

# Section 594 of the Water Resources Development Act (WRDA) 1999 (Public Law 106-53, as amended)

Construction of Phosphorus Optimized Wetlands in St. Marys, Ohio

# Scoping Information & Public Notice EAXX-202-00-H5P-1734433982



Buffalo District, U.S. Army Corps of Engineers
478 Main Street
Buffalo New York, 14202

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#### 1. Introduction

The National Environmental Policy Act (NEPA) directs federal agencies to initiate "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action." The Buffalo District - U.S. Army Corps of Engineers (USACE) has prepared this scoping information packet to elicit public and agency concerns, clearly define the environmental issues and alternatives that should be examined, and identify federal, state, and local requirements that may need to be addressed. The information in this scoping document has been prepared as part of the formal scoping process pursuant to NEPA and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Part 1500 et seq.).

Additionally, this scoping document serves as the public notice pursuant to Section 404(a) of the Clean Water Act (CWA) due to anticipated discharge of fill material into a water of the United States. It therefore also serves as notification that the Ohio Environmental Protection Agency (Ohio EPA) Division of Surface Water (DSW) would potentially receive an application from the U.S. Army Corps of Engineers (USACE) requesting a Clean Water Act Section 401 water quality certification for the wetland project proposed to be constructed in the City of St Marys, Auglaize County, Ohio. The potential environmental effects of the proposed project will be evaluated by USACE in an environmental assessment in accordance with NEPA as well as to inform its decision on the design of the wetlands.

The project location is in the St. Marys River watershed in western Auglaize County, approximately one mile north of US-33 and just to the southeast of a landfill formerly operated by the City of St. Marys (Figure 1). A portion of the parcel of interest, owned by the city, sits in the floodplain of the St. Marys River, which flows from south to north at this location. The two waterbodies of interest for targeted phosphorus treatment via a wetland complex are the St. Marys River, which has a drainage area of over 65,000 acres at this location, and an unnamed drainage ditch with a drainage area of a few hundred acres. The potential wetland sites are relatively remote, with walk-up access from either the easternmost end of Markley Road (south of the site) or a half-mile long gravel driveway that wraps around a manmade reservoir just south of the landfill. The majority of the land cover in the vicinity and on the parcel of interest is cropland, with some forested tracts adjacent to the river. The city has historically rented the parcel to a local farmer for row crop use (primarily soybeans and corn).

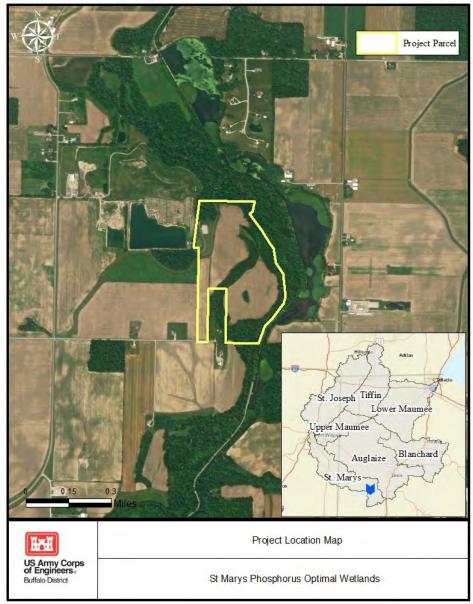


Figure 1 – Proposed Project Location

#### 2. Need for Action

Beginning in 2010, the Great Lakes Restoration Initiative (GLRI) commenced the largest investment in the Great Lakes in two decades. The USACE represents one of many federal agencies involved in the implementation of this initiative. One key priority of the GLRI is the reduction of harmful algae traced to phosphorus runoff from three priority watersheds: the Maumee River (OH, MI, IN), the Lower Fox River (WI), and the Saginaw River (MI) watersheds. Section three of the GLRI Action Plan establishes nonpoint source pollution, including nonpoint source soluble reactive phosphorus (SRP), as a cause of these harmful algal blooms. To achieve progress on this objective, innovative solutions to watershed scale pollution are recommended.

In 2016, as part of a renewed call to action to address harmful algal blooms (HABs) in Lake Erie, the U.S. and Canada made a joint commitment to reduce phosphorus loads by 40 percent. In the U.S., this is equivalent to a reduction of 7.3 million pounds to the lake. The magnitude of reduction needed in the western Lake Erie watershed far surpasses the capacity and resources available from any one of the GLRI partners and requires us to work collectively and strategically to maximize our impact with the funding and authorities we have. GLRI is just one of many programs contributing to phosphorus reduction goals to prevent HABs in Lake Erie. Taken together with other federal and state programs, The U.S Environmental Protection Agency (USEPA) estimates three million pounds have been reduced from agricultural and municipal sources to date, which is a significant step toward meeting the 40 percent target.

#### 3. Preferred Alternative

The proposed project consists of the construction of two phosphorous optimized wetlands in St Marys, Ohio (Figure 2). The Northern Wetland (NW) would be a small gravity-fed wetland approximately four acres in size and would reach a maximum depth of approximately five feet. The top of the wetland would be at 840 feet North American Vertical Datum of 1988 (NAVD 88), and the lowest at 835 feet NAVD 88. The design would require approximately 28,300 cubic yards of earth moving (Figure 3). Associated with the wetland would be an outlet control structure within the unnamed tributary to the St Marys River (Figures 4 and 5). This outlet structure footprint is up to approximately 320 square yards and may be filled up to 841feet NAVD 88 with a slope down to the toe of the riprap at 836 feet NAVD 88.

The Southern Wetland (SW) would also be a small gravity-fed wetland that is approximately four acres in size. The south wetland highest point would be 843 feet NAVD 88 and lowest 835 feet NAVD 88. Water would begin to enter the wetland at approximately 836.5 feet NAVD 88, to provide treatment for a portion of many of the highest flow events each year. The design would require approximately 50,100 cubic yards of earth moving (Figure 5). Additionally, there will be an outlet control structure to allow water to flow out of the wetland back into the St Marys River (Figure 6). The outlet control structure for the SW would be up to approximately 120 square yards of riprap to reinforce the area during high flow events (Figure 7). A detailed design of both wetlands is provided in Appendix A.

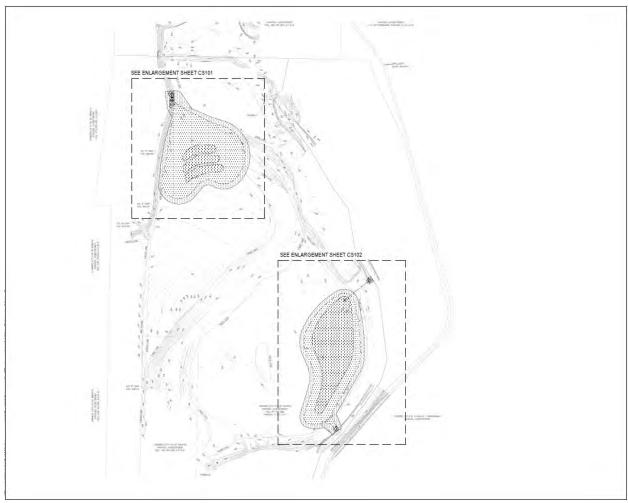


Figure 2 – Proposed Wetland Footprints

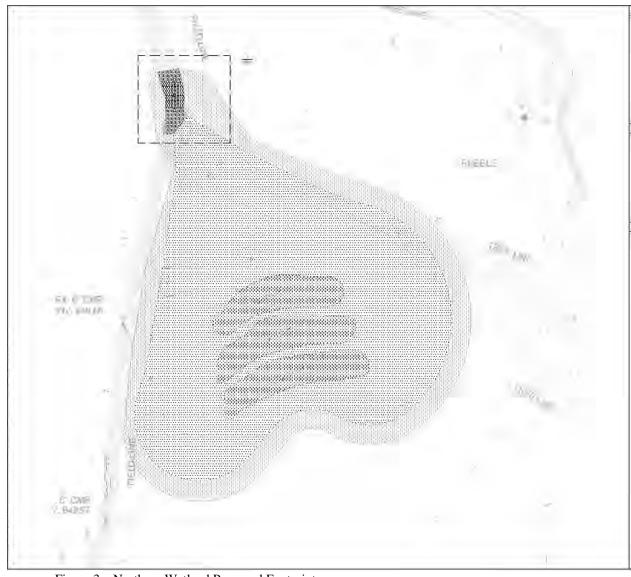


Figure 3 – Northern Wetland Proposed Footprint

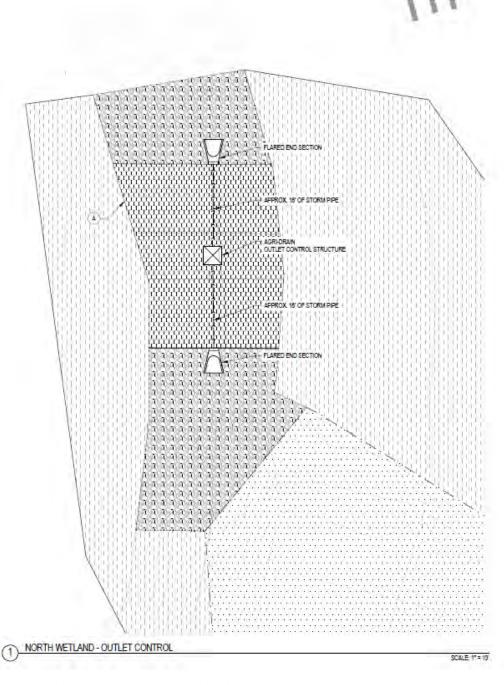
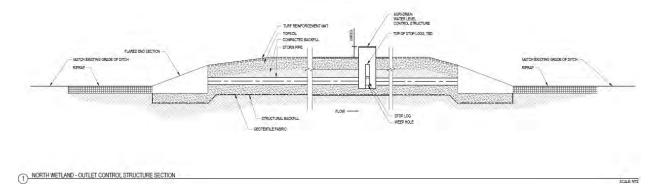


Figure 4 – Northern Wetland Outlet Control Structure



 $Figure \ 5-Northern \ Wetland \ Outlet \ Control \ Structure \ Cross \ Section$ 

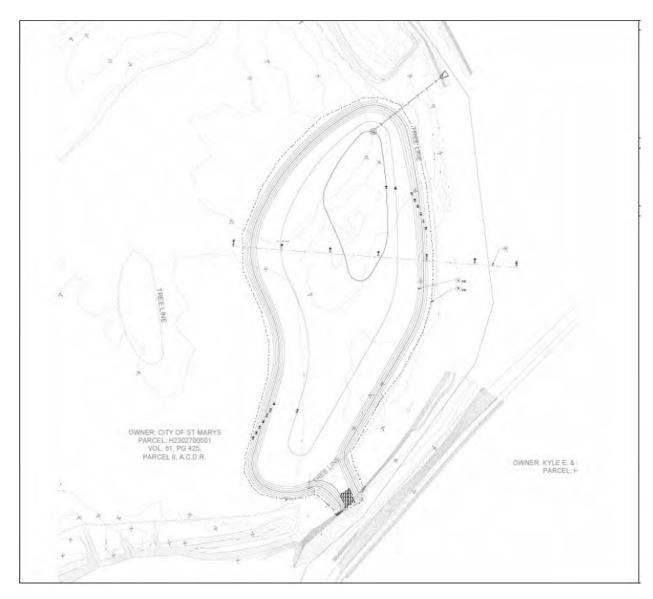


Figure 6 – Southern Wetland Proposed Footprint

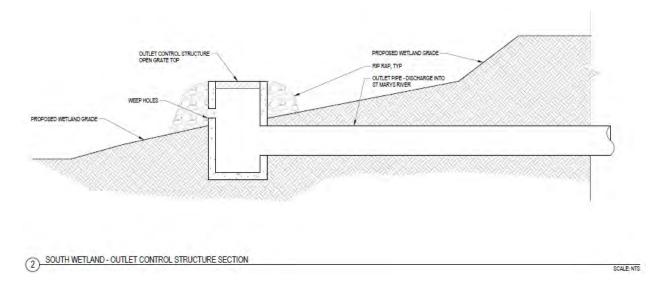


Figure 7 – Southern Wetland Outlet Control Structure Cross Section

#### 4. Alternatives Considered

The USACE is required to consider the option of "No Action" as one of the alternatives to comply with the requirements of NEPA. No action assumes that no project would be implemented by the federal government to achieve the planning objectives. No action, which is synonymous with the Without Project Condition, forms the basis from which all other alternative plans are measured. Under this alternative, the federal government would not construct phospporus optimized wetlands at St. Marys, Ohio.

Additional alternatives under consideration are as follows:

#### Northern Wetland

The northern wetland location was conducive to a gravity fed option. The primary design consideration was wetland sizing. Three wetland sizes are under consideration: 4.5 acres, 6.9 acres, and 9.2 acres (Figure 7).

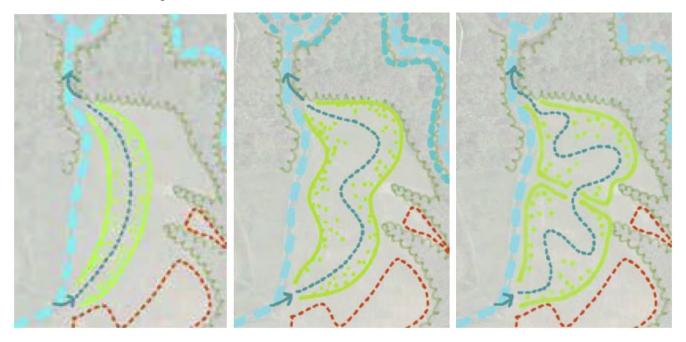


Figure 8 – Northern Wetland Alternatives

#### South Wetland

Three general alternative approaches for the southern wetland were developed (Figure 8):

Alternative 1: Continuous pumping from the St. Marys River.

Alternative 2: Diversion to a settling basin from the St. Marys River, pumped to a wetland treatment train.

Alternative 3: Gravity fed approach, with possible hydraulic control structures.

Additionally, the southern wetland was considered as a channel or a pond. However, the alternative evaluation focused primarily on the pumping options (continuous, basin, or no pump).

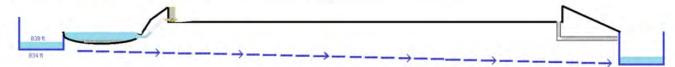
Alternative 1 - Continuous pumping

· Always providing treatment, but not focused on large events



Alternative 2 - Diversion to settling basin, pumped to wetland

· Lower volume treated, but is only missing relatively low P flows



Alternative 3 – Diversion to wetland with lock and dam system

· Only captures highest flow rates

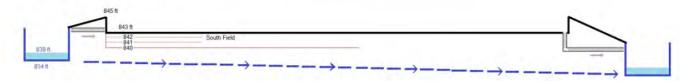


Figure 9 – Southern Wetland Alternatives

#### 5. Public Participation and Interagency Coordination

Throughout the scoping process, stakeholders and interested parties are invited to provide comment on this study. Potential social, economic, and environmental benefits and adverse impacts that may result from each alternative that is selected for detailed analysis will be addressed in future documentation. Interested parties are welcome to contact USACE to discuss their views and recommendations regarding this study. Comments will be accepted by mail/email until the close of this scoping period on February 12, 2025.

#### 6. Impact Assessment

Future conditions and anticipated potential effects of the proposed action will be assessed and compared to a no action alternative. The no action alternative represents the anticipated condition that may result from the USACE taking no action to complete the proposed wetland construction. The alternatives will be evaluated for several social, economic and environmental categories, including:

- Fish and Wildlife Resources
- Water Quality
- Dredged Material Management
- Geology and Soils
- Contaminated Materials
- Air Quality
- Noise
- Recreation

- Historic Properties
- Property Values and Tax Revenues
- Employment
- Community Cohesion and Growth
- Transportation
- Public Facilities and Services
- Aesthetics
- Environmental Justice

#### 7. Compliance with Environmental Protection Statutes

The proposed wetland construction will be evaluated for compliance with all applicable environmental protection statutes, executive orders, *etc.* including:

Clean Water Act, as amended (Federal Water Pollution Control Act Amendments of 1972) (33 <u>USC 1251 et seq.)</u> If the recommended plan involves the placement of dredged or fill material into the waters of the United States, the USACE will evaluate the discharge in accordance with Clean Water Act Section 404(b)(1) Guidelines. Water quality and related information used in this evaluation will provide documentation to demonstrate that the recommended plan is in compliance with this Act. A Section 401 Water Quality Certification for the discharge would also be requested from the Ohio Environmental Protection Agency.

Endangered Species Act of 1973, as amended (16 USC 1531 et seq.). In accordance with Section 7 of this Act, USACE is requesting information from the U.S. Fish and Wildlife Service (USFWS) on any listed or proposed species or designated or proposed critical habitat that may be present in the project area. If this consultation with USFWS identifies any such species or critical habitat, then USACE will conduct a biological assessment to determine the proposed project's effect on these species or critical habitat.

The USFWS web sites and Information for Planning Consultation ([https://ecos.fws.gov/ipac/], accessed December 2024) have been reviewed to generate the following list of federally threatened and endangered species that are/or may be present at the project location:

- Indiana Bat (*Myotis sodalist*)
- Whooping Crane (*Grus americana*)
- Monarch Butterfly (Danaus plexippus)
- Tricolored Bat (*Perimyotis subflavus*)

National Environmental Policy Act (NEPA). In accordance with the Council on Environmental Quality's "National Environmental Policy Act Implementing Regulations" (40 CFR 1500-1508) and Engineer Regulation 200-2-2 (Procedures for Implementing NEPA), the USACE will assess the potential environmental effects of the proposed action on the quality of the human environment. Using a systematic and interdisciplinary approach, an assessment will be made of the potential environmental impacts for the proposed action as judged by comparing the with-

project and without-project conditions. The impact assessment process will determine if an Environmental Impact Statement is required, or if an Environmental Assessment and Finding of No Significant Impact is appropriate. This scoping information packet constitutes an initial request for public and agency input into this NEPA review process.

National Historic Preservation Act. Under Section 106 of this Act, this scoping information also initiates consultation with the National Park Service, State Historic Preservation Office (SHPO), potentially interested Tribal nations, local historic preservation organizations and others likely to have knowledge of, or concern with, historic properties that may be present within the study's areas of potential effect (APE). The APE for each alternative is limited to the alternative's footprint within each project area as described in Section 3. The need for cultural resources surveys, testing, evaluation, effects determination, mitigation planning, and coordination will be evaluated as a follow-up to this initial consultation. A Section 106 Review Form will be submitted to SHPO to officially initiate their review of this project proposal.

Other Coordination Requirements. In addition to the aforementioned federal statutes, the proposed project must also comply with other applicable or relevant and appropriate federal laws. The list below in Section 8 presents a list of potentially applicable environmental protection statutes, executive orders, etc. Therefore, an additional intent of this document is to disseminate pertinent project information to meet the applicable coordination/consultation requirements required under their provisions.

#### 8. Federal Environmental Protection Laws, Executive Orders, and Policies

#### a. PUBLIC LAWS

- a. American Folklife Preservation Act, P.L. 94-201; 20 U.S.C. 2101, et seq.
- b. American Indian Religious Freedom Act, P.L. 95-341, 42 U.S.C. 1996, et seq.
- c. Anadromous Fish Conservation Act, P.L. 89-304; 16 U.S.C. 757, et seq.
- d. Antiquities Act of 1906, P.L. 59-209; 16 U.S.C. 431, et seq.
- e. Archaeological and Historic Preservation Act, P.L. 93-291; 16 U.S.C. 469, *et seq.* (Also known as the Reservoir Salvage Act of 1960, as amended; P.L. 93-291, as amended; the Moss-Bennett Act; and the Preservation of Historic and Archaeological Data Act of 1974.)
- f. Archaeological Resources Protection Act, P.L. 96-95 as amended, 16 U.S.C. 470aa, et seq.
- g. Bald Eagle Protection Act; 16 U.S.C. 668.
- h. Clean Air Act, as amended; P.L. 91-604; 42 U.S.C. 1857h-7, et seq.
- i. Clean Water Act, P.L. 92-500; 33 U.S.C. 1251, *et seq*. (Also known as the Federal Water Pollution Control Act; and P.L. 92-500, as amended.)
- j. Coastal Zone Management Act of 1972, as amended, P.L. 92-583; 16 U.S.C. 1451, et seq.
- k. Comprehensive Environmental Response, Compensation, and Liability Act, P.L. 96-510, 42 U.S.C. 9601, et seq.
- l. Endangered Species Act of 1973, as amended, P.L. 93-205; 16 U.S.C. 1531, et seq.
- m. Energy Independence and Security Act, P.L. 110-140, 42 U.S.C. 15821, et seq.
- n. Energy Policy Act, P.L. 109-58, 42 U.S.C. 13201, et seq.
- o. Estuary Protection Act, P.L. 90-454; 16 U.S.C. 1221, et seq.
- p. Farmland Protection Policy Act, P.L. 97-98, 7 U.S.C. 4201, et seq.
- q. Federal Environmental Pesticide Control Act, P.L. 92-516; 7 U.S.C. 136.
- r. Federal Water Project Recreation Act, as amended, P.L. 89-72; 16 U.S.C. 460-1(12), et seq.
- s. Fish and Wildlife Coordination Act of 1958, as amended, P.L. 85-624; 16 U.S.C. 661, et seq.
- t. Historic Sites Act of 1935, as amended, P.L. 74-292; 16 U.S.C. 461, et seq.
- u. Land and Water Conservation Fund Act, P.L. 88-578; 16 U.S.C. 460/-460/-11, et seq.
- v. Migratory Bird Conservation Act of 1928; 16 U.S.C. 715.
- w. Migratory Bird Treaty Act of 1918; 16 U.S.C. 703, et seq.
- x. National Environmental Policy Act of 1969, as amended, P.L. 91-190; 42 U.S.C. 4321, et seq.

- y. National Historic Preservation Act of 1966, as amended, P.L. 89-655; 16 U.S.C. 470a, et sea.
- z. Native American Graves Protection and Repatriation Act, P.L. 101-601, 25 U.S.C. 3001, et seq.
- aa. Native American Religious Freedom Act, P.L. 95-341; 42 U.S.C. 1996, et seq.
- bb. Noise Control Act, P.L. 92-574, 42 U.S.C. 4901, et seq.
- cc. Resource Conservation and Recovery Act of 1976, P.L. 94-580; 7 U.S.C. 1010, et seq.
- dd. River and Harbor Act of 1899, 33 U.S.C. 403, et seq. (also known as the Refuse Act of 1899)
- ee. Toxic Substances Control Act, P.L. 94-469; 15 U.S.C. 2601, et seq.
- ff. Watershed Protection and Flood Prevention Act, as amended, P.L. 83-566; 16 U.S.C. 1001, et seq.
- gg. Wild and Scenic Rivers Act, as amended, P.L. 90-542; 16 U.S.C. 1271, et seq.

#### **b. EXECUTIVE ORDERS**

- a. Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 13, 1979
- b. Executive Order 11988, Floodplain Management, May 24, 1977
- c. Executive Order 11990, Protection of Wetlands, May 24, 1977
- d. Executive Order 11514, Protection and Enhancement of Environmental Quality, March 5, 1970, as amended by Executive Order 11991, May 24, 1977
- e. Executive Order 12088, Federal Compliance with Pollution Control Standards, October 13, 1978
- f. Executive Order 12372, Intergovernmental Review of Federal Programs, July 14, 1982
- g. Executive Order 12580, Superfund Implementation, January 23, 1987
- h. Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, August 3, 1993
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994
- j. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, April 21, 1997
- k. Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 10, 2001
- 1. Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management, January 24, 2007
- m. Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, October 5, 2009

#### c. OTHER FEDERAL POLICIES

- Council on Environmental Quality Memorandum of August 11, 1980: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act
- b. Council on Environmental Quality Memorandum of August 10, 1980: Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the National Inventory
- Migratory Bird Treaties and other international agreements listed in the Endangered Species Act of 1973, as amended, Section 2(a)(4)

#### 9. Point of Contact

Interested parties are encouraged to contact the USACE with their comments and recommendations about the proposed project. Questions or requests for additional information may be directed to:

Buffalo District Environmental Analysis Team

E-mail: StMarysWetland@usace.army.mil

Please review the study information and present any comments in writing within thirty (30) days to the attention of the Buffalo District Environmental Analysis Team to the email address listed above or at the following address:

U.S. Army Corps of Engineers Attn: Environmental Analysis Team Buffalo District 478 Main Street Buffalo, NY 14202-3288

Thank you for your review of this project.

#### Appendix A

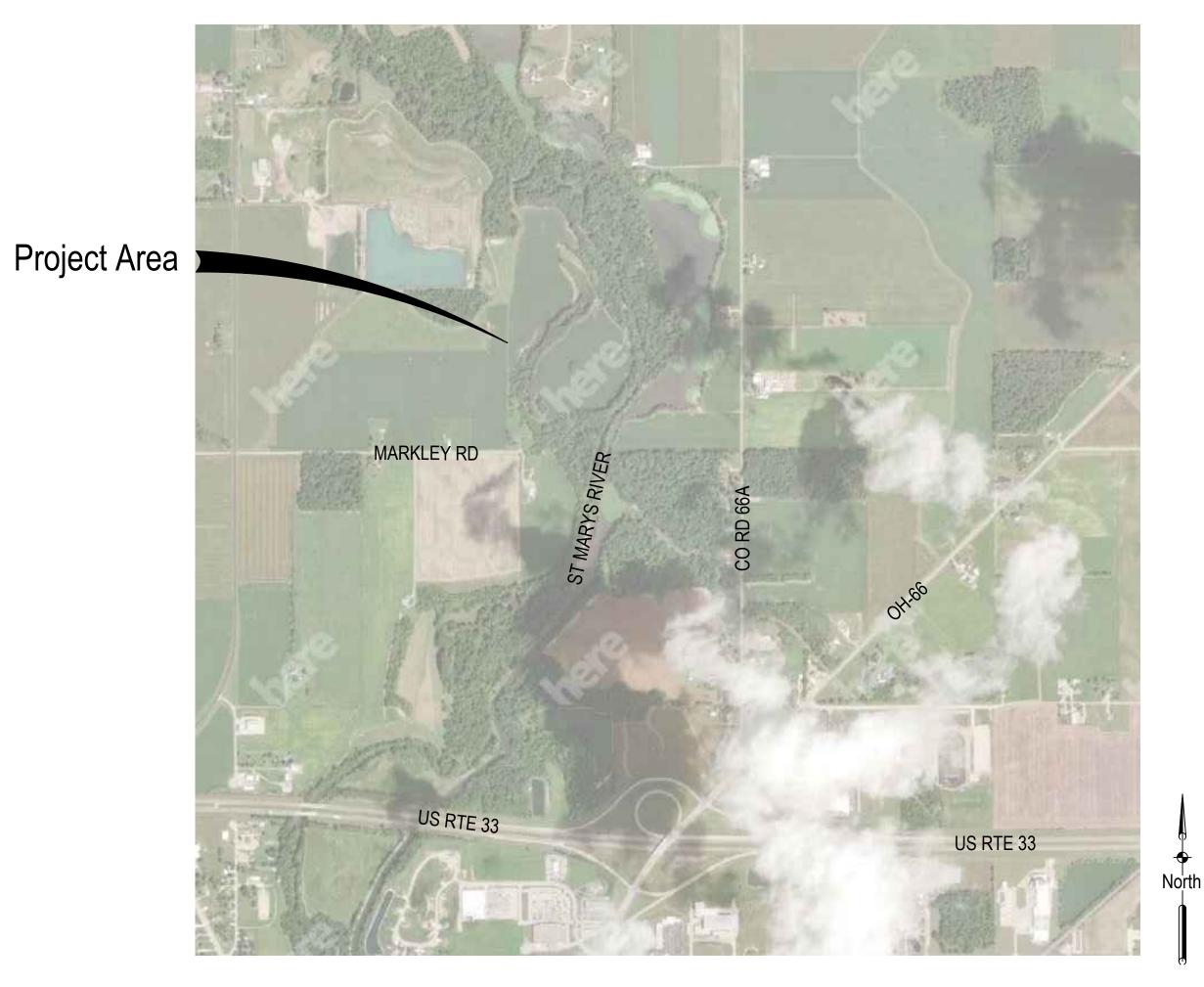
Appendix A: Detailed Design Drawings

# P-OPTIMAL WETLAND PILOT STUDY

ST MARYS, OHIO

# MAY 26, 2021 SCHEMATIC DESIGN DOCUMENTS

SmithGroup Project Number: 11985.000



PROJECT VICINITY MAP

Sheet List Table						
Sheet Number	Sheet Title					
C000	COVER SHEET					
CV101	TOPOGRAPHIC SURVEY					
CV102	TOPOGRAPHIC SURVEY					
CS100	OVERALL LAYOUT & MATERIALS PLAN					
CS101	LAYOUT & MATERIALS PLAN ENLARGEMENT 1 - NORTH WETLAND					
CS102	LAYOUT & MATERIALS PLAN ENLARGEMENT 2 - SOUTH WETLAND					
CS401	NORTH WETLAND OUTLET ENLARGEMENT PLAN					
CS500	SITE DETAILS					
CG100	OVERALL GRADING PLAN					
CG101	GRADING PLAN ENGLARGEMENT 1 - NORTH WETLAND					
CG102	GRADING PLAN ENGLARGEMENT 2 - SOUTH WETLAND					
CG201	GRADING PROFILES					

THIS DRAWING SET IS FOR SCHEMATIC DESIGN PURPOSES ONLY, NOT FOR CONSTRUCTION. FURTHER HYDROLOGIC INFORMATION, WATER LEVEL DATA, RAIN DATA, AND TOPOGRAPHICAL SURVEY INFORMATION IS NEEDED TO PERFORM FINAL ENGINEERING AND HYDRAULIC ANALYSIS.

### Prepared for:

CITY OF ST MARYS 101 EAST SPRING STREET ST MARYS, OH 45885

## Prepared by:

# **SMITHGROUP**

201 DEPOT STREET SECOND FLOOR ANN ARBOR, MI 48104 734.662.4457 www.smithgroup.com



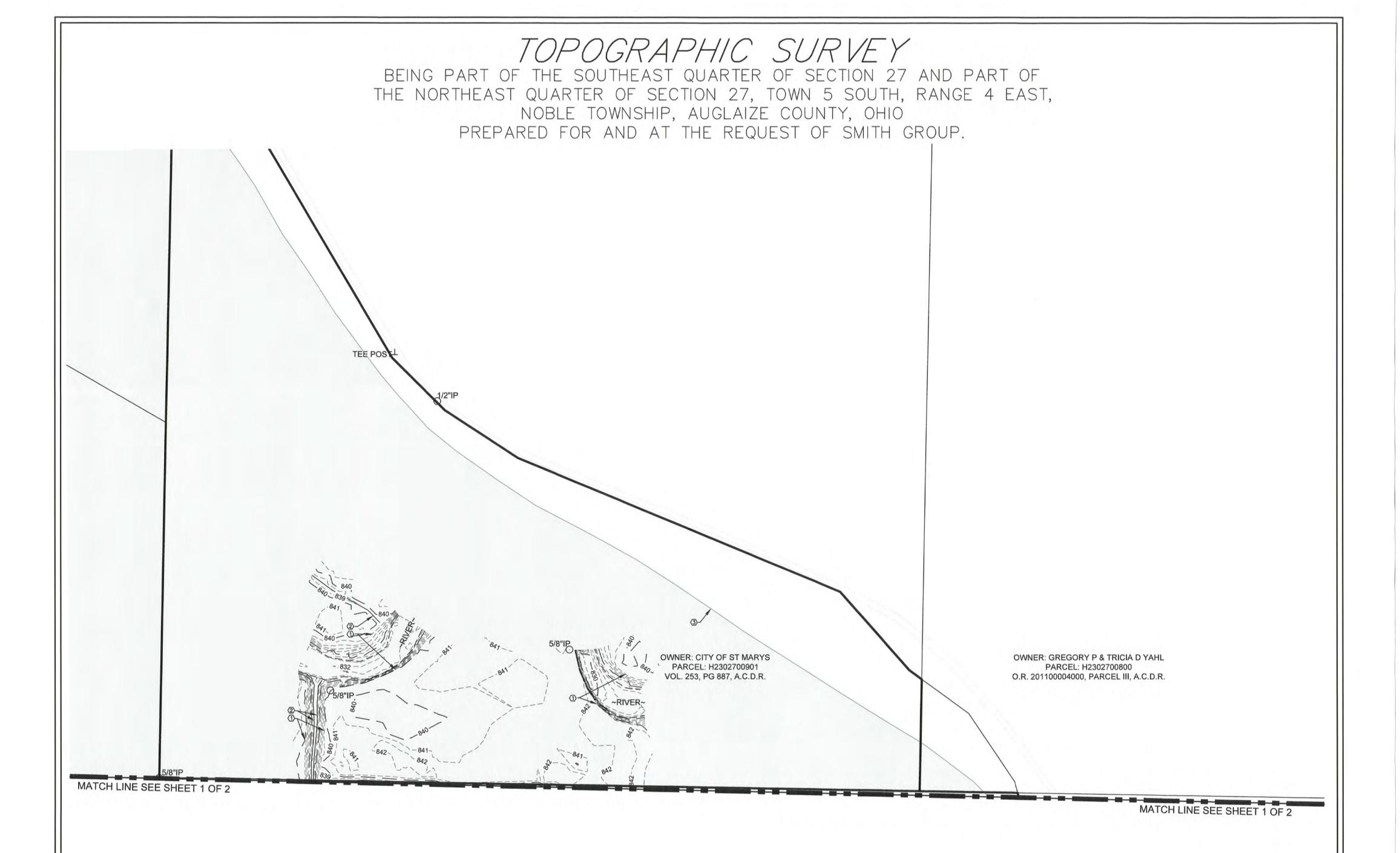
UNITED STATES ARMY CORPS OF ENGINEERS ENGINEERING RESEARCH AND DEVELOPMENT 3909 HALLS FERRY RD VICKSBURG, MS 39180 601-636-3111

LimnoTech (2) ENVIRONMENTAL 501 AVIS DR. ANN ARBOR, MI 48108 734-332-1200



PROJECT LOCATION MAP





LEGEND

 $\sim\sim$ 

TEE POST CANAL MONUMENT SET CAPPED IRON REBAR SET MAG NAIL FOUND STONE 0

FOUND IRON REBAR FOUND RAILROAD SPIKE FOUND MONUMENT BOX

FOUND CONCRETE MONUMENT DECIDUOUS TREE

TREE LINE MEASURE DISTANCE Μ. CALCULATED DISTANCE C. RECORD DISTANCE R.

OFFICIAL RECORD O.R. DEFIANCE COUNTY DEED RECORDS D.C.D.R.

1 TOP OF BANK/SLOPE TOE OF BANK/SLOPE

FEMA FLOOD PLAN AE OUTER LIMIT (SCALED PER FEMA MAP)

FLOOD PLAIN

PER FEMA FIRM FLOOD INSURANCE MAP (MAP No. 39011C0080 C) EFFECTIVE 9/6/89, PROPERTY REFLECTED WITH THIS SURVEY APPEARS TO HAVE PORTIONS OF THE PROPERTY WITHIN THE PUBLISHED FLOOD ZONES.

BASIS OF BEARING:

THE BEARINGS SHOWN HEREON ARE BASED ON AN ASSUMED MERIDIAN AND ARE FOR THE EXPRESS PURPOSE OF CALCULATING ANGULAR MEASUREMENT.

### **BENCHMARKS**

BENCHMARK No. 1 (PNT 155) - §" IRON PIN SET NORTHING: 334560.047 EASTING: 1445045.152 ELEVATION: 843.13

BENCHMARK No. 2 (PNT 154) - 8" IRON PIN SET NORTHING: 334753.714 EASTING: 1445549.036 ELEVATION: 842.98

BENCHMARK NO. 3 (PNT 156)  $-\frac{5}{8}$ " IRON PIN SET NORTHING: 335091.699 EASTING: 1444986.228 ELEVATION: 842.59

BENCHMARK NO. 4 (PNT 153)  $-\frac{5}{8}$ " IRON PIN SET NORTHING: 335345.760 EASTING: 1445531.307 ELEVATION: 844.21

BENCHMARK NO. 5 (PNT 1003) - \{ \}" IRON PIN FOUND NORTHING: 334070.949 EASTING: 1444812.961 ELEVATION: 848.09

BENCHMARK NO. 6 (PNT 151)  $-\frac{5}{8}$ " IRON PIN SET NORTHING: 336465.887 EASTING: 1444698.413 ELEVATION: 841.02

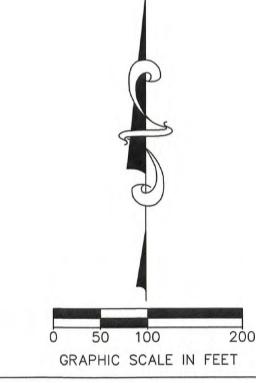
BENCHMARK NO. 7 (PNT 152)  $-\frac{5}{8}$ " IRON PIN SET NORTHING: 335914.391 EASTING: 1445379.783 ELEVATION: 840.69

VERTICAL DATUM:

VERTICAL DATUM IS BASED ON NAVD 88. NOTE:

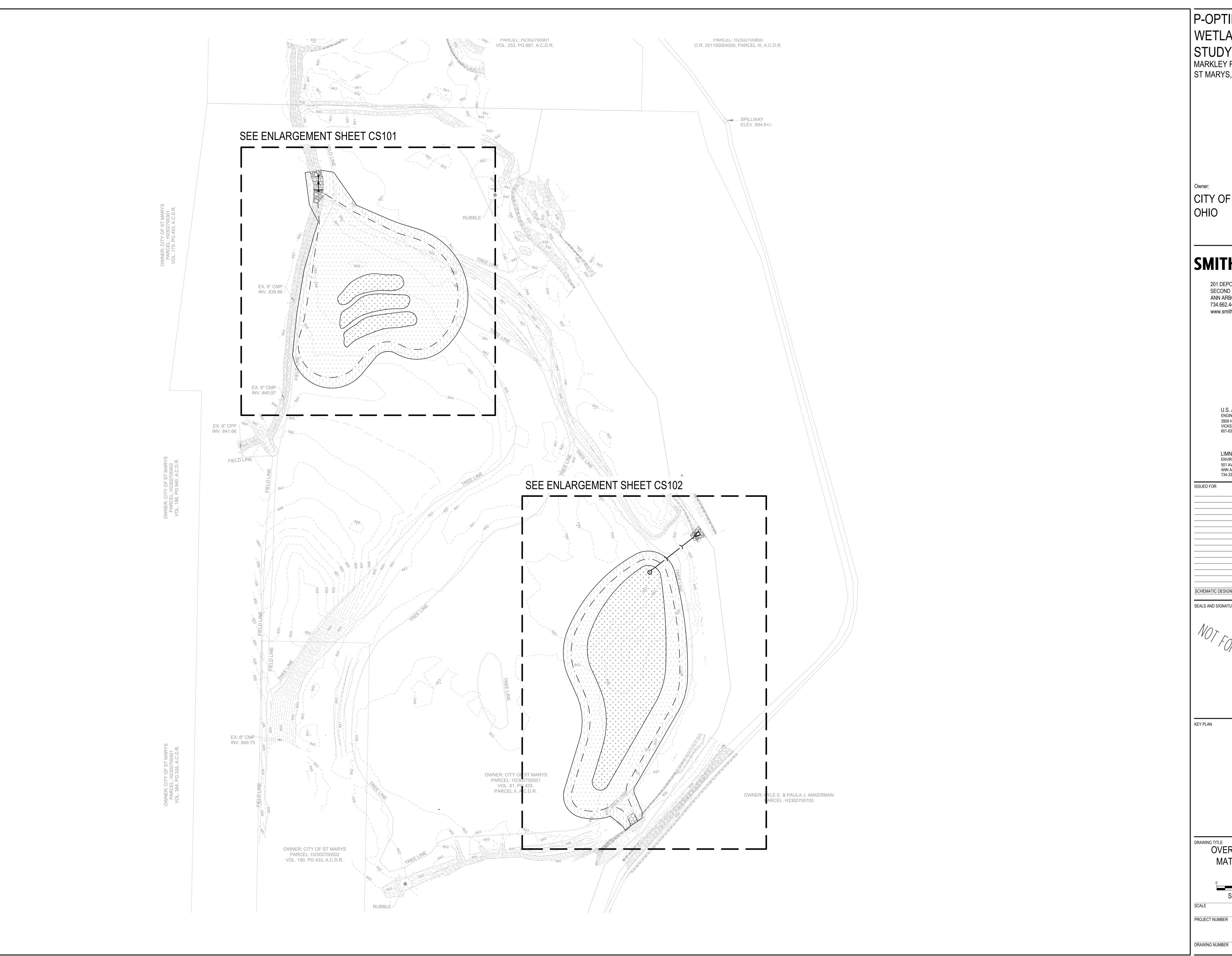
THIS SURVEY WAS PERFORMED WITH THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY ADDITIONAL INFORMATION THAT MIGHT BE DISCLOSED BY SUCH A REPORT.

Whit



Garcia Sur	veyors, Inc.
P.O. Box 2628 Whitehouse, OH 43571 Phone: (419) 877-0400 Fax: (419) 877-1140	GARCIA SURVEYORS

				JOB NAME:	JOB NUMBER: 196s02322	DRAWN BY: JWT
REV.	DESCRIPTION	BY:	DATE:		SCALE: $1" = 100'$	SURVEY BY: SP
				OHIO WETLANDS — AUGLAIZE	DATE: 01.07.20	CHECKED BY: AAG
				CLIENT NAME:	OUPS TICKET NUMBER:	
				SMITH GROUP		SHEET
				SMITH GROUP		77477
				DESCRIPTION: TOPOGRAPHIC	DRAWING NAME:	2 of 2
				SURVEY	196-02322FB00B1	



P-OPTIMAL WETLAND PILOT STUDY MARKLEY RD. ST MARYS, OHIO 45885

CITY OF ST MARYS

# **SMITHGROUP**

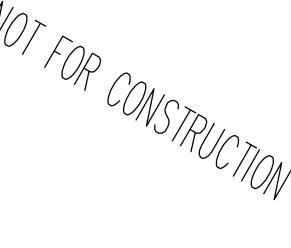
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U.S. ARMY CORPS OF ENGINEERS ENGINEERING RESEARCH AND DEVELOPMENT 3909 HALLS FERRY RD VICKSBURG, MS 39180 601-636-3111

REV DATE

LIMNOTECH ENVIRONMENTAL 501 AVIS DR. ANN ARBOR, MI 48108 734-332-1200

SEALS AND SIGNATURES

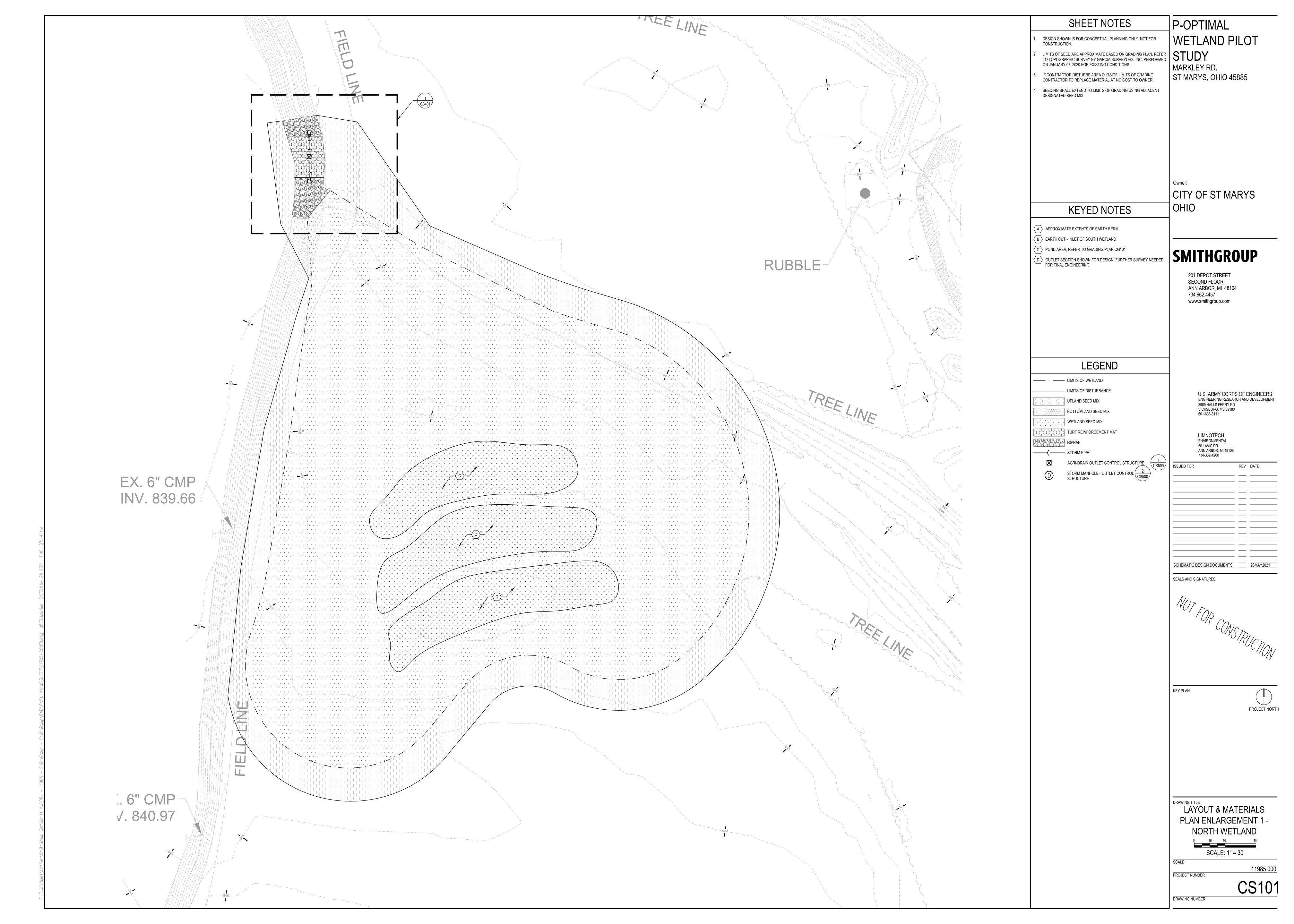


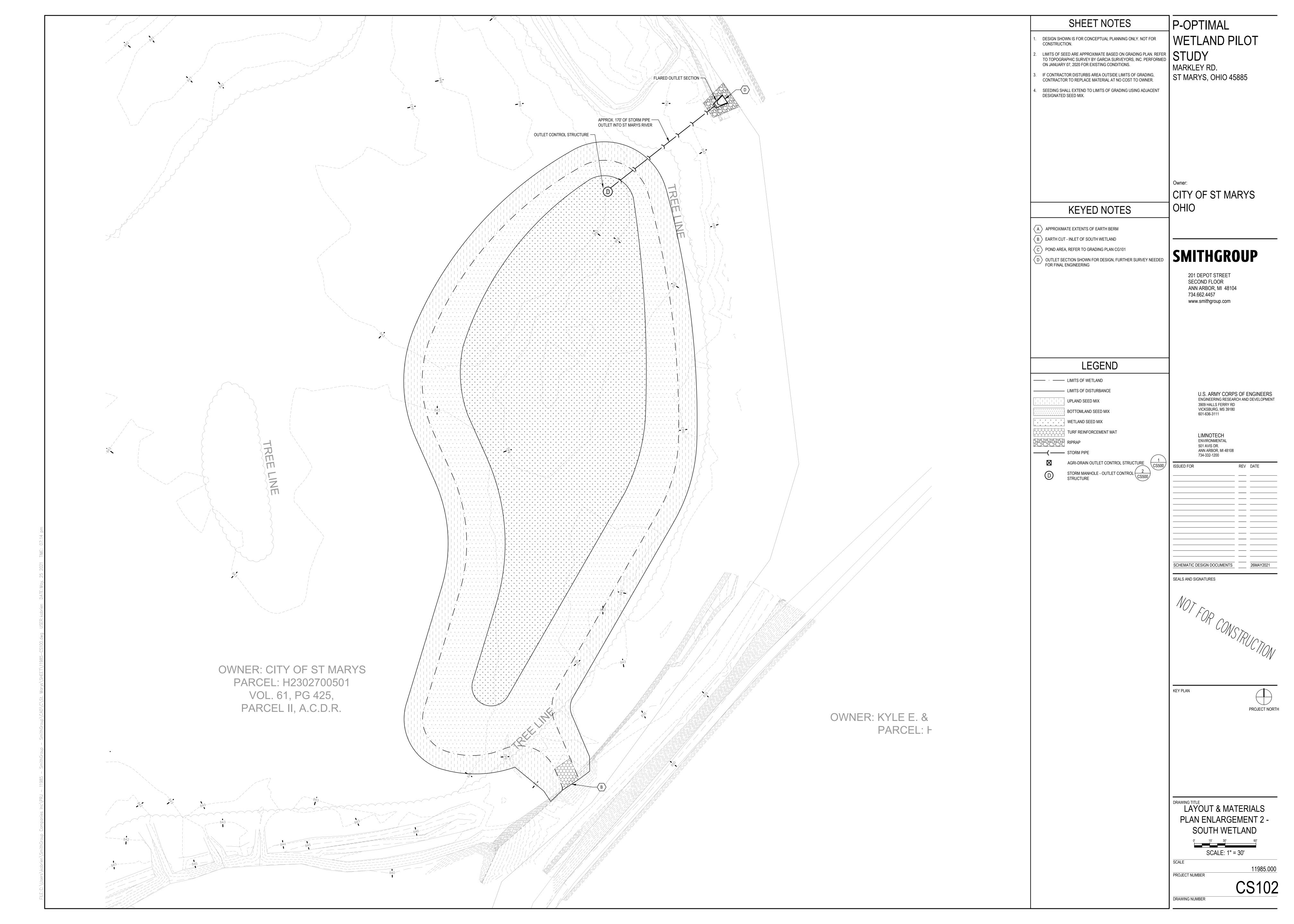
PROJECT NORTH

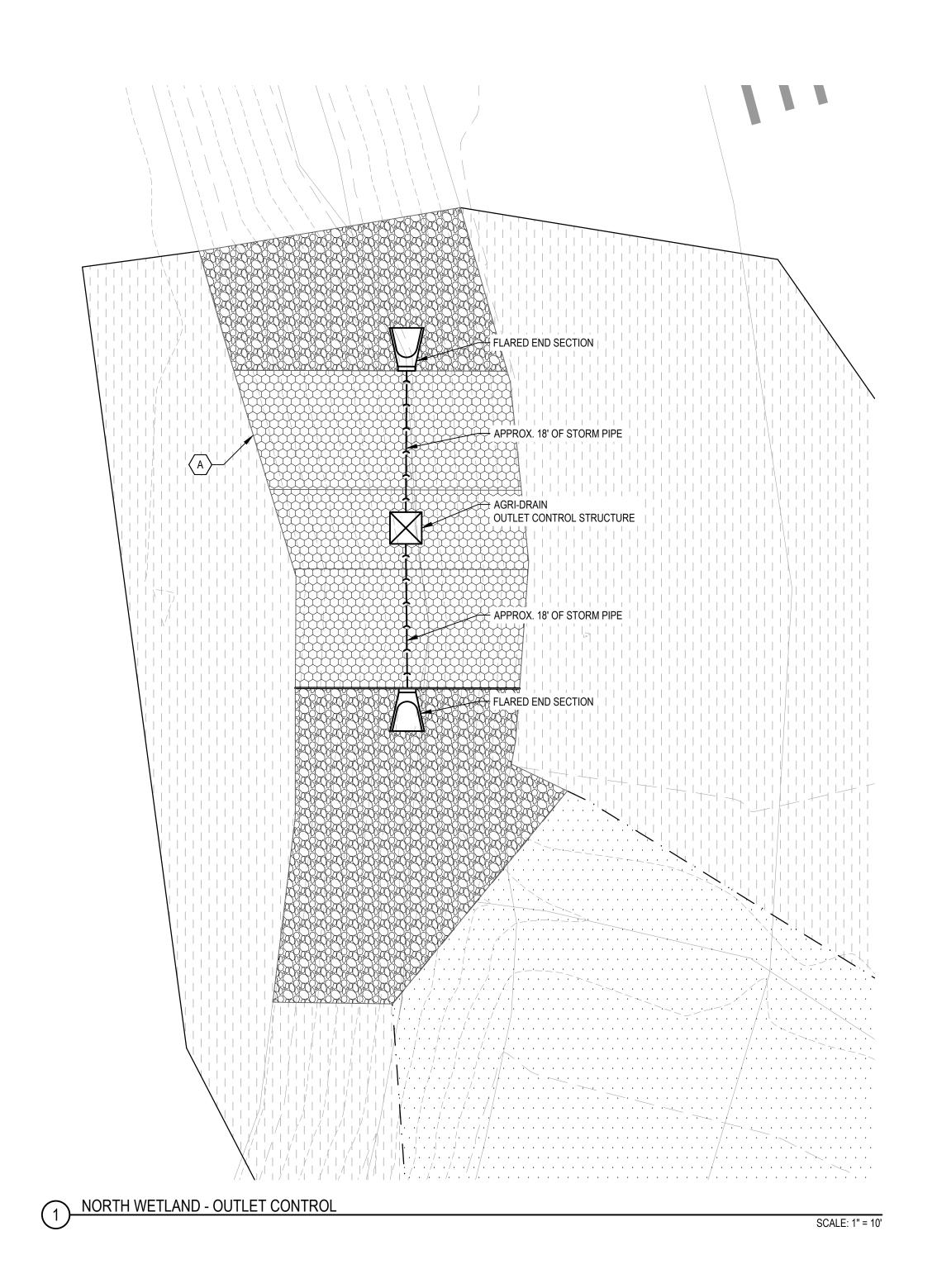
DRAWING TITLE
OVERALL LAYOUT & MATERIALS PLAN

SCALE: 1" = 100'

PROJECT NUMBER







P-OPTIMAL
WETLAND PILOT
STUDY
MARKLEY RD.
ST MARYS, OHIO 45885

Owner:

CITY OF ST MARYS

# **SMITHGROUP**

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> U.S. ARMY CORPS OF ENGINEERS ENGINEERING RESEARCH AND DEVELOPMENT 3909 HALLS FERRY RD VICKSBURG, MS 39180 601-636-3111

LIMNOTECH ENVIRONMENTAL 501 AVIS DR. ANN ARBOR, MI 48108 734-332-1200

SCHEMATIC DESIGN DOCUMENTS

SCHEMATIC DESIGN DOCUMENTS

SEALS AND SIGNATURES

NOT FOR CONSTRUCTO

PROJECT NORTH

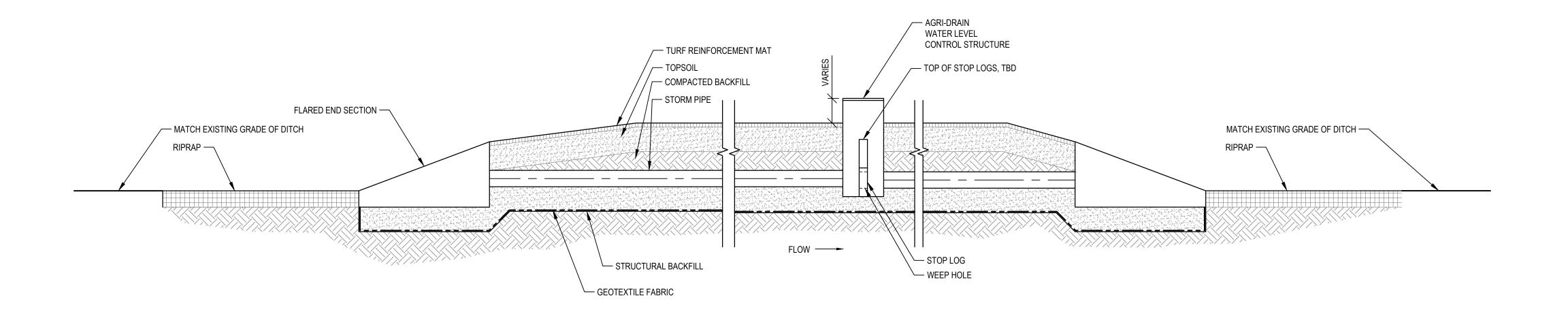
NORTH WETLAND OUTLET
ENLARGEMENT PLAN

0' 10' 20' SCALE:

PROJECT NUMBER

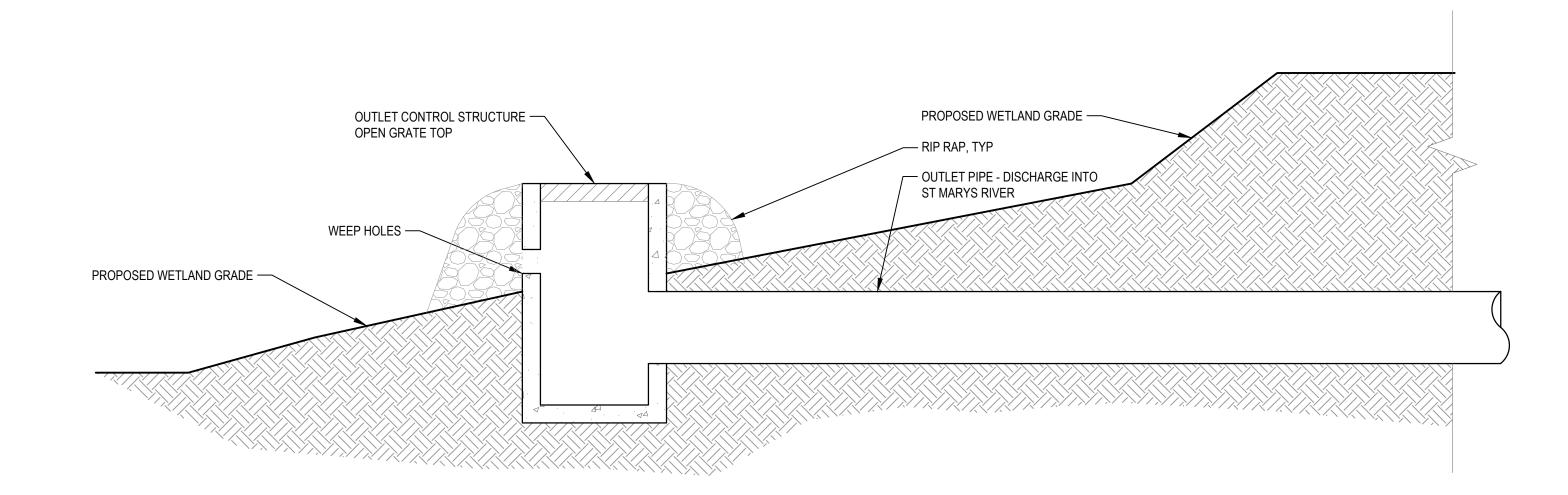
CS401

11985.0<del>00</del>-



NORTH WETLAND - OUTLET CONTROL STRUCTURE SECTION

SCALE: NTS



2 SOUTH WETLAND - OUTLET CONTROL STRUCTURE SECTION

SCALE: NTS

P-OPTIMAL
WETLAND PILOT
STUDY
MARKLEY RD.
ST MARYS, OHIO 45885

Owner:
CITY OF ST MARYS

# **SMITHGROUP**

201 DEPOT STREET SECOND FLOOR ANN ARBOR, MI 48104 734.662.4457 www.smithgroup.com

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> > REV DATE

LIMNOTECH ENVIRONMENTAL 501 AVIS DR. ANN ARBOR, MI 48108 734-332-1200

ISSUED FOR

SCHEMATIC DESIGN DOCUMENTS 26MAY2021

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

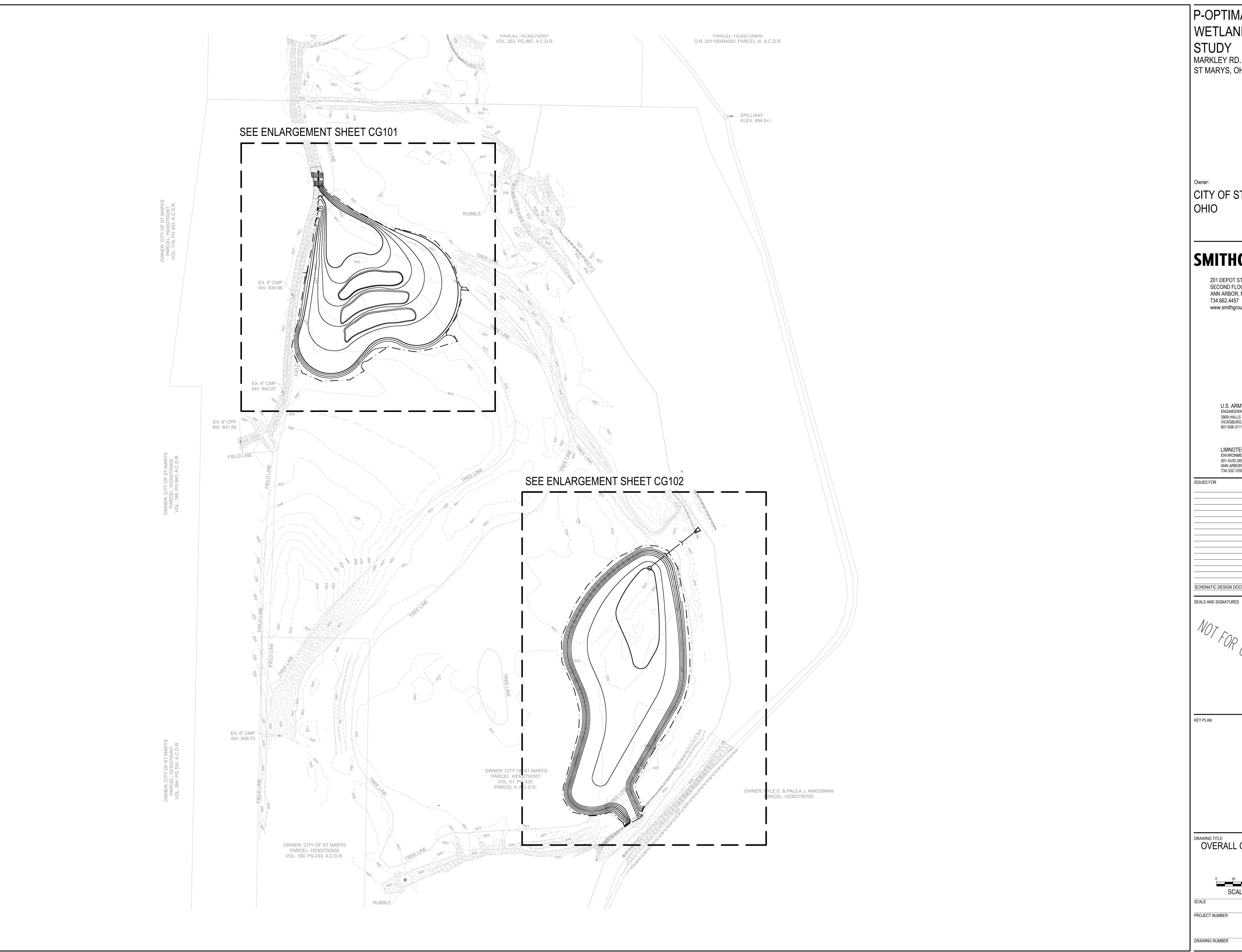
EY PLAN
PROJECT NORTH

SITE DETAILS

PROJECT NUMBER

CS500
DRAWING NUMBER

11985.000



P-OPTIMAL WETLAND PILOT MARKLEY RD. ST MARYS, OHIO 45885

CITY OF ST MARYS

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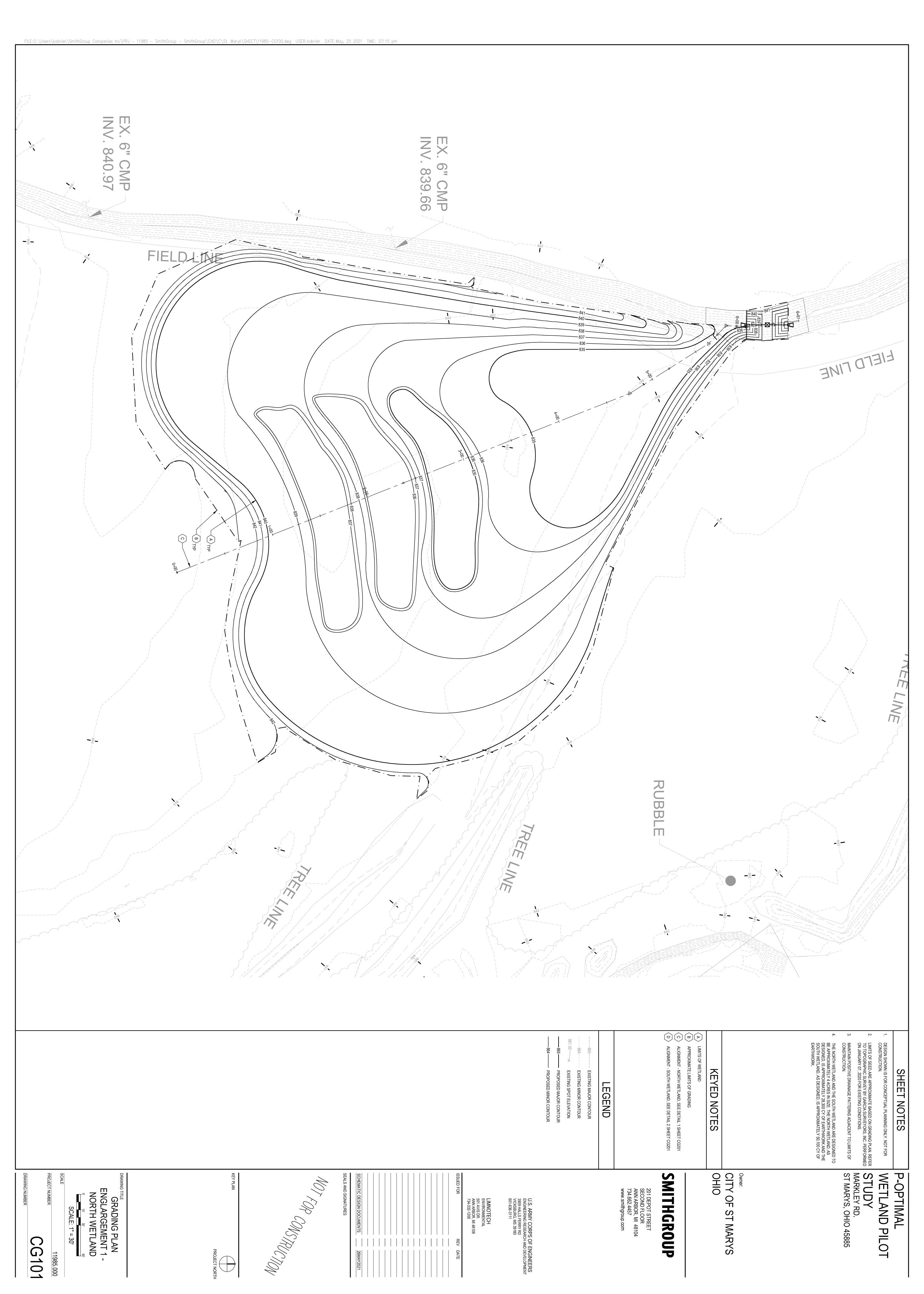
U.S. ARMY CORPS OF ENGINEERS ENGINEERING RESEARCH AND DEVELOPMENT 3909 HALLS FERRY RD VICKSBURG, MS 39180 601-636-3111

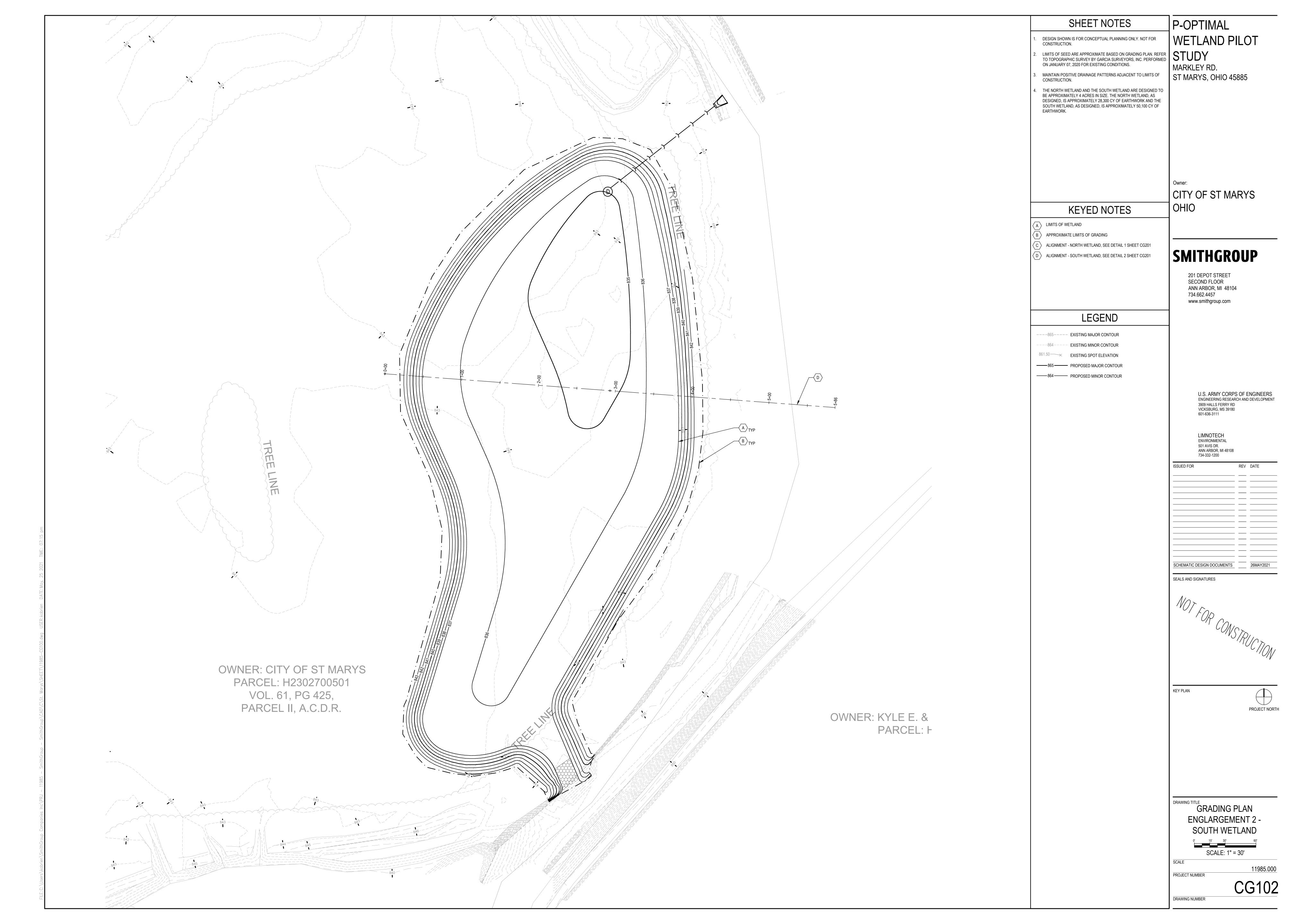
LIMNOTECH ENVIRONMENTAL 501 AVIS DR. ANN ARBOR, MI 48108 734-332-1200

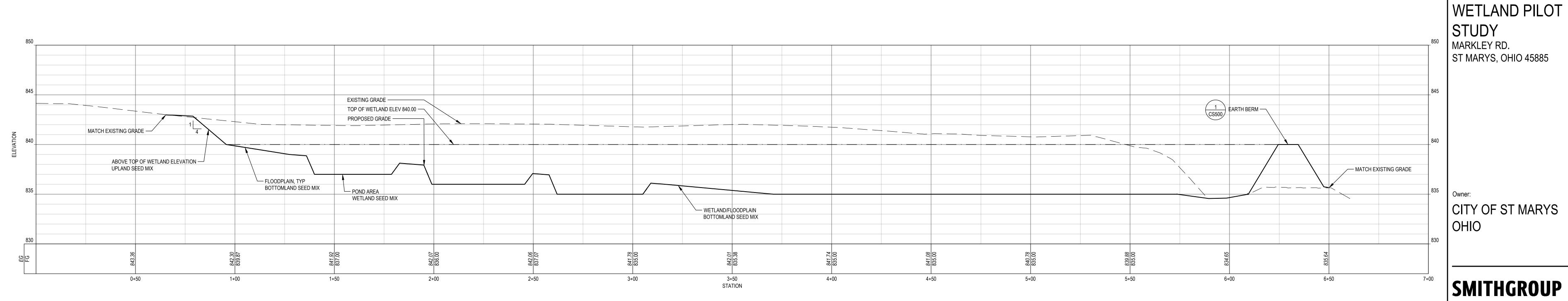
REV DATE

PROJECT NORTH

DRAWING TITLE
OVERALL GRADING PLAN









P-OPTIMAL

201 DEPOT STREET SECOND FLOOR ANN ARBOR, MI 48104 734.662.4457 www.smithgroup.com

HORIZ SCALE: 1" = 20' VERT SCALE: 1" = 4'

U.S. ARMY CORPS OF ENGINEERS ENGINEERING RESEARCH AND DEVELOPMENT 3909 HALLS FERRY RD VICKSBURG, MS 39180 601-636-3111

REV DATE

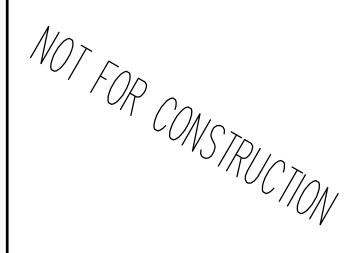
LIMNOTECH ENVIRONMENTAL 501 AVIS DR. ANN ARBOR, MI 48108 734-332-1200



SEALS AND SIGNATURES

HORIZ SCALE: 1" = 20' VERT SCALE: 1" = 4'

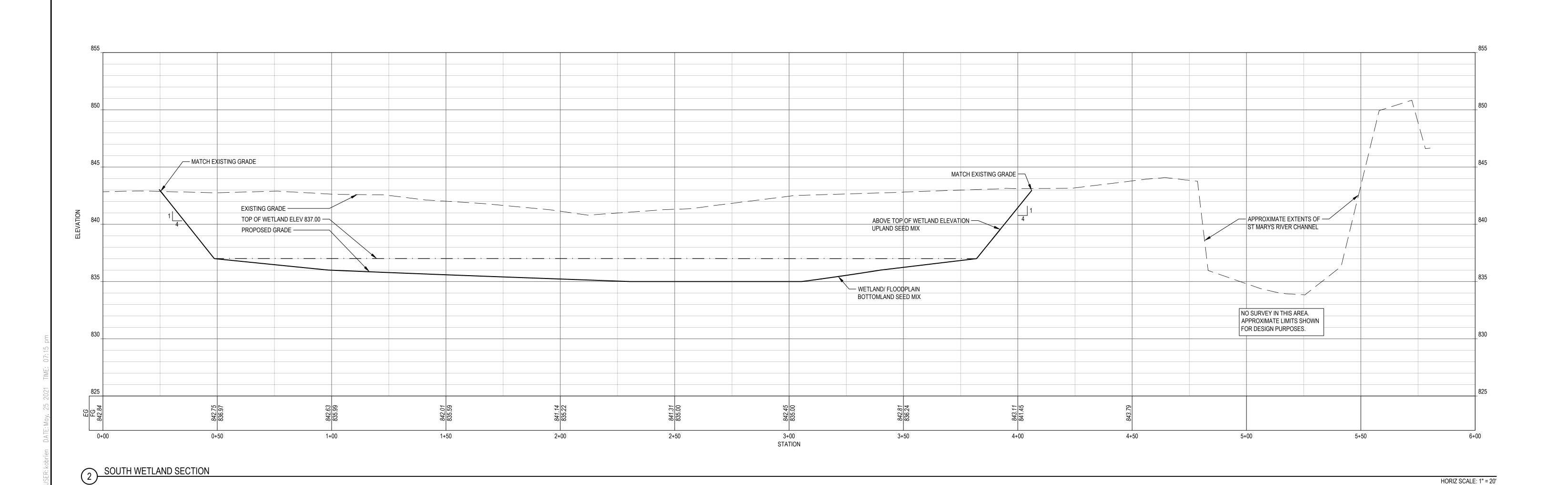
ISSUED FOR



KEY PLAN PROJECT NORTH

GRADING PROFILES

PROJECT NUMBER CG201 DRAWING NUMBER



1 NORTH WETLAND SECTION