

Executive Summary

Bayport versus Spilman's Island: A Cost Comparison

November 19, 2002

- Contrary to the Port of Houston Authority's public statements, its own cost estimates show that Bayport is a more expensive site than Spilman's Island.
- Even if the stabilization costs at Spilman's Island approach the Port of Houston Authority's maximum estimate of \$428,000 per acre (from a range of \$90,000 to \$428,000 per acre), it would still cost less to stabilize 500 acres than the additional direct costs identified for Bayport.

Cost of Spilman's Island Stabilization

Cost per acre	500 Acre Site
\$90,000	\$45,000,000
\$297,000	\$148,500,000
\$428,000	\$214,000,000

Additional Costs for Bayport Site

Cost Item	Totals
Land Acquisition	\$4,757,921
Mitigation	\$24,733,038
Roadways	\$116,895,800
Rail	\$60,420,000
Lost tax revenue from condemnations	\$2,631,430
Grand Total	\$209,438,189

- The \$209 million represents only readily quantifiable costs at Bayport. It does not include other impacts such as:
 - environmental (e.g., noise, habitat loss)
 - community (e.g., reduced property values)
 - regional (e.g., national security)
- The Port also claims that the use of Spilman's Island for a container port would not be timely because stabilization "would cause at least a six-year delay in the construction of the project". However, the DEIS for the Shoal Point Container Terminal—which includes Spilman's Island as an alternative—states that stabilization "would take upwards of 2 years prior to construction of the terminal".

Technical Report

Bayport versus Spilman's Island: A Cost Comparison

November 19, 2002

Introduction

As the Port of Houston Authority comes under increasing pressure to relocate the proposed Bayport Container Terminal to a more appropriate location, Spilman's Island is often mentioned as a logical alternative. The Spilman's Island site lies away from residential areas—reducing impacts on surrounding communities—and away from environmentally sensitive wetland and upland habitats. In addition, it lies adjacent to the existing Barbour's Cut Terminal, increasing efficiencies for Port of Houston Authority operations. The Port of Houston Authority insists that the site is too expensive to develop, because filled dredge disposal areas would have to be dewatered and stabilized. A true cost comparison of the two sites must, however, include more than the cost of site preparation. A more fully developed cost analysis follows.

Cost of Stabilization at Spilman's Island

The actual cost to stabilize Spilman's Island for a container terminal is a function of a number of variables: the amount of stable land needed, the amount of dry or stable land available, the "wetness" of the dredge spoil area, and the amount of surcharge material that would need to be brought from off-site.

The Port currently estimates that cost per acre to stabilize Spilman's Island ranges from \$297,000 per acre to \$428,000 per acre, depending on the amount of surcharge material that would need to be brought from off-site.¹ For comparison, the Port's estimate for this stabilization was over \$600,000 per acre a few years ago. The private developers of the Shoal Point Container Terminal in Texas City estimate that it will cost about \$90,000 per acre to stabilize the dredge disposal area on which they plan to build.

The Port of Houston Authority estimates total stabilization costs that range from \$264 million to \$380 million.² Dividing the estimated total cost by the per acre cost, the Port estimates that about 888 acres of land would need stabilization at Spilman's Island for the construction of a container and cruise terminal. Based on the amount of land needed per container berth in the Shoal Point Draft Environmental Impact Statement (DEIS), the entire seven-berth container terminal could be built on 500 acres. In fact, Seattle's newly opened Terminal 18 is a five-berth facility built on only 200 acres, also on dredge spoil.

The number of acres that would need stabilization would also be reduced if the cruise terminal were not co-located with the container terminal. There is no reason that the cruise terminal—if needed at all—must or even should be built adjacent to the container terminal. In fact, Ricardo Fernandez of Indigo Service Corporation—a nationally recognized cruise terminal and port

¹ Letter dated October 22, 2002 from the Port of Houston Authority to Representative John Davis

² Letter dated September 11, 2002 from the Port of Houston Authority to Representative John Davis

consultant—argues that cruise and container facilities should *not* be co-located due to national security concerns.³

Finally, even assuming the smaller footprint, the entire 500 acres may not need stabilization, as demonstrated by the Port’s assumption that 888 acres need stabilization for a facility with an approximate footprint of 1,000 acres. If approximately 100 acres of the area are dry, only 400 acres of stabilization would be required. Further technical work is needed by the Port to determine how much land needs stabilization and how costly that work would really be.

Based on the above information, the range of cost for stabilization is presented below.

Cost of Spilman’s Island Stabilization

Cost per acre	Amount of Land to be Stabilized		
	<i>400 acres</i>	<i>500 acres</i>	<i>888 acres</i>
<i>\$90,000</i>	\$36,000,000	\$45,000,000	\$79,920,000
<i>\$297,000</i>	\$118,000,000	\$148,500,000	\$263,736,000
<i>\$428,000</i>	\$171,200,000	\$214,000,000	\$380,064,000

The Port also claims it would incur significant additional costs to move dredge disposal from Spilman’s Island to another location.⁴ However, no rationale or back-up for these costs has been provided. In fact, the Port bought about 500 acres of the Bayport site for dredge disposal, but now provides no reason why this land could not being used for that purpose.

Additional Costs for Bayport Site

The additional costs—direct and indirect—of the development of the Bayport site into a container and cruise terminal are enormous, with devastating effects on the environment, local communities, recreational and commercial bay users, and taxpayers. This analysis only includes direct and quantifiable costs, but the costs to the environment and communities should ultimately be calculated as well. The costs that can be quantified at this point are summarized in the table below.

Direct Port of Houston Authority Expenditures

The Port of Houston Authority itself will be required to spend significant public funds to build at Bayport that would not be required if the facility were built at Spilman’s Island or another less damaging site. The Port either has already or must buy the following land parcels: the Seabrook Fairgrounds, the wetlands mitigation site on Red Bluff Road, the Seureau property, and two parcels from American Acryl. In addition, the U.S. Fish and Wildlife Service is asking for significant additional land purchases—about 500 acres—for habitat loss mitigation.

³ From an analysis of the Bayport Container and Cruise Terminal conducted for the Galveston Bay Conservation and Preservation Association and submitted in August 2002 to the Corps of Engineers as comments to the second revised permit application for the Bayport Container Terminal

⁴ Letter dated September 11, 2002 from the Port of Houston Authority to Representative John Davis

The Port must directly spend money on mitigation: the creation of new wetlands at the Red Bluff Road site, the construction of earthen berms along Todville Road and north of El Jardin, the construction of a noise wall on the north shore of the Bayport Channel, spreader bars to reduce noise and vibration from container dropping, a south terminal retention pond, and three new stormwater outfalls to Pine Gully to reduce flooding.

The costs of the above items were provided by the Port in a letter to Mayor Nancy Edmonson of Shoreacres dated November 7, 2002.

Required Infrastructure Costs Borne by Others

In addition to the costs above that would be incurred by the Port of Houston Authority, taxpayers would bear additional costs for the development of the Bayport site. The largest group of added costs would be for roadway improvements required to make the Bayport site workable. In January 2000, the Port submitted a package of proposed transportation improvements to the Houston-Galveston Area Council (HGAC) to be added to the 2025 Metropolitan Transportation Plan. The following roadway projects, and their proposed funding sources, were identified as specifically required for the Bayport Container Terminal. The information provided to HGAC by the Port states that all of these projects would require 80% federal and 20% Port of Houston Authority funding.

- Grade-separated crossing at New SH 146 and industry lead track
- Grade-separated crossing at Old SH 146 and industry lead track
- Grade-separated crossing at mainline double track and Spencer Highway
- Grade-separated crossing at mainline double track and Fairmont Parkway
- Grade-separated crossing at mainline double track and Choate Road
- Grade-separated crossing at mainline double track and Port Road
- Fly-over from southbound SH 146 to eastbound southern access road
- Fly-over from southbound SH 146 to eastbound pre-check access road
- Direct connector from westbound southern access road to northbound SH 146
- Direct connector from westbound Port Road to northbound SH 146
- Widened Port Road from 2 lanes to 4 lanes from SH 146 to Todville
- Improvements to Port Road/Todville Road intersection
- Automatic signage on SH 146, Fairmont Parkway, Choate Road, and Red Bluff Road

The federal share of the above projects would total about \$93.5 million. It is not clear, however, whether all of these projects would be eligible for federal funding or what other federally funded transportation projects in the region would be displaced.

In addition to the above roadway improvements, improvements to the rail system leading to Bayport would be required. It is unclear who would pay for these improvements, which are as follows:

- Double-track mainline rail from Strang Yard to Bayport
- Industry track from mainline to intermodal yard at Bayport
- Intermodal railyard at Bayport

Some roadway and rail improvements may be required for the Spilman's Island site. These improvements should be minimal, however, because significant public funds have already been invested in the area to support the Barbour's Cut facility. For example, while the tracks south to Bayport are single tracks, the tracks to Barbour's Cut (and hence Spilman's Island) were double-tracked a few years ago. In addition, truck traffic from Spilman's Island would have direct access to SH 225, to which significant capacity was added about 5 years ago, while truck traffic from Bayport would travel on the already overburdened SH 146.

Other Public Sector Costs

Lands condemned by the Port of Houston Authority result in lost tax revenues for the cities of Pasadena and Seabrook, Harris County, and Clear Creek Independent School District. The tax rates for these entities are as follows: Pasadena-\$.00643, Seabrook-.006583, Harris County-\$.0077698, and Clear Creek ISD - \$.0174. Annual lost tax revenue for 25 years from all of the condemned lands except the Seabrook Fairgrounds (assumed to be tax-exempt park land) would be about \$2.6 million. Clearly, if the tax projections were based on the development of these lands for other private sector purposes, the tax revenue losses would be much greater.

Additional Costs for Bayport Site

Cost Item	Cost	Totals
Land Acquisition		
Fairgrounds	\$800,000	
Red Bluff Site	\$2,645,500	
Seureau	\$1,903,500	
American Acryl	\$627,397	
American Acryl	\$1,427,024	
Subtotal		\$4,757,921
Mitigation		
Earthen Berms	\$17,000,000	
Noise Wall	\$5,445,838	
Spreader Bars	\$336,000	
South Pond	\$1,200,000	
Stormwater Outfalls	\$51,200	
Wetlands Creation	\$700,000	
Subtotal		\$24,733,038
Roadways ⁵		
Separate SH 146/lead track	\$23,214,000	
Separate Old 146/lead track	\$11,607,000	
Separate Spencer/mainline track	\$11,607,000	
Separate Fairmont/mainline track	\$11,607,000	
Separate Choate/mainline track	\$3,604,000	
Separate Port Rd/mainline track	\$11,607,000	
Fly from SB SH 146 to south access rd	\$13,928,400	
Fly from SH SH 146 to EB check gate	\$13,992,000	
Connect WB s. access rd to NB SH 146	\$2,321,400	
Connect WB Port Rd to NB SH 146	\$2,120,000	
Widen Port Rd	\$7,049,000	
Port Rd/Todville Rd intersection	\$767,500	
Automatic signage in area	\$3,471,500	
Subtotal		\$116,895,800
Rail		
Double-track mainline to Strang Yard	\$12,720,000	
Track from mainline to intermodal yard	\$10,600,000	
Intermodal railyard	\$37,100,000	
Subtotal		\$60,420,000
Lost tax revenue from condemnations		\$2,631,430
Grand Total		\$209,438,189

⁵ Roadway and rail costs were drawn from the HGAC MTP-submittal document, with 6% inflation added to convert 2000 estimates to 2002 estimates (to provide comparability to the other costs estimated provided by the Port of Houston in October 2002).

Unquantified Costs

The costs listed above are only those that have been quantified to date. Other significant cost differentials may exist between the sites that should ultimately be added to the analysis, such as port security. The security implications of container ports are huge, and ports nationally are struggling with how to protect the public from dangers that may enter the United States in containers. Factors that will increase the cost of securing these ports include the number of access points into a port and the proximity of potential victims. While existing ports will not likely be moved, new ports can be sited to reduce the security costs. Spilman's Island is remote from residences and access could easily be restricted to one entrance/exit road. Bayport, on the other hand, would have neighbors on almost all sides, requiring all sides to be secured. The costs would be enormous, the price of failure even higher.

Another obvious but as yet unquantified cost of Bayport—but not the better located Spilman's Island—would be lost property values and its impact on local governments. Individual property owners stand to lose significant capital in land value. And all of the area taxing entities—Harris County, Seabrook, Pasadena, Shoreacres, Taylor Lake Village, La Porte, area school districts, and others—would lose tax revenues from reduced residential, recreational, and commercial property values caused by the incompatible land use introduced by Bayport. These costs as well as environmental costs are not included in this analysis.

Time Required for Stabilization

Whatever the cost may be, the dewatering process required for stabilizing dredge spoil takes time. In the September 11, 2002 letter to Representative John Davis, the Port states that the use of Spilman's Island for a container port would not be timely because stabilization “would cause at least a six-year delay in the construction of the project”. However, the DEIS for the Shoal Point Container Terminal—which includes Spilman's Island as an alternative—states that the surcharge program used for stabilization “would take upwards of 2 years prior to construction of the terminal”.⁶ This three-fold difference in the estimated time needed for site preparation casts doubt on the validity of the Port's claimed delay.

Conclusion

This analysis is not intended to be a definitive or exhaustive study of the comparative economics of the Bayport and Spilman's Island sites. There are many other cost factors—public and private, direct and indirect—that should be considered in comparative site analyses. This analysis is intended to provide enough data to demonstrate that, analyzed properly, financially viable alternative sites to Bayport are available and should be considered more carefully. The Port contends that the Spilman's Island Alternative is “neither monetarily feasible, economically sensible, nor timely in completion”.⁷ This statement is clearly untrue and meant to stifle reasonable consideration of more acceptable alternatives.

⁶ Page 2-43, Shoal Point Container Terminal Draft Environmental Impact Statement

⁷ Letter dated September 11, 2002 from the Port of Houston Authority to Representative John Davis