

SEC, Inc.

SITE ENGINEERING CONSULTANTS

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April 21, 2022

Division of Water Resources
Tennessee Department of Environment and Conservation (TDEC)
711 R.S. Gass Boulevard
Nashville, TN 37126

RE: Hydrological Determination (HD) Report – Yeargan Property, 7598 Highway 99, Rockvale, Rutherford County

On April 6th and 8th, 2022 Site Engineering Consultants, Inc. conducted an HD investigation on the Yeargan Property located at 7598 Highway 99 in Rockvale, TN. General coordinates for the site are 35.774031, - 86.521573. Coordinates for the entrance are 35.772114, - 86.515329. Billy Plant (TN QHP 1207-TN21) of Site Engineering Consultants, Inc. conducted the investigation and prepared the attached report.

The area evaluated in the present report is 148(+/-) acres of fields and woodland. Thirteen hydrologic features were identified and are listed in the table on the following page. The property is adjacent to Snail Shell Cave and as such the western end boasts numerous depressions and karst features. Only those features with channels draining to them were included in this report.

The property is owned by Woodson-Yeargan Properties, LLC of which entity Adam Lightbody is a member. Steve Pierce of Middle Tennessee Developers, LLC will serve as contact for the property. He can be contacted at Steve.Pierce@midtenndev.com or by phone at (615)293-6550. Mr. Lightbody has signed letters of permission to access the property and these are included in this report.

All information submitted is true, accurate, and complete to the best of my knowledge. Please contact me via cell phone or email if you have any questions.

Sincerely,



Billy Plant

Feature	Size	Location/Begin	End
STM-1	1609'	35.775244, - 86.515567	35.772140, - 86.518589
STM-2	121'	35.774493, - 86.516941	35.774600, - 86.516632
WWC-1/ephemeral	64'	35.774544, - 86.516112	35.774681 - 86.516078
WWC-2/intermittent	171'	35.773448, - 86.517611	35.773803, - 86.517810
WWC-3/ephemeral	48'	35.773688, - 86.517921	35.773763, - 86.517814
WWC-4	30'	35.774661, - 86.516762	35.774614, - 86.516701
WWC-5/ephemeral	360'	35.774489, - 86.517579	35.774668, - 86.516514
WWC-6	119'	35.775522, - 86.523414	35.775604, - 86.523652
WWC-7	110'	35.775809, - 86.524031	35.775604, - 86.523652
WWC-8	136'	35.775288, - 86.528214	35.775060, - 86.527915
WWC-9	214'	35.775516, - 86.527016	35.775079, - 86.527273
WWC-10	864'	35.773029, - 86.522474	35.773432, - 86.520049
PND-1	0.3 acre/201'	35.773811, - 86.528339	
Sinkhole 1	250 sq. ft.	35.773151, - 86.517500	
Sinkhole 2	345 sq. ft.	35.773267, - 86.517176	
Sinkhole 3	1662 sq. ft.	35.775060, - 86.527915	
Sinkhole 4	3875 sq. ft.	35.775035, - 86.527366	

HYDROLOGIC DETERMINATION REPORT

Yeargan Property
Lat: 35.774031
Long: - 86.521573

Prepared by
Billy Plant

Contents:

- 1) Topographic vicinity map showing site location
- 2) Hydrological determination features map
- 3) Soils Map
- 4) HD field data sheets and photos
- 5) Normal weather conditions calculation
- 6) Letter of permission

SEC, Inc.

SITE ENGINEERING CONSULTANTS

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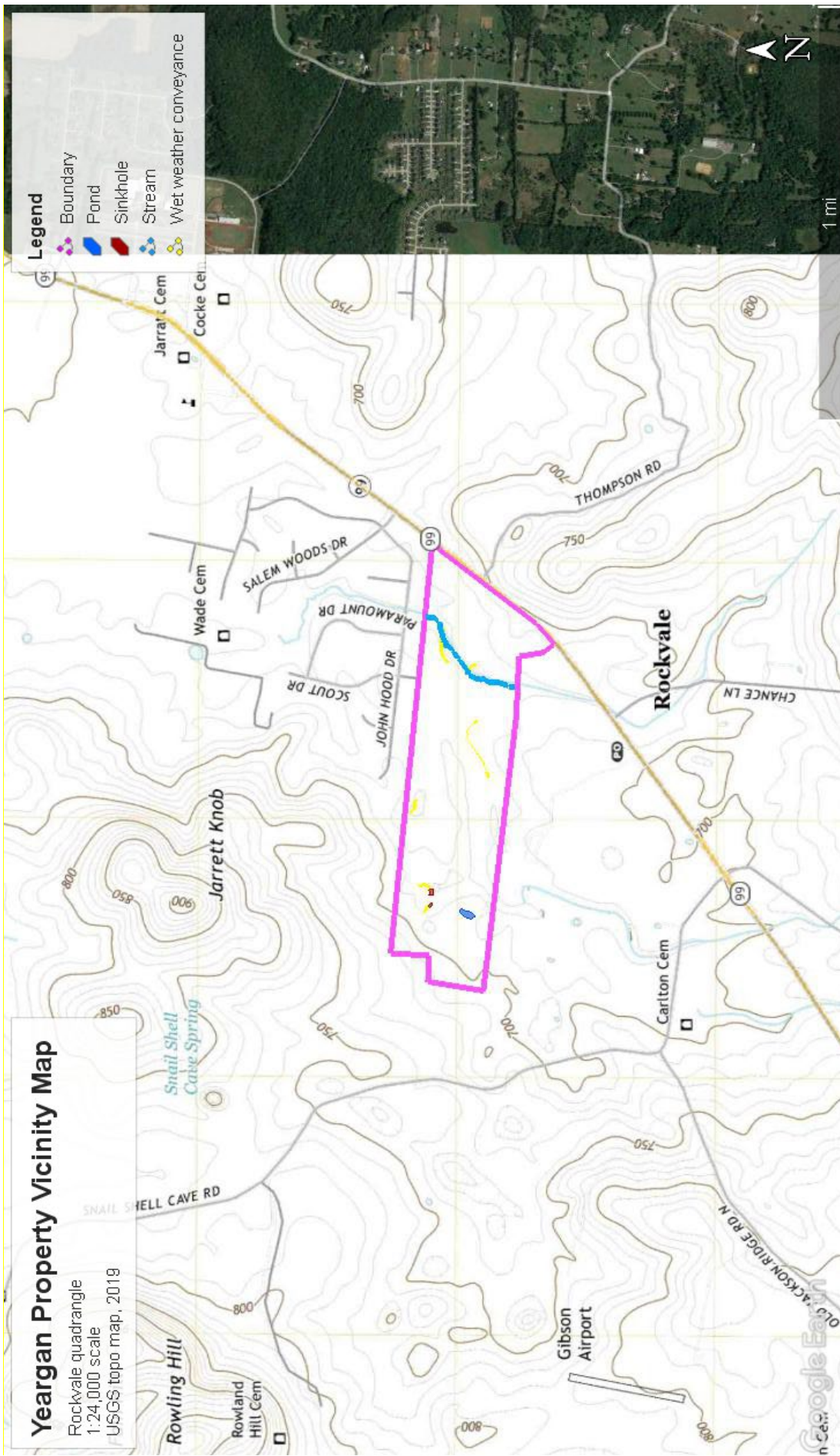
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129

PHONE (615) 890-7901

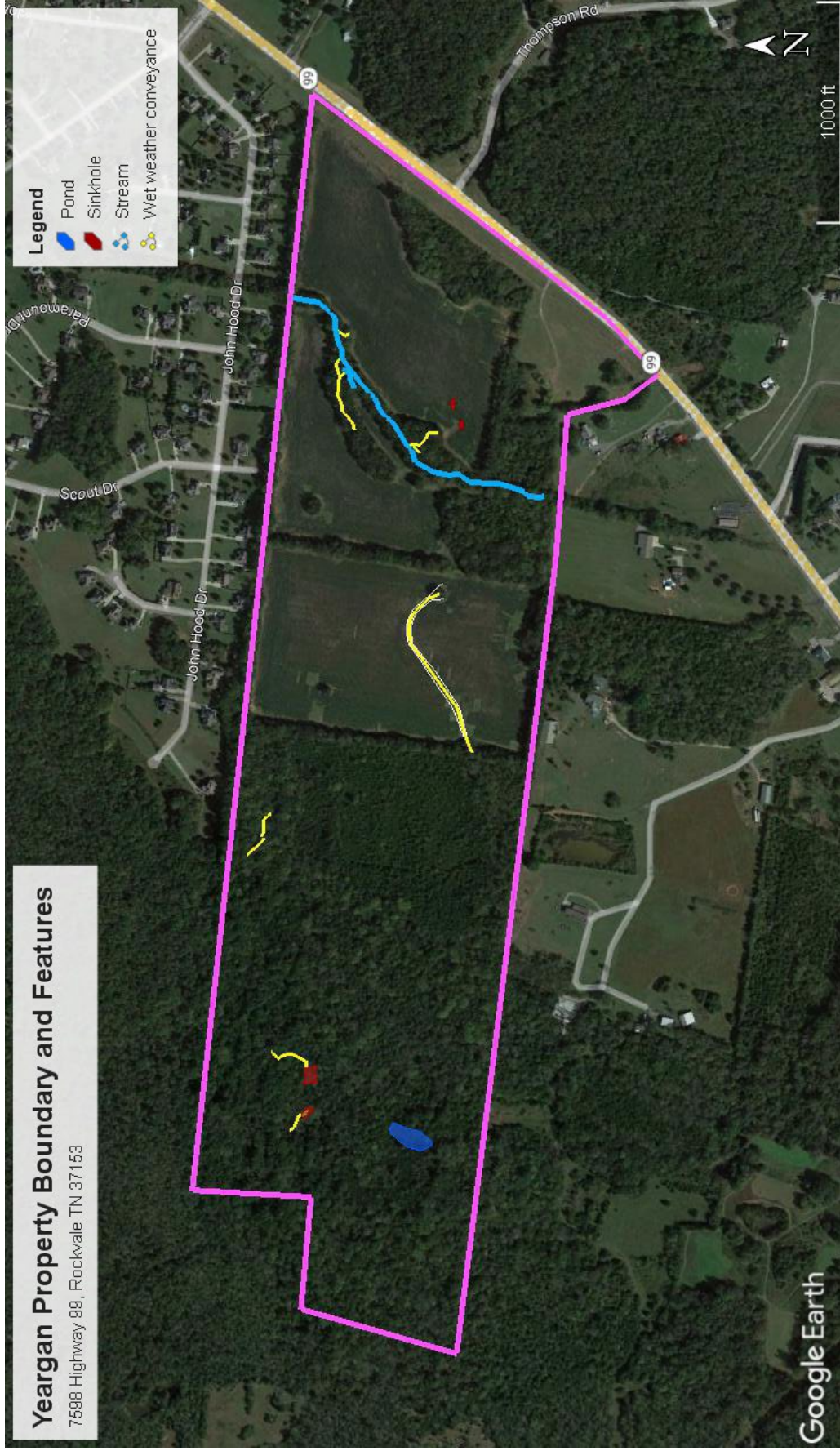
WWW.SEC-CIVIL.COM

TOPOGRAPHIC VICINITY MAP

Rockvale quadrangle
1:24,000 scale
USGS topo map, 2019

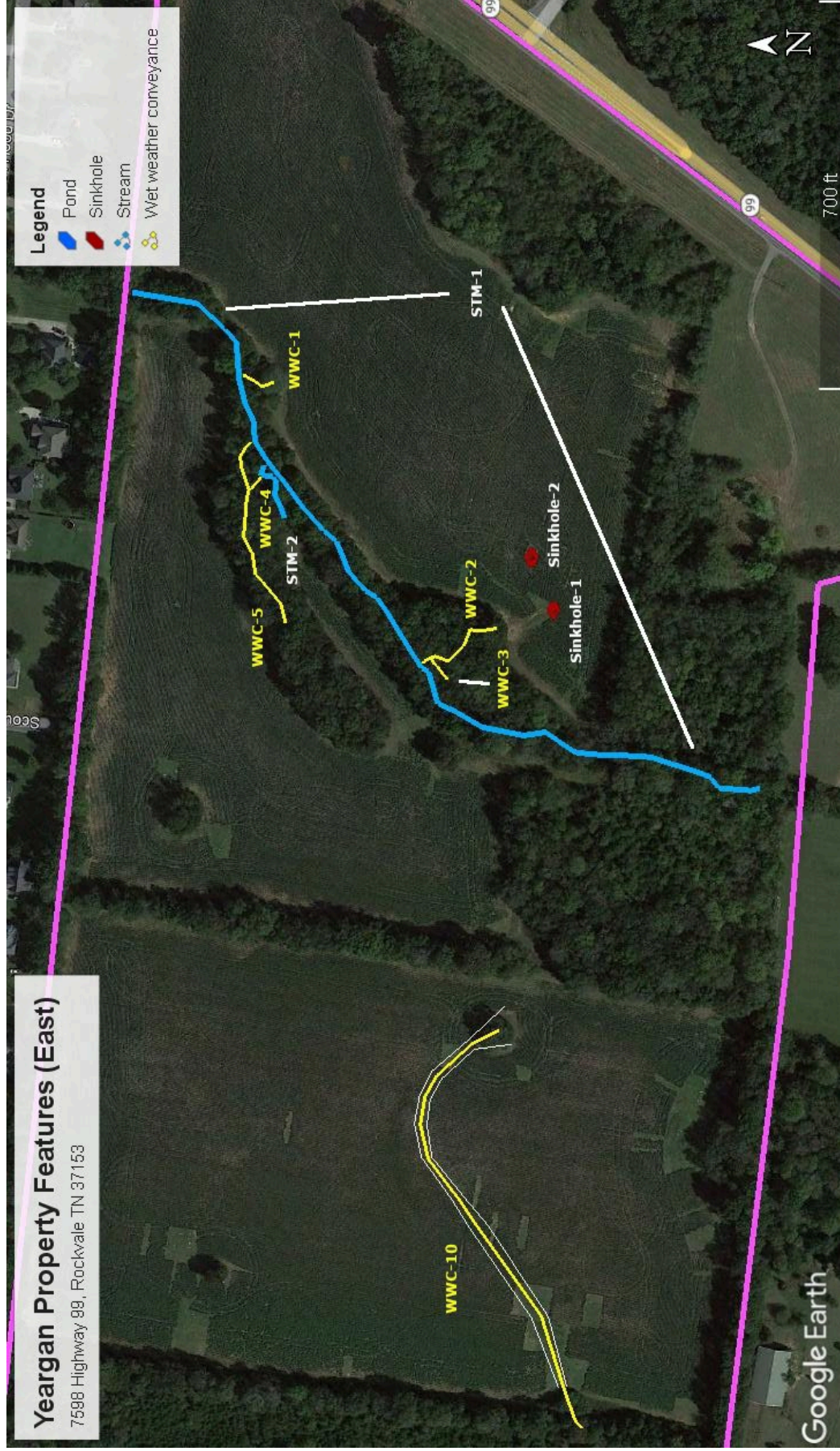


HYDROLOGICAL DETERMINATION FEATURES MAP



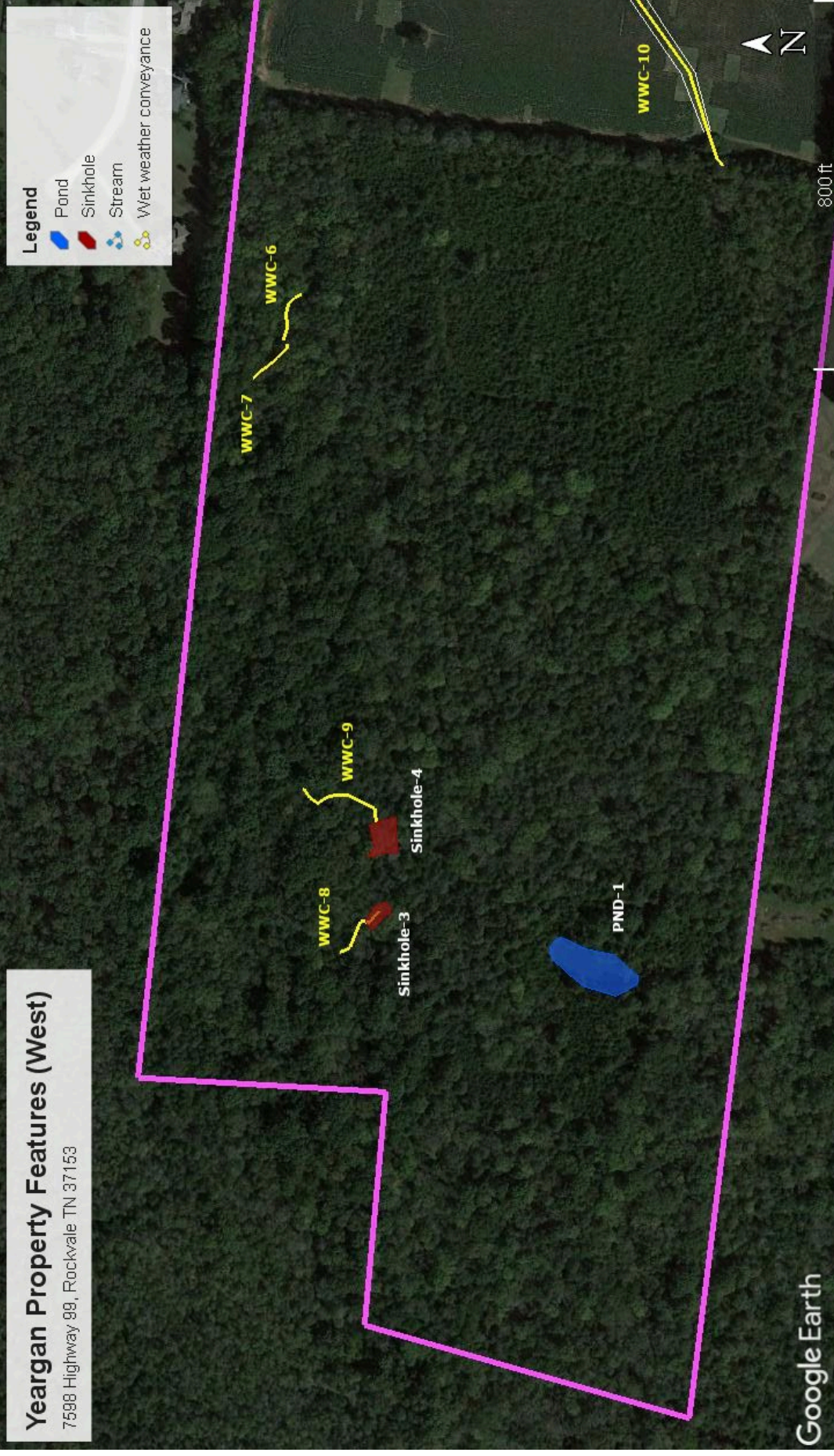
Yeargan Property Features (East)

7598 Highway 99, Rockvale TN 37153



Yeargan Property Features (West)

7598 Highway 98, Rockvale TN 37153

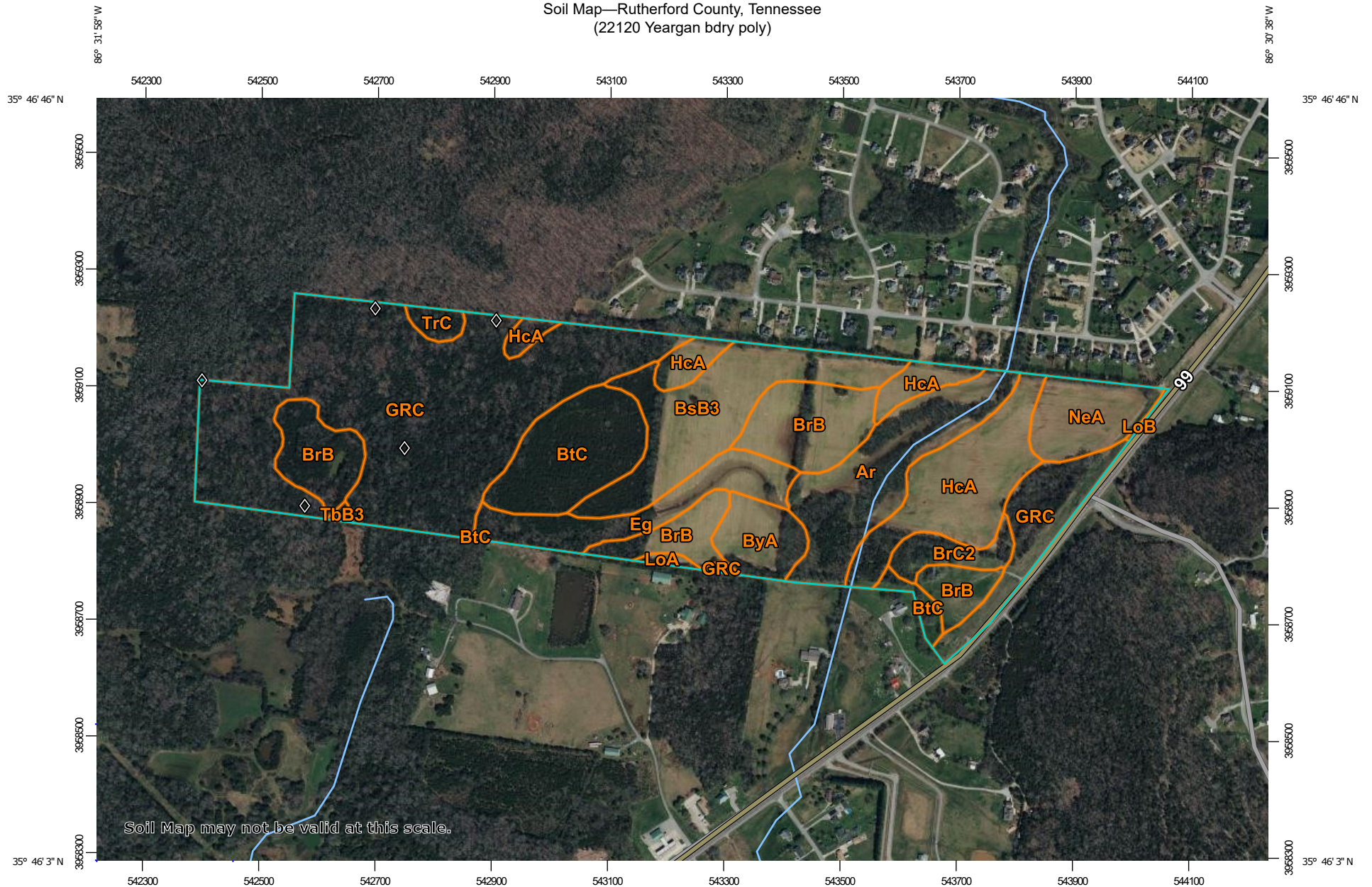


Google Earth

SOILS MAP

Source:
USDA NRCS Web Soil Survey

Soil Map—Rutherford County, Tennessee (22120 Yeargan bdry poly)



Soil Map may not be valid at this scale.

Map Scale: 1:9,220 if printed on A landscape (11" x 8.5") sheet.

0 100 200 400 600 Meters

0 400 800 1600 2400 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

4/4/2022
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rutherford County, Tennessee

Survey Area Data: Version 18, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2021—Apr 20, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ar	Arrington silt loam, 0 to 2 percent slopes, occasionally flooded	12.9	8.9%
BrB	Bradyville silt loam, 2 to 5 percent slopes	17.6	12.2%
BrC2	Bradyville silt loam, 5 to 12 percent slopes	2.8	2.0%
BsB3	Bradyville silty clay loam, 2 to 5 percent slopes, severely eroded	13.9	9.6%
BtC	Bradyville-Rock outcrop complex, 2 to 12 percent slopes	11.0	7.6%
ByA	Byler silt loam, 0 to 2 percent slopes	4.3	3.0%
Eg	Egam silt loam	7.7	5.3%
GRC	Gladeville-Rock outcrop complex, 2 to 15 percent slopes, extremely stony	51.0	35.2%
HcA	Harpeth silt loam, 0 to 2 percent slopes	15.9	11.0%
LoA	Lomond silt loam, 0 to 2 percent slopes	0.4	0.3%
LoB	Lomond silt loam 2 to 5 percent slopes	0.1	0.1%
NeA	Nesbitt silt loam, 0 to 2 percent slopes	5.8	4.0%
TbB3	Talbott silty clay loam, 2 to 5 percent slopes, severely eroded	0.2	0.1%
TrC	Talbott-Barfield-Rock outcrop complex, 2 to 12 percent slopes	1.1	0.8%
Totals for Area of Interest		144.8	100.0%

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Yeargan Property City/County: Rockvale/Rutherford Sampling Date: 4-8-2022
Applicant/Owner: Steve Pierce State: TN Sampling Point: PND-1
Investigator(s): Billy Plant TNQHP 1207-TN21 Section, Township, Range:
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2-5
Subregion (LRR or MLRA): LRR N Lat: 35.773811 Long: - 86.528339 Datum: WGS84
Soil Map Unit Name: Bradyville silt loam (BrB) NWI classification: PUBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland excavated pond. No outfall. Full of water. Berm and surrounding forest dominated by small cedars. Frogs present	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Sample point just outside excavated area. 35.773930, - 86.528463		

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: PND-1

Tree Stratum (Plot size: <u>20' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juniperus virginiana</u>	90	Y	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)
2. <u>Fraxinus americana</u>	5		FACU	
3. <u>Diospyros virginiana</u>	5		FAC	
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = FACW species <u> </u> x 2 = FAC species <u> </u> x 3 = FACU species <u> </u> x 4 = UPL species <u> </u> x 5 = Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A =
Sapling Stratum (Plot size: <u>20' radius</u>)				
1. <u>Juniperus virginiana</u>	50	Y	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
<u>50</u> = Total Cover				
Shrub Stratum (Plot size: <u>10' radius</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ostrya virginiana</u>	30	Y	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>10x10</u>)				Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
1. <u>Ostrya virginiana</u>	40	Y	FACU	
2. <u>Potentilla simplex</u>	5		FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' radius</u>)				Hydrophytic Vegetation Present? Yes <u> </u> No <input checked="" type="checkbox"/>
1. <u>Berchemia scandens</u>	10	Y	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
<u>10</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

 Does not pass the dominance test

 Sample point just outside excavated area. 35.773930, - 86.528463

SOIL

Sampling Point: PND-1

[illegible]



PND-1 – looking south, near sample point

35.773930, - 86.528463



PND-1 – sample site, looking west

35.773930, - 86.528463



PND-1 – upland soil

0-12" 100% 10YR 3/4

35.773930, - 86.528463

FIELD DATA SHEETS

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : STM-1
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.772140, -86.518589
Previous Rainfall (7-days) : 0.93"		End: 35.775244, -86.515567
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream

Secondary Indicator Score (if applicable) = 26.5

Justification / Notes :

Feature flows onto property from the north at old rock wall. Generally straight and flat, water deep at times. In pools in lower reach. No flow. May go underground at some limestone outcrops.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 13.0)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	X 1.5	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 4.0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	X 1.5	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 26.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

3) greater in lower reach

4) greater in lower reach

24) frogs and tadpoles



STM-1 – looking south where stream enters property

35.772140, - 86.518589



STM-1 – looking SW, no standing water in bed morning after rain

35.773657, - 86.518114



STM-1 – looking south where stream exits property

35.775244, - 86.515567

Hydrologic Determination Field Data Sheet
Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : STM-2
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.774493, -86.516941
Previous Rainfall (7-days) : 0.93"		End: 35.774600, -86.516632
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream

Secondary Indicator Score (if applicable) = 22.0

Justification / Notes :

Feature drains out of a cotton field at a small headcut and meanders to STM-1

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 14.5)

A. Geomorphology (Subtotal = 14.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1.5	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 4.0)

B. Hydrology (Subtotal = 4.0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 3.5)

C. Biology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1.5 ✗	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 22.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



STM-2 – looking south where stream begins
at edge cottonfield

35.774493, - 86.516941



STM-2 – looking SE mid stream

35.774493, - 86.516941



STM-2 – looking SW where stream near
confluence with STM-1

35.774610, - 86.516680

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID :
Site Name/Description: Yeargan Property		WWC-1
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.774544, -86.516112
Previous Rainfall (7-days) : 0.93"		End: 35.774681, -86.516078
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 15.0

Justification / Notes :

Short narrow feature drains from cottonfield. Thalweg clear; fibrous roots strong; one headcut; grade control large honey locust

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.5)

A. Geomorphology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 3.5)

B. Hydrology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 2.0)

C. Biology (Subtotal = 2.0)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 15.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



WWC-1 – looking north from field; grade control at honey locust

35.774544, - 86.516112



WWC-1 – looking south from confluence with STM-1

35.774681, - 86.516078

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID :
Site Name/Description: Yeargan Property		WWC-2
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long:
Previous Rainfall (7-days) : 0.93"		Begin: 35.773448, -86.517611
		End: 35.773803, -86.517810
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 16.0

Justification / Notes :

May be connected to sink hole to the southeast. Leaves field at headcut and flows thru channel with moderate bed and bank to grade control then develops more defined bed and bank on its path to STM-1

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	X 1.5	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 3.0)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 16.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

11) limestone outcrops and roots diverting flow

15) pools no flow



WWC-2 – looking south

35.773558, - 86.517624



WWC-2 – looking south from confluence
STM-1

35.773803, - 86.517810

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : WWC-3
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.773688, -86.517921
Previous Rainfall (7-days) : 0.93"		End: 35.773763, -86.517814
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 15.0

Justification / Notes :

Short feature begins at small grade control beneath a deer path. A couple of small pools along course b/w poorly defined bed and bank; poor sorting in channel

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.0)

A. Geomorphology (Subtotal = 8.0)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	X 1.5	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 4.0)

B. Hydrology (Subtotal = 4.0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 3.0)

C. Biology (Subtotal = 3.0)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 15.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



WWC-3 – looking NE from beginning

35.773688, - 86.517921



WWC-3 – looking SW

35.773744, - 86.517839

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID :
Site Name/Description: Yeargan Property		WWC-4
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.774661, -86.516762
Previous Rainfall (7-days) : 0.93"		End: 35.774614, -86.516701
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) =

Justification / Notes :

Shallow banked channel filled with upland plants and non-hydric soils. Veers off WWC-5 and runs to STM-2

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal =)

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal =)

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal =)

C. Biology (Subtotal =)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = _____

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



WWC-4 – looking NW from confluence STM-2
35.774614, - 86.516701

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-6-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : WWC-5
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.774489, -86.517579
Previous Rainfall (7-days) : 0.93"		End: 35.774688, -86.516514
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Arrington silt loam (Ar)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 5.0

Justification / Notes :

Shallow banked feature runs to STM-1; bottom filled with upland plants

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 4.0)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	0.5 X	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 1.0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 0.0)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 5.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

16) strong where not covered by vegetation

19) 100% 10YR 3/3



WWC-5 – looking west

35.774603, - 86.517329



WWC-5 – looking west near end

35.774706, - 86.516635

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-8-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID :
Site Name/Description: Yeargan Property		WWC-6
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.775522, -86.523414
Previous Rainfall (7-days) : 0.48"		End: 35.775604, -86.523652
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Gladeville Rock Outcrop Complex (GRC)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 15.5

Justification / Notes :

Linear depression, more sinkhole than stream-like. Dry bed. Drains into a hole

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 10.0)

A. Geomorphology (Subtotal = 10.0)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	X 1.5	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 2.5)

B. Hydrology (Subtotal = 2.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 3.0)

C. Biology (Subtotal = 3.0)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 15.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



WWC-6 – looking NW

35.775596, - 86.523491



WWC-6 – looking NW into hole

35.775604, - 86.523652

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-8-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : WWC-7
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.775809, -86.524031
Previous Rainfall (7-days) : 0.48"		End: 35.775604, - 86.523652
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Gladeville Rock outcrop complex (GRC)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 13.5

Justification / Notes :

Channel leads to sinkhole; ends at same location at WWC-6

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.5)				
	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 2.0)				
	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 2.0)				
	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 13.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) very weak in upper reach



WWC-7 – looking SE where bed and bank forms

35.775809, - 86.524031



WWC-7 – looking NW

35.775662, - 86.523878



WWC-7 – looking west near end

35.775599, - 86.523770

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-8-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : WWC-8
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.775288, -86.528214
Previous Rainfall (7-days) : 0.48"		End: 35.775060, -86.527915
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Gladeville Rock outcrop complex (GRC)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) =

Justification / Notes :

Short feature; poorly defined bed and bank; no water. Runs to sinkhole

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal =)

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal =)

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal =)

C. Biology (Subtotal =)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = _____

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



WWC-8 – looking SE, mid course of features

35.775201, - 86.528081



WWC-8 – looking east upstream from sinkhole

35.775060, - 86.527915

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-8-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : WWC-9
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.775516, -86.527016
Previous Rainfall (7-days) : 0.48"		End: 35.775079, -86.527273
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Gladeville Rock Outcrop Complex (GRC)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet weather conveyance

Secondary Indicator Score (if applicable) = 16.0

Justification / Notes :

Channel w/ poorly defined bed and bank flows to a large sinkhole. Some pools of water in channel day after 0.48" rain

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal =10.0)

A. Geomorphology (Subtotal =10.0)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	X 1.5	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 3.5)

B. Hydrology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0	Yes = 1.5		

C. Biology (Subtotal = 2.5)

C. Biology (Subtotal = 2.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1.5 X	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 16.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



WWC-9 – looking SE, from beginning

35.775516, - 86.527016



WWC-9 – looking south, mid-course

35.775301, - 86.527073

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time: 4-8-22
Assessors/Affiliation: Billy Plant TNQHP 1207-TN21, Site Engineering Consultants, Inc		Project ID : WWC-10
Site Name/Description: Yeargan Property		
Site Location: 7598 Highway 99 Rockvale, TN		
HUC (12 digit): 051302030201 Overall Creek		Lat/Long: Begin: 35.773029, -86.522474
Previous Rainfall (7-days) : 0.48"		End: 35.773566, -86.520137
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data : CoCoRaHS TN-RD-55		
Watershed Size :	County: Rutherford	
Soil Type(s) / Geology : Egam silt loam (Eg)		Source: WSS
Surrounding Land Use : Agricultural and woodland		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Wet Weather Conveyance

Secondary Indicator Score (if applicable) = 16.0

Justification / Notes :

Drainage comes out of the woods; standing water pools as it enters cottonfield. Snails and algae in some pools.
Poorly defined bed and bank

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6.0)				
	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	X 1.5	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	X 1.5	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0		Yes = 3	

B. Hydrology (Subtotal = 4.5)				
	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

C. Biology (Subtotal = 5.5)				
	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of **terrestrial** plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 16.0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

15) pools in low areas

16) leaves in areas where trees are

25) gastropods in pools



WWC-10 – looking east, from beginning

35.773029, - 86.522474



WWC-10 – looking east

35.773116, - 86.522212



WWC-10 – hydric soil – iron-manganese masses and faint redox depressions

35.773228, - 86.521790



WWC-10 – looking NE

35.773541, - 86.521250



WWC-10 – looking south near end. Clump of trees is rock, not a sinkhole

35.773566, - 86.520137

NORMAL WEATHER CONDITIONS CALCULATION

Normal Weather Conditions Calculations Table

		Long-term rainfall records								
	Month	Standard Deviation	Minus One Std. Dev. (DRY)	Normal (Mean inches)	Plus One Std. Dev. (WET)	Actual Rainfall	Condition (elevated, low, average)	Condition value	Month weight value	Product of previous two columns
1 st prior month*	March	2.77	2.09	4.86	7.63	4.58	average	2	3	6
2 nd prior month*	February	2.12	2.16	4.28	6.40	3.14	average	2	2	4
3 rd prior month*	January	2.52	1.80	4.32	6.84	8.10	elevated	3	1	3
									Sum =	13

Note:

If sum is:	
6-9	then prior period has been abnormally dry
10-14	then prior period has been normal (average)
15-18	Then prior period has been abnormally wet

Condition value:	
Low =	1
Average =	2
Elevated =	3

Precipitation for the period has been average

Source: CoCoRaHS TN-RD-55

LETTERS OF PERMISSION

Letter of Permission

Date: April 19, 2022

U.S. Army Corps of Engineers
Nashville District
3701 Bell Road
Nashville, TN 37214

RE: Permission to Access Property for Jurisdictional Determination for Yeargan Property, 7598 Highway 99, Rockvale, Rutherford County

The Corps of Engineers has my permission to access the property located at 7598 Highway 99 in Rockvale, TN as referenced in the Hydrological Determination Report prepared by Billy Plant of Site Engineering Consultants. Coordinates for the property entrance are 35.774031, - 86.521573. Coordinates for the driveway are 35.772114, - 86.515329.

Please contact me via my cell phone or email if you have any questions.

Sincerely,

Name: Adam Lightbody (Member: Woodson-Yeargan Properties, LLC)

Signature:

A handwritten signature in black ink, appearing to read 'Adam Lightbody', with a stylized flourish at the end.

Phone: 248-464-1501 (cell)

Email: adam.lightbody@nrmk.com

Address: 1191 E. Lincoln St.
Birmingham, MI 48009

Letter of Permission

Date: April 19, 2022

Division of Water Resources
Tennessee Department of Environment and Conservation (TDEC)
711 R.S. Gass Boulevard
Nashville, TN 37126

RE: Permission to Access Property for Hydrological Determination for Yeargan Property, 7598 Highway 99, Rockvale, Rutherford County

TDEC has my permission to access the property located at 7598 Highway 99 in Rockvale, TN as referenced in the Hydrological Determination Report prepared by Billy Plant of Site Engineering Consultants. Coordinates for the property entrance are 35.774031, - 86.521573. Coordinates for the driveway are 35.772114, - 86.515329.

Please contact me via my cell phone or email if you have any questions.

Sincerely,

Name: Adam Lightbody (Member: Woodson-Yeargan Properties, LLC)

Signature:

A handwritten signature in black ink, appearing to read 'Adam Lightbody', with a stylized flourish at the end.

Phone: 248-464-1501 (cell)

Email: adam.lightbody@nmrk.com

Address: 1191 E. Lincoln St.
Birmingham, MI 48009