

## DETAILED SPECIFICATIONS

### **1.01 ALTERNATIVE NO. 1 – LIMEROCK RIP-RAP**

1. Materials:
  - a. The limerock riprap shall be from an approved source and shall be the product of an established and reputable manufacturer.
  - b. The limerock shall be naturally occurring limestone boulders, 6 inches to 1 foot in diameter.
  - c. Filter fabric shall be Amoco 1198 woven geotextile, or equal.
2. Execution
  - a. The area to receive riprap boulders shall be thoroughly and completely cleared and cleaned of all vegetation and debris.
  - b. The limerock boulders shall be stacked and placed by approved means, to the lines and grades as indicated on the drawings.
  - c. Areas designated to receive riprap shall be completely covered with limerock boulders. The rip-rap shall be placed so that it produces a dense well-graded mass of stone with a minimum of voids.
  - d. The desired distribution of stones throughout the mass shall be obtained by selective loading at the quarry, controlled dumping of successive loads during final placing or a combination of these methods. The rip-rap shall be placed to its full thickness in one operation. Rip-rap shall not be placed in layers. Rip-rap shall not be placed by dumping into chutes or similar methods which are likely to cause segregation of the various stone sizes.
  - e. The finished slope shall be free of pockets of small stone or clusters of large stones. Hand placing may be required to achieve the required grades and an even distribution of stone sizes.
  - f. The geotextile shall be placed in such a manner that it will not excessively stretch or tear upon placement of the overlying materials.

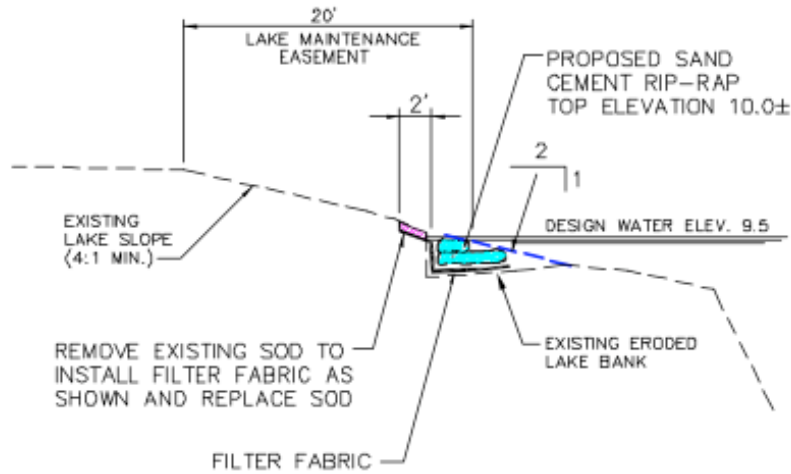
- g. Geotextile sheets shall be joined by either sewing or overlapping. Overlapped sheets shall have a minimum overlap of 18-in. except where placed underwater where the overlap shall be a minimum of 3-feet. Overlaps shall be constructed with the upstream sheet placed over the downstream sheet or the upslope sheet placed over the downslope sheet. All overlaps shall be pinned on 3-ft. centers to hold the overlap in place during stone placement. Pins are to be 3/16-in. diameter, 18-in long steel pins pointed at one end and fitted with at 1.5-in. diameter washer at the other.
- h. Care shall be taken during construction to avoid contamination of the geotextile during construction. Contaminated geotextile shall be removed and replaced. Damaged geotextile shall be removed or repaired. A geotextile patch may be placed over damaged areas. The patch shall extend 3 ft. beyond the perimeter of the tear or damage.
- i. Rip-rap placement shall begin at the toe and proceed up the slope. Rip-rap shall not be dropped onto the geotextile from a height of more than 1 ft. Any geotextile damaged during placement of rip-rap or gravel shall be replaced.

**2.01 ALTERNATIVE NO. 2 – SAND CEMENT RIP-RAP:**

- 1. Materials
  - a. The sacks shall be made of jute, cotton or scrim reinforced paper capable of holding the sand-cement mixture without leakage. Sacks shall be permeable and absorptive enough to permit passage of water to provide for hydration of the cement. Sacks shall be of uniform size and dimensions in order to provide uniformity of lines in the completed work.
  - b. Sand-cement shall be proportioned in the ratio of 5 cu-ft. of sand to 1 bag (94 lbs.) of cement.
  - c. Filter fabric shall be Amoco 1198 woven geotextile or equal.
- 2. Execution
  - a. The area to receive rip-rap shall be thoroughly and completely cleared and cleaned of all vegetation and debris.

- b. The rip-rap bags shall be stacked and placed by approved means, to the lines and grades as indicated on the drawings.
- c. The top row of rip-rap bags shall be pinned using #4 reinforcing bars, 18 inches in length. Each bag shall be secured with a single bar. Bars shall be driven to one (1) inch below the surface.
- d. The joints between rows of bags shall be staggered.
- e. The geotextile shall be placed in such a manner that it will not excessively stretch or tear upon placement of the overlying materials.
- f. Geotextile sheets shall be joined by either sewing or overlapping. Overlapped sheets shall have a minimum overlap of 18-in. except where placed underwater where the overlap shall be a minimum of 3-feet. Overlaps shall be constructed with the upstream sheet placed over the downstream sheet or the upslope sheet placed over the downslope sheet. All overlaps shall be pinned on 3-ft. centers to hold the overlap in place during stone placement. Pins are to be 3/16-in. diameter, 18-in long steel pins pointed at one end and fitted with at 1.5-in. diameter washer at the other.
- g. Care shall be taken during construction to avoid contamination of the geotextile during construction. Contaminated geotextile shall be removed and replaced. Damaged geotextile shall be removed or repaired. A geotextile patch may be placed over damaged areas. The patch shall extend 3 ft. beyond the perimeter of the tear or damage.





## SHORE LINE STABILIZATION USING SAND CEMENT RIP-RAP

NOT TO SCALE

## ALTERNATE 2

### NOTES :

1. BOTTOM ROW WITH BAG LAID WITH LONGWAY PERPENDICULAR TO BANK.
2. SECOND ROW WITH BAG LAID WITH LONGWAY PARALLEL TO BANK.

	<b>DRAIVEN + THOMPSON AND ASSOCIATES, INC.</b> ENGINEERS • PLANNERS • SURVEYORS 2801 S.W. 90th STREET, FORT LAUDERDALE, FLORIDA 33309 TEL: (954) 754-4444 FAX: (954) 754-4444 WWW.DTA.COM	DATE: 08/14/14 DRAWN: JLS CHECKED: JLS DESIGNED: JLS APPROVED: JLS	CORAL BAY COMMUNITY DEVELOPMENT DISTRICT	PROJECT NO: 14-0014
	REMOVE EXISTING SOD TO INSTALL FILTER FABRIC AS SHOWN AND REPLACE SOD	FILTER FABRIC	PROPOSED SAND CEMENT RIP-RAP TOP ELEVATION 10.0±	DESIGN WATER ELEV. 9.5