9. JOB SAFETY, CONSTRUCTION PROCEDURES AND CONSTRUCTION MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE JOB-SITE SAFETY. ALL PROPOSED STAGING AREAS SHALL BE COORDINATED WITH THE ENGINEER AND OWNER BEFORE STARTING THE WORK.

10. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE, AND MUNICIPAL REGULATIONS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT NOT BE LIMITED TO TURBIDITY, DUST AND DEBRIS.

11. STORAGE, FUELING AND LUBRICATION OF EQUIPMENT AND MOTORIZED VEHICLES SHALL BE CONDUCTED IN A MANNER THAT AFFORDS THE MAXIMUM PROTECTION AGAINST SPILL AND EVAPORATION. FUEL, LUBRICANTS AND OIL SHALL BE MANAGED AND STORED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. THERE SHALL BE NO STORAGE OF FUEL ON THE PROJECT SITE. FUEL MUST BE BROUGHT TO THE SITE AS NEEDED.

12. INSPECTION OF THE COMPLETED WORK WILL BE PERFORMED FOLLOWING NOTIFICATION FROM THE CONTRACTOR THAT A SPECIFIED PORTION OF THE WORK HAS BEEN COMPLETED.

13. CONTRACTOR MUST DISPLAY ON SITE THAT APPROPRIATE CONSTRUCTION PLACARDS AS REQUIRED BY THE PERMITTING AGENCIES HAVING JURISDICTION THROUGHOUT THE PROJECT.

FLOATING PIER DESIGN AND LOAD CONDITIONS:

1. VERTICAL LOADS:

- DEAD LOADS SHALL CONSIST OF THE ENTIRE WEIGHT OF THE FLOATING STRUCTURE, INCLUDING UTILITIES, RAMPS, DOCK BOXES AND OTHER ACCESSORIES.
- DECK SURFACE AND STRUCTURAL FRAME LIVE LOAD SHALL BE EQUAL TO 50 PSF APPLIED TO THE FULL SURFACE AREA OF THE DECK.
- BRIDGES AND RAMPS FOUR FEET (4') IN WIDTH OR LESS SHALL BE DESIGNED FOR 40 PSF APPLIED TO THE FULL SURFACE AREA AND 50 PSF FOR WIDTHS OVER FOUR FEET. BRIDGE AND RAMP HANDRAILS SHALL BE DESIGNED FOR A 200 POUND LOAD APPLIED IN ANY DIRECTION AND AT ANY POINT ALONG THE HANDRAIL.
- FLOTATION SHALL BE DESIGNED TO SUPPORT THE DEAD LOAD PLUS 30 PSF LIVE LOAD APPLIED TO THE FULL AREA OF THE DECK SURFACE.
- FREEBOARD UNDER DEAD LOAD CONDITIONS ONLY SHALL EQUAL 20" +/- 1", FREEBOARD UNDER COMBINED DEAD LOAD AND 30 LBS. PER SQUARE FOOT UNIFORMLY DISTRIBUTED LIVE LOAD SHALL NOT BE LESS THAN 8".
- CONCENTRATED LIVE LOAD: 400 LBS. AT ANY ONE POINT ON THE DECK SHALL NOT TILT THE DOCK MORE THAN SIX DEGREES FROM HORIZONTAL.
- NOTE: HIGHER LIVE LOADS MAY BE SPECIFIED DEPENDING ON CONDITIONS AND TRAFFIC.

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DATE 04/13/2022
SCALE AS SHOWN
DESIGNED BY PDB
DRAWN BY PDB

STRUCTURAL NOTES

PROJECT: REPLACEMENT BULKHEADS, PIERS, PILES, REVETMENT
PHASE 1 MARINE IMPROVEMENT PROJECT
AT
LOVE POINT STATE PARK
FOR STATE OF MD DNR, 580 TAYLOR AVE E-4, QUEEN ANNE'S COUNTY, ANNAPOLIS, MD 21401

2. HORIZONTAL LOADS:

- A UNIFORM HORIZONTAL WIND LOADING FROM ANY DIRECTION SHALL BE CALCULATED AT 15 PSF ON ALL PROJECTED SURFACES, ASSUMING 100% BOAT OCCUPANCY. CRAFT PROFILE HEIGHTS SHALL BE DETERMINED FROM FIGURE 4-9, PAGE 106, ASCE REPORT NO. 50 REVISED. FULL WIND LOAD IS TO BE APPLIED TO ALL UNSHIELDED DOCK AND BOAT PROFILES AND 10% OF THE WIND LOAD IS TO BE APPLIED TO EACH SHIELDED BOAT PROFILE.

- A HORIZONTAL LOAD DUE TO IMPACT ON A FINGER DOCK SHALL BE THE RESULT OF THE LARGEST BERTHED CRAFT NORMALLY USING THE ADJACENT SLIP STRIKING THE END OF THE FINGER DOCK 10 DEGREES OFF CENTER LINE. FOR PURPOSES OF CALCULATIONS, THE WEIGHT OF THE CRAFT SHALL BE 12 TIMES THE FINGER LENGTH SQUARED (12L). THE CRAFT SHALL BE CONSIDERED MOVING AT A SPEED OF 3 FPS.

CAST IN PLACE CONCRETE:

1. CODES AND STANDARDS:
   a. ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
   b. ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
   c. ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS"
   d. ACI 305 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING"
   e. ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING"
   f. ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORM WORK"
   g. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
   h. CRSI "MANUAL OF STANDARD PRACTICE"

2. REINFORCING MATERIALS:
   a. STEEL REINFORCEMENT: ASTM A 615, GRADE 60, DEFORMED
   b. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A 185

3. CONCRETE MATERIALS:
   a. PORTLAND CEMENT: ASTM C 150, TYPE I/II
   b. FLY ASH: ASTM C 618, CLASS F
   c. GROUND GRANULATED BLAST FURNACE SLAG: ASTM C 989, GRADE 120
   d. NORMAL WEIGHT AGGREGATES: ASTM C 33
      - MAXIMUM COARSE AGGREGATE SIZE: 1 INCH NOMINAL
      - FINE AGGREGATE SHALL BE FREE OF MATERIAL WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.
   e. WATER: ASTM C 94, POTABLE

4. ADMIXTURES:
   a. AIR ENTRAINMENT: ASTM C 260
   b. WATER-REDUCER: ASTM C 494
   c. SILICA FUME: ASTM C 1240
   d. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED.

5. CONCRETE MIXTURES:
   a. FLY ASH, POZZOLAN, GROUND GRANULATED BLAST FURNACE SLAG, AND SILICA FUME MAY BE USED AS NEEDED TO REDUCE THE TOTAL AMOUNT OF PORTLAND CEMENT WHICH WOULD OTHERWISE BE USED BY NOT MORE THAN 40 PERCENT.
      - MAXIMUM SUBSTITUTION OF FLY ASH SHALL BE 20 PERCENT.
      - MAXIMUM SUBSTITUTION OF SILICA FUME SHALL BE 10 PERCENT.

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6. PROPORTION NORMAL WEIGHT CONCRETE MIXES AS FOLLOWS:

LOCATION	28 DAY STRENGTH (f'c)	WATER-CEMENTIOUS RATIO	SLUMP LIMIT	AIR CONTENT
SLABS ON GRADE	5000 PSI	0.45	4" ± 1"	6.0% ± 1.5%

7. ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.

8. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.

9. THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RESHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL SHORING AND RESHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.

10. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

FOUNDATIONS	3 INCHES
SLABS ON GRADE	2 INCHES (TOP)

STRUCTURAL AND MISCELLANEOUS STEEL:

1. CODES AND STANDARDS:
   a. AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
   b. AISC 303 "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES"
   c. AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
   d. RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS"
   e. AWS D1.1 "STRUCTURAL WELDING CODE"
   f. AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL"

2. SUBMITTALS:
   a. SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.

3. MATERIALS:
   a. CHANNELS, ANGLES, PLATES: ASTM A 36
   b. STEEL PIPE: ASTM A 53, TYPE E OR S, GRADE B
   c. GALVANIZE: HOT-DIP ZINC COATING, ASTM A 123

4. CONNECTIONS:
   a. WELDED CONNECTIONS: E70XX ELECTRODES
   b. HIGH-STRENGTH BOLTS: ASTM F 3125, A 325, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS
      ASTM F 3125, A 490, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS
   c. SHEAR CONNECTORS: ASTM A 108, GRADES 1015 THROUGH 1020, HEADED STUD TYPE

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5. INSPECTIONS BY INDEPENDENT INSPECTION AGENCY:
   a. BOLTED CONNECTIONS: RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING A-325 OR A-490 BOLTS"
   b. WELDED CONNECTIONS: VISUAL INSPECTION, TESTING AND INSPECTION PER AWS D1.1
   c. VERIFY, WITH ERECTOR PRESENT, ELEVATIONS OF CONCRETE AND MASONRY BEARING SURFACES AND LOCATIONS OF ANCHOR BOLTS AND OTHER EMBEDDED ITEMS.

6. INSTALLATION
   a. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE OR SINGLE PLATE SHEAR CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION.
      - MINIMUM EDGE DISTANCE: 1 1/2 INCHES
      - BOLT SPACING: 3 INCHES
   b. BEAM CONNECTIONS SHALL USE NO LESS THAN TWO 3/4" DIAMETER ASTM A 325N OR A 490 HIGH STRENGTH BOLTS.
   c. ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS.
   d. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.
   e. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.

SPECIAL INSPECTIONS NOTES:

1. PER THE CONTRACT REQUIREMENTS, THE OWNER WILL ENGAGE THE SERVICES OF ONE OR MORE INSPECTION AGENCIES TO PROVIDE INSPECTION SERVICES DURING CONSTRUCTION ON WORK INDICATED IN THE SCHEDULE OF SPECIAL INSPECTIONS. IN ACCORDANCE WITH HE PROVISIONS OF THE 2018 INTERNATIONAL BUILDING CODE.

2. SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED ON A CONTINUOUS OR PERIODIC FREQUENCY AS NOTED IN THE SCHEDULE.

3. REFER TO THE GENERAL NOTES, SPECIFICATIONS, AND GEOTECHINCAL REPORT FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS.

4. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT RECTIFIED, THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO COMPLETION OF THAT PHASE OF WORK.

5. EACH INSPECTION AGENCY SHALL SUBMIT INSPECTION REPORTS TO THE CONTRACT, ARCHITECT, OWNER OR ENGINEER OF RECORD FOR REVIEW. REPORTS SHALL DOCUMENT REQUIRED INSPECTIONS AND CORRECTIONS OF ANY DISCREPANCIES. REPORTS SHALL BE PROVIDED AT INTERVALS CONVEYING THE PROGRESS OF CONSTRUCTION.

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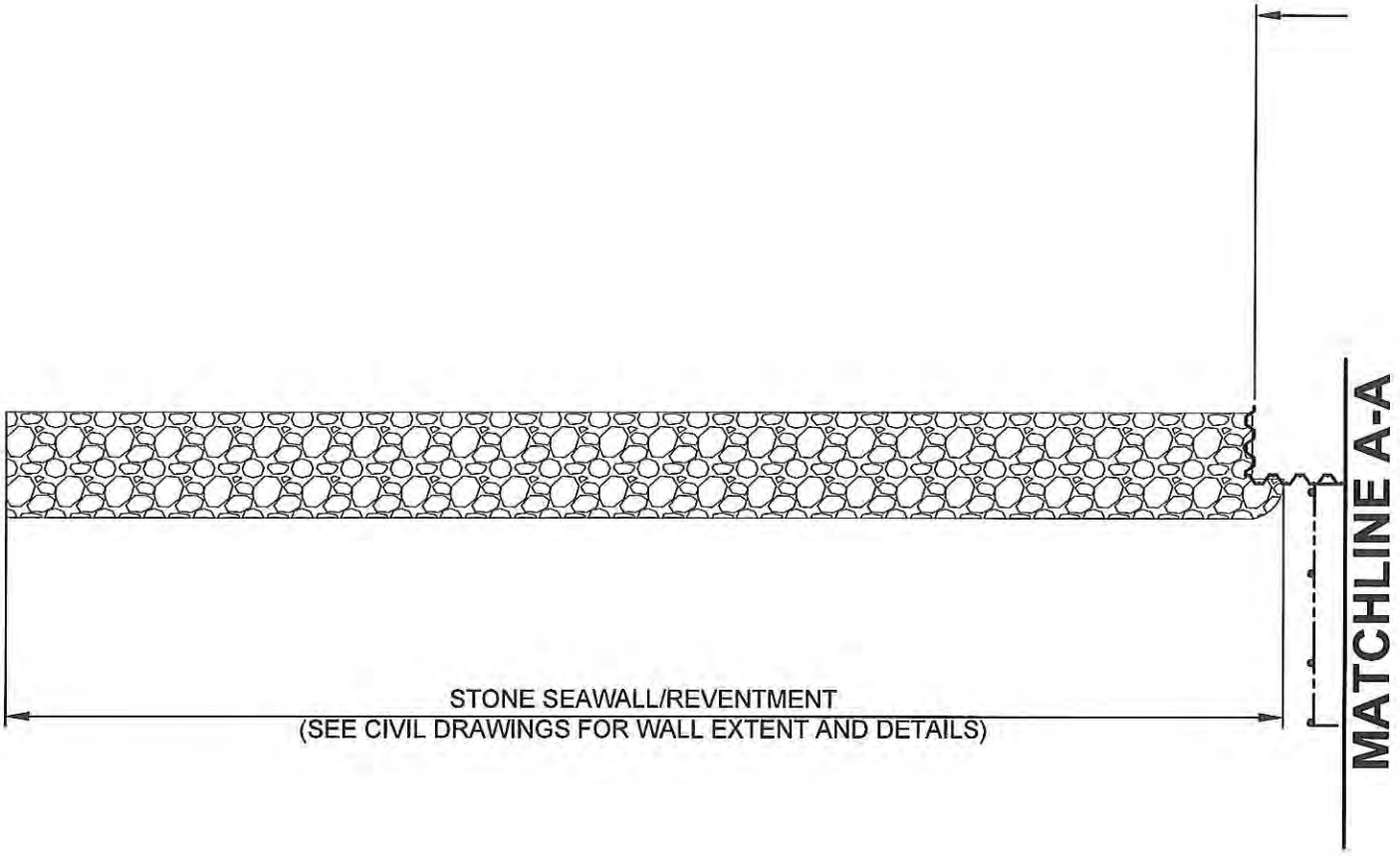
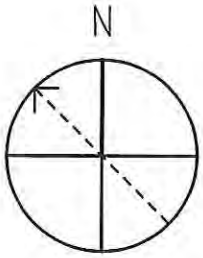


PLAN NOTES:



1. SEE CIVIL DRAWINGS FOR TOPO AND CONTOURS
2. SEE CIVIL DRAWINGS FOR WALL LENGTHS
3. SEE CIVIL DRAWINGS FOR NORTHINGS AND EASTINGS
4. SEE CIVIL DRAWINGS FOR STRUCTURAL DEMOLITION LOCATIONS.
5. MORE NOTES FORTHCOMING FOR 95% SUBMITTAL

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BULKHEAD AND STONE SEAWALL PLAN

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