

Centro Mixed-Use Development (SWG-2016-00911) Alternatives Analysis

Need and Purpose

There is a local need within the area encompassing the area in and immediately around the cities of Shenandoah and The Woodlands, Texas, for additional residential and commercial development in close proximity to major thoroughfares to accommodate the population growth expected to occur in the area by 2025. The proposed Centro Mixed-Use Development will provide single-family residential and commercial office/retail properties with associated support facilities near Interstate 45 in Shenandoah, Texas, to meet local demand.

According to the Houston-Galveston Area Council, it is anticipated that household population in Montgomery County between 2015 and 2025 will grow by 293,000 people, which is a 55 percent growth rate (Appendix 1). In addition, The Woodlands Area Economic Development Partnership estimates that the population in The Woodlands area (including the cities of Shenandoah, Oak Ridge North, and the unincorporated community of The Woodlands) will grow by 32,313 people, or 6.3 percent, between 2016 and 2021 (Appendix 1). Population growth in the project area is due in part to several employment centers located within proximity to the proposed Project, including The Woodlands, Greenspoint, ExxonMobil, and Conroe. Palmetto MDR engaged a real estate consulting firm to compile and evaluate pertinent housing and market information in the immediate area surrounding the project. Based on this analysis, the population residing within a five-mile radius of the proposed Project location is expected to grow significantly at a rate of 2.7 percent per year from 2016 to 2021. The purpose of the project is to meet existing and projected demand through the development of residential and commercial facilities.

The Preferred Alternative for the proposed Project consists of two discontinuous parcels of undeveloped land, totaling approximately 12 acres, which are separated by David Memorial Drive. The residential component to the project would include the development of 33 two-story patio homes, 45 three-story detached townhomes, and 19 live/flex housing units, which generally span the west portion of the Preferred Alternative site. The east portion of the Preferred Alternative site is reserved for commercial development (office/retail).

Project Siting Criteria

Palmetto MDR is interested in developing the project in the area comprising the cities of Shenandoah and The Woodlands because of the growth in population expected within the next 5-7 years and the accompanying need for mixed-use development to support such growth. A search for other properties within the vicinity of Shenandoah and The Woodlands was conducted before deciding on the Preferred Alternative. Due to the multiple-use nature of the proposed project (residential and commercial development), Palmetto MDR searched for alternative properties that met the following siting criteria:

1. The site had to be located within the area comprising or near the cities of Shenandoah and The Woodlands, Texas, in close proximity to Interstate 45;
2. The site had to be located in an area with easy access to major thoroughfares;
3. The site had to measure between 8 and 20 acres in size to accommodate the proposed development;
4. The site had to meet certain minimum separation requirements to other existing developments of similar nature; and
5. The site had to be able to easily connect to existing or proposed utility lines (gas, electric, water).

Alternatives

Palmetto MDR considered the following alternatives that could meet the overall project purpose: a No Action Alternative, two Offsite Alternatives, and the Preferred Alternative. Given the size and characteristics of the

Preferred Alternative site, the layout of the Preferred Alternative represents the only practicable Onsite Alternative that could accommodate the proposed development. A brief description of each alternative is provided below.

No Action Alternative: The No Action Alternative entails no authorization for the placement of fill at the Preferred Site, resulting in Palmetto MDR either not constructing the project, reconfiguring the project to avoid all wetlands on the site, or siting the project entirely in uplands offsite. Given the size and characteristics of the Preferred Alternative site, the layout of the Preferred Alternative represents the only practicable design that could accommodate the proposed development and meet the project's purpose. Therefore, reconfiguring the project to avoid all wetlands onsite is not feasible. Additionally, in searching for alternative sites, Palmetto MDR did not identify a site located entirely in uplands that could accommodate the proposed development and meet the project's purpose. Thus, the only No Action Alternative is not constructing the project. Although the No Action Alternative would avoid all impacts to waters of the U.S., it would not meet the stated local market need for additional single-family residential and commercial retail/office facilities. Therefore, the No Action Alternative is not practicable and, as a result, it is not discussed further in this analysis. If Palmetto MDR did not develop the project, other developers would likely attempt to develop the Preferred Alternative site, as there is a high demand for residential and commercial facilities within the area in and immediately around the cities of Shenandoah and The Woodlands.

Offsite Alternatives: Offsite Alternative 1 is an approximately 16-acre tract of land located near Tamina Road and Elmore Drive in Shenandoah, Texas. Offsite Alternative 2 is an approximately 8-acre tract of land located near the intersection of Nursery Road and Oak Ridge Drive in The Woodlands, Texas. Maps of the locations of the Offsite Alternatives are included in Appendix 2.

Application of the Siting Criteria to the Alternatives

Table 1, below, is a summary of the selection criteria applied in the alternatives analysis.

Table 1: Offsite Alternatives comparison matrix.

Practicability Category	Factor	Preferred Alternative	Offsite Alternative 1	Offsite Alternative 2
Location	Located in the area comprising the area in and immediately around the cities of Shenandoah and The Woodlands in close proximity to Interstate 45	Yes	Yes	Yes
		Located in the area comprising the area in and immediately around the cities of Shenandoah and The Woodlands in close proximity to Interstate 45	Located in the area comprising the area in and immediately around the cities of Shenandoah and The Woodlands in close proximity to Interstate 45	Located in the area comprising the area in and immediately around the cities of Shenandoah and The Woodlands in close proximity to Interstate 45
	Easy access to major thoroughfares	Yes	Yes	Yes
		Site is adjacent to David Memorial Drive, an access road to Interstate 45	Site is near Tamina Road, an access road to Interstate 45	Site is near Nursery Road, an access road to Interstate 45
Size of Site	Between 8 and 20 acres in size	Yes	Yes	Yes
		Site is 12 acres in size	Site is 16 acres in size	Site is 8 acres in size
Logistics	Minimum separation requirements to other existing developments of similar nature	Yes	Yes	Yes
		Would be located far enough from other similar developments	Would be located far enough from other similar developments	Would be located far enough from other similar developments

	Available Utilities	Yes	Yes	Yes
		The site currently has access to utilities.	The site currently has access to utilities.	The site currently has access to utilities.

Offsite Alternative 1: Palmetto MDR reviewed the National Wetlands Inventory (NWI) map and a recent aerial photograph for Offsite Alternative 1, which illustrates that Offsite Alternative 1 likely contains aquatic resources. This methodology has been developed for comparison purposes and aligns with the Preliminary Jurisdictional Determination (PJD) approach assuming that all identified aquatic resources at the Preferred Alternative and Offsite Alternative 1 sites are jurisdictional Waters of the U.S. Specifically, the NWI map for Offsite Alternative 1 shows a freshwater emergent wetland feature and at least two freshwater pond features measuring a total of 0.5-acre onsite. The recent aerial photograph for Offsite Alternative 1 shows ponds and potential wetlands measuring 3.4-acres onsite. Therefore, wetland and waterbody impacts (3.9-acres) are more than what is proposed as part of the Preferred Alternative site likely would have occurred if Offsite Alternative 1 was selected for the project. A map depicting the NWI features and other aquatic resources for Offsite Alternative 1 is provided in Appendix 2.

Offsite Alternative 2: Palmetto MDR reviewed the National Wetlands Inventory (NWI) map and a recent aerial photograph for Offsite Alternative 2, which illustrates that Offsite Alternative 2 likely contains aquatic resources. This methodology has been developed for comparison purposes and aligns with the PJD approach assuming that all identified aquatic resources at the Preferred Alternative and Offsite Alternative 1 sites are jurisdictional Waters of the U.S. Specifically, the NWI map for Offsite Alternative 2 shows a freshwater emergent wetland feature and at a pond feature measuring a total of 2.86 acres onsite. The recent aerial photograph for Offsite Alternative 2 shows ponds and potential wetlands measuring 0.35-acre onsite. Therefore, wetland and waterbody impacts (3.21-acres) are more than what is proposed as part of the Preferred Alternative site likely would have occurred if Offsite Alternative 2 was selected for the project. A map depicting the NWI features and other aquatic resources for Offsite Alternative 2 is provided in Appendix 2.

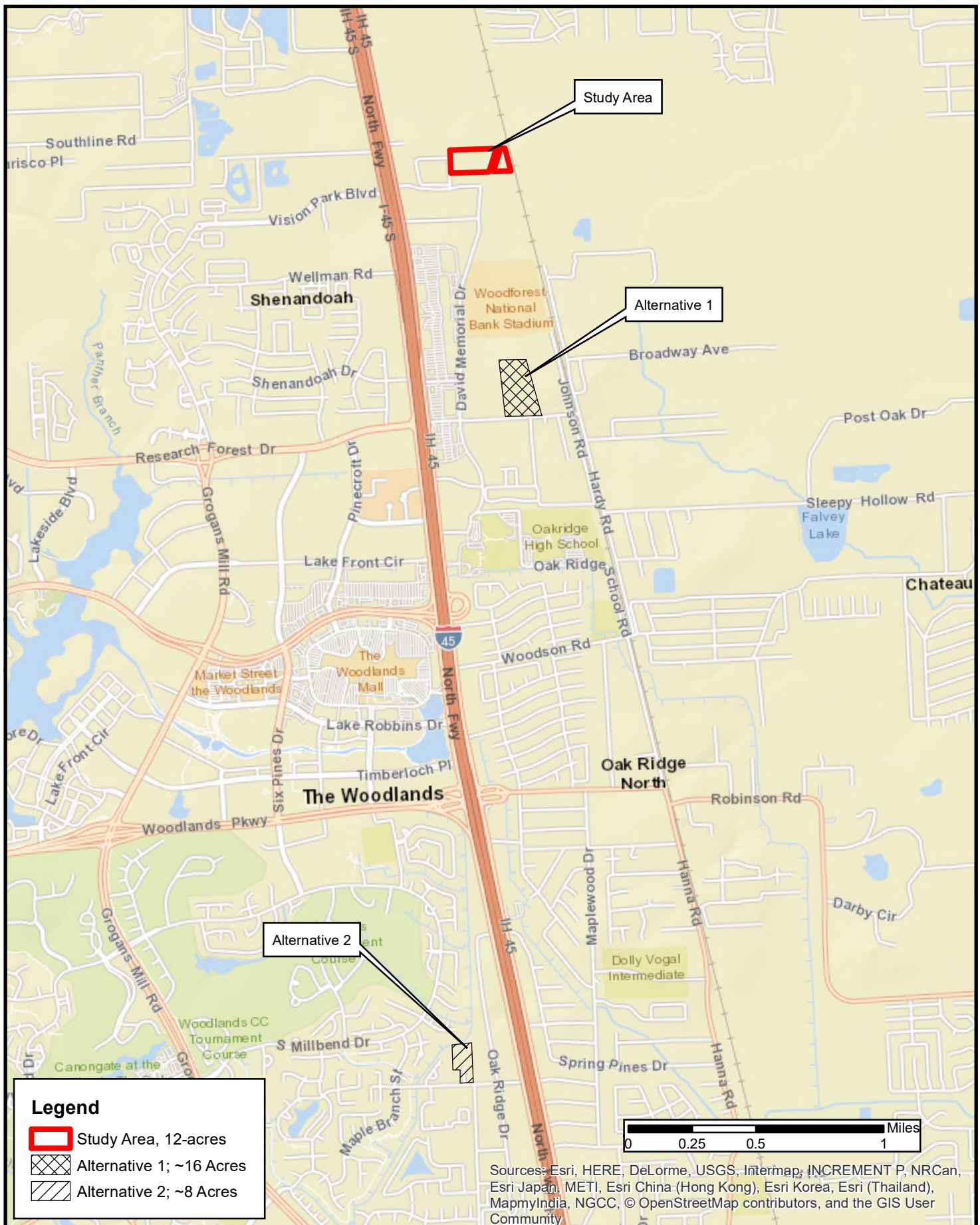
Preferred Alternative: The Preferred Alternative would result in unavoidable impacts to seven forested wetlands totaling 1.45-acres in size, three emergent wetlands totaling 0.23-acre in size, and one open water feature measuring 0.93-acre in size. The Preferred Alternative is the least environmentally damaging practicable alternative because it meets the site criteria and the project purpose and need, while proposing the minimum impacts to waters of the U.S. necessary to complete the Project.

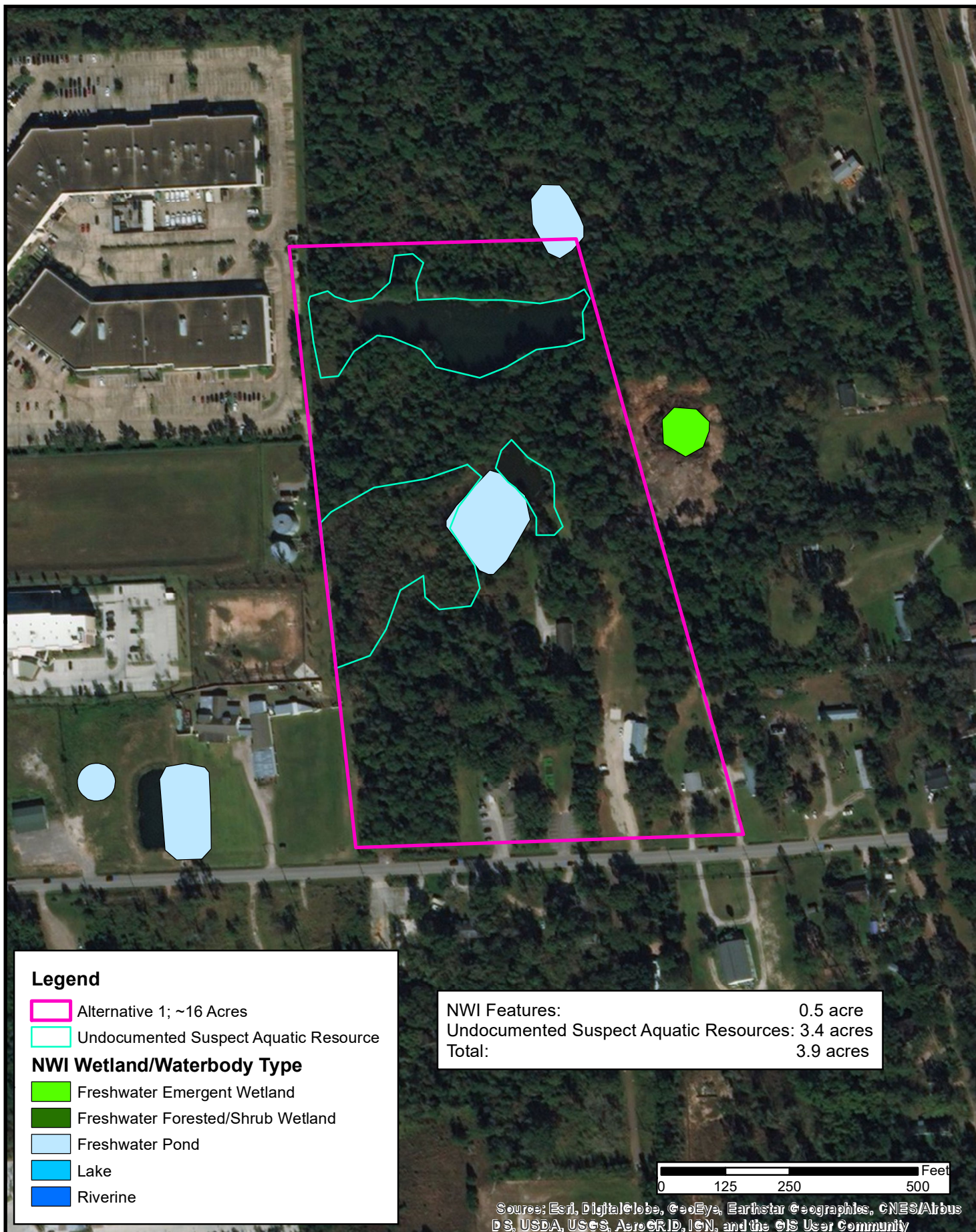
There are several critical items which led to the selection of the Preferred Alternative. The justification for Palmetto MDR's selection of the Preferred Alternative is provided below:

1. The site had to be located within the area comprising the area in and immediately around the cities of Shenandoah and The Woodlands, Texas, in close proximity to Interstate 45. The site also had to be located near major thoroughfares. Easy access to nearby businesses, retail markets, residential developments, hospitals, and additional thoroughfares are critical to a project's success. With direct access to David Memorial Drive, which is on the City of Shenandoah's existing Major Thoroughfare Plan, this requirement is met.
2. The site had to be between 8 and 20 acres in size. This site is 12 acres in size; therefore, this requirement is met.
3. The site had to be located to meet the minimum separation requirements to other existing developments of similar nature. This site has the appropriate separation distances from other similar developments.
4. The site had to have reasonable access to utilities. This site would have direct access to the necessary utilities of water, gas, and electricity; therefore, this requirement is met.
5. Other Considerations

- a. the Preferred Alternative would result in fewer impacts to aquatic resources on the site as presented above and on the maps in Appendix 2. Both Offsite Alternatives contain aquatic resources, and Project activities on either Offsite Alternative would result in aquatic resources impacts greater than those on the Preferred Alternative site.
- b. In addition to St. Luke's and Memorial Hermann hospitals, Methodist Hospital and Children's Hospital are located within a half mile of the Preferred Alternative. The proximity to hospitals expedites critical care for the residents and commercial patrons of the project.
- c. Based on the housing and market analysis performed, the Preferred Alternative presents an economic opportunity more beneficial than the Offsite Alternatives. The housing and market analysis is not included with this Alternatives Analysis because it contains sensitive and confidential information. However, Palmetto MDR is willing to share specific excerpts addressing relevant issues upon request.

Therefore, the Preferred Alternative was chosen because it met all siting criteria, resulted in the least impacts to aquatic resources and, thus, was the least environmentally damaging practicable alternative, represented the most beneficial location to future residents and commercial patrons with respect to access to human services, and presented the most economical opportunity to Palmetto MDR.





Legend

- Alternative 1; ~16 Acres
- Undocumented Suspect Aquatic Resource

NWl Wetland/Waterbody Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

NWl Features:	0.5 acre
Undocumented Suspect Aquatic Resources:	3.4 acres
Total:	3.9 acres

0 125 250 500 Feet

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

SHEET

2

OF 3 SHEETS

DATE:	09/08/2017
DESIGN:	CGH
DRAWN:	CGH
CHECKED:	CGH
KHA NO.:	064468800

Alternatives Map Aquatic Resources

Alterntaive 1

Centro

Shenandoah
Montgomery County, Texas



Kimley»Horn

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