Attachment H

Mitigation Plan

On April 13, 2022, a NWP 14 (SWG-2006-00484) was issued by the U.S. Army Corps of Engineers (USACE) Galveston District authorizing TxDOT to construct the proposed SH 146 from Fairmont Parkway to Red Bluff Road project. After SWG-2006-00484 was authorized TxDOT determined that additional unavoidable impacts to Ditch 2, Ditch 3, Ditch 4, Wetland 6, Wetland 7, Wetland 9, Wetland 10, and Wetland 18 were required. These additional unavoidable impacts were due to fill required to accommodate the appropriate grade on banks along the main lane and frontage road locations as well as a concrete batch plant that is required to construct the project. The construction of sidewalks along the corridor are included in this project as TxDOT often adds them to connect future state, city or county projects. Including the construction of sidewalks in the construction of this project would minimize overall costs, minimize community disruptions, and minimize future impacts to wetlands in the area. No work has occurred in any wetlands thus far and no work shall occur within these wetlands until this Standard Permit (SP) is authorized. TxDOT purchased 1.8 wetland credits for unavoidable impacts to Crossing 3 (0.476 acre) and Crossing 12 (0.24 acre). The previously permitted and mitigated portions of Crossing 3 and Crossing 12 would be deducted from the impact totals and compensatory mitigation under this permit application.

A total of 14.96 acres of jurisdictional waters including twenty freshwater wetlands (9.18 acres), five estuarine wetlands (2.80 acres), and one tidal perennial stream (2.98) were identified during the field reconnaissance for this project and 3.3413 acres of unavoidable permanent impacts to jurisdictional waters is anticipated as a result of the proposed project; however, a total of 0.7423 acre were previously permitted and mitigated for under SWG-2006-00484. No additional impacts to jurisdictional waters are anticipated to occur from the changes after SWG-2006-00484 was issued within the following nine crossings: Crossing 1, Crossing 2, Crossing 4, Crossing 5, Crossing 10, Crossing 11, Crossing 13, Crossing 14, and Crossing 15. Therefore, any proposed construction within those jurisdictional waters is authorized and permitted to begin under the SWG-2006-00484 which was issued on April 13, 2022. A total of 2.599 acres of additional impacts to jurisdictional waters are proposed in Crossing 3, Crossing 6, Crossing 7, Crossing 8, Crossing 9, and Crossing 12; therefore, will be permitted under this SP. All six crossings are anticipated to require mitigation measures and total 2.599 acres

The Gulf Coastal Plains Mitigation Bank has a service area that overlaps the proposed project area. The project area occurs within the secondary service area for this bank, so a 1.5 multiplier is required. The bank also only releases credits in a credit suite, meaning an equal amount in each Functional Capacity Unit (FCU) category determined by the highest value must be purchased. The Atlantic and Gulf Coastal Plains utilizes HGM interim (HGMi) assessments to mandate credits of wetlands or other water of the U.S. that are adversely impacted. This bank recognizes the HGMi assessment method and for credit purchases combines Palustrine Emergent (PEM) wetlands and Palustrine Scrub-Shrub (PSS) wetlands into one credit. A Wetland Functional Assessment Report (see **Attachment G**) was completed detailing the calculations for determining the functional loss of Temporary Storage & Detention of Storage Water (TSDSW), Maintain Plant and Animal Communities (MPAC), and

Attachment H Page 1

Block 23 - Mitigation Description

Removal & Sequestration of Elements & Compounds (RSEC) anticipated from unavoidable impacts to wetlands as a result of the proposed project. HGMi functional assessments that were completed for the four crossings which would require mitigation measures are depicted in **Table 1**.

Table 1: Mitigation Impacts

Feature Name	Wetlands	Wetland Acres/Permanent	Formula Name	Pre-FCI/ Pre- FCU Scores	Post-FCI/ Post-FCU	Net FCU Loss
Ivaille		Impacted Acres			Scores	
Ditch 2	Palustrine	2.23/2.23	TSDSW	0.506/1.129	0.000/0.000	1.129
(Crossing 3)	Emergent		MPAC	0.667/1.487	0.100/0.223	1.264
(Clossing 3)	Lineigent		RSEC	0.580/1.293	0.060/0.134	1.160
Wetlend 2	Dolustrins	0.21/0.02	TSDSW	0.548/0.115	0.548/0.104	0.011
Wetland 3 (Crossing 3)	Palustrine		MPAC	0.750/0.158	0.750/0.143	0.015
(Crossing 3)	Emergent		RSEC	0.707/0.148	0.707/0.134	0.014
Ditab 2	Palustrine	0.02/0.004	TSDSW	0.506/0.010	0.506/0.008	0.002
Ditch 3	Scrub-		MPAC	0.667/0.013	0.667/0.011	0.003
(Crossing 3)	Shrub		RSEC	0.680/0.014	0.680/0.011	0.003
Ditale 4	Palustrine	0.17/0.03	TSDSW	0.376/0.064	0.376/0.053	0.011
Ditch 4	Scrub-		MPAC	0.450/0.077	0.450/0.063	0.014
(Crossing 3)	Shrub		RSEC	0.587/0.100	0.537/0.075	0.025
\\/ - + O	Palustrine	0.94/0.003	TSDSW	0.506/0.476	0.506/0.474	0.002
Wetland 8	Scrub-		MPAC	0.750/0.705	0.750/0.703	0.002
(Crossing 3)	Shrub		RSEC	0.580/0.545	0.580/0.543	0.002
\\\-\	Palustrine	2.80/0.00	TSDSW	N/A	N/A	N/A
Wetland 11	Scrub-		MPAC	N/A	N/A	N/A
(Crossing 3)	Shrub		RSEC	N/A	N/A	N/A
Orogoina 2	DCC /DEM	6.37/2.287	TSDSW	N/A	N/A	1.155
Crossing 3	-		MPAC	N/A	N/A	1.298
Tota	ais		RSEC	N/A	N/A	1.202
Matle ed C	Dalvetrine	0.01/0.01	TSDSW	0.479/0.005	0.000/0.000	0.005
Wetland 6	Palustrine		MPAC	0.617/0.006	0.100/0.001	0.005
(Crossing 6)	Emergent		RSEC	0.540/0.005	0.060/0.001	0.005
\\/atland 7	Palustrine	0.16/0.16	TSDSW	0.376/0.060	0.000/0.000	0.060
Wetland 7	Scrub-		MPAC	0.450/0.072	0.100/0.016	0.056
(Crossing 7)	Shrub		RSEC	0.587/0.094	0.060/0.010	0.084
Wetland 9	Palustrine	0.10/0.10	TSDSW	0.506/0.051	0.000/0.000	0.051
	Scrub-		MPAC	0.750/0.075	0.100/0.010	0.065
(Crossing 8)	Shrub		RSEC	0.580/0.058	0.060/0.006	0.052
Watland 10	Doluctrino	0.06/0.06	TSDSW	0.403/0.024	0.000/0.000	0.024
Wetland 10 (Crossing 9)	Palustrine Emergent		MPAC	0.617/0.037	0.100/0.006	0.031
(Ciossilig 9)	Lineigent		RSEC	0.490/0.029	0.060/0.003	0.026
Wetland 18	Palustrine	0.70/0.70	TSDSW	0.479/0.336	0.000/0.000	0.336
(Crossing	Emergent		MPAC	0.617/0.432	0.100/0.070	0.362
12)	Lineigent		RSEC	0.540/0.378	0.060/0.042	0.336
All Crossing	DSC/DEM		TSDSW	N/A	N/A	1.631
All Crossing			MPAC	N/A	N/A	1.817
Totals			RSEC	N/A	N/A	1.705

Attachment H Page 2

Attachment B – HGMi Functional Assessment Calculations

Idur: The % of the WAA that is flooded and/or ponded due to the hydrology (i.e. flooding overbar at leaver.) In an average year at 80% of the WAA either floods and/or ponds for at least 14 consecutions on an average year at 80% of the WAA either floods and/or ponds for at least 14 consecutions on an average year at 80% of the WAA either floods and/or ponds for at least 14 consecutions on an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at 80% of the WAA is flooded and/or ponded by nearby waterway. In an average year at least 14 consecution. In an average year at 80% of the WAA is flooded and/or ponded year year. In an average year at 80% of the WAA is flooded and/or ponded year year. In an average year at least 14 consecution. In an av	Acreage 2.2	23
Recision: In an average year at 80% of the WAA either floods and/or ponds for at least 14 consecutions and average year at 80% of the WAA either floods and/or ponds for at least 14 consecutions. Subind comments: Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25% Interest The frequency that the WAA is between 1-25%	k flow) of the nearby	
na na average year at 80% of the WAA either floods and/or ponds for at least 14 consecutions. Subind comments: Sitch 2 is mapped within the 100-year floodplain. Subind comments: Subind com		
Subind comments: ifted 2 is mapped within the 100-year floodplain. ifreq: The frequency that the WAA is flooded and/or ponded by nearby waterway. Decision: loods or ponds 2 out of 5 years (100- year floodplain) Subind comments: itopo: The roughness associated with the WAA. Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind comments: ititch 2 had a flat terrain. No significant topographic features were observed. wood: Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind comments: Io woody vegetation was observed within Ditch 2. Imid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
omments: Office: The frequency that the WAA is flooded and/or ponded by nearby waterway. Decision: Illoods or ponds 2 out of 5 years (100- year floodplain) Subind comments: Office: The roughness associated with the WAA. Decision: Mooth, flat, or very gentle undulating with little or no topographic features Subind comments: Office: A bad a flat terrain. No significant topographic features were observed. Decision: 1 to 33% of the WAA is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind comments: No woody vegetation was observed within Ditch 2. Indicatory coverage of the WAA is between 1-25% Subind control of the WAA.	tive days	
Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterway. Interest The frequency that the WAA is flooded and/or ponded by nearby waterwa	ex 1	L
freq: The frequency that the WAA is flooded and/or ponded by nearby waterway. Decision: Lloods or ponds 2 out of 5 years (100- year floodplain) Subind comments: Chopo: The roughness associated with the WAA. Decision: Mooth, flat, or very gentle undulating with little or no topographic features Subind comments: Litch 2 had a flat terrain. No significant topographic features were observed. Wood: Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2. Comments: Litch 2 had a flat terrain was observed within Ditch 2.		
Decision: Illoods or ponds 2 out of 5 years (100- year floodplain) Subind Comments: Intropo: The roughness associated with the WAA. Decision: Intropo: The roughness associated with the WAA. Decision: Intropo: The roughness associated with the WAA. Decision: Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Decision: Intropo: The roughness associated with the WAA. Decision: Subind Comments: Decision: Intropo of the WAA is covered by woody vegetation. Subind Comments: Decision: Introduction was observed within Ditch 2. Decision: Mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind Comments: Subind Com		
Decision: Illoods or ponds 2 out of 5 years (100- year floodplain) Subind Comments: Intropo: The roughness associated with the WAA. Decision: Intropo: The roughness associated with the WAA. Decision: Intropo: The roughness associated with the WAA. Decision: Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Decision: Intropo: The roughness associated with the WAA. Decision: Subind Comments: Decision: Intropo of the WAA is covered by woody vegetation. Subind Comments: Decision: Introduction was observed within Ditch 2. Decision: Mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind Comments: Subind Com		
Decision: Illoods or ponds 2 out of 5 years (100- year floodplain) Subind Comments: Intropo: The roughness associated with the WAA. Decision: Intropo: The roughness associated with the WAA. Decision: Intropo: The roughness associated with the WAA. Decision: Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Decision: Intropo: The roughness associated with the WAA. Decision: Subind Comments: Decision: Intropo of the WAA is covered by woody vegetation. Subind Comments: Decision: Introduction was observed within Ditch 2. Decision: Mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind Comments: Subind Com		
Subind comments: Comments		
Subind formments: Stopo: The roughness associated with the WAA. Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind formments: Sitch 2 had a flat terrain. No significant topographic features were observed. Subind formments: Subin		
Atopo: The roughness associated with the WAA. Decision: Mooth, flat, or very gentle undulating with little or no topographic features Subind formments: Ditch 2 had a flat terrain. No significant topographic features were observed. Decision: 1 to 33% of the WAA is covered with woody vegetation Comments: Do woody vegetation was observed within Ditch 2. Decision: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		_
Atopo: The roughness associated with the WAA. Decision: Mooth, flat, or very gentle undulating with little or no topographic features Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Decision: 1 to 33% of the WAA is covered with woody vegetation Comments: Decision: 1 to woody vegetation was observed within Ditch 2. Decision:	ex 0.	<u>.5</u>
Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Divide Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Do woody vegetation was observed within Ditch 2. Decision: Amid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Divide Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Do woody vegetation was observed within Ditch 2. Decision: Amid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Divide Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Do woody vegetation was observed within Ditch 2. Decision: Amid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Divide Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Do woody vegetation was observed within Ditch 2. Decision: Amid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: mooth, flat, or very gentle undulating with little or no topographic features Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Divide Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Do woody vegetation was observed within Ditch 2. Decision: Amid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Subind Subind Subind Subind Subind Somments: Ottch 2 had a flat terrain. No significant topographic features were observed. Secision: 1 to 33% of the WAA is covered with woody vegetation Subind		
Subind Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. No significant topographic features were observed. Ditch 2 had a flat terrain. Ditch 2		
Comments: Ditch 2 had a flat terrain. No significant topographic features were observed. Divood: Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Do woody vegetation was observed within Ditch 2. Decision: Divid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Wood: Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Io woody vegetation was observed within Ditch 2. Whid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind	ex 0.	.1
Wood: Percentage of the WAA that is covered by woody vegetation. Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: No woody vegetation was observed within Ditch 2. Comments: Comments:		
Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Io woody vegetation was observed within Ditch 2. I'mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind		
Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Io woody vegetation was observed within Ditch 2. I'mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind		
Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Io woody vegetation was observed within Ditch 2. I'mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind		
Decision: 1 to 33% of the WAA is covered with woody vegetation Subind Comments: Io woody vegetation was observed within Ditch 2. I'mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind		
1 to 33% of the WAA is covered with woody vegetation Subind Comments: It woody vegetation was observed within Ditch 2. It wid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: It woody vegetation was observed within Ditch 2. Subind Subind Subind		
Subind Comments: Io woody vegetation was observed within Ditch 2. I'mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind		
Comments: Io woody vegetation was observed within Ditch 2. Imid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind		
In woody vegetation was observed within Ditch 2. I'mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Ididstory coverage of the WAA is between 1-25% Subind	ex 0.2	25
mid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA. Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: Midstory coverage of the WAA is between 1-25% Subind		
Decision: Midstory coverage of the WAA is between 1-25% Subind		
Subind		
Subind		
	ex 0.2	25
······		
imited midstory was observed within Ditch 2.		

	Riverlile Herbaceous/Siliub Ho	•				
Applicant	TxDOT, Houston District	WAA ID:	Ditch 2 -	Crossing 3	Acreage	2.23
	mean coverage of the WAA by the herb	aceous layer.				
Decision:						
Herbaceous cover	in the WAA averages greater than 7	5%	1			
				Subinde	ex	1
Comments:						
Herbaceous vegeta	ation was observed throughout almo	ost the entire	wetland a	area.		
Vacana at The annual	and habitat turne within a COO' of the		h - \A/A A			
vconnect: The numb	per of habitat types within a 600' of the	parameter of t	ne waa.			
	or mare babitat tune (ather than for	rostad) OD the		ra habitat tuu	200	
vvetianu pius two (or more habitat type (other than for	esteuj OK (Ni	T TIO	re nabitat tyj Subinde		0.75
Comments:				Subiliue	:X	0.75
	tats were located within 600 feet of					
Vdetritus: The amou	int of the detritus on the WAA (A horizo	n has to have a	value of 4	or less).		
Decision:						
Greater than 85%	of the area possesses an O or A hori	zon				
	·			Subinde	×	1
Comments:						
O or A horizon was	s observed in Ditch 2.					
	of the WAA that exhibits redox feature	s an indication	of the che	mical exchang	ge.	
Decision:						
Redox features les	s than 20%		1			
				Subinde	ex	0.1
Comments:						
Redox features we	re observed within Ditch 2; howerve	er, was less th	nan 20 per	cent.		
to a mate The 1 1 11	ve properties of the soils in the WAA.					

The WAA is dominated by montmorillonitic clayey soils (clay, clay loams, silty clay loams) or soils with high organic (2				
	Subindex	1		
Comments:				
The area was dominated by clay soils.				

Decision:

Applicant	TxDOT, Houston District	WAA ID:	Ditch 2 - Crossing 3	Acreage	2.23
Vdur: The % of the WAA that	t is flooded and/or ponded due to	the hydrology	y (i.e. flooding overbank flo	w) of the nearb	у
waterway.					
Decision:					
The area is NOT subject to	flooding				
			Subindex		0
Comments:				_	
Vfreq: The frequency that th	e WAA is flooded and/or ponded	by nearby wat	terway.		
Decision:			•		
The area is not subject to	flooding or ponding (500 yr flo	oodplain)			
	3 p s 3 (3 2 7	,	Subindex		0
Floods or pond annually 5	out of 5 years (floodway)				-
riced or period armidally o	out or o' your (moountary)				
Vtopo: The roughness associ	ated with the WAA				
Decision:	ated with the WAA.				
	le undulating with little or no	tonographic f	eatures		
Sillouti, flat, or very gent	ic undulating with little of no	topograpine i	Subindex		0.1
Comments:			Jubiliacx		0.1
comments.					
Vwood: Percentage of the M	/AA that is covered by woody veg	retation			
Decision:	AA that is covered by woody veg	ctation.			
	ed with woody vegetation				
0-10% II the WAA is cover	ed with woody vegetation		Subindex		0.1
Comments:			Jubiliuex		0.1
Comments.					
Viside The everage /mass	varage of the midster / should /	nling\ lave= != +	ho \// \		1
	verage of the midstory (shrub/sa	piing) iayer in t	ne waa.		
Decision:	NAAA is agual ta am laas the sudi	0/			
ivilustory coverage of the	WAA is equal to or less than 19	70	e lit. i	-	0.1
Comments			Subindex		0.1
Comments:					

Vherb: The average/mean coverage of the WAA by the herbaceous layer. Decision: Herbaceous cover in the WAA is equal to or less than 1% (barren soil or all shrub)	
Herbaceous cover in the WAA is equal to or less than 1% (barren soil or all shrub)	
Subindex	0.1
Comments:	
Vconnect: The number of habitat types within a 600' of the parameter of the WAA.	
Decision:	
Surround by urban (homes, lawn, concrete, etc.)	
Subindex	0.1
Comments:	
Vdetritus: The amount of the detritus on the WAA (A horizon has to have a value of 4 or less).	
Decision:	
Site is plowed	
Subindex	0.1
Comments:	
Vredox: The amount of the WAA that exhibits redox features an indication of the chemical exchange.	
Decision:	
0.1	
Subindex	0.1
Comments:	
Vsorpt: The absorptive properties of the soils in the WAA.	
Decision:	
0.1	
Subindex	0.1
Comments:	
Comments:	
Comments:	

Ditch 2 - Crossing 3

Total Acres	2.23
Impacted Acres	2.23

Wetla	Wetland A (Pre Conditions)			
Varible	Subindex			
Vdur	1			
Vfreq	0.5			
Vtopo	0.1			
Vwood	0.25			
Vmid	0.25			
Vherb	1			
Vdetritus	1			
Vredox	0.1			
Vsorpt	1			
Vconnect	0.75			

V	Wetland A (Post Conditions)			
Varible	Subindex			
Vdur	0			
Vfreq	0			
Vtopo	0.1			
Vwood	0.1			
Vmid	0.1			
Vherb	0.1			
Vdetritus	0.1			
Vredox	0.1			
Vsorpt	0.1			
Vconnect	0.1			

	Temporary Storage & Detention of Storage Water				
	Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]				
	Pre Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
	Post Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
Pre-FCI	0.506				
Post-FCI	0.000				

	Maintain Plant and Animal Community				
		{Vmid + Vherb + Vconnect}/3			
	Pre Conditions = {0.1 + 1.0 + 1.0}/3				
		Post Conditions = {0.1 + 1.0 + 1.0}/3			
Pre-FCI	0.667				
Post-FCI	0.100				

Removal & Sequestrian of Elements & Compounds					
	[[Vwood + Vfreq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5				
Pre Conditions = $[[0.1 + 0.75 + 1.0 + [\{0.1 + 1.0 + 0.1\}/3] + [\{0.3 + 0.1 + 0.1\}/3]]/5$					
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5			
Pre-FCI	0.580				
Post-FCI	0.060				

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	2.230	2.230	0.506	1.129	0.000	0.000	1.129
Wetland A Maintain	2.230	2.230	0.667	1.487	0.100	0.223	1.264
Wetland A Removal	2.230	2.230	0.580	1.293	0.060	0.134	1.160

Riverine Herbaceous/Shrub HGM (Interim) Assessment Pre-Impacts WAA ID: Wet 6 - Crossing 6 0.01 TxDOT, Houston District **Applicant** Vdur: The % of the WAA that is flooded and/or ponded due to the hydrology (i.e. flooding overbank flow) of the nearby waterway. **Decision:** In an average year at 80% of the WAA either floods and/or ponds for at least 14 consecutive days Subindex 1 Comments: Wetland 8 is mapped within the 100-year floodplain. **Vfreg:** The frequency that the WAA is flooded and/or ponded by nearby waterway. **Decision:** Floods or ponds 2 out of 5 years (100- year floodplain) Subindex 0.5 Comments: Wetland 8 floods or ponds 2 out of 5 years and is within the 100- year floodplain. Vtopo: The roughness associated with the WAA. **Decision:**

Smooth, flat, or very gentle undulating with little or no topographic features

Subindex

0.1

Comments:

Wetland 8 had a flat terrain. No significant topographic features were observed.

Vwood: Percentage of the WAA that is covered by woody vegetation.

Decision:

0-10% if the WAA is covered with woody vegetation

Subindex 0.1

Comments:

Small amounts of woody vegetation was observed within Wetland 8.

Vmid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA.

Decision:

Midstory coverage of the WAA is equal to or less than 1%

Subindex 0.1

Comments:

No midstory was observed within Wetland 8.

Applicant	TxDOT, Houston District	WAA ID:	Wet 3 - Crossing 3	Acreage	0.21
Vdur: The % of the WAA tha	at is flooded and/or ponded due	to the hydro	logy (i.e. flooding overb	ank flow) of the	nearby
waterway.					
Decision:					
In an average year at 80%	% of the WAA either floods an	nd/or ponds	for at least 14 consec	utive days	
			Subinde	ex	1
Comments:					
Wetland 3 is mapped with	hin the 100-year floodplain.				
Vfreq: The frequency that the	ne WAA is flooded and/or ponde	ed by nearby	waterway.		
Decision:					
Floods or ponds 2 out of !	5 years (100- year floodplain))			
			Subinde	ex	0.5
Comments:					
Vtopo: The roughness assoc	iated with the WAA.				
Decision:					
Smooth, flat, or very gent	tle undulating with little or no	o topograph	ic features		
			Subinde	ex	0.1
Comments:					
Wetland 3 had a flat terra	ain. No significant topographi	ic features w	vere observed.		
Vwood: Percentage of the V	VAA that is covered by woody ve	egetation.			
Decision:					
34 to 66% of the WAA is	covered with woody vegetati	on			
			Subinde	ex	0.5
Comments:					
Woody vegetation was of	bserved within Wetland 3.				
Vmid: The average/mean co	overage of the midstory (shrub/s	sapling) layer	in the WAA.		
Decision:					
Midstory coverage of the	WAA is between 25-50%				
			Subinde	ex	0.5
Comments:					
A midstory was observed	within Wetland 3.				

Applicant	TxDOT, Houston District	WAA ID:	Wet 3 - Crossing 3	Acreage	0.21
Vherb: The average/r	mean coverage of the WAA by the herl	baceous layer			
Decision:					
Herbaceous cover i	in the WAA averages greater than 7	75%			
			Subinde	ex	1
Comments:					
Herbaceous vegeta	tion was observed throughout alm	ost the enti	re wetland area.		
	er of habitat types within a 600' of the	parameter o	t the WAA.		
Decision:		. "			
Wetland plus two d	or more habitat type (other than fo	rested) OR t		, .	
Comments			Subinde	ex .	0.75
Comments:		<u> </u>		211//	1.6
The following habit	cats were located within 600 feet o	f Wetland 3:	urban, maintained RC)W (grass), an	d forested.
Velotiitus. The common					
	nt of the detritus on the WAA (A horizo	on has to have	e a value of 4 or less).		
Decision:	of the case accesses as O as A hear	:			
Greater than 85% C	of the area possesses an O or A hor	IZON	Subinde		1
Comments:			Subinae	:X	1
	observed in Wetland 3.				
O OI A HOHZOH Was	observed in Wetland 5.				
Vredox: The amount	of the WAA that exhibits redox featur	es an indicatio	on of the chemical excha	nge.	
	of the WAA that exhibits redox feature	es an indicatio	on of the chemical excha	nge.	
Decision:					or feature ma
Decision:	of the WAA that exhibits redox feature			e soil surface,	or feature ma
Decision:			the top 4 inches of th	e soil surface,	
Decision: Redox concentration Comments:	ons represent at least 20% of the p	edon within	the top 4 inches of the Subinde	e soil surface,	
Decision: Redox concentration Comments:		edon within	the top 4 inches of the Subinde	e soil surface,	
Decision: Redox concentration Comments:	ons represent at least 20% of the p	edon within	the top 4 inches of the Subinde	e soil surface,	
Decision: Redox concentration Comments:	ons represent at least 20% of the p	edon within	the top 4 inches of the Subinde	e soil surface,	
Decision: Redox concentration Comments: Redox features were	ons represent at least 20% of the p	edon within	the top 4 inches of the Subinde	e soil surface,	
Decision: Redox concentration Comments: Redox features were	ons represent at least 20% of the persons represent 20% o	edon within	the top 4 inches of the Subinde	e soil surface,	
Decision: Redox concentration Comments: Redox features were Vsorpt: The absorption Decision:	ons represent at least 20% of the persons represent 20% o	edon within	the top 4 inches of the Subinde	e soil surface,	1
Decision: Redox concentration Comments: Redox features were Vsorpt: The absorption Decision:	re observed within Wetland 3 and we properties of the soils in the WAA.	edon within	the top 4 inches of the Subinde	e soil surface, ex	1
Decision: Redox concentration Comments: Redox features were Vsorpt: The absorption Decision:	re observed within Wetland 3 and we properties of the soils in the WAA.	edon within	the top 4 inches of the Subinde Subind	e soil surface, ex	1 high organic
Decision: Redox concentration Comments: Redox features were Vsorpt: The absorption Decision: The WAA is dominated	ons represent at least 20% of the portion of the observed within Wetland 3 and over properties of the soils in the WAA.	edon within	the top 4 inches of the Subinde Subind	e soil surface, ex	1 high organic
Decision: Redox concentration Comments: Redox features were Vsorpt: The absorption Decision: The WAA is dominated Comments:	ons represent at least 20% of the portion of the observed within Wetland 3 and over properties of the soils in the WAA.	edon within	the top 4 inches of the Subinde Subind	e soil surface, ex	1 high organic

Applicant	TxDOT, Houston District	WAA ID:	Wet 3 - Crossing 3	Acreage	0.21
Vdur: The % of the W	AA that is flooded and/or ponded due	to the hydrolo	gy (i.e. flooding overbank	flow) of the n	earby
waterway.		ŕ		ŕ	Ť
Decision:					
In an average year a	at 80% of the WAA either floods ar	nd/or ponds fo	or at least 14 consecutiv	ve davs	
<u> </u>		· '	Subindex	·	1
Comments:		I			
oomments.					
Vfue as The fue assessment					
	that the WAA is flooded and/or ponder	ed by nearby wa	aterway.		
Decision:		,			
Floods or ponds 2 o	out of 5 years (100- year floodplain)			
			Subindex		0.5
Floods or pond annu	ually 5 out of 5 years (floodway)				
Vtopo: The roughness	s associated with the WAA.				
Decision:					
Smooth, flat, or very	y gentle undulating with little or ne	o topographic	features		
			Subindex		0.1
Comments:					
Vwood: Percentage of	f the WAA that is covered by woody v	egetation.			
Decision:		-			
34 to 66% of the W/	AA is covered with woody vegetati	ion			
			Subindex		0.5
Comments:					
Vmid: The average/m	ean coverage of the midstory (shrub/s	canling) laver in	the WΔΔ		
Decision:	ean coverage of the illustory (stifub)	sapınığı iayer III	tile WAA.		
	of the MAA is between 25 500/				
ivilustory coverage (of the WAA is between 25-50%		Carlada al a		0.5
<u> </u>			Subindex		0.5
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Wet 3 - Crossing 3	Acreage	0.21
Vherb: The average/n	nean coverage of the WAA by the herl	baceous layer.			
Decision:					
Herbaceous cover in	n the WAA averages greater than 7	75%			
			Subindex		1
Comments:					
N . T			1 14/4.4		
	er of habitat types within a 600' of the	parameter of t	ne waa.		
Decision:					
Wetland plus two o	r more habitat type (other than fo	rested) OR thi		es	
			Subindex		0.75
Comments:					
Vdetritus: The amour	nt of the detritus on the WAA (A horizo	on has to have a	a value of 4 or less).		
Decision:	•		·		
	of the area possesses an O or A hor	izon			
Greater than 65% 6	Title area possesses arr o or Arrior	12011	Subindex		1
Comments:			Jubiliuex		1
Comments.					
-					
	of the WAA that exhibits redox feature	es an indication	of the chemical exchange	<u>)</u> .	
Decision:					
1					
			Subindex		1
Comments:					
Vsornt: The absorptive	ve properties of the soils in the WAA.				
Decision:	e properties of the soils in the WAA.				
1		Т	6 1.1.1		
			Subindex		1
Comments:					

Wet 3 - Crossing 3

-	
Total Acres	0.21
Impacted Acres	0.02

Wetla	and A (Pre Conditions)
Varible	Subindex
Vdur	1
Vfreq	0.5
Vtopo	0.1
Vwood	0.5
Vmid	0.5
Vherb	1
Vdetritus	1
Vredox	1
Vsorpt	1
Vconnect	0.75

V	Wetland A (Post Conditions)				
Varible	Subindex				
Vdur	1				
Vfreq	0.5				
Vtopo	0.1				
Vwood	0.5				
Vmid	0.5				
Vherb	1				
Vdetritus	1				
Vredox	1				
Vsorpt	1				
Vconnect	0.75				

		Temporary Storage & Detention of Storage Water
	Square	e Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]
	Pr	e Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]
	Po	st Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]
Pre-FCI	0.548	
Post-FCI	0.548	

	Maintain Plant and Animal Community					
	{Vmid + Vherb + Vconnect}/3					
	Pre Conditions = {0.1 + 1.0 + 1.0}/3					
	Post Conditions = {0.1 + 1.0 + 1.0}/3					
Pre-FCI	0.750					
Post-FCI	0.750					

	Removal & Sequestrian of Elements & Compounds						
	[[Vwood + Vfreq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5						
	Pre Conditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5						
	Post Conditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5						
Pre-FCI	0.707						
Post-FCI	0.707						

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.210	0.190	0.548	0.115	0.548	0.104	0.011
Wetland A Maintain	0.210	0.190	0.750	0.158	0.750	0.143	0.015
Wetland A Removal	0.210	0.190	0.707	0.148	0.707	0.134	0.014

Applicant	TxDOT, Houston District	WAA ID:	Ditch 3 - Crossing 3	Acreage	0.02
Vdur: The % of the WAA t	hat is flooded and/or ponded due	to the hydro	logy (i.e. flooding overba	nk flow) of the	nearby
waterway.					
Decision:					
In an average year at 80	% of the WAA either floods ar	nd/or ponds	for at least 14 consecu	tive days	
			Subinde	(1
Comments:					
Ditch 3 is mapped withi	n the 100-year floodplain.				
	the WAA is flooded and/or pond	ed by nearby	waterway.		
Decision:					
Floods or ponds 2 out o	f 5 years (100- year floodplain)	T		
			Subinde	(0.5
Comments:					
Vtopo: The roughness asso	ociated with the WAA.				
Decision:					
Smooth, flat, or very ge	ntle undulating with little or n	o topograph			
			Subinde	(0.1
Comments:					
Ditch 3 had a flat terrain	n. No significant topographic fo	eatures were	e observed.		
	WAA that is covered by woody v	egetation.			
Decision:					
67 to 90 % of the WAA	is covered with woody vegetat	tion			_
			Subinde	(0.75
Comments:					
Woody vegetation was	observed within Ditch 3.				
_					
	coverage of the midstory (shrub/	sapling) layer	in the WAA.		
Decision:					
Midstory coverage of th	ne WAA is between 1-25%		_		
			Subinde	(0.25
Comments:					
Limited midstory was o	bserved within Ditch 3.				

Applicant	TxDOT, Houston District	WAA ID:	Ditch 3 - Crossing 3	Acreage	0.02
Vherb: The average/m	nean coverage of the WAA by the herl	baceous layer.			
Decision:					
Herbaceous cover in	n the WAA averages greater than 7	75%			
			Subinde	x	1
Comments:					
	ion was observed throughout alm	nost the entir	e wetland area		
Tierbaceous vegetat	lon was observed throughout and	iost the chin	e wetiana area.		
Veenest. The number	er of habitat tunes within a 600' of the	naramatar of	th a \\\\ \		
Decision:	er of habitat types within a 600' of the	e parameter or	tile WAA.		
wetiand plus two of	r more habitat type (other than fo	restea) OR ti		, .	
			Subinde	<u>K </u>	0.75
Comments:					
The following habita	ats were located within 600 feet o	of Ditch 3: urb	oan, maintained ROW ((grass), and fo	orested.
Vdetritus: The amoun	t of the detritus on the WAA (A horizo	on has to have	a value of 4 or less).		
Decision:					
Greater than 85% of	f the area possesses an O or A hor	rizon			
			Subinde	<u>x</u>	1
Comments:			•		1
O or A horizon was	observed in Ditch 3.				
Vredox: The amount of	of the WAA that exhibits redox feature	es an indicatio	n of the chemical exchar		
Decision:	THE WAA that exhibits redox reactive	es an maleatio	The the chemical exertain	ige.	
Redox features less	than 20%				
Nedox leatures less	than 2070		Subinde		0.1
Commonts	_		Subilide	<u> </u>	0.1
Comments:	and the second states of the second		11 20		
Redox features were	e observed within Ditch 3; howerv	ver, was less	than 20 percent.		
	e properties of the soils in the WAA.				
Decision:					
The WAA is dominat	ted by montmorillonitic clayey soi	ils (clay, clay			high organic
			Subinde	K	1
Comments:					
The area was domin	ated by clay soils.				

Applicant	TxDOT, Houston District	WAA ID:	Ditch 3 - Crossing 3	Acreage	0.02
Vdur: The % of the W	AA that is flooded and/or ponded due	to the hydrolo	gy (i.e. flooding overbank	flow) of the no	earby
waterway.	· •	•	5, 1	·	•
Decision:					
	at 80% of the WAA either floods ar	nd/or nands fo	or at least 14 consecutiv	ve davs	
m an average year a	- 10000 of the W/W cither floods at	layor portas t	Subindex	re days	1
Camanantai			Jubiliuex		1
Comments:					
Vfreq: The frequency	that the WAA is flooded and/or ponde	ed by nearby w	aterway.		
Decision:					
Floods or ponds 2 o	ut of 5 years (100- year floodplain)			
- record or period _ c	200,0 (200 (200) 00	,	Subindex		0.5
Floods or nond annu	ually 5 out of 5 years (floodway)		Jubiliucx		0.5
riodus di ponu anno	daily 5 out of 5 years (noodway)				
Vtopo: The roughness	s associated with the WAA.				
Decision:					
Smooth, flat, or very	y gentle undulating with little or n	o topographic	features		
			Subindex		0.1
Comments:		•			
Vwood: Porcontago of	f the WAA that is covered by woody v	ogotation			
Decision:	Title WAA that is covered by woody v	egetation.			
67 to 90 % of the W	'AA is covered with woody vegetat	tion			
			Subindex		0.75
Comments:					
Vmid: The average/me	ean coverage of the midstory (shrub/s	sapling) layer in	the WAA.		
Decision:	<u> </u>	<u> </u>			
	of the WAA is between 1-25%				
dotory coverage (2 17. ii 10 20 44 CC 11 1 23/0	ı	Subindex		0.25
Comments			Jubiliuex		0.23
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Ditch 3 - Crossing 3	Acreage	0.02
Vherb: The average/mean	coverage of the WAA by the her	baceous layer.			
Decision:					
Herbaceous cover in the	e WAA averages greater than 3	75%			
			Subindex		1
Comments:					
Vconnect: The number of	habitat types within a 600' of the	parameter of t	the WAA.		
Decision:					
Wetland plus two or mo	ore habitat type (other than fo	rested) OR th	ree or more habitat typ	es	
·			Subindex		0.75
Comments:					
Vdetritus: The amount of	the detritus on the WAA (A horize	on has to have	a value of 4 or less).		
Decision:	`		· · · · · · · · · · · · · · · · · · ·		
Greater than 85% of the	e area possesses an O or A hor	izon			
			Subindex		1
Comments:					_
Vredox: The amount of th	e WAA that exhibits redox featur	es an indication	of the chemical exchange	<u> </u>	
Decision:			<u> </u>		
0.1					
			Subindex		0.1
Comments:					
Vsorpt: The absorptive pro	operties of the soils in the WAA.				
Decision:					
1					
_		T	Subindex		1
Comments:			Jubiliuch		-
comments.					

Ditch 3 - Crossing 3

Total Acres	0.02
Impacted Acres	0.004

Wetla	and A (Pre Conditions)
Varible	Subindex
Vdur	1
Vfreq	0.5
Vtopo	0.1
Vwood	0.75
Vmid	0.25
Vherb	1
Vdetritus	1
Vredox	0.1
Vsorpt	1
Vconnect	0.75

٧	Vetland A (Post Conditions)
Varible	Subindex
Vdur	1
Vfreq	0.5
Vtopo	0.1
Vwood	0.75
Vmid	0.25
Vherb	1
Vdetritus	1
Vredox	0.1
Vsorpt	1
Vconnect	0.75

		Temporary Storage & Detention of Storage Water
	Squar	e Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]
	Pr	e Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]
	Po	st Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]
Pre-FCI	0.506	
Post-FCI	0.506	

		Maintain Plant and Animal Community	
		{Vmid + Vherb + Vconnect}/3	
		Pre Conditions = {0.1 + 1.0 + 1.0}/3	
		Post Conditions = {0.1 + 1.0 + 1.0}/3	
Pre-FCI	0.667		
Post-FCI	0.667		

		Removal & Sequestrian of Elements & Compounds
	[[Vwood + Vfr	eq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5
	Pre Cond	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
Pre-FCI	0.680	
Post-FCI	0.680	

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.020	0.016	0.506	0.010	0.506	0.008	0.002
Wetland A Maintain	0.020	0.016	0.667	0.013	0.667	0.011	0.003
Wetland A Removal	0.020	0.016	0.680	0.014	0.680	0.011	0.003

Subindex Subindex Subindex	
Subindex	0.5
Subindex	0.1
Subindex	0.5
Subindex	0.1
Subindex	0.1
	Subindex

Applicant	TxDOT, Houston District	WAA ID:	Ditch 4 - Crossing 3	Acreage	0.17
Vherb: The average/mean	coverage of the WAA by the herl	baceous layer	•		
Decision:					
Herbaceous cover in the	WAA averages between 25-5	50%			
			Subinde	K	0.5
Comments:					
Herbaceous vegetation v	was observed throughout 25 t	to 50 percen	t of the wetland area.		
	nabitat types within a 600' of the	parameter of	the WAA.		
Decision:					
Wetland plus two or mo	re habitat type (other than fo	rested) OR t		• •	
			Subinde	X	0.75
Comments:					
The following habitats w	vere located within 600 feet o	f Ditch 2: url	oan, maintained ROW ((grass), and fo	orested.
	he detritus on the WAA (A horizo	on has to have	e a value of 4 or less).		
Decision:					
Greater than 85% of the	area possesses an O or A hor	izon			
					_
			Subinde	x	1
Comments:			Subinde	x	1
Comments: O or A horizon was obse	rved in Ditch 4.		Subinde	K	1
	rved in Ditch 4.		Subinde	K	1
	rved in Ditch 4.		Subinde	X	1
O or A horizon was obse		os on indicati	'		1
O or A horizon was obse	erved in Ditch 4. e WAA that exhibits redox feature	es an indicatio	'		1
O or A horizon was obse Vredox: The amount of the Decision:	e WAA that exhibits redox feature	es an indicatio	'		1
O or A horizon was obse	e WAA that exhibits redox feature	es an indicatio	on of the chemical exchar	nge.	
O or A horizon was obse Vredox: The amount of the Decision: Redox features less than	e WAA that exhibits redox feature	es an indicatio	'	nge.	0.1
O or A horizon was obse Vredox: The amount of the Decision: Redox features less than Comments:	e WAA that exhibits redox feature		on of the chemical exchar	nge.	
O or A horizon was obse Vredox: The amount of the Decision: Redox features less than Comments:	e WAA that exhibits redox feature		on of the chemical exchar	nge.	
O or A horizon was obse Vredox: The amount of the Decision: Redox features less than Comments:	e WAA that exhibits redox feature		on of the chemical exchar	nge.	
O or A horizon was obse Vredox: The amount of the Decision: Redox features less than Comments:	e WAA that exhibits redox feature		on of the chemical exchar	nge.	
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs	e WAA that exhibits redox feature n 20% served within Ditch 4; hower		on of the chemical exchar	nge.	
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs	e WAA that exhibits redox feature		on of the chemical exchar	nge.	
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs Vsorpt: The absorptive pro Decision:	e WAA that exhibits redox feature 1 20% served within Ditch 4; howers sperties of the soils in the WAA.	ver, was less	Subinder	nge.	0.1
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs Vsorpt: The absorptive pro Decision:	e WAA that exhibits redox feature n 20% served within Ditch 4; hower	ver, was less	Subinder	nge. x) or soils with	0.1
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs Vsorpt: The absorptive production: The WAA is dominated by	e WAA that exhibits redox feature 1 20% served within Ditch 4; howers sperties of the soils in the WAA.	ver, was less	Subinder than 20 percent.	nge. x) or soils with	0.1
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs Vsorpt: The absorptive pro Decision: The WAA is dominated by Comments:	e WAA that exhibits redox feature a 20% served within Ditch 4; howere experties of the soils in the WAA. By montmorillonitic clayey soi	ver, was less	Subinder than 20 percent.	nge. x) or soils with	0.1
Vredox: The amount of the Decision: Redox features less than Comments: Redox features were obs Vsorpt: The absorptive production: The WAA is dominated by	e WAA that exhibits redox feature a 20% served within Ditch 4; howere experties of the soils in the WAA. By montmorillonitic clayey soi	ver, was less	Subinder than 20 percent.	nge. x) or soils with	0.1

Applicant	TxDOT, Houston District	WAA ID:	Ditch 4 - Crossing 3	Acreage	0.17
Vdur: The % of the WA	A that is flooded and/or ponded due	to the hydrolo	gy (i.e. flooding overbank	flow) of the ne	earby
waterway.	· ·	ŕ	o,	·	•
Decision:					
	80% of the WAA either floods a	nd/or nands fo	or at least 14 consecutiv	ve davs	
in an average year at	Some of the work either moods at	la, or portas to	Subindex	re days	1
Comments	_		Subilities		1
Comments:					
Vfreq: The frequency th	hat the WAA is flooded and/or pond	ed by nearby w	aterway.		
Decision:					
Floods or ponds 2 out	t of 5 years (100- year floodplain	1)			
riodus di ponas 2 da	tors years (100 year neoapian)		Subindex		0.5
Floods or need appur	ally 5 out of 5 years (floodway)		Jubiliuex		0.5
Floods of politicallities	ally 5 out of 5 years (floodway)				
Vtopo: The roughness a	associated with the WAA.				
Decision:					
Smooth, flat, or very	gentle undulating with little or n	o topographic	features		
· · · · · · · · · · · · · · · · ·	0	1 1 1 1 1 1 1	Subindex		0.1
Comments:			Judinack		0.1
Comments.					
Vwood: Percentage of t	the WAA that is covered by woody v	egetation.			
Decision:					
11 to 33% of the WA	A is covered with woody vegetat	ion			
			Subindex		0.25
Comments:	-				
Vmid: The average/mea	an coverage of the midstory (shrub/	sapling) layer in	the WAA.		
Decision:					
Midstory coverage of	f the WAA is equal to or less thar	າ1%			
			Subindex		0.1
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Ditch 4 - Crossing 3	Acreage	0.17
Vherb: The average/m	nean coverage of the WAA by the herl	paceous layer.			
Decision:					
Herbaceous cover in	the WAA is equal to or less than	1% (barren so	il or all shrub)		
			Subindex		0.5
Comments:					
Vconnect: The number	r of habitat types within a 600' of the	parameter of t	the WAA.		
Decision:	•	·			
Wetland plus two or	more habitat type (other than fo	rested) OR th	ree or more habitat type	es	
,	, , , , , , , , , , , , , , , , , , ,	· I	Subindex		0.75
Comments:					
Vdetritus: The amount	t of the detritus on the WAA (A horizo	 on has to have :	a value of 4 or less)		
Decision:		<u> </u>	a value of 1 of 1655).		
	f the area possesses an O or A hor	izon			
Greater than 65% of	the area possesses and or A nor	12011	Subindex		1
Comments:			Submidex		_
comments.					
Vradov: The amount of	of the WAA that exhibits redox feature	es an indication	of the chemical exchange		
Decision:	THE WAA that exhibits redox reactive	23 all illulcation	TOT THE CHEITICAL EXCHANGE	•	
0.1					
0.1			Subindex		0.1
Comments:			Subilitiex		0.1
Comments.					
Vecume. The above week	n proportion of the sails in the 1875 A				
	e properties of the soils in the WAA.				
Decision:					
1		T	0.11.1		
			Subindex		1
Comments:					

Ditch 4 - Crossing 3

Total Acres	0.17
Impacted Acres	0.03

Wetla	and A (Pre Conditions)	
Varible	Subindex	
Vdur	1	
Vfreq	0.5	
Vtopo	0.1	
Vwood	0.5	
Vmid	0.1	
Vherb	0.5	
Vdetritus	1	
Vredox	0.1	
Vsorpt	1	
Vconnect	0.75	

Wetland A (Post Conditions)					
Varible	Subindex				
Vdur	1				
Vfreq	0.5				
Vtopo	0.1				
Vwood	0.25				
Vmid	0.1				
Vherb	0.5				
Vdetritus	1				
Vredox	0.1				
Vsorpt	1				
Vconnect	0.75				

		Temporary Storage & Detention of Storage Water
	Squar	e Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]
	Pr	e Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]
	Po	st Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]
Pre-FCI	0.376	
Post-FCI	0.376	

		Maintain Plant and Animal Community	
		{Vmid + Vherb + Vconnect}/3	
		Pre Conditions = {0.1 + 1.0 + 1.0}/3	
		Post Conditions = {0.1 + 1.0 + 1.0}/3	
Pre-FCI	0.450		
Post-FCI	0.450		

		Removal & Sequestrian of Elements & Compounds
	[[Vwood + Vfr	eq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5
	Pre Cond	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
Pre-FCI	0.587	
Post-FCI	0.537	

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.170	0.140	0.376	0.064	0.376	0.053	0.011
Wetland A Maintain	0.170	0.140	0.450	0.077	0.450	0.063	0.014
Wetland A Removal	0.170	0.140	0.587	0.100	0.537	0.075	0.025

Applicant	TxDOT, Houston District	WAA ID:	Wet 8 - Crossing 3	Acreage	0.94
Vdur: The % of the WAA tha	at is flooded and/or ponded due	to the hydro	logy (i.e. flooding overba	nk flow) of the	nearby
waterway.					
Decision:					
In an average year at 80%	% of the WAA either floods ar	nd/or ponds	for at least 14 consecu	ıtive days	
			Subinde	x	1
Comments:					
Wetland 8 is mapped wit	hin the 100-year floodplain.				
Vfreg: The frequency that t	he WAA is flooded and/or pondo	ed by nearby	waterway.		
Decision:					
	5 years (100- year floodplain)			
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	- / Jan (- 10 / oan noodplain)	,	Subinde	x	0.5
Comments:			1 000.1100.		<u> </u>
Vtopo: The roughness associated					
Decision:	<u></u>				
	tle undulating with little or no	o topograph	ic features		
emocan, nac, or very gen		o 10 h 0 0 1 m h 1 1	Subinde	x	0.1
Comments:			0.0.0.0.0		0.2
	ain. No significant topograph	ic features w	vere observed		
Wetland o had a hat term		ic reatures v	rere observed.		
Vwood: Percentage of the \	WAA that is covered by woody v	egetation.			
Decision:	· ·				
	covered with woody vegetati	ion			
	, ,		Subinde	x	0.25
Comments:					
	n was observed within Wetla	ınd 8.			
Vmid: The average/mean co	overage of the midstory (shrub/s	sapling) laver	in the WAA.		
Decision:	5	, 3, 10			
Midstory coverage of the	WAA is between 1-25%				
22.12.7 00.10.000 01.010	2.10.000.00.12.2070		Subinde	x	0.25
Comments:			Jasinac		0.25
	served within Wetland 8.				
Limited iniustory was ob	cived within vvetiand 6.				

Applicant	TxDOT, Houston District	WAA ID:	Wet 8 - Crossing 3	Acreage	0.94
Vherb: The average/r	mean coverage of the WAA by the her	baceous layer	•		
Decision:					
Herbaceous cover i	n the WAA averages greater than ?	75%			
			Subinde	ex	1
Comments:					
Herbaceous vegeta	tion was observed throughout alm	ost the enti	e wetland area.		
	er of habitat types within a 600' of the	parameter o	f the WAA.		
Decision:					
Wetland plus four h	nabitats and/or surrounded by fore	ested	T		
			Subinde	ex	1
Comments:					
	ats were located within 600 feet o	of Wetland 8:	urban, open water, n	naintained RO	W (grass),
and forested.					
VI					
	nt of the detritus on the WAA (A horizo	on has to have	e a value of 4 or less).		
Decision:	£ + b				
Greater than 85% c	of the area possesses an O or A hor	rizon	Cultinal		4
Company on to:			Subinde	ex .	1
Comments:	observed in Wetland 8.				
O of A nonzon was	observed in Wetland 8.				
Vredox: The amount	of the WAA that exhibits redox feature	es an indicatio	on of the chemical excha	nge	
Decision:	or the war that exhibits ready reacti	es arr maicaire	or the oriented exerta	60.	
Redox features less	than 20%				
			Subinde	ex	0.1
Comments:					
	e observed within Wetland 8; how	verver, was l	ess than 20 percent.		
Vsorpt: The absorptiv	ve properties of the soils in the WAA.				
Vsorpt: The absorptiv	ve properties of the soils in the WAA.				
Decision:	ve properties of the soils in the WAA.	ils (clay, clay	loams, silty clay loam:	s) or soils with	high organic
Decision:		ils (clay, clay	loams, silty clay loam: Subinde		high organic
Decision:		ils (clay, clay			
Decision: The WAA is domina	ited by montmorillonitic clayey soi	ils (clay, clay			
Decision: The WAA is domina Comments:	ited by montmorillonitic clayey soi	ils (clay, clay			

Applicant	TxDOT, Houston District	WAA ID:	Wet 8 - Crossing 3	Acreage	0.94
Vdur: The % of the WA	AA that is flooded and/or ponded due	to the hydrolo	gy (i.e. flooding overbank	flow) of the n	earby
waterway.	· •	•		ĺ	•
Decision:					
	t 80% of the WAA either floods a	nd/or nands fo	or at least 14 consecutiv	ve davs	
in an average year at	- 10070 OF THE WAVE CITIES HOUGH A	la, or portas te	Subindex	·	1
Camananta	_		Subilitiex		1
Comments:					
Vfreq: The frequency t	that the WAA is flooded and/or pond	ed by nearby w	aterway.		
Decision:					
Floods or ponds 2 or	ut of 5 years (100- year floodplain)			
1100us 01 ponus 2 00	at or 5 years (100 year noouplain	, 	Subindex		0.5
Floods or nond annu	ually 5 out of 5 years (floodway)		Jubiliuex		0.5
Floods of polid allilu	lally 5 out of 5 years (floodway)				
Vtopo: The roughness	associated with the WAA.				
Decision:					
Smooth, flat, or very	gentle undulating with little or n	o topographic	features		
			Subindex		0.1
Comments:					
comments.					
	the WAA that is covered by woody v	egetation.			
Decision:					
11 to 33% of the WA	AA is covered with woody vegetat	ion			
			Subindex		0.25
Comments:		•			•
	ean coverage of the midstory (shrub/	sapling) layer in	the WAA.		
Decision:					
Midstory coverage o	of the WAA is between 1-25%				
		$\overline{}$	Subindex		0.25
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Wet 8 - Crossing 3	Acreage	0.94
Vherb: The average/me	ean coverage of the WAA by the herl	baceous layer.			
Decision:					
Herbaceous cover in	the WAA averages greater than 3	75%			
			Subindex		1
Comments:					
Vconnect: The number	r of habitat types within a 600' of the	parameter of t	he WAA.		
Decision:					
Wetland plus four ha	abitats and/or surrounded by fore	ested			
·			Subindex		1
Comments:					
Vdetritus: The amount	t of the detritus on the WAA (A horizo	on has to have a	a value of 4 or less).		
Decision:	•	,	·		
Greater than 85% of	the area possesses an O or A hor	izon			
			Subindex		1
Comments:					_
Vredox: The amount o	f the WAA that exhibits redox feature	es an indication	of the chemical exchange	<u></u>	
Decision:			<u> </u>		
0.1					
			Subindex		0.1
Comments:					
Vsorpt: The absorptive	e properties of the soils in the WAA.				
Decision:					
1					
			Subindex		1
Comments:					

Wet 8 - Crossing 3

Total Acres	0.94
Impacted Acres	0.003

Wetland A (Pre Conditions)					
Varible	Subindex				
Vdur	1				
Vfreq	0.5				
Vtopo	0.1				
Vwood	0.25				
Vmid	0.25				
Vherb	1				
Vdetritus	1				
Vredox	0.1				
Vsorpt	1				
Vconnect	1				

٧	Wetland A (Post Conditions)					
Varible	Subindex					
Vdur	1					
Vfreq	0.5					
Vtopo	0.1					
Vwood	0.25					
Vmid	0.25					
Vherb	1					
Vdetritus	1					
Vredox	0.1					
Vsorpt	1					
Vconnect	1					

	Temporary Storage & Detention of Storage Water				
	Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]				
	Pre Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
	Po	st Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
Pre-FCI	0.506				
Post-FCI	0.506				

		Maintain Plant and Animal Community
		{Vmid + Vherb + Vconnect}/3
		Pre Conditions = {0.1 + 1.0 + 1.0}/3
		Post Conditions = {0.1 + 1.0 + 1.0}/3
Pre-FCI	0.750	
Post-FCI	0.750	

	Removal & Sequestrian of Elements & Compounds					
	[[Vwood + Vfr	eq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5				
	Pre Cond	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5				
	Post Con	ditions = $[[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] + [{0.3 + 0.1 + 0.1}/3]]/5$				
Pre-FCI	0.580					
Post-FCI	0.580					

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.940	0.937	0.506	0.476	0.506	0.474	0.002
Wetland A Maintain	0.940	0.937	0.750	0.705	0.750	0.703	0.002
Wetland A Removal	0.940	0.937	0.580	0.545	0.580	0.543	0.002

Applicant	TxDOT, Houston District	WAA ID:	Wet 6 -	Crossing 6	Acreage	0.01
Vherb: The average/r	nean coverage of the WAA by the he	rbaceous laye	er.			
Decision:						
Herbaceous cover i	n the WAA averages greater than	75%				
				Subinde	ĸ	1
Comments:						
Herbaceous vegeta	tion was observed throughout all	most the ent	tire wetla	and area.		
[<u>.</u>			6.1			
	er of habitat types within a 600' of th	ne parameter	of the WA	Ч А.		
Decision:		:t1\ OD	41			
wetiand plus two o	r more habitat type (other than f	orestea) OR	three or		• •	0.75
Community				Subinde	× .	0.75
Comments:	ata wasan la aata di withiin COO fa at	-£\\/-+	0	······································	NA/ /====\\ ==	-l
The following habit	ats were located within 600 feet	of Wetland	s: urban,	maintained RC	ow (grass), and	d forested.
Vdatritus: The amour	nt of the detritus on the WAA (A hori	zon has to ha	vo a value	of 4 or loss)		
Decision:	it of the detritus of the WAA (A non	2011 1103 10 110	ve a value	01 4 01 1633).		
	f the area possesses an O or A ho	orizon				
Greater than 85% 0	the area possesses an O or A no	7112011		Subinde	<u> </u>	1
Comments:			1	Subilide	<u> </u>	_
	observed in Wetland 8.					
O OI A HOHZOH Was	observed in weetand o.					
Vredox: The amount	of the WAA that exhibits redox featu	res an indicat	ion of the	e chemical exchai	nge.	
Decision:						
Redox features less	than 20%					
				Subinde	ĸ	0.1
Comments:			•			•
Redox features wer	e observed within Wetland 8; ho	werver, was	less tha	n 20 percent.		
Vsorpt: The absorptive	re properties of the soils in the WAA.					
Decision:						
Decision:	re properties of the soils in the WAA.		y loams,	silty clay loams) or soils with	high organic
Decision:			y loams,	silty clay loams Subinde :		high organic
Decision:			y loams,			
Decision: The WAA is domina	ted by montmorillonitic clayey so		y loams,			
Decision: The WAA is domina Comments:	ted by montmorillonitic clayey so		y loams,			

Applicant	TxDOT, Houston District	WAA ID:	Wet 6 - Crossing 6	Acreage	0.01
Vdur: The % of the WA	AA that is flooded and/or ponded due	to the hydrolo	gy (i.e. flooding overbank	flow) of the ne	earby
waterway.					
Decision:					
The area is NOT subj	ect to flooding				
			Subindex		0
Comments:					
Vfreq: The frequency t	that the WAA is flooded and/or pond	ed by nearby w	aterway.		
Decision:					
The area is not subje	ect to flooding or ponding (500 yr	floodplain)			
			Subindex		0
Floods or pond annu	ually 5 out of 5 years (floodway)	<u> </u>			
Vtopo: The roughness	associated with the WAA.				
Decision:					
	gentle undulating with little or n	o topographic	features		
,	<u> </u>		Subindex		0.1
Comments:					
Vwood: Percentage of	the WAA that is covered by woody v	egetation.			
Decision:					
0-10% if the WAA is	covered with woody vegetation				
	, ,		Subindex		0.1
Comments:					
Vmid: The average/me	ean coverage of the midstory (shrub/	sapling) layer in	the WAA.		
Decision:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,			
	of the WAA is equal to or less thar	າ1%			
, 11 1 30 0	,		Subindex		0.1
Comments:			2 3.12 4 4 6 1		

Applicant	TxDOT, Houston District	WAA ID:	Wet 6 - Crossing 6	Acreage	0.01
Vherb: The average/m	ean coverage of the WAA by the her	baceous layer.			
Decision:					
Herbaceous cover in	the WAA is equal to or less than	1% (barren so	il or all shrub)		
			Subindex		0.1
Comments:					
Vconnect: The number	r of habitat types within a 600' of the	parameter of t	he WAA.		
Decision:	•				
	homes, lawn, concrete, etc.)				
, ,			Subindex		0.1
Comments:		L			
Vdetritus: The amount	t of the detritus on the WAA (A horizo	on has to have a	a value of 4 or less)		
Decision:			2 value of 1 of 1635).		
Site is plowed					
Site is plowed			Subindex		0.1
Comments:			Jubiliucx		0.1
comments.					
Vradov: The amount o	of the WAA that exhibits redox feature	es an indication	of the chemical exchange		
Decision:	the WAA that exhibits redox reaction	es all illulcation	of the chemical exchange	<u></u>	
0.1					
0.1			Subindex		0.1
Commonts			Jubiliuex		0.1
Comments:					
Vecume. The all a sure!	n proportion of the sails in the 1870 A				
	e properties of the soils in the WAA.				
Decision:					
0.1		T			0.1
			Subindex		0.1
Comments:					

Wet 6 - Crossing 6

-	
Total Acres	0.01
Impacted Acres	0.010

Wetland A (Pre Conditions)				
Varible	Subindex			
Vdur	1			
Vfreq	0.5			
Vtopo	0.1			
Vwood	0.1			
Vmid	0.1			
Vherb	1			
Vdetritus	1			
Vredox	0.1			
Vsorpt	1			
Vconnect	0.75			

Wetland A (Post Conditions)				
Varible	Subindex			
Vdur	0			
Vfreq	0			
Vtopo	0.1			
Vwood	0.1			
Vmid	0.1			
Vherb	0.1			
Vdetritus	0.1			
Vredox	0.1			
Vsorpt	0.1			
Vconnect	0.1			

	Temporary Storage & Detention of Storage Water				
	Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]				
	Pre Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
	Post Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
Pre-FCI	0.479				
Post-FCI	0.000				

		Maintain Plant and Animal Community
		{Vmid + Vherb + Vconnect}/3
		Pre Conditions = {0.1 + 1.0 + 1.0}/3
		Post Conditions = {0.1 + 1.0 + 1.0}/3
Pre-FCI	0.617	
Post-FCI	0.100	

		Removal & Sequestrian of Elements & Compounds
	[[Vwood + Vfr	eq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5
	Pre Cond	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
Pre-FCI	0.540	
Post-FCI	0.060	

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.010	0.010	0.479	0.005	0.000	0.000	0.005
Wetland A Maintain	0.010	0.010	0.617	0.006	0.100	0.001	0.005
Wetland A Removal	0.010	0.010	0.540	0.005	0.060	0.001	0.005

Applicant	TxDOT, Houston District	WAA ID:	Wet 7 - Crossing 7	Acreage	0.16
Vdur: The % of the WAA	that is flooded and/or ponded due t	to the hydrolog	gy (i.e. flooding overbank	flow) of the near	by
waterway.					
Decision:					
In an average year at a	80% of the WAA either floods and	d/or ponds fo	r at least 14 consecuti	ve days	
			Subinde	х	1
Comments:			•		
Wetland 7 is mapped	within the 100-year floodplain.				
Vfreq: The frequency that	at the WAA is flooded and/or ponde	d by nearby wa	aterway.		
Decision:					
Floods or ponds 2 out	of 5 years (100- year floodplain)				
			Subinde	x	0.5
Comments:					
Vtopo: The roughness as	ssociated with the WAA.				
Decision:					
Smooth, flat, or very g	gentle undulating with little or no	topographic	features		
			Subinde	х	0.1
Comments:					
Wetland 7 had a flat t	errain. No significant topographic	c features we	re observed.		
Vwood: Percentage of th	he WAA that is covered by woody ve	getation.			
Decision:					
34 to 66% of the WAA	A is covered with woody vegetation	on			
			Subinde	x	0.5
Comments:			Subinde	x	0.5
Comments:	s observed within Wetland 7.		Subinde	x	0.5
Comments:	s observed within Wetland 7.		Subinde	x	0.5
Comments:	s observed within Wetland 7.		Subinde	x	0.5
Comments:	s observed within Wetland 7.		Subinde	x	0.5
Comments: Woody vegetation wa	ns observed within Wetland 7. n coverage of the midstory (shrub/sa	apling) layer in		x	0.5
Comments: Woody vegetation wa Vmid: The average/mea		apling) layer in		x	0.5
Comments: Woody vegetation wa Vmid: The average/mea Decision:				x	0.5
Comments: Woody vegetation wa Vmid: The average/mea Decision:	n coverage of the midstory (shrub/sa				0.5
Comments: Woody vegetation wa Vmid: The average/mea Decision:	n coverage of the midstory (shrub/sa		the WAA.		

Applicant	TxDOT, Houston District	WAA ID:	Wet 7 - Crossing 7	Acreage	0.16
Vherb: The average/	mean coverage of the WAA by the herba	ceous layer.			
Decision:					
Herbaceous cover i	in the WAA averages between 25-50	%			
			Subindex		0.5
Comments:					
Herbaceous vegeta	ition was observed throughout 25 to	50 percent	of the wetland area.		

Vconnect: The number of habitat types within a 600' of the parameter of the WAA.

Decision:

Wetland plus four habitats and/or surrounded by forested

Subindex

0.75

Comments:

The following habitats were located within 600 feet of Wetland 7: urban, maintained ROW (grass), and forested.

Vdetritus: The amount of the detritus on the WAA (A horizon has to have a value of 4 or less).

Decision:
Greater than 85% of the area possesses an O or A horizon

Subindex

1

Comments:

Vredox: The amount of the WAA that exhibits redox features an indication of the chemical exchange.

Decision:

Redox features less than 20%

O or A horizon was observed in Wetland 7.

Subindex 0.1

Comments:

Redox features were observed within Wetland 7; howerver, was less than 20 percent.

Vsorpt: The absorptive properties of the soils in the WAA.

Decision:

The WAA is dominated by montmorillonitic clayey soils (clay, clay loams, silty clay loams) or soils with high organic (2

Subindex 1

Comments:

The area was dominated by clay soils.

Applicant	TxDOT, Houston District	WAA ID:	Wet 7 - Crossing 7	Acreage	0.16
Vdur: The % of the WAA	A that is flooded and/or ponded due to	the hydrology	(i.e. flooding overbank flo	w) of the nearb	ру
waterway.					
Decision:					
The area is NOT subje	ect to flooding				
			Subindex		0
Comments:			- Jubilidex		
comments.					
	nat the WAA is flooded and/or ponded	by nearby wat	erway.		
Decision:					
The area is not subject	ct to flooding or ponding (500 yr flo	odplain)			
			Subindex		0
Floods or pond annua	ally 5 out of 5 years (floodway)				
Vtono: The roughness a	associated with the WAA.				
Decision:	associated with the with.				
	gentle undulating with little or no t	tonographic f	aaturas		
Sillouti, flat, or very	gentie andalating with little of no		Subindex		0.1
C			Subilidex		0.1
Comments:					
Vwood: Percentage of t	the WAA that is covered by woody veg	etation.			
Decision:					
0-10% if the WAA is c	overed with woody vegetation				
			Subindex		0.1
Comments:					
Vmid: The average/mod	an coverage of the midstory (shrub/sag	nling) laver in +	he MAA		
Decision:	an coverage of the illustory (sinub/sap	mig, layer iii ti	IIC VV AA.	 	
	itho MAA is oqual to ou loss the sade)/			
ivilustory coverage of	the WAA is equal to or less than 19	/o	6 1	-	0.1
			Subindex		0.1
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Wet 7 - Crossing 7	Acreage	0.16
Vherb: The average/mea	n coverage of the WAA by the herba	iceous layer.			
Decision:					
Herbaceous cover in th	ne WAA is equal to or less than 19	% (barren soil	or all shrub)		
			Subindex		0.1
Comments:			•		
Vconnect: The number o	f habitat types within a 600' of the p	arameter of th	e WAA.		
Decision:					
Surround by urban (ho	mes, lawn, concrete, etc.)				
, ,			Subindex		0.1
Comments:					
Vdetritus: The amount of	f the detritus on the WAA (A horizon	has to have a	value of 4 or less).		
Decision:					
Site is plowed					
			Subindex		0.1
Comments:				!	
Vredox: The amount of t	he WAA that exhibits redox features	an indication o	of the chemical exchange.		
Decision:					
0.1					
0.2			Subindex		0.1
Comments:			- January		0.12
Comments					
Vsornt: The absorptive n	roperties of the soils in the WAA.				
Decision:	operates of the sons in the work.				
0.1					
0.1			Subindex		0.1
Comments:			Jubilidex		0.1
Comments.					

Wet 7 - Crossing 7

Total Acres	0.16
Impacted Acres	0.16

Wetland A (Pre Conditions)				
Varible	Subindex			
Vdur	1			
Vfreq	0.5			
Vtopo	0.1			
Vwood	0.5			
Vmid	0.1			
Vherb	0.5			
Vdetritus	1			
Vredox	0.1			
Vsorpt	1			
Vconnect	0.75			

Wetland A (Post Conditions)				
Varible	Subindex			
Vdur	0			
Vfreq	0			
Vtopo	0.1			
Vwood	0.1			
Vmid	0.1			
Vherb	0.1			
Vdetritus	0.1			
Vredox	0.1			
Vsorpt	0.1			
Vconnect	0.1			

	Temporary Storage & Detention of Storage Water				
Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]					
	Pi	e Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
	Post Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
Pre-FCI	0.376				
Post-FCI	0.000				

		Maintain Plant and Animal Community			
	{Vmid + Vherb + Vconnect}/3				
	Pre Conditions = {0.1 + 1.0 + 1.0}/3				
		Post Conditions = {0.1 + 1.0 + 1.0}/3			
Pre-FCI	0.450				
Post-FCI	0.100				

Removal & Sequestrian of Elements & Compounds					
[[Vwood + Vfreq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5					
	Pre Conditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5				
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5			
Pre-FCI	0.587				
Post-FCI	0.060				

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.160	0.160	0.376	0.060	0.000	0.000	0.060
Wetland A Maintain	0.160	0.160	0.450	0.072	0.100	0.016	0.056
Wetland A Removal	0.160	0.160	0.587	0.094	0.060	0.010	0.084

Applicant	TxDOT, Houston District	WAA ID:	Wet 9 - Cro	ssing 8 Acreage	0.10
	hat is flooded and/or ponded due t				nearby
waterway.	•			,	,
Decision:					
In an average year at 80	0% of the WAA either floods and	d/or ponds fo	r at least 14	consecutive days	
				Subindex	1
Comments:					
Wetland 9 is mapped w	ithin the 100-year floodplain.				
Man The frequency that	the MAA is fleeded and/or needs	d by poorby	+ 0 57 4 57 4		
Decision:	the WAA is flooded and/or ponde	u by flearby wa	itei way.		
	f 5 years (100- year floodplain)				
riodus di politus 2 dut di	13 years (100- year floodplain)			Subindex	0.5
Comments:				Jubiliuex	0.3
Comments.					
Vtopo: The roughness asso	ociated with the WAA				
Decision:	Sciated with the WAA.				
	ntle undulating with little or no	topographic	features		
omoden, nacy or very gen	THE GRADIENT WELL OF HE	topog.up.iiic	Teatares	Subindex	0.1
Comments:			<u>!</u>		
	rain. No significant topographic	c features wei	re observed.		
Vwood: Percentage of the	WAA that is covered by woody ve	getation.			
Decision:					
Decision.					
200.0.0	s covered with woody vegetation	on			
200.0.0	s covered with woody vegetation	on		Subindex	0.25
11 to 33% of the WAA is	s covered with woody vegetation	on		Subindex	0.25
11 to 33% of the WAA is	s covered with woody vegetation			Subindex	0.25
11 to 33% of the WAA is				Subindex	0.25
11 to 33% of the WAA is				Subindex	0.25
11 to 33% of the WAA is				Subindex	0.25
11 to 33% of the WAA is Comments: Limited woody vegetation		nd 9.	the WAA.	Subindex	0.25
11 to 33% of the WAA is Comments: Limited woody vegetation Vmid: The average/mean of Decision:	on was observed within Wetlar coverage of the midstory (shrub/sa	nd 9.	the WAA.	Subindex	0.25
11 to 33% of the WAA is Comments: Limited woody vegetation Vmid: The average/mean of Decision:	on was observed within Wetlar	nd 9.	the WAA.	Subindex	0.25
11 to 33% of the WAA is Comments: Limited woody vegetation Vmid: The average/mean of Decision:	on was observed within Wetlar coverage of the midstory (shrub/sa	nd 9.	the WAA.	Subindex	0.25
11 to 33% of the WAA is Comments: Limited woody vegetation Vmid: The average/mean of Decision:	on was observed within Wetlar coverage of the midstory (shrub/sa	nd 9.	the WAA.		

Applicant	TxDOT, Houston District	WAA ID:	Wet 9 - Crossing 8	Acreage	0.10
Vherb: The average/mean c	overage of the WAA by the herba	iceous layer.			
Decision:					
Herbaceous cover in the	WAA averages greater than 75	5%			
			Subinde	x	1
Comments:					
Herbaceous vegetation w	as observed throughout almo	st the entire	wetland area.		
Vconnect: The number of ha	abitat types within a 600' of the p	arameter of th	ne WAA.		
Decision:					
Wetland plus four habitat	ts and/or surrounded by fores	ted			
			Subinde	x	1
Comments:					
The following habitats we	ere located within 600 feet of '	Wetland 9: u	rban, open water, mai	ntained ROW	(grass), and
forested.					
_					
Vdetritus: The amount of the	e detritus on the WAA (A horizon	has to have a	value of 4 or less).		
Decision:					
Greater than 85% of the	area possesses an O or A horiz	on			
			Subinde	x	1
Comments:					
O or A horizon was obser	ved in Wetland 9.				
	WAA that exhibits redox features	an indication	of the chemical exchang	e.	
Decision:					
Redox features less than	20%				
			Subinde	x	0.1
Comments:					
Redox features were obs	erved within Wetland 9; howe	rver, was les	s than 20 percent.		
					1
	erties of the soils in the WAA.				
Decision:		, , , , ,		,,	
The WAA is dominated by	montmorillonitic clayey soils	(clay, clay lo			
			Subinde	x	1
Comments:					
The area was dominated	by clay soils.				

Applicant	TxDOT, Houston District	WAA ID:	Wet 9 - Crossing 8	Acreage	0.10
Vdur: The % of the WAA that	is flooded and/or ponded due to	o the hydrology	(i.e. flooding overbank flo	ow) of the nearby	/
waterway.					
Decision:					
The area is NOT subject to	flooding				
			Subindex		0
Comments:					
Vfreq: The frequency that the	e WAA is flooded and/or ponded	d by nearby wat	erway.		
Decision:					
The area is not subject to f	flooding or ponding (500 yr fl	oodplain)			
			Subindex		0
Floods or pond annually 5	out of 5 years (floodway)			_	
					•
Vtopo: The roughness associa	ated with the WAA.				
Decision:					
Smooth, flat, or very gentl	e undulating with little or no	topographic fo	eatures		
, , , , , ,			Subindex		0.1
Comments:		•			
Vwood: Percentage of the W	AA that is covered by woody veg	getation.			
Decision:					
0-10% if the WAA is covere	ed with woody vegetation				
			Subindex		0.1
Comments:		•		•	
Vmid: The average/mean cov	verage of the midstory (shrub/sa	pling) layer in th	ne WAA.		
Decision:					
	WAA is equal to or less than1	%			
, 0.2.2.3.2.0			Subindex		0.1
Comments:			2 3 3		

Applicant	TxDOT, Houston District	WAA ID:	Wet 9 - Crossing 8	Acreage	0.10
Vherb: The average/mean	coverage of the WAA by the herba	aceous layer.			
Decision:					
Herbaceous cover in the	WAA is equal to or less than 19	% (barren soil	or all shrub)		
			Subindex		0.1
Comments:					
Vconnect: The number of I	habitat types within a 600' of the p	parameter of th	e WAA.		
Decision:					
	nes, lawn, concrete, etc.)				
(,,,,,		Subindex		0.1
Comments:					U
Comments					
Vdetritus: The amount of t	the detritus on the WAA (A horizon	has to have a	value of 1 or less)		
Decision:	The detitus of the WAA (A fiorizon	i ilas to ilave a	value 01 4 01 1e33/.		
Site is plowed					
Site is piowed			Subindex		0.1
Comments:			Subilidex		0.1
Comments.					
Maria de la Theorem and a fabric	- NA/A A Al A	! ! !	fals showing such as a		
	e WAA that exhibits redox features	an indication c	of the chemical exchange.		
Decision:					
0.1					
			Subindex		0.1
Comments:					
	pperties of the soils in the WAA.				
Decision:					
0.1					
			Subindex		0.1
Comments:					

Wet 9 - Crossing 8

Total Acres	0.10
Impacted Acres	0.10

Wetland A (Pre Conditions)				
Varible	Subindex			
Vdur	1			
Vfreq	0.5			
Vtopo	0.1			
Vwood	0.25			
Vmid	0.25			
Vherb	1			
Vdetritus	1			
Vredox	0.1			
Vsorpt	1			
Vconnect	1			

Wetland A (Post Conditions)				
Varible	Subindex			
Vdur	0			
Vfreq	0			
Vtopo	0.1			
Vwood	0.1			
Vmid	0.1			
Vherb	0.1			
Vdetritus	0.1			
Vredox	0.1			
Vsorpt	0.1			
Vconnect	0.1			

	Temporary Storage & Detention of Storage Water			
	Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]			
	Pre Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
	Post Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
Pre-FCI	0.506			

Pre-FCI	0.506
Post-FCI	0.000

		Maintain Plant and Animal Community	
		{Vmid + Vherb + Vconnect}/3	
		Pre Conditions = {0.1 + 1.0 + 1.0}/3	
		Post Conditions = {0.1 + 1.0 + 1.0}/3	
Pro-FCI	0.750		

Pre-FCI	0.750
Post-FCI	0.100

	Removal & Sequestrian of Elements & Compounds				
	[[Vwood + Vfreq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5				
	Pre Conditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5				
	Post Conditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5				
Dro-ECI	0.580				

Post-FCI	0.060
Pre-FCI	0.580

	Size (acre)						
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.100	0.100	0.506	0.051	0.000	0.000	0.051
Wetland A Maintain	0.100	0.100	0.750	0.075	0.100	0.010	0.065
Wetland A Removal	0.100	0.100	0.580	0.058	0.060	0.006	0.052

Applicant TxDOT, Houston District WAA ID: Wet 10 - Crossing 9 Acreage 0.06

Vdur: The % of the WAA that is flooded and/or ponded due to the hydrology (i.e. flooding overbank flow) of the nearby waterway.

Decision:
In an average year at 80% of the WAA either floods and/or ponds for at least 14 consecutive days

Subindex 1

Comments:

Wetland 10 is mapped within the 100-year floodplain.

Vfreq: The frequency that the WAA is flooded and/or ponded by nearby waterway.

Decision:

Floods or ponds 2 out of 5 years (100- year floodplain)

Subindex 0.25

Comments:

Wetland 10 floods or ponds 2 out of 5 years and is within the 100- year floodplain but there are no notable elevation changes within this wetland.

Vtopo: The roughness associated with the WAA.

Decision:

Smooth, flat, or very gentle undulating with little or no topographic features

Subindex 0.1

Comments:

Wetland 10 had a flat terrain. No significant topographic features were observed.

Vwood: Percentage of the WAA that is covered by woody vegetation.

Decision:

0-10% if the WAA is covered with woody vegetation

Subindex 0.1

Comments:

No woody vegetation was observed within Wetland 10.

Vmid: The average/mean coverage of the midstory (shrub/sapling) layer in the WAA.

Decision:

Midstory coverage of the WAA is equal to or less than 1%

Subindex 0.1

Comments:

No midstory was observed within Wetland 10.

WAA ID: Wet 10 - Crossing 9 **Applicant** TxDOT, Houston District Acreage 0.06 Vherb: The average/mean coverage of the WAA by the herbaceous layer. Decision: Herbaceous cover in the WAA averages greater than 75% **Subindex** Comments: Herbaceous vegetation was observed throughout almost the entire wetland area. Vconnect: The number of habitat types within a 600' of the parameter of the WAA. Decision: Wetland plus two or more habitat type (other than forested) OR three or more habitat types Subindex 0.75 Comments: The following habitats were located within 600 feet of Wetland 10: urban, maintained ROW (grass), and forested. Vdetritus: The amount of the detritus on the WAA (A horizon has to have a value of 4 or less). **Decision:** Greater than 85% of the area possesses an O or A horizon **Subindex** 1 Comments: O or A horizon was observed in Wetland 10. Vredox: The amount of the WAA that exhibits redox features an indication of the chemical exchange. **Decision:** Redox features less than 20% Subindex 0.1 Comments:

Vsorpt: The absorptive properties of the soils in the WAA.

Decision:

The WAA is dominated by montmorillonitic clayey soils (clay, clay loams, silty clay loams) or soils with high organic

Redox features were observed within Wetland 10; howerver, was less than 20 percent.

Subindex 1

Comments:

The area was dominated by clay soils.

Applicant	TxDOT, Houston District	WAA ID:	Wet 10 - Crossing 9	Acreage	0.06
Vdur: The % of the W	AA that is flooded and/or ponded due to	the hydrolo	gy (i.e. flooding overbank f	low) of the ne	earby
waterway.	· ·		J		ŕ
Decision:					
The area is NOT sub	piect to flooding				
	,jees se		Subindex		0
Comments:			Jubiliack		
comments.					
	that the WAA is flooded and/or ponded	by nearby w	aterway.		
Decision:					
The area is not sub	ject to flooding or ponding (500 yr flo	oodplain)			
			Subindex		0
Floods or pond ann	ually 5 out of 5 years (floodway)				
Vtono: The roughnes	s associated with the WAA.				
Decision:	3 d330clated with the WAA.				
	ry gentle undulating with little or no	tonographic	foatures		
Simouth, hat, or ver	y gentie andalating with little of no	topograpnic	Subindex		0.1
Camananta			Subilidex		0.1
Comments:					
Vwood: Percentage of	of the WAA that is covered by woody veg	etation.			
Decision:					
0-10% if the WAA is	s covered with woody vegetation				
			Subindex		0.1
Comments:					
Vmid: The average/m	nean coverage of the midstory (shrub/sa	nling) laver in	the WAA		
Decision:	can coverage of the finastory (siliub/sa	Jiii 6/ idyci iii	i die waa		
	of the MAA is equal to or less than 1	0/			
ivilustory coverage	of the WAA is equal to or less than 1	/0 T	6 1.1.1		0.4
_			Subindex		0.1
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Wet 10 - Crossing 9	Acreage	0.06
Vherb: The average/me	ean coverage of the WAA by the her	baceous layer.			
Decision:					
Herbaceous cover in	the WAA is equal to or less than	1% (barren so	il or all shrub)		
			Subindex		0.1
Comments:					
Vconnect: The number	r of habitat types within a 600' of the	parameter of t	he WAA.		
Decision:					
Surround by urban (h	homes, lawn, concrete, etc.)				
			Subindex		0.1
Comments:					
Vdetritus: The amount	t of the detritus on the WAA (A horize	on has to have a	a value of 4 or less).		
Decision:					
Site is plowed					
·			Subindex		0.1
Comments:					
Vredox: The amount of	f the WAA that exhibits redox feature	es an indication	of the chemical exchange	<u>.</u>	
Decision:					
0.1					
			Subindex		0.1
Comments:		•			
Vsorpt: The absorptive	e properties of the soils in the WAA.				
Decision:					
0.1					
			Subindex		0.1
Comments:					

Wet 10 - Crossing 9

Total Acres	0.06
Impacted Acres	0.06

Wetla	Wetland A (Pre Conditions)				
Varible	Subindex				
Vdur	1				
Vfreq	0.25				
Vtopo	0.1				
Vwood	0.1				
Vmid	0.1				
Vherb	1				
Vdetritus	1				
Vredox	0.1				
Vsorpt	1				
Vconnect	0.75				

V	Wetland A (Post Conditions)				
Varible	Subindex				
Vdur	0				
Vfreq	0				
Vtopo	0.1				
Vwood	0.1				
Vmid	0.1				
Vherb	0.1				
Vdetritus	0.1				
Vredox	0.1				
Vsorpt	0.1				
Vconnect	0.1				

	Temporary Storage & Detention of Storage Water				
	Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]				
	Pre Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]				
	Po	st Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
Pre-FCI	0.403				
Post-FCI	0.000				

		Maintain Plant and Animal Community	
		{Vmid + Vherb + Vconnect}/3	
		Pre Conditions = {0.1 + 1.0 + 1.0}/3	
		Post Conditions = {0.1 + 1.0 + 1.0}/3	
Pre-FCI	0.617		
Post-FCI	0.100		

		Removal & Sequestrian of Elements & Compounds
	[[Vwood + Vfr	eq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5
	Pre Cond	litions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5
Pre-FCI	0.490	
Post-FCI	0.060	

	Siz	e (acre)					
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.060	0.058	0.403	0.024	0.000	0.000	0.024
Wetland A Maintain	0.060	0.058	0.617	0.037	0.100	0.006	0.031
Wetland A Removal	0.060	0.058	0.490	0.029	0.060	0.003	0.026

Applicant	TxDOT, Houston District	WAA ID:	Wet 18 - Crossing 12	Acreage	0.70
Vdur: The % of the WA	AA that is flooded and/or ponded due	to the hydrol	ogy (i.e. flooding overbank	flow) of the nea	rby
waterway.					
Decision:					
In an average year at	t 80% of the WAA either floods ar	nd/or ponds	for at least 14 consecuti	ve days	
			Subinde	(1
Comments:				-	
Wetland 18 is mappe	ed within the 100-year floodplain				
Vfreq: The frequency t	that the WAA is flooded and/or pond	ed by nearby	waterway.		
Decision:					
Floods or ponds 2 or	ut of 5 years (100- year floodplain	1)			
			Subinde	(0.5
Comments:			•	•	
Vtopo: The roughness	associated with the WAA.				
Decision:					
Smooth. flat. or verv	gentle undulating with little or n	o topograph	ic features		
, , ,	<u> </u>		Subinde	(0.1
Comments:			Į.		
	at terrain. No significant topograp	hic features	were observed.		
	and the confirmation of page up				
Vwood: Percentage of	the WAA that is covered by woody v	egetation.			
	the WAA that is covered by woody v	egetation.			
Decision:		regetation.			
Decision:	the WAA that is covered by woody v	regetation.	Subinde		0.1
Decision: 0-10% if the WAA is		regetation.	Subinde	(0.1
Decision: 0-10% if the WAA is of Comments:	covered with woody vegetation		Subinde	κ	0.1
Decision: 0-10% if the WAA is of Comments:			Subinde	(0.1
Decision: 0-10% if the WAA is of Comments:	covered with woody vegetation		Subinde	ζ	0.1
Decision: 0-10% if the WAA is of Comments:	covered with woody vegetation		Subinde	(0.1
Decision: 0-10% if the WAA is of the WAA is	covered with woody vegetation on was observed within Wetland 1	.8.	'	(0.1
Decision: 0-10% if the WAA is of the WAA is	covered with woody vegetation	.8.	'	(0.1
Decision: 0-10% if the WAA is of the WAA is	covered with woody vegetation n was observed within Wetland 1 ean coverage of the midstory (shrub/s	.8. (sapling) layer	'	(0.1
Decision: 0-10% if the WAA is of the WAA is	covered with woody vegetation on was observed within Wetland 1	.8. (sapling) layer	in the WAA.		
Decision: 0-10% if the WAA is of the WAA is	covered with woody vegetation n was observed within Wetland 1 ean coverage of the midstory (shrub/s	.8. (sapling) layer	'		0.1

Applicant	TxDOT, Houston District	WAA ID:	Wet 18 - Crossing 12	Acreage	0.70
Vherb: The average/mea	n coverage of the WAA by the herk	oaceous layer.			
Decision:					
Herbaceous cover in the	ne WAA averages greater than 7	75%			
			Subinde	K	1
Comments:					
Herbaceous vegetation	n was observed throughout alm	ost the entir	e wetland area.		
Vconnect: The number o	f habitat types within a 600' of the	parameter of	the WAA.		
Decision:					
Wetland plus two or m	nore habitat type (other than fo	rested) OR tl	nree or more habitat typ	oes	
			Subinde	K	0.75
Comments:					
The following habitats	were located within 600 feet of	f Wetland 18	: urban, maintained RO	W (grass), and	forested.
-					
Vdetritus: The amount o	f the detritus on the WAA (A horizo	on has to have	a value of 4 or less).		
Decision:					
Greater than 85% of the	ne area possesses an O or A hor	izon			
			Subinde	K	1
Comments:					
O or A horizon was ob	served in Wetland 18.				
	he WAA that exhibits redox feature	es an indicatio	n of the chemical exchang	e.	
Decision:					
Redox features less that	an 20%				
			Subinde	K	0.1
Comments:					
Redox features were o	bserved within Wetland 8; how	erver, was le	ess than 20 percent.		
	roperties of the soils in the WAA.				
Decision:		. , ,		., ., .,	
The WAA is dominated	by montmorillonitic clayey soil	is (clay, clay			_
			Subinde	K	1
Comments:					
The area was dominat	ed by clay soils.				

Applicant	TxDOT, Houston District	WAA ID:	Wet 18 - Crossing 12	Acreage	0.70
Vdur: The % of the WAA that	t is flooded and/or ponded due to	o the hydrology	y (i.e. flooding overbank flo	w) of the neark	ру
waterway.					
Decision:					
The area is NOT subject to	flooding				
			Subindex		0
Comments:				-	
Vfreq: The frequency that th	e WAA is flooded and/or ponded	l by nearby wat	terway.		
Decision:			•		
The area is not subject to	flooding or ponding (500 yr flo	oodplain)			
	3 p - 3 ()	,	Subindex		0
Floods or pond annually 5	out of 5 years (floodway)				
riced or period armidally o	eacer of gears (meeting)				
Vtopo: The roughness associ	ated with the WAA				
Decision:	ated with the WAA.				
	le undulating with little or no	tonographic f	eatures		
Sillouti, flat, or very gent	e undulating with little of no	topograpine i	Subindex	-	0.1
Comments:			Jubiliacx		0.1
comments.					
Vwood: Percentage of the M	/AA that is covered by woody veg	retation			
Decision:	AA that is covered by woody veg	getation.			
	ed with woody vegetation				
0-10% II the WAA is cover	ed with woody vegetation		Subindex		0.1
Comments:			Jubiliuex		0.1
Comments.					
Viside The everage /mass ===	waraga of the midetam / sharels /	nling\ lave= != +	ho \// \		1
	verage of the midstory (shrub/sa	piilig) layer in t	IIE WAA.		
Decision:	NAAA is agual ta ay laas thay 1	0/			
ivilustory coverage of the	WAA is equal to or less than 19	70	6 1.1.1		0.4
Comment			Subindex		0.1
Comments:					

Applicant	TxDOT, Houston District	WAA ID:	Wet 18 - Crossing 12	Acreage	0.70
Vherb: The average/mean of	coverage of the WAA by the herba	ceous layer.			
Decision:					
Herbaceous cover in the	WAA is equal to or less than 19	% (barren soil	or all shrub)		
			Subindex		0.1
Comments:			•		
Vconnect: The number of h	abitat types within a 600' of the p	arameter of th	e WAA.		
Decision:					
Surround by urban (hom	es. lawn. concrete. etc.)				
			Subindex		0.1
Comments:					
Vdatritus: The amount of the	he detritus on the WAA (A horizon	has to have a	value of 1 or less)		
Decision:	Te detitus on the WAA (A nonzon	mas to mave a	value 01 4 01 1e33/.		
Site is plowed					
Site is plowed			Subindex		0.1
Comments:			Subilitiex		0.1
Comments.					
N 1 TI 1 CII			C.I. I I. I.		
	WAA that exhibits redox features	an indication of	of the chemical exchange.		
Decision:					
0.1					
			Subindex		0.1
Comments:					
	perties of the soils in the WAA.				
Decision:					
0.1					
			Subindex		0.1
Comments:					

Wet 18 - Crossing 12

Total Acres	0.70		
Impacted Acres	0.70		

Wetland A (Pre Conditions)						
Varible	Subindex					
Vdur	1					
Vfreq	0.5					
Vtopo	0.1					
Vwood	0.1					
Vmid	0.1					
Vherb	1					
Vdetritus	1					
Vredox	0.1					
Vsorpt	1					
Vconnect	0.75					

Wetland A (Post Conditions)					
Varible	Subindex				
Vdur	0				
Vfreq	0				
Vtopo	0.1				
Vwood	0.1				
Vmid	0.1				
Vherb	0.1				
Vdetritus	0.1				
Vredox	0.1				
Vsorpt	0.1				
Vconnect	0.1				

	Temporary Storage & Detention of Storage Water			
	Square Root [{Square Root {Vdur x Vfreq}} X {Vtopo + {Vherb + Vmid}/2/2]			
	Pre Conditions = Square Root [{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
	Post Conditions = Square Root[{1.0 x 0.75} X {0.1 + {1.0 + 0.1}/2}/2]			
Pre-FCI	0.479			

Pre-FCI	0.479		
Post-FCI	0.000		

0.100

0.060

Post-FCI

Post-FCI

	Maintain Plant and Animal Community			
	{Vmid + Vherb + Vconnect}/3			
		Pre Conditions = {0.1 + 1.0 + 1.0}/3		
		Post Conditions = {0.1 + 1.0 + 1.0}/3		
Pre-FCI	0.617			

Removal & Sequestrian of Elements & Compounds					
	[[Vwood + Vfreq + Vdur + [{Vtopo + Vherb + Vmid}/3] +[{Vdetritus + Vredox + Vsorpt}/3]]/5				
	Pre Cond	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5			
	Post Con	ditions = [[0.1 + 0.75 + 1.0 + [{0.1 + 1.0 + 0.1}/3] +[{0.3 + 0.1 + 0.1}/3]]/5			
Pre-FCI	0.540				

	Size (acre)						
Function	Pre-Impact	Post-Impact	Pre FCI	Pre FCU	Post FCI	Post FCU	Net Loss
Wetland A Temporary	0.700	0.700	0.479	0.336	0.000	0.000	0.336
Wetland A Maintain	0.700	0.700	0.617	0.432	0.100	0.070	0.362
Wetland A Removal	0.700	0.700	0.540	0.378	0.060	0.042	0.336