
Colonel David W. Dake
District Engineer
U.S. Army Corps of Engineers, Galveston District
Houston Ship Channel Improvement Project
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*Via email:* swgpao@usace.army.mil

December 16, 2025

**RE: Houston Ship Channel Improvement Project (Project 11) – Life Safety Risk Assessment and Comprehensive Review of Upland Dredged Material Placement Areas**

Dear Colonel Dake,

On behalf of the Healthy Ports Community Coalition (HPCC), I welcome you to your position as District Engineer at the Galveston District. We appreciate your predecessor, Colonel Rhett A. Blackmon, whose engagement with HPCC on Project 11 issues established a foundation for constructive dialogue and community involvement. We look forward to continuing this collaborative approach under your leadership.

**Purpose of This Letter**

I am writing to bring critical safety and regulatory concerns to your attention regarding the planned disposition and continued use of upland dredged material placement areas (DMPAs) in Project 11, and to request that you provide the HPCC with clarification of current U.S. Army Corps of Engineers (USACE) plans and meet with our coalition to discuss these issues in detail.

Recent findings from an independent engineering review (attached) by William B. Empson, PE, PMP, a retired USACE engineer, have identified significant and unnecessary life safety risks associated with the placement areas currently proposed for use—particularly Glendale, Filterbed, East Clinton, Rosa Allen, and House Tract—all of which are immediately adjacent to residential neighborhoods in Pleasantville, Clinton Park, Galena Park, Port Houston, and Pasadena. Mr. Empson's findings align with and substantially expand the technical and regulatory foundations for the concerns HPCC has raised with the Corps throughout the formulation phase of Segments 5 and 6 of Project 11.

We have heard from the Port of Houston and the Texas Commission for Environmental Quality that the Corps may be considering alternatives, such as barging dredge spoils from Segments 4 and 5 to the Bay or the Gulf. HPCC strongly prefers solutions that do not reopen or raise berms near residential communities including at the Glendale and Filterbed placement areas and is prepared to work constructively with the Corps to identify placement alternatives that protect public safety. Mr. Empson's review also raises questions about the Clinton, Rosa Allen, and House Tract placement areas.

Here is a summary of the issues raised in Mr. Empson's review:

**Regulatory Non-Compliance and Missing Risk Assessment Framework**

The independent review has identified a critical regulatory gap: the current Project 11 formulation and design process has not incorporated risk-informed decision-making or formal life-safety risk assessments as required by USACE national policy. Specifically:

- USACE Planning Manual Part II (2017) and USACE Engineering Regulation 1110-2-1156 (Safety of Dams Policy) both mandate that risk-informed planning and life safety risk assessments be performed for all civil works projects, particularly those involving structures where failure could harm adjacent communities.

- A Type II Safety Assurance Review (Independent External Peer Review) has not been performed. USACE policy requires this level of review for projects with life safety implications, yet only a Type I IEPR was conducted at the feasibility stage.

**Slope Stability Analyses: Outdated, Incomplete, and Contradicted by Field Failures**

The placement areas rely on slope stability analyses performed in 2016 that are now nearly a decade old and have been demonstrated to be unreliable:

- The 2016 analyses do not include static liquefaction evaluations. Static liquefaction—the catastrophic collapse of loose, water-saturated sediments—is the failure mode that caused the most recent fatal tailings dam failures in Brazil (2019) and resulted in significant losses at a U.S. flood control dam. International standards (ICOLD, Canadian Dam Association, U.S. Society on Dams) now require liquefaction analysis for all structures similar to placement-area dikes.

- The January 2025 slope failure (pictured at right) at East Clinton placement area directly demonstrates that the 2016 analyses do not predict actual behavior and must be revisited. The models failed to anticipate this failure, raising serious questions about the validity of analyses for Glendale, Filterbed, and other sites.

- The existing analyses do not incorporate sea level rise, storm surge, or regional land subsidence effects on slope stability. USACE Engineering Regulation 1100-2-8162 requires that the impacts of sea-level change and subsidence be evaluated throughout the project lifecycle. The Houston region experiences the fastest land subsidence of any major U.S. city, driven by extensive groundwater pumping. Yet this critical driver of future changes is not integrated into dike stability design.

**Inherently Dangerous Construction Method**

The proposed method for raising dikes at Glendale, Filterbed, and other existing placement areas—known as "upstream raising"—is inherently high-risk and has been banned by law in Brazil due to frequent fatal failures of similar structures (tailings dams). This method works by excavating previously placed, water-saturated dredge material from inside the placement area, recompacting it, and building new dikes on top of this loose, poorly characterized foundation. The Project 11 approach uses the high-risk “upstream raising” method,  which also exposes contaminated dredge material during construction, creating risks of uncontrolled runoff and off-site migration of toxic sediments into adjacent neighborhoods.

**Toxicity of Dredge Materials and Contamination Risks**

HPCC has significant concerns about the toxicity of dredge spoils and the inadequacy of sampling and monitoring protocols:

- Sampling data collected by USACE and Port of Houston between 2018 and 2023 show that channel sediments contain hazardous chemicals—dioxins, PCBs, and arsenic—at levels up to 39 times higher than EPA’s acceptable cancer risk levels.

- The Port and USACE have refused to conduct toxicity tests in existing placement areas comprehensively. Yet, the upstream construction method will use these potentially toxic dredge spoils as fill for new berms. This represents a critical gap in environmental due diligence.

- Independent community sampling adjacent to existing placement areas has revealed elevated concentrations of dioxins, PCBs, and arsenic, confirming that toxicity concerns are not theoretical.

**Stormwater, Flooding, and Climate Resilience Gaps**

The independent review finds:

- No comprehensive stormwater management design exists to prevent dike overtopping, manage toxic runoff after area closure, or avoid induced flooding in neighborhoods. Three-dimensional hydrologic modeling, as recommended by professional standards, has not been performed.

- Sea level rise and land subsidence are acknowledged for navigation purposes, but their effects on dike stability and flood risk have not been analyzed, contrary to USACE guidance. Combined with increasingly extreme rainfall and storm surges, these factors create compounding risks that are not accounted for in current designs.

- The "adaptive management" approach proposed in project documents is not supported by specific authorization or funding mechanisms. Without dedicated funding, long-term monitoring, slope maintenance, and adaptive response to changing conditions will likely not occur.

**Dam Safety Requirements**

All proposed upland placement areas meet USACE dam safety criteria: they are either over 25 feet tall or have a storage capacity of 50 acre-feet or greater. Under USACE Engineering Regulation 1110-2-1156 and Texas regulations (30 TAC 299.1), these structures must be designed, constructed, and operated in accordance with dam safety standards, where life safety is paramount and public safety cannot be traded off for other project benefits.

The principle stated in USACE guidance is unambiguous: "Do no harm must guide all actions." The current approach of using neighborhood-adjacent placement areas for economic project benefits, when safer alternatives exist, is inconsistent with this policy.

**Request for Corps Action and HPCC Meeting**

We respectfully request that Colonel Dake and the Corps of Engineers leadership confirm the current Corps plans regarding Segments 4 and 5 dredge spoil disposition, specifically whether the Corps intends to pursue the barging alternative to the Bay or the Gulf rather than reopening and raising berms at Glendale and Filterbed placement areas, and the proposed timeline and process for this decision.

We also ask that the Corps develop and publicly post a Design Review Plan (as required by USACE policy) that explicitly incorporates:

1. A detailed life safety risk assessment for each placement area using USACE-approved methodology
2. A Type II Safety Assurance Review by independent experts from outside the Southwest Division
3. Updated slope stability analyses incorporating static liquefaction evaluation, sea level rise, storm surge, and subsidence effects
4. Comprehensive stormwater and flood management modeling
5. A definitive operation, maintenance, monitoring, and capping plan with identified funding sources

Lastly, we'd greatly appreciate a meeting between the Corps of Engineers leadership, including the District Engineer and appropriate technical staff, and representatives of the Healthy Ports Community Coalition to discuss these issues in detail, review Mr. Empson's findings, and establish a collaborative path forward that prioritizes public safety and complies with USACE policy.

**Conclusion**

HPCC does not dispute the need to improve Houston Ship Channel operations to support regional economic growth. However, we firmly believe these economic benefits should not be pursued at the expense of increased life-safety risks for thousands of residents in adjacent neighborhoods. The current approach—using upland placement areas immediately adjacent to homes, supported by outdated analyses and an inherently risky construction method—is inconsistent with USACE standards and best practices.

The good news is that safer, viable alternatives exist. Barging spoils to Galveston Bay or out into the Gulf and implementing comprehensive dam-safety-level design and monitoring for any remaining upland sites would serve the Corps' mission, protect the public, and allow the project to proceed on schedule.

We look forward to working collaboratively with you and your team to ensure that Project 11 proceeds safely and in full compliance with USACE policy and federal law. Please let us know your availability to meet with HPCC at your earliest convenience.

Thank you for your attention to this critical matter and for your leadership as the new District Engineer.

Sincerely,

Bridgette Murray
**Healthy Ports Community Coalition**

Representing:

Achieving Community Tasks Successfully
Air Alliance Houston
Bayou City Waterkeeper
Coalition of Community Organizations
Environmental Community Advocates of Galena Park
East Harris County Empowerment Council
Healthy Gulf
Public Citizen
Texas Health and Environment Alliance

*Attachment: William B. Empson, PE. Project 11 Memorandum for Healthy Ports Community Coalition. Empson Consulting, LLC. December 9, 2025.*

cc: Charlie Jenkins; Maria Aguirre; Ric Campo; The Honorable Ted Cruz; The Honorable John Cornyn; The Honorable Sylvia Garcia; The Honorable Dan Crenshaw; The Honorable Carol Alvarado; The Honorable Molly Cook; The Honorable Ana Hernandez; The Honorable Mary Ann Perez; The Honorable Lina Hidalgo; The Honorable Adrian Garcia; The Honorable Rodney Ellis; The Honorable John Whitmire; The Honorable

Tarsha Jackson; The Honorable Joaquin Martinez; The Honorable Esmeralda Moya; The Honorable Leticia Plummer; The Honorable Christina Morales; The Honorable Penny Morales Shaw; The Honorable Harold Dutton; The Honorable Carol Alvarado; The Honorable Boris Miles