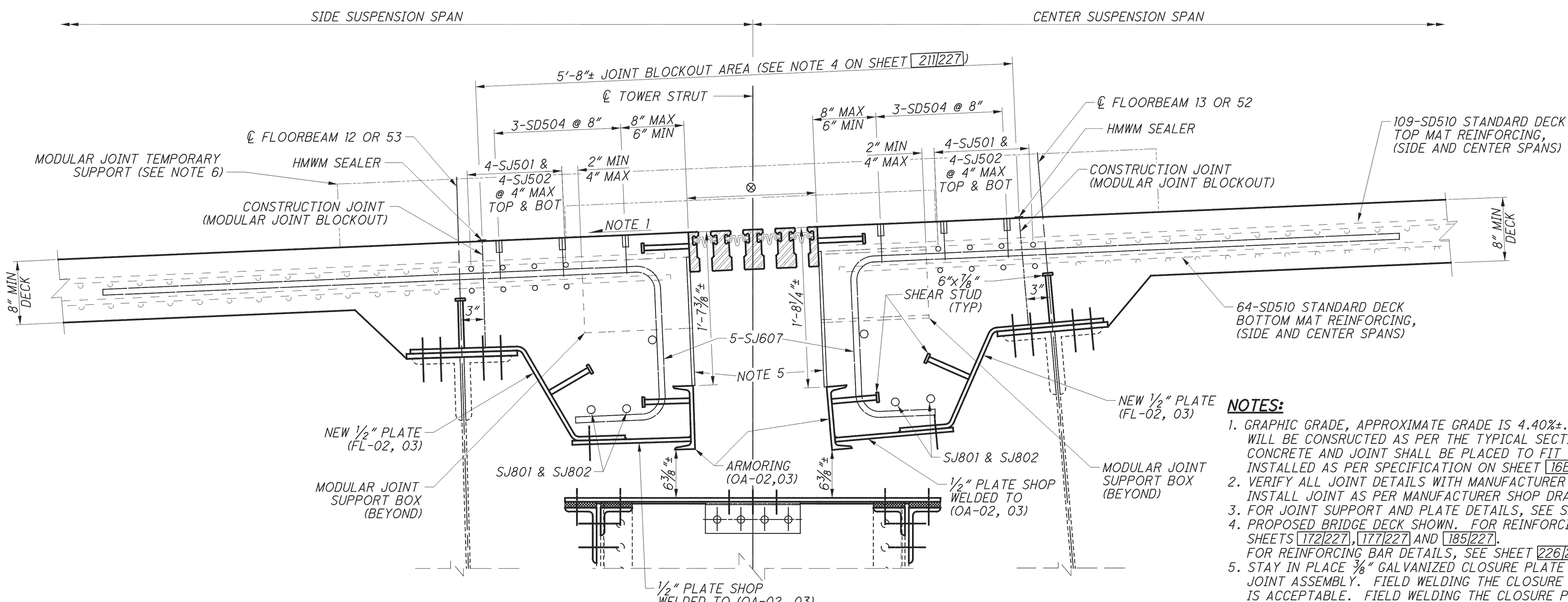
TOWER EXPANSION JOINT DETAILS

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



B/208 **SECTION**
AT CURB LINE



C/208 **SECTION**
AT DECK CROWN
(BETWEEN FLOORBEAM EXTENSION DETAILS)

NOTES:

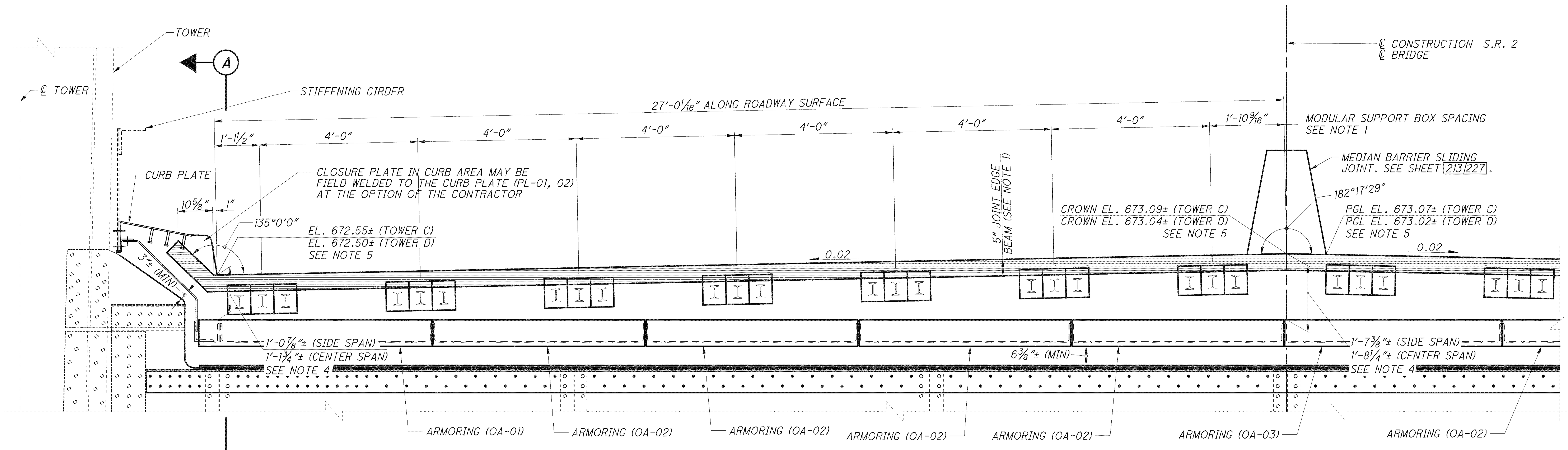
1. GRAPHIC GRADE, APPROXIMATE GRADE IS 4.40%±. SIDE AND CENTER SUSPENSION SPANS WILL BE CONSRUCTED AS PER THE TYPICAL SECTION, SEE SHEET 164/227. JOINT BLOCKOUT CONCRETE AND JOINT SHALL BE PLACED TO FIT THE DECK OF THE ADJACENT SPANS AND INSTALLED AS PER SPECIFICATION ON SHEET 16B/227.
2. VERIFY ALL JOINT DETAILS WITH MANUFACTURER SHOP DRAWINGS. INSTALL JOINT AS PER MANUFACTURER SHOP DRAWINGS AND NOTES.
3. FOR JOINT SUPPORT AND PLATE DETAILS, SEE SHEETS 210/227 THROUGH 212/227.
4. PROPOSED BRIDGE DECK SHOWN. FOR REINFORCING DETAILS SEE SHEETS 172/227, 177/227 AND 185/227. FOR REINFORCING BAR DETAILS, SEE SHEET 226/227.
5. STAY IN PLACE ⅜" GALVANIZED CLOSURE PLATE SHALL BE PROVIDED WITH THE MODULAR JOINT ASSEMBLY. FIELD WELDING THE CLOSURE PLATE(S) TO THE (OA-01, 02, 03) CHANNEL IS ACCEPTABLE. FIELD WELDING THE CLOSURE PLATE TO THE MODULAR JOINT ASSEMBLY IS PROHIBITED. GAPS BETWEEN THE CLOSURE PLATE AND THE (OA-01, 02, 03) CHANNEL SHALL BE SEALED WITH CAULK AS PER CMS 514.19 AND SHALL BE CONSIDERED INCIDENTAL TO THE JOINT INSTALLATION.
6. TEMPORARY SUPPORTS REQUIRED FOR INSTALLATION OF THE MODULAR JOINT SHALL BE PROVIDED AS PER THE MANUFACTURERS INSTRUCTION AND CONSIDERED INCIDENTAL TO THE JOINT INSTALLATION.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4651 EXECUTIVE PARKWAY SUITE 360
WESTERVILLE, OHIO 43081

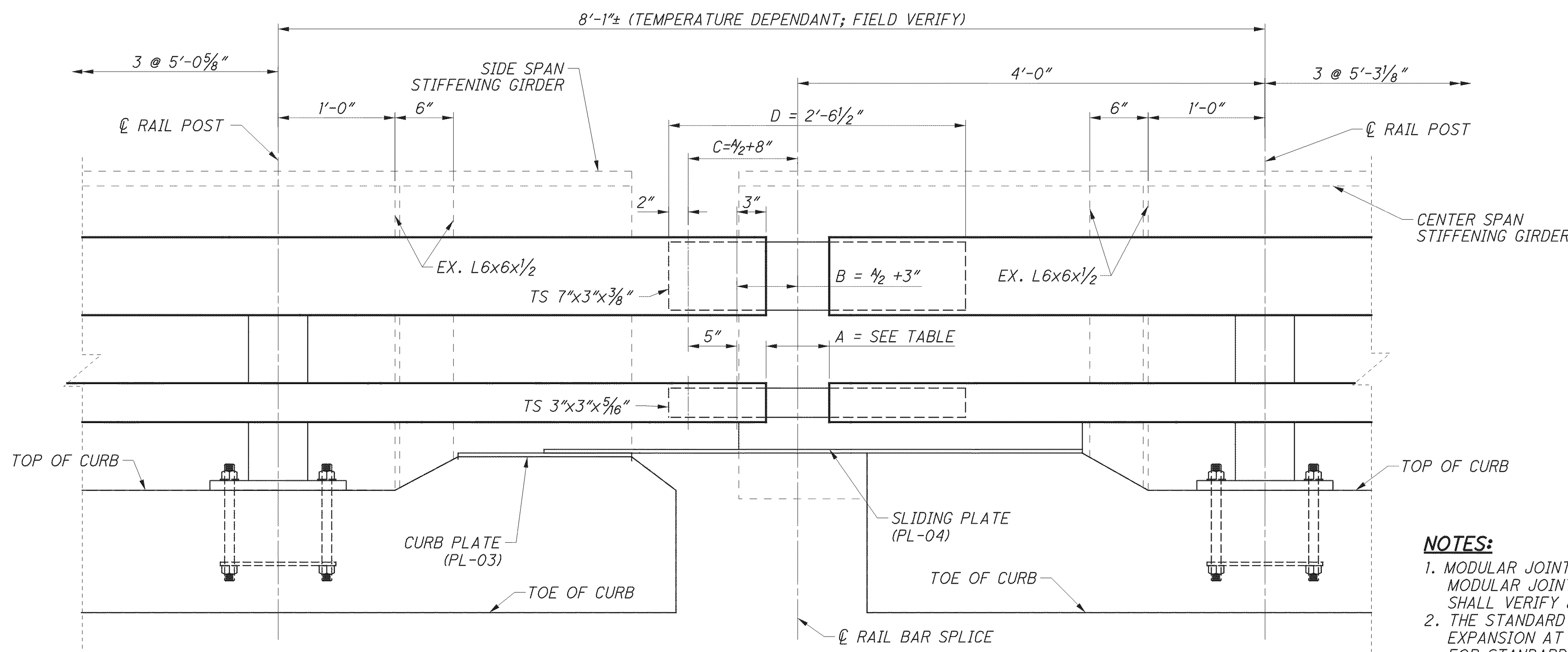
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEK	EFD	4800303	

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



D/208 SECTION
TYPICAL JOINT LAYOUT



A RAIL EXPANSION SECTION

RAIL JOINT TEMPERATURE ADUSTMENT (SEE NOTE 3)							
	TEMPERATURE (°F)						
VARIABLE	30°	40°	50°	60°	70°	80°	90°
A	8 7/16"	7 13/16"	7 1/8"	6 1/2"	5 7/8"	5 1/4"	4 9/16"
B	7 3/16"	6 7/8"	6 9/16"	6 1/4"	5 15/16"	5 5/8"	5 5/16"
C	12 3/16"	11 7/8"	11 9/16"	11 1/4"	10 15/16"	10 5/8"	10 5/16"

NOTES:

1. MODULAR JOINT LAYOUT CONFORMS TO PUBLISHED STANDARDS FOR DS-BROWN STEELFLEX 'D-320' MODULAR JOINT ASSEMBLY. A DS-BROWN 'D-320' OR EQUAL JOINT SHALL BE PROVIDED. CONTRACTOR SHALL VERIFY JOINT LAYOUT DETAILS WITH FINAL JOINT MANUFACTURER.
2. THE STANDARD RAIL EXPANSION JOINT SECTION, AS MODIFIED ON THIS PAGE, SHALL BE USED FOR RAIL EXPANSION AT TOWERS C AND D.
FOR STANDARD RAIL DETAILS, INCLUDING EXPANSION JOINT, SEE SHEETS 194/227 AND 195/227.
3. FOR MODULAR JOINT OPENING DIMENSIONS, SEE SHEET 211/227.
4. TOP OF (OA-01, 02, 03) CHANNELS SHOWN IS BASED ON PREVIOUS FIELD MEASUREMENTS OF FLOORBEAM ROTATIONS AND LOCATIONS AT 55°F± AND IS SUBJECT TO VARIATION DUE TO DEAD LOAD AND THERMAL EFFECTS DURING CONSTRUCTION. CLOSURE PLATES MAY BE FIELD MODIFIED AS REQUIRED. GALVANIZED COATING DAMAGED DURING FIELD MODIFICATIONS SHALL BE REPAIRED AS PER CMS 711.02.
5. ELEVATIONS GIVEN ARE AT THE TOWER ℄ AND ARE BASED UPON THE PROFILE GRADE LINE (PGL).
SIDE AND CENTER SPANS WILL BE CONSTRUCTED AS PER THE TYPICAL SECTION, SEE SHEET 164/227.
JOINT BLOCKOUT CONCRETE AND JOINT SHALL BE PLACED TO FIT THE DECK OF THE ADJACENT SPANS AND INSTALLED AS PER SPECIFICATION ON SHEET 16B/227.

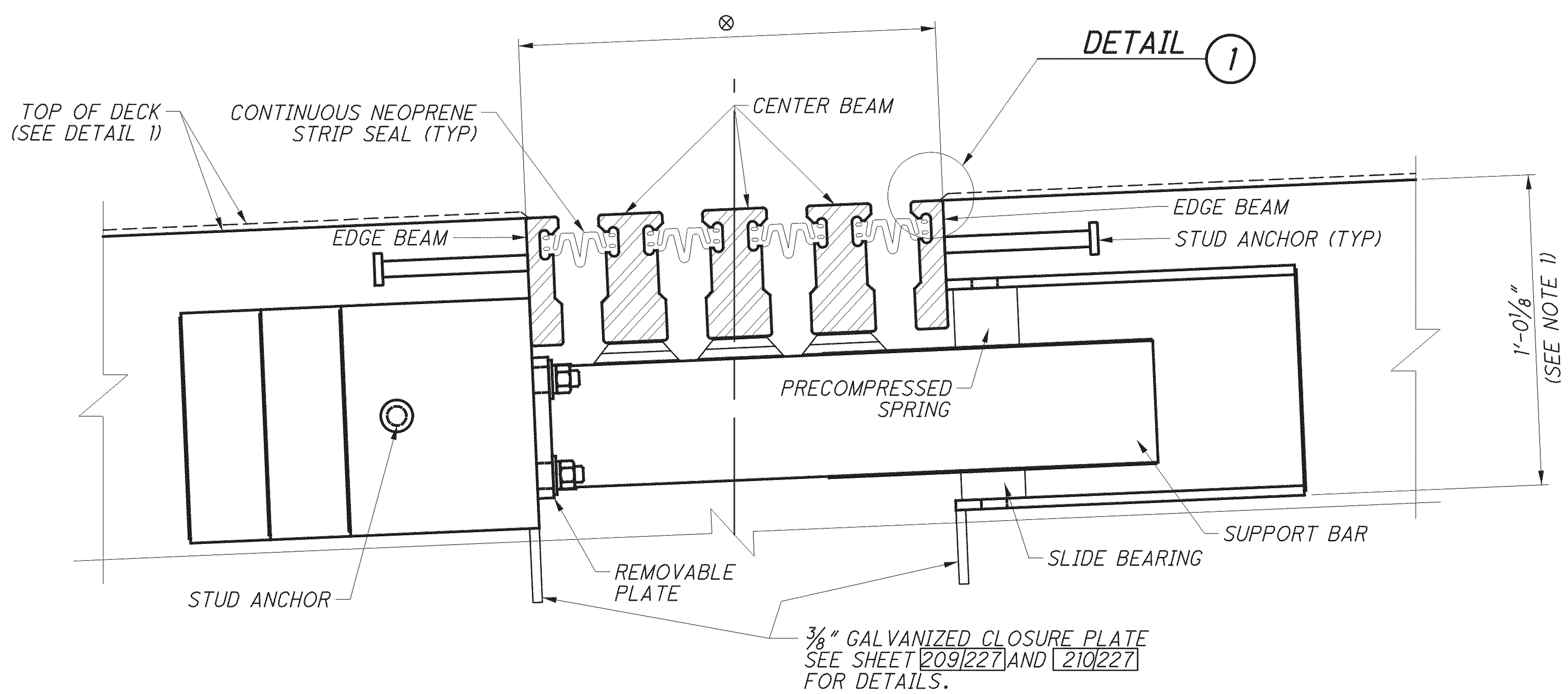
DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 360
WESTERVILLE, OHIO 43081

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE
EFD	DEK	EFD	EFD	PLC	2/13

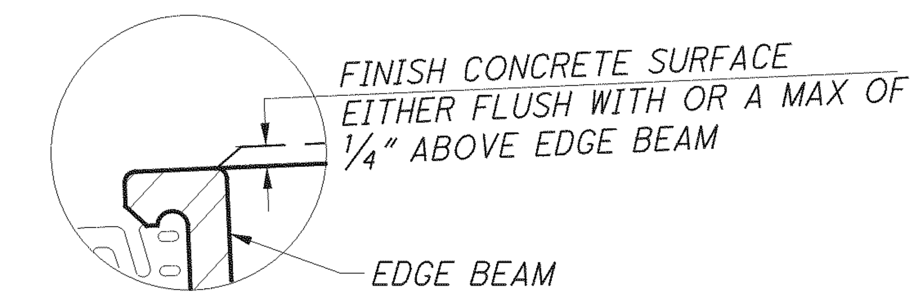
STRUCTURE FILE NUMBER 4800303

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



JOINT OPENING DETAILS



1 DETAIL

⊗ TOWER JOINT TEMPERATURE ADUSTMENT						
TEMPERATURE (°F)						
30°	40°	50°	60°	70°	80°	90°
18 5/16"	17 5/8"	17"	16 3/8"	15 3/4"	15 1/16"	14 7/16"

DECK REINFORCING TABLE AND DETAILS AT TOWER JOINT

QUANTITIES FOR A SINGLE JOINT

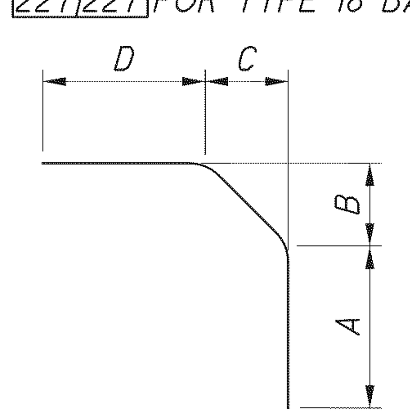
GALV BARS	MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D
SINGLE TOWER JOINT									
GALV	SJ501	16	26'-6"	443	STR.				
GALV	SJ502	16	33'-0"	551	18	27'-2"	5'-9"	2¾"	
GALV	SJ590	12	3'-4"	42	35	10"	1'-3"	1'-6"	2"
GALV	SJ591	12	3'-9"	47	14	1'-6"	10"	2"	1'-6"
GALV	SJ601	20	7'-6"	223	8	1'-2"	5'-9"	10"	
GALV	SJ602	24	7'-7"	270	8	1'-3"	5'-9"	10"	
GALV	SJ603	20	7'-8"	228	8	1'-4"	5'-9"	10"	
GALV	SJ604	20	7'-9"	230	8	1'-5"	5'-9"	10"	
GALV	SJ605	20	7'-10"	233	8	1'-6"	5'-9"	10"	
GALV	SJ606	20	7'-11"	235	8	1'-7"	5'-9"	10"	
GALV	SJ607	10	8'-0"	119	8	1'-8"	5'-9"	10"	
GALV	SJ801	4	27'-0"	289	STR.				
GALV	SJ802	4	32'-0"	342	STR.				
GALV	SJ803	2	27'-0"	145	STR.				
GALV	SJ804	2	33'-3"	177	18	27'-2"	6'-0"	4"	
	SD504	6	2'-2"	14	57	6"	1'-5"		
SINGLE TOWER JOINT SUB-TOTAL				3,588					
EPOXY REINFORCING SUB-TOTAL				14	REINFORCING TOTALS ADDED TO SUSPENSION SPAN REINFORCING TOTAL ON SHEET 227/227.				
GALVANIZED REINFORCING SUB-TOTAL				3,574					
TOTAL ALL REINFORCING				3,588					

BAR MARK LEGEND

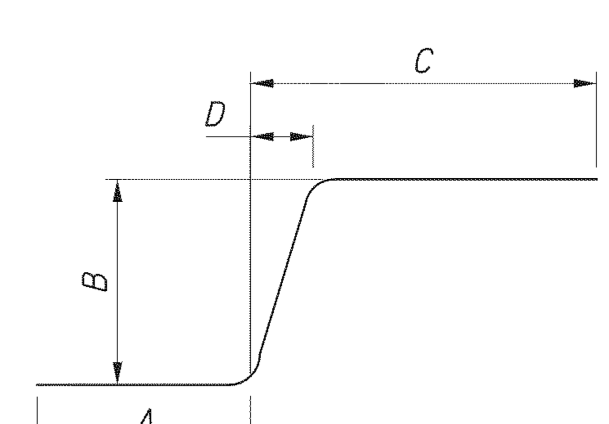
SJ = SUSPENSION SPAN JOINT
SD = SUSPENSION SPAN DECK

ADDITIONAL BAR SHAPES

SEE SHEET 225/227 FOR TYPE 8 & 57 BAR SHAPES.
SEE SHEET 227/227 FOR TYPE 18 BAR SHAPES.



TYPE-14



TYPE-35

NOTES:

1. MODULAR EXPANSION JOINTS SHALL FULLY COMPLY WITH THE MODULAR JOINT NOTE ON SHEET 16B/227.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING:
   A. ALL DECK JOINT MATERIALS
   B. PROPOSED METHOD OF INSTALLATION
   C. MANUFACTURER AND MODEL NUMBERS
   D. ASSEMBLY WITH ALL SIZES AND DIMENSIONS SHOWN
3. THE ELASTOMER SHALL BE SHOP INSTALLED IN ONE CONTINUOUS PIECE AND LIMITED TO A MAXIMUM OF 3 INCHES MOVEMENT PER SEAL.
4. INSTALL AND ALIGN THE MODULAR EXPANSION JOINTS IN THEIR PROPER LOCATIONS PRIOR TO PLACING CONCRETE IN THE BLOCKOUT AREAS.

   ALLOW THE DECK CONCRETE ADJACENT TO THE BLOCKOUTS TO CURE FOR 48 HOURS BEFORE MAKING FINAL ADJUSTMENTS TO THE EXPANSION JOINTS. AFTER THE JOINTS ARE ALIGNED IN THEIR FINAL LOCATIONS, HAND PLACE CONCRETE IN THE BLOCKOUT AREAS AND VIBRATE CONCRETE AROUND THE JOINTS TO ACHIEVE COMPLETE CONSOLIDATION. AFTER THE CONCRETE HAS CURED, SEAL ALL CONSTRUCTION JOINTS IN THE CONCRETE AROUND THE EXPANSION JOINTS WITH HMWM RESIN IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 892 AND ODOT C.M.S. 511.22.
5. FOR REINFORCING GALVANIZING AND PAYMENT DETAILS, SEE NOTE 2 ON SHEET 227/227.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
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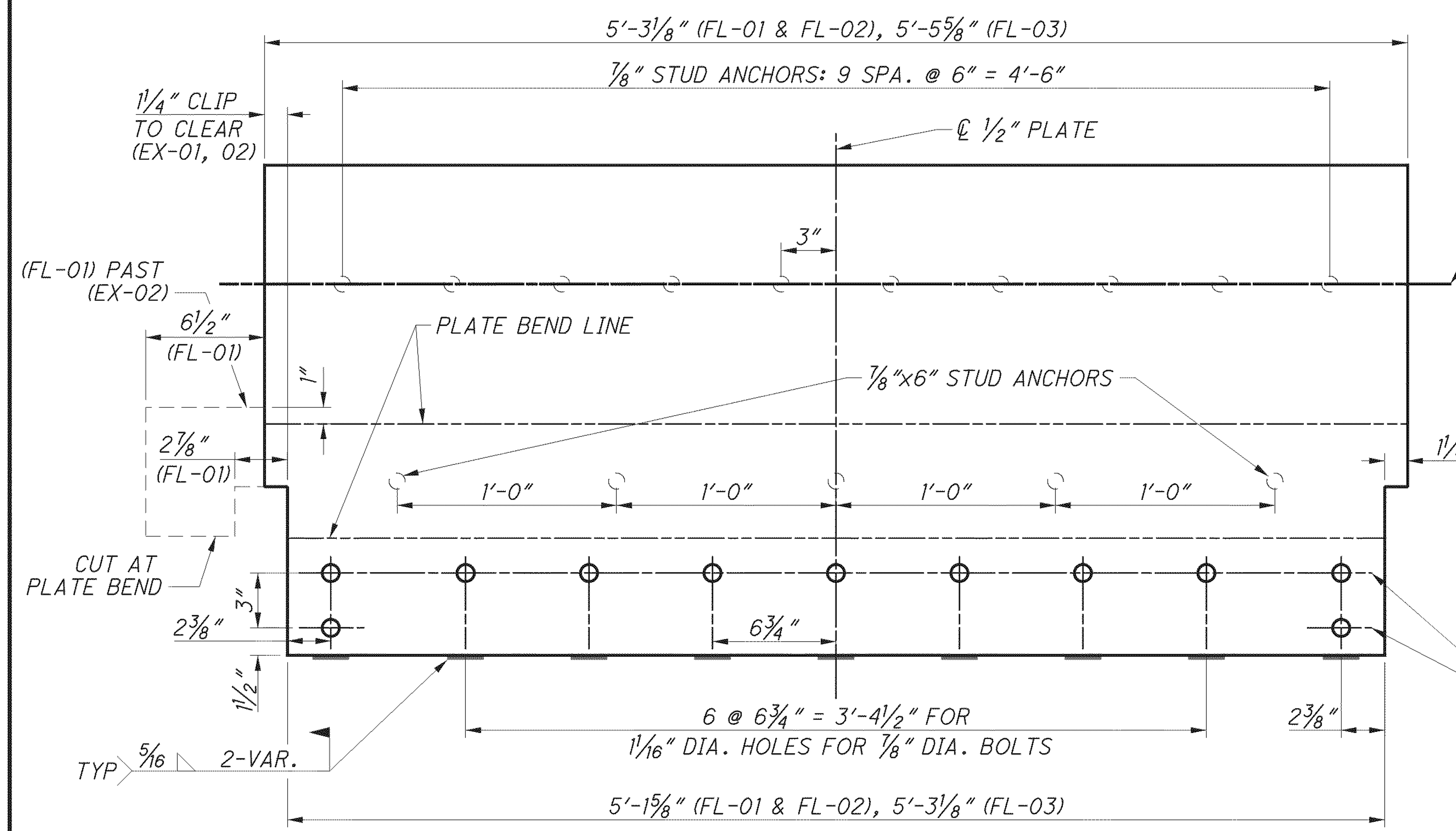
WESTERVILLE, OHIO 43081

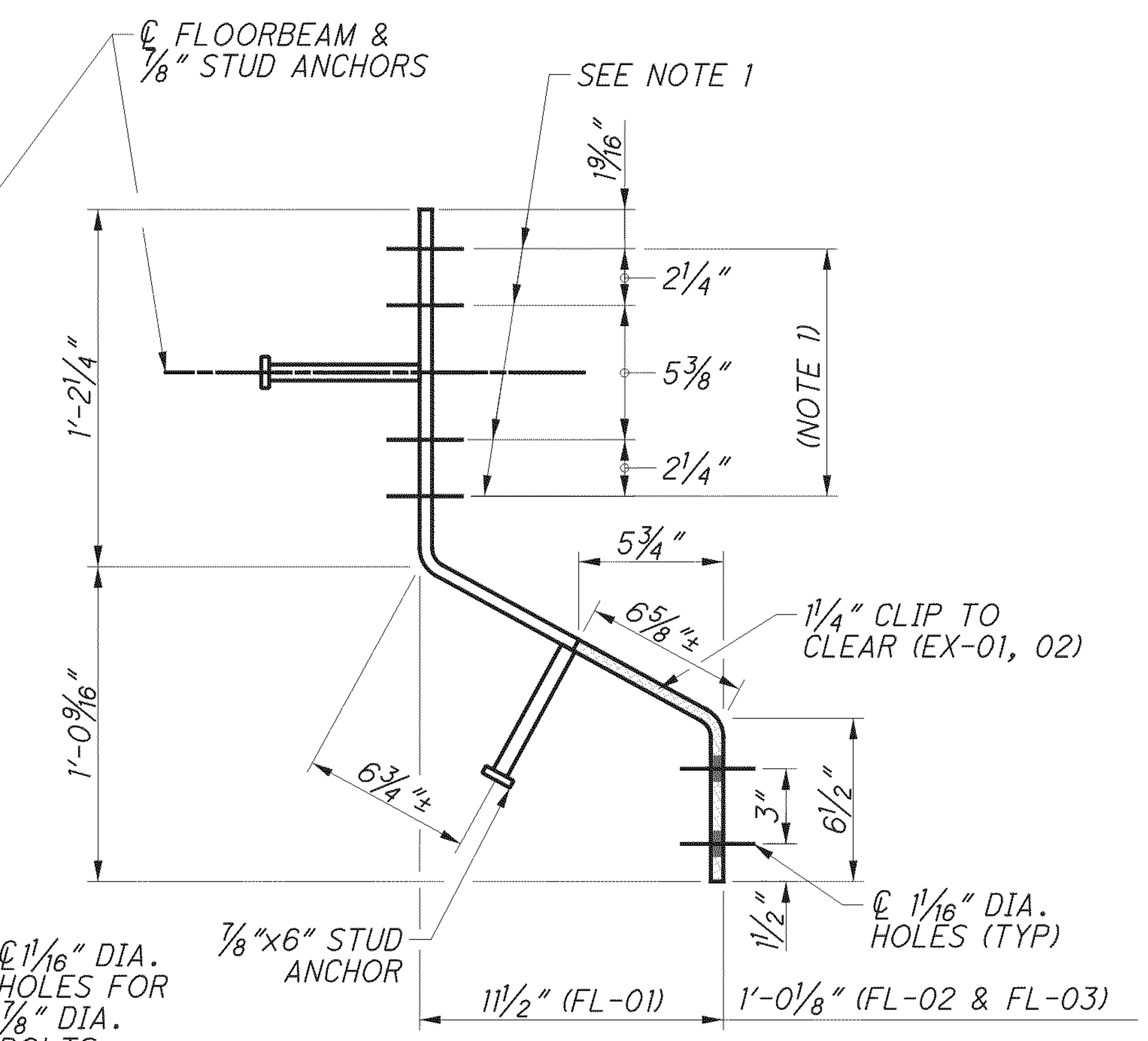
DESIGNED EFD | CHECKED DEK | DRAWN EFD | REVISED EFD | REVIEWED PLC | DATE 2/13 | STRUCTURE FILE NUMBER 4800303

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

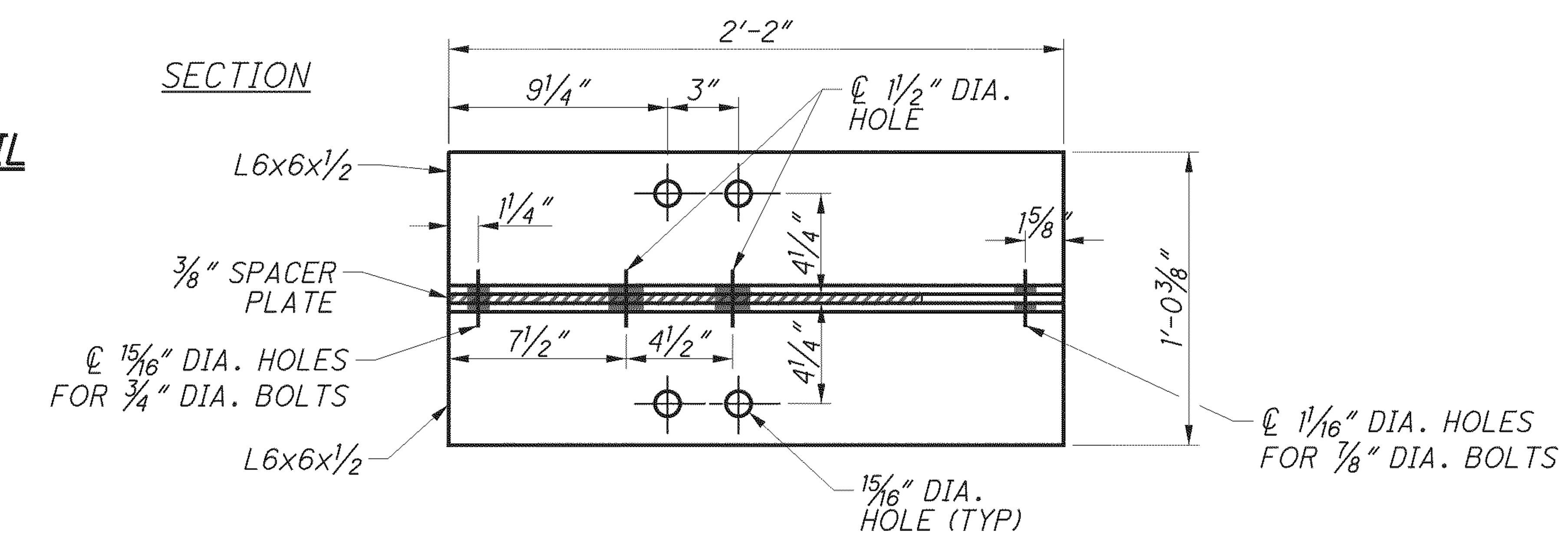


PLAN

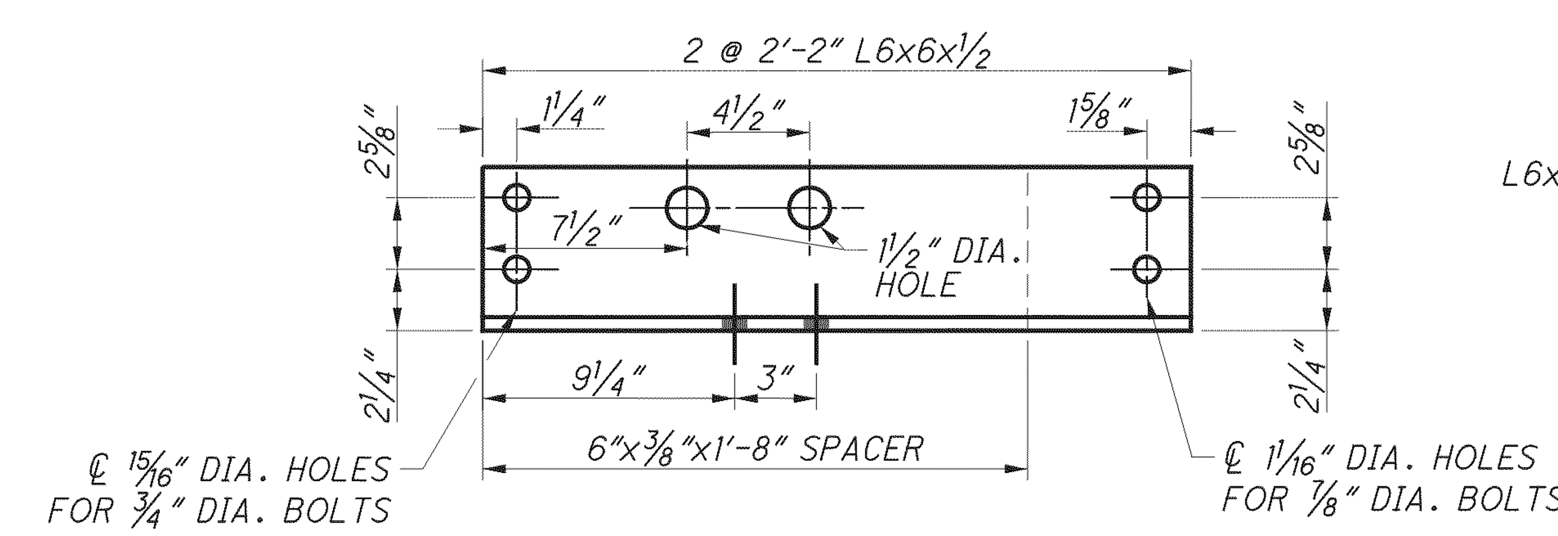


SECTION

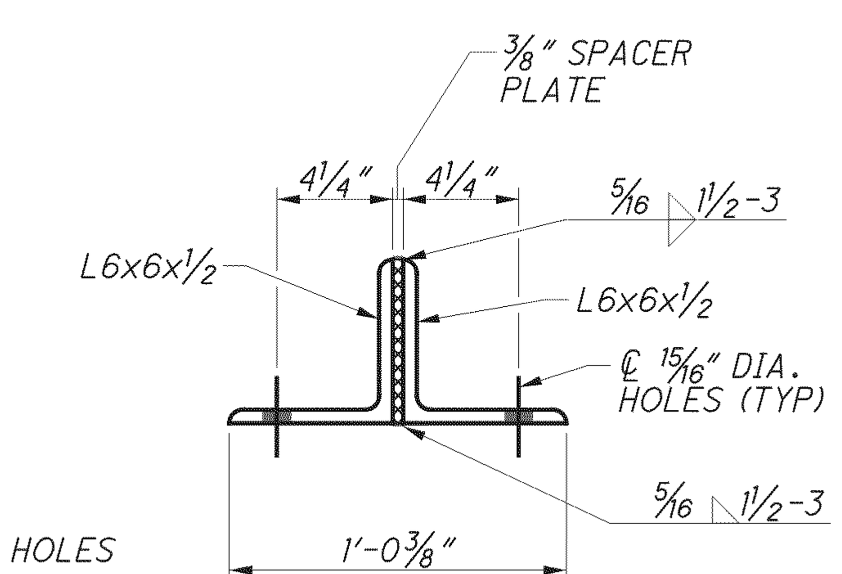
(FL-01, FL-02 & FL-03) FLASHING PLATE DETAIL



PLAN

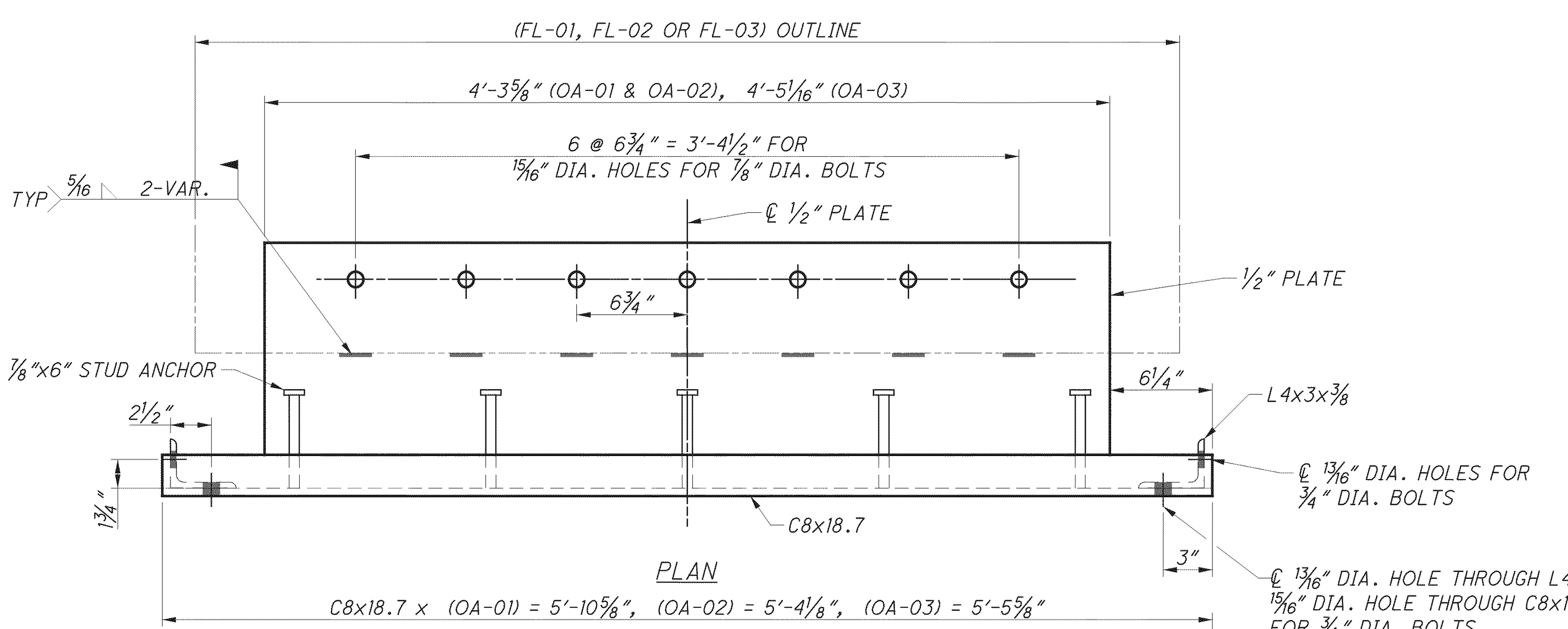


ELEVATION

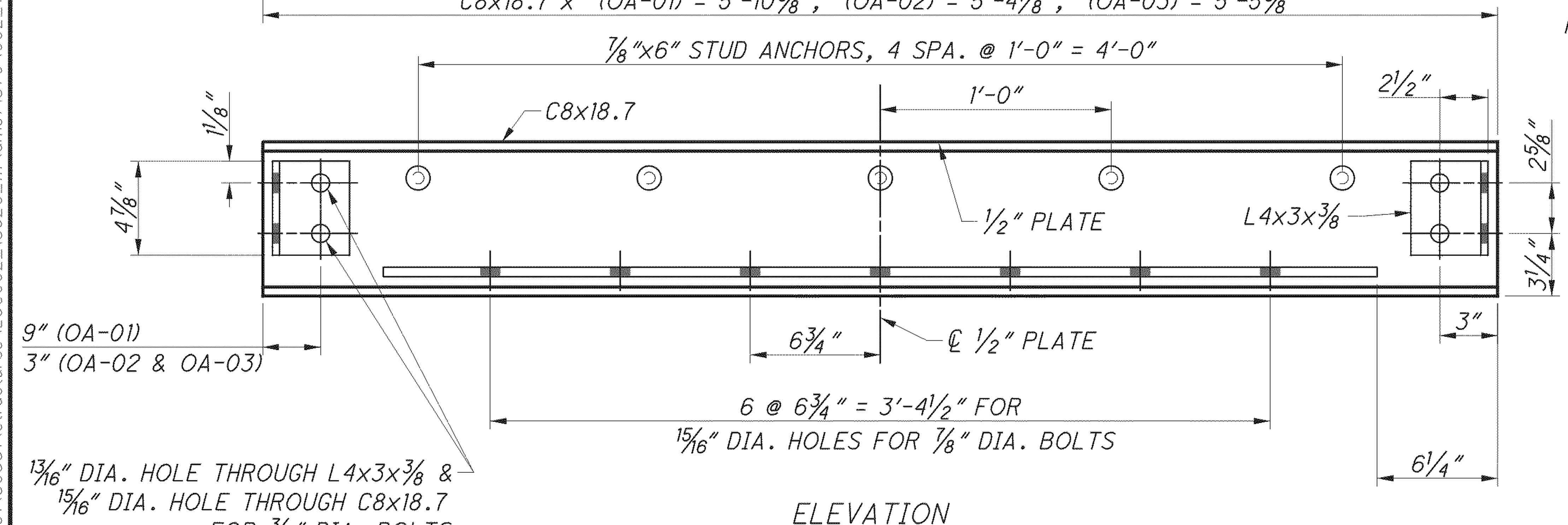


SECTION

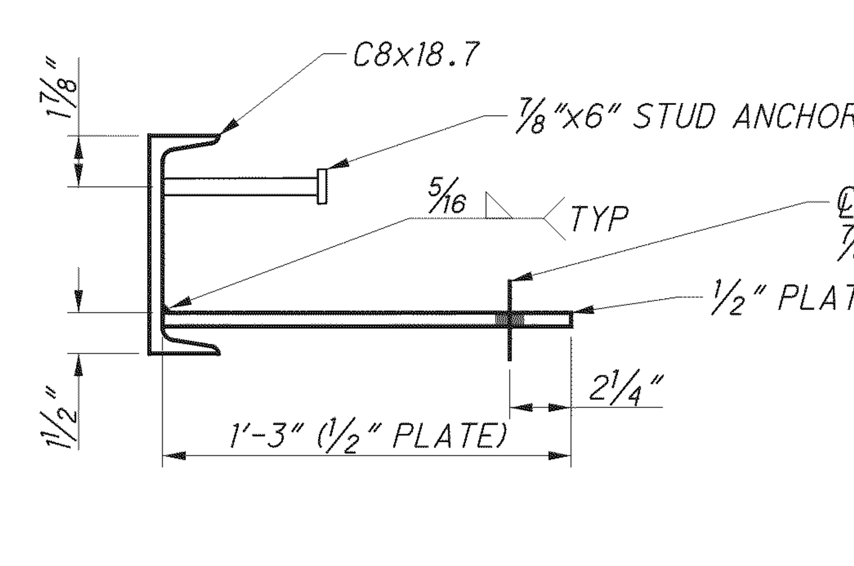
(EX-01) FLOORBEAM EXTENSION ANGLE DETAIL



PLAN



ELEVATION



SECTION

OVERHANG ARMORING CHANNEL DETAIL (OA-01, OA-02 & OA-03)

NOTES:

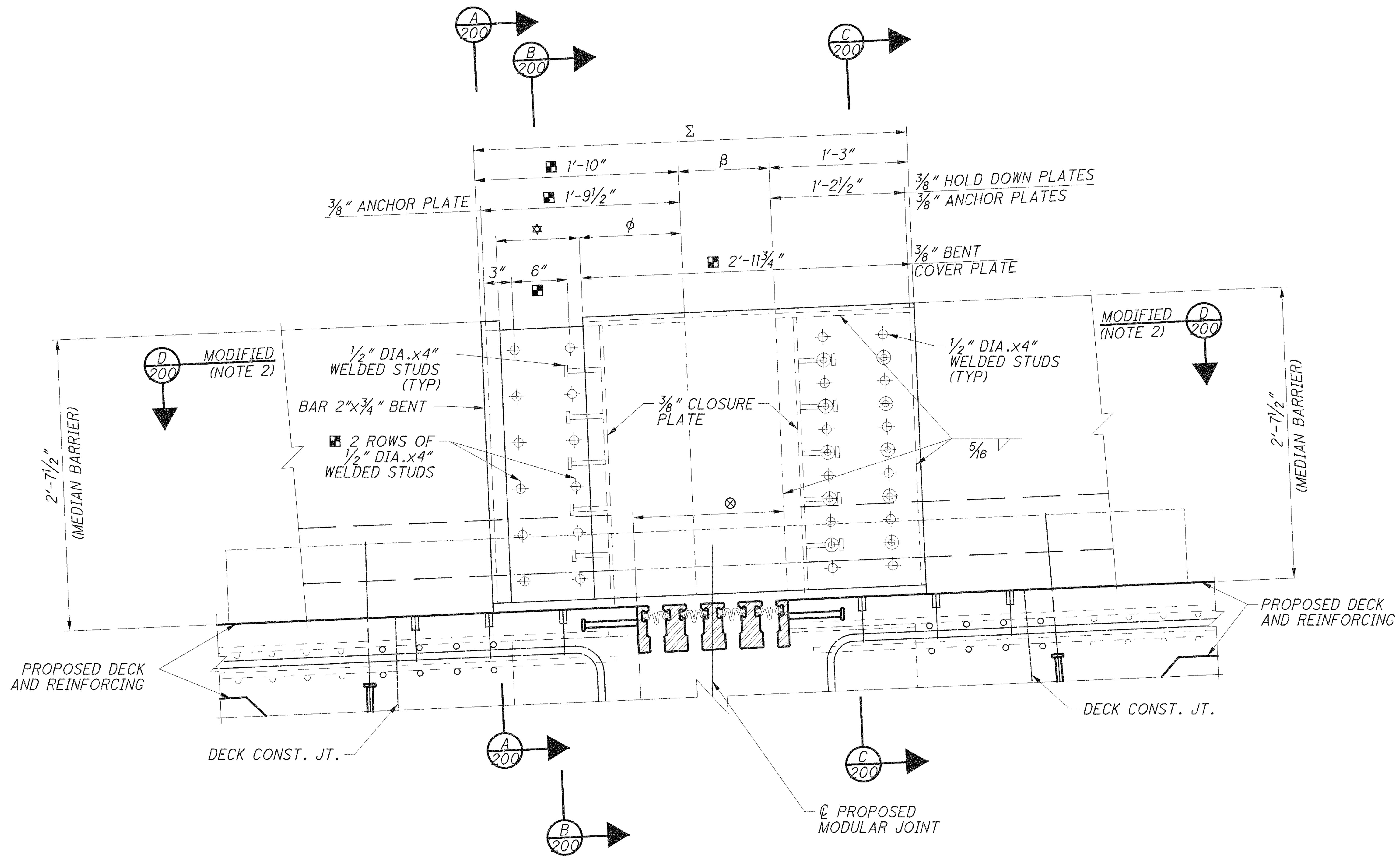
1. HOLES TO BE OVERSIZED (1¹⁄₁₆" DIA.) FOR ⅞" DIA. BOLTS THROUGH FLOORBEAM TOP FLANGE AND PLATE (FL-01, FL-02, FL-03). HOLE LOCATIONS TO MATCH FLOORBEAM TOP FLANGE HOLE LOCATIONS. SEE SHEET 207/227 FOR HOLE LOCATION DETAILS.
2. QUANTITIES OF PLATE FURNISHED AND INSTALLED PER PAIR OF FLOORBEAMS ARE AS FOLLOWS:
   - EX-01: 9 AS SHOWN, 9 MIRRORED
   - FL-01: 2 AS SHOWN, 2 MIRRORED
   - FL-02: 7 AS SHOWN, 7 MIRRORED
   - FL-03: 1 AS SHOWN, 1 MIRRORED
   - OA-01: 2 AS SHOWN, 2 MIRRORED
   - OA-02: 14 AS SHOWN
   - OA-03: 2 AS SHOWN

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4151 EXECUTIVE PARKWAY SUITE 350 WESTERVILLE, OHIO 43081

DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEK	EFD	4800303	

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



C/208 **SECTION**
MEDIAN BARRIER AT DECK CROWN

MEDIAN BARRIER VARIABLES

VARIABLE	TEMPERATURE (°F)						
	30°	40°	50°	60°	70°	80°	90°
Σ	3'-8⅞"	3'-9½"	3'-10 3/16"	3'-10 13/16"	3'-11 7/16"	4'-0 1/16"	4'-0¾"
β	7⅞"	8½"	9 3/16"	9 13/16"	10 7/16"	11 1/16"	11¾"
✡	7 1/16"	7 11/16"	8⅜"	9"	9⅝"	10¼"	10 15/16"
φ	1'-0 15/16"	1'-0 5/16"	11⅝"	11"	10⅜"	9¾"	9 1/16"
⊗	SEE TABLE ON SHEET 211/227						

NOTES:

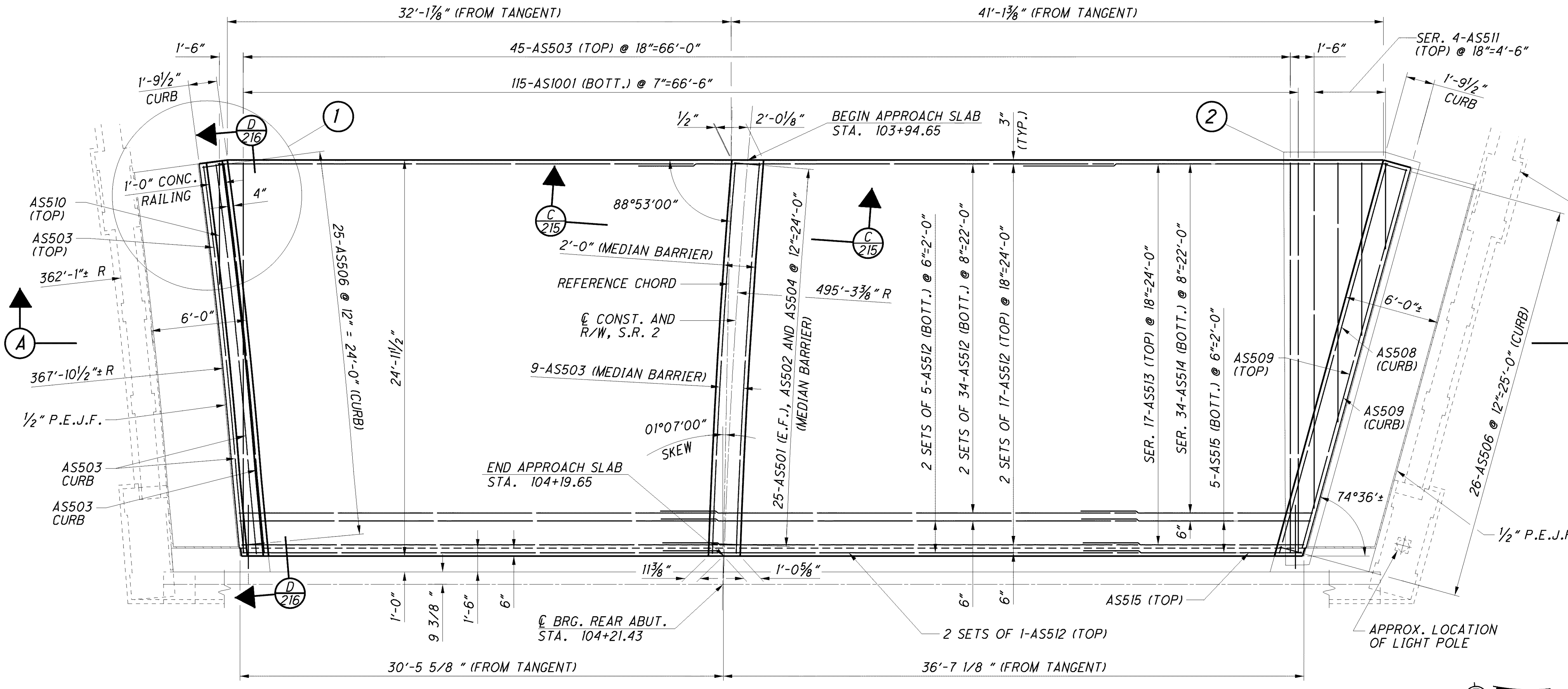
1. BARRIER JOINT DETAILS ARE SIMILAR TO STANDARD DETAILS AS SHOWN ON SHEET 200/227. FOR STANDARD BARRIER REINFORCING, SEE SHEET 163/227.
2. DIFFERENCES OF PLATE DETAILS FROM SECTION "D" ON SHEET 200/227 ARE DENOTED WITH "■" ON THIS SHEET. DIMENSIONS ON THIS SHEET SHALL CONTROL IF DISCREPANCIES ARE NOTED.
3. ALL BARRIER JOINT PLATES AND BARS SHALL BE GALVANIZED, FURNISHED, AND INSTALLED WITH AS PART OF ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN, LIGHTWEIGHT CONCRETE.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

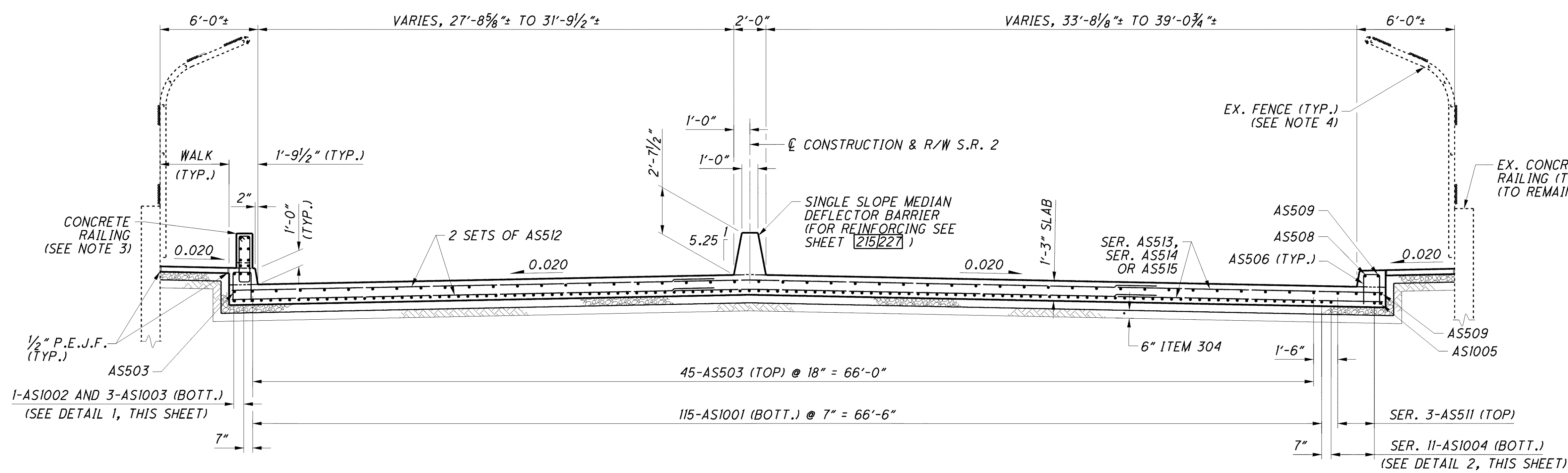
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DEK	EFD	4800303	

TOWER EXPANSION JOINT DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551



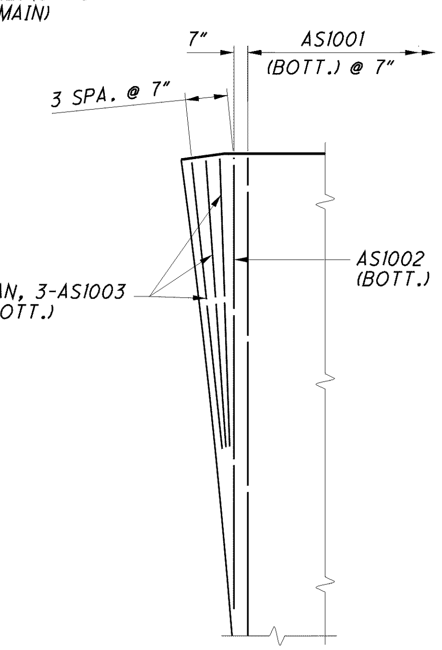
REAR APPROACH SLAB PLAN



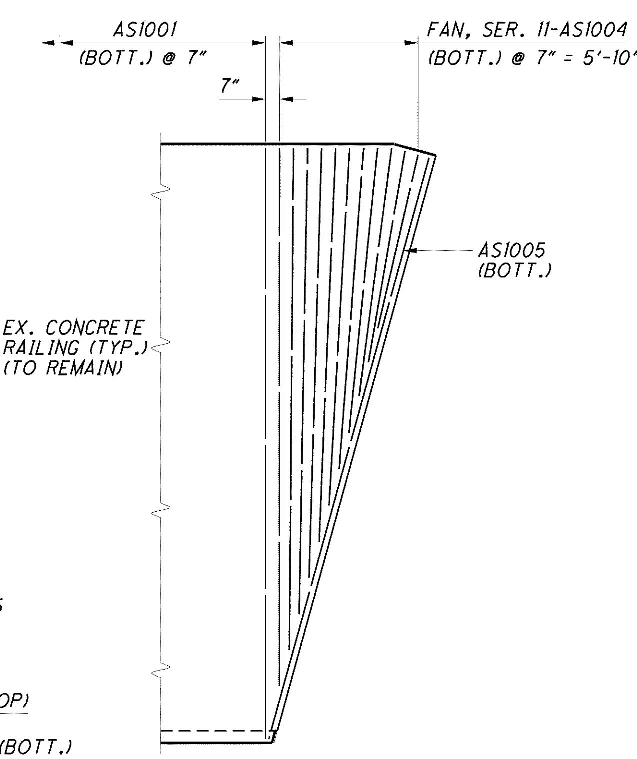
A SECTION

NOTES:

1. MINIMUM BARS LAPS ARE AS FOLLOWS:
   #5 BARS = 42"
2. FOR FENCE DETAILS, SEE SHEETS 191/227 THRU 195/227.
3. FOR CONCRETE RAILING DETAILS, AND ADDITIONAL REINFORCING SEE SHEET 216/227.
4. EX. FENCE POLES AND LINE RAIL TO REMAIN. EX. FABRIC TO BE REPLACED. SEE SHEET 192/227 FOR DETAILS.



1 DETAIL



2 DETAIL

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel: 216-781-6177 Fax: 216-781-6243 www.arcadis-us.com

DESIGNED	DRAWN	REVIEWED	DATE
CMD	CAF	RBB	10/12
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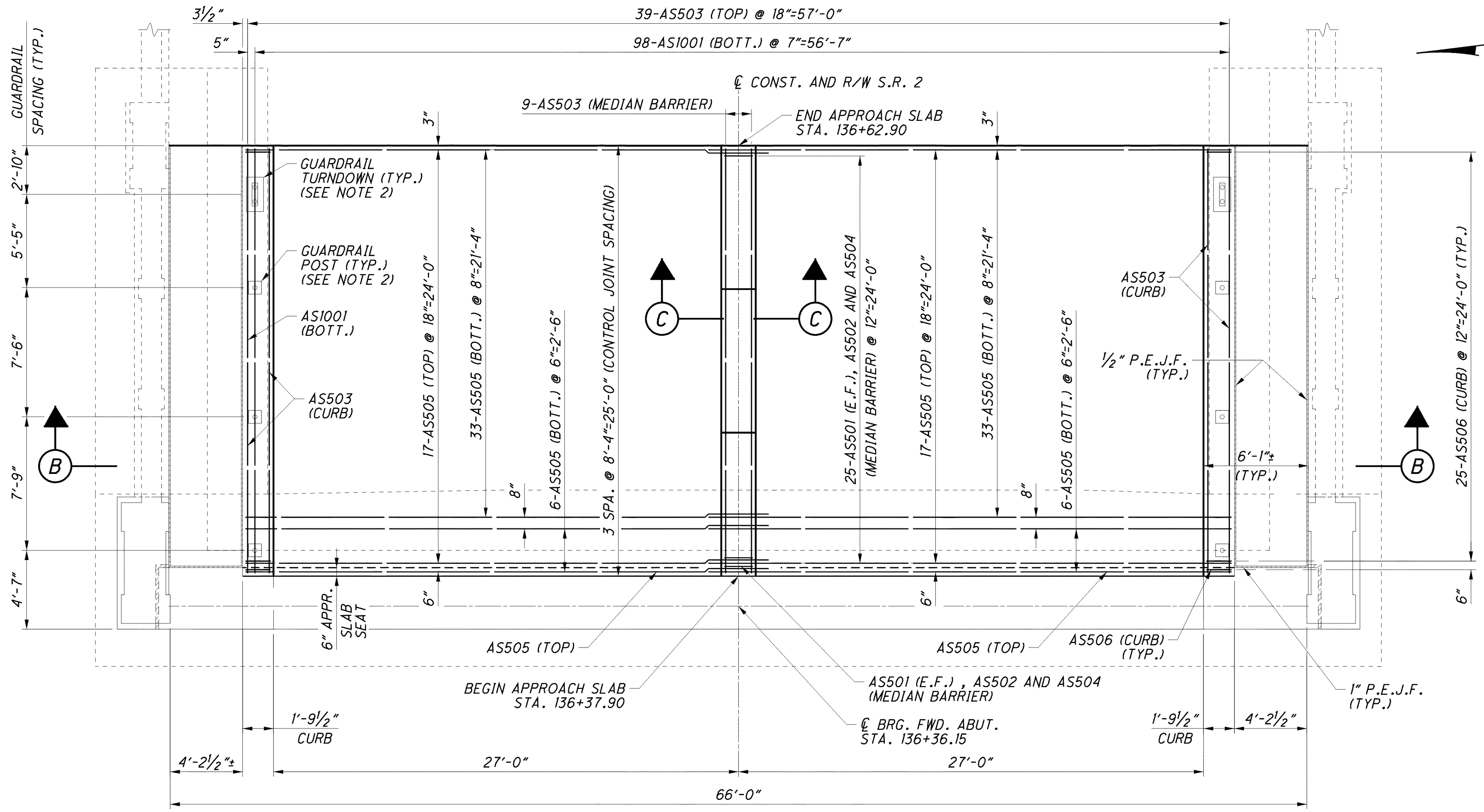
AJM	.	4800303	

MISCELLANEOUS DETAILS - APPROACH SLAB
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

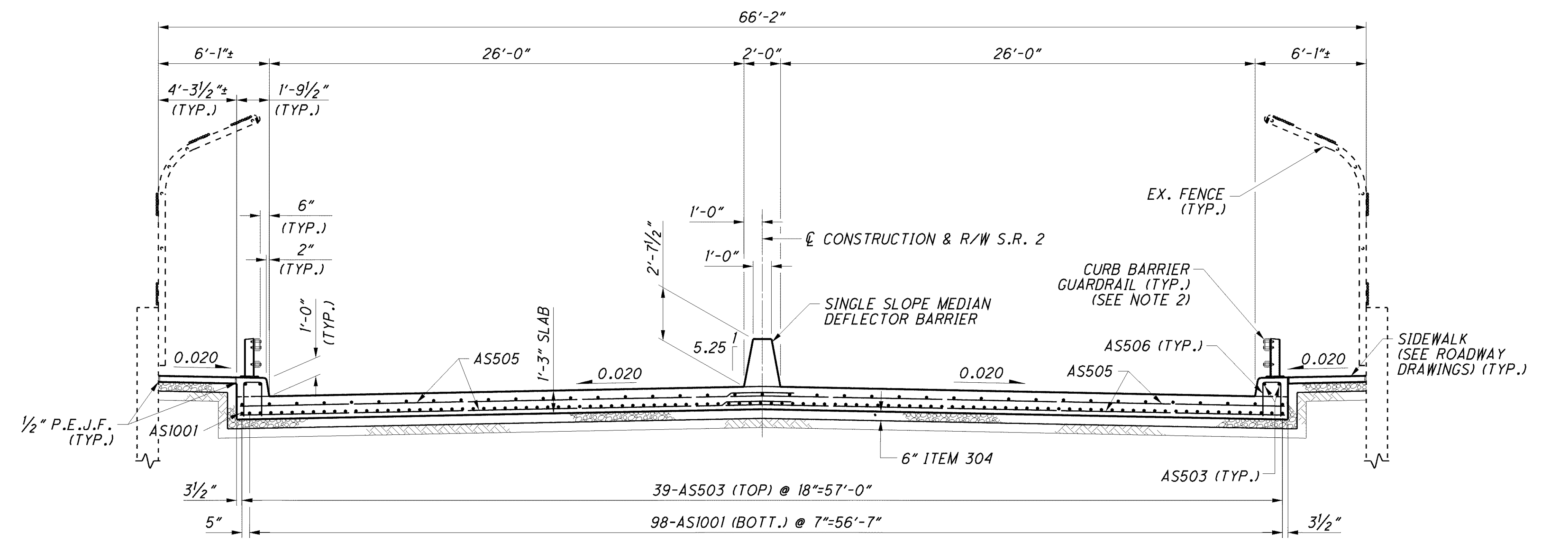
LUC-2-18.62
PID No. 80551

NOTES:

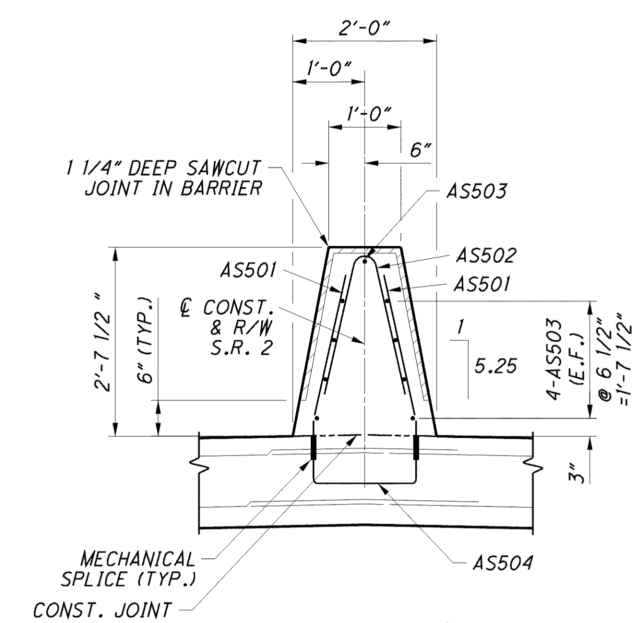
1. MINIMUM BARS LAPS ARE AS FOLLOWS:
   #5 BARS = 42"
2. FOR CURB BARRIER GUARDRAIL DETAILS AND FENCE DETAILS, SEE SHEETS 191/227 THRU 195/227.



FORWARD APPROACH SLAB PLAN



B SECTION



C/214 C SECTION

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
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DESIGNED	DRAWN	REVIEWED	DATE
AJM	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

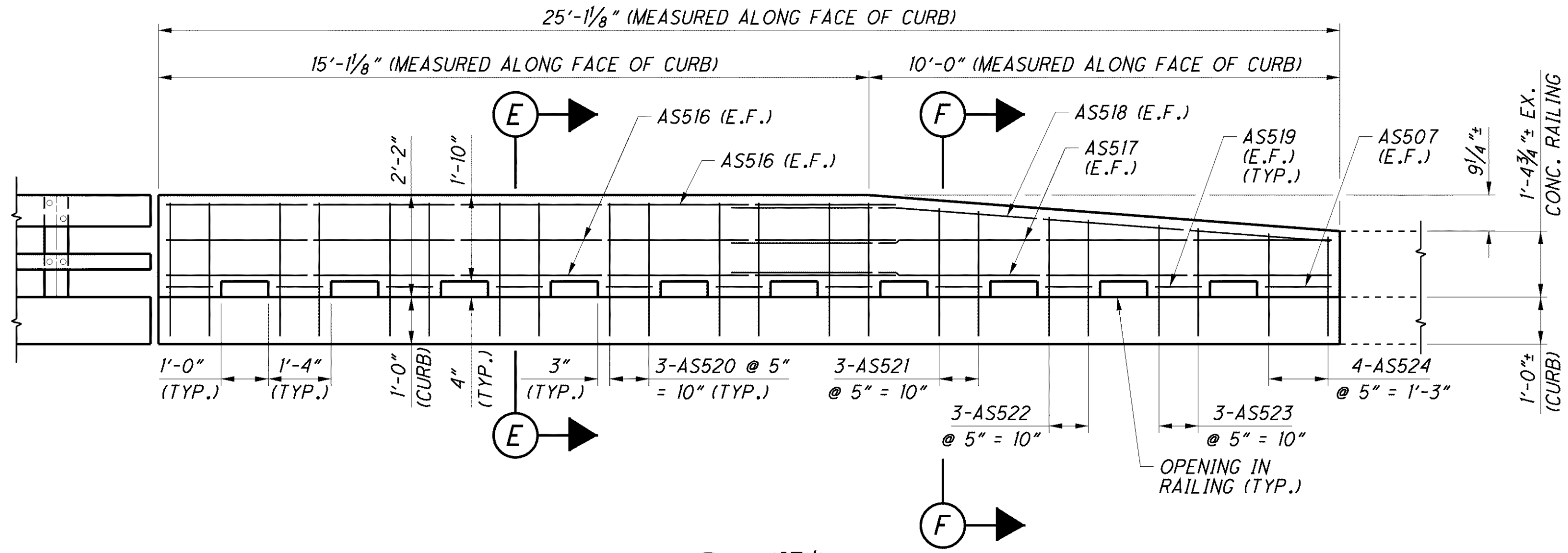
MISCELLANEOUS DETAILS - APPROACH SLAB
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

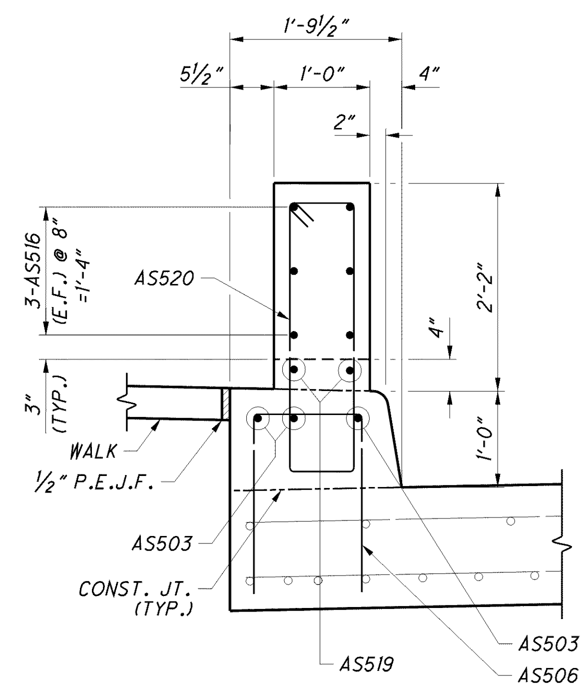
NOTES:

1. MINIMUM BARS LAPS ARE AS FOLLOWS:
   #5 BARS = 42"

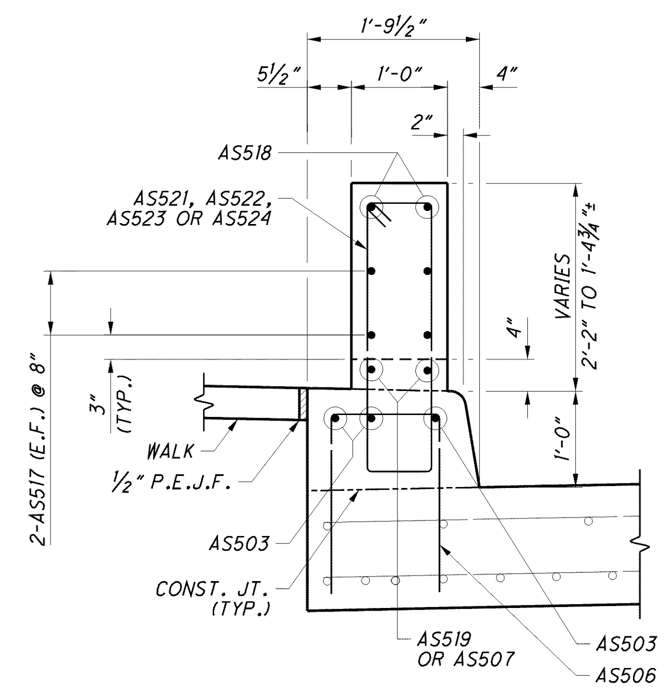
2. INCLUDE CONCRTE RAILING WITH ITEM 898
   FOR PAYMENT.



D/214 VIEW



E SECTION



F SECTION

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
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DESIGNED	DRAWN	REVIEWED	DATE
CMD	TMR	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AJM		4800303	

MISCELLANEOUS DETAILS - APPROACH SLAB
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
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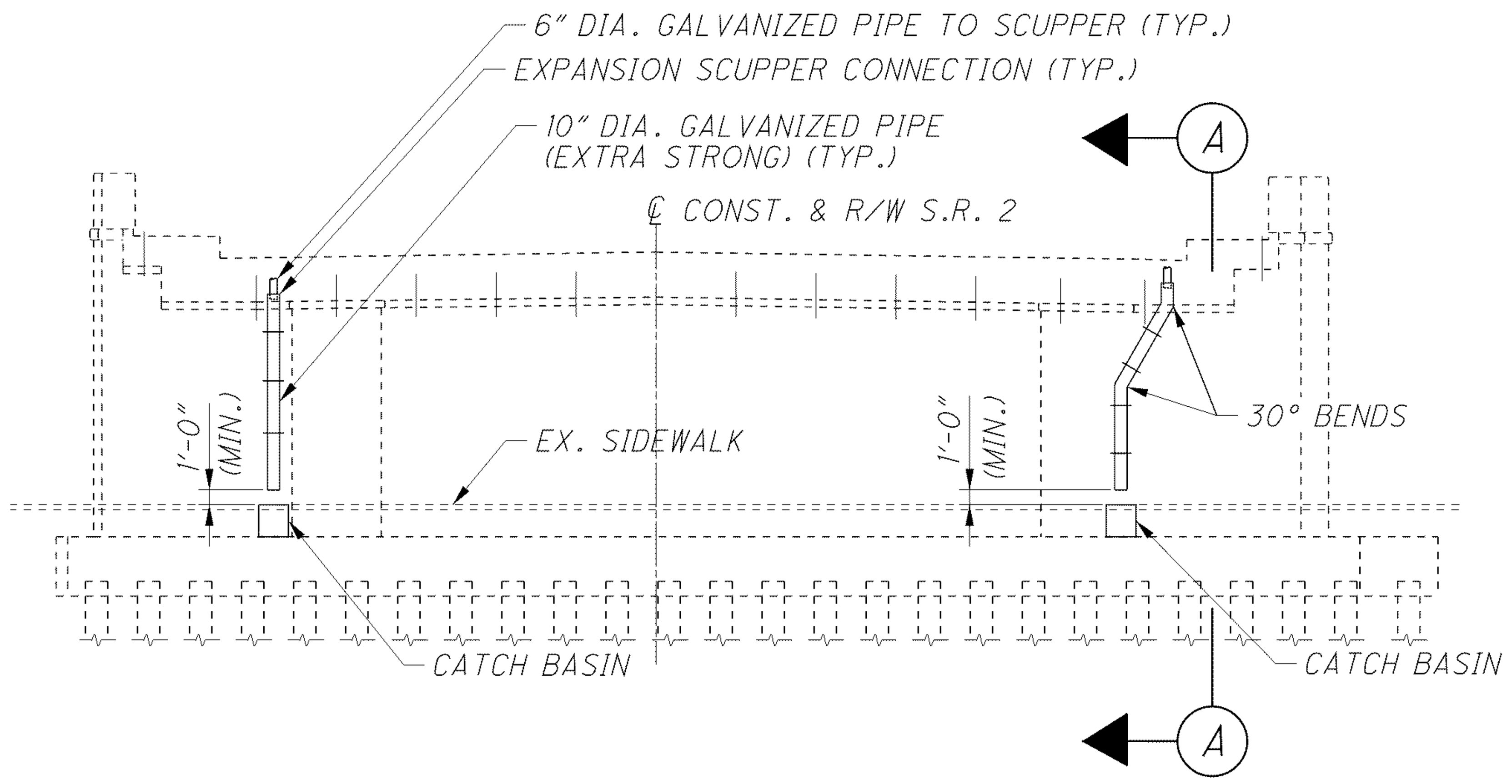
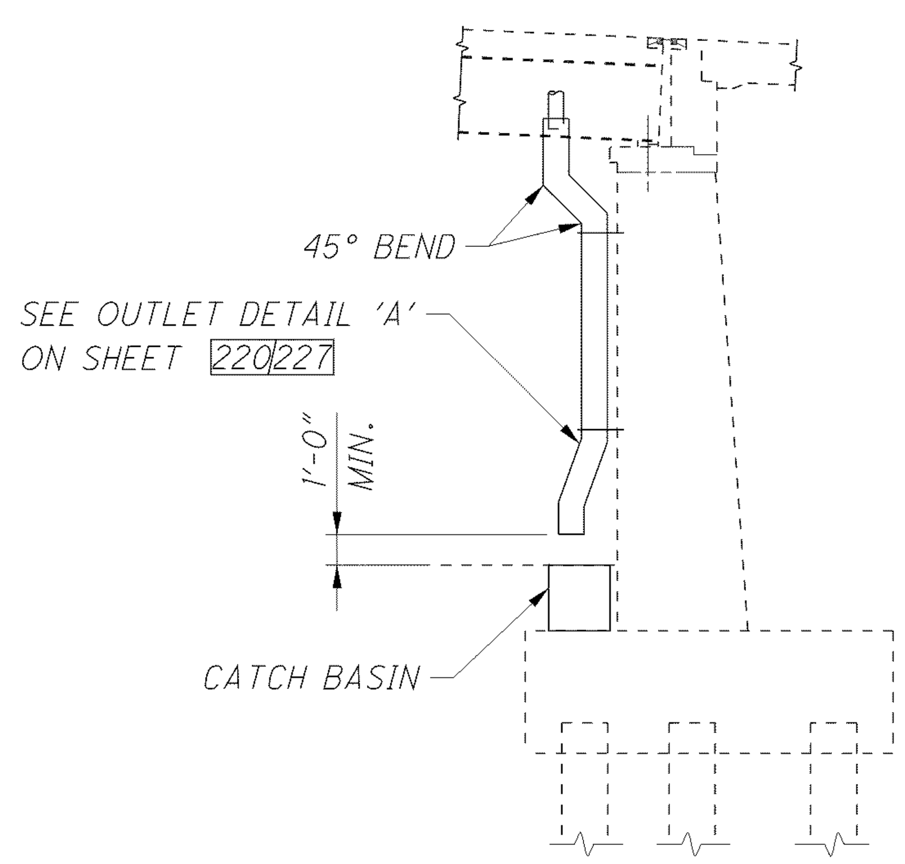
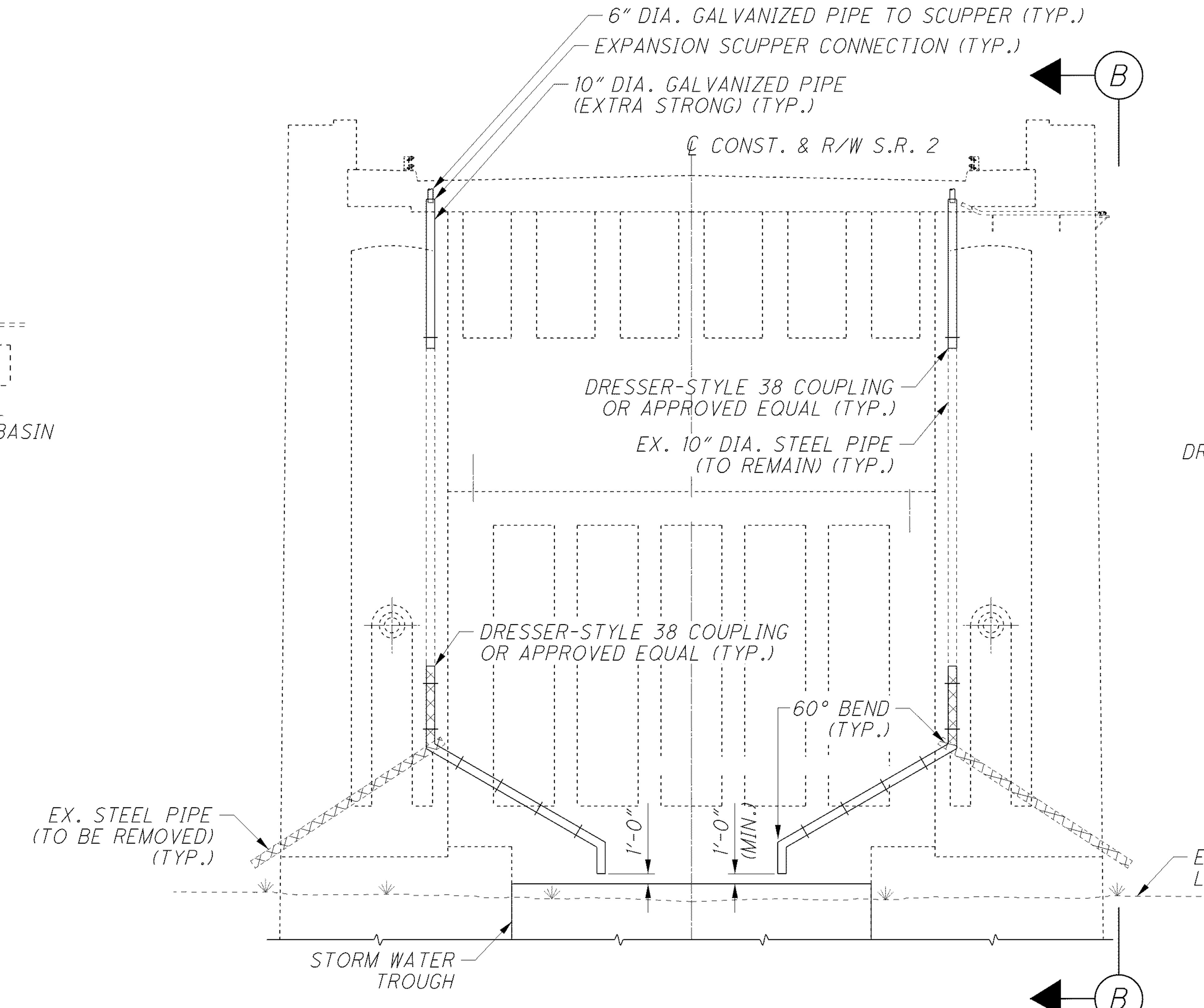


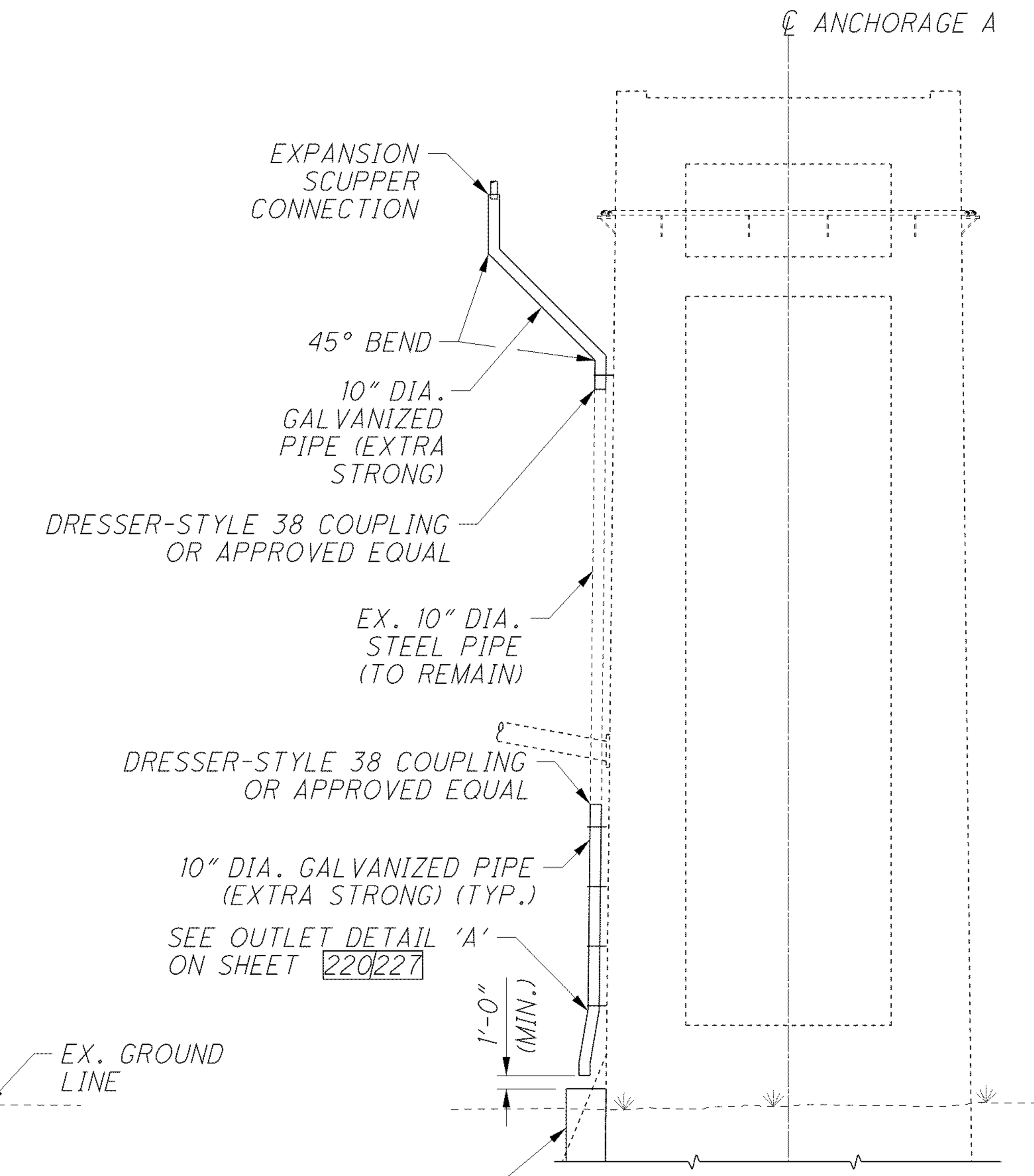
REAR ABUTMENT ELEVATION LOOKING WEST



A SECTION



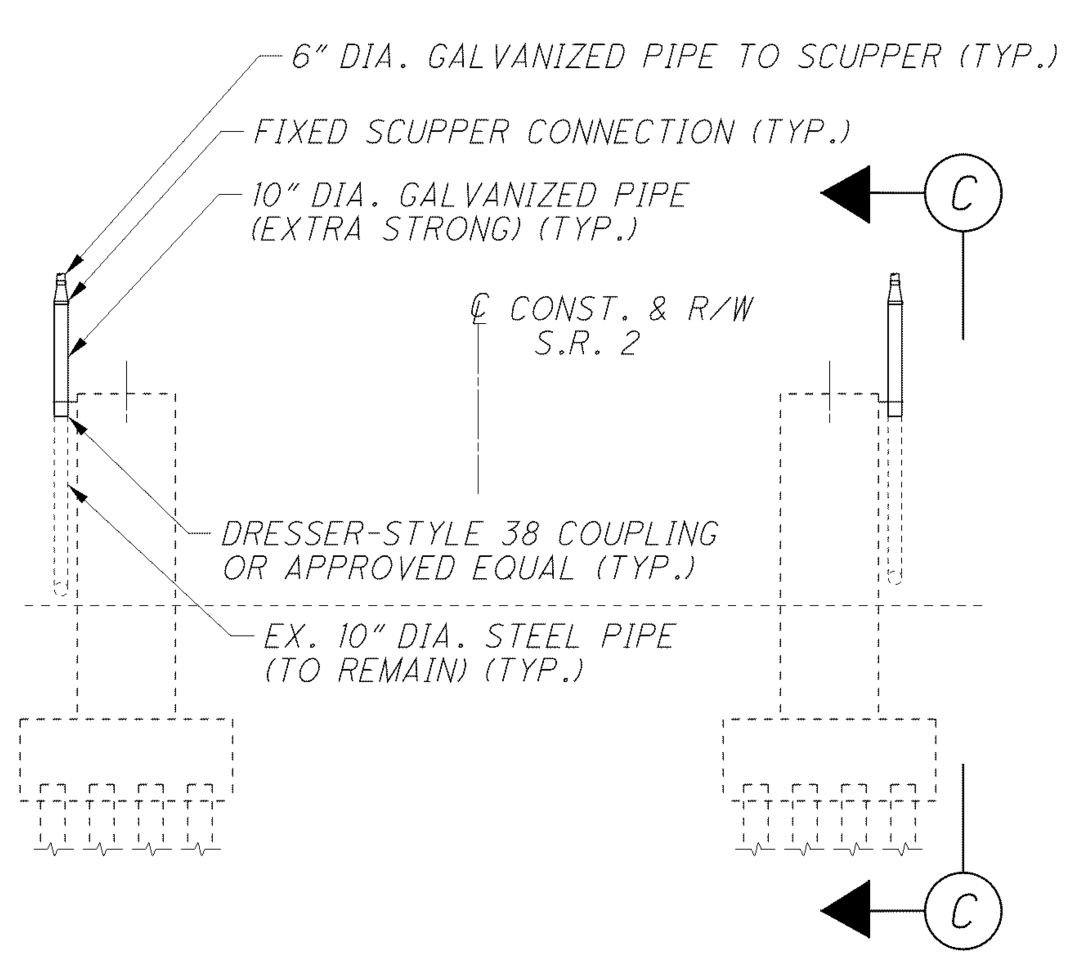
ANCHORAGE A ELEVATION LOOKING WEST



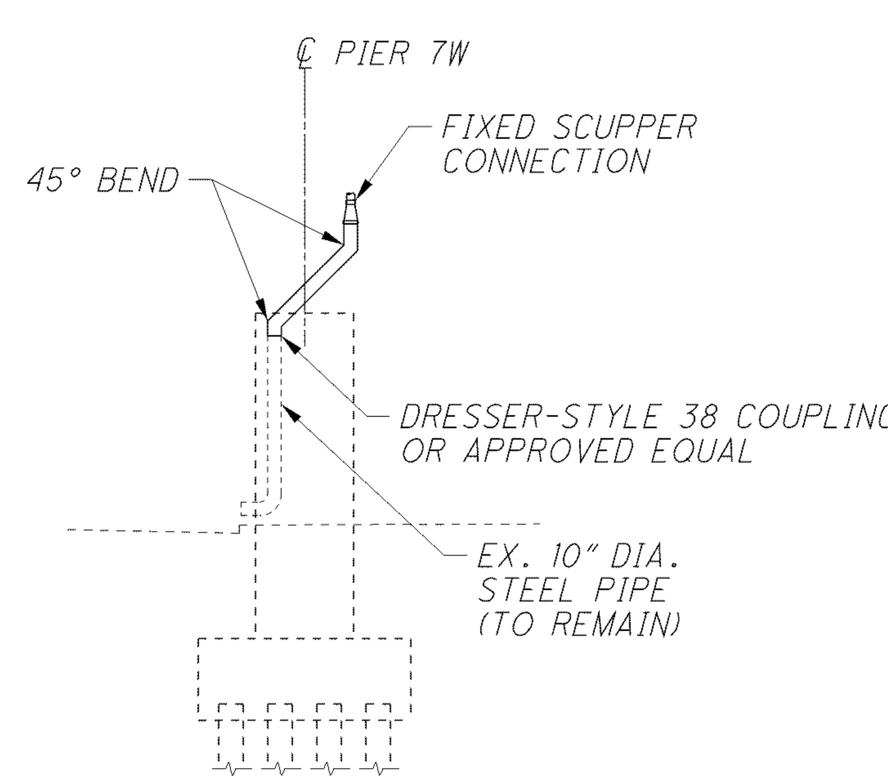
B VIEW

NOTE:

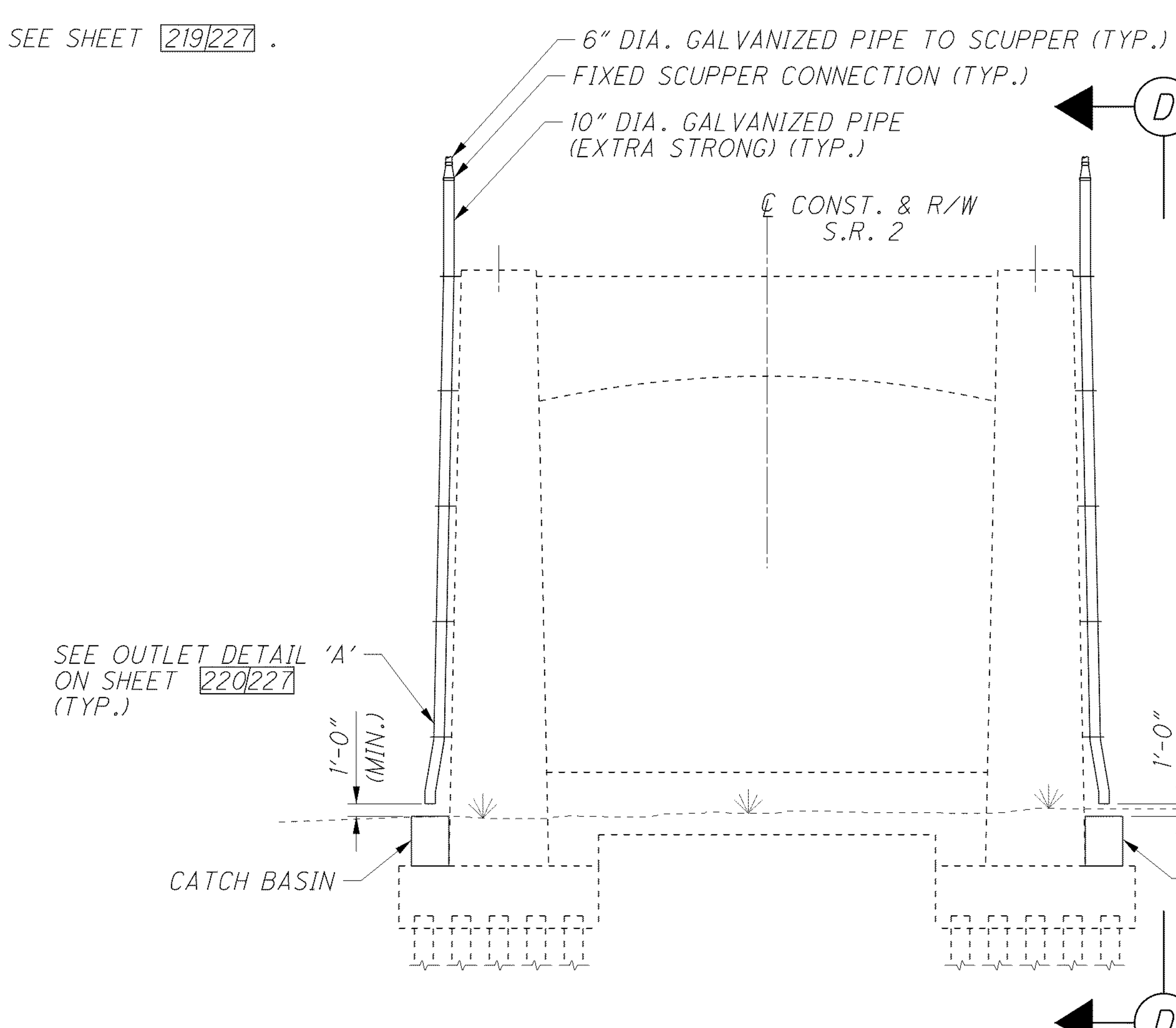
1. FOR ADDITIONAL DRAINAGE DETAILS SEE SHEET 219/227 .



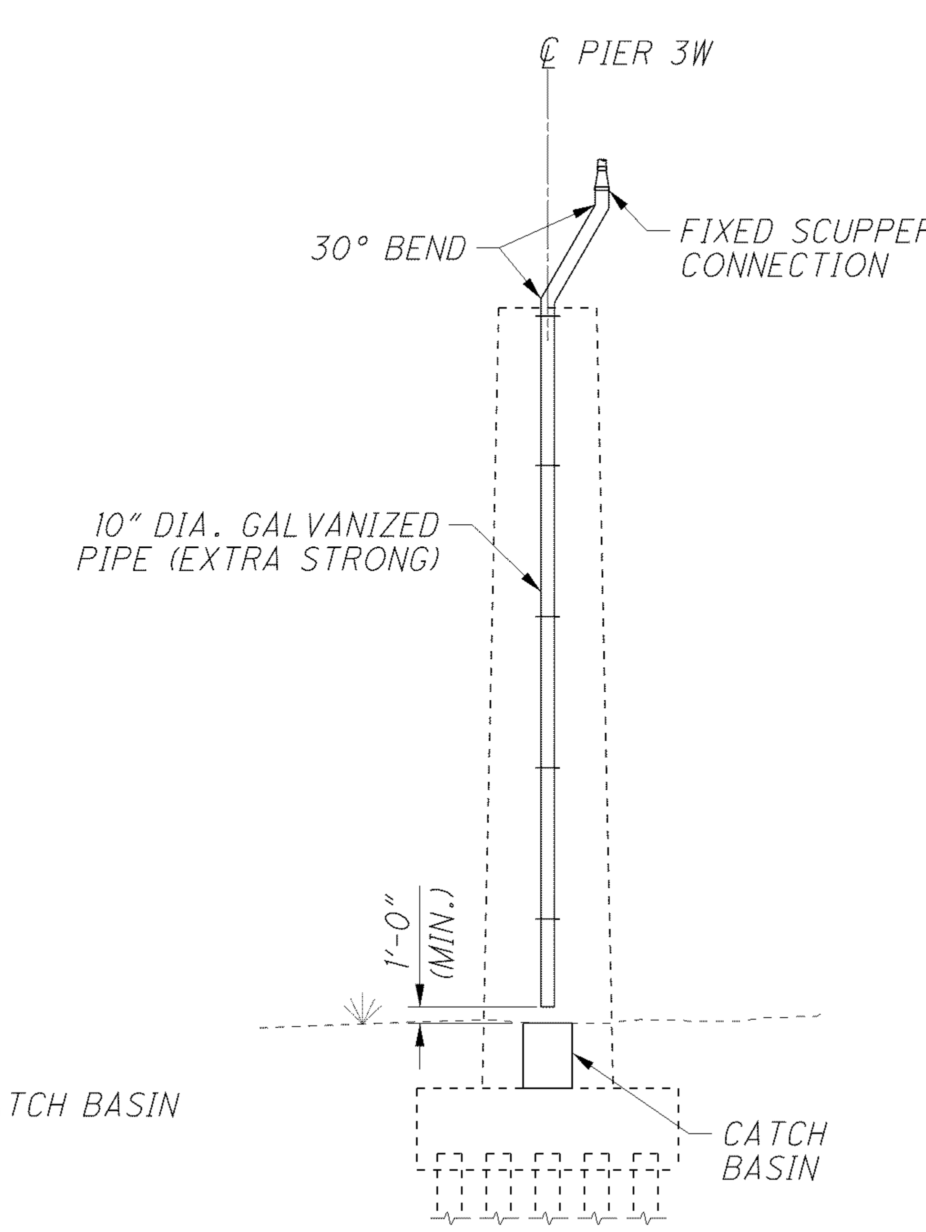
PIER 7W ELEVATION LOOKING EAST



C VIEW



PIER 3W ELEVATION LOOKING EAST



D VIEW

DESIGN AGENCY
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ARCADIS U.S., Inc.
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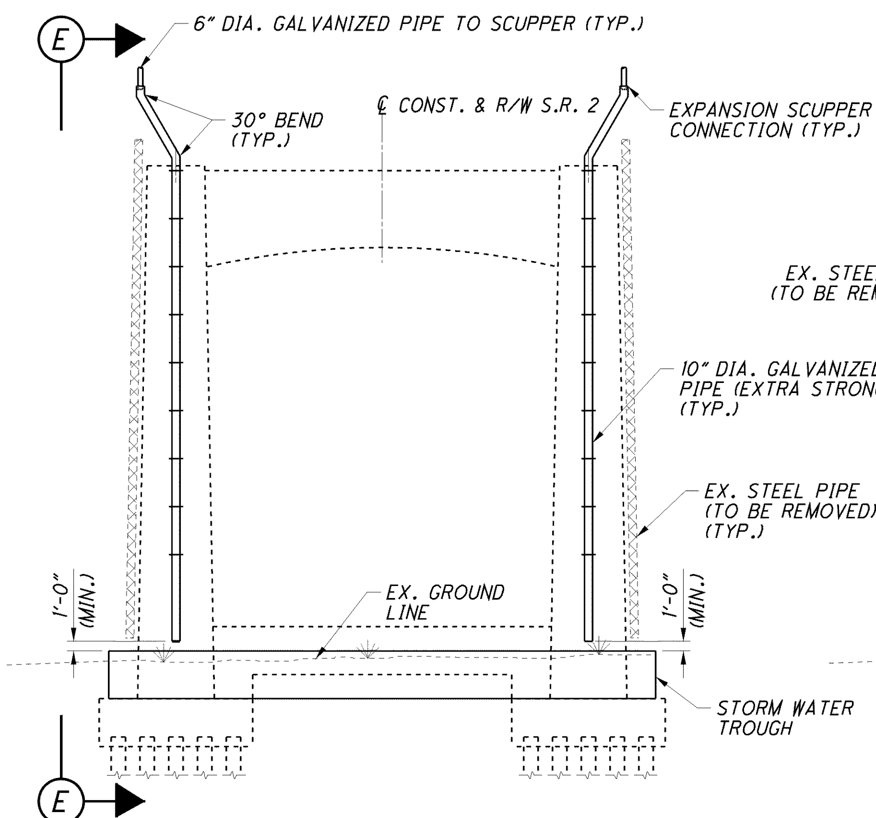
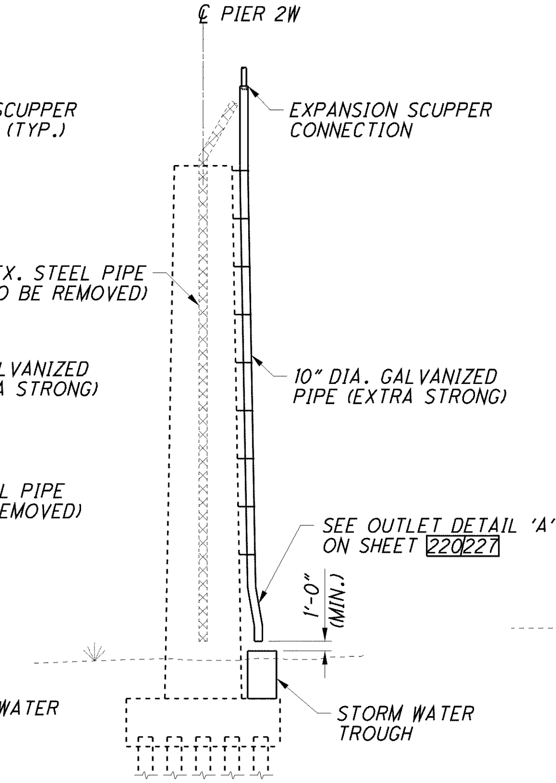
DESIGNED	DRAWN	REVIEWED	DATE
CMD	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
AJM		4800303	

MISELLANEOUS DETAILS - DRAINAGE DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

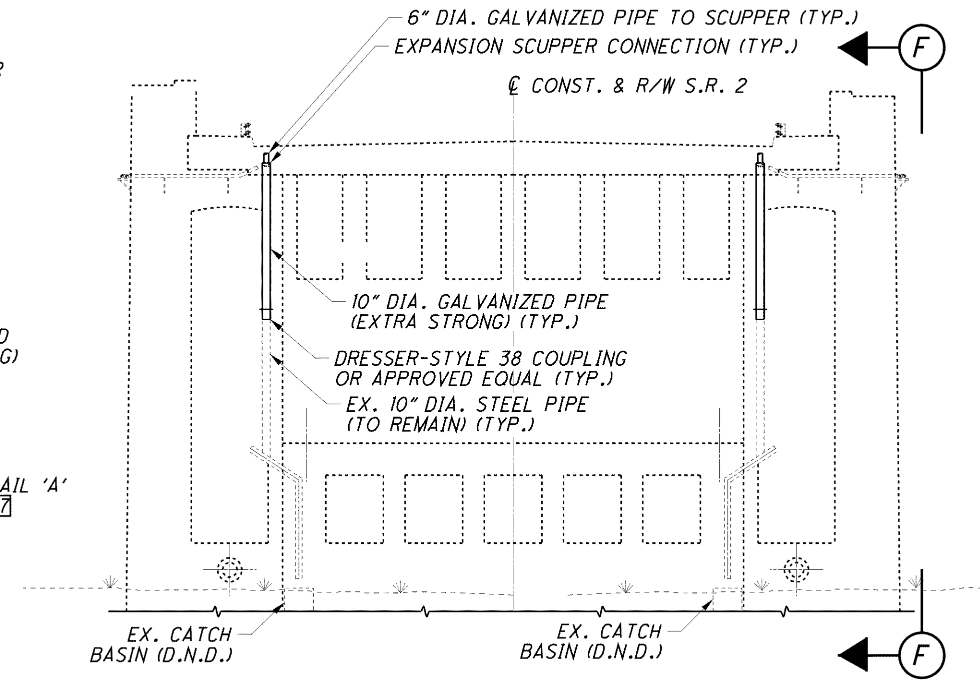
LUC-2-18.62
PID No. 80551



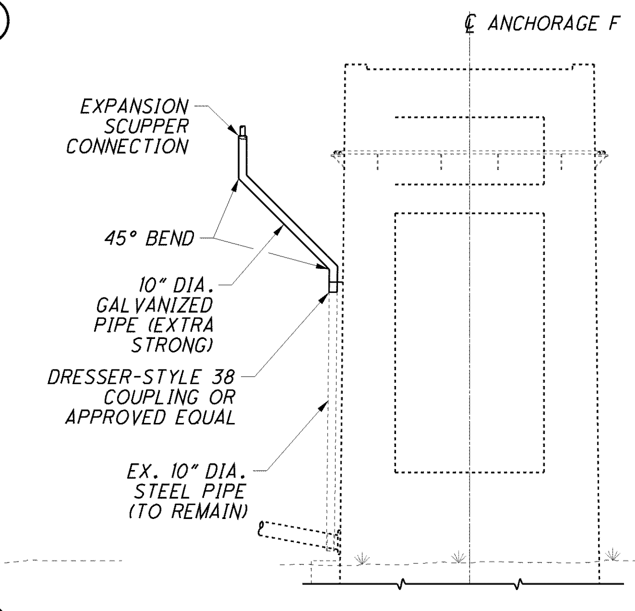
PIER 2W ELEVATION LOOKING WEST



E VIEW



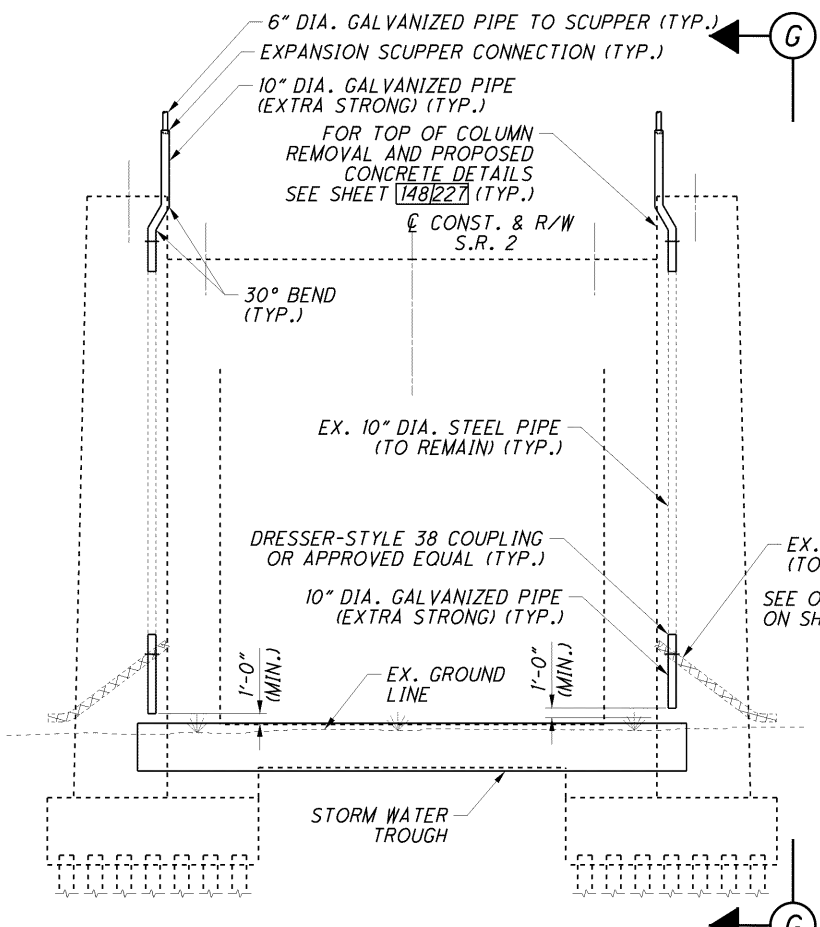
ANCHORAGE F ELEVATION LOOKING EAST



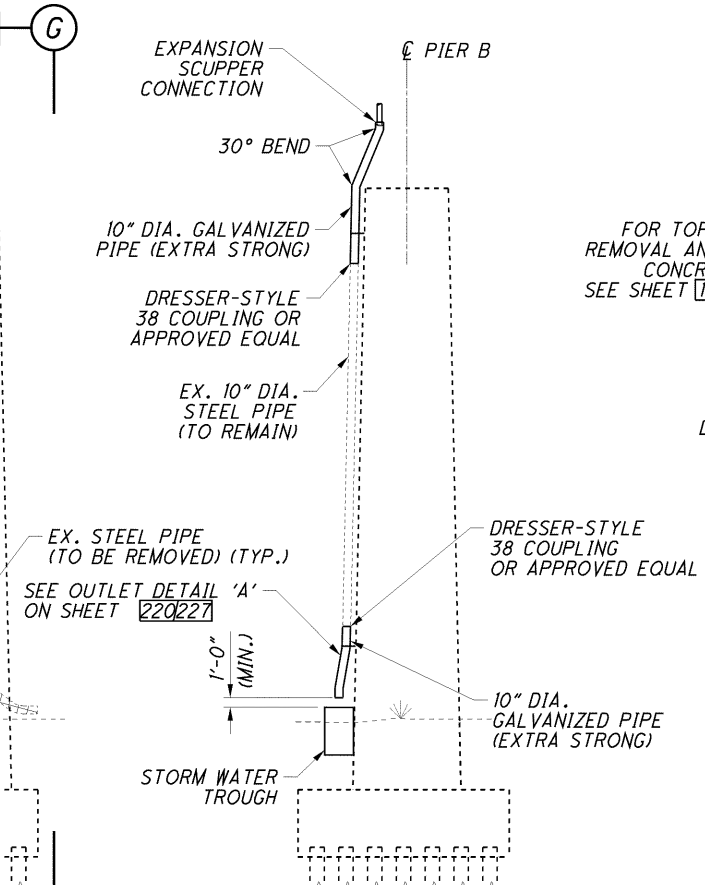
F VIEW

NOTE:

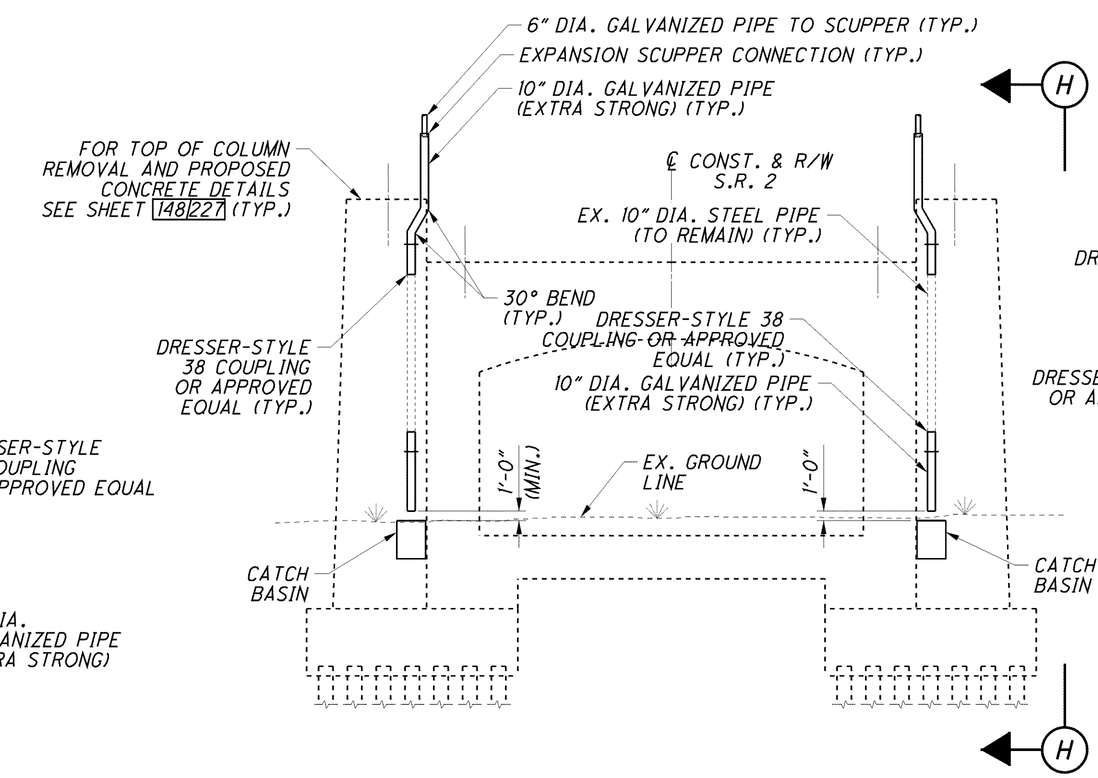
1. FOR ADDITIONAL DRAINAGE DETAILS SEE SHEET 219/227 .



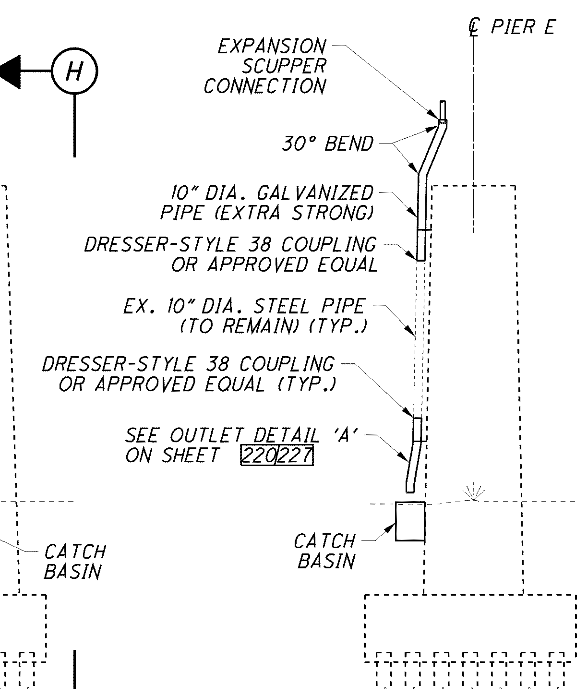
PIER B ELEVATION LOOKING WEST



G VIEW



PIER E ELEVATION LOOKING EAST



H VIEW

DESIGN AGENCY
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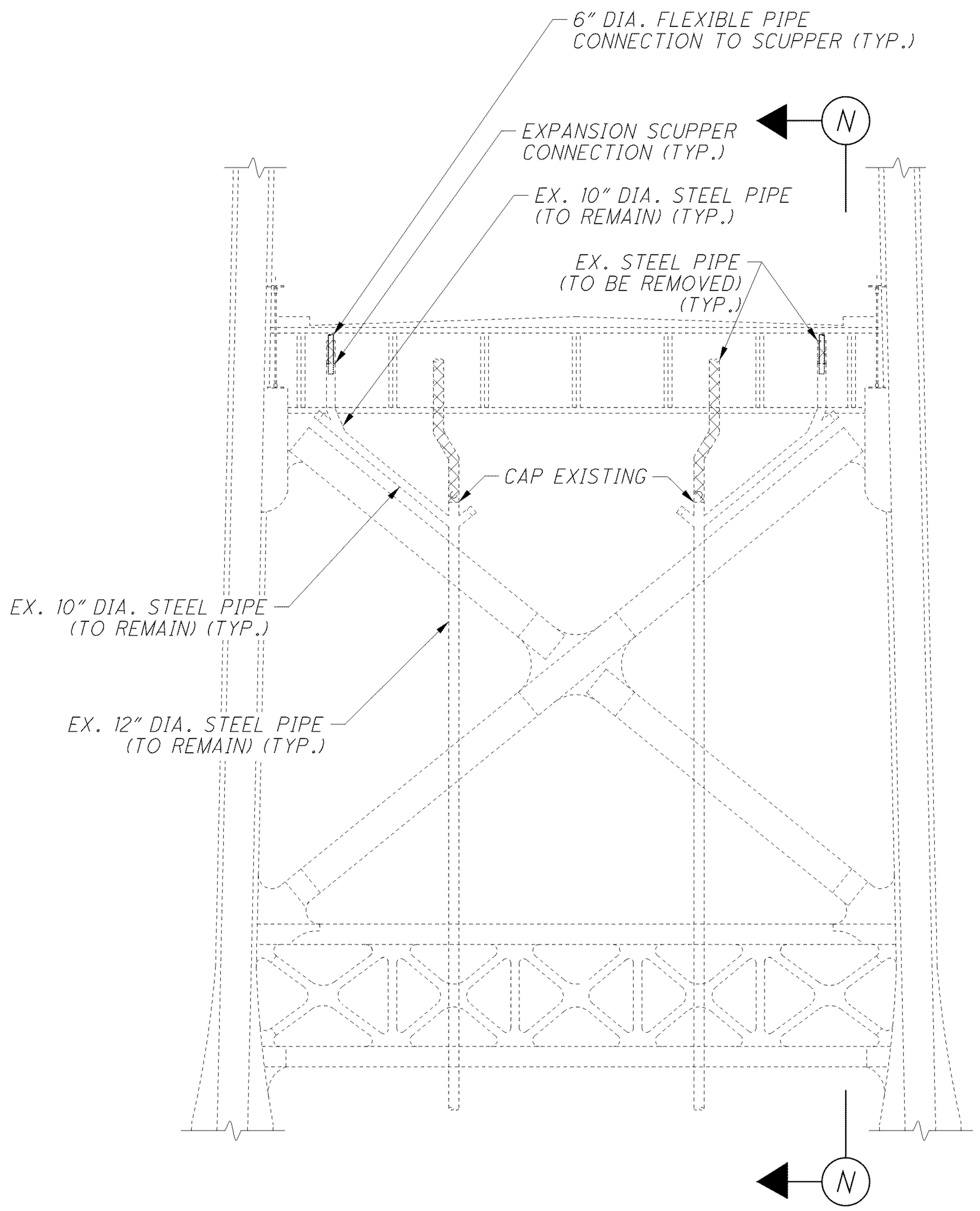
MISELLANEOUS DETAILS - DRAINAGE DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

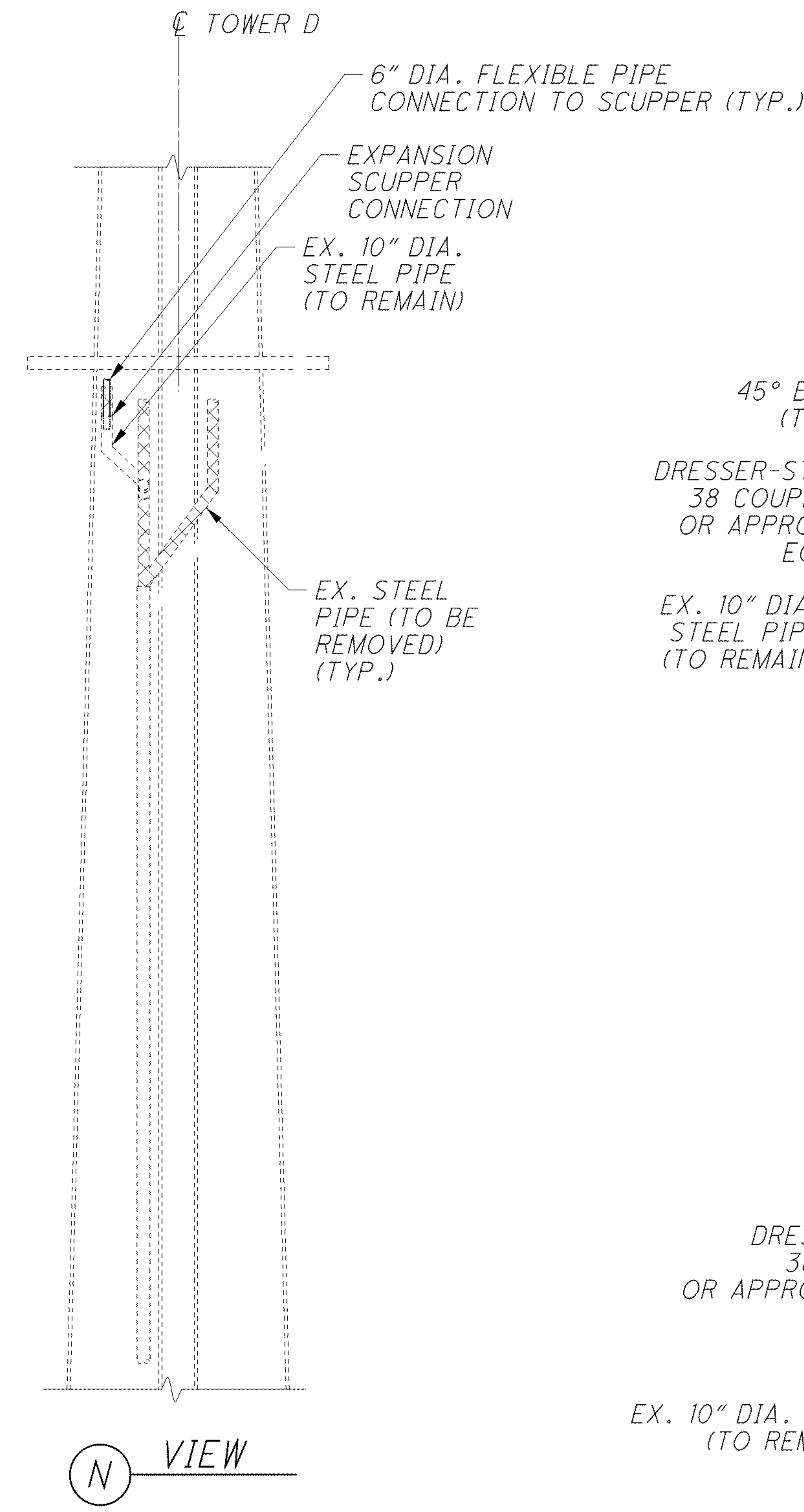
LUC-2-18.62
PID No. 80551

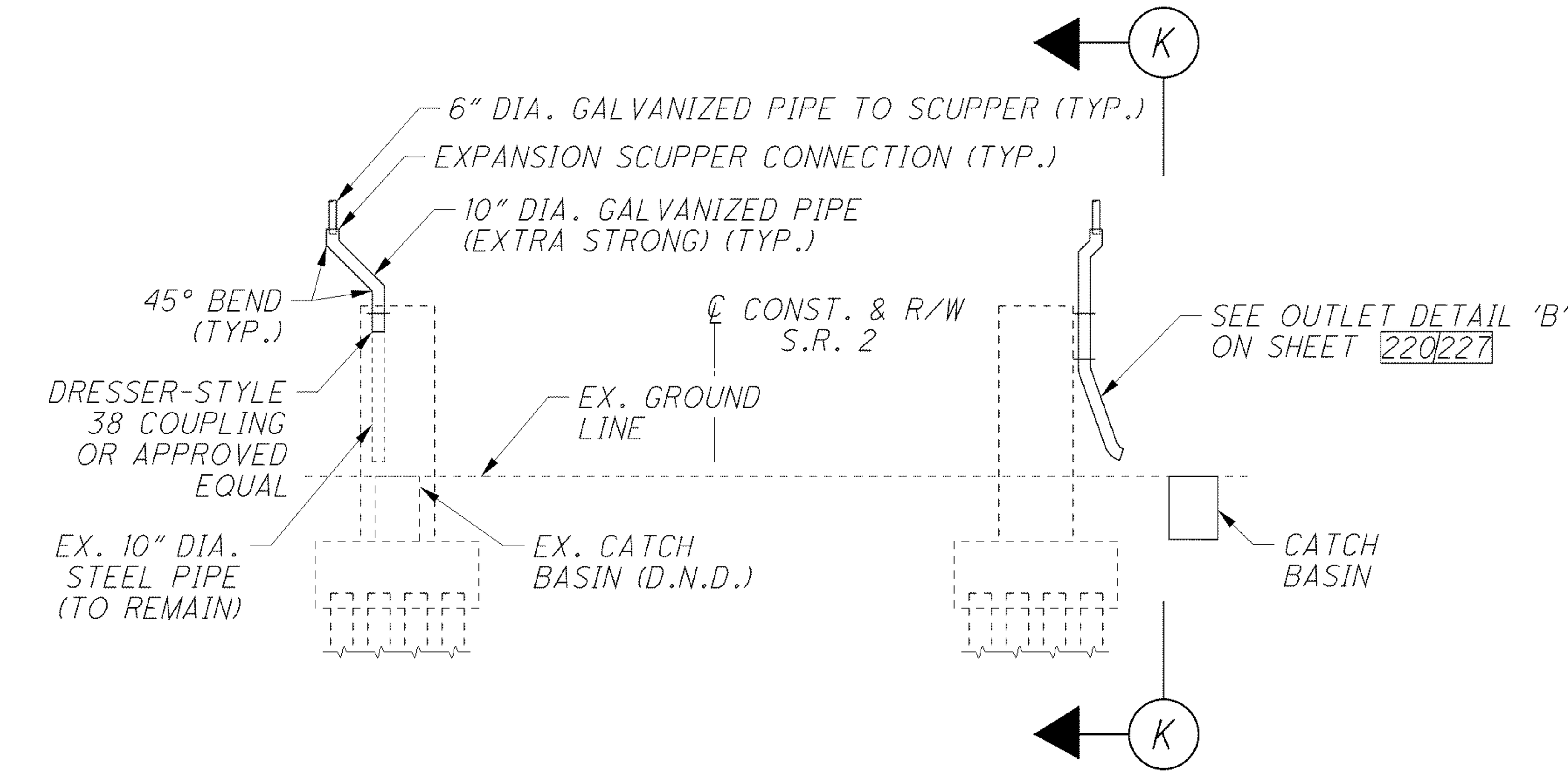
NOTE:

1. FOR ADDITIONAL DRAINAGE DETAILS SEE SHEET 220/227 .

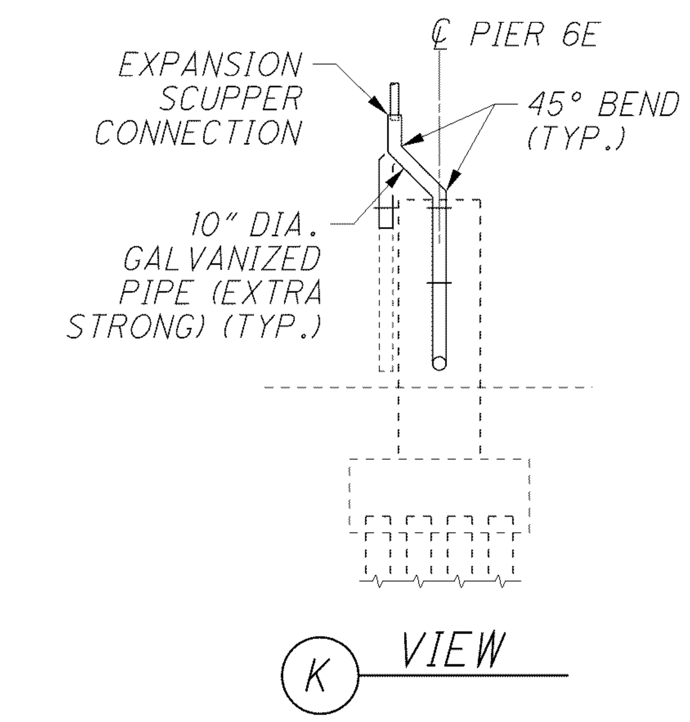


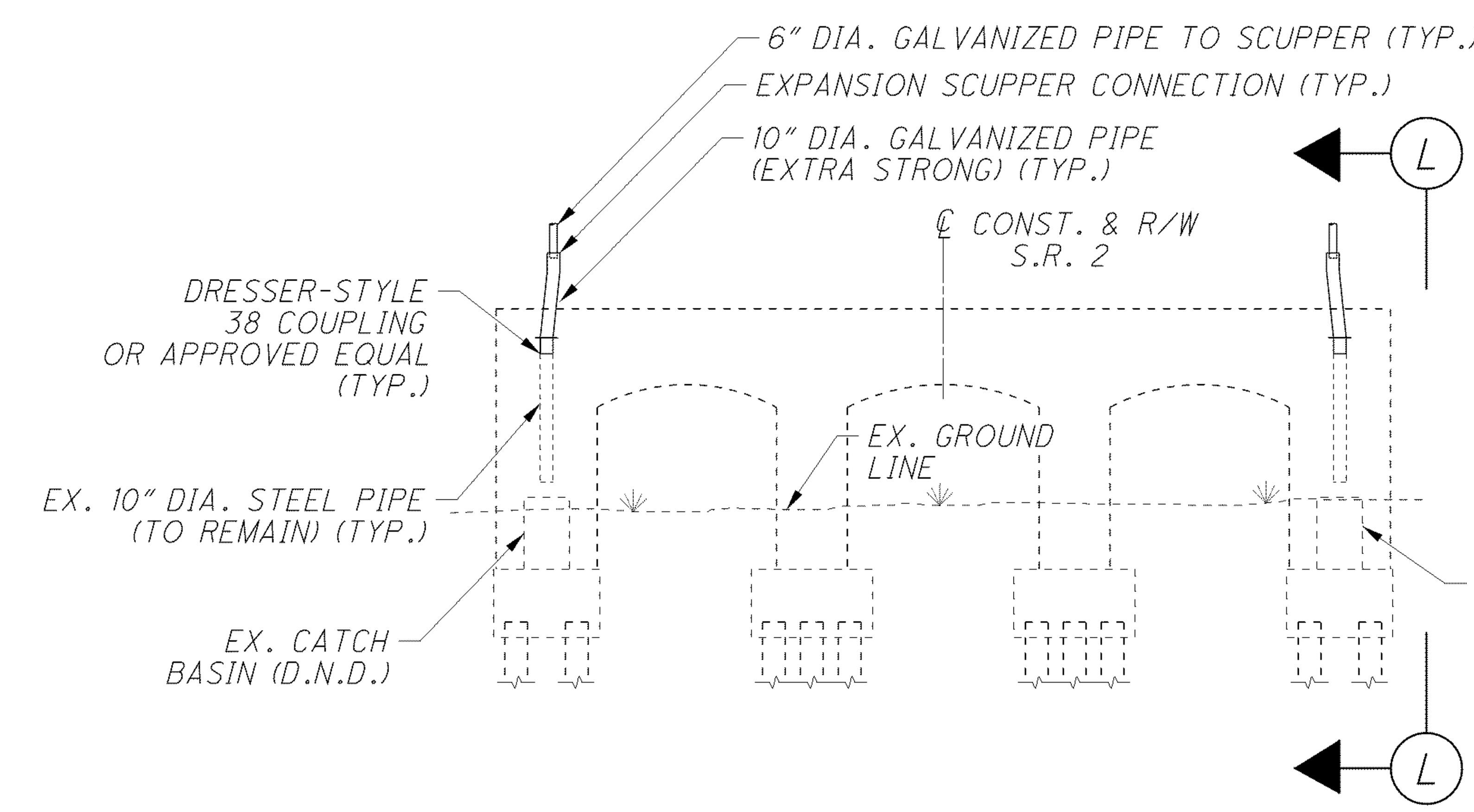
TOWER D ELEVATION LOOKING WEST



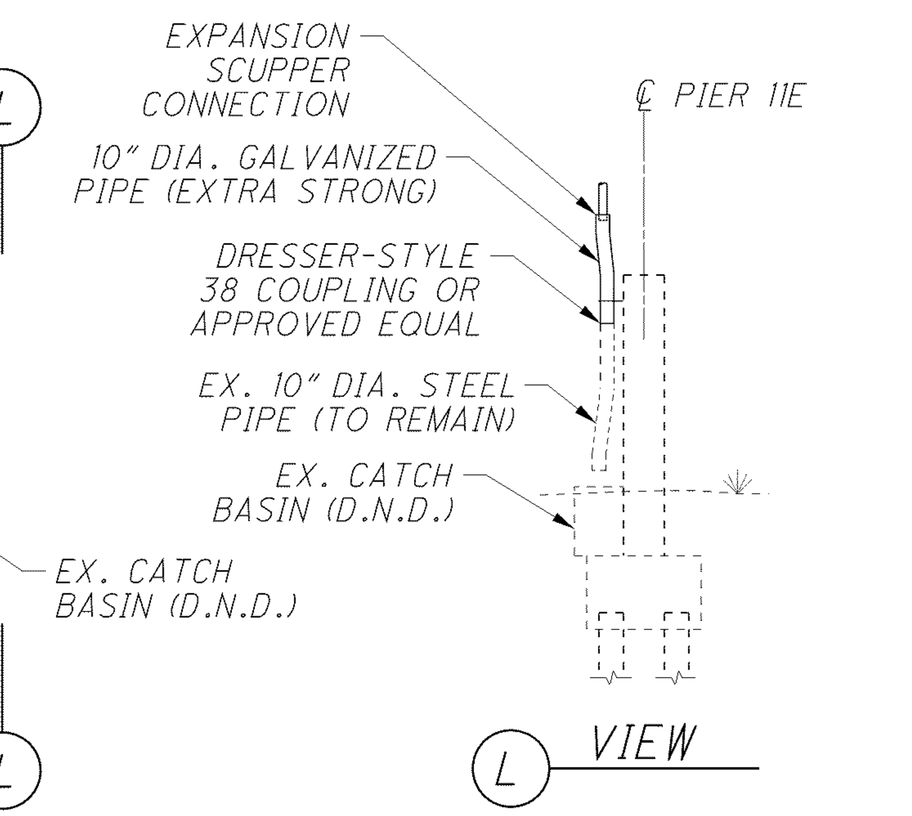


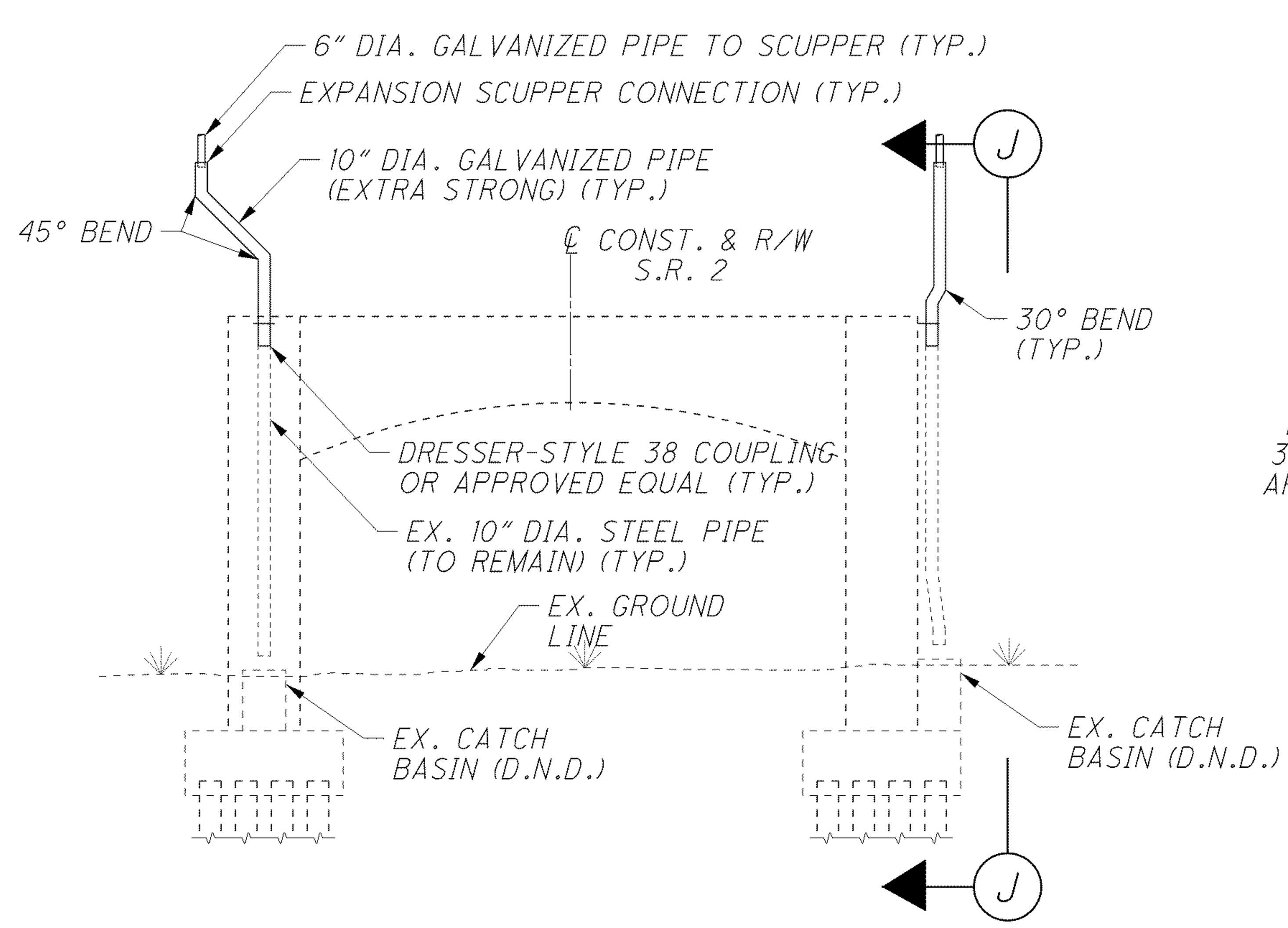
PIER 6E ELEVATION LOOKING EAST



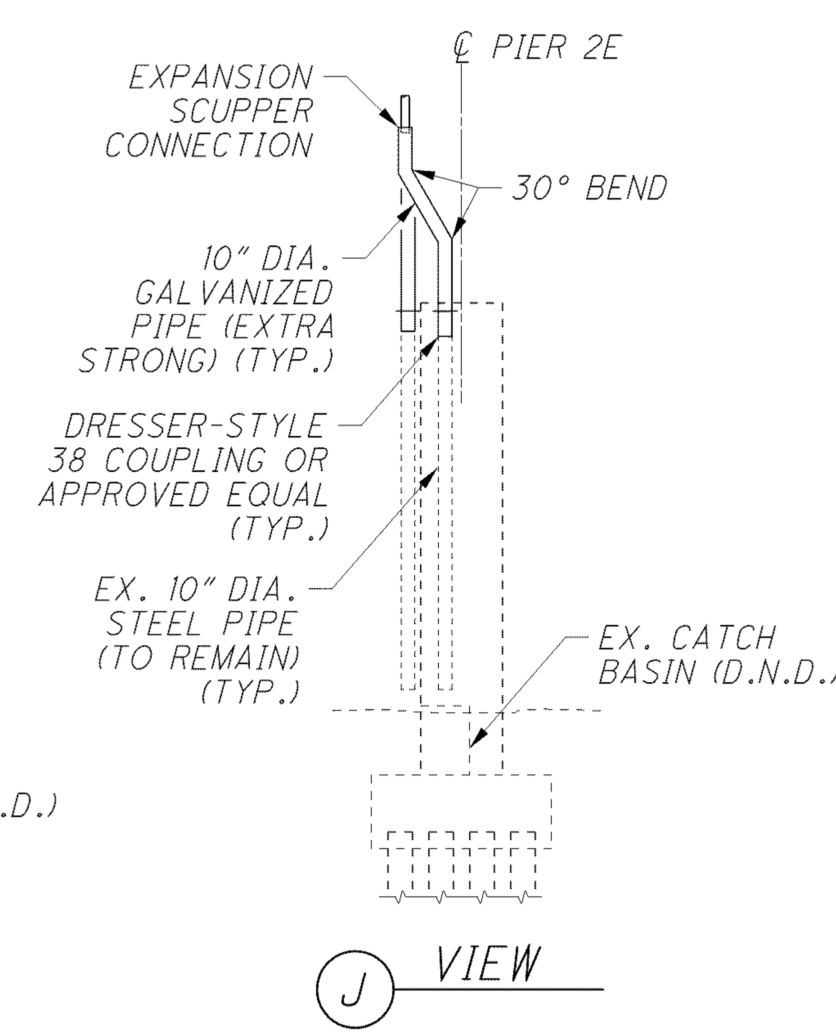


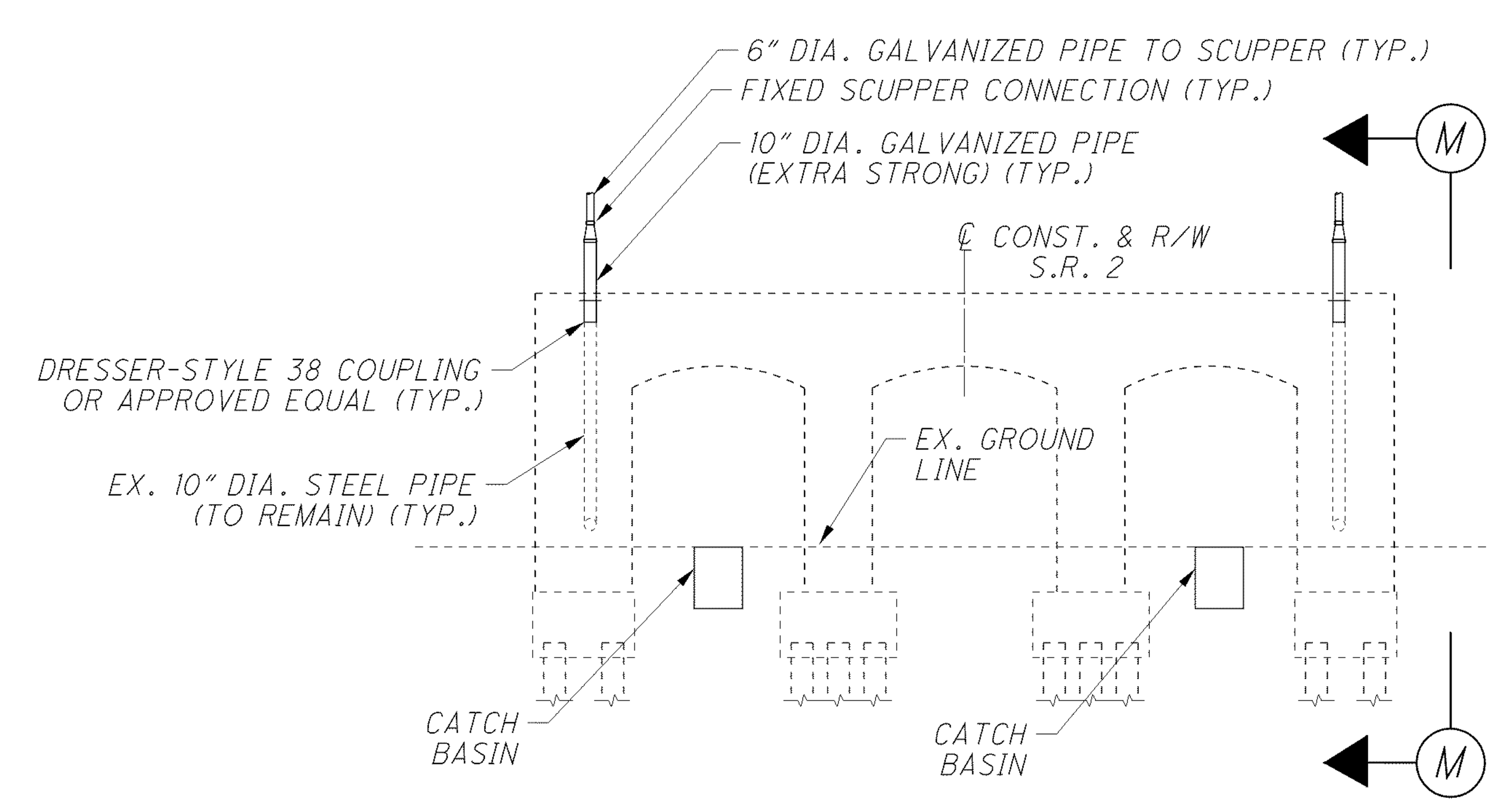
PIER 11E ELEVATION LOOKING EAST



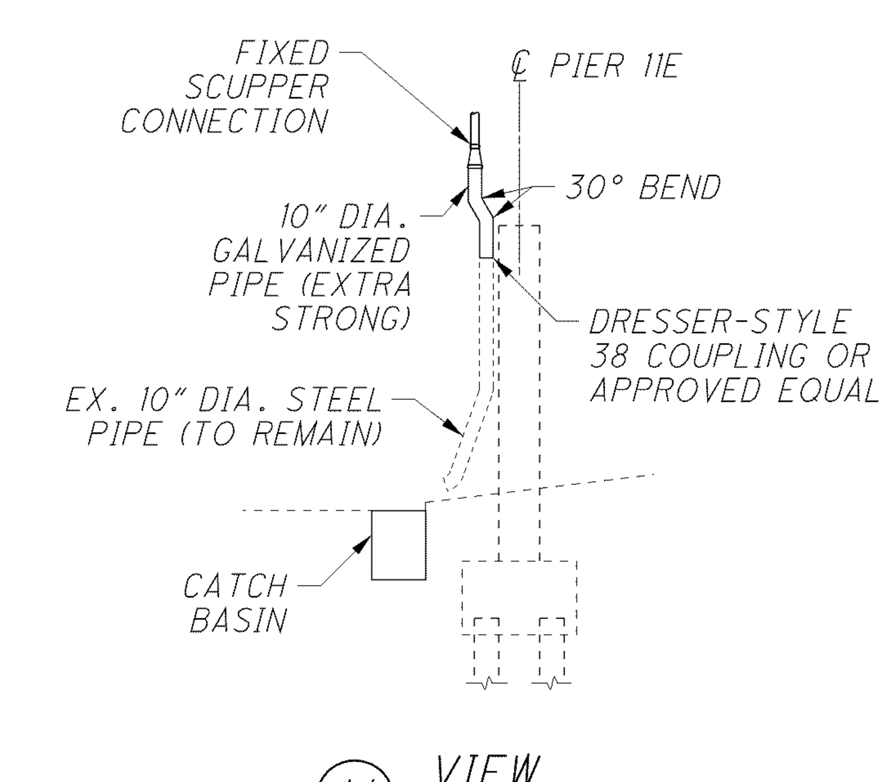


PIER 2E ELEVATION LOOKING EAST





PIER 14E ELEVATION LOOKING EAST



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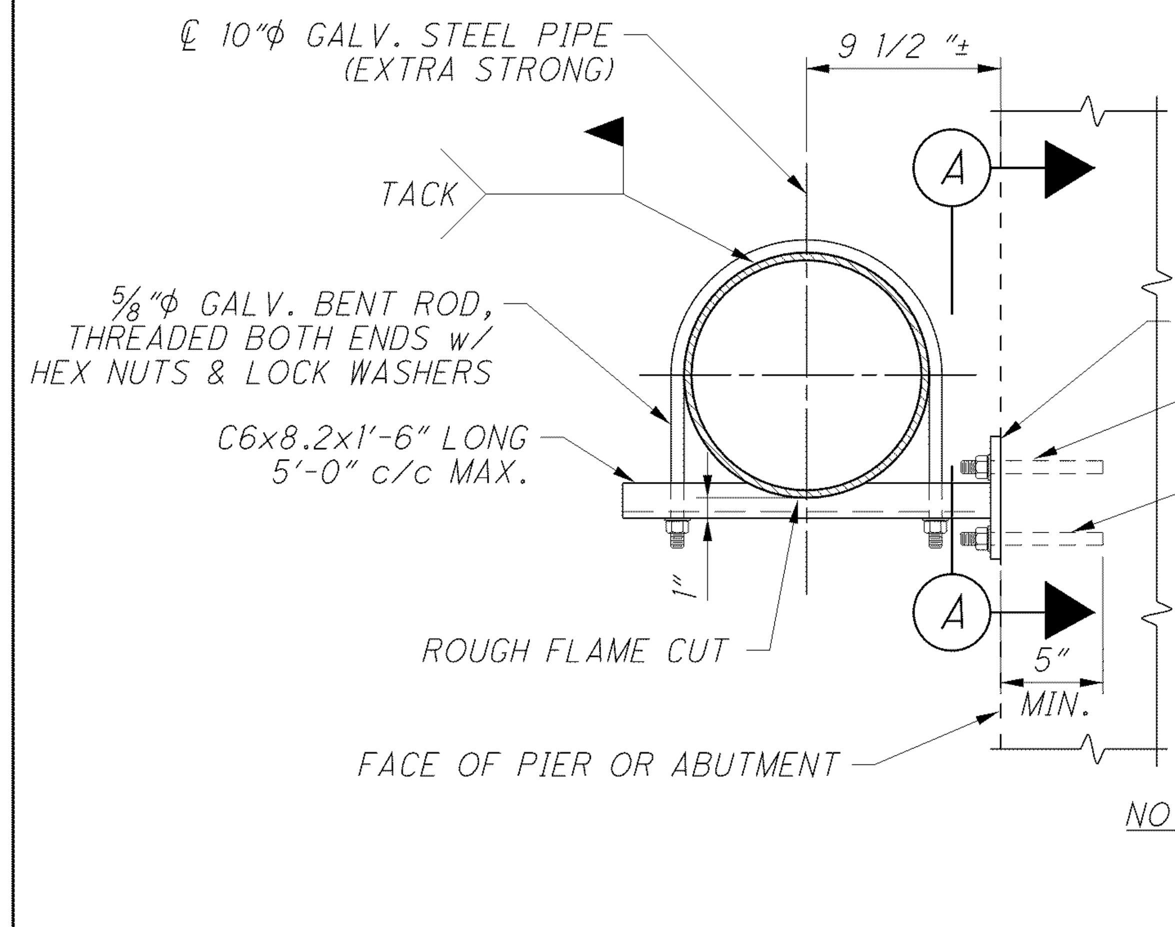
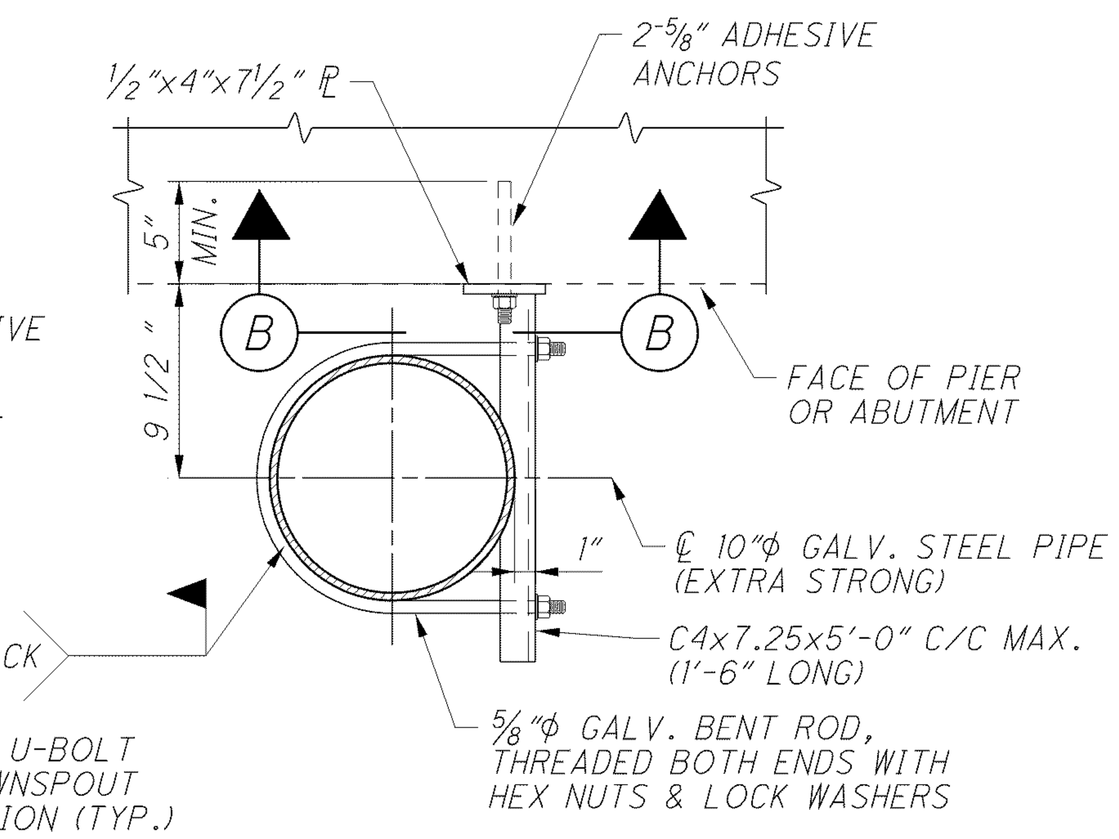
MISCELLANEOUS DETAILS - DRAINAGE DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

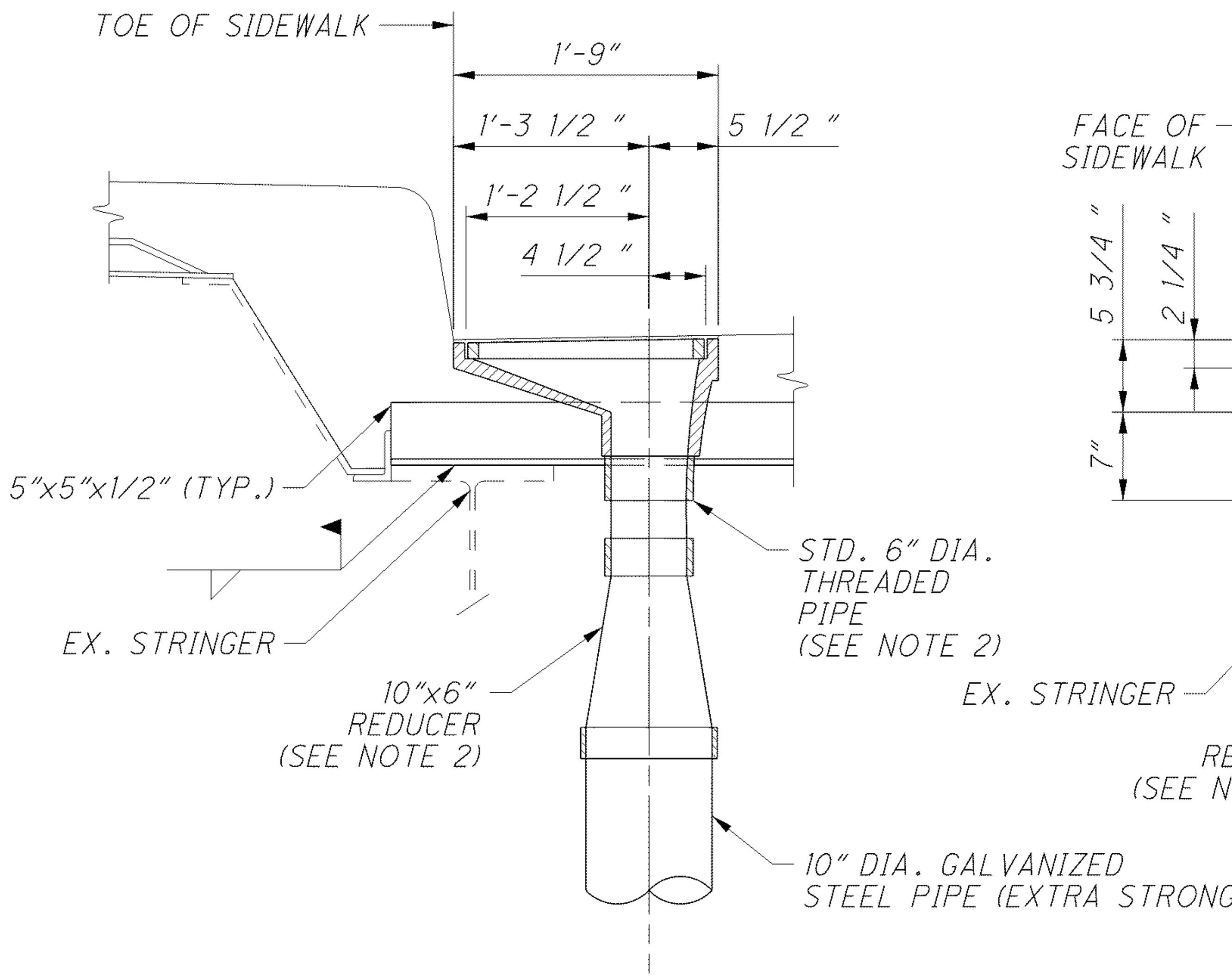
LUC-2-18.62
PID No. 80551



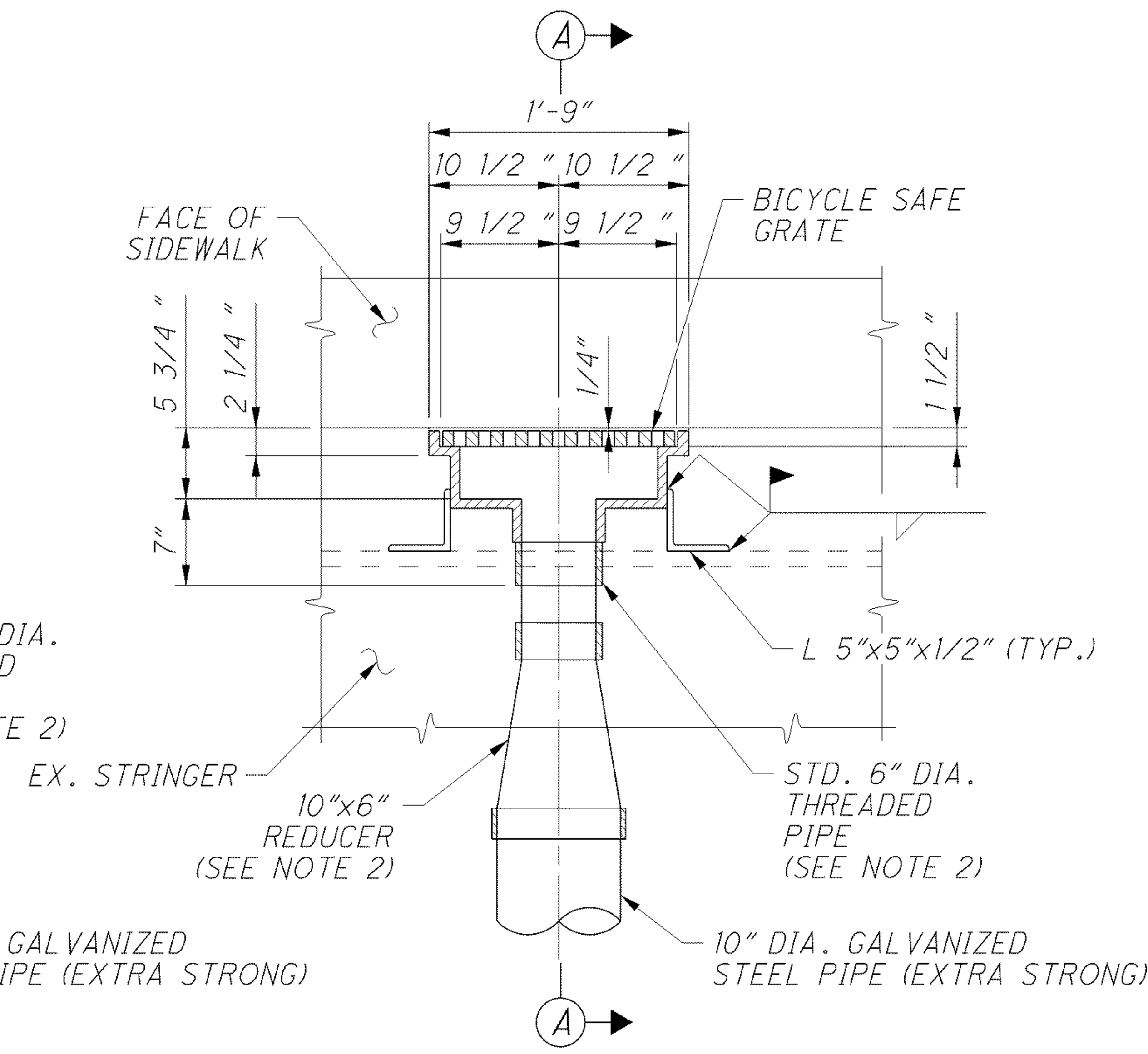
OTHER THAN VERTICAL ATTACHMENTS



TYP. VERTICAL ATTACHMENTS



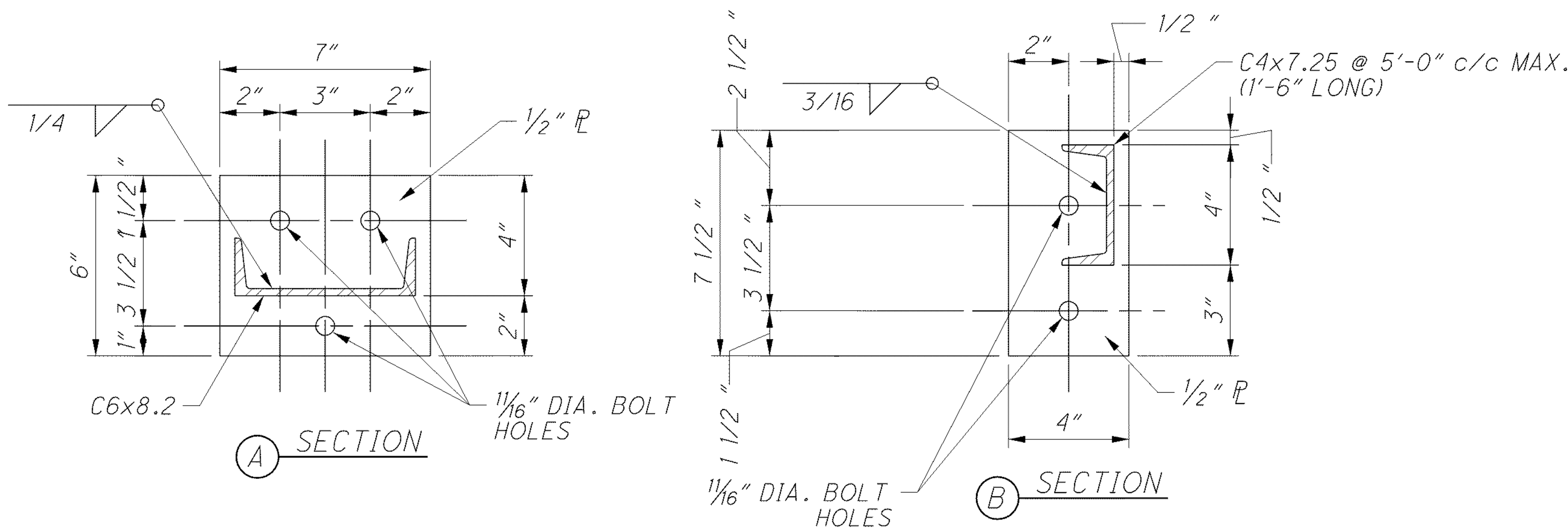
SECTION A-A



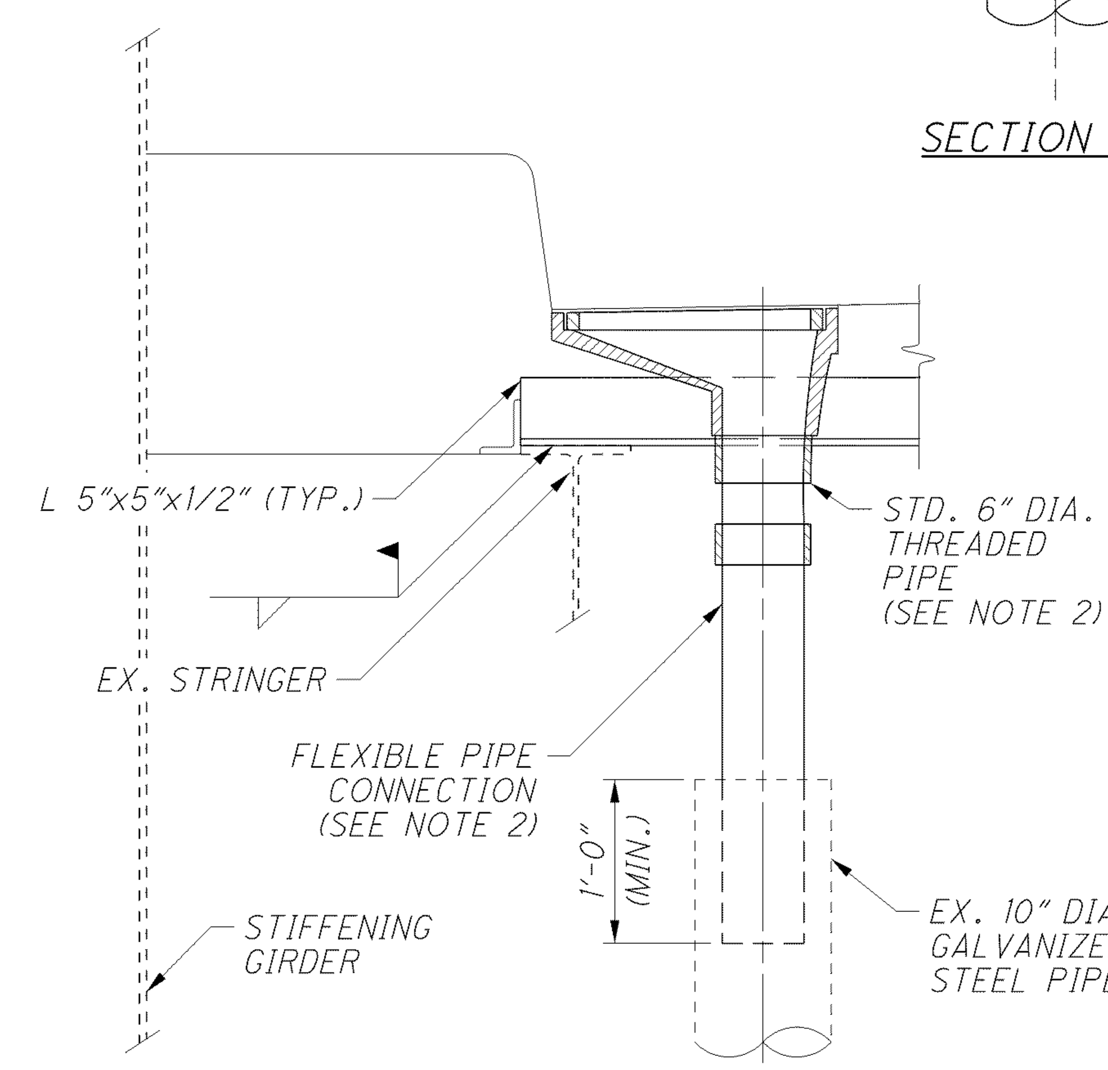
SCUPPER DETAIL

SCUPPER CONNECTION DETAIL

(AT FIXED BEARING LOCATIONS)

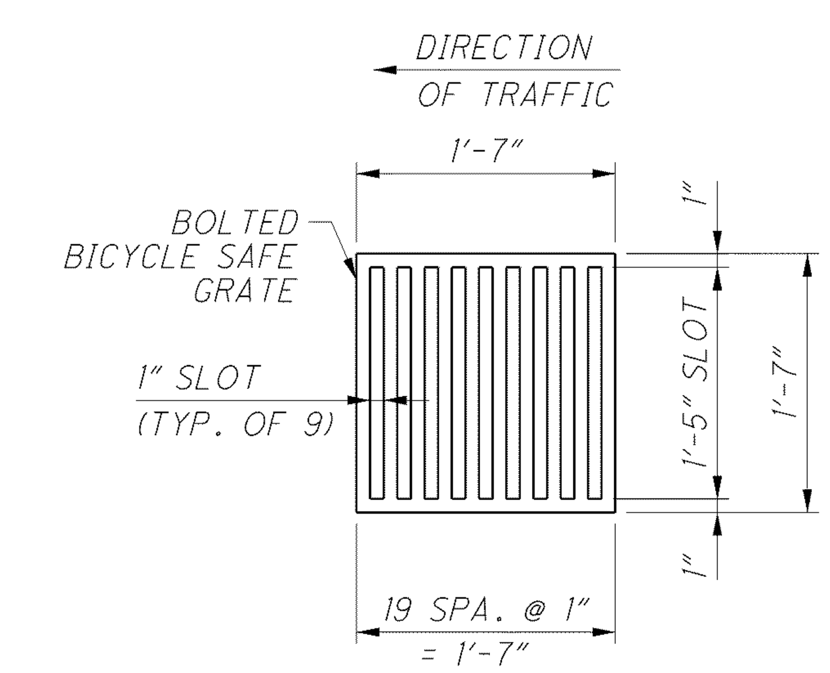


DOWNSPOUT SUPPORT DETAILS

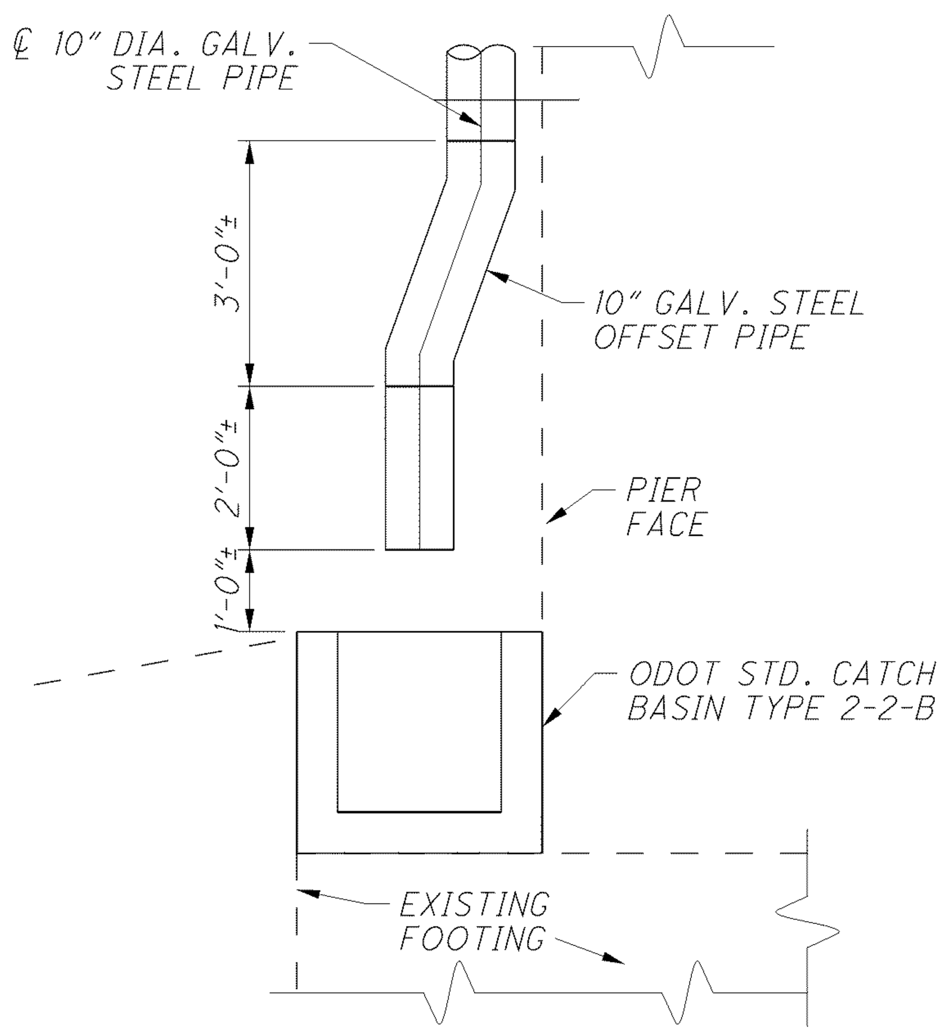


FLEXIBLE PIPE CONNECTION DETAIL

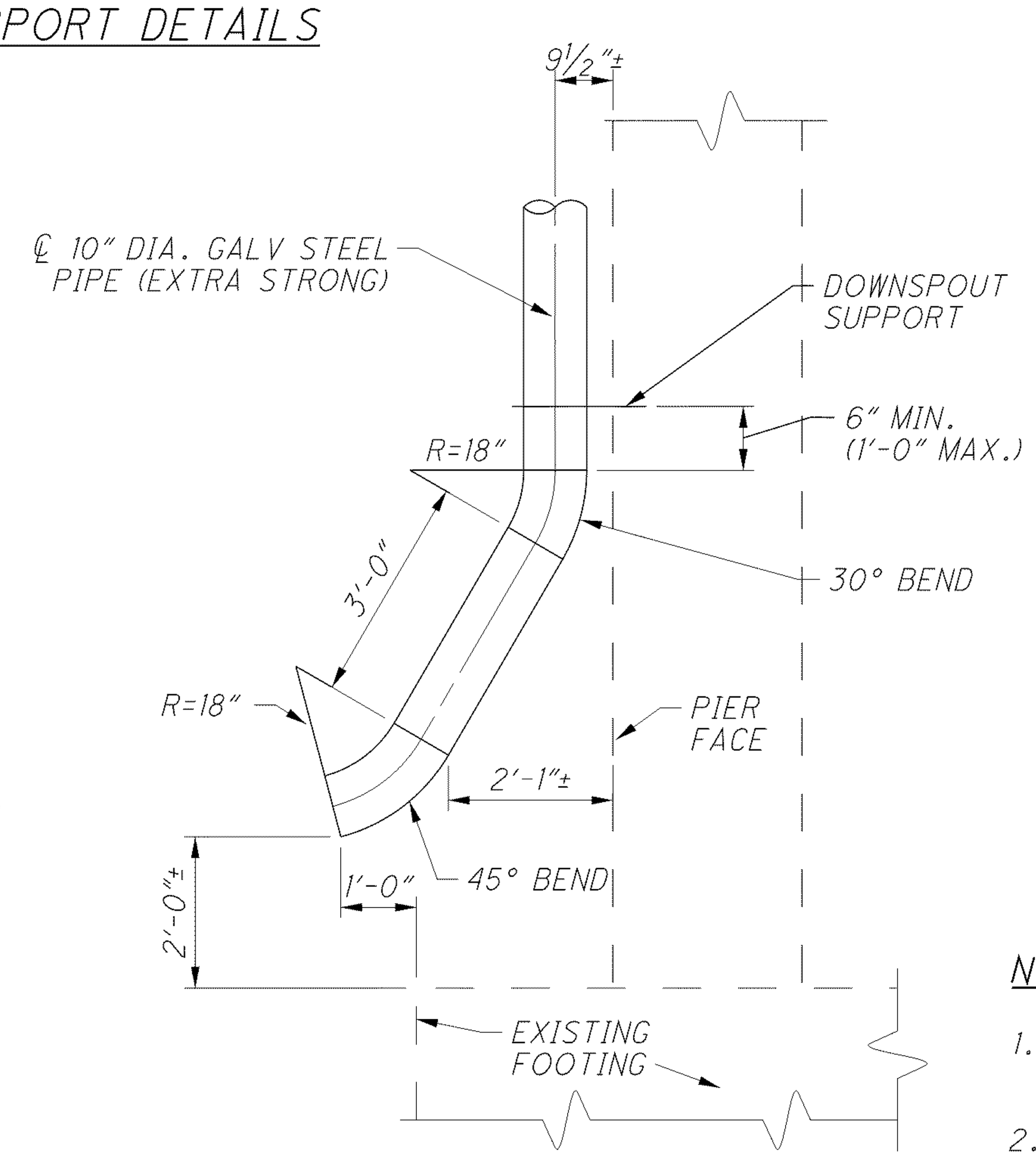
(AT TOWER D LOCATIONS)



GRATE PLAN



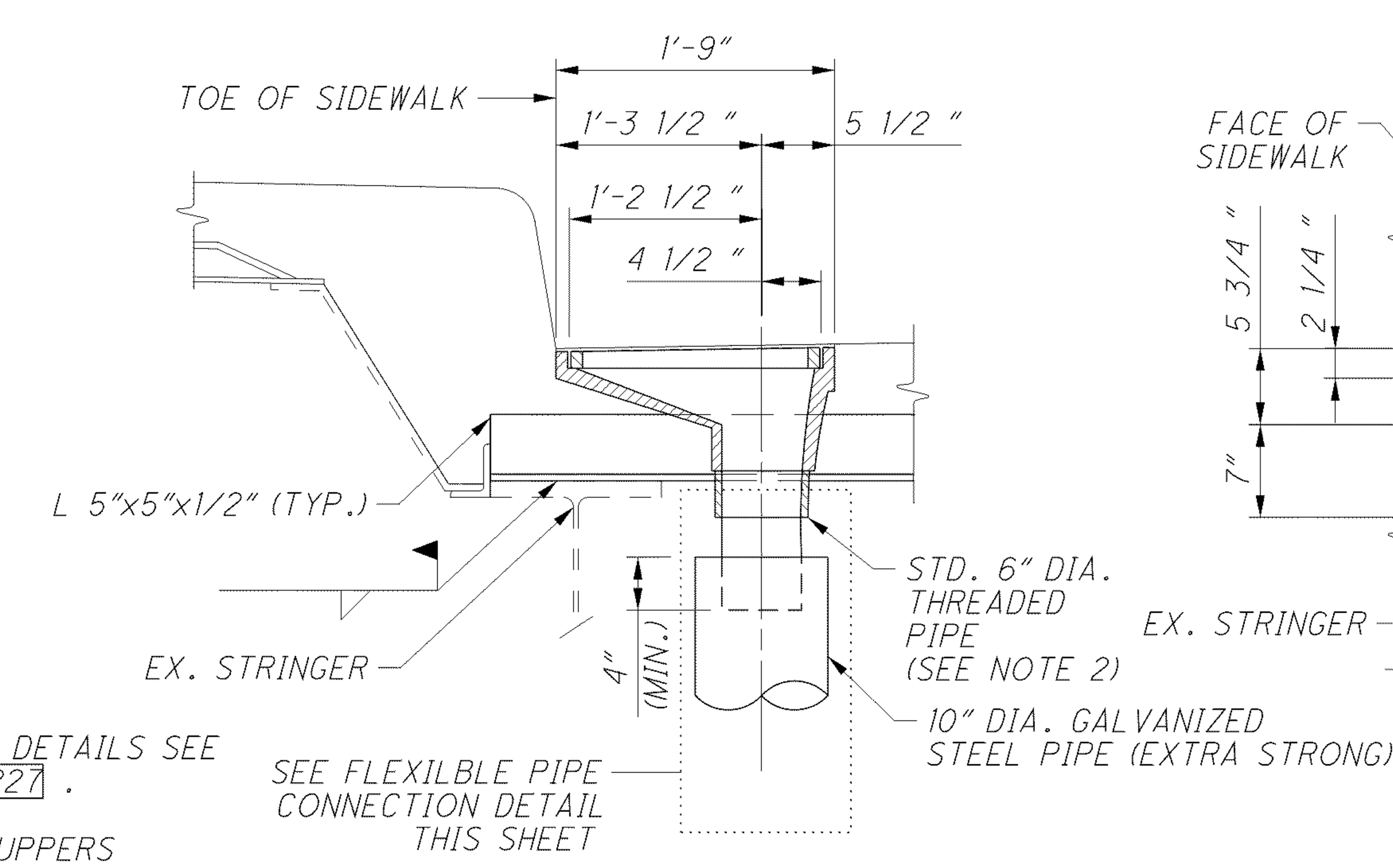
DOWNSPOUT OUTLET DETAIL "A"



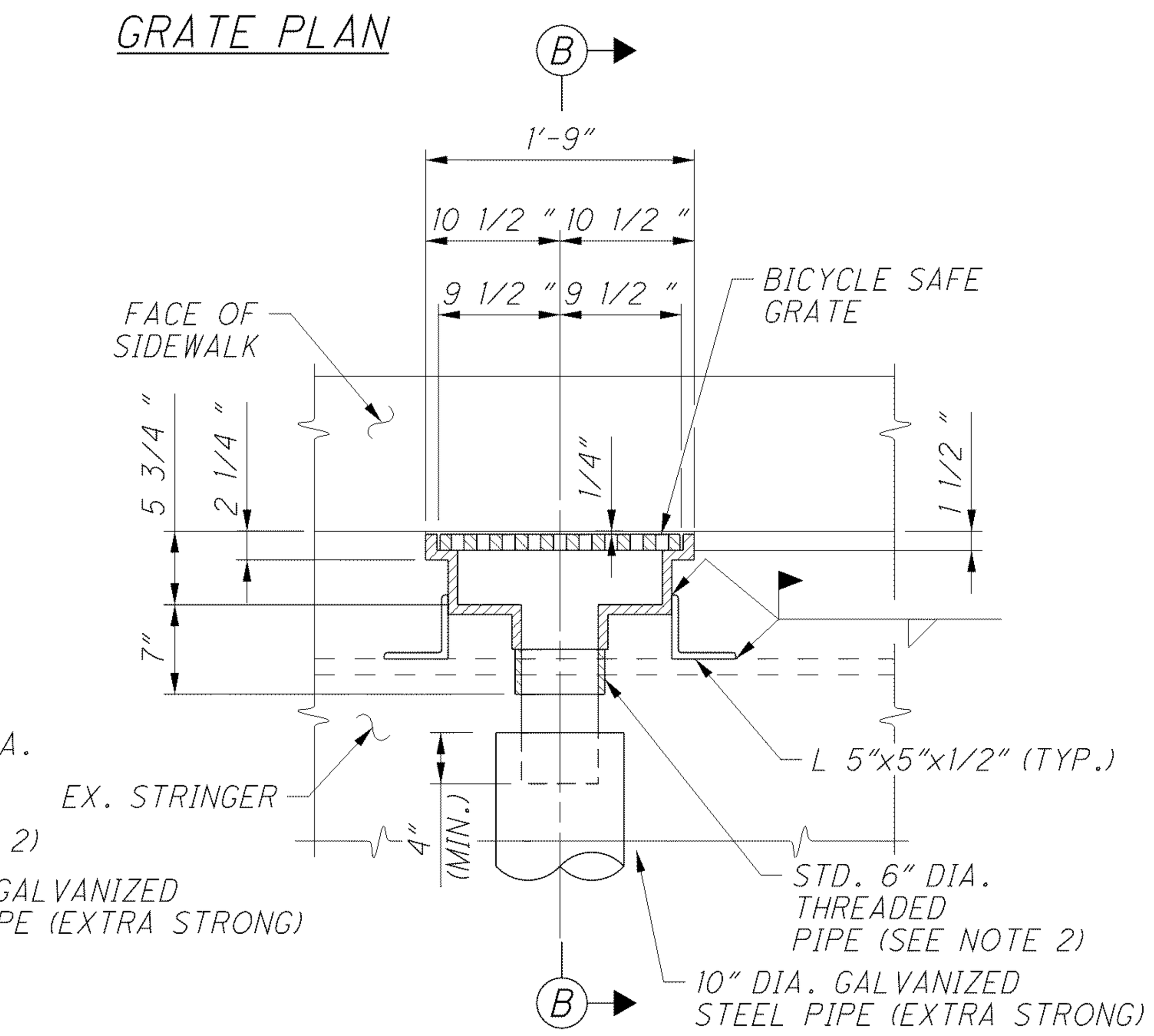
DOWNSPOUT OUTLET DETAIL "B"

NOTES:

1. FOR ADDITIONAL DRAINAGE DETAILS SEE SHEETS 217 227 THRU 219 227 .
2. INCLUDE WITH ITEM 518 SCUPPERS INCLUDING SUPPORTS, AS PER PLAN, FOR PAYMENT.
3. SCUPPERS SHALL BE NEENAH FOUNDRY MODEL R-3952 HEAVY DUTY BRIDGE SCUPPERS WITH TYPE D BOLTED GRATE (BICYCLE SAFE) OR APPROVED EQUAL.



SECTION B-B



SCUPPER DETAIL

SCUPPER CONNECTION DETAIL

(AT EXPANSION BEARING LOCATIONS)

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
CMD	AJM	MPB	.	RBB	10/12	4800303

DESIGN AGENCY
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MISCELLANEOUS DETAILS - DRAINAGE DETAILS
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

REAR ABUTMENT REINFORCING SCHEDULE

BAR MARK	NO. REQ'D	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
A501	16	30' - 0"	ST.	30' - 0"						501
A502	1	21' - 9"	ST.	21' - 9"						23
A503	7	18' - 8"	ST.	18' - 8"						136
A504	2	6' - 11"	1	1' - 3"	5' - 9"					14
A505	4	5' - 9"	ST.	5' - 9"						24
A506	7	5' - 4"	ST.	5' - 4"						39
A507 NOT USED										
A508	18	7' - 1"	ST.	7' - 1"						133
A509	7	8' - 1"	ST.	8' - 1"						59
A510	8	6' - 8"	ST.	6' - 8"						56
A511	3	6' - 11"	ST.	6' - 11"						22
A512	9	8' - 4"	2	2' - 1"	3' - 3"					78
A513	14	2' - 10"	ST.	2' - 10"						41
A514	2	6' - 5"	1	1' - 3"	5' - 3"					13
A601	64	6' - 6"	2	8"	3' - 1"					625
A602	64	5' - 4"	2	1' - 2"	2' - 3"					513
A603	136	3' - 3"	ST.	3' - 3"						664
A604	9	4' - 0"	1	6"	3' - 8"					54
A605	9	8' - 6"	2	8"	4' - 1"					115
A606	18	3' - 3"	ST.	3' - 3"						88
A607	4	4' - 10"	2	8"	2' - 3"					29
A608	4	2' - 2"	1	6"	1' - 10"					13
A801	45	5' - 0"	13	2' - 9"						605
SUBTOTAL - REAR ABUTMENT WEIGHT (LBS.) =										3,845

ANCHORAGE PIER 'A' REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S501	38	2' - 2"	53	2' - 0"	2"	1"				85
S502	19	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			100
S503	9	18' - 6"	ST.	18' - 6"						174
AP501	208	5' - 0"	ST.	5' - 0"						1,085
AP502	232	5' - 4"	ST.	5' - 4"						1,291
AP503	12	7' - 2"	ST.	7' - 2"						90
AP504	24	11' - 6"	1	3' - 6"	8' - 2"					289
AP505	36	15' - 0"	1	3' - 6"	11' - 8"					565
AP506	42	4' - 5"	ST.	4' - 5"						193
AP507	110	24' - 1"	ST.	24' - 1"						2,763
AP508	96	11' - 8"	ST.	11' - 8"						1,168
AP509	64	25' - 7"	ST.	25' - 7"						1,708
AP510 NOT USED										
AP511	19	11' - 11"	2	4' - 2"	4' - 0"					236
AP512	16	5' - 7"	1	1' - 10"	3' - 10"					92
AP513	14	18' - 6"	ST.	18' - 6"						270
AP514	8	21' - 2"	ST.	21' - 2"						177
AP515	36	10' - 2"	ST.	10' - 2"						382
AP516	8	3' - 6"	ST.	3' - 6"						29
AP517	8	1' - 10"	ST.	1' - 10"						15
AP518	4	12' - 7"	2	4' - 2"	4' - 4"					52
AP519	60	12' - 1"	ST.	12' - 1"						756
AP520	19	3' - 2"	57	1' - 5"	1' - 0"					63
AP521 NOT USED										
AP522	36	4' - 8"	ST.	4' - 8"						175
AP523 THRU AP527 NOT USED										
AP528	36	7' - 11"	1	4' - 8"	3' - 5"					297
AP601	80	30' - 8"	ST.	30' - 8"						3,685
AP602	110	22' - 7"	2	18' - 5"	2' - 3"					3,731
AP801	18	36' - 6"	ST.	36' - 6"						1,754
AP802	9	12' - 8"	ST.	12' - 8"						304
SUBTOTAL - ANCHORAGE PIER 'A' WEIGHT (LBS.) =										21,529

WEST MULTI-BEAM & TWO-GIRDER DECK REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S401	96	24' - 7"	ST.	24' - 7"						1,576
S402	2	10' - 0"	ST.	10' - 0"						13
S403 THRU S406 NOT USED										
S407	1530	30' - 0"	ST.	30' - 0"						30,661
S408	85	13' - 10"	ST.	13' - 10"						785
S409	170	14' - 5"	ST.	14' - 5"						1,637
S410	85	26' - 4"	ST.	26' - 4"						1,495
S411	85	25' - 6"	ST.	25' - 6"						1,448
S412	85	36' - 5"	ST.	36' - 5"						2,068
S413	85	16' - 3"	ST.	16' - 3"						923
S501	1380	2' - 2"	53	2' - 0"	2"	1"				3,102
S502	690	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			3,638
S503 NOT USED										
S504	690	2' - 6"	57	1' - 5"	8"					1,799
S505 THRU S521 NOT USED										
S522	152	24' - 10"	ST.	24' - 10"						3,937
S523	4	21' - 5"	ST.	21' - 5"						89
S524	12	25' - 6"	39	25' - 6"	72' - 0"					319
S525	1351	3' - 5"	5	7"	10"					4,756
SERIES S526	2 SETS OF 57	30' - 6" TO 37' - 9"	ST.	30' - 6" TO 37' - 9"					1/2"	4,058
S527	1610	30' - 0"	ST.	30' - 0"						50,377
S528	1380	6' - 6"	ST.	6' - 6"						9,356
S529	1380	2' - 7"	43	1' - 1"	10"					3,746
S530	1380	3' - 6"	9	2' - 0"	1' - 6"	1' - 6"				4,993
SERIES S531	2 SETS OF 6	9" TO 3' - 3"	5	7"	6" TO 9"				3/8"	37
S532 AND S533 NOT USED										
S534	3240	29' - 9"	ST.	29' - 9"						100,535
S535 THRU S537 NOT USED										
S538	83	19' - 6"	ST.	19' - 6"						1,688
S539 NOT USED										
S540	83	15' - 0"	ST.	15' - 0"						1,299
S541	166	15' - 9"	ST.	15' - 9"						2,727
S542	83	27' - 8"	ST.	27' - 8"						2,395
S543	83	28' - 2"	ST.	28' - 2"						2,438
S544	83	37' - 9"	ST.	37' - 9"						3,268
SUBTOTAL - WEST MULTI-BEAM AND TWO-GIRDER DECK WEIGHT (LBS.) =										245,163
TOTAL WEST APPROACH SPANS WEIGHT (LBS.) =										270,539

NOTE:

1. FOR REINFORCING BAR DIAGRAMS AND ADDITIONAL NOTES SEE SHEET 225/227.

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WEST APPROACH SPANS REINFORCING SCHEDULES

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

REPLACEMENT SPAN PIER 'RW' REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
F801	140	21' - 6"	26	19' - 8"						8,037
F1001	60	22' - 6"	26	19' - 8"						5,809
F1002	96	19' - 8"	1	4' - 9"	15' - 3"					8,124
P401	240	23' - 6"	5	5' - 6"	6' - 0"					3,768
P402	240	7' - 9"	37	5' - 6"	1' - 0"	1' - 0"	1' - 0"			1,239
P501	4	18' - 10"	ST.	18' - 10"						79
P502	4	24' - 8"	ST.	24' - 8"						103
P503	4	32' - 0"	ST.	32' - 0"						134
P504	20	5' - 8"	ST.	5' - 8"						118
SERIES P505	4 SETS OF 4	21' - 3" TO 24' - 7"	5	3' - 2"	7' - 2" TO 8' - 10"				6 11/16"	382
P506	12	25' - 3"	5	3' - 2"	9' - 2"					316
SERIES P507	4 SETS OF 11	22' - 7" TO 24' - 11"	5	3' - 2"	7' - 10" TO 9' - 0"				1 3/8"	1,088
SERIES P508	4 SETS OF 7	18' - 3" TO 21' - 1"	5	3' - 2"	5' - 8" TO 7' - 1"				2 13/16"	573
P1001	192	30' - 0"	ST.	30' - 0"						24,785
P1002	96	26' - 3"	ST.	26' - 3"						10,844
P1003	16	30' - 2"	25	28' - 9"						2,077
P1004	6	28' - 9"	ST.	28' - 9"						742
P1005	24	20' - 0"	30	5' - 9"	6' - 11"	1' - 11"	6' - 11"	1' - 11"		2,065
P1006	22	40' - 0"	39	40' - 0"						3,787
P1007	32	38' - 0"	ST.	38' - 0"						5,232
DS1001	240	30' - 0"	ST.	30' - 0"						30,982*
DS1002	80	19' - 3"	25	17' - 10"						6,627 *
SP401	16	37' - 6"	19	2' - 6"	4 1/2"	37' - 6"				857 *
SUBTOTAL - REPLACEMANT SPAN PIER 'RW' WEIGHT (LBS.) = 79,302										

* - REINFORCING INCLUDED WITH RESPECTIVE ITEM 524 FOR PAYMENT

WEST REPLACEMENT SPAN DECK REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S501	386	2' - 2"	53	2' - 0"	2"	1"				868
S502	193	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			1,018
S503 NOT USED										
S504	193	2' - 6"	57	1' - 5"	8"					503
S505 THRU S526 NOT USED										
S527	1082	30' - 0"	ST.	30' - 0"						33,856
S528	628	6' - 6"	ST.	6' - 6"						4,258
S529	388	2' - 7"	43	1' - 1"	10"					1,053
S530	388	4' - 1"	9	2' - 0"	1' - 6"	1' - 6"				1,655
S531 THRU S546 NOT USED										
S547	68	9' - 7"	ST.	9' - 7"						680
S548	1764	30' - 10"	ST.	30' - 10"						56,729
S549	167	33' - 5"	ST.	33' - 5"						5,821
SERIES S550	4 SETS OF 3	20' - 2" TO 32' - 10"	ST.	20' - 2" TO 32' - 10"					6'-4"	332
S551	16	30' - 11"	9	23' - 10"	1' - 2"	7' - 0"				516
S552	14	33' - 4"	9	16' - 11"	2' - 7"	16' - 3"				487
S553	344	2' - 0"	2	11"	8"					718
SERIES S554	4 SETS OF 20	6' - 7" TO 9' - 6"	ST.	6' - 7" TO 9' - 6"					1 7/8"	671
S555	67	38' - 5"	ST.	38' - 5"						2,685
S556	14	1' - 7"	8	11"	8"	3"				23
SERIES S557	2 SETS OF 10	1' - 7" TO 1' - 10"	8	7" TO 10"	8"	3"			5/16"	36
SUBTOTAL -WEST REPLACEMENT SPAN DECK WEIGHT (LBS.) = 111,909										
TOTAL WEST REPLACEMENT SPANS WEIGHT (LBS.) = 191,211										

PIER 'B' TOP REPAIR REINFORCING SCHEDULE

BAR MARK	NO. REQ'D	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
PH401	6	16'-1"	2	8'-1"	4'-0"					64
PH402	6	18'-9"	2	8'-1"	5'-4"					75
PH403	64	5'-10"	2	3'-2"	1'-4"					249
PH404	28	8'-1"	ST.	8'-1"						151
PH405	28	7'-9"	ST.	7'-9"						145
PH1001	24	6'-6"	ST.	6'-6"						672
SUBTOTAL PIER 'B' TOP REPAIR WEIGHT (LBS.) = 1,356										

PIER 'B' REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
P501 THRU P512 NOT USED										
P513	20	2' - 7"	45	1' - 2"	1' - 4"	2"	2"			54
P514	20	2' - 7"	1	1' - 4"	1' - 4"					53
P515	8	7' - 8"	ST.	7' - 8"						64
SUBTOTAL - PIER 'B' WEIGHT (LBS.) = 171										
TOTAL WEST SUSPENSION SPANS SUBSTRUCTURE WEIGHT (LBS.) = 1,527										

NOTE:

1. FOR REINFORCING BAR DIAGRAMS AND ADDITIONAL NOTES SEE SHEET 225/227.

DESIGN AGENCY
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1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
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DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
MPB	CMD	MPB		RBB	10/12	4800303

WEST REPLACEMENT & WEST SUSPENSION SUBSTRUCTURE REINFORCING SCHEDULE

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

REPLACEMENT SPAN PIER 'RE' REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
				F801 NOT USED						
F802	98	16' - 6"	26	14' - 8"						4,317
				F1001 AND F1002 NOT USED						
F1003	38	17' - 6"	26	14' - 8"						2,861
F1004	80	17' - 8"	1	3' - 9"	14' - 3"					6,082
				P401 AND P402 NOT USED						
P403	140	17' - 6"	5	4' - 0"	4' - 6"					1,637
				P501 THRU P504 NOT USED						
SERIES P505	4 SETS OF 4	21' - 3" TO 24' - 7"	5	3' - 2"	7' - 2" TO 8' - 10"				6 11/16"	382
P506	8	25' - 3"	5	3' - 2"	9' - 2"					210
SERIES P507	4 SETS OF 11	22' - 7" TO 25' - 7"	5	3' - 2"	7' - 10" TO 9' - 4"				1 13/16"	1,103
SERIES P508	4 SETS OF 7	18' - 3" TO 21' - 1"	5	3' - 2"	5' - 8" TO 7' - 1"				2 13/16"	573
P509	4	20' - 11"	ST.	20' - 11"						87
P510	4	30' - 6"	ST.	30' - 6"						127
P511	20	4' - 2"	ST.	4' - 2"						87
P512	4	16' - 11"	ST.	16' - 11"						71
				P1001 NOT USED						
P1002	32	36' - 6"	ST.	36' - 6"						5,026
				P1003 THRU P1005 NOT USED						
P1006	22	40' - 0"	39	40' - 0"						3,787
				P1007 NOT USED						
P1008	160	25' - 7"	ST.	25' - 7"						17,614
P1009	24	18' - 6"	30	4' - 3"	6' - 11"	1' - 11"	6' - 11"	1' - 11"		1,908
P1010	6	27' - 9"	ST.	27' - 9"						716
P1011	16	29' - 2"	25	27' - 9"						2,008
DS1001	320	30' - 0"	ST.	30' - 0"						41,309*
				DS1002 NOT USED						
DS1003	80	23' - 3"	25	21' - 10"						8,004*
SP401	16	37' - 6"	19	2' - 6"	4 1/2"	37' - 6"				857 *
SP402	8	26' - 3"	19	2' - 6"	4 1/2"	26' - 3"				302 *
				SUBTOTAL - REPLACEMANT SPAN PIER 'RE' WEIGHT (LBS.) =						48,596

* - REINFORCING INCLUDED WITH RESPECTIVE ITEM 524 FOR PAYMENT

EAST REPLACEMENT SPAN DECK REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S501	386	2' - 2"	53	2' - 0"	2"	1"				868
S502	193	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			1,018
				S503 NOT USED						
S504	193	2' - 6"	57	1' - 5"	8"					503
				S505 THRU S526 NOT USED						
S527	1082	30' - 0"	ST.	30' - 0"						33,856
S528	628	6' - 6"	ST.	6' - 6"						4,258
S529	388	2' - 7"	43	1' - 1"	10"					1,053
S530	388	4' - 1"	9	2' - 0"	1' - 6"	1' - 6"				1,655
				S531 THRU S546 NOT USED						
S547	68	9' - 7"	ST.	9' - 7"						680
S548	1764	30' - 10"	ST.	30' - 10"						56,729
S549	167	33' - 5"	ST.	33' - 5"						5,821
SERIES S550	4 SETS OF 3	20' - 2" TO 32' - 10"	ST.	20' - 2" TO 32' - 10"					6'-4"	332
S551	16	30' - 11"	9	23' - 10"	1' - 2"	7' - 0"				516
S552	14	33' - 4"	9	16' - 11"	2' - 7"	16' - 3"				487
S553	344	2' - 0"	2	11"	8"					718
SERIES S554	4 SETS OF 20	6' - 7" TO 9' - 6"	ST.	6' - 7" TO 9' - 6"					1 7/8"	671
S555	67	38' - 5"	ST.	38' - 5"						2,685
S556	14	1' - 7"	8	11"	8"	3"				23
SERIES S557	2 SETS OF 10	1' - 7" TO 1' - 10"	8	7" TO 10"	8"	3"			5/16"	36
				SUBTOTAL -WEST REPLACEMENT SPAN DECK WEIGHT (LBS.) =						111,909
				TOTAL WEST REPLACEMENT SPANS WEIGHT (LBS.) =						160,505

PIER 'E' TOP REPAIR REINFORCING SCHEDULE

BAR MARK	NO. REQ'D	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
PH401	6	16'-1"	2	8'-1"	4'-0"					64
PH402	6	18'-9"	2	8'-1"	5'-4"					75
PH403	64	5'-10"	2	3'-2"	1'-4"					249
PH404	28	8'-1"	ST.	8'-1"						151
PH405	28	7'-9"	ST.	7'-9"						145
PH1001	24	6'-6"	ST.	6'-6"						672
				SUBTOTAL PIER 'E' TOP REPAIR WEIGHT (LBS.) =						1,356

PIER 'E' REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
				P501 THRU P512 NOT USED						
P513	20	2' - 7"	45	1' - 2"	1' - 4"	2"	2"			54
P514	20	2' - 7"	1	1' - 4"	1' - 4"					53
P515	8	7' - 8"	ST.	7' - 8"						64
				SUBTOTAL - PIER 'E' WEIGHT (LBS.) =						171
				TOTAL EAST SUSPENSION SPANS SUBSTRUCTURE WEIGHT (LBS.) =						1,527

NOTE:

1. FOR REINFORCING BAR DIAGRAMS AND ADDITIONAL NOTES SEE SHEET 225/227.

DESIGN AGENCY
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DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
MPB	CMD	MPB		RBB	10/12	4800303

EAST REPLACEMENT & EAST SUSPENSION SUBSTRUCTURE REINFORCING SCHEDULE
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

ANCHORAGE PIER 'F' REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S501	38	2' - 2"	53	2' - 0"	2"	1"				85
S502	19	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			100
S503	9	18' - 6"	ST.	18' - 6"						174
AP501	196	5' - 0"	ST.	5' - 0"						1,022
AP502	236	5' - 4"	ST.	5' - 4"						1,313
AP503	22	7' - 2"	ST.	7' - 2"						164
AP504	24	11' - 9"	1	3' - 6"	8' - 4"					293
AP505	36	15' - 0"	1	3' - 6"	11' - 8"					565
AP506	48	4' - 5"	ST.	4' - 5"						221
AP507 NOT USED										
AP508	84	11' - 8"	ST.	11' - 8"						1,022
AP509	64	25' - 7"	ST.	25' - 7"						1,708
AP510 NOT USED										
AP511	19	11' - 11"	2	4' - 2"	4' - 0"					236
AP512	16	5' - 7"	1	1' - 10"	3' - 10"					92
AP513	13	18' - 6"	ST.	18' - 6"						251
AP514	4	21' - 2"	ST.	21' - 2"						88
AP515	60	10' - 2"	ST.	10' - 2"						636
AP516	3	3' - 6"	ST.	3' - 6"						11
AP517	8	1' - 10"	ST.	1' - 10"						15
AP518	4	12' - 7"	2	4' - 2"	4' - 4"					52
AP519 NOT USED										
AP520	19	3' - 2"	57	1' - 5"	1' - 0"					63
AP521	110	23' - 11"	ST.	23' - 11"						2,744
AP522	43	4' - 8"	ST.	4' - 8"						209
AP523	3	6' - 1"	ST.	6' - 1"						19
SERIES AP524	1 SET OF 13	5' - 0" TO 5' - 4"	ST.	5' - 0" TO 5' - 4"					1/4"	70
AP525	1	3' - 0"	ST.	3' - 0"						3
SERIES AP526	1 SET OF 18	10' - 5" TO 11' - 0"	ST.	10' - 5" TO 11' - 0"					3/8"	201
AP527	4	10' - 0"	ST.	10' - 0"						42
AP528	38	7' - 11"	1	4' - 8"	3' - 5"					314
AP529	16	6' - 5"	ST.	6' - 5"						107
AP530	22	4' - 8"	ST.	4' - 8"						107
AP531	6	5' - 9"	2	1' - 0"	2' - 6"					36
AP532	14	5' - 2"	ST.	5' - 2"						75
AP533	16	5' - 6"	2	1' - 11"	1' - 11"					92
AP534	4	5' - 6"	1	1' - 11"	3' - 8"					23
AP535	38	7' - 11"	2	1' - 8"	3' - 3"					314
AP536	4	5' - 6"	ST.	5' - 6"						23
AP537	24	14' - 7"	ST.	14' - 7"						365
AP538	4	5' - 8"	ST.	5' - 8"						24
AP539	10	7' - 5"	ST.	7' - 5"						77
AP540	2	6' - 6"	ST.	6' - 6"						14
AP541	12	6' - 1"	ST.	6' - 1"						76
AP542	2	6' - 6"	1	1' - 11"	4' - 8"					13
AP543	4	7' - 0"	ST.	7' - 0"						29
SERIES AP544	2 SETS OF 22	5' - 3" TO 6' - 0"	ST.	5' - 3" TO 6' - 0"					7/16"	258
AP601	80	30' - 8"	ST.	30' - 8"						3,685
AP602	110	22' - 7"	2	18' - 5"	2' - 3"					3,731
AP801	18	36' - 6"	ST.	36' - 6"						1,754
AP802	9	12' - 8"	ST.	12' - 8"						304
SUBTOTAL - ANCHORAGE PIER 'F' WEIGHT (LBS.) =										22,820

PIER '9E' AND '10E' CONCRETE DIAPHRAGM REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S401 THRU S415 NOT USED										
S416	160	7' - 4"	2	2' - 0"	2' - 9"					784
S501 THRU S555 NOT USED										
S556	10	32' - 0"	ST.	32' - 0"						334
S557	10	26' - 4"	ST.	26' - 4"						275
SUBTOTAL - PIER '10E' CONCRETE DIAPHRAGM WEIGHT (LBS.) =										1,118

FORWARD ABUTMENT REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S501	8	2' - 2"	53	2' - 0"	2"	1"				18
S502	4	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			21
S503 NOT USED										
S504	4	2' - 6"	57	1' - 5"	8"					10
S505	6	8' - 6"	ST.	8' - 6"						53
S506	40	6' - 8"	2	2' - 5"	2' - 3"					278
S507	50	8' - 9"	5	3' - 3"	10"					454
S508	6	7' - 11"	8	1' - 1"	6' - 3"	10"				50
S509	10	9' - 0"	2	2' - 9"	3' - 3"					94
S510 NOT USED										
S511	2	10' - 3"	5	2' - 9"	2' - 1"					21
S512 NOT USED										
S513	16	7' - 0"	ST.	7' - 0"						117
S514	6	6' - 0"	2	2' - 5"	1' - 11"					38
S515	6	7' - 8"	2	2' - 5"	2' - 9"					48
S516	12	8' - 4"	2	2' - 1"	3' - 3"					104
S517	8	8' - 2"	ST.	8' - 2"						68
S518	6	3' - 7"	ST.	3' - 7"						22
S519	30	7' - 4"	ST.	7' - 4"						229
S520	9	2' - 9"	ST.	2' - 9"						26
S801	6	13' - 4"	51	13' - 4"						214
S802	18	12' - 8"	52	12' - 8"						609
S803	6	13' - 0"	50	13' - 0"						208
S804	15	26' - 9"	ST.	26' - 9"						1,071
S805	39	5' - 3"	58	3' - 0"						551
SUBTOTAL - FORWARD ABUTMENT WEIGHT (LBS.) =										2,474

EAST MULTI-BEAM & TWO-GIRDER DECK REINFORCING SCHEDULE

BAR MARK	NO. REQ'D.	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
S401	85	24' - 7"	ST.	24' - 7"						1,396
S402 NOT USED										
S403	90	28' - 3"	ST.	28' - 3"						1,698
S404	135	25' - 10"	ST.	25' - 10"						2,330
S405	45	37' - 6"	ST.	37' - 6"						1,127
S406	90	20' - 9"	ST.	20' - 9"						1,247
S407	1325	30' - 0"	ST.	30' - 0"						26,553
S408 THRU S413 NOT USED										
SERIES S414	1 SET OF 85	25' - 6" TO 32' - 10"	ST.	25' - 6" TO 32' - 10"					1 1/16"	1,656
S415	425	24' - 10"	ST.	24' - 10"						7,050
S501	1700	2' - 2"	53	2' - 0"	2"	1"				3,821
S502	850	5' - 1"	54	4"	4"	2' - 0"	1' - 0"			4,482
S503 NOT USED										
S504	850	2' - 6"	57	1' - 5"	8"					2,216
S505 THRU S520 NOT USED										
S521	24	27' - 0"	ST.	27' - 0"						676
S522 NOT USED										
S523	166	21' - 5"	ST.	21' - 5"						3,708
S524 NOT USED										
S525	1688	2' - 0"	2	7"	10"					3,521
S526 NOT USED										
S527	1411	30' - 0"	ST.	30' - 0"						44,150
S528	1694	6' - 6"	ST.	6' - 6"						11,484
S529	1694	2' - 7"	43	1' - 1"	10"					4,599
S530	1694	3' - 6"	9	2' - 0"	1' - 6"	1' - 6"				6,129
S531 NOT USED										
S532	55	13' - 0"	ST.	13' - 0"						746
S533	142	28' - 6"	ST.	28' - 6"						4,221
S534	4278	29' - 9"	ST.	29' - 9"						132,743
S535	664	26' - 3"	ST.	26' - 3"						18,179
S536	165	16' - 0"	ST.	16' - 0"						2,754
S537	95	39' - 6"	ST.	39' - 6"						3,914
S538 NOT USED										
S539	99	25' - 8"	ST.	25' - 8"						2,650
S540 THRU S544 NOT USED										
S545	37	33' - 11"	ST.	33' - 11"						1,309
S546	30	29' - 1"	ST.	29' - 1"						910
SUBTOTAL - EAST MULTI-BEAM AND TWO-GIRDER DECK WEIGHT (LBS.) =										295,269
TOTAL EAST APPROACH SPANS WEIGHT (LBS.) =										321,681

NOTE:

1. FOR REINFORCING BAR DIAGRAMS AND ADDITIONAL NOTES SEE SHEET 225/227.

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
MPB	MPB	RBB	10/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CMD		4800303	

EAST APPROACH SPANS REINFORCING SCHEDULE
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

WEST APPROACH RETAINING WALL REINFORCING SCHEDULE

BAR MARK	NO. REQUIRED NORTH	SOUTH	TOTAL	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
RW401	77	63	140	7′ - 1″	ST.	7′ - 1″						662
RW402	58	48	106	2′ - 10″	ST.	2′ - 10″						201
RW403	6	6	12	7′ - 8″	ST.	7′ - 8″						61
RW404	7	7	14	5′ - 4″	ST.	5′ - 4″						50
RW405	8	8	16	9′ - 6″	ST.	9′ - 6″						102
RW406	21	21	42	9′ - 2″	9	7′ - 7″	1′ - 0″	1′ - 4″				257
RW407	7	7	14	9′ - 1″	9	8′ - 3″	0′ - 6″	0′ - 9″				85
RW408	6	6	12	9′ - 2″	ST.	9′ - 2″						73
RW409	16	16	32	8′ - 0″	ST.	8′ - 0″						171
RW410	4	4	8	2′ - 2″	ST.	2′ - 2″						12
RW411	5	5	10	4′ - 9″	ST.	4′ - 9″						32
RW412	1	1	2	3′ - 6″	9	2′ - 6″	0′ - 7″	0′ - 9″				5
RW501	19	19	38	7′ - 9″	ST.	7′ - 9″						307
RW502	11	11	22	6′ - 9″	ST.	6′ - 9″						155
RW503	30	30	60	3′ - 2″	ST.	3′ - 2″						198
RW504	7	7	14	4′ - 3″	ST.	4′ - 3″						62
RW505	16	16	32	5′ - 5″	ST.	5′ - 5″						181
RW506	4	4	8	6′ - 8″	2	0′ - 11″	3′ - 0″					56
RW507	15	15	30	2′ - 9″	1	0′ - 7″	2′ - 4″					86
RW508	27	21	48	5′ - 2″	ST.	5′ - 2″						259
RW509	1	1	2	8′ - 7″	2	0′ - 10″	4′ - 0″					18
RW510	20		20	2′ - 10″	ST.	2′ - 10″						59
RW511	3		3	6′ - 8″	ST.	6′ - 8″						21
TOTAL WEST APPROACH RETAINING WALL WEIGHT (LBS.) =												3,113

APPROACH SLABS REINFORCING SCHEDULE

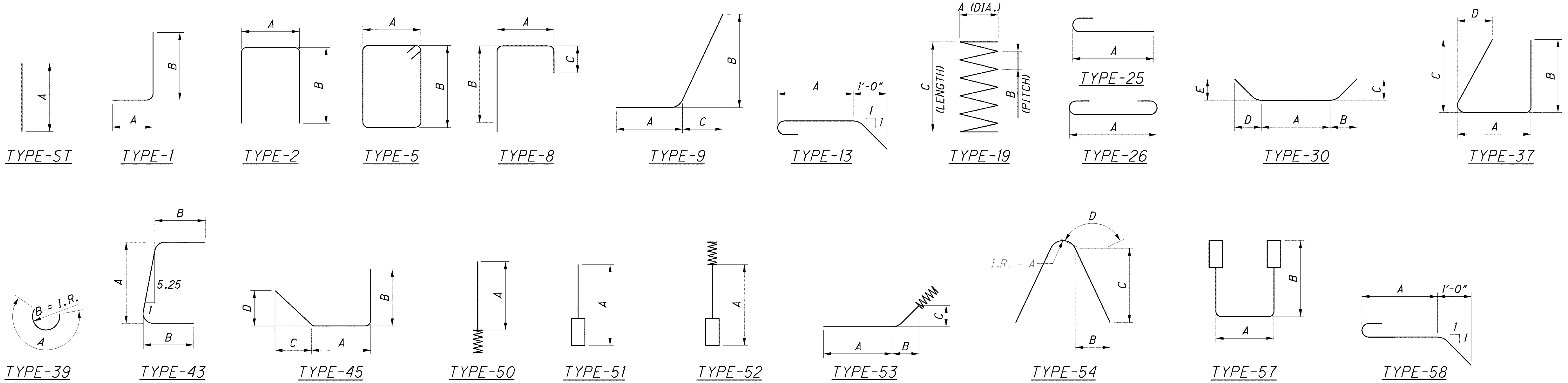
BAR MARK	NO. REQUIRED REAR	FORWARD	TOTAL	BAR LENGTH	BAR TYPE	DIMENSIONS A	B	C	D	E	INCR.	WEIGHT LBS.
AS501	50	52	102	2′ - 2″	53	2′ - 0″	2″	1″				229
AS502	25	26	51	5′ - 1″	54	4″	4″	2′ - 0″	1′ - 0″			269
AS503	58	52	110	24′ - 6″	ST.	24′ - 6″						2,811
AS504	25	26	51	2′ - 6″	57	1′ - 5″	8″					133
AS505		114	114	30′ - 5″	ST.	30′ - 5″						3,617
AS506	51	52	103	4′ - 8″	2	1′ - 1″	1′ - 11″					501
AS507	2		2	1′ - 5″	ST.	1′ - 5″						3
AS508	1		1	25′ - 5″	ST.	25′ - 5″						27
AS509	2		2	25′ - 1″	ST.	25′ - 1″						52
AS510	1		1	7′ - 8″	ST.	7′ - 8″						8
SERIES AS511	1 SET OF 4		1 SET OF 4	5′ - 6″ TO 21′ - 10″	ST.	5′ - 6″ TO 21′ - 10″					5′-5 5/16″	57
AS512	114		114	30′ - 0″	ST.	30′ - 0″						3,567
SERIES AS513	1 SET OF 17		1 SET OF 17	14′ - 0″ TO 23′ - 0″	ST.	14′ - 0″ TO 23′ - 0″					6 3/4″	328
SERIES AS514	1 SET OF 34		1 SET OF 34	14′ - 8″ TO 23′ - 0″	ST.	14′ - 8″ TO 23′ - 0″					3″	668
AS515	6		6	14′ - 6″	ST.	14′ - 6″						91
AS516	6		6	15′ - 6″	ST.	15′ - 6″						97
AS517	4		4	12′ - 10″	ST.	12′ - 10″						54
AS518	2		2	12′ - 10″	9	9′ - 4″	4″	3′ - 6″				27
AS519	20		20	1′ - 0″	ST.	1′ - 0″						21
AS520	21		21	7′ - 7″	5	8″	2′ - 10″					165
AS521	3		3	7′ - 3″	5	8″	2′ - 8″					23
AS522	3		3	6′ - 11″	5	8″	2′ - 6″					22
AS523	3		3	6′ - 7″	5	8″	2′ - 4″					20
AS524	4		4	6′ - 3″	5	8″	2′ - 2″					26
AS1001	115	99	214	25′ - 11″	25	24′ - 6″						23,865
AS1002	1		1	18′ - 9″	ST.	18′ - 9″						81
AS1003	3		3	12′ - 0″	ST.	12′ - 0″						155
SERIES AS1004	1 SET OF 11		1 SET OF 11	7′ - 5″ TO 22′ - 5″	ST.	7′ - 5″ TO 22′ - 5″					1′-6″	706
AS1005	1		1	25′ - 1″	ST.	25′ - 1″						108
TOTAL APPROACH SLABS WEIGHT (LBS.) =												12,770

NOTES:

1. ALL REINFORCING BARS SHALL BE EPOXY COATED EXCEPT SPIRAL BARS MAY BE PLAIN BARS.
2. APPROACH SLAB REINFORCING TO BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15″), AS PER PLAN, FOR PAYMENT.

BAR MARK LEGEND

A = ABUTMENT
AP = ANCHORAGE PIER
AS = APPROACH SLAB
DS = DRILLED SHAFT
F = FOOTING
P = PIER
PH = PIER HOLD-DOWN CAP
RW = RETAINING WALL
S = SUPERSTRUCTURE
SP = SPIRAL



DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
1100 Superior Avenue, Suite 1250 Cleveland, Ohio 44114
Tel: 216-781-6177 Fax: 216-781-6243 www.arcadis-us.com

DESIGNED MPB | CHECKED CMD | DRAWN MPB | REVISED | REVIEWED RBB | DATE 10/12 | STRUCTURE FILE NUMBER 4800303

APPROACH SLAB REINFORCING SCHEDULE
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

GALV BARS	MARK	CENTER SPAN EAST	CENTER SPAN GEN.	CENTER SPAN WEST	TOTAL	LENGTH	WEIGHT TOTAL	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	DIMENSIONS D
DECK: STAGE 1												
GALV	SD400		84		84	27′-0″	1,515	1	8″	26′-5″		
GALV	SD401		42		42	10′-0″	281	18	5′-0″	4′-11½″	2⅜″	
	SD500		170		170	35′-0″	6,206	18	29′-2″	5′-9″	2¾″	
	SD501		170		170	28′-0″	4,965	STR.				
	SD504		57		57	2′-2″	129	57	1′-5″	6″		
	SD510		346		346	30′-0″	10,826	STR.				
	SD517		173		173	10′-0″	1,804	STR.				
GALV	SD580		16		16	30′-0″	501	STR.				
GALV	SD587		8		8	10′-0″	83	STR.				
GALV	SD589		48		48	19′-0″	951	STR.				
GALV	SD590		8		8	5′-10″	49	6	1′-0″	2′-0″	8″	
GALV	SD591		184		184	5′-10″	1,119	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595		12		12	9′-0″	113	STR.				
GALV	SD596		12		12	14′-0″	175	STR.				
	DECK: STAGE 1 SUB-TOTAL						28,717					
DECK: STAGE 2												
GALV	SD400	60		60	120	27′-0″	2,164	1	8″	26′-5″		
GALV	SD401	30		30	60	10′-0″	401	18	5′-0″	4′-11½″	2⅜″	
	SD500	122		122	244	35′-0″	8,908	18	29′-2″	5′-9″	2¾″	
	SD501	122		122	244	28′-0″	7,126	STR.				
	SD504	41		41	82	2′-2″	185	57	1′-5″	6″		
	SD510	173		173	346	30′-0″	10,826	STR.				
	SD516	173		173	346	17′-0″	6,135	STR.				
GALV	SD580	8		8	16	30′-0″	501	STR.				
GALV	SD586	8		8	16	17′-0″	284	STR.				
GALV	SD589	32		32	64	19′-0″	1,268	STR.				
GALV	SD590	8		8	16	5′-10″	97	6	1′-0″	2′-0″	8″	
GALV	SD591	128		128	256	5′-10″	1,558	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595	8		8	16	9′-0″	150	STR.				
GALV	SD596	8		8	16	14′-0″	234	STR.				
	DECK: STAGE 2 SUB-TOTAL						39,837					
DECK: STAGE 3												
GALV	SD400	180		180	360	27′-0″	6,493	1	8″	26′-5″		
GALV	SD401	90		90	180	10′-0″	1,202	18	5′-0″	4′-11½″	2⅜″	
	SD500	362		362	724	35′-0″	26,430	18	29′-2″	5′-9″	2¾″	
	SD501	362		362	724	28′-0″	21,144	STR.				
	SD504	121		121	242	2′-2″	547	57	1′-5″	6″		
	SD510	692		692	1,384	30′-0″	43,305	STR.				
	SD516	173		173	346	17′-0″	6,135	STR.				
GALV	SD580	32		32	64	30′-0″	2,003	STR.				
GALV	SD586	8		8	16	17′-0″	284	STR.				
GALV	SD589	96		96	192	19′-0″	3,805	STR.				
GALV	SD590	24		24	48	5′-10″	292	6	1′-0″	2′-0″	8″	
GALV	SD591	384		384	768	5′-10″	4,673	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595	24		24	48	9′-0″	451	STR.				
GALV	SD596	24		24	48	14′-0″	701	STR.				
	DECK: STAGE 3 SUB-TOTAL						117,465					
DECK: STAGE 4												
GALV	SD400	120		120	240	27′-0″	4,329	1	8″	26′-5″		
GALV	SD401	60		60	120	10′-0″	802	18	5′-0″	4′-11½″	2⅜″	
	SD500	242		242	484	35′-0″	17,669	18	29′-2″	5′-9″	2¾″	
	SD501	242		242	484	28′-0″	14,135	STR.				
	SD504	81		81	162	2′-2″	366	57	1′-5″	6″		
	SD510	519		519	1,038	30′-0″	32,479	STR.				
GALV	SD580	24		24	48	30′-0″	1,502	STR.				
GALV	SD589	64		64	128	19′-0″	2,537	STR.				
GALV	SD590	16		16	32	5′-10″	195	6	1′-0″	2′-0″	8″	
GALV	SD591	256		256	512	5′-10″	3,115	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595	16		16	32	9′-0″	300	STR.				
GALV	SD596	16		16	32	14′-0″	467	STR.				
	DECK: STAGE 4 SUB-TOTAL						77,896					

GALV BARS	MARK	NUMBER EAST SPAN	NUMBER CENTER SPAN EAST	NUMBER CENTER SPAN GEN.	NUMBER CENTER SPAN WEST	NUMBER WEST SPAN	NUMBER TOTAL	LENGTH	WEIGHT EAST SPAN	WEIGHT CNTR SPAN	WEIGHT WEST SPAN	WEIGHT TOTAL	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	DIMENSIONS D
DECK: STAGE 5																	
GALV	SD400		120		120		240	27′-0″		4,329		4,329	1	8″	26′-5″		
GALV	SD401		60		60		120	10′-0″		802		802	18	5′-0″	4′-11½″	2⅜″	
	SD500		242		242		484	35′-0″		17,669		17,669	18	29′-2″	5′-9″	2¾″	
	SD501		242		242		484	28′-0″		14,135		14,135	STR.				
	SD504		81		81		162	2′-2″		366		366	57	1′-5″	6″		
	SD510		519		519		1,038	30′-0″		32,479		32,479	STR.				
GALV	SD580		24		24		48	30′-0″		1,502		1,502	STR.				
GALV	SD589		64		64		128	19′-0″		2,537		2,537	STR.				
GALV	SD590		16		16		32	5′-10″		195		195	6	1′-0″	2′-0″	8″	
GALV	SD591		256		256		512	5′-10″		3,115		3,115	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595		16		16		32	9′-0″		300		300	STR.				
GALV	SD596		16		16		32	14′-0″		467		467	STR.				
	DECK: STAGE 5 SUB-TOTAL									77,896		77,896					
DECK: STAGE 6																	
GALV	SD400	220	252		252	220	944	27′-0″	3,968	9,091	3,968	17,027	1	8″	26′-5″		
GALV	SD401	110	126		126	110	472	10′-0″	735	1,684	735	3,154	18	5′-0″	4′-11½″	2⅜″	
	SD500	112	128		128	112	480	35′-0″	4,089	9,346	4,089	17,524	18	29′-2″	5′-9″	2¾″	
	SD501	112	128		128	112	480	28′-0″	3,271	7,477	3,271	14,019	STR.				
	SD504	38	43		43	38	162	2′-2″	86	195	86	367	57	1′-5″	6″		
	SD510	173	173		173	173	692	30′-0″	5,413	10,826	5,413	21,652	STR.				
	SD514	173				173	346	16′-0″	2,888		2,888	5,776	STR.				
	SD515		173		173		346	18′-3″		6,587		6,587	STR.				
GALV	SD580	8	8		8	8	32	30′-0″	250	500	250	1,000	STR.				
GALV	SD584	8				8	16	13′-6″	112		112	224	STR.				
GALV	SD585		8		8		16	15′-0″		250		250	STR.				
GALV	SD588	32				32	64	18′-2″	606		606	1,212	STR.				
GALV	SD589		32		32		64	19′-0″		1,268		1,268	STR.				
GALV	SD590	8	12		12	8	40	5′-10″	49	146	49	244	6	1′-0″	2′-0″	8″	
GALV	SD591	128	136		136	128	528	5′-10″	779	1,655	779	3,213	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595	8	8		8	8	32	9′-0″	75	150	75	300	STR.				
GALV	SD596	8	8		8	8	32	14′-0″	117	234	117	468	STR.				
	DECK: STAGE 6 SUB-TOTAL								22,438	49,409	22,438	94,285					
DECK: STAGE 7																	
GALV	SD400	86				86	172	27′-0″	1,551		1,551	3,102	1	8″	26′-5″		
GALV	SD401	43				43	86	10′-0″	287		287	574	18	5′-0″	4′-11½″	2⅜″	
	SD500	174				174	348	35′-0″	6,352		6,352	12,704	18	29′-2″	5′-9″	2¾″	
	SD501	174				174	348	28′-0″	5,082		5,082	10,164	STR.				
	SD504	59				59	118	2′-2″	134		134	268	57	1′-5″	6″		
	SD510	173				173	346	30′-0″	5,413		5,413	10,826	STR.				
	SD513	173				173	346	34′-6″	6,225		6,225	12,450	STR.				
GALV	SD580	8				8	16	30′-0″	250		250	500	STR.				
GALV	SD583	8				8	16	34′-6″	288		288	576	STR.				
GALV	SD588	48				48	96	18′-2″	910		910	1,820	STR.				
GALV	SD590	12				12	24	5′-10″	73		73	146	6	1′-0″	2′-0″	8″	
GALV	SD591	192				192	384	5′-10″	1,168		1,168	2,336	34	10″	1′-3½″	2′-1″	2½″
GALV	SD595	12				12	24	9′-0″	112		112	224	STR.				
GALV	SD596	12				12	24	14′-0″	175		175	350	STR.				
	DECK: STAGE 7 SUB-TOTAL								28,020		28,020	56,040					

NOTES:

1. SEE SHEET 227/227 FOR REINFORCING BAR DIAGRAMS AND ADDITIONAL NOTES

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
4401 EXECUTIVE PARKWAY SUITE 350
WESTERVILLE, OHIO 43081

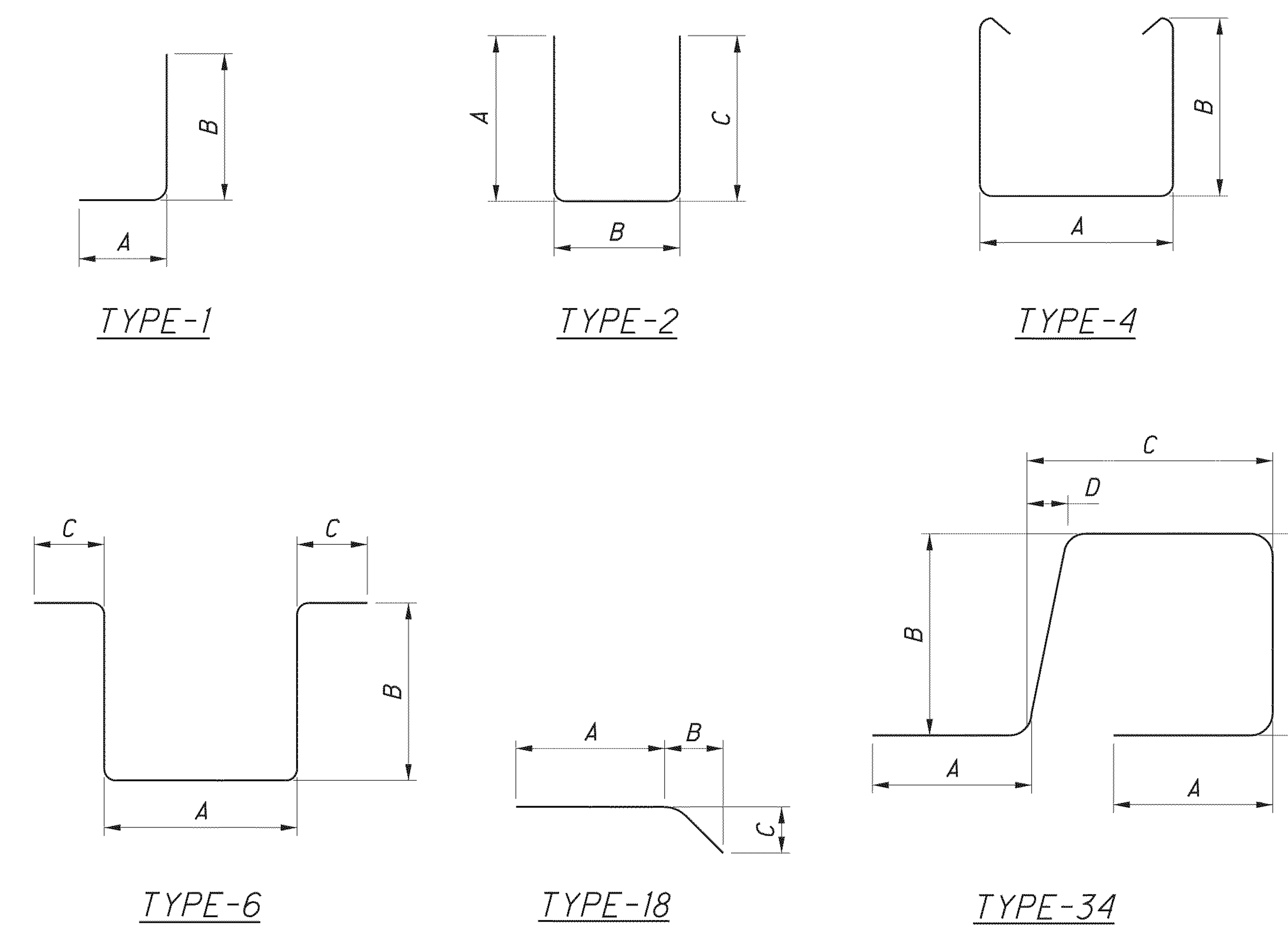
DESIGNED	DRAWN	REVIEWED	DATE
EFD	EFD	PLC	2/13
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMS	EFD	4800303	

SUSPENSION SPAN REINFORCING STEEL LIST

BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

GALV BARS	MARK	NUMBER EAST SPAN	CENTER SPAN EAST	CENTER SPAN GEN.	CENTER SPAN WEST	WEST SPAN	TOTAL	LENGTH	WEIGHT EAST SPAN	CNTR SPAN	WEST SPAN	TOTAL	TYPE	DIMENSIONS A	B	C	D
								DECK: STAGE 8									
GALV	SD400	116				116	232	27'-0"	2,092		2,092	4,184	1	8"	26'-5"		
GALV	SD401	58				58	116	10'-0"	388		388	776	18	5'-0"	4'-11½"	2⅜"	
	SD500	232				232	464	35'-0"	8,470		8,470	16,940	18	29'-2"	5'-9"	2¾"	
	SD501	232				232	464	28'-0"	6,776		6,776	13,552	STR.				
	SD504	78				78	156	2'-2"	176		176	352	57	1'-5"	6"		
	SD510	346				346	692	30'-0"	10,826		10,826	21,652	STR.				
	SD512	173				173	346	26'-8"	4,812		4,812	9,624	STR.				
GALV	SD580	16				16	32	30'-0"	500		500	1,000	STR.				
GALV	SD582	8				8	16	26'-8"	222		222	444	STR.				
GALV	SD588	64				64	128	18'-2"	1,212		1,212	2,424	STR.				
GALV	SD590	16				16	32	5'-10"	98		98	196	6	1'-0"	2'-0"	8"	
GALV	SD591	256				256	512	5'-10"	1,558		1,558	3,116	34	10"	1'-3½"	2'-1"	2½"
GALV	SD595	16				16	32	9'-0"	150		150	300	STR.				
GALV	SD596	16				16	32	14'-0"	234		234	468	STR.				
								DECK: STAGE 8 SUB-TOTAL	37,514		37,514	75,028					
								DECK: STAGE 9									
GALV	SD400	332				332	664	27'-0"	5,988		5,988	11,976	1	8"	26'-5"		
GALV	SD401	166				166	332	10'-0"	1,109		1,109	2,218	18	5'-0"	4'-11½"	2⅜"	
	SD500	184				184	368	35'-0"	6,717		6,717	13,434	18	29'-2"	5'-9"	2¾"	
	SD501	184				184	368	28'-0"	5,374		5,374	10,748	STR.				
	SD504	61				61	122	2'-2"	138		138	276	57	1'-5"	6"		
	SD510	173				173	346	30'-0"	5,413		5,413	10,826	STR.				
	SD511	173				173	346	33'-6"	6,044		6,044	12,088	STR.				
GALV	SD580	8				8	16	30'-0"	250		250	500	STR.				
GALV	SD581	8				8	16	33'-6"	280		280	560	STR.				
GALV	SD588	32				32	64	18'-2"	606		606	1,212	STR.				
GALV	SD590	12				12	24	5'-10"	73		73	146	6	1'-0"	2'-0"	8"	
GALV	SD591	196				196	392	5'-10"	1,192		1,192	2,384	34	10"	1'-3½"	2'-1"	2½"
GALV	SD595	8				8	16	9'-0"	75		75	150	STR.				
GALV	SD596	8				8	16	14'-0"	117		117	234	STR.				
GALV	SD597	20				20	40	16'-3"	339		339	678	STR.				
GALV	SD598	4				4	8	3'-11"	16		16	32	34	6"	1'-3½"	10"	2½"
GALV	SD599	4				4	8	3'-5"	14		14	28	4	9"	1'-0"		
								DECK: STAGE 9 SUB-TOTAL	33,745		33,745	67,490					
								CURB									
GALV	SS301	26	36	16	36	26	140	3'-2"	31	105	31	167	2	1'-0"	1'-4"	1'-0"	
GALV	SS500	54				54	108	27'-6"	1,549		1,549	3,098	STR.				
GALV	SS501		102		102		204	22'-0"		4,681		4,681	STR.				
GALV	SS502		12		12		24	21'-0"		526		526	STR.				
GALV	SS503			6			6	19'-6"		122		122	STR.				
GALV	SS510	44				44	88	18'-2"	833		833	1,666	STR.				
GALV	SS511			156			156	19'-0"		3,091		3,091	STR.				
GALV	SS512	20		56		20	96	6'-0"	125	351	125	601	6	1'-0"	1'-9"	1'-0"	
GALV	SS513	16		96		16	128	6'-9"	113	676	113	902	2	2'-6"	2'-0"	2'-6"	
GALV	SS514	4				4	8	16'-3"	68		68	136	STR.				
GALV	SS800	36				36	72	29'-0"	2,788		2,788	5,576	STR.				
GALV	SS801		68		68		136	23'-2"		8,412		8,412	STR.				
GALV	SS802		8		8		16	22'-2"		947		947	STR.				
GALV	SS803			4			4	19'-6"		208		208	STR.				
GALV	SS810	22				22	44	18'-2"	1,067		1,067	2,134	STR.				
GALV	SS811			78			78	19'-0"		3,957		3,957	STR.				
GALV	SS814	2				2	4	16'-3"	87		87	174	STR.				
								CURB SUB-TOTAL	6,661	23,076	6,661	36,398					
								PARAPET									
	S501	468		1,578		468	2,514	2'-2"	1,058	3,566	1,058	5,682	53	2'-0"	2"	1"	
	S502	234		789		234	1,257	5'-1"	1,241	4,184	1,241	6,666	54	4"	4"	2'-0"	1'-0"
	S527	81		261		81	423	30'-0"	2,535	8,167	2,535	13,237	STR.				
								PARAPET SUB-TOTAL	4,834	15,917	4,834	25,585					
								EPOXY REINFORCING SUB-TOTAL	98,547	334,317	98,547	531,411					
								GALVANIZED REINFORCING SUB-TOTAL	38,253	95,896	38,253	172,402					
								TOTAL ALL REINFORCING	136,800	430,213	136,800	703,813					



TYPES 53, 54 & 57 SHAPES

SEE SHEET 225/227 FOR BAR SHAPES.
SEE SHEET 163/227 FOR PARAPET DETAILS.

BAR MARK LEGEND

S = SUPERSTRUCTURE (PARAPET)
SD = SUSPENSION SPAN DECK
SS = SUSPENSION SPAN SUPPLEMENTAL

NOTES:

1. REINFORCING STEEL AT THE TOWER JOINTS HAS BEEN TABULATED SEPARATELY ON SHEET 211/227. THE FOLLOWING WEIGHTS (FOR A SINGLE JOINT DECK SECTION) HAVE BEEN ADDED TO THE REINFORCING SUB-TOTALS FOR THE EAST AND WEST SPANS AND CARRIED INTO THE TOTAL.
   EPOXY REINFORCING SUB-TOTAL: 14 POUNDS
   GALVANIZED REINFORCING SUB-TOTAL: 3574 POUNDS
   TOTAL ALL REINFORCING: 3588 POUNDS

2. ALL REINFORCING LABELED "GALV" SHALL BE GALVANIZED. ALL OTHER REINFORCING SHALL BE EPOXY COATED.

   GALVANIZED STEEL SHALL CONFORM TO ASTM A767, CLASS I. THE GALVANIZED COATED REINFORCING STEEL SHALL MEET ALL OTHER REQUIREMENTS OF ODOT CMS ITEM 509 "REINFORCING STEEL".

   THE GALVANIZED COATING SHALL BE APPLIED AFTER THE REINFORCING HAS BEEN FABRICATED. IF THE GALVANIZED SURFACE BECOMES DAMAGED DURING HANDLING IN THE FIELD, REPAIRS SHALL CONFORM TO ASTM A780.

   GALVANIZED STEEL REINFORCING SHALL BE FURNISHED ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 1068.

   PAYMENT WILL BE MADE FOR ACCEPTED QUANTITIES OF GALVANIZED REINFORCING STEEL AT THE CONTRACT UNIT PRICE FOR:

ITEM	EXTENSION	UNIT	DESCRIPTION
509	25001	POUND	REINFORCING STEEL, AS PER PLAN

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.

DATE 2/13 | REVIEWED PLC | STRUCTURE FILE NUMBER 4800303 | DRAWN EFD | REVISED EFD | DESIGNED EFD | CHECKED LMS

SUSPENSION SPAN REINFORCING STEEL LIST
BRIDGE NO. LUC - 2 - 1862
STATE ROUTE 2 OVER MAUMEE RIVER

LUC-2-18.62
PID No. 80551

RIGHT OF WAY LEGEND SHEET LUC-2-18.62

LUCAS COUNTY

CITY OF TOLEDO

12 MILE SQUARE RESERVATION

RIVER TRACTS 3, 4 AND 87

AND FRACTIONAL SECTION 1 T-10; R-7

UTILITIES

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

The Buckeye Cable System
Doug Vaughn
4818 Angola Road
Toledo, Ohio 43615
419.724.9810

Verizon Business
Allan Guest
120 Ravine St.
Akron, Ohio 44303
330.253.8267

AT&T Local
Robert Fey
130 North Erie Street
Room 714
Toledo, Ohio 43604
419.245.5588

Toledo Edison
Randy Swope
6099 Angola Rd.
Holland, Ohio 43528
419.249.5218

City of Toledo
Department of Public Service
Division of Transportation
Barbara Jones
110 North Westwood Avenue
Toledo, Ohio 43607
419.245.1300

AT&T Long Distance
Wayne King
7630 Finzel Road
Whitehouse, Ohio 43571
419.351.5999

Columbia Gas of Ohio
Jamie Briehl
3222 W. Central Ave.
Toledo, Ohio 43606
419.539.6066

Toledo Water
Terry Russeau
401 South Erie Street
Toledo, Ohio 43604
419.242.1138

Lucas County Engineer
Keith Earley, PE, PS
1 Government Center,
Suite 870
Toledo, Ohio 43604
419.213.4540

City of Toledo
Division of Engineering Services
Scott Sibley
600 Jefferson Avenue
Toledo, Ohio 43604
419.936.2851

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.

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**

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

LEGEND:

WD = WARRANTY DEED
U = UTILITY EASEMENT
T = TEMPORARY EASEMENT
SH = STANDARD HIGHWAY EASEMENT
S = SEWER EASEMENT
CH = CHANNEL EASEMENT
DND = DO NOT DISTRURB
R = REMOVE
A-E = ACCESS EASEMENT
A = AERIAL EASEMENT (EXISTING BRIDGE EASEMENT TO BE RE-RECORDED)

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
General Ease. (Ex.)
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Sewer Ease. (Pr.) SW
Standard Highway Ease. (Pr) SH
Access Ease. (Pr.) AE
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)
Tree Line (Ex)
Ditch / Creek (Pr)
Ownership Hook Symbol Z, Example
Property Line Symbol P, 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) O, Mailbox (Ex), Mailbox (Pr)
Light (Ex), Telephone Marker (Ex) TEL
Fire Hydrant (Ex), Water Meter (Ex)
Water Valve (Ex), Utility Valve Unknown (Ex.)
Telephone Pole (Ex), Power Pole (Ex)
Light Pole (Ex)

INDEX OF SHEETS:

PROJECT DESCRIPTION

THE 3,500 FOOT PROJECT INCLUDES THE REHABILITATION OF THE ANTHONY WAYNE BRIDGE (LUC-2-18.62) IN LUCAS COUNTY. THE WORK INCLUDES REHABILITATION OF THE PAVEMENT, BRIDGE REDECKING AND REHABILITATION, TRUSS REPLACEMENT, DRAINAGE REHABILITATION, NEW TRAFFIC CONTROL DEVICES AND ENVIRONMENTAL DOCUMENTATION.

PROJECT CONTROL

NAD83(CORS) OHIO STATE PLANE, NORTH ZONE
U.S. FOOT
COMBINED SCALE FACTOR: 0.9999684620188

ALL COORDINATES LISTED ARE PROJECT GROUND COORDINATES. TO CONVERT TO STATE PLANE GRID COORDINATES, APPLY THE COMBINED SCALE FACTOR LISTED ABOVE USING THE FOLLOWING COORDINATE LISTED AS THE BASIS FOR SCALING:
N: 721,015.8691
E: 1,685,584.5649

BRIDGE EASEMENTS

EXISTING BRIDGE EASEMENTS ESTABLISHES USING DOCUMENTS NOTED ON THE RIGHT-OF-WAY SUMMARY AND AGREEMENT BETWEEN THE NEW YORK CENTRAL RAIL ROAD COMPANY AND THE CITY OF TOLEDO DATED MARCH 13, 1930.

PLANS PREPARED BY:

FIRM NAME: ARCADIS U.S., INC.

PLANS PREPARED BY: Rof
TODD M. ROXBERRY

FIELD REVIEW BY: Samuel L. Stiltner
SAMUEL L. STILTNER

DATE COMPLETED: 7/18/2011

OWNERSHIP VERIFIED BY: Samuel L. Stiltner
SAMUEL L. STILTNER

DATE COMPLETED: 7/19/2011

DATE COMPLETED: 7/25/2011

STATE OF OHIO
CHARLES A. HAUBER 8034
REGISTERED
PROFESSIONAL SURVEYOR

I, CHARLES HAUBER, P. S. as a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein. And have calculated the proposed property lines, Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire these parcels as shown herein.

As a part of this work I have set the monuments at the proposed Property corners, Section Corners and other points as shown herein. However, Item 604 Monument Assemblies, Item 604 Reference Monuments and Centerline Monuments shall be installed by the construction contractor as specified in the plans. AllCenterline Monuments, Reference Monuments and Right of Way Monuments set and/or reset by the contractor's surveyor will include a cap as per Standard Construction Drawing RM-1.1 and bear the surveyor's Ohio registration number and/or name or company name. This work will be done 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 "A Minimum Standards for Boundary Surveys in the State of Ohio" unless noted.

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

Cal A H
CHARLES A. HAUBER, Professional Land Surveyor No. 8034

Date: 7/25/2011

FEDERAL PROJECT NO. E060(290)

PID NO. 80551

CALCULATED TMR CHECKED CAH

RIGHT OF WAY LEGEND SHEET

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87
AND FRACTIONAL SECTION 1 T-10; R-7

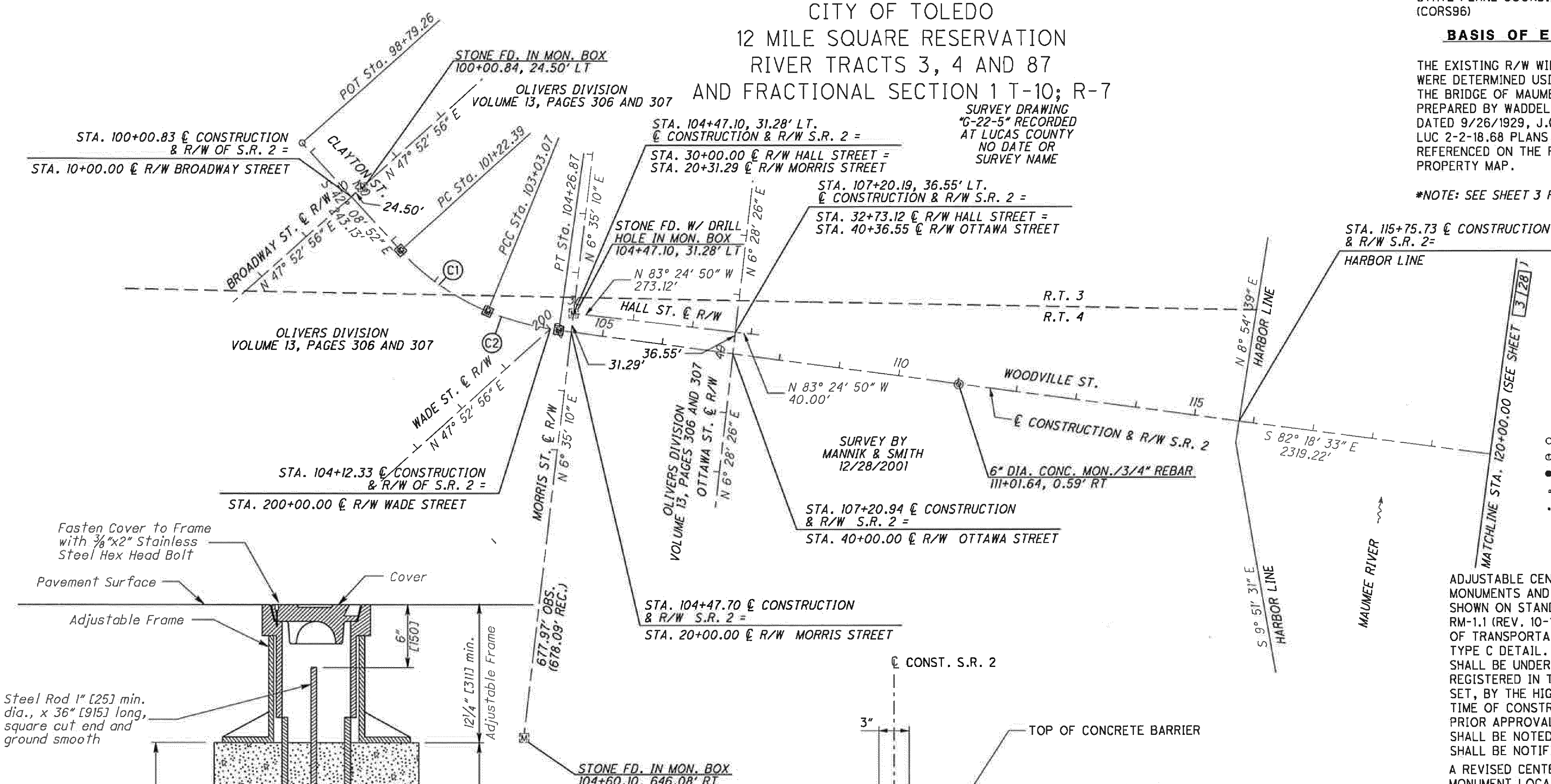
BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. THE BEARINGS SHOWN HEREON ARE BASED ON OHIO STATE PLANE COORDINATES, NORTH ZONE, NAD 83 (CORS96)

BASIS OF EXISTING R/W:

THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING : THE BRIDGE OF MAUMEE RIVER PLANS DATED 1929 PREPARED BY WADDELL AND HARDESTY, NYCRR "EXHIBIT A" DATED 9/26/1929, J.C. ANDRUS SURVERY DATED 12/6/76, LUC 2-2-18.68 PLANS DATED APRIL 1989, DOCUMENTS REFERENCED ON THE R/W SUMMARY, CENTERLINE PLAT AND PROPERTY MAP.

*NOTE: SEE SHEET 3 FOR ℄ CURVE DATA

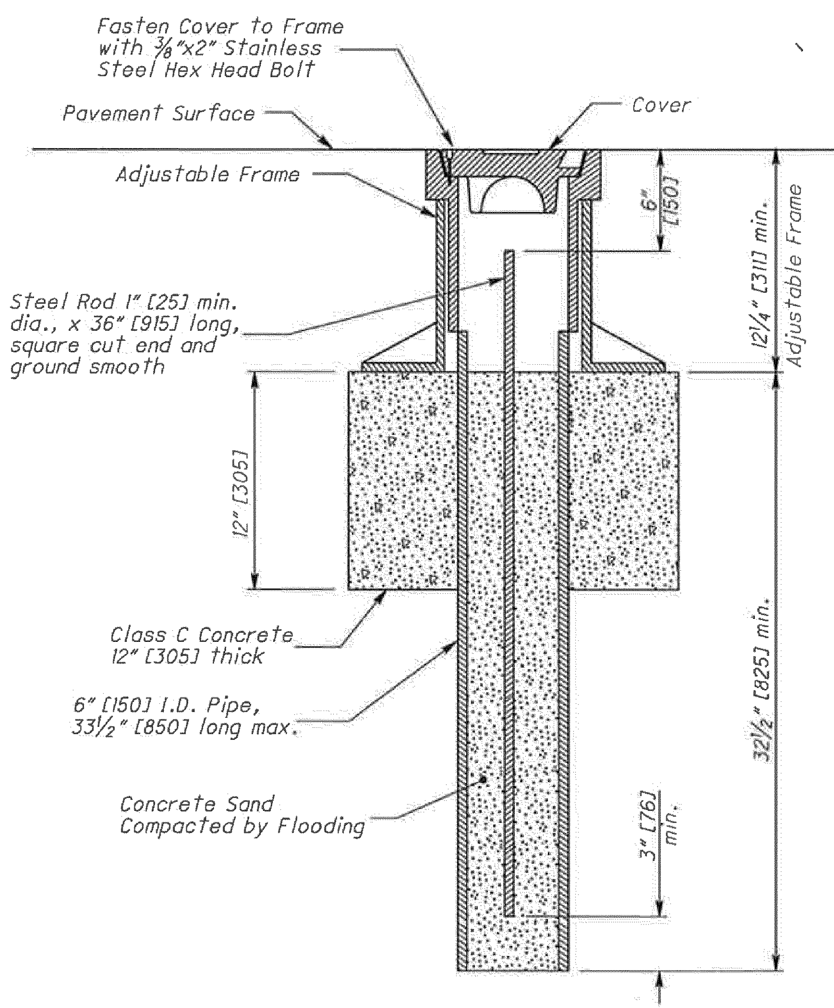


MONUMENT LEGEND

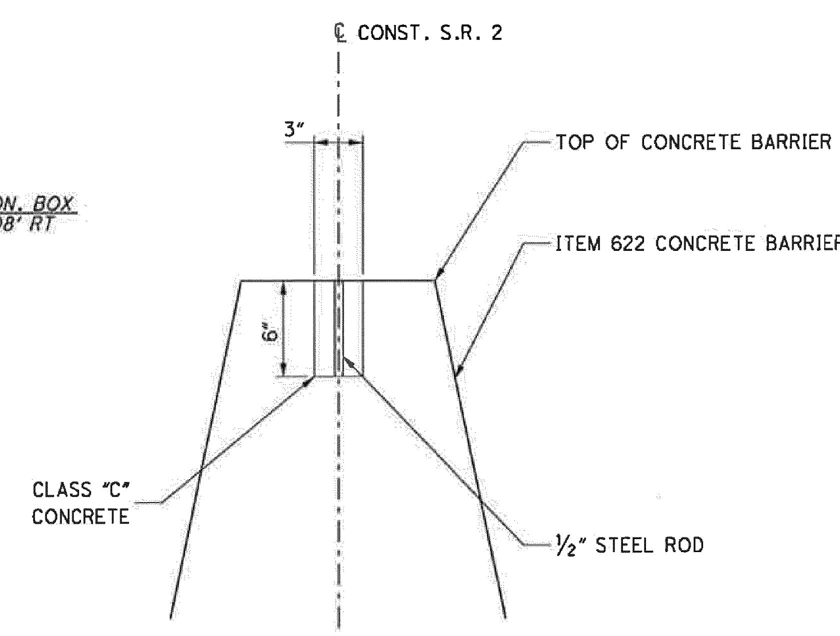
- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET
- CONCRETE MONUMENT FOUND
- BARRIER R/W MONUMENT

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (REV. 10-15-10) OF THE OHIO DEPARTMENT OF TRANSPORTATION, SEE THIS SHEET FOR MONUMENT TYPE C DETAIL. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE LUCAS COUNTY ENGINEER, SHALL BE NOTED AND THE LUCAS COUNTY ENGINEER SHALL BE NOTIFIED OF THE NEW LOCATIONS.

A REVISED CENTERLINE PLAT WITH NEW MONUMENT LOCATIONS OR RE-SET MONUMENTS SHALL BE RECORDED WITH THE COUNTY AND THE OHIO DEPARTMENT OF TRANSPORTATION.



MONUMENT TYPE C



COST OF FURNISHING AND PLACING STEEL ROD AND CLASS "C" CONCRETE TO BE INCLUDED IN BID ITEM 604, MONUMENT ASSEMBLY, AS PER PLAN

ITEM 604 - MONUMENT ASSEMEMBLY

BARRIER R/W MONUMENT

MONUMENTS TO BE SET DURING CONSTRUCTION			
℄ of RIGHT OF WAY & ℄ OF CONSTRUCTION	DISTANCE FROM ℄ of RIGHT OF WAY		ADJUSTABLE ℄ MONUMENTS
S.R. 2	LEFT	RIGHT	ITEM 604E 38500
101+22.39	0'	0'	1
103+03.08	0'	0'	1
104+26.87	0'	0'	1
TOTAL TO GENERAL SUMMARY			3

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

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

CENTERLINE PLAT

LUC-2-18.62

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING : THE BRIDGE OF MAUMEE RIVER PLANS DATED 1929 PREPARED BY WADDELL AND HARDESTY, NYCRR "EXHIBIT A" DATED 9/26/1929, J.C. ANDRUS SURVERY DATED 12/6/76, LUC 2-2-18.68 PLANS DATED APRIL 1989, DOCUMENTS REFERENCED ON THE R/W SUMMARY, CENTERLINE PLAT AND PROPERTY MAP.

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87
AND FRACTIONAL SECTION 1 T-10; R-7

STATE OF OHIO
CHARLES A. HAUBER 8034
REGISTERED
PROFESSIONAL SURVEYOR

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY. THE BEARINGS SHOWN HEREON ARE BASED ON OHIO STATE PLANE COORDINATES, NORTH ZONE, NAD 83 (CORS96)

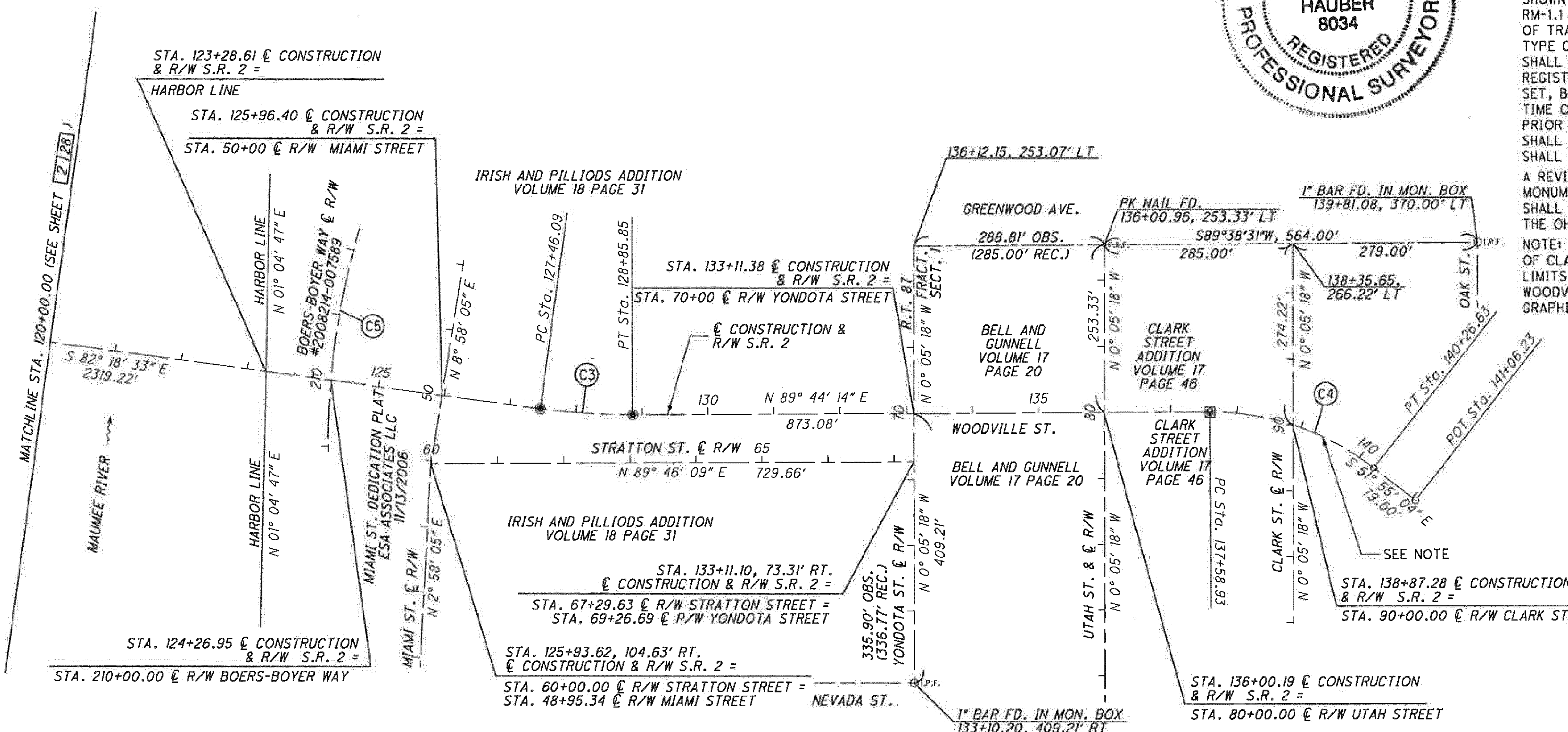
MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- 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.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET
- CONCRETE MONUMENT FOUND
- BARRIER R/W MONUMENT

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1 (REV. 10-15-10) OF THE OHIO DEPARTMENT OF TRANSPORTATION, SEE SHEET 2/28 FOR MONUMENT TYPE C DETAIL. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE LUCAS COUNTY ENGINEER, SHALL BE NOTED AND THE LUCAS COUNTY ENGINEER SHALL BE NOTIFIED OF THE NEW LOCATIONS.

A REVISED CENTERLINE PLAT WITH NEW MONUMENT LOCATIONS OR RE-SET MONUMENTS SHALL BE RECORDED WITH THE COUNTY AND THE OHIO DEPARTMENT OF TRANSPORTATION.

NOTE: THE CENTERLINE OF WOODVILLE STREET EAST OF CLARK STREET, IS NOT PART OF THE PROJECT LIMITS OR SURVEY LIMITS. THE CENTERLINE OF WOODVILLE STREET, EAST OF CLARK STREET IS GRAPHICALLY SHOWN PER RECORD INFORMATION.



℄ R/W S.R. 2
CURVE DATA

C1 P.I. STA. 102+14.30
Δ = 25° 50' 25" (LT)
Dc = 14° 18' 05"
R = 400.63'
T = 91.91'
L = 180.68'
E = 10.41'
C = 179.16'
C.B. = S 55° 04' 04" E

C2 P.I. STA. 103+65.30
Δ = 14° 19' 16" (LT)
Dc = 11° 34' 06"
R = 495.28'
T = 62.22'
L = 123.80'
E = 3.89'
C = 123.47'
C.B. = S 75° 08' 55" E

C3 P.I. STA. 128+16.08
Δ = 7° 57' 12" (LT)
Dc = 5° 41' 27"
R = 1,006.83'
T = 69.99'
L = 139.76'
E = 2.43'
C = 139.65'
C.B. = S 86° 17' 09" E

C4 P.I. STA. 138+98.01
Δ = 38° 20' 41" (RT)
Dc = 14° 19' 26"
R = 400.00'
T = 139.08'
L = 267.70'
E = 23.49'
C = 262.73'
C.B. = S 71° 05' 25" E

C5 P.I. STA. 210+64.09
Δ = 16° 38' 40" (RT)
Dc = 04° 52' 34"
R = 1,175.00'
T = 171.88'
L = 341.34'
E = 12.50'
C = 340.14'
C.B. = N 07° 52' 38" E

I, CHARLES HAUBER, P. S. as a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein. And have calculated the proposed property lines, Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire these parcels as shown herein.

As a part of this work I have set or will set the monuments at the proposed Property corners, Section Corners and other points as shown herein. However, Item 604 Monument Assemblies, Item 604 Reference Monuments and Centerline Monuments shall be installed by the construction contractor as specified in the plans. AllCenterline Monuments, Reference Monuments and Right of Way Monuments set and/or reset by the contractor's surveyor will include a cap as per Standard Construction Drawing RM-1.1 and bear the surveyor's Ohio registration number and/or name or company name. This work will be done 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 "A Minimum Standards for Boundary Surveys in the State of Ohio" unless noted.

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

CA Htt

CHARLES A. HAUBER , Professional Land Surveyor No. 8034

Date: 7/25/2011

RECEIVED ________, 20___
RECORDED ________, 20___
BOOK ________ PAGE ____
COUNTY RECORDER

MONUMENTS TO BE SET DURING CONSTRUCTION

℄ of RIGHT OF WAY & ℄ OF CONSTRUCTION	DISTANCE FROM ℄ of RIGHT OF WAY		ADJUSTABLE ℄ MONUMENTS	MONUMENT, MISC: BARRIER MONUMENT
S.R. 2	LEFT	RIGHT	ITEM 604E 38500	ITEM 604E 40900
127+46.09	0'	0'		1
128+85.85	0'	0'		1
137+58.93	0'	0'	1	
TOTAL TO GENERAL SUMMARY			1	2

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

CENTERLINE PLAT

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87
AND FRACTIONAL SECTION 1 T-10; R-7

STRUCTURE KEY

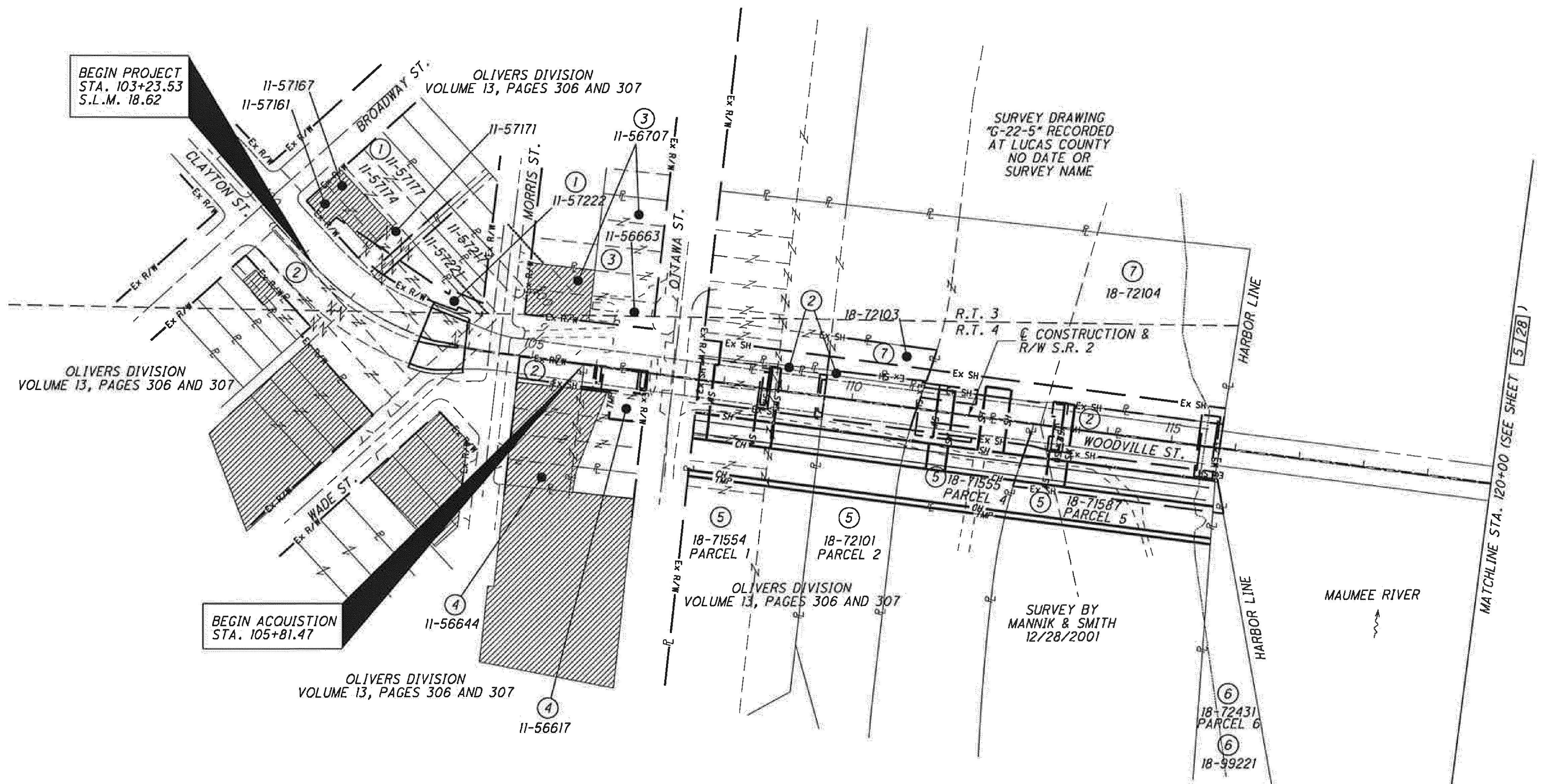
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

OWNERSHIP NAME AND NUMBER:

1. JAMES M. MORIARTY
2. *THE CITY OF TOLEDO
3. 247 LLC, ETAL.
4. TERRA REAL I, INC.
5. METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
6. NORFOLK SOUTHERN RAILWAY COMPANY
7. CENTERIOR PROPERTIES COMPANY AN OHIO CORPORATION

*NOTE: AUDITOR'S PARCEL NUMBER FOR PARCELS OWNED BY THE CITY OF TOLEDO IS 2200 UNLESS OTHERWISE NOTED ON PROPERTY MAP, RIGHT-OF-WAY SUMMARY AND RIGHT-OF-WAY BOUNDARY SHEETS.

*NOTE: SEE RIGHT OF WAY BOUNDARY SHEETS FOR EXISTING EASEMENTS.



REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

PROPERTY MAP
STA. 100+00.60 TO STA. 120+00

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87
AND FRACTIONAL SECTION 1 T-10; R-7

STRUCTURE KEY

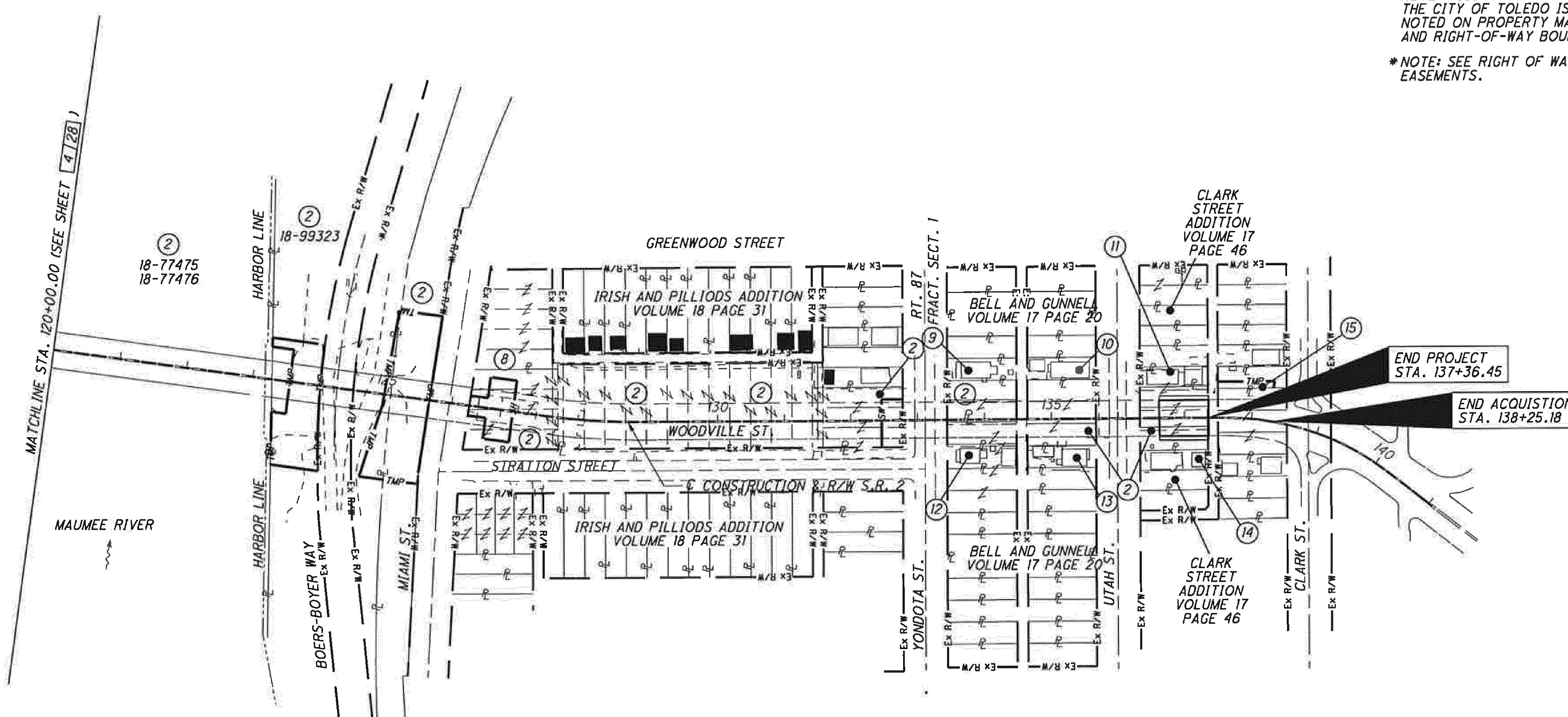
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

OWNERSHIP NAME AND NUMBER:

(2) *THE CITY OF TOLEDO
(8) COM DEV LLC
PN 08-03411
PN 08-03414
PN 08-03417
PN 08-03421
PN 08-03424
(9) COLE WAYNE
PN 02-10711
(10) DANA HARTBECK
PN 02-10681
(11) REBECCA L. COBURN
PN 03-13377
(12) BOBBY L. & CAROLYN BLACK
PN 02-10714
(13) WILBUR P. & DIANA J. CHEEK
PN 02-10677
(14) FLORENCIO J. LOPEZ
PN 03-13381
(15) TIMOTHY N. MILES
PN 03-13397

*NOTE: AUDITOR'S PARCEL NUMBER FOR PARCELS OWNED BY THE CITY OF TOLEDO IS 2200 UNLESS OTHERWISE NOTED ON PROPERTY MAP, RIGHT-OF-WAY SUMMARY AND RIGHT-OF-WAY BOUNDARY SHEETS.

*NOTE: SEE RIGHT OF WAY BOUNDARY SHEETS FOR EXISTING EASEMENTS.



REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 50 100 200

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

PROPERTY MAP
STA. 120+00 TO STA. 141+06.14

LUC-2-18.62

TOTAL NUMBER OF :
15 OWNERSHIPS — 0 TOTAL TAKES
22 PARCELS — 0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

ALL AREAS IN ACRES

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

* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1	JAMES M. MORIARTY		97-0594-C01		11-57161	0.109	0.000							STATE	NO TAKE		
															Bridge Easement Volume 20060926-0064371		
															Toledo Edison/Ohio Bell/ Public Utility/Access/Sewer		
		10,11			11-57167	0.097	0.000								Easement Volume 93-0575-E02 to E04		
															Bridge Easement Volume 20060926-0064371		
															Recorded 09/26/2006		
		10,11,12,13			11-57171	0.069	0.000										
															Building Existed Prior to Recording of Easement		
					11-57174	0.162	0.000										
					11-57177	0.149	0.000										
		12,13	98-0113-B07		11-57221	0.13	0.000								Bridge Easement Volume 20060926-0064371		
		12,13			11-57222	0.147	0.000								Bridge Easement Volume 20060926-0064371 *		
2	THE CITY OF TOLEDO		808	134	2200	0.206(C)	0.206(C)										
			801	225	2200	0.275(C)	0.275(C)										
			805	194-195	2200	0.055(C)	0.055(C)								City of Toledo Agrees to Convey Land Volume 810 Page 602		
															Restrictions Volume 810 Page 604		
			799	454	2200	0.145(C)	0.145(C)										
			COMMON PLEAS 117419		2200	0.032(C)	0.032(C)										
			786	288	2200	0.092(C)	0.092(C)										
2-S1		14,15	89-198-A08		2200	6.500	0.000	0.002	0.002	0					TO CONSTRUCT AND MAINTAIN STORM SEWER		
															Bridge/Pier/Foundation Easement Volume 823 Page 583		
			89-198-A08		2200	0.220(D)	0.220(D)								Bridge Easement Volume 94-325A07		
2-S2		14,15	81-141-B01		2200	52.302(D)	52.302(D)	0.020	0.020	0					Bridge Const. & Maint. & Public Utility Easement; Volume 1815		
															Page 308; TO CONSTRUCT AND MAINTAIN STORM SEWER		
2-S3		16,17						0.014	0.014	0					TO CONSTRUCT AND MAINTAIN		
															STORM SEWER		
	TOTAL							0.034	0.034	0					Public Right of Way Official Records No. 20060711-0045842		
2-SH1		16,17	81-141-B01		2200	52.302	52.302	0.031	0.031	0		0			TO CONSTRUCT AND MAINTAIN PIER		
2-T1		18,19	2474	109	18-77475	10.000	0.236(C)	0.256	0.08	0.176					REHABILITATE BRDIGE & FOR STAGING AREA		
															Bridge Easement Volume 1129 Page 277		
					18-77476	53.780(D)	0.000										
2-T2		18,19	20060525-0033816		18-99323	9.071(D)	0.100(C)	0.336	0.100	0.236					REHABILITATE BRDIGE & FOR STAGING AREA		
															Bridge Easement Volume 1129 Page 277		
			2474	109	18-77475	10.000	0.236(C)	0.078	0.012	0.066					Blanket Easement Sun Pipeline 94-264-E02		
	TOTAL							0.414	0.117	0.297					Blanket Easement Columbia Gas 96-0303-C10		
														STATE	Blanket Easement AT&T 95-283-A05		

NOTE: ALL TEMPORARY PARCELS TO BE OF 42 MONTH DURATION.

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REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

FEDERAL PROJECT NO.

PID NO. 80551

STATE JOB NO.

R/W DESIGNER TMR — R/W REVIEWER CAH

SUMMARY OF ADDITIONAL RIGHT OF WAY

LUC-2-18.62

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

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

ALL AREAS IN ACRES

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
2-SH2		18, 19	784	308	2200	0.274(C)	0.274(C)	0.088	0.088	0				STATE	TO CONSTRUCT AND MAINTAIN PIER		
			784	387	2200	0.189(C)	0.189(C)	0.015	0.015	0							
	TOTAL					0.463	0.463	0.103	0.103	0		0	0				
			222	243	2200	0.114(C)	0.114(C)										
2	THE CITY OF TOLEDO	10-25	790	331	2200	0.091(C)	0.091(C)										
			784	388	2200	0.091(C)	0.091(C)										
			CP117489		2200	0.091(C)	0.091(C)										
			786	450	2200	0.091(C)	0.091(C)										
			784	385	2200	0.091(C)	0.091(C)										
			784	310	2200	0.091(C)	0.091(C)										
			784	307	2200	0.091(C)	0.091(C)										
			784	389	2200	0.091(C)	0.091(C)										
			784	309	2200	0.091(C)	0.091(C)										
			784	386	2200	0.091(C)	0.091(C)										
2-S4		22, 23	792	223	2200	0.129(C)	0.129(C)	0.008	0.008	0					TO CONSTRUCT AND MAINTAIN STORM SEWER		
			784	396	2200	0.083(C)	0.083(C)	0.022	0.022	0							
			794	13	2200	0.083(C)	0.083(C)	0.022	0.022	0							
	TOTAL						0.295	0.052	0.052	0							
			794	15	2200	0.070(C)	0.070(C)										
			794	10	2200	0.078(C)	0.078(C)										
			794	11	2200	0.078(C)	0.078(C)										
			794	16	2200	0.078(C)	0.078(C)										
			794	12	2200	0.078(C)	0.078(C)										
			794	14	2200	0.078(C)	0.078(C)								*Adjoiners Shed Encroaches		
			786	287	2200	0.070(C)	0.070(C)										
			784	400	2200	0.070(C)	0.070(C)										
			786	286	2200	0.082(C)	0.082(C)								*Adjoiners Shed Encroaches		
														STATE			

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REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

FEDERAL PROJECT NO.
PID NO. 80551
STATE JOB NO.
R/W DESIGNER TMR
R/W REVIEWER CAH

SUMMARY OF ADDITIONAL RIGHT OF WAY

LUC-2-18.62

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

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

* DENOTES RIGHT OF WAY ENCROACHMENT

ALL AREAS IN ACRES

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
3	***** 247 LLC, ETAL.	12,13	200912070055867		11-56707	0.180	0.000							STATE	NO TAKE		
			200912070055868														
					11-56663	0.456	0.000										
4-T	TERRA REAL I, INC.	12,13	200505090032089		11-56617	0.367	0.088	0.057	0	0.057					Pier Easement Volume 823 Page 583		
															REHABILITATE BRIDGE AND FOR STAGING AREA AND ACCESS		
					11-56644	0.373	0.000										
5-T	METROPOLITAN PARK DISTRICT OF	14,15	20060711-0045843		18-71554	2.155	0.306	0.041	0	0.041					TO CONSTRUCT DITCH AND ACCESS		
	THE TOLEDO AREA	16,17													Agreement Line Volume 567 Page 285		
															Pier Easement Volume 823 Page 583		
															Esm't For Rail Road Communications 78-620-D11 (RELEASED)		
			20060711-0045842		18-71587	13.171	0.251	0.066	0	0.066					Bridge Easement 94-325-A07		
			20060711-0045843		18-71555	0.617	0.143	0.036	0	0.036							
					18-72101	2.241	0.226	0.026	0	0.026					UNDIVIDED 1/2 INTEREST WITH 18-99221		
	TOTAL							0.169	0	0.169							
5-AE		14,15,16,17	20060711-0045843		18-71554	2.155	0.306	0.180	0	0.180					ACCESS EASEMENT TO MAINTAIN BRIDGE		
			20060711-0045842		18-71587	13.171	0.251	0.281	0	0.281							
			20060711-0045843		18-71555	0.617	0.143	0.166	0	0.166							
					18-72101	2.241	0.226	0.121	0	0.121							
	TOTAL							0.748	0	0.748							
5-CH		14,15,16,17	20060711-0045843		18-71554	2.155	0.306	0.226	0	0.226					TO CONSTRUCT AND MAINTAIN DITCH		
															UNDIVIDED 1/2 INTEREST WITH 18-99221		
			20060711-0045842		18-71587	13.171	0.251	0.362	0	0.362							
					18-71555	0.617	0.143	0.202	0	0.202							
					18-72101	2.241	0.226	0.147	0	0.147							
	TOTAL							0.937	0	0.937							
5-SH		16,17	20060711-0045842		18-71555	0.617	0.143	0.047	0.031	0.016			0.458		TO CONSTRUCT AND MAINTAIN PIER		
5-S1		14,15	20060711-0045843		18-71554		0.306	0.064	0.035	0.029					TO CONSTRUCT AND MAINTAIN STORM SEWER		
5-S2		14,15			18-71554		0.306	0.067	0.027	0.040					TO CONSTRUCT AND MAINTAIN STORM SEWER		
5-S3		14,15			18-71555		0.143	0.058	0.024	0.034					TO CONSTRUCT AND MAINTAIN STORM SEWER		
5-S4		16,17			18-71587		0.251	0.05	0.014	0.036					TO CONSTRUCT AND MAINTAIN STORM SEWER		
5-A	METROPOLITAN PARK DISTRICT OF	14,15,16,17	20060711-0045843		18-71554	2.155	0.306	0.306	0.306	0					TO RE-RECORD BRIDGE EASEMENT		
	THE TOLEDO AREA														Agreement Line Volume 567 Page 285		
															Pier Easement Volume 823 Page 583		
															Esm't For Rail Road Communications 78-620-D11 (RELEASED)		
			20060711-0045842		18-71587	13.171	0.690	0.690	0.690	0					Bridge Easement 94-325-A07		
					18-71555	0.617	0.144	0.144	0.144	0							
					18-72101	2.241	0.226	0.226	0.226	0					UNDIVIDED 1/2 INTEREST WITH 18-99221		
	TOTAL					16.029	1.366	1.366	1.366	0							
6-A	NORFOLK SOUTHERN RAILWAY COMPANY	16,17	1815	311	18-99221	9.545(C)	0.012	0.012	0.012	0					TO RE-RECORD BRIDGE EASEMENT		
															UNDIVIDED 1/2 INTEREST WITH 18-72431		
	METROPOLITAN PARK DISTRICT OF		20060711-0045842		18-72431	9.545(C)	0.000	0.012	0.012	0					UNDIVIDED 1/2 INTEREST WITH 18-99221		
	THE TOLEDO AREA																
	TOTAL							0.012	0.012	0							
7	CENTERIOR PROPERTIES COMPANY AN OHIO		95-116-B07		18-72103	4.963	0.189								EXCEPTION FOR PUBLIC RIGHT OF WAY #20060711-0045842		
	CORPORATION														BRIDGE EASEMENT 95-0538D08		
7-S		14,15			18-72104	4.963	0.387	0.016	0.016	0				STATE	TO CONSTRUCT AND MAINTAIN STORM SEWER		

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REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

FEDERAL PROJECT NO.

PID NO. 80551

STATE JOB NO.

R/W DESIGNER TMR
R/W REVIEWER CAH

SUMMARY OF ADDITIONAL RIGHT OF WAY

LUC-2-18.62

8/28

307/327

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

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

ALL AREAS IN ACRES

* DENOTES RIGHT OF WAY ENCROACHMENT

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
7-SH		16,17			18-72104	4.963	0.387	0.013	0.013	0		4.576		STATE	TO CONSTRUCT AND MAINTAIN PIER		
8	COM DEV LLC	18-21	201007300030975												NO TAKE		
					08-03421	0.080	0.000										
					08-03424	0.080	0.000										
9	COLE WAYNE	22, 23	200709070053615		02-10711	0.080	0.000								NO TAKE		
10	DANA HARTBECK	22, 23	200511210086982		02-10681	0.080	0.000								NO TAKE		
11	REBECCA L. COBURN	22-25	199307300864183		03-13377	0.070	0.000								NO TAKE		
12	BOBBY L. & CAROLYN BLACK	22, 23	200408120066251		02-10714	0.080	0.000										
13	WILBUR P. & DIANA J. CHEEK	22, 23	200201140205778		02-10677	0.080	0.000								NO TAKE		
															*Shed Encroaches		
14	FLORENCIO J. LOPEZ	22-25	200810150050825		03-13381	0.070	0.000								NO TAKE		
															*Shed Encroaches		
15-T	TIMOTHY N. MILES	24,25	20080111-0001912		03-13397	0.080	0.000	0.020	0	0.020				STATE	REPAIR RETAINING WALL		

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SUMMARY OF ADDITIONAL RIGHT OF WAY

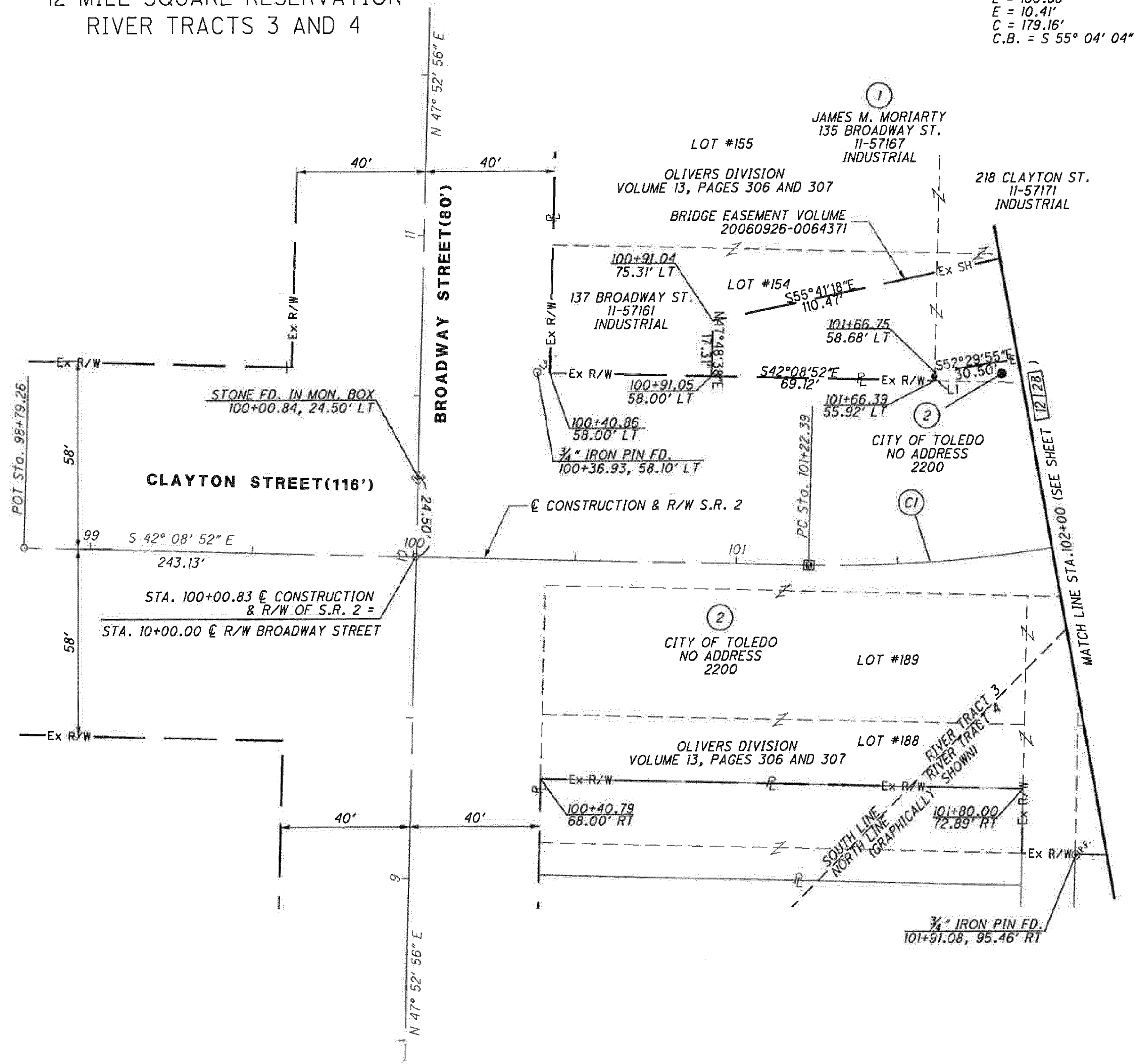
LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3 AND 4

℄ R/W S.R. 2
CURVE DATA

(C1) P.I. Sta. 102+14.30
Δ = 25° 50' 25" (LT)
Dc = 14° 18' 05"
R = 400.63'
T = 91.91'
L = 180.68'
E = 10.41'
C = 179.16'
C.B. = S 55° 04' 04" E



LINE	BEARING	DISTANCE
L1	N47°52'56"E	2.77'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 100+00.60 TO STA. 102+00

LUC-2-18.62

10/28

309/327

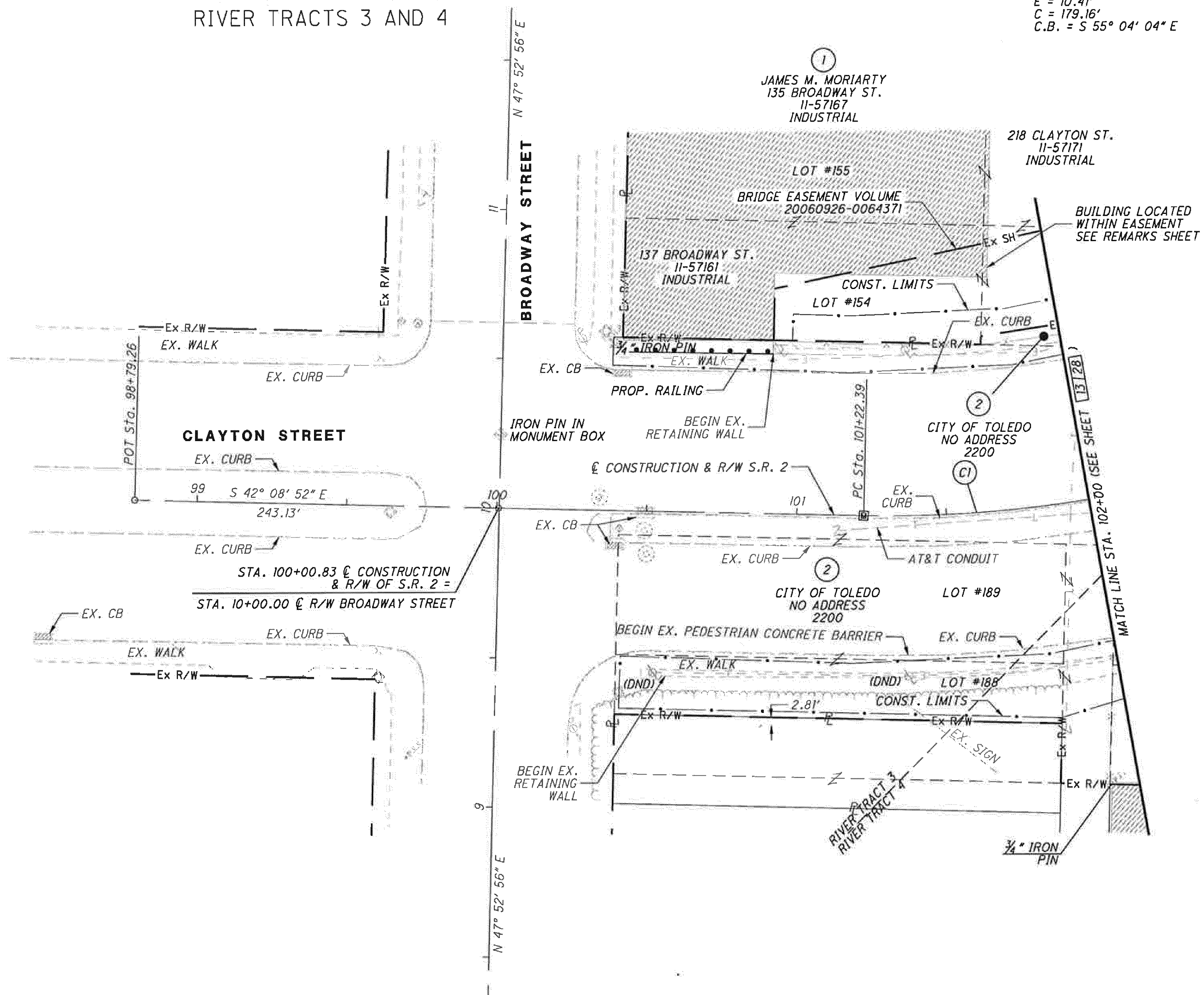
LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3 AND 4

LEGEND
(DND) = DO NOT DISTURB
(R) = REMOVE

℄ R/W S.R. 2
CURVE DATA

(C1) P.I. Sta. 102+14.30
Δ = 25° 50′ 25″ (LT)
Dc = 14° 18′ 05″
R = 400.63′
T = 91.91′
L = 180.68′
E = 10.41′
C = 179.16′
C.B. = S 55° 04′ 04″ E



HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY TOPO SHEET
STA. 100+00.60 TO STA. 102+00

LUC-2-18.62

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

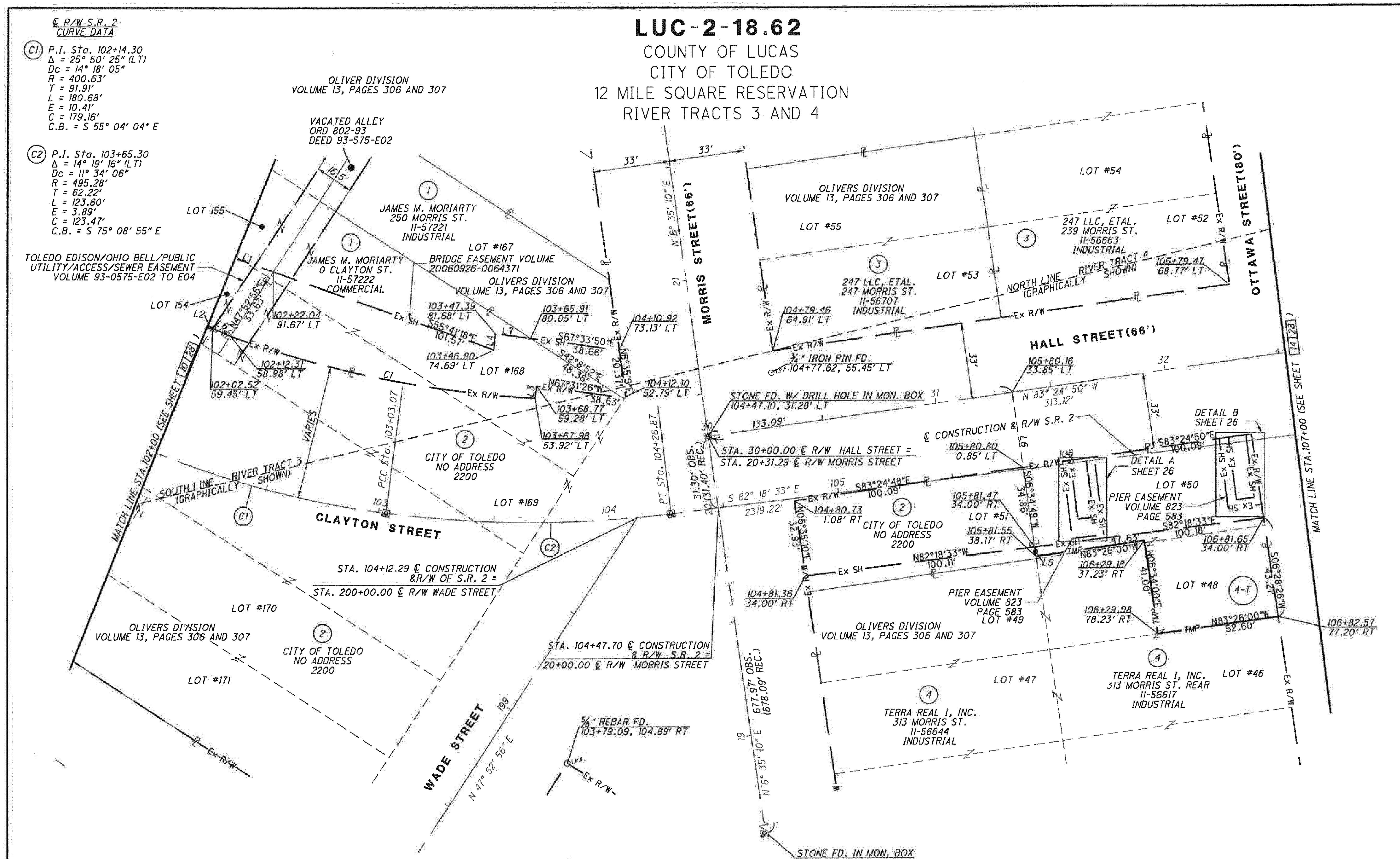
LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3 AND 4

℄ R/W S.R. 2
CURVE DATA

(C1) P.I. Sta. 102+14.30
Δ = 25° 50′ 25″ (LT)
Dc = 14° 18′ 05″
R = 400.63′
T = 91.91′
L = 180.68′
E = 10.41′
C = 179.16′
C.B. = S 55° 04′ 04″ E

(C2) P.I. Sta. 103+65.30
Δ = 14° 19′ 16″ (LT)
Dc = 11° 34′ 06″
R = 495.28′
T = 62.22′
L = 123.80′
E = 3.89′
C = 123.47′
C.B. = S 75° 08′ 55″ E



LINE	BEARING	DISTANCE
L1	S55°41′18″E	110.47′
L2	S52°29′55″E	30.50′
L3	N21°57′13″E	5.41′
L4	N20°18′10″E	7.00′
L5	S06°34′49″W	4.17′
L6	S06°35′10″W	33.00′
L7	S51°06′06″E	8.35′
L8	S67°33′50″E	15.62′

CURVE	Δ	RADIUS	CHORD	CHORD BEARING	ARC
C1	16°55′24″	458.00′	134.79′	S63°43′39″E	135.28′

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 102+00 TO STA. 107+00

LUC-2-18.62

LUC-2-18.62
COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3 AND 4

℄ R/W S.R. 2
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(C1) P.I. Sta. 102+14.30
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L = 180.68′
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C.B. = S 55° 04′ 04″ E

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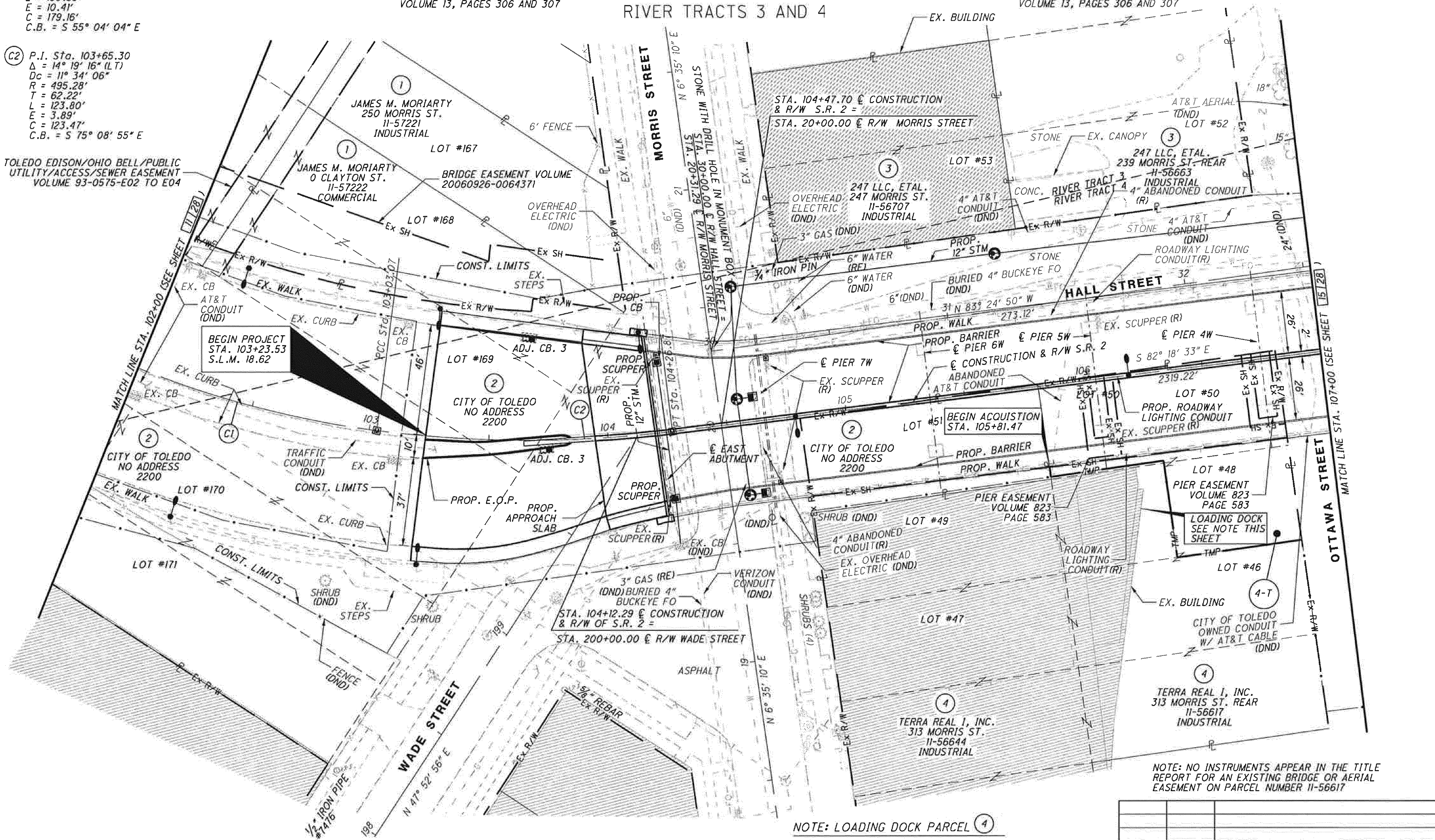
Δ = 14° 19′ 16″ (LT)
Dc = 11° 34′ 06″
R = 495.28′
T = 62.22′
L = 123.80′
E = 3.89′
C = 123.47′
C.B. = S 75° 08′ 55″ E

LEGEND
(DND) = DO NOT DISTURB
(R) = REMOVE
(RE) = TO BE RELOCATED BY OTHERS



NOTE: NO INSTRUMENTS APPEAR IN THE TITLE REPORT FOR AN EXISTING BRIDGE OR AERIAL EASEMENT ON PARCEL NUMBER 11-56617

NOTE: LOADING DOCK PARCEL (4)

CONTRACTOR SHALL MAINTAIN ACCESS TO THE LOADING DOCK AT 313 MORRIS ST. AT ALL TIMES THROUGHOUT THE CONSTRUCTION PROJECT.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

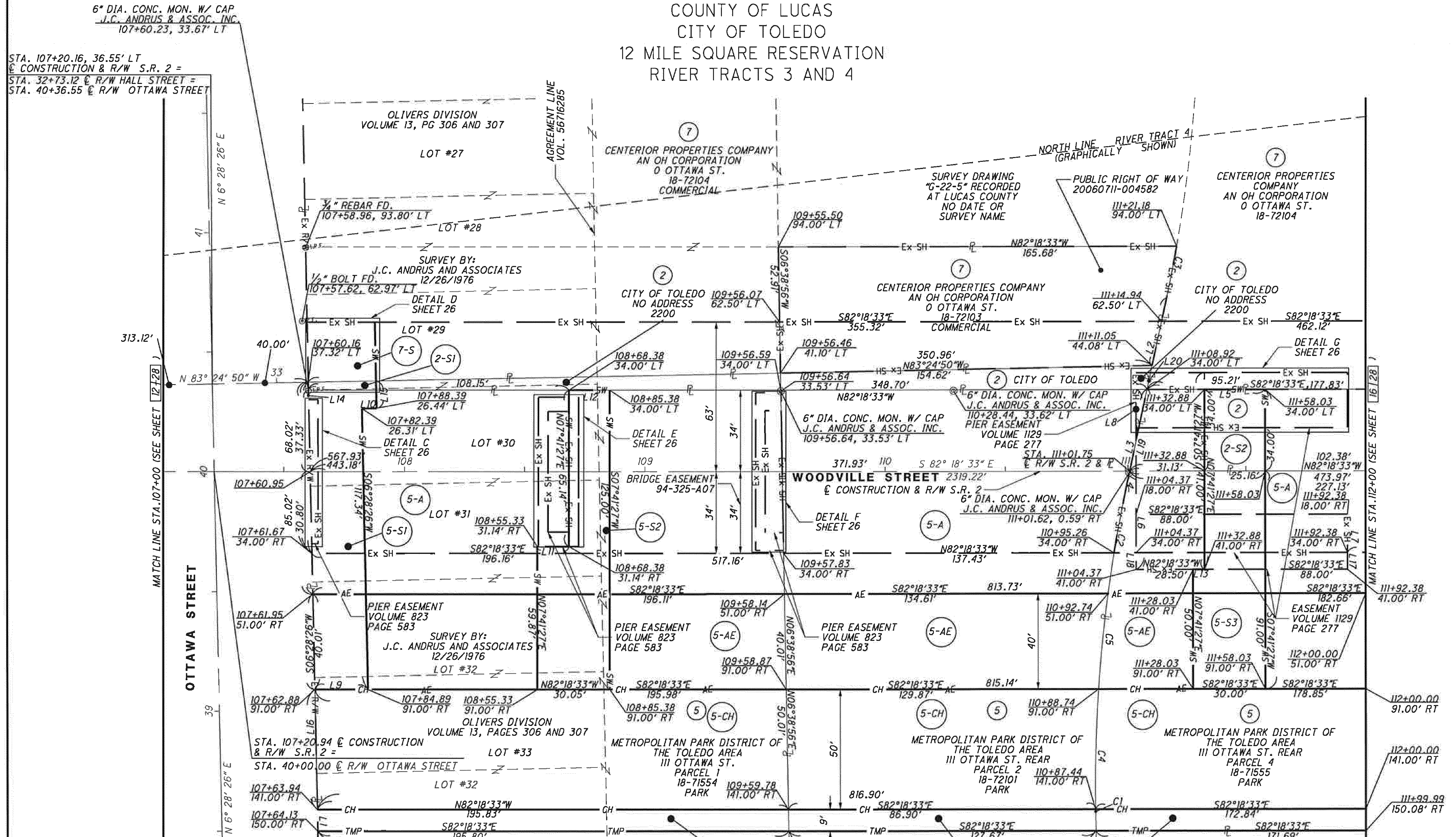
R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY TOPO SHEET
STA. 102+00 TO STA. 107+00

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3 AND 4



LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
L1	N06°28'26"E	9.01'	L11	N82°18'33"W	13.05'
L2	N19°36'39"E	28.92'	L12	N82°18'33"W	17.00'
L3	N19°36'39"E	34.75'	L13	N82°18'33"W	4.84'
L4	N19°36'39"E	5.30'	L14	N06°28'26"E	4.00'
L5	S82°18'33"E	25.16'	L15	S06°28'26"W	7.56'
L6	S07°41'27"W	53.45'	L16	N06°28'26"E	50.01'
L7	S07°41'27"W	23.00'	L17	S07°41'27"W	7.00'
L8	N07°41'27"E	21.55'	L18	N07°41'27"E	7.00'
L9	N82°18'33"W	22.01'	L19	S19°36'39"W	34.75'
L10	N83°31'34"W	6.00'	L20	S19°36'29"W	10.30'

CURVE	Δ	RADIUS	CHORD	CHORD BEARING	ARC
C1	05°21'56"	19.84'	1.86'	N06°44'09"E	1.86'
C2	02°41'50"	610.02'	28.72'	N18°15'43"E	28.72'
C3	02°04'07"	610.02'	22.02'	S18°34'32"W	22.02'
C4	04°41'58"	609.99'	50.02'	N09°10'22"E	50.03'
C5	03°46'36"	609.97'	40.20'	N13°24'39"E	40.21'

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET

PID NO. 80551

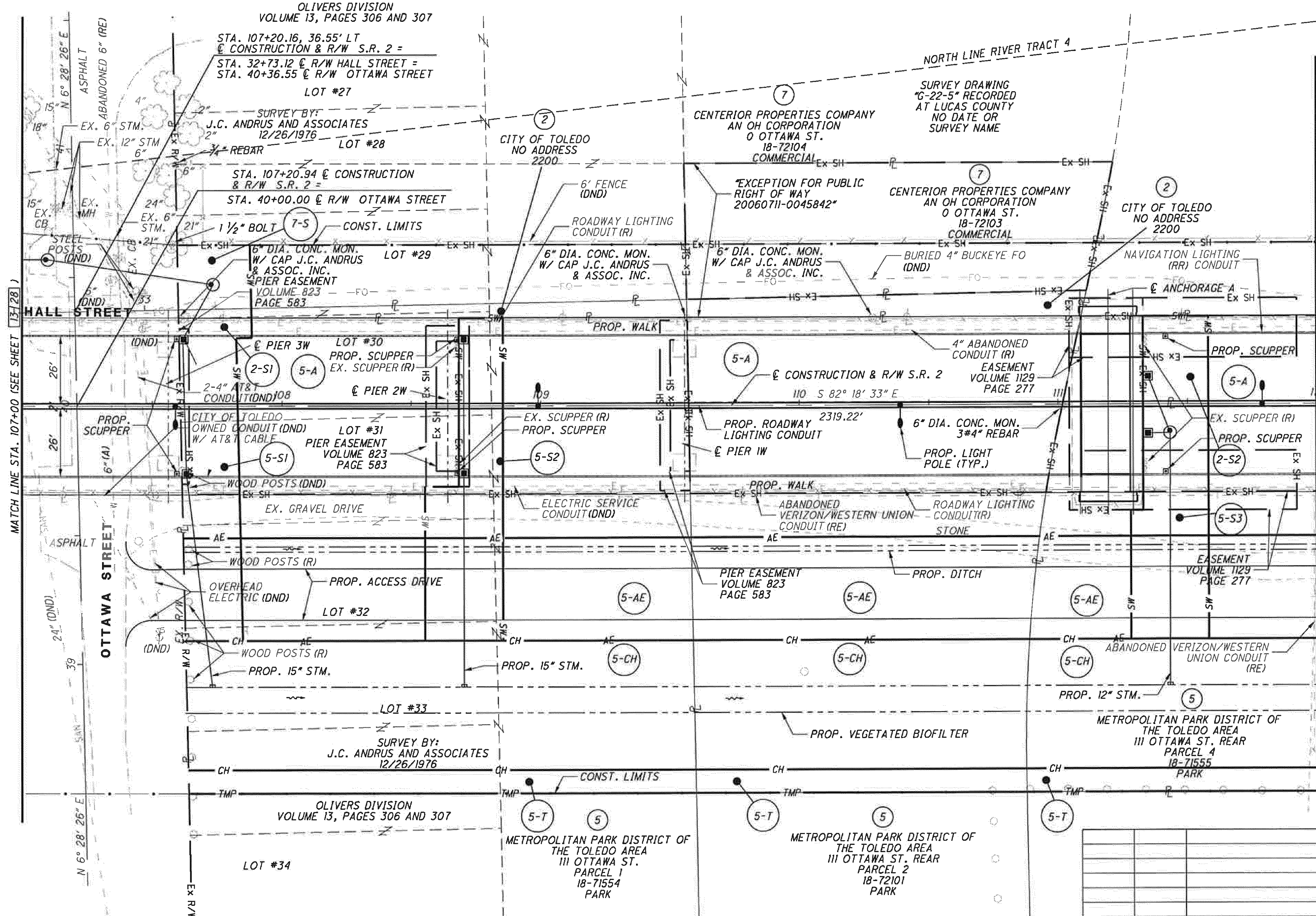
R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 107+00 TO STA. 112+00

LUC-2-18.62

LUC-2-18.62
COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 4

LEGEND
(DND) = DO NOT DISTURB
(R) = REMOVE
(RR) = REMOVE AND REPLACE
(RE) = TO BE RELOCATED BY OTHERS



REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY TOPO SHEET
STA. 107+00 TO STA. 112+00

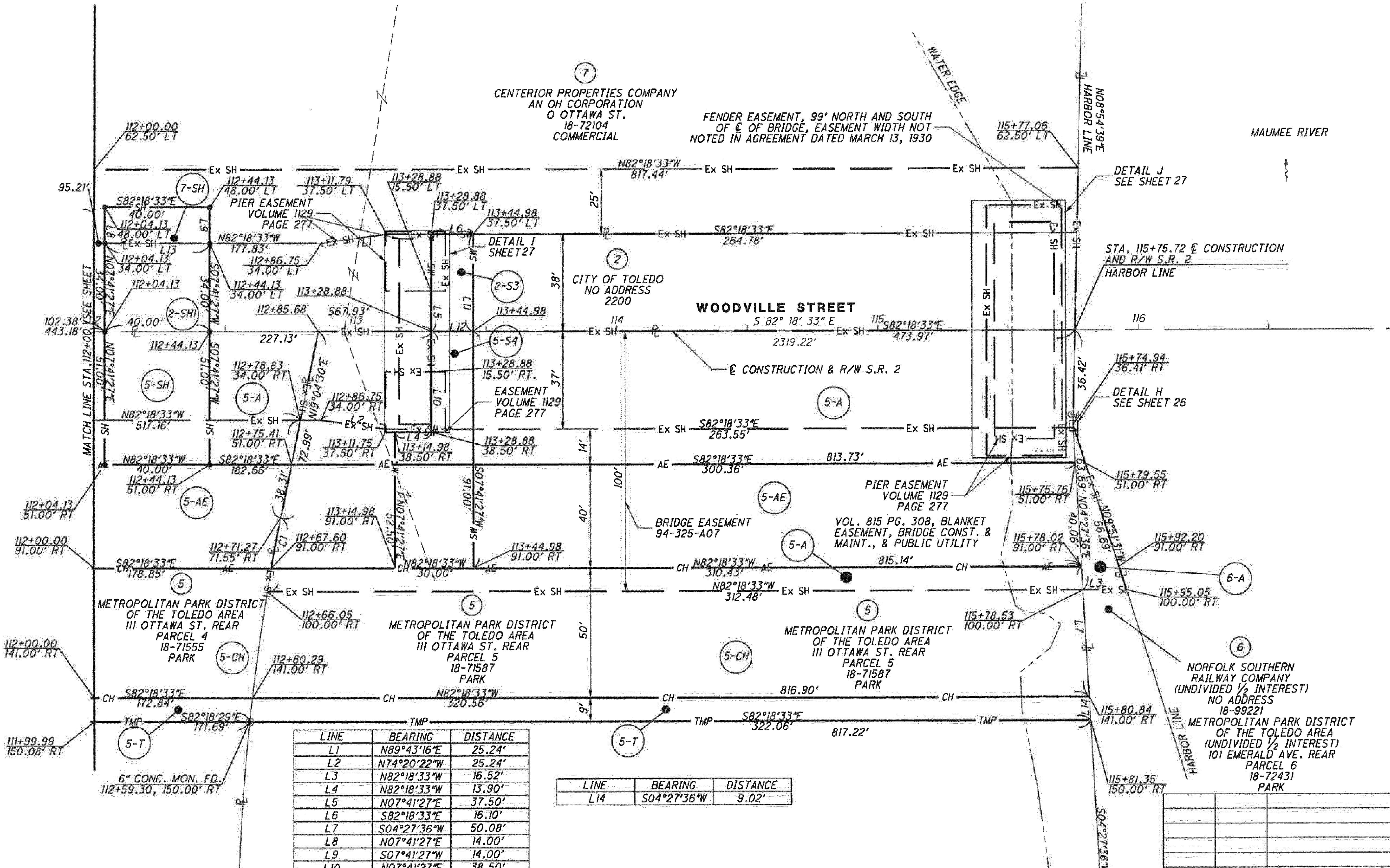
LUC-2-18.62

15/28

314/327

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 4



LINE	BEARING	DISTANCE
L1	N89°43'16"E	25.24'
L2	N74°20'22"W	25.24'
L3	N82°18'33"W	16.52'
L4	N82°18'33"W	13.90'
L5	N07°41'27"E	37.50'
L6	S82°18'33"E	16.10'
L7	S04°27'36"W	50.08'
L8	N07°41'27"E	14.00'
L9	S07°41'27"W	14.00'
L10	N07°41'27"E	38.50'
L11	S07°41'27"W	37.50'
L12	N82°18'33"W	16.10'
L13	S82°18'33"E	40.00'

LINE	BEARING	DISTANCE
L14	S04°27'36"W	9.02'

CURVE	Δ	RADIUS	CHORD	CHORD BEARING	ARC
C1	01°58'22"	840.00'	28.92'	N18°05'19"E	28.92'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 112+00 TO STA. 117+00

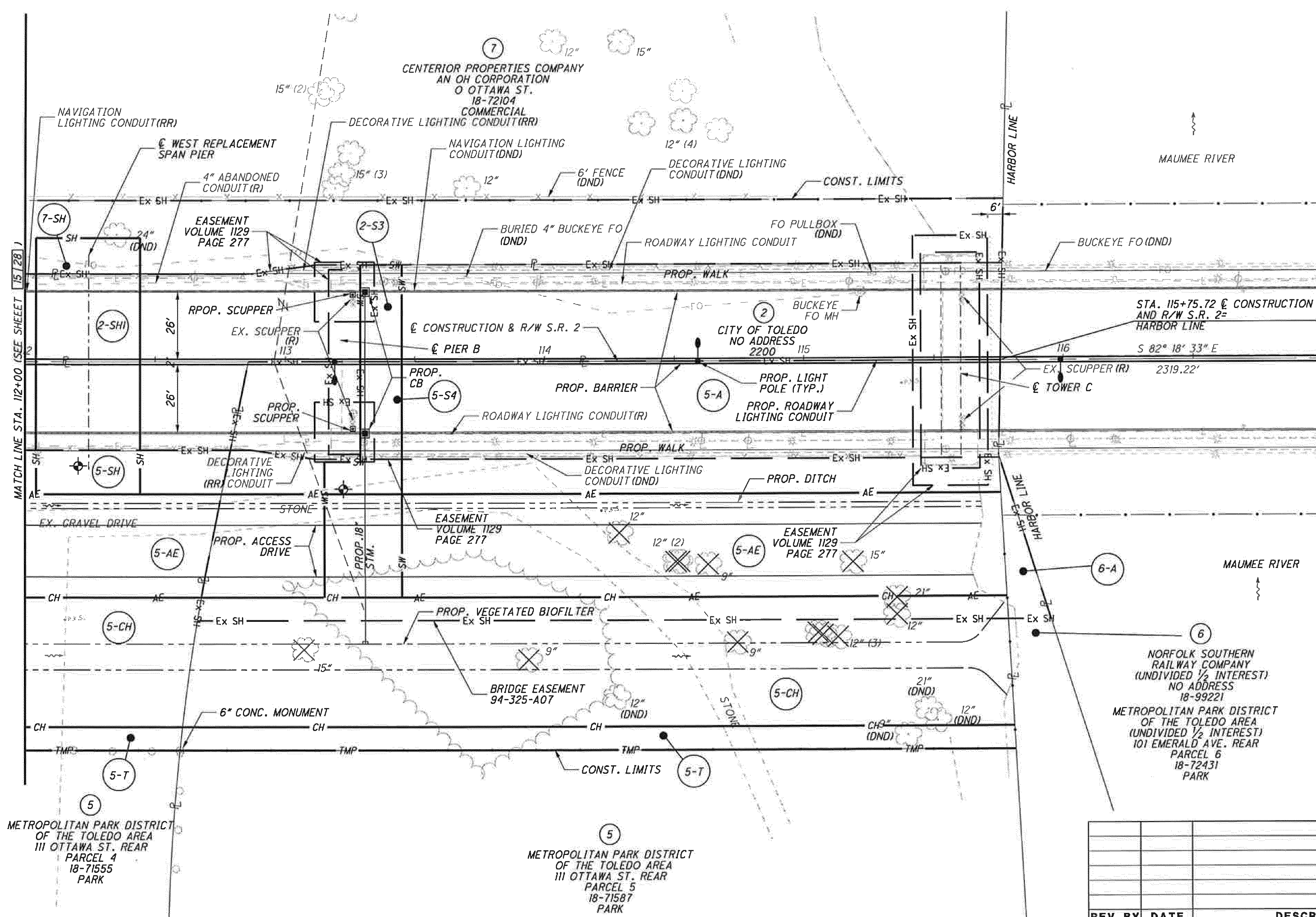
LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 4

LEGEND

(DND) = DO NOT DISTURB
(R) = REMOVE
(RR) = REMOVE AND REPLACE



REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER TMR

RIGHT OF WAY TOPO SHEET
STA. 112+00 TO STA. 117+00

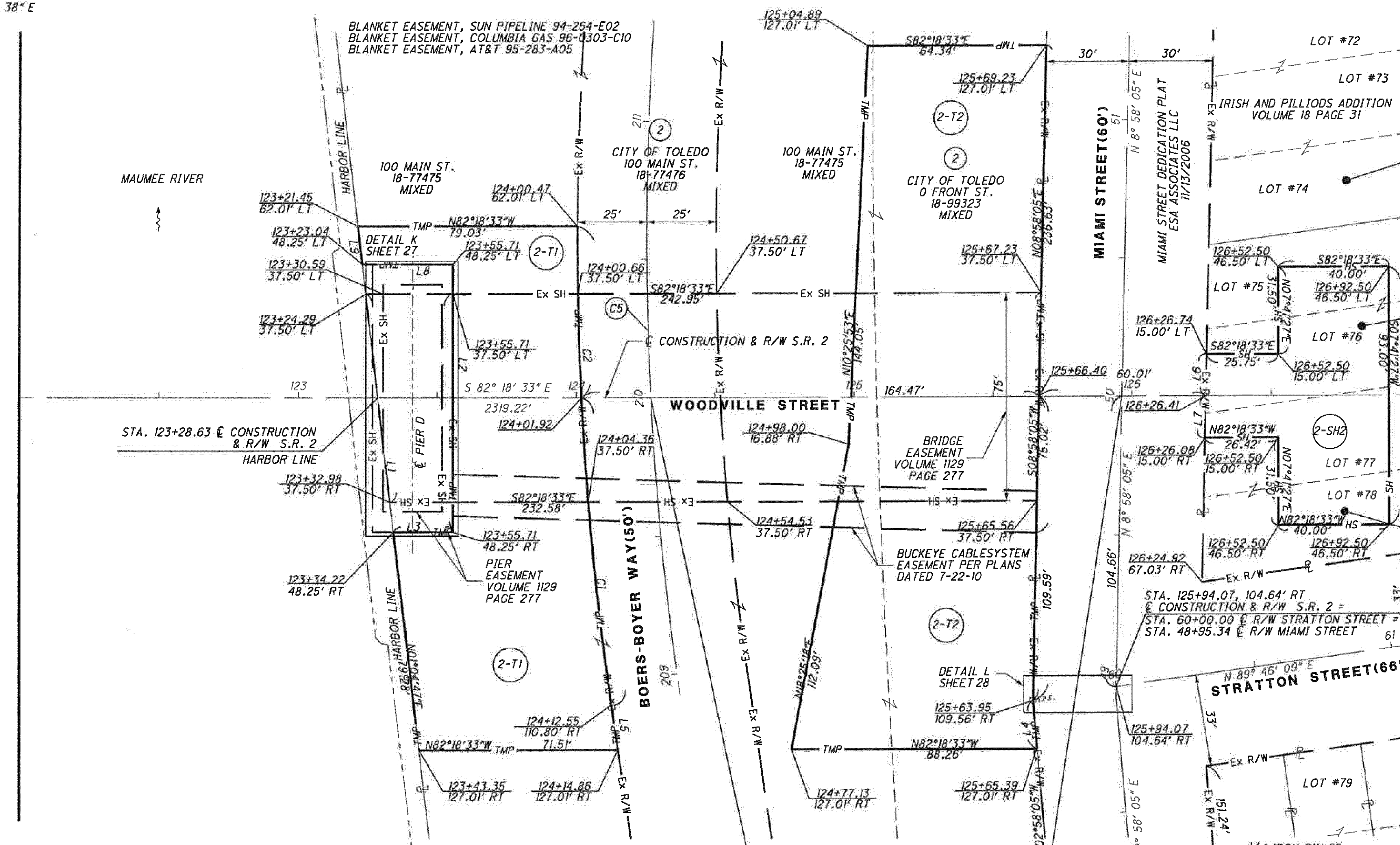
LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 87

℄ R/W S.R. 2
CURVE DATA

C5 P.I. Sta. 210+64.09
Δ = 16° 38′ 40″ (RT)
Dc = 4° 52′ 34″
R = 1,175.00′
T = 171.88′
L = 341.34′
E = 12.50′
C = 340.14′
C.B. = N 07° 52′ 38″ E



LINE	BEARING	DISTANCE
L1	N01°04′47″E	75.50′
L2	N07°41′27″E	96.50′
L3	S82°18′33″E	21.49′
L4	S02°58′05″W	17.50′
L5	S00°26′42″E	16.37′
L6	N08°58′05″E	15.00′
L7	N08°58′05″E	15.00′
L8	N82°18′33″W	32.67′
L9	N01°04′47″E	13.85′

CURVE	Δ	RADIUS	CHORD	CHORD BEARING	ARC
C1	05°18′59″	1200.00′	111.30′	S02°12′47″W	111.34′
C2	02°57′42″	1200.00′	62.02′	S06°21′07″W	62.03′

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 122+00 TO STA. 127+00

LUC-2-18.62

LUC-2-18.62

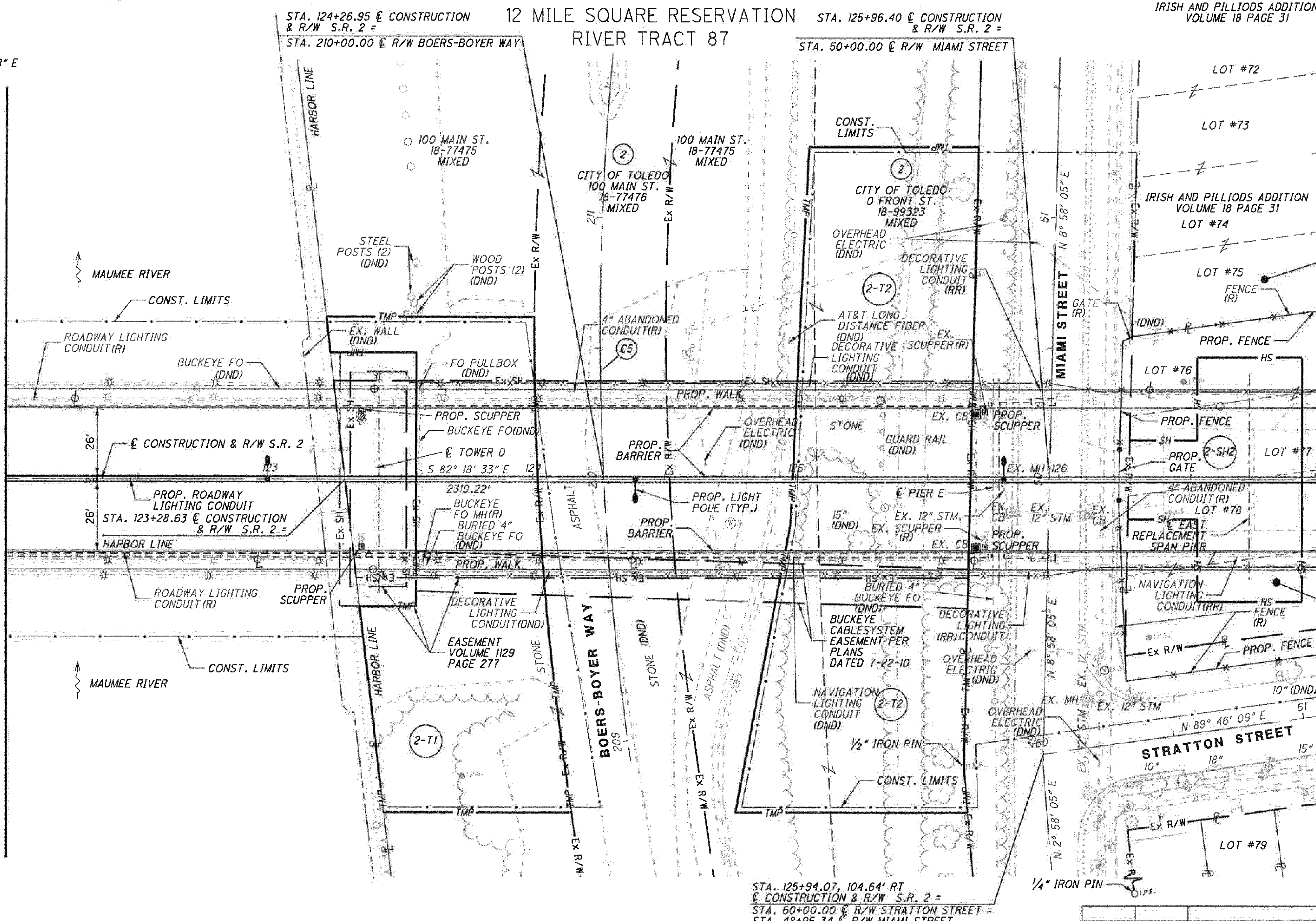
COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 87

℄ R/W S.R. 2
CURVE DATA

(C5) P.I. Sta. 210+64.09
Δ = 16° 38′ 40″ (RT)
Dc = 4° 52′ 34″
R = 1,175.00′
T = 171.88′
L = 341.34′
E = 12.50′
C = 340.14′
C.B. = N 07° 52′ 38″ E

LEGEND

(DND) = DO NOT DISTURB
(R) = REMOVE
(RR) = REMOVE AND REPLACE



REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

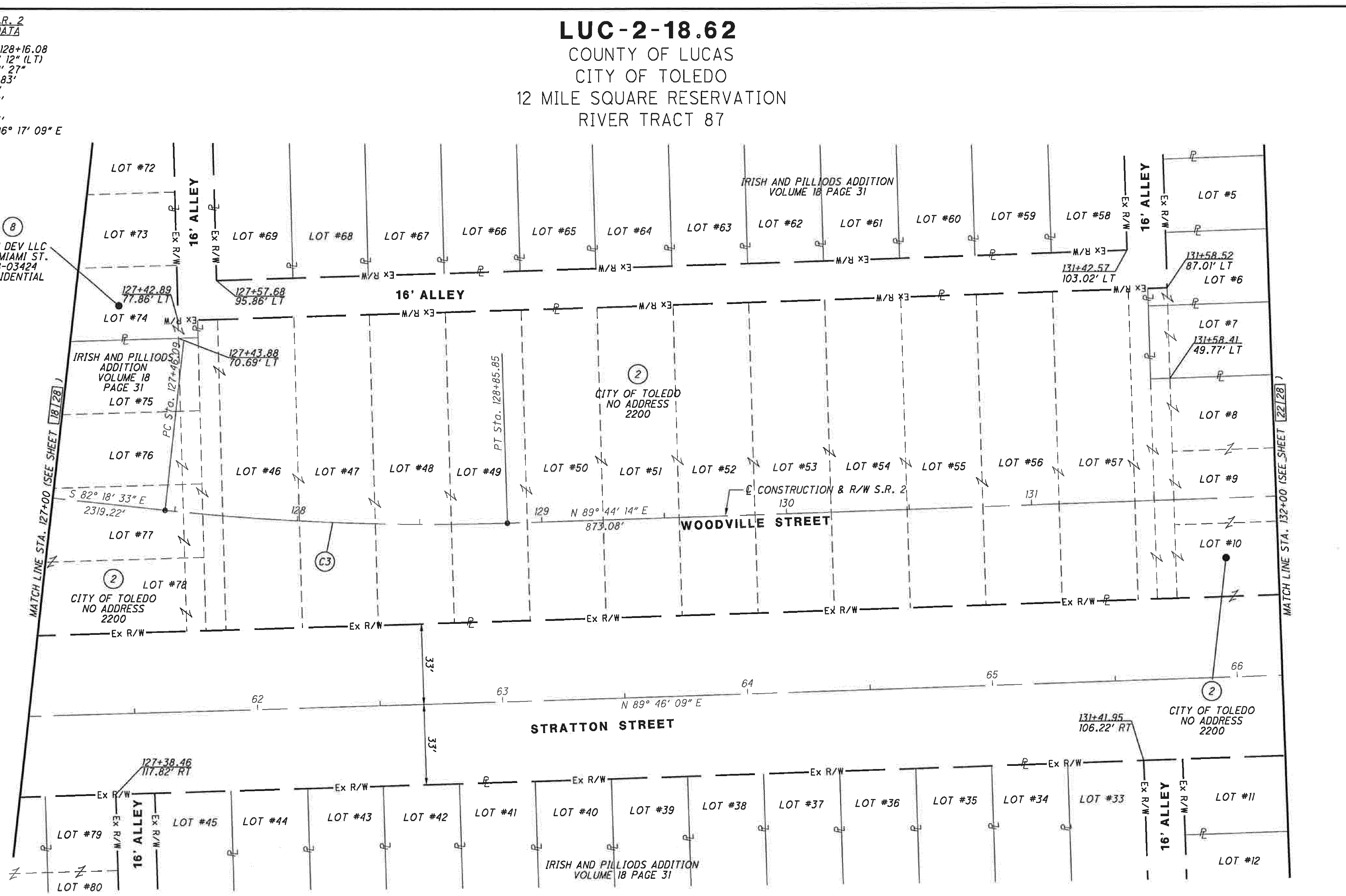
R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY TOPO SHEET
STA. 122+00 TO STA. 127+00

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 87



RIGHT OF WAY BOUNDARY SHEET
STA. 127+00 TO STA. 132+00

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

HORIZONTAL SCALE IN FEET

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

LUC-2-18.62

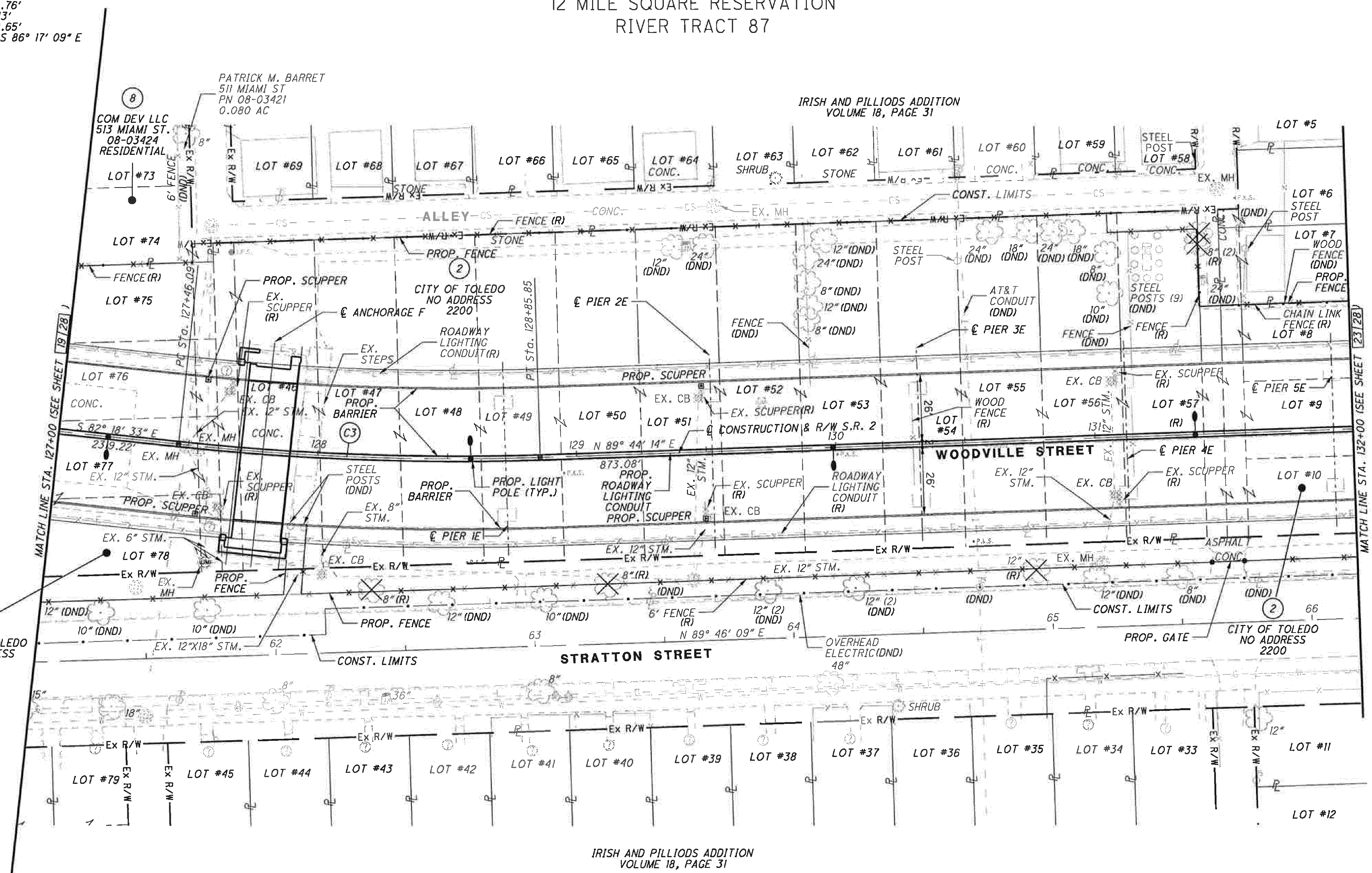
LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 87

℄ R/W S.R. 2
CURVE DATA

(C3) P.I. Sta. 128+16.08
Δ = 7° 57′ 12″ (LT)
Dc = 5° 41′ 27″
R = 1,006.83′
T = 69.99′
L = 139.76′
E = 2.43′
C = 139.65′
C.B. = S 86° 17′ 09″ E

LEGEND
(DND) = DO NOT DISTURB
(R) = REMOVE



REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

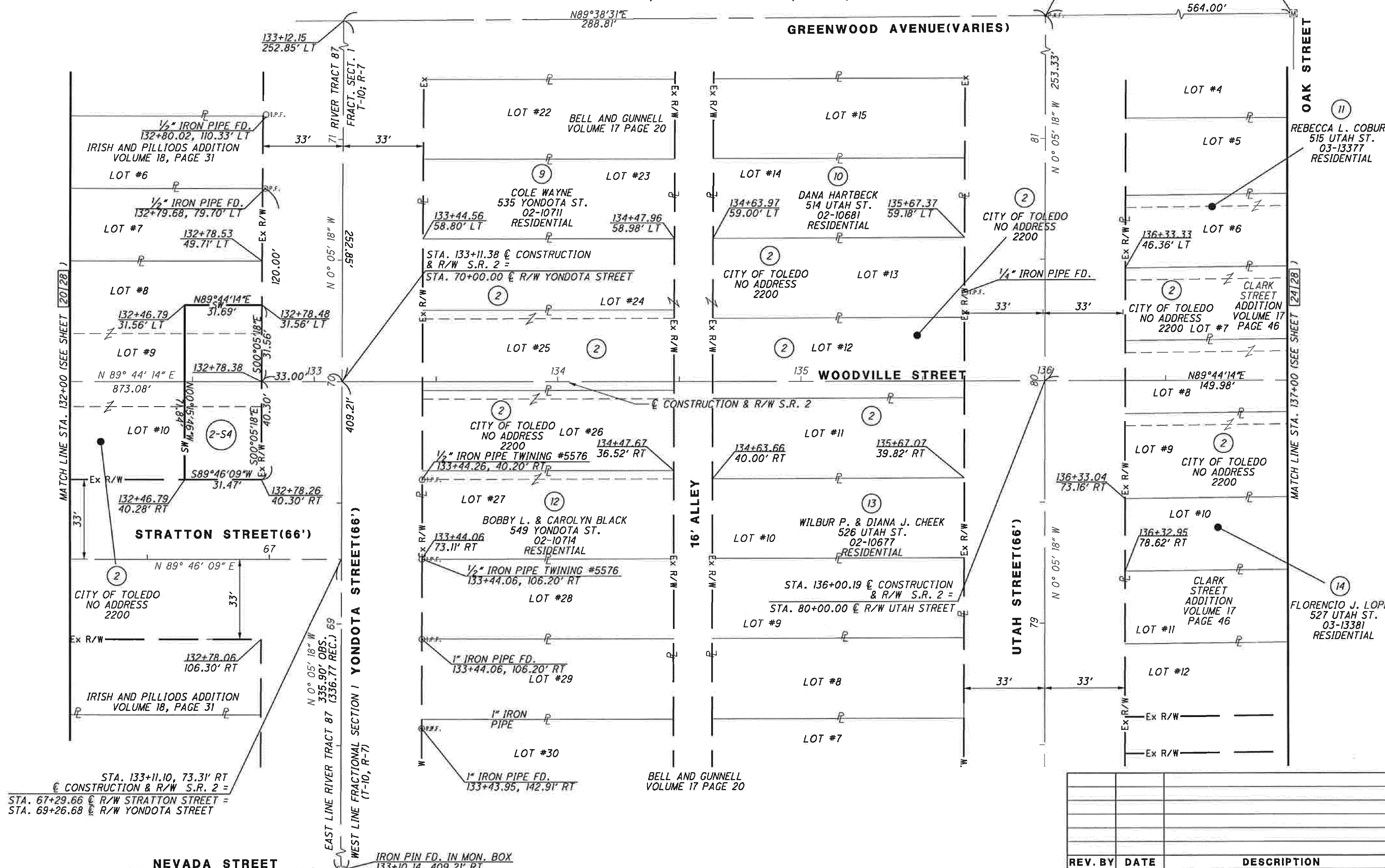
R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY TOPO SHEET
STA. 127+00 TO STA. 132+00

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 87 AND
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7



HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 132+00 TO STA. 137+00

LUC-2-18.62

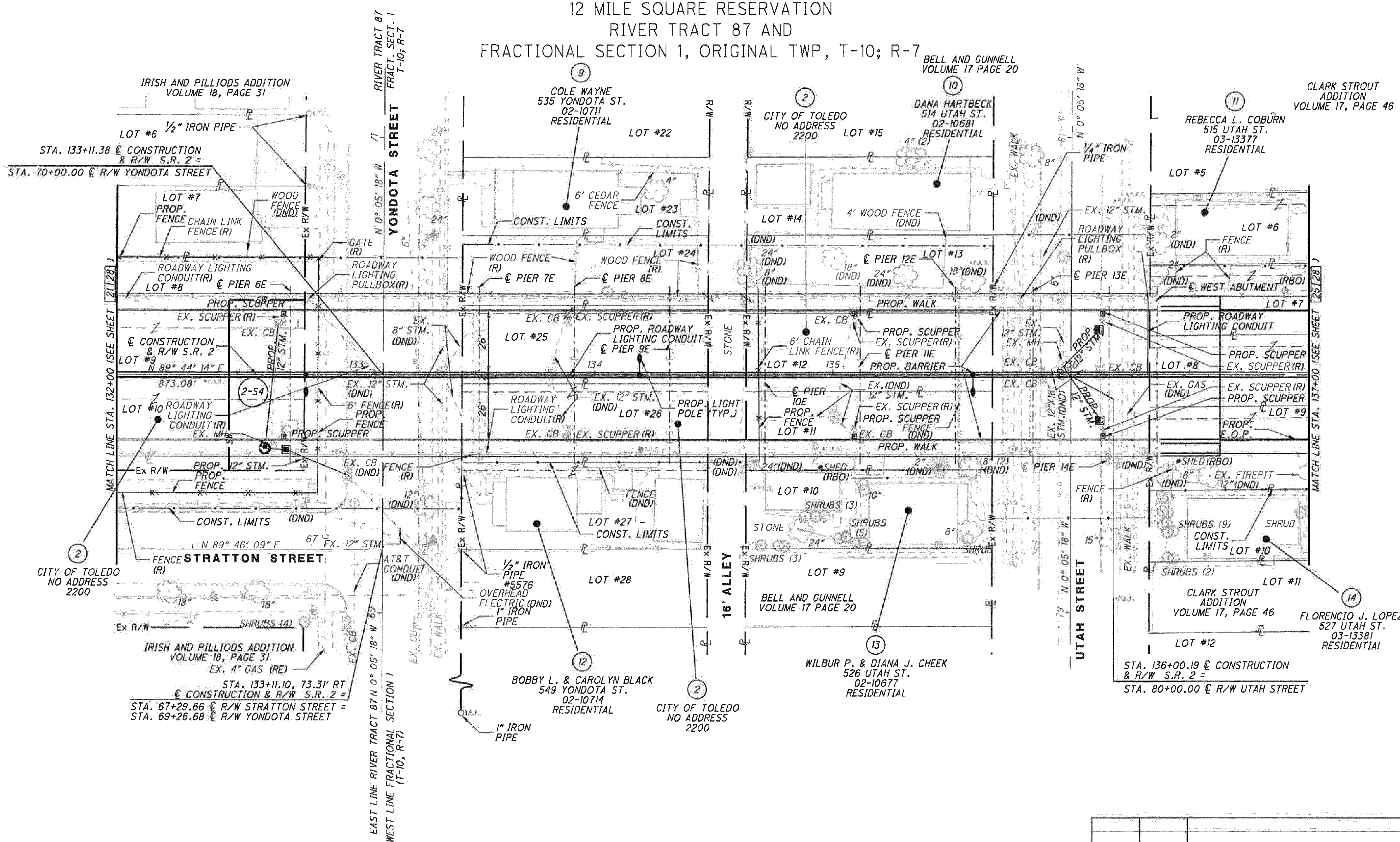
REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACT 87 AND
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7

LEGEND
(DND) = DO NOT DISTURB
(R) = REMOVE
(RBO) = REMOVED BY OTHERS



* - ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

N

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY TOPO SHEET
STA. 132+00 TO STA. 137+00

LUC-2-18.62

23/28

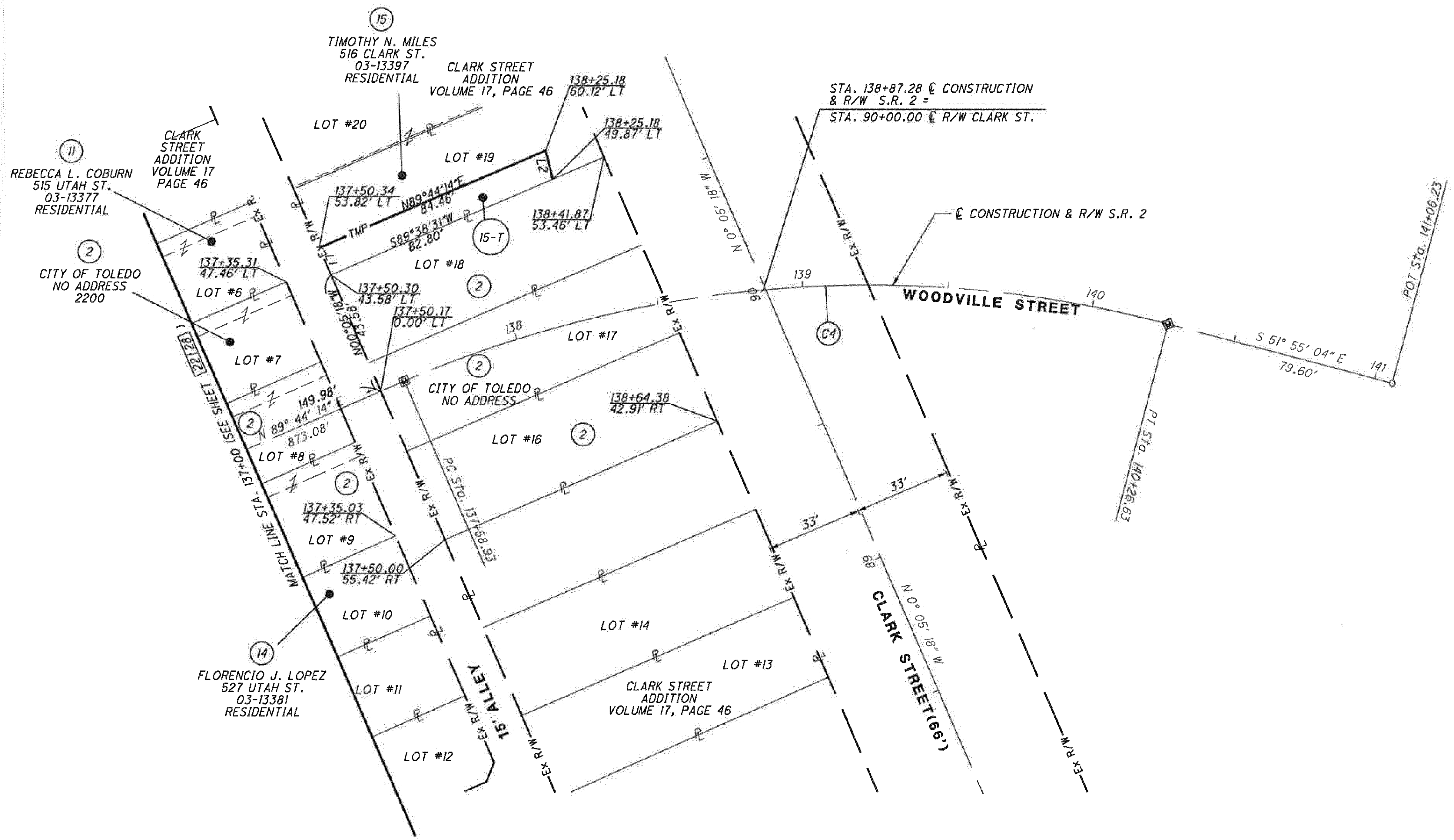
322/327

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7

NOTE:
THE CENTERLINE OF WOODVILLE STREET EAST OF CLARK STREET, IS NOT PART OF THE PROJECT LIMITS OR SURVEY LIMITS. THE CENTERLINE OF WOODVILLE STREET, EAST OF CLARK STREET IS GRAPHICALLY SHOWN PER RECORD INFORMATION.

HORIZONTAL SCALE IN FEET 0 10 20 40



LINE	BEARING	DISTANCE
L1	N00°05'18"W	10.24'
L2	S09°16'05"W	10.24'

℄ R/W S.R. 2 CURVE DATA

C4
P.I. Sta. 138+98.01
Δ = 38° 20' 41" (RT)
Dc = 14° 19' 26"
R = 400.00'
T = 139.08'
L = 267.70'
E = 23.49'
C = 262.73'
C.B. = S 71° 05' 25" E

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	7/25/11	

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
STA. 137+00 TO STA. 141+06.14

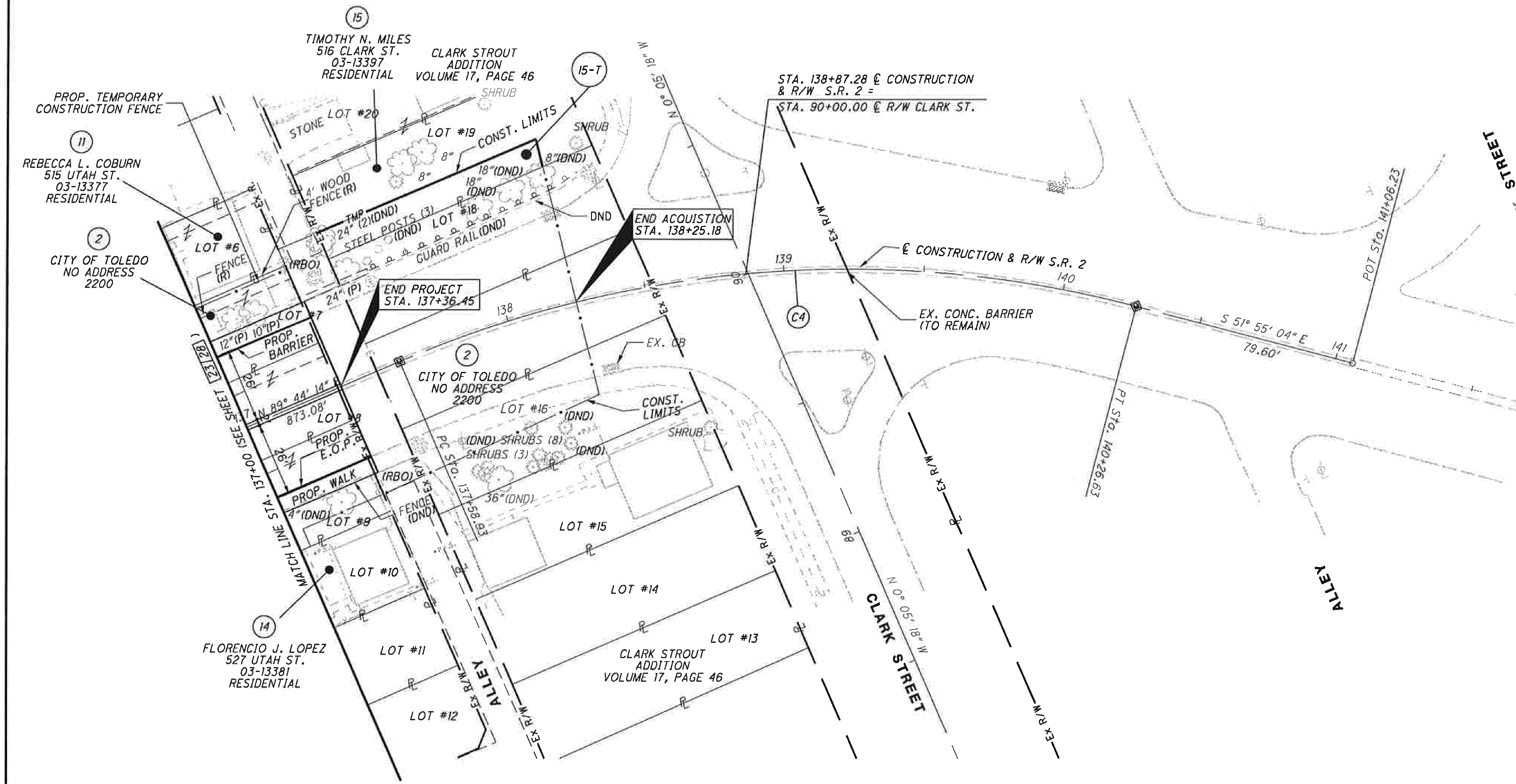
LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7

LEGEND

(DND) = DO NOT DISTURB
(R) = REMOVE
(RBO) = REMOVED BY OTHER
(P) = PRUNE EXISTING TREE



℄ R/W S.R. 2
CURVE DATA

C4 P.I. Sta. 138+98.01
Δ = 38° 20' 41" (RT)
Dc = 14° 19' 26"
R = 400.00'
T = 139.08'
L = 267.70'
E = 23.49'
C = 262.73'
C.B. = S 71° 05' 25" E

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

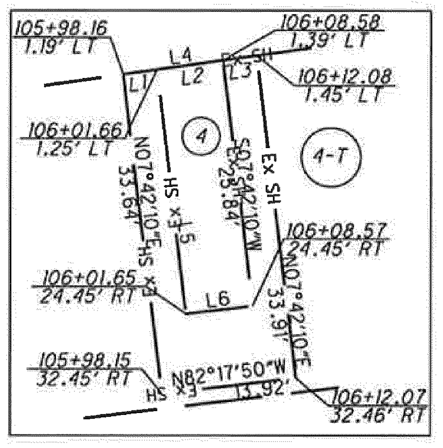
RIGHT OF WAY TOPO SHEET
STA. 137+00 TO STA. 141+06.14

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87 AND
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7

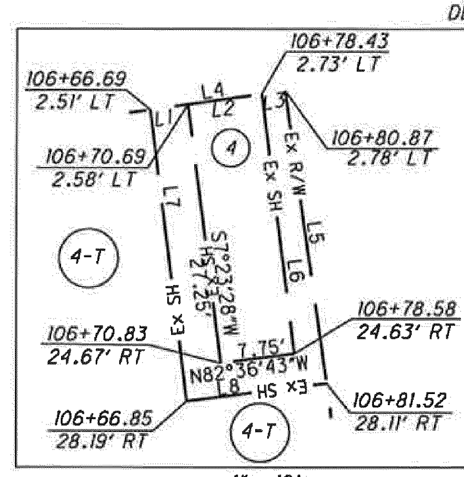
DETAIL A



1" = 10'

LINE	BEARING	DISTANCE
L1	S83°24'50"E	3.50'
L2	N83°24'50"W	6.92'
L3	S83°24'50"E	3.50'
L4	N83°24'50"W	13.92'
L5	N07°42'20"E	25.71'
L6	N82°17'50"W	6.92'

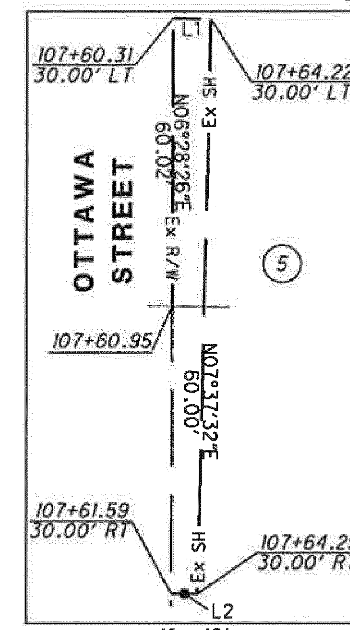
DETAIL B



1" = 10'

LINE	BEARING	DISTANCE
L1	N83°25'05"W	4.00'
L2	S83°25'05"E	7.75'
L3	N83°25'05"W	2.44'
L4	N83°25'05"W	14.19'
L5	N06°28'42"E	36.79'
L6	S06°28'42"W	30.90'
L7	S07°23'27"W	30.70'
L8	N82°36'43"W	14.68'

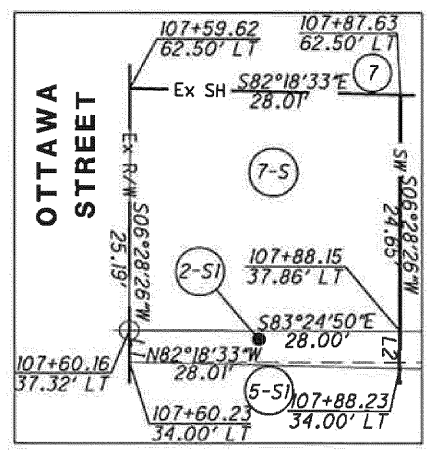
DETAIL C



1" = 10'

LINE	BEARING	DISTANCE
L1	N82°18'33"W	3.91'
L2	S82°18'33"E	2.70'

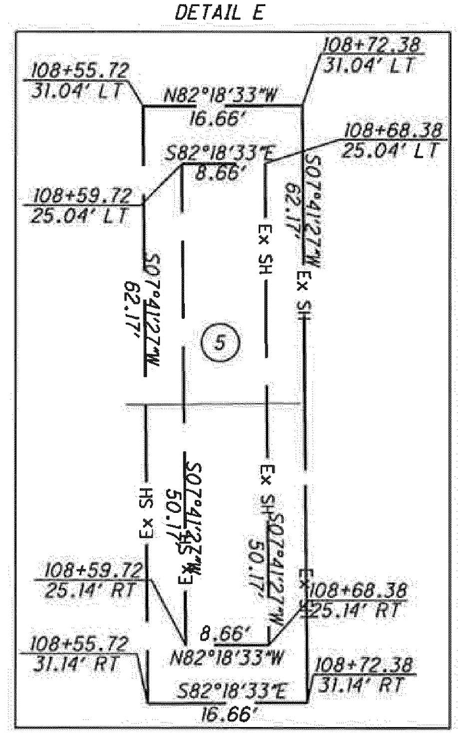
DETAIL D



1" = 10'

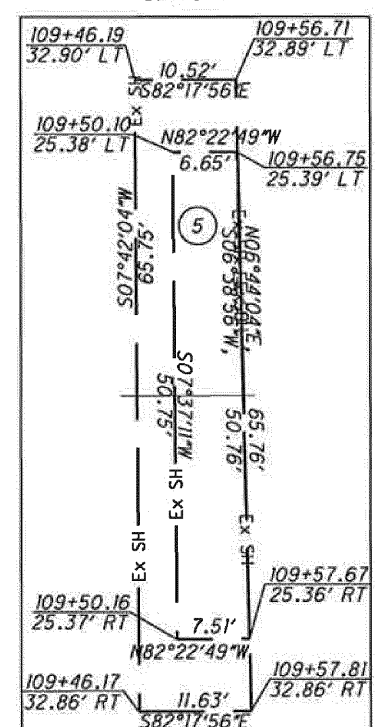
LINE	BEARING	DISTANCE
L1	N06°28'26"E	3.32'
L2	S06°28'26"W	3.86'

DETAIL E



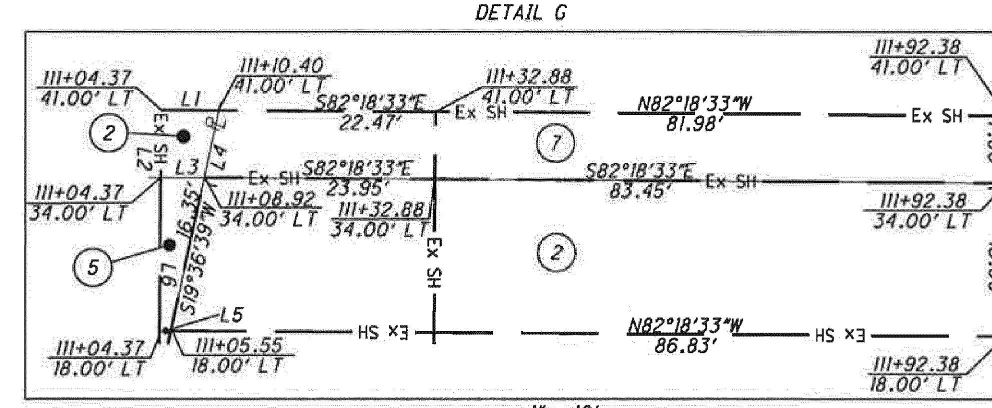
1" = 10'

DETAIL F



1" = 10'

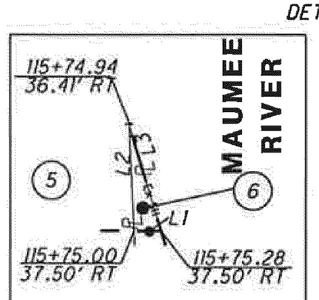
DETAIL G



1" = 10'

LINE	BEARING	DISTANCE
L1	N82°18'33"W	6.03'
L2	N07°41'27"E	7.00'
L3	S82°18'33"E	4.55'
L4	N19°36'39"E	7.15'
L5	N82°18'33"W	1.17'
L6	S07°41'27"W	16.00'

DETAIL H



1" = 1'

LINE	BEARING	DISTANCE
L1	S82°18'33"E	0.30'
L2	N04°27'36"E	1.09'
L3	N09°51'31"W	1.14'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR

R/W REVIEWER CAH

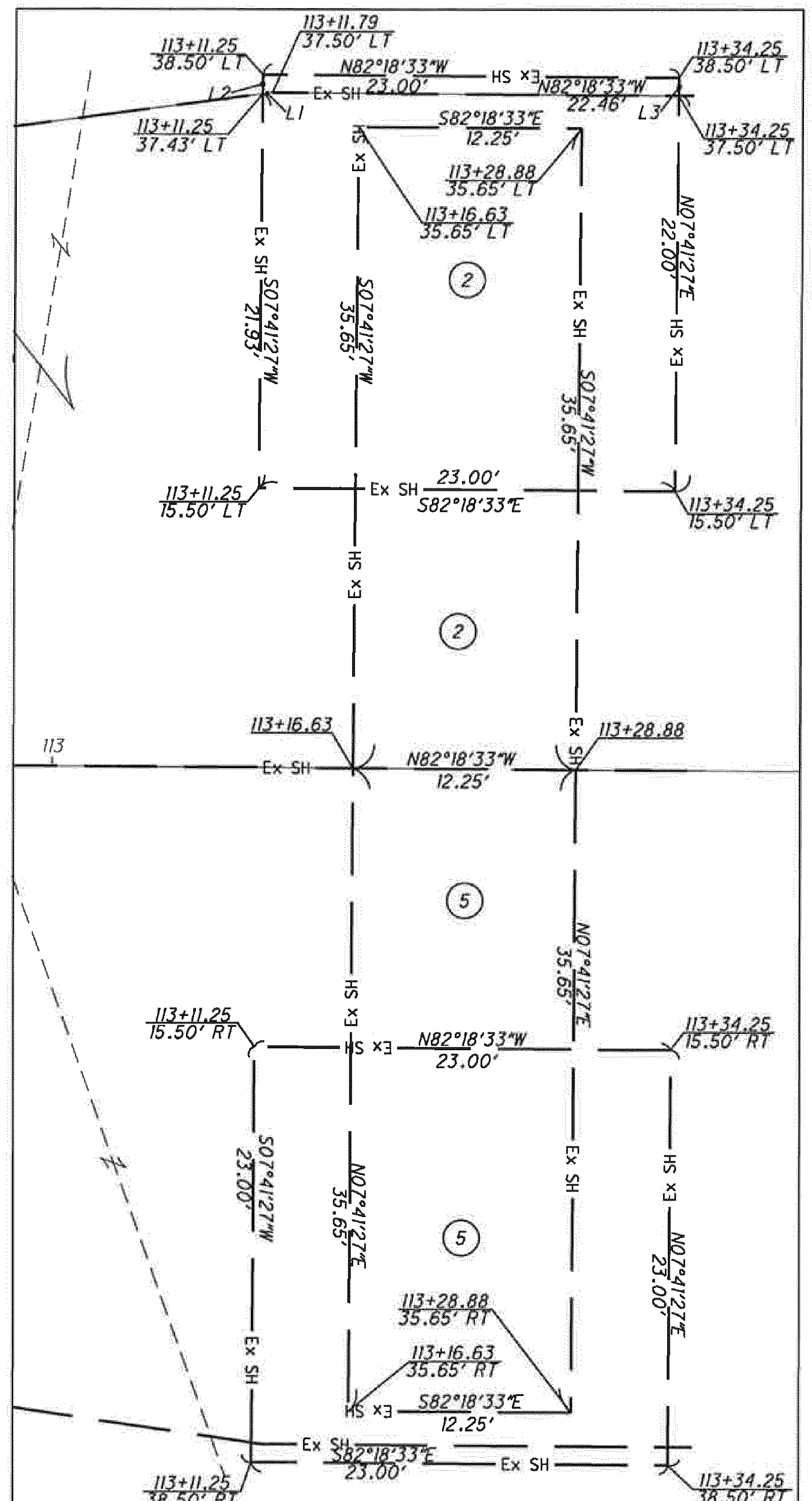
RIGHT OF WAY BOUNDARY SHEET DETAILS

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87 AND
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7

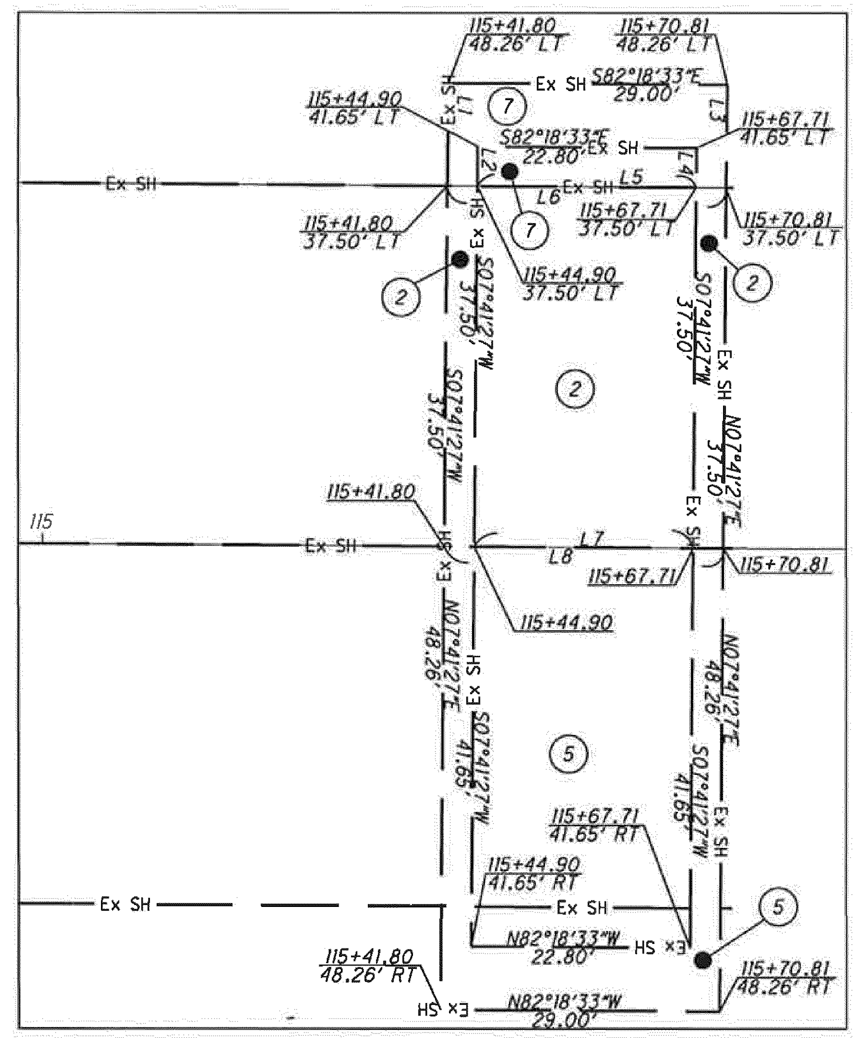
DETAIL I



1"=5'

LINE	BEARING	DISTANCE
L1	N89°43'16"E	0.54'
L2	N07°41'27"E	1.08'
L3	N07°41'27"E	1.00'

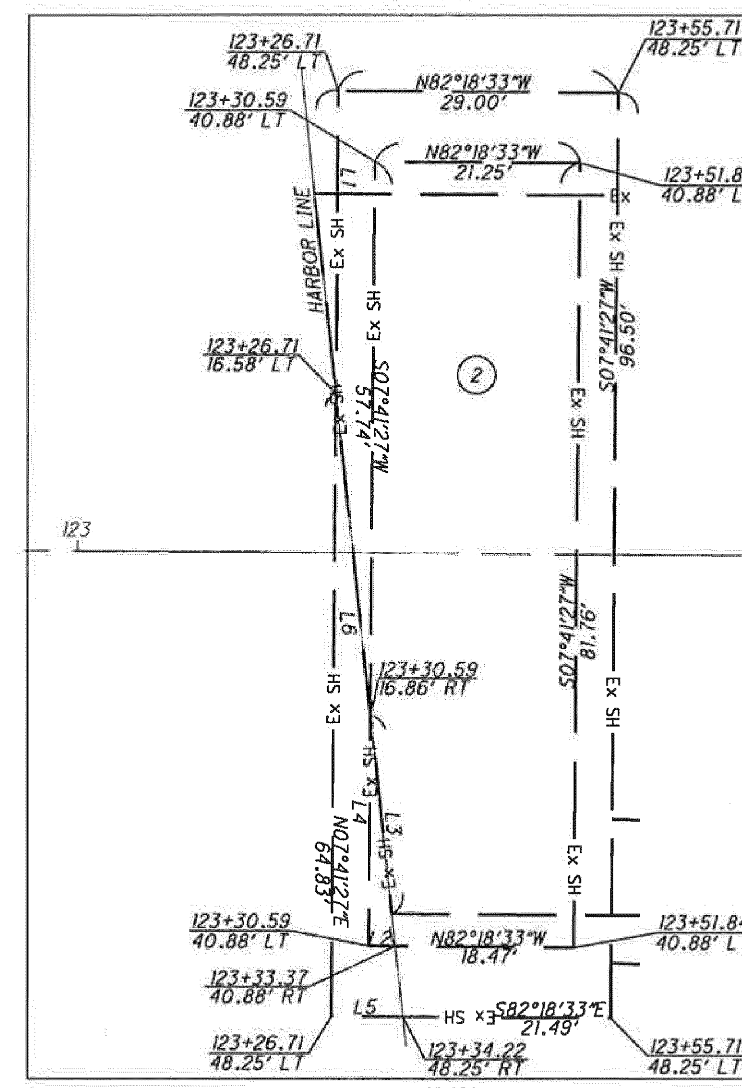
DETAIL J



1"=10'

LINE	BEARING	DISTANCE
L1	N07°41'27"E	10.76'
L2	S07°41'27"W	4.15'
L3	N07°41'27"E	10.76'
L4	N07°41'27"E	4.15'
L5	N82°18'33"W	22.80'
L6	N82°18'33"W	29.00'
L7	N82°18'33"W	22.80'
L8	N82°18'33"W	29.00'

DETAIL K



1"=10'

LINE	BEARING	DISTANCE
L1	N07°41'27"E	31.67'
L2	S82°18'33"E	2.78'
L3	N01°04'47"E	24.19'
L4	N07°41'27"E	24.02'
L5	S82°18'33"E	7.51'
L6	N01°41'27"E	65.26'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

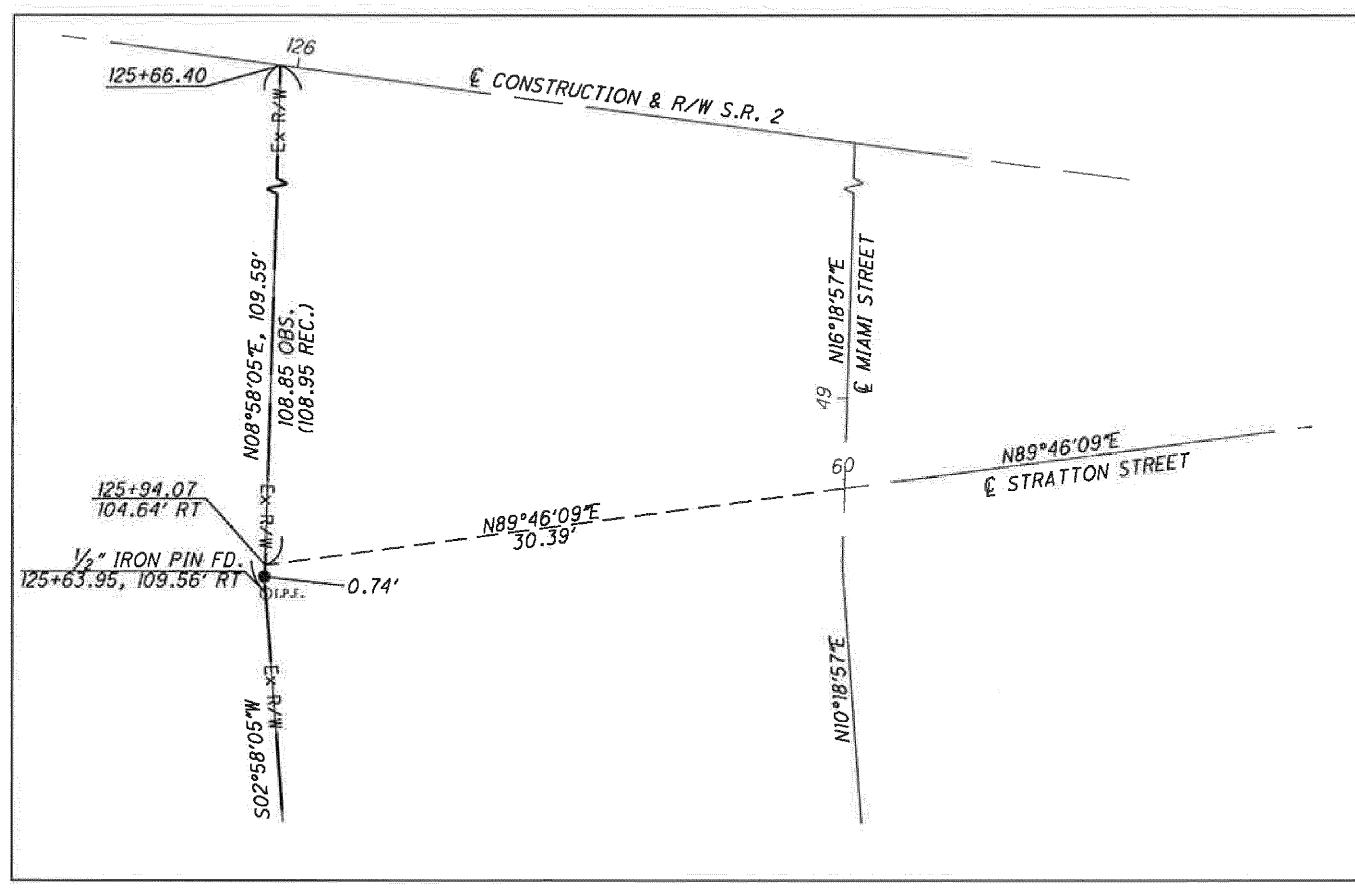
RIGHT OF WAY BOUNDARY SHEET
DETAILS

LUC-2-18.62

LUC-2-18.62

COUNTY OF LUCAS
CITY OF TOLEDO
12 MILE SQUARE RESERVATION
RIVER TRACTS 3, 4 AND 87 AND
FRACTIONAL SECTION 1, ORIGINAL TWP, T-10; R-7

DETAIL L



1" = 5'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 7/25/11

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 80551

R/W DESIGNER TMR
R/W REVIEWER CAH

RIGHT OF WAY BOUNDARY SHEET
DETAILS

LUC-2-18.62