VIRGINIA MARINE RESOURCES COMMISSION

Beneficial Use of Dredged Material Guidance

Draft for Interagency and Habitat Policy Oversight Committee (HPOC) Review
October 2026

Purpose. This draft provides a proposed VMRC framework for implementing Code of Virginia § 28.2-104.3 beginning December 1, 2027. It is designed to make beneficial use the default outcome for permits involving dredged material while providing transparent, documented criteria for determining when beneficial use is not suitable.

This document is guidance, not a regulation, and does not replace any applicable federal or state law, regulation, permit, certification, or authorization.

Executive Summary

Section 28.2-104.3 of the Code of Virginia (the Code) establishes a new Commonwealth policy, effective December 1, 2027, to promote the beneficial use of dredged material whenever feasible and directs the Commission to require beneficial use for all permits involving dredged material unless beneficial use approaches are not suitable under criteria developed by the Commission. Section 28.2-100 of the Code defines beneficial use of dredged material as specified aquatic and shoreline habitat uses.

This guidance converts that statutory direction into a permit-review process and is intended as a secondary mechanism to be used only after proposed dredging impacts have been determined to be necessary. Every permit application involving dredged material should identify the volume and characteristics of the material to be removed, evaluate one or more potentially applicable beneficial use option(s), identify a placement site and/or outline suitable alternatives, and provide enough information for VMRC to determine whether beneficial use is suitable. The level of analysis for material placement sites should be proportional to project size, sediment risk, placement site sensitivity, and the complexity of the proposed use. Analysis of sediment characteristics shall comply with minimum standards outlined by the Department of Environmental Quality and the complexity of the evaluation should be appropriate to the requirements of the proposed placement location (e.g., in-water, wetlands, beach, uplands, etc.).

The central decision surrounding proposed beneficial use is not dependent upon whether conventional disposal is easier or less expensive, but rather dependent upon whether at least one beneficial use alternative is legally allowable, environmentally appropriate, technically practicable, logistically feasible, and reasonably achievable for the project. Where no suitable beneficial use can be identified, the permit record should contain a written suitability determination provided by WHOM, explaining the basis for allowing another placement site or disposal approach. This decision shall also preserve Virginia's existing sandy dredged material/beach renourishment criteria outlined in 4VAC20-400.

Recommended VMRC Decision Sequence

- Confirm that the application involves dredged material and identify the dredging source, quantity, schedule, and proposed disposition.
- Screen the material and project for potentially applicable beneficial uses and identify candidate placement sites.
- Evaluate each viable beneficial use alternative using the suitability criteria in Section 5.
- Require project-specific characterization, design, coordination, and monitoring commensurate with risk and complexity.
- Approve a suitable beneficial use approach as part of the permit, or document why beneficial use is not suitable.
- Use permit conditions, as appropriate, to ensure construction, monitoring, maintenance, reporting, and adaptive management.
- [[Possible placement for volume threshold requirements here – staff recommends 7,500 cy to be consistent with existing regulation]]

1. Purpose, Authority, and Applicability

1.1 Statutory authority

Code of Virginia § 28.2-104.3 provides that, beginning December 1, 2027, it is the policy of the Commonwealth to promote the beneficial use of dredged material whenever feasible, provided the use is otherwise consistent with federal and state law and applicable rules and regulations. It further directs the Commission to require beneficial

use for all permits involving dredged material unless such approaches are not suitable based on criteria developed by the Commission and requires a work group to assist in developing guidance and minimum standards as necessary.

The 'beneficial use of dredged material' as outlined by § 28.2-100 of Code is defined as dredged material from the Chesapeake Bay and its tributary waters placed into waters or onto bottomlands of the Chesapeake Bay or its tidal tributaries for: (i) restoration of underwater grasses; (ii) restoration of islands; (iii) stabilization of eroding shorelines; (iv) creation, restoration, or enhancement of wetlands; or (v) creation, restoration, or enhancement of fish or shellfish habitats.

Furthermore, §10.1-704 separately provides priority consideration for Commonwealth beaches and project sites that are consistent with the statutory beneficial-use definition when dredged material is suitable. The Secretary of Natural and Historic Resources is tasked with the responsibility of determining material suitability for those uses. VMRC should coordinate implementation of the guidance herein with both §§28.2-100 and 10.1-704.

VMRC and the Commonwealth's local wetlands boards administer a regulatory program that governs the encroachments in, on or over the Commonwealth's state-owned submerged lands and the use or development of its tidal wetlands, coastal primary sand dunes and beaches. This statutory authority and charge may be found in Title 28.2, chapters 12 (Submerged Lands Law), 13 (Tidal Wetlands) and 14 (Coastal Primary Sand Dune and Beaches).

The beneficial placement of dredged material does not preclude the requirement to mitigate for wetlands losses pursuant to §28.2-1308(B)1 of the Code of Virginia and the Wetlands Mitigation and Compensation Policy. Accordingly, any such project proposing to impact tidal wetlands as a result of permitted dredge impacts shall also comply with the minimum standards outlined in the Wetlands Zoning Ordinance (§28.2-1300 *et seq.*) and the compensatory mitigation requirements promulgated by the Commission such that no net loss of wetlands is achieved.

1.2 Relationship to Virginia's existing beach nourishment criteria

The VMRC has established via regulation (4VAC20-400) criteria for placement of sandy dredged material along beaches in support of §10.1-704 of the Code of Virginia, which prioritizes the beneficial placement of suitable sandy dredged material onto the beaches of the Commonwealth for renourishment purposes. Such criteria include project thresholds, proximity and placement site considerations, subsurface investigation, grain-size compatibility, and other engineering and environmental factors. Nothing in this guidance supersedes those requirements. For projects involving beach nourishment, staff should apply 4VAC20-400 together with applicable law and this guidance.

1.3 Applicability

This guidance applies to VMRC permit applications involving removal, handling, placement, or disposal of dredged material within the scope of § 28.2-104.3. It is intended for new work and maintenance dredging by public and private applicants for the purposes of achieving, reestablishing, or maintaining navigable depths. The Commission may tailor information requirements to the facts of an individual project. Any project that includes authorization for the beneficial placement of dredged material must still comply with all necessary state, and local permitting requirements for proposed impacts to state-owned submerged lands (§28.2-1200 *et seq.*), jurisdictional tidal wetlands (§28.2-1300 *et seq.*), and coastal primary sand dunes and beaches (§28.2-1400 *et seq.*), and any policies or guidelines promulgated pursuant to the Code of Virginia.

Federal projects and activities may be subject to different permitting mechanisms or may be exempt from permitting, but state certifications, coastal consistency, state-owned bottomland authorizations, local wetlands

approvals, and other requirements may still apply. Applicants should coordinate early with VMRC as well as other reviewing agencies.

2. Key Terms

Term	Guidance meaning
Adaptive management	[insert definition here]
Beneficial use of dredged material	The uses identified in Code of Virginia § 28.2-100. This guidance uses the statutory definition unless otherwise stated.
Dredged material	Earth, sand, silt, sediment, shell, rock, soil, waste matter, or other material excavated or dredged from the Chesapeake Bay and its tributary waters, consistent with § 28.2-100.
Innovative reuse of dredged material	[insert definition here]
Suitable / suitability	A project-specific determination that a beneficial use alternative can reasonably be implemented after consideration of legal, environmental, material, site, technical, logistical, timing, property, and economic factors.
Candidate beneficial use	A beneficial use category that appears potentially applicable after initial screening and warrants further evaluation.
Placement site	The location at which dredged material would be placed for a beneficial use.
Thin-layer placement (TLP)	Intentional placement of a relatively thin layer of sediment on a wetland to increase elevation while maintaining hydrology and inundation conditions needed for targeted wetland vegetation.
Marsh Elevation Enhancement (MEE)	[insert definition]
Reference site	A site representing the ecological or physical condition that a restoration or enhancement project is intended to approach.
Control site	An untreated comparison site used to help evaluate project effects.

3. Beneficial Use and Innovative Reuse

Prior to the Commonwealth's 2026 legislation establishing statutory requirements for the beneficial use of dredged material, VMRC reviewed dredging applications pursuant to its subaqueous and tidal wetlands guidelines, as well as the requirements of §§ 28.2-1205, 28.2-1302, and 28.2-1308 of the Code of Virginia. Applicants were required to conduct an alternatives analysis evaluating upland disposal and in-water beneficial uses. This process aimed to avoid the adverse environmental impacts to marine resources historically associated with overboard disposal practices used as cost-saving measures.

The statutory mandates under § 28.2-104.3 require the development of specific beneficial use criteria. These criteria complement and enhance VMRC's existing regulatory framework. They balance the necessity of maintaining navigable channels and berths with the conservation of habitats that support the Commonwealth's marine resources.

3.1 Statutory Beneficial Use Classes

Beginning December 1, 2027, beneficial use options must be evaluated and incorporated into all new and maintenance dredging applications submitted to VMRC. Applicants must screen dredged material characteristics and project needs against the following statutory beneficial use categories established by § 28.2-100 of the Code of Virginia:

- **Underwater grass restoration:** Submerged Aquatic Vegetation (SAV) restoration projects must carefully match the physical and chemical profiles of the dredged material with the target placement site. The material should consist primarily of clean, coarse-to-fine sands with minimal organic content to prevent localized turbidity plumes and subsequent light attenuation. Strategic placement must ensure that final bathymetric elevations accommodate the specific depth and light-penetration requirements of native species, such as eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*). Sediment should not be placed on existing submerged vegetation. Furthermore, project designs must incorporate hydrodynamic monitoring to ensure that current velocities do not displace the placed material or smother any adjacent, established SAV beds and adhere to VMRC's existing SAV guidance.

- **Island restoration:** Island restoration initiatives utilize larger volumes of mixed-grain dredged material to counteract the effects of historical erosion, subsidence, and sea-level rise on existing island. Coarser sediments are prioritized for establishing structural stability, beach profiles, and protective spits, while finer organic sediments may be capped and utilized to seed target vegetative habitats. Project designs must focus on restoration objectives including, but not limited to, elevation increases, erosion mitigation, habitat enhancement, or restoration of the island's geomorphic features.

- **Eroding shoreline stabilization:** The beneficial use of dredged material for shoreline stabilization focuses on integrating compatible sediments into nature-based and living shoreline designs. Sandy dredged material can be placed within the intertidal zone to provide buffering against wave energy, nourish adjacent littoral cells, and support the natural migration of the shoreline. The sediment can also be used as backfill material for living shoreline structural components such as low-profile stone sills, breakwaters, or manufactured oyster castles, and function as a substrate for native wetland vegetation plantings.

- **Wetland creation, restoration, or enhancement:** Compatible, finely grained material can be placed on existing eroding or degraded wetlands to enhance resilience and ecological function. Wetland restoration or enhancement often relies on a process known as Thin-Layer Placement (TLP) or Marsh Elevation Enhancement (MEE). In this process, a shallow layer of sediment is placed onto existing habitat to achieve a target elevation. This technique mimics natural sediment deposition, helping subsiding marshes keep pace with accelerated sea-level rise. Additional benefits include promoting native vegetation recovery, improving soil stability, and preventing vegetative wetlands from converting into mudflats or open water. Wetland creation involves placing dredged material where there are no wetlands with the objective of establishing wetlands to protect uplands from inundation and wave energy.

- **Fish or shellfish habitat creation, restoration, or enhancement:** Dredged material utilized for fisheries and shellfisheries enhancement must be structurally stable and free of contaminants that could bioaccumulate in the marine food web. Coarse materials, gravel, and shell-rich dredged fractions are highly suitable for constructing or reinforcing base foundations for eastern oyster (*Crassostrea virginica*) reefs. Finer, clean sediments can be used to contour intertidal sandflats or shallow-water nurseries that shelter juvenile finfish and blue crabs (*Callinectes sapidus*). All placement designs must undergo hydrodynamic modeling to verify that benthic structures will not disrupt local tidal flows, cause unintended siltation on downstream resources, or impede navigation.

3.2 Additional Beneficial Use Categories

Additional uses of dredged material not explicitly identified in § 28.2-104.3 that may be considered beneficial use include:

- **Beach Nourishment**: Beach nourishment involves the direct placement of beach-compatible dredged material onto eroded public or private shorelines to restore recreational beach width, protect coastal infrastructure, and sustain dynamic dune ecosystems. Eligible material must closely match the native beach sediment in grain size, color, and mineralogical composition, with a strict limit on fine-grained silt and clay content to prevent severe beach compaction and prolonged nearshore turbidity. Placement schedules must be strictly managed to avoid conflicts with seasonal biological windows, such as sea turtle nesting periods and shorebird beach-nesting activities.

- **Upland Replacement or Disposal**: Upland placement refers to the beneficial routing of dewatered dredged material to terrestrial sites for structural, agricultural, or industrial applications. Once sediments are mechanically or hydraulically dewatered within Confined Disposal Facilities (CDFs) or specialized geotextile containers, the resulting material can be excavated for use as structural fill in civil engineering projects, grading material for commercial developments, or daily cover for solid waste landfills. Depending on the chemical and physical characteristics of the dewatered material, it may also be blended with organic matter to remediate degraded industrial lands or serve as structural components in municipal infrastructure projects.

- **Innovative Reuse**: the use of dredged material in the development of or manufacturing of commercial, industrial, horticultural, agricultural, or other products. Innovative reuse applications include landfill cover and recapping; construction and industrial manufacturing material; construction and concrete mixes, Supplementary Cementitious Materials (SCMs); and horticultural & agricultural soils.

3.3 Regulatory Permitting Framework

To utilize dredged material in beneficial use projects, several permits and approvals may be required at the local, state, and federal levels:

- **Local Level**: Permits from local wetlands boards or beach and dune boards are required for projects impacting tidal wetlands, beaches, or dunes. In localities without an active board, VMRC acts as the administrative authority.
- **State Level**: Projects require a VMRC Subaqueous Encroachment Permit for impacts to state-owned bottomlands. The Virginia Department of Environmental Quality (DEQ) administers Virginia Water Protection (VWP) permits pursuant to Section 401 of the Clean Water Act and Virginia's Wetlands Permit Protection Program. Additional DEQ solid waste or water permits may be required for upland placement sites based on sediment chemical characterization and testing results.
- **Federal Level**: U.S. Army Corps of Engineers permits are required pursuant to Sections 401 and 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.
- **Regional Coordination:** Projects must obtain Federal Consistency Determinations and necessary Coastal Zone Management Act (CZMA) approvals.

4. Minimum Application Information

Unless VMRC determines an item is unnecessary for a particular project, an application involving dredged material should include:

- Project purpose and need; dredging method; bathymetric survey, dredging footprint and buffers; estimated volume; depth; schedule; frequency if maintenance dredging; and proposed disposition.
- Map showing dredging area, access routes, staging areas, candidate placement sites, placement boundaries, buffers, and nearby sensitive resources.
- Description of dredged material source and history, including prior dredging and available prior sediment data.
- Physical characterization appropriate to the proposed use, such as grain-size distribution, bulk density, moisture/water content, organic matter, salinity, pH, and geotechnical properties.
- Chemical/contaminant characterization when warranted by source history, location, prior data, placement site sensitivity, or agency requirements.
- Beneficial Use Alternatives Analysis identifying potentially applicable statutory uses, candidate receiving sites, and the basis for screening alternatives in or out.
- Placement site characterization sufficient to demonstrate compatibility with the intended use.
- Conceptual or final design information, including target elevations, placement thickness/volumes, containment or sediment-control measures, construction access, and sequencing.
- Identification of property interests, landowner/placement site consent, and other federal, state, and local authorizations.
- Construction monitoring, post-construction monitoring, maintenance, contingency protocols, and adaptive-management provisions appropriate to project risk.

5. VMRC Suitability Criteria

VMRC should evaluate suitability using the criteria below. No single factor should automatically control a regulatory decision in any case unless required by law or necessary to avoid unacceptable effects to the environment or public interest. The project record should reflect the totality of the project-specific evidence used to make a final permitting decision.

A. Legal and regulatory compatibility. The beneficial use must be capable of authorization under all other applicable federal and state law, regulations, certifications, coastal policies, local wetlands requirements, compensatory mitigation requirements, and other applicable approvals. A need for additional permits does not, by itself, make beneficial use unsuitable.

B. Material compatibility and environmental quality. The physical and chemical characteristics of the dredged material must be compatible with the proposed use and placement site environment. More intensive characterization should be required for sources with known or suspected contaminant inputs, such as marinas, industrialized waterways, or point-source influence. Additionally, based on the proposed placement site, the type of sediment analysis or characterization shall be consistent with the required water quality requirements and parameters outlined by the Department of Environmental Quality.

C. Placement site need and ecological benefit. The placement site should have a documented restoration, stabilization, habitat, or resilience need that the placement is designed to address. Beneficial use should not be justified solely as a convenient disposal option.

D. Placement site physical suitability. The physical site conditions of any proposed placement site shall be clearly detailed, support the intended habitat restoration or enhancement outcome, and be provided for review. Detailed information reflecting both the proposed pre- and post-construction conditions shall be provided, including, but not limited to, hydrodynamics, fetch, slope, bathymetry/topography, vertical tidal datums, sediment retention, erosion potential, bearing capacity, settlement/compaction, and adjacent hydrology should support the intended outcome.

E. Protection of existing resources. The project should avoid or minimize unacceptable effects to existing wetlands, submerged aquatic vegetation (SAV), oyster resources, shellfish grounds, fisheries, threatened or endangered species, navigation, cultural resources, water quality, and other sensitive resources.

F. Technical feasibility and constructability. A practicable dredging, transport, placement, containment, grading, access, and stabilization method must exist. Equipment access and temporary impacts must be manageable.

G. Logistics, distance, capacity, and schedule. A placement site must have adequate capacity and be available on a schedule reasonably compatible with dredging. Transportation method, handling needs, dewatering, staging, and seasonal restrictions should be considered.

H. Property and stakeholder feasibility. Necessary property rights, placement site authorization, sponsor/landowner willingness, and operational responsibilities must be reasonably obtainable.

I. Cost rationale. Incremental costs may be considered in determining feasibility, including characterization, transport, placement, containment, monitoring, and maintenance. Cost alone should not be treated as dispositive without documentation of the incremental beneficial-use cost and consideration of available project, grant, sponsor, or partnership options.

J. Long-term performance and maintenance. The project must have measurable objectives and a reasonable expectation of functioning as designed, with monitoring, maintenance, and corrective-action responsibilities proportionate to project complexity and risk.

5.1 Findings that may support a determination of "not suitable"

A determination that beneficial use is not suitable may be supported when the record demonstrates one or more of the following and no reasonable design modification or alternative beneficial-use site resolves the issue:

- The volume of jurisdictional material to be removed does not exceed 7,500 cubic yards [[4VAC20-400-40. General criteria]].
- No legally feasible beneficial use is available for the material and project circumstances.
- Material characteristics are incompatible with available beneficial uses or would create unacceptable risk that cannot reasonably be mitigated through treatment, containment, design, or placement controls.
- No placement site with a demonstrated beneficial-use need and adequate capacity can be identified within a reasonable project area and schedule after a documented search provided by the applicant for review.
- Placement would cause unacceptable impacts to existing aquatic resources, hydrology, navigation, water quality, cultural resources, or protected species that cannot be avoided or adequately minimized.
- Available placement, transport, access, containment, or construction methods are technically impracticable or create greater environmental harm than alternative management.
- Required property rights or placement site authorization cannot reasonably be obtained.
- Project timing or material-handling constraints make the beneficial use infeasible and cannot reasonably be addressed through sequencing, temporary storage, dewatering, or coordination.
- The documented incremental cost is extraordinary in relation to the project and available alternatives, after considering reasonably available funding or partnership opportunities, and the Commission determines the beneficial use is not feasible under the circumstances.

6. Beneficial Use Alternatives Analysis

For each permit involving dredged material, the applicant should submit an alternatives analysis scaled to the project. At minimum, the analysis should:

- Identify the dredged material volume, source, expected physical characteristics, and dredging schedule.
- Screen all statutory beneficial-use categories for reasonable applicability.
- Identify known or reasonably discoverable candidate placement sites, including public projects and sites suggested through agency coordination.
- For each candidate alternative, summarize material compatibility, environmental considerations, capacity, distance/transport, schedule, property status, permitting needs, conceptual cost, and anticipated benefit.
- Identify the preferred beneficial use and explain why it is suitable; or, if none is proposed, provide the factual basis for a not-suitable determination.

6.1 Proportional review

Review level	Typical indicators	Expected analysis	Typical coordination
Routine / lower complexity	Small volume; previously characterized maintenance area; low-risk source; straightforward placement site	Concise alternatives screening; existing data where adequate; focused site compatibility review	VMRC plus agencies with direct jurisdiction
Standard	Moderate volume or new placement site; habitat restoration or shoreline project; some site/design complexity	Project-specific material and site characterization; conceptual design; alternatives comparison; monitoring plan	Early interagency coordination
Enhanced / higher complexity	Large volume; sensitive habitat; uncertain sediment quality; thin-layer placement; novel design; high public interest	Detailed sampling plan; ecological/site investigations; engineering analysis; reference/control data where appropriate; adaptive management	Formal multi-agency technical coordination and pre-application review

7. Dredged Material Characterization

Material characterization should be use-specific and risk-based.

[[Recommend removing Section 7 and reference DEQ Appendix to be added later]].

7.1 Physical characterization

- Grain-size distribution and sediment type.
- Bulk density, moisture/water content, and settling/dewatering behavior where relevant.
- Organic matter content for wetland and habitat applications.
- Salinity and pH where changes in exposure conditions could affect vegetation or mobilize constituents.
- Geotechnical characteristics needed for bearing capacity, stability, compaction, settlement, erosion resistance, or structural performance.

7.2 Chemical and biological characterization

Chemical testing should be based on source history, prior data, dredging depth, placement site sensitivity, and applicable agency requirements. Where warranted, the review may include metals, organics, petroleum-related constituents, pesticides, PCBs, nutrients, or other constituents of concern, together with elutriate, bioavailability, bioassay, or ecological risk evaluation. VMRC should coordinate analytical requirements and testing results with DEQ, USACE, EPA, and other agencies to avoid duplicative testing.

7.3 Representative sampling

Sampling locations and depths should represent the material to be dredged. Sampling intensity should increase with volume, heterogeneity, source risk, and placement site sensitivity. Existing valid data from recurring maintenance dredging may be considered where it remains representative. Monitoring and maintenance plans for beneficial use projects are required to ensure there are no adverse impacts to aquatic resources and that the project continues to function as designed. This section outlines some testing considerations when using dredged material for beneficial uses. Depending on the project details, other sampling, analysis and reporting may be required as a special permit condition for the project. Analysis should be conducted on representative samples of the dredged material, and consider past testing results where available, and activities at the project site. The number of samples collected at a proposed dredge site shall follow the DEQ guidance based on project size (cubic yards of material or acres covered) and characteristics, as well as aquatic receptors. Sampling should include appropriate quality assurance and quality control measures, including collection of blind duplicate samples, matrix spikes, field blanks, rinsate/equipment blanks, and trip blanks.

Upon review of the data submitted, VMRC may require additional sampling prior to permit issuance or general permit coverage. Table 1 provides general recommendations for the number of initial samples, based on the volume of proposed dredging for beneficial use. Sampling frequency may differ on a site-specific basis. VMRC recommends that the locations and depth of the samples be designed to properly characterize the dredged sediment. Refer to guidance from the EPA/USACE Inland Testing Manual when developing a detailed sampling plan. In the case of routine maintenance work, data from prior samplings may be available and the field samples may be reduced.

8. Beneficial Use Placement Site Assessment and Design

The level of review necessary to assess beneficial use alternatives should be proportional to project volume, sediment risk, placement-site sensitivity, uncertainty, and design complexity. Routine projects may use concise screening and existing information; standard projects generally require project-specific characterization, design, alternatives comparison, and monitoring; higher-complexity projects may require detailed ecological, engineering, sediment-quality, and interagency review.

Any placement site assessment should demonstrate that the site can retain and support the material and intended ecological function. Project reviews must evaluate site conditions and engineering needs against established assessment categories:

- Project parameters and boundaries: Assessment must include a map of the project's proposed placement site, including project boundaries, access corridors, staging areas, buffers, site features (e.g., vegetated and unvegetated areas, pools, channels, tidal connectivity, etc.), and proximity to protected habitats (e.g., SAV, private oyster leases, public Baylor grounds, Essential Fish Habitat, - ANY OTHERS? - etc.).
- Erosion or degradation characterization: Assessment must include a characterization of site degradation including documentation of active erosion (e.g., scarping, marsh edge erosion, etc.), historic conditions, habitat conversion or loss, pond expansion, changes in vegetation cover, elevation deficit, or other evidence of degradation.
- Site characteristics: Assessment must evaluate hydrodynamic and physical characteristics (e.g., fetch, slope, wave exposure, currents, bathymetry, topography, sediment transport/retention, etc.)
- Sediment characteristics: Assessment must evaluate sediment characteristics including grain size, bulk density, and organic matter content and must provide an evaluation of potential sediment contaminants. Tidal datums and target ecological elevations: Assessment must identify tidal datums (e.g., MHW and MLW) and elevations for existing and target elevations of the project site.

- Biological resources: Assessment must include a survey of existing flora and fauna including wetland plant species, invasive species, threatened and endangered species, and a qualitative characterization of fish and bird species as appropriate.
- Reference and control sites: Assessment should utilize reference and control sites where useful to establish target conditions and evaluate outcomes.
- Potential impacts: Assessment must include a description or potential negative impacts to adjacent hydrology and indirect impacts to adjacent tidal marshes, subaqueous habitats, navigable waterways, marine fisheries, or shoreline erosion.
- Logistics and engineering constraints: Assessment must address construction access, bearing capacity, compaction, settlement, and outline any temporary sediment confinement approaches and structures including a plan for removal of any temporary structures.

9. Monitoring, Maintenance, and Adaptive Management

Monitoring should be tied to explicit project objectives and permit conditions. The scope and duration should reflect project type, uncertainty, placement site sensitivity, and risk.

9.1 Minimum monitoring elements for restoration projects

- Pre-construction baseline conditions.
- As-built survey documenting extent of placement area, final elevation, thickness, and volume.
- Early post-placement check for settlement, compaction, erosion, containment performance, or unintended hydrologic effects.
- Periodic vegetation/habitat condition monitoring where habitat objectives apply.
- Water quality, turbidity, sedimentation, or adjacent-resource monitoring where warranted.
- Documentation of invasive species and corrective actions where applicable.
- Defined performance standards, reporting schedule, responsible party, maintenance obligations, and adaptive-management triggers.

Pre-project baseline and post-project monitoring per an approved maintenance and monitoring plan shall be required to ensure any beneficial use project continues to function as designed. For example, wetland restoration projects are typically monitored for three years post-construction to ensure that areal wetland plant coverage in the restored area is 80% or greater and represents a stable wetland community. Similarly, other beneficial use projects may require follow-up monitoring to ensure project goals are achieved. The VMRC may support pooled monitoring approaches where rigorous monitoring is focused on a limited number of restoration sites or types throughout the State to minimize overall monitoring locations and costs while providing more robust information to evaluate project effectiveness. Therefore, any monitoring requirements and/or waivers thereto will be considered in the context of other similar completed or ongoing monitoring programs.

9.2 TLP monitoring benchmark

The exact schedule should be set by permit condition based on project risk.

10. Permit Decision and Conditions

10.1 Suitable beneficial use identified

In cases where the VMRC determines that proposed dredging impacts are necessary and have been minimized, and that a proposed beneficial use of the dredged material is suitable, the permit shall identify the approved use and may include conditions addressing:

- Authorized dredging and placement limits, quantities, elevations, and construction window.
- Approved material source and any material acceptance criteria.
- Transportation, dewatering, containment, turbidity, spill prevention, and construction controls.
- As-built certification or survey.
- Monitoring, maintenance, reporting, and corrective action.
- Protection of navigation, shellfish, SAV, wetlands, fisheries, threatened/endangered species, cultural resources, and adjacent property.
- Coordination with other required authorizations and any requirement that those approvals be obtained before work.

10.2 Beneficial use determined not suitable

When no suitable beneficial use is identified, the permit record shall include a written Beneficial Use Suitability Determination. The determination should identify the alternatives considered, summarize coordination and supporting information, state the specific criteria that made the alternatives unsuitable, and explain why the authorized non-beneficial placement/disposal approach is appropriate.

10.3 Changed conditions

If material characteristics, quantities, placement site, project design, or other material facts change after permit issuance, VMRC may require additional review or permit modification before the changed activity proceeds.

11. Recommended Administrative Process

- Pre-application coordination. Encourage applicants with dredging projects to contact VMRC early in the process to determine if a pre-application meeting is needed. If it is determined that a pre-application meeting is warranted, applicants should coordinate with Habitat Division engineers to identify beneficial-use opportunities before design and procurement are finalized.
    - Initial completeness review. Confirm that the application contains a beneficial-use screening and enough information to identify likely material and site issues.
    - Interagency review. Coordinate with DEQ, DCR, VIMS, USACE, federal resource agencies, local wetlands boards, Tribal Nations when applicable, and other entities based on project location and resources.
- Technical information request. Request only the additional data reasonably needed to resolve suitability, material compatibility, placement site effects, and permit conditions.
    - Suitability finding. Document either the suitable beneficial-use approach or the basis for a not-suitable determination.
    - Permit and implementation. Incorporate enforceable conditions, monitoring, and reporting commensurate with the project.
- Program learning. Maintain a project database of material type, beneficial use, placement site, monitoring results, costs, and lessons learned to support future streamlined review.

12. Interagency Coordination Priorities

The HPOC should establish clear roles and, where possible, shared data and review procedures for:

- Sediment suitability and analytical requirements.
- Identification and mapping of potential placement sites and restoration priorities.
- Federal Clean Water Act authorizations and testing requirements.
- Water quality certification and discharge considerations.
- State-owned bottomlands, tidal wetlands, coastal primary sand dunes/beaches, SAV, shellfish, fisheries, and threatened/endangered species.
- Tribal consultation and cultural/historic resource review where applicable.
- Grant and funding alignment for incremental beneficial-use costs.
- Standard monitoring metrics and a shared repository of project outcomes.

13. Implementation Recommendations Before December 1, 2027

- Convene the statutory work group and obtain consensus on the suitability criteria and documentation standard.
- Resolve the treatment of beach nourishment within the new § 28.2-104.3 review framework in light of § 28.2-100, § 10.1-704, and 4VAC20-400.
- Develop a standard Beneficial Use Alternatives Analysis form and staff Suitability Determination form.
- Develop a GIS-based inventory of candidate receiving sites and planned restoration projects, with a process for localities and partners to submit sites.
- Establish sediment-characterization coordination procedures with DEQ, USACE, and other agencies.
- Pilot the guidance on a representative set of maintenance dredging, marina, municipal channel, wetland/TLP, shoreline, and habitat projects.
- Develop standard permit conditions and monitoring templates by project type.
- Publish applicant guidance and conduct outreach before the effective date.
- Review the guidance after the first full year of implementation and revise based on project data and work-group recommendations.

Appendix A - Applicant Beneficial Use Screening Checklist

☐ Project involves dredged material within the scope of § 28.2-104.3.

☐ Estimated dredged volume and schedule are provided.

☐ Source history and prior sediment data are provided.

☐ Physical material characteristics are known or a sampling plan is proposed.

☐ Potential contaminant concerns have been screened.

☐ Underwater grass restoration was considered.

☐ Island restoration was considered.

☐ Eroding shoreline stabilization was considered.

☐ Wetland creation/restoration/enhancement was considered.

☐ Fish or shellfish habitat creation/restoration/enhancement was considered.

☐ Beach nourishment was considered under applicable Virginia authorities.

☐ Candidate placement sites were identified and mapped.

☐ Placement site capacity and schedule were evaluated.

☐ Material/site compatibility was evaluated.

☐ Transport, access, placement, and containment methods were evaluated.

☐ Property rights/placement site consent were evaluated.

☐ Other permits and agency coordination were identified.

☐ Conceptual cost and funding/partnership opportunities were evaluated.

☐ Monitoring and maintenance needs were evaluated.

☐ If no beneficial use is proposed, supporting documentation for a not-suitable determination is attached.

Appendix B - VMRC Beneficial Use Suitability Determination

Permit/Application No.	
Applicant / Project	
Dredging location	
Estimated volume	
Dredging type	New work / Maintenance / Both
Proposed dredged material disposition	
Beneficial use alternatives evaluated	
Candidate placement site(s)	
Material characterization summary	

Key environmental/site considerations	
Interagency coordination completed	
Cost/logistics summary	
Suitability finding	☐ Beneficial use suitable ☐ Beneficial use not suitable
Approved beneficial use / basis for not-suitable finding	
Required permit conditions / follow-up	
Staff / date	

Appendix C - Decision Flow

Step	Question	Action
1	Does the permit involve dredged material?	No → § 28.2-104.3 review ends. Yes → continue.
2	Are one or more statutory beneficial uses potentially applicable?	No → document screening basis. Yes → evaluate candidate alternatives.
3	Is material compatible or can it reasonably be made compatible?	No → evaluate other uses/sites; if none, document not-suitable basis.
4	Is there an environmentally appropriate placement site with need and capacity?	No → document placement site search; evaluate other sites/uses.
5	Is the alternative legally allowable, technically practicable, logistically implementable, and reasonably achievable?	No → document criterion/criteria not met. Yes → beneficial use is suitable.
6	Can identified constraints be resolved by design, sequencing, treatment, containment, funding, or permit conditions?	Yes → require the modified beneficial-use approach. No → not-suitable determination may be appropriate.
7	Permit decision	Require suitable beneficial use, or authorize another disposition with written not-suitable determination.

Appendix D - Principal Sources Used in Drafting

- Code of Virginia §§ 28.2-100 and 28.2-104.3 (2026 amendments, Chapter 908).
- Code of Virginia § 10.1-704 (2026 amendment).
- Virginia Administrative Code 4VAC20-400, Criteria for the Placement of Sandy Dredged Material Along Beaches in the Commonwealth.
- Maryland Department of the Environment, in collaboration with Maryland Department of Transportation Maryland Port Administration, Innovative Reuse and Beneficial Use of Dredged Material Guidance Document (August 2017).
- North Carolina Division of Coastal Management, Guidance for Site Assessment and Monitoring of Thin Layer Projects in North Carolina Tidal Marshes (September 2022).

Drafting note: Maryland-specific statutes, regulatory thresholds, screening values, and permit names were not imported into this Virginia guidance as legal requirements. They were used as examples of a structured, use-

specific, risk-based review framework. North Carolina's TLP protocols were used as technical benchmarks rather than automatic Virginia permit requirements.