Public Notice

U S Army Corps of Engineers
Huntington District

In reply refer to Public Notice No.	Issuance Date:
200500745	August 9, 2005
Stream: NORTH CREEK	Closing Date: September 8, 2005

Please address all comments and inquiries to:
U.S. Army Corps of Engineers, Huntington District
ATTN: CELRH-OR-F Public Notice No. (*reference above*)
502 Eighth Street
Huntington, West Virginia 25701-2070Phone: (304) 399-5210

PUBLIC NOTICE: The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

REGULATORY PROGRAM: Since its early history, the U.S. Army Corps of Engineers (Corps) has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the Corps Regulatory Program.

SECTION 404: The Corps is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the discharge of dredged and fill material into all waters of the United States, including wetlands. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

TO WHOM IT MAY CONCERN: The following application has been submitted for a Department of the Army Permit under the provisions of Section 404 of the Clean Water Act. This notice serves as the Corps of Engineers' request to the Ohio Environmental Protection Agency (OEPA) to act on Section 401 Water Quality Certification for the following application:

APPLICANT: Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

LOCATION: The proposed project is located within the Maumee River, Tiffin River, North Creek, Zuber Cutoff, Sixmile Cutoff, Steven Ditch, Dowe Ditch and their unnamed tributaries and adjacent wetlands along the 26-mile alignment of the relocated U.S. Route 24 in Paulding and Defiance Counties, Ohio.

DESCRIPTION OF THE PROPOSED WORK: The applicant proposes to construct 26-miles of U.S. Route 24 on a new alignment between the Ohio/Indiana state line in Paulding County to State Route 18 in Defiance County, Ohio. The eastern portion of this corridor, which has been identified as a strategic link in the region's and nation's highway network, provides the most direct access between Fort Wayne, Indiana and Toledo, Ohio. The Ohio Department of Transportation (ODOT) and the Indiana Department of Transportation (INDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to improve this stretch of U.S. Route 24. In a letter dated April 12, 2001, the Corps of Engineers – Buffalo District indicated the Ohio portion of the proposal would be evaluated as a "single and complete" project. INDOT would obtain authorization for work within waters of the United States along the new alignment from Fort Wayne to the Indiana/Ohio border. The Corps of Engineers – Detroit District would handle permit evaluation for the Indiana segment of the proposal. ODOT will obtain authorization for impacts to waters of the United States along the new 26-mile alignment from the Indiana/Ohio border to Defiance, Ohio.

According to the applicant, this stretch of 2-lane roadway cannot accommodate current traffic demand due to inadequate capacity and does not meet current design criteria. The proposed relocation project would provide an acceptable Level of Service and safety and improve mobility and transportation efficiency along this segment of State Route U.S. 24. The proposal would result in impacts to 7,944' of eleven stream channels and 20.03 acres of eighteen jurisdictional wetlands.

Work associated with the proposal would consist of the construction of a new 4-lane highway with 12' wide driving lanes, 60' grass median, 10' paved right side shoulder, and 4' wide left side shoulder bordered by grass drainage ditches and embankments. The existing bridges over the Maumee and Tiffin Rivers would be removed and replaced and the existing interchange at State Route 15/18 and U.S. 24 would be upgraded. Six service roads would be constructed to provide access to 139 acres of land that would otherwise be landlocked by the proposal. As a result of public comment, a connector road would be constructed to link West High Street to State Route 15/18. Impacts to waters of the United States would include culvert/bridge construction, stream relocation, temporary stream de-watering, and roadway construction. Specifics regarding the proposed impacts can be found in Tables A-F. A total 26,405 cubic yards of clean fill material will be placed in approximately 22.3 acres of waters of the United States in conjunction with the proposal.

MITIGATION PLAN: The applicant has submitted a conceptual compensatory mitigation plan (CMP) to compensate for permanent impacts to waters of the United States regulated by the United States Army Corps of Engineers. The applicant proposes to incorporate natural stream channel design techniques within relocated segments of streams on-site, implement best management practices, restore and preserve wetlands/streams on-site, and obtain conservation easements along stream channels within the affected watershed.

The applicant proposes to incorporate natural stream channel design techniques into approximately 2,025' of the relocated segment of Stevens Ditch. The reconstructed stream channel would incorporate meanders, a two-stage channel, riffle/pool complexes, gradual sloping benches (10:1 to 24:1), and

vegetated riparian corridors. The sloping benches would provide for a bank-full width and areas for the establishment of hydrophytic vegetation and the riparian corridor. The riparian corridor would include four native tree species (red maple, pin oak, American sycamore, black willow), one native shrub species (buttonbush), and a native low growing slope seed mixture. Erosion protection would be established along the outside bank of meander locations to provide for channel stability. Other on-site stream mitigative techniques would include implementation of a sediment and erosion control plan, stormwater detention/treatment facilities, and oversized, buried culverts.

The applicant has proposed the 163-acre Plummer Property, which consists of two parcels, 291-WD and 291-WD1, as the primary mitigation site. The parcel is located south of the existing U.S 24/SR 424 intersection in Defiance County. The applicant proposes to preserve 3,268' of Stevens Ditch and 1,060' of an unnamed tributary of Stevens Ditch, 33 acres of mature woodland, 7.6 acres of Category 3 forested wetland, and 9.0 acres of agricultural land on parcel 291-WD. The applicant also proposes to restore approximately 26 acres of forested, shrub-scrub, and emergent wetland and preserve 53 acres of forested Category 3 wetland and 39 acres of mature deciduous woodland on parcel 291-WD1.

The proposed wetland restoration activities would include re-grading the existing agricultural field located in the southwestern corner of parcel 291-WD1. Soils at the site consist of Paulding Clay (hydric) and Roselms silty clay loam (hydric components). Hydrology at the site would be dictated by the flat topography of the site and the low permeability of the soils. The re-grading activities and construction of low berms would help to capture and hold water on the parcel. One outflow structure would be placed at the northern corner of the site to regulate water levels in the wetland, if necessary. Native hydrophytic plant species similar to those species found within the adjacent Category 3 wetlands would be established within the wetland area. Vernal pools, with a maximum depth of 1 foot, would also be constructed within the western section of the woodlot adjacent to the existing Category 3 wetlands. The applicant is also in the process of negotiating the purchase of conservations easements along 5,205' of the Maumee River, which would include 35 acres of wooded riparian corridor and agricultural land.

All restored wetlands and stream channels would be monitored for a period of at least five years. All preserved wetlands and stream channels would be preserved in their natural state via a deed restriction and/or conservation easement. Copies of the conceptual mitigation plan are available for review upon request.

A total of 20.03 acres of jurisdictional wetland would be filled as a result of the proposal. The project does not require access to or sitting within the wetlands to fulfill its basic purpose and is considered a non-water dependent activity. The Section 404(b)(1) Guidelines state that for non-water dependent activities, practicable alternatives that do not involve wetlands are presumed to be available unless clearly demonstrated otherwise. The applicant is required to provide an alternative analysis that must overcome the presumption prior to receiving authorization for the placement of fill material. The applicant has submitted the required alternative analysis and it is currently being reviewed.

Plans of the proposed work are attached to this notice.

A section 401 Water Quality Certification is required for this project. It is the applicant's responsibility to obtain the certification from the Ohio Environmental Protection Agency.

HISTORIC AND CULTURAL RESOURCES: The National Register of Historic Places has been consulted and it has been determined no sites eligible for the Register are located within the project area. The applicant conducted Phase I and II Cultural Resources Surveys at the site and found no sites eligible for the Register. The Ohio State Historic Preservation Office (OSHPO) concurred with this finding. A copy of this public notice will be furnished to the OHSPO for their review. Comments concerning archeological sensitivity of the project area should be based upon collected data.

ENDANGERED/THREATENED SPECIES REVIEW: The project is located within the known or historic range of the following endangered species:

Indiana bat
Clubshell mussel
Eastern massasauga
Copperbelly water snake

The Huntington District has consulted the most recently available information and based on the proposed avoidance and minimization measures, the project is not likely to adversely affect the Indiana bat and clubshell mussel and would have no effect on the eastern massasauga and copperbelly water snake or designated critical habitat for these Federally listed species. This public notice serves as a request to the U.S. Fish and Wildlife Service for any additional information they may have on whether any listed or proposed to be listed endangered or threatened species may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1972 (as amended).

PUBLIC INTEREST REVIEW AND COMMENT: Any person who has an interest that may be adversely affected by the issuance of a permit may request a public hearing. The request must be submitted in writing to the District Engineer on or before the expiration date of this notice and must clearly set forth the interest which may be adversely affected and the manner in which the interest may be adversely affected by the activity. This application will be reviewed in accordance with 33 CFR 320-331, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b) (1) of the CWA. Interested parties are invited to state any objections they may have to the proposed work. The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit that reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered including the cumulative effects thereof; of those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline

erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. Written statements on these factors received in this office on or before the expiration date of this public notice will become a part of the record and will be considered in the final determination. A permit will be granted unless its issuance is found to be contrary to the public interest.

SOLICITATION OF COMMENTS: The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. For accuracy and completeness of the administrative record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before the close of the comment period listed on page one of this Public Notice. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to:

Kimberly Courts-Brown, Regulatory Project Manager
North Regulatory Section, CELRH-OR-FN
U. S. Army Corps of Engineers Huntington District
502 Eighth Street
Huntington, West Virginia 25701-2070.

Please note names and addresses of those who submit comments in response to this public notice may be made publicly available. Thank you for your interest in our nation's water resources. If you have any questions concerning this public notice, please contact Kimberly Courts-Brown of the North Regulatory Section at 304-399-5210.

for Mark A Taylor
Ginger Mullins, Chief
Regulatory Branch

(O)

Table F
Proposed Jurisdictional Wetland Mitigation for the Minimal Degradation Alternative

Wetland ID	Impacted Area	Type of Wetland (Isolated/Non-Isolated)	Watershed (8 Digit HUC)		ORAM v. 5.0 Score	Ohio EPA ORAM Category	Mitigated Area	
			Impacted	Mitigated			On-Site	Off-Site
L-6	0.29	Non-Isolated	04100005	04100005	41	Modified 2	0.29	N/A
RC-10	0.40	Non-Isolated	04100005	04100005	37.5	Modified 2	0.40	N/A
Wetland 8	0.34	Non-Isolated	04100005	04100005	48.5	2	0.34	N/A
RC-5	0.90	Non-Isolated	04100005	04100005	55.5	2	0.90	N/A
W-4 (A)	0.47	Non-Isolated	04100005	04100005	55.5	2	0.47	N/A
W-4 (F)	0.15	Non-Isolated	04100005	04100005	55.5	2	0.15	N/A
W-4 (I)	7.00	Non-Isolated	04100005	04100005	55.5	2	7.00	N/A
OH-6	0.52	Non-Isolated	04100005	04100005	55.5	2	0.52	N/A
RC-2	0.13	Non-Isolated	04100005	04100005	46	2	0.13	N/A
R-4	5.90	Non-Isolated	04100005	04100005	46	2	5.90	N/A
RC-1	0.16	Non-Isolated	04100005	04100005	73.5	3	0.16	N/A
R-1 (A)	2.83	Non-Isolated	04100005	04100005	73.5	3	2.83	N/A
R-1 (B)	0.13	Non-Isolated	04100005	04100005	45	2	0.13	N/A
R-1(C)	0.04	Non-Isolated	04100005	04100005	39.5	Modified 2	0.04	N/A
R-1 (F)	0.09	Non-Isolated	04100005	04100005	14	1	0.09	N/A
R-1 (G)	0.56	Non-Isolated	04100005	04100005	32	Modified 2	0.56	N/A
S-4	0.12	Non-Isolated	04100005	04100005	73	3	0.12	N/A

* Assumes a 1:1 mitigation ration based upon the preservation of Category 3 Wetlands located at the Plummer Property

Table E
Proposed Stream Mitigation for the Preferred and Antidegradation Alternatives

Stream Name	Impacted Length	Type of Mitigation	Watershed (8 Digit HUC)		QHEI Score	IHEI Score	Mitigated Length	
			Impacted	Mitigated			On-site	Off-site
44, North Creek	25	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	25	0
42, North Creek	25	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	25	0
41, North Creek	209	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	209	0
OH-58, North Creek	659	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	659	0
OH-58a, North Creek	250	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	250	0
60, North Creek	414	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	414	0
35, North Creek	25	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	25	0
30/OH-64, Zuber Cutoff	323	Preservation/Enhancement	4100005	4100005	54.75	N/A	323	0
32, North Creek	149	Preservation/Enhancement	4100005	4100005	23.75-27	N/A	149	0
28/OH-80, Sixmile Cutoff	20	Preservation/Enhancement	4100005	4100005	32	N/A	20	0
25/OH-84, Sixmile Cutoff	295	Preservation/Enhancement	4100005	4100005	32	N/A	295	0
19, UNT*	25	Preservation/Enhancement	4100005	4100005	54.2	33	25	0
15, UNT W of Ashwood	998	Preservation/Enhancement	4100005	4100005	55.25	N/A	998	0
13, Steven's Ditch	25	Preservation/Enhancement	4100005	4100005	42	N/A	25	0
OH-37, Steven's Ditch	3,542	Preservation/Enhancement	4100005	4100005	42	N/A	3,542	0
Maumee River	225	Preservation/Enhancement	4100005	4100005	55.25	N/A	225	0
OH-C, UNT*	130	Preservation/Enhancement	4100005	4100005	N/A	N/A	130	0
OH-F, UNT*	165	Preservation/Enhancement	4100005	4100005	N/A	27	165	0
OH-39, Dowe Ditch	215	Preservation/Enhancement	4100006	4100005	53	N/A	215	0
Tiffin River	225	Preservation/Enhancement	4100006	4100005	52.75	N/A	225	0

Table D
Proposed Lowering of Water Quality by the Preferred, Minimal and Non-Degradation Alternatives

Alternative	Expected Impacts by Alternative					
	Direct Stream Impacts (feet)	Aquatic Hab (QHEI)/Use Designation/Stream Flow	Aquatic Biota	T&E Species [1]	Terrestrial Plant/Animals (Riparian Area)	Wetlands
Preferred	9,904	Yes	Yes	No	Yes	Yes
Minimal	7,944	Yes	Yes	No	Yes	Yes
Non-Degredation	Unknown	Yes	No	No	No	No

[1] Impact footprint of the Preferred Alternative includes areas upstream and/or downstream of proposed structures were energy and erosion control components (channel protection) are required to achieve pre-construction stream velocity, water surface elevation and channel stability conditions; no impact to stream flow patterns are expected.

Table C
Nature of Proposed Activities by Impacted Feature for the Minimal Degradation Alternative
C. WHOLE PROJECT SUMMARY OF ACTIVITIES

Total Project Lineal Stream Disturbances			Total Project Excavation			Total Project Fill			Total Project Area Impacts		
Total Length Disturbed Due to Proposed Structures, Highway Fill, Channel Change or Channel Protection (feet)	Length Disturbed Due to Temporary Crossing (feet)	Net Length Disturbed (feet)	Stream Excavated (cu yds)	Non-Isolated Wetland Excavated (cu yds)	Total Excavation (cu yds)	Stream Filled (standard roadfill, channel protection, temp crossing, & other materials) (cu yds)	Non-Isolated Wetland Fill (cu yds)	Total Fill (cu yds)	Total Stream Area (acres)	Non-Isolated Impacted Wetland Area (acres)	Total Project Area Impacted (acres)
			Volume	Volume	Volume	Volume	Volume	Volume	Area	Area	Area
7,944	450	8,394	17,434	15,852	33,286	15,505	10,841	26,346	2.35	20.03	22.38

Table C
Nature of Proposed Activities by Impacted Featrue for the Perferred Alternative
B. JURISDICTIONAL WETLANDS

[illegible]	Location	Description	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
L-6	South of Maumee & Western Railroad, west of T-69, Paulding County	Palustrine forested broad-leaved deciduous	0.29	CUT/FILL	1,568	1,568	0.29	0.00
RC-10	South of Maumee & Western Railroad, east of C-115, Paulding County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	0.40	CUT/FILL	38	234	0.17	0.23
Wetland 8	North of C-232 and East of T-129, Paulding County	Palustrine forested broad-leaved deciduous/ Palustrine emergent persistent	0.34	CUT/FILL	7	392	0.25	0.09
W-4 (A)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine forested broad-leaved deciduous/ Palustrine scrub-shrub broad-leaved deciduous	0.47	CUT/FILL	191	459	0.40	0.07
W-4 (F)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine emergent persistent	0.15	CUT/FILL	85	136	0.14	0.01
W-4 (I)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine emergent persistent	7.00	CUT/FILL	4,652	4,771	5.84	1.16
OH-6	North of Defiance Paulding County Line Road and East of Whetstone	Palustrine forested broad-leaved deciduous/ Palustrine emergent persistent	0.52	CUT	401	0	0.25	0.27
RC-5	North of Maumee & Western Railroad, west of Whetstone Road, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	0.90	CUT/FILL	18	12	0.02	0.88
RC-2	North of Maumee & Western Railroad, west of Krouse Road, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	0.13	CUT	7	0	0.00	0.13
R-4	North of Maumee & Western Railroad, east of Ashwood Road, Defiance County	Palustrine forested broad-leaved deciduous	5.90	CUT	7,633	0	4.73	1.17
RC-1	North of Maumee & Western Railroad, east of Krouse Road, Defiance County	Palustrine Scrub-Shrub Broad-leaved Deciduous/ Palustrine emergent persistent	0.16	N/A	0	0	0.00	0.16
R-1 (A)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine forested broad-leaved deciduous/ Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent/ Riverine perennial emergent	2.83	CUT/FILL	1,069	2,474	2.20	0.63
R-1 (B)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine forested broad-leaved deciduous	0.13	CUT/FILL	54	60	0.07	0.06
R-1(C)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine forested broad-leaved deciduous	0.04	FILL	0	65	0.04	0.00
R-1 (F)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	0.09	CUT/FILL	14	103	0.07	0.02
R-1 (G)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine emergent persistent	0.56	CUT/FILL	79	558	0.40	0.16
S-4	North of US 24/SR 424, Defiance County	Palustrine forested broad-leaved deciduous	0.12	CUT/FILL	36	9	0.03	0.09

Table C
Nature of Proposed Activities by Impacted Feature for the Preferred Alternative
A. STREAMS

Site/Feature	Approx. Station Location	Proposed Structure or Action	Existing Channel Disturbed Due to Placement of Proposed Structure, Highway Fill, Channel Change or Channel Protection(1)					Existing Channel Disturbed Due to Temporary Crossing		
			Length of Channel Disturbed (feet)	Excavation Below OHW		Fill Below OHW		Length of Channel Disturbed	Excavation/Fill Below OHW	
				Volume (CY)	Area (SF)	Volume (CY)	Area (SF)		Volume (CY)	Area (SF)
13 Steven's Ditch	65+00	Outfall	25	3	630	N/A	N/A	N/A	N/A	N/A
OH-37 Steven's Ditch	1892+00	Prop Culvert	469	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1881+00	Relocated	2,837	3,731	13,498	412	39,712	N/A	N/A	N/A
	4761+25	Exist. Culvert	236	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maumee River	1917+00	Bridged	225	0	0	780	7,740	225	6450	21780
OH-C UNT*	1928+00	Culvert	130	0	0	102	2,565	N/A	N/A	N/A
OH-F UNT*	1961+00	Culvert	165	0	0	36	810	N/A	N/A	N/A
OH-39 Dowe Ditch	1968+50	Culvert	215	0	0	212	4,950	N/A	N/A	N/A
Tiffin River	1999+00	Bridged	225	0	0	477	3,060	225	2,865	11,052

Table C
Nature of Proposed Activities by Impacted Feature for the Preferred Alternative
A. STREAMS

Site/Feature	Approx Station Location	Proposed Structure or Action	Existing Channel Disturbed Due to Placement of Proposed Structure or Highway Fill, Channel Change or Channel Protection					Existing Channel Disturbed Due to Temporary Crossing		
			Length of Channel Disturbed (feet)	Excavation Below OHW		Fill Below OHW		Length of Channel Disturbed	Excavation/Fill Below OHW	
				Volume (CY)	Area (SF)	Volume (CY)	Area (SF)		Volume (CY)	Area (SF)
44 North Creek	1+70	Outfall	25	63	68	N/A	N/A	N/A	N/A	N/A
42 North Creek	10+20	Outfall	25	44	46	N/A	N/A	N/A	N/A	N/A
41 North Creek	26+10	Culvert	75	379	136	392	141	N/A	N/A	N/A
	26+10	Additional	134	302	60	302	60	N/A	N/A	N/A
OH-58 North Creek	916+00	Culvert	525	2,711	140	2,745	141	N/A	N/A	N/A
	916+00	Additional	134	310	63	310	63	N/A	N/A	N/A
OH-58a North Creek	124+00	Culvert	162	671	112	722	120	N/A	N/A	N/A
	124+00	Additional	88	210	65	210	65	N/A	N/A	N/A
60 North Creek	944+90	Culvert	252	977	105	1,202	129	N/A	N/A	N/A
	944+90	Additional	162	440	73	440	73	N/A	N/A	N/A
35 North Creek	10+00	Outfall	25	74	96	N/A	N/A	N/A	N/A	N/A
OH-64 Zuber Cutoff	1074+25	Culvert	203	2,370	315	2,408	320	N/A	N/A	N/A
	1074+25	Additional	120	447	101	447	101	N/A	N/A	N/A
32 North Creek	115+00	Culvert	74	745	272	745	272	N/A	N/A	N/A
	115+00	Additional	75	194	70	194	70	N/A	N/A	N/A
28/OH-80 Sixmile Cutoff	1190+00	Outfall	20	30	51	N/A	N/A	N/A	N/A	N/A
25/OH-84 Sixmile Cutoff	1283+90	Culvert	204	2,446	324	2,847	377	N/A	N/A	N/A
	1283+90	Additional	91	429	127	429	127	N/A	N/A	N/A
19 UNT	66+25	Outfall	25	2	210	N/A	N/A	N/A	N/A	N/A
15 UNT W of Ashwood	49+25	Additional	998	856	23,534	93	1,409	N/A	N/A	N/A

Table B
Jurisdictional Wetlands Affected by the Proposed Project

Wetland ID	USGS Coordinates (Ohio North NAD 1983)		Drainage Basin	Forested/ Non-Forested	Isolated/ Non-Isolated	Cowardin Classification	ORAM Score	USEPA Category	Size (acres) (Impacted)	Adjacent Habitat	Proximate Open Surface Water (feet)
	Easting	Northing									
L-6	1368168.68	564599.91	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous	41	Modified 2	1.24 (0.29)	Agriculture	1,050
RC-10	1406497.75	577324.46	Maumee River	Non-Forested	Non-Isolated	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	37.5	Modified 2	2.13 (0.40)	Agriculure	1,800
Wetland 8	1412250.13	579051.87	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous/ Palustrine emergent persistent	48.5	2	0.89 (0.34)	Agriculture/ Forested	6,150
W-4 (A)	1421128.26	582329.28	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous/ Palustrine scrub-shrub broad-leaved deciduous	55.5	2	1.41 (0.47)	Agriculture/ Old Field	3,450
W-4 (F)	1422449.63	582731.20	Maumee River	Non-Forested	Non-Isolated	Palustrine emergent persistent	55.5	2	0.25 (0.15)	Agriculture/ Old Field	2,850
W-4 (I)	1423560.33	583166.26	Maumee River	Non-Forested	Non-Isolated	Palustrine emergent persistent	55.5	2	10.87 (7.00)	Agriculture/ Old Field	1,200
OH-6	1425269.30	585109.41	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous/ Palustrine emergent persistent	55.5	2	91.39 (0.52)	Agriculture/ Forested	5,250
RC-5	1423389.27	582830.22	Maumee River	Non-Forested	Non-Isolated	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	55.5	2	3.24 (0.90)	Agriculture	4,500
RC-2	1431957.92	585592.64	Maumee River	Non-Forested	Non-Isolated	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent	46	2	1.06 (0.13)	Agriculture	3,000
R-4	1432607.44	586234.66	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous	46	2	17.23 (5.90)	Agriculture/Forested	900
RC-1	1437830.16	587501.17	Maumee River	Non-Forested	Non-Isolated	Palustrine Scrub-Shrub Broad-leaved Deciduous/ Palustrine emergent persistent	73.5	3	2.72 (0.16)	Agriculture/ Forested	3,150
R-1 (A)	1438861.50	589414.74	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous/ Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent/ Riverine perennial emergent	73.5	1	64.27 (2.83)	Agriculture/ Forested	0
R-1 (B)	1441591.35	591334.64	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous	45	2	0.96 (0.13)	Forested	2,700
R-1(C)	1441164.32	591377.14	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous	39.5	Modified 2	0.05 (0.04)	Forested	2,250
R-1 (F)	1441588.60	591489.31	Maumee River	Non-Forested	Non-Isolated	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	14	1	0.15 (0.09)	Shrub/Scrub	2,700
R-1 (G)	1442702.18	591721.35	Maumee River	Non-Forested	Non-Isolated	Palustrine emergent persistent	32	Modified 2	0.56 (0.56)	Shrub/Scrub	900
S-4	1441803.45	592774.63	Maumee River	Forested	Non-Isolated	Palustrine forested broad-leaved deciduous	73	3	19.75 (0.12)	Forested	0

Table A
Streams Affected by the Proposed Project

[illegible]	USGS Coordinates (Decimal Degrees)		[illegible]						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Easting	Northing	Culvert	Culvert	Additional	Temporary	Bridge	Bridge							
44, North Creek	1344836.12	552577.56	0	25	0	0	0	0	Maumee River	25	Zuber Cutoff	26,000	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
42, North Creek	1351512.97	554297.55	0	25	0	0	0	0	Maumee River	25	Zuber Cutoff	19,000	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
41, North Creek	1353410.63	554393.80	75	0	134	0	0	0	Maumee River	209	Zuber Cutoff	17,000	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
OH-58, North Creek	1354706.00	555347.42	525	0	134	0	0	0	Maumee River	659	Zuber Cutoff	15,250	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
OH-58a, North Creek	1355539.62	556039.61	162	0	88	0	0	0	Maumee River	250	Zuber Cutoff	14,250	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
60, North Creek	1357504.39	556219.62	252	0	162	0	0	0	Maumee River	414	Zuber Cutoff	12,000	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
35, North Creek	1361207.79	557882.83	0	25	0	0	0	0	Maumee River	25	Zuber Cutoff	6,250	3.61 sq. mi	23.75-27/WWH	Open Pasture, Row Crop
30/OH-64, Zuber Cutoff	1366246.59	560172.07	203	0	120	0	0	0	Maumee River	323	Maumee River	2,900	53 sq. mi.	54.75	Open Pasture, Row Crop
32, North Creek	1367497.33	564322.87	74	0	75	0	0	0	Maumee River	149	Zuber Cutoff	1,250	3.61 sq. mi	23.75-27	Open Pasture, Row Crop
28/OH-80, Sixmile Cutoff	1378552.08	567825.34	0	20	0	0	0	0	Maumee River	20	Maumee River	18,000	53 sq. mi.	32	Open Pasture, Row Crop
25/OH-84, Sixmile Cutoff	1387569.85	569808.15	204	0	91	0	0	0	Maumee River	295	Maumee River	15,600	53 sq. mi.	32	Open Pasture, Row Crop
19, UNT	1403873.12	578500.79	0	25	0	0	0	0	Maumee River	25	Maumee River	6,800	2.86 sq. mi.	54.2 (33)	Forest, Swamp, Residential, Park, New Field, Urban or Industrial
15, UNT W of Ashwood	1425304.54	588227.19	0	0	998	0	0	0	Maumee River	998	Maumee River	8,000	1.81 sq. mi	55.25	Residential, Park, New Field, Shrub or Old Field, Urban or Industrial
13, Steven's Ditch	1433172.04	587801.02	0	25	0	0	0	0	Maumee River	25	Maumee River	13,125	0.20 sq. mi	42/WWH	Residential, Park, New Field
OH-37, Steven's Ditch	1440764.81	591771.30	705	0	0	2,837	0	0	Maumee River	3,542	Maumee River	4,500	2.33 sq. mi	60.5/WWH	Residential, Park, New Field
Maumee River	1444211.76	594031.34	0	0	70	0	155	0	Maumee River	225	Maumee River	0	2,315 sq. mi.	55.25/SRW/WWH	Forest, Swamp, Residential, Park, New Field
OH-C, UNT*	1445045.99	594851.59	130	0	0	0	0	0	Maumee River	130	Maumee River	1,500	0.01 sq. mi.	No Data	Residential, Park, New Field
OH-F, UNT*	1446957.34	596378.97	0	0	90	0	0	75	Maumee River	165	Tiffin River	4,125	0.01 sq. mi.	(27)	Residential, Park, New Field
OH-39, Dowe Ditch	1448341.39	597323.12	75	0	25	115	0	0	Maumee River	215	Tiffin River	2,850	0.20 sq. mi	72/WWH	Residential, Park, New Field
Tiffin River	1450552.53	599285.11	0	0	35	0	190	0	Maumee River	225	Maumee River	7,500	777 sq. mi	52.75/WWH	Forest, Swamp, Residential, Park, New Field, Urban or Industrial, Open Pasture, Row crop

Project # P201A1E3C NOVEMBER 2004

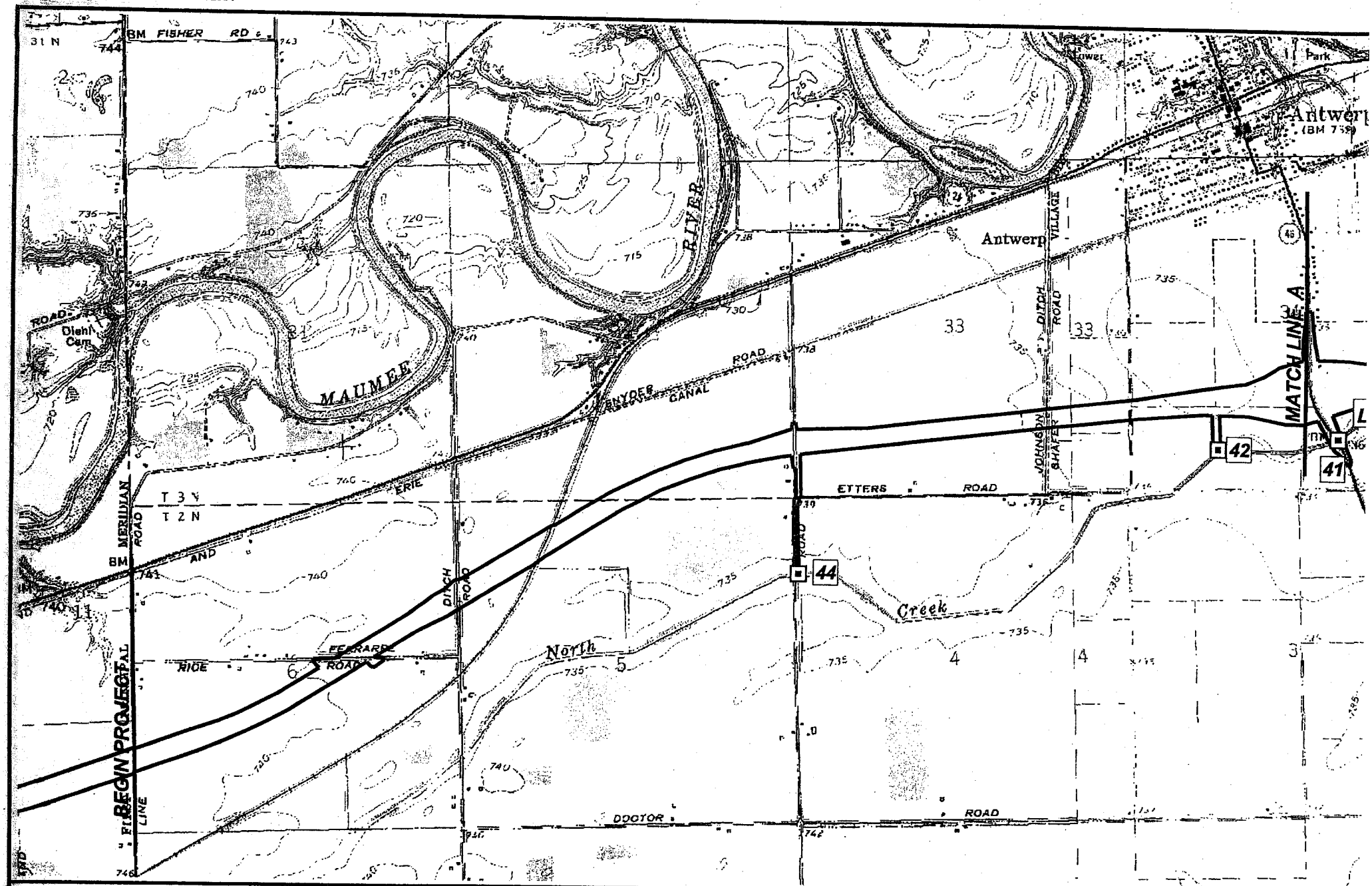

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FIGURE 1A
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

N

1:24,000

Project # P201A1E3C NOVEMBER 2004

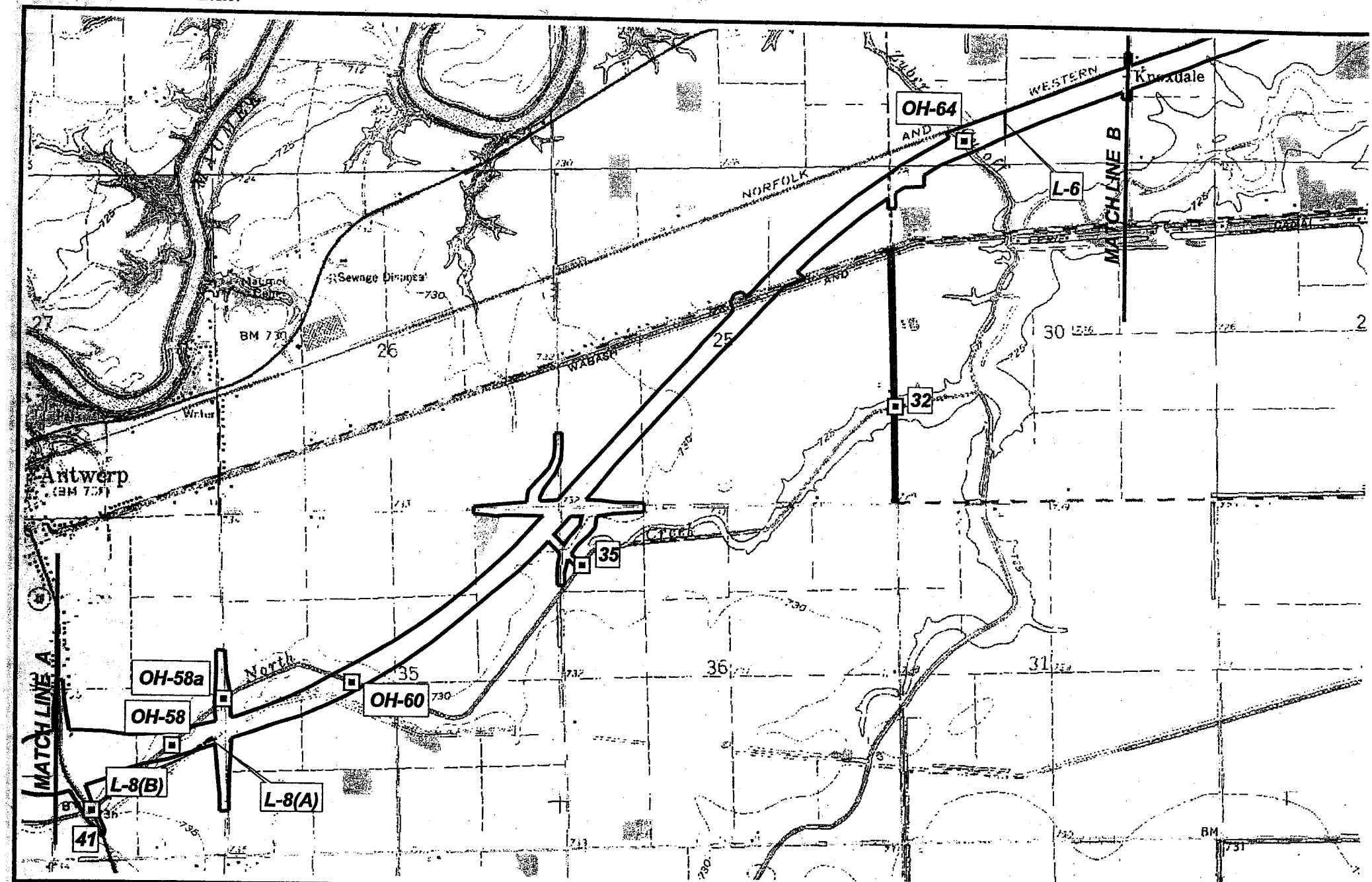

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FIGURE 1B
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend

Right-of-Way

Stream Impact

Wetland Impact

N

1:24,000

Project # P201A1E3C NOVEMBER 2004

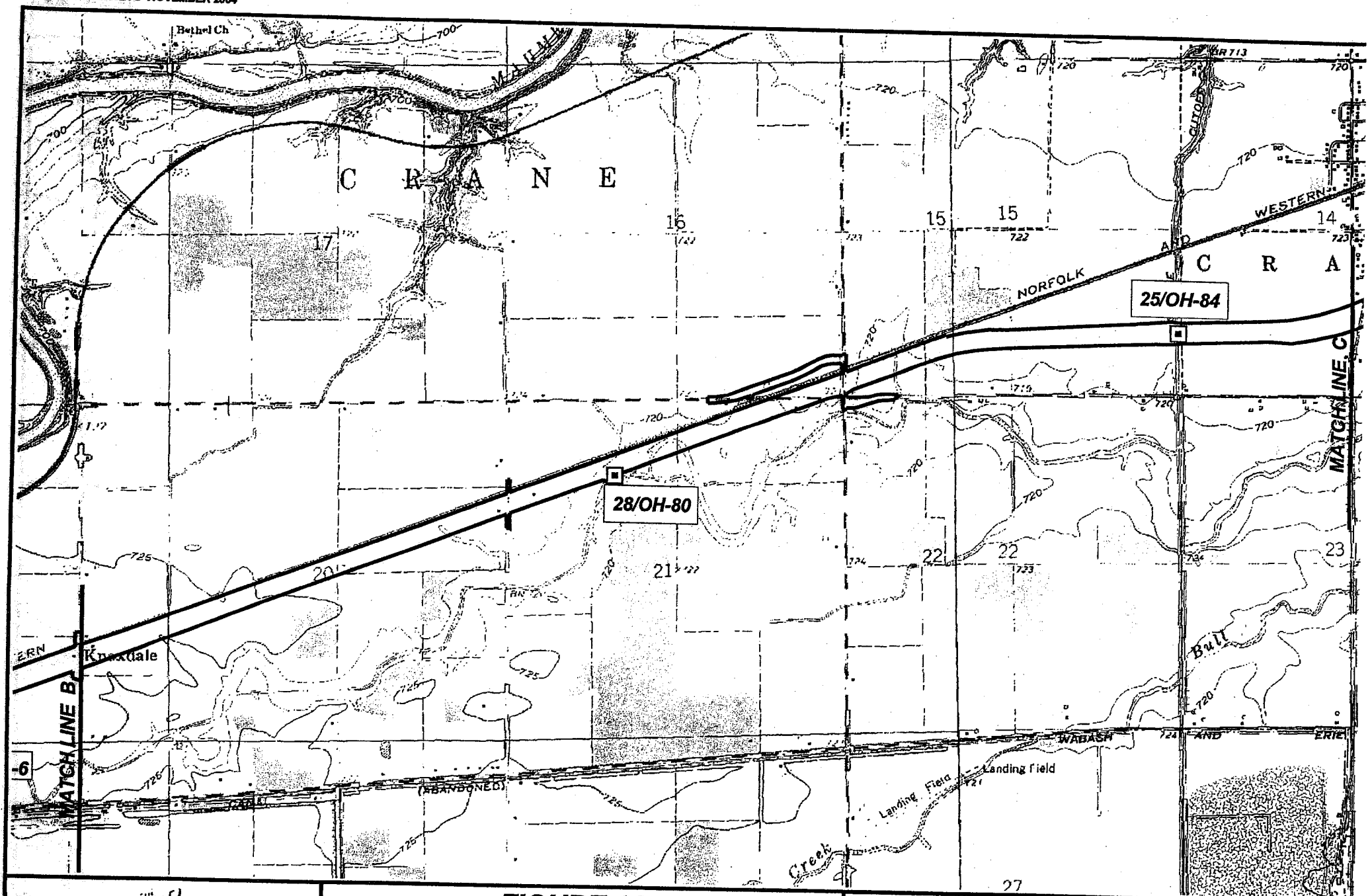

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FIGURE 1C
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

N

1:24,000

Project # P201A1E3C NOVEMBER 2004

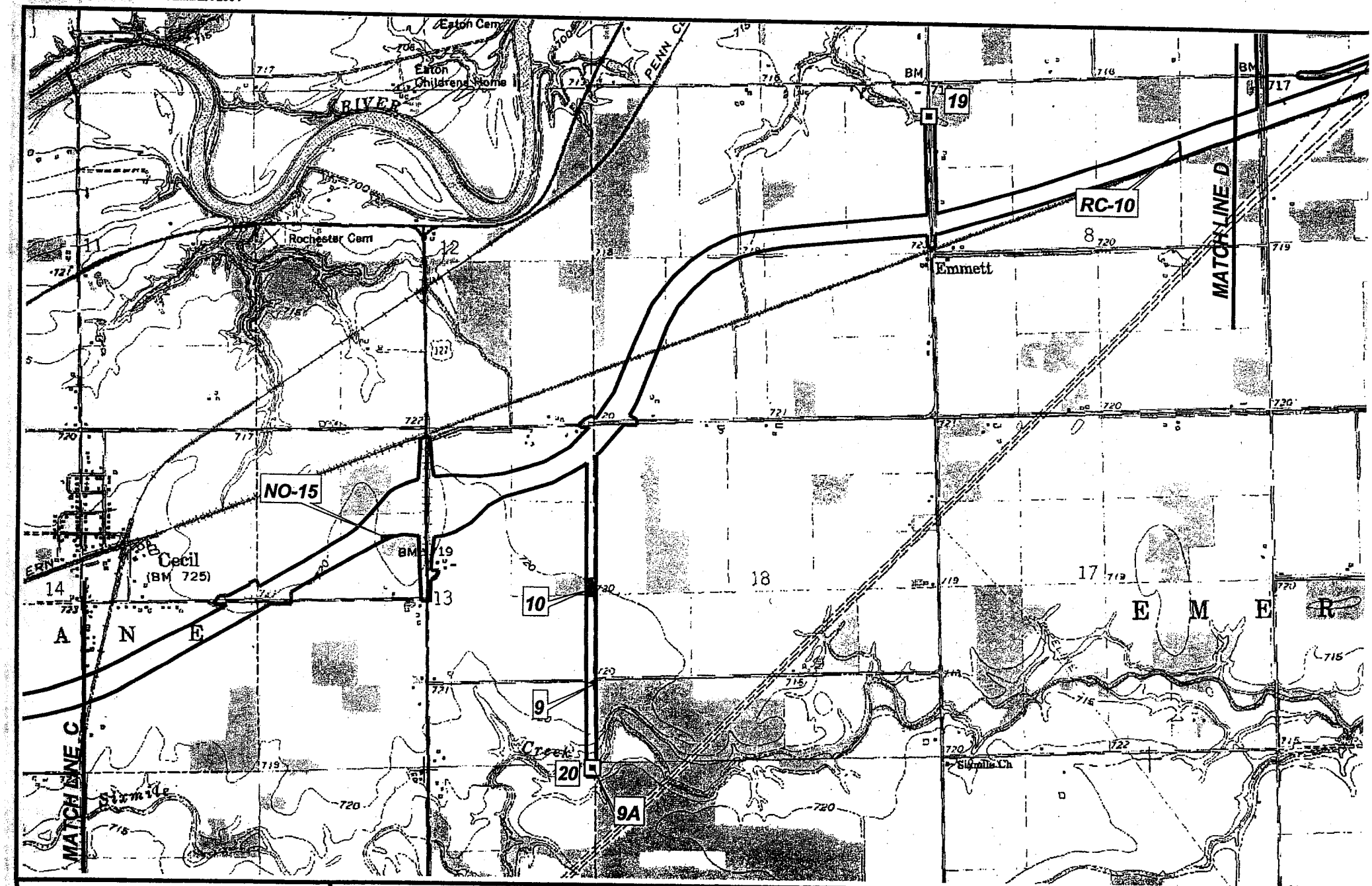

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FIGURE 1D
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

N

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Project # P201A1E3 VEMBER 2004

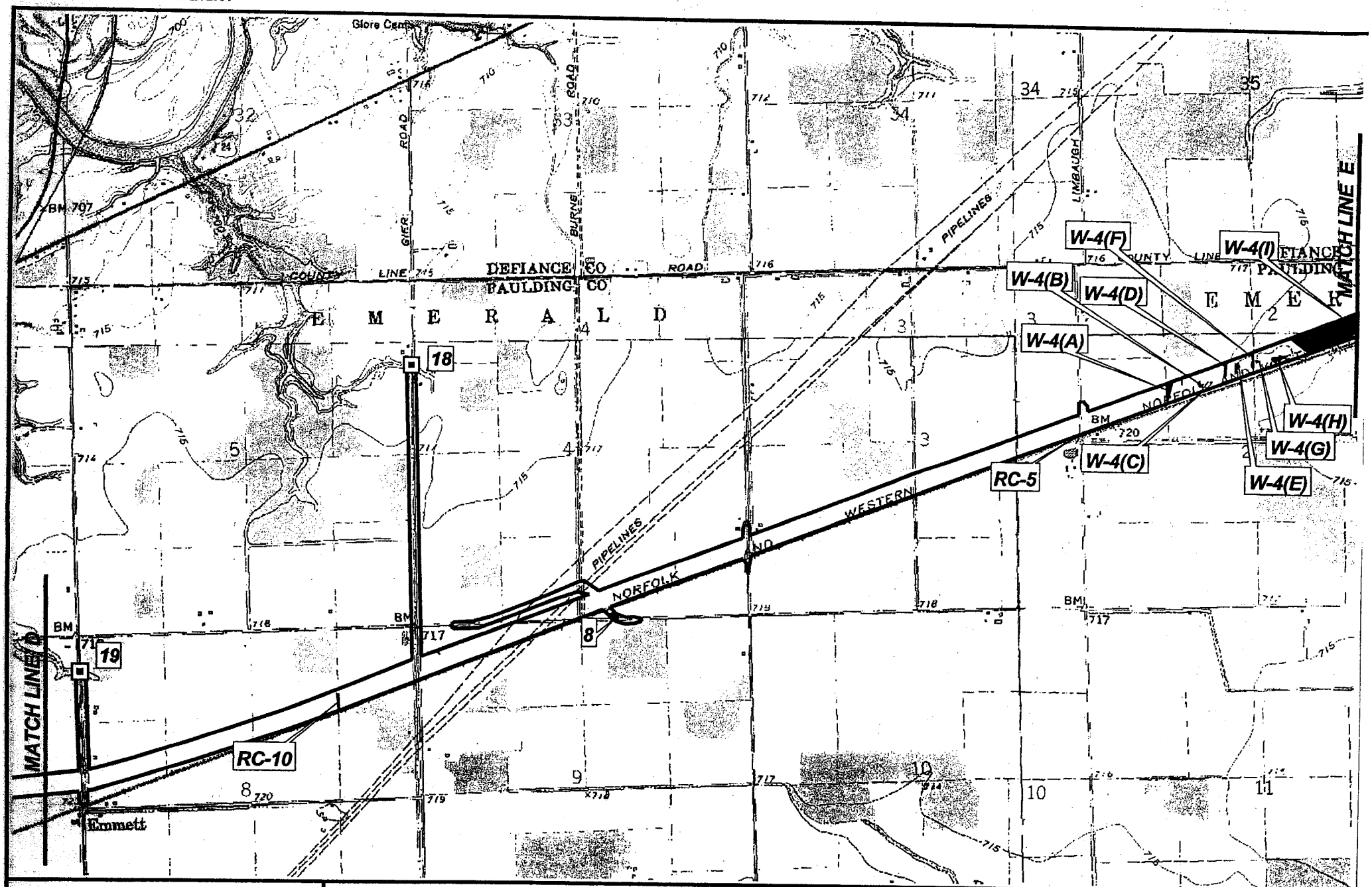

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FIGURE 1E
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

N
1:24,000

Project # P201A1E3C ... VEMBER 2004

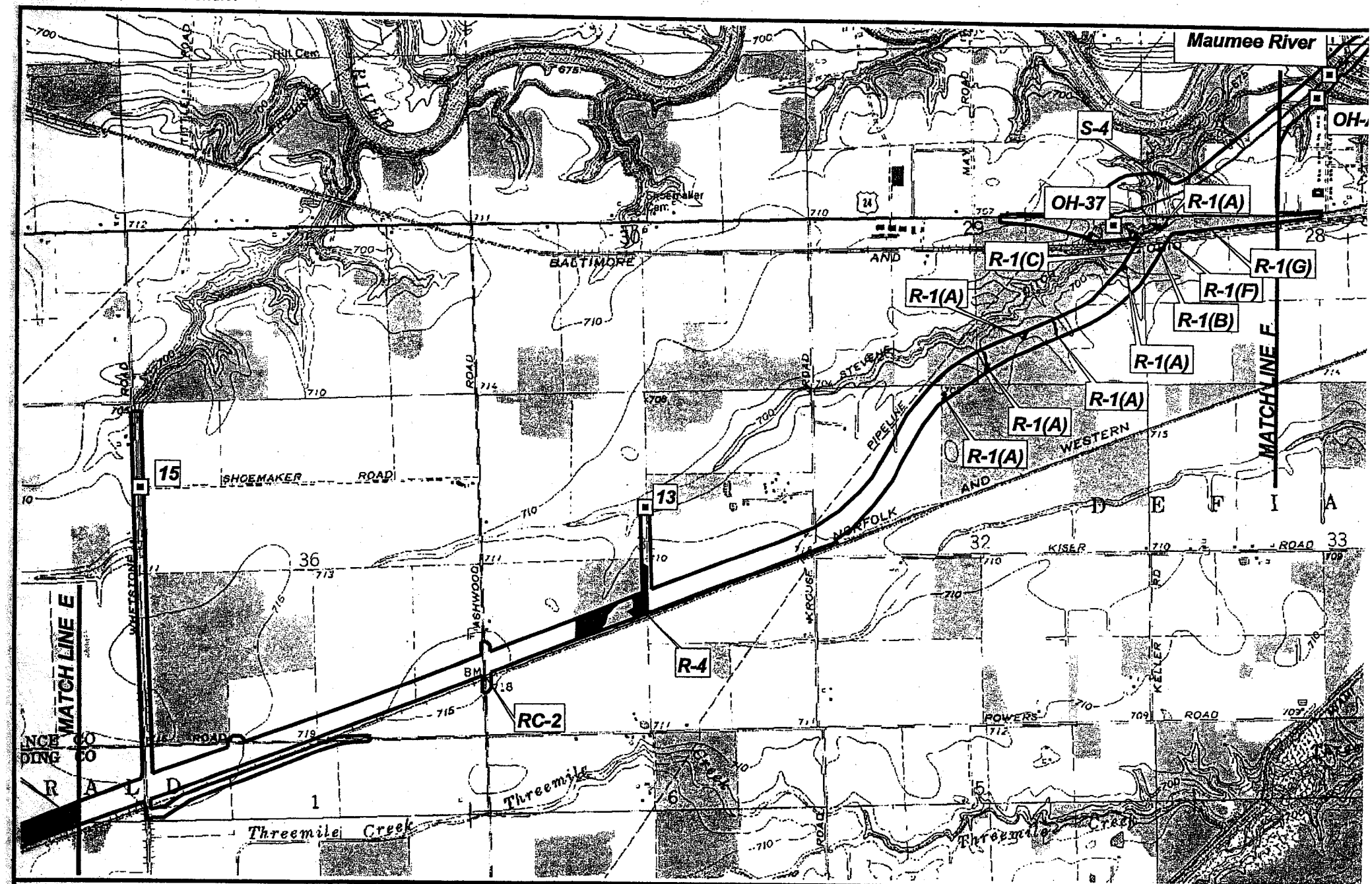

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FIGURE 1F
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

N

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Project # P201A1E3C NOVEMBER 2004

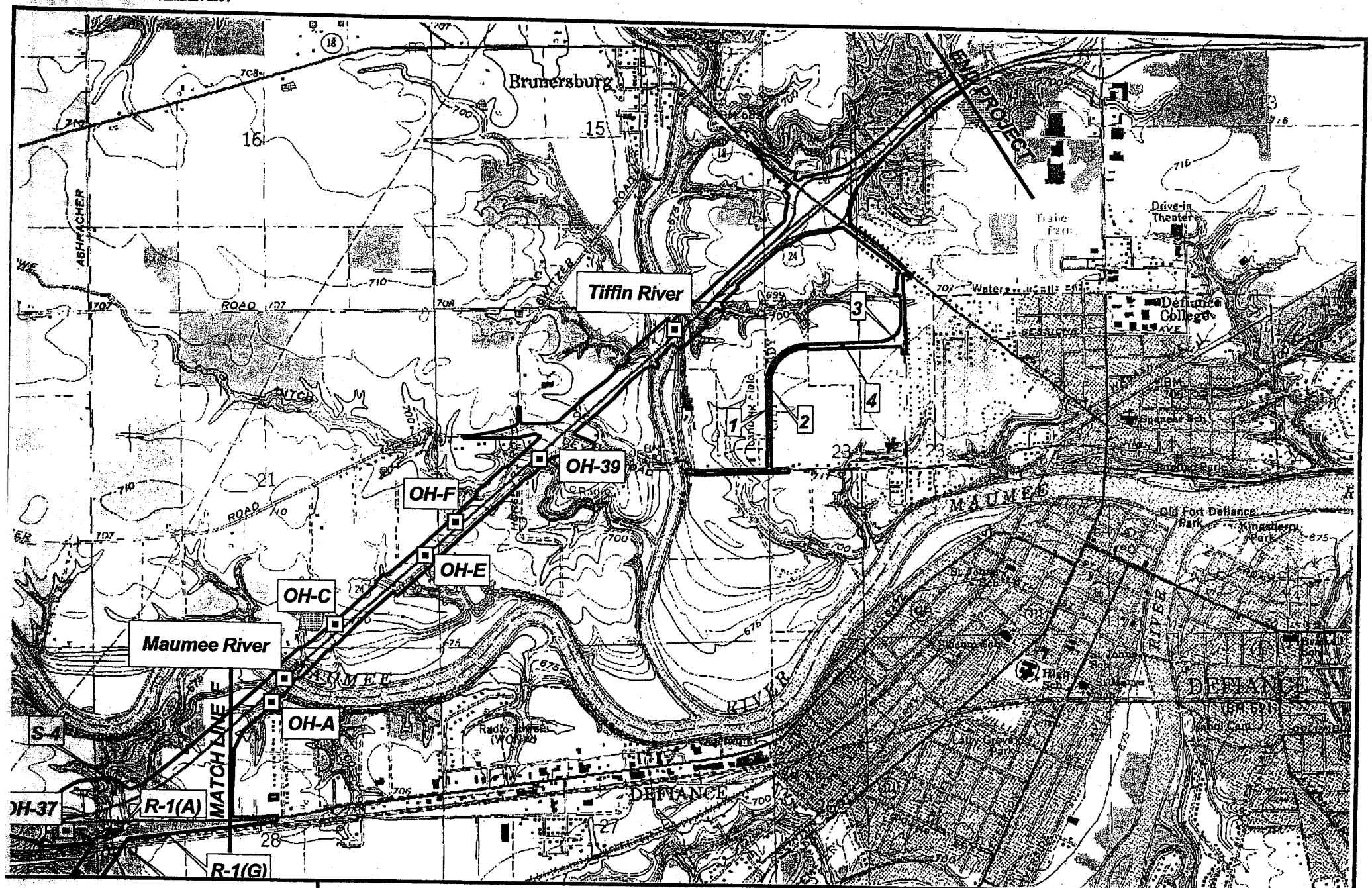

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FIGURE 1G
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

N
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Project # P201A1E3C January 2005//s:projects/env/p201a1/gis/usace/uasce B&W.apr

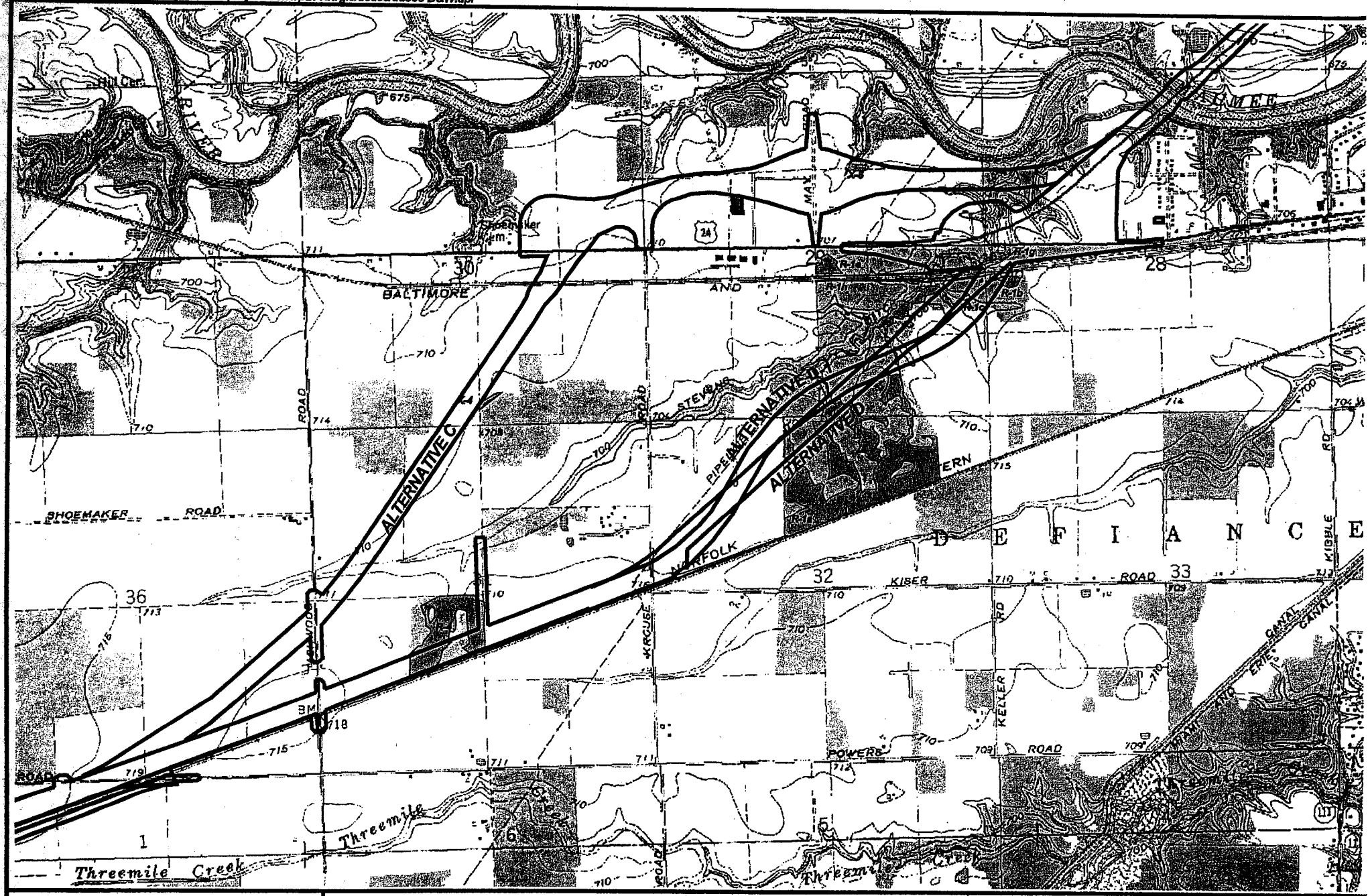

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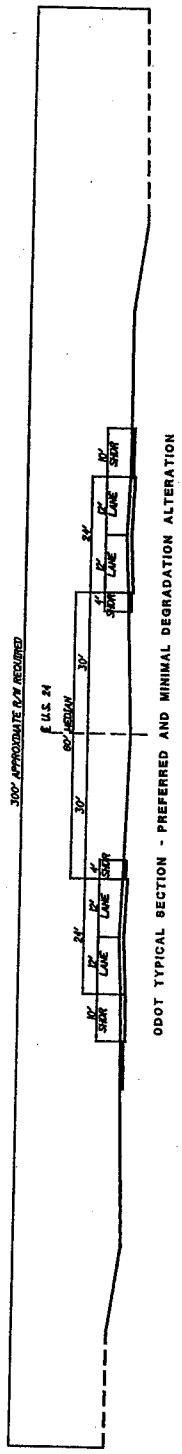
FIGURE 1H
PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

N

1 : 24,000



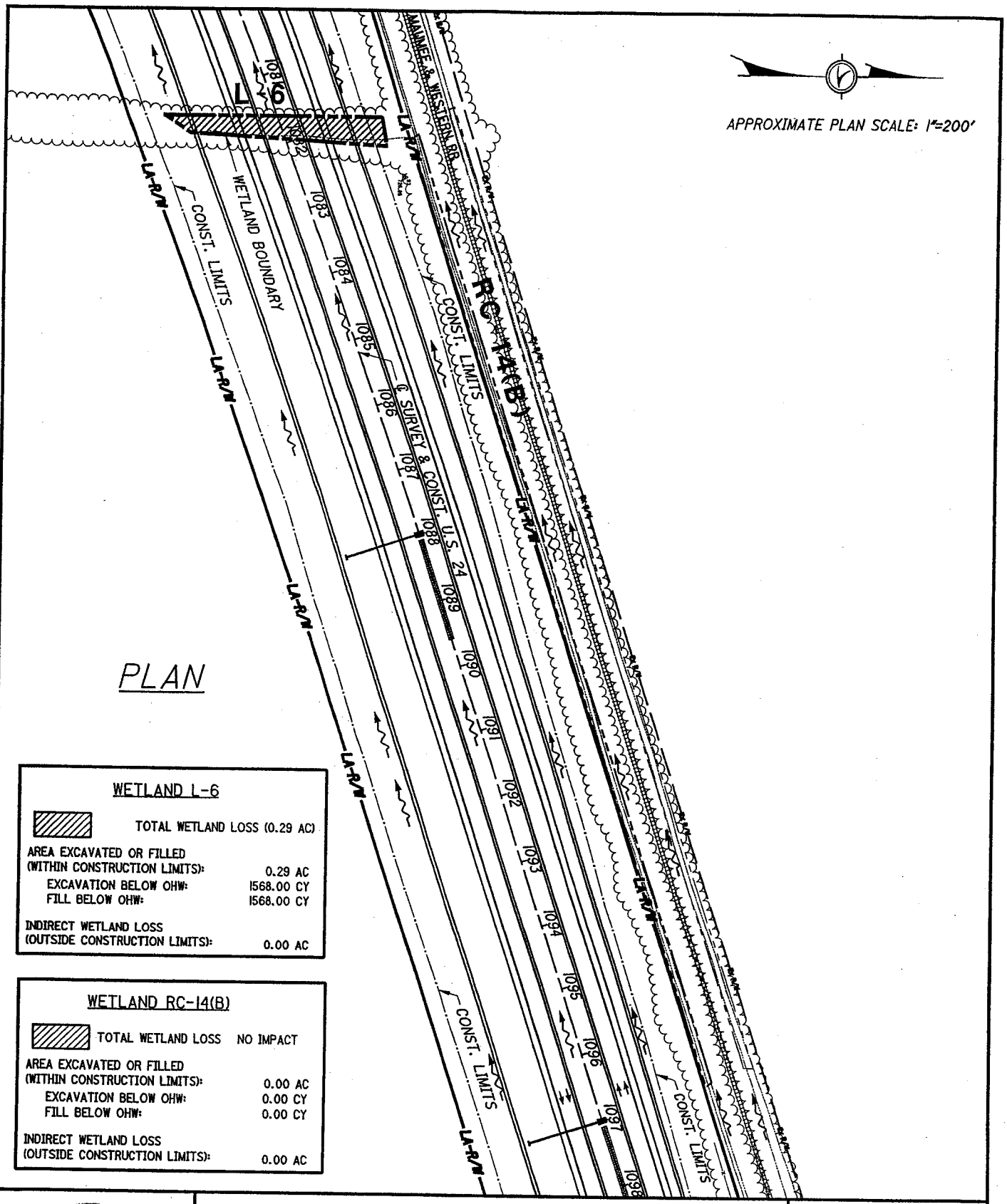
STATE OF OHIO
US24
DEPARTMENT OF TRANSPORTATION

FIGURE 2

TYPICAL SECTION FOR PREFERRED & MINIMAL DEGRADATION ALTERNATIVE

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN HENRY & LUCAS COUNTIES
HEN/LUC-24-10.42/0.00 PID 20404

DESIGNED BY:	MLM
REVIEWED BY:	JK
REVIEWED DATE:	3/17/05



WETLAND L-6

TOTAL WETLAND LOSS (0.29 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.29 AC
EXCAVATION BELOW OHW:	1568.00 CY
FILL BELOW OHW:	1568.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.00 AC

WETLAND RC-14(B)

TOTAL WETLAND LOSS NO IMPACT

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.00 AC
EXCAVATION BELOW OHW:	0.00 CY
FILL BELOW OHW:	0.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.00 AC

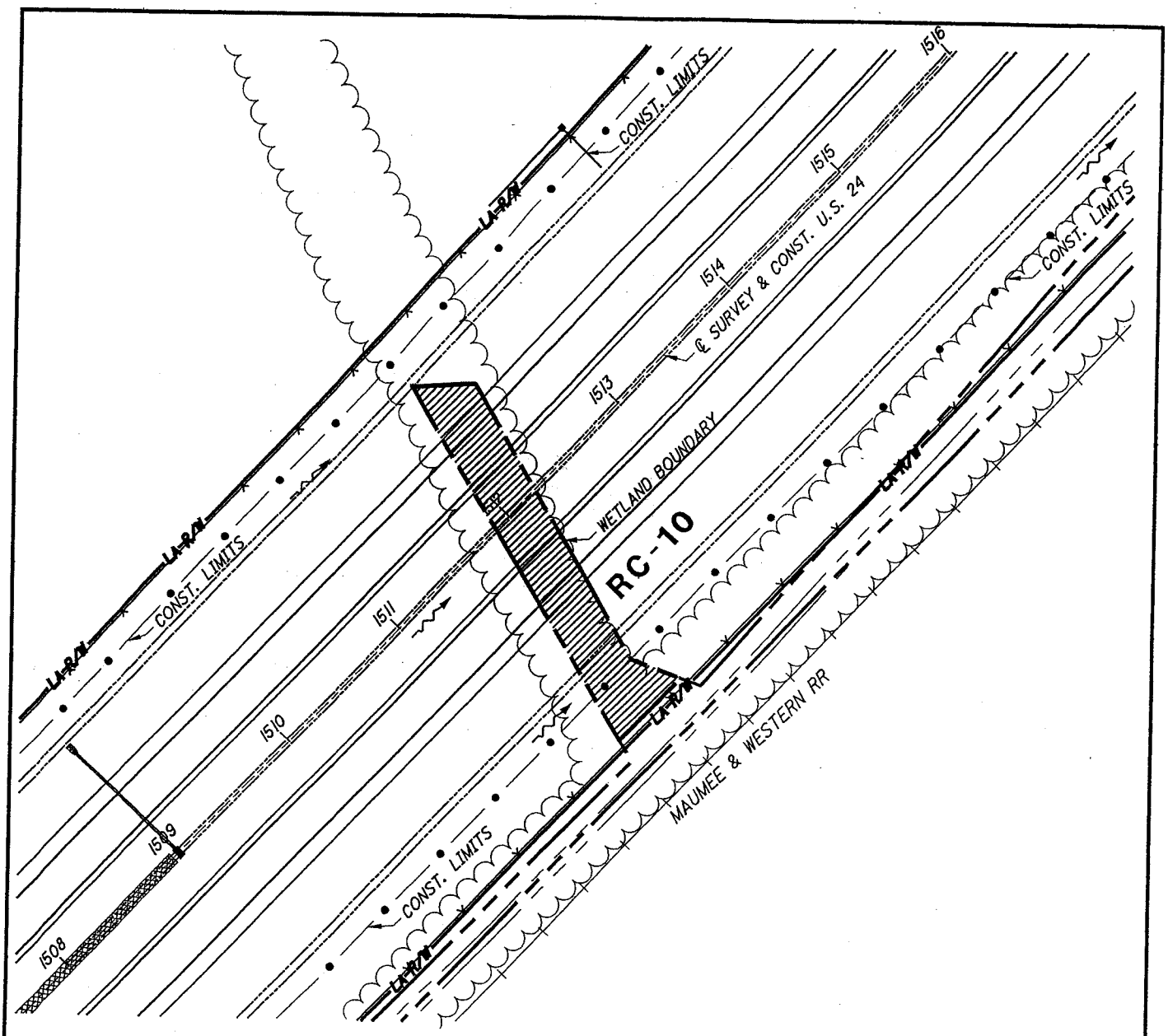
IMPACT TO NON-ISOLATED WETLAND L-6

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: *10-19-2004*

Figure 4



WETLAND RC-10

TOTAL WETLAND LOSS	(0.40 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.17 AC
EXCAVATION BELOW OHW:	38.00 CY
FILL BELOW OHW:	234.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.23 AC

PLAN

APPROXIMATE PLAN SCALE: 1"=100'

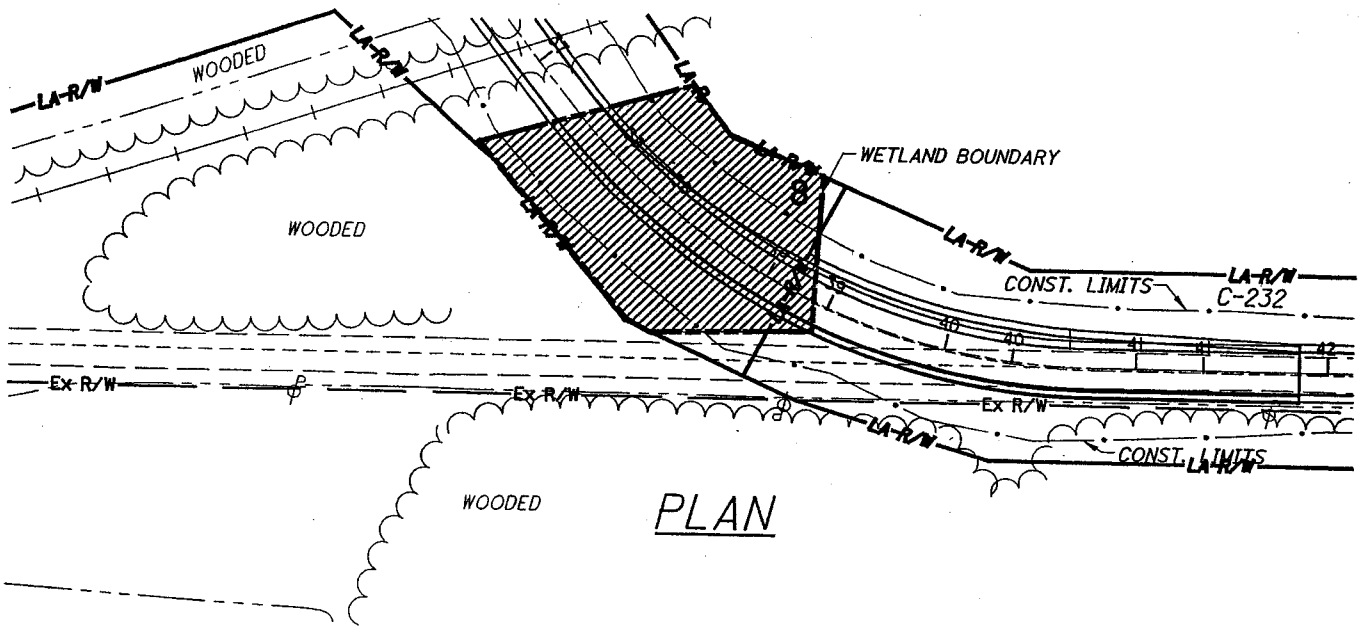
IMPACT TO NON-ISOLATED WETLAND RC-10

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 6



WETLAND 8

TOTAL WETLAND LOSS (0.34 AC)

AREA EXCAVATED OR FILLED
(WITHIN CONSTRUCTION LIMITS): 0.25 AC
EXCAVATION BELOW OHW: 7.00 CY
FILL BELOW OHW: 392.00 CY

INDIRECT WETLAND LOSS
(OUTSIDE CONSTRUCTION LIMITS): 0.09 AC

APPROXIMATE PLAN SCALE: 1"=100'

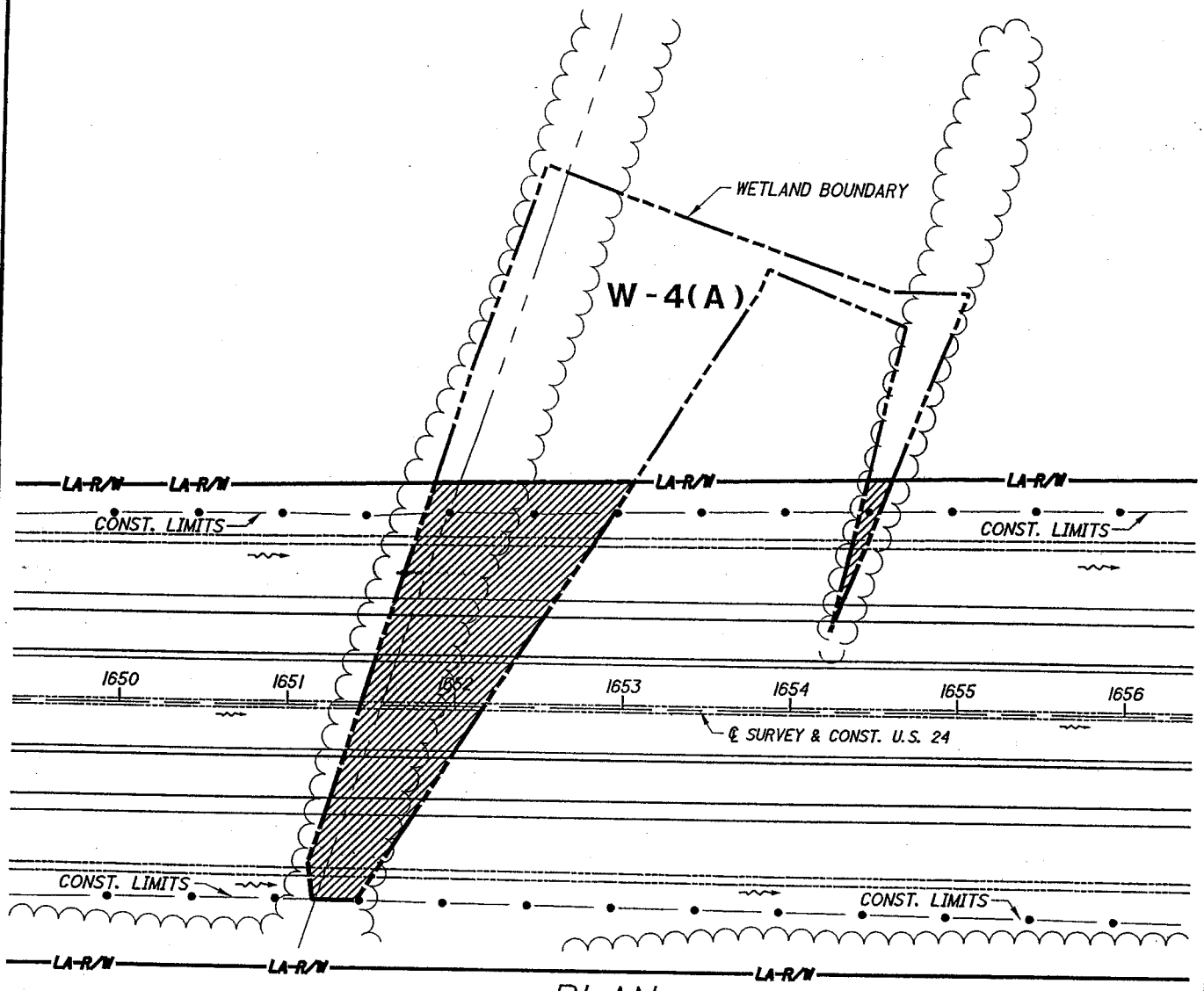
IMPACT TO NON-ISOLATED WETLAND 8

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 7



PLAN

WETLAND W-4(A)

TOTAL WETLAND LOSS	(0.47 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.40 CY
EXCAVATION BELOW OHW:	191.00 CY
FILL BELOW OHW:	459.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.07 AC

APPROXIMATE PLAN SCALE: 1"=100'

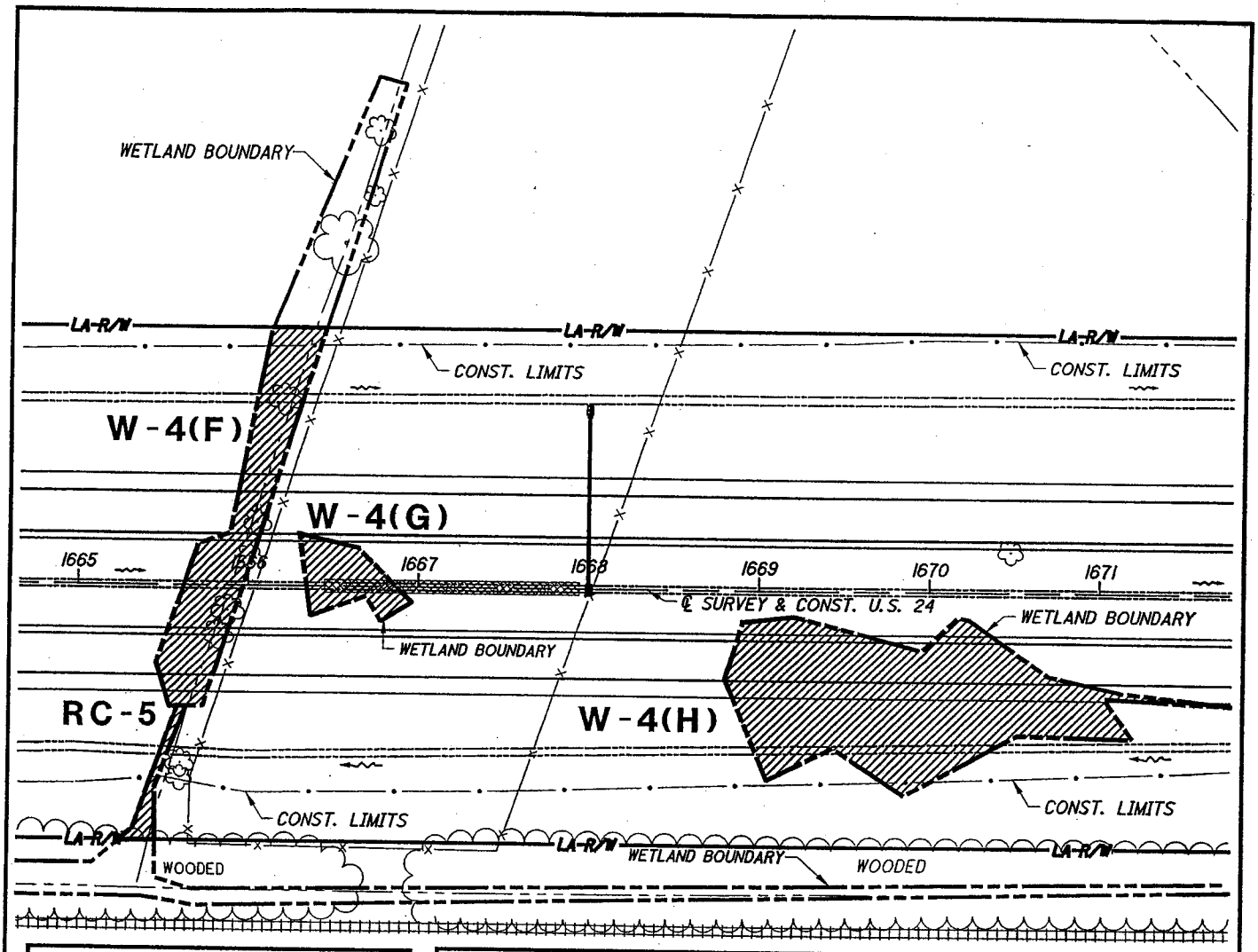
IMPACTS TO NON-ISOLATED WETLAND W-4(A)

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 8



MAUMEE & WESTERN RR

PLAN

WETLAND W-4(F)

TOTAL WETLAND LOSS (0.15 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS): 0.14 AC
EXCAVATION BELOW OHW: 85.00 CY
FILL BELOW OHW: 136.00 CY

INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS): 0.01 AC

WETLAND RC-5 (TOTAL FROM FIG. 9, 12, & 13)

TOTAL WETLAND LOSS (0.90 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS): 0.02 AC
EXCAVATION BELOW OHW: 18.00 CY
FILL BELOW OHW: 12.00 CY

INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS): 0.88 AC

WETLAND W-4(G)

TOTAL WETLAND LOSS (0.04 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS): 0.04 AC
EXCAVATION BELOW OHW: 33.00 CY
FILL BELOW OHW: 36.00 CY

INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS): 0.00 AC

WETLAND W-4(H)

TOTAL WETLAND LOSS (0.35 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS): 0.35 AC
EXCAVATION BELOW OHW: 249.00 CY
FILL BELOW OHW: 316.00 CY

INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS): 0.00 CY

APPROXIMATE PLAN SCALE: 1"=100'

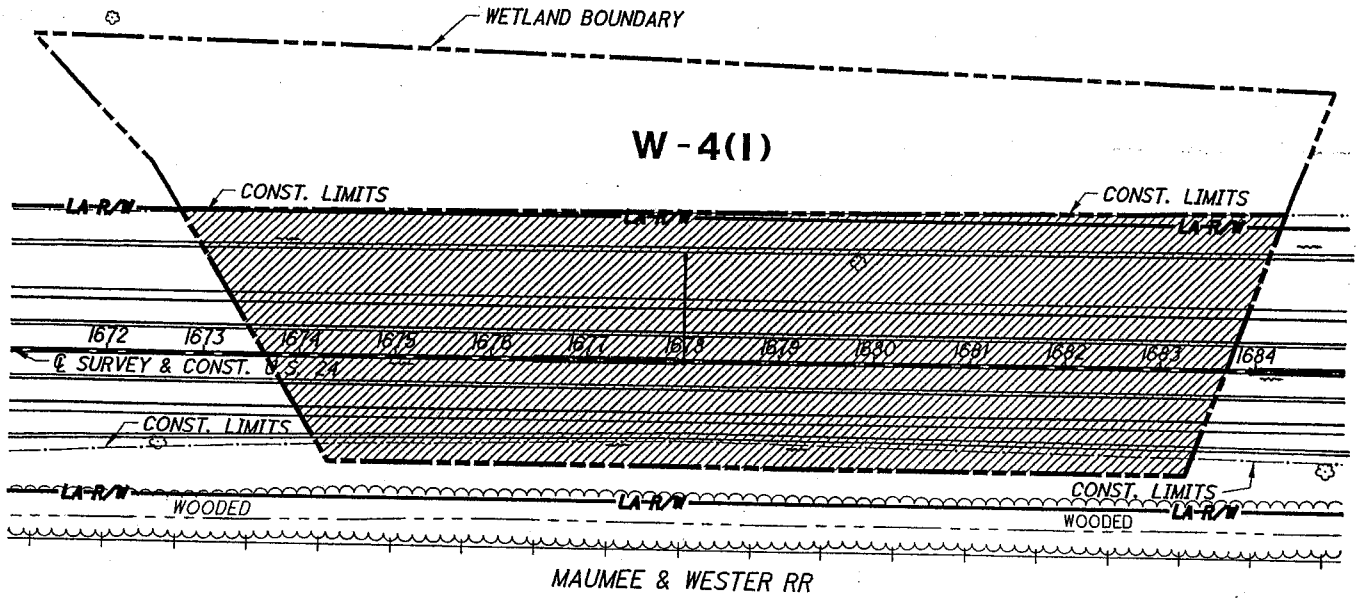
IMPACTS TO ISOLATED WETLANDS W-4(G) & W-4(H) & NON-ISOLATED WETLANDS W-4(F) & RC-5

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 11



PLAN

WETLAND W-4(I)

TOTAL WETLAND LOSS (7.00 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS): 5.84 AC
EXCAVATION BELOW OHW: 4652.00 CY
FILL BELOW OHW: 4771.00 CY

INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS): 1.16 AC

APPROXIMATE PLAN SCALE: 1"=200'

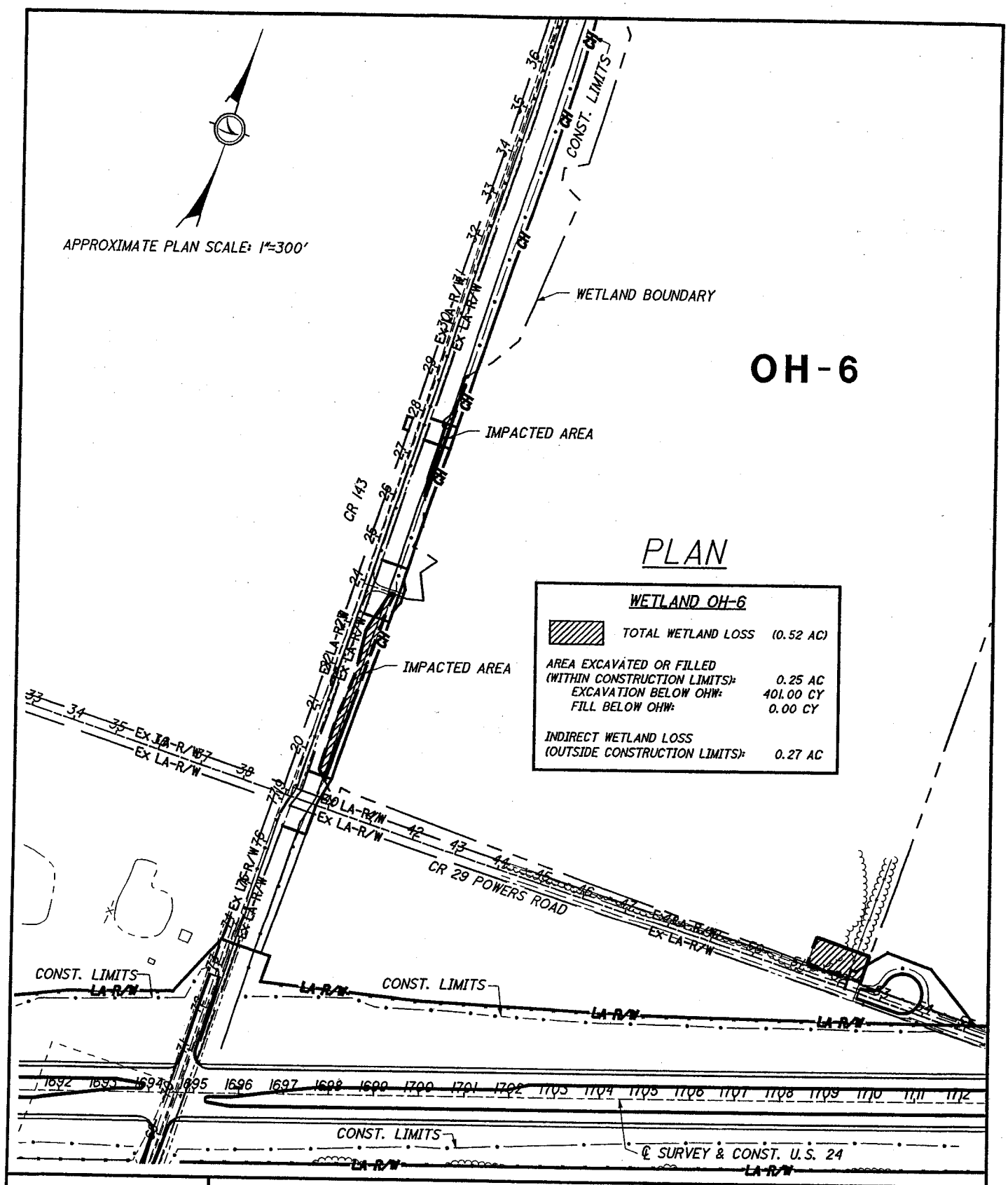
IMPACT TO NON-ISOLATED WETLAND W-4(I)

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 12



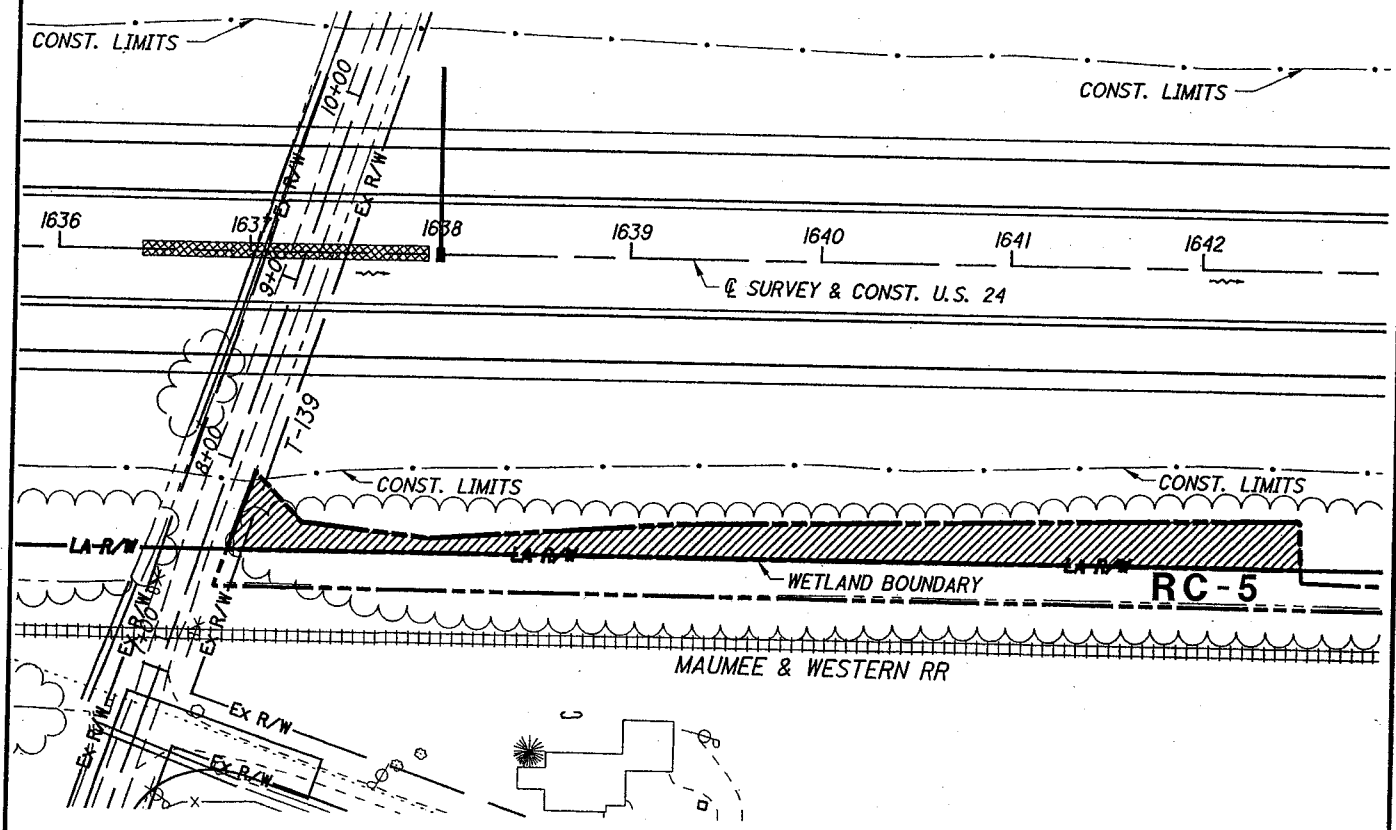
IMPACTS TO NON-ISOLATED WETLAND OH-6

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 13



PLAN

WETLAND RC-5 (TOTAL FROM FIG. 9, 12 & 13)

TOTAL WETLAND LOSS (0.90 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS): 0.02 AC
EXCAVATION BELOW OHW: 18.00 CY
FILL BELOW OHW: 12.00 CY

INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS): 0.88 AC

APPROXIMATE PLAN SCALE: 1"=100'

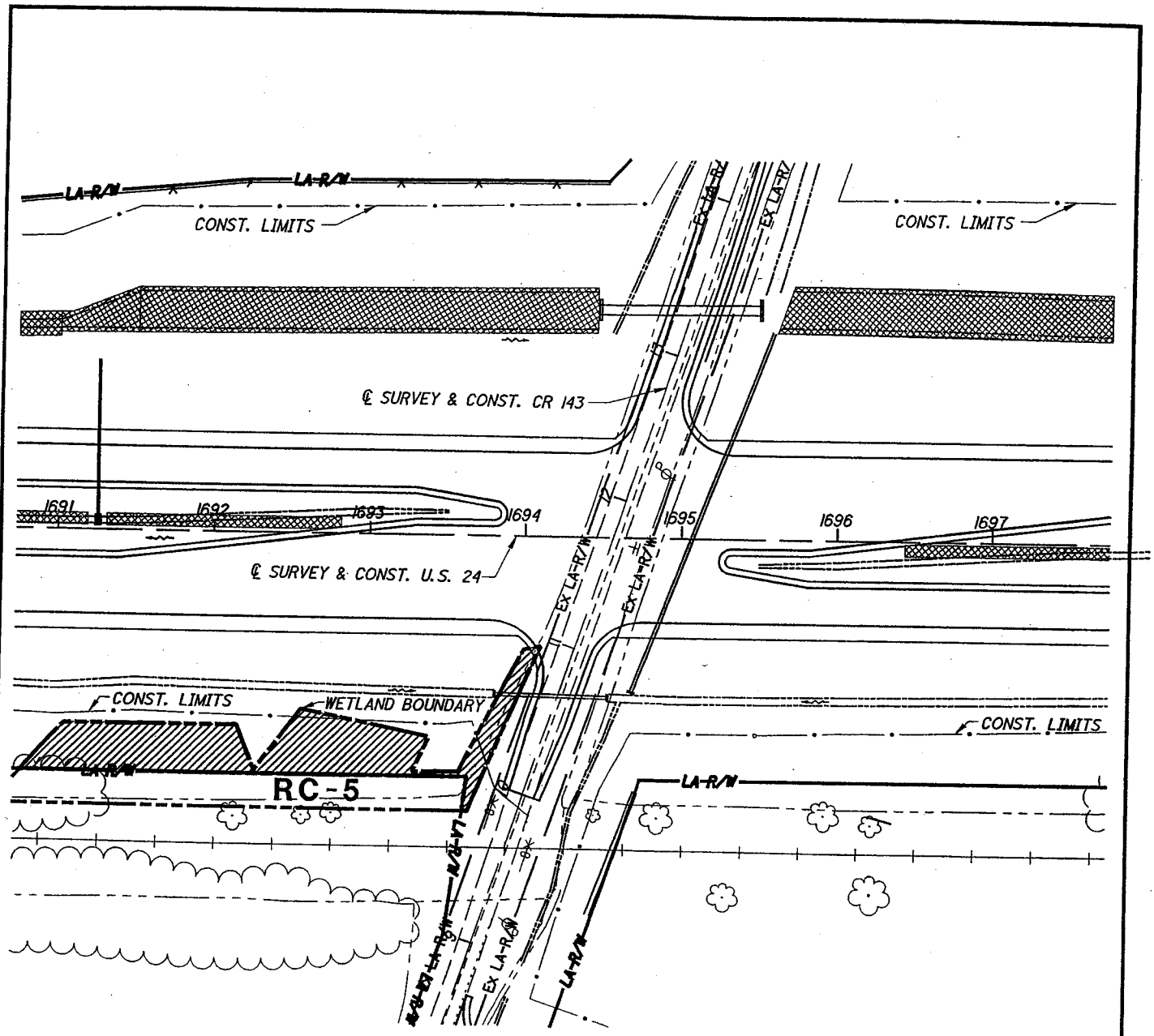
IMAPCTS TO NON-ISOLATED WETLAND RC-5

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 14



WETLAND RC-5	(TOTAL FROM FIG. 9, 12 & 13)
TOTAL WETLAND LOSS	(0.90 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.02 AC
EXCAVATION BELOW OHW:	18.00 CY
FILL BELOW OHW:	12.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.88 AC

PLAN

APPROXIMATE PLAN SCALE: 1"=100'

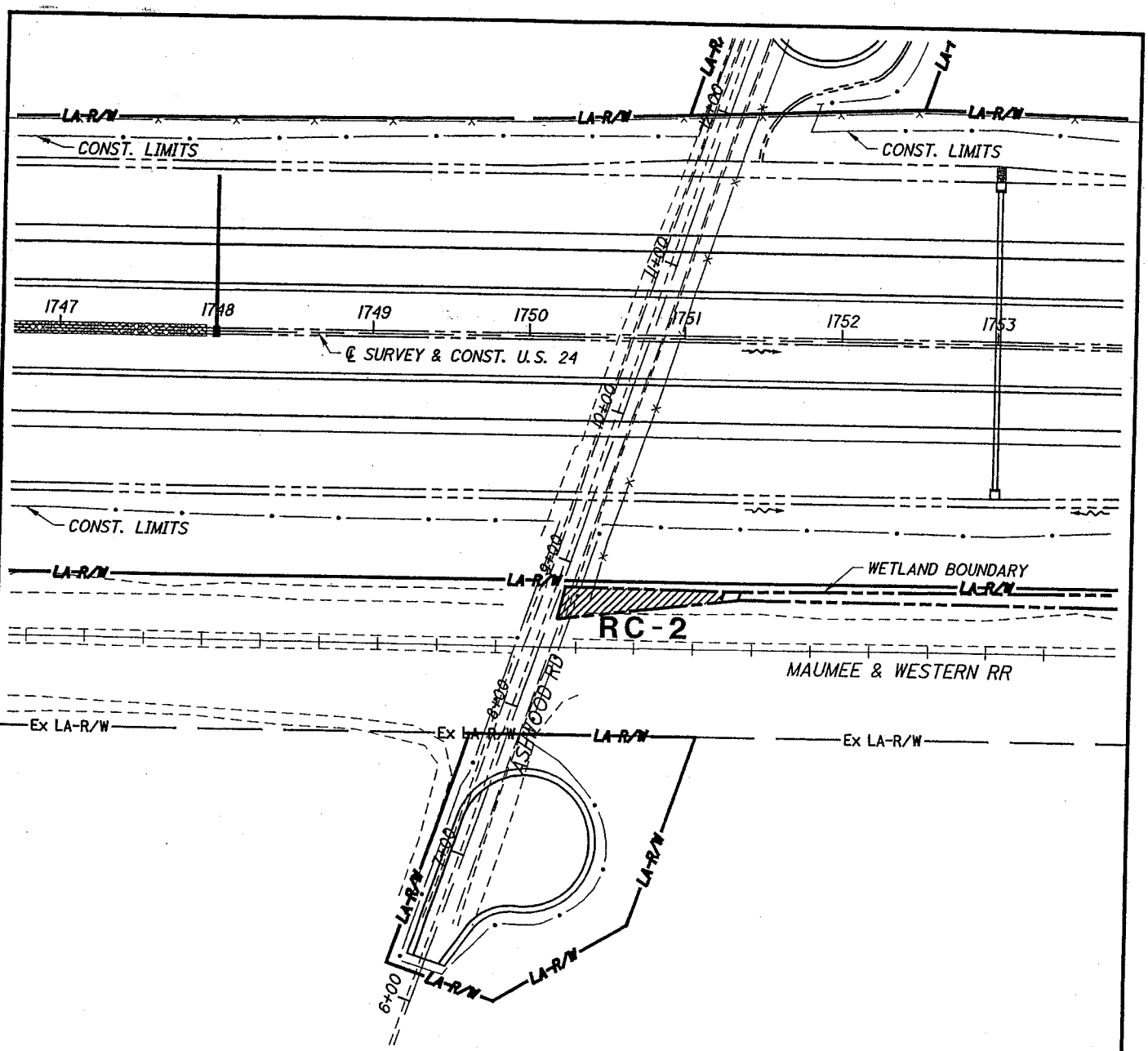
IMPACTS TO NON-ISOLATED WETLAND RC-5

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 15



PLAN

WETLAND RC-2	(TOTAL FROM FIG. 14 & 15)
TOTAL WETLAND LOSS	(0.13 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.00 AC
EXCAVATION BELOW OHW:	7.00 CY
FILL BELOW OHW:	0.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.13 AC

APPROXIMATE PLAN SCALE: 1"=100'

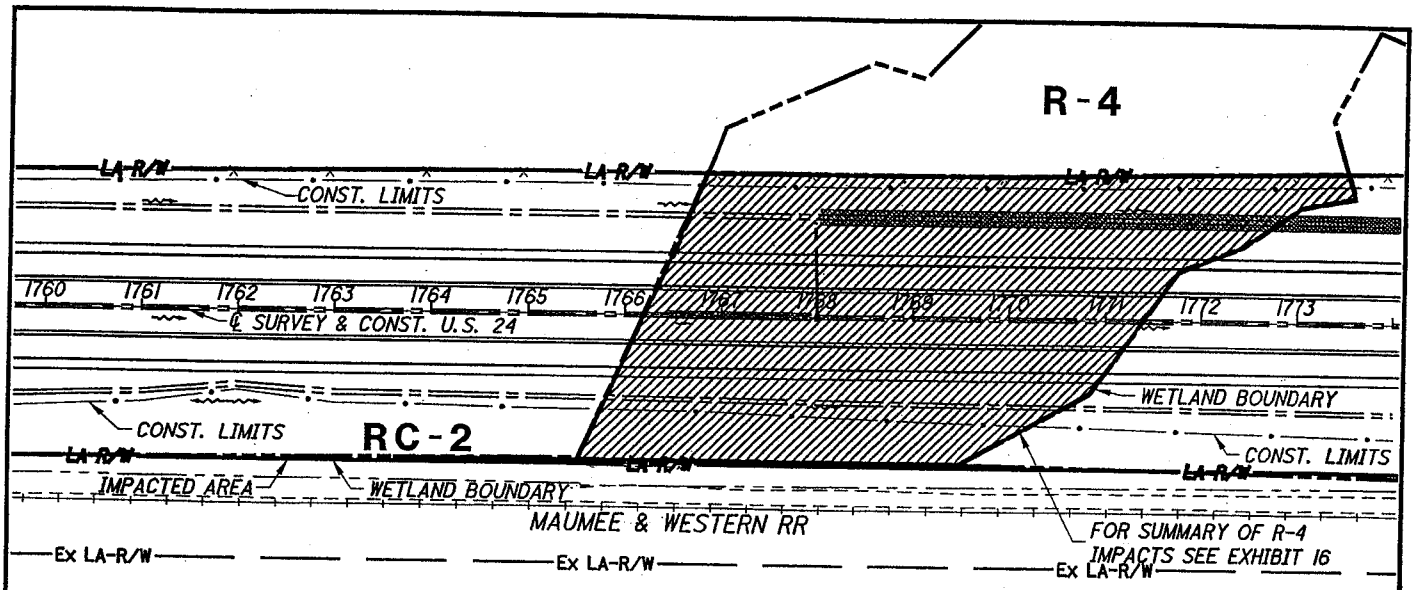
IMPACTS TO NON-ISOLATED WETLAND RC-2

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 16



WETLAND RC-2	(TOTAL FROM FIG. 14 & 15)
TOTAL WETLAND LOSS	(0.13 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.00 AC
EXCAVATION BELOW OHW:	7.00 CY
FILL BELOW OHW:	0.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.13 AC

PLAN

APPROXIMATE PLAN SCALE: 1"=200'

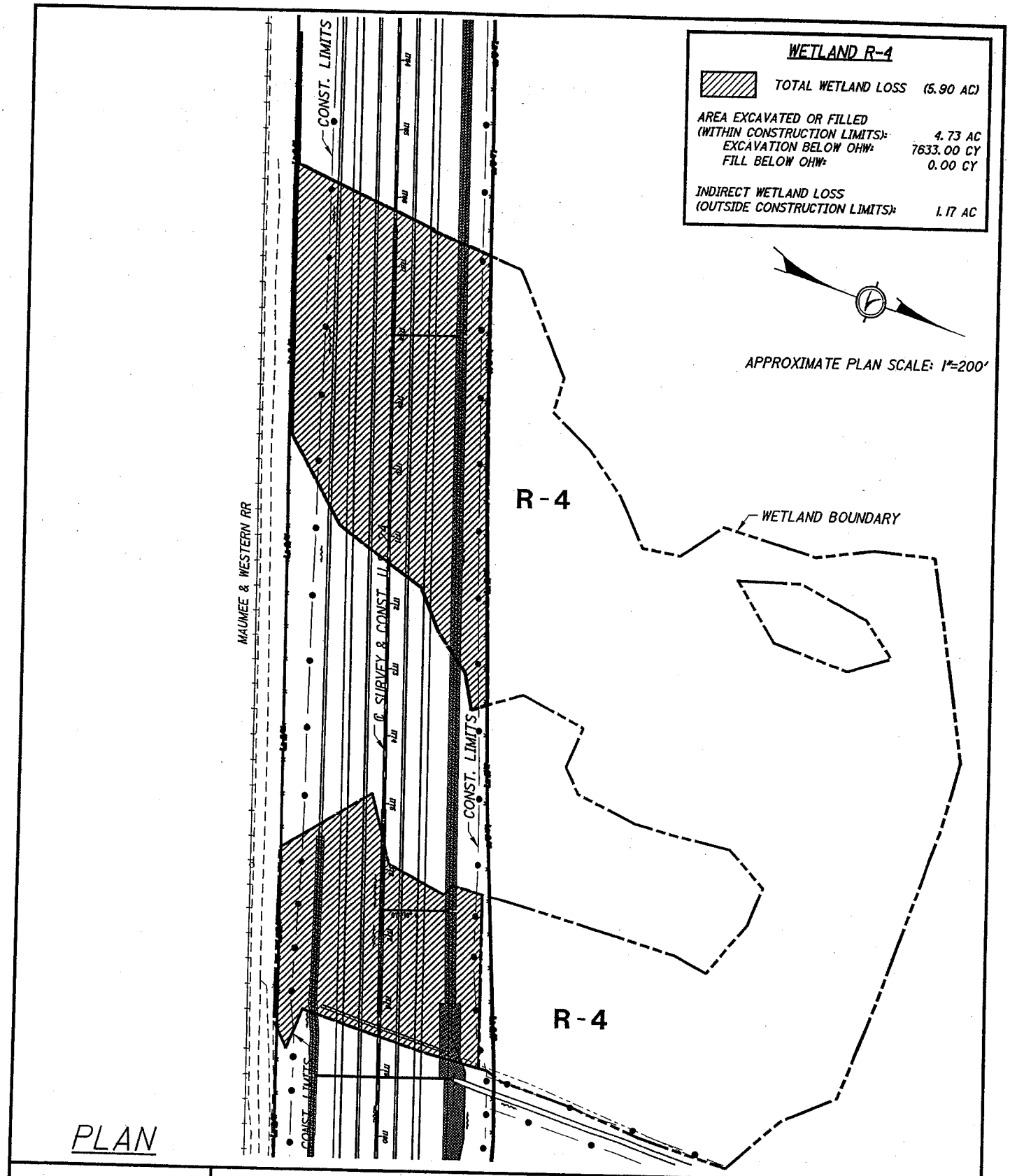
IMPACTS TO NON-ISOLATED WETLAND RC-2

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 17



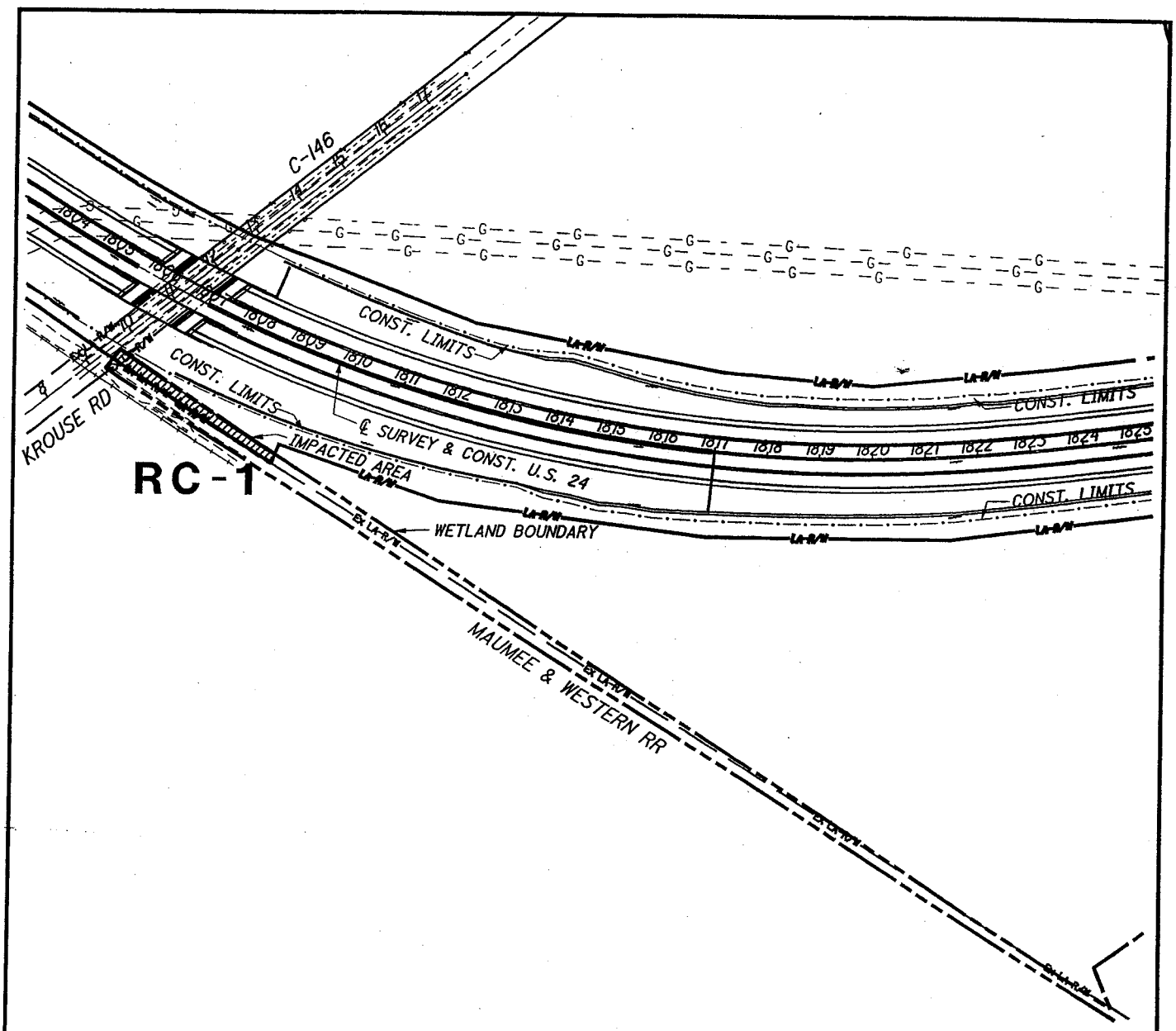
IMPACTS TO NON-ISOLATED WETLAND R-4

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 18



WETLAND RC-1

TOTAL WETLAND LOSS	(0.16 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.00 AC
EXCAVATION BELOW OHW:	0.00 CY
FILL BELOW OHW:	0.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.16 AC

PLAN

APPORXIMATE PLAN SCALE: 1"=300'

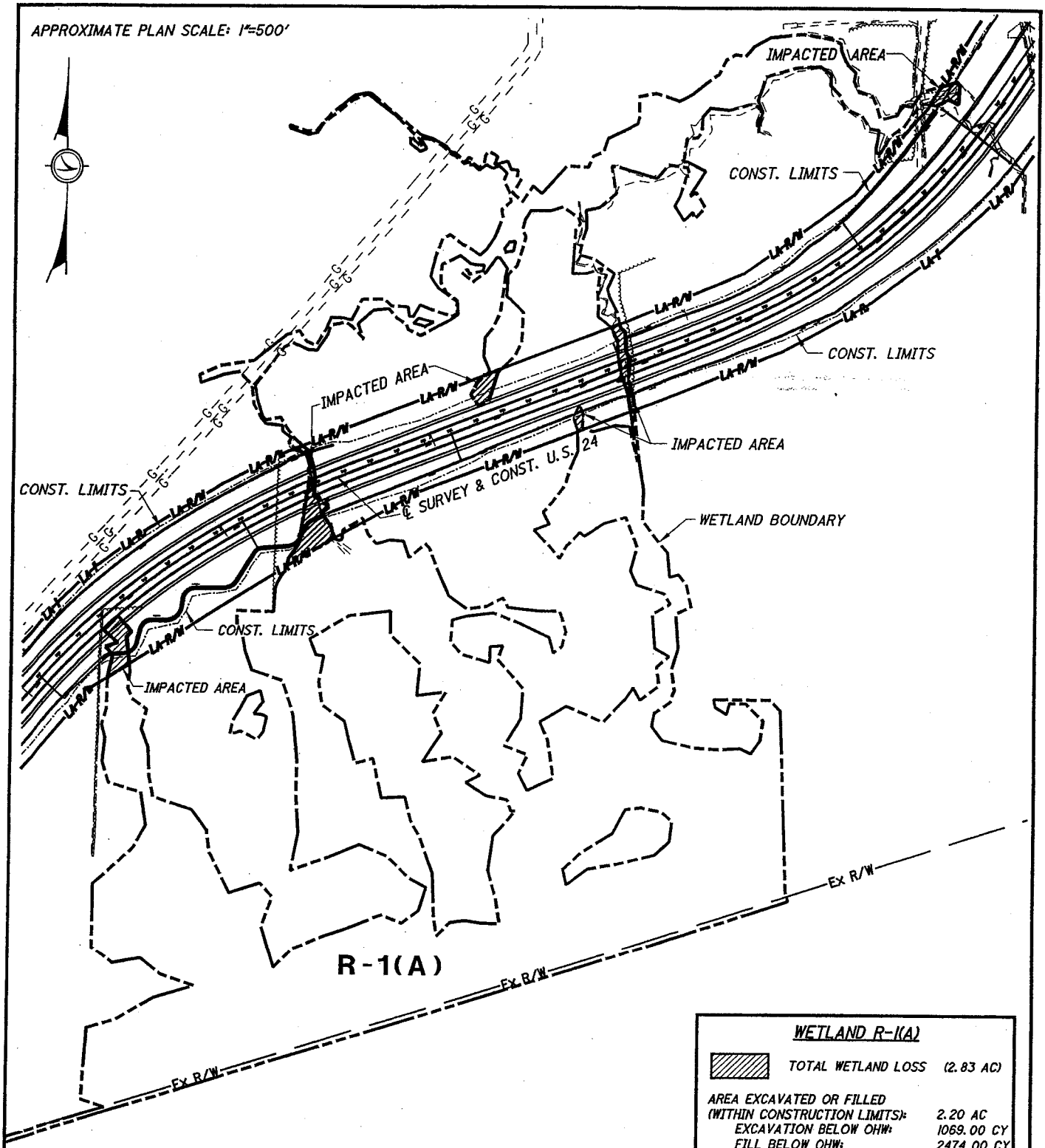
IMPACT TO NON-ISOLATED WETLAND RC-1

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 19



WETLAND R-1(A)

TOTAL WETLAND LOSS	(2.83 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	2.20 AC
EXCAVATION BELOW OHW:	1069.00 CY
FILL BELOW OHW:	2474.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.63 AC

PLAN

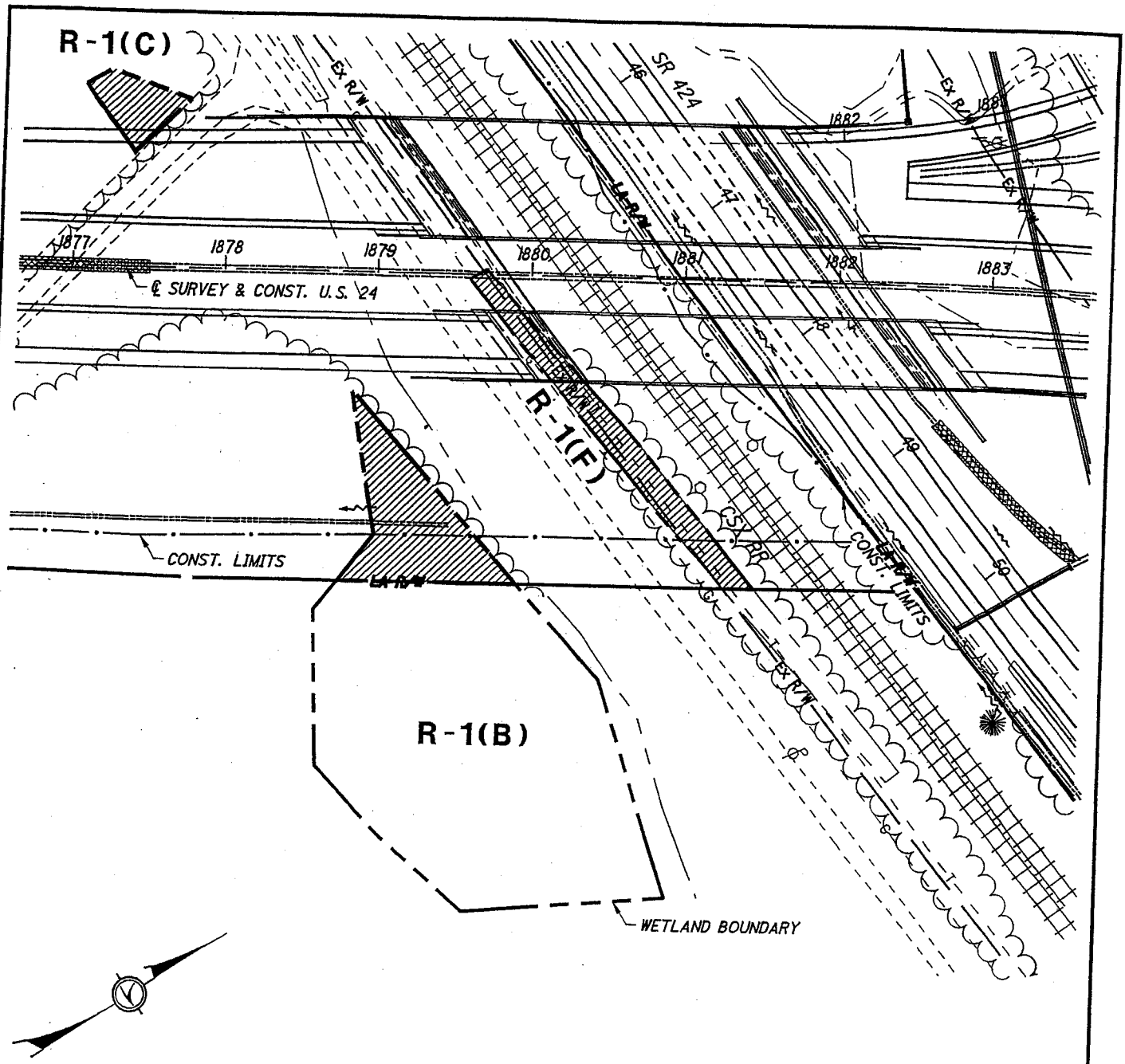
IMPACTS TO NON-ISOLATED WETLAND R-1(A)

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 20



APPROXIMATE PLAN SCALE: 1"=100'

PLAN

WETLAND R-1(B)

TOTAL WETLAND LOSS (0.13 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.07 AC
EXCAVATION BELOW OHW:	54.00 CY
FILL BELOW OHW:	60.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.06 CY

WETLAND R-1(C)

TOTAL WETLAND LOSS (0.04 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.04 CY
EXCAVATION BELOW OHW:	0.00 CY
FILL BELOW OHW:	65.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.00 CY

WETLAND R-1(F)

TOTAL WETLAND LOSS (0.09 AC)

AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.07 AC
EXCAVATION BELOW OHW:	14.00 CY
FILL BELOW OHW:	103.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.02 CY

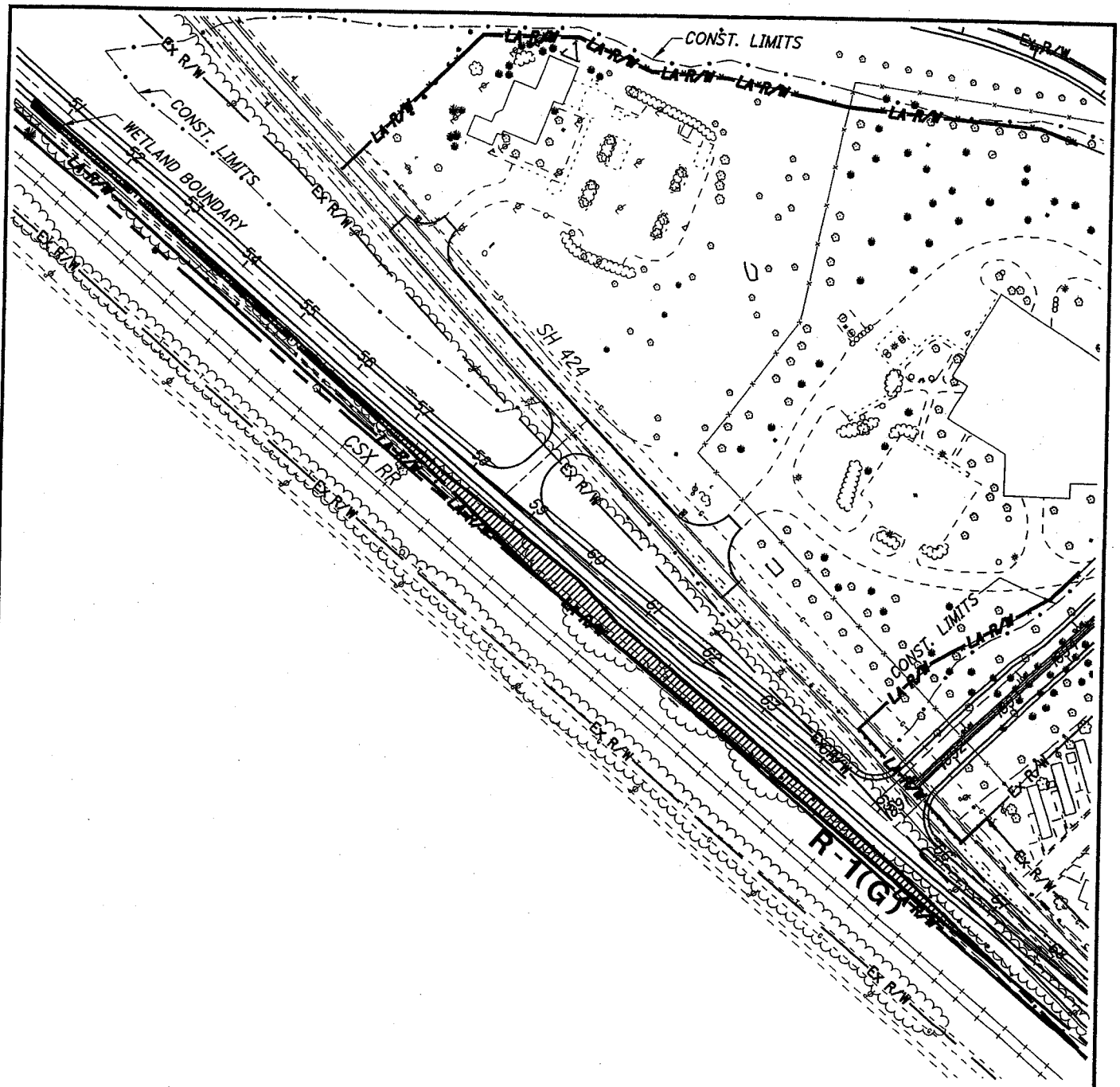
IMPACTS TO NON-ISOLATED WETLANDS R-1(B)-(C) AND R-1(F)

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 21



WETLAND R-1(G)

TOTAL WETLAND LOSS	(0.56 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.40 AC
EXCAVATION BELOW OHW:	79.00 CY
FILL BELOW OHW:	558.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.16 AC

PLAN

APPROXIMATE PLAN SCALE: 1"=200'

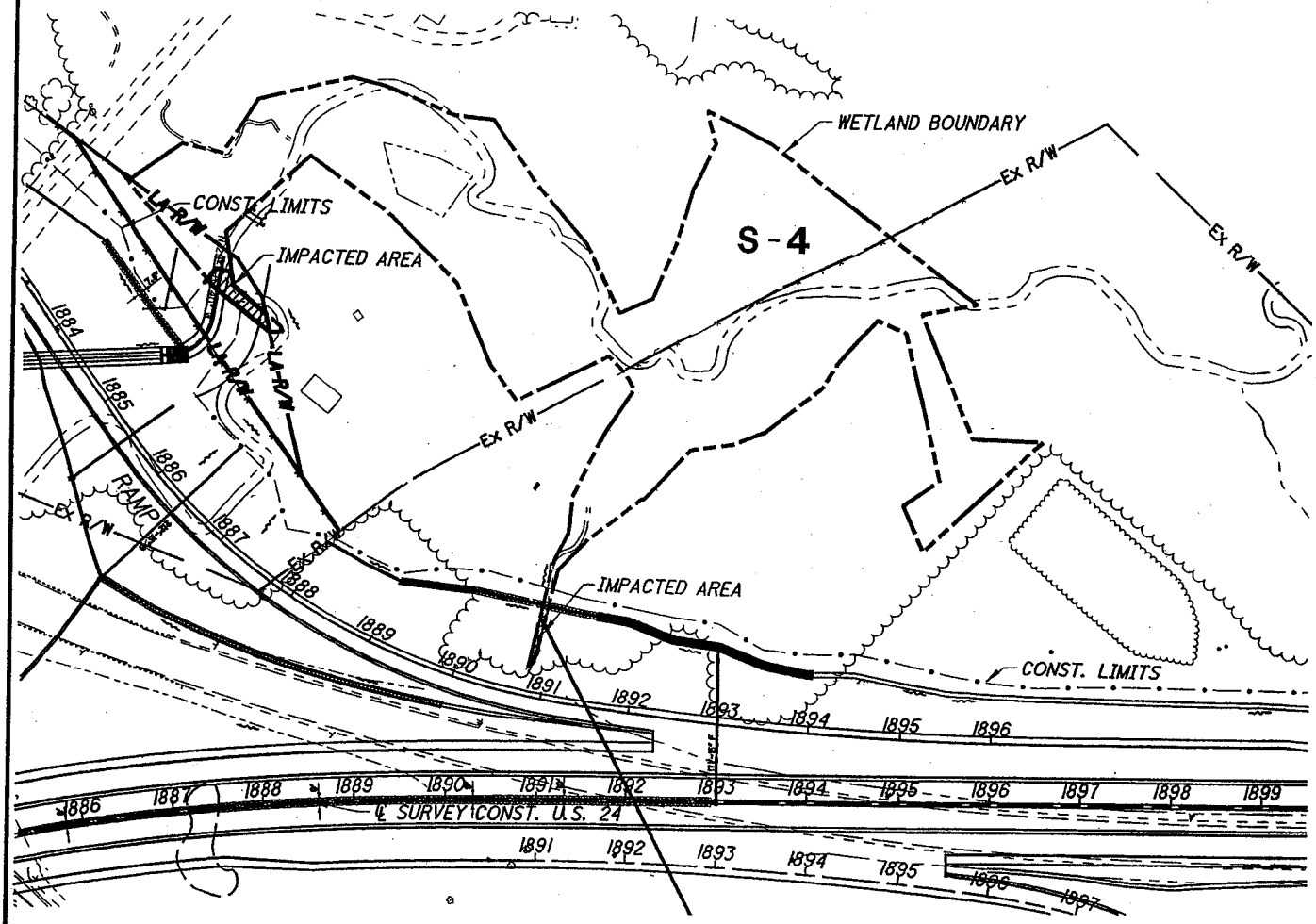
IMPACT TO NON-ISOLATED WETLAND R-1(G)

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 22



PLAN

WETLAND S-4

TOTAL WETLAND LOSS	(0.12 AC)
AREA EXCAVATED OR FILLED (WITHIN CONSTRUCTION LIMITS):	0.03 CY
EXCAVATION BELOW OHW:	36.00 CY
FILL BELOW OHW:	9.00 CY
INDIRECT WETLAND LOSS (OUTSIDE CONSTRUCTION LIMITS):	0.09 CY

APPROXIMATE PLAN SCALE: 1"=200'

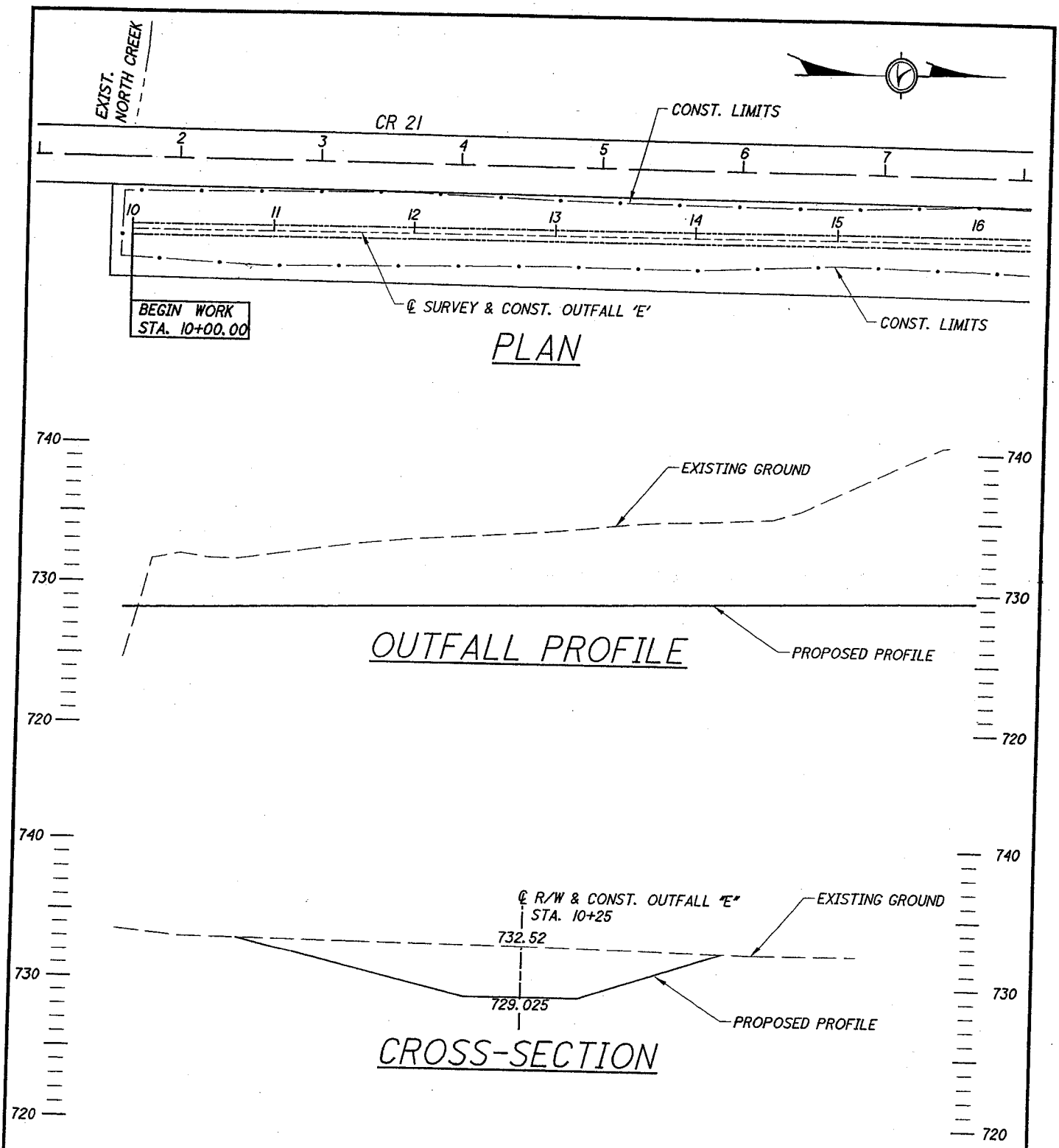
IMPACTS TO NON-ISOLATED WETLAND S-4

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 23



APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=10'

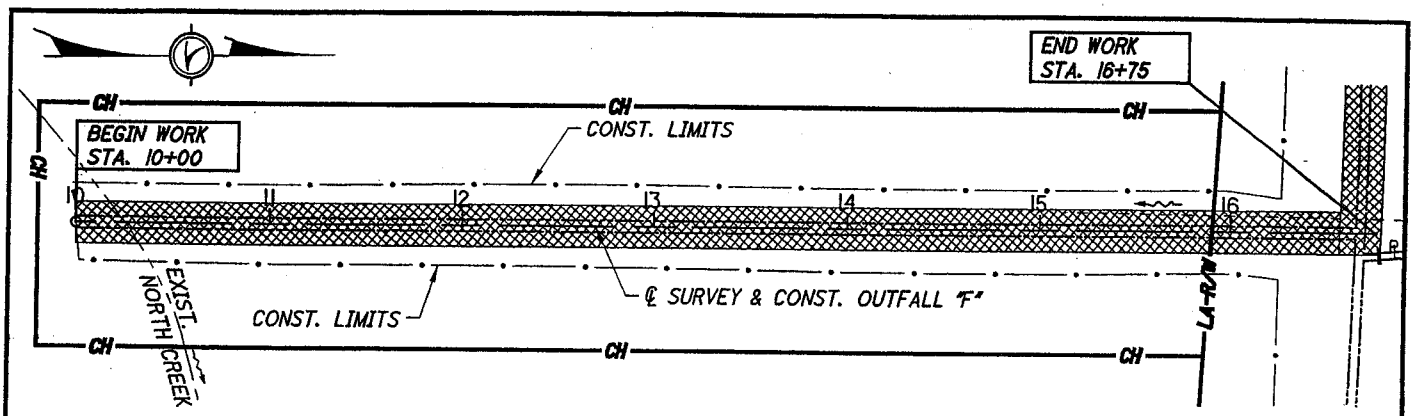
IMPACT AT
OUTFALL 44
NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

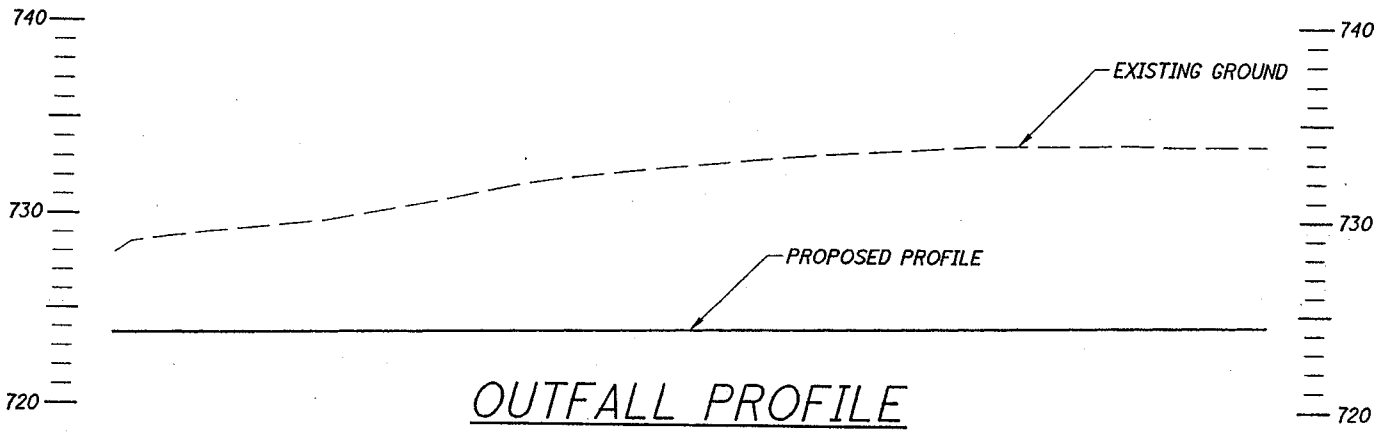
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

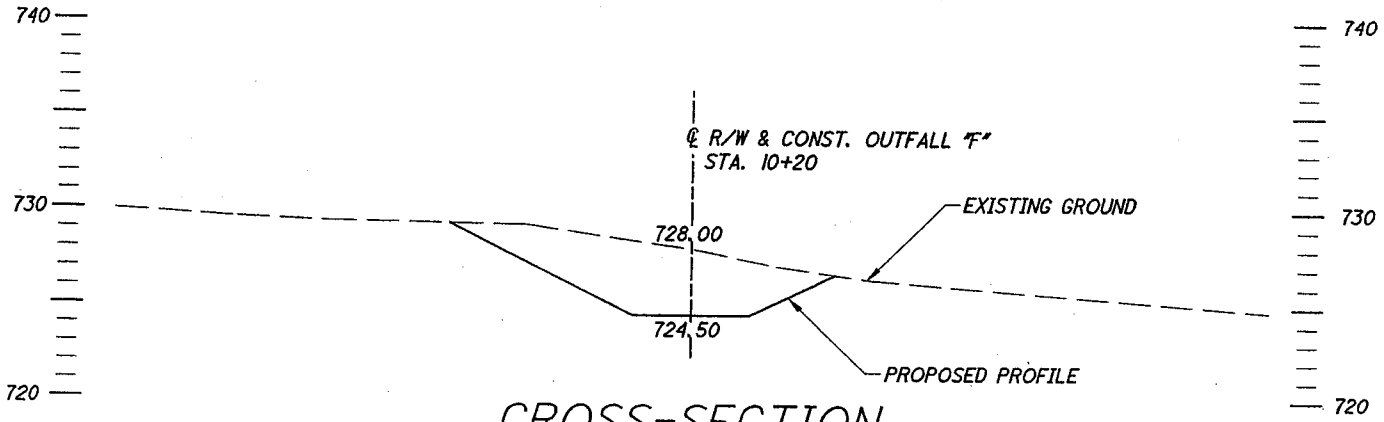
Figure 27



PLAN



OUTFALL PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS SECTION HORIZONTAL SCALE: 1"=10'

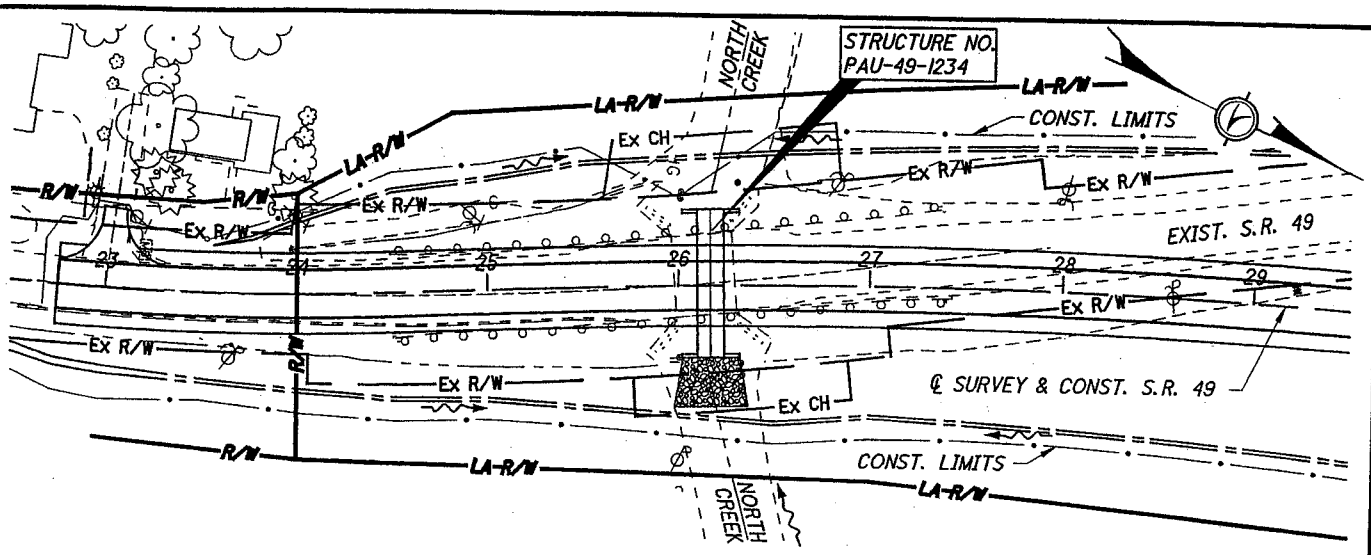
IMPACT AT OUTFALL 42 NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

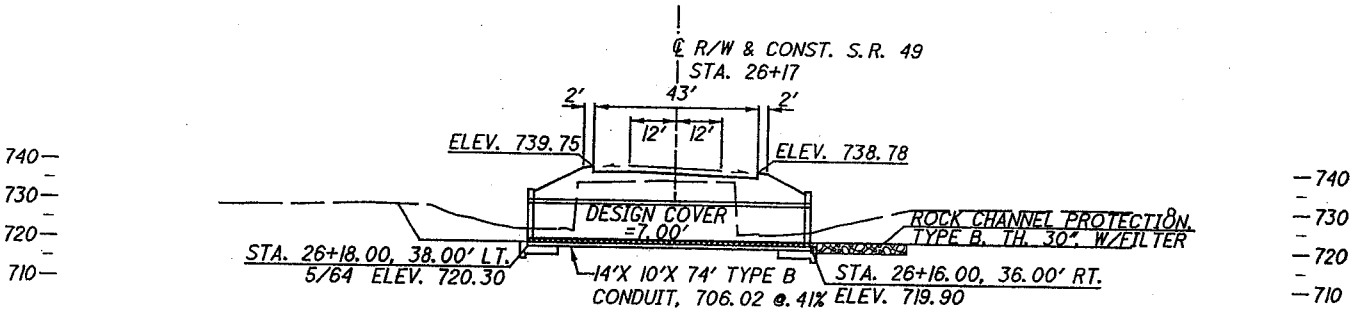
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

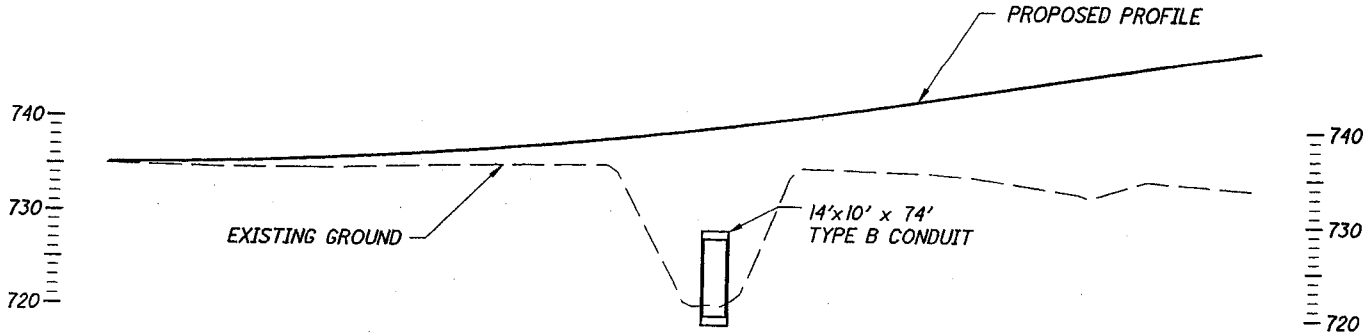
Figure 28



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=50'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=100'

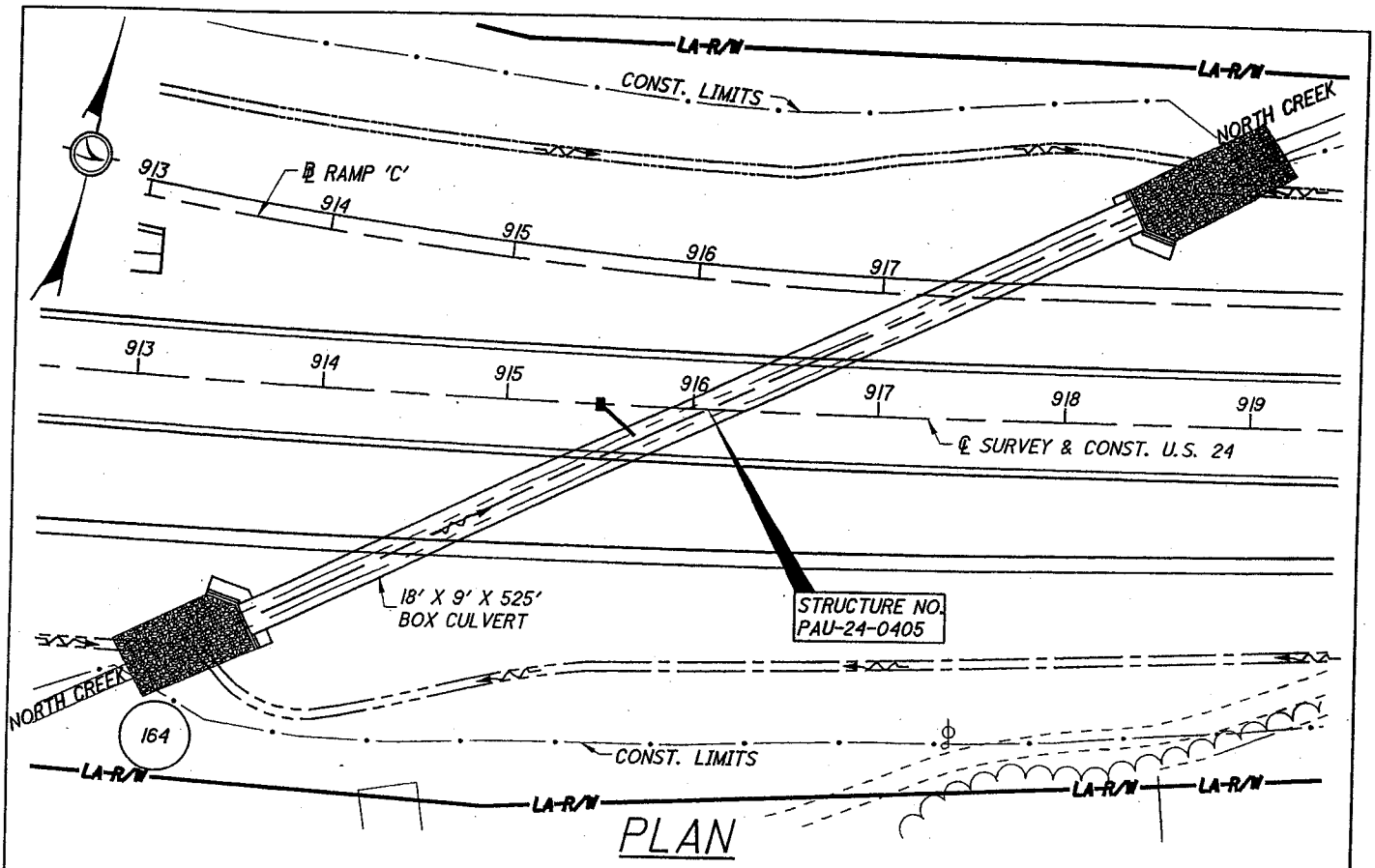
IMPACTS AT STREAM CROSSING 41 NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

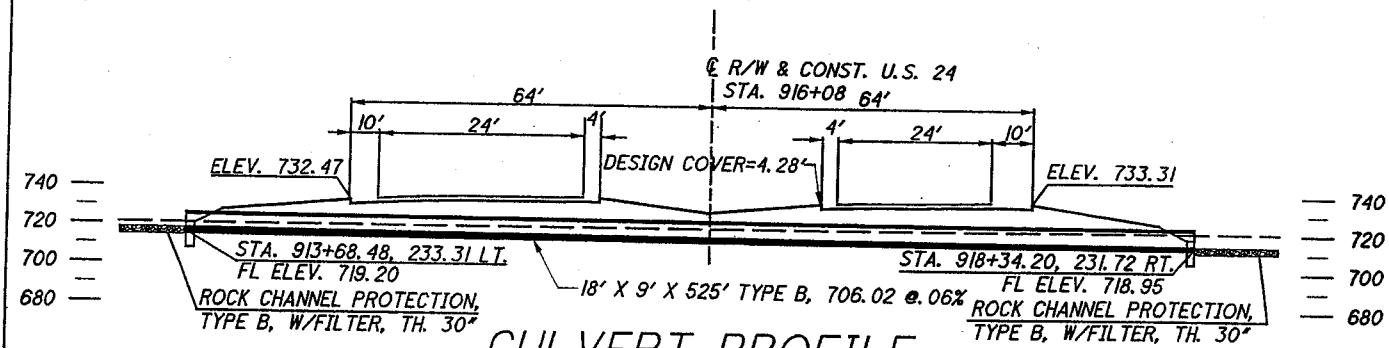
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

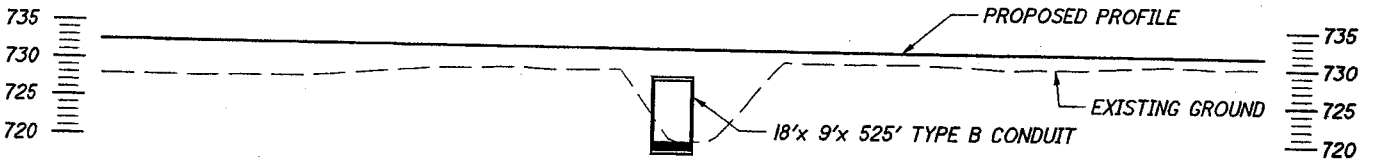
Figure 29



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE HORIZONTAL PROFILE SCALE: 1"=100'
APPROXIMATE HORIZONTAL CROSS-SECTION SCALE: 1"=100'

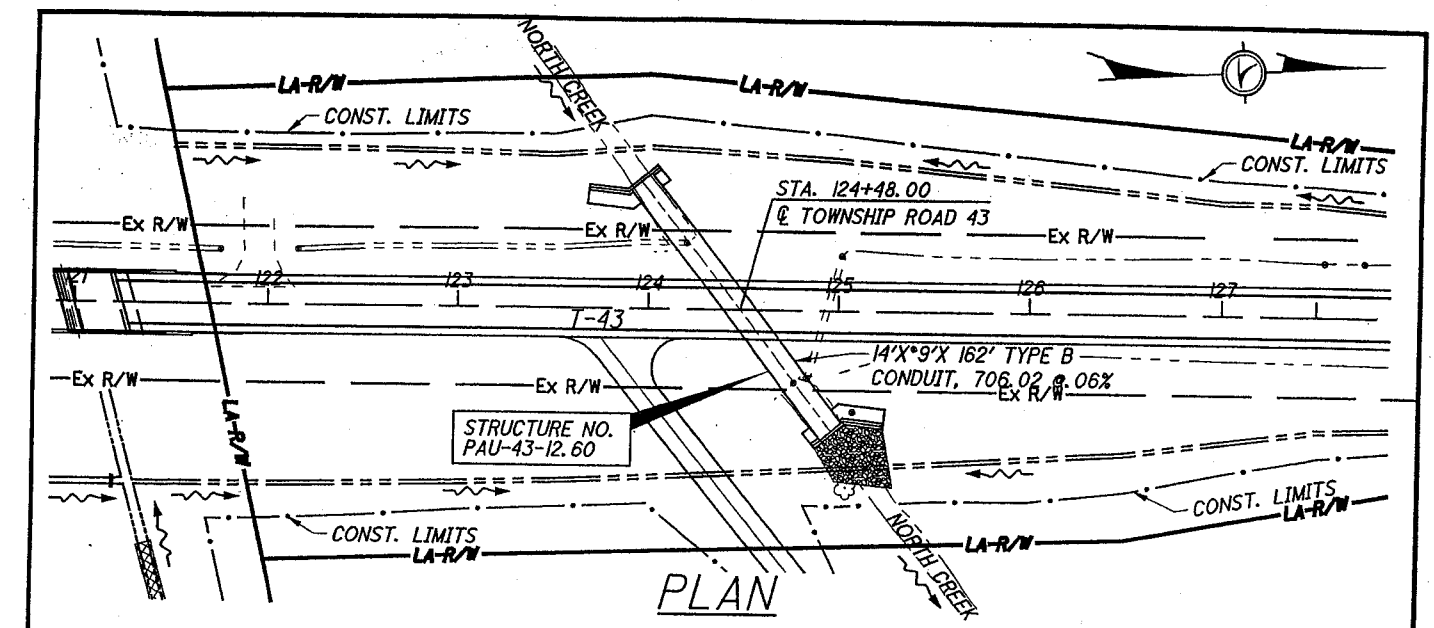
IMPACTS AT STREAM CROSSING OH-58 NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

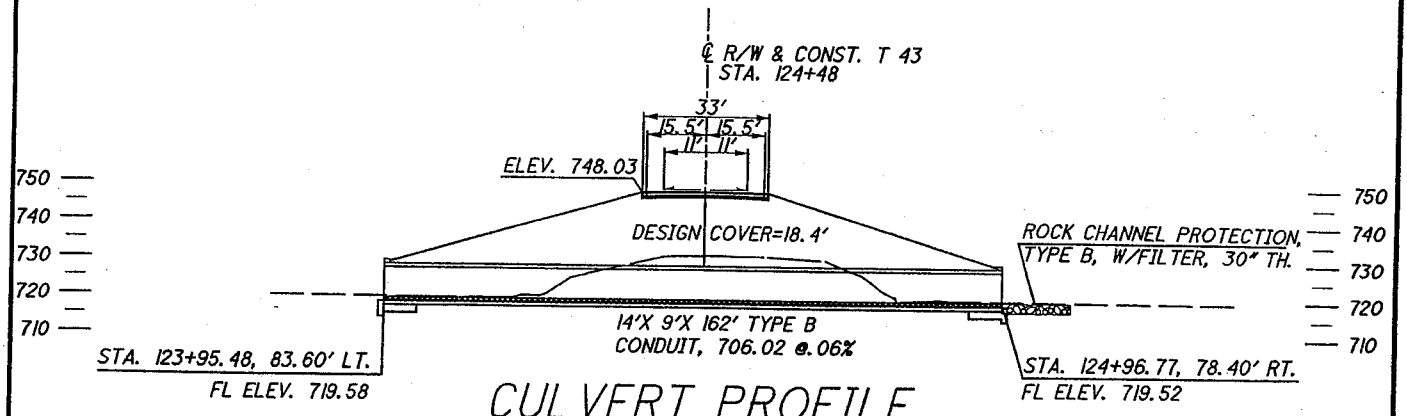
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

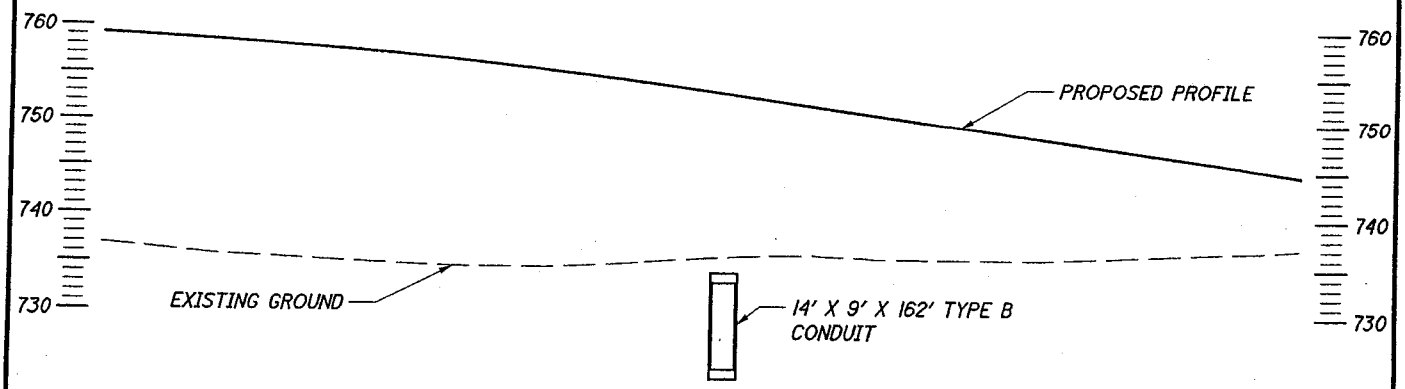
Figure 30



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=50'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=100'

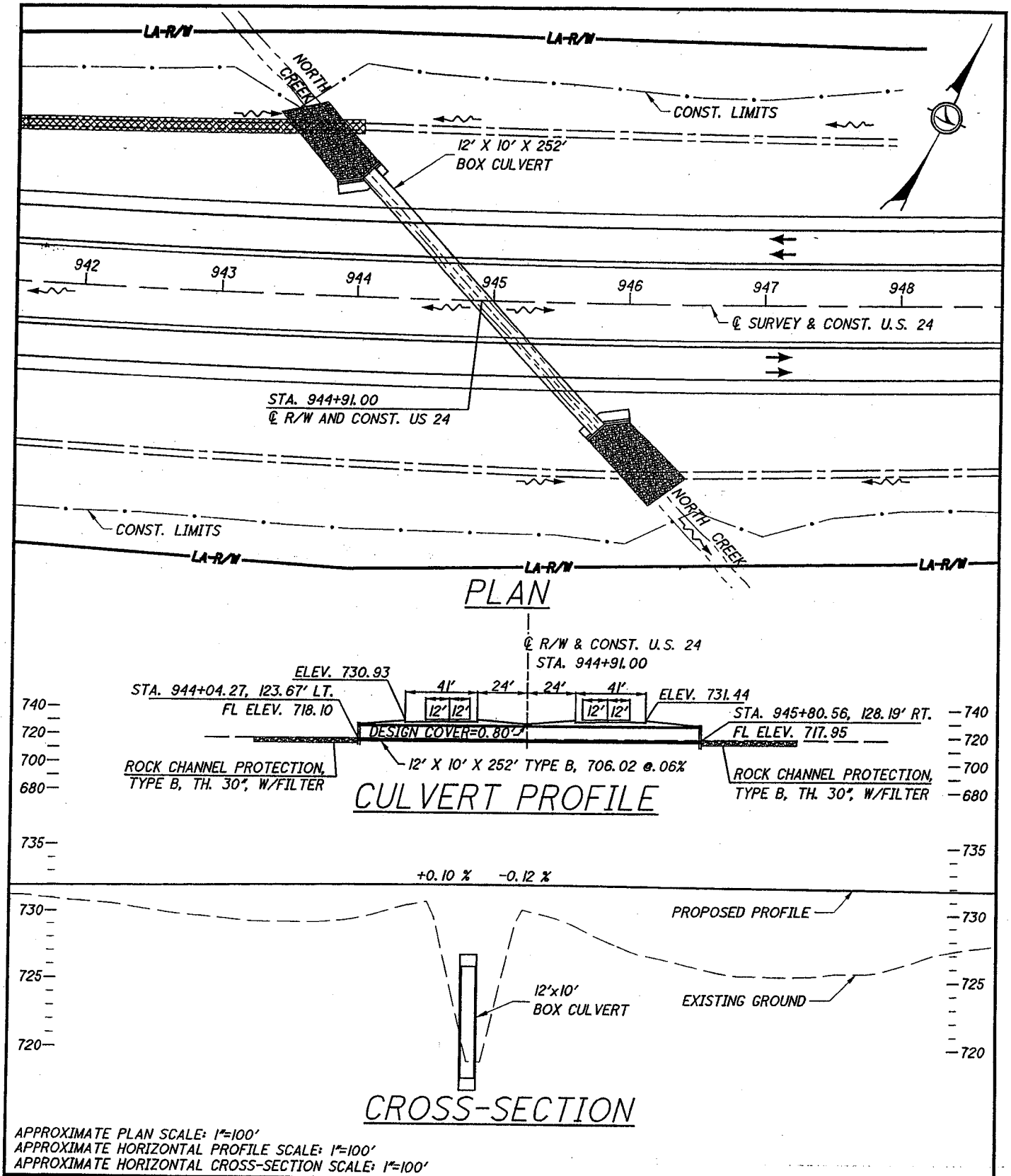
IMPACTS AT STREAM CROSSING OH-58A NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 31



APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE HORIZONTAL PROFILE SCALE: 1"=100'
APPROXIMATE HORIZONTAL CROSS-SECTION SCALE: 1"=100'

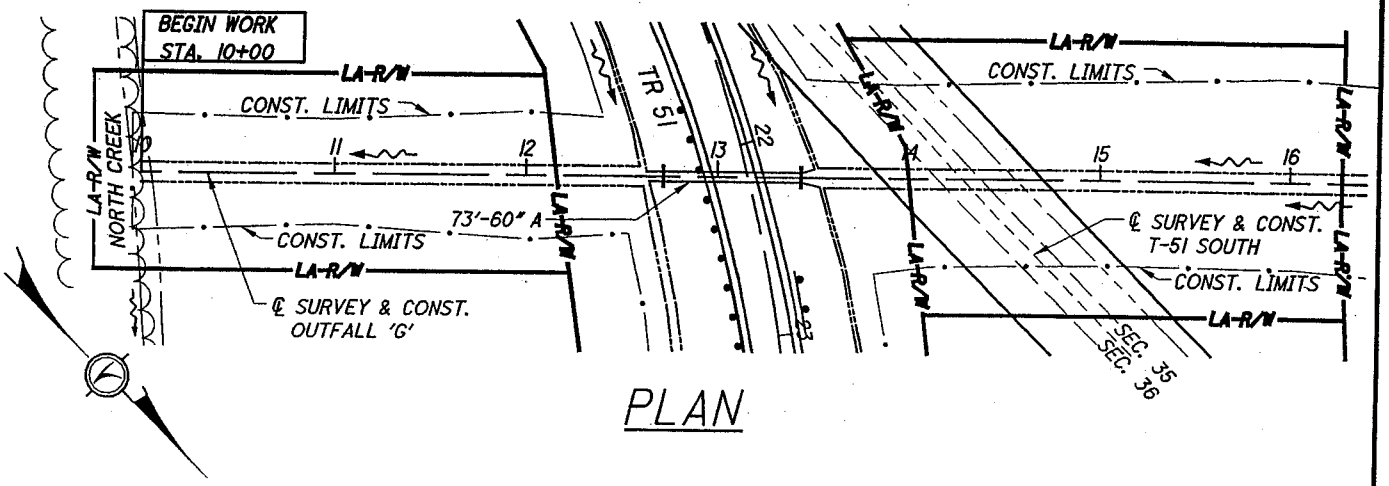
IMPACTS AT STREAM CROSSING OH-60 NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

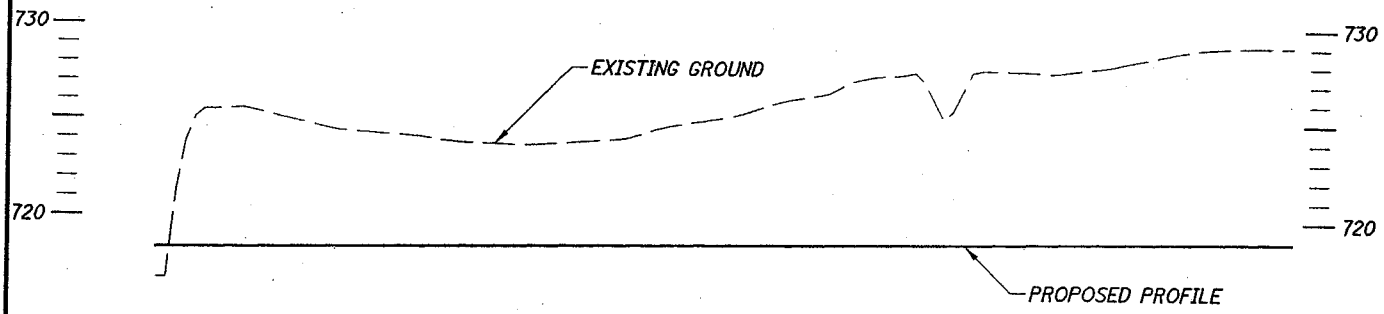
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

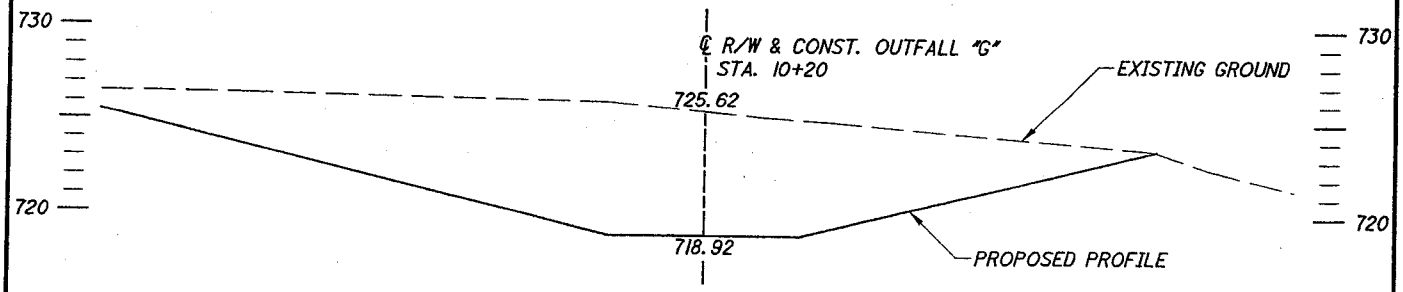
Figure 32



PLAN



OUTFALL PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=10'

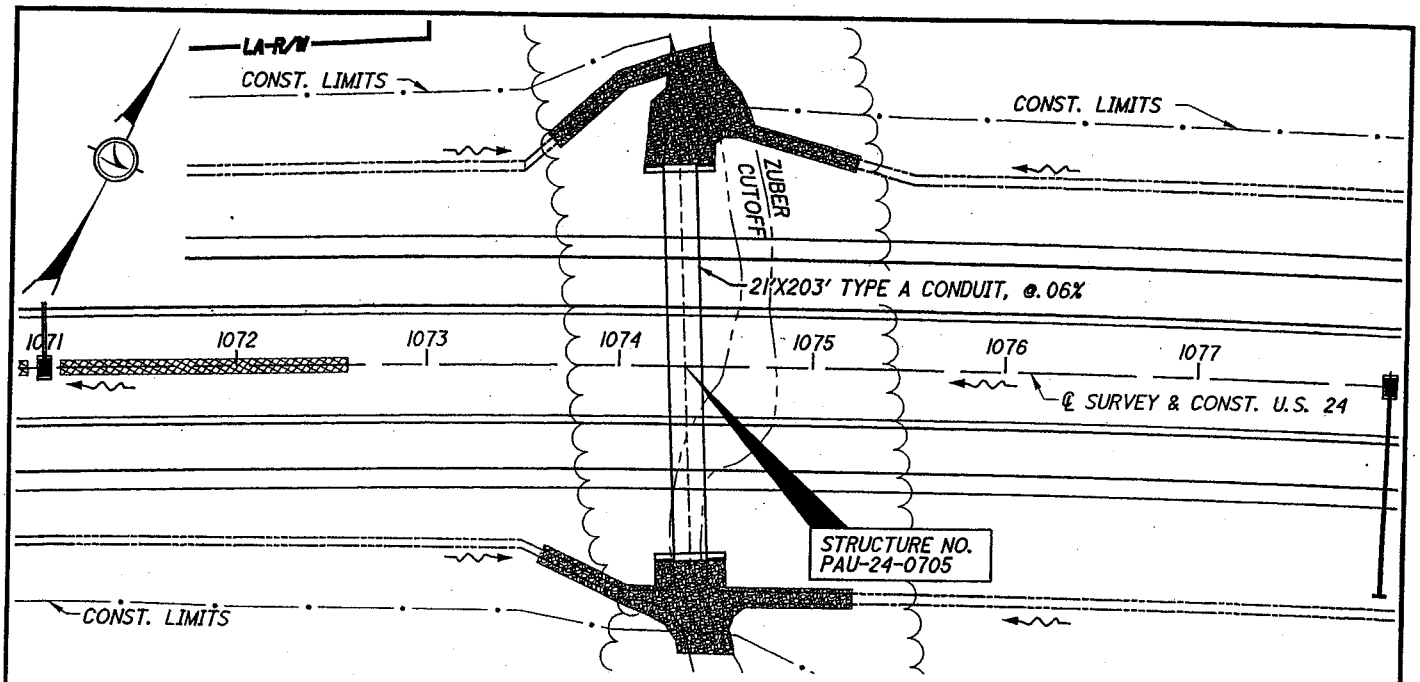
IMPACT AT OUTFALL 35 NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

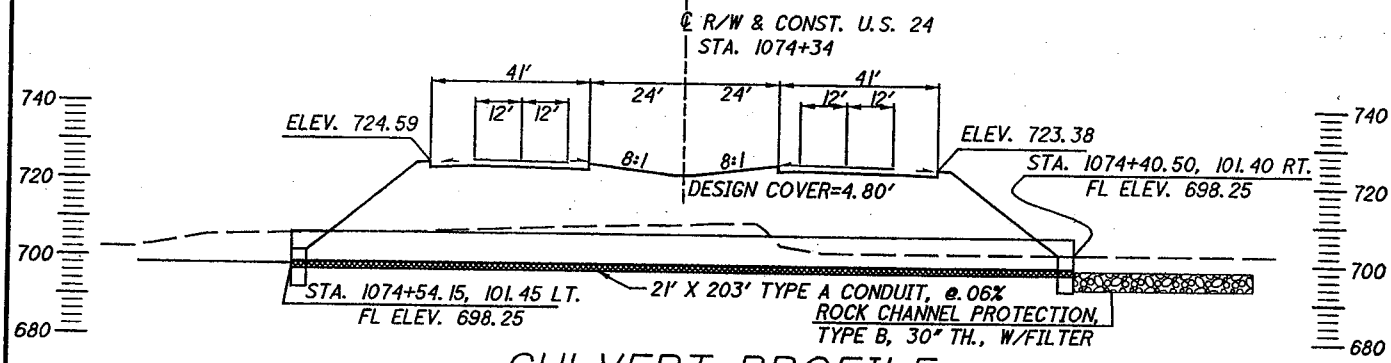
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

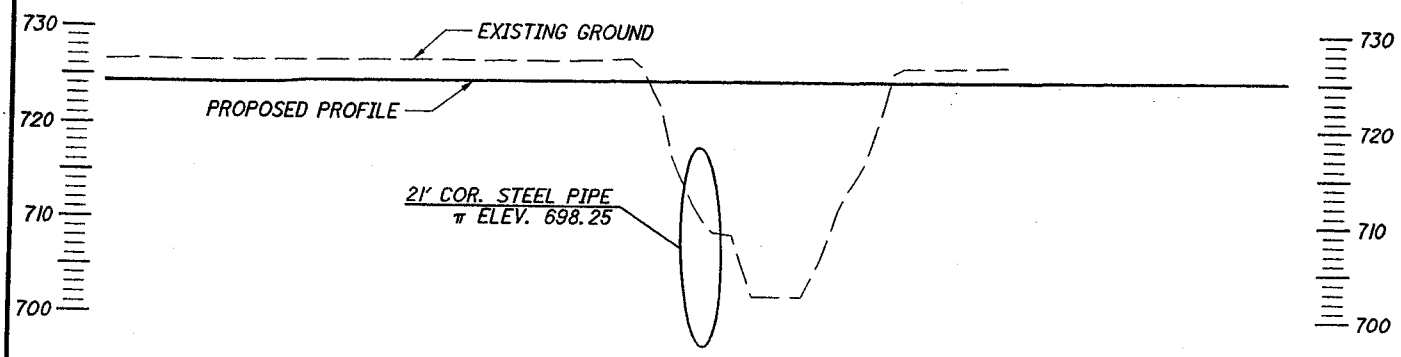
Figure 33



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=50'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=100'

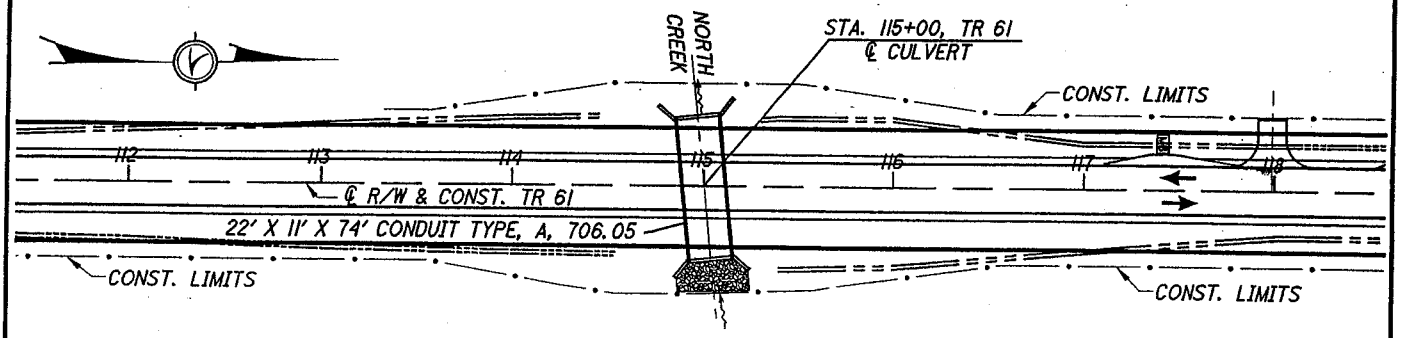
IMPACTS AT STREAM CROSSING 30/OH-64 ZUBER CUTOFF

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

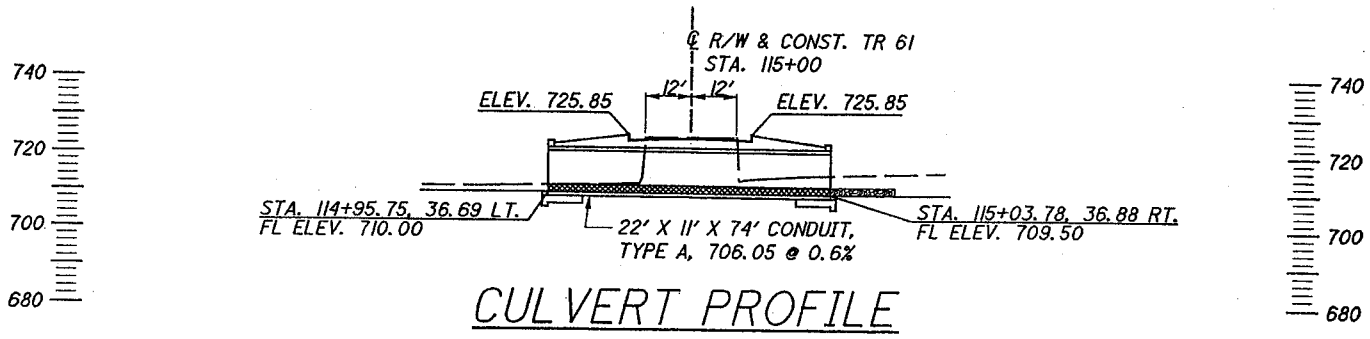
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

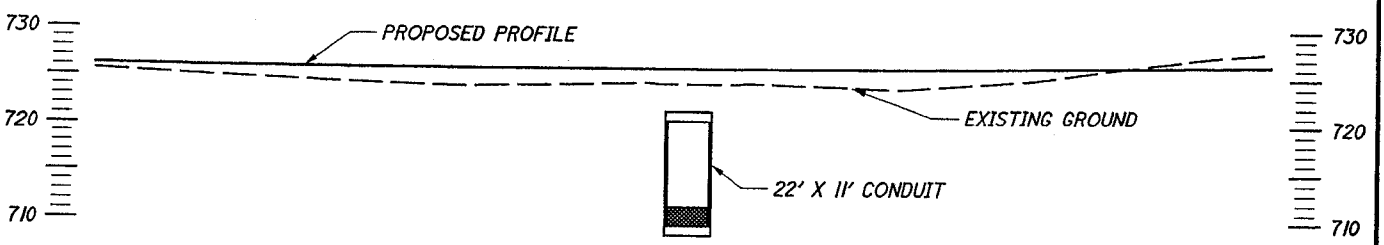
Figure 34



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=50'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=100'

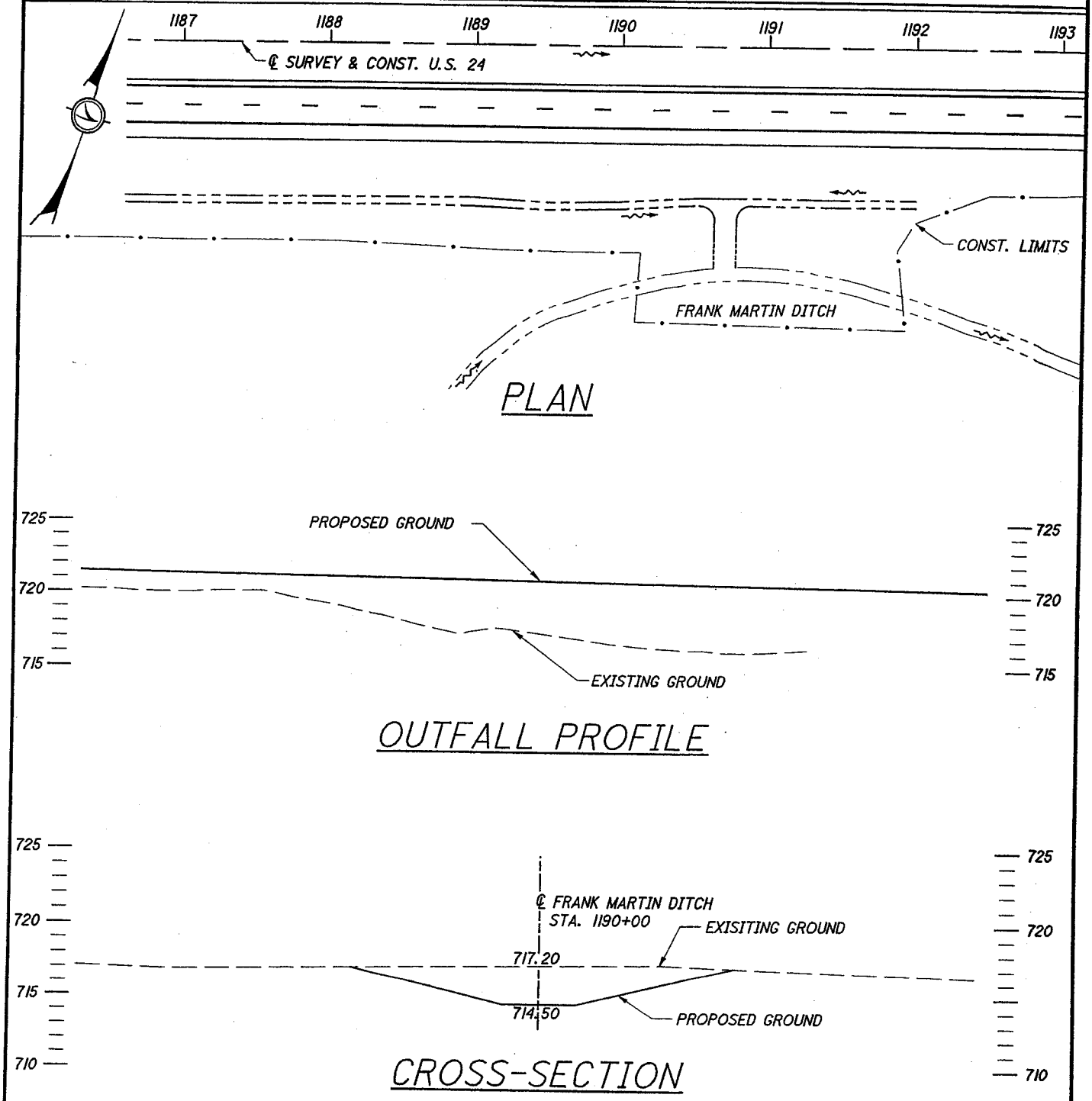
IMPACT AT STREAM CROSSING 32 NORTH CREEK

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 35



APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=10'

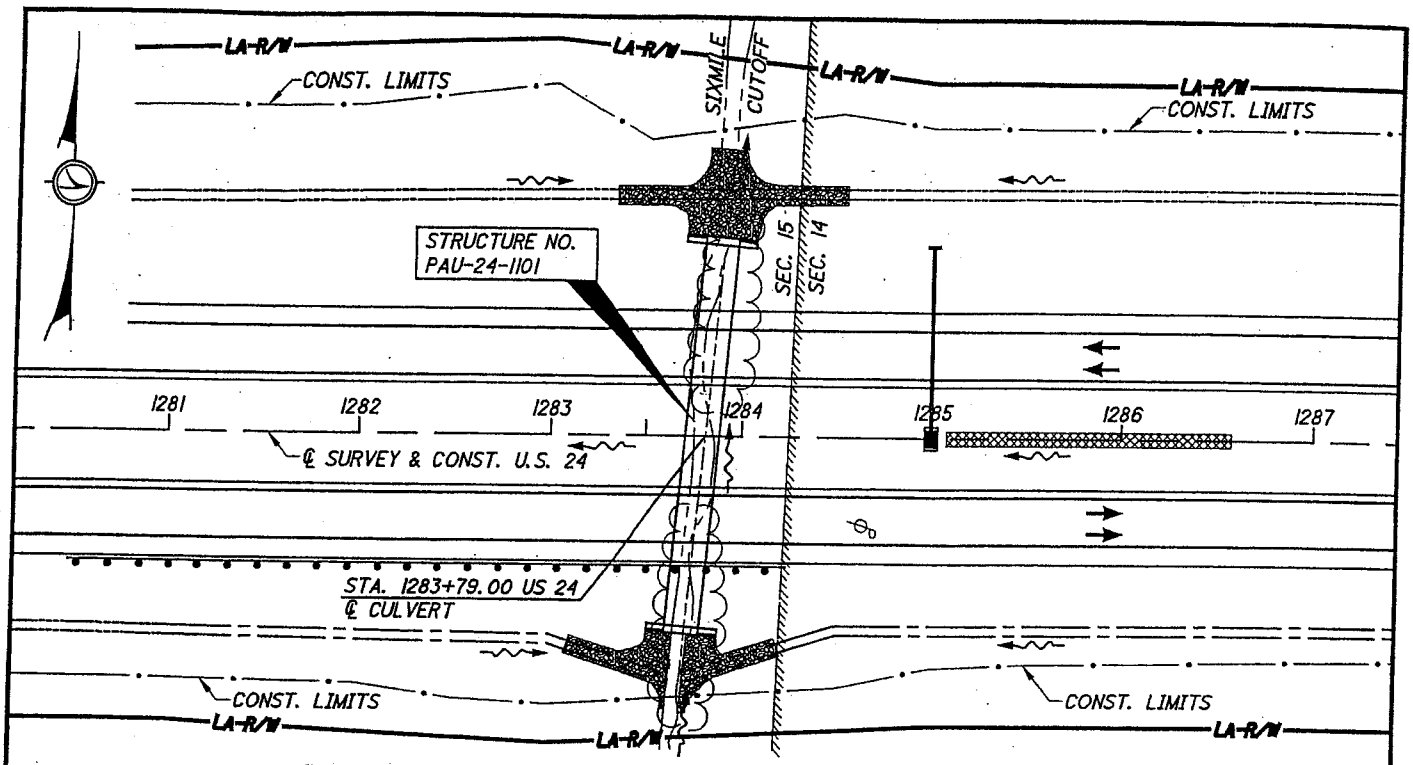
IMPACT AT OUTFALL 28/OH-80 FRANK MARTIN DITCH

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

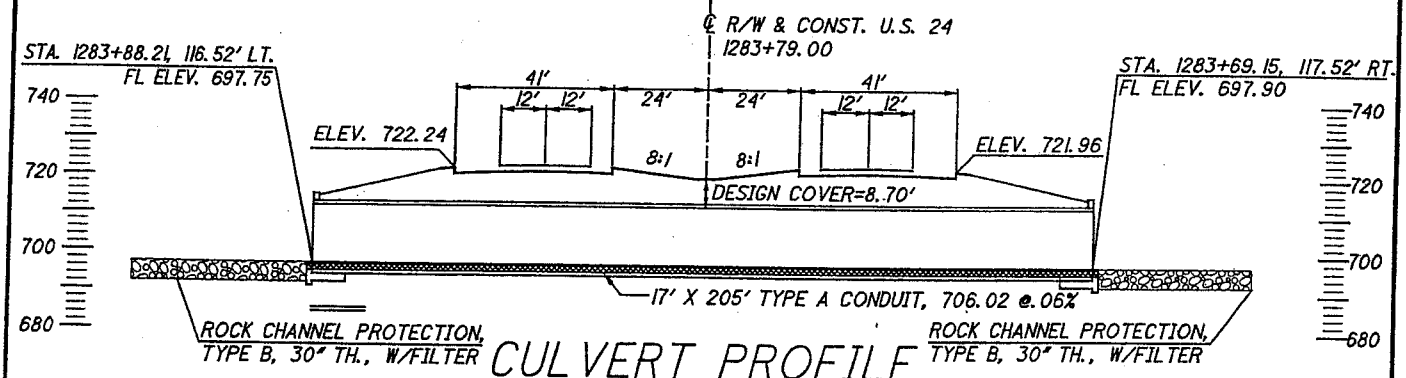
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

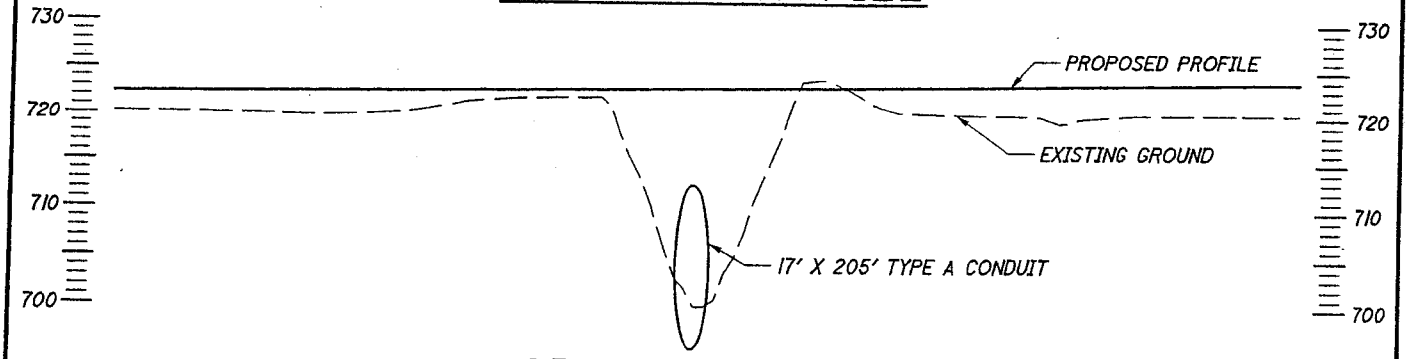
Figure 36



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1" = 100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1" = 50'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1" = 100'

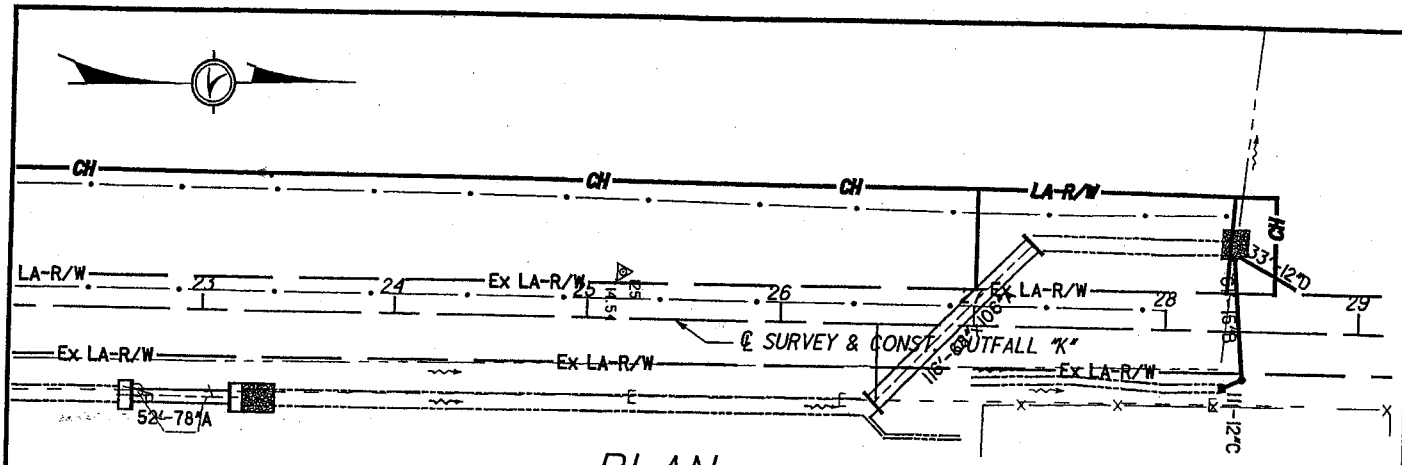
IMPACTS AT STREAM CROSSING 25/OH-84 SIXMILE CUTOFF

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

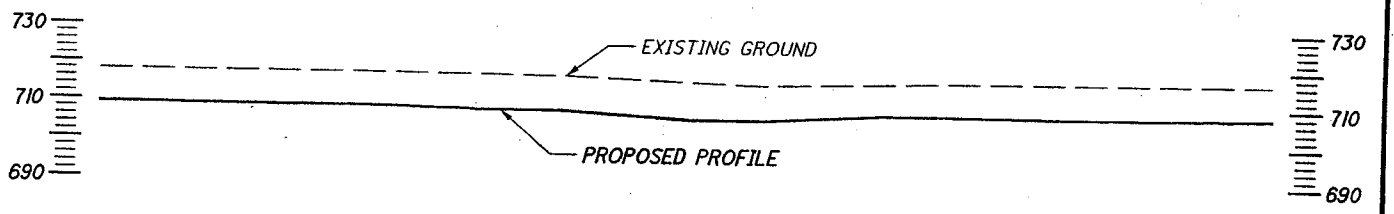
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

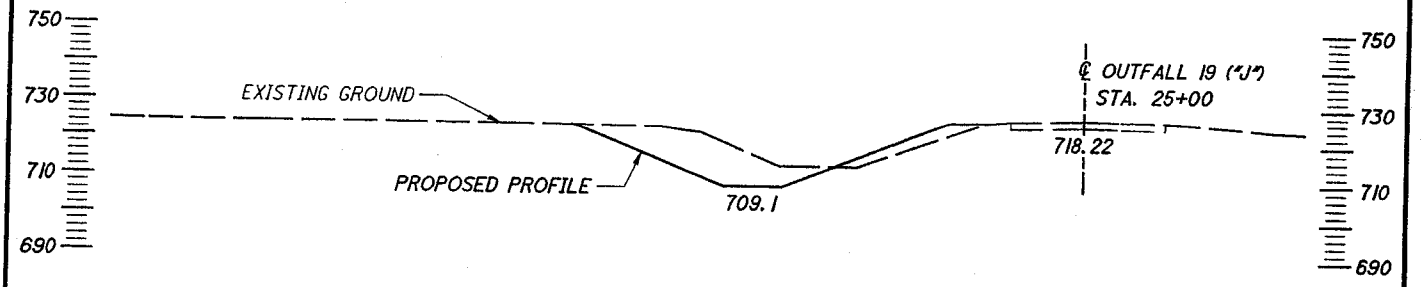
Figure 37



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=20'

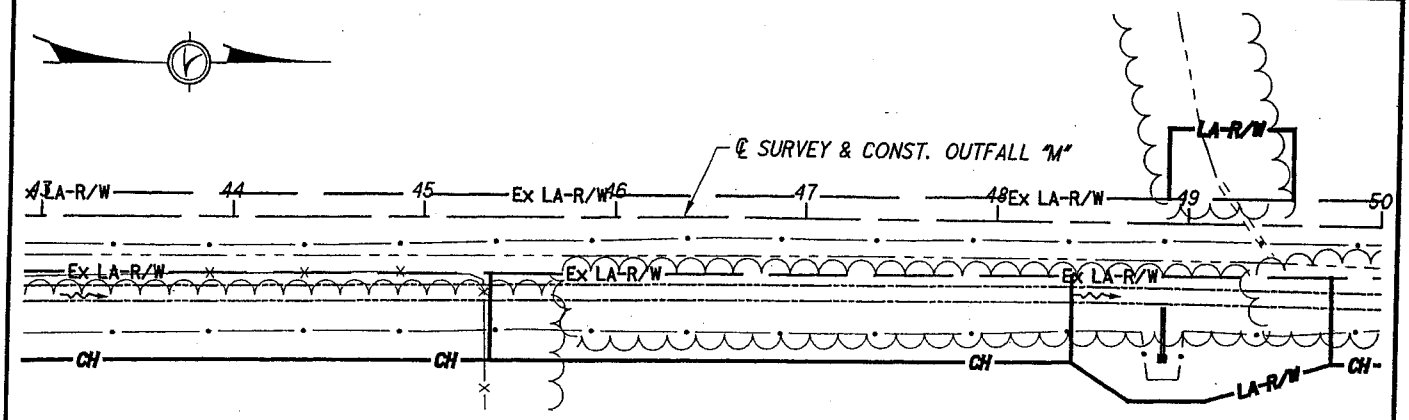
IMPACT AT OUTFALL 19 UNNAMED TRIBUTARY

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 38



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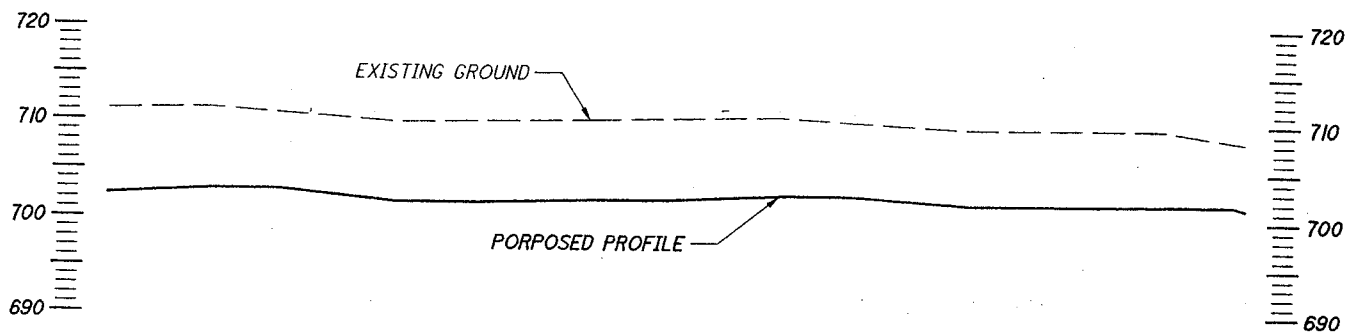
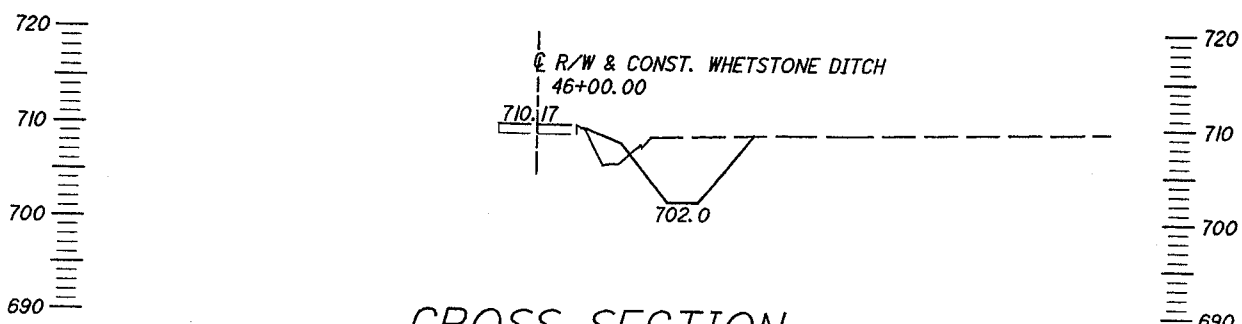


CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=20'

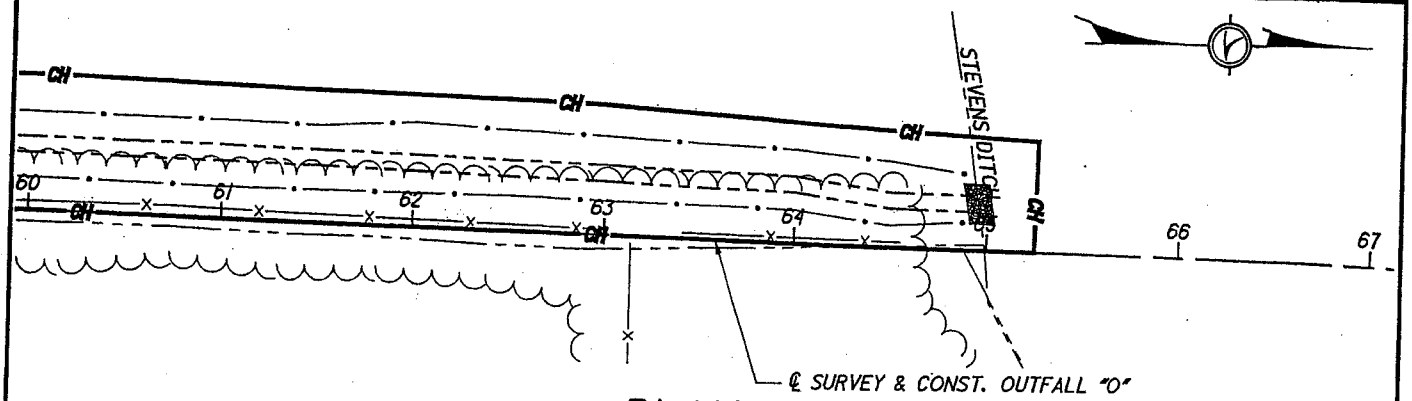
IMPACT AT OUTFALL 15

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

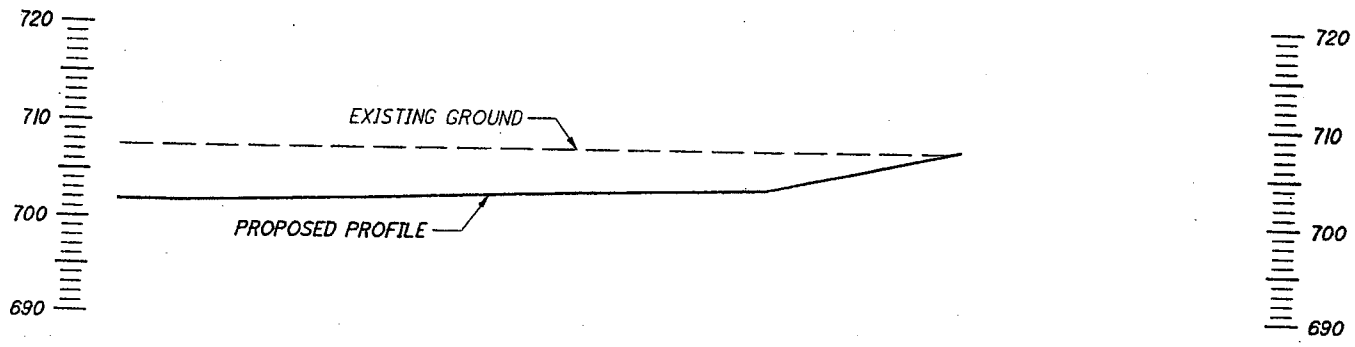
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

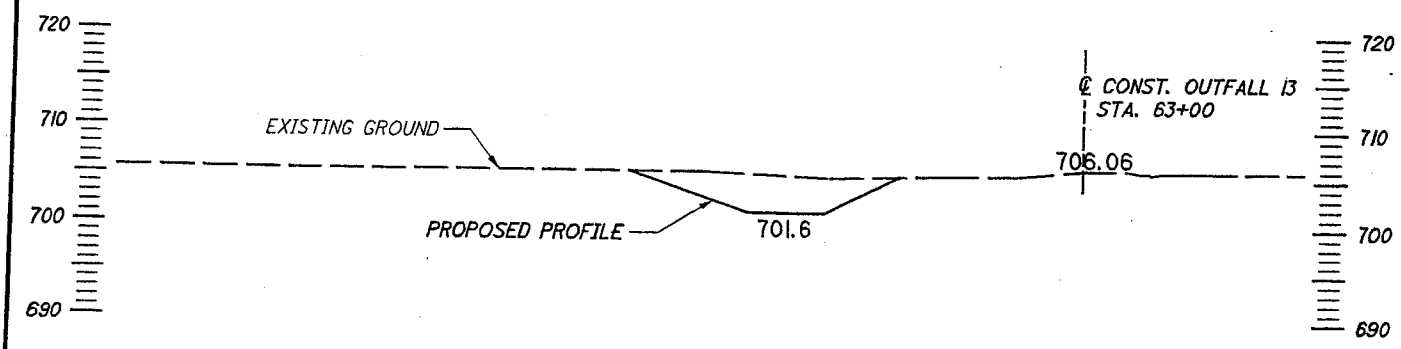
Figure 39



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=20'

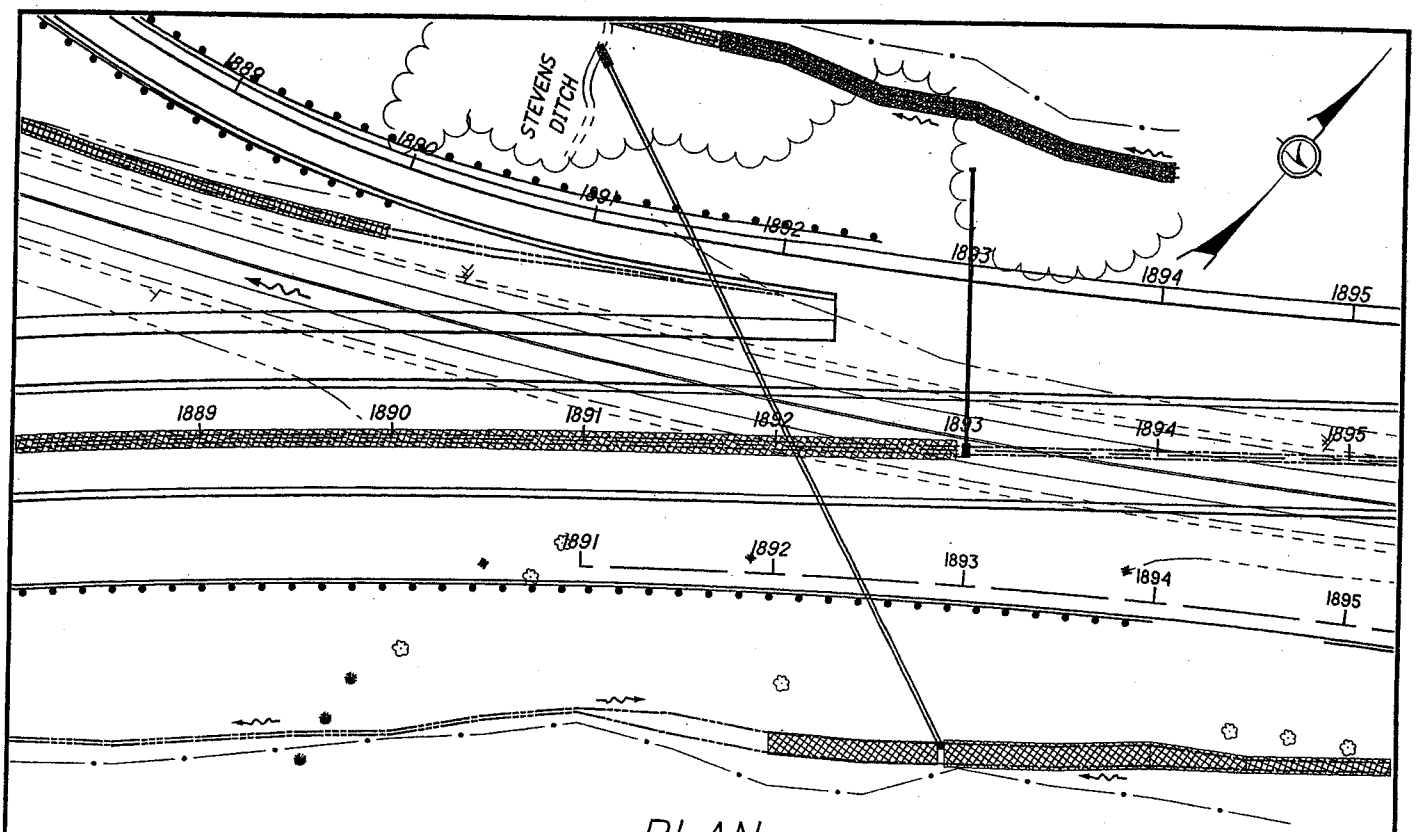
IMPACT AT OUTFALL 13 STEVEN'S DITCH

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

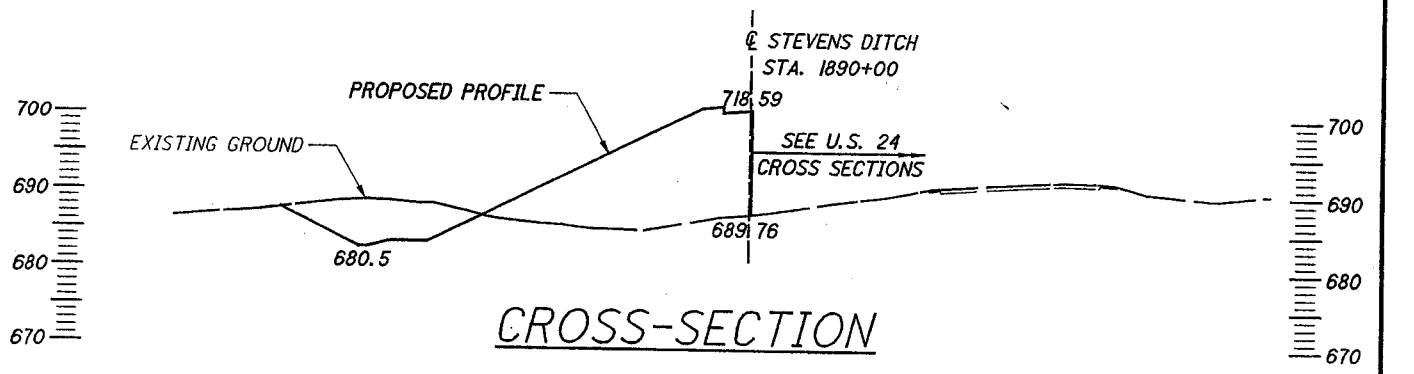
Date: 10-19-2004

Figure 40



PLAN

CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=50'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=50'

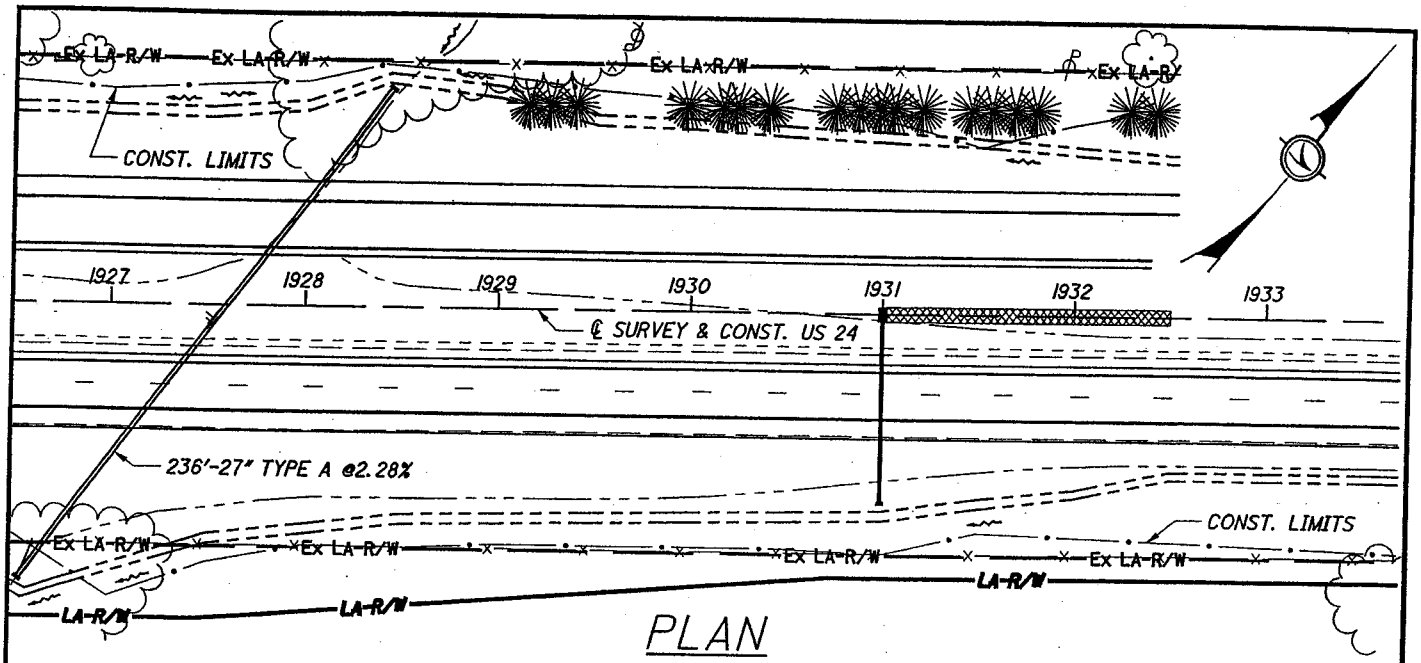
IMPACT AT OH-37 STEVENS DITCH

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

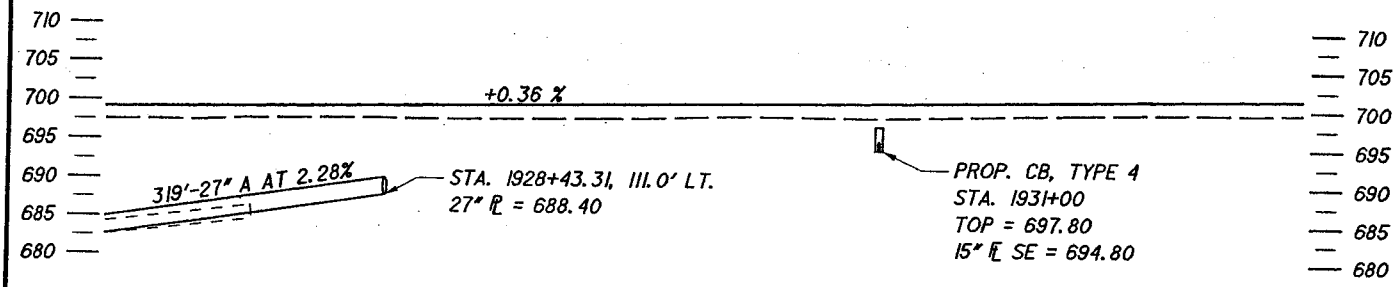
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

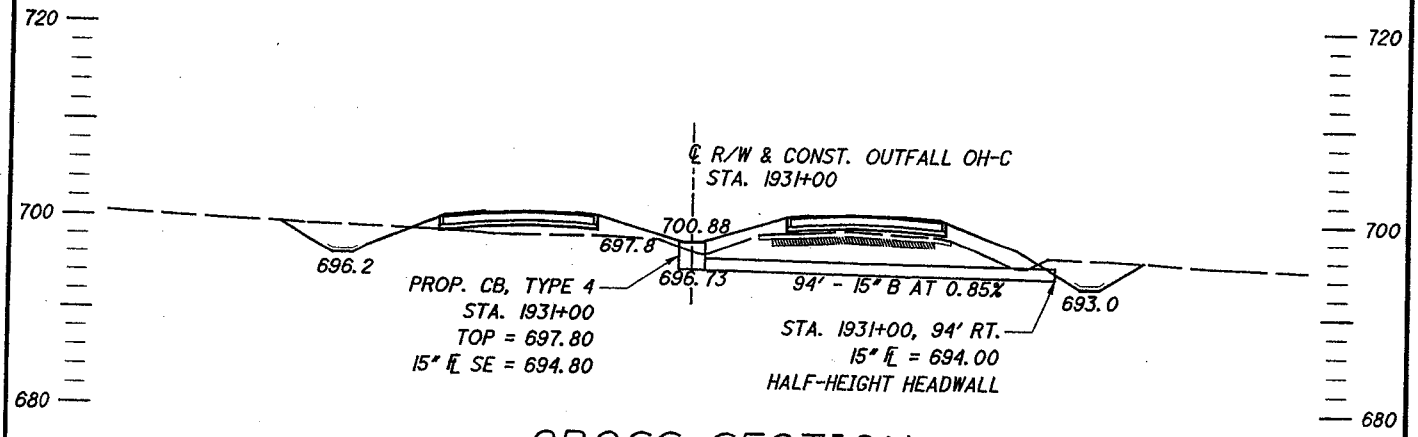
Figure 41



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"= 50'

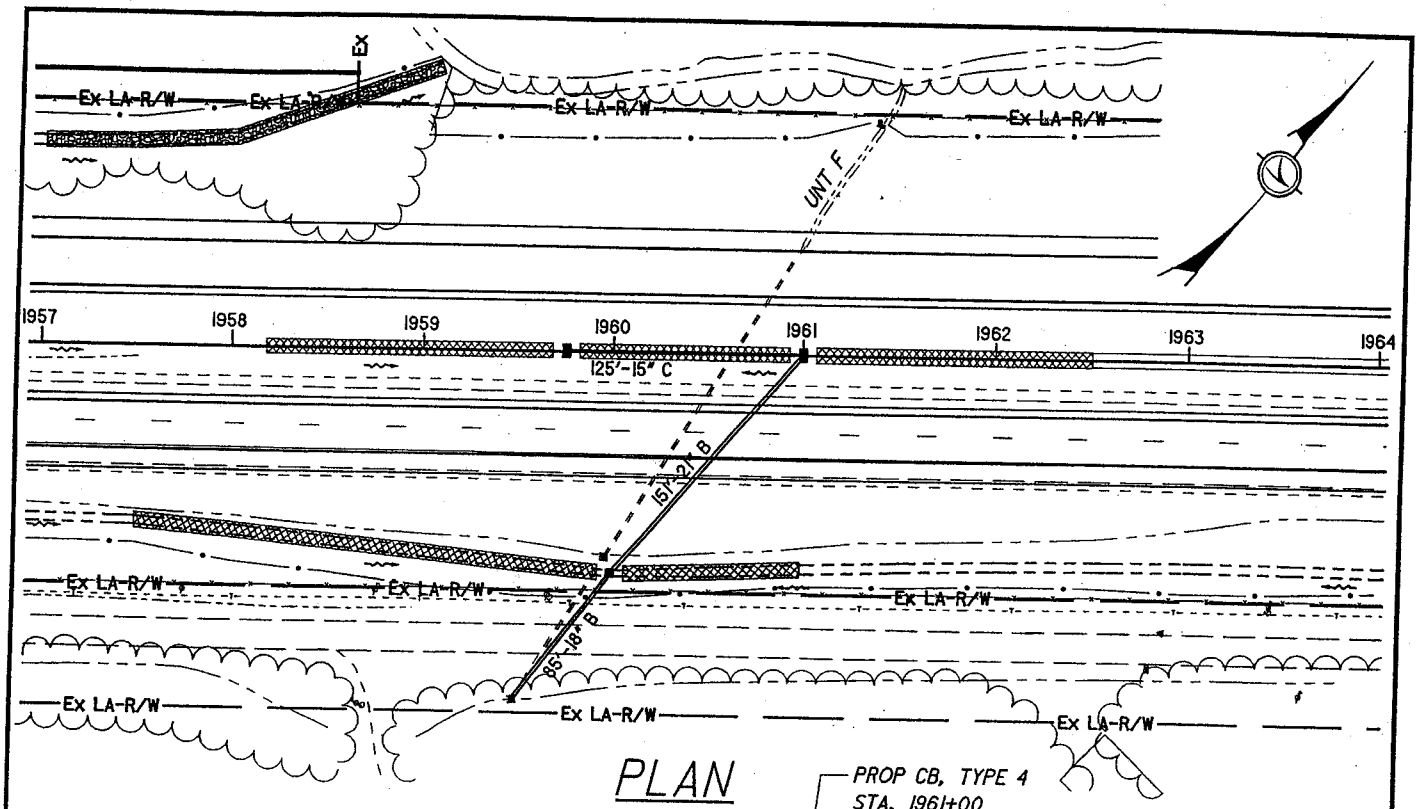
IMPACTS TO STREAM CROSSING AREA OH-C

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

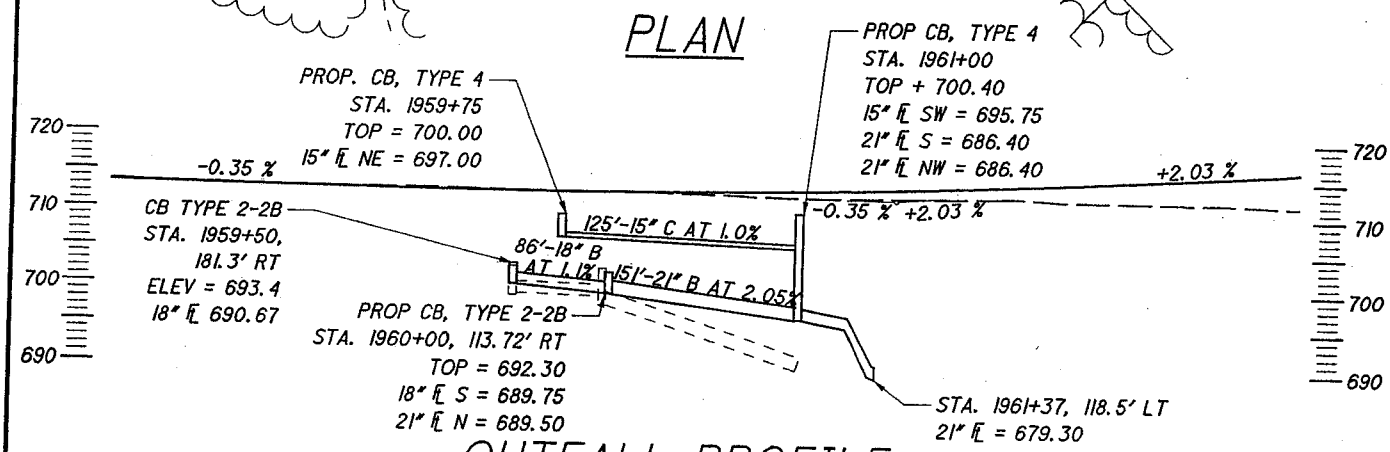
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

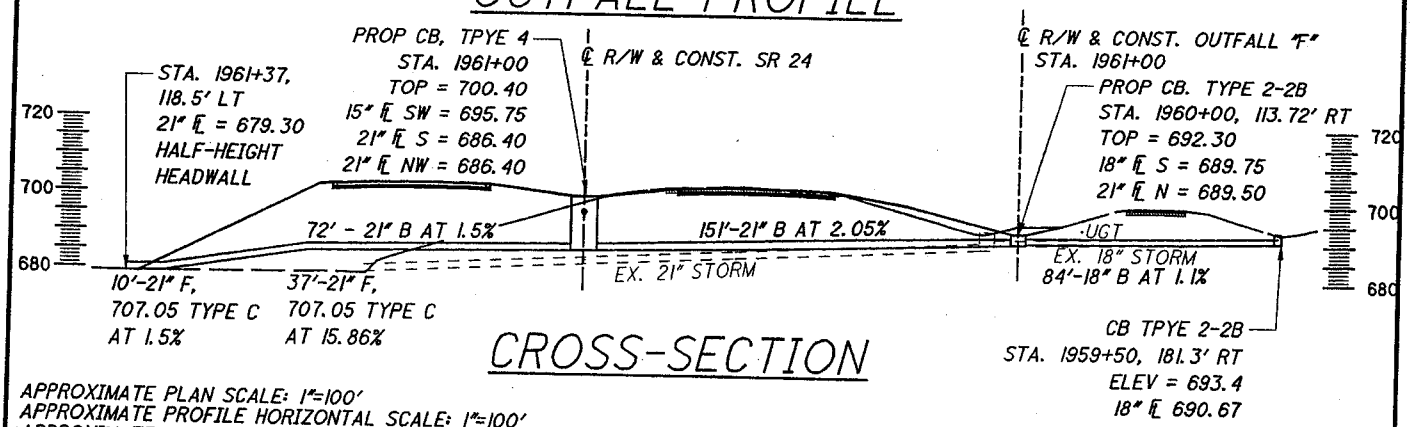
Figure 42



PLAN



OUTFALL PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=50'

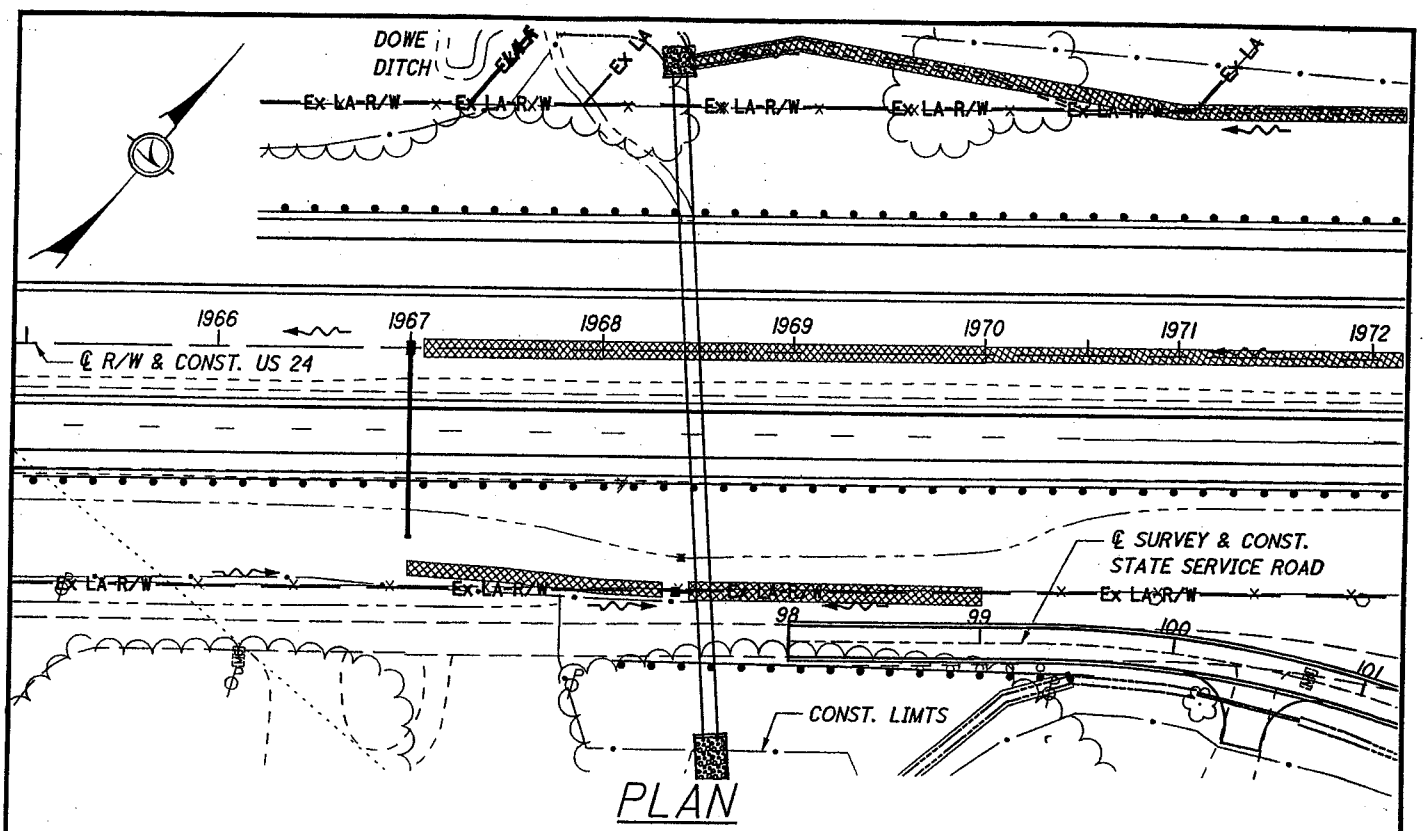
IMPACTS TO STREAM CROSSING AREA OH-F

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

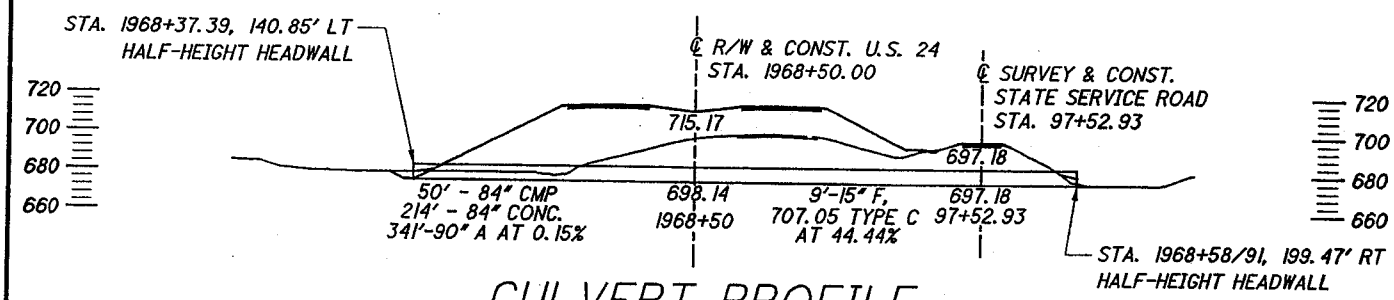
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

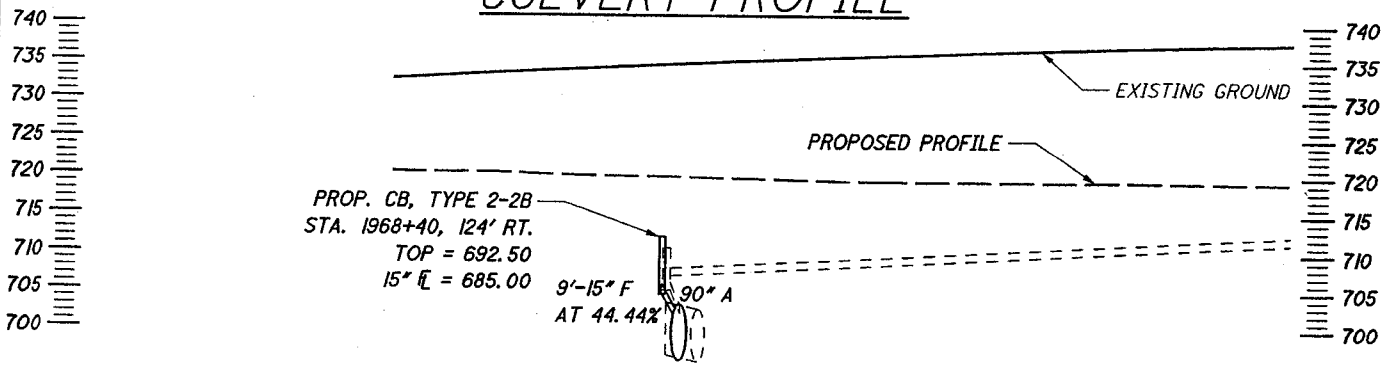
Figure 43



PLAN



CULVERT PROFILE



CROSS-SECTION

APPROXIMATE PLAN SCALE: 1"=100'
APPROXIMATE PROFILE HORIZONTAL SCALE: 1"=100'
APPROXIMATE CROSS-SECTION HORIZONTAL SCALE: 1"=50'

IMPACT AT STREAM CROSSING AREA 39 DOWE DITCH

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24 IN PAULDING COUNTY
PAU-24-0.00 PID 24334

U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 10-19-2004

Figure 44

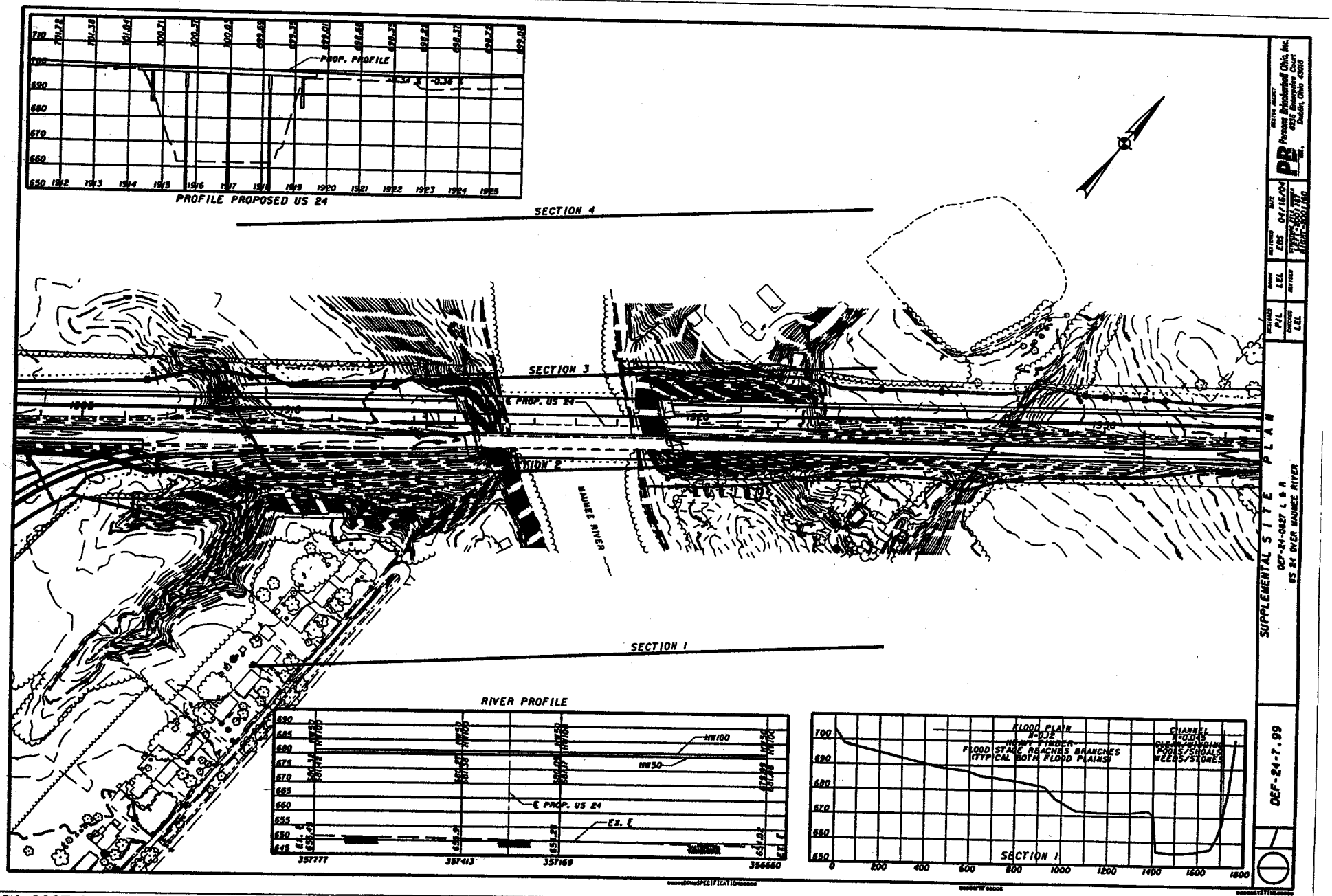


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Figure 45

Figure 46

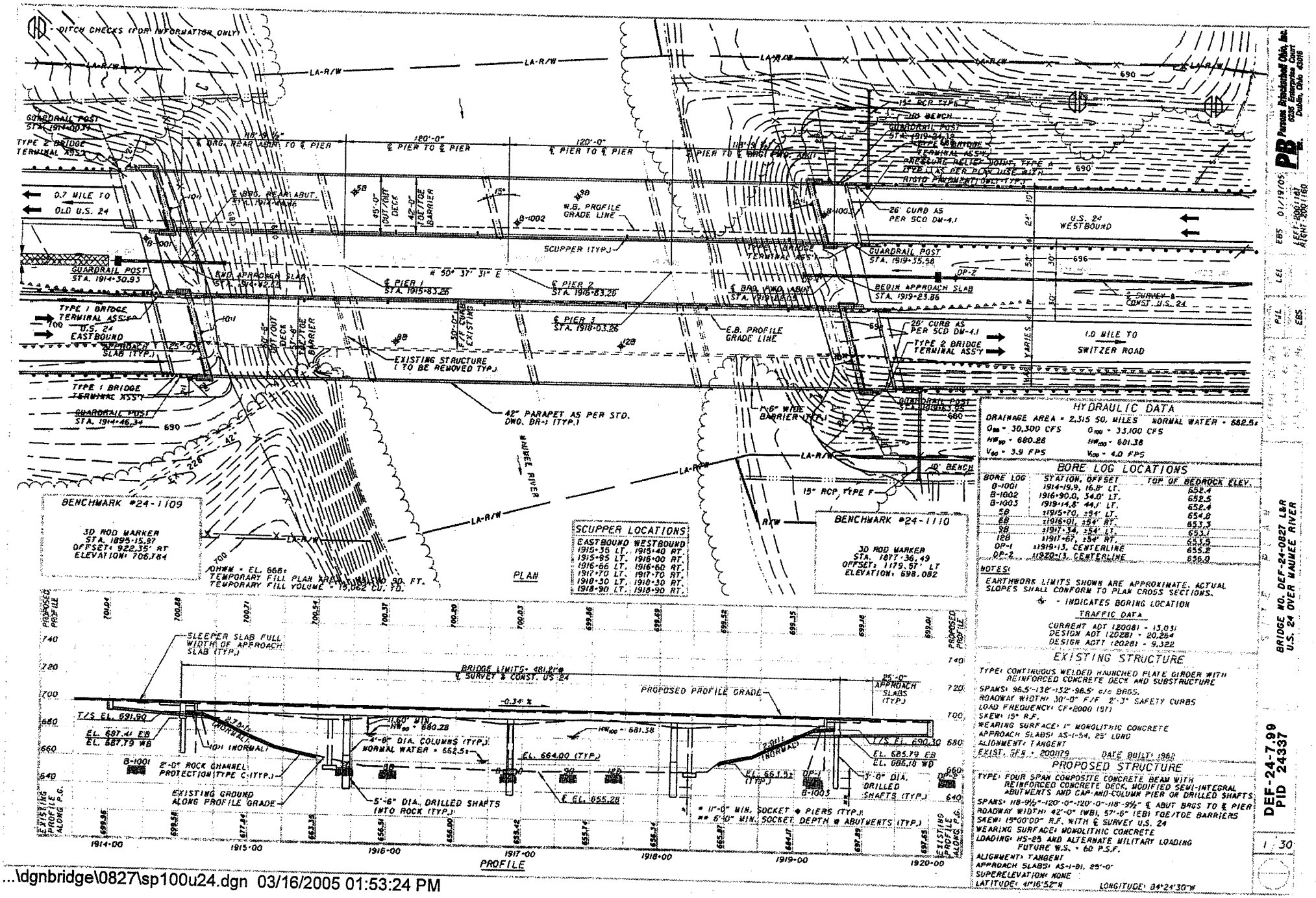

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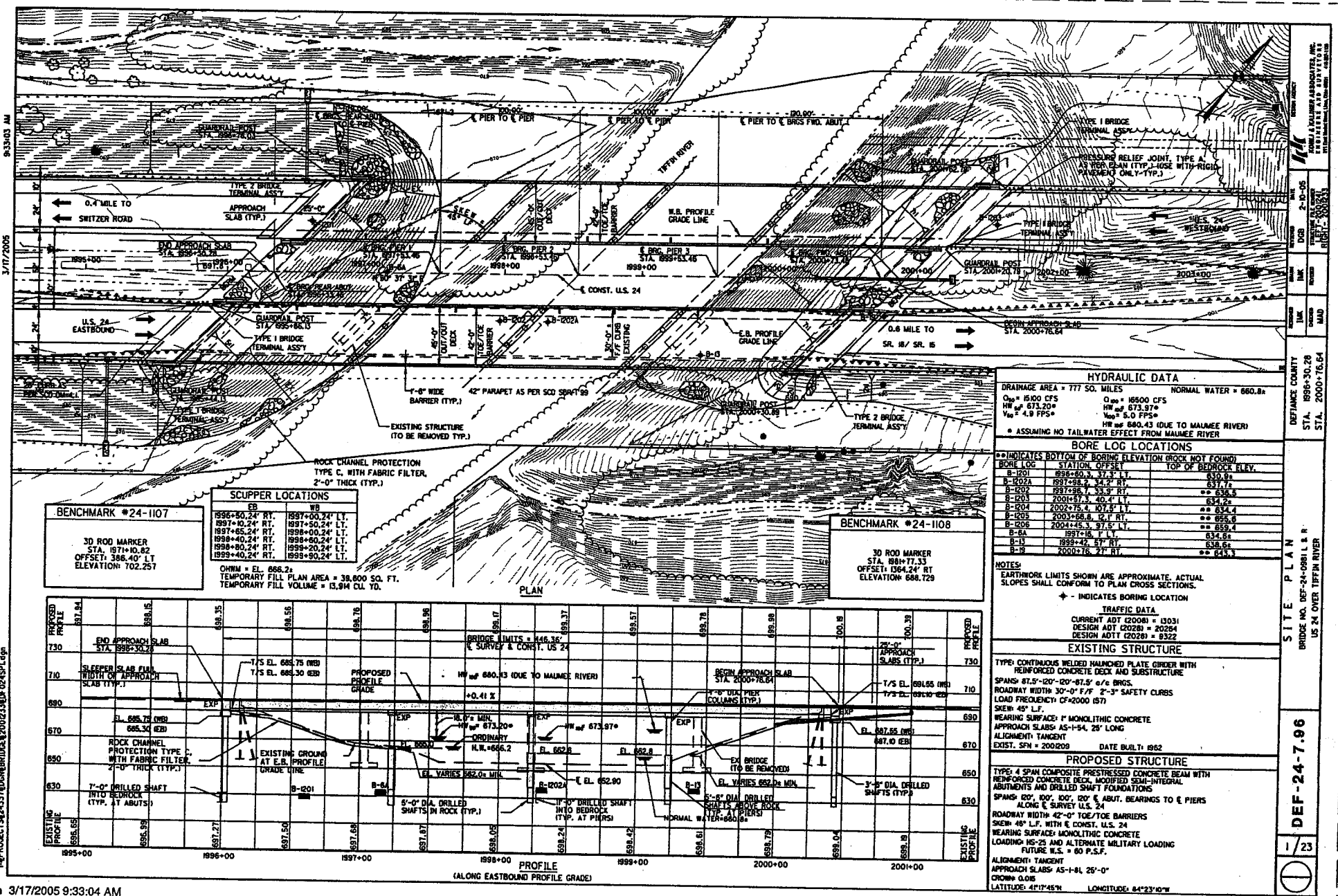
Figure 47


PLAN
PROFILE
(ALONG EASTBOUND PROFILE GRADE)
TIFFIN RIVER
0.4 MILE TO SWITZER ROAD
U.S. 24 EASTBOUND
U.S. 24 WESTBOUND
0.6 MILE TO SR. 18/ SR. 15
℄ PIER TO ℄ PIER
℄ PIER TO ℄ BRGS FWD. ABUT.
℄ CONST. U.S. 24
E.B. PROFILE GRADE LINE
W.B. PROFILE GRADE LINE
EXISTING STRUCTURE (TO BE REMOVED TYP.)
ROCK CHANNEL PROTECTION TYPE C, WITH FABRIC FILTER, 2'-0" THICK (TYP.)
42" PARAPET AS PER SCD SBRT 99
1'-6" WIDE BARRIER (TYP.)
PRESSURE RELIEF JOINT, TYPE A, AS PER PLAN (TYP.)-HOSE WITH RIGID PIPE(REF. ONLY-TYP.)
BENCHMARK #24-1107
3D ROD MARKER
STA. 1971+10.82
OFFSET: 386.40' LT
ELEVATION: 702.257
BENCHMARK #24-1108
3D ROD MARKER
STA. 881+77.33
OFFSET: (364.24' RT
ELEVATION: 688.729
SCUPPER LOCATIONS
EB | WB
1996+50.24' RT. | 1997+00.24' LT.
1997+10.24' RT. | 1997+50.24' LT.
1997+65.24' RT. | 1998+00.24' LT.
1998+40.24' RT. | 1998+60.24' LT.
1998+80.24' RT. | 1999+20.24' LT.
1999+40.24' RT. | 1999+90.24' LT.
OHWM = EL. 666.2±
TEMPORARY FILL PLAN AREA = 39,600 SQ. FT.
TEMPORARY FILL VOLUME = 13,914 CU. YD.
HYDRAULIC DATA
DRAINAGE AREA = 777 SQ. MILES
NORMAL WATER = 660.8±
Q100 = 15100 CFS
HW100 = 673.20*
V100 = 4.9 FPS*
Q500 = 16500 CFS
HW500 = 673.97*
V500 = 5.0 FPS*
HW 680.43 (DUE TO MAUMEE RIVER)
* ASSUMING NO TAILWATER EFFECT FROM MAUMEE RIVER
BORE LOG LOCATIONS
**INDICATES BOTTOM OF BORING ELEVATION (ROCK NOT FOUND)
BORE LOG | STATION, OFFSET | TOP OF BEDROCK ELEV.
B-1201 | 1996+50.3, 37.3' LT. | 630.9±
B-1202A | 1997+68.2, 34.2' RT. | 637.7±
B-1202 | 1997+95.7, 33.9' RT. | ** 636.5
B-1203 | 2001+57.3, 40.4' LT. | 634.2±
B-1204 | 2002+75.4, 107.5' LT. | ** 634.4
B-1205 | 2003+66.8, 12.1' RT. | ** 655.6
B-1206 | 2004+45.3, 97.5' LT. | ** 659.4
B-6A | 1997+16, 1' LT. | 634.8±
B-13 | 1999+42, 57' RT. | 638.6±
B-19 | 2000+76, 27' RT. | ** 643.3
NOTES:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
✦ - INDICATES BORING LOCATION
TRAFFIC DATA
CURRENT ADT (2008) = 13031
DESIGN ADT (2028) = 20284
DESIGN ADTT (2028) = 8322
EXISTING STRUCTURE
TYPE: CONTINUOUS WELDED HAUNCHED PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 87.5'-120'-87.5' o/c BRGS.
ROADWAY WIDTH: 30'-0" F/F 2'-3" SAFETY CURBS
LOAD FREQUENCY: CF=2000 (57)
SKEW: 45° L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-I-54, 25' LONG
ALIGNMENT: TANGENT
EXIST. SFN = 200209 DATE BUILT: 1962
PROPOSED STRUCTURE
TYPE: 4 SPAN COMPOSITE PRESTRESSED CONCRETE BEAM WITH REINFORCED CONCRETE DECK, MODIFIED SEMI-INTEGRAL ABUTMENTS AND DRILLED SHAFT FOUNDATIONS
SPANS: 120', 100', 100', 120' ℄ ABUT. BEARINGS TO ℄ PIERS ALONG ℄ SURVEY U.S. 24
ROADWAY WIDTH: 42'-0" TOE/TOE BARRIERS
SKEW: 45° L.F. WITH ℄ CONST. U.S. 24
WEARING SURFACE: MONOLITHIC CONCRETE
LOADING: HS-25 AND ALTERNATE MILITARY LOADING
FUTURE W.S. = 60 P.S.F.
ALIGNMENT: TANGENT
APPROACH SLABS: AS-I-81, 25'-0"
CROWN: 0.015
LATITUDE: 41°17'45"N LONGITUDE: 84°23'10"W
SITE PLAN
BRIDGE NO. DEF-24-0981 L & R
US 24 OVER TIFFIN RIVER
DEFIANCE COUNTY
STA. 1996+30.28
STA. 2000+76.64
DEF-24-7.96
1/23
KOMI & KUMMER ASSOCIATES, INC.
F024SP1.dgn 3/17/2005 9:33:04 AM

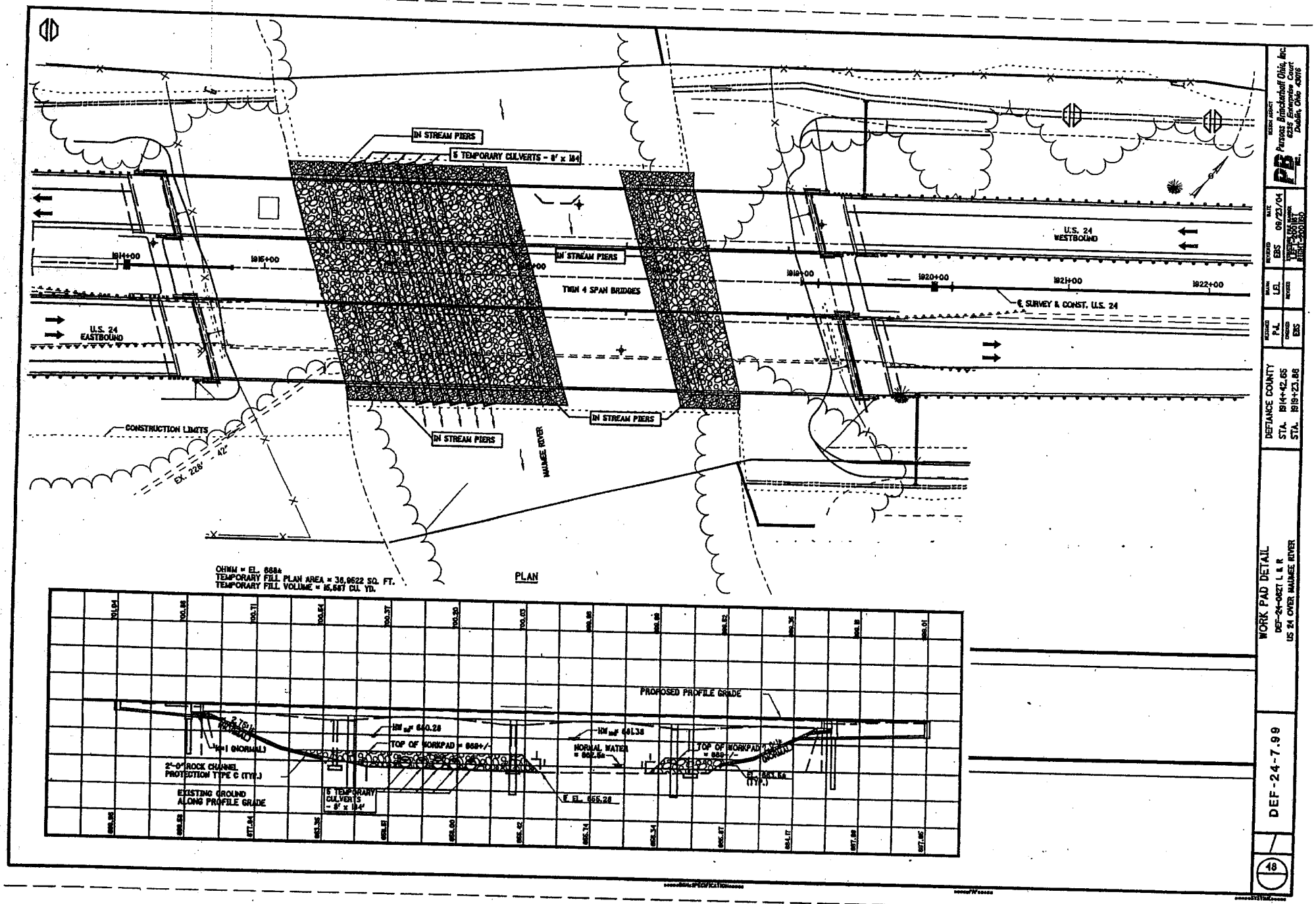
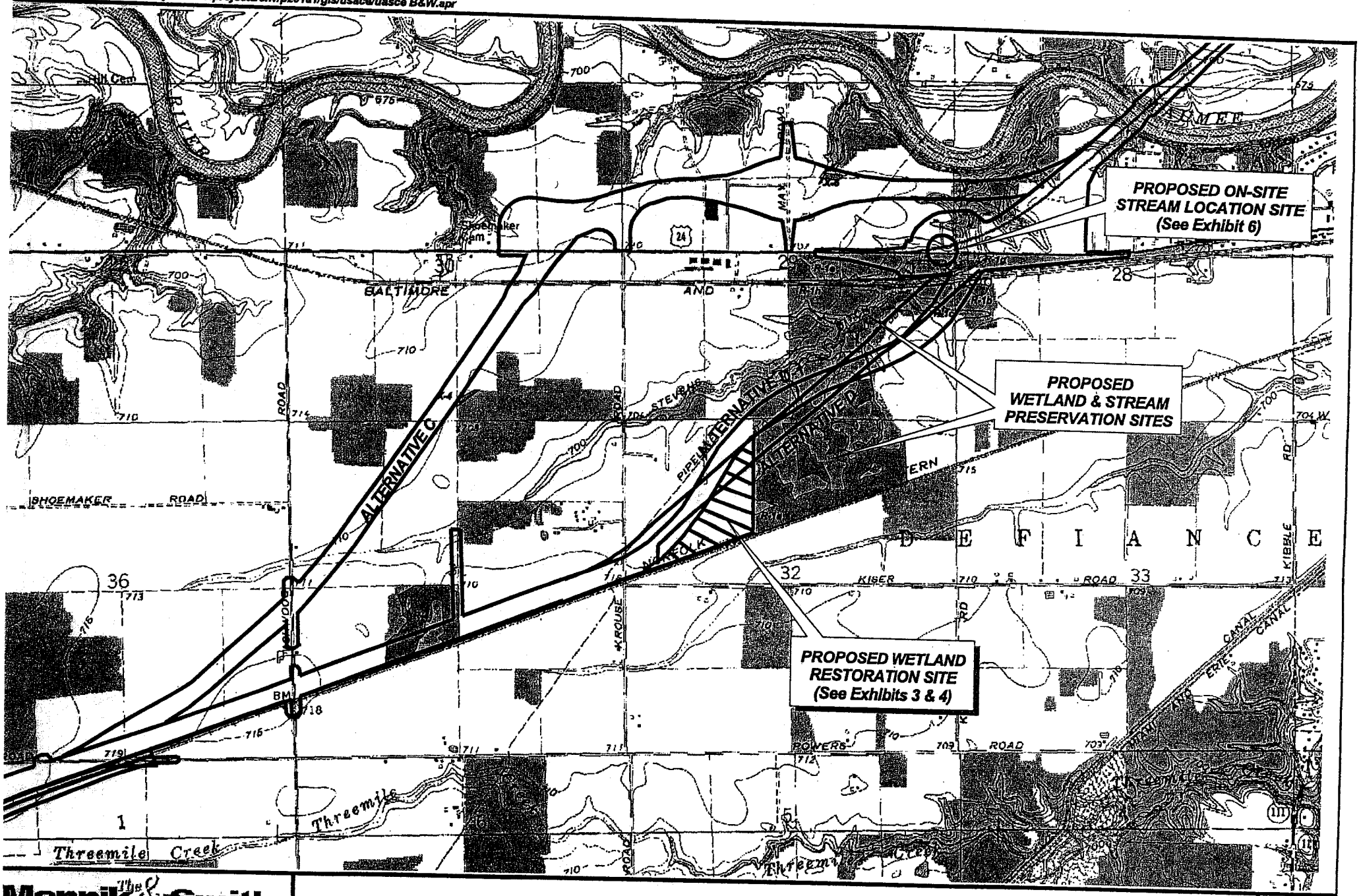

IN STREAM PIERS
5 TEMPORARY CULVERTS - 8' x 184'
IN STREAM PIERS
TWIN 4 SPAN BRIDGES
IN STREAM PIERS
IN STREAM PIERS
U.S. 24 EASTBOUND
U.S. 24 WESTBOUND
1914+00
1915+00
1919+00
1920+00
1921+00
1922+00
℄ SURVEY & CONST. U.S. 24
CONSTRUCTION LIMITS
EX. 228' - 42'
MAUMEE RIVER
OHWM = EL. 668±
TEMPORARY FILL PLAN AREA = 36,9622 SQ. FT.
TEMPORARY FILL VOLUME = 15,587 CU. YD.
PLAN
PROPOSED PROFILE GRADE
TOP OF WORKPAD = 669+/-
NORMAL WATER = 662.5±
2'-0" ROCK CHANNEL PROTECTION TYPE C (TYP.)
EXISTING GROUND ALONG PROFILE GRADE
5 TEMPORARY CULVERTS - 8' x 184'
℄ EL. 655.28
EL. 663.5± (TYP.)
Parsons Brinckerhoff Ohio, Inc.
6235 Enterprise Court
Dublin, Ohio 43016
DEFIANCE COUNTY
STA. 1914+42.65
STA. 1919+23.88
WORK PAD DETAIL
DEF-24-0627 L & R
US 24 OVER MAUMEE RIVER
DEF-24-7.99
48

Figure 48

Project # P201A1E3C January 2005//s:projects/env/p201a1/gis/usace/uasce B&W.apr

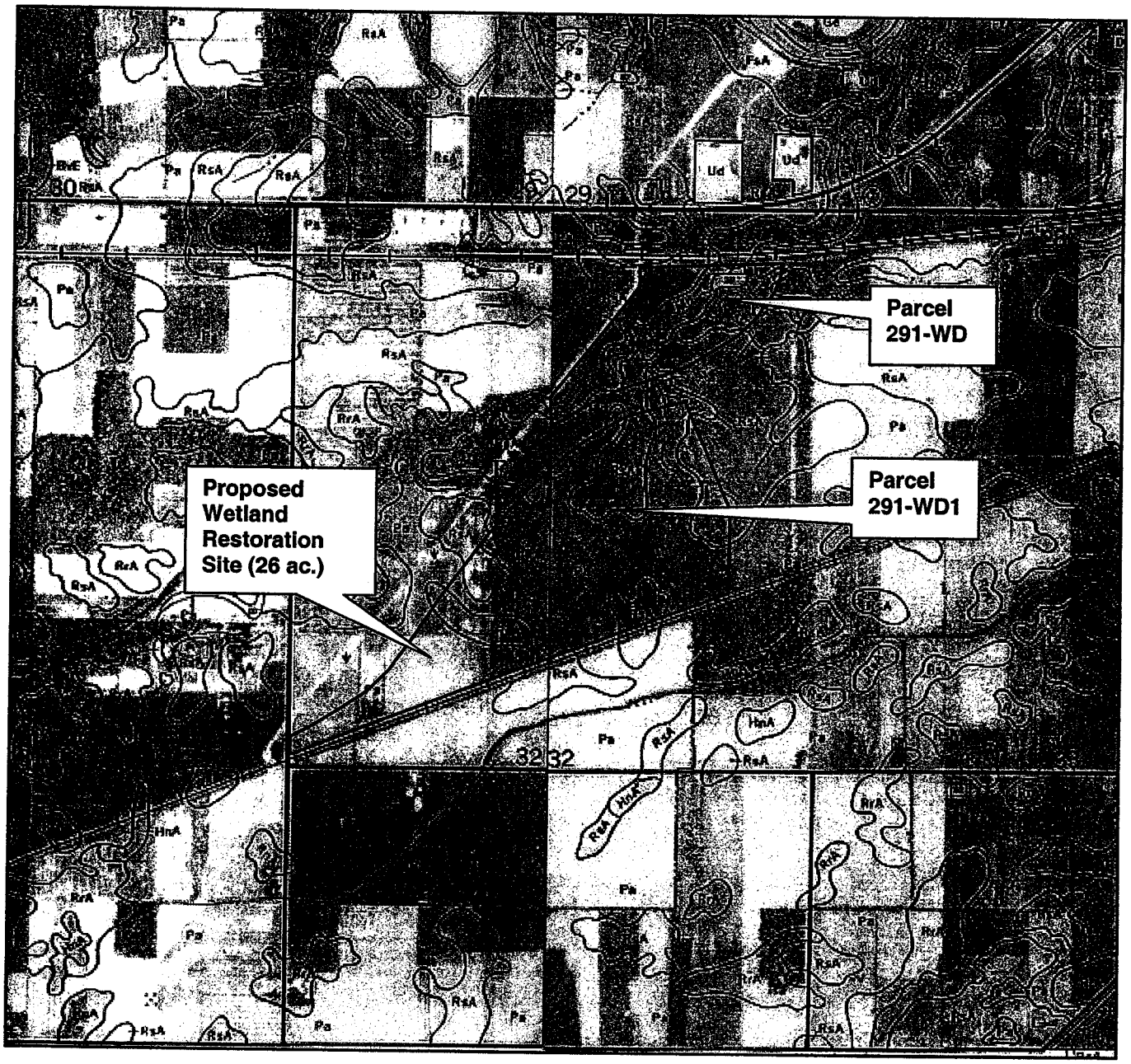


The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
Civil Engineering, Surveying and Environmental Consulting
TOLEDO ♦ MONROE ♦ DETROIT

EXHIBIT 1
PROPOSED ON-SITE STREAM AND WETLAND MITIGATION SITE LOCATIONS FOR PAU/DEF 24-0.00

N

1 : 24,000



LEGEND

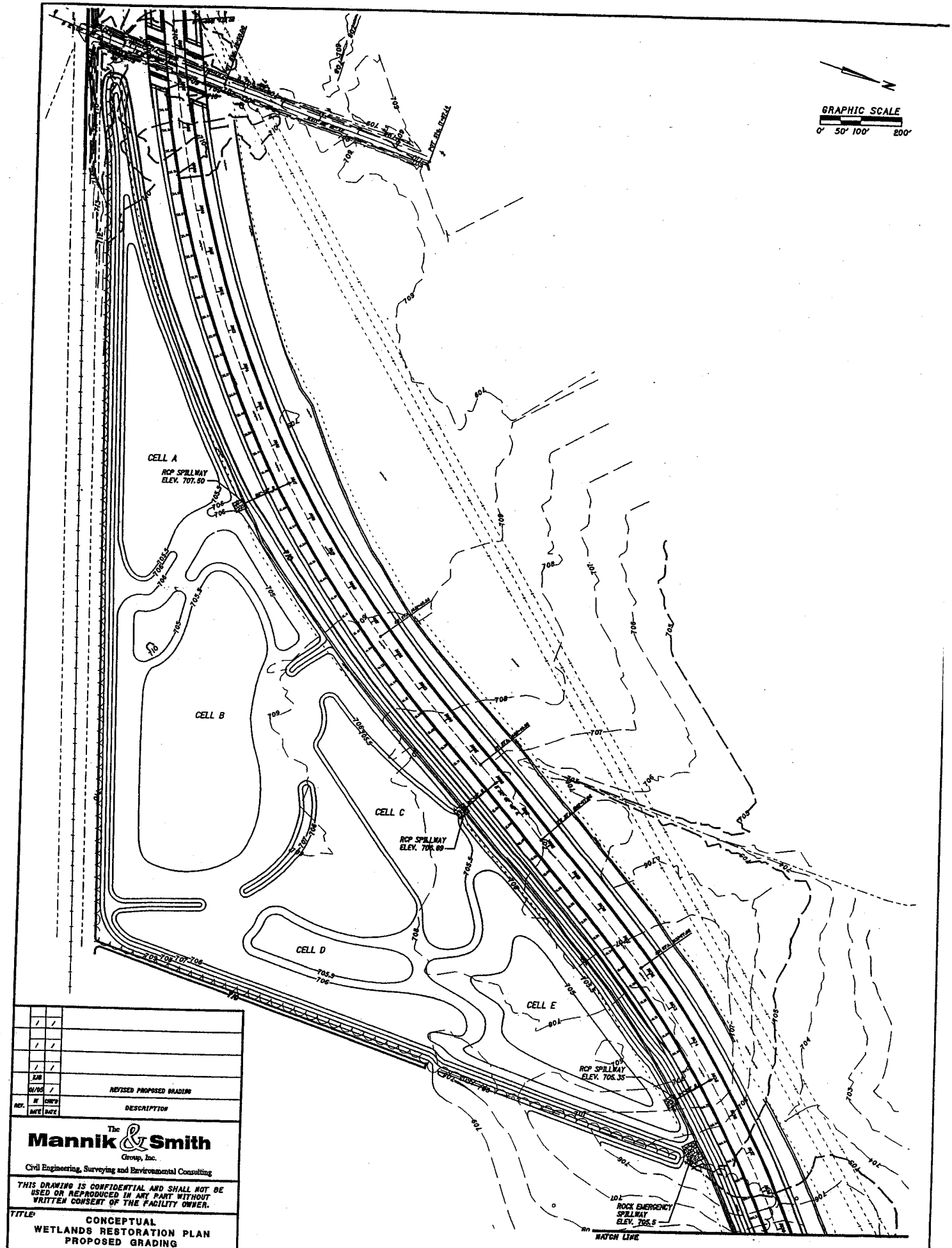
Approximate Parcel Boundary

Mannik & Smith The Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
Civil Engineering, Surveying and Environmental Consulting
TOLEDO ♦ MONROE ♦ DETROIT

Exhibit 2
Defiance County Soil Survey
Natural Resource Conservation Service
1984

N
NTS

P20IA1E3B ary, 2005



REV.	BY / DATE	CHK'D / DATE	DESCRIPTION
	/	/	
	/	/	
	/	/	
	KJB 01/05	/	REVISED PROPOSED GRADING

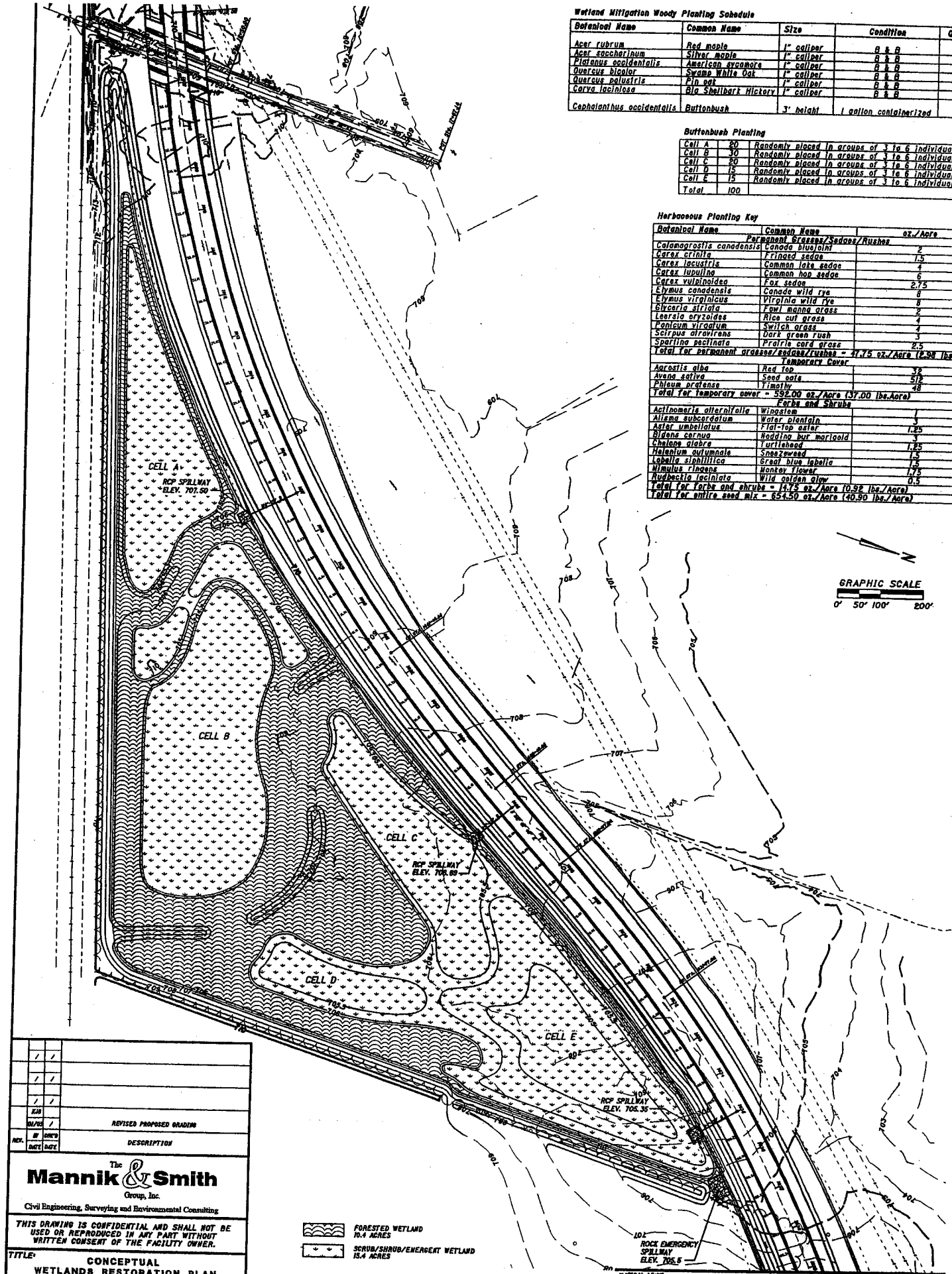
The **Mannik & Smith** Group, Inc.

Civil Engineering, Surveying and Environmental Consulting

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF THE FACILITY OWNER.

TITLE: CONCEPTUAL WETLANDS RESTORATION PLAN PROPOSED GRADING

DRAWN: SGW DATE 08/04	SCALE: AS NOTED	DRAWING NO. 3	REV. NO.
DESIGNED: JK DATE 08/04	REVIEWED: / / DATE		
APPROVED: / / DATE	PROJECT NO. PEDIAIE3B	CADD FILE: PEDIAIE3B grading 85x11 klb	



Wetland Mitigation Woody Planting Schedule

Botanical Name	Common Name	Size	Condition	Quantity
Acer rubrum	Red maple	1" caliper	B & B	100
Acer saccharinum	Silver maple	1" caliper	B & B	100
Platanus occidentalis	American sycamore	1" caliper	B & B	200
Quercus bicolor	Swamp White Oak	1" caliper	B & B	250
Quercus palustris	Pin oak	1" caliper	B & B	250
Carya laciniosa	Big Shellbark Hickory	1" caliper	B & B	200
Cephalanthus occidentalis	Buttonbush	3' height	1 gallon containerized	100

Buttonbush Planting

Cell A	20	Randomly placed in groups of 3 to 6 individuals
Cell B	30	Randomly placed in groups of 3 to 6 individuals
Cell C	20	Randomly placed in groups of 3 to 6 individuals
Cell D	15	Randomly placed in groups of 3 to 6 individuals
Cell E	15	Randomly placed in groups of 3 to 6 individuals
Total	100	

Herbaceous Planting Key

Botanical Name	Common Name	oz./Acre
Permanent Grasses/Sedges/Rushes		
Calamagrostis canadensis	Canada bluejoint	2
Carex crinita	Fringed sedge	1.5
Carex lacustris	Common lake sedge	4
Carex lupulina	Common hop sedge	6
Carex vulpinoidea	Fox sedge	2.75
Elymus canadensis	Canada wild rye	8
Elymus virginicus	Virginia wild rye	8
Glyceria striata	Fowl manna grass	2
Leersia oryzoides	Rice cut grass	4
Panicum virgatum	Switch grass	4
Scirpus atrovirens	Dark green rush	3
Spartina pectinata	Prairie cord grass	2.5
Total for permanent grasses/sedges/rushes = 47.75 oz./Acre (2.98 lbs.Acre)		
Temporary Cover		
Agrostis alba	Red top	32
Avena sativa	Seed oats	512
Phleum pratense	Timothy	48
Total for temporary cover = 592.00 oz./Acre (37.00 lbs.Acre)		
Forbs and Shrubs		
Actinomeris alternifolia	Wingstem	1
Alisma subcordatum	Water plantain	3
Aster umbellatus	Flat-top aster	1.25
Bidens cernua	Nodding bur marigold	3
Chelone glabra	Turtlehead	1.25
Helenium autumnale	Sneezeweed	1.5
Lobelia siphilitica	Great blue lobelia	1.5
Mimulus ringens	Monkey flower	1.75
Rudbeckia laciniata	Wild golden glow	0.5
Total for forbs and shrubs = 14.75 oz./Acre (0.92 lbs./Acre)		
Total for entire seed mix = 654.50 oz./Acre (40.90 lbs./Acre)		

REV.	BY / DATE	CHK'D / DATE	DESCRIPTION
	/	/	
	/	/	
	/	/	
	KJB 01/05	/	REVISED PROPOSED GRADING

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TITLE: **CONCEPTUAL WETLANDS RESTORATION PLAN PROPOSED PLANTING**

DRAWN: SBW DATE: 08/04	SCALE: AS NOTED	DRAWING NO. 4	REV. NO.
DESIGNED: JK DATE: 08/04	REVIEWED: / / DATE: / /		
APPROVED: / /	PROJECT NO. P2D1A1E3B	CADD FILE: P2D1A1E3B wetlands 85x11 ltb	

GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE SPECIFIED SEED, SHRUBS AND TREES THAT COMPLY WITH ALL RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK". PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS STOCK GROWN WITH GOOD HORTICULTURAL PRACTICE AND INSTALLED IN ACCORDANCE WITH METHODS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

2. THE SUBMITTING BIDDERS SHALL BE AND HAVE BEEN ACTIVELY AND DIRECTLY ENGAGED IN NATIVE SEED INSTALLATION FOR A PERIOD OF AT LEAST TWO YEARS. PROVIDE PROOF OF THREE OR MORE SUCCESSFUL WETLAND SEEDING AND WETLAND TREE INSTALLATIONS.

SPECIFICATIONS

1. SITE PREPARATION

   A) PRIOR TO CLEARING AND GRUBBING, WETLAND CONSULTANT AND CONTRACTOR SHALL WALK AND FLAG ALL ACCESS POINTS FOR CONSTRUCTION EQUIPMENT AND AREAS WHERE EQUIPMENT IS PROHIBITED

   B) CONTRACTOR SHALL CLEAR AND GRUB DESIGNATED WETLAND MITIGATION AREA PRIOR TO PLANTING.

   C) AFTER CLEARING, GRUBBING AND THE REMOVAL OF ALL DEBRIS FROM THE MITIGATION SITE HAS BEEN COMPLETED AND APPROVED BY THE WETLAND CONSULTANT, THE CONTRACTOR SHALL REMOVE THE TOP 12" OF TOPSOIL FROM THE SITE. THE CONTRACTOR SHALL STOCKPILE AND COMPLETELY COVER THE TOPSOIL IN AN UPLAND LOCATION ON SITE UNTIL TOPSOIL CAN BE RE- APPLIED TO EXCAVATED SUBGRADE.

   D) AFTER TOPSOIL HAS BEEN REMOVED, CONTRACTOR SHALL EXCAVATE WETLAND MITIGATION SITE TO 12" BELOW PROPOSED WETLAND ELEVATIONS. EXCAVATED MATERIALS SHALL BE STOCKPILED ON SITE IN AN UPLAND LOCATION DESIGNATED BY THE WETLAND CONSULTANT. LOW GROUND PRESSURE CONSTRUCTION EQUIPMENT SHALL BE USED TO MINIMIZE COMPACTION OF SUBGRADE.

   E) CONTRACTOR SHALL DISK SUBGRADE IN WETLAND MITIGATION AREA PRIOR TO REPLACEMENT OF TOPSOIL.

   F) USING LOW GROUND PRESSURE EQUIPMENT, CONTRACTOR SHALL PLACE 12" OF TOPSOIL THAT WAS PREVIOUSLY REMOVED ONTO THE WETLAND MITIGATION SITE.

2. SEEDING

   A) STAKE LIMITS OF SEEDING.

   B) APPROVAL OF WETLAND CONSULTANT MUST BE OBTAINED FOR SEED BED PREPARATION AND STAKING.

   C) INSTALL WETLAND SEEDS BETWEEN THE DATES OF OCTOBER 1 TO MARCH 15, AS CONDITIONS PERMIT. SEEDING SHALL NOT OCCUR WHEN THE GROUND IS FROZEN, INUNDATED OR COVERED WITH SNOW. IF SEEDING IS TO TAKE PLACE AFTER THE GROUND THAWS THE CONTRACTOR SHALL PROVIDE PROOF IN WRITING THAT THE SEED MIX HAS BEEN COLD STRATIFIED. IN THE EVENT THE SEED MIX HAS NOT BEEN COLD STRATIFIED THE CONTRACTOR WILL ARRANGE TO KEEP THE SEED UNDER REFRIGERATION FOR AT LEAST 3 MONTHS PRIOR TO BEING SOWN.

   D) UNIFORMLY DRILL SEED MIXES TO A DEPTH OF 1/8" TO 1/4" OVER THE SPECIFIED AREAS AT THE SPECIFIED RATES. UPON COMPLETION OF SEEDING, SEEDED AREA SHALL BE CULTI-PACKED.

   E) IMMEDIATELY FOLLOWING SEEDING, APPLY STRAW MULCH AT THE RATE OF 1.5 TONS PER ACRE OVER ALL SEEDED AREAS.

   F) WARRANTY SHALL BE: WETLAND SEED MIX 95 % COVER OF SEEDED AREAS AT THE END OF THE FIRST GROWING SEASON.

3. WOODY PLANTINGS

   A) COMPLETE ALL WOODY PLANTINGS BETWEEN MARCH 1 - MAY 15 OR OCTOBER 15 - DECEMBER 15, OR AS DIRECTED BY THE PLANT SUPPLIER. TIMING OF WOODY PLANTING TO BE APPROVED IN WRITING BY THE WETLAND CONSULTANT.

   B) PRIOR TO PLANTING, THE CONTRACTOR SHALL NOTIFY THE WETLAND CONSULTANT TO ASSIST IN THE LAYOUT OF ALL WOODY PLANTS AND TO APPROVE THE CONDITION OF WOODY VEGETATION.

   C) TREES AND SHRUBS SHOULD BE PLANTED UPON ARRIVAL TO THE MITIGATION SITE. IF CONDITIONS DO NOT PERMIT INSTALLATION OF THE WOODY VEGETATION AT THE TIME OF ARRIVAL, STORE IN A COOL MOIST ENVIRONMENT. IF TREES AND SHRUBS WILL NOT BE READY TO PLANT WITHIN A WEEK, ARRANGEMENTS SHOULD BE MADE BY THE CONTRACTOR FOR THE PROPER CARE AND STORAGE OF THE WOODY VEGETATION.

   D) ALL WOODY VEGETATION TO BE PLANTED AS SHOWN BELOW.

      1. SHALLOW, BROAD PLANTING HOLE: THE HOLE SHOULD BE DUG TO THE DEPTH OF THE ROOT BALL, AND 2 TIMES THE DIAMETER OF THE BALL. PLACE THE TREE INTO THIS HOLE BY HOLDING THE BALL, NOT THE TRUNK.

      2. POSITION THE TREE: BALANCE THE TREE, MAKING SURE THAT IT IS STRAIGHT AND AT THE CORRECT HEIGHT (TREE SHOULD BE PLANTED AT THE SAME OR SLIGHTLY ABOVE THE SAME DEPTH THAT IT WAS GROWING AT THE NURSERY).

      3. REMOVE MATERIALS: REMOVE THE TOP PORTION OF WIRE BASKET OR PEEL BACK THE TOP PORTION OF THE NATURAL BURLAP. IF THERE IS ANY PLASTIC STRING OR PLASTIC BURLAP, REMOVE NOW OR YOUR TREE WILL DIE.

      4. FILL HOLE: FILL THE HOLE WITH ABOUT 1/3 OF THE SOIL THAT YOU DUG TO MAKE THE HOLE AND GENTLY PACK AROUND THE ROOT BALL. CONTINUE TO FILL THE REST OF THE HOLE, WHILE ADDING WATER TO REMOVE AIR POCKETS. DO NOT ADD FERTILIZER FOR THE FIRST YEAR.

      5. PRUNE: AT THIS TIME, PRUNE ONLY DEAD OR INJURED BRANCHES, DO NOT USE TREE WOUND PAINT.

      6. TREE WRAP: REMOVE ANY TREE WRAP THAT WAS USED FOR SHIPPING THE TREE.

      7. STAKING: PROPERLY PLACED AND PLANTED TREES RARELY NEED TO BE STAKED. IF STAKING IS NECESSARY, MAKE ABSOLUTELY CERTAIN THAT THE STAKES ARE REMOVED AT THE END OF THE FIRST YEAR.

      8. MULCH: PLACE A 3-4 INCH LAYER OF MULCH IN A 3-4 FOOT DIAMETER CIRCLE UNDER THE CROWN OF THE TREE. PULL MULCH AWAY FROM TRUNK SO THAT HEAT AND MOISTURE ARE NOT TRAPPED.

      9. WATERING: MAKE SURE THAT THE NEWLY PLANTED TREE GETS A TOTAL OF AN INCH OF WATER EVERY WEEK THE FIRST YEAR.

   E) WARRANTY SHALL BE:

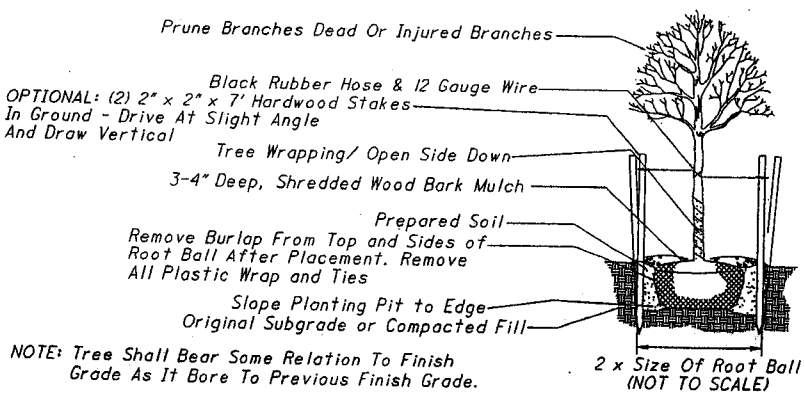
      1. AT THE END OF THE FIRST GROWING SEASON, A 95 PERCENT SURVIVAL RATE FOR EACH SPECIES MUST BE PROVIDED. REPLACE ALL PLANTS IN ACCORDANCE WITH SPECIFICATIONS.

      2. CONTRACTOR SHALL BEGIN PLANTING MAINTENANCE IMMEDIATELY AFTER EACH PLANT IS INSTALLED AND SHALL CONTINUE AS REQUIRED UNTIL END OF THE WARRANTY PERIOD. MAINTENANCE SHALL INCLUDE WATERING AND CULTIVATION.

4. SUBMITTALS

   A) SEED MIXES: INCLUDE SPECIES, RATE OF APPLICATION, SOURCE (SUPPLIER) AND YEAR EACH SPECIES WAS COLLECTED.

   B) DECIDUOUS TREES AND ROOTED CUTTINGS: PROVIDE SOURCE OF EACH WOODY PLANT.



TREE PLANTING DETAIL

REV.	DATE	BY	DESCRIPTION
—	—	—	
—	—	—	
—	—	—	
—	04/04	—	REVISED PROPOSED GRADING

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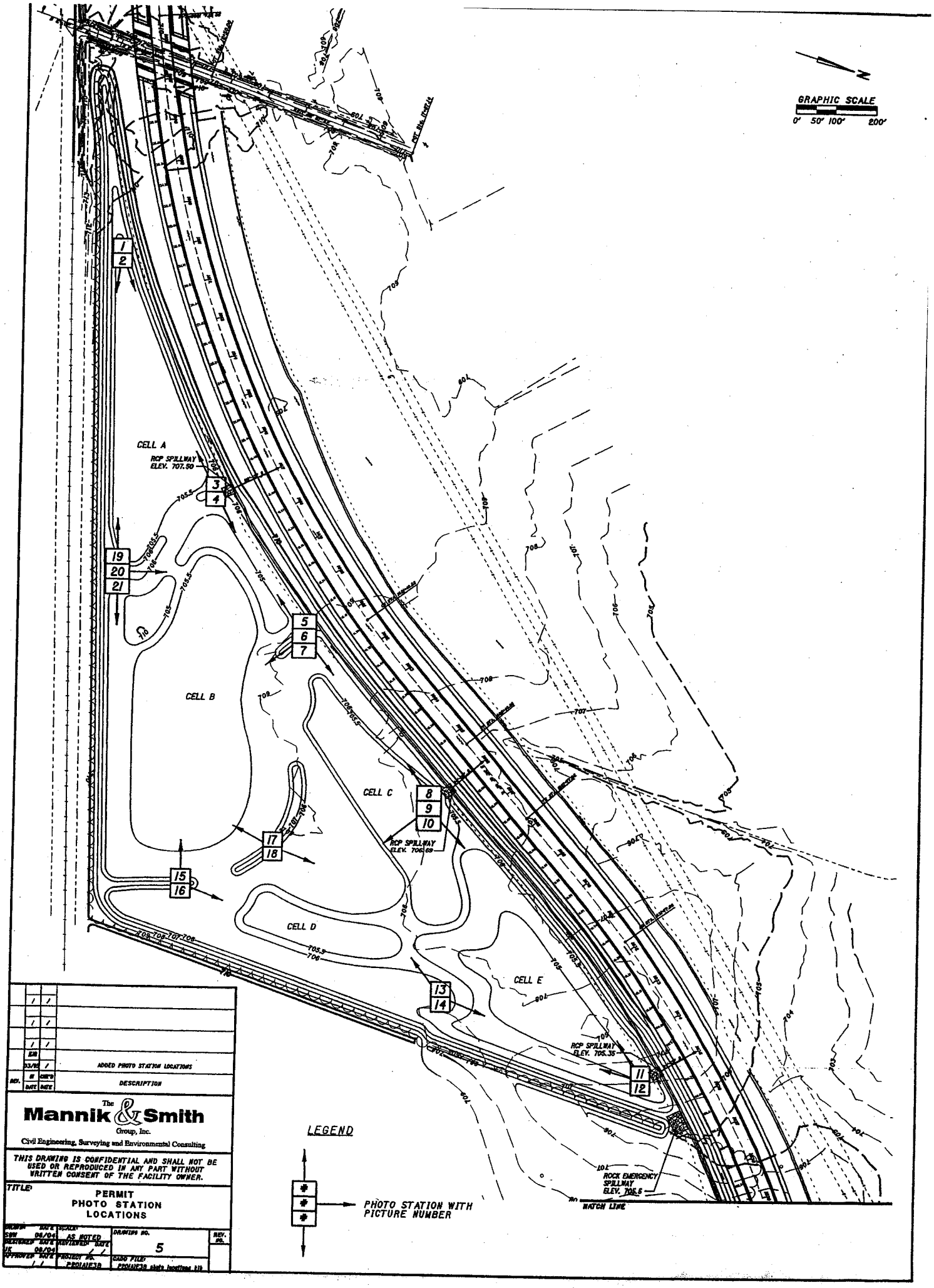
TITLE: GENERAL NOTES

DRAWN 04/04 — SCALE AS NOTED — DRAWING NO. 4A — REV. NO. —
REVIEWED 04/04 — REVIEWED DATE — PROJECT NO. 2200A0E0
APPROVED — APPROVED DATE — CADD FILE PRINCE creek Rev 1.dwg


GRAPHIC SCALE
0' 50' 100' 200'
CELL A
RCP SPILLWAY ELEV. 707.50
CELL B
CELL C
RCP SPILLWAY ELEV. 706.69
CELL D
CELL E
RCP SPILLWAY ELEV. 705.35
ROCK EMERGENCY SPILLWAY ELEV. 705.5
MATCH LINE
LEGEND
PHOTO STATION WITH PICTURE NUMBER
ADDED PHOTO STATION LOCATIONS
DESCRIPTION
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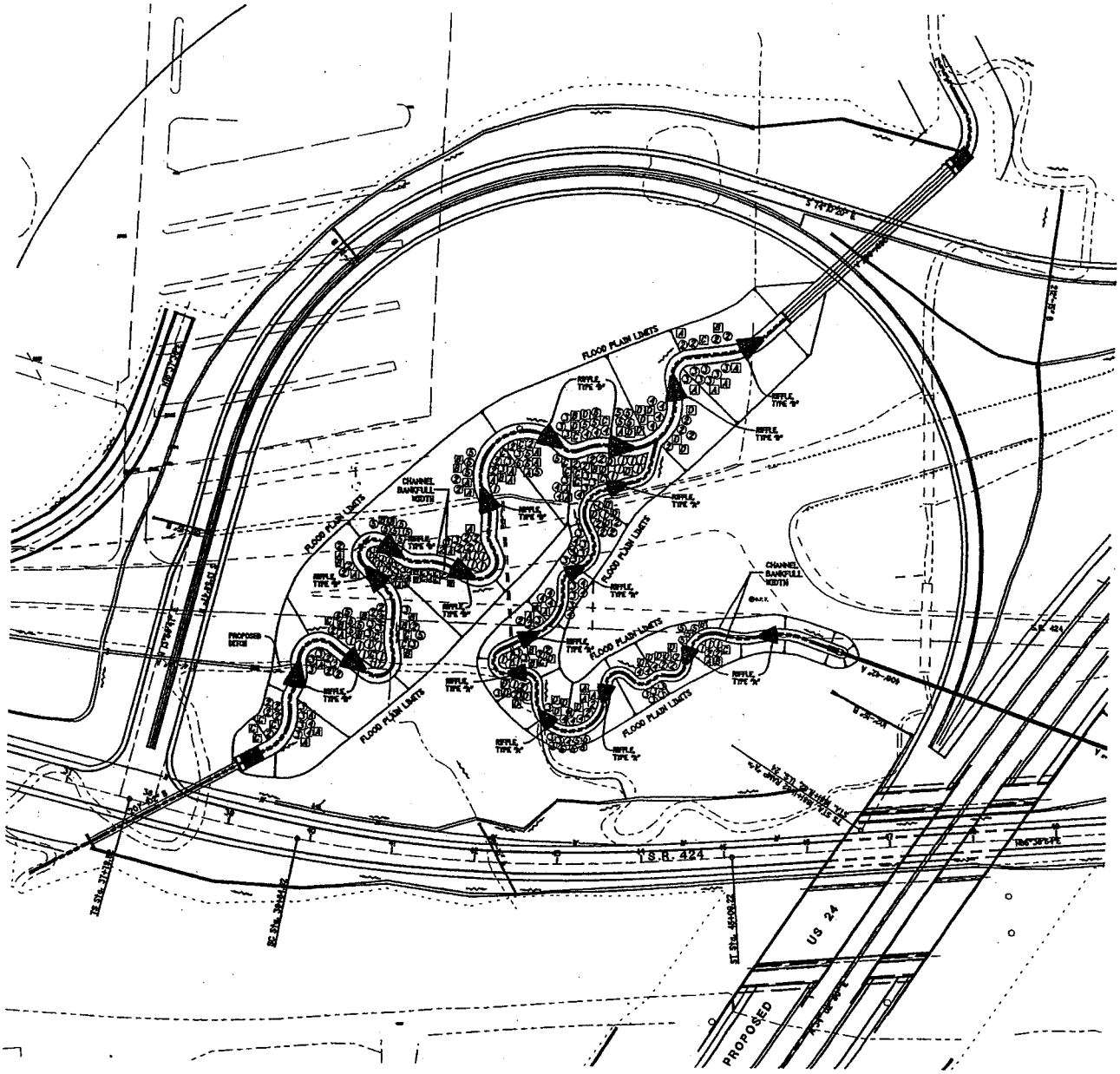
TITLE: PERMIT PHOTO STATION LOCATIONS
AS NOTED
5



FOR RIFFLE DETAILS, SEE SHEET ___

Relocated Ditch Riparian Planting Schedule

KEY	BOTANICAL NAME/COMMON NAME	SIZE	CONDITION	QUANTITY
A	Acer rubrum/Red maple	1" caliper	B & B	35
B	Platanus occidentalis/American Sycamore	1" caliper	B & B	20
C	Salix nigra/Black willow	1" caliper	B & B	25
D	Quercus palustris/Pin oak	1" caliper	B & B	30
1	Cephalanthus occidentalis/Buttonbush	3' height	1 gallon containerized	40
2	Cornus stolonifera/Red-osier dogwood	3' height	1 gallon containerized	55
3	Sambucus canadensis/Elderberry	3' height	1 gallon containerized	55
4	Viburnum lentago/Nannyberry	3' height	1 gallon containerized	30
5	Cornus amomum/Silky dogwood	3' height	1 gallon containerized	35
-	Low Growing Slope Mix (Item 870, E, 3A)	-	Plant along slopes	-

GRAPHIC SCALE

0' 50' 100' 200'

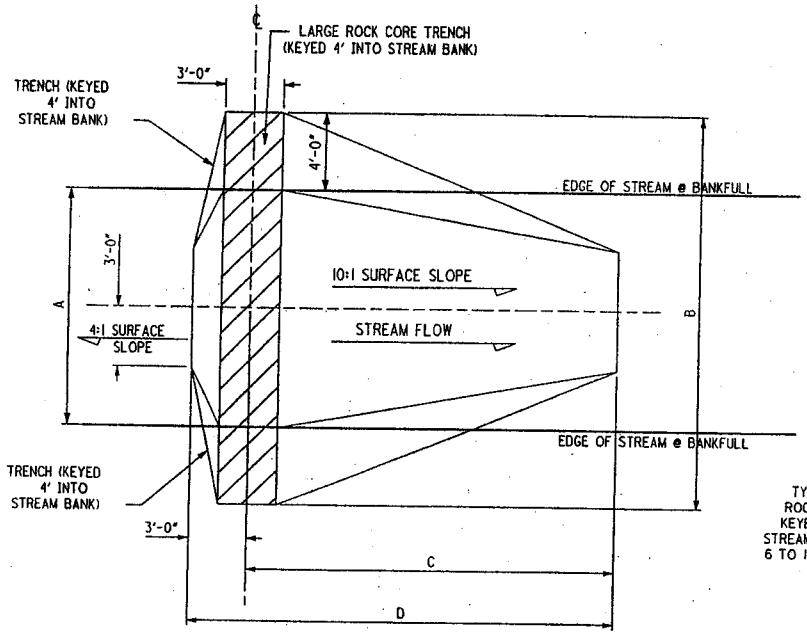
ON-SITE STREAM RELOCATIONS MITIGATION LANDSCAPING PLAN

OHIO DEPARTMENT OF TRANSPORTATION
U.S. ROUTE 24
PAU/DEF-24-0.00 PID 18904

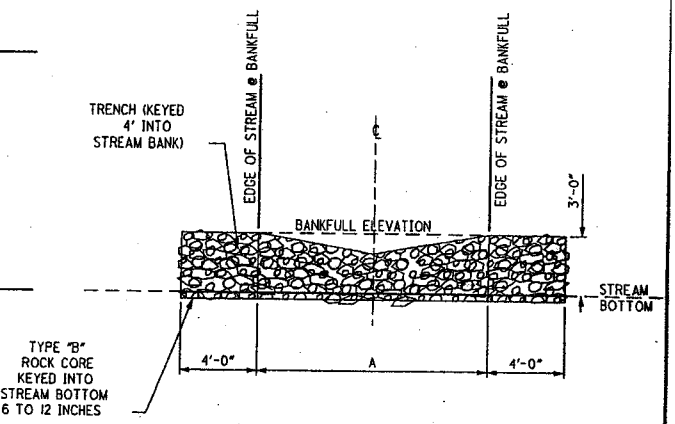
U.S. Army Corps of Engineers 404 Permit and OEPA Section 401 Water Quality Certification Application

Date: 1-21-05

Exhibit 6



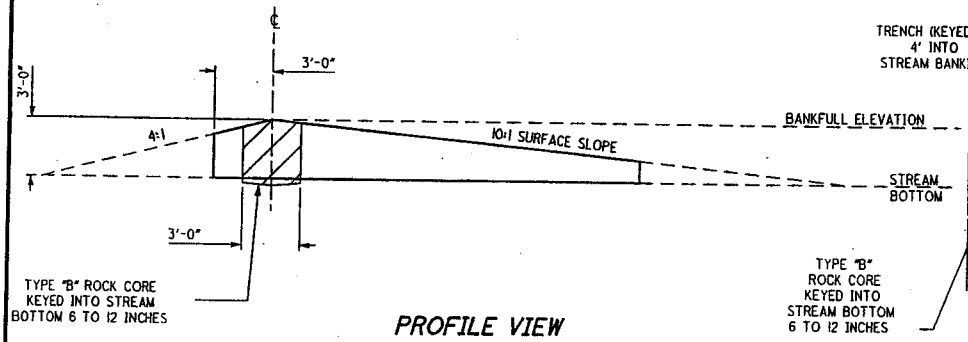
PLAN VIEW



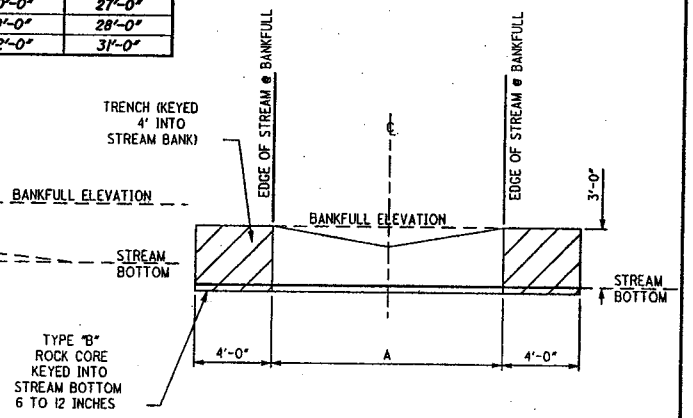
DETAILED ILLUSTRATION OF RIFFLE CROSS SECTION

RIFFLE DIMENSIONS

DIMENSION LABEL	TYPE "A"	TYPE "B"
A	12'-0"	19'-0"
B	20'-0"	27'-0"
C	19'-0"	28'-0"
D	22'-0"	31'-0"



PROFILE VIEW



CROSS SECTION VIEW

1. ROCK RIFFLES ARE TO BE CONSTRUCTED WITH TYPE "B" ROCK AND TYPE "C" ROCK.

2. TYPE "B" ROCK WILL BE USED TO CREATE THE RIFFLE CORE AS DETAILED.

3. TYPE "C" ROCK WILL BE USED TO CREATE THE RIFFLE EXCEPT FOR THE CORE.

4. THE CONTRACTOR WILL CONSTRUCT THE RIFFLE FURTHEST DOWNSTREAM, THEN CONSTRUCT EACH RIFFLE THEREAFTER STARTING AT THE RIFFLE FURTHEST UPSTREAM AND WORKING TOWARD THE RIFFLE FURTHEST DOWNSTREAM.

5. PAYMENT FOR ALL THE MATERIALS AND LABOR FOR THE CONSTRUCTION OF THE RIFFLES WILL BE DONE ACCORDING TO 601 (51000) CHANNEL PROTECTION, MISC. ROCK RIFFLE AT THE UNIT PRICE OF CUBIC YARD.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITIES PER TYPE "A" RIFFLE	QUANTITIES PER TYPE "B" RIFFLE
601	TYPE "B" ROCK 12 TO 24 INCHES	28.7 CUBIC YARDS	38.0 CUBIC YARDS
601	TYPE "C" ROCK 6 TO 18 INCHES	55.8 CUBIC YARDS	103.8 CUBIC YARDS

QUANTITIES ABOVE ARE ESTIMATED FOR ONE RIFFLE. THE TOTAL QUANTITIES FOR PROJECT MUST BE MULTIPLIED BY TOTAL NUMBER OF RIFFLES. THIS PROJECT (PID 189040) HAS A TOTAL OF 8 TYPE "A" RIFFLES AND 10 TYPE "B" RIFFLES. THE TOTAL ESTIMATED AMOUNT OF TYPE "B" ROCK IS 573.6 CUBIC YARDS. THE TOTAL ESTIMATED AMOUNT OF TYPE "C" ROCK IS 1084.4 CUBIC YARDS. THE CMS STANDARD FOR THESE TYPES OF ROCK INCLUDES FINES.

MARK	BY / DATE	CHKD / DATE	DESCRIPTION
—	/ /	/ /	
—	/ /	/ /	
—	/ /	/ /	
—	5/1/06	/ /	MODIFIED FORMAT TO A-5-11

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TITLE: RIFFLE DETAILS

DRAWN: KJB DATE: 6/2/04 — SCALE: AS NOTED — DRAWING NO. 7 — REV. NO. —
REVIEWED: DATE / / — APPROVED: DATE / / — PROJECT NO. P2010A — CADD FILE: RIFFLES-06-01.dwg