

**ATTACHMENT F (BLOCK 23)  
ALTERNATIVES ANALYSIS  
FOR THE PROPOSED  
PASADENA TERMINAL PROJECT  
Harris County, Texas**

*Submitted To:*  
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*Submitted For:*  
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**OCTOBER 2016**



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MAGELLAN TERMINALS HOLDINGS, L.P.

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**ACRONYMS AND ABBREVIATIONS**

HSC	Houston Ship Channel
USACE	U.S. Army Corps of Engineers

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## **1.0 INTRODUCTION**

### **1.1 PURPOSE AND NEED**

Magellan Terminals Holdings, L.P. (Magellan) purchased a 188 acre parcel of land (preferred alternative) on the Houston Ship Channel (HSC) at approximately MP 44.4 in Pasadena, Texas. The proposed Project will allow Magellan to construct a bulk storage marine terminal for petroleum hydrocarbons. This proposed Project will assist Magellan in serving its regional, national, and international customers' demands. This proposed Project is under review by the Houston Port Authority and U.S. Army Corps of Engineers (USACE) and will improve navigation for vessels transiting this portion of the channel and improve safety when berthing vessels at the proposed facility.

### **1.2 SCOPE OF THE PROPOSED PROJECT**

The scope of the proposed Project is to permit and construct a new marine hydrocarbon storage terminal. The proposed Project will enable Magellan to construct new docks, storage tanks, and pipeline connections to efficiently serve customers.

### **1.3 SITE SELECTION SCREENING CRITERIA**

Magellan designated the following site criteria in order to achieve the stated purpose and need:

1. Sufficient marine waterfrontage for a minimum of 4 ship docks,
2. Sufficient acreage for 10.5MM barrels of storage (>175ac),
3. Access to deep water marine transportation,
4. Efficient access to existing refinery infrastructure,
5. Access to existing landward transportation,
6. Economic viability and availability for development,
7. Minimize environmental impacts and dredging requirements, relative to other sites,
8. Use of connecting property owned by Magellan.

Of these eight site selection criteria, the first six criteria were considered essential project components.

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#### **1.4 PRACTICABLE ALTERNATIVES FOR PLACEMENT OF PROPOSED FACILITY**

A key provision of the 404(b)(1) guidelines is the “practicable alternative test” which requires that “no discharge of fill material shall be permitted if there is a practicable alternative to the proposed fill which would have a less adverse impact on the aquatic ecosystem.” For an alternative site to be considered “practicable”, it must be available and capable of being done after considering cost, existing technology, and logistics in light of the overall project purpose.

Five properties located along the Houston Ship Channel have been reviewed as potential practicable alternatives. Details of these properties are summarized in Table F-1: Off-site Alternative Analysis Matrix. Although a single property capable of supporting the entire project scope was desired, the review included smaller properties potentially capable of supporting a portion of the overall project scope. The applicant analyzed and pursued the purchase and/or lease of multiple properties for the proposed project. Of the five properties evaluated, four properties: Alternatives 1, 2, 3 and 4 were determined to not be practicable for three primary reasons:

1. The properties are not available because of recent sales or joint ventures where Magellan was not the selected bidder,
2. The properties required significant additional costs to meet the overall project purpose,
3. The properties were not of sufficient size to support the full project scope.

The applicant considered the above prioritized siting criteria and determined the proposed Project, Pasadena Terminal, was the only practicable alternative (preferred alternative).

#### **1.5 PROPOSED ACTIVITIES AND ALTERNATIVES**

The “practicable alternative test” requires that “no discharge of fill material shall be permitted if there is a practicable alternative to the proposed fill which would have a less adverse impact on the aquatic ecosystem.” The applicant must demonstrate that there are no less damaging practicable sites available and that all on-site impacts to waters of the U.S. have been avoided to the maximum practicable extent possible.

This section provides an evaluation and comparison of developmental and environmental impacts of the no action alternative compared to development of the preferred alternative site identified above. As well as an evaluation that all on-site impacts to waters of the U.S. have been avoided to the maximum extent practicable.

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### 1.5.1 Off Site Alternatives

The applicant has been searching for and evaluating potential properties for the proposed project for over 5 years. During that time, the applicant has evaluated multiple properties and pursued the potential purchase of several of those properties. The Off-site Alternatives provided below are the properties that after due diligence (including the evaluation of potential or known level of site contamination) were considered as potentially viable properties for purchase.

*Off-Site Alternative 1* - Off-Site Alternative 1 (29°44'33.92"N, 95°11'06.53"W) is located approximately 0.5 miles east of Magellan's existing Galena Park marine terminal facility and approximately 1.4 miles west of the proposed project site. The site is only 24 acres in size with roughly 600 feet of waterfront for a single dock. Although the site is too small to support the full proposed project, it was considered as potentially being capable of supporting a portion of the full proposed project because of its relative proximity to Magellan's existing marine terminal. Magellan was the successful bidder on Off-Site Alternative 1; however, the seller removed the property from the market prior to closing the sale.

*Off-Site Alternative 2* - Off-Site Alternative 2 (29°45'02.99"N, 95°11'33.91"W) is located immediately adjacent to Magellan's existing Galena Park marine terminal facility and approximately 1.5 miles west of the proposed project site. The site is 655 acres with over 4500 feet of waterfront to support the minimum four dock project requirement. The site is fully developed for the import and export of various dry good cargo including two existing docks, shipping container storage areas, warehouses, and various other improvements to support the current property use. The applicant aggressively pursued a joint venture opportunity for the property because of its prime location adjacent to their existing marine terminal. However, the applicant was not the successful bidder.

*Off-Site Alternative 3* - Off-Site Alternative 3 (29°43'35.95"N, 95°14'08.63"W) is located approximately 2.4 miles west of Magellan's existing Galena Park marine terminal facility and approximately 4.5 miles west of the proposed site. Off-Site Alternative 3 is 36 acres and is an existing, operational marine terminal with a single dock and tankage for just over one million barrels of storage. The applicant was selected to participate as a final bidder on the property. However, after a thorough economic evaluation of the property it was determined purchase of the property was not economically viable because of the necessary capital expenditures required to upgrade the assets to meet the applicant's asset integrity standards.

*Off-Site Alternative 4* - Off-Site Alternative 4 (29°44'25.13"N, 95°11'38.56"W) is located directly across the HSC from Magellan's existing Galena Park marine terminal facility and approximately 1.75 miles west of the proposed site. The property is an active facility with approximately 55 acres of undeveloped area with approximately 800 feet of available waterfront. The property owner proposed partnering on the construction and operation of a single ship dock. A single shared ship dock is not an economically or operationally viable option to meet the needs of the proposed

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project. The applicant proposed building a second dock (in addition to the shared dock) where they would have full control of the dock schedule. It was then learned that approximately 32 of the 55 acres are mitigation wetlands that have been deed restricted to prevent development. Location of the deed restricted wetlands prevents the construction and operation of a second ship dock. Therefore, this property was not considered a viable option to meet any portion of the project scope.

*Off-Site Alternative 5* - Off-Site Alternative 5 (29°44'43.96"N, 95°09'00.99"W) is located approximately 2.4 miles east of Magellan's existing Galena Park marine terminal facility and approximately 0.25 miles northeast of the proposed site. The property consists of approximately 500 acres of undeveloped land with approximately 2,500 feet of waterfront on the HSC. The property has sufficient acreage and waterfront to support the proposed project. Based upon a desktop review of National Wetland Inventory maps, approximately 111 acres of the property are jurisdictional wetlands (38 acres of forested wetlands, 72 acres of scrub/shrub wetlands, and 1 acre intertidal unconsolidated shore). The wetlands start at the ship channel and extend north, effectively covering the southern quarter of the property. Cost effective utilization of the property would result in the removal of a significant portion of the wetlands for construction and operation of the ship docks, storage tanks, and associated infrastructure. The property currently is not for sale and; therefore, is not available to the applicant.

### **1.5.2 No Action Alternative**

A no action alternative means that the proposed action would not occur and is the baseline to which the other alternative is measured. While the no active alternative does not result in impacts to the aquatic ecosystem, is also means Magellan would not be able to fulfill the purpose and need to expand current storage capacity on the HSC with access to both pipeline and marine transportation options to meet the regional, national, and international energy needs of customers for crude and hydrocarbons. .

### **1.5.3 Preferred Alternative Site Evaluation**

The preferred alternative is a 188 acre undeveloped parcel of property abutting the southern side of the HSC currently owned by Magellan. The preferred alternative is currently undeveloped, but is bordered by the HSC to the north and existing industrial development to the south, east, and west. The applicant conducted real estate analysis and due diligence in the selection of the practicability of the preferred alternative.

Based on the required capacity necessary to fulfill the project need, spacing guidelines dictated by federal law and fire safety standards, and federally mandated secondary containment requirements, the entire portion of the preferred alternative will be developed. During the design phase, it was determined that due to size constraints, no on-site alternatives were viable. The

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entire preferred alternative project site will be developed to fulfill the essential project components with the proposed bulk storage facility, ship docks, and associated appurtenances. With the exception of the area located in the SW corner of the project which contains a 1.2 acre wetland (wetland #5 in AJD) which will be avoided.

Due to the high degree of previous site disturbances and the highly industrialized region, the preferred alternative should be considered a fragmented habitat and the proposed development is not anticipated to have any adverse impacts to state or federally listed T&E species or cultural resources. Additionally, the wooded portion of the Project is dominated by the invasive Chinese tallow which contributes to a reduced ecological function on the Project area and the region. Magellan proposes to mitigate for these impacts with credits purchased from the existing- Gin City Mitigation Bank, which will provide conservation of a functional habitat. Due to the practicability of the preferred alternative, and the proposed mitigation for environmental impact, the preferred alternative was considered by Magellan the least environmentally damaging.



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Attachment F – Alternatives Analysis for the Proposed Pasadena Terminal Project

Table F-1: Offsite Alternative Analysis Matrix

Potential Sites (Locations)	Sufficient Size for Bulk Storage Tanks (>175 ac)	Capable of Supporting Four Ship Docks	Access to Existing Landward Transportation	Access to Existing Infrastructure	Available for Sale or Development
Alternative 1 Property: 29°44'33.92"N, 95°11'06.53"W	No, estimated acreage +/- 24	No. Only capable of single dock.	Yes, Access via existing roads to 225 frontage roads, Pasadena, TX	Yes	No. Initial Sale, was successful bidder, seller removed from market prior to closing.
Alternative 2 29°45'02.99"N, 95°11'33.91"W	Yes, Estimated acreage +/- 655	Yes	Yes, access to Federal Road, Galena Park, TX	Yes	No. Bid on JV option for property and was unsuccessful
Alternative 3 29°43'35.95"N, 95°14'08.63"W	No, Estimated acreage +/- 36	No. Only capable of single dock.	Yes, access to Clinton road, Galena Park, TX	Yes	Property evaluated, determined not to be economically viable.
Alternative 4 29°44'25.13"N, 95°11'38.56"W	No, Estimated acreage +/- 40	No. Only capable of single shared dock.	Yes, Access via existing roads to 225 frontage roads, Pasadena, TX	Yes	Property evaluated, determined not to be economically viable.
Alternative 5 29°44'43.96"N 95°09'00.99"W	Yes, Estimated acreage +/- 500	Yes	Yes, Access to I10, Beltway 8, Galena Park, TX	No	No, property not for sale.
Proposed Site 29°44'2.94"N 95°9'34.69"W	Yes, 188 acres	Yes	Yes, Access to 225, Pasadena, TX	Yes	Yes