

MEMORANDUM

TO: Lead Asset Management Strategist **FROM:** Dr. Aris Thorne, Chief Engineer, Port Veridia Public Works **DATE:** October 26, 2023 **SUBJECT:** Urgent: Preliminary Findings on Guardian Seawall Vulnerabilities

This memo summarizes the preliminary findings from our Q3 structural integrity assessment of the Guardian Seawall. The results are concerning.

Our team has identified several areas requiring immediate attention:

Sector 4-Beta (North Promenade): We have observed significant spalling and hairline fracturing along a 200-meter stretch. Core samples indicate chloride ion penetration has reached the primary rebar in several locations, accelerating corrosion. The risk of a localized facing collapse during a high-energy wave event is moderate to high.

Sector 2-Alpha (Old Harbor): The toe of the seawall shows evidence of significant scour and undermining. The original scour aprons have been compromised, and we estimate a 15% reduction in foundational support. This poses a significant risk of rotational failure under sustained storm surge conditions.

General Condition: System-wide, the concrete's compressive strength is testing 20% below the original 1973 specifications. The sealant in the expansion joints is brittle and failing in over 60% of the inspected locations.

These are not minor maintenance issues. We are looking at systemic failures that require a strategic, funded intervention. I strongly recommend commissioning a full-scale, invasive geotechnical and materials analysis, but in the interim, we must develop a plan to address these immediate risks.