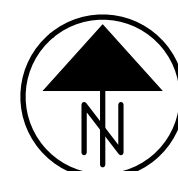


LOCATION MAP

LATITUDE: 41°39'5.60" N LONGITUDE: 83°31'9.94" W



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

DESIGN DESIGNATION

DESIGN SPEED----- 20 MPH

DESIGN EXCEPTIONS

NONE REQUIRED

<p>UNDERGROUND UTILITIES</p> <p>Contact Two Working Days Before You Dig</p>
<p>OHIO811.org</p> <p>Before You Dig</p>
<p>OHIO811, 8-1-1, or 1-800-362-2764</p> <p>(Non-members must be called directly)</p>

PLAN PREPARED BY:
SMITHGROUP
201 DEPOT STREET SECOND FLOOR
ANN ARBOR, MI 48198

ENGINEERS SEAL:



SIGNED: _____
DATE: _____

ENGINEERS SEAL:



SIGNED: EXP 12/31/21
DATE: 1/16/20

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LUC - RIVERSIDE TRAIL EAST

CITY OF TOLEDO
LUCAS COUNTY

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MT110.10	7/19/13					
RM5.1	7/18/14					
CB1.1	7/19/19					
DM-1.2	1/18/13					
LA1.2	1/16/09					
BP-2.2	7/18/08					

PROJECT DESCRIPTION

CONSTRUCTION OF A 0.68 MILE BIKE PATH CONNECTION FROM MAIN STREET TO MARINA DRIVE INCLUDING A DECORATIVE PEDESTRIAN BRIDGE OVER MAIN STREET AND A 12 FOOT WIDE ASPHALT PATH USING CMAQ FUNDS.

PROJECT EARTH DISTURBED AREA: 2.43 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 00.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 2.43 ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 4, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE _____ DIRECTOR, METROPARKS TOLEDO

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF
TRANSPORTATION


FEDERAL PROJECT NO.
E190066

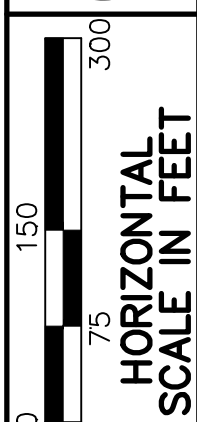
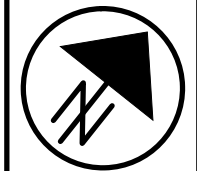
PID NO.
107480

CONSTRUCTION PROJECT NO. ◇

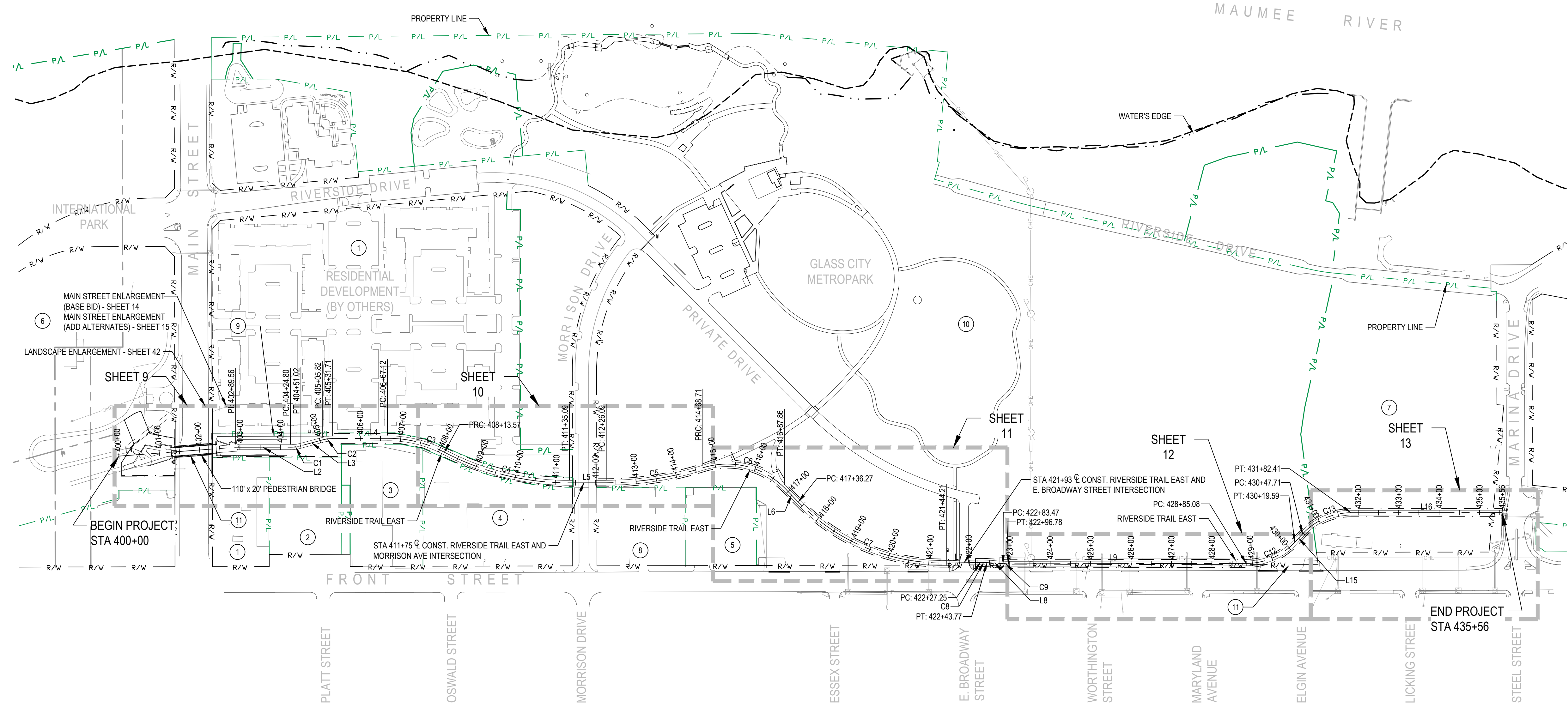
NONE

LUC-RIVERSIDE TRAIL EAST





SCHEMATIC PLAN



Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	289.561	N47° 19' 12.78"E	(1688448.7600,723828.9634)	(1688661.6322,724025.2572)
L2	135.239	N51° 35' 05.37"E	(1688661.6322,724025.2572)	(1688767.5960,724109.2888)
L3	54.801	N36° 33' 37.99"E	(1688785.7833,724128.0745)	(1688818.4265,724172.0919)
L4	135.404	N51° 23' 39.99"E	(1688836.3537,724190.6707)	(1688942.1665,724275.1567)
L5	90.995	N51° 32' 47.78"E	(1689363.5932,724467.8201)	(1689434.8526,724524.4078)
L6	48.415	S82° 35' 52.83"E	(1689788.9295,724787.7757)	(1689836.9407,724781.5385)
L7	83.040	N50° 39' 19.61"E	(1690218.3469,724890.6981)	(1690282.5659,724943.3441)
L8	39.704	N55° 23' 13.25"E	(1690295.7563,724953.2762)	(1690328.4334,724975.8295)
L9	588.305	N51° 34' 36.42"E	(1690339.1262,724983.7473)	(1690800.0291,725349.3586)
L15	28.123	N04° 34' 34.46"E	(1690861.5831,725464.7221)	(1690863.8269,725492.7552)
L16	373.137	N51° 37' 44.47"E	(1690925.5148,725608.2587)	(1691218.0575,725839.8840)

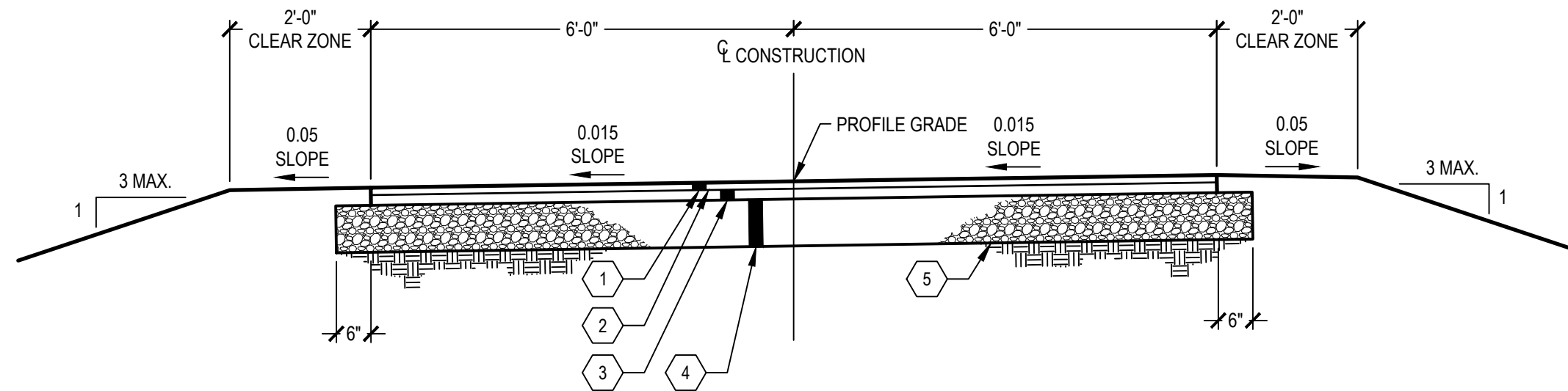
Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	100.000	26.222	N44° 04' 21.68"E	(1688767.5960,724109.2888)	(1688785.7833,724128.0745)
C2	100.000	25.890	N43° 58' 38.99"E	(1688818.4265,724172.0919)	(1688836.3537,724190.6707)
C3	300.000	146.449	N65° 22' 45.45"E	(1688942.1665,724275.1567)	(1689073.9831,724335.5647)
C4	662.251	321.528	N65° 27' 19.34"E	(1689073.9831,724335.5647)	(1689363.5932,724467.8201)
C5	800.000	242.616	N42° 51' 31.88"E	(1689434.8526,724524.4078)	(1689599.2472,724701.5725)
C6	200.022	219.149	N65° 33' 36.17"E	(1689599.2472,724701.5725)	(1689788.9295,724787.7757)
C7	500.000	407.941	N74° 01' 43.39"E	(1689836.9407,724781.5385)	(1690218.3469,724890.6981)
C8	200.000	16.516	N53° 01' 16.43"E	(1690282.5659,724943.3441)	(1690295.7563,724953.2762)
C9	200.000	13.308	N53° 28' 50.97"E	(1690328.4334,724975.8295)	(1690339.1262,724983.7473)
C12	163.841	134.503	N28° 04' 58.23"E	(1690800.0291,725349.3586)	(1690861.5831,725464.7221)
C13	164.000	134.699	N28° 06' 20.64"E	(1690863.8269,725492.7552)	(1690925.5148,725608.2587)

TABLE OF LANDOWNERS

- 1
- TOLEDO - LUCAS COUNTY PORT AUTHORITY
- 2
- MIDLAND AGENCY OF NORTHWEST OHIO INCORPORATED TRUSTEE
- 3
- MARINA SIX LTD
- 4
- MARINA DISTRICT LLC - AN OHIO LIMITED ET AL.
- 5
- PAINTERS AND DECORATORS
- 6
- CITY OF TOLEDO
- 7
- CITY OF TOLEDO
- 8
- MIDLAND AGENCY OF NORTHWEST OHIO INCORPORATED TRUSTEE
- 9
- METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
- 10
- METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
- 11
- CITY OF TOLEDO

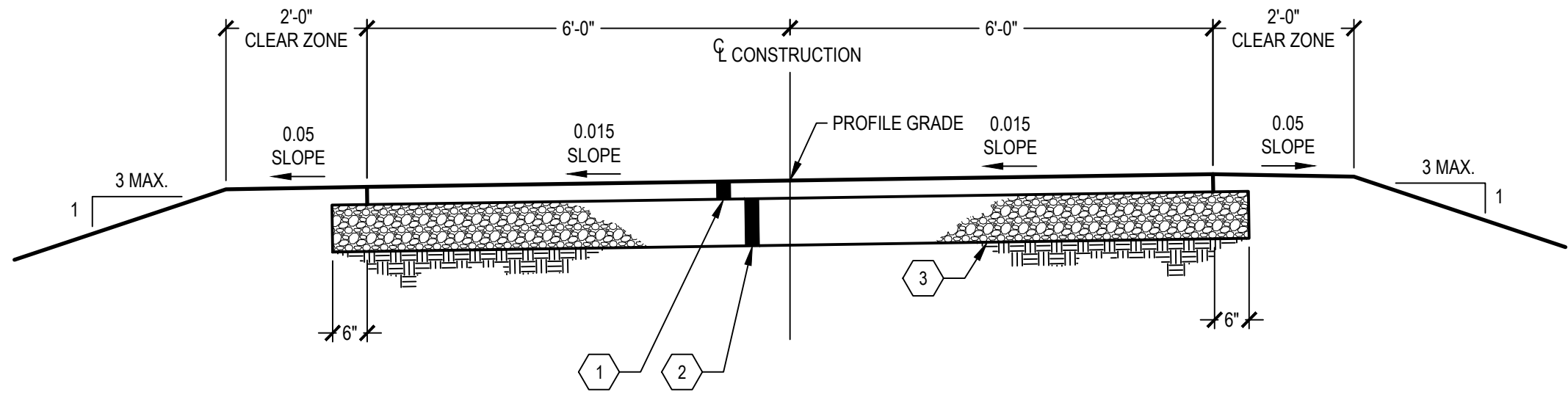
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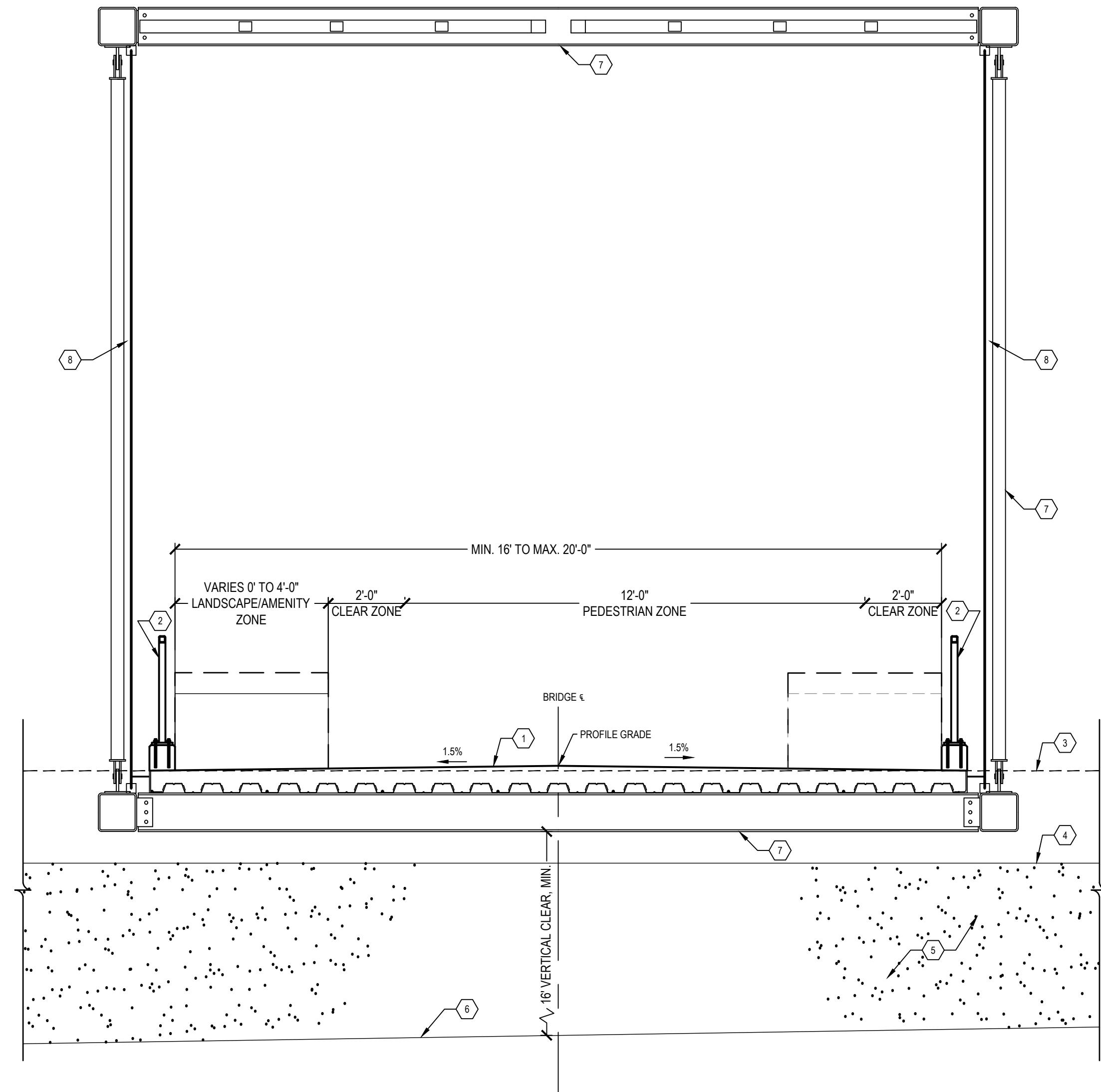
- 1 ITEM 448 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
- 2 ITEM 407 TACK COAT FOR INTERMEDIATE COURSE
- 3 ITEM 448 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
- 4 ITEM 304 8" AGGREGATE BASE
- 5 ITEM 204 SUBGRADE COMPACTION

1 ASPHALT PATH - TYPICAL SECTION: STA 402+88 TO STA 428+85
SCALE: 1/2" = 1'



- 1 ITEM 410 3" TRAFFIC COMPACTED SURFACE, AS PER PLAN (CRUSHED NATURAL STONE, FREE OF SHALE, CLAY, FRIABLE MATERIALS AND DEBRIS, IN ACCORDANCE WITH ODOT 703.10)
- 2 ITEM 304 8" AGGREGATE BASE
- 3 ITEM 204 SUBGRADE COMPACTION

3 AGGREGATE PATH - TYPICAL SECTION: STA 428+85 TO STA 435+56
SCALE: 1/2" = 1'



- 1 CLASS QC2 CONCRETE, BRIDGE DECK
- 2 PEDESTRIAN/BICYCLE GUARDRAIL
- 3 TOP/CONCRETE ABUTMENT
- 4 BRIDGE BEARING SEAT
- 5 CONCRETE ABUTMENT
- 6 MAIN STREET EXISTING GRADE
- 7 PREFAB PEDESTRIAN BRIDGE
- 8 VANDAL PROTECTION FENCE, SS MESH

2 PEDESTRIAN BRIDGE - TYPICAL SECTION: STA 401+30 TO STA 402+41
SCALE: 1" = 30'

GENERAL NOTES:

PROJECT INFORMATION:

1. ONGOING PROJECTS THAT MAY REQUIRE COORDINATION WITH THIS WORK:

GLASS CITY METROPARK PHASE 1 CONSTRUCTION - WHICH INCLUDES EARTHWORK, SITE CONSTRUCTION, AND AMENITIES - IS CURRENTLY UNDER CONSTRUCTION BY TOLEDO METROPARKS. THE EARTHWORK BEING DONE AS A PART OF THIS PROJECT CONSTITUTES THE EXISTING CONDITIONS SHOWN FOR THE TRAIL ALONG FRONT STREET. EARTHWORK NOTED HEREIN AS BY OTHERS IS BEING COMPLETED AS A PART OF THIS PHASE 1 PROJECT. WORK BY OWNER - WHERE NOTED AS 'BY OWNER', WORK IS TO BE COMPLETED BY TOLEDO METROPARKS AND IS NOT A PART OF THIS CONTRACT. PROVIDED ON THESE DRAWINGS FOR REFERENCE ONLY. MARINA DISTRICT APARTMENTS / MARINA LOFTS - NEW RESIDENTIAL DEVELOPMENT ON ADJACENT PROPERTY.

FOR ALL QUESTIONS RELATED TO ANY OF THESE PROJECTS NOTED, PLEASE CONTACT:
JON ZVONAVEC, PLA
PROJECT MANAGER
TOLEDO METROPARKS
419-407-9700

2. ROW PLANS FOR THIS PROJECT ARE LOCATED IN SEPARATE DRAWING PACKAGE FROM THESE PLANS. ROW PACKAGE PREPARED BY:
R.J. LUMBREZER, PS
PRINCIPAL, SURVEY MANAGER
DGL CONSULTING ENGINEERS, LLC
419.535.1015, EXT. 232

3. ROUNDING

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

4. UTILITIES

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

ELECTRICAL
ALAN D. SCHEMP, P.E.
TOLEDO EDISON/FIRST ENERGY
330-384-5489

STA. 405+50 – OVERHEAD LINE TO REMAIN IN PLACE.
STA. 422+50 TO 435+56, 15' LEFT – OVERHEAD TRANSMISSION LINES AND POLES TO REMAIN IN PLACE.
STA. 439+65 – OVERHEAD TRANSMISSION LINE TO REMAIN IN PLACE.

COMMUNICATIONS
CHAD HARKNESS
METROPOLITAN COMMUNICATIONS GROUP (MCG)
770-584-7083

MICHAEL DIEDRICH
AT&T
216-750-0135

STA. 400+35, 25' LEFT TO STA. 401+37, 90' LEFT – UNDERGROUND FIBER OPTIC LINE WILL BE REMOVED AND RELOCATED TO PROPOSED LOCATION SHOWN IN PLANS PRIOR TO PROJECT.
STA. 401+19, 18' LEFT – MANHOLE WILL BE REMOVED AND RELOCATED TO PROPOSED LOCATION SHOWN IN PLANS PRIOR TO PROJECT.

GAS
CLINT WELLS
COLUMBIA GAS OF OHIO
419-539-209

STA. 401+40 – UNDERGROUND GAS TO REMAIN IN PLACE.

SANITARY/STORM SEWER

MIKE ELLING
CITY OF TOLEDO
419-936-2276

STA. 421+15, 6' RIGHT TO STA. 433+00, 10' RIGHT. UNDERGROUND SANITARY PIPE AND SANITARY MANHOLES TO REMAIN IN PLACE.

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

5. CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 6PM AND 7AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

6. SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS.

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

PROJECT CONTROL

POSITIONING METHOD: OHIO CORS
MONUMENT TYPE: TYPE "B" ½" GALVANIZED STEEL PIPE CAPPED WITH LEWANDOWSKI ENGINEERS, P.L.S. NO.7476

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:
GEOID: NAVD-88
GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH ZONE
COMBINED SCALE FACTOR: 1.0000305862 GRID TO GROUND
ORIGIN OF COORDINATE SYSTEM: 0.0.0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO

PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.28083333 U.S. SURVEY FEET.

7. WORK LIMITS

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

WORK LIMITS ADJACENT TO PROPERTY LINES HAVE BEEN SHOWN OFFSET FROM PROPERTY LINES FOR PLAN CLARITY. ACTUAL WORK LIMITS ADJACENT TO PROPERTY LINES ARE AT THE PROPERTY LINE UNLESS OTHERWISE NOTED.

8. CLEARING AND GRUBBING

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

9. ITEM 204 PROOF ROLLING

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

ITEM 204 – PROOF ROLLING 8 HOURS

10. ADDITIONAL SOIL INFORMATION

THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION EXPLORATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATION INFORMATION IS AVAILABLE FROM METROPARKS TOLEDO.

11. FENCE LENGTHS

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

PAVEMENT NOTES:

1. CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

MAINTENANCE OF TRAFFIC:

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND CITY OF TOLEDO DIVISION OF TRANSPORTATION AT LEAST TWO (2) WEEKS IN ADVANCE OF DETOURS AND ROAD CLOSURES.
2. DETOURS AND COMPLETE ROAD CLOSURE FOR MAIN STREET SHALL OCCUR DURING THE INSTALLATION OF ABUTMENT WALLS AND PLACEMENT OF THE PEDESTRIAN BRIDGE. REFER TO SHEET 5 - DETOUR MAP FOR DETOUR ROUTE.
3. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ODOT 614 AND OTHER APPLICABLE SECTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. A MINIMUM ONE SIDEWALK ALONG MAIN ST MUST REMAIN OPEN AT ALL TIMES INCLUDING WHEN MAIN ST IS CLOSED TO TRAFFIC DURING BRIDGE CONSTRUCTION.

TOPSOIL, SEEDING AND MULCHING:

1. REFER TO SHEET 42 - PLANTING ENLARGEMENT FOR NOTES.

ENVIRONMENTAL COMMITMENTS:

PROTECTION OF A RECREATIONAL PROPERTY

1. PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR ALONG PROPOSED CONSTRUCTION LIMITS WITHIN INTERNATIONAL PARK AND THE ROTARY TRAIL TO PROTECT THE EXISTING PARK AND THE PUBLIC.
2. PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR ALONG PROPOSED CONSTRUCTION LIMITS WITHIN INTERNATIONAL PARK AND THE ROTARY TRAIL TO PROTECT THE EXISTING PARK AND THE PUBLIC.
3. THE CONTRACTOR SHALL NOT STORE OR STAGE CONSTRUCTION EQUIPMENT OR MATERIALS WITHIN THE INTERNATIONAL PARK OR THE ROTARY TRAIL BOUNDARIES OUTSIDE OF THE PROPOSED CONSTRUCTION LIMITS.
4. THE CONTRACTOR SHALL CLOSELY COORDINATE AND PROVIDE THE CONSTRUCTION SCHEDULE TO JON ZVANOVEC, PROJECT MANAGER, METROPARKS TOLEDO, 419-407-9732, AND COMMISSIONER KAREN RANNEY-WOLKINS, CITY OF TOLEDO, DIVISION OF PARKS, RECREATION AND FORESTRY, 419-936-2326, 30 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
5. ACCESS TO INTERNATIONAL PARK AND THE ROTARY TRAIL SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR THE TIME NEEDED TO TEMPORARILY OCCUPY THE PROPERTY.
6. THE CONTRACTOR, WORKING IN CONJUNCTION WITH THE LPA, SHALL COMPLY WITH THE NOTIFICATION REQUIREMENT TIMEFRAMES OUTLINED IN THE TRAFFIC ENGINEERING MANUAL PART 642-8 AND 642-58 TO ENSURE COMPLIANCE WITH FEDERAL NOTIFICATION REQUIREMENTS.
7. SINCE EDA IS OVER 1 ACRE, AN NOI IS REQUIRED. THE CONTRACTOR SHALL APPLY AS CO-PERMITEE TO METROPARKS NOI AND SUBMIT PROOF OF CO-PERMITEE STATUS TO METROPARKS TOLEDO PRIOR TO ANY CONSTRUCTION ACTIVITIES.
8. A SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL BE CREATED BY THE CONTRACTOR FOR THE WORK OCCURRING WITHIN THE GLASS CITY METROPARK PROPERTY.

REGULATED MATERIAL CONCERNS WITHIN GLASS CITY METROPARK

1. ITEM SPECIAL - CONTAMINATED SOILS

ENVIRONMENTAL STUDIES HAVE SHOWN THAT THERE IS A POTENTIAL OF ENCOUNTERING CONTAMINATED MATERIALS DURING EXCAVATION FOR CONSTRUCTION ACTIVITIES ON THE FOLLOWING SITES:

- A. GLASS CITY METROPARK PROPERTY, TOLEDO, OHIO. THE PROPERTY IS THE RECIPIENT OF THREE OHIO VAP NO FURTHER ACTION (NFA) LETTERS AND COVENANTS NOT TO SUE (CNSS), WHICH WERE SUPPORTED BY: PHASE I AND PHASE II PROPERTY ASSESSMENTS (PAS); RISK ASSESSMENTS (RAS); AND ENVIRONMENTAL COVENANTS (ECS) THAT INCLUDE ACTIVITY AND USE LIMITATIONS (AULS). IN ADDITION TO THE AULS INCLUDED WITH THE ECS, THE 70-ACRE PROPERTY LIES WITHIN THE CITY OF TOLEDO'S URBAN SETTING DESIGNATION (USD), WHICH PROHIBITS THE EXTRACTION AND POTABLE USE OF GROUNDWATER WITHIN THE USD.
- B. A DUE CARE PLAN (JUNE 2019) HAS BEEN COMPLETED AT THE REQUEST OF THE SMITHGROUP TO MORE FULLY ADDRESS CONTINUING OBLIGATIONS ASSOCIATED WITH THE EXCAVATION OF MATERIALS BENEATH THE TOP TWO FEET OF THE GROUND SURFACE, ALSO KNOWN AS THE POINT OF COMPLIANCE (POC), AT THE PROPOSED GLASS CITY METROPARK.
- C. THE UPPER TWO FEET OF SOIL THROUGHOUT THE GLASS CITY METROPARK PROPERTY HAS BEEN DETERMINED TO MEET APPLICABLE DIRECT CONTACT STANDARDS FOR RECREATIONAL AND COMMERCIAL / INDUSTRIAL LAND USES. SOILS FROM BELOW TWO FEET IN DEPTH THROUGHOUT THE PROPERTY MAY NOT MEET APPLICABLE DIRECT CONTACT STANDARDS. THE PRIMARY CONSTITUENTS OF CONCERN (COCs) THROUGHOUT THE PROPERTY ARE UNDERSTOOD TO BE: VOLATILE ORGANIC COMPOUNDS (VOCs); SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs); AND METALS. CYANIDE AND ONE PCB ISOMER HAVE ALSO BEEN REPORTED IN SOIL.
- D. IN THE EVENT THAT THE CONTRACTOR EXCAVATES MATERIAL BELOW THE POC, THE CONTRACTOR SHALL MANAGE SOILS AND GROUNDWATER ACCORDING TO THE FOLLOWING NOTES AND THE 2019 DUE CARE PLAN. THE ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK. ALL EXCAVATION WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS.

SOILS:

SOILS WITHIN THE UPPER TWO FEET OF THE EXISTING GROUND SURFACE (I.E., THE POINT OF COMPLIANCE OR POC) MAY BE MOVED AND USED ANYWHERE WITHIN THE GLASS CITY METROPARK PROPERTY WITHOUT RESTRICTION OR LIMITATION. SOILS EXCAVATED FROM BELOW THIS TWO-FOOT POC MUST BE SEGREGATED AND STOCKPILED SEPARATELY AND EITHER:

- A. RETURNED TO THE SUBSURFACE AT THE GLASS CITY METROPARK PROPERTY BELOW THE TWO-FOOT POC;
- B. STOCKPILED IN A LOCATION APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE AND COVERED WITH A MINIMUM OF TWO ADDITIONAL FEET OF SOIL, OR OTHER ACCEPTABLE MATERIAL, MEETING APPLICABLE DIRECT CONTACT STANDARDS;
- C. REMOVED FROM THE GLASS CITY METROPARK PROPERTY AND PROPERLY DISPOSED, RECYCLED OR BENEFICIALLY REUSED IN ACCORDANCE WITH ALL APPLICABLE RULES AND GUIDANCE; OR
- D. SAMPLED AND ANALYZED AND DETERMINED TO MEET APPLICABLE DIRECT CONTACT STANDARDS FOR USES WITHIN THE TWO-FOOT POC.

STOCKPILES OF SOIL GENERATED FROM THE BELOW THE TWO-FOOT POC THAT WILL REMAIN EXPOSED TO AMBIENT CONDITIONS FOR EXTENDED PERIODS OF TIME SHALL BE COVERED WITH TARPS, PLASTIC SHEETING, OR OTHER MATERIALS APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE TO AVOID RUN-ON AND RUN-OFF. NO SOIL IS TO BE IMPORTED TO THE GLASS CITY METROPARK PROPERTY WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER OR THE OWNER'S REPRESENTATIVE.

IN THE EVENT IT IS DESIRED TO DETERMINE IF SOIL FROM BELOW THE TWO-FOOT POC MEETS APPLICABLE DIRECT CONTACT STANDARDS FOR USE WITHIN THE TWO-FOOT POC, SAMPLES OF THE MATERIAL WILL BE COLLECTED AND ANALYZED FOR THE FOLLOWING PARAMETERS:

- A. VOCs BY ENVIRONMENTAL PROTECTION AGENCY METHOD 8260A;
- B. SVOCs BY ENVIRONMENTAL PROTECTION AGENCY METHOD 8270;
- C. THE EIGHT RCRA METALS (ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER AND ZINC) BY ENVIRONMENTAL PROTECTION AGENCY METHODS 8010 / 7470;
- D. CYANIDE BY ENVIRONMENTAL PROTECTION AGENCY METHOD 9010; AND
- E. POLYCHLORINATED BIPHENYL COMPOUNDS (PCBS) BY ENVIRONMENTAL PROTECTION AGENCY METHOD 8080.

THE NUMBER OF SAMPLES COLLECTED AND ANALYZED WILL BE DETERMINED IN CONSULTATION WITH THE OWNER OR OWNER'S REPRESENTATIVE. ASSUME A MINIMUM OF ONE SAMPLE PER 100 CUBIC YARDS OF SOIL GENERATED FROM BELOW THE TWO-FOOT POC PROPOSED TO BE USED WITHIN THE POC. TABLE 1.0 OF THE 2019 DUE CARE PLAN IDENTIFIES THE ACCEPTABLE CONCENTRATIONS FOR SOIL USE WITHIN THE POC.

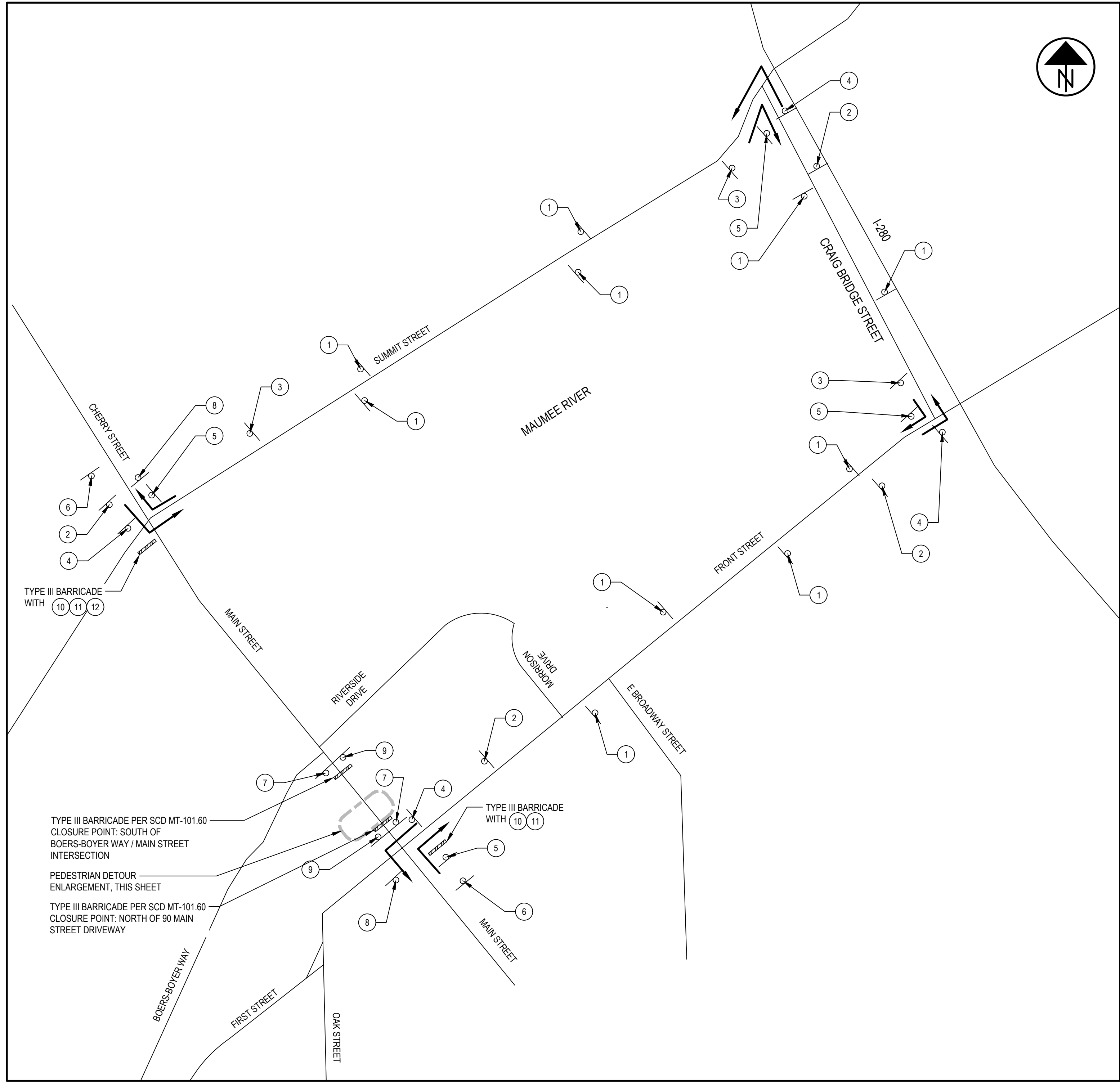
IF ANY PORTION OF THE EXISTING 2' SOIL CAP IS REMOVED IT MUST BE REPLACED BY ONE OF THE FOLLOWING METHODS AS APPROVED BY THE ENGINEER:

- A. REPLACE REMOVED SOIL WITH CLEAN SOIL THAT MEETS THE REQUIREMENTS IN THE DUE CARE PLAN TO REESTABLISH 2' CAP.
- B. SAMPLE TO ASSURE THAT A MINIMUM 2' OF SOIL REMAINS THAT MEETS THE APPLICABLE DIRECT CONTACT STANDARDS, OR
- C. REPLACE WITH ENGINEERED MATERIAL (E.G. STONE, ASPHALT) TO DENY DIRECT CONTACT TO AVOID POTENTIALLY CONTAMINATED SOIL

GROUNDWATER:

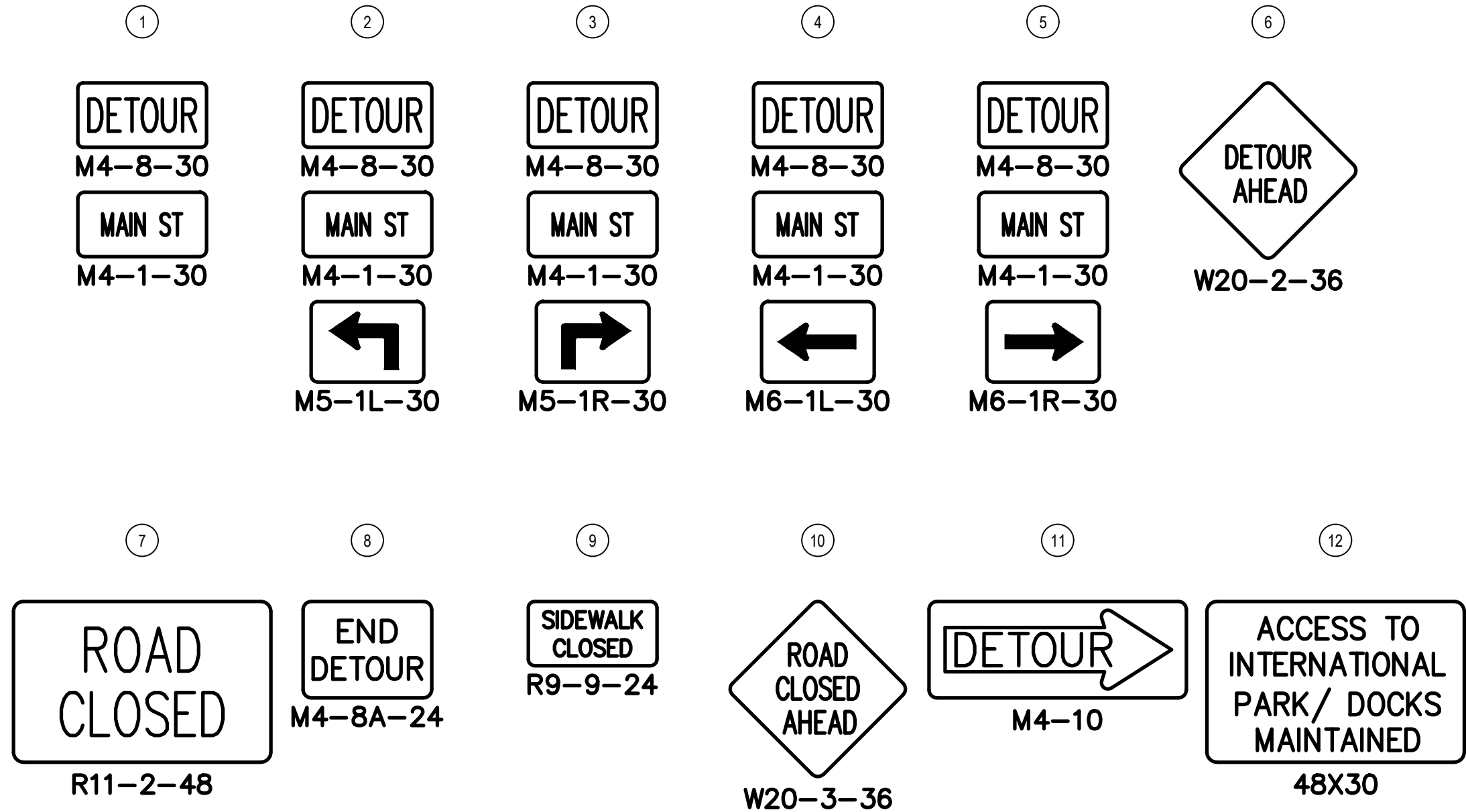
TO THE EXTENT PRACTICABLE, GROUNDWATER IS NOT TO BE PUMPED, PHYSICALLY CONVEYED OR OTHERWISE DIVERTED FROM EXCAVATIONS WITHIN THE GLASS CITY METROPARK PROPERTY. IF EXCAVATION WITHIN THE AFOREMENTIONED LIMITS REQUIRE DE-WATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DE-WATER, CONTAINERIZE, TEST THE WATER AND DISPOSE OF BY METHODS APPROVED BY THE ENGINEER IN COMPLIANCE WITH THE 2019 DUE CARE PLAN. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS AND/OR AUTHORIZATIONS NEEDED TO STORE, TRANSPORT AND DISPOSE OF THE WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS. WORK INVOLVED WITH THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE HANDLING, STORAGE, AND DISPOSAL OF REGULATED AND NON-REGULATED WATER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS AND TO TRANSPORT THE MATERIAL TO A LICENSED AND PERMITTED SOLID WASTE DISPOSAL FACILITY. THE CONTRACTOR SHALL CONTACT THE FACILITY TO DETERMINE IF ANY ADDITIONAL TESTING IS REQUIRED FOR DISPOSAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING ANY ADDITIONAL SAMPLING AND ANALYSIS OF THIS MATERIAL. COPIES OF THE ANALYTICAL TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER.



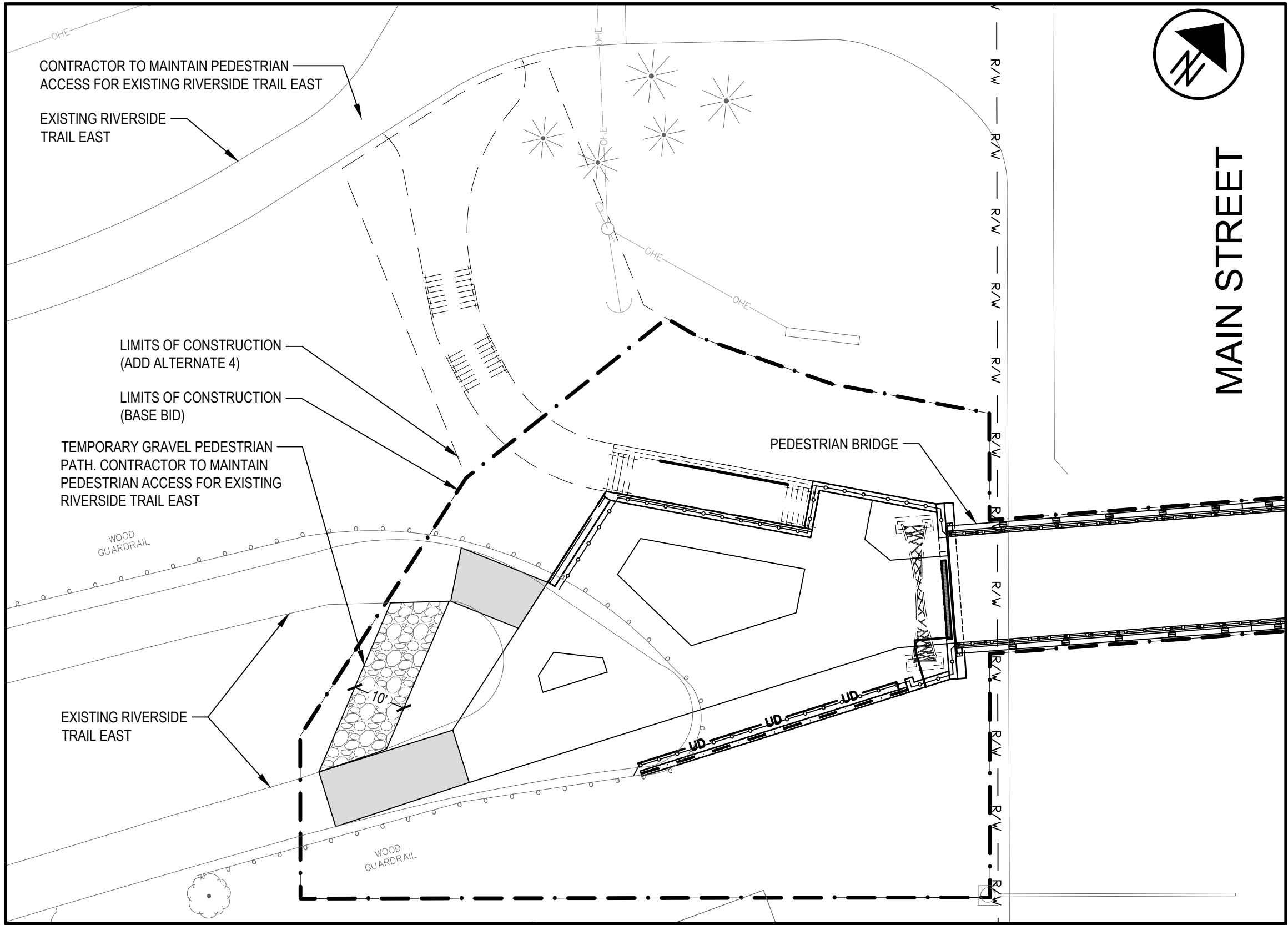
1 OVERALL DETOUR PLAN

NTS



DETOUR ROUTE

1. DETOUR MAIN STREET TRAFFIC VIA SUMMIT STREET, CRAIG BRIDGE STREET, AND FRONT STREET.
2. MAIN STREET WILL BE CLOSED FOR NO MORE THAN ONE (1) WEEKEND.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND CITY OF TOLEDO DIVISION OF TRANSPORTATION AT LEAST TWO (2) WEEKS IN ADVANCE OF DETOURS AND ROAD CLOSURES.



2 PEDESTRIAN DETOUR ENLARGEMENT - RIVERSIDE TRAIL EAST

SCALE: 1" = 20'

SHEET NUM.											PART.			ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	11	12	13	42	16	17	18	19						EXT	TOTAL			
														201	11000	LS		EROSION CONTROL	
														832	30000	1	EACH	CLEARING AND GRUBBING	
														832	15000	LS		EROSION CONTROL	
																		STORM WATER POLLUTION PREVENTION PLAN	
																		DRAINAGE	
324														605	06000	324	FT	4" BASE PIPE UNDERDRAINS	9
60														611	00100	60	FT	4" CONDUIT, TYPE B	9
55														611	04900	55	FT	12" CONDUIT, TYPE D	9
1														611	98651	1	EACH	CATCH BASIN FRAME AND GRATE, AS PER PLAN	9
30														839	30100	30	FT	TRENCH DRAIN WITH PEDESTRIAN GRATE	9
2														611	98631	2	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	9
																		PAVEMENT	
						350	841	842	111					203	10000	2,144	CY	EXCAVATION	
						94	2,951							203	20000	3,045	CY	EMBANKMENT	
930														203	35110	930	CY	GRANULAR MATERIAL, TYPE B	
1,572	1,004.3	1,384.1	1,084.7	747.2										204	10000	5,792.3	SY	SUBGRADE COMPACTION	
														204	45000	8	HOURL	PROOF ROLLING	
58														204	50001	58	SY	GEOTEXTILE FABRIC, AS PER PLAN	9
260														203	98000	260	CY	ROADWAY, MISC.:Geofoam Fill	9
560	223	298	241	166										304	20000	1,488	CY	AGGREGATE BASE	
32	46	52	45											407	10001	175	GAL	TACK COAT, AS PER PLAN	
			17	56										410	14001	73	CY	TRAFFIC COMPACTED SURFACE, AS PER PLAN	
22.5	32.1	36	31.4											441	50000	122	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
31.5	44.9	50.6	44											441	50300	171	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)PG64-22	
100														451	10010	100	SY	6" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
380														452	09010	380	SY	4" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
148														452	10010	148	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
200														607	98300	200	SF	FENCE, MISC.:VANDAL PROTECTION FENCE, SS MESH, AS PER PLAN	9
322														SPECIAL	69098100	322	FT	42" HT. GUARDRAIL	9
5														SPECIAL	69050600	5	EACH	BOLLARD Fixed Bollard	9
																		LANDSCAPING	
					467									659	00301	467	CY	TOPSOIL, AS PER PLAN	42
					1,310									659	10001	1,310	SY	SEEDING AND MULCHING, AS PER PLAN LOW-MOW FESCUE SEED MIX	
					66									659	15000	66	SY	INTER-SEEDING	
					0.27									659	31000	0.27	ACRE	LIME	
					0.18									659	20000	0.18	TON	COMMERCIAL FERTILIZER	
					8									659	35000	8	MGAL	WATER	42
																		RETAINING WALLS (XXX)	
222														511	46211	222	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN	9
3,242														870	10001	3,242	SF	PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN	9
110														518	21201	110	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	9
																		STRUCTURE OVER 20 FOOT SPAN (CTY-RTE-SECT or SFN)	
45														511	34445	45	CY	CLASS QC2 CONCRETE, BRIDGE DECK, AS PER PLAN	9
168														511	43511	168	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	9
1,960														507	00400	1,960	FT	STEEL PILES, MISC.: HP 10X49, FURNISHED	9
1,960														507	00400	1,960	FT	STEEL PILES, MISC.: HP 10X49, DRIVEN	9
2,872														607	98300	2,872	SF	FENCE, MISC.:VANDAL PROTECTION FENCE, SS MESH, AS PER PLAN	9
222														SPECIAL	69098100	222	FT	42" HT. GUARDRAIL, NO INFILL PANEL, AS PER PLAN	9
1														SPECIAL	53000200	LS		STRUCTURES: UNLOADING, ASSEMBLY AND INSTALLATION OF PEDESTRIAN BRIDGE	9
1														SPECIAL	90017000	LS		PREFAB PEDESTRIAN BRIDGE, BASE DESIGN	9
																		INCIDENTALS	
60														202	38001	60	FT	GUARDRAIL REMOVED, AS PER PLAN	9
171														202	23001	171	SY	PAVEMENT REMOVED, AS PER PLAN	9
														614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	
														614	12421	LS		DETOUR SIGNING, AS PER PLAN	
														623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
														624	10000	LS		MOBILIZATION	

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SHEET NUM.											PART.			ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED DGM CHECKED JY
15															EXT	TOTAL				
ADD ALTERNATE 1: TREE FORMS ON BRIDGE																				
																	MISCELLANEOUS STRUCTURE ALTERNATES			
1														SPECIAL	90017000	LS		PREFAB PEDESTRIAN BRIDGE, TREE FORMS	15	
ADD ALTERNATE 2: STEEL PLANTERS																				
																	MISCELLANEOUS STRUCTURE ALTERNATES			
1														SPECIAL	90017000	LS		STEEL PLANTERS	15	
ADD ALTERNATE 3: EAST STAIRCASE																				
-47														SPECIAL	69098100	-47	FT	PAVEMENT ALTERNATES 42" HT. GUARDRAIL	15	
9														203	10000	9	CY	EXCAVATION	15	
178														203	20000	178	CY	EMBANKMENT	15	
59														204	10000	59	SY	SUBGRADE COMPACTION	15	
10														304	20000	10	CY	AGGREGATE BASE	15	
4														452	09010	4	SY	4" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	15	
280														511	46211	280	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN	15	
240														608	40001	240	FT	CONCRETE STEPS, TYPE A, AS PER PLAN	15	
70														SPECIAL	69098100	70	FT	HANDRAIL	15	
34														SPECIAL	69098100	34	FT	42" HT. GUARDRAIL	15	
38														SPECIAL	69098100	38	FT	66" HT. GUARDRAIL	15	
2														SPECIAL	69050600	2	EACH	BOLLARD Fixed Bollard	15	
ADD ALTERNATE 4: WEST STAIRCASE																				
-27														SPECIAL	69098100	-27	FT	PAVEMENT ALTERNATES 42" HT. GUARDRAIL	15	
8														203	10000	8	CY	EXCAVATION	15	
61														203	20000	61	CY	EMBANKMENT	15	
174														204	10000	174	SY	SUBGRADE COMPACTION	15	
29														304	20000	29	CY	AGGREGATE BASE	15	
120														452	09010	120	SY	4" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	15	
155														511	46211	155	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN	15	
234														608	40001	234	FT	CONCRETE STEPS, TYPE A, AS PER PLAN	15	
57														SPECIAL	69098100	57	FT	HANDRAIL	15	
50														SPECIAL	69098100	50	FT	42" HT. GUARDRAIL	15	
18														SPECIAL	69098100	18	FT	66" HT. GUARDRAIL	15	
1														SPECIAL	69050600	1	EACH	BOLLARD Fixed Bollard	15	
ADD ALTERNATE 5: ARCHED TRELLIS																				
																	MISCELLANEOUS STRUCTURE ALTERNATES			
2														SPECIAL	90011000	2	EACH	ARCHED TRELLIS	15	

GENERAL SUMMARY (ADD ALTERNATES)

LUC-RIVERSIDE TRAIL EAST

751

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USGS MAP: TOLEDO QUADRANGLE
OHIO - MICHIGAN

LEGEND

●

PROP. CATCH BASIN / MANHOLE

○

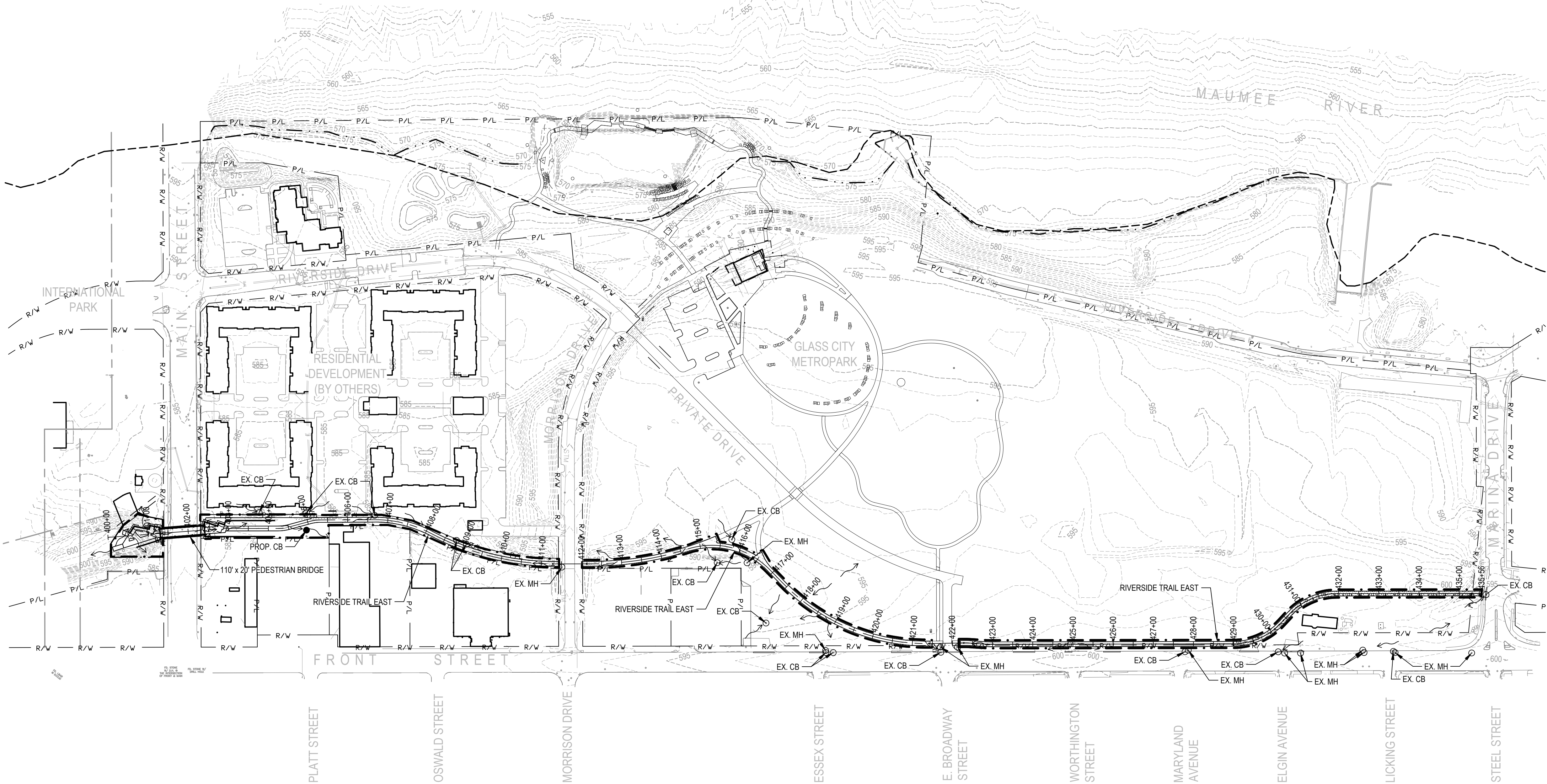
EX. CATCH BASIN / MANHOLE

→

FLOW ARROW

- - -

LIMITS OF CONSTRUCTION



PROJECT DATA	
TOTAL AREA (RIGHT-OF-WAY)	41.23 AC
PROJECT EARTH DISTURBED AREA	2.43 AC
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.00 AC
NOTICE OF INTENT EARTH DISTURBED AREA	2.43 AC
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.37
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.58
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	0.29 AC
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	1.14 AC
IMMEDIATE RECEIVING WATERS	STORM SEWER
SUBSEQUENT RECEIVING WATERS	MAUMEE RIVER
LATITUDE	41°39'5.60" N
LONGITUDE	83°31'9.94" W

CALCULATED

DGM

CHECKED

JY

0

150

300

HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN

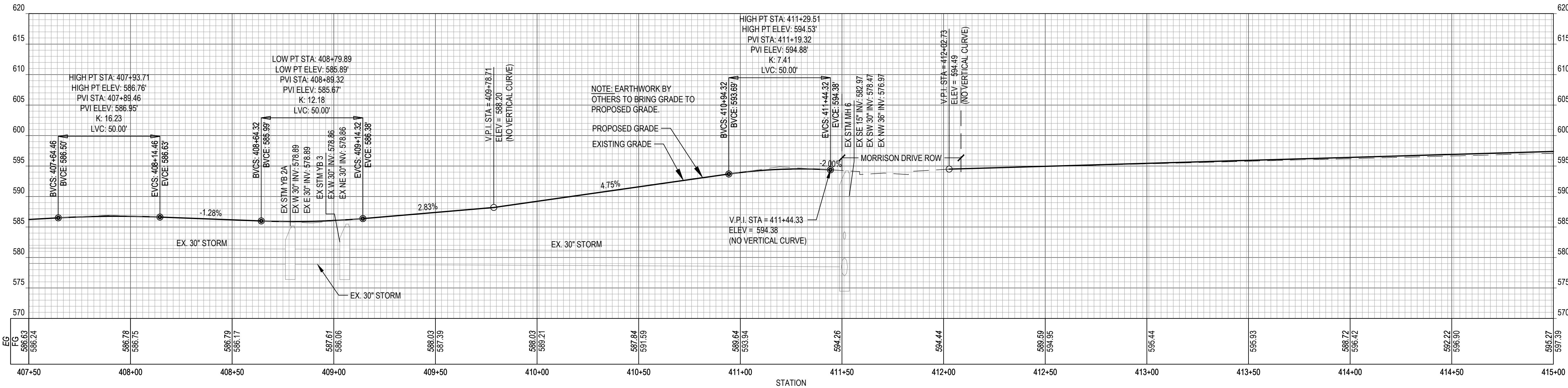
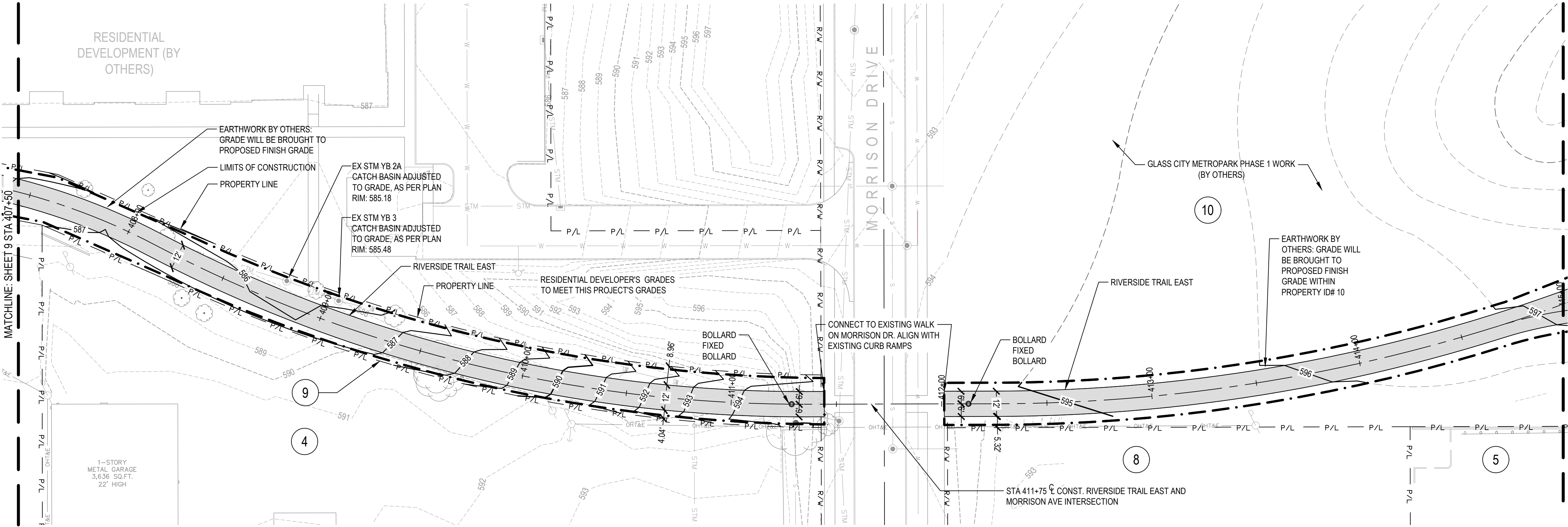
LUC-RIVERSIDE TRAIL EAST

PROJECT DESCRIPTION
CONSTRUCTION OF A 0.68 MILE BIKE PATH CONNECTION FROM MAIN STREET TO MARINA DRIVE INCLUDING A DECORATIVE PEDESTRIAN BRIDGE OVER MAIN STREET AND A 12 FOOT WIDE ASPHALT PATH USING CMAQ FUNDS.

$$\frac{9}{51}$$

TABLE OF LANDOWNERS

- 1 TOLEDO - LUCAS COUNTY PORT AUTHORITY
- 2 MIDLAND AGENCY OF NORTHWEST OHIO INCORPORATED TRUSTEE
- 3 MARINA SIX LTD
- 4 MARINA DISTRICT LLC - AN OHIO LIMITED ET AL.
- 5 PAINTERS AND DECORATORS
- 6 CITY OF TOLEDO
- 7 CITY OF TOLEDO
- 8 MIDLAND AGENCY OF NORTHWEST OHIO INCORPORATED TRUSTEE
- 9 METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
- 10 METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
- 11 CITY OF TOLEDO



LEGEND

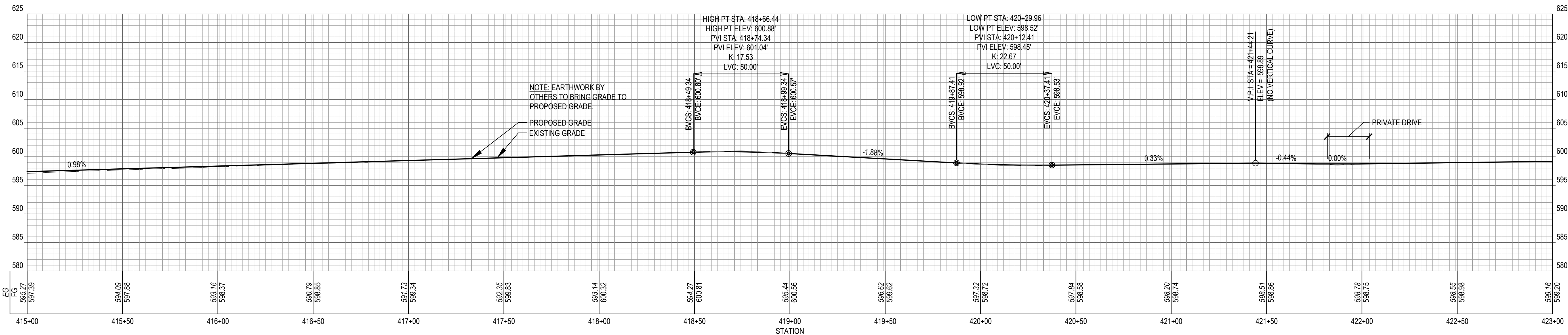
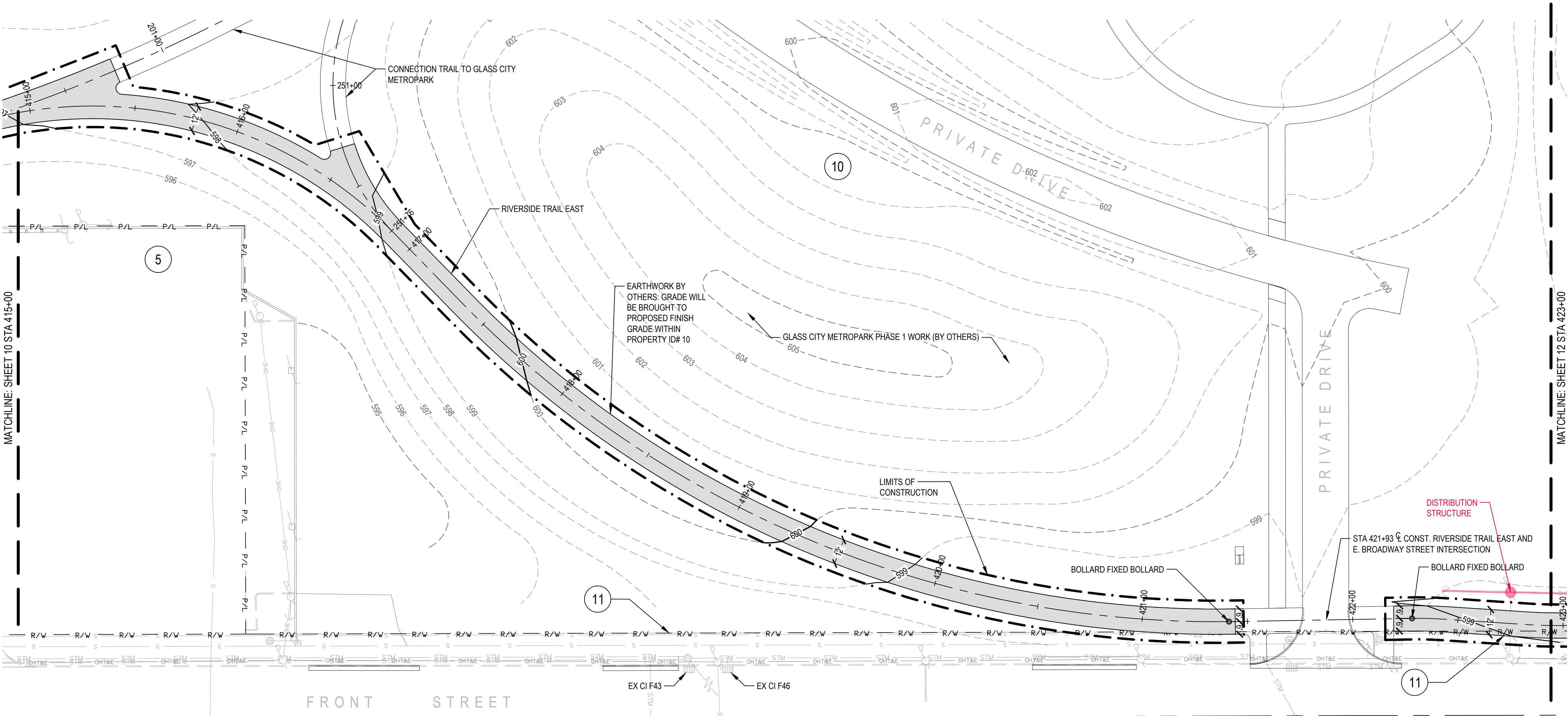
- P/L — PROPERTY LINE
- R/W — RIGHT-OF-WAY LINE
- — LIMITS OF CONSTRUCTION
- ASPHALT PATH (1/3)
- 4 IN NON-REINFORCED CONCRETE PAVEMENT CLASS QC 1P (2/20)
- BOLLARD FIXED BOLLARD

NOTES:
WHERE INDICATED ON THE PLANS, EARTHWORK BY OTHERS WILL BE GRADED TO FINISH GRADE. CONTRACTOR OF THIS PROJECT SHALL REMOVE EARTH AND INSTALL PAVEMENT CROSS SECTION.

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TABLE OF LANDOWNERS

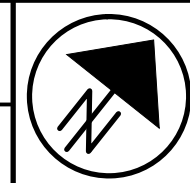
- | | |
|---|---|
| 1 TOLEDO - LUCAS COUNTY PORT AUTHORITY | 7 CITY OF TOLEDO |
| 2 MIDLAND AGENCY OF NORTHWEST OHIO INCORPORATED TRUSTEE | 8 MIDLAND AGENCY OF NORTHWEST OHIO INCORPORATED TRUSTEE |
| 3 MARINA SIX LTD | 9 METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA |
| 4 MARINA DISTRICT LLC - AN OHIO LIMITED ET AL. | 10 METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA |
| 5 PAINTERS AND DECORATORS | 11 CITY OF TOLEDO |
| 6 CITY OF TOLEDO | |



LEGEND

- | | |
|---|------------------------|
| P/L | PROPERTY LINE |
| R/W | RIGHT-OF-WAY LINE |
| --- | LIMITS OF CONSTRUCTION |
| ASPHALT PATH | 1/3 |
| 4 IN NON-REINFORCED CONCRETE PAVEMENT CLASS QC 1P | 2/20 |
| BOLLARD FIXED BOLLARD | |

NOTES:
WHERE INDICATED ON THE PLANS, EARTHWORK BY OTHERS WILL BE GRADED TO FINISH GRADE. CONTRACTOR OF THIS PROJECT SHALL REMOVE EARTH AND INSTALL PAVEMENT CROSS SECTION.



0 15 30 60
HORIZONTAL SCALE IN FEET

CALCULATED DGM
CHECKED JY

PLAN AND PROFILE
STA 415+00 TO STA 423+00

LUC-RIVERSIDE TRAIL EAST

11
51

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TABLE OF LANDOWNERS

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- 10
- METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
- 11
- CITY OF TOLEDO

LEGEND

- P/L

PROPERTY LINE
- R/W

RIGHT-OF-WAY LINE
- LIMITS OF CONSTRUCTION
- ASPHALT PATH

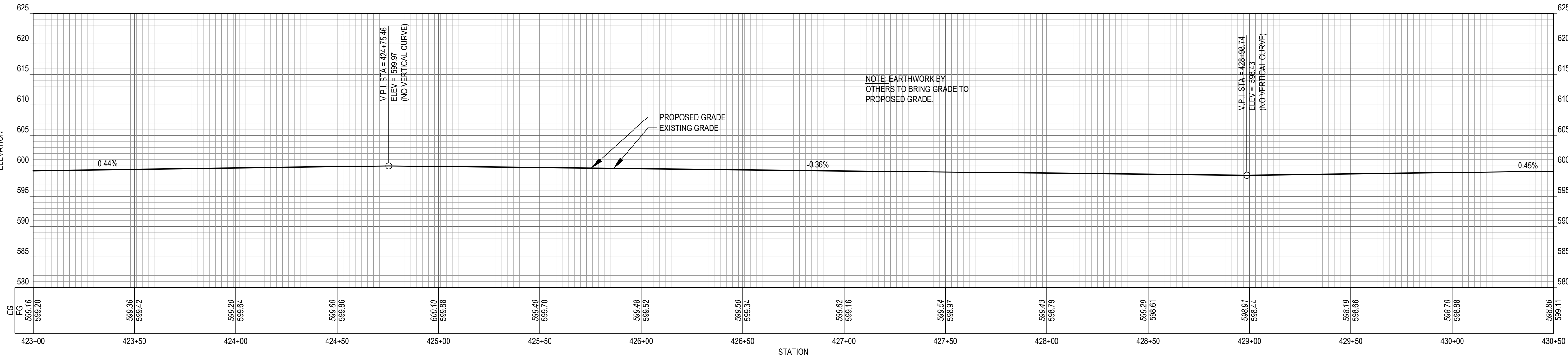
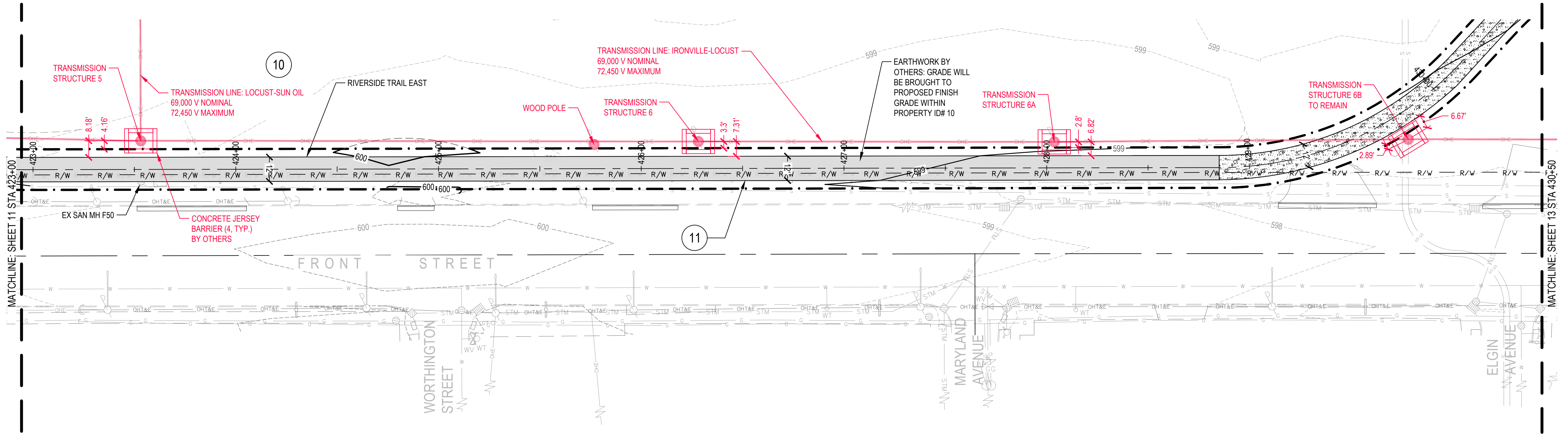
1

3
- AGGREGATE PATH

3

3
- BOLLARD FIXED BOLLARD

NOTES:
WHERE INDICATED ON THE PLANS, EARTHWORK BY OTHERS WILL
BE GRADED TO FINISH GRADE. CONTRACTOR OF THIS PROJECT
SHALL REMOVE EARTH AND INSTALL PAVEMENT CROSS SECTION.



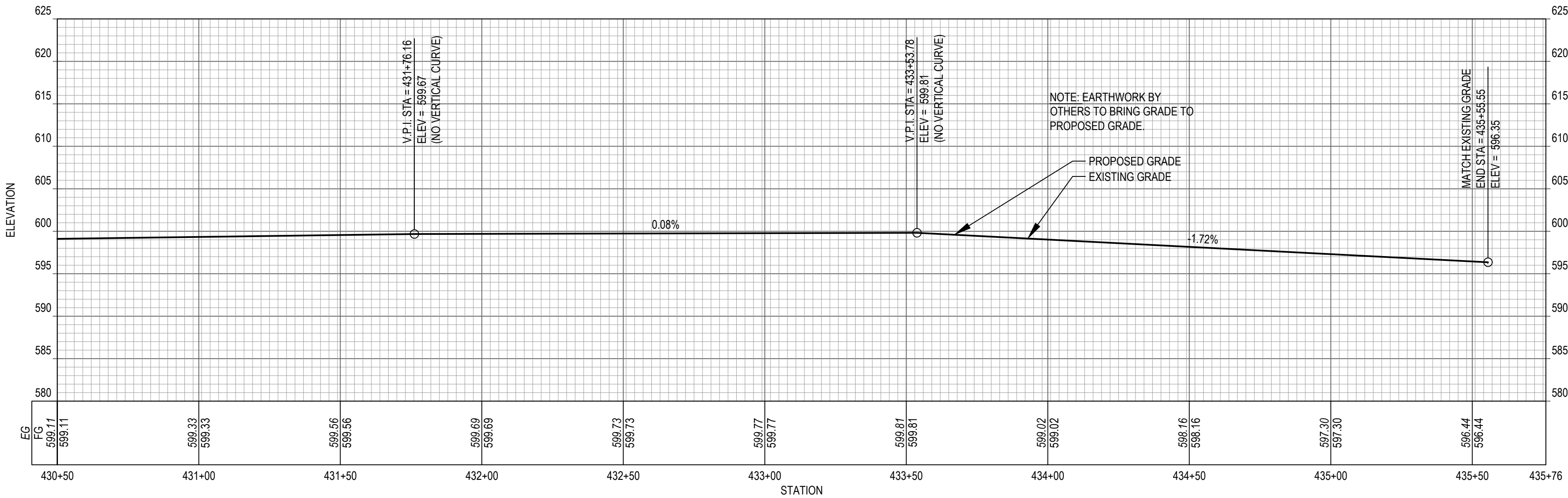
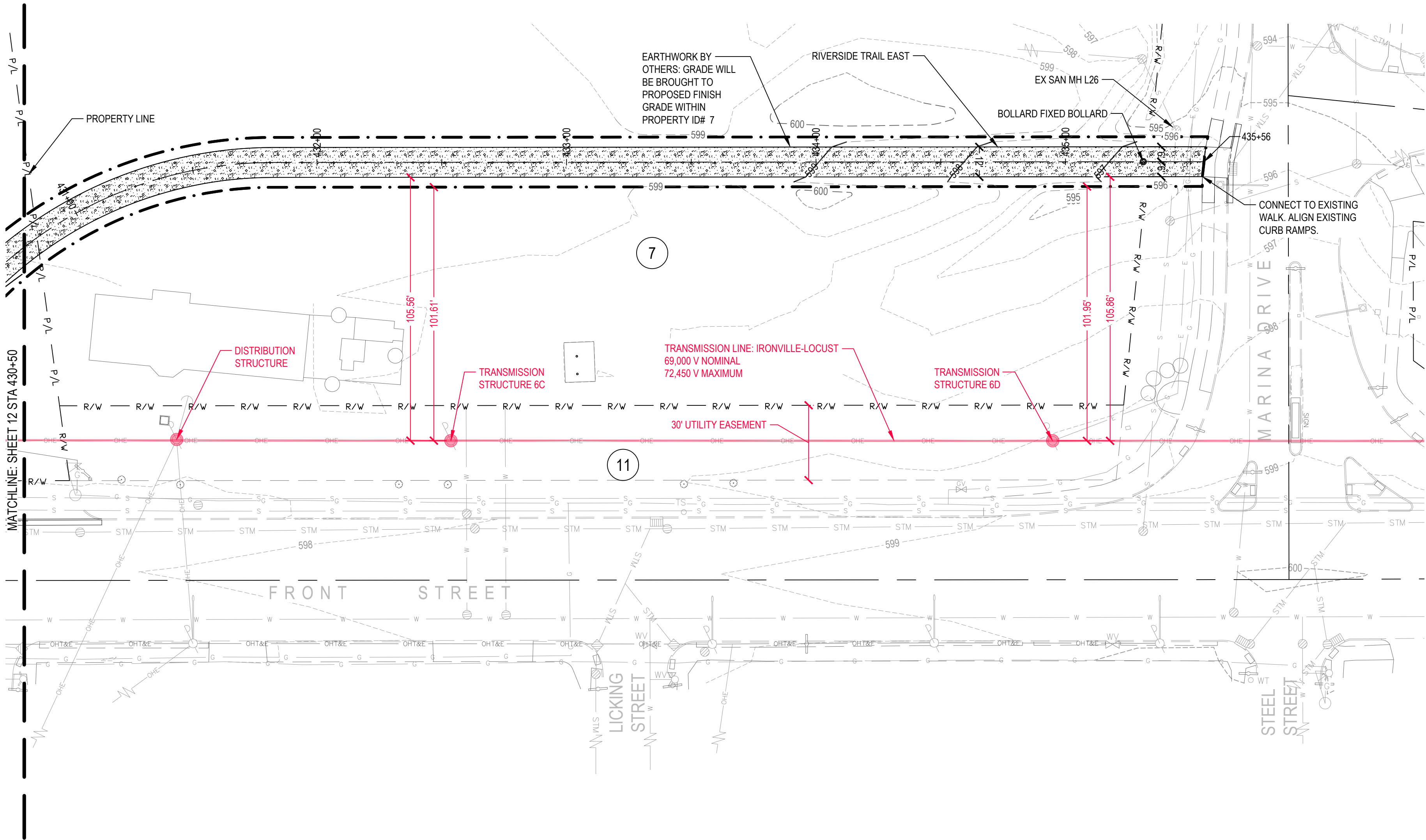
PLAN AND PROFILE
STA 423+00 TO STA 430+50

LUC-RIVERSIDE TRAIL EAST

12
51

TABLE OF LANDOWNERS

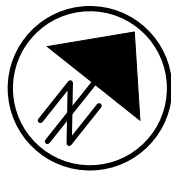
- 1
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- 10
- METROPOLITAN PARK DISTRICT OF THE TOLEDO AREA
- 11
- CITY OF TOLEDO



LEGEND

- P/L
- PROPERTY LINE
- R/W
- RIGHT-OF-WAY LINE
-
- LIMITS OF CONSTRUCTION
- ASPHALT PATH
- 1/3
- AGGREGATE PATH
- 3/3
- BOLLARD FIXED BOLLARD

NOTES:
WHERE INDICATED ON THE PLANS, EARTHWORK BY OTHERS WILL
BE GRADED TO FINISH GRADE. CONTRACTOR OF THIS PROJECT
SHALL REMOVE EARTH AND INSTALL PAVEMENT CROSS SECTION.



0 15 30 45 60
HORIZONTAL
SCALE IN FEET

CALCULATED
DGM
CHECKED
JY

PLAN AND PROFILE
STA 430+50 TO STA 435+56

LUC-RIVERSIDE TRAIL EAST

13
51

1 GENERAL PLAN

SCALE: 1" = 10'

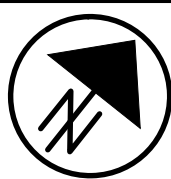
LEGEND

- P/L — PROPERTY LINE
— R/W — RIGHT-OF-WAY LINE
- - - LIMITS OF CONSTRUCTION
[Pattern] ASPHALT PATH (1/3)
[Pattern] 4 IN NON-REINFORCED CONCRETE PAVEMENT CLASS QC 1P (2/20)
[Pattern] 6 IN NON-REINFORCED CONCRETE PAVEMENT CLASS QC 1P (3/20)
[Pattern] 6 IN REINFORCED CONCRETE PAVEMENT CLASS QC 1P (4/20)
—○— 42" HT. GUARDRAIL OR HANDRAIL
—●— 66" HT. GUARDRAIL
○ BOLLARD FIXED BOLLARD (1/29)
861.50 PROPOSED SPOT ELEVATION
HP 861.50 HIGH POINT ELEVATION
· x · x · x · x · REMOVE FENCE
● REMOVE TREE
— TRENCH DRAIN WITH PEDESTRIAN GRATE
— CLASS QC1 CONCRETE, RETAINING/ WINGWALL INCLUDING FOOTING, AS PER PLAN (1/22)
— PREFABRICATED MODULAR RETAINING WALL AS PER PLAN
| - - - - | WALL FOOTING

NOTES:
WHERE INDICATED ON THE PLANS, EARTHWORK BY OTHERS WILL
BE GRADED TO FINISH GRADE. CONTRACTOR OF THIS PROJECT
SHALL REMOVE EARTH AND INSTALL PAVEMENT CROSS SECTION.

MAIN STREET

PEDESTRIAN BRIDGE



0 5 10 20
HORIZONTAL
SCALE IN FEET

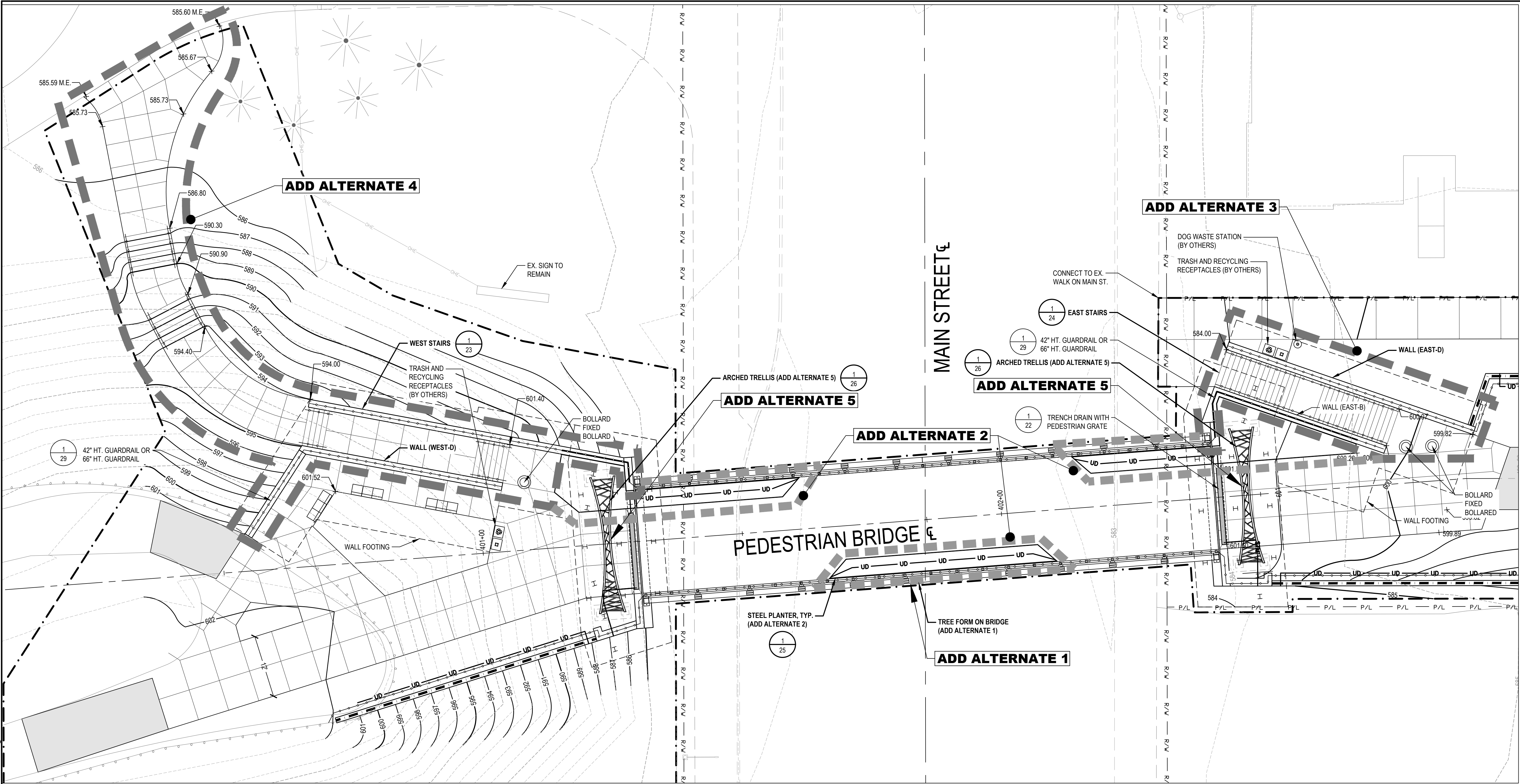
CALCULATED
JY
CHECKED
JY

MAIN STREET ENLARGEMENT PLAN
RIVERSIDE TRAIL EAST OVER MAIN STREET

LUC-RIVERSIDE TRAIL EAST

14
51

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1 GENERAL PLAN

SCALE: 1" = 10'

LEGEND

P/L

PROPERTY LINE

R/W

RIGHT-OF-WAY LINE

LIMITS OF CONSTRUCTION

42" HT. GUARDRAIL

PROPOSED SPOT ELEVATION

HIGH POINT ELEVATION

REMOVE FENCE

RFM/OF TRFF

CLASS QC1 CONCRETE, RETAINING/

WINGWALL INCLUDING FOOTING, AS PER

PLAN

PREFABRICATED MODULAR RETAINING WALL

AS PER PLAN

WALL FOOTING

DESCRIPTION OF ALTERNATES

ALTERNATE NO. 1: TREE FORMS ON BRIDGE

BIDDERS SHALL STATE IN THEIR PROPOSAL THE AMOUNT TO BE ADDED TO THE BASE BID TO INCORPORATE THE ADDITIONAL 'TREE FORMS' AS SHOWN IN PLAN AND DETAILS ON SHEETS 46 AND 48 INTO THE FABRICATION OF THE PEDESTRIAN BRIDGE.

ALTERNATE NO. 2: STEEL PLANTERS

BIDDERS SHALL STATE IN THEIR PROPOSAL THE AMOUNT TO BE ADDED TO THE BASE BID FOR THE FABRICATION AND INSTALL STEEL PLANTERS AS SHOWN IN PLAN AND DETAILS ON SHEET 25. PROVIDE 5 TOTAL PLANTERS, INCLUDING FABRICATION AND INSTALLATION, ASSOCIATED ATTACHMENTS AND ITEMS INCIDENTAL TO INSTALL.

ALTERNATE NO. 3: EAST STAIRCASE

BIDDERS SHALL STATE IN THEIR PROPOSAL THE AMOUNT TO DEDUCT AND ADD TO THE BASE BID TO INSTALL THE EAST STAIRCASE, INCLUDING EMBANKMENT/FILL, CONCRETE STEPS, CONCRETE PAVEMENT, RETAINING WALL, GUARDRAIL (DEDUCT 42" HT. GUARDRAIL FROM BASE BID WALL EAST-D), HANDRAIL, BOLLARDS, AND ASSOCIATED INFRASTRUCTURE AS INDICATED AND DETAILED ON THE PLANS. REFER TO PLAN SHEETS 15, 24, 37, AND 38.

ALTERNATE NO. 4: WEST STAIRCASE

BIDDERS SHALL STATE IN THEIR PROPOSAL THE AMOUNT TO DEDUCT AND ADD TO THE BASE BID TO THE WEST STAIRCASE, INCLUDING EMBANKMENT/FILL, CONCRETE STEPS, CONCRETE PAVEMENT, RETAINING WALL, GUARDRAIL (DEDUCT 42" HT. GUARDRAIL FROM BASE BID WALL WEST-D), HANDRAIL, BOLLARD, AND ASSOCIATED INFRASTRUCTURE AS INDICATED AND DETAILED ON THE PLANS. REFER TO PLAN SHEETS 15, 23, AND 36.

ALTERNATE NO. 5: ARCHED TRELLIS

BIDDERS SHALL STATE IN THEIR PROPOSAL THE AMOUNT TO BE ADDED TO THE BASE BID TO INSTALL THE ARCHED TRELLIS AS DETAILED ON PLAN SHEETS 26 AND 27. PROVIDE TWO TOTAL, ONE ON EACH APPROACH TO BRIDGE, INCLUDING FABRICATION AND INSTALLATION, ASSOCIATED FOUNDATIONS AND ATTACHMENTS AND ITEMS INCIDENTAL TO INSTALL.

0

5

10

20

HORIZONTAL

SCALE IN FEET

CALCULATED

JY

CHECKED

JY

MAIN STREET ENLARGEMENT PLAN (ADD ALTERNATES)

RIVERSIDE TRAIL EAST OVER MAIN STREET

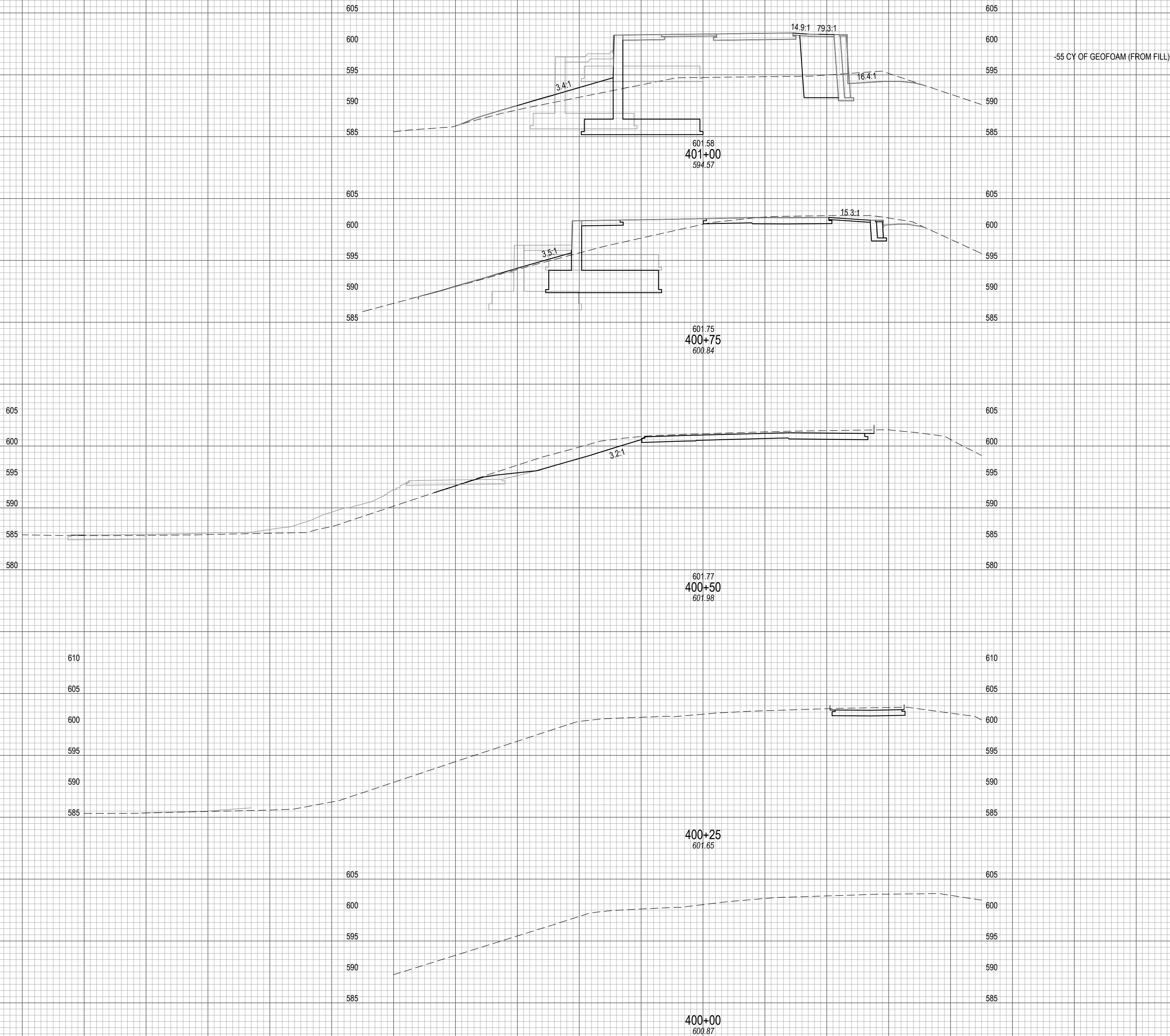
LUC-RIVERSIDE TRAIL EAST

15

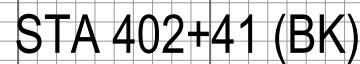
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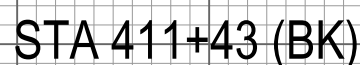
130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100



BASE BID				ADD ALTERNATES			
END AREA		VOLUME		END AREA		VOLUME	
CUT	FILL	CUT	FILL	CUT	FILL	CUT	FILL
200	212			-83	-11		
		165	140			-25	-1
176	55			29	8		
		118	25			21	32
79	0			17	60		
		43	0			8	29
15	0			0	2		
		14	0			0	2
15	0			0	2		
		350	94			4	61



9	178
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$$\frac{17}{51}$$

SEEDING												END		AREA		VOLUME		CALCULATED	DGM	CHECKED	JY
END WIDTH	SQ. YDS.	50	40	30	20	10	0	10	20	30	40	CUT	FILL	CUT	FILL						
		605										605									
		600					20.0:1		20.1:1			600	12	0							
		595										595					43	0			
								599.77													
								433+00													
								599.77													
		605										605									
		600					20.0:1		20.0:1			600	12	0							
		595										595					43	0			
								599.69													
								432+00													
								599.69													
		605										605									
		600					19.2:1		20.0:1		EX. GATE BUILDING	600	12	0							
		595										595					43	0			
								599.33													
								431+00													
								599.33													
		605										605									
		600					20.1:1		20.1:1		EX. RW	600	12	0							
		595										595					43	0			
								598.88													
								430+00													
								598.88													
		605										605									
		600					20.0:1		20.0:1		EX. RW	600	12	0							
		595										595					43	0			
								598.44													
								429+00													
								598.44													
		605										605									
		600					18.6:1		20.0:1		EX. RW	600	12	0							
		595										595					43	0			
								598.79													
								428+00													
								598.79													
		605										605									
		600					19.5:1		20.0:1		EX. RW	600	12	0							
		595										595					43	0			
								599.16													
								427+00													
								599.16													
		605										605									
		600					19.0:1		20.0:1		EX. RW	600	12	0							
		595										595					43	0			
								599.52													
								426+00													
								599.52													
		605										605									
		600					19.2:1		20.0:1		EX. RW	600	12	0							
		595										595					43	0			
								599.88													
								425+00													
								599.88													
		605										605									
		600					20.0:1		20.0:1		EX. RW	600	12	0							
		595										595					43	0			
								599.64													
								424+00													
								599.64													
											EX SAN MH F50 STA 423+53.24; 6.0' RT										
		50	40	30	20	10	0	10	20	30	40						432	0			

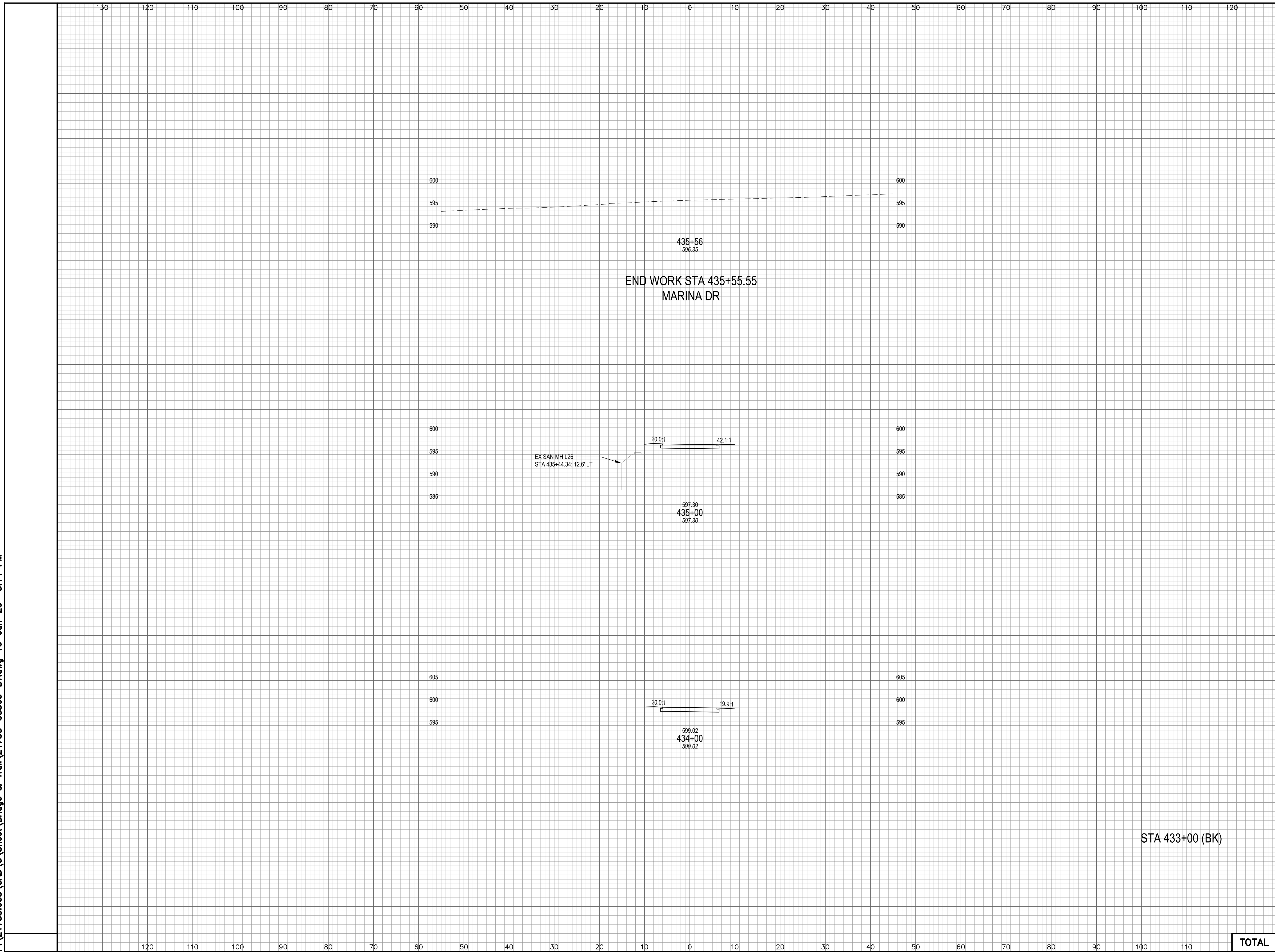
CROSS SECTIONS 3

STA 413+00 TO STA 433+00

LUC-RIVERSIDE TRAIL EAST

18

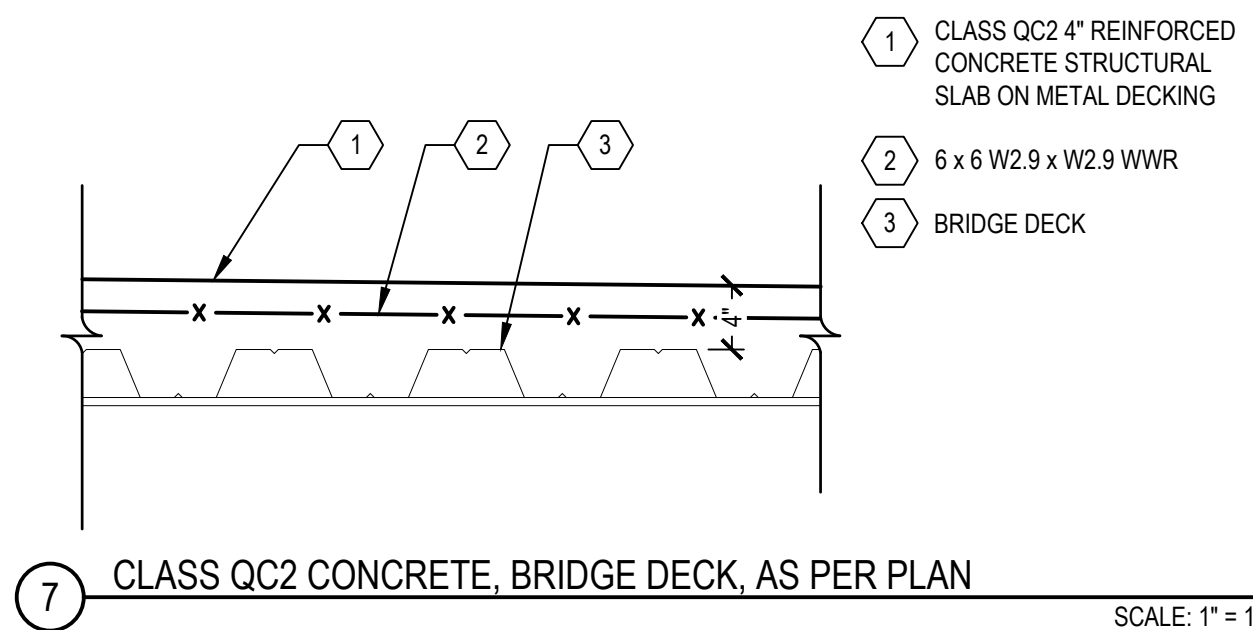
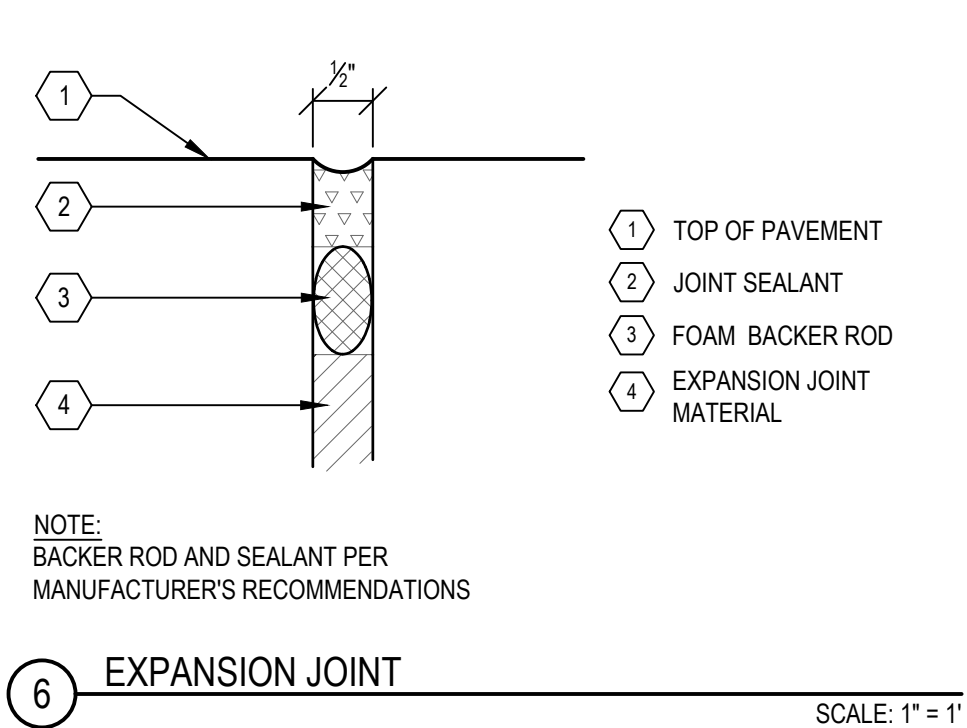
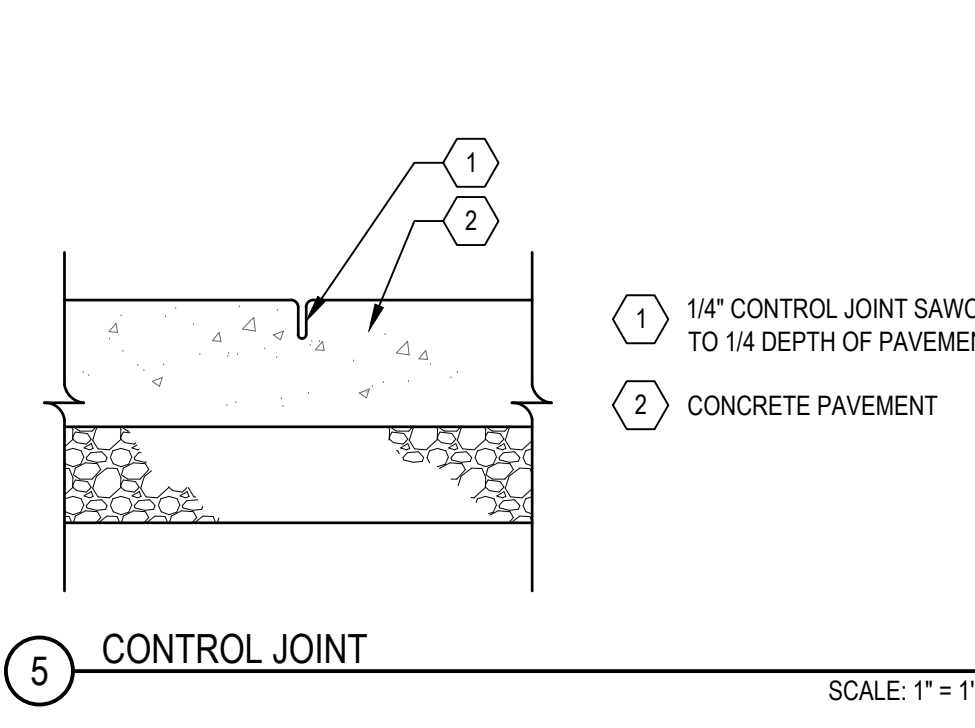
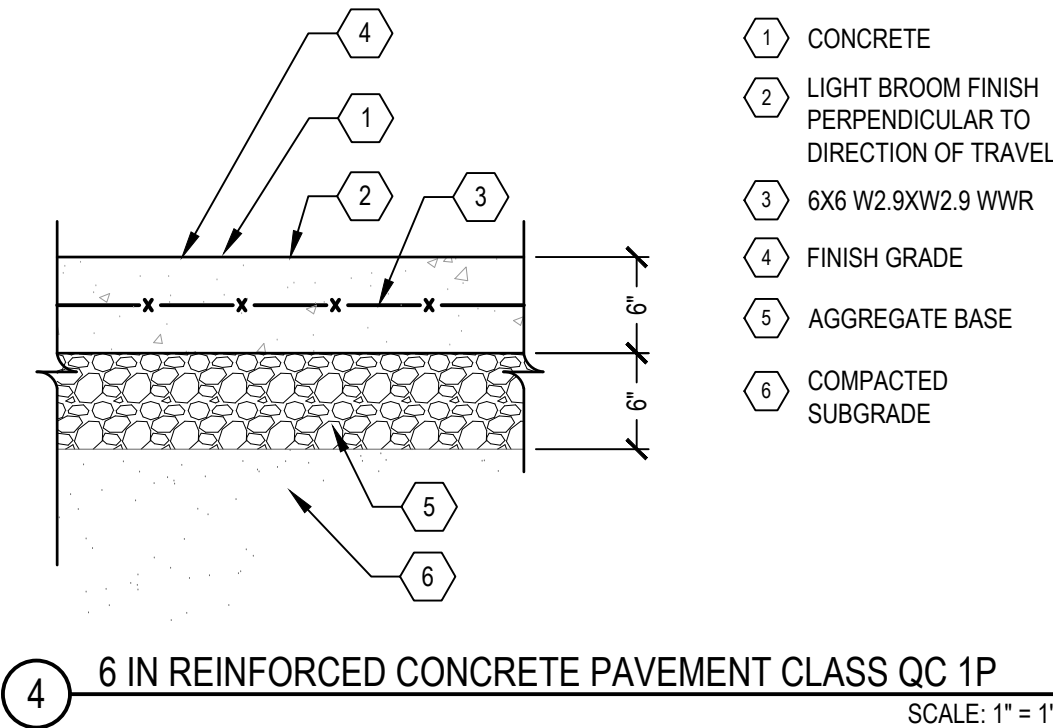
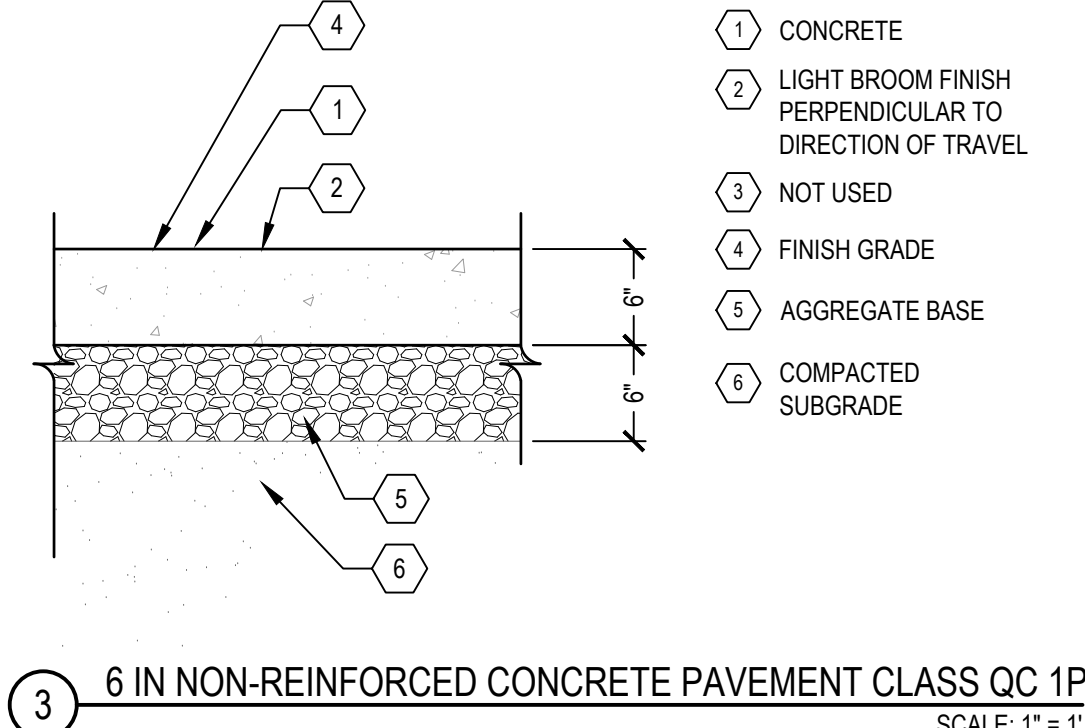
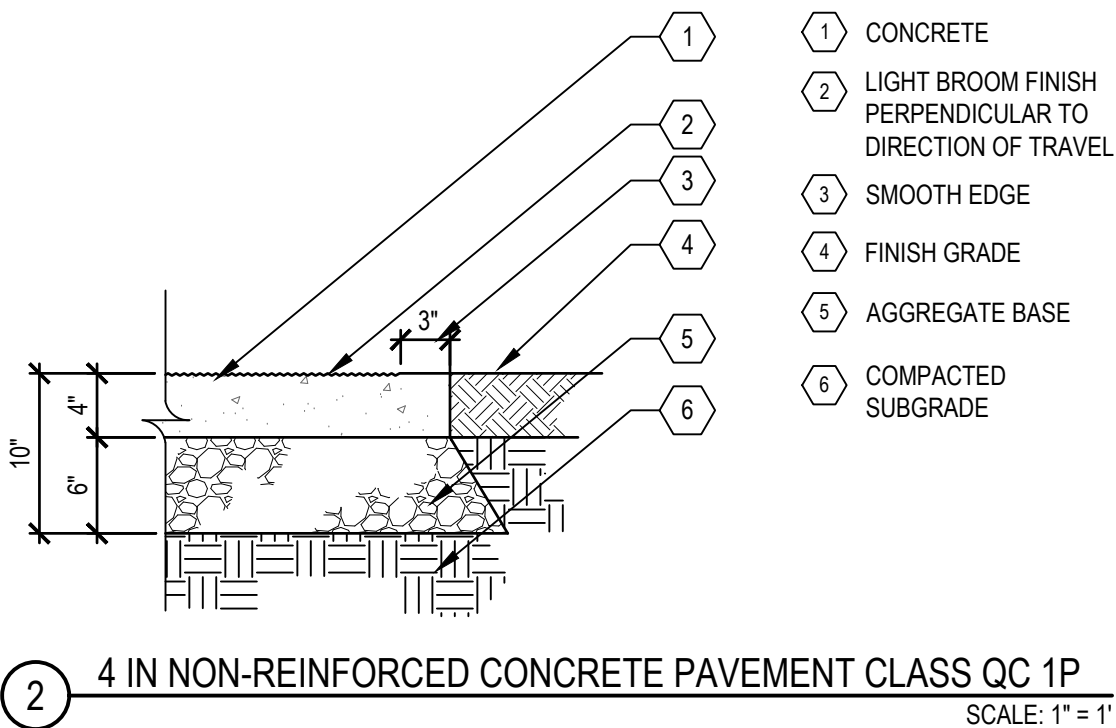
51



END AREA		VOLUME		CALCULATED	CROSS SECTIONS 4 STA 433+00 TO STA 435+56	LUC-RIVERSIDE TRAIL EAST	<div><div>19</div><div>51</div></div>
CUT	FILL	CUT	FILL				
12	0						
12	0	24	0				
		43	0				
12	0						
		43	0				
12	0						
		111	0				

1 CONCRETE JOINTING ENLARGEMENT

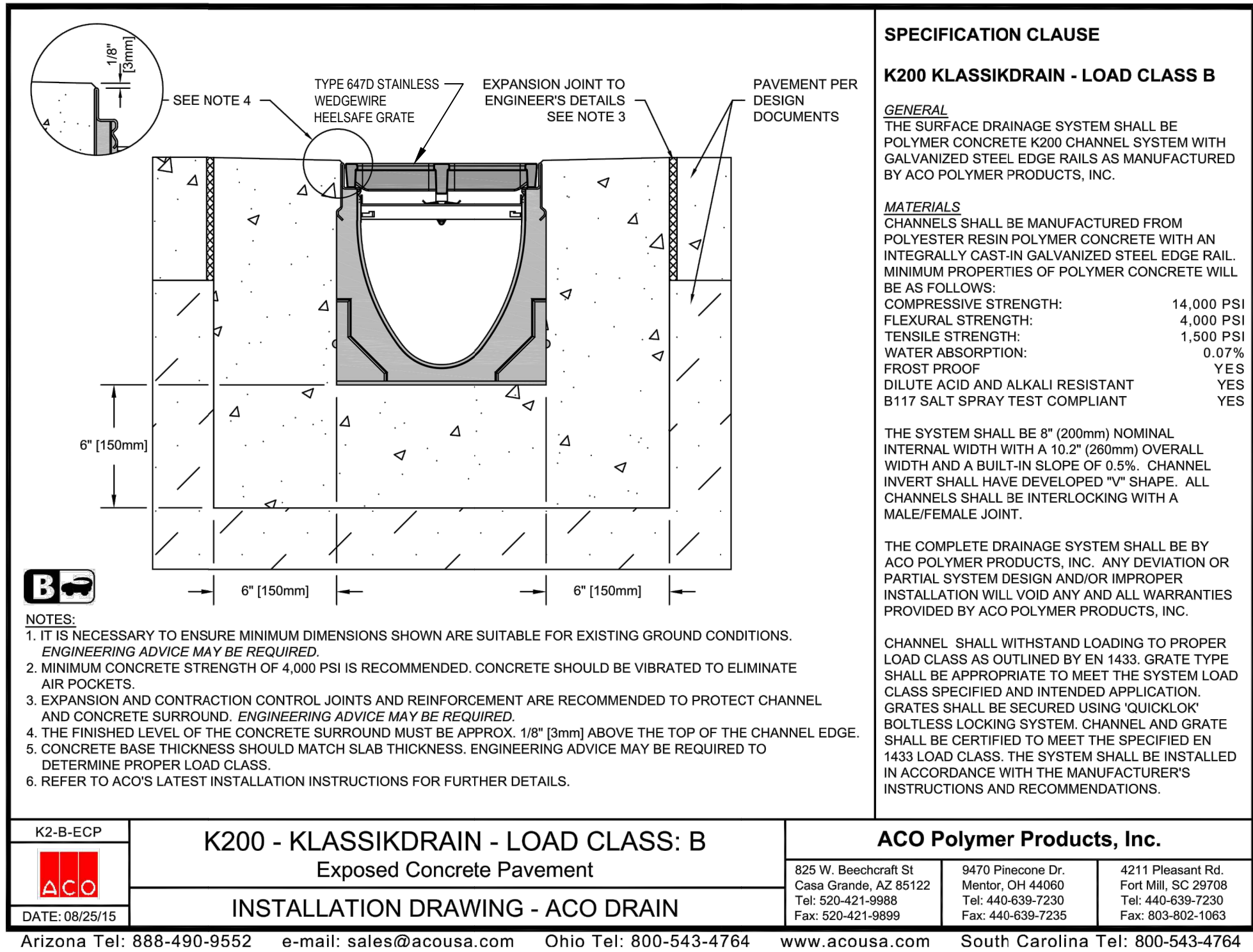
SCALE: 1" = 10'



7 CLASS QC2 CONCRETE, BRIDGE DECK, AS PER PLAN

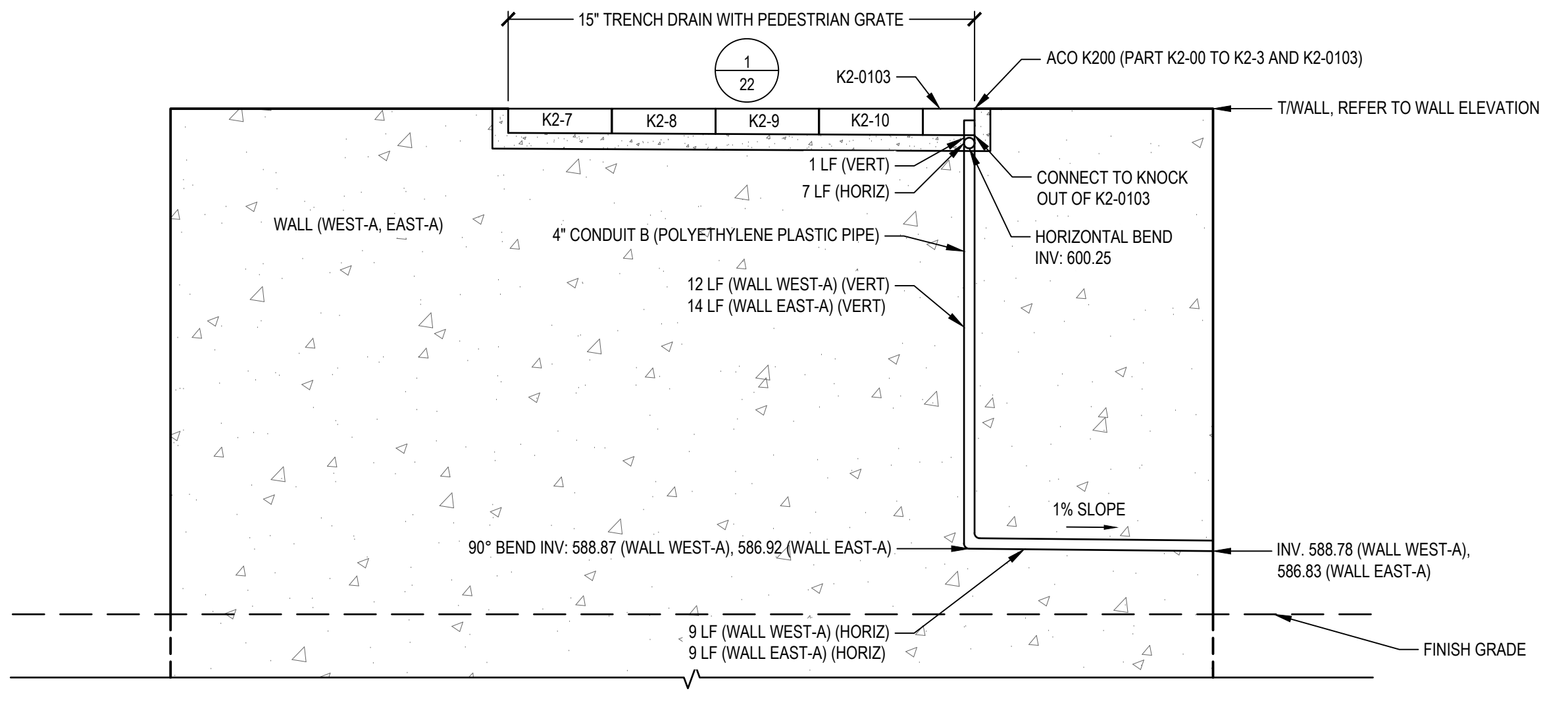
SCALE: 1" = 1'

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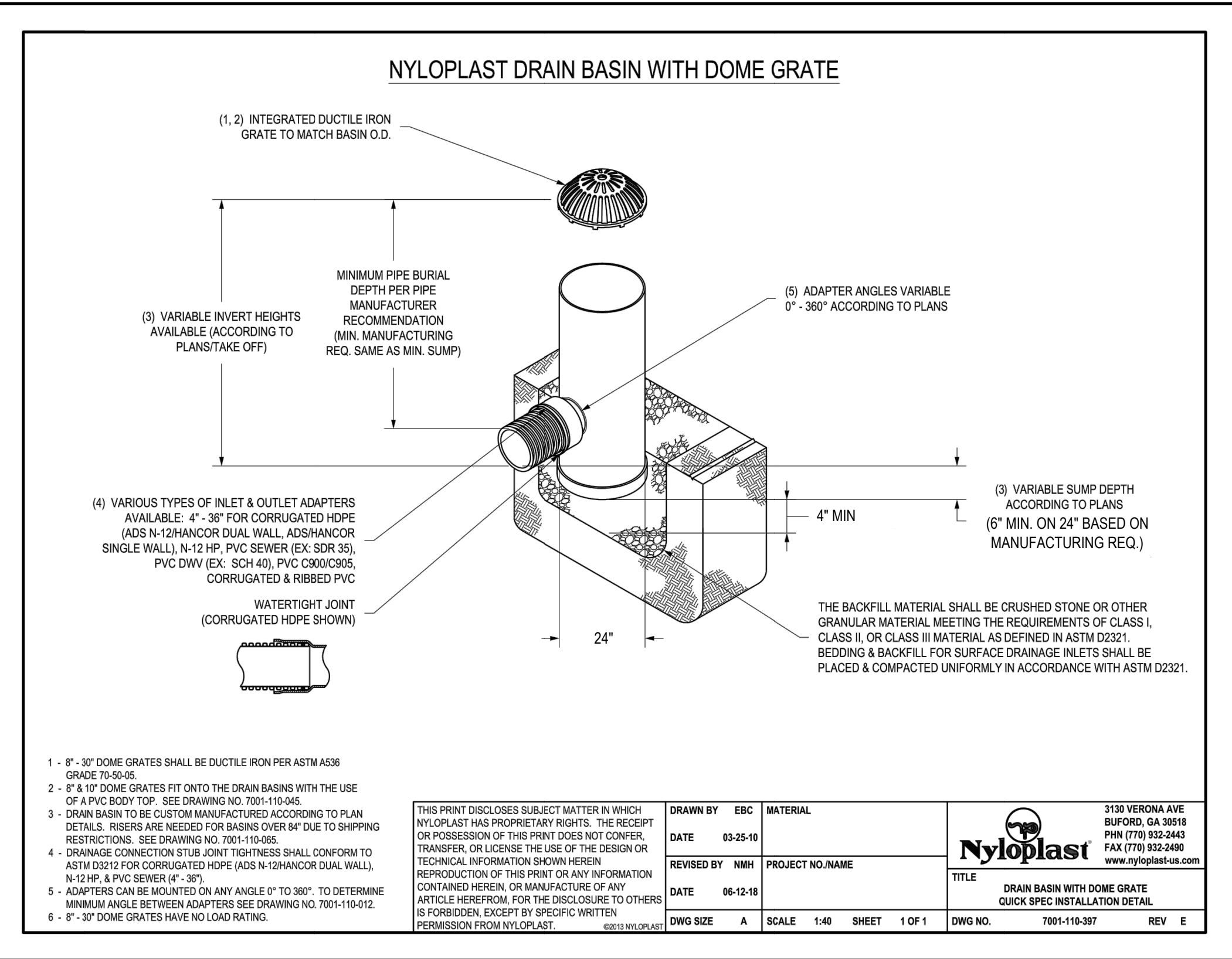
1 TRENCH DRAIN WITH PEDESTRIAN GRATE

N.T.S.



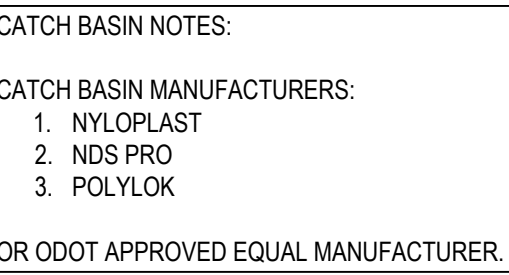
2 TRENCH DRAIN SECTION

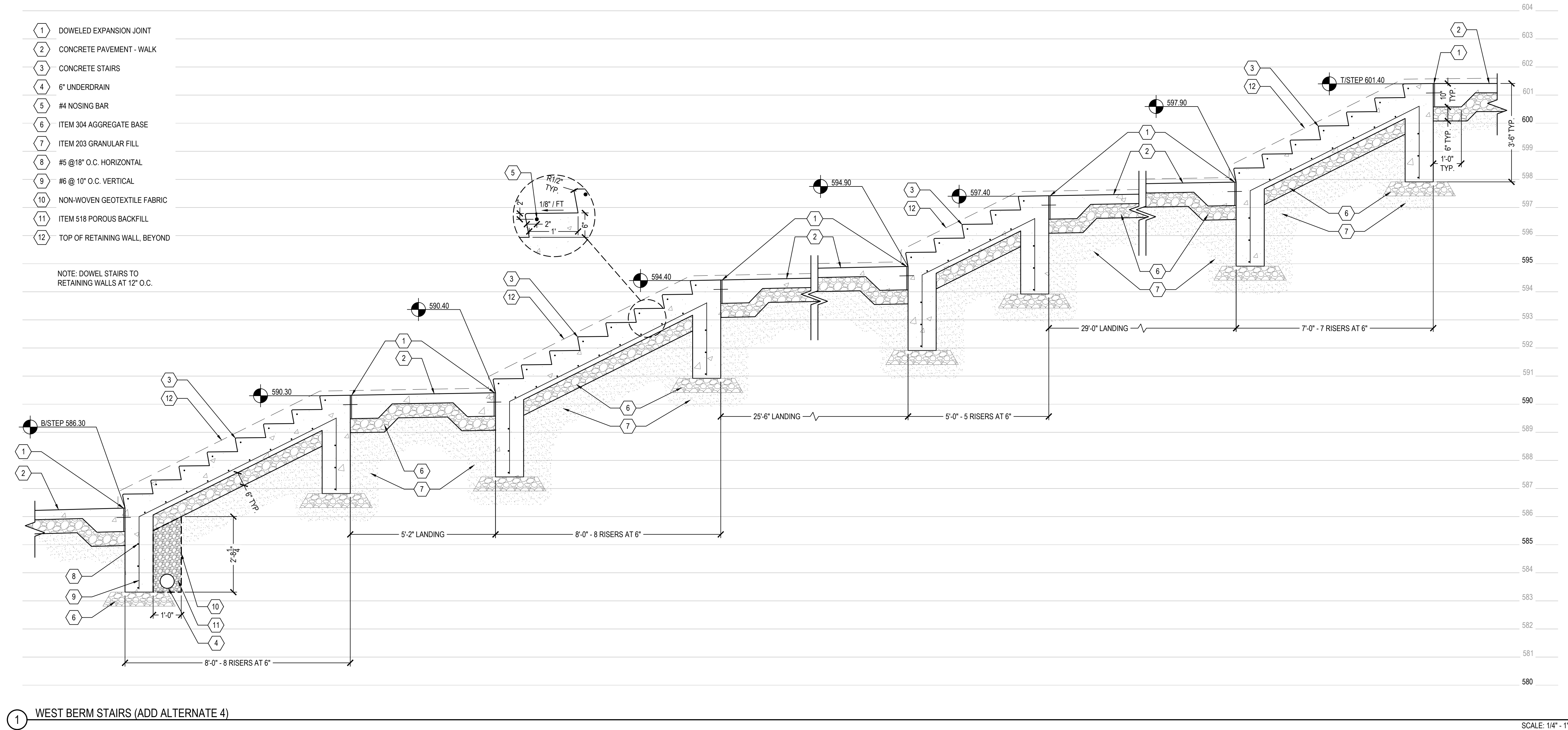
SCALE: 1/4" = 1'



3 CATCH BASIN FRAME AND GRATE AS PER PLAN

N.T.S.

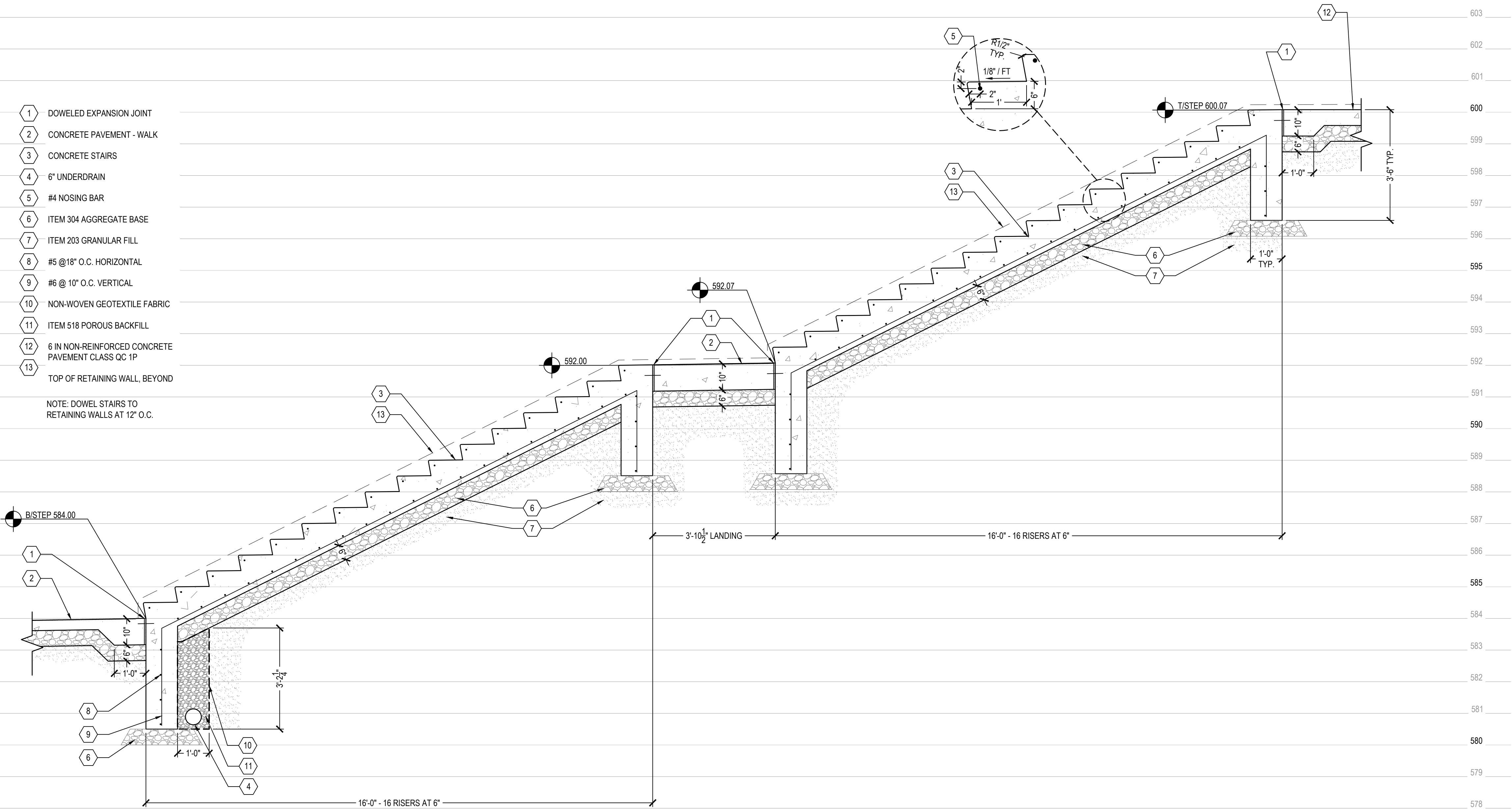




1 EAST BERM STAIRS (ADD ALTERNATE 3)

- 1 DOWELED EXPANSION JOINT
- 2 CONCRETE PAVEMENT - WALK
- 3 CONCRETE STAIRS
- 4 6" UNDERDRAIN
- 5 #4 NOSING BAR
- 6 ITEM 304 AGGREGATE BASE
- 7 ITEM 203 GRANULAR FILL
- 8 #5 @18" O.C. HORIZONTAL
- 9 #6 @10" O.C. VERTICAL
- 10 NON-WOVEN GEOTEXTILE FABRIC
- 11 ITEM 518 POROUS BACKFILL
- 12 6 IN NON-REINFORCED CONCRETE PAVEMENT CLASS QC 1P
- 13 TOP OF RETAINING WALL, BEYOND

NOTE: DOWEL STAIRS TO RETAINING WALLS AT 12" O.C.



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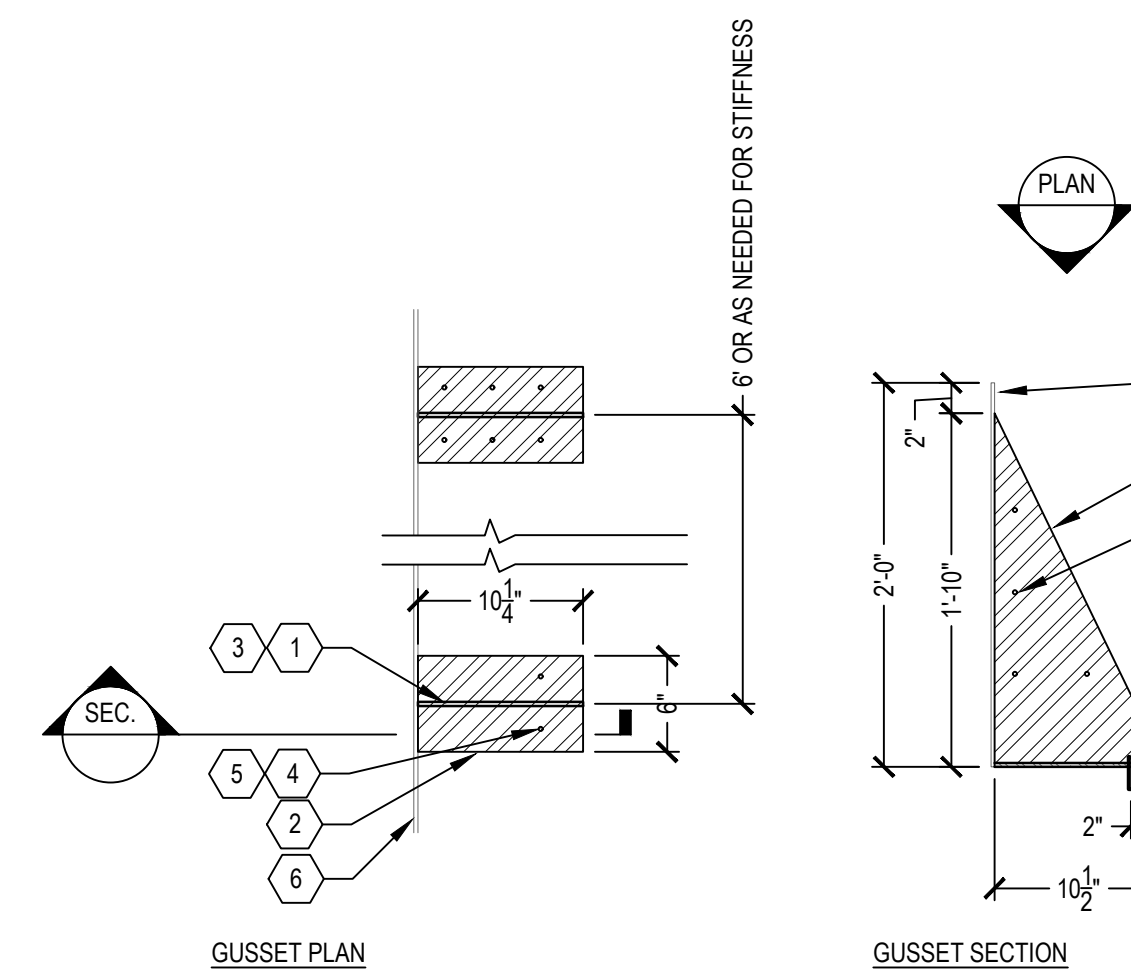
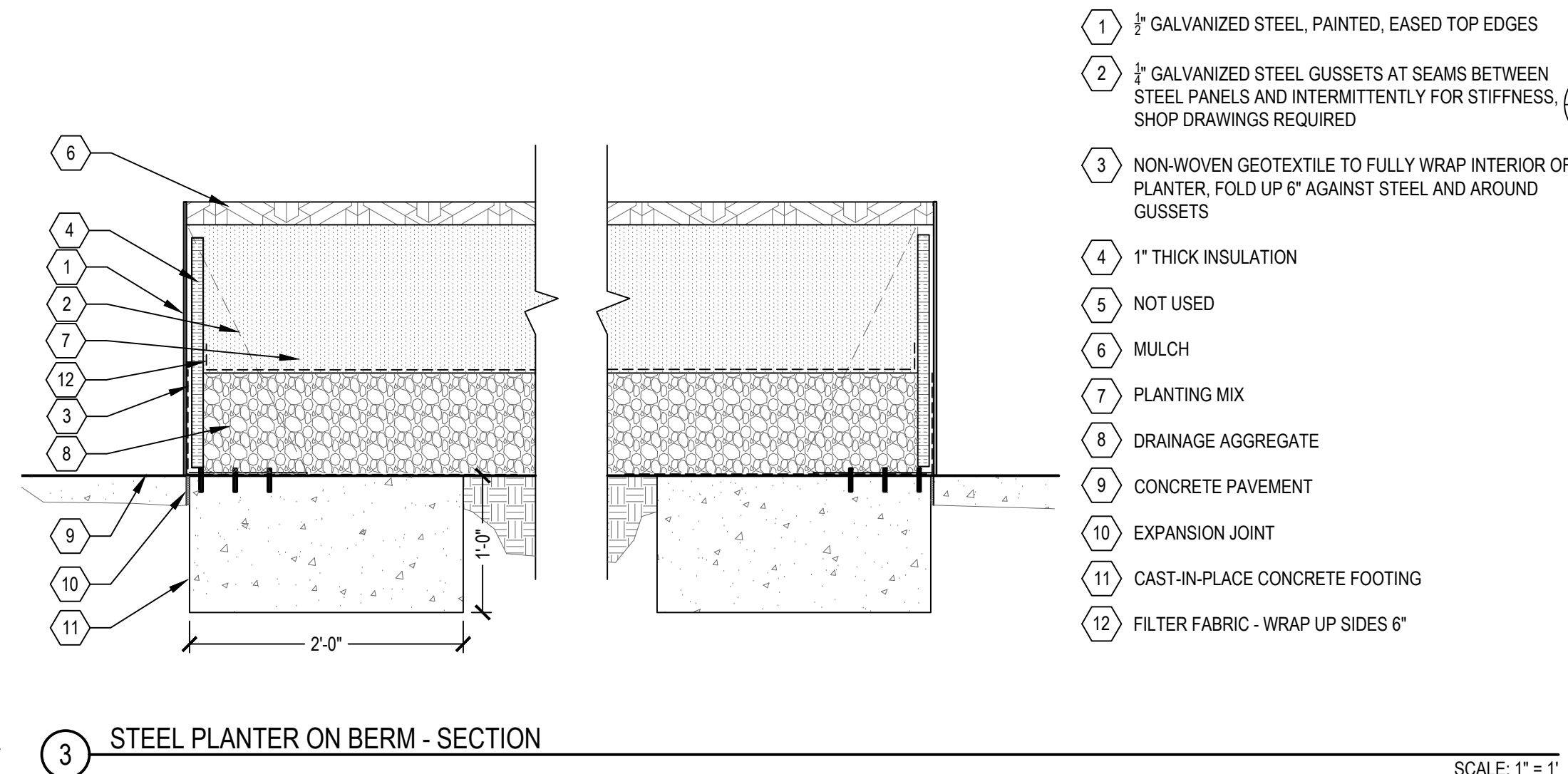
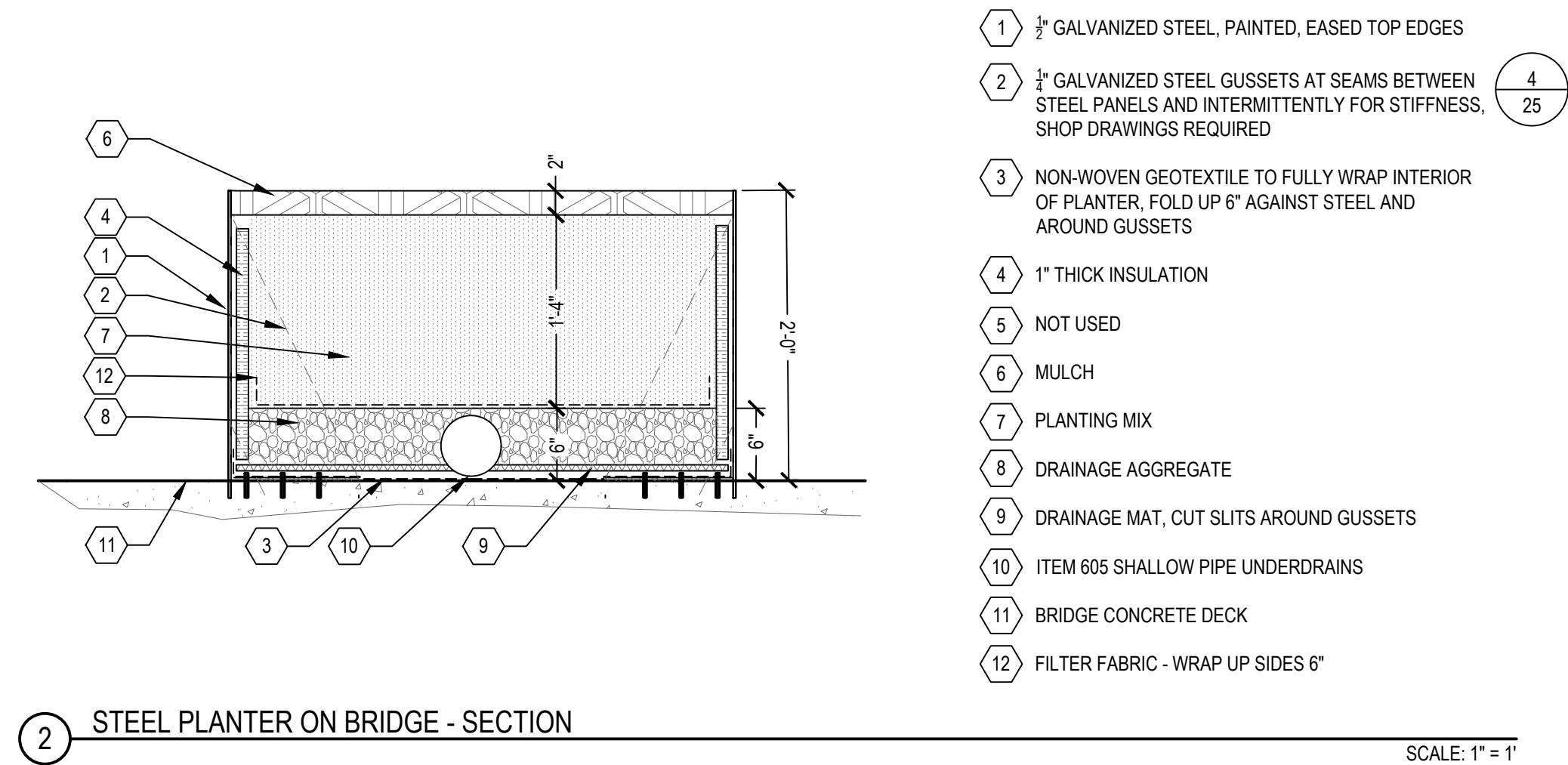
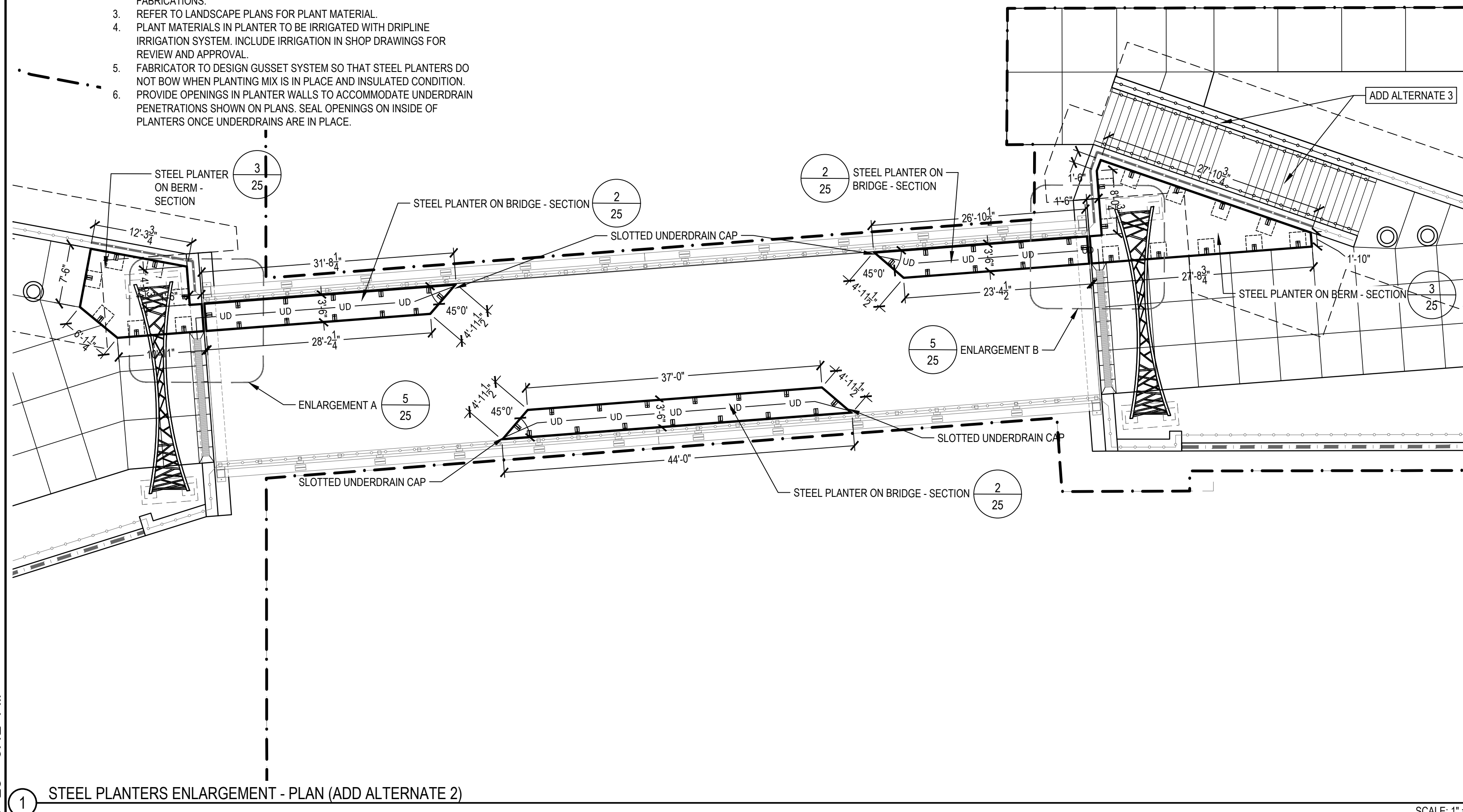
GENERAL NOTES - STEEL PLANTER

ITEM - SPECIAL: PREFABRICATED STEEL PLANTERS

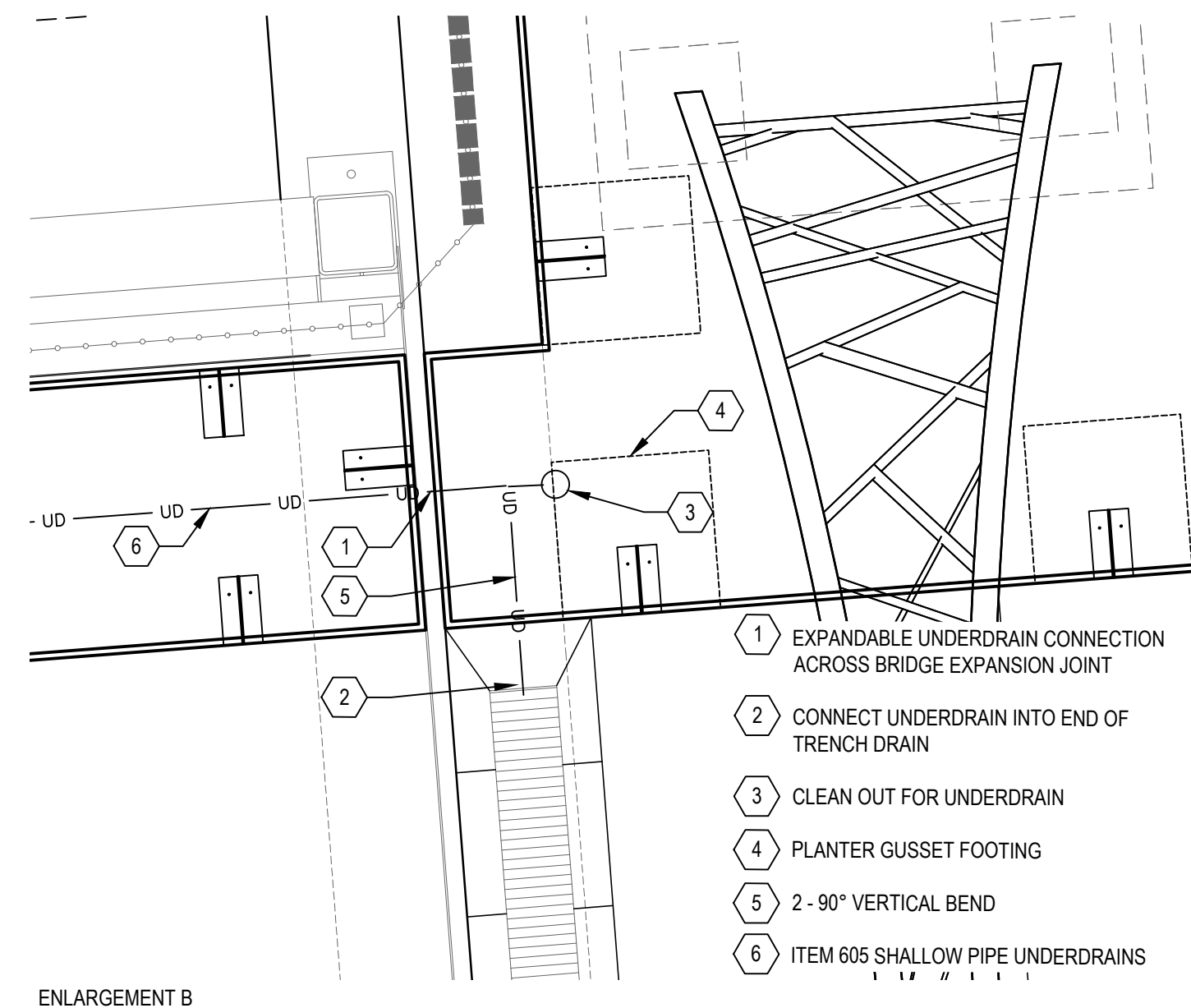
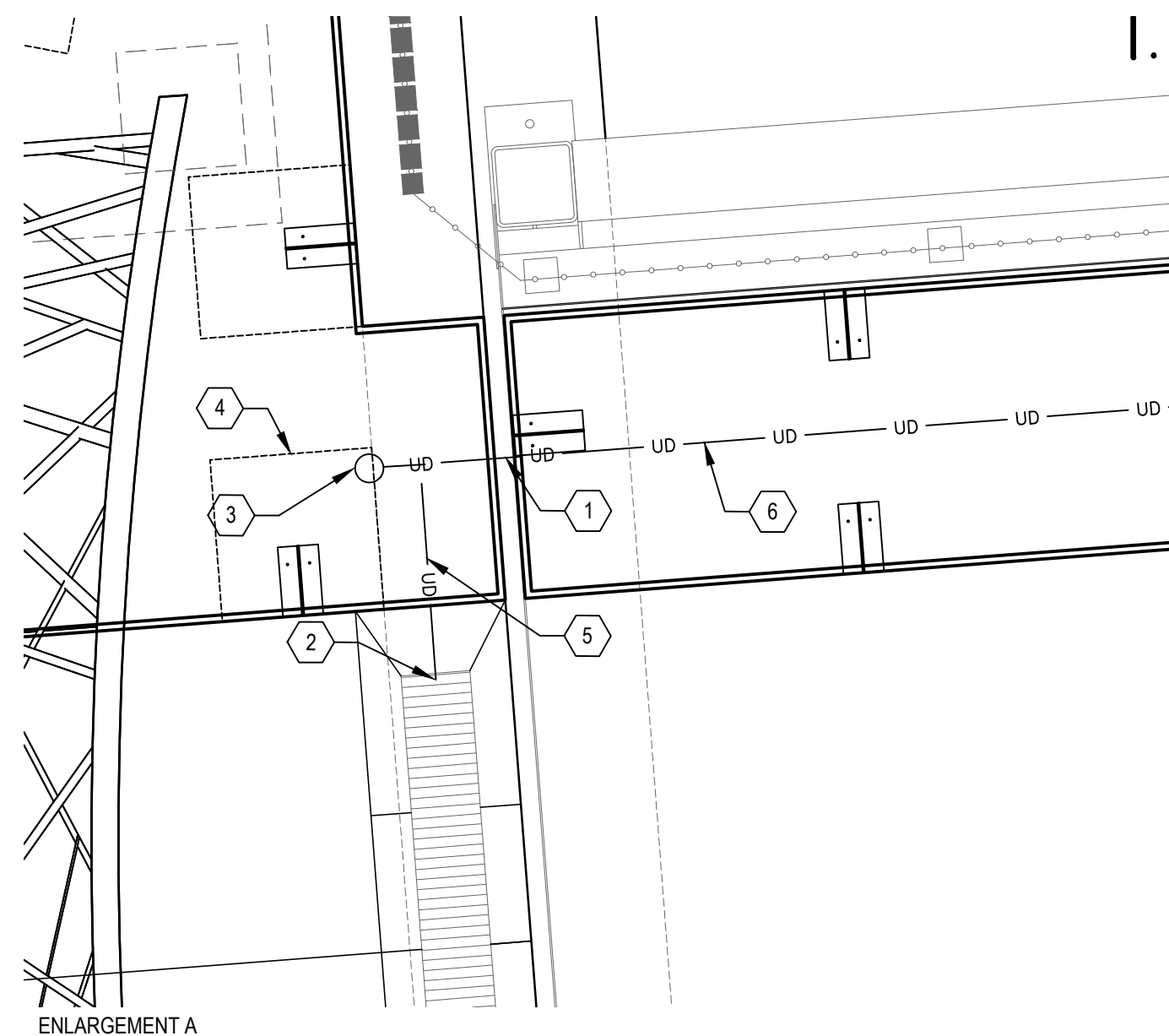
PREQUALIFIED FABRICATORS:
<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Pages/Structural/SteelFabricators.aspx>

STEEL PLANTER NOTES:

1. $\frac{3}{4}$ " FILLET WELD CONTINUOUS ALL JOINTS ON INSIDE OF PLANTER.
2. PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATIONS.
3. REFER TO LANDSCAPE PLANS FOR PLANT MATERIAL.
4. PLANT MATERIALS IN PLANTER TO BE IRRIGATED WITH DRIPLINE IRRIGATION SYSTEM. INCLUDE IRRIGATION IN SHOP DRAWINGS FOR REVIEW AND APPROVAL.
5. FABRICATOR TO DESIGN GUSSET SYSTEM SO THAT STEEL PLANTERS DO NOT BOW WHEN PLANTING MIX IS IN PLACE AND INSULATED CONDITION.
6. PROVIDE OPENINGS IN PLANTER WALLS TO ACCOMMODATE UNDERDRAIN PENETRATIONS SHOWN ON PLANS. SEAL OPENINGS ON INSIDE OF PLANTERS ONCE UNDERDRAINS ARE IN PLACE.



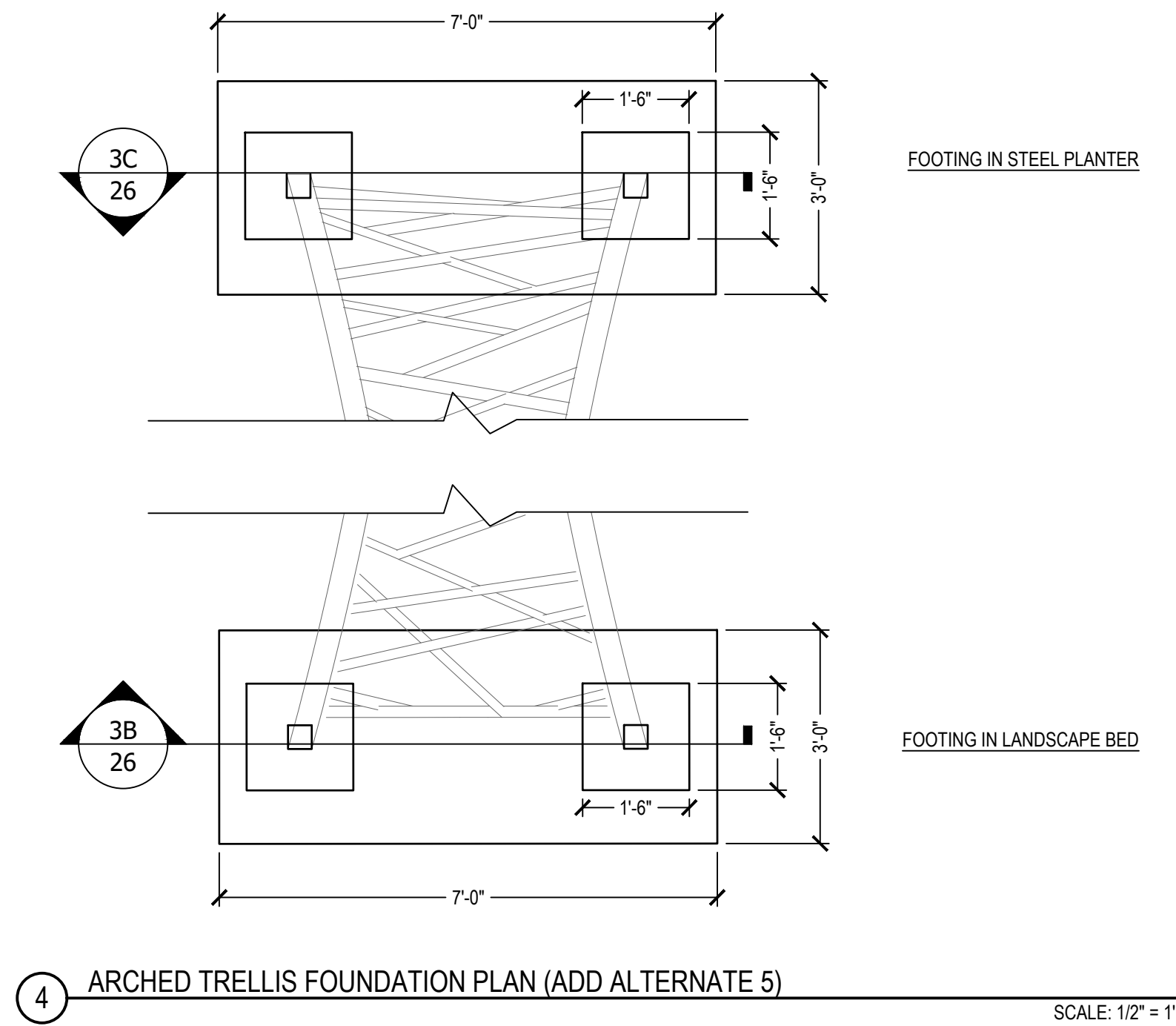
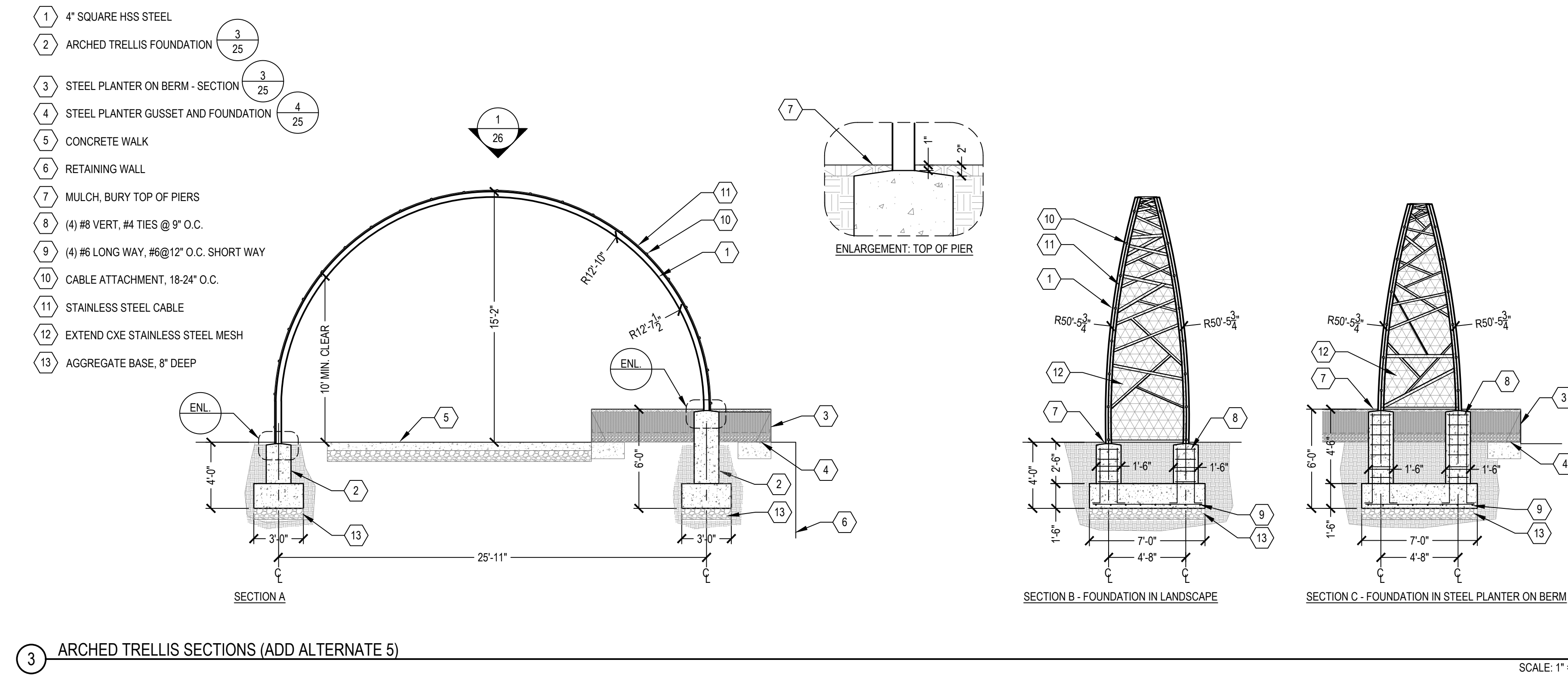
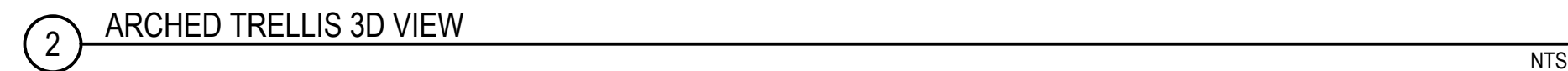
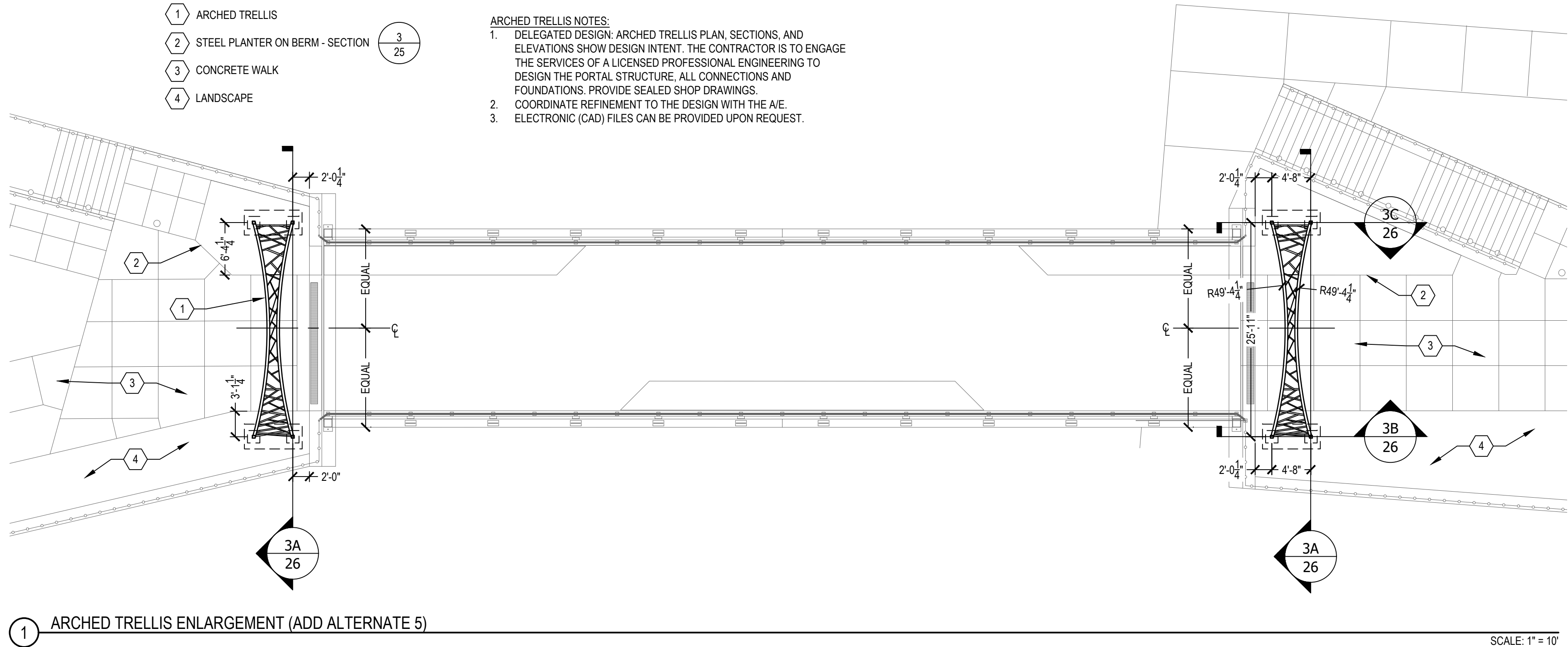
1. $\frac{1}{2}$ " GALVANIZED STEEL GUSSETS AT SEAMS BETWEEN STEEL PANELS AND INTERMITTENTLY FOR STIFFNESS, SHOP DRAWINGS REQUIRED
2. GUSSET BASE PLATE, $\frac{1}{2}$ " GALVANIZED STEEL
3. FULLY WELD BASE PLATE TO GUSSET
4. PRE-DRILLED HOLE FOR $\frac{3}{8}$ " DIA. BOLT AND EXPANSION ANCHOR
5. $\frac{3}{8}$ " DIA. BOLT AND EXPANSION ANCHOR, BOLT GUSSET TO BRIDGE DECK OR CONCRETE PAVEMENT 3" DEEP
6. $\frac{1}{2}$ " PAINTED GALVANIZED STEEL PLANTER WALL, FULLY WELD GUSSET TO PLANTER WALL
7. PRE-DRILLED HOLE FOR GUSSET-TO-GUSSET CONNECTION, TYP.



1. EXPANDABLE UNDERDRAIN CONNECTION ACROSS BRIDGE EXPANSION JOINT
2. CONNECT UNDERDRAIN INTO END OF TRENCH DRAIN
3. CLEAN OUT FOR UNDERDRAIN
4. PLANTER GUSSET FOOTING
5. 2 - 90° VERTICAL BEND
6. ITEM 605 SHALLOW PIPE UNDERDRAINS

SCALE: 1/2" = 1'

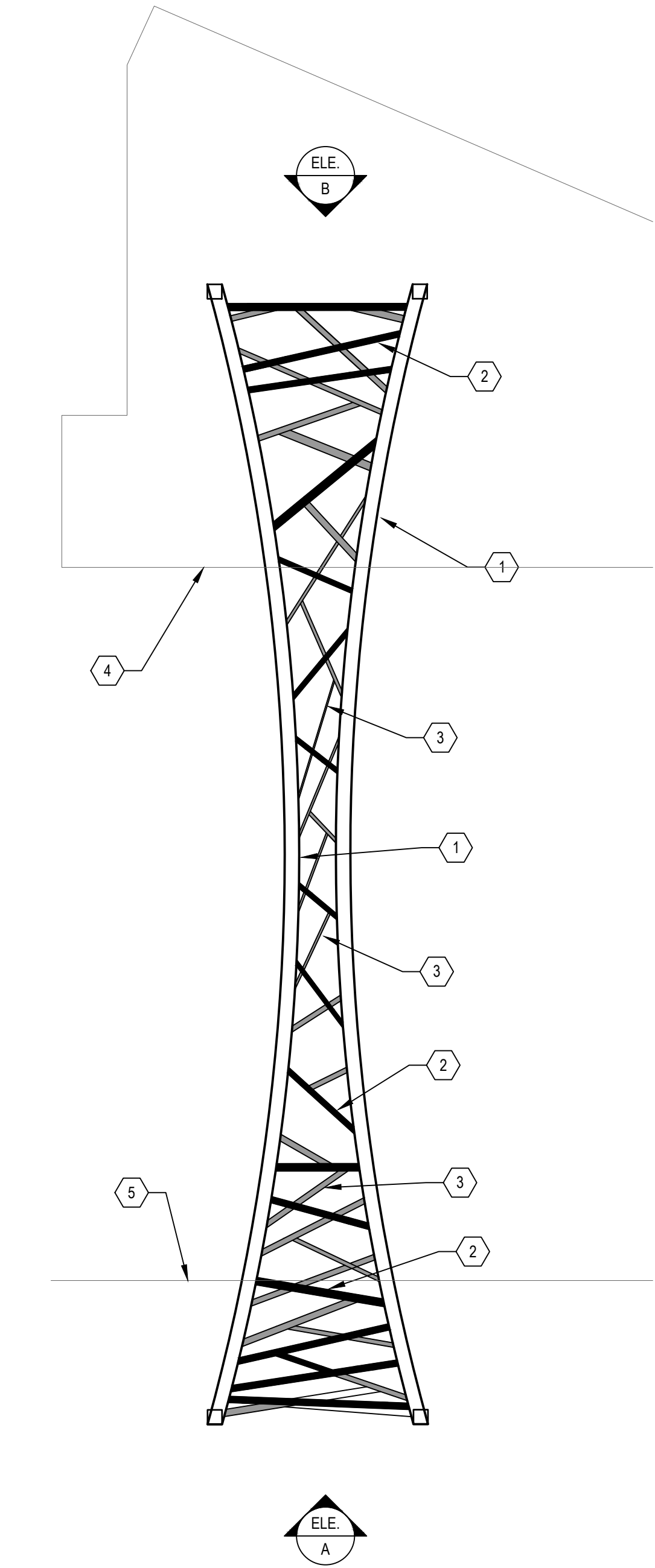
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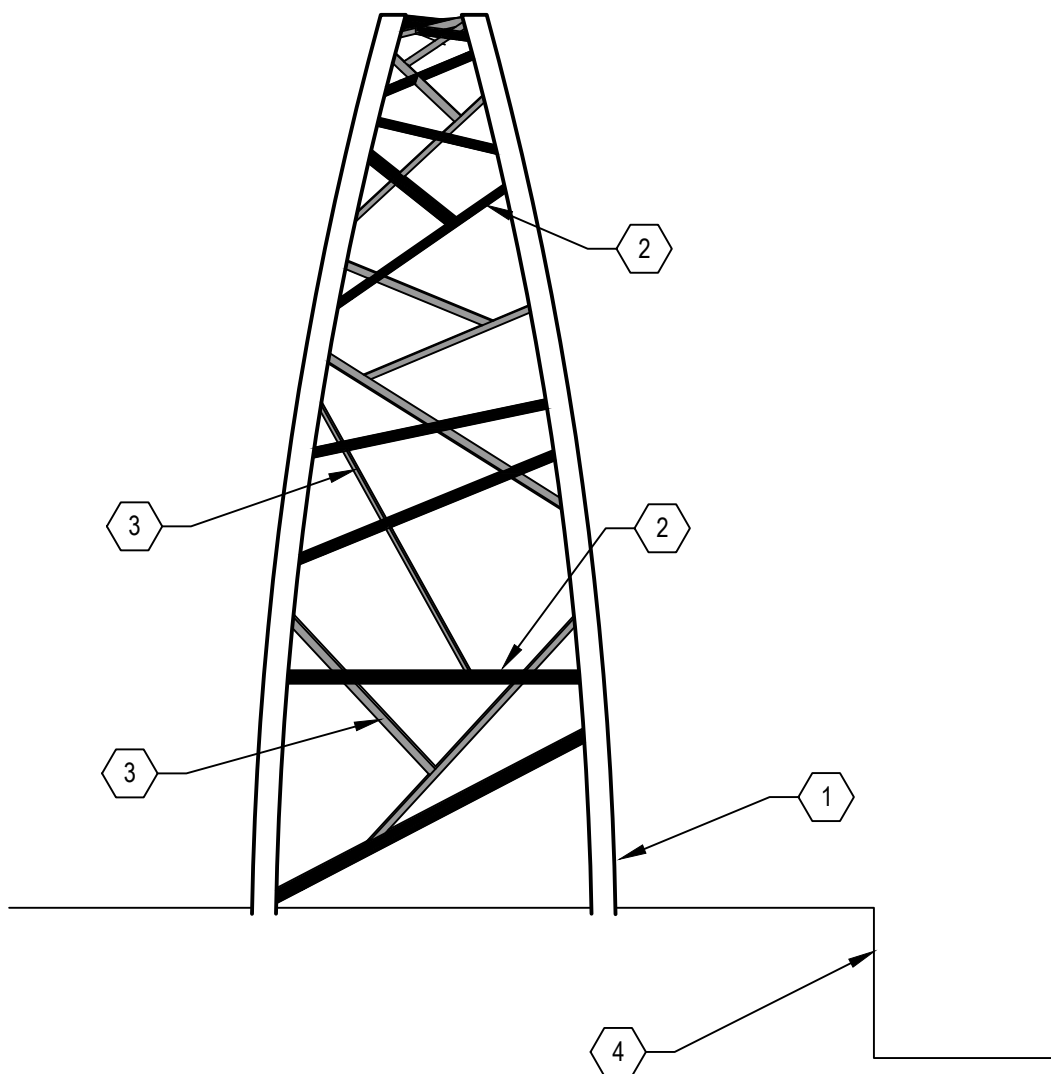
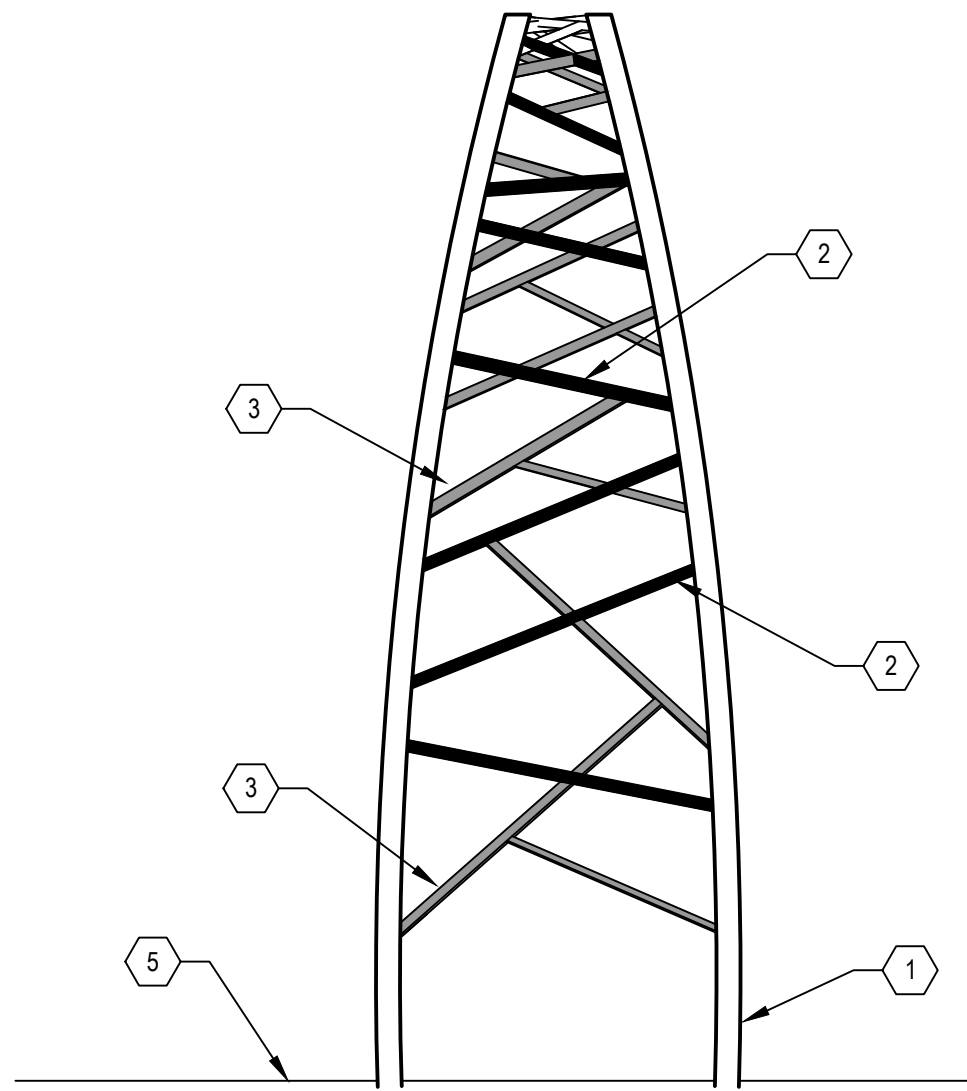
ARCHED TRELLIS GENERAL NOTES:
ITEM - SPECIAL: PREFABRICATED ARCHED TRELLIS
PREQUALIFIED FABRICATORS:
<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Pages/StructuralSteelFabricators.aspx>

- 1 4" SQUARE HSS, PAINTED
2 2" SQUARE HSS, PAINTED
3 1" SQUARE HSS, PAINTED
4 STEEL PLANTER ON BERM - SECTION
5 LANDSCAPE

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1 ARCHED TRELLIS CROSS MEMBERS (ADD ALTERNATE 5)



- 1 4" SQUARE HSS
- 2 2" SQUARE HSS (BLACK GRAY MEMBERS IN DRAWINGS)
- 3 1" SQUARE HSS (GRAY MEMBERS IN DRAWINGS)
- 4 STEEL PLANTER
- 5 LANDSCAPE

- NOTES:
- CROSS MEMBERS THAT CONNECT MAIN POSTS CONTINUOUSLY TO BE 2" SQUARE HSS.
 - CROSS MEMBERS INTERRUPTED BY OTHER CROSS MEMBERS TO BE 1" SQUARE HSS.

ARCHED TRELLIS GENERAL NOTES:

ITEM - SPECIAL: PREFABRICATED ARCHED TRELLIS

PREQUALIFIED FABRICATORS:
<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Pages/StructuralSteelFabricators.aspx>

SCALE: 3/8" = 1'-0"

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- 1

BRIDGE RAILING

2

29
- 2

BERM GUARDRAIL

2

30
- 3

GUARDRAIL CORNER AND VANDAL PROTECTION MESH POST

1

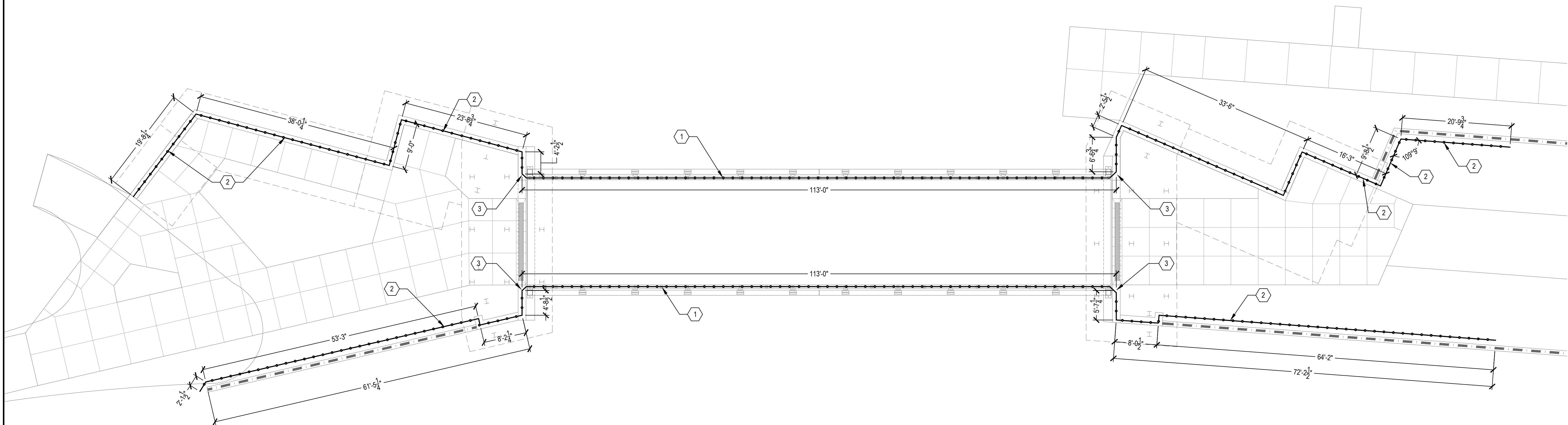
30

NOTES:

- DIMENSIONS ARE TO CENTER LINE OF GUARDRAIL.
- DIMENSIONS DOCUMENT GUARDRAILS ONLY.

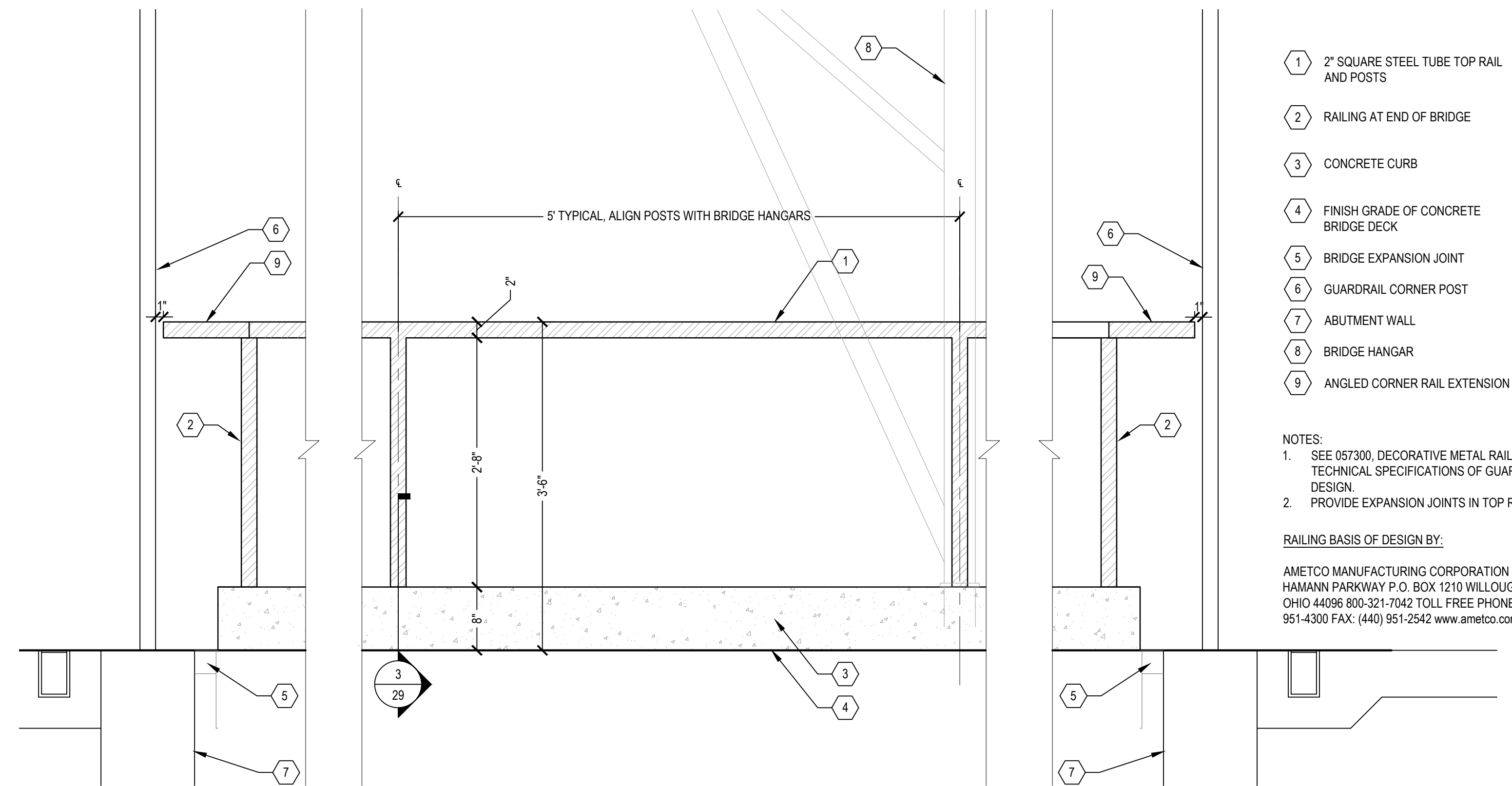
GENERAL NOTES - RAILING

CONSTRUCT RAILINGS AS SHOWN ON PLANS.
BASIS OF DESIGN: AMETCO MANUFACTURING CORP. 'METRO' INFILL PANEL.
FABRICATE RAILING ACCORDING TO ITEM 513. SELECT A FABRICATOR THAT IS AT LEAST
PREQUALIFIED AT LEVEL SF.



1 RAILINGS ENLARGEMENT

SCALE: 1" = 10'

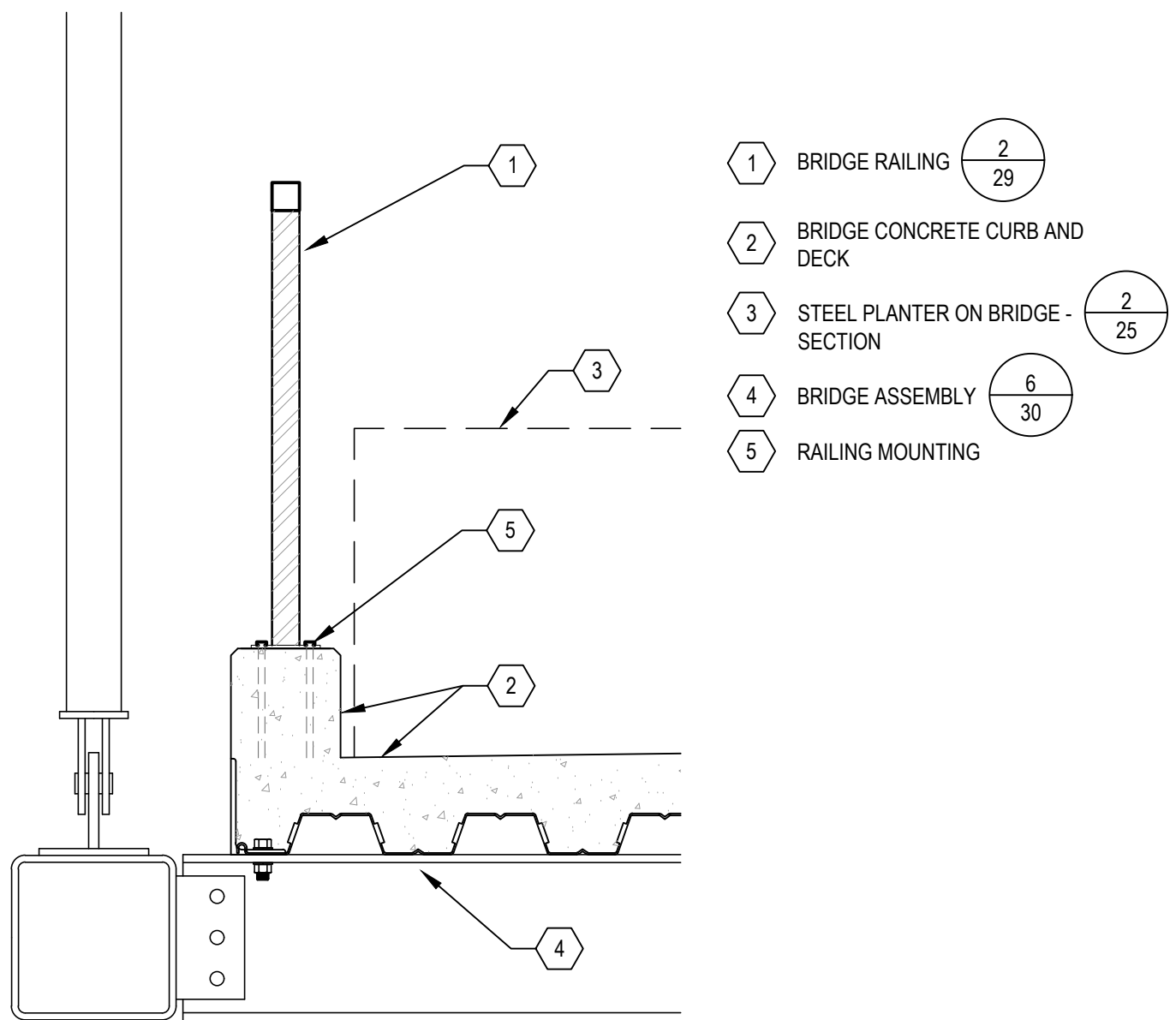


NOTES:

- SEE 057300, DECORATIVE METAL RAILINGS, FOR TECHNICAL SPECIFICATIONS OF GUARDRAIL DESIGN.
- PROVIDE EXPANSION JOINTS IN TOP RAIL

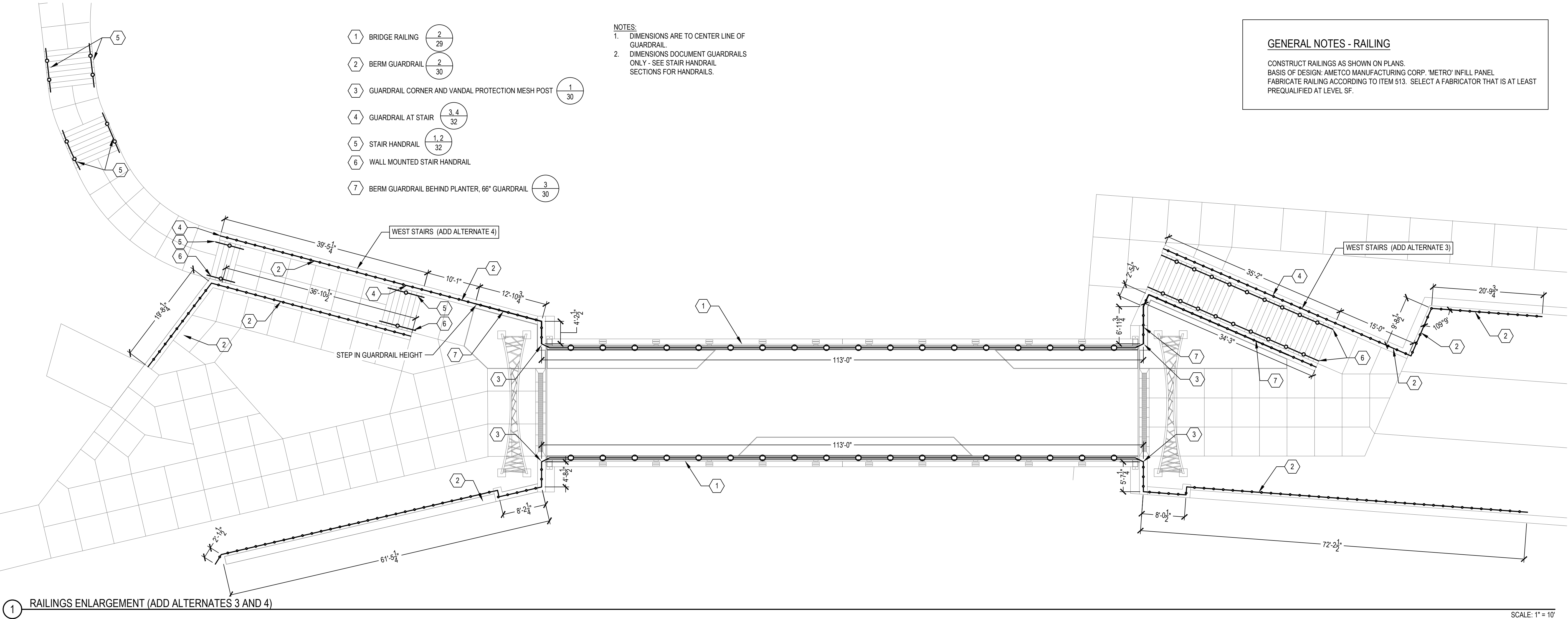
RAILING BASIS OF DESIGN BY:

AMETCO MANUFACTURING CORPORATION 4326
HAMANN PARKWAY P.O. BOX 1210 WILLOUGHBY,
OHIO 44096 800-321-7042 TOLL FREE PHONE: (440)
951-4300 FAX: (440) 951-2542 www.ametco.com



3 BRIDGE RAILING SECTION

SCALE: 1" = 1'



GENERAL NOTES - RAILING

CONSTRUCT RAILINGS AS SHOWN ON PLANS.

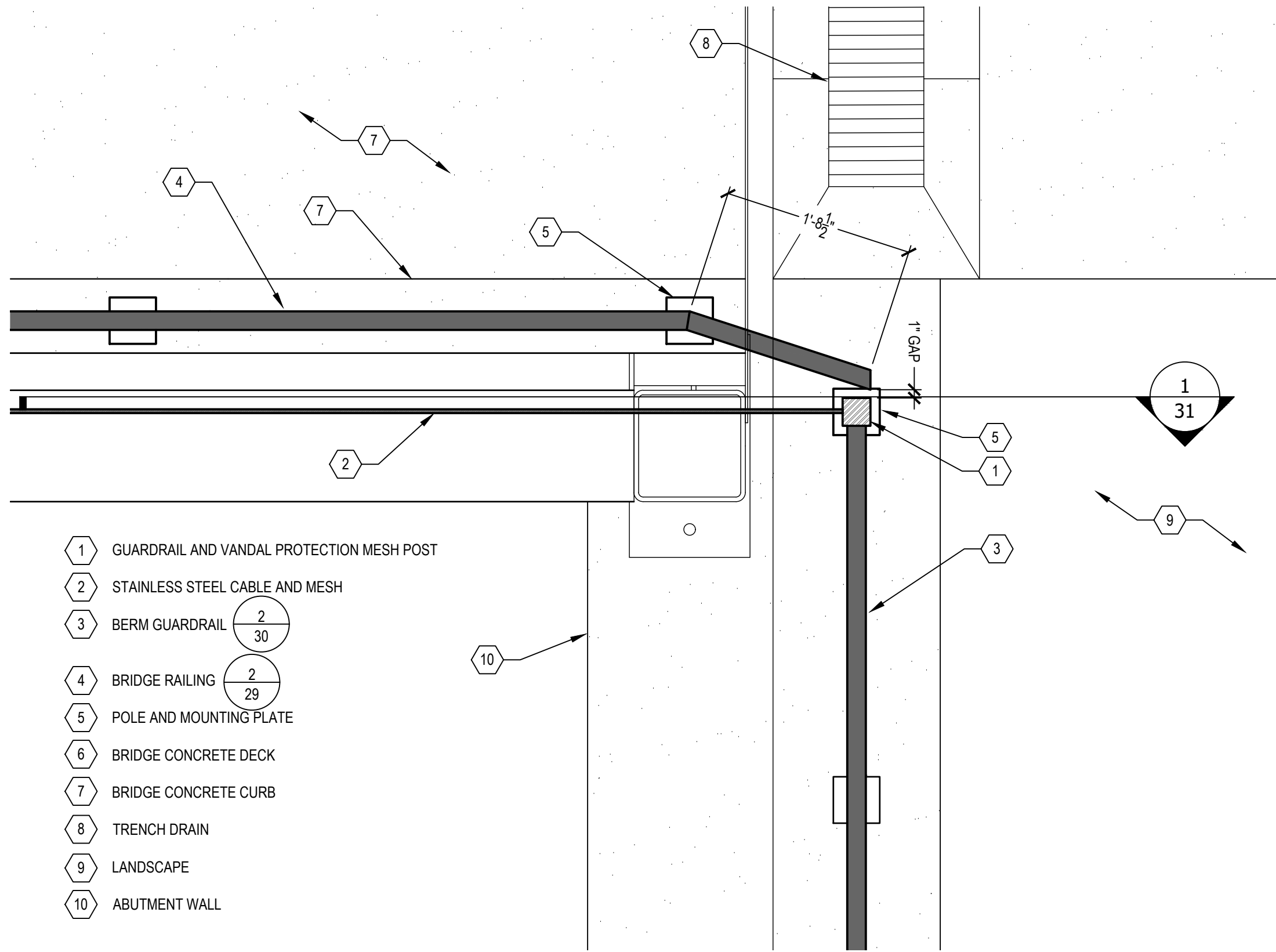
BASIS OF DESIGN: AMETCO MANUFACTURING CORP. 'METRO' INFILL PANEL.

FABRICATE RAILING ACCORDING TO ITEM 513. SELECT A FABRICATOR THAT IS AT LEAST PREQUALIFIED AT LEVEL SF.

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GENERAL NOTES - RAILING

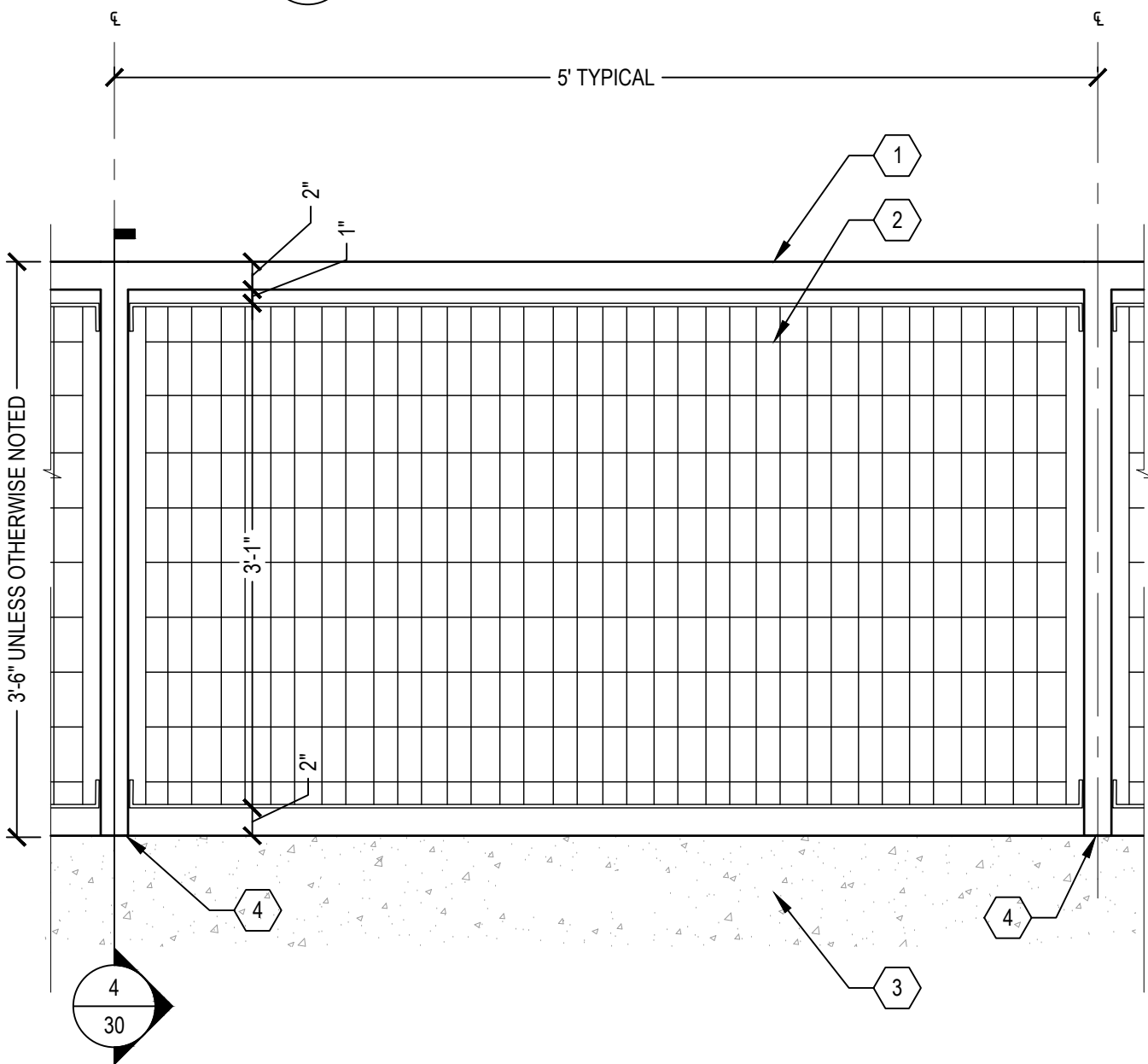
CONSTRUCT RAILINGS AS SHOWN ON PLANS.
BASIS OF DESIGN: AMETCO MANUFACTURING CORP. "METRO" INFILL PANEL
FABRICATE RAILING ACCORDING TO ITEM 513. SELECT A FABRICATOR THAT IS AT LEAST
PREQUALIFIED AT LEVEL SF.



1 GUARDRAIL AND VANDAL PROTECTION MESH POST

SCALE: 1" = 1'

- NOTES:
1. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
 2. WHEN GUARDRAIL IS BEHIND PLANTER, HEIGHT TO BE 60" (REFER TO PLAN).
 3. PROVIDE EXPANSION JOINTS IN TOP RAIL
- GUARDRAIL BASIS OF DESIGN BY:
- AMETCO MANUFACTURING CORPORATION 4326
HAMANN PARKWAY P.O. BOX 1210 WILLOUGHBY,
OHIO 44096 800-321-7042 TOLL FREE PHONE: (440)
951-4300 FAX: (440) 951-2542 www.ametco.com



2 BERM GUARDRAIL ELEVATION

SCALE: 1" = 1'

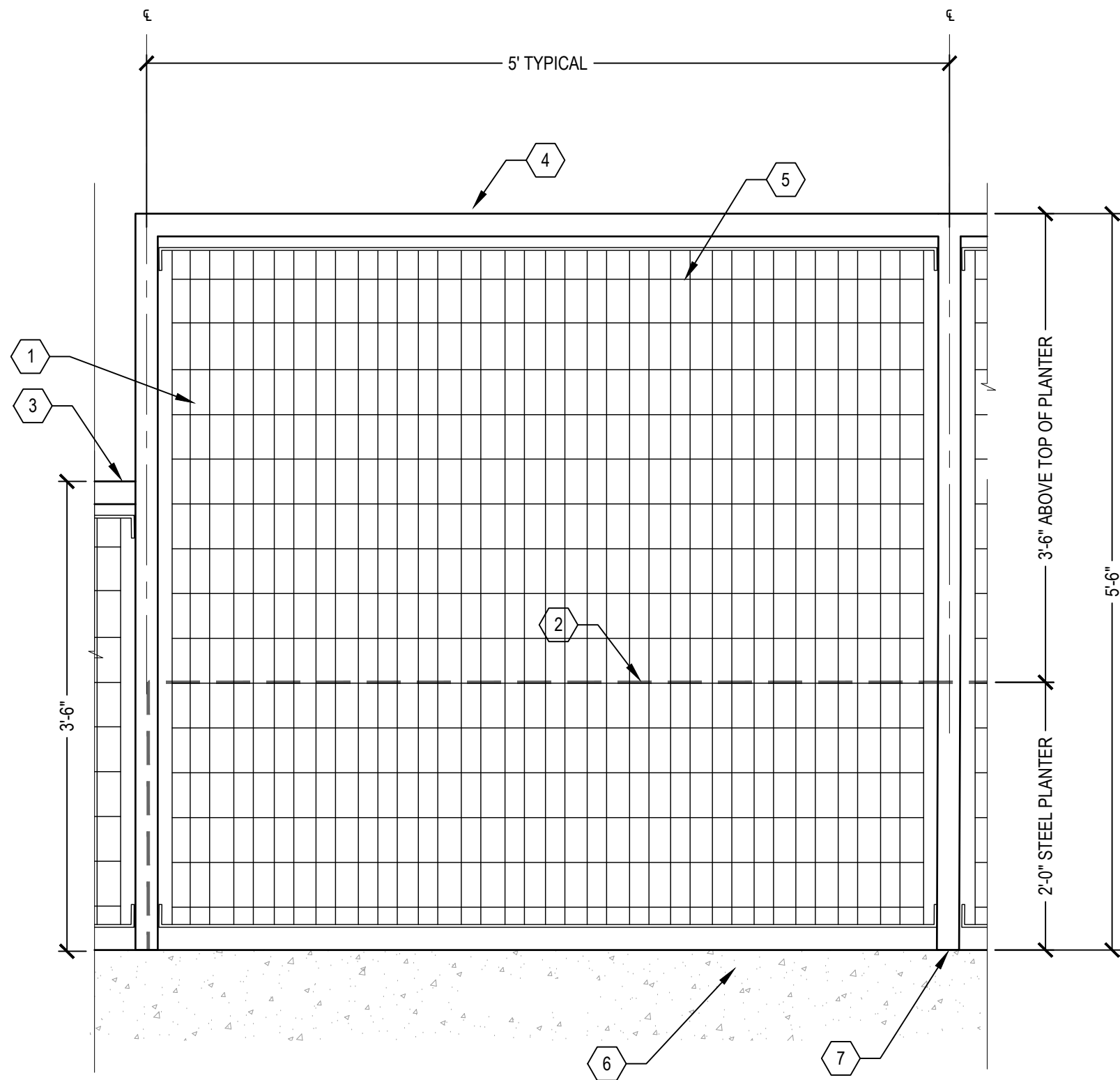
- 1 GUARDRAIL BEHIND STEEL PLANTER
2 STEEL PLANTER
3 BERM GUARDRAIL, STEP AT EDGE OF PLANTER
4 2" SQUARE STEEL TUBE TOP RAIL AND POSTS
5 INFILL PANEL
6 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING
7 RAILING MOUNTING

NOTES:

1. SEE 057300, DECORATIVE METAL RAILINGS, FOR TECHNICAL SPECIFICATIONS OF GUARDRAIL DESIGN.
2. PROVIDE EXPANSION JOINTS IN TOP RAIL
3. CONTRACTOR TO DETERMINE REQUIREMENTS FOR MOUNTING AND ANCHORING OF 5' 6" TALL GUARDRAIL BEHIND STEEL PLANTER.

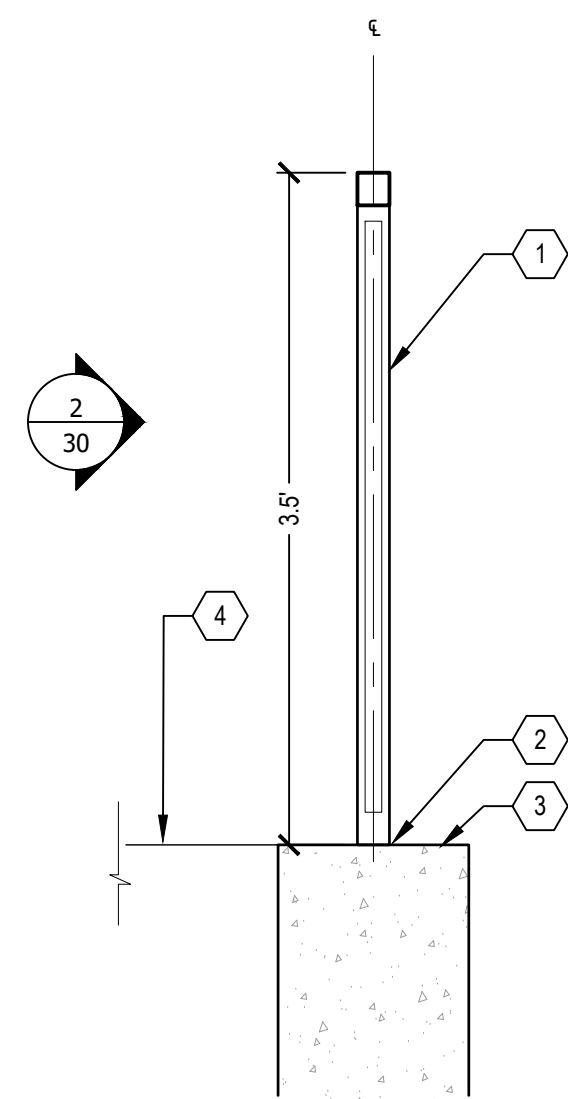
GUARDRAIL BASIS OF DESIGN BY:

AMETCO MANUFACTURING CORPORATION 4326
HAMANN PARKWAY P.O. BOX 1210 WILLOUGHBY,
OHIO 44096 800-321-7042 TOLL FREE PHONE: (440)
951-4300 FAX: (440) 951-2542 www.ametco.com



3 66 IN BERM GUARDRAIL ELEVATION

SCALE: 1" = 1'



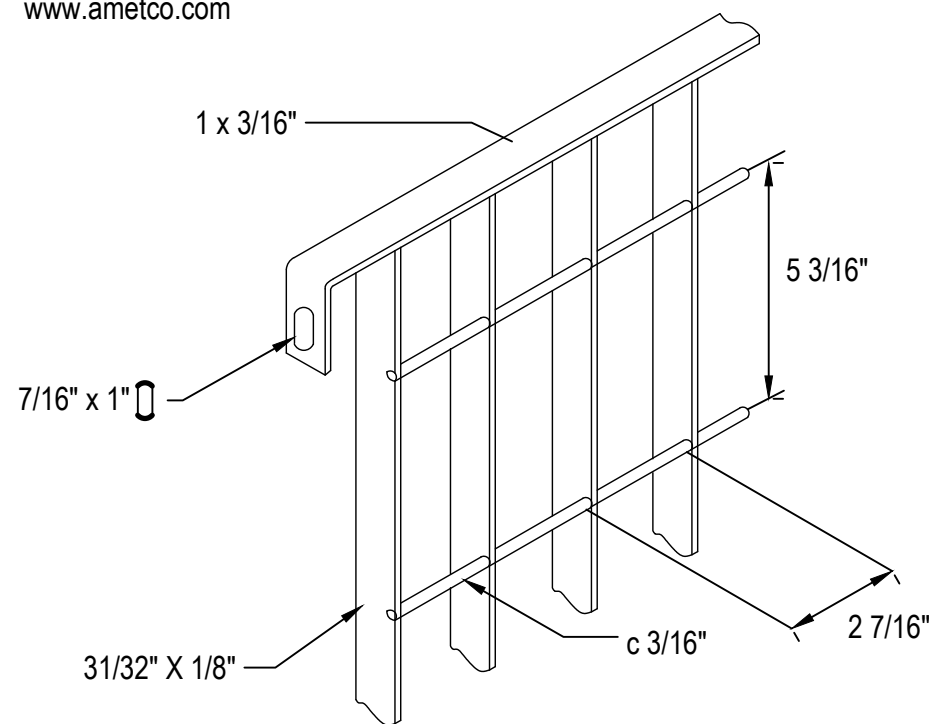
4 BERM GUARDRAIL SECTION

SCALE: 1" = 1'

BASIS OF DESIGN

METRO (2-7/16" x 5-3/16" MESH) BY:

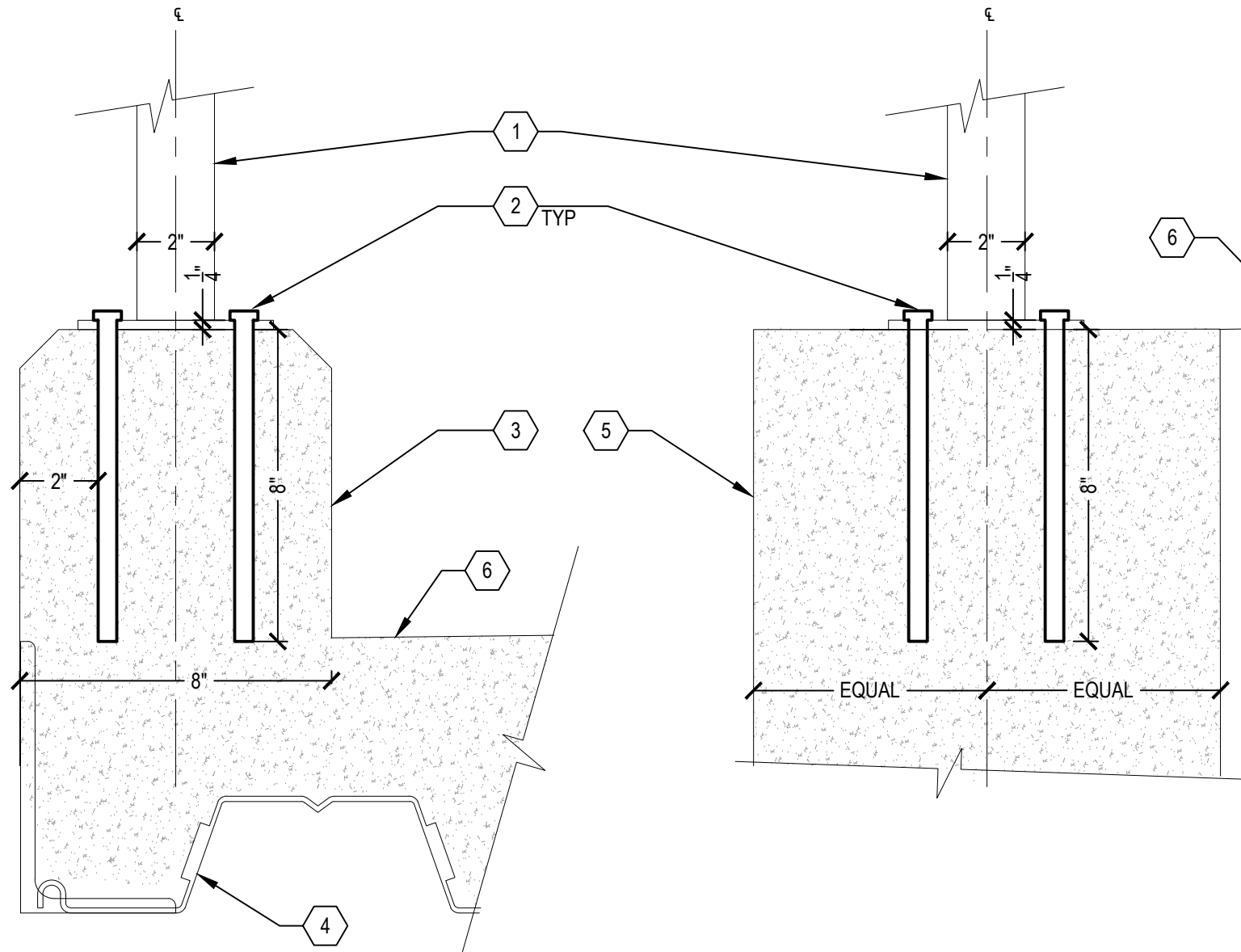
AMETCO MANUFACTURING CORPORATION
4326 HAMANN PARKWAY P.O. BOX 1210
WILLOUGHBY, OHIO 44096
800-321-7042 TOLL FREE
PHONE: (440) 951-4300
FAX: (440) 951-2542
www.ametco.com



- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

5 GUARDRAIL INFILL PANEL

SCALE: NTS



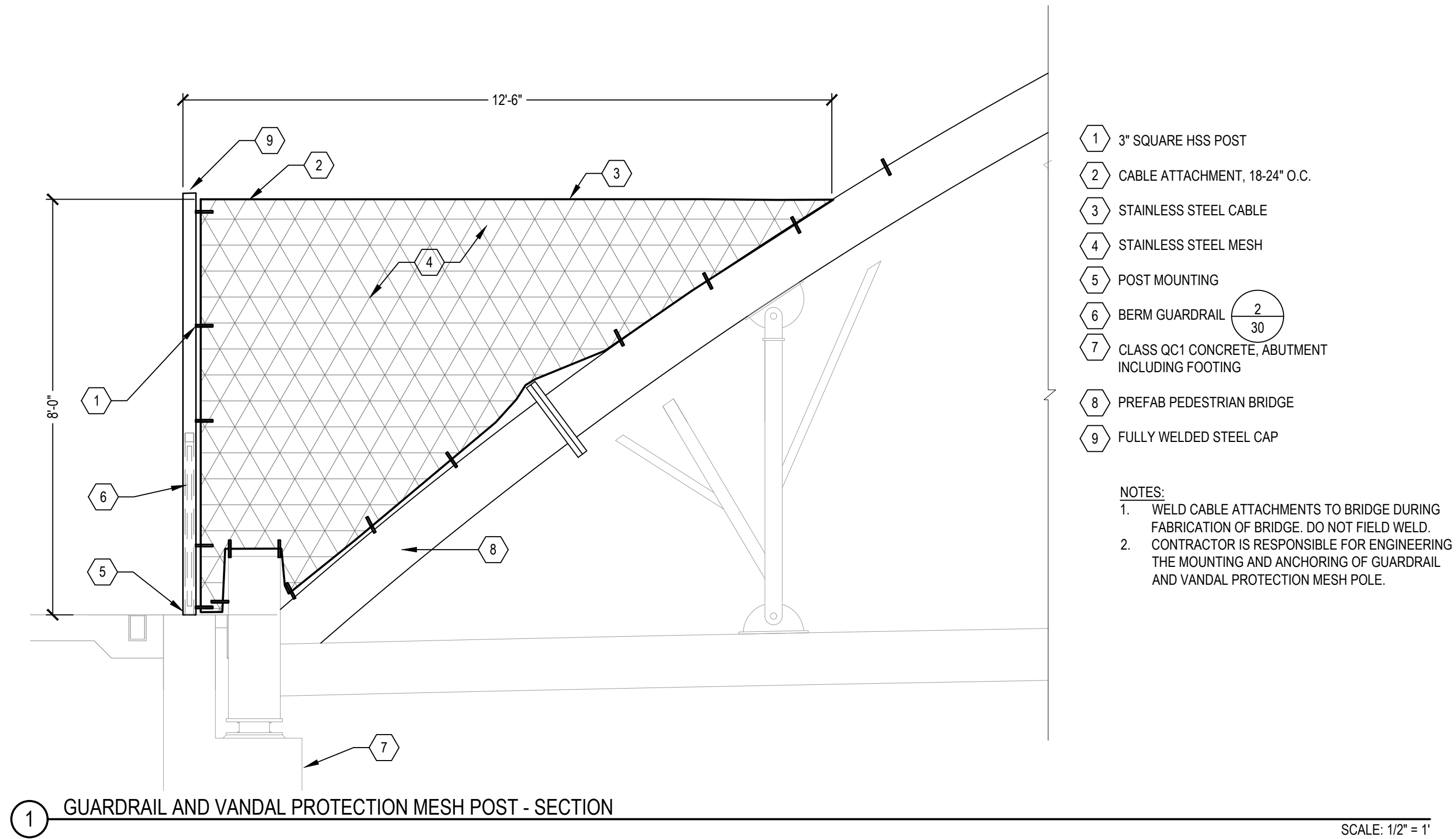
RAILING MOUNTING ON BRIDGE CONCRETE CURB - SECTION

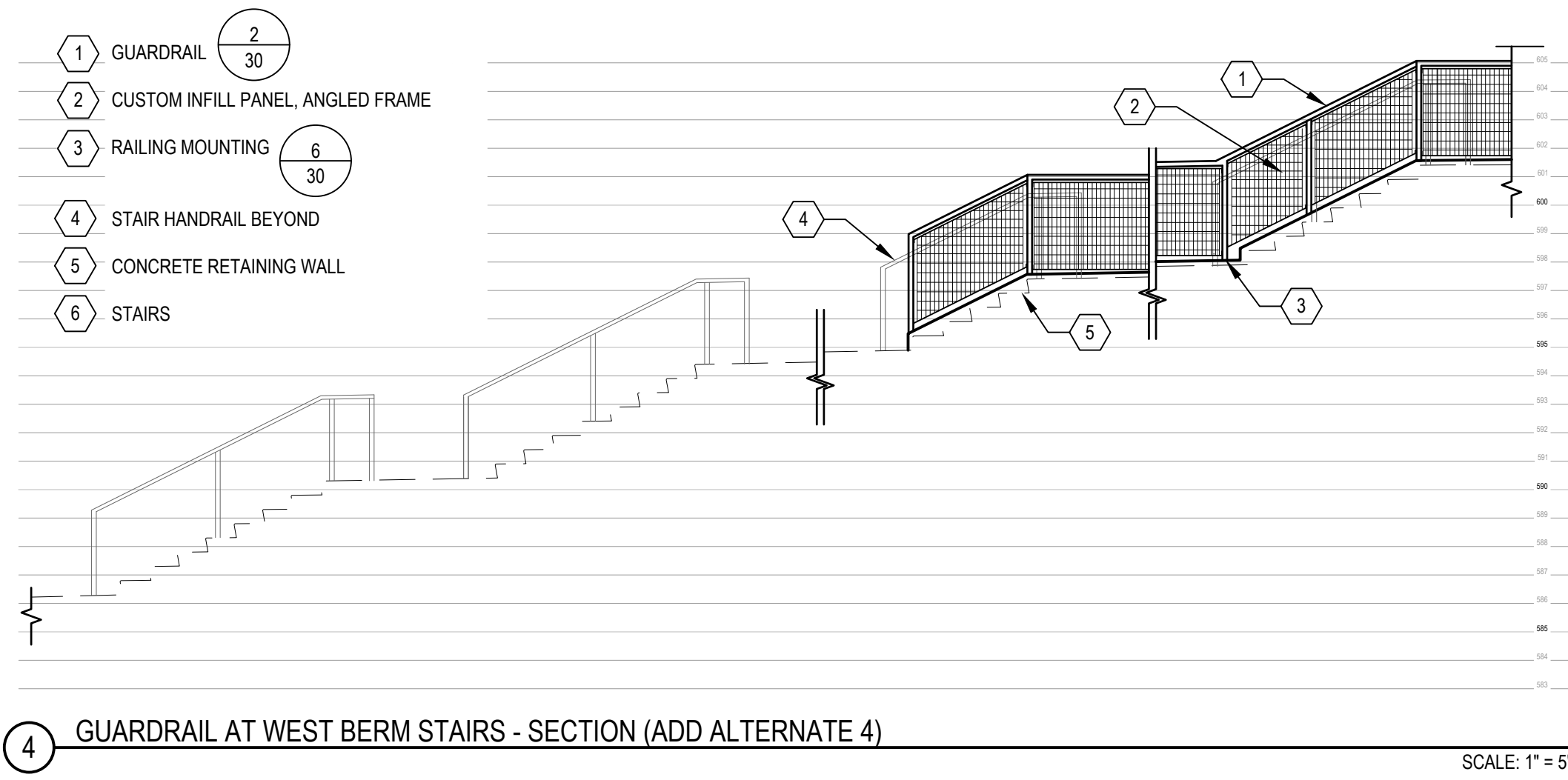
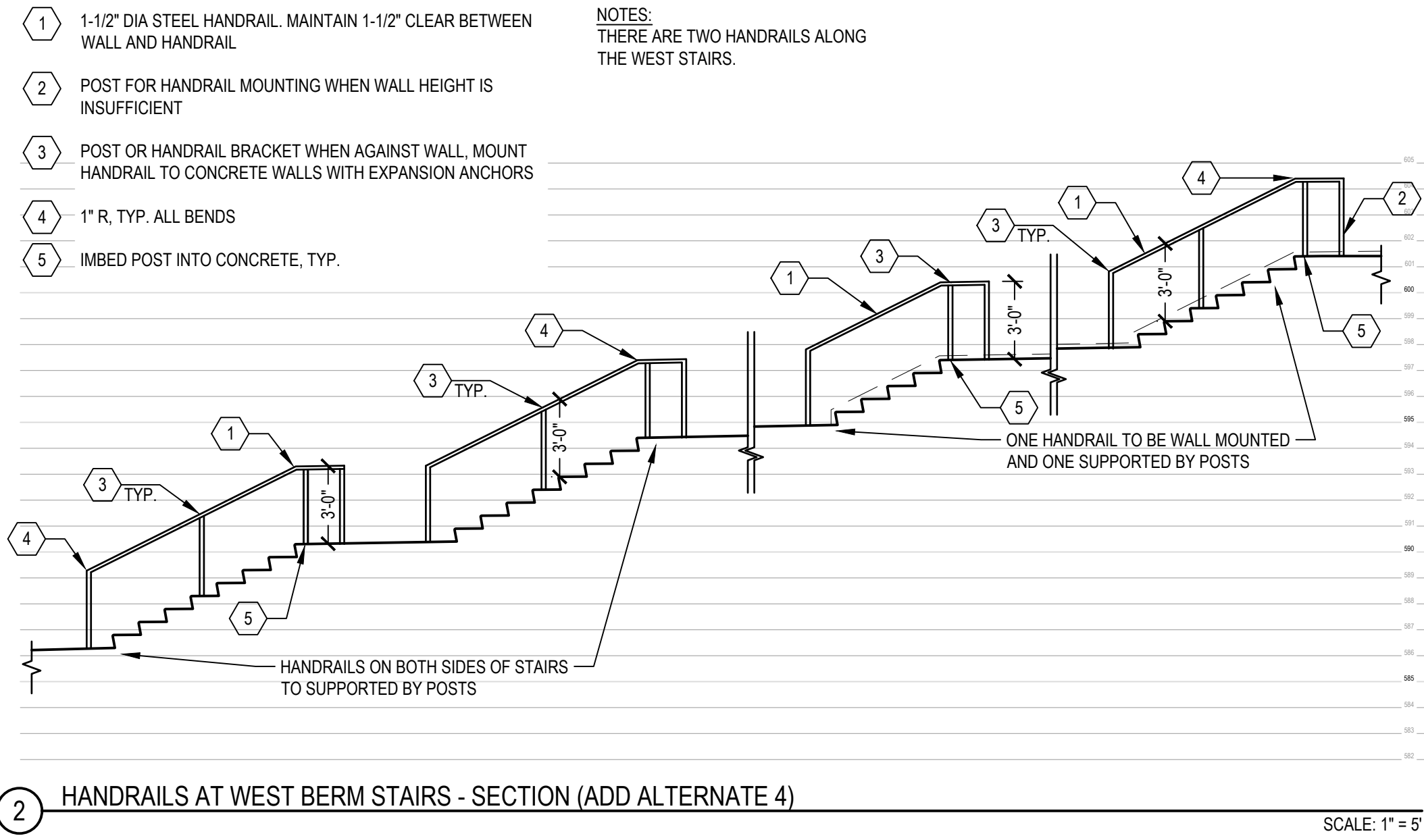
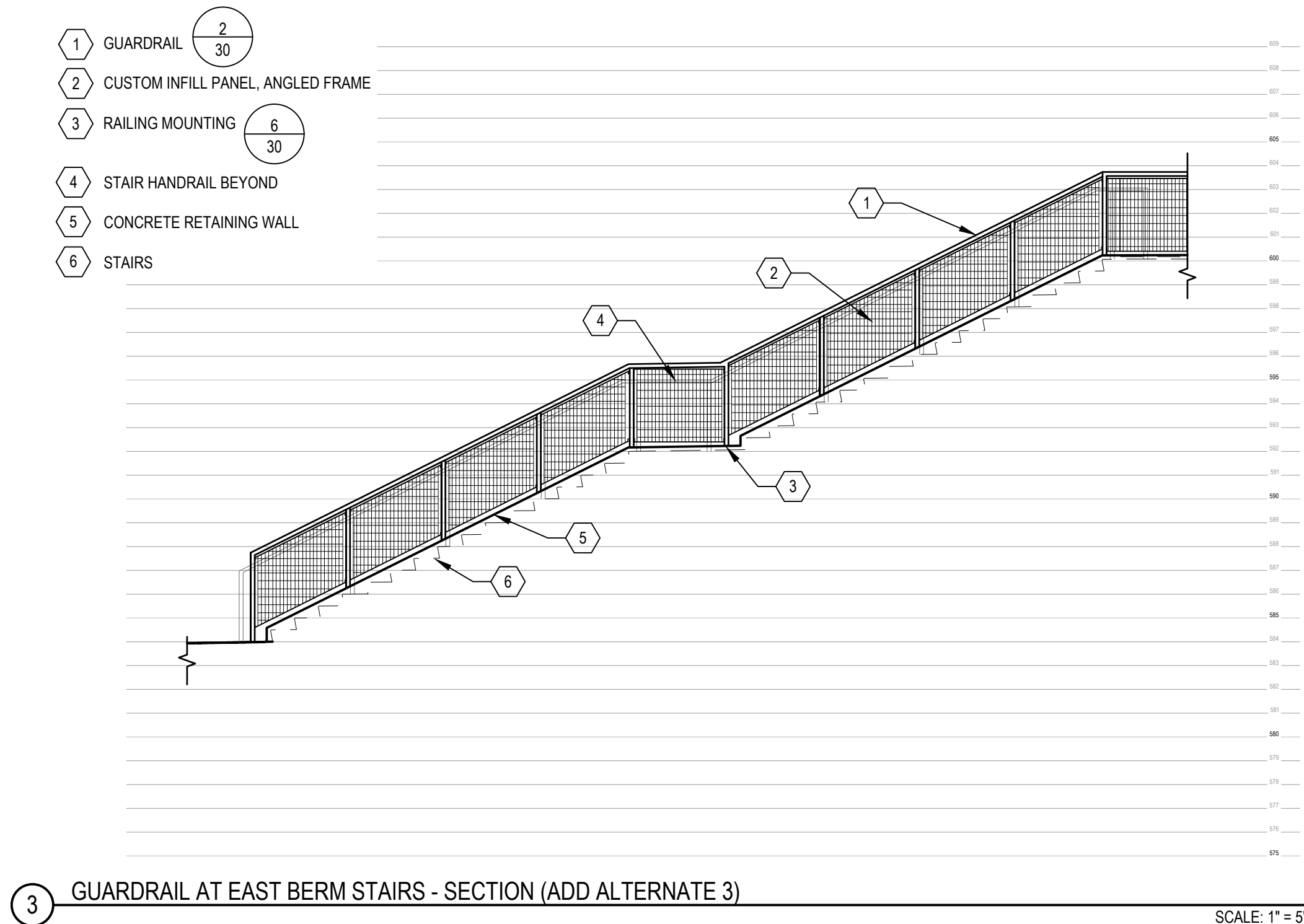
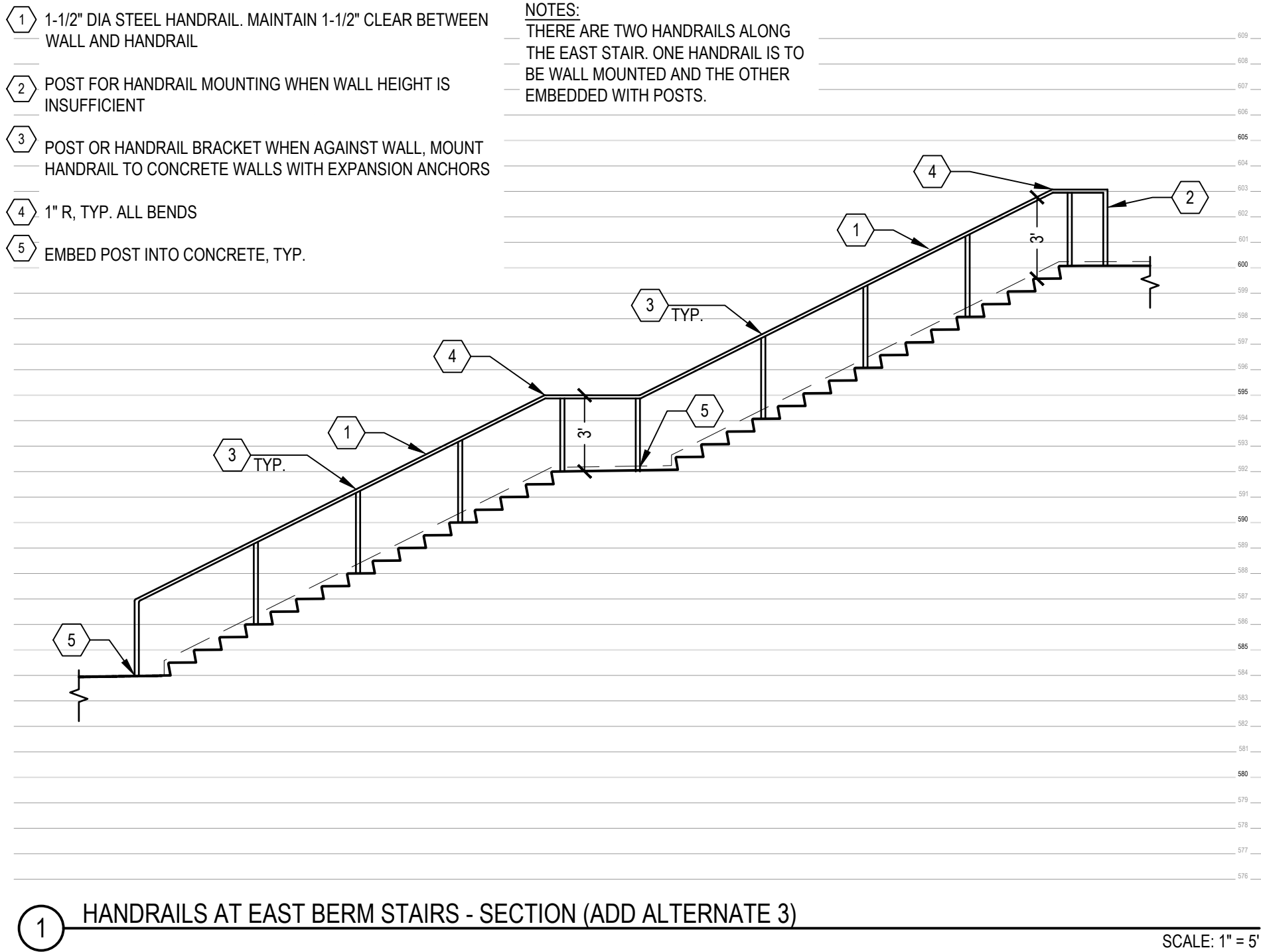
GUARDRAIL MOUNTING ON CONCRETE WALL - SECTION

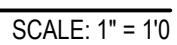
- NOTES:
1. THIS MOUNTING DETAIL IS FOR THE BRIDGE RAILING AND BERM GUARDRAIL ONLY.
 2. CONTRACTOR IS RESPONSIBLE FOR ENGINEERING THE MOUNTING AND ANCHORING OF 5' 6" TALL GUARDRAIL BEHIND STEEL PLANTER.
 3. CONTRACTOR IS RESPONSIBLE FOR ENGINEERING THE MOUNTING AND ANCHORING OF GUARDRAIL AND VANDAL PROTECTION MESH POLE.

6 RAILING MOUNTING

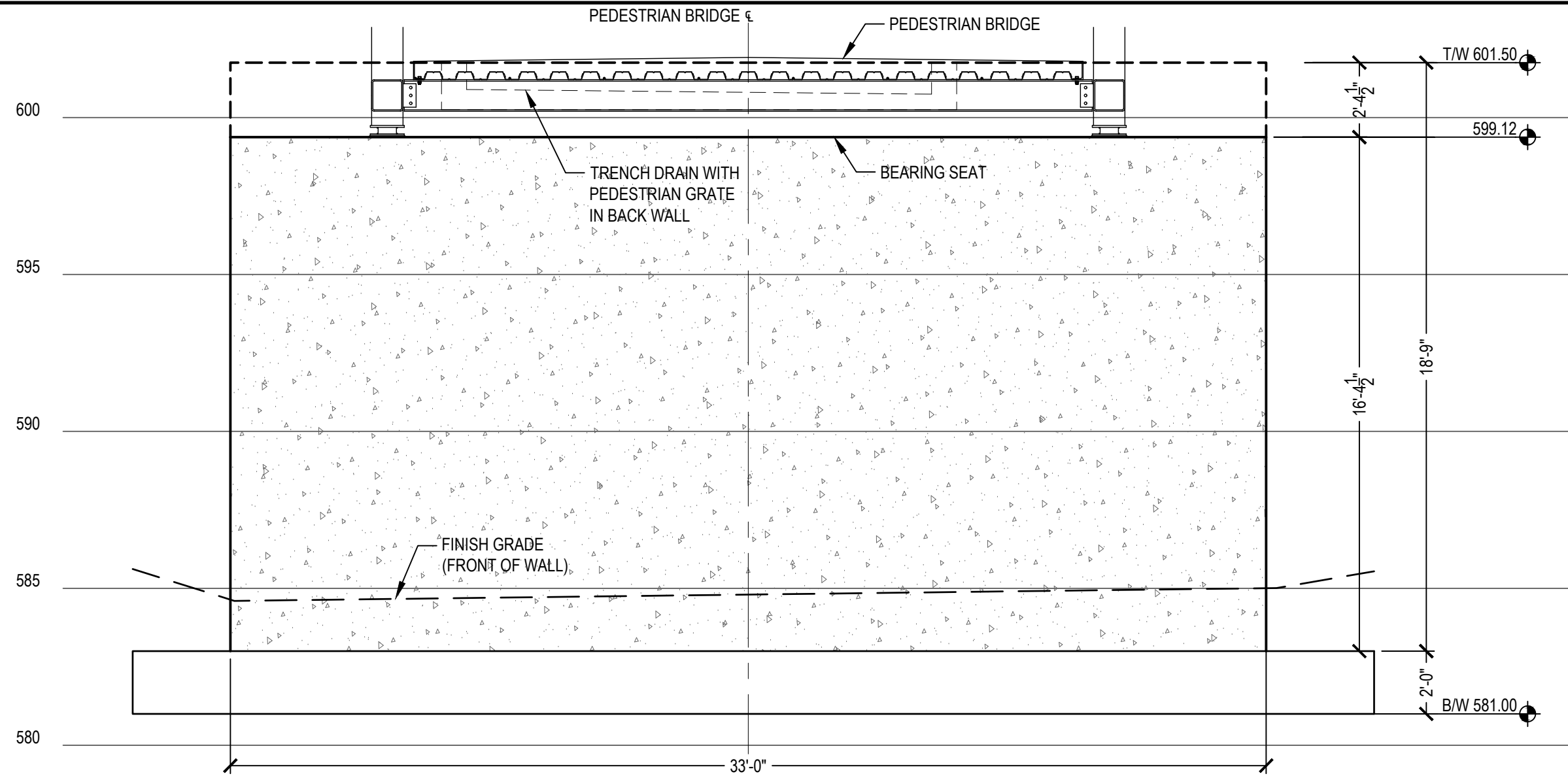
SCALE: 3" = 1'





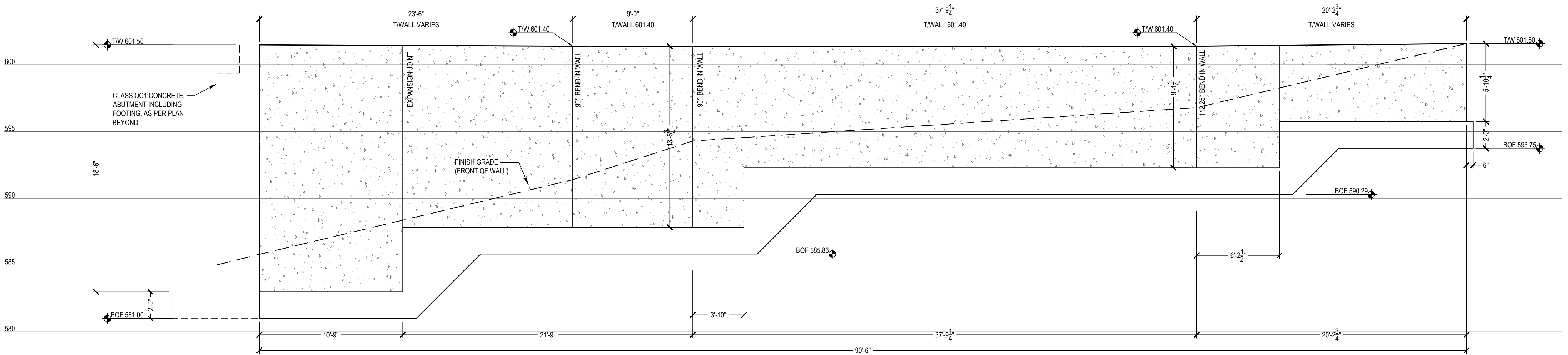


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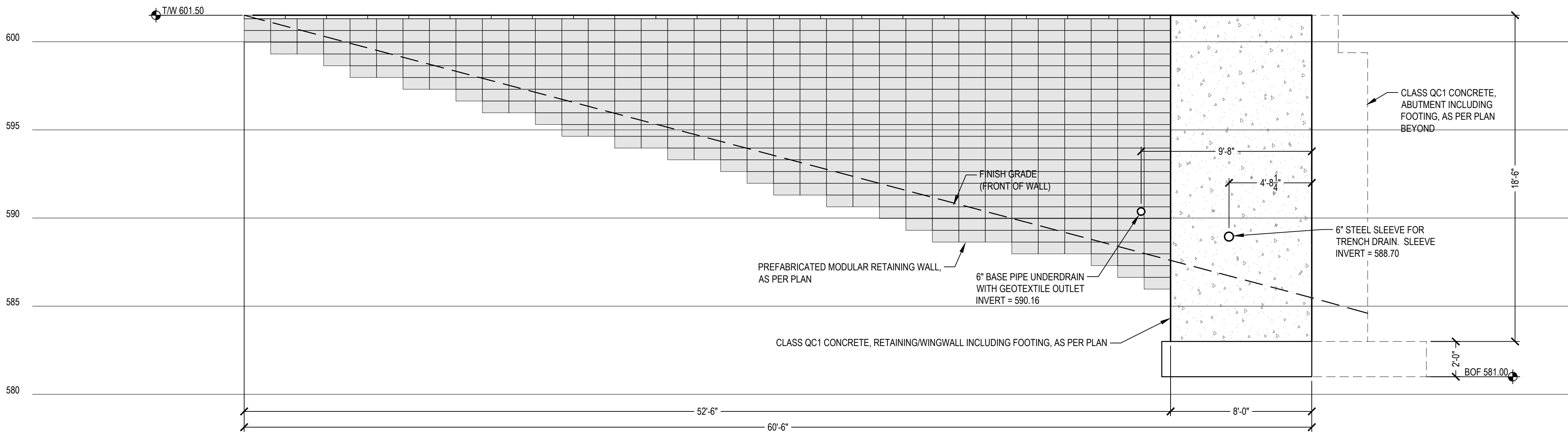
1 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN (WEST-A)

SCALE: 1/4" = 1'



2 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN (WEST-B)

SCALE: 1/4" = 1'



3 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN AND PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN (WEST-C)

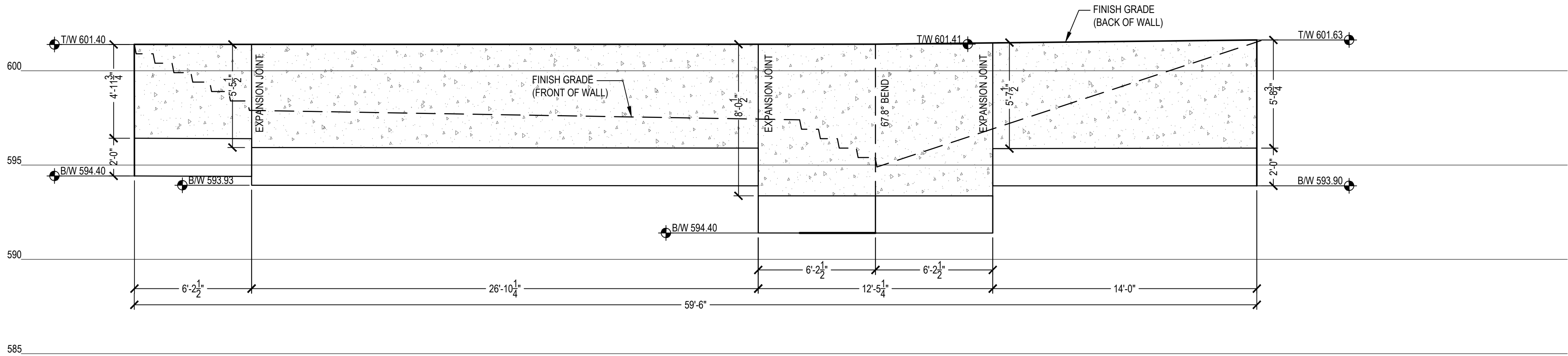
SCALE: 1/4" = 1'

CALCULATED
JY
CHECKED
JY

WALL ELEVATIONS 1

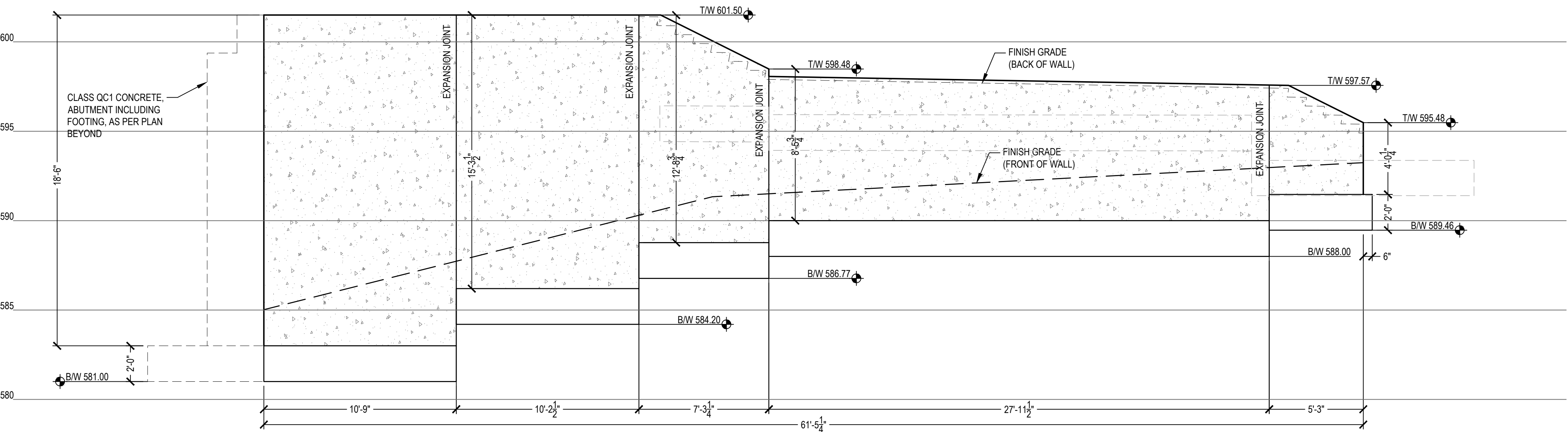
LUC-RIVERSIDE TRAIL EAST

35
51



1 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN (WEST-D) ADD ALTERNATE 4

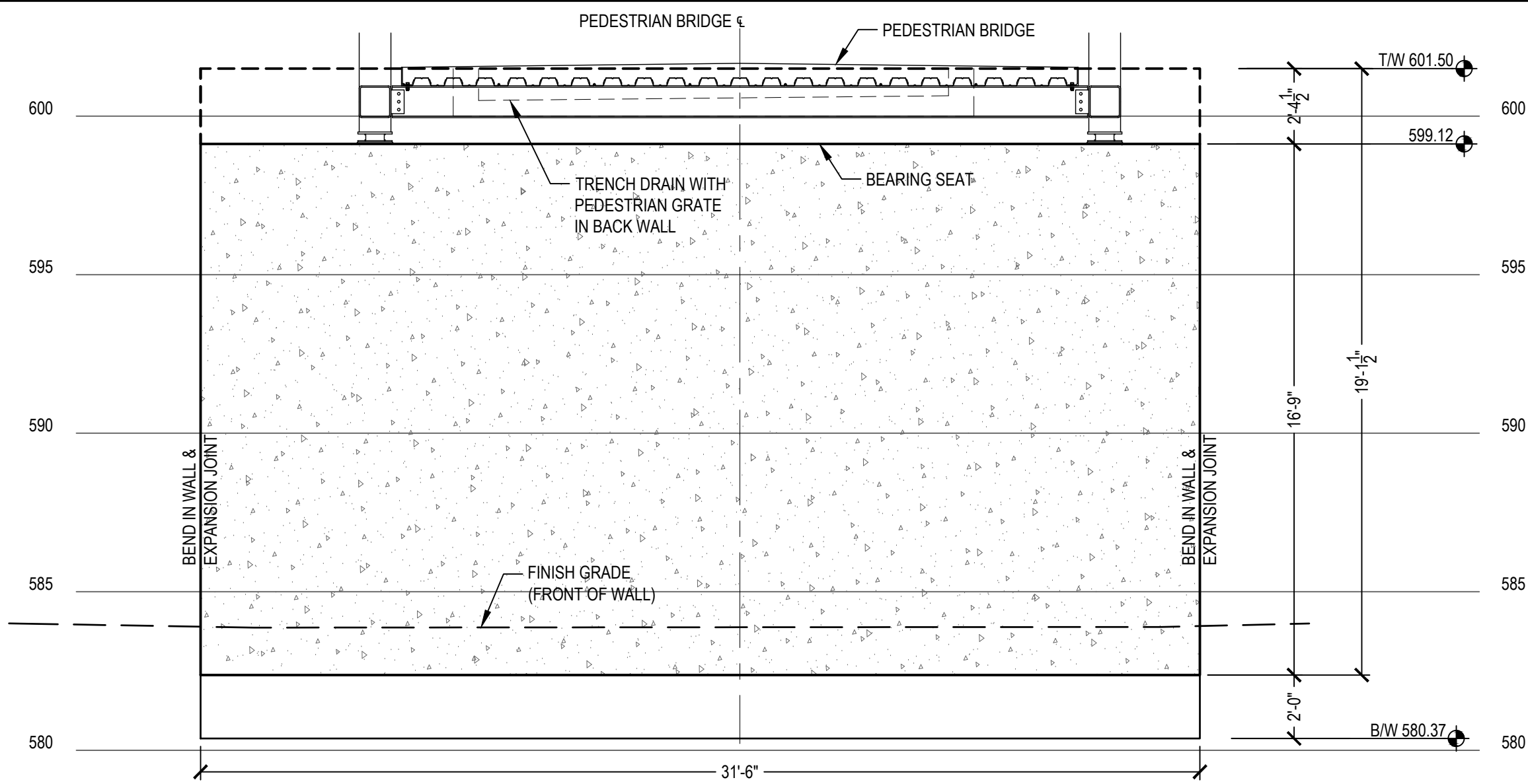
SCALE: 1/4" = 1'



2 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN (WEST-B) ADD ALTERNATE 4

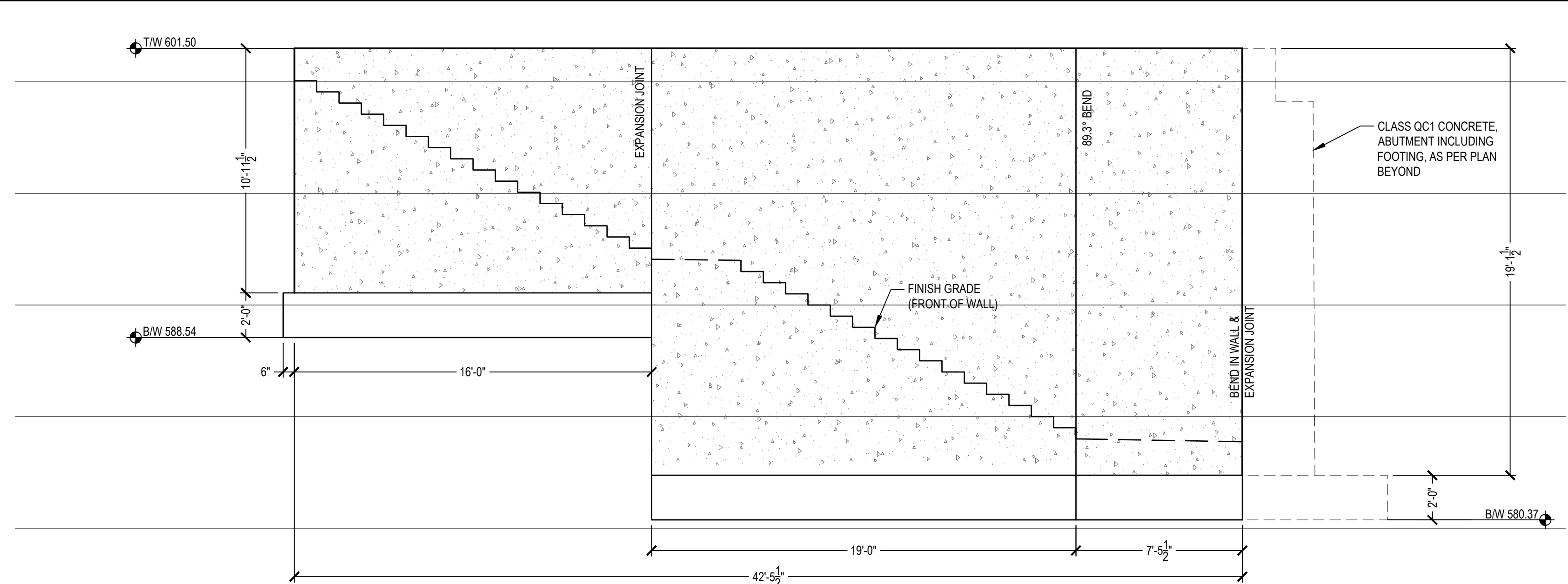
SCALE: 1/4" = 1'

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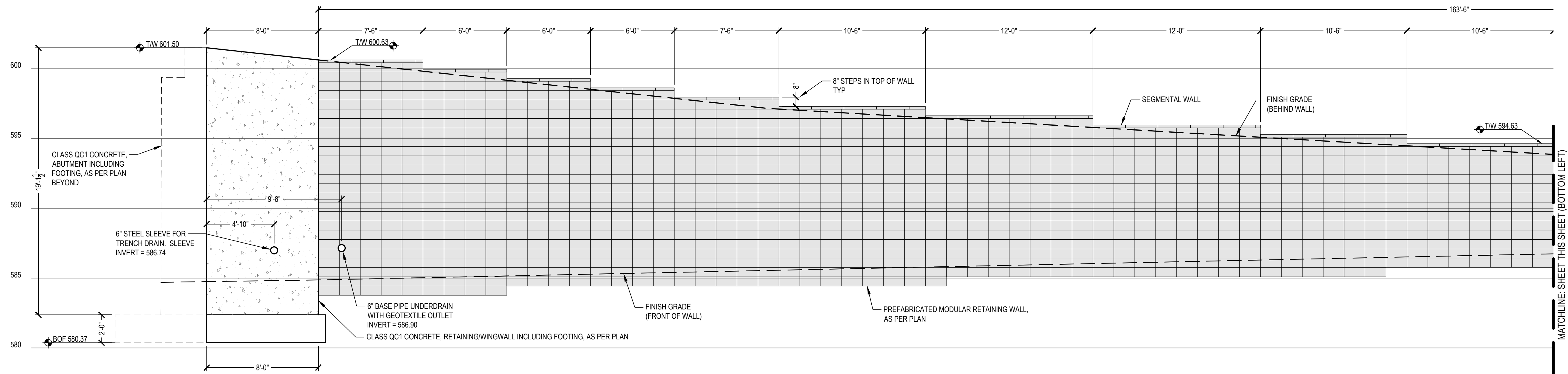
1 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN (EAST-A)

SCALE: 1/4" = 1'



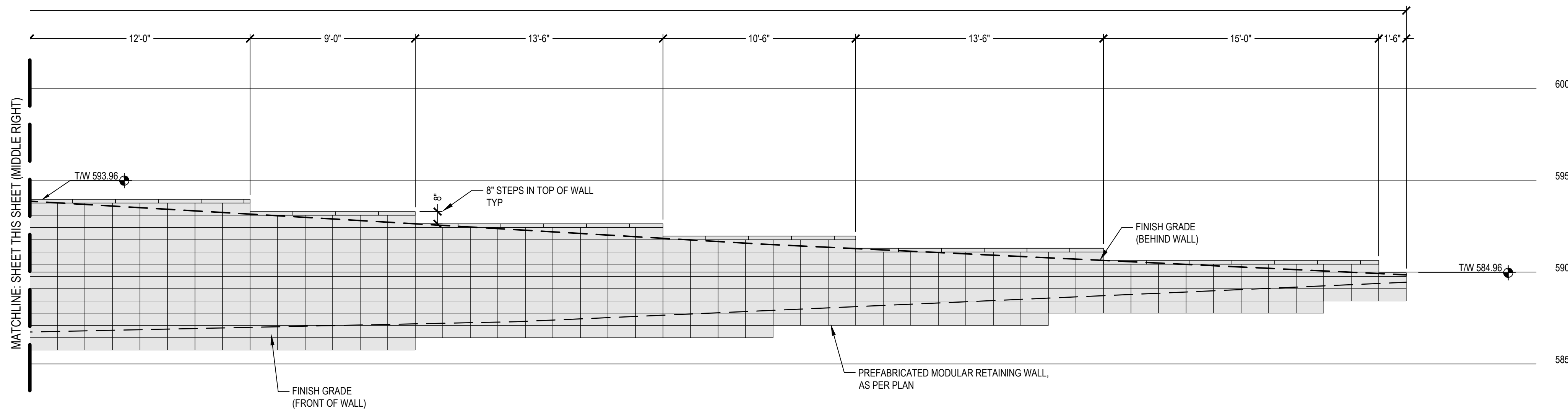
2 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN - (EAST-B) ADD ALTERNATE 3

SCALE: 1/4" = 1'



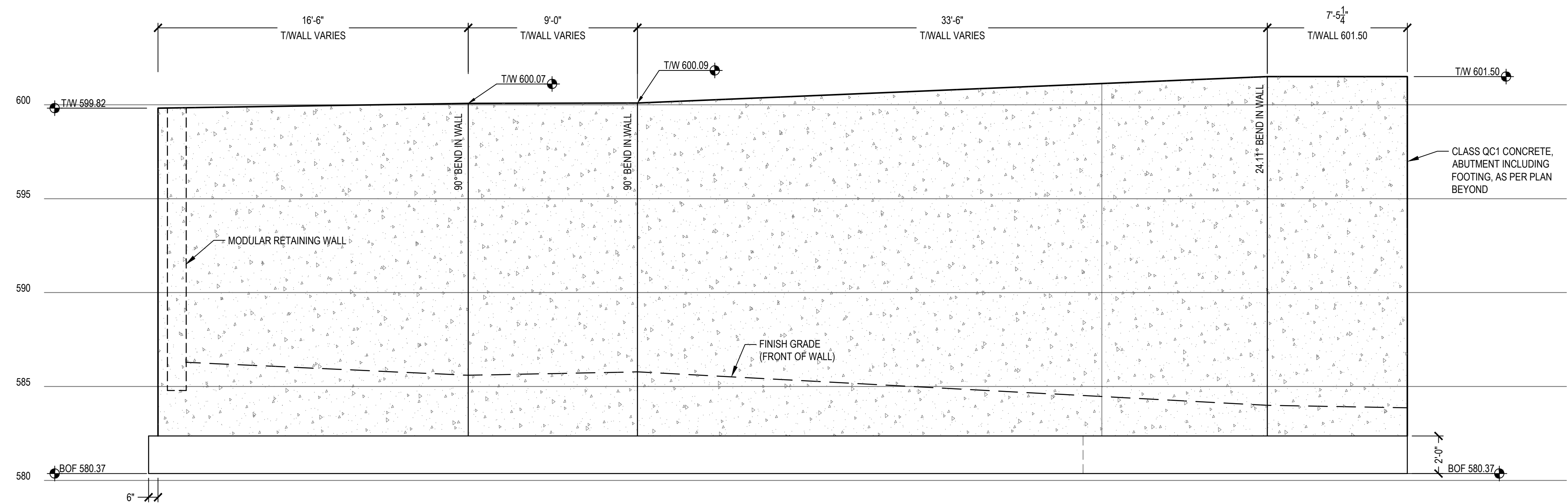
3 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN AND PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN - (EAST-C)

SCALE: 1/4" = 1'



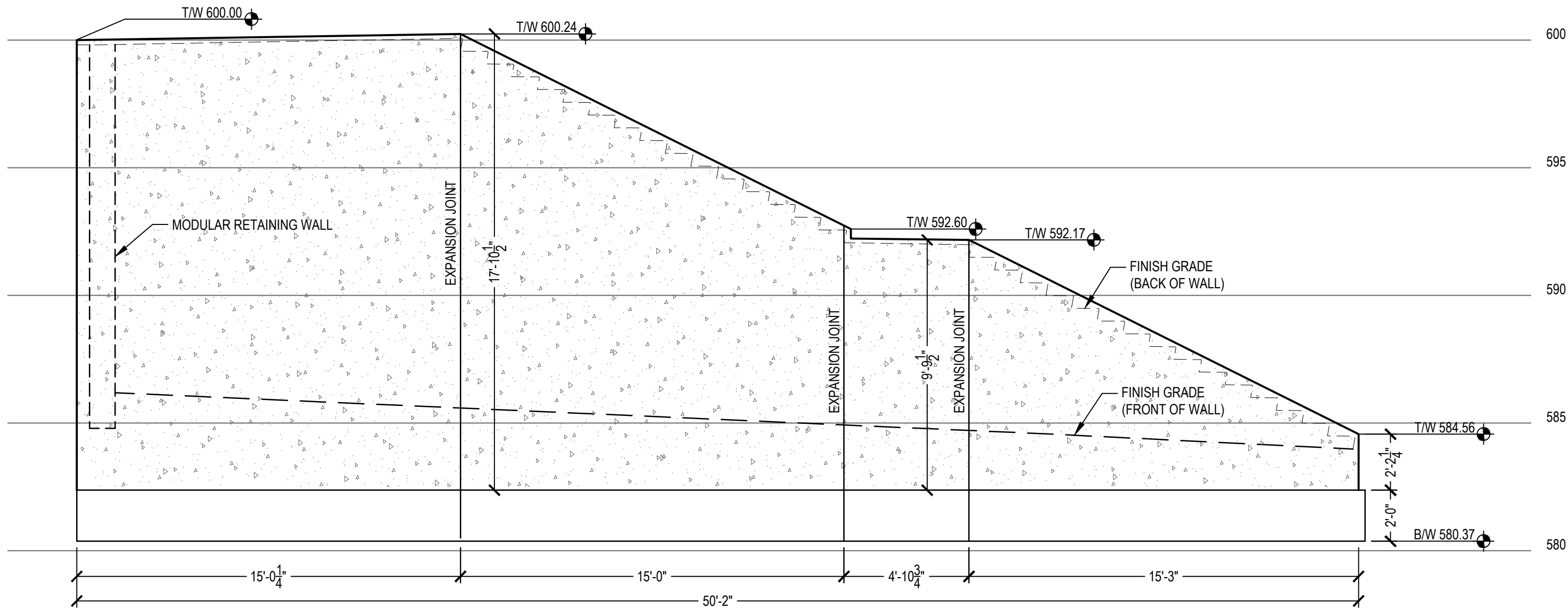
4 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN AND PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN - (EAST-C), CONTINUED

SCALE: 1/4" = 1'



1 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN (EAST-D)

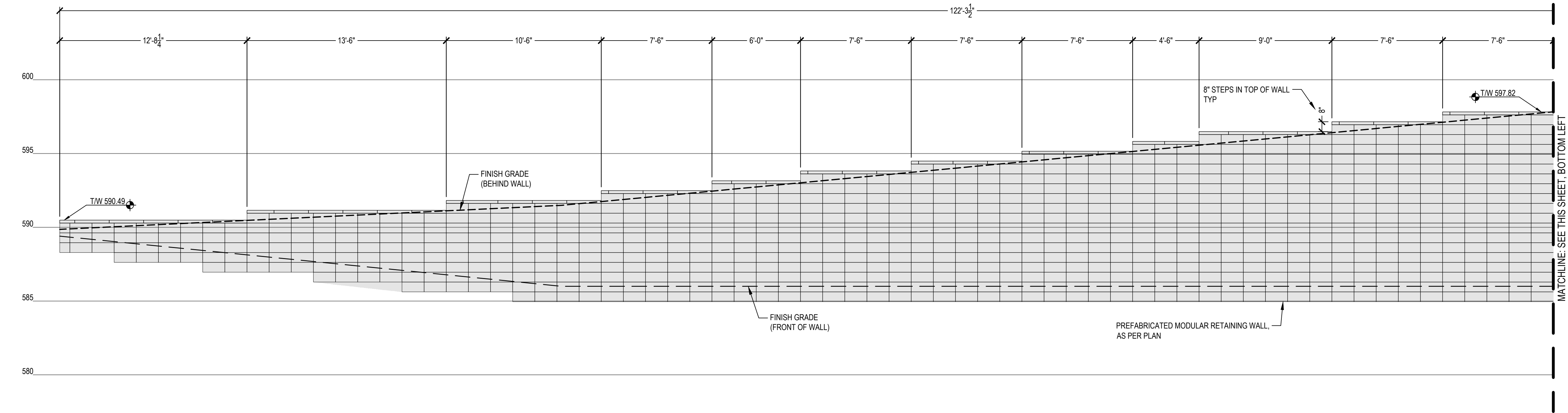
SCALE: 1/4" = 1'



2 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN (EAST-D), ADD ALTERNATE 3

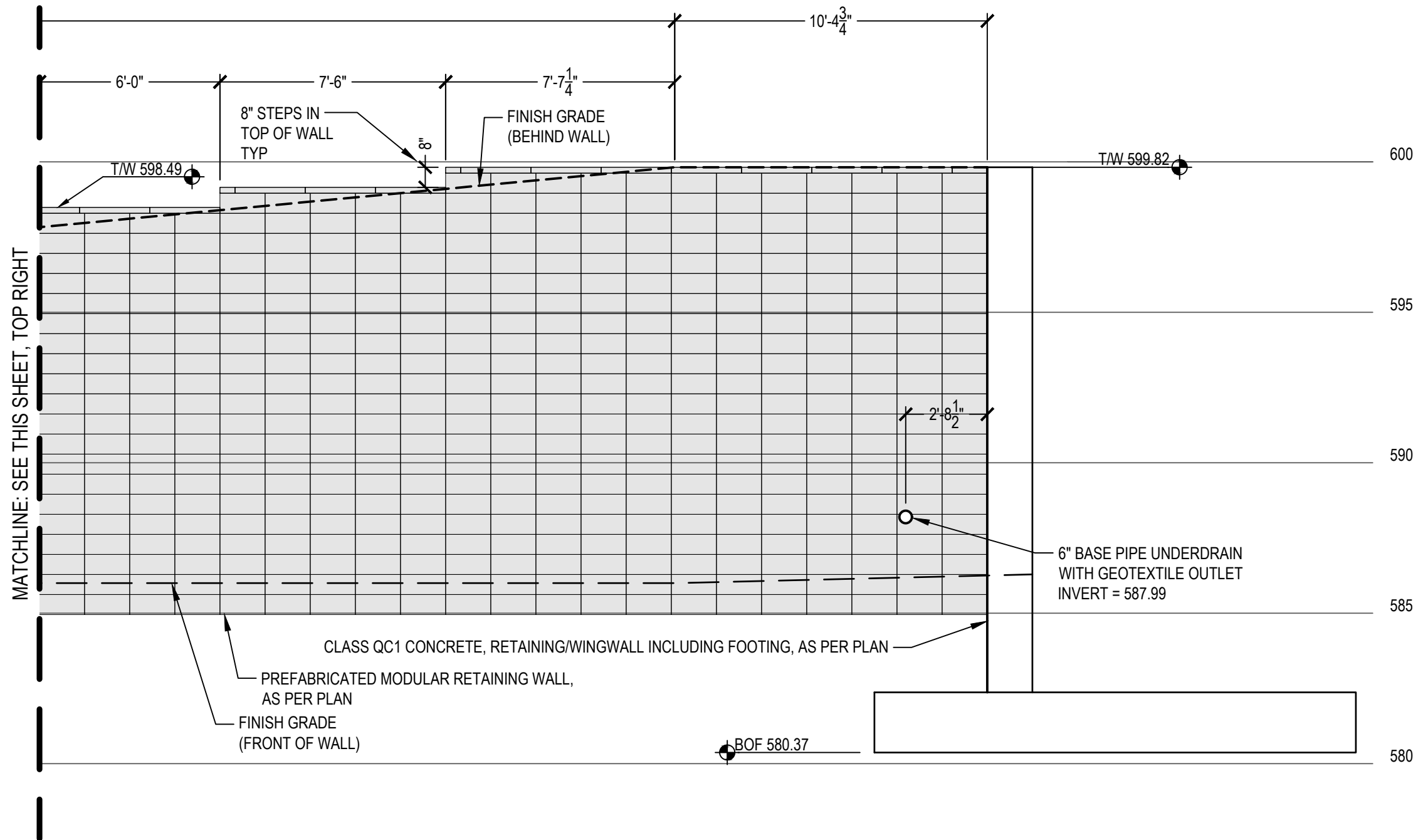
SCALE: 1/4" = 1'

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1 PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN (EAST-D)

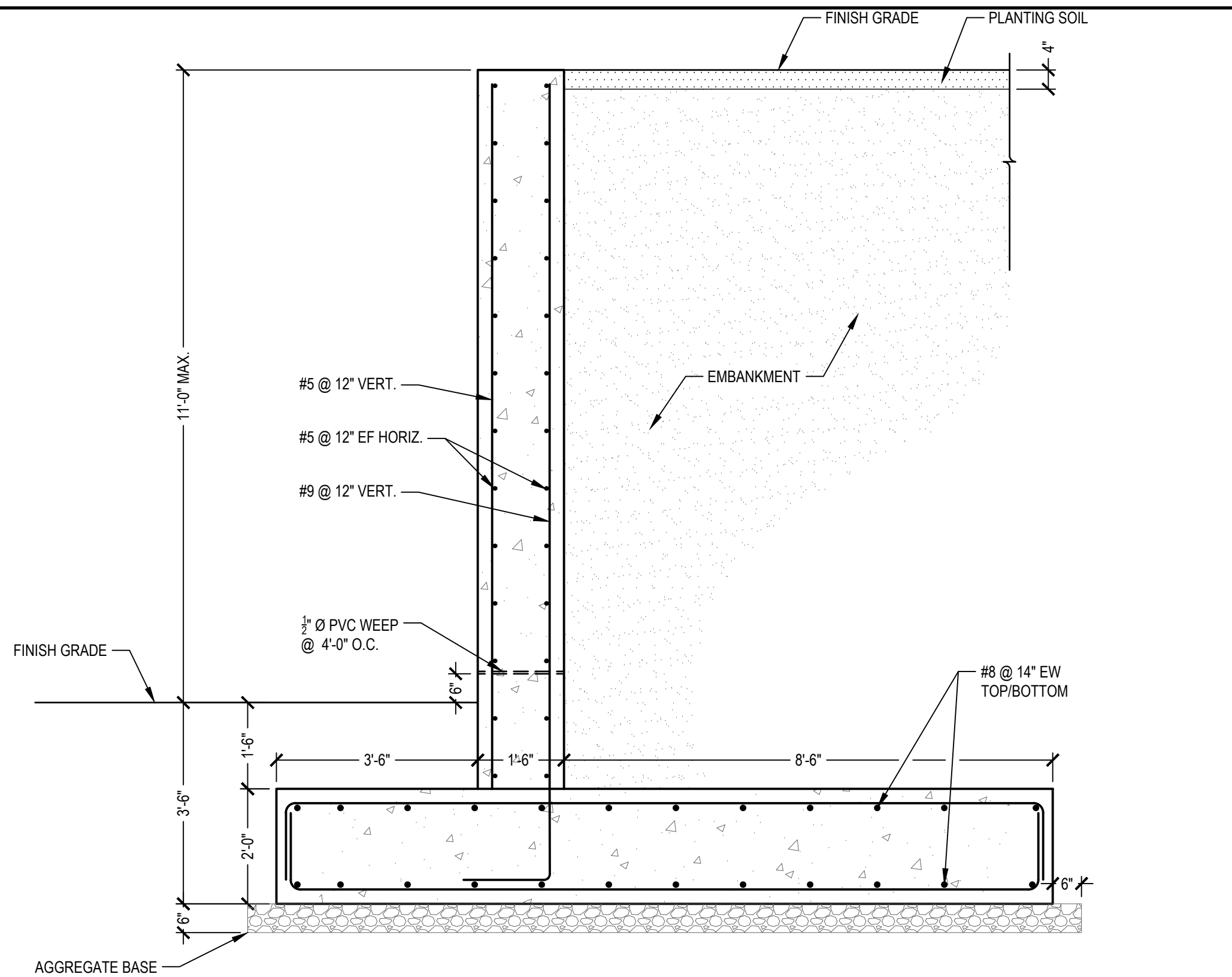
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2 PREFABRICATED MODULAR RETAINING WALL, AS PER PLAN (EAST-D), CONTINUED

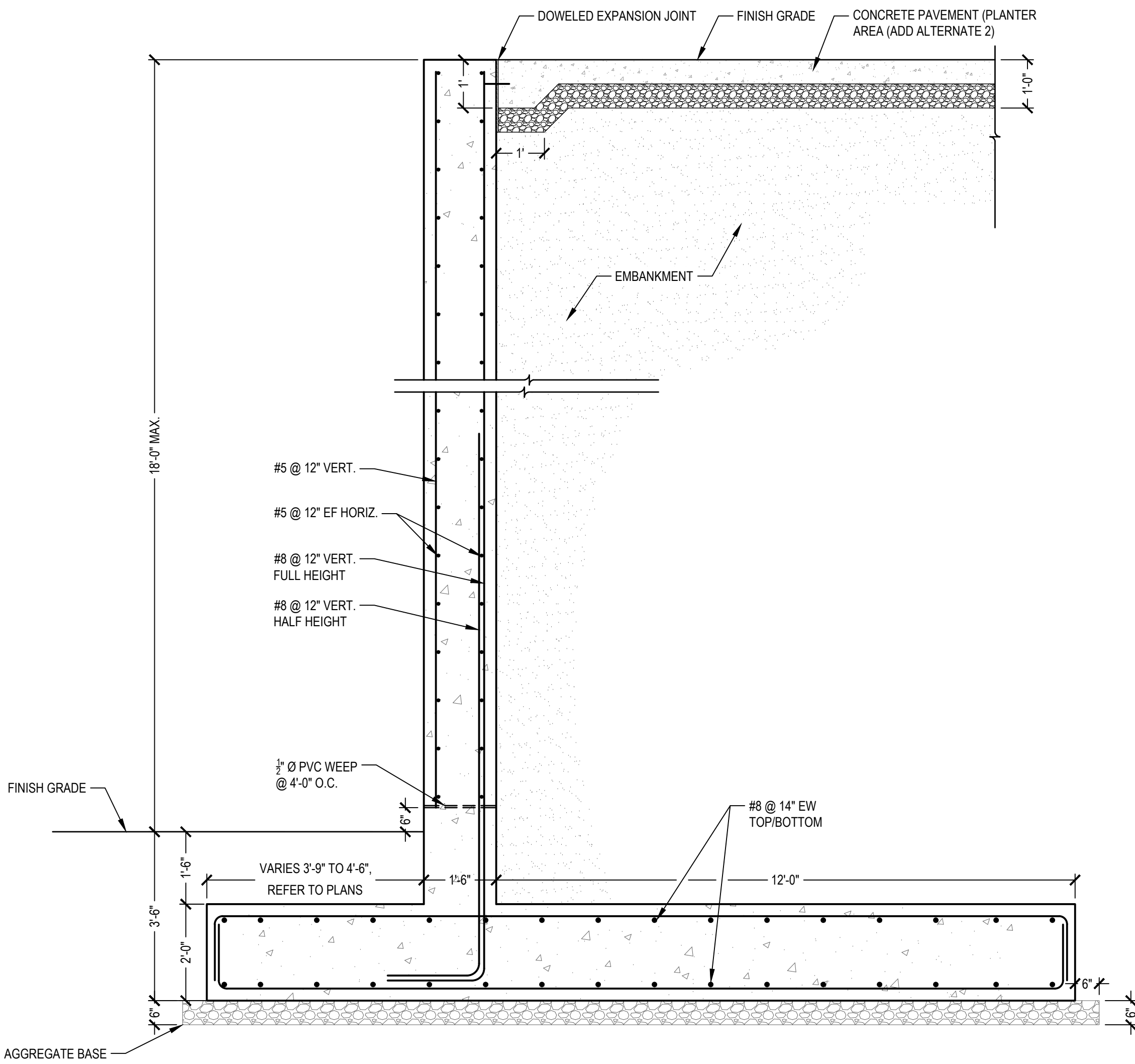
SCALE: 1/4" = 1'

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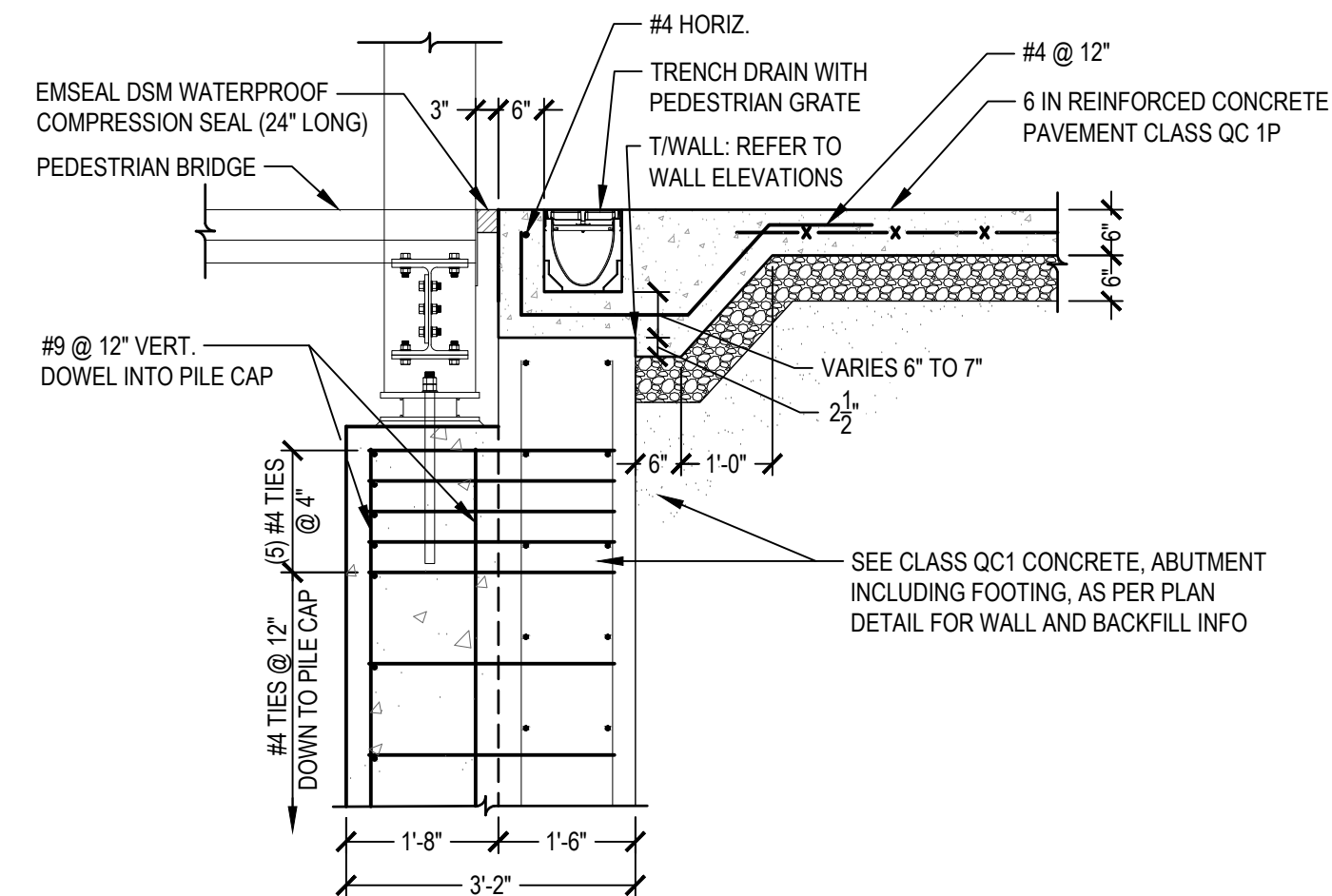
1 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN - UP TO 11'-0" TALL

SCALE: 1/2" = 1'



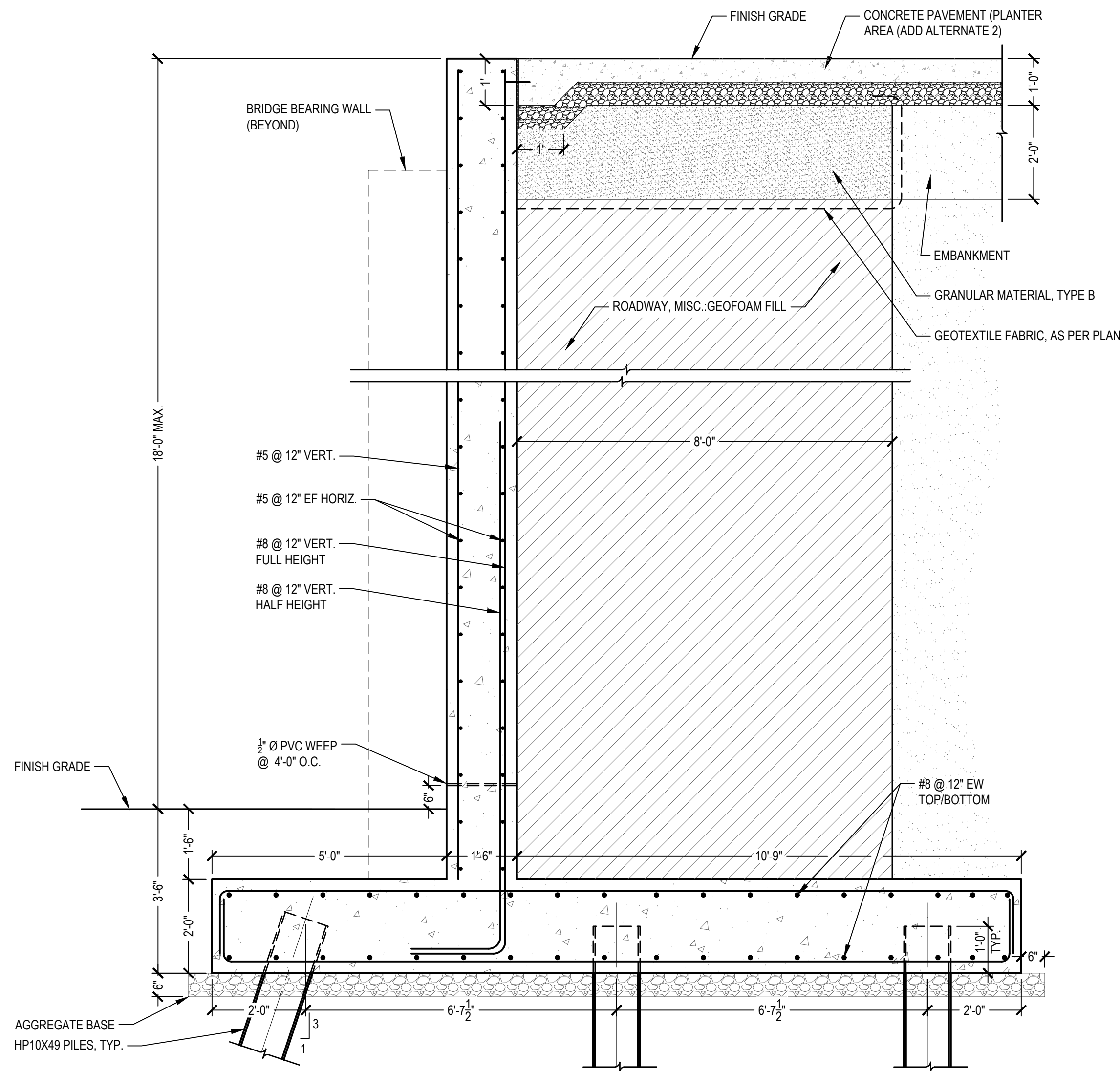
3 CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING, AS PER PLAN - UP TO 18'-0" HIGH

SCALE: 1/2" = 1'



2 BRIDGE BEARING DETAIL

SCALE: 1/2" = 1'



4 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN

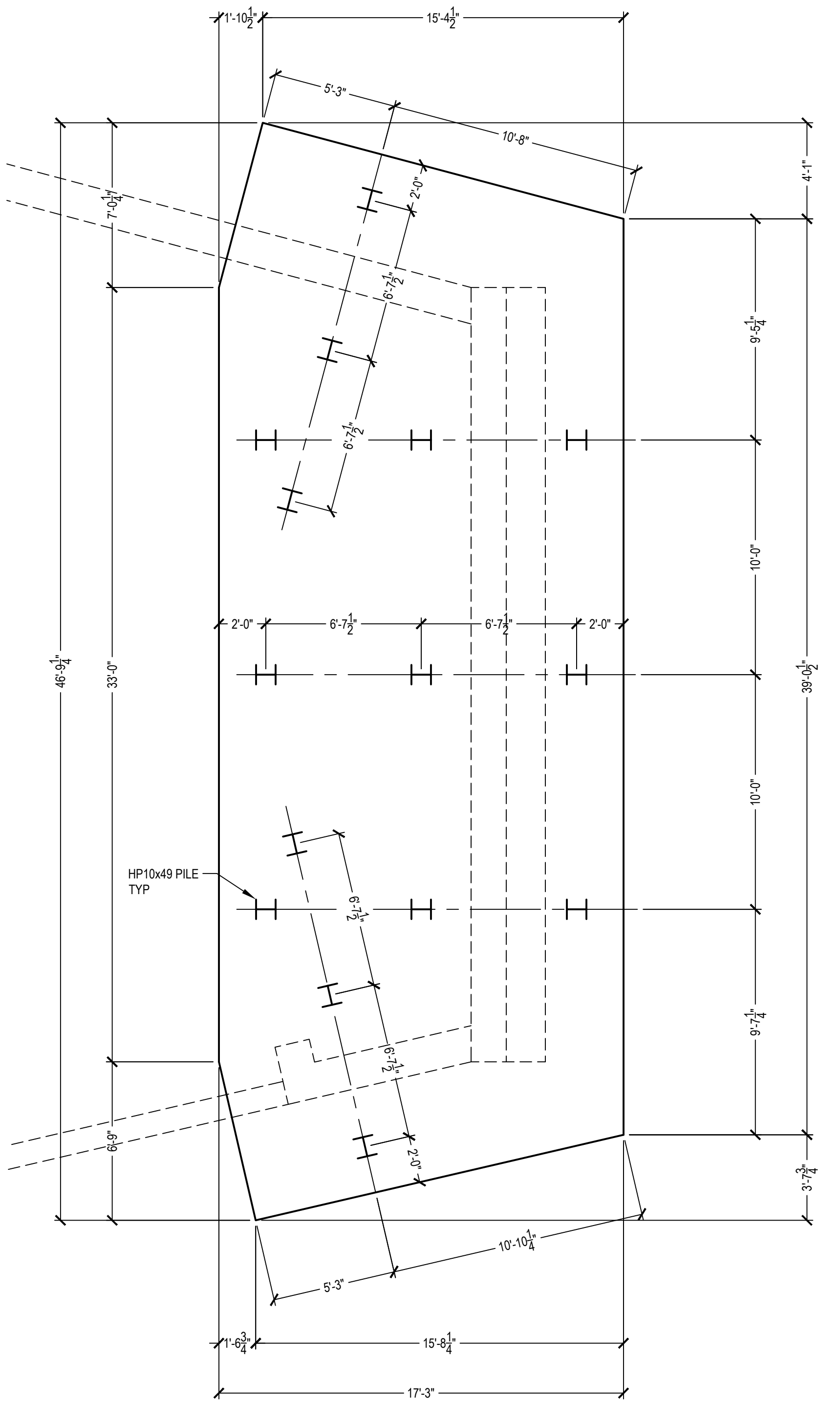
SCALE: 1/2" = 1'

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JY
CHECKED
JR

WALL SECTIONS 6

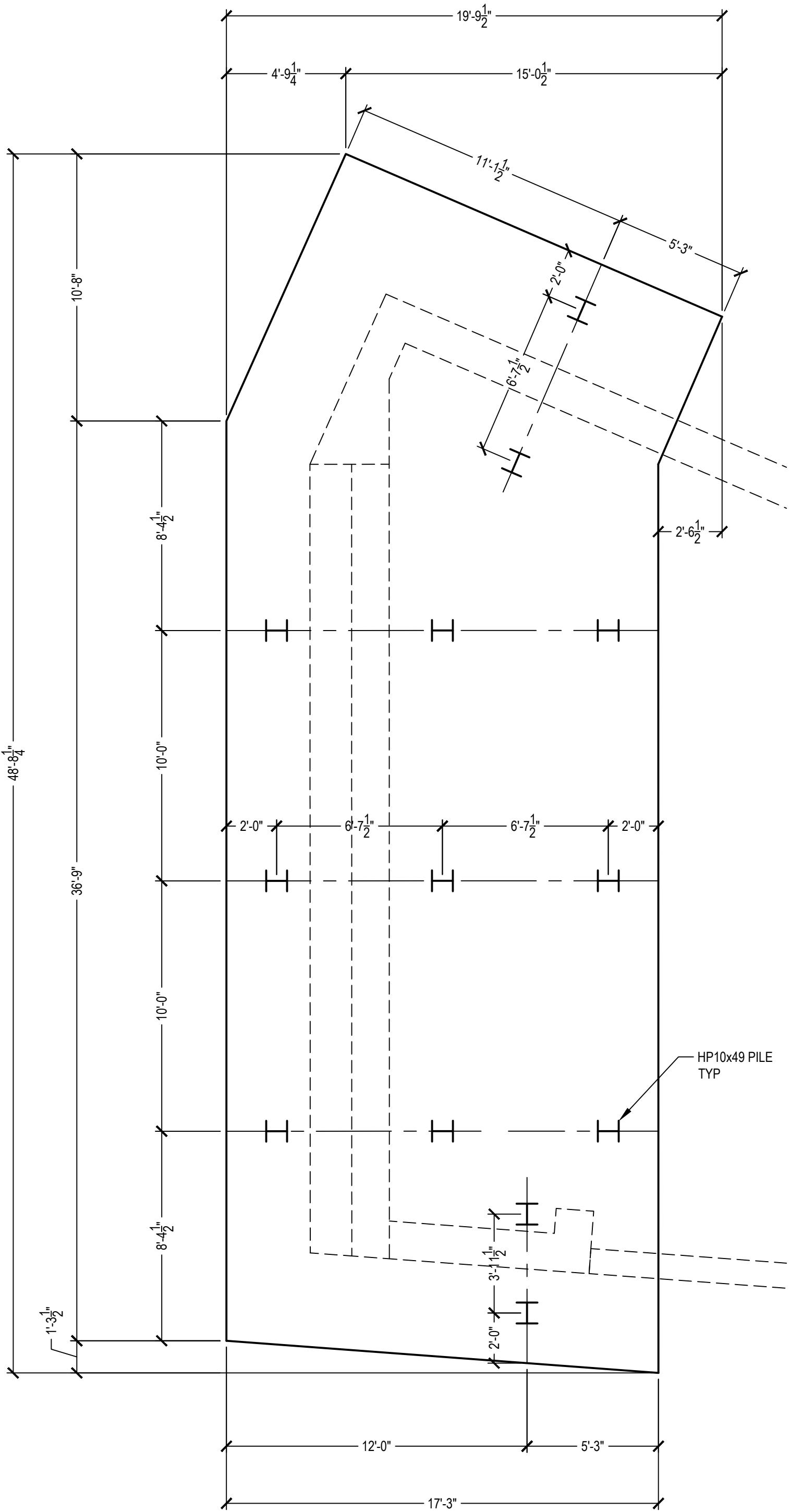
LUC-RIVERSIDE TRAIL EAST

40
51



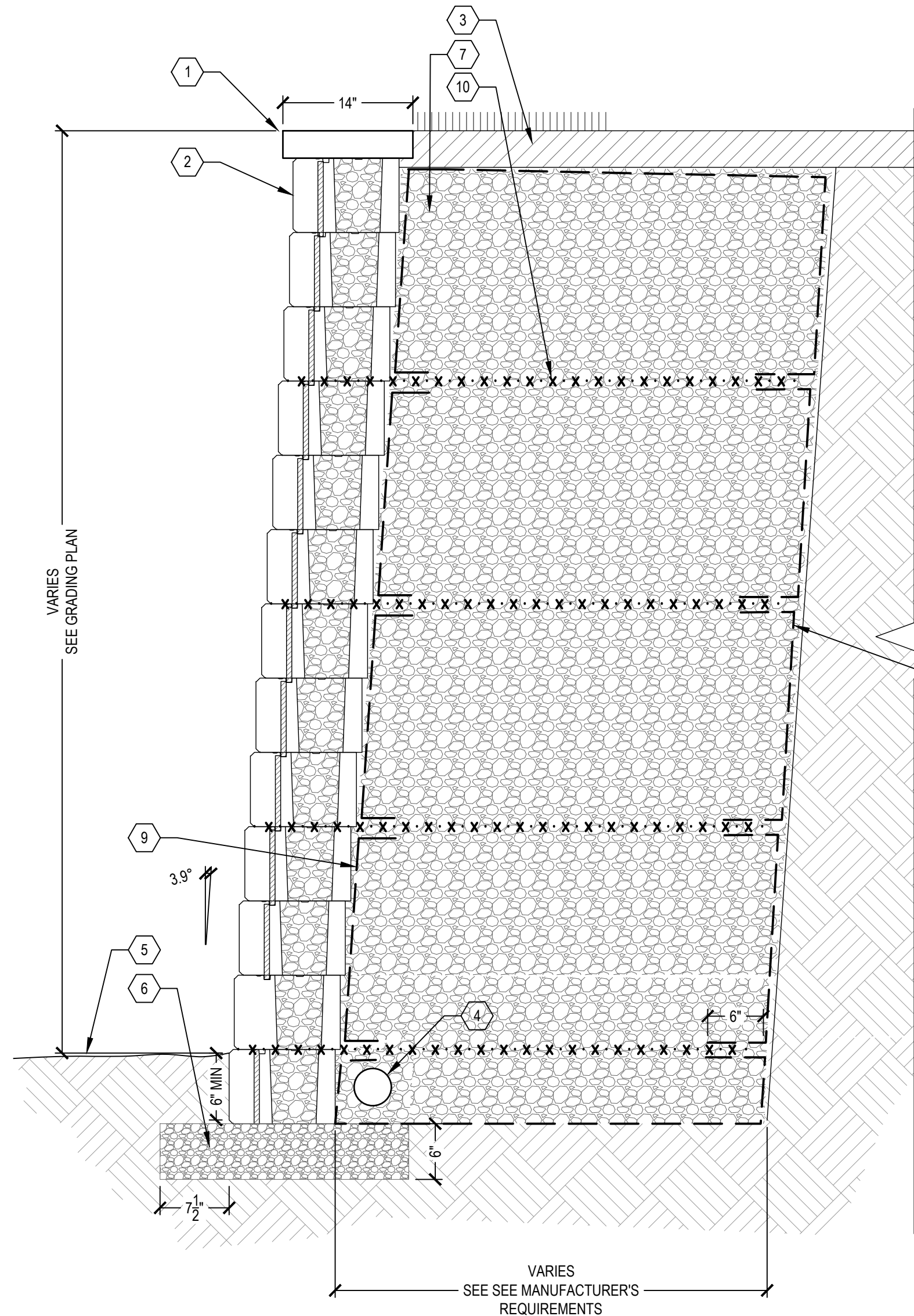
1 PEDESTRIAN BRIDGE WEST ABUTMENT - PILE PLAN

SCALE: 1/4" = 1'-0"



2 PEDESTRIAN BRIDGE EAST ABUTMENT - PILE PLAN

SCALE: 1/4" = 1'-0"



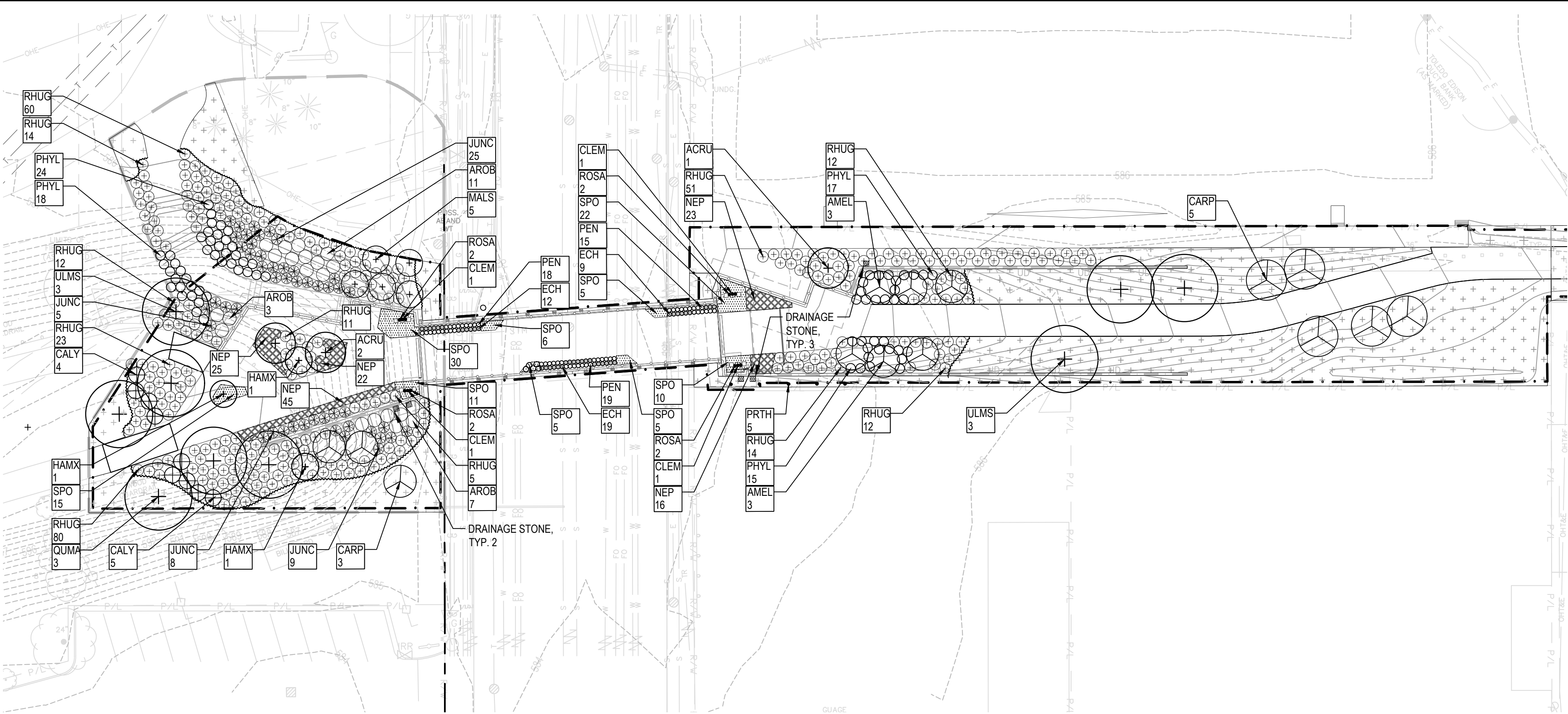
3 TYPICAL PREFABRICATED MODULAR RETAINING WALL AS PER PLAN SECTION

SCALE: 1" = 1'-0"

- NOTES:
1. PLACE GEOGRID IN SECOND COURSE FROM BOTTOM, THEN EVERY THIRD COURSE, OR AS SPECIFIED BY WALL BLOCK MANUFACTURER.
 2. GEOGRID PRODUCT TO BE AS SPECIFIED BY WALL BLOCK MANUFACTURER.
 3. EXTENT OF POROUS BACKFILL AND LENGTH OF GEOGRID TO BE AS SPECIFIED BY MANUFACTURER BASED ON WALL HEIGHT.
 4. PLACE NON-WOVEN GEOTEXTILE BEHIND BLOCK WALL AND END OF GEOTEXTILE AS SHOWN. PROVIDE A MINIMUM LAP OF 6" AT TOP AND BOTTOM.
 5. AGGREGATE BASE SIZE AND MATERIAL TO BE AS SPECIFIED BY WALL BLOCK MANUFACTURER.
 6. MANUFACTURERS:
A. TECO BLOC
B. UNILOCK
C. BELGARD COMMERCIAL
OR ODOT APPROVED EQUAL MANUFACTURER
- SUBMIT COLOR AND MATERIAL SAMPLES TO OWNER FOR APPROVAL PRIOR TO MATERIAL ORDER AND INSTALL.
SUBMIT SEALED SHOP DRAWINGS OF ALL SEGMENTAL WALLS.

- 1 RAFFINATO 60 MM CAP FROM TECO-BLOC
- 2 G-FORCE BLOCK FROM TECO-BLOC
- 3 TOPSOIL FURNISHED AND PLACED, AS PER PLAN TOPSOIL
- 4 6" BASE PIPE UNDERDRAIN WITH GEOTEXTILE FABRIC
- 5 FINISH GRADE
- 6 AGGREGATE BASE
- 7 POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN
- 8 COMPACTED SUBGRADE
- 9 NON-WOVEN GEOTEXTILE FABRIC, AS PER PLAN
- 10 GEOGRID, AS PER PLAN

NOTE:
1. FOR INSTALLATION, REFER TO MANUFACTURER'S GUIDELINES.
2. REFER TO PAGES 37 AND 38 FOR STONE WALL ELEVATIONS.



PLANT LIST

QTY	Acronym	Botanical Name	Common Name	Size	Form	Notes/Spacing
CANOPY TREES						
3	ACRU	Acer rubrum 'Bowhall'	Bowhall red maple	2" Cal.	B&B	Full, well-branched, single central leader
3	QUMA	Quercus macrocarpa	Bur oak	2" Cal.	B&B	Full, well-branched, single central leader
6	ULMS	Ulmus x 'Accolade'	Accolade elm	2" Cal.	B&B	Full, well-branched, single central leader
UNDERSTORY TREES						
6	AMEL	Amelanchier x g. 'Autumn Brilliance'	Autumn Brilliance serviceberry	6' Ht.	B&B	Well-branched, multi-stem, Min. 3 stems
8	CARP	Carpinus caroliniana 'Palisade'	Palisade American hombear	2" Cal.	B&B	Well-branched, single central leader
3	HAMX	Hamamelis x 'Arnold Promise'	Arnold Promise witchhazel	6' Ht.	B&B	Well-branched, multi-stem, Min. 3 stems
5	MALS	Malus 'Sargentii'	Sargeant crabapple	2" Cal.	B&B	Well-branched, single central leader
SHRUBS						
21	AROB	Aronia arbutifolia 'Brilliantissima'	Brilliant red chokeberry	30" Ht.	No. 3 Cont.	Well-branched, min. 4 canes, 5' O.C.
9	CALY	Calycanthus floridus	Carolina allspice/Sweetshrub	30" Ht.	No. 5 Cont.	Well-branced, min. 4 canes, 6' O.C.
47	JUNC	Juniperus chinensis 'Sea Green'	Sea Green juniper	18" Spd.	No. 3 Cont.	Full, unshed, 4' O.C.
74	PHYL	Physocarpus opulifolius 'Little Devil'	Little Devil ninebark	24" Ht.	No. 3 Cont.	Well-branched, min. 4 canes, 3.5' O.C.
295	RHUG	Rhus aromatica 'Gro-Low'	Gro-Low sumac	18" Spd.	No. 3 Cont.	Well-branched, min. 3 canes, 4' O.C.
PERENNIAL/ORNAMENTAL GRASSES						
40	ECH	Echinacea purpurea 'Pow Wow Wild Berry'	Pow Wow Wild Berry purple coneflower	No. 1	Cont.	Well-rooted, 18" O.C.
131	NEP	Nepeta x faassenii 'Junior Walker'	Junior Walker catmint	No. 1	Cont.	Well-rooted, 24" O.C.
52	PEN	Penstemon digitalis 'Husker Red'	Husker Red beardtongue	No.1	Cont.	Well-rooted, 18" O.C.
109	SPO	Sporobolus heterolepis	Prairie dropseed	No. 1	Cont.	Well-rooted, 24" O.C.
VINES						
4	CLEM	Clematis virginiana	Virgin's bower	No. 1	Cont.	Staked, 12" height
5	PRTH	Parthenocissus tricuspidata	Boston ivy	No. 1	Cont.	Staked, 18" height
8	ROSA	Rosa setigera	Climbing prairie rose	No.1	Cont.	Staked, 12" height

GENERAL NOTES – EXTERIOR LANDSCAPE PLANTINGS - (BY OWNER)

FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN THE PLANT LEGEND SHOWN ON DRAWINGS AND WITH THE MINIMUM QUALITY CONFORMING TO AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1. BRANCHING ON ALL PLANTS SHALL BE CHARACTERISTIC OF THE SPECIES, WELL-SHAPED, FULL, SOUND, HEALTHY, VIGOROUS STOCK OF UNIFORM GROWTH AND DENSELY FOLIATED WHEN IN LEAF. ALL PLANTS SHALL BE FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.

DO NOT USE PLANTS HARVESTED FROM THE WILD, FROM NATIVE STANDS, FROM AN ESTABLISHED LANDSCAPE PLANTING, OR NOT GROWN IN A NURSERY UNLESS OTHERWISE INDICATED.

PLANTS SHALL ORIGINATE FROM THE SAME USDA HARDINESS ZONE AS PROJECT SITE, OR LOWER (COLDER).

PROVIDE PLANTS OF SIZES, GRADES, AND BALL OR CONTAINER SIZES COMPLYING WITH ANSI Z60.1 FOR TYPES AND FORM OF PLANTS REQUIRED. THE AVERAGE DIMENSION OF ALL PLANTS MUST, AT LEAST, EQUAL THE AVERAGE OF THE TOLERANCE FIGURES SHOWN ON THE DRAWINGS. SPREAD SHALL MEET THE MINIMUM DIMENSION SPECIFIED IN ALL DIRECTIONS AND MUST BE CONSIDERED AS PIVOTING ON CENTER OF PLANT.

STRESSED OR DAMAGED PLANTS OR THOSE NOT CONFORMING TO THE SPECIFICATIONS SHALL BE SUBJECT TO REJECTION BY THE A/E AT ANY TIME DURING THE TERM OF THE CONTRACT.

ROOT TREATMENTS ON ALL PLANTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

- BALLED AND BURLAPPED ("B&B") PLANTS SHALL HAVE A HEALTHY ROOT SYSTEM DEVELOPED BY TRANSPLANTING OR ROOT PRUNING WITH A

- FIRM, NATURAL BALL OF EARTH SECURELY WRAPPED WITH BURLAP, BOUND WITH CORD AND WIRE BASKET. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING. PLANTS WITH DAMAGED OR BROKEN ROOT BALLS OR MULTIPLE LAYERS OF BURLAP WILL NOT BE ACCEPTED.
- CONTAINERS SHALL BE FINISHED LANDSCAPE GRADE MATERIAL HAVING THEIR ROOTS WELL ESTABLISHED IN THE SOIL MASS. PLANTS OVER-ESTABLISHED IN THE CONTAINER, AS EVIDENCED BY POT-BOUND ROOT ENDS, WILL NOT BE ACCEPTED.
 - PERENNIALS, GROUNDCOVER, AND ORNAMENTAL GRASSES SHALL HAVE WELL-ESTABLISHED ROOT SYSTEMS REACHING TO SIDES OF THE CONTAINER TO MAINTAIN A FIRM BALL, BUT NOT WITH EXCESSIVE ROOT GROWTH ENCRINGLING THE CONTAINER. PROVIDE ONLY PLANTS THAT ARE ACCLIMATED TO OUTDOOR CONDITIONS BEFORE DELIVERY.

- TREES: DECIDUOUS TREES SHALL HAVE STRAIGHT SINGLE LEADERS. TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS; TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES OR BETWEEN BRANCH AND TRUNK ("INCLUDED BARK"); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN 3/4 INCH IN DIAMETER; OR WITH STEM GIRDLING ROOTS WILL NOT BE ACCEPTED.
- TREES INDICATED AS SPECIMEN SHALL BE EXCEPTIONALLY HEAVY, SYMMETRICAL, AND SUPERIOR IN FORM, BRANCHING, AND SYMMETRY. CALIPER IS THE TRUNK DIAMETER TAKEN AT A SPECIFIED DISTANCE ABOVE ROOT COLLAR AS DESCRIBED IN ANSI Z60.1.
 - BRANCHING HEIGHT IS THE DISTANCE ABOVE GROUND WHERE BALANCED BRANCHING OCCURS.

MULCH: WELL-COMPOSTED, FINELY SHREDDED PROCESSED HARDWOOD BARK, FREE FROM FOREIGN MATERIAL AND FRAGMENTS IN EXCESS OF 2 INCHES IN ANY DIMENSION. DYED MULCH OR MULCH THAT IS PREDOMINANTLY WOOD CHIPS WILL NOT BE ACCEPTED.

- WATER
- WATER SHALL BE AVAILABLE FROM ON-SITE SOURCES. VERIFY PRIOR TO COMMENCING WORK.
 - WATER SHALL BE FREE OF WASTEWATER EFFLUENT OR OTHER HAZARDOUS CHEMICALS.

SEEDING AND MULCHING

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

659, TOPSOIL, AS PER PLAN	467 CU. YD.
659 SEEDING AND MULCHING, AS PER PLAN LOW-MOW FESCUE SEED MIX	1,310 SQ. YD.
659 INTER-SEEDING	66 SQ. YD.
659 LIME	0.27 ACRES
659 COMMERCIAL FERTILIZER	0.18 TON
659 WATER	8 MGAL

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN LOW-MOW FESCUE SEED MIX

SEASONAL LIMITATIONS:
SEED MIXES SHALL BE INSTALLED DURING PLANTING SEASONS NORMALLY RECOGNIZED IN THE JOB LOCALITY.
INSTALL DURING THE SPRING AND FALL ONLY WHEN SOIL TEMPERATURES ARE BETWEEN 50 AND 65 DEGREES FAHRENHEIT AND AIR TEMPERATURES IS 60 TO 75 DEGREES FAHRENHEIT.

- APPROXIMATE SPRING INSTALLATION: BETWEEN APRIL 15 AND MAY 30.
- APPROXIMATE FALL INSTALLATION: BETWEEN AUGUST 15 AND SEPTEMBER 15 BUT NO LATER THAN 60 DAYS BEFORE THE FIRST AVERAGE ANNUAL FROST DATE.

QUALITY:
SEED OF GRASS SPECIES AS LISTED BELOW FOR SOLAR EXPOSURE, WITH NOT LESS THAN 90 PERCENT GERMINATION, NOT LESS THAN 98 PERCENT PURE SEED, AND NOT MORE THAN 0.3 PERCENT WEED SEED

LOW-MOW FESCUE MIX:
PROPORTIONED BY WEIGHT AS FOLLOWS:
40 PERCENT CHEWING FESCUE, (FESTUCA R. COMMUTATA),
30 PERCENT CREEPING RED FESCUE (FESTUCA R. RUBRA),
20 PERCENT HARD FESCUE (FESTUCA LONGIFOLIA),
10 PERCENT SHEEP FESCUE (FESTUCA OVINA).

INSTALL AT A RATE OF 8 POUNDS PURE LIVE SEED (PLS) PER 1000 SQUARE FEET OF BED.

HERBICIDING:
TWO WEEKS PRIOR TO SEEDING, SPRAY A NON-SELECTIVE HERBICIDE TO ALL AREAS TO RECEIVE LAWN AND LOW-MOW FESCUE SEED TO REMOVE ANY WEEDS THAT MAY HAVE GERMINATED. FOLLOW MANUFACTURER'S LABEL. DO NOT ALLOW DRIFT TO AFFECT ADJACENT PLANTS OR PLANTINGS.

- SEEDING PROCEDURES:
- DO NOT SOW SEED WHEN WEATHER CONDITIONS ARE UNFAVORABLE, SUCH AS DURING DROUGHT OR HIGH WINDS.
 - PERFORM SEEDING WITH ONLY APPROVED EQUIPMENT. DO NOT BROADCAST OR DROP SEED WHEN WIND VELOCITY EXCEEDS 10 MPH.
 - SOW THE SEED UNIFORMLY AT A RATES SPECIFIED UNDER PART 2.1 OF THIS SECTION.
 - DO NOT USE WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED.
 - DO NOT SEED AGAINST EXISTING TREES. LIMIT EXTENT OF SEED TO OUTSIDE EDGE OF PLANTING SAUCERS, PLANT BEDS AND OTHER SEED BEDS.
 - EVENLY DISTRIBUTE SEED BY SOWING EQUAL QUANTITIES IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.
 - IMMEDIATELY FOLLOWING SEEDING, RAKE, DRAG OR FLOAT ALL SEED BEDS TO PROVIDE A LIGHT COVERING OF TOPSOIL APPROXIMATELY 1/8 INCH DEEP. WHEN USING EQUIPMENT THAT LIGHTLY INJECTS THE SEED INTO THE SOIL, INCLUDE EQUIPMENT THAT LIGHTLY ROLLS THE SEED BED TO PROVIDE GOOD MOISTURE CONTACT BETWEEN THE SEED AND SOIL.
 - MAINTAIN SOIL MOISTURE IN ACCORDANCE WITH PART 3.7 BELOW.

- MULCHING PROCEDURES:
- DO NOT USE ANY STRAW THAT CONTAINS WEEDS AND OTHER PLANTS THAT WILL CONTAMINATE THE SEED BEDS WITH UNSPECIFIED PLANTS. CAREFULLY INSPECT EACH BALE OF STRAW PRIOR TO SPREADING AND ANY BALES OBSERVED TO BE CONTAMINATED WITH WEEDS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS.
 - DO NOT MECHANICALLY BLOW STRAW WHEN WIND SPEEDS EXCEED 10 MPH.
 - REMOVE ALL STRAW THAT HAS BEEN DEPOSITED OUTSIDE THE LIMITS OF SEEDING AND ON ADJACENT PAVEMENT, PLANT BEDS AND TREE SAUCERS.
 - SPREAD STRAW MULCH EVENLY AT THE RATE OF APPROXIMATELY 2 TONS DRY STRAW PER ACRE. PLACE ALL MULCH OVER ALL SEEDED AREAS WITHIN 24 HOURS AFTER SEEDING. A MECHANICAL BLOWER OR HAND SPREADING SHALL BE USED TO APPLY MULCH MATERIAL, PROVIDED THE MACHINE HAS BEEN SPECIFICALLY DESIGNED AND APPROVED FOR THIS PURPOSE. MULCH SHALL BE UNIFORM IN THICKNESS AND COVER RESULTING IN A BLANKET OF STRAW APPROXIMATELY 1 1/2 INCHES LOOSE THICKNESS WITH LITTLE TO NO VISIBLE SOIL.
 - SLOPES 4:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL BLANKET IN ACCORDANCE WITH PART 3.8 BELOW.

WATERING PROCEDURES:
FOR SEEDED AREAS, MAINTAIN SOIL IN A MOIST CONDITION (IN HOT DRY WEATHER IRRIGATION MAY BE REQUIRED 2-4 TIMES PER DAY) UNTIL SEEDS HAVE SPROUTED AND REACHED A HEIGHT OF 1-INCH. WATER THEREAFTER A MINIMUM OF ONCE EVERY 2-3 DAYS UNLESS NATURAL RAINFALL HAS PROVIDED EQUIVALENT WATERING. PROVIDE IRRIGATION TO MOISTEN SOIL TO A DEPTH OF 4" TO ENCOURAGE DEEPER ROOTING.
WATERING AT ACCELERATED RATES THAT DISLODGE SEED AND MULCH MATERIALS OR CAUSE EROSION SHALL BE IMMEDIATELY REPAIRED AT NO COST TO THE OWNER.

ITEM 659 - TOPSOIL, AS PER PLAN

THIS SECTION SPECIFIES ALL SOIL MATERIALS DESIGNATED AS "TOPSOIL" ON THE DRAWINGS. SUPPLY TOPSOIL FOR LANDSCAPE WORK (THOSE AREAS ON THE PLANS INDICATED AS RECEIVING TOPSOIL) FROM OFF-SITE SOURCES.

- REFERENCES:
- ASTM INTERNATIONAL, AS REFERENCED HEREIN AS ASTM.
 - US DEPARTMENT OF AGRICULTURE (USDA) HANDBOOK NO. 60 – DIAGNOSIS AND IMPROVEMENT OF SALINE AND ALKALI SOILS.

- ACTION SUBMITTALS / SOURCE QUALITY CONTROL:
- MATERIAL TEST REPORTS: CONDUCT TOPSOIL TESTING FOR IMPORTED TOPSOIL FROM OFF-SITE SOURCES.
 - SAMPLE: PROVIDE 1-QUART SAMPLES FOR EACH TOPSOIL TEST UNIT (INCLUDING SOURCE).
 - CONDUCT ALL TOPSOIL SAMPLING AND TESTING PRIOR TO DELIVERY FROM OFF-SITE SOURCES.

- INFORMATIONAL SUBMITTALS / FIELD QUALITY CONTROL:
- OBTAIN SAMPLES, TEST MATERIALS AND SUBMIT FIELD TEST REPORTS AS DESCRIBED BELOW.

TOPSOIL:
TOPSOIL FOR LANDSCAPE WORK SHALL BE A FERTILE, FRIABLE, SANDY LOAM OR LOAM SURFACE SOIL WITHOUT ADMIXTURE OF SUBSOIL SCREENED TO BE FREE OF STONES, STUMPS, ROOT, TRASH, DEBRIS, AND OTHER MATERIALS DELETERIOUS TO PLANT GROWTH.
PARTICLE SIZE DISTRIBUTION OF TOPSOIL:

- THE PH RANGE SHALL BE 6.5 TO 8.0. TOPSOIL THAT DOES NOT MEET THIS PH RANGE SHALL NOT BE APPROVED BY THE ARCHITECT/ENGINEER (A/E).
- ORGANIC CONTENT SHALL NOT BE LESS THAN 4 PERCENT AND NOT GREATER THAN 20%.
- CLAY CONTENT DETERMINED BY BOUYOUCOUS HYDROMETER TEST: BETWEEN 5 PERCENT AND 15 PERCENT.
- BASE PERCENTAGES ON DRY WEIGHT OF THE SAMPLE

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

- EXISTING OFF-SITE LOCATION(S): 1 SAMPLE PER ACRE OF SITE TO BE EXCAVATED.
- EXISTING STOCKPILE: 1 SAMPLE PER 1,000 CUBIC YARDS OF STOCKPILED SOIL.
- SUBMIT ALL TEST REPORTS FOR APPROVAL. TEST RESULTS SHALL NOT BE MORE THAN 6 MONTHS OLD. TOPSOIL UNITS THAT DO NOT MEET THE SOIL REQUIREMENTS SPECIFIED UNDER THIS SECTION WILL NOT BE PERMITTED FOR USE AS TOPSOIL.

CHEMICAL PROPERTIES: FOR EACH UNAMENDED SOIL TYPE, TEST TOPSOIL FOR ORGANIC MATERIALS, PH, PHOSPHATE, POTASH CONTENT, CALCIUM, MAGNESIUM, ZINC, IRON, AND MANGANESE. TEST FOR CATION EXCHANGE CAPACITY AND SOLUBLE SALTS.
PHYSICAL PROPERTIES: DETERMINE PERCENT SAND, SILT AND CLAY AND TEXTURAL CLASSIFICATION (USDA) BY HYDROMETER METHOD. IDENTIFY ALL FOREIGN MATERIALS SUCH AS ROCK, ROOTS, AND VEGETATION.
SUPPLEMENTAL TESTING: REPORT PRESENCE OF PROBLEM SALTS, MINERALS, OR HEAVY METALS, INCLUDING ALUMINUM, ARSENIC, BARIUM, CADMIUM, CHROMIUM, COBALT, LEAD, LITHIUM, AND VANADIUM. IF SUCH PROBLEM MATERIALS ARE PRESENT, PROVIDE ADDITIONAL RECOMMENDATIONS FOR CORRECTIVE ACTION. IF ANY HEAVY METAL EXCEEDS STATE LISTED BACKGROUND LEVELS FOR HUMAN CONTACT, SOILS WILL NOT BE APPROVED FOR USE ON SITE.
REQUIRED RECOMMENDATIONS: BASED ON THE TEST RESULTS, THE INDEPENDENT TESTING LABORATORY SHALL STATE RECOMMENDATIONS FOR SOIL TREATMENTS AND SOIL AMENDMENTS TO BE INCORPORATED PRIOR TO SEEDING AND PLANTING. LIST RECOMMENDATIONS IN WEIGHT PER 1000 SQUARE FEET FOR LAWN AREA AND CUBIC YARD OF TREESHRUB/PERENNIAL MIXTURE. RECOMMENDATIONS SHALL INCLUDE: NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND ALL SOIL AMENDMENTS REQUIRED FOR THE LONG-TERM GROWTH OF THE SPECIFIED PLANTS AND TURF.
EXECUTION

FIELD QUALITY CONTROL / SAMPLING: EACH SOIL TEST UNIT SHALL BE A COMPOSITE OF FIVE TO SEVEN SUBSAMPLES TAKEN THE FULL DEPTH OF PROPOSED SOURCE FOR EACH ACRE OF SURFACE AREA. FOR EXISTING STOCKPILES, DISCARD UPPER 6 INCHES OF SOIL BEFORE SAMPLING. FOR LARGE STOCKPILES, PARTIAL EXCAVATION WILL BE REQUIRED FOR COLLECTION OF REPRESENTATIVE SAMPLES. TOPSOIL TEST REPORTS SHALL BE ACCOMPANIED WITH EACH SAMPLE UNIT FOR REVIEW AND APPROVAL BY THE A/E.

- TESTING METHODS AND WRITTEN RECOMMENDATIONS WHEN NOT REFERENCES ELSEWHERE, SHALL COMPLY WITH USDA'S HANDBOOK NO. 60. NUTRIENT DATA TO BE GIVEN IN PARTS PER MILLION (PPM) DRY SOIL.
- TOPSOIL SHALL BE AS DEFINED IN ASTM D5268.
- SOIL PH SHALL BE TESTED IN ACCORDANCE WITH ASTM D4972.
- TEST FOR ORGANIC MATERIAL BY USING ASTM D2974.

ADD ALTERNATES

PLANTING PLAN SHOWS ALL ADD ALTERNATES ACCEPTED. COORDINATE WITH LANDSCAPE ARCHITECT FOR CHANGES TO PLANTING PLANS IF ALTERNATES ARE NOT ACCEPTED. PLANTING QUANTITIES WILL REMAIN AS SHOWN.

ITEM 659 TOPSOIL, AS PER PLAN, AND ITEM 659 SEEDING AND MULCHING AS PER PLAN LOW-MOW FESCUE SEED MIX WILL BE INCLUDED IN THE BASE BID.

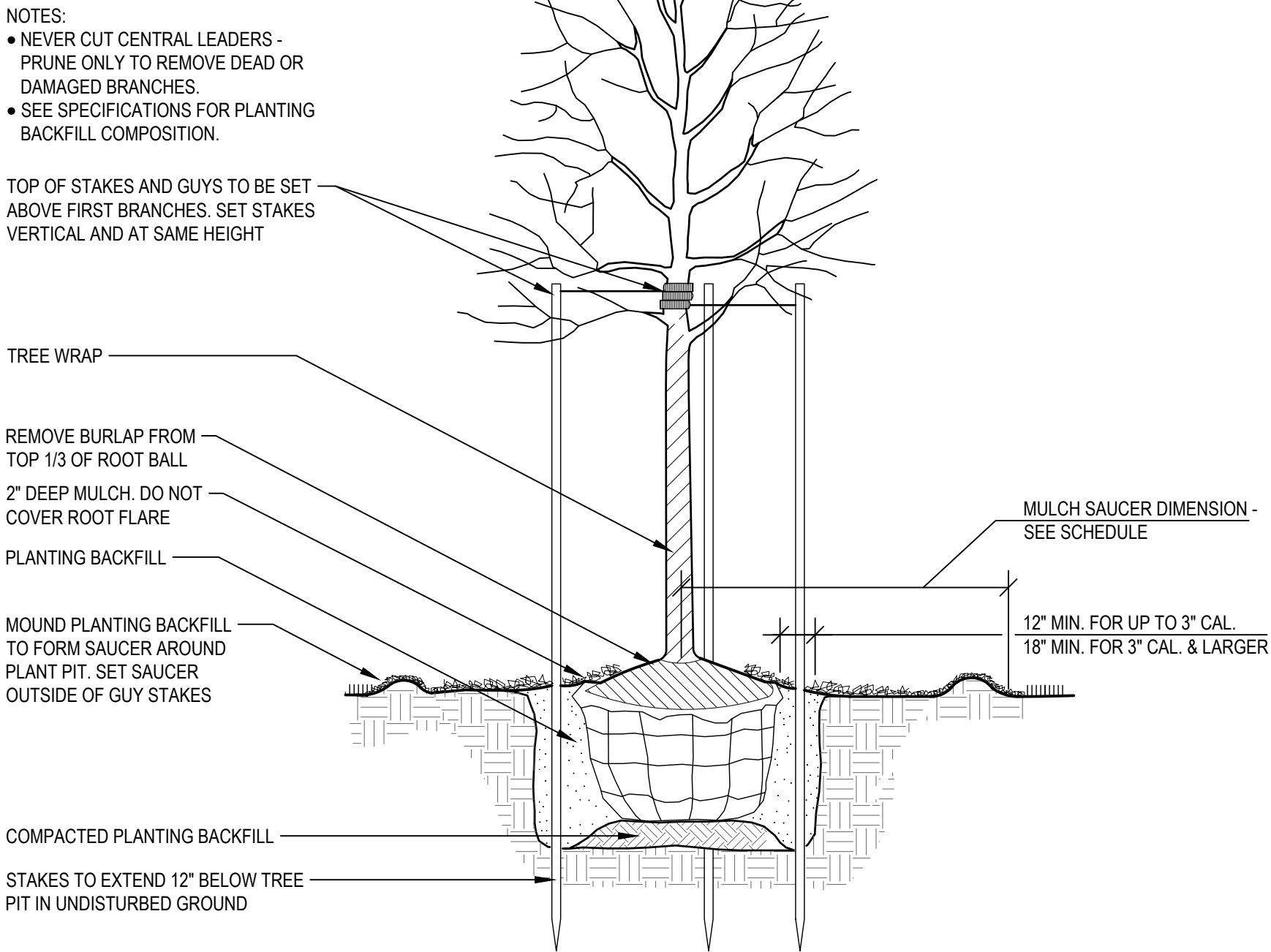
LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- CANOPY TREE (BY OWNER)
- ORNAMENTAL TREE (BY OWNER)
- DECIDUOUS SHRUBS (BY OWNER)
- CONIFEROUS SHRUBS (BY OWNER)
- PERENNIALS / GROUNDCOVER (BY OWNER)
- VINES (BY OWNER)
- LOW-MOW FESCUE SEED MIX
- HAND-DUG TRENCH EDGE
- DRAINAGE STONE (4"-6" ROUNDED NATURAL STONE) (BY OWNER)

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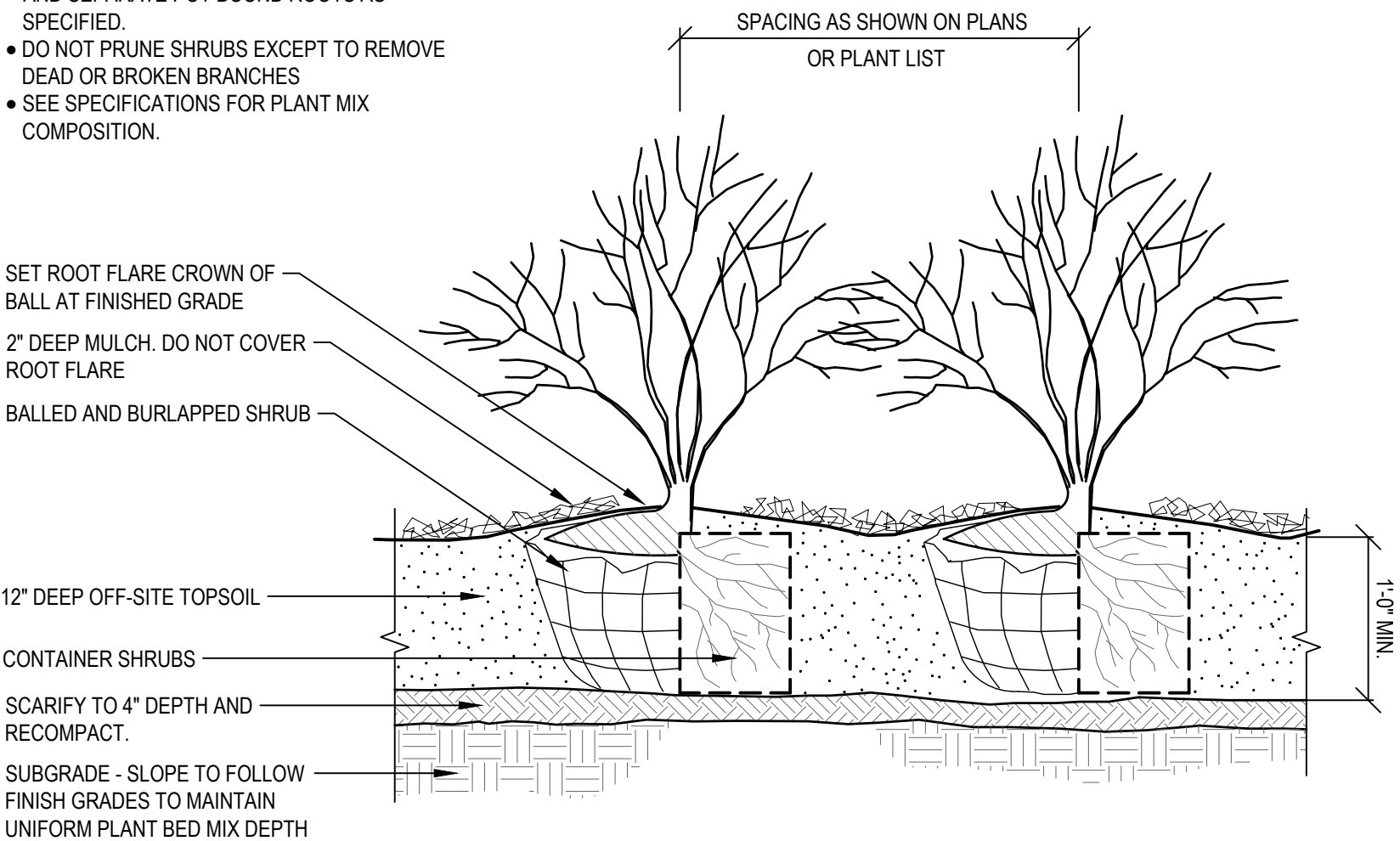
SCHEDULES

SIZE	STAKING	MULCH SAUCER DIMENSION (NON-BED AREAS)
• 2" CAL. & SMALLER	• DOUBLE STAKE	• 4' DIA.
• BETWEEN 2.5" & 3.5" CAL.	• TRIPLE STAKE	• 5' DIA.



1 DECIDUOUS CANOPY TREE PLANTING NOT TO SCALE

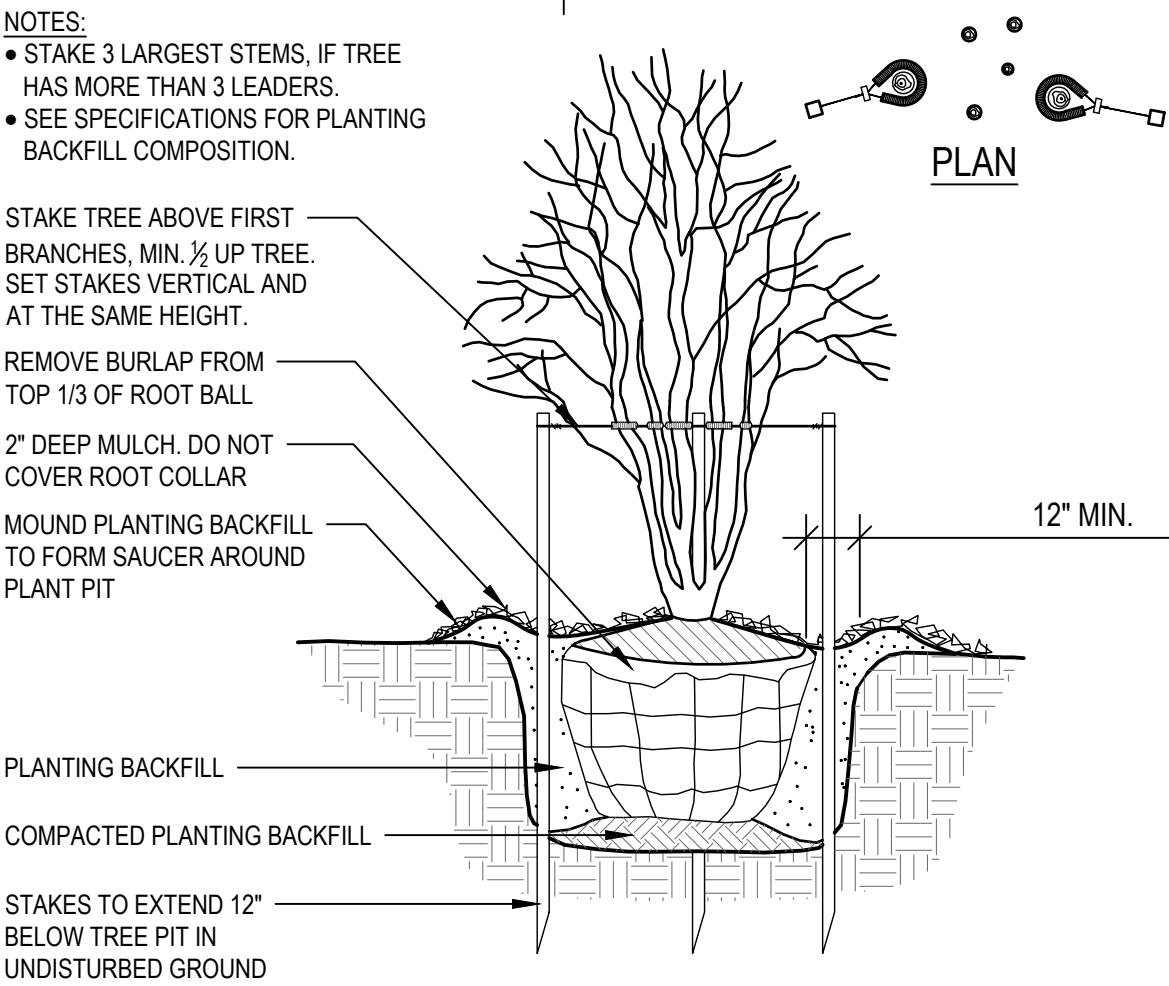
- NOTES:
- REMOVE BURLAP FROM TOP 1/3 OF ROOT BALL, OR, WITH CONTAINER PLANTS, REMOVE POTS AND SEPARATE POT BOUND ROOTS AS SPECIFIED.
 - DO NOT PRUNE SHRUBS EXCEPT TO REMOVE DEAD OR BROKEN BRANCHES
 - SEE SPECIFICATIONS FOR PLANT MIX COMPOSITION.



4 SHRUB PLANTING - BED NOT TO SCALE

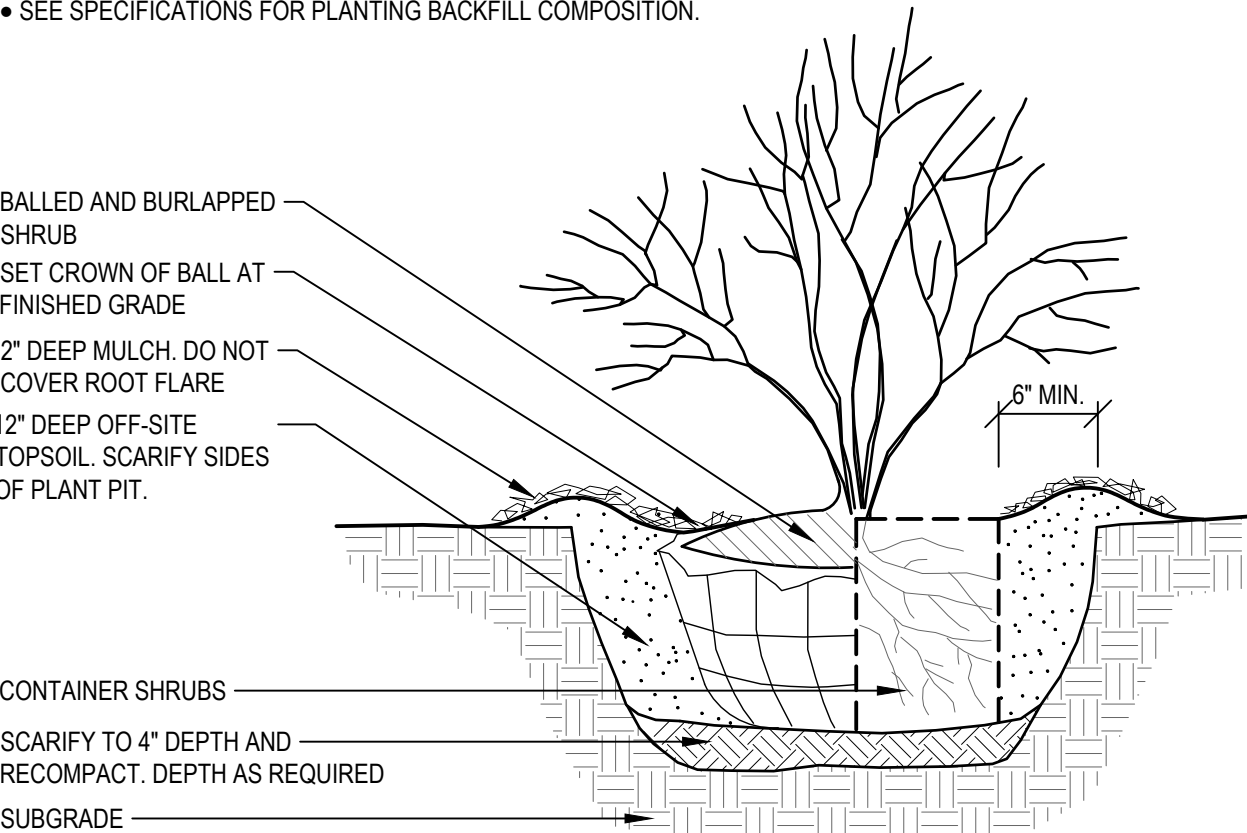
SCHEDULES

SIZE	STAKING	MULCH SAUCER DIMENSION (NON-BED AREAS)
• UP TO 6' TALL	• DOUBLE STAKE	• 4' DIA.
• 6'-12' TALL	• TRIPLE STAKE	• 5' DIA.



2 ORNAMENTAL TREE PLANTING - MULTI-STEM NOT TO SCALE

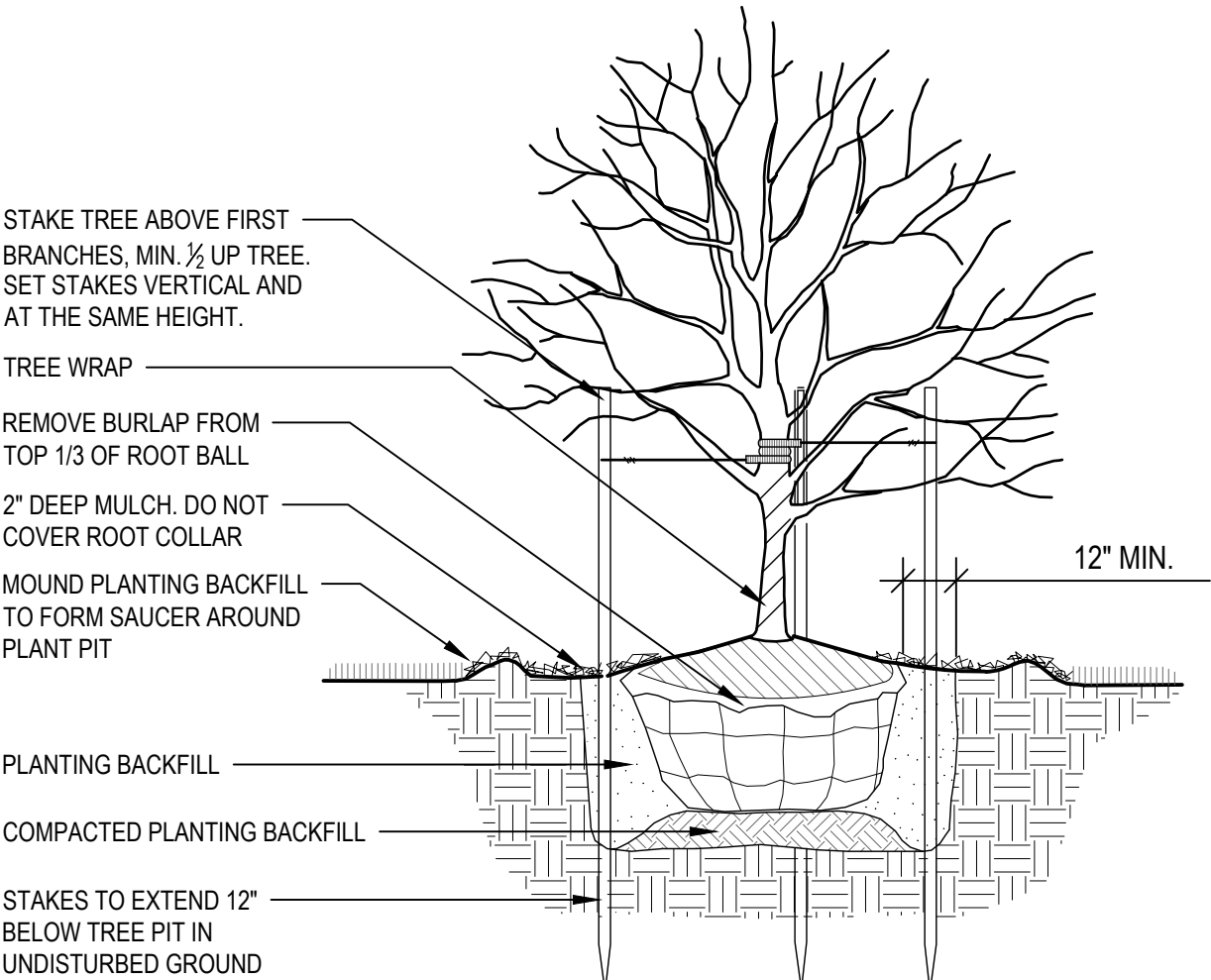
- NOTES:
- REMOVE BURLAP FROM TOP 1/3 OF BALL, OR, WITH CONTAINER PLANTS, REMOVE POTS AND SEPARATE POT BOUND ROOTS AS SPECIFIED.
 - MULCH SAUCERS SHALL BE A MIN. 3'-0" DIAMETER OR AS SHOWN ON PLANS
 - DO NOT PRUNE
 - SEE SPECIFICATIONS FOR PLANTING BACKFILL COMPOSITION.



5 SHRUB PLANTING - INDIVIDUAL PLANT PIT NOT TO SCALE

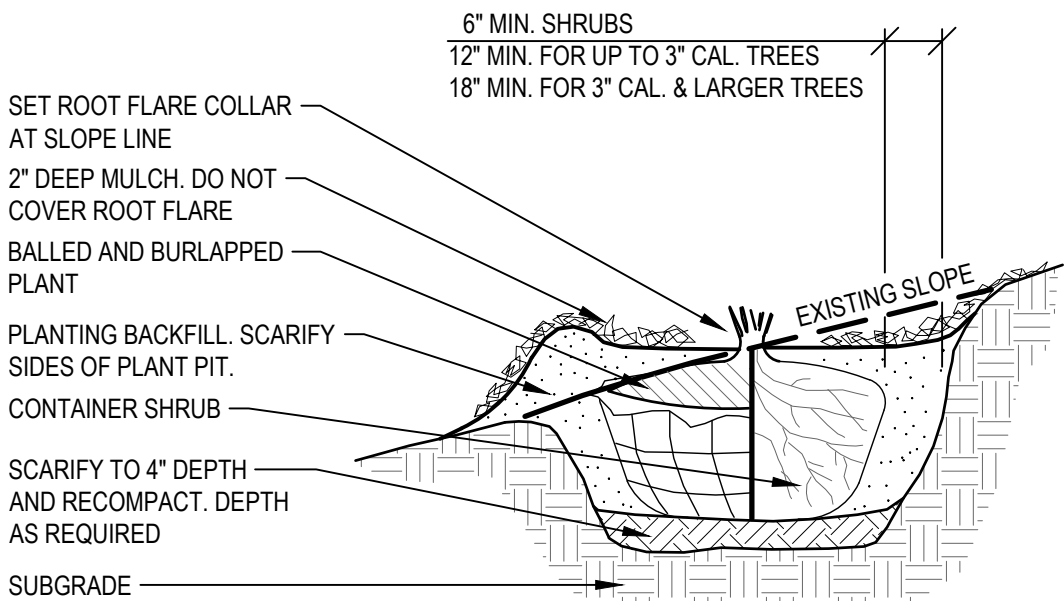
SCHEDULES

SIZE	STAKING	MULCH SAUCER DIMENSION (NON-BED AREAS)
• UP TO 2" CAL.	• DOUBLE STAKE	• 4' DIA.
• 2" CAL. AND LARGER	• TRIPLE STAKE	• 5' DIA.



3 FLOWERING TREE PLANTING - SINGLE STEM NOT TO SCALE

- NOTES:
- REMOVE BURLAP FROM TOP 1/3 OF BALL, OR, WITH CONTAINER PLANTS, REMOVE POTS AND SEPARATE POT BOUND ROOTS AS SPECIFIED.
 - DO NOT PRUNE
 - SEE SPECIFICATIONS FOR PLANTING BACKFILL COMPOSITION.



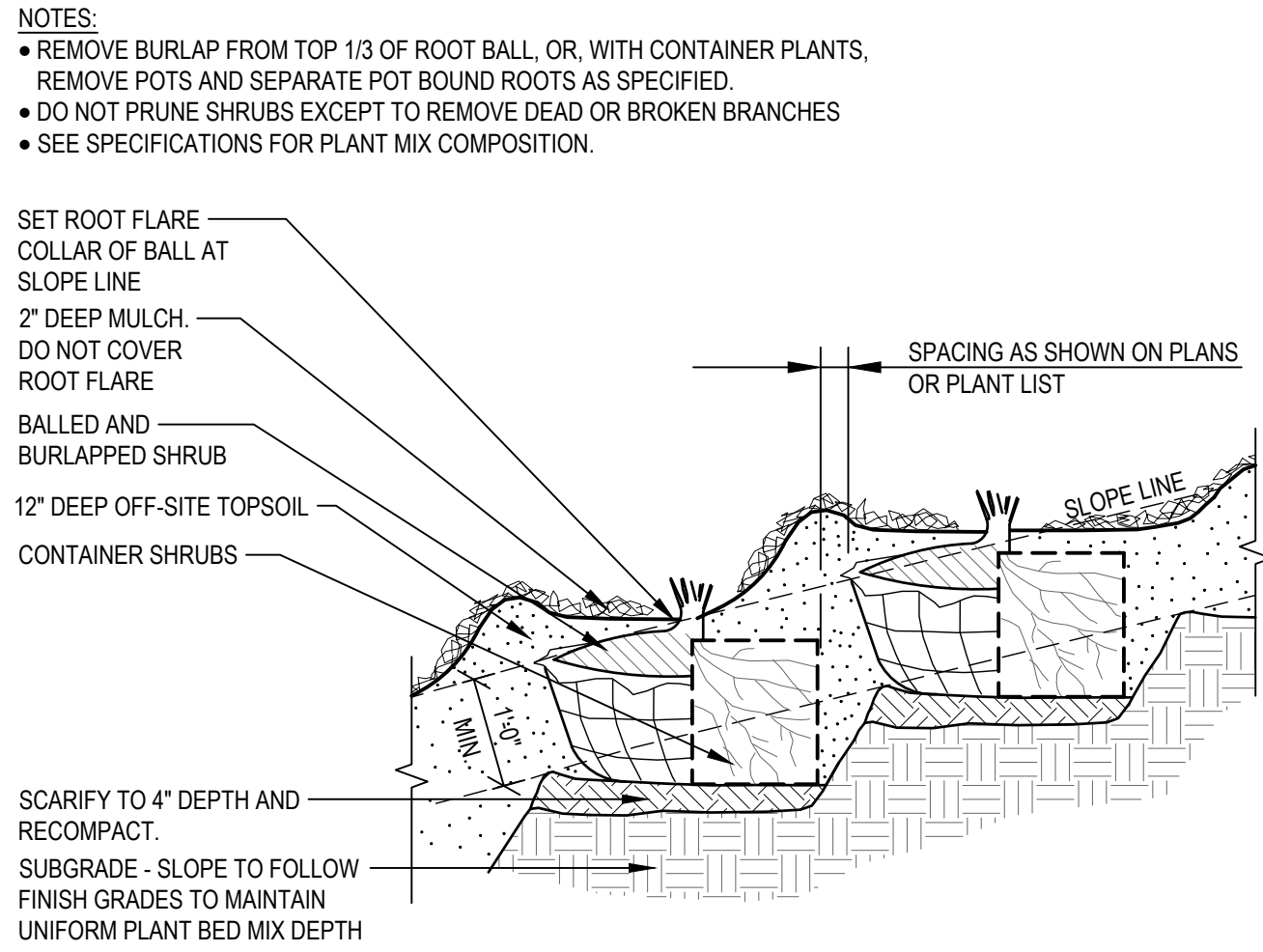
6 TREE PLANTING ON SLOPES NOT TO SCALE

CALCULATED
JY
CHECKED
JY

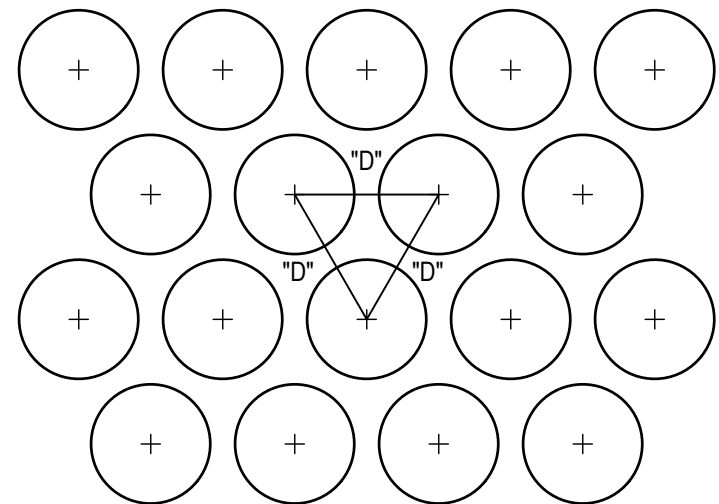
PLANTING DETAILS

LUC-RIVERSIDE TRAIL EAST

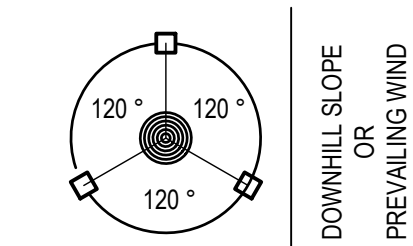
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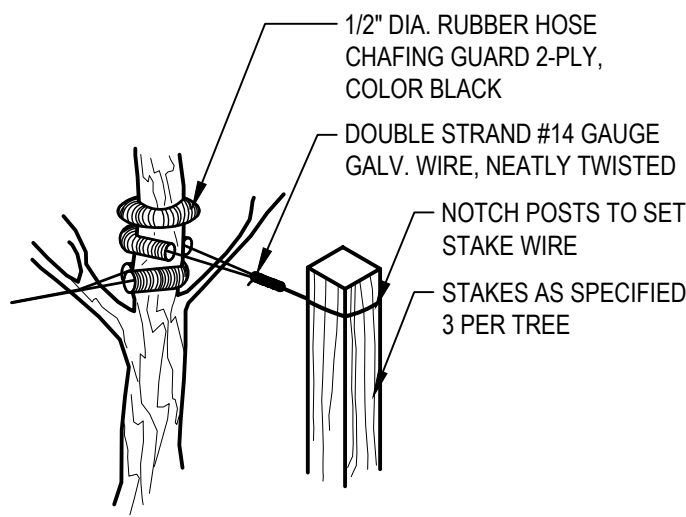
1 SHRUB PLANTING ON SLOPES NOT TO SCALE



4 TYPICAL PLANT SPACING NOT TO SCALE



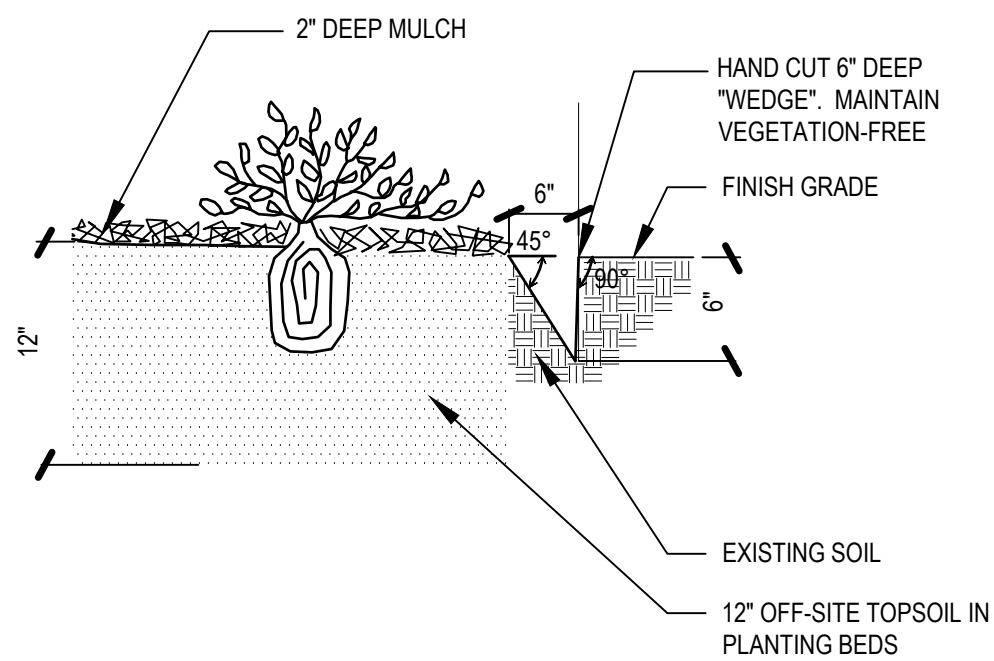
STAKING LOCATION PLAN



STAKING PLAN

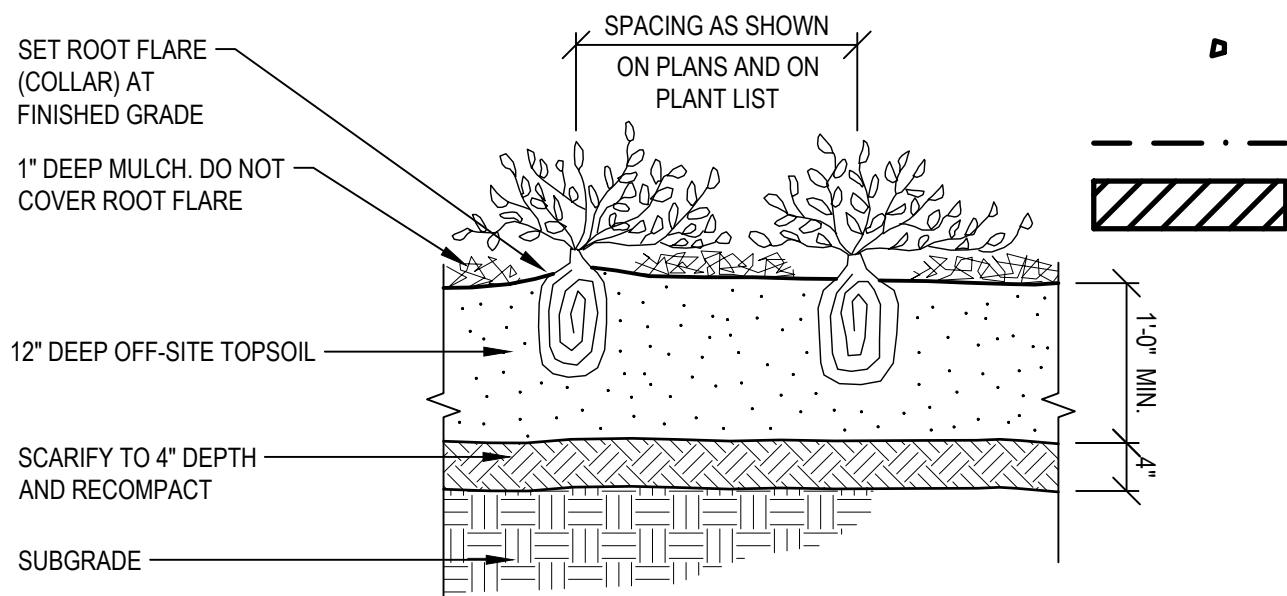
2 TREE STAKING - SINGLE STEM TREE NOT TO SCALE

- NOTES:
- ORIENT STAKING TO PREVAILING WINDS AND SLOPES, EXCEPT ON SLOPES GREATER THAN 3:1 ORIENT TO SLOPE.
 - USE SAME STAKING ORIENTATION FOR ALL PLANTS WITHIN EACH GROUPING OR AREA.



5 HAND-CUT TRENCH EDGE NOT TO SCALE

- NOTE:
- CONTAINER PLANTS: REMOVE POTS AND SEPARATE POT BOUND ROOTS AS SPECIFIED.



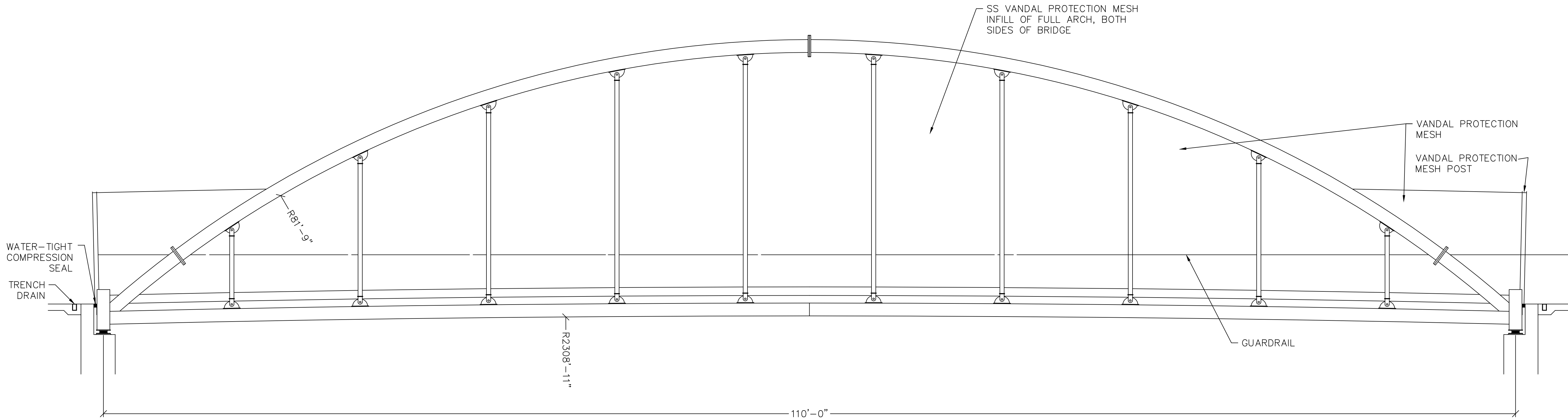
3 GROUNDCOVER/PERENNIAL/ORNAMENTAL GRASS PLANTING - BED NOT TO SCALE

CALCULATED
JY
CHECKED
JY

PLANTING DETAILS

LUC-RIVERSIDE TRAIL EAST

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TOTAL ASSEMBLED WEIGHT OF BRIDGE = 92,000 POUNDS
(DOES NOT INCLUDE FENCE, PLANTERS, CONCRETE OR LIGHTS)

ITEM - PEDESTRIAN BRIDGE
BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED
REFER TO NOTES ON PAGE 51 FOR PERFORMANCE SPECIFICATIONS.

ELEVATION VIEW

1 PEDESTRIAN BRIDGE ELEVATION

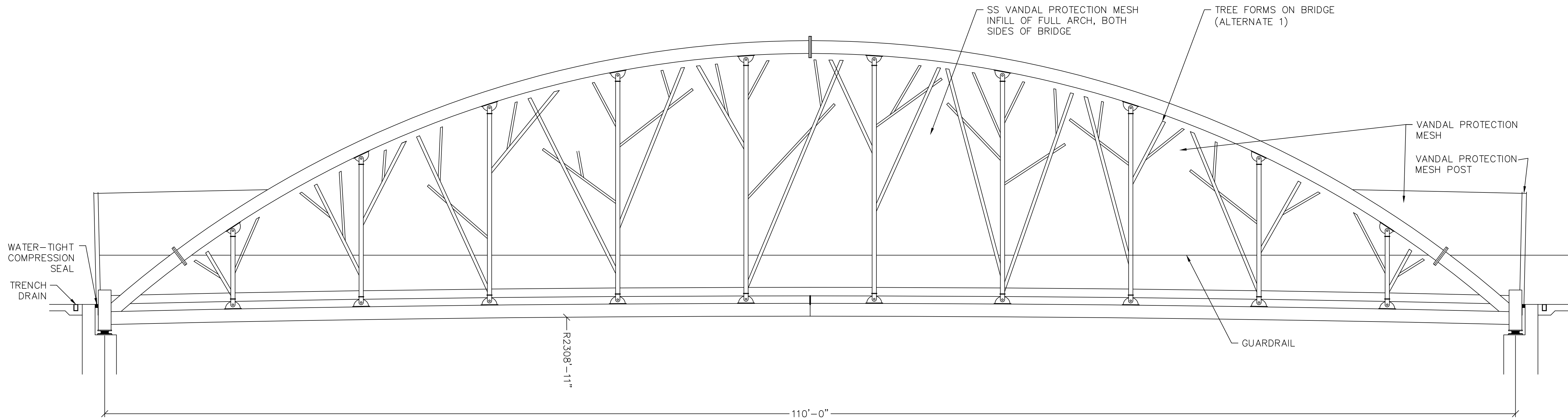
SCALE: 1" = 50'

PRELIMINARY DRAWINGS, NOT FOR CONSTRUCTION

BRIDGE ELEVATION

LUC-RIVERSIDE TRAIL EAST

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TOTAL ASSEMBLED WEIGHT OF BRIDGE = 92,000 POUNDS
(DOES NOT INCLUDE FENCE, PLANTERS, CONCRETE OR LIGHTS)

ITEM - PEDESTRIAN BRIDGE
BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED
REFER TO NOTES ON PAGE 51 FOR PERFORMANCE SPECIFICATIONS.

ELEVATION VIEW

1 PEDESTRIAN BRIDGE ELEVATION (ADD ALTERNATE 1)

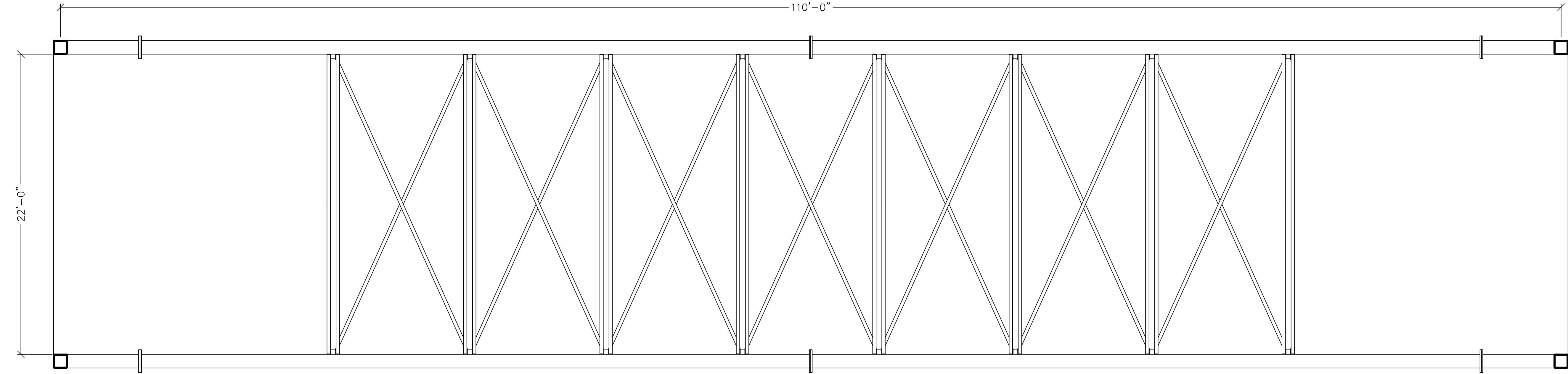
SCALE: 1" = 50'

PRELIMINARY DRAWINGS, NOT FOR CONSTRUCTION

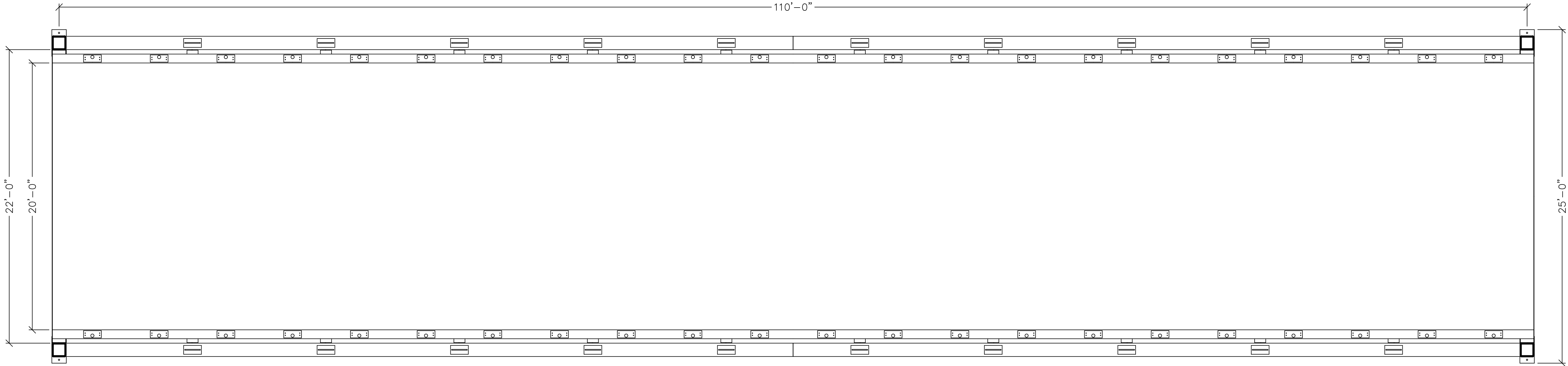
BRIDGE ELEVATION (ADD ALTERNATE 1)

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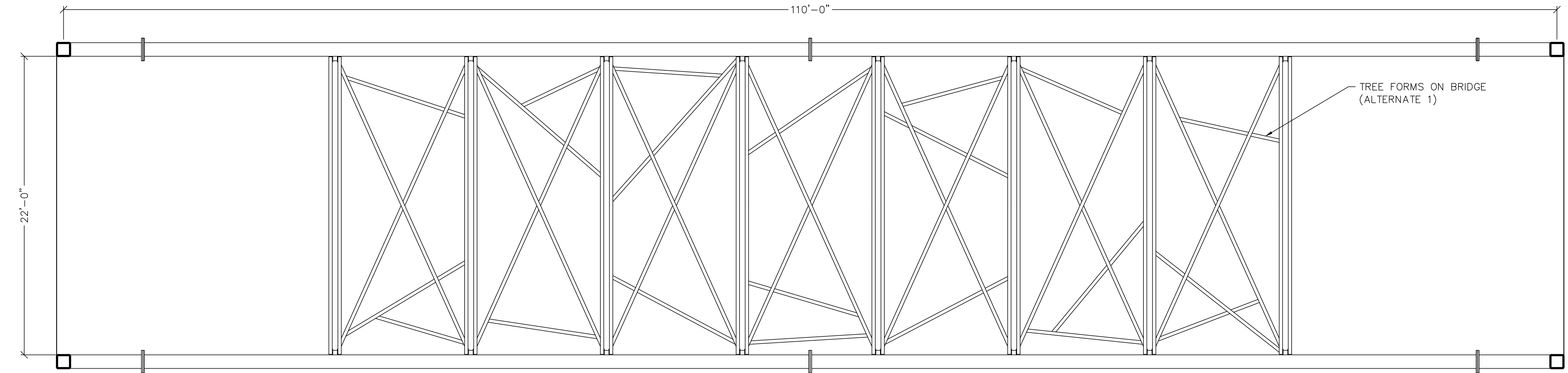
UPPER BRACING VIEW



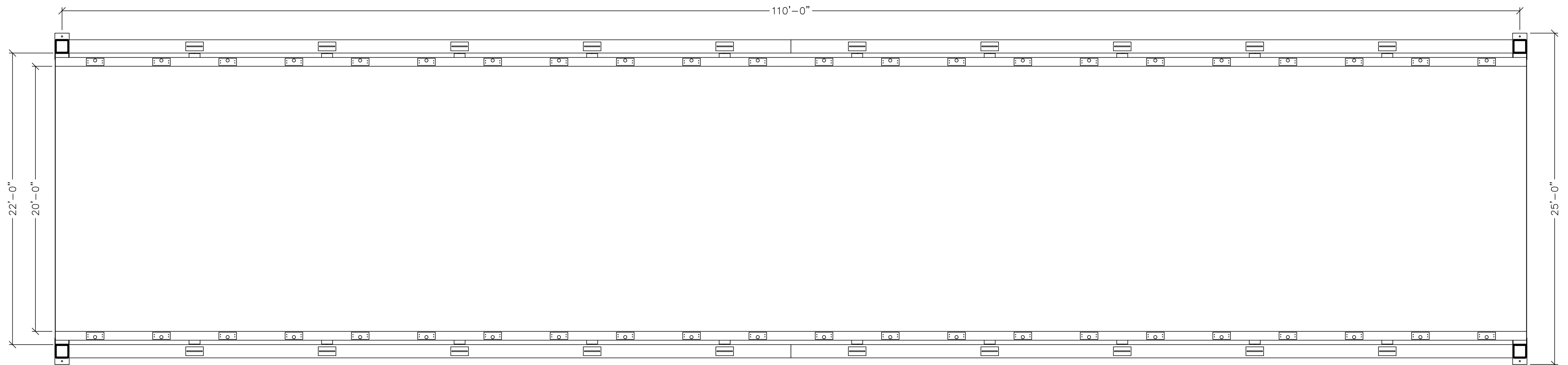
DECK PLAN VIEW

ITEM - SPECIAL: PREFABRICATED FULL THROUGH TIED-ARCH
PEDESTRIAN BRIDGE
BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED
REFER TO NOTES ON PAGE 51 FOR PERFORMANCE SPECIFICATIONS.

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UPPER BRACING VIEW



DECK PLAN VIEW

ITEM - SPECIAL: PREFABRICATED FULL THROUGH TIED-ARCH
PEDESTRIAN BRIDGE

BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED

REFER TO NOTES ON PAGE 51 FOR PERFORMANCE SPECIFICATIONS.

1 PEDESTRIAN BRIDGE PLANS (ADD ALTERNATE 1)

SCALE: 1" = 50'

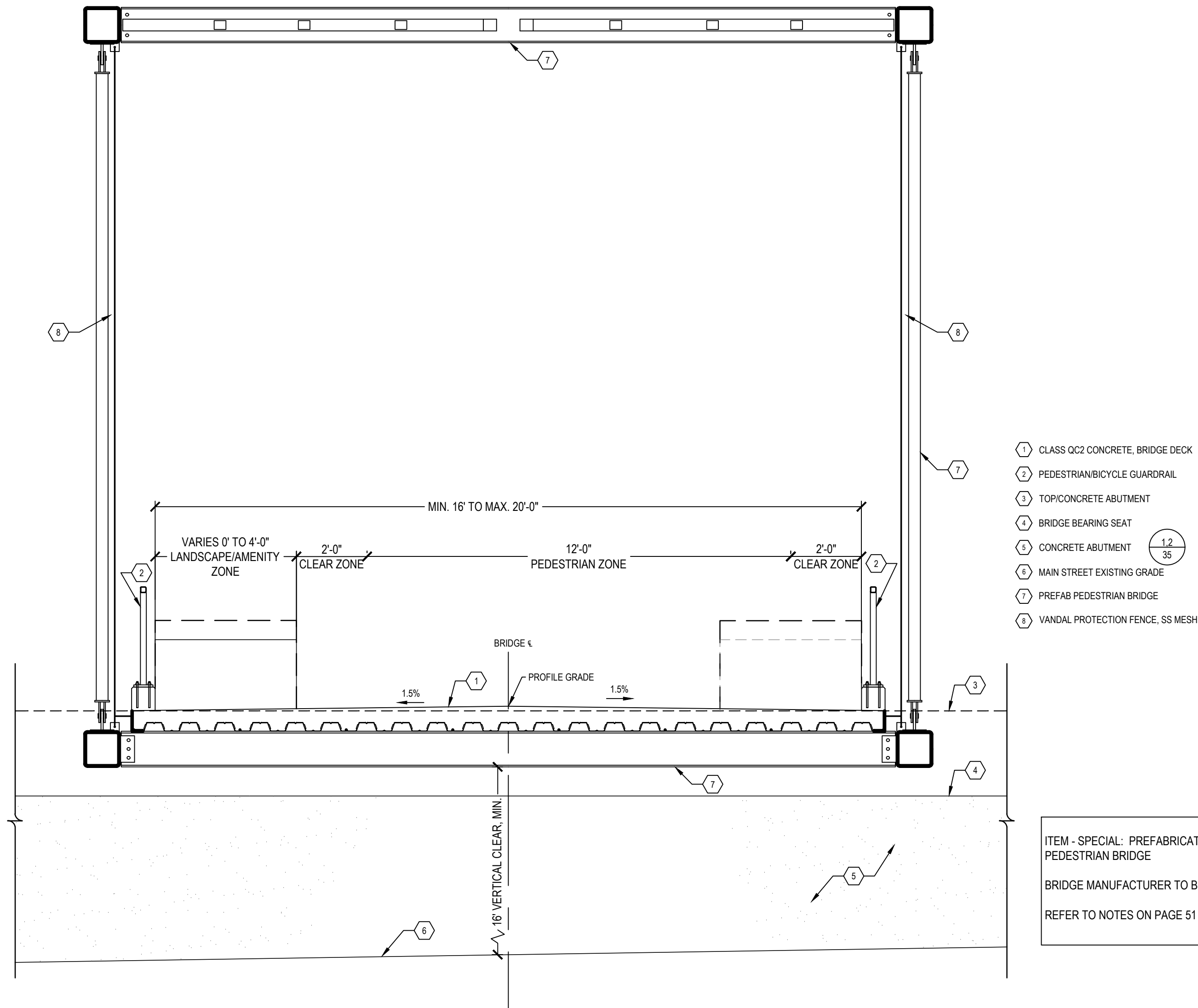
PRELIMINARY DRAWINGS, NOT FOR CONSTRUCTION

BRIDGE PLANS (ADD ALTERNATE 1)

LUC-RIVERSIDE TRAIL EAST

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1 PEDESTRIAN BRIDGE SECTION



- 1 CLASS QC2 CONCRETE, BRIDGE DECK
- 2 PEDESTRIAN/BICYCLE GUARDRAIL
- 3 TOP/CONCRETE ABUTMENT
- 4 BRIDGE BEARING SEAT
- 5 CONCRETE ABUTMENT
- 6 MAIN STREET EXISTING GRADE
- 7 PREFAB PEDESTRIAN BRIDGE
- 8 VANDAL PROTECTION FENCE, SS MESH

ITEM - SPECIAL: PREFABRICATED FULL THROUGH TIED-ARCH PEDESTRIAN BRIDGE
BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED
REFER TO NOTES ON PAGE 51 FOR PERFORMANCE SPECIFICATIONS.

SCALE: 1" = 30'

PRELIMINARY DRAWINGS, NOT FOR CONSTRUCTION

BEARING PLAN VIEW

BEARING SIDE VIEW

SCALE: 1/8" = 1'

GENERAL NOTES

ITEM - PEDESTRIAN BRIDGE

THESE SPECIFICATIONS ARE FOR FULLY ENGINEERED FULL THROUGH TIED-ARCH (OVERHEAD BRACING REQUIRED) BRIDGE OF STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND FABRICATION. THE WORK INCLUDED UNDER THIS ITEM SHALL CONSIST OF DESIGN, FABRICATING, FINISHING AND TRANSPORTING THE STEEL BRIDGE SUPERSTRUCTURE INCLUDING BEARINGS.

DEFINITIONS
OWNER: ENTITY WHO ULTIMATELY WILL OWN THE BRIDGE.
ENGINEER: ENGINEERING ENTITY OR FIRM WHO WILL BE REPRESENTING THE OWNER.
CONTRACTOR: ENTITY WHO WILL BE INSTALLING, AND/OR PURCHASING, THE BRIDGE.
BRIDGE MANUFACTURER: FIRM WHO WILL BE SUPPLYING THE BRIDGE IN ACCORDANCE WITH THESE SPECIAL PROVISIONS. BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED

QUALIFIED OF BRIDGE MANUFACTURER
EACH CONTRACTOR IS REQUIRED TO IDENTIFY THEIR INTENDED SUPPLIER AS PART OF THE BID SUBMITTAL. QUALIFIED BRIDGE MANUFACTURERS MUST HAVE AT LEAST 5 YEARS' EXPERIENCE FABRICATING THESE TYPES OF STRUCTURES AND SHALL HAVE AN UP TO DATE QUALITY CERTIFICATION BY AISC AS CERTIFIED BRIDGE FABRICATION - ADVANCED (MAJOR) WITH FRACTURE CRITICAL ENDORSEMENT AND SOPHISTICATED PAINT ENDORSEMENT. ALL SUPPLIERS SHALL FABRICATE THEIR PRODUCT, NO BROKERS ARE ALLOWED. BRIDGE MANUFACTURER TO BE ODOT LEVEL 6 PREQUALIFIED

THE ABOVE WILL BE EVALUATED BY THE ENGINEER FOR ACCURACY AND ABILITY TO PROVIDE THE BRIDGE IN ACCORDANCE WITH THESE SPECIFICATIONS.

BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL AND SUBMITTALS
THE BRIDGE MANUFACTURER SHALL HAVE AS A DIRECT EMPLOYEE, AN ENGINEER WHO IS EXPERIENCED IN BRIDGE DESIGN TO PERFORM ALL ENGINEERING RELATED TASK AND DESIGN. THE ENGINEER SHALL HAVE A MINIMUM OF 10 YEARS EXPERIENCE IN BRIDGE DESIGN AND BE A CURRENTLY LICENSED CIVIL OR STRUCTURAL ENGINEER IN THE STATE OF OHIO.
ENGINEERING DRAWINGS, 11X17 FORMAT, SHALL BE PREPARED AND SUBMITTED TO THE CONTRACTOR OR OWNER FOR THEIR REVIEW AFTER RECEIPT OF THE ORDER. SUBMITTAL DRAWINGS SHALL BE UNIQUE DRAWINGS, PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE BRIDGE BEING FABRICATED. ALL RELATIVE DESIGN INFORMATION SUCH AS MEMBER SIZE, ASTM/AASHTO MATERIAL SPECIFICATION, DIMENSION NECESSARY TO FABRICATE AND REQUIRED WELDING SHALL BE CLEARLY SHOWN ON THE DRAWINGS. DRAWINGS SHALL HAVE CROSS REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE STAMPED, SIGNED AND DATED BY THE BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL.
STRUCTURAL CALCULATIONS FOR THE DESIGN OF THE BRIDGE SUPERSTRUCTURE SHALL BE PREPARED AND SUBMITTED TO THE CUSTOMER FOR THEIR REVIEW AFTER RECEIPT OF THE ORDER. CALCULATIONS SHALL INCLUDE COMPLETE DESIGN, ANALYSIS AND CODE CHECKS FOR THE CONTROLLING MEMBERS, CONNECTIVITY AND SUPPORT CONDITIONS, TRUSS STABILITY CHECKS, DECK DESIGN, DEFLECTION CHECKS, BEARINGS AND ALL SPLICES.

APPLICABLE CODES AND STANDARDS

GOVERNING SPECIFICATIONS

BRIDGE SHALL BE DESIGNED IN COMPLIANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 (AASHTO PED). CALCULATIONS SHALL BE IN ACCORDANCE WITH THIS DOCUMENT, AND FORMULAS SHALL REFERENCE THE APPROPRIATE SECTIONS.

OTHER REFERENCE CODES, SPECIFICATIONS AND STANDARDS

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017 (AASHTO LRFD)
- AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION, 2005 (AASHTO SIGNS)
- AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017 (AISC)
- INTERNATIONAL BUILDING CODE, 2015 (IBC)
- AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, D1.1, 2015 (AWS D1.1)
- ASCE/SEI 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2010 (ASCE 7)
- OHIO DOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2019 (OHIO DOT)

THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES SHALL CONTROL IF ANY CONFLICTING REQUIREMENTS OCCUR WITH THE OTHER REFERENCE DOCUMENTS AND/OR OTHER LOCAL CODES.

BRIDGE SYSTEM TYPE

BRIDGE ELEVATION
THE BRIDGE IS TO BE OF A TRUE TIED-ARCH DESIGN WHERE THE TOP CHORD IS AN ARCH MEMBER AND THE BOTTOM CHORD IS THE TENSION TIE. DISTANCE FROM CENTER OF BOTTOM CHORD TO CENTER OF ARCH AT MID-SPAN IS TO BE 20'-6". END VERTICAL IS TO BE THE TRANSFER MEMBER OF THE END FORCES FROM THE BOTTOM CHORD AND THE TOP CHORD ARCH. END VERTICAL, BOTTOM CHORD ARCH AND ARCH MUST BE A MINIMUM HSS12X12 PERIMETER SIZE FOR ARCHITECTURAL CONFORMANCE.

HANGER STYLE
HANGERS ARE TO BE SPACED EVERY 10' ALONG THE HORIZONTAL. HANGERS ARE TO BE A MINIMUM HSS4X4 MEMBER, PINNED AT BOTH ENDS. HANGERS ARE TO BE PLUMB AFTER THE DEAD LOAD DEFLECTION HAS OCCURRED. ADDITIONAL ARCHITECTURAL MEMBERS OF A MINIMUM HSS3X3 ARE TO BE WELDED TO THE SIDES OF THE HANGERS TO GIVE THE VISUAL APPEARANCE OF "TREES" FOLLOW ARCHITECTURAL LAYOUT WITHIN THE CONTRACT DRAWINGS). ALL HSS3X3 MEMBERS ARE TO BE CAPPED TO PREVENT WATER INTRUSION.

UPPER BRACING
UPPER BRACING SHALL MINIMUM HSS3X3 MEMBERS AND TO BE DESIGNED TO Laterally SUPPORT THE TOP CHORD AND TRANSFER WIND FORCES TO THE ENDS OF THE BRIDGE. HORIZONTAL STRUT MEMBERS ARE TO BE DESIGNED TO ADEQUATELY SEPARATE THE TWO TOP CHORD ARCHES AND ARE TO BE THE SAME DEPTH AS THE MEMBER USED FOR THE TOP CHORD ARCHES. ADDITIONAL ARCHITECTURAL MEMBERS OF A MINIMUM HSS3X3 ARE TO BE INCLUDED WITHIN THE BRACING SYSTEM TO GIVE THE VISUAL APPEARANCE OF A "TREE CANOPY" FOLLOW ARCHITECTURAL LAYOUT WITHIN THE CONTRACT DRAWINGS. ALL MEMBERS SHALL BE CAPPED TO PREVENT WATER INTRUSION.

FLOOR BEAM LOCATION
THE BRIDGE SHALL UTILIZE A CONFIGURATION WHERE THE ENDS OF THE FLOOR BEAMS ARE FRAMED TO THE INTERIOR FACE OF THE BOTTOM CHORD. THE DISTANCE FROM THE TOP OF DECK TO THE BOTTOM OF THE BOTTOM CHORD SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER DURING FINAL DESIGN.

BRIDGE GEOMETRY

SPAN LENGTH
THE BRIDGE SPAN LENGTH SHALL BE 110'-0" (HORIZONTAL STRAIGHT-LINE DIMENSION) AND MEASURED FROM CENTER TO CENTER OF BEARINGS. THE BRIDGE MANUFACTURER SHALL DETERMINE FINAL OUT-TO-OUT OF THE BRIDGE SPAN.

WIDTH
THE BRIDGE WIDTH SHALL PROVIDE A MINIMUM CLEARANCE OF 20'-0" BETWEEN INSIDE FACE OF CONCRETE CURBS

INSIDE CLEAR HEIGHT ABOVE DECK
THE TOP OF THE TOP CHORD ABOVE THE DECK DIMENSION SHALL BE AS DETERMINED BY THE BRIDGE MANUFACTURER; HOWEVER, AT NO POINT IN THE BRIDGE SHALL THE INSIDE CLEAR HEIGHT BE LESS THAN 10'-6". THE CLEAR HEIGHT IS DEFINED AS THE DISTANCE FROM THE HIGH POINT OF THE DECK TO THE BOTTOM OF THE OVERHEAD STEEL MEMBERS.

LOWER STEEL CLEARANCE
THE BRIDGE MANUFACTURER SHALL DETERMINE THE DISTANCE FROM THE TOP OF THE DECK (MEASURED FROM THE HIGHEST POINT OF THE DECK) TO THE BOTTOM OF ANY STEEL MEMBER. THE CUSTOMER PREFERENCE FOR THIS DIMENSION IS APPROXIMATELY 1'-9".

TRUSS BAY SPACING
THE NUMBER OF BAYS AND THE DIMENSION OF THE PANEL POINTS SHALL BE 10' ON CENTER AS MEASURED ALONG THE HORIZONTAL.

CAMBER
A SINGLE SIMPLE-SPAN BRIDGE SHALL HAVE A VERTICAL CAMBER DIMENSION AT THE MID SPAN EQUAL TO 100% OF THE ANTICIPATED FULL DEAD LOAD DEFLECTION ROUNDED UP TO THE NEXT ¼" PLUS A PERMANENT CAMBER OF 8".

ELEVATION DIFFERENCE
THE TOP OF THE DECKS SHALL BE AT THE SAME ELEVATION AT EACH END OF THE BRIDGE.

STRUCTURAL DESIGN LOADS

DEAD LOAD
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR THE TOTAL BRIDGE WEIGHT INCLUDING THE FINAL DECK AND CURB SYSTEM. CURBS ARE TO BE A MINIMUM 8" WIDE BY 8" HIGH.

PEDESTRIAN LOADING (PL)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR A UNIFORM PEDESTRIAN LOADING OF 90 PSF. THIS LOADING SHALL BE PATTERED TO PRODUCE THE MAXIMUM LOAD EFFECTS. CONSIDERATION OF DYNAMIC LOAD ALLOWANCE IS NOT REQUIRED WITH THIS LOADING. LOAD IS TO BE APPLIED TO THE FULL 20' WALKWAY WIDTH, IN ADDITION TO THE PLANTER LOADING.

VEHICLE LOAD (VL)
WHEN VEHICULAR ACCESS IS NOT PREVENTED BY PERMANENT PHYSICAL METHODS, THE SUPERSTRUCTURE AND DECK SYSTEM SHALL BE DESIGNED FOR EACH OF THE FOLLOWING CONCENTRATED/VEHICULAR LOADS:
A. A CONCENTRATED LOAD OF 1,000 POUNDS PLACED ON ANY AREA 2.5' BY 2.5' SQUARE.
A SINGLE TRUCK SHALL BE PLACED TO PRODUCE THE MAXIMUM LOAD EFFECTS AND SHALL NOT BE PLACED IN COMBINATION WITH THE PEDESTRIAN LOAD. THE DYNAMIC LOAD ALLOWANCE NEED NOT BE CONSIDERED FOR THIS LOADING. THE TRUCK SHALL BE THE FOLLOWING:
H15-44 VEHICLE (30,000 POUND TWO-AXLE VEHICLE WITH 80% TO REAR AXLE).

WIND LOAD (WS)
PEDESTRIAN BRIDGES SHALL BE DESIGNED FOR WIND LOADS AS SPECIFIED IN AASHTO SIGNS, ARTICLES 3.8 AND 3.9. THE LOADING SHALL BE APPLIED OVER THE EXPOSED AREA IN FRONT ELEVATIONS OF BOTH TRUSSES INCLUDING ALL ENCLOSURES. HOWEVER, THE WIND LOAD DOES NOT NEED TO EXCEED THAT WHICH WOULD EQUAL A FORCE OF 45PSF APPLIED TO THE FULL ENCLOSED HEIGHT OF THE BRIDGE ON ONE SIDE.
IN ADDITION TO THE WIND LOAD SPECIFIED ABOVE, A VERTICAL UPLIFT LINE LOAD AS SPECIFIED IN AASHTO LRFD ARTICLE 3.8.2 AND DETERMINED AS THE FORCE CAUSED BY A PRESSURE OF 20PSF OVER THE FULL DECK WIDTH, SHALL BE APPLIED CONCURRENTLY. THIS LOADING SHALL BE APPLIED AT THE WINDWARD QUARTER POINT OF THE DECK WIDTH.

FATIGUE LOAD (FL)
THE FATIGUE LOADING SHALL BE AS SPECIFIED IN SECTION 11 OF AASHTO SIGNS. THE NATURAL WIND GUST SPECIFIED IN ARTICLE 11.7.1.2 AND THE TRUCK-INDUCED GUST SPECIFIED IN ARTICLE 11.7.1.3 OF AASHTO SIGNS ONLY NEED ONLY BE CONSIDERED, AS APPROPRIATE.

OTHER LOADS

A FENCING DEAD LOAD OF 40PLF IS TO BE ASSUMED TO BE APPLIED TO THE TOP OF THE CONCRETE CURB ON BOTH SIDES OF THE BRIDGE.

A UTILITY LOAD EQUAL TO 5PSF APPLIED OVER THE 20' DECK WIDTH IS TO BE ASSUMED TO ACCOUNT FOR FUTURE LIGHTING AND OTHER POTENTIAL UTILITIES.

A PLANTER LOADING OF 1500PLF IS TO BE APPLIED TO THE FLOOR SYSTEM, 2' OUT FROM THE CURB INSIDE FACE, ON BOTH SIDES OF THE BRIDGE FOR THE FULL LENGTH OF THE BRIDGE. THIS IS TO ALLOW FLEXIBILITY IN THE SIZE AND LOCATION OF FUTURE PLANTER LOCATIONS.

COMBINATION OF LOADS

THE LOAD COMBINATIONS AND LOAD FACTORS TO BE USED SHALL BE AS SPECIFIED IN AASHTO LRFD TABLE 4.1.1, AND TRUCK AND TRAILER LOADS SHALL BE AS SPECIFIED IN AASHTO LRFD TABLE 4.1.1.1. LOAD COMBINATIONS STRENGTH II, STRENGTH IV, AND STRENGTH V NEED NOT BE CONSIDERED.
-THE LOAD FACTOR FOR FATIGUE II LOAD COMBINATION SHALL BE TAKEN AS 1.0, AND FATIGUE II LOAD COMBINATION NEED NOT BE CONSIDERED.

STRUCTURAL DESIGN CRITERIA

MODELING
THE BRIDGE SHALL BE MODELED AND ANALYZED UTILIZING A THREE-DIMENSIONAL COMPUTER SOFTWARE WHICH SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY MUST BE CONSIDERED. ANALYZING THE TRUSS AS A PURE PINNED STRUCTURE WILL NOT BE ALLOWED. ALL LOADS LISTED IN SECTION 5 OF THESE SPECIFICATIONS SHALL BE APPLIED TO THE MODEL AND ANALYZED APPROPRIATELY.

LATERAL FRAME DESIGN
THE BRIDGE SHALL BE DESIGNED AND PROPORTION SUCH THAT APPROPRIATE LATERAL STIFFNESS IS PROVIDED LOCALLY AND GLOBALLY, TO INSURE THAT THE STRUCTURE IS STABLE.
FOR TIED-ARCH BRIDGES WITH OVERHEAD BRACING MEMBERS, THE TOP FRAME STRUTS AND ARCH (TRUSS PORTAL) AND THEIR CONNECTIONS SHALL BE PROPORTIONED TO RESIST A LATERAL FORCE APPLIED ALONG THE TOP CHORD ARCH. THIS LATERAL FORCE SHALL BE THEN ADDED TO THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL. THE MAGNITUDE OF THIS LATERAL FORCE SHALL NOT BE LESS THAN 0.01 TIMES THE AVERAGE FACTORED DESIGN COMBINATIVE FORCE IN THE TWO ADJACENT TOP CHORD ARCH MEMBERS. IN ADDITION, THE END PORTALS (END FLOOR BEAMS AND END PORTAL STRUTS) SHALL BE PROPORTIONED TO RESIST A LATERAL FORCE APPLIED ALONG THE TOP CHORD ARCH WITH A MAGNITUDE BASED ON THE LATERAL WIND LOAD APPLIED TO THE END PORTALS ONLY ASSUMING ALL INTERIOR PORTALS ARE PINNED.
THE TOP CHORD ARCH SHALL BE ANALYZED AS A COLUMN WITH ELASTIC LATERAL SUPPORTS AT THE PANEL POINTS, CONSIDERING ALL MOMENTS DUE TO IN-PLANE AND OUT-OF-PLANE BENDING, ALONG WITH MOMENTS DUE TO ECCENTRICITIES OF THE MEMBERS.
THE FLOOR BEAMS SHALL ALWAYS BE SIZED FOR THE FORCES OBTAINED FROM A SIMPLE SPAN, PINNED END ANALYSIS, OR FROM THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL, WHICHEVER CONTROLS.
THE BRACE DIAGONALS SHALL BE ANALYZED AS PINNED-END CONNECTION MEMBERS. ALL OTHER MEMBERS SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/860 OF THE SPAN LENGTH.
THE HORIZONTAL DEFLECTION OF THE BRIDGE UNDER UNFACTORED WIND LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

FRACTURE
THE BOTTOM CHORD SHALL BE DESIGNATED AS A FRACTURE CRITICAL MEMBER AND SHALL MEET THE REQUIREMENTS OF ARTICLE 8.2.3 OF AASHTO PED. THE BOTTOM CHORD AND HANGERS SHALL MEET A ZONE 2 CHARTY REQUIREMENT.

VIBRATIONS
VIBRATION OF THE STRUCTURE SHALL NOT CAUSE DISCOMFORT OR CONCERN TO THE USERS OF THE BRIDGES. TO ASSURE THIS, THE FUNDAMENTAL FREQUENCY (F) OF THE PEDESTRIAN BRIDGE IN THE VERTICAL DIRECTION, WITHOUT LIVE LOAD, SHALL BE GREATER THAN 3.0 HERTZ (HZ) TO AVOID THE FIRST HARMONIC. THE FUNDAMENTAL FREQUENCY OF THE PEDESTRIAN BRIDGE IN THE LATERAL DIRECTION, SHALL BE GREATER THAN 1.3 HZ. IF THE FUNDAMENTAL FREQUENCY CANNOT SATISFY THESE LIMITATIONS THEN THE BRIDGE SHOULD BE PROPORTIONED SUCH THAT EITHER OF THE FOLLOWING CRITERIA ARE SATISFIED:
$$F > 2.86 \sqrt{L \text{ (180W)}}$$

OR
$$W > 180 \sqrt{E - (0.35 * F)}$$

WHERE W IS THE WEIGHT OF THE BRIDGE IN KIPS AND F IS THE FUNDAMENTAL FREQUENCY IN THE VERTICAL DIRECTION IN HZ.

DECK SYSTEM

DECK SYSTEM
DECK TO BE COMPRISED OF REINFORCED CONCRETE DESIGNED TO SPAN FROM FLOOR BEAM TO FLOOR BEAM.
REINFORCED CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (145 POUNDS PER CUBIC FOOT MAXIMUM) AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, WITH AN AIR CONTENT OF 5% ± 1%.
CONCRETE MIX DESIGN, MATERIALS, QUALITY, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF OHIO DOT.
THE SURFACE OF DECK CONCRETE SHALL BE FINISHED WITH A SIDEWALK FINISH PER OHIO DOT.
STAY-IN-PLACE GALVANIZED (G90 COATING) METAL FORM DECK SHALL BE USED AND SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE WET CONCRETE PLUS A 20 POUNDS PER SQUARE FOOT CONSTRUCTION LOAD. FORM DECK SHALL BE FIELD ATTACHED TO FLOOR BEAMS VIA SELF-DRILLING FASTENERS OR POWER ACTUATED FASTENERS. WELDING SHALL NOT BE USED ON PAINTED OR GALVANIZED BRIDGES. THE LONGITUDINAL SHEET LAPS SHALL BE ATTACHED WITH SELF-DRILLING SELF-TAPPING FASTENERS AT 36-INCH MAXIMUM SPACING. THE ATTACHMENT OF THE FORM DECK TO THE FLOOR BEAMS IS ONLY NECESSARY TO KEEP THE FORM DECK IN PLACE DURING TRANSPORTATION AND DURING THE CONCRETE PLACEMENT. THE FORM DECK IS NOT TO BE USED FOR DIAPHRAGM ACTION OR COMPOSITE ACTION AND PROVIDES NO STRUCTURAL BENEFIT TO THE TRUSS OR THE DECK AFTER THE CONCRETE IS SET. METAL FORM DECK PANELS SHALL BE OF A LENGTH TO SPAN A MINIMUM OF TWO BAYS OF THE TRUSS SUPPORTS. THE TOP OF DECK TO BOTTOM OF FORM DECK SHALL BE AS REQUIRED TO SUPPORT THE ANTICIPATED LOADS BUT SHALL NOT BE LESS THAN 4".
THE CONCRETE DECK SHALL BE DESIGNED TO SPAN LONGITUDINALLY FROM FLOOR BEAM TO FLOOR BEAM AND TO SUPPORT THE LOADS SPECIFIED IN SECTION 5.0 OF THESE SPECIFICATIONS.

A DISTRIBUTION WIDTH OF DECK IS ALLOWED, TO SUPPORT THE ANTICIPATED VEHICLE WHEEL LOADS. THIS DISTRIBUTION WIDTH (E IN FEET) SHALL BE THE NARROWER OF THE FOLLOWING:
$$E = 4 + .06S$$

WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
ONE-HALF OF THE TOTAL DRIVING WIDTH OF THE BRIDGE DECK.
0.75 TIMES THE LATERAL WHEEL SPACING OF THE VEHICLE.
0.6S ± WHEEL WIDTH
WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
THE WHEEL WIDTH (W IN INCHES) IS $2.5 \sqrt{(0.01 \text{ P})/2.5}$, WHERE P IS THE WHEEL LOAD IN POUNDS

REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 EPOXY COATED BARS (ASTM A775). ALL BAR ENDS, ANCHORAGE AND SPLICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. TOP REINFORCING SHALL HAVE A MINIMUM CLEARANCE OF 1.5" TO THE TOP OF DECK FOR #5 BARS OR SMALLER AND 2" FOR BARS LARGER THAN #5.

BRIDGE MANUFACTURER SHALL DESIGNATE THE ESTIMATED SLAB THICKNESS AND REINFORCING REQUIREMENTS AT TIME OF QUOTATION. THESE ESTIMATES ARE TO BE USED FOR QUOTING PURPOSES ONLY. ACTUAL QUANTITIES MAY VARY DURING THE FINAL DESIGN PROCESS, WITH COSTS VARIANCES DUE TO ANY CHANGES TO THE QUANTITIES BEING THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUPPLY ALL CONCRETE AND REINFORCING MATERIALS.

MATERIALS OF CONSTRUCTION

STRUCTURAL STEEL
BRIDGE SHALL BE FABRICATED USING A500 GRADE C FOR HSS SECTIONS, A992 FOR STRUCTURAL SHAPES AND A572 FOR PLATES. DUE TO MATERIAL ACQUISITION AND AVAILABILITY, THE BRIDGE MANUFACTURER'S MAY ELECT TO USE A847 AND A588 MATERIAL.
MINIMUM NOMINAL THICKNESS OF PRIMARY HOLLOW STRUCTURAL SHAPES SHALL BE 1/4". ROLLED SHAPES USED AS STRUCTURAL MEMBERS SHALL HAVE A MINIMUM FLANGE THICKNESS OF 5/16". NON-STRUCTURAL MEMBERS SHALL HAVE A MINIMUM THICKNESS OF 1/2".

FASTENERS
STRUCTURAL BOLTS USED TO FIELD SPLICE OR CONNECT ALL MAIN MEMBERS SHALL BE ASTM F3125 GRADE A325. THEY WILL BE TYPE 1 (HOT-DIPPED OR MECHANICALLY GALVANIZED) AS SPECIFIED BY THE BRIDGE MANUFACTURER.
SELF-DRILLING FASTENERS FOR ATTACHMENT OF THE FORM DECKING SHALL BE #14 X 1" ZINC PLATED HEX WASHER HEAD TEK SCREWS.
POWER ACTUATED FASTENERS SHALL BE HILTI SHEET METAL NAIL X-ENP-19 FASTENER.
OTHER MISCELLANEOUS FASTENERS SHALL BE ASTM A307 ZINC PLATED OR GALVANIZED, AS DETERMINED BY THE BRIDGE MANUFACTURER.

FINISH

STEEL SURFACE CLEANING
ALL SURFACES OF STRUCTURAL STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 10, SSPC-SP10 NEAR-WHITE BLAST CLEANING.

STEEL SURFACE FINISH
PAINT:
PAINTED STRUCTURES REQUIRE SPECIAL FABRICATION DETAILS TO ENSURE THAT ALL EXPOSED SURFACES RECEIVE THE PROPER SURFACE PREPARATION AND CORRECT AMOUNT OF PAINT. WHEN OVERLAPPING STEEL SURFACES OCCUR, A SPACE OF 1/8" OR GREATER MUST BE MAINTAINED. IF THIS SPACE CANNOT BE MAINTAINED, THEN STEEL SPACERS SHALL BE INSERTED TO ELIMINATE THE SPACE. ALL OVERLAPPING STEEL SURFACES WITH A SPACE LESS THAN 1/8" SHALL BE SEAL WELDED ALL AROUND TO PREVENT ACCESS BY WATER. CAULKING OF OVERLAPPING SURFACES SHALL NOT BE ALLOWED.
THREE-COAT SYSTEM SHALL BE A PRIMER COAT OF COROTHANE I GALVAPAC ONE PACK ZINC PRIMER BY SHERWIN WILLIAMS, 3.0-4.0 MILS DFT, COLOR GRAY, AN INTERMEDIATE COAT OF MACROPOXY 646 FAST CURE EPOXY BY SHERWIN WILLIAMS, 5.0-10.0 MILS DFT, COLOR MILL WHITE, AND A FINISH COAT OF ACROLON 218 HS ACRYLIC POLYURETHANE BY SHERWIN WILLIAMS, 3.0-6.0 MILS DFT, COLOR TO BE SELECTED BY OWNER.

ATTACHMENTS

FENCING
FENCE SYSTEM SHALL BE EXTEND CXXE STAINLESS STEEL MESH WITH CABLE ATTACHMENT SYSTEM. MESH SYSTEM TO BE INSERT IN BETWEEN THE BOTTOM CHORD AND THE TOP CHORD ARCH. BRIDGE MANUFACTURER TO WELD 3" X 3" PLATE TABS, WITH A 1/2" DIAMETER HOLE IN THE CENTER OF THE TAB, AT 18" TO 24" SPACING AROUND THE INSIDE OF THE BOTTOM CHORD AND THE TOP CHORD ARCH FOR ATTACHMENT OF THE CABLE.

RAILING
RAILING TO BE AS MANUFACTURED BY AMETCO MANUFACTURING AND AS SHOWN IN DETAILS OF THE CONTRACT DRAWINGS. RAILING TO BE ATTACHED TO THE TOP OF THE CONCRETE CURB WITH POST INSTALLED ANCHORS, DESIGNED TO RESIST THE ANTICIPATED RAILING APPLIED FORCES. ALL OPENINGS THROUGHOUT THE STRUCTURE TO BE NO GREATER THAN 2" TO PREVENT ITEMS FROM FALLING ONTO THE ROADWAY BELOW.

EXPANSION JOINT
THE GAP BETWEEN THE END OF THE BRIDGE DECK AND THE BACK WALL OF THE FOUNDATION SYSTEM SHALL BE FILLED WITH THE DSM WATERTIGHT EXPANSION JOINT SYSTEM AS MANUFACTURED BY EISEAL, INC.

BEARINGS BEARING TYPE
THE FIXED AND EXPANSION BEARINGS SHALL USE GRADE 4, 60-DUROMETER NEOPRENE OR NATURAL RUBBER PLAIN OR LAYERED ELASTOMERIC PAD UNDERNEATH A STEEL BEARING PLATE. THE PAD SHALL BE DESIGNED TO TRANSFER ALL LOADS FROM THE FOUNDATION. SIZE SHALL BE PER LOADS AND ANTICIPATED MOVEMENTS DETERMINED BY THE BRIDGE MANUFACTURER. BOTH EXPANSION AND FIXED BEARINGS SHALL HAVE SLOTTED HOLES FOR EASE OF INSTALLATION. BOTTOM NUT ON THE ANCHOR BOLT SHALL BE FINGER TIGHT AND TOP NUT TIGHT AT EXPANSION BEARINGS AND BOTH NUTS ON ANCHOR BOLT TIGHT AT FIXED BEARINGS. A 1/2" THICK GALVANIZED MASONRY PLATE WITH KEEPER BARS SHALL ALSO BE USED AS THE LOWER BEARING SURFACE OF THE ELASTOMERIC PAD.

DESIGN TEMPERATURE RANGE
THE DESIGN TEMPERATURE RANGE WILL BE SITE SPECIFIC AND WILL BE DETERMINED PER AASHTO LRFD ARTICLE 3.12.2.

NON-SHRINK GROUTING
THE BRIDGE WILL BE SUPPLIED WITH A LOWER MASONRY PLATE. THIS MASONRY PLATE SHALL BE LEVELED AND SHIMMED TO THE PROPER ELEVATION. THE SPACE BETWEEN THE LOWER SURFACE OF THE SETTING PLATE AND THE FOUNDATION SURFACE SHALL BE FILLED WITH A NON-SHRINK GROUT CAPABLE OF ACHIEVING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 POUNDS PER SQUARE INCH. THE COST OF THE LEVELING, SHIMMING AND NON-SHRINK GROUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ANCHOR BOLTS
BRIDGE MANUFACTURER SHALL DESIGN THE DIAMETER AND GRADE OF ANCHOR BOLTS, BASED ON THE SHEAR AND TENSILE STRENGTH OF THE ANCHOR ROD MATERIAL ONLY. ALL DESIGN CONSIDERATIONS REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION, PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRY OUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER AND SHALL BE SHOWN ON THE FINAL CONTRACT PLANS. ALL ANCHOR BOLTS SHALL BE GALVANIZED. THE FOUNDATION ENGINEER SHALL DETERMINE IF THE ANCHOR RODS SHALL BE CAST-IN-PLACE, DRILLED/EPOXY, OR EXPANSION ANCHORS. ANCHOR BOLTS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

FABRICATION

WELDING
WELDING PROCEDURES AND WELD QUALIFICATION TEST PROCEDURES SHALL CONFORM TO THE PROVISIONS OF AWS D1.1. FILLER METAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWS FILLER METAL SPECIFICATION AND SHALL MATCH THE CORROSION PROPERTIES OF THE BASE METAL.

WELDERS
WELDERS SHALL BE QUALIFIED FOR EACH PROCESS AND POSITION USED WHILE FABRICATING THE BRIDGE. QUALIFICATION TESTS SHALL BE IN ACCORDANCE WITH AWS D1.1. ALL WELD QUALIFICATIONS AND RECORDS SHALL BE KEPT IN ACCORDANCE WITH THE FABRICATOR'S QUALITY ASSURANCE MANUAL WHICH HAS BEEN APPROVED BY AISC.

SHOP SPLICES
SHOP SPLICES FOR MAIN MEMBERS SHALL BE FULL PENETRATION WELDS ALL AROUND THE PERIMETER OF THE MEMBER. THESE SHOP SPLICES SHALL BE PERFORMED USING A FULL PERIMETER BACKING PLATE. AFTER WELDING OF THE SHOP SPLICES, THE WELD SHALL BE GROUND SMOOTH TO MATCH THE PERIMETER OF THE MEMBER. GRINDING THESE WELDS SMOOTH IS REQUIRED AND WILL BE GROUNDS FOR REJECTION OF THE BRIDGE UPON DELIVERY IF NOT COMPLETED.

BOLTED SPLICES
FOR SHIPPING PURPOSES, THE BRIDGE MAY BE FABRICATED IN SECTIONS. SECTIONS SHALL BE FIELD ASSEMBLED USING BOLTED CONNECTIONS. NO FIELD WELDING OF MEMBERS SHALL BE ALLOWED.
THE CHORD MEMBERS OF THE BRIDGE SHALL BE BOLTED SUCH THAT ALL FACES OF THE MEMBER ARE BOLTED. THIS IS TO PROVIDE EQUAL FORCE DISTRIBUTION AROUND THE PERIMETER OF THE MEMBER. BOLTING IN ONLY TWO FACES OF AN HSS IS NOT ALLOWED. NO THROUGH-BOLTING OF THE MEMBER IS ALLOWED.
THE DIAGONALS AND BRACE DIAGONALS SHALL BE BOLTED UTILIZING A THROUGH-BOLT SYSTEM WITH PLATES ON THE EXTERIOR FACES OF THE MEMBERS. AN INTERNAL STIFFENING PLATE IS REQUIRED TO KEEP THE MEMBER FROM CRUSHING DURING THE BOLT TIGHTENING PROCESS.
ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS. RECOMMENDED TIGHTENING METHOD OF ALL STRUCTURAL BOLTS SHALL BE TURN-OF-THE-NUT PRETENSIONING. NO WASHERS WILL BE REQUIRED OR FURNISHED BY THE BRIDGE MANUFACTURER.

QUALITY CONTROL

AISC CERTIFICATION
THE BRIDGE SHALL BE FABRICATED IN A SHOP OWNED BY THE BRIDGE MANUFACTURER. THIS FACILITY SHALL HAVE UP TO DATE QUALITY CERTIFICATION BY AISC AS CERTIFIED BRIDGE FABRICATION - ADVANCED (MAJOR) WITH FRACTURE CRITICAL ENDORSEMENT AND SOPHISTICATED PAINT ENDORSEMENT.

CERTIFIED WELD INSPECTOR
THE BRIDGE MANUFACTURER SHALL EMPLOY A CERTIFIED WELD INSPECTOR (CWI), WITH ENDORSEMENT BY AWS QC1. THIS CWI SHALL BE PRESENT DURING THE COMPLETE FABRICATION OF THE BRIDGE. THE CWI SHALL PROVIDE WRITTEN DOCUMENTATION THAT THE BRIDGE HAS BEEN FABRICATED IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPROVED DESIGN DRAWINGS.

DOCUMENTATION
MATERIAL CERTIFICATIONS SHALL BE AVAILABLE FOR REVIEW FOR ALL MATERIALS WITHIN THE BRIDGE. TRACEABILITY OF HEAT NUMBERS IS REQUIRED FOR ALL STEEL.
DOCUMENTATION SHOWING THE PERFORMANCE OF ALL CRITICAL QUALITY CHECKS SHALL ALSO BE MADE AVAILABLE FOR REVIEW BY THE ENGINEER OR OWNER.

NON-DESTRUCTIVE TESTING
ALL WELDS WITHIN THE STRUCTURE, SHALL BE VISUALLY INSPECTED FOR CONFORMANCE TO SIZE, UNDER CUT, PROFILE AND FINISH.
ALL SHOP SPLICES OF MAIN TRUSS MEMBERS SHALL BE MAGNETIC PARTICLE TESTED.

DELIVERY AND ERECTION

DELIVERY
DELIVERY SHALL BE MADE VIA TRUCK TO A LOCATION NEAREST THE SITE WHICH IS ACCESSIBLE TO NORMAL OVER-THE-ROAD EQUIPMENT. ALL TRUCKS DELIVERING BRIDGE MATERIALS WILL NEED TO BE UNLOADED AT THE TIME OF ARRIVAL. THE ERECTION CONTRACTOR NEEDS SPECIAL DELIVERY OR DELIVERY IS RESTRICTED TO THE BRIDGE. NOTIFY THE BRIDGE MANUFACTURER OF THE BID DATE. THIS INCLUDES SITE ISSUES WHICH MAY PREVENT OVER-THE-ROAD EQUIPMENT FROM ACCESSING THE SITE.
STEERABLE DOLLIES ARE NOT USED IN THE COST PROVIDED BY THE BRIDGE MANUFACTURER. DETERMINING THE LENGTH OF BRIDGE SECTION WHICH CAN BE DELIVERED IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE COMMUNICATED TO THE BRIDGE MANUFACTURER PRIOR TO THE BID DATE.

INSTALLATION & LIFTING PROCEDURES
THE BRIDGE MANUFACTURER WILL PROVIDE STANDARD TYPICAL WRITTEN PROCEDURES FOR LIFTING AND SPLICING THE BRIDGE. ALL ACTUAL METHODS, EQUIPMENT AND SEQUENCE OF ERECTION USED ARE THE RESPONSIBILITY OF THE CONTRACTOR.

WARRANTY
THE BRIDGE MANUFACTURER SHALL WARRANT THEIR STEEL STRUCTURE(S) TO BE FREE OF DESIGN, MATERIAL, AND WORKMANSHIP DEFECTS FOR A PERIOD OF TEN YEARS FROM THE EARLIER OF THE DATE OF DELIVERY OR FROM 90 DAYS AFTER FINAL FABRICATION. THIS WARRANTY SHALL NOT COVER DEFECTS IN THE BRIDGE CAUSED BY ABUSE, MISUSE, OVERLOADING, ACCIDENT, IMPROPER MAINTENANCE, ALTERATION, OR ANY OTHER CAUSE NOT THE RESULT OF DEFECTIVE MATERIALS OR WORKMANSHIP. THIS WARRANTY SHALL BE VOID UNLESS OWNER'S RECORDS CAN BE SUPPLIED WHICH SHALL INDICATED COMPLIANCE WITH THE MINIMUM GUIDELINES SPECIFIED IN THE INSPECTION AND MAINTENANCE PROCEDURES. PAINT, GALVANIZING AND OTHER SPECIAL COATINGS SHALL BE WARRANTED BY THE COATING MANUFACTURER AND IS NOT COVERED BY THE BRIDGE MANUFACTURER. REPAIR OR REPLACEMENT SHALL BE THE EXCLUSIVE REMEDY FOR DEFECTS UNDER THIS WARRANTY. THE BRIDGE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THEIR STRUCTURES. USE OF DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE WILL VOID THIS WARRANTY.

ITEM - FENCE, MISC.: VANDAL PROTECTION FENCE, SS MESH, AS PER PLAN

THIS ITEM WILL BE USED TO PROVIDE STAINLESS STEEL FLEXIBLE MESH GUARDRAIL INFILL AND FENCING HARDWARE FOR PEDESTRIAN BRIDGE AND ARCHED TRELS.
MANUFACTURED AND INSTALLED TO MEET OR EXCEED MANUFACTURER'S AND PROJECT PERFORMANCE CRITERIA WHILE ALSO MEETING ODOT VANDAL PROTECTION STANDARDS.

SUBMITTALS
- PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA SHEET FOR SPECIFIED PRODUCTS.
- SHOP DRAWINGS: SHOW LAYOUT, SIZES, DIMENSIONS, DETAILS, AND INSTALLATION OF RAILING

FRAME COMPONENTS, INCLUDE MESH APERTURE AND ROPE DIMENSIONS, CABLE AND MESH ATTACHMENT HARDWARE, TENSIONING DEVICES, MOUNTING METHODOLOGY. COORDINATE WITH BRIDGE MANUFACTURER WHERE SS MESH IS BEING ATTACHED TO BRIDGE STRUCTURE.
- SAMPLES: SUBMIT SAMPLES OF MESH AND SUPPORT HARDWARE, AS REQUIRED.

QUALITY ASSURANCE/ CONTROL, SUBMITTALS
TEST REPORTS: SUBMIT ANY TEST REPORT DEMONSTRATING COMPLIANCE WITH INTENDED USE AND CODE REQUIREMENTS.
SUBMIT MANUFACTURER'S CERTIFICATE THAT PRODUCT MEETS OR EXCEEDS SPECIFIED REQUIREMENTS. SUBMIT MANUFACTURER'S STANDARD WARRANTY DOCUMENTS. INCLUDE MANUFACTURER'S STANDARD CLEANING AND MAINTENANCE INSTRUCTIONS TO AVOID DETRIMENTAL ACTIONS TO FINISHES AND PERFORMANCE.

QUALITY ASSURANCE
QUALIFICATIONS
INSTALLER QUALIFICATIONS: INSTALLER SHOULD BE EXPERIENCED IN PERFORMING WORK OF THIS SECTION AND SHOULD HAVE SPECIALIZED IN INSTALLATION OF WORK SIMILAR TO THAT REQUIRED FOR THIS PROJECT.
MOCK-UPS: INSTALL AT PROJECT SITE OR APPROPRIATE LOCATION A JOB MOCK-UP USING ACCEPTABLE PRODUCTS AND MANUFACTURER APPROVED INSTALLATION METHODS. OBTAIN OWNER'S AND ARCHITECT'S APPROVAL OF PRODUCT, APPLICATION, AND WORKMANSHIP STANDARDS.
MOCK-UP SIZE: 8' X 8' OR AS APPROVED IN WRITING BY OWNER.
MAINTENANCE AND DISPOSAL: MAINTAIN MOCK-UP DURING CONSTRUCTION FOR WORKMANSHIP COMPARISON.
INCORPORATION: MOCK-UP MAY BE INCORPORATED INTO FINAL CONSTRUCTION UPON OWNER'S APPROVAL.

PRE-INSTALLATION MEETINGS:
CONDUCT MEETINGS WITH BRIDGE MANUFACTURER AND CONTRACTOR/INSTALLER WHOSE WORK INVOLVES RAILING SYSTEM TO VERIFY PROJECT REQUIREMENTS, FRAMING AND SUPPORT CONDITIONS, MOUNTING SURFACES, MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND WARRANTY REQUIREMENTS.

GENERAL: COMPLY WITH MANUFACTURER'S ORDERING INSTRUCTIONS AND LEAD TIME REQUIREMENTS TO AVOID CONSTRUCTION DELAYS.
DELIVERY: DELIVER IN MANUFACTURER'S ORIGINAL, UNOPENED, UNDAMAGED CONTAINERS, IDENTIFICATION LABELS INTACT.
STORAGE AND PROTECTION: STORE MATERIALS PROTECTED FROM EXPOSURE TO HARMFUL WEATHER CONDITIONS AND AT TEMPERATURE AND HUMIDITY CONDITIONS RECOMMENDED BY MANUFACTURER. STORE CARTONS AND PANELS IN A SECURE LOCATION IN A DRY PLACE AT THE PROJECT SITE.

MANUFACTURER'S WARRANTY:
SUBMIT, FOR OWNER'S ACCEPTANCE, MANUFACTURER'S STANDARD WARRANTY DOCUMENT EXECUTED BY AUTHORIZED COMPANY OFFICIAL.

PRODUCT: STAINLESS STEEL FLEXIBLE MESH INFILL FOR APPLICATION ON PEDESTRIAN BRIDGE AND ARCHED TRELIS

MANUFACTURED AND SOLD BY:
1. CARL STAHL DECORCABLE INNOVATIONS, INC. SALES@DECORCABLE.COM, WEB: WWW.DECORCABLE.COM
2. JAKOB ROPE SYSTEMS. INFO@JAKOB-USA.COM, 1-866-215-1421
3. OR ODOT APPROVED EQUAL

MATERIAL:
TYPE 316 STAINLESS STEEL 7X7 (OR 7X19) WIRE ROPE JOINED WITH 316 STAINLESS STEEL FERRULES. CABLE DIAMETER X MESH APERTURE DIMENSIONS 2.0MM X 40MM
PERIMETER FINISHES: CLOSED LOOPS WITH LOOSE FERRULES FOR "SEWN-ON" INSTALLATION METHOD. COORDINATE DIRECTLY WITH MANUFACTURER AND OWNER. FERRULE STYLE: SEAMLESS AISI 316L STAINLESS STEEL FERRULE

SUPPORT FRAME STYLE:
I-SYS INOX 7X7 (OR 7X19) CONSTRUCTION STAINLESS STEEL WIRE ROPE. SUPPORTS TO BE SPACED NO MORE THAN 5 FEET APART, DEPENDING ON SIZE AND CONSTRUCTION OF SUPPORT ROPES.

FITTINGS AND ACCESSORIES
GENERAL: ATTACHMENT CABLE MATERIAL: TYPE 316 STAINLESS STEEL 7X7 (OR 7X19) WIRE ROPE.
ACCESSORIES: PROVIDE GROMMET, BUSHINGS, WASHERS, SWAGING FERRULES, STUDS, RECEIVERS, FITTINGS AND OTHER COMPONENTS AS REQUIRED FOR SYSTEM INSTALLATION.

FABRICATION
INFILL CONSTRUCTION: INFILL PANELS SHALL BE DIMENSIONED AND MANUFACTURED TO SPECIFIED SIZE AND LABELED ACCORDING TO INSTALLER'S SPECIFICATIONS.

MANUFACTURER'S INSTRUCTIONS
COMPLIANCE: COMPLY WITH MANUFACTURER'S PRODUCT DATA, INCLUDING PRODUCT TECHNICAL BULLETINS, PRODUCT CATALOG INSTALLATION INSTRUCTIONS AND PRODUCT CARTON INSTRUCTIONS FOR INSTALLATION.

SITE VERIFICATION OF CONDITIONS:
TAKE FIELD MEASUREMENTS AFTER PERMANENT END TERMINATIONS ARE IN PLACE AND PRIOR TO PREPARATION OF SHOP DRAWINGS AND FABRICATION, TO ENSURE FITTING OF WORK.

INSTALLATION
INSTALL MESH INFILL SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND THE APPROVED SHOP DRAWINGS. PROVIDE ANCHORAGE DEVICES AND FIT