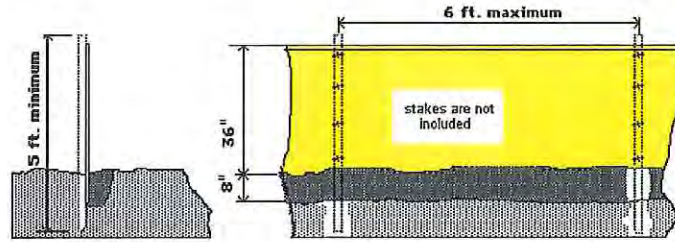


## 44" STAKED TURBIDITY BARRIER



**Staked Barrier**

### Specifications for Staked Barrier with 18oz fabric

	ENGLISH	METRIC	TESTING METHOD
Weight	18 oz./yd <sup>2</sup>	610 g/m <sup>2</sup>	FS 5040 / ASTM D3776
Std. Dimensions	44 in. high x 100 ft	1.13m high x 30.5m	
Construction	9 x 9/1" by 840 x 840	4 x 4/cm by 924 x 924	
Grab Tensile	281 x 247 lbs./2"	1250 x 1100 N/5 cm	FS 5100 / ASTM D5034
Tongue Tear	51 x 45 lbs./1"	225 x 200 N/2.5 cm	FS 5134 / ASTM D2261
Adhesion	20 lbs./2"	90 N/5 cm	FS 5970 / ASTM D751
Finish	Matte		
Cold Crack	-4° F	-20° C	FS 5874 / ASTM D2136
Fire Retardant	Self Extinguishing		Pass

**All seams heat sealed**  
**Stakes are not included**  
**Standard size: 100ft. length X 44 in.**

SHEET 11 OF 13



ENGINEERS  
 PLANNERS  
 SCIENTISTS  
 CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD  
 SPARKS, MARYLAND 21152  
 TELEPHONE: (410) 316-7800  
 FAX: (410) 316-7818

DATE  
 03/28/2022

SCALE  
 AS SHOWN


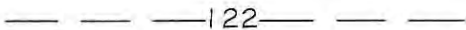




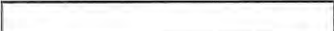


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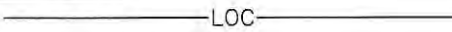
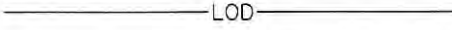
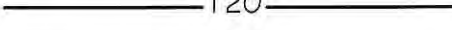
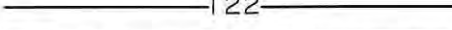

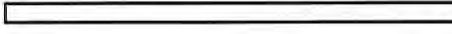




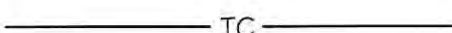
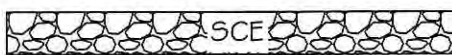
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 CTS

**STAKED TURBIDITY BARRIER  
 DETAIL**  
 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




# LEGEND

-  EX. INDEX CONTOUR
-  EX. INTERMEDIATE CONTOUR
-  PROPERTY LINE
-  EASEMENT LINE
-  EX. ELECTRIC
-  EX. WOODS, BUSHES & SHRUB LINE
-  EX. BUILDING
-  EX. POWER POLE
-  EX. LIGHT POLE

-  LIMITS OF CONTRACT (LOC)
-  LIMITS OF DISTURBANCE (LOD)
-  PROPOSED MAJOR CONTOUR
-  PROPOSED MINOR CONTOUR
-  PROPOSED STONE REVETMENT
-  PROPOSED BULKHEAD
-  PROPOSED PIER
-  PROPOSED BOAT SLIP
-  PROPOSED PILE
-  PROPOSED BOAT RAMP
-  PROPOSED TURBIDITY CURTAIN/BARRIER
-  PROPOSED STABILIZED CONSTRUCTION ENTRANCE

- LIMITS OF CONTRACT (LOC)
- LIMITS OF DISTURBANCE (LOD)
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STONE REVETMENT
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- PROPOSED BOAT SLIP
- PROPOSED PILE
- PROPOSED BOAT RAMP
- PROPOSED TURBIDITY CURTAIN/BARRIER
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE

 <p><b>KCI</b> TECHNOLOGIES</p>	ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS	DATE <b>03/28/2022</b>	<h2>LEGEND</h2> <p>PROJECT: REPLACEMENT BULKHEADS, PIERS, PILES, REVETMENT  <b>PHASE 1 MARINE IMPROVEMENT PROJECT</b>                  AT  <b>LOVE POINT STATE PARK</b>                  FOR STATE OF MD DNR, 580 TAYLOR AVE E-4, QUEEN ANNE'S COUNTY,                  ANNAPOLIS, MD 21401</p>
	936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818	SCALE <b>NOT TO SCALE</b>	
		DESIGNED BY <b>CTS</b>	
		DRAWN BY <b>CTS</b>	

BY: \$USERNAME\$ FILE: \$FILE\$

DESIGN LOADING NOTES:

1. DEAD LOAD: CALCULATED WEIGHT OF THE CONSTRUCTION MATERIALS
2. LIVE LOAD: 60 POUNDS PER SQUARE FOOT
3. WIND LOAD DESIGN CRITERIA:
  - NOMINAL DESIGN WIND SPEED ( $V_{asd}$ ): 112 MPH
  - RISK CATEGORY: II
  - WIND EXPOSURE: D
  - INTERNAL PRESSURE COEFFICIENT ( $GC_{pi}$ ): 0.85
4. SNOW LOAD DESIGN CRITERIA:
  - GROUND SNOW LOAD ( $P_g$ ): 25 PSF
  - FLAT ROOF SNOW LOAD ( $P_f$ ): 20 PSF
  - EXPOSURE FACTOR ( $C_e$ ): 1.0
  - IMPORTANCE FACTOR ( $I_s$ ): 1.0
  - THERMAL FACTOR ( $C_t$ ): 1.0
5. MAXIMUM TOTAL ALLOWABLE LATERAL LOADING OF PILES: 3 KIPS

TIMBER PILING NOTES:

1. TIMBER PILES SHALL BE SOUTHERN YELLOW PINE AND HAVE A MINIMUM BUTT DIAMETER OF 12 INCHES, MINIMUM TIP DIAMETER OF 8 INCHES (12-3-8) CLASS B PILE MATERIAL, TAPER, STRAIGHTNESS, AND ALLOWABLE DEFECTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-25.
2. TIMBER PILES SHALL BE PRESERVATIVE PRESSURE TREATED IN ACCORDANCE WITH AWPAC USE CATEGORY UC5A AND P5 FOR CHROMATED COPPER ARSENATE (CCA) TO A MINIMUM RETENTION OF 2.5 PCF.
3. PILES SHALL BE DRIVEN TO SPECIFIED TIP ELEVATION OR PRACTICAL REFUSAL, WHICHEVER IS ACHIEVED FIRST.
4. PILES SHALL BE INSTALLED TRUE AND PLUMB TO THE EMBEDMENT DEPTH AS SPECIFIED ON THESE DRAWINGS.
5. TIMBER PILES SHALL BE FREE FROM DEFECTS THAT MAY IMPAIR STRENGTH, DURABILITY, OR DRIVE ABILITY; CUT FROM SOLID SOUND LINE; CLOSED GRAINED TREES; FREE FROM INJURIOUS RINGS AND LARGE UNSOUND KNOTS OR DECAY. USE TREES THAT HAVE A UNIFORM TAPER FROM BUTT TO TIP.
6. HANDLE TIMBER PILES CAREFULLY WITHOUT SUDDEN DROPPING, BREAKING OF OUTER FIBERS, BRUISING OR PENETRATING THE SURFACE WITH TOOLS.
7. CUT AND DRILLED EXPOSED SURFACES SHALL BE LIBERALLY RECOATED BY BRUSH WITH A FIELD TREATMENT ACCEPTED BY THE OWNER'S REPRESENTATIVE.

SHEET S1 OF S30



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  
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WOOD AND TIMBER NOTES:

1. TIMBER CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF AITC 108 "STANDARD FOR HEAVY TIMBER CONSTRUCTION."
2. LUMBER AND TIMBER SHALL BE SOUTHERN PINE NO.2 GRADE OR BETTER AND CONFORM TO THE GRADING AND SIZING REQUIREMENTS OF DOC PS 20. WOOD TO BE PRESSURE TREATED.
3. LUMBER AND DECKING, INCLUDING STRINGERS AND BEAMS SHALL BE PRESERVATIVE PRESSURE TREATED IN ACCORDANCE WITH AWPA USE CATEGORY UC4B AND P5 FOR CHROMATED COPPER ARSENATE (CCA) TO A MINIMUM RETENTION OF 0.60 PCF FOR DECKING AND 1.5 PCF FOR OTHER MEMBERS.
4. CUT AND DRILLED EXPOSED TIMBER AND LUMBER SURFACES SHALL BE LIBERALLY RECOATED WITH PRESERVATIVE COMPOUND BY BRUSH WITH A FIELD TREATMENT ACCEPTED BY THE OWNER'S REPRESENTATIVE.
5. ALL STEEL BOLTS, CONNECTION PLATES AND OTHER HARDWARE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123 OR ASTM A 153, AS APPLICABLE.
6. ALL BOLTS SHALL BE THRU BOLTED AND RECESSED ON THE OUTBOARD SIDE.

GENERAL NOTES:

1. ELEVATIONS ARE BASED ON NAVD88 DATUM AS SHOWN ON THIS DRAWING. ELEVATION 0.0 IS SET AT MEAN LOW WATER.
2. ALL EXISTING DIMENSIONS, ELEVATIONS AND CONDITIONS RELATING TO THE WORK SHALL BE FIELD VERIFIED BY THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ORDERING MATERIALS AND STARTING THE WORK.
3. STRUCTURAL PLANS AND SPECIFICATIONS, TO THE BEST OF THE ENGINEER'S KNOWLEDGE, COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (IBC)2018.
4. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS, INCLUDING THE FEDERAL DEPARTMENT OF GENERAL SERVICES, NRG, DNR, STANDARD SPECIFICATIONS FOR CONSTRUCTION.
5. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED AND INCLUDED IN THE PROJECT.
6. IN THE CASE OF CONFLICTS BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
7. THE CONTRACTOR SHALL NOT MAKE DEVIATIONS FROM THE DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
8. THE CONTRACTOR SHALL TAKE ALL THE NECESSARY PRECAUTIONS/MEASURES TO PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM DAMAGES. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGES THAT MAY OCCUR DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DONE TO EXISTING STRUCTURES, UTILITIES AND ROADWAYS THAT ARE NOT PART OF THIS SPECIFIC PROJECT. ANY DAMAGE CAUSED BY CONSTRUCTION OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND AT NO ADDITIONAL COST TO THE OWNER.

SHEET S2 OF S30



ENGINEERS  
PLANNERS  
SCIENTISTS  
CONSTRUCTION MANAGERS

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SPARKS, MARYLAND 21152  
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04/13/2022

SCALE  
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DESIGNED BY  
PDB

DRAWN BY  
PDB

## STRUCTURAL NOTES

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