US Army Corps
Of Engineers ®
Nashville District

Draft Prospectus Submittal Guidance for Stream Mitigation Banks or Stream In-Lieu Fee Projects within Tennessee November 2018

A draft prospectus for a stream mitigation bank or stream in-lieu fee (ILF) project should contain the information outlined in this guidance document. To help facilitate project review, please provide the information outlined in this document along with an Interagency Review Team (IRT) meeting request. Prior to an IRT site visit, the sponsor will have up to an hour with the IRT to present the proposed project. Based on the initial information provided by the sponsor, the IRT will determine if the project has the potential to provide compensatory mitigation for activities authorized by Department of the Army permits. If the IRT determines the site has potential, a site visit will be scheduled to further evaluate the proposed project.

1. **Owner**. Identify the bank/ILF sponsor, landowners, and any agent for the sponsor.

2. **Agent**. Identify consultants or experts to be involved in design of the mitigation site, and list their qualifications and experience in designing and implementing successful mitigation projects.

3. **Project Location**. Identify the project area in acres and its location from the nearest intersection of roads. List the nearest town, county, state, 8 and 12-digit Hydrologic Unit Code (HUC), U.S. Environmental Protection Agency (EPA) ecoregion (Level III), and provide the site coordinates in decimal degrees (North American Datum - NAD 83).

4. **Access to Property**. Provide written documentation of permission from the property owner to access the proposed mitigation site. USACE and TDEC will need access to determine both state and federal jurisdiction of aquatic resources on site.

5. **Project Goals**. Describe the purpose and goals of the project. Provide a description of any physical, chemical, and/or biological degradation occurring within the proposed mitigation site. The purpose and goals should explain the need for improvement to specific physical, chemical, and/or biological functions on the proposed mitigation site. Additionally, project goals should be reported on the Project Assessment tab within the TN SQT Workbook.

6. **Project Objectives**. Describe how the goals or correction of the problem(s) will be achieved. The objectives should explain what specific physical, chemical, and/or biological functions will be addressed, and how they will be improved quantitatively. Additionally, project objectives should be reported on the Project Assessment tab within the TN SQT Workbook[1].

[1] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/

7. **Site Constraints**. Describe all constraints that would limit the restoration potential of the project. This should include a description of any watershed, physical, chemical, or biological constraints that would limit riparian buffer width, construction methodology, site protection, stream and/or wetland function, etc. Examples of constraints include, but are not limited to: adjacent land uses, roadways, utility lines, stormwater outfalls, liens, easements, or encumbrances on the property, inability to acquire property and/or long-term protection, presence of threatened or endangered species (state and federal), and historic properties. Identify any portion of the project that would occur on public lands and the public entity that owns the land.

8. **Watershed Assessment Form**. Provide a completed *Watershed Assessment Form* (Appendix A).

9. **Existing and Proposed Conditions**. Provide a completed TN SQT Workbook for each stream within the project. More than one assessment will often be necessary to adequately characterize the variable conditions along a single stream. Provide at least one complete *TN SQT and Debit Tool Rapid Assessment Form* (Appendix B) for each unique stream reach within the project area. To delineate the unique stream reaches, consider significant changes in drainage area, breaks at major confluences, changes in gradient, Rosgen classification stream type, floodplain connectivity, lateral stability, riparian vegetation, and bedform diversity. Complete additional forms as necessary. Refer to the *TN SQT Rapid Data Collection Manual* [2] for details on reach break criteria and other supporting information to complete the form.

10. **Biological Data**. Provide information on the biological scores for the waterbodies within the project boundaries. Contact TDEC[3] to obtain any pre-existing biological scores for the waterbody at or near the proposed project reach. If this information does not exist or is determined to no longer be valid, the state may elect to evaluate the site to establish existing biological conditions. In consultation with TDEC, the applicant may provide biological scores following the standardized protocols found in *TDEC's Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys*[4]. Depending on site conditions and proposed treatments, biological scores may be requested for each unique stream within the project area.

11. **Maps**.
    a. Provide a plat or land ownership map and digital shapefile or KMZ file.
    b. Provide a map showing the boundaries of all existing aquatic resources within the mitigation property boundary and a digital shapefile or KMZ file.
    c. Provide a Natural Resources Conservation Service (NRCS) soil map[5] with the site boundary clearly identified. Include a table identifying the soil taxonomy for each soil type within the project boundary.
    d. Provide a National Wetlands Inventory (NWI) map[6] with the site boundary clearly identified.
    e. Provide a U.S. Geological Survey (USGS) topographic map and a map with recent aerial imagery that includes the following information/layers on each:

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[2] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/
[3] https://www.tn.gov/environment/contacts/about-field-offices.html
[4] TDEC's Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys - https://www.tn.gov/content/dam/tn/environment/water/documents/DWR-PAS-P-01-Quality_System_SOP_for_Macroinvertebrate_Stream_Surveys-081117.pdf
[5] https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
[6] https://www.fws.gov/wetlands/

- Boundaries of the proposed mitigation site;
- Clearly identified stream reaches and wetland areas;
- Transportation layer; and
- Maintained easement locations (e.g. powerline right-of-way, sewerline easements, pipeline easements, etc.).

f. Provide historical aerial imagery overlain with proposed mitigation project boundaries with at least one image per decade throughout the available period of record.
g. Provide a map of the proposed bank service area that shows the location of the bank site, county boundaries, and major municipalities (mitigation banks only).

12. **Site Photos**. Provide photographs of the stream reaches within the proposed project area. Provide a photograph location map that clearly identifies the location and orientation of the photographs.

13. **Baseline Information**.
    a. *Service Area*. Describe the proposed service area (mitigation banks), or identify the advanced credit service area associated with the proposed stream in-lieu fee project.
    b. *Watershed Assessment Form*. Provide a narrative summary of the *Watershed Assessment Form*.
    c. *Site Selection Criteria*. List and describe all site selection criteria that were used to identify the proposed project. Site selection criteria could include watershed plans, State Wildlife Action Plans prepared for the watershed, plans under Section 319 Clean Water Act grants, and any other watershed scale assessments.
    d. *Adjacent Land Use*. Discuss reasonable expected development of the site, if bank or ILF activities were not implemented, and the surrounding area.
    e. *Jurisdictional Delineation*. The baseline information should include a delineation of waters of the United States on the proposed compensatory mitigation project site. Delineations must be prepared in accordance with the *1987 Corps of Engineers Wetlands Delineation Manual* and appropriate Regional Supplement. See Appendix C titled "Components of a Complete Waters of the U.S. Delineation Report" for more information.
    f. *Public Notice*. With submittal of a complete Prospectus, provide a list of current mailing addresses (or e-mail addresses, if possible) for all adjacent property owners to the mitigation site for the public notice.

14. **Proposed Mitigation Approach**.
    a. *Mitigation Approach*. Describe the proposed mitigation approach for each stream reach within the project site that will be considered in the mitigation plan. Provide the Stream Summary table from the SQT Workbook - Project Assessment tab.
    b. *Functional Lift*. Explain how the proposed project will increase specific stream functions above the pre-project levels. Use data collected and information from the TN SQT Workbook[7] to describe how the proposed project will improve stream functions within each reach.
    c. *Reference Reach*es. Identify stream reference reach(es) and provide a brief description of the reach(es).

[7] https://www.lrn.usace.army.mil/Missions/Regulatory/Mitigation/

15. **Site Protection**.
    a. Provide proposed legal arrangements and instrument, including site ownership that will be used to ensure the long-term protection of the compensatory mitigation project site. The site protection mechanism must provide long-term protection of the compensatory mitigation site and to the extent appropriate and practicable, prohibit incompatible uses that might otherwise jeopardize the objectives of the compensatory mitigation project. Prohibited uses may include but are not limited to:
        - Clearing, cutting, and mowing of native vegetation;
        - Earthmoving, grading, filling, topography change;
        - Construction of permanent or temporary structures;
        - Mining, drilling;
        - Draining, diking;
        - Diverting or affecting the flow of surface or subsurface waters;
        - Applying herbicides or pesticides for reasons other than controlling invasive species;
        - Grazing or use by domesticated animals;
        - Use of off-road vehicles and motor vehicles; and
        - Utility lines.
    b. The *Property Assessment and Warranty* must be completed and returned to the Corps with all attachments included after a public notice has been issued for the permit application, or, if public notice is not required, upon receipt of a proposed detailed mitigation plan. (Appendix D)

16. **Long-Term Management**. Proposed ownership arrangements and long-term management strategy for the mitigation bank or in-lieu fee project sites, including potential easement holders (e.g. land trusts, watershed groups, land conservation organizations, etc.)

17. **Section 106 Consultation**. A statement regarding the presence of cultural, archaeological, and or historic resources is required (your narrative should include the name of the resources consulted, a website printout, and/or a survey report). Information regarding cultural resources and the National Historic Preservation Act can be found on the National Park Service's website: https://www.nps.gov/index.htm. Include relevant discussion on the presence of any Historic/Cultural Resources which may occur within the project site and/or within one-half mile. It is not necessary to conduct a Phase I Historic Resource Survey at this time.

18. **Section 7 Consultation**. To fulfill our obligations required under the Endangered Species Act (ESA), the Corps, through consultation with the U.S. Fish and Wildlife Service (USFWS), must evaluate the potential impact of the proposed work on listed species. You must contact the USFWS to determine the listed or proposed species that may be present in your project area. An official species list (pursuant to 50 CFR 402.12) can be obtained from the U.S. Fish and Wildlife Services' IPAC website: http://ecos.fws.gov/ipac. Provide a discussion of any existing (state or federal) threatened or endangered species or their critical habitat known to exist on or near the site and cite the source of this information as well as last year the population was documented. Include any additional relevant discussion on the presence of special biological resources and how these were evaluated (e.g., critical habitat, special aquatic sites, etc.). It is not necessary to conduct a listed species survey at this time.

Watershed Assessment Form

Overall Watershed Condition	POOR	Rater(s):
Discussion:		Date:

Purpose: This form is used to aid in the site selection process and gage a stream's restoration potential. The form includes descriptions of watershed processes and stressors that exist outside of the stream, can limit the restoration potential, and **will not** be addressed as part of the proposed project. The "watershed" is a combination of both the **catchment** draining to the stream project area and the **lateral drainage area** containing the stream. The **catchment** is the area draining to the stream's upper boundary above the project. The **lateral drainage area** is the areas draining to the stream from either side of the channel within the project boundary. Therefore, the watershed is equal to the catchment and the lateral drainage area.

WATERSHED ASSESSMENT

	Categories	Description of Watershed Condition			Rating (P/F/G)
		Poor	Fair	Good	
1	Impervious cover in Watershed (Hydrology)	Greater than 20%	Between 10% and 20%	Less than 10%	
2	Percent Land Use Change in Watershed (Hydrology)	Rapidly urbanizing/urban. Impervious cover in watershed increased by more than 5% in 5 years.	Single family homes/suburban. Impervious cover in watershed increased by less than 5% but more than 2.5% in 5 years.	Rural communities and/or slow growth area or primarily forested. Impervious cover in watershed increased by less than 2.5% in 5 years.	
3	Road Density in Watershed (Hydrology)	Roads located in or adjacent to lateral drainage area and/or throughout catchment and/or major roads proposed in 10 year DOT plans. Road Density > 2.5 miles of road length per square mile of watershed drainage area.	No roads in or adjacent to the lateral drainage area, some roads in catchment. No more than one major road proposed in 10 year DOT plans. Road Density between 1.5 and 2.5 miles of road length per square mile of watershed drainage area.	No roads in watershed. No proposed roads in 10 year DOT plans. Road Density < 1.5 miles of road length per square mile of watershed drainage area.	
4	Percent Forested in Catchment (Hydrology)	Less than 20%	Between 20% and 70%	Greater than 70%	
5	Catchment Impoundments (Hydrology) These include small dams, farm ponds, and large impoundments which are greater than 20 feet in height or structures with the capacity to have 30 acre feet in storage. These features will remain in place.	Large impoundment on the main stem or tributaries directly tied to project and/or multiple small impoundments; these impoundments limit flow in tributaries and/or the main stem throughout catchment.	No impoundments on the main stem; small impoundments on tributaries that limits flow and may affect the main stem.	No impoundments in catchment area.	
6	Catchment Forested Riparian Corridor (Geomorphology)	<50% of streams (including tributaries) within catchment has > 25 feet corridor width.	50-80% of streams (including tributaries) within catchment has > 25 feet corridor width.	>80% of contributing streams (including tributaries) within catchment has > 25 feet corridor width.	
7	Fine Sediment Deposition in Lateral Drainage Area (Geomorphology and Physicochemical)	>60% of bottom substrate affected by recent deposition; significant amount of fine material accumulating in pools, bends, bars and benches.	30-60% of bottom substrate affected by recent deposition; fine material in pools, bends and some on bars and benches.	< 30% of bottom substrate affected by recent deposition; small amount of deposition on bars and benches, little to no deposition in pools	
8	Streams within the Catchment Area Currently Assessed as Impaired (Physicochemical)	> 30% of stream miles in catchment on 303(d) list	< 30% of stream miles in catchment on 303(d) list.	No streams within catchment on 303(d) list.	
9	Agricultural Land Use in Catchment (Physicochemical)	Livestock access to stream and/or intensive cropland immediately upstream of project reach.	Livestock access to stream and/or intensive cropland upstream of project reach. A sufficient reach of stream is between agricultural land use and project reach.	There is little to no agricultural land uses or livestock and cropland within catchment causes no impact to water quality or biology.	
10	Process Wastewater Outfalls in Watershed (Physicochemical)	At least one major and several minor PWOs within the watershed and less than one mile of project reach.	A few NPDES permits within drainage area and none OR a minor one within one mile of project reach.	No NPDES permits within the lateral drainage area and none within one mile of project reach.	
11	Aquatic Organism Barriers in Watershed (Biology)	Aquatic organism barriers (including impoundment(s)) located within 1 mile upstream or downstream of project area has a negative effect on aquatic organism passage.	Barrier exists but does not adversely affect aquatic organism passage OR a small blockage exists that is creating a minor fish passage barrier.	No barrier within watershed OR barriers provide beneficial effect on project area and allows for aquatic organism passage.	
12	Organism Recruitment from Catchment (Biology)	No potential sources for organismal recruitment from upstream of project stream reach.	Potential sources for organismal recruitment 1km to 5km upstream of project stream reach.	Potential sources for organismal recruitment within 1km upstream of project stream reach.	
13	Other				

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

I. Reach Information and Stratification

Project Name:	
Reach ID:	
Upstream Latitude:	
Upstream Longitude:	
Downstream Latitude:	
Downstream Longitude:	
Ecoregion:	
Drainage Area (sq. mi.):	
Stream Reach Length (ft):	
Flow Type:	
Valley Type:	

Shading Key
Desktop Value
Field Value
Calculation

II. Reach Walk

A.

Length of Armoring on banks (ft)							
Total (ft)							
Percent Armoring (%)							

B.

Difference between BKF stage and WS (ft)	Describe the bankfull indicator

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

III. Bankfull Verification and Stable Riffle Cross Section

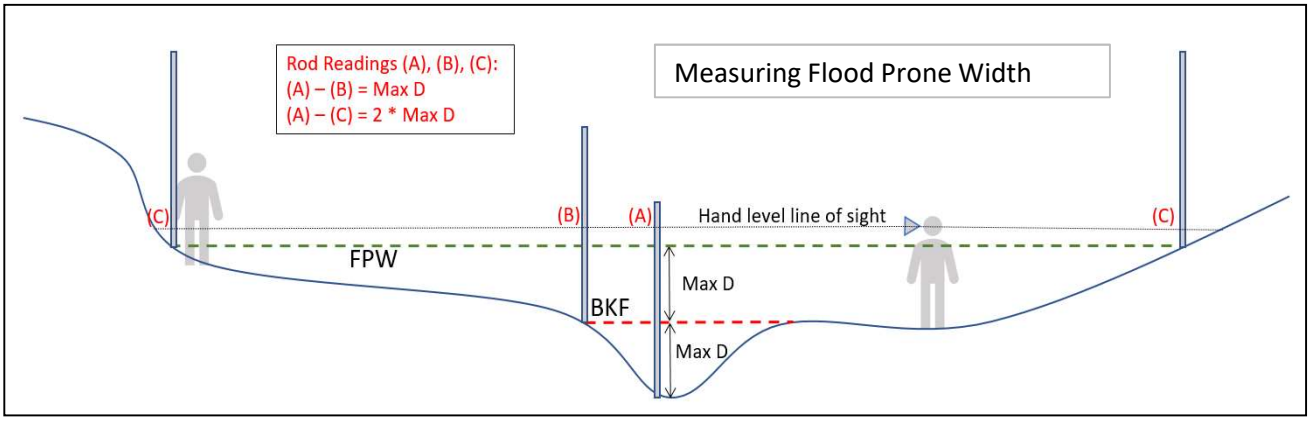
A.	Difference between BKF stage and WS (ft) *Average or consensus value from reach walk.*	
B.	Bankfull Width (ft)	
C.	Bankfull Mean Depth (ft) = Average of depth measurements	
D.	Bankfull Area (sq. ft.) Width * Mean Depth	
E.	Regional Curve Bankfull Width (ft)	
F.	Regional Curve Bankfull Mean Depth (ft)	
G.	Regional Curve Bankfull Area (sq. ft.)	
H.	Curve Used	

I.	Flood Prone Width (FPW; ft)	
J.	Entrenchment Ratio (ER)	
K.	Width Depth Ratio (WDR)	
L.	Stream Type	

Cross Section Measurements Depth measured from bankfull			
Station	Depth	Station	Depth

Quick Rosgen Stream Classification Guide (Rosgen, 1996)				
ER < 1.4		1.4 < ER < 2.2	ER > 2.2	
WDR < 12	WDR > 12	WDR > 12	WDR < 12	WDR > 12
A or G	F	B	E	C

Rosgen, D.L., 1996. Applied River Morphology, Wildland Hydrology Books, Pagosa Springs, Colorado.



Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

IV. Riffle Data (Floodplain Connectivity & Bed Form Diversity)

A.	Assessment Segment Length At least 20 x the Bankfull Width			20*Bankfull Width	

B. Bank Height & Riffle Data

	R1	R2	R3	R4	R5	R6	R7	R8
Begin Station (Distance along tape)								
End Station (Distance along tape)								
Low Bank Height (ft)								
Bankfull Max Depth (ft)								
Bankfull Width (ft)								
Flood Prone Width (ft)								
Bankfull Mean Depth (ft)								
Riffle Length (ft) *Including Run*								
Bank Height Ratio (BHR) Low Bank H / BKF Max D								
BHR * Riffle Length (ft)								
Entrenchment Ratio (ER)								
ER * Riffle Length (ft)								
WDR BKF Width / BKF Mean D								

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

IV. Riffle Data (Continued)

C.	Total Riffle Length (ft)	
D.	**Weighted BHR** $\frac{\Sigma(Bank\ Height\ Ratio_i \times \text{Riffle Length}_i)}{\Sigma Riffle\ Length}$	
E.	**Weighted ER**	
F.	**Maximum WDR**	
G.	**Percent Riffle (%)**	

V. Slope

A.

	Begin	End	Difference	Slope (ft/ft)
Station along tape (ft)				
Stadia Rod Reading (ft)				

VI. Stream Type Classification

		Assessment Segment
A.	Entrenchment Ratio (ft/ft)	
B.	Width Depth Ratio (ft/ft)	
C.	Channel Material Estimate	
D.	Stream Type (Rosgen, 1996)	

VII. Pool Data (Bed Form Diversity)

A.

	P1	P2	P3	P4	P5	P6	P7	P8
Geomorphic Pool?								
Station At maximum pool depth								
P-P Spacing (ft)	X							
Pool Spacing Ratio Pool Spacing / BKF Width	X							
Pool Depth (ft) Measured from Bankfull								
Pool Depth Ratio Pool depth/BKF mean D								

B.	Average Pool Depth Ratio		C.	Median Pool Spacing Ratio	

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

VIII. Large Woody Debris

A.	Number of Pieces per 100m	

IX. Lateral Migration

A. Bank Data

BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)

B.	Dominant BEHI/NBS Score	
C.	Total Eroding Bank Length (ft)	
D.	Total Bank Length (ft)	
E.	Percent Streambank Erosion (%) Total Eroding Bank Length/ Total Bank Length	

X. Riparian Vegetation

A.

Buffer Width	Buffer Width Measurements (ft)							Avg.
	1	2	3	4	5	6	7	
Left (looking downstream)								
Right (looking downstream)								

XI. Sinuosity

A.	Stream Length (ft)	
B.	Valley Length (ft)	
C.	Sinuosity	

Date:
Investigators:

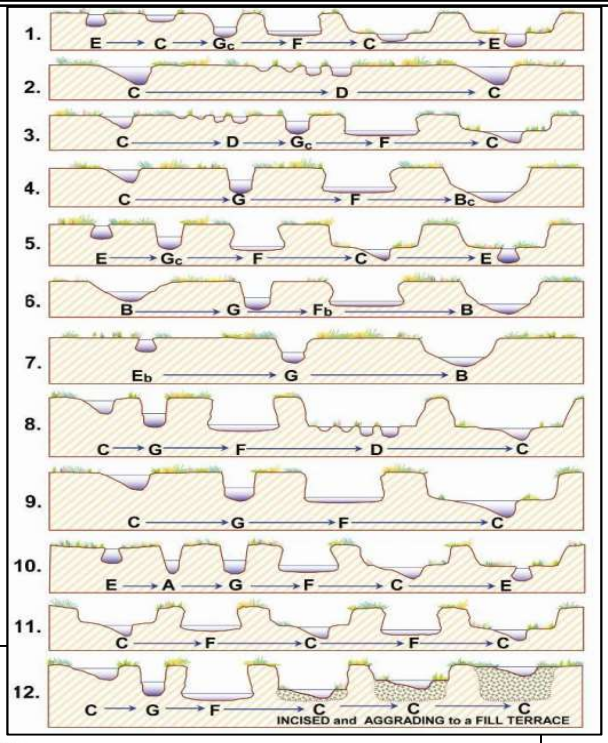
TN SQT and Debit Tool Rapid Assessment Form

Version 1.0 November 2018

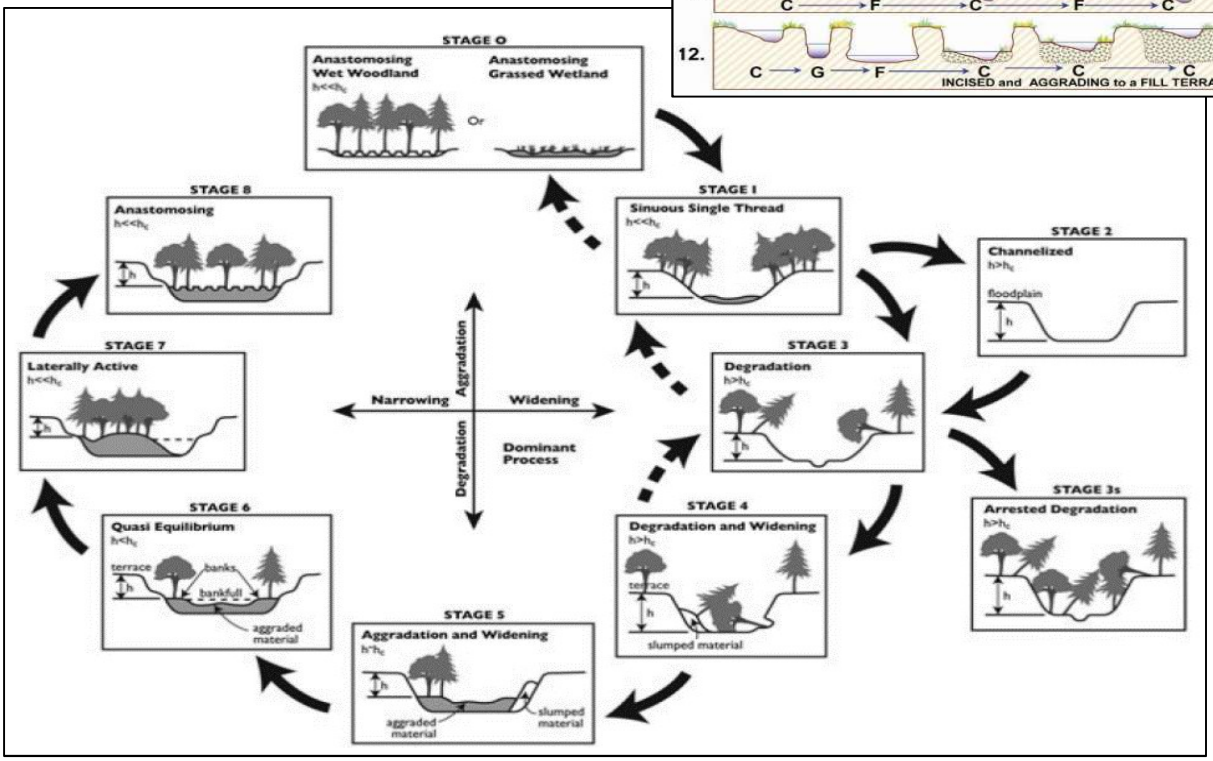
XII. Channel Evolution

A.	Rosgen Channel Type Succession	
	Simon Channel Evolution Model (Stage)	

Rosgen Channel Type



Stream Evolution Model



1 *Figure 7-48, Watershed Assessment of River Stability and Sediment Supply (WARSSS),* by David L. Rosgen, Wildland Hydrology, 2009, p. 7-175.

2 B. Cluer, C. Thorne. "A Stream Evolution Model Integrating Habitat and Ecosystem Benefits." *River Research and Applications.* 2013.

Date:
Investigators:

TN SQT and Debit Tool
BEHI/NBS Field Form

Reach ID:
Valley Type:
Bed Material:

			Bank Erosion Hazard Index (BEHI)									
Station ID	Bank Length (Ft)	Study Bank Height (ft)	BKF Height (ft)	Root Depth (ft)	Root Density (%)	Bank Angle (degrees)	Surface Protection (%)	Bank Material Adjustment	Stratification Adjustment	BEHI Total/ Category	NBS Ranking	Notes

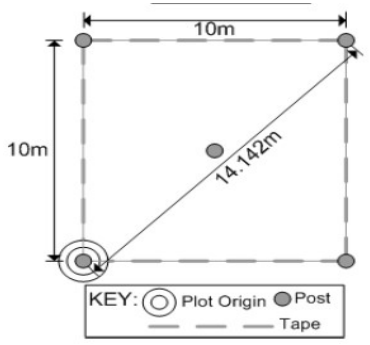
Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

Plot ID	Native Cover		Saplings DBH (cm)		Trees DBH (cm)								
	Herbaceous Strata	Shrub Strata	0 - 1	1 -2.5	2.5 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	≥40
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										

Strata	Height Range (m)	Description
Herb	0-1	Can also include shrubs within height class
Shrub	1 to 5	Shrubs only, no tree saplings

Tally Method						
	= 1	= 2	= 3	= 4	= 5	= 6
	= 7	= 8	= 9	= 10	= 11	= 12, etc.



Note: Latitude and Longitude should be recorded for the point of origin (double circle) of each plot in decimal degrees

Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.

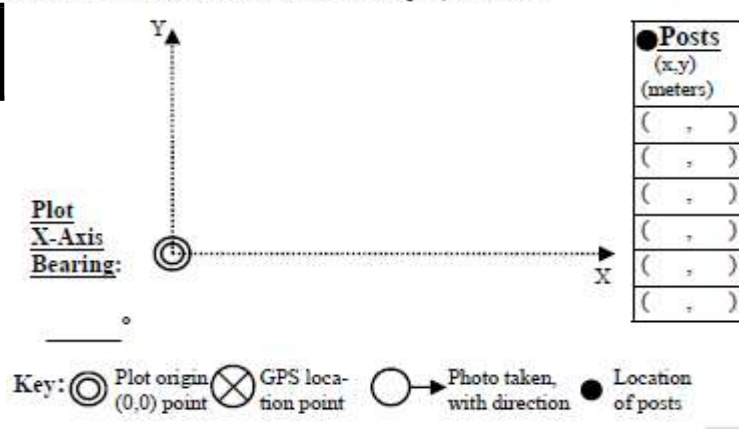
Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

Plot ID

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Plot ID

PLOT DIAGRAM:

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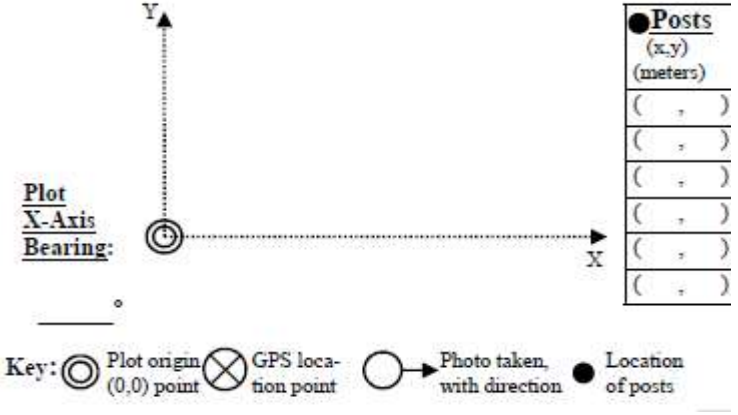
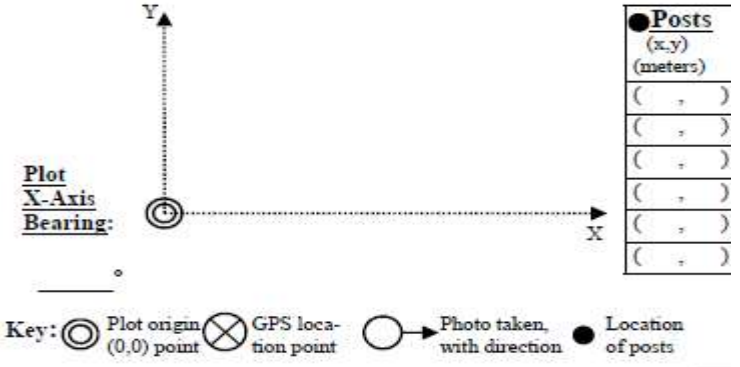


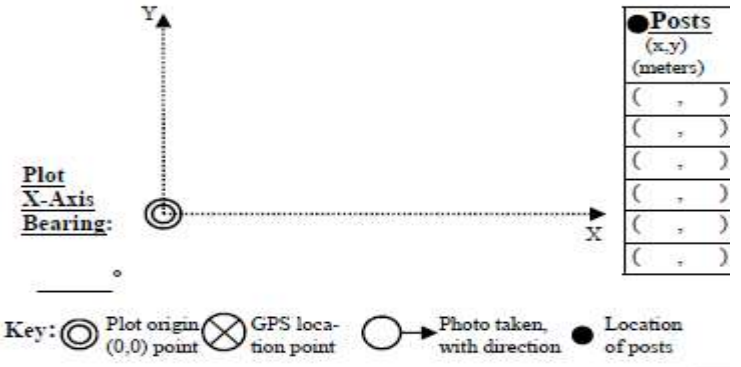
PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.

US Army Corps of Engineers ®
Nashville District

Components of a Complete Waters of the U.S. Delineation Report

February 2017

In Nashville District, wetland delineations submitted to the U.S. Army Corps of Engineers (USACE) shall be conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the appropriate supplement for the project site, either the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0 (April 2012),* or *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0 (November 2010).* The applicable Regional Supplements for the Nashville District can be downloaded at:

http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx

Please submit a complete *Nashville District Request for a Jurisdictional Determination Worksheet* (Appendix 1) with the delineation report.

A complete waters of the U.S. delineation report should include:

1. Current property owner contact information, the person(s) who authorized the delineation, and the person(s) who conducted the delineation.
2. The purpose the delineation was conducted (i.e. residential development).
3. Date of the site visit(s) with information on tasks performed on those dates.
4. Recent weather conditions and conditions during the delineation.
5. A vicinity map showing the project location and text identifying the street address, latitude/longitude, and section/township/range (A 7.5-minute USGS Quadrangle basemap is preferred).
6. Wetland Determination Data Forms: The most current wetland determination data forms from the appropriate Regional Supplement should be used.
    a. At least one paired sampling plot located close enough to either side of the wetland boundary should be prepared for each wetland to substantiate the delineated wetland boundary location.
    b. If the study area does not contain wetlands, at least one data form should be completed in each of the lowest topographic areas or other locations most likely to contain wetlands to document site conditions.
    c. Use binomial names of plants (vs. only using common names on the data forms).
7. A site map (both on USGS Quadrangle and aerial imagery) identifying the delineated water boundaries and the locations of all sampling plots (for large and/or complex projects, a large scale [1":400' to 1":100'] with overlays displaying site property and water boundaries is helpful).
    a. North arrow, title block with date, scale, drawing number, revision dates, roads, and waterway names.
    b. Survey area boundary and size (e.g. 50 acres) for the delineation should be clearly depicted on the map.
    c. Each separate water labeled (e.g. Wetland A, Stream 1, etc.) on the map and in the report text.
    d. Streams should be labeled with transition points; ephemeral/intermittent transition points should be labeled as E/I, intermittent/perennial transition points labeled as I/P. Provide longitude and latitude in decimal degrees (NAD 83) for each stream transition point.
    e. Clearly show location and extent of all areas potentially meeting the criteria for waters of the U.S., including special aquatic sites (e.g., wetlands, sanctuaries and refuges, mudflats, vegetated shallows, and riffle and pool complexes), and/or navigable waters. Each type of boundary (e.g., ordinary high water mark [OHWM], wetlands or other special aquatic sites) must be clearly annotated and/or symbolized to ensure they are distinct on the map.
8. A completed waters table (see Appendix 2). A table with stream lengths, widths (distances between OHWMs), and acres, wetland acreage, and longitude and latitude in decimal degrees (NAD 83) indicating the center point for wetlands and transition points and the beginning (headwaters point) of jurisdiction for streams, and special aquatic sites. Total stream lengths for each flow regime, ponds/impoundments acreage and names of receiving streams are required.

9. Describe the wetland delineation methodology used (e.g. routine, comprehensive, or atypical), or if "Difficult Wetland Situations" procedures were used and why.
10. Describe the approach used to delineate the streams, special aquatic sites[1], and other waters of the U.S.
    a. The memorandum *"Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States*[2]" provides guidance implementing the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States.
    b. Regulatory Guidance Letter (RGL) 05-05[3] provides a list of physical characteristics which should be considered when making an OHWM determination.
11. Photographs representative of each aquatic resource on-site. Up and down stream photographs should be provided at each flow regime break for streams. More than one photograph should be provided if a wetland is characterized by more than one (1) vegetative community. Photographs should be clearly labeled with captions to include the date, location of photograph, direction of view (i.e. looking upstream/downstream), and precisely what the photograph is intended to depict.
12. A description of the site including mapped and observed vegetation, soils, hydrologic characteristics, and topography. This should include all waterbodies (e.g., ditches, streams, rivers, ponds, lakes, wetlands, etc.)
13. A summary of information used in making the wetland determination. Information sources consulted should be listed in a "References Cited" section of the report. The following are examples of potential sources of information:
    - Aerial photos
    - Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
    - Local experts
    - Local wetland inventories and soil surveys
    - National Wetland Inventory (NWI) map (see USFWS website: http://www.fws.gov/wetlands/)
    - Plant Lists (preferably a wetland plant list with the indicator status)
    - Precipitation records (see WETS table data on the NRSC website: http://www.wcc.nrcs.usda.gov/)
    - Previous site documentation and analysis (e.g., environmental checklist, prior delineation, etc.)
    - Scientific literature
    - Stream and tidal gage data
    - USGS land use and land cover maps
    - USGS quadrangle map (or other topographic map of the area)
14. A narrative description of results and conclusions, including characteristics and acreage of each area of wetland and non-wetland waters and the rationale for the wetland boundary line/s.

The following items should be submitted/completed before the field site visit*:

1. Written Permission from the current landowner to access the property for the purpose of making the jurisdictional determination.
2. Flag the beginning and end of each "water" and provide coordinates. For wetlands, the boundaries of the wetland should be flagged and each sample plot point should be flagged.
3. For streams: Flag flow regime transition points and the beginning (headwaters point) of jurisdiction (Must have coordinates of beginning and end of OHWM of each tributary.)
4. Label streams with numbers; unique identifiers. Wetlands should be identified with letters (i.e. wetland A-wetland Z).

*The person(s) who performed the delineation should be available for the field verification.

[1] The definition of special aquatic sites is found in 40 CFR §230.3(q–1) and includes sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs and riffle pool complexes.
[2] http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/cwa_guide/cwa_juris_2dec08.pdf
[3] http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl05-05.pdf

US Army Corps of Engineers ®
Nashville District

Appendix 1
Nashville District Request for a Jurisdictional Determination Worksheet

February 2017

If you are interested in requesting a jurisdictional determination, please supply the information requested in Appendix 1 - "Request for Corps Jurisdictional Determination (JD)," and the supporting documents described below. It must be signed by the property owner to be considered a formal request. We require original signatures; faxes are not acceptable. Submitting this request authorizes the U.S. Army Corps of Engineers (USACE) to field inspect the property site, if necessary, to help in the determination process. The USACE may also request a delineation of water resources on a property to be submitted. The printed "Request for Corps jurisdictional determination" worksheet and supporting documents should be mailed to:

U.S. Army Corps of Engineers
Nashville District
Regulatory Division
3701 Bell Road
Nashville, TN 37214
Phone: (615) 369-7500

MAPS: Please provide a map or plat (aerial photo, city or county map, soil survey photo, USGS Quad map, etc.) that accurately identifies the physical boundaries of the property. If the property is farmland, it may be necessary for you to contact the Natural Resources Conservation Service for a wetland delineation before you can request a jurisdictional determination.

If you are considering doing work on the property, please identify on a map or in a separate drawing the footprint, location, type of potential work, and water resources. This information will assist us in the determination process and reduce unnecessary delays of processing subsequent permits, if required.

OPTIONAL DOCUMENTATION: Photographs can greatly assist in the review process and often make a field visit unnecessary. We must see complete coverage of the property and/or the water resource in question, including the grass and trees. If the property and/or the water resource in question are to be surveyed or delineated, we suggest waiting for the survey or delineation to be completed and include a copy with your request. Any other data you can include may help, such as land use or cropping history for the past five years, drainage improvements, etc.

Preliminary Jurisdictional Determinations (PJDs) and Approved Jurisdictional Determinations (AJDs) are tools used by the USACE to help implement Section 404 of the Clean Water Act (CWA) and Sections 9 and 10 of the Rivers and Harbors Act of 1899 (RHA). Both types of JDs specify what geographic areas will be treated as subject to regulation by the USACE under one or both statutes.

Regulatory Guidance Letter (RGL) 16-01[4] issued October 2016, explains the differences between these two types of JDs and provides guidance to the field and the regulated public on when it may be appropriate to issue a PJD as opposed to an AJD. Simply put, it encourages discussions between USACE districts and parties interested in obtaining the USACEs views on jurisdiction to ensure that all parties have a common understanding of the different options for addressing CWA and RHA geographic jurisdiction so that the most appropriate mechanism for addressing the needs of a person requesting a JD can be identified.

[4] http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Guidance-Letters

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: U.S. Army Corps of Engineers, Nashville District, Regulatory Division

- I am requesting a JD on property located at: _____
  (Street Address)
  City/Township/Parish: _____ County: _____ State: _____
  Acreage of Parcel/Review Area for JD: _____
  Section: _____ Township: _____ Range: _____
  Latitude (decimal degrees): _____ Longitude (decimal degrees): _____
  (For linear projects, please include the center point of the proposed alignment.)

- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
  ☐ I currently own this property. ☐ I plan to purchase this property.
  ☐ I am an agent/consultant acting on behalf of the requestor.
  ☐ Other (please explain): _____

- Reason for request: (check as many as applicable)
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ☐ A Corps JD is required in order to obtain my local/state authorization.
  ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ☐ I believe that the site may be comprised entirely of dry land.
  ☐ Other:): _____

- Type of determination being requested:
  ☐ I am requesting an approved JD.
  ☐ I am requesting a preliminary JD.
  ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: _____ Date: _____

- Typed or printed name: _____

  Company name: _____

  Address: _____

  _____

  Daytime phone no.: _____

  Email address: _____

***Authorities**: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

US Army Corps of Engineers ®
Nashville District

Appendix 2
Waters of the U.S. Delineation Report
Waters Table

February 2017

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable	Type of aquatic resource (i.e. wetland vs. non-wetland)	Receiving Water	Notes
Stream 1 – Ephemeral	35.61596	- 85.34222	Length: 354 lf Width: 1 foot Acres: 0.008 ac	Non-wetland	UT to Cane Creek	Riverine - Ephemeral; Beginning of jurisdiction
Stream 1- Intermittent	35.61910	- 85.33398	Length: 894 lf Width: 3 foot Acres: 0.06 ac	Non-wetland	UT to Cane Creek	Ephemeral to intermittent transition point
Stream 1- Perennial	35.62252	- 85.32990	Length: 1,261 lf Width: 6 foot Acres: 0.17 ac	Non-wetland	UT to Cane Creek	Intermittent to perennial transition point
Special Aquatic Site; Stream 1- Pool and Riffle Complex	35.62461	- 85.32681	NA	Non-wetland	UT to Cane Creek	Pool and Riffle Complex – 80 lf
Wetland A	35.62384	- 85.31891	NA	Wetland	Cane Creek	Palustrine Forested
Pond / Impoundment A	35.60577	- 85.35458	6.4 ac	Non-wetland	Meadow Creek	Impoundment of Meadow Creek
Special Aquatic Site; Impoundment A - Vegetated Shallows	35.60521	-85.36042	Length: 150 lf Width: 8 foot Acres: 0.02 ac	Non-wetland	Meadow Creek	Vegetated Shallows in Impoundment A

NOTE: ***The following Property Assessment and Warranty is provided by the U.S. Army Corps of Engineers, Nashville District, as a standard template document for compensatory mitigation projects. The Property Assessment and Warranty must be completed and returned to the Corps with all attachments included after a public notice has been issued for the permit application, mitigation bank prospectus or in-lieu fee project proposal, or, if public notice is not required, upon receipt of a proposed detailed mitigation plan. The Property Assessment and Warranty, including the attachments and documents incorporated by reference in it and any amendments thereto, must be attached as an exhibit to the final mitigation plan or mitigation banking instrument, as applicable. Any modifications to this template must be identified using track changes or other electronic comparison and explained in an attached addendum. This template should not be construed or relied upon as legal advice or opinion on any specific facts or circumstances. (Template Version Date: January 29, 2018)***

PROPERTY ASSESSMENT AND WARRANTY

This Property Assessment and Warranty ("Property Assessment") is made as of this ___ day of _____, 20__, by ***[insert full legal name(s) of property owner(s)]*** ("Property Owner"), for the benefit of the ***[insert if an in-lieu fee program or mitigation bank:*** Interagency Review Team ("IRT") chaired by the***/*** Nashville District of the U.S. Army Corps of Engineers ("Corps"). Property Owner acknowledges that this Property Assessment and the statements in it may be conclusively relied upon by ***[choose the former if permittee-responsible mitigation; the latter if an ILF program or mitigation bank:*** the Corps ***or*** the IRT***/*** in approving ***[choose one:*** the permit application for the _____ Project ***or*** the Department of the Army Permit No. _____ ***or*** the _____ Project as an amendment to the _____ In-Lieu Fee (Stream/Wetland) Mitigation Program ***or*** the Mitigation Banking Instrument ("MBI") for the _____ Bank***/***.

This Property Assessment provides a summary and explanation of each recorded or unrecorded lien or encumbrance on, or interest in, the Protected Property (as defined below), including, without limitation, each exception listed in the Preliminary Report issued by ***[insert title company name]***, ***[insert title report date]***, ***[insert title report number]*** (the "Preliminary Report"), covering the Protected Property, as described in **Attachments 1 and 2** attached hereto and incorporated by this reference. Specifically, this Property Assessment includes a narrative explaining each lien, encumbrance, interest or other exception to title and the manner in which it may affect the conservation easement to be recorded against the Protected Property (the "Conservation Easement") pursuant to the ***[choose one:*** approved mitigation plan ***or*** MBI***/***.

Property Owner covenants, represents, and warrants to ***[choose one:*** the Corps ***or*** each of the IRT members***/*** as follows:

1. Property Owner is the sole owner in fee simple of certain real property containing approximately _____ acres located at ***[insert address]*** in _____ County, State of _____, designated as Assessor's Parcel Number(s) ***[insert parcel number(s)]*** (the

"Protected Property"), as legally described in the Preliminary Report. Property Owner has, and, upon the recordation of the Conservation Easement, Property Owner will have, good, marketable and indefeasible fee simple title to the Protected Property subject only to any exceptions approved in advance of recordation, in writing, by the ***[choose one:*** the Corps ***or*** the IRT***]***.

2. The Protected Property is available to be burdened by the Conservation Easement for the conservation purposes identified in the Conservation Easement, in accordance with the ***[choose one:*** approved mitigation plan ***or*** MBI***]***.

3. The Protected Property includes legal access to and from ***[insert name of public street or road]***. ***[Note: if special access rights are required to reach the Protected Property, those access rights must also be addressed in this Property Assessment.]***

4. A true, accurate and complete listing and explanation of each recorded or unrecorded lien or encumbrance on, or possessory or non-possessory interest in, the Protected Property is set forth in **Attachment 3**, attached to and incorporated by reference in this Property Assessment. Except as disclosed in **Attachment 3**, there are no outstanding mortgages, liens, encumbrances or other interests in the Protected Property (including, without limitation, mineral interests). **Attachment 4**, attached hereto and incorporated in this Property Assessment by reference, depicts all relevant and plottable property lines, easements, dedications, etcetera, on the Protected Property.

5. Prior to recordation of the Conservation Easement, Property Owner will certify to the ***[choose one:*** the Corps ***or*** the IRT***]*** in writing that this Property Assessment remains true, accurate and complete in all reports.

6. Property Owner has no knowledge or notice of any legal or other restrictions upon the use of the Protected Property for conservation purposes, or affecting its Conservation Values, as described in the Conservation Easement, or any other matters that may adversely affect title to the Protected Property or interfere with the establishment of a mitigation ***[choose one:*** project ***or*** bank***]*** thereon.

7. Property Owner has not granted any options, or committed or obligated to sell the Protected Property or any portion thereof, except as disclosed in writing to and agreed upon in writing by the ***[choose one:*** the Corps ***or*** the IRT***]***.

8. The following attachments are incorporated by reference in this Property Assessment.
    a. Attachment 1 – Preliminary Report;
    b. Attachment 2 – Encumbrance Documents;
    c. Attachment 3 – Summary and Explanation of Encumbrances; and
    d. Attachment 4 – Map(s)

[Note: Attachment 2 must include copies from the official records of the office of the county register of deeds setting forth all recorded exceptions to title (e.g., leases or easements). Attachment 4 must include (a) map(s) illustrating the area of the Protected Property affected by each exception to title.]

PROPERTY OWNER

_____ _____

[Insert property owner full legal name(s)] Date

[*Include notary information, stamp and signature*.]

ATTACHMENT 3
Sample format for the Summary and Explanation of Encumbrances

MONETARY LIENS

Note: Any deeds of trust or other monetary lien(s) must be released or subordinated to the Conservation Easement by a recorded subordination agreement approved by the Corps for permittee-responsible mitigation or the IRT for an in-lieu fee project or mitigation bank.

- Preliminary Report Exception or Exclusion No.:
- Amount or obligation secured:
- Term:
- Date:
- Trustor:
- Trustee:
- Beneficiary:
- Description:
- ____ acres of Protected Property subject to lien
- ____ acres of Protected Property *not* subject to lien

EASEMENTS AND RIGHTS OF WAY

- Preliminary Report Exception or Exclusion No.:
- Date:
- Grantor:
- Grantee:
- Holder (if different than Grantee):
- Description:
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to easement
- ____ acres of Protected Property *not* subject to easement

LEASES

- Preliminary Report Exception or Exclusion No.:
- Date:
- Landlord/Lessor:
- Tenant/Lessee:
- Premises:
- Term:
- Description:
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to lease

- ____ acres of Protected Property *not* subject to lease

COVENANTS, CONDITIONS, RESTRICTIONS AND RESERVATIONS

- Preliminary Report Exception or Exclusion No.:
- Dated:
- Grantor or Declarant:
- Grantee (if applicable):
- Description:
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to exception/exclusion
- ____ acres of Protected Property *not* subject to exception/exclusion

OTHER INTERESTS (INCLUDING MINERAL OR OTHER SEVERED INTERESTS)

- Holder:
- Description: [*must address whether or not the interest includes any surface rights and, if applicable, a description of those rights*]
- Analysis: [*whether or how this exception will affect the Conservation Easement or the Conservation Values of the Protected Property*]
- ____ acres of Protected Property subject to interest
- ____ acres of Protected Property *not* subject to interest