WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1040_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928462 **Long:** -97.159011 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	2
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1040_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Eleocharis montevidensis	60	✔	92.3%	FACW
2.	Ludwigia palustris	5	☐	7.7%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 33	20% of Total Cover: 13	65	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	5	x 1 =	5	
FACW species	60	x 2 =	120	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	70	(A)	265	(B)

Prevalence Index = B/A= 3.786

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1040_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 7/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1041_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928092 **Long:** -97.156784 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** PEM1A

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( )	No (●)	Depth (inches):
Water Table Present?	Yes ( )	No (●)	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ( )	No (●)	Depth (inches):

Wetland Hydrology Present? **Yes** ( ) **No** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1041_UP

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Cynodon dactylon	65	☑	92.9%	FACU
2.	Eleocharis montevidensis	5	☐	7.1%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 35	20% of Total Cover: 14	70	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	5	x 2 =	10	
FAC species	0	x 3 =	0	
FACU species	65	x 4 =	260	
UPL species	0	x 5 =	0	
Colum Totals:	70	(A)	270	(B)

Prevalence Index = B/A= 3.857

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1041_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1041_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928143 **Long:** -97.156529 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	2
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1041_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Eleocharis montevidensis	75	☑	83.3%	FACW
2.	Ludwigia palustris	15	☐	16.7%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 45	20% of Total Cover: 18	90	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	15	x 1 =	15	
FACW species	75	x 2 =	150	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	70	(A)	270	(B)

Prevalence Index = B/A= 3.857

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1041_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1042_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.928011 **Long:** -97.156364 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** ◉ **No** ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** ◉ **No** ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○	Is the Sampled Area within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ◉	No ○			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1042_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1. Quercus virginiana	30	✔	100.0%	FACU
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 15 20% of Total Cover: 6	30		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1. Cynodon dactylon	50	✔	83.3%	FACU
2. Erigeron philadelphicus	10		16.7%	FAC
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
9.	0		0.0%	
10.	0		0.0%	
11.	0		0.0%	
12.	0		0.0%	
50% of Total Cover: 30 20% of Total Cover: 12	60		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Colum Totals:	90 (A)		350 (B)

Prevalence Index = B/A= 3.889

Hydrophytic Vegetation Indicators:

- ✔ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1042_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1042_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.927932 **Long:** -97.15634 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1042_WET_PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Ludwigia palustris	40	☑	72.7%	OBL
2 . Eleocharis montevidensis	15	☑	27.3%	FACW
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 28 20% of Total Cover: 11	55		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	90 (A)		350 (B)

Prevalence Index = B/A= 3.889

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1042_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1043_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928692 **Long:** -97.156211 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** ◉ **No** ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** ◉ **No** ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○	Is the Sampled Area within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ◉	No ○			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1043_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 . Quercus virginiana	15	✔	100.0%	FACU
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 7.5 20% of Total Cover: 3	15		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	30	✔	75.0%	FACU
2 . Eleocharis montevidensis	5		12.5%	FACW
3 . Dichanthelium oligosanthes	5		12.5%	FACU
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
9 .	0		0.0%	
10 .	0		0.0%	
11 .	0		0.0%	
12 .	0		0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Colum Totals:	55 (A)		210 (B)

Prevalence Index = B/A= 3.818

Hydrophytic Vegetation Indicators:

- ✔ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1043_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1043_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928668 **Long:** -97.156115 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	1
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1043_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Cyperus virens	30	☑	75.0%	FACW
2.	Ludwigia palustris	10	☑	25.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 20	20% of Total Cover: 8	40	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	55 (A)		210 (B)

Prevalence Index = B/A= 3.818

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1043_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR	7/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1044_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.926536 **Long:** -97.151937 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	6

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1044_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1. Quercus virginiana	30	✔	100.0%	FACU
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 15 20% of Total Cover: 6	30		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1. Ilex vomitoria	50	✔	62.5%	FAC
2. Quercus virginiana	30	✔	37.5%	FACU
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
50% of Total Cover: 40 20% of Total Cover: 16	80		= Total Cover	
Herb Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
9.	0		0.0%	
10.	0		0.0%	
11.	0		0.0%	
12.	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Colum Totals:	110 (A)		390 (B)

Prevalence Index = B/A= 3.545

Hydrophytic Vegetation Indicators:

- ✔ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1044_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 4/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1044_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.926598 **Long:** -97.151874 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	1
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1044_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Andropogon virginicus	40	✔	42.1%	FAC
2.	Panicum virgatum	30	✔	31.6%	FAC
3.	Hydrocotyle umbellata	25	✔	26.3%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 48	20% of Total Cover: 19	95	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	25	x 1 =	25	
FACW species	0	x 2 =	0	
FAC species	70	x 3 =	210	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	110	(A)	390	(B)

Prevalence Index = B/A= 3.545

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1044_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	95	10YR 5/6	5	C	PL, M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1045_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.926024 **Long:** -97.152366 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes ( ) No (●)
Hydric Soil Present?	Yes (●)	No ( )		
Wetland Hydrology Present?	Yes ( )	No (●)		

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ( ) No (●)	Depth (inches):	

Wetland Hydrology Present? **Yes** ( ) **No** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1045_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 . Quercus virginiana	25	✔	100.0%	FACU
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 13 20% of Total Cover: 5	25		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Ilex vomitoria	20	✔	66.7%	FAC
2 . Quercus virginiana	10	✔	33.3%	FACU
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
50% of Total Cover: 15 20% of Total Cover: 6	30		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Panicum virgatum	25	✔	71.4%	FAC
2 . Smilax bona-nox	10		28.6%	FAC
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
9 .	0		0.0%	
10 .	0		0.0%	
11 .	0		0.0%	
12 .	0		0.0%	
50% of Total Cover: 18 20% of Total Cover: 7	35		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Colum Totals:	90 (A)		305 (B)

Prevalence Index = B/A= 3.389

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1045_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** WP1045_WET_PEM

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.925969 **Long:** -97.152317 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	1
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1045_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Panicum virgatum	30	☑	60.0%	FAC
2.	Eleocharis montevidensis	10	☑	20.0%	FACW
3.	Ludwigia palustris	5	☐	10.0%	OBL
4.	Cyperus virens	5	☐	10.0%	FACW
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 25	20% of Total Cover: 10	50	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	15	x 2 =	30
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	90 (A)		305 (B)

Prevalence Index = B/A= 3.389

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1045_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1046_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.926155 **Long:** -97.152151 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** ◉ **No** ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** ◉ **No** ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○	Is the Sampled Area within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydric soil and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1046_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Quercus virginiana	30	☑	60.0%	FACU
2 . Ilex vomitoria	20	☑	40.0%	FAC
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 25 20% of Total Cover: 10	50		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Smilax bona-nox	30	☑	100.0%	FAC
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 15 20% of Total Cover: 6	30		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	50	x 3 =	150	
FACU species	30	x 4 =	120	
UPL species	0	x 5 =	0	
Colum Totals:	80	(A)	270	(B)

Prevalence Index = B/A= 3.375

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1046_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 4/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1046_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.926115 **Long:** -97.15218 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes (●) No ( )
Hydric Soil Present?	Yes (●)	No ( )		
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	1
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1046_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Andropogon virginicus	10	☑	50.0%	FAC
2.	Eleocharis montevidensis	5	☑	25.0%	FACW
3.	Ludwigia palustris	3	☐	15.0%	OBL
4.	Smilax bona-nox	2	☐	10.0%	FAC
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	5	x 2 =	10
FAC species	12	x 3 =	36
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	20 (A)		49 (B)

Prevalence Index = B/A= 2.450

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1046_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1047_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.924927 **Long:** -97.150529 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** ◉ **No** ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** ◉ **No** ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○	Is the Sampled Area within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydric soil and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1047_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 . Quercus virginiana	40	✔	100.0%	FACU
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Ilex vomitoria	15	✔	60.0%	FAC
2 . Quercus virginiana	10	✔	40.0%	FACU
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
50% of Total Cover: 13 20% of Total Cover: 5	25		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Panicum virgatum	15	✔	50.0%	FAC
2 . Smilax bona-nox	10	✔	33.3%	FAC
3 . Andropogon glomeratus	5		16.7%	FACW
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
9 .	0		0.0%	
10 .	0		0.0%	
11 .	0		0.0%	
12 .	0		0.0%	
50% of Total Cover: 15 20% of Total Cover: 6	30		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	40	x 3 =	120
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Colum Totals:	95 (A)		330 (B)

Prevalence Index = B/A= 3.474

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1047_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1047_WET_PEM_A**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.925238 **Long:** -97.150577 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** PEM1C

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes (●) No ( )
Hydric Soil Present?	Yes (●)	No ( )		
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1047_WET_PEM_A

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Typha latifolia	95	☑	95.0%	OBL
2.	Panicum virgatum	5	☐	5.0%	FAC
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	100 (A)		110 (B)

Prevalence Index = B/A= 1.100

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1047_WET_PEM_A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	95	10YR 5/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Organic Bodies (A6) (LRR P, T, U)
- [ ] 5 cm Mucky Mineral (A7) (LRR P, T, U)
- [ ] Muck Presence (A8) (LRR U)
- [ ] 1 cm Muck (A9) (LRR P, T)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Coast Prairie Redox (A16) (MLRA 150A)
- [ ] Sandy Muck Mineral (S1) (LRR O, S)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (LRR P, S, T, U)
- [ ] Polyvalue Below Surface (S8) (LRR S, T, U)
- [ ] Thin Dark Surface (S9) (LRR S, T, U)
- [ ] Loamy Mucky Mineral (F1) (LRR O)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [x] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Marl (F10) (LRR U)
- [ ] Depleted Ochric (F11) (MLRA 151)
- [ ] Iron-Manganese Masses (F12) (LRR O, P, T)
- [ ] Umbric Surface (F13) (LRR P, T, U)
- [ ] Delta Ochric (F17) (MLRA 151)
- [ ] Reduced Vertic (F18) (MLRA 150A, 150B)
- [ ] Piedmont Floodplain Soils (F19) (MLRA 149A)
- [ ] Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) (LRR O)
- [ ] 2 cm Muck (A10) (LRR S)
- [ ] Reduced Vertic (F18) (outside MLRA 150A,B)
- [ ] Piedmont Floodplain Soils (F19) (LRR P, S, T)
- [ ] Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes (•) No ( )

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1047_WET_PEM_B**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.925104 **Long:** -97.150514 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** PEM1C

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )		
Wetland Hydrology Present?	Yes (•)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	4
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1047_WET_PEM_B

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Distichlis spicata	80	☑	88.9%	OBL
2 . Sesbania herbacea	5	☐	5.6%	FACW
3 . Andropogon glomeratus	5	☐	5.6%	FACW
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 45 20% of Total Cover: 18	90		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	80	x 1 =	80	
FACW species	10	x 2 =	20	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	90	(A)	100	(B)

Prevalence Index = B/A= 1.111

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1047_WET_PEM_B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]		
0 - 16	10YR	4/1	95	10YR	5/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1048_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.924497 **Long:** -97.150205 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ( ) No (●)	Depth (inches):	

Wetland Hydrology Present? **Yes** ( ) **No** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1048_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Schizachyrium scoparium	50	☑	58.8%	FACU
2 . Distichlis spicata	15	☐	17.6%	OBL
3 . Helianthus argophyllus	15	☐	17.6%	UPL
4 . Andropogon glomeratus	5	☐	5.9%	FACW
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 43	20% of Total Cover: 17	85	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	15	x 1 =	15	
FACW species	5	x 2 =	10	
FAC species	0	x 3 =	0	
FACU species	50	x 4 =	200	
UPL species	15	x 5 =	75	
Colum Totals:	85	(A)	300	(B)

Prevalence Index = B/A= 3.529

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1048_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 5/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1048_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.924542 **Long:** -97.150124 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	1
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WP1048_WET_PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Distichlis spicata	60	☑	63.2%	OBL
2 . Andropogon glomeratus	25	☑	26.3%	FACW
3 . Sesbania herbacea	10	☐	10.5%	FACW
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 48	20% of Total Cover: 19	95	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	85 (A)		300 (B)

Prevalence Index = B/A= 3.529

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1048_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	4/1	97	10YR	5/6	3	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1049_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.921886 **Long:** -97.144945 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** ◉ **No** ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** ◉ **No** ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○	Is the Sampled Area within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydric soil and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1049_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Schizachyrium scoparium	60	☑	72.3%	FACU
2 . Smilax bona-nox	20	☑	24.1%	FAC
3 . Andropogon glomeratus	3	☐	3.6%	FACW
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 42	20% of Total Cover: 17	83	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 . Campsis radicans	5	☑	100.0%	FAC
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 2.5	20% of Total Cover: 1	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	25	x 3 =	75
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Colum Totals:	88 (A)		321 (B)

Prevalence Index = B/A= 3.648

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1049_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 4/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1049_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.921808 **Long:** -97.145069 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )		
Wetland Hydrology Present?	Yes (•)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [x] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [x] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1049_WET_PEM

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Sesbania herbacea	25	☑	34.2%	FACW
2 . Ludwigia palustris	25	☑	34.2%	OBL
3 . Panicum virgatum	20	☑	27.4%	FAC
4 . Typha latifolia	3	☐	4.1%	OBL
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 37 20% of Total Cover: 15	73		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	28	x 1 =	28
FACW species	25	x 2 =	50
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	73 (A)		138 (B)

Prevalence Index = B/A= 1.890

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1049_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	97	10YR 5/6	3	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_UP_A**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.920003 **Long:** -97.141396 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ( ) No (●)	Depth (inches):	

Wetland Hydrology Present? **Yes** ( ) **No** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_UP_A

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Rubus trivialis	85	☑	85.0%	FACU
2 . Helianthus argophyllus	10	☐	10.0%	UPL
3 . Smilax bona-nox	5	☐	5.0%	FAC
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50 20% of Total Cover: 20	100		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	5	x 3 =	15	
FACU species	85	x 4 =	340	
UPL species	10	x 5 =	50	
Colum Totals:	100	(A)	405	(B)

Prevalence Index = B/A= 4.050

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_UP_A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_UP_B**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.919955 **Long:** -97.140626 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** ◉ **No** ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** ◉ **No** ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	Is the Sampled Area within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_UP_B

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1. Quercus virginiana	40	✔	100.0%	FACU
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 20	20% of Total Cover: 8	40	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1. Ilex vomitoria	30	✔	100.0%	FAC
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Herb Stratum (Plot Size : 30)				
1. Schizachyrium scoparium	50	✔	100.0%	FACU
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
9.	0		0.0%	
10.	0		0.0%	
11.	0		0.0%	
12.	0		0.0%	
50% of Total Cover: 25	20% of Total Cover: 10	50	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Colum Totals:	100 (A)		405 (B)

Prevalence Index = B/A= 4.050

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_UP_B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	70					Sand	
0 - 16	10YR 5/1	30					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PEM_A**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920706 **Long:** -97.141667 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** PEM1A

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [x] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PEM_A

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Panicum virgatum	75	✔	88.2%	FAC
2.	Andropogon glomeratus	5	☐	5.9%	FACW
3.	Eleocharis montevidensis	5	☐	5.9%	FACW
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 43	20% of Total Cover: 17	85	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	10	x 2 =	20	
FAC species	75	x 3 =	225	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	120	(A)	450	(B)

Prevalence Index = B/A= 3.750

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PEM_A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PEM_B**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920363 **Long:** -97.14149 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes (●) No ( )
Hydric Soil Present?	Yes (●)	No ( )		
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [x] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PEM_B

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Smilax bona-nox	60	☑	60.0%	FAC
2.	Eleocharis montevidensis	40	☑	40.0%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	100 (A)		260 (B)

Prevalence Index = B/A= 2.600

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PEM_B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/2	95	10YR 5/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** WP1050_WET_PEM_C

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920351 **Long:** -97.140949 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland? Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )	
Wetland Hydrology Present?	Yes (•)	No ( )	

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•)	No ( )	Depth (inches): 6
Water Table Present?	Yes ( )	No (•)	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes (•)	No ( )	Depth (inches): 0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PEM_C

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Eleocharis montevidensis	25	☑	62.5%	FACW
2.	Panicum repens	10	☑	25.0%	FACW
3.	Paspalum plicatulum	5	☐	12.5%	FAC
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 20	20% of Total Cover: 8	40	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	35	x 2 =	70	
FAC species	5	x 3 =	15	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	40	(A)	85	(B)

Prevalence Index = B/A= 2.125

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PEM_C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PEM_D**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.920142 **Long:** -97.140435 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes (●) No ( )
Hydric Soil Present?	Yes (●)	No ( )		
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PEM_D

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Distichlis spicata	20	☑	44.4%	OBL
2.	Ludwigia palustris	10	☑	22.2%	OBL
3.	Eleocharis montevidensis	10	☑	22.2%	FACW
4.	Sesbania herbacea	5	☐	11.1%	FACW
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 23	20% of Total Cover: 9	45	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	30	x 1 =	30	
FACW species	15	x 2 =	30	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	45	(A)	60	(B)

Prevalence Index = B/A= 1.333

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PEM_D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 0	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PEM_E**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.919715 **Long:** -97.140707 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )		
Wetland Hydrology Present?	Yes (•)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	4
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PEM_E

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Eleocharis montevidensis	35	☑	70.0%	FACW
2.	Distichlis spicata	15	☑	30.0%	OBL
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 25	20% of Total Cover: 10	50	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	50 (A)		85 (B)

Prevalence Index = B/A= 1.700

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PEM_E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PSS_A**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920305 **Long:** -97.141299 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )		
Wetland Hydrology Present?	Yes (•)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [x] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PSS_A

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)			
1 . Sesbania herbacea	40 ✔	100.0%	FACW
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40	= Total Cover	
Herb Stratum (Plot Size : 30)			
1 . Eleocharis montevidensis	15 ✔	60.0%	FACW
2 . Smilax bona-nox	10	40.0%	FAC
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
9 .	0	0.0%	
10 .	0	0.0%	
11 .	0	0.0%	
12 .	0	0.0%	
50% of Total Cover: 13 20% of Total Cover: 5	25	= Total Cover	
Woody Vine Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	65 (A)		140 (B)

Prevalence Index = B/A= 2.154

Hydrophytic Vegetation Indicators:

- ✔ **1 - Rapid Test for Hydrophytic Vegetation**
- ✔ **2 - Dominance Test is > 50%**
- ✔ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PSS_A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	3/2	95	10YR	5/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PSS_B**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920487 **Long:** -97.141223 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland? Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )	
Wetland Hydrology Present?	Yes (•)	No ( )	

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•)	No ( )	Depth (inches): 8
Water Table Present?	Yes ( )	No (•)	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes (•)	No ( )	Depth (inches): 0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PSS_B

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Sesbania herbacea	40	☑	100.0%	FACW
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Eleocharis montevidensis	5	☐	100.0%	FACW
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 2.5 20% of Total Cover: 1	5		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	45 (A)		90 (B)

Prevalence Index = B/A= 2.000

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PSS_B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1050_WET_PSS_C**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920254 **Long:** -97.140797 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )		
Wetland Hydrology Present?	Yes (•)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [x] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	6
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1050_WET_PSS_C

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.	Sesbania herbacea	40	☑	100.0%	FACW
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 20	20% of Total Cover: 8	40	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Distichlis spicata	15	☑	100.0%	OBL
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 7.5	20% of Total Cover: 3	15	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	55 (A)		95 (B)

Prevalence Index = B/A= 1.727

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1050_WET_PSS_C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/14/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1051_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.919233 **Long:** -97.136436 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydric soil is not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	2

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1051_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Quercus virginiana	30	☑	54.5%	FACU
2 . Schinus terebinthifolia	25	☑	45.5%	FAC
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 28 20% of Total Cover: 11	55		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Panicum virgatum	45	☑	64.3%	FAC
2 . Cynodon dactylon	10	☐	14.3%	FACU
3 . Hydrocotyle umbellata	10	☐	14.3%	OBL
4 . Ambrosia artemisiifolia	5	☐	7.1%	FACU
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 35 20% of Total Cover: 14	70		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Colum Totals:	125 (A)		400 (B)

Prevalence Index = B/A= 3.200

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1051_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/14/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1051_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.919213 **Long:** -97.136324 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes (•) No ( )
Hydric Soil Present?	Yes (•)	No ( )		
Wetland Hydrology Present?	Yes (•)	No ( )		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	2
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1051_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Distichlis spicata	70	☑	77.8%	OBL
2.	Eleocharis montevidensis	10	☐	11.1%	FACW
3.	Hydrocotyle umbellata	10	☐	11.1%	OBL
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 45	20% of Total Cover: 18	90	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	80	x 1 =	80	
FACW species	10	x 2 =	20	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	90	(A)	100	(B)

Prevalence Index = B/A= 1.111

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1051_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	3/1	97	10YR	5/6	3	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Organic Bodies (A6) (LRR P, T, U)
- [ ] 5 cm Mucky Mineral (A7) (LRR P, T, U)
- [ ] Muck Presence (A8) (LRR U)
- [ ] 1 cm Muck (A9) (LRR P, T)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Coast Prairie Redox (A16) (MLRA 150A)
- [ ] Sandy Muck Mineral (S1) (LRR O, S)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (LRR P, S, T, U)
- [ ] Polyvalue Below Surface (S8) (LRR S, T, U)
- [ ] Thin Dark Surface (S9) (LRR S, T, U)
- [ ] Loamy Mucky Mineral (F1) (LRR O)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [x] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Marl (F10) (LRR U)
- [ ] Depleted Ochric (F11) (MLRA 151)
- [ ] Iron-Manganese Masses (F12) (LRR O, P, T)
- [ ] Umbric Surface (F13) (LRR P, T, U)
- [ ] Delta Ochric (F17) (MLRA 151)
- [ ] Reduced Vertic (F18) (MLRA 150A, 150B)
- [ ] Piedmont Floodplain Soils (F19) (MLRA 149A)
- [ ] Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) (LRR O)
- [ ] 2 cm Muck (A10) (LRR S)
- [ ] Reduced Vertic (F18) (outside MLRA 150A,B)
- [ ] Piedmont Floodplain Soils (F19) (LRR P, S, T)
- [ ] Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes (•) No ( )

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/14/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1052_UP**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.918607 **Long:** -97.135366 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes ( ) No (•)
Hydric Soil Present?	Yes ( )	No (•)		
Wetland Hydrology Present?	Yes ( )	No (•)		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (•)	Depth (inches):	
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ( ) No (•)	Depth (inches):	

Wetland Hydrology Present? **Yes** ( ) **No** (•)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1052_UP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Lysimachia arvensis	30	☑	30.0%	FACU
2 . Eleocharis montevidensis	20	☑	20.0%	FACW
3 . Hydrocotyle umbellata	10	☐	10.0%	OBL
4 . Panicum virgatum	10	☐	10.0%	FAC
5 . Medicago lupulina	10	☐	10.0%	UPL
6 . Taraxacum officinale	5	☐	5.0%	FACU
7 . Geranium carolinianum	5	☐	5.0%	UPL
8 . Helianthus argophyllus	5	☐	5.0%	UPL
9 . Galium aparine	5	☐	5.0%	FACU
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Colum Totals:	100 (A)		340 (B)

Prevalence Index = B/A= 3.400

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1052_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/14/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1052_WET_PEM**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.918454 **Long:** -97.135375 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (•)	Is the Sampled Area within a Wetland?	Yes ( )	No (•)
Hydric Soil Present?	Yes (•)	No ( )			
Wetland Hydrology Present?	Yes (•)	No ( )			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [x] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes (•) No ( )	Depth (inches):	4
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (•) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1052_WET_PEM

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Distichlis spicata	30	☑	40.0%	OBL
2.	Spartina patens	25	☑	33.3%	FACW
3.	Ludwigia palustris	10	☐	13.3%	OBL
4.	Eleocharis montevidensis	5	☐	6.7%	FACW
5.	Sesbania herbacea	5	☐	6.7%	FACW
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 38	20% of Total Cover: 15	75	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Colum Totals:	100 (A)		340 (B)

Prevalence Index = B/A= 3.400

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1052_WET_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/14/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1053_UP_A**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.917826 **Long:** -97.134723 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (•) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (•) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (•)	No ( )	Is the Sampled Area within a Wetland?	Yes ( ) No (•)
Hydric Soil Present?	Yes ( )	No (•)		
Wetland Hydrology Present?	Yes ( )	No (•)		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (•)	Depth (inches):	
Water Table Present?	Yes ( ) No (•)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ( ) No (•)	Depth (inches):	

Wetland Hydrology Present? **Yes** ( ) **No** (•)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1053_UP_A

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Schizachyrium scoparium	40	☑	47.1%	FACU
2.	Spartina patens	10	☑	11.8%	FACW
3.	Lysimachia arvensis	10	☑	11.8%	FACU
4.	Ambrosia artemisiifolia	10	☑	11.8%	FACU
5.	Andropogon glomeratus	5	☐	5.9%	FACW
6.	Opuntia lindheimeri	5	☐	5.9%	UPL
7.	Panicum virgatum	5	☐	5.9%	FAC
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 43	20% of Total Cover: 17	85	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	60	x 4 =	240
UPL species	5	x 5 =	25
Colum Totals:	85 (A)		310 (B)

Prevalence Index = B/A= 3.647

Hydrophytic Vegetation Indicators:

- ☑ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1053_UP_A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/14/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **WP1053_UP_B**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.916979 **Long:** -97.134507 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? **Yes** (●) **No** ( ) **(If no, explain in Remarks.)**

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **significantly disturbed?** **Are "Normal Circumstances" present?** **Yes** (●) **No** ( )

Are Vegetation [ ] **, Soil** [ ] **, or Hydrology** [ ] **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	Is the Sampled Area within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Wetland hydrology is not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ( ) No (●)	Depth (inches):	

Wetland Hydrology Present? **Yes** ( ) **No** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: WP1053_UP_B

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Schinus terebinthifolia	50	☑	83.3%	FAC
2 . Tamarix chinensis	10	☐	16.7%	FACW
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 30	20% of Total Cover: 12	60	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Panicum virgatum	20	☑	57.1%	FAC
2 . Distichlis spicata	15	☑	42.9%	OBL
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 18	20% of Total Cover: 7	35	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	15	x 1 =	15	
FACW species	10	x 2 =	20	
FAC species	70	x 3 =	210	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Colum Totals:	85	(A)	310	(B)

Prevalence Index = B/A= 3.647

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

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Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: WP1053_UP_B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: