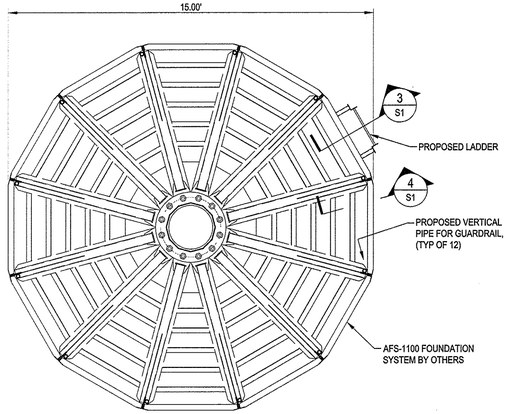
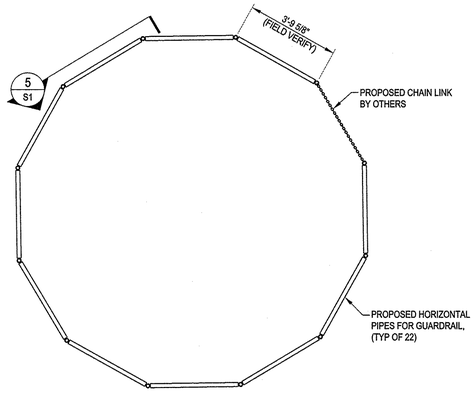
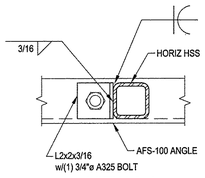


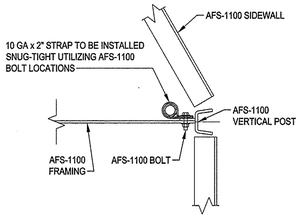
PLAN VIEW 1 S1



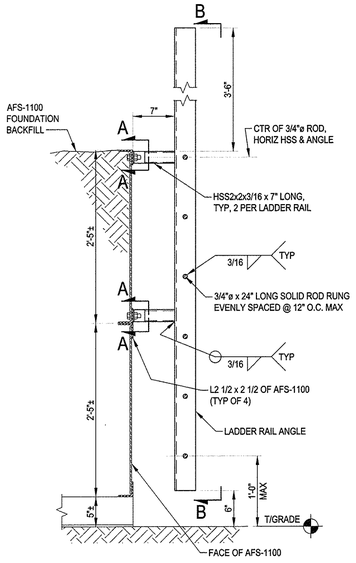
GUARD RAIL PLAN VIEW 2 S1



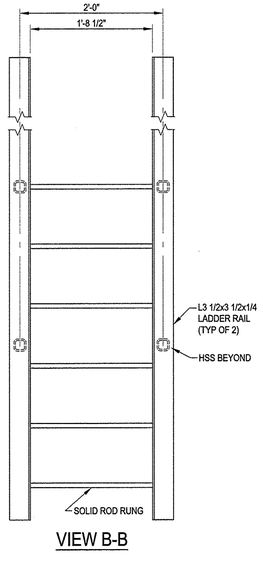
VIEW A-A



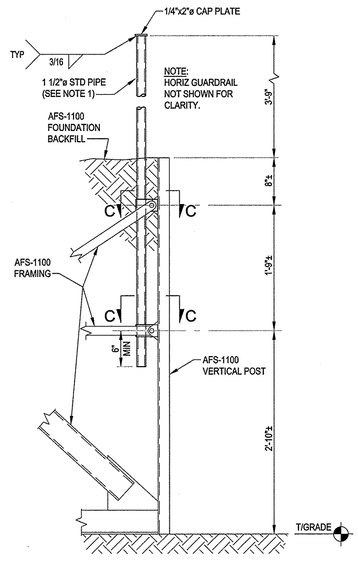
VIEW C-C



SECTION 3 S1
SCALE: 1" = 1'-0"

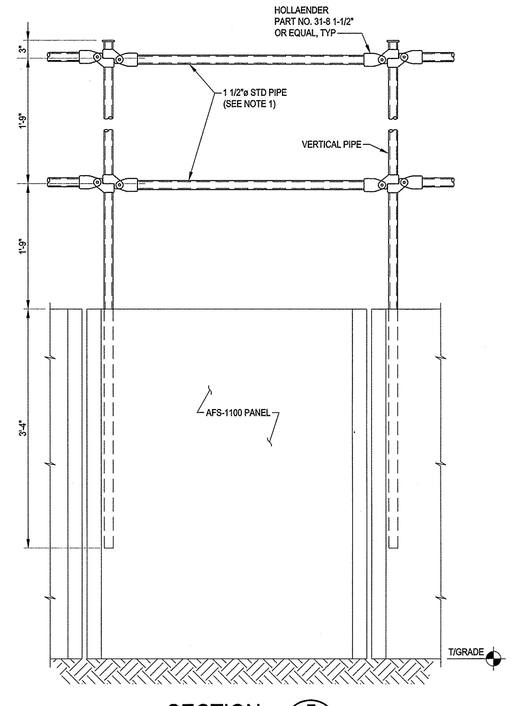


VIEW B-B



SECTION 4 S1
SCALE: 1" = 1'-0"

NOTE:
1. THE BACKFILL SHALL BE INSTALLED SHORTLY AFTER THE 1 1/2"ø VERTICAL PIPE IS ATTACHED TO THE AFS-1100 FOUNDATION SYSTEM. FENCING ON THE 1 1/2"ø PIPE SHALL BE A CHAIN-LINK FENCE BY OTHERS AND SHALL BE INSTALLED AFTER AFS-1100 FOUNDATION BACKFILL IS INSTALLED.



SECTION 5 S1
SCALE: 1" = 1'-0"

NOTE:
1. 1 1/2"ø HORIZONTAL PIPE SHALL BE INSTALLED AFTER AFS-1100 FOUNDATION BACKFILL IS INSTALLED.

GENERAL

1. THESE NOTES ARE GENERAL REQUIREMENTS.
2. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREINAFTER FOR USE ON THIS PROJECT.
3. IF MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS ARE NOT IN AGREEMENT WITH THESE NOTES, THE CONTRACTOR SHALL CONTACT THE ARCHITECT/ENGINEER FOR CLARIFICATION.
4. TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON THE PLANS, BUT APPLY UNLESS NOTED OTHERWISE.
5. THE GENERAL CONTRACTOR SHALL COORDINATE ALL REVISIONS, CORRECTIONS, AND COMMENTS INDICATED ON THE SHOP DRAWINGS BY THE ARCHITECT/ENGINEER.
6. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.
7. THE STRUCTURAL CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
8. ANY SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER ARE SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. THEY DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
9. ALL STRUCTURES ARE DESIGNED TO BE STABLE AND SELF-SUPPORTING AT THE COMPLETION OF CONSTRUCTION. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE STABILITY AND SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL IS NOT INDICATED ON THE DRAWINGS AND, IF PROVIDED, SHALL BE REMOVED, AS CONDITIONS PERMIT AND REMAIN THE PROPERTY OF THE CONTRACTOR.
10. ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
12. EARTHWORK, FOUNDATION DRAINS, WATERPROOFING, PERIMETER INSULATION, MASONRY AND OTHER REQUIRED NON-STRUCTURAL ITEMS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE WITH CIVIL/SITE AND ARCHITECTURAL DRAWINGS.

GOVERNING CODES AND SPECIFICATIONS

IBC	-INTERNATIONAL BUILDING CODE, 2015 EDITION
ASCE 7	-MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2010 EDITION
AISC 360	-STEEL CONSTRUCTION MANUAL, 14TH EDITION
AISC 341	-SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, 2nd EDITION
AWS D1.1	-STRUCTURAL WELDING CODE - STEEL, 2010 EDITION

DESIGN LOADS

1. SNOW LOADS:
   a. GROUND SNOW LOAD, P_g ..... 20 PSF
   b. FLAT ROOF SNOW LOAD, P_f ..... 25 PSF
   c. SNOW EXPOSURE FACTOR, C_e 1.0
   d. SNOW LOAD IMPORTANCE FACTOR, I_s 1.0
   e. THERMAL FACTOR, C_t 1.0
2. WIND LOADS:
   a. ULTIMATE DESIGN WIND SPEED (3-SECOND GUST), MPH 115
   b. NOMINAL DESIGN WIND SPEED (3-SECOND GUST), MPH 90
   c. RISK CATEGORY II
   d. WIND EXPOSURE C
   e. DESIGN WIND PRESSURE FOR COMPONENTS AND CLADDING SHALL BE COMPUTED PER GOVERNING BUILDING CODE USING EXPOSURE C
   f. INTERNAL PRESSURE COEFFICIENT (ENCLOSED) ..... +/- 0.18
3. EARTHQUAKE DESIGN DATA:
   a. OCCUPANCY RISK CATEGORY II
   b. SEISMIC IMPORTANCE FACTOR, I_e 1.0
   c. MAPPED SPECTRAL RESPONSE ACCELERATIONS ..... S_S = 0.237, S_1 = 0.084
   d. SITE CLASS ..... D
   e. DESIGN SPECTRAL RESPONSE ACCELERATIONS ..... S_{DS} = 0.252, S_{D1} = 0.134
   f. SEISMIC DESIGN CATEGORY C

STRUCTURAL STEEL

1. STEEL SHALL BE FABRICATED BY A FABRICATOR HAVING AN AISC QUALITY CERTIFICATION CATEGORY: "STANDARD FOR STEEL BUILDING STRUCTURES (STD)."
2. STRUCTURAL STEEL WORK SHALL CONFORM TO THE "STEEL CONSTRUCTION MANUAL, AISC 360."
3. UNLESS SHOWN ON STRUCTURAL DRAWINGS, CONTRACTOR SHALL NOT CUT ANY HOLES IN STRUCTURAL STEEL MEMBERS WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.
4. STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:
   a. ANGLES, PLATES, RODS, ETC: ASTM A36
   b. PIPES: ASTM A53, GRADE B
   c. STRUCTURAL TUBING:
      SQUARE & RECTANGULAR, ASTM A500, GRADE B, 46 KSI
5. WELDED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY, AWS D1.1. WELDING ELECTRODE MATERIAL SHALL BE E70XX.
6. MINIMUM WELDS, WHERE NOT SHOWN ON DRAWINGS, SHALL BE 3/16 INCH FILLET WELD, ALL AROUND.
7. IN GENERAL, IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT ALL SHOP CONNECTIONS BE WELDED OR BOLTED AND ALL FIELD CONNECTIONS BE BOLTED EXCEPT WHERE NOTED OTHERWISE.
8. ALL CONNECTIONS SHALL BE MADE WITH 3/4-INCH ASTM A325 BOLTS TIGHTENED TO SNUG-TIGHT CONDITION UNLESS OTHERWISE NOTED.
9. ALL STEEL AND CORRESPONDING CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 AND A153, RESPECTIVELY.
10. ALL STEEL THAT WILL BE GALVANIZED SHALL NOT BE PAINTED.

SPECIAL INSPECTIONS

PER THE IBC SECTION 1704, SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:

1. STRUCTURAL STEEL:
   a. MATERIAL VERIFICATION OF HIGH STRENGTH BOLTS, NUTS AND WASHERS. (PERIODIC)
   b. INSPECTION DURING THE TIGHTENING OF HIGH STRENGTH BOLTS IN:
      - BEARING-TYPE CONNECTIONS (PERIODIC)
   c. MATERIAL VERIFICATION OF STRUCTURAL STEEL
   d. MATERIAL VERIFICATION OF WELD FILLER MATERIALS
   e. VISUAL INSPECTION OF FIELD WELDS:
      - COMPLETE AND PARTIAL PENETRATION GROOVE WELDS (CONTINUOUS)
      - SINGLE-PASS FILLET WELDS ≤ 5/16" (PERIODIC)
   f. SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WORK DONE ON THE PREMISES OF AN APPROVED FABRICATOR.
2. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
   a. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED CONSTRUCTION DOCUMENTS.
   b. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE.
   c. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
   d. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
   e. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL PROVIDE STATEMENT OF SPECIAL INSPECTIONS ACKNOWLEDGING THE REQUIREMENTS OF IBC SECTION 1710.

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COMMONWEALTH OF VIRGINIA
COLLEEN A. REZABEK
Lic.No. 041664
PROFESSIONAL ENGINEER
1.8.19

GUARDRAIL/LADDER FOR AFS-1100 FOUNDATION SYSTEM
CHAROLETTSVILLE, VA

MARK	DATE	DESCRIPTION

PROJECT No:	A00018-0685
DRAWN BY:	AAG
DESIGNED BY:	MJH
CHECKED BY:	CR
DATE:	01/08/2019

PLAN VIEW AND SECTIONS

S1

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