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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/24/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP1

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 7

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Cedar elm - post oak transition. Woodland type in upland area in western part of property.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. *Ulmus crassifolia*	50	Yes	FAC
2. *Quercus stellata*	30	Yes	FACU
3.			
4.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Prosopis glandulosa*	20	Yes	FACU
2. *Ilex vomitoria*	20	Yes	FAC
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Elymus virginicus*	30	Yes	FAC
2. *Opuntia lindheimeri*	10	Yes	UPL
3. *Vernonia baldwinii*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Smilax bona-nox*	15	Yes	FACU
2.			
	15	= Total Cover	

% Bare Ground in Herb Stratum 55

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:
Upland woods. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP1

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 Loc[2]	Texture	Remarks
0-10	10 YR 6/3	100					Sand	Gravelly

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Hardpan

Depth (inches): 10

Hydric Soil Present? Yes ____ No ✓

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is on Floodplain Zone A; however no other hydrology indicators were observed. Wetland hydrology criterion is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/24/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP2

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Grassy open meadow.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Phalaris caroliniana*	60	Yes	FACW
2. *Tridens albescens*	10	No	FAC
3. *Solanum elaeagnifolium*	10	No	UPL
4. *Ambrosia psilostachya*	10	No	FACU
5. *Iva annua*	10	No	FAC
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. *Smilax bona-nox*	10	Yes	FACU
2.			
	10 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:
Herbaceous meadow dominated by canary grass and greenbrier. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP2

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 Loc[2]	Texture	Remarks
0-16	10 YR 2/1	100					Silty 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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is on Floodplain Zone A; however no other hydrology indicators were observed. Wetland hydrology criterion is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/24/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP3

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Swale that drains to channel south of transect.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Carex brevior*	50	Yes	FAC
2. *Eleocharis engelmannii*	50	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:
Emergent wetland dominated by sedge and spike rush. Hydrophytic vegetation criterion is met.

SOIL

Sampling Point: T16-DP3

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]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	97	10 YR 5/6	3			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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Swale in floodplain, Zone A. Wetland hydrology criterion is not met. Sparsely Vegetated Concave Surface (B8) was within the swale, but not within the five foot her stratum plot.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/24/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP4

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: Ts - Tinn soils, frequently flooded NWI classification: None available

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:
Emergent wetland in a backwater in riparian area near channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Fraxinus pennsylvanica*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis palustris*	50	Yes	OBL
2. *Persicaria pensylvanicum*	50	Yes	FACW
3. *Iva annua*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Emergent wetland dominated by spikerush and smartweed. Hydrophytic vegetation criterion is met.

SOIL

Sampling Point: T16-DP4

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]	Loc[2]	Texture	Remarks
0-12	10 YR 2/1	85	5 YR 6/4	15			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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Hardpan

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

Hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Backwater slought in riparian area; within floodplain Zone A. Wetland hydrology criterion is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/24/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP5

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 4

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None available

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:
Upland point between depression and channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Melia azedarach*	15	Yes	FACU
2. *Celtis laevigata*	5	Yes	FAC
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Iva annua*	15	Yes	FAC
2. *Vernonia baldwinii*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. *Rubus trivialis*	60	Yes	FACU
2.			
	60 = Total Cover		

% Bare Ground in Herb Stratum 65

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:
Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP5

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]	Loc[2]	Texture	Remarks
0-16	10 YR 3/1	100						

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is on Floodplain Zone A; however no other hydrology indicators were observed. Wetland hydrology criterion is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/2x/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP6

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Lake edge Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Upland grass meadow fringe of lake, on west side.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Prosopis glandulosa*	5	Yes	FACU
2. *Ulmus crassifolia*	2	Yes	FAC
3.			
4.			
5.			
	7 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Buchloe dactyloides*	80	Yes	UPL
2. *Cynodon dactylon*	10	No	FACU
3. *Solanum elaeagnifolium*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
Upland herbaceous area dominated by buffalo grass. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP6

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 Loc[2]	Texture	Remarks
100	10 YR 3/1	100					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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is on Floodplain Zone A; however no other hydrology indicators were observed. Wetland hydrology criterion is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/26/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP7

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: CrC2 - Crockett soils, 2-5% slopes, eroded NWI classification: None available

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:
Open grassland in spillway east of lake.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Buchloe dactyloides*	60	Yes	UPL
2. *Cynodon dactylon*	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
Upland grassland dominated by buffalo grass. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP7

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 Loc[2]	Texture	Remarks
0-6	10 YR 3/1	100					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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Claypan

Depth (inches): 6

Hydric Soil Present? Yes ____ No ✓

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is on Floodplain Zone A; however no other hydrology indicators were observed. Wetland hydrology criterion is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/26/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP8

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Shoreline/depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None available

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:
Emergent wetland along shoreline, eastern side of lake.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Sesbania drummondii*	2	-----	FACW
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis palustris*	80	Yes	OBL
2. *Xanthium strumarium*	10	No	FAC
3. *Persicaria pensylvanicum*	15	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Emergent wetland along shoreline, dominated by spikerush. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP8

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]	Loc[2]	Texture	Remarks
0-3	10 YR 2/1	90	5 YR 5/8	10			Clay	
3-7	10 YR 3/1	97	5 YR 5/8	3				
7-10	10 YR 4/1	97	7.5 YR 5/8	3				

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Shoreline of large lake; floodplain Zone A. Wetland hydrology criterion is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/26/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP9a

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: CrC2 - Crockett soils, 2-5% slopes, eroded NWI classification: None available

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:
Scrub-shrub fringe outside of emergent wetland along eastern shore of lake.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Sesbania drummondii*	70	Yes	FACW
2.			
3.			
4.			
5.			
	70 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis engelmannii*	80	Yes	FACW
2. *Phyla lanceolata*	20	No	FACW
3. *Iva annua*	2	No	FAC
4. *Xanthium strumarium*	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	104 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Scrub-shrub wetland dominated by Sesbania. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP9a

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]	Loc[2]	Texture	Remarks
0-3	10 YR 2/1	90	5 YR 5/8	10	C	M/PL	Clay	
3-7	10 YR 3/1	97	5 YR 5/8	3	C	M/PL		
7-10	10 YR 4/1	97	7.5 YR 5/8	3	C	M		

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Several indicators observed. Site on Floodplain Zone A. Wetland hydrology criterion is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/26/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP9b

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None available

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:
Finger of land between south shore of lake and dam. Scrub-shrub wetland.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Sesbania drummondii*	25	Yes	FACW
2. *Ulmus crassifolia*	10	Yes	FAC
3. *Fraxinus pennsylvanica*	15	Yes	FAC
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Iva annua*	80	Yes	FAC
2. *Eleocharis engelmannii*	20	No	FACW
3. *Carex brevior*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Scrub-shrub wetland dominated by sesbania. Hydrophytic vegetation criterion is met.

SOIL

Sampling Point: T16-DP9b

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]	Loc[2]	Texture	Remarks
0-5	10 YR 2/1	70	10 YR 4/6	20	C	M/CL	Clay	
			2.5 Y 5/6	10	C	M		
5-12	10 YR 3/1	55	10 YR 5/6	40	C	M	Shaley clay	
			10 YR 7/1	5	D	M		

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Clay pan

Depth (inches): 12

Hydric Soil Present? Yes ✓ No ___

Remarks:

No hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Aerial photography: 2012, 2010, 2008-2009, 2005, 2004, 1996

Remarks:

Several indicators observed. Site on Floodplain Zone A. Inundation visible on multiple years of imagery. Wetland hydrology criterion is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/26/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP10

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Lake shore Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None available

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:
Emergent wetland along shore of lake just north of dam.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Sesbania drummondii*	5	Yes	FACW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis engelmannii*	80	Yes	FACW
2. *Xanthium strumarium*	20	No	FAC
3. *Iva annua*	10	No	FAC
4. *Polygonum pensylvanicum*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	115 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Emergent wetland dominated by spikerush. Hydrophytic vegetation criterion is met.

SOIL

Sampling Point: T16-DP10

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]	Loc[2]	Texture	Remarks
0-5	10 YR 2/1	80	5 YR 5/8	20	C	M/PL	Clay	
5-10	10 YR 3/1	45	10 YR 6/2	40	D	M		
			5 YR 5/8	15	C	M		

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ✓ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Several indicators observed. Floodplain Zone A. Wetland hydrology criterion is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/27/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP11

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2-4

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None available

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:
Edge of lake

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. *Sesbania drummondii*	10	Yes	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis engelmannii*	90	Yes	FACW
2. *Persicaria pensylvanicum*	20	No	FACW
3. *Phyla lanceolata*	25	No	FACW
4. *Cyperus reflexus*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	140 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Emergent wetland dominated by spikerush. Hydrophytic vegetation criterion is met.

SOIL

Sampling Point: T16-DP11

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]	Loc[2]	Texture	Remarks
0-4	10 YR 3/2	70	10 YR 4/6	30	C	M/PL	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Cobble

Depth (inches): 4

Hydric Soil Present? Yes ✓ No ___

Remarks:

Hydric soil criterion is met.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point is along lake shore. Floodplain Zone A. Wetland hydrology criterion is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 06/27/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T16-DP12

Investigator(s): Troegle, Josh & Boe, Brian Section, Township, Range: NA

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Convex Slope (%): 2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.65 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None available

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:
Upland area adjacent to fringe wetland along lakeshore.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	5	Yes	FAC
2. *Prosopis glandulosa*	5	Yes	FACU
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Buchloe dactyloides*	90	Yes	UPL
2. *Phalaris caroliniana*	10	No	FACW
3. *Solanum elaeagnifolium*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:
Upland grassland area dominated by buffalograss. Hydrophytic vegetation criterion is not met.

SOIL

Sampling Point: T16-DP12

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]	Loc[2]	Texture	Remarks
0-4	10 YR 3/1	100					Clay	Cobble

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Cobble

Depth (inches): 4

Hydric Soil Present? Yes ____ No ✓

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Upland area upslope from lake shore and stream channel. Site is north of dam. Floodplain Zone A. Wetland hydrology criterion is not met.

TRANSECT 16 SITE PHOTOGRAPHS

Data Point 1
Mesquite Woods

Data Point 1
Mesquite Grassland Mosaic

Data Point 2
Floodplain Meadows

TRANSECT 16 SITE PHOTOGRAPHS

Data Point 2
Floodplain Meadows

Data Point 3
Emergent Wetlands

Data Point 4
Riparian Woods (Cedar Elm/Oak)

TRANSECT 16 SITE PHOTOGRAPHS

Data Point 4
Riparian Woods (Cedar Elm/Oak)

Data Point 5
Riparian Woods (Cedar Elm/Oak)

Data Point 6
Mesquite Grassland Mosaic

TRANSECT 16 SITE PHOTOGRAPHS

Data Point 6
Mesquite Grassland Mosaic

Data Point 7
Floodplain Meadows

Data Point 8
Emergent Wetlands

TRANSECT 16 SITE PHOTOGRAPHS

Data Point 9
Scrub/ Shrub Wetlands

Data Point 10
Emergent Wetlands

Data Point 11
Emergent Wetlands

TRANSECT 16 SITE PHOTOGRAPHS

Data Point 12
Mesquite Grassland Mosaic

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/10/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T18-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): None Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.66 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus stellata*	30	Yes	FACU
2. *Prosopis glandulosa*	8	No	FACU
3. *Ulmus crassifolia*	5	No	FAC
4.			
	43	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Prosopis glandulosa*	10	Yes	FACU
2. *Ulmus crassifolia*	5	No	FAC
3. *Diospyros texana*	2	No	NI
4. *Mahonia trifoliolata*	25	Yes	NI
5.			
	42	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Dichanthelium linearifolium*	10	Yes	NI
2. *Schizachyrium scoparium*	30	Yes	FACU
3. *Euphorbia tirucalli*	2	No	NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	42	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Smilax bona-nox*	5	Yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 70

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: T18-DP1

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]	Loc[2]	Texture	Remarks

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 18 SITE PHOTOGRAPHS

Data Point 1
Mesquite Woods

Data Point 1
Mesquite Woods

Data Point 1
Mesquite Woods

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/08/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T19-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.97 Long: -97.66 Datum: NAD 83

Soil Map Unit Name: Ts - Tinn soils, frequently flooded NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Iva annua*	70	Yes	FAC
2. *Persicaria hydropiperoides*	30	Yes	OBL
3. *Cyperus polystachyos*	20	No	FACW
4. *Elymus virginicus*	5	No	FAC
5. *Sporobolus compositus*	10	No	UPL
6.			
7.			
8.			
9.			
10.			
	135 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

Abundant cedar elm snags

SOIL

Sampling Point: T19-DP1

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]	Loc[2]	Texture	Remarks
0-12	10 YR 2/1	85	5 YR 4/6	15	C	M	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/8/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T19-DP2

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): None Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR): J - Southwestern Prairies Lat: 29.97 Long: -97.66 Datum: NAD 83

Soil Map Unit Name: WgC - Wilson gravelly loam, 1-5% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus stellata*	75	Yes	FACU
2. *Ulmus crassifolia*	30	Yes	FAC
3.			
4.			
	105	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	5	Yes	FAC
2. *Ligustrum sinense*	10	Yes	UPL
3. *Diospyros texana*	10	Yes	NI
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Elymus virginicus*	60	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 55

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: T19-DP2

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]	Loc[2]	Texture	Remarks

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 19 SITE PHOTOGRAPHS

Data Point 1
Sumpweed Depressions

Data Point 1
Sumpweed Depressions

Data Point 1
Sumpweed Depressions

TRANSECT 19 SITE PHOTOGRAPHS

Data Point 2
Post Oak Woods

Data Point 2
Post Oak Woods

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/8/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T20-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 4-6

Subregion (LRR): J - Southwestern Prairies Lat: 29.97 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: WgC - Wilson gravelly loam, 1-5% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus stellata*	50	Yes	FACU
2. *Ulmus crassifolia*	25	Yes	FAC
3.			
4.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Opuntia engelmannii*	5	Yes	NI
2. *Cylindropuntia leptocaulis*	5	Yes	NI
3. *Dichanthelium linearifolium*	5	Yes	NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 45

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: T20-DP1

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]	Loc[2]	Texture	Remarks

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/9/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T20-DP2

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.66 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Pond fringe wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis compressa*	80	Yes	OBL
2. *Persicaria hydropiper*	25	No	OBL
3. *Iva annua*	30	No	FAC
4. *Cyperus polystachyos*	15	No	FACW
5. *Carex brevior*	25	No	FAC
6.			
7.			
8.			
9.			
10.			
	175 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: T20-DP2

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]	Loc[2]	Texture	Remarks
0-4	10 YR 4/1	75	5 YR 4/6	25	C	M/PL	Clay	
4-10	2.5 Y 6/4	40	10 YR 5/8	15	C	M/PL	Clay	
	2.5 Y 6/2	45						

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ✓ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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): Surface

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/09/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T20-DP3

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): On-Channel Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.66 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
On-channel wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	30	Yes	FAC
2.			
3.			
4.			
	30 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Sesbania drummondii*	5	Yes	FACW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Iva annua*	20	No	FAC
2. *Persicaria hydropiper*	45	Yes	OBL
3. *Cyperus polystachyos*	25	Yes	FACW
4. *Eleocharis compressa*	30	Yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
	5 = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:
Trees at edge of depression.

SOIL

Sampling Point: T20-DP3

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]	Loc[2]	Texture	Remarks
0-1	10 YR 5/2	90	5 YR 5/8	10	C	M/PL	Clay/Sandy Clay	
1-5	10 YR 4/1	55	5 YR 5/8	45	C	M/PL	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Cobble

Depth (inches): 5

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

On-channel wetland.

TRANSECT 20 SITE PHOTOGRAPHS

Data Point 1
Post Oak Woods

Data Point 1
Post Oak Woods

Data Point 2
Lacustrine Fringe Wetlands

TRANSECT 20 SITE PHOTOGRAPHS

Data Point 2
Lacustrine Fringe Wetlands

Data Point 2
Lacustrine Fringe Wetlands

Data Point 3
Emergent Wetlands

TRANSECT 20 SITE PHOTOGRAPHS

Data Point 3
Emergent Wetlands

Data Point 3
Emergent Wetlands

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/8/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T21-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2-4

Subregion (LRR): J - Southwestern Prairies Lat: 29.97 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: WgC - Wilson gravelly loam, 1-5% slopes 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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Prosopis glandulosa*	15	Yes	FACU
2. *Mahonia trifoliolata*	2	No	NI
3. *Castela erecta*	30	Yes	NI
4.			
5.			
	47 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Monarda citriodora*	10	No	NI
2. *Coreopsis tinctoria*	35	Yes	FAC
3. *Nassella leucotricha*	25	Yes	NI
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: T21-DP1

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]	Loc[2]	Texture	Remarks

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 21 SITE PHOTOGRAPHS

Data Point 1
Mesquite Grassland Mosaic

Data Point 1
Mesquite Grassland Mosaic

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/8/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T22-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2-4

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus stellata*	75	Yes	FACU
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	10	Yes	FAC
2. *Ligustrum sinense*	10	Yes	UPL
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Dichanthelium linearifolium*	10	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	= Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 85

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: T22-DP1

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]	Loc[2]	Texture	Remarks

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 22 SITE PHOTOGRAPHS

Data Point 1
Post Oak Woods

Data Point 1
Post Oak Woods

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/10/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T23-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	40	Yes	FAC
2. *Quercus stellata*	20	Yes	FACU
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Iva annua*	35	Yes	FAC
2. *Rottboellia cochinchinensis*	90	Yes	FACU
3. *Ambrosia artemisiifolia*	15	No	FACU
4. *Schizachyrium scoparium*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	142	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Smilax bona-nox*	5	Yes	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: T23-DP1

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]	Loc[2]	Texture	Remarks
0-4	10 YR 5/2	60	10 YR 5/8	20			Sandy clay	
	10 YR 7/1	20						

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Cobble

Depth (inches): 4

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/10/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T23-DP2

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	60	Yes	FAC
2.			
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. *Iva annua*	50	Yes	FAC
2. *Elymus virginicus*	30	Yes	FAC
3. *Cyperus setigerus*	50	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	130 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 35

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: T23-DP2

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]	Loc[2]	Texture	Remarks
0-8	10 YR 2/1	98	10 YR 4/6	2	C	M	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Claypan

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 23 SITE PHOTOGRAPHS

Data Point 1
Riparian Woods (Cedar Elm/Oak)

Data Point 1
Riparian Woods (Cedar Elm/Oak)

Data Point 1
Riparian Woods (Cedar Elm/Oak)

TRANSECT 23 SITE PHOTOGRAPHS

Data Point 2
Riparian Woods (Cedar Elm/Oak)

Data Point 2
Riparian Woods (Cedar Elm/Oak)

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/09/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T25-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): None Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.96 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. *Quercus stellata*	60	Yes	FACU
2. *Ulmus crassifolia*	25	Yes	FAC
3. *Prosopis glandulosa*	10	No	FACU
4.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	5	Yes	FAC
2. *Diospyros texana*	5	Yes	NI
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Dichanthelium linearifolium*	60	Yes	NI
2. *Cylindropuntia leptocaulis*	5	No	NI
3. *Schizachyrium scoparium*	5	No	FACU
4. *Carex planostachys*	15	No	NI
5.			
6.			
7.			
8.			
9.			
10.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Smilax bona-nox*	15	Yes	FACU
2.			
	15	= Total Cover	

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: T25-DP1

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]	Loc[2]	Texture	Remarks

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 25 SITE PHOTOGRAPHS

Data Point 1
Post Oak Woods

Data Point 1
Post Oak Woods

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/09/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T26-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: WgC - Wilson gravelly loam, 1-5% slopes NWI classification: None available

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:
Fringe wetland around pond.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	5	Yes	FAC
2. *Prosopis glandulosa*	5	Yes	FACU
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	2	No	FAC
2. *Sesbania drummondii*	45	Yes	FACW
3. *Prosopis glandulosa*	2	Yes	FACU
4.			
5.			
	49	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Cyperus polystachyos*	60	Yes	FACW
2. *Persicaria hydropiper*	35	Yes	OBL
3. *Iva annua*	15	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: T26-DP1

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]	Loc[2]	Texture	Remarks
0-1	10 YR 4/1	100					Silty clay	
1-12	55 GY	45	5 YR 4/6	30	C	M/PL	Silty clay	
	65 GY	25						

[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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ✓ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0" to 6"

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/09/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T26-DP2

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Depression/Slope Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: WgC - Wilson gravelly loam, 1-5% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	45	Yes	FAC
2.			
3.			
4.			
	45 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis acicularis*	100	Yes	OBL
2. *Iva annua*	100	Yes	FAC
3. *Rhynchospora*	Present		
4. *Phanopyrum gymnocarpon*	Present		
5.			
6.			
7.			
8.			
9.			
10.			
	200 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: T26-DP2

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]	Loc[2]	Texture	Remarks
0-8	10 YR 4/1	60	5 YR 4/6	40	C	M/PL	Clay	
8-16	10 YR 5/6	60						
	10 YR 5/1	25	10 YR 4/6	15	C	M/PL	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 26 SITE PHOTOGRAPHS

Data Point 1
Lacustrine Fringe Wetlands

Data Point 1
Lacustrine Fringe Wetlands

Data Point 1
Lacustrine Fringe Wetlands

TRANSECT 26 SITE PHOTOGRAPHS

Data Point 2
Emergent Wetlands

Data Point 2
Emergent Wetlands

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/11/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T27-DP1

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-4

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Adventitious roots on Salix nigra.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Salix nigra*	30	Yes	FACW
2. *Ulmus crassifolia*	10	Yes	FAC
3. *Sesbania drummondii*	5	No	FACW
4.			
5.			
	45 = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Eleocharis compressa*	75	Yes	FACW
2. *Persicaria hydropiper*	20	No	OBL
3. *Iva annua*	40	Yes	FAC
4. *Xanthium strumarium*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	145 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: T27-DP1

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]	Loc[2]	Texture	Remarks
0-8	10 YR 2/1	75	5 YR 5/8	25	C	M/PL	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Cobble

Depth (inches): 8

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ✓ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Adventitious roots on Salix nigra.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/11/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T27-DP2

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	30	Yes	FAC
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ulmus crassifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Eleocharis compressa*	95	Yes	FACW
2. *Iva annua*	20	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	115	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: T27-DP2

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]	Loc[2]	Texture	Remarks
0-10	10 YR 3/1	80	5 YR 4/6	20	C	M/PL	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: Claypan

Depth (inches): 10

Hydric Soil Present? Yes ✓ No ___

Remarks:

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water marks on trees.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: 130 Environmental Park City/County: Lockhart/Caldwell Sampling Date: 07/11/2013

Applicant/Owner: 130 Environmental Park, LLC State: TX Sampling Point: T27-DP3

Investigator(s): Troegle, Josh & Littleton, Brandyn Section, Township, Range: NA

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): J - Southwestern Prairies Lat: 29.95 Long: -97.67 Datum: NAD 83

Soil Map Unit Name: FeE - Fett gravelly soils, 1-12% slopes NWI classification: None available

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:
Water marks on base of trees.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus crassifolia*	60	Yes	FAC
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Fraxinus pennsylvanica*	5	Yes	
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 98

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: T27-DP3

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]	Loc[2]	Texture	Remarks
0-10	10 YR 3/1	80	5 YR 4/6	20	C	M/PL	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: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ 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 present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

No hydric soil indicators observed.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✓ Surface Soil Cracks (B6)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

TRANSECT 27 SITE PHOTOGRAPHS

Data Point 1
Emergent Wetland

Data Point 1
Emergent Wetland

Data Point 1
Emergent Wetland

TRANSECT 27 SITE PHOTOGRAPHS

Data Point 2
Emergent Wetland

Data Point 2
Emergent Wetland

Data Point 3
Forested Wetland

TRANSECT 27 SITE PHOTOGRAPHS

Data Point 3
Forested Wetland

Data Point 3
Forested Wetland

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STREAM PHOTOGRAPHS

Dry Creek - 1

Dry Creek - 2

ES-1

STREAM PHOTOGRAPHS

ES-2

ES-5

ES-7

STREAM PHOTOGRAPHS

ES-9

ES-9A

ES-9B

STREAM PHOTOGRAPHS

ES-9C

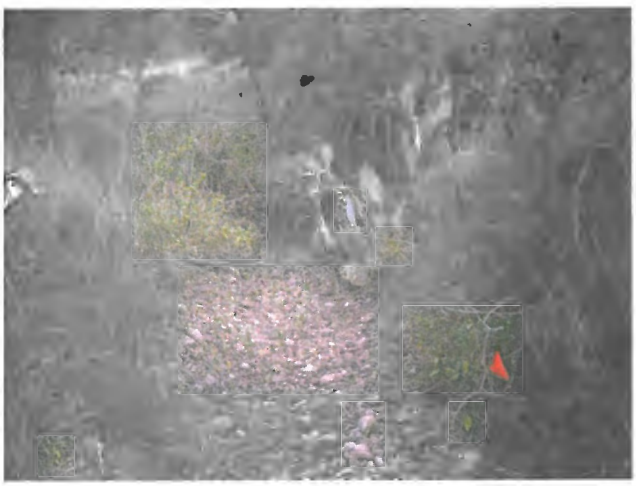
ES-9E

ESD-3

STREAM PHOTOGRAPHS

ESD-4 (Upstream)

ESD-4A



ESD-4B

STREAM PHOTOGRAPHS

IS-1

IS-1 (Confluence with OW-1)

APPENDIX C
SUMMARY OF MAPPED WATER FEATURES

Table C.1 - Summary of Mapped Water Features

Feature ID	Map ID	Cowardin Code[1]	HGM Code	Area (acres)	Length (feet)	Water Type[2]	Latitude	Longitude	Water of United States
Stream Features									
Dry Creek	3.2, 3.4	R4SB5	Riverine	1.72	6,264	RPW	29.9677	-97.6496	Yes
ES-1	3.5	R6	Riverine	0.07	567	NRPW	29.9537	-97.6630	Yes
ES-2	3.5, 3.6	R6	Riverine	0.45	3,452	NRPW	29.9576	-97.6649	Yes
ES-2A	3.6	R6	Riverine	0.01	116	NRPW	29.9553	-97.6575	Yes
ES-3	3.3	R6	Riverine	0.11	1,393	NRPW	29.9610	-97.6648	Yes
ES-4	3.3	R6	Riverine	0.09	1,245	NRPW	29.9621	-97.6622	Yes
ES-5	3.3	R6	Riverine	0.41	3,258	NRPW	29.9655	-97.6658	Yes
ES-5A	3.3	R6	Riverine	0.06	532	NRPW	29.9650	-97.6662	Yes
ES-5B	3.3	R6	Riverine	0.01	135	NRPW	29.9645	-97.6637	Yes
ES-6	3.3	R6	Riverine	0.08	959	NRPW	29.9681	-97.6606	Yes
ES-7	3.1	R6	Riverine	0.23	1,414	NRPW	29.9719	-97.6660	Yes
ES-7A	3.1	R6	Riverine	0.02	226	NRPW	29.9720	-97.6663	Yes
ES-8	3.1	R6	Riverine	0.06	432	NRPW	29.9773	-97.6650	Yes
ES-9	3.5	R6	Riverine	0.41	2,453	NRPW	29.9544	-97.6698	Yes
ES-9A	3.5	R6	Riverine	0.04	306	NRPW	29.9551	-97.6706	Yes
ES-9B	3.5	R6	Riverine	0.08	605	NRPW	29.9536	-97.6725	Yes
ES-9C	3.5	R6	Riverine	0.01	96	NRPW	29.9538	-97.6713	Yes
ES-9D	3.5	R6	Riverine	0.01	78	NRPW	29.9535	-97.6725	Yes
ES-9E	3.5	R6	Riverine	0.02	187	NRPW	29.9533	-97.6724	Yes
ES-9F	3.5	R6	Riverine	0.02	148	NRPW	29.9531	-97.6726	Yes
ESD-1	3.4	R6	Riverine	0.35	1,878	NRPW	29.9627	-97.6493	Yes
ESD-2	3.4	R6	Riverine	0.14	1,065	NRPW	29.9633	-97.6519	Yes
ESD-2A	3.4	R6	Riverine	0.01	89	NRPW	29.9631	-97.6522	Yes
ESD-3	3.4	R6	Riverine	0.04	419	NRPW	29.9668	-97.6510	Yes
ESD-4	3.2	R6	Riverine	0.50	3,912	NRPW	29.9730	-97.6522	Yes
ESD-4A	3.2	R6	Riverine	0.03	252	NRPW	29.9733	-97.6541	Yes
ESD-4B	3.2	R6	Riverine	0.19	1,638	NRPW	29.9727	-97.6551	Yes
ESD-4C	3.2	R6	Riverine	0.01	115	NRPW	29.9729	-97.6555	Yes
ESD-4D	3.2	R6	Riverine	0.03	280	NRPW	29.9716	-97.6543	Yes
ES-10	3.3	R6	Riverine	0.01	105	NRPW	29.9639	-97.6596	Yes
ES-11	3.3	R6	Riverine	0.01	117	NRPW	29.9634	-97.6587	Yes
ES-12	3.3	R6	Riverine	0.02	127	NRPW	29.9620	-97.6590	Yes
IS-1	3.1, 3.3, 3.6	R4SB5	Riverine	2.22	10,017	RPW	29.9696	-97.6623	Yes
Open Water Features									
OW-1	3.4, 3.6	POW	Depressional	20.32	-	Impoundment	29.9590	-97.6541	Yes
OW-2	3.4	POW	Depressional	0.42	-	Impoundment	29.9613	-97.6549	Yes

Feature ID	Map ID	Cowardin Code[1]	HGM Code	Area (acres)	Length (feet)	Water Type[2]	Latitude	Longitude	Water of United States
OW-3	3.4	POW	Depressional	0.28	-	Impoundment	29.9600	-97.6503	Yes
OW-4	3.2	POW	Depressional	0.28	-	Isolated	29.9746	-97.6543	No
OW-5	3.3	POW	Depressional	0.17	-	Isolated	29.9675	-97.6598	No
OW-6	3.3	POW	Depressional	0.22	-	Impoundment	29.9606	-97.6639	Yes
OW-7	3.5	POW	Depressional	0.15	-	Impoundment	29.9534	-97.6715	Yes
OW-8	3.4	POW	Depressional	0.18	-	Isolated	29.9686	-97.6572	No
Wetland Features									
EW-1	3.6	PEM1	Lacustrine Fringe	0.04	-	RPWWD	29.9576	-97.6558	Yes
EW-2	3.4	PEM1	Lacustrine Fringe	0.62	-	RPWWD	29.9594	-97.6553	Yes
EW-3	3.4	PEM1	Lacustrine Fringe	0.18	-	RPWWN	29.9613	-97.6549	Yes
EW-4	3.4	PEM1	Lacustrine Fringe	1.71	-	RPWWD	29.9609	-97.6541	Yes
EW-5	3.4	PEM1	Lacustrine Fringe	1.63	-	RPWWD	29.9602	-97.6528	Yes
EW-6	3.4	PEM1	Lacustrine Fringe	0.38	-	RPWWD	29.9609	-97.6524	Yes
EW-7	3.4	PEM1	Lacustrine Fringe	2.10	-	RPWWD	29.9616	-97.6522	Yes
EW-8	3.4	PEM1	Lacustrine Fringe	1.18	-	RPWWD	29.9608	-97.6514	Yes
EW-9	3.4	PEM1	Lacustrine Fringe	0.21	-	RPWWD	29.9601	-97.6512	Yes
EW-10	3.4	PEM1	Lacustrine Fringe	0.11	-	RPWWD	29.9593	-97.6529	Yes
EW-11	3.4	PEM1	Lacustrine Fringe	0.37	-	RPWWD	29.9586	-97.6528	Yes
EW-12	3.6	PEM1	Lacustrine Fringe	0.04	-	RPWWD	29.9580	-97.6530	Yes
EW-13	3.6	PEM1	Lacustrine Fringe	0.37	-	RPWWD	29.9576	-97.6538	Yes
EW-14	3.4	PEM1	Lacustrine Fringe	0.06	-	RPWWN	29.9601	-97.6502	Yes
EW-15	3.4	RP2EM	Riverine	0.17	-	RPWWD	29.9629	-97.6521	Yes
EW-16	3.4	PEM1	Riverine	0.11	-	RPWWN	29.9655	-97.6500	Yes
EW-17	3.4	PEM1	Riverine	0.23	-	RPWWN	29.9665	-97.6496	Yes
EW-18	3.4	PEM1	Riverine	0.13	-	RPWWN	29.9684	-97.6485	Yes
EW-19	3.4	PEM1	Depressional	0.11	-	Isolated	29.9659	-97.6555	No
EW-20	3.2	PEM1	Lacustrine Fringe	0.24	-	Isolated	29.9746	-97.6543	No
EW-21	3.2	PEM1	Depressional	0.07	-	Isolated	29.9785	-97.6565	No
EW-22	3.2	PEM1	Depressional	0.02	-	Isolated	29.9790	-97.6564	No
EW-23	3.1	PEM1	Depressional	0.03	-	Isolated	29.9756	-97.6605	No
EW-24	3.1	PEM1	Depressional	0.09	-	Isolated	29.9751	-97.6607	No
EW-25	3.1	PEM1	Depressional	0.04	-	Isolated	29.9756	-97.6611	No
EW-26	3.1	PEM1	Depressional	0.08	-	Isolated	29.9753	-97.6612	No
EW-27	3.1	PEM1	Depressional	0.03	-	Isolated	29.9754	-97.6616	No
EW-28	3.1	PEM1	Depressional	0.02	-	Isolated	29.9741	-97.6608	No
EW-29	3.1	PEM1	Depressional	0.02	-	Isolated	29.9742	-97.6607	No
EW-30	3.1	PEM1	Depressional	0.02	-	Isolated	29.9742	-97.6604	No
EW-31	3.1	PEM1	Depressional	0.02	-	Isolated	29.9745	-97.6603	No
EW-32	3.1	PEM1	Depressional	0.04	-	Isolated	29.9744	-97.6597	No
EW-33	3.1	PEM1	Depressional	0.05	-	Isolated	29.9716	-97.6589	No

Feature ID	Map ID	Cowardin Code[1]	HGM Code	Area (acres)	Length (feet)	Water Type[2]	Latitude	Longitude	Water of United States
EW-34	3.3	PEM1	Lacustrine Fringe	0.08	-	Isolated	29.9676	-97.6598	No
EW-35	3.3	PEM1	Depressional	0.03	-	Isolated	29.9675	-97.6596	No
EW-36	3.3	PEM1	Depressional	0.01	-	RPWWN	29.9670	-97.6607	Yes
EW-37	3.3	RP2EM	Riverine	0.14	-	RPWWD	29.9671	-97.6614	Yes
EW-38	3.1	RP2EM	Riverine	0.21	-	RPWWD	29.9721	-97.6645	Yes
EW-39	3.3	RP2EM	Riverine	0.13	-	RPWWD	29.9646	-97.6642	Yes
EW-40	3.3	PEM1	Lacustrine Fringe	0.16	-	RPWWD	29.9606	-97.6641	Yes
EW-41	3.6	PEM1	Depressional	0.03	-	RPWWN	29.9578	-97.6585	Yes
EW-42	3.6	PEM1	Depressional	0.26	-	RPWWN	29.9573	-97.6586	Yes
EW-43	3.5	PEM1	Depressional	0.07	-	RPWWN	29.9531	-97.6673	Yes
EW-44	3.5	PEM1	Depressional	0.33	-	RPWWN	29.9527	-97.6669	Yes
EW-45	3.5	RP2EM	Riverine	0.16	-	RPWWD	29.9537	-97.6710	Yes
EW-46	3.5	PEM1	Lacustrine Fringe	0.16	-	RPWWD	29.9534	-97.6715	Yes
FW-1	3.4	PFO1	Lacustrine Fringe	0.40	-	RPWWD	29.9601	-97.6519	Yes
FW-2	3.4	PFO1	Lacustrine Fringe	0.16	-	RPWWD	29.9607	-97.6520	Yes
FW-3	3.4	PFO1	Lacustrine Fringe	0.13	-	RPWWD	29.9606	-97.6515	Yes
FW-4	3.4	PFO1	Lacustrine Fringe	0.07	-	RPWWD	29.9609	-97.6516	Yes
FW-5	3.4	PFO1	Lacustrine Fringe	0.10	-	RPWWD	29.9612	-97.6522	Yes
FW-6	3.2	RP1FO6	Riverine	0.15	-	RPWWN	29.9701	-97.6493	Yes
FW-7	3.2	RP1FO6	Riverine	0.03	-	RPWWN	29.9706	-97.6478	Yes
FW-8	3.5	PFO1	Depressional	0.20	-	RPWWN	29.9530	-97.6672	Yes
SSW-1	3.6	PSS1	Lacustrine Fringe	0.01	-	RPWWD	29.9573	-97.6554	Yes
SSW-2	3.6	PSS1	Lacustrine Fringe	0.22	-	RPWWD	29.9578	-97.6536	Yes
SSW-3	3.4	PSS1	Lacustrine Fringe	0.16	-	RPWWD	29.9586	-97.6526	Yes
SSW-4	3.4	PSS1	Lacustrine Fringe	0.55	-	RPWWD	29.9604	-97.6531	Yes

NOTES:

Latitude and Longitude are WGS 84, Decimal Degrees.

Cowardin Code[1]
PEM1 - Persistent, Emergent, Palustrine
PFO1 - Broad-Leaved Deciduous, Forested, Palustrine
POW - Open Water, Palustrine
PSS1 - Broad-Leaved Deciduous, Scrub-Shrub, Palustrine
R4SB5 - Mud, Streambed, Intermittent, Riverine
R6 - Ephemeral Streambed
RP1FO6 - Deciduous, Forested, Lotic, Riparian
RP2EM - Emergent, Lotic, Riparian

Water Type[2]
NRPW - Non-relatively permanent water
RPW - Relatively permanent water
RPWWD - Wetlands directly abutting relatively permanent water
RPWWN - Wetlands adjacent to but not directly abutting relatively

APPENDIX IID.2

SUMMARY OF WETLANDS DETERMINATION AND IDENTIFICATION FOR 130 ENVIRONMENTAL PARK FACILITY BOUNDARY AREA

Technically Complete October 28, 2014

Appendix IID.2 – Summary of Wetlands Determination and Identification for 130 Environmental Park Facility Boundary Area

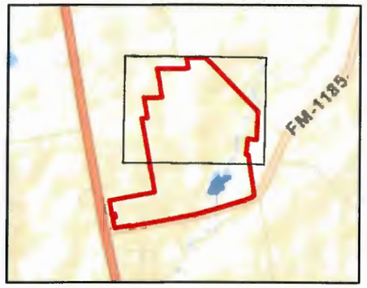
30 TAC §330.61(m)(2) requires that an application "include a wetlands determination under applicable federal, state, and local laws", and 30 TAC §330.61(m)(3) requires that an application "identify wetlands located within the facility boundary." The federal definition of "Wetlands", in USACE rules at 33 CFR §328.3(b), is "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." The state definition of "wetlands", set out at 30 TAC §307.3(a)(81) (as referenced at 30 TAC §330.3 (178)) is consistent with the federal definition; there are no other state requirements for wetlands determinations. There are no applicable local definitions or requirements for wetlands determinations. As described in Sections 2.0 and 3.0 of the waters of the U.S. and wetlands report included as Appendix IID.1, wetlands at and near the site were determined and identified in accordance with federal requirements using methods consistent with the USACE guidelines for wetland delineations per the "1987 Corps of Engineers Wetlands Delineation Manual" and the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)". Appendix IID.1 ("Waters of the United States Delineation Report and Wetlands Determination and Identification") provides the results of investigation to delineate waters of the United States (areas subject to U.S. Army Corps of Engineers jurisdiction under Section 404 of the federal Clean Water Act, including "jurisdictional wetlands") and to provide a wetlands identification and determination for the 1,229 acre tract that includes the 520 acre proposed facility boundary area for the 130 Environmental Park. A table summarizing the results of the investigation is included as Appendix C to Appendix IID.1.

Table IID.2-1 and Figure IID.2-1 in this appendix summarize information regarding those wetlands that are located within the proposed facility boundary. As shown, there are approximately 1.46 acres of wetlands located within the facility boundary, 0.49 acre of which are jurisdictional wetlands; and there are approximately 0.68 acre of wetlands within the area proposed for the new municipal solid waste landfill unit (landfill footprint), none of which is jurisdictional wetlands. As required by 30 TAC §330.61(m)(2) and §330.553(a), Appendix IID-3 addresses, for these 0.68 acre wetlands areas, each of the wetlands demonstrations identified in 30 TAC §330.553 (b)(1) - (5).

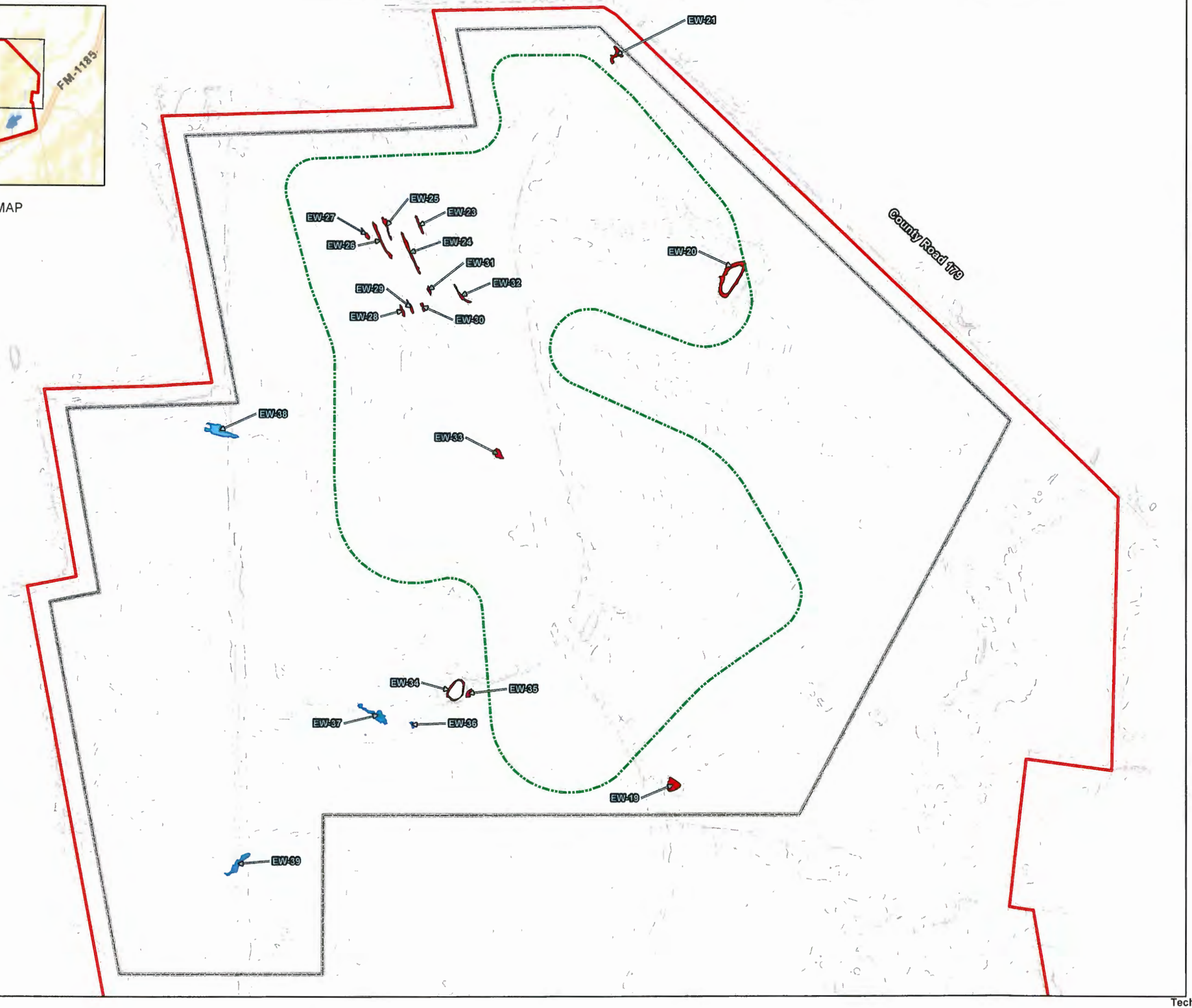
Table IID-2.1 – Wetlands Determination and Identification for 130 Environmental Park Facility Boundary Area

Wetlands Feature ID	Area (acres)	Within WM Unit Boundary	Section 404 Wetland[1]	Wetlands Within WM Unit Boundary (acres)
EW-19	0.11	No	No	NA
EW-20	0.24	Yes	No	0.24
EW-21	0.07	No	No	NA
EW-23	0.03	Yes	No	0.03
EW-24	0.09	Yes	No	0.09
EW-25	0.04	Yes	No	0.04
EW-26	0.08	Yes	No	0.08
EW-27	0.03	Yes	No	0.03
EW-28	0.02	Yes	No	0.02
EW-29	0.02	Yes	No	0.02
EW-30	0.02	Yes	No	0.02
EW-31	0.02	Yes	No	0.02
EW-32	0.04	Yes	No	0.04
EW-33	0.05	Yes	No	0.05
EW-34	0.08	No	No	NA
EW-35	0.03	No	No	NA
EW-36	0.01	No	Yes	NA
EW-37	0.14	No	Yes	NA
EW-38	0.21	No	Yes	NA
EW-39	0.13	No	Yes	NA
TOTALS	**1.46**		**0.49[3]**	**0.68**

Notes:
1 – Meets the definition of water of the United States under Section 404 of the Clean Water Act
2 – NA = not applicable
3 – No Section 404 wetlands within the Waste Management Unit Boundary



INSET MAP



N

0 300 600 1,200

SCALE IN FEET

Legend

- Property Boundary
- Waste Management Unit Boundary
- 130 Facility Boundary

Wetland Areas

- Wetland (Isolated)
- Wetland (WOUS)
- 2013 Aerial Topo

Notes:
1. April 2013 Aerial Topography
2."WOUS" - Waters of the United States

Project Title: 130 ENVIRONMENTAL PARK (TYPE I)
Project Number:
Date: 08/2013 AVO: 29520
Sheet Title: Figure IID.2-1
HALFF

Technically Complete October 28, 2014

APPENDIX IID.3

WETLANDS DEMONSTRATIONS

Technically Complete October 28, 2014

APPENDIX IID.3 – WETLANDS DEMONSTRATIONS

30 TAC §330.553(a) provides that "Municipal solid waste storage or processing facilities shall not be located in wetlands unless the owner or operator makes each of the demonstrations identified in subsection (b)(1) - (5) of this section."

Table IID.2-1 and Figure IID.2-1 in Appendix IID.2 summarize information regarding wetlands located within the proposed facility boundary. As shown, there is approximately 0.68 acre of wetlands within the area proposed for the new municipal solid waste landfill unit (landfill footprint), none of which is jurisdictional wetlands. These wetlands areas make up less than 0.4% of the 208-acre landfill unit area, are located in interior portions of the footprint area, and will be completely removed and filled as part of the landfill development and construction process prior to the deposition of waste.

Because the landfill unit will be located in wetlands, as required by 30 TAC §330.61(m)(2) and §330.553(a), this appendix addresses, for these 0.68 acre wetlands areas, each of the wetlands demonstrations identified in 30 TAC §330.553 (b)(1) - (5).

(b)(1) Where applicable under Clean Water Act, §404 or applicable state wetlands laws, the presumption that a practicable alternative to the proposed landfill or recovery operation is available that does not involve wetlands shall be clearly rebutted.

The requirement to rebut the presumption that a practicable alternative is available that does not involve wetlands is made applicable under Clean Water Act Section 404 by way of the Section 404(b)(1) guidelines as set out in 40 CFR §230.10(a); it is not applicable under any Texas state law. Under the Section 404(b)(1) guidelines, the rebuttal requirement applies to wetlands only if they are subject to jurisdiction under Section 404 ("jurisdictional wetlands"). Because none of the 0.68 acre of wetlands areas within which the landfill unit will be located is jurisdictional wetlands, this requirement does not apply and no demonstration is required.

(b)(2) The construction and operation of the municipal solid waste landfill unit…shall not:
(A) cause or contribute to violations of any applicable state water quality standard;

Because the wetlands within which the landfill unit is proposed to be located will be completely removed and filled as part of the landfill development and construction process prior to the deposition of waste in that area, the location of a small area of the landfill unit in current wetlands areas will not cause or contribute to violations of any applicable state water quality standard. In addition, there will be no discharges from the landfill unit other than permitted discharges of storm water that has not come in contact with solid waste in the landfill unit. As described in Part II, Appendix IIH, 130 Environmental Park, LLC will obtain Texas Pollutant Discharge Elimination System (TPDES) permit coverage for the 130 Environmental Park in accordance with 30 TAC §330.61(k)(3), and the facility will be operated in compliance with applicable TPDES standards and prohibitions. Therefore the construction and operation of the municipal solid waste landfill unit will not cause or contribute to violation of any applicable state water quality standard.

(B) violate any applicable toxic effluent standard or prohibition under the Clean Water Act, §307;

Toxic effluent standards and prohibitions have been promulgated by U.S. EPA under Clean Water Act §307 for various point sources and categories of discharges. There will be no discharges from the landfill unit other than permitted discharges of storm water that has not come in contact with solid waste in the landfill unit. As described in Part II, Appendix IIG, 130 Environmental Park, LLC will obtain Texas Pollutant Discharge Elimination System (TPDES) permit coverage for the 130 Environmental Park in accordance with 30 TAC §330.61(k)(3), and the facility will be operated in compliance with applicable TPDES standards and prohibitions. Therefore the construction and operation of the municipal solid waste landfill unit will not violate any applicable toxic effluent standard or prohibition under the Clean Water Act, §307.

(C) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973;

A discussion of endangered and threatened species and the bases for the conclusion that construction and operation of the landfill unit will not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat is referenced in Part II, Appendix IIE.

(D) violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

The Marine Protection, Research, and Sanctuaries Act of 1972 limits ocean dumping of waste and provides for the designation and protection of national marine sanctuaries. The landfill unit at 130 Environmental Park is located well over 100 miles from the nearest ocean (Gulf of Mexico) and well over 200 miles from the nearest national marine sanctuary (Flower Garden Banks offshore in the Gulf of Mexico). Because the construction and operation of the landfill unit will not result in any ocean dumping of waste and will not result in any adverse impacts to any marine sanctuary, the facility will not violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972.

(b)(3) The municipal solid waste landfill unit…shall not cause or contribute to significant degradation of wetlands. The owner/operator shall demonstrate the integrity of the landfill unit and its ability to protect ecological resources by addressing the following factors:

(A) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the landfill unit;

There is approximately 0.68 acre of wetlands within the area proposed for the new municipal solid waste landfill unit (landfill footprint). These wetlands areas make up less than 0.4% of the 208 acre landfill unit area, are located in interior portions of the footprint area, and will be completely removed and filled as part of the landfill development and construction process prior to the deposition of waste. As a result, the entire landfill will essentially be in upland areas. No native wetland soils, muds, and deposits will be used to support the landfill unit.

(B) erosion, stability, and migration potential of dredged and fill materials used to support the landfill unit;

There is approximately 0.68 acre of wetlands within the area proposed for the new municipal solid waste landfill unit (landfill footprint). These wetlands areas make up less than 0.4% of the 208 acre landfill unit area, are located in interior portions of the footprint area, and will be completely removed and filled as part of the landfill development and construction process prior to the deposition of waste. As a result, the landfill will be entirely in upland areas. No dredged and fill materials will be used to support the landfill unit.

(C) the volume and chemical nature of the waste managed in the landfill unit;

The landfill will be a Type I municipal solid waste disposal unit, with a disposal capacity of approximately 40 million cubic yards of waste. The major classifications of solid waste to be accepted at 130 Environmental Park include municipal solid waste, special waste, and Class 2 and 3 industrial wastes as defined by 30 TAC §330.3. Additional discussion regarding the types of waste accepted at the landfill is provided in Part II, Section 2.1.

(D) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

The landfill unit at 130 Environmental Park has been designed and will be constructed and operated to limit the potential for the release of solid waste from the unit. Daily cover, consisting of soil or an approved alternate daily cover material will be applied to the working face of the landfill. Intermediate cover will be applied to areas that will not receive additional waste for significant periods, and a final cover system will be installed on completed portions of the landfill. Construction activities at the landfill unit will be conducted in compliance with TPDES General Permit Number TXR150000, Storm Water Discharges Associated with Construction Activities, and a Storm Water Pollution Prevention Plan. (See Part II, Appendix IIG.) Accordingly, the potential for release of solid waste is considered highly unlikely. It is also unlikely that there will be any impacts on fish, wildlife, and other aquatic resources and their habitat from release of solid waste.

(E) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment;

There is approximately 0.68 acre of wetlands within the area proposed for the new municipal solid waste landfill unit (landfill footprint). These wetlands areas make up less than 0.4% of the 208 acre landfill unit area, are located in interior portions of the footprint area, and will be completely removed and filled as part of the landfill development and construction process prior to the deposition of waste. As a result, operation of the landfill will occur entirely in upland areas and the landfill unit will not be in a wetland area into which a catastrophic release of waste could occur.

(F) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

Because the wetlands within which the landfill unit is proposed to be located will be completely removed and filled as part of the landfill development and construction process prior to the deposition of waste in that area, no wetland will be present at that location of the landfill unit and it is not necessary to address any additional factors.

(b)(4) To the extent required under Clean Water Act, §404 or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (1) of this subsection, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands).

The requirement to avoid, minimize, and/or mitigate impacts to wetlands is made applicable under Clean Water Act Section 404 by way of the Section 404(b)(1) guidelines as set out in 40 CFR §230.10(d) and by way of USACE's permitting requirements at 33 CFR §325.1(c)(7); it is not applicable under any Texas state law. Under the Section 404(b)(1) guidelines and USACE's rules, to avoid, minimize and/or mitigate requirement applies to wetlands only if they are subject to jurisdiction under Section 404 ("jurisdictional wetlands"). Because none of the 0.68 acre of wetlands areas within which the landfill unit will be located is jurisdictional wetlands, this requirement does not apply and no demonstration is required.

(b)(5) Sufficient information shall be made available to the executive director to make a reasonable determination with respect to these demonstrations.

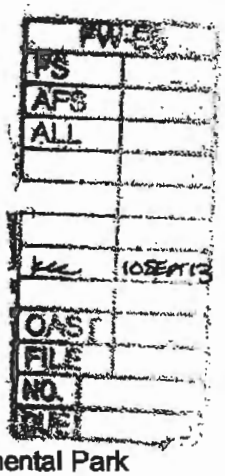
The foregoing information, together with other materials in the application as referenced above, provide sufficient information for the executive director to make a reasonable determination with respect to these demonstrations.

130 ENVIRONMENTAL PARK

APPENDIX IIE
ENDANGERED OR THREATENED SPECIES DOCUMENTATION

Technically Complete October 28, 2014

HALFF



August 30, 2013
AVO 29520

Mr. Adam Zerrenner
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin TX 78758

Re: Threatened and endangered species assessment for the proposed 130 Environmental Park in Caldwell County, Texas

Dear Mr. Zerrenner:

130 Environmental Park, LLC intends to permit, register and operate a new municipal solid waste facility in northern Caldwell County, Texas. The 130 Environmental Park will include a Type I municipal solid waste landfill and a Type V municipal solid waste transfer station. The site entrance will be located about one-quarter mile north of the intersection of US Highway 183 (US 183) and Farm-to-Market Road 1185 (FM 1185), on the east side of SH 130. The proposed facility is intended to provide waste disposal for the City of Lockhart, Caldwell County, and the surrounding areas.

The USGS Quadrangle Map for "Lockhart North, Texas" shows multiple stream channel segments and on-channel ponds on the property. All are part of the Dry Creek tributary system which flows into Plum Creek approximately five miles south of the property; all are part of the larger San Marcos River tributary system. Site investigations showed that streams on the property are consistent with what is mapped on the USGS map; numerous smaller tributaries not shown on the USGS map were also identified.

Attached is the Texas Parks and Wildlife Department (TPWD) Wildlife Habitat Assessment Program Questionnaire for Threatened and Endangered Species that was submitted to TPWD, with a preliminary site assessment included for listed species.

If you have any questions or require any additional information, please do not hesitate to call at (214) 346-6367.

NO ACTION
Date: 11SEPTEMBER 2013
Consultation #: 02ETAU00-2013-TA-0285
Approved by [signature] for TS 11SEP13
Adam Zerrenner, Field Supervisor
U.S. FISH & WILDLIFE SERVICE, AUSTIN, TEXAS

Sincerely,
HALFF ASSOCIATES, INC.

Russell Marusak
Environmental Scientist

C: Mr. Kenneth Welch, P.E. – Biggs and Mathews Environmental
Mr. Ernest Kaufmann – 130 Environmental Park, LLC

HALFF ASSOCIATES, INC.
1201 NORTH BOWSER ROAD
RICHARDSON, TX 75081-2275
TEL (214) 346-6200
FAX (214) 739-0095
WWW.HALFF.COM

Technically Complete October 28, 2014

TEXAS PARKS & WILDLIFE

Life's better outside.®

November 11, 2013

Russell Marusak
Halff Associates, Inc.
1201 North Bowser Road
Richardson, TX 75081-2275

RE: 130 Environmental Park, LLC
Municipal solid waste facility, Caldwell County.

Dear Mr. Marusak:

Under section 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011, which can be found online at http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011. For tracking purposes, please refer to TPWD project number ERCS-7960 in any return correspondence regarding this project.

130 Environmental Park, LLC intends to permit, register and operate a new municipal solid waste facility in northern Caldwell County, Texas. The facility will include a Type I municipal solid waste landfill and a Type V municipal solid waste transfer station. The site entrance will be located about one-quarter mile north of the intersection of US 183 and FM 1185, on the east side of SH 130. The proposed facility is intended to provide waste disposal for the City of Lockhart, Caldwell County, and the surrounding areas.

The proposed project will be located on an approximately 520 acre tract within a 1,229 acre tract of land. A gatehouse and scales will be constructed at the facility boundary. Additional facilities will include an office, maintenance area, citizen convenience center, reusable materials staging area, and truck wheel wash. The landfill footprint will cover approximately 212 acres and is intended to provide about 50 years of site life.

Vegetation Impacts

After review of aerial imagery it appears that woody vegetation would be impacted by the proposed project.

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

Recommendation: TPWD recommends that clearing of mature, native trees be avoided. Loss of vegetation should be minimized by using site planning and construction techniques designed to avoid and preserve existing trees, shrubs, grasses, and forbs. For impacts that are unavoidable, TPWD recommends transplanting the existing trees or replacing them at a ratio of 3 saplings for every tree lost. Whether transplanted or replaced, a survival of 85% should be achieved. TPWD recommends that native plant and forage species that are beneficial to wildlife endemic to the area be used in mitigation and landscaped areas.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides for a year round closed season for non-game birds and prohibits the taking of migratory bird nests and eggs, except as permitted by the U.S. Fish and Wildlife Service.

Recommendation: Construction activities such as, but not limited to, tree felling as well as vegetation clearing, trampling, or maintenance should occur outside the April 1- July 15 migratory bird nesting season of each year the project is authorized and lasting for the life of the project. To comply with the MTBA, the proposed site should be surveyed for migratory bird nest sites prior to construction or future maintenance activities. Since raptors nest in late winter and early spring, all construction activities as identified above should be excluded from a minimum zone of 100 meters around any raptor nest during the period of February 1- July 15.

Please contact the U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office at (505) 248-6879 for further information.

Parks and Wildlife Code

Texas has listed additional animal species not protected by the Endangered Species Act as "State-Threatened" (ST). Any take (incidental or otherwise) of ST animals is prohibited. However, state law only protects the species, and not its habitat. The ST species may only be handled/relocated by permitted individuals authorized by TPWD. There are penalties and restitution values associated with unauthorized take of state-listed species.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence.

The Texas Natural Diversity Database (TXNDD) is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative

inventory of rare resources in the state. Absence of information in the database does not imply that a species is absent from that area. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presences, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and **cannot be used as presence/absence data**. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously based on new, updated and undigitized records; for questions regarding a record, please contact TexasNatural.DiversityDatabase@tpwd.texas.gov.

According to the TXNDD no known occurrences of threatened or endangered species have been recorded near (within 1.5 miles) of the proposed project.

TPWD County Lists

The TPWD county lists for rare species may be obtained from the following link: http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/. These lists provide information regarding rare species that have potential to occur within each county. Rare species could potentially be impacted if suitable habitat is present at or near the project site.

Recommendation: TPWD recommends using the county lists of rare species, the portions of the proposed project with potential to support rare species should be field surveyed to determine the extent and quality of the suspect habitat and potential impacts.

Recommendation: If rare species or their habitat would be impacted by the proposed project, TPWD recommends that the applicant should coordinate with TPWD and the USFWS, as appropriate, to determine avoidance, minimization, and mitigation strategies.

Recommendation: TPWD recommends that construction crews should be informed of the rare species that have potential to occur in the project county and should avoid disturbance to sensitive species if encountered during construction. Only personnel with a TPWD scientific collection permit are allowed to handle and move state listed species. For further information on the required permit please contact Chris Maldonado at (512) 389-4647.

Comment: Further consultation with TPWD would be warranted upon detection of a Texas listed rare, threatened, or endangered species within or near the proposed project at any time prior to or during construction.

Revegetation

Recommendation: TPWD recommends that 130 Environmental Park, LLC reseed disturbed soils with a mixture of grasses and forbs native to Caldwell County. To enhance native grasses available to wildlife in the project area TPWD recommends that Bermuda grass be avoided to the extent possible in reseeding efforts, though TPWD understands that slopes may require certain grasses to control erosion. As an introduced species that can be extremely invasive, its use in federally funded projects may be inconsistent with Executive Order 13112 on Invasive Species.

For assistance in determining the best native seed mix for the project area, please contact our staff. Runoff control measures should be maintained until native plants have been reestablished on disturbed areas.

TPWD appreciates the efforts of 130 Environmental Park, LLC to coordinate with TPWD on the impacts to fish and wildlife resources and looks forward to continued cooperative efforts. Please contact TPWD staff, Amy Turner, Ph.D., Wildlife Habitat Assessment Biologist, at (361) 576-0022 if you have any questions or need additional assistance.

Sincerely,

Amy Turner

Amy Turner, Ph.D.
Wildlife Habitat Assessment Program
Wildlife Division

AJT:ERS-7960

HALFF

August 30, 2013
AVO 29520

Dr. Amy Tumer
Texas Parks and Wildlife Department
Wildlife Division
4200 Smith School Road
Austin, TX 78744-3291

Re: Threatened and endangered species assessment for the proposed 130 Environmental Park in Caldwell County, Texas

Dear Dr. Turner:

130 Environmental Park, LLC intends to permit, register and operate a new municipal solid waste facility in northern Caldwell County, Texas. The 130 Environmental Park will include a Type I municipal solid waste landfill and a Type V municipal solid waste transfer station. The site entrance will be located about one-quarter mile north of the intersection of US Highway 183 (US 183) and Farm-to-Market Road 1185 (FM 1185), on the east side of SH 130. The proposed facility is intended to provide waste disposal for the City of Lockhart, Caldwell County, and the surrounding areas.

The USGS Quadrangle Map for "Lockhart North, Texas" shows multiple stream channel segments and on-channel ponds on the property. All are part of the Dry Creek tributary system which flows into Plum Creek approximately five miles south of the property; all are part of the larger San Marcos River tributary system. Site investigations showed that streams on the property are consistent with what is mapped on the USGS map; numerous smaller tributaries not shown on the USGS map were also identified.

Attached is the Texas Parks and Wildlife Department Wildlife Habitat Assessment Program Questionnaire for Threatened and Endangered Species, with a preliminary site assessment included.

If you have any questions or require any additional information, please do not hesitate to call at (214) 346-6367.

Sincerely,
HALFF ASSOCIATES, INC.

Russell Marusak
Environmental Scientist

C: Mr. Kenneth Welch, P.E. – Biggs and Mathews Environmental
Mr. Ernest Kaufmann – 130 Environmental Park, LLC

HALFF ASSOCIATES, INC.
1201 NORTH BOWSER ROAD
RICHARDSON, TX 75081-2275
TEL (214) 346-6200
FAX (214) 739-0095
WWW.HALFF.COM

HALFF

August 30, 2013
AVO 29520

Mr. Adam Zerrenner
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin TX 78758

Re: Threatened and endangered species assessment for the proposed 130 Environmental Park in Caldwell County, Texas

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Attached is the Texas Parks and Wildlife Department (TPWD) Wildlife Habitat Assessment Program Questionnaire for Threatened and Endangered Species that was submitted to TPWD, with a preliminary site assessment included for listed species.

If you have any questions or require any additional information, please do not hesitate to call at (214) 346-6367.

Sincerely,
HALFF ASSOCIATES, INC.

Russell Marusak
Environmental Scientist

C: Mr. Kenneth Welch, P.E. – Biggs and Mathews Environmental
Mr. Ernest Kaufmann – 130 Environmental Park, LLC

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1201 NORTH BOWSER ROAD
RICHARDSON, TX 75081-2275
TEL (214) 346-6200
FAX (214) 739-0095
WWW.HALFF.COM

WILDLIFE HABITAT ASSESSMENT PROGRAM
QUESTIONNAIRE FOR
THREATENED AND ENDANGERED SPECIES

AS ATTACHED TO LETTERS DATED AUGUST 30, 2013 TO:
TEXAS PARKS AND WILDLIFE DEPARTMENT
AND
U.S. FISH AND WILDLIFE SERVICE

TEXAS PARKS & WILDLIFE

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests

(Including Threatened and Endangered Species)

Name: Russell Marusak Date: August 30, 2013

Your Company: Halff Associates, Inc. Phone: 214.346.6367

Your Company Address: 1201 North Bowser Road Fax: 214.739.0095

City, State, Zip: Richardson, TX 75081 Email: rmarusak@halff.com

Project Title, Number and Site Location: 130 Environmental Park, Caldwell County, Texas County(ies): Caldwell

1) Scope of the Project:

(a) What regulations will this review help you to comply with? Or, if not regulatory, why is the review being requested? Who is the project sponsor?

130 Environmental Park (Project) will be permitted in accordance with 30 Texas Administrative Code (TAC) Chapter 330 Municipal Solid Waste Management Regulations. The Texas Commission on Environmental Quality (TCEQ) is the agency responsible for permitting and regulating municipal solid waste facilities.

The TCEQ requires an applicant to address protection of endangered and threatened species and document coordination with the applicable state and federal agencies regarding the Endangered Species Act in accordance with the following regulations:

- 30 TAC §330.61 (n)(1) and §330.551(a) The owner or operator shall consider the impact of a solid waste disposal facility upon endangered or threatened species. The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.
- 30 TAC §330.61(n)(2) For landfill applications, the owner or operator shall submit Endangered Species Act compliance demonstrations as required under state and federal laws and determine whether the facility is in the range of endangered or threatened species. If the facility is located in the range of endangered or threatened species, the owner or operator shall have a biological assessment prepared by a qualified biologist in accordance with standard procedures of the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department to determine the effect of the facility on the endangered or threatened species. Where a previous biological assessment has been made for another project in the general vicinity, a copy of that assessment may be submitted for evaluation. The United States Fish and Wildlife Service and the Texas Parks and Wildlife Department shall be contacted for locations and specific data relating to endangered and threatened species in Texas.
- 30 TAC §330.157 A facility and the operation of the facility must not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. Facilities must be operated in conformance with any endangered or threatened species protection plan required by the commission. The site operating plan should contain criteria for the protection of any identified endangered species.

(b) What and where is the project site? What activities will be conducted at the site? (Especially activity types, extent boundaries, length & width, waterways vegetation disturbance, and total acreage of site and acreage of the site that will be disturbed.)

130 Environmental Park, LLC intends to permit, register and operate a new municipal solid waste facility in northern Caldwell County east of State Highway 130 (SH130) (**Figure 1** and **Figure 2**). The site entrance will

be located about one-quarter mile north of the intersection of US Highway 183 (US 183) and Farm-to-Market Road 1185 (FM 1185), on the east side of SH 130.

130 Environmental Park, LLC will locate the proposed 130 Environmental Park, consisting of a permit boundary of approximately 519.746 (approximately 520) acres within a 1,229 acre tract of land. The 130 Environmental Park will include a Type I municipal solid waste landfill facility and a Type V municipal solid waste transfer station. Refer to **Drawing I** – General Site Plan (Biggs and Mathews, 2013) for the property boundary and permit boundary. The overall property consists of gently undulating grasslands with limited forest cover. The property generally slopes to the south. The major topographic feature of the property is the Soil Conservation Service Site 21 Reservoir on Dry Creek; Dry Creek traverses the property in a northeast to southwest direction (**Figure 3**), entering Plum Creek approximately five miles south of the property. Plum Creek flows in a southeast direction, entering the San Marcos River about 23 miles downstream from the property. The permit boundary is located in the northern portion of the property, northwest of Dry Creek. Portions of the permit boundary along Dry Creek and unnamed tributaries are located within the limits of the 100-year floodplain, however, the entirety of the landfill footprint, processing and/or storage units, and entrance facilities will be located outside of the 100-year floodplain.

The landfill facility will be accessed from northbound US 183 through an entrance road. A gatehouse and scales will be provided within the facility boundary. Additional facilities will include an office, maintenance area, citizen convenience center, reusable materials staging area, and truck wheel wash. The landfill footprint will cover approximately 212 acres and is intended to provide about 50 years of site life. The landfill and attendant facilities would be strategically located on the property to minimize the disturbance to upland woodlands, riparian corridors, creeks, and wetlands identified on the property.

(c) If this request is for a site investigation or risk assessment, why is the site being investigated? If applicable, what containment pathways are being evaluated?
Not applicable.

(d) Schedule of activities – Approximately when (which calendar month, how many years) will the project be active on the site?
A schedule for construction of the proposed facilities has yet to be determined.

2) Vegetation: Species, dominant plants, structure and composition, vegetation layers, height of layers, natural vegetation community types.

According to the Level Three Ecoregions of Texas, the site is located where the Texas Blackland Prairies transition to the East Central Texas Plains. The Texas Parks and Wildlife Department (TPWD) Texas Ecological Systems Classification identifies numerous vegetation types within the property boundary including: Blackland Prairie, Disturbance or Tame Grassland; Central Texas, Floodplain Deciduous Shrubland; Central Texas, Floodplain Hardwood Forest; Central Texas, Floodplain Herbaceous Vegetation; Central Texas, Riparian Deciduous Shrubland; Central Texas, Riparian Hardwood Forest; Native Invasive, Deciduous Woodland; Native Invasive, Mesquite Shrubland; Open Water; Post Oak Savanna, Post Oak Motte and Woodland; and Post Oak Savanna, Savanna Grassland (**Figure 4**). Site investigations confirmed that existing site conditions are generally consistent with the TPWD Ecological Classifications.

These different classifications can be grouped into four general classifications for purposes of describing dominant vegetation: post oak-cedar elm woodlands; mesquite thicket; grassland pasture; and pond/wetlands. Maintained utility rights-of-way and interior roads depict a transition between woodland and grassland types, with layer development dependent on the most recent maintenance cycle.

The woodland communities are dominated by post oak (*Quercus stellata*) and cedar elm (*Ulmus crassifolia*). exas persimmon (*Diospyros texana*) is common within this community type; agarita (*Mahonia trifoliolata*),

slimleaf panicgrass (*Dichanthelium linearifolium*), and prickly pear cactus species (*Opuntia* sp.) are also common in the understory. Prickly pear specimens can get quite large and occupy a large volume of the understory layer. Mesquite thickets are dominated almost exclusively by mesquite (*Prosopis glandulosa*) in the tree and shrub layer. Prickly pear and Texas wintergrass (*Nassella leucotricha*) are common understory species. The levee and emergency spillway of the large impoundment comprise the majority of the grassland communities; edge habitats associated with utility corridors and interior access roads may also be included in this type. Ponds are scattered across the property, with the largest centrally located near the southern property boundary. Wetland communities identified are mostly associated with the emergent fringes of these impoundments; smaller features associated with old meanders of Dry Creek, as well as upland terrace depressions were also identified.

3) **Other Natural Resources/Physical Features:**
(a) Soils, geology, watercourses, aquifers, flood zones, etc.

According to the Natural Resource Conservation Service Soil Data Mart, the following soils are mapped within the property boundary. A map (**Figure 5**) of the soils is attached.

Soil Id	Soil Series	Topography	Available Water Capacity	Drainage Class	Flooded	Ponded
BuB	Burleson Clay	1-3% slopes	Moderate	Moderately Well Drained	No	No
CfB	Crocket fine sandy loam	1-3% slopes	Moderate	Moderately Well Drained	No	No
CrC2	Crockett soils	2-5% slopes, eroded	Moderate	Moderately Well Drained	No	No
CrD3	Crockett soils	3-8% slopes, eroded	Moderate	Moderately Well Drained	No	No
DAM	Dams	---	---	---	---	---
FeE	Fett gravelly soils	1-12% slopes	Low	Somewhat Poorly Drained	No	No
HeC2	Heiden clay	3-5% slopes, eroded	Moderate	Well Drained	No	No
HmB	Heiden-Wilson complex	1-3% slopes	Moderate	Well Drained/ Moderately Well Drained	No	No
HoC2	Houston Black clay	3-5% slopes, eroded	Moderate	Moderately Well Drained	No	No
MaA	Mabank loam	0-1% slopes	Moderate	Moderately Well Drained	No	No
MaB	Mabank loam	1-3% slopes	Moderate	Moderately Well Drained	No	No
Ts	Tinn soils, frequently flooded	0-1 % slopes	High	Moderately Well Drained	Yes	No
W	Water	---	---	---	---	---
WgC	Wilson gravelly loam	1-5% slopes	Moderate	Moderately Well Drained	No	No

The majority of the study area is mapped as Fett gravelly soils and Wilson gravelly loam (soil map symbols FeE and WgC). The Tinn soil unit (map symbol Ts) is associated with the floodplains of the larger drainages across the property, and typically floods more than once a year. None of the listed soils are considered hydric soils according to the USDA Soil Data Mart. However, the database shows that Tinn Soils, frequently flooded unit and the Mabank loam 0-1% slopes unit contain unnamed minor components located in depressions that may meet hydric criteria, based on ponding and/or flooding.

Dry Creek is the primary drainage that with a network of smaller tributaries, traversing the eastern half of the property. Another substantial tributary of Dry Creek crosses the property in a north to south manner; this tributary and its network of smaller tributaries drain the western half of the property. Both of these tributaries are impounded by a substantial impoundment structure. USGS maps show a riser elevation of 500 feet above mean sea level (amsl) which maintains a pond size of approximately 27 acres. The emergency spillway elevation at 517 feet amsl suggests an impoundment area over 380 acres, an area which extends beyond the northeast property boundary. Two other headwater tributaries are located in the southwestern corner of the property. In addition to the array of tributaries on the property, several smaller man-made ponds are scattered about the property to provide water for livestock.

According to the Flood Insurance Rate Map (FIRM) published by the National Flood Insurance Program, Dry Creek is mapped with a wide floodplain across the length of the study area. The western tributary of Dry Creek has a narrower floodplain, while the remaining tributaries have an even narrower floodplain consistent with their stream courses observed on aerial photography. The overbank areas of Dry Creek and its tributaries are located within the 1% chance annual flood hazard zone with base elevations determined (Zone AE). The remainder of the study area is mapped as determined to be outside of the 0.2% annual chance flood. A map (**Figure 6**) showing the limits of the floodplain on recent aerial photography is attached.

(b) Habitat, animals, animal assemblages, other sensitive features, etc.

A site investigation was conducted in June and July 2013. Cattle are a minor presence on the property, consisting of a small herd that concentrates in the southern portion of the site. Interior access roads and utility corridors provide different edge habitats, and whitetail deer, turkey, and feral hogs were seen on several days at various times of the day during the site investigation. A number of stock ponds are scattered about the site, including one substantial impoundment feature on the southern portion of the site. Black-bellied whistling ducks were observed in late June at some of the smaller ponds. Different heron and egret species, as well as occasional roseate spoonbills, were observed daily at the larger impoundment.

4) **Existing Site Development: Extent of pavement, gravel, shell, or other cover; buildings, landscaped, xeriscaped, drainage system, etc.**

With the exception of ranch access roads, the site is vegetated and utilized as pasture. In many instances, less traveled access roads were fully vegetated. The only other buildings included occasional barn or corral structures used for the cattle operation.

5) **Historic Use/Function of Site: Pasture, forest, urban, row crops, rangeland, wetland, etc. If the request is for a risk assessment, when was, or for how long, has the site been active, inactive? Are cultural resources present on the site or will the project cross or impact state or federal lands, local parklands?**

The property has been historically used as pasture and ranchland dating back at least to the late 1930s. No waste disposal activities have occurred on the site and no permitting or construction permit approvals have been received or applied for.

TEXAS PARKS & WILDLIFE

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests (Continued)

(Including Threatened and Endangered Species)

6) **Has a threatened and endangered species survey or assessment, wetland delineation, or other biological assessment already been performed? (In general, TPWD recommends an on-site habitat assessment be performed.)** ☒**Yes** ☐**No**

(a) If yes, provide surveyor name, qualifications, methods or protocols acreages surveyed, level of effort, weather conditions, time of day, and dates the survey was performed.

Prior to conducting the field investigation, the most current species lists from the U.S. Fish and Wildlife Service (USFWS) and TPWD were obtained. Also, a waters of the United States and wetland delineation was conducted over several days in June and July 2013 to delineate the present-day extent of waters of the United States (including Section 404 jurisdictional wetlands) and non-jurisdictional wetlands, on the property. Site conditions were clear, dry, and temperate. To intersect potential wetland areas, transects were established perpendicular to the hydrological gradients of the Dry Creek tributary system, which represents the major drainage in the property. Transects were generally aligned from west to east, with north to south transects included for secondary tributaries. Multiple wetland data points were recorded, documenting vegetation, hydrology, and soil characteristics along each transect. The collection of wetland data points was consistent with the USACE guidelines for wetland delineations per the "1987 Corps of Engineers Wetlands Delineation Manual," in addition to the "Final Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region", and also allowed for the identification of non-jurisdictional wetlands. Although the site inspection was specific to procedures for wetland delineations, these procedures allowed for a thorough reconnaissance of the property, allowing observations for consecutive days over several weeks. The collection and classification of vegetation and hydraulic conditions on the site allowed for an assessment of federal- and state-listed threatened and endangered species and their habitat, as well as potential for occurrence on the property. Results of this preliminary assessment are attached as an internal memorandum to the landfill engineer.

The majority of the site investigation was conducted by Mr. Danny Griffith, Mr. Brandyn Littleton, Mr. Josh Troegle, and Mr. Brian Boe of Halff Associates, Inc. (Halff). Mr. Russell Marusak provided planning and coordination oversight of the investigation team, and conducted field reviews during the delineation process. Together, the investigation team has extensive experience all over the state in conducting wetland delineations and general habitat assessments. As the team leader, Mr. Marusak is an Environmental Scientist and an ISA Certified Arborist who has extensive experience in endangered species coordination, primarily associated with Department of the Army Section 404 permits. Mr. Marusak has coordinated with Mr. Omar Bocanegra, a Staff Biologist with the USFWS Branch Office in Arlington, Texas on numerous endangered species issues in the Dallas-Fort Worth area, most notably those involving the interior least tern. He has also worked with Ms. Edith Erfling in the Houston Clear Lake Office on matters involving the bald eagle.

(b) If yes, please provide results and copy of survey/assessment report.

Please see attached report summarizing the results of a listed species review and assessment of existing site conditions.

7) **Could current on-site or adjacent habitat support rare species?** ☒**Yes** ☐**No**
Specifically, explain why or why not.

In the vicinity of the site, State-listed rare species, or species of concern include the Arctic peregrine falcon, Henslow's sparrow, mountain plover, western burrowing owl, cave myotis bat, plains spotted skunk, Guadalupe bass, Guadalupe darter, squawfoot (a mollusk), spot-tailed earless lizard, and three plant species. It should be noted that none of these species was observed during the site investigation. The current habitat could support the spotted plains skunk and spot-tailed earless lizard given the general habitat requirements for these species. Given the association with post oak communities and the proximity of the site to Carizo Sand outcrops to the east, there is limited potential for the green beebalm and sandhill woolywhite to occur on site. The listed bird species generally required more open grassland habitats than what is currently found on

the site, and it is unlikely they would occur on the property. They aquatic species have flowing stream requirements which are not found on the property.

---

8) **Provide a description of potential negative direct and indirect impacts from proposed project activities or former and current site activities, such as types or habitat and acreage to be degraded or lost, temporarily and permanently. Also, describe cumulative effects that could be anticipated from the project on the natural environment.**

The landfill and transfer station would be located on the northern portion of the property, with the landfill to be centrally located between the two large tributary systems that cross the property. This location will minimize the disturbance to riparian corridors, creeks, and wetlands identified on the property. Furthermore, the landfill will be located in vegetation types identified as "native invasive" communities by a TPWD classification system, thereby minimizing impacts to post oak woodland communities along the western portion of the property, and the floodplain communities on the eastern portion of the property.

Impacts to post oak woodland communities would occur with the placement of an interior access road and attendant facilities; the alignment will focus on the minimization of impacts to multiple ephemeral streams that will be crossed by the road. Drainage design and controls for the access road and facilities will prevent a significant alteration of natural drainage patterns.

---

9) **Provide a description of planned beneficial mitigation and enhancement or restoration efforts. Be sure to note the avoidance, minimization, and compensatory mitigation measures planned to address the threat of negative impacts (e.g. which erosion control measures will be used, what will site restoration activities encompass, etc.).**

Because the landfill and transfer station facilities will not be located in wetlands areas subject to mitigation requirements under Section 404 of the Clean Water Act, the project has limited potential to impact waters of the United States as regulated under Section 404 of the Clean Water Act (including wetlands). If access road stream crossings require Section 404 permitting, consistent with goals of the Section 404 program, mitigation will first focus on avoiding and minimizing impacts to aquatic resources to the extent practicable. Final design will focus on avoiding and minimizing impacts to streams and other potential waters of the United States on the site. If compensatory mitigation is required, mitigation could focus on the preservation of undisturbed habitats or creation of additional areas on other portions of the property. Over the life of the project, general landscaping maintenance requirements would be implemented for overall aesthetics and to ensure soil and grade stabilization. A Species Protection Plan, describing measures that will be taken to avoid, minimize, and mitigate potential impacts to listed species, is attached to the Threatened and Endangered Species Review for the project.

---

10) **Include copies of coordination with other agencies relevant to impacts or enhancements of natural resources for the project & contact name.**

A Texas Natural Diversity Database (TXNDD) search conducted in July 2013 identified several plant and animal species which have historically occurred in adjacent USGS quadrangles to that which includes the study area. The TXNDD was searched for Element Occurrence Records (EORs) to determine if any reported sightings of species have occurred within the study area. No EORs were recorded for the USGS quadrangle which contains the study area.

---

11) **Clearly delineate exact location of site and its boundaries using an applicable USGS quad (most preferable) as the base layer or best map available. The topographic map citation should include the USGS quad name. The map must contain identifiable features and scale that allows us to find your**

site and accurately pinpoint your site boundaries. When using internet maps, provide both a location map (zoomed out for highway reference) and a layout map (zoomed in for site features, boundaries, and neighboring street reference).
See attached maps.

---

12) Originals or color-copy photographs of site and surrounding area with captions or narratives.
Representative photos of different vegetation communities identified and classified during the wetland delineation study have been provided. Additional photographs may be made available upon request.

---

13) Aerial photographs with pertinent features labeled. Aerials should show the year photograph was taken.
See attached imagery (**Figures 7, 8,** and **9**).

TEXAS PARKS & WILDLIFE

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests (Continued)

(Including Threatened and Endangered Species)

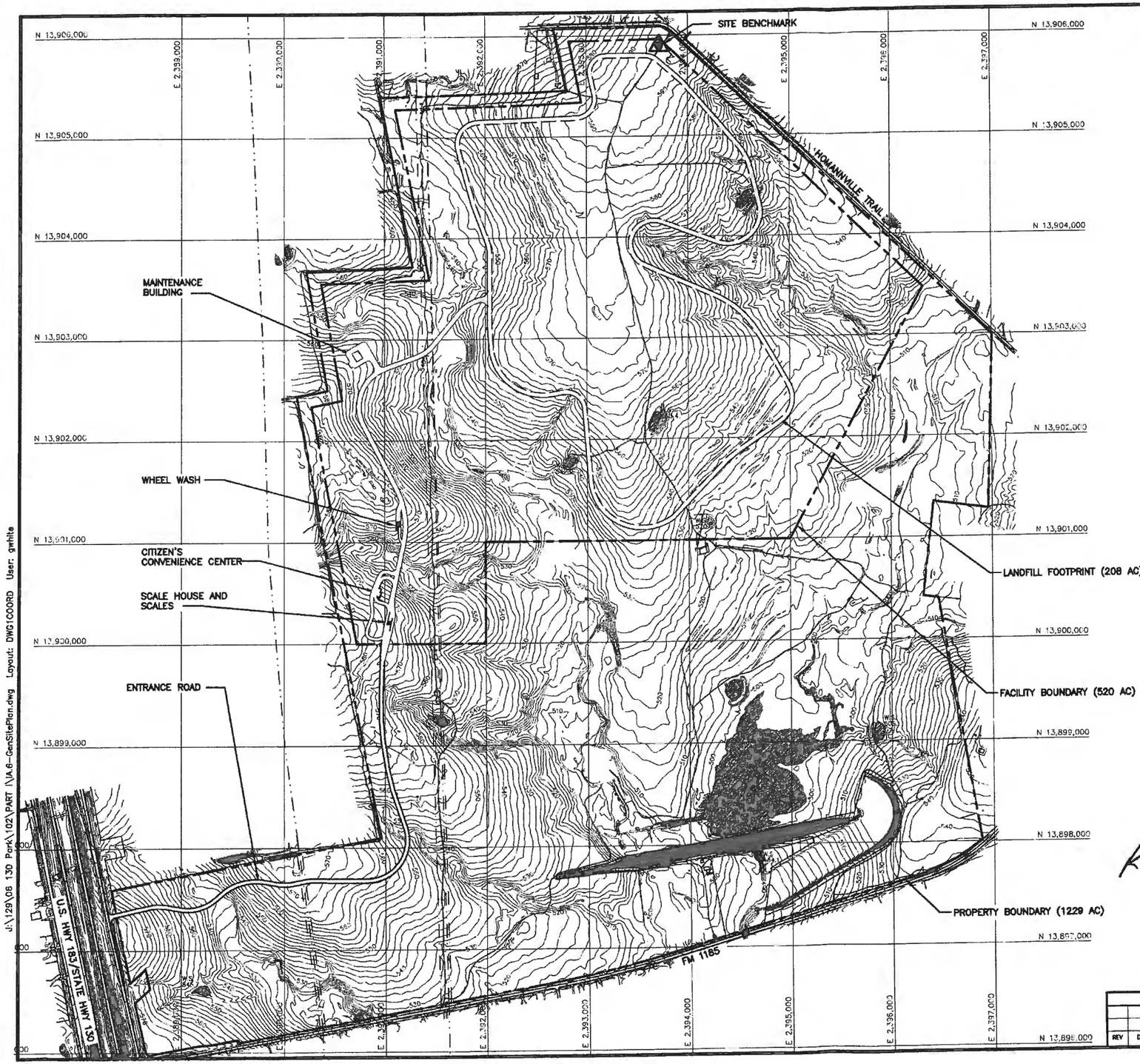
Send completed form to:

Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744-3291
(512) 389-4571 (Phone) (512) 389-4599 (Fax)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Section 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.

Drawing I – General Site Plan

(Biggs and Mathews, 2013)



J:\129\06 130 Park\102\PART IV\A.6-GenSitePlan.dwg Layout: DWG1COORD User: gwhite

0 500 1000
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FACILITY BOUNDARY
- LANDFILL FOOTPRINT
- SITE BENCHMARK
- 510 EXISTING CONTOUR
- N 6753000 STATE PLANE GRID
- EASEMENT LOCATION

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 – GEOID 12A.
2. REFER TO PART I, APPENDIX 1C FOR FACILITY BOUNDARY LEGAL DESCRIPTION.
3. THERE ARE NO WASTE DISPOSAL ACTIVITIES WITHIN THE FACILITY BOUNDARY THAT ARE NOT INCLUDED IN THIS PERMIT APPLICATION.
4. THERE ARE NO INTAKE/DISCHARGE STRUCTURES LOCATED WITHIN OR ASSOCIATED WITH THE FACILITY.
5. PERMANENT BENCHMARK INFORMATION:
   COORDINATES (NAD 83): N 13905896.44
   E 2393722.33
   LATITUDE: N 28°58'43.75"
   LONGITUDE: W 97°39'24.76"
   ELEVATION: 592.37 FT-MSL

STATE OF TEXAS
KENNETH J. WELCH
60773
REGISTERED
PROFESSIONAL ENGINEER
8/27/13

ISSUED FOR COORDINATION

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

GENERAL SITE PLAN

130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION

BIGGS & MATHEWS ENVIRONMENTAL
CONSULTING ENGINEERS
MANSFIELD • WICHITA FALLS
817-563-1144
TBPE FIRM NO. F-256 TBPG FIRM NO. 50222

DSN. KJW	DATE : 8/13	DRAWING
DWN. GLW	SCALE : GRAPHIC	1
CHK. KJW	DWG : IA.6-GenSitePlan.dwg	

Threatened and Endangered Species Review

(Halff, 2013)

THREATENED AND ENDANGERED SPECIES REVIEW

For:
130 Environmental Park

Prepared by:

HALFF ASSOCIATES, INC.

1201 NORTH BOWSER ROAD
RICHARDSON, TX 75081

TEL (214) 346-6200
FAX (214) 739-0095

WWW.HALFF.COM

AVO 29520

August 2013

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TABLES

APPENDICES

1.0 PURPOSE

Halff Associates (Halff) has been retained to provide to 130 Environmental Park, LLC a threatened and endangered species assessment for the proposed 130 Environmental Park in Caldwell County, Texas. The study area consists of approximately 1,229 acres and is located on the east side of State Highway (SH) 130/US 183 north of the City of Lockhart, Texas, extending from the intersection of US 183 and FM 1185 east to Homannville Trail. **Figure 1** shows the general project location with respect to larger metropolitan areas. **Figure 2** shows the location within Caldwell County and in relation to the City of Lockhart.

130 Environmental Park, LLC intends to permit and operate a new municipal solid waste facility in northern Caldwell County. The 130 Environmental Park will include a Type I municipal solid waste landfill facility and a Type V municipal solid waste transfer station. The purpose of this assessment is to evaluate and document the potential effects on federally- and state-listed species as a result of the proposed project, in support of Texas Commission on Environmental Quality (TCEQ) applications for the proposed project, pursuant to TCEQ rules at 30 TAC 330.61 (n)(1) and (2), 330.157, and 330.551.

2.0 THREATENED AND ENDANGERED SPECIES REGULATION

2.1 Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) has authority under the Endangered Species Act (ESA) to list and monitor the status of species whose populations are considered imperiled. The federal process identifies potential candidates based upon the species' biological vulnerability. The vulnerability decision is based upon many factors affecting the species within its range and is linked to the best scientific data available to the USFWS at the time. Species listed as threatened or endangered by the USFWS are provided full protection under the ESA including a prohibition of indirect take such as destruction of known critical habitat (i.e., areas formally designated by USFWS in the Federal Register). Candidate species are those the USFWS has enough information to warrant proposing them for listing but is precluded from doing so by higher listing priorities. Candidate species are not specifically protected by the ESA, and are not included in this biological evaluation, unless listed as a state protected species.

Biological assessments include one of three recommended determinations of effect on federally-listed endangered, and threatened species and their habitat: "no effect," "may affect, not likely to adversely affect," or "may affect, likely to adversely affect." These three possible determinations, in accordance with guidance offered by the USFWS for the purpose of Biological Assessments and Evaluations, are described below.

1. No effect – A "no effect" determination means that there are absolutely no effects from the proposed action, positive or negative, to listed species. A "no effect" determination does not include effects that are insignificant (small in size), discountable (extremely unlikely to occur), or beneficial.

2. May affect, not likely to adversely affect – A "may affect, not likely to adversely affect" determination may be reached for a proposed action where all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the effects and should not reach the scale where take occurs. Discountable effects are those that are extremely unlikely to occur.

3. May affect, likely to adversely affect – A "may affect, likely to adversely affect" determination means that all adverse effects cannot be avoided. A combination of beneficial and adverse effects is still "likely to adversely affect" even if the net effect is neutral or positive.

2.2 Texas Parks and Wildlife Code

Texas endangered species legislation in 1973 and subsequent amendments have established a state regulatory program for the management and protection of endangered species (i.e., species in danger of extinction) and threatened species (i.e., likely to become endangered within the foreseeable future). Chapters 67 and 68 of the Texas Parks and Wildlife Code authorize the Texas Parks and Wildlife Department (TPWD) to formulate lists of threatened and endangered fish and wildlife species and to regulate the taking or possession of the species. Under this statutory authority, the TPWD regulates the taking, possession, transport, export, processing, selling or offering for sale, or shipping of threatened or endangered species of fish and wildlife.

3.0 METHODS

For this biological assessment, the study area was determined by identifying the maximum area in which the proposed project may result in direct and indirect impacts in and around the project area. Both construction and operation phases of the project were considered. The study area was determined to extend to the limits of the property as shown on 2013 aerial photography (**Appendix A, Figure 3**). Although property boundaries are arbitrary to natural processes, the 1229-acre property boundary is considered to encompass more than any potential effects boundary (i.e. over-inclusive).

This assessment includes a review of current species lists from TPWD and USFWS for Caldwell County, Texas, and a search request from the Texas Natural Diversity Database (TXNDD). The TXNDD is a record of occurrences (sorted per USGS quadrangle) for rare plant and animal resources that is based upon the best available information to TPWD. The TXNDD data is to support determinations of potential species occurrence for the study area, and provide specific information where available. An absence in the TXNDD data is not equated to absence of a species in the study area. Halff personnel spent hundreds of man-hours investigating the study area in June and July 2013. This investigation included a pedestrian survey of the proposed project area and a windshield survey of publicly accessible areas in the vicinity of the project area.

Based on information gathered from the literature review and field reconnaissance, this assessment will first identify potential for occurrence within the study area for each species. For species that may occur within the study area, the conclusion of this assessment will include one of three recommended determinations of effect on federally-listed endangered or threatened species and their habitat: "no effect," "may affect, but not likely to adversely affect," or "may affect, likely to adversely affect." Because state-listed species are regulated in a different manner, the presence of potential habitat and potential impacts to state-listed species are addressed as to whether the project would result in the take of a state-listed species.

4.0 LISTED THREATENED AND ENDANGERED SPECIES

Table 1 lists species that are considered endangered or threatened by the USFWS and/or TPWD and whose geographic range may include any portion of Caldwell County. The estimate of the potential for a species to occur within the study area is based on analysis of habitat observed during field visits to the study area, the known habitat preferences for each species, and other factors as noted. There is no USFWS-designated critical habitat within the study area for any of the federally-protected species in **Table 1**. A discussion of each species' habitat, potential for occurrence within the study area and, for species that may occur within the study area, a determination of effect from the proposed project follows **Table 1**.

A TXNDD search conducted in July 2013 identified several species which have historically occurred in adjacent USGS quadrangles to that which includes the study area. The TXNDD was searched for Element Occurrence Records (EORs) to determine if any reported sightings of species have occurred within the study area. No EORs were recorded for the USGS quadrangle which contains the study area.

Table 1 - Endangered, Threatened, or Rare Wildlife Potentially in the Study Area

Common Name	Scientific Name	Listing Status[1]		Potential to Occur within Study Area?
		Federal	State	
BIRDS				
American peregrine falcon	*Falco peregrinus anatum*	DL	T	unlikely
Bald eagle	*Haliaeetus leucocephalus*	DM	T	unlikely
Whooping crane	*Grus americana*	E	E	unlikely
Wood stork	*Mycteria americana*		T	possible[2]
FISHES				
Blue sucker	*Cycleptus elongatus*		T	none
MAMMALS				
Red wolf	*Canis rufus*	E	E	very unlikely
MOLLUSKS				
False spike mussel	*Quadrula mitchelli*		T	unlikely
Golden orb	*Quadrula aurea*	C	T	possible
Texas fatmucket	*Lampsilis bracteata*	C	T	none
Texas pimpleback	*Quadrula petrina*	C	T	possible
REPTILES				
Cagle's map turtle	*Graptemys caglei*		T	none
Texas horned lizard	*Phrynosoma cornutum*		T	possible
Timber/canebrake rattlesnake	*Crotalus horridus*		T	possible

Sources: USFWS, 2013 and TPWD, 2012.

Notes:

1. **USFWS listing codes**: C = Candidate; DL = Delisted; DM = Delisted species that has recovered and is being monitored during the first five years of delisted status; E = Endangered (i.e., in danger of extinction); T = Threatened (i.e., severely depleted population that may become endangered); blank = no federal status. **TPWD listing codes**: E = Endangered; T = Threatened
2. Assumed to be a transient species, potentially migrating through the study area and using suitable habitat for stopovers.

4.1 Federal Listings

4.1.1 Peregrine Falcon

4.1.1.1 Habitat Description

The peregrine falcon (*Falco peregrinus*) nests on cliffs and in cliff-like areas near wetlands and water bodies. The American subspecies (*Falco peregrinus anatum*) breeds throughout the western United States, Canada, and Mexico, and in the Trans-Pecos region of Texas. This subspecies is not easily distinguished at a distance from the Arctic subspecies (*Falco peregrinus tundrius*), which breeds within the tundra regions of Alaska, Canada, and Greenland. Both subspecies migrate through Texas, and can be found seasonally along the Texas Gulf Coast. Species decline has been attributed to human disturbance, habitat loss, illegal shooting/collecting, and, most notably, past use of the pesticide dichloro-diphenyl-trichloroethane (DDT). The Arctic subspecies is no longer listed in Texas; however, because the subspecies are difficult to distinguish from one another, references are generally made at the species level.

4.1.1.2 Potential for Occurrence

Preferred habitat for these subspecies is absent within the study area, and there exists no potential for the area to be used for stopover during migration. It is unlikely that the peregrine falcon, including both subspecies, would occur on the site.

4.1.2 Bald Eagle

4.1.2.1 Habitat Description

In Texas, preferred bald eagle winter nesting habitat is along river systems or within 1-2 miles of large bodies of water. In Texas, bald eagle nesting typically occurs from October to July. Past threats to the species included reproductive failure due to pesticides, unrestricted taking by humans, and loss of habitat. Habitat loss continues to be a current threat to populations.

4.1.2.2 Potential for Occurrence

Bald eagles sightings are occurring more frequently, and may include a variety of aquatic habitats. Halff has observed nest sites and individuals near major reservoirs as well as nest

sites near a major stream in the absence of large open water body (i.e. lake or pond). It is reasonable to conclude that a bald eagle could use the large impoundment in the southern portion of the study area. However, the bald eagle is a commonly known species, and any presence in the area would be notable from frequently used interior access roads. No known sightings of the bald eagle have been reported on the site. Although the large pond may provide suitable habitat, it is unlikely that the bald eagle would occur in the study area.

4.1.3 Whooping Crane

4.1.3.1 Habitat Description

Preferred whooping crane habitat includes freshwater marshes, tidal flats, barrier islands, and wet prairies. Historically, the whooping crane occurred throughout most of North America. It was almost extirpated during the twentieth century due to habitat destruction and human disturbances. Whooping crane populations increased from a low of 18 in 1938-1939 to approximately 300 in 1990. Whooping cranes breed in the wetlands of Wood Buffalo National Park, Northwest Territory, Canada, and winter in the coastal wetlands of the Aransas National Wildlife Refuge in Aransas, Calhoun, and Refugio Counties, Texas,. Consistent with a USFWS publication addressing whooping cranes and transmission lines, the migration route may be described as a generally straight corridor extending north to south from West Central Canada to the Texas Gulf Coast. This north to south corridor is approximately 220 miles wide west to east, and the study area lies on the eastern edge of migration corridor. The main flight corridor, within which 85 percent of migrating whooping crane sightings has been made throughout its length from Canada to the Texas Gulf Coast includes the study area.

4.1.3.2 Potential for Occurrence

Whooping crane stopover sites have been known to include the shallow upstream flats of major reservoirs in the central Texas portion of their migration route. These types of habitats generally provide broad open inundated flats that provide suitable foraging opportunities. The large impoundment in the southern portion of the study area may contain some shallow aquatic habitats on the upstream end where Dry Creek, the primary drainage, enters the pond. However, these areas are relatively small and densely vegetated with emergent and floating aquatic species. The density of sightings in Texas is more diffuse compared to the central United States, with only a few sightings in the central Texas region. Sighting reports are much more common near the coast where the birds have reached the terminus of their migration.

Preferred habitat for this species is absent within the study area, and there exists no potential for the area to be used for stopover during migration. There are no records of observations of whooping cranes within the study area, and it is unlikely the whooping crane would use the impoundment of Dry Creek as a stopover site.

4.1.4 Red Wolf

4.1.4.1 Habitat Description

The red wolf was historically found throughout much of the eastern half of Texas. Typical habitat included woodlands and grasslands where suitable cover and den sites could be found.

4.1.4.2 Potential for Occurrence

Although suitable habitat may exist based on the description, it is thought to be extirpated throughout its range and it is very unlikely that the red wolf would occur in the study area.

4.1.5 Golden Orb

4.1.5.1 Habitat Description

Golden orb is known to occur in the San Antonio, Guadalupe, Colorado, Brazos, Nueces, and Frio River systems. Habitat includes sand and gravel in riverine settings; specimens have also been collected in mud at the bases of inundated trees on impoundments of larger stream systems.

4.1.5.2 Potential for Occurrence

It is reasonable to conclude that the Golden orb could be found in the large impoundment in the southern portion of the study area.

4.1.6 Texas Fatmucket

4.1.6.1 Habitat Description

Texas fatmucket is known to occur in the San Antonio, Guadalupe, and Colorado River systems, with habitat limited to streams and rivers of sand, mud, and gravel substrates. This species is considered intolerant of impoundment.

4.1.6.2 Potential for Occurrence

Given the reported intolerance to impoundment, it is unlikely that the large impoundment in the southern portion of the study area could be classified as suitable habitat. In the absence of perennial flowing streams, it is reasonable to conclude that the Texas fatmucket does not occur in the study area.

4.1.7 Texas Pimpleback

4.1.7.1 Habitat Description

Texas pimpleback is known to occur in the Guadalupe and Colorado River systems, including reports from the Llano, San Saba, and Pedernales Rivers. Habitat includes mud and gravel at slow flow rates, and may also extend to impoundments of larger streams.

4.1.7.2 Potential for Occurrence

It is reasonable to conclude that the Texas pimpleback could be found in the large impoundment in the southern portion of the study area.

4.2 State Listings

4.2.1 Wood stork

4.2.1.1 Habitat Description

The preferred habitat of the wood stork consists of low-lying wetland areas that may be seasonably flooded and/or drying. This stork forages in swamps, prairie ponds, wet meadows, flooded pastures or fields, ditches, and other shallow standing water, including coastal areas. This stork usually roosts communally in tall snags, sometimes in association with other wading birds (such as herons). Only seasonally drying wetlands (mostly in drying ponds) concentrate enough fish to provide the food that a pair of these big birds requires during the breeding season. The wood stork is not a federally-listed endangered species in Texas, but is listed by the USFWS in Alabama, Georgia, Florida, and South Carolina. The wood stork is a state-listed threatened species by TPWD.

4.2.1.2 Potential for Occurrence

Preferred habitat for this species would be limited to the larger impoundment found on the property. In addition to providing foraging habitat, the east side of the pond contains several

large snags that would be suitable for roosting or perching. No wood storks were observed during the field investigations; however, numerous other heron and egret species were observed perching in the snags, and wading in the shoreline wetland fringe. It is reasonable to conclude that the wood stork could use the large impoundment as a stopover site. The bird's potential use of the study area for migratory stopovers should be considered incidental relative to the large area regarded as their migration corridor and the common frequency of stock ponds within this migration corridor.

4.2.2 Blue Sucker

4.2.2.1 Habitat Description

The blue sucker is a large river fish that needs fast-moving water to survive. River substrates generally consist of exposed bedrock, in combination with hard clay, sand, and gravel. Adults winter in deep pools and move upstream to spawn on riffles. Impoundments to major streams are considered the biggest threat to the species.

4.2.2.2 Potential for Occurrence

In the absence of any perennial flowing streams on the property, it can be concluded that the blue sucker would not occur in the study area.

4.2.3 False Spike Mussel

4.2.3.1 Habitat Description

The false spike mussel inhabits substrates of cobble and mud, with water lilies present. This species is known to inhabit the Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins. The false spike mussel is possibly extirpated in Texas.

4.2.3.2 Potential for Occurrence

Although potential habitat may exist in the pond substrates, the species is potentially extirpated in Texas, and it is unlikely the species would occur in the study area.

4.2.4 Cagle's Map Turtle

4.2.4.1 Habitat Description

Known to some as the "green" map turtle to differentiate it from the similar Texas map turtle, Cagle's map turtle is endemic to the Guadalupe River—but can also be found in associated creeks and tributaries. Habitats are characterized with swift to moderate flow with gravel or cobble bottom, connected by deeper pools with a slower rate and silt or mud bottom. Riffle sequences are important prey habitats. TXNDD records indicate that the turtles were observed in the San Marcos River, a perennial flowing stream, approximately 15 miles southwest of the study area.

4.2.4.2 Potential for Occurrence

In the absence of any perennial flowing streams, it can be concluded that the Cagle's map turtle would not occur in the study area.

4.2.5 Texas Horned Lizard

4.2.5.1 Habitat Description

The historical range of the Texas horned lizard included the entire state in areas of flat, open terrain with scattered vegetation and sandy or loamy soils. Over the last several decades, declines have been linked to loss of habitat, over-collection by the pet trade, and the accidental introduction of the imported fire ant. Despite low numbers in east and central Texas, the Texas horned lizard is still locally common in portions of the Rio Grande Plains of south Texas, the Rolling and High Plains of northwest Texas and the Trans Pecos of far west Texas. According to TPWD habitat requirements, the Texas horned lizard can be found "in arid and semiarid habitats in open areas with sparse plant cover." Other habitat descriptions are similar and described as arid and semiarid open country with sparse plant growth, bunch grass, cactus, juniper, acacia, and mesquite. The ground may be of sand, loam, hardpan, or rock. TPWD Staff Herpetologists have suggested that dense herbaceous vegetation may be suitable habitat provided that there is no canopy (i.e. bunch grasses). As one moves further west in the state, Texas horned lizards may be more common as habitats change to Ashe juniper/mesquite cover types. These cover types are usually on rockier soils which are conducive to sparse plant growth in the herbaceous layer.

4.2.5.2 Potential for Occurrence

Almost all of the study area is heavily vegetated with either oak/elm woodlands, mesquite woodlands, or grassland/pasture land. Grassland areas are dominated by dense cover species such as Texas wintergrass and threeawn which would provide significant ground cover compared to clump species. However, forested areas had rockier soils with less cover in the herbaceous layer. Red ants, a food source for the Texas horned lizard, were observed along interior access roads and other locations in the study area. Generally easy to identify where present, no individuals Texas horned lizards were identified during the site investigation. However, the study area is certainly within the historical range of the Texas horned lizard, and it is reasonable to conclude the Texas horned lizard could occur in the study area.

4.2.6 Timber Rattlesnake

4.2.6.1 Habitat Description

The timber/canebrake rattlesnake is a shy animal that prefers to live in areas with ample cover and available refuge. Preferred habitat is forested areas with dense ground cover. The distribution of the timber/canebrake rattlesnake stretches from the East Coast westward into Texas, and as far north as New England. In the southern portions of its range, this species prefers to make its den in moist lowland forests, or hilly woodlands near rivers, streams, and lakes.

4.2.6.2 Potential for Occurrence

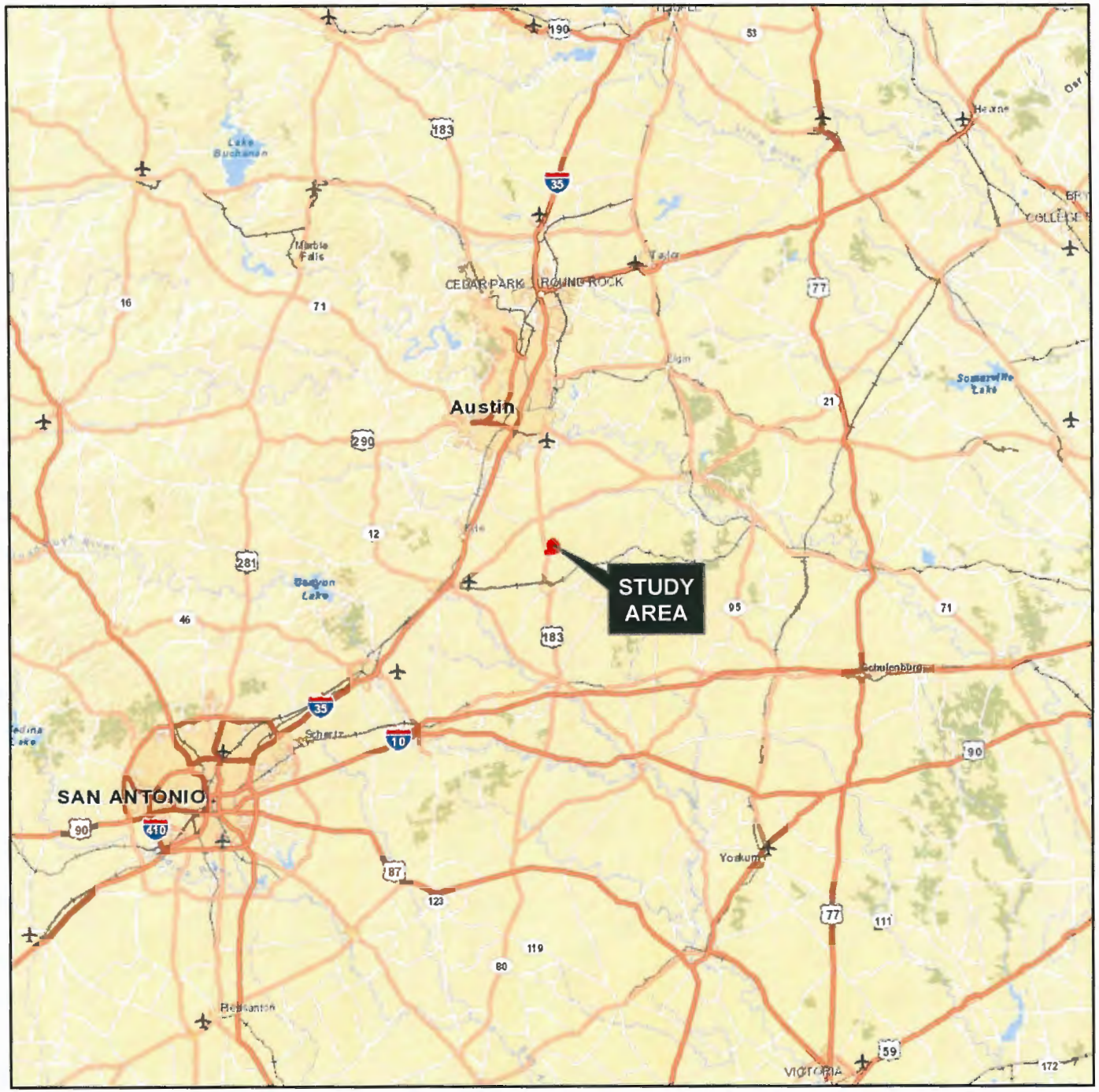
The study area represents the western edge of its range, and includes area that may be considered suitable habitat. Populations tend to be higher in eastern Texas where greater concentrations of wetlands and humid forests are found. Given the somewhat general habitat requirements for the timber rattlesnake, it is reasonable to conclude that the species may occur in the study area. The oak/elm forests in the study area occur in both upland and riparian habitats which meet some habitat descriptions. Given the shallow soils and presence of large cobble in several of the streams, rock outcropping and rock fissures necessary for dens could also be present.

5.0 CONCLUSIONS

As shown on in **Table 1** of this memorandum, Halff has identified five threatened or endangered species that have the potential to occur within the study area: the wood stork, the golden orb, the Texas pimpleback, the Texas horned lizard, and the timber rattlesnake. Because none of these is a federal-listed threatened or endangered species, no critical habitat has been designated for any of them. There will be "no effect" to any federally-listed threatened or endangered species. Those portions of the study area that may provide suitable habitat for the state-listed wood stork, golden orb, and Texas pimpleback are limited to aquatic habitats associated with the large impoundment in the southern portion of the study area, away from areas that will be impacted by the proposed facility. Construction and operation of the project will not result in destruction or adverse modification of habitat (including critical habitat) for these species, and will not cause or contribute to the taking of these species.

A small area of oak/elm woods that may provide suitable habitat for the timber rattlesnake will be cleared during construction of the access road and attendant facilities; an additional larger area within some portion of the landfill footprint will also be cleared. Similarly, this habitat type may also provide habitat for the Texas horned lizard. Clearing will be done in accordance with the attached species protection plan for both species to be included in Appendix IVC to the Site Operating Plans for the landfill and transfer station. As a result, Halff has concluded that 130 Environmental Park and its operation will not result in the destruction or adverse modification of these species' habitat, or cause or contribute to the taking of these species.

APPENDIX A
FIGURES



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Miles

Legend

Study Area

Notes:
1. Source/Year of Base Map: ESRI, World Street Map/2013
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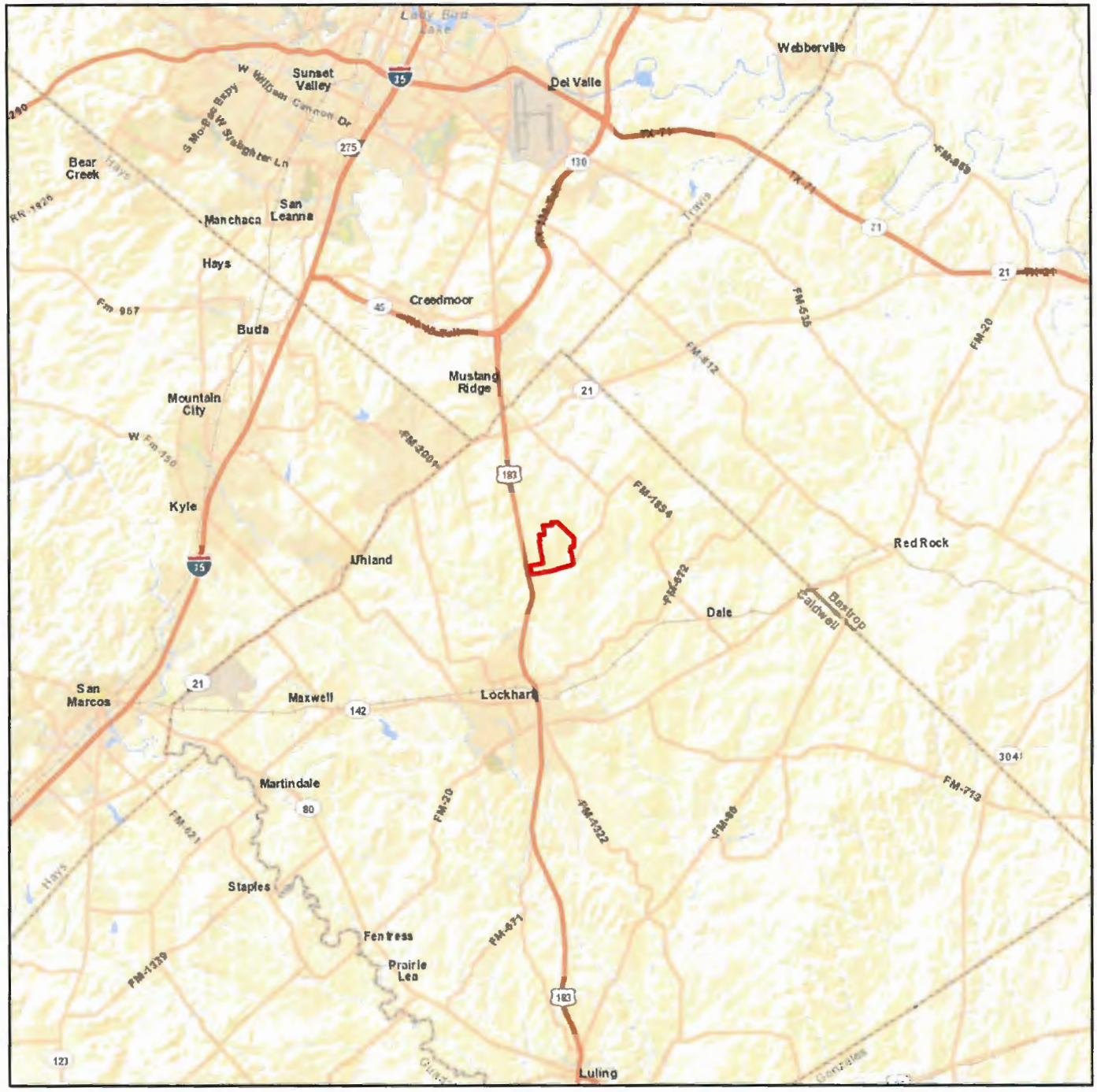
Project Title: 130 ENVIRONMENTAL PARK
Project Number:
Date: 08/2013 AVO: 29520
Sheet Title: PROJECT LOCATION MAP
Sheet Number: FIGURE A-1
HALFF

Technically Complete October 28, 2014



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Legend

Study Area

Notes:
1. Source/Year of Base Map: ESRI, World Street Map Service/2013
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Project Title: 130 ENVIRONMENTAL PARK
Project Number:
Date: 08/2013 AVO: 29520
Sheet Title: PROJECT VICINITY MAP
Sheet Number: FIGURE A-2

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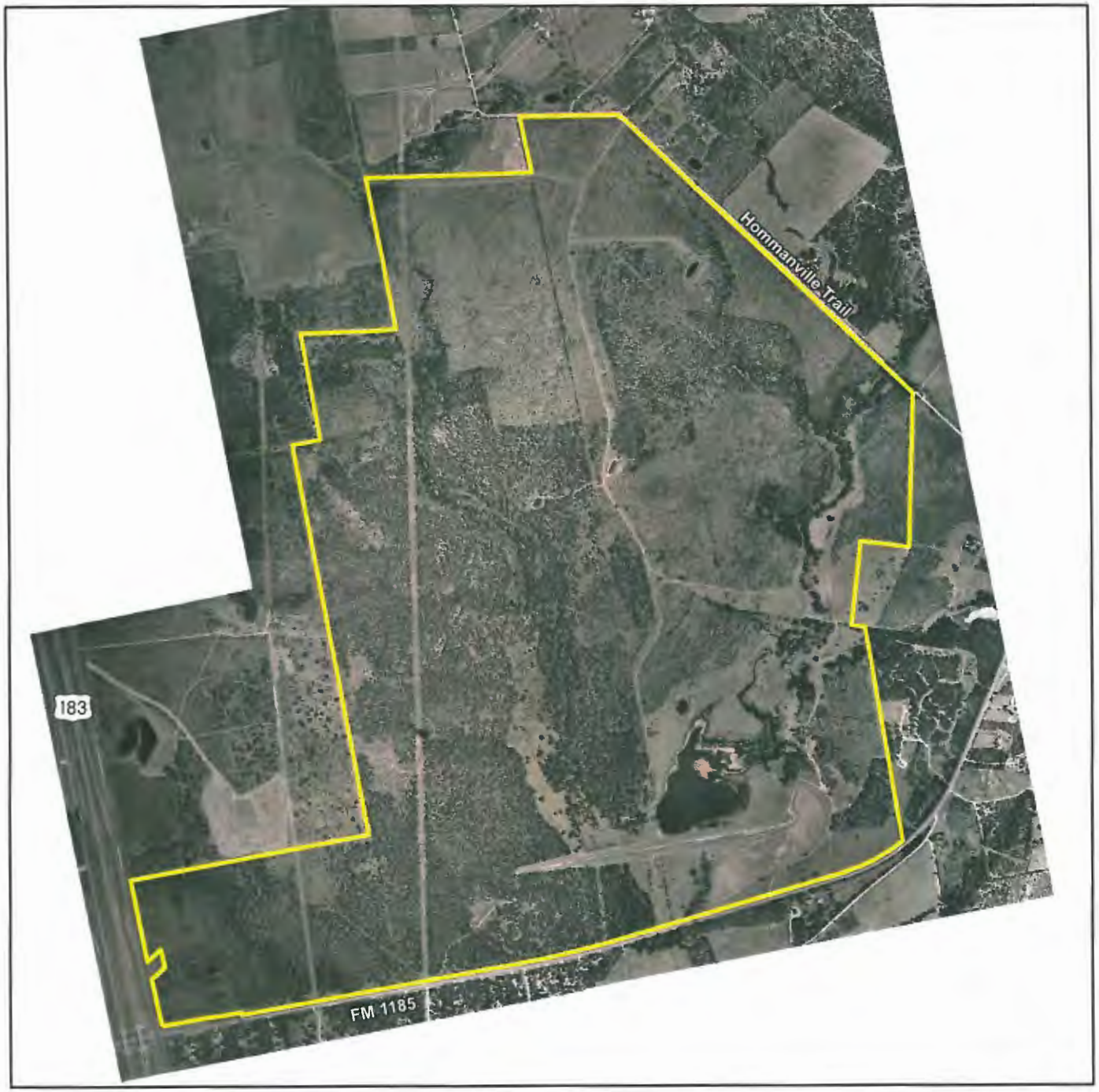
Technically Complete October 28, 2014



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Study Area

Notes:
1. Aerial photo from Dallas Aerial Service flown May 13, 2013
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Project Title: 130 ENVIRONMENTAL PARK
Project Number:
Date: 08/2013 AVO: 29520
Sheet Title: STUDY AREA MAP
Sheet Number: FIGURE A-3
HALFF

APPENDIX B
SPECIES PROTECTION PLAN

SPECIES PROTECTION PLAN

For:
130 Environmental Park

Prepared by:

HALFF ASSOCIATES, INC.

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WWW.HALFF.COM

AVO 29520

August 2013

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Figures

1.0 INTRODUCTION

130 Environmental Park, LLC plans to develop a new municipal solid waste facility, including a Type I municipal solid waste landfill and a Type V municipal solid waste transfer station, within a facility boundary area of 520 acres located on a tract of land totaling approximately 1,229 acres in Caldwell County (the study area). The location of the study area is on the east side of State Highway (SH) 130/US 183 north of the City of Lockhart, Texas, extending from the intersection of US 183 and FM 1185 east to Homannville Trail. **Figure 1** shows the general project location with respect to larger metropolitan areas. **Figure 2** shows the location within Caldwell County and in relation to the City of Lockhart. The facility will be accessed from northbound US 183 through an entrance road. A gatehouse and scales will be provided within the facility boundary. The landfill footprint will cover approximately 208 acres located within the facility boundary area.

The facility will be permitted/registered in accordance with 30 TAC Chapter 330 Municipal Solid Waste Management Regulations. The Texas Commission on Environmental Quality (TCEQ) is the agency responsible for permitting and regulating municipal solid waste facilities. The TCEQ requires an applicant to address endangered and threatened species. Halff Associates, Inc. (Halff) has identified five threatened or endangered species that have the potential to occur within the study area: the wood stork, the golden orb mussel, the Texas pimpleback mussel, the Texas horned lizard, and the timber rattlesnake. All are state-listed threatened species; no critical habitat has been designated for any of these species. Those portions of the study area that may provide suitable habitat for the wood stork, golden orb, and Texas pimpleback are located away from areas that will be impacted by construction and operation of the facility. Within the study area, the forested areas near permanent water sources may provide suitable habitat for the Texas horned lizard and timber rattlesnake.

2.0 PRESENCE OF POTENTIALLY SUITABLE HABITAT

2.1 Wood Stork

The potential for occurrence of the wood stork within the study area is conditional on the basis that this species migrates and its migratory range may happen to overlap water features in the study area (the south central pond/wetland complex shown on **Figure 3**) that may be suitable as a temporary stopover site. Because no critical habitat has been designated for this species,

because of the incidental chance for occurrence, and because the suitable habitat occurs in an area that will not be impacted by the proposed facility, the project will not result in the destruction or adverse modification of critical habitat of or cause or contribute to takings of this species.

2.2 Golden Orb and Texas Pimpleback

The golden orb and Texas pimpleback are mussel species whose range includes the Guadalupe River tributary system. Recorded observations are known to include impoundments of larger stream systems, and it is reasonable to conclude that these species could be found in the south central pond. Because no critical habitat has been designated for these species, and because the suitable habitat occurs in areas that will not be impacted by the proposed facilities, the project will not result in the destruction or adverse modification of critical habitat of, or cause or contribute to takings of, these mussels.

2.3 Timber Rattlesnake

The study area represents the western edge of the timber rattlesnake's range, and includes conditions that may be suitable for this snake. Timber rattlesnakes are found in upland woods, rocky ridges, and moist lowland forests or thickets near permanent water sources such as rivers, lakes, ponds, streams and swamps where tree stumps, logs and branches provide refuge. Within the study area, the areas that may provide suitable habitat for the timber rattlesnake are the forested areas in close proximity to stream corridors. A conservative (overly-inclusive) depiction of these areas is shown on **Figure 3.**

2.4 Texas Horned Lizard

The historical range of the Texas horned lizard included the entire state in areas of flat, open terrain with scattered vegetation and sandy or loamy soils. Grassland areas in the study area are dominated by dense cover species such as Texas wintergrass and threeawn which would provide significant ground cover compared to clump species. However, forested areas along the western portion of the study area have rockier soils with less cover in the herbaceous layer and would be considered the more suitable habitat for this species within the study area. A conservative (overly-inclusive) depiction of these areas is shown on **Figure 3.**

3.0 AVOIDANCE, MINIMIZATION, AND MITIGATION

No wood stork, Texas horned lizard, or timber rattlesnake was observed by Halff personnel during the hundreds of man-hours spent investigating the study area in June and July 2013; because the potentially suitable habitat for the mussel species within the study area (the large impoundment in the southern portion) is away from area that would be impacted by the project, surveys to determine the presence of the mussel species were not conducted. Suitable habitat within the study area for these species is depicted on **Figure 3**. Facility construction and operation activities will occur away from areas that include potentially suitable habitat for the wood stork and the two mussel species. A linear forested area (less than 14.8 acres) along the western edge of the study area will be cleared during construction of the entrance road; this area includes habitat that is potentially suitable for both the Texas horned lizard and timber rattlesnake. Additional forested areas (totaling 118.0 acres) will be cleared as part of the landfill development; this area has limited potential to include the timber rattlesnake. Each of these areas depicted in **Figure 3**; not depicted on the figure is perimeter fencing which will be placed along the edge of the facility boundary.

The avoidance, minimization, and mitigation measures to be implemented pursuant to this species protection plan include:

1. Clearing of the forested areas shown on **Figure 3**, and the clearing for the perimeter fencing, will not occur between September and May to avoid the hibernation periods for the Texas horned lizard and timber rattlesnake.

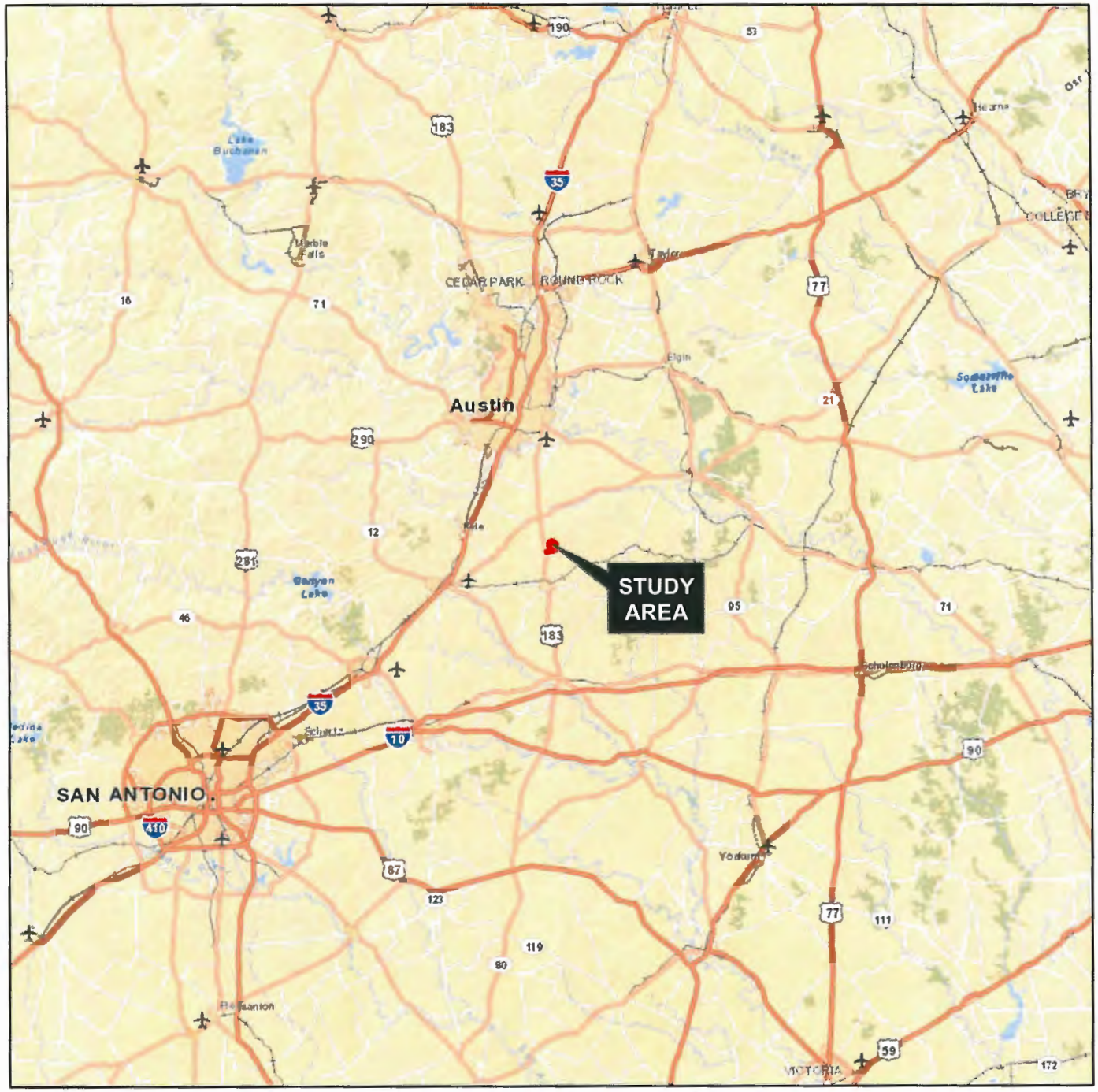
2. Immediately prior to clearing to facilitate construction of the access road, landfill area, transfer station, and perimeter fencing, a survey of the area will be conducted by a biologist with a Texas Parks & Wildlife Department (TPWD) scientific collection permit. If a Texas horned lizard or timber rattlesnake is observed during this survey, the specimen(s) will be relocated by the biologist to suitable habitat in the forested riparian corridor area in the western part of the study area.

3. During the clearing operations, a biologist with a TPWD scientific collection permit will conduct surveys around construction equipment prior to start-up of the equipment and in the area where clearing or fencing will occur in advance of operations. If a Texas

horned lizard or timber rattlesnake is observed during these surveys, work will be stopped and the specimen(s) will be relocated by the biologist to suitable habitat in the forested riparian corridor area in the western part of the study area.

4. Although unexpected, a limited potential exists that the Texas horned lizard or timber rattlesnake may be encountered in marginal habitat in other parts of the site. If specimens are observed during construction in any such area, work will be stopped and a biologist with a TPWD scientific collection permit will be contacted to determine and implement any appropriate actions, including pre-construction surveys and/or the possible relocation (by a biologist with a TPWD scientific collection permit) of specimens to suitable habitat in the forested riparian corridor area in the western part of the study area.

5. Employees and construction crews working on the site will receive pocket identification cards with color photographs and species information for the wood stork, Texas horned lizard, and timber rattlesnake. These will allow for identification of the species and provide instructions on how to respond to a sighting: avoid disturbance of the animal and notify the facility general manager of the sighting location and species. Signage will also be posted at the Gate House with similar information. Following a reported sighting of any of these species, the facility general manager will contact a biologist with a TPWD scientific collection permit to determine and implement any appropriate action, including the possible relocation (by a biologist with a TPWD scientific collection permit) of a Texas horned lizard or timber rattlesnake to suitable habitat in the forested riparian corridor area in the western part of the study area.



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Study Area

Notes:
1. Source/Year of Base Map: ESRI, World Street Map/2013
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Project Title: 130 ENVIRONMENTAL PARK
Project Number
Date: 06/2013 AVO: 29520
Sheet Title: PROJECT LOCATION MAP
Sheet Number: FIGURE 1
HALFF

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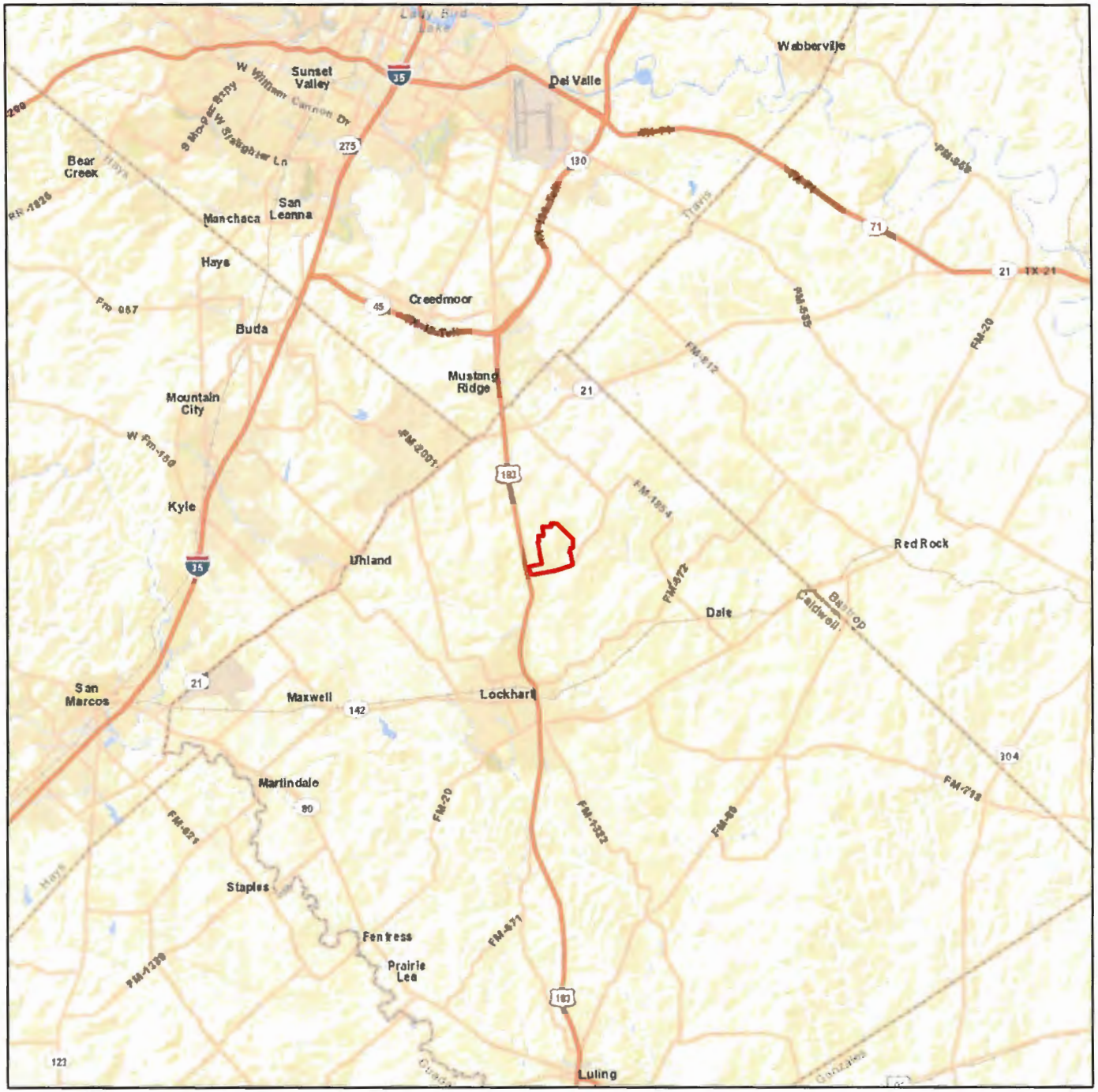

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Legend

Study Area

Notes:
1. Source/Year of Base Map: ESRI, World Street Map Service/2013
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Project Title: 130 ENVIRONMENTAL PARK	
Project Number	
Date: 06/2013	AVO: 29520
Sheet Title: PROJECT VICINITY MAP	
Sheet Number: FIGURE 2	

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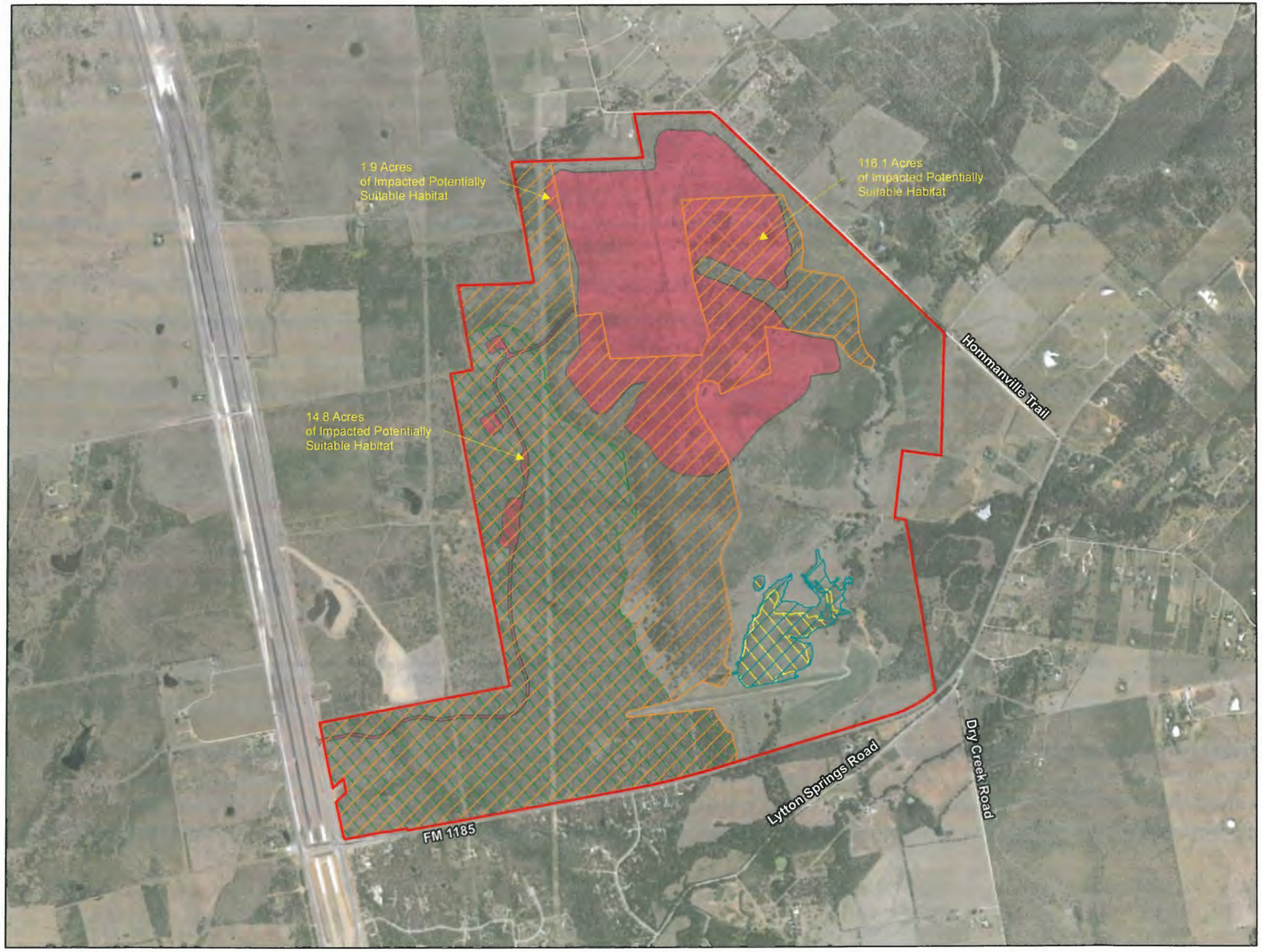
Technically Complete October 28, 2014



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SCALE IN FEET

Legend

- Study Area
- Wood Stork
- Golden Orb & Texas Pimpleback
- Timber/ Canebrake Rattlesnake
- Texas Horned Lizard
- Project Impact Area

Species	Potentially Suitable Habitat Acreage
Wood Stork	30.9
Texas Pimpleback	20.9
Golden Orb	20.9
Timber/ Canebrake Rattlesnake	705.9
Texas Horned Lizard	388.8

Notes:
1. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Project Title: 130 ENVIRONMENTAL PARK
Project Number:
Date: 08/2013 AVO: 29520
Sheet Title: POTENTIALLY SUITABLE HABITAT MAP
Sheet Number: FIGURE 3
HALFF

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