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HABITAT RESTORATION ENVIRONMENTAL MANAGEMENT

GEOMASS MANAGEMENT GUIDELINES

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Conservation of Geomass: Excavation Management. Cape Cod soils consist of a limited overburden of topsoil and underburden consisting of Post Glacial sand, clay, small stones or a mix. Safe Harbor views excavated materials as a valuable natural resource, not “spoils” and we develop management strategies for the thoughtful reallocation of these resources accordingly.



Image above by G. Peabody. Separation of Geomass layers shows good planning.

1. The first, overarching strategy of excavation management, is to consider Geomass as a natural resource and as such, to plan the removal and disposition of the resource.
2. The second, overarching strategy of excavation management, is to prioritize reuse of Geomass on site, to maintain the integrity of the pre-existing Geomass profile.
3. The third, overarching strategy of excavation management, when Geomass is removed from a site, is to reutilize it, based on compatibility, for adjacent beach, bank or dune nourishment projects. This would contribute to the integrity of Geomass in the area.
4. Over Burden, also referred to as topsoil or “duff”, is actually a Rhizosphere, containing rootstock, seedbank, invertebrates, micro-organisms, native pH and nutrient levels.
5. The Rhizosphere is a rich natural resource, which provides a critical link for successful habitat restoration. Safe Harbor Environmental Management Plans specify retention and reuse of this layer, after excavation activity. Safe Harbor also removes existing native vegetation where possible, for transplant. See “**BIOMASS MANAGEMENT GUIDELINES**”, Gordon Peabody, Safe Harbor, 7 pages, 2020.
6. Rhizosphere removal, storage and reuse, requires experienced equipment operators.
7. Under burden is very site specific and this may provide good value for reuse. In Provincetown which is completely sand, beach nourishment plans can benefit from the high compatibility of excavated sand which might be otherwise removed from the site.
8. Coastal Bank under burden also would have specific compatibility with Coastal Bank nourishment projects in the same immediate area.
9. These reuse concepts, though intuitive, may require support from various Town Boards.
10. Cut and fill projects, where possible, should attempt to retain Geomass on site.
11. It is important to assess and monitor, how changes between pre-existing and finish grades may redirect lateral flow of recharging storm water.
12. Finish grades from fill, could benefit a project if they reflected pre-existing grades.
13. Planned areas for overburden and underburden, avoids smothering native vegetation.
14. Restoration costs can be reduced 50% using a tarp for short term trenching materials

Image below by G. Peabody. Without planning, additional native vegetation will require replacement.

