Alternatives Analysis

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." The applicant must demonstrate that there are no less damaging sites available and that all onsite impacts to waters of the US have been avoided to the maximum practicable extent possible.

For an alternative 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. The applicant considered the following prioritized siting criteria to determine the preferred alternative:

- 1. Use of property owned by Magellan or available for purchase, not leased
- 7. Access to the Corpus Christi Ship Channel and deep water shipping lanes, with sufficient waterfrontage for four ship docks
- 2. Sufficient berthing depth to accommodate the draft of Panamax and Post Panamax ships
- 3. Sufficient site for minimum of eight million barrels of storage
- 4. Efficient access to existing infrastructure
- 5. Minimize environmental impacts and dredge requirements, when compared to other green field or brownfield sites

No-Action Alternative

Under the No-Action Alternative, the site would not be developed for this project. The No-Action Alternative is temporary because the proposed site is increasingly susceptible to the pressures of

development due its proximity to the CCSC, international shipping lanes, and existing infrastructure of the U.S. Gulf Coast petrochemical industry. Furthermore, the proposed Project Site is located within a dense and growing industrial zone surrounded by similar industries and is one of the few undeveloped properties remaining along the CCSC that isn't currently developed or slated for dredge spoil placement. If this site were not developed by the applicant, other parties would purchase the property in the near future and develop it for similar uses.

The No-Action Alternative does not meet the immediate needs for bulk storage in vicinity to existing infrastructure. Further analysis of this alternative was not conducted because it did not meet the purpose and need of the project.

Off-Site Alternatives

During the nearly two-year search for an appropriate location for the proposed bulk storage facility expansion, the applicants identified four properties that could meet the proposed Project Site siting requirements. A map depicting the locations of the four off-site alternatives is located in **Attachment F**.

Off-Site Alternative 1

Located approximately one mile northwest of and directly across the CCSC from the proposed project site, Off-Site Alternative 1 (27.822373° N, -97.450828° W) was determined to be the closest viable alternative. However, with approximately 2,800 linear feet of shoreline, and only 30 ac of available area for development, Off-Site Alternative 1 is not sufficiently large enough to facilitate the construction of necessary frontage, berth, and storage area. A total of 24.41 ac of Section 404/10 wetlands are mapped on the property by the USFWS NWI. Based on interpretation of aerial photographs, this property potentially includes an additional approximately 5.32 ac of unmapped wetlands. Development of this parcel of undeveloped land would require approximately one mile of landward pipeline construction including potential impacts to an additional 2.5 ac of wetlands, and an approximate 0.25-mile bore beneath the CCSC to connect this parcel of land to existing infrastructure. According to Nueces County Appraisal District (NCAD) property records, this parcel of land is currently owned by the Nueces County Navigation District. Based on research conducted of the Port of Corpus Christi Authority, this parcel is currently leased by Kinder Morgan and planned for future development with an oil dock and terminal. While a smaller quantity of aquatic resources would be impacted through development of Off-Site Alternative 1, based on the additional infrastructure support structure necessary, and on its planned future use as an oil dock and terminal, Off-Site Alternative 1 was determined not to be a practicable option to meet the purpose and need of the proposed project.

Off-Site Alternative 2

Off-Site Alternative 2 (27.824343° N, -97.213864° W) is located at the confluence of La Quinta Channel and the CCSC approximately 13.29 miles east of the proposed project site. While Off-Site Alternative 2 is sufficiently sized (106 ac) to facilitate the development of the proposed target bulk storage terminal capacity, the shoreline is of insufficient length to facilitate the construction of four ship docks and associated infrastructure. A total of 8.33 ac of Section 404/10 wetlands are mapped on the property by the USFWS NWI, and a total of approximately 21.31 ac of seagrass beds are mapped by the TPWD seagrass mapper. Development of this parcel of land would require approximately 23 miles of landward pipeline construction including potential impacts to an additional 90+ ac of Section 10/404 open water and wetlands to connect this parcel of land to existing infrastructure. According to San Patricio County Appraisal District (SPCAD) property records, this parcel of land is owned by Occidental Petroleum. Based on research of the Port of Corpus Christi Authority, Off-Site Alternative 2 is part of a larger development known as the Oxy Ingleside Energy Center, a planned LPG/LNG export facility. Based on

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the additional necessary support infrastructure and a corresponding impact to aquatic resources, Off-Site Alternative 2 was determined not to be a practicable option to meet the purpose and need of the proposed project. This option was also determined not to be the least environmentally damaging practicable alternative.

Off-Site Alternative 3

Off-Site Alternative 3 (27.881452° N, -97.254446° W) is located at the northern terminus of La Quinta Channel approximately 11.65 miles northeast of the proposed project site. While Off-Site Alternative 3 is sufficiently sized (127 ac) to facilitate the development of the proposed target bulk storage terminal capacity, the shoreline is of insufficient length to facilitate the construction of four ship docks and associated infrastructure. A total of 15.80 ac of Section 404/10 wetlands and open water are mapped on the property by the USFWS NWI, and a total of approximately 9.92 ac of seagrass beds are mapped by the TPWD seagrass mapper. Development of this parcel of land would require approximately 15 miles of landward pipeline construction including potential impacts to an additional 90+ ac of wetlands to connect this parcel of land to existing infrastructure. Based on the additional necessary support infrastructure and a corresponding impact to aquatic resources, Off-Site Alternative 3 was determined not to be a practicable option to meet the purpose and need of the proposed project. This option was also determined not to be the least environmentally damaging practicable alternative.

Off-Site Alternative 4

Off-Site Alternative 4 (27.828411°N, -97.487419°W) is located on the north shore of the CCSC, approximately three miles northwest of the proposed project site. With approximately 4,200 linear feet of shoreline, its location along the CCSC, and its size (124.6-ac), Off-Site Alternative 4 was determined to be a viable alternative based on its similar size and dimensions to facilitate the construction of four ship docks and associated infrastructure. However, development of this parcel would require approximately three miles of landward pipeline construction including the potential for approximately 2.22 ac of additional wetland impacts, and an approximate 0.25-mile bore beneath the CCSC to connect this parcel of land to the existing infrastructure. A total of 76.24 ac of Section 404/10 wetlands are mapped on the property by the USFWS NWI. Based on aerial photographs, this property potentially includes an additional approximately 28 ac of unmapped wetlands. According to NCAD property records, this parcel of land is currently owned by the Nueces County Navigation District. Based on research conducted of the Port of Corpus Christi Authority, this parcel is currently planned for future development with a public oil dock known as "Oil Dock 14." Based on the additional necessary support infrastructure, a corresponding impact to aquatic resources, , and its planned future use as a public ship dock, Off-Site Alternative 4 was determined not to be a practicable option to meet the purpose and need of the proposed project. This option was also determined not to be the least environmentally damaging practicable alternative.

On-Site Alternatives

The applicant conducted extensive real estate analysis and due diligence in the selection of the proposed Project Site. Based on its availability for purchase, its close proximity to the existing Magellan Corpus Christi Terminal facility, and its location along the CCSC, the Project Site was determined to be the only available property to meet the siting criteria and project purpose and need. Environmental constraint mapping and planning occurred early in the process to ensure the proposed project would avoid and minimize impacts to potentially sensitive natural communities, as well as waters of the U.S., to the greatest extent practicable.

Based on the required capacity necessary to fulfill the project purpose, on spacing guidelines dictated by federal law and fire safety standards, and on the federally mandated containment structures necessary, no

on-site alternatives were considered. The entire Project Site will be developed with the proposed bulk storage facility, ship docks, and associated appurtenances.











Prepared by: W. Randall Freeman; February 11, 2016 Rev.1



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