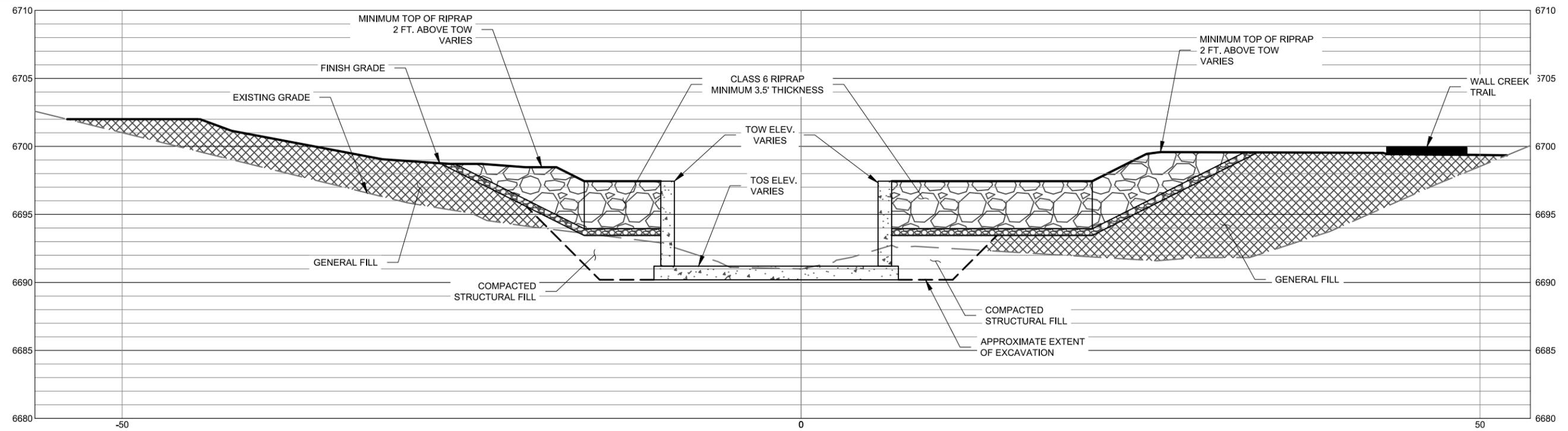
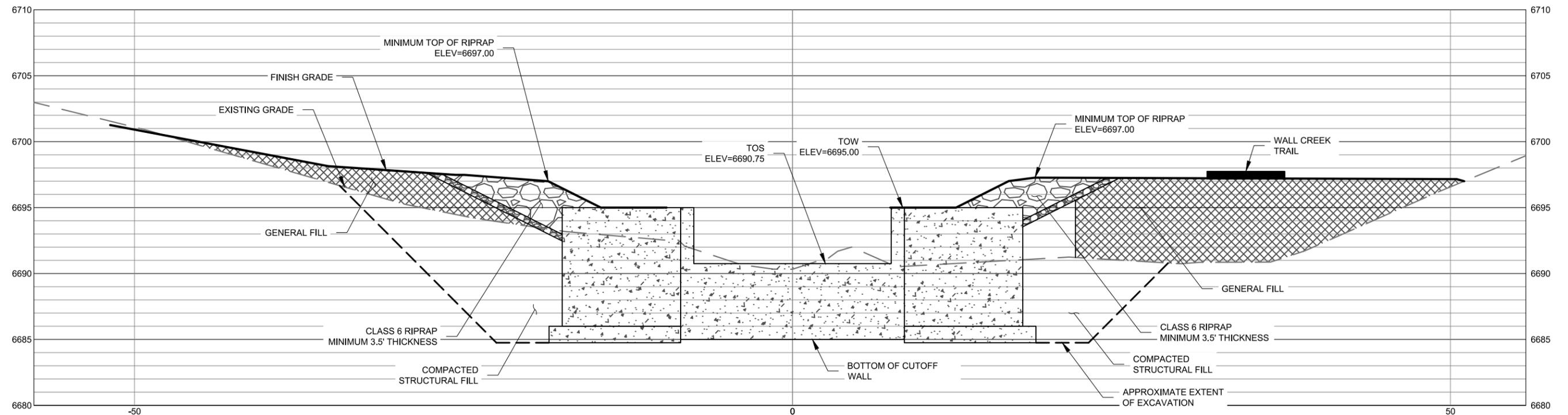


Wall Creek fish barrier supplement



STA. 1+85
CROSS SECTION
SCALE: 1/8"=1'-0"
D
4



STA. 1+92
CROSS SECTION
SCALE: 1/8"=1'-0"
E
4

GENERAL NOTES:

1. SEE STRUCTURAL PLANS FOR WALL, SLAB, AND FOOTER ELEVATIONS.
2. ALL RIPRAP SHALL HAVE VOIDS FILLED WITH SALVAGED TOP SOIL TO MINIMUM 0.5 FT THICK.
3. ALL FILL PLACED WITHIN 4.0' OF CONCRETE SHALL BE COMPACTED STRUCTURAL BACKFILL.



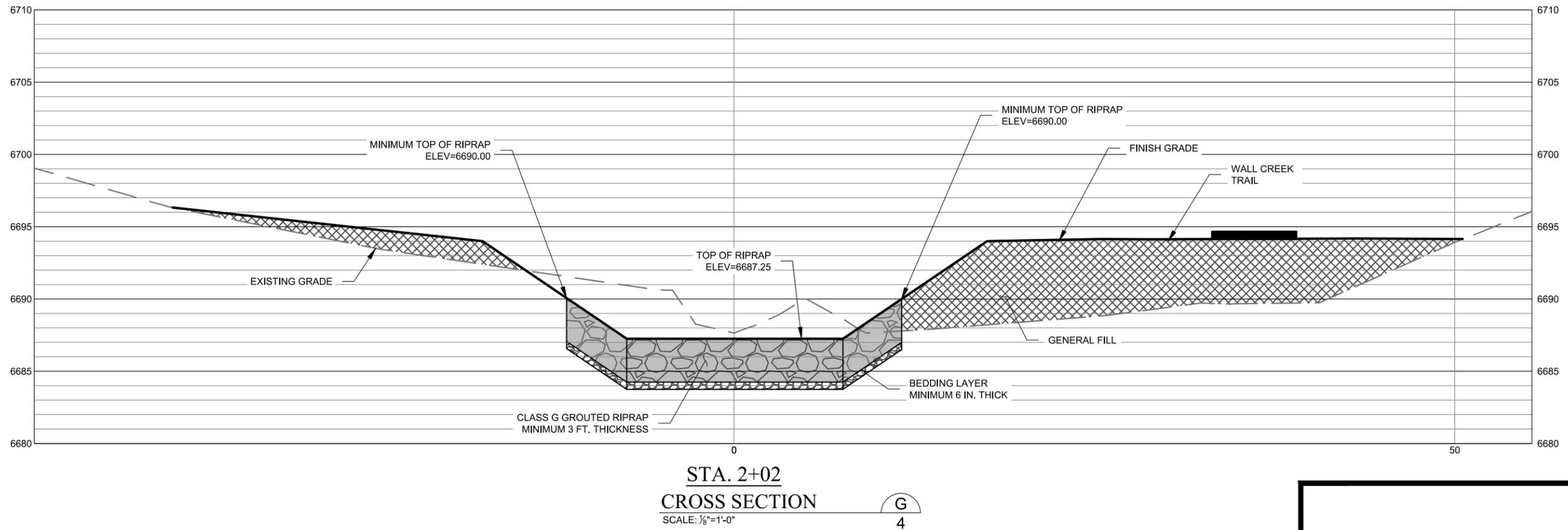
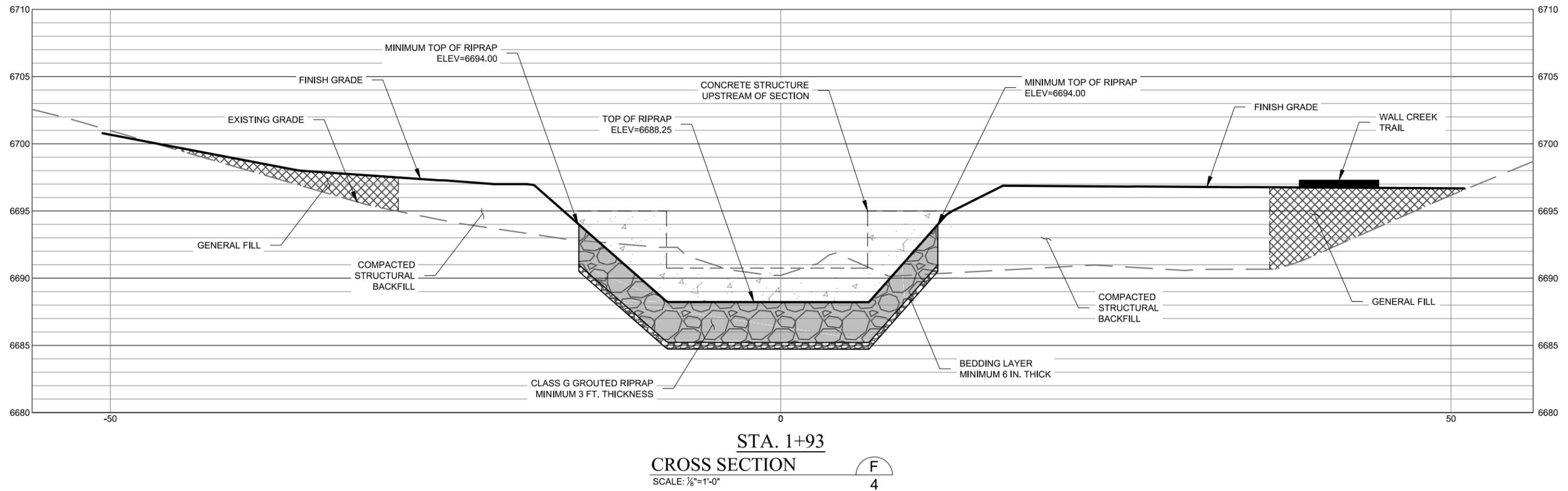
**WALL CREEK FISH BARRIER
STRUCTURE CROSS SECTIONS**

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Drawn By:DAH Drawing Checked:DAH

Sheet: 7 of 13

R:\105107954 WALL CREEK\CAD\ISHEETS\7 STRUCTURE CROSS SECTIONS.DWG PLOTTED BY:DAVID A. HALLSTEN ON May/18/2018

Wall Creek fish barrier supplement



GENERAL NOTES:

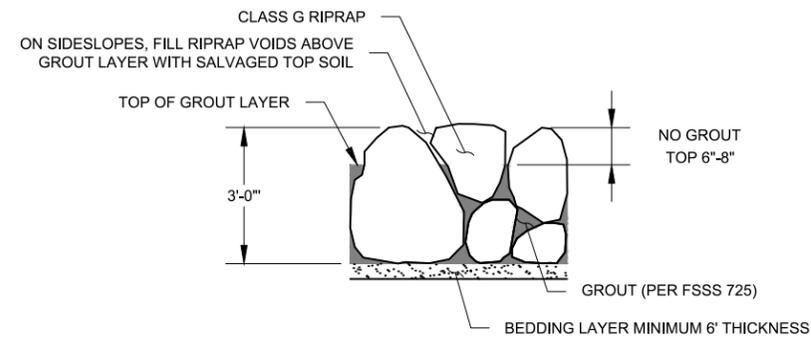
1. SEE STRUCTURAL PLANS FOR WALL, SLAB, AND FOOTER ELEVATIONS.
2. ALL RIPRAP SHALL HAVE VOIDS FILLED WITH SALVAGED TOP SOIL TO MINIMUM 0.5 FT THICK.
3. ALL FILL PLACED WITHIN 4.0' OF CONCRETE SHALL BE COMPACTED STRUCTURAL BACKFILL.



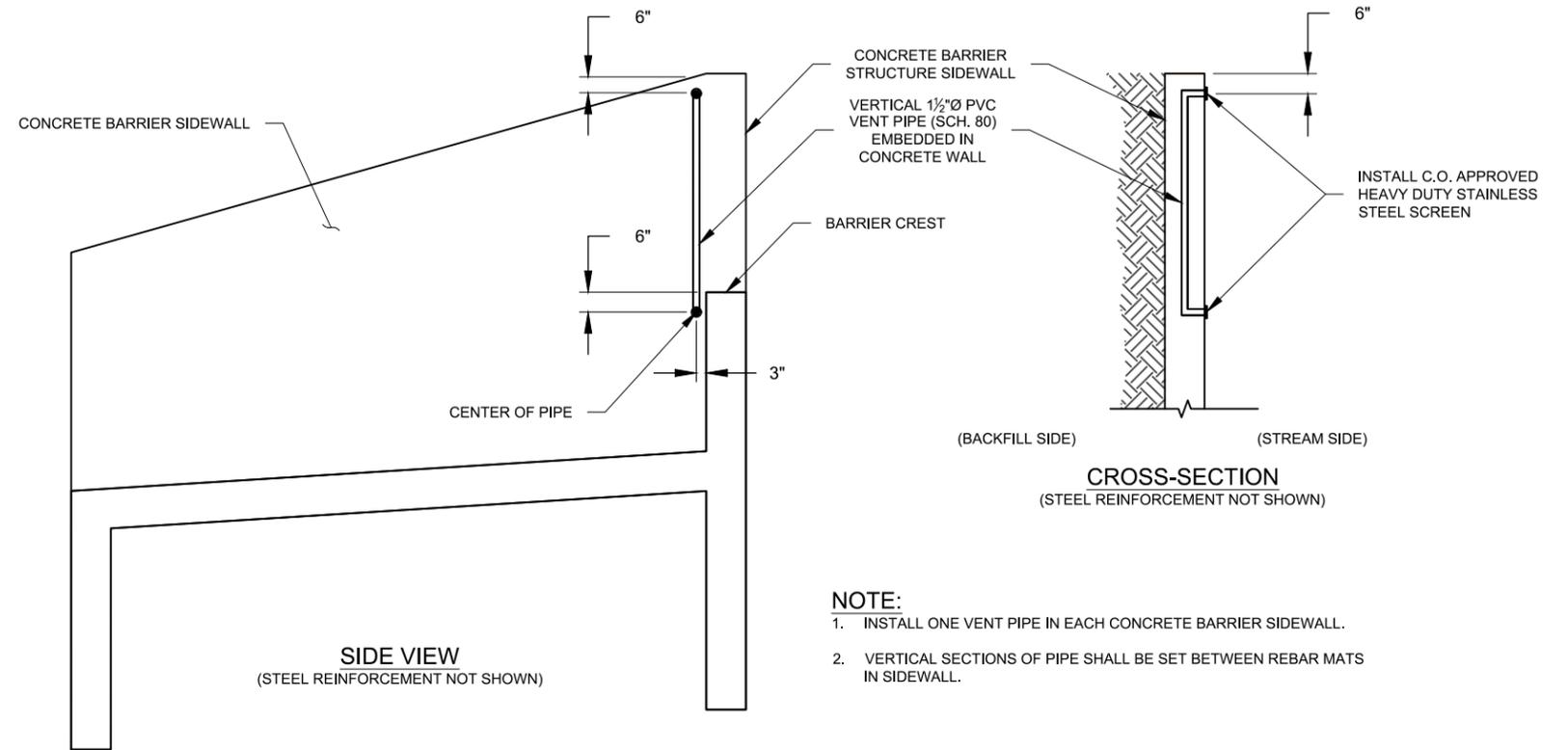
**WALL CREEK FISH BARRIER
 STRUCTURE CROSS SECTIONS**

Designed By:MDB Design Checked:MDB
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TYPICAL CROSS SECTION THROUGH GROUTED RIPRAP 2/5
SCALE: NOT TO SCALE



- NOTE:**
1. INSTALL ONE VENT PIPE IN EACH CONCRETE BARRIER SIDEWALL.
 2. VERTICAL SECTIONS OF PIPE SHALL BE SET BETWEEN REBAR MATS IN SIDEWALL.

NAPPE VENT PIPE DETAIL 1/5
SCALE: NOT TO SCALE

R:\105107954 WALL CREEK\ACAD\SHSHEETS\9 FISH BARRIER DETAILS.DWG PLOTTED BY:DAVID A. HALLSTEN ON May/17/2018



WALL CREEK FISH BARRIER DETAILS

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Drawn By:DAH | Drawing Checked:DAH

Sheet: 9 of 13

STRUCTURAL NOTES

1. **SPECIFICATIONS:** CONSTRUCT THE PROJECT IN ACCORDANCE WITH FEDERAL HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14) AND APPLICABLE FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS (FSSS).
2. **CONCRETE:** USE CLASS A(AE) OR CLASS D(AE) FOR ALL CAST-IN-PLACE CONCRETE. THE REQUIRED 28-DAY COMPRESSIVE STRENGTH (F_c) IS 4,000 PSI WITH AN ENTRAINED AIR CONTENT OF 5% +/- 1%. FINISH ALL EXPOSED CONCRETE WITH A CLASS 2-RUBBED FINISH. MAKE ALL CONCRETE IN ACCORDANCE WITH AN APPROVED MIX DESIGN. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" AND FILLET ALL ACUTE ANGLES 3" UNLESS OTHERWISE NOTED.
3. **REINFORCING STEEL:** USE REINFORCING STEEL OF THE DEFORMED TYPE CONFORMING TO AASHTO M31 (ASTM A615) GRADE 60. CUT AND BEND REINFORCING STEEL IN CONFORMANCE WITH ACI 315. LAP SPLICE BARS 2' MINIMUM.
4. **COVER:** CONCRETE COVER OVER REINFORCEMENT SHALL BE 2" CLEAR, EXCEPT FOR CONCRETE PLACED AGAINST AND PERMANENTLY IN CONTACT WITH EARTH SHALL BE 3" CLEAR.
5. **HARDWARE AND STRUCTURAL STEEL:** USE SHAPES, PLATES, AND BARS MEETING THE REQUIREMENTS OF ASTM A36, UNLESS OTHERWISE SPECIFIED IN THESE PLANS. USE HARDWARE MEETING THE REQUIREMENTS OF ASTM A325, EXCEPT AS NOTED ON THE PLANS.
6. **WELDING:** WELD IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE, AWS D1.1. A CERTIFIED WELDER IS REQUIRED.
7. **BEDROCK CONNECTION:** ALL DIRECT CONNECTION BETWEEN STEEL REINFORCED CONCRETE COMPONENTS AND BEDROCK, INCLUDING BUT NOT LIMITED TO SURFACE PREPARATION, DRILLING, HOLE PREPARATION, AND REBAR INSTALLATION/ANCHORING, IS INCLUDED IN PAY ITEM 25803.
8. **CONSTRUCTION JOINTS:** CONSTRUCTION JOINTS IN WALLS AND SLAB MAY BE CONSTRUCTED ONLY AT LOCATIONS APPROVED BY THE C.O. ADJUST BAR LENGTHS AT CONSTRUCTION JOINTS SO THAT ALL BARS THAT CROSS THE JOINT EXTEND AT LEAST 24" INTO ALL ADJACENT WALLS/FOOTINGS.
9. **FOOTING SUBGRADE:** IF FRACTURED BUT HIGHLY DURABLE BEDROCK EXISTS AT FOOTING SUBGRADE LEVEL THEN NO BEDDING IS REQUIRED OVER SUBGRADE MATERIAL EXCEPT AS NEEDED AS A LEVELING COURSE.
10. **CONCRETE CURING:** COMPLY WITH SECTION 525.15. IF BACKFILLING AGAINST CONCRETE IS TO OCCUR WITHIN THE REQUIRED CURING PERIOD THEN THE "LIQUID MEMBRANE CURING COMPOUND METHOD" SHALL BE USED. ALL CONCRETE SHALL BE ALLOWED TO CURE FOR AT LEAST 24 HOURS BEFORE COMMENCING TO STRIP FORMS AND FORM/TIE STEEL FOR SUBSEQUENT ADJACENT POURS.
11. **COMPRESSIVE STRENGTH TEST CYLINDERS:** COMPLY WITH SECTION 552.09(b)(4). CYLINDERS SHALL BE FIELD CURED ON SITE.
12. **BACKFILLING/POURING AGAINST CONCRETE:** NO BACKFILLING OR POURING AGAINST EXISTING CONCRETE (IN A MANNER THAT WILL APPLY A LOAD TO THE EXISTING CONCRETE) SHALL OCCUR UNTIL TEST RESULTS SHOW THAT THE EXISTING CONCRETE HAS ACHIEVED 3,000 PSI OR GREATER COMPRESSIVE STRENGTH. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, COLLECT EXTRA TEST CYLINDERS IN ORDER TO CONDUCT EARLY COMPRESSIVE STRENGTH "BREAK" TESTS TO HASTEN THE CONSTRUCTION PROCESS.
13. **CONCRETE SURFACE FINISH:** PROVIDE CLASS 1 SURFACE FINISH (SUBSECTION 552.16).
14. **CONCRETE PLACEMENT:** COMPLY WITH FSSS SECTION 552. CONTRACTOR SHALL HAVE THE FOLLOWING ON SITE DURING ALL CONCRETE POURS: A CONCRETE HOPPER (MINIMUM 3/4 CUBIC YARD CAPACITY) AND AN EXCAVATOR CAPABLE OF USING THE HOPPER TO DELIVER CONCRETE TO ITS FINAL POSITION. THIS IS REQUIRED EVEN WHEN A CONCRETE PUMP IS USED TO PLACE THE CONCRETE, IN WHICH CASE THE HOPPER AND EXCAVATOR WILL BE A BACKUP CONCRETE PLACEMENT SYSTEM TO BE USED IN CASE OF PUMP FAILURE.

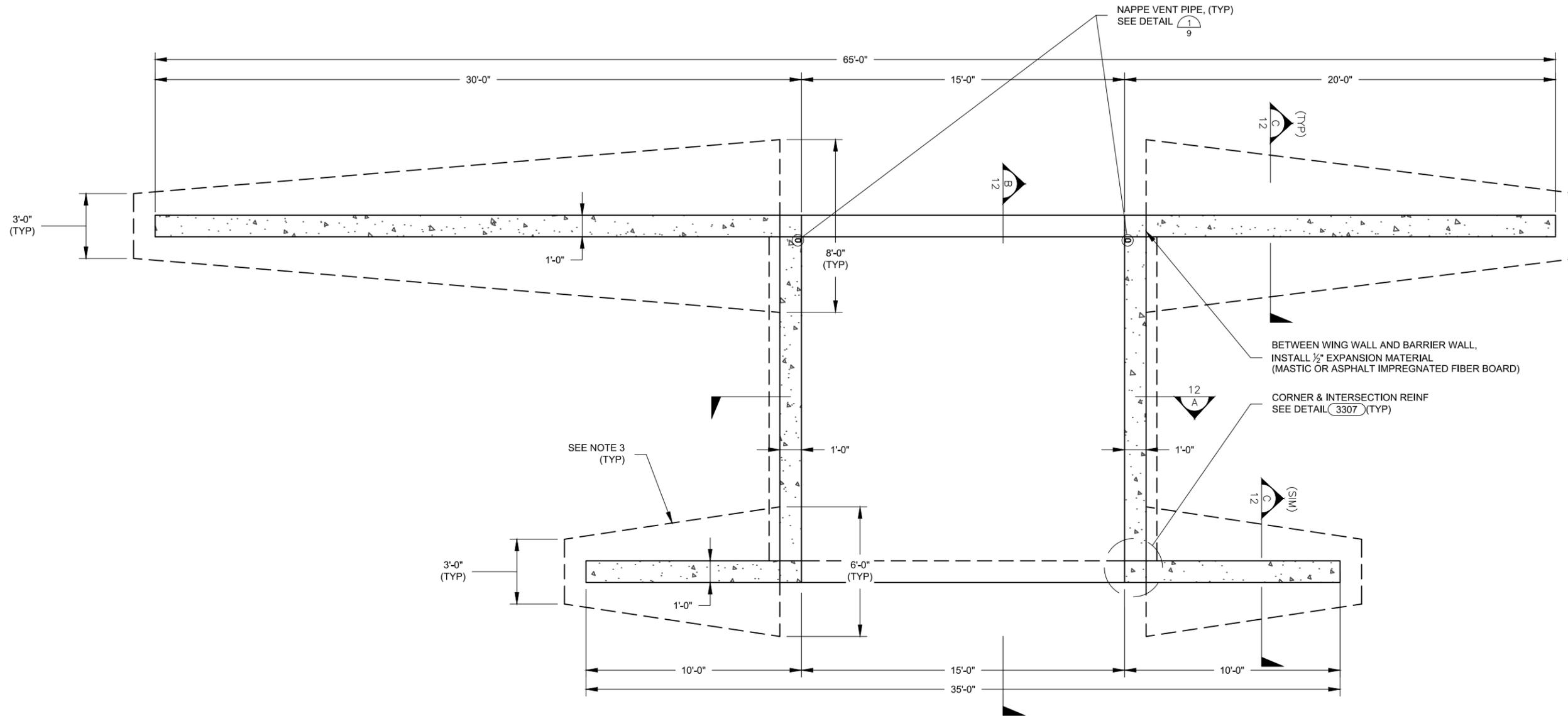
R:\105107954 WALL CREEK\CAD\SHSHEETS\10 GENERAL STRUCTURAL NOTES & ABBREVIATIONS.DWG PLOTTED BY: MATT BARNES ON May/23/2018



WALL CREEK FISH BARRIER GENERAL STRUCTURAL NOTES & ABBREVIATIONS

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Sheet: 10 of 13



GENERAL NOTES:

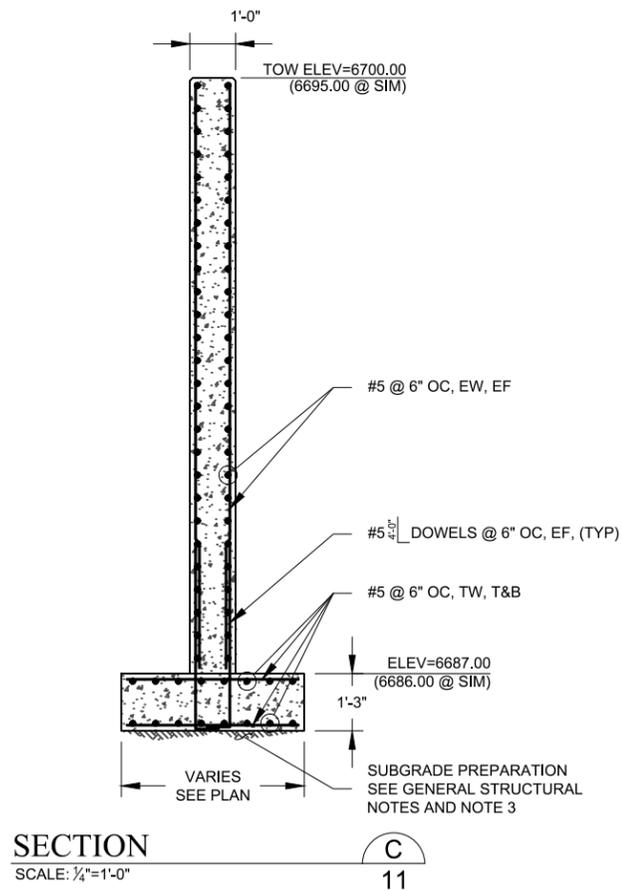
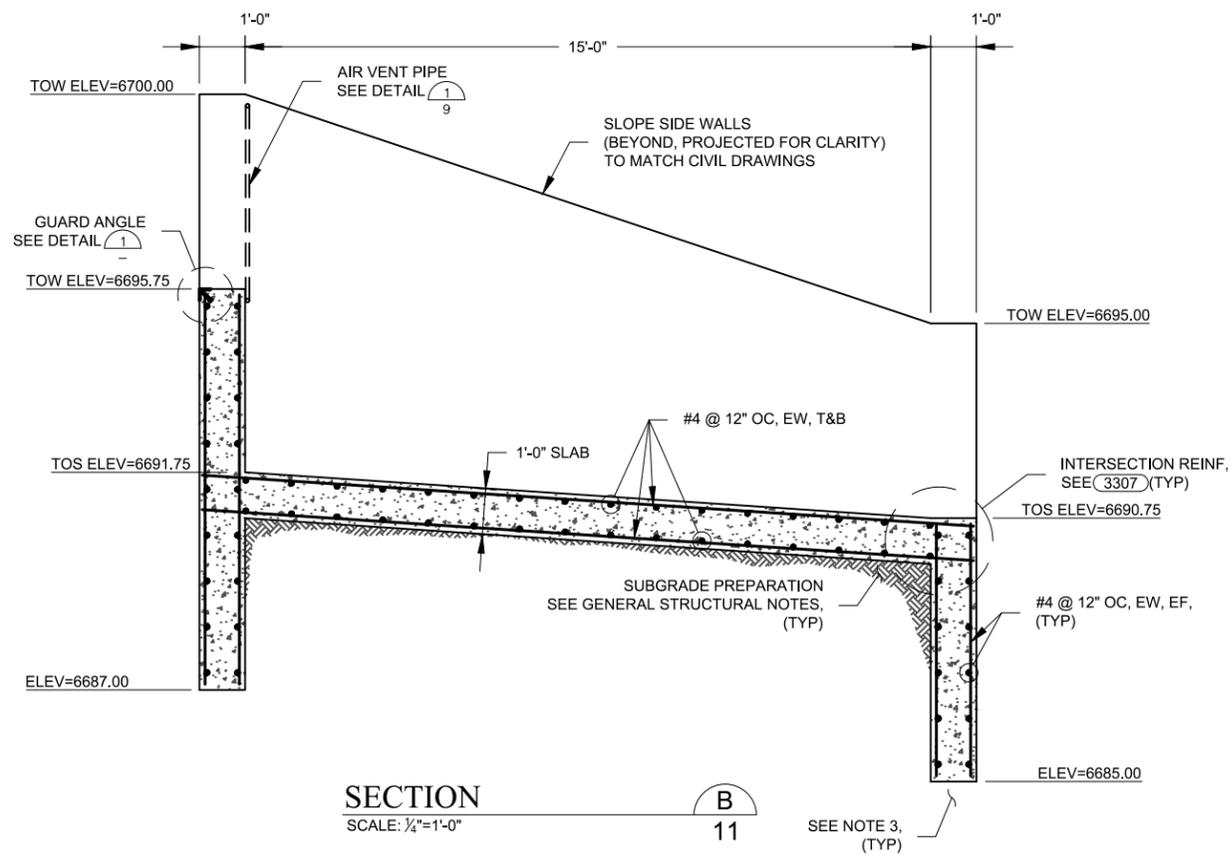
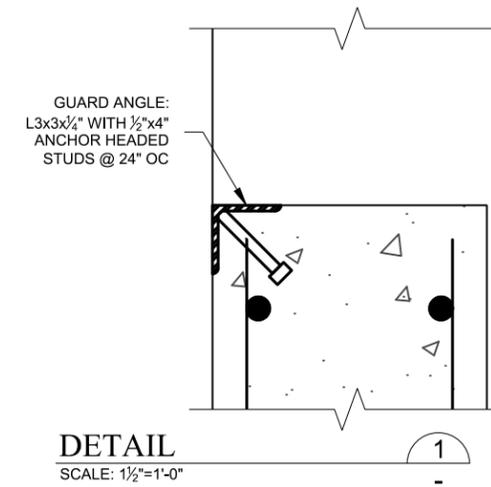
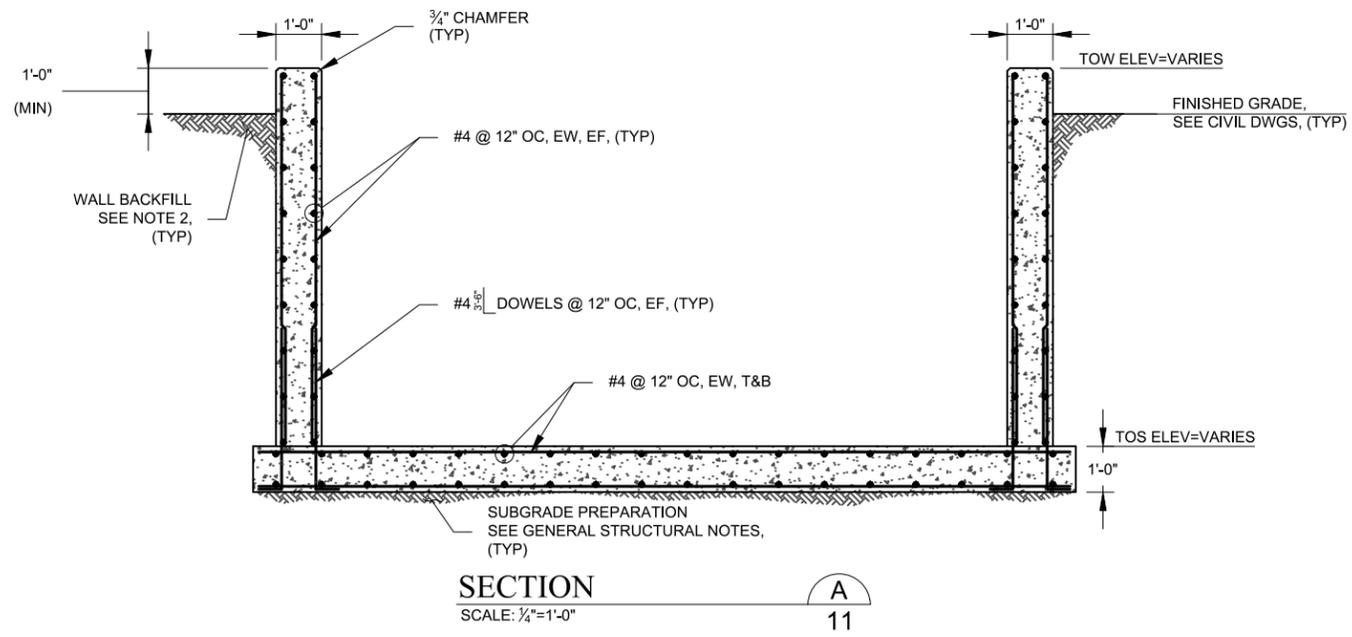
1. SEE DETAIL (3307) FOR CORNER AND INTERSECTION REINFORCEMENT.
2. BACKFILL ON EITHER SIDE OF ALL WALLS IN EQUAL LIFTS UNTIL FINAL GRADE IS REACHED. ONCE SLAB ELEVATION IS REACHED ON EITHER SIDE OF WALL, PLACE SLAB PRIOR TO FINISHING BACKFILL ON OPPOSITE SIDE.
3. WHERE WING WALL FOOTING ENCOUNTERS BEDROCK, TERMINATE FOOTING AND FIELD FIT WALL PER DETAIL (2200).

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

R:\105107954 WALL CREEK\ACAD\SHETS\11 FISH BARRIER STRUCTURAL PLAN.DWG PLOTTED BY: DAVID A. HALLSTEN ON May/18/2018



WALL CREEK FISH BARRIER	
FISH BARRIER STRUCTURAL PLAN	
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Drawn By: DAH	Drawing Checked: DAH
Sheet: 11 of 13	



GENERAL NOTES:

- SEE DETAIL (3307) FOR CORNER AND INTERSECTION REINFORCEMENT.
- BACKFILL ON EITHER SIDE OF ALL WALLS IN EQUAL LIFTS UNTIL FINAL GRADE IS REACHED. ONCE SLAB ELEVATION IS REACHED ON EITHER SIDE OF WALL, PLACE SLAB PRIOR TO FINISHING BACKFILL ON OPPOSITE SIDE.
- WHERE WING WALL FOOTING ENCOUNTERS BEDROCK, TERMINATE FOOTING AND FIELD FIT WALL PER DETAIL (2200).

R:\105107954 WALL CREEK\FISH BARRIER STRUCTURAL SECTIONS & DETAILS.DWG PLOTTED BY: DAVID A. HALLSTEN ON May/18/2018

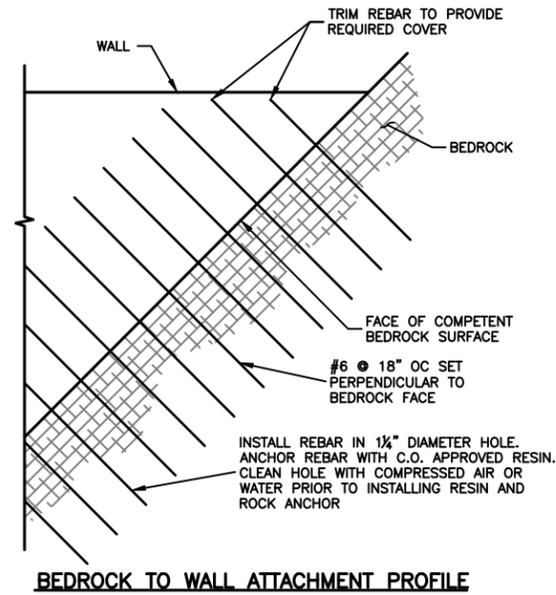


WALL CREEK FISH BARRIER

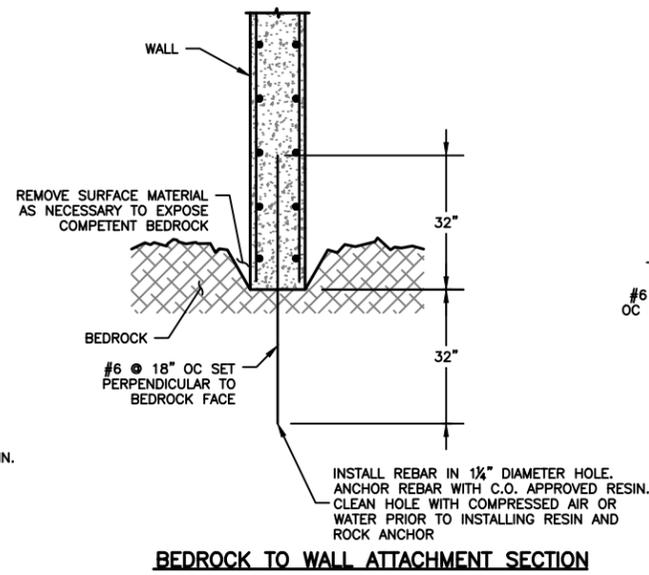
FISH BARRIER STRUCTURAL SECTIONS & DETAILS

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Drawn By: DAH Drawing Checked: DAH

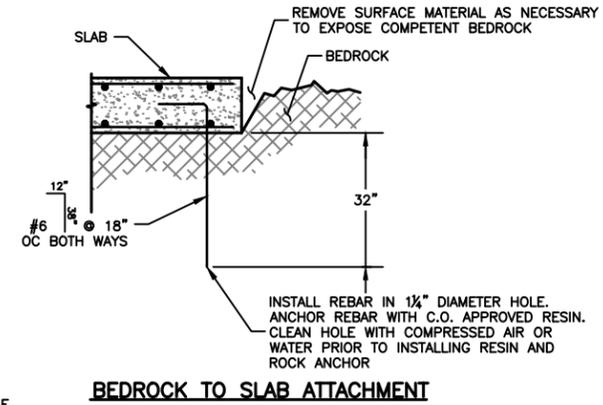
Sheet: 12 of 13



BEDROCK TO WALL ATTACHMENT PROFILE

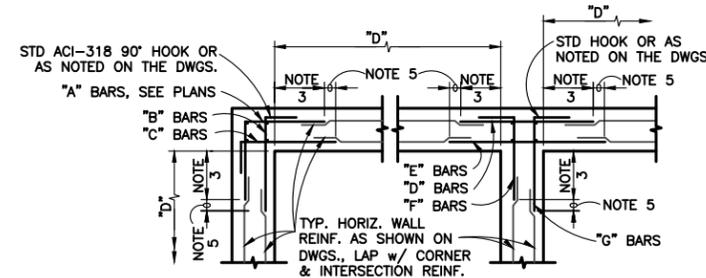


BEDROCK TO WALL ATTACHMENT SECTION



BEDROCK TO SLAB ATTACHMENT

DIRECT WALL-TO-BEDROCK CONNECTION DETAILS (2200)
 (APPLIES WHERE BEDROCK IS ENCOUNTERED)
 NTS



CORNER AND INTERSECTION REINFORCING NOTES:

1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT. FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
2. WHERE THE CORNER OR INTERSECTION REINFORCING SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCING SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCING BETWEEN THE CORNERS OR INTERSECTIONS.
3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
4. D = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION
5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.
6. UNLESS OTHERWISE NOTED, "B" AND "C" BARS ARE THE SAME SIZE AND SPACING AND, "F" AND "G" BARS ARE THE SAME SIZE AND SPACING.

TYPICAL DOUBLE MAT CORNER & INTERSECTION REINFORCING (3307)
 N.T.S. (SEE PLANS FOR SIZE AND SPACING)



WALL CREEK FISH BARRIER
STANDARD DESIGN DETAILS

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 Drawn By: DAH Drawing Checked: DAH

R:\105107954 WALL CREEK\CAD\SHSHEETS\19 STANDARD DESIGN DETAILS.DWG PLOTTED BY: DAVID A. HALLSTEN ON May/18/2018