

WKE
PROJECT ID: 2984-43-74
WITH: N/A

MAR 2016		
ORDER OF SHEETS		
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plot
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections
TOTAL SHEETS =		50

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT
HAST LANDSCAPING

AIRLINE YARDS
(37TH STREET TO MITCHELL PARK)

NON HIGHWAY

MILWAUKEE COUNTY

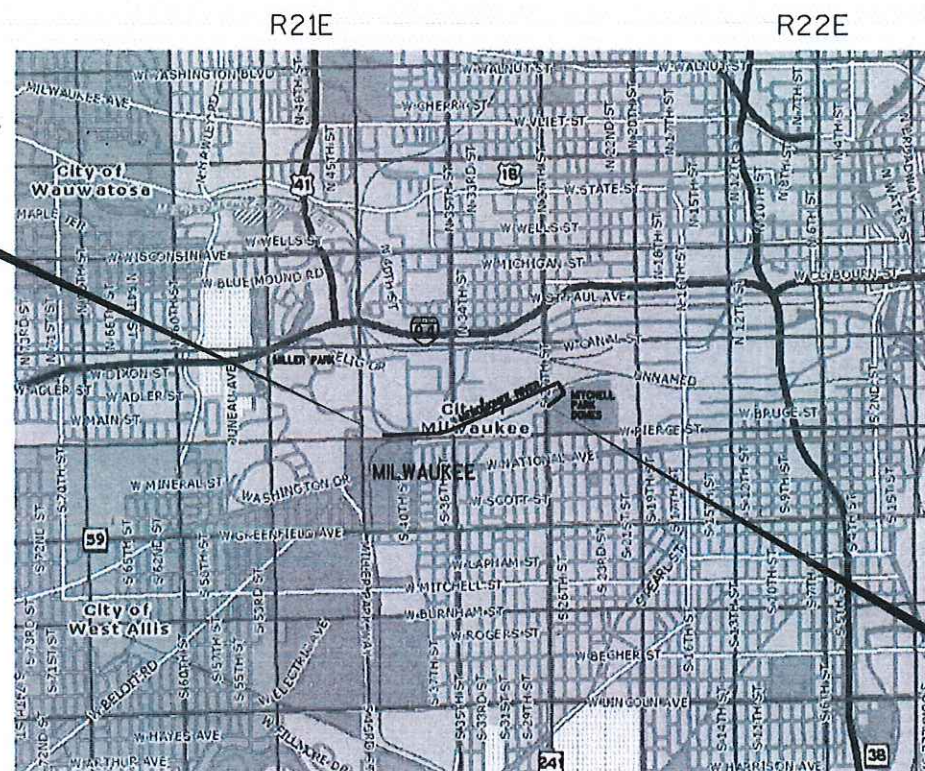
STATE PROJECT NUMBER
2984-43-74



16

BEGIN PROJECT
STA. 21+17.12
Y = 294,277.09
X = 591,132.05

T7N



END PROJECT
STA. 398+00.00
Y = 294,901.30
X = 595,835.80

LAYOUT
SCALE 0 1/2 Mi.

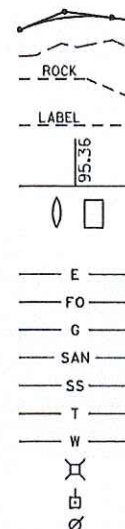
TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY
COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY, NAD 1983 (2007).
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO MILWAUKEE CITY DATUM.
TO CONVERT ELEVATIONS SHOWN ON THIS PLAN TO
THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, ADD 580.603.

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	----
LOT LINE	----
LIMITED HIGHWAY EASEMENT	----
EXISTING RIGHT OF WAY	----
PROPOSED OR NEW R/W LINE	----
SLOPE INTERCEPT	----
REFERENCE LINE	----
EXISTING CULVERT	----
PROPOSED CULVERT (Box or Pipe)	----
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	----
WOODED OR SHRUB AREA	----

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----



ORIGINAL PLANS PREPARED BY

benesch
Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-306-1310 Job No. 20032



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor SIGMA
Designer ALFRED BENESCH & COMPANY
Project Manager CHRISTINE HANNA
Regional Examiner
Regional Supervisor
C.O. Examiner

APPROVED FOR THE DEPARTMENT
DATE: 10/29/15 *Christine Hanna*
(Signature)

E

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latroy.brumfield@we-energies.com

TIME WARNER CABLE
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Milwaukee, WI 53212
Mr. Steve Cramer
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MILWAUKEE CITY ENGINEER
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Milwaukee, WI 53202
Mr. Jeffrey Polenske
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AT&T WISCONSIN

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alper.kolcu@att.com

TCG OF MILWAUKEE d/b/g
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c/o Northwind Technical Services
Delafield, WI 53018
Mr. Don Dietsch
262-646-5602

LEVEL 3 COMMUNICATIONS
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Austin, TX 78746
Mr. Trevor Peevey
512-742-3805

OTHER AGENCIES

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Mr. Jeffrey Polenske
City Engineer
414-286-3701

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Mr. William Zippel
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wzipfel@benesch.com

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PO Box 798
Waukesha, WI 53187
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christine.hanna@dot.wi.gov

WISDNR
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Ms. Kristina Betzold
414-263-8517
kristina.betzold@Wisconsin.gov

MILWAUKEE METRO SEWERAGE
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Milwaukee, WI 53204-1446
Ms. Debra Jensen
414-225-2143
djensen@mmsd.com

MILWAUKEE COUNTY PARKS
9480 Watertown Plank Road
Wauwatosa, WI 53226
Mr. James Keegan
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james.keegan@milwaukeecountywi.gov

CANADIAN PACIFIC RAILWAY
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Suite 9126
Minneapolis, MN 55402
Edward Oom
Manager of Public Works
612-904-5917

WISDNR - LOCAL PROJECT SPONSOR
2300 N. Dr. Martin Luther King Jr. Dr
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Ms. Melissa Cook
414-263-8559
Melissa.cook@Wisconsin.gov



Dial 811 or (800) 242-8511

www.DiggersHotline.com

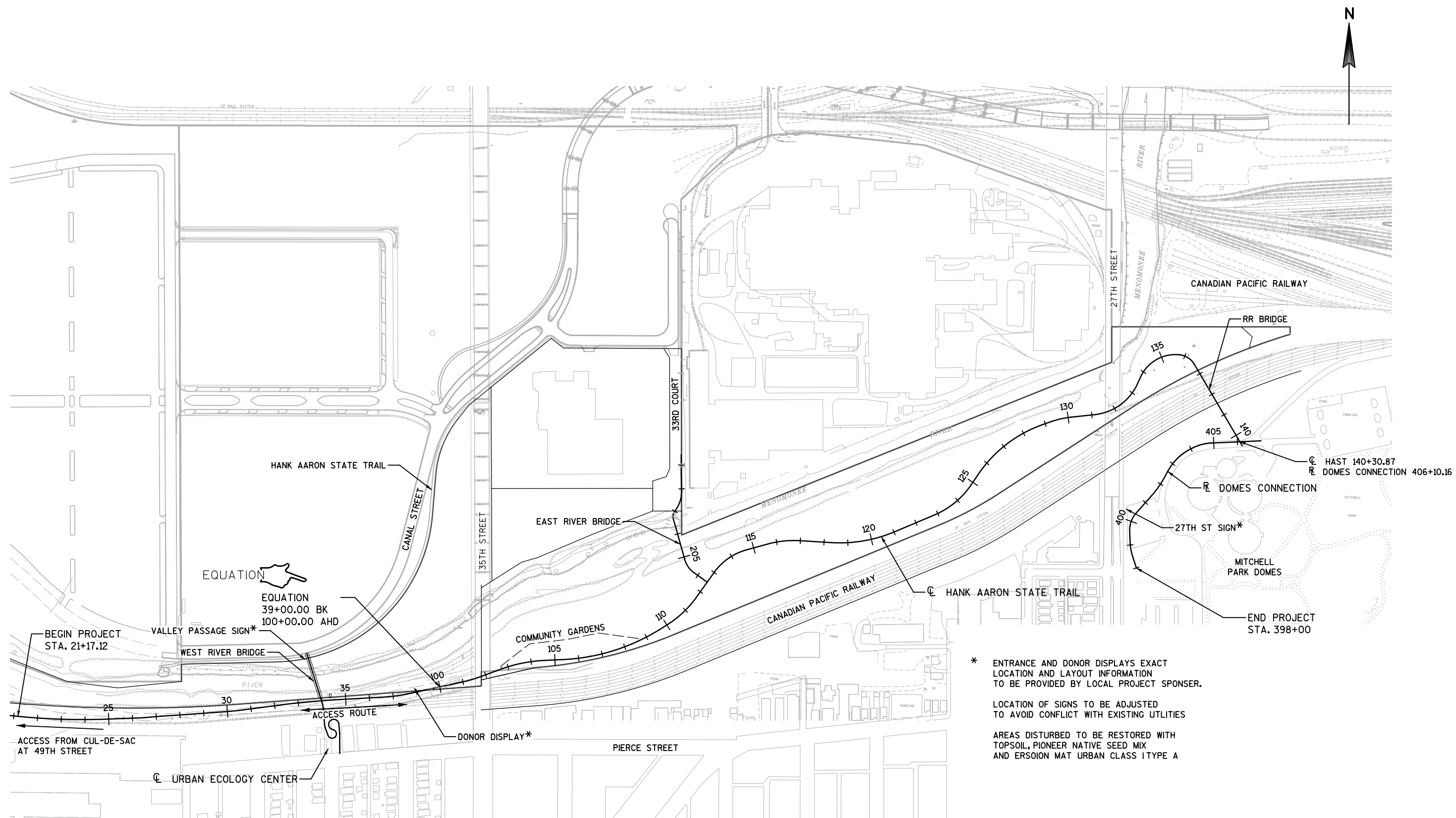
- ORDER OF SECTION 2 SHEETS
- GENERAL NOTES
 - PROJECT OVERVIEW
 - TYPICAL SECTIONS
 - CONSTRUCTION DETAILS
 - PLAN DETAILS
 - CONSTRUCTION DETAILS – WATER LINE
 - ELECTRICAL
 - CONSTRUCTION DETAILS – DISPLAY FOUNDATIONS
 - ALIGNMENT PLAN

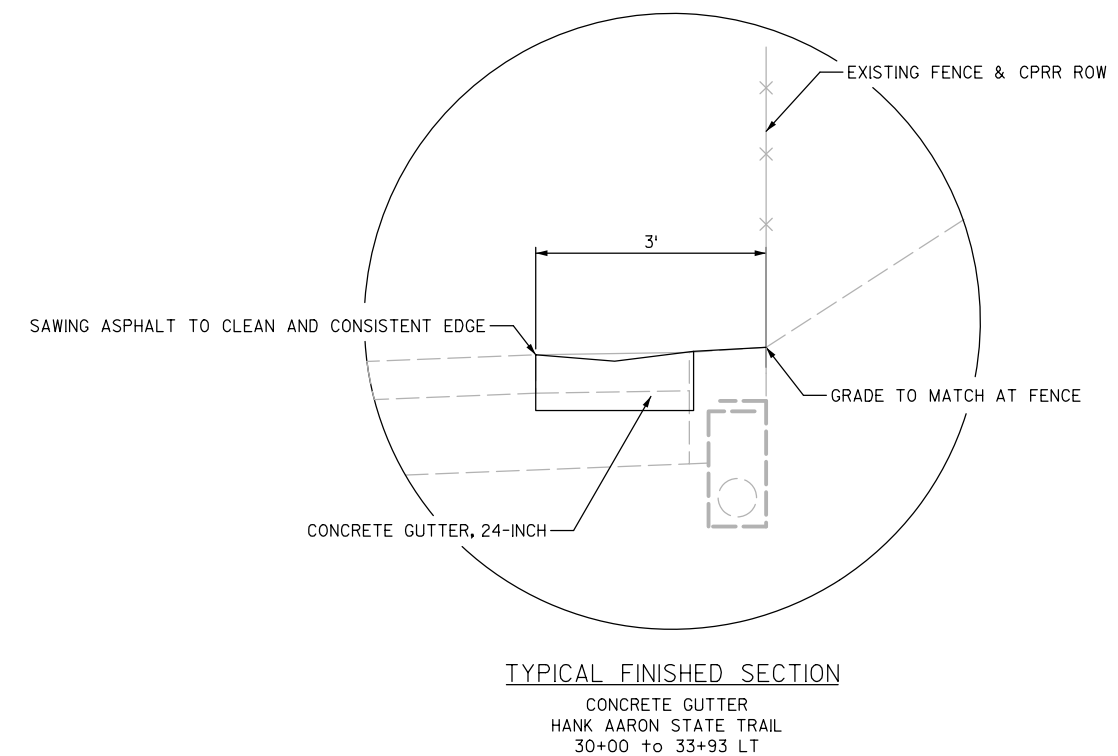
GENERAL NOTES

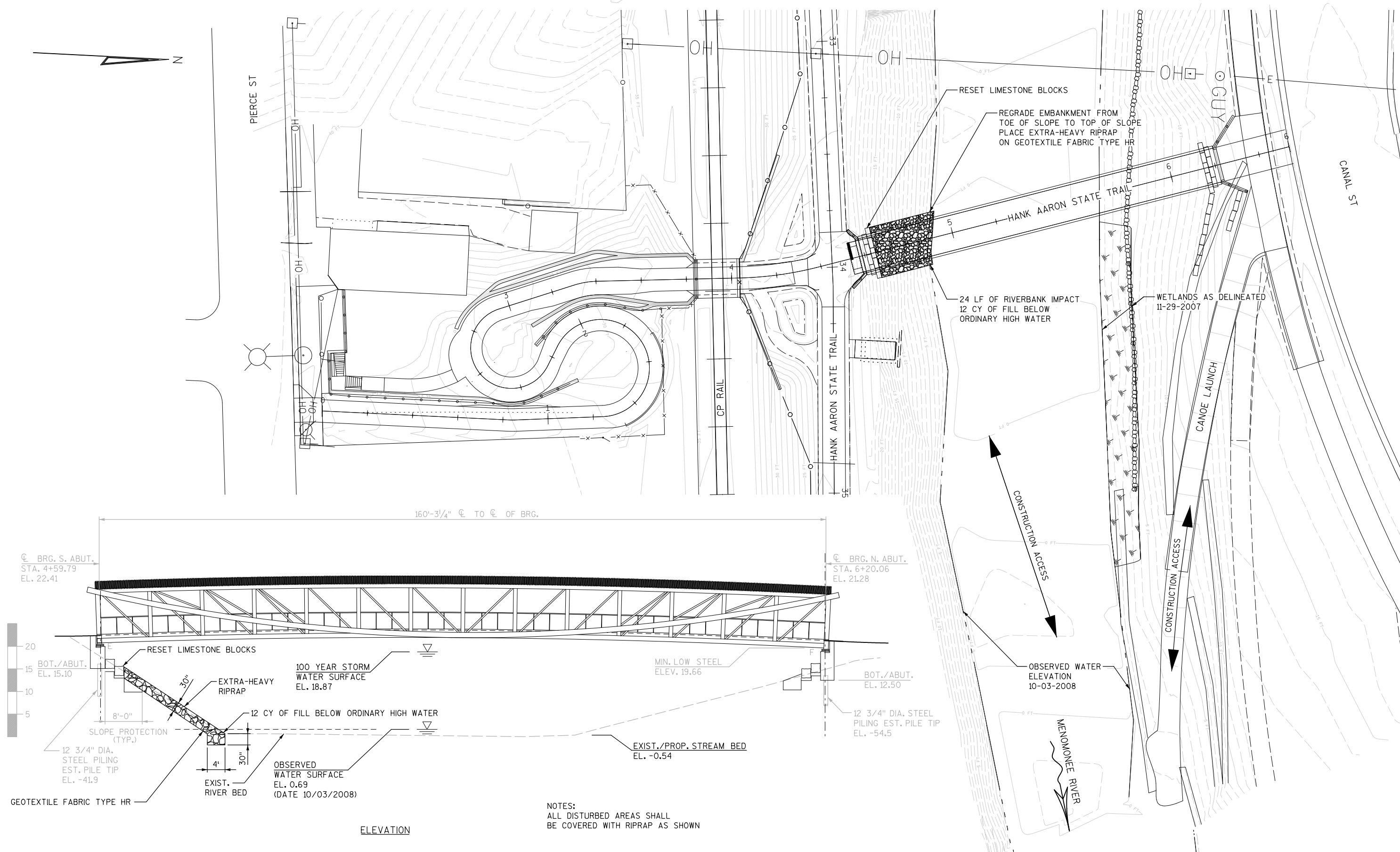
- DISTURBED AREAS ON THE PROPERTY OR WITHIN THE RIGHT-OF-WAY ARE TO BE RESTORED ACCORDING TO THE CONTRACT PLANS SEEDED WITH PIONEER NATIVE SEED MIX.
- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THOSE UTILITIES
- MISCELLANEOUS REMOVAL ITEMS REQUIRING RESTORATION OF CONCRETE OR ASPHALT SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER.
- THE HANK AARON STATE TRAIL (HAST) WILL REMAIN OPEN TO BICYCLE AND PEDESTRIAN TRAFFIC. CONSTRUCTION TRAFFIC WILL MAINTAIN A 10 MPH SPEED LIMIT. FLAGGING WILL BE REQUIRED WHEN MOVING EQUIPMENT OR MATERIALS ALONG THE TRAIL AND AS DIRECTED BY THE OWNER.
- PLACE TRAFFIC CONTROL WARNING SIGNS, IN ACCORDANCE WITH THE GUIDELINES OF THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), ALERTING HAST USERS OF CONSTRUCTION WORK AHEAD. PLACE SEPERATION FENCE OR TEMPORARY BARRICADES SEPERATING HAST USERS FROM THE WORK ZONE.
- THE NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
- ALL SIGNS SHALL MEET THE GUIDLINES OF THE MUTCD AND ARE TO BE 48"X48" AND HAVE AN ORANGE BACKGROUND. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED.

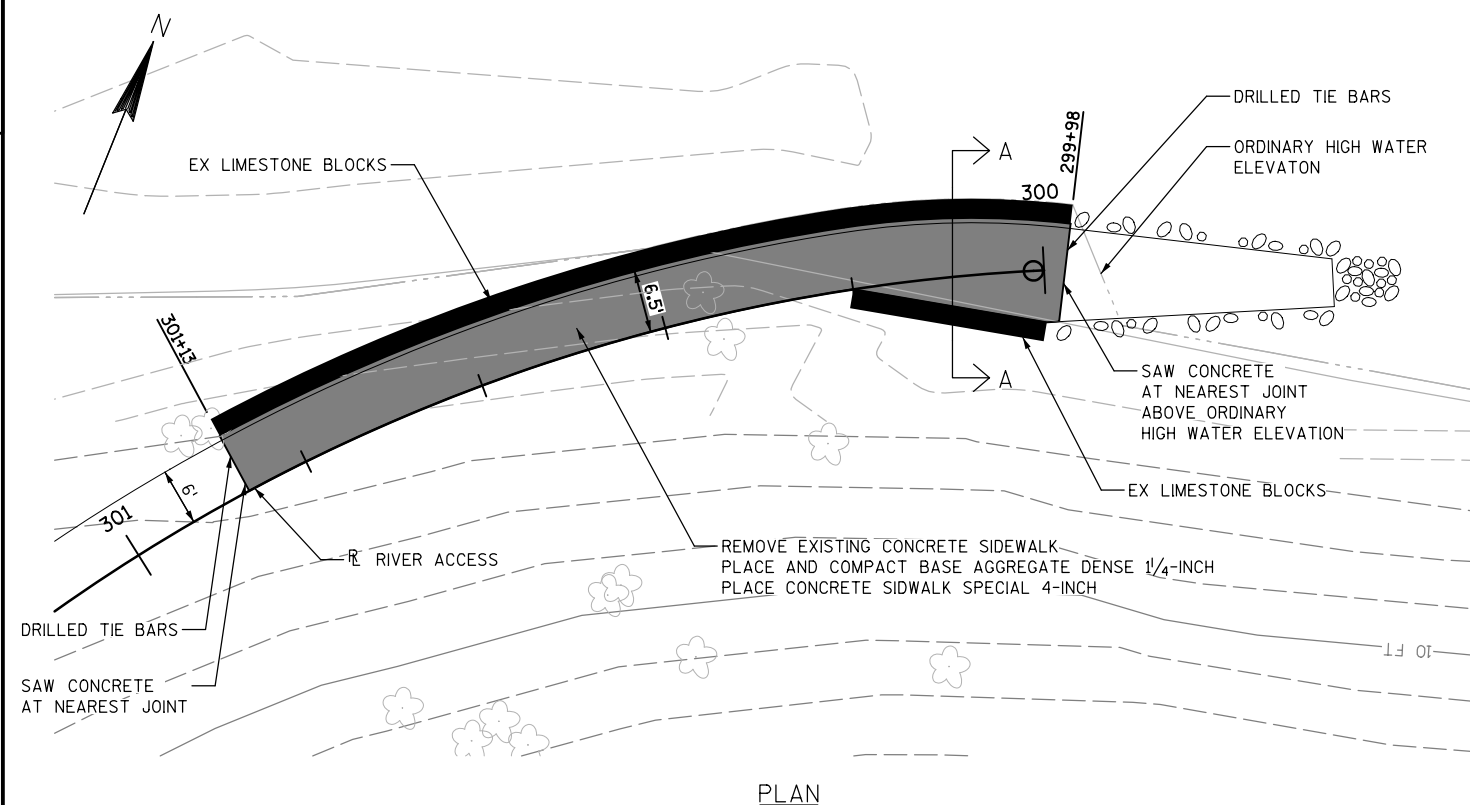
EROSION CONTROL GENERAL NOTES

- RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
- STOCKPILE EXCESS MATERIAL IN UNVEGETATED AREAS UNDER THE 27TH ST OR 35TH ST VIADUCTS AS DIRECTED BY THE ENGINEER. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.
- EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.





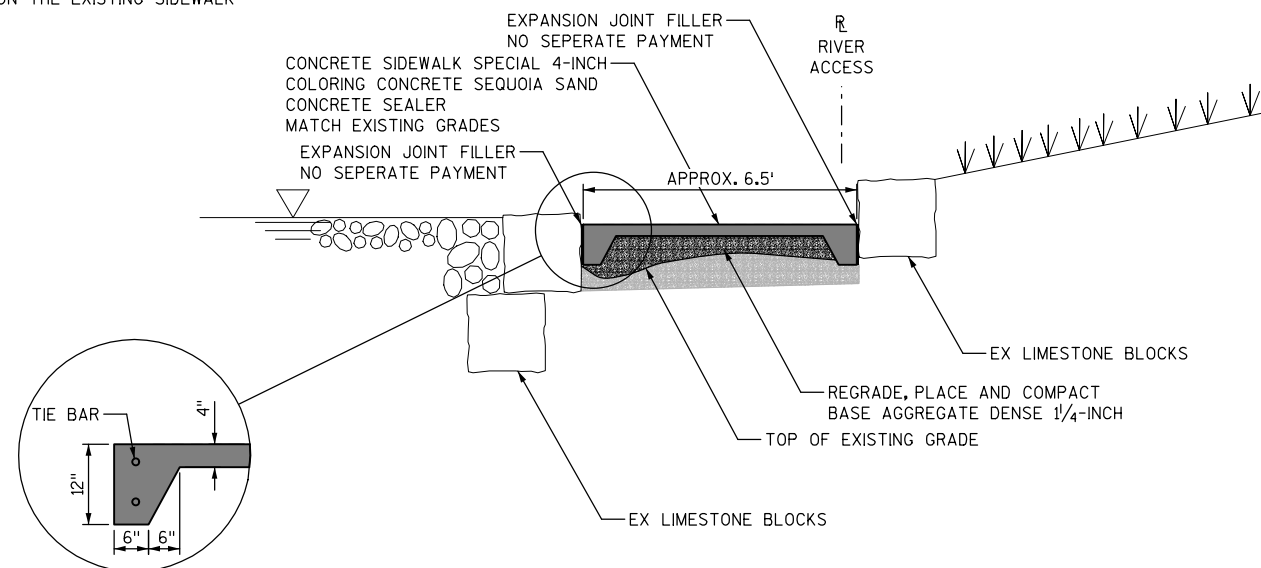




PLAN

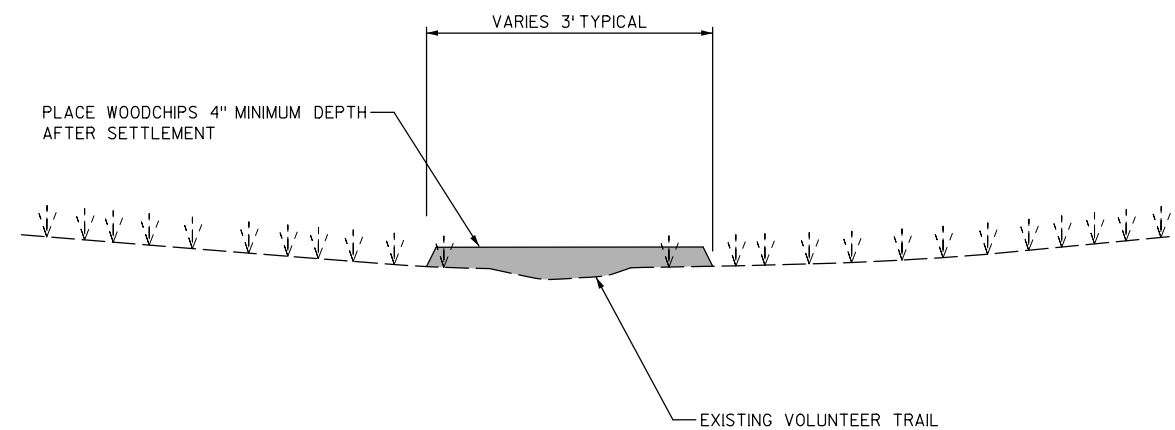
NOTES:

1. LIMITS OF RECONSTRUCT AS DETERMINED BY THE ENGINEER WILL EXTEND APPROXIMATELY ALONG THE ENTIRE LENGTH OF EXISTING LIMESTONE BLOCKS ON THE RIVER SIDE OF THE WALK
2. RESET LIMESTONE BLOCKS THAT HAVE SHIFTED AS DIRECTED BY THE ENGINEER.
3. ORDINARY HIGH WATER WILL BE DETERMINED BY THE ENGINEER AND IS APPARENT BY STAINING ON THE EXISTING SIDEWALK



SECTION B-B

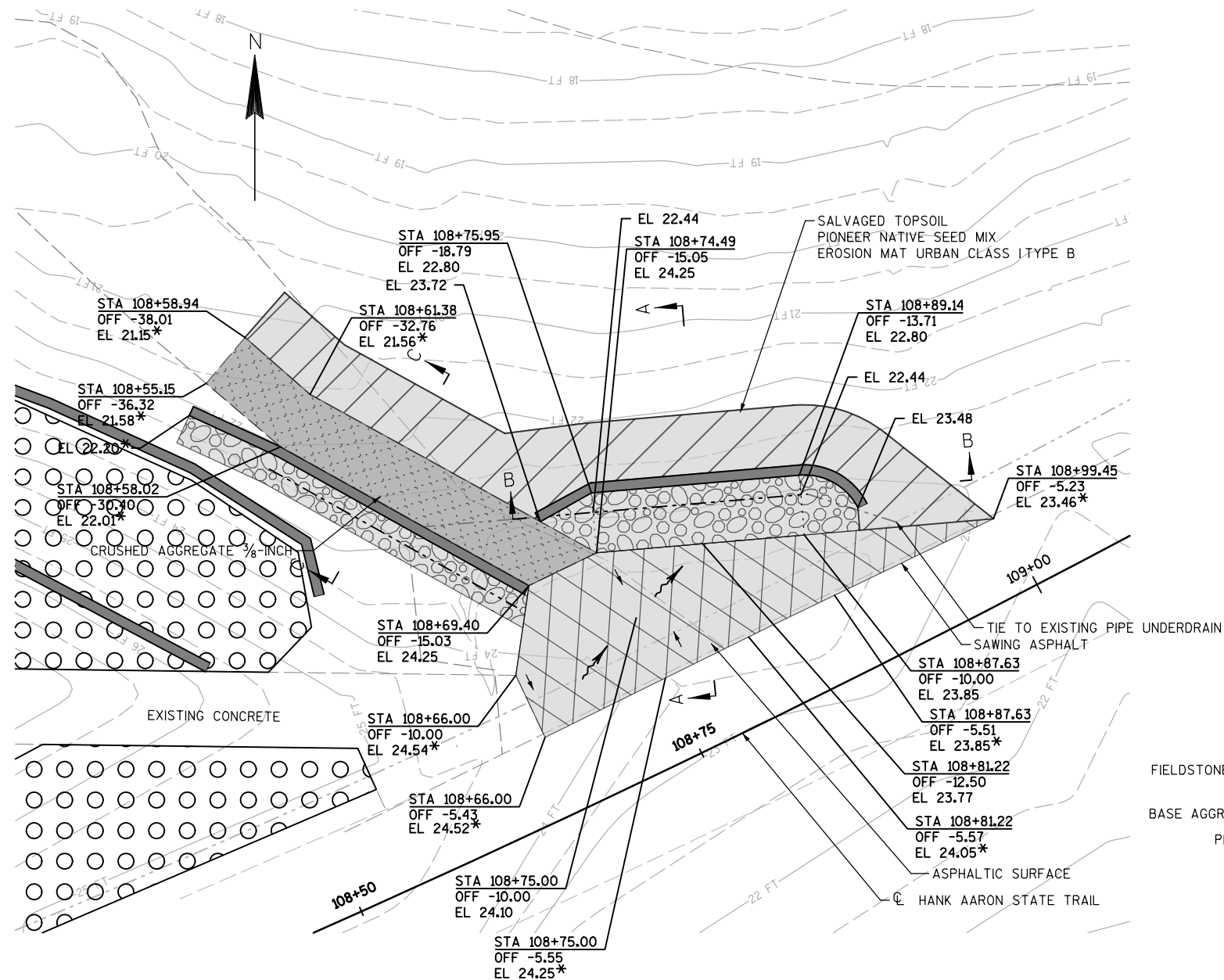
CONCRETE SIDEWALK SPECIAL



NOTES:

1. APPROXIMATE LOCATIONS ARE SHOWN ON PLANS SPECIFIC LOCATIONS AND WIDTHS OF THE MULCH WILL BE MARKED BY THE ENGINEER PRIOR TO BEGINNING WORK
2. DEPTH WILL BE MEASURED AFTER WOODCHIPS HAVE SETTLED IN PLACE AND BEEN COMPACTED BY NORMAL FOOT TRAFFIC AS DETERMINED BY THE ENGINEER

WOODCHIP MULCH



NOTES

STATIONS AND OFFSETS GIVEN FROM HANK AARON STATE TRAIL

LOCATIONS AND ELATIONS SHOWN ARE APPROXIMATE
ADJUST TO FIELD CONDITIONS

* MATCH EXISTING

PLAN DETAIL

LEGEND

ROCK BAGS

CONCRETE GUTTER

PIPE UNDERDRAIN 6-INCH

ASPHALT PAVING

STEEP SHOULDER

REGRADING AND EROSION MAT

FLOW DIRECTION

CROSS SLOPE

RIPRAP

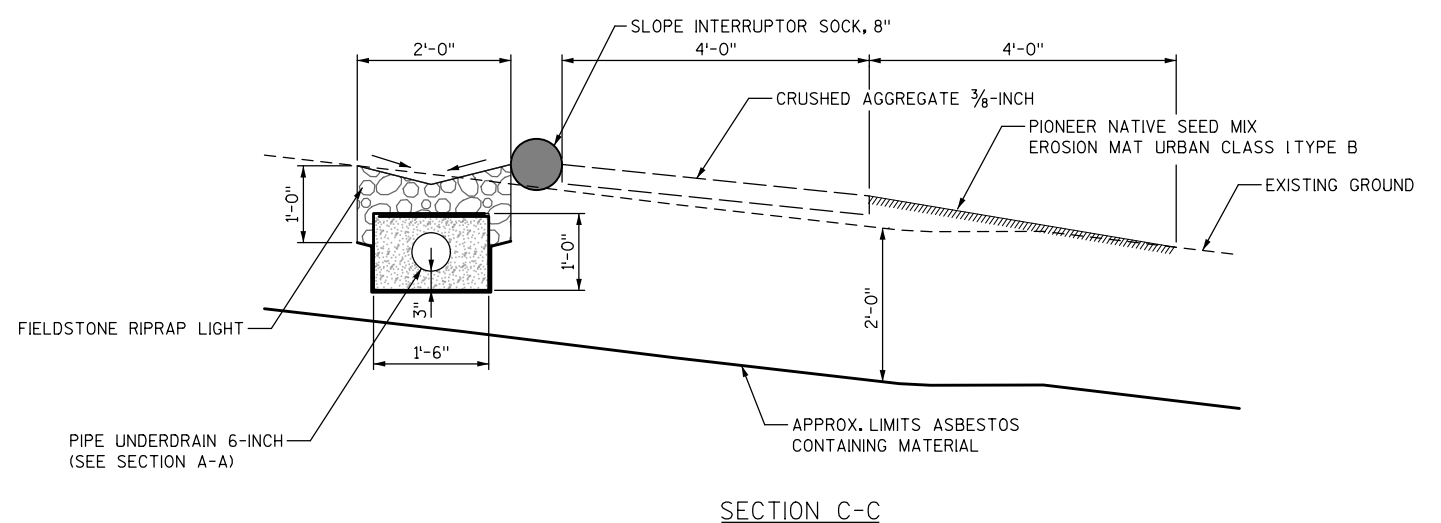
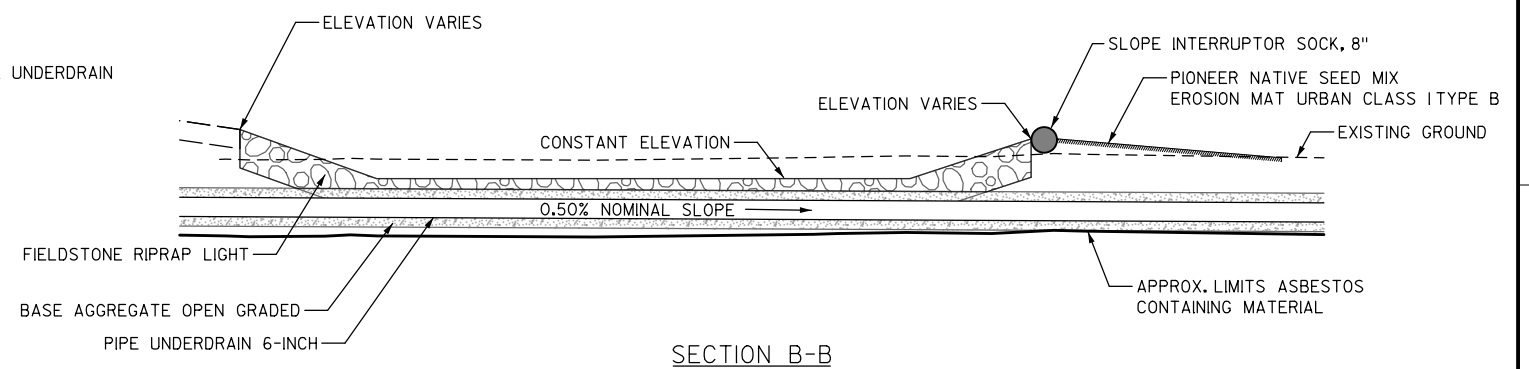
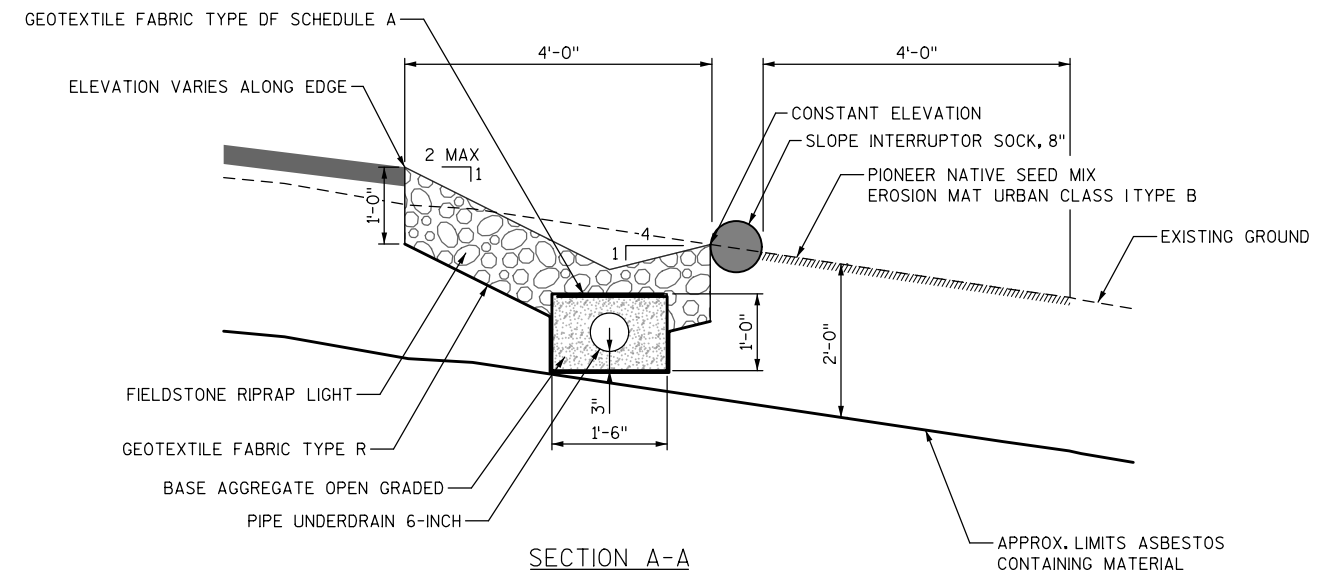
CRUSHED AGGREGATE 3/8-INCH

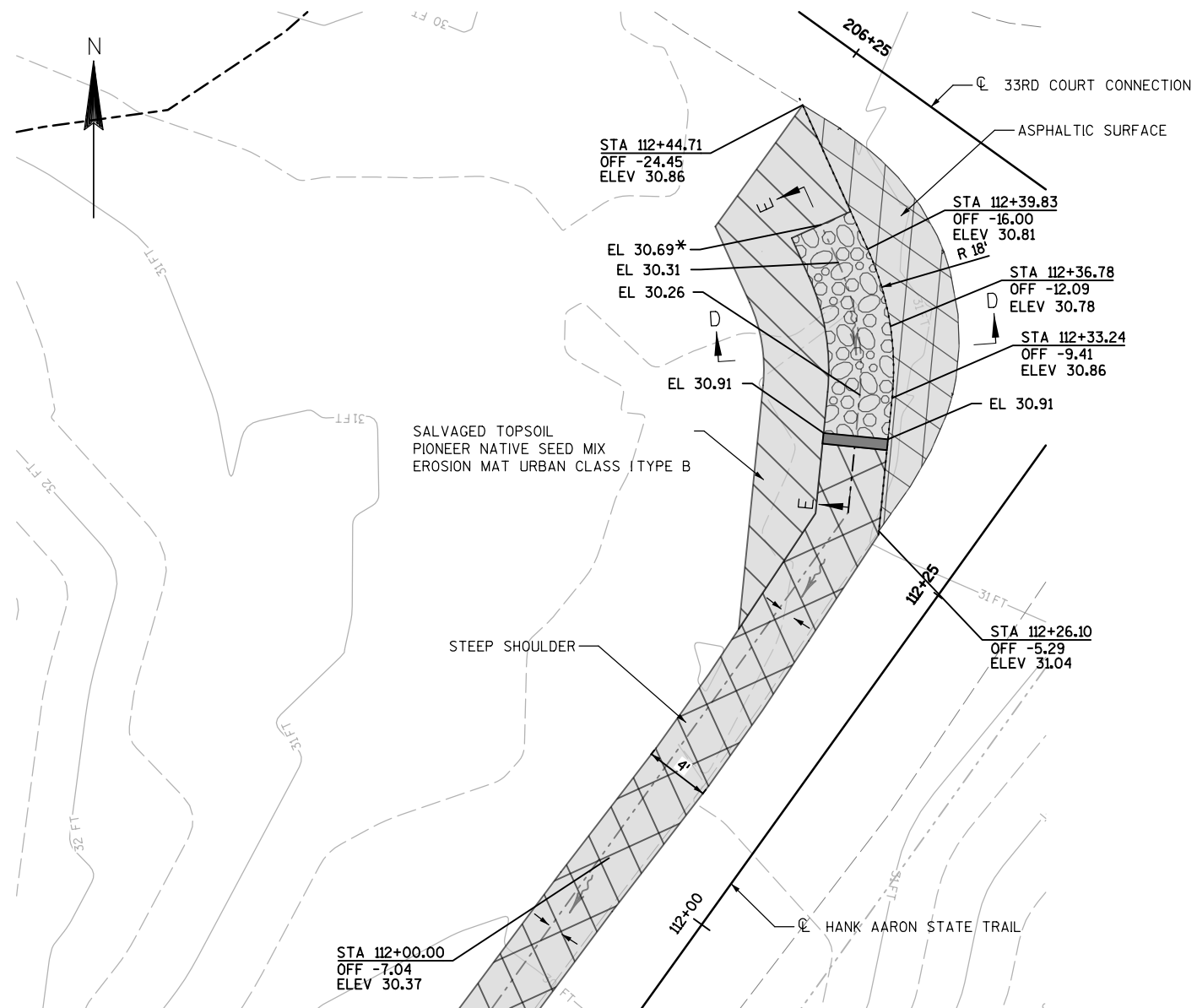
FIELDSTONE RIPRAP

RESEEDING AND EROSION MAT

INVASIVE SPECIES CONTROL AREA

SLOPE INTERRUPTOR SOCKS, 8"





NOTES

STATIONS AND OFFSETS GIVEN FROM HANK AARON STATE TRAIL

LOCATIONS AND ELATIONS SHOWN ARE APPROXIMATE
ADJUST TO FIELD CONDITIONS

* MATCH EXISTING

LEGEND

ROCK BAGS

CONCRETE GUTTER

PIPE UNDERDRAIN 6-INCH

ASPHALT PAVING

STEEP SHOULDER

REGRAIDING AND EROSION MAT

FLOW DIRECTION

CROSS SLOPE

RIPRAP

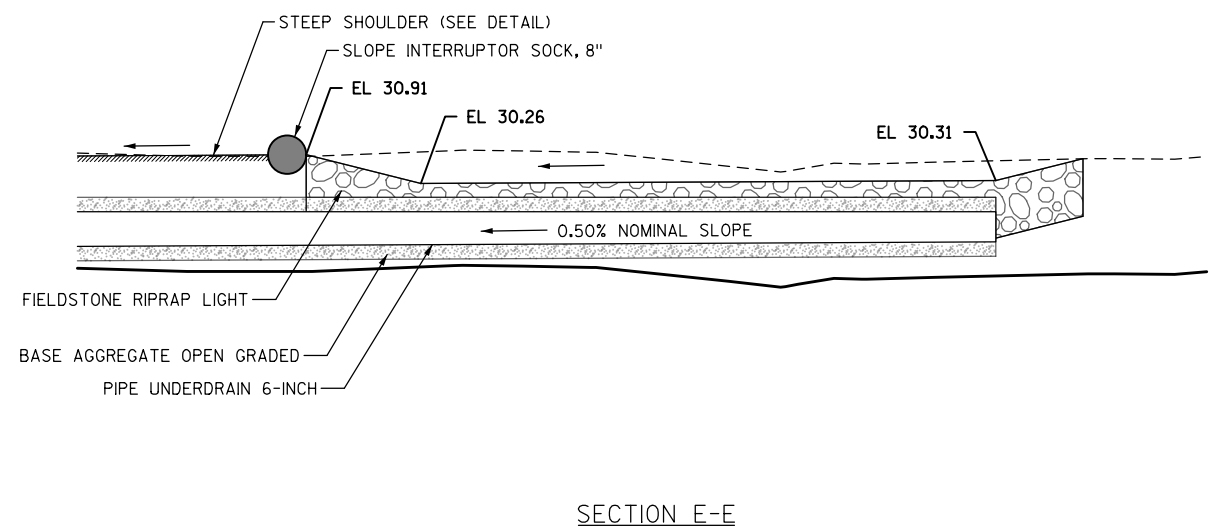
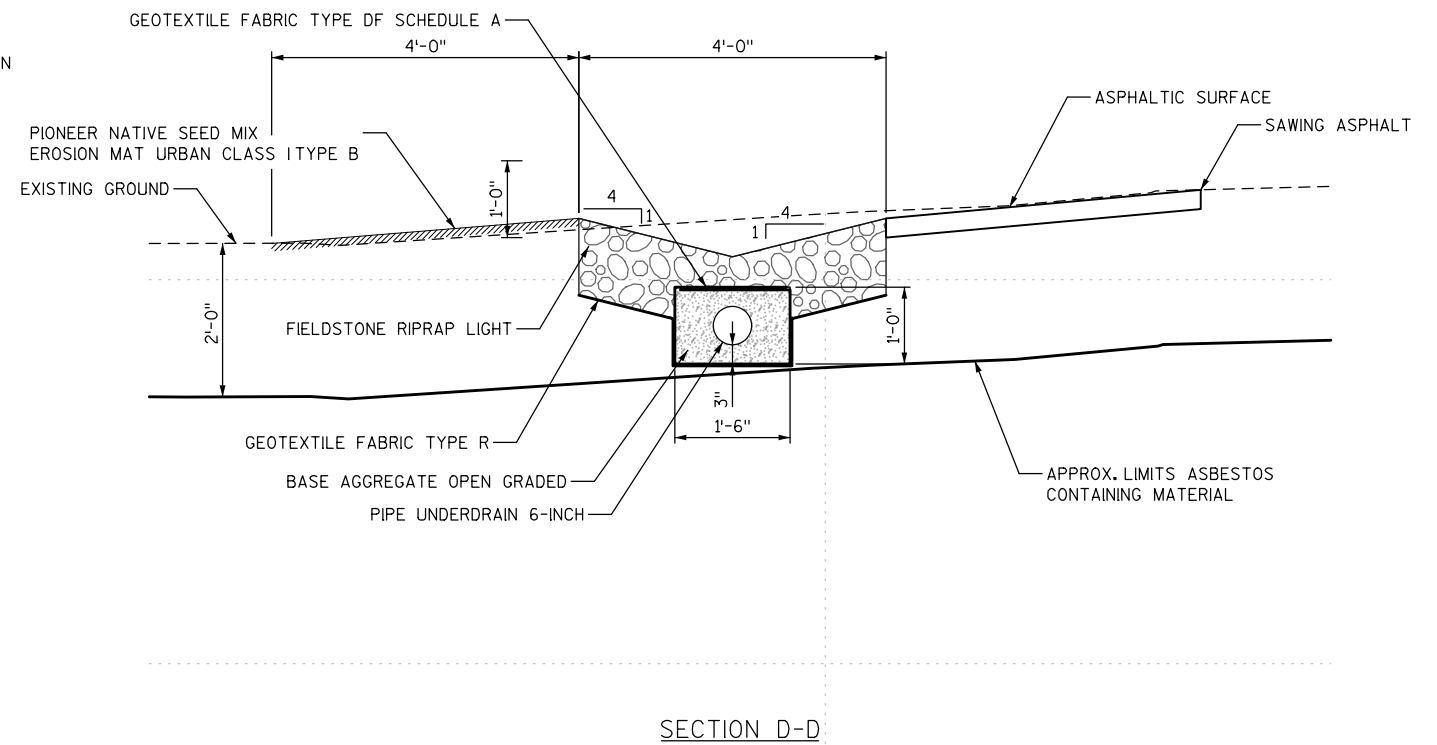
CRUSHED AGGREGATE 3/8-INCH

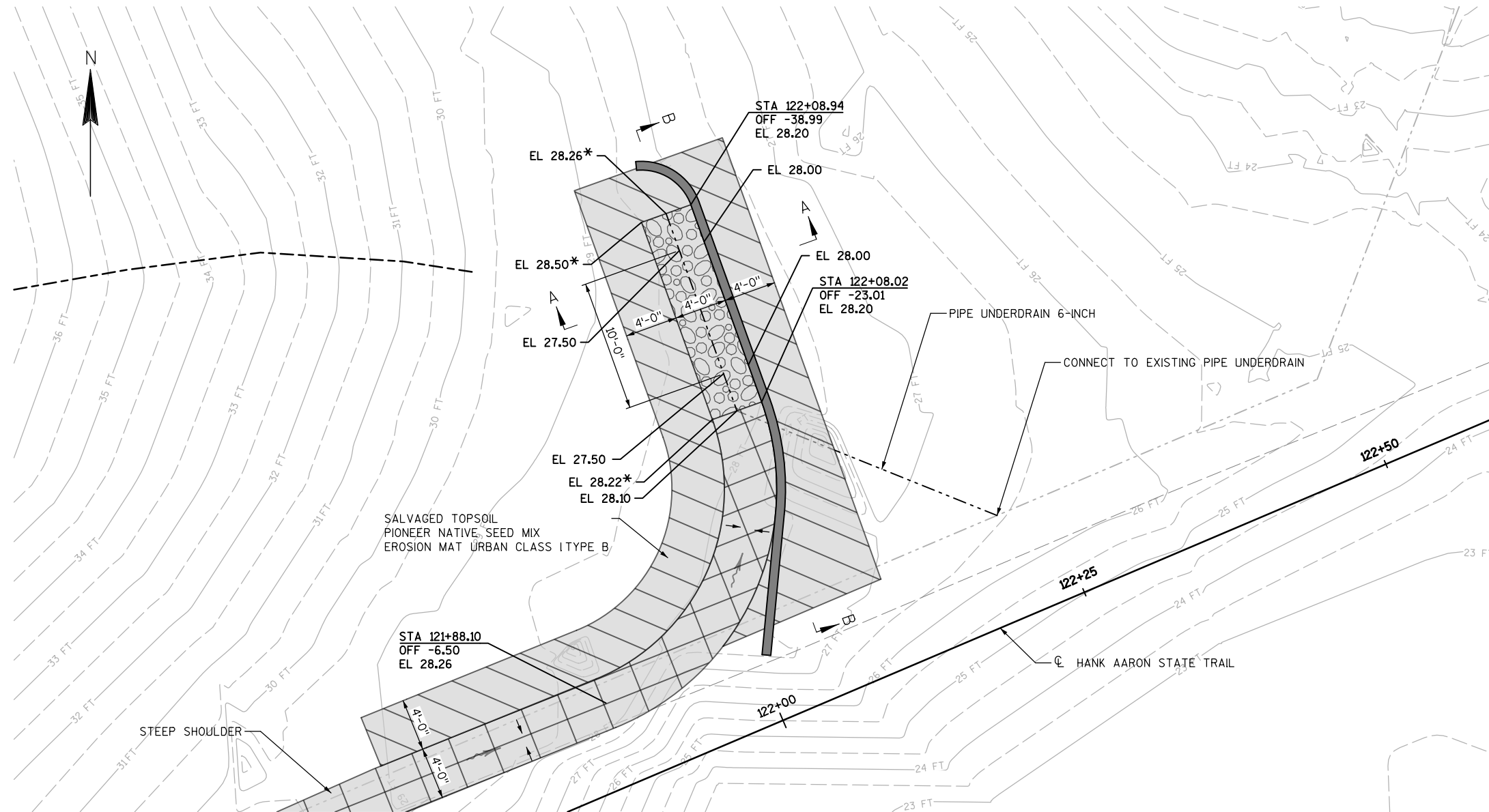
FIELDSTONE RIPRAP

RESEEDING AND EROSION MAT

INVASIVE SPECIES CONTROL AREA

SLOPE INTERRUPTOR SOCKS, 8"





NOTES

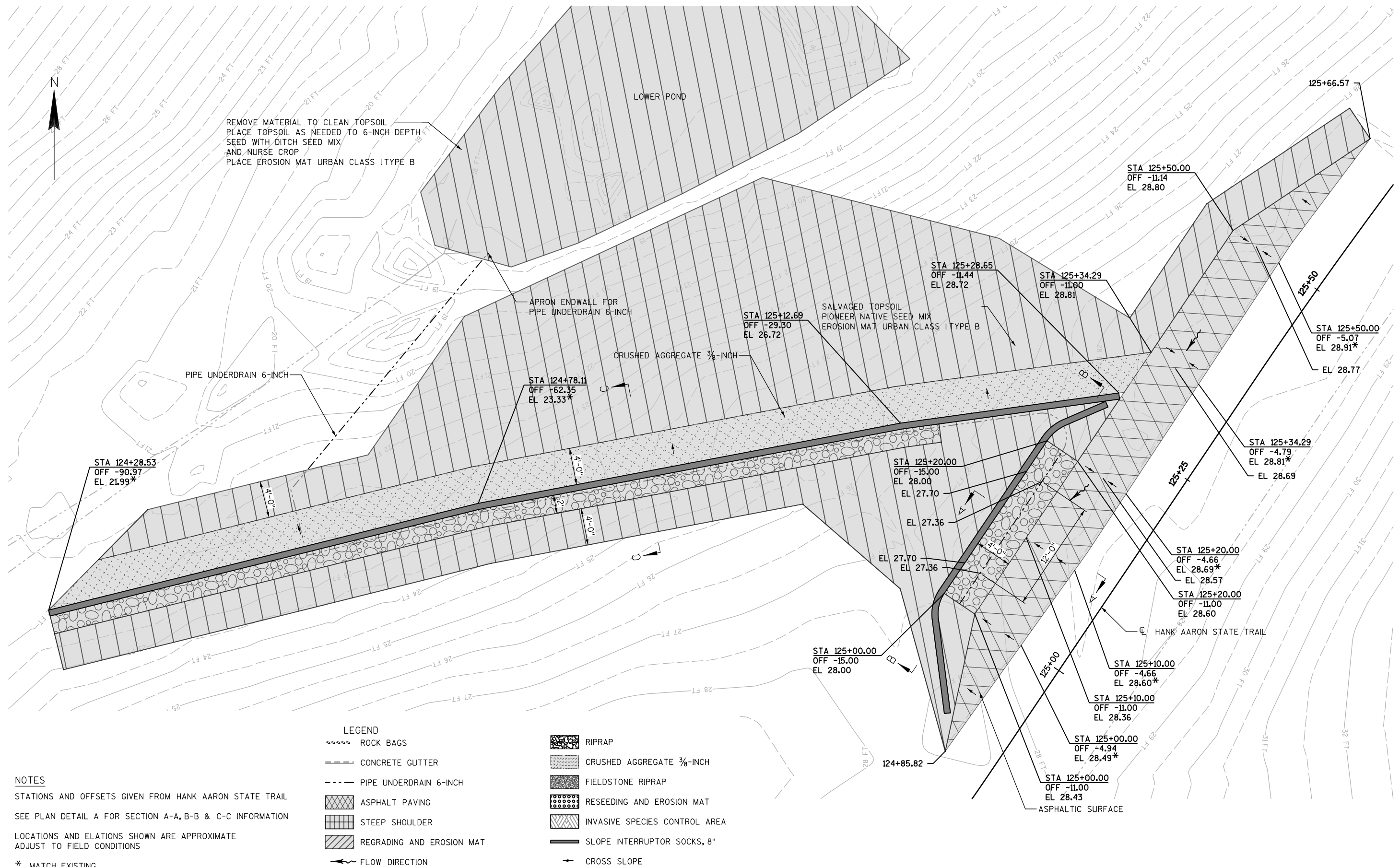
STATIONS AND OFFSETS GIVEN FROM HANK AARON STATE TRAIL

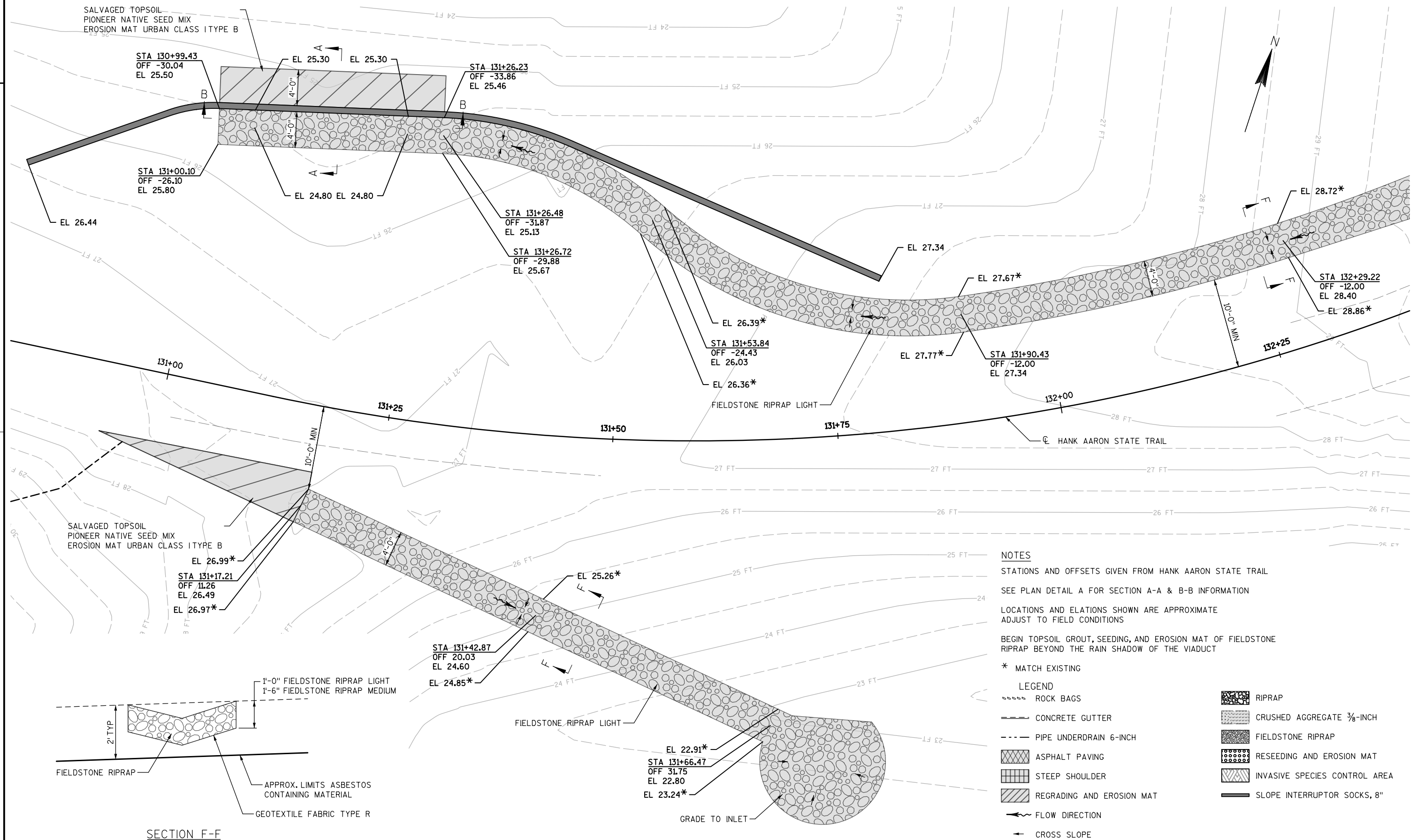
SEE PLAN DETAIL A FOR SECTION A-A & B-B INFORMATION

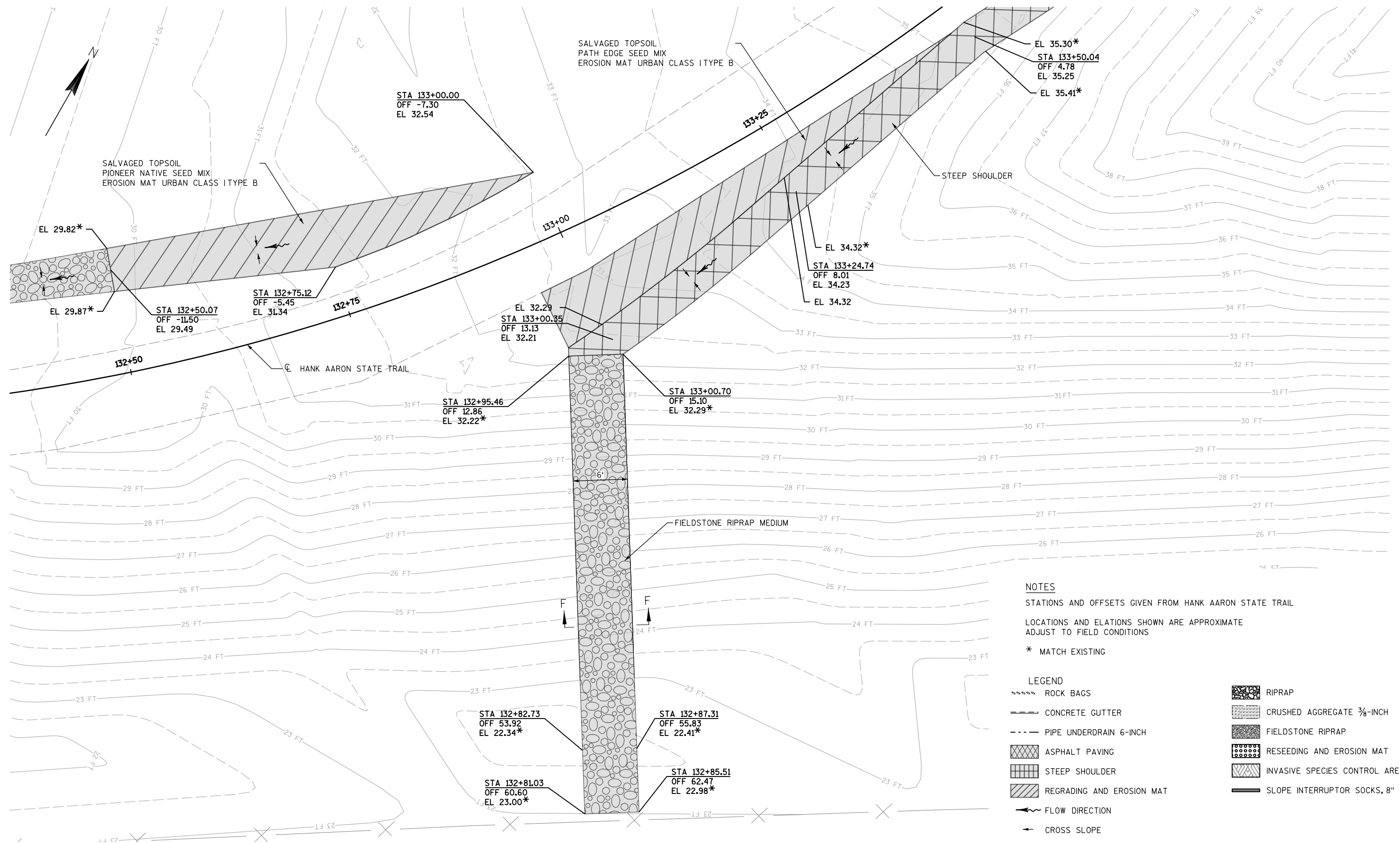
LOCATIONS AND ELATIONS SHOWN ARE APPROXIMATE
ADJUST TO FIELD CONDITIONS

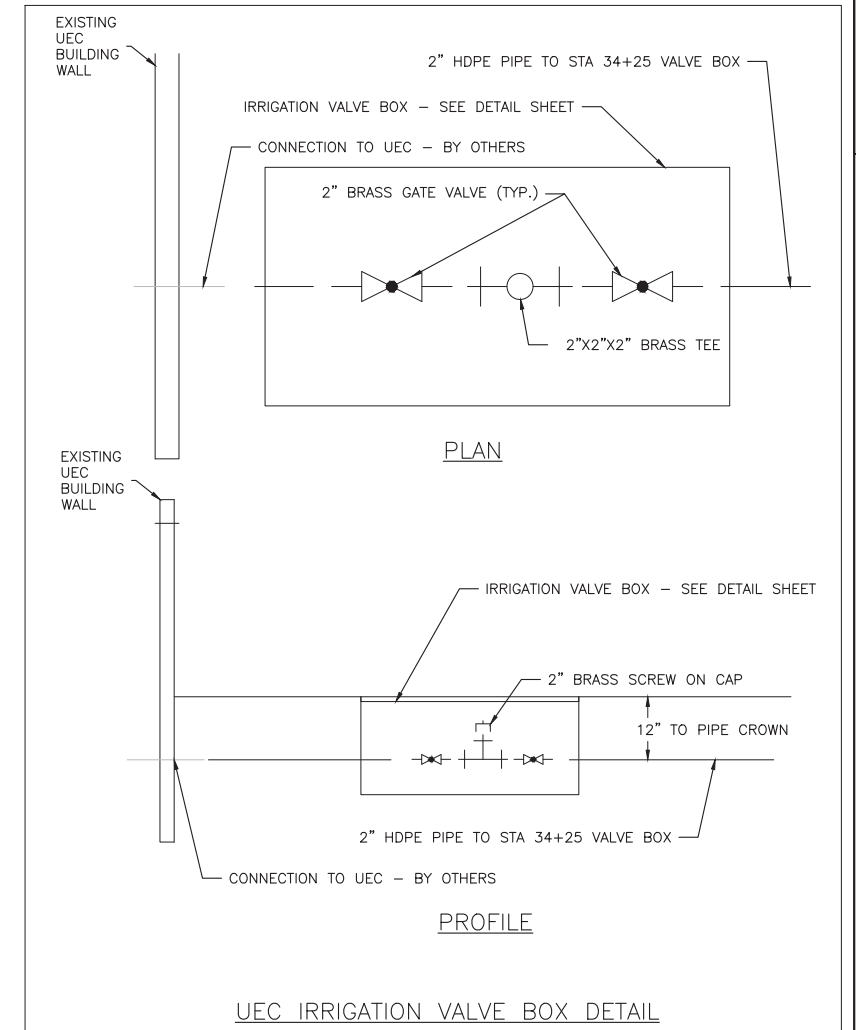
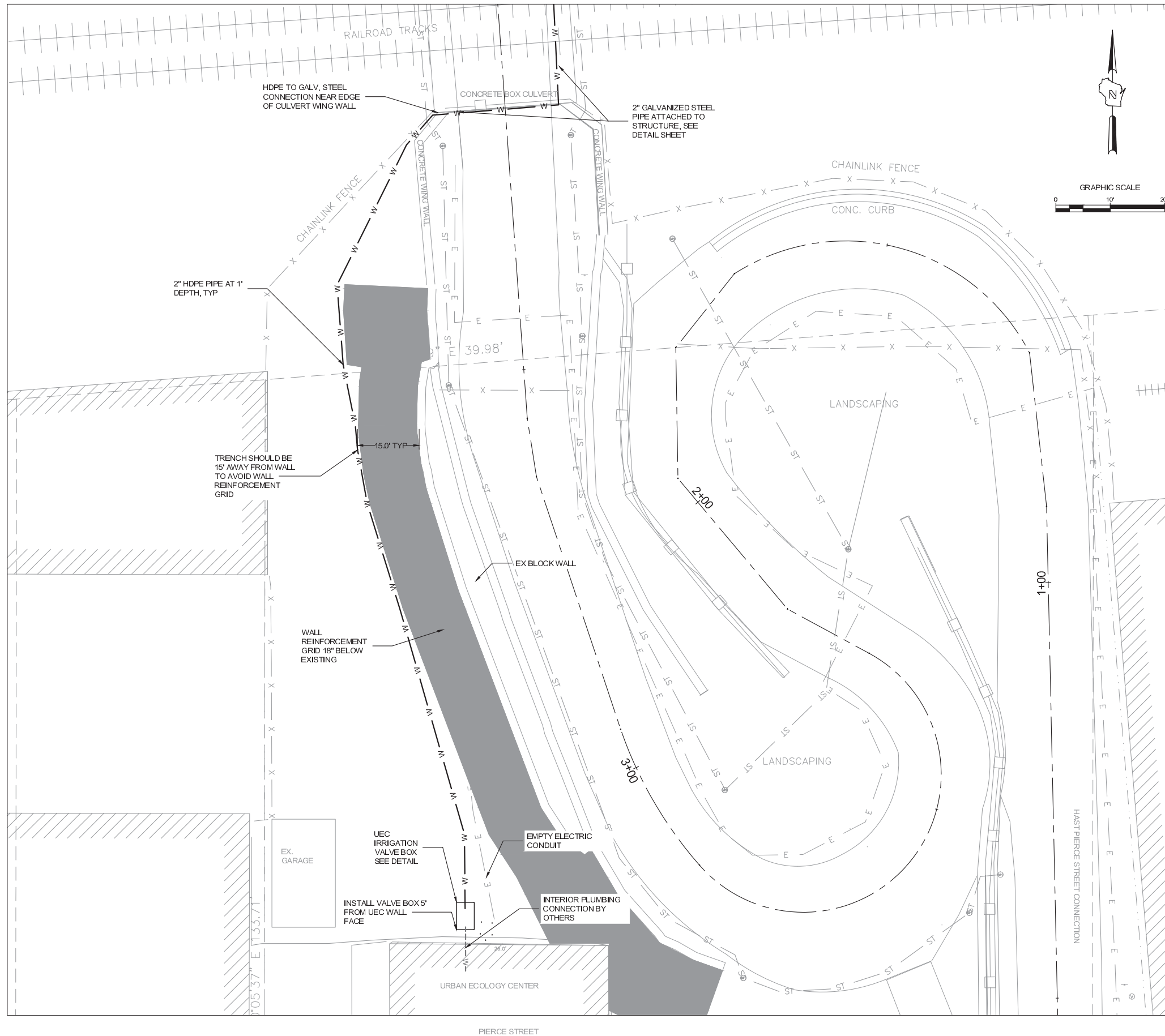
* MATCH EXISTING

- LEGEND
- | | |
|----------------------------|-------------------------------|
| ROCK BAGS | RIPRAP |
| CONCRETE GUTTER | CRUSHED AGGREGATE 3/8-INCH |
| PIPE UNDERDRAIN 6-INCH | FIELDSTONE RIPRAP |
| ASPHALT PAVING | RESEEDING AND EROSION MAT |
| STEEP SHOULDER | INVASIVE SPECIES CONTROL AREA |
| REGRAIDING AND EROSION MAT | SLOPE INTERRUPTOR SOCKS, 8" |
| FLOW DIRECTION | |
| CROSS SLOPE | |

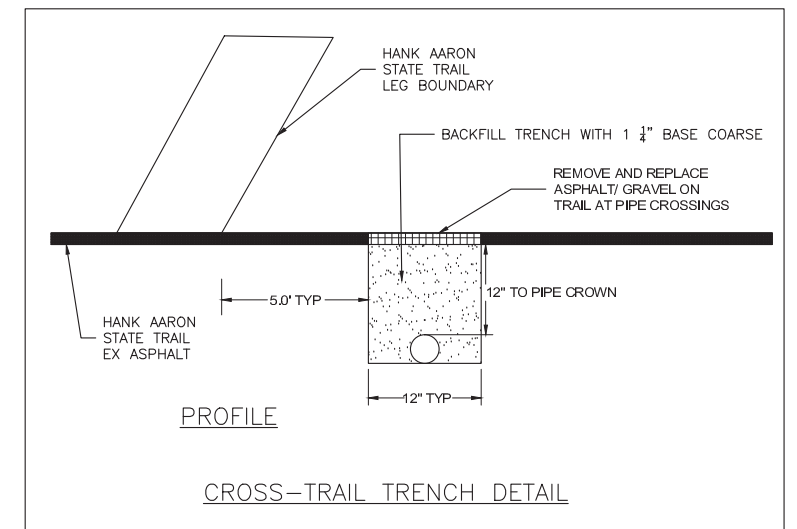
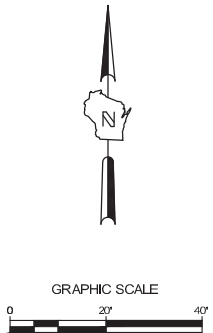


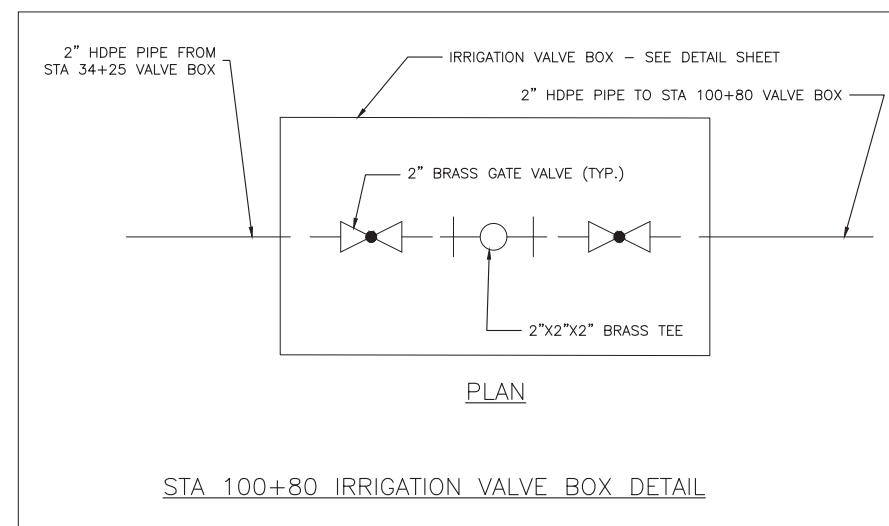
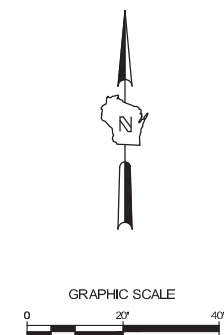


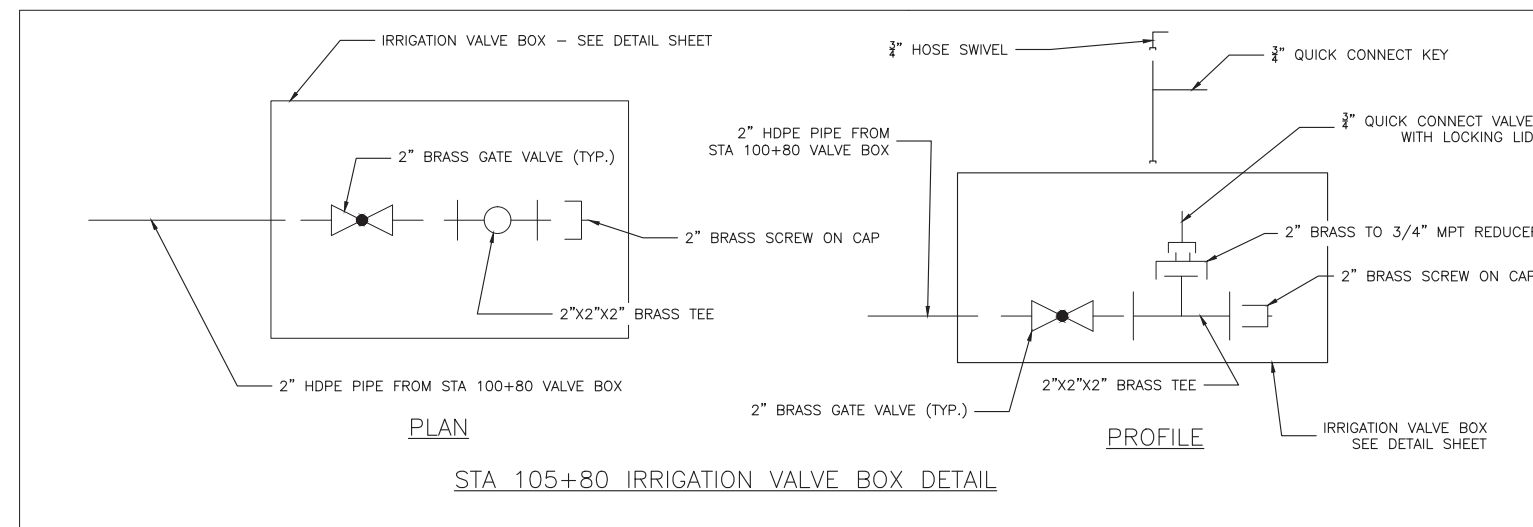
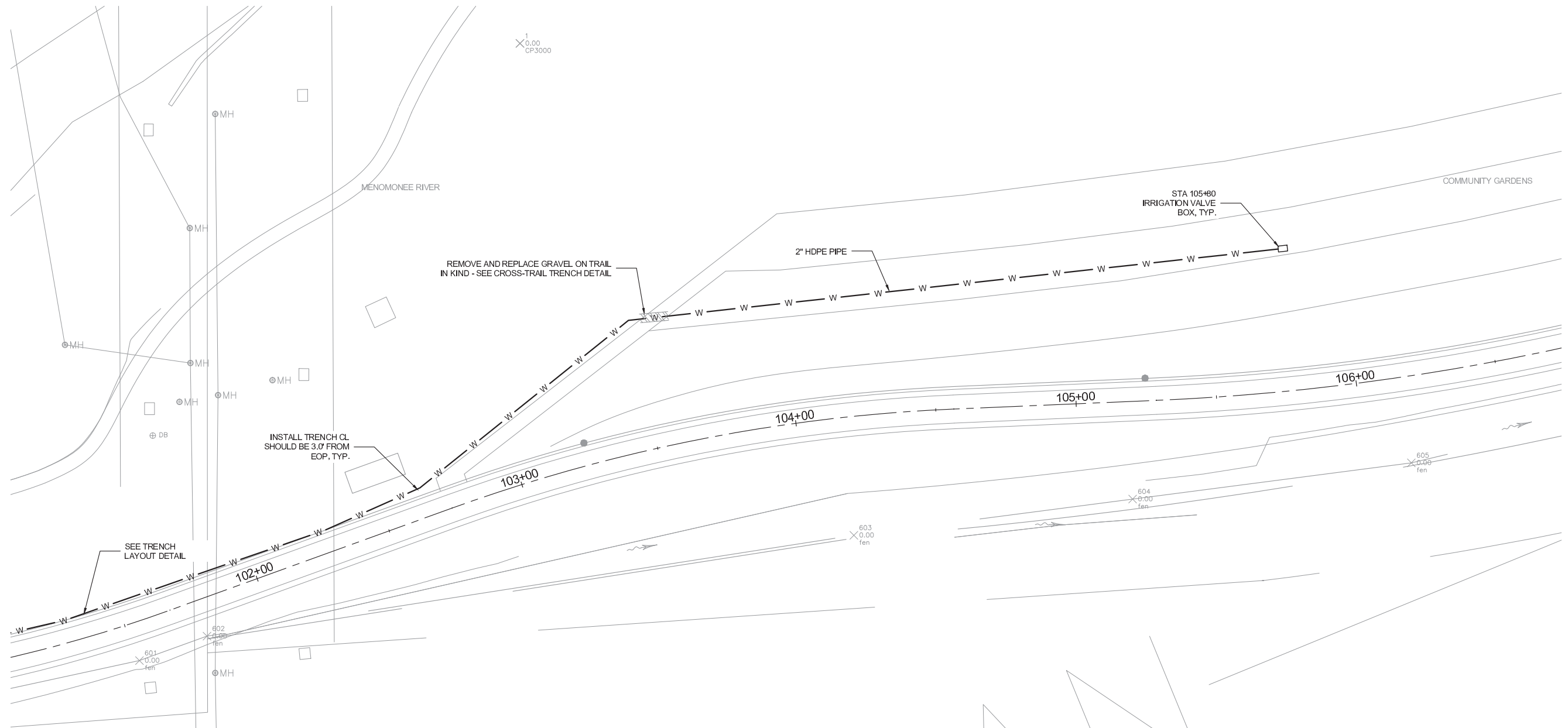


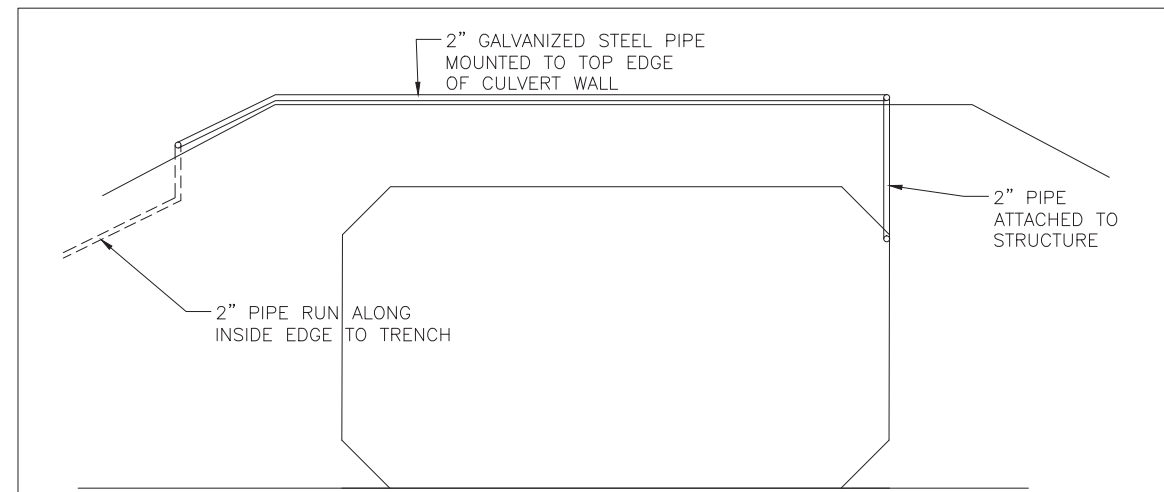


NOTE:
ALL MATERIALS ARE PAID AS PART OF ITEM 'UEC COMMUNITY GARDEN WATER LINE'

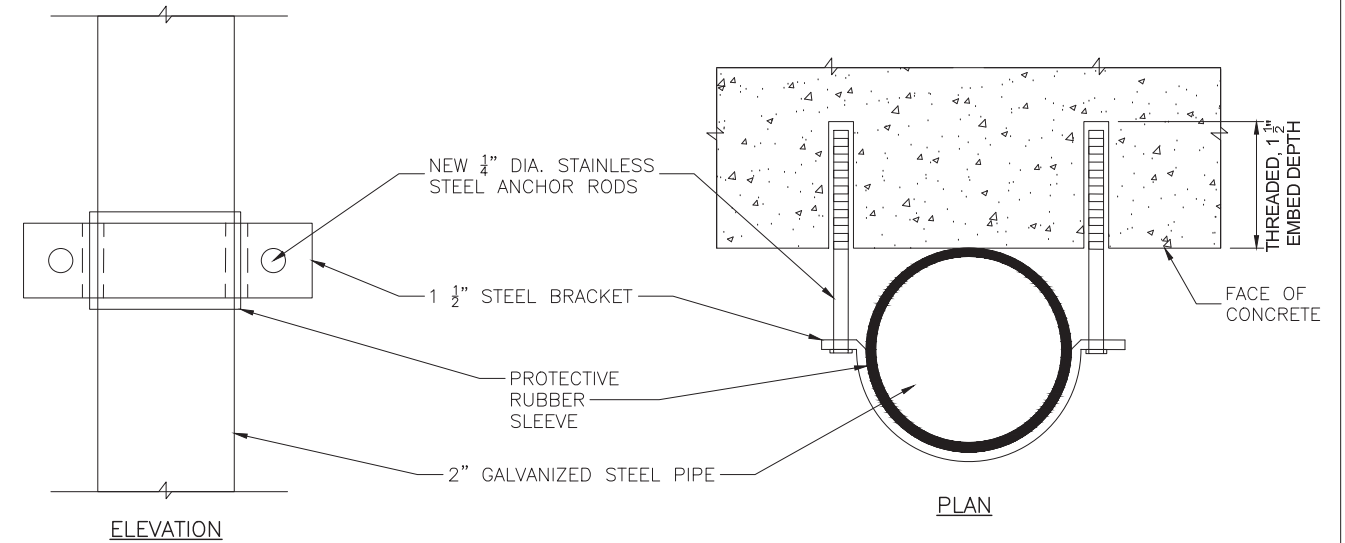




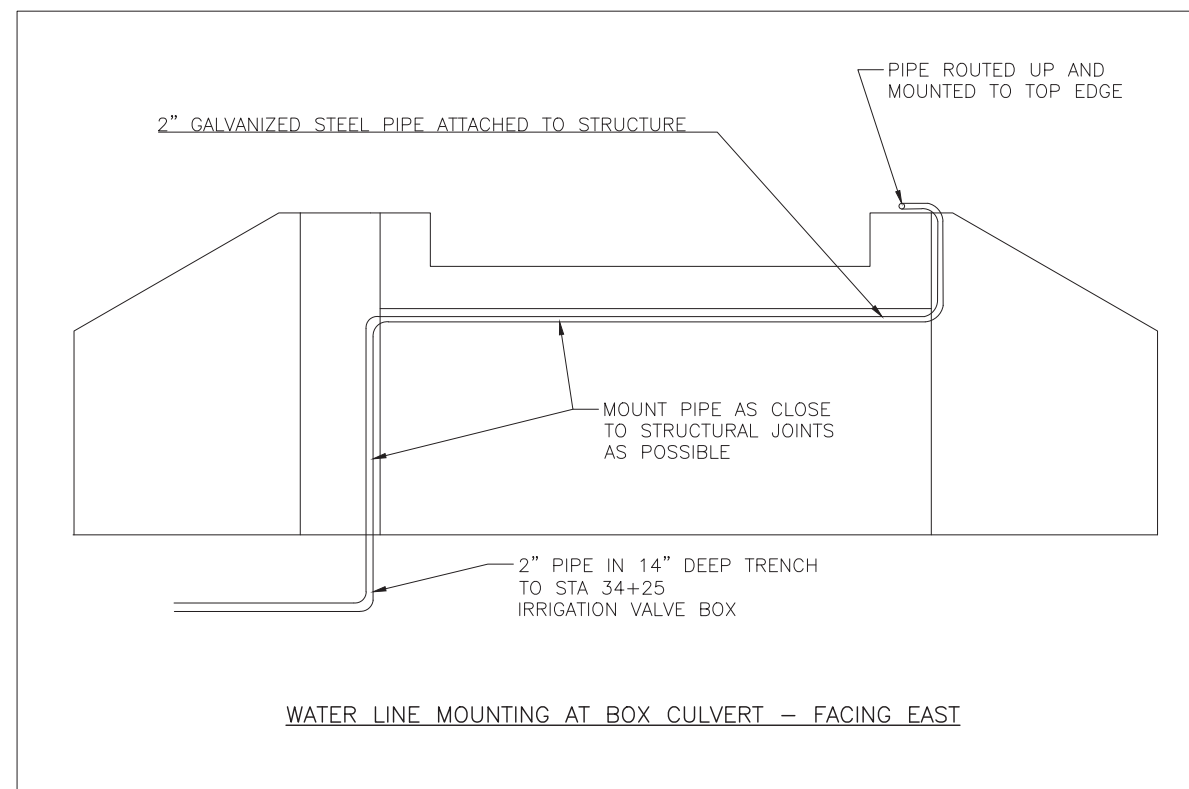




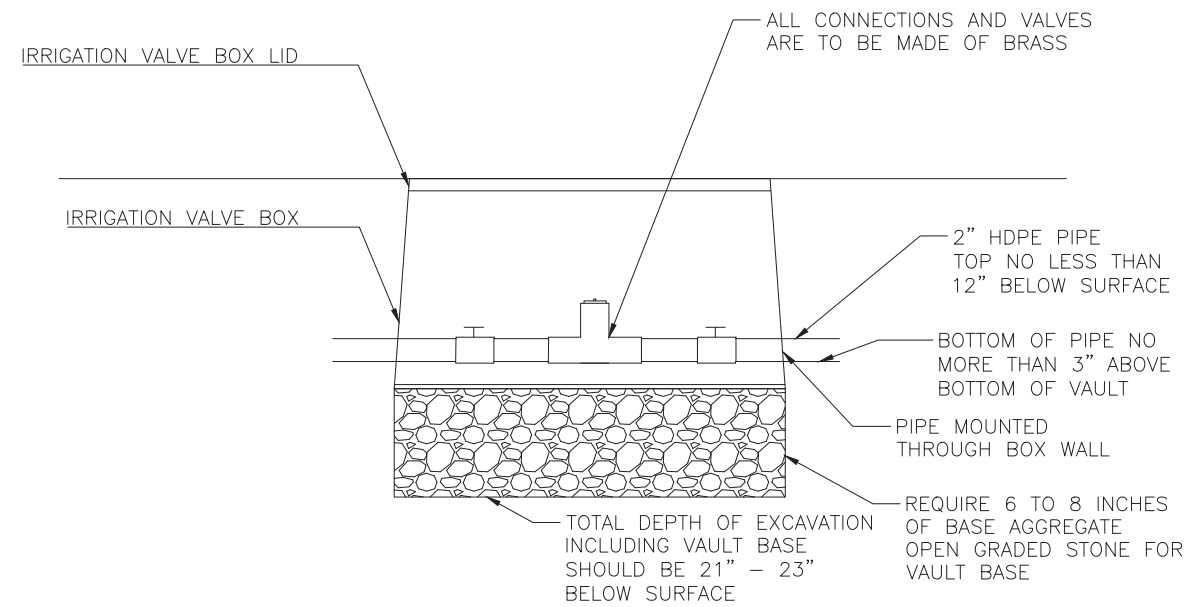
WATER LINE MOUNTING AT BOX CULVERT – FACING NORTH



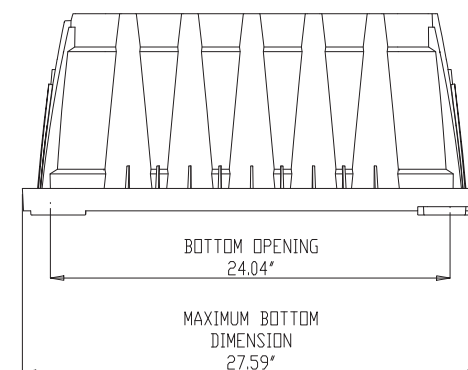
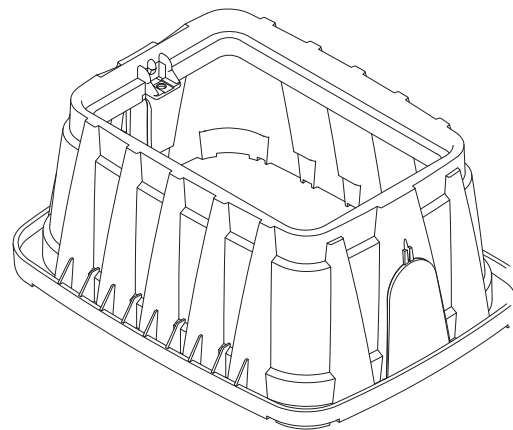
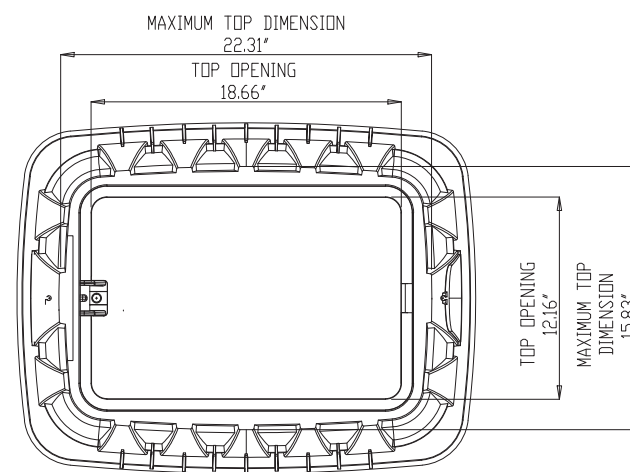
MOUNTING BRACKET AND ANCHOR DETAIL



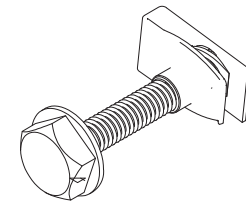
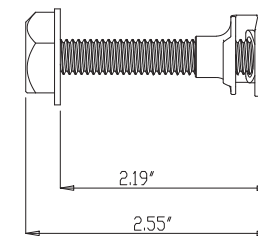
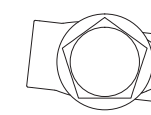
WATER LINE MOUNTING AT BOX CULVERT – FACING EAST



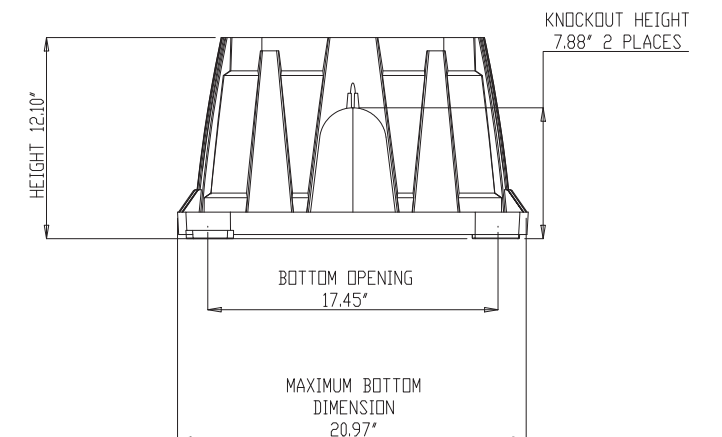
TYPICAL IRRIGATION VALVE BOX INSTALLATION DETAIL

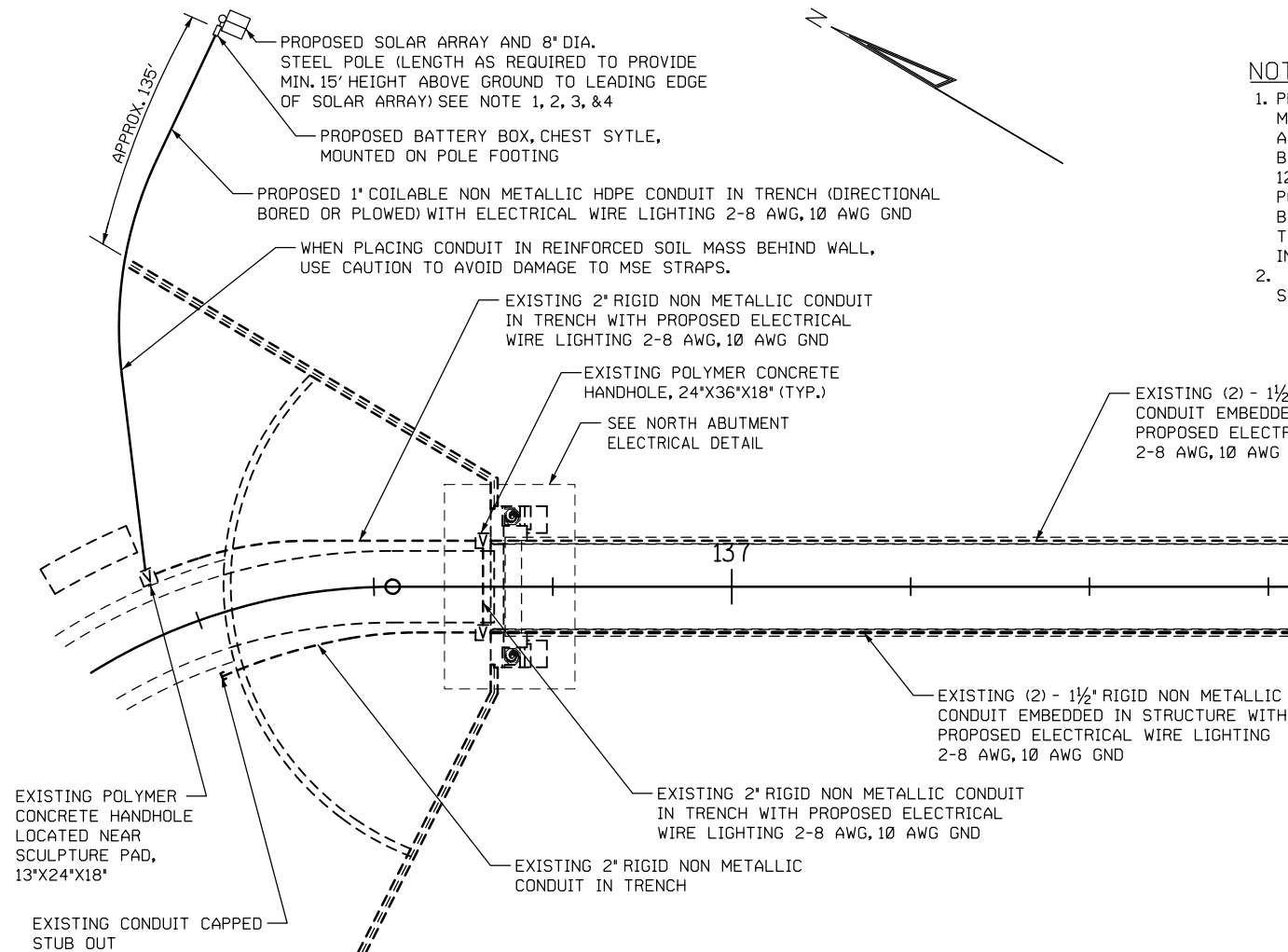


VALVE BOX DIMENSIONS

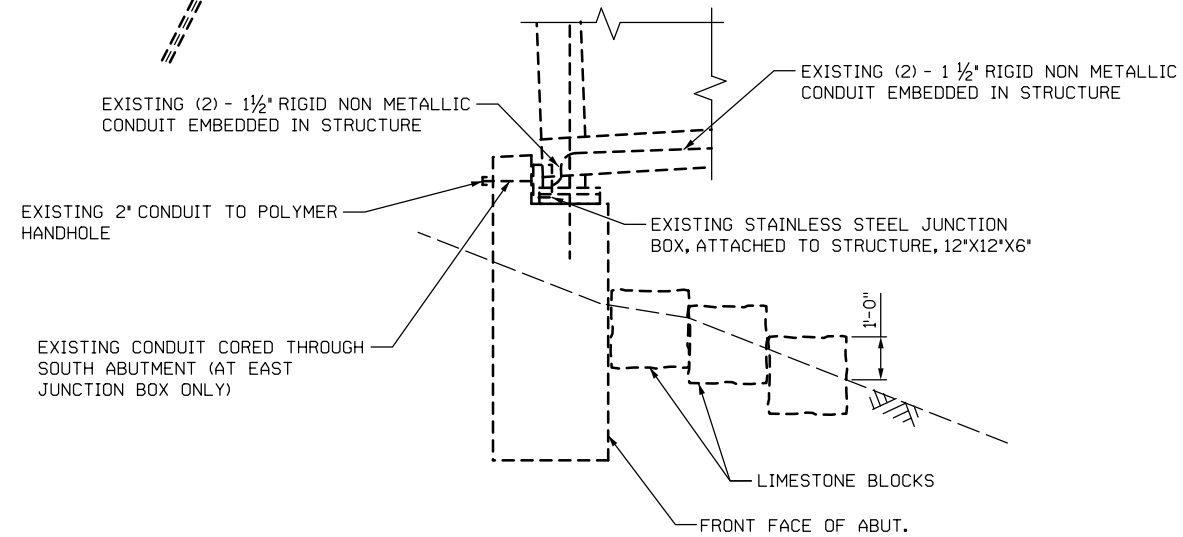


VALVE BOX LOCKING ASSEMBLY





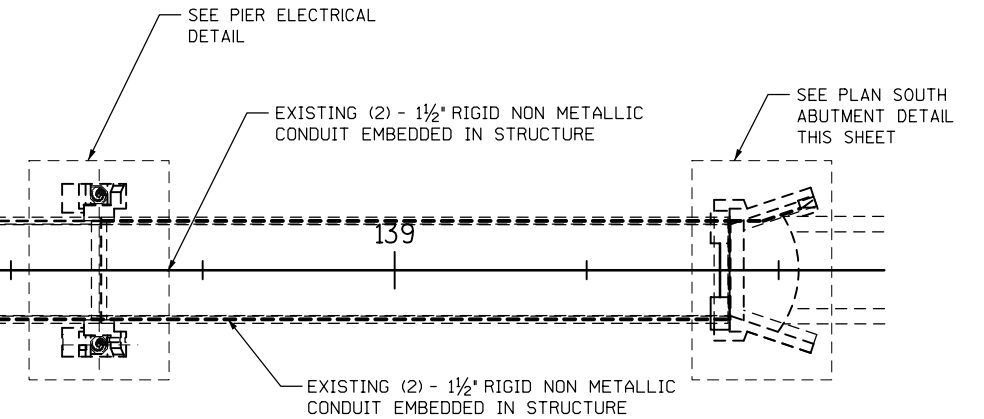
PLAN



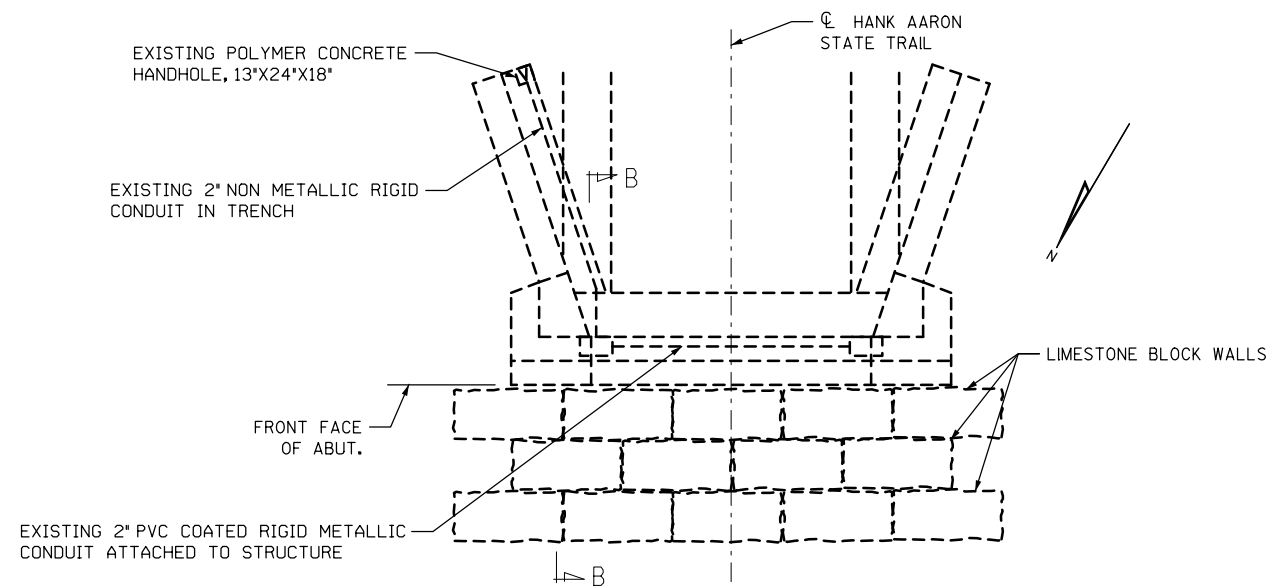
SECTION B-B

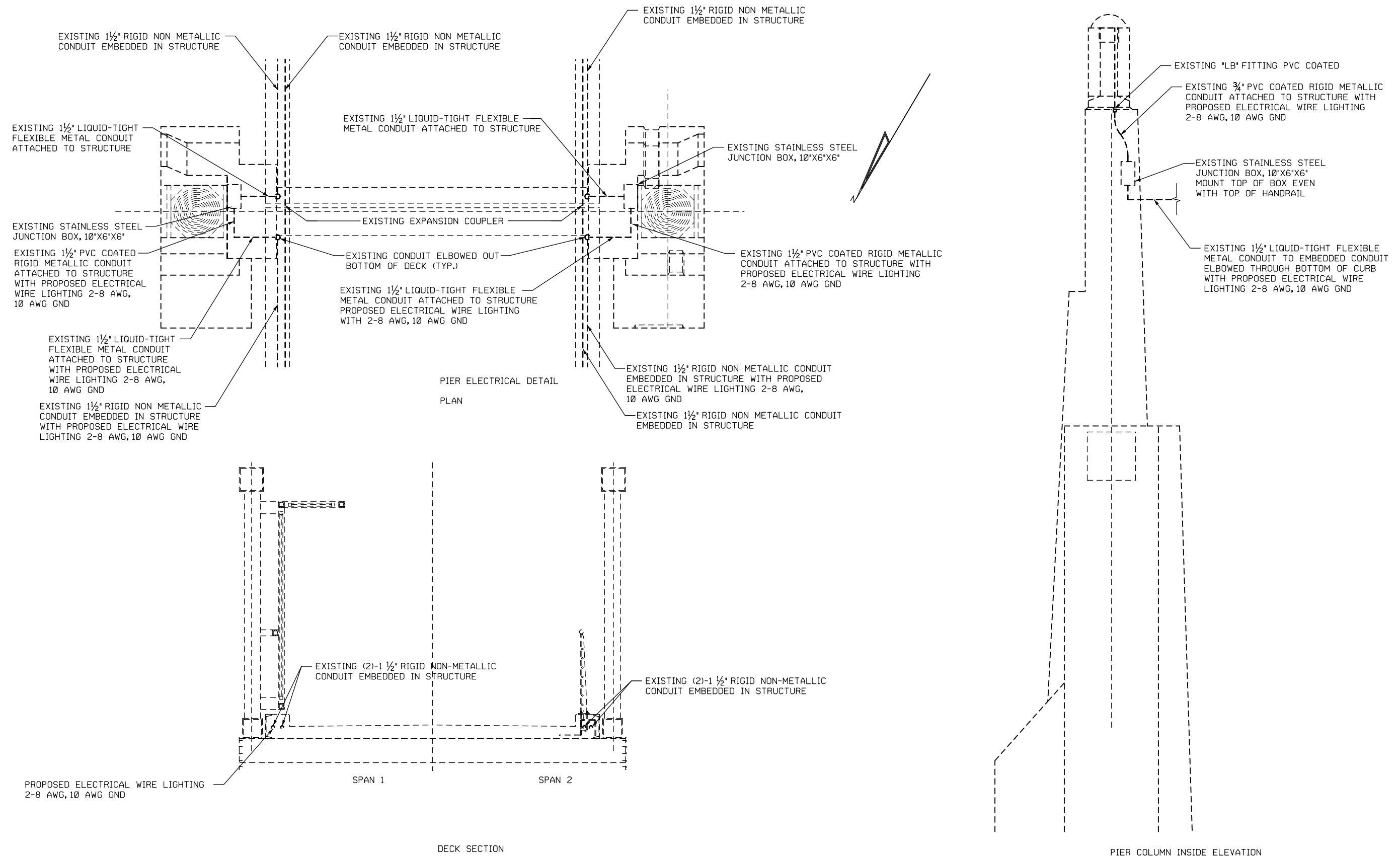
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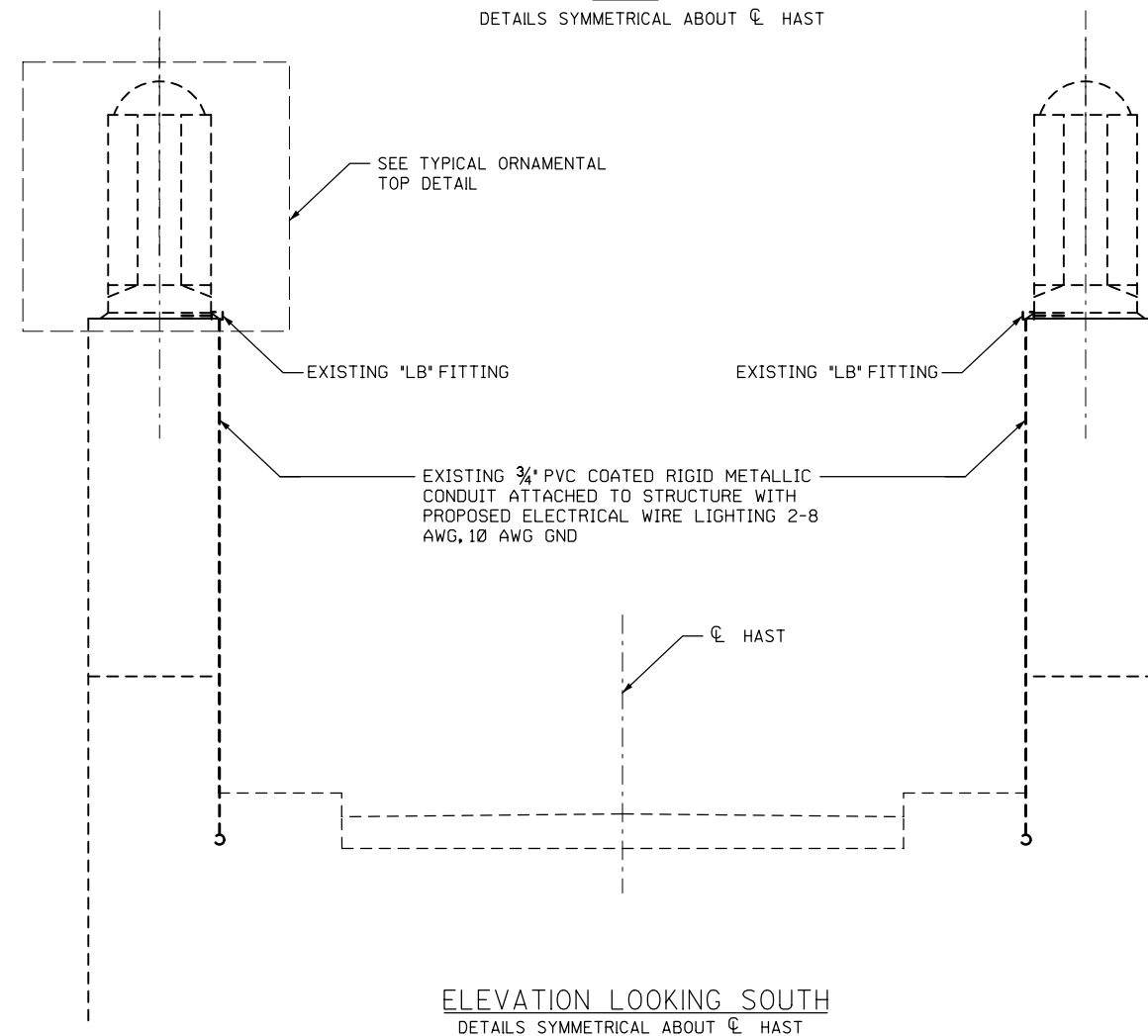
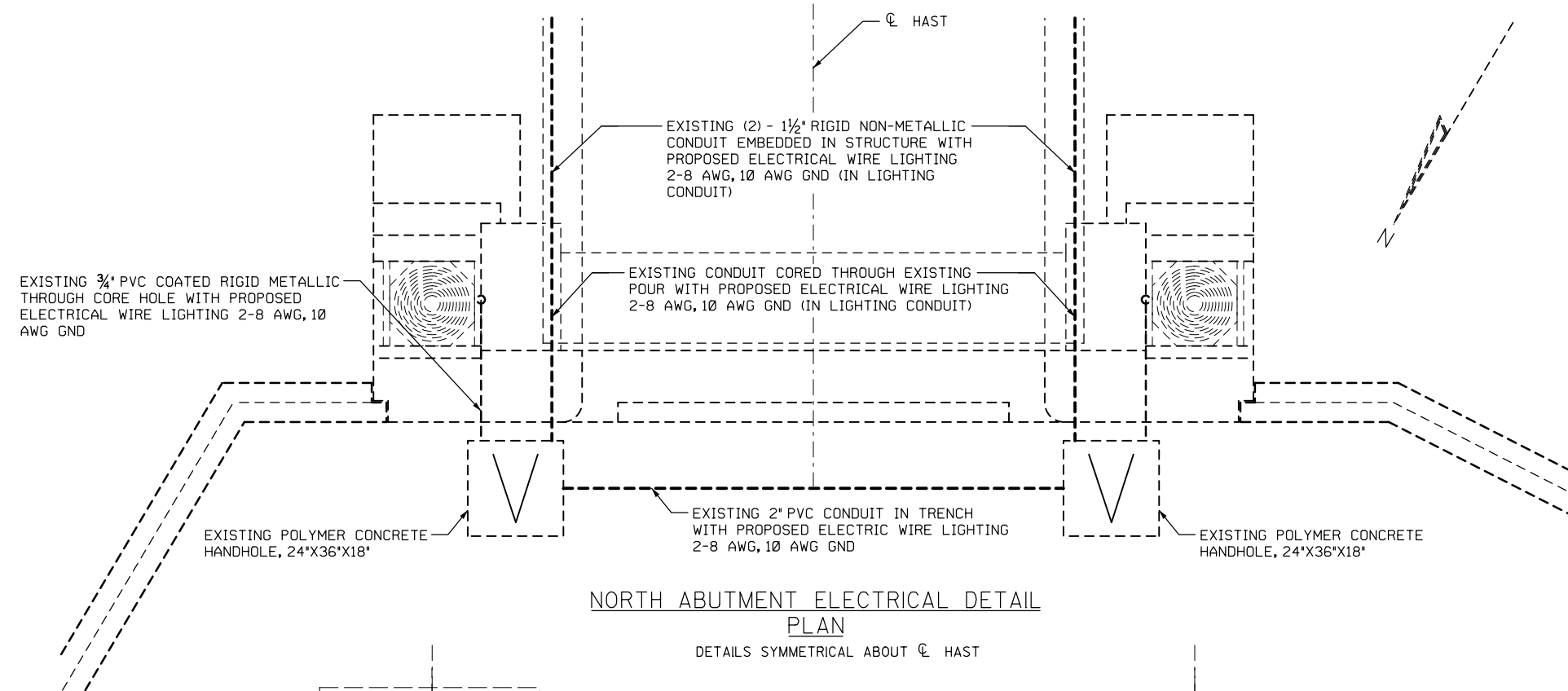
1. PROPOSED SOLAR SYSTEM SHALL BE SUNWIZE POWER & BATTERY MODEL *PR-610-12-530-TTWA-111b, WHICH CONSISTS OF 610W SOLAR ARRAY, TOP OF POLE MOUNTING ACCESSORIES, 12V 530AH VRLA-GEL BATTERY BANK, SURGE ARRESTOR, CHARGE CONTROLLER, BREAKERS, 120V 150W INVERTER TO PROVIDE 120VAC OUTPUT TO LIGHTS, AND POWDER COATED WHITE ALUMINUM ENCLOSURE (CHEST STYLE FOR BATTERIES AND ELECTRONICS) OR SIMILAR SYSTEM BY ALPHA TECHNOLOGIES, LTD, OR APPROVED EQUAL CONTRACTOR SHALL INSTALL SYSTEM PER MANUFACTURER'S RECOMMENDATIONS.
2. SOLAR SYSTEM SHALL BE LOCATED AS DIRECTED BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE AND INSTALL COMPATIBLE ELECTRONIC PHOTOCELL AND RECEPTACLE WITH POLE BRACKET ADAPTOR AT TOP OF 6" POLE TO CONTROL THE LIGHTING CIRCUIT. WIRING FROM RECEPTACLE TO BATTERY BOX SHALL BE PROVIDED AS WELL.
4. ALL WIRING SHALL BE WITHIN THE POLE AND WITHIN CONDUIT TO THE BATTERY BOX.

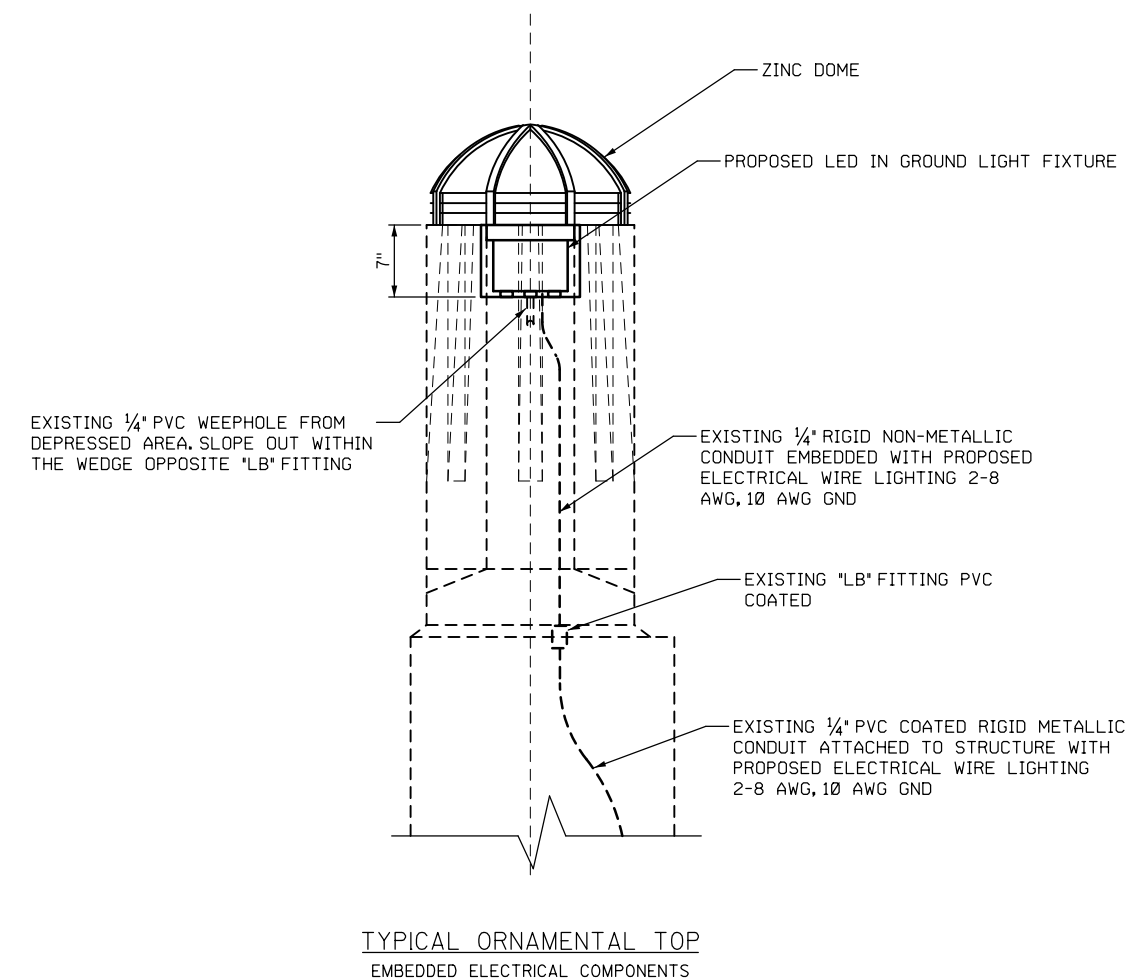


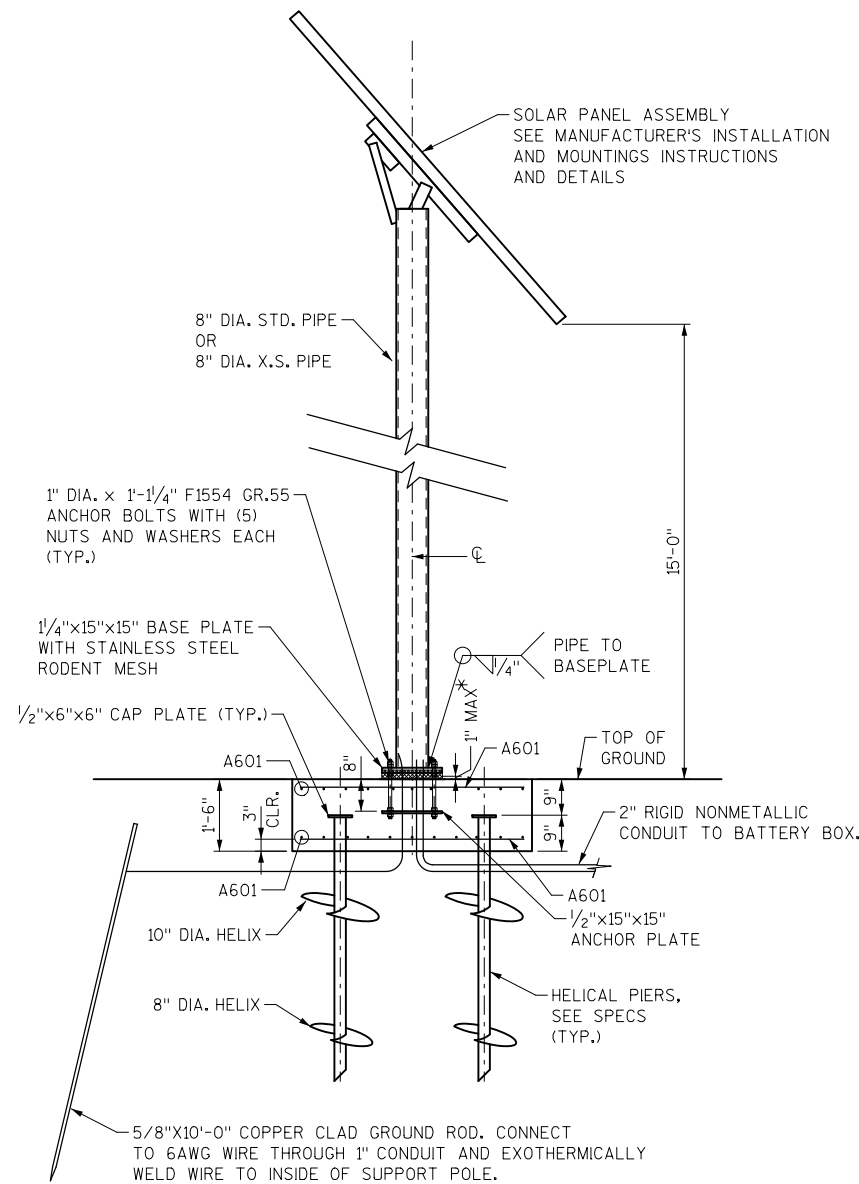
PLAN SOUTH ABUTMENT





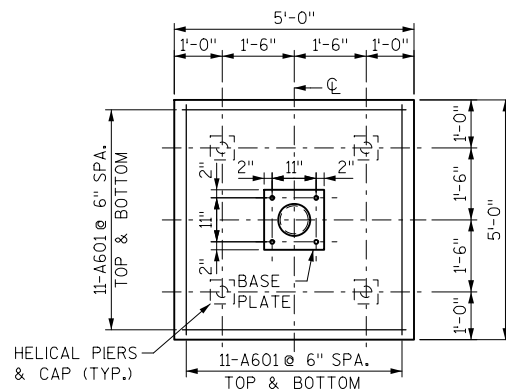






*1" MAX FROM BOTTOM OF LEVELLING NUT TO TOP OF CONCRETE. USE OF DOUBLE NUTS BELOW BASE PLATE OK PROVIDED DISTANCE BELOW BOTTOM NUT TO TOP OF CONCRETE IS LESS THAN 1"

SECTION



FOOTING PLAN

GENERAL NOTES

1. DETAILS PROVIDED FOR PANEL SUPPORT POLE AND FOUNDATION. COORDINATE CONNECTION BETWEEN SOLAR PANELS AND SUPPORT POLE WITH SOLAR MANUFACTURER.
2. BATTERY STORAGE CABINET WILL BE LOCATED ON FOOTING. COORDINATE CABINET ANCHORS AND CONDUITS WITH SOLAR MANUFACTURER.
3. STRUCTURAL DESIGN IS BASED ON THE 2009 INTERNATIONAL BUILDING CODE (2009 I.B.C.)
4. THE FOLLOWING SPECIFICATIONS WERE REFERENCED FOR THE DEVELOPMENT OF THESE DRAWINGS:
 - 2.1. MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES ASCE 7-05
 - 2.2. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318).
 - 2.3. BUILDING CODE REQUIREMENTS FOR STRUCTURAL STEEL (AISC).
5. ELEVATIONS SHOWN ON CONCRETE OR STEEL MEMBERS ARE TO THE TOP OF THE MEMBER, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL BRACE AND SHORE NEW STRUCTURES AS REQUIRED TO PREVENT DAMAGE OR COLLAPSE DUE TO WIND, EARTH, CONSTRUCTION OR OTHER LOADS.
7. SECTION MARKS ARE SHOWN ONLY ONCE ALONG EACH STRUCTURAL ELEMENT UNLESS SPECIFICALLY EXCEPTED, THE SECTION MARK APPLIES TO THE TOTAL LENGTH OF THAT LINE AND ANY OTHER LINES OR ELEMENTS OF SYMMETRICAL OR SIMILAR POSITION.
8. ALL EXISTING UTILITY AND STRUCTURE LOCATIONS SHALL BE VERIFIED WITH AVAILABLE CIVIL, UTILITY, MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS, AND UTILITY ENTITIES PRIOR TO CONSTRUCTION.

DESIGN CRITERIA

- THE STRUCTURAL DESIGN WAS BASED ON THE DESIGN CRITERIA:
1. BUILDING CODE: 2009 INTERNATIONAL BUILDING CODE
 2. BUILDING OCCUPANCY CATEGORY: I
 3. GROUND SNOW LOAD, p/g 30 PSF (SEE BLDG. MANUF.)
 - 3.2 SNOW LOAD IMPORTANCE FACTOR, I/s : 1.0
 - 3.3 SNOW EXPOSURE FACTOR, C/e : 0.9
 - 3.4 THERMAL COEFFICIENT, C/t : 1.0
 4. WIND LOAD
 - 4.1 BASIC WIND SPEED (3-SECOND GUST): 90MPH
 - 4.2 WIND EXPOSURE: C
 - 4.3 PRESSURE PER ASCE 7-05
 7. SEISMIC LOAD:
 - 7.1 N/A- WIND CONTROLS
 8. SPECIAL LOADS:
 - 8.1 SOLAR PANEL WEIGHT- ASSUMED FOR CALCULATIONS, CONTRACTOR TO VERIFY WEIGHT PRIOR TO CONSTRUCTION

HELICAL PIERS

1. HELICAL PIERS TO BE MANUFACTURED BY:
 - 1.1. THE A.B. CHANCE CO. OF CENTRALIA, MISSOURI
 - 1.2. ATLAS SYSTEMS, INC. OF INDEPENDENCE, MISSOURI
 - 1.3. EARTH CONTACT PRODUCTS, L.L.C. OF OLATHE, KANSAS
 - 1.4. APLINE SITE SERVICES, INC. OF ARVADA COLORADO
 - 1.5. OR APPROVED EQUAL.
2. INSTALLER OF HELICAL PIERS SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE ON LIKE PIERS.
3. PROVIDE ANCHOR SERIES HIGH STRENGTH SS175 WITH 1 3/4" SHAFT.
4. PROVIDE LEAD SECTION WITH 8" DIA. AND 10" DIA. CONFIGURATION AS INDICATED ON DRAWINGS. ALTERNATE: 2 7/8" DIA. SHAFT WITH 0.276" WALL THICKNESS, AND TWO HELICES AS NOTED ABOVE. ALL ELEMENTS OF ASSEMBLIES TO BE HOT-DIP GALVANIZED PER ASTM A123.
5. ONE TEST PIER TO BE INSTALLED TO ESTABLISH REQUIRED TORQUE AND DEPTH AS DIRECTED BY A LICENSED PROFESSIONAL ENGINEER.

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	CUT BARS	0# COATED 155# UNCOATED
							LOCATION
A601		22	4'-8"				FOOTING TOP & BOTTOM

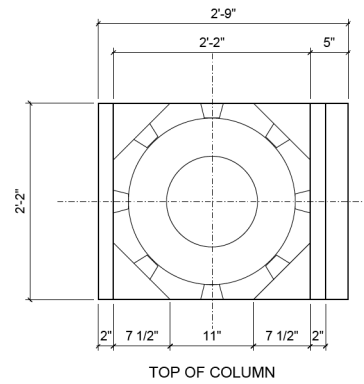
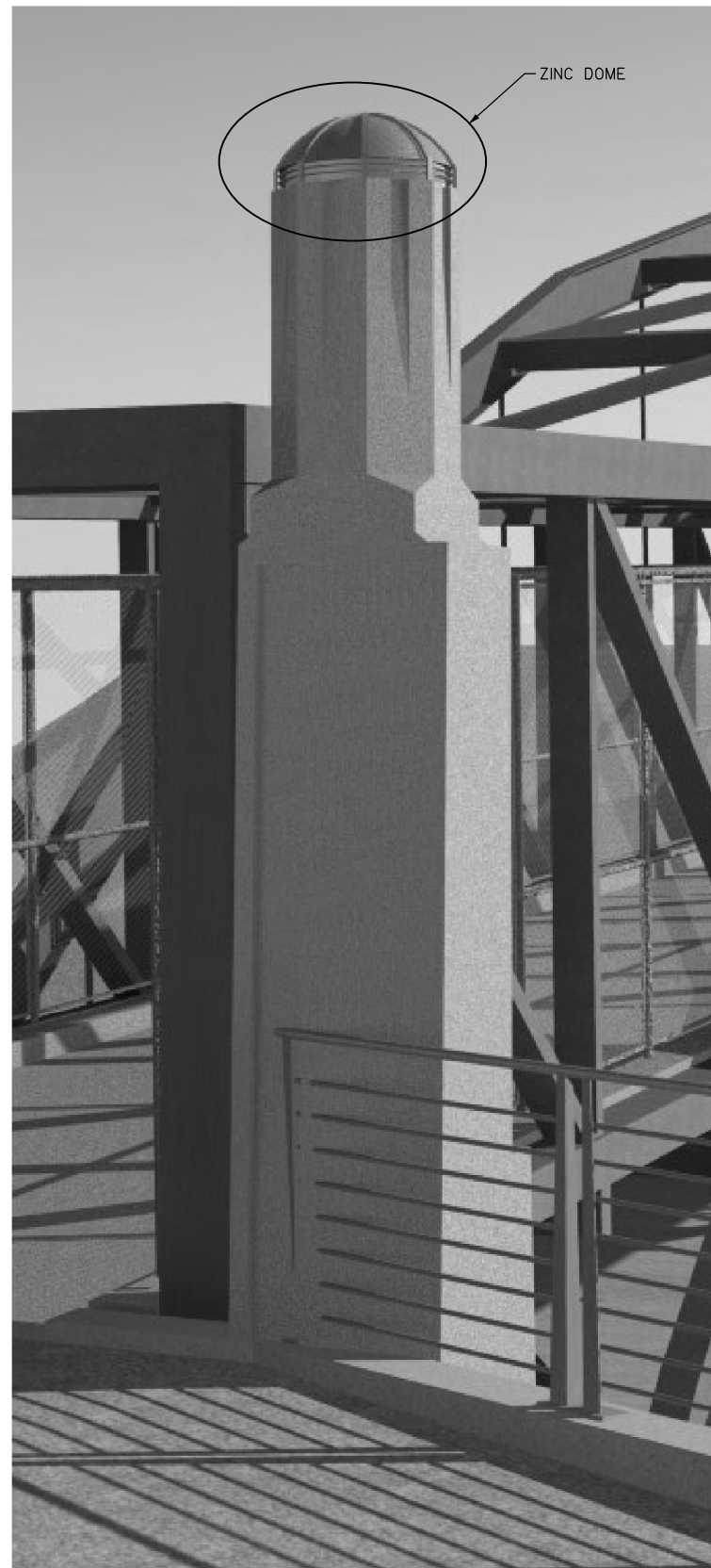
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

REINFORCED CONCRETE

1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH WISDOT SPECIFICATIONS SECTION 654- CONCRETE BASES
2. MINIMUM CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING:
 - 2.1. CONCRETE PLACED AGAINST EARTH (OR VOID FORM): 3"
 - 2.2. CONCRETE EXPOSED TO EARTH OR WEATHER:
 - #6 AND LARGER BARS: 2"
 - #5 BAR, W31 OR D31 WIRE, AND SMALLER: 1-1/2"
 - 2.3. NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
 - SLABS, WALLS, JOISTS (INTERIOR FACE): 3/4"
 - BEAMS, COLUMNS (TO TIES OR STIRRUPS): 1-1/2"
3. REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60, EXCEPT #3 BARS MAY BE GRADE 40.
4. ALL EXPOSED EDGES OF BEAMS, COLUMNS, WALLS, ETC., SHALL HAVE A 3/4" X 45° CHAMFER.
5. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. PLASTIC COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.
6. COORDINATE WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND THE SUB-CONTRACTORS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, INSERTS, SLAB DEPRESSIONS AND OTHER ITEMS RELATED TO THE CONCRETE WORK AND SHALL ASSUME RESPONSIBILITY FOR THEIR PROPER LOCATION.

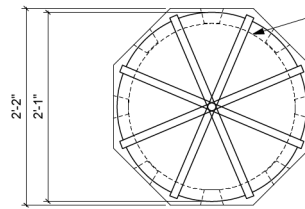
STRUCTURAL STEEL

1. ALL DETAILING, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL COMPLY WITH THE CURRENT EDITION OF AISC SPECIFICATIONS AND AWS STANDARDS.
2. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-53 GRADE B OR A36 UNLESS OTHERWISE NOTED.
 - 2.1 STEEL COLUMN: ASTM A-53 GR. B
 - 2.2 STEEL PLATES: A36
 - 2.3 ANCHOR BOLTS: F1554 GR. 55
3. ALL WELDS FOR STRUCTURAL STEEL SHALL BE MADE WITH CLASS E-70 ELECTRODES OR SUBMERGED ARC WELDING.
4. SHOP CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE NOTED. THE MINIMUM SHOP WELD SHALL BE A 3/16" FILLET. BOLTS SHALL BE ASTM A-325 UNLESS OTHERWISE DETAILED.
5. ALL WELDS SHOWN ON THE DRAWINGS ARE THE MINIMUM REQUIRED, AND MAY BE INCREASED AT THE OPTION OF THE FABRICATOR.
6. FIELD WELDING SHALL BE USED ONLY WHERE SPECIFICALLY CALLED FOR OR WITH PRIOR PERMISSION OF THE ENGINEER. THE MINIMUM FIELD WELD SHALL BE A 3/16" FILLET.
7. NO SPLICES SHALL BE MADE WITHOUT PRIOR AUTHORIZATION OF ENGINEER.
8. FRAMING ANGLES AND PLATES NOT OTHERWISE INDICATED SHALL BE 1/4" THICK.
9. STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION AND PAINTED BLACK USING A HIGH PERFORMANCE TWO-COAT EPOXY PAINT SYSTEM.



TOP OF COLUMN

SEE STRUCTURE
B-40-762 SHEET E-4
FOR CONDUIT
AND ADDITIONAL
DETAILS AND NOTES
FOR TOP OF BRIDGE
COLUMN.



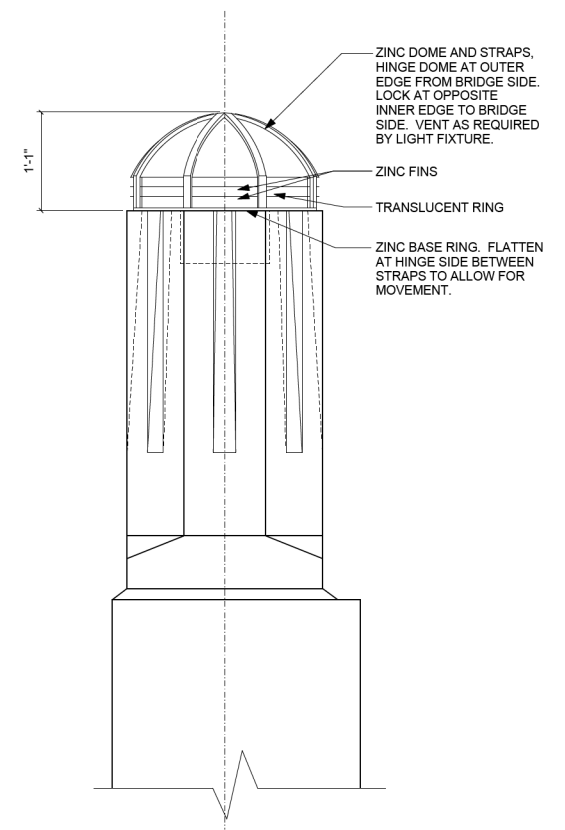
LIGHT FIXTURE

ZINC DOME AND STRAPS,
HINGE DOME AT OUTER
EDGE FROM BRIDGE SIDE.
LOCK AT OPPOSITE
INNER EDGE TO BRIDGE
SIDE. VENT AS REQUIRED
BY LIGHT FIXTURE.

1 LIGHT FIXTURE - PLAN
A1.4 Scale: 1" = 1'-0"

NOTE: FOR DESIGN INTENT ONLY.
FINAL DESIGN/ENGINEERING BY
LIGHT FIXTURE MANUFACTURER.

SEE STRUCTURE
B-40-762 SHEET E-4
FOR CONDUIT
AND ADDITIONAL
DETAILS AND NOTES
FOR TOP OF BRIDGE
COLUMN.



2 LIGHT FIXTURE - ELEV/SECTION
A1.4 Scale: 1" = 1'-0"

Division 5: METAL FABRICATIONS

1. Provide all labor, materials, and equipment required for metal work as shown on the drawings and specified herein, which may include column and base plates, connecting angles, or other metal fabrications shown on drawings or required for the Work.
2. Production and construction of metal fabrications shall be in accordance with the building code requirements for structural connections and ASTM standards.
3. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories in shop drawings. Include erection drawings and details where applicable.
4. Shop and touch-up primer for galvanized surfaces to be SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.
5. Grind exposed joints flush and smooth with adjacent finished surfaces. Ease exposed edges to small uniform radius.
6. Supply components required for anchorage of fabrications.
7. Prime paint all steel items, except galvanized items to be embedded in concrete or masonry, surfaces in direct contact with concrete, where field welding is required, or items to be fireproofed.
8. Finish: Clean surfaces of rust, scale, grease, and foreign matter prior to finishing. Exposed connectors to be powder-coated, color as indicated on drawings or as selected by Architect.
9. Fabrication Tolerances: 1/8 inch max. difference in diagonal measurement, maximum offset of faces or misalignment of adjacent members to be 1/16 inch.

Division 9: FINISHES AND COATINGS

1. Provide all labor, materials, and equipment required for paints, stains, clear coatings and anti-graffiti coatings as shown on the drawings and specified herein.
2. Paints, stains and/or clear coatings to be Sherwin Williams or Benjamin Moore, color/finish to be selected by Architect from samples provided by Contractor/Subcontractor on same wood as that used on structures. Substitutions to be approved by Architect.

GENERAL

- 1. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL BE FAMILIAR WITH THE ENTIRE SET OF CONSTRUCTION DOCUMENTS.
- 2. THE CONTRACTOR SHALL REFER TO OTHER DRAWINGS CONTAINED IN THE CONSTRUCTION DOCUMENTS FOR ADDITIONAL SPECIFIED MEMBERS, DIMENSIONS, ELEVATIONS, DETAILS, OPENINGS, INSERTS, SLEEVES, DEPRESSIONS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS REQUIRED TO CONSTRUCT THIS PROJECT.
- 3. DETAILS SHOWN ON STRUCTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PORTIONS OF THE CONTRACT DOCUMENTS UNLESS NOTED OTHERWISE.
- 4. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.
- 5. DO NOT SCALE PLANS.
- 6. IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
- 7. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND CONSTRUCTION SEQUENCE IN ORDER TO ENSURE THE SAFETY OF THE BUILDING AND WORKMEN DURING CONSTRUCTION (MEANS & METHODS OF CONSTRUCTION). THIS INCLUDES, BUT IS NOT LIMITED TO: SHORING, UNDERPINNING, TEMPORARY BRACING, ETC.
- 8. CONSTRUCTION DOCUMENTS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS (COLUMN CENTERLINES, OUTSIDE FACE OF WALLS, TOP OF FRAMING MEMBERS, ETC.) MATERIAL SUPPLIERS AND DESIGNERS ARE RESPONSIBLE FOR ALL OTHER INFORMATION IN ORDER TO DETAIL/FABRICATE THEIR WORK. CONTACT THE ENGINEER WITH ANY DISCREPANCIES.
- 9. IN THE EVENT OF ANY DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PLANS CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL BRING THE DISCREPANCY TO THE ENGINEERS ATTENTION IN WRITING IMMEDIATELY.

CAST-IN-PLACE REINFORCED CONCRETE:

- 1. CONTRACTOR SHALL ELECTRONICALLY SUBMIT STEEL REBAR SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS BEFORE SUBMITTING TO THE ARCHITECT.
- 2. GROUT BELOW BASE PLATES AND BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT 3/4" THICK MINIMUM.
- 3. CONTRACTOR SHALL PROVIDE SUITABLE WIRE SPACERS, CHAIRS, TIES, ETC FOR SUPPORTING REINFORCING STEEL IN THE PROPER POSITION WHILE PLACING CONCRETE.
- 4. PROVIDE A 1" CHAMFER ON EXPOSED CORNERS OF CONCRETE UNLESS NOTED OTHERWISE.
- 5. DO NOT PLACE CONDUITS, PIPES, DUCTS, OR FIXTURES IN STRUCTURAL CONCRETE UNLESS NOTED OTHERWISE.
- 6. SLEEVES, CONDUITS, OR PIPING PASSING THROUGH CONCRETE SLABS AND WALLS SHALL BE PLACED SO THAT THEY ARE NOT CLOSER THAN THREE DIAMETERS ON CENTER AND SO THAT THEY DO NOT DISPLACE REINFORCING. BANKS OF OPENINGS GREATER THAN 18" TOTAL WIDTH OF ALL OPENINGS EDGE-TO-EDGE MUS BE COORDINATED WITH STRUCTURAL ENGINEER.
- 7. PROVIDE SAW CUT CONTROL JOINTS IN CONCRETE SLABS ON METAL DECK SPACED NO MORE THAN 20'-0" APART. PLACE CONTROL JOINTS ON COLUMN CENTER LINES IN EACH DIRECTION. REFER TO CONTROL JOINT LAYOUT SHOWN ON FOUNDATION PLAN FOR REFERENCE.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY IRREGULARITIES OR DEFECTS IN CONCRETE SLABS (CRACKS, BUMPS, FLOOR CURLING, ETC.) BEFORE ANY FLOOR FINISHES ARE APPLIED.
- 9. REFER TO REINFORCEMENT DEVELOPMENT AND LAP SPLICE SCHEDULE FOR LAP SPLICES IN REINFORCING STEEL.
- 10. ALL LAPS IN REINFORCING STEEL SHALL BE CLASS "B" LAP SPLICES UNLESS OTHERWISE NOTED.
- 11. PROVIDE THE FOLLOWING CLEAR COVER DISTANCES FOR REINFORCEMENT IN CONCRETE:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:

3"

CONCRETE EXPOSED TO EARTH OR WEATHER:

NO. 6 THROUGH NO. 18 BARS2"

NO. 5 BAR AND SMALLER1 1/2"

CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:

SLABS, WALLS, JOISTS: NO. 11 BAR AND SMALLER1"

BEAMS AND COLUMNS1 1/2"
- 12. CONTRACTOR SHALL USE SMOOTH FORMS FOR EXPOSED CONCRETE SURFACES. ANY CONCRETE SURFACE REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR AS REQUIRED. REPAIR AND PATCH DEFECTIVE AREAS WITH PROPRIETARY PATCHING COMPOUND IMMEDIATELY AFTER REMOVAL OF FORMS.

FOUNDATION & EARTHWORK

- 1. ALL EXTERIOR FOOTINGS MUST BEAR AT A MINIMUM DEPTH OF 4'-0" BELOW ADJACENT FINISH EXTERIOR GRADE. UNLESS NOTED OTHERWISE.
- 2. DO NOT PLACE ANY FOOTINGS ON FROZEN SUBGRADE.
- 3. BACK FILLING SHALL BE DONE SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS.
- 4. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO FIELD VERIFY NET ALLOWABLE SOIL BEARING CAPACITY.



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PE PROJECT 14534



DESIGN DATA

APPLICABLE CODES/STANDARDS:
.....INTERNATIONAL BUILDING CODE - 2009 WITH SEPTEMBER 1, 2011 WISCONSIN AMENDED I-CODE INSERTS
.....INTERNATIONAL EXISTING BUILDING CODE - 20009
.....ASCE 7-05 MIN DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE/SEI

STRUCTURAL DESIGN STANDARDS (DESIGN SHALL CONFORM TO THE CURRENT EDITION UNDER THE APPLICABLE CODE)
.....ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
.....ACI 530/530.1 BLDG CODE REQUIREMENTS AND SPECS FOR MASONRY STRUCTURES (AND RELATED COMMENTARIES)
.....ANSI/AISC 360-05 SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS
.....WS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL
.....NDS-NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION ASD/LRFD
.....NDS-NATIONAL DESIGN SPECIFICATION SUPPLEMENT, DESIGN VALUES FOR WOOD CONSTRUCTION

WIND DESIGN DATA:
.....WIND IMPORTANCE FACTOR (Iw) 1.0
.....BASIC WIND SPEED (3-SECOND GUST) 90 MPH
.....WIND DIRECTIONALITY FACTOR (Kd) 0.85
.....WIND EXPOSURE CATEGORY B
.....WIND EXPOSURE CLASSIFICATION Varies
.....INTERNAL PRESSURE COEFFICIENT +/-0.18
.....BUILDING LENGTH (L) Varies
.....LEAST WIDTH (B) Varies
.....WIND PRESSURE 30 PSF

SOIL DESIGN VALUES:
SOIL UNIT WEIGHT 110 PCF (ASSUMED)
LATERAL EARTH PRESSURE:
ACTIVE (RETAINING WALLS) 40 PSF/FT OF DEPTH (ASSUMED)
AT-REST (BASEMENT WALLS) 60 PSF/FT OF DEPTH (ASSUMED)
COEFFICIENT OF SLIDING FRICTION 0.30 (ASSUMED)
SUBGRADE MODULUS 150 PCI (ASSUMED)
ALLOWABLE SOIL BEARING PRESSURE 1,500 PSF (ASSUMED)

REINFORCEMENT DEVELOPMENT & LAP SPLICE SCHEDULE											
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11	REMARKS
CLASS A SPLICE LENGTH	TOP BARS	22	29	36	43	63	72	81	91	101	
	OTHER BARS	17	22	28	33	48	55	62	70	78	
CLASS B SPLICE LENGTH	TOP BARS	28	37	47	56	81	93	105	118	131	
	OTHER BARS	22	29	36	43	63	72	81	91	101	

- SCHEDULE NOTES:
1. ALL VALUES ABOVE ARE IN INCHES.
2. ALL SPLICES IN REINFORCEMENT SHALL BE CLASS "B" LAPS U.N.O.
3. STEEL REINFORCING BARS SHALL CONFORM TO ASTM A615 (GRADE 60).
4. VALUES IN THIS SCHEDULE ARE BASED ON NORMAL WEIGHT CONCRETE (145 PCF). f'c=3000 PSI
5. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER CURRENT ADDITION OF ACI-318.
6. TOP BARS ARE DEFINED AS HORIZONTAL BARS HAVING 12" OR MORE OF CONCRETE CAST BELOW THE BARS.

MATERIAL STRENGTHS

CAST-IN-PLACE CONCRETE:

FOOTINGS
.....MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS f'c = 3,000 PSI
.....MAXIMUM WATER-CEMENTITIOUS RATIO 0.59
.....MAXIMUM AGGREGATE SIZE 1 1/2"
.....SLUMP LIMIT 5" +/-1"
.....AIR CONTENT NO

EXTERIOR PIERS, WALLS, AND COLUMNS
.....MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS f'c = 4,000 PSI
.....MAXIMUM WATER-CEMENTITIOUS RATIO 0.48
.....MAXIMUM AGGREGATE SIZE 3/4"
.....SLUMP LIMIT 4" +/-1"
.....AIR CONTENT YES 4% to 6%

STEEL/METAL:

REINFORCING STEEL:
.....ALL ASTM A615, GRADE 60, DEFORMED Fy = 60,000 PSI
.....STEEL WELDED WIRE REINFORCEMENT, FLAT SHEETS Fy = 60,000 PSI

STRUCTURAL STEEL:
.....ROLLED WIDE FLANGE SHAPES, ASTM A992 GRADE 50 Fy = 50,000 PSI
.....CHANNELS, ANGLES, AND S SHAPES, ASTM A36 Fy = 36,000 PSI
.....PLATE AND BAR, ASTM A36 Fy = 36,000 PSI
.....TUBE SHAPES, ASTM A500 GRADE B Fy = 46,000 PSI
.....PIPE ASTM A53, TYPE E or S, GRADE B Fy = 46,000 PSI
.....ALL OTHER ROLLED SHAPES, ASTM A36 Fy = 36,000 PSI

STRUCTURAL BOLTS:
.....HIGH STRENGTH BOLTS, NUTS, & WASHERS ASTM A325
.....ZINC-COATED HIGH STRENGTH BOLTS, NUTS, & WASHERS ASTM A325
.....STAINLESS STEEL BOLTS, NUTS, & WASHERS ASTM F593
.....SHEAR CONNECTORS (GRADES 1015 THRU 1020) ASTM A108
.....THREADED RODS ASTM A36
.....CLEVIS & TURNBUCKLES (GRADE 1035) ASTM A108
.....EYE BOLTS & NUTS (GRADE 1030) ASTM A108
.....ANCHOR BOLTS (GRADE 36) ASTM F1554

WELDED CONNECTIONS:
.....WELDING ELECTRODES E70XX
E80XX FOR
WELDING REINF




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3 SECTION
S100

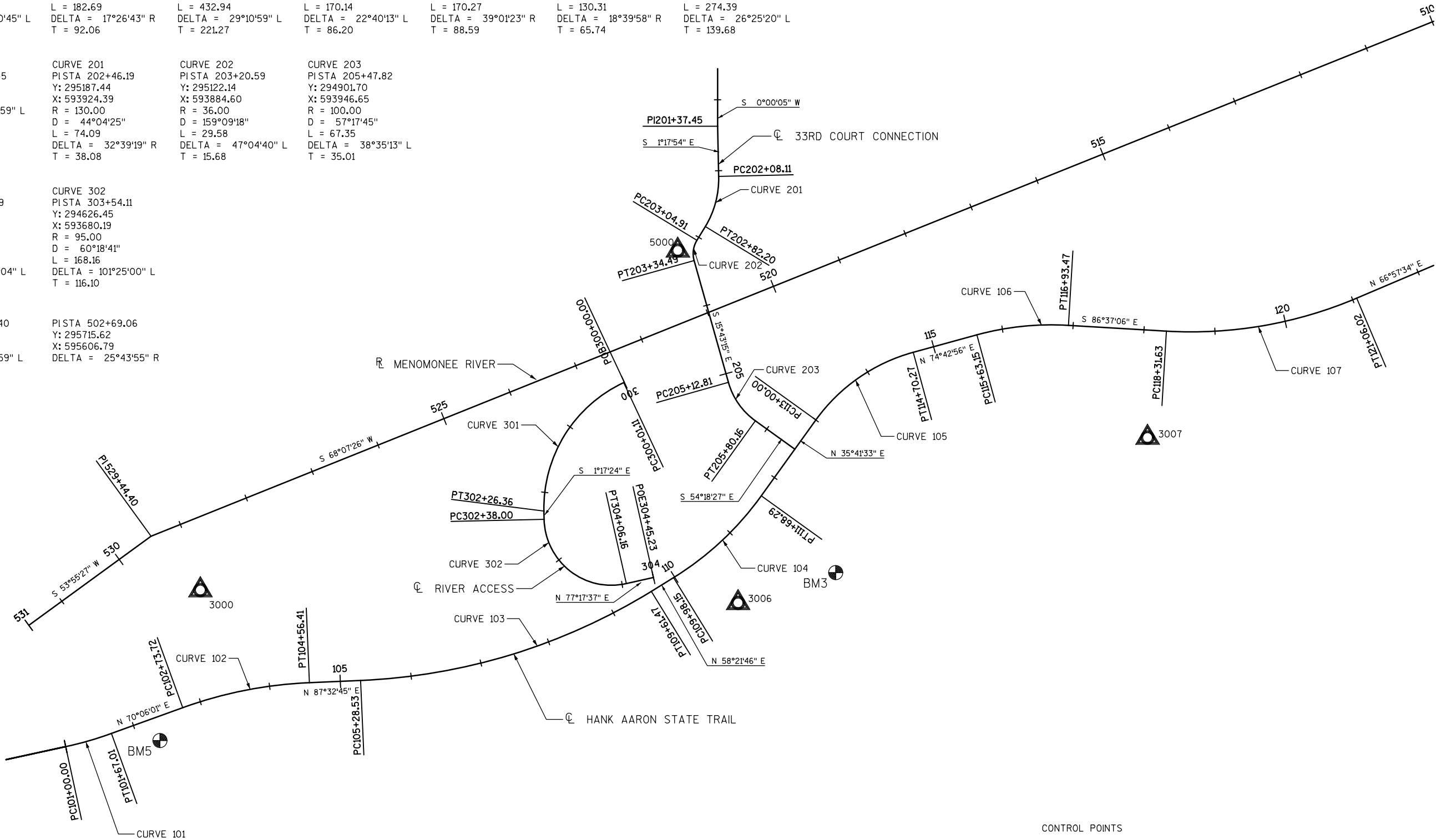
1 FOUNDATION PLAN
S100 SCALE: 1/4" = 1'-0"



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WISCONSIN
ERIC P.
FEILE
E-40493
MILWAUKEE
WI
PROFESSIONAL ENGINEER

<div><div>CURVE 101</div><div>PISTA 101+33.56</div><div>Y: 294429.46</div><div>X: 593036.63</div><div>R = 500.00</div><div>D = 11°27'33"</div><div>L = 67.01</div><div>DELTA = 7°40'45" L</div><div>T = 33.56</div></div>	<div><div>CURVE 102</div><div>PISTA 103+65.78</div><div>Y: 294508.54</div><div>X: 593255.08</div><div>R = 600.00</div><div>D = 9°32'57"</div><div>L = 182.69</div><div>DELTA = 17°26'43" R</div><div>T = 92.06</div></div>	<div><div>CURVE 103</div><div>PISTA 107+49.81</div><div>Y: 294525.04</div><div>X: 593640.17</div><div>R = 850.00</div><div>D = 6°44'26"</div><div>L = 432.94</div><div>DELTA = 29°10'59" L</div><div>T = 221.27</div></div>	<div><div>CURVE 104</div><div>PISTA 110+84.35</div><div>Y: 294705.56</div><div>X: 593933.18</div><div>R = 430.00</div><div>D = 13°19'29"</div><div>L = 170.14</div><div>DELTA = 22°40'13" L</div><div>T = 86.20</div></div>	<div><div>CURVE 105</div><div>PISTA 113+88.59</div><div>Y: 294954.49</div><div>X: 594112.00</div><div>R = 250.00</div><div>D = 22°55'06"</div><div>L = 170.27</div><div>DELTA = 39°01'23" R</div><div>T = 88.59</div></div>	<div><div>CURVE 106</div><div>PISTA 116+28.89</div><div>Y: 295019.65</div><div>X: 594350.46</div><div>R = 400.00</div><div>D = 14°19'26"</div><div>L = 130.31</div><div>DELTA = 18°39'58" R</div><div>T = 65.74</div></div>	<div><div>CURVE 107</div><div>PISTA 119+71.31</div><div>Y: 294999.39</div><div>X: 594693.45</div><div>R = 595.00</div><div>D = 9°37'46"</div><div>L = 274.39</div><div>DELTA = 26°25'20" L</div><div>T = 139.68</div></div>			
<div><div>PISTA 201+37.45</div><div>Y: 295296.16</div><div>X: 593921.93</div><div>DELTA = 1°17'59" L</div></div>	<div><div>CURVE 201</div><div>PISTA 202+46.19</div><div>Y: 295187.44</div><div>X: 593924.39</div><div>R = 130.00</div><div>D = 44°04'25"</div><div>L = 74.09</div><div>DELTA = 32°39'19" R</div><div>T = 38.08</div></div>	<div><div>CURVE 202</div><div>PISTA 203+20.59</div><div>Y: 295122.14</div><div>X: 593884.60</div><div>R = 36.00</div><div>D = 159°09'18"</div><div>L = 29.58</div><div>DELTA = 47°04'40" L</div><div>T = 15.68</div></div>	<div><div>CURVE 203</div><div>PISTA 205+47.82</div><div>Y: 294901.70</div><div>X: 593946.65</div><div>R = 100.00</div><div>D = 57°17'45"</div><div>L = 67.35</div><div>DELTA = 38°35'13" L</div><div>T = 35.01</div></div>						
<div><div>CURVE 301</div><div>PISTA 301+28.19</div><div>Y: 294881.21</div><div>X: 593674.46</div><div>R = 195.00</div><div>D = 29°22'57"</div><div>L = 225.25</div><div>DELTA = 66°11'04" L</div><div>T = 127.08</div></div>	<div><div>CURVE 302</div><div>PISTA 303+54.11</div><div>Y: 294626.45</div><div>X: 593680.19</div><div>R = 95.00</div><div>D = 60°18'41"</div><div>L = 168.16</div><div>DELTA = 101°25'00" L</div><div>T = 116.10</div></div>								
<div><div>PISTA 529+44.40</div><div>Y: 294718.79</div><div>X: 593124.10</div><div>DELTA = 14°11'59" L</div></div>	<div><div>PISTA 502+69.06</div><div>Y: 295715.62</div><div>X: 595606.79</div><div>DELTA = 25°43'55" R</div></div>								



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
3	111+48 RT	RR SPIKE IN PP # 84-09696	30.10
5	102+28 RT	TOP OF BOLT ON CONCRETE PAD	34.34

CONTROL POINTS					
NO.	STATION	DESCRIPTION	X	Y	ELEV.
3000	104+17	¾" REBAR WITH CAP	593192.71	294642.65	
3006	111+45	¾" REBAR WITH CAP	593950.43	294625.20	
3007	119+17	¾" REBAR WITH CAP	594528.21	294857.40	
5000	114+45	¾" REBAR	593865.42	295121.62	22.12

DATE 14JAN16		E S T I M A T E O F Q U A N T I T I E S			
LINE					2984-43-74
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	213.0100	Finishing Roadway (project) 01. 2984-43-74	EACH	1.000	1.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	35.000	35.000
0030	310.0110	Base Aggregate Open Graded	TON	45.000	45.000
0040	416.0610	Drilled Tie Bars	EACH	8.000	8.000
0050	465.0105	Asphaltic Surface	TON	20.000	20.000
0060	502.0100	Concrete Masonry Bridges	CY	18.000	18.000
0070	505.0400	Bar Steel Reinforcement HS Structures	LB	2,125.000	2,125.000
0080	601.0205	Concrete Gutter 24-Inch	LF	400.000	400.000
0090	606.0200	Riprap Medium	CY	5.000	5.000
0100	606.0400	Riprap Extra-Heavy	CY	60.000	60.000
0110	612.0106	Pipe Underdrain 6-Inch	LF	370.000	370.000
0120	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	1.000	1.000
0130	616.0700.S	Fence Safety	LF	100.000	100.000
0140	619.1000	Mobilization	EACH	1.000	1.000
0150	625.0105	Topsoil	CY	5.000	5.000
0160	625.0500	Salvaged Topsoil	SY	1,025.000	1,025.000
0170	628.1104	Erosion Bales	EACH	60.000	60.000
0180	628.1504	Silt Fence	LF	200.000	200.000
0190	628.1520	Silt Fence Maintenance	LF	200.000	200.000
0200	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0210	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0220	628.2006	Erosion Mat Urban Class I Type A	SY	250.000	250.000
0230	628.2008	Erosion Mat Urban Class I Type B	SY	1,150.000	1,150.000
0240	628.6005	Turbidity Barriers	SY	125.000	125.000
0250	628.7504	Temporary Ditch Checks	LF	500.000	500.000
0260	628.7570	Rock Bags	EACH	20.000	20.000
0270	642.5001	Field Office Type B	EACH	1.000	1.000
0280	643.0100	Traffic Control (project) 01. 2984-43-74	EACH	1.000	1.000
0290	643.0300	Traffic Control Drums	DAY	600.000	600.000
0300	643.0410	Traffic Control Barricades Type II	DAY	240.000	240.000
0310	643.0705	Traffic Control Warning Lights Type A	DAY	240.000	240.000
0320	643.0900	Traffic Control Signs	DAY	240.000	240.000
0330	645.0111	Geotextile Fabric Type DF Schedule A	SY	270.000	270.000
0340	645.0120	Geotextile Fabric Type HR	SY	115.000	115.000
0350	645.0130	Geotextile Fabric Type R	SY	170.000	170.000
0360	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	400.000	400.000
0370	650.8500	Construction Staking Electrical Installations (project) 01. 2984-43-74	LS	1.000	1.000
0380	650.9910	Construction Staking Supplemental Control (project) 01. 2984-43-74	LS	1.000	1.000
0390	655.0615	Electrical Wire Lighting 10 AWG	LF	675.000	675.000
0400	655.0620	Electrical Wire Lighting 8 AWG	LF	1,325.000	1,325.000
0410	690.0150	Sawing Asphalt	LF	1,400.000	1,400.000
0420	SPV.0035	Special 01. Excavation Special - ACM	CY	295.000	295.000
0430	SPV.0035	Special 02. Fieldstone Riprap Light	CY	55.000	55.000
0440	SPV.0035	Special 03. Fieldstone Riprap Medium	CY	25.000	25.000
0450	SPV.0035	Special 04. Coloring Concrete Sequoia Sand	CY	16.000	16.000
0460	SPV.0055	Special 01. Entrance and Donor Displays	DOL	101,546.610	101,546.610
0470	SPV.0060	Special 01. Zinc Dome	EACH	4.000	4.000
0480	SPV.0060	Special 02. LED In Ground Light Fixture	EACH	4.000	4.000

DATE 14JAN16		E S T I M A T E O F Q U A N T I T I E S				
LINE						2984-43-74
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTI TY	
0490	SPV. 0060	Speci al 03. Native Vegetation Surveillance and Care Cycles	EACH	30. 000	30. 000	
0500	SPV. 0060	Speci al 04. Invasi ve Species Control	EACH	4. 000	4. 000	
0510	SPV. 0085	Speci al 01. Nurse Crop Seed Mi x	LB	115. 000	115. 000	
0520	SPV. 0085	Speci al 02. Pioneer Nati ve Seed Mi x	LB	23. 000	23. 000	
0530	SPV. 0090	Speci al 01. Slope Interruptor Socks 8" Foundation	LF	500. 000	500. 000	
0540	SPV. 0090	Speci al 02. 1" Coi lable HDPE Conduit	LF	190. 000	190. 000	
0550	SPV. 0105	Speci al 01. Flagging Hank Aaron State Trail	LS	1. 000	1. 000	
0560	SPV. 0105	Speci al 02. UEC Community Garden Water Line	LS	1. 000	1. 000	
0570	SPV. 0105	Speci al 03. Solar Panel , Battery System and Foundation	LS	1. 000	1. 000	
0580	SPV. 0145	Speci al 01. Path Edge Seed Mi x	OZ	4. 000	4. 000	
0590	SPV. 0145	Speci al 02. Di tch Seed Mi x	OZ	4. 000	4. 000	
0600	SPV. 0165	Speci al 01. Anti Graffi ti Shi el d	SF	270. 000	270. 000	
0610	SPV. 0165	Speci al 02. Concrete Sidewal k 4-Inch Speci al	SF	750. 000	750. 000	
0620	SPV. 0165	Speci al 03. Modular Grid	SF	4, 700. 000	4, 700. 000	
0630	SPV. 0165	Speci al 04. Reset Limestone Blocks	SF	100. 000	100. 000	
0640	SPV. 0180	Speci al 01. Geogri d Warning Layer	SY	350. 000	350. 000	
0650	SPV. 0180	Speci al 02. Scrape and Redress	SY	80. 000	80. 000	
0660	SPV. 0180	Speci al 03. Woodchi p Mul ch	SY	600. 000	600. 000	
0670	SPV. 0180	Speci al 04. Concrete Sealer	SY	85. 000	85. 000	
0680	SPV. 0195	Speci al 01. Crushed Aggregate 3/8-inch	TON	28. 000	28. 000	

3

3

MISCELLANEOUS LOCATIONS															
		ITEM 305.0120	ITEM 416.0610	ITEM 601.0205	ITEM 606.0200	ITEM 606.0400	ITEM 628.6005	ITEM 645.0120	ITEM 650.5500	SPV.0035.04	SPV.0165.02	SPV.0165.04	SPV.0180.02	SPV.0180.04	SPV.0195.01
		BASE	DRILLED	CONCRETE	RIPRAP	RIPRAP	TURBIDITY	GEOTEXTILE	CONSTRUCTION	COLORING	CONCRETE	RESET	SCRAPE	CONCRETE	CRUSHED
		AGGREGATE	TIE	GUTTER	MEDIUM	EXTRA-HEAVY	BARRIERS	FABRIC	STAKING CURB	CONCRETE	CONCRETE	LIMESTONE	AND	SEALER	AGGREGATE
		DENSE	BARS	24-INCH				TYPE HR	GUTTER AND	SEQUOIA	4-INCH	BLOCKS	REDRESS		3/8-INCH
		1 1/4-INCH						*	CURB & GUTTER	SAND	SPECIAL				*
CATEGORY 0010															
LOCATION	DETAIL DESCRIPTION	(TON)	(EACH)	(LF)	(CY)	(CY)	(SY)	(SY)	(LF)	(CY)	(SF)	(SF)	(SY)	(SY)	(TON)
HAST															
30+00 to 33+93	RT Concrete Gutter	-	-	394	-	-	-	-	394	-	-	-	-	-	-
139+50	LT	-	-	-	2	-	-	4	-	-	-	-	-	-	-
RIVER ACCESS															
300+00 to 301+14	Sidewalk Replacement	28	8	-	-	-	74	-	-	14	741	52	-	83	-
SECONDARY TRAIL															
APPROX. 104+75	LT Scrape and Redress	-	-	-	-	-	-	-	-	-	-	-	6	-	1
APPROX. 108+65	LT Scrape and Redress	-	-	-	-	-	-	-	-	-	-	-	66	-	2
WEST RIVER BRIDGE															
		-	-	-	-	55	32	66	-	-	-	45			
UNDISTRIBUTED															
		7	-	6	3	5	19		6	2	9	3	8	2	-
TOTALS		35	8	400	5	60	125	70	400	16	750	100	80	85	3

* ADDITIONAL QUANTITIES ELSEWHERE

STEEP SHOULDER EROSION CONTROL							
		ITEM 625.0500	ITEM 628.2008	ITEM 628.7504	ITEM 690.0150	SPV.0035.01	SPV.0145.01
		SALVAGED	EROSION MAT	TEMPORARY	SAWING	EXCAVATION	PATH
		TOPSOIL	URBAN CLASS I	DITCH	ASPHALT	SPECIAL	EDGE
			TYPE B	CHECKS		ACM	SEED MIX
CATEGORY 0010		*	*		*	*	0.75 oz/1000sf
LOCATION	DETAIL DESCRIPTION	(SY)	(SY)	(LF)	(LF)	(CY)	(OZ)
HAST							
108+20 to 108+50	LT Reseed	-	-	15	-	-	-
109+84 to 112+15	LT Steep Shoulder	107	107	100	240	12	0.8
113+25 to 116+50	RT Steep Shoulder	138	138	130	312	16	1.0
118+25 to 122+00	LT Steep Shoulder	171	171	160	384	20	1.2
133+50 to 135+25	RT Steep Shoulder	100	100	95	228	12	0.7
UNDISTRIBUTED							
			-		86	-	0.3
TOTALS		516	516	500	1250	60	4.0

* ADDITIONAL QUANTITIES ELSEWHERE

UNDISTRIBUTED EROSION CONTROL										
		ITEM 616.0700.S	ITEM 628.1104	ITEM 628.1504	ITEM 628.1520	ITEM 628.1905	ITEM 628.1910	ITEM 628.7570	SPV.0060.03	SPV.0060.04
		FENCE	EROSION	SILT	SILT	MOBILIZATIONS	MOBILIZATIONS	ROCK	NATIVE	INVASIVE
		SAFETY	BALES	FENCE	FENCE	EROSION	EMERGENCY	BAGS	VEGETATION	SPECIES
					MAINTENANCE	CONTROL	EROSION		SURVEILLANCE	CONTROL
							CONTROL		AND CARE	
									CYCLES	
CATEGORY 0010										
LOCATION	(LF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)	(SY)
UNDISTRIBUTED										
	100	60	200	200	4	2	20	30	4	350
TOTALS		100	60	200	200	4	20	30	4	600

DETAILS 01									
		ITEM 465.0105	ITEM 625.0500	ITEM 625.0105	ITEM 628.2006	ITEM 628.2008	ITEM 645.0120	ITEM 645.0130	ITEM 690.0150
		ASPHALTIC	SALVAGED	TOPSOIL	EROSION MAT	EROSION MAT	GEOTEXTILE	GEOTEXTILE	SAWING
		SURFACE	TOPSOIL		URBAN CLASS I	URBAN CLASS I	FABRIC	FABRIC	ASPHALT
					TYPE A	TYPE B	TYPE HR	TYPE R	
CATEGORY 0010		*	*			*	*		*
	DETAIL DESCRIPTION	(TON)	(SY)	(CY)	(SY)	(SY)	(SY)	(SY)	(LF)
	107+75 LT RESEED	-	-	-	113	-	-	-	-
	108+50 LT RESEED	-	-	-	85	-	-	-	-
	205+00 LT SE WINGWALL	-	-	-	-	-	10	-	-
	108+88 PLAN DETAIL A	5	24	-	-	24	-	14	34
	112+13 PLAN DETAIL B	2	13	-	-	13	-	7	33
	113+81 PLAN DETAIL C	-	48	-	-	48	-	7	-
	122+03 PLAN DETAIL D	12	265	-	-	265	-	31	80
	125+00 PLAN DETAIL E LEFT	-	36	-	-	36	-	65	-
	125+00 PLAN DETAIL E RIGHT	-	8	-	-	8	-	41	-
	131+63 PLAN DETAIL F	-	21	-	-	21	35	-	-
	125+50 LOWER POND	-	-	2	-	126	-	-	-
	RESEEDING +	-	-	-	-	-	-	-	-
UNDISTRIBUTED		1	94	3	52	93	-	5	3
TOTALS		20	509	5	250	634	45	170	150

* ADDITIONAL QUANTITIES ELSEWHERE
+ RESEEDING OF BARE EARTH IN CARE CYCLE AREAS AS DIRECTED BY THE ENGINEER (APPROXIMATLY 5% OF SITE AREA)

DETAILS 02								
		SPV.0035.01	SPV.0035.02	SPV.0035.03	SPV.0085.01	SPV.0085.02	SPV.0090.01	SPV.0145.02
		EXCAVATION	FIELDSTONE	FIELDSTONE	NURSE	PIONEER	SLOPE	DITCH
		SPECIAL	RIPRAP LIGHT	RIPRAP MEDIUM	CROP	NATIVE	INTERRUPTOR	SEED
		ACM			SEED MIX	SEED MIX	SOCKS, 8"	MIX
CATEGORY 0010		*			80 lbs/acre	16 lbs/acre		3.25 oz / 1000 sf
	DETAIL DESCRIPTION	(CY)	(CY)	(CY)	(LB)	(LB)	(LF)	(OZ)
	107+75 LT RESEED	-	-	-	1.9	0.4	-	-
	108+50 LT RESEED	-	-	-	1.5	0.3	66	-
	205+00 LT SE WINGWALL	5	-	5	-	-	57	-
	108+88 PLAN DETAIL A	12	5	-	0.4	0.1	27	-
	112+13 PLAN DETAIL B	5	2	-	0.3	0.1	4	-
	113+81 PLAN DETAIL C	9	2	-	0.8	0.2	42	-
	122+03 PLAN DETAIL D	45	10	-	4.4	0.9	162	-
	125+00 PLAN DETAIL E LEFT	34	22	-	0.6	0.2	100	-
	125+00 PLAN DETAIL E RIGHT	16	10	-	0.2	0.1	-	-
	131+63 PLAN DETAIL F	18	-	17	0.4	0.1	-	-
	125+50 LOWER POND	7	-	-	2.1	-	-	3.7
	RESEEDING +	-	-	-	102.8	20.3	-	-
UNDISTRIBUTED		14	4	3	-	-	42	0.3
TOTALS		165	55	25	115	23	500	4

* ADDITIONAL QUANTITIES ELSEWHERE
+ RESEEDING OF BARE EARTH IN CARE CYCLE AREAS AS DIRECTED BY THE ENGINEER (APPROXIMATLY 5% OF SITE AREA)

PIPE UNDERDRAIN											
CATEGORY 0010				ITEM 310.0110		ITEM 612.0106		ITEM 612.0806		ITEM 645.0111	
				BASE		PIPE UNDERDRAIN		APRON ENDWALLS		GEOTEXTILE	
				AGGREGATE		6-INCH		FOR UNDERDRAIN		FABRIC	
				OPEN GRADED				REINFORCED		TYPE DF	
								CONCRETE 6-INCH		SCHEDULE A	
LOCATION				DETAIL DESCRIPTION		(TON)		(LF)		(EA)	
HAST											
108+50 to 109+00 LT				Pipe Underdrain		6		53		-	
109+72 to 112+02 LT				Pipe Underdrain		30		266		-	
122+12 to 122+50 LT				Pipe Underdrain		5		37		-	
108+91 LT						-		-		-	
112+02 LT						-		-		-	
122+12 LT						-		-		-	
109+72 LT						-		-		1	
UNDISTRIBUTED						4		14		-	
TOTALS						45		370		1	
										270	

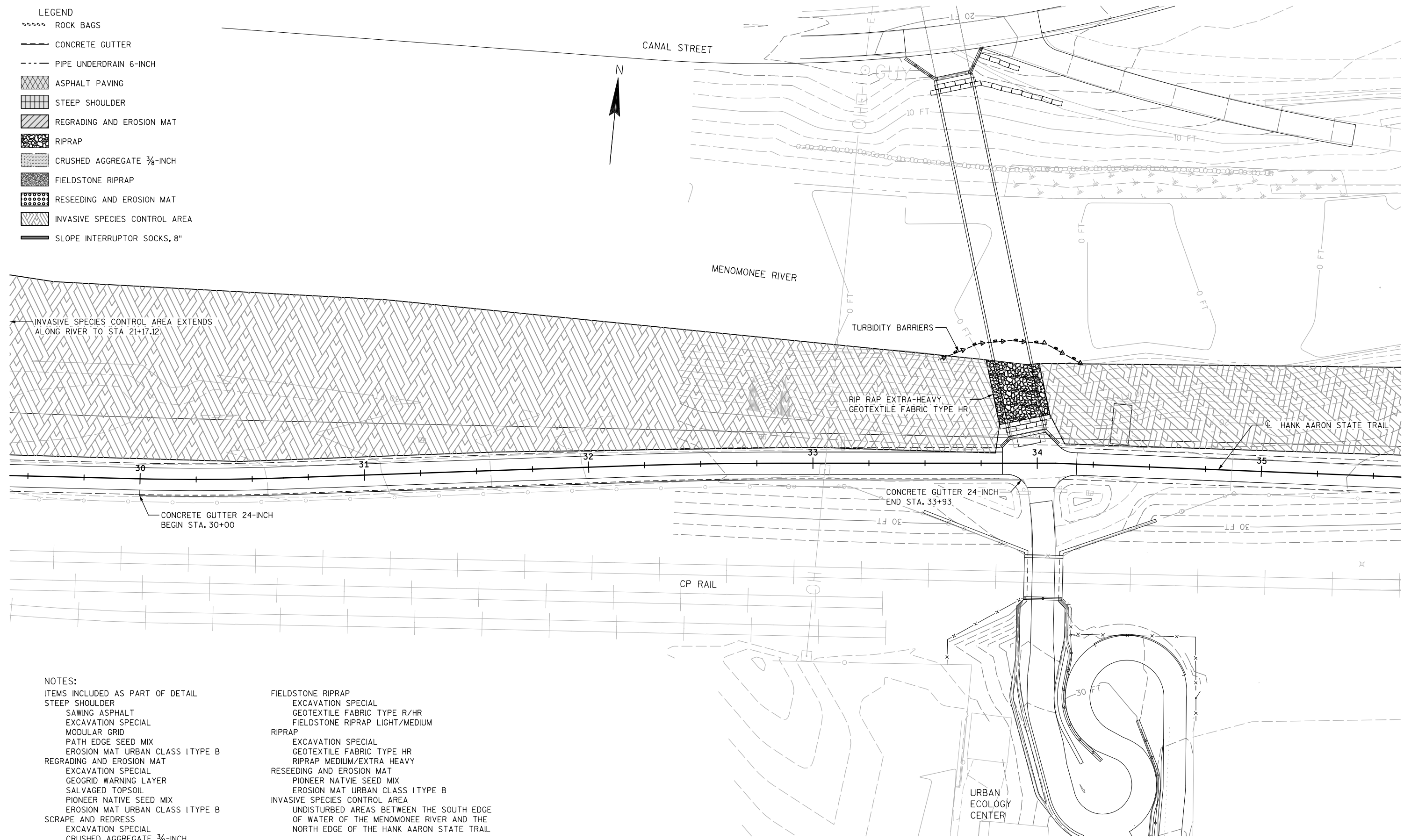
FOUNDATIONS					
		ITEM 502.0100	ITEM 505.0400	SPV.0035.01	SPV.0165.01
		CONCRETE	BAR STEEL	EXCAVATION	ANTI GRAFFITI
		MASONRY	REINFORCEMENT	SPECIAL	SHIELD
		BRIDGES	HS STRUCTURES	ACM *	
CATEGORY 0011					
LOCATION		(CY)	(LB)	(CY)	(SF)
Sign Foundations		17.5	2125	70	270
UNDISTRIBUTED		0.5			
		18	2125	70	270

* ADDITIONAL QUANTITIES ELSEWHERE

TRAFFIC CONTROL												
		ITEM 643.0100	ITEM 643.0300	ITEM 643.0410	ITEM 643.0705	ITEM 643.0900	SPV.0105.01					
		TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	FLAGGING					
		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	HANK					
		PROJECT	DRUMS	BARRICADES	WARNING	SIGNS	AARON					
		2984-43-01		TYPE II	LIGHTS		STATE					
					TYPE A		TRAIL					
STAGE	DURATION	(EACH)	#	(DAYS)	#	(DAYS)	#	(DAYS)	#	(DAYS)	(LS)	COMMENTS
PROJECT	60	1	10	600	4	240	4	240	4	240	1	
UNDISTRIBUTED												
TOTALS		1		600		240		240		240	1	

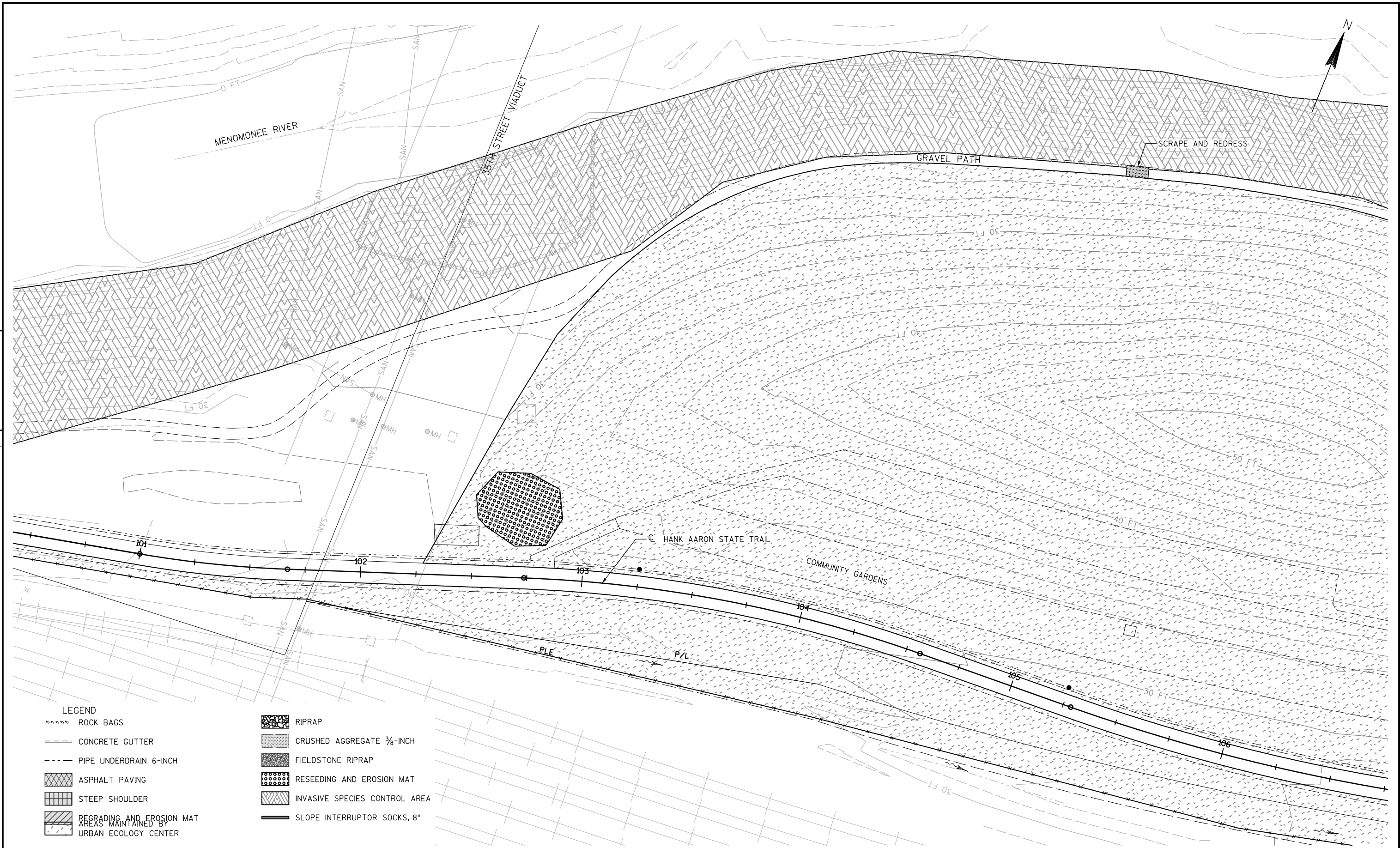
LIGHTING								
CATEGORY 0010 LOCATION	ITEM 650.8500	ITEM 655.0615	ITEM 655.0620	SPV.0060.01	SPV.0060.02	SPV.0090.02	SPV.0105.03	
	CONSTRUCTION	ELECTRICAL	ELECTRICAL	ZINC	LED	1" COILABLE	SOLAR PANEL,	
	STAKING	WIRE LIGHTING	WIRE LIGHTING	DOME	IN GROUND	HDPE	BATTERY	
	ELECTRICAL	10 AWG	8 AWG		LIGHT	CONDUIT	SYSTEM AND	
	INSTALLATIONS				FIXTURE		FOUNDATION	
	(LS)	(LF)	(LF)	(EACH)	(EACH)	(EACH)	(LUMP)	
Hank Aaron State Trail, Bridge over CP Rail	1	647	1294	4	4	180	1	
UNDISTRIBUTED		28	31			10		
	1	675	1325	4	4	190	1	

- LEGEND
- ROCK BAGS
 - CONCRETE GUTTER
 - PIPE UNDERDRAIN 6-INCH
 - ASPHALT PAVING
 - STEEP SHOULDER
 - REGRAIDING AND EROSION MAT
 - RIPRAP
 - CRUSHED AGGREGATE 3/8-INCH
 - FIELDSTONE RIPRAP
 - RESEEDING AND EROSION MAT
 - INVASIVE SPECIES CONTROL AREA
 - SLOPE INTERRUPTOR SOCKS, 8"

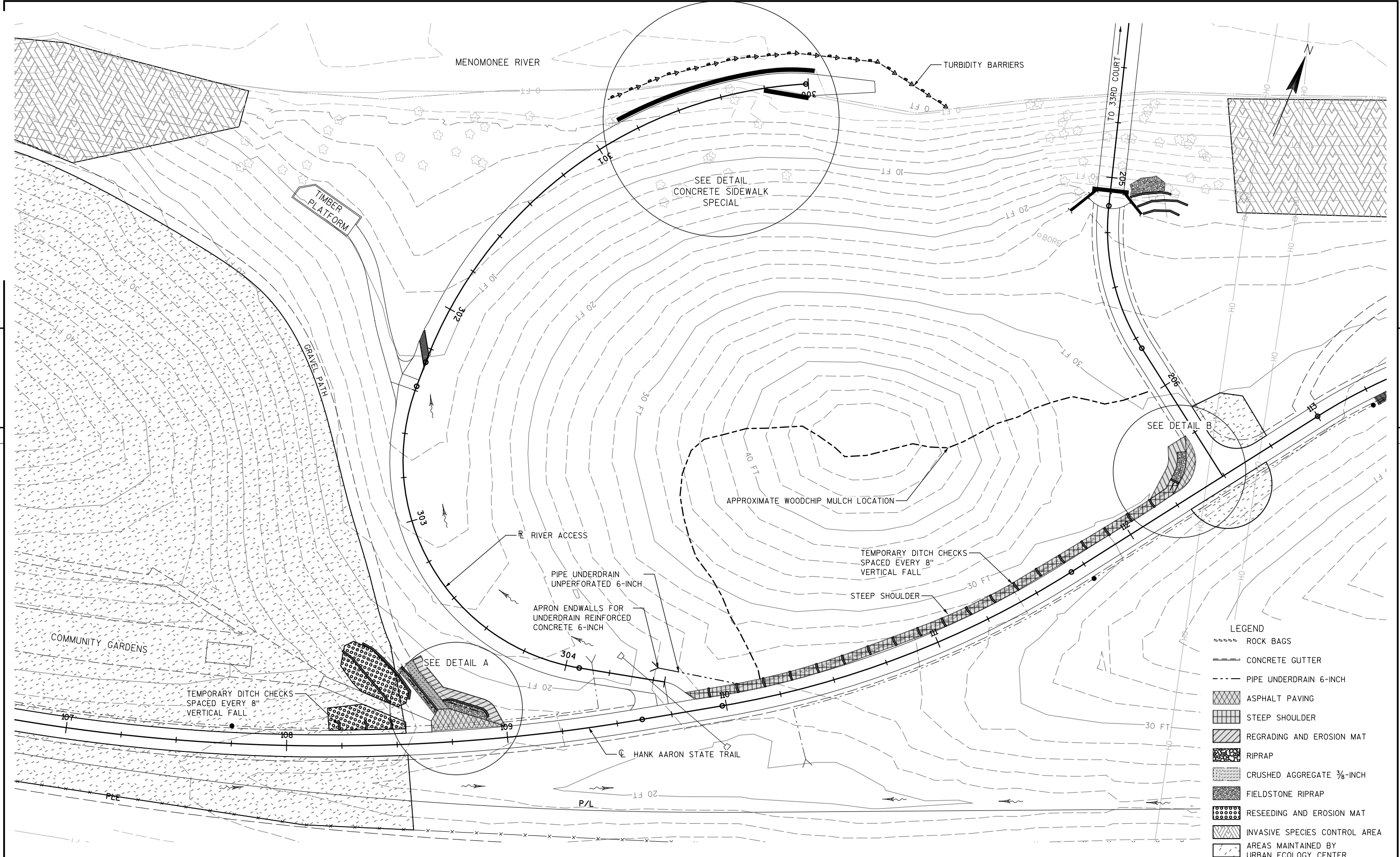


- NOTES:
- | | |
|----------------------------------|--|
| ITEMS INCLUDED AS PART OF DETAIL | FIELDSTONE RIPRAP |
| STEEP SHOULDER | EXCAVATION SPECIAL |
| SAWING ASPHALT | GEOTEXTILE FABRIC TYPE R/HR |
| EXCAVATION SPECIAL | FIELDSTONE RIPRAP LIGHT/MEDIUM |
| MODULAR GRID | RIPRAP |
| PATH EDGE SEED MIX | EXCAVATION SPECIAL |
| EROSION MAT URBAN CLASS I TYPE B | GEOTEXTILE FABRIC TYPE HR |
| REGRAIDING AND EROSION MAT | RIPRAP MEDIUM/EXTRA HEAVY |
| EXCAVATION SPECIAL | RESEEDING AND EROSION MAT |
| GEOGRID WARNING LAYER | PIONEER NATVIE SEED MIX |
| SALVAGED TOPSOIL | EROSION MAT URBAN CLASS I TYPE B |
| PIONEER NATIVE SEED MIX | INVASIVE SPECIES CONTROL AREA |
| EROSION MAT URBAN CLASS I TYPE B | UNDISTURBED AREAS BETWEEN THE SOUTH EDGE |
| SCRAPE AND REDRESS | OF WATER OF THE MENOMONEE RIVER AND THE |
| EXCAVATION SPECIAL | NORTH EDGE OF THE HANK AARON STATE TRAIL |
| CRUSHED AGGREGATE 3/8-INCH | |

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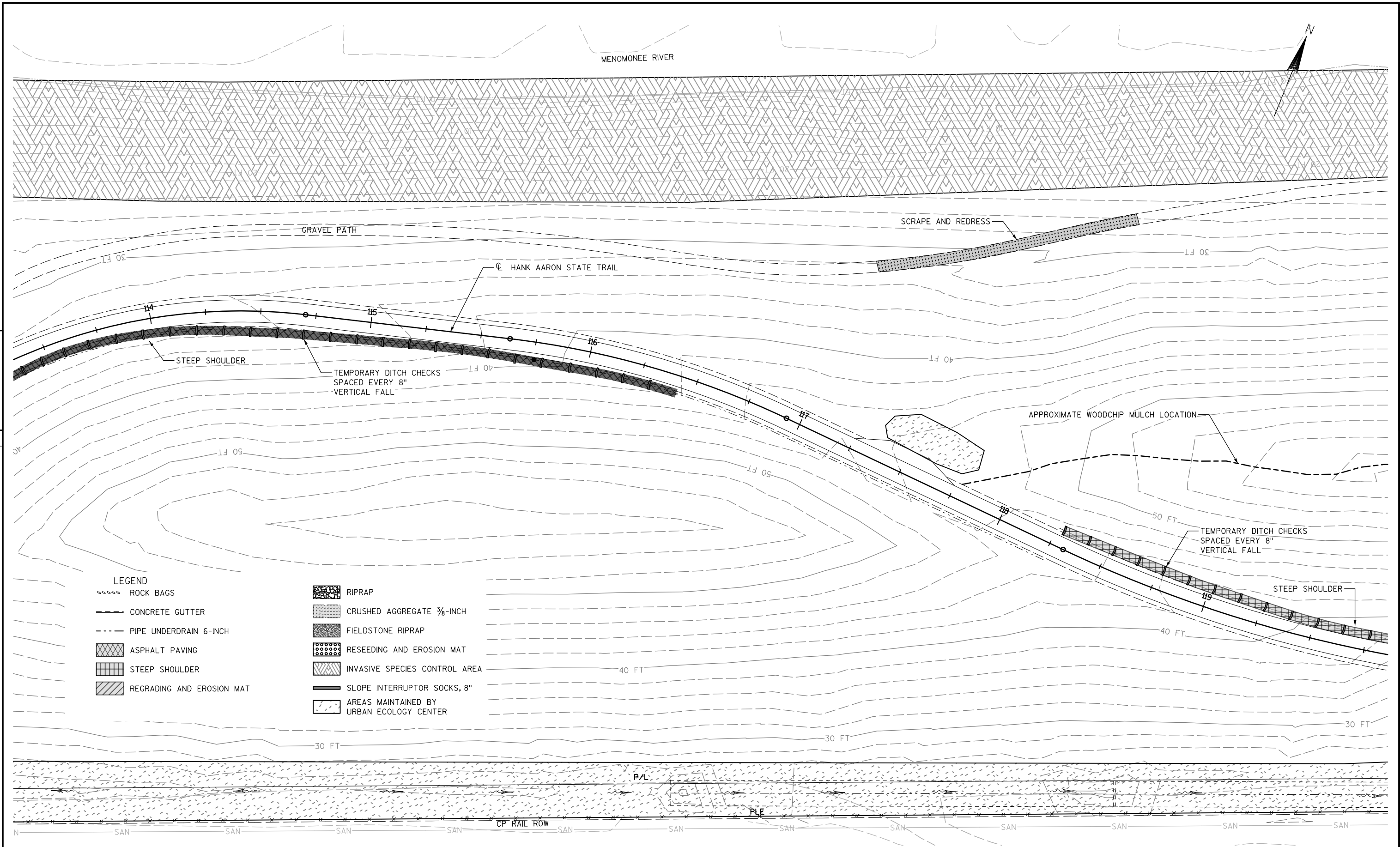


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PROJECT NO:2984-43-74

HANK AARON STATE TRAIL

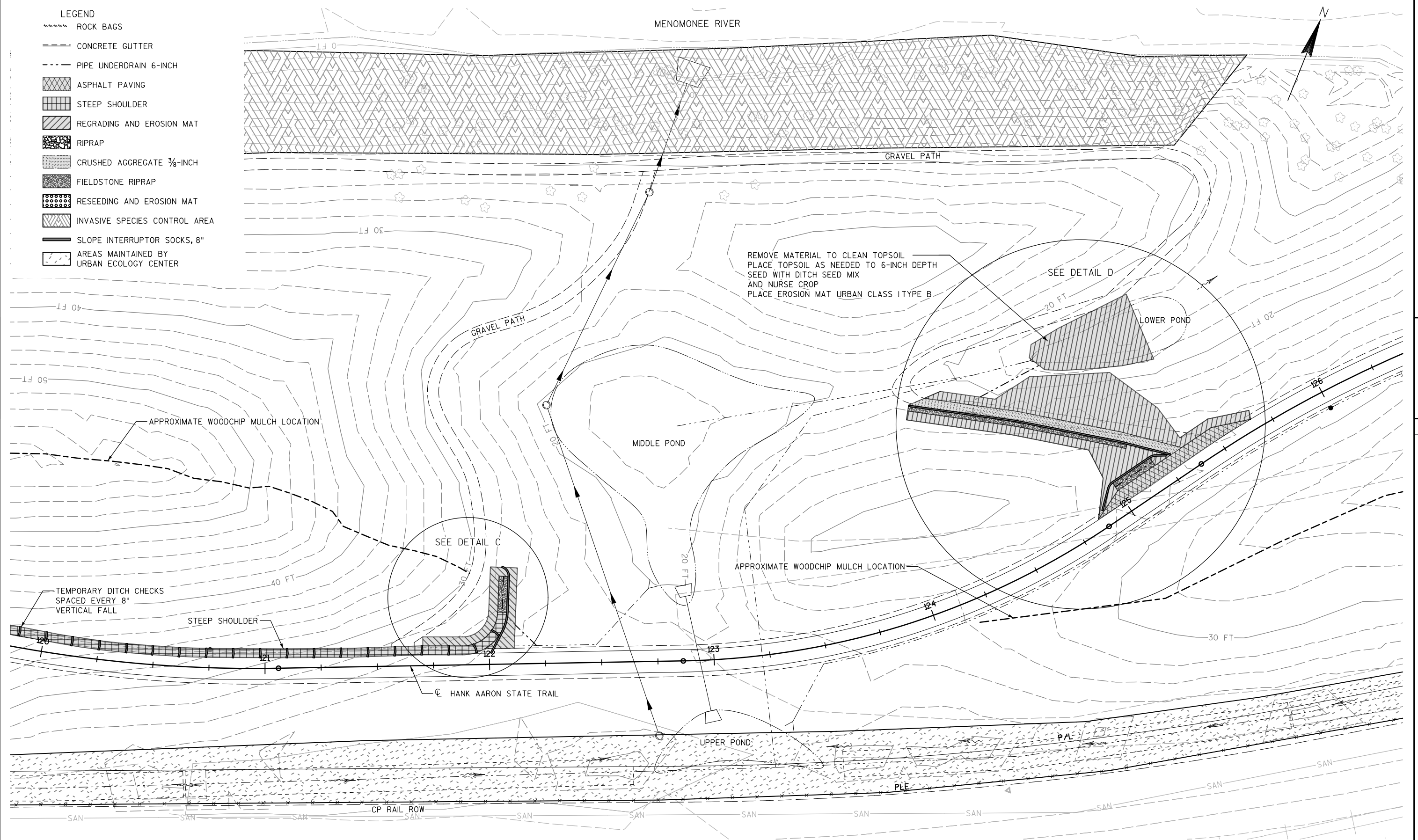
COUNTY:MILWAUKEE

PLAN

SHEET

E

- LEGEND
- ROCK BAGS
 - CONCRETE GUTTER
 - PIPE UNDERDRAIN 6-INCH
 - ASPHALT PAVING
 - STEEP SHOULDER
 - REGRAIDING AND EROSION MAT
 - RIPRAP
 - CRUSHED AGGREGATE 3/8-INCH
 - FIELDSTONE RIPRAP
 - RESEEDING AND EROSION MAT
 - INVASIVE SPECIES CONTROL AREA
 - SLOPE INTERRUPTOR SOCKS, 8"
 - AREAS MAINTAINED BY URBAN ECOLOGY CENTER



PROJECT NO:2984-43-74

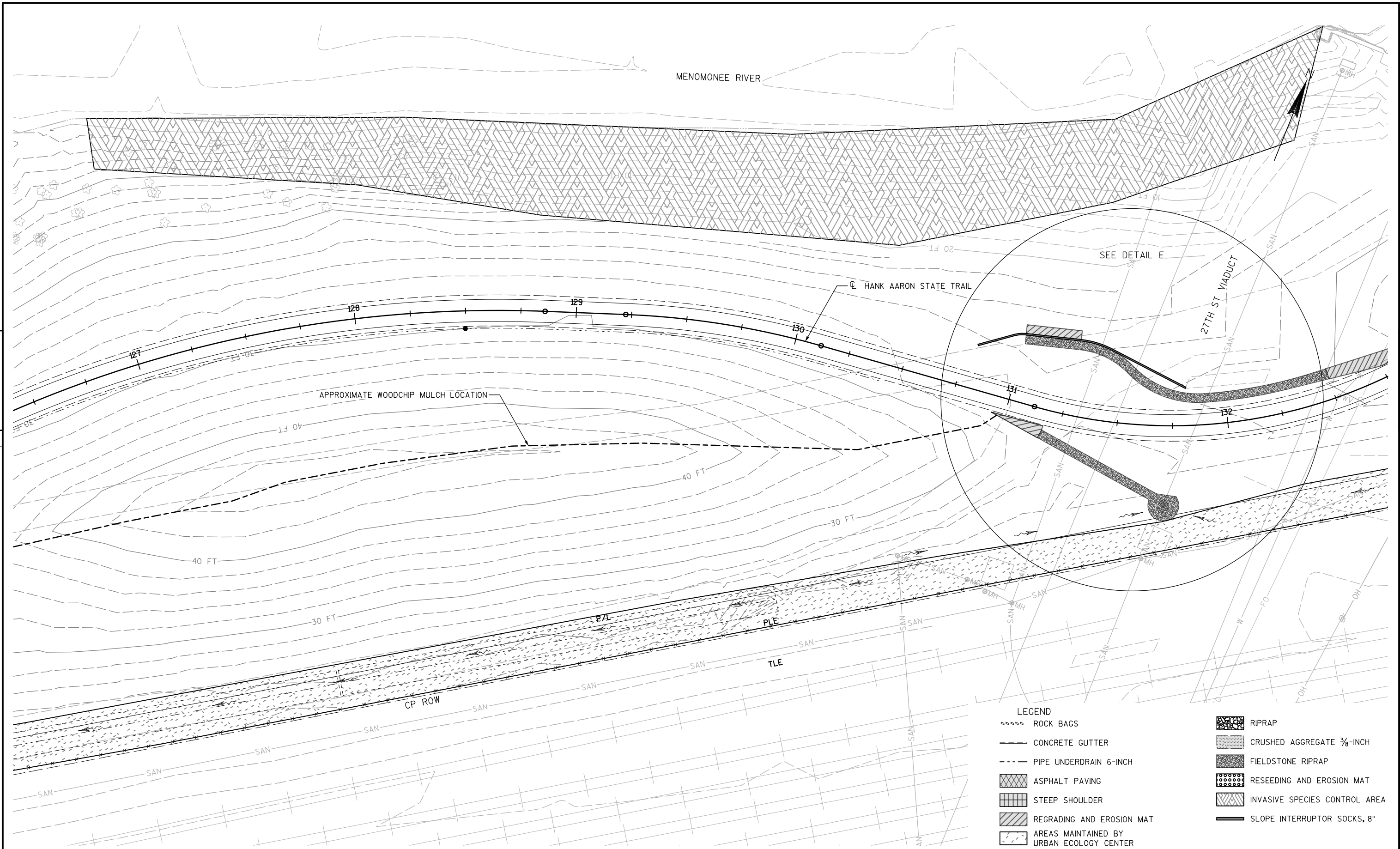
HANK AARON STATE TRAIL

COUNTY:MILWAUKEE

PLAN

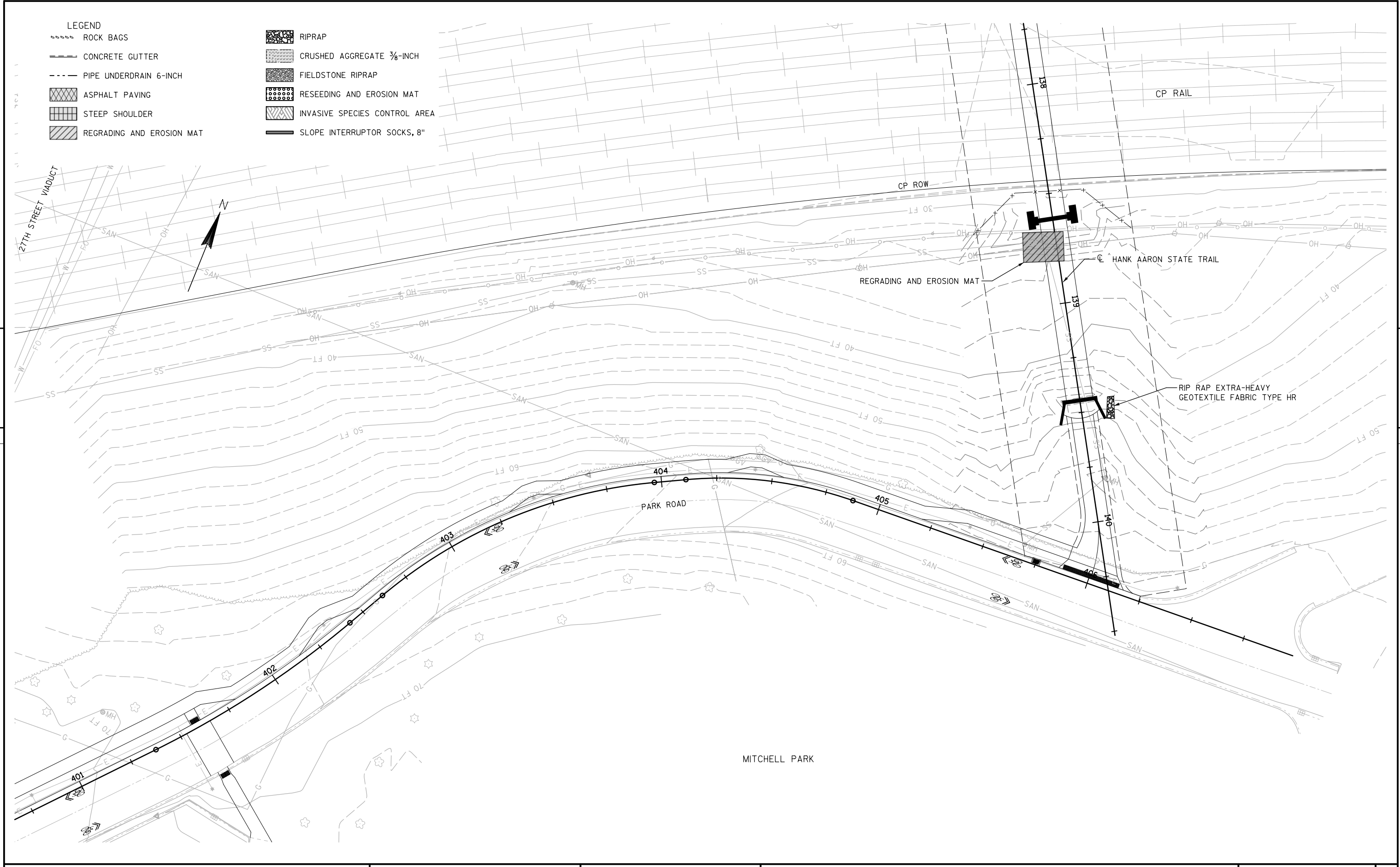
SHEET

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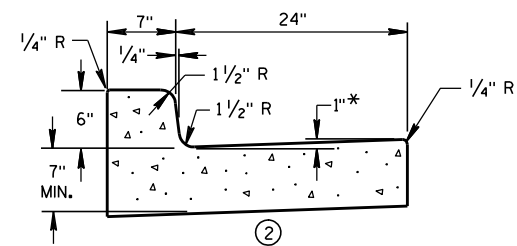
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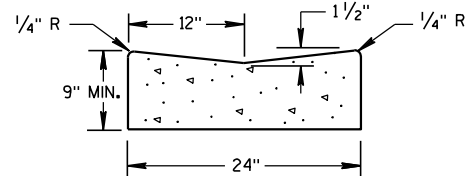


Standard Detail Drawing List

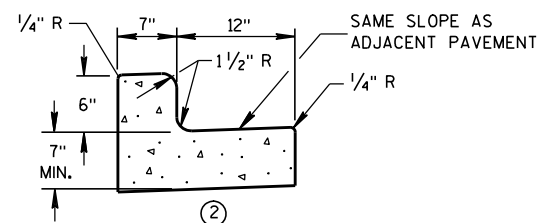
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN



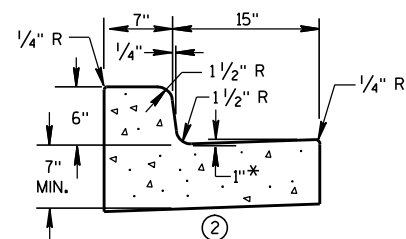
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

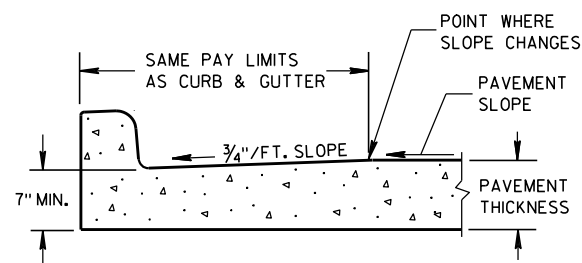


① CONCRETE CURB & GUTTER 19"

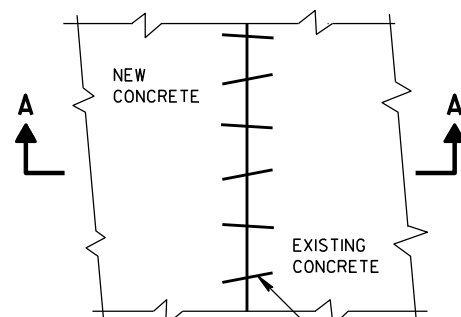


① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



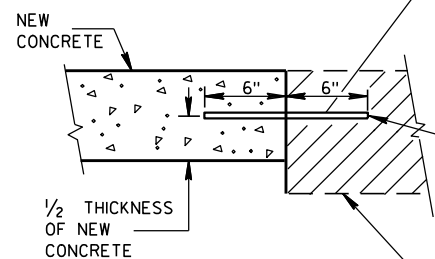
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



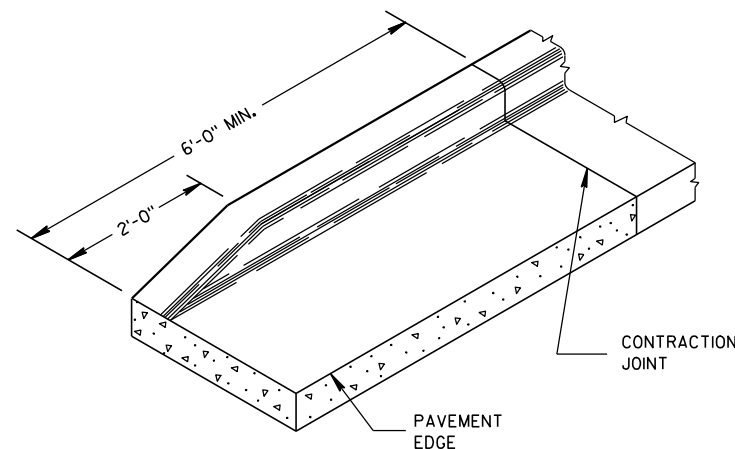
PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

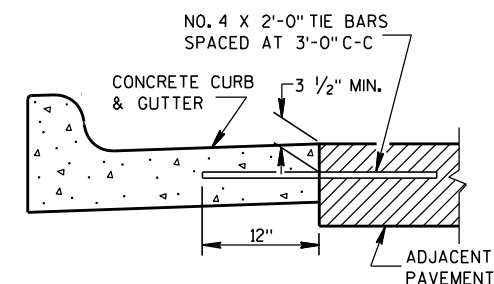
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



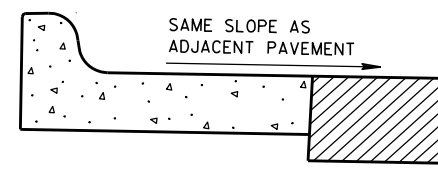
SECTION A-A
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION
(TYPICAL FOR ALL CURB & GUTTER)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

- ① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.

CONCRETE GUTTER, CURB AND
GUTTER AND PAVEMENT TIES
(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/22/2010

DATE

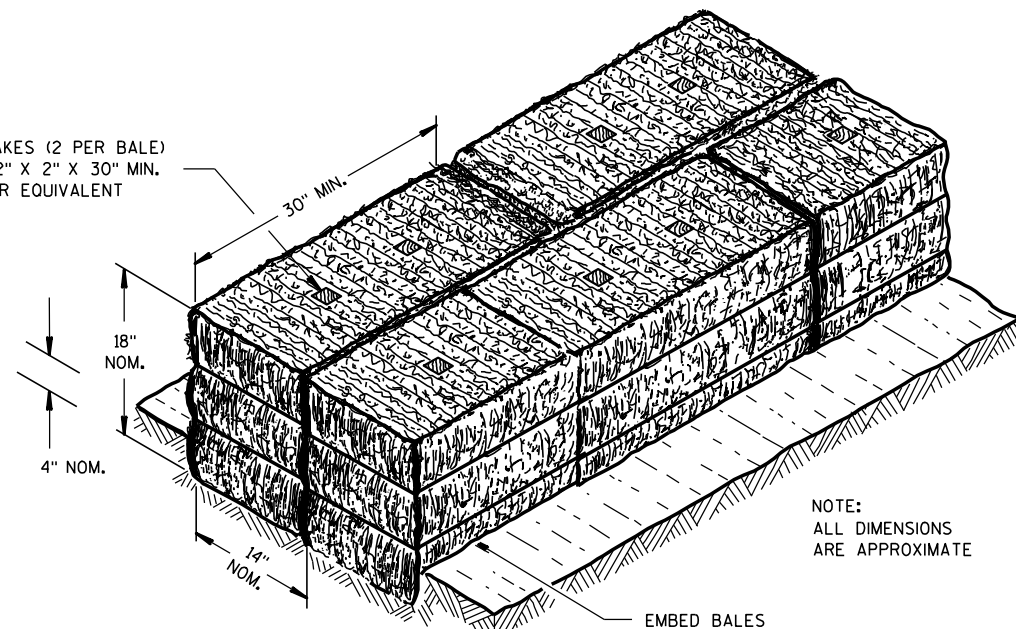
FHWA

/S/ Jerry Zogg

ROADWAY STANDARDS DEVELOPMENT

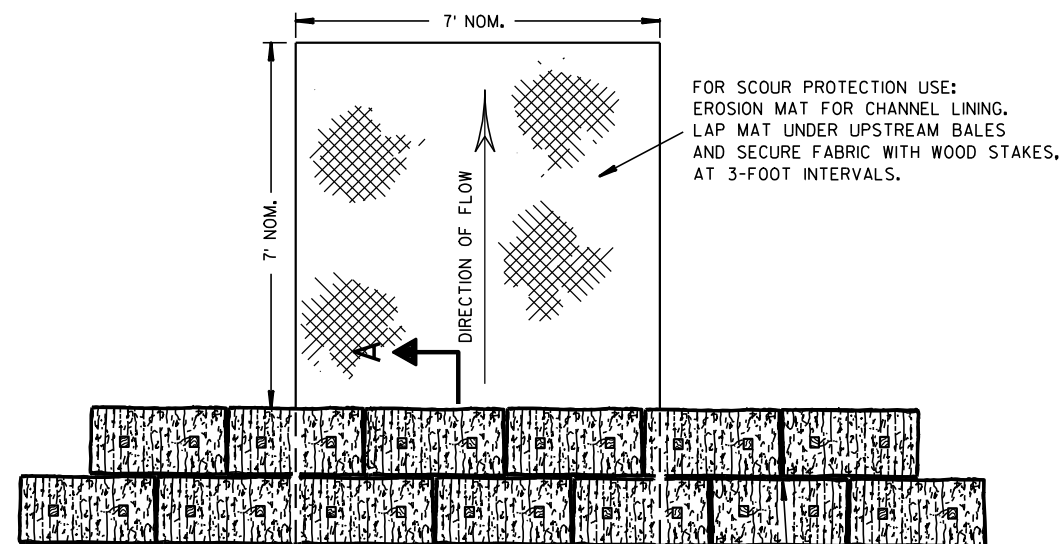
ENGINEER

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



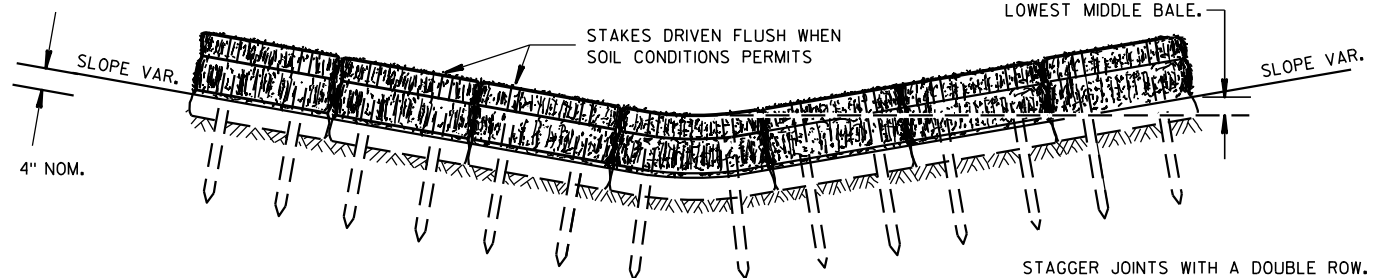
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

SECTION A-A



FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.

PLAN VIEW



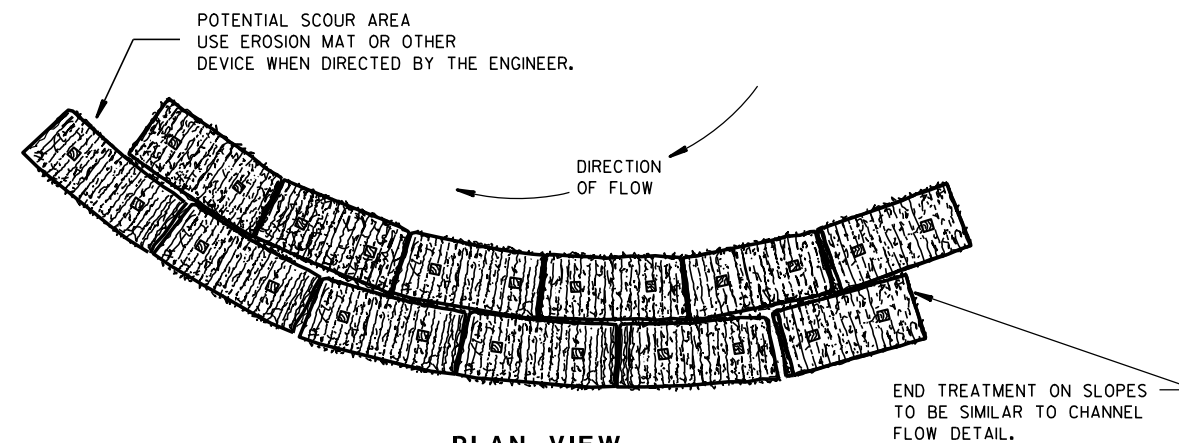
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

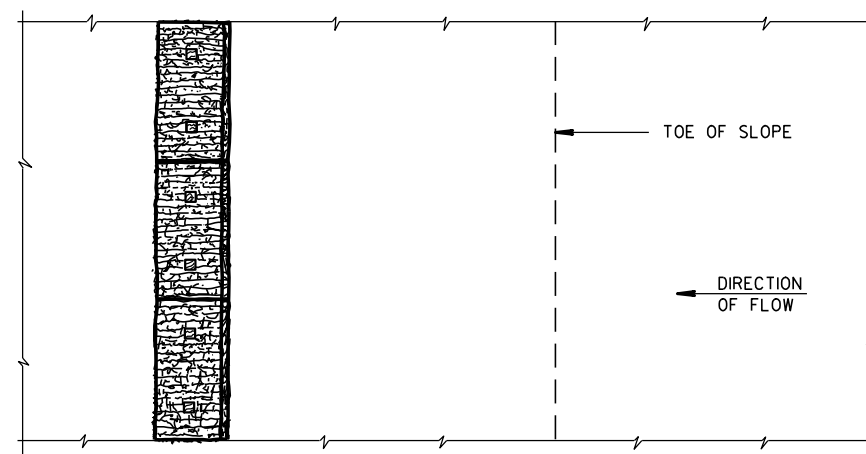
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

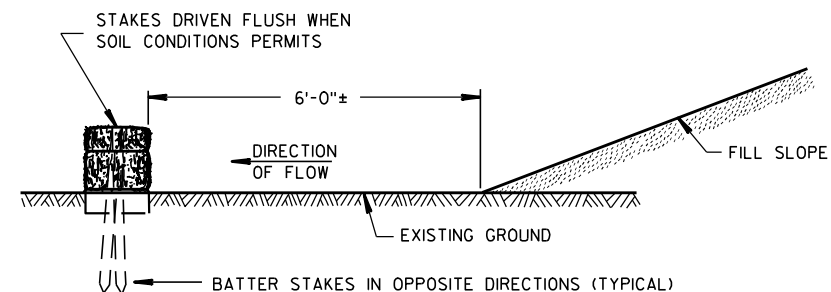


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

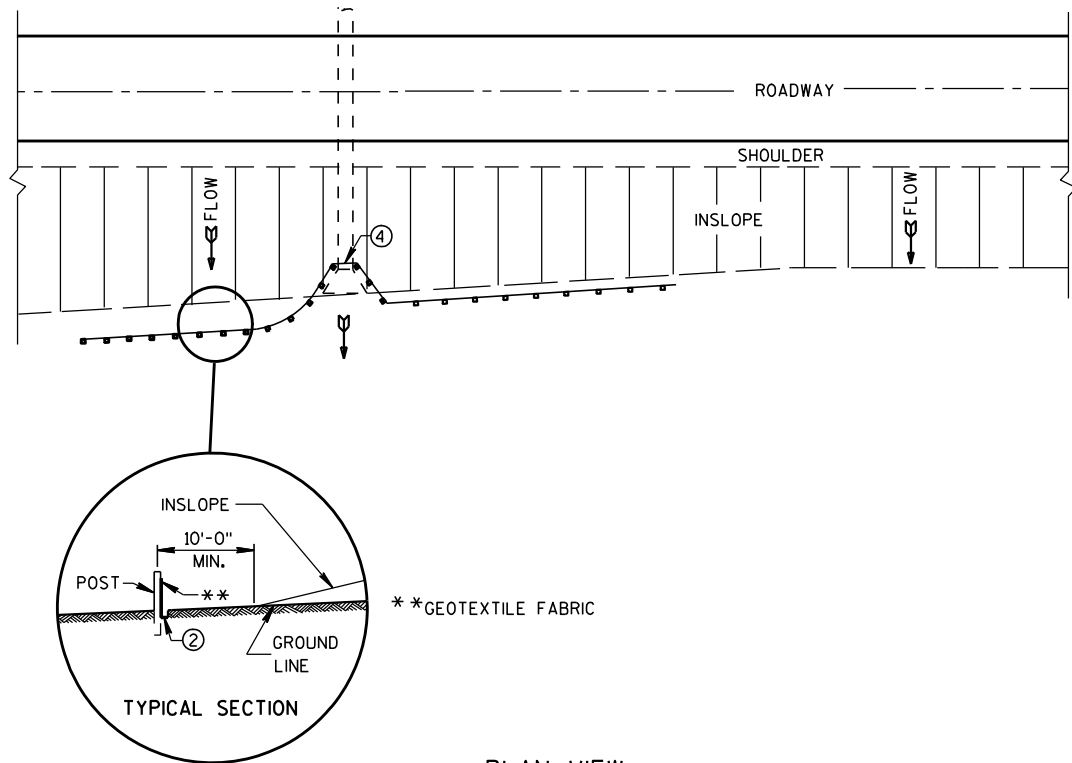
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

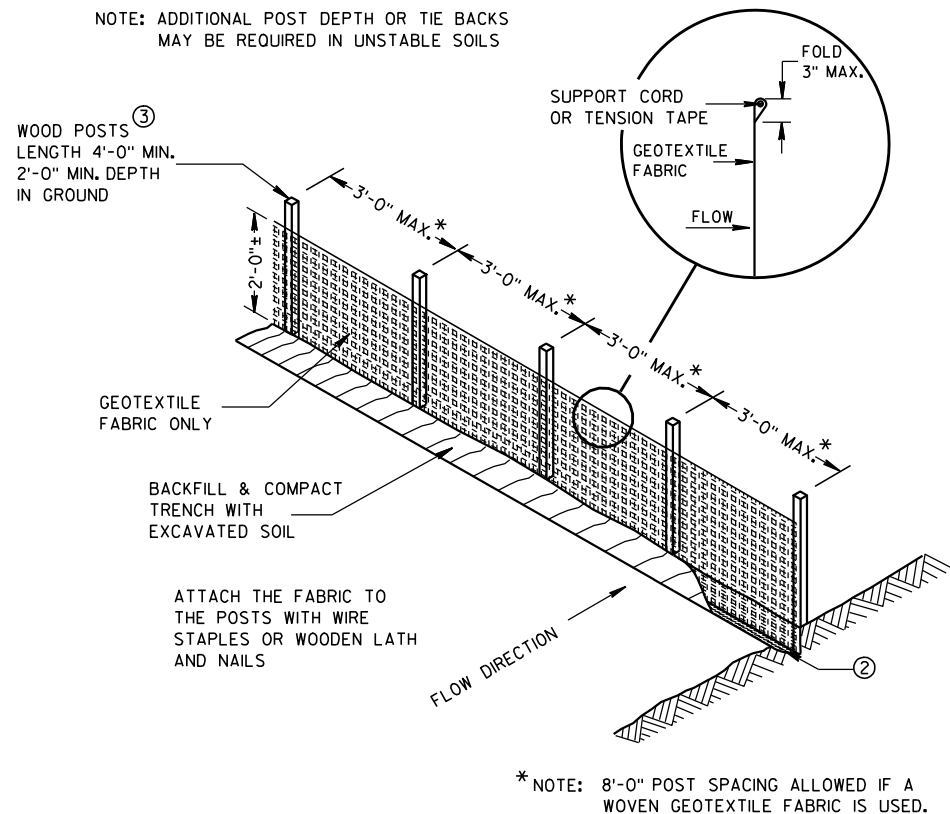
6/04/02
DATE

FHWA

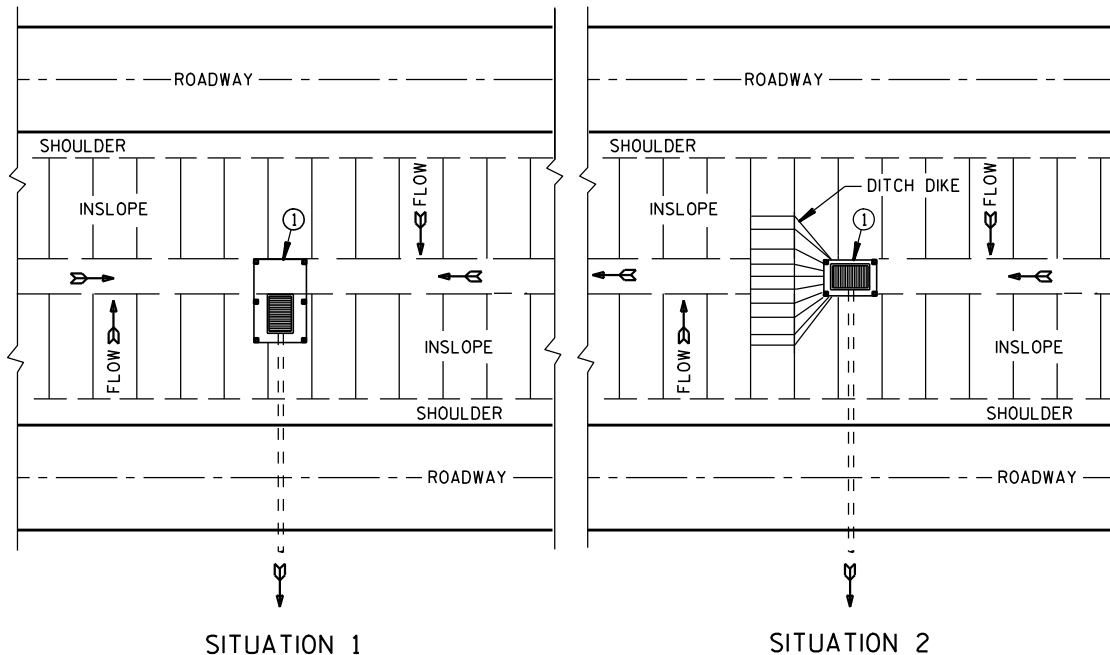
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



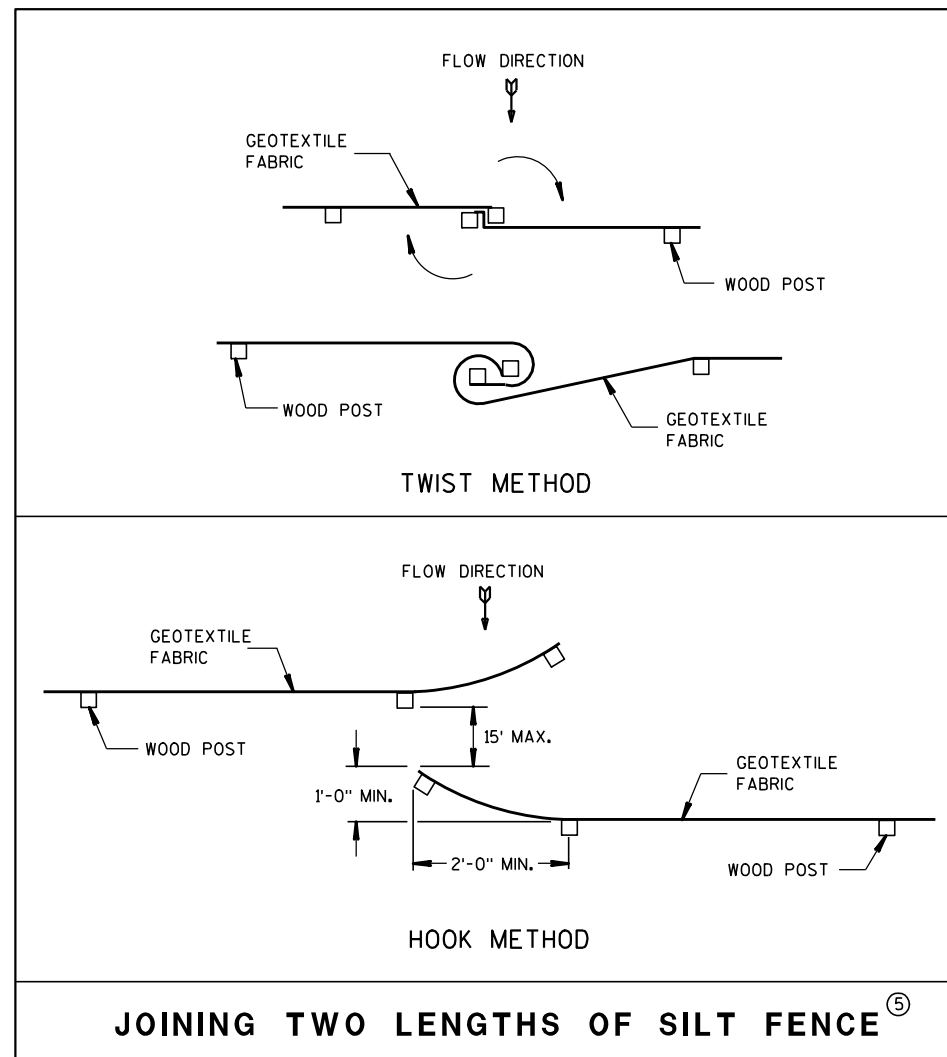
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

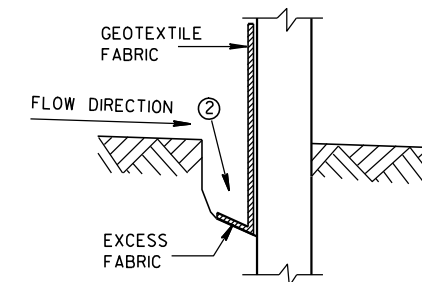


JOINING TWO LENGTHS OF SILT FENCE (5)

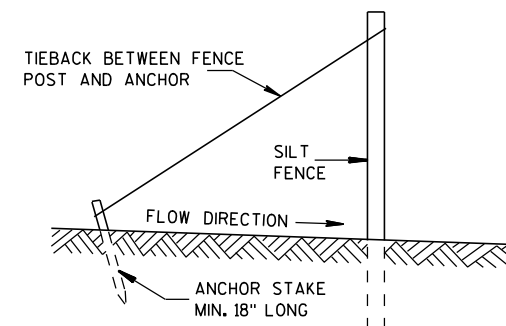
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

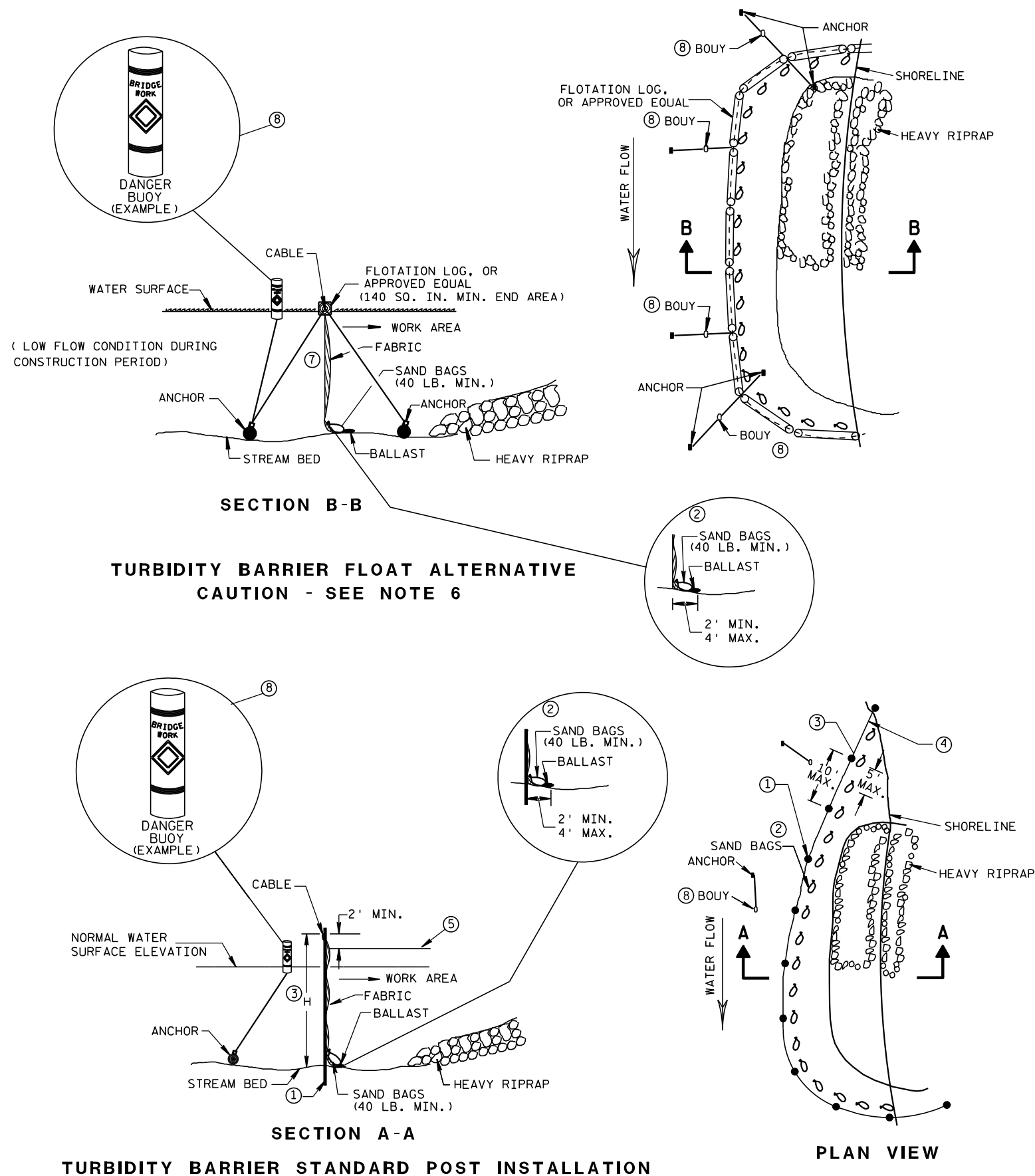


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

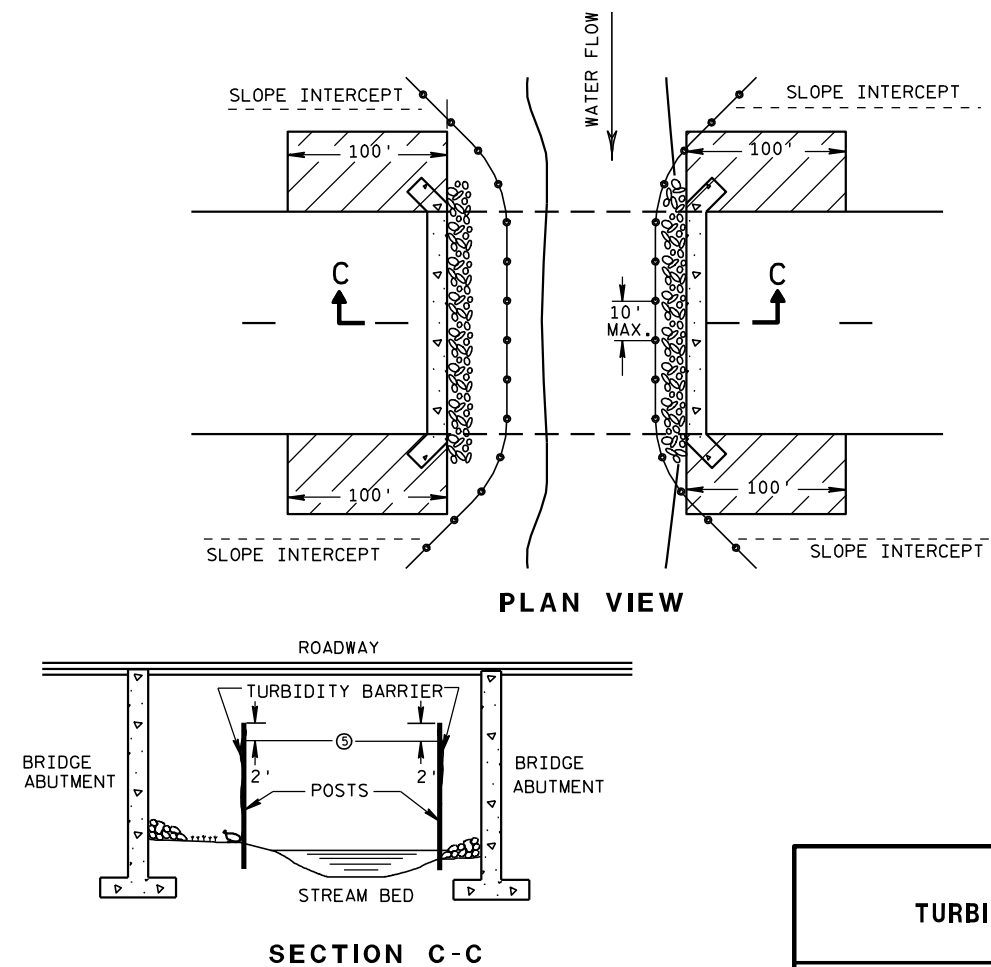


GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

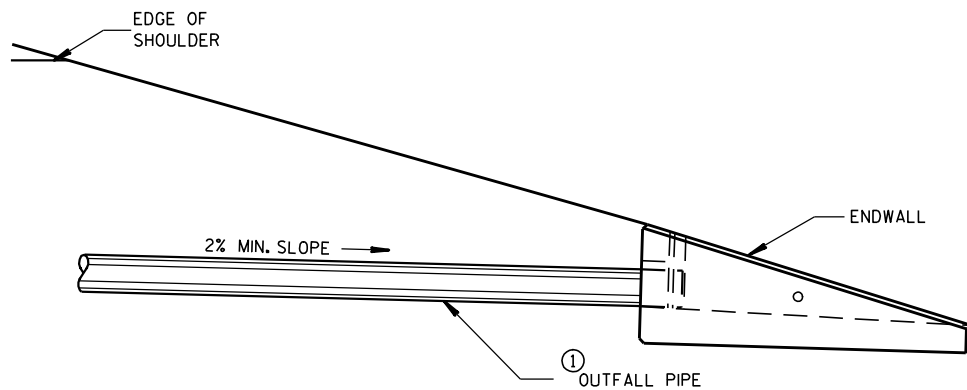
6/04/02
DATE

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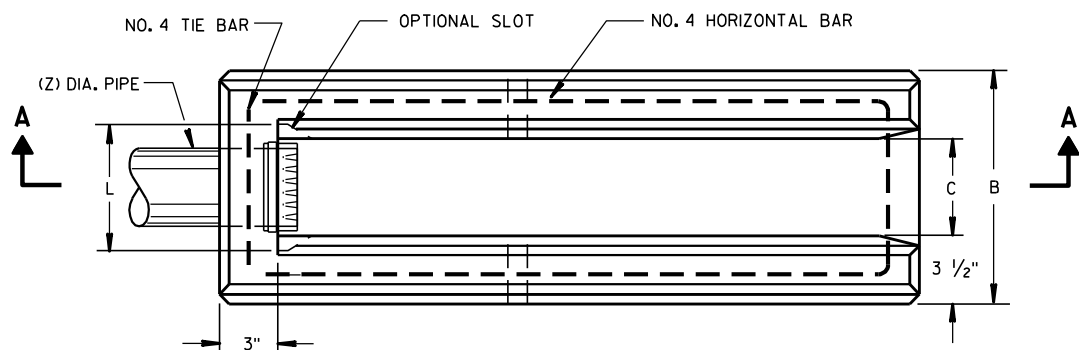
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

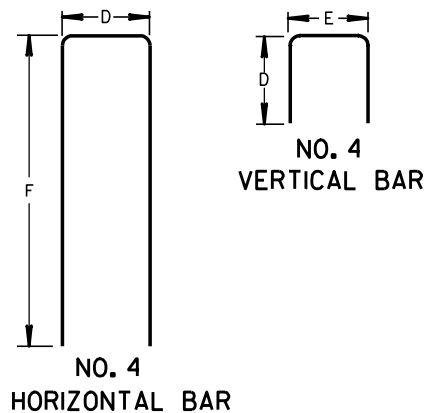
** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



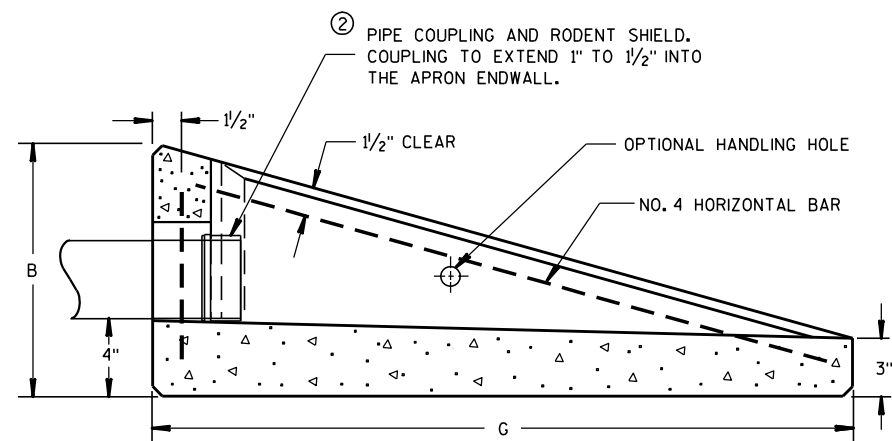
INSTALLATION DETAIL



PLAN VIEW

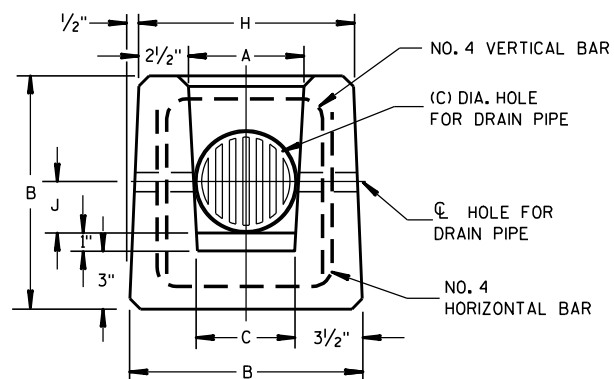


BAR STEEL REINFORCEMENT DETAILS



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

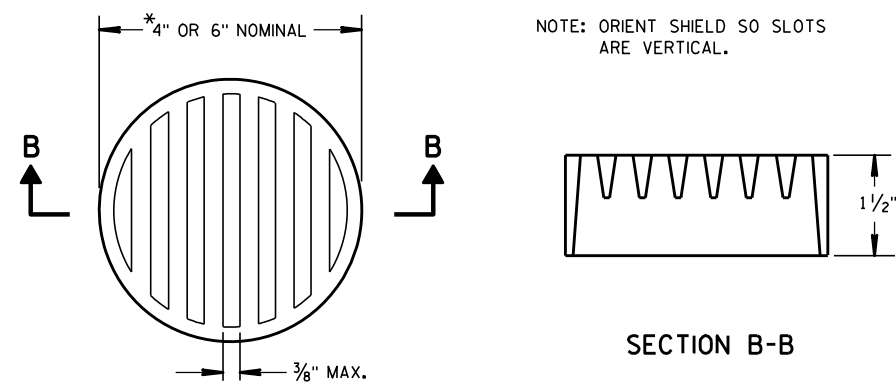
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

- ① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

- ② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/10/98

DATE

FHWA

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

Notes



Wisconsin Department of Transportation

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