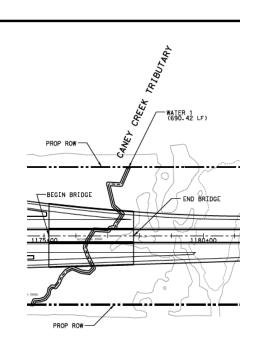
				GRA	_		Y - SEGMENTS HA	&I-1	
Water Number	Water Name	Linear Feet	Pre RCI	Post RCI	RCI Delta	Impact Factor	Mitigation Requirement (linear feet x RCI Delta x Impact)	Columns in waterway?	Comments
1	Caney Creek Tributary	690	4.1	4.1	0.0	0.0	0	N	No fill in wetlands or below OHM. Filling would only be landward 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

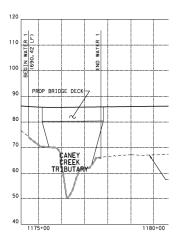
	Pre-Project Condition								
Visual Channel Riparian Channel									
Water 1	Condition Parameter	Buffers	Aquatic Use	Alteration	Average				
Transect 1	4	3.5	4	5	4.1				
Transect 2	4	3.5	4	5	4.1				
Transect 3	4	3.5	4	5	4.1				
					4.1				

	Post-Project Condition								
	Visual Channel	Riparian		Channel					
Water 1	Condition Parameter	Buffers	Aquatic Use	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				



Scale:

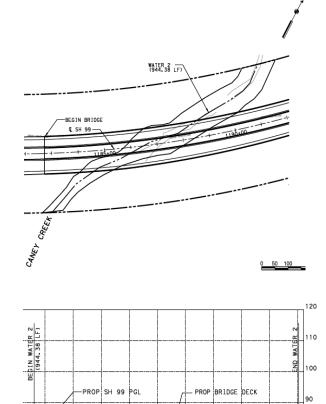
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Water 2 - Caney Creek

	Pre-Project Condition								
	Visual Channel								
	Condition	Riparian	Aquatic	Channel					
Water 2	Parameter	Buffers	Use	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								
	Visual Channel								
	Condition	Riparian	Aquatic	Channel					
Water 2	Parameter	Buffers	Use	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				



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CANEY CREEK

80

-70

60

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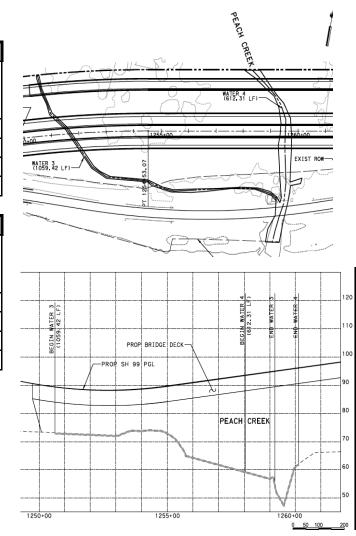
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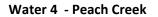
1190+00

Water 3 - Peach Creek Tributary

	Pre-Project Condition								
	Visual Channel								
	Condition	Riparian	Aquatic	Channel					
Water 3	Parameter	Buffers	Use	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				

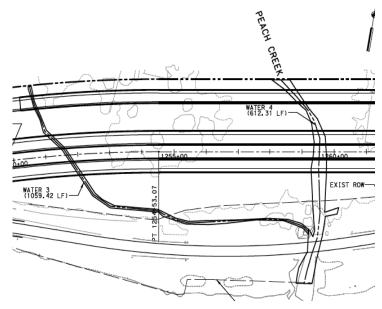
	Post-Project Condition								
	Visual Channel								
	Condition	Riparian	Aquatic	Channel					
Water 3	Parameter	Buffers	Use	Alteration	Average				
Transect 1	3	3.24	1	. 4		2.8			
Transect 2	4	3	1	. 3		2.8			
Transect 3	3	3	1	. 3		2.5			
						2.7			

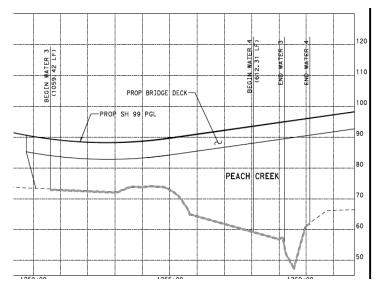




	Pre-Project Condition								
	Visual Channel								
	Condition	Riparian	Aquatic	Channel					
Water 4	Parameter	Buffers	Use	Alteration	Average				
Transect 1	5	4.5	4	5	4.6				
Transect 2	4	4.5	4	5	4.4				
Transect 3	3	2.5	4	3	3.1				
					4.0				

	Post-Project Condition								
	Visual Channel								
	Condition	Riparian	Aquatic	Channel					
Water 4	Parameter	Buffers	Use	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				

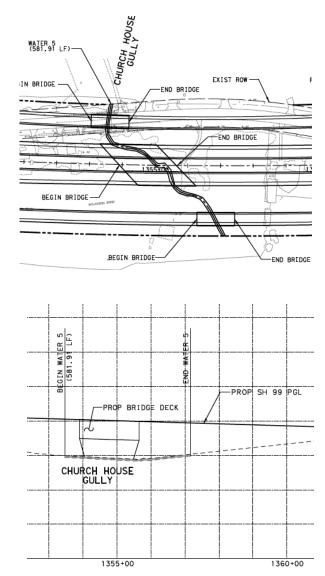




Water 5 - Church House Gully

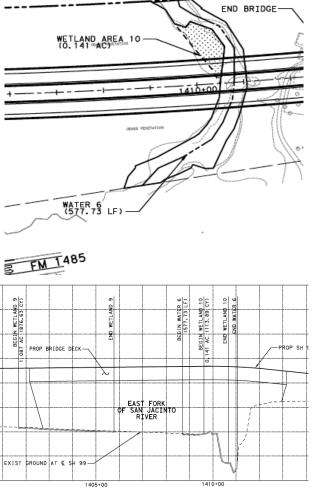
	Pre-Project Condition									
	Visual									
	Channel									
	Condition	Riparian		Channel						
Water 5	Parameter	Buffers	Aquatic Use	Alteration	Average					
Transect 1	3.5	3.38	2	3		3.0				
Transect 2	4	3.25	2	5		3.6				
Transect 3	4	3.25	2	5		3.6				
						3.4				

	Post-Project Condition									
	Visual									
	Channel									
	Condition	Riparian		Channel						
Water 5	Parameter	Buffers	Aquatic Use	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					



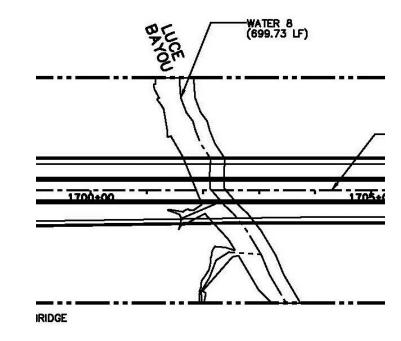
Water 6 - East Fork San Jacinto

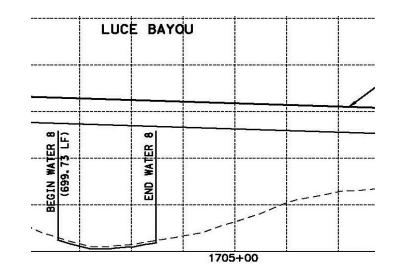
		Pre-Projec	t Condition				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Visual Channel						PILE 10
	Condition	Riparian		Channel			
Water 6	Parameter		Aquatic Use	Alteration	Average		
Transect 1	5			5		4.6	WETLAND AREA 10
Transect 2	4			4		4.1	
Transect 3	3	2.5	4	3		3.1	
						4.0	+
							DENSE VENETATION
		Post-Projec	t Condition				
	Visual Channel						(A)
	Condition	Riparian		Channel			WATER 6
Water 6	Parameter	Buffers	Aquatic Use	Alteration	Average		WATER 75 LF)
Transect 1	3	2	4	5		3.5	
Transect 2	3	2	4	4		3.3	FM 1485
Transect 3	3	2	4	3		3.0	FM
						3.3	
		-					x wet-Lavio 376.637 876.6377 876.637 876.637 876.637 876.757 876.757 876.757
							G G B B L L M M C C B G G C L L G G G G C L L G G G G C L L G G G G



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			



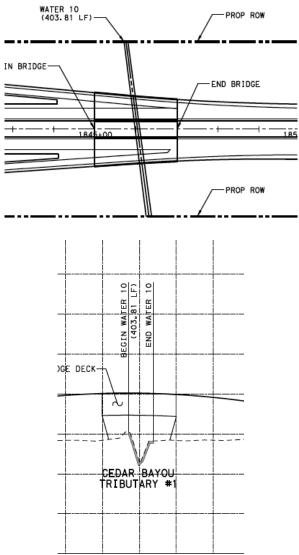


Water 8 - Luce Bayou

Water 10 - Cedar Bayou Tributary

Pre-Project Condition						
	Visual					
	Channel					
	Condition	Riparian		Channel		
Water 10	Parameter	Buffers	Aquatic Use	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						
	Visual						
	Channel						
	Condition	Riparian		Channel			
Water 10	Parameter	Buffers	Aquatic Use	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	

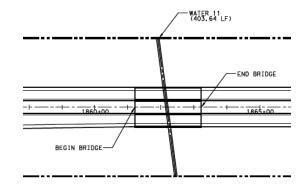


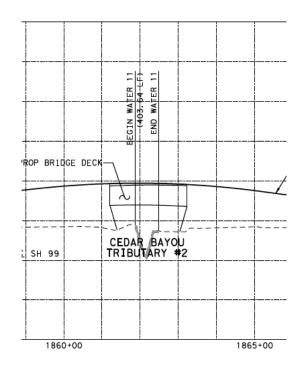
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Water 11 - Cedar Bayou Tributary

	Pre-Project Condition						
	Visual						
	Channel						
	Condition	Riparian		Channel			
Water 11	Parameter	Buffers	Aquatic Use	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					
	Visual					
	Channel					
	Condition	Riparian		Channel		
Water 11	Parameter	Buffers	Aquatic Use	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	

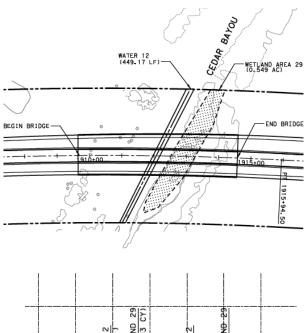


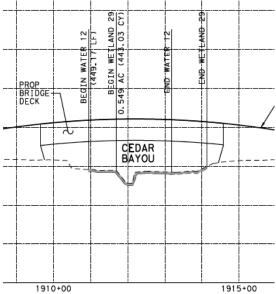


Water 12 - Cedar Bayou

	Pre-Project Condition						
	Visual						
	Channel						
	Condition	Riparian			Channel		
Water 12	Parameter	Buffers		Aquatic Use	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					
	Visual					
	Channel					
	Condition	Riparian		Channel		
Water 12	Parameter	Buffers	Aquatic Use	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	

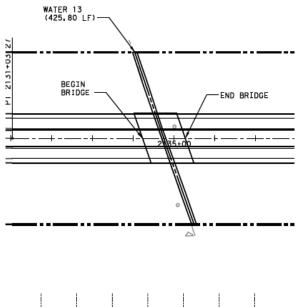


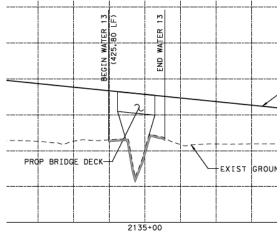


Water	13
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	Pre-Project Condition						
	Visual						
	Channel						
	Condition	Riparian		Channel			
Water 13	Parameter	Buffers	Aquatic Use	Alteration	Average		
Transect 1	2	2	2	2		2.0	
Transect 2	2	2	2	2		2.0	
Transect 3	2	2	2	2		2.0	
						2.0	

	Post-Project Condition						
	Visual						
	Channel						
	Condition	Riparian		Channel			
Water 13	Parameter	Buffers	Aquatic Use	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		

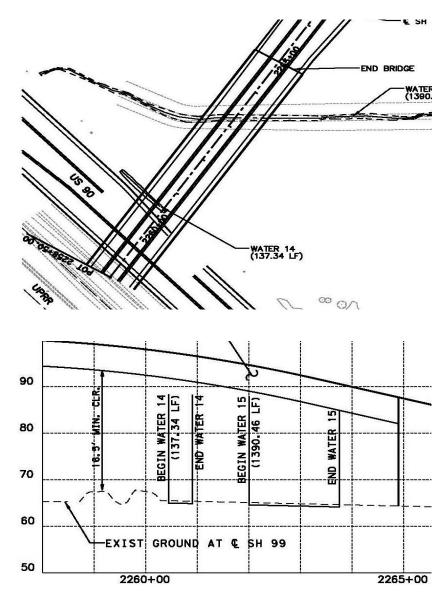




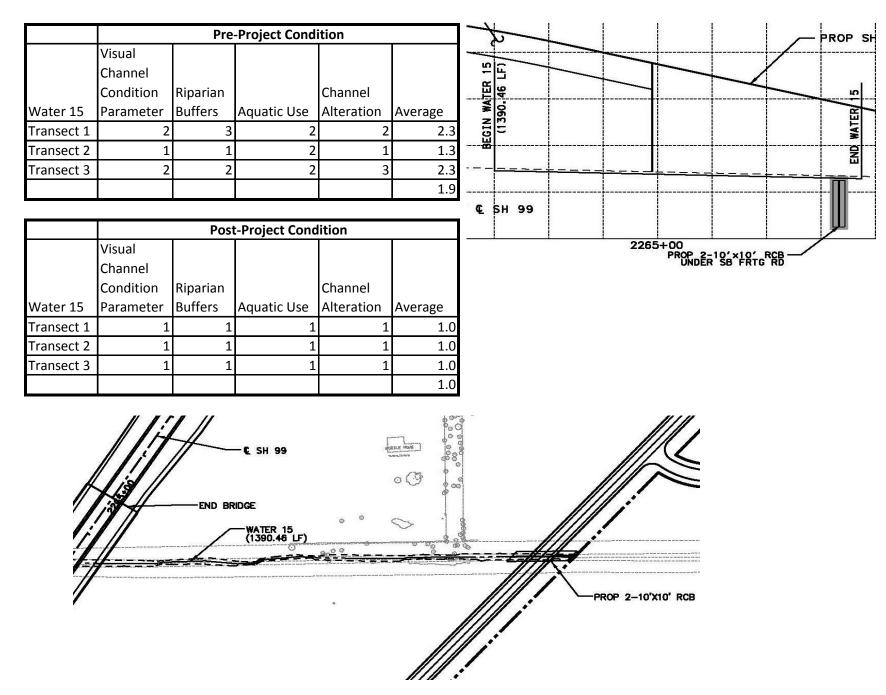
Water	14
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	P	re-Project (Condition		
	Visual				
	Channel				
	Condition	Riparian	Aquatic	Channel	
Water 14	Parameter	Buffers	Use	Alteration	Average
Transect 1	2	2	2	1	1.8
Transect 2	2	2	2	1	1.8
Transect 3	2	2	2	1	1.8
					1.8

	Рс	ost-Project	Condition		
	Visual				
	Channel				
	Condition	Riparian	Aquatic	Channel	
Water 14	Parameter	Buffers	Use	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



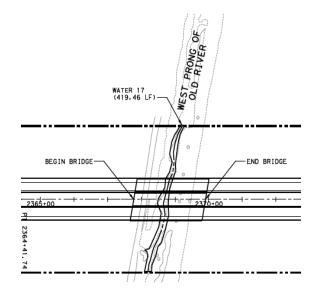
Water 15

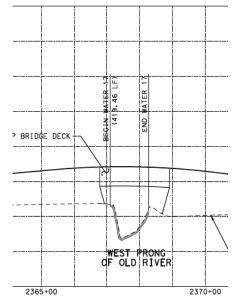


Water 17 - West Prong of Old River

		Pre-Projec	t Condition			
	Visual					
	Channel					
	Condition	Riparian		Channel		
Water 17	Parameter	Buffers	Aquatic Use	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-Proje	ct Condition			
	Visual					
	Channel					
	Condition	Riparian		Channel		
Water 17	Parameter	Buffers	Aquatic Use	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

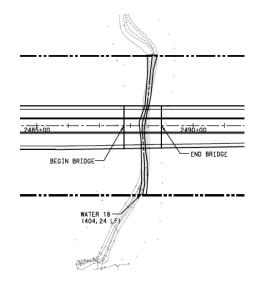


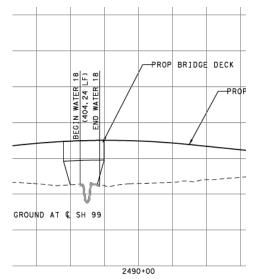


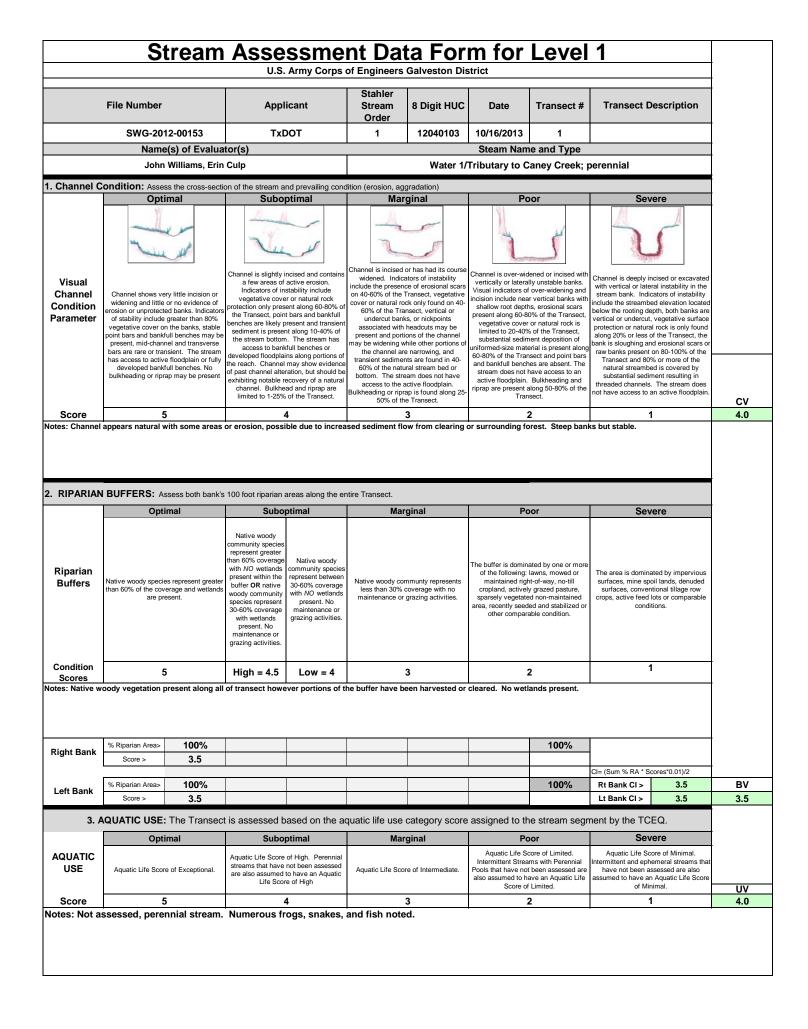
Water 18

		Pre-Projec	t Condition		
	Visual				
	Channel				
	Condition	Riparian		Channel	
Water 18	Parameter	Buffers	Aquatic Use	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-Projec	ct Condition			
	Visual					
	Channel					
	Condition	Riparian		Channel		
Water 18	Parameter	Buffers	Aquatic Use	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

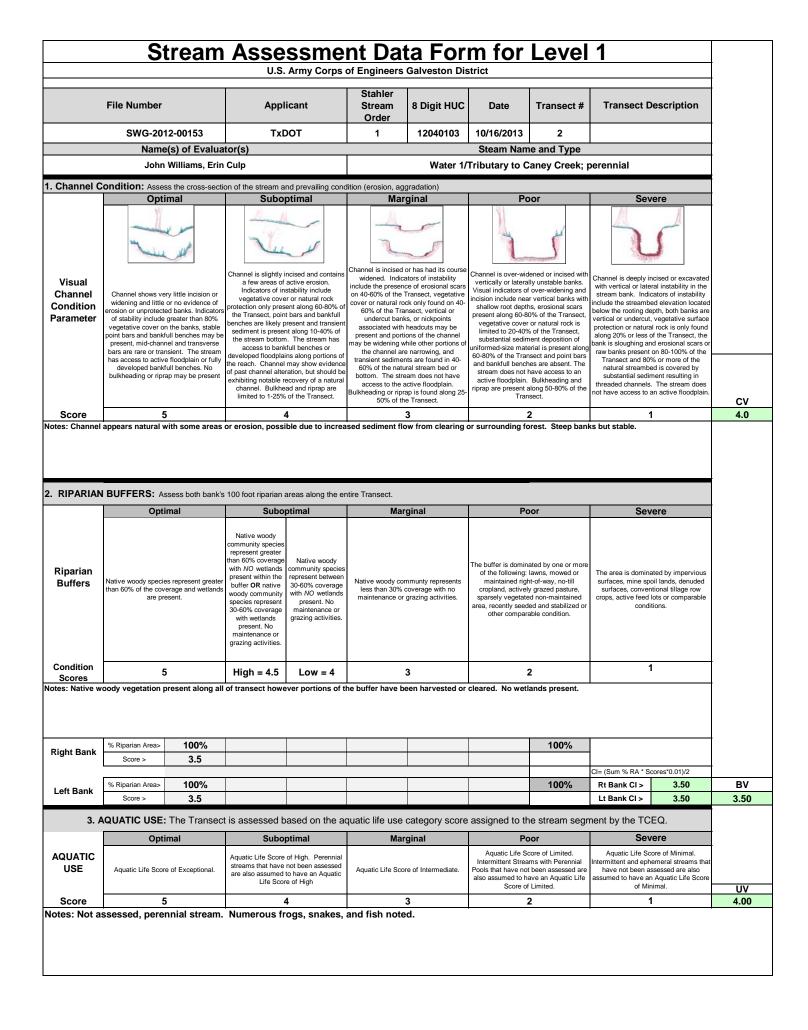




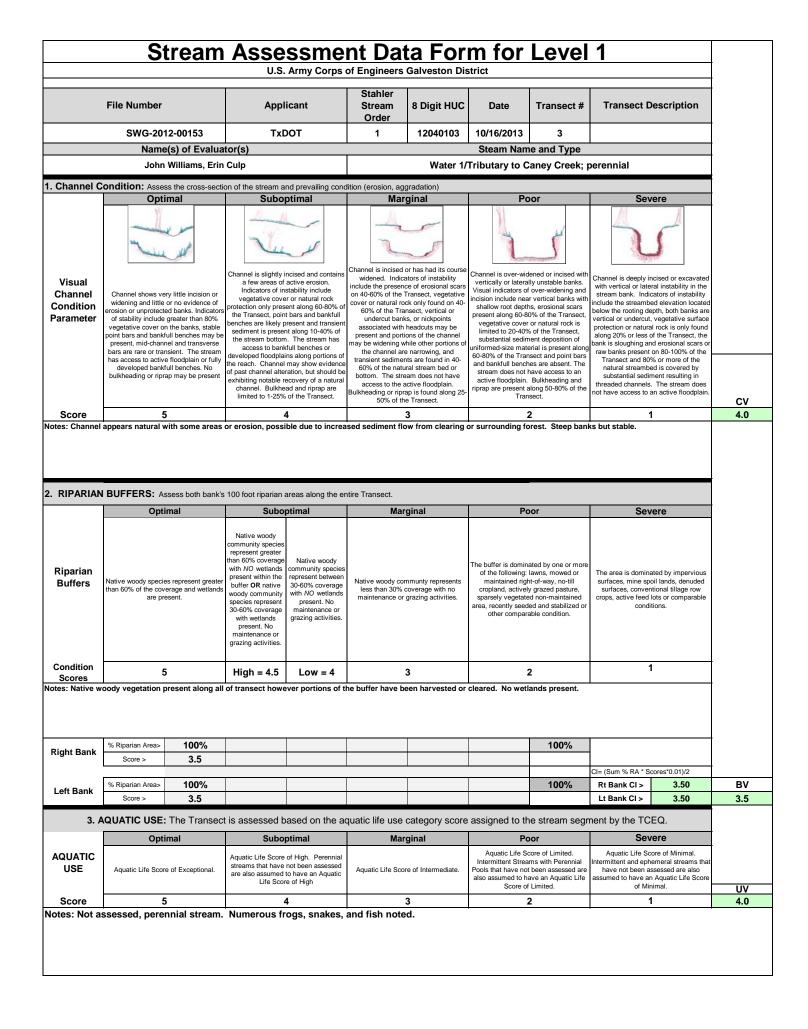


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SAJ-2012-00153	TxDOT		Montgomery County	Riverine	12040103	10/13/2013	1		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, concr	ete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Març	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evidence may be present, bu stability have recor present, have no o	riprap, bulkheads, ures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dredg levees, culverts, r armor, drop structur structures. Evidenc may be present, but stability are beginn Withdrawals, if press an observable affe observable affect of	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n	riprap, bulkheads, ures or withdrawal of past alteration is eam pattern and ot recovering. sent, may have an t on both flow and	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.	A
SCORE	5		4	3	3	:	2	1	5.
Notes: Stream	m is not altered and man-m	ade structure	s are not pre	sent.					
	REACH		NDEX and S	TREAM CON		TS FOR THIS	SREACH		
	KEAOIT								





		ream in	npact A	ssessm	ent For	m 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. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drog structures or withdrawal structures within the Transect.	impacted by dred levees, culverts, armor, drop struct structures. Eviden may be present, bu stability have reco present, have no c	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if ibservable affect on ow	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struc structures. Evidenc present, and str stability are n Withdrawals, if pre observable affec	 of the Transect is ging, dams, dikes, riprap, bulkheads, urces or withdrawal of past alteration is eam pattern and ot recovering. sent, may have an t on both flow and 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	3		2	1	5.00
otes: Strea	n is not altered and man-m								
	REACH (CONDITION	INDEX and S	TREAM CON	DITION UNI	TS FOR THI	S REACH		



		ream ir	npact A	ssessm	ent For	m Page	<u> 2</u>		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SAJ-2012-00153	TxDOT		Montgomery County	Riverine	12040103	10/13/2013	3		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evident may be present, bu stability have reco present, have no co	ver. Withdrawals, if	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struc structures. Evidenc present, and str stability are n Withdrawals, if pre observable affec	o of the Transect is liging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and not recovering. esent, may have an t on both flow and 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	8		2	1	5.0
otes: Strea	m is not altered and man-m								
	REACH (CONDITION	INDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH		

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

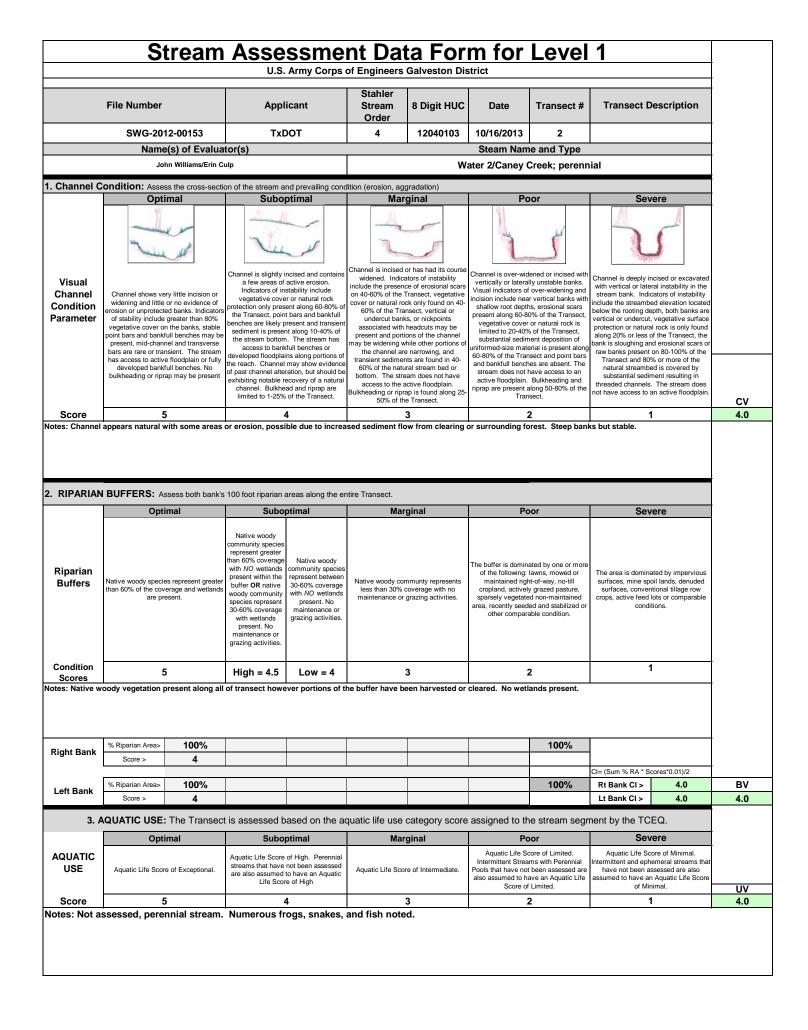
Project #	Applicant		Date
SWG-2012-00153	TxDOT		10/16/2013
Evaluator	S	HUC	Locality
John Williams, E	brin Culp	12040103	Montgomery County

Transect ID	Condition Index (RCI)
1	4.1
2	4.1
3	4.1
ject RCI	4.1
a	0
or*	0
	690
	0,20
	1 2 3

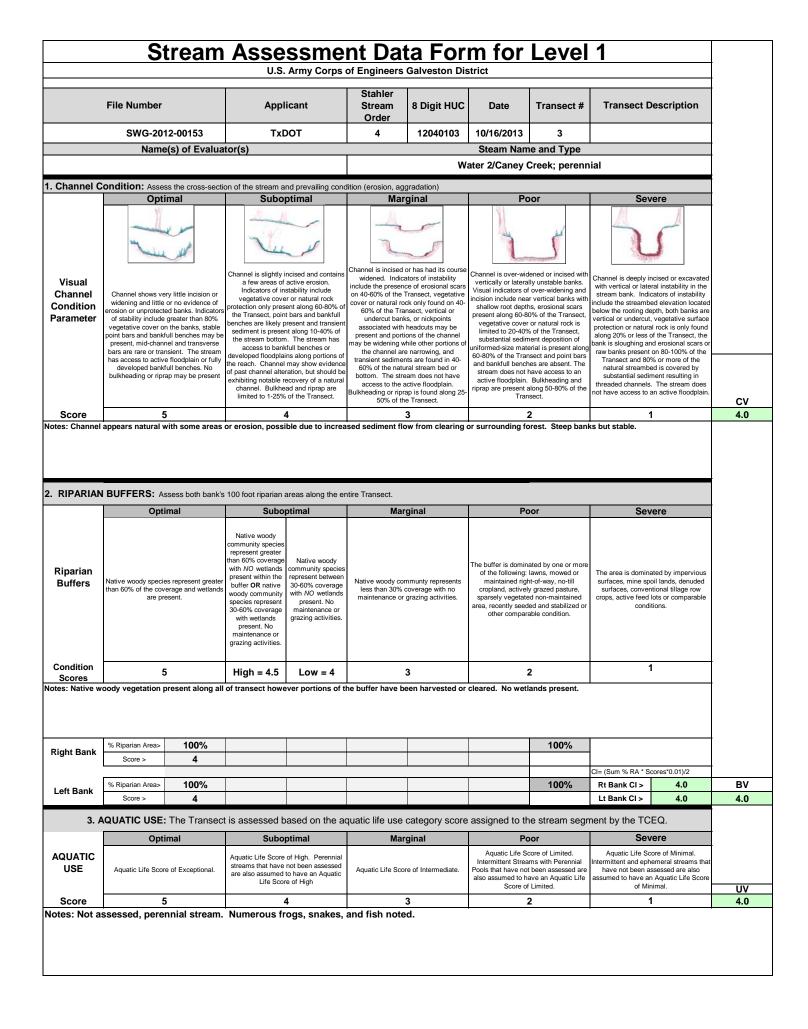
	File Number		Appl	icant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect	Description	
	SWG-2012	2-00153	TxE	от	4	12040103	10/16/2013	1			
	Name(s	s) of Evalua	tor(s)		ſ		Steam Nam	e and Type			
		Williams, Erin C	-				ater 2/Caney (Creek; perenn	nial		
Channel C	ondition: Assess Optim			nd prevailing conc ptimal		gradation) ginal	Pr	oor	Se	vere	
	A A	معلا			2	 		st.		<u>s</u>	
Visual Channel Condition Parameter	Channel shows very widening and little or erosion or unprotected of stability include gr vegetative cover on tt point bars and bankfull present, mid-channel bars are rare or transi has access to active f developed bankfull bulkheading or riprap	no evidence of banks. Indicators reater than 80% he banks, stable I benches may be I and transverse ient. The stream loodplain or fully I benches. No	vegetative cove protection only pres the Transect, poin benches are likely p sediment is preser the stream bottom access to bank developed floodplai the reach. Channel of past channel alte exhibiting notable r	active erosion. stability include r or natural rock ent along 60-80% of t bars and bankfull resent and transient t along 10-40% of i. The stream has full benches or ns along portions of may show evidence ration, but should be scovery of a natural	widened. Indic: include the presen on 40-60% of the ' cover or natural ro 60% of the Tra undercut bani associated with present and porti may be widening w the channel ar transient sedime 60% of the natu bottom. The stra access to the a Bulkheading or ripr	or has had its course ators of instability ce of erosional scars Transect, vegetative ck only found on 40- insect, vertical or ke, or nickpoints headcuts may be ions of the channel hhile other portions of e narrowing, and nts are found in 40- real stream bed or sam does not have active floodplain. ap is found along 25- te Transect.	vertically or latera Visual indicators of incision include nea shallow root depth present along 60-8 vegetative cover limited to 20-409 substantial sedin uniformed-size matt 60-80% of the Trar and bankfull bench stream does not active floodplain. fiprap are present a	lened or incised with Ily unstable banks. over-widening and r vertical banks with is, erosional scars of or hartransect, or natural rock is 6 of the Transect, tent deposition of arial is present along usect and point bars les are absent. The nave access to an Bulkheading and along 50-80% of the sect.	Channel is deeply with vertical or lat stream bank. Inc include the stream below the rooting q vertical or undercu protection or natu along 20% or less bank is sloughing a raw banks presen Transect and 8 natural stream substantial sed threaded channel	incised or excavated teral instability in the ficators of instability bed elevation located lepth, both banks are it, vegetative surface ral rock is only found of the Transect, the and erosional scars or to n 80-100% of the 0% or more of the bed is covered by liment resulting in s. The stream does o an active floodplain.	
Score	5		4	4		3	:	2		1	4
RIPARIAN	BUFFERS: Asso			areas along the er	-	rginal	Pc	por	Se	vere	
Riparian Buffers		represent greater age and wetlands			Mar Native woody co less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate area, recently seed	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feet conv	nated by impervious poil lands, denuded entional tillage row I lots or comparable ditions.	
Riparian Buffers Condition	Optim Native woody species than 60% of the cover	represent greater age and wetlands	Subop 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	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, kd non-maintained ed and stabilized or	The area is domin surfaces, mine s surfaces, conve crops, active feet conv	nated by impervious poil lands, denuded antional tillage row d lots or comparable	
Riparian Buffers Condition Scores	Optim	nal represent greater age and wetlands ent.	Subo 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate area, recently seed other compar-	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feet conv	nated by impervious poil lands, denuded entional tillage row I lots or comparable ditions.	
Riparian Buffers Condition Scores otes: Native w	Optim Native woody species than 60% of the cover- are press 5 oody vegetation pre % Riparian Area>	nal represent greater age and wetlands ent. esent along all 100%	Subo 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate area, recently seed other compar-	ated by one or more lawns, mowed or t-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feet conv	nated by impervious poil lands, denuded entional tillage row I lots or comparable ditions.	
Riparian Buffers Condition Scores otes: Native w	Optim	nal represent greater age and wetlands ent.	Subo 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate area, recently seed other compar-	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feet conv	nated by impervious poil lands, denuded entional tillage row I lots or comparable ditions.	
Riparian Buffers Condition Scores otes: Native w	Optim Native woody species than 60% of the cover- are press 5 oody vegetation pre % Riparian Area> % Riparian Area	represent greater age and wetlands ent. esent along all 100% 4 100%	Subo 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate area, recently seed other compar-	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active fee cond Cl= (Sum % RA * S Rt Bank Cl >	nated by impervious poil lands, denuded entional tillage row d lots or comparable ditions.	
Riparian Buffers Condition Scores tes: Native w	Optim Native woody species than 60% of the cover are press 5 oody vegetation pre % Riparian Area> Score >	represent greater age and wetlands ent. esent along all 100% 4	Subo 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate area, recently seed other compar-	ated by one or more lawns, mowed or th-of-way, no-till y grazed pasture, et and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active fee cond Cl= (Sum % RA * 5	nated by impervious poil lands, denuded entional tillage row d lots or comparable ditions. 1	
Riparian Buffers Condition Scores tes: Native w	Optim Native woody species than 60% of the cover- are press 5 oody vegetation pre % Riparian Area> % Riparian Area	represent greater age and wetlands ent. essent along all 100% 4 100% 4	Subo 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. High = 4.5 of transect howe	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities. 3 een harvested or	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compara cher compara cleared. No weth	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, id non-maintained ed and stabilized or able condition. 2 ands present. 100% 100%	The area is domin surfaces, mine s surfaces, conve crops, active feet conve Cl= (Sum % RA * 3 Rt Bank Cl > Lt Bank Cl >	nated by impervious poil lands, denuded antional tillage row d lots or comparable ditions.	
Riparian Buffers <u>Condition</u> Scores otes: Native w	Optim	represent greater age and wetlands ent. esent along all 100% 4 100% 4 Fhe Transect	Subo 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. High = 4.5 of transect howe	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or he buffer have b	mmunty represents coverage with no grazing activities. 3 een harvested or	The buffer is domin of the following: maintained right sparsely vegetate area, recently seed other compart cleared. No weth	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, id non-maintained ed and stabilized or able condition. 2 ands present. 100% 100%	The area is domin surfaces, mine s surfaces, conve crops, active feed conv CI= (Sum % RA * S Rt Bank CI > Lt Bank CI > nent by the TC	nated by impervious poil lands, denuded antional tillage row d lots or comparable ditions.	
Riparian Buffers Condition Scores otes: Native w Right Bank Left Bank	Optim Native woody species than 60% of the cover- are press 5 oody vegetation pre % Riparian Area> Score > % Riparian Area> % Riparian Area	represent greater age and wetlands ent. esent along all 100% 4 100% 4 The Transect nal	Subo Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 of transect howe	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 ver portions of the sased on the ac ptimal of High. Perennial	Native woody coo less than 30% maintenance or he buffer have b	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar- conter compar- con	ated by one or more lawns, mowed or trof-way, no-till y grazed pasture, id non-maintained ed and stabilized or able condition. 2 ands present. 100% 100%	The area is domin surfaces, mine s surfaces, conve crops, active feet conve crops, active feet conve crops, active feet conve	nated by impervious poil lands, denuded antional tillage row d lots or comparable ditions. 1 Scores*0.01)/2 4.0 4.0 CEQ.	4
Riparian Buffers Condition Scores otes: Native w Right Bank Left Bank 3. /	Optim Native woody species than 60% of the coveration o	represent greater age and wetlands ent. esent along all 100% 4 100% 4 The Transect nal	Subo 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. High = 4.5 of transect howe tis assessed b Subo Aquatic Life Score streams that have are also assumed Life Score	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 ever portions of the assed on the activities assed on the activities of High. Perennial not been assessed	Native woody coo less than 30% maintenance or he buffer have b quatic life use Mar Aquatic Life Sco	a mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar- conter compar- con	ated by one or more lawns, mowed or t-of-way, no-till y grazed pasture, id non-maintained ed and stabilized or able condition. 2 ands present. 100% 100% 100% cor continued. ms with Perennial been assessed are we an Aquatic Life	The area is domin surfaces, mine s surfaces, conve crops, active feet conve crops, active feet conve crops, active feet conve	nated by impervious poil lands, denuded entional tillage row I ots or comparable ditions. 1 Scores*0.01)/2 4.0 4.0 CEQ. Vere core of Minimal. whemeral streams that assessed are also an Aquatic Life Score	B 4

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Montgomery County	Riverine	12030103	10/16/2013	1		
4. CHANN	NEL ALTERATION: Stream cr	ossings, riprap, c	oncrete, gabions,	or concrete block livestock	s, straightening o	f channel, channe	lization, embankr	nents, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Mar	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal a structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no		9% of the Transect is redging, dams, dikes, is, riprap, bulkheads, ructures or withdrawals nt, but stream patterni nt, but stream patterni stability are not recovering. Withdrawals, if present, observable affect on 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.	А
SCORE	5		4		3		2	1	5
lotes: Strea	Im is not altered and man-i								
			NDEX and S	TREAM COL					
	REACH C	ONDITION I	NDEX and S	TREAM CO	NDITION UN	ITS FOR TH		CONDITION INDEX (CI) >>	4





	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Montgomery County	Riverine	12030103	10/16/2013	2		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	armor, arop structures of windrawai 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 % impacted by dred levees, culverts, armor, drop struct structures. Evidenc may be present, bu stability are begin Withdrawals, if pres an observable aff observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal e of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	 impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal on structures. Evidence of past alteration is and present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an o observable affect on both flow and 		Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals 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
lotes: Strea	m is not altered and man-m			STREAM CON					
	REACH	JONDITION							
							TH	E CONDITION INDEX (CI) >>	4.3



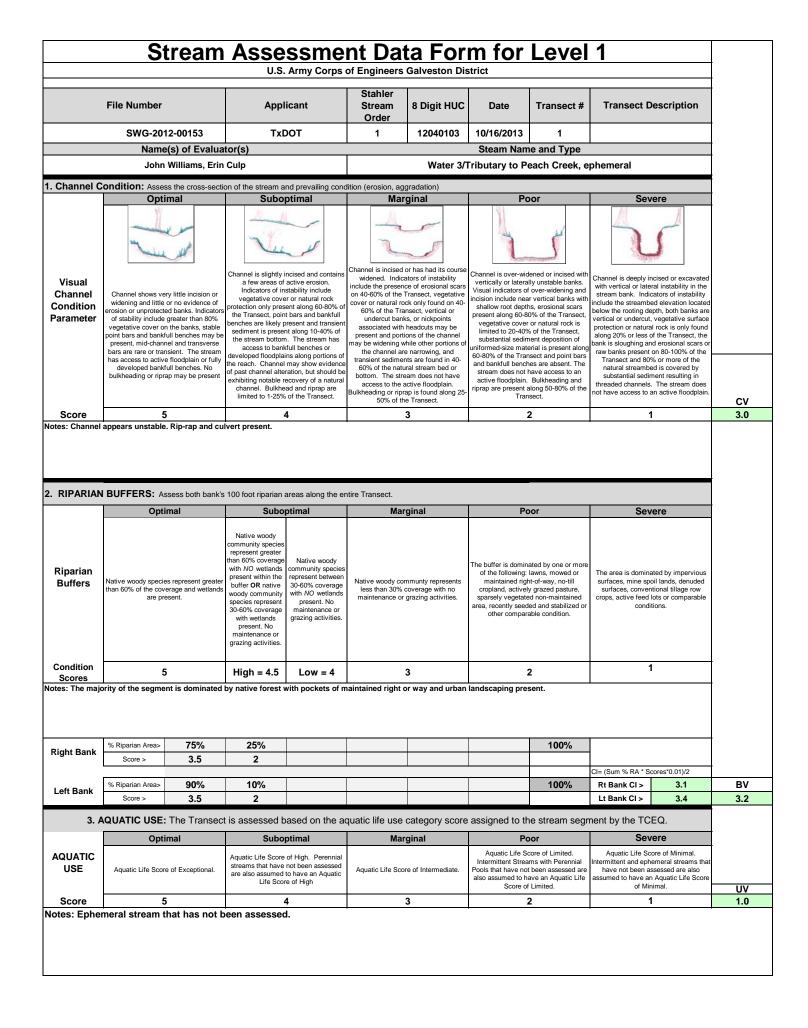
	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Montgomery County	Riverine	12030103	10/16/2013	3		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	structures. Evidence of past alteration may be present, but stream pattern and n stability have recover. Withdrawals, if present, have no observable affect on		Between 30-60 % impacted by dred levees, culverts, armor, drop struct structures. Evideno may be present, bu stability are begin Withdrawals, if pres an observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	 impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal on structures. Evidence of past alteration is and present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an o observable affect on both flow and 		Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals 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
otes: Strea	m is not altered and man-m			STREAM CON		TS FOR THI	SREACH		
	KEACH	SCIENTION							
							TH	E CONDITION INDEX (CI) >>	4.3

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

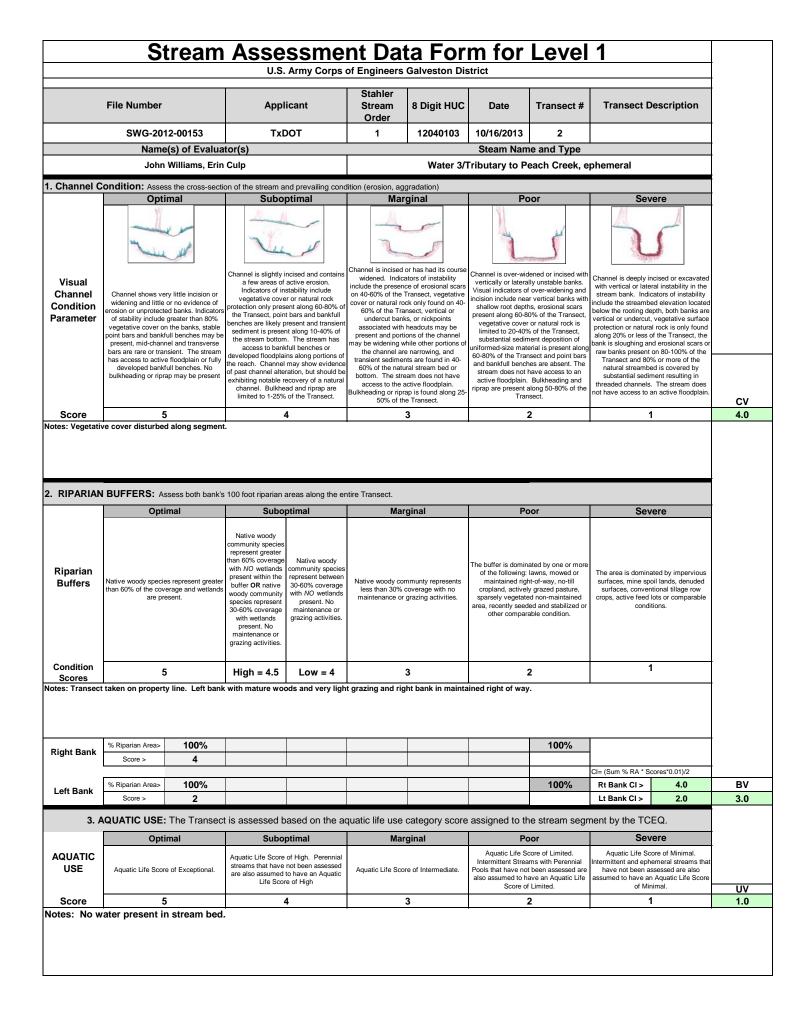
Project #	Applicant		Date
SWG-2012-00153		10/16/2013	
Evaluator	HUC	Locality	
John Williams, E	12040103	Montgomery County	

Stream Name	Transect ID	Condition Index (RCI)					
Caney Creek	Caney Creek 1						
Caney Creek	Caney Creek 2						
Caney Creek	3	4.3					
Average Pre-pre	4.3 3.5						
	Average Post-project RCI						
Impact De	elta	0.8					
Impact Fac	tor*	2					
Linear Feet of	Impact	944					
Compensation Re	equirement	1,510					

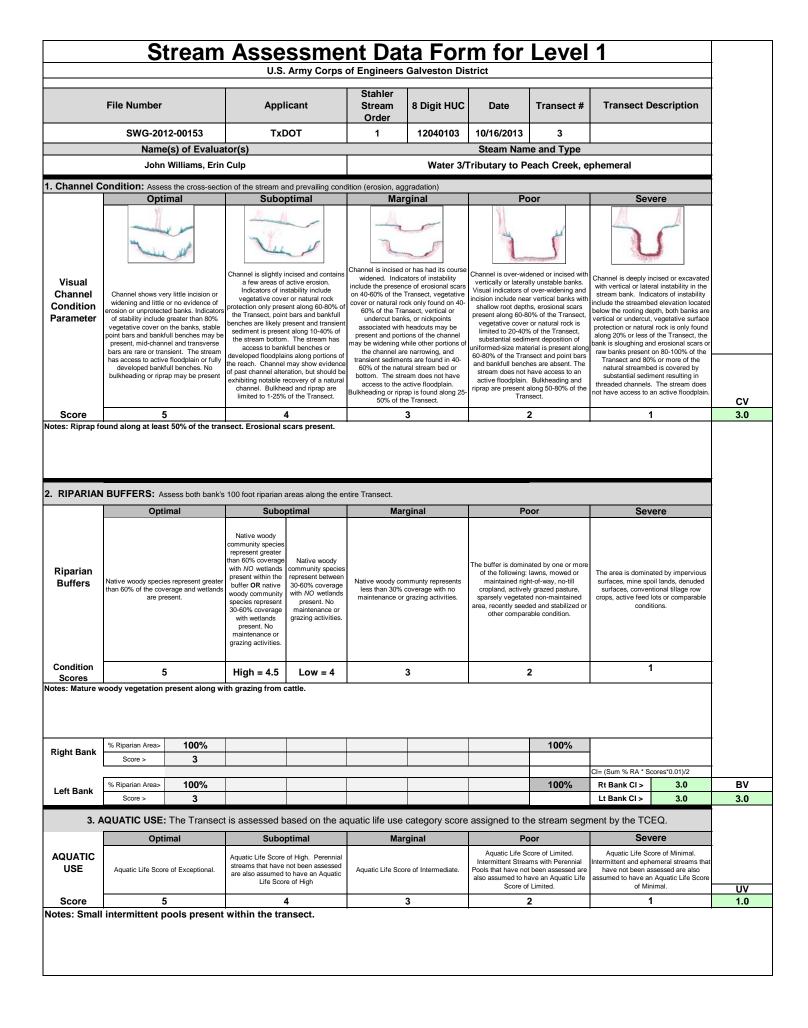


SWG-2012-00153 TxDOT Montgomery County Riverine 12040103 10/13/2013 1 4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock Channel Alteration Optimal Suboptimal Marginal Poor Severe Channel Alteration Channelization, dredging, alteration or impactent by dredging, dams, dikes, petern or has normalizer. No dams, buikheads, armor, drop structures or withdrawal structures. Evidence of past alteration withdrawal structures or withdrawal structures or withdrawal structures or withdrawal structures or thow Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, nprap, buikheads, armor, drop structures or withdrawal structures or thow recover. Withdrawals, ip resent, have reposer, buiktreads, armor, drop structures or withdrawal structures or thow Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, nprap, buikheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream patter and tability are beginning to recovered. Withdrawals, if present, and steam patter and habitat or biota. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, nprap, buikheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream patter and stability are beginning to recovered. Withdrawals, if present, and stream patter and observable affect on flow, but no stores able affect on habitat or biota. Between 60-90 % of the Transect	Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description
Optimal Suboptimal Marginal Poor Severe Channel Channelization, dredging, alteration in hardening absent. Stream has unaltered 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, but no observable affect on flow, but no observable affect on habitat or biota. Between 10-60 % 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 no observable affect on flow, but no observable affect on flow, but no observable affect on habitat or biota. Between 10-100% 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, but stream pattern and stability are not recovering. Between 90-100% 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, but stream pattern and stability are not recovering. Between 90-100% 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 host not necovering. Between 90-100% of he transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration is present, have no observable affect on flow, but no observable	SWG-2012-00153	TxDOT			Riverine	12040103	10/13/2013	1	
Channel Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, have no observable affect on flow, but no observable affect on habitat or biota. Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal SCORE 5 4 3 2 1	4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, concr	rete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock
Channel AlterationChannelization, 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. Evidence of past alteration may be present, but stream pattern and stability are no observable affect on flowimpacted 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 no covered.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 no observable affect on flow, but no observable affect on habitat or biota.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 no observable affect on flow, but no observable affect on habitat or biota.impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, have may have an observable affect on flow, but no observable affect on habitat or biota.impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, and stream pattern and stability are borecovered.Between 90-100% 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, and stream pattern and sta		Optimal	Subo	ptimal	Marg	ginal	Po	oor	Severe
		hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the	impacted by dred levees, culverts, armor, drop struct structures. Evidenc may be present, bu stability have reco present, have no o	ging, dams, dikes, riprap, bulkheads, ures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if bservable affect on	impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe	ing, dams, dikes, prap, bulkheads, res or withdrawal res or withdrawal stream pattern and ing to recovered. nt, have may have to m flow, but no		ging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is eam pattern and to recovering. sent, may have an t on both flow and	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
otes: Some riprap present near road intersection but mostly unaltered channel.	SCORE	5		4	3	3		2	1
		÷		4	observable affect of	on habitat or biota.	habitat	or biota.	1
		PEACH (NDEX and S	TREAM CON		TS FOR THE	SREACH	
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH		REAGING	CONDITION					O READI	





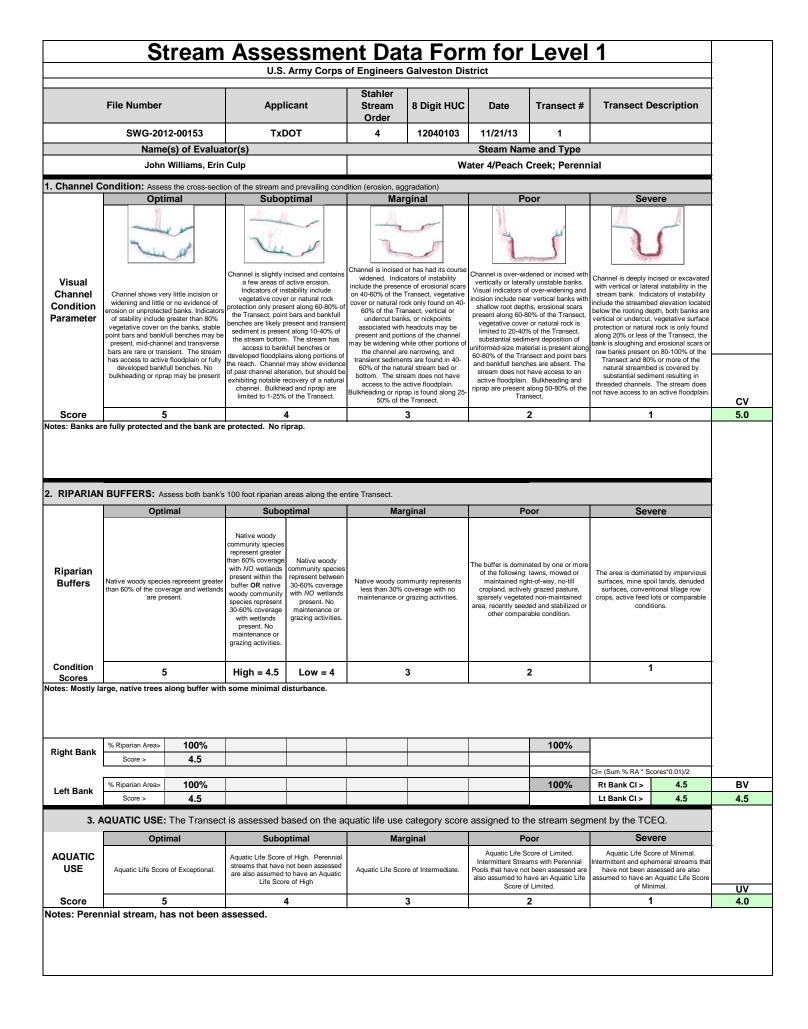
	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Montgomery County	Riverine	12040103	10/13/2013	2		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	ete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	structures. Evidence of past alteration may be present, but stream pattern and n stability have recover. Withdrawals, if present, have no observable affect on flow		Between 30-60 % impacted by dred levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ing, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	stability are not recovering.		Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawala 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	3		2	1	3.0
otes: At leas	st half of segment impacted	d by riprap or	altered route						
	REACH		NDEX and S	TREAM CON		TS FOR THIS	SREACH		



	St	tream Ir	npact A	ssessm	ent For	m 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. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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 I ransect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals, structures. Evidence of past alteration may be present, but stream pattern and stability have recover. Withdrawals, if present, have no observable affect on frow		impacted by dred levees, culverts, armor, drop struct structures. Evidenc may be present, bu stability are begin Withdrawals, if pres an observable aff	n 30-60 % of the Transect is d by dredging, dams, dikes, crulvers, riprab, bulkheads, strop structures or withdrawal s. Evidence of past alteration seent, but stream pattern and are beginning to recovered, als, if present, have may have als, fir present, have may have als, fir present, have may have als field to n flow, but no ble affect on habitat or biota.		ging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is eam pattern and ot recovering. sent, may have an t on both flow and	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals 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
otes: Ripra	p present. Stream possibly			Vith the road.			SREACH		
	KEACH (
							TH	E CONDITION INDEX (CI) >>	2.5

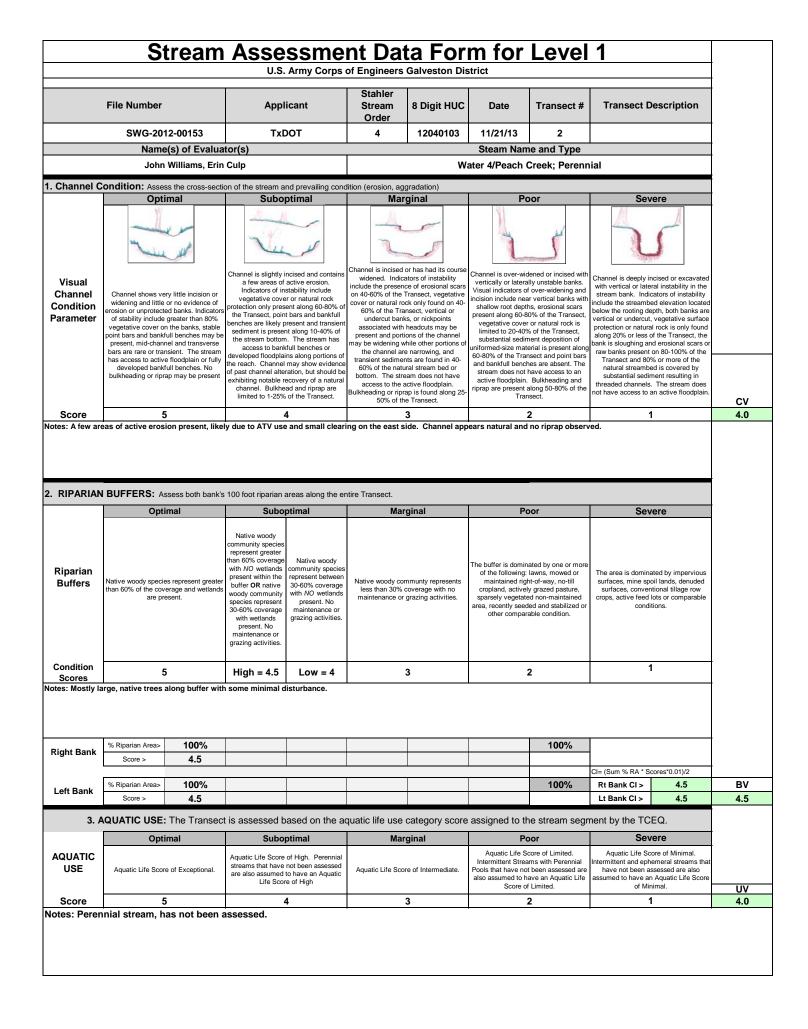
Project #	Applicant		Date
SAJ-2012-00153	TxDOT		10/16/2013
Evaluator	ŝ	HUC	Locality
John Williams, E	Erin Culp	12040103	Montgomery County

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-Pre	oject RCI	2.7
RCI Del		0.0
Impact Fac	tor*	Δ
Linear Feet with		1059
		1059
Compensation Re	quirement	U

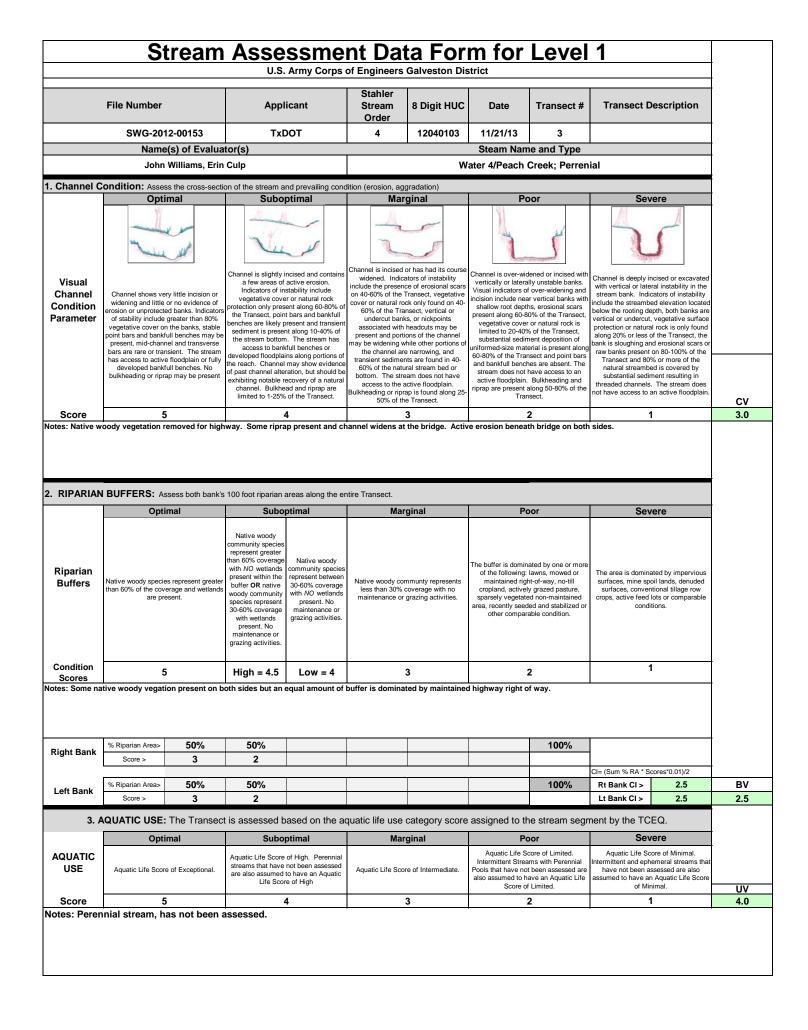


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT Montgomery County		Riverine	12040103	11/21/2013	1			
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evident may be present, bu stability have reco present, have no co	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if ibservable affect on ow	Between 30-60 % impacted by dred levees, culverts, 1 armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affr observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n Withdrawals, if pre observable affec	 of the Transect is ging, dams, dikes, riprap, bulkheads, urres or withdrawal of past alteration is earn pattern and ot recovering. sent, may have an t on both flow and 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.	
SCORE	5		4	3	3	:	2	1	
lotes: No no	oticeable channelization or								
	REACH (CONDITION	INDEX and S	TREAM CON	IDITION UNI	TS FOR THIS	S REACH		





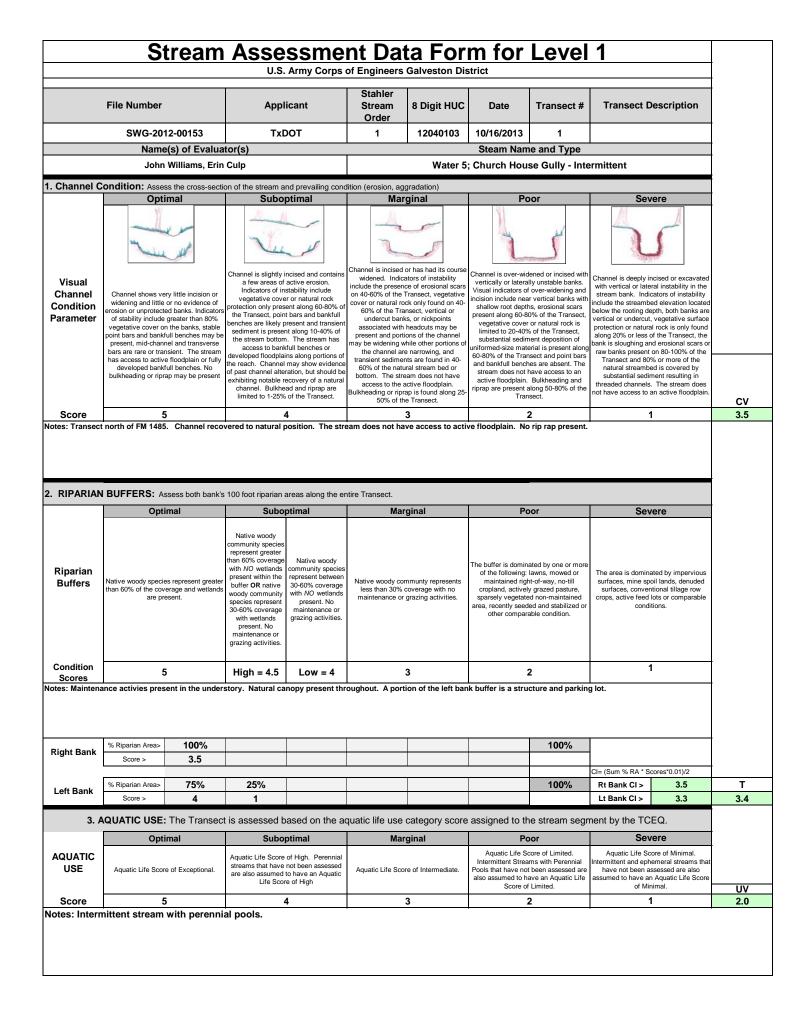
	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant Locality TxDOT Montgomery County		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153			Montgomery County	Riverine	12040103	11/21/2013	2		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evident may be present, bu stability have reco present, have no co	of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if observable affect on ow	impacted by dred levees, culverts, armor, drop struct structures. Evideno may be present, bu stability are begin	riprap, bulkheads, ures or withdrawal e of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n Withdrawals, if pre observable affect	 of the Transect is ging, dams, dikes, riprap, bulkheads, urces or withdrawal of past alteration is eam pattern and ot recovering. sent, may have an t on both flow and or biota. 	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals 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
otes: No no	pticeable channelization or			ructures were			SREACH		
	REACH	JONDITION							
							TH	E CONDITION INDEX (CI) >>	4.4



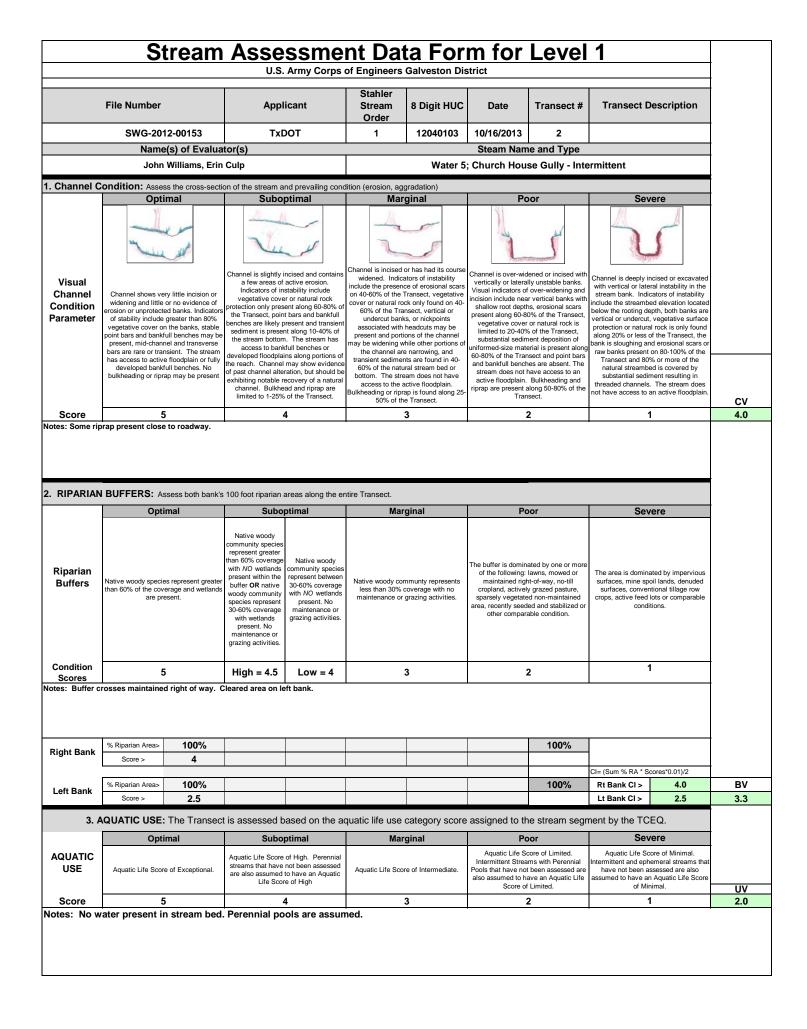
	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	TxDOT Montgome		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153			Montgomery County	Riverine	12040103	11/21/2013	3		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conc	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, bu stability have reco present, have no c		Between 30-60 % impacted by dred levees, culverts, armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affect of	ging, dams, dikes, riprap, bulkheads, ures or withdrawal 2e of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n Withdrawals, if pre observable affect		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
lotes: Ripra	p present near bridge and j REACH (DESERVED. Str			-	sion is present at the bridg	je.
	KLACIT							E CONDITION INDEX (CI) >>	3.1
						1	IH		

Project #	J T T			
SAJ-2012-00153	TxDOT		11/21/2013	
Evaluator	ſS	HUC	Locality	
John Williams, E	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-Pr	-	4.0
RCI Del	ta	0
Impact Fac	tor*	0
Linear Feet with	hin ROW	612
Compensation Re	equirement	0



	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153			Montgomery County	Rivering	12040103	10/16/13	1		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Mar	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evident may be present, bu stability have reco present, have no co	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if bservable affect on ow	impacted by dred levees, culverts, armor, drop struct structures. Evideno may be present, bu stability are begin	riprap, bulkheads, ures or withdrawal e of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n Withdrawals, if pre observable affec	 of the Transect is ging, dams, dikes, riprap, bulkheads, urces or withdrawal of past alteration is eam pattern and ot recovering. sent, may have an t on both flow and 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
otes: A dar	n and lake is present immed	-		t and looks to	-		SREACH		
	KLAOIT								2.0
							IH	E CONDITION INDEX (CI) >>	3.0



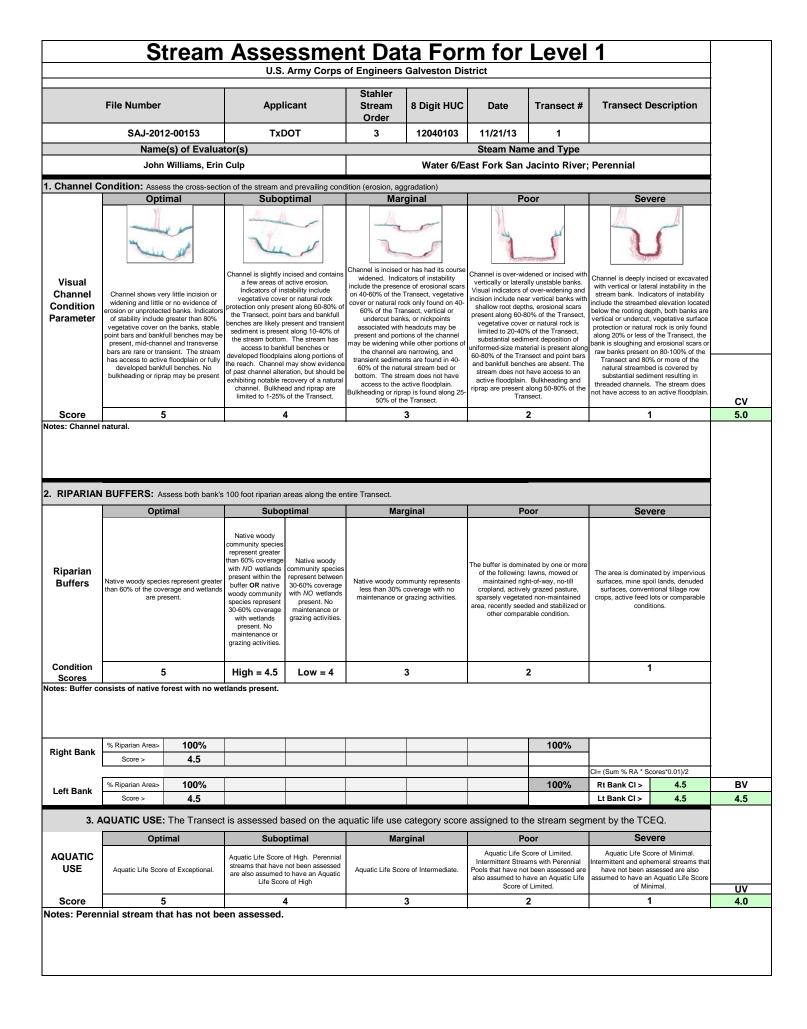
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT Montgomer County		Montgomery County	Rivering	12040103	10/16/13	2		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	ete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	jinal	P	oor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, fiprap, bulkheads, armor, drog structures or withdrawal structures within the Transect.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, bu stability have reco present, have no c	t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dredg levees, culverts, r armor, drop structu structures. Evidenc may be present, but stability are beginn Withdrawals, if press an observable affe observable affect of	ing, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dree levees, culverts, armor, drop struc structures. Evidenc present, and st stability are r Withdrawals, if pre observable affec	6 of the Transect is dging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and not recovering. esent, may have an t on both flow and 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	3		2	1	5.0
	5 m looks to have natural pat		-	3	3		2	1	
	REACH C	CONDITION	INDEX and S	STREAM CON	IDITION UNI	TS FOR THI	S REACH		

	File Number	Applicant	Stahler Stream	8 Digit HUC	Date	Transect #	Transect Descri	iption
	SWG-2012-00153	TxDOT	Order 1	12040103	10/16/2013	3		
	Name(s) of Evaluat	tor(s)	I		Steam Nam	ne and Type		
	John Williams, Erin	Culp		Water 5	; Church Hou	se Gully - Inte	ermittent	
Channel C	ondition: Assess the cross-section	on of the stream and prevailing	ondition (erosion, ag	gradation)				
	Optimal	Suboptimal	Ma	rginal	Po	oor	Severe	1
	and the second	-	Channel is incised	ur has had its course		5	J	2
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 contr a few areas of active erosion. Indicators of instability include vegetative cover or natural rock protection only present along 60-80 the Transect, point bars and bankl benches are likely present and trans sediment is present along 10-40% the stream bottom. The stream h access to bankfull benches or developed floodplains along portior the reach. Channel may show evid of past channel alteration, but shoul exhibiting notable recovery of a nat	widerled. Indu include the preser- on 40-60% of the breaser cover or natural re- dif 60% of the Tr- undercut ban associated with present and por- may be widening v sof the channel a the channel as the battom. The str buttom. The str	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 teram does not have		dened or incised with lly unstable banks. If over-widening and ar vertical banks with hs, erosional scars 0% of the Transect, or or natural rock is word the Transect, nent deposition of erial is present along nsect and point bars nes are absent. The have access to an Bulkheading and	Channel is deeply incised of with vertical or lateral insta- stream bank. Indicators of include the streambed elevey below the rooting depth, bol vertical or undercut, vegeta protection or natural rock is along 20% or less of the Tr bank is sloughing and erosic raw banks present on 80-1 Transect and 80% or mo- natural streambed is con- substantial sediment res- threaded channels. The st	bility in the f instability ation located th banks are tive surface sonly found ransect, the onal scars or 00% of the vered by sulting in
		channel. Bulkhead and riprap ar	Bulkheading or rip	rap is found along 25- he Transect.		along 50-80% of the nsect.	not have access to an active	
		limited to 1-25% of the Transect	50% of t	ic manacot.				
	5 atural with some riprap. BUFFERS: Assess both bank's Optimal	4 100 foot riparian areas along th Suboptimal	e entire Transect.	3 rginal		2 Door	1 Severe	4
otes: Mostly n	atural with some riprap. BUFFERS: Assess both bank's	4 100 foot riparian areas along th	e entire Transect. Maive woody cc less than 30% maintenance of	3	The buffer is domin of the following: maintained rig cropland, activel sparsely vegelate area, recently seed		Severe	impervious 6, denuded llage row
otes: Mostly n . RIPARIAN Riparian Buffers Condition	atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands	4 100 foot riparian areas along th Suboptimal Native woody community species represent greater than 60% coverage with NO wellands present with no buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or	e entire Transect. Native woody cc less than 30% maintenance of ss.	3 rginal mmunty represents coverage with no	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	Dor Dor lawns, mowed or h-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or c	impervious 6, denuded llage row
RIPARIAN Riparian Buffers Condition Scores	BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters	100 foot riparian areas along th Suboptimal Native woody community species represent greater han 60% coverage with NO wetlands present within the buffer QR native species represent a0-60% coverage with wetlands present. No maintenance or grazing activities. Native wood community spe represent between with NO wetlands present. No maintenance grazing activities High = 4.5 Low = 4	e entire Transect.	3 rginal	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	Dor hated by one or more lawns, mowed or ht-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition. 2	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or c conditions.	impervious 6, denuded llage row
RIPARIAN Riparian Buffers Condition Scores	atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	100 foot riparian areas along th Suboptimal Native woody community species represent greater han 60% coverage with NO wetlands present within the buffer QR native species represent a0-60% coverage with wetlands present. No maintenance or grazing activities. Native wood community spe represent between with NO wetlands present. No maintenance grazing activities High = 4.5 Low = 4	e entire Transect.	3 rginal	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	Dor Dor lawns, mowed or h-of-way, no-till ly grazed pasture, ed non-maintained ded and stabilized or able condition.	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or c conditions.	impervious 6, denuded llage row
Condition Scores Scores Stes: Right ba	Atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters % Riparian Area> 100% Score > 4	100 foot riparian areas along th Suboptimal Native woody community species represent greater han 60% coverage with NO wetlands present within the buffer QR native species represent a0-60% coverage with wetlands present. No maintenance or grazing activities. Native wood community spe represent between with NO wetlands present. No maintenance grazing activities High = 4.5 Low = 4	e entire Transect.	3 rginal	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	bor lawns, mowed or h-of-way, no-till ly grazed pasture, ad non-maintained led and stabilized or able condition.	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or conditions. 1 Cl= (Sum % RA * Scores*0.	impervious , denuded llage row somparable 01)/2
RIPARIAN RIPARIAN Riparian Buffers Condition Scores otes: Right ba	Atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters % Riparian Area> 100% Score > 4 % Riparian Area> 100%	100 foot riparian areas along th Suboptimal Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer QR native species represent a0-60% coverage with wetlands present. No maintenance or grazing activities. Native wood community spe represent between with NO wetlands present. No maintenance grazing activities High = 4.5 Low = 4	e entire Transect.	3 rginal	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	Dor hated by one or more lawns, mowed or ht-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition. 2	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or conditions. 1 Cl= (Sum % RA * Scores*0. Rt Bank Cl >	impervious , denuded llage row somparable 01)/2 4.0 B
RIPARIAN RIPARIAN Riparian Buffers Condition Scores tes: Right ba Right Bank Left Bank	Atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters % Riparian Area> 100% Score > 4 % Riparian Area> 100% Score > 2.5	100 foot riparian areas along th Suboptimal Native woody community species represent greater than 60% coverage with NO wetlands present within the species represent 30-60% coverage with wold community species represent agrazing activities. Native woody community spe- community spe- time to the species represent antenance or grazing activities. High = 4.5 Low = 4 large cleared/maintained area	a entire Transect.	3 rginal rginal	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	200r Lated by one or more Lawns, mowed or h-of-way, no-till by grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or c conditions. 1 Cl= (Sum % RA * Scores*0. Rt Bank Cl > Lt Bank Cl >	impervious , denuded llage row somparable 01)/2
RIPARIAN RIPARIAN Riparian Buffers Condition Scores tes: Right ba Right Bank Left Bank	Atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters % Riparian Area> 100% Score > 4 % Riparian Area> 100% Score > 2.5 QUATIC USE: The Transect	100 foot riparian areas along th Suboptimal Native woody community species represent greater than 60% coverage with NO wetlands present with in the buffer QR native woody community species represent with wetlands present. No maintenance or grazing activities. Native wood community species represent with in the buffer QR native wood y community species represent with NO wetlands present. No maintenance or grazing activities. High = 4.5 Low = 4 large cleared/maintained areaded in the species represent with a the species represent with the species represent with a the species represent with the species represent with a the species represent with a the spe	e entire Transect. Native woody co less than 30% maintenance of	3 rginal rginal a a a a a a a a a a a a a a a a a a	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	por lawns, mowed or h-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or conditions. 1 Cl= (Sum % RA * Scores*0. Rt Bank Cl > Lt Bank Cl > ment by the TCEQ.	impervious , denuded llage row somparable 01)/2 4.0 B
RIPARIAN RIPARIAN Riparian Buffers Condition Scores tes: Right ba Right Bank Left Bank	Atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters % Riparian Area> 100% Score > 4 % Riparian Area> 100% Score > 2.5	100 foot riparian areas along th Suboptimal Native woody community species represent greater than 60% coverage with NO wetlands present within the species represent 30-60% coverage with wold community species represent agrazing activities. Native woody community spe- community spe- time to the species represent antenance or grazing activities. High = 4.5 Low = 4 large cleared/maintained area	e entire Transect. Native woody co less than 30% maintenance of	3 rginal rginal	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetat area, recently seed other compar	por lated by one or more lawns, mowed or h-of-way, no-till by grazed pasture, ad non-maintained led and stabilized or able condition. 2 100% 100% he stream segr por	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or c conditions. Cl= (Sum % RA * Scores*0. Rt Bank Cl > Lt Bank Cl > It Bank	impervious , denuded llage row iomparable 01)/2 4.0 B 2.5 3.
Condition Scores Right Bank Left Bank	Atural with some riprap. BUFFERS: Assess both bank's Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 nk natural forest; left bank enters % Riparian Area> 100% Score > 4 % Riparian Area> 100% Score > 2.5 QUATIC USE: The Transect	100 foot riparian areas along th Suboptimal Native woody community species represent greater than 60% coverage with NO wetlands present with in the buffer QR native woody community species represent with wetlands present. No maintenance or grazing activities. Native wood community species represent with in the buffer QR native wood y community species represent with NO wetlands present. No maintenance or grazing activities. High = 4.5 Low = 4 large cleared/maintained areaded in the species represent with a the species represent with the species represent with a the species represent with the species represent with a the species represent with a the spe	e entire Transect.	3 rginal rginal a a a a a a a a a a a a a a a a a a	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	por lawns, mowed or h-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	Severe The area is dominated by surfaces, mine spoil lands surfaces, conventional ti crops, active feed lots or conditions. 1 Cl= (Sum % RA * Scores*0. Rt Bank Cl > Lt Bank Cl > ment by the TCEQ.	impervious s, denuded llage row omparable 01)/2 4.0 B 2.5 3, finimal. streams that are also

	St	tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant Locality TxDOT Montgomery County		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153				Rivering	12040103	10/16/13	3		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, concr	rete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evidenc may be present, bu stability have reco present, have no o	t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struc structures. Evidenc present, and str stability are n Withdrawals, if pre observable affec	b of the Transect is liging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is reeam pattern and not recovering. esent, may have an t on both flow and 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.	A
SCORE	5		4	3	3		2	1	5.0
lotes: Strea	am assumed to have natura								
	REACH (CONDITION	INDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH		
							TH		

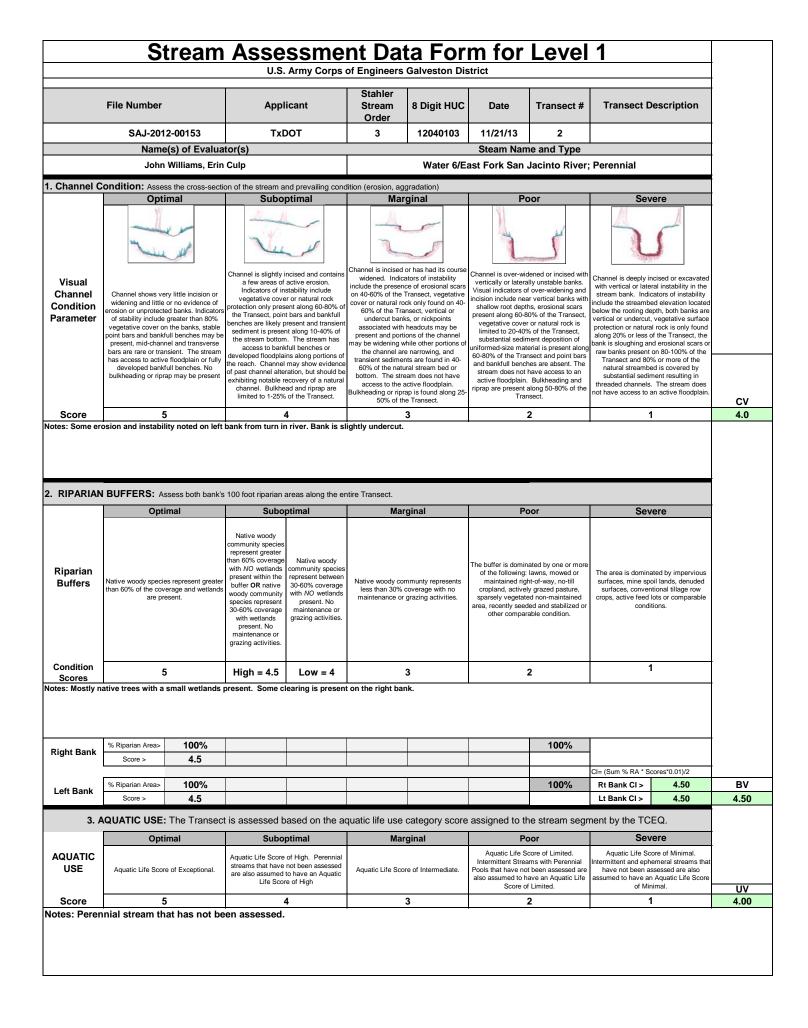
Project #	Applicant		Date
SWG0-2012-00153	TxDOT		10/16/2013
Evaluator	-	HUC	Locality
John Williams, E	Erin Culp	12040103	Montgomery County

		Condition
Stream Name	Transect ID	Index (RCI)
Church House Gully	1	3.0
Church House Gully	2	3.6
Church House Gully	3	3.6
Average Pre-Pre	-	3.4
RCI Del	ta	0
Impact Fac	tor*	0
Linear Feet with	nin ROW	582
Compensation Re	equirement	0

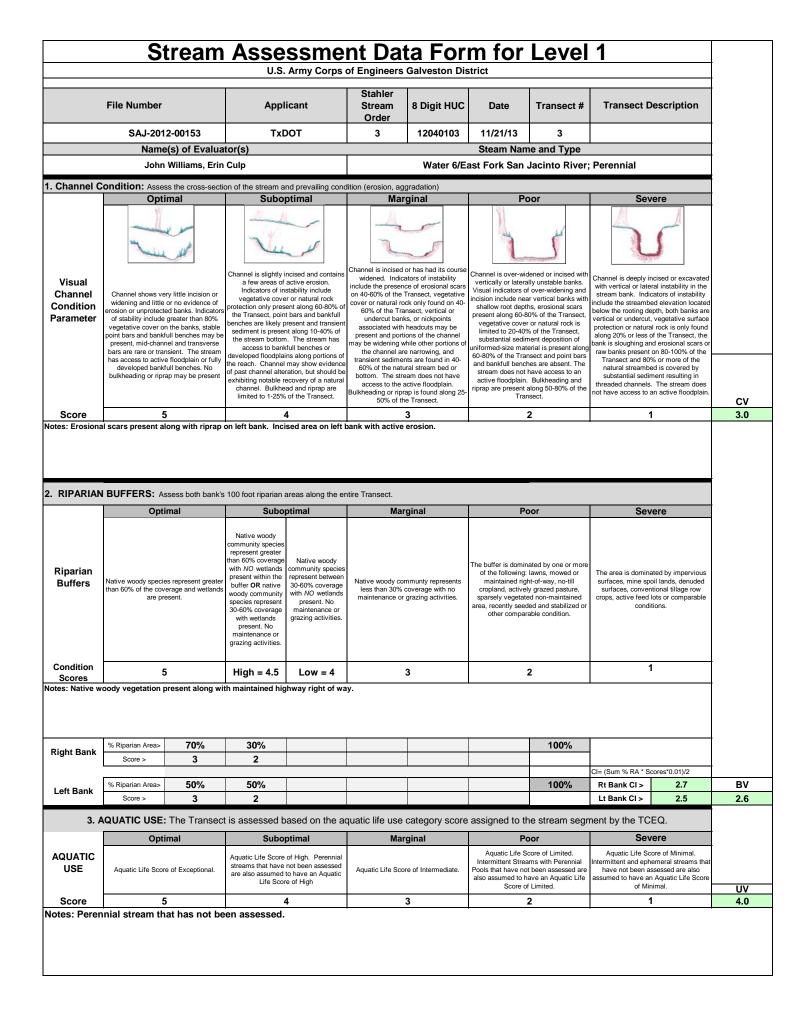


WG-2012-00153			Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
	TxDOT	Ν	lontgomery County	Riverine	12040103	11/21/2013	1		
4. CHANNEL	ALTERATION: Stream crossi	ings, riprap, concrete,	gabions, or co	oncrete blocks, stra	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Suboptin	nal	Marg	jinal	Po	or	Severe	
Channel ^{ha} Alteration	Channelization, dredging, alteration or ardening 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 impacted by dredging, levees, culverts, ripraj armor, drop structures structures. Evidence of may be present, but stre stability have recover. ^ present, have no obser flow	dams, dikes, o, bulkheads, or withdrawal past alteration am pattern and Vithdrawals, if	Between 30-60 % impacted by dredg levees, culverts, r armor, drop structu structures. Evidenco may be present, but stability are begin Withdrawals, if press an observable affect o	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and stru stability are n	iprap, bulkheads, ures or withdrawal of past alteration is earn pattern and ot recovering. sent, may have an on both flow and	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.	A
SCORE	5	4		3	3	2	2	1	5.





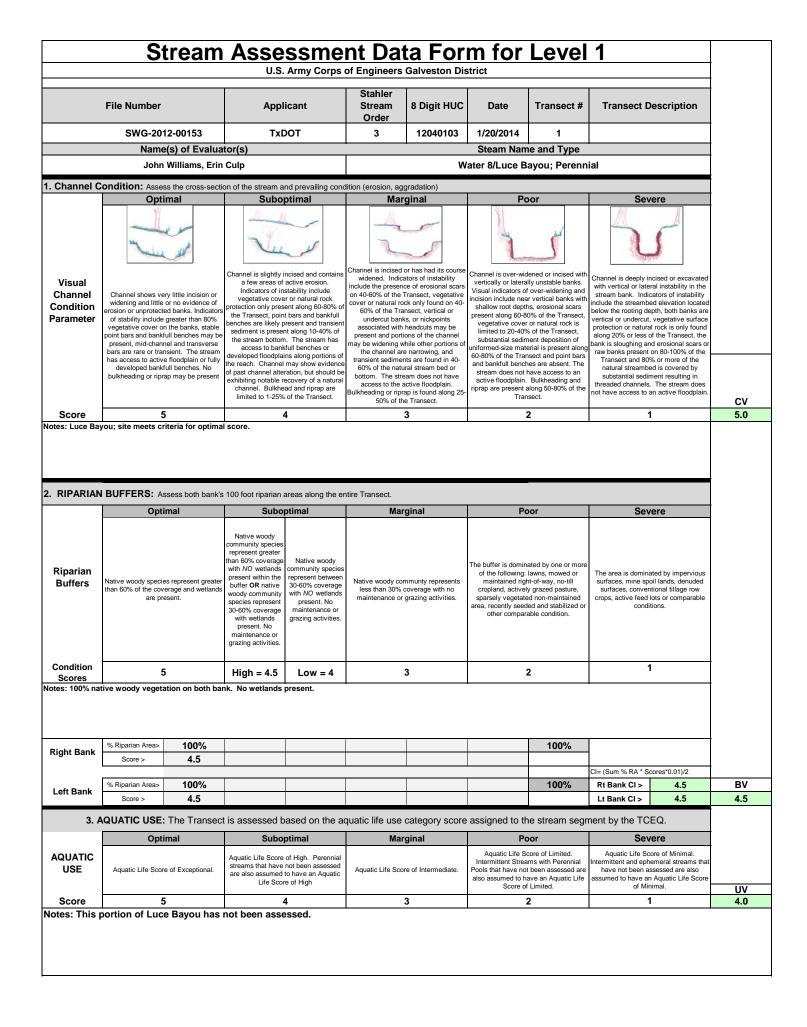
		tream Ir	npact A	ssessm	ent For	m Page	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT	TxDOT Montgomery County				11/21/2013	2		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, concr	ete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	or	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drog structures or withdrawal structures within the Transect.	impacted by dred levees, culverts, armor, drop struct structures. Evidence may be present, bu stability have reco present, have no o	ce of past alteration t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dred levees, culverts, i armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affi observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n Withdrawals, if pre observable affect	of the Transect is ging, dams, dikes, riprap, bulkheads, urces or withdrawal e of past alteration is earn pattern and ot recovering. sent, may have an t on both flow and 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	3		2	1	4.00
otes: Some	riprap present to stabilize								
	REACH (CONDITION	INDEX and S	TREAM CON	IDITION UNI	TS FOR THIS	S REACH		



		ream in	npact A	ssessm	ent For	m Fage	2		
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
WG-2012-00153	TxDOT		Montgomery County	Riverine	12040103	11/21/2013	3		
4. CHANNE	L ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	Po	oor	Severe	
Channel Alteration	Channelization, dredging, alteration or hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drog structures or withdrawal structures within the Transect.	impacted by dred levees, culverts, armor, drop struct structures. Eviden may be present, bu stability have reco present, have no c	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if ibservable affect on ow	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dred levees, culverts, armor, drop struct structures. Evidence present, and str stability are n Withdrawals, if pre observable affec	 of the Transect is ging, dams, dikes, riprap, bulkheads, urces or withdrawal of past alteration is eam pattern and ot recovering. sent, may have an t on both flow and 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	3	:	2	1	3.0
otes: Ripra	p present along left bank th	-	_				S DEACU		
	REACH	CONDITION	INDEX and S	STREAM CON		IS FOR THIS	SREACH		

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		4.0
Average Post-project	t RCI	3.3
Impact Delta		0.7
Impact Factor*		2
Linear Feet of Imp	act	578
Compensation Requir	ement	809



Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040103	1/20/14	2		
4. CHANI	NEL ALTERATION: Stream cr	ossings, riprap, c	oncrete, gabions,	or concrete block livestock	s, straightening o	f channel, channe	lization, embankr	nents, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Mar	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal se of past alteration but stream pattern have recover. present, have no affect on flow	Between 30-60 % impacted by dred levees, culverts, armor, drop struct structures. Evidenor may be present, t and stability an recovered. Withd have may have ar on flow, but no ob habitat	ping, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration ut stream pattern e beginning to rawals, if present, observable affect servable affect on	impacted by dred levees, culverts, armor, drop struct structures. Evidenc is present, and st stability are n Withdrawals, if pre	ce of past alteration tream pattern and ot recovering. sent, may have an t on both flow and	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.	
SCORE	5.0	4	.0	3	.0	2	.0	1.0	
lotes: No al	Iterations present in the tra	ansect.		1					
	REACH C		NDEX and S	TREAM CO		ITS FOR TH	IS REACH		



	File Number	Applic	cant	Stahler Stream	8 Digit HUC	Date	Transect #	Transect I	Description	
	SWG-2012-00153	TxD	от	Order 3	12040103	1/20/2014	2			
	Name(s) of Evalua	ator(s)	-		1		ne and Type	<u> </u>		
	John Williams, Erir				W	ater 8/Luce B	ayou; Perenn	ial		
Channel C	Condition: Assess the cross-sect	ion of the stream and	d prevailing cond	lition (erosion, ag	gradation)					
•	Optimal	Subop			ginal	Po	oor	Se	vere	
		Vu	- Jos	Channel is incised	or has had its course		and the second	L	5	
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicator 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	benches are likely pre	cised and contains cive erosion. ability include or natural rock in along 60-80% of bars and bankfull seent and transient along 10-40% of The stream has ull benches or s along portions of may show evidence titon, but should be covery of a natural d and riprap are	widened. Indic include the presen on 40-60% of the cover or natural ro 60% of the Tra undercut bani associated with present and port may be widening w the channel ar transient sedime 60% of the natu bottom. The stra access to the	ators of instability ce of erosional scars Transect, vegetative ck only found on 40- nsect, vertical or ks, or nickpoints headcuts may be ions of the channel rhile other portions of e narrowing, and nts are found in 40- tral stream bed or sam does not have active floodplain.	vertically or latera Visual indicators of incision include nea shallow root depth present along 60-8 vegetative cover limited to 20-409 substantial sedin uniformed-size mate 60-80% of the Trar and bankfull bench stream does not I active floodplatul bench riprap are present a	lened or incised with ly unstable banks, i over-widening and ir vertical banks with ns, erosional scars 0% of the Transect, or natural rock is of the Transect, nent deposition of erial is present along issect and point bars nes are absent. The have access to an Bulkheading and along 50-80% of the issect.	with vertical or lat stream bank. Ind include the streamt below the rooting d vertical or undercu protection or natur along 20% or less bank is sloughing a raw banks presen Transect and 80 natural streamt substantial sed threaded channel	incised or excavated eral instability in the icators of instability bed elevation located lepth. both banks are t, vegetative surface al rock is only found of the Transect, the nd erosional scars or to n80-100% of the "3% or more of the bed is covered by iment resulting in s. The stream does an active floodplain.	
Score	5	11mited to 1-25% c	or the Transect.	50% of th	e Transect.		2		1	CV 5.0
. RIPARIAN Riparian Buffers	Native woody species represent greate than 60% of the coverage and wetlands are present.	Subop Native woody community species represent greater than 60% coverage with NO wetlands c present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No	-	Mar Native woody cor less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigt cropland, activel sparsely vegetate	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed	vere hated by impervious poil lands, denuded mitional tillage row I lots or comparable litions.	
Riparian Buffers Condition	Optimal	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	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond	nated by impervious poil lands, denuded intional tillage row l lots or comparable	
Riparian Buffers Condition Scores	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both ba	Subop Native woody community species represent greater than 60% coverage with NO wetlands of buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond	hated by impervious poil lands, denuded intional tillage row l lots or comparable litions.	
Riparian Buffers Condition Scores otes: 100% nat	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both base % Riparian Area>	Subop Native woody community species represent greater than 60% coverage with NO wetlands of buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or t-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond	hated by impervious poil lands, denuded intional tillage row l lots or comparable litions.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both ba	Subop Native woody community species represent greater than 60% coverage with NO wetlands of buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond	nated by impervious poil lands, denuded nitional tillage row I lots or comparable litions.	
Riparian Buffers Condition Scores otes: 100% nat	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both base % Riparian Area> 100% % Riparian Area> 100%	Subop Native woody community species represent greater than 60% coverage with NO wetlands of buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feed cond Cond Cl= (Sum % RA * S Rt Bank Cl >	hated by impervious boil lands, denuded intional tillage row l lots or comparable fittions.	BV
Riparian Buffers Condition Scores tes: 100% nat	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both base % Riparian Area> 100% Score > 4.5	Subop Native woody community species represent greater than 60% coverage with NO wetlands of buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	Native woody community species 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feed cond	hated by impervious poil lands, denuded intional tillage row lots or comparable ditions.	BV 4.5
Riparian Buffers Condition Scores tes: 100% nat Right Bank	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both base % Riparian Area> 100% % Riparian Area> 100%	Subop 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. High = 4.5 nk. No wetlands p	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 resent.	Mar	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compara	ated by one or more lawns, mowed or i-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine s surfaces, conve crops, active feed cond Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl >	hated by impervious poil lands, denuded intional tillage row I lots or comparable titions.	
Riparian Buffers Condition Scores otes: 100% nat	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both base % Riparian Area> 100% Score > 4.5 % Riparian Area> 100% Score > 4.5	Subop 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. High = 4.5 nk. No wetlands p	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 resent.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig copland, activel sparsely vegetate area, recently seed other compar-	ated by one or more lawns, mowed or i-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond CI= (Sum % RA * S Rt Bank CI > Lt Bank CI > nent by the TC	hated by impervious poil lands, denuded intional tillage row I lots or comparable titions.	
Riparian Buffers <u>Condition</u> Scores otes: 100% nat	Optimal Native woody species represent greate than 60% of the coverage and wetlands are present. 5 tive woody vegetation on both base score > % Riparian Area> 100% Score > 4.5 % Riparian Area> 100% Score > 4.5 % Ruparian Area> 100% Score > 4.5	Subop Native woody community species represent preater than 60% coverage with NO wetlands of present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 nk. No wetlands p	timal Native woody community species spresent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 resent. ased on the actimal of High. Perennial ot have an Aquatic	Native woody coo less than 30% maintenance or	mmunty represents coverage with no grazing activities. 3 category score	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar- other compar- conter compar- cont	ated by one or more lawns, mowed or th-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition. 2 100% 100% ne stream segr	The area is domin surfaces, mine sy surfaces, conve crops, active feed cond Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl > Lt Bank Cl > It Bank Cl > See Aquatic Life S Intermittent and epi have not been a assumed to have a	hated by impervious boil lands, denuded intional tillage row I lots or comparable fitions. 1 Scores*0.01)/2 4.5 4.5 XEQ.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040103	1/20/14	2		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or co	oncrete blocks, stra	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	jinal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evideni may be present, bu stability have reco present, have no c	of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if observable affect on ow	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ing, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dree levees, culverts, armor, drop struc structures. Evidenc present, and st stability are i Withdrawals, if pr observable affect	6 of the Transect is Iging, dams, dikes, riprap, bulkheads, tures or withdrawal ee of past alteration is ream pattern and not recovering. esent, may have an at on both flow and or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	A
SCORE	5.0	4	.0	3.	0	2	2.0	1.0	5.
iotes: No ali	terations present in the trar REACH (INDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH		

	File Number	Appl	icant	Stahler Stream	8 Digit HUC	Date	Transect #	Transect I	Description	
	SWG-2012-00153	TxD	ют	Order 3	12040103	1/20/2014	3			
	Name(s) of Evaluation	ator(s)			ļ	Steam Nam	e and Type			
	John Williams, Eri	1 Culp			W	ater 8/Luce B	ayou; Perenn	ial		
Channel C	condition: Assess the cross-sect	ion of the stream ar	nd prevailing cond	lition (erosion, ag	gradation)					
	Optimal	Subor			ginal	Po	oor	Se	vere	
		Vu		Channel is incised	or has had its course	l	S.	L	5	
Visual Channel Condition Parameter	Channel shows very little incision or widening and little or no evidence of erosion or unprotected banks. Indicator of stability include greater than 80% vegetative cover on the banks, stable point bars and bankful benches may b 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	the Transect, point benches are likely p sediment is presen the stream bottom access to bank developed floodplait the reach. Channel of past channel alter exhibiting notable re channel. Bulkhes	active erosion. stability include r or natural rock ent along 60-80% of t bars and bankfull resent and transient tt along 10-40% of i. The stream has full benches or ns along portions of may show evidence ration, but should be scovery of a natural ad and ripra pare	widened. Indic include the present on 40-60% of the cover or natural rc 60% of the Tra undercut bani associated with present and port may be widening w the channel ar transient sedime 60% of the natu bottom. The str access to the	ators of instability ce of erosional scars Transect, vegetative ock only found on 40- ansect, vertical or sks, or nickpoints headcuts may be ions of the channel vhile other portions of e narrowing, and nts are found in 40- ural stream bed or aam does not have active floodplain.	vertically or latera Visual indicators of incision include nee shallow root depth present along 60-8 vegetative cover limited to 20-409 substantial sedin uniformed-size mat 60-80% of the Trar and bankfull bench stream does not the Trar	lened or incised with ly unstable banks. i over-widening and nr vertical banks with ns, erosional scars 0% of the Transect, 0% of the Transect, 1% of the Transect, 10% of the Transect, 10	with vertical or lat stream bank. Ind include the streamt below the rooting d vertical or undercu protection or natur along 20% or less bank is sloughing a raw banks presen Transect and 80 natural streamt substantial sed threaded channel	incised or excavated eral instability in the icators of instability bed elevation located lepth, both banks are t, vegetative surface al rock is only found of the Transect, the nd erosional scars or t on 80-100% of the "% or more of the bed is covered by iment resulting in s. The stream does	
		limited to 1-25%	of the Transect.		rap is found along 25- ne Transect.	Trar	isect.	not have access to	an active floodplain.	CV
Score	5	4	4		3		2		1	4.0
	you; site meets criteria for optime BUFFERS: Assess both bank Optimal	s 100 foot riparian a			rginal	Pc	bor	Se	vere	
	BUFFERS: Assess both bank	s 100 foot riparian a Subop Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer OP antive		Mar Native woody co less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rigi cropland, activel sparsely vegetate	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or	The area is domir surfaces, mine s surfaces, conve crops, active feed	vere hated by impervious poil lands, denuded ntional tillage row litots or comparable litions.	
. RIPARIAN Riparian	BUFFERS: Assess both bank Optimal	s 100 foot riparian a Subor Native woody community species represent greater than 60% coverage with NO wetlands present within the source over age with wetlands present. No maintenance or	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or	The area is domir surfaces, mine s surfaces, conve crops, active feed conc	nated by impervious soil lands, denuded ntional tillage row lots or comparable	
RIPARIAN Riparian Buffers Condition Scores	Native woody species represent greater than 60% of the coverage and wetland are present.	s 100 foot riparian a Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed conc	hated by impervious poil lands, denuded ntional tillage row lots or comparable litions.	
RIPARIAN Riparian Buffers Condition Scores	BUFFERS: Assess both bank Optimal Native woody species represent greate than 60% of the coverage and wetland are present.	s 100 foot riparian a Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or t-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed conc	hated by impervious poil lands, denuded ntional tillage row lots or comparable litions.	
. RIPARIAN Riparian Buffers <u>Condition</u> <u>Scores</u> otes: 100% nat	Native woody species represent greater than 60% of the coverage and wetland are present. 5 tive woody vegetation on both base % Riparian Area> 100% Score > 4.5	s 100 foot riparian a Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed conc	hated by impervious soil lands, denuded ntional tillage row lots or comparable fittons. 1	
RIPARIAN Riparian Buffers Condition Scores otes: 100% nat	I BUFFERS: Assess both bank Optimal Native woody species represent greate than 60% of the coverage and wetland are present. 5 tive woody vegetation on both base % Riparian Area> 100% % Riparian Area> 100%	s 100 foot riparian a Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or nt-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition.	The area is domin surfaces, mine sy surfaces, conve crops, active feed conc Cl= (Sum % RA * S Rt Bank Cl >	aated by impervious soil lands, denuded ntional tillage row I lots or comparable littons. 1 Scores*0.01)/2 4.5	BV
RIPARIAN Riparian Buffers Condition Scores otes: 100% nat	Native woody species represent greater than 60% of the coverage and wetland are present. 5 tive woody vegetation on both base % Riparian Area> 100% Score > 4.5	s 100 foot riparian a Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sy surfaces, conve crops, active feed conc conc Cl= (Sum % RA * S	hated by impervious soil lands, denuded ntional tillage row lots or comparable fittons. 1	BV 4.5
RIPARIAN Riparian Buffers Condition Scores otes: 100% nat	I BUFFERS: Assess both bank Optimal Native woody species represent greate than 60% of the coverage and wetland are present. 5 tive woody vegetation on both base % Riparian Area> 100% % Riparian Area> 100%	s 100 foot riparian a Subor Native woody community species represent greater than 60% coverage with NO wetlands present within the woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 Ink. No wetlands p	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed conc Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl >	aated by impervious poil lands, denuded ntional tillage row I lots or comparable ititions. 1 Scores*0.01)/2 4.5 4.5	
RIPARIAN Riparian Buffers <u>Condition</u> Scores otes: 100% nat	BUFFERS: Assess both bank Optimal Native woody species represent greate than 60% of the coverage and wetland are present. 5 tive woody vegetation on both back % Riparian Area> 100% Score > 4.5	s 100 foot riparian a Subor Native woody community species represent greater than 60% coverage with NO wetlands present within the woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 Ink. No wetlands p	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 present.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or tr-of-way, no-till y grazed pasture, ed non-maintained ed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed conc CI= (Sum % RA * S Rt Bank CI > Lt Bank CI > nent by the TC	aated by impervious poil lands, denuded ntional tillage row I lots or comparable ititions. 1 Scores*0.01)/2 4.5 4.5	
Riparian Buffers Condition Scores otes: 100% nat	Native woody species represent greate than 60% of the coverage and wetland are present. 5 tive woody vegetation on both base % Riparian Area> 100% Score > 4.5 % Riparian Area> 100% Score > 4.5 % Ruparian Area> 100% Score > 4.5	s 100 foot riparian a Subor Native woody community species represent greater than 60% coverage with v/O wetlands present within the source over age with wetlands present. No maintenance or grazing activities. High = 4.5 Ink. No wetlands present is to solve over age 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. Low = 4 present.	Mai Native woody co less than 30% maintenance or quatic life use Mai	mmunty represents coverage with no grazing activities. 3 category score	The buffer is domin of the following: maintained rig cropland, activel sparsely vegetate area, recently seed other compar	ated by one or more lawns, mowed or thefway, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domir surfaces, mine sy surfaces, conve crops, active feed conc Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl > Lt Bank Cl > Intermittent and ep have not been i assumed to have a	ated by impervious soil lands, denuded ntional tillage row I lots or comparable itions. 1 Scores*0.01)/2 4.5 4.5 CEQ.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040103	1/20/14	3		
4. CHANNE	LALTERATION: Stream cross	ings, riprap, conci	ete, gabions, or co	oncrete blocks, stra	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	jinal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Eviden may be present, bu stability have reco present, have no c	t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable aff observable affect of	ing, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dree levees, culverts, armor, drop struc structures. Evidenc present, and st stability are u Withdrawals, if pr observable affect	6 of the Transect is liging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and not recovering. seent, may have an t on both flow and or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	A
SCORE	5.0	4	.0	3.	0	2	2.0	1.0	5.
iotes: No ali	erations present in the trar REACH (INDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH		

Project #	Applicant		Date
SWG-2012-00153	TxDOT		1/20/2014
Evaluator	S	HUC	Locality
John Williams, E	crin 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-Pre	-	4.5
RCI Del	ta	0
Impact Fac	tor*	0
Linear Feet with	nin ROW	700
Compensation Re	quirement	0

	File Number	Applica	nt	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect [Description	
	SWG-2012-00153	TxDOT	г	1	12040203	11/21/13	1			
	Name(s) of Evalua	· ·					ne and Type			
	John Williams, Erin C	-				dar Bayou (N	lorth Branch)	; Intermittent		
Channel C	Condition: Assess the cross-sec Optimal	tion of the stream and Suboptin			aggradation) ginal	D	oor	Sev	/ere	
Visual	Channel shows very little incision or	Channel is slightly in contains a few areas of a Indicators of instabil	active erosion.	course widene	sed or has had its id. Indicators of e the presence of	with vertically or	widened or incised laterally unstable idicators of over-	excavated with	eply incised or vertical or lateral e stream bank.	
Channel Condition Parameter	Grainer shows very nitter intoxion of 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	vegetative cover or n protection only present a of the Transect, poin bankfull benches are li and transient sedimer along 10-40% of the sit The stream has acces benches or developed along portions of the re- may show evidence of alteration, but should to notable recovery of a na Bulkhead and riprap are 25% of the Tran	along 60-80% nt bars and likely present nt is present tream bottom. ss to bankfull d floodplains sach. Channel f past channel be exhibiting atural channel. re limited to 1-	Transect, vegetati rock only four Transect, vertical or nickpoints assoc may be present channel may be w portions of the cha and transient sedi 40-60% of the nat bottom. The stre access to the a Bulkheading or rip	on 40-60% of the ive cover or natural on 40-60% of the or undercut banks, ciated with headcuts and portions of the <i>idening</i> while other ments are found in tural stream bed or tural stream bed or haw does not have to the floodplain. prap is found along the Transect.	vertical banks depths, erosional 60-80% of the Tr cover or natural r 40% of the Tran sediment depositic material is preset the Transect ar bankfull benche stream does not active floodplain. riprap are present	ision include near with shallow root scars present along ansect, vegetative pock is limited to 20- sect, substantial on of uniformed-size t along 60-80% of hd point bars and s are absent. The have access to an Bulkheading and along 50-80% of the sect.	streambed elevation routing depth, both or undercut, ve protection or nature along 20% or less bank is sloughing or raw banks prese the Transect and d natural streamb substantial sed threaded channels not have acce	ability include the in located below the banks are vertical getative surface al rock is only found of the Transect, the and erosional scare ent on 80-100% of 30% or more of the ed is covered by ment resulting in s. The stream does ss to an active plain.	cv
Score	5	25% of the Trai	insect.		3		2		pian. 1	2.0
otes: No acce	ss to active floodplain. Stream c N BUFFERS: Assess both bank Optimal		-		ginal	Pe	oor	Sev	vere	
otes: No acce	N BUFFERS: Assess both bank	's 100 foot riparian are Suboptim Native woody community species represent within the buffer OR native woody community species represent So-60% coverage	-	Mar Native woody cor less than 30% of	ginal mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetati area, recently seec	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed	Iere ated by impervious oil lands, denuded liots or comparable tions.	
Riparian Buffers	NBUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and	's 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with NO oweitands present species represent 30-60% coverage with withe lands present. No maintenance or grazing activities.	Native woody community cies represent tween 30-60% rerage with <i>NO</i> tlands present. o maintenance or grazing	Mar Native woody cor less than 30% of maintenance or	nmunty represents	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seec other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable	
Condition Scores otes: The tran	Native woody species represent greater than 60% of the coverage and wetlands are present.	's 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with NO wetlands present OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	hal Native woody community cicles represent tween 30-60% errage with NO tlands present. maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seec other compar	minated by one or ming: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained ted and stabilized or able condition. 2	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable tions.	
Condition Scores	Native woody species represent greater than 60% of the coverage and wetlands are present.	's 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with NO wetlands present OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	hal Native woody community cicles represent tween 30-60% errage with NO tlands present. maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seec other compar	minated by one or ning: lawns, mowed ght-of-way, no-till ly grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable tions.	
RIPARIAN RIPARIAN Buffers Condition Scores otes: The tran	NBUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by maintained % Riparian Area> 100% Score >	's 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with NO wetlands present OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	hal Native woody community cicles represent tween 30-60% errage with NO tlands present. maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seec other compar	minated by one or ning: lawns, mowed ght-of-way, no-till ly grazed pasture, ad non-maintained led and stabilized or able condition. 2 100%	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded titonal tillage row lots or comparable titons.	
RIPARIAN RIPARIAN Buffers Condition Scores tes: The tran	Subset Optimal Optimal Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. Section 100% 5 Sect is surrounded by maintained % Riparian Area> 100% % Riparian Area> 100%	's 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with NO wetlands present OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	hal Native woody community cicles represent tween 30-60% errage with NO tlands present. maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seec other compar	minated by one or ming: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained ted and stabilized or able condition. 2	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond cond Cond Cl= (Sum % RA * S Rt Bank Cl >	ated by impervious oil lands, denuded titonal tillage row lots or comparable titons.	BV
RIPARIAN RIPARIAN Riparian Buffers Condition Scores tes: The tran	Subset Optimal Optimal Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. Sore a a a a a a a a a a a a a a a a a a a	s 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present OR native woody community species represent 30-60% coverage with withe huffer or grazing activities. High = 4.5 L d pasture or no-till cr	Adive woody community acies represent tween 30-60% erage with <i>NO</i> tlands present. or grazing activities. Low = 4 ropland.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetatu area, recently see other compar	minated by one or ning: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl >	ated by impervious oil lands, denuded titional tillage row lots or comparable titons.	BV 2.0
RIPARIAN RIPARIAN Riparian Buffers Condition Scores ttes: The tran	NBUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by maintainer % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2 WATIC USE: The Transect	's 100 foot riparian are Suboptin Native woody community species represent Question of the second community species represent OR native woody community species represent 30-60% coverage with withe buffer or grazing activities. High = 4.5 L d pasture or no-till cr is assessed based	Aative woody community ccles represent tween 30-60% verage with <i>NO</i> tlands present. or grazing activities. Low = 4 tropland.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities. 3	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetati area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100% the stream seg	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond CI= (Sum % RA * S Rt Bank CI > Lt Bank CI > gment by the T	ated by impervious oil lands, denuded titonal tillage row lots or comparable tions.	
RIPARIAN RIPARIAN Buffers <u>Condition</u> Scores otes: The tran	Subset Optimal Optimal Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. Sore a a a a a a a a a a a a a a a a a a a	s 100 foot riparian are Suboptim Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present OR native woody community species represent 30-60% coverage with withe huffer or grazing activities. High = 4.5 L d pasture or no-till cr	hal Altive woody community coles represent ween 30-60% verage with NO tlands present. activities. Low = 4 veropland.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetatu area, recently see other compar	minated by one or ning: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond Cl= (Sum % RA * 5 Rt Bank Cl > Lt Bank Cl > Lt Bank Cl > ment by the T Sev Aquatic Life Sc Intermittent and e that have not beer assumed to hav	ated by impervious oil lands, denuded titional tillage row lots or comparable titons.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/13	1		
4. CHANI	NEL ALTERATION: Stream cr	ossings, riprap, c	oncrete, gabions,	or concrete block livestock	s, straightening o	f channel, chann	elization, embankı	ments, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Mar	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	but stream pattern but stream pattern bave recovered. Withdrawals, if present		impacted by dred levees, culverts, armor, drop struc structures. Eviden is present, and s stability are n Withdrawals, if pr observable affect	6 of the Transect is fging, dams, dikes, riprap, bulkheads, tures or withdrawal ice of past alteration stream pattern and not recovering. seent, may have an ct on both flow and or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	A	
SCORE	5		4	:	3		2	1	1.
oles. The t	transect is completely char			TREAM COL		ITS FOR TH			
	REACHC								

	File Number	App	licant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect I	Description	
	SWG-2012-00153	TxI	тот	1	12040203	11/21/13	2			
	Name(s) of Eva	luator(s)		[ne and Type			
	John Williams, F	-				dar Bayou (N	lorth Branch);	Intermittent		
. Channel (Condition: Assess the cross Optimal		n and prevailing co ptimal		aggradation) ginal	P	oor	Se	vere	
		A A A A A A A A A A A A A A A A A A A	philip incised and	4	-5- -5-		5		seeply incised or	
Visual Channel Condition Parameter	Channel shows very little incisio widening and little or no evidenc erosion or unprotected banks Indicators of stability include gre than 80% vegetative cover on i banks, stable point bars and ban benches may be present, mid-ch- and transverse bars are rare of transient. The stream has acces active floodplain or fully develo bankfull benches. No bulkheadir riprap may be present	n or e of respective construction only pre- determent tater he did numel g of e determent tater he did numel g of the Transec bankfull benches and transient se dual transient se benches or deve along 10-40% of may show eviden alteration, but sh notable recovery or the transec	as of active erosion. Isstability include er or natural rock asent along 60-80% to point bars and are likely present diment is present diment is present the stream botom. access to bankfull sloped floodplains flore reach. Channel ice of past channel icud be exhibiting of a natural channel.	instability includ erosional scars Transect, vegetat rock only found Transect, vertical or nickpoints asso may be present channel may be v portions of the cha and transient sed 40-60% of the na	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, vegetative cover or natural rock only found on 40-60% of the Transect, vegetative cover or natural rock only found on 40-60% of the Transect, vestical or undercut banks, found may be mean and the second second second second and transient sediments are found in 40-60% of the natural stream bed or bottom. The stream does not have saccess to the active floodplain.		instability in th Indicators of insi streambed elevati rooting depth, bot or undercut, ve protection or natur along 20% or less bank is sloughing or raw banks pres the Transect and natural streamb substantial sedi	vertical or lateral ne stream bank. tability include the on located below the located below the egetative surface al rock is only found of the Transect, the and erosional scars sent on 80-10% of 80% or more of the bad is covered by iment resulting in s. The stream does		
		25% of th	ap are limited to 1- e Transect.	25-50% of	prap is found along the Transect.	Tra	along 50-80% of the nsect.	flood	ess to an active dplain.	C٧
Score lotes:	5		4		3		2		1	2.0
2. RIPARIAI	N BUFFERS: Assess both Optimal		an areas along the ptimal		ginal	P	oor	Se	vere	
2. RIPARIAI Riparian Buffers		Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer	ptimal Native woody	Mar Native woody coo less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seer	oor minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained fed and stabilized or rable condition.	The area is domir surfaces, mine sp surfaces, conve crops, active feed	vere hated by impervious poil lands, denuded nitional tillage row I lots or comparable litions.	
Riparian Buffers Condition	Optimal Native woody species represe greater than 60% of the coverage	Subo Native woody community species represent greater than 60% coverage with NO wetlands present and OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing	Mar Native woody co less than 30% maintenance or	mmunty represents	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or	The area is domir surfaces, mine s surfaces, conve crops, active feed cond	nated by impervious poil lands, denuded intional tillage row I lots or comparable	
Riparian Buffers Condition Scores	Optimal Native woody species represe greater than 60% of the coverage wetlands are present.	Subo Native woody community species represent greater than 60% coverage with NO wetlands present or Antive woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained Jed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed cond	hated by impervious poil lands, denuded intional tillage row l lots or comparable litions.	
Riparian Buffers Condition Scores	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 ssect is surrounded by no-till % Riparian Area> 100%	Subo 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. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained Jed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed cond	hated by impervious poil lands, denuded intional tillage row l lots or comparable litions.	
Riparian Buffers Condition Scores Jotes: The trar	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 nsect is surrounded by no-till	Subo 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. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained fed and stabilized or able condition.	The area is domir surfaces, mine s surfaces, conve crops, active feed cond	hated by impervious poil lands, denuded intional tillage row l lots or comparable ditions.	
Riparian Buffers Condition Scores lotes: The trar	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 sect is surrounded by no-till % Riparian Area> 100% Score > 2 % Riparian Area> 100%	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer and OR native woody community species represent. No maintenance or grazing activities. High = 4.5 cropland.	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained fed and stabilized or able condition.	The area is domin surfaces, mine sy surfaces, conve crops, active feed cond Cond Cl= (Sum % RA * : Rt Bank Cl >	hated by impervious soil lands, denuded intional tillage row lots or comparable ditions.	BV
Riparian Buffers Condition Scores otes: The trar Right Bank	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 ssect is surrounded by no-till % Riparian Area> 100% Score >	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer and OR native woody community species represent. No maintenance or grazing activities. High = 4.5 cropland.	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ming: lawns, mowed ght-of-way, no-till ly grazed pasture, ded non-maintained ded and stabilized or able condition. 2 100%	The area is domin surfaces, mine s surfaces, conve crops, active feed cond	hated by impervious soil lands, denuded intional tillage row lots or comparable ditions.	BV 2.0
Riparian Buffers Condition Scores otes: The trar Right Bank Left Bank	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 sect is surrounded by no-till % Riparian Area> 100% Score > 2 % Riparian Area> 100%	Subo 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. High = 4.5 cropland.	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond Cl= (Sum % RA * 1 Rt Bank Cl > Lt Bank Cl >	hated by impervious boil lands, denuded intional tillage row I lots or comparable titions.	
Riparian Buffers Condition Scores otes: The trar Right Bank Left Bank	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 sect is surrounded by no-till % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer and OR native woody community species represent 30-60% coverage with wetlands present.No maintenance or grazing activities. High = 4.5 Cropland.	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is domin surfaces, mine s surfaces, conve crops, active feed cond Cl= (Sum % RA * Rt Bank Cl > Lt Bank Cl > gment by the	hated by impervious boil lands, denuded intional tillage row I lots or comparable titions.	
Riparian Buffers Condition Scores Jotes: The trar Right Bank Left Bank	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 ssect is surrounded by no-till % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2 Wather and the second seco	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer and OR native woody community species represent. No maintenance or grazing activities. High = 4.5 Cropland.	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4	Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities. 3 Category score	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compari- other compari- other compari- other compari- other compari- other compari- other compari- other compari- space of the second second e assigned to Pols that have no also assumed to the second second second also assumed to the second	minated by one or ming: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100% the stream seg	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond Cl= (Sum % RA * Rt Bank Cl > Lt Bank Cl > Lt Bank Cl > Sement by the Aquatic Life S Intermittent and of that have not been assumed to have	hated by impervious boil lands, denuded intional tillage row l (ots or comparable ditions. 1 Scores*0.01)/2 2.0 2.0 TCEQ.	2.0
Riparian Buffers Condition Scores Notes: The tran Right Bank Left Bank 3. AG	Optimal Native woody species represe greater than 60% of the coverage wetlands are present. 5 sect is surrounded by no-till % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2 QUATIC USE: The Trans Optimal	Subo Native woody community species represent within the buffer OR native woody coverage with NO wetlands present 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 cropland.	ptimal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 ased on the activities ptimal of High. Perennial not been assessed	Mar Native woody co less than 30% maintenance or Quatic life use Mar Aquatic Life Sco	3 Category score	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compari- other compari- other compari- other compari- other compari- other compari- other compari- other compari- other compari- other compari- space of the second Pole that have no also assumed to Score o	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ted and stabilized or able condition. 2 100% 100% the stream seg oor core of Limited. ams with Perennial t been assessed are ave an Aquatic Life	The area is domin surfaces, mine sp surfaces, conve crops, active feed cond Cl= (Sum % RA * Rt Bank Cl > Lt Bank Cl > Lt Bank Cl > Sement by the Aquatic Life S Intermittent and e that have not been assumed to hav Score of	hated by impervious soil lands, denuded intional tillage row 1 lots or comparable ditions. 1 Scores*0.01//2 2.0 2.0 TCEQ. Vere core of Minimal. sphemeral streams n assessed are also	

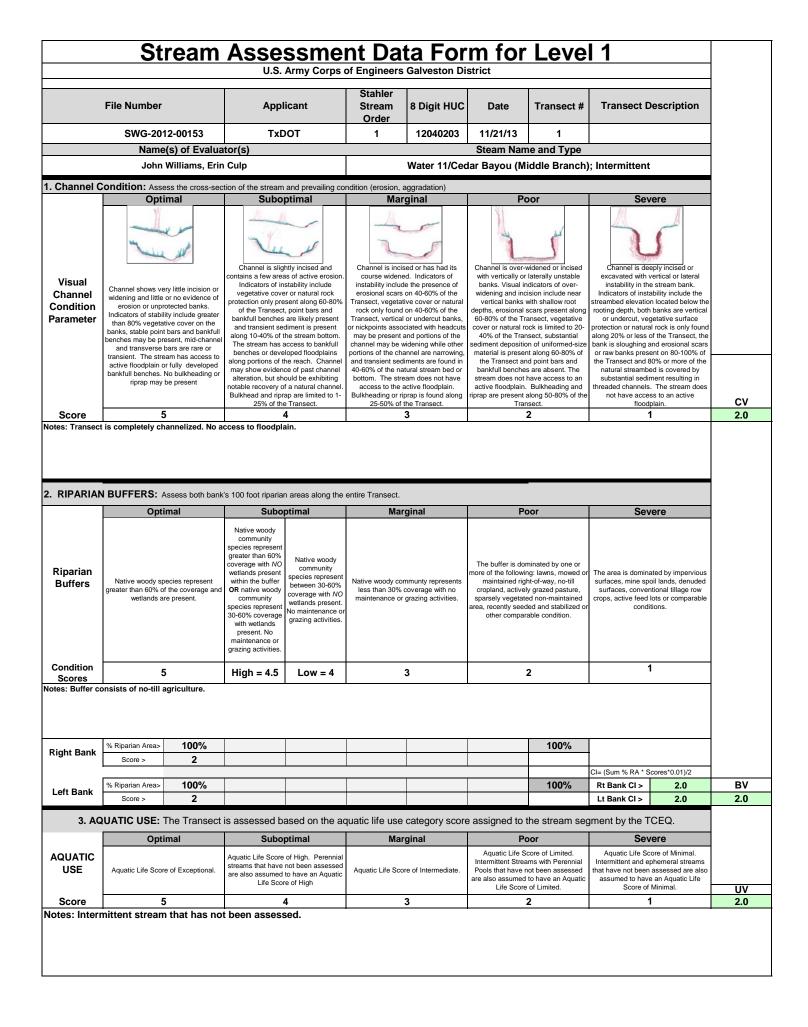
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/13	2		
4. CHANI	NEL ALTERATION: Stream cr	ossings, riprap, c	oncrete, gabions,	or concrete block livestock	s, straightening o	f channel, channe	elization, embanki	ments, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Mar	ginal	Po	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evident may be present, and stability Withdrawals, if	Between 30-60 % of the Tra impacted by dredging, dams lging, dams, dikes, riprap, bulkheads,		ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration but stream patterm re beginning to rawals, if present, n observable affect servable affect on	impacted by dred levees, culverts, armor, drop struct structures. Eviden is present, and s stability are n Withdrawals, if pre observable affect	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration tream pattern and tot recovering. sent, may have an t on both flow and or biota.	structures. Withdrawals, if present, are large enough to have severe loss of	A
SCORE	5		4	:	3		2	1	1.
10163. 11161	transect is completely char	inelizeu.							
	REACH C		NDEX and S	TREAM CO		ITS FOD TH	IS DEVCH		

		Applicant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect D	Description	
	SWG-2012-00153	TxDOT	1	12040203	11/21/13	3			
	Name(s) of Evalua	ator(s)				ne and Type			
	John Williams, Erin C				dar Bayou (N	lorth Branch);	; Intermittent		
. Channel C	Condition: Assess the cross-sec Optimal	tion of the stream and prevailing c Suboptimal		aggradation) ginal	P	oor	Sev	vere	
		Channel is slightly incised and contains a few areas of active erosion	Channel is incis	seed or has had its		widened or incised Iaterally unstable		eply incised or vertical or lateral	
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	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-	instability includ erosional scars Transect, vegetat rock only found Transect, vertical or nickpoints asso may be present channel may be v portions of the cha and transient sed 40-60% of the na bottom. The strr access to the a Bulkheading or ri	le the presence of on 40-60% of the ive cover or natural on 40-60% of the or undercut banks, ciated with headcuts and portions of the videning while other annel are narrowing, iments are found in tural stream bed or sam does not have active floodplain.	banks. Visual in widening and inc vertical banks depths, erosional 60-80% of the Tr cover or natural n 40% of the Transect an bankfull benche stream does not active floodplain riprap are present	Idicators of over- cision include near with shallow root scars present along ansect, vegetative ook is limited to 20- nsect, substantial no of uniformed-size nt along 60-80% of d point bars and s are absent. The have access to an . Bulkheading and along 50-80% of the	instability in the Indicators of inst streambed elevatic rooting depth, both or undercut, ve protection or natur along 20% or less bank is sloughing or raw banks pres the Transect and đ natural streamb substantial sedi threaded channels not have acce	e stream bank, ability include the n located below the n banks are vertical getative surface al rock is only found of the Transect, the and erosional scars ent on 80-100% of 30% or more of the d is covered by ment resulting in the stream does sis to an active	
Score	5	25% of the Transect. 4	25-50% of	the Transect.	Tra	nsect.	flood	Iplain. 1	CV 2.0
2. RIPARIAN	NBUFFERS: Assess both bank	· · · · · · · · · · · · · · · · · · ·				-			
2. RIPARIAN Riparian Buffers	NBUFFERS: Assess both bank	Active woody community species represent greater than 60% coverage with NO wetlands present within the buffer OR native woody community species represent species represent source and the second or grazing activities.	Mar Native woody coo less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seer	minated by one or ving: lawns, mowed ght-of-way, no-till by grazed pasture, ed non-maintained Jed and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed	/ere ated by impervious oil lands, denuded lots or comparable titons.	
Riparian Buffers Condition	Optimal Native woody species represent greater than 60% of the coverage and	Suboptimal 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 Native woody community species represent to maintenance or grazing activities.	Mar Native woody co less than 30% maintenance or	mmunty represents	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable	
Riparian Buffers Condition Scores Jotes: The tran	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by no-till cro	Suboptimal Native woody community species represent wetlands present within the buffer OR native woody community species represent between 30-60% OC and the woody community species represent between 30-60% or maintenance or grazing activities. Native woody community species represent between 30-60% or grazing activities. 04-0% coverage with wetlands present. No maintenance or grazing activities. Or grazing activities. High = 4.5 Low = 4	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ed and stabilized or rable condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable titons.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Suboptimal Native woody community species represent wetlands present within the buffer OR native woody community species represent between 30-60% OC and the woody community species represent between 30-60% or maintenance or grazing activities. Native woody community species represent between 30-60% or grazing activities. 04-0% coverage with wetlands present. No maintenance or grazing activities. Or grazing activities. High = 4.5 Low = 4	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable titons.	
Riparian Buffers Condition Scores lotes: The tran	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by no-till cross % Riparian Area> 100% Score >	Suboptimal Native woody community species represent wetlands present within the buffer OR native woody community species represent between 30-60% OC and the woody community species represent between 30-60% or maintenance or grazing activities. Native woody community species represent between 30-60% or grazing activities. 04-0% coverage with wetlands present. No maintenance or grazing activities. Or grazing activities. High = 4.5 Low = 4	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ming: lawns, mowed ght-of-way, no-till ly grazed pasture, ded non-maintained ded on stabilized or able condition. 2 100%	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions.	
Riparian Buffers Condition Scores otes: The tran	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by no-till cro % Riparian Area> 100%	Suboptimal Native woody community species represent wetlands present within the buffer OR native woody community species represent between 30-60% OC and the woody community species represent between 30-60% or maintenance or grazing activities. Native woody community species represent between 30-60% or grazing activities. 04-0% coverage with wetlands present. No maintenance or grazing activities. Or grazing activities. High = 4.5 Low = 4	Mar Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ed and stabilized or rable condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions.	
Riparian Buffers Condition Scores otes: The tran Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by no-till crown of the sector	Suboptimal 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 or orgrazing activities. High = 4.5 Low = 4	Mar	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl >	ated by impervious oil lands, denuded ntional tillage row lots or comparable titons.	BV 2.0
Riparian Buffers Condition Scores otes: The tran Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by no-till crossect is surrounded by no-till crossect is surrounded by no-till crossect is score > 2 % Riparian Area> 100% Score > % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2 WATIC USE: The Transect	Suboptimal 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 activities. High = 4.5 Low = 4 pland. Low = 4	Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities. 3 Category score	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ming: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100% the stream seg	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond Cl= (Sum % RA * S Rt Bank Cl > Lt Bank Cl >	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions. 1 Scores*0.01)/2 2.0 2.0 CEQ.	
Riparian Buffers Condition Scores Jotes: The tran Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 sect is surrounded by no-till crown of the sector	Suboptimal 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 or orgrazing activities. High = 4.5 Low = 4	Native woody co less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compari- other compari- other compari- other compari- other compari- other compari- other compari- other compari- space of the second second e assigned to Pols that have no also assumed to the second second second also assumed to the second	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is domin surfaces, mine sp surfaces, conver crops, active feed cond	ated by impervious oil lands, denuded ntional tillage row lots or comparable titons.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/13	3		
4. CHAN	NEL ALTERATION: Stream cr	ossings, riprap, c	oncrete, gabions,	or concrete block livestock	s, straightening o	f channel, channe	elization, embanki	ments, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Mar	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration but stream pattern have recover. present, have no affect on flow	ging, dams, dikes, iprap, bulkheads, ures or withdrawads, ures or withdrawads ut structures. Evidence of past alteration may be present, but stream pattern nave recover. have may have an observable al		impacted by drec levees, culverts, armor, drop struc structures. Eviden is present, and s stability are n Withdrawals, if pre observable affect	6 of the Transect is tiging, dams, dikes, riprap, bulkheads, tures or withdrawal ice of past alteration stream pattern and not recovering. seent, may have an ct on both flow and or biota.	structures. Withdrawals, if present, are large enough to have severe loss of	A
SCORE	5		4	:	3		2	1	1.
votes. The	transect is completely char			TREAM COL		ITS FOR TH			
	REACH C	ONDITION	NUEX and S						

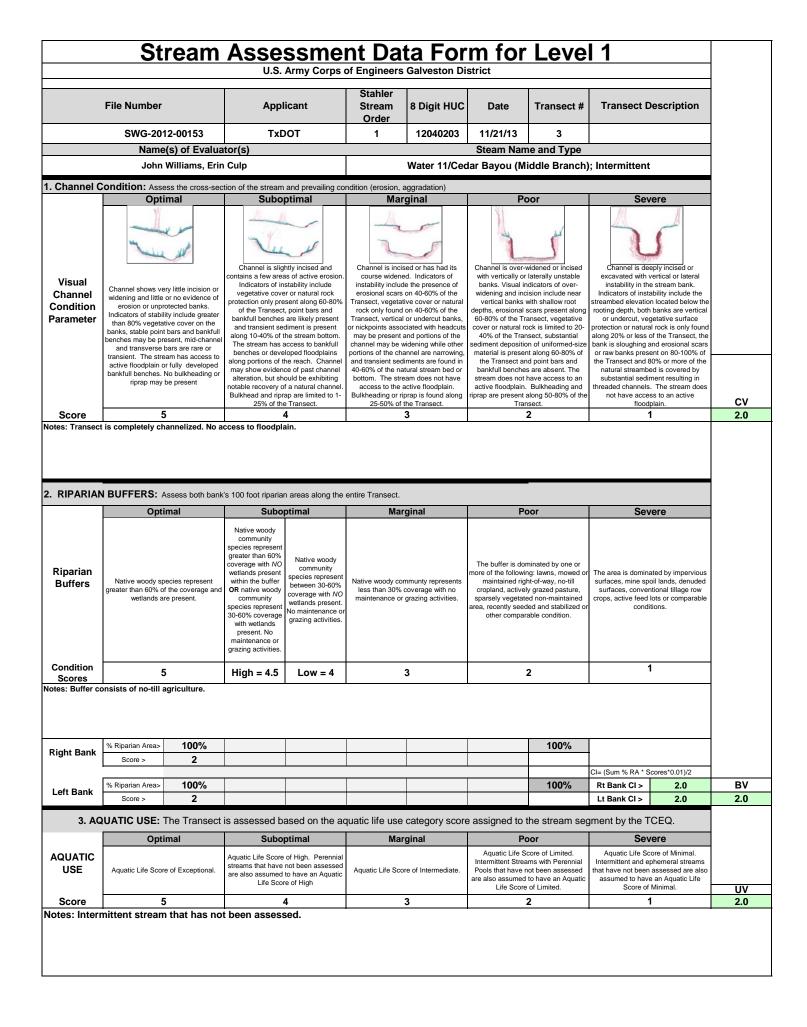
Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Cu	ılp	12040103	Liberty County

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 B	RCI	1.8
RCI Delta		0
Impact Factor*		0
Linear Feet within RC	OW	404
Compensation Require	ment	0



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 Notes: Poor Severe Channel Channelization, dredging, alteration or hardening absent. Stream has unaitered pattern or has normalize. No dates, dives, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream patter and stability are not recover. Withdrawals, if present, and stream patter and stability are bream, but no observable affect on flow, but no observable affect on biola. Between 50-00 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal is present, but stream patter and stability are not recovering. Withdrawals, if present, and stream pattern and stability are not recovering. Withdrawals, if present, and stream patter and stability are not recovering. Withdrawals, if present, and stream patter on observable affect on biola. SCORE 5 4 3 2 1 Notes: Transect completely channelized. Stream 3 2 1	Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
Investock Optimal Suboptimal Marginal Poor Severe Channelization, dredging, alteration of Alteration of Alteration of Less than 30% of the Transect is impacted by dredging, dams, dikes, unaltered pattern or has normalize. No bulkneads, armor, drop structures or withdrawal structures. Evidence of past alteration and stability have recover. Between 100 to 000 word the Transect is impacted by dredging, dams, dikes, levees, culverts, inprap, bulkneads, armor, drop structures or withdrawal structures. Evidence of past alteration and stability are beginning to mark thereas, armor, drop structures or withdrawal, if present, may have an observable affect on habitat or biota. Between 100 word of the Varesent, and straem pattern and stability are not recovering. Withdrawals, if present, and straem pattern or habitat or biota. Between 100 word cause little to no habitat or biota. SCORE 5 4 3 2 1	SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/13	1		
Channel Channelization, dredging, alteration of hardening absent. Stream has unaltered pattern or has normalize. No autertures or withdrawal structures or withdrawal structures or withdrawal structures or withdrawal, if present, have no observable affect on flow mol babitat or biota. 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 patter and stability are beginning to recovered. Withdrawals, if present, have no observable affect on 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. Evidence of past alteration may be present, but stream patter and stability are beginning to recovered. Withdrawals, if present, have no 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 Between 90:100% 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, 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 withdrawals, if present, have no 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 SCORE 5 4	4. CHAN	NEL ALTERATION: Stream c	rossings, riprap, (concrete, gabions		s, straightening c	f channel, channe	elization, embankr	nents, spoil piles, constrictions,	
Channel Alteration Alteration SCOREChannelization, dredging, alteration madening absent. Stream has unaltered pattern or has normalize. No bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration mad stability have recover. Withdrawals, if present, have no observable affect on flowLess 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 mad stability have recover. Withdrawals, if present, have no observable affect on flowBetween 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 may be present, but stream pattern and stability are begrent, but stream pattern on structures or withdrawal, if present, have may have an 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 may be present, but stream pattern on strow or boservable affect on 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. Evidence of past alteration may be present, but stream pattern on flow, but no observable affect on 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. Evidence of past alteration may be present, but stream pattern on flow, but no observable affect on habitat or biota.Between 90-100% of the		Optimal	Subo	ptimal	Marg	ginal	P	oor	Severe	
		hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the	impacted by drec levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration but stream pattern have recover. present, have no	impacted by drede levees, culverts, armor, drop struct structures. Evidence may be present, t and stability ar recovered. Withd have may have ar on flow, but no ob	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration but stream pattern re beginning to rawals, if present, a observable affect servable affect on	impacted by dred levees, culverts, armor, drop struc structures. Eviden is present, and s stability are n Withdrawals, if pre observable affect	ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration tream pattern and not recovering. seent, may have an t on both flow and	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	
Notes: Transect completely channelized.	SCORE	5		4		3		2	1	
REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH	iotes: Trans	sect completely channelize	εα.							

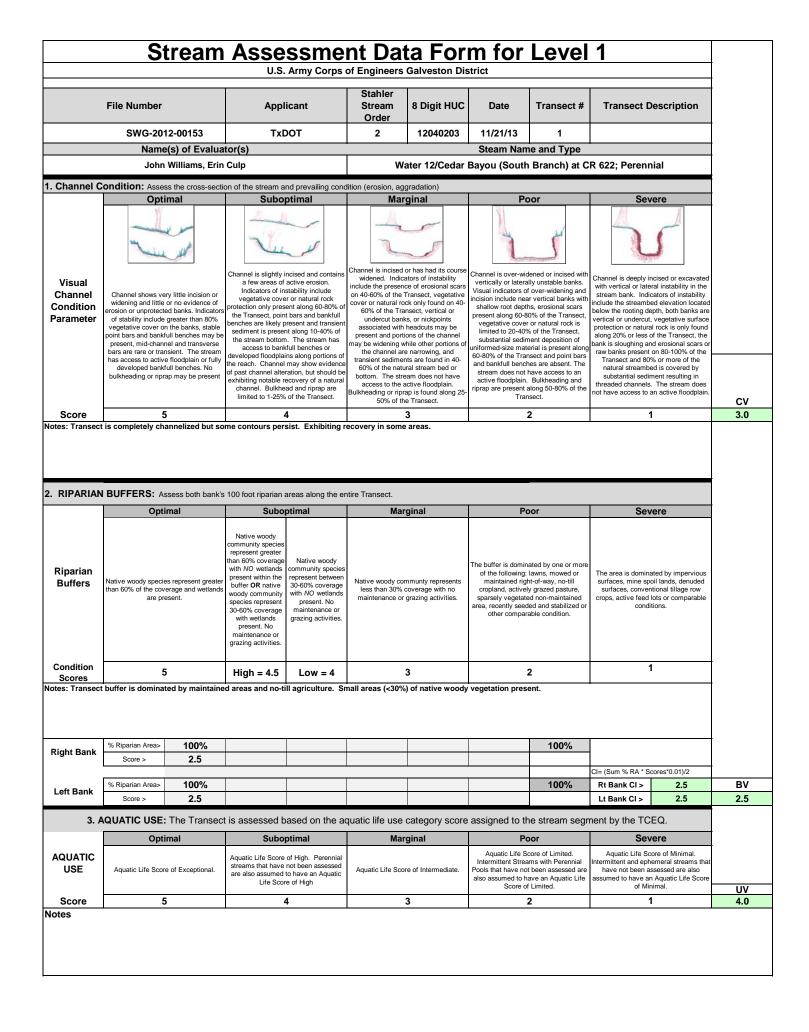
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/13	2		
4. CHAN	NEL ALTERATION: Stream c	rossings, riprap, o	concrete, gabions	or concrete blocks livestock	s, straightening o	f channel, channe	elization, embankr	nents, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Marg	jinal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration but stream pattern have recover. present, have no affect on flow	Between 30-60 % impacted by dredg levees, culverts, ri armor, drop structu structures. Evidenco- may be present, b and stability an recovered. Withdr have may have an on flow, but no obs habitat c	jing, dams, dikes, jiprap, bulkheads, ures or withdrawal e of past alteration ut stream pattern e beginning to awals, if present, observable affect servable affect on	impacted by dred levees, culverts, armor, drop struc structures. Evider is present, and s stability are i Withdrawals, if pr observable affect	6 of the Transect is iging, dams, dikes, riprap, bulkheads, tures or withdrawal ice of past alteration stream pattern and not recovering. seent, may have an ct on both flow and or biota.	structures. Withdrawals, if present, are large enough to have severe loss of	A
SCORE	5		4	3	6		2	1	1.
Notes: Trans	sect is completely channel	ized.							
			NDEX and 9	TREAM CON					



Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/13	3		
4. CHAN	NEL ALTERATION: Stream c	rossings, riprap, o	concrete, gabions	, or concrete block livestock	s, straightening c	f channel, channe	elization, embankr	nents, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Marg	jinal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration but stream pattern have recover. present, have no affect on flow	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidence may be present, b and stability ar recovered. Withdh have may have am on flow, but no ob- habitat of	jing, dams, dikes, jiprap, bulkheads, ures or withdrawal e of past alteration ut stream pattern e beginning to awals, if present, observable affect servable affect on	impacted by dred levees, culverts, armor, drop struc structures. Eviden is present, and s stability are to Withdrawals, if pr observable affect	6 of the Transect is lging, dams, dikes, riprap, bulkheads, riprap, bulkheads, tures or withdrawal ce of past alteration stream pattern and not recovering. seent, may have an ct on both flow and or biota.	structures. Withdrawals, if present, are large enough to have severe loss of	AV
SCORE	5		4	3	6		2	1	1.0
lotes: Trans	sect is completely channel	ized.							
_			NDEV and 9						

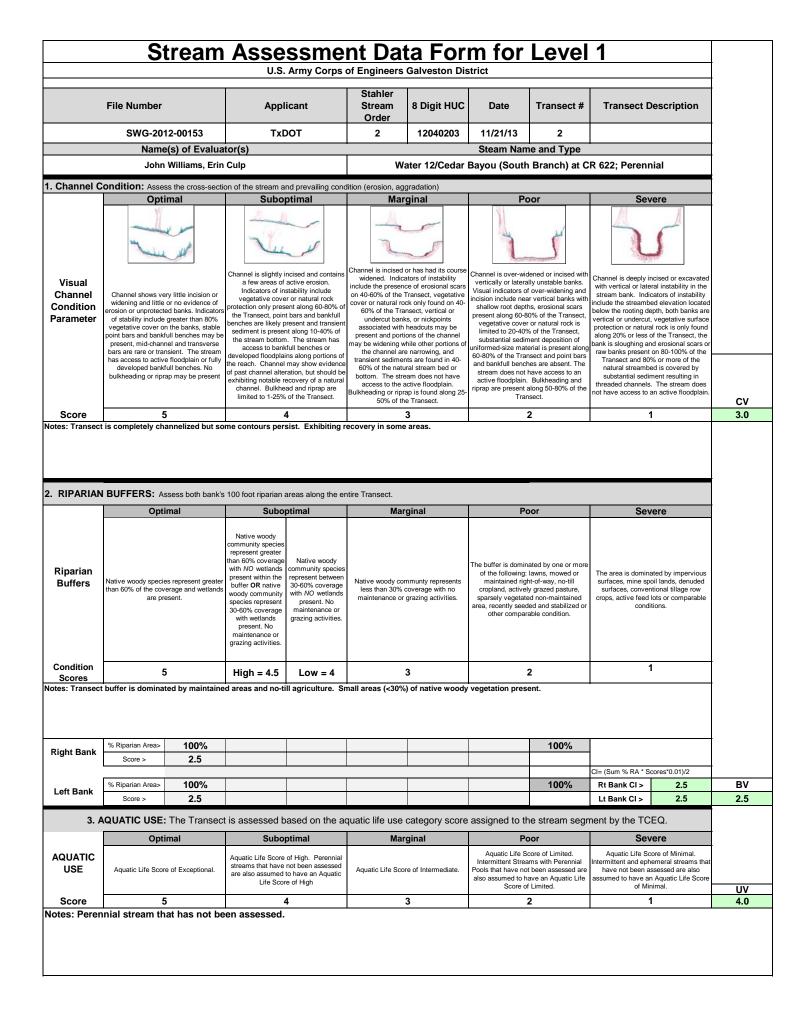
Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040203	Liberty County

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

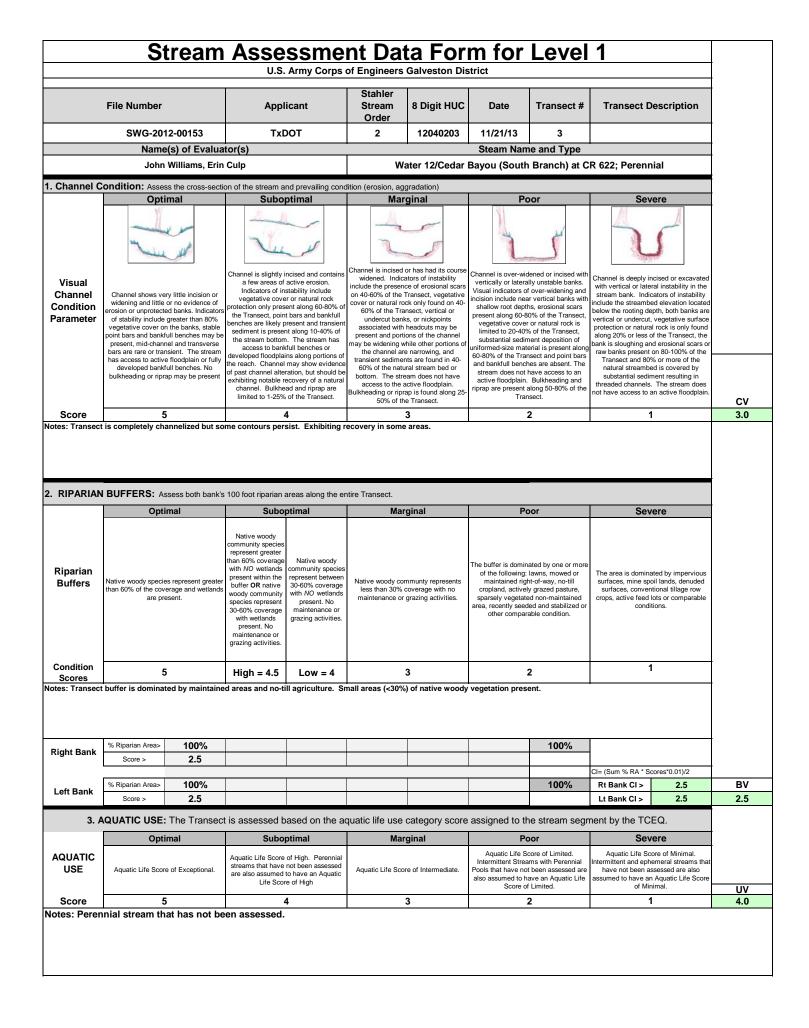


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/2013	1		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	ete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evideni may be present, bu stability have reco present, have no c	tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dred, levees, culverts, armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affr observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and st stability are r Withdrawals, if pre observable affec	6 of the Transect is dging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is recam pattern and not recovering. esent, may have an t on both flow and 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.	A
SCORE	5		4	:	3		2	1	2.
SCORE Notes	5		4		3		2	1	
	REACH (CONDITION	INDEX and S		IDITION UNI	ts for thi	S REACH		





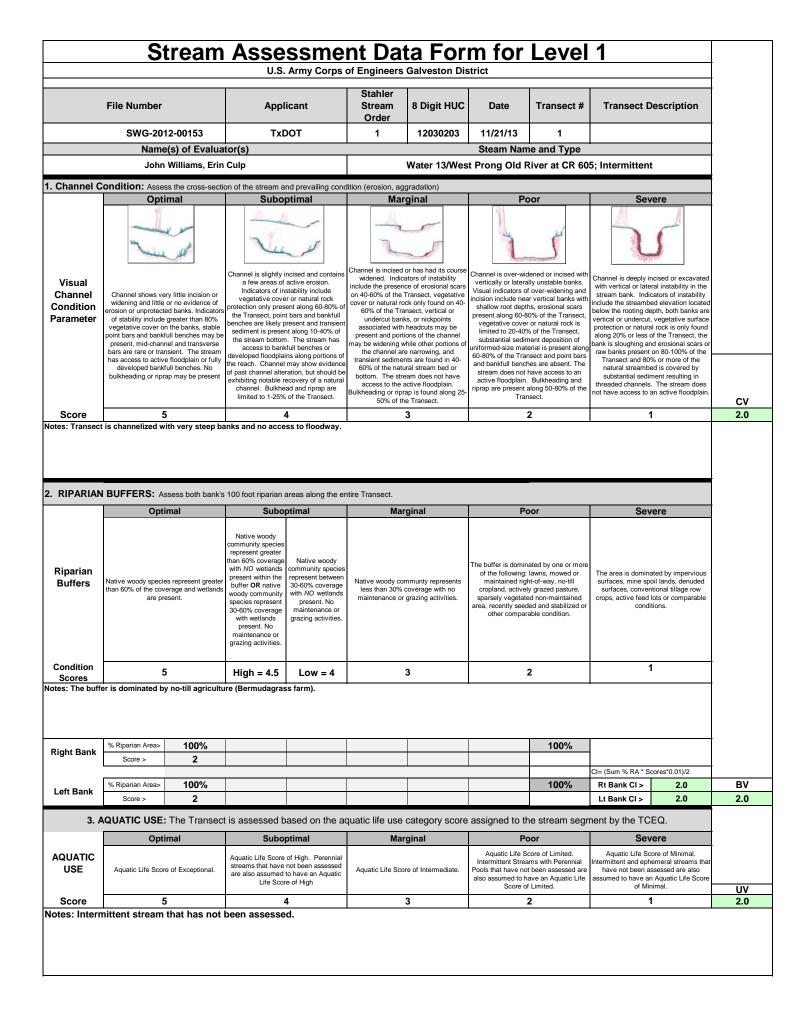
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/2013	2		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, stra	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evidem may be present, bu stability have reco present, have no co	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if bservable affect on ow	Between 30-60 % impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe observable affect of	ging, dams, dikes, iprap, bulkheads, ures or withdrawal e of past alteration stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and str stability are r Withdrawals, if pre observable affec	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and not recovering. esent, may have an t on both flow and or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals structures. Withdrawals, if present, are large enough to have severe loss of flow and cause little to no habitat or biota.	A
SCORE	5		4	3	3		2	1	2
	j 5 e transect has been channe		4		3		2	1	
	REACH	CONDITION	INDEX and S		IDITION UNI	TS FOR THI	S REACH		
-									



Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12040203	11/21/2013	3		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conci	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evidem may be present, bu stability have reco present, have no co	ver. Withdrawals, if	Between 30-60 % impacted by dred, levees, culverts, armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affr observable affect of	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and str stability are r Withdrawals, if pre observable affec	b of the Transect is liging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is reeam pattern and not recovering. esent, may have an t on both flow and 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.
otes: The e	ntire transect has been cha	innelized but	does show si	igns of recove	ry within the	channel.			
	REACH (CONDITION	INDEX and S	STREAM CON	DITION UN	TS FOR THI	S REACH		

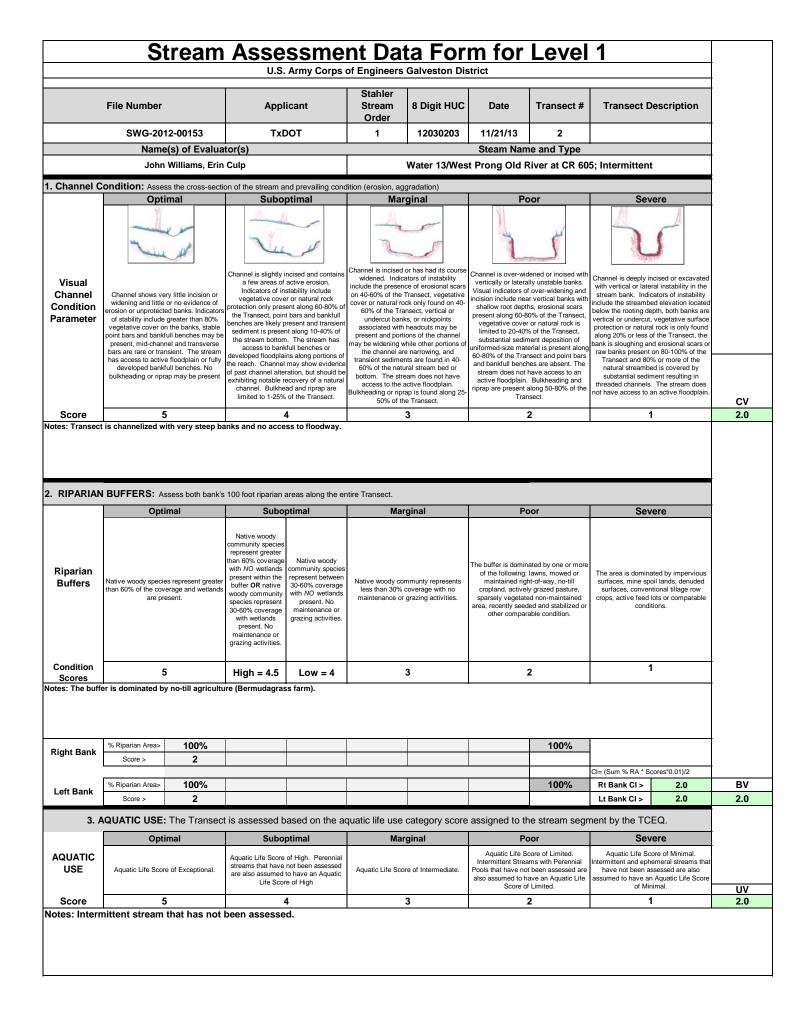
Project #	Appl	icant	Date
SWG-2012-00153	TxD	ЮТ	11/21/2013
Evaluators		HUC	Locality
John Williams, Erin Culp		12040203	Liberty County

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

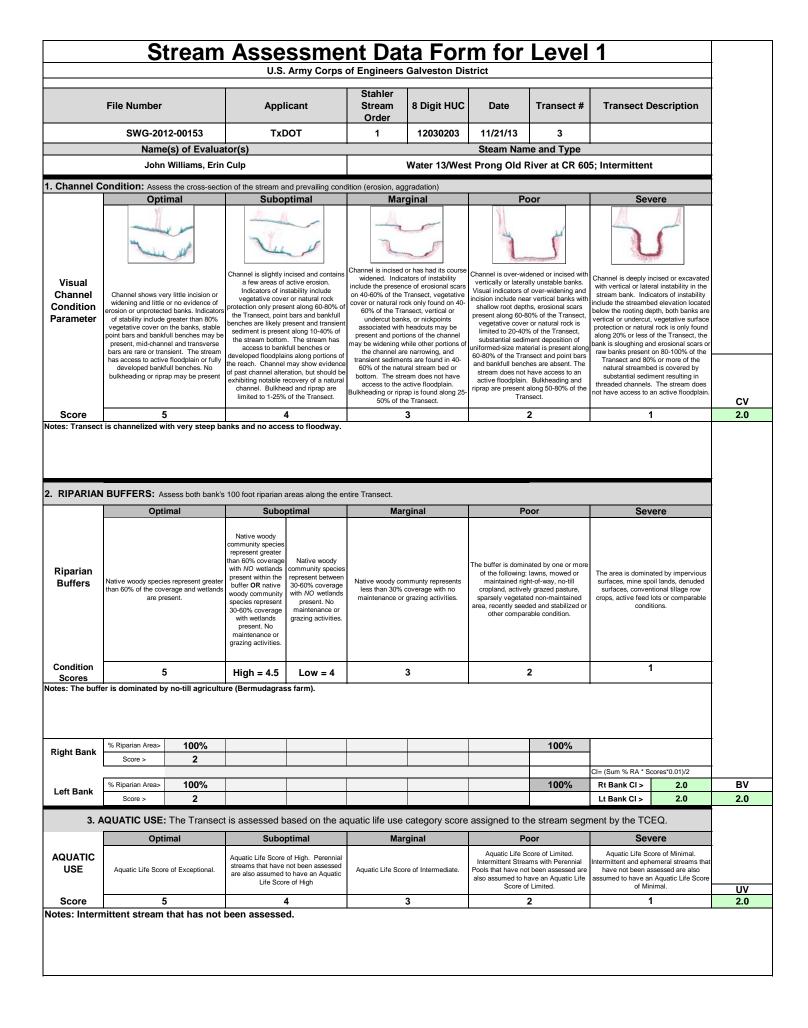


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	1		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, concr	ete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Mar	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evideno may be present, bu stability have reco present, have no o	tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if	Between 30-60 % impacted by dred levees, culverts, armor, drop struct structures. Evidenc may be present, bu stability are begin Withdrawals, if pres an observable aff observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and st stability are r Withdrawals, if pre observable affec	6 of the Transect is dging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is recam pattern and not recovering. esent, may have an t on both flow and 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.	A
SCORE	5		4	:	3		2	1	2.
	5 ransect has been channeliz		-		3		2	1	
	REACH (NDEX and S	TREAM CON	DITION UNI	ts for thi	S REACH		





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 Channel Alteration Optimal Suboptimal Marginal Poor Severe Between 30-60 % of the Transect is pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration 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 studity are present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have may have are on observable affect on (bw, but no on observable affect on (bw) and on observable affect on (bw) and on observable affect on (bw) and			n, embankments, s				Liberty County		TxDOT	SWG-2012-00153
Optimal Suboptimal Marginal Poor Severe Channelization, dredging, alteration of hardening absent. Stream has unaltered atteration Less than 30% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals, structures. Evidence of past alteration withdrawals structures. Withdrawals, if present, have ream pattern and stability are not recovering. Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals, structures. Evidence of past alteration may be present, but stream pattern and stability are not recovering. Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals, structures. Evidence of past alteration may be present, but stream pattern and stability are not recovering. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals, if present, have an large enoughts of the or habilitat or				nnel, channelizatio	aightening of char					
Channel Alteration Lateration Lat	sect is	Severe	or		J . J . J	oncrete blocks, stra	rete, gabions, or co	ings, riprap, concr	EL ALTERATION: Stream cross	4. CHANNI
Channel 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 impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals structures within the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals structures. impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not necovered. impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not necovered. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not necovered. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not recovered. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not recovered. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not recovering. Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or stability are not recovering.	sect is		01	Po	ginal	Marg	ptimal	Subo	Optimal	
flow an observable affect on how, but no observable affect on babitat or biota.	, dikes, heads, drawal sent, are loss of	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	jing, dams, dikes, jprap, bulkheads, ures or withdrawal of past alteration is eam pattern and bt recovering. sent, may have an on both flow and	impacted by dred, levees, culverts, i armor, drop struct structures. Evidence present, and stru- stability are n Withdrawals, if pre observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dredg levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe	Iging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration it stream pattern and wer. Withdrawals, if observable affect on	impacted by dred, levees, culverts, armor, drop struct structures. Evidenc may be present, but stability have reco present, have no o	hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the	
SCORE 5 4 3 2 1	2	1	2	2	3	3	4	4	5	SCORE



Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	3		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, concr	ete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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 impacted by dred levees, culverts, armor, drop struct structures. Evideno may be present, but stability have recor present, have no o flo	riprap, bulkheads, ures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if bservable affect on	Between 30-60 % impacted by dred, levees, culverts, armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affr observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal e of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and st stability are r Withdrawals, if pre observable affec	6 of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and not recovering. esent, may have an t on both flow and 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.	A
SCORE	5	4	4	:	3		2	1	2.
	5 ransect has been channeliz		•		3		2	1	
	REACH (CONDITION	NDEX and S	TREAM CON	IDITION UNI	TS FOR THI	S REACH		
Į.								E CONDITION INDEX (CI) >>	

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 Requiremen	t	0

	File Number	Appli	cant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect De	escription	
	SWG-2012-00153	TxD	от	1	12030203	11/21/13	1			
	Name(s) of Evalua	tor(s)				Steam Nan	ne and Type			
	John Williams, Erin	Culp			Water	14/West Pro	ng Old River	outfall		
. Channel C	Condition: Assess the cross-sec					D.		Carr		
	Optimal	Subop			ginal		bor	Seve	ere	
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	Channel is slight contains a few areas Indicators of insi vegetative cover protection only pres of the Transect, bankfull benches a and transient sedi	s of active erosion. tability include or natural rock ent along 60-80% point bars and are likely present	course widene instability include erosional scars Transect, vegetati rock only found Transect, vertical	ed or has had its d. Indicators of a the presence of on 40-60% of the ve cover or natural on 40-60% of the or undercut banks, iated with headcuts	with vertically or banks. Visual in widening and inc vertical banks depths, erosional 60-80% of the Tr	widened or incised laterally unstable idicators of over- ision include near with shallow root scars present along ansect, vegetative ock is limited to 20-	Channel is deep excavated with ve instability in the Indicators of instat streambed elevation rooting depth, both I or undercut, veg protection or natural	ertical or lateral stream bank. bility include the located below the banks are vertical etative surface	
	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	along 10-40% of th The stream has ac benches or develo along portions of th may show evidence alteration, but sho notable recovery of Bulkhead and riprag 25% of the	e stream bottom. ccess to bankfull oped floodplains e reach. Channel e of past channel uld be exhibiting a natural channel. p are limited to 1-	may be present a channel may be w portions of the cha and transient sedi 40-60% of the nat bottom. The stre access to the a Bulkheading or rip	and portions of the idening while other nnel are narrowing, ments are found in tural stream bed or am does not have ctive floodplain. orap is found along he Transect.	40% of the Tran sediment deposition material is present the Transect ar bankfull benche stream does not active floodplain. riprap are present	sect, substantial on of uniformed-size at along 60-80% of al point bars and s are absent. The have access to an Bulkheading and along 50-80% of the tsect.	along 20% or less of bank is sloughing ar or raw banks presei the Transect and 8C natural streamber substantial sedim threaded channels. not have access floodpl	f the Transect, the nd erosional scars nt on 80-100% of)% or more of the d is covered by the tresulting in The stream does s to an active	сv
Score	5 t is completely channelized with a	4			3		2	1		2.0
. RIPARIAN	BUFFERS: Assess both bank									
RIPARIAN Riparian Buffers	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody		Mar Native woody cor less than 30% of	ginal nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec	Dor minated by one or ming: lawns, mowed ght-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	Seve The area is dominat surfaces, mine spo surfaces, convent crops, active feed lo conditi	ted by impervious il lands, denuded ional tillage row ts or comparable	
Riparian Buffers Condition	Optimal Native woody species represent greater than 60% of the coverage and	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing	Mar Native woody cor less than 30% of maintenance or	nmunty represents	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ving: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed Ic	ted by impervious il lands, denuded ional tillage row sts or comparable ions.	
Riparian Buffers Condition Scores lotes: Buffer is	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ning: lawns, mowed pht-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed lc conditi	ted by impervious il lands, denuded ional tillage row sts or comparable ions.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 c dominated by no-till farming.	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, a dnon-maintained ted and stabilized or able condition. 2 100%	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed le conditi	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	
Riparian Buffers Condition Scores otes: Buffer is	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 cdominated by no-till farming. % Riparian Area> 100% Score >	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, a dnon-maintained ted and stabilized or able condition. 2 100%	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed le conditi 1 1 1 1 1	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	
Riparian Buffers Condition Scores otes: Buffer is	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 • dominated by no-till farming. % Riparian Area> 100% % Riparian Area> % Riparian Area> 100%	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, a dnon-maintained ted and stabilized or able condition. 2 100%	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed le conditi 1 Cl= (Sum % RA * Sc Rt Bank Cl >	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	BV
Riparian Buffers Condition Scores otes: Buffer is Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 cdominated by no-till farming. % Riparian Area> 100% % Riparian Area> % Riparian Area>	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	munty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetatu area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed lo conditi 1 Cl= (Sum % RA * So Rt Bank Cl > Lt Bank Cl >	ted by impervious il lands, denuded ional tillage row ots or comparable ons.	BV 2.0
Riparian Buffers Condition Scores otes: Buffer is Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 cdominated by no-till farming. % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2 WATIC USE: The Transect in	Subop 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. High = 4.5	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities. Low = 4	Mar Native woody cor less than 30% of maintenance or maintenance or	amunty represents coverage with no grazing activities. 3 Category score	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed lo conditi 1 CI= (Sum % RA * So Rt Bank CI > Lt Bank CI > ment by the TC	ted by impervious ii lands, denuded ional tillage row ots or comparable ons.	
Riparian Buffers Condition Scores lotes: Buffer is Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 adominated by no-till farming. % Riparian Area> 100% Score > 2	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present No maintenance or grazing activities. Low = 4	Mar Native woody cor less than 30% of maintenance or maintenance or guatic life use Mar	munty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetati area, recently see other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100% the stream seg	The area is dominat surfaces, mine spoi surfaces, convent crops, active feed lo conditi 1 Cl= (Sum % RA * So Rt Bank Cl > Lt Bank Cl >	ted by impervious il lands, denuded ional tillage row ts or comparable ions.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	2		
4. CHANN	NEL ALTERATION: Stream cro	ossings, riprap, c	oncrete, gabions,	or concrete block livestock	s, straightening o	f channel, channe	elization, embankı	ments, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Mar	ginal	P	oor	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.	impacted by drec levees, culverts, armor, drop struc structures. Eviden may be present, and stability Withdrawals, if	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration but stream pattern have recover. present, have no affect on flow	impacted by dred, levees, culverts, armor, drop struct structures. Evidenc may be present, b and stability ar recovered. Withd	riprap, bulkheads, ures or withdrawal co of past alteration out stream pattern re beginning to rawals, if present, observable affect servable affect on	impacted by dred levees, culverts, armor, drop struc structures. Eviden is present, and s stability are n Withdrawals, if pre observable affect	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration tream pattern and to recovering. esent, may have an t on both flow and or biota.	Between 90-100% of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawals 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.
lotes: Trans	sect is channelized.								
	REACH C	ONDITION I	NDEX and S	STREAM CON	NDITION UN	ITS FOR TH	IS REACH		
		•						E CONDITION INDEX (CI) >>	1.



		Appli	cant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect De	escription	
	SWG-2012-00153	TxD	от	1	12030203	11/21/13	2			
	Name(s) of Evalua	tor(s)				Steam Nan	ne and Type			
	John Williams, Erin	Culp			Water	14/West Pro	ng Old River	outfall		
. Channel Co	ondition: Assess the cross-sec Optimal	tion of the stream				D.	oor	Seve		
		- Pu	Je .	1	ginal				5	
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 enches 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 sligh contains a few areast Indicators of ins vegetative cover protection only pres of the Transect, bankfull benches a and transient sed along 10-40% of th The stream has a benches or devel along portions of th may show evidenc alteration, but sho	s of active erosion. tability include or natural rock sent along 60-80% point bars and are likely present iment is present iment is present te stream bottom. ccess to bankfull oped floodplains te reach. Channel uid be exhibiting	course widene instability include erosional scars Transect, vegetati rock only found Transect, vertical or nickpoints assoc may be present a channel may be w portions of the cha and transient sedi 40-60% of the nat bottom. The stre	d. Indicators of the presence of on 40-60% of the ve cover or natural on 40-60% of the or undercut banks, iiated with headcuts and portions of the iidening while other nnel are narrowing, ments are found in ural stream bed or am does not have	with vertically or banks. Visual and inc vertical banks depths, erosional 60-80% of the Tr cover or natural rr 40% of the Transect ar bankfull benche stream does not	widened or incised laterally unstable didcators of over- ision include near with shallow root scars present along ansect, vegetative ock is limited to 20- tock is limited to 20- tock is limited to 20- sect, substantial on of uniformed-size t along 60-80% of d point bars and s are absent. The have access to an	Channel is deeg excavated with ve instability in the Indicators of instat streambed elevation rooting depth, both I or undercut, vege protection or natural along 20% or less of bank is sloughing of bank is sloughing or raw banks preser the Transect and 80 natural streambed substantial sedim	artical or lateral stream bank. bility include the located below the banks are vertical etative surface rock is only found the Transect, the d erosional scars the or 80-100% of 1% or more of the d is covered by ent resulting in	
	npiap may be present	notable recovery of Bulkhead and ripra 25% of the	p are limited to 1-	Bulkheading or rip	ctive floodplain. orap is found along he Transect.	riprap are present	Bulkheading and along 50-80% of the nsect.	threaded channels. not have access floodpl	s to an active	С
Score	5 s completely channelized with a	4			3		2	1		2.0
. RIPARIAN E	BUFFERS: Assess both bank Optimal	s 100 foot ripariar Subop			ginal	P	por	Seve	ere	
Riparian Buffers		Subor 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		Mar Native woody cor less than 30% of	ginal nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	Seve The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lo conditi	ied by impervious il lands, denuded ional tillage row ts or comparable	
Riparian Buffers gr	Optimal Native woody species represent greater than 60% of the coverage and	Subor 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	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing	Mar Native woody cor less than 30% of maintenance or	nmunty represents	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ving: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed Ic	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ning: lawns, mowed pht-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lo conditi	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	
Riparian Buffers gr Condition Scores otes: Buffer is de	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area>	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ning: lawns, mowed pht-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lo conditi	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	
Riparian Buffers gr Condition Scores otes: Buffer is do	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming.	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, a dnon-maintained ted and stabilized or able condition. 2 100%	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lo conditi	led by impervious il lands, denuded ional tillage row ts or comparable ons.	
Riparian Buffers gr Condition Scores otes: Buffer is de Right Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area>	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, a dnon-maintained ted and stabilized or able condition. 2 100%	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lc conditi	led by impervious il lands, denuded ional tillage row ts or comparable ons.	BV
Riparian Buffers gr Condition Scores otes: Buffer is de	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% Score >	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, a dnon-maintained ted and stabilized or able condition. 2 100%	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lc conditi 1 Cl= (Sum % RA * Sc	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	BV 2.0
Riparian Buffers gr Condition Scores Dates: Buffer is do	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 Sominated by no-till farming. % Riparian Area> 100% % Riparian Area> 100%	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar	munty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetatu area, recently seec other compar	minated by one or ving: lawns, mowed Øht-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lc conditi 1 Cl= (Sum % RA * Sc Rt Bank Cl > Lt Bank Cl >	ted by impervious il lands, denuded ional tillage row ots or comparable ons.	
Riparian Buffers gr Condition Scores otes: Buffer is do Right Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% % Riparian Area> % Riparian Area> 100% % Rome Area> 2	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or 	munty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	minated by one or ving: lawns, mowed Øht-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100%	The area is dominat surfaces, mine spoi surfaces, conventi crops, active feed lc conditi 1 Cl= (Sum % RA * Sc Rt Bank Cl > Lt Bank Cl >	ted by impervious il lands, denuded ional tillage row ts or comparable ons. pores*0.01)/2 2.0 2.0 CEQ.	
Riparian Buffers gr Condition Scores otes: Buffer is de Right Bank 4 Left Bank 4 3. AQUATIC	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% % Riparian Area> 100%	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present No maintenance or grazing activities. Low = 4	Mar Native woody cor less than 30% of maintenance or maintenance or guatic life use Mar	amunty represents coverage with no grazing activities. 3 Category score	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetati area, recently see other compar	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% 100% the stream seg	The area is dominat surfaces, mine spoi surfaces, corventi crops, active feed lo conditi 1 Cl= (Sum % RA * So Rt Bank Cl > Lt Bank Cl > Inment by the TC	ted by impervious il lands, denuded ional tillage row ts or comparable ons.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	2		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conc	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, bu stability have reco present, have no c	of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if observable affect on ow	Between 30-60 % impacted by dred, levees, culverts, i armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and str stability are r Withdrawals, if pre observable affec	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is eam pattern and tot recovering. sent, may have an t on both flow and 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.	A
SCORE	5		4	3	3		2	1	1.
iotes: Trans	sect is channelized. REACH (CONDITION	INDEX and S	TREAM CON		TS FOR THI	S REACH		
(E CONDITION INDEX (CI) >>	

	File Number	Applic	cant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect D	escription	
	SWG-2012-00153	TxD	от	1	12030203	11/21/13	3			
	Name(s) of Evalua	tor(s)				Steam Nan	ne and Type			
	John Williams, Erin	Culp			Water	14/West Pro	ng Old River	outfall		
. Channel C	ondition: Assess the cross-sec Optimal	tion of the stream a				D	oor	Sev	oro	
					rginal					
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 contains a few areas Indicators of inst vegetative cover of the Transect, p bankful benches a and transient sedi along 10-40% of the The stream has ac benches or develo along portions of the may show evidence alteration, but shou notabile recovery of a	of active erosion. ability include or natural rock ent along 60-80% boint bars and re likely present ment is present e stream bottom. cess to bankfull ped floodplains of past channel a battal channel.	course widene instability includ erosional scars Transect, vegetat rock only found Transect, vertical or nickpoints assoo may be present channel may be w portions of the cha and transient sed 40-60% of the na bottom. The stre access to the a	sed or has had its d. Indicators of le the presence of on 40-60% of the vice cover or natural on 40-60% of the or undercut banks, ciated with headcuts and portions of the videning while other annel are narrowing, iments are found in tural stream bed or exam does not have active floodplain.	with vertically or banks. Visual in widening and inv vertical banks depths, erosional 60-80% of the Tra cover or natural r 40% of the Tra sediment deposition material is prese the Transect an bankfull benche stream does not active floodplain	widened or incised laterally unstable ndicators of over- sision include near with shallow root scars present along ransect, vegetative ock is limited to 20- nsect, substantial no of uniformed-size nt along 60-80% of d point bars and s are absent. The have access to an . Bulkheading and	Channel is dee excavated with v. instability in the Indicators of instability in the advant streambed elevation rooting depth, both or undercut, veg protection or natural along 20% or less o bank is sloughing a or raw banks prese the Transect and 80 the Transect and	ertical or lateral stream bank. bility include the located below the banks are vertical etative surface rock is only found the Transect, the nd erosional scars nt on 80-100% of 7% or more of the d is covered by nent resulting in The stream does	
		Bulkhead and riprap 25% of the 1		Bulkheading or ri 25-50% of t	prap is found along the Transect.		along 50-80% of the nsect.	not have acces floodp		с٧
Score lotes: Transect	5 t is completely channelized with	areas of erosion e	evident.							
		areas of erosion e	evident.							
lotes: Transect			areas along the		ginal	P		Seve	ere	
lotes: Transect	is completely channelized with	's 100 foot riparian Subopr Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer OR native woody community	areas along the	Mar Native woody cor less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ded and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed lo conditi	ted by impervious il lands, denuded ional tillage row ots or comparable	
lotes: Transect 2. RIPARIAN Riparian Buffers Condition	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and	's 100 foot riparian Subopr 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	areas along the timal Native woody community species represent between 30-60% vertage with NO wetlands present. No maintenance or grazing	Mar Native woody cor less than 30% (maintenance or	mmunty represents	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ied and stabilized or	The area is domina surfaces, mine spo surfaces, convent crops, active feed lo	ted by impervious il lands, denuded tional tillage row ots or comparable ions.	
RIPARIAN Riparian Buffers Condition Scores	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	's 100 foot riparian Subopt 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.	Areas along the timal Native woody community species represent between 30-60% oxverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% (maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained Jed and stabilized or fable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded tional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores lotes: Buffer is	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	's 100 foot riparian Subopt 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.	Areas along the timal Native woody community species represent between 30-60% oxverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% (maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained Jed and stabilized or fable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded tional tillage row ots or comparable ions.	
RIPARIAN Riparian Buffers Condition Scores	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming.	's 100 foot riparian Subopt 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.	Areas along the timal Native woody community species represent between 30-60% oxverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% (maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained jed and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	
Condition Scores otes: Buffer is	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% Score > 2	's 100 foot riparian Subopt 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.	Areas along the timal Native woody community species represent between 30-60% oxverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% (maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained jed and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi 1 1 1 1 1	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	
RIPARIAN RIPARIAN Buffers Condition Scores otes: Buffer is	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100%	's 100 foot riparian Subopt 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.	Areas along the timal Native woody community species represent between 30-60% oxverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% (maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained jed and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	<u>BV</u> 2.0
Condition Scores otes: Buffer is Right Bank Left Bank	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2	s 100 foot riparian Subopi Native woody community species represent greater than 60% coverage with withe the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	areas along the timal Native woody community species represent between 30-66 xoverage with <i>NO</i> wetlands present. No maintenance or grazing activities. Low = 4	Mar	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ded nad stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la condit	ted by impervious il lands, denuded ionat illage row ots or comparable ions.	
Riparian Buffers Condition Scores lotes: Buffer is Right Bank Left Bank	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% Score > 2 % Riparian Area> 100%	s 100 foot riparian Subopi Native woody community species represent greater than 60% coverage with withe the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	areas along the timal Native woody community species represent between 30-64 or grazing activities. Low = 4 Sed on the acc	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ded nad stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la condit	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores lotes: Buffer is Right Bank Left Bank	I BUFFERS: Assess both bank Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 dominated by no-till farming. % Riparian Area> 100% Score > 2 % Riparian Area> 100% Score > 2 UATIC USE: The Transect i	's 100 foot riparian Subopi Native woody community species represent greater than 60% coverage with NO within the buffer OR native woody community species represent 30-60% coverage with withands present. No maintenance or grazing activities. High = 4.5	areas along the timal Native woody community species represent No maintenance or grazing activities. Low = 4 Seed on the act timal f High. Perennial ot been assessed	Mar Native woody cor less than 30% maintenance or	a mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar- other compar- compar- compar- compar- other compar- other compar- co	minated by one or ming: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained jed and stabilized or rable condition. 2 100% 100% the stream seg	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	3		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conc	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, bu stability have reco present, have no c	of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if observable affect on ow	Between 30-60 % impacted by dred, levees, culverts, r armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and str stability are r Withdrawals, if pre observable affec	of the Transect is ging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is eam pattern and tot recovering. sent, may have an t on both flow and 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.	A
SCORE	5		4	3	3		2	1	1.
iotes: Trans	sect is channelized. REACH (CONDITION	INDEX and S	TREAM CON		TS FOR THI	S REACH		
								E CONDITION INDEX (CI) >>	1.8

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluators		HUC	Locality
John Williams, Erin cul	0	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 R	CI	1.8
RCI Delta		0
Impact Factor*		0
Linear Feet within RO	W	137
Compensation Requiren	nent	0

	File Number	Applic	cant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect D	escription	
	SWG-2012-00153	TxDC	т	1	12030203	11/21/13	1			
	Name(s) of Evalua	tor(s)				Steam Nam	ne and Type			
	John Williams, Erin	Culp		N	Nater 15/West	Prong Old F	River at Hwy 9	0; Intermitten	t	
Channel (Condition: Assess the cross-sec									
	Optimal	Subopt			ginal		por	Sev	f f f f f f f f f f f f f f f f f f f	
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 slight! contains a few areas Indicators of insta vegetative cover or protection only prese of the Transect, p bankfull benches ar and transient sedin along 10-40% of the The stream has acc benches or develop along portions of the may show evidence alteration, but shou notable recovery of a Bulkhead and riprap	of active erosion. ability include or natural rock ant along 60-80% booint bars and re likely present ment is present et likely present stream bottom. cess to bankfull ped floodplains reach. Channel Id be exhibiting a natural channel. are limited to 1-	course widene instability includ erosional scars Transect, vegetati rock only found Transect, vertical or nickpoints assoo may be present a channel may be w portions of the cha and transient sedi 40-60% of the nai bottom. The stre access to the a Bulkheading or rij	ed or has had its d. Indicators of e the presence of on 40-60% of the vice cover or natural on 40-60% of the or undercut banks, citated with headcuts and portions of the didening while other innel are narrowing, imments are found in tural stream bed or nam does not have lictive floodplain.	with vertically or banks. Visual in widening and inc vertical banks w depths, erosional 60-80% of the Tra cover or natural ro 40% of the Trar sediment depositic material is preser the Transect ar bankful benches stream does not active floodplain forap are present a	widened or incised laterally unstable dicators of over- ision include near with shallow root scars present along ansect, vegetative ock is limited to 20- usect, substantial on of uniformed-size it along 60-80% of di point bars and s are absent. The have access to an Bulkheading and along 50-80% of the	Channel is dee excavated with v instability in the Indicators of instat streambed elevation rooting depth, both or undercut, veg protection or natural along 20% or less o bank is sloughing ai or raw banks prese the Transect and 8 & natural streambe substantial sedim threaded channels. not have acces	ertical or lateral stream bank. bility include the located below the banks are vertical etative surface rock is only found rthe Transect, the nd erosional scars nd on 80-100% of 	
Score	5	25% of the T 4	Fransect.		the Transect. 3		1sect. 2	floodp 1		CV 2.0
. RIPARIAN	BUFFERS: Assess both bank	Subopt			ginal	Pe	Dor	Seve	ere	
. RIPARIAN Riparian Buffers		Subopt 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		Mar Native woody cor less than 30% of	ginal mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec	minated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	Seve The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded tional tillage row ots or comparable	
Riparian Buffers Condition	Optimal Native woody species represent greater than 60% of the coverage and	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present s within the buffer OR native woody co community species represent 30-60% coverage with wetlands present. No	Native woody community species represent between 30-60% overage with <i>NO</i> wetlands present. No maintenance or grazing	Mar Native woody cor less than 30% of maintenance or	nmunty represents	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or	The area is domina surfaces, mine spo surfaces, convent crops, active feed lo	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
Riparian Buffers	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present 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% overage with <i>NO</i> wellands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ning: lawns, mowed pht-of-way, no-till y grazed pasture, d non-maintained led and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present s 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% overage with <i>NO</i> wellands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ning: lawns, mowed pht-of-way, no-till y grazed pasture, d non-maintained led and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores otes:	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present s 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% overage with <i>NO</i> wellands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ing: lawns, mowed ght-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 % Riparian Area> 100% Score >	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present s 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% overage with <i>NO</i> wellands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ing: lawns, mowed pht-of-way, no-till y grazed pasture, ed non-maintained de and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi 1 Cl= (Sum % RA * S	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores tes:	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 % Riparian Area> 100%	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present s 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% overage with <i>NO</i> wellands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ing: lawns, mowed ght-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	<u>BV</u> 3.0
Riparian Buffers Condition Scores tes:	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 % Riparian Area> 100% Score > 3	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present swithin the buffer OR native woody community species represent 30-60% coverage with wetlands present.No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% overage with NO weltands present. or grazing activities.	Mar	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ing: lawns, mowed pht-of-way, no-till y grazed pasture, dd non-maintained led and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la condit	ted by impervious ii lands, denuded ionat illage row ots or comparable ions.	
Riparian Buffers Condition Scores tes: Light Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 % Riparian Area> 100% Score > 3 % Riparian Area> 100% Score > 3 QUATIC USE: The Transect	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-66 with NO wellands present. No maintenance or grazing activities. Low = 4	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities. 3 Category score	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition. 2 100% the stream seg	The area is domina surfaces, mine spo surfaces, convent crops, active feed la conditi	ted by impervious il lands, denuded ional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores otes: Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 % Riparian Area> 100% Score > 3	Subopt Native woody community species represent greater than 60% coverage with NO wetlands present swithin the buffer OR native woody community species represent 30-60% coverage with wetlands present.No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-66 weilands present. No maintenance or grazing activities. Low = 4	Mar Native woody cor less than 30% of maintenance or guatic life use Mar	nmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ing: lawns, mowed pht-of-way, no-till y grazed pasture, dd non-maintained led and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, convent crops, active feed la condit	ted by impervious ii lands, denuded ional tillage row ots or comparable ions.	

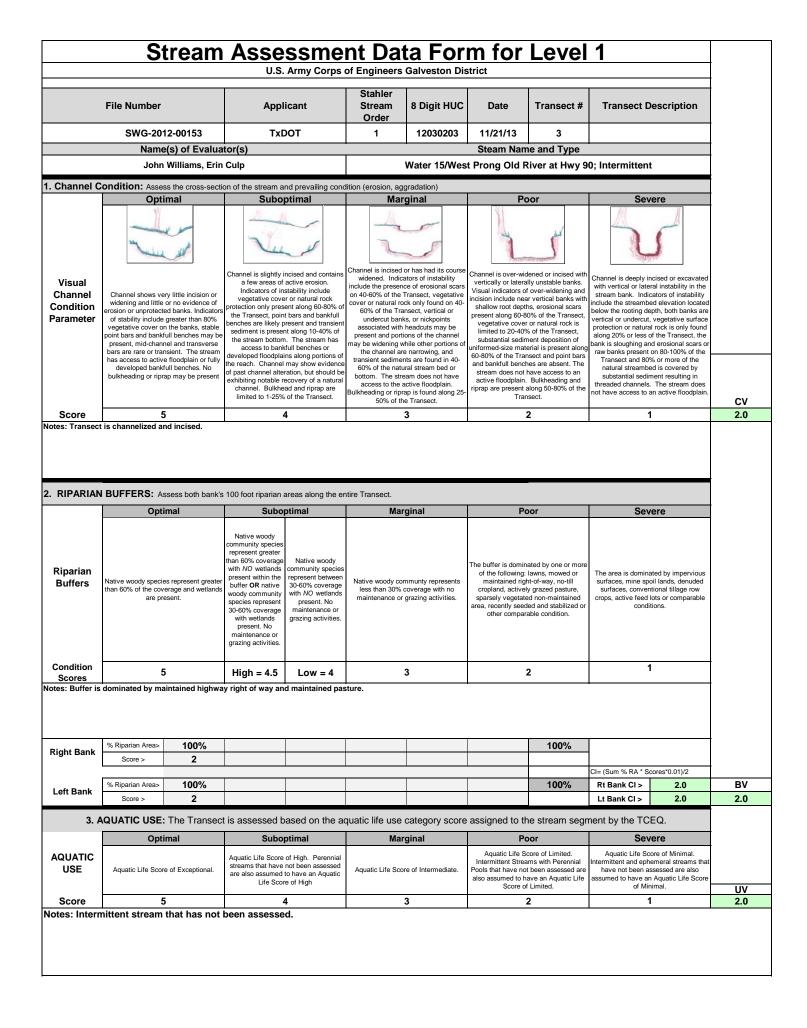
Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	3 TxDOT		Liberty County	Riverine	12030203	11/21/13	1		
4. CHANN	NEL ALTERATION: Stream cr	ossings, riprap, c	oncrete, gabions,	or concrete blocks livestock	s, straightening o	f channel, channe	elization, embankr	nents, spoil piles, constrictions,	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	h has levees, culverts, riprap, alize. No s, riprap, ctures or may be present, but stre		Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, firpap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream patterm 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.		structures. Withdrawals, if present, are large enough to have severe loss of	AV
SCORE	5		4	3	3		2	1	2.0
Notes	REACH C		NDEX and S	TREAM CON		ITS FOR TH	IS REACH		



	File Number	Applie	cant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect D	escription	
	SWG-2012-00153	TxD	от	1	12030203	11/21/13	2			
	Name(s) of Evalua	tor(s)				Steam Nan	ne and Type			
	John Williams, Erin	Culp		v	Vater 15/Wes	t Prong Old F	River at Hwy 9	0; Intermitten	t	
. Channel C	Condition: Assess the cross-sec							Carr		
	Optimal	Subop	- Jul	4	ginal		oor	Sev	s	
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 slight contains a few areas Indicators of inst vegetative cover protection only pres of the Transect, bankfull benches a and transient sedi along 10-40% of th The stream has ac benches or develc along portions of th may show evidencc alteration, but shou notable recovery of Bulkhead and riorat	of active erosion. tability include or natural rock ent along 60-80% point bars and are likely present ment is present e stream bottom. ccess to bankfull oped floodplains e reach. Channel e of past channel uld be exhibiting a natural channel.	course widene instability includd erosional scars Transect, vegetati rock only found Transect, vertical or nickpoints assoc may be present a channel may be w portions of the cha and transient sedi 40-60% of the nat bottom. The stre access to the a	ed or has had its d. Indicators of e the presence of on 40-60% of the ve cover or natural on 40-60% of the or undercut banks, siated with headcuts and portions of the idening while other nmel are narrowing, ments are found in tural stream bed or am does not have citive floodplain. rap is found along	with vertically or banks. Visual ir widening and inc vertical banks depths, erosional 60-80% of the Tra d0% of the Tra sediment depositic material is prese the Transect ar bankfull benche stream does not active floodplain	widened or incised laterally unstable dicators of over- ision include near with shallow root scars present along ansect, vegetative ock is limited to 20- nsect, substantial on of uniformed-size nt along 60-80% of he point bars and s are absent. The have access to an . Builkheading and along 50-80% of the	Channel is dee excavated with v instability in the Indicators of instas streambed elevatior rooting depth, both or undercut, veg protection or natural along 20% or less o bank is sloughing a or raw banks prese the Transect and 8 natural streambe substantial sedin threaded channels. not have acces	ertical or lateral stream bank. bility include the located below the banks are vertical letative surface rock is only found the Transect, the nd erosional scars nt on 80-100% of 0% or more of the d is covered by nent resulting in The stream does	
Score	25% of the Transect.		25-50% of t	the Transect.	Trai	2	floodp	olain.	CV 1.0	
	N BUFFERS: Assess both bank	's 100 foot riparian Subop			ginal	Pi	oor	Sev	ere	
		Subop Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer OR native woody community		Mar Native woody cor less than 30% of	ginal mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently seer	oor minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained fed and stabilized or rable condition.	Sev The area is domina surfaces, mine spo surfaces, conven crops, active feed I condit	ted by impervious vil lands, denuded tional tillage row ots or comparable	
Riparian Buffers Condition	Optimal Native woody species represent greater than 60% of the coverage and	Subop Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer OR native woody of community species represent 30-60% coverage with wetlands present. No maintenance or	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing	Mar Native woody cor less than 30% of maintenance or	nmunty represents	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained jed and stabilized or	The area is domina surfaces, mine spo surfaces, conven crops, active feed l	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 s dominated by asphault from nea	Subop Native woody community species represent greater than 60% everage with NO wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ight-of-way, no-till by grazed pasture, ed non-maintained ed and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, conven crops, active feed I condit	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
RIPARIAN Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present.	Subop Native woody community species represent greater than 60% everage with NO wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained Jed and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, conven crops, active feed I condit	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
. RIPARIAN Riparian Buffers Condition Scores otes: Buffer is	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 c dominated by asphault from nea % Riparian Area> 100%	Subop Native woody community species represent greater than 60% everage with NO wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ight-of-way, no-till by grazed pasture, ed non-maintained ed and stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, conven crops, active feed I condit	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
RIPARIAN Riparian Buffers Condition Scores otes: Buffer is	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 c dominated by asphault from near the species of the speci	Subop Native woody community species represent greater than 60% everage with NO wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ight-of-way, no-till by grazed pasture, ed non-maintained ed and stabilized or rable condition.	The area is domina surfaces, mine spc surfaces, conven crops, active feed I condit	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	BV
RIPARIAN Riparian Buffers Condition Scores otes: Buffer is	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 6 6 6 % Riparian Area> 100% Score >	Subop Native woody community species represent greater than 60% everage with NO wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	nmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or ving: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained jed and stabilized or rable condition.	The area is domina surfaces, mine spc surfaces, conven crops, active feed I condit	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	BV 1.0
RIPARIAN Riparian Buffers Condition Scores tes: Buffer is Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 c dominated by asphault from near the species of the speci	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 arby highway.	timal Native woody community species represent between 30-60% coverage with <i>NO</i> wetlands present. No maintenance or grazing activities. Low = 4	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetat area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ded nad stabilized or rable condition.	The area is domina surfaces, mine spo surfaces, conven crops, active feed I condit	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	
RIPARIAN Riparian Buffers Condition Scores otes: Buffer is Right Bank Left Bank 3. AC	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 a dominated by asphault from near % Riparian Area> 100% Score > 1	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 arby highway.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 Sed on the act timal of High. Perennial ot been assessed	Mar Native woody cor less than 30% of maintenance or maintenance or guatic life use Mar	mmunty represents coverage with no grazing activities.	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetati area, recently see other compar	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ed non-maintained ed and stabilized or rable condition. 2 2 100% 100% the stream sec oor coor of Limited. ams with Perennial t been assessed are use an Aquatic Life	The area is domina surfaces, mine spc surfaces, conven crops, active feed I condit CI= (Sum % RA * S Rt Bank CI > Lt Bank CI > Lt Bank CI > gment by the Ti Sev Aquatic Life Scc Intermittent and ep that have not been assumed to have	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	1.0
Riparian Buffers Condition Scores otes: Buffer is Right Bank Left Bank 3. AC	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 cominated by asphault from near % Riparian Area> 100% Score > 1 % Riparian Area> 100% Score > 1 WATIC USE: The Transect in Optimal	Subop Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present with withe buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5 arby highway.	timal Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities. Low = 4 Sed on the aco timal of High. Perennial of been assessed of have an Aquatic of High	Mar Native woody cor less than 30% of maintenance or maintenance or guatic life use Mar Aquatic Life Scor	3 Category score ginal	The buffer is do more of the follow or maintained ri cropland, active sparsely vegetati area, recently see other compar other compar other compar e assigned to e assigned to Pols that have no also assumed to Score o	minated by one or wing: lawns, mowed ght-of-way, no-till ly grazed pasture, ded nort-maintained led and stabilized or rable condition. 2 100% 100% the stream sec oor icore of Limited. ams with Perennial to been assessed are	The area is domina surfaces, mine spc surfaces, conven crops, active feed I condit Cl= (Sum % RA * Si Rt Bank Cl > Lt Bank Cl > Sev Aquatic Life Scc Intermittent and ep that have not been	ted by impervious iil lands, denuded tional tillage row ots or comparable ions.	

Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
WG-2012-00153	TxDOT	Liberty County	Riverine	12030203	11/21/13	2			
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conc	rete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizati	on, embankments,	spoil piles, constrictions, livestock	
	pattern of has normalize. No dams, armor, drop structures of withdra		ptimal	Marg	ginal	 impacted by dredging, dams, dikes, levees, culverts, riprap, builkheads, armor, drop structures or withdrawai nstructures. Evidence of past alteration is present, and stream pattern and stability are not recovering. Withdrawals, if present, may have an o boservable affect on both flow and 		Severe	
Channel Alteration			ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration it stream pattern and ver. Withdrawals, if observable affect on	stability are begin	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no			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.
SCORE lotes: Trans	5 sect is completely channeliz				3		2	1	
	REACH	CONDITION	INDEX and S	STREAM CON	IDITION UNI	TS FOR TH	IS REACH		
l,								E CONDITION INDEX (CI) >>	

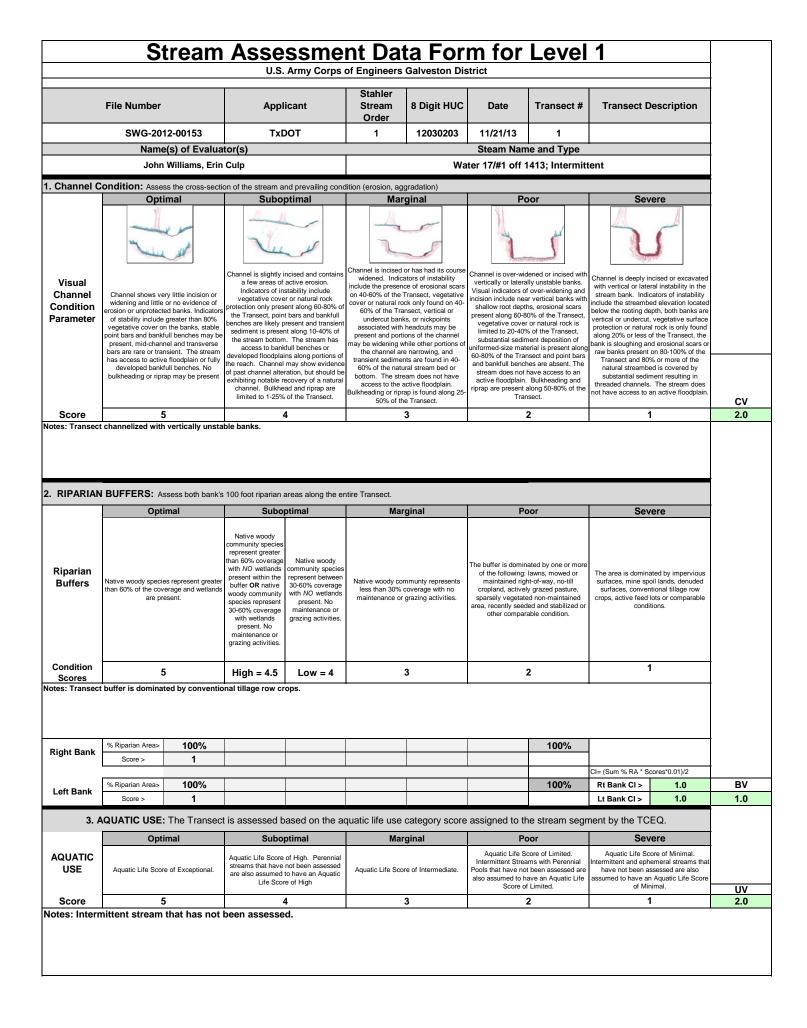
4 of 2



-	TxDOT ALTERATION: Stream crossi Optimal		Liberty County rete, gabions, or co	Riverine	12030203	11/21/13	3		
-			ete, gabions, or co						
C	Optimal	Suba		oncrete blocks, str	aightening of char	nnel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
CI		oane	ptimal	Marg	ginal	Po	or	Severe	
Alteration	Channelization, dredging, alteration or ardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the Transect.	sent. Stream has unaltered has normalize. No dams, avees, 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		impacted by dred, levees, culverts, i armor, drop struct structures. Evidenc may be present, bul stability are begin Withdrawals, if pres an observable affe	Between 30-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, 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 hobitat 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.
otes: Channe	el is redirected and somev	vhat channeli	zed but show	rs stability and	d recovering	patterns.			

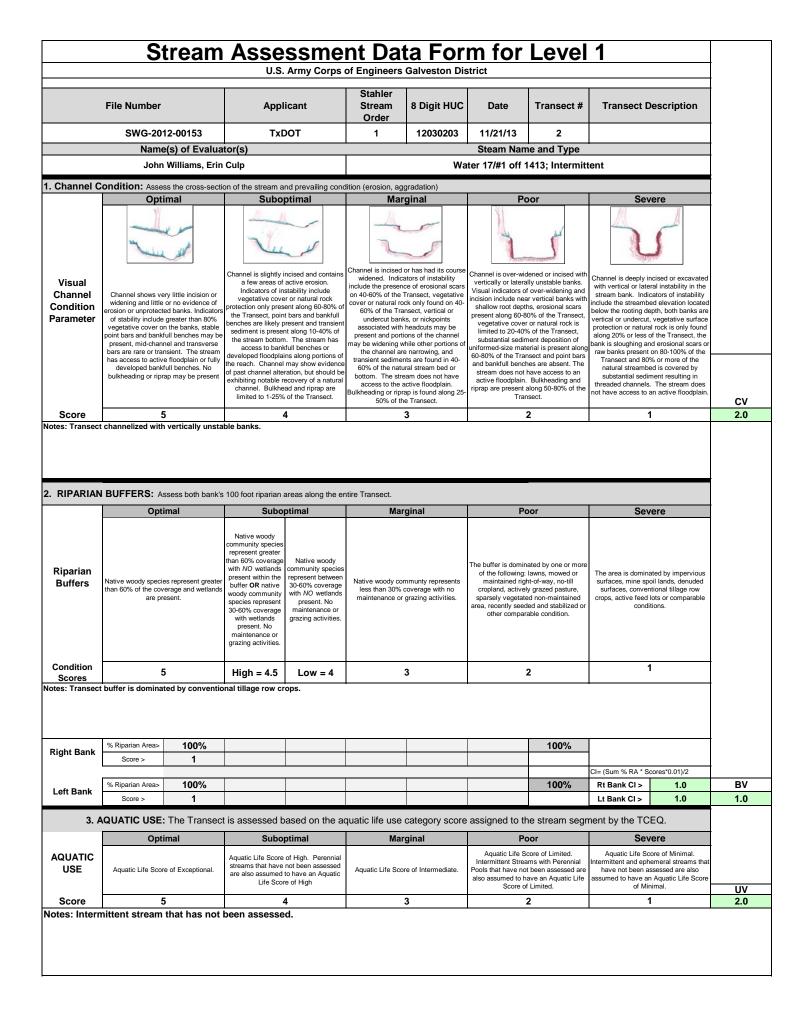
Project #	Applicant	FF			
SWG-2012-00153	TxDOT		11/21/2013		
Evaluators		HUC	Locality		
John Williams, Erin Cu	ılp	12030203	Montgomery County		

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 H	RCI	1.9
Average Post-project 1		1.0
Impact Delta		0.9
Impact Factor*		2
_	ct	
-		
Linear Feet of Impa Compensation Require		120 216

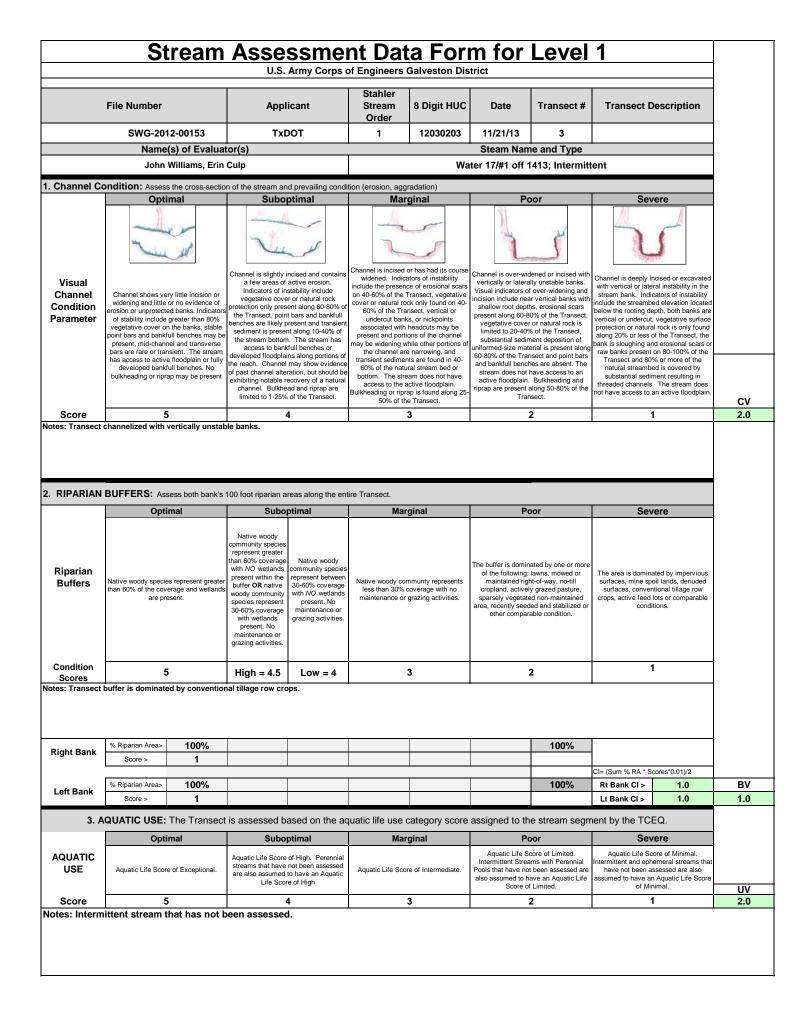


Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	1		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conc	rete, gabions, or c	oncrete blocks, stra	aightening of cha	nnel, channelizati	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.		ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if bbservable affect on	the Transect is ig, dams, diks, rap, bulkheads, es or withdrawal tream pattern and r. Withdrawals, if withdrawals, if tream pattern and tream pattern and tream pattern and structures. Evidence of past alteration may be present, but stream pattern and stability are beginning to recovered. Withdrawals, if present, have rem ay have an observable affect on the stability are beginning to recovered.			% of the Transect is dging, dams, dikes, riprap, bulkheads, stures or withdrawal ze of past alteration is iream pattern and not recovering. esent, may have an ct on both flow and t 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
Notes: Entire	e transect is channelized.								
	DEACH		INDEX and S	TREAM CON			S DEACH		





Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	2		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, conc	rete, gabions, or c	oncrete blocks, str	aightening of cha	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Marg	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, bu stability have reco present, have no c	of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration at stream pattern and wer. Withdrawals, if observable affect on ow	Between 30-60 % impacted by dred, levees, culverts, t armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affect	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dree levees, culverts, armor, drop struc structures. Evidenc present, and st stability are r Withdrawals, if pre observable affec	6 of the Transect is lging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and hot recovering. seent, may have an et on both flow and 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
ioles. Entire	e transect is channelized. REACH (CONDITION	INDEX and S	TREAM CON		TS FOR THI	S REACH		
								E CONDITION INDEX (CI) >>	1.5



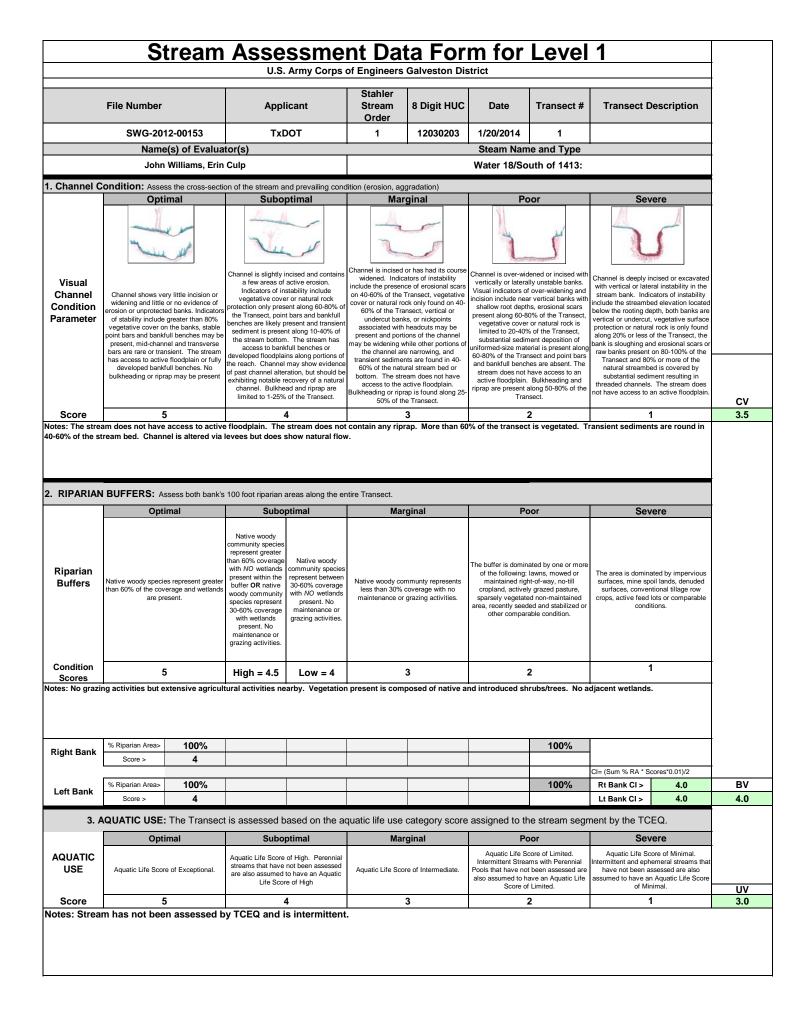
	Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
Channel Alteration Optimal Suboptimal Marginal Poor Severe Channel Alteration Channelization, dredging, alteration of hardening absent. Stream has unalter pattern or has normalize. No dams, dikes, levees, culverts, inprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and stability are or percoversing. 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 may be present, but stream pattern and stability are percover. Withdrawals, if present, have no observable affect on 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 may be present, but stream pattern and stability are not recovering. Between 90-100% 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, have no observable affect on othin flow and habitat or biota. Between 10-00% 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 recovered. Between 10-00% of the Transect is present, are transect is channelized. SCORE 5 4 3 2 1	SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	11/21/13	3		
Channel Alteration Channelization, dredging, alteration or hardening absent. Stream has unalteren gikes, levees, culverts, inprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration withdrawals, if present, have no observable affect on flow 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 may be present, but stream pattern and stability are present, have no observable affect on flow 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 may be present, but stream pattern and stability are not recovering. 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 may be present, but stream pattern and stability are not recovering. 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 in a observable affect on ohabitat or biota. Between 60-90 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Withdrawals, if present, are inage enough to have severe loss of flow and cause little to no habitat or biota. SCORE 5 4 3 2 1	4. CHANNE	L ALTERATION: Stream crossi	ngs, riprap, concr	ete, gabions, or co	oncrete blocks, stra	aightening of char	inel, channelizatio	n, embankments,	spoil piles, constrictions, livestock	
Channel Channelization, dredging, alteration of hardening absent. Stream has unaltered by dredging, dams, dikes, jattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, attrong, bulkheads, attrong, bulkheads, attrong, durbs, dites, levees, culverts, riprap, bulkheads, attrong, bulkheads, attrong, bulkheads, attrong, bulkheads, attrong, bulkheads, attrong, bulkheads, attrong, durbs, dites, levees, culverts, riprap, bulkheads, attrong,		Optimal	Subo	ptimal	Marg	ginal	P	oor	Severe	
otes: Entire transect is channelized.		hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures within the	impacted by dred levees, culverts, armor, drop struc structures. Eviden may be present, bu stability have reco present, have no c	ging, dams, dikes, riprap, bulkheads, tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if observable affect on	impacted by dred levees, culverts, i armor, drop struct structures. Evidenc may be present, but stability are begin Withdrawals, if pres an observable affe	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by dree levees, culverts, armor, drop struc structures. Evidenc present, and str stability are r Withdrawals, if pre observable affec	Iging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is ream pattern and not recovering. seent, may have an et on both flow and	impacted by dredging, dams, dikes, levees, culverts, fiprap, 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	AV
	SCORE	5		4	3	3		2	1	1.0
	otes: Entire			NDEX and S	TREAM CON		TS FOR THI	SREACH		

Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		11/21/2013
Evaluator	S	HUC	Locality
John Williams, H	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-pro		1.5
RCI Delt		0
Impact Fac	tor*	0
Linear Feet with	nin ROW	419
Compensation Re	equirement	0



Project #	Applicant		Locality	Cowardin Class.	HUC	Date	Transect #	Transect Description	
SWG-2012-00153	TxDOT		Liberty County	Riverine	12030203	1/20/14	1		
4. CHANNE	EL ALTERATION: Stream cross	ings, riprap, concr	ete, gabions, or c	oncrete blocks, str	aightening of char	nnel, channelizatio	on, embankments,	spoil piles, constrictions, livestock	
	Optimal	Subo	ptimal	Mar	ginal	P	oor	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.	impacted by dred levees, culverts, armor, drop struct structures. Evideno may be present, bu stability have reco present, have no o	tures or withdrawal ce of past alteration t stream pattern and ver. Withdrawals, if	stability are begin	ging, dams, dikes, riprap, bulkheads, ures or withdrawal se of past alteration t stream pattern and ning to recovered. ent, have may have ect on flow, but no	impacted by drec levees, culverts, armor, drop struc structures. Evidenc present, and str stability are r Withdrawals, if pre observable affec	of the Transect is liging, dams, dikes, riprap, bulkheads, tures or withdrawal e of past alteration is seam pattern and not recovering. esent, may have an t on both flow and 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.	
SCORE	5		4	:	3		2	1	
lotes: No rip	o rap or structures but the s	stream is con	fined by levee	95.					
	REACH (CONDITION	INDEX and S	STREAM CON	IDITION UNI	TS FOR THI	S REACH		



	File Number	Appl	icant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect D	Description	
	SWG-2012-00153	TxI	от	1	12030203	1/20/2014	2			
	Name(s) of Evalu	ator(s)			•		ne and Type			
	John Williams, Er	n Culp				Water 18/So	outh of 1413:			
. Channel (Condition: Assess the cross-se Optimal		and prevailing co ptimal		aggradation) ginal	D	por	Sec.	vere	
	- Les	Channel is slig	htty incised and is of active erosion.	Channel is incis	seed or has had its ad. Indicators of	Channel is over-	widened or incised laterally unstable	Channel is de	eply incised or vertical or lateral	
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 greate than 80% vegetative cover on the banks, stable point bars and bankful benches may be present, mid-chann and transverse bars are rare or transient. The stream has access to active floodplain or fully developed bankfull benches. No bulkheading o riprap may be present	Indicators of in vegetative cove protection only pre of the Transect bankfull benches and transient se along 10-40% of t The stream has a benches or deve along portions of t may show eviden alteration, but sh notable recovery o	stability include r or natural rock sent along 60-80%, point bars and are likely present diment is present the stream bottom. access to bankfull loped floodplains he reach. Channel ould be exhibiting f a natural channel, a pa are limited to 1-	instability includ erosional scars Transect, vegetat rock only found Transect, vertical or nickpoints assou may be present a channel may be w portions of the cha and transient sed 40-60% of the na bottom. The stre access to the a Bulkheading or ri	le the presence of on 40-60% of the ive cover or natural on 40-60% of the or undercut banks, ciated with headcuts and portions of the videning while other annel are narrowing, iments are found in itural stream bed or earn does not have active floodplain. prap is found along the Transect.	banks. Visual in widening and inc vertical banks v depths, erosional 60-80% of the Tra cover or natural ro 40% of the Transect ar sediment depositio material is preser the Transect ar bankfull benches stream does not active floodplain. riprap are present a	dicators of over- ision include near with shallow root scars present along ansect, vegetative ock is limited to 20- ossect, substantial n of uniformed-size tt along 60-80% of d point bars and s are absent. The have access to an Bulkheading and along 50-80% of the isect.	instability in th Indicators of inst streambed elevatio rooting depth, both or undercut, ve protection or natura along 20% or less bank is sloughing or raw banks pres the Transect and đ natural streamb substantial sedi threaded channels not have acce	le stream bank. ability include the in located below the n banks are vertical getative surface al rock is only found of the Transect, the and erosional scars ent on 80-100% of 80% or more of the ed is covered by ment resulting in 5. The stream does iss to an active	c
Score	5		Transect.		the Transect.		1sect. 2		lplain. 1	3.
2. RIPARIAI	N BUFFERS: Assess both bar	k's 100 foot riparia	n areas along the	entire Transect.						
2. RIPARIAI Riparian Buffers	N BUFFERS: Assess both bar Optimal Native woody species represent greater than 60% of the coverage an wetlands are present.	Subo 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	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30%	rginal mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domin. surfaces, mine sp surfaces, conver crops, active feed	/ere ated by impervious oil lands, denuded notas or comparable itions.	
Riparian Buffers	Optimal Native woody species represent greater than 60% of the coverage an wetlands are present.	Subo 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 <i>NO</i> wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% of maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetat area, recently seec other compar	ninated by one or ing: lawns, mowed pht-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domin. surfaces, mine sp surfaces, conver crops, active feed condi	ated by impervious will lands, denuded ntional tillage row lots or comparable itions.	
Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage an	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer or antive woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri, cropland, activel sparsely vegetata area, recently seec other compar	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed condi	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions.	
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Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage an wetlands are present.	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer or antive woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri, cropland, activel sparsely vegetata area, recently seec other compar	ninated by one or ring: lawns, mowed ght-of-way, no-till y grazed pasture, ed non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed condi	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions.	
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Riparian Buffers Condition Scores Notes: No graz	Optimal Native woody species represent greater than 60% of the coverage an wetlands are present. 5 ing activities but extensive agriant activities but extensive agr	Subo Native woody community species represent greater than 60% coverage with NO wetlands present within the buffer or antive woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri, cropland, activel sparsely vegetata area, recently seec other compar	ninated by one or ing: lawns, mowed ght-of-way, no-till y grazed pasture, ad non-maintained led and stabilized or able condition.	The area is domin surfaces, mine sp surfaces, conver crops, active feed condi Vo adjacent wetl Cl= (Sum % RA * S Rt Bank Cl >	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions. 1 lands.	B
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Riparian Buffers Condition Scores Notes: No graz Right Bank Left Bank	Optimal Native woody species represent greater than 60% of the coverage an wetlands are present. 5 ing activities but extensive agrit % Riparian Area> 100% Score > 4 % Riparian Area> 100% Score > 4	Subo 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. High = 4.5 sultural activities is assessed bit Aquatic Life Score streams that have	Native woody community species represent between 30-60% coverage with NO weitlands present. No maintenance or grazing activities. Low = 4 nearby. Vegetati	Mar Native woody cor less than 30% maintenance or ion present is co	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec other compar	ninated by one or ning: lawns, mowed ght-of-way, no-till y grazed pasture, dd non-maintained ed and stabilized or able condition. 2 d shrubs/trees. I 100% 100% the stream seg cor core of Limited. Ims with Perennial t been assessed are are an Aquatic Life	The area is domin: surfaces, mine sp surfaces, conver crops, active feed condi- condi- No adjacent wetI CI= (Sum % RA * S Rt Bank CI > Lt Bank CI > Lt Bank CI > ment by the T Sev Aquatic Life Sc Intermittent and e that have not beer assumed to have	ated by impervious oil lands, denuded ntional tillage row lots or comparable itions.	4.
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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 A. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions Optimal Suboptimal Marginal Poor Severe Channelization, dredging, alteration of hardening absent. Stream has unaltered by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal dikes, levees, culverts, riprap, bulkheads, armor, drop structures or gream pattern and bulkheads, armor, drop structures or didence of past alteration imay be present, but stream pattern and bulk bergent, but stream pattern and bulk bergent, but stream pattern and bulk bergent, bulk stream pattern and bulk bergent, bulk stream pattern and bulk bergent bulk stream	
Optimal Suboptimal Marginal Poor Severe Channel Alteration Channelization, dredging, alteration or hardening absent. Stream has unaltered dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal may be present, but stream pattern and Between 10-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal may be present, but stream pattern and Between 10-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 10-60 % of the Transect is impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal Between 90-100% of the impacted by dredging, dams, dikes, levees, culverts, vithidheads, armor, drop structures or intructures. Wi	
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withdrawal structures within the present, have no observable affect on flow that are present, have no observable affect on habitat or biota. the present have recover the present have no observable affect on habitat or biota. Transect	ams, dikes, bulkheads, withdrawal present, are vere loss of
SCORE 5 4 3 2 1	4

4 of 2

	File Number	Appli	icant	Stahler Stream Order	8 Digit HUC	Date	Transect #	Transect D	Description	
	SWG-2012-00153	TxD	от	1	12030203	1/20/2014	3			
	Name(s) of Evalua	ator(s)			I	Steam Nam	ne and Type			
	John Williams, Erir	n Culp				Water 18/So	uth of 1413:			
. Channel (Condition: Assess the cross-sec Optimal	ction of the stream			aggradation) ginal	D/	oor	Sou	/ere	
		Channel is sligh	Je series and the series of th	2	yinai Jacob da angle		videned or incised		eply incised or	
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	contains a few area Indicators of ins vegetative cover protection only pree of the Transect, bankfull benches and transient sed along 10-40% of th The stream has a benches or devel along portions of th may show evidenc alteration, but sho notable recovery of Bulkhead and ripra	s of active erosion. tability include or anatural rock sent along 60-80% point bars and are likely present iment is present in stream bottom. ccess to bankfull oped floodplains he reach. Channel bould be exhibiting a natural channel. pa are limited to 1-	instability includ erosional scars Transect, vegetat rock only found Transect, vertical or nickpoints assoo may be present a channel may be w portions of the cha and transient sed 40-60% of the na bottom. The stre access to the a Bulkheading or rij	d. Indicators of e the presence of on 40-60% of the ive cover or natural on 40-60% of the or undercut banks, ciated with headcuts and portions of the <i>idening</i> while other minel are narrowing, minet are found in ural stream bed or tam does not have totive floodplain. or pai pis found along	with vertically or banks. Visual in widening and inc vertical banks depths, erosional 60-80% of the Tra cover or natural re 40% of the Trar sediment depositic material is preser the Transect ar bankfull benches stream does not active floodplain pirpa are present a	laterally unstable dicators of over- ision include near with shallow root scars present along ansect, vegetative ock is limited to 20- usect, substantial n of uniformed-size t along 60-80% of d point bars and a sre absent. The have access to an Bulkheading and Jong 50-80% of the	excavated with v instability in the Indicators of insta streambed elevation rooting depth, both or undercut, veg protection or natura along 20% or less of bank is sloughing a or raw banks press the Transect and 8 natural streambe substantial sedin threaded channels not have acce	vertical or lateral e stream bank. ability include the n located below the banks are vertical getative surface al rock is only found of the Transect, the and erosional scars ent on 80-100% of 20% or more of the ed is covered by ment resulting in . The stream does ss to an active	
Score	5	25% of the			the Transect.		isect. 2	flood	plain. 1	C 3.
2. RIPARIAI	N BUFFERS: Assess both bank	s's 100 foot ripariar	n areas along the	entire Transect.						
2. RIPARIAI Riparian Buffers	N BUFFERS: Assess both bank	Subor 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		Mar Native woody cor less than 30%	ginal mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri cropland, activel sparsely vegetate area, recently seec	ninated by one or ing: lawns, mowed pht-of-way, no-till y grazed pasture, id non-maintained ied and stabilized or able condition.	The area is domina surfaces, mine spo surfaces, conver	lots or comparable	
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Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri, cropland, activel sparsely vegetata area, recently seec other compar	ninated by one or ing: lawns, mowed jht-of-way, no-till y grazed pasture, id non-maintained ied and stabilized or able condition.	The area is domina surfaces, mine sp surfaces, conver crops, active feed condi	ated by impervious oil lands, denuded titonal tillage row lots or comparable tions.	
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Riparian Buffers Condition Scores	Optimal Native woody species represent greater than 60% of the coverage and wetlands are present. 5 ing activities but extensive agrice	Subor Native woody community species represent greater than 60% coverage with <i>NO</i> wetlands present within the buffer OR native woody community species represent 30-60% coverage with wetlands present. No maintenance or grazing activities. High = 4.5	Native woody community species represent between 30-60% coverage with NO wetlands present. No maintenance or grazing activities.	Mar Native woody cor less than 30% maintenance or	mmunty represents coverage with no grazing activities.	The buffer is dor more of the follow or maintained ri, cropland, activel sparsely vegetata area, recently seec other compar	ninated by one or ing: lawns, mowed ght-of-way, no-till y grazed pasture, ed and stabilized or able condition.	The area is domina surfaces, mine sp surfaces, conver crops, active feed condi condi No adjacent weth	ated by impervious oil lands, denuded titonal tillage row lots or comparable tions.	
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SWG-2012-00153 TxDT 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, li Channel Suboptimal Marginal Poor Severe Channelization, dredging, alteration of hardening absent. Stream has unaltered pattern or has normalize. No dams, dikes, levees, culverts, riprap, bulkheads, armor, drop structures or withdrawal structures. Evidence of past alteration may be present, but stream pattern and bulkheads, armor, drop structures or Between optime alteration may be present, but stream pattern and structures. Evidence of past alteration may be present, but stream pattern and structures. Evidence of past alteration Between addition of may be present, but stream pattern and structures. Evidence of past alteration may be present, but stream pattern and structures. Evidence of past alteration Between addition of may be present, but stream pattern and structures. Evidence of past alteration Between addition of may be present, but stream pattern and structures. Evidence of past alteration Between addition of may be present, but stream pattern and structures. Evidence of past alteration Between pattern and may be present, but stream pattern and structures. Evidence of past alteration Between pattern and may be present, but stream pattern and structures. Evidence of past alteration Between pattern and may be present, but stream pattern and structures. Evidence of past alteration		
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Stream Assessment Summary Form (Form 2)

Galveston District Stream Condition Assessment SOP

Project #	Applicant		Date
SWG-2012-00153	TxDOT		10/16/2013
Evaluator	`S	HUC	Locality
John Williams, E	Crin 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-pro	-	3.6
RCI Del	ta	0
Impact Fac	tor*	0
Linear Feet with	nin ROW	404
Compensation Re	equirement	0