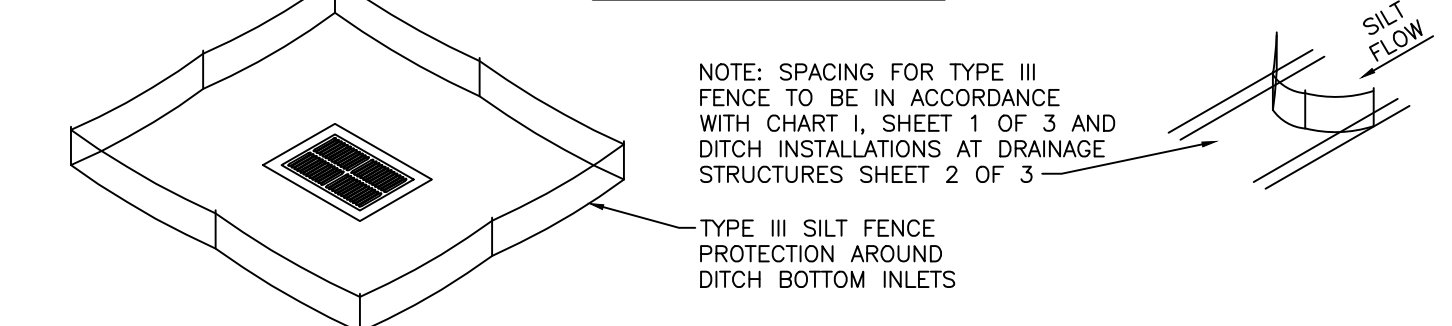


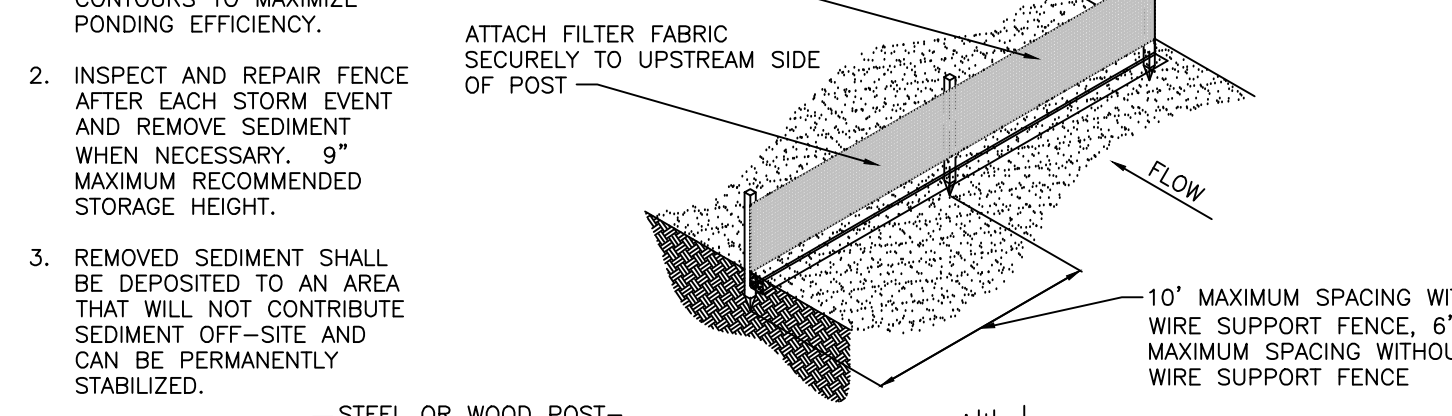
**TYPE III SILT FENCE**



**TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS**

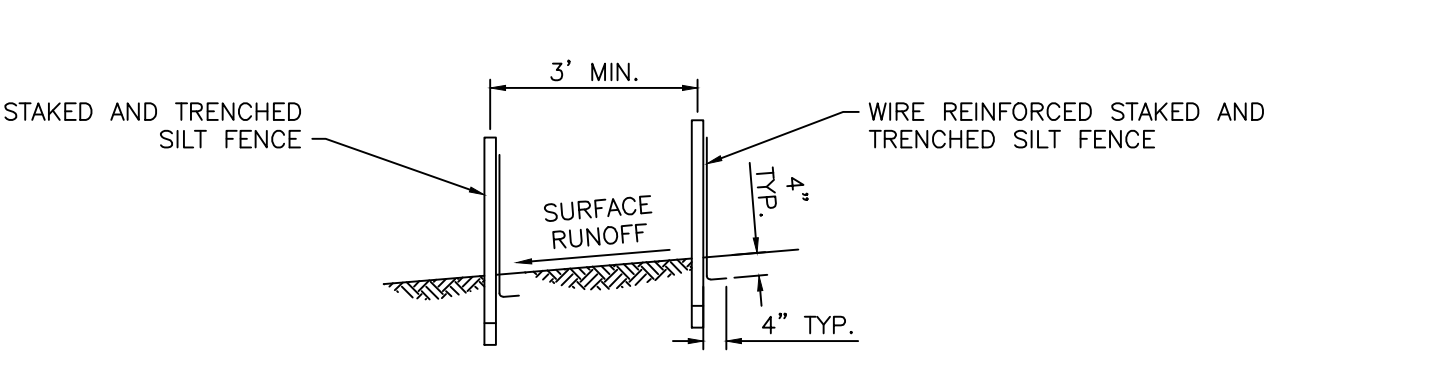
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

**SILT FENCE APPLICATIONS-N.T.S.**

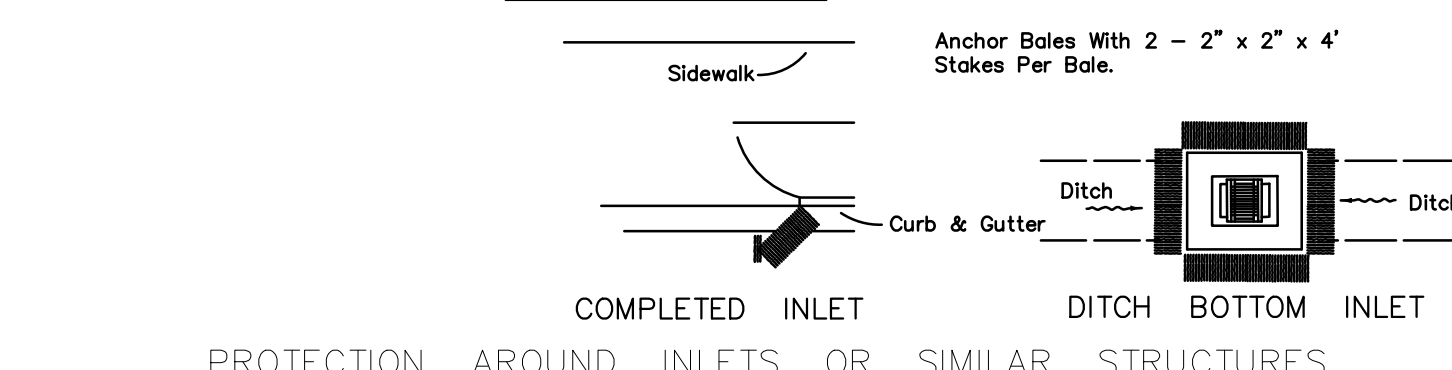


**TYPE IV SILT FENCE-N.T.S.**

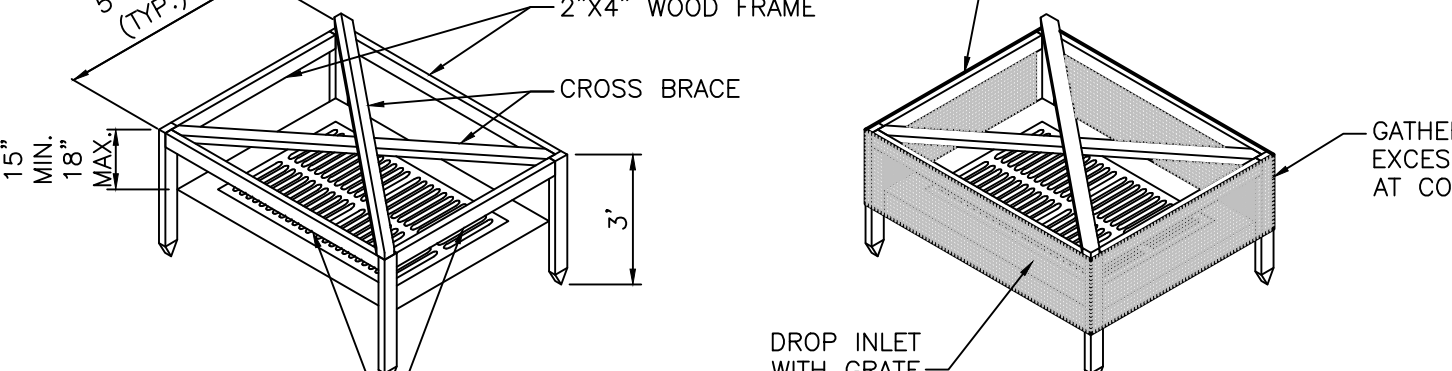
**DOUBLE ROW STAKED SILT FENCE FOR USE AROUND WETLANDS-N.T.S.**



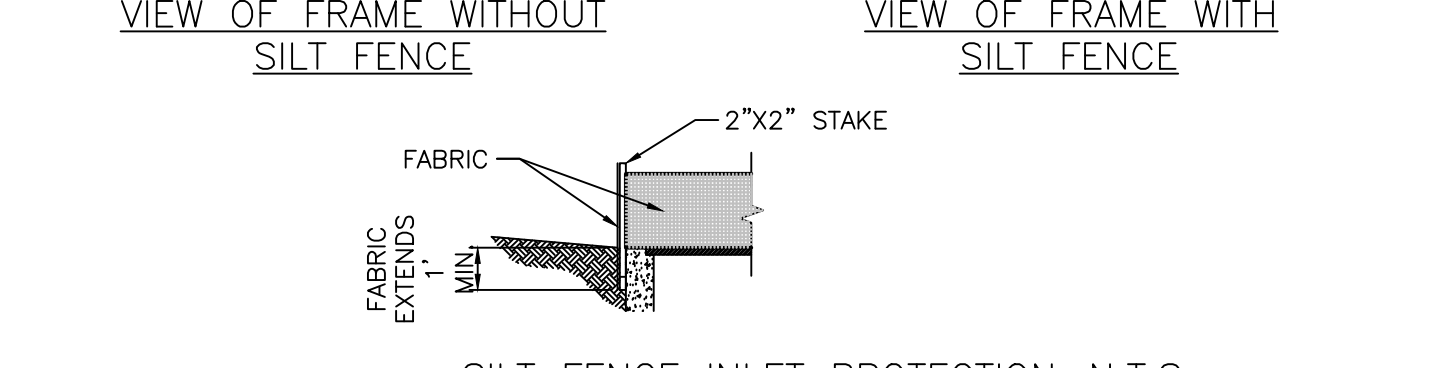
**PROTECTION AROUND INLETS OR SIMILAR STRUCTURES**



**SILT FENCE INLET PROTECTION-N.T.S.**



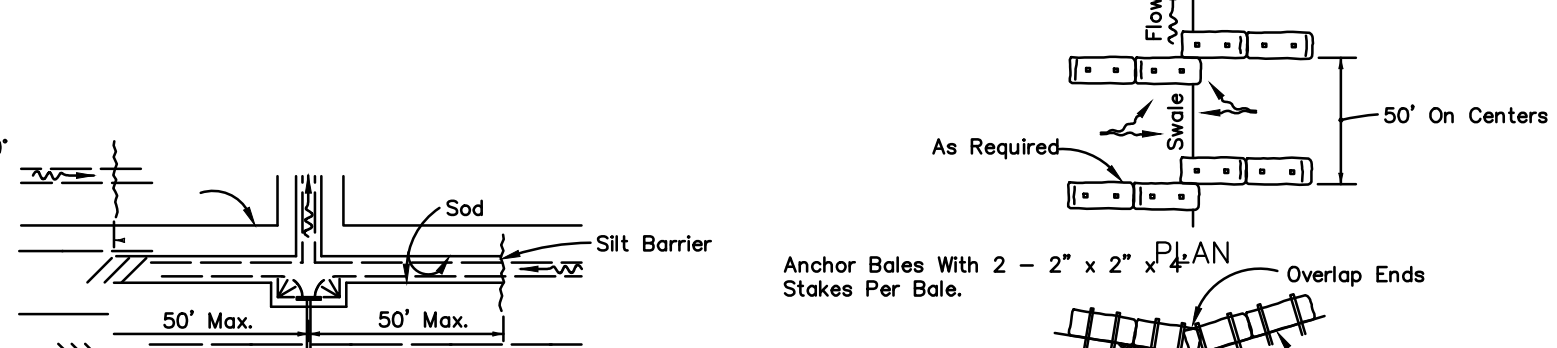
**SOCK-PIPE OR ROCK BAG INLET FILTER-N.T.S.**



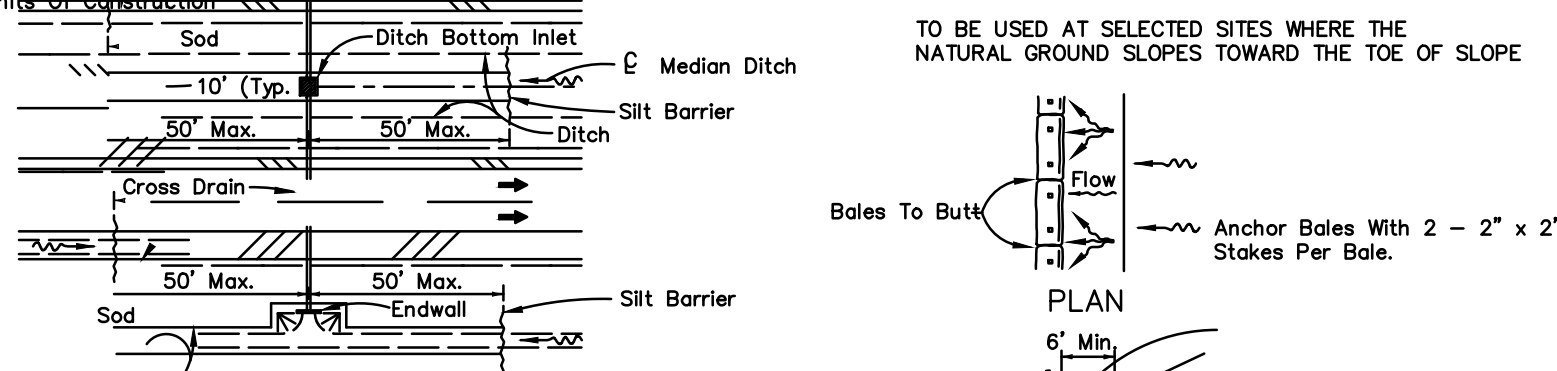
**TEMPORARY ADS OUTFALL**

**EROSION CONTROL DETAILS**

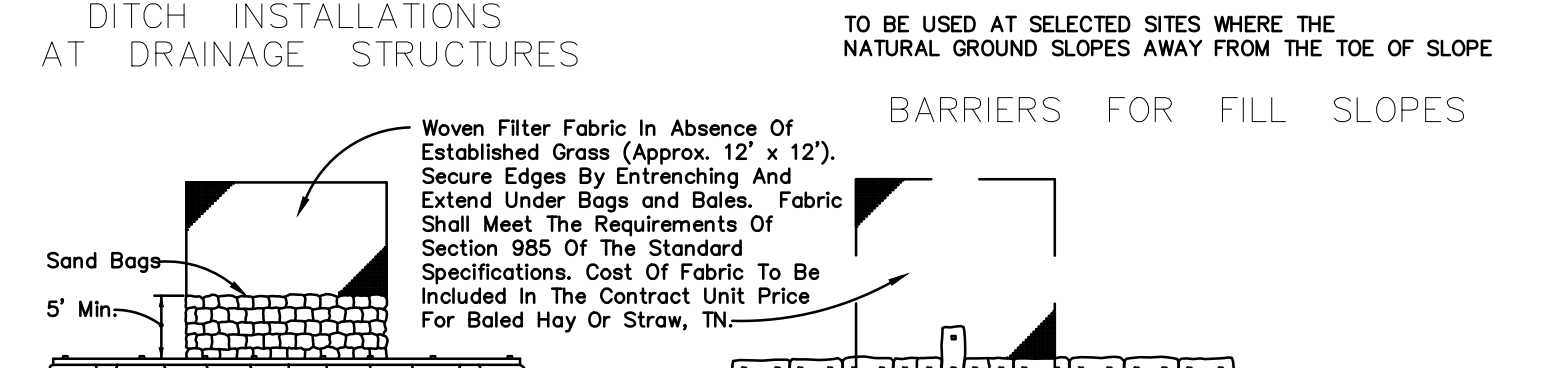
- All turbidity, erosion, and sedimentation controls shall be in accordance with 'Best Management Practices' as described in the Florida Land Development Manual: A Guide to Sound Land and Water Management.
  - Reference F.D.O.T. Index #102.
- NOTES:**
- SILT FENCE MUST BE INSTALLED BY HAND ALONG SURVEYED CONSERVATION EASEMENT BOUNDARIES (AT TOE OF SLOPE-SEE SECTIONS EE,N,O) PRIOR TO CONSTRUCTION.
  - NO TURBID DISCHARGE TO WETLANDS IS PERMITTED.
  - ALL STOCKPILE AND/OR CONSTRUCTION STAGING AREAS MUST BE LOCATED 100 FT. FROM WETLANDS.



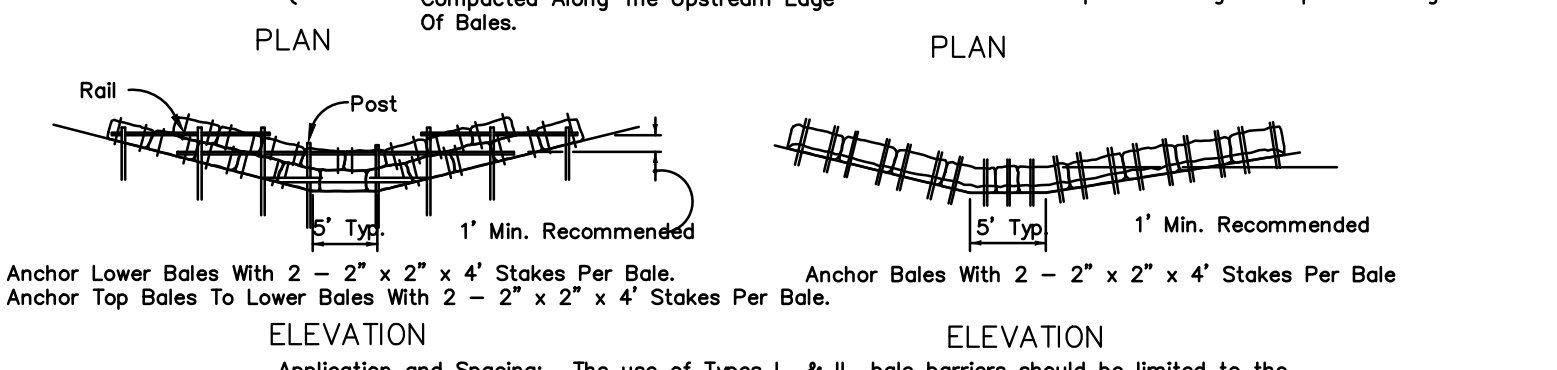
**DITCH INSTALLATIONS AT DRAINAGE STRUCTURES**



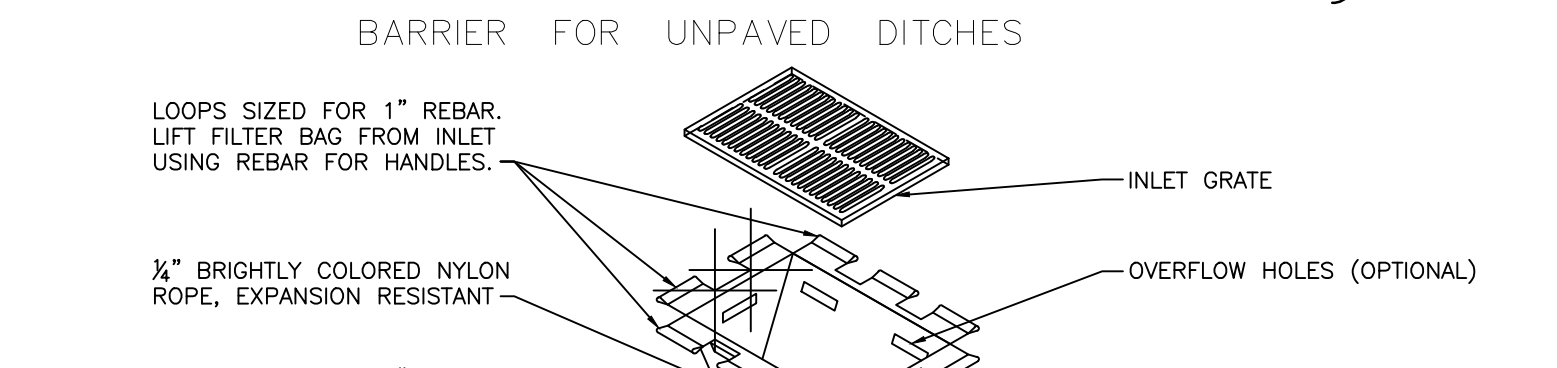
**BARRIERS FOR FILL SLOPES**



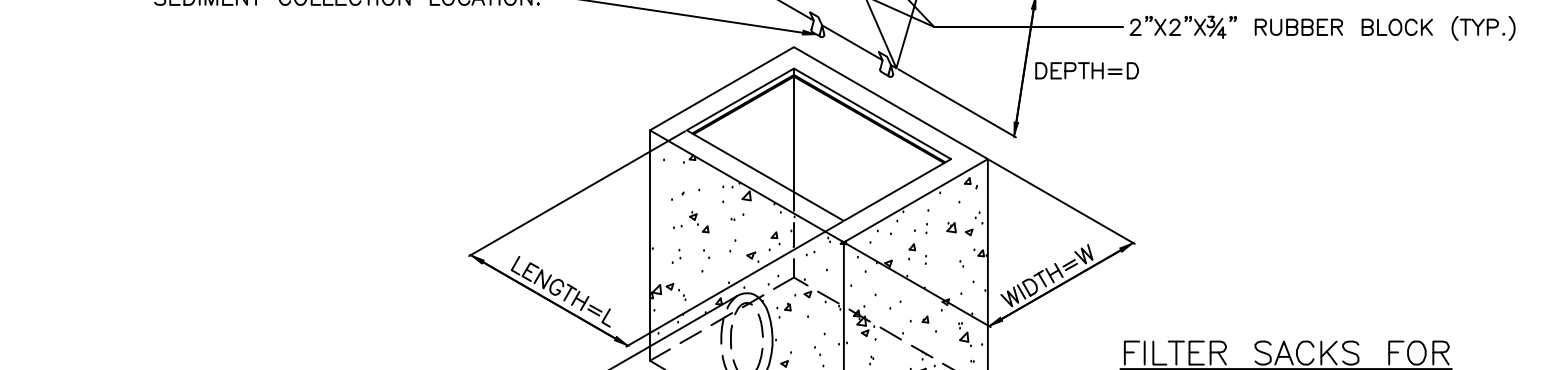
**WOVEN FILTER FABRIC IN ABSENCE OF ESTABLISHED GRASS (APPROX. 12' X 12').**



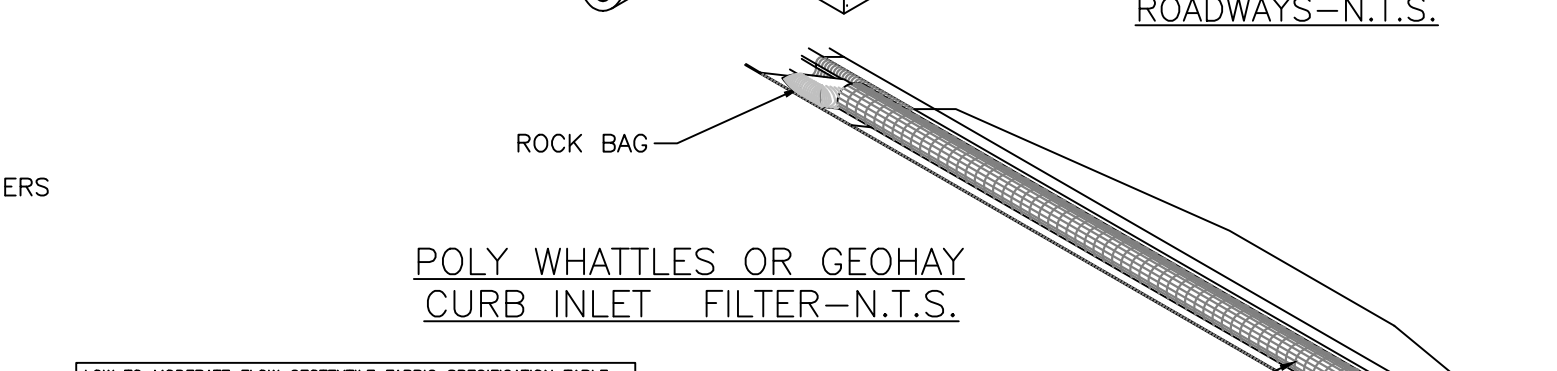
**BARRIER FOR UNPAVED DITCHES**



**CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)**



**CONCRETE & STUCCO WASTE MANAGEMENT-N.T.S.**



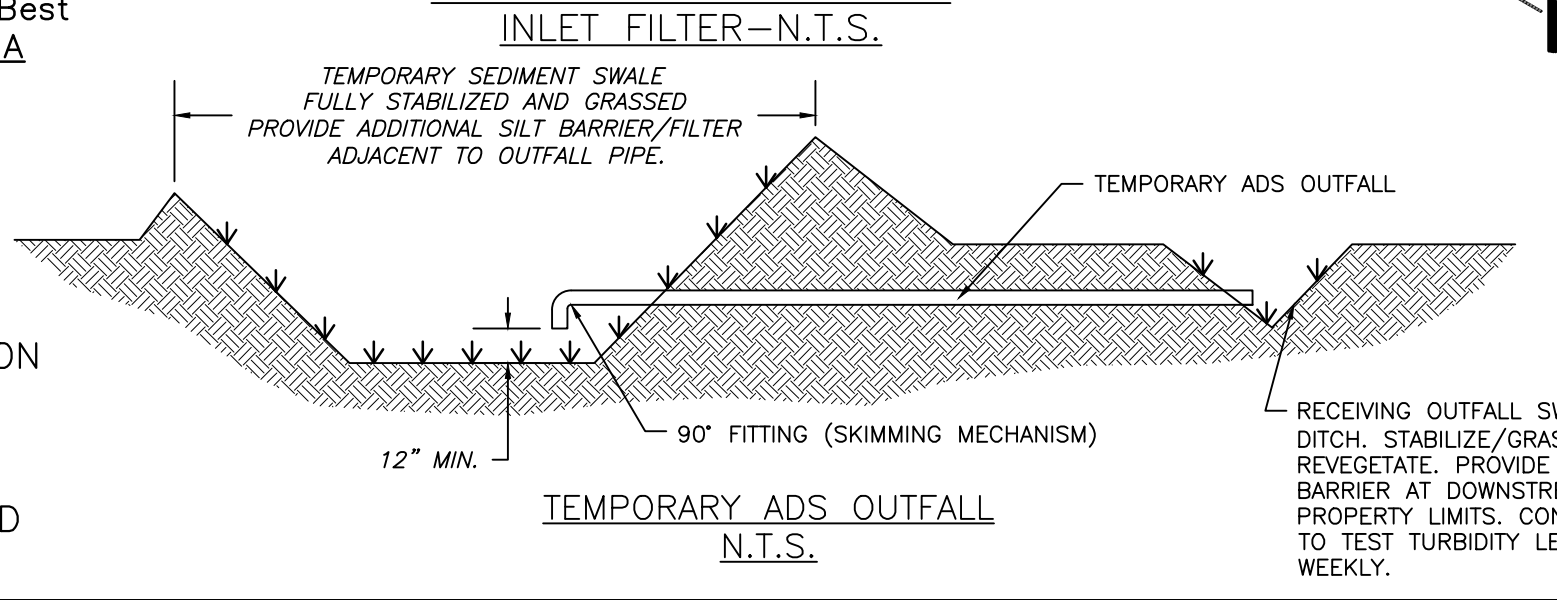
**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.**

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4533	100 LBS.
GRAB TENSILE ELONGATION	ASTM D-4533	200%
TEAR STRENGTH	ASTM D-4533	100 LBS.
MULLER BURST	ASTM D-3786	1800 P.S.I.
TRAPAZOID TEAR	ASTM D-4533	120 LBS.
UV RESISTANCE	ASTM D-4533	180HR
APPARENT OPENING SIZE	ASTM D-4751	40 US. SIEVE
FLOW RATE	ASTM D-4481	50 GPM/MIN/50. FT. PERMITTIVITY
PERMITTIVITY	ASTM D-4481	0.95 SEC. - 1

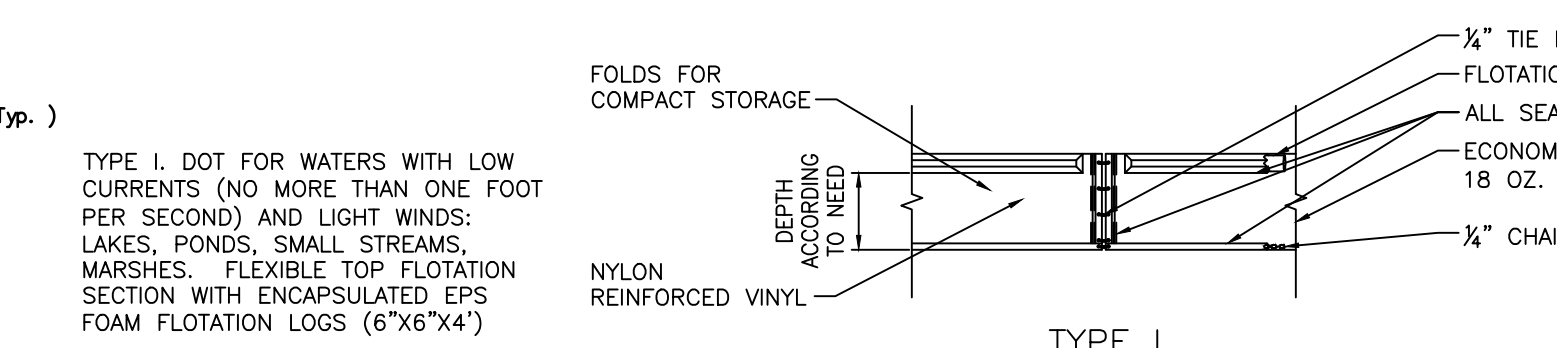
  

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4533	285 LBS.
GRAB TENSILE ELONGATION	ASTM D-4533	200%
TEAR STRENGTH	ASTM D-4533	135 LBS.
MULLER BURST	ASTM D-3786	1850 P.S.I.
TRAPAZOID TEAR	ASTM D-4533	145 LBS.
UV RESISTANCE	ASTM D-4533	180HR
APPARENT OPENING SIZE	ASTM D-4751	20 US. SIEVE
FLOW RATE	ASTM D-4481	50 GPM/MIN/50. FT. PERMITTIVITY
PERMITTIVITY	ASTM D-4481	1.2 SEC. - 1

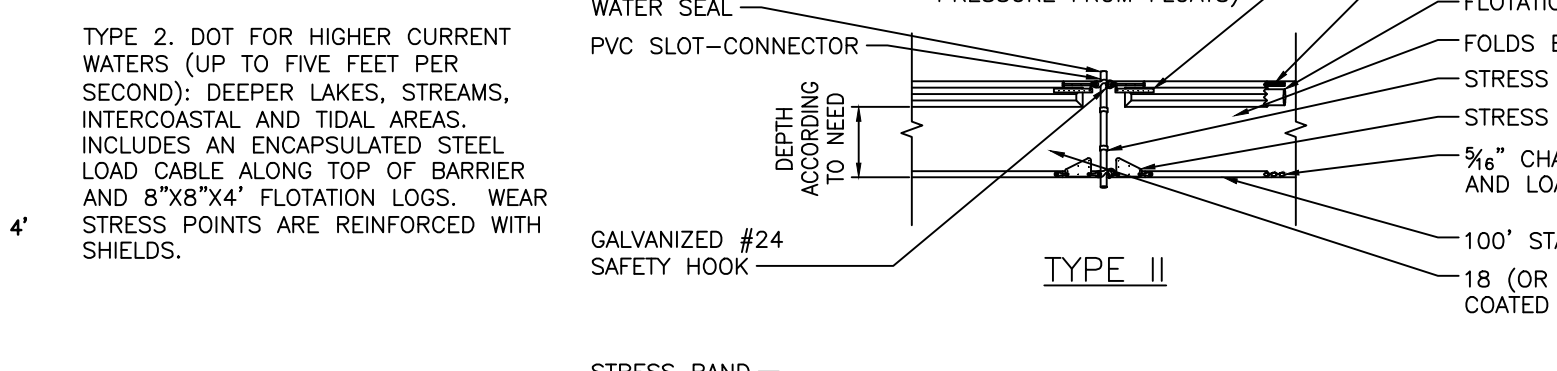
**TEMPORARY SEDIMENT SWALE FULLY STABILIZED AND GRASSED PROVIDE ADDITIONAL SILT BARRIER/FILTER ADJACENT TO OUTFALL PIPE.**



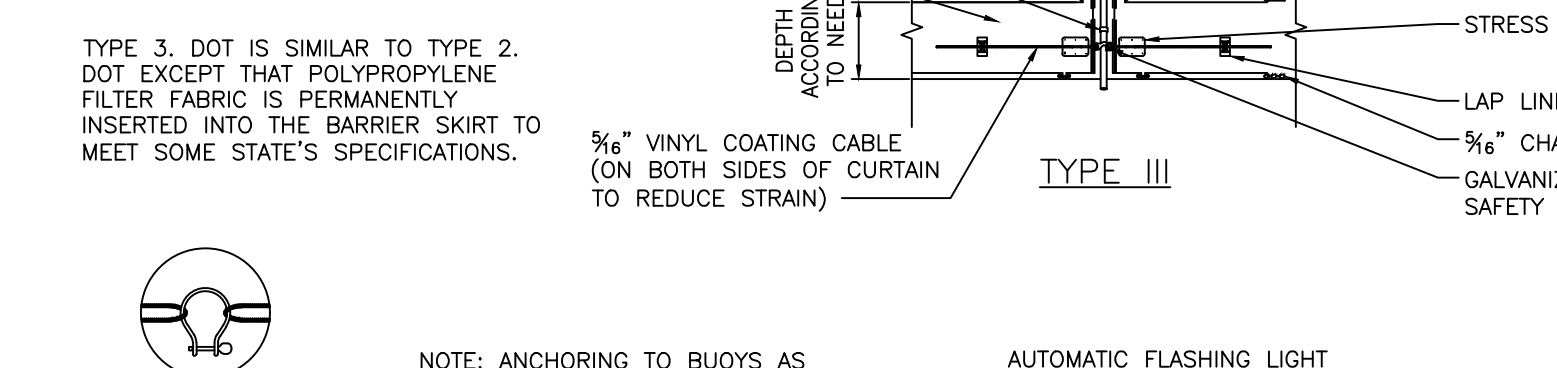
**TEMPORARY SEDIMENT SWALE FULLY STABILIZED AND GRASSED PROVIDE ADDITIONAL SILT BARRIER/FILTER ADJACENT TO OUTFALL PIPE.**



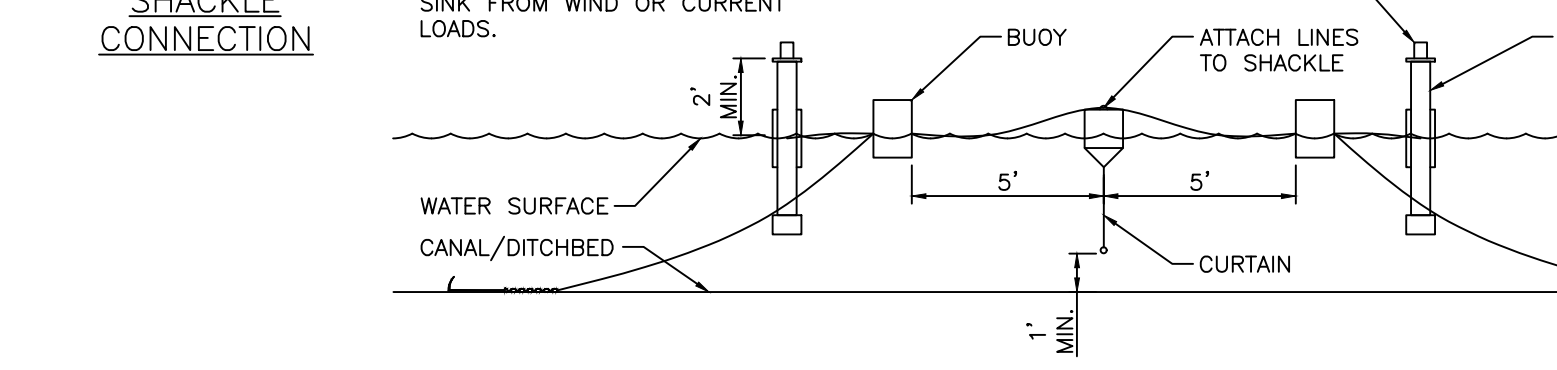
**TYPE I DOT FOR WATERS WITH LOW CURRENTS (NO MORE THAN ONE FOOT PER SECOND) AND LIGHT WINDS: LAKES, PONDS, SMALL STREAMS, MARSHES. FLEXIBLE TOP FLOTATION SECTION WITH ENCAPSULATED EPS FOAM FLOTATION LOGS (6'X8'X4')**



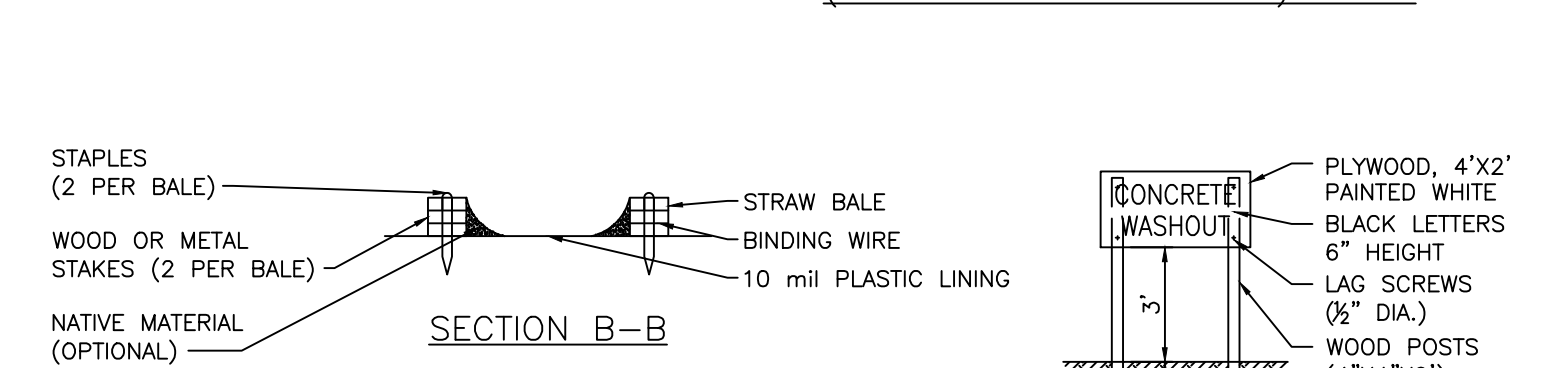
**TYPE 2 DOT FOR HIGHER CURRENT WATERS (UP TO FIVE FEET PER SECOND): DEEPER LAKES, STREAMS, INTERCOASTAL AND TIDAL AREAS. INCLUDES AN ENCAPSULATED STEEL LOAD CABLE ALONG TOP OF BARRIER AND 8'X8'X4' FLOTATION LOGS. WEAR STRESS POINTS ARE REINFORCED WITH SHIELDS.**



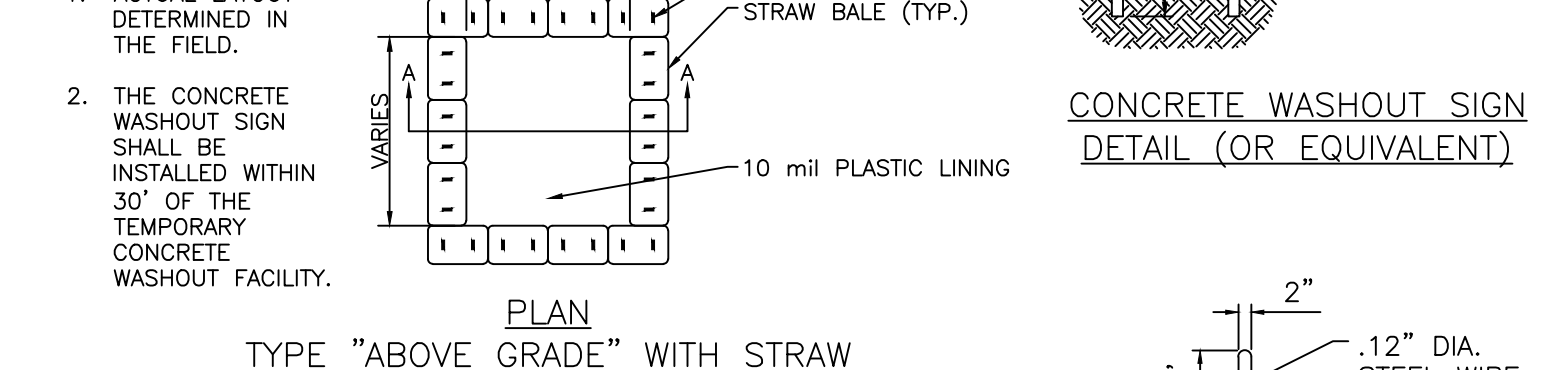
**TYPE 3 DOT IS SIMILAR TO TYPE 2. DOT EXCEPT THAT POLYPROPYLENE FILTER FABRIC IS PERMANENTLY INSERTED INTO THE BARRIER SKIRT TO MEET SOME STATE'S SPECIFICATIONS.**



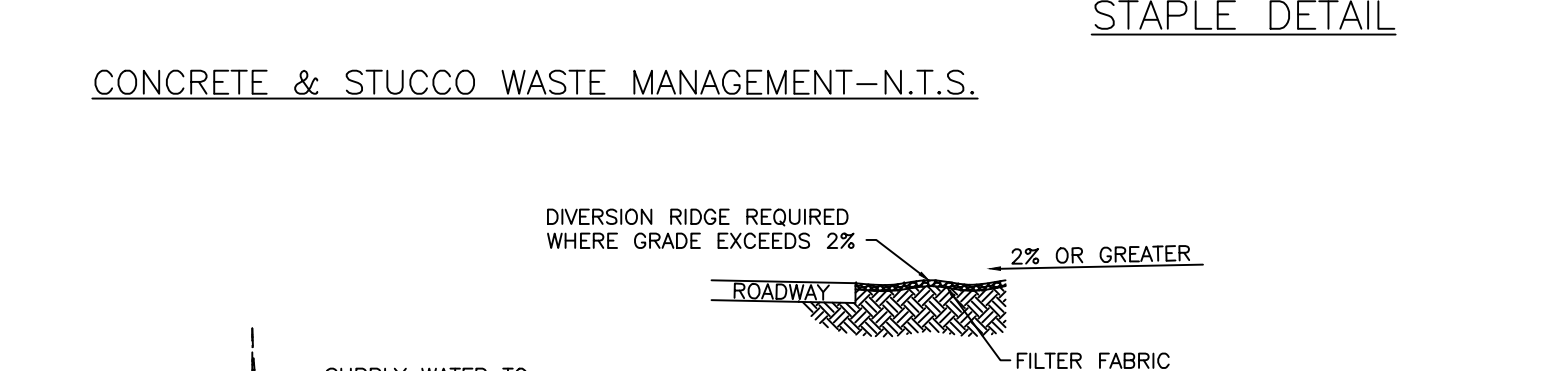
**BLOW-UP OF SHACKLE CONNECTION**



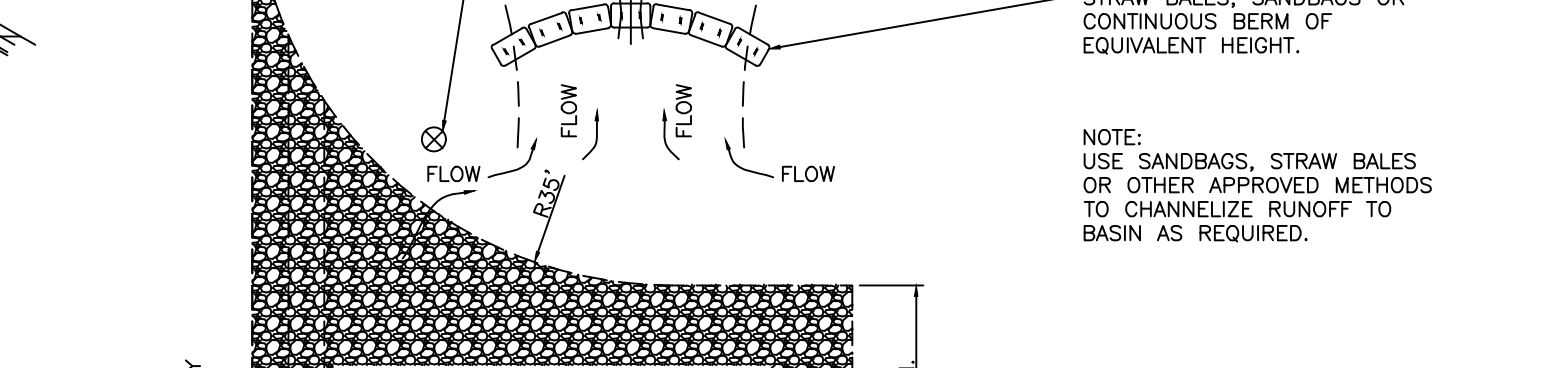
**ORIENTATION WHEN INSTALLED (TIDAL SITUATION-TYPE III)-N.T.S.**



**CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)**

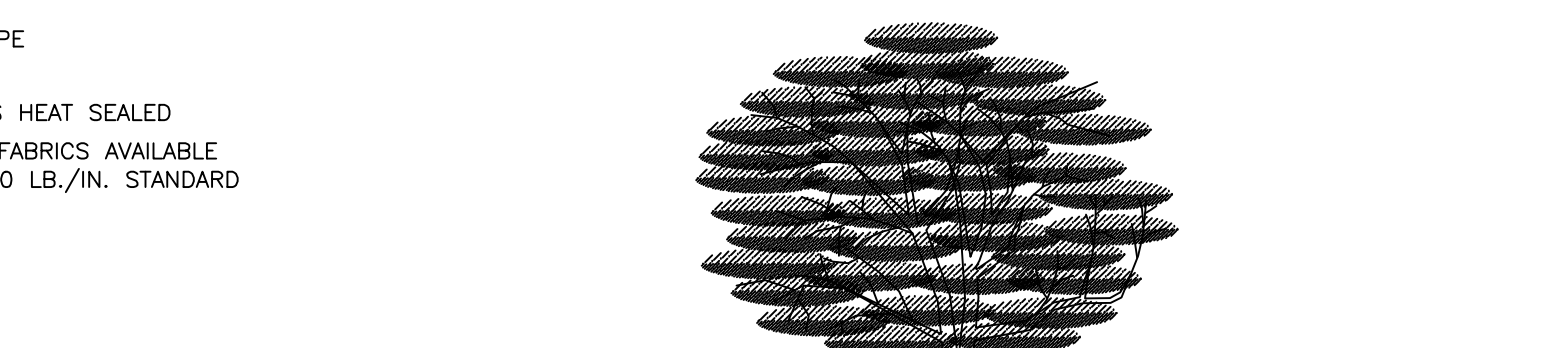


**CONCRETE & STUCCO WASTE MANAGEMENT-N.T.S.**

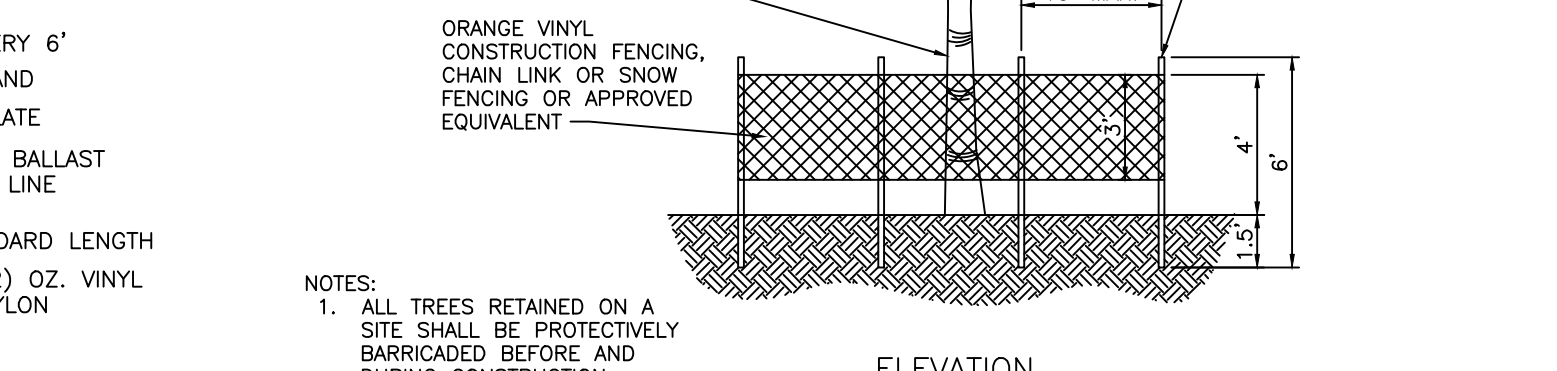


**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.**

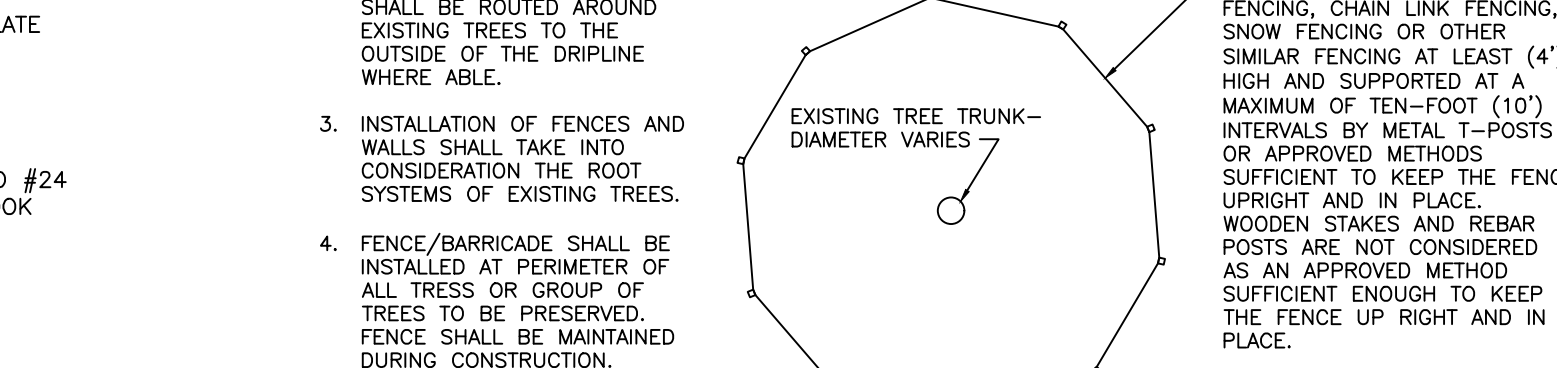
Parameter	SCREENING VALUES FOR DISCHARGE INTO:	
	Fresh Waters	Coastal Waters
Total Organic Carbon (TOC)	10.0 mg/L	10.0 mg/L
pH, standard units	6.0-8.5	6.5-8.5
Total Recoverable Mercury	0.012 µg/L	0.025 µg/L
Total Recoverable Cadmium	9.3 µg/L	9.3 µg/L
Total Recoverable Copper	2.8 µg/L	2.9 µg/L
Total Recoverable Lead	0.03 mg/L	5.8 mg/L
Total Recoverable Zinc	86.0 µg/L	86.0 µg/L
Total Recoverable Chromium (hex.)	11.0 µg/L	50.0 µg/L
Benzene	1.0 µg/L	1.0 µg/L
Naphthalene	100.0 µg/L	100.0 µg/L



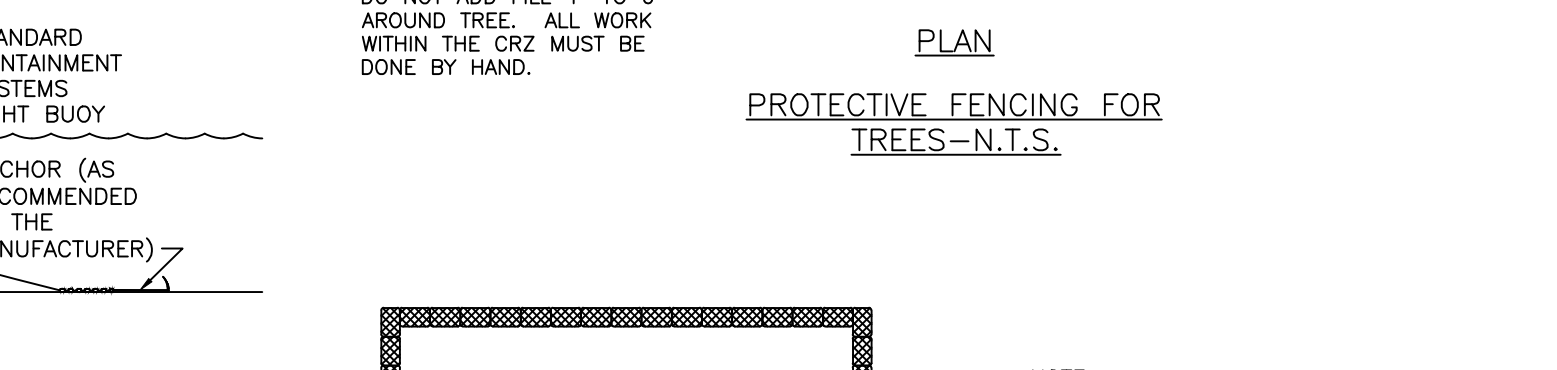
**PROTECTIVE FENCING FOR TREES-N.T.S.**



**SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL-N.T.S.**



**CONCRETE & STUCCO WASTE MANAGEMENT-N.T.S.**



**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.**

**EROSION CONTROL AND DEWATERING NOTES**

- SEDMIMENT BASINS AND TRAPS, PERIMETER DICES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPLSLOPE LAND DISTURBANCE TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BAUCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED.
- AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CURB OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN SYSTEM.
- EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 101, 102, AND 103 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, AND THE DETAILS AND NOTES ON THE PLANS.
- CONTRACTOR RESPONSIBLE FOR ALL SURFACE WATER DISCHARGES - RAINFALL RUN-OFF OR DEWATERING ACTIVITIES.
- CONTRACTOR MUST INCORPORATE ALL BMP'S NECESSARY TO MEET OR EXCEED STATE WATER QUALITY REQUIREMENTS.
- THIS POLLUTION PREVENTION PLAN IS A MINIMUM GUIDELINE ONLY. ADDITIONAL BMP'S MAY BE NECESSARY AT CONTRACTORS EXPENSE.
- NO TURBID DISCHARGE. TURBIDITY READINGS ARE REQUIRED ONCE A WEEK (BY THE CONTRACTOR) AND MUST BE REPORTED TO THE PROJECT ENGINEER. LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.
- DEWATERING ACTIVITIES:
  - A - DISCHARGE MUST NOT EXCEED STATE WATER QUALITY STANDARDS.
  - B - BEFORE THE COMMENCEMENT OF DEWATERING, USE PERMIT KNOWN AS A NOTICED GENERAL PERMIT FOR SHORT TERM CONSTRUCTION DE-WATERING, UNLESS DE-WATERING ACTIVITIES WILL RESULT IN LESS THAN 300,000 GPD FOR 30 DAYS OR LESS.
  - C - NO HYDRAULIC PUMPS MAY BE USED FOR DE-WATERING UNLESS APPROVED BY THE WATER MANAGEMENT DISTRICT FOR THAT AREA. DEWATERING EXISTING STORMWATER RETENTION AREAS (PONDS/LAKES) MAY BE EXEMPT FROM THIS CONDITION. CONTRACTOR TO CONFIRM WITH SURVMD.
  - D - NO TURBID DISCHARGE. TURBIDITY READINGS ARE REQUIRED ONCE A WEEK AND MUST BE REPORTED TO THE PROJECT ENGINEER.
- CONTRACTOR SHALL OBTAIN GENERIC PERMIT FOR THE DISCHARGE OF PRODUCED GROUND WATER FROM ANY NON-CONTAMINATED SITE ACTIVITY:
  - A. BEFORE DISCHARGE OF PRODUCED GROUND WATER CAN OCCUR FROM THE SITE, ANALYTICAL TESTS ON SAMPLES OF THE PROPOSED UNTREATED DISCHARGE WATER SHALL BE PERFORMED TO DETERMINE IF CONTAMINATION EXISTS BY CONTRACTOR. IF NONE EXISTS, THE RESULTS SHALL BE SUBMITTED TO THE FDEP INDUSTRIAL WASTEWATER PERMITTING WITHIN ONE WEEK OF COMMENCEMENT OF DISCHARGE (C.O. ALI KAZI, P.E., 3319 MAGUIRE BLVD., SUITE 232, ORLANDO, FL 32803), WITH A LETTER NOTIFYING THE AGENCY THAT DEWATERING ACTIVITIES WILL COMMENCE PURSUANT TO 62-621.300(2) F.A.C. AND THE SITE QUALIFIES FOR THE GENERIC PERMIT.
  - B. THE FACILITY IS AUTHORIZED TO DISCHARGE PRODUCED GROUND WATER FROM ANY NON-CONTAMINATED SITE ACTIVITY WHICH DISCHARGES BY A POINT SOURCE TO SURFACE WATERS OF THE STATE, AS DEFINED IN CHAPTERS 620, F.A.C., ONLY IF THE REPORTED VALUES FOR THE PARAMETERS LISTED IN TABLE 1 DO NOT EXCEED ANY OF THE LISTED SCREENING VALUES.
  - C. MINIMUM REPORTING REQUIREMENTS FOR ALL PRODUCED GROUND WATER DISCHARGERS: THE EFFLUENT SHALL BE SAMPLED (BY CONTRACTOR) BEFORE THE COMMENCEMENT OF DISCHARGE, AND THEN EVERY SIX (6) MONTHS FOR THE LIFE OF THE PROJECT TO MAINTAIN CONTINUED COVERAGE UNDER THIS PERMIT. THE EFFLUENT SHALL BE SAMPLED FOR THE PARAMETERS LISTED ON TABLE 1. EXCEPT THAT, THE DISCHARGE IS NOT AUTHORIZED BY THIS PERMIT, IF ANY OF THE ANALYTICAL TEST RESULTS EXCEED THE SCREENING VALUES LISTED IN TABLE 1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISIONS OF THIS PERMIT. IF ANY SCREENING VALUES (OTHER THAN TOC) EXCEED THE THRESHOLDS, THEN A GENERIC PERMIT CANNOT BE ISSUED, AND A SEPARATE INDIVIDUAL WASTEWATER PERMIT APPLICATION MUST BE SUBMITTED AT LEAST 90 DAYS PRIOR TO DATE OF DISCHARGE. THE ENGINEER OF RECORD MUST BE NOTIFIED IF THIS OCCURS.

DATE	REVISION	REASON
5/7/16	1	REVISED PER IFC COMMENTS

**SCHULKE, BITTLE & STODDARD, L.L.C.**  
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING  
 CERTIFICATION OF AUTHORIZATION NO.: 00008668  
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960  
 TEL: 772-772-9622 FAX: 772-770-9496 EMAIL: info@sbsengineers.com

**SHOPES AT 11TH**  
 PREVENTION DETAILS

ENGINEER CERTIFICATION  
 JOSEPH W. SCHULKE  
 KEVIN B. BITTLE  
 WILLIAM P. STODDARD

DATE: SHEET 3 PROJECT NO. 16-096