



**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)

NOV 02 2020

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

<b>OFFICIAL STATE USE ONLY</b>	Site #:	Permit #:
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**Section 1. Applicant Information** (individual responsible for site, signs certification below)

Applicant Name (company or individual): Knoxville Utilities Board		SOS #:	Status:
Primary Contact/Signatory: Billie Jo McCarley, P.E.		Signatory's Title or Position: Vice President, Engineering	
Mailing Address: 4505 Middlebrook Pike		City: Knoxville	State: TN Zip: 37921
Phone: 865.558.2554	Fax:	E-mail: BillieJo.McCarley@kub.org	

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

Alternate Contact Name: Chris Brown, P.E.			
Company: Gresham Smith		Title or Position: Senior Associate	
Mailing Address: 2095 Lakeside Centre Way, Suite 120		City: Knoxville	State: TN Zip: 37922
Phone: 865.521.6777	Fax:	E-mail: chris.brown@greshamsmith.com	

**Section 3. Fee** (Application will be incomplete until fee is received)

No Fee                       Fee Submitted with Application                      Amount Submitted: \$ 500.00

Current application fee schedules can be found at the Division of Water Resources webpage at:  
<https://www.tn.gov/environment/permit-permits/water-permits/aquatic-resource-alteration-permit--arap-.html>  
 or by calling (615) 532-0625. Please make checks payable to "Treasurer, State of Tennessee".

Billing Contact Name (if different from Applicant):      Name:                                      Email:

Address:    Phone:

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

Site or Project Name: Wayland Road Pump Station Project		Nearest City, Town or Major Landmark: Knoxville, TN	
Street Address or Location (include Zip): 1900 Wayland Road, Knoxville, TN 37914			
County(ies): Knox	MS4 Jurisdiction: Knox Coun	Latitude (dd.dddd): 35.9866	Longitude (dd.dddd): -83.7849

Resource Proposed for Alteration:       Stream / River       Wetland       Reservoir

Name of Water Resource (for more information, access <http://tdeconline.tn.gov/dwr>): Swanpond Creek +

Brief Project Description (a more detailed description is required under Section 8):  
**Construction of a new wastewater pump station to replace an existing pump station.**

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: Nationwide Permit 12

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 permits that are associated with the overall project site (common plan of development) that have been obtained in the past (e.g., construction general permit and/or other ARAP):

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

<b>Section 5. Project Schedule</b> (fill in information and check appropriate boxes)			
Proposed Start Date:	January, 2021	Estimated End Date:	January, 2022
Is any portion of the activity complete now?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
If yes, describe the extent of the completed portion:			

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 is not applicable, state the reason why it is not applicable.

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

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 water resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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)	<input type="checkbox"/>	<input type="checkbox"/>
8.2	For both the proposed activity and compensatory mitigation, provide a discussion regarding the sequencing of events and construction methods	<input type="checkbox"/>	<input type="checkbox"/>
8.3	Depiction and narrative on the location and type of erosion prevention and sediment control (EPSC) measures for the proposed alterations	<input type="checkbox"/>	<input type="checkbox"/>

**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.

Please provide your basis for concluding the proposed activity will cause one of the following levels of water quality degradation:

- a.  De minimis degradation
- b.  Greater than de minimis degradation (if greater than de minimis complete Sections 10-11)

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 at: <http://publications.tnsofiles.com/rules/0400/0400-40/0400-40.htm>

For information on specifics on what General Permits can cover, refer to the Natural Resources Unit webpage at: <http://www.tn.gov/environment/permit-permits/water-permits/1/aquatic-resource-alteration-permit--arap-/permit-water-aquatic-resource-alteration-list-of-general-permits.html>

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

Section 10. Detailed Alternatives Analysis		Attached	
		Yes	No
10.1	Analyze all reasonable alternatives and describe the level of degradation caused by each of the feasible alternatives	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Discuss the social and economic consequences of each alternative	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>

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

**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.*

<u>Billie Jo McCarley</u>	<u>Engineering Director, KUB</u>	<u><i>Billie Jo McCarley</i></u>	<u>10/28/2020</u>
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 to [water.permits@tn.gov](mailto: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	1301 Riverfront Pkwy., Ste. 206	37402
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601





October 27, 2020

Mr. Michael Atchley  
Tennessee Department of Environment and Conservation  
Division of Water Resources  
3711 Middlebrook Pike  
Knoxville, TN 37921

Subject:

Application for General ARAP for Minor Alterations to Wetlands  
Knoxville Utilities Board, Wayland Road Wastewater Pump Station  
Gresham Smith Project No. 44132.00

Dear Mr. Atchley:

Submitted herewith on behalf of our client, the Knoxville Utilities Board (KUB), is a completed application for a General Aquatic Resource Alteration Permit (ARAP) for Minor Alterations to Wetlands, along with a check for the \$500 review fee. Once the project has been awarded to a contractor, the Notice Of Intent (NOI) will be completed and submitted to your office prior to beginning work.

This is a pump station replacement project for KUB that's located at 1900 Wayland Road. The new pump station will be constructed adjacent to the existing and is partially located within the 100-year floodplain. As such, the fill material required to raise the new pump station above the 100-year elevation will permanently impact approximately 123 square feet of wetlands on site.

The ARAP includes the proposed work affecting the wetlands, alternatives considered, and a summary of site constraints. As required, a Corp of Engineers (USACE) Nationwide permit will be submitted for review and approval.

Should you have any questions or need anything else, please do not hesitate to call.  
Sincerely,

A handwritten signature in black ink that reads 'Chris R. Brown'.

Chris Brown, P.E.  
Senior Associate, Water Resources  
Copy Doug Douthat, KUB

File: kn\_nf02\4413200\01Work\00Design\Permitting\TDEC\_ARAP\_Wetland

**Genuine Ingenuity**

2095 Lakeside Centre Way  
Suite 120  
Knoxville, TN 37922  
865.521.6777  
GreshamSmith.com



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)

NOV 02 2020

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: KUB Wayland Road Pump Station Project
NPDES Tracking Number: TNR
Street Address or Location: 1900 Wayland Road, Knoxville, TN 37914
Construction Start Date: January, 2021
Estimated End Date: January, 2022
Site Description: Pump station replacement project
Latitude (dd.ddd): 35.9866
Longitude (-dd.ddd): -83.7849
County(ies): Knox MS4 (if applicable): N/A
Acres Disturbed: 0.73
Check box if a SWPPP is attached: [X] Check box if a site location map is attached: [X]
Total Acres: 0.88
Check the appropriate box(s) if there are streams and/or wetlands on or adjacent to the construction site: Streams [X] Wetlands [X]
Has a jurisdictional determination been made by the USACE or EPA identifying waters of the United States?: Yes [ ] No [X]
Note: if yes, attach the jurisdictional determination
If an Aquatic Resource Alteration Permit (ARAP) has been obtained for this site, what is the permit number? NR(S)
Receiving waters: Swanpond Creek

Site Owner/Developer (Primary Permittee): (Provide person, company, or entity that has operational or design control over construction plans and specifications): Knoxville Utilities Board

For corporate entities only, provide correct Tennessee Secretary of State (SOS) Control Number: (an incorrect SOS control number may delay NOI processing)

Site Owner or Developer Contact Name: (signs the certification below) Billie Jo McCarley, P.E.
Title or Position: Director of Engineering
Mailing Address: 4505 Middlebrook Pike
City: Knoxville State: TN Zip: 37921
Phone: (865) 558-2554 Fax: ( )
E-mail: BillieJo.McCarley@kub.org

Optional Contact: Doug Douthat
Title or Position: Project Manager
Mailing Address: 4505 Middlebrook Pike
City: Knoxville State: TN Zip: 37921
Phone: (865) 558-2713 Fax: ( )
E-mail: Doug.Douthat@kub.org

Owner/Developer(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)

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.

Owner/Developer Name (print/type): Billie Jo McCarley
Signature: Billie Jo McCarley
Date: 10/28/2020
Owner/Developer Name (print/type):
Signature:
Date:

Contractor Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Contractor name, address, and SOS control number (if applicable):
Signature:
Date:

OFFICIAL STATE USE ONLY

Received Date: Reviewer: Field Office: Permit Tracking Number: TNR Exceptional TN Water:
Fee(s): T & E Aquatic Flora/Fauna: SOS Corporate Status: Waters with Unavailable Parameters: Notice of Coverage Date:



## **KUB Wayland Road Pump Station Application for General Aquatic Resource Alteration Permit**

### **Section 6 – Project Description**

#### **6.1 Project Scope**

As part of KUB's ongoing efforts to reduce sanitary sewer overflows (SSOs) and replace aging infrastructure, the Wayland Road Wastewater Pump Station is scheduled for replacement in 2021. In general, the property is located at 1900 Wayland Road, is approximately 0.88 acres and comprised of KUB's existing pump station, an associated gravel parking area, and an area of open field. It's bounded to the west by Wayland Road, to the north by Swanpond Creek, and to the east and south by private property. Additional site constraints include an existing AT&T easement, the 100-year floodplain for Swanpond Creek, and wetlands along the east side of the property.

The existing AT&T easement bisects the property and the new pump station cannot be constructed immediately adjacent to the existing. As such, the new pump station will be constructed on the east side of the AT&T easement and within a portion of the 100-year floodplain for Swanpond Creek. The amount of fill material required to construct the new pump station above the floodplain has been minimized, but will permanently impact approximately 123 square feet of wetlands. See sheet C-7.1

In February of 2009, S&ME performed a natural resource evaluation for the project site and identified the potential jurisdictional wetland on the property. For the purposes of this permit, all disturbances occurring within the floodplain are included, including the work occurring within the wetlands.

As required, excavation and fill activities have been minimized, and the work will conform to KUB's General Stormwater Construction Permit issued by TDEC. All work will be performed in accordance with KUB's General Storm Water Pollution Prevention Plan (SWPPP) for drinking water and sewer line projects. Once the project has been awarded, a completed Notice of Intent form (NOI) signed by the contractor will be submitted prior to beginning.

**6.2 USGS Topographic Map**  
**(Refer to Attachment A - Drawings for Overall Project Map)**

NOV 02 2020



U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

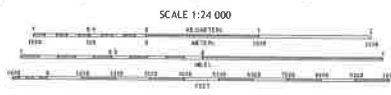
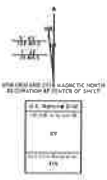


SHOOKS GAP QUADRANGLE  
TENNESSEE  
7.5-MINUTE SERIES



KUB Wayland Rd Pump Station  
1900 Wayland Road  
Knoxville, TN 37914

Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) - Projections and  
1:000 meter scale (in metric) Transverse Mercator Zone 17S  
US NAD 83 (1983) - Improved Core Geoid System of 1983  
This map (and any other document) should not be used  
for navigation purposes. This map is not a substitute for  
navigation purposes. Obtain permission from the  
relevant parties to use this map.



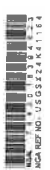
NDQ3 CLASSIFICATION

Expressway	Local Connector
Interstate Hwy	Local Road
Highway	Highway
State Route	US Route
County Road	State Route

CONFORMS TO THE NATIONAL MAP ACT OF 1992  
THIS MAP WAS PRODUCED TO CONFORM WITH THE  
NATIONAL MAP ACT OF 1992 (50 USC 1913)  
A SERVICE MAP PRODUCED BY THE U.S. GEOLOGICAL SURVEY

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

SHOOKS GAP, TN  
2016





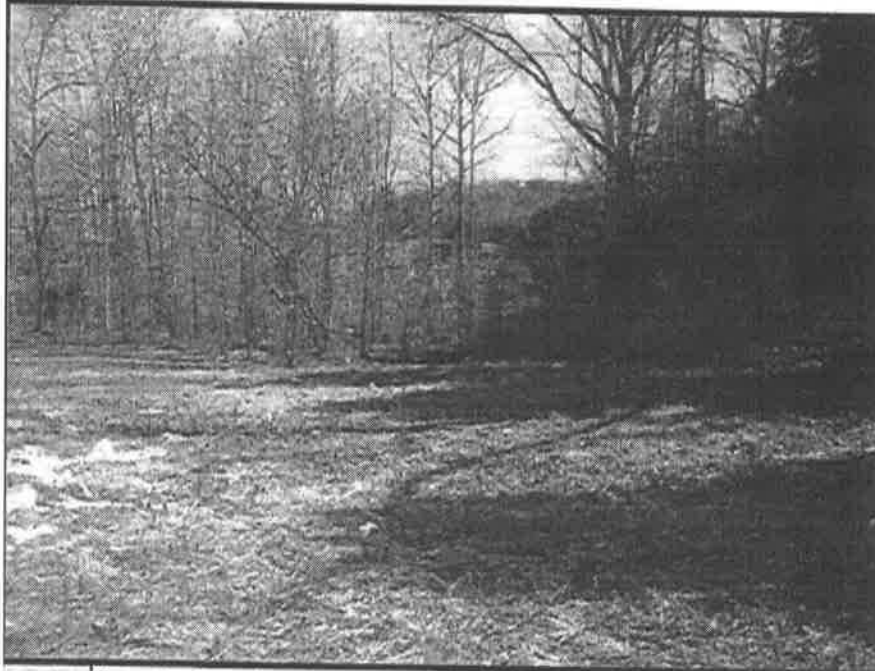
NOV 02 2020

### 6.3 Photographs

Latitude: 36.0223  
Longitude: -83.9144



**1** Herbaceous wetland area, bordered by a sewer-line to the northeast, and which extends offsite to the northeast. Facing northeast.



**2** Forested wetland area that is located at the southeastern property corner. Wetland extends offsite to the northeast. Facing east.

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**3** Herbaceous wetland area, consisting of primarily moneywort (*Lysimachia nummularia*) and black willow (*Salix nigra*) saplings.



#### **6.4 Existing Wetland Characteristics**

The majority of the wetlands lie within the 100-year floodplain of Swanpond Creek and are shown on sheet C-7.1, see Attachment A. In general, the wetlands are a herbaceous area primarily consisting of hydric soils, moneywort, and black willow saplings. No state or federally listed threatened or endangered species are indicated to be present.

#### **6.5 Proposed Characteristics**

The proposed fill material will permanently impact approximately 123 square feet (9.5'x13') of the wetlands on site but will not impact drainage to and from the wetlands. With respect to the 100-year floodplain elevation and additional site constraints, the volume of fill material required has been minimized.

#### **6.6 Wetland Delineation**

A natural resource evaluation was performed by S&ME in February of 2009 and the potential jurisdictional wetlands were identified and delineated. Refer to Attachment B, Natural Resource Evaluation performed by S&ME, dated February 18, 2009.

#### **6.7 Hydrologic/Jurisdictional Determination**

No hydrologic or jurisdictional determination documents have been issued for this project site. No streams or wet weather conveyances will be disturbed for the proposed work.

### **Section 7 – Project Rationale**

#### **7.1 Purpose**

Over the past decade, KUB has successfully reduced infiltration and inflow (I/I) and sanitary sewer overflows (SSO's) associated with the wastewater collection system. As such, the replacement of the aging pump station is part of KUB's ongoing efforts to reduce overflows.

#### **7.2 Alternatives Considered**

Various configurations were reviewed and considered for the structures, utilities and fill material on site. Additional impacts to the wetlands have been avoided with the influent gravity sewer alignment and construction limits. However, due to the location of the AT&T easement and floodplain elevation, the alternatives didn't reduce the impacts and disturbance to the wetlands. In short, the minimum finished grade for the site (887.00') is established as the 100-year elevation (886.00') plus one foot.

#### **7.3 Minimizing Impacts**

The Knoxville Utilities Board has a long history of serving the community by providing safe and reliable utility service while being environmentally responsible. Recognizing utility construction is not always popular or attractive; impacts to the environment have been minimized by limiting the amount of fill material required for construction. Additionally, the existing pump station will be demolished and removed following completion of the new pump station.



## Section 8 – Technical Information

**8.1 Detailed Plans:** Refer to Attachment A - Drawings.

### 8.2 Compensatory Mitigation and Construction Sequencing

Compensatory mitigation is not proposed for the project since the project will not cause measurable degradation to Swanpond Creek and/or the wetlands. In general, construction sequencing will begin with minimal clearing and installation of BMP's, then will be followed by excavation of the wet well and grinder well. Subsequently, fill material will be imported to raise the site to the elevations indicated on the drawings. Upon completion of the work, the existing pump station will be demolished and all disturbed areas will be temporarily and/or permanently stabilized with straw, seed, and/or gravel.

**8.3 Location and Type of EPSC Measures:** Refer to Attachment A - Drawings.

## Section 10 – Detailed Alternatives Analysis

### 10.1 Alternatives Considered

Initially, the site layout and grading plan impacted approximately 210 square feet of the wetlands with fill material. In general, the finished grade for the site was set at 888.00 feet and included 3:1 fill slopes to tie back into existing elevations. Upon further review, it was determined the finished grade for the site could be lowered one foot to 887.00 feet and the fill slopes could be reduced to 2:1 to minimize the footprint of the fill material. Additionally, the locations of the gravity sewer, grinder vault, wet well, and chemical storage tank were shifted towards Wayland Road to further minimize impacts to the wetlands.

### 10.2 Social and Economic Consequences

N/A

### 10.3 Water Quality Criteria for Designated Uses

N/A

## Section 11 – Compensatory Mitigation

Compensatory mitigation is not required – no impacts to streams will occur, only limited impacts to the wetland.



**General ARAP Application**  
KUB Wayland Road Pump Station  
Knoxville, Tennessee

**Attachment A: Drawings**

NEAR FINAL SUBMITTAL - FOR OWNER REVIEW AND APPROVAL

CONSTRUCTION PLANS

FOR

KNOXVILLE UTILITIES BOARD

CONTROL NUMBER: 2226

WAYLAND ROAD

PUMP STATION

PROJECT

KNOX COUNTY, TENNESSEE



Gresham  
Smith

GreshamSmith.com

REVISION		
No.	Date	Description

AUGUST, 2020

GS Project No: 44132.00



SET NUMBER: \_\_\_\_\_

NOV 02 2020



GreshamSmith.com

2025 Lakeside Centre Way  
 Suite 120  
 Knoxville, TN 37922  
 662.521.6777

**CONSTRUCTION PLAN**



Cosmetic Utilities Series  
 443800 4440

**WAYLAND ROAD  
 PUMP STATION  
 PROJECT**

443800 4440 TENSSE  
 COUNTY TN 37922

REVISION	
NO.	DATE - DESCRIPTION
1	11-2-20 TSS SUBMITAL

PROJECT LOCATION MAP

**G-30**

TENNESSEE  
 PROJECT LOCATION MAP



**LEGEND**

[Symbol]	PROPOSED STRUCTURE
[Symbol]	EXISTING STRUCTURE
[Symbol]	PROPOSED ROAD
[Symbol]	EXISTING ROAD
[Symbol]	PROPOSED UTILITY
[Symbol]	EXISTING UTILITY
[Symbol]	PROPOSED CURB
[Symbol]	EXISTING CURB
[Symbol]	PROPOSED SIDEWALK
[Symbol]	EXISTING SIDEWALK
[Symbol]	PROPOSED DRIVEWAY
[Symbol]	EXISTING DRIVEWAY
[Symbol]	PROPOSED CONCRETION
[Symbol]	EXISTING CONCRETION
[Symbol]	PROPOSED ASPHALT
[Symbol]	EXISTING ASPHALT
[Symbol]	PROPOSED GRAVEL
[Symbol]	EXISTING GRAVEL
[Symbol]	PROPOSED SAND
[Symbol]	EXISTING SAND
[Symbol]	PROPOSED GRADE
[Symbol]	EXISTING GRADE
[Symbol]	PROPOSED ELEVATION
[Symbol]	EXISTING ELEVATION
[Symbol]	PROPOSED DRAINAGE
[Symbol]	EXISTING DRAINAGE
[Symbol]	PROPOSED WATER
[Symbol]	EXISTING WATER
[Symbol]	PROPOSED SEWER
[Symbol]	EXISTING SEWER
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[Symbol]	EXISTING GAS
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[Symbol]	EXISTING TELEPHONE
[Symbol]	PROPOSED CABLE
[Symbol]	EXISTING CABLE
[Symbol]	PROPOSED POWER
[Symbol]	EXISTING POWER

DATE: 11/02/20  
 PROJECT: WAYLAND ROAD PUMP STATION  
 DRAWING: G-30  
 SCALE: AS SHOWN  
 SHEET: 1 OF 1



GreshamSmith.com

2095 Lakeside Centre Way  
Suite 120  
Knoxville, TN 37922  
865.521.6777

**CONSTRUCTION PLAN**  
Wayland Road  
PUMP STATION  
PROJECT  
ANDER COUNTY, TENNESSEE  
AUGUST 2020

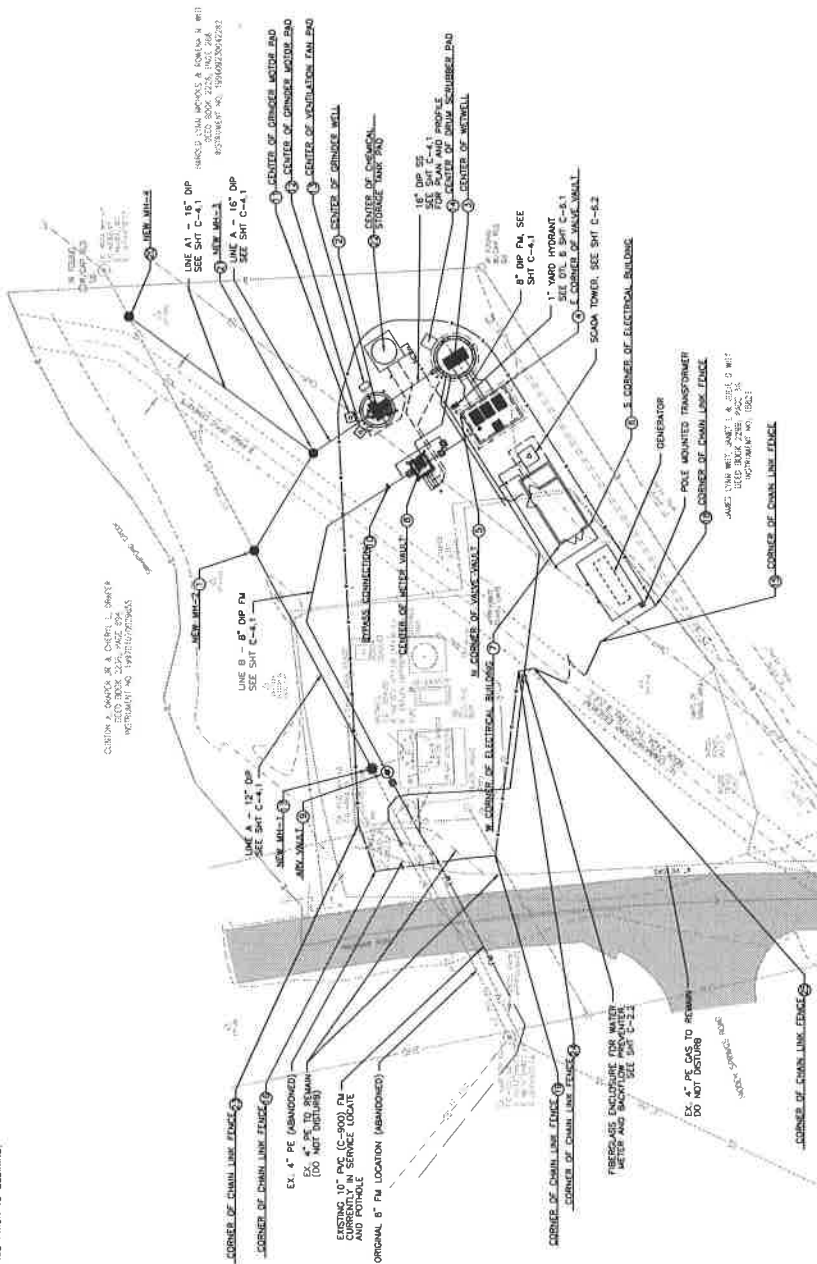
REVISION	
NO.	DATE

OVERALL  
PUMP STATION  
SITE PLAN

**C-2.1**  
DATE: 08/11/20  
PROJECT NO: 2019-010

**GENERAL CONSTRUCTION NOTES:**

- EXISTING PUMP STATION MUST REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. ALL ELECTRICAL AND MECHANICAL SERVICES TO THE EXISTING PUMP STATION MUST BE TESTED AND DEEMED OPERATIONAL BY KUB PRIOR TO USE.
- COORDINATE DISCONNECTION OF GAS AND ELECTRICAL SERVICES WITH KUB.
- INSTALL AND CONNECT NEW PIPING TO EXISTING SERVICES AND OPERATE SIMULTANEOUSLY DURING START UP. SEE DETAIL ON C.
- EXISTING PIPING TO BE REMOVED DURING CONSTRUCTION. COORDINATE BYPASS PLAN AND SEQUENCING WITH KUB PRIOR TO BEGINNING.



NOTE:  
COORDINATES ARE FOR FACE OF BUILDINGS, CENTER OF SANITARY SEWER MANHOLES,  
UNLESS OTHERWISE NOTED.



GRAPHIC SCALE

**POINT LOCATIONS**

NO.	EASTING
1	2623026.40
2	2622873.25
3	2623800.78
4	2623801.72
5	2622872.14
6	2622835.28
7	2622828.76
8	2622854.71
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11	2623970.65
12	2623865.91
13	262244.47
14	2622881.03
15	2623895.80
16	2623796.72
17	2623720.35
18	2623754.24
19	2622808.85
20	2623725.71
21	2623903.57
22	2623868.83
23	2623892.64
24	2623735.73
25	2623798.78
26	2623797.79
27	881.94
28	885.09
29	884.61
30	880.75
31	881.00
32	881.20
33	881.82

CP-350	609287.01	2622868.59	881.94
CP-352	609215.65	2622890.19	885.09
CP-1114	609150.21	2623782.89	884.61
CP-1224	609275.40	2623781.35	880.75
CP-1225	609293.54	2623816.10	881.00
CP-1236	609300.11	2623854.83	881.20
CP-1238	609311.96	2623804.19	881.82

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WWW.ONECALL800.COM  
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NOTE:  
COORDINATES ARE FOR FACE OF BUILDINGS, CENTER OF SANITARY SEWER MANHOLES,  
UNLESS OTHERWISE NOTED.

GRAPHIC SCALE







NOV 02 2020

**EROSION CONTROL NOTES**

TOTAL DISTURBED AREA = 17.0 ACRES  
TOTAL IMPERVIOUS AREA = 10.0 ACRES  
RECEIVING WATERS: SWAN POND CREEK

- EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE EMPLOYED BY THE CONTRACTOR WHERE DETERMINED NECESSARY BY LOCAL AUTHORITIES OR THE ENGINEER BASED UPON ACTUAL SITE CONDITIONS.
- EROSION CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE DRAWINGS TO ACCOMMODATE CHANGES TO THE PROJECT OR TO ADDRESS CHANGES IN RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION.
- ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF SLOPE PROTECTION MEASURES AND PRACTICES PRIOR TO OR CONCURRENT WITH LAND DISTURBANCE ACTIVITIES.
- FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED.
- IF FINES OR PENALTIES ARE LEVIED AGAINST THE PROPERTY OR THE PROPERTY OWNER BECAUSE OF A LACK OF EROSION OR SEDIMENTATION CONTROL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING SUCH FINES OR PENALTIES. FINES OR PENALTIES OF SUCH NATURE SHALL BE DEDUCTED FROM THE CONTRACT AMOUNT.
- ALL MATERIALS GRILLED, DISPOSED, WASHED OR TRACKED FROM VEHICLES OR SITE ONTO PUBLIC ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED BY THE END OF THE DAY.
- PRIOR TO COMMONS AND DISBURSANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL BE RECORDED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO DISTURBANCE ACTIVITY SHALL OCCUR INSIDE THE LIMITS INDICATED ON THE DRAWINGS.
- CONSTRUCTION ON THE SITE WILL BEGIN WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND PREVENT EROSION. ALL SEDIMENT CONTROL MEASURES WILL BE MAINTAINED UNTIL ALL UPSTREAM DISTURBED AREAS ARE FULLY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/PARKING HAVE BEEN PAVED.
- CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT LEAST TWICE WEEKLY AND AFTER EVERY RAINFALL EVENT.
- THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT FROM SEDIMENT BARRIERS AND CHECK DAMS WHICH BECOME SILTED ABOVE ONE-HALF OF THEIR ORIGINAL HEIGHT.
- TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION SHALL BE PROVIDED IMMEDIATELY AFTER REACHING FINAL GRADE.
- PERMANENT VEGETATION SHALL BE PROVIDED WHEN GRADING OPERATIONS ARE COMPLETED AND/OR CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. SEED ALL AREAS THAT SHOW SIGNS OF EROSION.
- TEMPORARY LANDFILL POLYACRYLAMIDE (P.A.M.) SHALL BE APPLIED TO DISTURBED AREAS WITHIN 14 CALENDAR DAYS OF CONSTRUCTION STOPPING IN THAT AREA AND ON SOIL STOCKPILES.
- WHEN CONSTRUCTION BORDERS A DRAINAGE COURSE, THE CONTRACTOR SHALL NOT DEPOSIT ANY BUILDING OR OTHER EXCAVATION SPOIL DIRT, CONSTRUCTION TRASH OR DEBRIS ETC. IN THE DRAINAGE COURSE.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND CORRECTED BY THE CONTRACTOR IMMEDIATELY UPON REQUEST BY THE ENGINEER. MEASURES MUST BE INSTALLED IF DEEMED NECESSARY BY ENGINEER AND/OR OWNER.
- IF CONSTRUCTION ACTIVITY CEASES IN ANY GIVEN AREA FOR A PERIOD OF 14 CALENDAR DAYS, THESE AREAS ARE TO RECEIVE TEMPORARY SEEDING PER THE SEEDING REQUIREMENTS IN THE SPECIFICATIONS.
- DISCHARGE OF STORMWATER RUNOFF FROM DISTURBED AREAS TO KNOB CREEK SHALL BE CONTROLLED TO THE EXTENT THAT THE TURBIDITY OF KNOB CREEK DOWNSTREAM OF THE DISTURBED AREA DOES NOT EXCEED THE TURBIDITY OF KNOB CREEK UPSTREAM OF THE DISTURBED AREA AT THE TIME OF SUCH DISCHARGE. DISCHARGE OF WASTE SOILS, CLEARED AND GRUBBED MATERIALS THAT CAN NOT BE GROUND TO CHIPS OFF SITE IN ACCORDANCE WITH LOCAL STATE AND FEDERAL REGULATIONS.
- USE THE FOLLOWING FOR ALL DITCHES AND SLOPES WHERE STRAW MULCH IS INADEQUATE:
  - ALL SIDE SLOPES STEEPER THAN 4:1 SHALL BE COVERED WITH LANDLOCK-S1 AS MANUFACTURED BY S.I. GEOSOLUTIONS OR APPROVED EQUAL.
  - DITCHES GREATER THAN 5% AND LESS THAN 10% SHALL BE LINED WITH LANDLOCK-CS2 AS MANUFACTURED BY S.I. GEOSOLUTIONS OR APPROVED EQUAL.
  - DITCHES EXCEEDING 10% SHALL BE LINED WITH LANDLOCK-CZ AS MANUFACTURED BY S.I. GEOSOLUTIONS OR APPROVED EQUAL.
- SILT FENCE ON FILL SIDE OF SLOPES SHALL BE CONSTRUCTED AT THE LIMIT OF DISTURBANCE (4'-7' FROM LIMITS OF FILL SLOPE).
- THE CONTRACTOR SHALL POST ON SITE:
  - A SIGN WITH THE SWPPP NUMBER FOR THE PROJECT.
  - THE NAME AND NUMBER OF A 24-HR CONTACT PERSON.
  - A BRIEF DESCRIPTION OF THE PROJECT AND THE LOCATION OF THE SWPPP.
- THE CONTRACTOR MUST KEEP AT ALL TIMES THE SWPPP ON SITE AND RECORDS OF WEEKLY INSPECTIONS FOR REVIEW BY ENGINEER IF REQUESTED.
- CONSTRUCTION ENTRANCES SHOWN ON THE PLANS ARE IN A GENERAL MANNER. THE CONTRACTOR SHALL IDENTIFY SPECIFIC LOCATIONS WITH ENGINEER AND PROVIDE AN ENTRANCE WHERE CONSTRUCTION TRAFFIC LEAVES EXISTING ROADWAYS.

Drawn By: \_\_\_\_\_  
Checked By: \_\_\_\_\_  
Approved By: \_\_\_\_\_



GreshamSmith.com

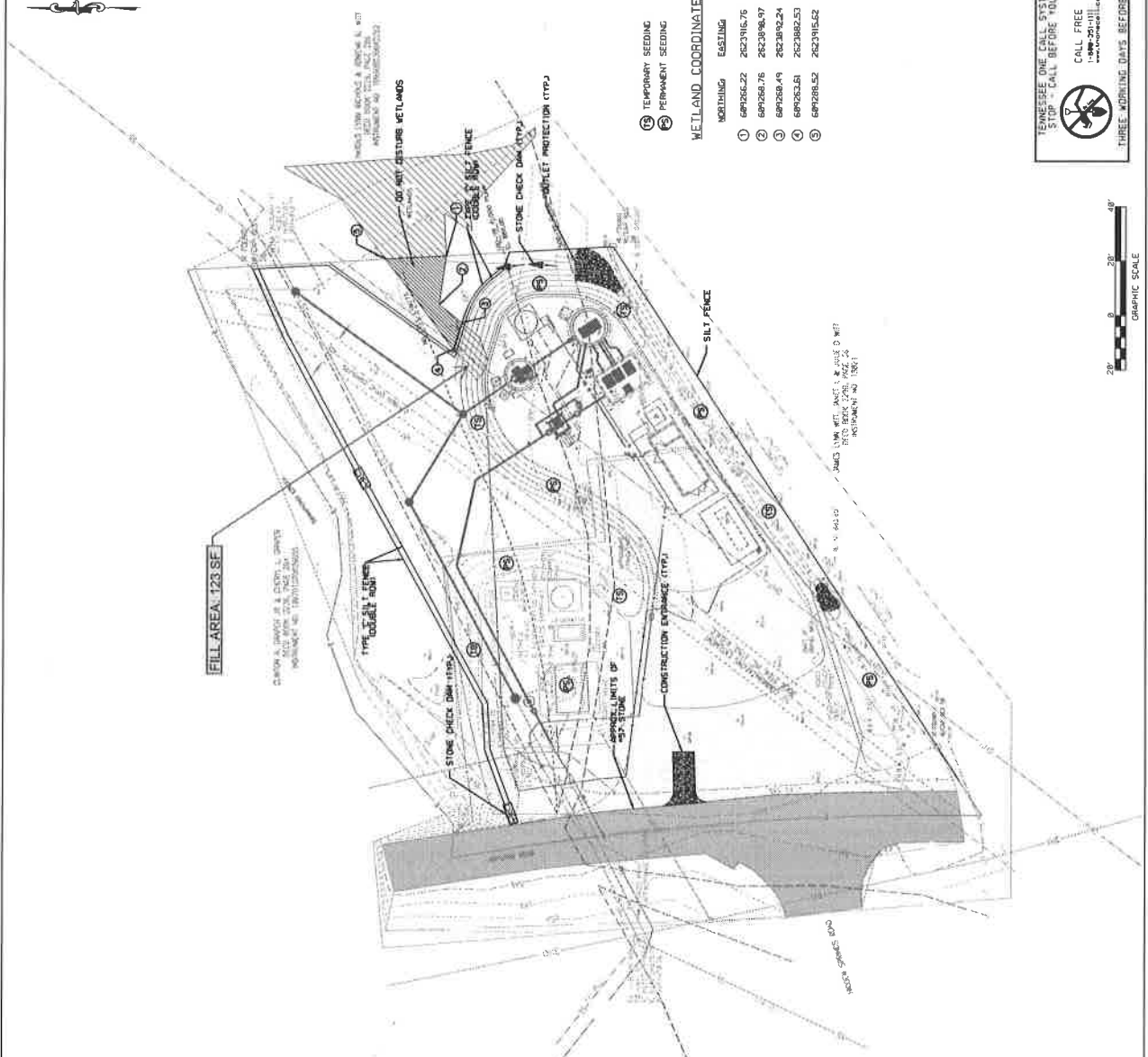
2085 Lakeside Centre Way  
Suite 120  
Knoxville, TN 37922  
606.521.8777

**CONSTRUCTION PLANS**

KNOX COUNTY, TENNESSEE  
WAYLAND ROAD  
PUMP STATION  
PROJECT  
NOVEMBER 2019  
CONTROL NUMBER 12226

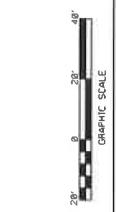
- 15 TEMPORARY SEEDING
- 16 PERMANENT SEEDING
- 17 WETLAND COORDINATES

NO.	DATE	REVISION
1	09/15/2022	282316.76
2	09/15/2022	282316.76
3	09/15/2022	282316.76
4	09/15/2022	282316.76
5	09/15/2022	282316.76



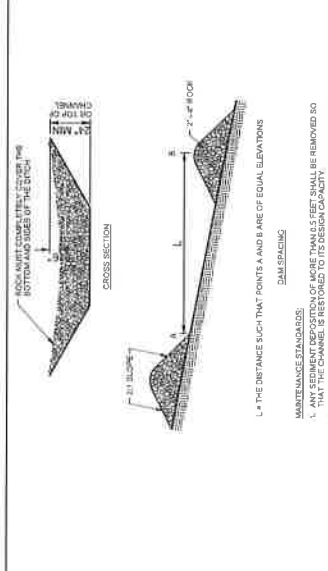
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1-800-251-1111  
www.onecall.com

THREE WORKING DAYS BEFORE YOU DIG



**EROSION & SEDIMENT CONTROL PLAN**  
C-7.1

REVISION	DATE	BY	CHKD



**3 CHECK DAMS**  
NOT TO SCALE

**NOTES:**

- USE TYPE AS NOTED ON PLAN.
- MEDICAL TECHNIQUE USING FABRIC IN AREAS WHERE ROCK PROHIBITS PROPER EMBODIMENT, SHALL BE ENCLOSED SAND ALONG THE BASE OF THE FENCE, 20 MIN. WEDGES TO STONE OR SAND, PER FOOT.
- ATTACH FABRIC TO STEEL POSTS WITH WIRE OR POCKETS.
- CONTRACTOR SHALL PERIODICALLY REMOVE MULCH FROM THE FENCE TO MAINTAIN PROPER DEPTH REACHES 1/3 OF THE FENCE HEIGHT.
- SILT FENCE SHALL BE PLACED WITHIN ROAD R.O.M. OR EASEMENTS.
- FOR ADDITIONAL REQUIREMENTS SEE CITY OF KNOXVILLE BMP MANUAL ES-14.

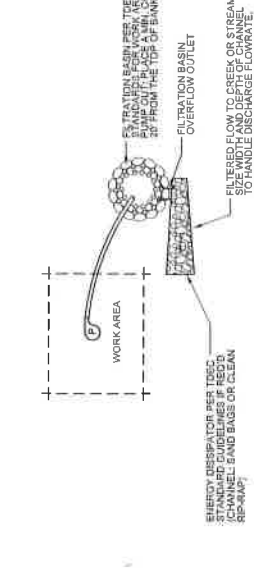
**3 CHECK DAMS**  
NOT TO SCALE

**TEMPORARY SEEDING NOTES:**

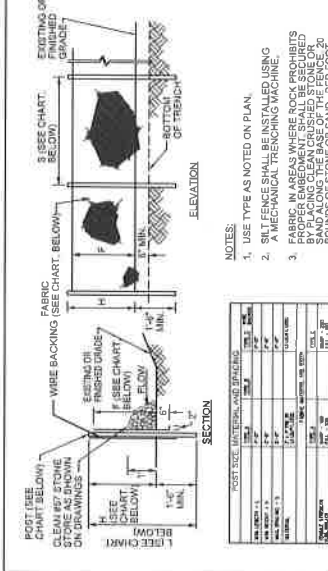
- ITALIAN RYE 33-1/3% JULY 15 - JAN. 1  
KOREAN 100% SUDANESORGHUM CROSSES BALBOA RYE 66-2/3%  
LESPEDEZA 33-1/3% 100% STARR MILLET ITALIAN RYE 33-1/3%  
OR EQUIVALENT
- MULCH SHALL BE EVENLY SPREAD OVER SEED AREA.
- APPLICATION RATE: 1.5 POUNDS PER 1000 SQUARE FEET STRAW; 100 POUNDS PER 1000 SQUARE FEET FERTILIZER AND 50 POUNDS PER 1000 SQUARE FEET WHEN MIXING OR FORMING GROUPS. SEED SHALL BE UNIFORMLY MIXED.
- APPLIED AT A RATE OF 20 POUNDS PER 1000 SQUARE FEET.
- TEMPORARY SEEDING IS REQUIRED WHEN GRADING OPERATIONS ARE COMPLETED AND/OR CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. SEED AREAS THAT SHOW SIGNS OF EROSION.

**PERMANENT SEEDING NOTES:**

- DISTURBED AREAS SHALL BE SEEDED WITH THE FOLLOWING:  
PERMANENT LAWN: 85% KENTUCKY 31 AT THE RATE OF 5 LBS PER 1,000 SQUARE FEET  
SEED SHALL CONFORM TO THE STATE PRESENTATIVE RATE OF 1.5 LBS PER 1,000 S.F.  
FERTILIZE WITH 10 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET  
SEED AREAS ARE TO BE INSTALLED USING THE CURRENT BEST PRACTICES AND PERMANENT SEEDING IS REQUIRED WHEN GRADING OPERATIONS ARE COMPLETED AND/OR CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. SEED AREAS THAT SHOW SIGNS OF EROSION



**9 DEWATERING BASIN**  
NOT TO SCALE

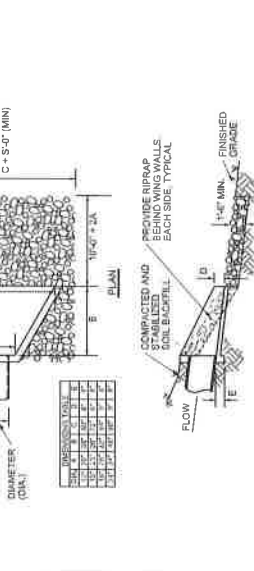


**2 SILT FENCE**  
NOT TO SCALE

**NOTES:**

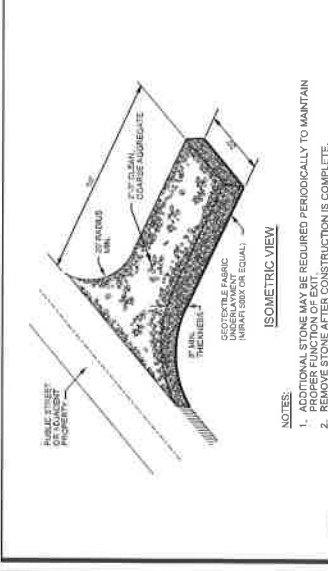
- USE TYPE AS NOTED ON PLAN.
- MEDICAL TECHNIQUE USING FABRIC IN AREAS WHERE ROCK PROHIBITS PROPER EMBODIMENT, SHALL BE ENCLOSED SAND ALONG THE BASE OF THE FENCE, 20 MIN. WEDGES TO STONE OR SAND, PER FOOT.
- ATTACH FABRIC TO STEEL POSTS WITH WIRE OR POCKETS.
- CONTRACTOR SHALL PERIODICALLY REMOVE MULCH FROM THE FENCE TO MAINTAIN PROPER DEPTH REACHES 1/3 OF THE FENCE HEIGHT.
- SILT FENCE SHALL BE PLACED WITHIN ROAD R.O.M. OR EASEMENTS.
- FOR ADDITIONAL REQUIREMENTS SEE CITY OF KNOXVILLE BMP MANUAL ES-14.

**5 NOT USED**  
NOT TO SCALE



**8 OUTLET PROTECTION (RIP RAP)**  
NOT TO SCALE

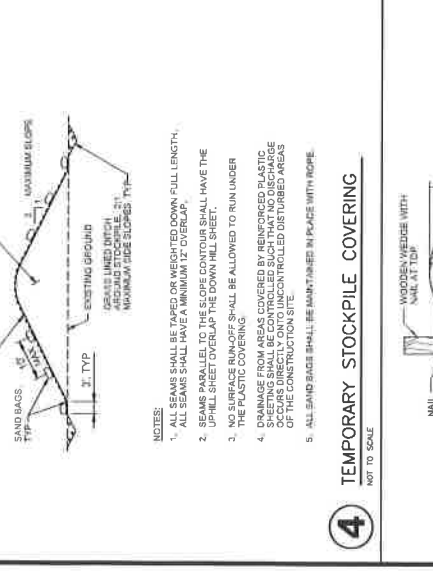
RIP-RAP STABILIZATION TO BE NATIVE STONE.  
35¢ = 6\"/>



**1 TEMPORARY CONSTRUCTION SITE ENTRANCE / EXIT**  
NOT TO SCALE

**NOTES:**

- ADDITIONAL STONE MAY BE REQUIRED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF EXIT.
- CONSTRUCTION IS COMPLETED.
- FOR ADDITIONAL REQUIREMENTS SEE KUB SWPPP.



**4 TEMPORARY STOCKPILE COVERING**  
NOT TO SCALE

**NOTES:**

- ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN-FULL LENGTH.
- SEAMS PARALLEL TO THE SLOPE CONTOUR SHALL HAVE THE UPWELL SHEET OVERLAP THE DOWNWELL SHEET.
- THE PLASTIC COVERING SHALL BE ALLOWED TO RIN UNDER DRAINAGE FROM AREAS COVERED BY REINFORCED PLASTIC SHEETING SHALL BE CONTROLLED SUCH THAT NO DISCHARGE OF OILS DIRECTLY ONTO UNCONTROLLED DISTURBED AREAS OF THE CONSTRUCTION SITE.
- ALL SAND BAGS SHALL BE IDENTIFIED IN PHASE WITH RIPE.

**7 SEDIMENT BARRIER**  
NOT TO SCALE

ACCEPTED MANUFACTURER: ROLANCA: B6-B-SILT-CHECK-6 OR EQUIVALENT.



**General ARAP Application**  
KUB Wayland Road Pump Station  
Knoxville, Tennessee

**Attachment B: Natural Resource Evaluation**



February 23, 2009

U.S. Army Corps of Engineers  
501 Adesa Boulevard, Suite 250B  
Lenoir City, Tennessee 37771

Tennessee Department of Environment and Conservation  
Division of Water Pollution Control  
3711 Middlebrook Pike  
Knoxville, Tennessee 37921

Attention: Cathy Elliott & Jonathon Burr

SUBJECT: **Natural Resource Verification Package**  
KUB Wayland Road Pump Station  
Knoxville, Tennessee  
S&ME Project No. 1437-09-061

Dear Ms. Elliott & Mr. Burr:

S&ME is submitting this letter along with a Site Vicinity Map (Figure 1), a Natural Resource Evaluation Map (Figure 2), representative photographs (Figure 3), and the U.S. Army Corps of Engineers (USACE) *Routine Wetland Determination Data Forms* for the referenced site. The site is located northeast of the intersection of Hidden Springs Road and Wayland Road in Knoxville, Tennessee (Figure 1). The Natural Resources Evaluation Map (Figure 2) shows the locations of Swanpond Creek and one wetland area identified by S&ME. S&ME is requesting a jurisdictional determination at the site.


S&ME personnel visited the property on February 17, 2009 to locate Waters of the State. A review of the USGS 7.5 Minute Topographic Quadrangle map for Shooks Gap, Tennessee, revealed the presence of one blue-line stream (Swanpond Creek) bordering the site to the north. The presence of this stream was confirmed during the field reconnaissance. No additional drainage features were observed within the evaluation area.


During the field reconnaissance, S&ME identified one potentially jurisdictional wetland on the property. The wetland begins in the central portion of the site and extends offsite to the east. The wetland is primarily comprised of the facultative wet species, moneywort (*Lysimachia nummularia*), as well as some stands of obligatory black willow (*Salix nigra*) saplings that have been closely cropped by mowing activities. The soils in the wetland areas were evaluated utilizing the Munsell soil color chart. The hydric soils in the wetland area (soils with a chroma of  $\leq 2$ ) possessed matrix chromas of primarily 4/2 2.5Y with mottles of 4/4 and 4/6 2.5Y. Other hydric soil indicators were also observed including iron and manganese concretions, oxidized

rhizospheres, and saturation near or at the surface. See Figure 2 for the location and preliminary boundary of the wetland and Swanpond Creek. S&ME has also attached the USACE Data Forms for a Routine Wetland Determination.

S&ME will contact you during the week of February 23, 2009 to schedule a verification meeting. If you have any questions concerning this letter, please do not hesitate to call.

Sincerely,  
S&ME, Inc.

  
Sarah A. Smith  
Staff Scientist

  
Elizabeth M. Porter, P.G.  
Natural Resources Department Manager

Attachments: Figure 1—Site Vicinity Map  
Figure 2—Natural Resource Map  
Figure 3—Representative Photographs  
USACE Routine Wetland Determination Data Forms

NOV 0 2 2020

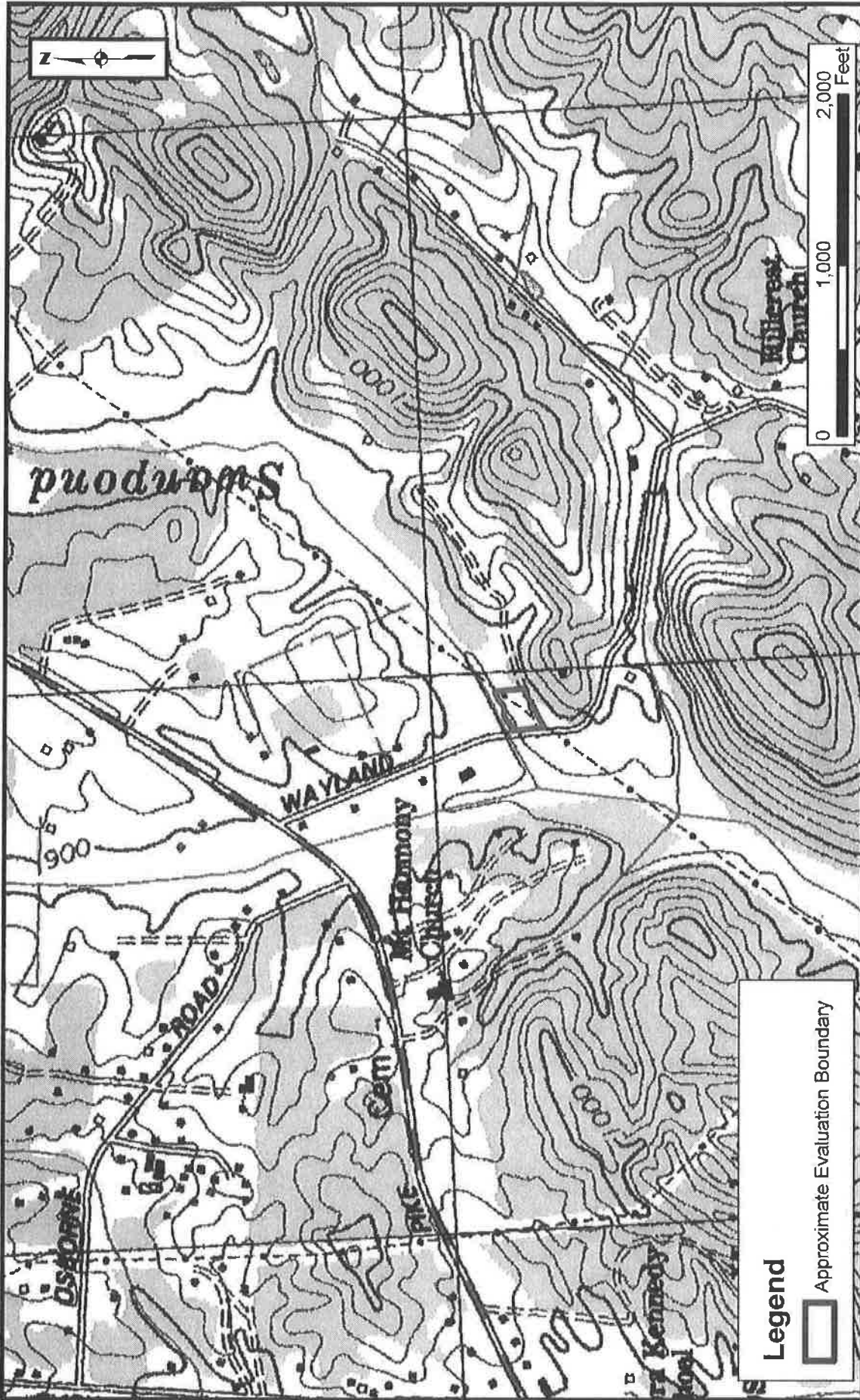


FIGURE NO:

1

Site Vicinity Map

### KUB Wayland Road Pump Station

Knoxville, Tennessee

Project No: 1434-09-061



SCALE: AS SHOWN

CHECKED: EMP

DRAWN: JPR

DATE: 2/18/09

**USGS Topographic  
Quadrangle Reference:  
Shooks Gap Quad**

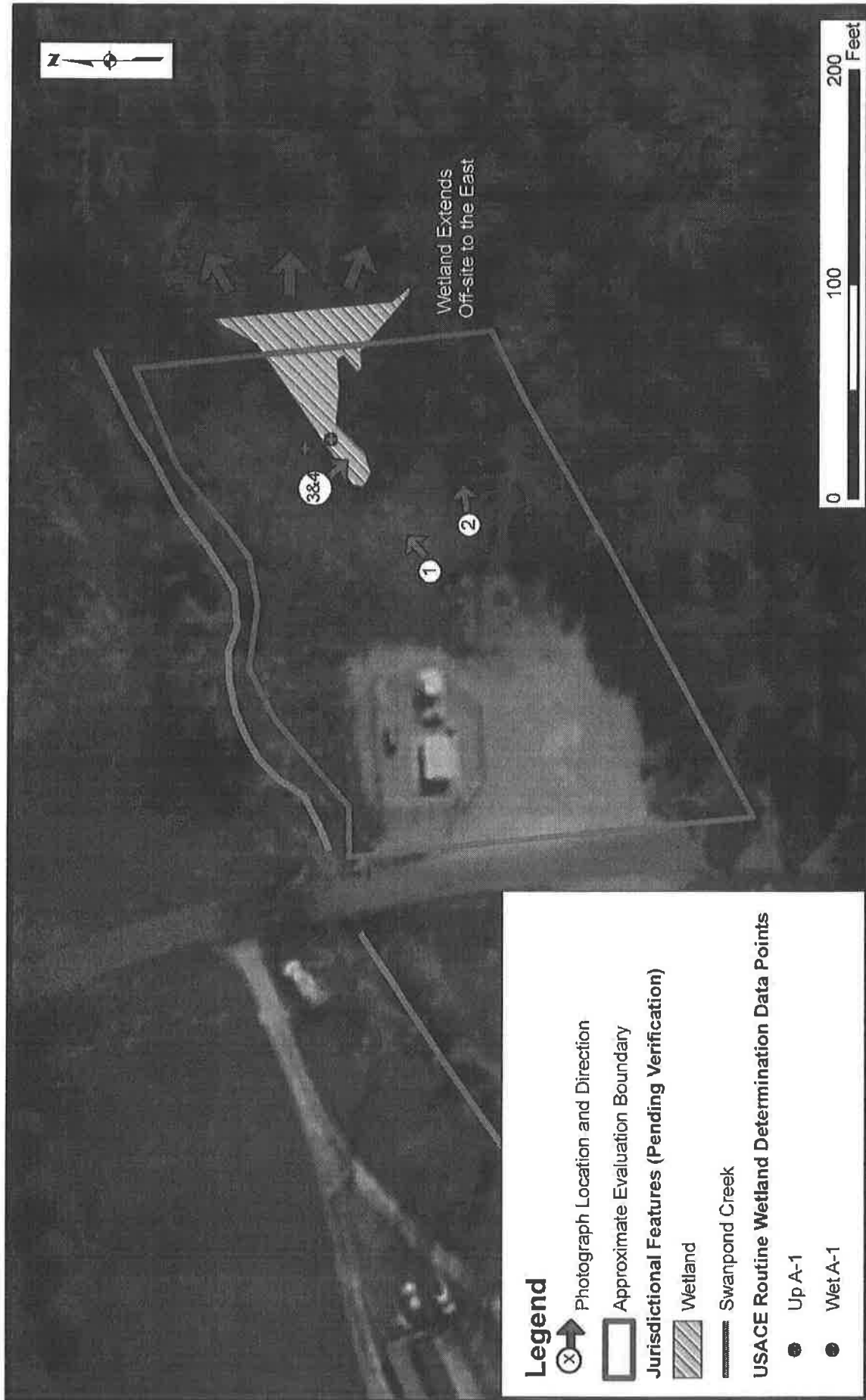
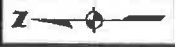
#### Legend



Approximate Evaluation Boundary



NOV 02 2020



**Legend**

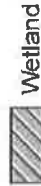


Photograph Location and Direction



Approximate Evaluation Boundary

**Jurisdictional Features (Pending Verification)**



Wetland

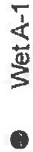


Swanpond Creek

**USACE Routine Wetland Determination Data Points**



Up A-1



Wet A-1

SCALE:	AS SHOWN
CHECKED:	EMP
DRAWN:	JPR
DATE:	2/18/09

**Aerial Provided by:  
Microsoft Visual Earth™**



Site Vicinity Map  
**KUB Wayland Road  
Pump Station**  
Knoxville, Tennessee

Project No: 1434-09-061

FIGURE NO:

**2**

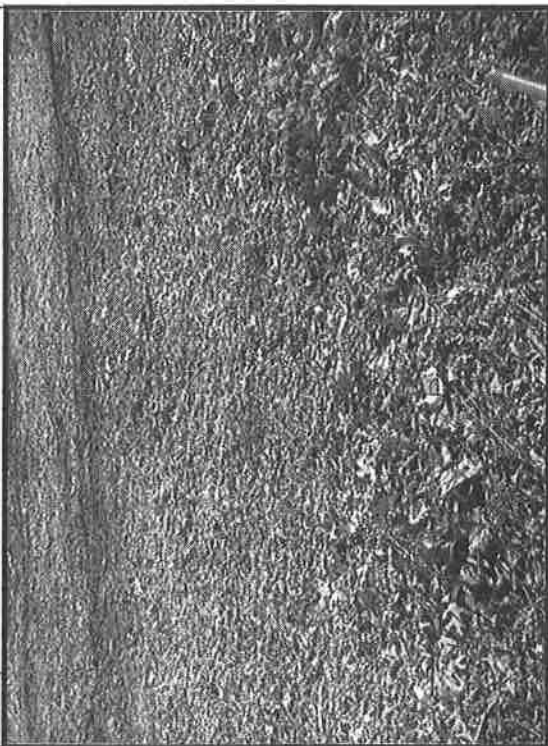
NOV 02 2020



1 Herbaceous wetland area, bordered by a sewer-line to the northeast, and which extends offsite to the northeast. Facing northeast.



2 Forested wetland area that is located at the southeastern property corner. Wetland extends offsite to the northeast. Facing east.



3 Herbaceous wetland area, consisting of primarily moneywort (*Lysimachia nummularia*) and black willow (*Salix nigra*) saplings.



4 Photograph of the hydric soils encountered within the wetland area. Soils contained low matrix chromas, oxidized rhizospheres, and iron and magnesium concretions.



Figure 3—Representative Photographs  
KUB Wayland Road Pump Station  
Knoxville, Tennessee

S&ME Project # 1437-09-061

Taken by: SAS

Date Taken: 2-17-09

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 COE Wetlands Determination Manual)**

Project / Site: <u>    KUB Wayland Road Pump Station    </u> Applicant / Owner: <u>    Gresham Smith and Partners    </u> Investigator: <u>    Sarah Smith    </u>	Date: <u>    2/17/09    </u> County: <u>    Knox    </u> State: <u>    Tennessee    </u>
Do normal circumstances exist on the site?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is the site significantly disturbed (Atypical situation)?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Is the area a potential problem area?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (explain on reverse if needed)	Community ID: <u>    Wetland    </u> Transect ID: <u>    A    </u> Plot ID: <u>    1    </u>

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>    Lysimachia nummularia    </u>	<u>    HERB    </u>	<u>    FACW+    </u>	9. _____	_____	_____
2. <u>    Salix nigra    </u>	<u>    SAPLING    </u>	<u>    OBL    </u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-).     100%    

**Remarks:**      Area has been closely mown and vegetation is cropped at approximately 2 inches high. Some *Salix nigra* saplings had sprouted up to approximately 12 inches high since the last mowing activity.

**HYDROLOGY**

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="margin-left: 20px;"><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p style="margin-left: 20px;"><input type="checkbox"/> Aerial Photographs</p> <p style="margin-left: 20px;"><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p><b>Field Observations:</b></p> <p style="margin-left: 20px;">Depth of Surface Water: <u>    none    </u>(in.)</p> <p style="margin-left: 20px;">Depth to Free Water in Pit: <u>    ~6    </u>(in.)</p> <p style="margin-left: 20px;">Depth to Saturated Soil: <u>    0    </u>(in.)</p>	<p><b>Wetland Hydrology Indicators</b></p> <p><b>Primary Indicators:</b></p> <p style="margin-left: 20px;"><input type="checkbox"/> Inundated</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Saturated in Upper 12"</p> <p style="margin-left: 20px;"><input type="checkbox"/> Water Marks</p> <p style="margin-left: 20px;"><input type="checkbox"/> Drift Lines</p> <p style="margin-left: 20px;"><input type="checkbox"/> Sediment Deposits</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p><b>Secondary Indicators:</b></p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Oxidized Roots Channels in Upper 12"</p> <p style="margin-left: 20px;"><input type="checkbox"/> Water-Stained Leaves</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Local Soil Survey Data</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p style="margin-left: 20px;"><input type="checkbox"/> Other (Explain in Remarks)</p>
<p><b>Remarks:</b></p>	

**SOILS**

**Wetland—1**

**Map Unit Name**

(Series and Phase): Bloomington Silt Loam, 0-2% slopes **Drainage Class:** Poorly Drained

**Taxonomy (Subgroup):** Typic Endoaquepts

**Confirm Mapped Type?** Yes  No

**Profile Description:**

Depth (Inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-0.5	O				
0.5-4	A	4/3 2.5Y	none	n/a	Silty clay
4-12+	B	4/2 2.5Y	4/4 2.5Y	many / faint	Silty clay

**Hydric Soil Indicators:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed On Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

**Remarks:**

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present? Yes  No       Is the Sampling Point  
 Wetland Hydrology Present? Yes  No       Within a Wetland? Yes  No   
 Hydric Soils Present? Yes  No

**Remarks:**

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 COE Wetlands Determination Manual)**

Project / Site: <u>    KUB Wayland Road Pump Station    </u> Applicant / Owner: <u>    Gresham Smith and Partners    </u> Investigator: <u>    Sarah Smith    </u>	Date: <u>    2/17/09    </u> County: <u>    Knox    </u> State: <u>    Tennessee    </u>
Do normal circumstances exist on the site?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is the site significantly disturbed (Atypical situation)?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Is the area a potential problem area?      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (explain on reverse if needed)	Community ID: <u>    Upland    </u> Transect ID: <u>    A    </u> Plot ID: <u>    1    </u>

**VEGETATION**

<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>	<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>
1. <u>    Trifolium sp.    </u>	<u>    HERB    </u>	<u>    FACU    </u>	9. _____	_____	_____
2. <u>    Salix nigra    </u>	<u>    SAPLING    </u>	<u>    OBL    </u>	10. _____	_____	_____
3. <u>    Festuca sp.    </u>	<u>    HERB    </u>	<u>    FAC    </u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-).     50%    

**Remarks:**    Area has been closely mown and vegetation is cropped at approximately 2 inches high. Some *Salix nigra* saplings had sprouted up to approximately 12 inches high since the last mowing activity.

**HYDROLOGY**

<p><input type="checkbox"/> Recorded Data (Describe In Remarks):              <input type="checkbox"/> Stream, Lake, or Tide Gauge              <input type="checkbox"/> Aerial Photographs              <input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p><b>Field Observations:</b></p> <p>Depth of Surface Water: <u>    none    </u>(in.)</p> <p>Depth to Free Water in Pit: <u>    &gt;12    </u>(in.)</p> <p>Depth to Saturated Soil: <u>    &gt;12    </u>(in.)</p>	<p><b>Wetland Hydrology Indicators</b></p> <p><b>Primary Indicators:</b></p> <p><input type="checkbox"/> Inundated  <input type="checkbox"/> Saturated in Upper 12"  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p><b>Secondary Indicators:</b></p> <p><input type="checkbox"/> Oxidized Roots Channels in Upper 12"  <input type="checkbox"/> Water-Stained Leaves  <input checked="" type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC-Neutral Test  <input type="checkbox"/> Other (Explain In Remarks)</p>
<p><b>Remarks:</b></p>	

**SOILS**

**Upland—1**

**Map Unit Name**  
 (Series and Phase): Bloomington Silt Loam, 0-2% slopes **Drainage Class:** Poorly Drained

**Taxonomy (Subgroup):** Typic Endoaquepts **Confirm Mapped Type? Yes**  **No**

**Profile Description:**

Depth (Inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-0.5	O				
0.5-12+	A/B	4/4 2.5Y	none	n/a	Silty clay

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input checked="" type="checkbox"/> Listed On Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

**Remarks:**

**WETLAND DETERMINATION**

<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampling Point</b>
<b>Wetland Hydrology Present?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>Hydric Soils Present?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

**Remarks:**