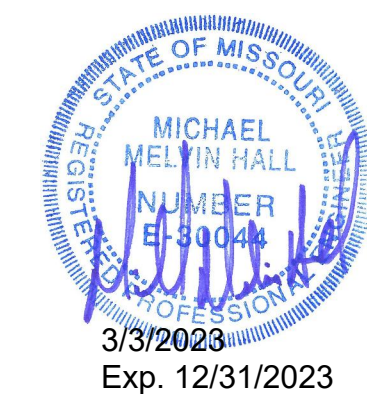
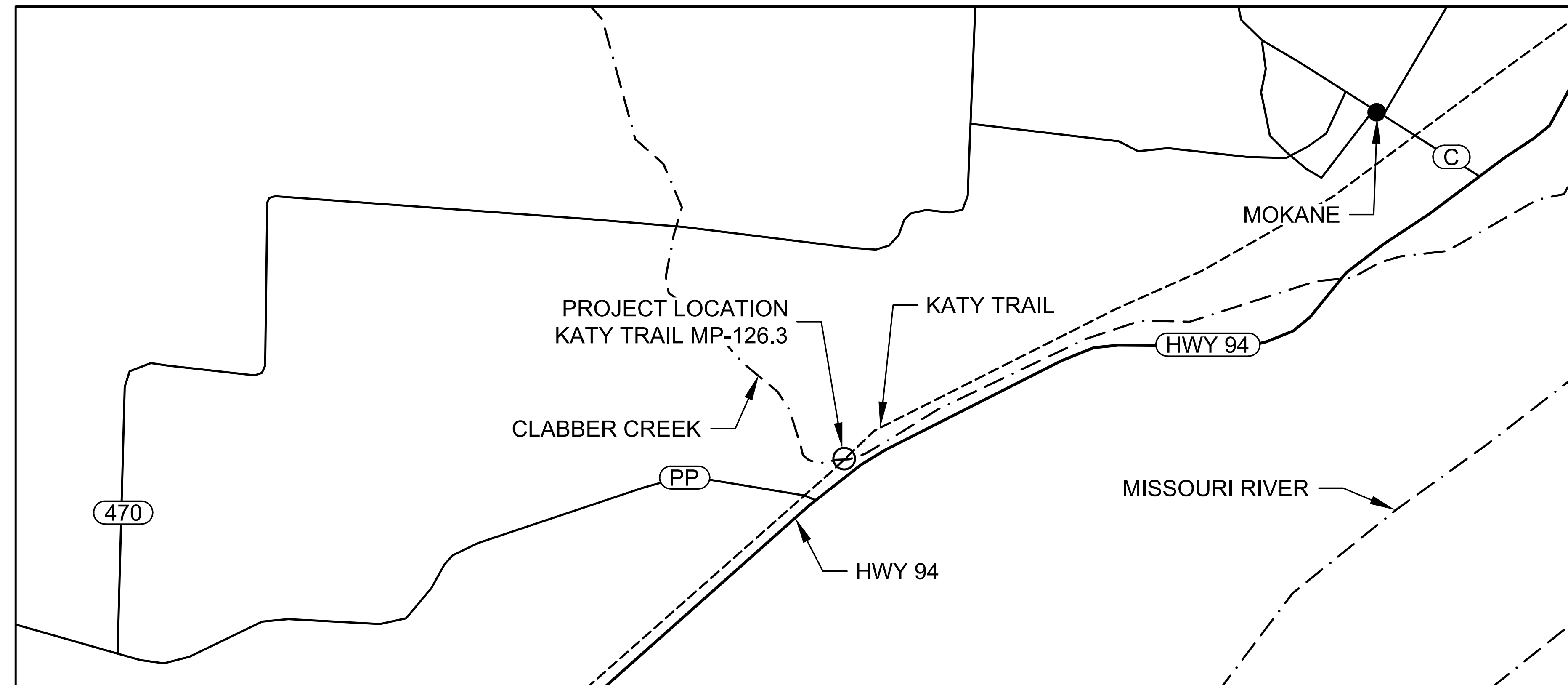


REPLACE HIGHWAY PP BRIDGE KATY TRAIL STATE PARK MOKANE, MISSOURI



OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MISSOURI STATE PARKS

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION



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MO CERTIFICATES OF
AUTHORITY
E-2006023253
S-2012009395
EXPIRES DEC. 31, 2024

DESIGNER: McCLURE ENGINEERING COMPANY
MICHAEL M. HALL, P.E.
MHALL@MCCLUREVISION.COM

PROJECT NUMBER: X2227-01

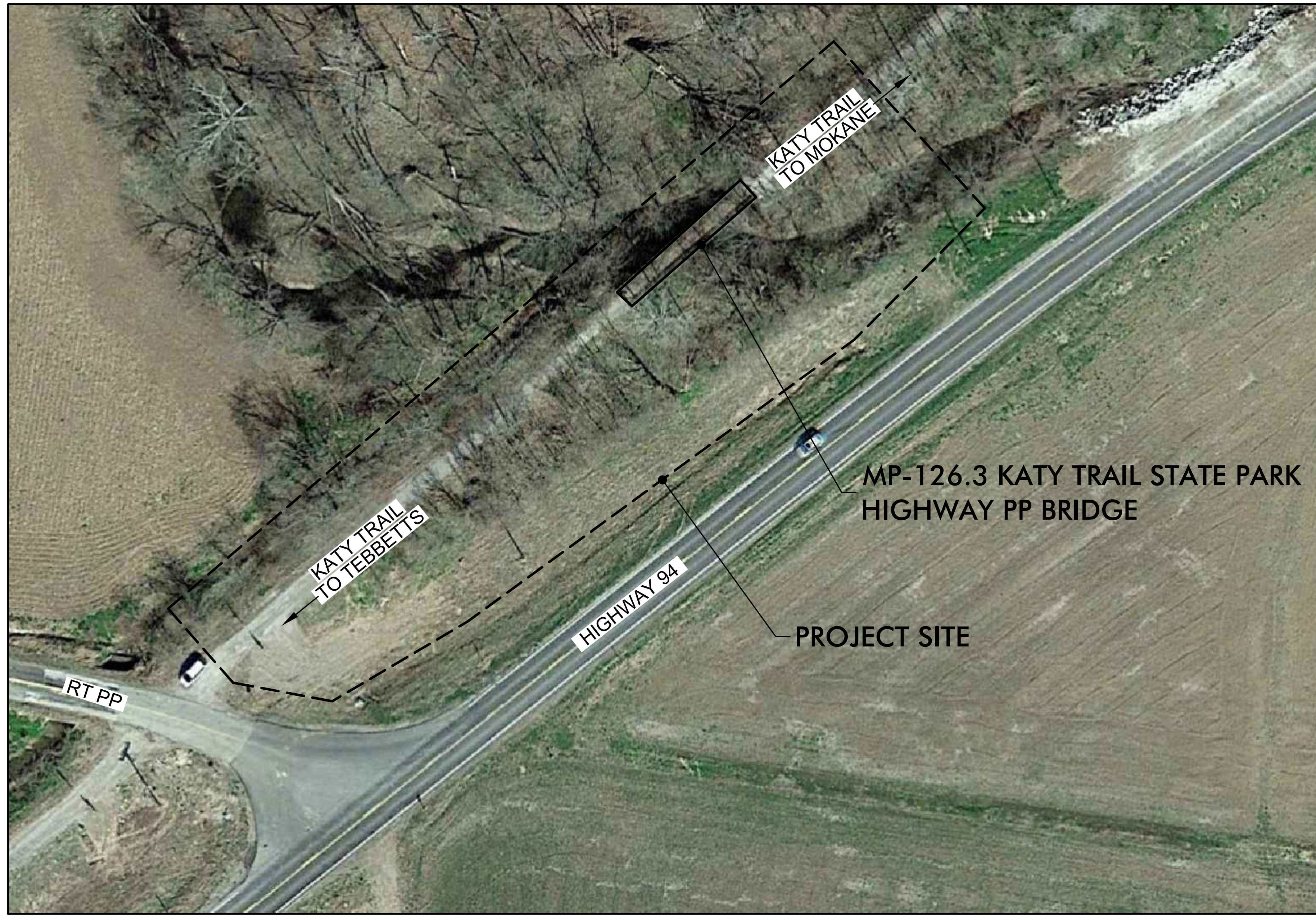
SITE NUMBER: 5501

ASSET NUMBER: 7815501002

SHEET NUMBER:

G-001

1 OF 13 SHEETS
MARCH 3, 2023

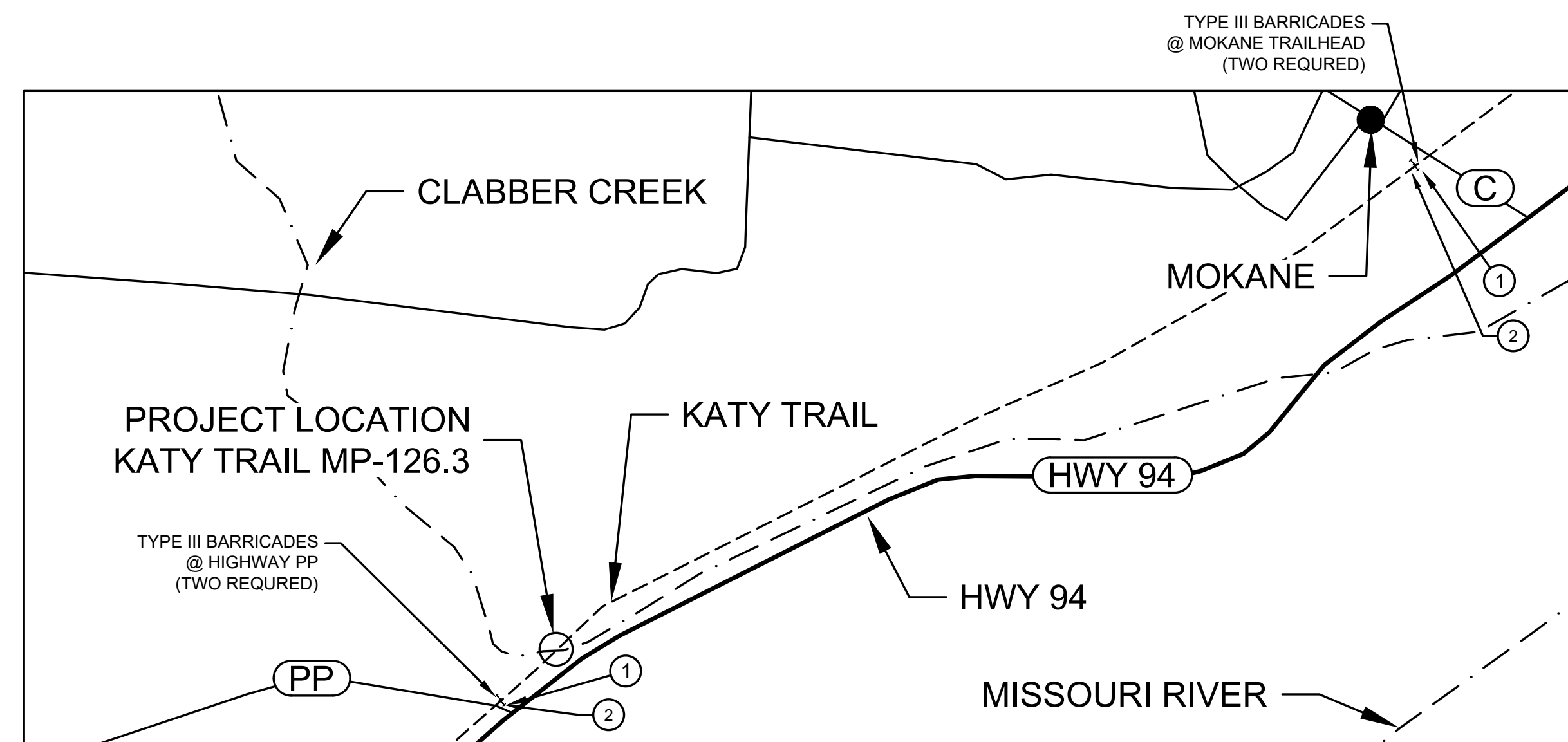


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| 3 | G-003 | GENERAL NOTES & QUANTITIES |
| 4 | CD-001 | SITE DEMOLITION PLAN |
| 5 | C-101 | SITE PLAN & PROFILE |
| 6 | C-102 | EROSION CONTROL PLAN |
| 7 | C-103 | TRAIL CROSS SECTIONS |
| 8 | C-104 | TRAIL CROSS SECTIONS |
| 9 | S-201 | BENT 1 & 2 PLAN |
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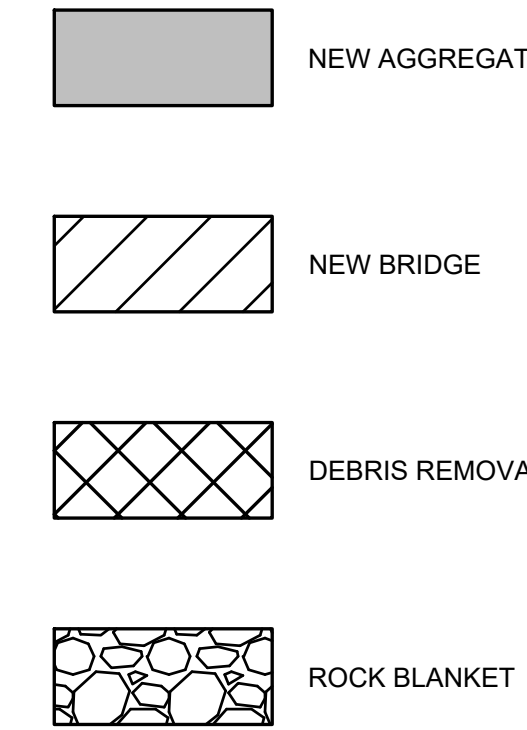
M4-8a
①
TRAFFIC CONTROL SIGNAGE

R11-2
②



TRAFFIC CONTROL PLAN - FOR BRIDGE INSTALLATION

HATCH LEGEND



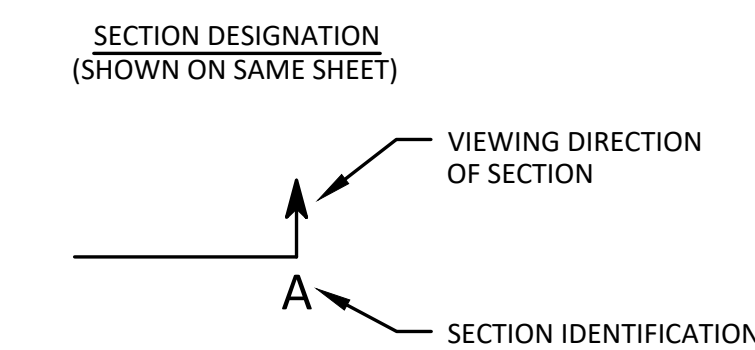
LINETYPE LEGEND

| EXISTING / PROPOSED | | |
|---------------------|------|-------------------------------|
| 8"SS | 8"SS | SANITARY SEWER MAIN |
| SS | SS | SANITARY SEWER SERVICE |
| FM | FM | SANITARY SEWER FORCE MAIN |
| 8"ST | 8"ST | STORM SEWER MAIN OR CULVERT |
| | | SECONDARY STORM SEWER MAIN |
| | | SECONDARY STORM SEWER SERVICE |
| 8"W | 8"W | WATER MAIN |
| W | W | WATER SERVICE |
| UE | UE | UNDERGROUND ELECTRIC |
| OHE | OHE | OVERHEAD ELECTRIC |
| T | T | UNDERGROUND TELEPHONE |
| FO | FO | UNDERGROUND FIBER OPTIC |
| TV | TV | UNDERGROUND CABLE TV |
| G | G | GAS MAIN OR SERVICE |
| | | CONTOUR LINES INTERMEDIATE |
| | | CONTOUR LINES INDEX |
| | | PROPERTY LINE / LOT LINE |
| | | SECTION LINE |
| | | EASEMENT |
| | | GUARD RAIL |
| x | x | FIELD FENCE |
| o | o | CHAIN LINK FENCE |
| □ | □ | WOODEN FENCE |
| | | ROAD CENTERLINE |
| | | CONSTRUCTION LIMITS |
| | | WATERWAY FLOWLINE |
| | | TOP OF SLOPE |
| | | BOTTOM OF SLOPE |
| x | x | SILT FENCE |
| | | UTILITY TO BE ABANDONED |

CIVIL ABBREVIATIONS

| | |
|--------|--|
| A.C.C. | ASPHALT CEMENT CONCRETE |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE |
| ASTM | AMERICAN SOCIETY FOR TESTING & MATERIALS |
| ASSY. | ASSEMBLY |
| AWWA | AMERICAN WATER WORKS ASSOCIATION |
| BC | BACK OF CURB |
| BM | BENCH MARK |
| BOT | BOTTOM OF SLOPE |
| C | CUT |
| CP | CONTROL POINT |
| CL | CENTERLINE |
| DIP | DUCTILE IRON PIPE |
| EP | EDGE OF PAVEMENT |
| F | FILL |
| FES | FLARED END SECTION |
| FL | FLOWLINE |
| HMA | HOT MIX ASPHALT |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| S | OFFSET |
| P.C.C. | PORTLAND CEMENT CONCRETE |
| PSI | PRESSURE PER SQUARE INCH |
| R.O.W. | RIGHT OF WAY |
| RCP | REINFORCED CONCRETE PIPE |
| R/R | RAILROAD |
| SQ.FT. | SQUARE FEET |
| SY | SQUARE YARD |
| TC | TOP OF CURB |
| T/S | TOP OF SLAB |
| TOS | TOP OF SLOPE |
| TYP. | TYPICAL |
| UPRR | UNION PACIFIC RAILROAD |

CIVIL LEGENDS



TRAFFIC CONTROL NOTES:

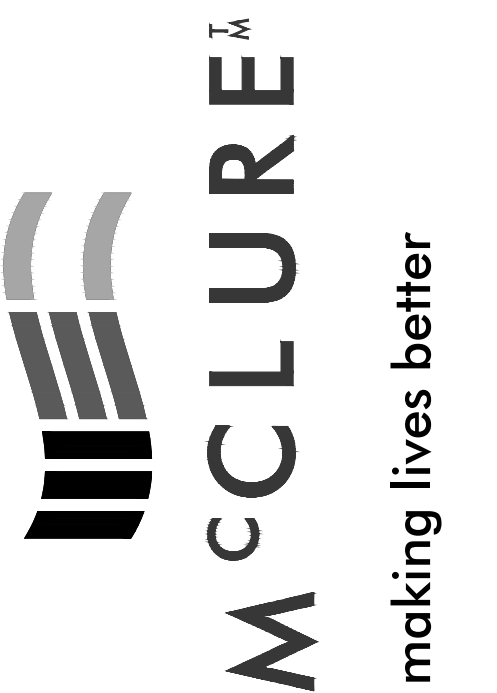
- CONTRACTOR SHALL PROVIDE TYPE III BARRICADES AT THE ENTRY POINTS OF THE KATY TRAIL THROUGH DURATION OF PROJECT AND PROVIDE ONE REPRESENTATIVE FOR A MINIMUM OF ONE WORKING DAY WHILE THE NEW BRIDGE STRUCTURE IS BEING INSTALLED ON THE BRIDGE ABUTMENTS.
- LOCATION OF BARRICADES SHALL BE:
 - AT HIGHWAY PP/KATY TRAIL.
 - AT THE MOKANE TRAILHEAD.
- BARRICADES SHALL INCLUDE R11-2 'TRAIL CLOSED' AND M4-8a 'NO DETOUR' SIGNS.

SYMBOL LEGEND

| EXISTING / PROPOSED | | |
|---------------------|---|-----------------------------------|
| ⊙ | ⊙ | SANITARY SEWER MANHOLE |
| ⊙ | ⊙ | SANITARY SEWER CLEANOUT |
| ⊙ | ⊙ | AIR RELEASE MANHOLE/DRAIN MANHOLE |
| ⊙ | ⊙ | STORM SEWER MANHOLE |
| ⊙ | ⊙ | STORM SEWER CLEANOUT |
| ⊙ | ⊙ | STORM SEWER INTAKE |
| ⊙ | ⊙ | STORM SEWER BEEHIVE INTAKE |
| ⊙ | ⊙ | FLARED END SECTION |
| ⊙ | ⊙ | FIRE HYDRANT |
| ⊙ | ⊙ | WATER VALVE |
| ⊙ | ⊙ | WATER VALVE MANHOLE |
| ⊙ | ⊙ | WATER METER MANHOLE |
| ⊙ | ⊙ | YARD HYDRANT |
| ⊙ | ⊙ | ELECTRIC MANHOLE / VAULT |
| ⊙ | ⊙ | ELECTRIC PEDESTAL / TRANSFORMER |
| ⊙ | ⊙ | OUTDOOR ELECTRIC POWER OUTLET |
| ⊙ | ⊙ | POWER POLE |
| ⊙ | ⊙ | POWER POLE w/ STREET LIGHT |
| ⊙ | ⊙ | STREET LIGHT POLE |
| ⊙ | ⊙ | GUY WIRE |
| ⊙ | ⊙ | TRAFFIC SIGNAL |
| ⊙ | ⊙ | TRAFFIC SIGNAL BOX |
| ⊙ | ⊙ | TRAFFIC SIGNAL MANHOLE / VAULT |
| ⊙ | ⊙ | RAILROAD CROSSING SIGNAL |
| ⊙ | ⊙ | TELEPHONE MANHOLE / VAULT |
| ⊙ | ⊙ | TELEPHONE PEDESTAL |
| ⊙ | ⊙ | CABLE TV MANHOLE / VAULT |
| ⊙ | ⊙ | CABLE TV PEDESTAL |
| ⊙ | ⊙ | GAS VALVE |
| ⊙ | ⊙ | IRON PIN FOUND/PROPERTY PIN |
| ⊙ | ⊙ | BOLLARD (BUMPER POST) |
| ⊙ | ⊙ | MISCELLANEOUS SIGN |
| ⊙ | ⊙ | MAILBOX |
| ⊙ | ⊙ | WELL |
| ⊙ | ⊙ | DECIDUOUS TREE |
| ⊙ | ⊙ | EVERGREEN TREE |
| ⊙ | ⊙ | SHRUB OR BUSH |
| ⊙ | ⊙ | TREE OR SHRUB LINE |
| ⊙ | ⊙ | STUMP |
| ⊙ | ⊙ | SANITARY SERVICE |
| ⊙ | ⊙ | SOIL BORINGS |
| ⊙ | ⊙ | FLAG POLE |
| ⊙ | ⊙ | SLOPE INDICATORS |
| ⊙ | ⊙ | CONTROL POINT |
| ⊙ | ⊙ | BENCH MARK |
| ⊙ | ⊙ | IRON PIN SET |
| ⊙ | ⊙ | PROPERTY PIN |



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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
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DEPARTMENT OF
NATURAL RESOURCES
DIVISION OF MISSOURI
STATE PARKS

REPLACE
HIGHWAY PP BRIDGE
KATY TRAIL STATE PARK

KATY TRAIL - MP126.3
MOKANE, MO
65059

PROJECT NO. X2227-01
SITE NO. 5501
ASSET NO. 7815501002

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 03/03/2023

CAD DWG FILE: X2227-01-C-GNL-01
DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

SHEET TITLE:
LOCATION MAP &
LEGENDS

SHEET NUMBER:

G-002

2 OF 13 SHEETS
MARCH 3, 2023

DESIGN SPECIFICATIONS:

AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, 2ND EDITION.
 AASHTO LRFD SPECIFICATIONS 7TH EDITION AND APPLICABLE INTERIMS.
 STATE OFFICE OF ADMINISTRATION DESIGN GUIDELINES.

DESIGN LOADING:

DEAD LOAD
 UNIFORM LIVE LOAD OF 90 PSF
 H20 DESIGN VEHICLE
 LATERAL WIND LOAD OF 25 PSF ON PROJECTED AREA
 20 PSF UPWARD WIND

DESIGN UNIT STRESSES:

CLASS B-2 CONCRETE $f_c = 4,000$ PSI
 REINFORCING STEEL (NON-EPOXY) (GRADE 60) $F_y = 60,000$ PSI
 STEEL PILING = A709 GRADE 50, $F_b = 12,500$ PSI
 STRUCTURAL STEEL = A709 GRADE 50

NEOPRENE BEARINGS:

BEARINGS SHALL BE 60 DUROMETER PLAIN NEOPRENE PADS.

NEOPRENE PAD SHALL BE BONDED TO BEARING SEAR WITH AN EPOXY ADHESIVE AS APPROVED BY BEARING MANUFACTURER FOR BONDING NEOPRENE TO CONCRETE.

REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL 2", UNLESS OTHERWISE SHOWN.

PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED IN CONCRETE ITEMS.

STRUCTURAL STEEL:

CONTRACTOR SHALL UTILIZE A FABRICATOR THAT MEETS THE APPROPRIATE INSTITUTE OF STEEL CONSTRUCTION (AISC) CERTIFICATION.

DIAPHRAGM STRUCTURAL STEEL: A706 GRADE 50.

ALL WELDING OPERATIONS RELATED TO STRUCTURAL STEEL, INCLUDING MATERIAL AND PERSONNEL, SHALL MEET THE AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS.

WELDED STUD SHEAR CONNECTORS SHALL CONFORM TO REQUIREMENTS OF ASTM A108.

GEOTECHNICAL INVESTIGATION:

REFER TO GEOTECHNICAL REPORT IN APPENDIX A OF THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE PILE DRIVING POINTS AT ALL PILE LOCATIONS.

ALL PILES SHALL DRIVEN TO ROCK. BASIS OF ROCK DEPTH FOR BENTS 1 & 2 FROM ADJACENT MODOT BRIDGE K0936 AS ROCK IS DEEPER THAN THE SOIL INVESTIGATION FOR THE PROJECT. (SEE APPX A)

ROCK BLANKET:

ROCK BLANKET SHALL BE PROVIDED AND PLACED AT EACH ABUTMENT TO LIMITS SHOWN ON PLANS AND SHALL MATCH EXISTING GROUNDLINE AS CLOSE AS POSSIBLE. EXCAVATION REQUIRED TO PLACE ROCK BLANKET SHALL BE CONSIDERED INCIDENTAL.

MATERIAL FOR ROCK BLANKET SHALL BE DURABLE STONE CONTAINING A COMBINED TOTAL OF NO MORE THAN 10 PERCENT OF SOIL, SAND, SHALE OR NON-DURABLE ROCK.

MATERIAL SHALL CONTAIN A LARGE PERCENTAGE OF PIECES AS LARGE AS THE THICKNESS OF BLANKET WILL PERMIT, WITH ENOUGH SMALLER PIECES OF VARIOUS SIZES TO FILL THE LARGER VOIDS. FOR TYPE 2 ROCK BLANKET AT LEAST 60 PERCENT OF THE MASS SHALL BE PIECES HAVING A VOLUME OF 1 CUBIC FOOT OR MORE. ACCEPTANCE OF QUALITY AND SIZE OF MATERIAL WILL BE MADE BY VISUAL INSPECTION AT THE JOB SITE BY THE ENGINEER.

A TRENCH AT TOE OF ROCK SLOPE SHALL BE EXCAVATED TO A DEPTH OF 4 FEET. ROCK SHALL BE PLACED ON SLOPE TO SPECIFIED THICKNESS AND MANIPULATED SUCH THAT MOST FLAT SIDES ARE IN CONTACT WITH SUB-GRADE. THEREBY ELIMINATING LARGE VOIDS. FINISHED SURFACE OF BLANKET SHALL BE SET TO AN APPEARANCE FREE FROM SEGREGATION AND WITH A PROPORTIONATE QUANTITY OF LARGER PIECES SHOWING.

GEOTEXTILE/FILTER FABRIC:

GEOTEXTILE FOR FILTER FABRIC SHALL BE IN ACCORDANCE WITH PHYSICAL AND CHEMICAL REQUIREMENTS OF AASHTO M 288.

PERMANENT EROSION CONTROL GEOTEXTILE SHALL BE USED UNDER THE ROCK BLANKET. THE MINIMUM PERMITTIVITY SHALL BE 1.0 SEC-1. THE MATERIAL SHALL BE EITHER AASHTO CLASS 1 OR CLASS 2.

SUBSURFACE DRAINAGE GEOTEXTILE SHALL BE USED AS IN SUBSURFACE DRAINAGE AS A FILTER TO PROTECT DRAINAGE MEDIA FROM CLOGGING WITH FINES FROM ADJACENT SOIL SUCH AS WRAPPING OF DRAIN PIPES. MINIMUM PERMATIVITY SHALL BE 1.0 SEC-1. THE MATERIAL SHALL AASHTO CLASS 2.

SEPARATION GEOTEXTILE SHALL BE USED AS A SEPARATION MATERIAL TO PREVENT MIXING OF DISSIMILAR MATERIAL AND TO CONTROL MIGRATION OF BACKFILL MATERIAL. THE MINIMUM PERMITTIVITY SHALL BE 1.0 SEC-1. THE MATERIAL SHALL AASHTO CLASS1.

AGGREGATE BASE:

AGGREGATE BASE FOR CONSTRUCTION OF NEW TRAIL SHALL BE MISSOURI DEPARTMENT OF TRANSPORTATION TYPE 5 OR APPROVED EQUAL. THE AGGREGATE SHALL CONSIST OF CRUSHED STONE OR GRAVEL. THE AGGREGATE SHALL NOT CONTAIN MORE THAN 15 PERCENT DELETERIOUS ROCK AND SHALE. IF CRUSHED STONE IS USED, SAND MAY BE ADDED ONLY FOR THE PURPOSED OF REDUCING THE PLASTICITY INDEX OF THE FRACTION PASSING THE NO. 40 SIEVE IN THE FINISHED PRODUCT. THE FRACTION PASSING THE NO. 40 SIEVE SHALL HAVE A PLASTICITY INDEX NOT TO EXCEED SIX. AND SAND, SILT AND CLAY, AND DELETERIOUS ROCK AND SHALE SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT THE MATERIAL. WHEN SAND AND GRAVEL AGGREGATE ARE USED, THE FRACTION PASSING THE NO. 200 SIEVE SHALL BE LESS THAN ONE HALF OF THAT FRACTION PASSING THE NO. 30 SIEVE. AGGREGATE BASE SHALL BE IN ACCORDANCE WITH THE FOLLOWING GRADATION REQUIREMENTS:

| SIEVE | PERCENT BY WEIGHT |
|----------|-------------------|
| 1-INCH | 100 |
| 1/2-INCH | 60-90 |
| NO. 4 | 35-60 |
| NO. 30 | 10-35 |
| NO. 200 | 0-15 |

GENERAL NOTES:

STATE OFFICE OF ADMINISTRATION DESIGN SPECIFICATIONS AND THE PROJECT SPECIFICATIONS SHALL GOVERN.

THE CONTRACTOR SHALL LOCATE ALL UTILITIES AROUND THE BRIDGE PROJECT LOCATION PRIOR TO EXCAVATION OR CONSTRUCTION.

REFER TO PROJECT SPECIFICATIONS FOR BRIDGE SUPPLIER AND BRIDGE STYLE ALTERNATIVES. RAILS AND PICKETS SHALL BE INCLUDED WITH THE PREFABRICATED BRIDGE. (SEE SPECIFICATION SECTION 323413)

CONTRACTORS SCOPE OF WORK:

SHALL INCLUDE THE FOLLOWING TASKS AND THOSE ACTIVITIES INCIDENTAL TO THE FOLLOWING TASKS:

FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIALS.

SELECTION AND PURCHASE OF PREFABRICATED BRIDGE IN ACCORDANCE WITH PROJECT.

PROVIDE "H" STYLE BRIDGE CROSS SECTION.

CONSTRUCT BRIDGE ABUTMENTS INCLUDING ALL REQUIRED INCIDENTAL CONCRETE WORK.

ASSEMBLY OF PREFABRICATED BRIDGE AND ITS ERECTION ON THE COMPLETED ABUTMENT FOUNDATIONS IN ACCORDANCE WITH BRIDGE MANUFACTURERS RECOMMENDATION

CONSTRUCTION OF CAST IN PLACE CONCRETE DECK ON BRIDGE ACCORDING TO MANUFACTURERS RECOMMENDED DETAILS AND SPECIFICATIONS INCLUDING PROVIDING REBAR, RELATED MATERIALS AND CONCRETE CURING.

PURCHASE AND INSTALLATION OF ALL NECESSARY MATERIALS FOR INSTALLATION OF JOINT SEALS BETWEEN THE ABUTMENT BACKWALL AND THE ENDS OF DECK AT EACH END BENT LOCATION.

PEDESTRIAN BRIDGE MANUFACTURER SHALL SPECIFY JOINT SEAL SYSTEM TO BE USED AND SHALL PROVIDE INSTALLATION INSTRUCTIONS.

FABRICATE AND INSTALL APPROACH HANDRAIL ON WINGWALLS AT END BENTS WHICH MATCHES RAILING ON BRIDGES.

CONTRACTOR SHALL SUBMIT SEALED PLANS AND CALCULATIONS BY A MISSOURI REGISTERED PROFESSIONAL ENGINEER FOR PREFABRICATED BRIDGE TO ENGINEER FOR REVIEW AND APPROVAL. PLANS SHALL CLEARLY IDENTIFY THE MANUFACTURER, STYLE, SECTION, REACTIONS, ABUTMENT SEAT REQUIREMENTS, BEARING ASSEMBLY GEOMETRY AND JOINT SEAL DETAILS.

CONTRACTOR SHALL NOT BEGIN CONSTRUCTION OF BRIDGE ABUTMENTS UNTIL THEY HAVE RECEIVED APPROVED SHOP DRAWINGS FOR PREFABRICATED BRIDGE.

PREFABRICATED BRIDGE MANUFACTURER IS RESPONSIBLE FOR DESIGN OF CONCRETE DECK AND DECK REINFORCING. CONTRACTOR SHALL SUPPLY DECK REINFORCING TO CONSTRUCT CONCRETE BRIDGE DECK IN ACCORDANCE WITH MANUFACTURERS SUPPLIED DETAILS AND SPECIFICATIONS.

NON-SHRINK GROUT FOR ANCHOR BOLT INSTALLATION SHALL BE NON-METALLIC, PRE-PACKED GROUT CONFORMING TO ASTM C-1107 WITH A MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C 109

CONCRETE BRIDGE DECK SHALL HAVE A BROOM FINISH.

SITE NOTES:

- THESE PLANS WERE GENERATED FROM AVAILABLE RECORDS OF EXISTING DESIGN DOCUMENTS AND FIELD SURVEYS CONDUCTED FOR THIS PROJECT. FIELD VERIFICATION OF ALL ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE PLANS SHOULD BE MADE PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. McCLURE ENGINEERING COMPANY DOES NOT IMPLY OR GUARANTEE ACCURACY OF THE EXISTING INFORMATION REPRESENTED ON THE PLANS.
- NOTIFY ALL UTILITY COMPANIES KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS OF THE SCHEDULE PRIOR TO EACH STAGE OF CONSTRUCTION.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
- MISSOURI UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION STATUTE (RSMo CHAPTER 319) REQUIRES NOTICE TO MISSOURI ONE CALL 1-800-DIG-RITE (OR 811) NOT LESS THAN 72 HOURS OR MORE THAN 10 WORKING DAYS PRIOR TO BEGINNING EXCAVATION, EXCLUDING WEEKENDS AND HOLIDAYS. SEE WWW.MO1CALL.COM FOR ADDITIONAL DETAILS.
- THE MEANS AND METHODS OF SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR
- NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION OF THE OWNER'S REPRESENTATIVE.
- PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
- MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
- SITE CLEAN-UP SHALL BE PERFORMED ON AN DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
- ALL OPEN EXCAVATIONS SHALL BE PROTECTED. ORANGE CONSTRUCTION FENCE AS A MINIMUM.
- REPLACE ANY PROPERTY MONUMENTS REMOVED, DISTURBED OR DESTROYED DURING CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF MISSOURI.
- CONTROL DUST SPREADING FROM ALL WORK AND STAGING AREAS PER SPECIFICATION 024116.
- ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
- REPAIR OR REPLACE EXISTING FACILITIES (CURBS, PAVEMENT, UTILITIES, ETC.) TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE OWNER.
- WORK THAT DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY McClure ENGINEERING COMPANY AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE DIRECTION OF McClure ENGINEERING COMPANY, WORK DONE BEYOND THE PROJECT LIMITS OR ANY EXTRA WORK DONE WITHOUT AUTHORIZATION WILL NOT BE PAID FOR.

MISSOURI DEPARTMENT OF NATURAL RESOURCES

LAND DISTURBANCE NOTE:

- THIS PROJECT DISTURBS LESS THAN ONE ACRE IN TOTAL, THEREFORE IS EXEMPT FROM NEEDING A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI OR LOCAL REGULATORS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT FORM 106, TO MISSOURI DEPARTMENT OF NATURAL RESOURCES, HISTORIC PRESERVATION PROGRAM FOR ANY BORROW AREAS TO BE USED ON THIS PROJECT.

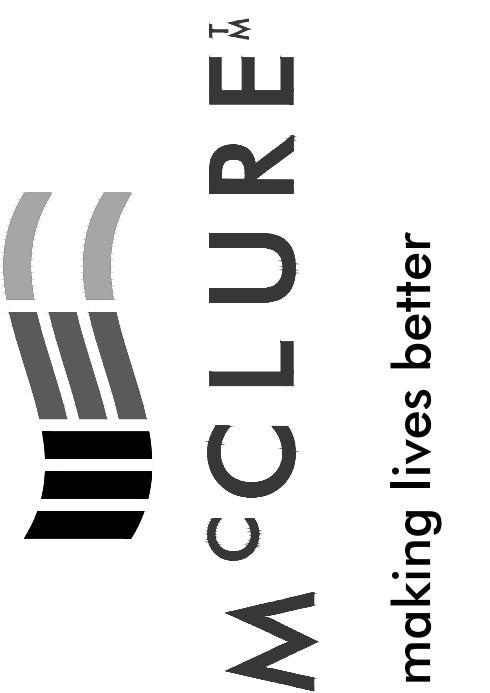
| FOUNDATION DATA | | | | |
|-----------------|-------------------------------|------------|------------|--|
| BEARING PILES | LOCATION | END BENT 1 | END BENT 2 | |
| | PILE TYPE AND SIZE | HP10x42 | HP10x42 | |
| | NUMBER | 3 | 3 | |
| | APPROXIMATE LENGTH (FT) | 33 | 33 | |
| | DESIGN BEARING (TONS) | 40 | 50 | |
| | ESTIMATED PILE TIP ELEV. (FT) | 502.00 | 502.00 | |
| | MINIMUM PILE TIP ELEV. (FT) | 523.50 | 517.50 | |

- NOTE:
- MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PLAN LENGTH AND DESIGN BEARING VALUE OF PILES.
 - PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL PER FHWA-MODIFIED GATES DYNAMIC FORMULA.
 - NO ADDITIONAL PAYMENT WILL BE FOR PILE SPLICES.
 - EXCAVATION FOR STRUCTURES SHALL INCLUDE ALL CLASSES OF EXCAVATION. NO EXTRA PAYMENT WILL BE MADE FOR ROCK EXCAVATION IF ROCK IS ENCOUNTERED. REFER TO GEOTECHNICAL REPORT IN SPECIFICATION INDEX.

**STATE OF MISSOURI
 MICHAEL L. PARSON,
 GOVERNOR**



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**OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES
 MANAGEMENT,
 DESIGN & CONSTRUCTION**

**DEPARTMENT OF
 NATURAL RESOURCES
 DIVISION OF MISSOURI
 STATE PARKS**

REPLACE
 HIGHWAY PP BRIDGE
 KATY TRAIL STATE PARK

KATY TRAIL - MP126.3
 MOKANE, MO
 65059

PROJECT NO. X2227-01
 SITE NO. 5501
 ASSET NO. 7815501002

REVISION: _____
 DATE: _____
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ISSUE DATE: 03/03/2023

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 DRAWN BY: JJB
 CHECKED BY: MMH
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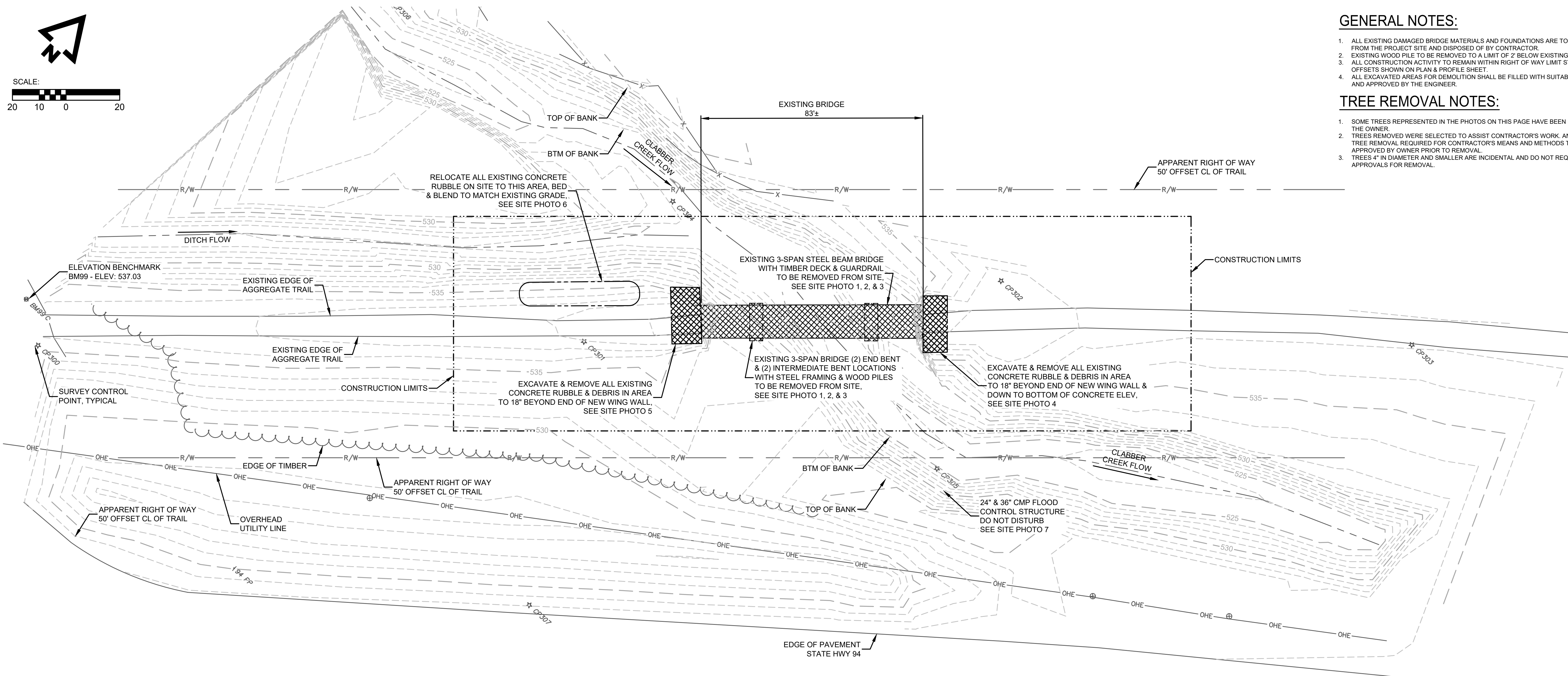
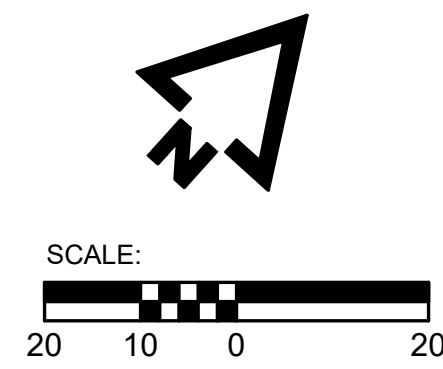
SHEET TITLE:

**GENERAL NOTES &
 QUANTITIES**

SHEET NUMBER:

G-003

3 OF 13 SHEETS
 MARCH 3, 2023



GENERAL NOTES:

1. ALL EXISTING DAMAGED BRIDGE MATERIALS AND FOUNDATIONS ARE TO BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF BY CONTRACTOR.
2. EXISTING WOOD PILE TO BE REMOVED TO A LIMIT OF 2' BELOW EXISTING GRADE.
3. ALL CONSTRUCTION ACTIVITY TO REMAIN WITHIN RIGHT OF WAY LIMIT STATIONS & OFFSETS SHOWN ON PLAN & PROFILE SHEET.
4. ALL EXCAVATED AREAS FOR DEMOLITION SHALL BE FILLED WITH SUITABLE MATERIALS AND APPROVED BY THE ENGINEER.

TREE REMOVAL NOTES:

1. SOME TREES REPRESENTED IN THE PHOTOS ON THIS PAGE HAVE BEEN REMOVED BY THE OWNER.
2. TREES REMOVED WERE SELECTED TO ASSIST CONTRACTOR'S WORK. ANY ADDITIONAL TREE REMOVAL REQUIRED FOR CONTRACTOR'S MEANS AND METHODS TO BE APPROVED BY OWNER PRIOR TO REMOVAL.
3. TREES 4" IN DIAMETER AND SMALLER ARE INCIDENTAL AND DO NOT REQUIRE SPECIAL APPROVALS FOR REMOVAL.

DEMOLITION PLAN



SITE PHOTO 1
NOT TO SCALE
REMOVE ENTIRE EXISTING 3-SPAN BRIDGE WITH STEEL & TIMBER FRAMING FROM SITE



SITE PHOTO 2
NOT TO SCALE
RELOCATE EXISTING CONCRETE RUBBLE SHOWN TO BE ON LEFT SIDE OF EMBANKMENT FROM STATION 11+50 TO 12+00



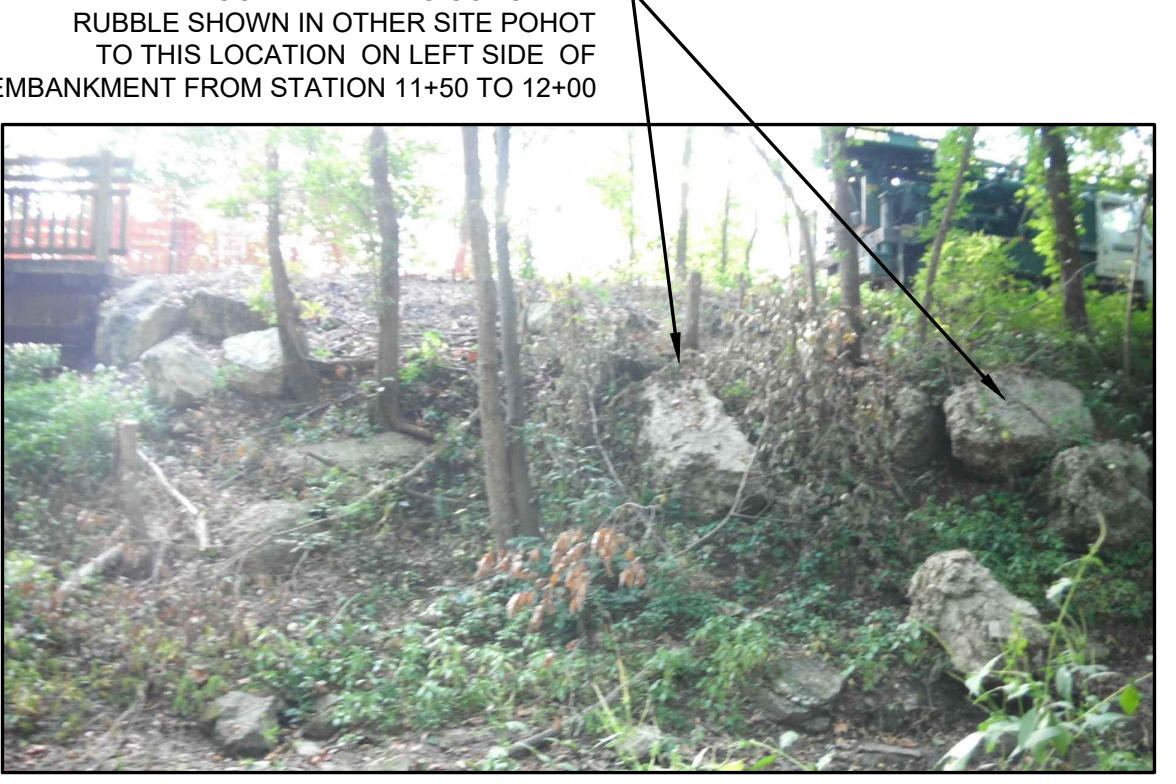
SITE PHOTO 3
NOT TO SCALE
REMOVE ENTIRE EXISTING 3-SPAN BRIDGE WITH STEEL & TIMBER FRAMING FROM SITE



SITE PHOTO 4
NOT TO SCALE
RELOCATE EXISTING CONCRETE RUBBLE SHOWN TO BE ON LEFT SIDE OF EMBANKMENT FROM STATION 11+50 TO 12+00



SITE PHOTO 5
NOT TO SCALE
RELOCATE EXISTING CONCRETE RUBBLE SHOWN TO BE ON LEFT SIDE OF EMBANKMENT FROM STATION 11+50 TO 12+00



SITE PHOTO 6
NOT TO SCALE
RELOCATE EXISTING CONCRETE RUBBLE SHOWN IN OTHER SITE PHOTO TO THIS LOCATION ON LEFT SIDE OF EMBANKMENT FROM STATION 11+50 TO 12+00

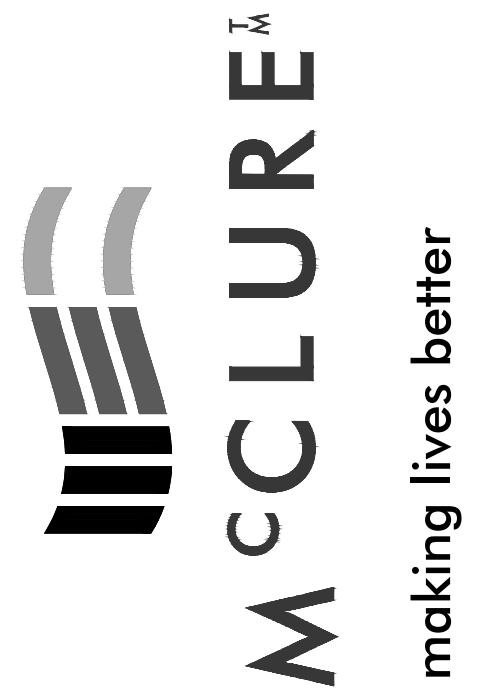


SITE PHOTO 7
NOT TO SCALE
DO NOT DISTURB EXISTING CMP PIPE FLOOD CONTROL STRUCTURES

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REPLACE
HIGHWAY PP BRIDGE
KATY TRAIL STATE PARK

KATY TRAIL - MP126.3
MOKANE, MO
65059

PROJECT NO. X2227-01
SITE NO. 5501
ASSET NO. 7815501002

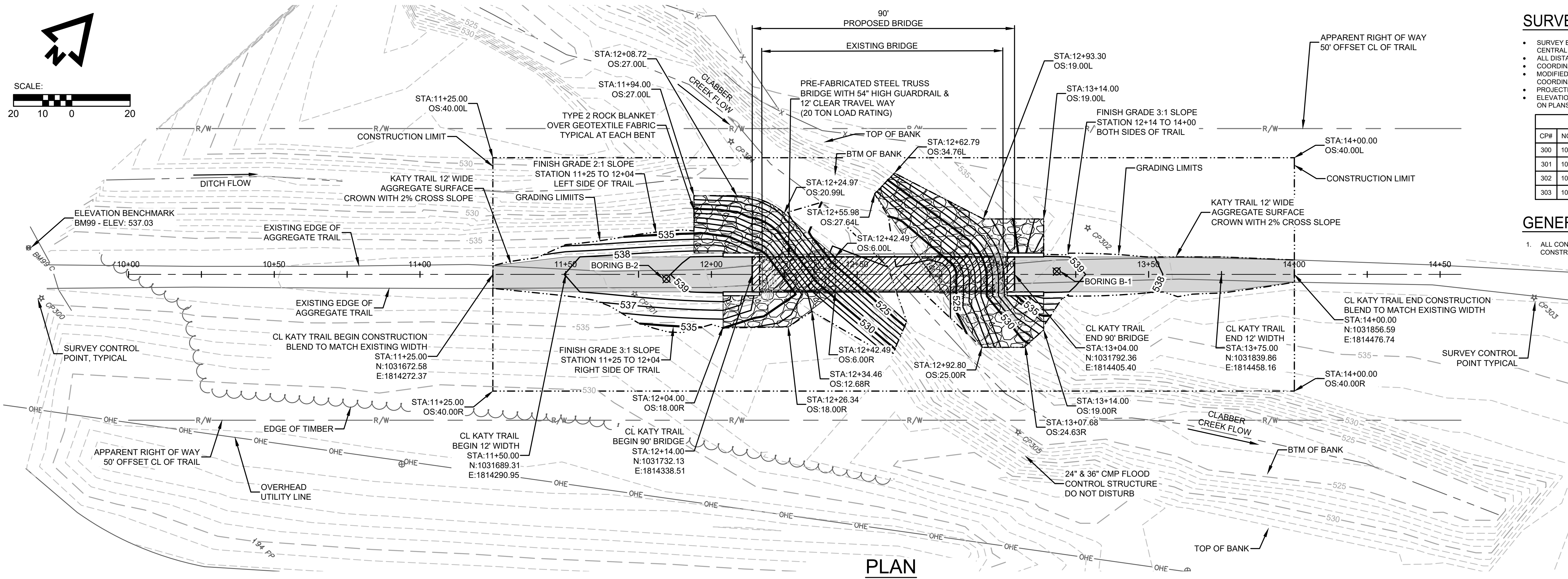
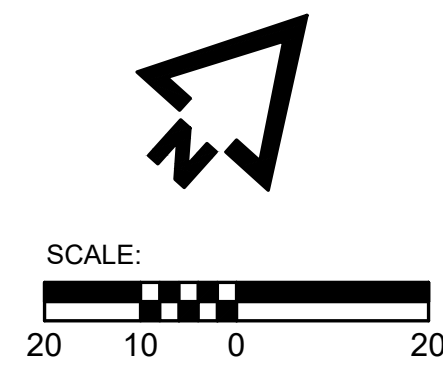
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 03/03/2023

CAD DWG FILE: X2227-01-C-DEM-01
DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

SHEET TITLE:
**SITE DEMOLITION
PLAN**

SHEET NUMBER:
CD-001
4 OF 13 SHEETS
MARCH 3, 2023



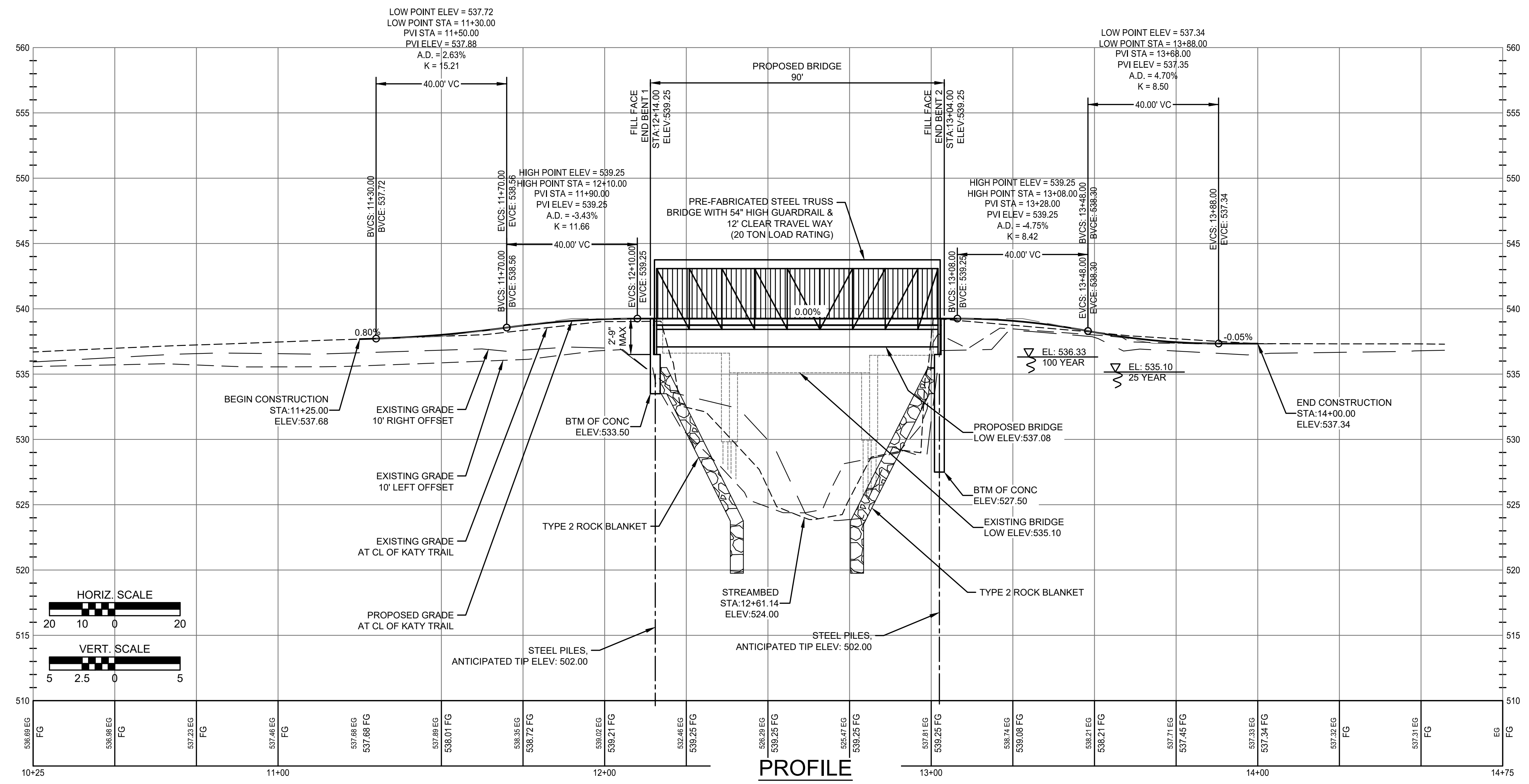
SURVEY NOTES:

- SURVEY BASED ON MISSOURI STATE PLANE COORDINATE SYSTEM - CENTRAL ZONE - MDDOT VRS;
- ALL DISTANCES ARE GROUND DISTANCES.
- COORDINATES LISTED ARE MODIFIED STATE PLANE COORDINATES.
- MODIFIED STATE PLANE COORDINATES EQUAL STATE PLANE COORDINATES TIMES THE PROJECTION FACTOR.
- PROJECTION FACTOR: 0.9999472667
- ELEVATIONS SHOWN DERIVE FROM ELEVATION BENCHMARK SHOWN ON PLANS AS BM99 - ELEVATION 537.03'

| CP# | NORTHING | EASTING | ELEV. | DESCRIPTION |
|-----|-------------|-------------|---------|-------------|
| 300 | 1031582.87' | 1814162.69' | 535.82' | 12 RBC |
| 301 | 1031700.14' | 1814313.04' | 537.96' | 12 RBC |
| 302 | 1031821.02' | 1814413.44' | 538.60' | 12 RBC |
| 303 | 1031905.76' | 1814543.20' | 537.20' | 12 RBC |

GENERAL NOTES:

1. ALL CONSTRUCTION ACTIVITY TO REMAIN WITHIN RIGHT OF WAY & CONSTRUCTION LIMITS SHOWN.



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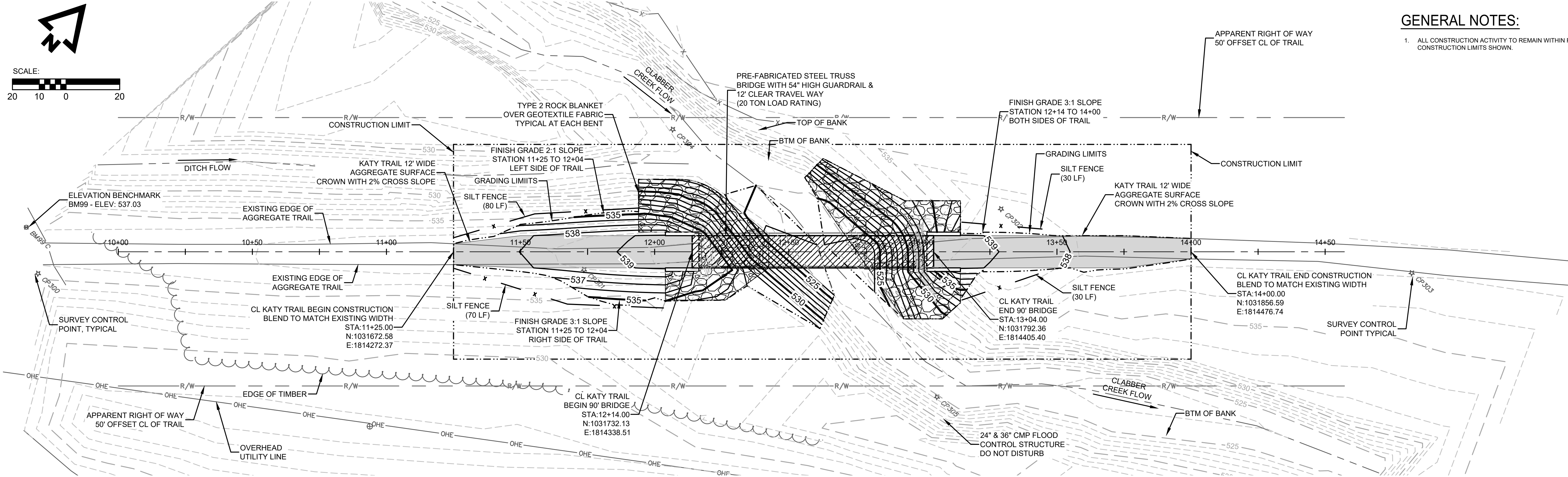
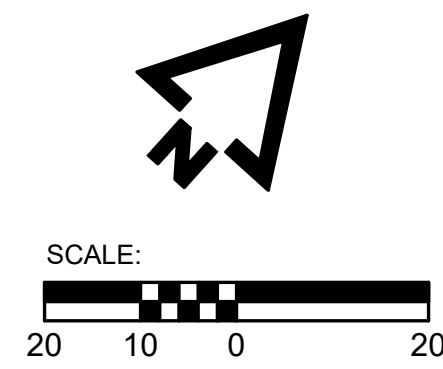
PROJECT NO. X2227-01
SITE NO. 5501
ASSET NO. 7815501002

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 03/03/2023

CAD DWG FILE: X2227-01-C-PLN-01
DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

SHEET TITLE:
**SITE PLAN &
PROFILE**

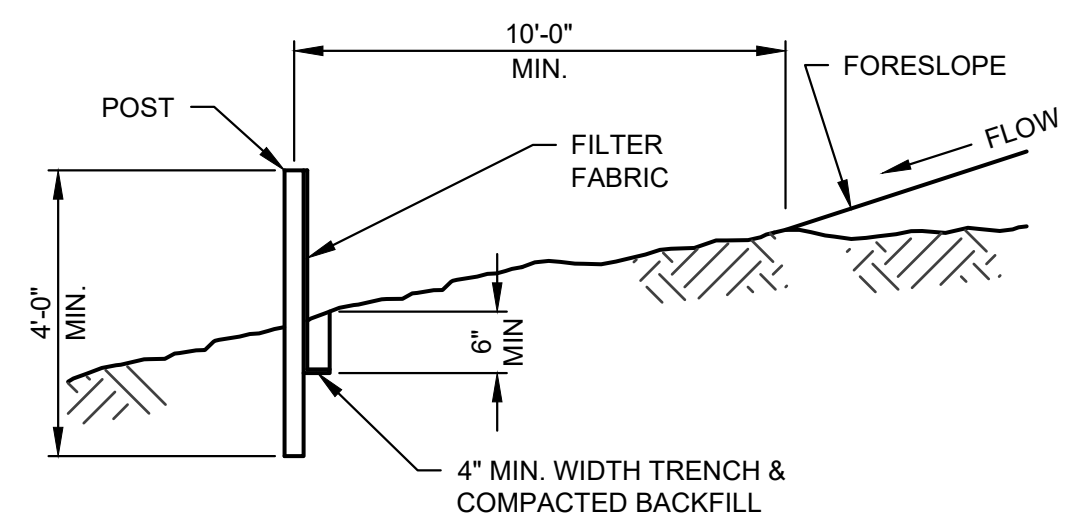
SHEET NUMBER:
C-101
5 OF 13 SHEETS
MARCH 3, 2023



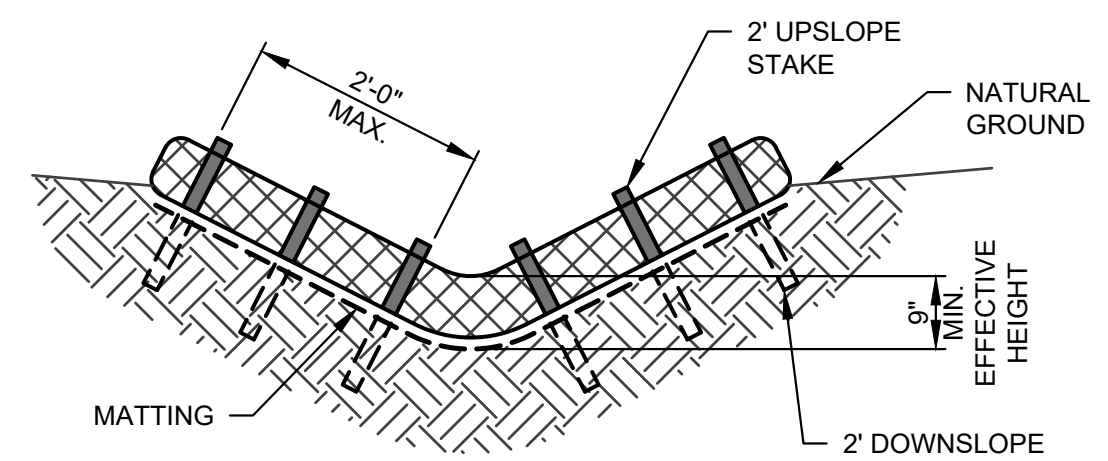
GENERAL NOTES:
 1. ALL CONSTRUCTION ACTIVITY TO REMAIN WITHIN RIGHT OF WAY & CONSTRUCTION LIMITS SHOWN.

EROSION CONTROL PLAN

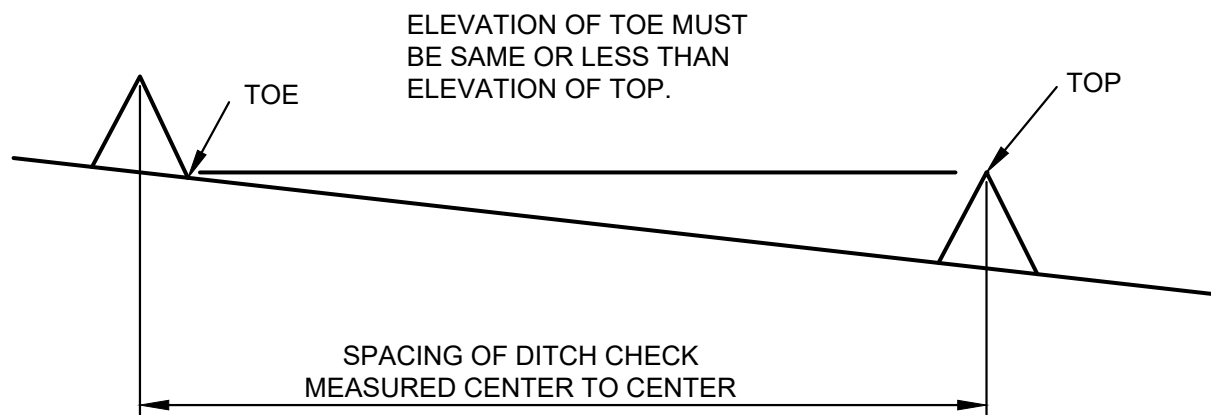
PLAN NOTE:
 1. EROSION CONTROL SHOWN PROVIDES FINISH GRADE EROSION CONTROL UNTIL VEGETATION IS ESTABLISHED INSIDE GRADING LIMITS. PAYMENT FOR ADDITIONAL EROSION CONTROL REQUIRED DURING CONSTRUCTION OPERATIONS IS INCIDENTAL TO OTHER BID ITEMS.



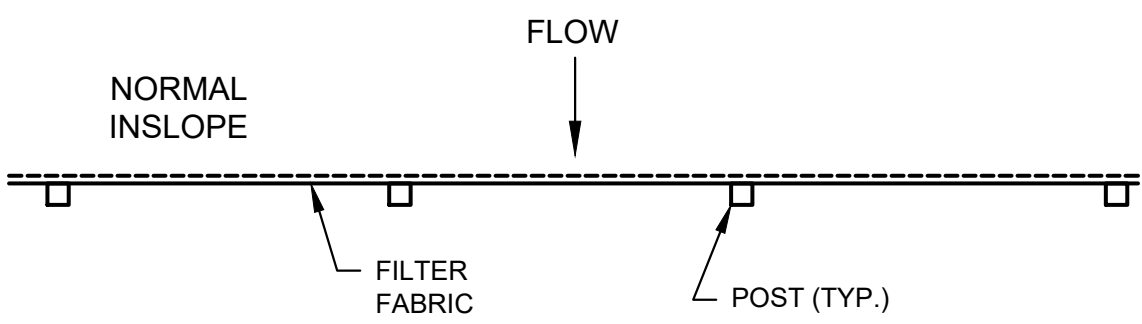
SECTION A-A



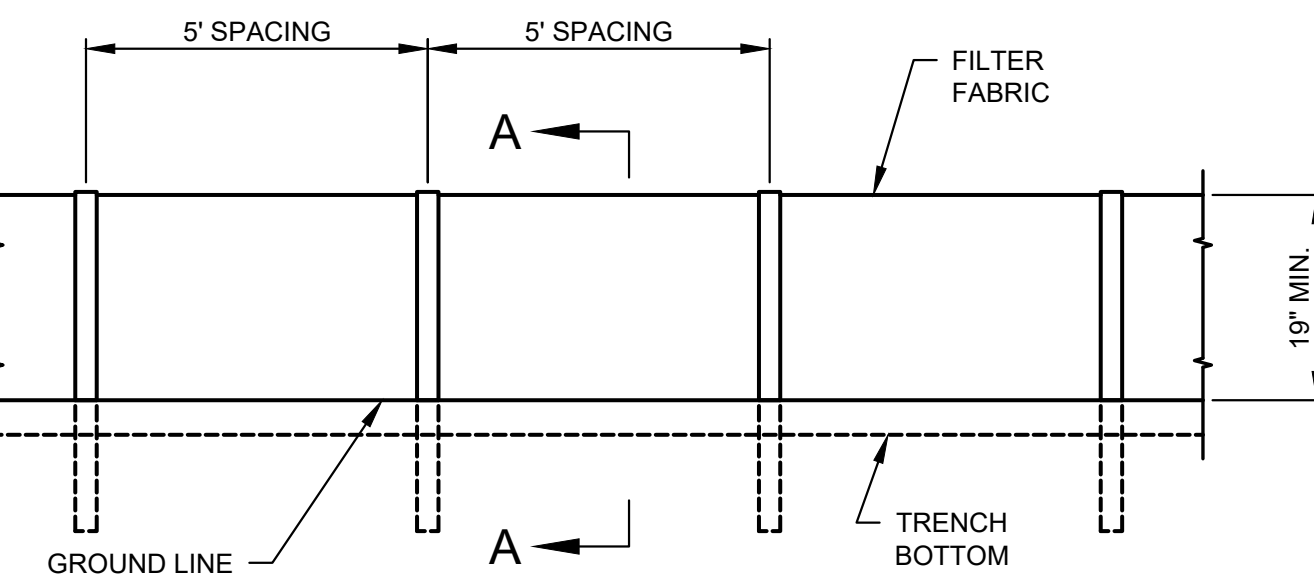
TYPICAL SECTION VEE DITCH



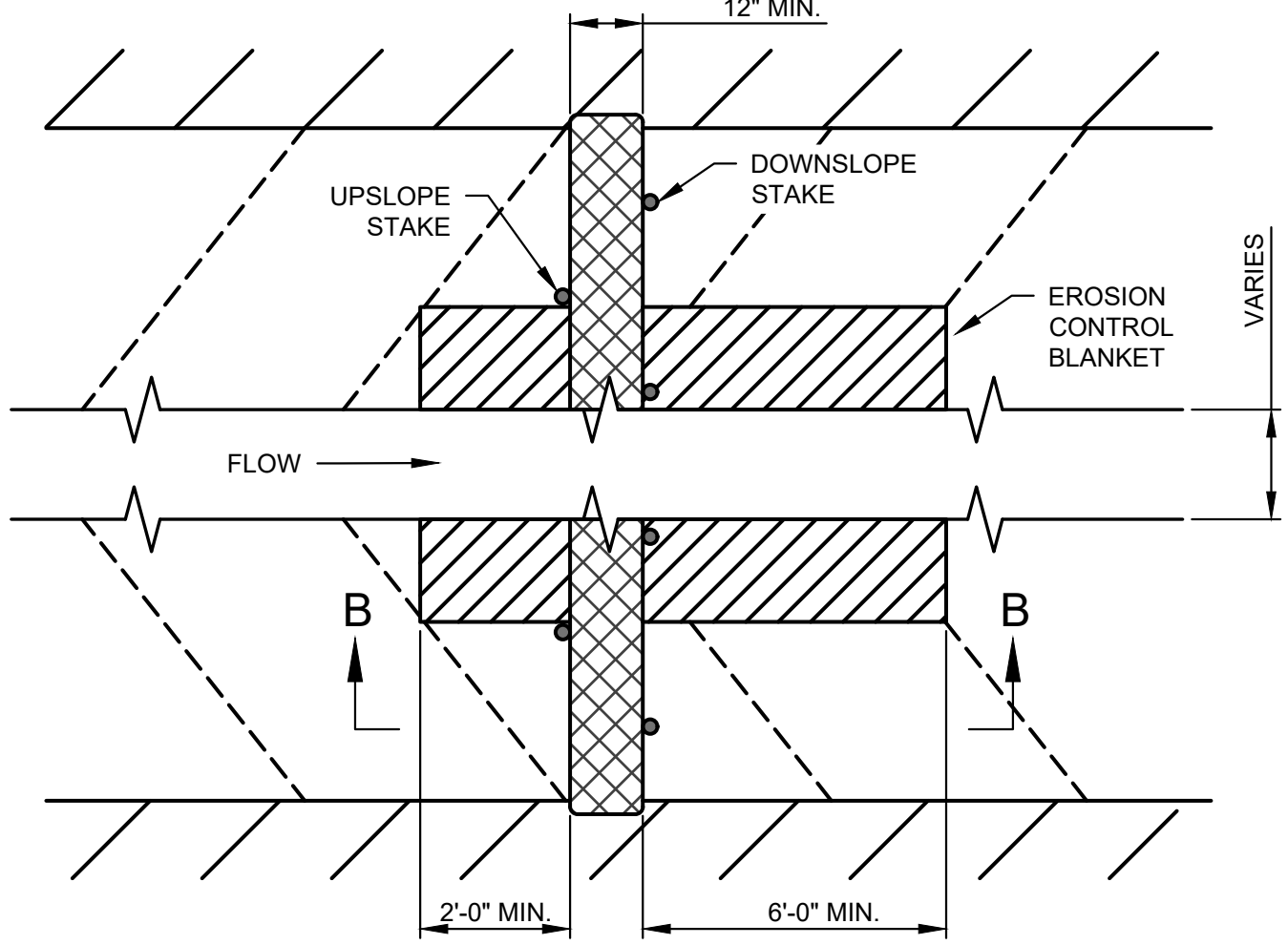
MINIMUM DITCH CHECK SPACING



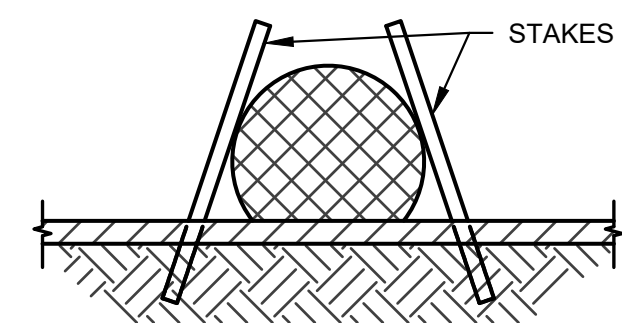
PLAN VIEW



FABRIC SILT FENCE



DITCH CHECK PLAN VIEW



SECTION B-B

- GENERAL NOTES:
1. USE MINIMUM 12 IN. DIAMETER LOG/SOCK.
 2. USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 3. INSTALL LOG/SOCK TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND LOG/SOCK AND SCOUR DITCH SLOPES OR AS DIRECTED BY ENGINEER.
 4. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE LOG/SOCK TO BOTTOM OF DITCH.
 5. EROSION CONTROL BLANKET SHALL BE ANCHORED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
 6. OTHER PROPRIETARY DITCH CHECKS MAY BE SUBSTITUTED AS DIRECTED BY THE ENGINEER.
 7. INSTALLATION OF PROPRIETARY DITCH CHECKS SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

| EXAMPLE DITCH CHECK SPACING FOR STANDARD HEIGHTS (FT.) | | |
|--|-------------------|-----|
| DITCH CL SLOPE % | SPACING FOR 9\"/> | |
| 0.5 | 150 | 300 |
| 1.0 | 75 | 150 |
| 1.5 | 50 | 100 |
| 2.0 | 37 | 75 |
| 2.5 | 30 | 60 |
| 3.0 | 25 | 50 |
| 3.5 | 21 | 43 |
| 4.0 | 19 | 38 |
| 4.5 | 16 | 33 |
| 5.0 | 15 | 30 |
| 5.5 | 13 | 27 |
| 6.0 | 12 | 25 |
| 6.5 | 11 | 23 |
| 7.0 | 10 | 21 |
| 7.5 | 10 | 20 |
| 8.0 | 9 | 19 |
| 8.5 | 9 | 18 |
| 9.0 | 8 | 17 |
| 9.5 | 8 | 16 |
| 10.0 | 7 | 15 |

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PROJECT NO. X2227-01
 SITE NO. 5501
 ASSET NO. 7815501002

REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 ISSUE DATE: 03/03/2023

CAD DWG FILE: X2227-01-C-PLN-01
 DRAWN BY: JJB
 CHECKED BY: MMH
 DESIGNED BY: ADM

SHEET TITLE:
**EROSION CONTROL
 PLAN**

SHEET NUMBER:
C-102
 6 OF 13 SHEETS
 MARCH 3, 2023



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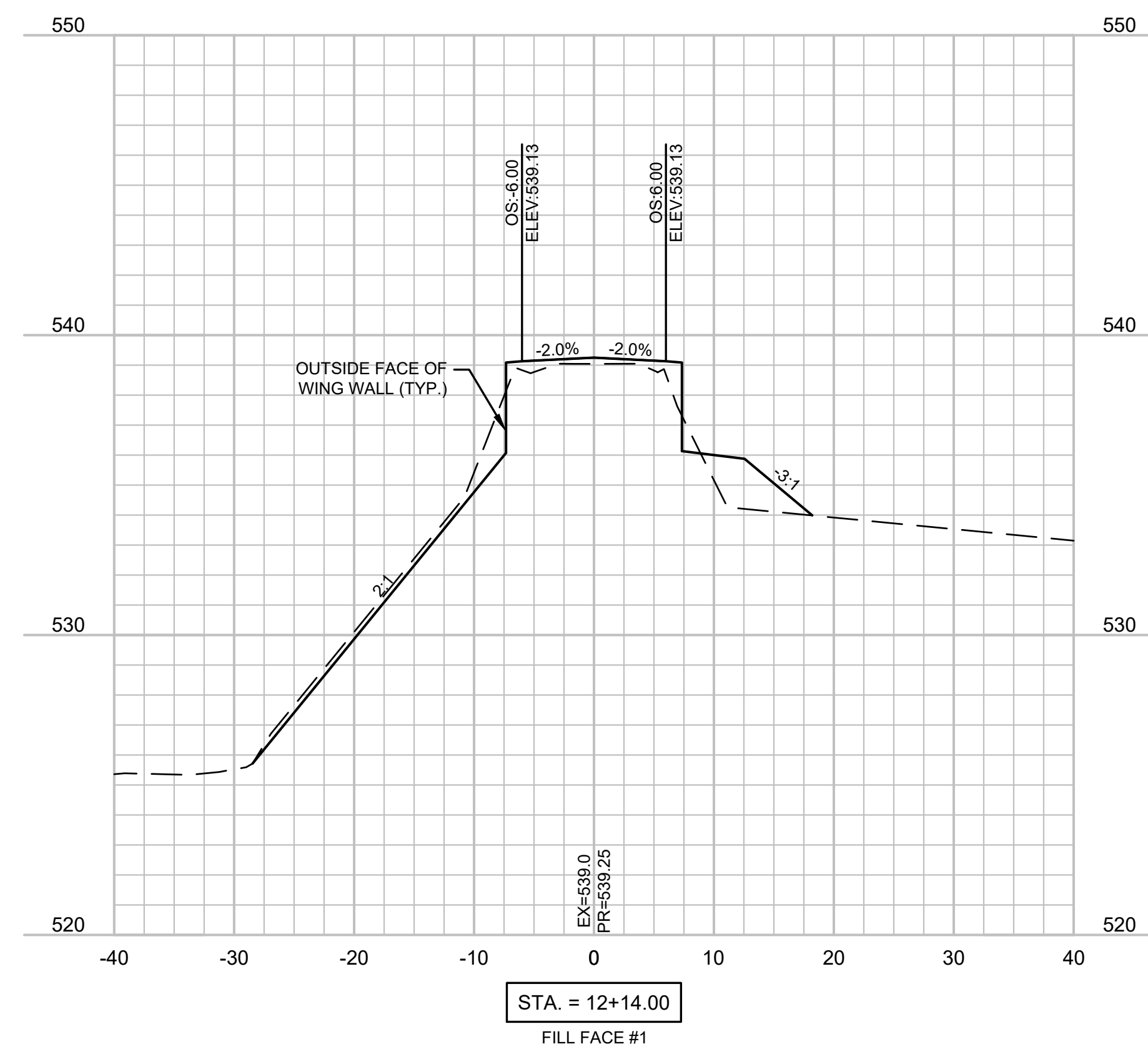
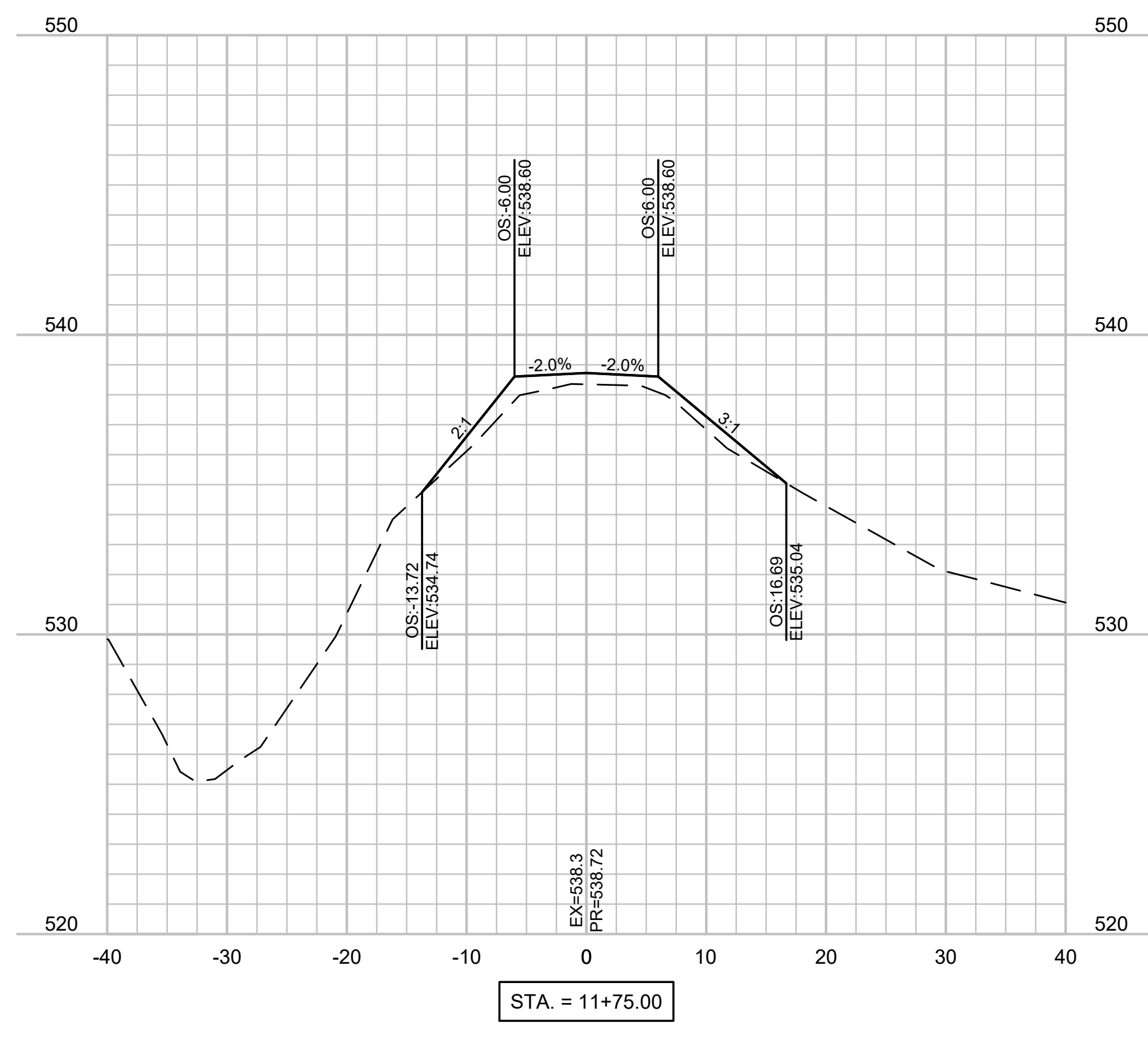
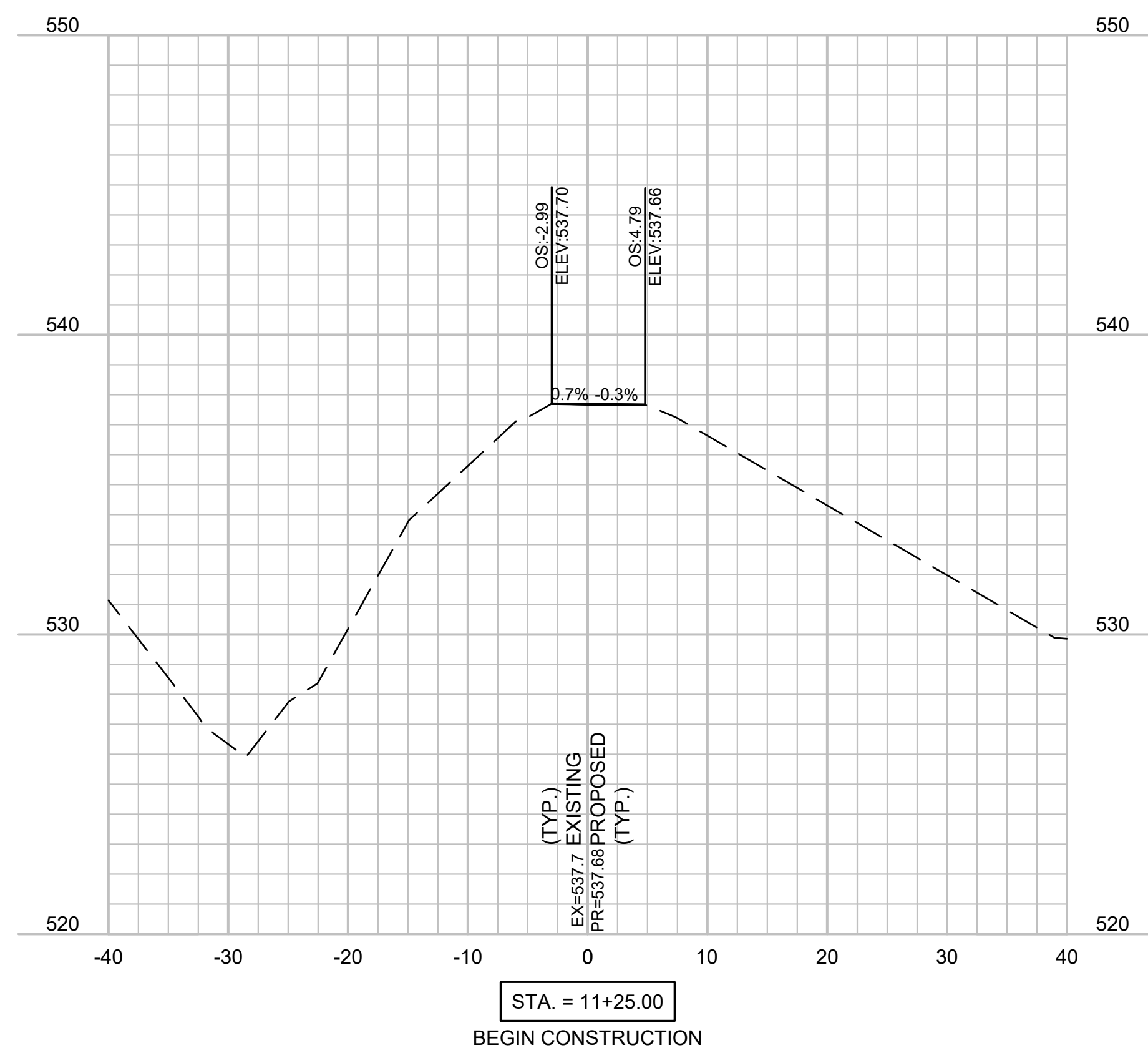
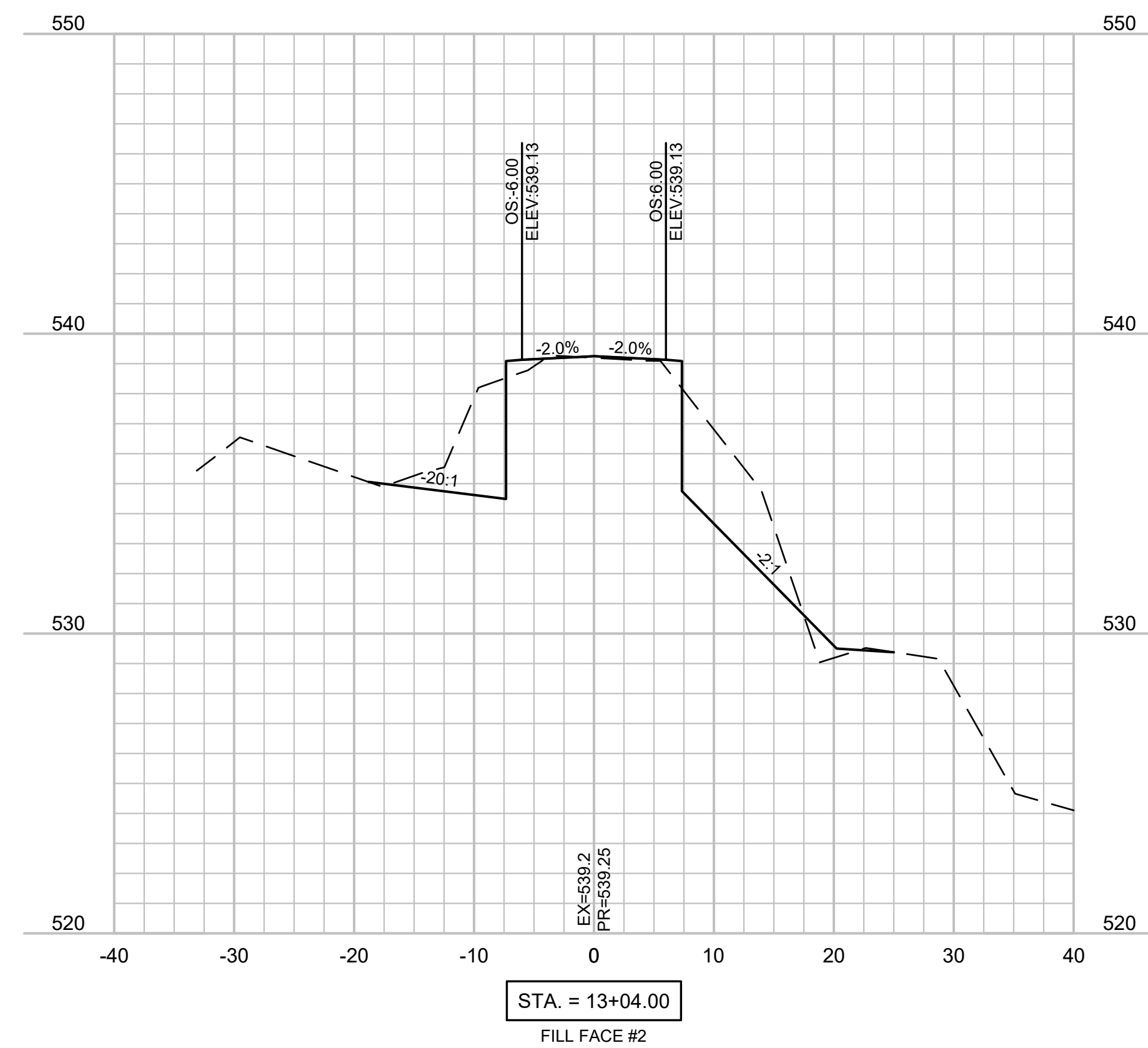
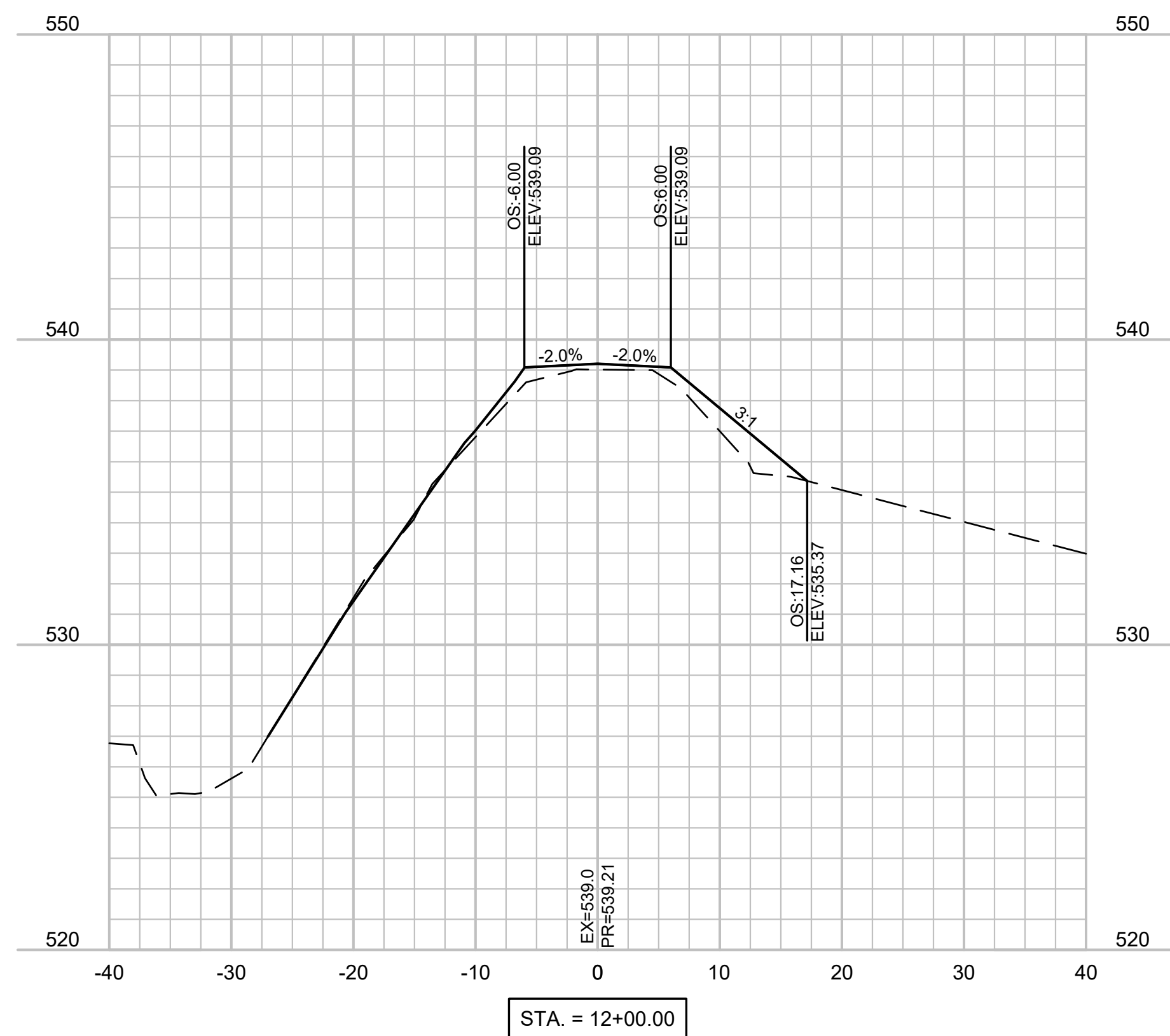
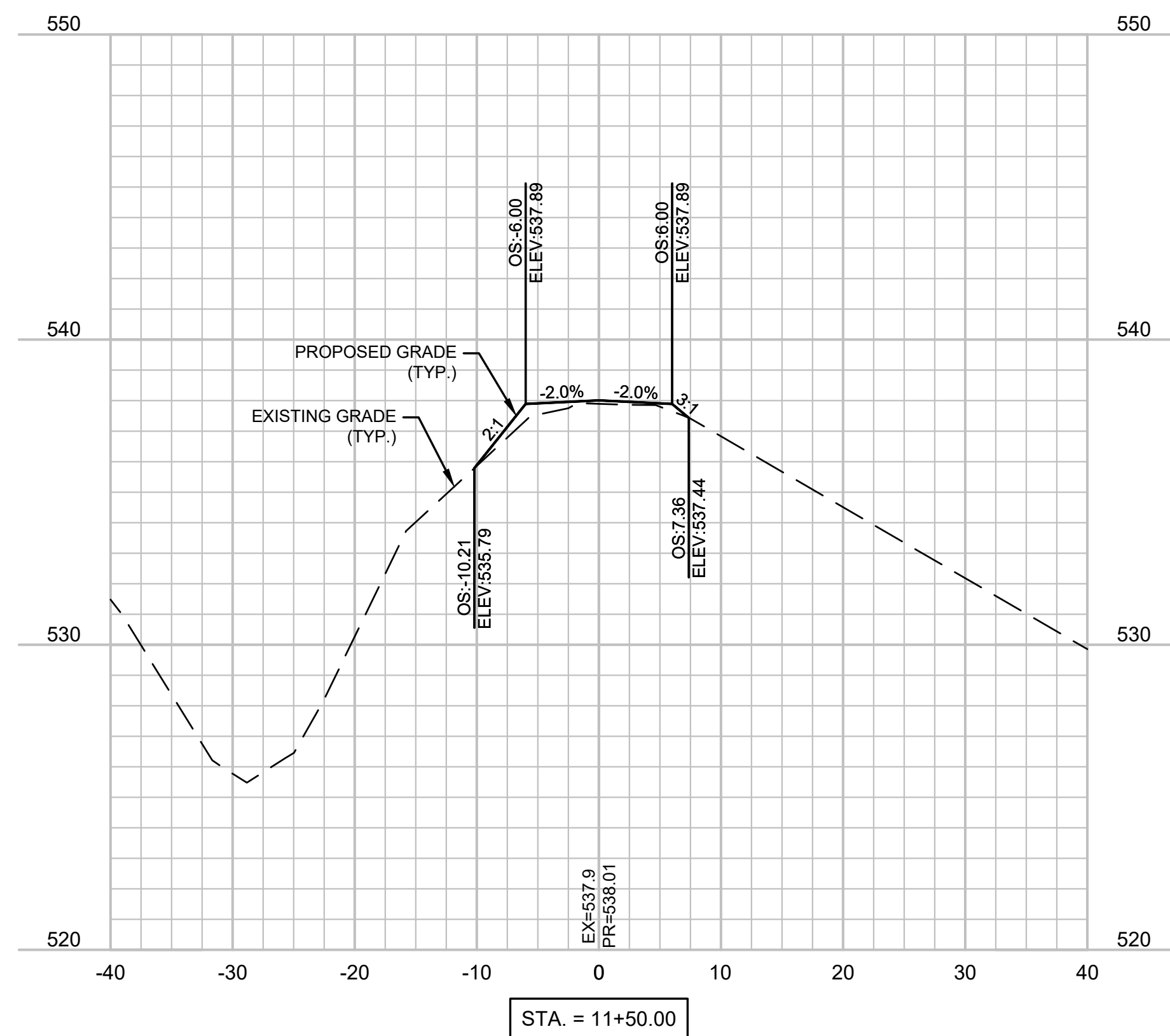
CAD DWG FILE: X2227-01-C-FGR-01
DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

SHEET TITLE:
**TRAIL CROSS
SECTIONS**

SHEET NUMBER:

C-103

7 OF 13 SHEETS
MARCH 3, 2023



EARTHWORK QUANTITIES:
 TOTAL CUT: 3.10 CU. YD.
 TOTAL FILL: 28.10 CU. YD.

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PROJECT NO. X2227-01
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 ASSET NO. 7815501002

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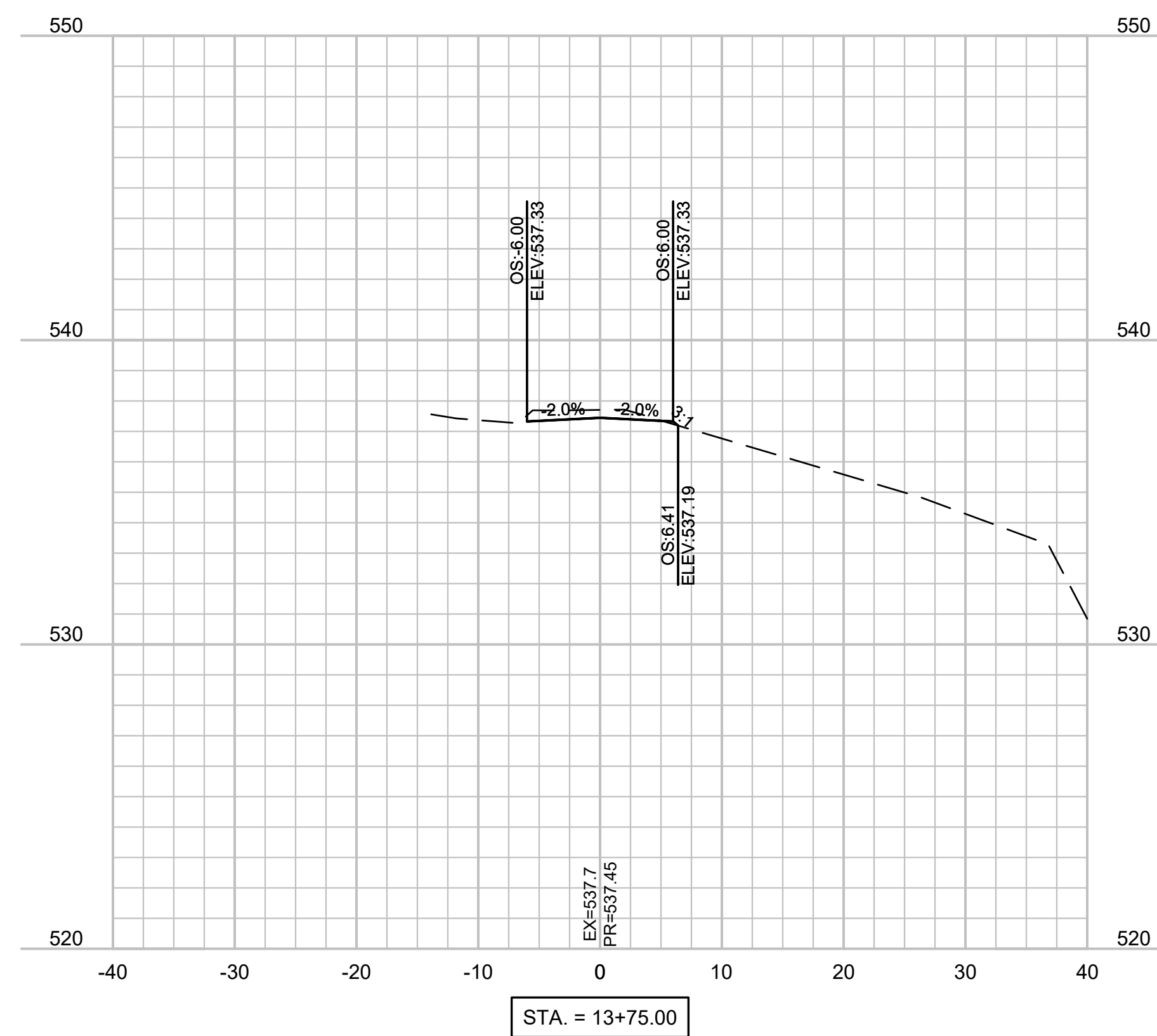
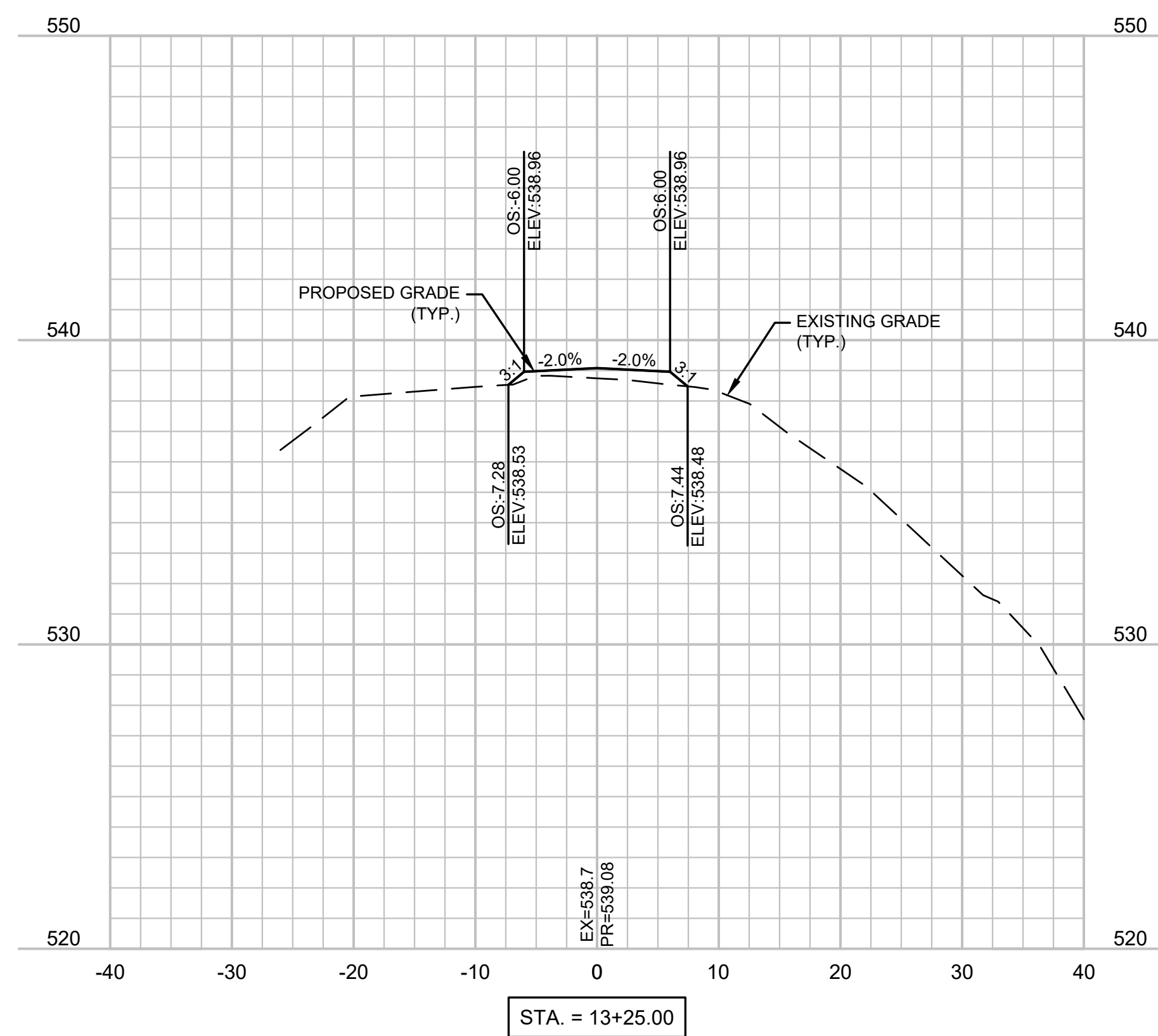
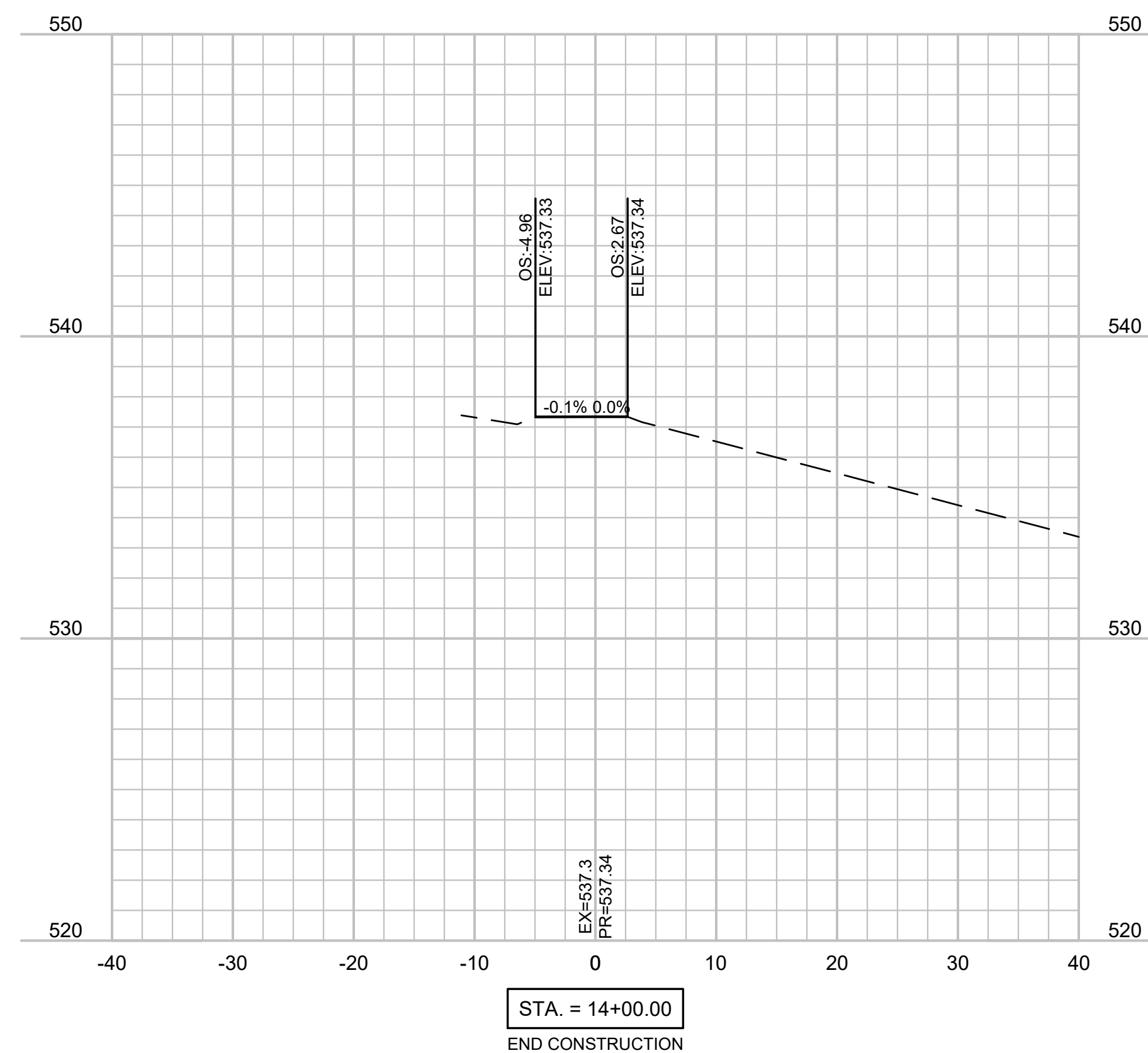
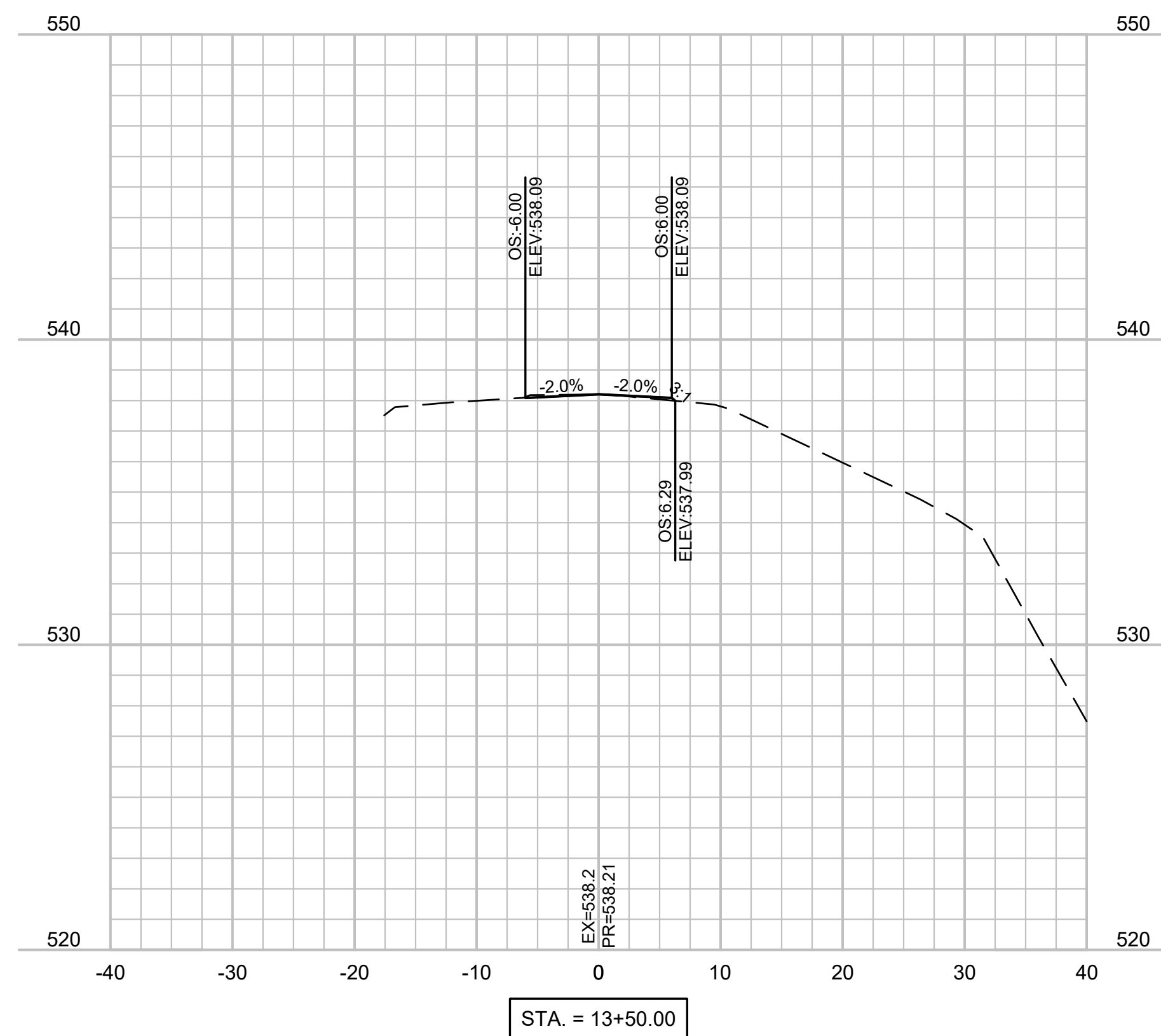
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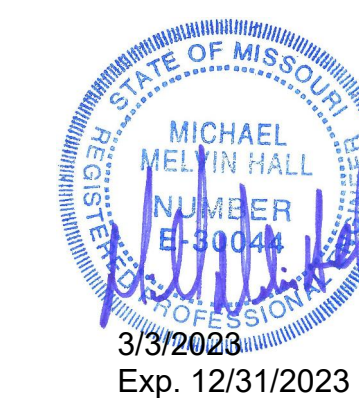
TRAIL CROSS
 SECTIONS

SHEET NUMBER:

C-104

8 OF 13 SHEETS
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ASSET NO. 7815501002

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DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 03/03/2023

CAD DWG FILE: X2227-01-S-ABT-02
DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

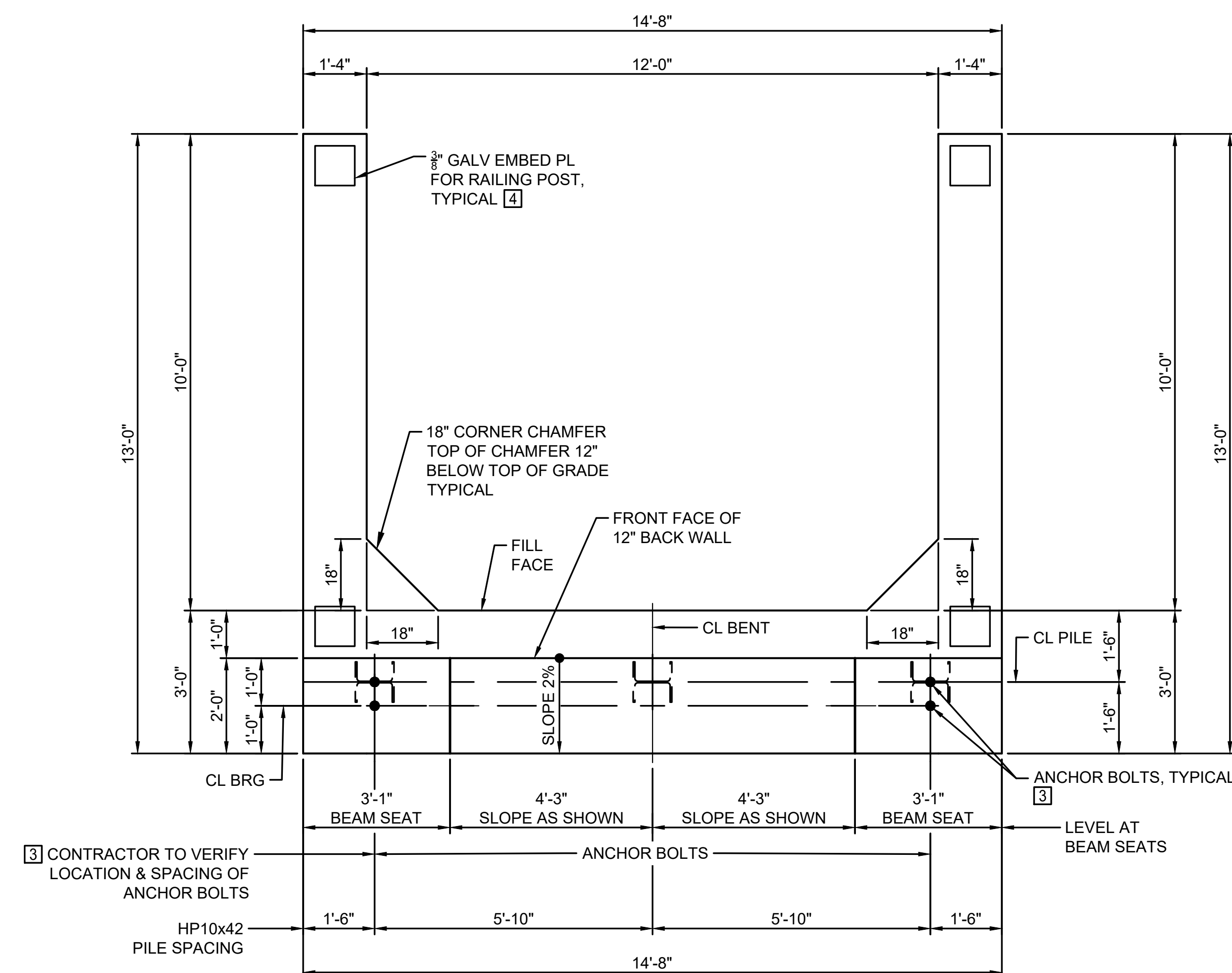
SHEET TITLE:
BENT 1 & 2 PLAN

SHEET NUMBER:

S-201

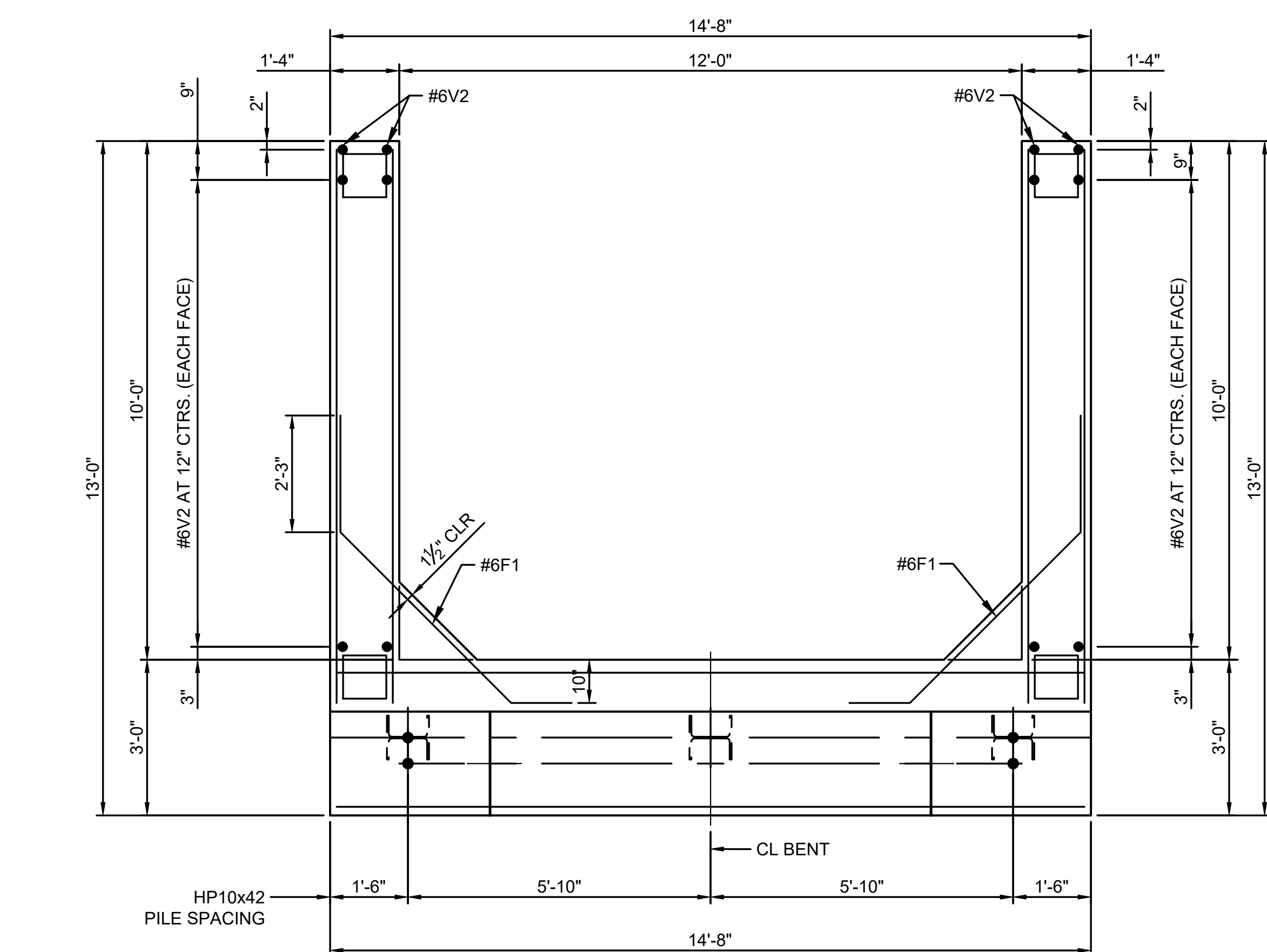
9 OF 13 SHEETS
MARCH 3, 2023

| CONCRETE QUANTITY TABLE | | | |
|--|------|--------|--------|
| ITEM | | BENT 1 | BENT 2 |
| CLASS B-2 CONCRETE IN BEAM | C.Y. | 8.1 | 24.3 |
| CLASS B-2 CONCRETE IN WINGS & BACKWALL | C.Y. | 4.4 | 4.4 |



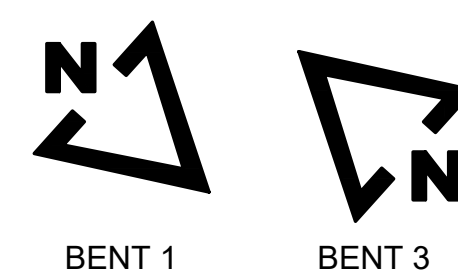
**PLAN AT TOP OF BEAM SEAT
SHOWING DIMENSIONS**

SCALE: 1/2" = 1'-0"

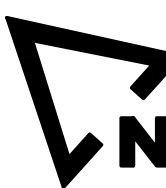


**PLAN AT TOP OF BEAM SEAT
SHOWING PILES & REINFORCING**

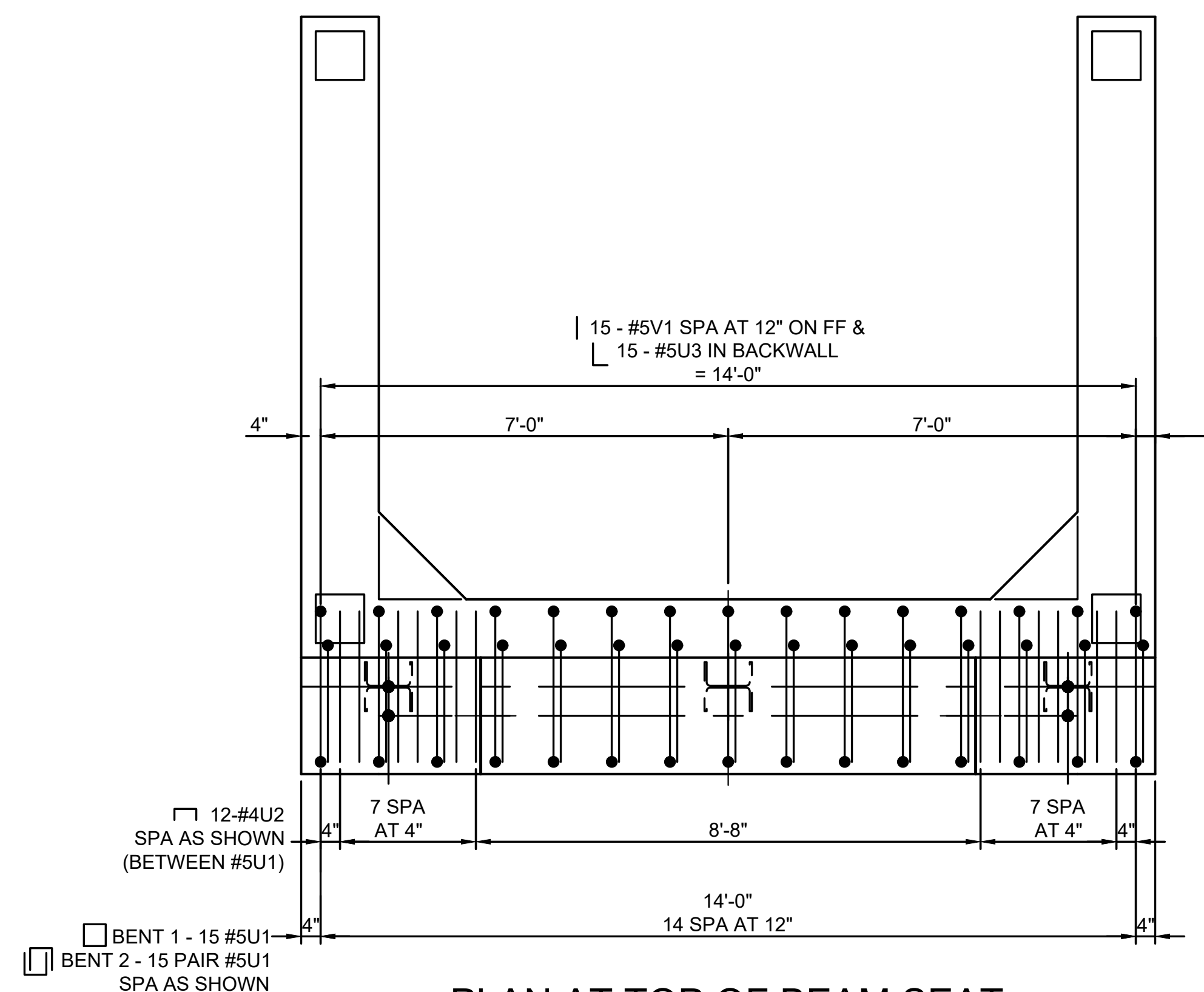
SCALE: 1/2" = 1'-0"



BENT 1



BENT 3



**PLAN AT TOP OF BEAM SEAT
SHOWING STIRRUPS & DOWELS**

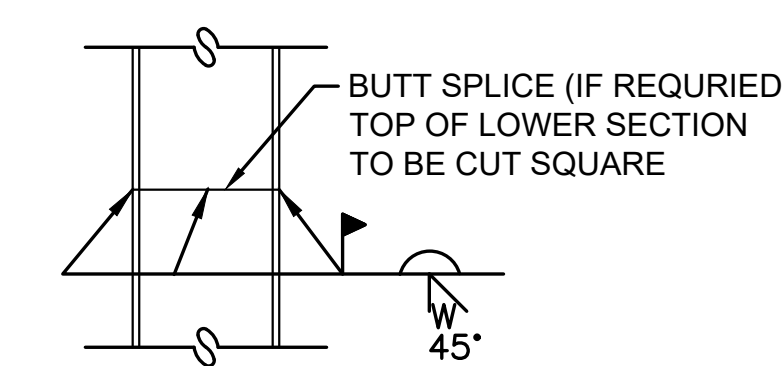
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

- SEE SHEET NO. 10. FOR BENT 1 ELEVATIONS, SECTIONS AND KEY NOTES.
- SEE SHEET NO. 11 FOR BENT 2 ELEVATIONS, SECTIONS AND KEY NOTES.
- CONTRACTOR SHALL VERIFY BEAM SEAT ELEVATION AT EACH BENT WITH REQUIREMENTS OF SELECTED PREFABRICATED BRIDGE SUPPLIER AND SHALL ADJUST THE BRIDGE SEAT ELEVATIONS AS REQUIRED TO ACCOMMODATE THE BRIDGE MANUFACTURER. IT MAY BE NECESSARY TO ADJUST LENGTHS OF STEEL REINFORCING STIRRUPS TO ACCOMMODATE AN ADJUSTED SEAT ELEVATION. ALL NECESSARY ADJUSTMENTS SHALL BE MADE PRIOR TO ORDERING OF REINFORCEMENT AND SHALL BE MADE AT NO ADDITIONAL COST.
- CONTRACTOR SHALL COORDINATE LOCATION OF ANCHOR BOLTS WITH REQUIREMENTS OF SELECTED PREFABRICATED BRIDGE AND COORDINATE LOCATION OF ANCHOR BOLTS WITH REINFORCEMENT IN ABUTMENTS AND SHIFT REINFORCEMENT AS REQUIRED TO INSTALL ANCHOR BOLTS.
- SEE BILL OF REINFORCING SHEET FOR ESTIMATED STEEL REINFORCEMENT PIECE SIZES & DIMENSIONS. (NO. 12)
- CONTRACTOR SHALL LOCATE NEW PILING AS NECESSARY TO MISS ANY EXISTING TIMBER PILING THAT MAY REMAIN BELOW GRADE. NOTIFY ENGINEER IF PILE IS MOVED 6" OR MORE FROM LOCATION SHOWN ON THE PLANS.

KEY NOTES:

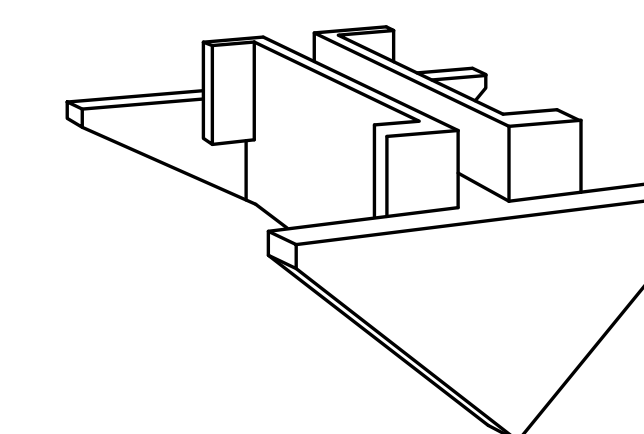
- FIELD DRILL AND INSTALL ANCHOR BOLTS AFTER BRIDGE IS IN FINAL POSITION. ANCHOR BOLTS SHALL BE INSTALLED ACCORDING TO BRIDGE MANUFACTURER'S SPECIFICATIONS INCLUDING LOCATION, EMBEDMENT AND PROJECTION.



STEEL PILE SPLICE DETAIL

SCALE: NTS

GALVANIZING MATERIAL SHALL BE OMITTED OR REMOVED ONE INCH CLEAR OF WELD LOCATIONS IN ACCORDANCE WITH SPECIFICATION SECTION 316216 IF APPLICABLE.



THE PILE POINT SHALL BE A ONE-PIECE UNIT OF CAST STEEL. THE CUTTING EDGES SHALL BE HARDENED. THE PILE POINT SHALL BE DESIGNED TO PENETRATE BOULDERS WITHOUT INJURY TO THE PILE. THE PILE POINTS SHALL BE WELDED, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, TO EACH STEEL PILE AT THE ABUTMENTS BEFORE DRIVING. TOTAL OF 3 REQUIRED EACH BENT, TOTAL OF 6 FOR PROJECT.

CAST STEEL PILE POINT

NOT TO SCALE



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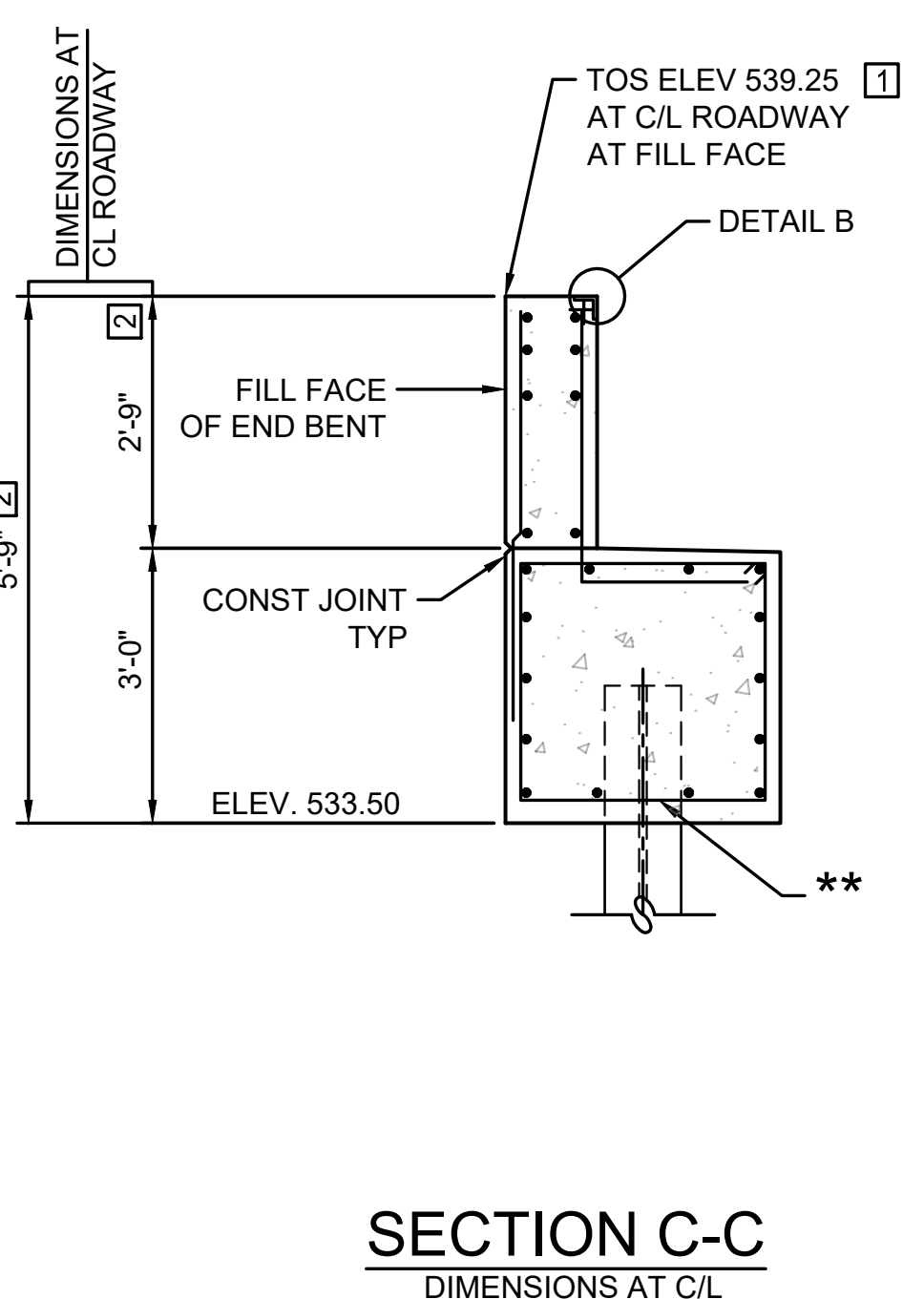
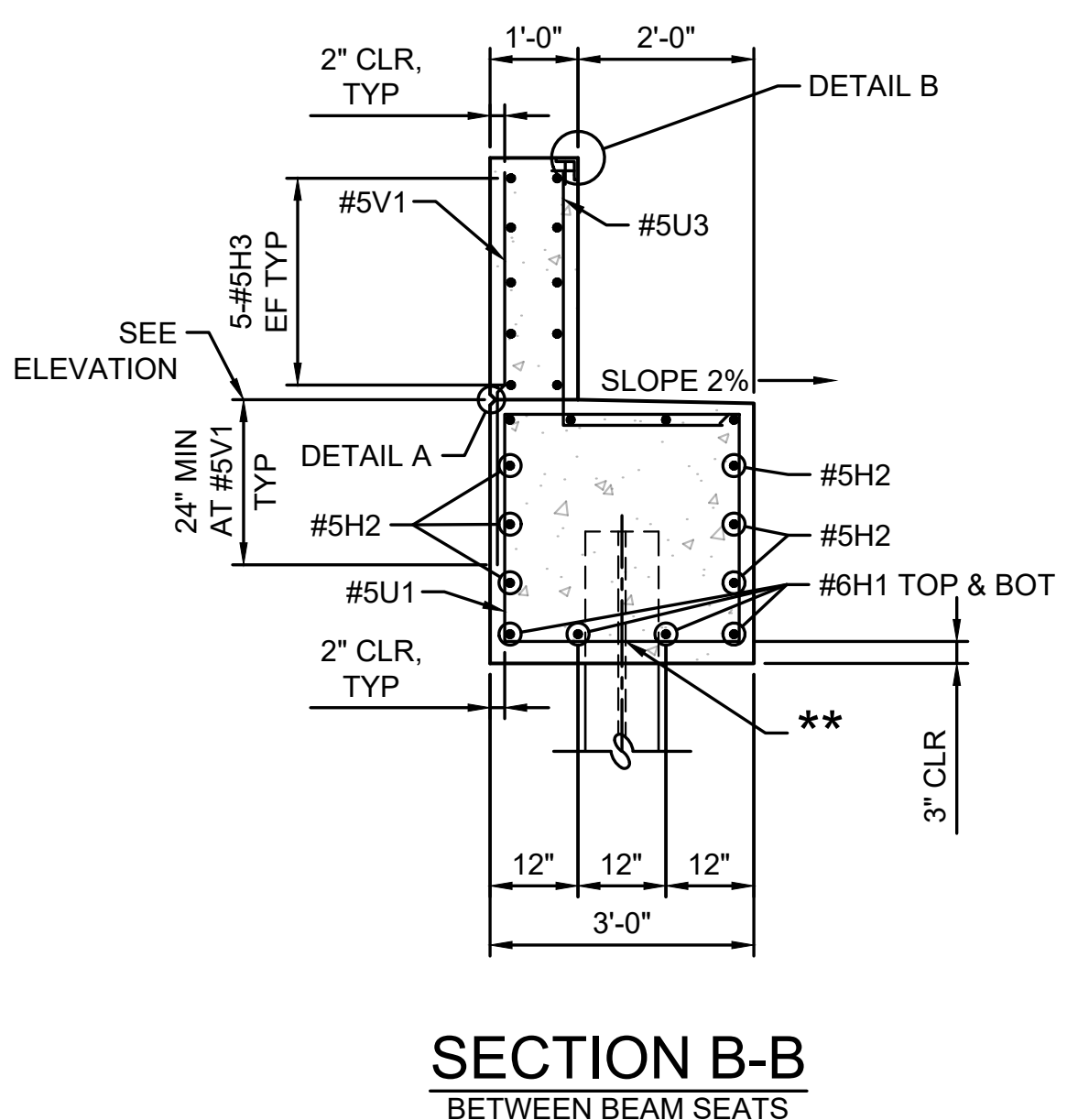
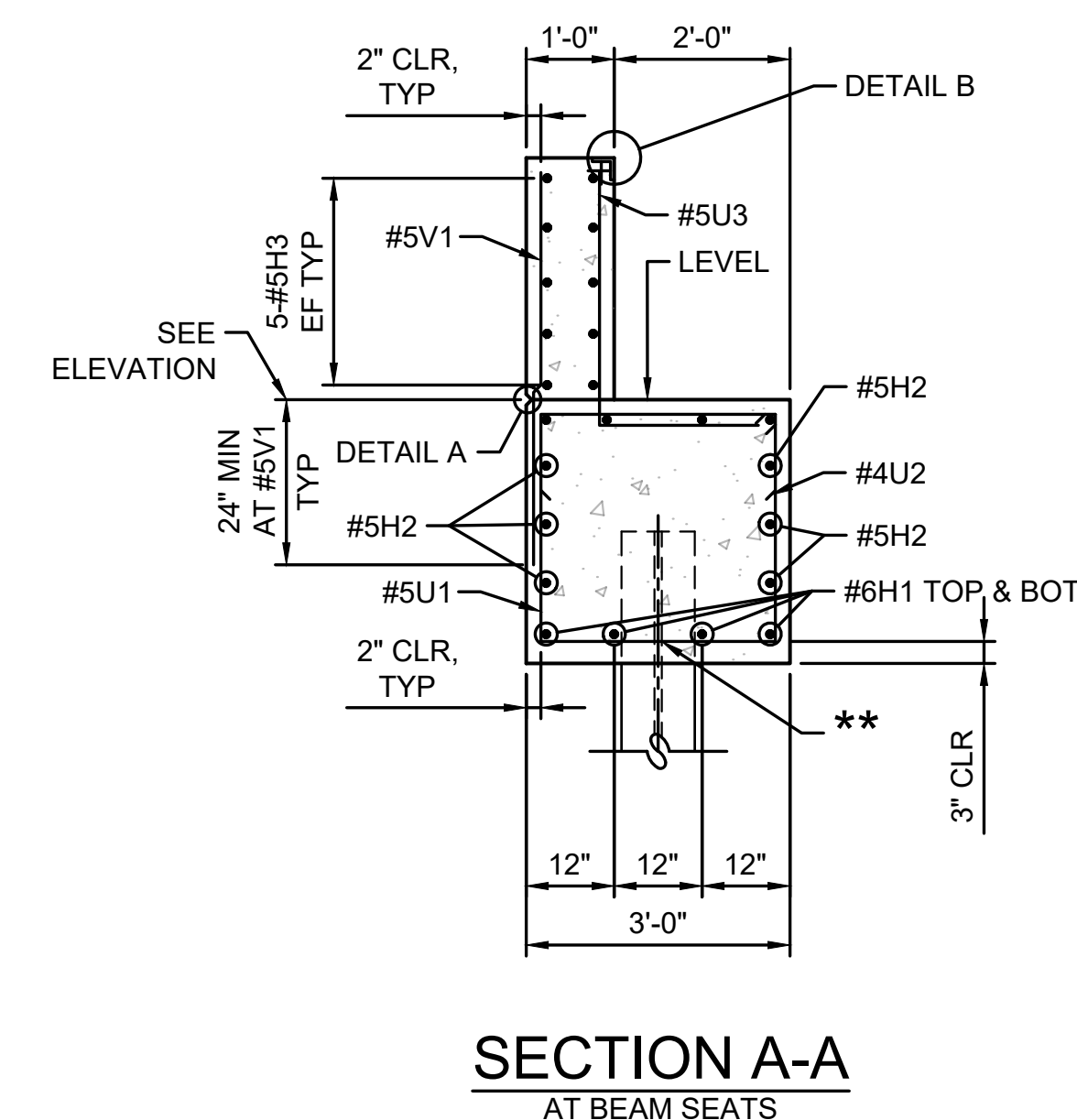
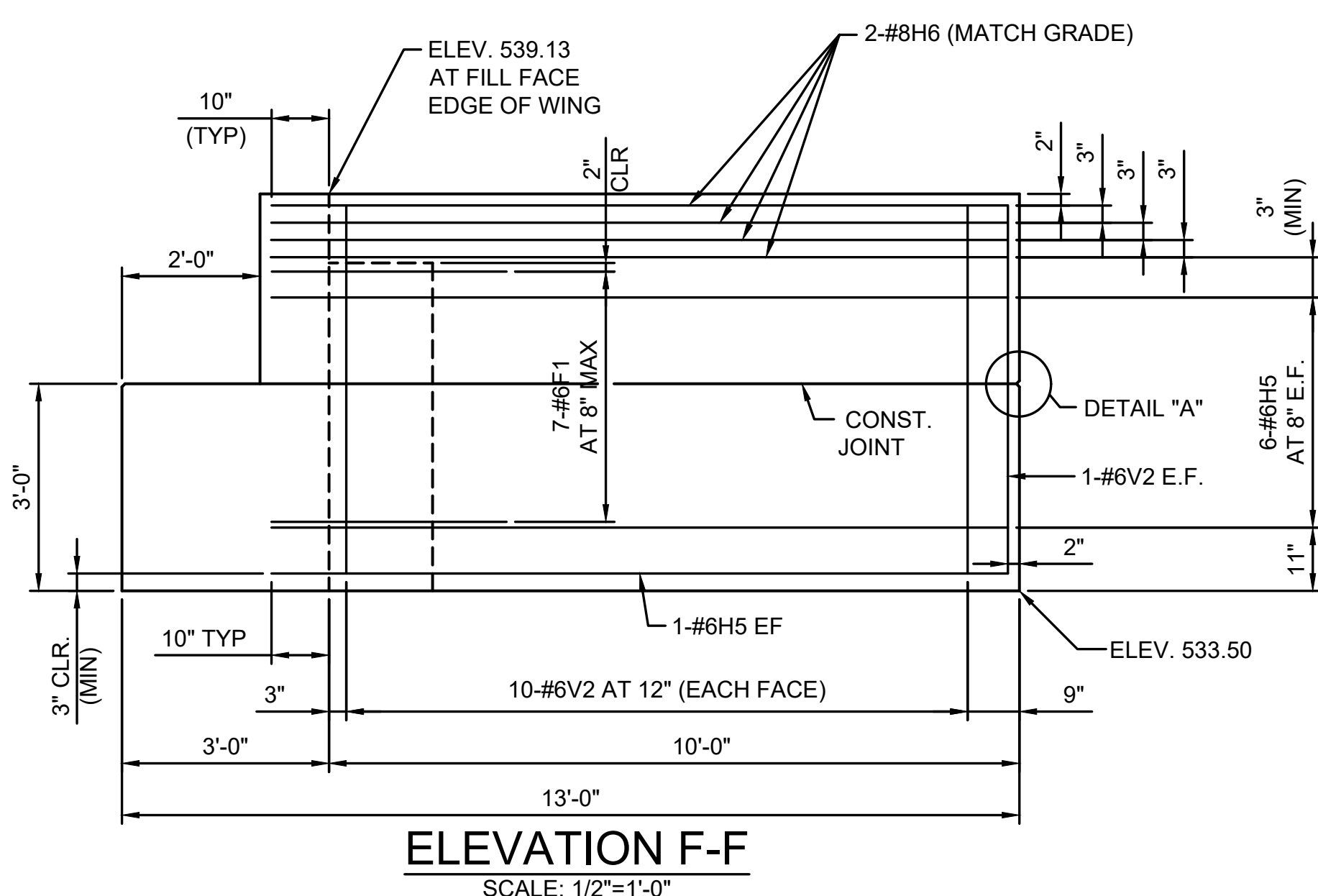
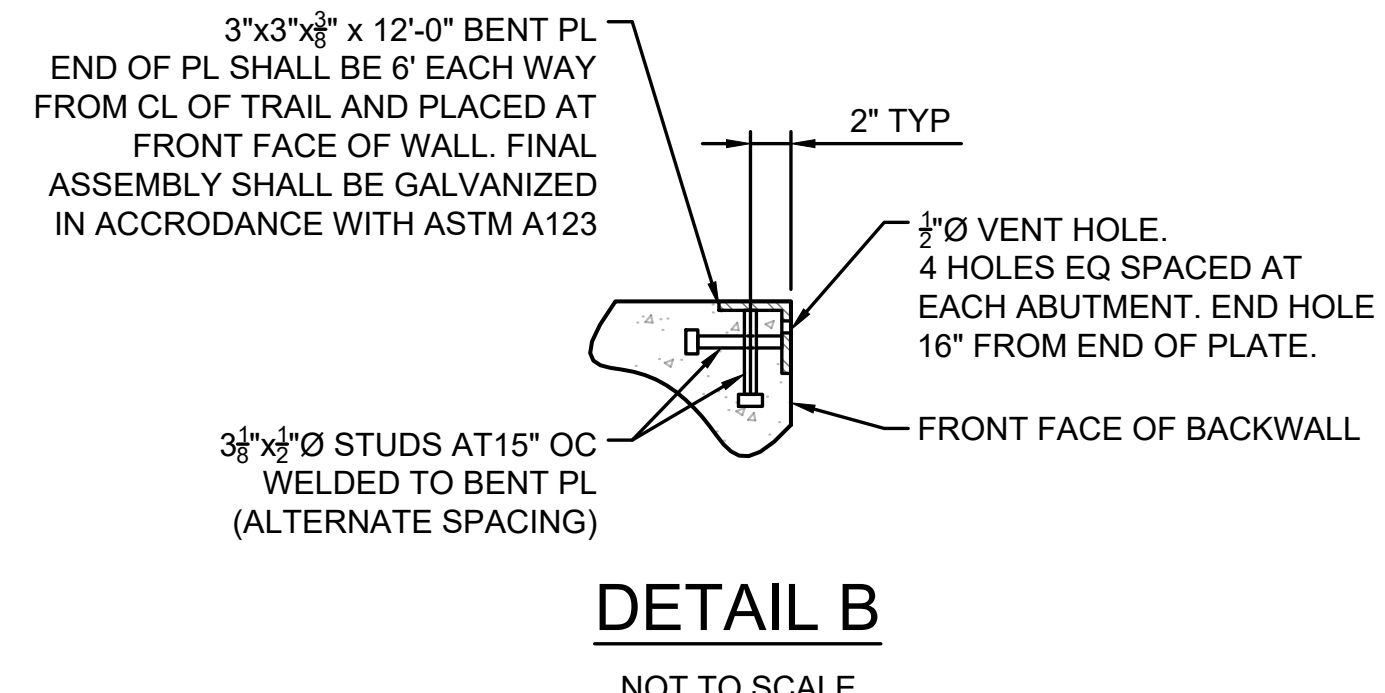
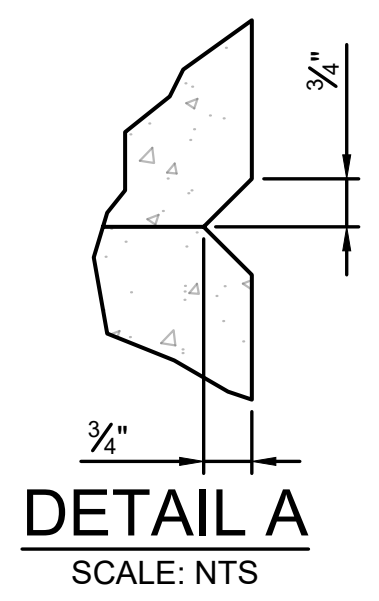
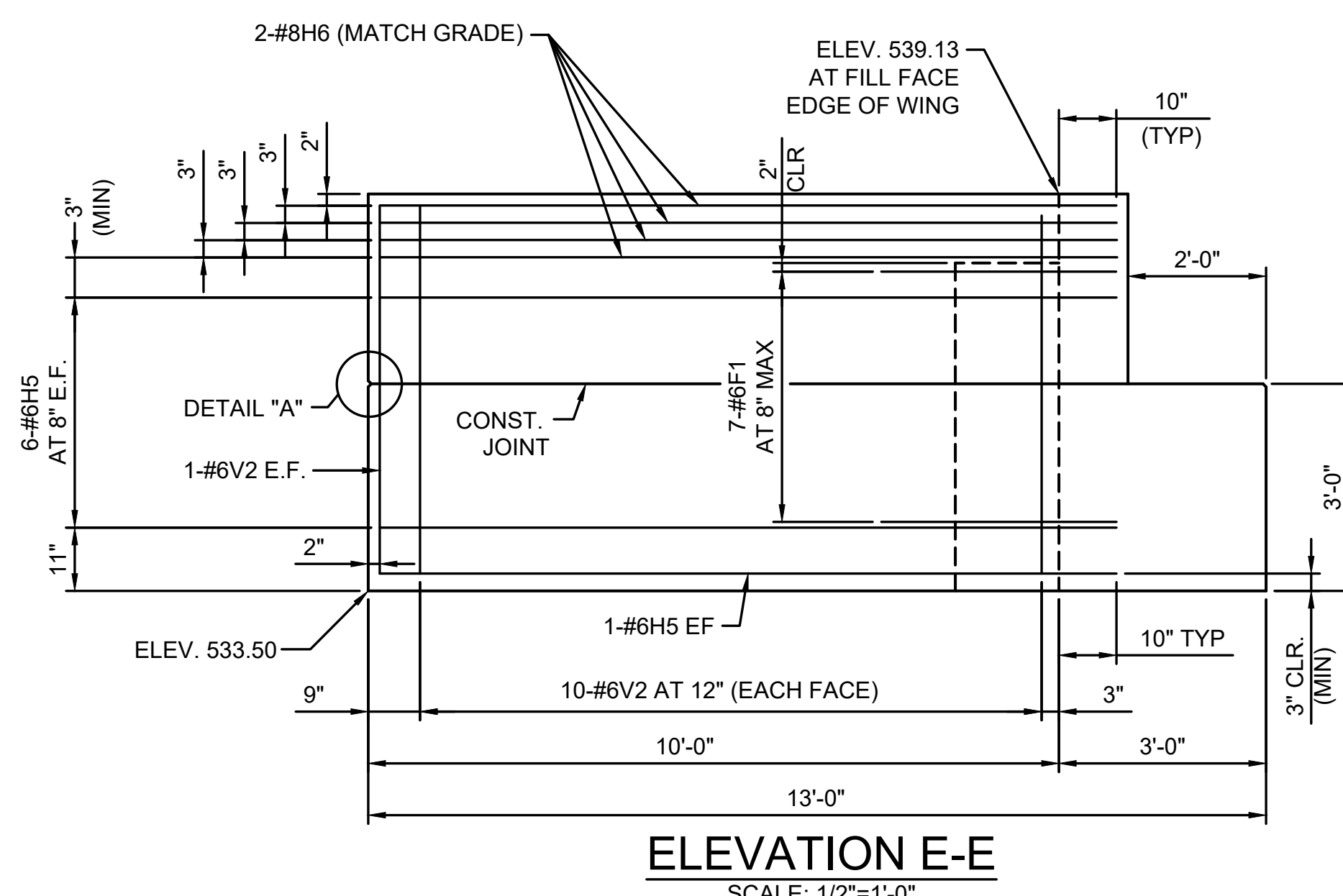
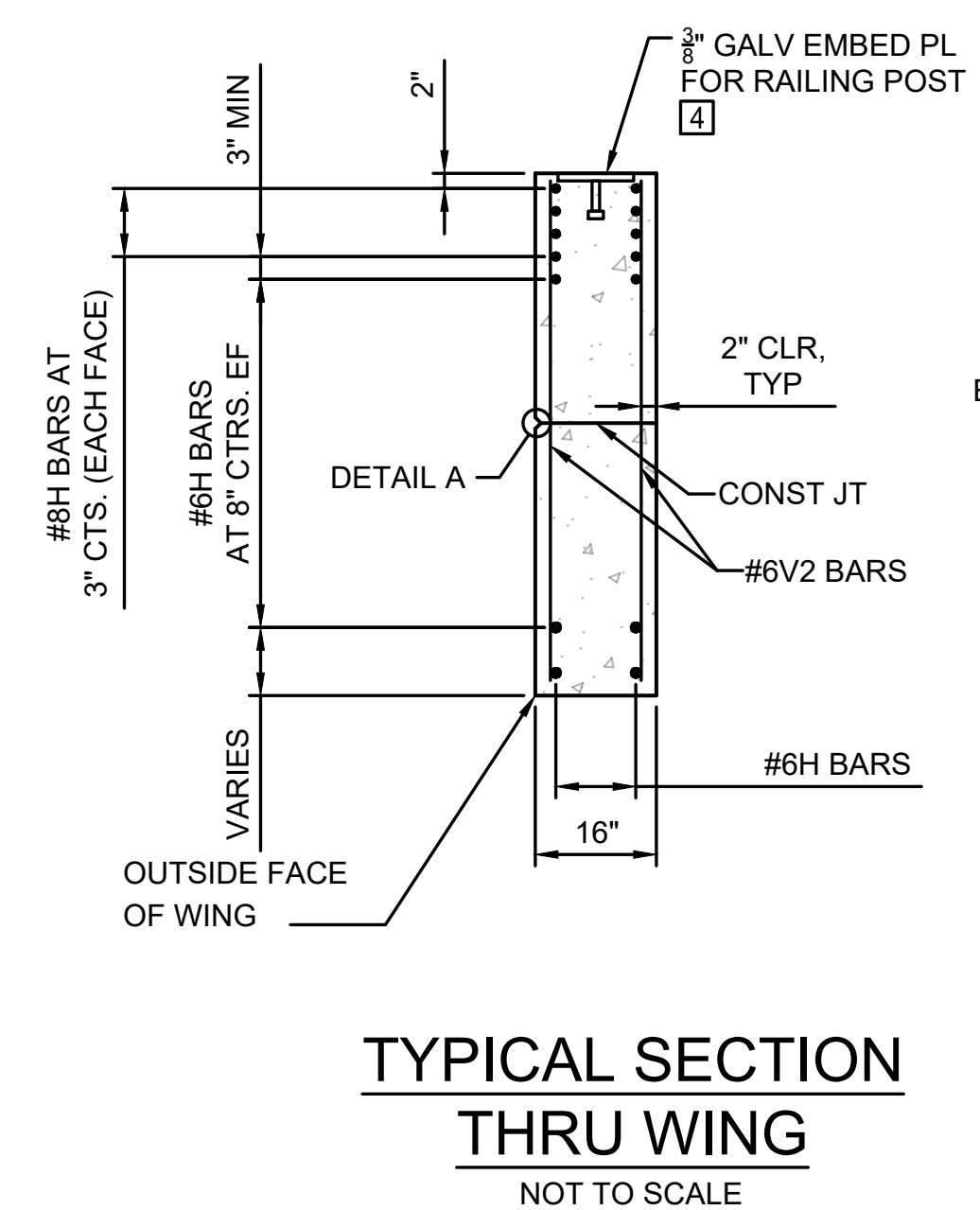
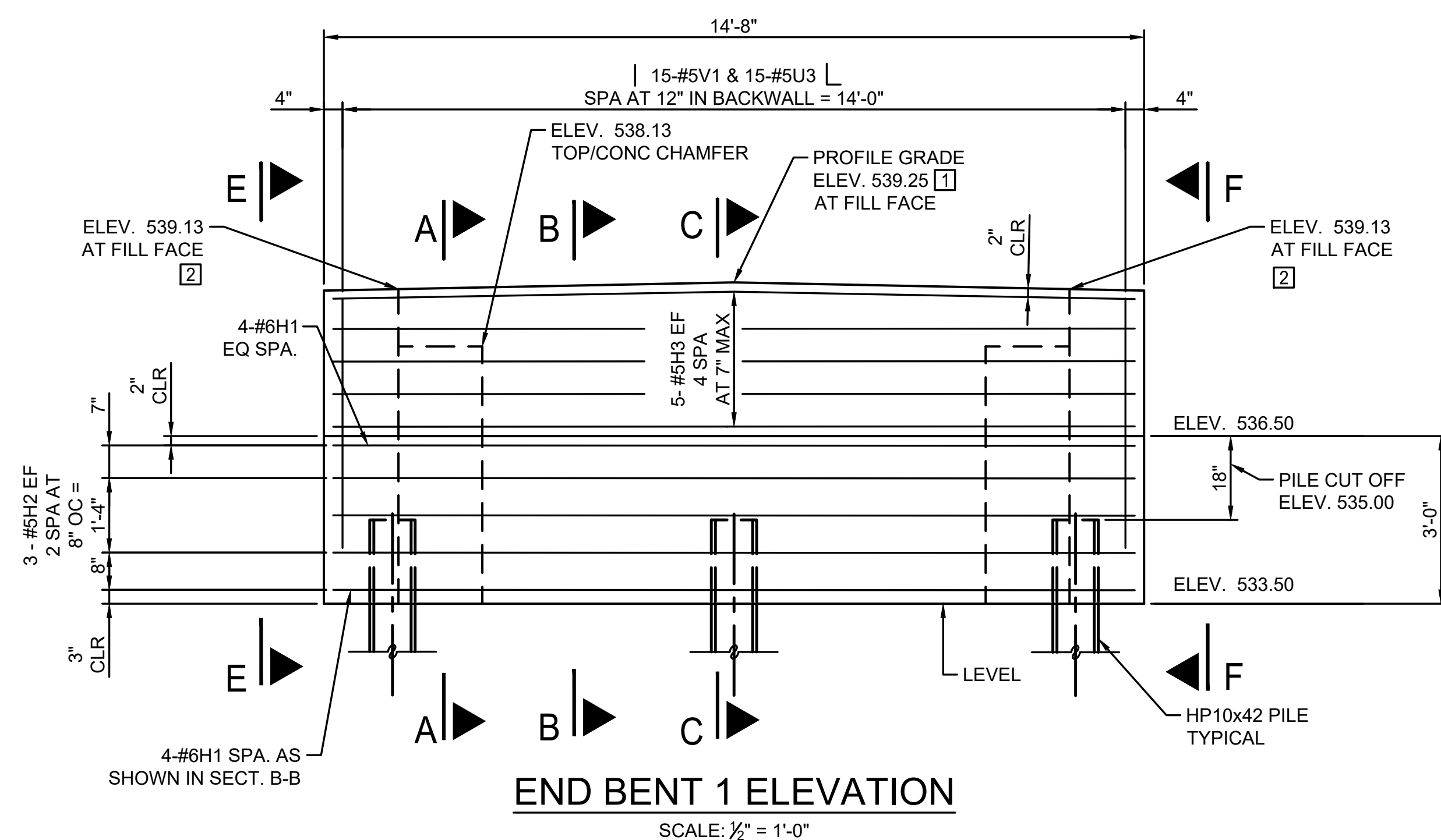
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DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

SHEET TITLE:
**BENT 1 ELEVATION
& SECTIONS**

SHEET NUMBER:

S-202

10 OF 13 SHEETS
MARCH 3, 2023



- KEY NOTES:**
- TOP OF ABUTMENT BACKWALL AND SLOPE OF BACKWALL MUST MATCH TOP OF CONCRETE BRIDGE DECK. SEE "CROWN DETAIL" ON D-001
 - HEIGHT OF BACKWALL AND TOP OF CONCRETE AT BRIDGE SEAT ARE BASED ON PRELIMINARY BRIDGE INFORMATION. THE CONTRACTOR SHALL BASE THEIR BID ON THE DIMENSIONS SHOWN AND ALLOW FOR POSSIBLE VARIATION IN THE BACKWALL HEIGHT AND BEAM SEAT ELEVATION TO ACCOMMODATE THE REQUIREMENTS OF THE ACTUAL PREFABRICATED BRIDGE TO BE SUPPLIED. THE BRIDGE MANUFACTURER AND CONTRACTOR SHALL PROVIDE EXACT HEIGHT REQUIREMENTS WITH FINAL BRIDGE DETAILS AND DESIGN TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 - NOT USED.
 - SIZE AND PLACEMENT OF THE EMBEDDED PLATES SHALL ACCOMMODATE THE SEPARATE 10'-0" LONG HANDRAIL SECTION PROVIDED BY THE PEDESTRIAN BRIDGE MANUFACTURER THAT IS MOUNTED TO THE TOP OF THE ABUTMENT WING WALL. THE ATTACHMENT METHOD OF THE HANDRAIL SHALL BE DETERMINED AND PROVIDED BY THE BRIDGE MANUFACTURER. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE ATTACHMENT METHOD TO THE CONCRETE WINGWALL TO BE APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT BID.

NOTE:
** CUT BOTTOM LEG OF STIRRUP (2" MAX CLEARANCE) AT PILE LOCATIONS.



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STATE PARKS

REPLACE
HIGHWAY PP BRIDGE
KATY TRAIL STATE PARK

KATY TRAIL - MP126.3
MOKANE, MO
65059

PROJECT NO. X2227-01
SITE NO. 5501
ASSET NO. 7815501002

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 03/03/2023

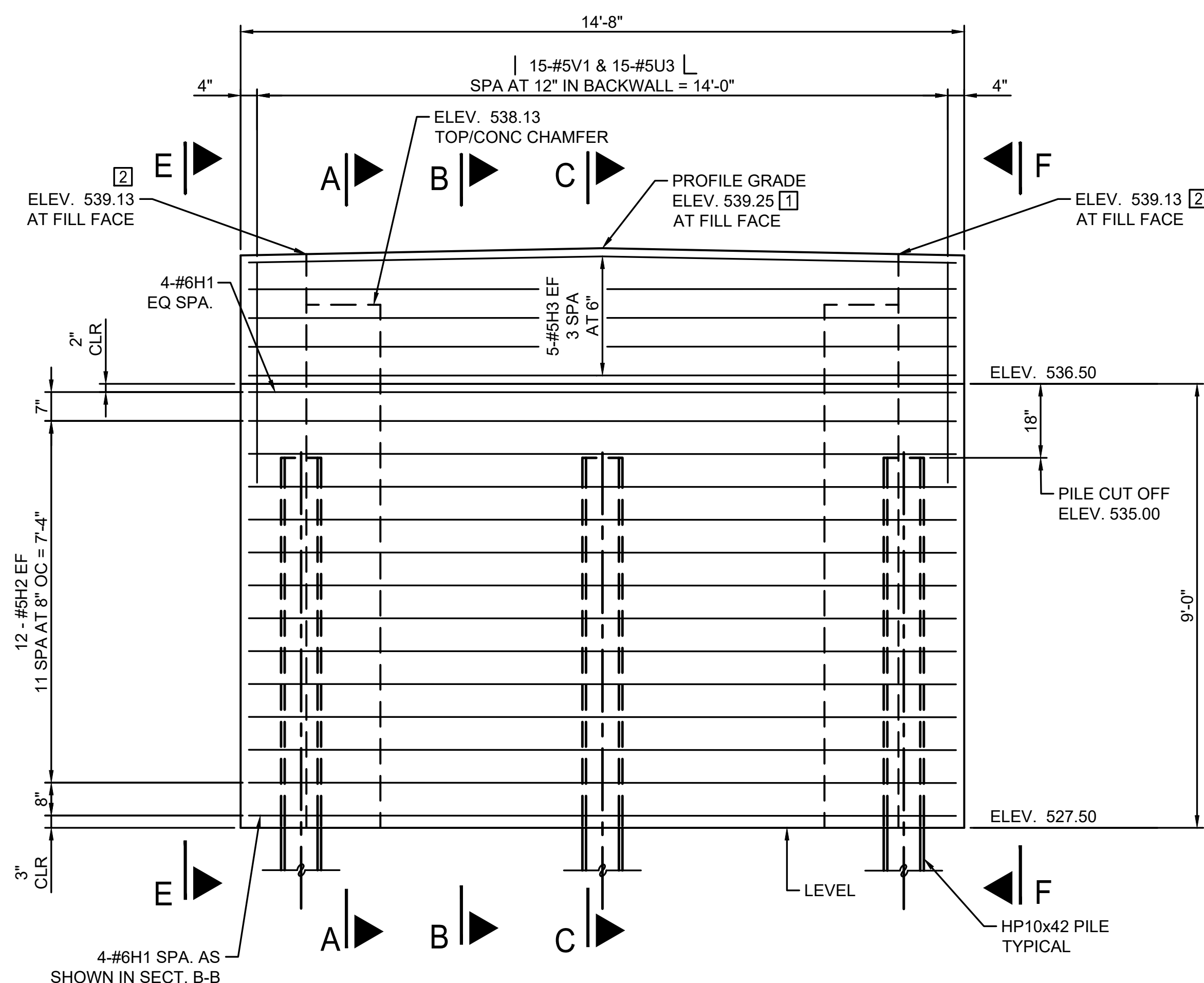
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DRAWN BY: JJB
CHECKED BY: MMH
DESIGNED BY: ADM

SHEET TITLE:
**BENT 2 ELEVATION
& SECTIONS**

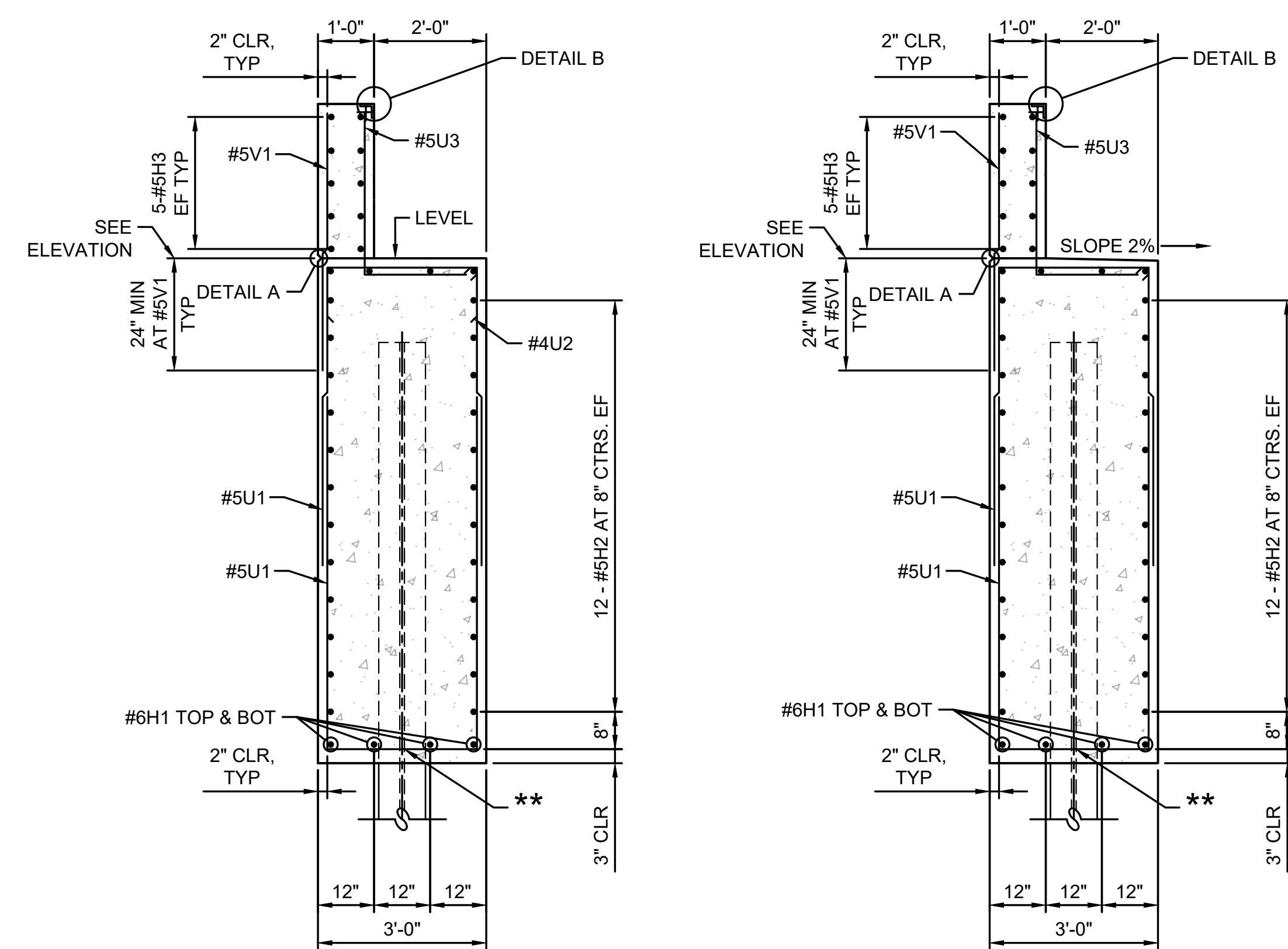
SHEET NUMBER:

S-203

11 OF 13 SHEETS
MARCH 3, 2023



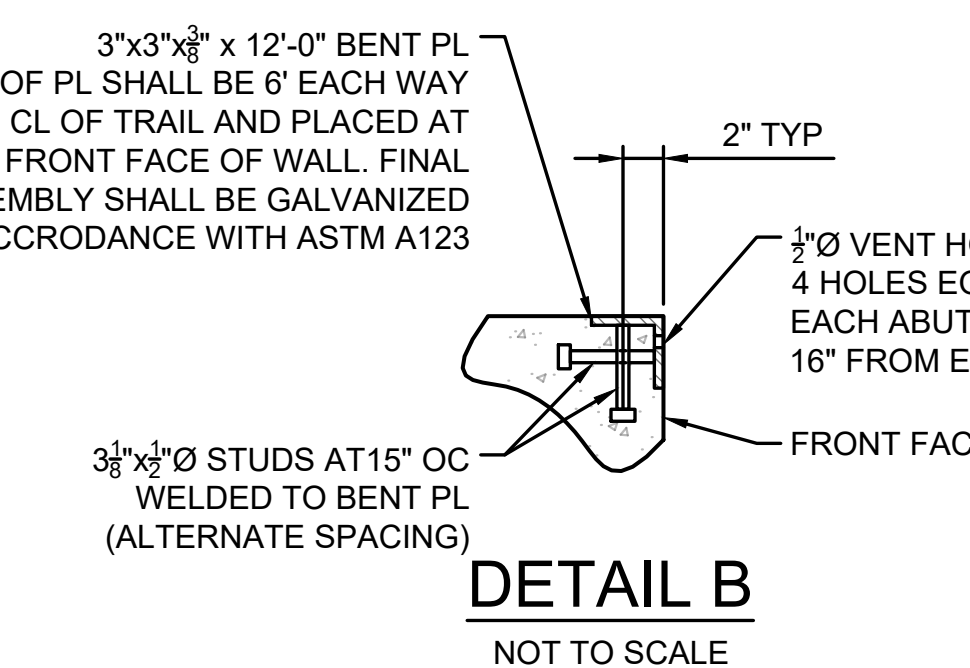
END BENT 2 ELEVATION
SCALE: 1/2" = 1'-0"



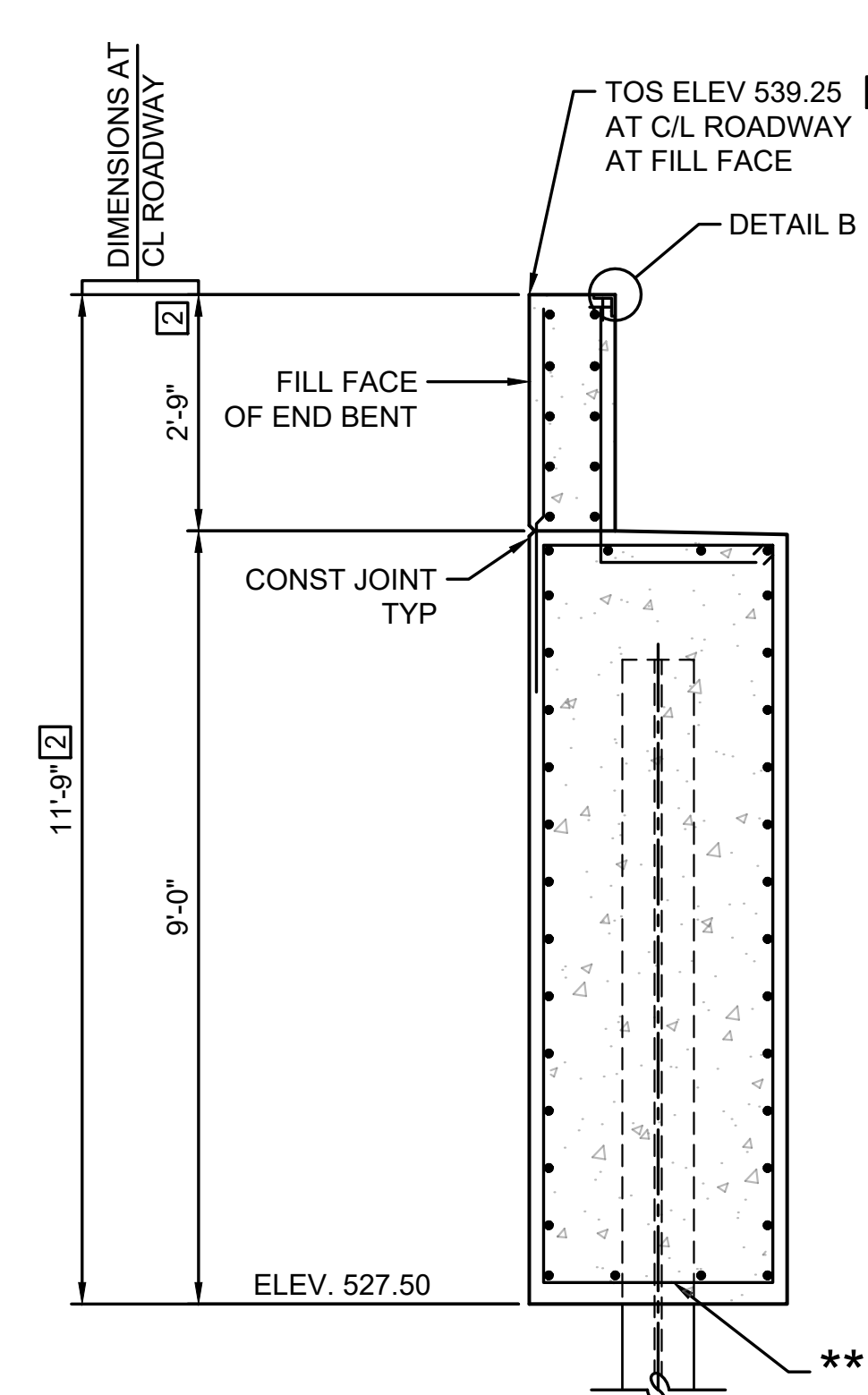
SECTION A-A
AT BEAM SEATS

SECTION B-B
BETWEEN BEAM SEATS

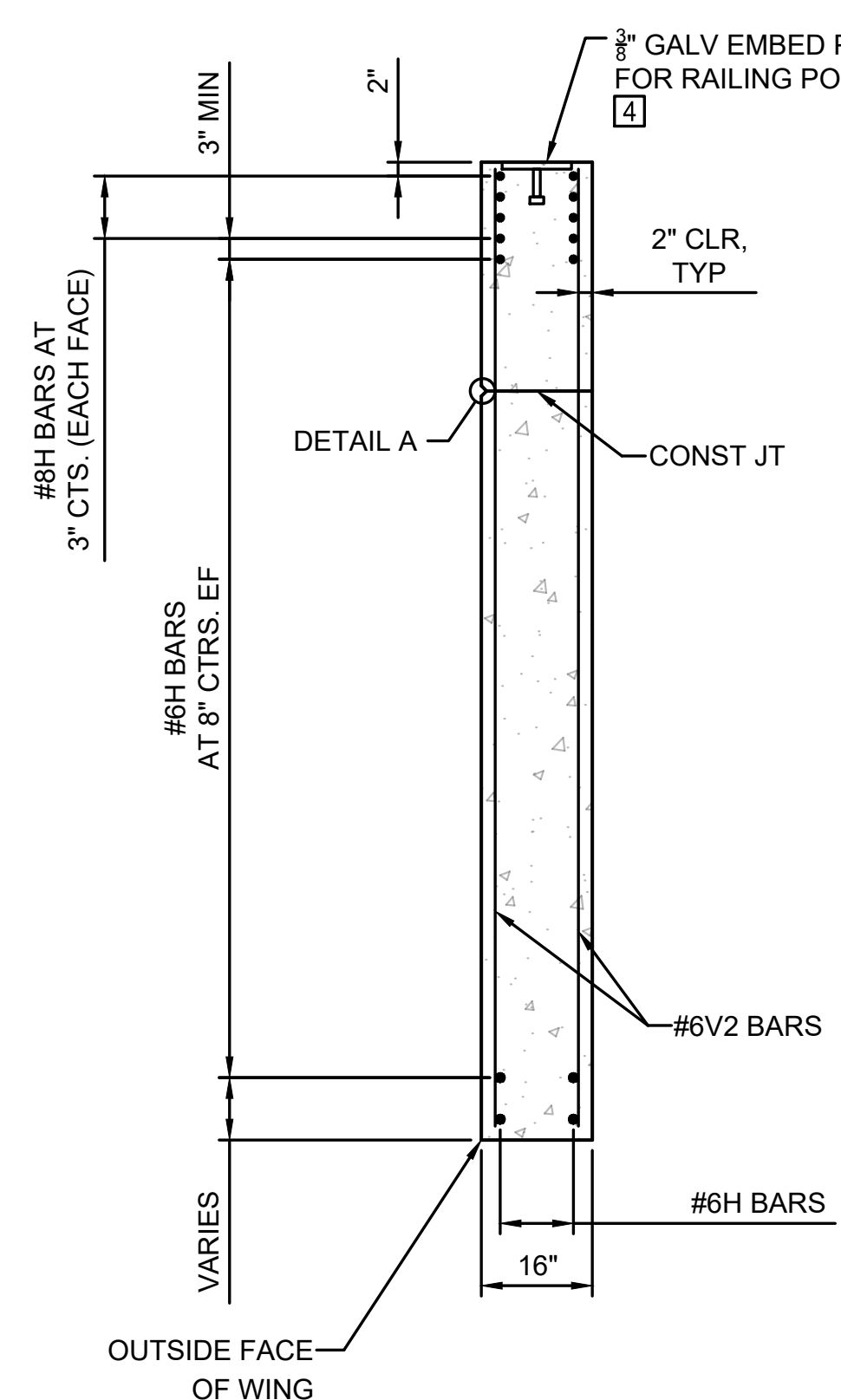
3"x3"x3/8" x 12'-0" BENT PL
END OF PL SHALL BE 6" EACH WAY
FROM CL OF TRAIL AND PLACED AT
FRONT FACE OF WALL. FINAL
ASSEMBLY SHALL BE GALVANIZED
IN ACCORDANCE WITH ASTM A123



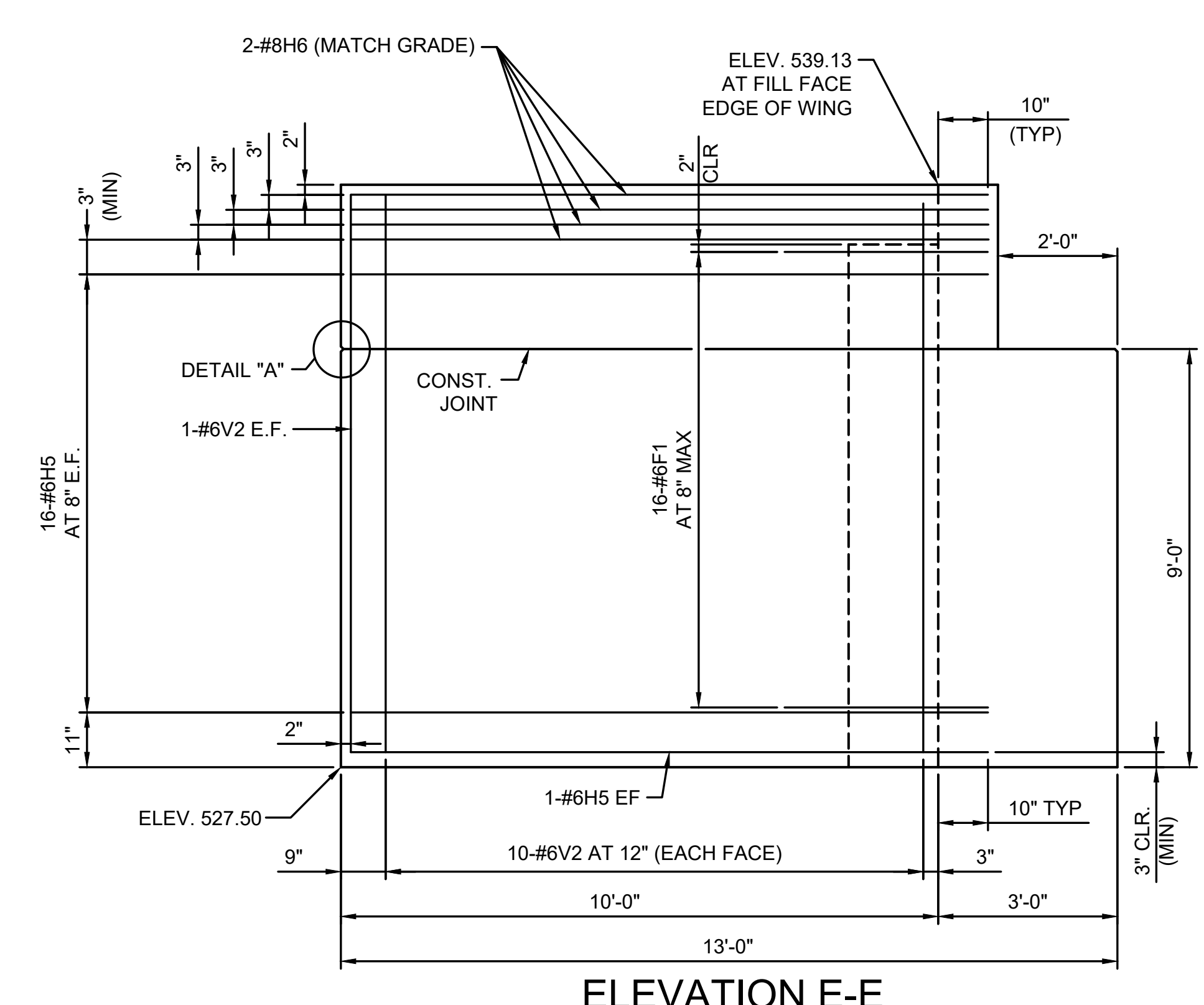
DETAIL B
NOT TO SCALE



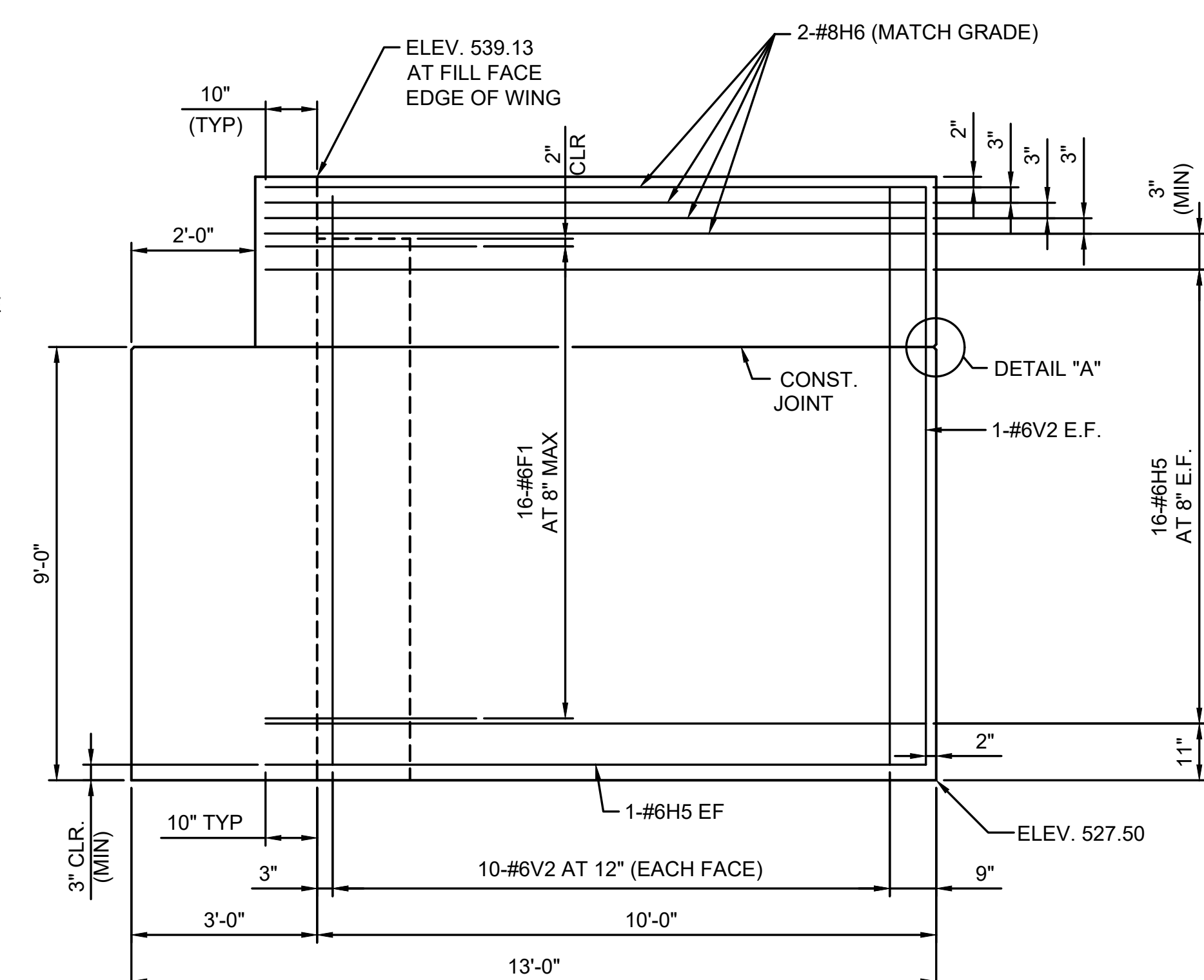
SECTION C-C
DIMENSIONS AT C/L



TYPICAL SECTION THRU WING
NOT TO SCALE

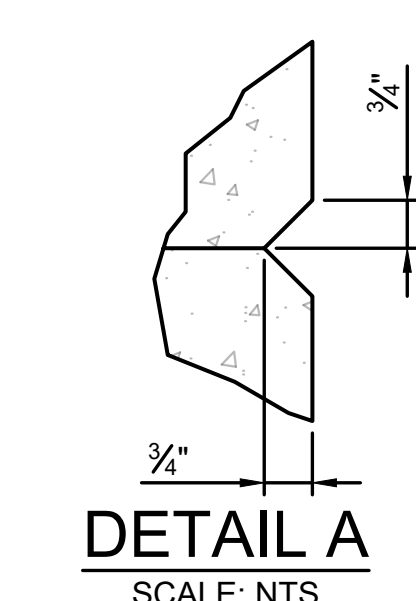


ELEVATION E-E
SCALE: 1/4" = 1'-0"



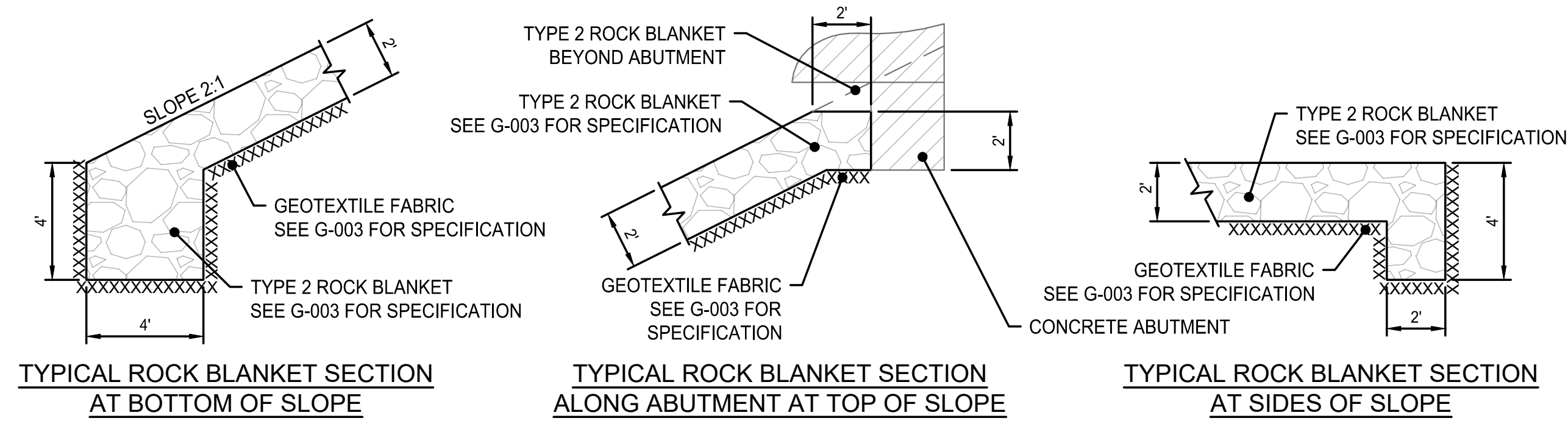
ELEVATION F-F
SCALE: 1/4" = 1'-0"

- KEY NOTES:**
- TOP OF ABUTMENT BACKWALL AND SLOPE OF BACKWALL MUST MATCH TOP OF CONCRETE BRIDGE DECK. SEE "CROWN DETAIL" ON D-001
 - HEIGHT OF BACKWALL AND TOP OF CONCRETE AT BRIDGE SEAT ARE BASED ON PRELIMINARY BRIDGE INFORMATION. THE CONTRACTOR SHALL BASE THEIR BID ON THE DIMENSIONS SHOWN AND ALLOW FOR POSSIBLE VARIATION IN THE BACKWALL HEIGHT AND BEAM SEAT ELEVATION TO ACCOMMODATE THE REQUIREMENTS OF THE ACTUAL PREFABRICATED BRIDGE TO BE SUPPLIED. THE BRIDGE MANUFACTURER AND CONTRACTOR SHALL PROVIDE EXACT HEIGHT REQUIREMENTS WITH FINAL BRIDGE DETAILS AND DESIGN TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
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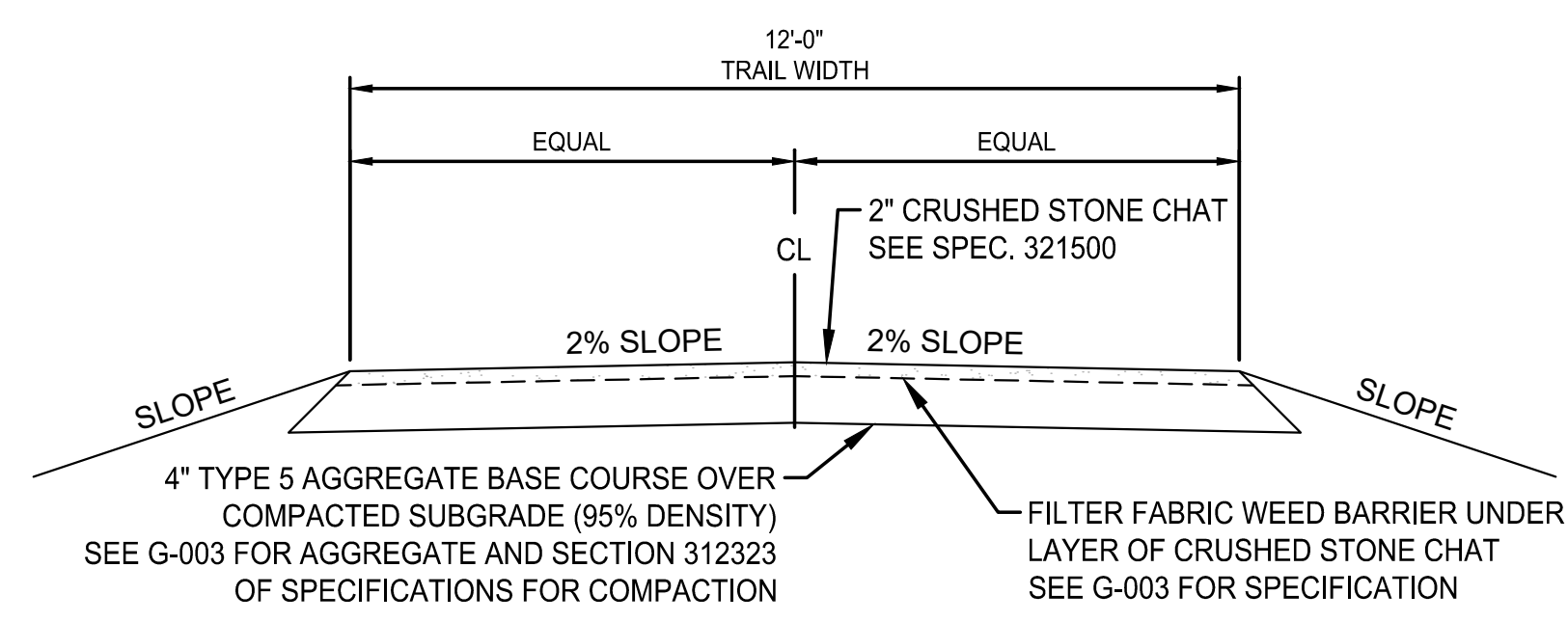


DETAIL A
SCALE: NTS

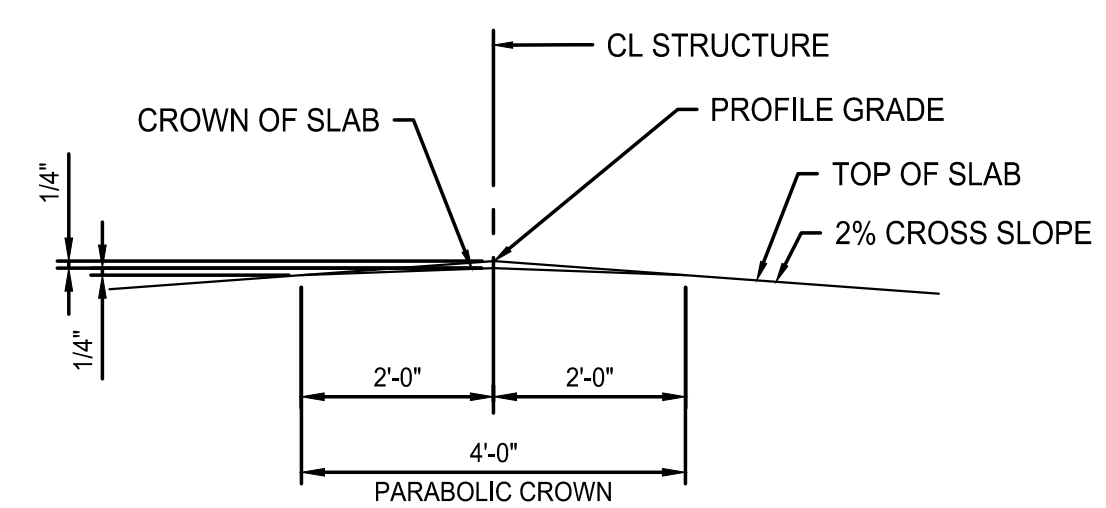
NOTE:
** : CUT BOTTOM LEG OF STIRRUP (2" MAX CLEARANCE) AT PILE LOCATIONS.



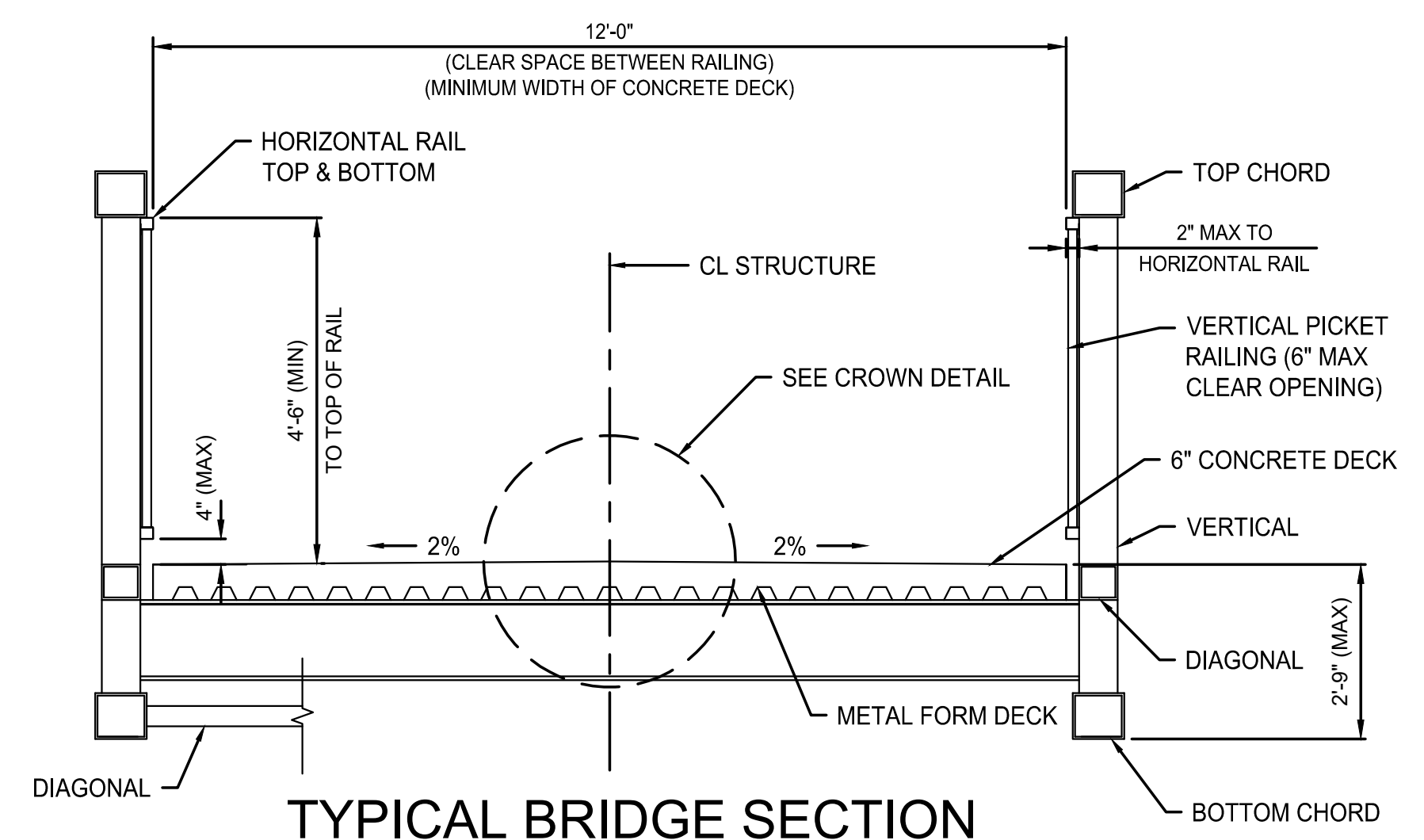
TYPICAL ROCK BLANKET SECTIONS
NOT TO SCALE



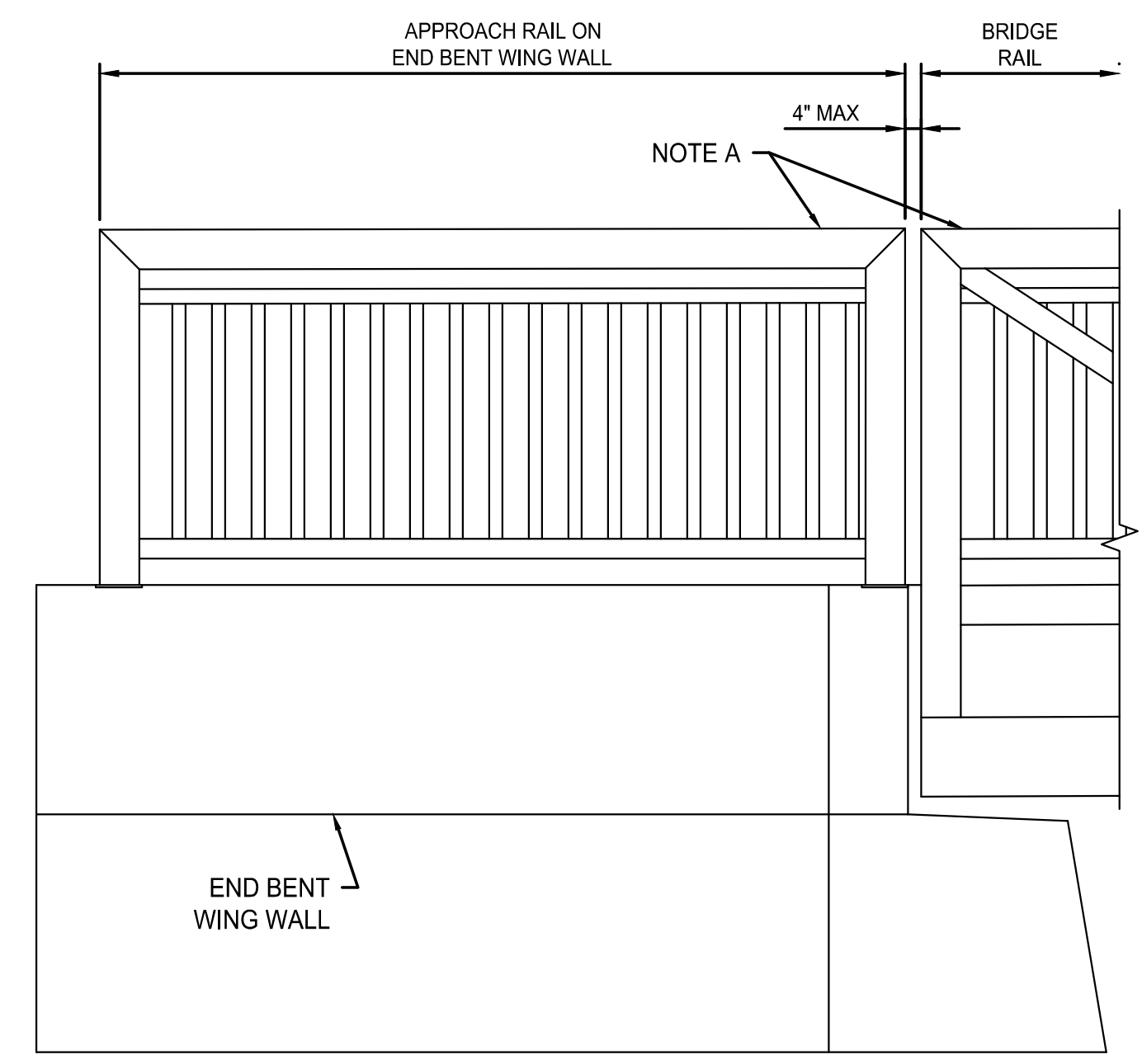
TYPICAL TRAIL SECTION
NOT TO SCALE



CROWN DETAIL
NOT TO SCALE

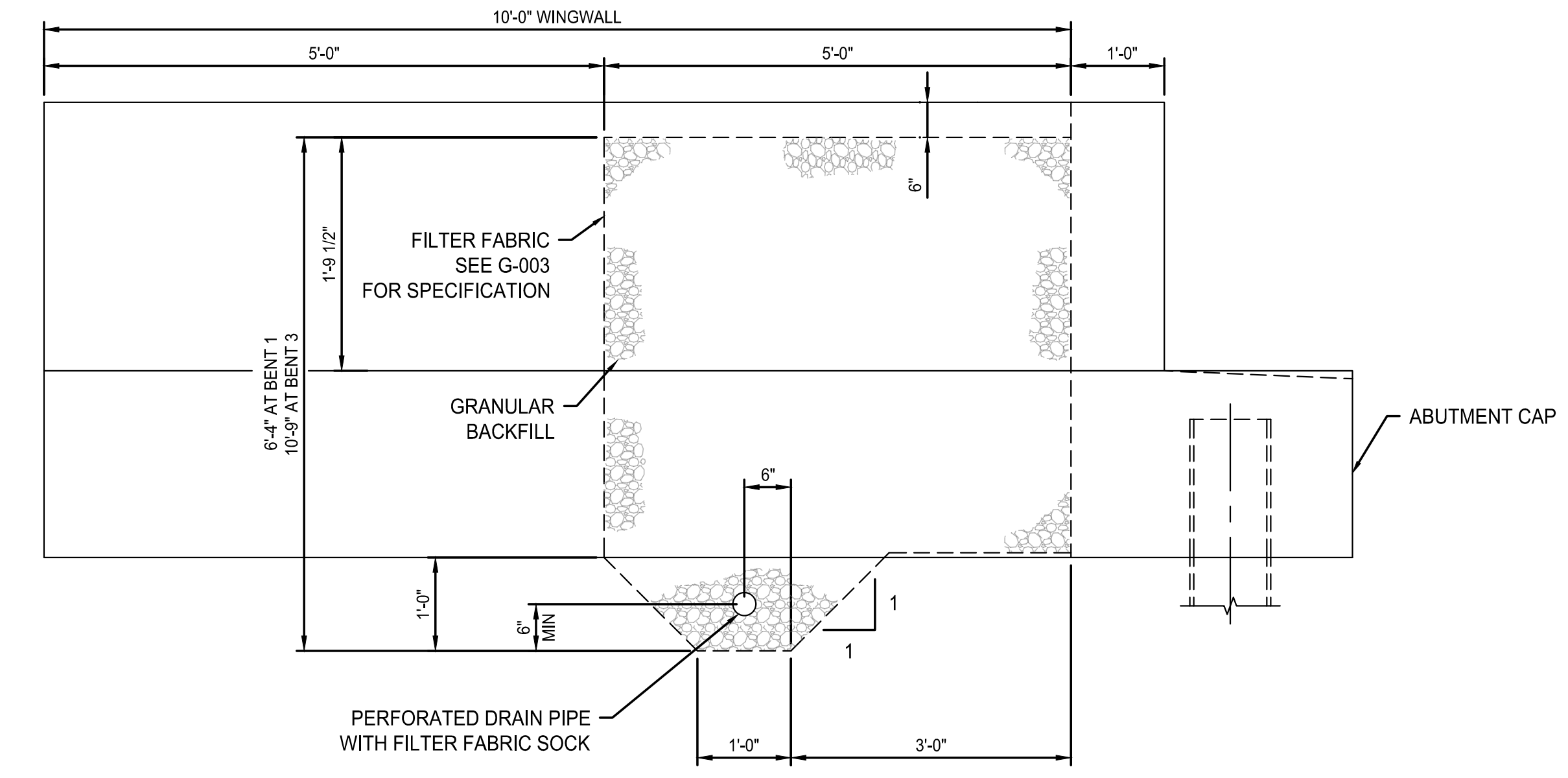


TYPICAL BRIDGE SECTION
NOT TO SCALE



NOTE A:
THE APPROACH RAILING ON THE ABUTMENT WINGWALL SHALL MATCH THE STYLE AND SPACING OF THE RAILING ON THE BRIDGE. THE END POSTS AND TOP RAIL SHALL MATCH THE SIZE OF THE BRIDGE END POST AND TOP CHORD.

END BENT APPROACH RAIL ELEVATION VIEW
NOT TO SCALE



ABUTMENT DRAIN PIPE ELEVATION
NOT TO SCALE

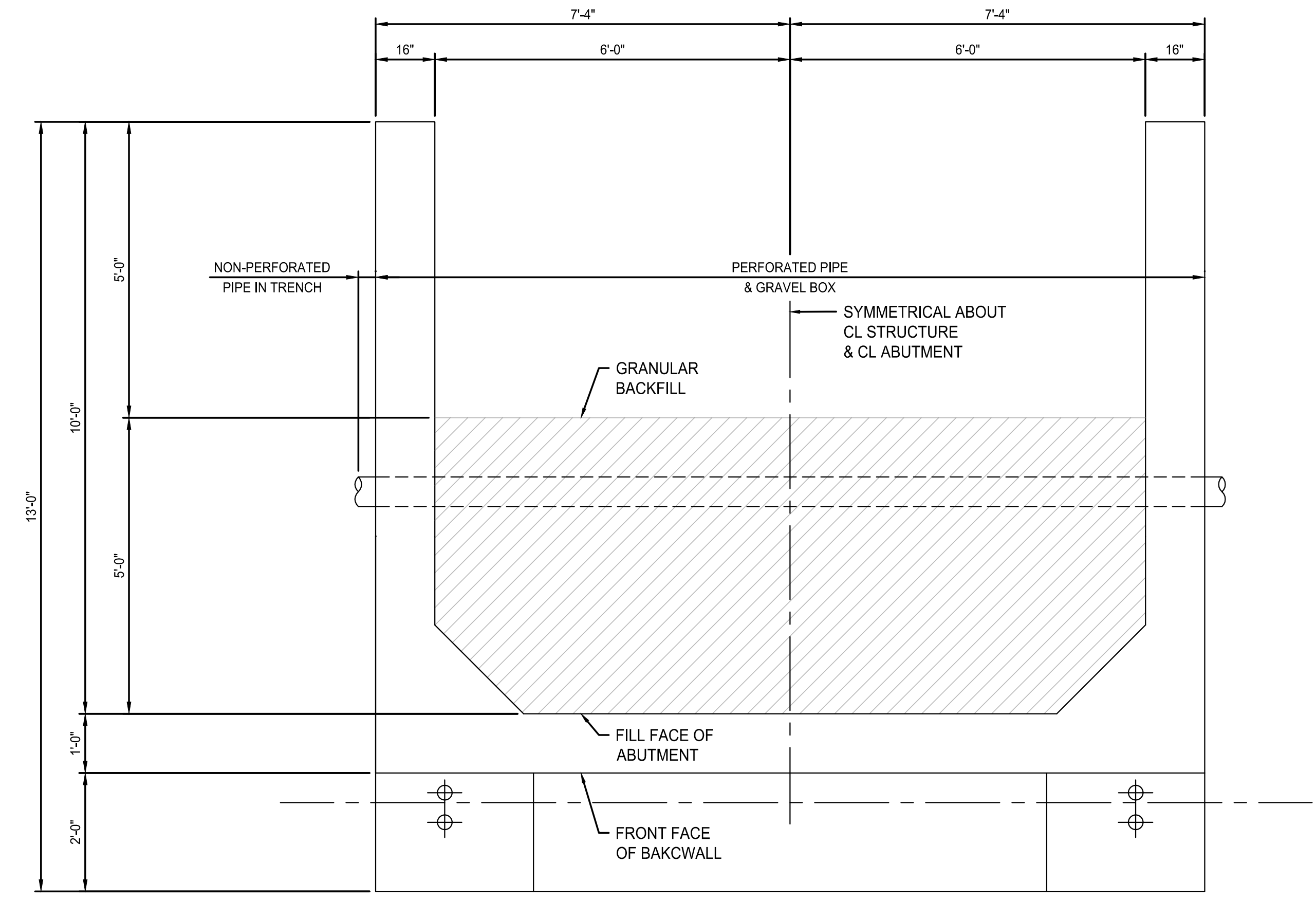
NOTE A:
DRAIN PIPE MAY BE EITHER 4" DIAMETER CORRUGATED POLYVINYL CHLORIDE (PVC) DRAIN PIPE, OR 4" DIAMETER CORRUGATED POLYETHYLENE (PE) DRAIN PIPE WITH FILTER FABRIC SOCK.

PLACE DRAIN PIPE BEHIND CAP AS SHOWN AND SLOPE TO LOWEST GRADE OF GROUND LINE BEYOND LIMITS OF ABUTMENT AND ROCK BLANKET.

PERFORATED DRAIN PIPE SHALL BE USED BEHIND CAP WITHIN LIMITS OF ABUTMENT. PLAIN PIPE SHALL BE USED OUTSIDE LIMITS OF ABUTMENT TO EXIT AT GROUND LINE.

GRANULAR BACKFILL
THE GRANULAR BACKFILL SHALL BE GRAVEL, CRUSHED STONE, OR OTHER APPROVED MATERIAL, IN ACCORDANCE WITH THE FOLLOWING GRADATION REQUIREMENTS:

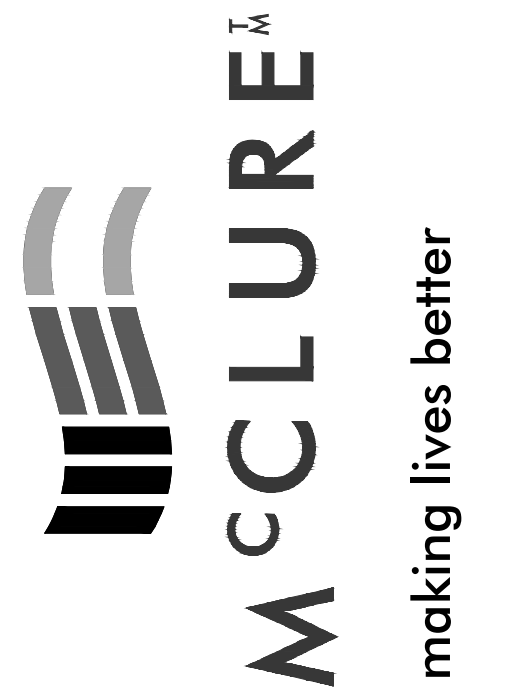
| GRANULAR BACKFILL REQUIREMENTS | |
|--------------------------------|--------------------------|
| SIEVE SIZE | PERCENT BY WEIGHT (MASS) |
| 1-INCH | 100 |
| 3/4-INCH | 90-100 |
| 3/8-INCH | 20-55 |
| NO. 4 | 0-10 |
| NO. 8 | 0-5 |



ABUTMENT DRAIN PIPE PLAN
NOT TO SCALE



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SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
D-001
13 OF 13 SHEETS
MARCH 3, 2023