

[illegible]

2	2024-09-10	RECORD DRAWINGS
1	2020-06-10	DC041
0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
ISSUE RECORD		

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

BR-2-15	REVISED 7-17-15
HL-30.32	REVISED 1-17-14
HL-50.21	REVISED 7-15-16
PSBD-2-07	REVISED 1-21-11
VPF-1-90	REVISED 7-17-15

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	REVISED 7-15-16
1083	REVISED 4-15-16

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 7TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, INCLUDING THE 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007 (DATED 07-15-16).

DESIGN LOADING:

H15-44 VEHICLE
SIDEWALK LOADING OF 0.090 KIPS/SQ. FT.

DESIGN DATA:

CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50

PILE CASING - ASTM A252 GRADE 3 (45 KSI), 0.5" NOMINAL WALL THICKNESS

WELDED WIRE FABRIC - 70 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 9.0 KSI
COMPRESSIVE STRENGTH (RELEASE) - 7.0 KSI

PRESTRESSING STRAND:
AREA - 0.167 SQ. IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

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

ITEM 503 - UNCLASSIFIED EXCAVATION. AS PER PLAN:

PLACE AND COMPACT BACKFILL MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE BACKFILL BEHIND THE ABUTMENTS.

ITEM 509 - WALL FACING REINFORCEMENT

THE CONTRACTOR MAY REPLACE THE REINFORCING BARS IN THE RETAINING WALL FACING WITH EPOXY COATED WELDED WIRE FABRIC CONFORMING TO C&MS 709.14. THE EPOXY COATED WELDED WIRE FABRIC MUST PROVIDE AN EQUIVALENT AREA OF STEEL IN EACH DIRECTION AS THE REINFORCING BARS SHOWN IN THE PLANS.

ITEM 511 - QC/QA CONCRETE. AS PER PLAN

BRIDGE PARAPETS AND PYLONS SHALL UTILIZE A RUBBED FINISH PER CMS 511.15B.

ITEM 512 - TYPE 2 WATERPROOFING. AS PER PLAN

PLACE WATERPROOFING MEMBRANE AT THE LOCATIONS OF THE PROPOSED JOINTS IN THE CONCRETE WALL FACING. PLACE THE WATERPROOFING MEMBRANE OVER THE PREFABRICATED GEOCOMPOSITE DRAIN AND SECURELY ATTACH TO THE TIMBER LAGGING WITH SCREWS AND 1-INCH OUTER DIAMETER FENDER WASHERS. PLACE THE MEMBRANE SO THAT THE ADHESIVE SIDE FACES THE CAST-IN-PLACE CONCRETE. THE SURFACE PREPARATION DESCRIBED IN C&MS 512.08 IS NOT REQUIRED.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

ALL EXPOSED CONCRETE SURFACES OF THE ABUTMENT, INCLUDING WINGWALLS AND LIMITS OF THE CONCRETE SUPERSTRUCTURE, AS PER PLAN DETAILS, SHALL BE SEALED WITH AN EPOXY-URETHANE SEALER. COLOR SHALL BE LIGHT TAN (FEDERAL STD. 595C #27769).

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 CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
 - CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
 - GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
 - NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
 - BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
 - ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
 - ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

COARSE AGGREGATE FOR CONCRETE

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1 PERCENT OR GREATER AS DEFINED BY THE AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) C127.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 412 KIPS PER PILE FOR THE ABUTMENT PILES. THE ABUTMENT PILES INCLUDE AN ADDITIONAL 20 KIPS PER PILE OF ULTIMATE BEARING VALUE DUE TO THE POSSIBILITY OF LOSING 11.5 FEET OF FRICTIONAL RESISTANCE DUE TO EXCAVATION FOR ABUTMENT WALL CONSTRUCTION. AFTER THE DYNAMIC LOAD TEST, CALCULATE A REVISED ULTIMATE BEARING VALUE BY ADDING 392 KIPS AND THE MEASURED SIDE RESISTANCE FROM THE DYNAMIC LOAD TEST IN THE UPPER 11.5 FEET. DRIVE THE PILES TO A MINIMUM PENETRATION PILE TIP ELEVATION OF 614.0 FOR LATERAL LOADS.

ABUTMENT PILES:

12 PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

ITEM 513 - WELDED STUD SHEAR CONNECTORS

WELD HEADED STEEL STUDS TO THE FACE OF THE PILE IN ORDER TO CONNECT THE CONCRETE WALL FACING TO THE PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. ATTACH THE STUDS AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE DEPARTMENT.

ITEM SPECIAL - RETAINING WALL, MISC.: TIMBER LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE SOLDIER PILES WHERE REQUIRED BELOW THE EXISTING GROUND SURFACE. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 3 INCHES. TO PERMIT DRAINAGE, PROVIDE 1/4 TO 1/2-INCH SPACES BETWEEN LAGGING BOARDS USING 3/8-INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER.

ITEM 607 - VANDAL PROTECTION FENCE. AS PER PLAN

THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FABRICATE, GALVANIZE, CLEAN, APPLY A TWO-COAT SHOP PAINT SYSTEM (EPOXY/URETHANE) AND INSTALL THE RAILING. ALL FENCE AND RAILING MATERIALS SHALL BE GALVANIZED AND PAINTED PER THIS NOTE.

A. FABRICATION OF THE RAILING SHALL BE IN ACCORDANCE WITH C&MS 513, UF LEVEL. COATING OF THE RAILING SHALL BE IN ACCORDANCE WITH C&MS 514, EXCEPT AS NOTED BELOW.

B. THE ARCHITECTURAL FENCING SHALL SATISFY THE MINIMUM DESIGN REQUIREMENTS FOR POSTS AND ANCHORAGES AS SPECIFIED IN STANDARD BRIDGE DRAWING VPF-1-90, "VANDAL PROTECTION FENCE".

C. THE FENCING SHALL BE CONSTRUCTED USING WELDED WIRE FABRIC WITH 10.5 GAGE CORE WIRE, GALVANIZED AFTER WELDING.

D. STEEL PLATES AND SHAPES SHALL BE ASTM A709 GRADE 50. ALL OTHER MATERIALS SHALL BE IN ACCORDANCE WITH C&MS 707.10 OR 711.09.

E. THE GALVANIZED COATING SYSTEM MAY BE APPLIED BY A GALVANIZER NOT PRE-QUALIFIED AS A FABRICATION SHOP UNDER SUPPLEMENT 1078, BUT THE PRE-QUALIFIED FABRICATOR OF THE STRUCTURAL STEEL SHALL BE RESPONSIBLE FOR THE QUALITY OF THE APPLIED GALVANIZED COATING SYSTEM AND ANY REPAIRS, RE-FABRICATION AND ADDITIONAL ASSEMBLIES REQUIRED TO ASSURE THE FABRICATED STEEL MEETS THE PLAN REQUIREMENTS.

F. THE TWO SHOP COATS SHALL BE APPLIED IN A STRUCTURAL STEEL FABRICATION SHOP HAVING PERMANENT BUILDINGS PER 513.04 AND PREQUALIFIED AT THE UF LEVEL. THE PAINT QUALITY CONTROL SPECIALIST (QCS) SHALL BE QUALIFIED AS SPECIFIED IN 514.04.

G. PRIOR TO GALVANIZING, ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES SHALL HAVE A 1/16-INCH RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE.

H. GALVANIZE THE FABRICATED RAILING AND HARDWARE ACCORDING TO C&MS 711.02, EXCEPT THAT FABRICATED RAILING ELEMENTS SHALL NOT BE POST TREATED WITH WATER QUENCHING OR CHROMATE CONVERSION COATED.SHALL BE IN ACCORDANCE WITH C&MS 707.10 OR 711.09.

I. AFTER GALVANIZATION, REMOVE ZINC HIGH SPOTS SUCH AS METAL DRIP LINE AND OTHERS THAT WOULD DETRACT FROM THE PAINT APPEARANCE BY SSPC SP2 OR SP3. TAKE CARE THAT THE BASE GALVANIZED COATING IS NOT REMOVED. CHECK REPAIRED AREAS FOR REQUIRED COATING THICKNESS.

J. REPAIR GALVANIZED COATINGS DAMAGED IN THE SHOP ACCORDING TO ASTM A780 METHOD A3. REPAIR GALVANIZED COATINGS DAMAGED IN THE FIELD ACCORDING TO ASTM A780 METHOD A1.

K. AFTER REMOVING HIGH SPOTS, CLEAN THE GALVANIZED COATING ACCORDING TO SSPC SP-1. THE CLEANING SOLUTION SHALL BE AN ALKALINE SOLUTION WITH A PH RANGING FROM A MINIMUM OF 11 TO A MAXIMUM OF 12. THIS SOLUTION CAN BE APPLIED BY IMMERSION, SPRAY OR SOFT NYLON BRUSH. FOLLOW CLEANING WITH A HOT WATER OR HOT PRESSURE WASHER RINSE. SEPARATE INDIVIDUAL PIECES AND POSITION TO FACILITATE DRAINAGE AND DRYING. THE PIECES SHALL BE COMPLETELY DRY BEFORE PROCEEDING.

L. AFTER CLEANING, ABRASIVE BLAST THE PIECES ACCORDING TO SSPC-SP7 BRUSH-OFF BLAST CLEANING. THE BLASTING OPERATION SHALL ROUGHEN THE GALVANIZED SURFACE TO AN ANGULAR SURFACE PROFILE OF 0.75 TO 1.00 MILS. SELECT THE BLASTING EQUIPMENT, TECHNIQUE AND ABRASIVE MATERIAL TO PROVIDE FOR THE SPECIFIED SURFACE PROFILE WITHOUT REMOVAL OF EXCESSIVE ZINC LAYERS. THE FINAL ZINC MILLAGE SHALL NOT BE LESS THAN 4.0 MILS. REMOVE ALL ABRASIVE RESIDUE WITH CLEAN COMPRESSED AIR OR OTHER METHODS ACCEPTABLE TO THE DEPARTMENT.

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GENERAL NOTES (1 OF 2)

CUY-10-1929

EAST 59TH STREET PEDESTRIAN BRIDGE OVER OH-10

CUY-IR490/SR010-2.09/19.28

PID No. 96833

2 / 22

4
37

DESIGN AGENCY

E.L. ROBINSON

ENGINEERING

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DATE

4/26/2019

REVIEWED

REVISION

DRAWN

MBG

DESIGNED

MBG

CHECKED

JUL

STRUCTURE FILE NUMBER

1801513

RECORD PLANS

RECORD PLANS

RECORD PLANS

ITEM 607 - VANDAL PROTECTION FENCE, AS PER PLAN (CONTINUED)

M. AFTER OBTAINING SURFACE PROFILE, SHOP APPLY A TWO COAT PAINT SYSTEM CONSISTING OF EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT MEETING THE REQUIREMENTS OF C&MS 708.02. THE FINISH COAT SHALL MATCH FEDERAL COLOR STANDARD FS 595C-17038 BLACK. APPLY THE EPOXY COATING WITHIN 24 HOURS OF THE BRUSH-OFF BLASTING.

N. PRIOR TO FABRICATION OF THE RAILING SYSTEM, FABRICATE A SAMPLE RAILING PANEL OF A LENGTH AGREEABLE TO THE PROJECT ENGINEER WHICH INCLUDES TWO POSTS, ALL HARDWARE, INCIDENTALS AND COATINGS. THE PROJECT ENGINEER WILL USE THIS SAMPLE PANEL TO JUDGE ACCEPTANCE OF THE FABRICATION, COATINGS AND QUALITY CONTROL PROGRAM. AFTER THE REVIEW OF THIS SAMPLE, THE DEPARTMENT AND THE CONTRACTOR MAY AGREE UPON ANY FABRICATION, COATING, QUALITY CONTROL OR INSTALLATION CHANGES AS A MODIFICATION TO THESE NOTES. THE FABRICATION CAN PROCEED ANY TIME AFTER THE ACCEPTANCE OF THIS SAMPLE PANEL. THE SAMPLE PANEL MAY BE INCORPORATED INTO THE FINISHED WORK AT THE DISCRETION OF THE ENGINEER.

O. REPAIR DAMAGE TO THE PAINT SYSTEM CAUSED DURING STORAGE, TRANSPORTATION, ERECTION, ACCORDING TO C&MS 514.22. EXERCISE EXTREME CARE WHILE HANDLING THE STEEL DURING ERECTION, AND DURING SUBSEQUENT CONSTRUCTION OF THE RAILING AND FENCE. INSULATE THE STEEL FROM THE BINDING CHAINS BY SOFTENERS AND PAD ALL HOOKS AND SLINGS THAT ARE USED TO HOIST/ERECT THE MEMBERS.

P. ALL FENCE ANCHORS SHALL BE CAST INTO THE PARAPET. A WASHER AND NUT SHALL BE TACK WELDED TO THE BOTTOM OF THE THREADED ROD TO AVOID THE ANCHORS PULLING LOOSE WHEN THE TEMPLATES FOR THE BASEPLATES ARE STRIPPED. FENCE ANCHORAGE SHALL BE STAINLESS STEEL PER C&MS 730.10.

ITEM 518 - STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN

THIS WORK CONSISTS OF FURNISHING AND PLACING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) AGAINST THE TIMBER LAGGING OR AGAINST THE CONCRETE WALL FACING WHERE THE TIMBER LAGGING IS NOT REQUIRED.

FURNISH PGD CONSISTING OF A DRAINAGE CORE WITH A GEOTEXTILE FABRIC BONDED TO AT LEAST ONE SIDE. USE CORE MATERIAL THAT CONSISTS OF A STABLE, POLYMER PLASTIC MATERIAL WITH A CUSPATED OR GEONET STRUCTURE. THE CORE MATERIAL SHALL HAVE SUFFICIENT FLEXIBILITY TO WITHSTAND BENDING AND HANDLING DURING INSTALLATION WITHOUT DAMAGE. FURNISH GEOTEXTILE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS FORMED INTO A WOVEN OR NON-WOVEN FABRIC. FURNISH PGD CONFORMING TO THE FOLLOWING REQUIREMENTS. FURNISH MANUFACTURER’S CERTIFIED TEST DATA.

	PROPERTY	TEST METHOD	VALUE
CORE	THICKNESS	ASTM D 5199	0.4 INCH
	COMPRESSIVE STRENGTH	ASTM D 1621	13,650 PSF MIN.
	FLOW RATE	ASTM D 4716	9 TO 25 GPM/FT
FABRIC	APPARENT OPENING SIZE	ASTM D 4751	0.3 MM MAX.
	FLOW RATE	ASTM D 4491	40 GPM/SQ.FT. MIN.
	GRAB TENSILE STRENGTH	ASTM D 4632	90 LBS MIN.
	CBR PUNCTURE	ASTM D 6241	65 LBS MIN.

PLACE PGD BETWEEN THE SOLDIER PILES, INCLUDING THE CANTILEVER PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH GEOTEXTILE AGAINST THE TIMBER LAGGING, FACING TOWARDS THE RETAINED GROUND, AND SECURE THE PGD TO THE LAGGING. USE NAILS AND WASHERS AT LEAST 1-INCH DIAMETER IN SIZE TO SECURE THE PGD ALONG THE EDGES OF THE PGD AND AT A MAXIMUM SPACING OF 4 FEET.

SPLICE ABUTTING SECTIONS TOGETHER BY OVERLAPPING THE GEOTEXTILE FLAP (IF PROVIDED) ON ONE SECTION WITH THE ADJACENT SECTION OF PGD. OVERLAP THE GEOTEXTILE IN A SHINGLED OVERLAP SO THAT THE UPPER GEOTEXTILE IS ON TOP OF THE LOWER GEOTEXTILE. IF A GEOTEXTILE FLAP IS NOT PROVIDED, COVER THE SEAM WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC CENTERED OVER THE SEAM AND SECURED IN PLACE USING 3-INCH WIDE WATERPROOF PLASTIC TAPE.

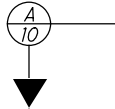
SEAL ALL EXPOSED EDGES OF THE CORE MATERIAL TO PREVENT SOIL INTRUSION. SEAL EXPOSED EDGES BY FOLDING THE GEOTEXTILE FLAPS OVER AND AROUND THE PGD OR, IF A FLAP IS NOT PROVIDED, COVERING THE EXPOSED EDGE WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC, TAPING THE STRIP TO THE PGD GEOTEXTILE 8 INCHES FROM THE EXPOSED EDGE, AND FOLDING THE REMAINING 4 INCHES OVER AND AROUND THE PGD. SECURE LOOSE EDGES OF THE GEOTEXTILE FABRIC WITH 3-INCH WIDE WATERPROOF PLASTIC TAPE.

REPAIR ANY DAMAGE TO THE GEOTEXTILE FABRIC BY COVERING WITH A PATCH WHICH OVERLAPS THE DAMAGED AREA AND EXTENDS AT LEAST 6 INCHES BEYOND THE EDGE OF THE DAMAGED AREA. TAPE THE EDGES OF THE PATCH IN PLACE USING 3-INCH WIDE WATERPROOF PLASTIC TAPE. IF THE CORE OF THE PGD IS DAMAGED, REPLACE IT WITH A NEW SECTION OF PGD AND SPLICE IT AS DESCRIBED ABOVE.

WHERE SHOWN ON THE PLANS, PLACE THE BOTTOM OF THE PGD ADJACENT TO A PERFORATED DRAINAGE COLLECTION PIPE AND POROUS BACKFILL AND COVER WITH GEOTEXTILE FABRIC. ENSURE A CONTINUOUS DRAINAGE PATH FROM THE PGD CORE TO THE PIPE. WHERE A WALL HAS WEEPHOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

IF TIMBER LAGGING IS NOT REQUIRED BECAUSE THE PORTION OF THE WALL IS ABOVE THE EXISTING GROUND, ATTACH PGD TO THE BACK FACE OF CONCRETE WALL FACING UNTIL BACKFILL IS PLACED.

SECTION / DETAIL / VIEW CALLOUTS



(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 9)

PRE-CONSTRUCTION SURVEY, VIBRATION MONITORING, AND VIDEO INSPECTION OF SEWERS

CONDUCT A PRE-CONSTRUCTION SURVEY ACCORDING TO THE SETTLEMENT AND VIBRATION MONITORING PLAN OF BUILDINGS, STRUCTURES, UTILITIES, AND CRITICAL LOCATIONS WITHIN THE LIMITS DETERMINED BY THE DBT VIBRATION SPECIALIST. PERFORM A PRE-CONSTRUCTION VIDEO INSPECTION ACCORDING TO CM&S 611 OF ALL SEWERS WITHIN THE INFLUENCE ZONES OF CONSTRUCTION. PERFORM SETTLEMENT AND VIBRATION MONITORING ACCORDING TO THE SETTLEMENT AND VIBRATION MONITORING PLAN DURING CONSTRUCTION. AFTER CONSTRUCTION IS SUBSTANTIALLY COMPLETE, PERFORM A SECOND VIDEO INSPECTION OF THE SEWERS. PROVIDE RECORDINGS OF THE VIDEOS TO THE DEPARTMENT AND MAINTAINING AGENCY FOR REVIEW.

CONSTRUCTION SEQUENCE

DO NOT SET THE BEAMS UNTIL AFTER THE DEPTH OF EXCAVATION ALONG O.C. BLVD. HAS REACHED THE BOTTOM OF THE ABUTMENT WALL FACING (EL. 648.50 AT THE REAR ABUTMENT AND EL. 649.00 AT THE FORWARD ABUTMENT).

REGULATED MATERIALS

REFER TO DEMOLITION PLANS IN BUILDABLE UNIT 14 - ROADWAY AND PAVEMENT, BEGIN PROJECT TO KINGSBURY RUN FOR LOCATION AND IDENTIFICATION OF KNOWN REGULATED MATERIALS. HANDLING OF REGULATED MATERIALS SHALL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS.

APPLICABLE ODOT CM&S SPECIFICATIONS

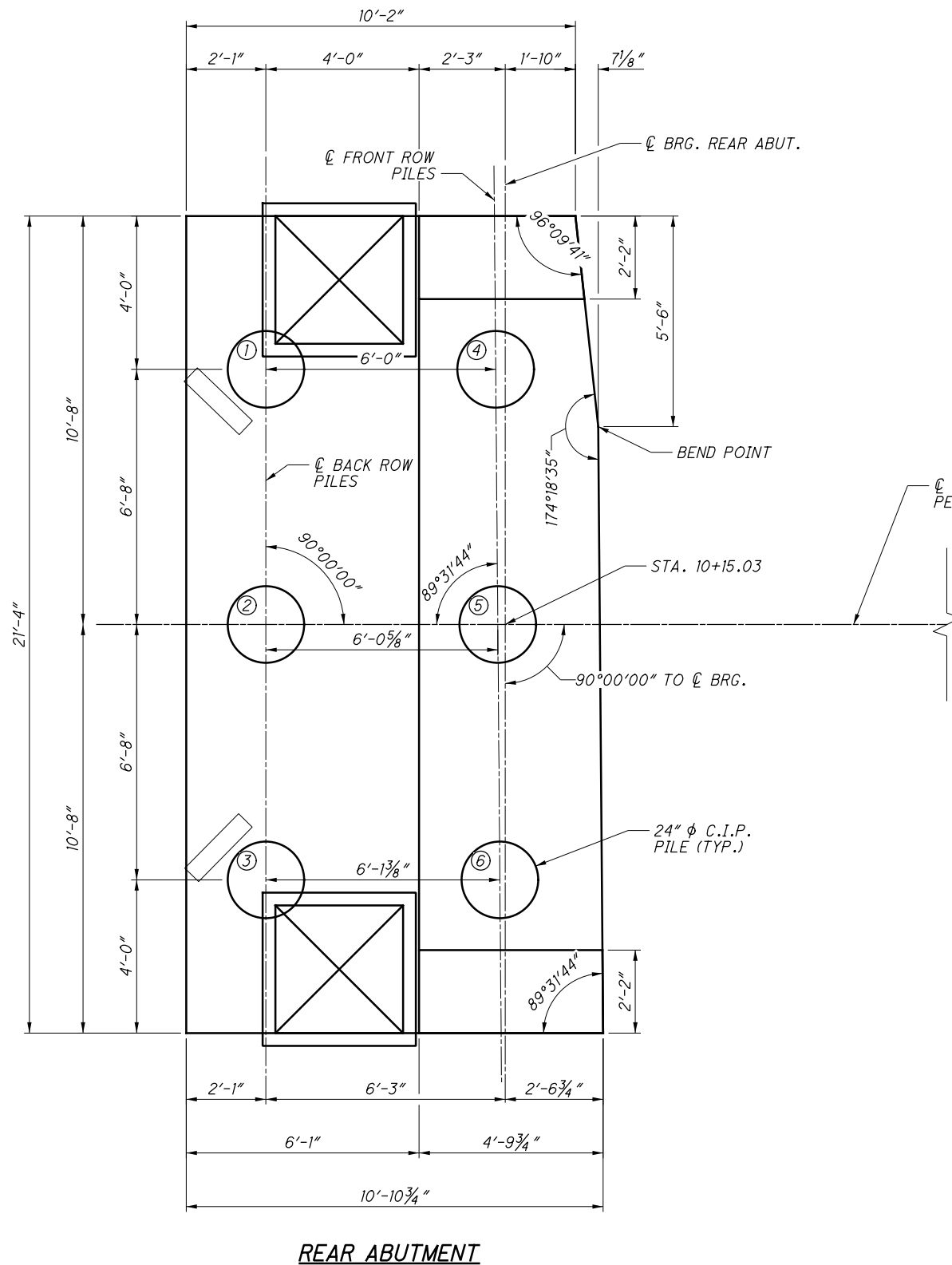
THE FOLLOWING WORK ITEMS SHALL BE CONSTRUCTED PER THE CM&S ITEMS LISTED BELOW.

ITEM NO.	ITEM DESCRIPTION
503	UNCLASSIFIED EXCAVATION, AS PER PLAN
507	24" CAST-IN-PLACE REINFORCED CONCRETE PILES
509	EPOXY COATED REINFORCING STEEL
511	CLASS QC2 WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN
511	CLASS QC1 WITH QC/QA, SUBSTRUCTURE
512	SEALING OF CONCRETE SURFACES (NON-EPOXY)
512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	SEALING OF CONCRETE SURFACES, PERMANENT GRAFFITI PROTECTION
512	TYPE 2, WATERPROOFING, AS PER PLAN
513	WELDED STUD SHEAR CONNECTORS
515	PRESTRESSED CONCRETE BRIDGE COMPOSITE BOX BEAM BRIDGE MEMBERS
516	ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES & LOAD PLATE (NEOPRENE)
516	PREFORMED EXPANSION JOINT FILLER
516	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL
518	STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN
518	POROUS BACKFILL WITH GEOTEXTILE FABRIC
518	6" PERFORATED CORRUGATED PLASTIC PIPE
518	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, 707.01
523	DYNAMIC LOAD TESTING
523	RESTRIKE
607	VANDAL PROTECTION FENCE, AS PER PLAN

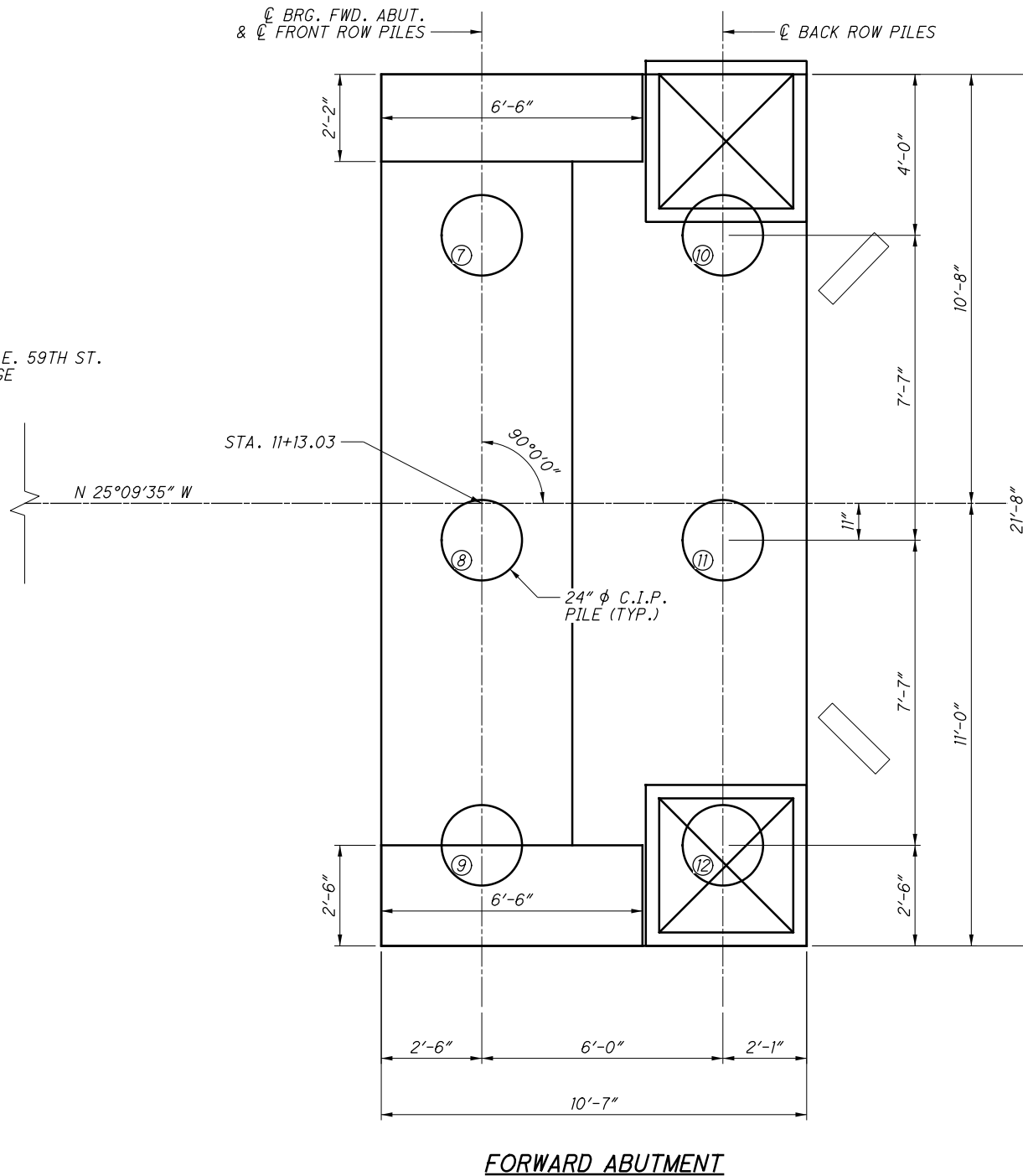
ABBREVIATIONS:

ABUT. - ABUTMENT	N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
ADT - AVERAGE DAILY TRAFFIC	OHWM - ORDINARY HIGH WATER MARK
ADTT - AVERAGE DAILY TRUCK TRAFFIC	O/O - OUT TO OUT
APPR. - APPROACH	P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
B - BOTTOM	P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
Ø - BASELINE	PROP. - PROPOSED
B.F. - BACK FACE	PSF - POUNDS PER SQUARE FOOT
BM - BENCHMARK	P.V.I. - POINT OF VERTICAL INTERSECTION
BOT. OR BTM. - BOTTOM	Q - FLOW RATE
BRG. - BEARING	R - RADIUS
BUND. - BUNDLED	R.A. - REAR ABUTMENT
CL - CENTERLINE	RCP - ROCK CHANNEL PROTECTION
C/C - CENTER TO CENTER	REQD. - REQUIRED
C.I.P. - CAST-IN-PLACE	R.F. - RIGHT FORWARD
C.J. - CONSTRUCTION JOINT	R.R. - RAILROAD
CLR. - CLEAR	RT. - RIGHT
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS	R/W - RIGHT OF WAY
CONC. - CONCRETE	S - SOUTH
CONSTR. - CONSTRUCTION	SB - SOUTHBOUND
CVN - CHARPY V-NOTCH	SER. - SERIES
DIA. - DIAMETER	SHLDR - SHOULDER
DIM. - DIMENSION	SPA. - SPACE OR SPACES
DWG. - DRAWING	STA. - STATION
E - EAST	STD. - STANDARD
EB - EASTBOUND	STR - STRAIGHT
E.F. - EACH FACE	T - TOP
EL. OR ELEV. - ELEVATION	T&B - TOP & BOTTOM
EOP - EDGE OF PAVEMENT	TBR - TO BE REMOVED
EQ. - EQUAL	TEMP. - TEMPORARY
EST. - ESTIMATED	T.O.S. OR T/S - TOP OF SLOPE
EX. - EXISTING	T/T - TOE TO TOE
EXP. - EXPANSION	TYP. - TYPICAL
F.A. - FORWARD ABUTMENT	U.N.O. - UNLESS NOTED OTHERWISE
F/F - FACE TO FACE	VAR. - VARIES
F.F. - FRONT FACE	V - VELOCITY
FT. - FOOT OR FEET	W - WEST
FWD. - FORWARD	WB - WESTBOUND
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE	WWR - WELDED WIRE REINFORCEMENT
HW - HIGH WATER	
IN. - INCH	
JT. - JOINT	
L.F. - LEFT FORWARD	
LT. - LEFT	
MAX. - MAXIMUM	
MIN. - MINIMUM	
MISC. - MISCELLANEOUS	
MSE - MECHANICALLY STABILIZED EARTH	
N - NORTH	
NB - NORTHBOUND	
NO. - NUMBER	

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FOUNDATION PLAN



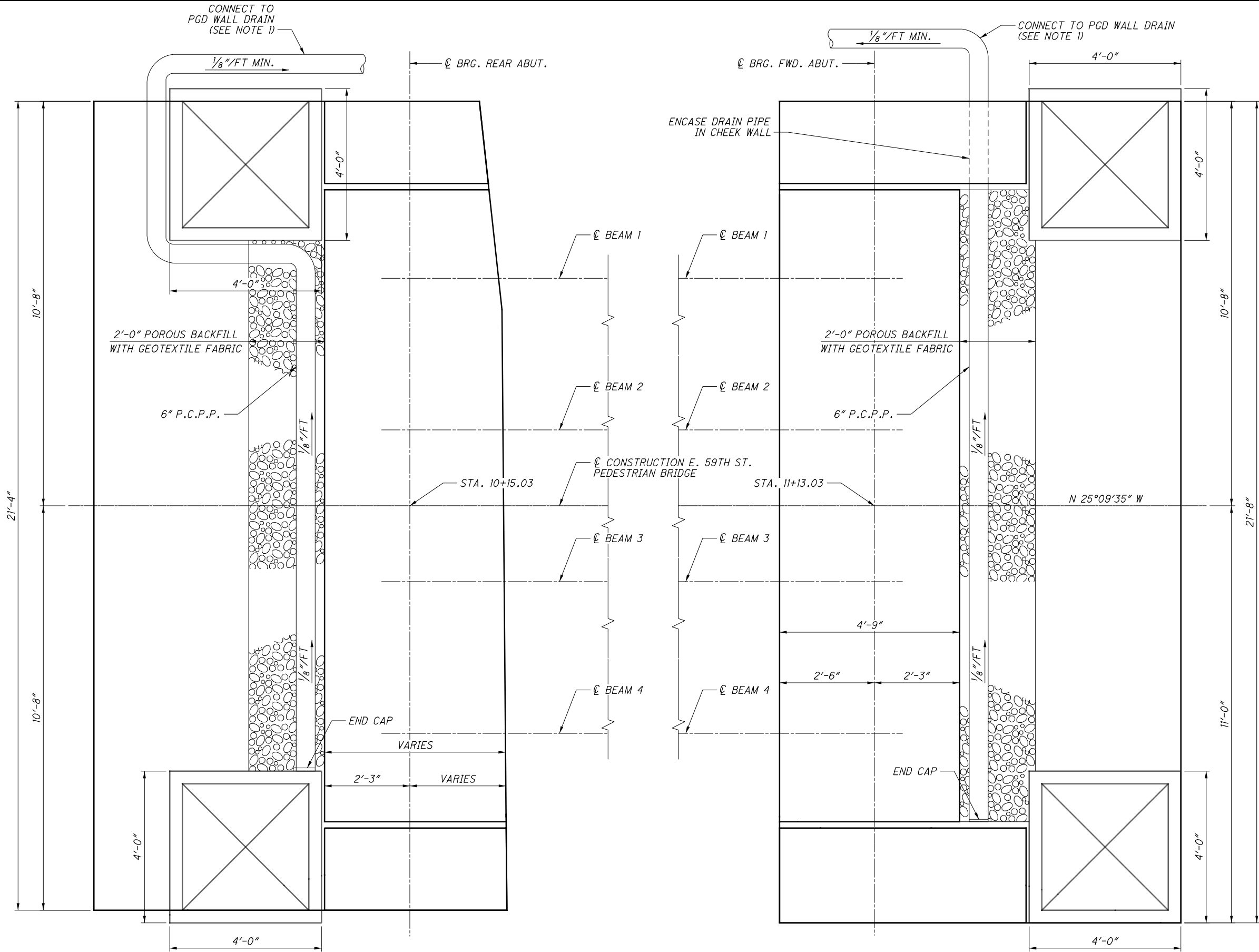
FORWARD ABUTMENT

LEGEND:

① - PILE NUMBER

O	2019-07-02	RFC
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ABUTMENT PLAN
(PILES NOT SHOWN FOR CLARITY)

NOTES:

1. CONNECT DRAIN PIPE TO WALL 1B OR WALL 2B PGD WALL DRAIN USING CONNECTION FITTING FROM PGD MANUFACTURER.
2. USE 1" P.E.J.F. BETWEEN PYLON AND SIDEWALK AND BETWEEN PYLON AND CHEEKWALL.

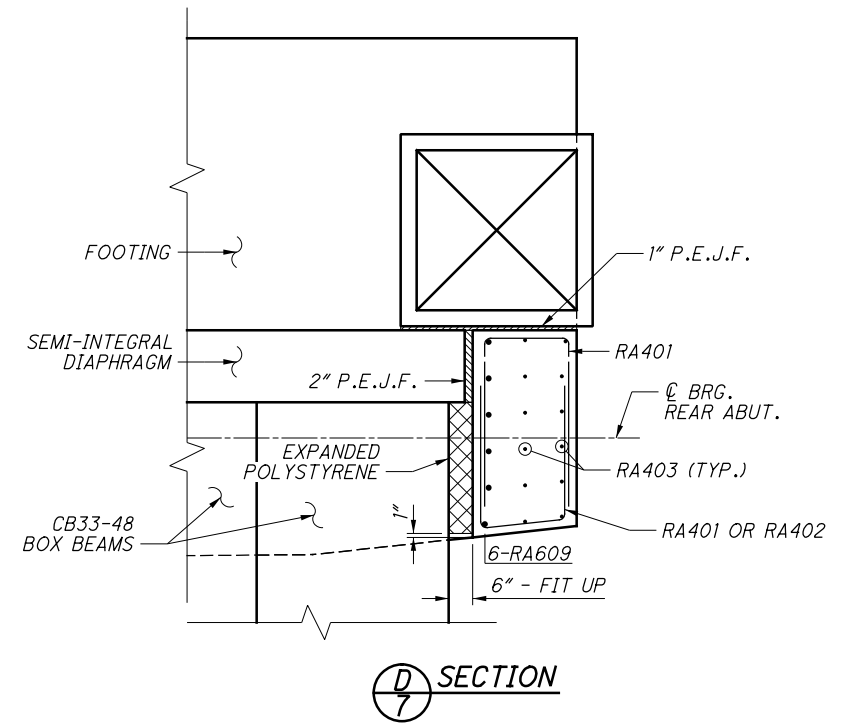
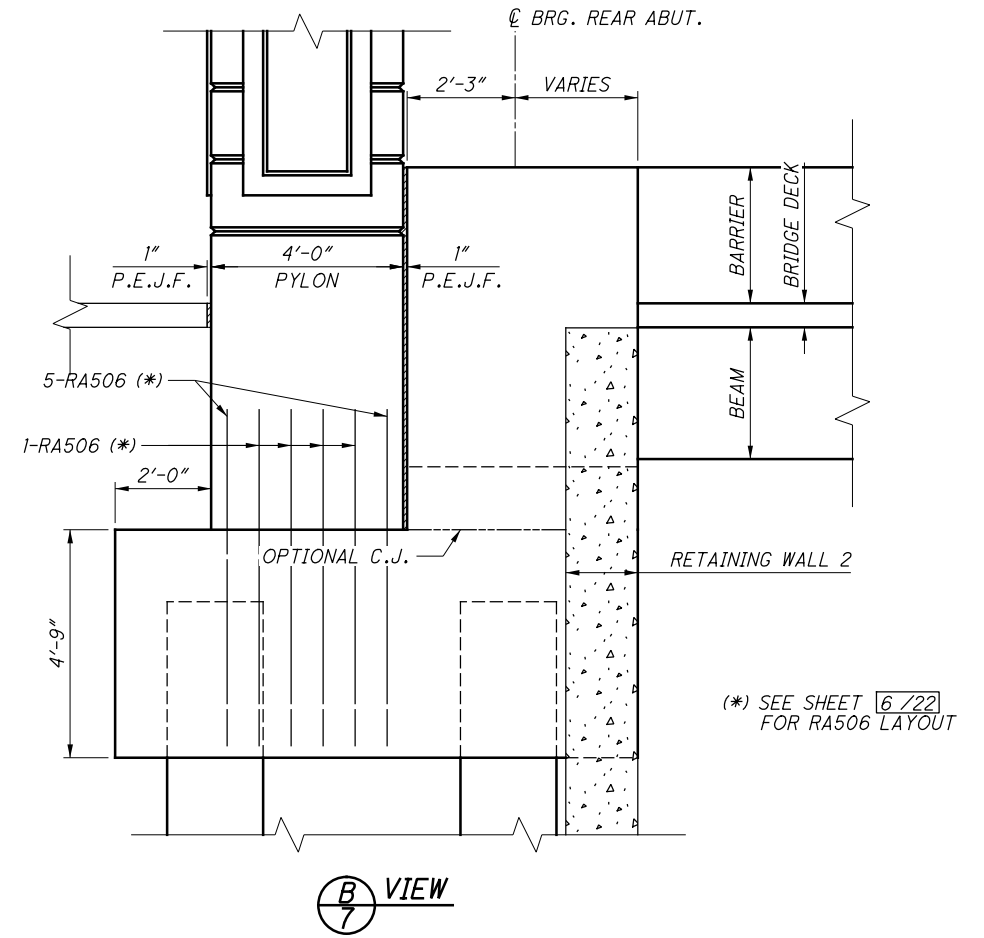
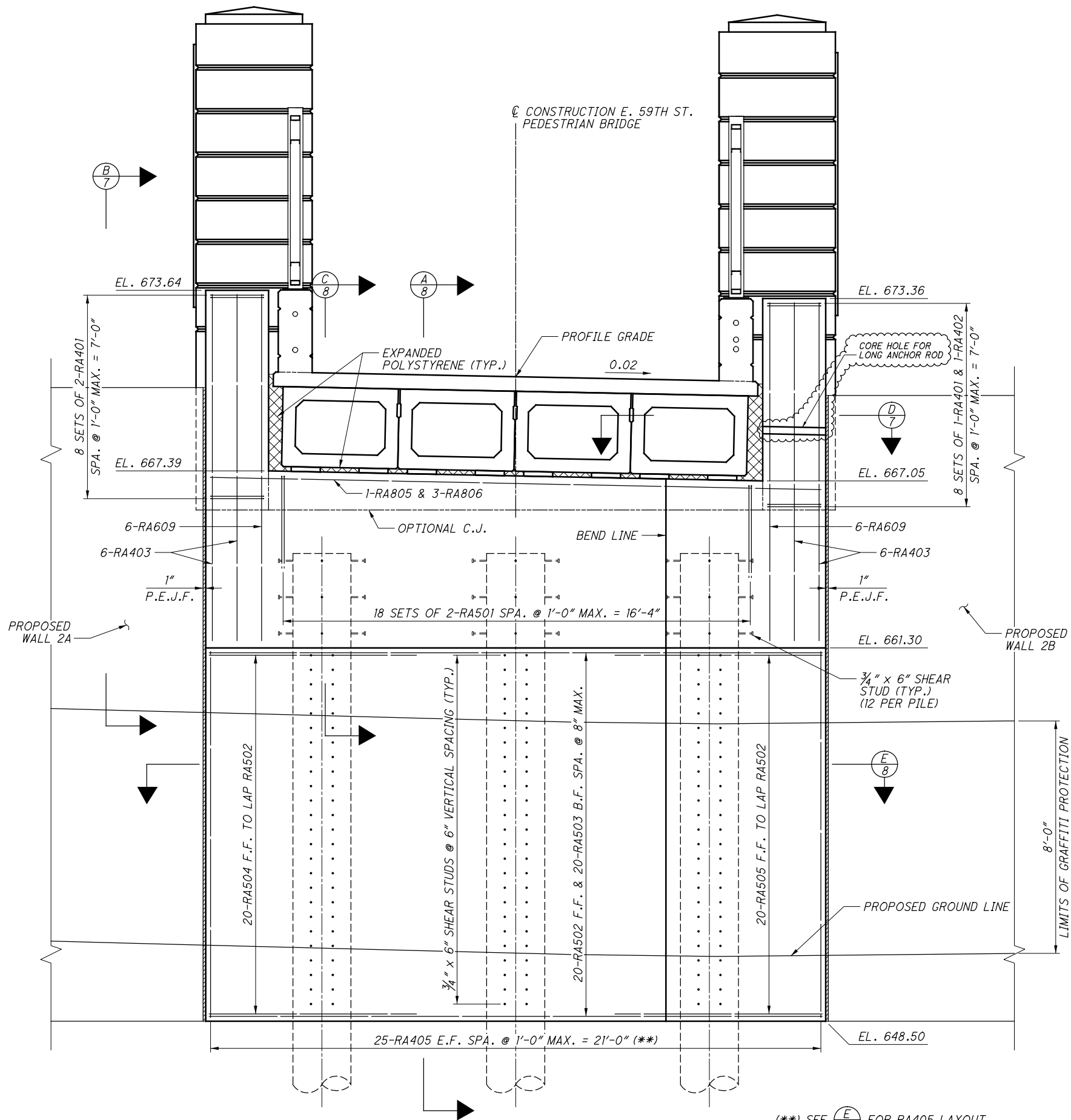
0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
ISSUE RECORD		



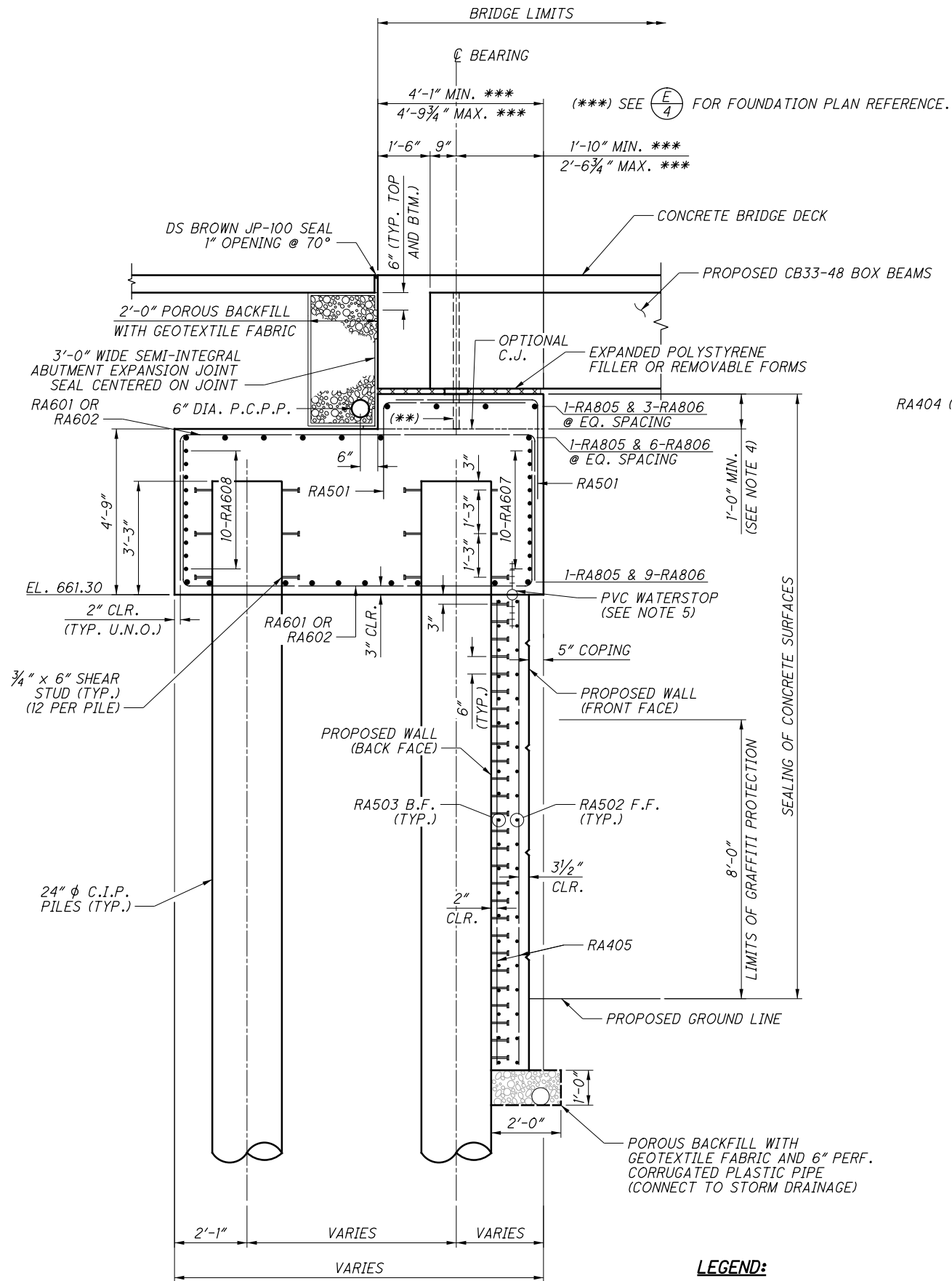
REAR ABUTMENT FOOTING REINFORCING ELEVATION
(ABUTMENT ABOVE HORIZONTAL CONSTRUCTION JOINT NOT SHOWN FOR CLARITY)



			CUY
0	2019-07-02	RFC	6 / 2
NO.	DATE	DESCRIPTION	<div>8</div> <div>37</div>
ISSUE RECORD			



NO.	DATE	DESCRIPTION
1	2024-09-10	RECORD DRAWINGS
0	2019-07-02	RFC
ISSUE RECORD		

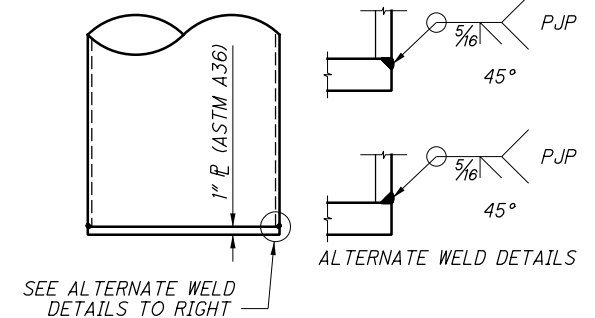
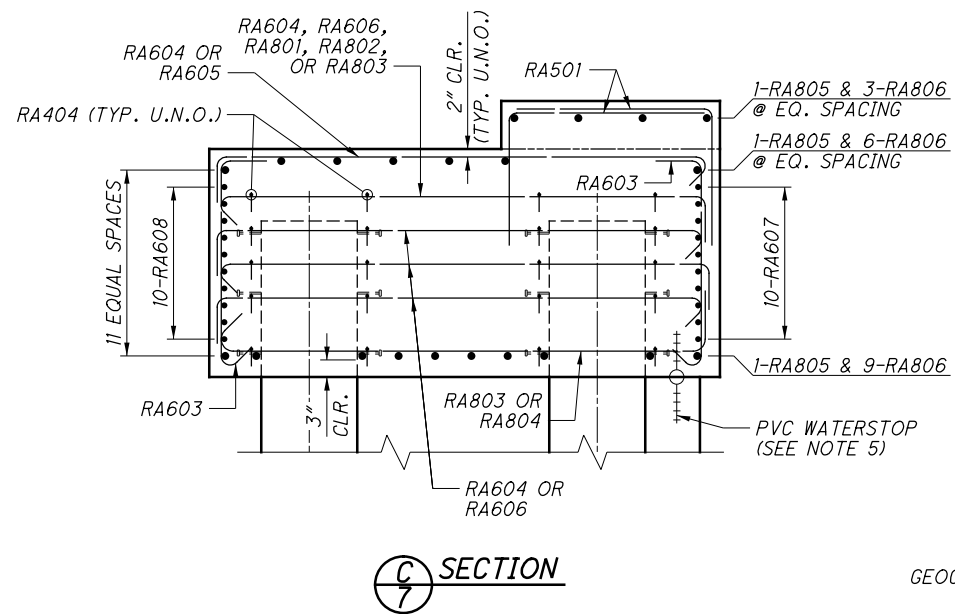
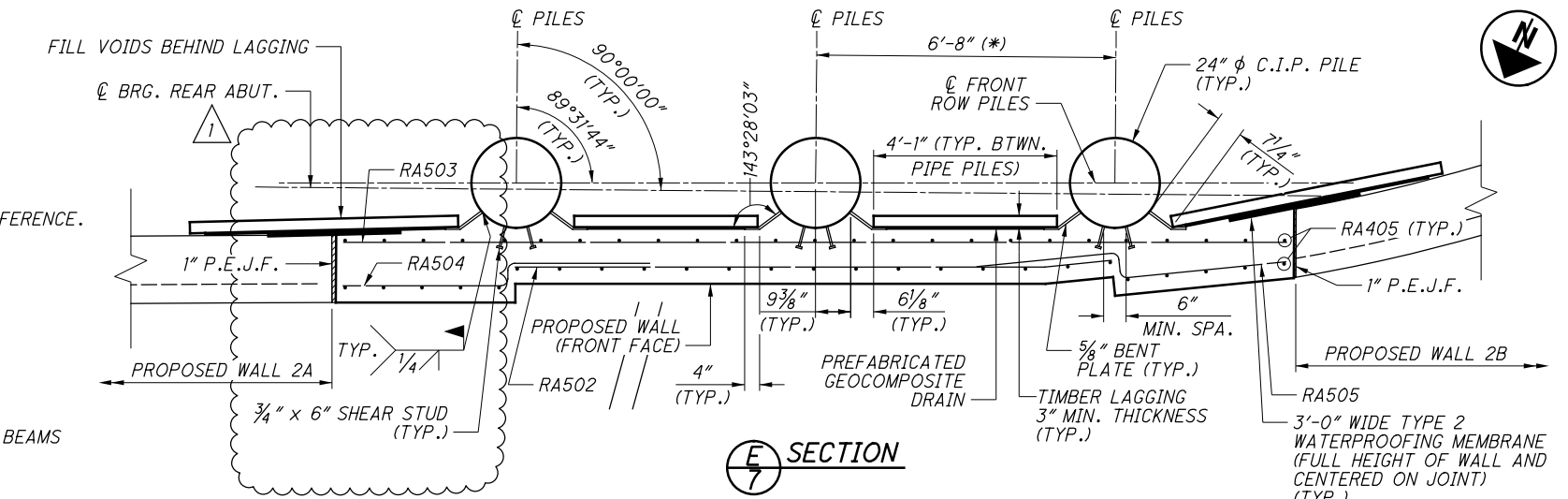


(A) SECTION

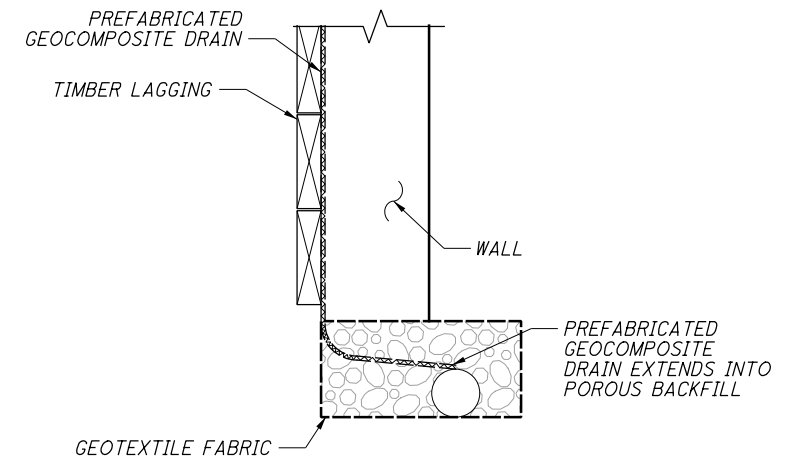
LEGEND:

(*) - MEASURED ALONG CL BEARING.

(**) - 1/4" MIN. DIA. HOLE IN SUBSTRUCTURE.
FILL HOLE WITH 705.04 JOINT SEALER.
MINIMUM DEPTH OF HOLE IS 1'-0".



PILE TOE PLATE DETAIL



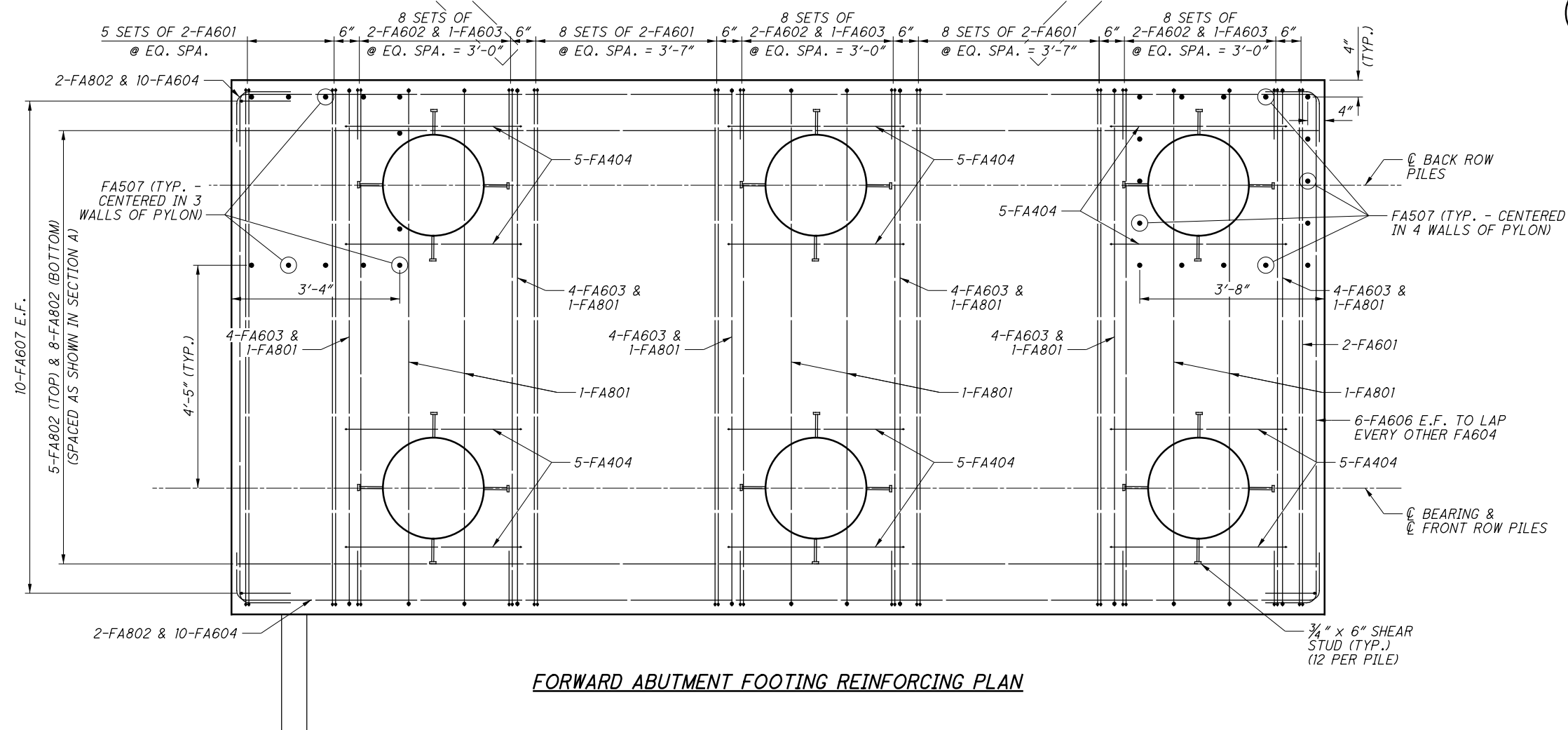
BOTTOM OF WALL DETAIL BETWEEN
SOLDIER PILES

NOTES:

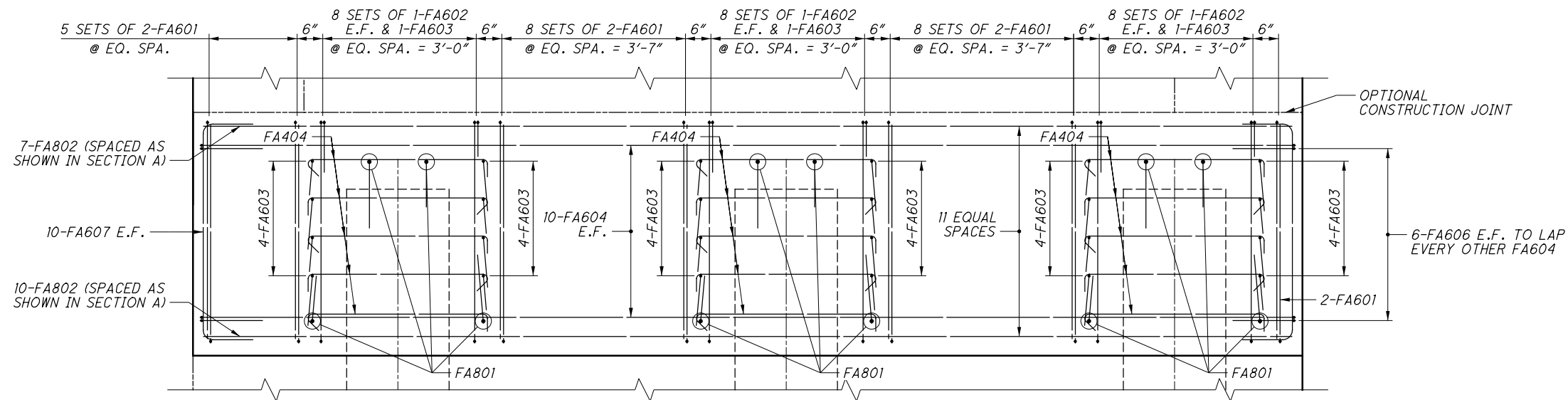
- FOR ABUTMENT ELEVATION, SEE SHEET [7/22].
- FOR FOOTING PLAN, SEE SHEET [4/22].
- FOR DIAPHRAGM REINFORCING DETAILS, SEE SHEETS [14/22].
- BEAM SEAT HEIGHT MAY INCREASE TO ACCOUNT FOR CAMBER DEVIATIONS FROM CALCULATED VALUES.
- WATERSTOP SHALL BE A 6" RIBBED CENTERBULB PVC GREENSTREAK WATERSTOP, #705, AS MANUFACTURED BY THE SIKA CORPORATION.

NO.	DATE	DESCRIPTION
1	2024-09-10	RECORD DRAWINGS
0	2019-07-02	RFC
ISSUE RECORD		

8	22
10	37



FORWARD ABUTMENT FOOTING REINFORCING PLAN

FORWARD ABUTMENT FOOTING REINFORCING ELEVATION
(ABUTMENT ABOVE HORIZONTAL CONSTRUCTION JOINT NOT SHOWN FOR CLARITY)**NOTES:**

1. FOR FOUNDATION PLAN, SEE SHEET 4 / 22 .

NO.	DATE	DESCRIPTION
0	2019-07-02	RFC
ISSUE RECORD		

CUY-IR490/SR010-
2.09/19.28
PID No. 96833

9 / 22

11
37

FORWARD ABUTMENT FOOTING REINFORCING

CUY-10-1929

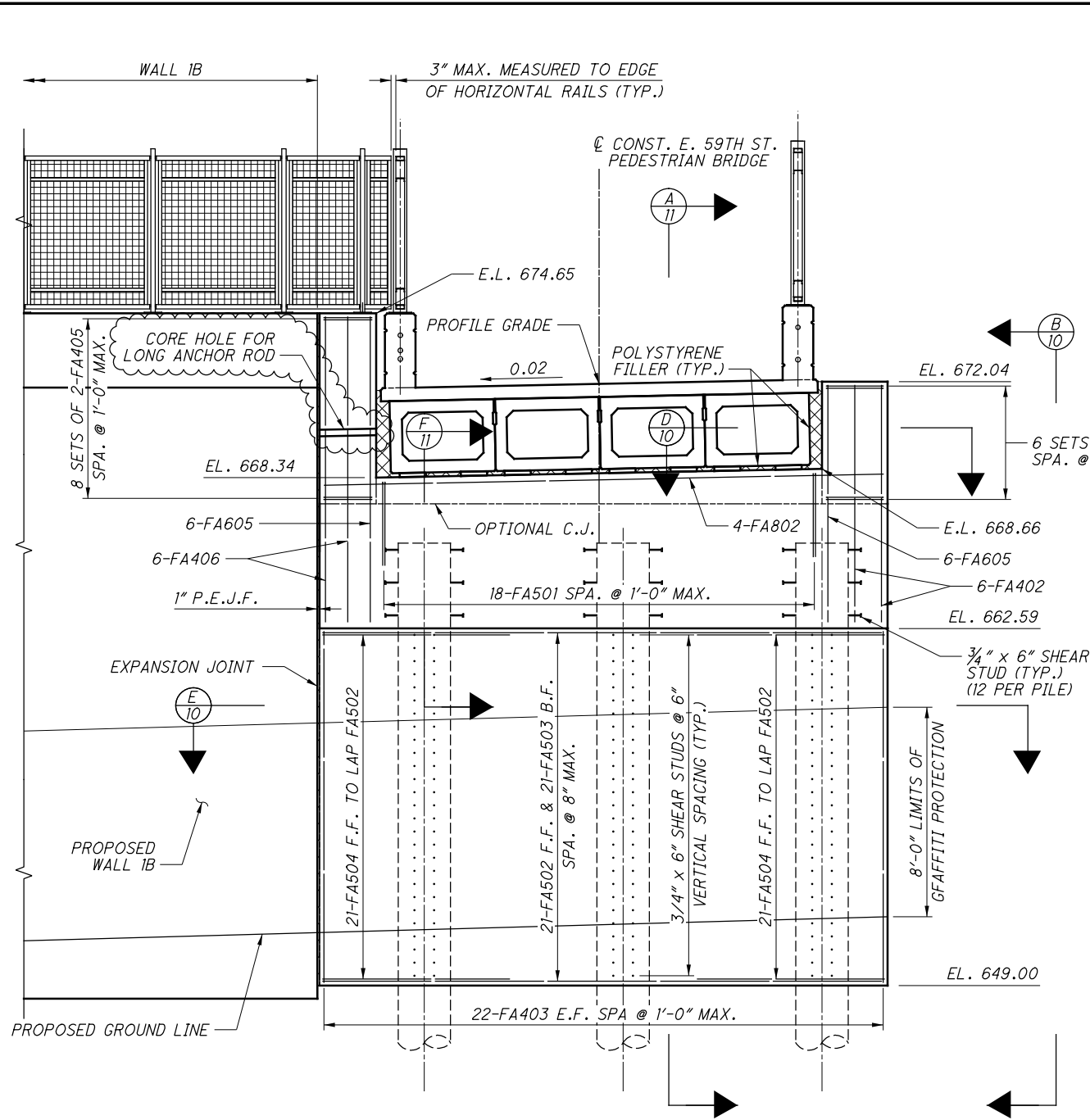
EAST 59TH STREET PEDESTRIAN BRIDGE OVER OH-10

DESIGNED
JUN/CJW
CHECKED
JOLDRAWN
MGB
REVISEDREVIEWED
RERDATE
4/26/2019STRUCTURE FILE NUMBER
1801513DESIGN AGENCY
E.L. ROBINSON
ENGINEERING1468 West 9th Street - Cleveland, Ohio 44113
www.elrobinsonengineering.com

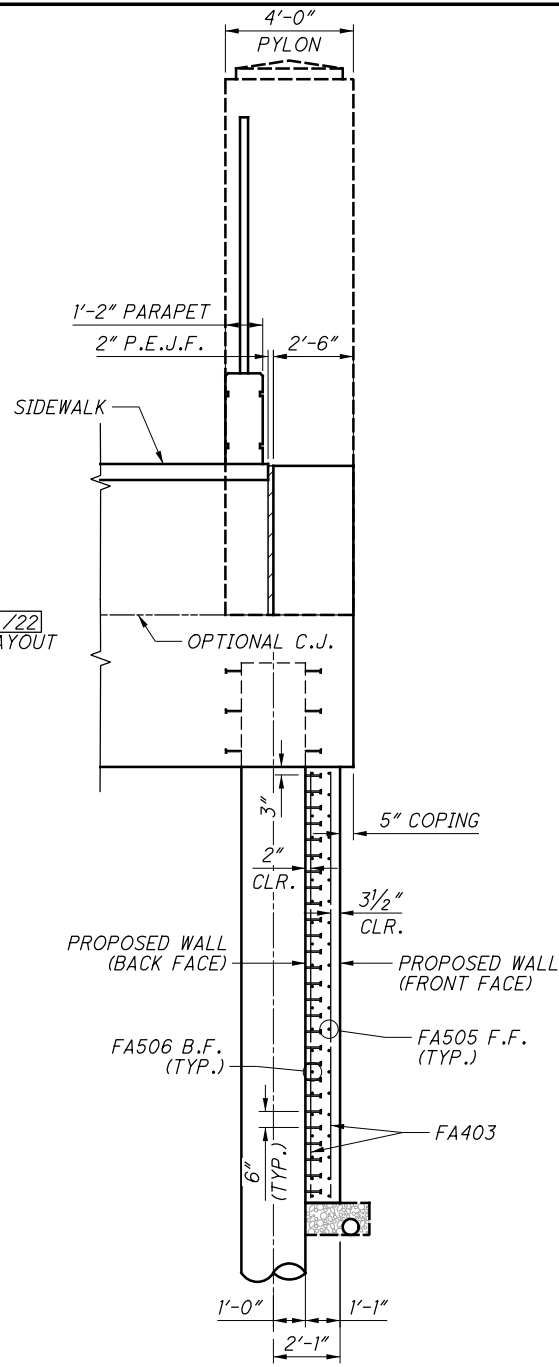
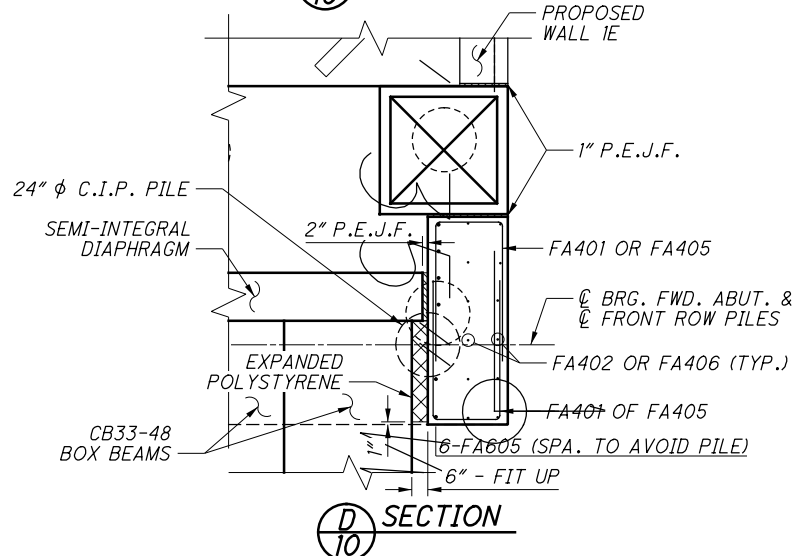
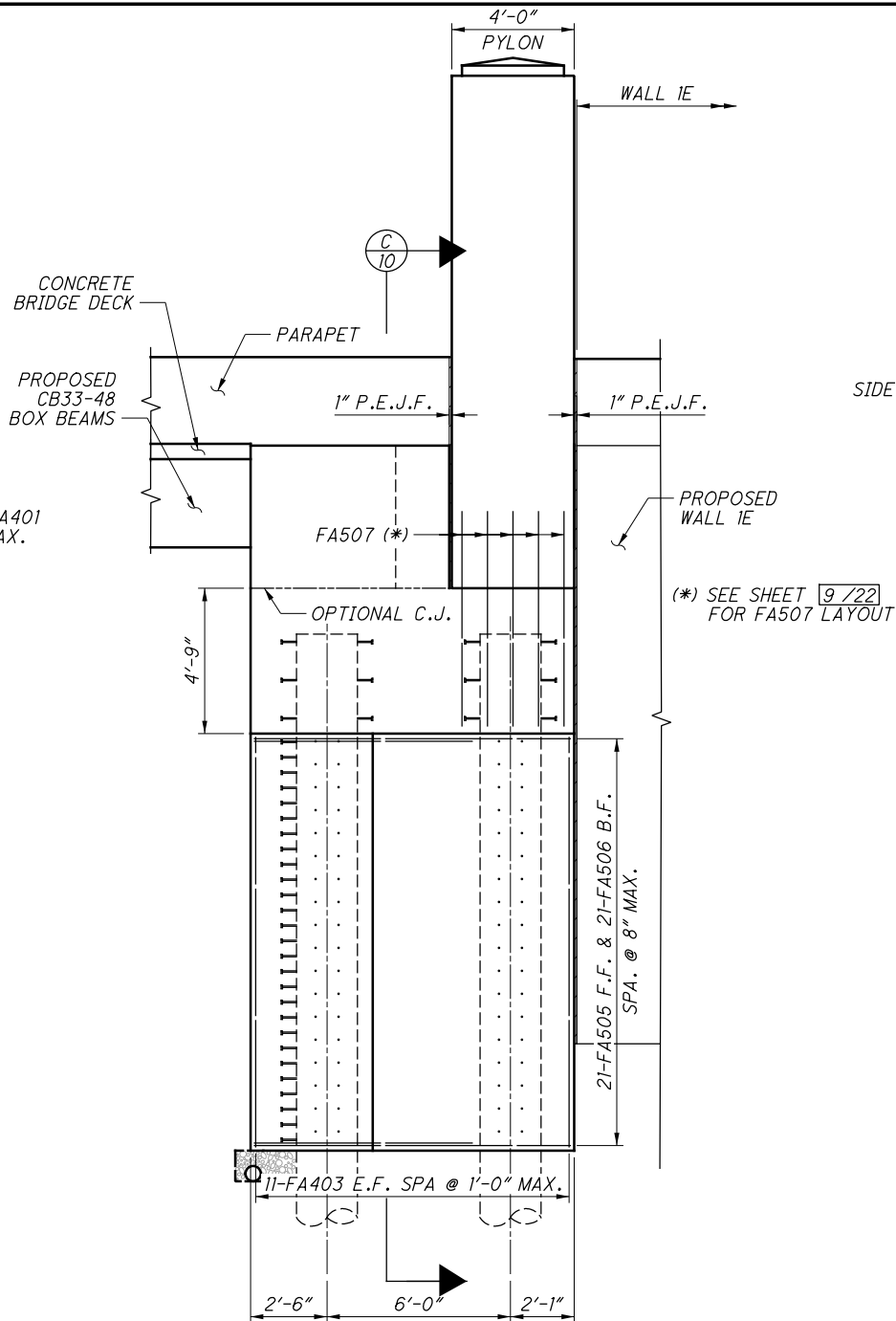
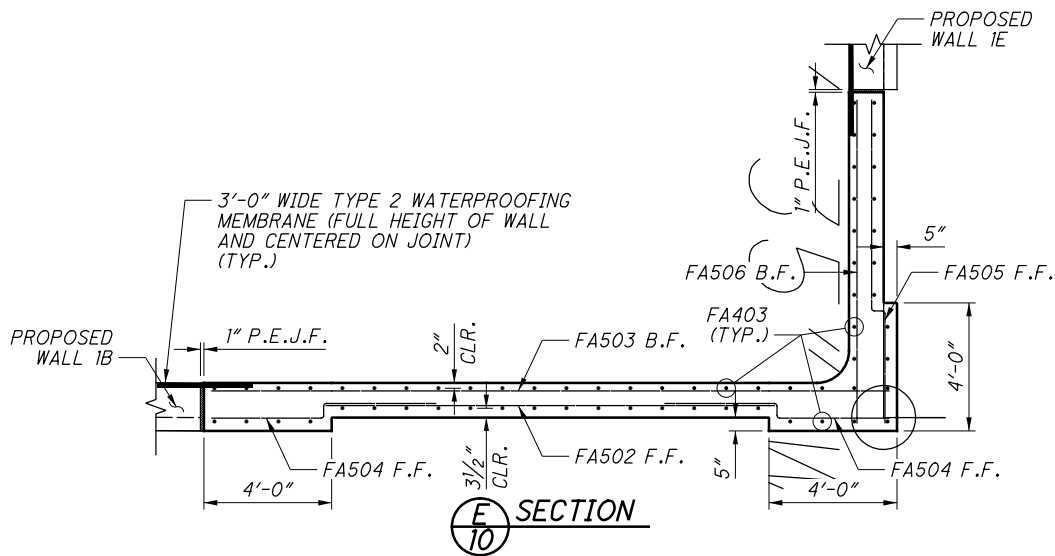
RECORD PLANS

RECORD PLANS

RECORD PLANS



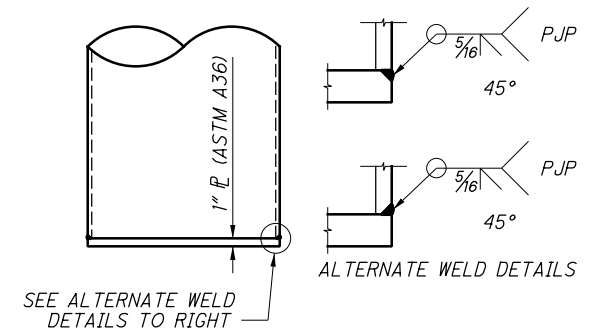
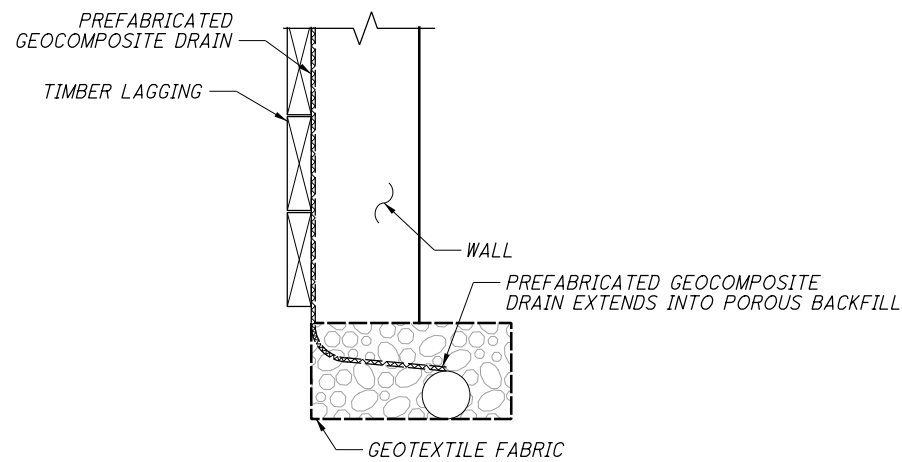
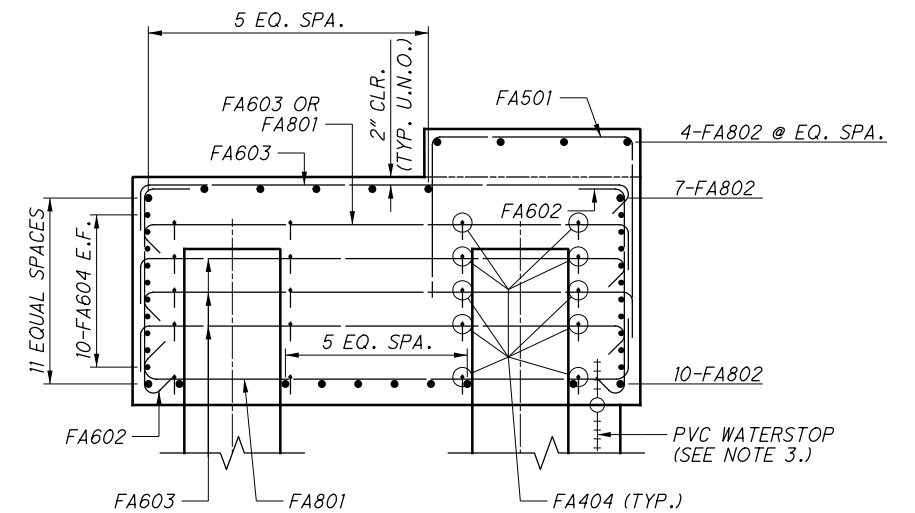
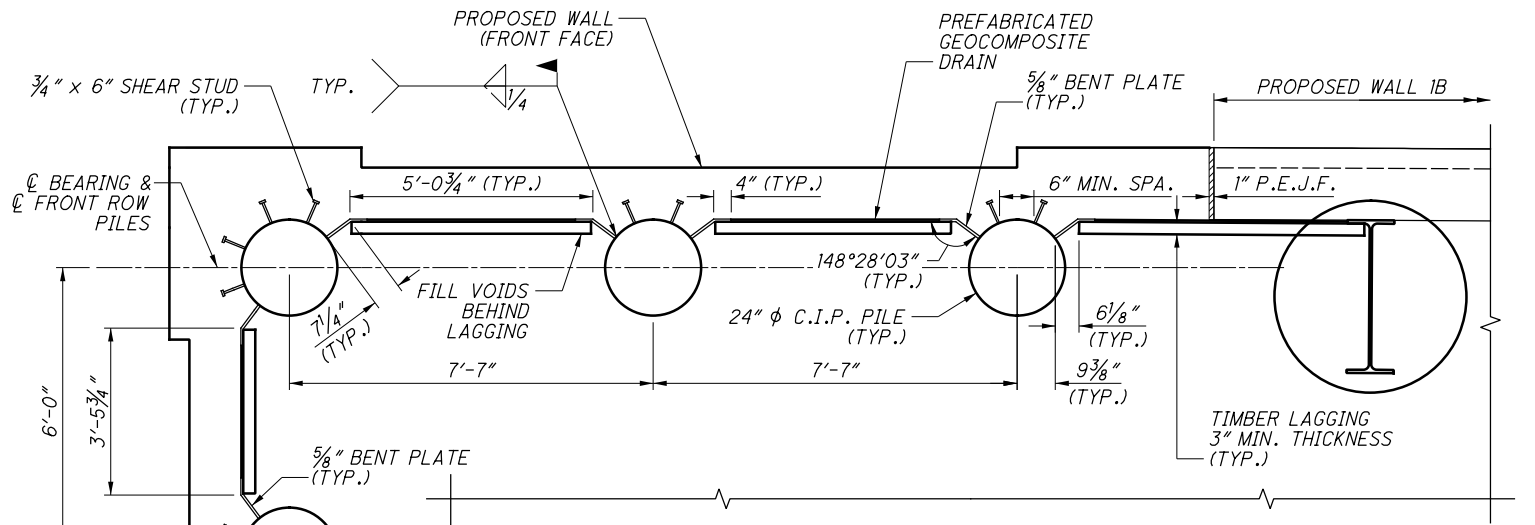
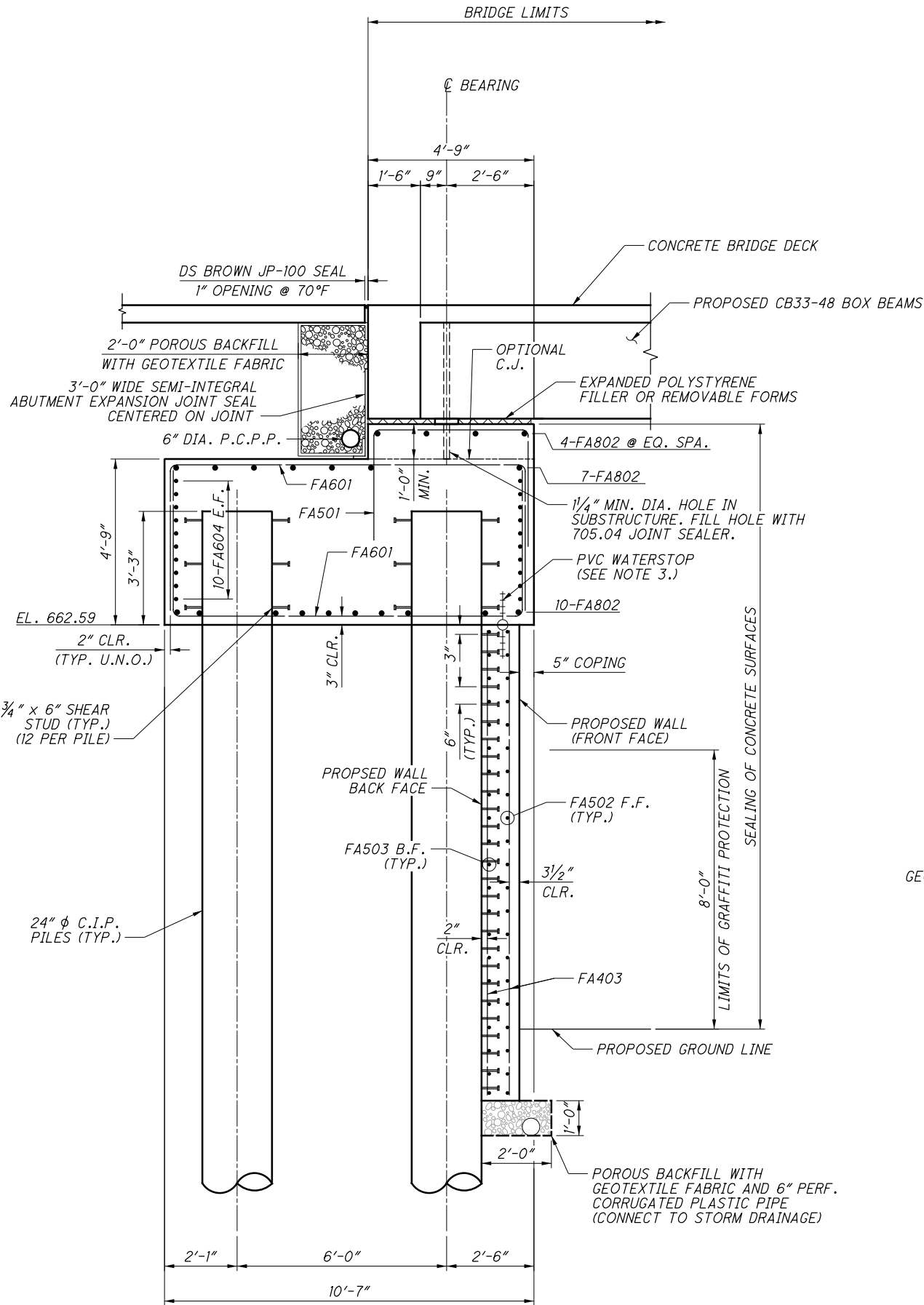
FORWARD ABUTMENT ELEVATION
(SEE SHEET [6/22] FOR FOOTING REINFORCING)



NOTES:

1. FOR FOUNDATION PLAN, SEE SHEET [4/22] .

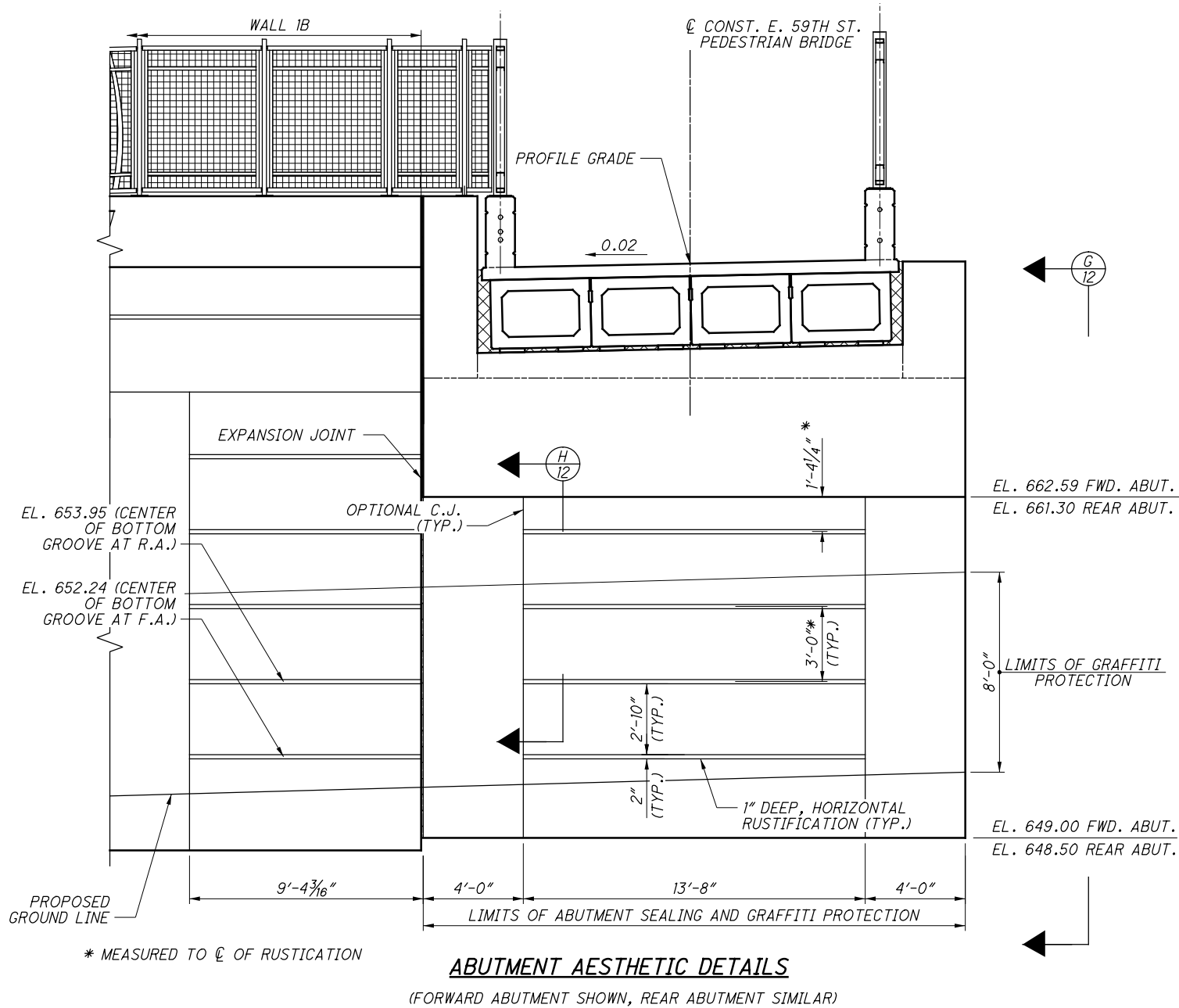
NO.	DATE	DESCRIPTION
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0	2019-07-02	RFC
ISSUE RECORD		



NOTES:

1. FOR ABUTMENT ELEVATION, SEE SHEET **10/22**.
2. FOR FOOTING PLAN, SEE SHEET **4/22**.
3. WATERSTOP SHALL BE A 6" RIBBED CENTERBULB PVC GREENSTREAK WATERSTOP, #705, AS MANUFACTURED BY THE SIKA CORPORATION.

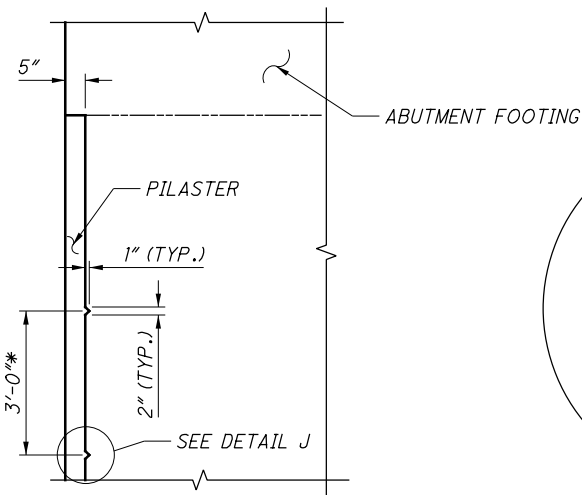
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NO.	DATE	DESCRIPTION
		ISSUE RECORD



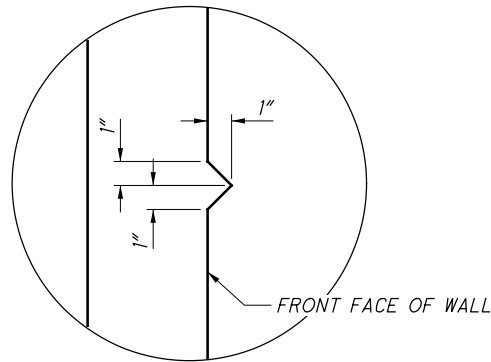
* MEASURED TO ϕ OF RUSTICATION

ABUTMENT AESTHETIC DETAILS

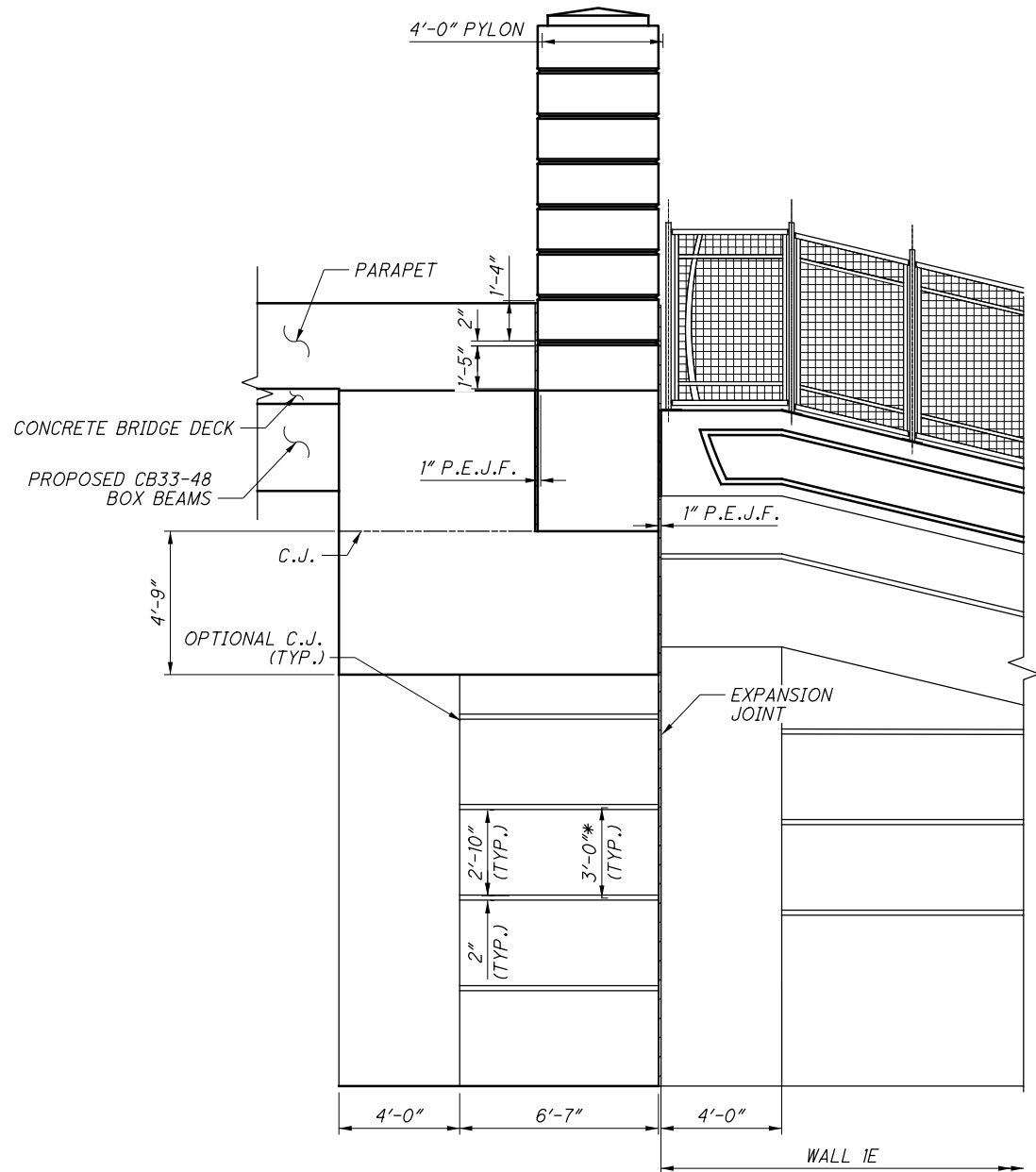
(FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR)



H-12 SECTION



DETAIL J



G-12 SECTION

(FORWARD ABUTMENT ONLY)

* MEASURED TO ϕ OF RUSTICATION

NOTES:

1. HORIZONTAL RUSTICATIONS IN ABUTMENT TO MATCH THOSE IN ADJACENT RETAINING WALLS.

NO.	DATE	DESCRIPTION
0	2019-07-02	RFC
ISSUE RECORD		

ABUTMENT AESTHETIC DETAILS

CUY-10-1929
EAST 59TH STREET PEDESTRIAN BRIDGE OVER OH-10

CUY-IR490/SR010-
2.08/19.28

PID No. 96833

DESIGNED
JUN/CJW

CHECKED
JOL

DRAWN
MGB

REVISED

REVIEWED
RER

DATE
4/26/2019

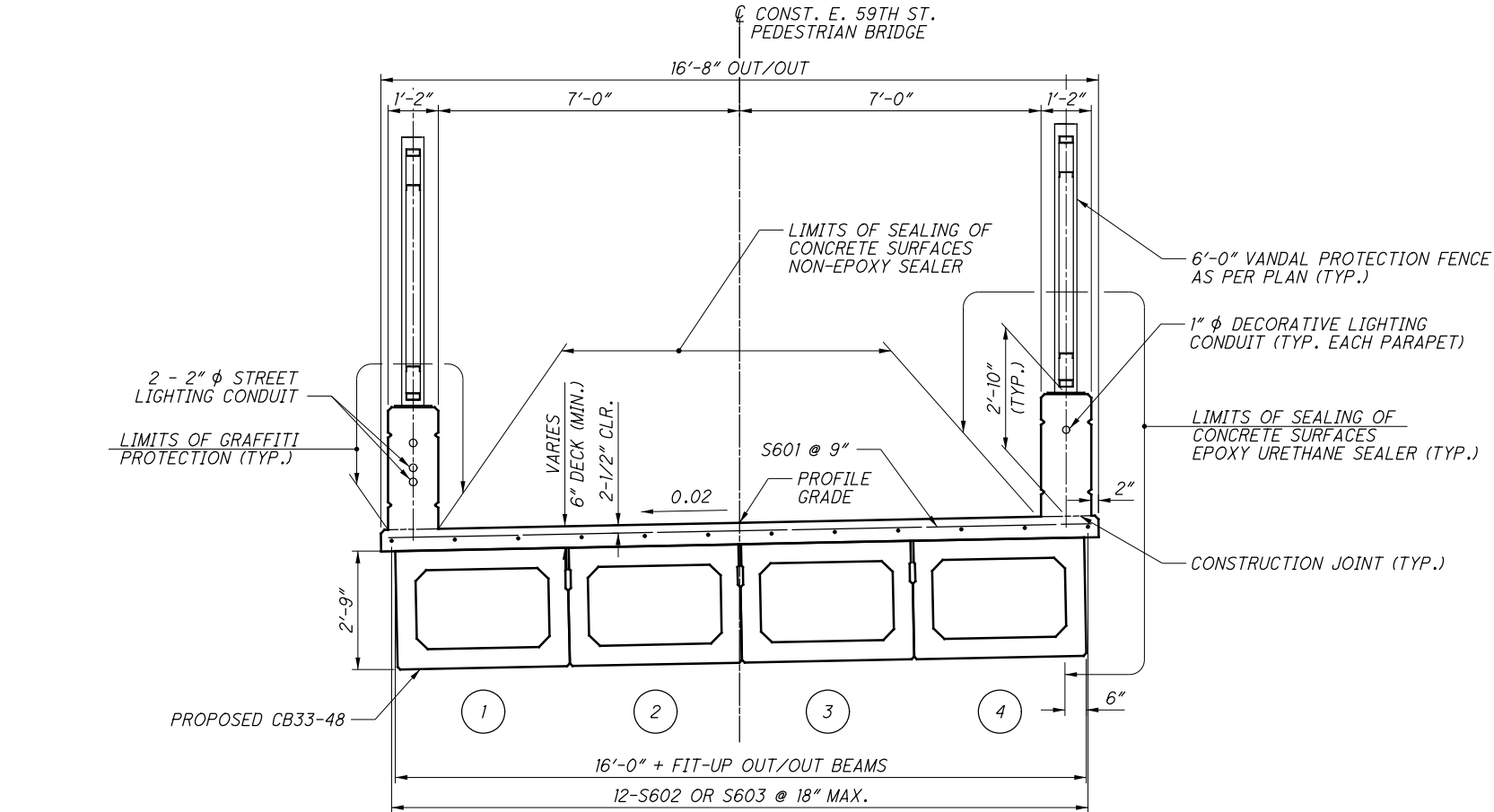
STRUCTURE FILE NUMBER
1801513

DESIGN AGENCY
E.L. ROBINSON
ENGINEERING
1468 West 9th Street • Cleveland, Ohio 44113
www.elrobinsonengineering.com

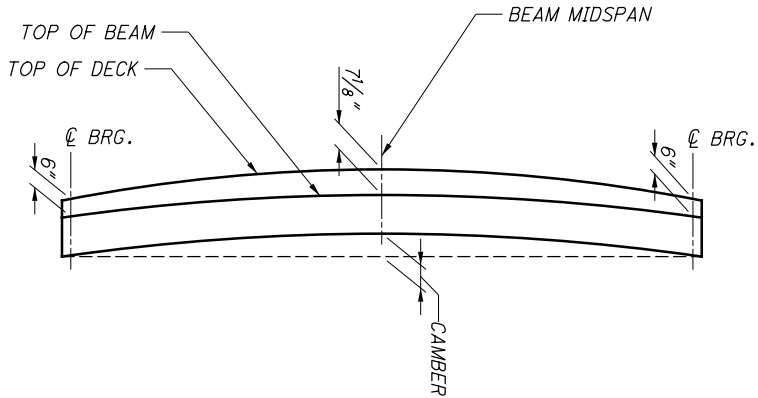
RECORD PLANS

RECORD PLANS

RECORD PLANS

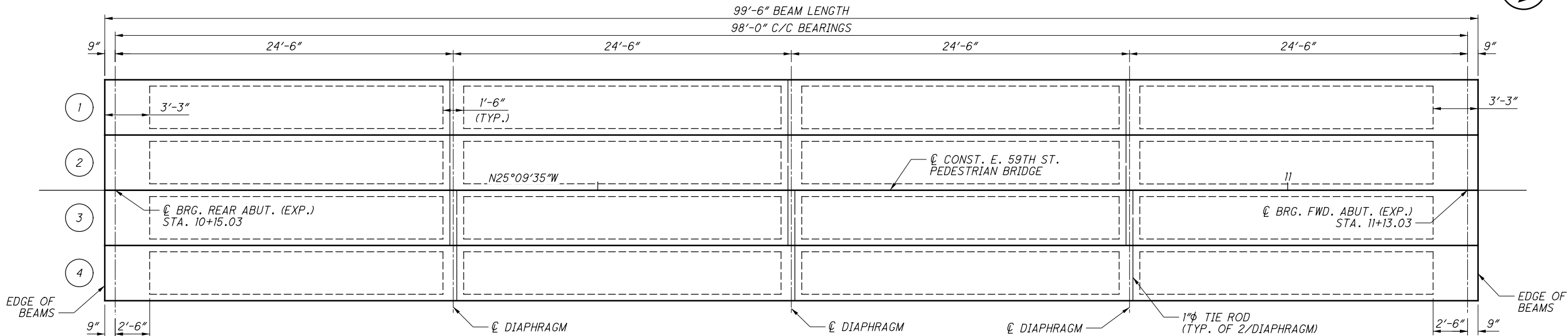


TRANSVERSE SECTION



CAMBER DIAGRAM
NOT TO SCALE

CAMBER:
ESTIMATED CAMBER AT DAY 0 (D_0) IS 2.11 INCHES.
ESTIMATED CAMBER AT DAY 30 (D_{30}) IS 3.64 INCHES.
DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS 1.81 INCHES.
THE BEAM SEAT ELEVATIONS ASSUMED ESTIMATED CAMBER D_{30} .
ESTIMATED CAMBER AT DAY 180 (D_{180}) IS 4.37 INCHES.
ESTIMATED LONG TERM CAMBER IS 5.32 INCHES.



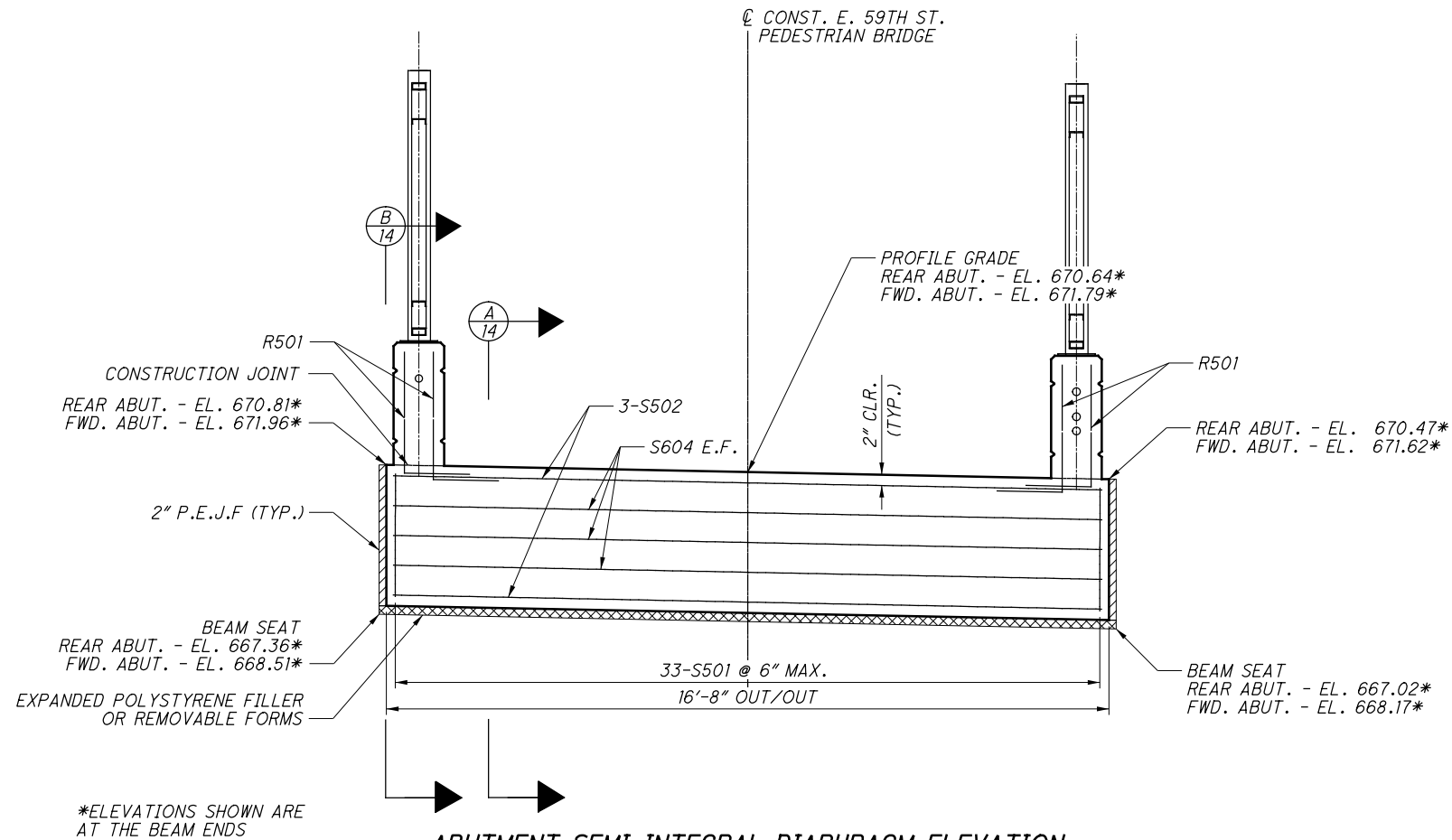
BEAM LAYOUT PLAN

NOTES:

1. FOR BOX BEAM STRAND LAYOUT AND ADDITIONAL DETAILS, SEE SHEET 16 / 22 .
2. FOR ADDITIONAL DECK REINFORCING DETAILS, SEE DECK PLAN SHEET 15 / 22 .
3. SEE STD. DRAWINGS PSBD-2-07 FOR BOX BEAM DETAILS NOT SHOWN.
4. FOR PARAPET REINFORCING, SEE PARAPET SHEETS 17 / 22 AND 19 / 22 .

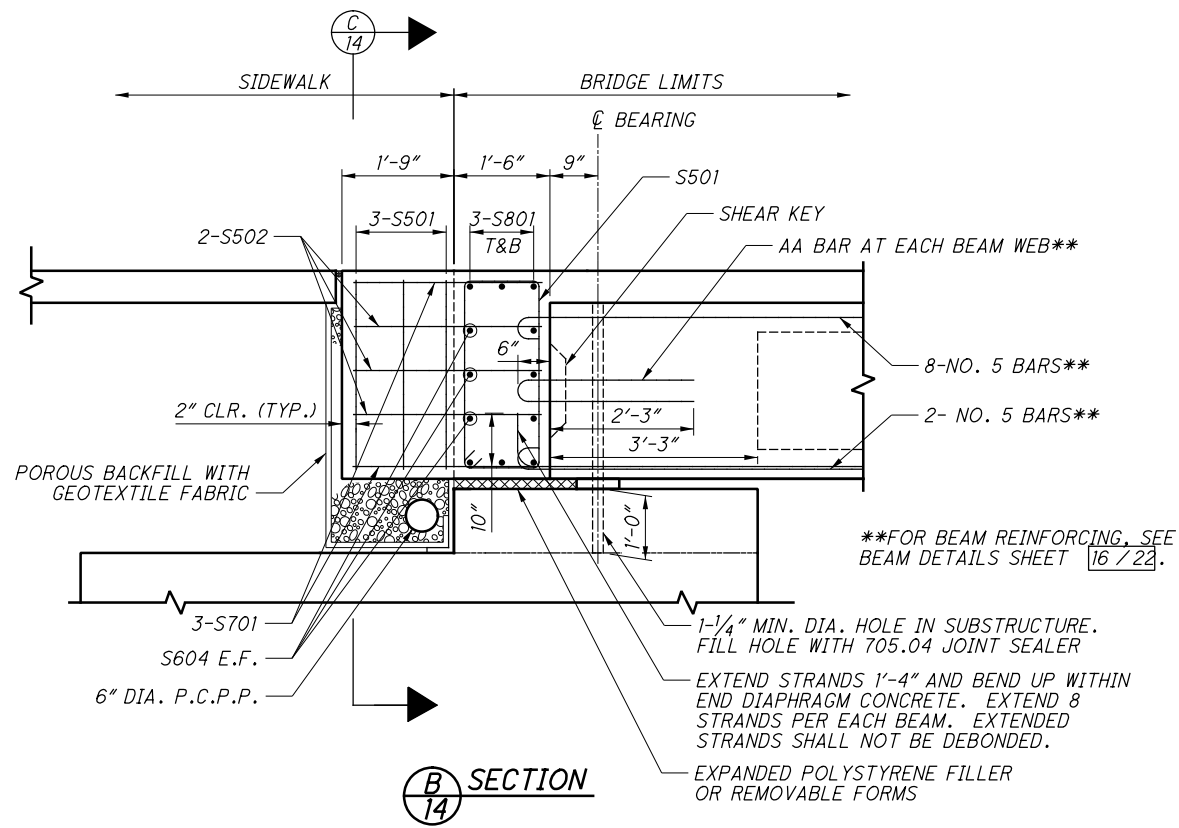
NO.	DATE	DESCRIPTION
0	2019-07-02	RFC
ISSUE RECORD		

13 / 22
15 / 37

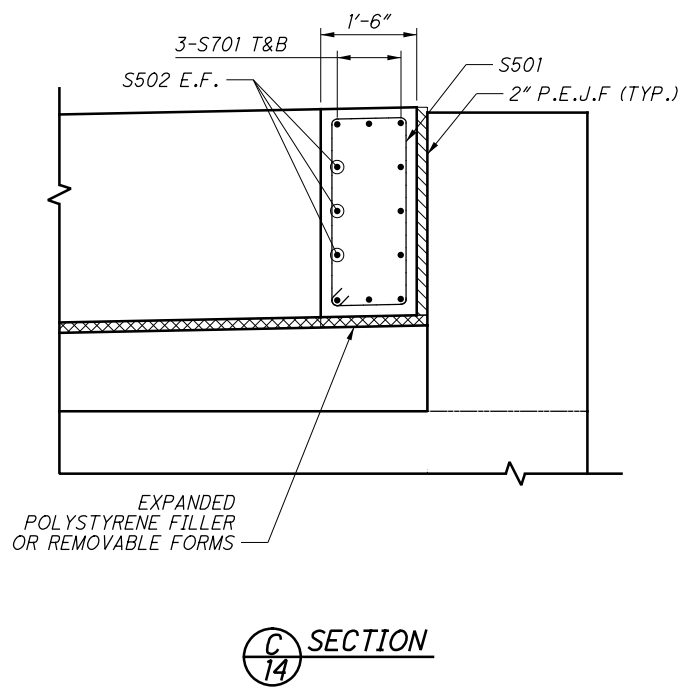


ABUTMENT SEMI-INTEGRAL DIAPHRAGM ELEVATION

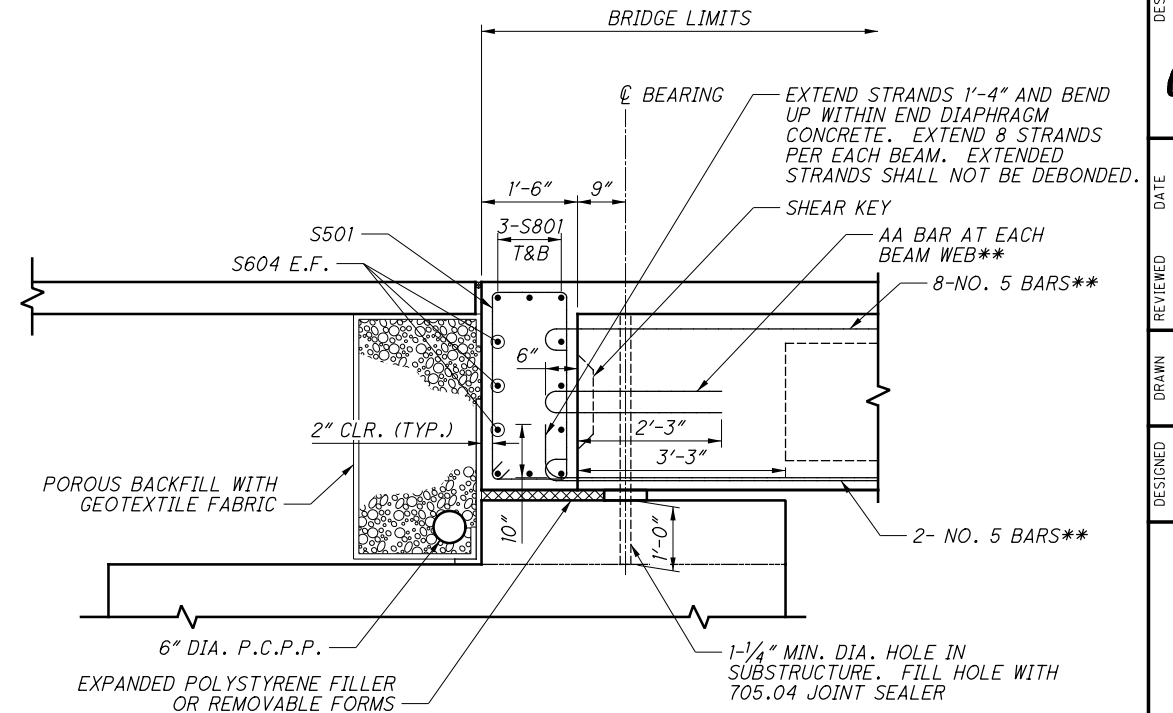
(TYPICAL FOR BOTH ABUTMENTS; REAR ABUTMENT SHOWN, FORWARD
ABUTMENT SIMILAR AND OPPOSITE HAND)



(TYPICAL FOR FORWARD ABUTMENT ONLY, BOTH SIDES OF ABUTMENT)
(PARAPET AND PYLON NOT SHOWN FOR CLARITY)



(FORWARD ABUTMENT ONLY, TYPICAL BOTH SIDES OF ABUTMENT)
(POROUS BACKFILL NOT SHOWN FOR CLARITY)



(TYPICAL FOR BOTH ABUTMENTS; REAR ABUTMENT SHOWN,
FORWARD ABUTMENT SIMILAR)

**FOR BEAM REINFORCING, SEE
BEAM DETAILS SHEET 16 / 22.

NOTES:

1. FOR DECK REINFORCING DETAILS, SEE DECK PLAN
SHEET 15 / 22.
2. FOR ADDITIONAL PARAPET REINFORCING, SEE
PARAPET SHEETS 17 / 22 AND 19 / 22.
3. FOR BEAM REINFORCING DETAILS, SEE BEAM
DETAILS SHEET 16 / 22.

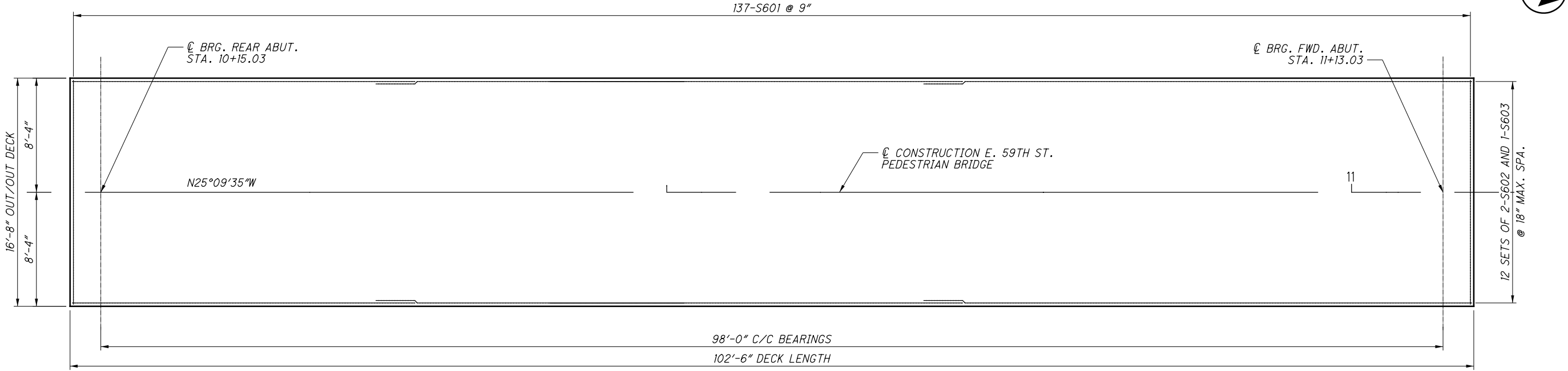
ISSUE RECORD		
NO.	DATE	DESCRIPTION
0	2019-07-02	RFC
16 / 22		
37		

NOTES:

1. FOR ADDITIONAL DECK REINFORCING DETAILS, SEE TRANSVERSE SECTION SHEET 13 / 22.
2. FOR PARAPET REINFORCING, SEE PARAPET SHEETS 17 / 22 AND 19 / 22.
3. ALL #6 BARS SHALL MAINTAIN A LAP LENGTH OF 34".

FINAL DECK SURFACE ELEVATION TABLE					
SPAN POINT	R.A. BRGS.	1/4	1/2	3/4	F.A. BRGS.
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
LEFT TOE OF PARAPET	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.52	671.15	671.58	671.80	671.81
BEAM 1	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.54	671.17	671.60	671.82	671.83
BEAM 2	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.62	671.25	671.68	671.90	671.91
PROFILE GRADE	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.66	671.29	671.72	671.94	671.95
BEAM 3	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.70	671.33	671.76	671.98	671.99
BEAM 4	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.78	671.41	671.84	672.06	672.07
RIGHT TOE OF PARAPET	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.80	671.43	671.86	672.08	672.09

SCREED ELEVATION TABLE					
SPAN POINT	R.A. BRGS.	1/4	1/2	3/4	F.A. BRGS.
	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS
LEFT TOE OF PARAPET	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.52	671.29	671.73	671.94	671.81
PROFILE GRADE	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.66	671.43	671.87	672.08	671.95
RIGHT TOE OF PARAPET	10+15.03	10+39.53	10+64.03	10+88.53	11+13.03
	670.80	671.57	672.01	672.22	672.09



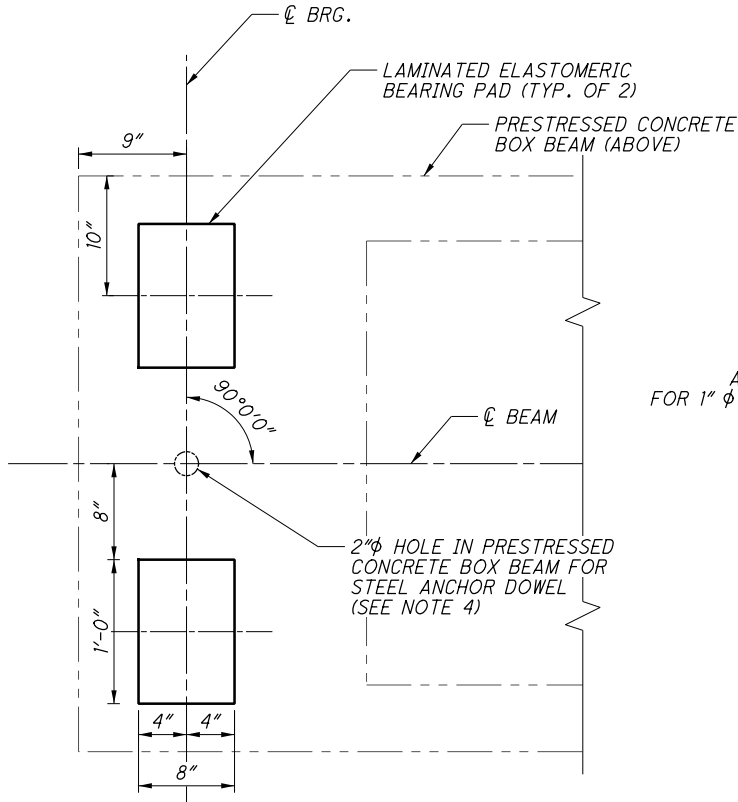
DECK PLAN
(PARAPETS NOT SHOWN FOR CLARITY)

0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
ISSUE RECORD		

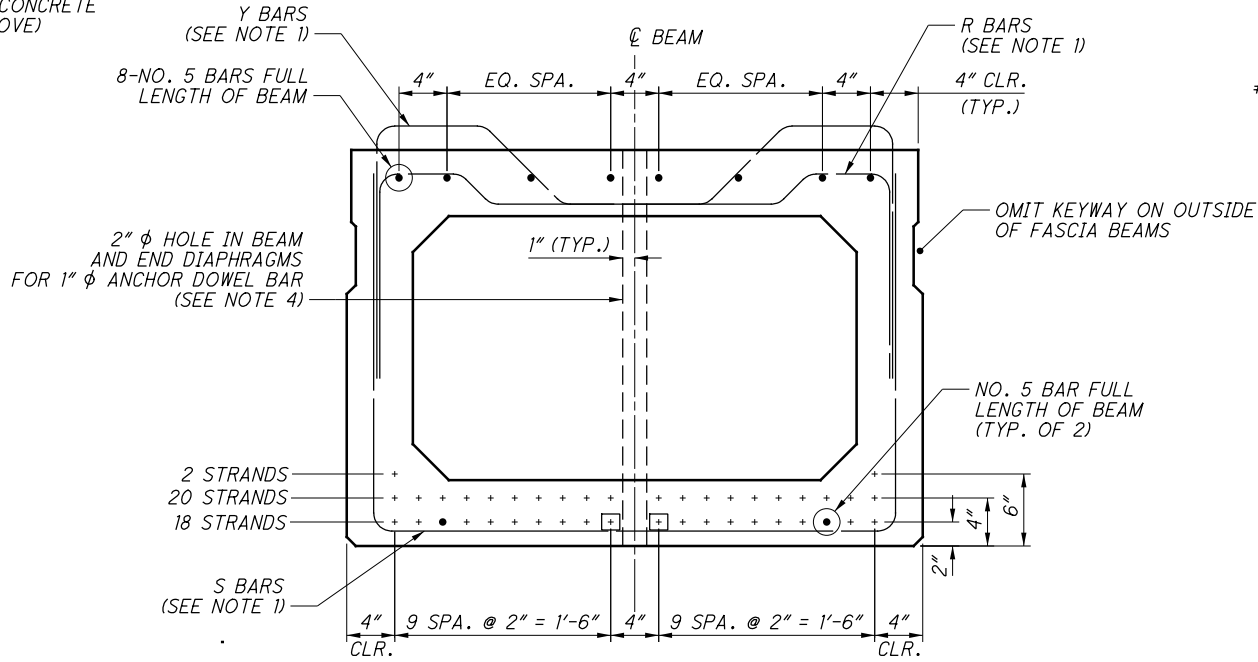
CUY-IR490/SR010-2.09/19.28
PID No. 96833

15 / 22

17 / 37



BEARING PLAN

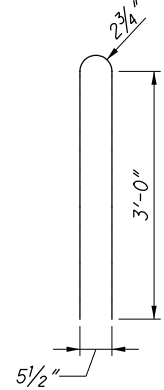


BEAMS 1 THRU 4 (CB33-48)

(40 STRANDS)

2 1/2 "x16"x38" SHEAR KEY
CENTERED IN EACH BEAM

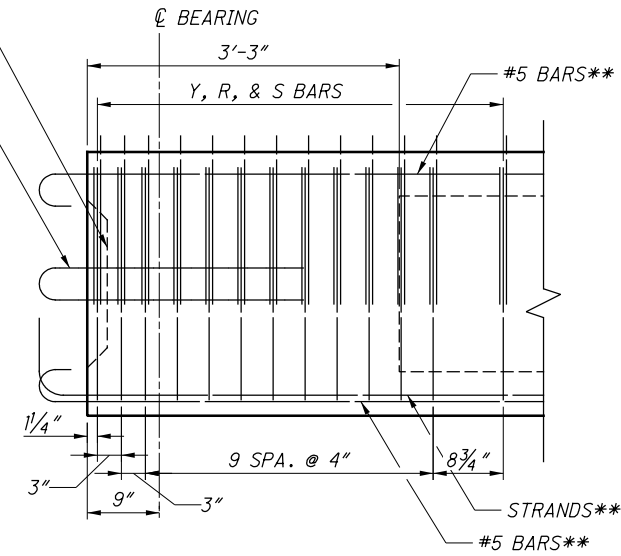
#5 BAR AT MID-HEIGHT OF
EACH WEB (AA BAR, SEE
DETAIL, THIS SHEET)**



AA BAR DETAIL

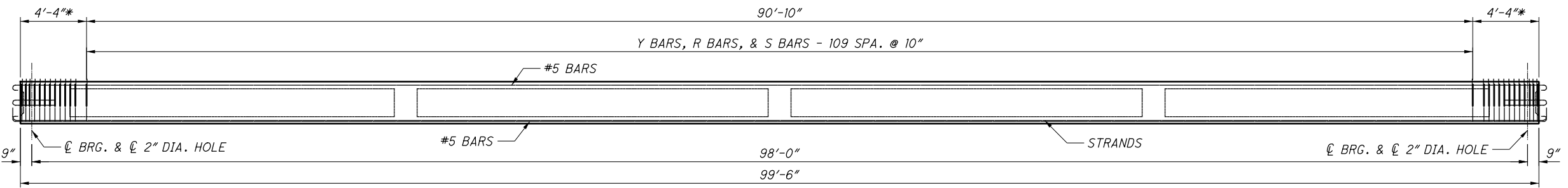
(2 BARS REQ'D PER
EACH BEAM END)

** FOR ADDITIONAL
REINFORCING DIMENSIONS,
SEE SHEET [14 / 22].



TYPICAL BEAM AND STIRRUP DETAILS

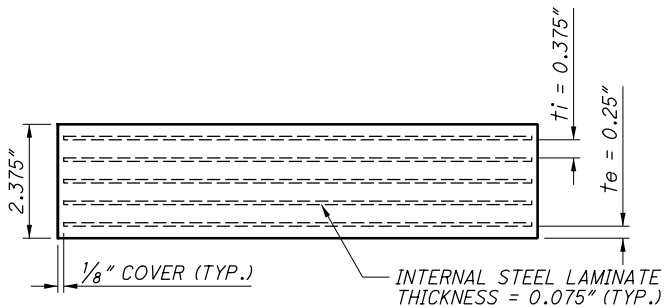
(16)



BEAM ELEVATION

(FULL LENGTH LONGITUDINAL BARS NOT SHOWN)

*SEE DETAIL A, THIS SHEET FOR
TYP. REINFORCEMENT AT BEAM ENDS



LAMINATED ELASTOMERIC BEARING DETAILS

(50 DUROMETER)

(SEE NOTE 5)

ELASTOMERIC BEARING DATA					
LOCATION	TYPE	NO. REQ'D.	DL (KIP)	LL W/O IMPACT (KIP)	MAX DESIGN LOAD (DL+LL)
REAR & FWD. ABUT.	EXP.	16	38.83	13.78	52.61

LEGEND:

+ - THIS SYMBOL SIGNIFIES A 1/2" DIAMETER, 270 GRADE, LOW RELAXATION, UNCOATED, SEVEN WIRE STRAND WITH A_s OF 0.167 IN².

⊠ - STRAND DEBONDED 2'-0" AT EACH END OF BEAM

NOTES:

- FOR BOX BEAM DIMENSIONS NOT SHOWN; BAR CLEARANCES; DETAILS OF BARS R, S, AND Y; AND NOTES, SEE STANDARD DRAWING PSBD-2-07.
- FOR DIAPHRAGM REINFORCING, SEE SHEET [14 / 22].
- SEE STANDARD DRAWING PSID-1-13 FOR INSERT AND THREADED ROD ADDITIONAL DETAILS.
- FILL HOLE WITH 705.04 JOINT SEALER.
- THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

NO.	DATE	DESCRIPTION
0	2019-07-02	RFC
ISSUE RECORD		

PRESTRESSED BOX BEAM DETAILS

CUY-10-1929
EAST 59TH STREET PEDESTRIAN BRIDGE OVER OH-10

16 / 22

18
37

DESIGN AGENCY
REWAY ENGINEERING GROUP, INC.
10000 ROUTE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

DATE
05/02/19
REVIEWED
AE
DRAWN
JDS
CHECKED
PA
DESIGNED
LI

STRUCTURE FILE NUMBER
1801513

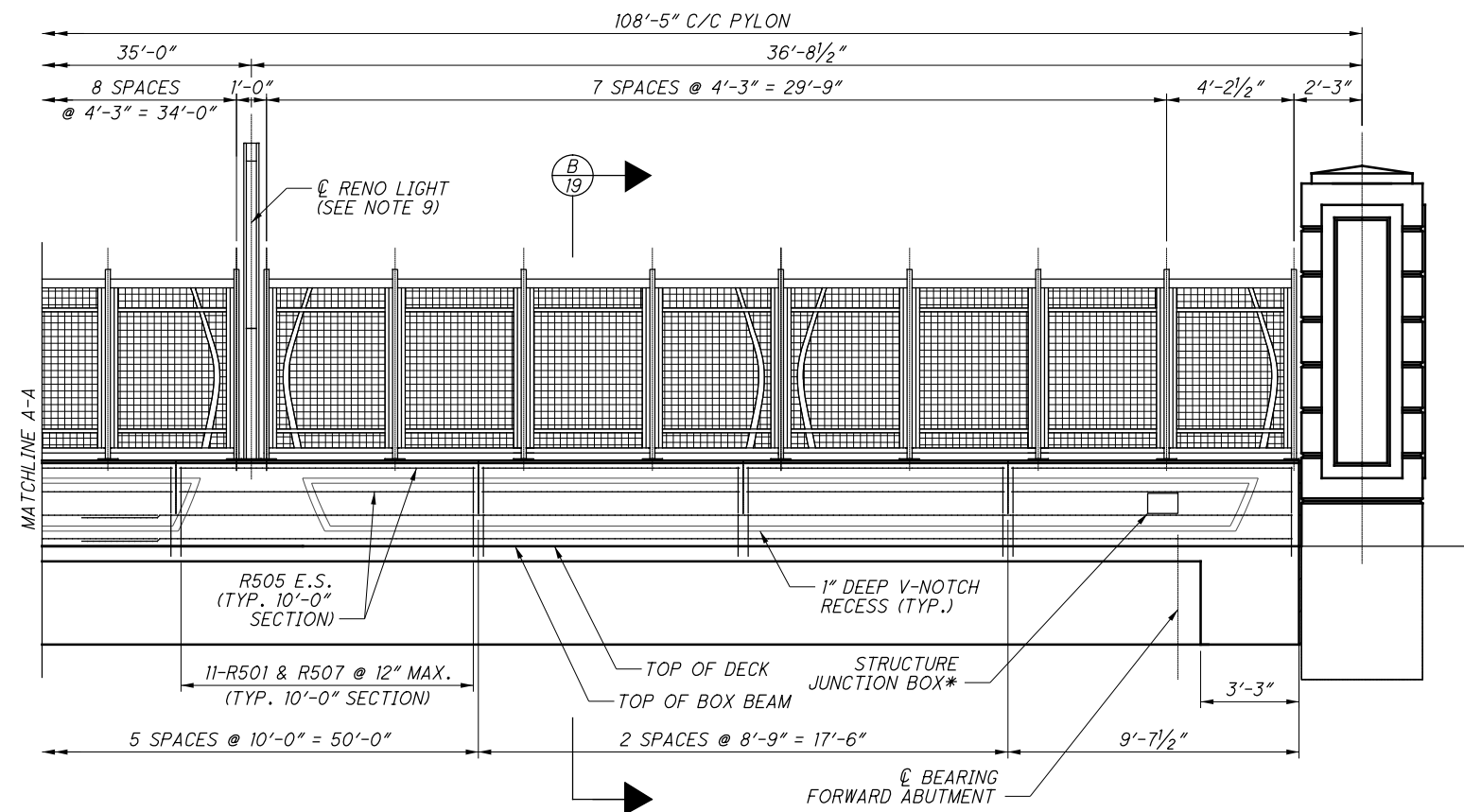
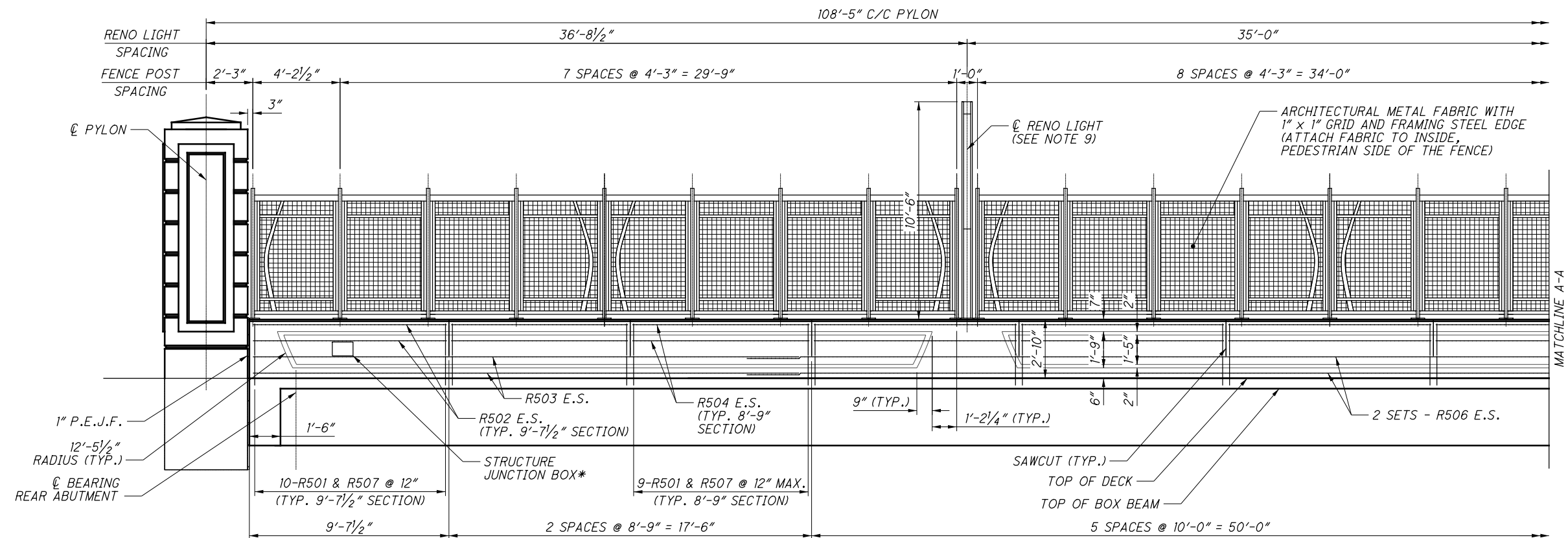
RECORD PLANS

RECORD PLANS

RECORD PLANS

RECORD PLANS

RECORD PLANS



LEGEND:

* PEDESTRIAN SIDE ONLY

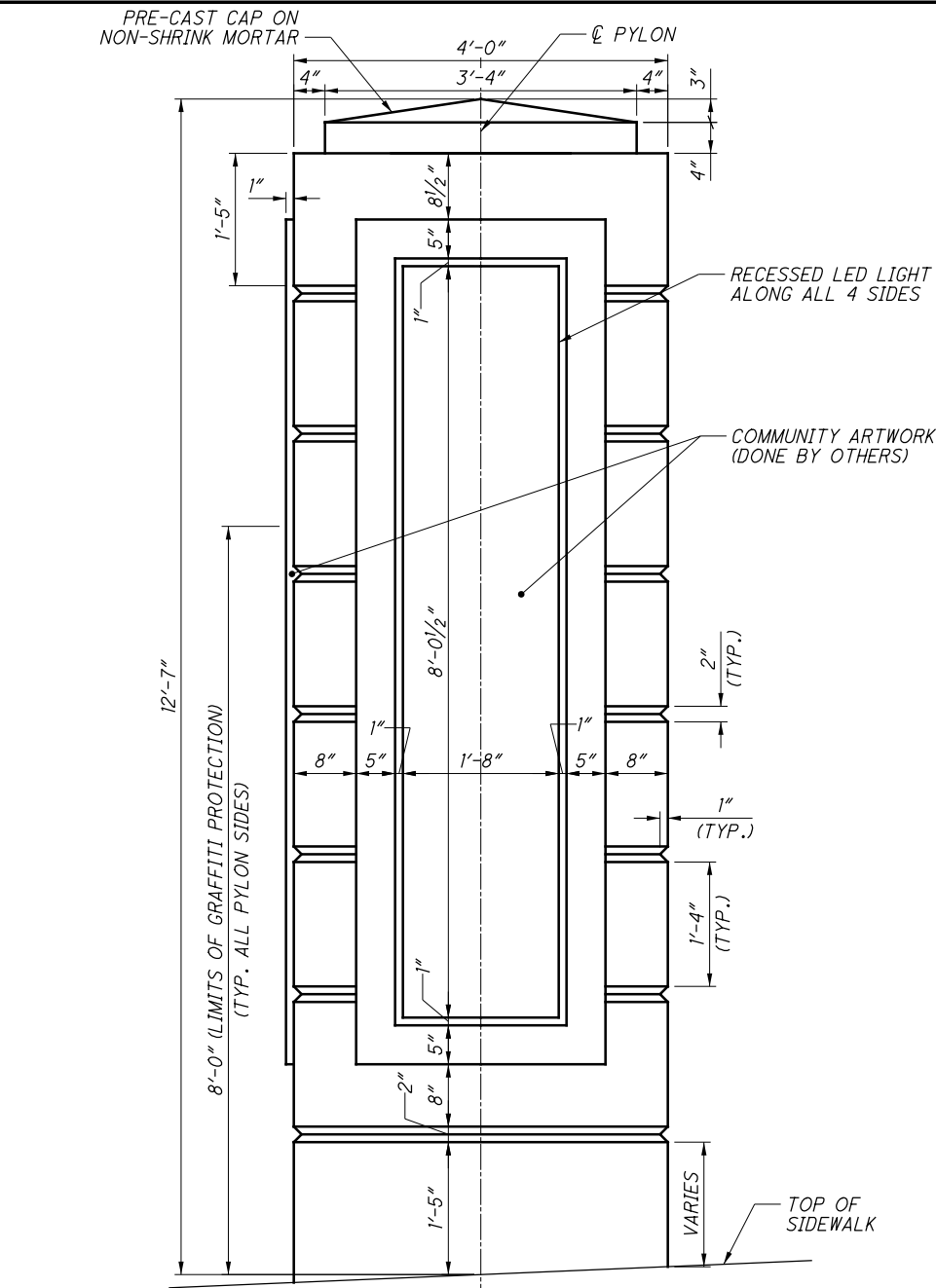
TYPICAL PARAPET ELEVATION

- NOTES:**
1. FOR ADDITIONAL RAILING SAWCUT DETAILS, SEE ODOT STANDARD DRAWING BR-2-15.
 2. FOR PYLON DETAILS, SEE SHEET 20/22.
 3. FOR ADDITIONAL REINFORCING DETAILS, SEE SHEET 19/22.
 4. FOR REINFORCING DETAILS, SEE SHEET 21/22.
 5. RENO LIGHT COLUMNS ARE BY HESSAMERICA. PRODUCT CODE: REN3200-LED-2-10RB-GG OR APPROVED EQUAL. CONDUIT SHALL BE EMBEDDED AND NOT VISIBLE.
 6. PROVIDE STRUCTURE GROUNDING FOR FENCE AS PER STANDARD DRAWING HL-50.21.
 7. FOR ADDITIONAL DETAILS ON LIGHTING CONDUIT, SEE STANDARD DRAWING HL-30.32 AND LIGHTING PLANS IN BU-27.
 8. ALL #5 BARS SHALL MAINTAIN A LAP LENGTH OF 29".
 9. EAST PARAPET LIGHTS SHALL BE RENO LIGHTS AND WEST PARAPET LIGHTS SHALL BE PEDESTRIAN LIGHTS.

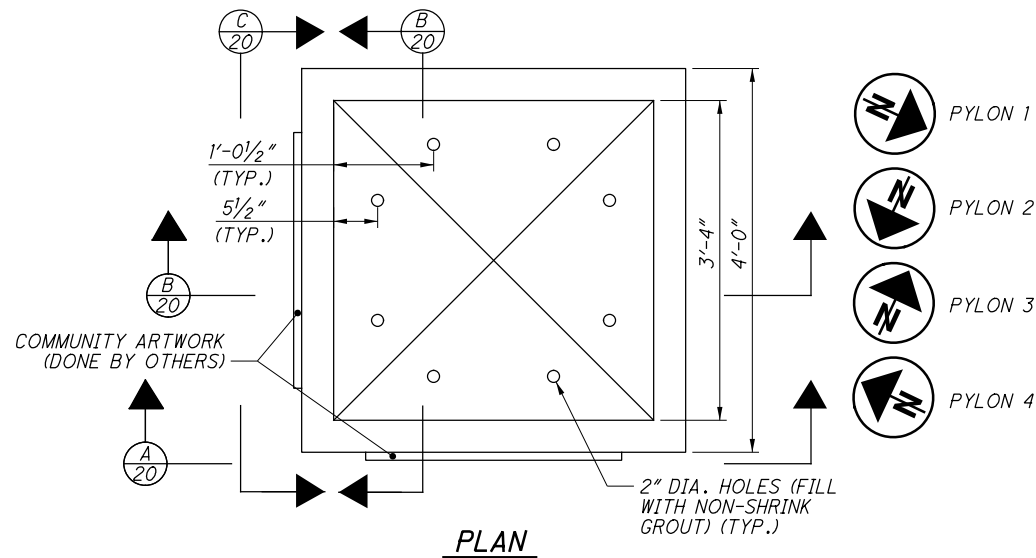
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0	2019-07-02	RFC	17 / 2
NO.	DATE	DESCRIPTION	<div> <div>19</div> <div>37</div> </div>
ISSUE RECORD			



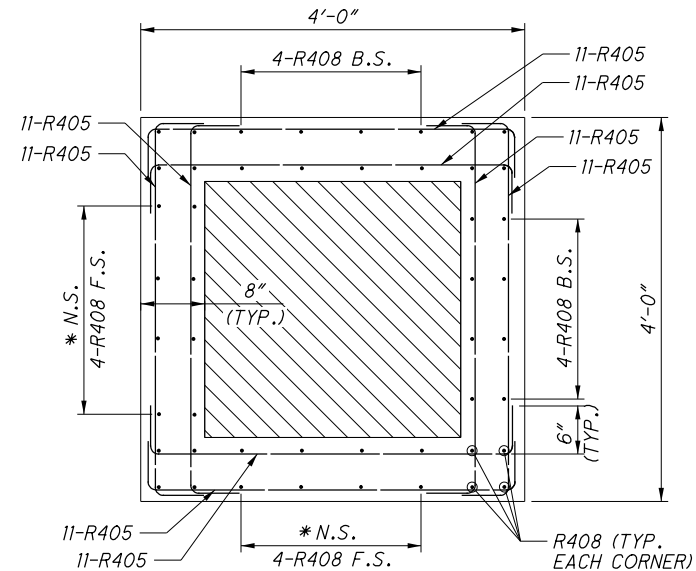
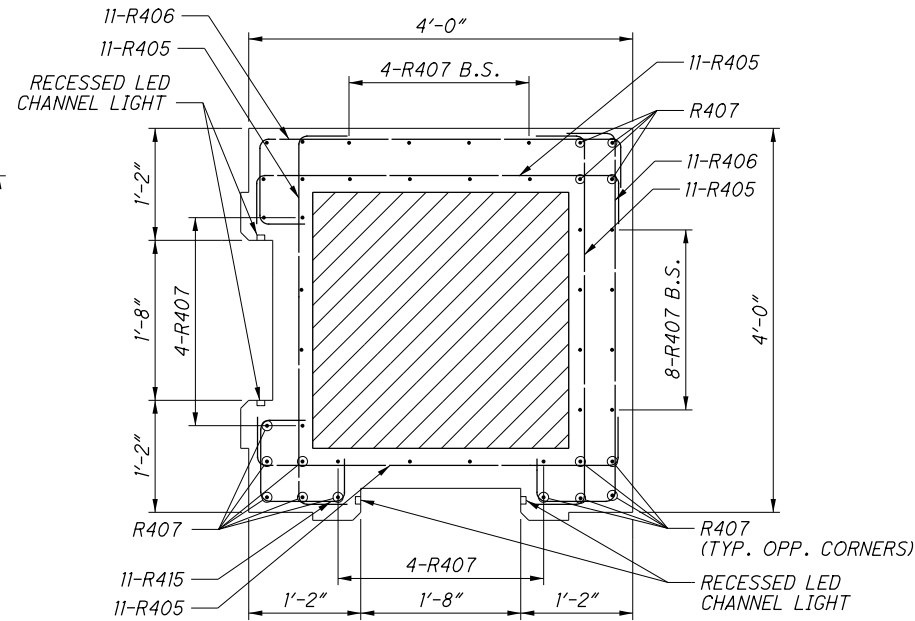
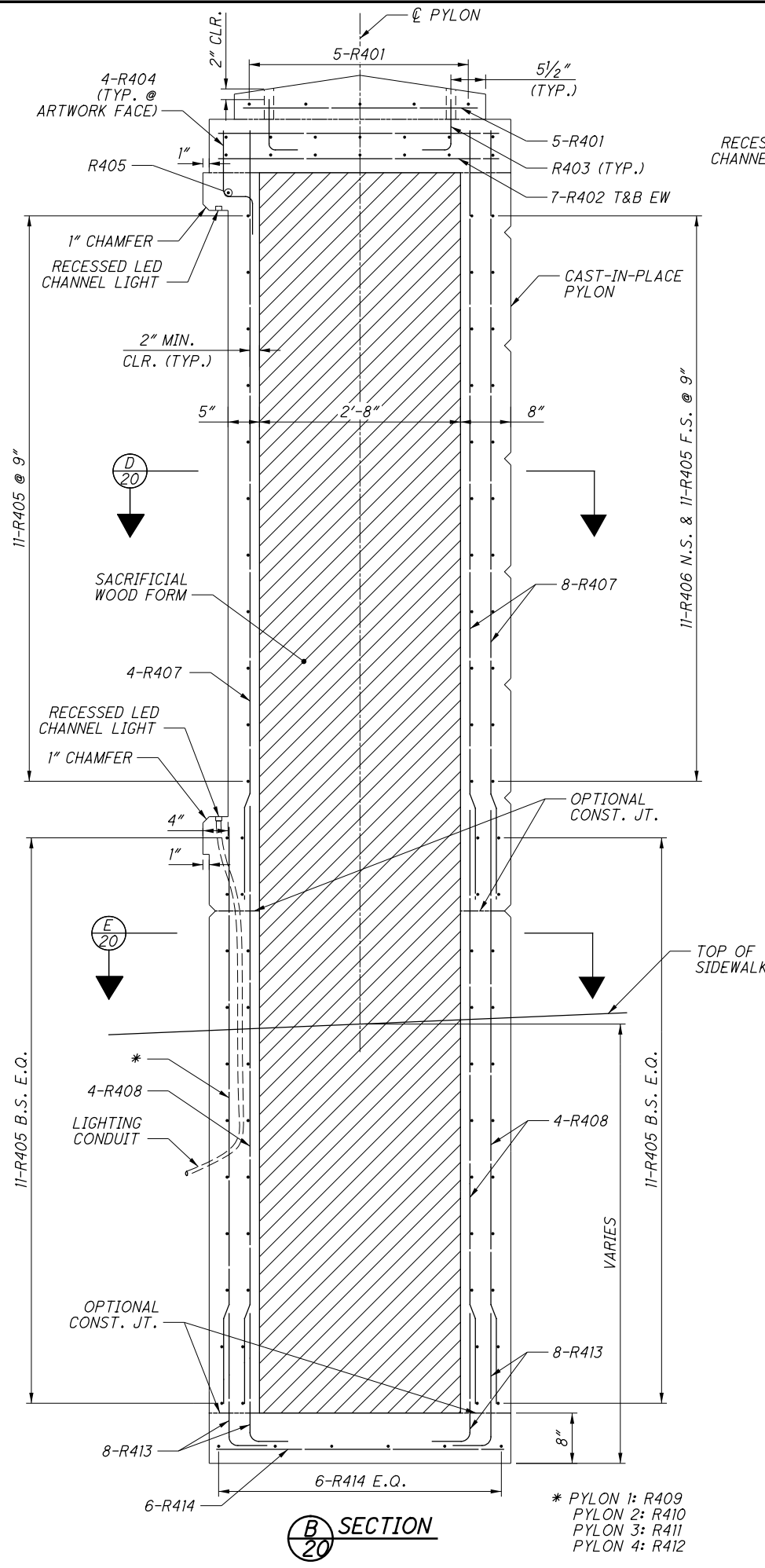
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A C VIEW
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PLAN



NO.	DATE	DESCRIPTION
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PYLON DETAILS

CUY-10-1929
EAST 59TH STREET PEDESTRIAN BRIDGE OVER OH-10

CUY-IR490/SR010-
2.09/19.28

PID No. 96833

20/22

22
37



DESIGN AGENCY
REBAY ENGINEERING GROUP, INC.
10000 ROUTE 500
COLUMBUS, OHIO 43215
PH. NO. (614) 221-6009
FAX NO. (614) 221-9089

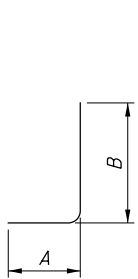
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PA	JDS	AE	05/02/19
CHECKED	REVIS	STRUCTURE FILE NUMBER	
LI		1801513	

RECORD PLANS

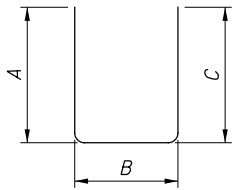
RECORD PLANS

RECORD PLANS

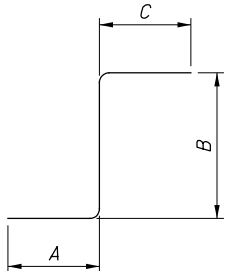
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
REAR ABUTMENT											
RA401	24	8'-8"	139	2	3'-6"	1'-10"	3'-6"				
RA402	8	7'-5"	40	42	3'-0"	1'-10"	2"	2'-10"			
RA403	24	11'-7"	186	STR							
RA404	60	4'-5"	177	41	3'-6"						
RA405	50	12'-5"	415	STR							
RA501	36	6'-11"	260	1	3'-2"	3'-11"					
RA502	20	13'-4"	278	19	11'-10"	1'-6"	2"				
RA503	20	20'-11"	436	STR							
RA504	20	7'-1"	148	8	3'-6"	5"	3'-5"				
RA505	20	7'-3"	151	8	3'-4"	7"	3'-7"				
RA506	28	7'-0"	204	STR							
RA601	34	18'-7"	949	2	4'-3"	10'-5"	4'-3"				
RA602	2 SR OF 5	18'-0" TO 18'-2"	272	2	4'-3" TO 4'-3"	9'-10" TO 10'-0"	4'-3" TO 4'-3"				Incr A = 0" Incr B = 0 1/2" Incr C = 0"
RA603	48	5'-10"	421	41	4'-4"						
RA604	36	11'-11"	644	41	10'-5"						
RA605	1 SR OF 8	11'-7" TO 11'-11"	141	41	10'-1" TO 10'-5"						0 5/8"
RA606	4	11'-7"	70	41	10'-1"						
RA607	10	22'-9"	342	43	15'-1"	5'-10"	1'-0"	8"	1'-0"		
RA608	10	22'-7"	339	2	1'-0"	20'-11"	1'-0"				
RA609	12	11'-7"	209	STR							
RA801	1	12'-2"	32	41	10'-2"						
RA802	1	12'-3"	33	41	10'-3"						
RA803	9	12'-5"	298	41	10'-5"						
RA804	1	12'-1"	32	41	10'-1"						
RA805	3	20'-11"	168	19	15'-1"	5'-10"	8"				
RA806	18	20'-11"	1,005	STR							
SUBTOTAL			7,389								



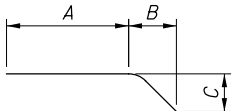
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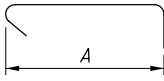
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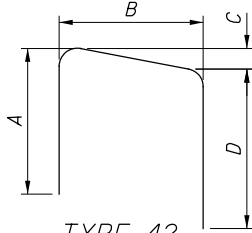
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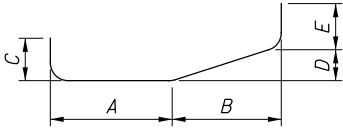
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TYPE-41



TYPE-42

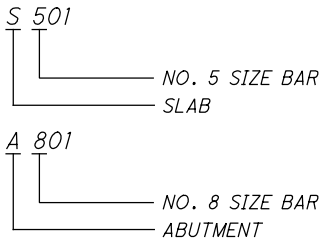


TYPE-43

NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

EXAMPLES:

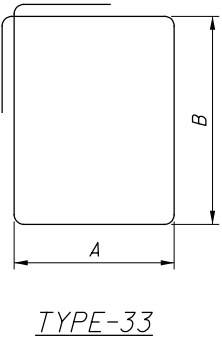
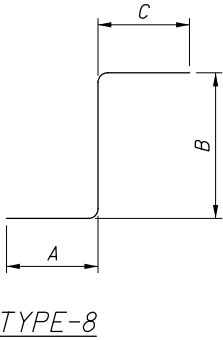
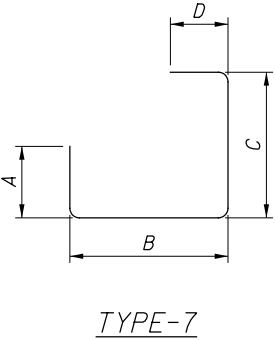
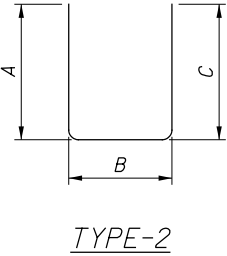
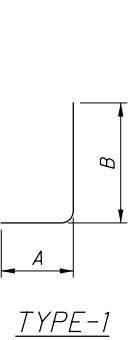


MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
FORWARD ABUTMENT											
FA401	12	10'-8"	86	2	4'-4"	2'-2"	4'-4"				
FA402	12	9'-0"	72	STR							
FA403	62	13'-1"	542	STR							
FA404	60	4'-5"	177	41	3'-6"						
FA405	16	10'-4"	110	2	4'-4"	1'-10"	4'-4"				
FA406	12	11'-7"	93	STR							
FA501	18	10'-6"	197	2	3'-2"	4'-5"	3'-2"				
FA502	21	14'-0"	307	STR							
FA503	21	21'-2"	464	STR							
FA504	42	7'-2"	314	8	3'-6"	5"	3'-6"				
FA505	21	10'-2"	223	8	3'-6"	5"	6'-6"				
FA506	21	10'-1"	221	STR							
FA507	28	7'-0"	204	STR							
FA601	44	18'-5"	1,217	2	4'-3"	10'-3"	4'-3"				
FA602	48	5'-10"	421	41	4'-4"						
FA603	48	11'-9"	847	41	10'-3"						
FA604	20	22'-11"	688	2	1'-0"	21'-3"	1'-0"				
FA605	12	11'-7"	209	STR							
FA606	12	11'-9"	212	2	1'-0"	10'-1"	1'-0"				
FA607	20	5'-10"	175	2	1'-0"	4'-2"	1'-0"				
FA801	12	12'-2"	390	41	10'-2"						
FA802	21	21'-3"	1,191	STR							
SUBTOTAL			8,360								

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NO.	DATE	DESCRIPTION
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MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S501	72	9'-2"	688	33	1'-2"	2'-11"					
S502	12	2'-11"	37	STR							
S601	137	16'-4"	3,360	STR							
S602	24	40'-0"	1,442	STR							
S603	12	27'-10"	502	STR							
S604	12	16'-4"	294	STR							
S701	12	2'-11"	72	STR							
S801	12	16'-4"	523	STR							
SUBTOTAL			6,918								

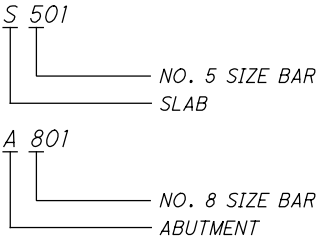
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
PARAPET											
R401	40	3'-0"	80	STR							
R402	112	3'-8"	275	STR							
R403	16	13'-11"	149	1	6'-0"	6'-0"					
R404	16	1'-10"	20	8	0'-10"	0'-4"	0'-11"				
R405	536	4'-6"	1,611	2	0'-6"	3'-8"	0'-6"				
R406	88	4'-9"	279	7	0'-6"	3'-8"	0'-6"	0'-5"			
R407	176	10'-1"	1,185	STR							
R408	160	7'-5"	795	STR							
R409	32	6'-3"	134	STR							
R410	32	6'-6"	140	STR							
R411	32	6'-1"	131	STR							
R412	32	6'-5"	137	STR							
R413	192	3'-3"	417	1	0'-10"	2'-6"					
R414	48	3'-8"	118	STR							
R415	40	2'-0"	53	7	0'-5"	0'-9"	0'-9"	0'-5"			
R501	444	4'-9"	2,200	1	1'-10"	3'- 0 1/2"					
R502	16	9'-4"	155	STR							
R503	8	28'-9"	240	STR							
R504	32	8'-5"	281	STR							
R505	40	9'-8"	403	STR							
R506	16	40'-0"	668	STR							
R507	111	5'-5"	627	2	2'-6"	0'-8"	2'-6"				
SUBTOTAL			10,098								



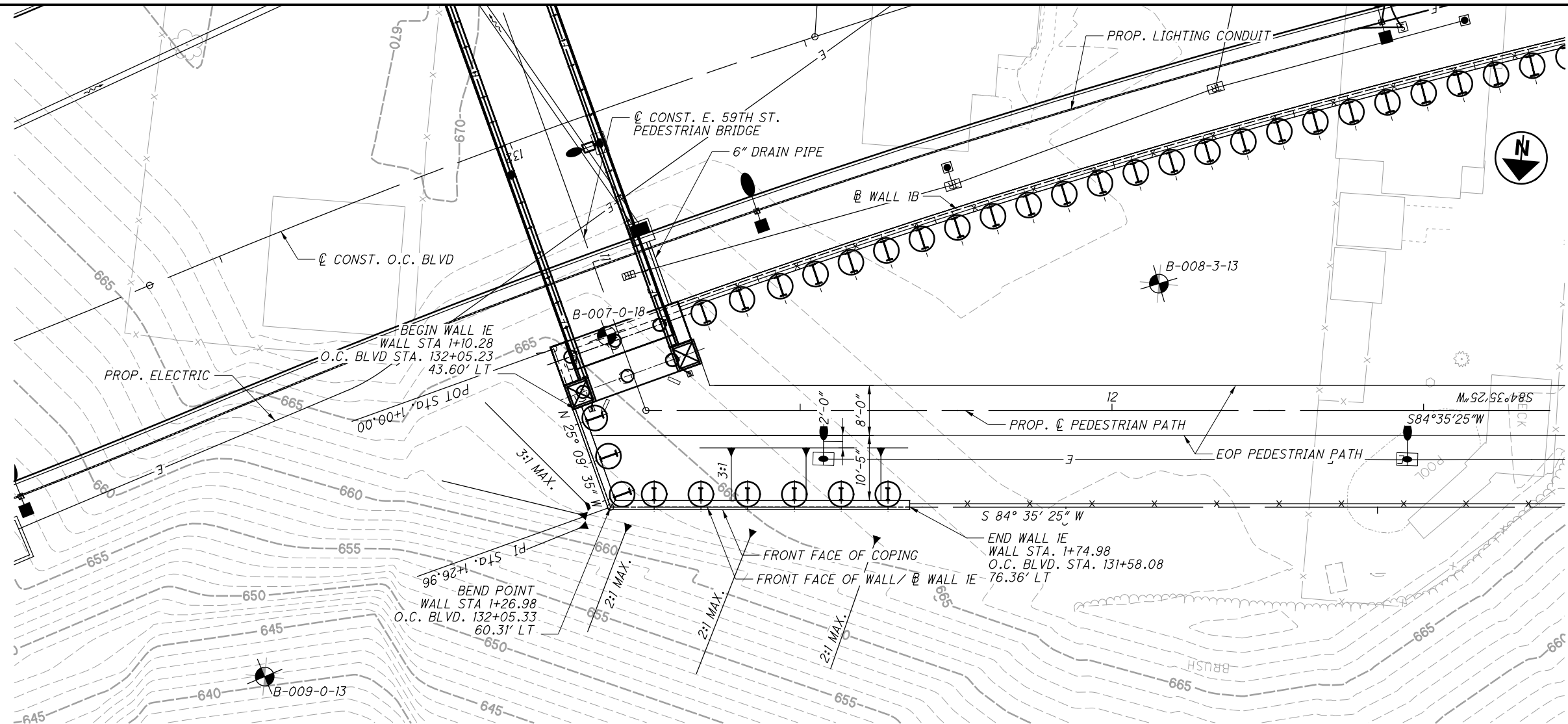
NOTES:

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3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

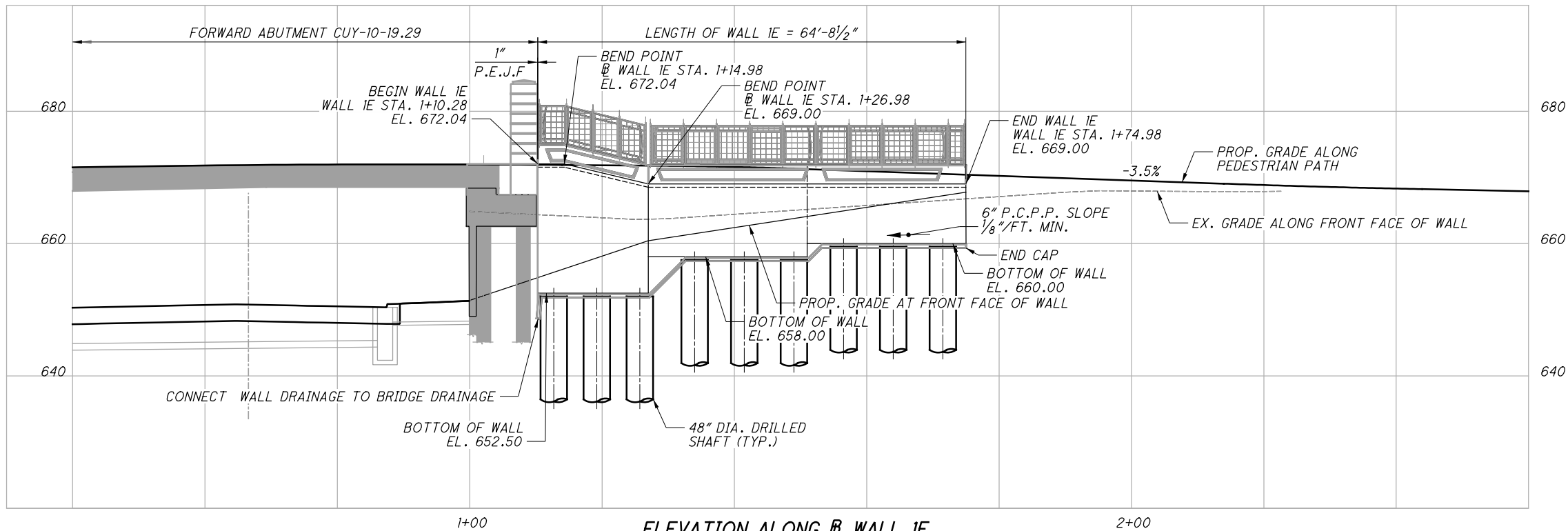
EXAMPLES:



1	2020-06-10	DC041
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NO.	DATE	DESCRIPTION
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PLAN



ELEVATION ALONG WALL 1E

BENCHMARK DATA

BM MN2: FENO SET IN RD. BOX,
STA. 109+55.47, 87.02' RT.,
ELEV. 642.14

BM MN3: FENO SET IN RD. BOX,
STA. 158+90.59, 266.47' LT.,
ELEV. 668.04

FOR ROADWAY PLANS, SEE BU-14.

LEGEND

 BORING LOCATION

NOTES

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

NO.	DATE	DESCRIPTION
0	2019-07-02	RFC
ISSUE RECORD		

PLAN AND ELEVATION

RETAINING WALL 1E

ALONG E. 59TH PEDESTRIAN PATH

CUY-IR490/SR010-
2.09/19.28

PID No. 96833

1 / 13

25
37

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING:
VPF-1-90 REVISED 7/17/2015

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:
800 REVISED 7/15/2016

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "LFRD BRIDGE DESIGN SPECIFICATIONS", 7TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORATATION OFFICALS, INCLUDING THE 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007 (DATED 07-15-16).

DESIGN ASSUMPTIONS:

SOIL UNIT WEIGHT, γ= 120 pcf
ANGLE OF INTERNAL FRICTION, φ= 30°

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING AND DRILLED SHAFTS)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES, W24x55
ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES, W33x118

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50. DO NOT SPLICE STEEL SOLDIER PILES.

ITEM 509 - WALL FACING REINFORCEMENT

THE CONTRACTOR MAY REPLACE THE REINFORCING BARS IN THE RETAINING WALL FACING WITH EPOXY COATED WELDED WIRE FABRIC CONFORMING TO C&MS 709.14. THE EPOXY COATED WELDED WIRE FABRIC MUST PROVIDE AN EQUIVALENT AREA OF STEEL IN EACH DIRECTION AS THE REINFORCING BARS SHOWN IN THE PLANS.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN

PLACE WATERPROOFING MEMBRANE AT THE LOCATIONS OF THE PROPOSED JOINTS IN THE CONCRETE WALL FACING. PLACE THE WATERPROOFING MEMBRANE OVER THE PGD AND SECURELY ATTACH TO THE TIMBER LAGGING WITH SCREWS AND 1-INCH OUTER DIAMETER FENDER WASHERS. PLACE THE MEMBRANE SO THAT THE ADHESIVE SIDE FACES THE CAST-IN-PLACE CONCRETE. THE SURFACE PREPARATION DESCRIBED IN C&MS 512.08 IS NOT REQUIRED.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING, PILASTERS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE LIGHT TAN (FEDERAL STD. 595C #27769).

ITEM 513 - WELDED STUD SHEAR CONNECTORS

SOLDIER PILES WHICH REQUIRE HEADED STUDS ARE SHOWN IN THE TABLE ON SHEET [6/13]. WELD HEADED STEEL STUDS TO THE FLANGES OF THE SOLDIER PILE IN ORDER TO CONNECT THE CONCRETE WALL FACING TO THE SOLDIER PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. THE CONTRACTOR MAY ATTACH THE STUDS EITHER BEFORE PLACING THE SOLDIER PILE IN THE DRILLED HOLE OR AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE DEPARTMENT.

REGULATED MATERIALS

REFER TO DEMOLITION PLANS IN BUILDABLE UNIT 14 - ROADWAY AND PAVEMENT, BEGIN PROJECT TO KINGSBURY RUN FOR LOCATION AND IDENTIFICATION OF KNOWN REGULATED MATERIALS. HANDLING OF REGULATED MATERIALS SHALL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS.

ITEM 524 - DRILLED SHAFTS, 48" DIAMETER, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS ACCORDING TO C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 CONCRETE ACCORDING TO C&MS 511. PLACE CONCRETE TO THE ELEVATION FOR THE TOP OF THE DRILLED SHAFT. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

FILL THE HOLE ABOVE THE CONCRETE TO THE EXISTING GROUND SURFACE WITH ITEM 613 LOW STRENGTH MORTAR BACKFILL (LSM).

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

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 CONCRETE SEALER OVER WHICH IT IS APPLIED. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

- A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.
- B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).
- C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).
- D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.

3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.

4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".

5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").

6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 518 - STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN

THIS WORK CONSISTS OF FURNISHING AND PLACING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) AGAINST THE TIMBER LAGGING OR AGAINST THE CONCRETE WALL FACING WHERE THE TIMBER LAGGING IS NOT REQUIRED.

FURNISH PGD CONSISTING OF A DRAINAGE CORE WITH A GEOTEXTILE FABRIC BONDED TO AT LEAST ONE SIDE. USE CORE MATERIAL THAT CONSISTS OF A STABLE, POLYMER PLASTIC MATERIAL WITH A CUSPATED OR GEONET STRUCTURE. THE CORE MATERIAL SHALL HAVE SUFFICIENT FLEXIBILITY TO WITHSTAND BENDING AND HANDLING DURING INSTALLATION WITHOUT DAMAGE. FURNISH GEOTEXTILE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS FORMED INTO A WOVEN OR NON-WOVEN FABRIC. FURNISH PGD CONFORMING TO THE FOLLOWING REQUIREMENTS. FURNISH MANUFACTURER'S CERTIFIED TEST DATA.

	PROPERTY	TEST METHOD	VALUE
CORE	THICKNESS	ASTM D 5199	0.4 INCH
	COMPRESSIVE STRENGTH	ASTM D 1621	13,650 PSF MIN.
	FLOW RATE	ASTM D 4716	9 TO 25 GPM/FT
FABRIC	APPARENT OPENING SIZE	ASTM D 4751	0.3 MM MAX.
	FLOW RATE	ASTM D 4491	40 GPM/SQ.FT. MIN.
	GRAB TENSILE STRENGTH	ASTM D 4632	90 LBS MIN.
	CBR PUNCTURE	ASTM D 6241	65 LBS MIN.

PLACE PGD BETWEEN THE SOLDIER PILES, INCLUDING THE CANTILEVER PORTION AT THE END OF THE WALL. PLACE THE SIDE FACED WITH GEOTEXTILE AGAINST THE TIMBER LAGGING, FACING TOWARDS THE RETAINED GROUND, AND SECURE THE PGD TO THE LAGGING. USE NAILS AND WASHERS AT LEAST 1-INCH DIAMETER IN SIZE TO SECURE THE PGD ALONG THE EDGES OF THE PGD AND AT A MAXIMUM SPACING OF 4 FEET.

SPLICE ABUTTING SECTIONS TOGETHER BY OVERLAPPING THE GEOTEXTILE FLAP (IF PROVIDED) ON ONE SECTION WITH THE ADJACENT SECTION OF PGD. OVERLAP THE GEOTEXTILE IN A SHINGLED OVERLAP SO THAT THE UPPER GEOTEXTILE IS ON TOP OF THE LOWER GEOTEXTILE. IF A GEOTEXTILE FLAP IS NOT PROVIDED, COVER THE SEAM WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC CENTERED OVER THE SEAM AND SECURED IN PLACE USING 3-INCH WIDE WATERPROOF PLASTIC TAPE.

SEAL ALL EXPOSED EDGES OF THE CORE MATERIAL TO PREVENT SOIL INSTRUSION. SEAL EXPOSED EDGES BY FOLDING THE GEOTEXTILE FLAPS OVER AND AROUND THE PGD OR, IF A FLAP IS NOT PROVIDED, COVERING THE EXPOSED EDGE WITH A 12-INCH WIDE STRIP OF GEOTEXTILE FABRIC, TAPING THE STRIP TO THE PGD GEOTEXTILE 8 INCHES FROM THE EXPOSED EDGE, AND FOLDING THE REMAINING 4 INCHES OVER AND AROUND THE PGD. SECURE LOOSE EDGES OF THE GEOTEXTILE FABRIC WITH 3-INCH WIDE WATERPROOF PLASTIC TAPE.

REPAIR ANY DAMAGE TO THE GEOTEXTILE FABRIC BY COVERING WITH A PATCH WHICH OVERLAPS THE DAMAGED AREA AND EXTENDS AT LEAST 6 INCHES BEYOND THE EDGE OF THE DAMAGED AREA. TAPE THE EDGES OF THE PATCH IN PLACE USING 3-INCH WIDE WATERPROOF PLASTIC TAPE. IF THE CORE OF THE PGD IS DAMAGED, REPLACE IT WITH A NEW SECTION OF PGD AND SPLICE IT AS DESCRIBED ABOVE.

WHERE SHOWN ON THE PLANS, PLACE THE BOTTOM OF THE PGD ADJACENT TO A PERFORATED DRAINAGE COLLECTION PIPE AND POROUS BACKFILL AND COVER WITH GEOTEXTILE FABRIC. ENSURE A CONTINUOUS DRAINAGE PATH FROM THE PGD CORE TO THE PIPE. WHERE A WALL HAS WEEPHOLES FOR DRAINAGE, ENSURE WATER CAN DRAIN FROM THE PGD TO THE WEEPHOLE. IF NECESSARY, CUT A HOLE IN THE CORE TO ALLOW DRAINAGE OR USE A WEEPHOLE FITTING FROM THE PGD MANUFACTURER. DO NOT CUT GEOTEXTILE.

IF TIMBER LAGGING IS NOT REQUIRED BECAUSE THE PORTION OF THE WALL IS ABOVE THE EXISTING GROUND, ATTACH PGD TO THE BACK FACE OF CONCRETE WALL FACING UNTIL BACKFILL IS PLACED.

0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
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DESIGN AGENCY
E.L. ROBINSON
ENGINEERING
1469 West 9th Street • Cleveland, Ohio 44113
www.elrobinsonengineering.com

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DATE
4/30/2019
RE
STRUCTURE FILE NUMBER

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SM
REVIS
SM

DESIGNED
SM
CHECKED
PAN

GENERAL NOTES (1 OF 3)
RETAINING WALL 1E
ALONG E. 59TH PEDESTRIAN PATH

CUY-IR490/SR010-
2.09/19.28
PID No. 96833

2 / 13

26
37

RECORD PLANS

RECORD PLANS

ITEM SPECIAL – RETAINING WALL, MISC.: TIMBER LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE SOLDIER PILES WHERE REQUIRED BELOW THE EXISTING GROUND SURFACE. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 3 INCHES. TO PERMIT DRAINAGE, PROVIDE 1/4 TO 1/2-INCH SPACES BETWEEN LAGGING BOARDS USING 3/8-INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER.

ITEM 607 – VANDAL PROTECTION FENCE, AS PER PLAN

THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FABRICATE, GALVANIZE, CLEAN, APPLY A TWO-COAT SHOP PAINT SYSTEM (EPOXY/URETHANE) AND INSTALL THE RAILING. ALL FENCE AND RAILING MATERIALS SHALL BE GALVANIZED AND PAINTED PER THIS NOTE.

A. FABRICATION OF THE RAILING SHALL BE IN ACCORDANCE WITH C&MS 513, UF LEVEL. COATING OF THE RAILING SHALL BE IN ACCORDANCE WITH C&MS 514, EXCEPT AS NOTED BELOW.

B. THE ARCHITECTURAL FENCING SHALL SATISFY THE MINIMUM DESIGN REQUIREMENTS FOR POSTS AND ANCHORAGES AS SPECIFIED IN STANDARD BRIDGE DRAWING VPF-I-90, "VANDAL PROTECTION FENCE".

C. THE FENCING SHALL BE CONSTRUCTED USING WELDED WIRE FABRIC WITH 10.5 GAGE CORE WIRE, GALVANIZED AFTER WELDING.

D. STEEL PLATES AND SHAPES SHALL BE ASTM A709 GRADE 36 OR 50. ALL OTHER MATERIALS SHALL BE IN ACCORDANCE WITH C&MS 707.10 OR 711.09.

E. THE GALVANIZED COATING SYSTEM MAY BE APPLIED BY A GALVANIZER NOT PRE-QUALIFIED AS A FABRICATION SHOP UNDER SUPPLEMENT 1078, BUT THE PRE-QUALIFIED FABRICATOR OF THE STRUCTURAL STEEL SHALL BE RESPONSIBLE FOR THE QUALITY OF THE APPLIED GALVANIZED COATING SYSTEM AND ANY REPAIRS, RE-FABRICATION AND ADDITIONAL ASSEMBLIES REQUIRED TO ASSURE THE FABRICATED STEEL MEETS THE PLAN REQUIREMENTS.

F. THE TWO SHOP COATS SHALL BE APPLIED IN A STRUCTURAL STEEL FABRICATION SHOP HAVING PERMANENT BUILDINGS PER 513.04 AND PREQUALIFIED AT THE UF LEVEL. THE PAINT QUALITY CONTROL SPECIALIST (QCS) SHALL BE QUALIFIED AS SPECIFIED IN 514.04.

G. PRIOR TO GALVANIZING, ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES SHALL HAVE A 1/16-INCH RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE.

H. GALVANIZE THE FABRICATED RAILING AND HARDWARE ACCORDING TO C&MS 711.02, EXCEPT THAT FABRICATED RAILING ELEMENTS SHALL NOT BE POST TREATED WITH WATER QUENCHING OR CHROMATE CONVERSION COATED.

I. AFTER GALVANIZATION, REMOVE ZINC HIGH SPOTS SUCH AS METAL DRIP LINE AND OTHERS THAT WOULD DETRACT FROM THE PAINT APPEARANCE BY SSPC SP2 OR SP3. TAKE CARE THAT THE BASE GALVANIZED COATING IS NOT REMOVED. CHECK REPAIRED AREAS FOR REQUIRED COATING THICKNESS.

J. REPAIR GALVANIZED COATINGS DAMAGED IN THE SHOP ACCORDING TO ASTM A780 METHOD A3. REPAIR GALVANIZED COATINGS DAMAGED IN THE FIELD ACCORDING TO ASTM A780 METHOD A1.

K. AFTER REMOVING HIGH SPOTS, CLEAN THE GALVANIZED COATING ACCORDING TO SSPC SP-1. THE CLEANING SOLUTION SHALL BE AN ALKALINE SOLUTION WITH A PH RANGING FROM A MINIMUM OF 11 TO A MAXIMUM OF 12. THIS SOLUTION CAN BE APPLIED BY IMMERSION, SPRAY OR SOFT NYLON BRUSH. FOLLOW CLEANING WITH A HOT WATER OR HOT PRESSURE WASHER RINSE. SEPARATE INDIVIDUAL PIECES AND POSITION TO FACILITATE DRAINAGE AND DRYING. THE PIECES SHALL BE COMPLETELY DRY BEFORE PROCEEDING.

L. AFTER CLEANING, ABRASIVE BLAST THE PIECES ACCORDING TO SSPC-SP7 BRUSH-OFF BLAST CLEANING. THE BLASTING OPERATION SHALL ROUGHEN THE GALVANIZED SURFACE TO AN ANGULAR SURFACE PROFILE OF 0.75 TO 1.00 MILS. SELECT THE BLASTING EQUIPMENT, TECHNIQUE AND ABRASIVE MATERIAL TO PROVIDE FOR THE SPECIFIED SURFACE PROFILE WITHOUT REMOVAL OF EXCESSIVE ZINC LAYERS. THE FINAL ZINC MILLAGE SHALL NOT BE LESS THAN 4.0 MILS. REMOVE ALL ABRASIVE RESIDUE WITH CLEAN COMPRESSED AIR OR OTHER METHODS ACCEPTABLE TO THE DEPARTMENT.

M. AFTER OBTAINING SURFACE PROFILE, SHOP APPLY A TWO COAT PAINT SYSTEM CONSISTING OF EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT MEETING THE REQUIREMENTS OF C&MS 708.02. THE FINISH COAT SHALL MATCH FEDERAL COLOR STANDARD FS 595C-17038 BLACK. APPLY THE EPOXY COATING WITHIN 24 HOURS OF THE BRUSH-OFF BLASTING.

N. PRIOR TO FABRICATION OF THE RAILING SYSTEM, FABRICATE A SAMPLE RAILING PANEL OF A LENGTH AGREEABLE TO THE PROJECT ENGINEER WHICH INCLUDES TWO POSTS, ALL HARDWARE, INCIDENTALS AND COATINGS. THE PROJECT ENGINEER WILL USE THIS SAMPLE PANEL TO JUDGE ACCEPTANCE OF THE FABRICATION, COATINGS AND QUALITY CONTROL PROGRAM. AFTER THE REVIEW OF THIS SAMPLE, THE DEPARTMENT AND THE CONTRACTOR MAY AGREE UPON ANY FABRICATION, COATING, QUALITY CONTROL OR INSTALLATION CHANGES AS A MODIFICATION TO THESE NOTES. THE FABRICATION CAN PROCEED ANY TIME AFTER THE ACCEPTANCE OF THIS SAMPLE PANEL. THE SAMPLE PANEL MAY BE INCORPORATED INTO THE FINISHED WORK AT THE DISCRETION OF THE ENGINEER.

O. REPAIR DAMAGE TO THE PAINT SYSTEM CAUSED DURING STORAGE, TRANSPORTATION, ERECTION, ACCORDING TO C&MS 514.22. EXERCISE EXTREME CARE WHILE HANDLING THE STEEL DURING ERECTION, AND DURING SUBSEQUENT CONSTRUCTION OF THE RAILING AND FENCE. INSULATE THE STEEL FROM THE BINDING CHAINS BY SOFTENERS AND PAD ALL HOOKS AND SLINGS THAT ARE USED TO HOIST/ERECT THE MEMBERS.

P. ALL FENCE ANCHORS SHALL BE CAST INTO THE PARAPET. A WASHER AND NUT SHALL BE TACK WELDED TO THE BOTTOM OF THE THREADED ROD TO AVOID THE ANCHORS PULLING LOOSE WHEN THE TEMPLATES FOR THE BASEPLATES ARE STRIPPED. FENCE ANCHORAGE SHALL BE STAINLESS STEEL PER C&MS 730.10.

PRE-CONSTRUCTION SURVEY, VIBRATION MONITORING, AND VIDEO INSPECTION OF SEWERS

CONDUCT A PRE-CONSTRUCTION SURVEY ACCORDING TO THE SETTLEMENT AND VIBRATION MONITORING PLAN OF BUILDINGS, STRUCTURES, UTILITIES, AND CRITICAL LOCATIONS WITHIN THE LIMITS DETERMINED BY THE DBT VIBRATION SPECIALIST. PERFORM A PRE-CONSTRUCTION VIDEO INSPECTION ACCORDING TO CM&S 611 OF ALL SEWERS WITHIN THE INFLUENCE ZONES OF CONSTRUCTION. PERFORM SETTLEMENT AND VIBRATION MONITORING ACCORDING TO THE SETTLEMENT AND VIBRATION MONITORING PLAN DURING CONSTRUCTION. AFTER CONSTRUCTION IS SUBSTANTIALLY COMPLETE, PERFORM A SECOND VIDEO INSPECTION OF THE SEWERS. PROVIDE RECORDINGS OF THE VIDEOS TO THE DEPARTMENT AND MAINTAINING AGENCY FOR REVIEW.

0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
ISSUE RECORD		

CUY-IR490/SR010-2.09/19.28
PID No. 96833

3 / 13

27
37

GENERAL NOTES (2 OF 3)
RETAINING WALL 1E
ALONG E. 59TH PEDESTRIAN PATH

DESIGNED
SM
CHECKED
PAN

DRAWN
SM
REVISED

REVIEWED
RER
STRUCTURE FILE NUMBER

DATE
4/30/2019

DESIGN AGENCY
E.L. ROBINSON
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RECORD PLANS

RECORD PLANS

APPLICABLE ODOT CM&S SPECIFICATIONS

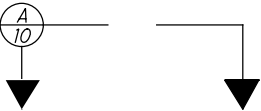
THE FOLLOWING WORK ITEMS SHALL BE CONSTRUCTED PER THE CM&S ITEMS LISTED BELOW.

ITEM NO.	ITEM DESCRIPTION
507	STEEL PILES, MISC.: SOLDIER PILES, W24x55
507	STEEL PILES, MISC.: SOLDIER PILES, W33X118
509	EPOXY COATED REINFORCING STEEL
511	CONCRETE, CLASS QC 1 WITH QC/QA
512	TYPE 2 WATERPROOFING, AS PER PLAN
512	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)
512	SEALING OF CONCRETE SURFACES, AS PER PLAN, PERMANENT GRAFFITI PROTECTION
513	WELDED STUD SHEAR CONNECTORS
518	STRUCTURE DRAINAGE, MISC.: PREFABRICATED GEOCOMPOSITE DRAIN
518	POROUS BACKFILL WITH FILTER FABRIC
524	DRILLED SHAFT, 48" DIAMETER, AS PER PLAN
607	VANDAL PROTECTION FENCE, AS PER PLAN

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
 APPR. = APPROACH
 B = BOTTOM
 B = BASELINE
 B.F. = BACK FACE
 BM = BENCHMARK
 BOT. OR BTM. = BOTTOM
 C = CENTERLINE
 C/C = CENTER TO CENTER
 C.I.P. = CAST-IN-PLACE
 C.J. = CONSTRUCTION JOINT
 CLR. = CLEAR
 CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
 CONC. = CONCRETE
 CONST. = CONSTRUCTION
 DIA. = DIAMETER
 DIM. = DIMENSION
 DTBD = DISPOSITION TO BE DETERMINED
 DWG. = DRAWING
 E.F. = EACH FACE
 EL. OR ELEV. = ELEVATION
 EQ. = EQUAL
 EST. = ESTIMATED
 EX. = EXISTING
 F/F = FACE TO FACE
 F.F. = FRONT FACE
 FT. = FOOT OR FEET
 FTG. = FOOTING
 FWD. = FORWARD
 IN. = INCH
 JT. = JOINT
 LT. = LEFT
 MAX. = MAXIMUM
 MIN. = MINIMUM
 MISC. = MISCELLANEOUS
 N = NORTH
 NB = NORTHBOUND
 NO. = NUMBER
 N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
 OHWM = ORDINARY HIGH WATER MARK
 O/O = OUT TO OUT
 P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
 P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
 PROP. = PROPOSED
 PSF = POUNDS PER SQUARE FOOT
 S = SOUTH
 SB = SOUTHBOUND
 SER. = SERIES
 SHLDR = SHOULDER
 SPA. = SPACE OR SPACES
 STA. = STATION
 STD. = STANDARD
 STR = STRAIGHT
 T = TOP
 T&B = TOP & BOTTOM
 TBR = TO BE REMOVED
 TBRBO = TO BE RELOCTED BY OTHERS
 TEMP. = TEMPORARY
 TOW = TOP OF WALL
 TYP. = TYPICAL
 U.N.O. = UNLESS NOTED OTHERWISE
 VAR. = VARIES
 WWR = WELDED WIRE REINFORCEMENT

SECTION / DETAIL / VIEW CALLOUTS

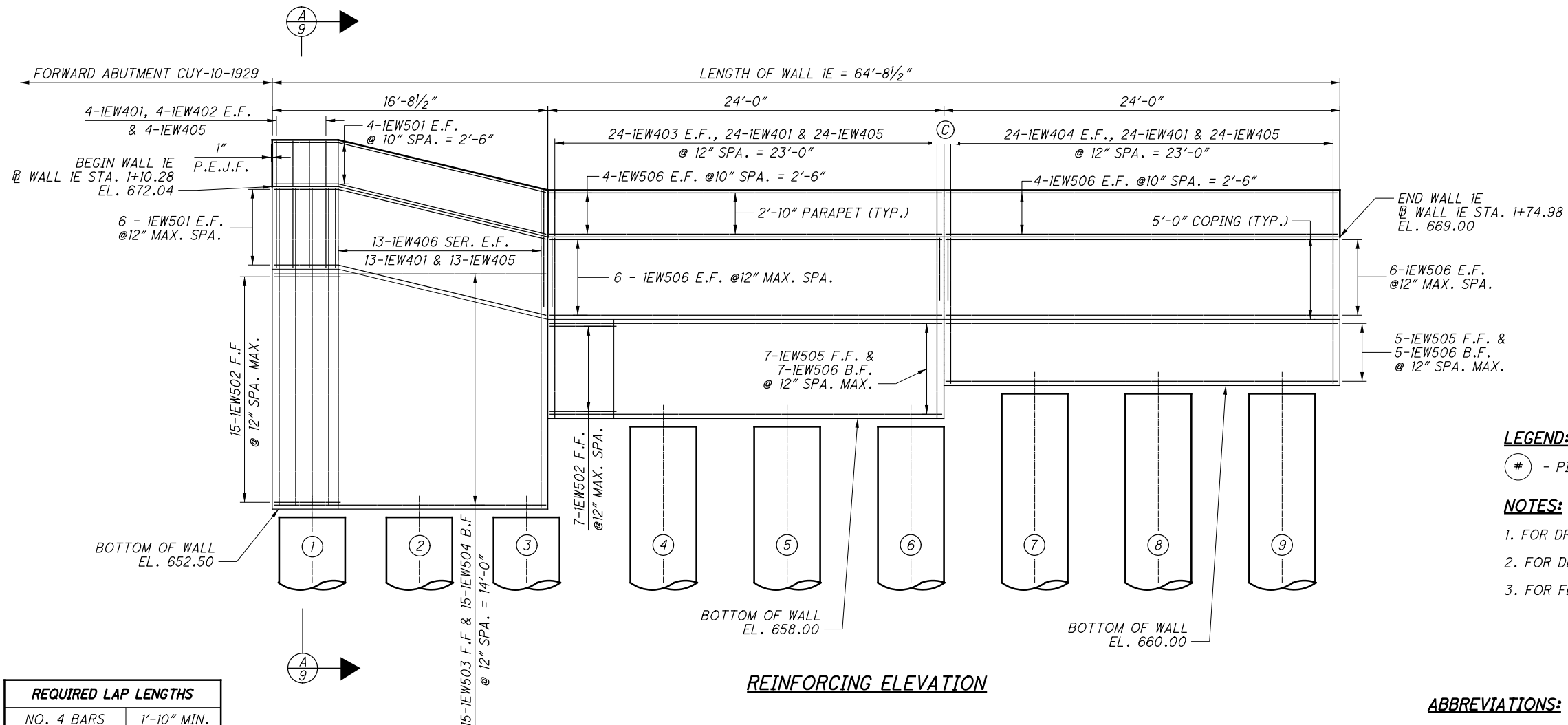
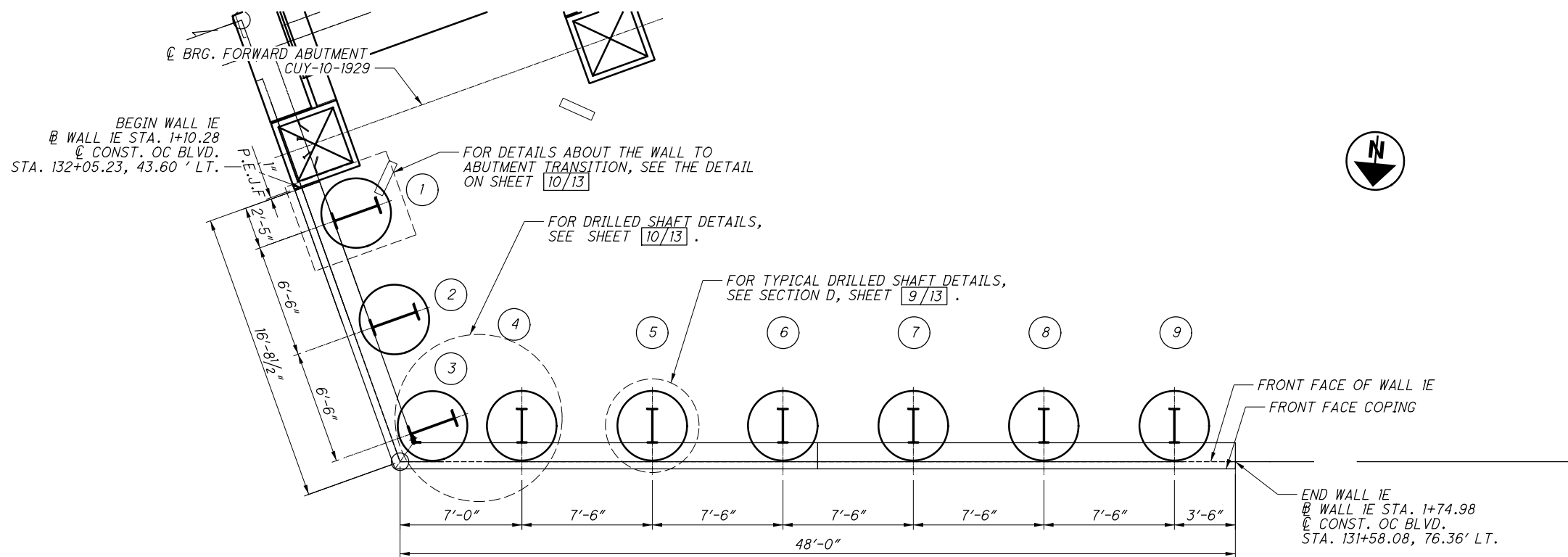


(SEE SECTION A ON SHEET 10)



(SECTION A CUT FROM SHEET 9)

0	2019-07-02	RFC
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**LEGEND:**

- PILE NUMBER

NOTES:

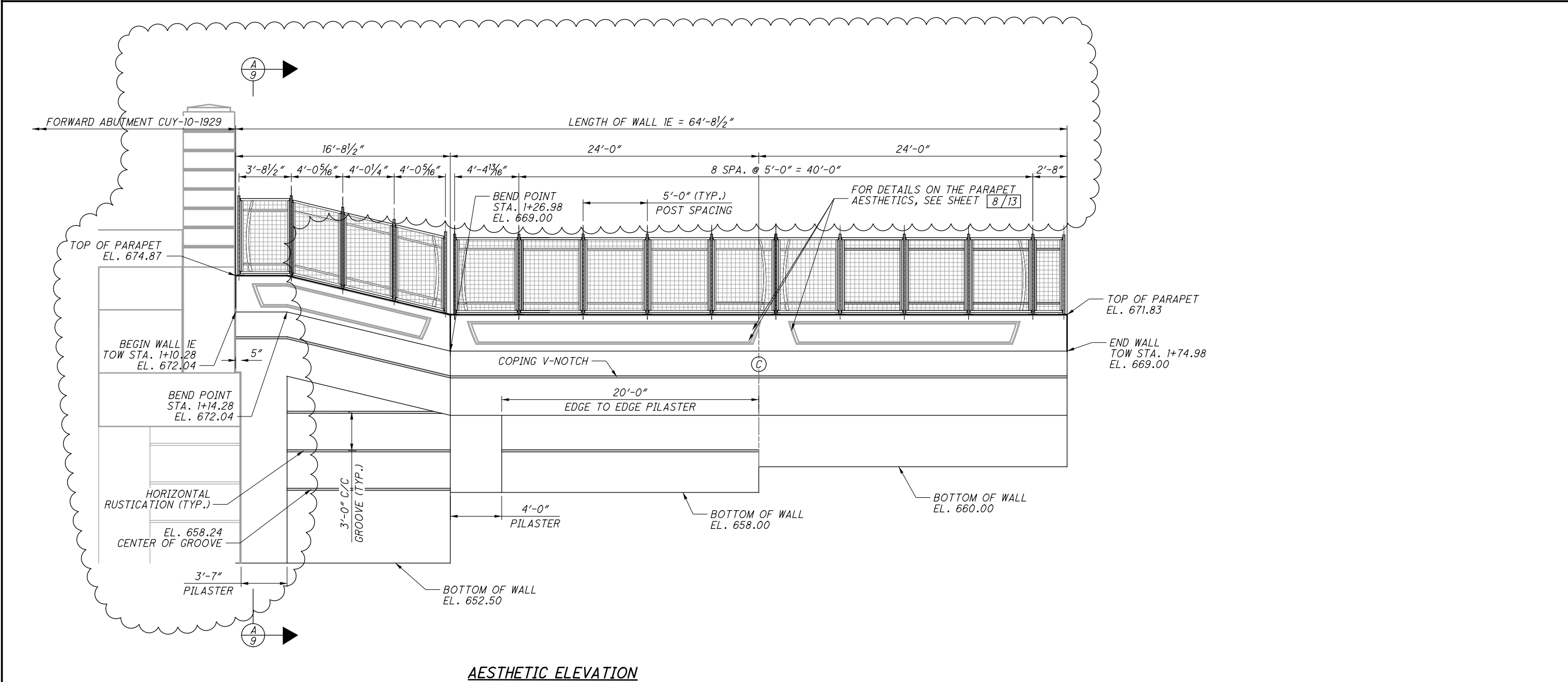
1. FOR DRILLED SHAFT LOCATION AND ELEVATIONS, SEE SHEET 6/13.
2. FOR DETAILS ABOUT THE CONTRACTION JOINT, SEE SHEET 9/13.
3. FOR FENCE DETAILS, SEE SHEETS 11/13 AND 12/13.

ABBREVIATIONS:

TOW - TOP OF WALL

REQUIRED LAP LENGTHS	
NO. 4 BARS	1'-10" MIN.
NO. 5 BARS	3'-1" MIN.

NO.		DATE	DESCRIPTION
0	2019-07-02	RFC	
ISSUE RECORD			



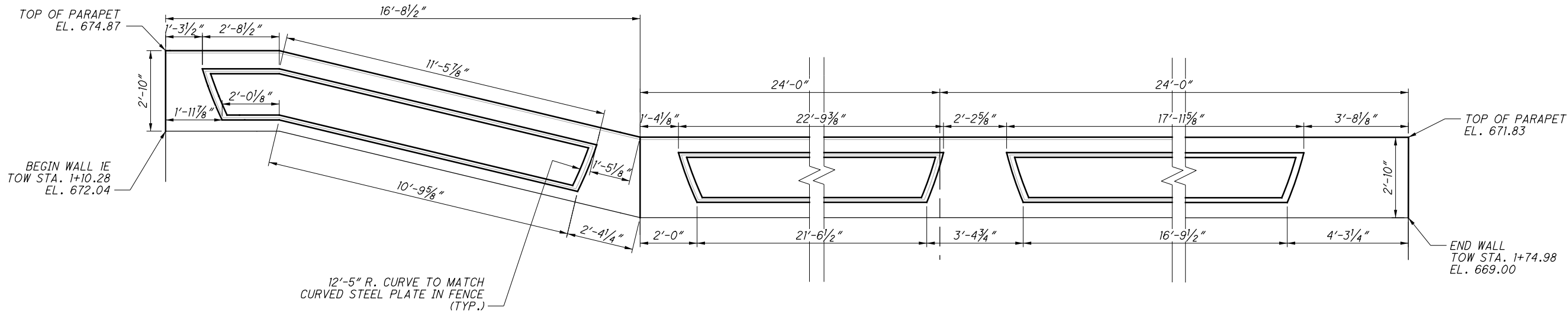
AESTHETIC ELEVATION

- LEGEND:**
- (C) - CONTRACTION JOINT
- NOTES:**
- FOR DRILLED SHAFT LOCATION AND ELEVATIONS, SEE SHEET 6/13.
 - FOR DETAILS ABOUT THE CONTRACTION JOINT, SEE SHEET 9/13.
 - FOR FENCE DETAILS, SEE SHEETS 11/13 AND 12/13.

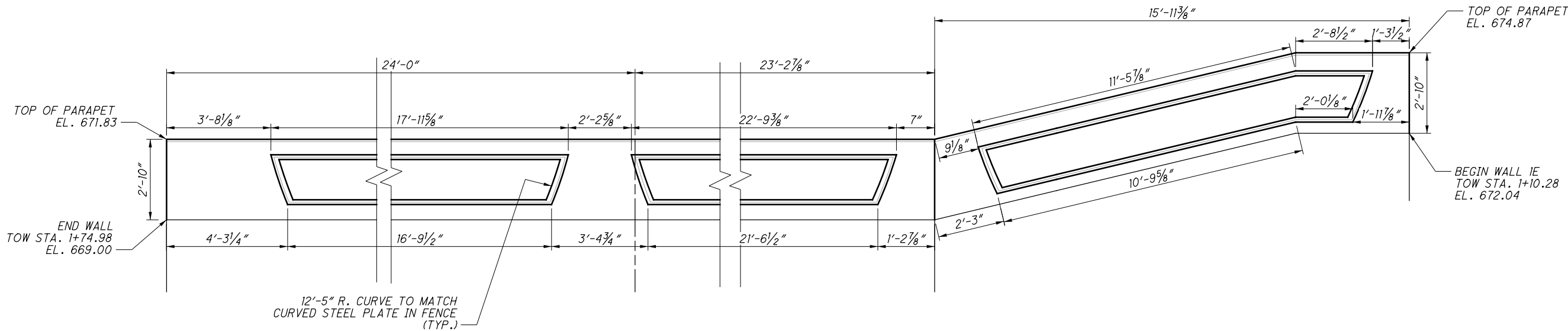
ABBREVIATIONS:

TOW - TOP OF WALL

NO.	DATE	DESCRIPTION
1	2024-09-10	RECORD DRAWINGS
0	2019-07-02	RFC
ISSUE RECORD		



PARAPET AESTHETICS (FRONT FACE)



PARAPET AESTHETICS (BACK FACE)

NOTES:

1. FOR DRILLED SHAFT LOCATION AND ELEVATIONS, SEE SHEET 6/13.
2. FOR DETAILS ABOUT THE CONTRACTION JOINT, SEE SHEET 9/13.
3. FOR FENCE DETAILS, SEE SHEETS 11/13 AND 12/13.

ABBREVIATIONS:
TOW - TOP OF WALL

ISSUE RECORD		
NO.	DATE	DESCRIPTION
0	2019-07-02	RFC

DESIGN AGENCY
EL. ROBINSON
ENGINEERING
1468 West 9th Street • Cleveland, Ohio 44113
www.elrobinsonengineering.com

DATE
4/30/2019
REVIEWER
RER
STRUCTURE FILE NUMBER

DRAWN
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REVISED

DESIGNED
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CHECKED
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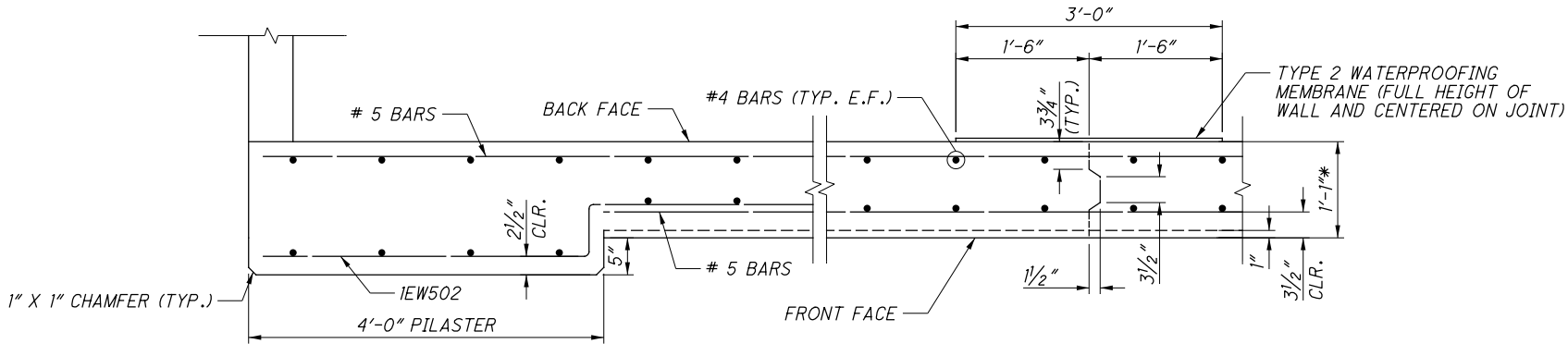
AESTHETIC DETAILS
RETAINING WALL 1E
ALONG E. 59TH PEDESTRIAN PATH

CUY-IR490/SR010-
2.08/19.28
PID No. 96833

8 / 13

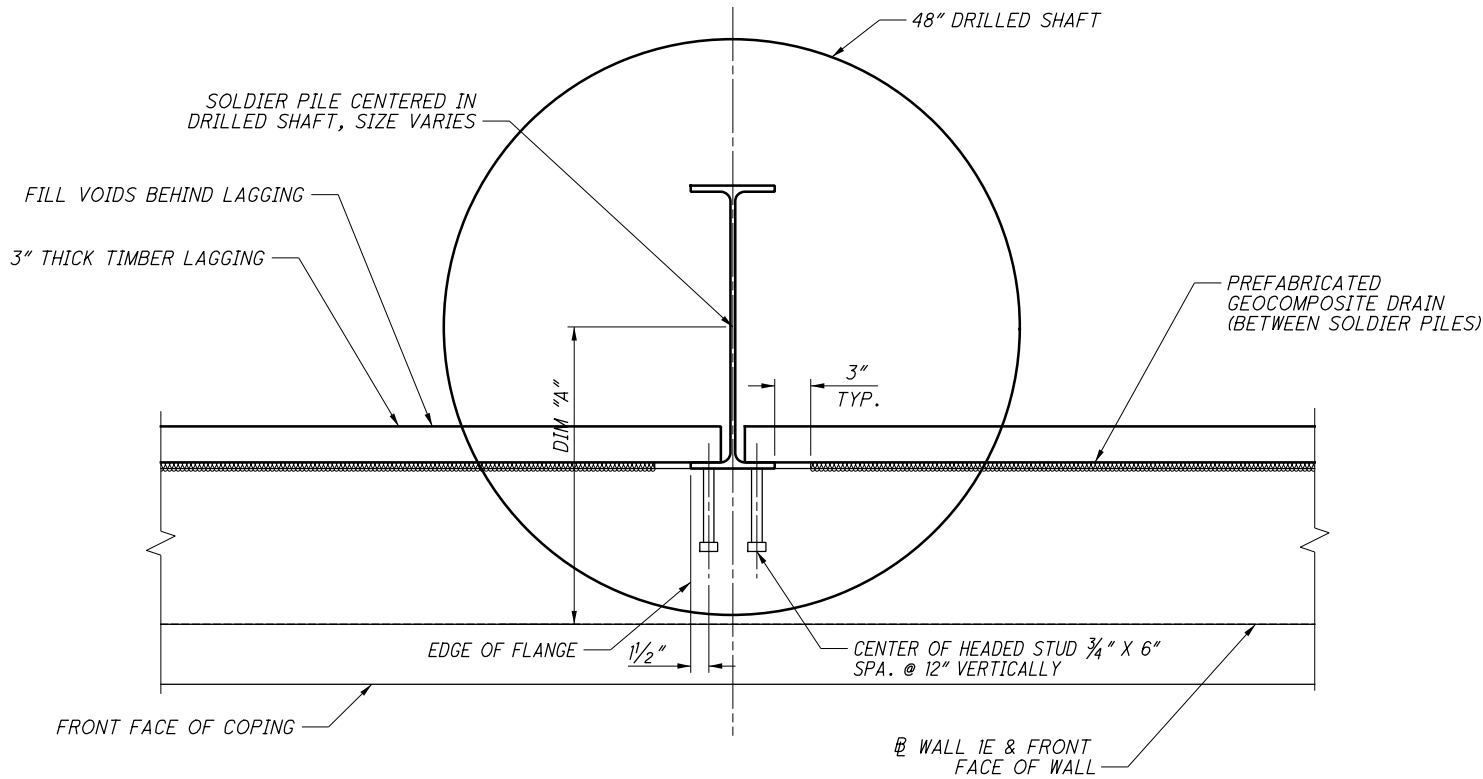
32
37

RECORD PLANS



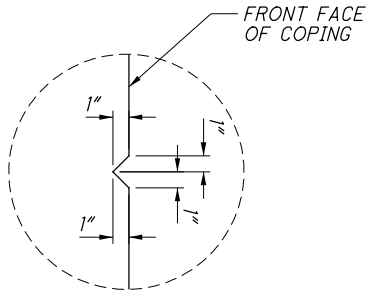
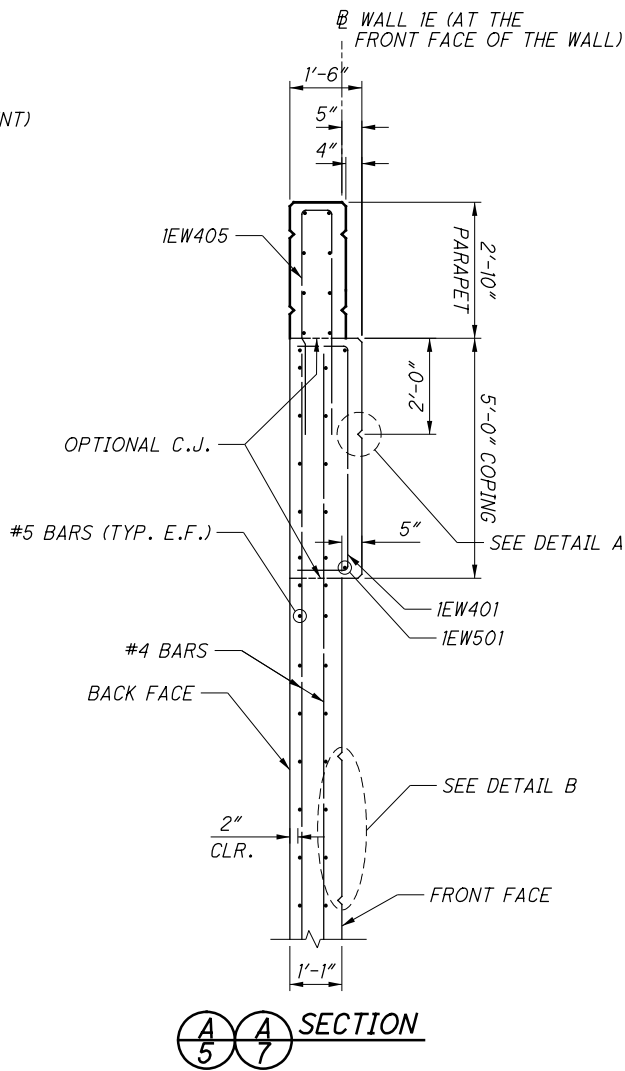
PILASTER & CONTRACTION JOINT DETAIL

* - INCLUDES 1" AESTHETIC TREATMENT

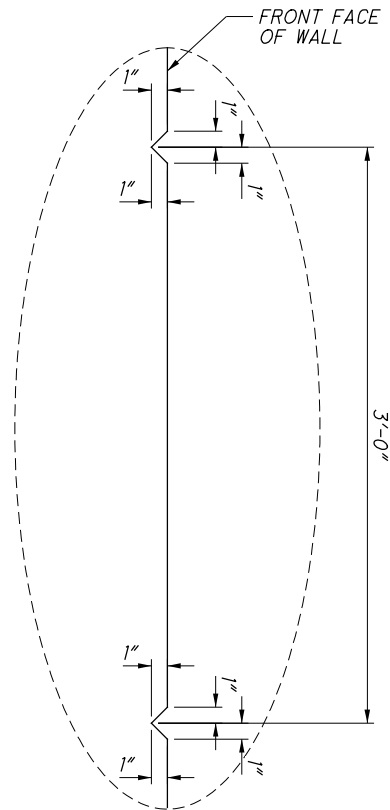


SECTION D

FOR DIMENSION "A", SEE SHEET [6/13].

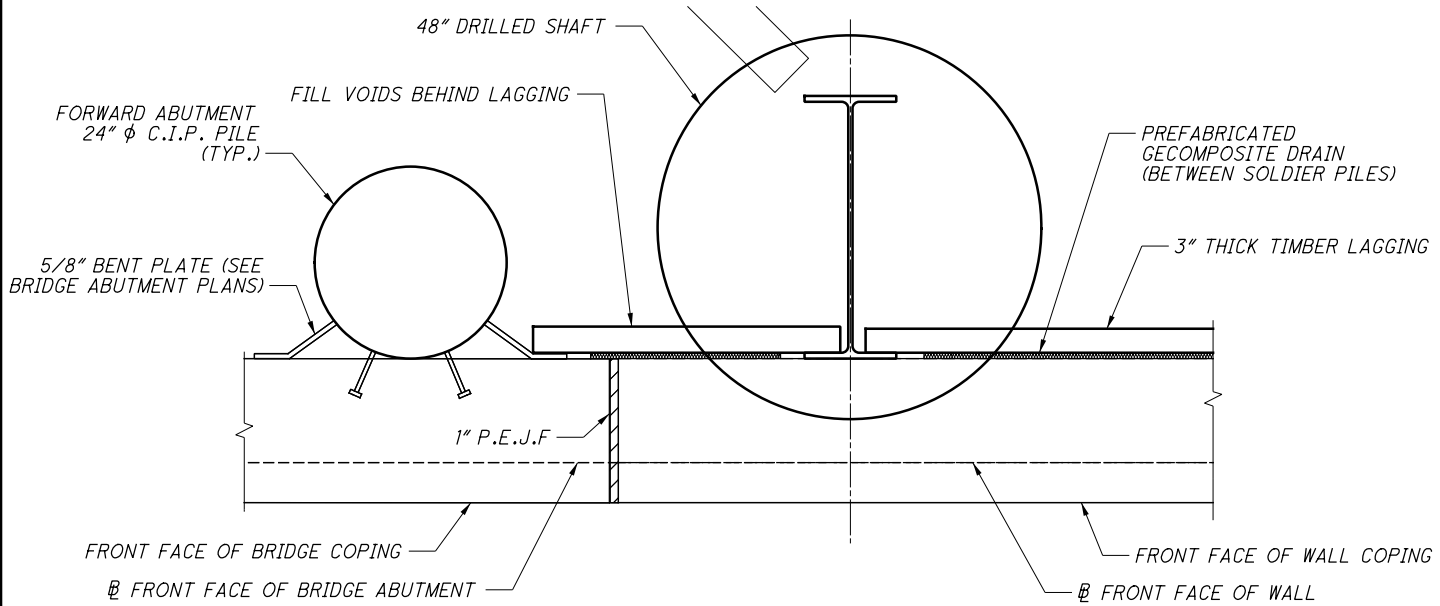


DETAIL A

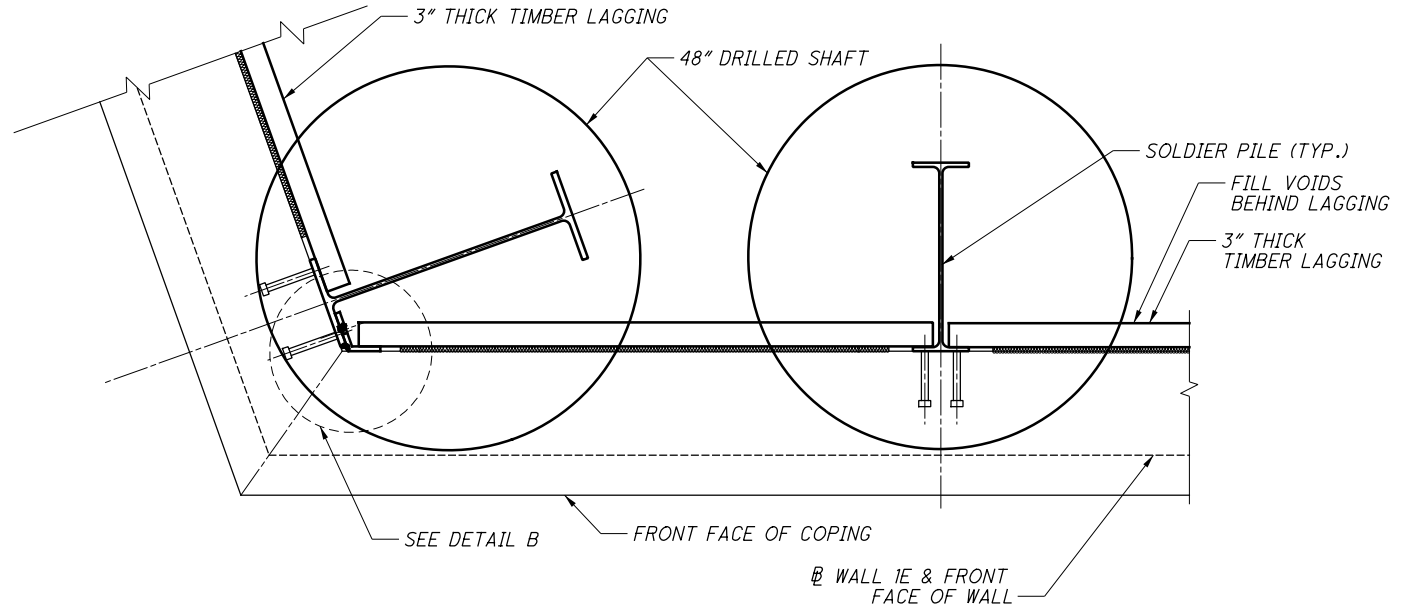


DETAIL B

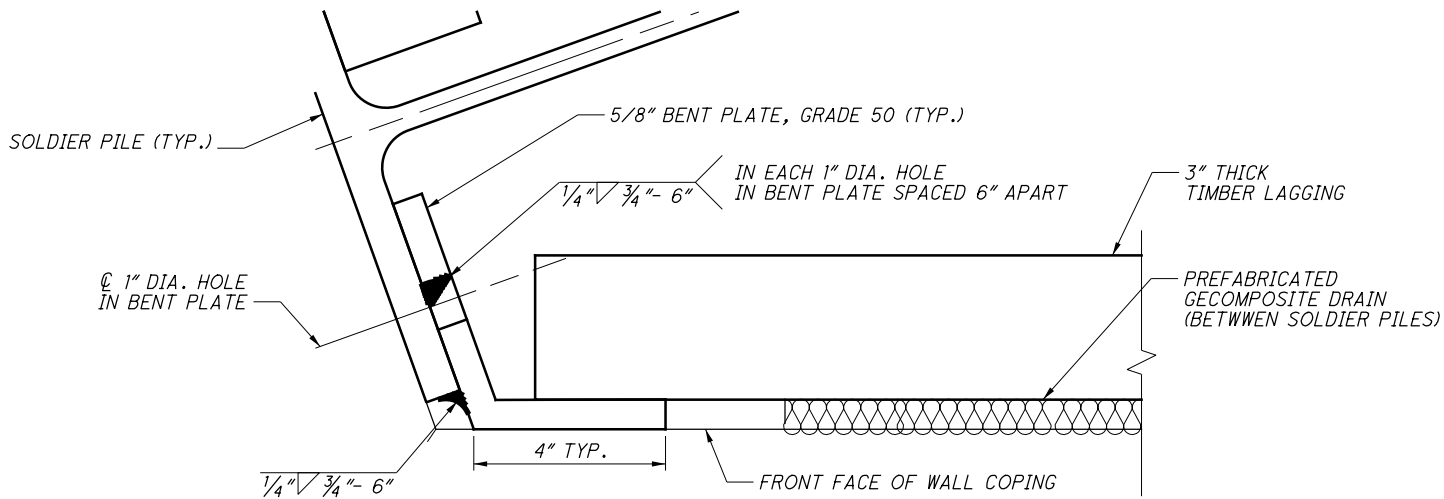
0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
ISSUE RECORD		



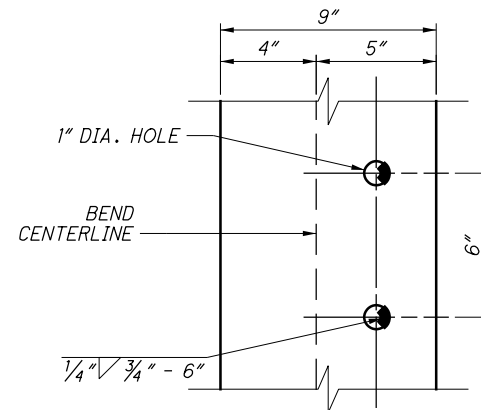
ABUTMENT TO WALL TRANSITION DETAIL
E.59TH BRIDGE LOCATION SHOWN



DETAIL A



DETAIL B

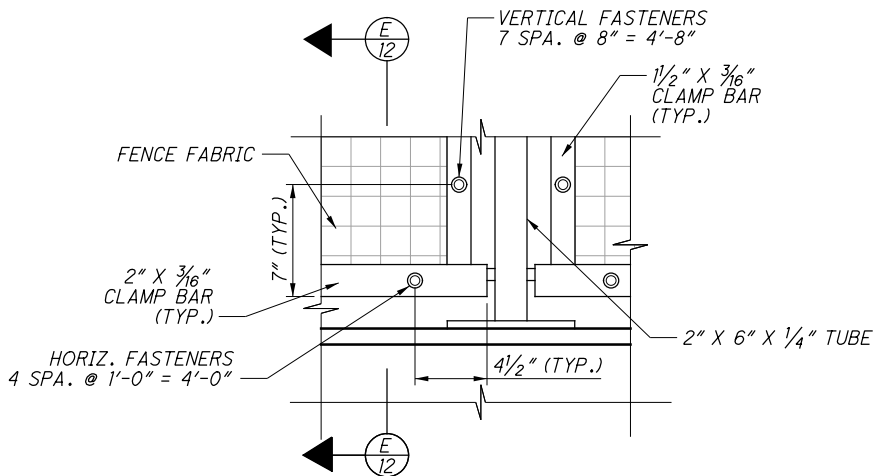


BENT PLATE DETAIL

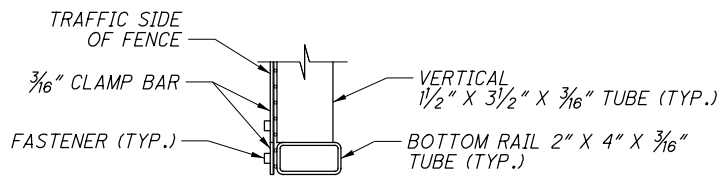
NOTES:

1. FIELD OR SHOP WELD BENT PLATE TO SOLDIER PILE BEFORE PLACING SOLDIER PILE IN DRILLED HOLE.

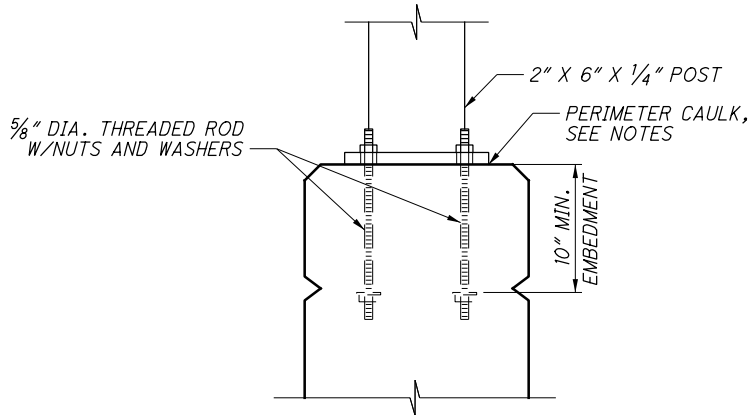
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NO.	DATE	DESCRIPTION
ISSUE RECORD		



FENCE FABRIC CONNECTION ELEVATION DETAIL
(BACK FACE OF WALL SIDE SHOWN)

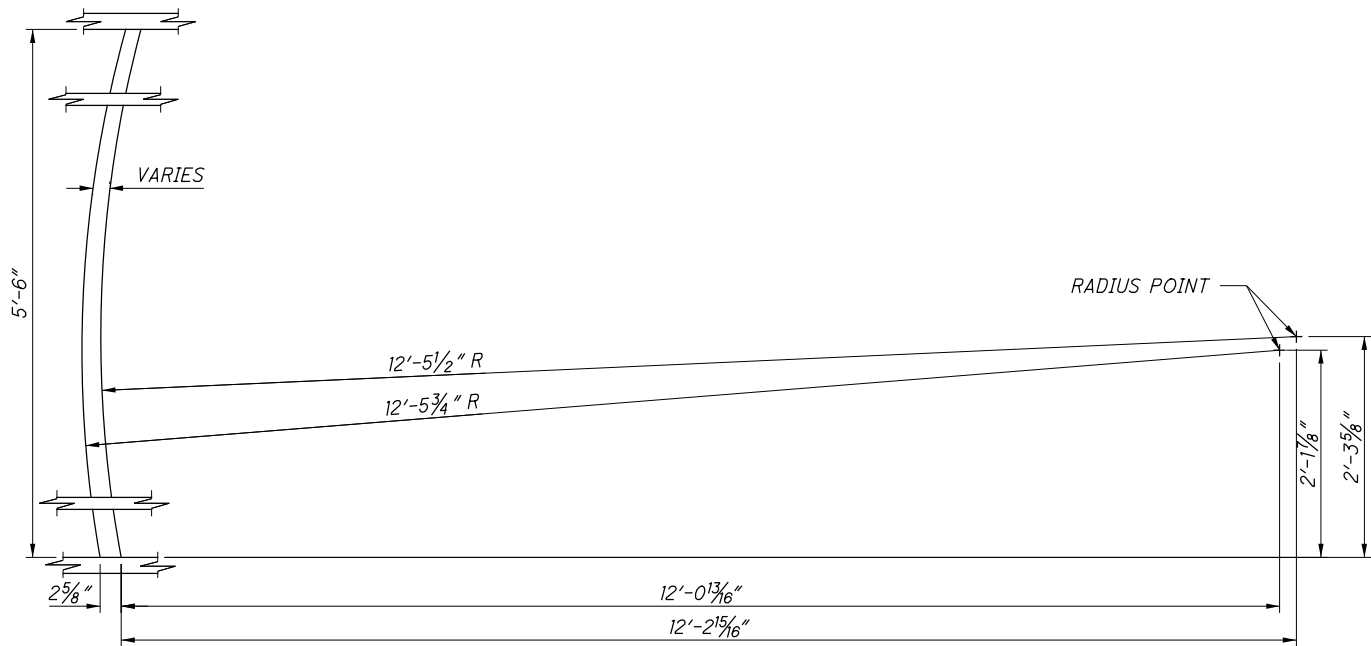


**E
12** SECTION



TYPICAL ANCHOR BOLT DETAILS

THREADED ROD SHALL BE ASTM A320 B8
CLASS 2 HARDENED STAINLESS STEEL (AISI 304),
Fy=100 KSI, WITH ASTM A194 GRADE 8
NUTS AND SS304 WASHERS



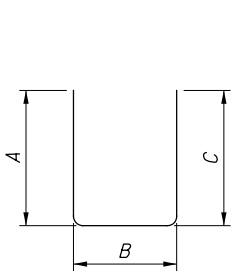
TYPICAL CURVED STEEL PLATE DETAIL

NOTES:

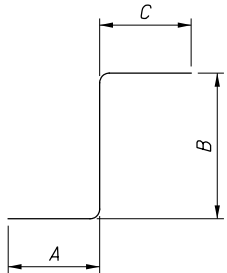
1. CAULK SHALL CONFORM TO FEDERAL SPEC. TT-S-00230C TYPE II, CLASS A, BLACK. PROVIDE A 1 INCH OPENING THROUGH THE CAULKING ON THE LOW SIDE OF BASE PLATES.

0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
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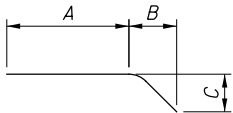
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
WALL 1E											
1EW401	65	6'-6"	282	2	1'-0"	4'-8"	1'-0"				
1EW402	8	19'-1"	102	STR							
1EW403	48	10'-7"	339	STR							
1EW404	48	8'-7"	275	STR							
1EW405	65	9'-9"	423	2	4'-8"	7"	4'-8"				
1EW406	2 SR OF 13	16'-4" TO 19'-1"	308	STR							2 3/4"
1EW501	20	16'-6"	344	19	12'-9"	3'-8"	11"				
1EW502	22	7'-1"	163	8	3'-3"	6"	3'-7"				
1EW503	15	12'-6"	196	STR							
1EW504	15	16'-4"	256	STR							
1EW505	12	19'-10"	248	STR							
1EW506	52	23'-8"	1,284	STR							
SUBTOTAL			4,220								



TYPE-2



TYPE-8



TYPE-19

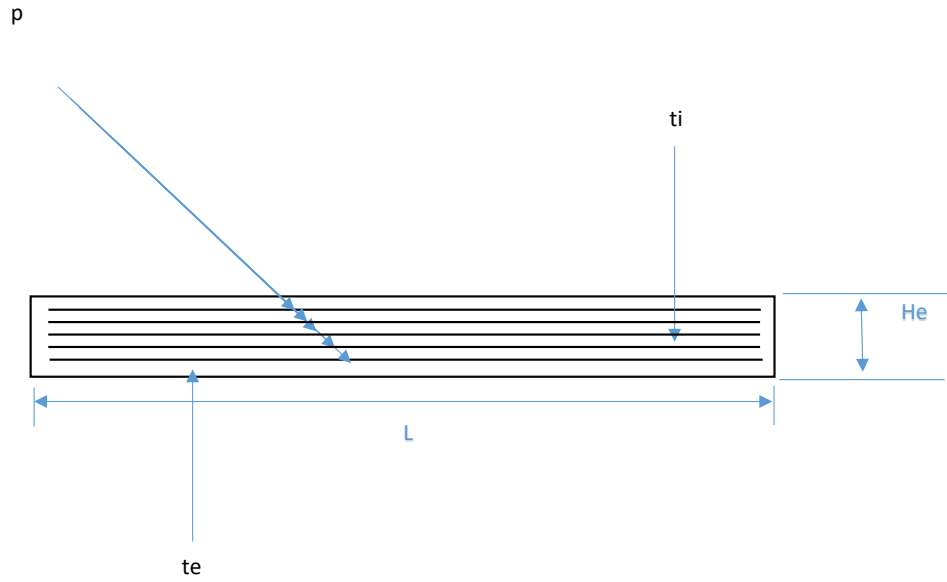
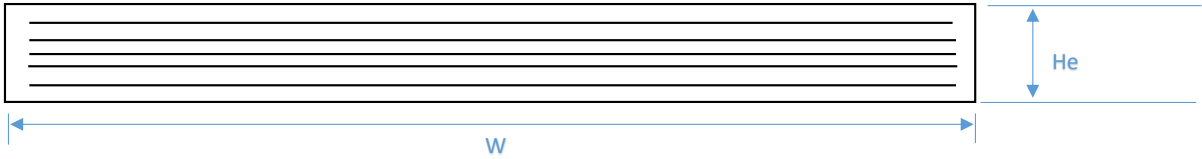
BENDING DIAGRAMS

NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST THREE ALPHABETICAL LETTERS INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

EXAMPLE: 1EW 501
NO. 5 SIZE BAR
WALL 1E

0	2019-07-02	RFC
NO.	DATE	DESCRIPTION
ISSUE RECORD		



Bearings shall have an elastomer of 50 durometer. the bearings were designed in accordance with section 14.7.6 (method A) of the AASHTO LRFD bridge design specifications. The long term compression proof load test (AASHTO standarad specifications for highway bridges, division II, section 18.7.2.6) is not required.

P = Number of Steel Laminates per Bearing
t= steel laminate thickness = 0.0747"
te = external elastomer layer thickness (2 ea.)
ti = internal elastomer layer thickness (4 ea.)

KOKOSING CONSTRUCTION
☒ NO EXCEPTIONS TAKEN
☐ MAKE CORRECTIONS AS NOTED
☐ REVISE AND RESUBMIT
☐ REJECTED
☐ FOR INFORMATION ONLY

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS
NO RESPONSIBILITY ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS

BY *mmf* DATE 11/5/2020

BEARING LOCATION	NO. REQ'D	L	W	He	te	ti	P								
BU-16	16	8"	12"	2.375"	.25"	.375"	5								

BRIDGE COMPONENTS INDUSTRIES, LLC

CONTRACTOR:	SHS
COUNTY:	Cuyahoga
Bridge #:	BU-16
PROJECT:	ODOT 3000-17
Date:	10/20/2020
Drawing Number	BU-16 BRO
Page	1 of 1

GENERAL NOTES

1. ALL 33"x48" COMPOSITE BOX BEAMS ARE MADE IN ACCORDANCE WITH 2016 OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, AND STANDARD DRAWING PSBD-2-07, AND THE 7TH EDITION AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS INCLUDING 2016 & THE ODOT BRIDGE DESIGN MANUAL, 2007. LOADING IS PER H15-44., FWS = 0.090 KSF.
2. CONCRETE: 150 LBS/CF (INCLUDES REINFORCEMENT).
3. "DCI" CORROSION INHIBITING ADMIXTURE SHALL BE USED IN ACCORDANCE TO ODOT CMS 515.15 AT A RATE OF 4 GAL. PER CY (OR EQUIVALENT).
4. CONCRETE STRENGTHS: 7,000 PSI AT RELEASE, 9,000 PSI AT 28 DAYS.
5. FINISHES: TOP - SCORE 1½" O.C., ¼" DEEP.
BOTTOM & SIDES - AS CAST AGAINST FORMS.
ENDS - FIELD APPLY TYPE B WATERPROOFING THAT ARE NOT COMPLETELY ENCASED IN CONCRETE (BY OTHERS)
PRESSURE WASH - EXTERIOR SIDE OF EXTERIOR BEAMS & 6" BOTTOM PRIOR TO APPLYING SEALER.
SEALER - EPOXY-URETHANE TO BE (FURNISHED AND APPLIED BY OTHERS). COLOR: LIGHT NEUTRAL, FED#:17778
COVERAGE - EPOXY = 120 SF/GAL., URETHANE = 120 SF/GAL. (SEE DETAIL)
KEYWAYS - MEDIUM SANDBLAST AT PLANT WITHIN FOUR DAYS PRIOR TO SHIPPING.
BEAM ENDS - SEAL ALL STRANDS WITH TYPE E WATERPROOFING PER 512.08. WATERPROOFING SHALL EXTEND A MINIMUM OF 2" SURROUNDING EACH STRAND END.
6. HANDLING DEVICES SHALL BE IN ACCORDANCE TO THE CURRENT EDITION PCI DESIGN HANDBOOK.
7. ESTIMATED CAMBER:

AT DAY 0 = 2.11"

AT DAY 30 = 3.64"

DEFLECTION DUE TO REMAINING DEAD LOAD = 1.81"

LONG TERM = 5.32"
8. LIFTLOOPS ARE TO BE REMOVED AND PATCHED AFTER ERECTION (NOT BY PS).
9. BEAM SHIPPING LENGTHS & WEIGHTS (FOR INTERNAL USE ONLY):

MK 501, 502, 503, & 504: 100'-6" 47 TONS.

SHIPLOOSE HARDWARE

- 5 - 1"øx12'-0" TIE RODS (G)
- 5- 1"øx8'-0" TIE RODS (G)
- 20 - ½"øx4"x4" PLATE WASHERS (G)
- 20 - 1"ø HEAVY HEX NUTS (G)
- 8 - 1"øx3'-10" DOWEL RODS (SMOOTH, A-311) (G)
- 8 - 2.375"x6"x6" PEJF GROUT RETAINERS
- 43 LF - 7 STRAND JUTE
- 20 LBS - INTERPLAST N GROUT ADDITIVE

COATINGS (LEGEND)

- (G) HOT DIP GALVANIZED ASTM A123 OR A153
- (EP) ELECTROPLATED ASTM B633
- (B) BLACK ASTM A615

LIFTING LOOP GUIDELINES:

ALL LIFTING DEVICES PROVIDED BY PRESTRESS SERVICES ARE MEANT TO BE USED SIMULTANEOUSLY AND EQUALLY, 90 DEGREES TO THE BEAM AS RECOMMENDED BY PCI GUIDELINES WITH THE USE OF A SPREADER BEAM OR TWO CRANES. ANY ADDITIONAL LIFTING DEVICES THAT ARE REQUESTED THAT DEViate FROM THIS STANDARD FOR ERECTING PURPOSES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS ADVISED TO HAVE AN ENGINEER REVIEW ANY DEVIATION FROM THIS STANDARD WITH CONSIDERATION GIVE TO BEAM STRESSES, STRENGTH, AND STABILITY. PRESTRESS SERVICES WILL NOT BE LIABLE FOR ANY VARIATIONS TO THE STANDARD PROCEDURE.

DRAWING INDEX		ISSUED FOR	SUBMITTAL	APPROVAL	REVISION	REVISION	REVISION
		DATE	5/28/20	X/X/XX	X/X/XX	X/X/XX	X/X/XX
SHEET #	SHEET TITLE	BY	BLR	XXX	XXX	XXX	XXX
1	COVER SHEET		x				
2	ERECTION LAYOUT		x				
3	ERECTION DETAILS		x				
4	BEAM DETAILS		x				
5	REINFORCEMENT DETAILS		x				
6	ADD. REINFORCEMENT DETAILS		x				
7	MK. 501 HARDWARE & REINFORCEMENT		x				
8	MK. 502 HARDWARE & REINFORCEMENT		x				
9	MK. 503 HARDWARE & REINFORCEMENT		x				
10	MK. 504 HARDWARE & REINFORCEMENT		x				

Beam Dimensional Tolerances

Description	Box Beam
Length of Beam	± 1/8" per 10 ft (1 mm/m) max ± 3/4" (19 mm)
Depth of Beam	± 1/4" (6 mm)
Flange Width	± 1/4" (6 mm)
Flange Thickness excluding fillets	a) Top b) Bottom
	+ 1/2" (13 mm) -0"
	+ 1/2" (13 mm) - 1/8" (3 mm)
Width beam walls	+ 3/8" (10 mm) - 1/4" (6 mm)
Width of Void	± 1/2" (13 mm)
Height of Void	± 1/2" (13 mm)
Box Beam Diaphragm Spacing	± 2" (50 mm)
Deviation from True Vertical	± 1/8" (3 mm)
Deviation from Skew Angle	± 1/2" (13 mm)

Beam Accessory Tolerances

Description	Box Beam
Position of railing anchors	± 1/4" (6 mm)
Position of lifting Devices	± 6" (150 mm)
Positions of anchor dowels and tie rods , inserts	± 1/2" (13 mm)

Beam Strand Tolerances

Description	Box Beam
Strand tendon position	± 1/4" (6 mm)
Strand CG position	± 1/4" (6 mm)

Beam Sweep and Camber Tolerances

Description	Box Beam
Horizontal Sweep	± 1/8" per 10 ft (1 mm/m) max ± 3/4" (19 mm)
Max Gap between beam	1" (25 mm)
Camber - Deviation from Design camber (Dt)*	+ Sacrificial Haunch OR - 1/8" PER 10ft (1mm/m) max - 1/2" (13 mm)
Design plan camber at release (0 days) = Dcr	
Design plan camber at paving (30 days old) = Dcp	
Design plan long term camber (720 days old) = Dltc	
Formulas	
For Dt [0 - 30 days] = [Dcp - Dcr]* [beam age/30] + Dcr	
For Dt [>30 days] = [Dltc - Dcp]* [(beam age - 30)/690] + Dcp	
Variation in camber between beams in same span	max 1/2" (13 mm)

Reinforcing Steel Tolerances

Description	Box Beam
Clear cover	-0 + 1/4" (6 mm)
Splice lengths	-1 1/2" (38 mm)
Stirrup spacing In Anchorage Zone	± 1/4" (6 mm)
Stirrup spacing Outside Anchorage Zone	± 1" (25 mm)
Stirrup extension above top flange	+ 1/4" (6 mm) - 1/2" (13 mm)
Reinforcement extension beyond beam end	+ 3/4" (18 mm) + 0"

* Design camber calculated in accordance with 511.07

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STATE PROJECT



COVER SHEET

CUYAHOGA COUNTY, OHIO ODOT 173000
E 59th ST PEDESTRIAN BRIDGE OVER OH-10
BRIDGE: CUY-10-1929 STR NO. 1801513
33"x48" COMPOSTIE BOX BEAMS. PID:96833

CONTRACTOR: Kokosing Construction



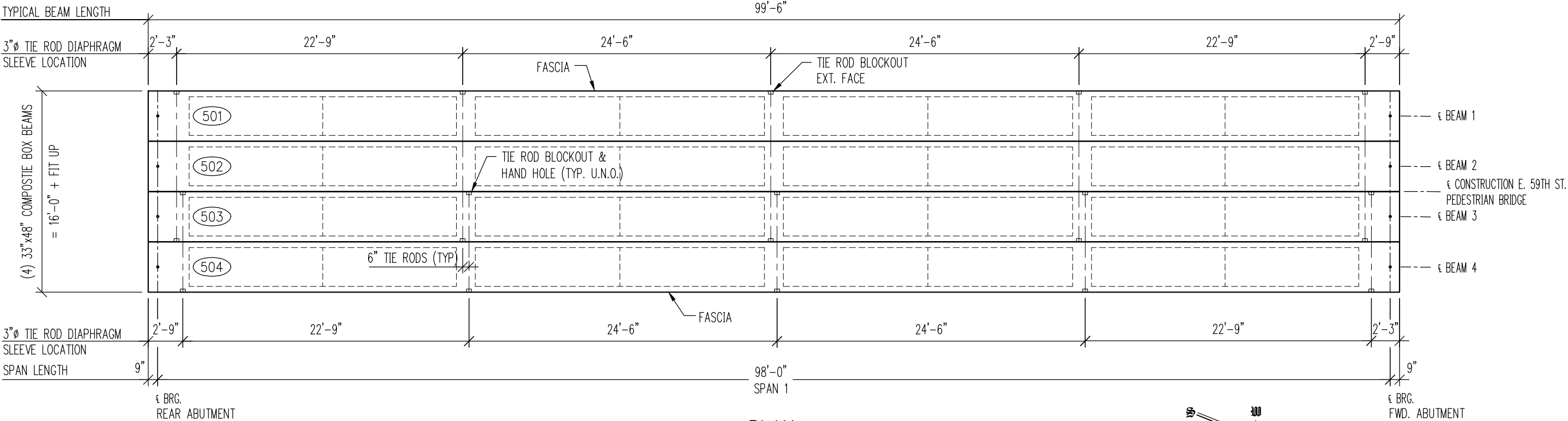
PRESTRESS
SERVICES INDUSTRIES LLC

Production: Mt. Vernon, OH (740) 393-1121 Drafting: Lexington, KY (859) 299-0461

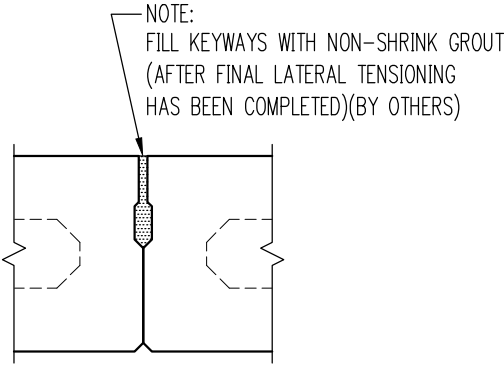
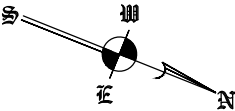
DATE: 05-28-20 DRAWN: Bob Rubenzer CHECKED: MONICA KENNEDY

REVISIONS	△		
	△		
	△		

CODE:CB33480 SHEET: 1 OF 10 JOB NO: P19261




PLAN

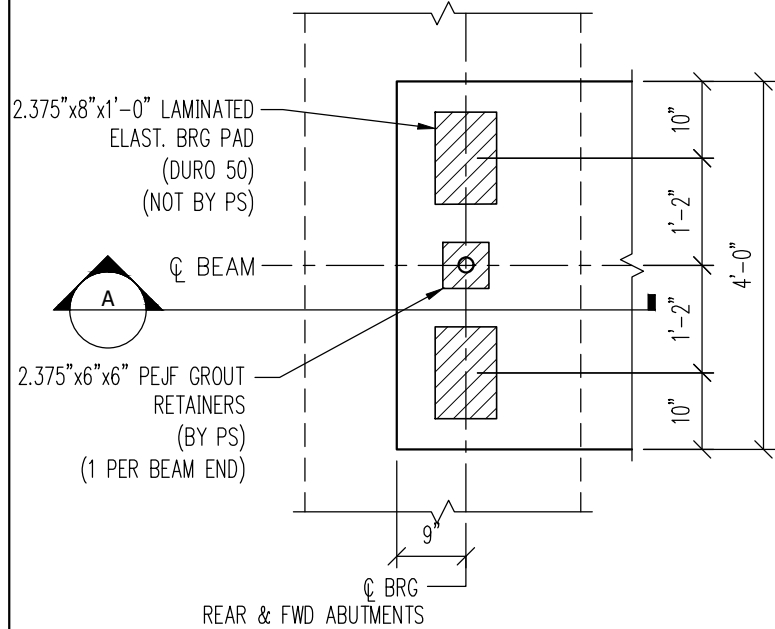


KEYWAY DETAIL
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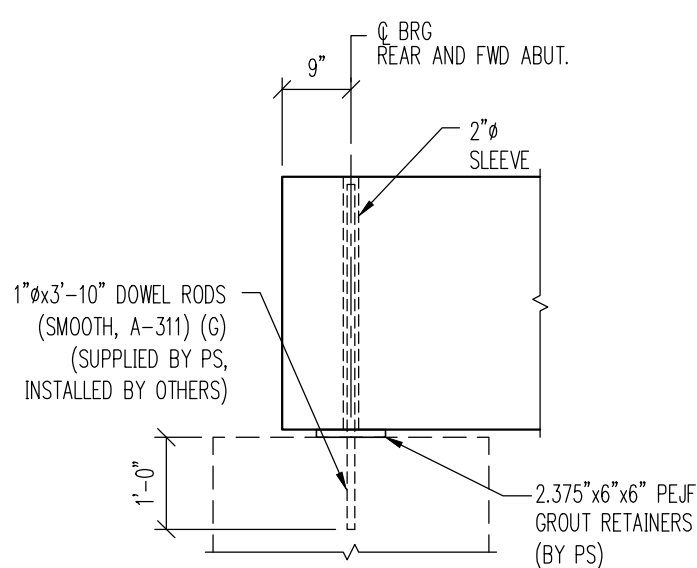
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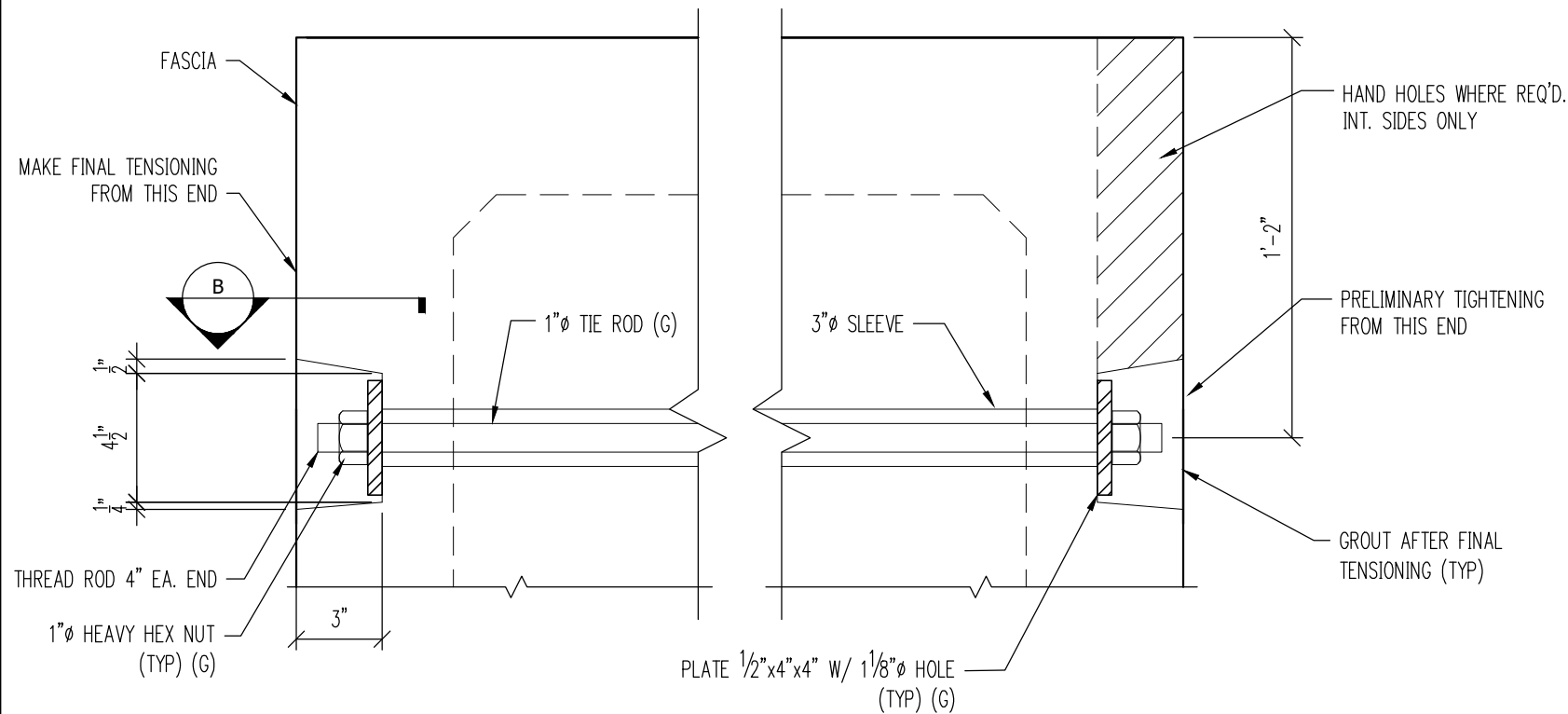
ERECTION LAYOUT & DETAILS		
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CONTRACTOR: Kokosing Construction		
		
Production: Mt. Vernon, OH (740) 393-1121	Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY
REVISIONS		
CODE:CB33480	SHEET: 2 OF 10	JOB NO: P19261



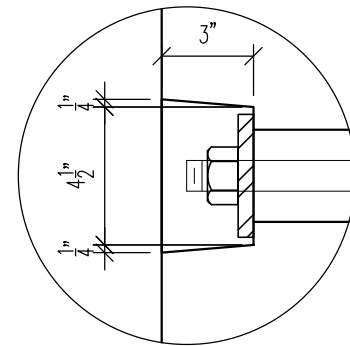
1 BEARING DETAIL
Scale: 1/2"=1'-0"



A BEARING SECTION
Scale: 1/2"=1'-0"




2 TIE ROD DETAIL
Scale: 2"=1'-0"

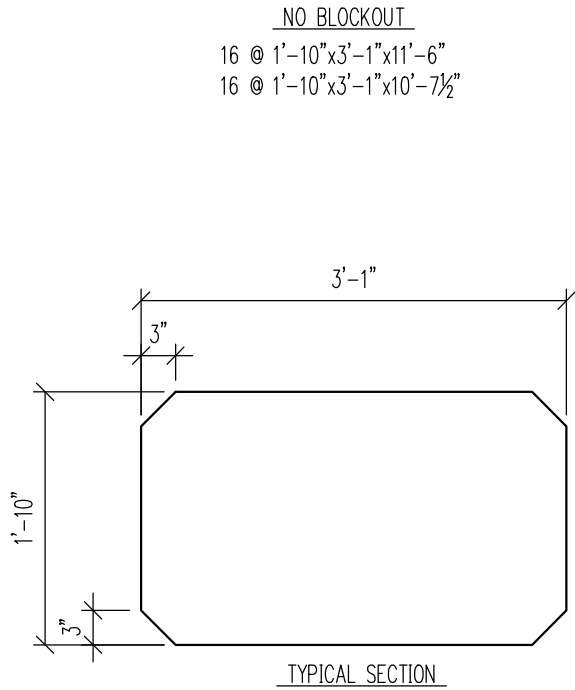


B TIE ROD SECTION
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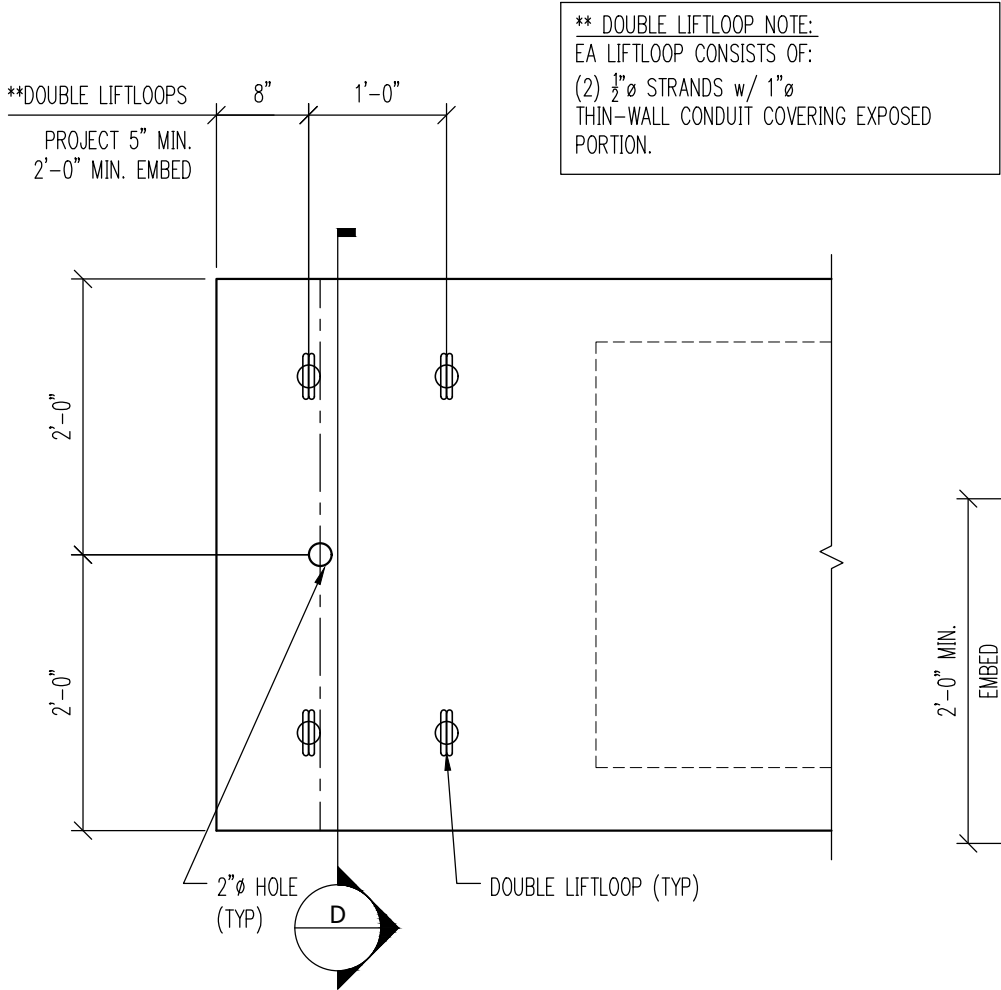
ERECTION DETAILS		
CUYAHOGA COUNTY, OHIO ODOT 173000 E 59th ST PEDESTRIAN BRIDGE OVER OH-10 BRIDGE: CUY-10-1929 STR NO. 1801513 33"x48" COMPOSTIE BOX BEAMS. PID: 96833		
CONTRACTOR: Kokosing Construction		
		
Production: Mt. Vernon, OH (740) 393-1121	Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY
REVISIONS		
CODE: CB33480	SHEET: 3 OF 10	JOB NO: P19261



3

VOID DETAILS

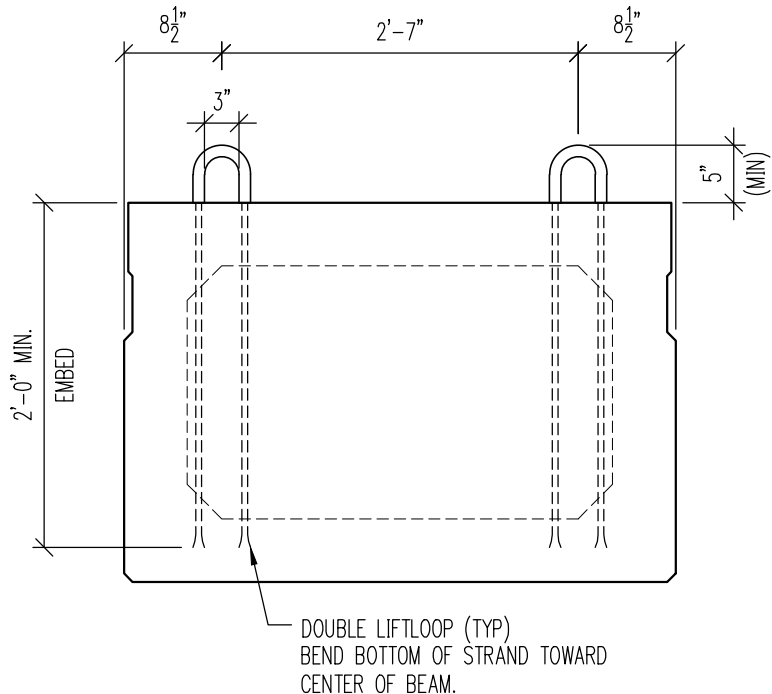
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4

BEAM END DETAIL

Scale: 3/4"=1'-0"













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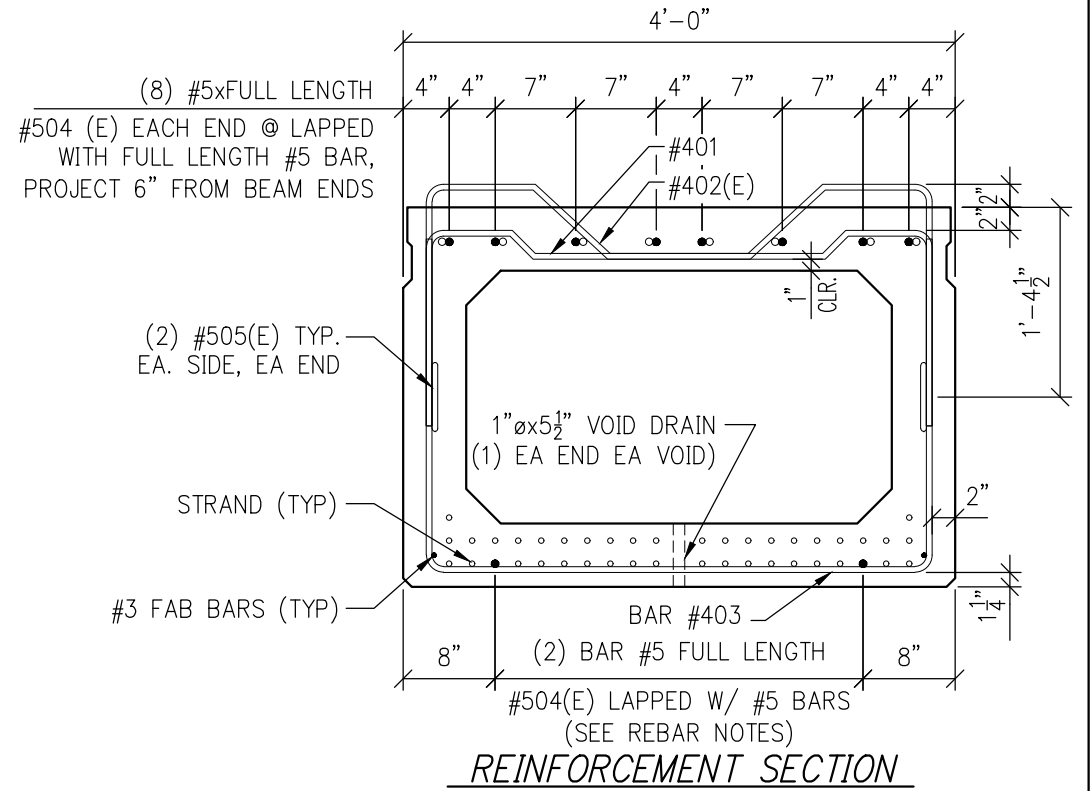
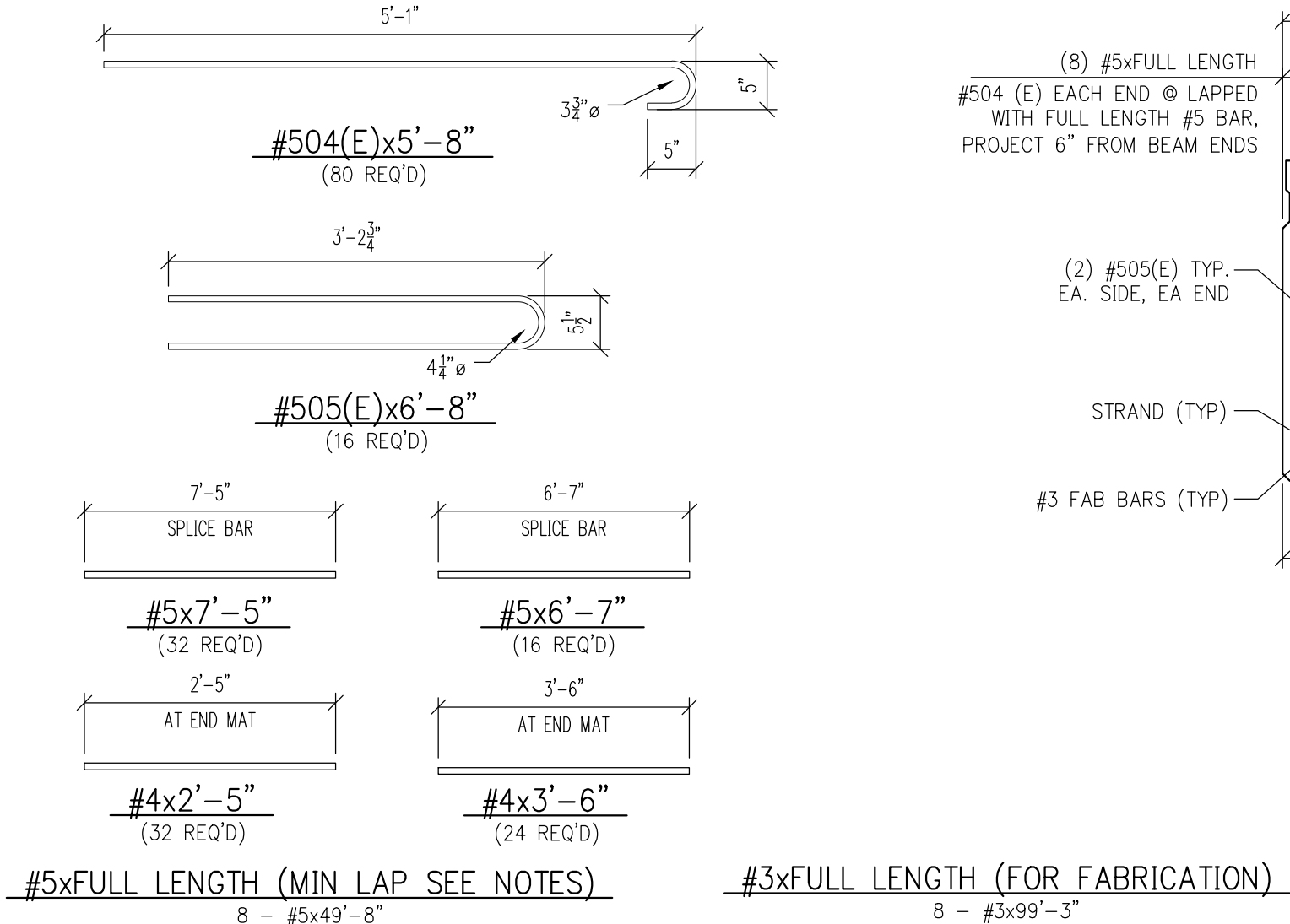
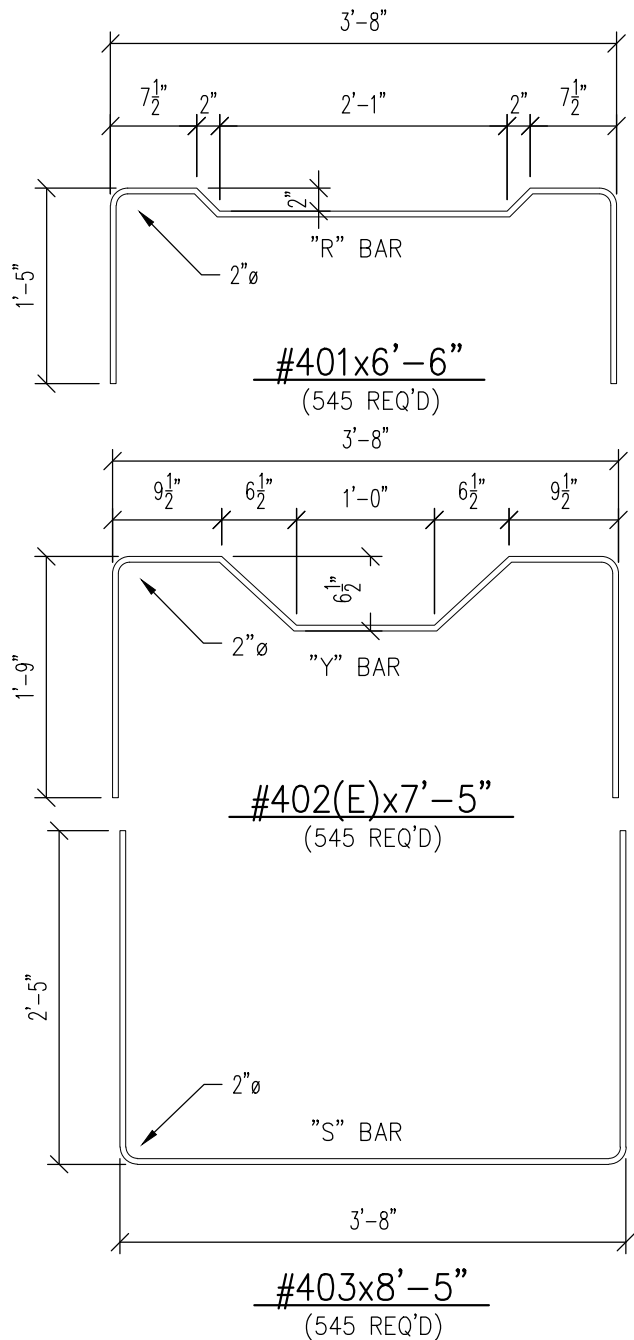
BEAM END DETAIL

Scale: 3/4"=1'-0"

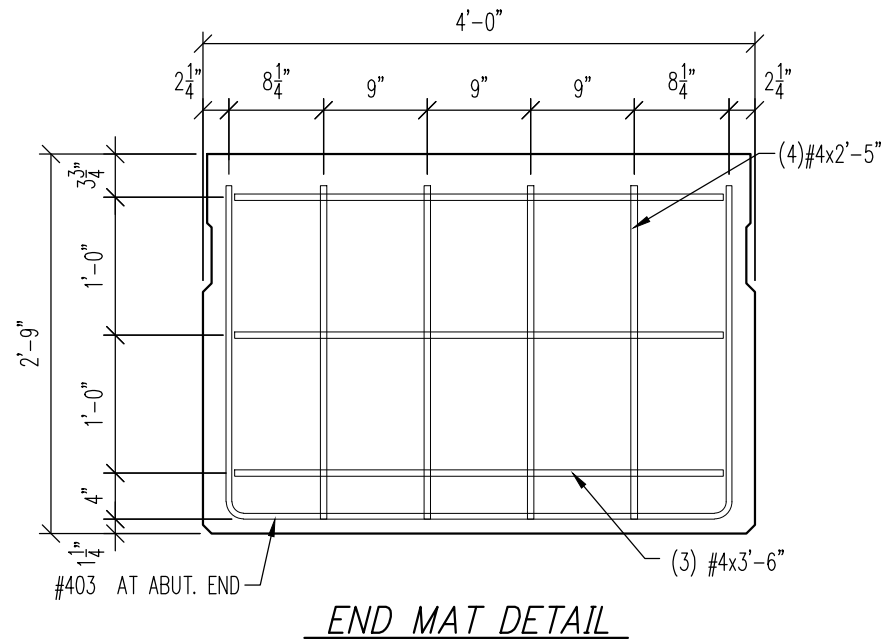
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BEAM DETAILS			
CUYAHOGA COUNTY, OHIO ODOT 173000 E 59th ST PEDESTRIAN BRIDGE OVER OH-10 BRIDGE: CUY-10-1929 STR NO. 1801513 33"x48" COMPOSTIE BOX BEAMS. PID: 96833			
CONTRACTOR: Kokosing Construction			
<div><div>PRESTRESS SERVICES INDUSTRIES LLC</div></div>			
Production: Mt. Vernon, OH (740) 393-1121		Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20		DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY
REVISIONS			
			
			
CODE:CB33480		SHEET: 4 OF 10	JOB NO: P19261



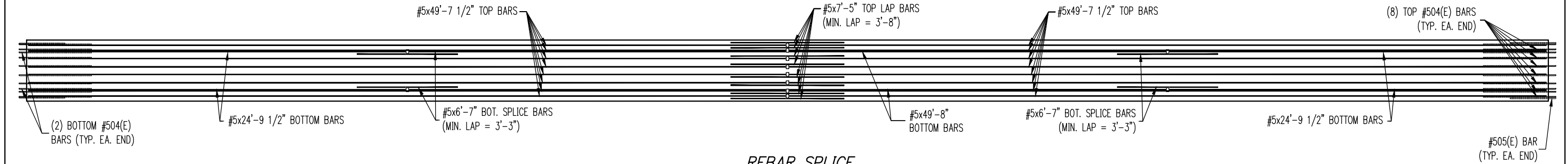
- REBAR NOTES:**
- ALL REBAR IS ASTM A615 GRADE 60.
 - SEE PIECE DRAWINGS FOR INDIVIDUAL QUANTITIES PER BEAM.
 - WORK THIS SHEET WITH ALL BEAMS.
 - REBAR EXTENDING INTO DECK SHALL BE EPOXY COATED (E).
 - DIMENSIONS GIVEN ARE FROM OUT TO OUT OF BAR.
 - TOTAL LENGTH OF LONGITUDINAL BARS DESIGNATED AS "FULL LENGTH" SHALL BE EQUAL TO THE LENGTH OF BEAM (AT THE BARS' ELEVATION), MINUS 3".
 - MIN. LAP (IF REQD.) FOR TOP LONGITUDINAL BARS IS 3'-8"; LOCATE WITHIN THE MIDDLE HALF OF THE SPAN.
 - MIN. LAP (IF REQD.) FOR BOTTOM LONGITUDINAL BARS IS 3'-3"; LOCATE WITHIN THE OUTER QUARTERS OF THE SPAN.
 - OHIO STANDARD BAR MARKS RELATE TO PS BAR MARKS AS FOLLOWS:
BAR R #4 = BAR 401
BAR Y #4(E) = BAR 402(E)
BAR S #4 = BAR 403



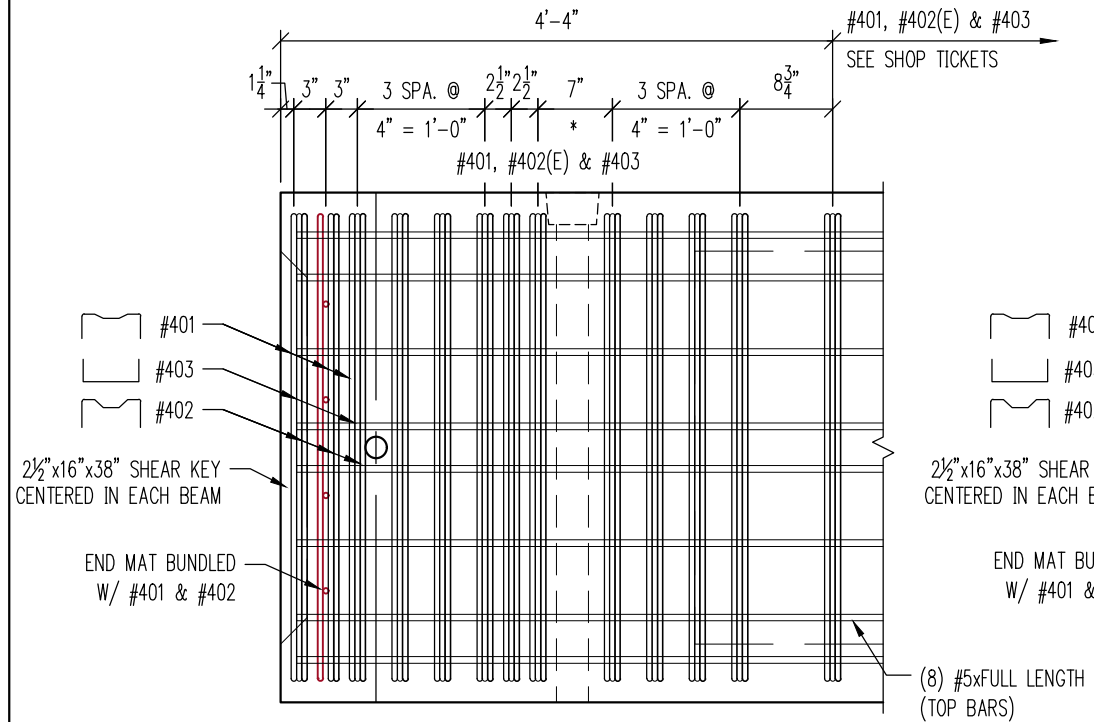
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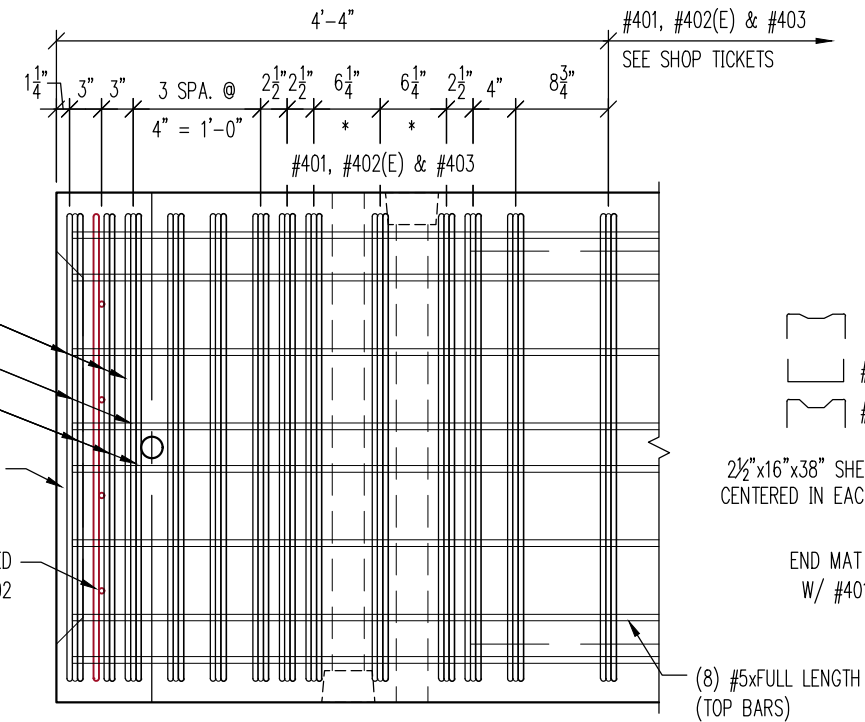
REINFORCEMENT DETAILS		
CUYAHOGA COUNTY, OHIO ODOT 173000		
E 59th ST PEDESTRIAN BRIDGE OVER OH-10		
BRIDGE: CUY-10-1929 STR NO. 1801513		
33"x48" COMPOSTIE BOX BEAMS. PID:96833		
CONTRACTOR: Kokosing Construction		
Production: Mt. Vernon, OH (740) 393-1121	Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY
REVISIONS		
CODE:CB33480	SHEET: 5 OF 10	JOB NO: P19261



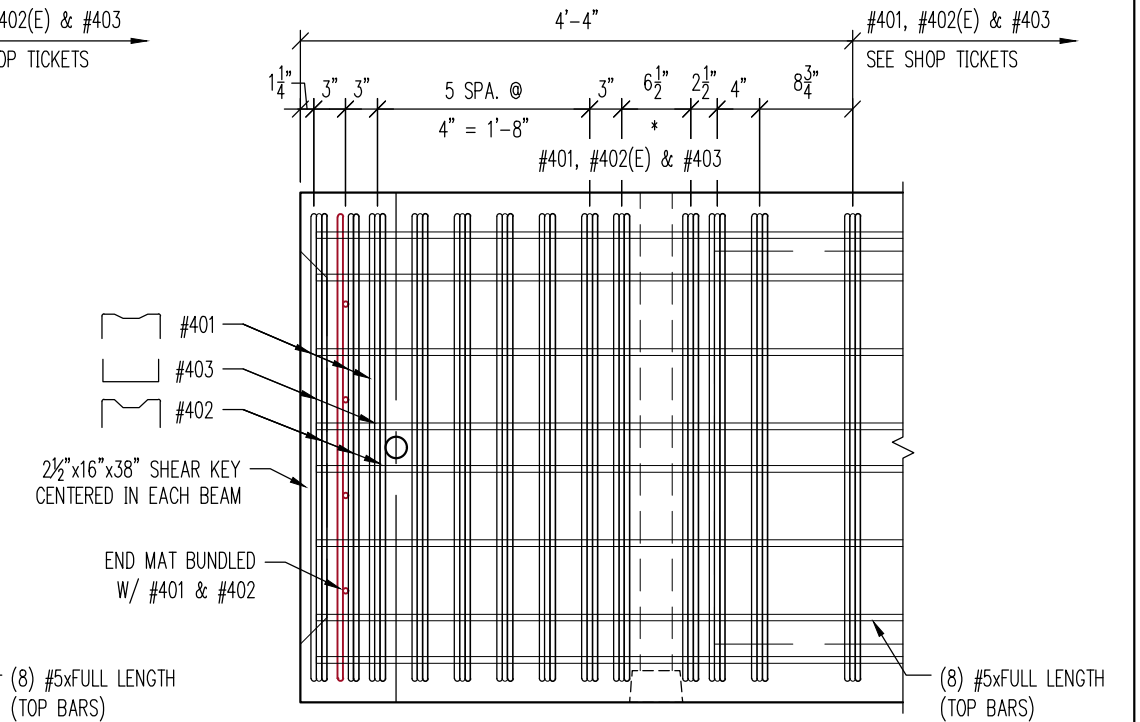
REBAR SPLICE



MARKED END - MARK 501-502
UNMARKED END - MARK 504 - BY 180° ROTATION



MARKED END SHOWN - MARK 503
UNMARKED END - MARK 503 - BY 180° ROTATION



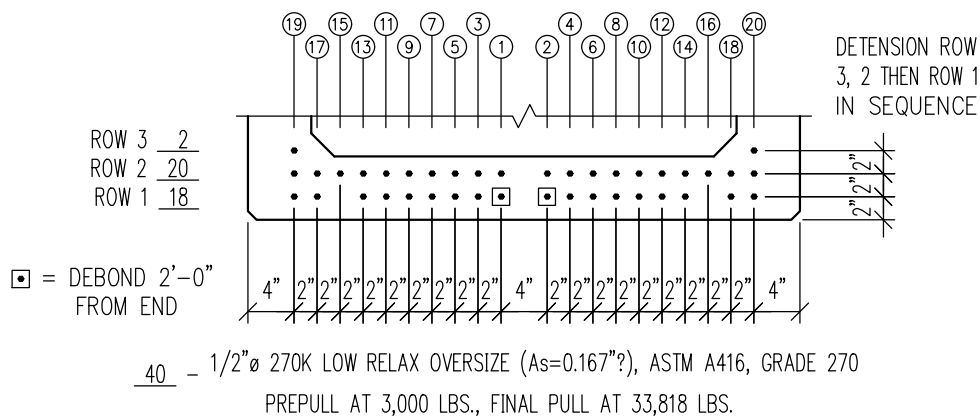
MARKED END - MARK 504
UNMARKED END - MARK 501-502 - BY 180° ROTATION

5

END REINFORCEMENT DETAIL

Scale: 3/4"=1'-0"

NOTE: * ADJUSTED DUE TO INTERFERENCE



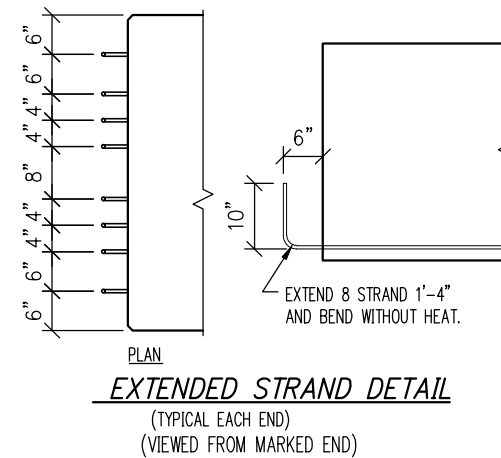
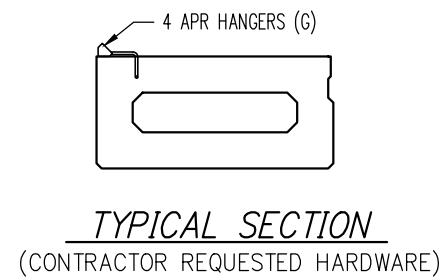
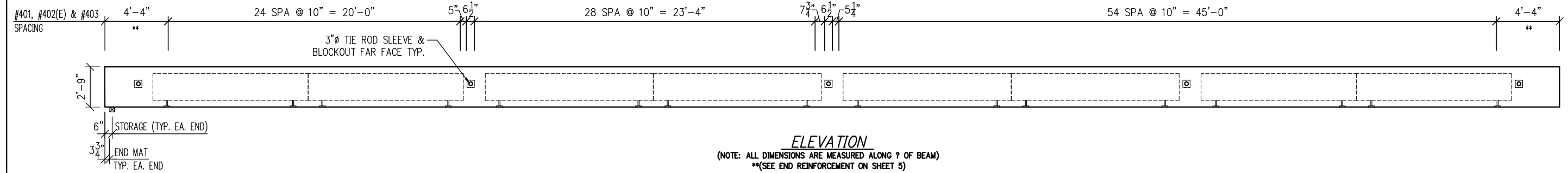
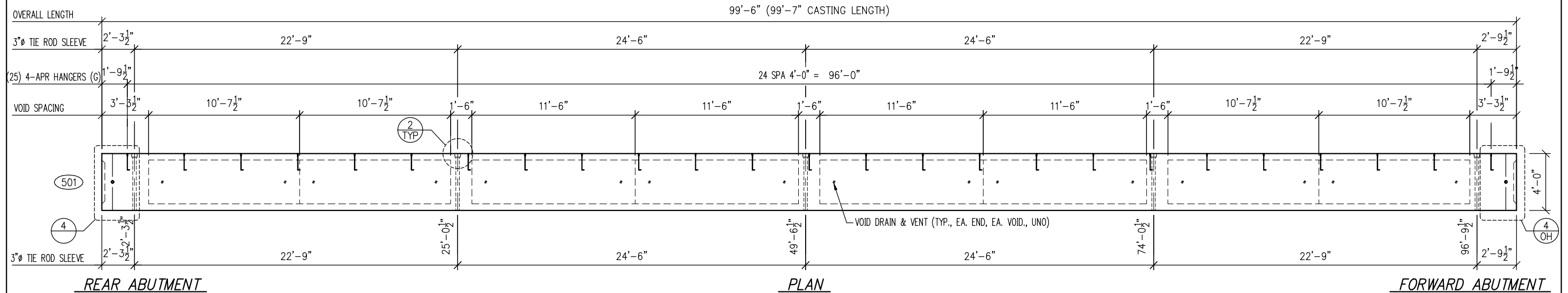
STRAND PATTERN & DETENSIONING DETAIL

DETENSION STRAND SYMMETRICALLY ABOUT THE CENTERLINE OF BEAM

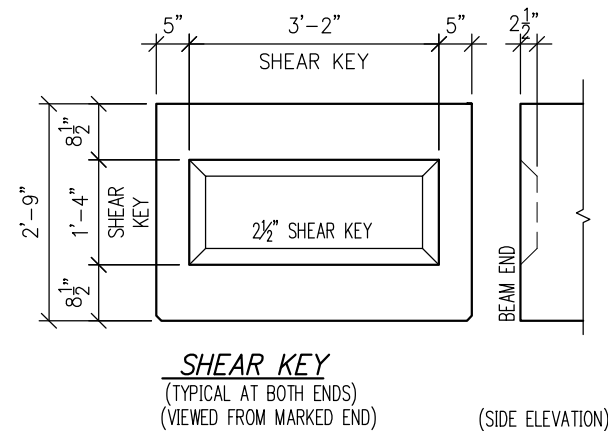
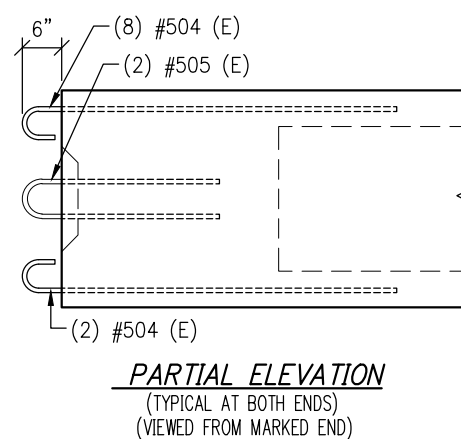
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REINFORCEMENT DETAILS			
CUYAHOGA COUNTY, OHIO ODOT 173000 E 59th ST PEDESTRIAN BRIDGE OVER OH-10 BRIDGE: CUY-10-1929 STR NO. 1801513 33"x48" COMPOSTIE BOX BEAMS. PID:96833			
CONTRACTOR: Kokosing Construction			
<div><div>PRESTRESS SERVICES INDUSTRIES LLC</div></div>			
Production: Mt. Vernon, OH (740) 393-1121		Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20		DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY
REVISIONS			
			
			
CODE:CB33480		SHEET: 6 OF 10	JOB NO: P19261

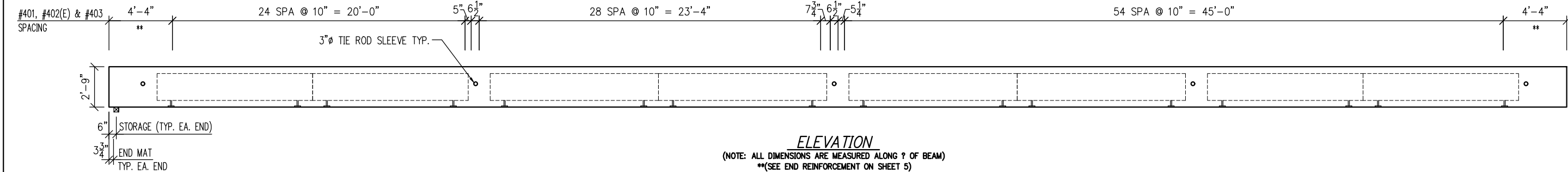
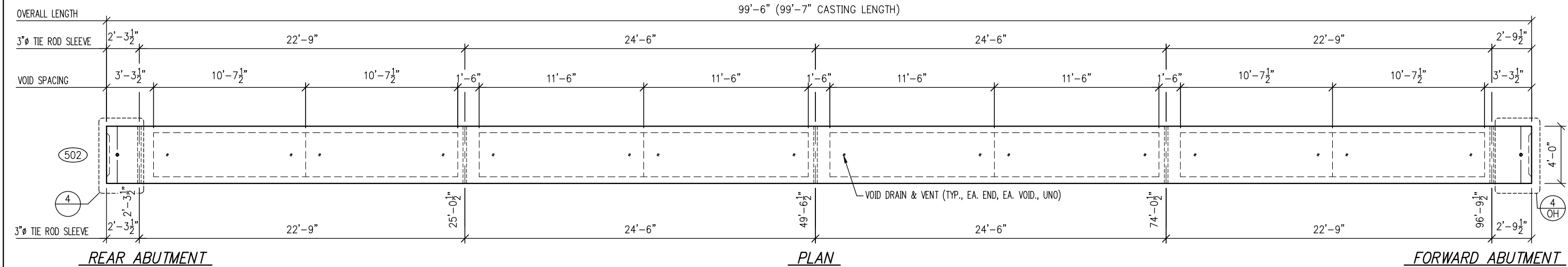


BILL OF MATERIALS			
QTY	ITEM	FINISH	
REBAR			
136	#401x6'-6"	(B)	
136	#402(E)x7'-5"	(E)	
136	#403x8'-5"	(B)	
25	4 APR HANGERS	(G)	
20	#504(E)x5'-8"	(B)	
8	0.5" Ø DOUBLE LIFTOOPS	(B)	
4	#505(E)x6'-8"	(B)	
2	2" Øx2'-9" DOWEL SLEEVE		
8	#4x2'-5"	(B)	
5	3" Øx4'-0" TIE ROD SLEEVE		
6	#4x3'-6"	(B)	
16	1" Ø VOID DRAINS		
2	#3x99'-3"	(B)	
4	1'-10"x3'-1"x11'-6" VOID		
4	1'-10"x3'-1"x10'-7 1/2" VOID		
#3 FABRICATION BARS			
16	#5x49'-7 1/2"	(B)	
CONCRETE			
8	#5x7'-5" SPLICE BAR	(B)	
CUBIC TOTAL:		22.3 CY	
#5 MIN. TOP LAP = 3'-8"	WEIGHT:		90,200 LBS
2	#5x49'-8"	(B)	
STRAND			
40	1/2" Ø 270K LRO (As=0.167")	(B)	
4	#5x6'-7" SPLICE BAR	(B)	
MATERIAL FINISHES			
#5 MIN. BOT. LAP = 3'-3"	(B) BLACK, (E) EPOXY, (G) GALV, (P) PRIME, (EP) ELECT-PL.		

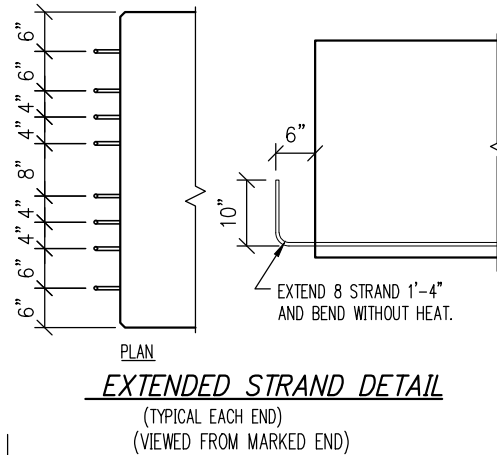
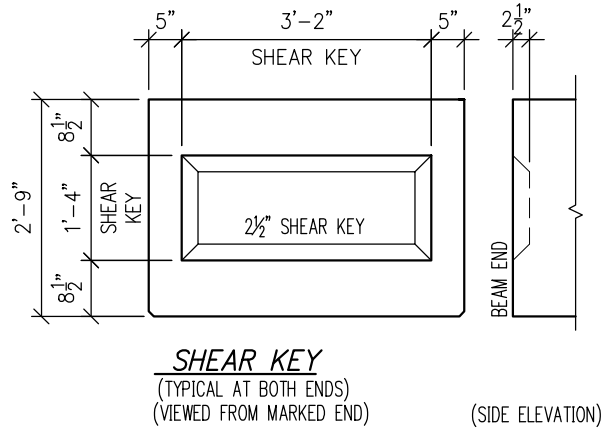
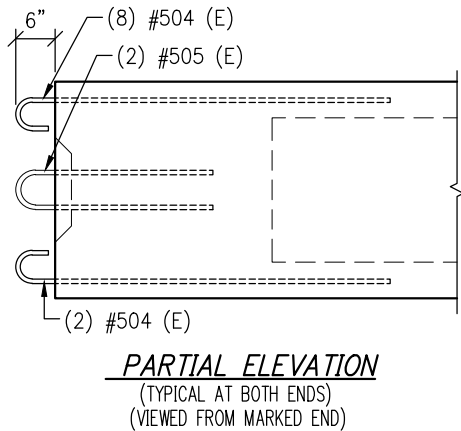


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QTY:	1	MARK:	501
HARDWARE AND REINFORCEMENT			
CUYAHOGA COUNTY, OHIO ODOT 173000 E 59th ST PEDESTRIAN BRIDGE OVER OH-10 BRIDGE: CUY-19-1929 STR NO. 1801513 33"x48" COMPOSTIE BOX BEAMS. PID:96833			
CONTRACTOR: Kokosing Construction			
 PRESTRESS SERVICES INDUSTRIES LLC			
Production: Mt. Vernon, OH (740) 393-1121		Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY	
REVISIONS   			
			
			
CODE:CB33480		SHEET: 7 OF 10	JOB NO: P19261

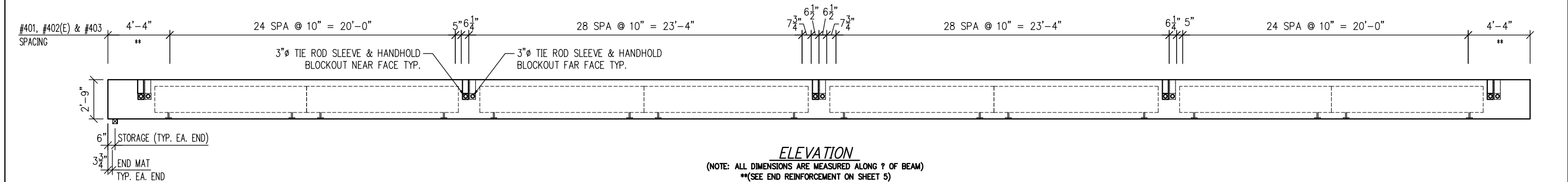
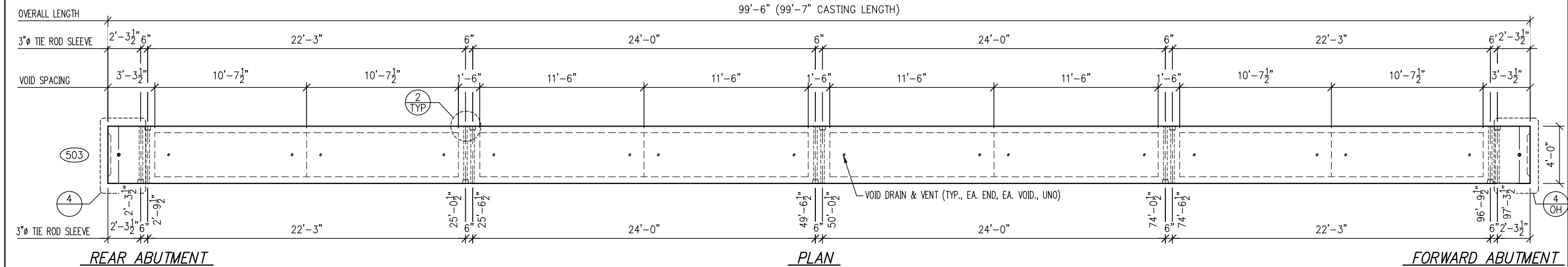


BILL OF MATERIALS				
QTY	ITEM	FINISH		
REBAR				
136	#401x6'-6"	(B)		
136	#402(E)x7'-5"	(E)		
136	#403x8'-5"	(B)		
HARDWARE				
20	#504(E)x5'-8"	(E)	8	0.5"Ø DOUBLE LIFTLOOPS (B)
4	#505(E)x6'-8"	(E)	2	2"Øx2'-9" DOWEL SLEEVE
8	#4x2'-5"	(B)	5	3"Øx4'-0" TIE ROD SLEEVE
6	#4x3'-6"	(B)	16	1"Ø VOID DRAINS
2	#3x99'-3"	(B)	4	1'-10"x3'-1"x11'-6" VOID
	#3 FABRICATION BARS		4	1'-10"x3'-1"x10'-7 1/2" VOID
CONCRETE				
16	#5x49'-7 1/2"	(B)		
8	#5x7'-5" SPLICE BAR	(B)		CUBIC TOTAL: 22.1 CY
	#5 MIN. TOP LAP = 3'-8"			WEIGHT: 89,500 LBS
STRAND				
2	#5x49'-8"	(B)		
4	#5x24'-9 1/2"	(B)	40	1/2"Ø 270K LRO (As=0.167") (B)
4	#5x6'-7" SPLICE BAR	(B)		MATERIAL FINISHES
	#5 MIN. BOT. LAP = 3'-3"			(B) BLACK, (E) EPOXY, (G) GALV, (P) PRIME, (EP) ELECT-PL

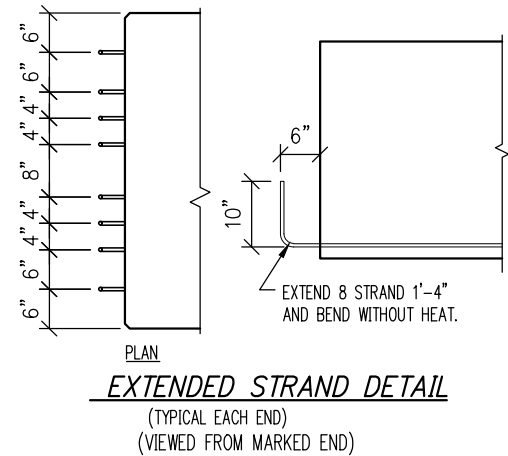
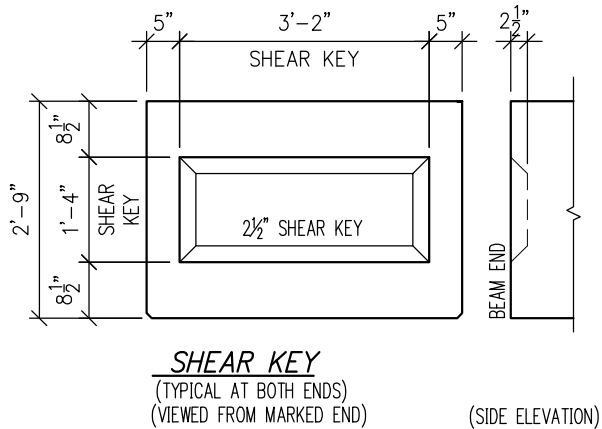
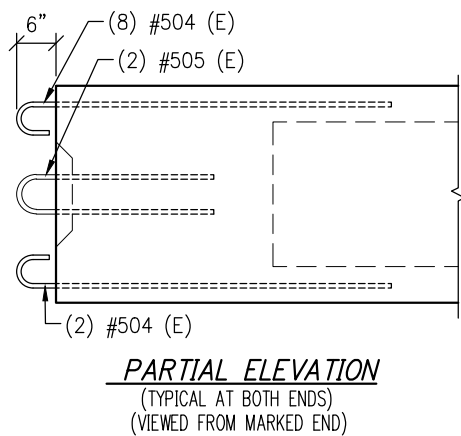


SUBMITTED
09/08/2020 3:46:04 PM

QTY:	1	MARK:	502
HARDWARE AND REINFORCEMENT			
CUYAHOGA COUNTY, OHIO ODOT 173000 E 59th ST PEDESTRIAN BRIDGE OVER OH-10 BRIDGE: CUY-10-1929 STR NO. 1801513 33"x48" COMPOSTIE BOX BEAMS. PID:96833			
CONTRACTOR: Kokosing Construction			
Production: Mt. Vernon, OH (740) 393-1121		Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY	
REVISIONS			
CODE:CB33480	SHEET: 8 OF 10	JOB NO: P19261	

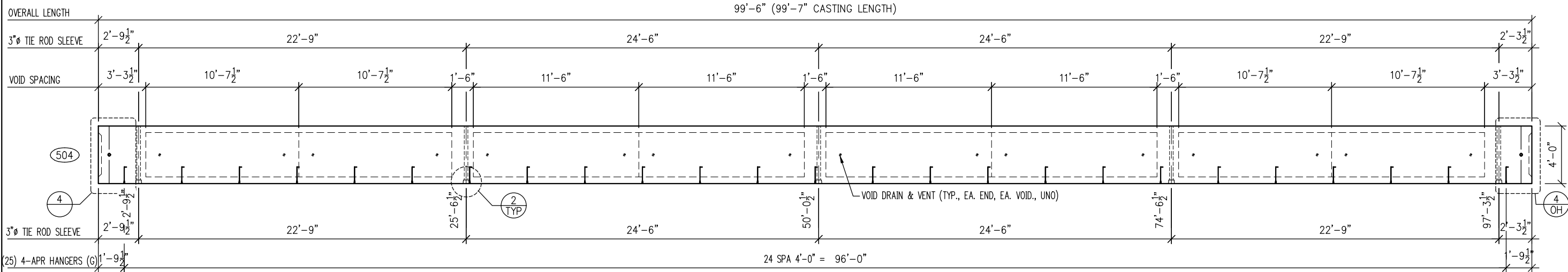


BILL OF MATERIALS				
QTY	ITEM	FINISH		
REBAR				
137	#401x6'-6"	(B)		
137	#402(E)x7'-5"	(E)		
137	#403x8'-5"	(B)		
HARDWARE				
20	#504(E)x5'-8"	(E)	8	0.5"Ø DOUBLE LIFTLOOPS (B)
4	#505(E)x6'-8"	(E)	2	2"Øx2'-9" DOWEL SLEEVE
8	#4x2'-5"	(B)	10	3"Øx4'-0" TIE ROD SLEEVE
6	#4x3'-6"	(B)	16	1"Ø VOID DRAINS
2	#3x99'-3"	(B)	4	1'-10"x3'-1"x11'-6" VOID
	#3 FABRICATION BARS		4	1'-10"x3'-1"x10'-7 1/2" VOID
CONCRETE				
16	#5x49'-7 1/2"	(B)		
8	#5x7'-5" SPLICE BAR	(B)		CUBIC TOTAL: 22.1 CY
	#5 MIN. TOP LAP = 3'-8"			WEIGHT: 89,500 LBS
STRAND				
2	#5x49'-8"	(B)		
4	#5x24'-9 1/2"	(B)	40	1/2"Ø 270K LRO (As=0.167") (B)
4	#5x6'-7" SPLICE BAR	(B)		MATERIAL FINISHES
	#5 MIN. BOT. LAP = 3'-3"			(B) BLACK, (E) EPOXY, (G) GALV, (P) PRIME, (EP) ELECT-PL



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09/08/2020 3:46:09 PM

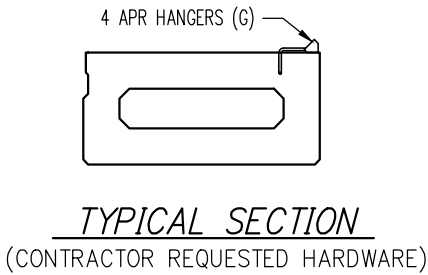
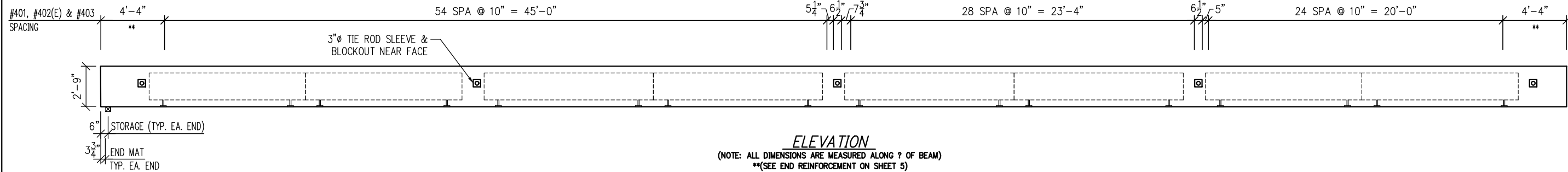
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HARDWARE AND REINFORCEMENT			
CUYAHOGA COUNTY, OHIO ODOT 173000 E 59th ST PEDESTRIAN BRIDGE OVER OH-10 BRIDGE: CUY-10-1929 STR NO. 1801513 33"x48" COMPOSITE BOX BEAMS. PID: 96833			
CONTRACTOR: Kokosing Construction			
Production: Mt. Vernon, OH (740) 393-1121		Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY	
REVISIONS			
CODE: CB33480	SHEET: 9 OF 10	JOB NO: P19261	



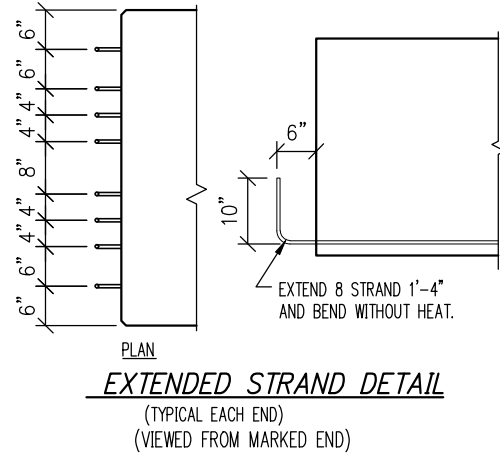
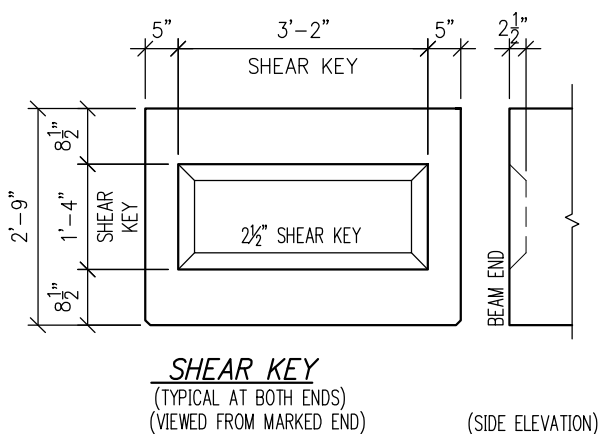
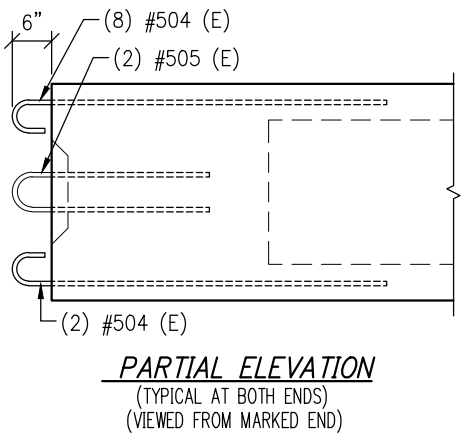
REAR ABUTMENT

PLAN

FORWARD ABUTMENT



BILL OF MATERIALS			
QTY	ITEM	FINISH	
REBAR			
136	#401x6'-6"	(B)	
136	#402(E)x7'-5"	(E)	
136	#403x8'-5"	(B)	
20	#504(E)x5'-8"	(E)	
4	#505(E)x6'-8"	(E)	
8	#4x2'-5"	(B)	
6	#4x3'-6"	(B)	
2	#3x99'-3"	(B)	
	#3 FABRICATION BARS		
16	#5x49'-7 1/2"	(B)	
8	#5x7'-5" SPLICE BAR	(B)	
	#5 MIN. TOP LAP = 3'-8"		
2	#5x49'-8"	(B)	
4	#5x24'-9 1/2"	(B)	
4	#5x6'-7" SPLICE BAR	(B)	
	#5 MIN. BOT. LAP = 3'-3"		
HARDWARE			
25	4 APR HANGERS (G)		
8	0.5"Ø DOUBLE LIFTOOPS (B)		
2	2"Øx2'-9" DOWEL SLEEVE		
5	3"Øx4'-0" TIE ROD SLEEVE		
16	1"Ø VOID DRAINS		
4	1'-10"x3'-1"x11'-6" VOID		
4	1'-10"x3'-1"x10'-7 1/2" VOID		
CONCRETE			
CUBIC TOTAL: 22.3 CY			
WEIGHT: 90,200 LBS			
STRAND			
40	1 1/2"Ø 270K LRO (As=0.167") (B)		
MATERIAL FINISHES			
(B) BLACK, (E) EPOXY, (G) GALV, (P) PRIME, (EP) ELECT-PL			



SUBMITTED
09/08/2020 3:46:14 PM

QTY:	1	MARK:	504
HARDWARE AND REINFORCEMENT			
CUYAHOGA COUNTY, OHIO ODOT 173000			
E 59th ST PEDESTRIAN BRIDGE OVER OH-10			
BRIDGE: CUY-10-1929 STR NO. 1801513			
33"x48" COMPOSTIE BOX BEAMS. PID:96833			
CONTRACTOR: Kokosing Construction			
Production: Mt. Vernon, OH (740) 393-1121		Drafting: Lexington, KY (859) 299-0461	
DATE: 05-28-20	DRAWN: Bob Rubenzer	CHECKED: MONICA KENNEDY	
REVISIONS			
CODE:CB33480	SHEET: 10 OF 10	JOB NO: P19261	

Submittal: 133

Revision:

Date Submitted: 4/28/2021

Response Due By:



Project: 16051 - ODOT 173000 CUY IR 490/SR010 (OC3)

Description: BU16 - E 59th and Wall 1E Decorative Fence Shop Drawings

To: Mark Gabele, PE
Ohio Department of Transportation - District 12

Email: Mark.Gabele@dot.ohio.gov

From: Nicole DeVille
Kokosing Construction Company, Inc.

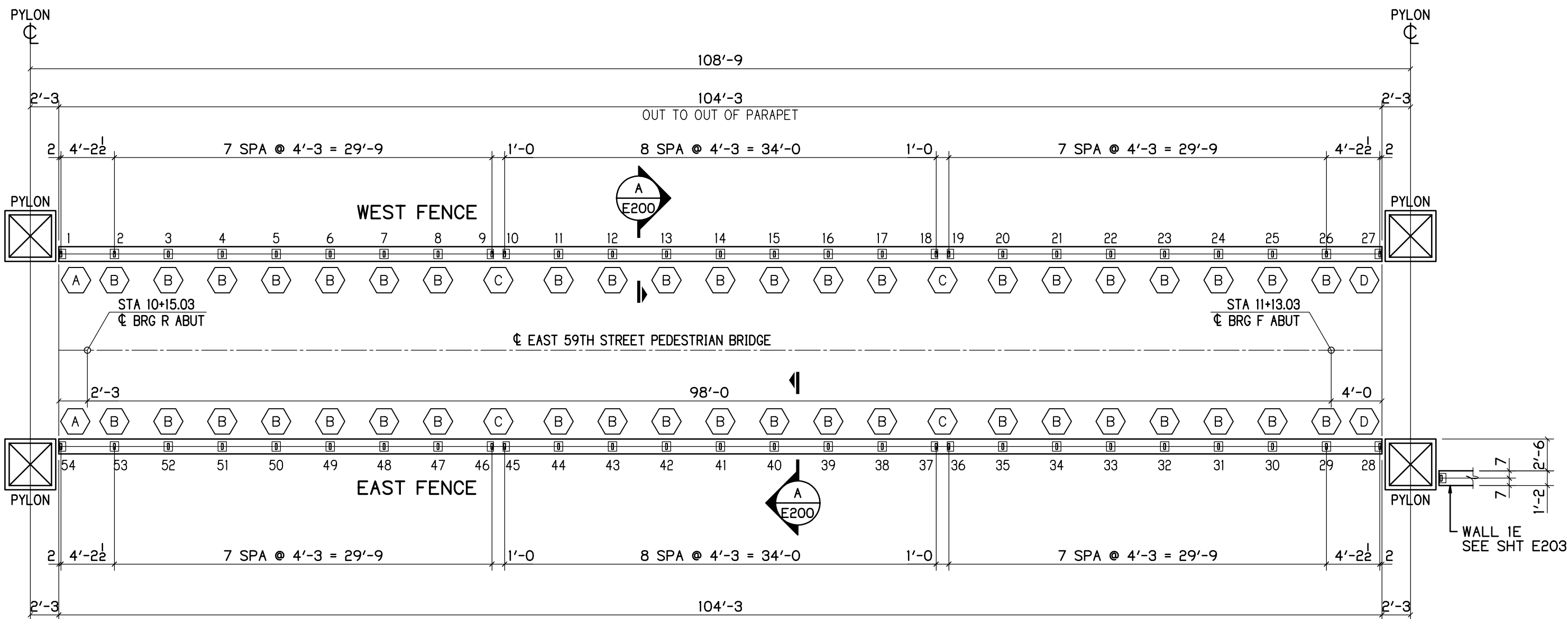
Email: nfd@kokosing.biz

Submittal Type:	Submitted For:
<input type="checkbox"/> Engineered Drawings	<input checked="" type="checkbox"/> Approval
<input checked="" type="checkbox"/> Shop Drawings	<input type="checkbox"/> Record
<input type="checkbox"/> Working Drawings	<input type="checkbox"/> Other
<input type="checkbox"/> CPM Schedule	
<input type="checkbox"/> Material Certifications / Test Results	Sent Via:
<input type="checkbox"/> Reports	<input checked="" type="checkbox"/> Attached (Electronic)
<input type="checkbox"/> Product Data/Samples	<input type="checkbox"/> Attached (Hard Copy)
<input type="checkbox"/> Other:	

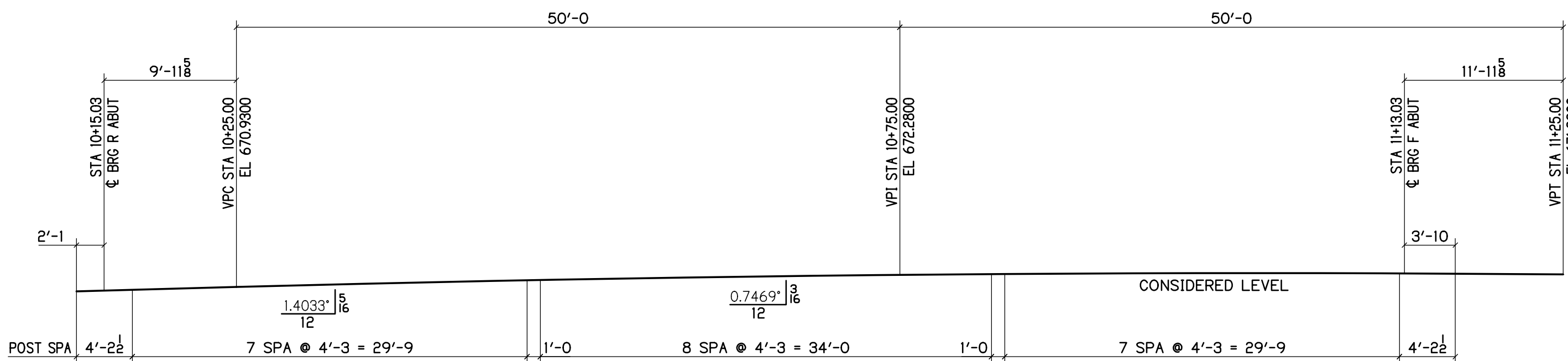
Submittal #	Copies	Spec #	Rev. #	Description	
133	1			133 – BU16 - E 59th and Wall 1E Decorative Fence Shop Drawings	

Comments:

Signed: 



ANCHOR LOCATION PLAN



VERTICAL CURVE ELEVATION

INDEX OF SHEETS

SHEET #	DESCRIPTION
E200	ANCHOR PLANS & NOTES
E201	ELEVATION, SECTIONS & DETAILS
E202	FENCE RAIL ELEVATIONS
E203	WALL IE PLANS & ELEVATIONS
E204	WALL IE ELEVATION, SECTIONS & DETAILS
E205	WALL IE SLOPED RAIL DETAILS

VERTICAL CURVE DATA

VPC STA 1025.0000 EL = 670.9300
VPI STA 1075.0000 EL = 672.2800
VPT STA 1125.0000 EL = 671.8800

LC = 100.0000
G1 = 2.70000%
G2 = -0.80000%
K = 28.5714
E = 0.4375
RC = 3.5000
TP = STA 1102.1429 EL = 671.9714

STATION INCREMENT = 5.0000
GRADE SHOWN FOR STA IS FROM PREVIOUS STA

STA 1025.0000	EL = 670.9300	VPC STA
STA 1030.0000	EL = 671.0606	GRD = 2.6125%
STA 1035.0000	EL = 671.1825	GRD = 2.4375%
STA 1040.0000	EL = 671.2956	GRD = 2.2625%
STA 1045.0000	EL = 671.4000	GRD = 2.0875%
STA 1050.0000	EL = 671.4956	GRD = 1.9125%
STA 1055.0000	EL = 671.5825	GRD = 1.7375%
STA 1060.0000	EL = 671.6606	GRD = 1.5625%
STA 1065.0000	EL = 671.7300	GRD = 1.3875%
STA 1070.0000	EL = 671.7906	GRD = 1.2125%
STA 1075.0000	EL = 671.8425	GRD = 1.0375%
STA 1080.0000	EL = 671.8856	GRD = 0.8625%
STA 1085.0000	EL = 671.9200	GRD = 0.6875%
STA 1090.0000	EL = 671.9456	GRD = 0.5125%
STA 1095.0000	EL = 671.9625	GRD = 0.3375%
STA 1100.0000	EL = 671.9706	GRD = 0.1625%
STA 1105.0000	EL = 671.9700	GRD = -0.0125%
STA 1110.0000	EL = 671.9606	GRD = -0.1875%
STA 1115.0000	EL = 671.9425	GRD = -0.3625%
STA 1120.0000	EL = 671.9156	GRD = -0.5375%
STA 1125.0000	EL = 671.8800	GRD = -0.7125% VPT STA

VERTICAL CURVE NOTE

THE VERTICAL CURVE PRESENTS NEGLIGIBLE CHANGES TO LENGTH. THE PLAN DIMENSIONS SHALL BE USED AS ACCURATE FOR LENGTH. POSTS SHALL BE SET PLUMB AND THE RAILS SHALL FOLLOW GRADE.

DIMENSION NOTES

- ALL DIMENSIONS SHOWN ARE TAKEN FROM THE CENTERLINE OF RAIL & PARAPET.
- ALL DIMENSIONS SHOWN ARE IN PLAN ONLY.
- SEE SHEET E502 FOR ANCHOR DETAILS.

LEGEND

(X) ANCHOR SETTING DETAIL

X POST NUMBER

GENERAL NOTES

FINISH

THE FABRICATED RAILING AND HARDWARE (EXCEPT EMBED ANCHORS) SHALL BE GALVANIZED PER CMS 711.02 EXCEPT THAT FABRICATED RAILING ELEMENTS SHALL NOT BE POST TREATED WITH WATER QUENCHING OR CHROMATE CONVERSION COATED.

ALL VENT HOLES REQUIRED FOR GALVANIZING SHALL BE AT THE DISCRETION OF THE FABRICATOR AND GALVANIZER.

THE PAINT SYSTEM SHALL BE PROVIDED UNDER A SEPARATE COVER. THE FINISH COAT SHALL MATCH FEDERAL COLOR STANDARD FS 595C-17038 BLACK.

WELDING

AWS - BRIDGE WELDING CODE D1.5 - LATEST EDITION

AWS - STRUCTURAL WELDING CODE D1.1 - LATEST EDITION

WELD PROCESS SHALL BE GMAW

RAILING NOTES

- ALL POSTS SHALL BE FABRICATED AND SET PLUMB WITH RAIL PANELS THAT FOLLOW THE GRADE.
- ALL EMBEDDED ANCHORS SHALL BE INSTALLED WITH A TOLERANCE OF +/- 1/16".
- ALL TEMPLATE PLATES FOR THE ANCHORS SHALL NOT BE SUPPLIED BY THIS FABRICATOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL THE ANCHORS WITH THE PRECISION REQUIRED FOR POST INSTALLATION.
- ALL PLASTIC BASE & SHIMS AND CAULKING SHALL NOT BE SUPPLIED BY THIS FABRICATOR. THE CONTRACTOR OR INSTALLER SHALL BE REQUIRED TO SUPPLY AND INSTALL THESE REQUIREMENTS PER THE CONTRACT.

WIRE MESH NOTES

- THE WELDED WIRE MESH SHALL BE 10.5 GA CORE WIRE, GALVANIZED AFTER WELDING.
- THE WIRE MESH PATTERN SHALL BE 1x1 SET IN THE SQUARE POSITION AS PLUMB.
- THE WIRE MESH PANELS SHALL BE FIELD INSTALLED USING CLAMP BARS.
- THE CLAMP BARS SHALL BE SHOP DRILLED FOR FASTENER LOCATIONS.
- FIELD INSTALLATION SHALL USE THE 1/4" SELF DRILL AND TAP SCREWS.
- THE TEK SCREW HEADS SHALL BE FIELD PAINTED BLACK AFTER INSTALLATION.

MATERIAL NOTES

NO	MATERIAL	ASTM	GRADE	TYPE	NOTES
1	PLATES, ANGLES & BARS	A709	36 / 50		
2	HSS RAIL TUBES	A500	B		
3	WIRE MESH	A185-1064			

FASTENER NOTES

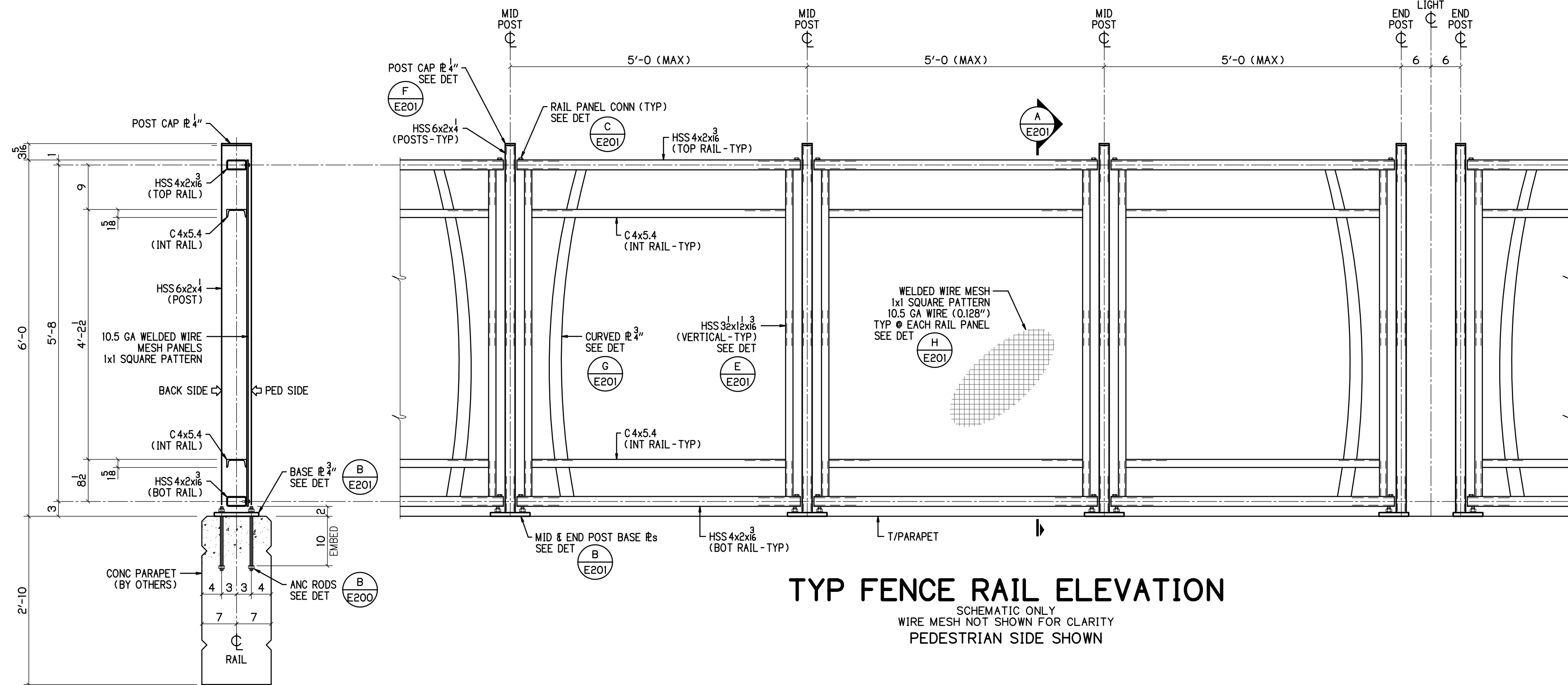
NO	MATERIAL	ASTM/ANSI	GRADE	TYPE	REMARKS
1	HIGH STRENGTH BOLTS	A325			GALV ASTM A153
2	HIGH STRENGTH NUTS	A563			GALV ASTM A153
3	HIGH STRENGTH WASHERS	F436			GALV ASTM A153
4	SS ALL THREAD ANCHOR RODS	A320	B8	304	MILL FINISH
5	SS HEX BOLTS	A194	B8	304	MILL FINISH
6	SS HEX NUTS	A194	B8	304	MILL FINISH
7	SS WASHERS	A194	B8	304	MILL FINISH

MATERIAL QUANTITY

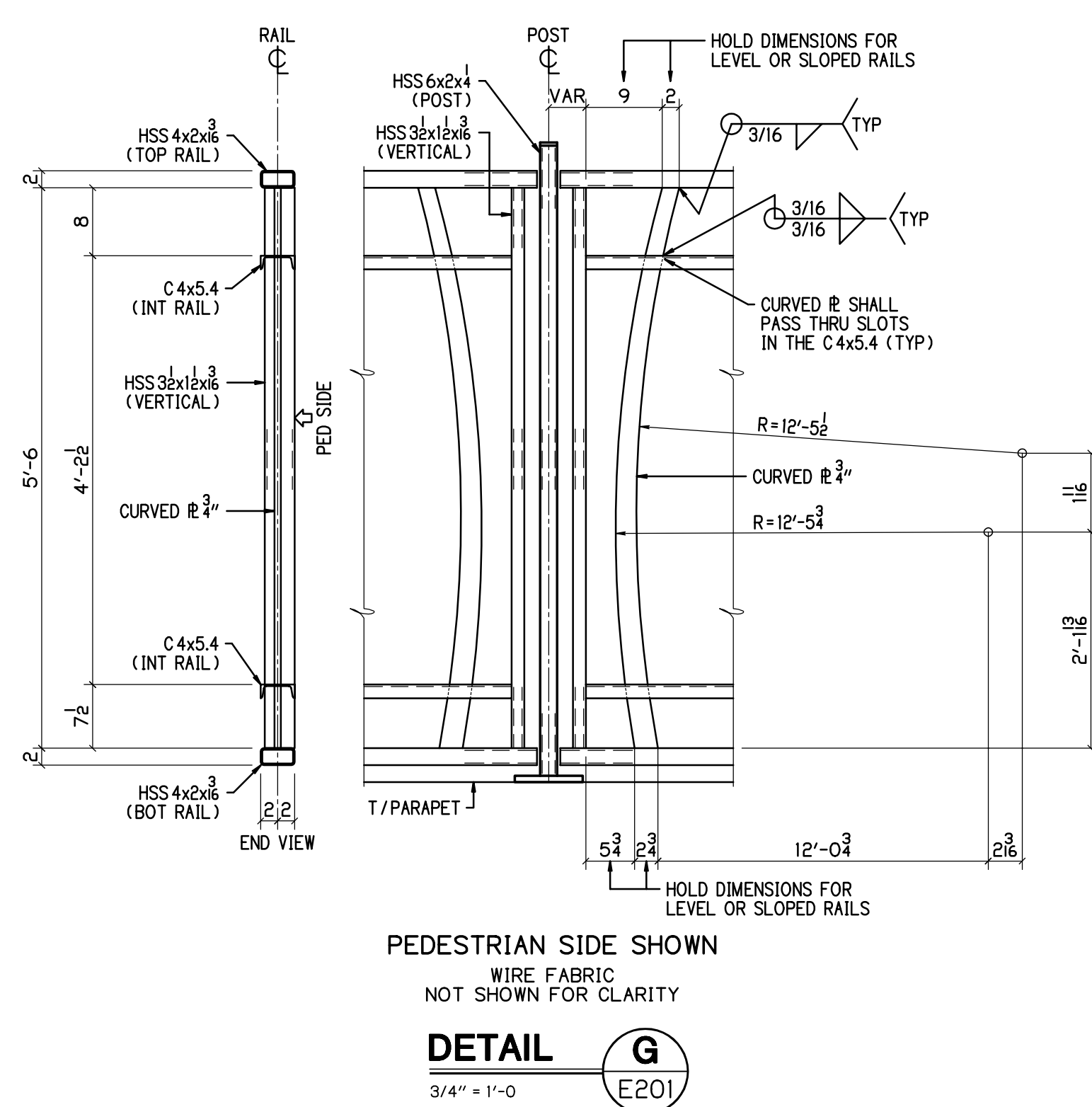
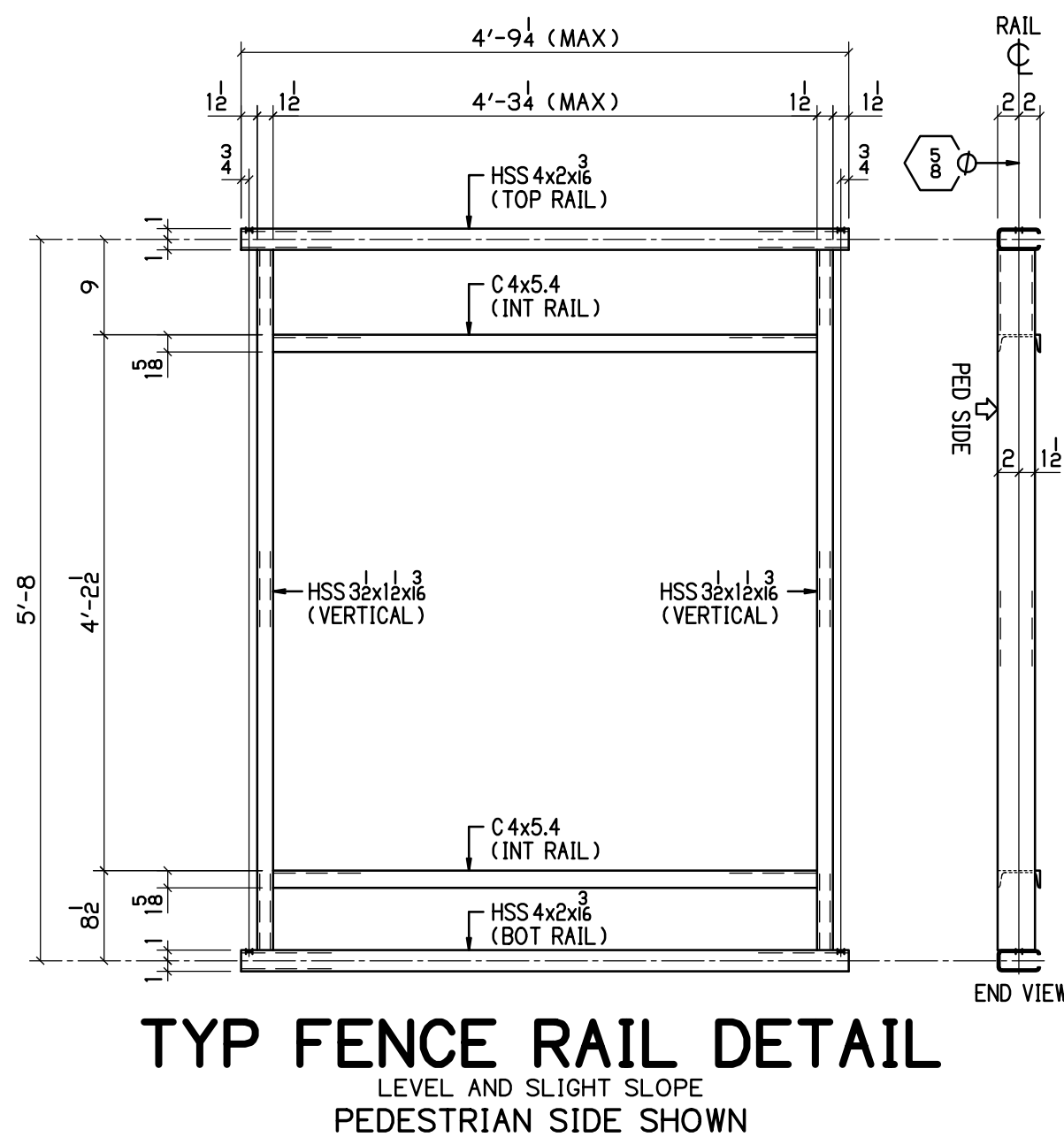
DESCRIPTION	POSTS	CONTRACT LN/FT	ACTUAL LN/FT	REMARKS
BU-16 DECORATIVE FENCE EAST 59TH STREET	54	208'-0	208'-0	
BU-16 DECORATIVE FENCE WALL IE	16	65'-0	65'-0	

BU-16 EAST 59TH STREET
FOR APPROVAL 04-28-21

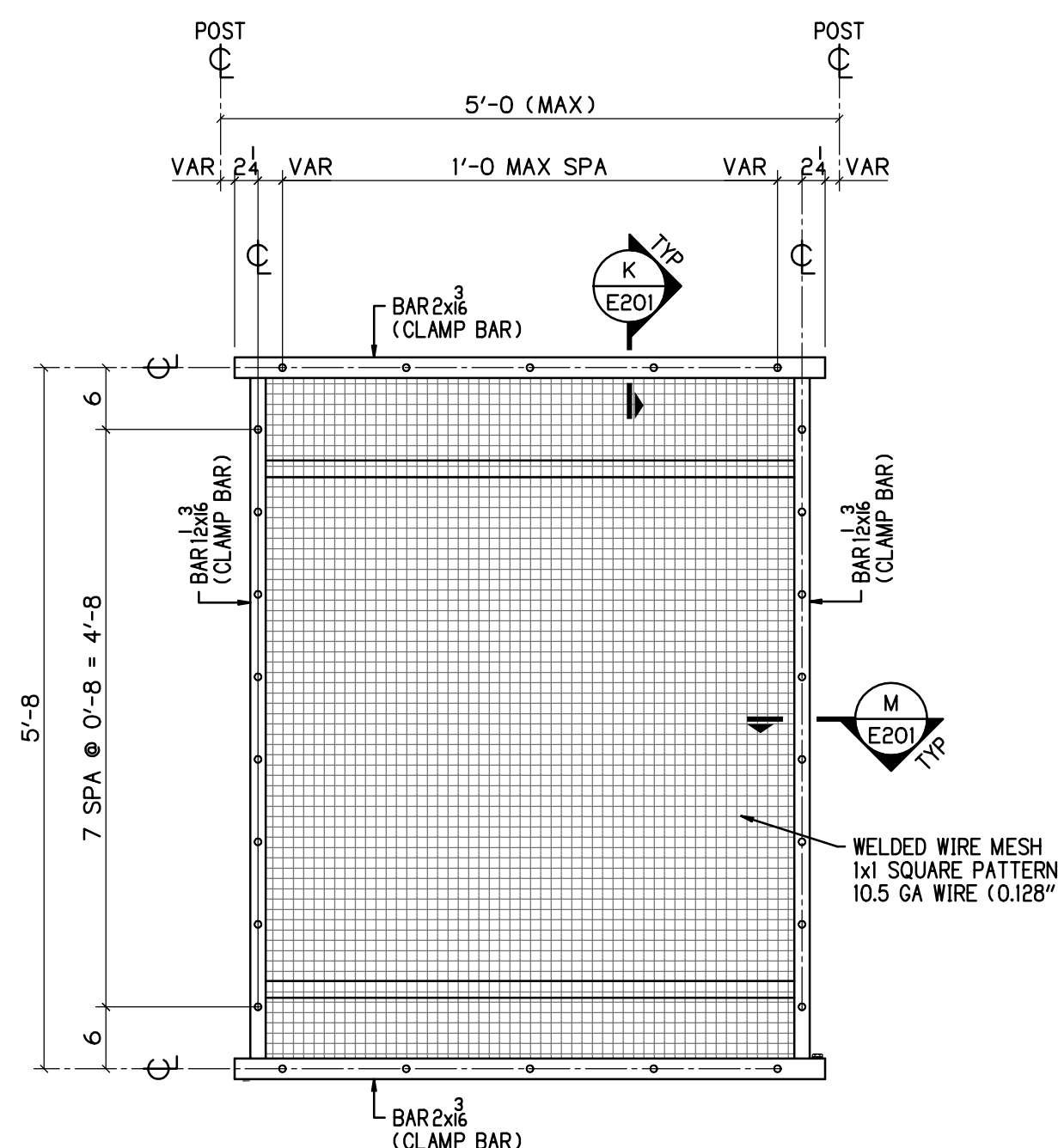
		APPROVAL	
2450 N. RACEWAY RD. - P.O. BOX 34295 INDIANAPOLIS, INDIANA 46234		PHONE : (317) 297-5152 FAX : (317) 297-5313	
CUY-IR490 / SR010-2.09 / 19.28 DECORATIVE FENCE ANCHOR PLANS & NOTES			
REV	DATE	DESCRIPTION	BY
1	03-28-21	ADDED WALL IE	MRH
STATE		OHIO	
COUNTY		CUYAHOGA (CITY OF CLEVELAND)	
PROJECT		3000 (17)	
CONTRACT		PID 96833	
SECTION			
STRUCTURE			
STATE JOB			
CUSTOMER		LAKE ERIE CONSTRUCTION COMPANY	
CONTRACTOR			
DRAWING			
REFERENCE			
ITEM			
FINISH		SEE NOTES-SHT E200	
DRAWN BY	CHECKED BY	MRH NO	JOB MGR
MRH	03-21-21	1914	JL
DWG STATUS		APPROVAL	
04-28-21			
JOB NO.		19-1108	
TOTAL SHEETS		E200	



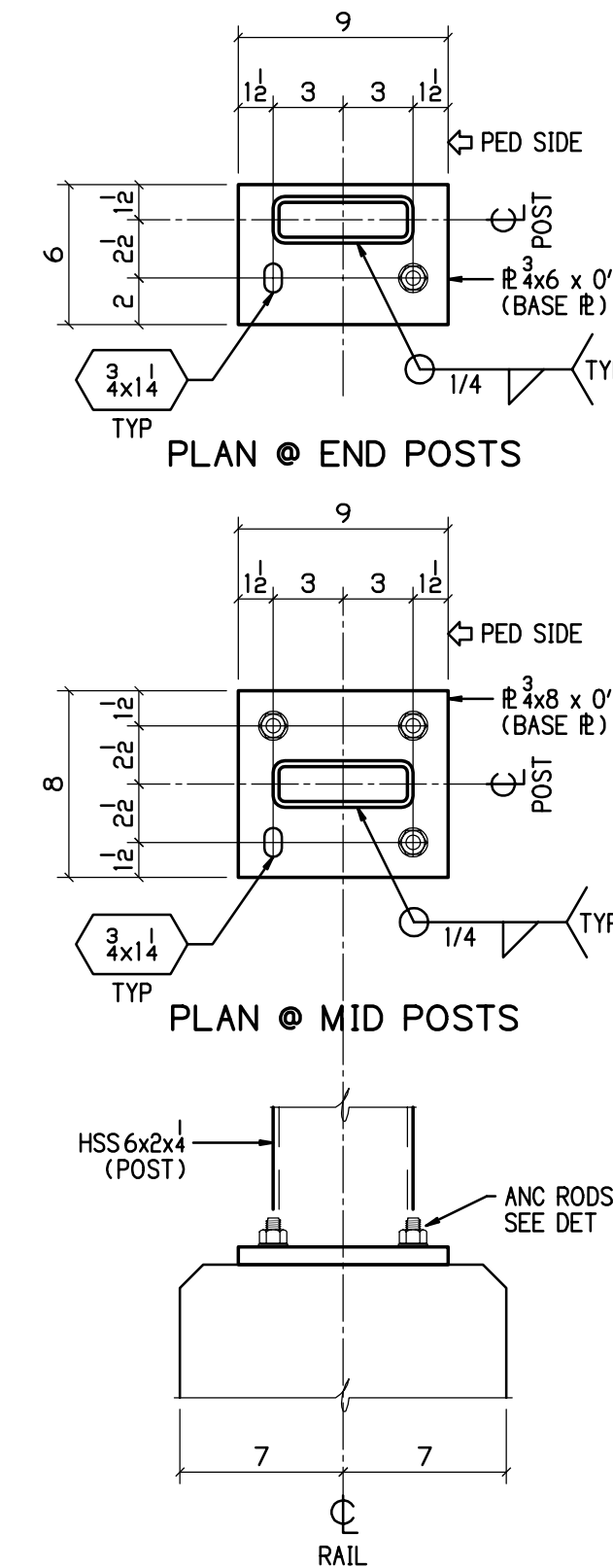
SECTION A
3/4" = 1'-0"
E201



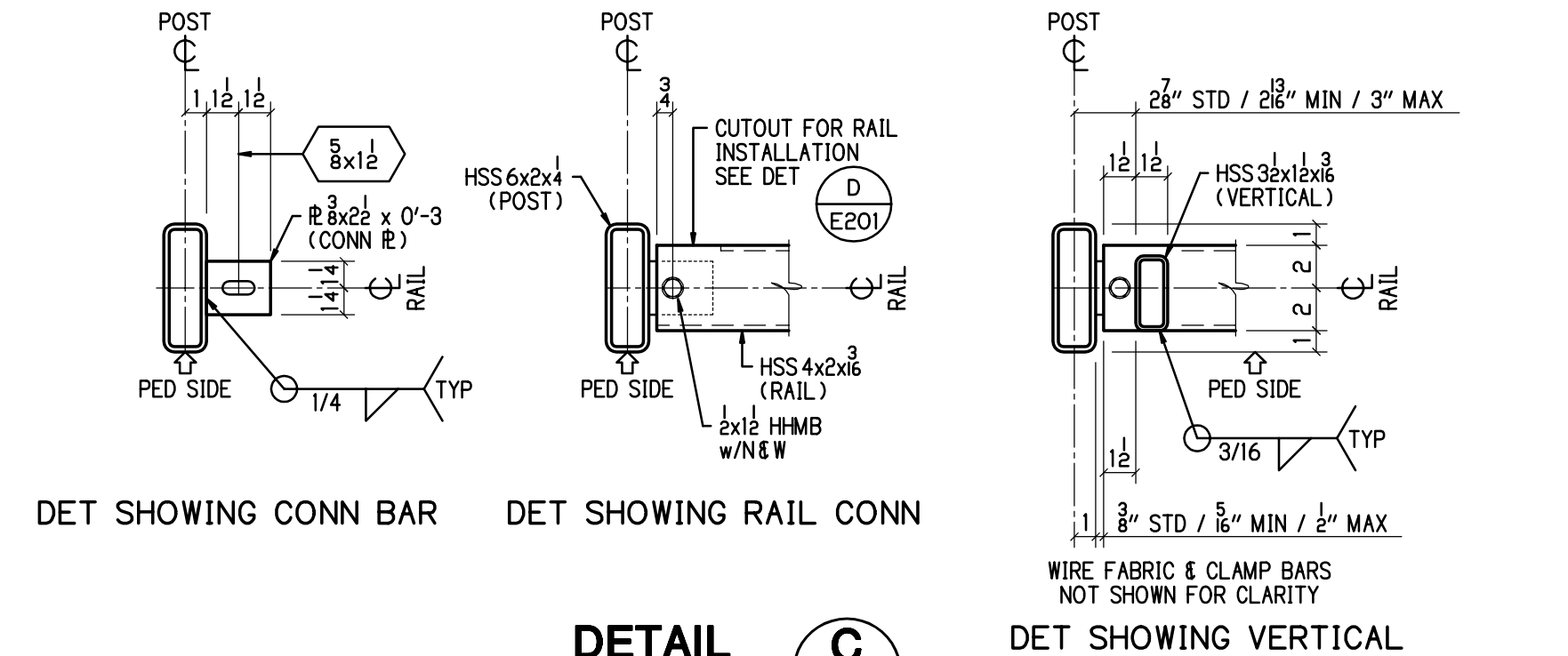
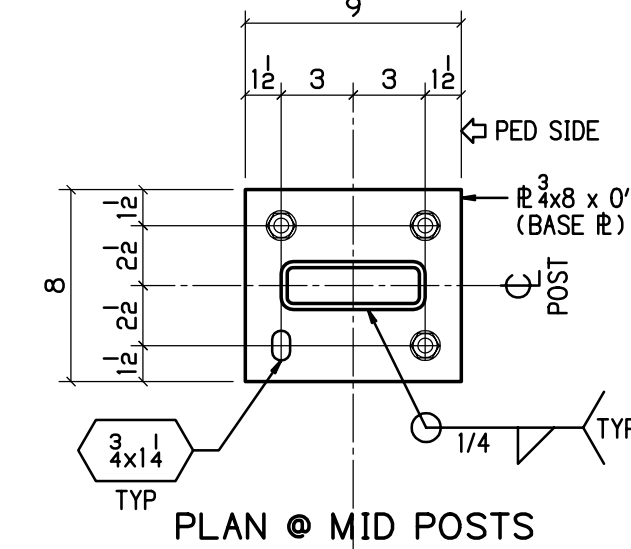
DETAIL G
3/4" = 1'-0"
E201



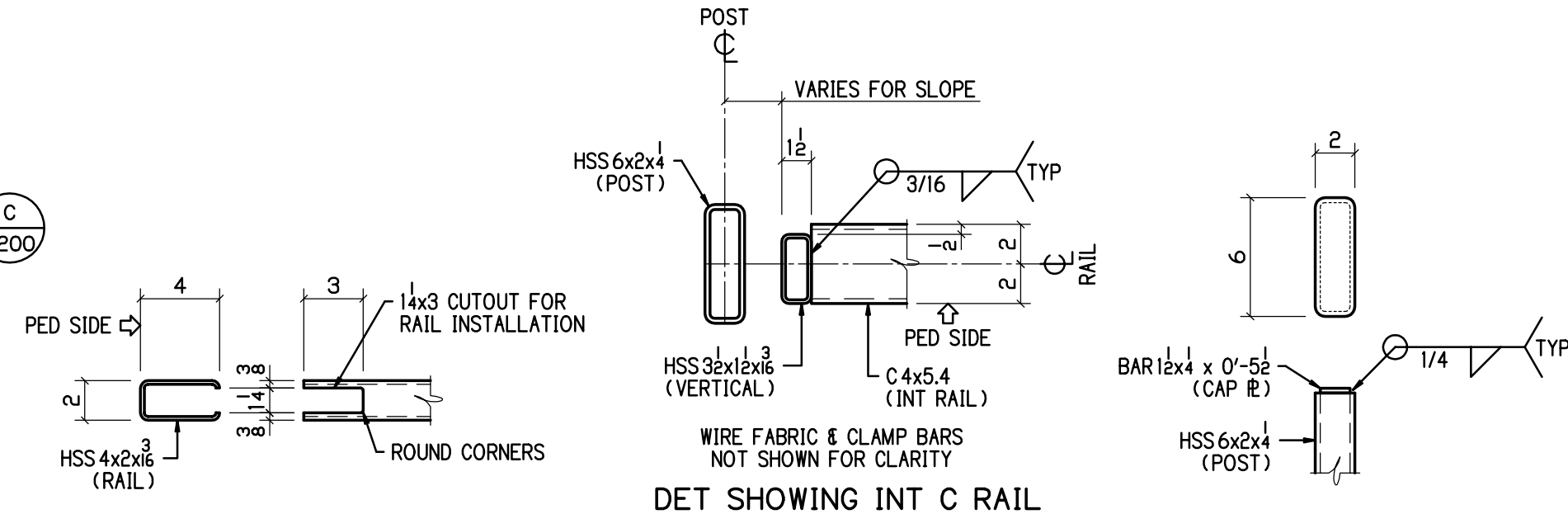
DETAIL H
3/4" = 1'-0"
E201



DETAIL B
1 1/2" = 1'-0"
E201



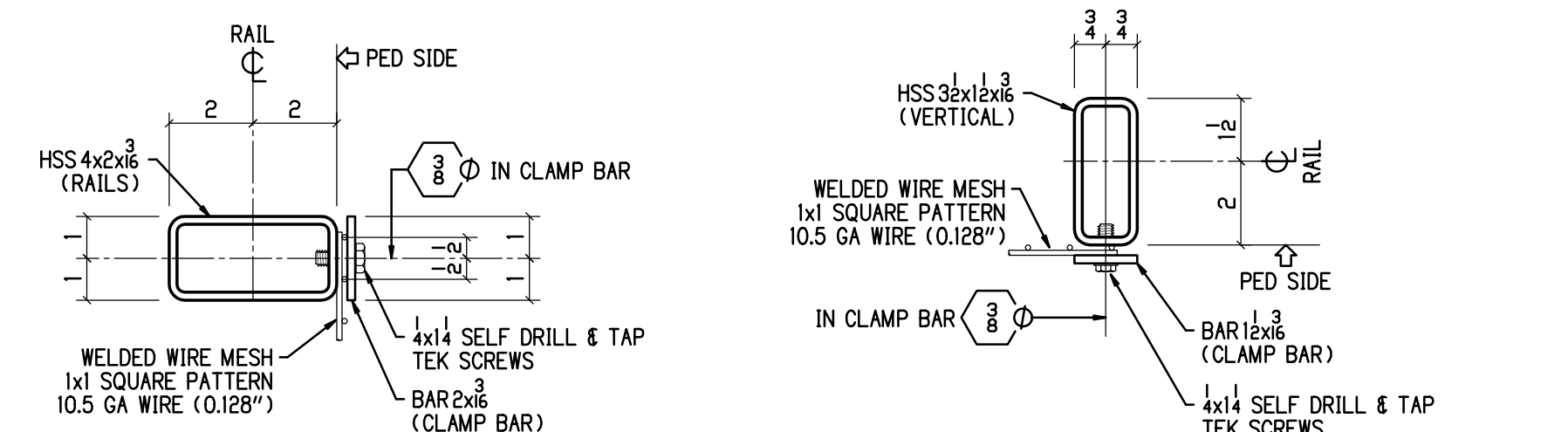
DETAIL C
1 1/2" = 1'-0"
E201



DETAIL D
1 1/2" = 1'-0"
E201

DETAIL E
1 1/2" = 1'-0"
E201

DETAIL F
1 1/2" = 1'-0"
E201



SECTION K
3" = 1'-0"
E201

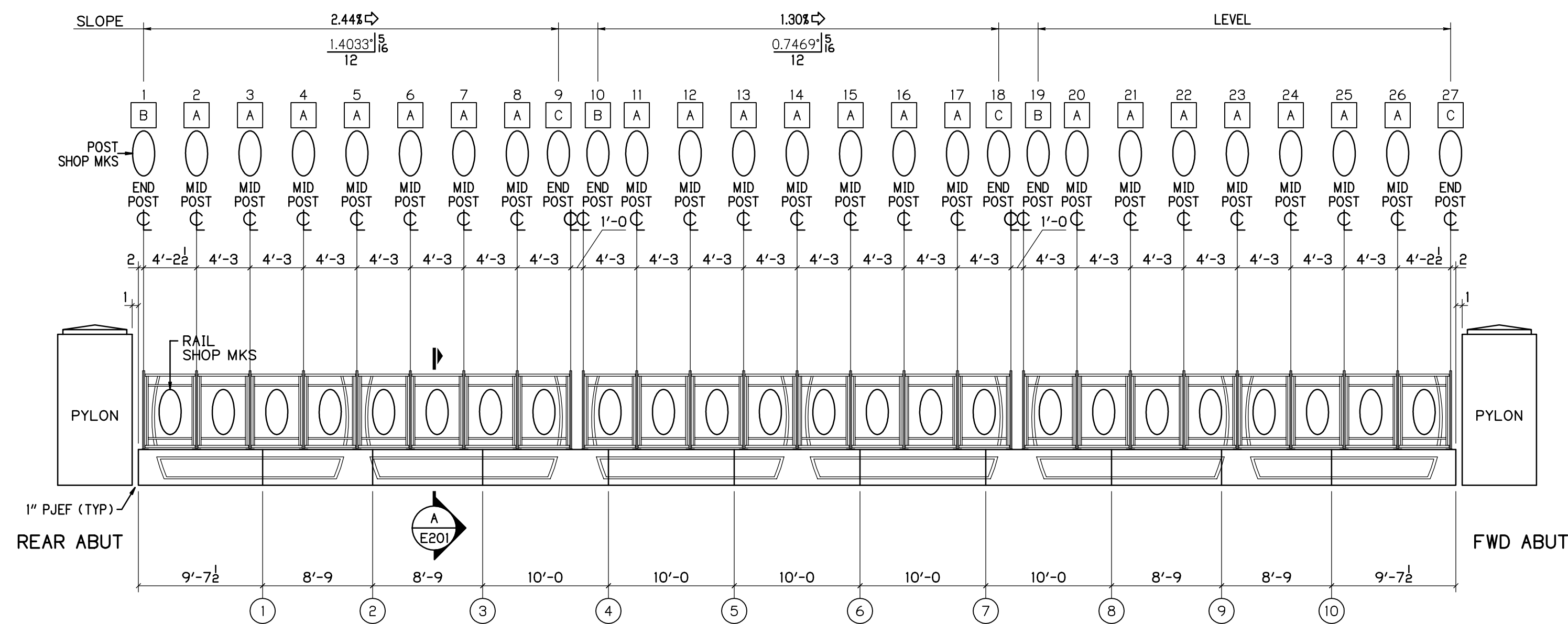
SECTION M
3" = 1'-0"
E201

BU-16 EAST 59TH STREET
FOR APPROVAL 04-28-21

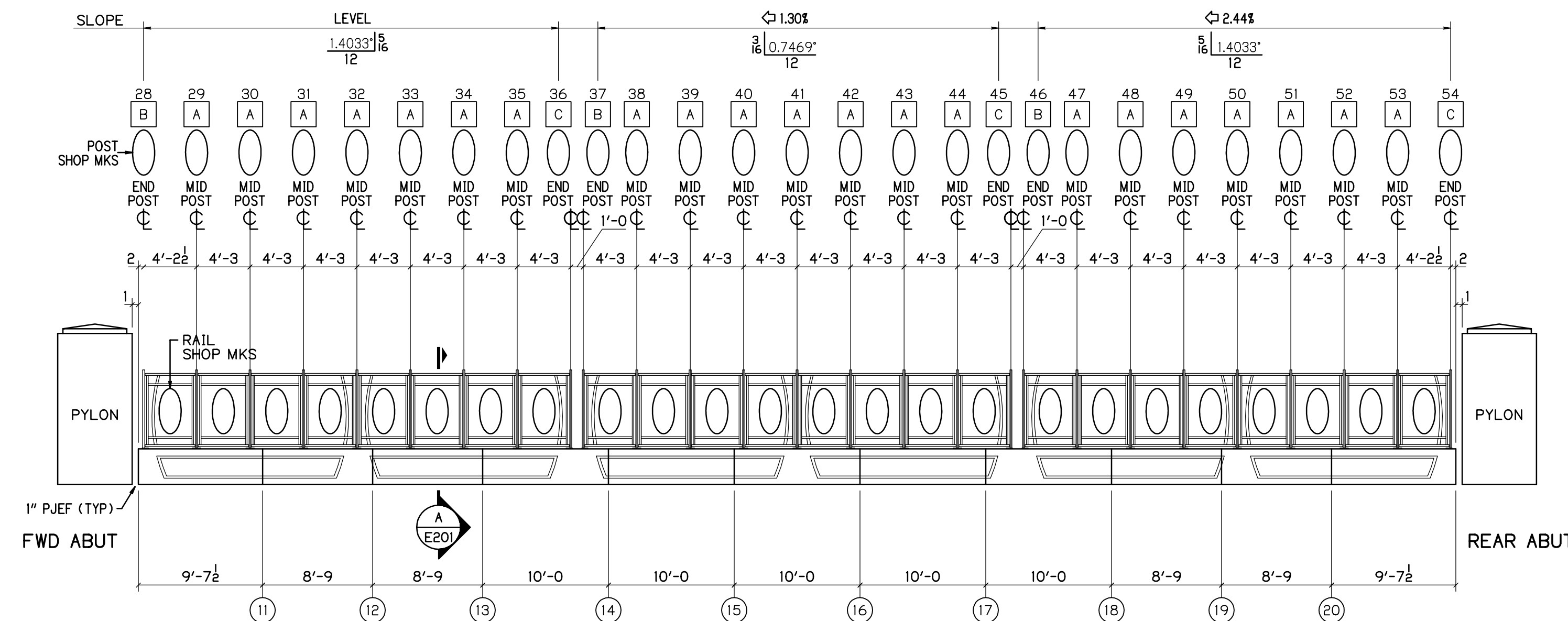
P.H. DREW INC.
2450 N. RACEWAY RD. - P.O. BOX 34295
INDIANAPOLIS, INDIANA 46234
PHONE : (317) 297-5152
FAX : (317) 297-5313

CUY-IR490 / SR010-2.09 / 19.28
DECORATIVE FENCE
ELEVATION, SECTIONS & DETAILS

REV	DATE	DESCRIPTION	BY	STATE	OHIO
				COUNTY	CUYAHOGA (CITY OF CLEVELAND)
				PROJECT	3000 (17)
				CONTRACT	PID 96833
				SECTION	
				STRUCTURE	
				STATE JOB	
				CUSTOMER	LAKE ERIE CONSTRUCTION COMPANY
				CONTRACTOR	
				APPROVED	
				REFERENCE	
				ITEM	
				FINISH	SEE NOTES-SHT E200
				JOB NO.	19-1108
				TOTAL SHEETS	
				SHEET	E201



WEST FENCE RAIL ELEVATION
PEDESTRIAN SIDE SHOWN



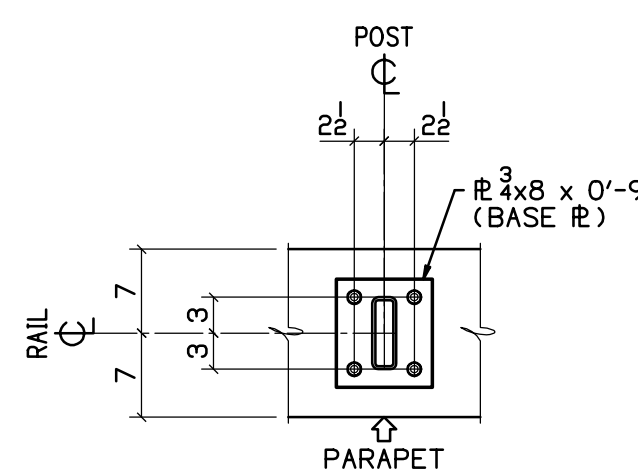
EAST FENCE RAIL ELEVATION
PEDESTRIAN SIDE SHOWN

POST COUNT		RAIL COUNT		CLAMP BAR COUNT		WIRE MESH COUNT	
QUAN	POSTS	QUAN	RAILS	QUAN	RAILS	QUAN	RAILS
x	x	x	x	x	x	x	x

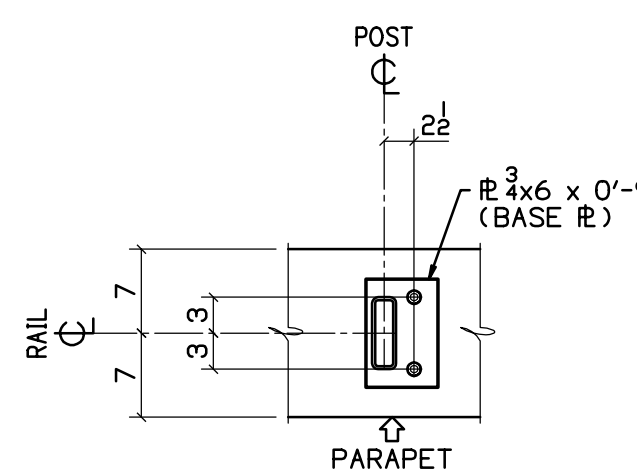
WEST SIDE COUNT

POST COUNT		RAIL COUNT		CLAMP BAR COUNT		WIRE MESH COUNT	
QUAN	POSTS	QUAN	RAILS	QUAN	RAILS	QUAN	RAILS
x	x	x	x	x	x	x	x

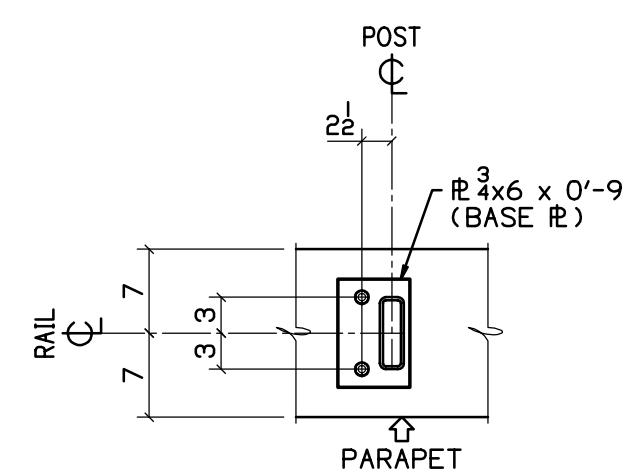
EAST SIDE COUNT



BASE RAIL DETAIL A



BASE RAIL DETAIL B



BASE RAIL DETAIL C

RAILING NOTES

1. ALL POSTS SHALL BE SET PLUMB, RAILS SHALL FOLLOW GRADE.

WIRE MESH NOTES

1. SEE SHOP DRAWINGS FOR WIRE MESH & CLAMP BAR INSTALLATION.

DIMENSION NOTES

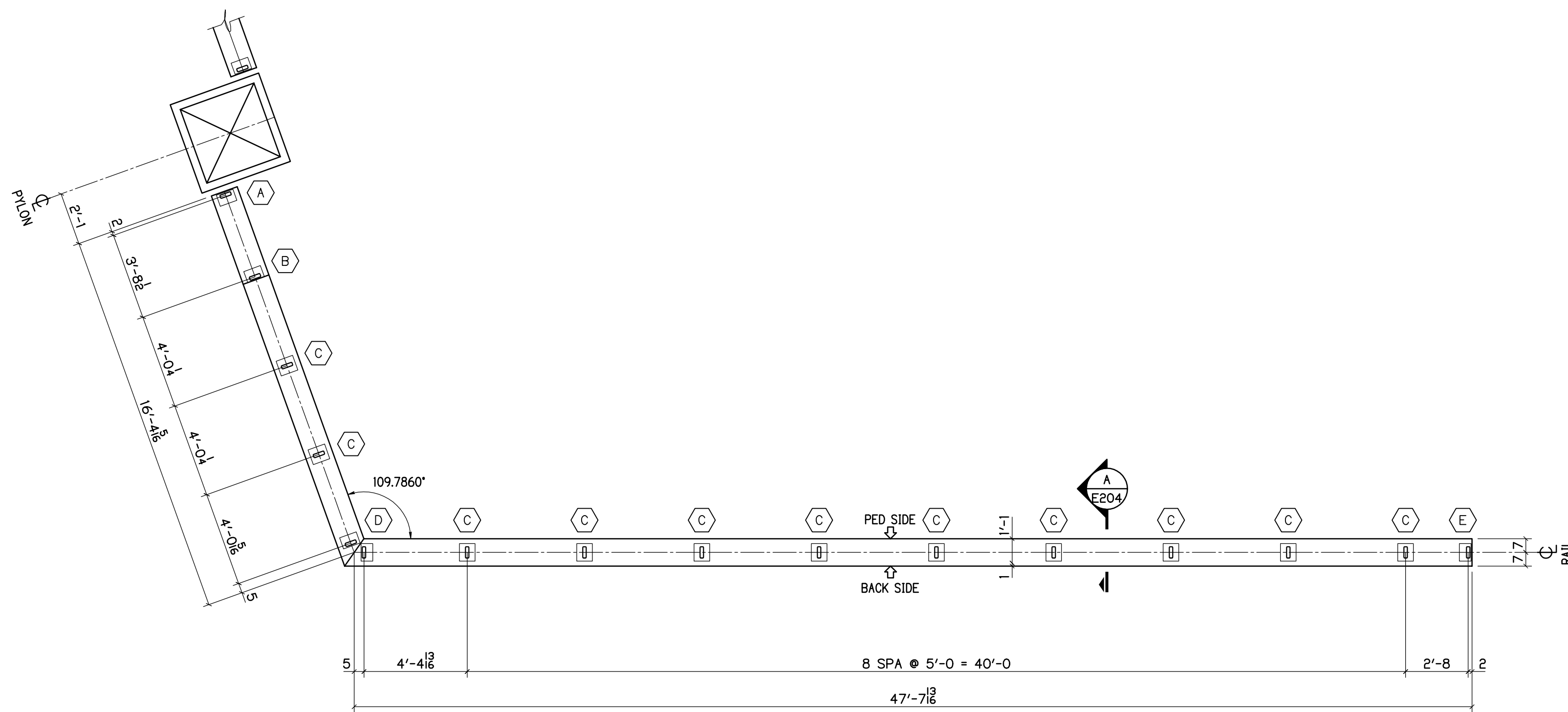
1. ALL DIMENSIONS SHOWN ARE TAKEN FROM THE CENTERLINE OF RAIL.
2. ALL DIMENSIONS SHOWN ARE IN PLAN ONLY.
3. SEE SHEET E201 FOR ANCHOR DETAILS.

LEGEND

- [X] BASE RAIL DETAIL
[X] CONTR OR EXP JOINT NUMBER
X POST NUMBER

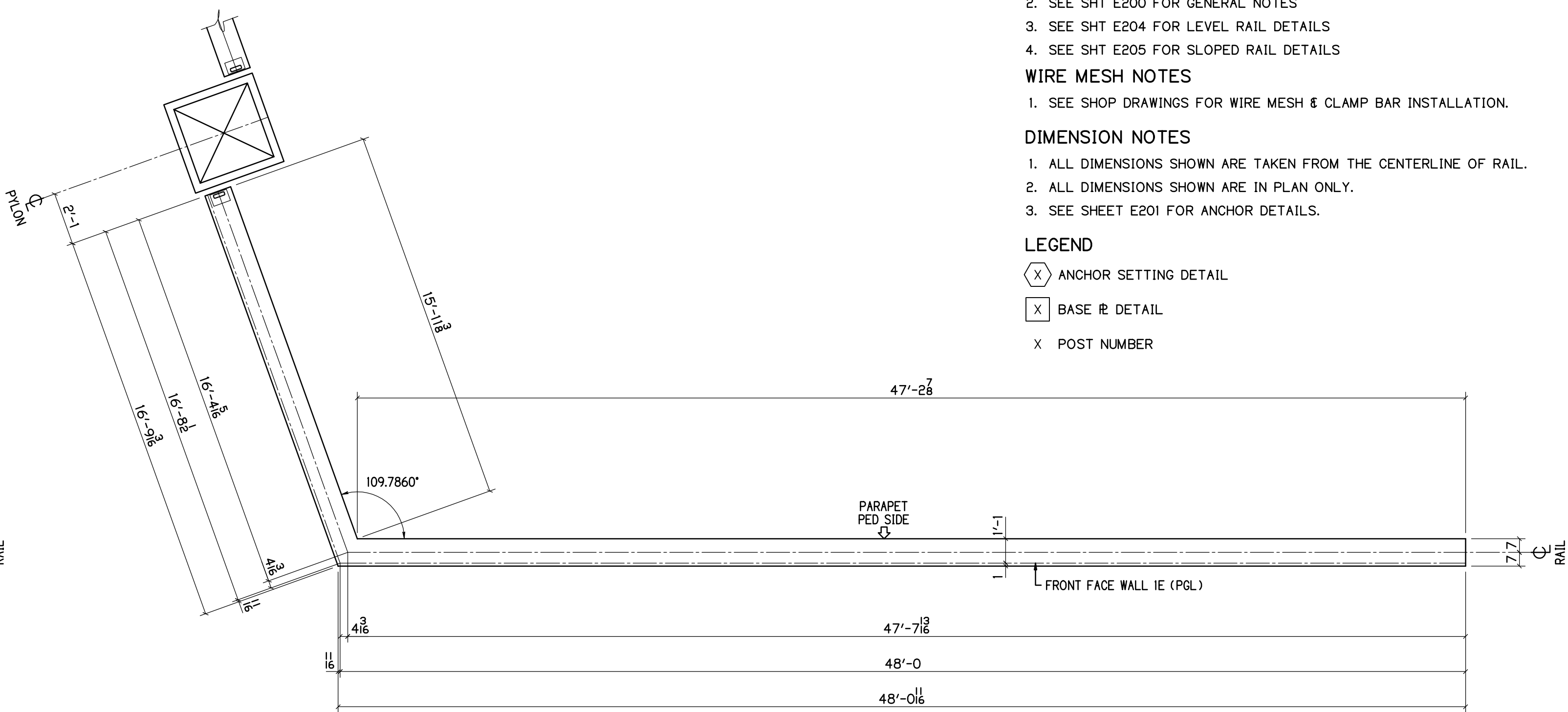
BU-16 EAST 59TH STREET
FOR APPROVAL 04-28-21

	2450 N. RACEWAY RD. - P.O. BOX 34295 INDIANAPOLIS, INDIANA 46234	PHONE : (317) 297-5152 FAX : (317) 297-5313	APPROVAL			
CUY-IR490 / SR010-2.09 / 19.28						
DECORATIVE FENCE						
FENCE RAIL ELEVATIONS						
REVISION	REV	DATE	DESCRIPTION	BY	STATE	OHIO
					COUNTY	CUYAHOGA (CITY OF CLEVELAND)
					PROJECT	3000 (17)
					CONTRACT	PID 96833
					SECTION	
APPROVAL RECORD	DATE	ISSUED	APP. DATE	APPROVAL STATUS	CUSTOMER	LAKE ERIE CONSTRUCTION COMPANY
	04-28-21	APPROVAL			CONTRACTOR	
					ARCHITECT	
					REFERENCE	
					ITEM	
FINISH						SEE NOTES-SHT E200
DRAWN BY	CHECKED BY	MRH NO	JOB MGR	DWG STATUS	JOB NO.	TOTAL SHEETS
MRH		1914	JL	APPROVAL 04-28-21	19-1108	E202



WALL 1E POST & ANCHOR PLAN

POSTS TO BE SET PLUMB
RAILS TO FOLLOW GRADE



WALL 1E LAYOUT PLAN

RAILING NOTES

1. ALL POSTS SHALL BE SET PLUMB, RAILS SHALL FOLLOW GRADE.
2. SEE SHT E200 FOR GENERAL NOTES
3. SEE SHT E204 FOR LEVEL RAIL DETAILS
4. SEE SHT E205 FOR SLOPED RAIL DETAILS

WIRE MESH NOTES

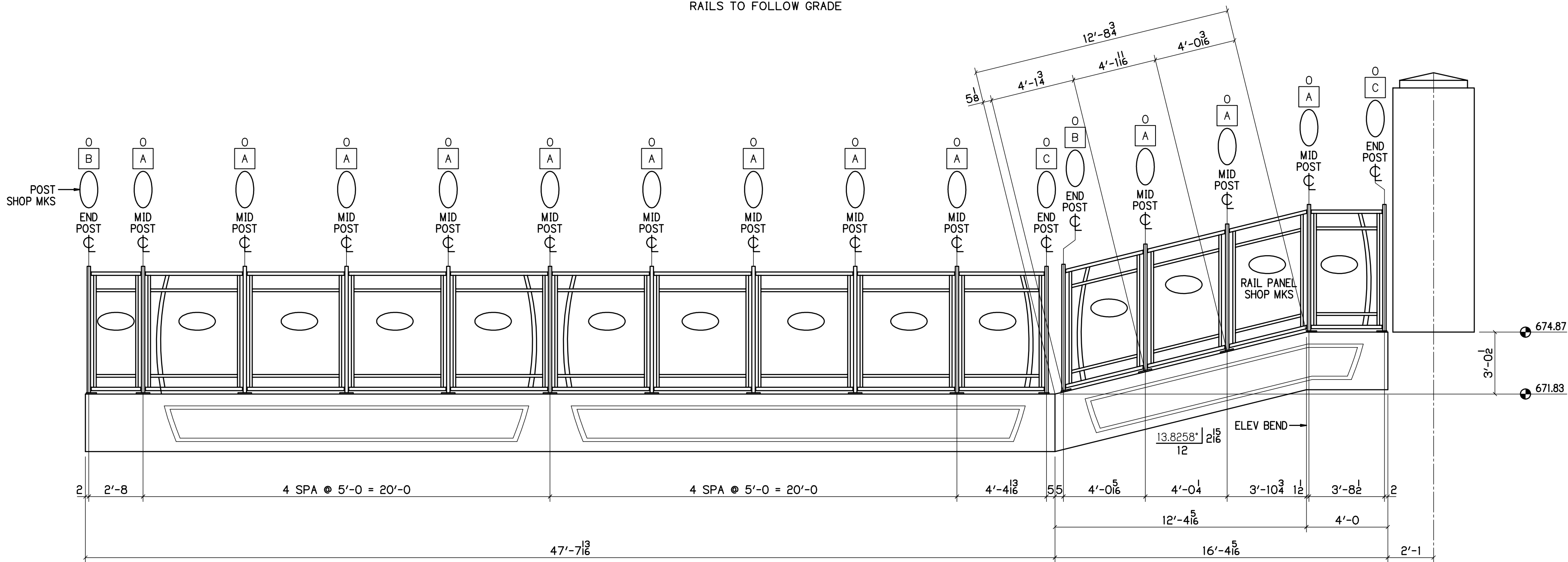
1. SEE SHOP DRAWINGS FOR WIRE MESH & CLAMP BAR INSTALLATION.

DIMENSION NOTES

1. ALL DIMENSIONS SHOWN ARE TAKEN FROM THE CENTERLINE OF RAIL.
2. ALL DIMENSIONS SHOWN ARE IN PLAN ONLY.
3. SEE SHEET E201 FOR ANCHOR DETAILS.

LEGEND

- ANCHOR SETTING DETAIL
- BASE R DETAIL
- POST NUMBER



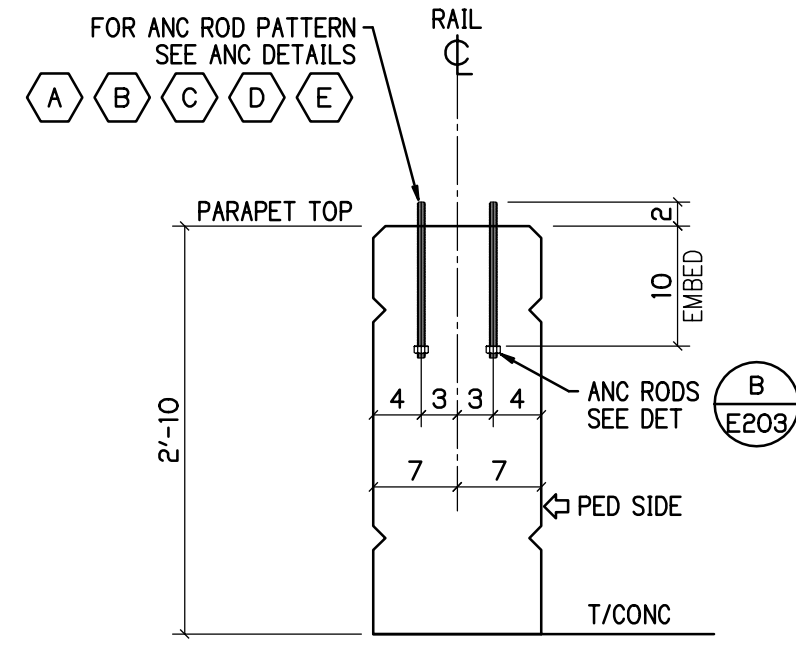
WALL 1E RAIL ELEVATION

PEDESTRIAN SIDE SHOWN
ALL DIMENSIONS AT C RAIL

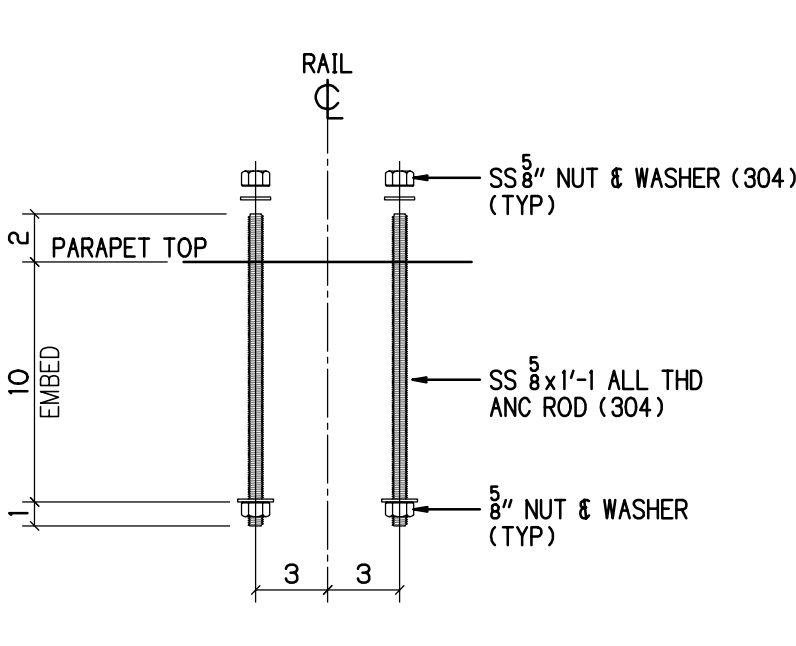
BASE R DETAIL A

BASE R DETAIL B

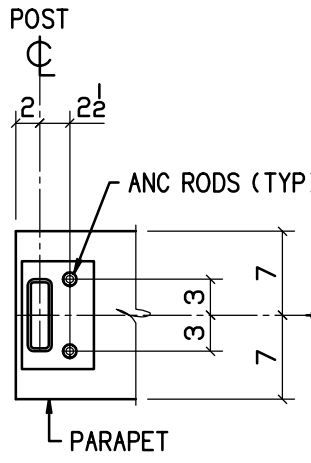
BASE R DETAIL C



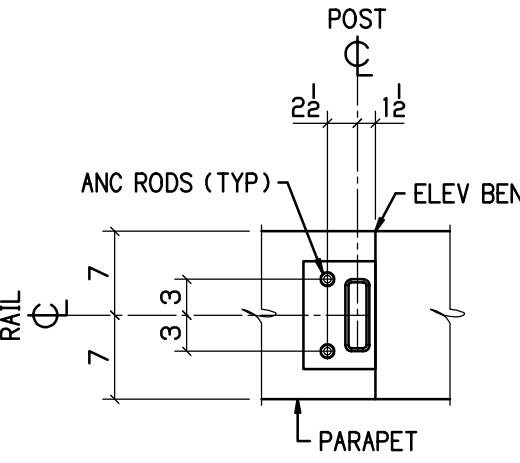
DETAIL A E203



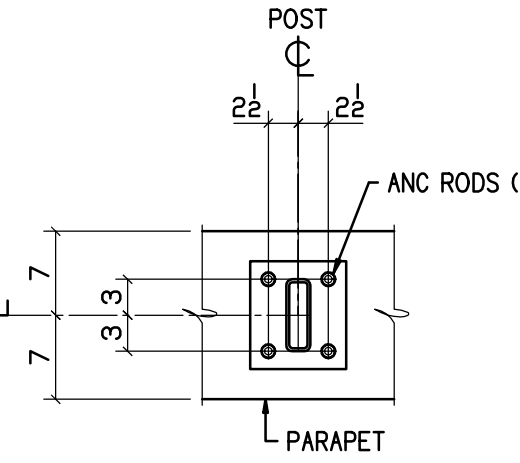
DETAIL B E203



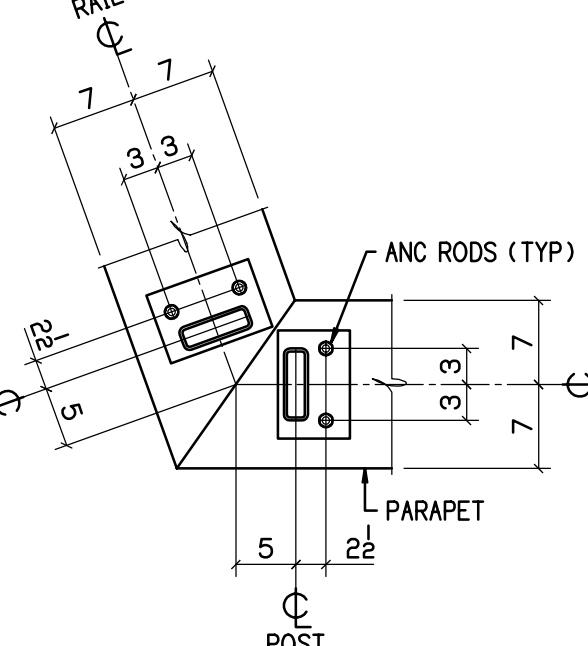
ANC DETAIL A



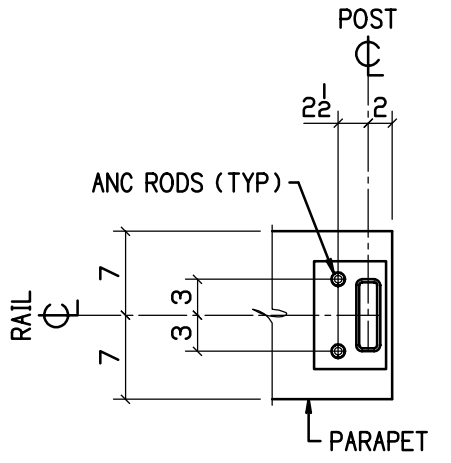
ANC DETAIL B



ANC DETAIL C



ANC DETAIL D



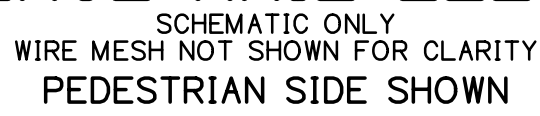
ANC DETAIL E

BU-16 EAST 59TH STREET
FOR APPROVAL 04-28-21

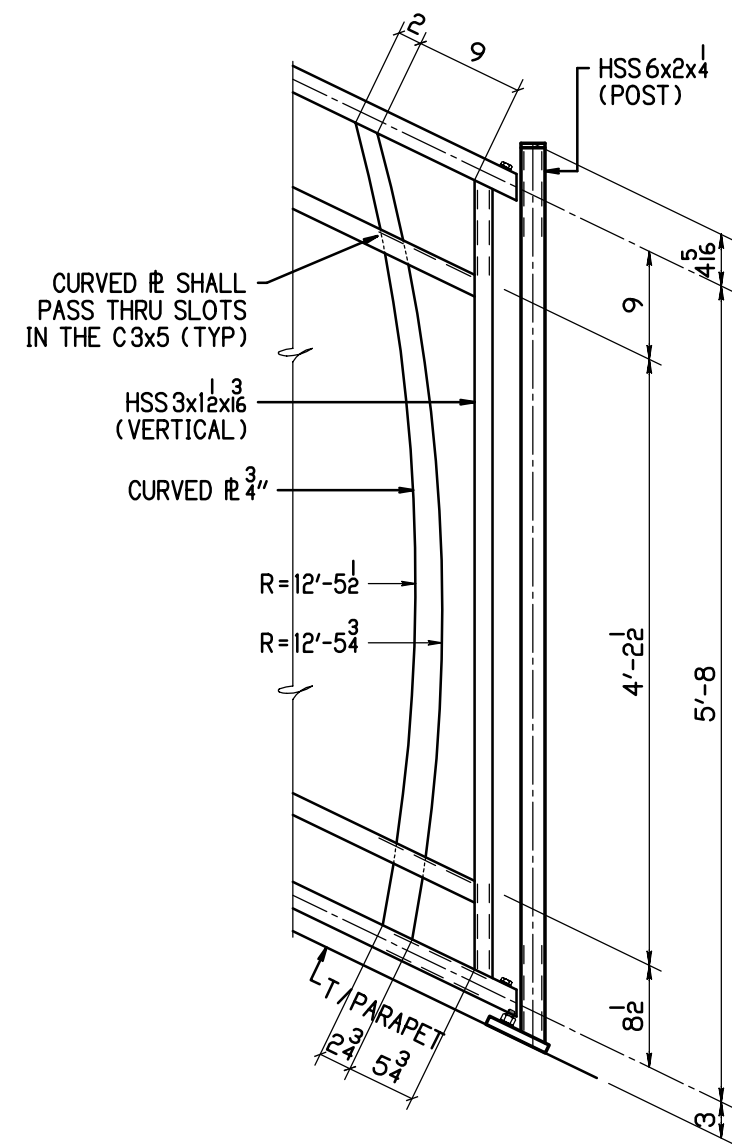
P.H. DREW INC.
2450 N. RACEWAY RD. - P.O. BOX 34295
INDIANAPOLIS, INDIANA 46234
PHONE : (317) 297-5152
FAX : (317) 297-5313

CUY-IR490 / SR010-2.09 / 19.28
DECORATIVE FENCE
WALL 1E PLANS & ELEVATIONS

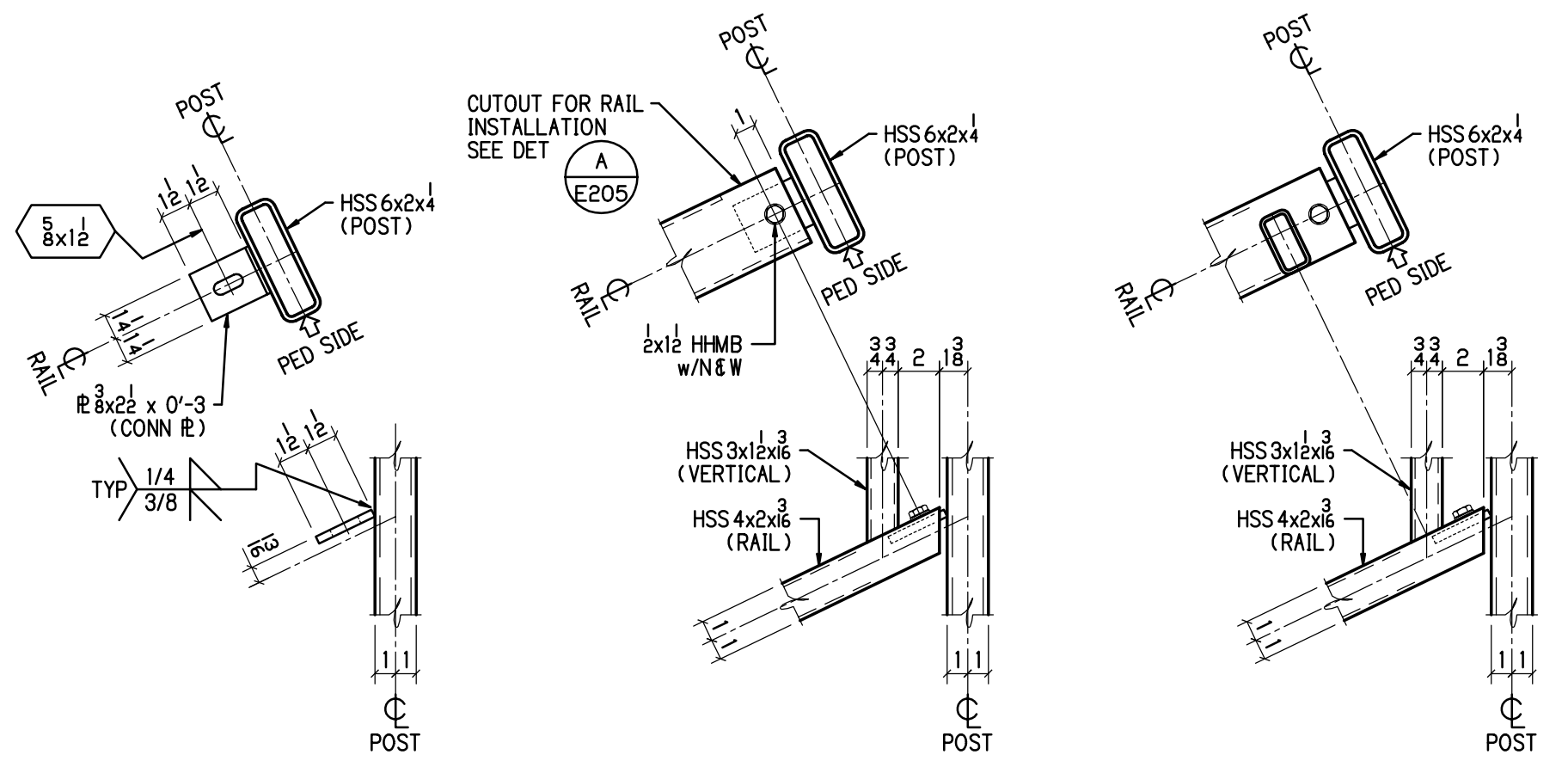
REV	DATE	DESCRIPTION	BY	STATE	OHIO
				COUNTY	CUYAHOGA (CITY OF CLEVELAND)
				PROJECT	3000 (17)
				CONTRACT	PID 96833
				SECTION	
				STRUCTURE	
				STATE JOB	
				CUSTOMER	LAKE ERIE CONSTRUCTION COMPANY
				CONTRACTOR	
				APPROVING	
				REFERENCE	
				ITEM	
				FINISH	SEE NOTES-SHT E200
				JOB NO.	19-1108
				TOTAL SHEETS	E203



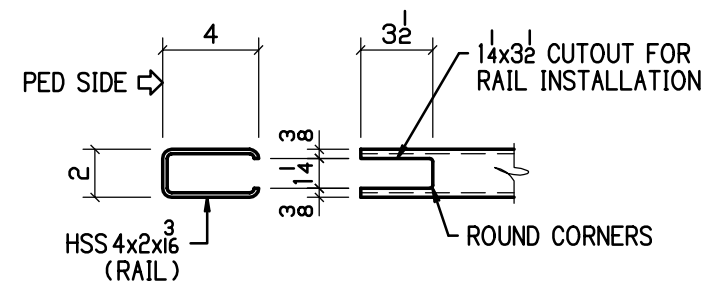
REVISION	REV	DATE	DESCRIPTION		BY	STATE	OHIO	
						COUNTY	CUYAHOGA (CITY OF CLEVELAND)	
						PROJECT	3000 (17)	
						CONTRACT	PID 96833	
						SECTION		
						STRUCTURE		
						STATE JOB		
APPROVAL RECORD	DATE	ISSUED	APP DATE	APPROVAL STATUS	CUSTOMER	LAKE ERIE CONSTRUCTION COMPANY		
	04-28-21	APPROVAL			CONTRACTOR			
					ARCHIVING			
					REFERENCE			
					ITEM			
					FINISH	SEE NOTES-SHT E200		
DRAWN BY		CHECKED BY	MRH NO	JOB MGR	DWG STATUS	JOB NO.	TOTAL SHEETS	SHEET
MRH			1914	JL	APPROVAL	19-1108		E204
03-28-21					04-28-21			



CURVED RAIL
SLOPED RAIL



DET SHOWING CONN BAR DET SHOWING RAIL CONN DET SHOWING VERTICAL



DETAIL A
1 1/2" = 1'-0"

BU-16 EAST 59TH STREET
FOR APPROVAL 04-28-21

		2450 N. RACEWAY RD. - P.O. BOX 34295 INDIANAPOLIS, INDIANA 46234		PHONE : (317) 297-5152 FAX : (317) 297-5313		APPROVAL	
CUY-IR490 / SR010-2.09 / 19.28 DECORATIVE FENCE WALL 1E SLOPED RAIL DETAILS							
REVISION	REV	DATE	DESCRIPTION	BY	STATE	OHIO	
					COUNTY	CUYAHOGA (CITY OF CLEVELAND)	
					PROJECT	3000 (17)	
					CONTRACT	PID 96833	
					SECTION		
					STRUCTURE		
APPROVAL RECORD	DATE	ISSUED	APP. DATE	APPROVAL STATUS	CUSTOMER	LAKE ERIE CONSTRUCTION COMPANY	
	04-28-21	APPROVAL			CONTRACTOR		
					APPROVED		
					REFERENCE		
					ITEM		
					FINISH	SEE NOTES-SHT E200	
DRAWN BY	CHECKED BY	MRH NO	JOB MGR	DWG STATUS	JOB NO.	TOTAL SHEETS	SHEET
MRH 03-28-21		1914	JL	APPROVAL 04-28-21	19-1108		E205