TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Water Resources
William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

RECEIVED
SEP 19 2016
ENVIRONMENTAL FIELD OFFICE
COOKEVILLE

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Permit

OFFICIAL STATE USE ONLY	Site #:		Permit #:	NR1608.2934

Section 1. Applicant Information *(individual responsible for site, signs certification below)*

Applicant Name: Tommy Whaley			
Company: Marshall County Board of Public Utilities		Signatory's Title or Position: Superintendent	
Mailing Address: 624 West Commerce Street		City: Lewisburg	State: TN Zip: 37091
Phone: (931) 359-6905	Fax: (931) 359-8876	E-mail: marshallcounty_utilities@yahoo.com	

Section 2. Alternate Contact/Consultant Information (*a consultant is not required*)

Alternate Contact Name: Bob Ramsey, P.E.			
Company: James C. Hailey & Company, Consulting Engineers		Title or Position: Project Engineer	
Mailing Address: 7518 Highway 70 South		City: Nashville	State: TN Zip: 37221
Phone: (615) 883-4933	Fax: (615) 883-4937	E-mail: bramsey@jchengr.com	

Section 3. Fee *(check appropriate box and submit requisite fee with application)*

☐ No Fee Submitted ☒ Fee Submitted with Application Amount Submitted: $ 500.00

Current fee schedules for Aquatic Resource Alteration Permit processing may be found at the Division of Water Resources webpage at http://www.tn.gov/environment/permits/arap.shtml or by calling (615) 532-0625. Make checks payable to "Treasurer, State of Tennessee".

Section 4. Project Details *(fill in information and check appropriate boxes)*

Site or Project Name: Water Line Additions - Coosie Branch Road		Nearest City, Town or Major Landmark: Cornersville
Street Address or Location: Coosie Branch Rd., Yell Rd., Cornersville, TN 37047		
County(ies): Marshall	MS4 Jurisdiction:	Latitude (dd.dddd): 35.341028° N Longitude (dd.dddd): 86.812569° W

Resource Proposed for Alteration: ☒ Stream ☐ Wetland ☐ Reservoir

Name of Water Resource: Unnamed trib. of Richland Ck.,Troy Fork Creek, Sheppard Branch, Unnamed trib. of Troy Fork

Brief Project Description (a more detailed description is required under Section 8):

The Water Line Additions project consists of approximately 15,740 linear feet of 2", 4", and 6" PVC and HDPE water line installed in 20 foot easement along Coosie Branch Road and Yell Road in southern Marshall County, Tennessee.

Does the proposed activity require approval from the U.S. Army Corps of Engineers, the Tennessee Valley Authority, or any other federal, state, or local government agency? ☐ Yes ☒ No

If Yes, provide the permit reference numbers: _____

Is the proposed activity associated with a larger common plan of development? ☐ Yes ☒ No

If Yes, submit site plans and identify the location and overall scope of the common plan of development. Plans attached? ☐ Yes ☒ No

If applicable, indicate any other federal, state, or local permit authorizations that the overall project site (common plan of development) has obtained in the past (i.e. construction general permit coverage and/or other ARAPs):

Section 5. Project Schedule *(fill in information and check appropriate boxes)*

Start date: January 15, 2017	Estimated end date: June 1, 2017

Is any portion of the activity complete now? ☐ Yes ☒ No If yes, describe the extent of the completed portion:

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Permit

The required information in Sections 6-11 must be submitted on a separate sheet(s) and submitted in the same numbered format as presented below. If any question in not applicable, state the reason why it is not applicable.

Section 6. Project Description		**Attached** Yes	No
6.1	A narrative description of the scope of the project	☒	☐
6.2	USGS topographic map indicating the exact location of the project (*can be a photographic copy*)	☒	☐
6.3	Photographs of the resource(s) proposed for alteration with location description (*photo locations should be noted on map*)	☒	☐
6.4	A narrative description of the **existing** stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation	☒	☐
6.5	A narrative description of the **proposed** stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation	☒	☐
6.6	In the case of wetlands, include a wetland delineation with delineation forms and site map denoting location of data points	☒	☐
6.7	A copy of all hydrologic or jurisdictional determination documents issued for water resources on the project site	☒	☐

Section 7. Project Rationale	**Attached** Yes	No
Describe the need for the proposed activity, including, but not limited to, the purpose, alternatives considered, and what will be done to avoid or minimize impacts to streams or wetlands.	☒	☐

Section 8. Technical Information		**Attached** Yes	No
8.1	Detailed plans, specifications, blueprints, or legible sketches of present site conditions and the proposed activity. Plans must be 8.5.x 11 inches. Additional larger plans may also be submitted to aid in application review. The detailed plans should be superimposed on existing and new conditions *(e.g., stream cross sections where road crossings are proposed)*	☒	☐
8.2	For both the proposed activity and compensatory mitigation, provide a discussion regarding the sequencing of events and construction methods	☒	☐
8.3	Depiction and narrative on the location and type of erosion prevention and sediment control (EPSC) measures for the proposed alterations	☒	☐

Section 9. Water Resources Degradation (degree of proposed impact) *Note that in most cases, activities that exceed the scope of the General Permit limitations are considered greater than de minimis degradation to water quality.*

My activity, as proposed:

a. ☒ Will not cause measurable degradation to water quality

b. ☐ Will only cause de minimis degradation to water quality

c. ☐ Will cause more than de minimis degradation to water quality (*Complete additional sections 9-11)*

d. ☐ Unsure/need more information

For information and guidance on the definition of de minimis and degradation, refer to the Antidegradation Statement in Chapter 0400-40-03-.06 of the Tennessee Water Quality Criteria Rule: https://www.tn.gov/sos/rules/0400/0400-40/0400-40-03.20131216.pdf. For more information on specifics on what General Permits can cover, refer to the Natural Resources Unit webpage at http://www.tn.gov/environment/permits/arap.shtml

If you checked "c." above in Section 9, complete the following 2 sections, 10-11.

Section 10. Detailed Alternative Analysis		**Attached** Yes	No
10.1	Analyze all reasonable alternatives and describe the level of degradation caused by each of the feasible alternatives	☒	☐
10.2	Discuss the social and economic consequences of each alternative	☒	☐
10.3	Demonstrate that the degradation associated with the preferred alternative will not violate water quality criteria for uses designated in the receiving waters, and is necessary to accommodate important economic and social development in the area	☒	☐

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Permit

Section 11. Compensatory Mitigation		Attached Yes	Attached No
11.1	A detailed discussion of the proposed compensatory mitigation	☐	☒
11.2	Describe how the compensatory mitigation would result in no net loss of resource value	☐	☒
11.3	Provide a detailed monitoring plan for the compensatory mitigation site	☐	☒
11.4	Describe the long-term protection measures for the compensatory mitigation site *(e.g., deed restrictions, conservation easement)*	☐	☒

Certification and Signature

An application submitted by a corporation must be signed by a principal executive officer; from a partnership or proprietorship, by the partner or proprietor respectively; from a municipal, state, federal or other public agency or facility, the application must be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.

"I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury".

Jessie T. Whaley	Superintendent	Jessie T. Whaley Jr.	12-22-2016
Printed Name	Official Title	Signature	Date

Submitting the form and obtaining more information Note that this form must be signed by the principal executive officer, partner or proprietor, or a ranking elected official in the case of a municipality; for details see **Certification and Signature** statement above. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit the completed ARAP Application form (keep a copy for your records) to the appropriate EFO for the county(ies) where the ARAP activity is located, addressed to **Attention: ARAP Processing**. You may also electronically submit the complete application and all associated attachments (e.g., maps, wetland delineations and narrative portions) to water.permits@tn.gov.

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett	38133-4119	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305-4316	Chattanooga	540 McCallie Avenue STE 550	37402-2013
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601

OFFICIAL STATE USE ONLY

Received Date: 12/28/16	Permit Number:	Reviewer:	Field Office:
Fee amount paid: 500	T & E Aquatic Flora and Fauna:	Impaired Receiving Stream:	Application Review:
Date:			☐ Deficient Date:
Check #: 7875	Exceptional TN Water:		☐ Complete Date:

CL5189

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

ENVIRONMENTAL FIELD OFFICE

1421 Hampshire Pike
Columbia, TN 38401

(931)380-3371 STATEWIDE 1-888-891-8332 (931)380-3397

Receipt: EAC-CL-5189 **Date of Receipt:** 28-Dec-2016 9:16 am **Created By:** Shirley Pruitt (BG54005)

County: Marshall **EFO/Office:** Columbia Field Office

Received From: James C Hailey

Company/Affiliation: James C. Hailey & CO. Consulti

Recipient Address: 7518 Highway 70S
NASHVILLE, TN- 37221

Amount Received: $500.00 **Method of Payment:** CHECK **Check Number:** 7875

Comments: ARAp for Water Line Additions Coosie Branch Road, Cornersville

Division	Description	TDEC Code	Quantity	Unit Price	Line Total
WPC	WPC-ARAP-$500 Permit Application	43.340.F02	1	$500.00	$500.00

Receipt Total: **$500.00**

Visit us at: http://tn.gov/environment/

CN-1139 (Rev. 6-09)

RDA S1730

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

ENVIRONMENTAL FIELD OFFICE

1421 Hampshire Pike
Columbia, TN 38401

(931)380-3371 STATEWIDE 1-888-891-8332 (931)380-3397

VOIDED

Receipt: EAC-CL-5187 **Date of Receipt:** 28-Dec-2016 9:09 am **Created By:** Shirley Pruitt (BG54005)

County: Marshall **EFO/Office:** Columbia Field Office

Received From: James C Hailey

Company/Affiliation: James C. Hailey & CO. Consulti

Recipient Address: 7518 Highway 70S
NASHVILLE, TN- 37221

Amount Received: $500.00 **Method of Payment:** CHECK **Check Number:** 7875

Comments: ARAP for Marshall County Board of Public Utilities, Water Line Additions - Coosie Branch Road, Cornersville

Division	Description	TDEC Code	Quantity	Unit Price	Line Total
WPC	WRs-ARAP Proj. monitoring_compens. mitigation	43.340.F02	1	$500.00	$500.00

Receipt Total: **$500.00**

wrong Code -
Should be regular ARAP

Visit us at: http://tn.gov/environment/

CN-1139 (Rev. 6-09)

RDA S1730

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

ENVIRONMENTAL FIELD OFFICE

1421 Hampshire Pike
Columbia, TN 38401

(931)380-3371 STATEWIDE 1-888-891-8332 (931)380-3397

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Receipt Total: **$500.00**

Visit us at: http://tn.gov/environment/

CN-1139 (Rev. 6-09)

RDA S1730

JAMES C. HAILEY & COMPANY

Consulting Engineers

7518 Highway 70 South
Suite 100
Nashville, Tennessee 37221
Telephone: 615-883-4933
Fax: 615-883-4937

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DEC 2 8 2016
ENVIRONMENTAL FIELD OFFICE

JAMES C. HAILEY, P.E.

ROBERT L. RAMSEY, P.E.
MATTHEW R. TUCKER, P.E.
MICHAEL N. GREEN, P.E.

December 23, 2016

Ms. Sherry Glass
Division of Water Resources
Columbia Environmental Field Office
1421 Hampshire Pike
Columbia, TN 38401

RE: Water Line Additions
Coosie Branch Road
Crossings #1 - #5
Marshall County, Tennessee
ARAP

Dear Ms. Glass,

On behalf of the Marshall County Board of Public Utilities (MCBPU), I am enclosing the original of the ARAP application for five (5) stream crossings included in the referenced project. The water line crossings are located on Coosie Branch Road and Yell Road. There are five other crossings on another road in this project that will be filed with a separate application. The water lines will be installed with MCBPU crews. Also enclosed is a check in the amount of $500.00 for review fees. Please contact me if you have any questions.

Please cc a copy of your response to our office.

Sincerely,
James C. Hailey & Company

Bob Ramsey

Bob Ramsey, P.E.

enclosures

cc: Marshall County Board of Public Utilities w/enclosure

JCH Proj No. 16167

RECEIVED
DEC 2 8 2016
ENVIRONMENTAL FIELD OFFICE
COLUMBIA

ARAP Application
Marshall County Board of Public Utilities
Marshall County, Tennessee

Section 6: Project Description

Section 6.1: Narrative Description of Project Scope

The project consists of approximately 15,740 linear feet of 2", 4", and 6" of SDR 21 PVC and HDPE water line installed along Coosie Branch Road and Yell Road in southern Marshall County, Tennessee. The purpose of the project is to provide potable water to approximately 24 households in rural Marshall County. During the course of this project, there will be five (5) stream crossings including unnamed tributary to Richland Creek, Sheppard Branch, Troy Fork, and two times unnamed tributary to Troy Fork. All crossings are to be done by open cut with a rock trencher except the Troy Fork crossing will be by directional bore. All stream crossings will be installed in PVC and HDPE casing pipes for easy removal for maintenance if needed.

Section 6.2: Topographic Map

See the attached topographical map. Stream crossings included in this permit application are identified on the map as location #'s 1 – 5.

Section 6.3: Photos

See the attached photos. They include location #'s 1 – 5.

Section 6.4: Narrative Description of Existing Stream Characteristics

All of the streams, except Troy Fork, are wet-weather streams with steep banks. Stream banks are mostly covered in sparse weeds and brush and stream bottoms consist of fractured rock, gravel, and soil. The stream at location #5 is a man-made channel installed to drain water across a cornfield. Troy Fork has water year-round and is a blue-line stream. See the attached "Description of Existing Stream @ Crossing" in Section 6.4 for more information regarding stream characteristics.

Section 6.5: Narrative Description of Proposed Stream Characteristics

Dimensions of the unnamed tributaries to Richland Creek will not change as a result of construction. The open cut process disturbs a portion of the underlying soil that can lead to stream bed erosion as well as siltation downstream. To help mitigate the disturbance, the contractor will be required to protect the construction area in the stream with silt fence and sandbags or rip-rap. Stream banks will be returned immediately to near original contours and the disturbed slopes backfilled with earth and covered with rip-rap or seeded and covered with a woven straw erosion control blanket that is pinned in place.

Section 6.6: Wetlands

There are no known wetlands in the project area. Please see the U.S. Fish & Wildlife Services' (USFWS) Wetland Mapper for more details: http://www.fws.gov/wetlands/Data/Mapper.html

Section 6.7: Hydrological/ Jurisdictional Determination Documents

Not applicable. There are no known wetlands in the project area. See the attached printouts from the NRCS website for more details.

Section 7: Project Rationale

This project provides a safe, potable supply of water for approximately 24 households in the immediate area that do not currently have a reliable source. Homes in the area currently rely on wells which are susceptible to both contamination and drought. This project represents the most feasible way to provide a safe and potable water supply to area residents.

Section 8: Technical Information

Section 8.1: Plans

See the attached construction plan sheets.

Section 8.2: Sequencing of Events

The sequence of events will be as follows:

1. Clearing and grubbing of site.
2. Installation of erosion and sediment control devices.
3. Open cut for water line and drainage pipes.
4. Connect the new water line to the existing water line.
5. Backfill all open cuts.
6. Stabilization of all construction areas and project completion.

Section 8.3: Erosion Prevention and Sediment Control Measures

Erosion prevention and sediment control measures shall include the construction of silt fence downhill of the natural water flow. Additionally, waddles and rock check dams at the inlet and outlets of the culverts will serve to trap sediment. Also, riprap will be used to prevent erosion at the inlets and outlets of the drainage pipes. Vegetative measures utilized will be a buffer zone of approximately 50' between the edge of the stream and construction, along with mulch/straw stabilization of disturbed soil following construction. Please see "Site Drainage and Erosion Control Plan", "Erosion Control Details", and "Typical Sections Details and General Notes" for more details.

Section 9: Water Resource Degradation

It is not expected that this project will have an adverse impact on any of the streams that meander through the project. Construction plans provide details for protection of streams during construction. Disturbance of vegetation along the banks and in the streams is temporary. All streams except Troy Fork appear to have seasonal flow. There are no known endangered species at the crossing locations. No infringement upon aquatic life is anticipated.

Section 10: Detailed Alternatives Analysis

Section 10.1: Description of Reasonable Alternatives

1.) Directional Bore Water Lines:

Water lines could be installed by directional bore under the streams. This process is expensive and usually reserved for areas that are difficult to open cut. Open cut can be completed in a few hours while directional bore may require several days to set up equipment and make the bore. This alternative would not cause degradation of the streams. This alternative was selected only for the crossing of Troy Fork at the intersection of Coosie Branch Road and Yell Road due to its terrain difficulty.

2.) Install Water Lines over Creek or Hang on Bridge or Box Culvert:

This is sometimes done if the crossing is difficult due to terrain or surroundings, water usage is high enough to keep flow in the pipe to prevent freezing, and there is a suitable place to hang the water line. Most of these crossings are at metal culverts that have little road cover and there no place to hang the water line. This alternative would not cause degradation of the streams. This alternative was not selected due to the difficulty of installation.

Section 10.2: Social and Economic Consequences of Each Alternative

1.) Directional Bore Water Lines:

Socially, the proposed project would provide safe and reliable public water supply to the Coosie Branch Road area. Economically, the residents of the roads

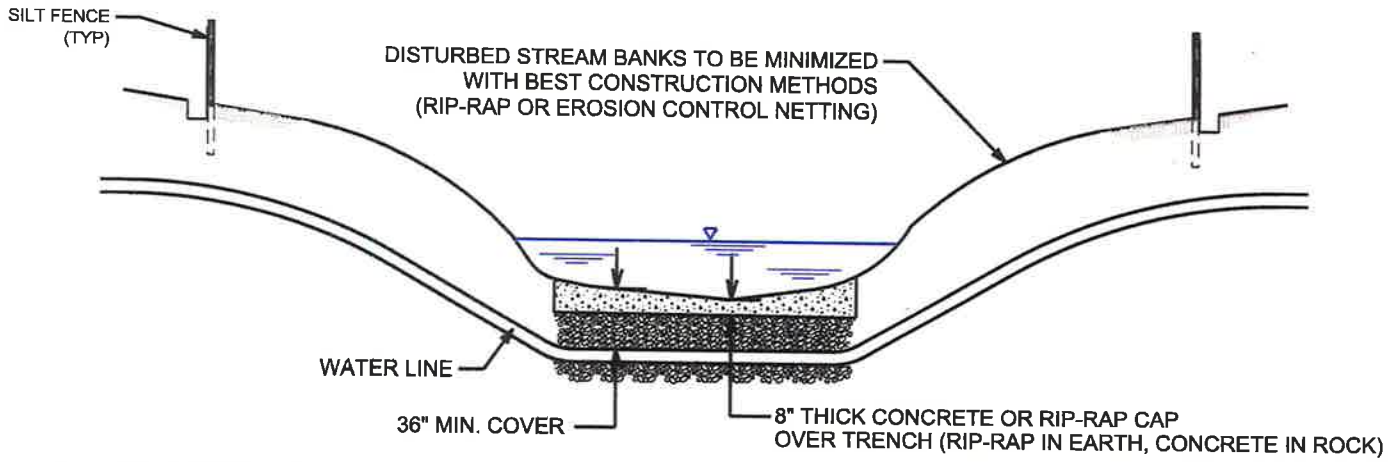
will contribute 100% of the water line materials and the construction will be done by the Marshall County Board of Public Utilities. Directional bores are expensive and require specialized equipment and construction expertise. The additional costs would put a strain on the residents to participate in funding the project.

2.) Install Water Lines over Creek or Hang on Bridge or Box Culvert:

Socially, the proposed project would provide safe and reliable public water supply to the Coosie Branch Road area. Economically, the residents of the roads will contribute 100% of the water line materials and the construction will be done by the Marshall County Board of Public Utilities.

Section 10.3: Defend the Preferred Alternative

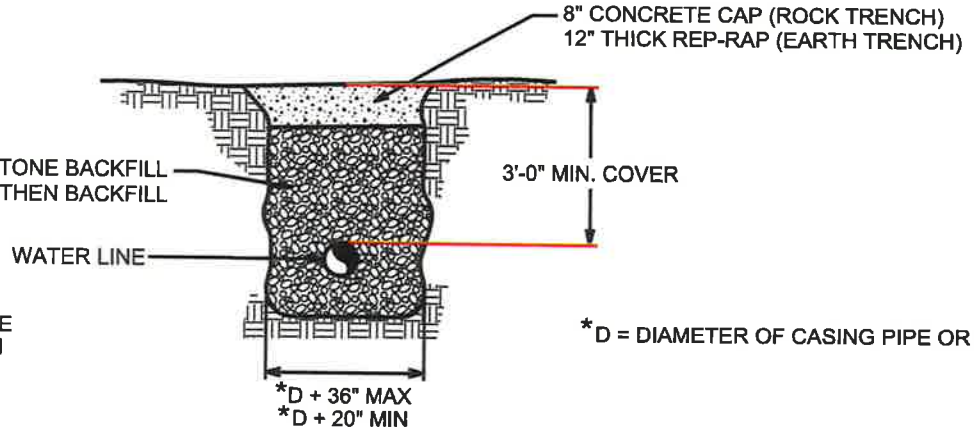
Placing the water lines in easements crossing the streams keeps them from being struck by vehicles or freezing due to low water usage. It may not require the water line to be moved if the culvert or box bridge is ever replaced. The line is readily accessible from its casing without disturbing the stream. All streams except Troy Fork appear to be seasonal and there are no known endangered species at the crossing locations.



NOTE:
ALL EXCAVATION MATERIAL FROM TRENCH
TO BE DISPOSED OF OFFSITE

TYPICAL STREAM CROSSING SECTION

N.T.S.



*D = DIAMETER OF CASING PIPE OR WATER LINE

NOTES:

1. CONTRACTOR TO PERFORM CROSSING IN THE DRY OR TO SEPARATE CONSTRUCTION FROM FLOWING WATER BY STREAM DIVERSION.
2. NO BLASTING IS ALLOWED WITHIN 75' OF STREAM BANK.
3. CONTRACTOR TO USE SILT FENCE NEAR STREAM TO PREVENT SILTATION FROM ENTERING STREAM

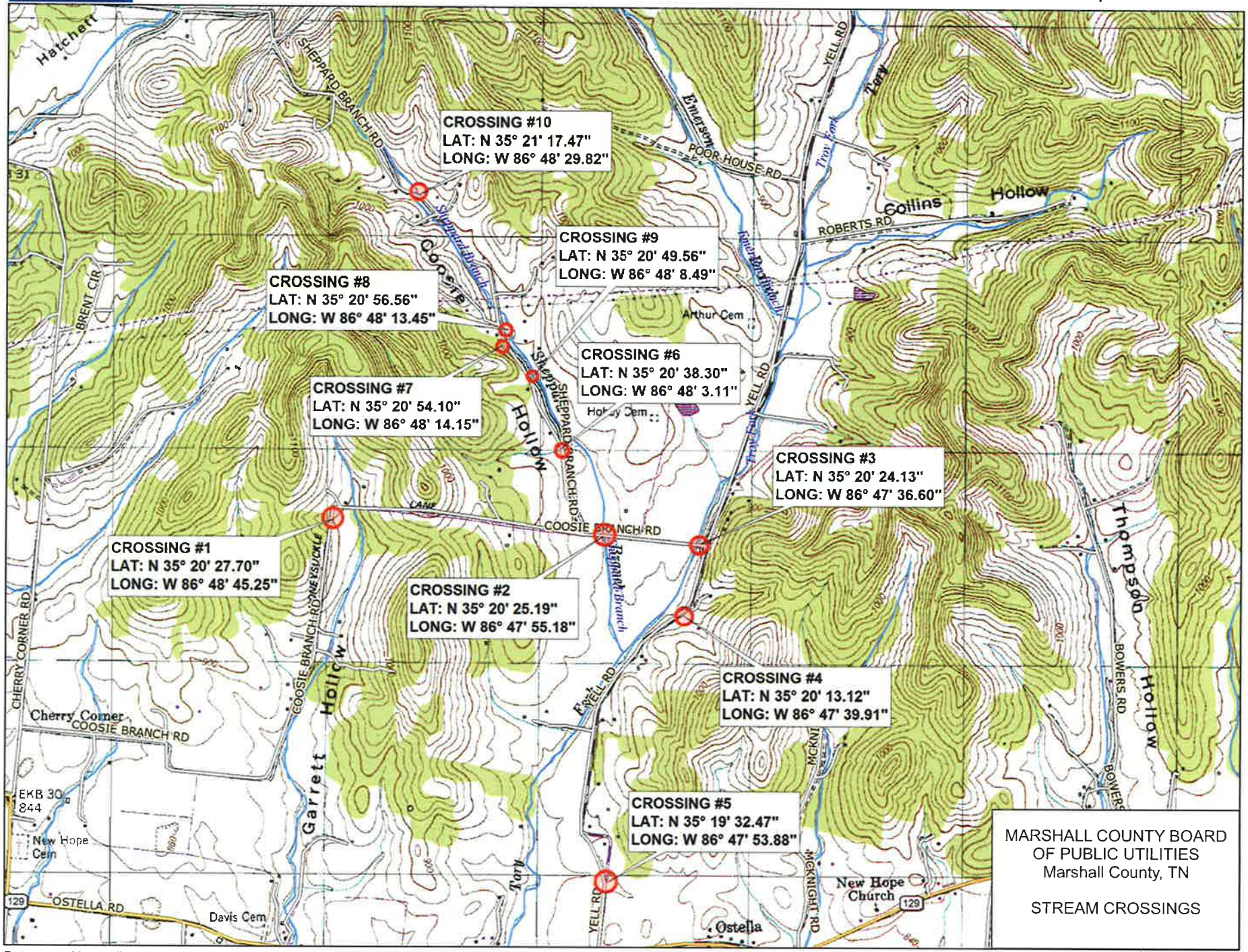
STREAM CROSSING DETAIL

JAMES C. HAILEY & COMPANY
Consulting Engineers
7518 HIGHWAY 70 S, SUITE 100
NASHVILLE, TENNESSEE 37221

DESIGN	DRAWN	CHECKED	DATE	SCALE	PROJECT NO.
MNG	LLB	MNG	JUNE 2016	NO SCALE	16125

DeLORME

Topo North America™ 9



MARSHALL COUNTY BOARD
OF PUBLIC UTILITIES
Marshall County, TN

STREAM CROSSINGS

Data use subject to license.
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www.delorme.com

TN
MN (3.6°W)

Scale 1 : 24,000
1" = 2,000.0 ft
Data Zoom 13-0

Section 6.3 – Photos

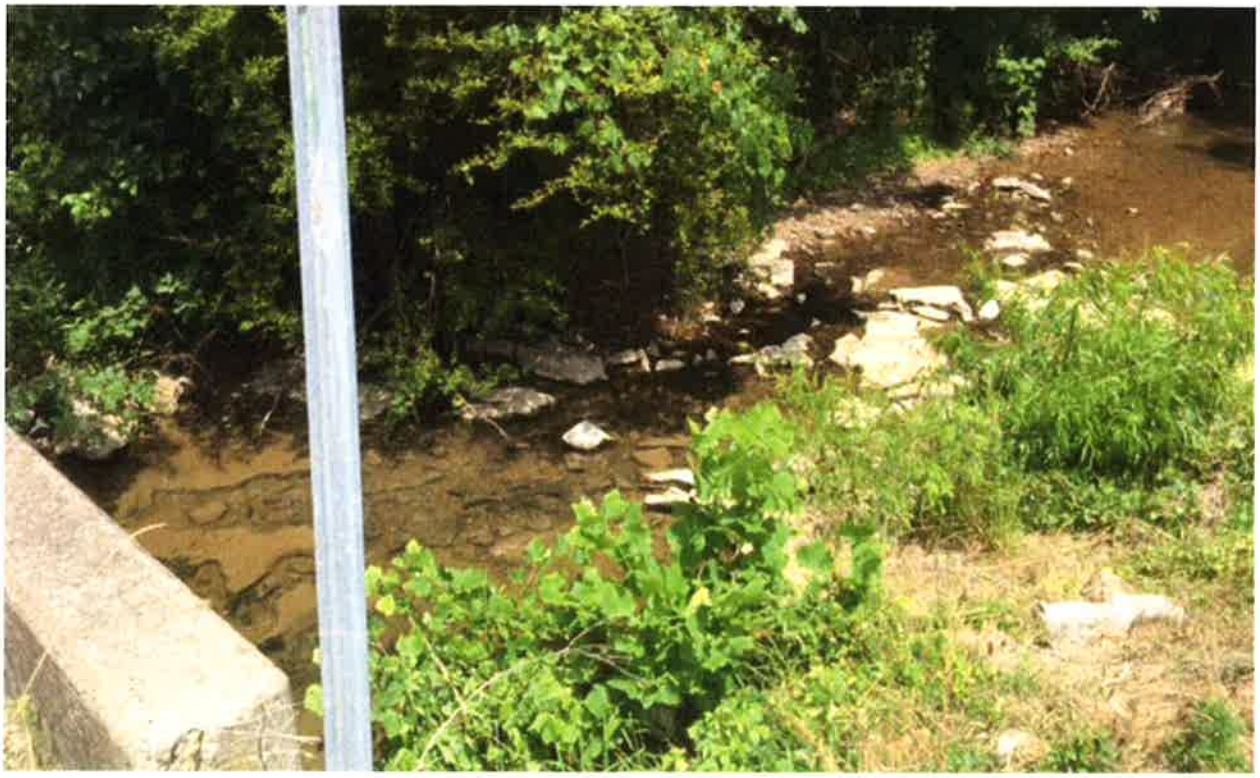
Creek Crossing 1 – Unnamed Tributary to Richland Creek, Looking from Above

Creek Crossing 1 – Unnamed Tributary to Richland Creek, Looking East

Creek Crossing 2 – Unnamed Tributary to Richland Creek, Looking from Above

Creek Crossing 2 – Unnamed Tributary to Richland Creek, Looking North

Creek Crossing 3 – Troy Fork Creek, Tributary to Richland Creek, Looking from Above



Creek Crossing 3 – Troy Fork Creek, Tributary to Richland Creek, Looking North West

Creek Crossing 4 – Unnamed Tributary to Troy Fork Creek, Tributary to Richland Creek, Looking from Above

Creek Crossing 4 – Unnamed Tributary to Troy Fork Creek, Tributary to Richland Creek, Looking North East

Creek Crossing 5 – Unnamed Tributary to Richland Creek, Looking from Above

Creek Crossing 5 – Unnamed Tributary to Richland Creek, Looking North West

SECTION 6.4 - Description of Existing Stream @ Crossing - Summary Table
Water Line Additions - Coosie Branch Road
Marshall County Public Board of Utilities

Crossing No. Map Location	Stream	Line Size (in)	Bottom Material	Streamside Vegetation	Stream Characteristics Width	Depth	GPS Coordinates	U.S. Quad Map Name & Number
1	Unnamed tributary to Richland Creek	2" with 4" casing	Soil, gravel, rock	brush, weeds	10'	2'	N 35.341028 ° / W 86.812569 °	Cornersville, Tenn. (65 SE)
2	Sheppard Branch	4" with 8" casing	Soil, gravel, rock	grass, weeds	15'	2'	N 35.340331 ° / W 86.798661 °	Cornersville, Tenn. (65 SE)
3	Troy Fork	4" with 8" casing	Soil, gravel, rock	grass, brush, small trees	30'	5'	N 35.340036 ° / W 86.793500 °	Cornersville, Tenn. (65 SE)
4	Unnamed tributary to Troy Fork	2" with 4" casing	Soil, gravel, rock	brush	15'	4'	N 35.336978 ° / W 86.794419 °	Cornersville, Tenn. (65 SE)
5	Unnamed tributary to Troy Fork	6" with 12" casing	Soil, gravel, rock	grass	10'	2'	N 35.325686 ° / W 86.798300 °	Cornersville, Tenn. (65 SE)

Notes: (2) Directional bore under creek at this location

U.S. Fish and Wildlife Service

National Wetlands Inventory

Coosie Branch Road

Aug 23, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Plan Sheet 2

U.S. Fish and Wildlife Service
National Wetlands Inventory

Coosie Branch Road

Aug 23, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
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User Remarks:

Plan Sheet 3

U.S. Fish and Wildlife Service

National Wetlands Inventory

Coosie Branch Road

Aug 23, 2016

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- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
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User Remarks:

Plan Sheet 4

U.S. Fish and Wildlife Service

National Wetlands Inventory

Coosie Branch Road

Aug 23, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
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User Remarks:

Plan Sheet 5