

## **TABLES**

**Table 1: Multimedia Cap Function Analysis**

Multimedia Cap Layer	Material	Inerim Cap Function	Final Development Cap			
			Areas Outside of Structures	Below Floor Slab	Below or Adjacent to Foundation on Piles	
CR-6	6-inch thick (min.) layer of MDOT Crusher Run 6	Placed to promote sheet drainage and provide stability for underlying materials	Leave in place; restore to original design; or where traffic is not permitted replace with 12-inch thick layer of topsoil	Leave in place; or replace with a 5-inch thick (min.) reinforced concrete structure and management control	Leave in place; or replace with a 5-inch thick (min.) reinforced concrete structure and management control	
Separation Geotextile	Woven geotextile	Prevents CR-6 from comingling with Cover Soil	Leave in place; restore to original design; or where traffic is not permitted replace with 12-inch thick layer of topsoil	Leave in place; or replace with a 5-inch thick (min.) reinforced concrete structure and management control	Leave in place; or replace with a 5-inch thick (min.) reinforced concrete structure and management control	
Cover Soil	2-foot thick (min.) clean, imported cover soil, placed in two loose lifts	Protects multimedia cap against freeze-thaw and mechanical damage. Spreads concentrated loads over synthetic layers	Leave in place; restore to original design	Leave in place; or replace with 5-inch thick (min.) reinforce concrete structure, 2-inch thick expanded polystyrene foam insulation and management control	Leave in place; or replace with 5-inch thick (min.) reinforce concrete structure, 2-inch thick expanded polystyrene foam insulation and management control	
Warning Layer (a.k.a. Visual Barrier)	Bright orange synthetic grid installed 12 inches above Geomembrane	Provides a visual warning of presence of underlying Geomembrane	Leave in place; restore to original design	Replace except where concrete is placed within 12 inches of Geomembrane	Not replaced: Geomembrane penetration prevented by foundation element	
Synthetic Layers	Cover Geotextile	Non-woven getextile bonded to top of the Drainage Net, 16 oz/sy, overlap joints	Prevents overlying soil from clogging the Drainage Net	Leave in place; replace to original design	Leave in place; replace to original design	Replace without being bonded to Drainage Net
	Drainage Net (a.k.a. Synthetic Drainage Composite)	High flow high density polyethylene (HDPE) geonet; Placed with overlap joints ziptied together	Provides drainage for stormwater infiltration of CR-6/Cover Soil; Conveys water down slope; Designed to perform under high overburden stress (2,000 psf max.)	Leave in place; replace to original design; divert downslope areas away from proposed structures	Leave in place; replace to original design	Not replaced: infiltration prevented by foundation element
	Geomembrane (a.k.a. 60-Mil LLDPE Geomembrane)	60-mil thick linear low-density polyethylene (LLDPE) membrane; Overlap seams placed shingle-style, with welded seals; Positive slope from center of site to perimeter	Protects overlying materials from subsurface contamination and prevents infiltration to reduce ground water pump & treat quantity	Leave in place; replace to original design and extrusion weld seams	Leave in place; replace to original design and extrusion weld seams	Leave in place; replace to original design, extrusion weld seams, mechanically clamp to pile and seal clamp with silicone caulk
	Geosynthetic Clay Layer (GCL)	Low permeability bentonite clay sanwiched between two synthetic mesh layers; about 1/4-inch thick; Overlap joints, with powdered bentonite seal at joints	Functions in conjunction with the overlying Geomembrane to seal leaks through imperfections in the Geomembrane; Bentonite should swell on contact with water leaking through the Geomembrane to seal the leak	Leave in place; replace to original design	Not replaced: stormwater collected by structure and no utilities allowed below ground floor slab	Not replaced: infiltration is prevented by foundation element
	Cushion Geotextile	Non-woven getextile bonded to top of the Drainage Net, 16 oz/sy, overlap joints	Protects the Geomembrane and GCL from mechanical damage due to contact with underlying crushed stone	Leave in place; replace to original design	Leave in place; replace to original design	Leave in place; replace to original design
Capillary Break	6-inch thick (min.) layer of washed No. 57 crushed stone	Prevent chromium from rising into the Multimedia Cap by capillary action	Leave in place; replace to original design	Leave in place; replace to original design	Restore where foundation is above managed water level; Not required below water level	
Base Geotextile	Non-woven getextile bonded to top of the Drainage Net, 16 oz/sy, overlap joints	Prevents Capillary Break from comingling with subgrade materials	Leave in place; replace to original design	Leave in place; replace to original design	Leave in place; replace to original design	
Cap Subgrade Fill or Existing Subsurface	Compacted miscellaneous fill over abandend foundation	Compacted fill was placed to support the MMC and establish MMC grade with a crown in the center of Area 1 sloping down towards the site perimeter; Asphalt paving may be directly below the Base geotextile in some areas	Leave in place; restore to original design.	Leave in place; restore to provide positive slope for drainage	Not restored: Geomembrane line and grade controlled by adjacent fill	
Mechanical Boot	LLDPE extrusion-welded boot field welded to geomembrane; Neoprene gasket (closed cell) with stainless steel pipe clamps to close with steel pipe pile wall	none	none	At each pile penetration through Geomembrane	At each pile penetration through Geomembrane	

**Table 2: Stormwater Management Analysis**

Water Source	Interim Multimedia Cap	Construction Function		Final Development Cap		
		Excavation	Foundation Construction	Outside of Structures	Below Ground Floor Slab	At Pile Foundations
Storm Water Runoff	Overland sheet flow to Harbor perimeter.	Place diversion berms to exclude storm water run-on. Place containment berms to exclude runoff from construction site from adjacent areas. Drainage Net is isolated from excavation by a Geomembrane Dam around the perimeter of the excavation.	<u>Small areas</u> (pile caps) - facilitate infiltration to groundwater table. <u>Large Areas</u> - place temporary membrane to isolate, collect, store, test, and discharge storm water. Drainage Net is isolated from excavation by a Geomembrane Dam around the perimeter of the excavation.	Collect water on roof and street surfaces; discharge to Harbor or City storm drain.	Overlying structures and storm drains restrict infiltration. Infiltration managed by underlying Drainage Net.	Not Applicable
Cap infiltration (above Geomembrane).	Discharge through Drainage Net to perimeter drain.	Maintain perimeter drainage. Seal face of drainage net to reduce water entering excavation. Facilitate draining leakage to underlying groundwater table.		Protect / restore original multimedia cap and perimeter drain. Install drain along edge of structure where Geomembrane slopes down under structure to divert water.	Restore 2-D pattern to drainage net layer; isolated blockage at pile and pile cap penetrations is permitted.	Place geomembrane skirt and drainage net at pile caps to divert infiltration away from isolated low areas.
Groundwater	Extracted by Honewell to maintain inward gradient to Area 1.	Extracted by Honewell to maintain inward gradient to Area 1 and remove construction leakage.	Extracted by Honewell to maintain inward gradient to Area 1 and remove construction leakage.	Extracted by Honewell to maintain inward gradient.	Extracted by Honewell to maintain inward gradient.	Extracted by Honewell to maintain inward gradient.