GENERAL NOTES

CONCRETE RETAINING WALL

- MODULAR CONCRETE BLOCKS SHALL BE IN ACCORDANCE WITH SPECIAL
- 2. THE CONCRETE BLOCK RETAINING WALLS SHALL BE CONSTRUCTED WITH PRECAST MONOLITHIC CONCRETE BLOCKS WITH NOMINAL DIMENSIONS 2'-5 1/2"X2'-5 1/2"X4'-11". CHAMFER ALL EDGES. BLOCKS SHALL HAVE INTEGRAL SHEAR KEYS AND LIFT LOOPS. MAXIMUM CLEARANCE FOR SHEAR P KEY/POCKET IS 1/2". MINIMUM CONCRETE STRENGTH AT 28 DAYS - 4000 PSI FLAT TOP BLOCKS ARE NOT ACCEPTABLE UNLESS OTHERWISE SPECIFIED.
- ALL EXPOSED CONCRETE BLOCK FACES TO HAVE FINISHING CLASS 2 ACCORDING TO SPECIFICATION.
- 4. GEOTEXTILE/GEOGRID SHALL BE IN ACCORDANCE WITH THE SPECIAL
- GEOGRID REINFORCEMENT TO BE PLACED BETWEEN EACH ROW OF BLOCKS AND TO EXTEND A MINIMUM LENGTH EQUAL TO 0.8 X WALL HEIGHT HORIZONTALLY INTO BACKFILL.
- 6. GEOGRID REINFORCEMENT TO BE TENSAR UX#### OR APPROVED EQUAL. TRIM EXPOSED GEOGRID.
- CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CONCRETE BLOCK WALLS TO THE ENGINEER PRIOR TO CONSTRUCTION.
- 8. PLACE FILL MATERIAL IN 1 FT LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY UNLESS SPECIFIED OTHERWISE IN CONTRACT
- 9. CLEAR AND GRUB EXISTING GROUND MINIMUM 6 INCH OR AS DIRECTED BY THE ENGINEER. PREPARED SUB-GRADE TO BE INSPECTED AND APPROVED BY CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION
- 10. ALL CLEARED AND GRUBBED MATERIALS TO BE REMOVED FROM SITE.
- 11. SUB DRAIN SHALL BE AS SHOWN ON THE DRAWINGS. SUB DRAIN PIPE SHALL BE PERFORATED FLEXIBLE SUB DRAIN TUBING IN ACCORDANCE WITH SPECIFICATION.
- 12. RIPRAP FOR SPLASH PAD SHALL BE QUARRY SPLASH PAD WITH NOMINAL DIMENSIONS OF 5FTX5FTX1FT IN ACCORDANCE WITH SPECIAL PROVISIONS

SOIL NAIL WALL CONSTRUCTION:

- 1. SOIL NAIL WALL SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A PLAN AT LEAST 30 DAYS BEFORE START OF WALL CONSTRUCTION INCLUDING:
- DRILL EQUIPMENT AND METHODOLOGY, INCLUDING HOLE AND BIT DIAMETER TO ACHIEVE SPECIFIED PULLOUT RESISTANCE.
- SOIL NAIL GROUT MIX DESIGN, PUMP/INSTALLATION EQUIPMENT AND METHODOLOGY.
- SOIL NAIL TESTING METHODS, TESTING SETUPS AND CALIBRATION CHARTS FOR ALL JACKS AND GAUGES PREPARED BY AN INDEPENDENT LABORATORY
- SEQUENCING IN GENERAL COMPLIANCE WITH NOTE 2, BELOW.
- 3. THE EXCAVATION AND CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
- EXCAVATE TO A MINIMUM ELEVATION OF 1 ft ABOVE NAIL LEVEL, LEAVING AT LEAST A 2 ft MINIMUM TOP WIDTH BUTTRESS.
- DRILL, FLUSH, AND GROUT IN ONE PROCESS PER SPECIAL PROVISIONS. FLUSHING CUTTINGS WITH WATER WHILE DRILLING IS NOT ACCEPTABLE.
- EXCAVATE TO EXPOSE FINAL VERTICAL SOIL FACE TO A MAXIMUM DEPTH OF 3.5 ft BELOW SOIL NAIL.
- INSTALL STRIP DRAINS VERTICALLY AGAINST GROUND AS SHOWN ON THE DRAWINGS. THE TOP OF THE DRAIN FOR THE FIRST ROW OF NAILS SHALL BE AT 1 ft BELOW THE TOP OF CUT. A FULL LENGTH OF DRAIN MAY BE INSTALLED AT THE FIRST NAIL AND THE EXCESS DRAIN MAY BE ROLLED. WRAPPED AND PROTECTED WITH PLASTIC SHEET NC AND LAID AT THE BOTTOM OF THE PANEL TO PROTECT IT FROM THE SHOTCRETE SPRAY. INSTALL ADDITIONAL DRAINS AS REQUIRED IN AREAS WHERE ANY SEEPAGE IS ENCOUNTERED. IN AREAS WHERE SEEPAGE IS ENCOUNTERED, THE ENGINEER MAY REQUIRE ADDITIONAL WORK SUCH AS FULL COVERAGE DRAINAGE PANEL AND/OR INSTALLATION OF HORIZONTAL
- EXCAVATE REQUIRED BLISTER POCKETS.
- PLACE WELDED STEEL WIRE MESH AND REINFORCING STEEL PINNED TO THE GROUND SUCH THAT THE MINIMUM 2 INCH SHOTCRETE COVER OF THE REINFORCEMENT IS ACHIEVED ON EITHER SIDE OF THE REINFORCING.
- APPLY SHOTCRETE. COMPLETE EXCAVATION TO THE FINAL WALL EXCAVATION LINE AND APPLICATION OF THE SHOTCRETE IN THE SAME
- INSTALL NAIL ANCHOR ASSEMBLY, ENSURING TIGHT CONTACT BETWEEN THE FRESH SHOTCRETE AND THE CONNECTOR PLATE AND TIGHTEN LOCK NUT TO SNUG TIGHT POSITION. THEN TIGHTEN NUT WITH TURN-OF-NUT METHOD BY AN ADDITIONAL TURN TO SECURELY SEAT IT.
- EXCAVATE THE REMAINDER OF THE BENCH AND REPEAT INSTALLATION UNTIL ALL NAILS ARE INSTALLED WITHIN THE LIMIT OF EXCAVATION.
- THE EXCAVATION FOR THE NEXT LEVEL OR ROW OF NAILS SHALL NOT COMMENCE UNTIL PROOF TESTING RESULTS HAVE BEEN SUBMITTED AND THE ENGINEER HAS GIVEN APPROVAL FOR CONTINUED EXCAVATION. THE ENGINEER RESERVES THE RIGHT TO TERMINATE THE EXCAVATION AND/OR SHORING AND NAIL INSTALLATION AT ANY TIME IF GROUND MOVEMENTS EXCEED ACCEPTABLE LIMITS. EXCAVATE TO NEXT LEVEL. NEXT LEVEL EXCAVATION SHALL NOT COMMENCE UNTIL TESTING OF PRESENT LEVEL IS
- FOR EACH ROW OF NAILS, EXCAVATION ALONG THE PERIMETER SHALL NOT LEAVE ANY VERTICAL CUTS EXPOSED OVERNIGHT UNLESS SUPPORTED BY SHOTCRETE AND NAILS (WITH NAIL NUT HAND TIGHTENED AS A MINIMUM) OR A SOIL BUTTRESS.
- CHANGES TO THE ORIGINAL PLAN, PROPOSED BY THE CONTRACTOR DURING CONSTRUCTION AND REFLECTING SOIL, EQUIPMENT, WEATHER AND OTHER FACTORS, SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED PRIOR TO IMPLEMENTING CHANCES.
- 5. TEST NAILS
- THE CONTRACTOR SHALL PROVIDE FOR TEST NAILS AND CARRY OUT ALL
- . TESTING AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE SPECIAL **PROVISIONS**
- A DRILL HOLE SHALL BE PROVIDED FOR THE UNBONDED LENGTH THAT
- RESISTANT TO COLLAPSING AND CAN BE GROUTED UPON COMPLETION OF TESTING.
- AFTER GROUT HAS CURED SUFFICIENTLY, PROOF LOAD NAILS IN ACCORDANCE WITH SPECIAL PROVISIONS.
- POST GROUT THE ANCHOR HEADS AS SHOWN ON THE DRAWINGS THROUGH THE LOWER HOLE IN THE ANCHOR PLATE UNTIL GROUT COMES OUT THROUGH THE UPPER VENT HOLE IN THE ANCHOR PLATE.



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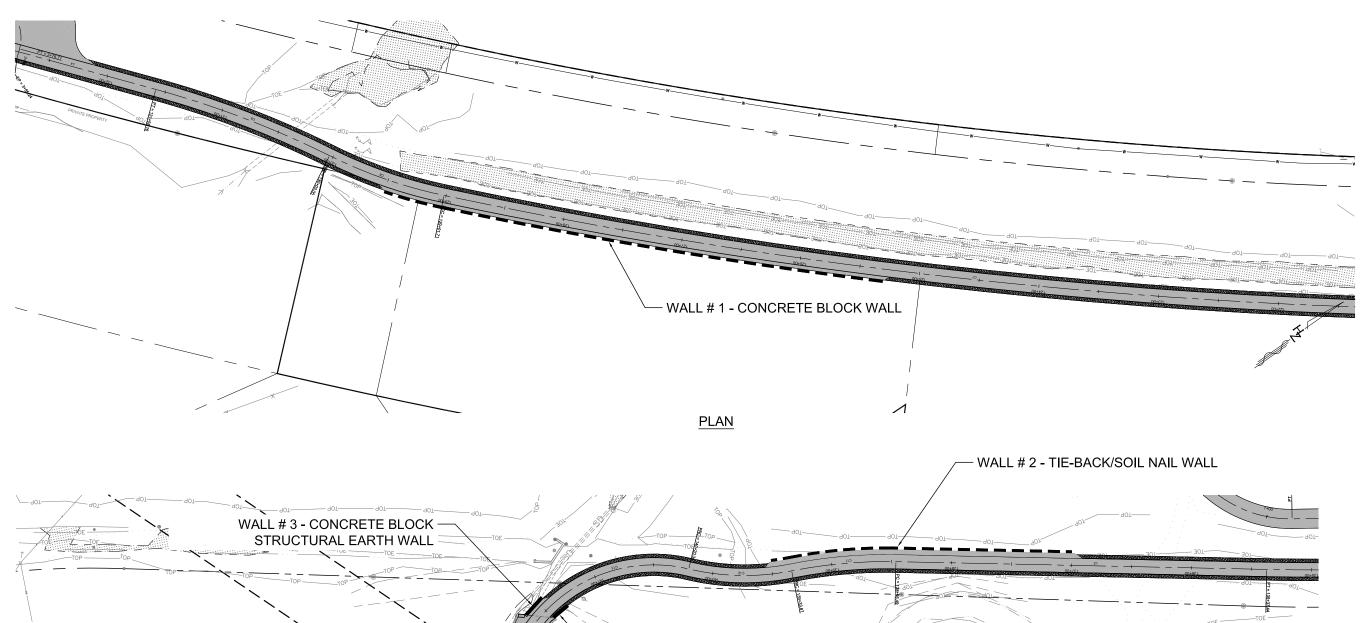


TRAIL IMPROVEMENTS - PHASE II **FOOTHILLS**

SSU	JE / REVIS	DESCRIPTION	
A			_
<u> </u>	6/2/16	30% SUBMITTAL	
2	7/27/16	60% SUBMITTAL	
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PRC	JECT NO.	1527	_
SITE	NO.		_
ILE			_

RETAINING WALLS PLAN WALLS 1-6

S-101



WALL # 6 - CONCRETE BLOCK WALL (SEW OR GRAVITY)

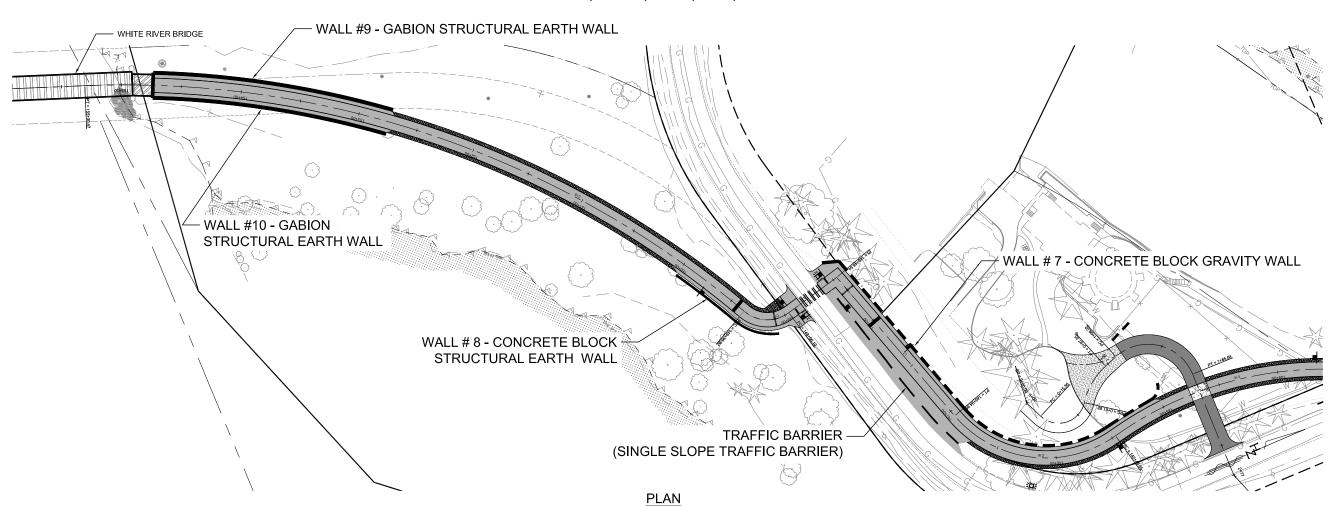
WALL # 4 - CONCRETE BLOCK STRUCTURAL EARTH WALL

WALL # 5 - CONCRETE BLOCK WALL

(SEW OR GRAVITY)

<u>PLAN</u>

60% SUBMITTAL





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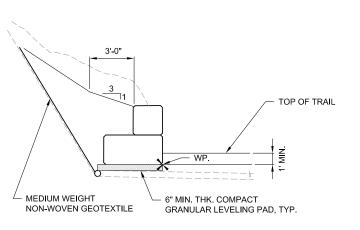


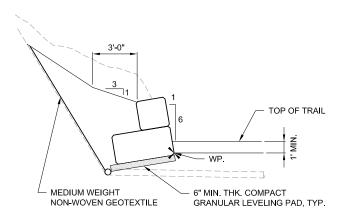
TRAIL TRAIL IMPROVEMENTS - PHASE II

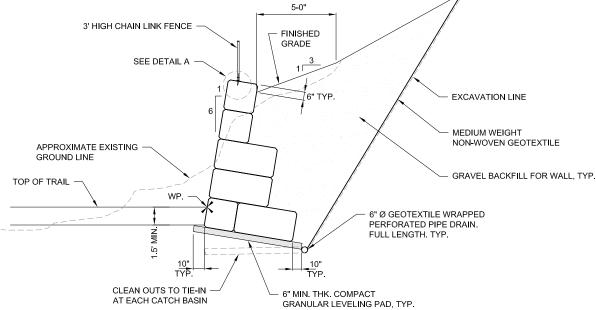
ISSUE / REVI	DESCRIPTION
6/2/16	30% SUBMITTAL
2 7/27/16	60% SUBMITTAL
PROJECT NO	1527

CONTRACT NO. E00115E08 - AM. 8 DRAWN BY BIP CHECKED BY SJN

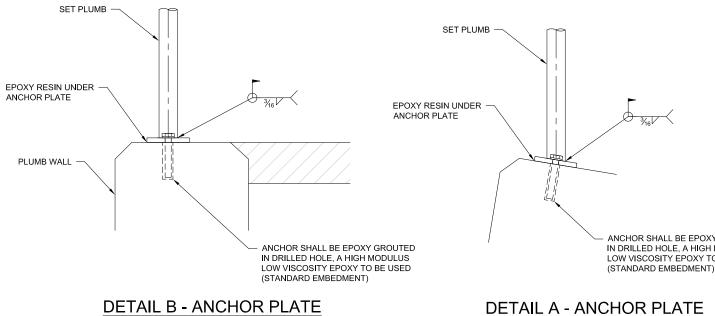
RETAINING WALLS PLAN WALLS 7-10



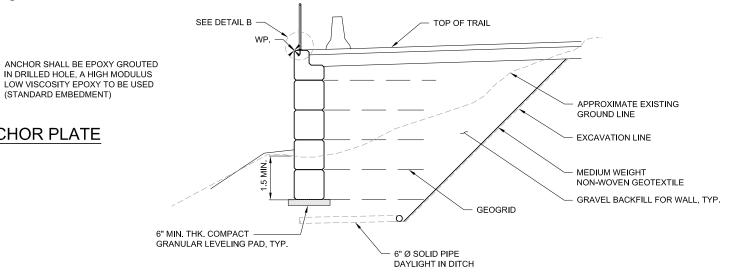




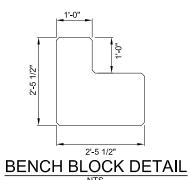
WALL #1 - CONCRETE BLOCK WALL







DETAIL B - ANCHOR PLATE

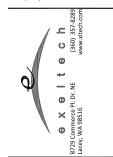


WALL #8, ALT. #2 FOR WALL #5 & #6 - CONCRETE BLOCK STRUCTURAL EARTH WALL

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TRAIL TRAIL IMPROVEMENTS - PHASE II FOOTHILL

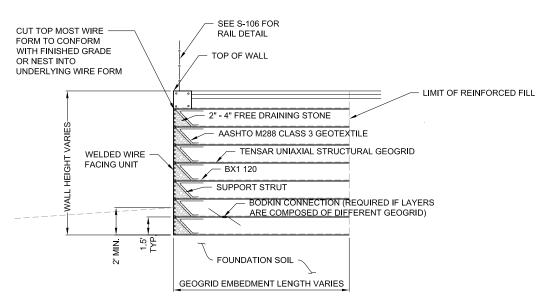
1527 FILE CONTRACT NO. E00115E08 - AM. 8

RETAINING WALL DETAILS

DRAWN BY BIP CHECKED BY SJN

WALL #2 - TIE-BACK/SOIL NAIL WALL

(HEIGHT: 5' - 10')



WALL #9 AND #10 GABION STRUCTURAL EARTH WALL

(HEIGHT: 10' - 15')

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FOOTHILLS TRAIL TRAIL IMPROVEMENTS - PHASE II

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ID	DATE	DESCRIPTION
Δ	6/2/16	30% SUBMITTAL
◬	7/27/16	60% SUBMITTAL
PROJECT NO.		1527

CONTRACT NO. E00115E08 - AM. 8

DRAWN BY BIP CHECKED BY SJN

SHEET TITLE

RETAINING WALL DETAILS

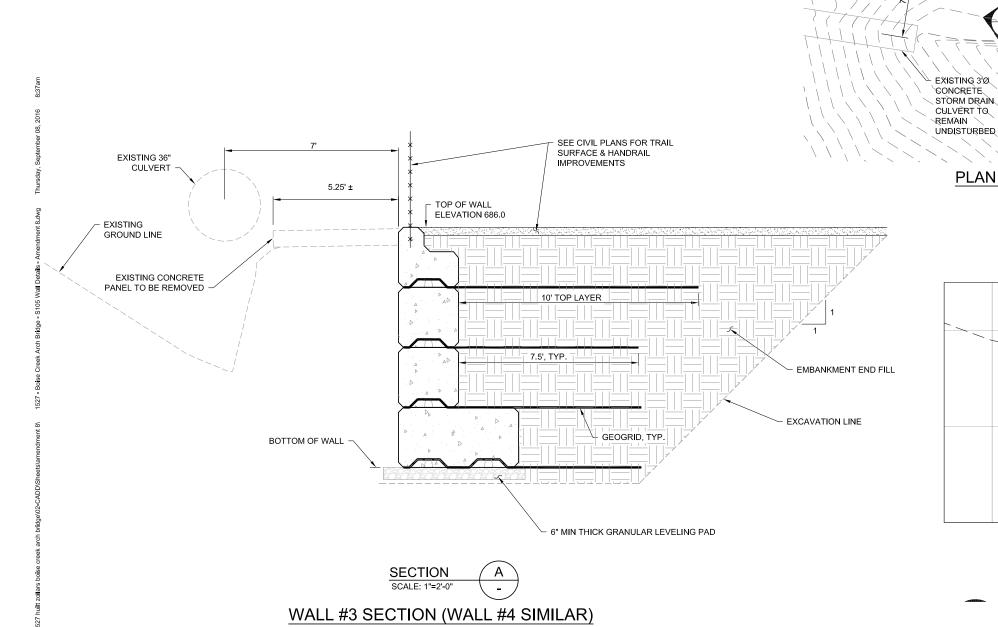
WALL #4

WALL #3

NOTES:

CONCRETE PRECAST BLOCK WALL

- 1. PRECAST CONCRETE BLOCKS SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS.
- 2. CONSTRUCT RETAINING WALL OF PRECAST MONOLITHIC CONCRETE BLOCKS WITH NOMINAL DIMENSIONS 2'-5 $\frac{1}{2}$ " X 2"-5 $\frac{1}{2}$ " X 4'-11". CHAMFER ALL EDGES. BLOCKS SHALL HAVE INTEGRAL SHEAR KEYS AND LIFT LOOPS. MAXIMUM CLEARANCE FOR SHEAR KEY/POCKET IS 0.5 IN. MINIMUM CONCRETE STRENGTH AT 28 DAYS = 4 KSI. FLAT TOP BLOCKS ARE NOT ACCEPTABLE.
- 3. TOP ROW OF CONCRETE BLOCKS TO BE PRECAST BENCH BLOCKS WITH NOMINAL NOTCH DIMENSIONS 1.5'x1' (FT) AS SHOWN.
- 4. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CONCRETE BLOCK WALLS TO CONTRACT ADMINISTRATOR PRIOR TO CONSTRUCTION.
- 5. GEOGRID REINFORCEMENT TO BE PLACED BETWEEN EACH ROW OF BLOCKS AND TO EXTEND A MINIMUM LENGTH SHOWN. GEOGRID REINFORCEMENT TO BE TENSAR UX#### OR APPROVED EQUAL. TRIM EXPOSED GEOGRID.
- 6. CONTRACTOR TO DEMOLISH AND REMOVE EXISTING DAMAGED CONCRETE DECK PANEL AS NECESSARY TO PROPERLY INSTALL THE NEW CONCRETE BLOCK RETAINING WALL.





GEOGRID

CONCRETE

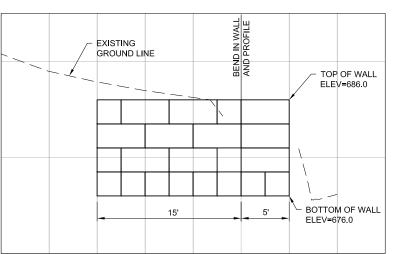
REMOVED SEE NOTE 6

FILL WITH

CONCRETE

PANEL TO BE

SCALE 3/16" = 1'-0"

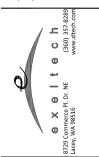


WALL #3 ELEVATION



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FOOTHILLS TRAIL
TRAIL IMPROVEMENTS - PHASE II

ISSUE / REVISIONS
ID DATE DESCRIPTION

\$\int \text{6r2/16}\$ 30% SUBMITTAL.

\$\int \text{7/27/16}\$ 60% SUBMITTAL.

PROJECT NO. 1527

SITE NO.

FILE

CONTRACT NO. E00115E08 - AM. 8

DRAWN BY BIP CHECKED BY SJN

BOISE CR BRIDGE RETAINING WALL #3 DETAILS

S-105

X OF X

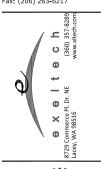
60% SUBMITTAL

TRAIL PEDESTRIAN RAIL

NTS

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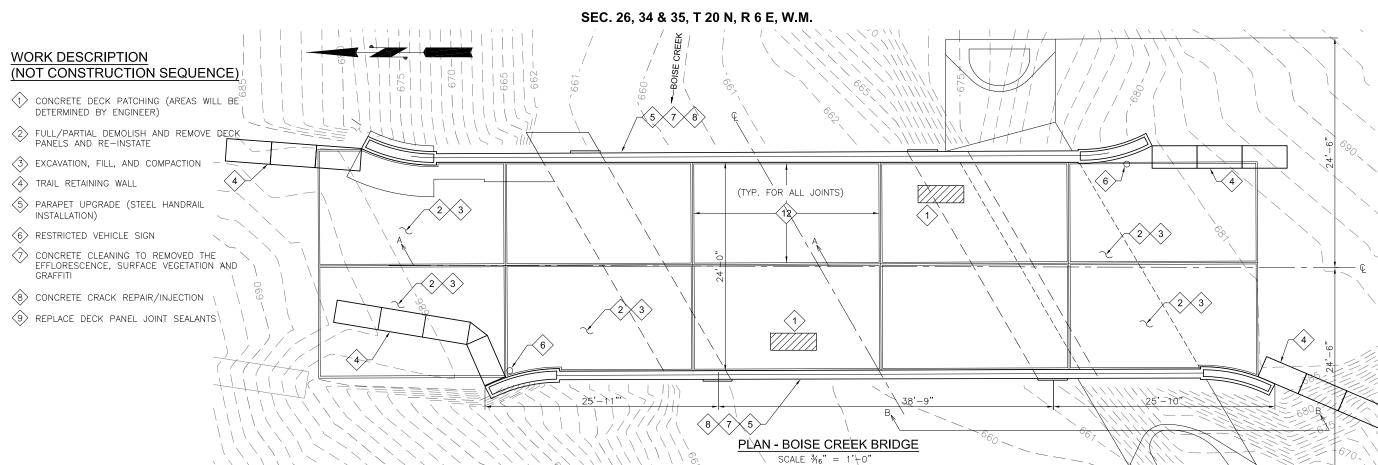


TRAIL IMPROVEMENTS - PHASE II **FOOTHILLS**

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⇗	7/27/16	60% SUBMITTAL
PRO	JECT NO.	1527
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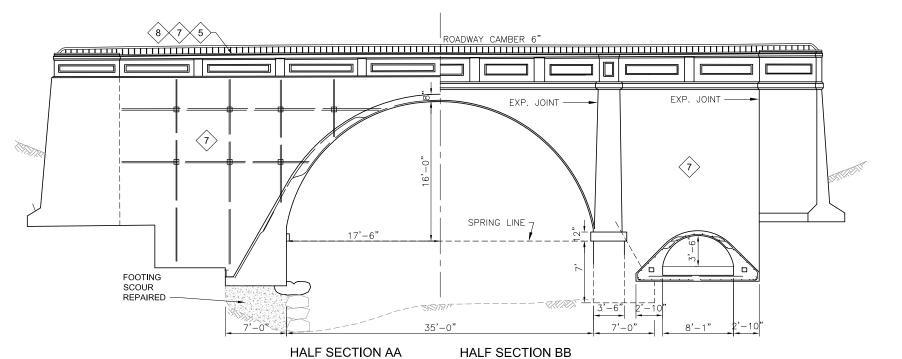
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TRAIL PEDESTRIAN RAIL



NOTES:

ALL DIMENSIONS SHOWN FOR THE EXISTING CONDITIONS ARE COMPONENTS HAVE BEEN TAKEN FROM RECORD DRAWINGS AND TO BE CONFIRMED ON SITE BY THE CONTRACTOR PRIOR TO FABRICATION OR CONSTRUCTION.



ELEVATION - BOISE CREEK BRIDGE

SCALE 3/6" = 1'-0"

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FOOTHILLS TRAIL TRAIL IMPROVEMENTS - PHASE II

BOISE CREEK BRIDGE REPAIR PLAN



CRACKS TO BE EPOXY INJECTED

NOTES:

- 1. FOR GENERAL NOTES, SEE DWG S-100.
- 2. COMPLETE ALL REPAIRS IN ACCORDANCE WITH SPECIAL PROVISIONS.
- 3. ALL CRACKS WITH A WIDTH GREATER THAN 0.02 IN. TO BE EPOXY INJECTED.
- FOR ALL MAJOR DELAMINATION AND SPALLING, PLYWOOD FORMWORK SHALL BE USED IN ALL REPAIR PATCHES.

MINOR DELAMINATION: UNSOUND CONCRETE WITH LESS

THAN 1 IN. DEEP WITH PARTIAL OR NO

BAR EXPOSURE.

MAJOR DELAMINATION: UNSOUND CONCRETE OR SPALLING

MORE THAN 1 IN. DEEP.

FOR MINOR DELAMINATION OR LIGHT SPALLING LESS THAN 1 IN.

DEEP, REMOVE DELAMINATED AREA, LOOSE PARTICLES AND

BRUISED CONCRETE. PATCH AREA ACCORDING TO SPECIFICATION.

- 5. FOR MAJOR DELAMINATION OR SPALLING MORE THAN 1 IN. DEEP,
 REMOVE DELAMINATED AREA, LOOSED PARTICLES AND BRUISED
 CONCRETE. WHERE REINFORCEMENT EXPOSED, REMOVE 0.5 IN.
 CONCRETE BEYOUND THE BAR AND REMOVE ALL CORROSION
 PRODUCTS FOR BAR USING WIRE BRUSH. USE PLYWOOD FORMWORK
 TO REPAIR ACCORDING TO SPECIFICATIONS.
- 6. THE EDGES OF ALL CONCRETE REPAIRS SHALL BE SAW CUT A MIINIMUM DEPTH OF 0.5 IN. TO PREVENT FEATHERED EDGES. MINIMUM

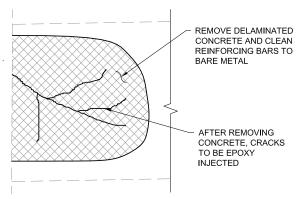
ROADWAY CAMBER 6"

EXP. JOINT

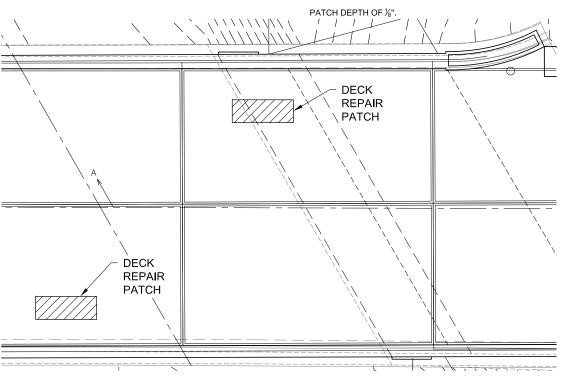
EXP. JOINT

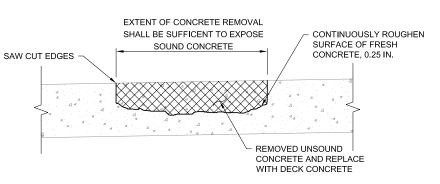
CRACKS TO BE EPOXY
INJECTED

SPRING LINE 7



TYPICAL CRACK REPAIR





TYPICAL PARTIAL DEPTH DECK REPAIR

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FOOTHILLS TRAIL

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ID DATE DESCRIPTION

0276 39% SUBMITTAL

7/27/16 60% SUBMITTAL

PROJECT NO. 1527

SITE NO.

FILE

CONTRACT NO. E00115E08 - AM. 8

DRAWN BY X CHECKED BY X

BOISE CREEK BRIDGE REPAIR DETAILS SHEET 1 OF 2



TRAIL S-PHASE II SOURCES & PARKS

FOOTHILLS TRAIL

ISSUE / REVISIONS
ID DATE DESCRIPTION

© 6/2/16 30% SUBMITTAL

© 7/27/16 60% SUBMITTAL

PROJECT NO. 1527

SITE NO.

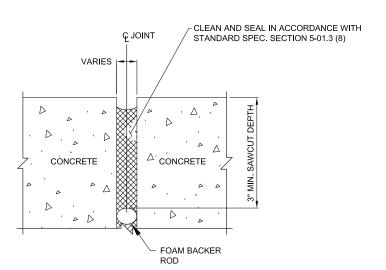
DRAWN BY BIP CHECKED BY SJN
SHEET TITLE
BOISE CREEK
BRIDGE

CONTRACT NO. E00115E08 - AM. 8

REPAIR DETAILS SHEET 2 OF 2

S-109

CONCRETE CLEANING TO REMOVE THE EFFORESCENCE AND SURFACE VEGETATION FROM CONCRETE SURFACE



CONCRETE OPEN JOINT

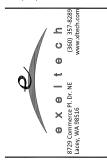
NTS

- PIPE RAILING, PIPE RAILING SPLICES, COVER PLATES AND BOTTOM EXTRUDED CHANNELS SHALL BE BENT TO THE HORIZONTAL CURVE WHERE THE RADIUS OF CURVATURE IS LESS THAN 200'. THESE ITEMS MAY BE HEATED TO NOT MORE THAN 400°F FOR A PERIOD NOT TO EXCEED 30 MINUTES TO FACILITATE FORMING OR BENDING TO HORIZONTAL CURVATURE.
- 2. SHOP DRAWINGS OF RAILING SHALL BE SUBMITTED FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION AND INCLUDING AN ERECTION DIAGRAM. MATERIAL SPECIFICATIONS SHALL BE PROVIDED IN THE SHOP DRAWINGS FOR ALL COMPONENTS.
- 3. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
- 4. WELDING OF ALUMINUM SHALL CONFORM TO STD. SPEC. SECTION 9-28.14(3).
- 5. ALL ALUMINUM PARTS SHALL BE GIVEN A *[CLEAR OR BRONZE] ANODIC COATING OF AT LEAST 0.0006" THICK AND SEALED TO MEET THE REQUIREMENTS OF ASTM B 580 WITH A UNIFORM FINISH.
- 6. PIPE RAILING, PIPE BALUSTERS AND PIPE RAILING SPLICES SHALL BE ADEQUATELY WRAPPED TO INSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.



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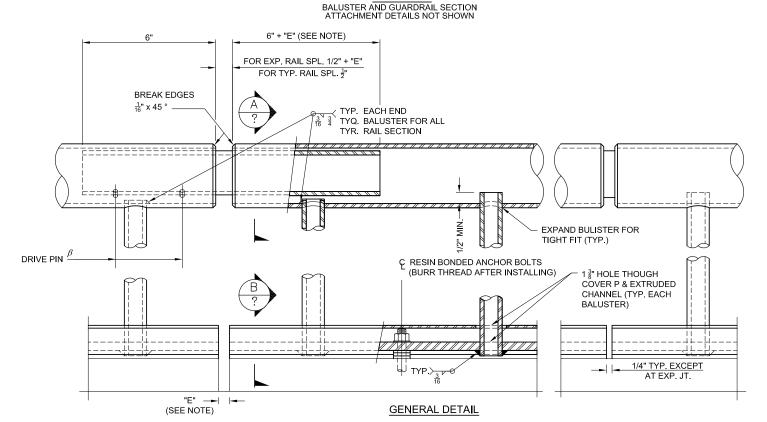
TRAIL TRAIL IMPROVEMENTS FOOTHILL

	E / REVISION DATE	DESCRIPTION
Ä	6/2/16	30% SUBMITTAL
2	7/27/16	60% SUBMITTAL
PROJECT NO.		1527

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BRIDGE RAILING TYPE BP SHEET 1 OF 2

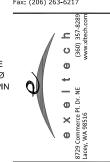


- lpha PROVIDE EXPANSION RAIL SPLICE AT TRAFFIC BARRIER EXPANSION JOINTS. RAIL SPLICE JOINTS ARE NOT REQUIRED AT TRAFFIC BARRIER DUMMY JOINTS.
- eta LOCATE ON OPPOSITE SIDE OF TRAFFIC. DRIVE PINS SHALL BE DRIVEN FLUSH WITH THE OUTSIDE FACE OF THE RAILING.

"E" DIMENSION SHALL BE EQUAL TO OPENING OF TRAFFIC BARRIER EXPANSION

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TRAIL IMPROVEMENTS - PHASE II TRAIL

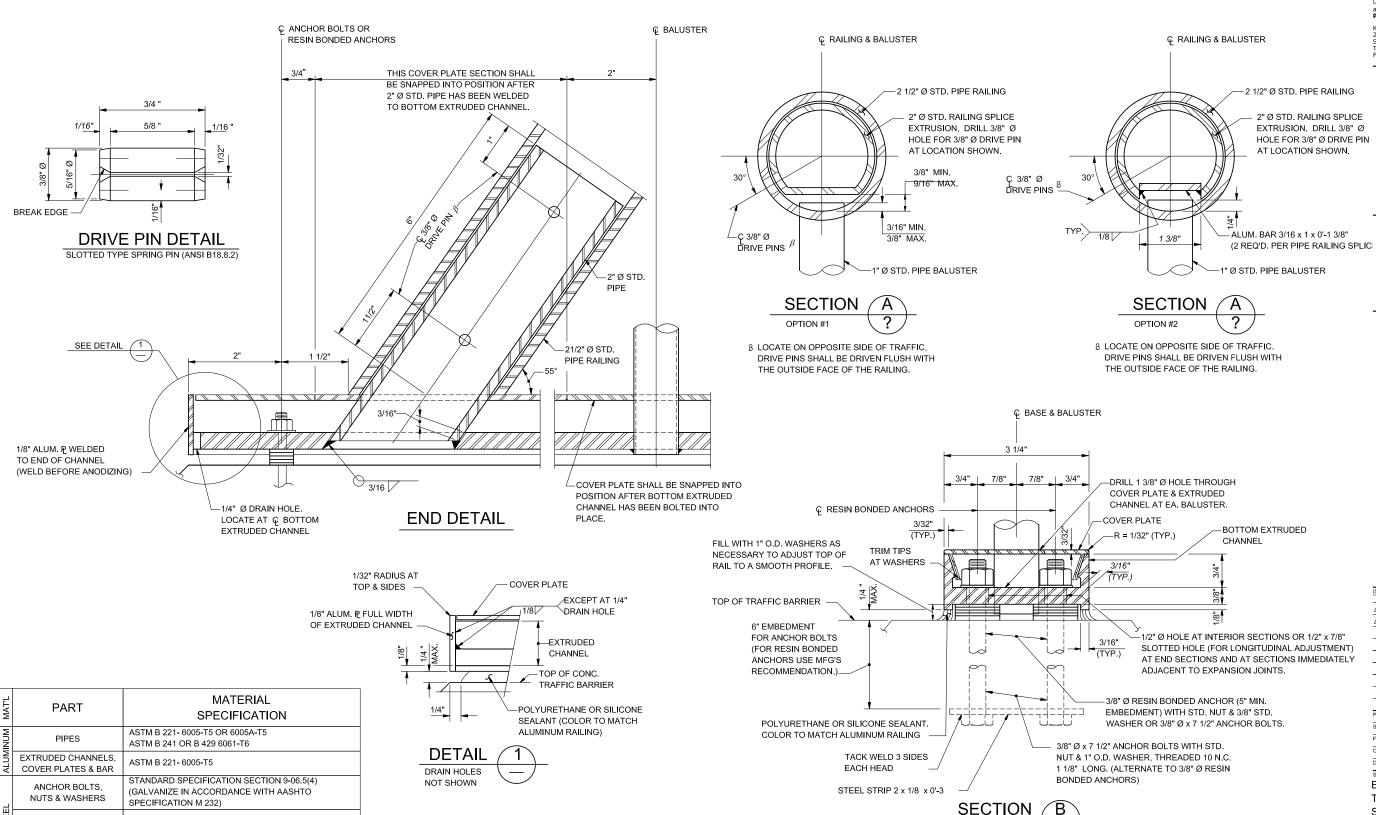
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CONTRACT NO. E00115E08 - AM. 8 DRAWN BY BIP CHECKED BY SJN

BRIDGE RAILING TYPE BP SHEET 2 OF 2



SECTION

POSITIONED IN A JIG DURING WELDING.

ANCHOR BOLTS SHALL BE

ASTM A 36

ASTM A 276 TYPE 302 STAINLESS STEEL