

## Davidson, John P II CIV USARMY CESWG (USA)

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**From:** Kristen Schlemmer <kristen@bayoucitywaterkeeper.org>  
**Sent:** Friday, September 18, 2020 4:41 PM  
**To:** Davidson, John P II CIV USARMY CESWG (USA); lee.hardy@usace.army.mil; CESWG Regulatory Inbox  
**Cc:** Jordan Macha; jingleheimer53@gmail.com  
**Subject:** [Non-DoD Source] Oaks Texas City LLC development in Hitchcock, Texas (Galveston County)  
**Attachments:** Letter to Corps re Hitchcock wetlands.pdf

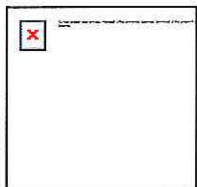
We are writing on behalf of Bayou City Waterkeeper and a concerned Hitchcock, Texas resident about the impacts on jurisdictional waters caused by a development located in Galveston County. In the attached letter, we ask the Corps to:

1. Investigate the site further to document jurisdictional wetlands in areas where aerial photography and other sources strongly suggest the presence of wetlands, and yet no field observations have been recorded.
2. Investigate the potential jurisdictionality of a pond on the southeast portion of the site.
3. Require Oaks Texas City LLC to cease and desist from all development on the site until the Corps completes its additional investigation.

Because Oaks Texas City LLC/DSW Homes have stated publicly that they intend to finish developing the site by the end of the year, we request that the Corps to act promptly.

A copy of the letter will follow by U.S. mail. If you have any questions, please do not hesitate to contact me at the number below.

Best,  
Kristen



**Kristen Schlemmer**

*she / her / hers*

working from home: 512-619-1583



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September 18, 2020

By email ([CESWGRegulatoryInbox@usace.army.mil](mailto:CESWGRegulatoryInbox@usace.army.mil)) and U.S. Mail:  
U.S. Army Corps of Engineers, Galveston District  
Regulatory Branch, Compliance Section  
Attn: Chief of Compliance; John Davidson and Lee Hardy  
P.O. Box 1229  
Galveston TX 77553-1229

RE: Oaks Texas City LLC development in Hitchcock, Texas (Galveston County)

We are writing on behalf of Bayou City Waterkeeper<sup>1</sup> and a concerned Hitchcock resident about the impacts on jurisdictional waters caused by a development located in Galveston County. Because Oaks Texas City LLC has stated publicly that they intend to finish developing the site by the end of the year, we request that the Corps act promptly.

### Overview

The site, which is located at 29.354107, -95.029121, encompasses approximately 34 acres adjacent to Highland Bayou in Galveston County, Texas. The project site is made up of three parcels that as of December 2019, are owned by Oaks Texas City LLC, an entity associated with DSW Homes, a real estate developer.<sup>2</sup> On the site, DSW Homes plans to build a subdivision of 100 single-family homes by the end of this year. As described in greater detail below, significant evidence of wetlands on the site exists, and as recently as August 2019, FEMA placed the entire site within the 100-year floodplain. The Corps has issued a preliminary jurisdictional determination for the site that identifies two wetland areas but omits many other likely wetland areas. Oaks Texas City LLC is currently moving forward with mechanized clearing and other development activities over some of these likely wetlands.

Below, Bayou City Waterkeeper outlines our findings and recommendations related to jurisdictional waters on this site that have not yet been recognized by the Corps and which will be affected by Oaks Texas City LLC's ongoing development. Dr. John Jacob, a Professional

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<sup>1</sup> Bayou City Waterkeeper's mission is to ensure the aquatic integrity of the Lower Galveston Bay watershed by focusing on the protection of wetlands and other critical habitats, advocating for adequate mitigation of lost wetland resources, and enforcing all aspects of compliance with the Clean Water Act. For more information, visit our website at [www.bayoucitywaterkeeper.org](http://www.bayoucitywaterkeeper.org).

<sup>2</sup> Galveston County Appraisal District, geospatial data <https://galvestoncad.maps.arcgis.com/apps/webappviewer/index.html?id=d1648197612b444fae11f341612bf2a5> (R# 308007, 307452, and 131356).

Wetland Scientist, assisted with this review based on data, as explained in greater detail below. In summary, we recommend that the Corps:

1. Investigate the site further to document jurisdictional wetlands in areas where aerial photography and other sources strongly suggest the presence of wetlands, and yet no field observations have been recorded.
2. Investigate the potential jurisdictionality of a pond on the southeast portion of the site.
3. Require Oaks Texas City LLC to cease and desist from all development on the site until the Corps completes its additional review.

#### **Bayou City Waterkeeper's Findings**

1. **Bayou City Waterkeeper's review identifies several likely wetland areas that have not been delineated**

- a. **Aerial photography indicates the presence of extensive wetlands**

Aerial photography is a key tool for delineating wetlands, generally and under the Corps' 1987 Delineation Manual and applicable Regional Supplement. Professional wetland scientists and others use tonal patterns on aerial photography both to make initial determinations of where wetlands are likely to occur and to determine the boundaries and extent of these wetlands.

Soil moisture is widely recognized as a major factor that influences tonal patterns on aerial photography. For example, wetter soils often have a darker color than drier soils. Vegetation is also an important element of aerial photographic tonal patterns, particularly between deciduous trees and conifers. The tonal patterns of tree stands that drop their leaves in winter are markedly different from stands that do not. These two factors—soil moisture and vegetation—mean that the most useful aerial photographs will be taken during the winter.

Before going to the field, it is standard practice to study available aerial photography. In assisting Bayou City Waterkeeper in the preparation of this letter, Dr. Jacob examined a number of flights available on Google Earth, paying particular attention to wet years and wet times of the year (which coincide with deciduous leaf drop). Dr. Jacob also examined the Wetland Delineation Report for the Oaks at Hitchcock Multi-Family New Construction Project in Galveston County, Texas, prepared by SWCA Environmental Consultants in June 2019 (the "SWCA Report") contained in the Corps' administrative file, as well as publicly available resources, including the USDA-NRCS Soil Survey, FEMA flood hazard maps, the USFWS National Wetland Inventory Maps, and aerial photography available on Google Earth and from the Texas Natural Resource Information System.

When looking at aerial photography, it is important to take note of tonal patterns that persist across time. Similar tonal patterns occurring in the same place year after year are significant, and these recurring patterns afford considerable confidence that these patterns are associated



with different vegetative communities and/or soil types. Thus, it is critical to examine as many different flights or dates as possible.

Dr. Jacob examined the aerial photography and sketched out what appear to be the most likely areas for wetlands (Fig. 1 below). The most recent flight on Google Earth in Jan 2019, showed clearly distinct tonal patterns consistent with wetland hydrology. Dr. Jacob used the historical imagery feature on Google Earth to examine other years. The clearest patterns were found on the following flights: Jan 2017, Dec 2015, Jan 2006, and Feb 2005. Tonal patterns indicative of wetlands were found in approximately the same locations in each of the photographic flights.

Using this aerial photography, Dr. Jacob drew 8 polygons enclosing areas with tonal patterns strongly suggestive of wetlands. These areas appear to be stands of deciduous trees, consistent with commonly occurring wetland trees, such as Chinese tallow (*Triadica sebifera*), Hackberry (*Celtis laevigata*), elms (*Ulmus*), and others. These wetland polygons sum to 8.4 acres and warrant greater scrutiny of the Oaks at Hitchcock development.

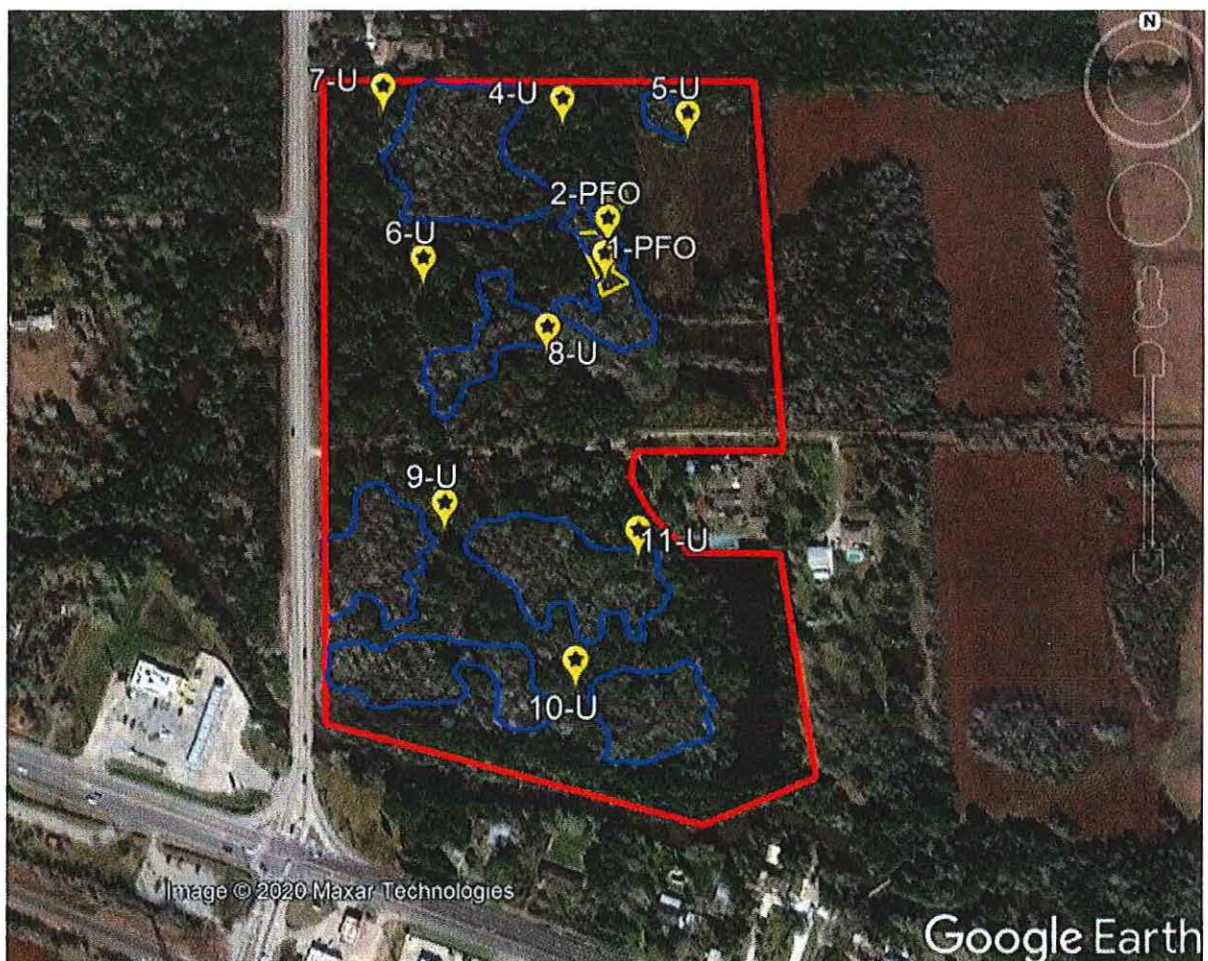


Figure 1. The Oaks at Hitchcock project at FM2004 and Tx Hwy 6.



In Figure 1 above, the red line is the site's boundary. The blue lines are areas that are likely wetland areas, interpreted by recent aerial photography by this investigator, totalling ~8.4 acres—in contrast to the 0.05 acres of wetlands identified in the SWCA Report (the yellow line).

By not mapping the areas outlined in blue, the SWCA Report suggests that these areas are in fact *not* wetlands. But this falls short. It is very much incumbent on the delineators who did the field work to provide solid documentation of why these very obvious areas should not be considered wetlands. It almost seems as if they studiously avoided these areas that stand out so obviously on the aerial photography. At best, they placed a few observations on the very edges of these areas, where one would expect less salient wetland features on the ground.

Given the primacy of aerial photography for delineating wetlands, it is completely inexcusable for neither the SWCA nor the Corps to provide documentation for observations that are not consistent with available, very strong evidence, such as multiple aerial photographs. A desktop delineation is of course only a prelude to observations on the ground, what is commonly called *ground-truthing*, or verifying on-the-ground patterns observed on aerial photography. But the areas sketched out in the office tell us where we should look. What is most distressing about the SWCA Report is that they did not examine, or at least did not provide any documentation that they examined, very distinctive and persistent aerial photographic signatures, which strongly suggest wetland vegetation and hydrology.

Notably, the documented observation points in the SWCA Report are consistent with the aerial photographic patterns described above, in both upland and wetland areas SWCA identified. There is just no documentation for other areas that have very obvious wetland tonal patterns.

#### **b. Hydrophytic vegetation suggests the presence of wetlands**

The dominant tree in areas identified as uplands by SWCA is the loblolly pine (*Pinus taeda*), an evergreen tree. The dominant tree in the one small wetland SWCA identifies is Chinese tallow (*Triadica sebifera*), a very common wetland tree that sheds its leaves in the winter. The aerial photographic tonal pattern in the small wetland identified by SWCA is the very same pattern where Dr. Jacob identified potentially undocumented wetlands in Figure 1 above. This vegetation indicates that more wetlands are on the property than have been delineated so far.

#### **c. Hydric soils suggest the presence of wetlands**

The entire subject property is mapped by the NRCS as *Bacliff clay, 0 to 1 percent slopes, rarely flooded*.<sup>3</sup> The NRCS rates soil mapping units by the strength of the dominance hydric soils in each mapping unit. The Bacliff clay mapping unit is rated as 90, with 100 being the maximum. It is thus very likely that the Bacliff clay mapping unit will be dominated by hydric soils.

We must recognize that soil surveys are not site-specific; even with a 90 rating for hydric soils, it is quite likely that we will find significant inclusions of non-hydric soils. This fact does not invalidate the soil survey data, which was developed for broad agricultural interpretations. The roughly 34-acre property is similar in size to what farmers might refer to as the “back forty,” giving some idea of the useful scale of the soil survey. Nevertheless, the 90 rating suggests a

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<sup>3</sup> The soils data was accessed through the NRCS web soil survey ([websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov)) and through the soil web (<https://casoilresource.lawr.ucdavis.edu/gmap/>) in Google Earth. Both accessed Sep 7, 2020)



predominance of hydric soils across this site. The presence of hydric soils supports the conclusion that more wetlands are on the property than have been delineated so far.



Figure 2. Soil map (Soil Web). Ba is the symbol for Bacliff clay, 0 to 1%, rarely flooded mapping unit. Note how well the different tonal patterns stand out on the subject property at this scale.

#### **d. Evidence for wetland hydrology**

The aerial photographic patterns are consistent with wetland hydrology, and in fact are a secondary indicator of hydrology.

FEMA's National Flood Hazard program has classified the property as Zone AE (EL 12 feet) and within the 100-year floodplain.<sup>4</sup> In addition, as discussed above, the NRCS soil survey rates the Bacliff clay soil mapping unit as rarely flooded. Rarely flooded corresponds to flood events occurring with a frequency between 1 to 5% per year, or calculated return frequency from 20 to 100 years. Further, the property appears to be in the floodplain of both the Diversionary Canal

<sup>4</sup> FEMA Flood Map Service Center: Search By Address, <https://msc.fema.gov/portal/search?AddressQuery=-95.029121%2C%2029.354107#searchresultsanchor>.



and Highland Bayou. Nearly three-quarters of Hitchcock flooded during Harvey,<sup>5</sup> emphasizing the need to maintain natural flood detention like the wetlands present on the site.<sup>6</sup>

The site's wetlands sketched out on aerial photography have a somewhat sinuous pattern, suggesting continuous wetland surface all the way to Highland Bayou. The site is between 10 and 15 feet above sea level (per USGS Hitchcock topographic quadrangle) and thus subject to significant storm surge. Public housing is likely not the best fit for this hazardous environment. Its placement here suggests some degree of negligence.

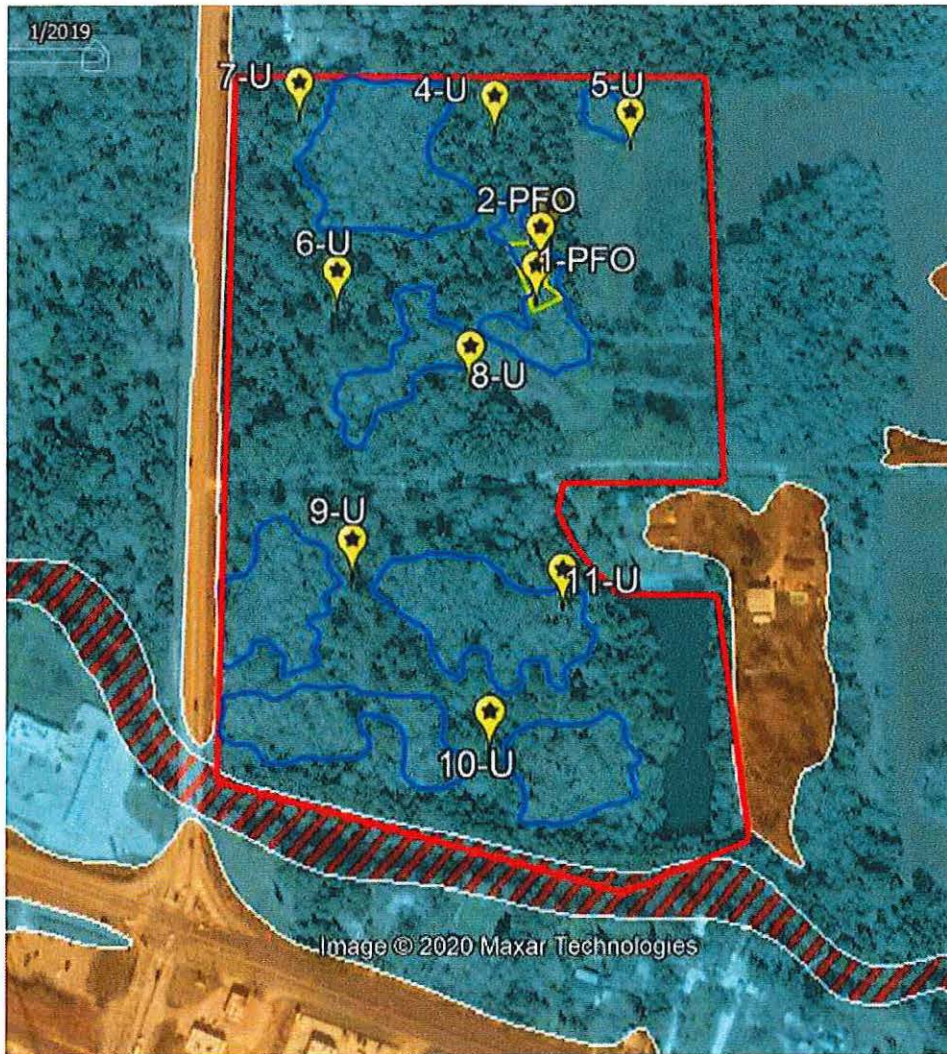


Fig 3. National flood hazard map of the subject property and surrounding areas.

<sup>5</sup> Nick Powell, Harvey almost stamped out Hitchcock, Houston Chronicle, Feb. 26, 2020, <https://www.houstonchronicle.com/news/houston-texas/houston/article/Hitchcock-ruin-roadmap-Texas-A-M-Hurricane-Harvey-15084748.php>

<sup>6</sup> Samuel D. Brody, et al, Examining the Relationship between Wetland Alteration and Watershed Flooding in Texas and Florida, Natural Hazards (Feb. 2007) ("The development or alteration of naturally occurring wetlands is considered central to the loss of natural water retention within watershed units and an increase in flood hazards for local communities.").



**e. The NWI documents wetlands on the site**

In 2006, the U.S. Fish and Wildlife Service documented a 1.76-acre freshwater forested/shrub wetland habitat classified as a PFO1A and included it in the National Wetland inventory. This wetland is depicted on the NWI map to the right in green; it is the long curving line that bisects the top half of the property:<sup>7</sup>

**f. Anecdotal evidence of wetlands on the property stretches back decades**

The Corps' administrative file<sup>8</sup> provides additional evidence of extensive wetlands that were not delineated in the SWCA Report or contained in the Corps' preliminary jurisdictional determination. A Feb 11, 2000 letter to the Corps from Crouch Environmental Services notes: "The site contains numerous isolated, depressional wetlands. These areas were dominated by FAC or wetter vegetarian, had hydric soils, and had evidence of sufficient hydrology to classify them as jurisdiction wetlands." Record at 14-19. Crouch included several photos of wetlands present across the property. Record at 16-19.

As recently as October 28, 2019, a local resident confirmed to the Corps that the property is covered in wetlands and typically is "wet." Record at 3. According to this local resident, a large wetland area was present adjacent to Highland Bayou. This wetland area is visible in video footage from January of this year (available for viewing [here](#)); several areas of standing water are present.<sup>9</sup>

Earlier this year, the resident observed a representative of Oaks Texas City LLP clearing vegetation and doing other work over this area. She reported: "They bulldozed the property last year. Then burned in the area of the largest wetland. They dug out the area right on top of what I would have considered the largest wetland and put their huge burners there and burned all the wood on top of it. It was on the pond side / highland bayou side of the rear of the property." As recently as the date of this letter, the resident has observed continued development activities on the site.

The Corps' investigation memorandum notes this unauthorized activity but simply notes that Oaks Texas City LLC's president Beau Yarbrough said "that the mechanized land clearing was taking place on the property for the development of a subdivision.... The property had a



<sup>7</sup> Another wetland is depicted in green at the top of the picture. Based on the Galveston County Appraisal District maps, this appears to be outside of the properties owned by Oaks Texas City LLC.

<sup>8</sup> Local resident Kathy Bankston obtained this file through a FOIA request and shared it with Bayou City Waterkeeper. All citations to "Record" refer to the documents in the order they appear in the PDF provided to Kathy Bankston, available here for reference:

[https://drive.google.com/file/d/1PY-09i6ShT2ziiU8lpmFP6pmLWB\\_6M7Q/view?usp=sharing](https://drive.google.com/file/d/1PY-09i6ShT2ziiU8lpmFP6pmLWB_6M7Q/view?usp=sharing).

<sup>9</sup> <https://drive.google.com/file/d/1dYQH2sQpCOjfdztqD0HSBpGjOGPrFHO8/view?usp=sharing>



delineation performed by SWCA Environmental Consultants and that one wetland had been identified on the property and that all wetlands are to be avoided during construction." Record at 99. The Corps' on-site investigation confirmed that "the area south of the driveway had undergone mechanized land clearing and significant surface disturbance was observed." Record at 100. No soil samples were taken.

## **2. Evidence of a pond on the property stretches back decades**

A pond is also present on the southeast corner of the property, adjacent to Highland Bayou. The pond directly flows into Highland Bayou by a drainage pipe and also through natural channels. From Highland Bayou, the water flows on to West Galveston Bay. Record at 3.

This pond is visible in the picture above in blue and is also visible on historical aerial maps as far back as 1969 (the earliest map available on Google Earth Pro). The pond was added to the National Wetland Inventory in 2006 and classified as "PUBx," indicating it is a permanently flooded wetland that potentially was excavated by humans. According to the resident living next door to the property, the pond is "quite large and never goes dry"; it also has a cement lip on one side but is left natural on the other side. Record at 3. The pond is home to wildlife, including "otters, turtles, migrating birds each fall/spring and the occasional alligator." Record at 3.

### **Bayou City Waterkeeper's Recommendations**

As discussed above, all available documentary evidence strongly points to wetland status:

- aerial photographic tonal patterns point to wetland hydrology and hydrophytic vegetation,
- the NRCS soil survey shows the dominant soil mapping unit to be Bacliff clay, a strongly hydric soil,
- FEMA's National Flood Hazard Map places the entire site within the 100-year floodplain,
- the National Wetland Inventory reflects a large wetland area stretching down the center of the site, and
- Information provided by local residents further confirms the presence of wetlands.

Before allowing any development to proceed on this site, we strongly urge the Corps to require Oaks Texas City LLC or SWCA to carefully document field evidence that contradicts the evidence cited above. The distribution of the SWCA observation points suggest that these delineators may have purposefully avoided wetland areas. Ultimately, neither the SWCA Report nor the Corps' preliminary jurisdictional determination sufficiently investigated or identified potential waters of the United States identified in this letter.

To remedy this oversight before the site is developed and all wetlands are permanently lost, Bayou City Waterkeeper asks the Corps to:

### **1. Complete further inspection and revise the jurisdictional determination to include other extensive jurisdictional wetlands on the site.**

The Navigable Waters Protection Rule extends the Clean Water Act's protections to "adjacent wetlands," which include wetlands that:

- “Abut,” meaning to “touch at least at one point or side” other jurisdictional waters (a territorial sea or traditional navigable water, a tributary, or a lake, pond, or impoundment of a jurisdictional water, all of which are defined further under the Rule), or
- “Are inundated by flooding” from a jurisdictional water in a typical year.

The Corps should investigate the site further to document jurisdictional wetlands in areas where aerial photography and other sources strongly suggest the presence of wetlands, and yet no field observations were recorded, including the areas outlined in blue below:



## 2. Evaluate whether a freshwater pond adjacent to Highland Bayou falls within its jurisdiction.

The Navigable Waters Protection Rule, in effect as of June 22 of this year, extends the Clean Water Act's protections to “Lakes and ponds, and impoundments of jurisdictional waters.” C.F.R. § 328.3(a)(3). The rule defines “lakes and ponds, and impoundments” to include “standing bodies of open water that contribute surface water flow to a [territorial sea, waters used for interstate commerce, or waters subject to tides] in a typical year either directly or through one or more waters identified in [the Rule, include tributaries, ponds, and adjacent wetlands].” *Id.* The



rule makes clear that such a body of water “does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a culvert, dike, spillway, or similar artificial feature...” *Id.* The rule also deems a lake, pond, or impoundment as jurisdictional “if it is inundated by flooding” from a jurisdictional water like Highland Bayou. *Id.*

The pond on the property is well-documented. It is visible on aerial imagery as far back as 1969, was added to the National Wetlands Inventory in 2006, and according to local residents, never runs dry. Although the pond contains a cement lip along one portion, it appears that this was added to a preexisting natural pond. The pond contributes surface water to Highland Bayou through a drain pipe and also through natural channels. It is unclear, however, whether the pond is naturally occurring or an impounded wetland, and how that affects jurisdiction, since the pond’s designation on the National Wetland Inventory is “PUBx,” indicating it is a permanently flooded wetland that potentially was excavated by humans.

While all factors identified likely qualify the pond for jurisdiction under the Navigable Waters Protection Rule, further investigation is needed. We urge the Corps to evaluate the pond and determine whether it falls within the scope of its jurisdiction.

**3. Require Oaks Texas City LLC to cease and desist all activities on the property while the Corps conducts further investigation.**

The resident living next door to the site has reported that Oaks Texas City LLC began mechanized clearing in a wetland area and as recently as the date of this letter has reported ongoing development activities on the site. To avoid further impacts to the potential wetland areas identified in this letter, Bayou City Waterkeeper asks the Corps to require Oaks Texas City LLC to cease and desist all activities until the property can be inspected and all wetlands can be identified and/or delineated.

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Thank you for reviewing this letter. If you have any questions, would like our assistance in compiling additional information, or would like to discuss any aspect of this letter, please contact Kristen Schlemmer at [kristen@bayoucitywaterkeeper.org](mailto:kristen@bayoucitywaterkeeper.org) or 512-619-1583.

Sincerely,

Kristen Schlemmer, Legal Director  
Bayou City Waterkeeper

John Jacob, PhD, Advisory Board Member  
Bayou City Waterkeeper