NPDES PERMIT NO. TX0134074
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

APPLICANT:

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DATE PREPARED:

March 14, 2019

PERMIT ACTION

It is proposed that the facility be issued an NPDES permit for a 5-year term in accordance with regulations contained in 40 Code of Federal Regulations (CFR) 122.46(a).

40 CFR CITATIONS: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of March 5, 2019.

RECEIVING WATER – BASIN

Buffalo Bayou, the Houston Ship Channel/Buffalo Bayou (Tidal) is Texas Segment 1006 of the San Jacinto River Basin

DOCUMENT ABBREVIATIONS

For brevity, Region 6 used acronyms and abbreviated terminology in this Statement of Basis document whenever possible. The following acronyms were used frequently in this document:

BAT	Best Available Technology Economically Achievable)
BOD_5	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
F&WS	United States Fish and Wildlife Service
GPD	Gallon per day
HT	Hydrostatic Testing
IP	Procedures to Implement the Texas Surface Water Quality Standards
µg/l	Micrograms per liter (one part per billion)
mg/l	Milligrams per liter (one part per million)
MGD	Million gallons per day
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
RRC	Railroad Commission of Texas
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TMDL	Total maximum daily load
TOC	Total Organic Carbon
TRC	Total residual chlorine
TSS	Total suspended solids
TSWQS	Texas Surface Water Quality Standards
WET	Whole effluent toxicity
WQMP	Water Quality Management Plan
WQS	Water Quality Standards

I. **PROPOSED CHANGES FROM PREVIOUS PERMIT**

The Pasadena Terminal is a new Discharger.

II. **FACILITY LOCATION AND ACTIVITY**

Under the SIC Code 4226, the applicant is engaged in crude petroleum transportation at the Pasadena Terminal located at 3443 Pasadena Freeway, Pasadena, TX 77503 in Harris County, Texas. The Pasadena Terminal is a bulk "for hire" storage terminal.

The discharge from the Pasadena Terminal will entirely be made up of hydrostatic test and roof float wastewater from testing new/existing tanks and pipes storing and transporting crude oil. The water source for hydrostatic testing is the Houston Ship Channel/Buffalo Bayou. After testing, the water will be discharged back to the Houston Ship Channel/Buffalo Bayou. There will be no additional chemicals added to the test water.

The need to hydrostatically test the equipment is variable and therefore, so shall be the resulting discharge. The roof float water is to facilitate roof or tank repair as needed. The discharge will be in batches and extremely intermittent.

The flow volume during a discharge will be determined by the volume of the tank or pipe the facility is testing at that time. The largest tank proposed for the site has a proposed volume of 160,000 bbl. If necessary, the facility proposes to use carbon filtration to treat wastewater that is suspected of being affected with hydrocarbons. The use of carbon filtration is optional and will not necessarily be used to treat each individual discharge.

III. **DISCHARGE DESCRIPTION**

The discharge points showing Outfall number, discharge coordinates: latitude and longitude, county, maximum flow rate in millions of gallons per day (MGD), receiving water, and the waterbody identification number are shown in the following table:

Outfall	**Discharge Coordinates** (Lat/Long)	**County**	**Max Load (MGD)**	**Receiving Water**	**Segment No.**
001	29º 43' 17.00" N / 95º 42' 19.00" W	Harris	1.44	Buffalo Bayou	1006
002	29º 43' 18.20" N / 95º 09' 38.43" W	Harris	1.44	Buffalo Bayou	1006
003	29º 43' 30.79" N / 95º 09' 27.91" W	Harris	1.44	Buffalo Bayou	1006
004	29º 43' 36.73" N / 95º 09' 27.90" W	Harris	1.44	Buffalo Bayou	1006
005	29o 43' 39.34" N / 95º 43' 39.34" W	Harris	1.44	Buffalo Bayou	1006
006	29º 43' 42.27" N / 95º 09' 27.67" W	Harris	1.44	Buffalo Bayou	1006
007	29º 43' 45.02" N / 95º 09' 27.73" W	Harris	1.44	Buffalo Bayou	1006
008	29º 44' 04.79" N / 95º 09' 31.18" W	Harris	1.44	Buffalo Bayou	1006
009	29º 44' 04.75" N / 95º 09' 36.23" W	Harris	1.44	Buffalo Bayou	1006
010	29º 43' 38.45" N / 95º 09' 42.17" W	Harris	1.44	Buffalo Bayou	1006

IV. **EFFLUENT CHARACTERISTICS**

The table below shows facility's pollutant concentrations contained in the NPDES permit application:

Parameter	**Maximum Concentration**	**Average Concentration**
Flow, MGD	1.44 MGD	NA
pH, su	9.0	6.0
TSS	100 mg/L	30 mg/L
BOD	30 mg/L	NA
O&G	15 mg/L	10 mg/L
Ammonia (as N)	1 mg/L	NA
Temperature, winter, ^{o}C	NA	11
Temperature, summer, ^{o}C	NA	27

V. **REGULATORY AUTHORITY/PERMIT ACTION**

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water;" more commonly known as the "swimmable, fishable" goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a). This is a first- time permit issuance. An NPDES Application for a Permit to Discharge (Form 1 & 2E) dated September 25, 2018, was received on October 10, 2018, and was deemed administratively incomplete on November 8, 2018. Additional permit application information was received on November 19, 2018. The permit was deemed administratively complete on November 30, 2018.

VI. **DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS**

A. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITION FOR PERMIT ISSUANCE

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

There are no published ELG's for this type of activity. Permit limits are proposed based on BPJ. Since hydrostatic test water discharges are batch discharges of short-term duration, limits in this permit will be expressed in terms of daily maximum concentrations rather than in terms of mass limitations, as allowed by 40 CFR 122.45(e) and (f). Limitations for O&G, TSS, and pH are proposed in the permit. The proposed limitations for TSS are 45 mg/L daily maximum, and O& G is 15 mg/L daily maximum. Narrative standards for oil, grease, or related residue have been placed in the proposed permit. A technology-based limit of 15 mg/L for O&G should assure that the narrative criterion is maintained. Concentration limits will be protective of the stream uses.

Since existing pipelines and tanks will also be hydrostatically tested, limitations for TOC is proposed to be limited under Best Available Technology Economically Achievable based on Best Professional Judgment. TOC is an indicator of the total amount of organically bound carbon. A daily maximum limitation of 50 ug/L is proposed in the draft permit. Benzene, toluene, ethylbenzene, and xylenes (BTEX) are among the hydrocarbons typically found in water contaminated by liquid or gaseous petroleum hydrocarbons. The daily maximum level of BTEX representing BAT is 100 µg/L. As a result, a BTEX daily maximum limit of 100 µg/L is proposed in the draft permit.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. In addition, state narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR 122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. If the discharge poses the reasonable potential to cause an in-stream violation of narrative standards, the permit must contain prohibitions to protect that standard. Additionally, the TWQS found at 30 TAC Chapter 307 states that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Procedures to Implement the Texas Surface Water Quality Standards" (IP) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

The IP document is not a state water quality standard, but rather, a non-binding, non-regulatory guidance document. See IP at page 2 stating that "this is a guidance document and should not be interpreted as a replacement to the rules. The TWQS may be found in 30 TAC Sections (§§) 307.1-.10."). EPA does not consider the IP to be a new or revised water quality standard and has never approved it as such. EPA did comment on and conditionally “approve” the IP as part of the Continuing Planning Process (CPP) required under 40 CFR §130.5(c) and the Memorandum of Agreement between TCEQ and EPA, but this does not constitute approval of the IP as a water quality standard under CWA section 303(c). Therefore, EPA is not bound by the IP in establishing limits in this permit – but rather, must ensure that the limits are consistent with the EPA-approved state WQS. However, EPA has made an effort, where we believe the IP procedures are consistent with all applicable State and Federal regulations, to use those procedures. The general criteria and numerical criteria which make up the stream standards are provided in the 2014 EPA-approved TWQS, 30 TAC Sections 307.1 - 307.9 effective September 23, 2014.

4. Reasonable Potential- Procedures

EPA develops draft permits to comply with State WQS, and for consistency, attempts to follow the IP where appropriate. However, EPA is bound by the State’s WQS, not State guidance, including the IP, in determining permit decisions. EPA performs its own technical and legal review for permit issuance, to assure compliance with all applicable State and Federal requirements, including State WQS, and makes its determination based on that review. Waste load allocations (WLA’s) are calculated using estimated effluent dilutions, criteria

outlined in the TWQS, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentrations that can be discharged and still meet instream criteria after mixing with the receiving stream. From the WLA, a long term average (LTA) is calculated, for both chronic and acute toxicity, using a log normal probability distribution, a given coefficient of variation (0.6), and either a 90th or a 99th percentile confidence level. The 90th percentile confidence level is for discharges to rivers, freshwater streams and narrow tidal rivers with upstream flow data, and the 99th percentile confidence level is for the remainder of cases.

For facilities that discharge into receiving streams that have human health standards, a separate LTA will be calculated. The implementation procedures for determining the human health LTA use a 99th percentile confidence level, along with a given coefficient of variation (0.6). The lowest of the calculated LTA; acute, chronic and/or human health, is used to calculate the daily average and daily maximum permit limits.

Procedures found in the IP for determining significant potential are to compare the reported analytical data either from the DMR history and/or the application information, against percentages of the calculated daily average water quality-based effluent limitation. If the average of the effluent data equals or exceeds 70% but is less than 85% of the calculated daily average limit, monitoring for the toxic pollutant will usually be included as a condition in the permit. If the average of the effluent data is equal to or greater than 85% of the calculated daily average limit, the permit will generally contain effluent limits for the toxic pollutant. The permit may specify a compliance period to achieve this limit if necessary.

Procedures found in the IP require review of the immediate receiving stream and effected downstream receiving waters. Further, if the discharge reaches a perennial stream or an intermittent stream with perennial pools within three-miles, chronic toxicity criteria apply at that confluence.

For Outfall 001-010, test water will be obtained from the Houston Ship Channel/Buffalo Bayou and will be discharged back to the Houston Ship Channel/Buffalo Bayou. As a result, intake credits are authorized for Outfalls 001-010. Intake credits account for in-situ waterbody conditions for only TSS.

5. Permit-Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Daily minimum and daily maximum permit limits of 6.0 standard units to 9.0 standard units are typically used on hydrostatic test general permits developed by other EPA Regions and States. TAC 307.10 states, "The pH criteria are listed as minimum and maximum values expressed in standard units at any site within the segment."

However, wastewater discharges from the facility will flow into the Houston Ship Channel Tidal, Segment No. 1006, which has Texas WQS of 6.5 – 9.0 s.u. pH shall be limited to 6.5 – 9.0 s.u., the criteria listed for Segment 1006.

b. Total Residual Chlorine

The source of water for hydrostatic testing is the Houston Ship Channel/Buffalo Bayou. All discharges will also be in the Houston Ship Channel/ Buffalo Bayou. In addition, there will be no additional chemicals added including chlorine and compounds containing chlorine to the test water. Hence, the effluent shall contain NO MEASURABLE TRC at any time. NO MEASURABLE will be defined as no quantifiable level of TRC as determined by any approved method established in 40 CFR 136 that is greater than the established MQL.

c. Narrative Limitations

Narrative protection for aesthetic standards will require that surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film or globules of grease on the surface or coat the banks or bottoms of the watercourse; or cause toxicity to man, aquatic life, or terrestrial life. The following narrative limitations in the proposed permit represent protection of water quality for all Outfalls. “The effluent shall contain no visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse.”

d. Toxics

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. The applicant proposes to draw water from the Houston Ship Channel/Buffalo Bayou, and the test water will be discharged back into the Houston Ship Channel/Buffalo Bayou.

The water for hydrostatic testing will contact new pipelines and tanks. There will also be no chemicals added. As a result, no contaminants are expected to be present in the discharge from Outfalls 001-010 at amounts that would pose a reasonable potential to exceed State WQS.

However, existing pipelines and tanks will also be hydrostatically tested, limitations for TOC is proposed to be limited under Best Available Technology Economically Achievable based on Best Professional Judgment. TOC is an indicator of the total amount of organically bound carbon. A daily maximum limitation of 50 ug/L is proposed in the draft permit. Benzene, toluene, ethylbenzene, and xylenes (BTEX) are among the hydrocarbons typically found in water contaminated by liquid or gaseous petroleum hydrocarbons. The daily maximum level of BTEX representing BAT is 100 µg/L. As a result, a BTEX daily maximum limit of 100 µg/L is proposed in the draft permit.

e. Solids and Foam

The prohibition of the discharge of floating solids or visible foam in other than trace amounts is proposed in the draft permit. In addition, there shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). The monitoring frequencies are based on BPJ, considering the nature of the

facility. For Outfalls 001-010, monitoring for flow, TSS, O&G, BTEX, TOC, and pH shall be daily by grab sample, when discharging.

E. WHOLE EFFLUENT TOXICITY TESTING

Due to hydrostatic testing on new and existing pipeline and tanks that can possibly be contaminated with hydrocarbons, biomonitoring is a requirement in this permit. According to TCEQ implementation procedures, permittees that discharge into intermittent water bodies within three miles of a tidal water body will conduct chronic marine testing.

The critical dilution for all outfalls has been set at 8% effluent. The WET requirements apply to all outfalls, however, because these outfalls have substantially identical effluents discharging to the same receiving stream, the permit allows the permittee to composite the effluent samples in proportion to the flow from the outfalls and conduct one WET test, when discharging from multiple outfalls.

The WET test required is a 7-day chronic test using chronic test species *Mysidopsis bahia* and *Menidia beryllina* at a quarterly frequency (when discharging). If all first four quarterly WET tests pass, the permittee may request a monitoring frequency reduction for either or both test species for the remainder of the permit. The invertebrate species (*Mysidopsis bahia*) may be reduced to twice per year and the vertebrate species (*Menidia beryllina*) may be reduced to once per year. If any tests fail during that time, the frequency will revert to the quarterly frequency for the remainder of the permit term. Both test species shall resume monitoring at a quarterly frequency on the last day of the permit.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. The critical dilution used for compliance in all WET tests is 8%. The additional effluent concentrations shall be 3.4%, 4.5%, 6%, 8%, 11%. WET limits will not be established in the proposed permit. Discharges shall be limited and monitored by the permittee as specified below:

WHOLE EFFLUENT TOXICITY (7-Day Chronic NOEC*1)	VALUE	FREQUENCY	TYPE
Menidia beryllina	Report	Once/Quarter	24-Hr Composite
Mysidopsis bahia	Report	Once/Quarter	24-Hr Composite

*1. Monitoring and reporting requirements begin on the effective date of this permit. See Part II, WET Testing Requirements for additional WET monitoring and reporting conditions.

F. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

VII. **FACILITY OPERATIONAL PRACTICES**

A. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

B. OPERATION AND REPORTING

The permittee must submit Discharge Monitoring Report's (DMR's) quarterly, beginning on the effective date of the permit, lasting through the expiration date of the permit or termination of the permit, to report on all limitations and monitoring requirements in the permit.

VIII. **IMPAIRED WATER - 303(d) LIST AND TMDL**

According to the 2014 State of Texas 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs), the receiving stream for Outfalls 001-010, the entire Houston Ship Channel/Buffalo Bayou is listed as impaired for PCBs in edible tissue, dioxin in edible tissue, bacteria, chlordane in edible, dieldrin in edible tissue, heptachlor epoxide in edible tissue, mercury, PCBs in edible tissue and toxicity are under TCEQ's category 5a and 5c. Category 5a implies that the TMDLs are underway, scheduled, or will be scheduled for one or more parameters. Category 5c implies that the additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected.

Considering the nature of the system (batches and extremely intermittent discharge), the discharger is not likely to contribute to PCBs in edible tissue, dioxin in edible tissue, bacteria, chlordane in edible, dieldrin in edible tissue, heptachlor epoxide in edible tissue, mercury, PCBs in edible tissue and toxicity PCBs in edible fish tissue. Therefore, no additional requirements beyond the previously described technology-based or water quality-based effluent limitations and monitoring requirements, are established in the proposed permit. In addition, the discharge water will not be treated with biocides or other additives. Therefore, no additional requirements beyond the previously described technology-based or water quality-based effluent limitations and monitoring requirements, are established in the proposed permit.

IX. **ANTIDEGRADATION**

The Texas Commission on Environmental Quality, Texas Surface Water Quality Standards, Antidegradation, Title 30, Part 1, Chapter 307, Rule §307.5 sets forth the requirements to protect designated uses through implementation of the State WQS. The limitations and monitoring requirements set forth in the proposed permit are developed from the State WQS and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water.

X. **ANTIBACKSLIDING**

The proposed permit is consistent with the requirements and exemption to meet Anti-backsliding provisions of the Clean Water Act, Section 402(o) and 40 CFR Part 122.44(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance. Since this is a first time NPDES Permit for this discharge, anti-backsliding does not apply.

XI. **ENDANGERED SPECIES**

The effects of EPA's permitting action are considered in the context of the environmental baseline. The environmental baseline is established by the past and present impacts of all Federal, State, or private actions and other human activities in an action area; the anticipated

impacts of all proposed Federal projects in an action area that have already undergone formal or early ESA §7 consultation; and the impact of State or private actions that are contemporaneous with the consultation in process (50 CFR §402.02). Hydrostatic test water discharges occur after a pipeline has already been put in place following earth disturbing activities that have had to have received appropriate federal, state, and local authorizations putting the construction of pipeline itself into the environmental baseline. The scope of the evaluation of the effects of the discharge authorized by this permit was therefore limited to the effects related to the authorized discharge.

According to the most recent county listing available at US Fish and Wildlife Service (USFWS) on March 13, 2019, Southwest Region 2 website, https://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=48201, six species are listed as endangered, recovery, candidate or threatened in Harris County, Texas. The listed species are Whooping crane (Grus americana), Bald eagle (Haliaeetus leucocephalus), Red knot (Calidris canutus rufa), Smooth pimpleback (Cyclonaias houstonensis), Texas prairie dawn-flower (Hymenoxys texana) and West Indian Manatee (Trichechus manatus). A description of the species and its effects to the proposed permit follows:

1. **Whooping crane**, the tallest North American bird, likes wetlands, marshes, mudflats, wet prairies and fields. Researchers believe that whooping cranes once bred throughout the upper Midwest and northwestern Canada, and they wintered along the Gulf Coast near Texas. Today there are two migratory populations and one non-migratory population of whooping cranes. The largest flock is also the only natural migratory flock. It spends winters in Aransas National Wildlife Refuge in Texas and breeds in Wood Buffalo National Park in Canada. The non-natural migratory flock winters at the Chassahowitzka National Wildlife Refuge in Florida and breeds in the Necedah National Wildlife Refuge in Wisconsin. The non-migratory flock was formed in Florida as a reintroduction program. They live near Kissimmee in Florida year-round. Whooping crane is an endangered crane species named for its whooping sound. Along with the sandhill crane, it is one of only two crane species found in North America. The whooping crane's lifespan is estimated to be 22 to 24 years in the wild. After being pushed to the brink of extinction by unregulated hunting and loss of habitat to just 21 wild and two captive whooping cranes by 1941, conservation efforts have led to a limited recovery. The total number of cranes in the surviving migratory population, plus three reintroduced flocks and in captivity, now exceeds 800 birds.

2. **Bald eagle** is found only in North America. For the most part, bald eagles live in forests that are near rivers, lakes, reservoirs, marshes and coasts. Some also live near fish processing plants, dumps and other areas where they can find food. Though the bald eagle is revered in North America, it almost became extinct. Over-hunting was one cause of the population decline. Manmade products are also to blame. DDT, a pesticide, contaminated many of the fish that the birds ate. After eating contaminated fish, bald eagles would lay eggs with very thin shells, making reproduction difficult. Once the poison was restricted in the 1970s, the bald eagle population started to rebound.

3. **Red Knot** is a medium-sized shorebird and the largest of the "peeps" in North America, and one of the most colorful. It makes one of the longest yearly migrations of any bird, traveling 15,000 km (9,300 mile) from its Arctic breeding grounds to Tierra del Fuego in southern South America. Their diet varies according to season; arthropods and larvae are the preferred food items at the breeding grounds, while various hard-shelled molluscs are consumed at other feeding sites at other times.

The Red Knot nests on the ground, near water, and usually inland. The nest is a shallow scrape lined with leaves, lichens and moss. Males construct three to five nest scrapes in their territories prior to the arrival of the females. The female lays three or more usually four eggs, apparently laid over the course of six days. Both parents incubate the eggs, sharing the duties equally. The incubation period last around 22 days. The birds have become threatened as a result of commercial harvesting of horseshoe crabs in the Delaware Bay which began in the early 1990s. Delaware Bay is a critical stopover point during spring migration; the birds refuel by eating the eggs laid by these crabs (with little else to eat in the Delaware Bay).

4. **Smooth pimpleback** is a species of freshwater mussel native to the United States. It is endemic to the Colorado and Brazos River drainages in Texas. This species has experienced a decline due to pollution and habitat loss. In 2011 the United States Fish and Wildlife Service determined that although this species met the criteria for listing under the Endangered Species Act, its listing should be precluded for higher-priority species. Its current legal status is "Candidate."

5. **Texas prairie dawn-flower** is a delicate annual one to six inches tall. Its yellow flower heads, less than 1/2 inch in diameter, stand out brightly in the patches of dull gray barren sand in which the species is normally found. Texas Prairie Dawn flowers in March - early April; disappear by mid-summer. It is known from about 50 sites, many within Addicks and Barker Reservoirs in western Harris County. However, habitat destruction by urban development continues to threaten this tiny plant. It grows in sparsely vegetated areas ("slick spots") at the base of mima mounds ("pimple mounds") or other nearly barren areas on slightly saline soils in coastal prairie grasslands. This wildflower is found in Fort Bend and Harris counties, southeast Texas. This species occurs within and on the outskirts of Houston.

6. **West Indian Manatees** are large, gray aquatic mammals with bodies that taper to a flat, paddle-shaped tail. They have two forelimbs, called flippers, with three to four nails on each flipper. Their head and face are wrinkled with whiskers on the snout. The manatee's closest relatives are the elephant and the hyrax. Manatees are believed to have evolved from a wading, plant-eating animal. The average adult manatee is about 10 feet long and weighs between 800 and 1,200 pounds.

Manatees can be found in shallow, slow-moving rivers, estuaries, saltwater bays, canals, and coastal areas - particularly where seagrass beds or freshwater vegetation flourish. Manatees are a migratory species. Manatees are gentle and slow-moving animals. Most of their time is spent eating, resting, and traveling. Manatee are mostly herbivorous, however small fish and invertebrates can sometimes be ingested along with a manatee’s normal vegetation diet.

West Indian manatees have no natural enemies, and it is believed they can live 60 years or more. As with all wild animal populations, a certain percentage of manatee mortality is attributed to natural causes of death such as cold stress, gastrointestinal disease, pneumonia, and other diseases. A high number of additional fatalities are from human-related causes. Most human-related manatee fatalities occur from collisions with watercraft. Other causes of human-related manatee mortality include being crushed and/or drowned in canal locks and flood control structures; ingestion of fish hooks, litter, and monofilament line; and entanglement in crab trap lines. Ultimately, loss of habitat is the most serious threat facing manatees in the U. S. today.

The Environmental Protection Agency has evaluated the potential effects of issuance of this permit upon listed endangered or threatened species. After review, EPA has determined that the issuance of this permit will have “*no effect*” on listed threatened and endangered species nor will

adversely modify designated critical habitat. EPA makes this determination based on the following:

The proposed permit establishes limits to meet the current state water quality standards for the area of discharge. The limits established in the proposed permit are protective and will have no impact on the habitats of this species. The permit includes limitations and/or monitoring requirements for pH, O&G, TDS, sulfate, chloride, dissolved oxygen, aluminum, total Petroleum Hydrocarbon, benzene, BETX (sum of benzene, ethyl benzene, toluene and xylene), radium 226, radium 228, radium 226 + radium 228, adjusted gross alpha and WET testing

Based on information described above, EPA Region 6 has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Harris County. The standard reopener clause in the permit will allow EPA to reopen the permit and impose additional limitations if it is determined that changes in species or knowledge of the discharge would require different permit conditions.

Also, operators have an independent ESA obligation to ensure that any of their activities do not result in prohibited "take" of listed species. Section 9 of the ESA prohibits any person from "taking" a listed species, e.g., harassing or harming it, with limited exceptions. See ESA Sec 9; 16 U.S.C. §1538. This prohibition generally applies to "any person," including private individuals, businesses and government entities.

Operators who intend to undertake construction activities in areas that harbor endangered and threatened species may seek protection from potential "take" liability under ESA section 9 either by obtaining an ESA section 10 permit or by requesting coverage under an individual permit and participating in the section 7 consultation process with the appropriate FWS or NMFS office. Operators unsure of what is needed for such liability protection should confer with the appropriate Services.

XII. **HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS**

The applicant has provided an email dated February 6, 2017 from the Texas Historical Commission that states that no historic properties are present or affected. In addition, the issuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the issuance.

XIII. **PERMIT REOPENER**

The permit may be reopened and modified during the life of the permit if relevant portions of the Texas WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the WQS are either revised or promulgated. Should the State adopt a new WQS, and/or develop a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with 40 CFR §122.44(d). Modification of the permit is subject to the provisions of 40 CFR §124.5.

XIV. **VARIANCE REQUESTS**:

No variance requests have been received.

XIV. **COMPLIANCE HISTORY**:

This is a first-time permit issuance.

XVI. **CERTIFICATION**

This permit is in the process of certification by the Texas Railroad Commission following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XVII. **FINAL DETERMINATION**

The public notice describes the procedures for the formulation of final determinations.

XVIII. **ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2E, received on October 10, 2018. Additional permit application information received on November 19, 2018.

B. State of Texas References

The State of Texas Water Quality Inventory, 13th Edition, Publication No. SFR-50, Texas Commission on Environmental Quality, December 1996.

"Procedures to Implement the Texas Surface Water Quality Standards via Permitting," Texas Commission on Environmental Quality, June 2010.

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.9, September 23, 2014.

C. Endangered Species References

http://www.tpwd.state.tx.us/huntwild/wild/species/txprdawn/
http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action

D. 40 CFR CITATIONS: Sections 122, 124, 125, 133, and 136

E. MISCELLANEOUS CORRESPONDENCE

Email from Michael Daniel, EPA, to Jim Afghani, EPA, dated December 28, 2018 on critical conditions information.

The Commission adopted the Draft 2014 Texas 303(d) List on June 3, 2015. The EPA approved the 2014 Texas 303(d) List on November 19, 2015