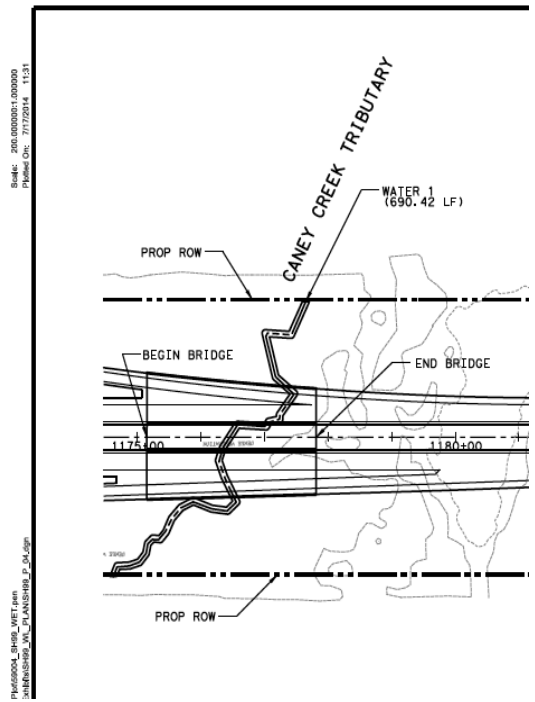
GRAND PARKWAY - SEGMENTS H&I-1
STREAM ASSESSMENT

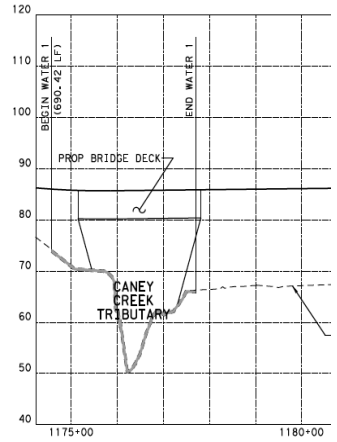
Water Number	Water Name	Linear Feet	Pre RCI	Post RCI	RCI Delta	Impact Factor	Mitigation Requirement (linear feet x RCI Delta x Impact)	Columns in waterway?	Comments
1	Caney Creek Tributary	690	4.1	4.1	0.0	0.0	0	N	No fill in wetlands or below OHM. Filling would only be landward of the point that the beginning of the bridge is identified.
2	Caney Creek	944	4.3	3.5	0.8	2.0	1,510	Y	Would expect columns in the water to need basket cages around them (fill).
3	Peach Creek	1,059	2.7	2.7	0.0	0.0	0	N	Will set the columns above OHW. Should be able to identify a set distance from the column to the stream.
4	Peach Creek	612	4.0	4.0	0.0	0.0	0	N	Will set the columns above OHW. Should be able to identify a set distance from the column to the stream. There would be basket cages, but they would not be within the water.
5	Church House Gully	582	3.4	3.4	0.0	0.0	0	N	Will set the columns above OHW. Should be able to identify a set distance from the column to the stream. There would be basket cages, but they would not be within the water.
6	East Fork of San Jacinto River	578	4.0	3.3	0.7	2.0	809	Y	Would expect columns in the water to need basket cages around them (fill).
8	Luce Bayou	700	4.5	4.5	0.0	0.0	0	N	Will set the columns above OHW. Should be able to identify a set distance from the column to the stream. There would be basket cages, but they would not be within the water.
10	Cedar Bayou Tributary 1	404	1.8	1.8	0.0	0.0	0	N	This is an incised canal being entirely spanned.
11	Cedar Bayou Tributary 2	404	1.8	1.8	0.0	0.0	0	N	This is an incised canal being entirely spanned.
12	Cedar Bayou	449	2.9	2.9	0.0	0.0	0	N	This is an incised canal being entirely spanned.
13		426	2.0	2.0	0.0	0.0	0	N	This is an incised canal being entirely spanned.
14		137	1.8	1.8	0.0	0.0	0	N	This is an incised canal being entirely spanned.
15		120	1.9	1.0	0.9	2.0	216	N	1,390 linear feet within ROW, 120 linear feet of which will be impacted from culvert placement.
17	West Prong of Old River	419	1.5	1.5	0.0	0.0	0	N	This is an incised canal being entirely spanned.
18		404	3.6	3.6	0.0	0.0	0	N	This is an incised canal being entirely spanned.

Water 1 - Caney Creek Tributary

Pre-Project Condition					
Water 1	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	4	3.5	4	5	4.1
Transect 2	4	3.5	4	5	4.1
Transect 3	4	3.5	4	5	4.1
					4.1

Post-Project Condition					
Water 1	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	4	3.5	4	5	4.1
Transect 2	4	3.5	4	5	4.1
Transect 3	4	3.5	4	5	4.1
					4.1

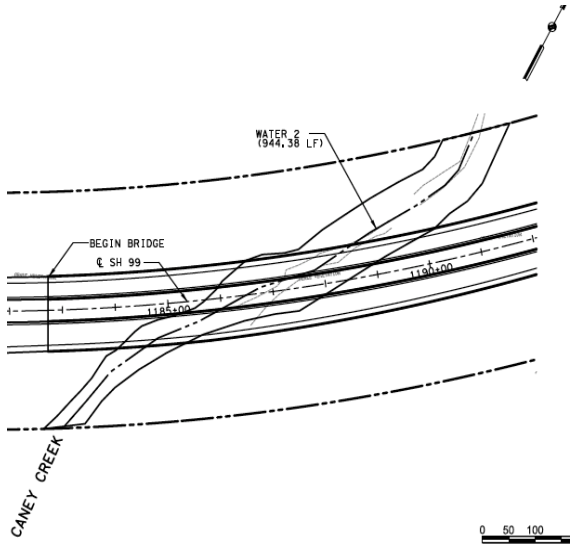


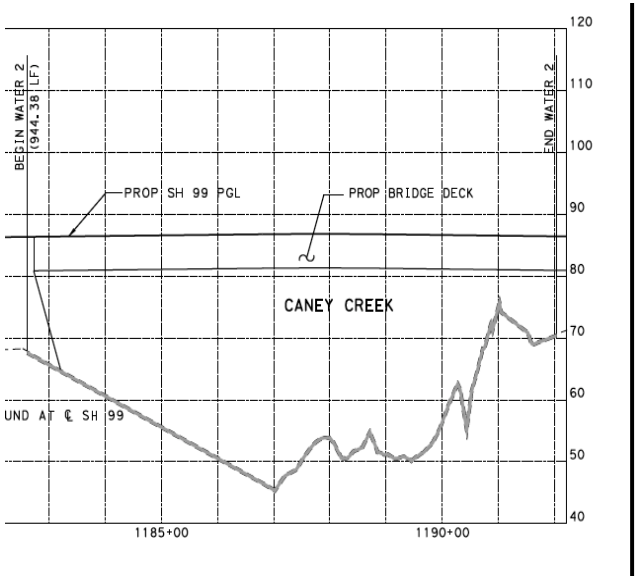


Water 2 - Caney Creek

Pre-Project Condition					
Water 2	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	4	4	4	5	4.3
Transect 2	4	4	4	5	4.3
Transect 3	4	4	4	5	4.3
					4.3

Post-Project Condition					
Water 2	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3	2	4	5	3.5
Transect 2	3	2	4	5	3.5
Transect 3	3	2	4	5	3.5
					3.5

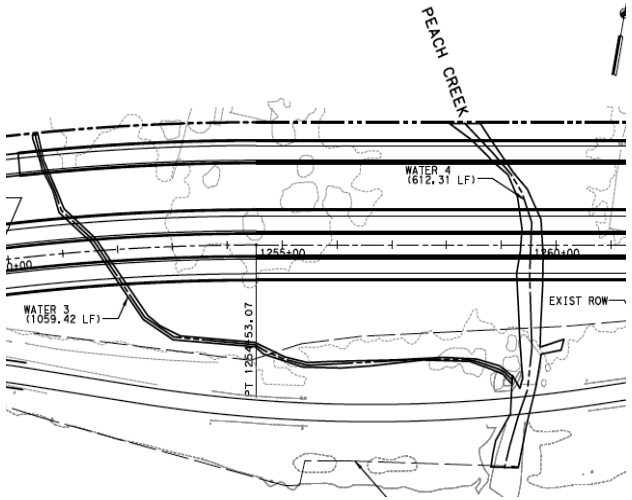


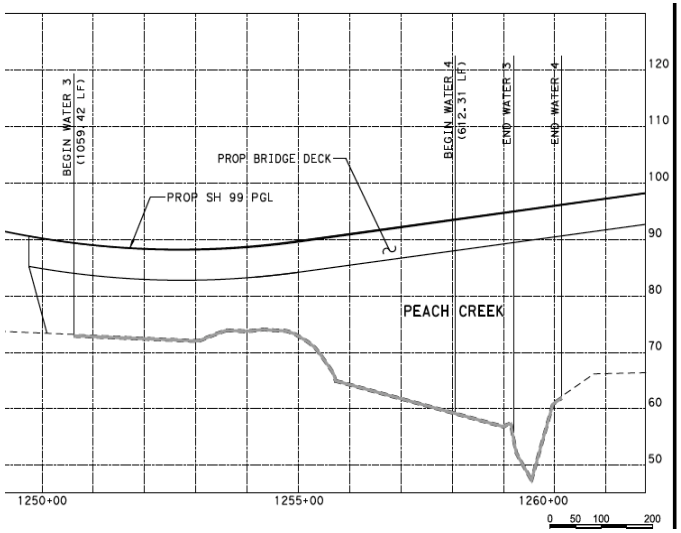


Water 3 - Peach Creek Tributary

Pre-Project Condition					
Water 3	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3	3.24	1	4	2.8
Transect 2	4	3	1	3	2.8
Transect 3	3	3	1	3	2.5
					2.7

Post-Project Condition					
Water 3	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3	3.24	1	4	2.8
Transect 2	4	3	1	3	2.8
Transect 3	3	3	1	3	2.5
					2.7

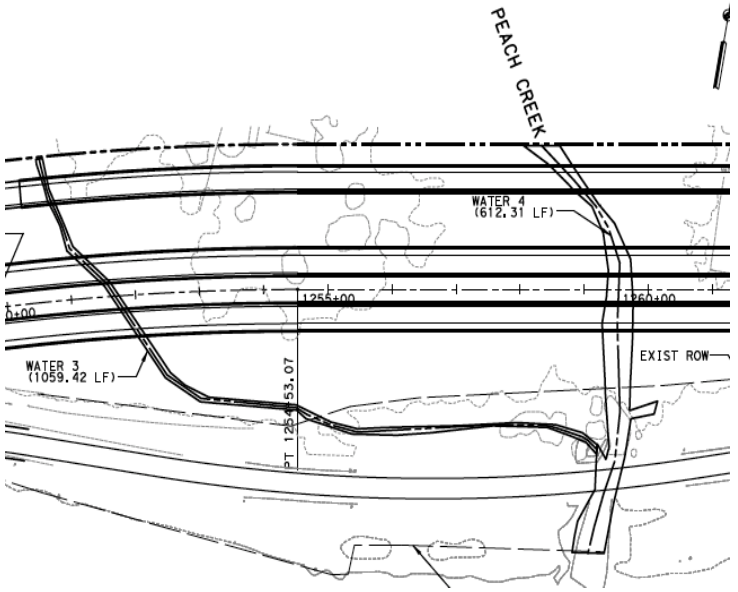


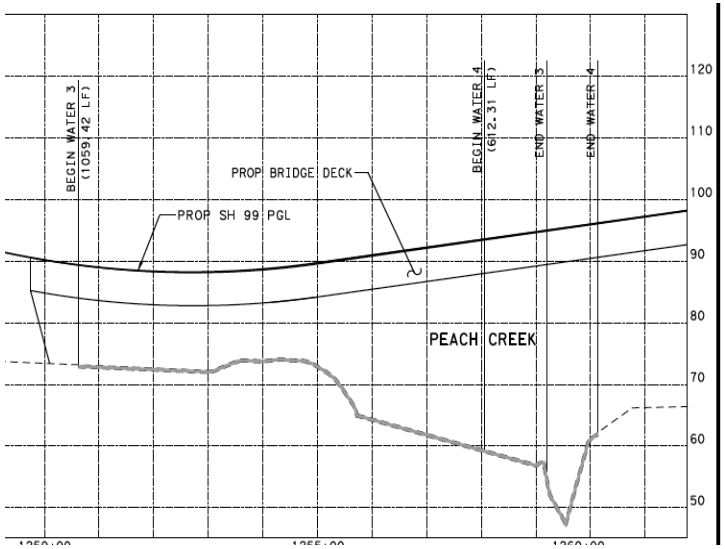


Water 4 - Peach Creek

Pre-Project Condition					
Water 4	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	5	4.5	4	5	4.6
Transect 2	4	4.5	4	5	4.4
Transect 3	3	2.5	4	3	3.1
					4.0

Post-Project Condition					
Water 4	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	5	4.5	4	5	4.6
Transect 2	4	4.5	4	5	4.4
Transect 3	3	2.5	4	3	3.1
					4.0

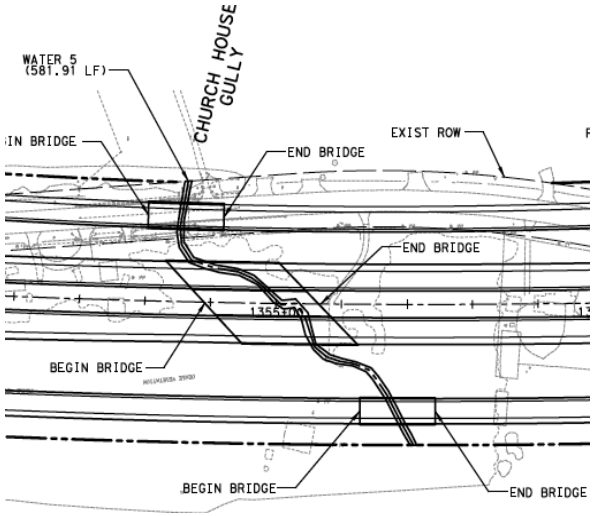


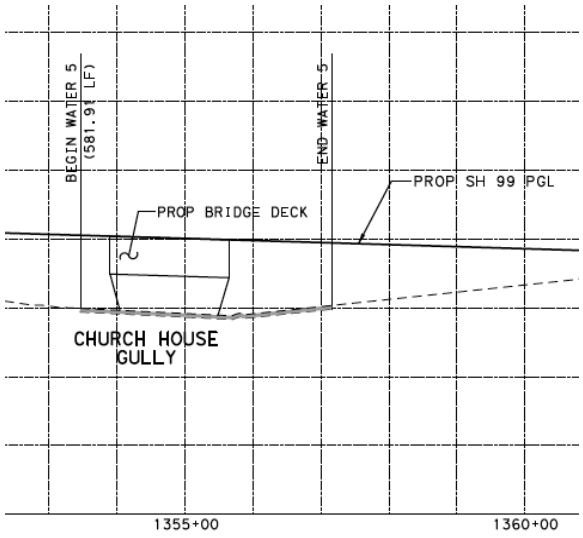


Water 5 - Church House Gully

Pre-Project Condition					
Water 5	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3.5	3.38	2	3	3.0
Transect 2	4	3.25	2	5	3.6
Transect 3	4	3.25	2	5	3.6
					3.4

Post-Project Condition					
Water 5	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3.5	3.38	2	3	3.0
Transect 2	4	3.25	2	5	3.6
Transect 3	4	3.25	2	5	3.6
					3.4

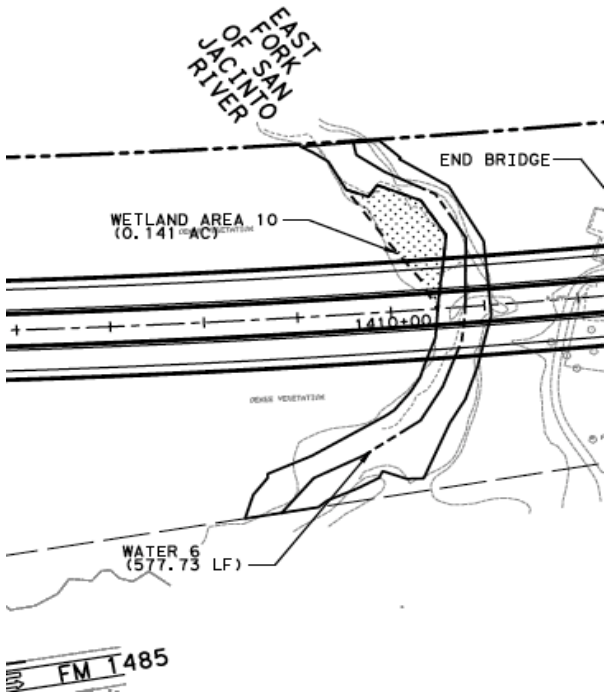


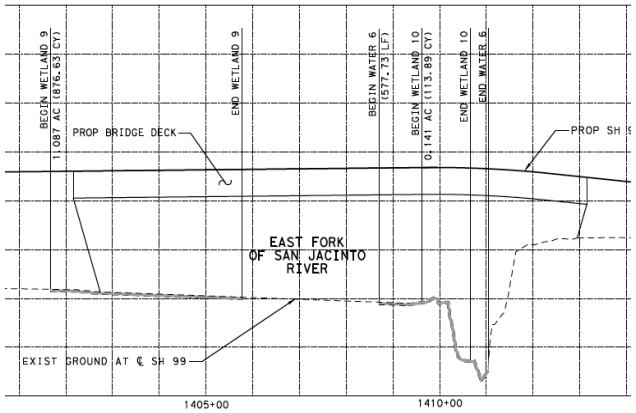


Water 6 - East Fork San Jacinto

Pre-Project Condition					
Water 6	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	5	4.5	4	5	4.6
Transect 2	4	4.5	4	4	4.1
Transect 3	3	2.5	4	3	3.1
					4.0

Post-Project Condition					
Water 6	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3	2	4	5	3.5
Transect 2	3	2	4	4	3.3
Transect 3	3	2	4	3	3.0
					3.3

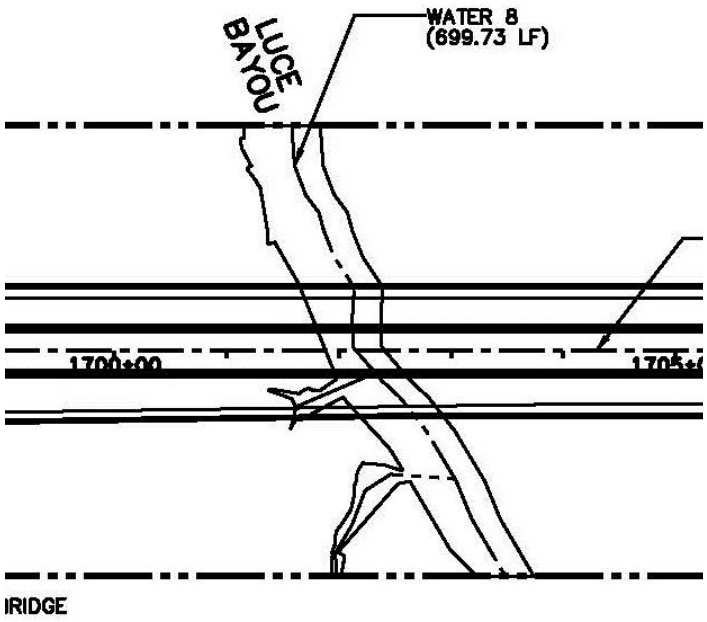


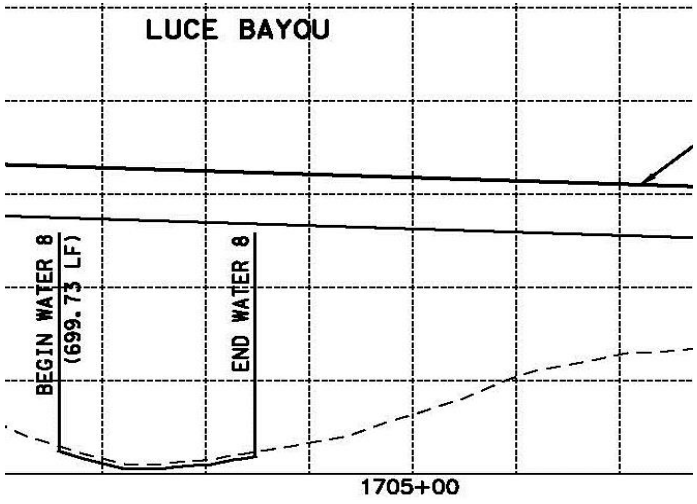


Water 8 - Luce Bayou

Pre-Project Condition					
Water 8 - Luce	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	5	4.5	4	5	4.6
Transect 2	5	4.5	4	5	4.6
Transect 3	4	4.5	4	5	4.4
					4.5

Post-Project Condition					
Water 8 - Luce	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	5	4.5	4	5	4.6
Transect 2	5	4.5	4	5	4.6
Transect 3	4	4.5	4	5	4.4
					4.5

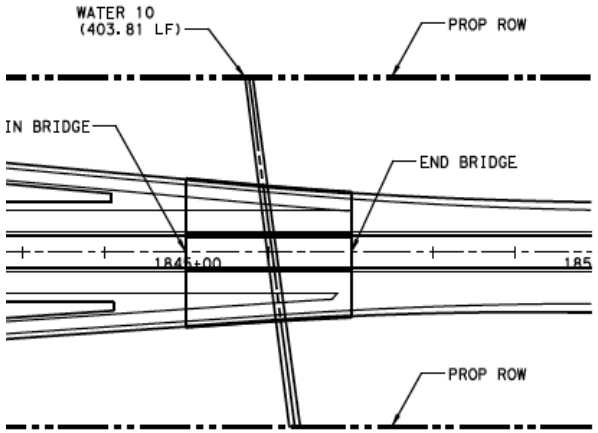


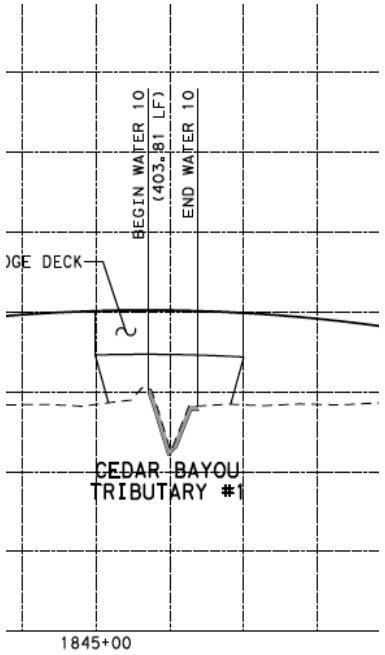


Water 10 - Cedar Bayou Tributary

Pre-Project Condition					
Water 10	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8

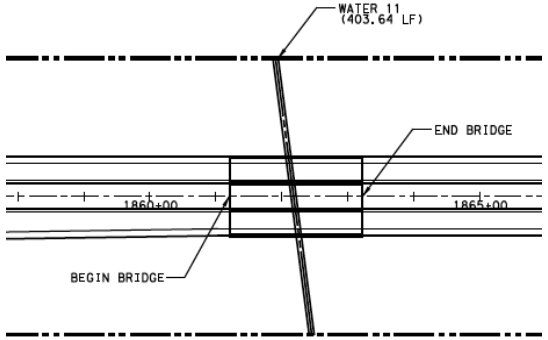
Post-Project Condition					
Water 10	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8



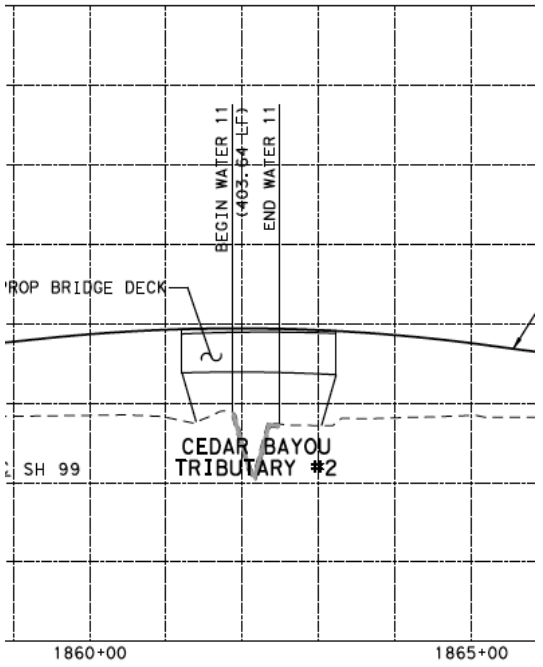


Water 11 - Cedar Bayou Tributary

Pre-Project Condition					
Water 11	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8



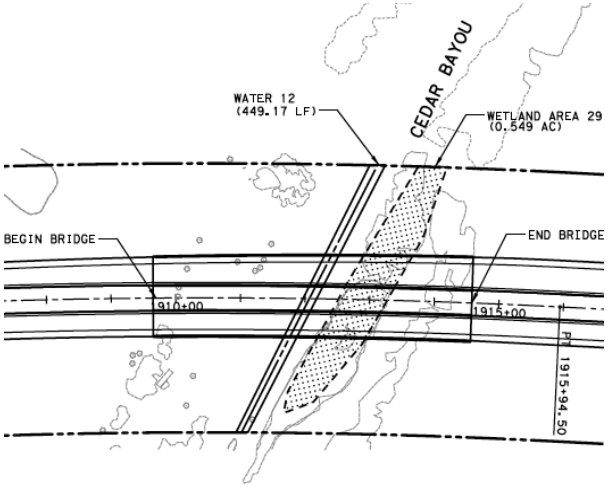
Pre-Project Condition					
Water 11	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8

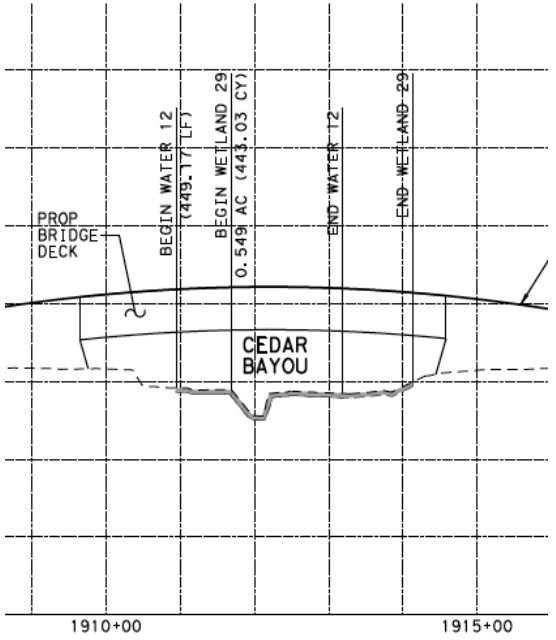


Water 12 - Cedar Bayou

Pre-Project Condition					
Water 12	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3	2.5	4	2	2.9
Transect 2	3	2.5	4	2	2.9
Transect 3	3	2.5	4	2	2.9
					2.9

Post-Project Condition					
Water 12	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3	2.5	4	2	2.9
Transect 2	3	2.5	4	2	2.9
Transect 3	3	2.5	4	2	2.9
					2.9

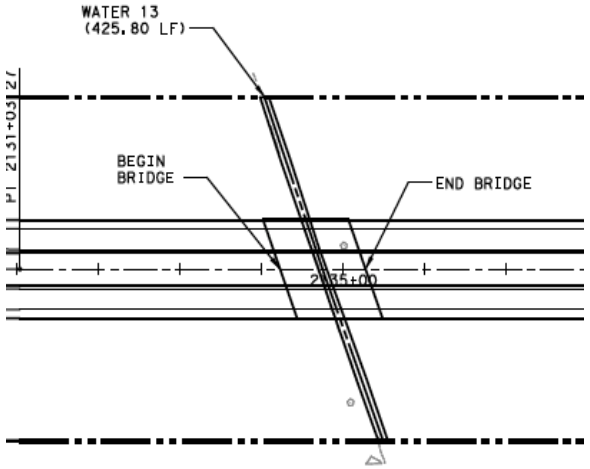


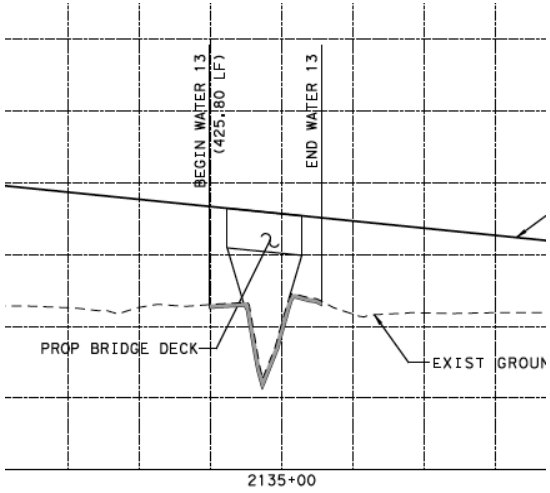


Water 13

Pre-Project Condition					
Water 13	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	2	2.0
Transect 2	2	2	2	2	2.0
Transect 3	2	2	2	2	2.0
					2.0

Post-Project Condition					
Water 13	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	2	2.0
Transect 2	2	2	2	2	2.0
Transect 3	2	2	2	2	2.0
					2.0

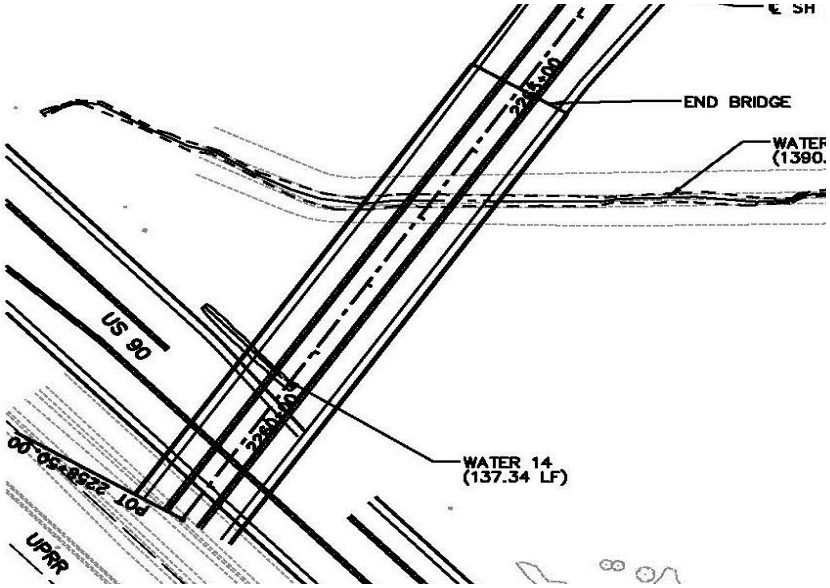


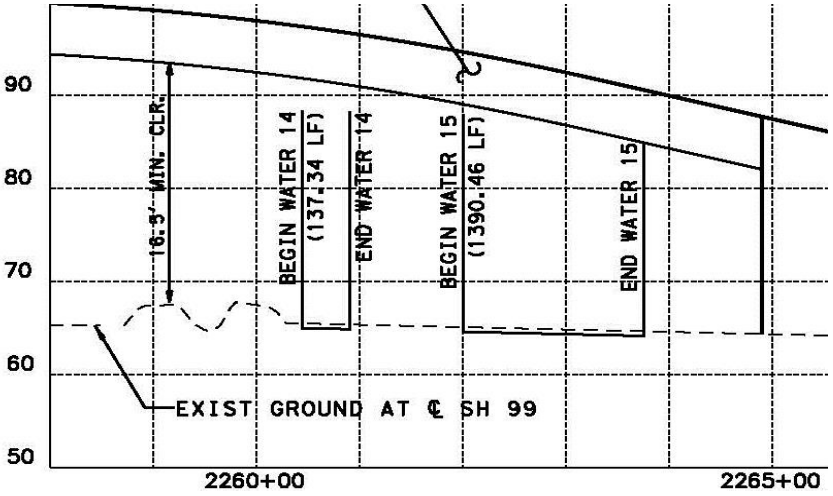


Water 14

Pre-Project Condition					
Water 14	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8

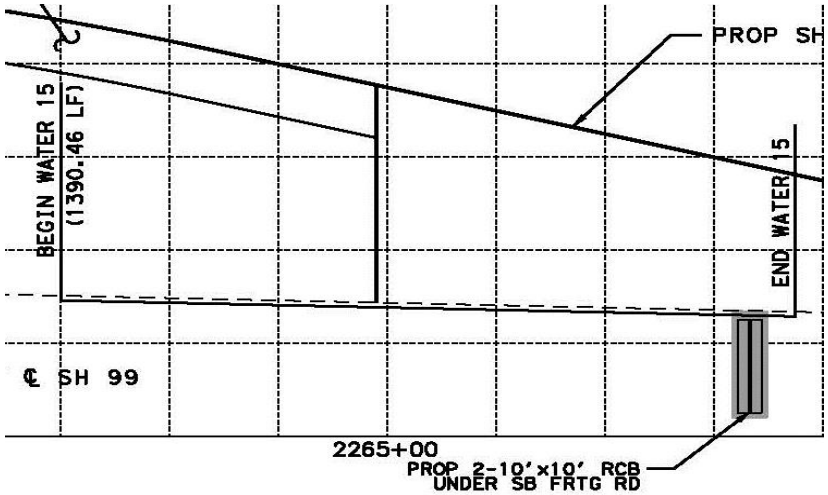
Post-Project Condition					
Water 14	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8



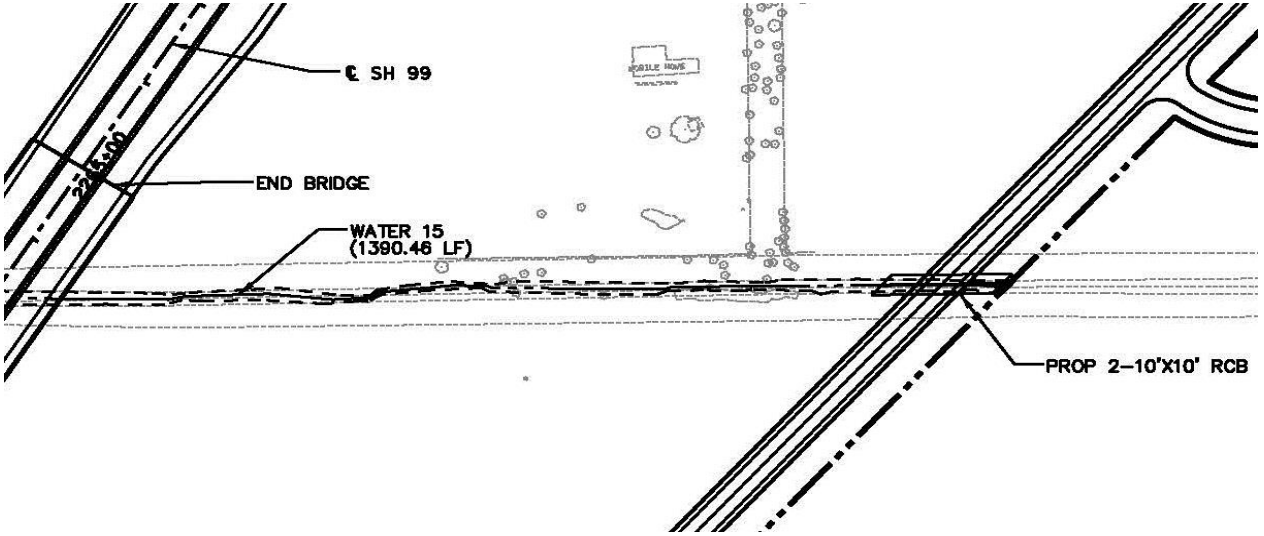


Water 15

	Pre-Project Condition				
Water 15	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	3	2	2	2.3
Transect 2	1	1	2	1	1.3
Transect 3	2	2	2	3	2.3
					1.9



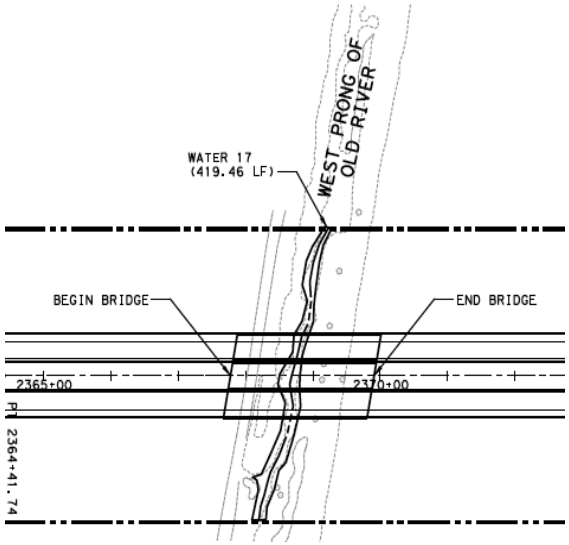
	Post-Project Condition				
Water 15	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	1	1	1	1	1.0
Transect 2	1	1	1	1	1.0
Transect 3	1	1	1	1	1.0
					1.0

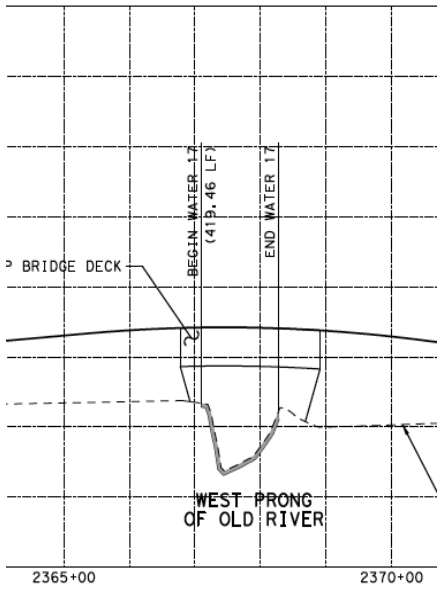


Water 17 - West Prong of Old River

Pre-Project Condition					
Water 17	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	1	2	1	1.5
Transect 2	2	1	2	1	1.5
Transect 3	2	1	2	1	1.5
					1.5

Post-Project Condition					
Water 17	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	2	1	2	1	1.5
Transect 2	2	1	2	1	1.5
Transect 3	2	1	2	1	1.5
					1.5

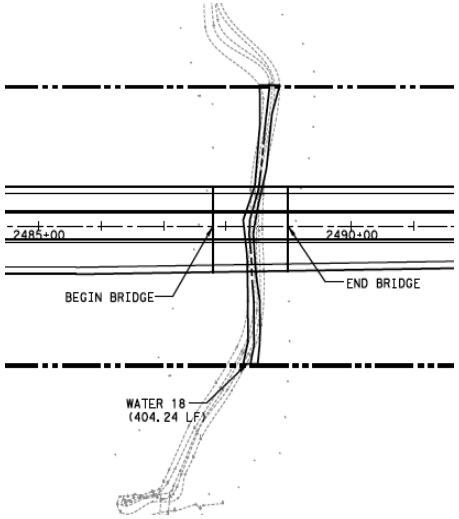


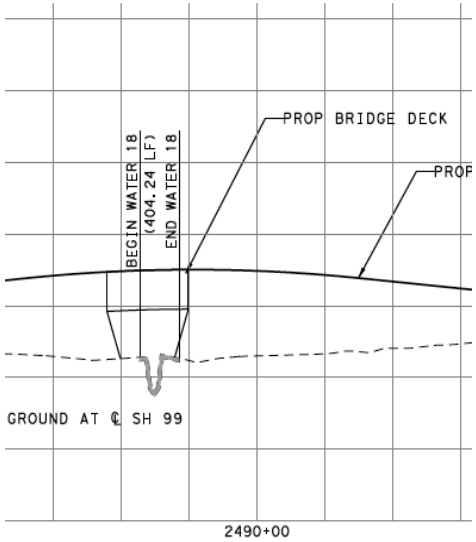


Water 18

Pre-Project Condition					
Water 18	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3.5	4	3	4	3.6
Transect 2	3.5	4	3	4	3.6
Transect 3	3.5	4	3	4	3.6
					3.6

Post-Project Condition					
Water 18	Visual Channel Condition Parameter	Riparian Buffers	Aquatic Use	Channel Alteration	Average
Transect 1	3.5	4	3	4	3.6
Transect 2	3.5	4	3	4	3.6
Transect 3	3.5	4	3	4	3.6
					3.6





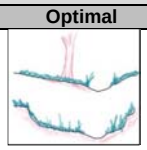
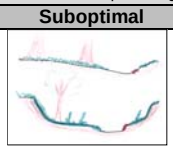
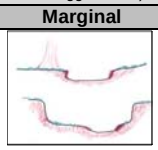
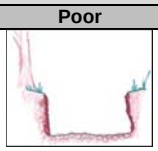
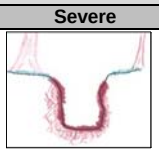
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 1/Tributary to Caney Creek; perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Channel appears natural with some areas or erosion, possible due to increased sediment flow from clearing or surrounding forest. Steep banks but stable.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Native woody vegetation present along all of transect however portions of the buffer have been harvested or cleared. No wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**3.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**3.5**	**BV**
	Score >	**3.5**							**Lt Bank CI >**	**3.5**	**3.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Not assessed, perennial stream. Numerous frogs, snakes, and fish noted.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SAJ-2012-00153	TxDOT	Montgomery County	Riverine	12040103	10/13/2013	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Stream is not altered and man-made structures are not present.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.1**

INSERT PHOTOS:

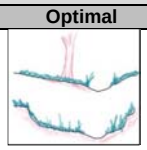
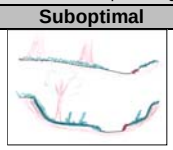
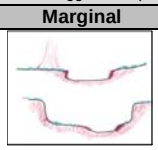
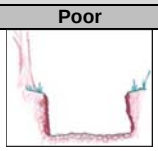
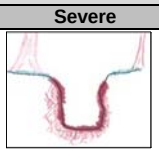
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 1/Tributary to Caney Creek; perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Channel appears natural with some areas or erosion, possible due to increased sediment flow from clearing or surrounding forest. Steep banks but stable.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Native woody vegetation present along all of transect however portions of the buffer have been harvested or cleared. No wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**3.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**3.50**	**BV**
	Score >	**3.5**							**Lt Bank CI >**	**3.50**	**3.50**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.00**

Notes: Not assessed, perennial stream. Numerous frogs, snakes, and fish noted.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SAJ-2012-00153	TxDOT	Montgomery County	Riverine	12040103	10/13/2013	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.00**

Notes: Stream is not altered and man-made structures are not present.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.1**

INSERT PHOTOS:

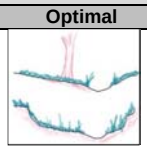
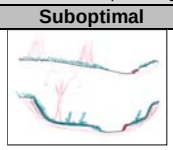
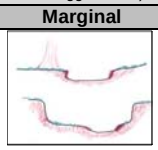
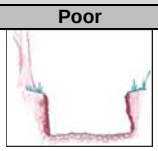
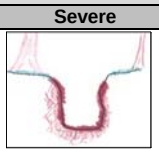
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 1/Tributary to Caney Creek; perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
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Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Channel appears natural with some areas or erosion, possible due to increased sediment flow from clearing or surrounding forest. Steep banks but stable.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
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Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**3.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**3.50**	**BV**
	Score >	**3.5**							**Lt Bank CI >**	**3.50**	**3.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

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Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Not assessed, perennial stream. Numerous frogs, snakes, and fish noted.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SAJ-2012-00153	TxDOT	Montgomery County	Riverine	12040103	10/13/2013	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Stream is not altered and man-made structures are not present.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.1**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		10/16/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Montgomery County

Stream Name	Transect ID	Condition Index (RCI)
Trib to Caney Creek	1	4.1
Trib to Caney Creek	2	4.1
Trib to Caney Creek	3	4.1
Average Pre-Project RCI		**4.1**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**690**
Compensation Requirement		**0**

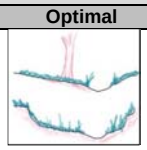
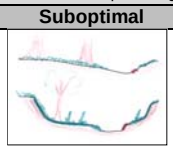
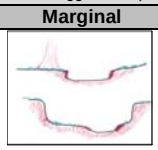
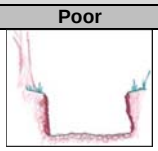
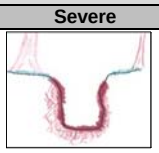
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	4	12040103	10/16/2013	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 2/Caney Creek; perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Channel appears natural with some areas or erosion, possible due to increased sediment flow from clearing or surrounding forest. Steep banks but stable.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Native woody vegetation present along all of transect however portions of the buffer have been harvested or cleared. No wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.0**	**BV**
	Score >	**4**							**Lt Bank CI >**	**4.0**	**4.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Not assessed, perennial stream. Numerous frogs, snakes, and fish noted.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12030103	10/16/2013	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Stream is not altered and man-made structures are not present.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.3**

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Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

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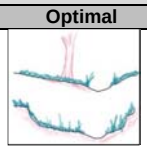
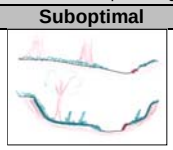
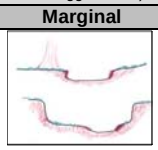
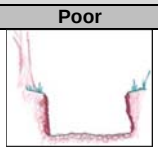
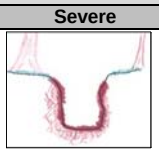
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
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	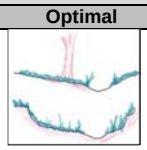	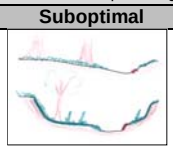	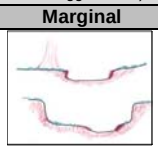	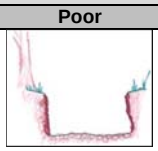	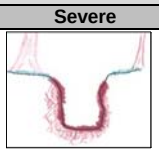	
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4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Stream is not altered and man-made structures are not present.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.3**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		10/16/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Montgomery County

Stream Name	Transect ID	Condition Index (RCI)
Caney Creek	1	4.3
Caney Creek	2	4.3
Caney Creek	3	4.3

Average Pre-project RCI	**4.3**
Average Post-project RCI	**3.5**
Impact Delta	**0.8**
Impact Factor*	**2**
Linear Feet of Impact	**944**
Compensation Requirement	**1,510**

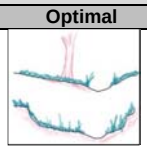
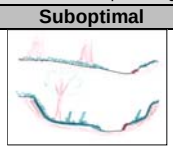
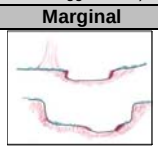
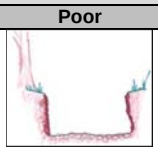
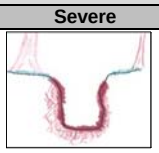
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 3/Tributary to Peach Creek, ephemeral

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Channel appears unstable. Rip-rap and culvert present.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: The majority of the segment is dominated by native forest with pockets of maintained right or way and urban landscaping present.

Right Bank	% Riparian Area>	**75%**	**25%**					**100%**			
	Score >	**3.5**	**2**								
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**90%**	**10%**					**100%**	**Rt Bank CI >**	**3.1**	**BV**
	Score >	**3.5**	**2**						**Lt Bank CI >**	**3.4**	**3.2**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Ephemeral stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	10/13/2013	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Some riprap present near road intersection but mostly unaltered channel.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.8**

INSERT PHOTOS:

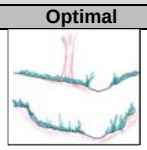
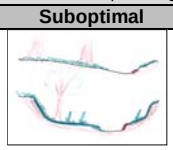
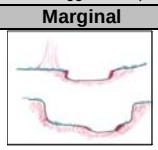
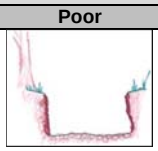
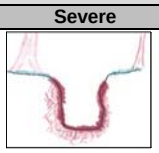
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 3/Tributary to Peach Creek, ephemeral

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Vegetative cover disturbed along segment.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect taken on property line. Left bank with mature woods and very light grazing and right bank in maintained right of way.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**3.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: No water present in stream bed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	10/13/2013	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: At least half of segment impacted by riprap or altered route.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.8**

INSERT PHOTOS:

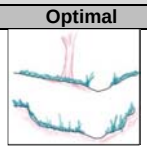
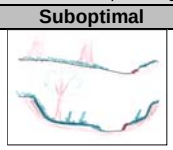
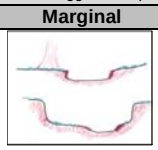
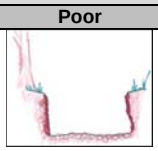
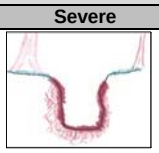
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 3/Tributary to Peach Creek, ephemeral

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Riprap found along at least 50% of the transect. Erosional scars present.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Mature woody vegetation present along with grazing from cattle.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**3**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**3.0**	**BV**	
	Score >	**3**							**Lt Bank CI >**	**3.0**	**3.0**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Small intermittent pools present within the transect.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	10/13/2013	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Riprap present. Stream possibly rerouted to not interfere with the road.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.5**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SAJ-2012-00153	TxDOT		10/16/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Montgomery County

Stream Name	Transect ID	Condition Index (RCI)
Trib to Peach Creek	1	2.8
Trib to Peach Creek	2	2.8
Trib to Peach Creek	3	2.5
Average Pre-Project RCI		**2.7**
RCI Delta		**0.0**
Impact Factor*		**0**
Linear Feet within ROW		**1059**
Compensation Requirement		**0**

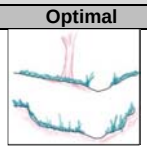
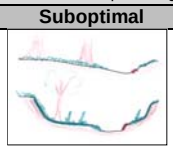
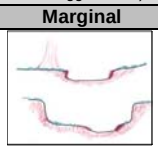
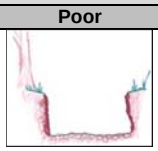
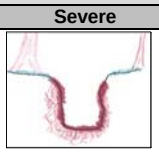
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	4	12040103	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 4/Peach Creek; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Banks are fully protected and the bank are protected. No riprap.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Mostly large, native trees along buffer with some minimal disturbance.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**4.5**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.5**	**BV**	
	Score >	**4.5**							**Lt Bank CI >**	**4.5**	**4.5**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream, has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	11/21/2013	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: No noticeable channelization or alterations. Withdrawal structures were not observed.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.6**

INSERT PHOTOS:

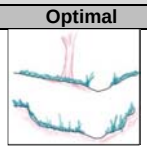
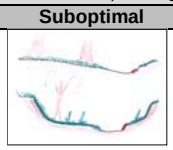
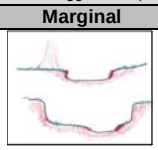
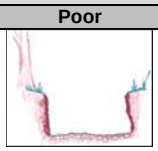
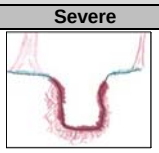
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	4	12040103	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 4/Peach Creek; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: A few areas of active erosion present, likely due to ATV use and small clearing on the east side. Channel appears natural and no riprap observed.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Mostly large, native trees along buffer with some minimal disturbance.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.5**	**BV**
	Score >	**4.5**							**Lt Bank CI >**	**4.5**	**4.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream, has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	11/21/2013	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: No noticeable channelization or alterations. Withdrawal structures were not observed.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.4**

INSERT PHOTOS:

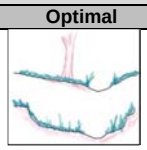
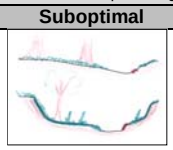
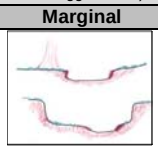
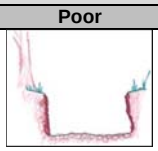
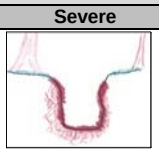
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	4	12040103	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 4/Peach Creek; Perrenial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Native woody vegetation removed for highway. Some riprap present and channel widens at the bridge. Active erosion beneath bridge on both sides.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Some native woody vegation present on both sides but an equal amount of buffer is dominated by maintained highway right of way.

Right Bank	% Riparian Area>	**50%**	**50%**					**100%**			
	Score >	**3**	**2**								
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**50%**	**50%**					**100%**	**Rt Bank CI >**	**2.5**	**BV**
	Score >	**3**	**2**						**Lt Bank CI >**	**2.5**	**2.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream, has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	11/21/2013	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Riprap present near bridge and just north. No withdrawal observed. Stream appears mostly stable although erosion is present at the bridge.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.1**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SAJ-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Montgomery County

Stream Name	Transect ID	Condition Index (RCI)
Peach Creek	1	4.6
Peach Creek	2	4.4
Peach Creek	3	3.1
Average Pre-Project RCI		**4.0**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**612**
Compensation Requirement		**0**

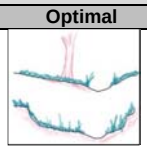
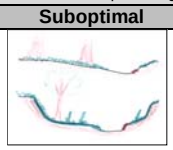
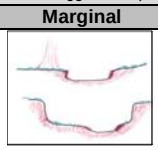
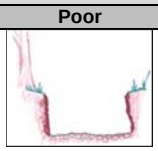
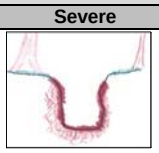
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 5; Church House Gully - Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.5**

Notes: Transect north of FM 1485. Channel recovered to natural position. The stream does not have access to active floodplain. No rip rap present.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Maintenance activies present in the understory. Natural canopy present throughout. A portion of the left bank buffer is a structure and parking lot.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**3.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**75%**	**25%**					**100%**	**Rt Bank CI >**	**3.5**	**T**
	Score >	**4**	**1**						**Lt Bank CI >**	**3.3**	**3.4**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream with perennial pools.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Rivering	12040103	10/16/13	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: A dam and lake is present immediately north of the transect and looks to be effecting flow.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.0**

INSERT PHOTOS:

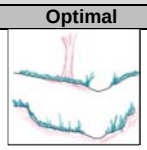
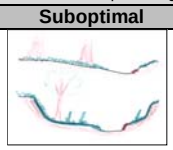
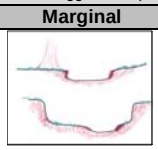
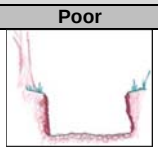
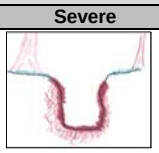
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 5; Church House Gully - Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Some riprap present close to roadway.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer crosses maintained right of way. Cleared area on left bank.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.0**	**BV**
	Score >	**2.5**							**Lt Bank CI >**	**2.5**	**3.3**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: No water present in stream bed. Perennial pools are assumed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Rivering	12040103	10/16/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Stream looks to have natural pattern or normalized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >> **3.6**

INSERT PHOTOS:

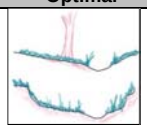
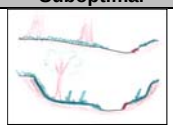
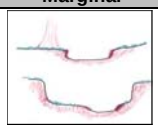
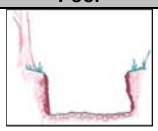
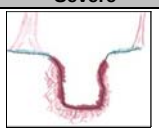
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040103	10/16/2013	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 5; Church House Gully - Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Mostly natural with some riprap.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Right bank natural forest; left bank enters large cleared/maintained area.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.0**	**BV**
	Score >	**2.5**							**Lt Bank CI >**	**2.5**	**3.3**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: No water present in stream bed. Perennial pools are assumed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Rivering	12040103	10/16/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Stream assumed to have natural pattern.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.6**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG0-2012-00153	TxDOT		10/16/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Montgomery County

Stream Name	Transect ID	Condition Index (RCI)
Church House Gully	1	3.0
Church House Gully	2	3.6
Church House Gully	3	3.6
Average Pre-Project RCI		**3.4**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**582**
Compensation Requirement		**0**

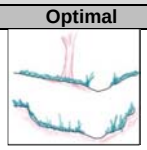
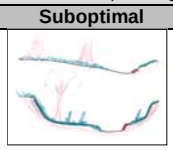
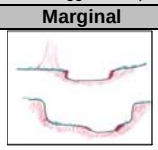
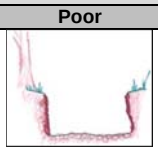
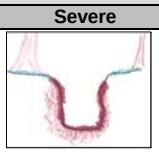
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SAJ-2012-00153	TxDOT	3	12040103	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 6/East Fork San Jacinto River; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Channel natural.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer consists of native forest with no wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.5**	**BV**
	Score >	**4.5**							**Lt Bank CI >**	**4.5**	**4.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	11/21/2013	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: No alterization observed at this segment.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.6**

INSERT PHOTOS:

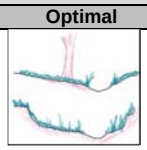
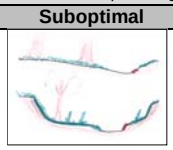
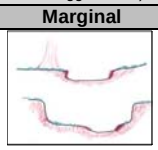
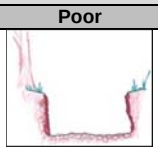
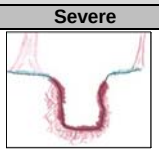
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SAJ-2012-00153	TxDOT	3	12040103	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 6/East Fork San Jacinto River; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Some erosion and instability noted on left bank from turn in river. Bank is slightly undercut.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Mostly native trees with a small wetlands present. Some clearing is present on the right bank.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.50**	**BV**
	Score >	**4.5**							**Lt Bank CI >**	**4.50**	**4.50**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.00**

Notes: Perennial stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	11/21/2013	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**4.00**

Notes: Some riprap present to stabilize bank.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.13**

INSERT PHOTOS:

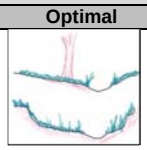
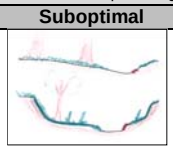
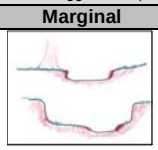
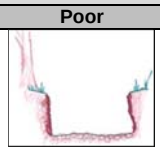
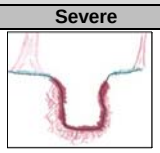
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SAJ-2012-00153	TxDOT	3	12040103	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 6/East Fork San Jacinto River; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Erosional scars present along with riprap on left bank. Incised area on left bank with active erosion.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Native woody vegetation present along with maintained highway right of way.

Right Bank	% Riparian Area>	**70%**	**30%**					**100%**			
	Score >	**3**	**2**								
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**50%**	**50%**					**100%**	**Rt Bank CI >**	**2.7**	**BV**
	Score >	**3**	**2**						**Lt Bank CI >**	**2.5**	**2.6**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Montgomery County	Riverine	12040103	11/21/2013	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Riprap present along left bank throughout the entire segment.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.2**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin culp		12040103	Montgomery County

Stream Name	Transect ID	Condition Index (RCI)
East Fork San Jacinto River	1	4.6
East Fork San Jacinto River	2	4.1
East Fork San Jacinto River	3	3.2

Average Pre-project RCI	**4.0**
Average Post-project RCI	**3.3**
Impact Delta	**0.7**
Impact Factor*	**2**
Linear Feet of Impact	**578**
Compensation Requirement	**809**

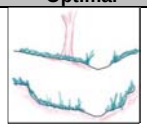
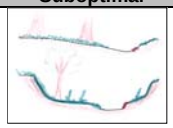
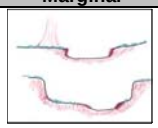
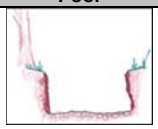
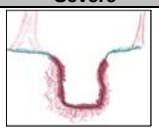
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	3	12040103	1/20/2014	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 8/Luce Bayou; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Luce Bayou; site meets criteria for optimal score.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: 100% native woody vegetation on both bank. No wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.5**	**BV**
	Score >	**4.5**							**Lt Bank CI >**	**4.5**	**4.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: This portion of Luce Bayou has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040103	1/20/14	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5.0**	**4.0**	**3.0**	**2.0**	**1.0**	**5.0**

Notes: No alterations present in the transect.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.6**

INSERT PHOTOS:

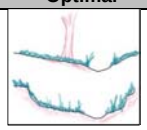
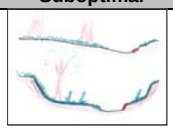
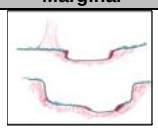
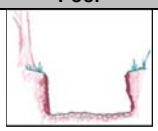
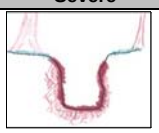
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	3	12040103	1/20/2014	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 8/Luce Bayou; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**5.0**

Notes: Luce Bayou; site meets criteria for optimal score.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: 100% native woody vegetation on both bank. No wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.5**	**BV**
	Score >	**4.5**							**Lt Bank CI >**	**4.5**	**4.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: This portion of Luce Bayou has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040103	1/20/14	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5.0**	**4.0**	**3.0**	**2.0**	**1.0**	**5.0**

Notes: No alterations present in the transect.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.6**

INSERT PHOTOS:

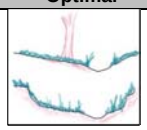
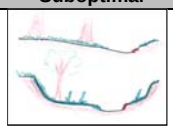
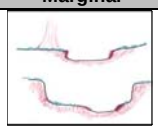
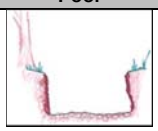
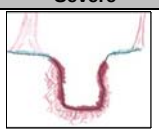
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	3	12040103	1/20/2014	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 8/Luce Bayou; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Luce Bayou; site meets criteria for optimal score.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: 100% native woody vegetation on both bank. No wetlands present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.5**	**BV**
	Score >	**4.5**							**Lt Bank CI >**	**4.5**	**4.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: This portion of Luce Bayou has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040103	1/20/14	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5.0**	**4.0**	**3.0**	**2.0**	**1.0**	**5.0**

Notes: No alterations present in the transect.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**4.4**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		1/20/2014
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Liberty County

Stream Name	Transect ID	Condition Index (RCI)
Luce Bayou	1	4.6
Luce Bayou	2	4.6
Luce Bayou	3	4.4
Average Pre-Project RCI		**4.5**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**700**
Compensation Requirement		**0**

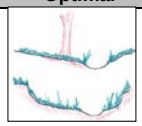
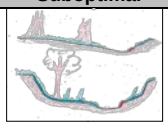
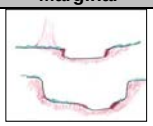
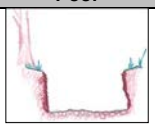
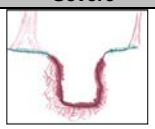
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 10/Cedar Bayou (North Branch); Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: No access to active floodplain. Stream channelized.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: The transect is surrounded by maintained pasture or no-till cropland.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/13	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: The transect is completely channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

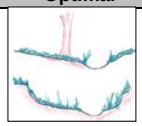
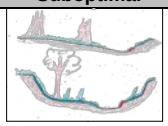
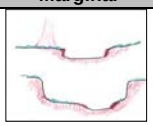
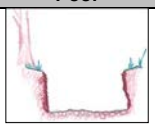
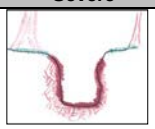
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040203	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 10/Cedar Bayou (North Branch); Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes:

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: The transect is surrounded by no-till cropland.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: The transect is completely channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

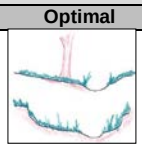
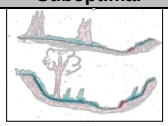
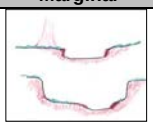
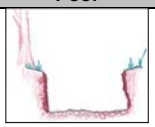
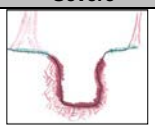
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 10/Cedar Bayou (North Branch); Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	CV
Score	5	4	3	2	1	2.0

Notes:

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	5	High = 4.5	Low = 4	3	2	1

Notes: The transect is surrounded by no-till cropland.

Right Bank	% Riparian Area>	100%						100%			
	Score >	2									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	100%						100%	Rt Bank CI >	2.0	BV
	Score >	2							Lt Bank CI >	2.0	2.0

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	UV
Score	5	4	3	2	1	2.0

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: The transect is completely channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040103	Liberty County

Stream Name	Transect ID	Condition Index (RCI)
Cedar Bayou (North Branch)	1	1.8
Cedar Bayou (North Branch)	2	1.8
Cedar Bayou (North Branch)	3	1.8
Average Pre-Project RCI		**1.8**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**404**
Compensation Requirement		**0**

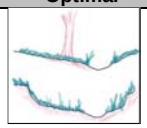
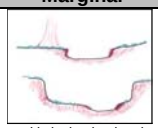
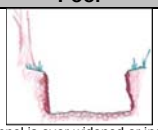
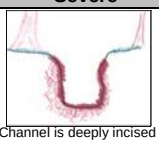
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 11/Cedar Bayou (Middle Branch); Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is completely channelized. No access to floodplain.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer consists of no-till agriculture.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**2**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**	
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/13	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

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SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect completely channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
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SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is completely channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

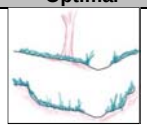
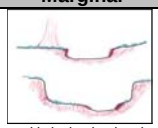
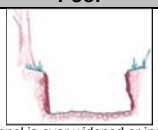
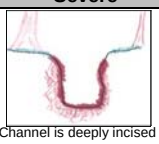
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12040203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 11/Cedar Bayou (Middle Branch); Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
Visual Channel Condition Parameter	 Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	 Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	 Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	 Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	 Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is completely channelized. No access to floodplain.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer consists of no-till agriculture.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**2**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**	
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is completely channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040203	Liberty County

Stream Name	**Transect ID**	**Condition Index (RCI)**
Cedar Bayou (Middle Branch)	1	1.8
Cedar Bayou (Middle Branch)	2	1.8
Cedar Bayou (Middle Branch)	3	1.8
Average Pre-project RCI		**1.8**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**404**
Compensation Requirement		**0**

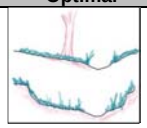
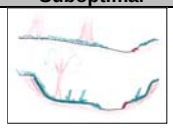
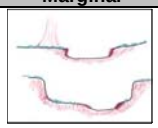
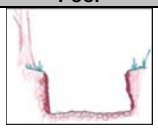
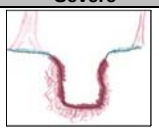
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	2	12040203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 12/Cedar Bayou (South Branch) at CR 622; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Transect is completely channelized but some contours persist. Exhibiting recovery in some areas.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect buffer is dominated by maintained areas and no-till agriculture. Small areas (<30%) of native woody vegetation present.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2.5**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.5**	**BV**
	Score >	**2.5**							**Lt Bank CI >**	**2.5**	**2.5**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/2013	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.9**

INSERT PHOTOS:

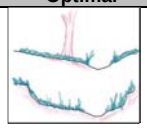
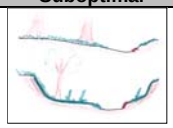
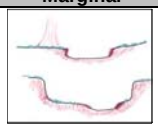
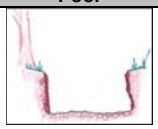
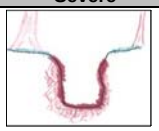
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	2	12040203	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 12/Cedar Bayou (South Branch) at CR 622; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Transect is completely channelized but some contours persist. Exhibiting recovery in some areas.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect buffer is dominated by maintained areas and no-till agriculture. Small areas (<30%) of native woody vegetation present.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**2.5**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.5**	**BV**	
	Score >	**2.5**							**Lt Bank CI >**	**2.5**	**2.5**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/2013	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Entire transect has been channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.9**

INSERT PHOTOS:

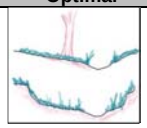
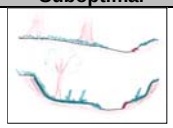
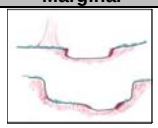
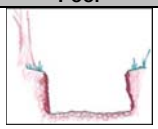
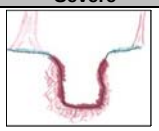
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	2	12040203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 12/Cedar Bayou (South Branch) at CR 622; Perennial

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Transect is completely channelized but some contours persist. Exhibiting recovery in some areas.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect buffer is dominated by maintained areas and no-till agriculture. Small areas (<30%) of native woody vegetation present.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**2.5**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.5**	**BV**	
	Score >	**2.5**							**Lt Bank CI >**	**2.5**	**2.5**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: Perennial stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12040203	11/21/2013	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: The entire transect has been channelized but does show signs of recovery within the channel.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.9**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant	Date
SWG-2012-00153	TxDOT	11/21/2013

Evaluators	HUC	Locality
John Williams, Erin Culp	12040203	Liberty County

Stream Name	**Transect ID**	**Condition Index (RCI)**
Cedar Bayou (South Branch) off CR 622	1	2.9
Cedar Bayou (South Branch) off CR 622	2	2.9
Cedar Bayou (South Branch) off CR 622	3	2.9
Average Pre-project RCI		**2.9**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**449**
Compensation Requirement		**0**

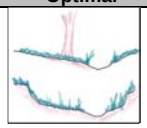
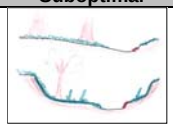
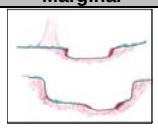
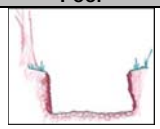
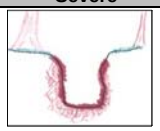
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 13/West Prong Old River at CR 605; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is channelized with very steep banks and no access to floodway.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: The buffer is dominated by no-till agriculture (Bermudagrass farm).

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: The transect has been channelized with steep banks.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.0**

INSERT PHOTOS:

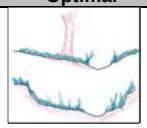
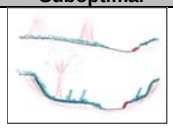
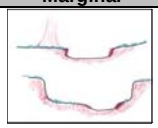
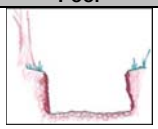
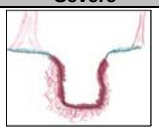
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 13/West Prong Old River at CR 605; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
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Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is channelized with very steep banks and no access to floodway.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: The buffer is dominated by no-till agriculture (Bermudagrass farm).

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: The transect has been channelized with steep banks.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.0**

INSERT PHOTOS:

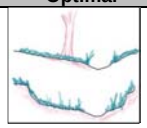
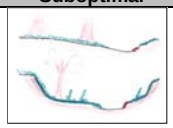
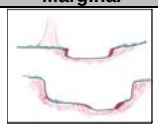
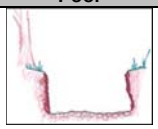
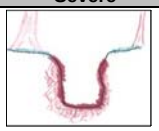
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 13/West Prong Old River at CR 605; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is channelized with very steep banks and no access to floodway.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: The buffer is dominated by no-till agriculture (Bermudagrass farm).

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: The transect has been channelized with steep banks.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.0**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #		Applicant	Date
SWG-2012-00153		TxDOT	11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12030203	Liberty County

Stream Name	**Transect ID**	**Index (RCI)**
West Prong Old River at CR 605	1	2.0
West Prong Old River at CR 605	2	2.0
West Prong Old River at CR 605	3	2.0
Average Pre-project RCI		**2.0**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**426**
Compensation Requirement		**0**

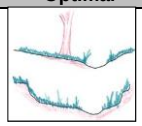
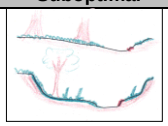
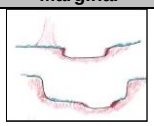
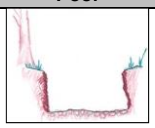
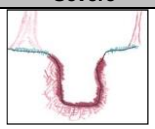
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 14/West Prong Old River outfall

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is completely channelized with areas of erosion evident.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer is dominated by no-till farming.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

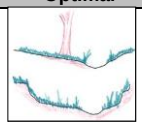
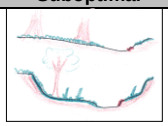
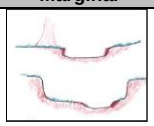
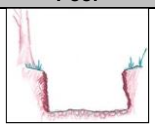
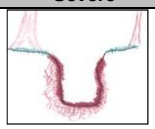
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 14/West Prong Old River outfall

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is completely channelized with areas of erosion evident.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer is dominated by no-till farming.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**2**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**	
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

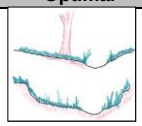
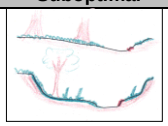
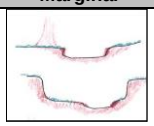
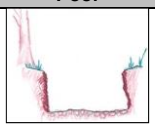
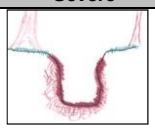
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 14/West Prong Old River outfall

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is completely channelized with areas of erosion evident.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer is dominated by no-till farming.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.8**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin culp		12030203	Liberty County

Stream Name	Transect ID	Condition Index (RCI)
West Prong Old River at CR 602	1	1.8
West Prong Old River at CR 602	2	1.8
West Prong Old River at CR 602	3	1.8
Average Pre-project RCI		**1.8**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**137**
Compensation Requirement		**0**

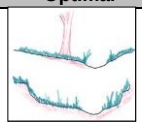
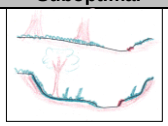
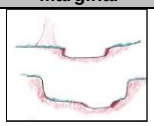
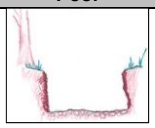
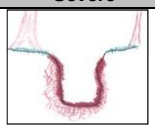
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 15/West Prong Old River at Hwy 90; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is channelized and incised.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes:

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**3**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**3.0**	**BV**
	Score >	**3**							**Lt Bank CI >**	**3.0**	**3.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.3**

INSERT PHOTOS:

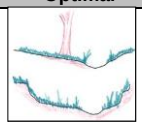
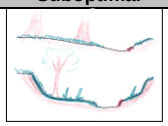
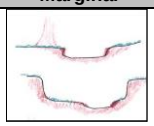
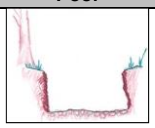
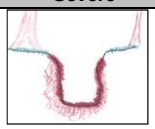
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 15/West Prong Old River at Hwy 90; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
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Score	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is channelized and incised.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer is dominated by asphault from nearby highway.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**1**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**1.0**	**BV**
	Score >	**1**							**Lt Bank CI >**	**1.0**	**1.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Transect is completely channelized and culverted beneath Highway 90.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.3**

INSERT PHOTOS:

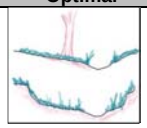
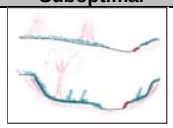
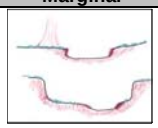
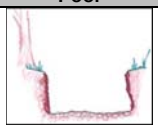
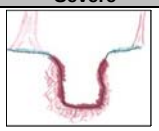
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 15/West Prong Old River at Hwy 90; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect is channelized and incised.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Buffer is dominated by maintained highway right of way and maintained pasture.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**2**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**2.0**	**BV**
	Score >	**2**							**Lt Bank CI >**	**2.0**	**2.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Channel is redirected and somewhat channelized but shows stability and recovering patterns.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**2.3**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant	Date
SWG-2012-00153	TxDOT	11/21/2013

Evaluators	HUC	Locality
John Williams, Erin Culp	12030203	Montgomery County

Stream Name	**Transect ID**	**Condition Index (RCI)**
West Prong Old River at Hwy 90	1	2.3
West Prong Old River at Hwy 90	2	1.3
West Prong Old River at Hwy 90	3	2.3
Average Pre-project RCI		**1.9**
Average Post-project RCI		**1.0**
Impact Delta		**0.9**
Impact Factor*		**2**
Linear Feet of Impact		**120**
Compensation Requirement		**216**

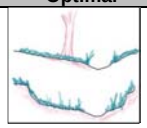
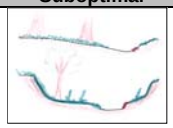
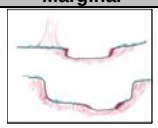
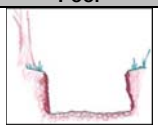
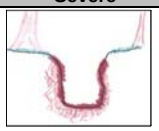
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 17/#1 off 1413; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect channelized with vertically unstable banks.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect buffer is dominated by conventional tillage row crops.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**1**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**1.0**	**BV**
	Score >	**1**							**Lt Bank CI >**	**1.0**	**1.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Entire transect is channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.5**

INSERT PHOTOS:

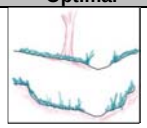
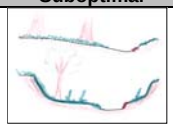
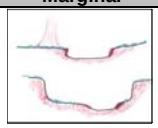
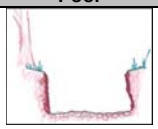
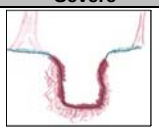
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 17/#1 off 1413; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect channelized with vertically unstable banks.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect buffer is dominated by conventional tillage row crops.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**1**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**1.0**	**BV**
	Score >	**1**							**Lt Bank CI >**	**1.0**	**1.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Entire transect is channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.5**

INSERT PHOTOS:

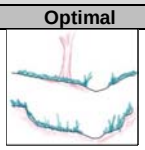
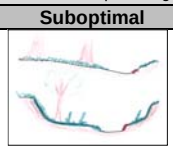
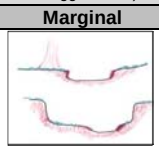
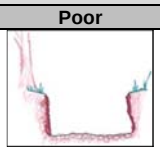
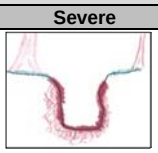
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	11/21/13	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 17/#1 off 1413; Intermittent

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Transect channelized with vertically unstable banks.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: Transect buffer is dominated by conventional tillage row crops.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**1**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**1.0**	**BV**
	Score >	**1**							**Lt Bank CI >**	**1.0**	**1.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**2.0**

Notes: Intermittent stream that has not been assessed.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**1.0**

Notes: Entire transect is channelized.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**1.5**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin culp		12030203	Liberty County

Stream Name	Transect ID	Condition Index (RCI)
#1 off 1314	1	1.5
#1 off 1314	2	1.5
#1 off 1314	3	1.5
Average Pre-project RCI		**1.5**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**419**
Compensation Requirement		**0**

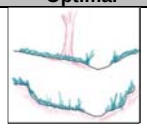
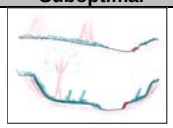
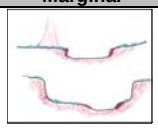
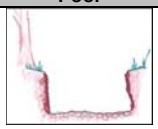
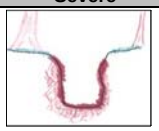
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	1/20/2014	1	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 18/South of 1413:

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.5**

Notes: The stream does not have access to active floodplain. The stream does not contain any riprap. More than 60% of the transect is vegetated. Transient sediments are round in 40-60% of the stream bed. Channel is altered via levees but does show natural flow.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody communty represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: No grazing activities but extensive agricultural activities nearby. Vegetation present is composed of native and introduced shrubs/trees. No adjacent wetlands.

Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4**									
									CI= (Sum % RA * Scores*0.01)/2		
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.0**	**BV**
	Score >	**4**							**Lt Bank CI >**	**4.0**	**4.0**

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Stream has not been assessed by TCEQ and is intermittent.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	1/20/14	1	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: No rip rap or structures but the stream is confined by levees.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.6**

INSERT PHOTOS:

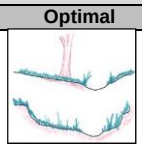
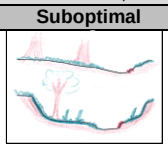
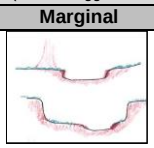
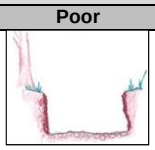
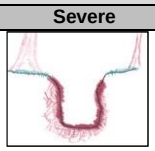
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	1/20/2014	2	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 18/South of 1413:

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicators of stability include greater than 80% vegetative cover on the banks, stable point bars and bankfull benches may be present, mid-channel and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading or riprap may be present	Channel is slightly incised and contains a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80% of the Transect, point bars and bankfull benches are likely present and transient sediment is present along 10-40% of the stream bottom. The stream has access to bankfull benches or developed floodplains along portions of the reach. Channel may show evidence of past channel alteration, but should be exhibiting notable recovery of a natural channel. Bulkhead and riprap are limited to 1-25% of the Transect.	Channel is incised or has had its course widened. Indicators of instability include the presence of erosional scars on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vertical or undercut banks, or nickpoints associated with headcuts may be present and portions of the channel may be widening while other portions of the channel are narrowing, and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have access to the active floodplain. Bulkheading or riprap is found along 25-50% of the Transect.	Channel is over-widened or incised with vertically or laterally unstable banks. Visual indicators of over-widening and incision include near vertical banks with shallow root depths, erosional scars present along 60-80% of the Transect, vegetative cover or natural rock is limited to 20-40% of the Transect, substantial sediment deposition of uniformed-size material is present along 60-80% of the Transect and point bars and bankfull benches are absent. The stream does not have access to an active floodplain. Bulkheading and riprap are present along 50-80% of the Transect.	Channel is deeply incised or excavated with vertical or lateral instability in the stream bank. Indicators of instability include the streambed elevation located below the rooting depth, both banks are vertical or undercut, vegetative surface protection or natural rock is only found along 20% or less of the Transect, the bank is sloughing and erosional scars or raw banks present on 80-100% of the Transect and 80% or more of the natural streambed is covered by substantial sediment resulting in threaded channels. The stream does not have access to an active floodplain.	**CV**
Score	**5**	**4**	**3**	**2**	**1**	**3.5**

Notes: The stream does not have access to active floodplain. The stream does not contain any riprap. More than 60% of the transect is vegetate. Transient sediments are round in 40-60% of the stream bed. Channel is altered via levees but does show natural flow.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
Riparian Buffers	Native woody species represent greater than 60% of the coverage and wetlands are present.	Native woody community species represent greater than 60% coverage with *NO* wetlands present within the buffer **OR** native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species represent between 30-60% coverage with *NO* wetlands present. No maintenance or grazing activities.	Native woody community represents less than 30% coverage with no maintenance or grazing activities.	The buffer is dominated by one or more of the following: lawns, mowed or maintained right-of-way, no-till cropland, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized or other comparable condition.	The area is dominated by impervious surfaces, mine spoil lands, denuded surfaces, conventional tillage row crops, active feed lots or comparable conditions.
Condition Scores	**5**	**High = 4.5**	**Low = 4**	**3**	**2**	**1**

Notes: No grazing activities but extensive agricultural activities nearby. Vegetation present is composed of native and introduced shrubs/trees. No adjacent wetlands.

Right Bank	% Riparian Area>	**100%**						**100%**				
	Score >	**4**										
									CI= (Sum % RA * Scores*0.01)/2			
Left Bank	% Riparian Area>	**100%**						**100%**	**Rt Bank CI >**	**4.0**	**BV**	
	Score >	**4**							**Lt Bank CI >**	**4.0**	**4.0**	

3. AQUATIC USE: The Transect is assessed based on the aquatic life use category score assigned to the stream segment by the TCEQ.

	Optimal	Suboptimal	Marginal	Poor	Severe	
AQUATIC USE	Aquatic Life Score of Exceptional.	Aquatic Life Score of High. Perennial streams that have not been assessed are also assumed to have an Aquatic Life Score of High	Aquatic Life Score of Intermediate.	Aquatic Life Score of Limited. Intermittent Streams with Perennial Pools that have not been assessed are also assumed to have an Aquatic Life Score of Limited.	Aquatic Life Score of Minimal. Intermittent and ephemeral streams that have not been assessed are also assumed to have an Aquatic Life Score of Minimal.	**UV**
Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Stream has not been assessed by TCEQ and is intermittent.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	1/20/14	2	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on flow	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have an observable affect on flow, but no observable affect on habitat or biota.	Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an observable affect on both flow and habitat or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	**AV**
SCORE	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: No rip rap or structures but the stream is confined by levees.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.6**

INSERT PHOTOS:

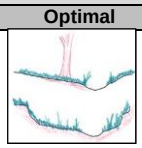
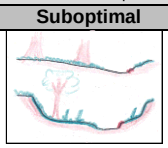
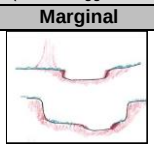
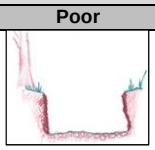
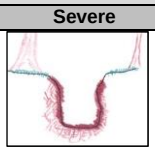
Stream Assessment Data Form for Level 1

U.S. Army Corps of Engineers Galveston District

File Number	Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	1	12030203	1/20/2014	3	

Name(s) of Evaluator(s)	Steam Name and Type
John Williams, Erin Culp	Water 18/South of 1413:

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Optimal	Suboptimal	Marginal	Poor	Severe	
						
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Score	**5**	**4**	**3**	**2**	**1**	**CV 3.5**

Notes: The stream does not have access to active floodplain. The stream does not contain any riprap. More than 60% of the transect is vegetated. Transient sediments are round in 40-60% of the stream bed. Channel is altered via levees but does show natural flow.

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire Transect.

	Optimal	Suboptimal		Marginal	Poor	Severe
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Right Bank	% Riparian Area>	**100%**						**100%**			
	Score >	**4**									
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Score	**5**	**4**	**3**	**2**	**1**	**3.0**

Notes: Stream has not been assessed by TCEQ and is intermittent.

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
SWG-2012-00153	TxDOT	Liberty County	Riverine	12030203	1/20/14	3	

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

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SCORE	**5**	**4**	**3**	**2**	**1**	**4.0**

Notes: No rip rap or structures but the stream is confined by levees.

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

THE CONDITION INDEX (CI) >>	**3.6**

INSERT PHOTOS:

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		10/16/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040203	Liberty County

Stream Name	Transect ID	Condition Index (RCI)
South of 1413	1	3.6
South of 1413	2	3.6
South of 1413	3	3.6
Average Pre-project RCI		**3.6**
RCI Delta		**0**
Impact Factor*		**0**
Linear Feet within ROW		**404**
Compensation Requirement		**0**