

Treatment matrix and specifications for Homewood Mountain Resort Ski Area Master Plan Project

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November 6th, 2010

Type	Description	Applied to	Specification
A	Upland disturbed areas	Disturbed/excavated sites	Full soil restoration treatment Remove and salvage topsoil where available Test soil for OM Apply organic amendment-topsoil Till-mix to 18" Seed mix per general spec Pine needle mulch Irrigate if needed
B	Infiltration enhancement	Existing semi-compacted slopes above project area	Apply wood chips/tub grindings Spot till/mix (48" OC) to 24" 25% seed rate Pine needle mulch Irrigate if needed
H	Road removal	Existing dirt access road-North Base	Re-contour road to match native grade Apply type A treatment
Bio	Biological stormwater treatment	All stormwater 'LID' areas	See full description below

Bioretention-LID: refers to areas that use a specific soil-vegetation mix to treat and infiltrate stormwater. LID or "Low Impact Development" is a term commonly used in the US to describe the broad range of treatments used to achieve this goal. We use the term 'Bio' or biological treatment to describe these treatments. Bio treatments are used in a treatment train with other hard structures to achieve overall stormwater treatment effectiveness. Biological treatments are used upslope as well as in the throughflow areas as an integrated hydrologic treatment strategy that starts with source control above the project. The following soil specification is used for Bio or LID treatment areas:

All treatment areas shall be below the surrounding grade and shall be protected on the inflow and outflow areas with flow dissipation/spreading elements.

Routing through the flow areas shall follow a 'tortuous path' regime to the greatest extent possible and shall be field fit and approved by the soil-revegetation specialist in the field.

Soil mixture shall be placed into an excavated area such that soil immediately after mixing is 1-2 inches above final grade to allow for re-densification. Soil may be mixed in place if the final soil mixture meets the specifications listed.

Soil mixture shall meet the following standards:

Soil shall be of a loamy sand or coarse sandy loam texture with a CEC ≥ 5 meq/100 grams of dry soil; 8-10 percent organic matter content by dry weight (not volume); 2-5 percent fines passing the 200 sieve; and a minimum soil depth of 18 inches with the above qualities permeability of between 4 and 12 in/hr by ASTM D 2434 (Standard Test Method for Permeability of Granular Soils).

Compost shall be used for all or part of the organic matter content that meets the following requirements:

Organic matter content between 45% and 65% as determined by loss of ignition test method.

- pH between 5.5 and 8.0.
- Carbon:nitrogen ratio between 30:1 and 50:1
- Maximum electrical conductivity of 6 mmhos/cm
- Moisture content range between 35 and 50%.
- No viable weed seeds.
- Manufactured inert material (plastic, concrete, ceramics, etc.) should be less than 1% on a dry weight or volume basis

P content shall be as follows:

Bray P*	Total P**	Soluble P***	CEC		
(mg/kg)	(percent)	(mg/kg)	(meq/100g)		
		<200	0.06	<2	>5

Sieve Size	Percent Passing
3/8"	100
#4	95-100
#10	75-90
#40	25-40
#100	4-10
#200	2-5

Total soil particle size distribution shall be as follows:

All soil shall be submitted to the soil-revegetation inspector for testing prior to application. Vegetation shall vary depending on site use and seasonal moisture content of the site. Specific configuration of each area shall be shown on the plans and shall be field fit to achieve the stated goals.