

GENERAL:

- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE HAWAII STATE BUILDING CODE (AMENDED IBC, 2018 EDITION). HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
- THE CONTRACTOR SHALL COMPARE ALL THE CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE CONTRACTING OFFICER ALL INCONSISTENCIES AND OMISSIONS.
- THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE CONTRACTING OFFICER ALL INCONSISTENCIES AND OMISSIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE ADJACENT PROPERTIES, STRUCTURES, STREETS AND UTILITIES DURING THE CONSTRUCTION PERIOD.
- DETAILS NOTED AS TYPICAL ON THE STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED.

DESIGN CRITERIA:

- LPG TANK
 - CAPACITY = 2,000 GALLONS
 - PROPANE LIQUID SPECIFIC GRAVITY = 0.58
- WIND
 - BASIC WIND SPEED=164 MPH
 - RISK CATEGORY III
 - WIND EXPOSURE B
- SEISMIC
 - RISK CATEGORY III
 - SEISMIC IMPORTANCE FACTOR $I_e=1.25$
 - $S_s=0.592$
 - $S_1=0.174$
 - SITE CLASS D
 - SEISMIC DESIGN CATEGORY D
- FOUNDATION
 - MAXIMUM ALLOWABLE FOUNDATION BEARING PRESSURES
 - DEAD LOAD + LIVE LOAD 1,500 PSF
 - DEAD LOAD + LIVE LOAD + WIND OR SEISMIC 2,000 PSF

FOUNDATION:

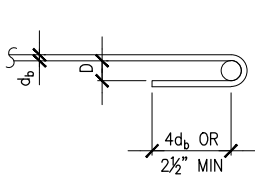
- FOUNDATION DESIGN IS BASED ON CHAPTER 18 OF THE INTERNATIONAL BUILDING CODE.
- CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER, OR SEEPAGE.
- CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL UNDERPINNING, CRIBBING, SHEETING, AND SHORING NECESSARY TO PRESERVE EXCAVATIONS AND EARTH BANKS.
- FOOTINGS SHALL BEAR ON UNDISTURBED IN-SITU FIRM SOILS. BOTTOM OF FOOTINGS SHALL BE COMPACTED TO PROVIDE A RELATIVELY FIRM AND SMOOTH BEARING SURFACE PRIOR TO PLACEMENT OF REINFORCING STEEL AND CONCRETE. IF SOFT AND/OR LOOSE MATERIALS ARE ENCOUNTERED AT THE BOTTOM OF FOOTING EXCAVATIONS, THEY SHALL BE OVER-EXCAVATED TO EXPOSE THE UNDERLYING FIRM MATERIALS. THE OVER-EXCAVATION SHALL BE BACKFILLED WITH SELECT GRANULAR MATERIAL COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION OR THE FOOTING BOTTOM MAY BE EXTENDED DOWN TO THE UNDERLYING COMPETENT MATERIAL.
- EXCAVATIONS SHALL BE PROPERLY BACKFILLED.
 - BACKFILL MATERIAL SHALL CONSIST OF SOIL WHICH IS FREE OF ORGANICS, EXPANSIVE CLAY AND DEBRIS. BACKFILL MATERIAL SHALL BE LESS THAN 3 INCHES IN GREATEST DIMENSION.
 - BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS.
 - EACH LAYER OF BACKFILL MATERIAL SHALL BE THOROUGHLY COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE ASTM D1557 TEST PROCEDURE.
- DURING CONSTRUCTION, DRAINAGE SHALL BE PROVIDED TO MINIMIZE PONDING OF WATER ADJACENT TO OR ON FOUNDATION AREAS. PONDED AREAS SHALL BE DRAINED IMMEDIATELY. ANY SUBGRADE SOIL THAT HAS BECOME SOFT DUE TO PONDING SHALL BE REMOVED TO FIRM MATERIAL AND REPLACED WITH COMPACTED STRUCTURAL FILL.

CONCRETE:

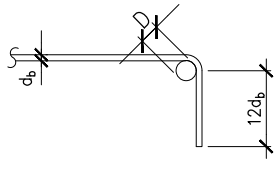
- CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE ACI 318-14.
- CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK CONCRETE AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- MAXIMUM WATER TO CEMENTITIOUS MATERIALS RATIO SHALL BE 0.40.
- CONCRETE DELIVERY TICKETS SHALL RECORD ALL FREE WATER IN THE MIX: AT BATCHING BY PLANT, FOR CONSISTENCY BY DRIVER, AND ANY ADDITIONAL REQUEST BY CONTRACTOR IF PERMITTED BY THE MIX DESIGN.
- ALL INSERTS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE HOT-DIPPED GALVANIZED UNLESS OTHERWISE NOTED.
- REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
- THE CONTRACTOR SHALL LOCATE CONSTRUCTION JOINTS SO AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE AND TO MINIMIZE SHRINKAGE STRESSES. SUBMIT LOCATION OF CONSTRUCTION JOINTS TO THE ENGINEER FOR APPROVAL, UNLESS OTHERWISE NOTED.
- NON-SHRINK GROUT SHALL BE A PREMIXED NON-METALLIC FORMULA, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 1 DAY AND 5,000 PSI IN 28 DAYS.
- CURE ALL CONCRETE IMMEDIATELY AFTER FINISHING OPERATIONS WITH CONTINUOUSLY WET BURLAP COVERED WITH IMPERVIOUS POLYETHYLENE FOR 7 DAYS MINIMUM.

REINFORCING STEEL:

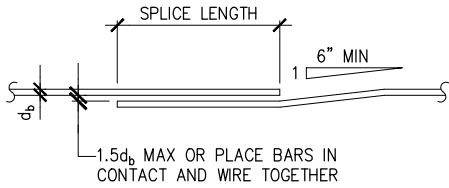
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
- CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
 - CONCRETE CAST AGAINST EARTH 3"
 - CONCRETE FORMED AND EXPOSED TO EARTH OR WEATHER 2"
 - CONCRETE SLABS-ON-GRADE 1-1/2"
- REINFORCING STEEL SHALL BE SPLICED WHERE INDICATED ON PLANS. PROVIDE LAP SPLICE LENGTH OF 48 BAR DIAMETERS, UNLESS OTHERWISE NOTED.
- BAR BENDS AND HOOKS SHALL BE "STANDARD HOOKS" IN ACCORDANCE WITH ACI 318.



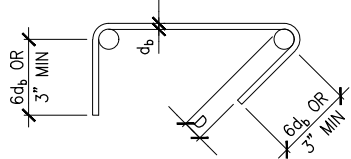
180° BEND



90° BEND



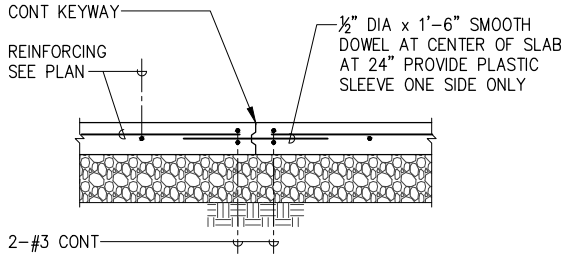
BAR LAP



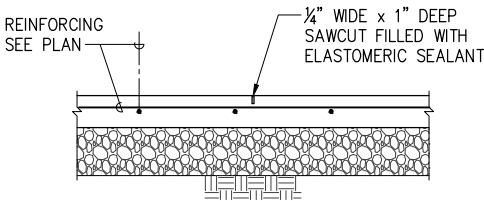
TIE OR STIRRUP BEND

D = 6db FOR #8 AND SMALLER
D = 8db FOR #9 TO #11

1 REBAR STANDARD HOOKS AND BENDS
S-1 NOT TO SCALE



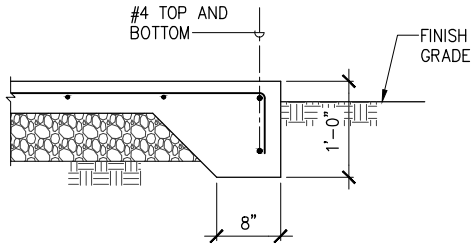
CONSTRUCTION JOINT (CJ)



SAWCUT JOINT (SJ)

NOTE:

SAW CUTTING SHALL OCCUR AS SOON AS CONCRETE SURFACE IS FIRM ENOUGH TO NOT BE TORN BY CUTTING BLADE AND BEFORE SHRINKAGE CRACKING OCCURS, BUT NO LATER THAN 12 HOURS AFTER CONCRETE HAS BEEN POURED



SLAB EDGE

2 TYPICAL SLAB-ON-GRADE DETAILS
S-1 NOT TO SCALE

WOMEN'S COMMUNITY CORRECTIONAL
CENTER PROPANE GAS TANK
FOUNDATION

GENERAL NOTES AND TYPICAL DETAILS

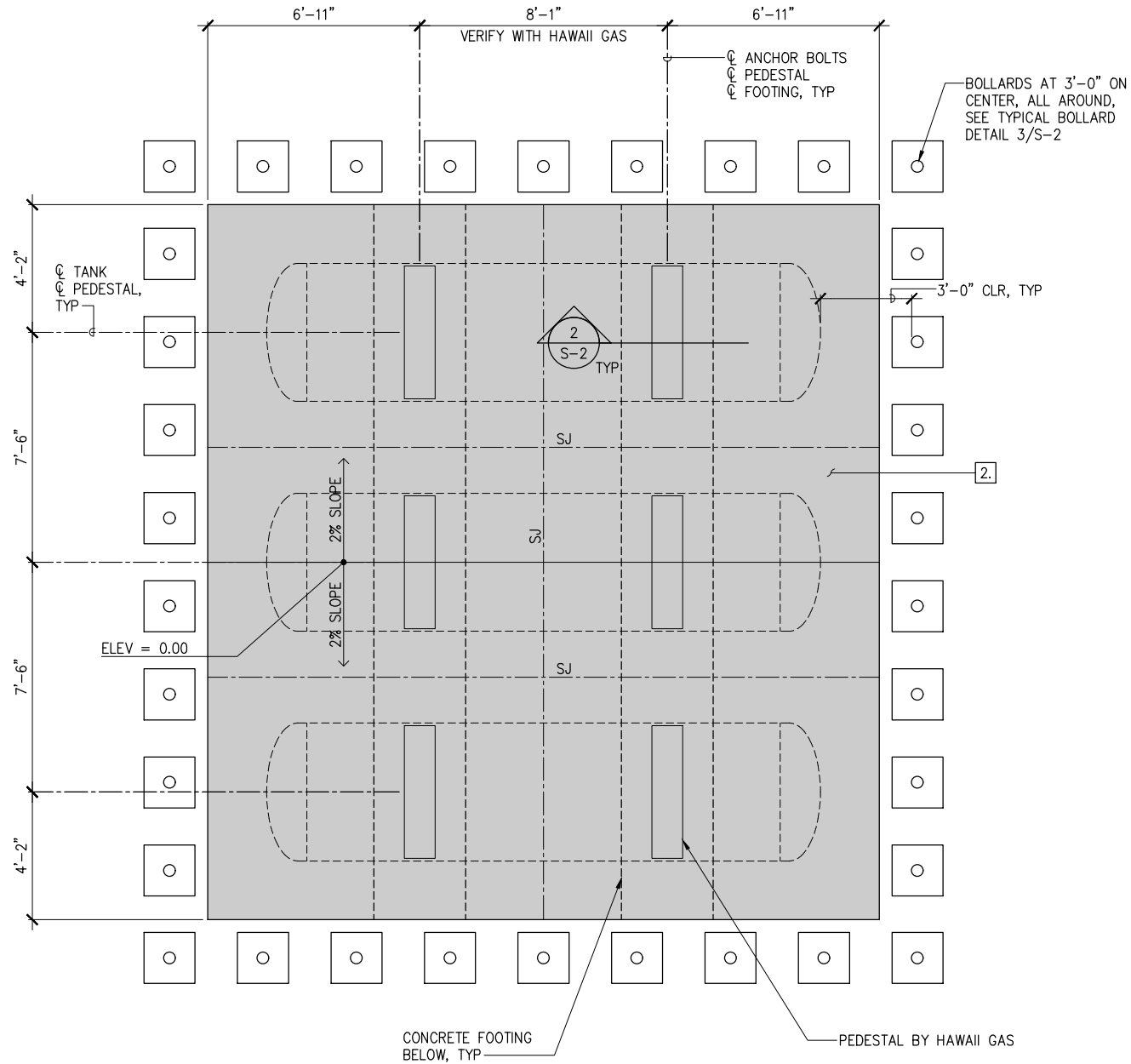
Date JULY 2026

Scale AS NOTED

Sheet No.

S-1

Sheet 1 of 2



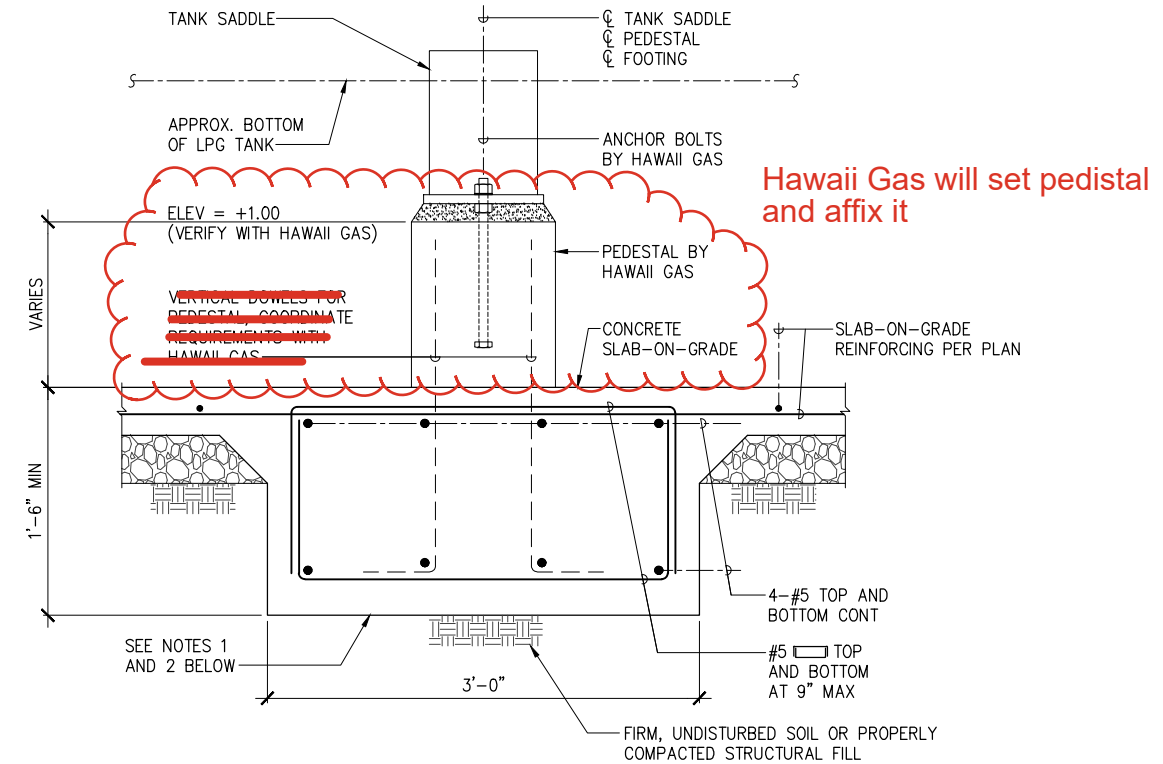
FOUNDATION NOTES:

- SEE GENERAL NOTES SHEET S-1 FOR SUBGRADE PREPARATION.
- 4" CONCRETE SLAB-ON-GRADE WITH #3 AT 15" EACH WAY AT MID-DEPTH OF SLAB OVER 4" BASE COURSE. PROVIDE A BROOM FINISH.
- THICKNESS OF SLAB-ON-GRADE SPECIFIED IS A MINIMUM AND SHALL BE MAINTAINED AT ALL SLOPED AREAS.

FOUNDATION LEGEND:

- INDICATES CONCRETE SLAB-ON-GRADE
- SJ INDICATES SLAB JOINT TYPE, SEE TYPICAL SLAB-ON-GRADE DETAILS 2/S-1

1
TANK FOUNDATION PLAN
SCALE: 3/16" = 1'-0"



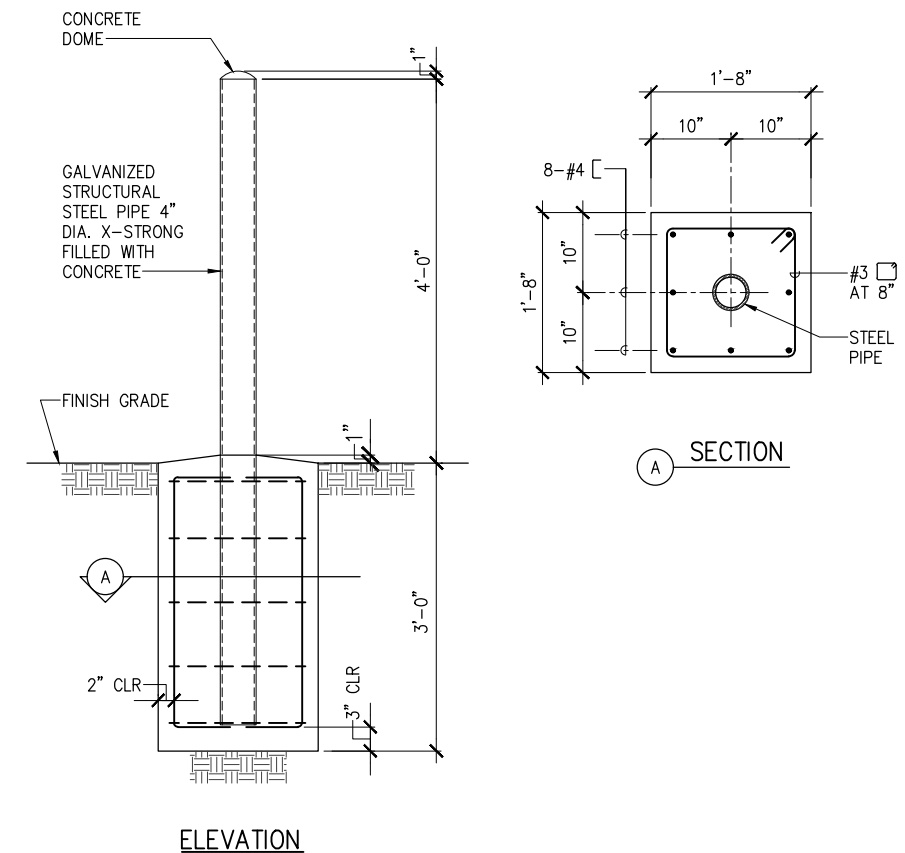
NOTES:

- MAINTAIN BOTTOM OF FOOTING ELEVATION. TOP OF FOOTING ELEVATION VARIES WITH SLOPE OF SLAB-ON-GRADE.
- BOTTOM OF FOOTING SHALL BE EMBEDDED A MINIMUM OF 12" BELOW ADJACENT GRADE AT END OF FOOTING.

2
SECTION
SCALE: 3/4" = 1'-0"

BOLLARD NOTES:

- STEEL PIPES SHALL CONFORM TO ASTM A53, GRADE B.
- STEEL SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND EXPOSED STEEL SURFACES SHALL BE SHOP PAINTED OSHA SAFETY YELLOW AFTER FABRICATION.
- COATING MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED FOR CLEANING, SURFACE PREPARATION, AND COATING OF STEEL SURFACES TO BE PAINTED.
- CLEAN STEEL SURFACES TO BE COATED WITH PPG DURAPREP 88 WATER-BASED CLEANER, AS MANUFACTURED BY PPG PROTECTIVE AND MARINE COATINGS, OR APPROVED SUBSTITUTE, FOLLOWED BY THOROUGH WATER RINSING.
- APPLY ONE COAT OF PPG AMERLOCK 400 HIGH SOLIDS EPOXY COATING (PRIME COAT), AS MANUFACTURED BY PPG PROTECTIVE AND MARINE COATINGS, OR APPROVED SUBSTITUTE, AT A DRY FILM THICKNESS OF 4 TO 8 MILS.
- APPLY ONE COAT OF PPG PITTHANE ULTRA GLOSS ACRYLIC ALIPHATIC URETHANE TOP COAT, AS MANUFACTURED BY PPG PROTECTIVE AND MARINE COATINGS, OR APPROVED SUBSTITUTE, AT A DRY FILM THICKNESS OF 2 TO 3 MILS.



3
BOLLARD DETAIL
NOT TO SCALE

WOMEN'S COMMUNITY CORRECTIONAL CENTER PROPANE GAS TANK FOUNDATION

TANK FOUNDATION PLAN, SECTION, AND DETAIL

Date JULY 2026

Scale AS NOTED

Sheet No.

S-2

Sheet 2 of 2