

Kessler, Steven E.

From: Kessler, Steven E.
Sent: Thursday, October 08, 2015 2:21 PM
To: CENWO-OD-RND@usace.army.mil
Cc: Swade.d.hammond@usace.army.mil
Subject: 404 Permit Application - PCN 20291 - NWO-2013-2254BIS P1
Attachments: 404 Permit Application_20291_NDDOT_USACE.pdf; 4-083(124)244 SHE; PCN 20291 NDDOT-USACE Short Form.docx; Hwy 83 4-083(124)244 PCN 20291 Radial T Intersections Appendix A10 Twelve Components of Mitigation Plan.pdf

Swade,

Attached is the preconstruction notification for a Nationwide Permit for the above listed project. A Jurisdictional Determination was received from the USACE on December 20, 2013, USACE number NWO-2013-2254--BIS.

The project is located on US hwy 83 in Bottineau County. The proposed work includes widening and surfacing.

The project will impact 1.61 acres of permanent and 3.08 acres of temporary jurisdictional wetlands.

The NDDOT proposes 1.59 acres of mitigation for impacts to each WOUS which is greater than 0.10 acre. See the attached compensatory mitigation plan.

A copy of this application with the attachments will also be mailed to your office.

The ESA table is attached.

SHPO concurs with the No Historic Properties Affected determinations. The documentation is attached.

The project has been approved by FHWA as a Categorical Exclusion per RGL 05-07 Attachment 2 (d)(1). The signed CatEx is attached

If you have any questions please call Steve Kessler at (701) 328-3736.

Thanks

Steve

Steve Kessler
Environmental & Transportation Services
North Dakota Department of
Transportation
608 E. Blvd. Ave.
Bismarck, ND 58505-0700

Phone: (701) 328-3736

Corps of Engineers Nationwide Permit (NWP) Verification

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (ND DOT) PROJECTS REQUEST FOR NWP DETERMINATION(S)

IMPACTED WATER RESOURCE NUMBER	PCN (DOT generated) HWY/Road Number	TYPE AND DIMENSIONS OF EXISTING STRUCTURE	ACTIVITY	STREAM IMPACTS BELOW OHWM (linear feet)			WETLAND IMPACTS (acres)		LOCATION LAT/LONG (NAD 83)		SEC-TWP-RGE, COUNTY	COE ID NUMBER (to be filled by COE)	NWP #
				TEMP (LF)	PERM (LF)	PERM (acre)	TEMP (acre)	PERM (acre)	LAT (Decimal Degrees)	LONG (Decimal Degrees)			
1A, 1B, 1D, 1F, 1I, 1K-1R	20291		widening				1.77	0.68	48.764277	-101.152736	T161N, R81W, SEC 14 15, 22 Bottineau County		
3A, 3B	20291		widening				0.06	0.04	48.765069	-101.146698	T161N, R81W, SEC 14 Bottineau County		
6A-6F, 6H-6J,	20291		widening				1.22	0.86	48.20056	-101.144318	T162N, R81W, SEC 26, 34, 35 Bottineau County		
8	20291		widening				0.03	0.03	48.821184	-101.139325	T162N, R81W, SEC 26, Bottineau County		

The U.S. Army Corps of Engineers verifies that the requested activity(s) meet the criteria of the listed NWPs.

Signed: _____ North Dakota Regulatory Office

Verification Date: _____ Expiration Date: _____

***This NWP verification is subject to the activity meeting all General and Regional Conditions applicable to the 2012 NWPs reissuance. For this authorization to remain valid, you must meet all Regional and General Conditions and Section 401 Water Quality Certification Requirements, identified in the applicable Nationwide Permit Fact Sheet. All Fact Sheets and Section 401 Water Quality Certification Requirements are provided on the North Dakota Regulatory Office's website at <http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx>.**

****Project Compliance Certification.** In compliance with General Condition 26, you are required to submit the following project compliance certification within thirty (30) days of project completion. **[Please check all applicable statements]**

- I certify that I have completed the project as permitted.
- I certify that I have completed a modified version of the project.
- I certify that I have completed all required mitigation.

Permittee's Signature: _____ Date: _____

***** Special Conditions.**



CATEGORICAL EXCLUSION / CONCEPT CONCURRENCE

U.S. Department of Transportation
Federal Highway Administration ND Division

North Dakota Department of Transportation
SFN 18878 - REV 07/13

PROJECT SHE-4-083(124)244		PCN 20291	DOCUMENT DATE March 2014
LOCATION US 83 RADIAL T INTERSECTIONS		REQUESTED DATE / BID DATE 3/27/2014 /02/06/2015	
LENGTH Safety Project Intersection Improvement		SUBMITTED BY / DATE Mark Gaydos - 3-13-2014	
NATURE Safety Project Intersection Improvement		CONTACT / PHONE Amy Beise - 328-3194	
OF WORK		For FHWA Use Only	
		DATE IN	COMMENTS DUE
DOCUMENT TYPE	Documented CATEX		Approved
ENVIRONMENTAL APPROVAL REQUEST	CatEx Categorical Exclusion		

COMMENTS

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

The supporting documentation has been reviewed for compliance with the National Environmental Policy Act.

Signature Cory Lawson	<small>Digitally signed by Cory Lawson DN: cn=Cory Lawson, o, ou=NDDOT, email=clawson@nd.gov, c=US Date: 2013.08.22 15:46:43 -0500</small>	Date 03/13/2014
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Name CORY LAWSON	Title Environmental Scientist
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FEDERAL HIGHWAY ADMINISTRATION

Signature KEVIN L BRODIE	<small>Digitally signed by KEVIN L BRODIE DN: cn=Kevin L Brodie, o=Government, ou=DOT FHWA/BismarckND, ou=FHWA FHWA/BismarckND, ou=KEVIN L BRODIE Date: 2014.03.14 11:06:34 -0500</small>	Date 03/14/2014
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Name Kevin L. Brodie, P.E.	Title Transportation Engineer
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**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

Jack Dalrymple
Governor of North Dakota

December 16, 2013

North Dakota
State Historical Board

Jeani L. Borchert
ETS Division
NDDOT
608 East Boulevard Avenue
Bismarck, North Dakota 58505-0700

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New Town - President

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Jamestown - Vice President

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*Director
Department of Transportation*

Merlan E. Paaverud, Jr.
Director

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American Alliance
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ND SHPO Ref.: 14-5184 NDDOT SHE-4-083(124)244; PCN 20291, "North Dakota Department of Transportation: A Cultural Resource Investigation of 84.8 Acres Along Highway 83, Bottineau County, North Dakota" in portions of [T161N R81W Sections 14, 15, 22 & 23] & [T162N R81W Sections 26, 27, 34 & 35]

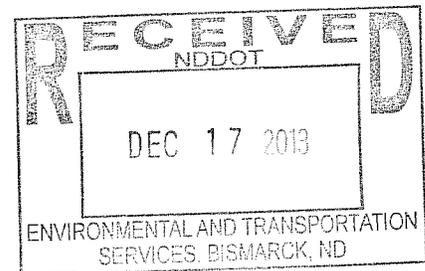
Dear Ms. Borchert,

We reviewed ND SHPO Ref.: 14-5184 NDDOT SHE-4-083(124)244; PCN 20291, "North Dakota Department of Transportation: A Cultural Resource Investigation of 84.8 Acres Along Highway 83, Bottineau County, North Dakota" in portions of [T161N R81W Sections 14, 15, 22 & 23] & [T162N R81W Sections 26, 27, 34 & 35] and find the report by Jennifer Thomas acceptable. We concur with the determination of "No Historic Properties Affected" provided that this project takes place in the location and in the manner described in the documentation and that all borrow comes from an approved source. We further concur that 32BU157 is not eligible for listing in the National Register of Historic Places.

Thank you for the opportunity to review this project. If you have any questions please contact Lisa Steckler, Preservation Planner at (701) 328-3577, e-mail lsteckler@nd.gov

Sincerely,

Merlan E. Paaverud, Jr.
State Historic Preservation Officer
(North Dakota) and
Director State Historical Society of North Dakota



NDDOT Threatened, Endangered, Proposed, Candidate Species and Critical Habitat Affect Determination Table							
Project: SHE-4-083(124)244		PCN: 20291	Location: US 83 RADIAL T INTERSECTIONS	County: Bottineau			
Species	Listing	Guidance	FHWA Review Required?		Determination		Additional Documentation Included
			Yes	No	Not Present	No Effect	
Interior Least Tern	E	FHWA Review required for work in or along the shoreline of the Missouri River System including reservoirs from April 15 through August 1.			X		
Whooping Crane	E	FHWA Review required for the adjustment (raising, relocating) of existing above-ground utility lines; or for newly placed poles/towers that require overhead lines/guy wires; unless the adjustments or new installations are located in a highly developed or urban area.	X			X	
Black-footed Ferret	E	FHWA Review required for ground disturbing activities within 100 feet of prairie dog towns of at least 80 acres in size. Projects within the existing right-of-way will not require FHWA review.			X		
Pallid Sturgeon	E	FHWA Review required for work in or along the shoreline of the Missouri River (including reservoirs) and Yellowstone River Systems.			X		
Gray Wolf	E	FHWA Review required for roadway projects of 2 or more lanes on a new location (i.e. construction of a new roadway).	X			X	
Poweshiek Skipperling	E	FHWA Review required for work occurring outside of the right of way in undisturbed native tall grass prairie and wet swales.			X		
Piping Plover	T	FHWA Review required for ground disturbing activities within ½ mile of designated piping plover critical habitat or known nesting sites. See link for piping plover designated critical habitat maps: http://www.fws.gov/mountain-prairie/species/birds/pipingplover/			X		
Western Prairie Fringed Orchid	T	FHWA Review required for all ground disturbing activities on non-flooded, undisturbed ground, known habitat, and native prairie. High probability of species in or near the Sheyenne National Grassland.			X		
Dakota Skipper	T	FHWA Review required for work occurring outside of the right of way in high quality native prairie containing a high diversity of wildflowers and grasses.	X			X	
Rufa Red Knot	T	FHWA Review required for work activities impacting Piping Plover Critical Habitat or sewage lagoons. See link for piping plover designated critical habitat maps: http://www.fws.gov/mountain-prairie/species/birds/pipingplover/			X		
Northern Long-Eared Bat	T	FHWA Review required for work involving the removal of trees or buildings, ground disturbance in areas with caves, mines, and rock crevices, or work on structures. See NLEB Guidance for NDDOT Projects for further assistance.		X		X	
Greater Sage Grouse	C	FHWA Review Required for work activities occurring outside the right of way in native sagebrush grasslands where big sagebrush (<i>Artemisia tridentata</i>) is present.				X	
Sprague's Pipit	C	FHWA Review Required for work activities occurring outside the right of way in large native short-to-mixed grass prairie patches of approximately 72 acres or greater.	X			X	

Listing Key: E – Endangered T – Threatened P – Proposed C – Candidate D – Designated

Date of last updates to table: 5/2015

Species	Listing	Guidance	FHWA Review Required?		Determination		Additional Documentation Included
			Yes	No	Not Present	No Effect	
Piping Plover Critical Habitat	D	FHWA Review required for ground disturbing activities within ½ mile of designated piping plover critical habitat or known nesting sites. See link for piping plover designated critical habitat maps: http://www.fws.gov/mountain-prairie/species/birds/pipingplover/			X		
Poweshiek Skipperling Critical Habitat	P	FHWA Review required for ground disturbing activities within 0.6 mile of proposed Poweshiek Skipperling critical habitat. See link for Poweshiek Skipperling proposed critical habitat maps: http://www.fws.gov/midwest/Endangered/insects/posk/CHmaps/poskNDchUnitMaps.pdf			X		
Dakota Skipper Critical Habitat	P	FHWA Review required for ground disturbing activities within 0.6 mile of proposed Dakota Skipper critical habitat. See link for Dakota Skipper proposed critical habitat maps: http://www.fws.gov/midwest/Endangered/insects/dask/CHmaps/daskNDCHmaps24Oct2013.pdf			X		

DESIGN DATA US HWY 83				
Traffic	Average Daily			Max.Hr.
Current 2013	Pass: 910	Trucks: 245	Total: 1155	120
Forecast 2033	Pass: 1360	Trucks: 365	Total: 1725	175
Clear Zone Distance: 42'		Design Speed: 65		
Minimum Sight Dist. for Stopping: 645'		Bridges: N/A		
Sight Dist. for No Passing Zone: 1100'				
Pavement Design Life 20 (years)				
Design Accumulated One-way Flexible ESALs: 155,199 (US 83 at 93rd St. NW) 88,685 (US 83 at 97th St. NW)				
DESIGN DATA 20TH Ave. NW @ 93RD St. NW				
Traffic	Average Daily			Max.Hr.
Current 2013	Pass: 230	Trucks: 40	Total: 270	30
Forecast 2033	Pass: 245	Trucks: 60	Total: 405	45
Clear Zone Distance: 14'		Design Speed: 45		
Minimum Sight Dist. for Stopping: 360'		Bridges: N/A		
Sight Dist. for No Passing Zone: 700'				
Pavement Design Life 20 (years)				
Design Accumulated One-way Flexible ESALs: N/A				
DESIGN DATA 20 Ave. NW @ 97TH St. NW				
Traffic	Average Daily			Max.Hr.
Current 2013	Pass: 70	Trucks: 20	Total: 90	10
Forecast 2033	Pass: 105	Trucks: 30	Total: 135	15
Clear Zone Distance: 10'		Design Speed: 40		
Minimum Sight Dist. for Stopping: 305'		Bridges: N/A		
Sight Dist. for No Passing Zone: 600'				
Pavement Design Life 20 (years)				
Design Accumulated One-way Flexible ESALs: N/A				

JOB# X
NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

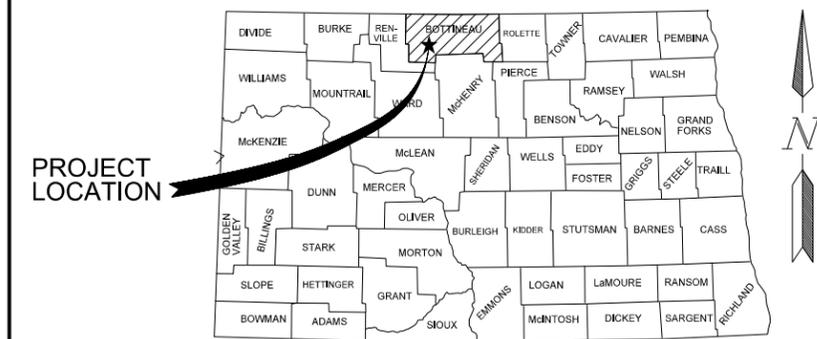
SHE-4-083(124)244
FHWA Limit Involvement

Bottineau County
Intersection of US 83, 93rd St. NW, and 20th Ave. NW,
and Intersection of US 83, 97th St. NW and 20th Ave. NW
Intersection realignments, shoulder widening, superelevation correction,
grading, aggregate base, hot bituminous pavement and incidental items

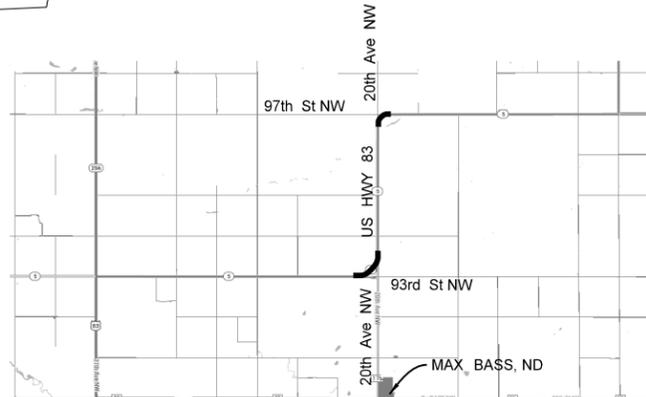
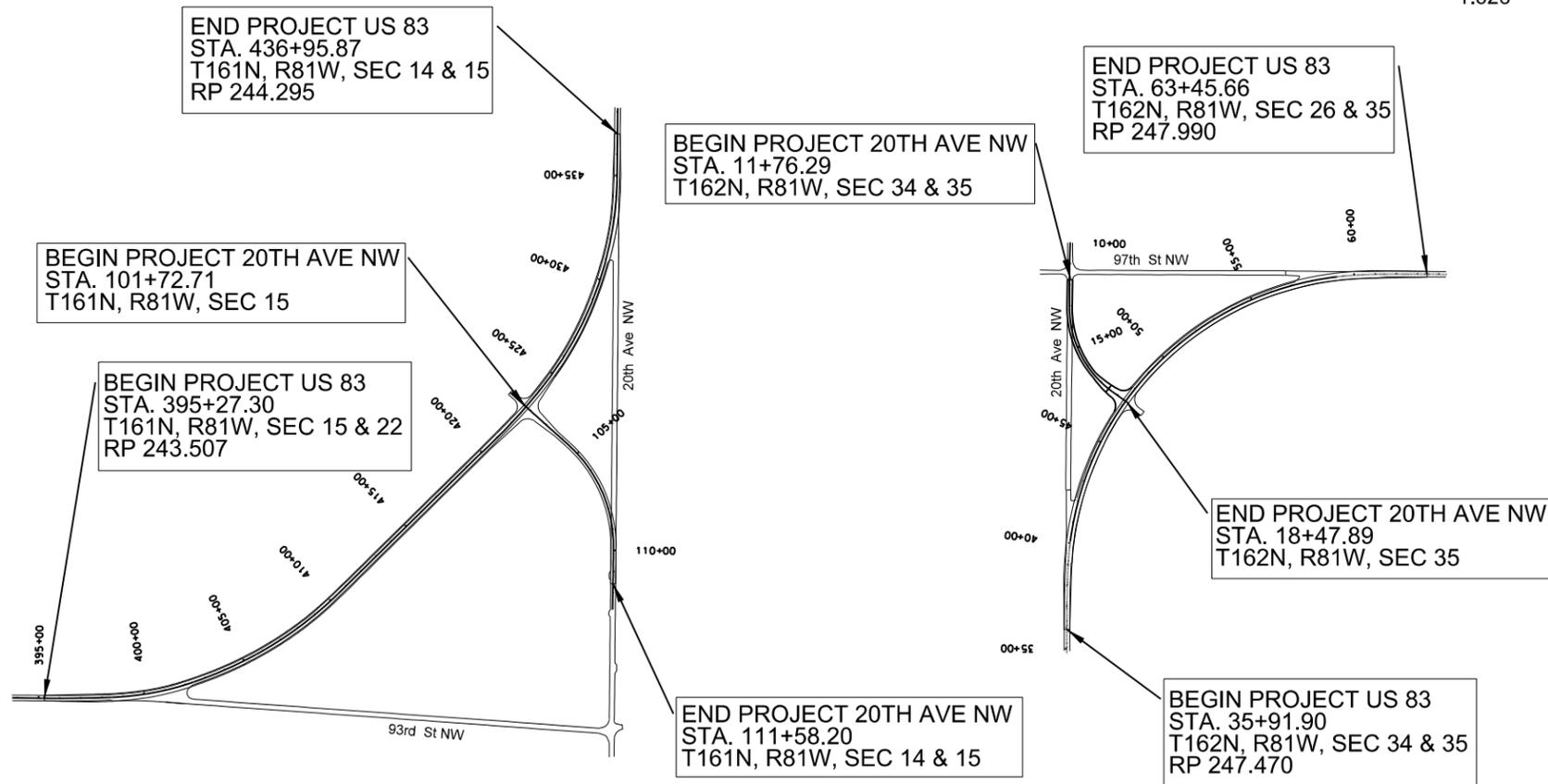
STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	20291	1	1

GOVERNING SPECIFICATIONS:
2014 Standard Specifications adopted by the North Dakota
Department of Transportation and the Supplemental Specifications
effective on the date the project is advertised.

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
SHE-4-083(124)244\ US 83 (SOUTH)	0.790	0.790
SHE-4-083(124)244\ 20TH Ave. NW at 93RD St. NW	0.187	0.187
SHE-4-083(124)244\ US 83 (NORTH)	0.522	0.522
SHE-4-083(124)244\ 20TH Ave. NW at 97TH St. NW	0.127	0.127
	<u>1.626</u>	<u>1.626</u>



SKETCH MAP OF NORTH DAKOTA
SHOWING COUNTIES



VICINITY MAP

DESIGNERS
Vance Hanson, P.E.
Eric Daly, P.E.
Tom Thompson, P.E.
Bob Bartlett

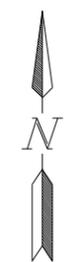
APPROVED DATE _____
OFFICE OF PROJECT DEVELOPMENT
ND DEPARTMENT OF TRANSPORTATION

I hereby certify that the attached plans were prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of ND.

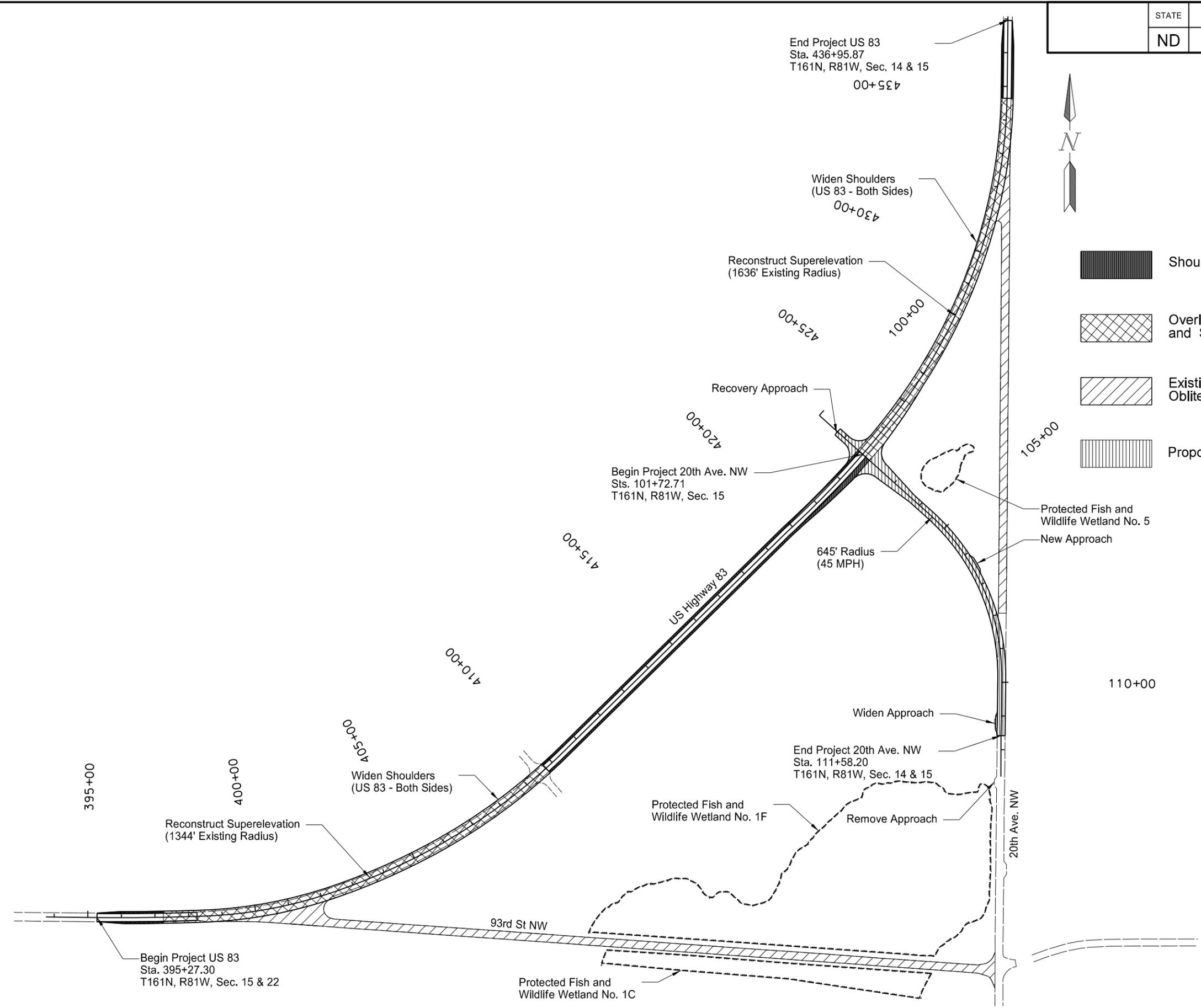
APPROVED DATE xx/xx/xx
X
STANLEY CONSULTANTS

This drawing
is preliminary
and not for
construction or
implementation
purposes.

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	4	1



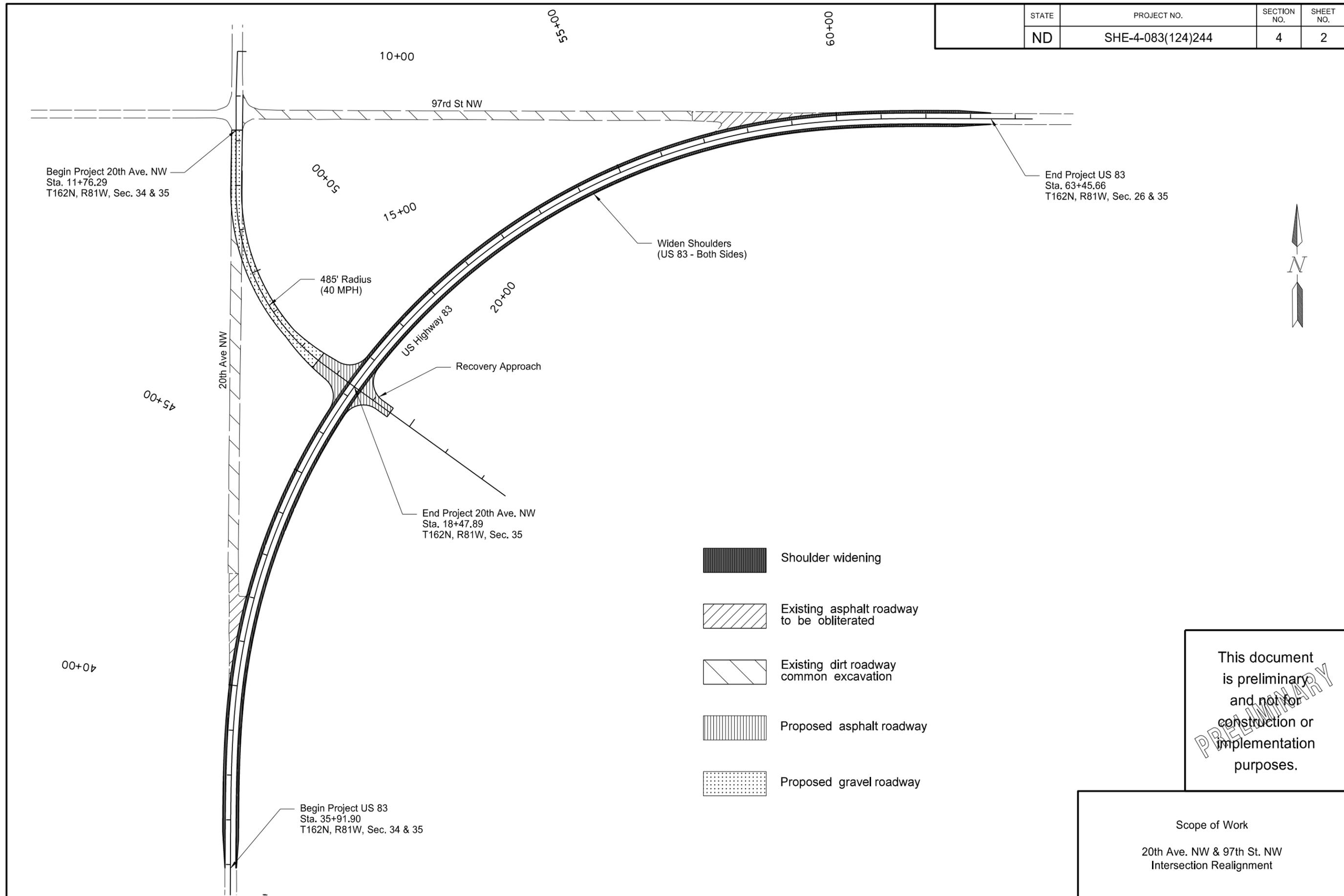
-  Shoulder widening
-  Overlay for Superelevation Modification and Shoulder Widening
-  Existing Asphalt Roadway to be Obliterated and Common Excavation
-  Proposed Asphalt Roadway



This document
is preliminary
and not for
construction or
implementation
purposes.

Scope of Work
20th Ave. NW & 93rd St. NW
Intersection Realignment

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	4	2



This document
is preliminary
and not for
construction or
implementation
purposes.

Scope of Work
20th Ave. NW & 97th St. NW
Intersection Realignment

ENVIRONMENTAL COMMITMENTS

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SHE-4-083(124)244	6	3

ENVIRONMENTAL COMMITMENTS (EC): The North Dakota Department of Transportation and the Federal Highway Administration have made several environmental commitments to various agencies and the public to secure approval of this project. The environmental commitments are as follows:

EC-1: Unavoidable impacts to wetlands will be mitigated onsite, adjacent to the project, or at a NDDOT approved mitigation site or bank.

ACTION REQUIRED /TAKEN: 1.61 acres of permanent impacts to USACE jurisdictional waters and 0.30 acres of permanent impacts to EO 11990 wetlands will require mitigation. The NDDOT proposes to mitigate by compensation: 1.25 acres onsite for only USACE jurisdictional impacts, 0.02 acres onsite for only EO 11990, 0.29 acres onsite for both EO 11990 and USACE jurisdictional impacts. 3.08 acres of temporary wetland impacts and 0.00 acres of other water impacts will result from construction activities. Temporary impact areas will be graded to preconstruction contours.

1.61 Acres of jurisdictional wetlands will be impacted permanently and 3.08 Acres of wetlands will be impacted temporarily. Non-jurisdictional artificial wetlands will not be mitigated.

Wetland Impact Tables for Environmental Documentation & Permitting Purposes

Wetland Number	Location	Cowardin Class.	Wetland Type	Wetland Size Ac.	Wetland Feature	USACE Jurisdictional Wetlands*	Wetland Impacts (acres)		USFWS Easement Impacts		WETLAND MITIGATION			
							Temp . Ac.	Perm . Ac.	Temp .	Perm.	Mitigation Required		Location	Onsite Mitigation Acres
											11990	USACE		
1A	Sec.15, T161N, R81W	PEMCx	Ditch	1.59	Artificial	Yes	0.14	0.07			N	Y	Onsite at Wetland 6J, 1:1	
1B	Sec.15, T161N, R81W	PEMC	Slope	0.27	Natural	Yes	0.02	0.01			Y	Y	Onsite at Wetland 6J, 2:1	
1C	Sec.22, T161N, R81W	PEMC	Slope	1.17	Natural	Yes	0	0			N	N	none	
1D	Sec.22, T161N, R81W	PEMCx	Ditch	1.24	Artificial	Yes	0.12	0.01			N	Y	Onsite at Wetland 6J, 1:1	
1E	Sec.22, T161N, R81W	PEMCx	Ditch	0.35	Artificial	Yes	0	0			N	N	none	
1F	Sec.15, T161N, R81W	PEMF	Slope	7.77	Natural	Yes	0.31	0			N	N	none	
1G	Sec.15, T161N, R81W	PEMCx	Ditch	0.31	Artificial	Yes	0	0			N	N	none	
1H	Sec.22, T161N, R81W	PEMCx	Ditch	0.09	Artificial	Yes	0	0			N	N	none	
1I	Sec.15, T161N, R81W	PEMCx	Ditch	0.23	Artificial	Yes	0.04	0.01			N	Y	Onsite at Wetland 6J, 1:1	
1J	Sec.15, T161N, R81W	PEMCx	Ditch	0.18	Artificial	Yes	0	0			N	N	none	
1K	Sec.15, T161N, R81W	PEMAx	Ditch	1.62	Artificial	Yes	0.64	0.39			N	Y	Onsite at Wetland 6J, 1:1	
1L	Sec.15, T161N, R81W	PEMC	Basin	0.17	Natural	Yes	0.01	0.01			Y	Y	Onsite at Wetland 6J, 2:1	

ENVIRONMENTAL COMMITMENTS

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	6	4

1M	Sec.15, T161N, R81W	PEMCx	Ditch	1.38	Artificial	Yes	0.07	0.06				N	Y	Onsite at Wetland 6J, 1:1
1N	Sec.15, T161N, R81W	PEMC	Basin	0.48	Natural	Yes	0.05	0.03				Y	Y	Onsite at Wetland 6J, 2:1
1O	Sec.15, T161N, R81W	PEMCx	Ditch	0.19	Artificial	Yes	0.02	0.01				N	Y	Onsite at Wetland 6J, 1:1
1P	Sec.14, T161N, R81W	PEMCx	Ditch	0.42	Artificial	Yes	0.05	0.03				N	Y	Onsite at Wetland 6J, 1:1
1Q	Sec.15, T161N, R81W	PEMCx	Ditch	0.1	Artificial	Yes	0.1	0.01				N	Y	Onsite at Wetland 6J, 1:1
1R	Sec.14, T161N, R81W	PEMCx	Ditch	0.23	Artificial	Yes	0.2	0.04				N	Y	Onsite at Wetland 6J, 1:1
2A	Sec.23, T161N, R81W	PEMCx	Ditch	0.1	Artificial	Yes	0	0				N	N	none
2B	Sec.14, T161N, R81W	PEMCx	Ditch	0.2	Artificial	Yes	0	0				N	N	none
3A	Sec.14, T161N, R81W	PEMCx	Ditch	0.21	Artificial	Yes	0.05	0.03				N	N	none
3B	Sec.14, T161N, R81W	PEMC	Slope	0.09	Natural	Yes	0.01	0.01				Y	N	Onsite at Wetland 6J, 2:1
4	Sec.15, T161N, R81W	PEMC	Basin	0.02	Natural	No	0	0				N	N	none
5	Sec.15, T161N, R81W	PEMC	Basin	0.27	Natural	No	0	0				N	N	none
6A	Sec.35, T162N, R81W	PEMCx	Ditch	0.31	Artificial	Yes	0.08	0.02				N	Y	Onsite at Wetland 6J, 1:1
6B	Sec.35, T162N, R81W	PEMC	Slope	0.44	Natural	Yes	0.14	0.02				Y	Y	Onsite at Wetland 6J, 1:1
6C	Sec.35, T162N, R81W	PEMCx	Ditch	0.89	Artificial	Yes	0.25	0.12				N	Y	Onsite at Wetland 6J, 1:1
6D	Sec.35, T162N, R81W	PEMC	Basin	0.39	Natural	Yes	0.09	0.03				Y	Y	Onsite at Wetland 6J, 1:1
6E	Sec.35, T162N, R81W	PEMCx	Ditch	1.43	Artificial	Yes	0.36	0.12				N	Y	Onsite at Wetland 6J, 1:1
6F	Sec.34, T162N, R81W	PEMCx	Ditch	0.23	Artificial	Yes	0.04	0.02				N	Y	Onsite at Wetland 6J, 1:1

ENVIRONMENTAL COMMITMENTS

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	6	5

6G	Sec.34, T162N, R81W	PEMC	Slope	0.33	Natural	Yes	0	0			N	N	none	
6H	Sec.34, T162N, R81W	PEMCx/ PEMA	Ditch	0.78	Artificial	Yes	0.01	0			N	N	none	
6I	Sec.35, T162N, R81W	PEMCx	Ditch	1.66	Artificial	Yes	0.13	0.34			N	Y	Onsite at Wetland 6J, 1:1	
6J	Sec.35, T162N, R81W	PEMC	Basin	1.8	Natural	Yes	0.12	0.19			Y	Y	Onsite at Wetland 6J, 1:1	Site 1 1.61
6K	Sec.27, T162N, R81W	PEMCx	Ditch	0.19	Artificial	Yes	0	0			N	N	none	
6L	Sec.26, T162N, R81W	PEMC	Basin	0.14	Natural	Yes	0	0			N	N	none	
7A	Sec.26, T162N, R81W	PEMC	Basin	0.53	Natural	Yes	0	0			N	N	none	
7B	Sec.26, T162N, R81W	PEMCx	Ditch	0.23	Artificial	Yes	0	0			N	N	none	
8	Sec.26, T162N, R81W	PEMCx	Ditch	0.99	Artificial	Yes	0.03	0.03			N	N	none	
Totals				29.02			3.08	1.61	0	0				1.61

* A wetland Jurisdictional Determination was issued by the USACE on 12/20/2013; NWO-2013-2254-BIS.

ENVIRONMENTAL COMMITMENTS

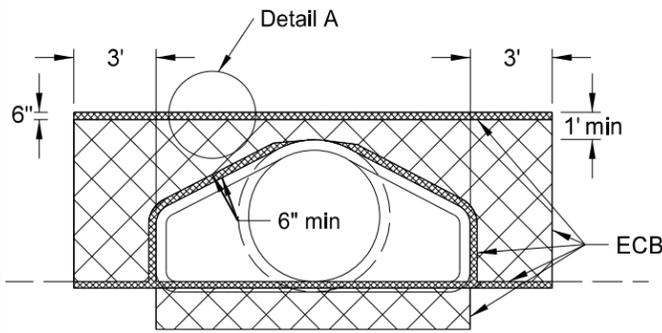
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SHE-4-083(124)244	6	6

Summary Impact Table			
Total Permanent Impact Summary		Additional Impact Info for 404 Permit	
Wetland Type	Total (Acres)	Wetland Type	Total (Acres/Lf)
Natural/Non-JD	0	Permanent JD \geq 0.10	1.54
Artificial /Non-JD	0	Temporary JD	3.08
Natural /JD	0.3	POW	0
Artificial /JD	1.31		
Totals	1.61		

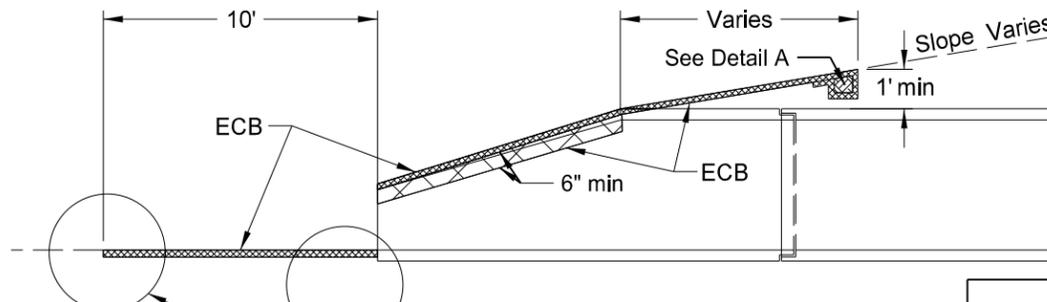
EC-2: Contractor is required to provide dust control during construction.

ACTION REQUIRED /TAKEN: Contractor shall coordinate with the US Fish and Wildlife to obtain any necessary permits if the contractor intends to use any natural source for water during construction/dust control on the project.

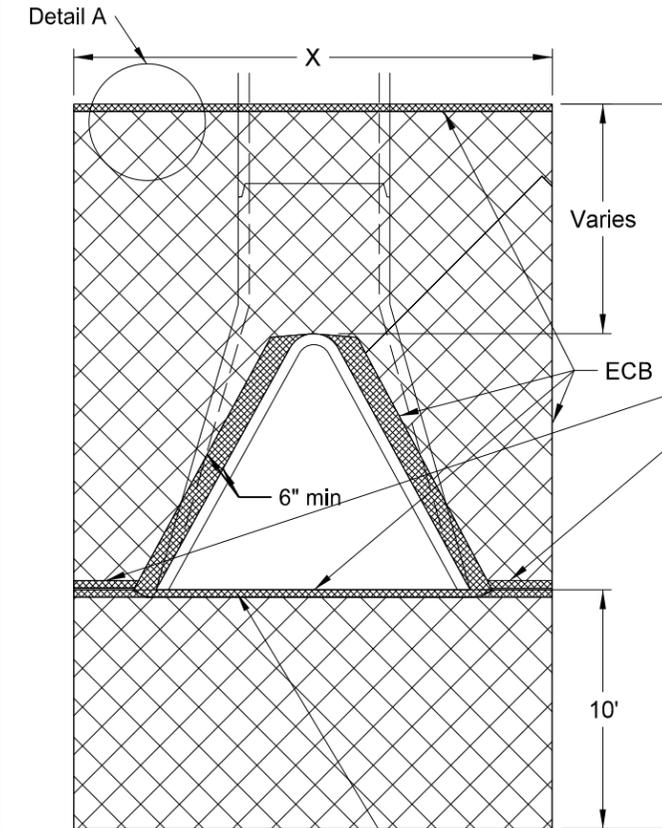
Based on the NEPA documentation, no additional permits or environmental commitments have been identified beyond what is covered by the NDDOT's Standard Specification of Road and Bridge Construction.



FRONT VIEW



SIDE VIEW

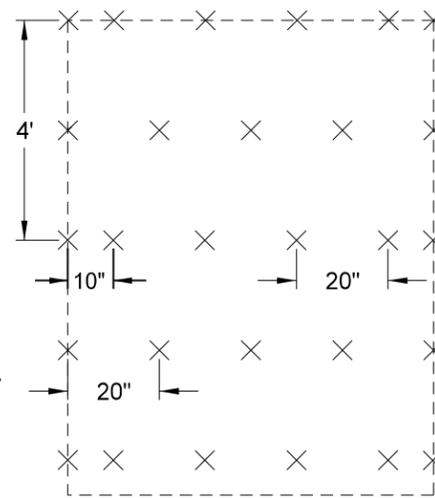


TOP VIEW

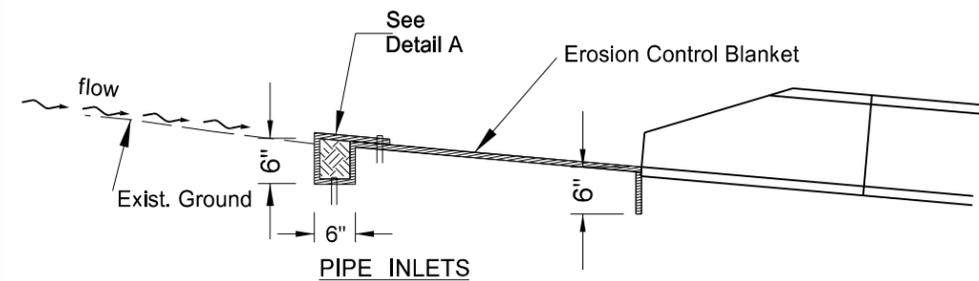
Tuck this end a minimum of 6" into the embankment.

Inlet side - see applicable detail for pipe inlet.
Outlet side - see applicable detail for pipe outlet.

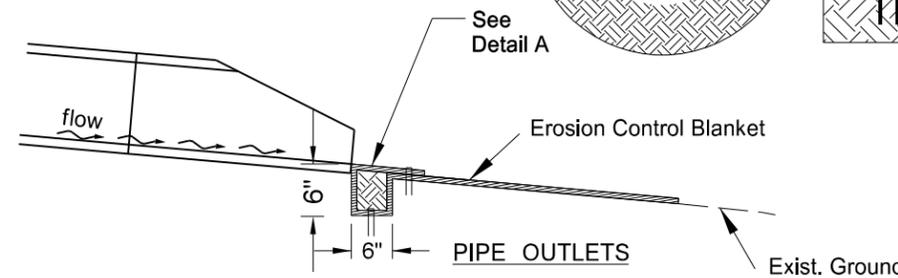
NOTE: Tuck the ECB a minimum of 6" into the embankment (against the flared end section) around the opening of the flared end section.



STAPLE PATTERN



PIPE INLETS



PIPE OUTLETS

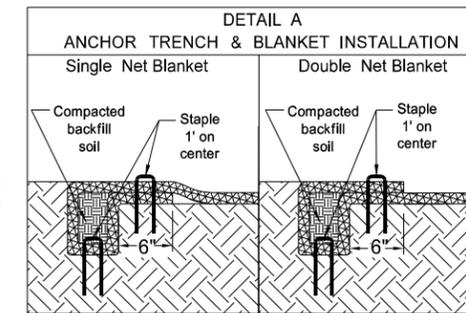
Erosion Control Blanket (ECB)								
Location to be Protected Station	Culvert Type Appr/CL	Pipe Diam (Inch)	No	Unit Quantity (SY)	Total Quantity			
					Type 1 (SY)	Type 2 (SY)	Type 3 (SY)	Type 4 (SY)
20th Ave. Sta. 17+84	Appr	24	2	24	00	48	00	00
20th Ave. Sta. 19+15	Appr	24	2	24	00	48	00	00
US83 Sta. 409+19	Appr	18	2	22	00	44	00	00
US83 Sta. 409+23	Appr	18	2	22	00	44	00	00
US83 Sta. 420+00	Appr	24	2	24	00	48	00	00
20th Ave. Sta. 102+50	Appr	24	2	24	00	48	00	00
20th Ave. Sta. 107+05	Appr	24	2	24	00	48	00	00
20th Ave. Sta. 111+04	Appr	18	2	22	00	44	00	00
Total (SYs)					000	372	000	000

APPROACH CULVERTS				
DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
15	9.0	20.0	176.0	20
18	9.5	20.7	190.7	22
21	9.5	21.0	190.9	22
24	10.5	21.6	214.1	24
27	11.0	22.0	226.3	25
30	11.6	22.5	241.5	27
36	12.7	23.3	268.8	30
42	13.3	23.3	279.7	31
48	13.8	24.0	293.2	33
54	14.5	23.4	300.6	34
60	15.0	23.0	307.5	35
66	15.6	24.0	325.6	37
72	16.2	24.5	340.6	38

Note: Quantities based on 8:1 slope.

CENTERLINE CULVERTS									
DIA	X	Y	Surface area to be protected	ECB	DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY	In	Ft	Ft	SF	SY
24	10.5	19.6	193.1	22	24	10.5	27.6	172.1	20
27	11.0	20.0	204.3	23	27	11.0	18.0	182.3	21
30	11.6	20.5	218.3	25	30	11.6	18.5	195.1	22
36	12.7	21.2	242.1	27	36	12.7	19.2	216.7	24
42	13.3	21.2	251.8	28	42	13.3	19.2	225.2	25
48	13.8	22.0	265.6	30	48	13.8	20.0	238.0	27
54	14.5	21.5	273.7	31	54	14.5	19.5	244.7	28
60	15.0	21.0	278.3	31	60	15.0	19.0	248.3	28
66	15.6	22.0	295.7	33	66	15.6	20.0	264.5	30
72	16.2	22.5	309.2	35	72	16.2	20.5	276.8	31

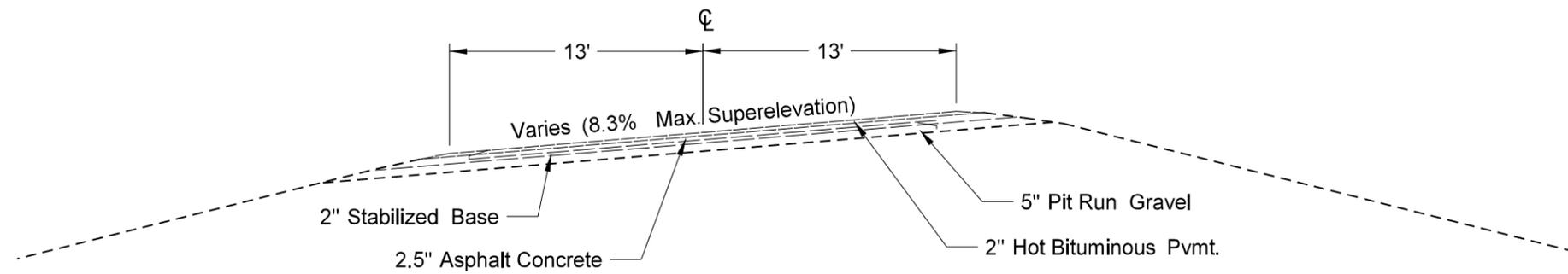
Note: Quantities based on 6:1 slope.



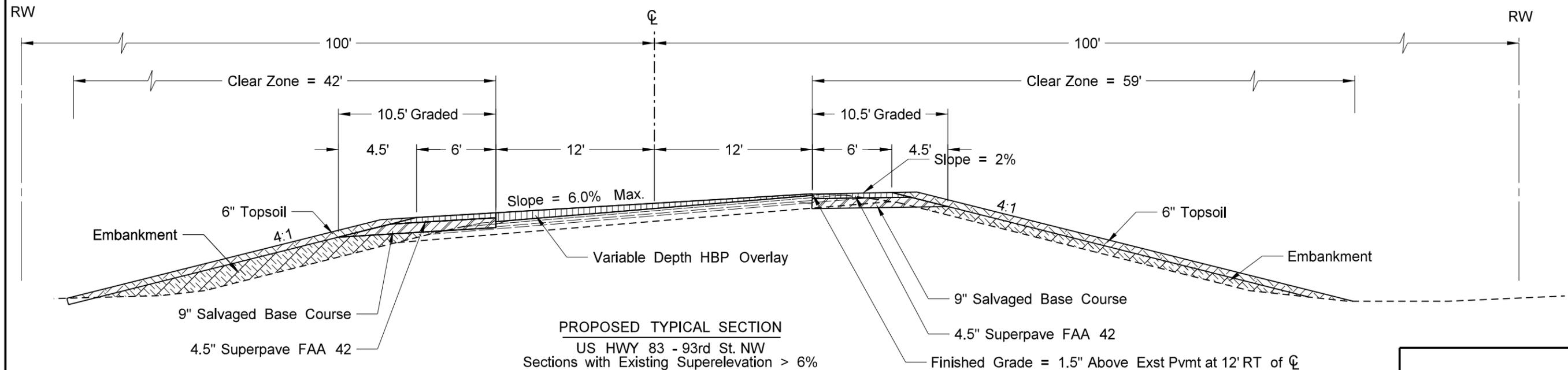
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Erosion Control at Culvert Flared End Sections
US Hwy. 83
20th Ave. NW
97th St. NW

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	30	1



EXISTING TYPICAL SECTION
 US HWY 83 - 93rd St. NW
 Sections with Existing Superelevation > 6%
 STA 398+25 to 409+75
 STA 423+00 to 434+65

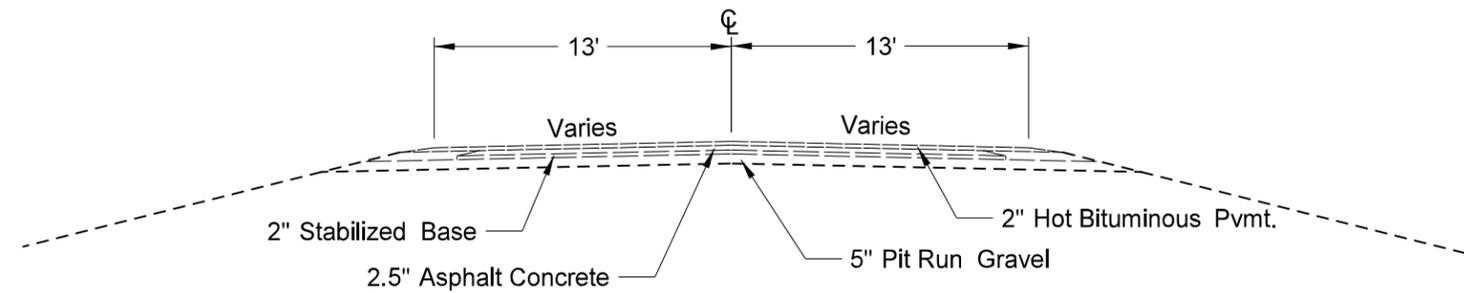


PROPOSED TYPICAL SECTION
 US HWY 83 - 93rd St. NW
 Sections with Existing Superelevation > 6%
 STA 398+25 to 409+75
 STA 423+00 to 434+65

This document is preliminary and not for construction or implementation purposes.

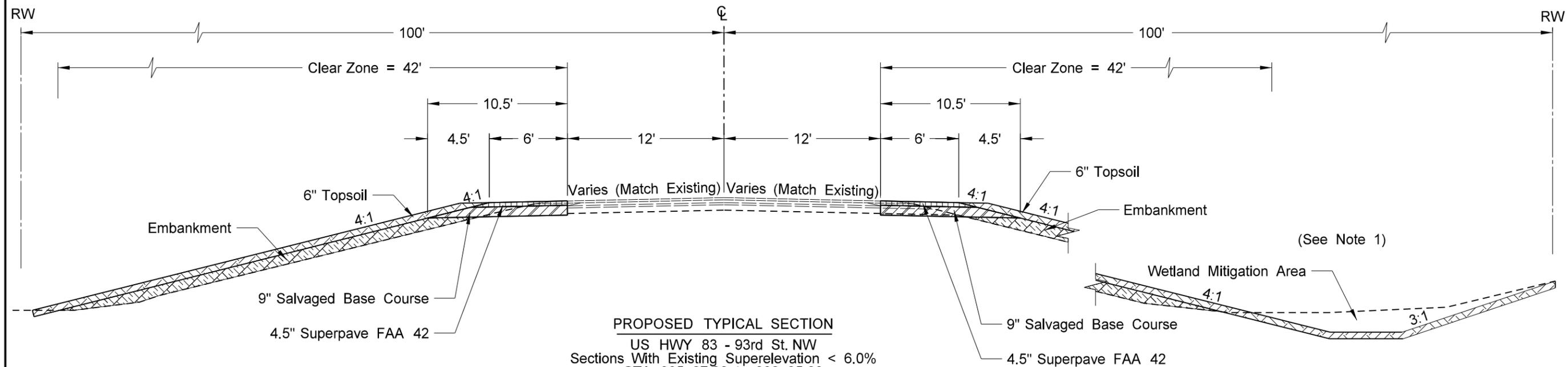
Existing and Proposed Typical Sections

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	30	2



EXISTING TYPICAL SECTION

US HWY 83 - 93rd St. NW
 Sections With Existing Superelevation < 6.0%
 STA 395+27.30 to 398+25.00
 STA 409+75.00 to 423+00.00
 STA 434+65.00 to 436+95.87



PROPOSED TYPICAL SECTION

US HWY 83 - 93rd St. NW
 Sections With Existing Superelevation < 6.0%
 STA 395+27.30 to 398+25.00
 STA 409+75.00 to 423+00.00
 STA 434+65.00 to 436+95.87

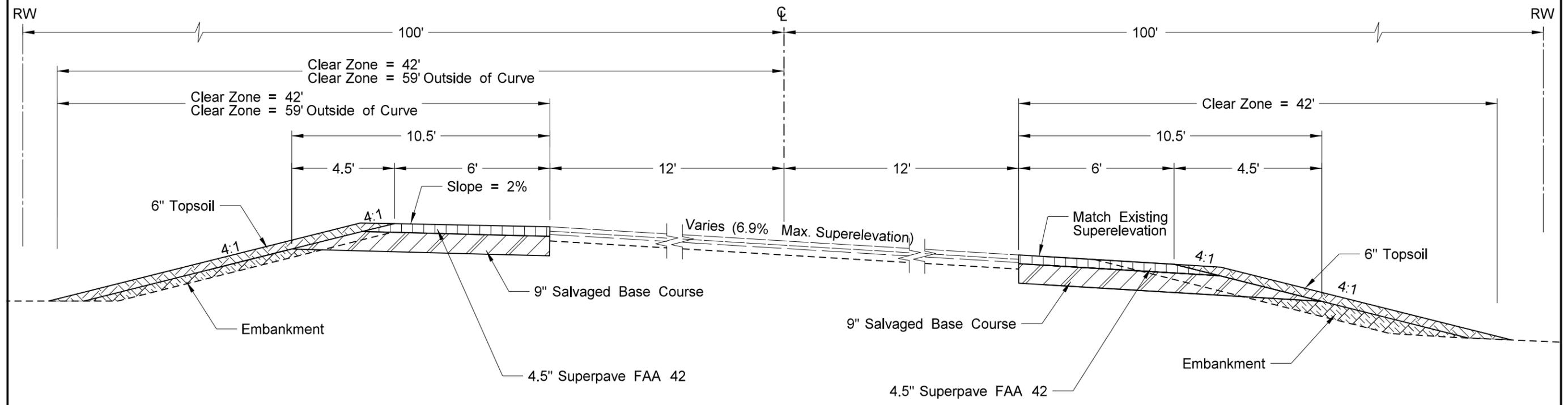
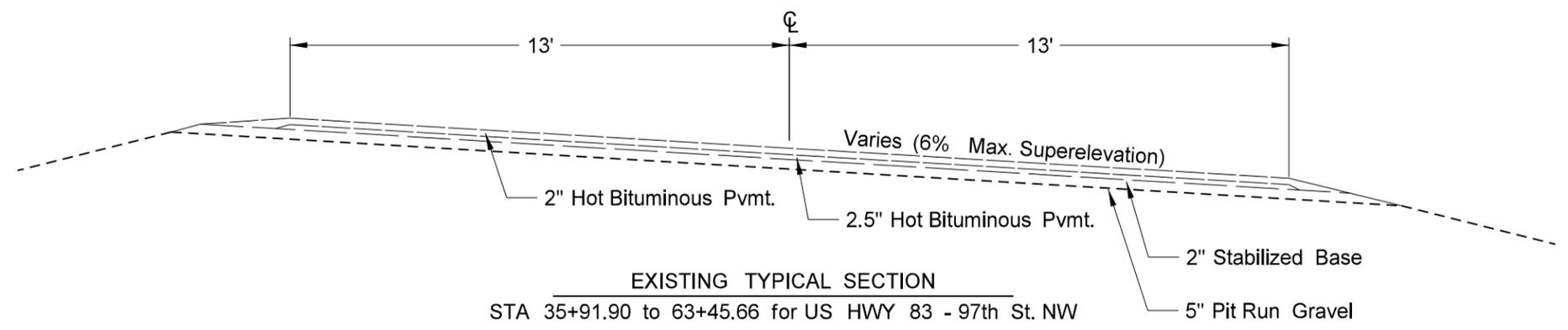
This document is preliminary and not for construction or implementation purposes.

NOTE:

1. See Section 75 and the Cross Sections for More Details.

Existing and Proposed Typical Sections

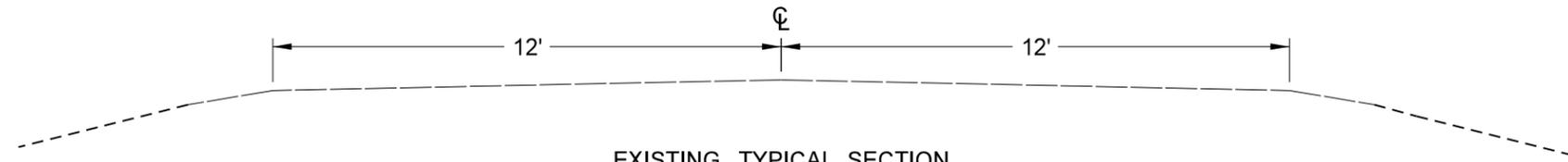
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	30	3



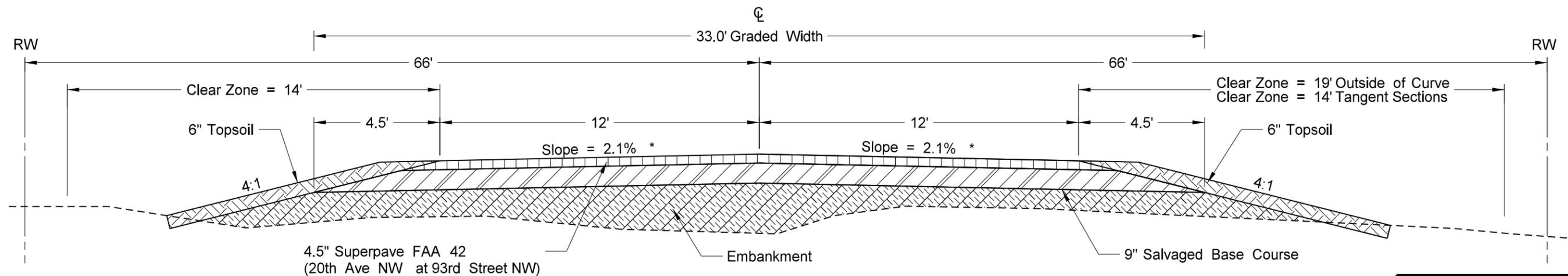
This document is preliminary and not for construction or implementation purposes.

Existing and Proposed Typical Sections

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	30	4



EXISTING TYPICAL SECTION
 STA 101+72.71 to 111+58.20 for 20th Ave NW at 93rd St NW



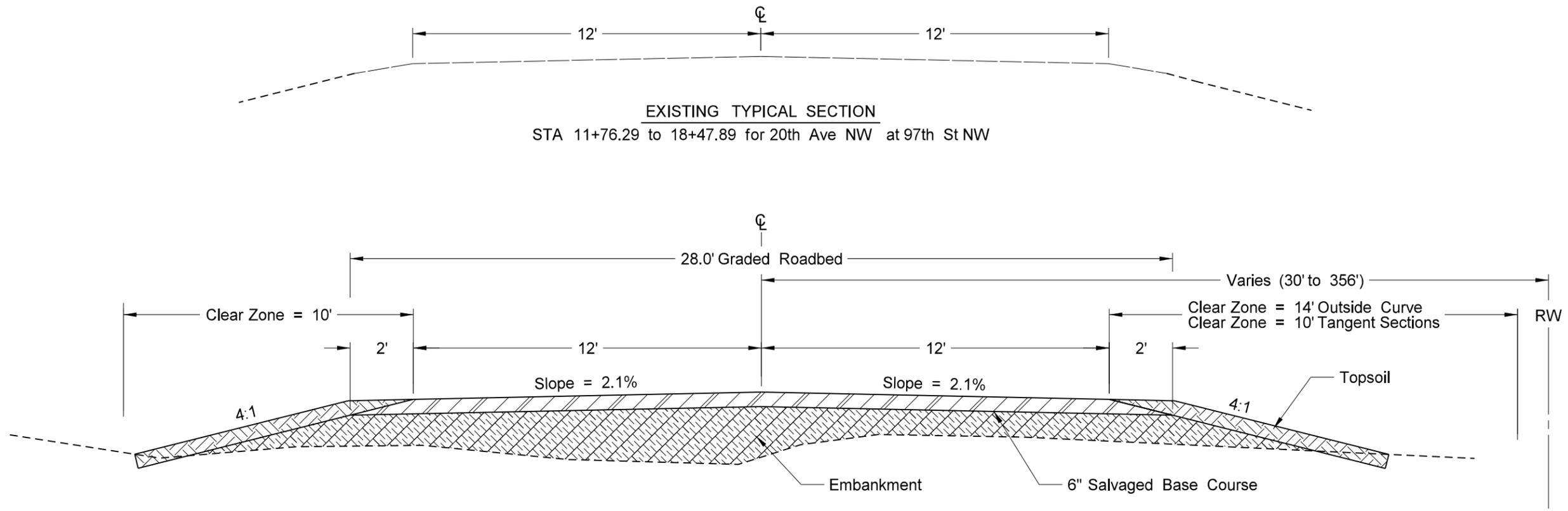
PROPOSED TYPICAL SECTION
 STA 101+72.71 to 111+58.20 for 20th Ave NW at 93rd St NW

This document is preliminary and not for construction or implementation purposes.

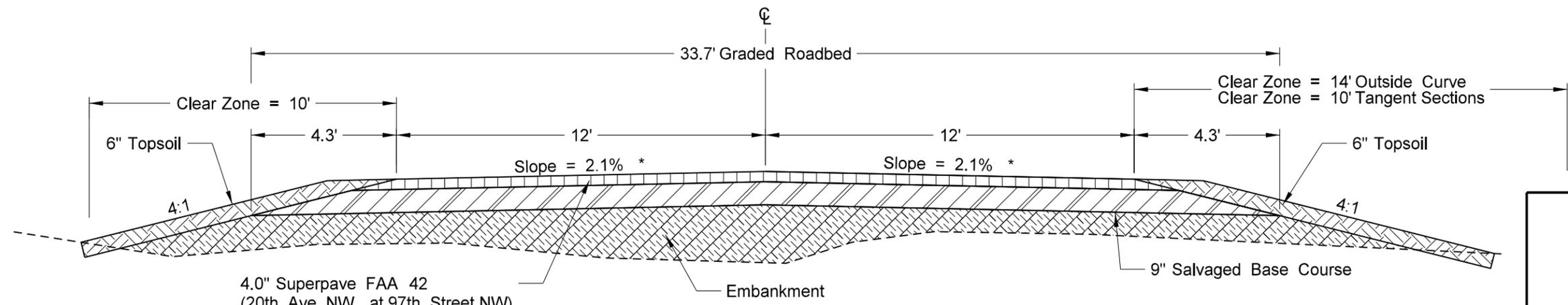
* See Superelevation Tables for superelevated sections

Existing and Proposed Typical Sections

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	30	5



PROPOSED TYPICAL SECTION
 STA 11+76.29 to 17+47.89 for 20th Ave NW at 97th St NW



PROPOSED TYPICAL SECTION
 STA 17+47.89 to 18+47.89 for 20th Ave NW at 97th St NW

This document is preliminary and not for construction or implementation purposes.

Existing and Proposed Typical Sections

* See Superelevation Tables for superelevated sections

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Length	Pipe Conduit		Allowable Material	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A)		Applicable
					Pipe Conduit	Approach					End Sections		Backfill
					Pay Size	Pay Size					Begin	End	Detail
				LF	IN	IN		IN	IN	SY	EA	EA	
409+19	67.0 LT	409+79	67.0 LT	60		18	Reinforced Concrete Pipe - Class III (Barrel length = 56 LF)	18		63	Y	Y	D-203-8
							Zinc Coated Steel (2-2/3" x 1/2" Ribs)		0.064				
							Aluminum Coated Steel (Type 2)		0.064				
							Aluminum Alloy		0.060				
409+23	69.0 RT	409+83	69.0 RT	60		18	Reinforced Concrete Pipe - Class III (Barrel length = 56 LF)	18		63	Y	Y	D-203-8
							Zinc Coated Steel (2-2/3" x 1/2" Ribs)		0.064				
							Aluminum Coated Steel (Type 2)		0.064				
							Aluminum Alloy		0.060				
420+00	36 LT	420+00	36 RT	16		24	Reinforced Concrete Pipe - Class III (Barrel length = 16 LF)	24		63	Y (B)	Y (B)	D-714-25
102+50 (20th Avenue NW)	50 LT	102+50	30RT	100		24	Reinforced Concrete Pipe - Class III (Barrel length = 96 LF)	24		450	Y (B)	Y (B)	D-714-28
							Zinc Coated Steel (2-2/3" x 1/2" Ribs)		0.064				
							Aluminum Coated Steel (Type 2)		0.064				
							Aluminum Alloy		0.060				
107+05 (20th Avenue NW)	32 LT	107+00	32 RT	70		24	Reinforced Concrete Pipe - Class III (Barrel length = 64 LF)	24		266	Y	Y	D-714-28
							Zinc Coated Steel (2-2/3" x 1/2" Ribs)		0.064				
							Aluminum Coated Steel (Type 2)		0.064				
							Aluminum Alloy		0.064				
111+04 (20th Avenue NW)	48 RT	111+56	49 RT	16		18	Zinc Coated Steel (2-2/3" x 1/2" Ribs)	18			Y	Y	D-203-8
							Aluminum Coated Steel (Type 2)		0.064				
17+84 (20th Ave N)	50 LT	17+78	50 RT	100		24	Reinforced Concrete Pipe - Class III (Barrel length = 96 LF)	24		450	Y (B)	Y (B)	D-714-28
							Zinc Coated Steel (2-2/3" x 1/2" Ribs)		0.064				
							Aluminum Coated Steel (Type 2)		0.064				
							Aluminum Alloy		0.060				
19+15 (20th Ave N)	32 LT	19+15	32 RT	70		24	Reinforced Concrete Pipe - Class III (Barrel length = 64 LF)	24			Y	Y	D-203-7
							Zinc Coated Steel (2-2/3" x 1/2" Ribs)		0.064				
							Aluminum Coated Steel (Type 2)		0.064				
							Aluminum Alloy		0.060				

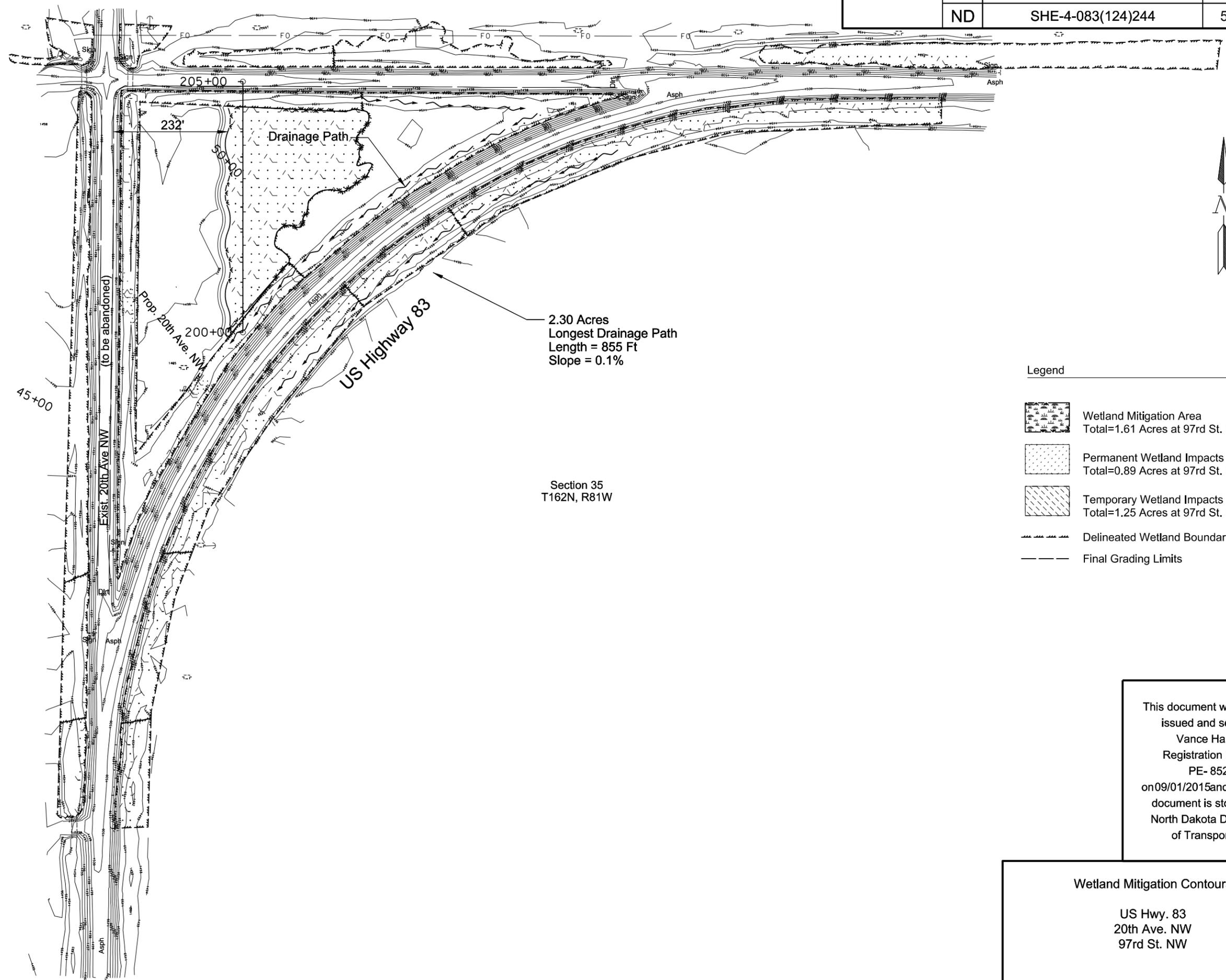
(A) Not paid for separately, to be included in the price bid for "Pipe Conduit" items.

(B) Provide Traversable end section.

Note: All labor and material associated with the Aggregate Base Course CL 3 or CL 5 required for backfill of all pipe installations shall not be paid for separately, but be included in the bid price for "Pipe Conduit" items.

This document
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implementation
purposes.

Pipe Summary
Intersection Realignment



Section 34
T162N, R81W

Section 35
T162N, R81W

2.30 Acres
Longest Drainage Path
Length = 855 Ft
Slope = 0.1%

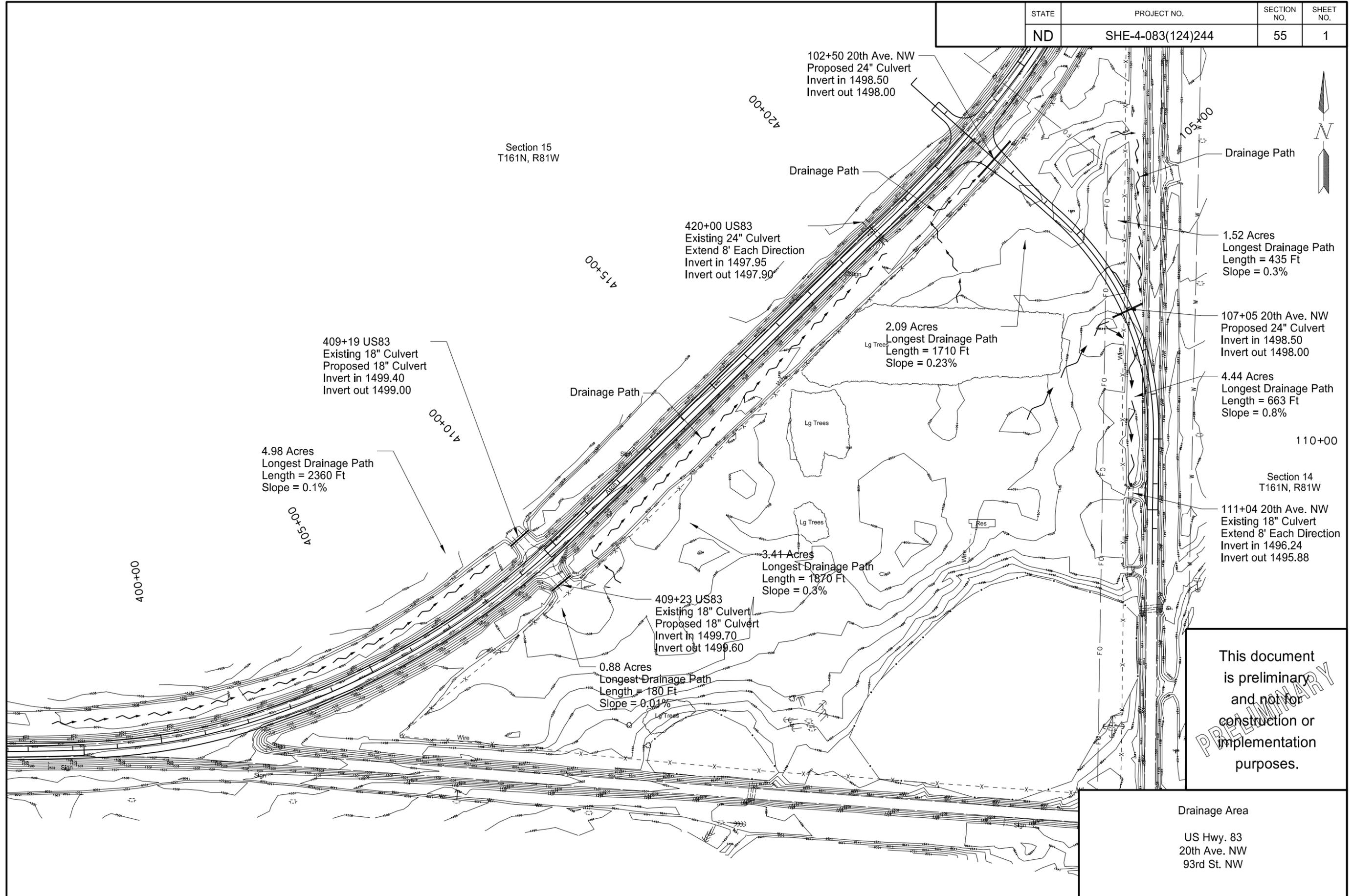
- Legend
-  Wetland Mitigation Area
Total=1.61 Acres at 97rd St. NW
 -  Permanent Wetland Impacts
Total=0.89 Acres at 97rd St. NW
 -  Temporary Wetland Impacts
Total=1.25 Acres at 97rd St. NW
 -  Delineated Wetland Boundary
 -  Final Grading Limits

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Wetland Mitigation Contours

US Hwy. 83
20th Ave. NW
97rd St. NW

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	55	1



Section 15
T161N, R81W

Drainage Path

102+50 20th Ave. NW
Proposed 24" Culvert
Invert in 1498.50
Invert out 1498.00

420+00 US83
Existing 24" Culvert
Extend 8' Each Direction
Invert in 1497.95
Invert out 1497.90

1.52 Acres
Longest Drainage Path
Length = 435 Ft
Slope = 0.3%

409+19 US83
Existing 18" Culvert
Proposed 18" Culvert
Invert in 1499.40
Invert out 1499.00

2.09 Acres
Longest Drainage Path
Length = 1710 Ft
Slope = 0.23%

107+05 20th Ave. NW
Proposed 24" Culvert
Invert in 1498.50
Invert out 1498.00

4.98 Acres
Longest Drainage Path
Length = 2360 Ft
Slope = 0.1%

4.44 Acres
Longest Drainage Path
Length = 663 Ft
Slope = 0.8%

110+00

Section 14
T161N, R81W

3.41 Acres
Longest Drainage Path
Length = 1870 Ft
Slope = 0.3%

111+04 20th Ave. NW
Existing 18" Culvert
Extend 8' Each Direction
Invert in 1496.24
Invert out 1495.88

409+23 US83
Existing 18" Culvert
Proposed 18" Culvert
Invert in 1499.70
Invert out 1499.60

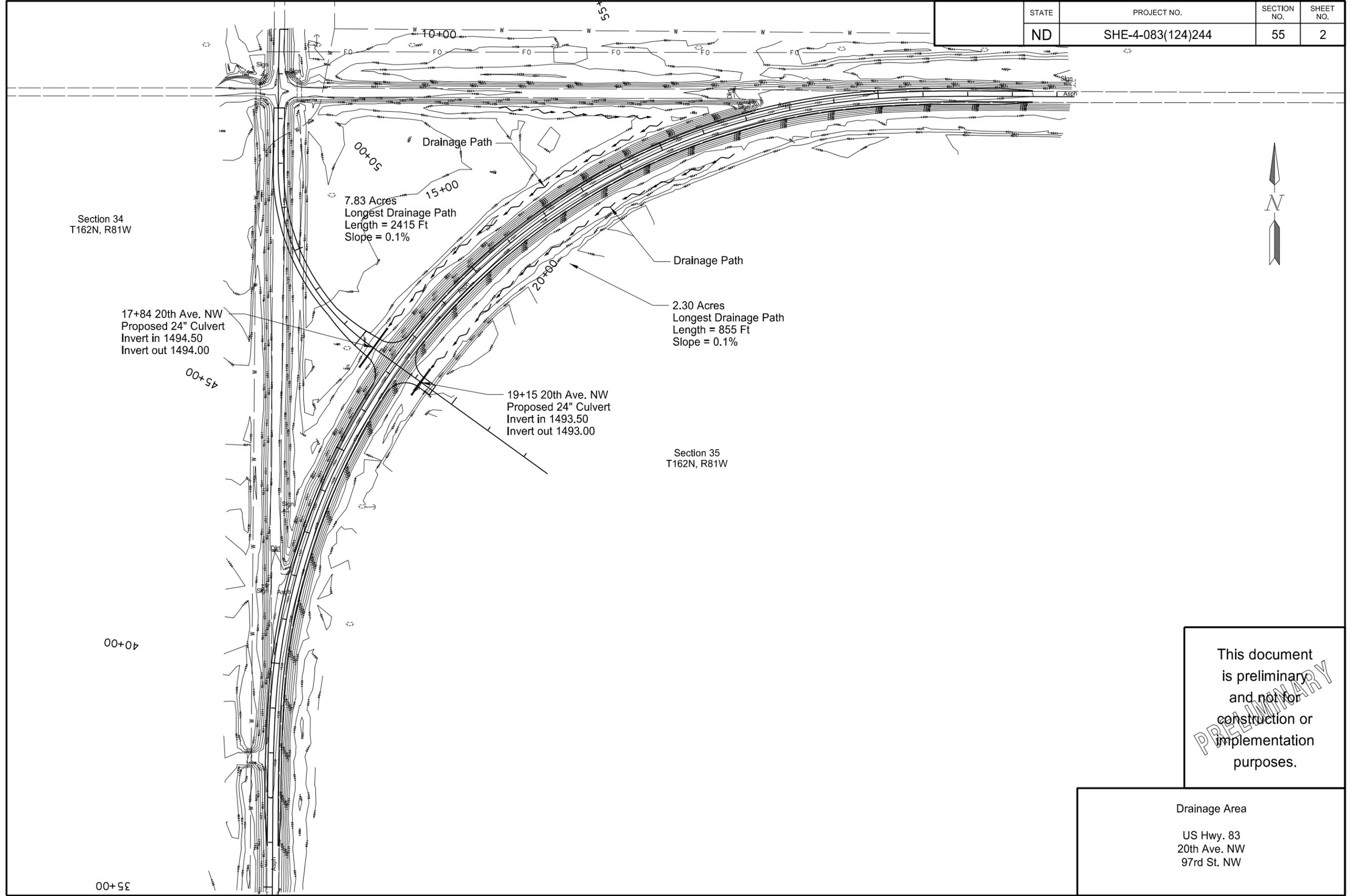
0.88 Acres
Longest Drainage Path
Length = 180 Ft
Slope = 0.01%

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Drainage Area

US Hwy. 83
20th Ave. NW
93rd St. NW

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	55	2



Section 34
T162N, R81W

17+84 20th Ave. NW
Proposed 24" Culvert
Invert in 1494.50
Invert out 1494.00

7.83 Acres
Longest Drainage Path
Length = 2415 Ft
Slope = 0.1%

19+15 20th Ave. NW
Proposed 24" Culvert
Invert in 1493.50
Invert out 1493.00

Section 35
T162N, R81W

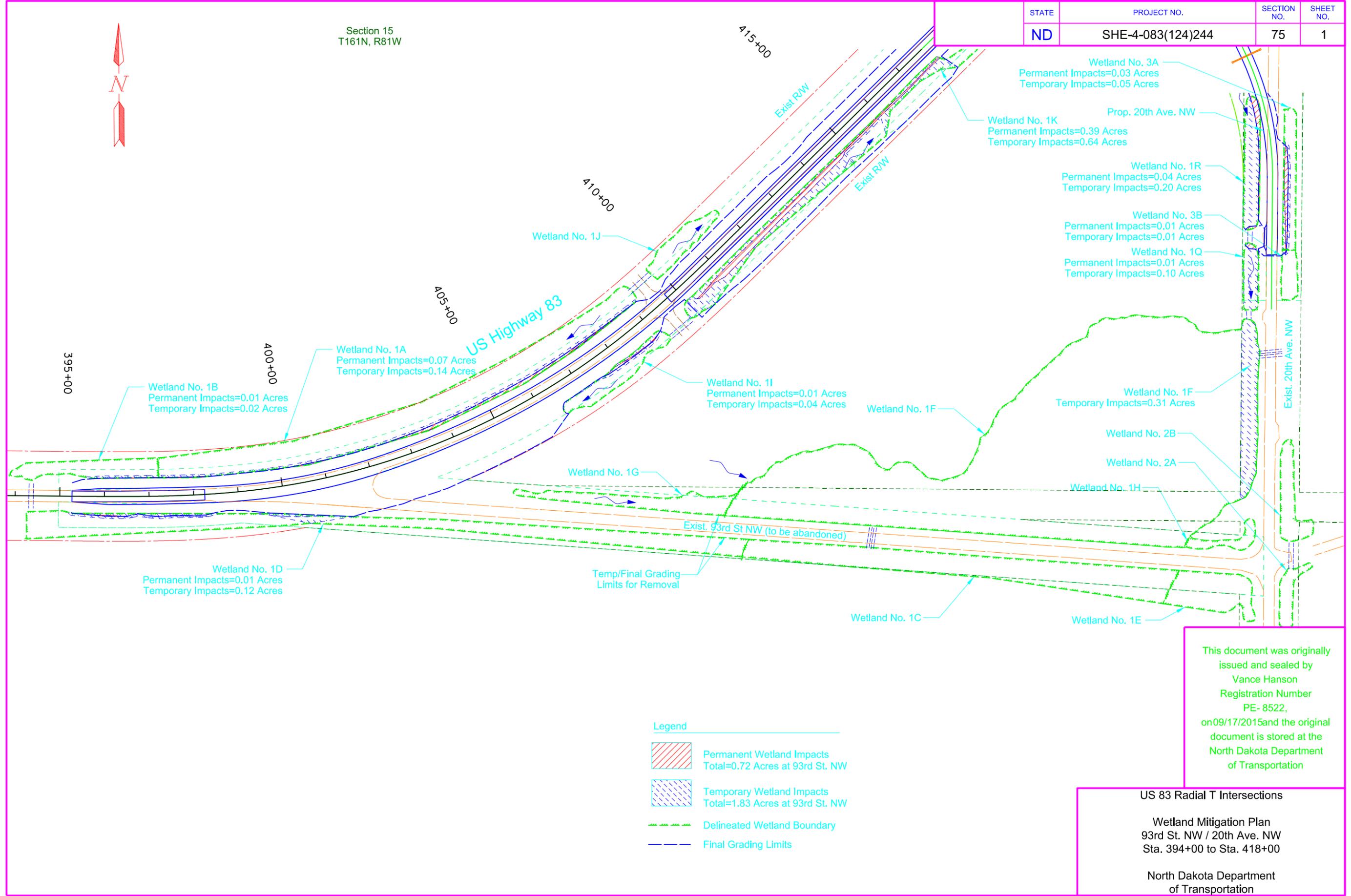
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Drainage Area

US Hwy. 83
20th Ave. NW
97rd St. NW

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	75	1

Section 15
T161N, R81W



Wetland No. 1B
Permanent Impacts=0.01 Acres
Temporary Impacts=0.02 Acres

Wetland No. 1A
Permanent Impacts=0.07 Acres
Temporary Impacts=0.14 Acres

Wetland No. 1D
Permanent Impacts=0.01 Acres
Temporary Impacts=0.12 Acres

Wetland No. 1J

Wetland No. 1I
Permanent Impacts=0.01 Acres
Temporary Impacts=0.04 Acres

Wetland No. 1G

Wetland No. 1F

Wetland No. 1F
Temporary Impacts=0.31 Acres

Wetland No. 2B

Wetland No. 2A

Wetland No. 1H

Wetland No. 1C

Wetland No. 1E

Wetland No. 3A
Permanent Impacts=0.03 Acres
Temporary Impacts=0.05 Acres

Wetland No. 1K
Permanent Impacts=0.39 Acres
Temporary Impacts=0.64 Acres

Wetland No. 1R
Permanent Impacts=0.04 Acres
Temporary Impacts=0.20 Acres

Wetland No. 3B
Permanent Impacts=0.01 Acres
Temporary Impacts=0.01 Acres

Wetland No. 1Q
Permanent Impacts=0.01 Acres
Temporary Impacts=0.10 Acres

Legend

-  Permanent Wetland Impacts
Total=0.72 Acres at 93rd St. NW
-  Temporary Wetland Impacts
Total=1.83 Acres at 93rd St. NW
-  Delineated Wetland Boundary
-  Final Grading Limits

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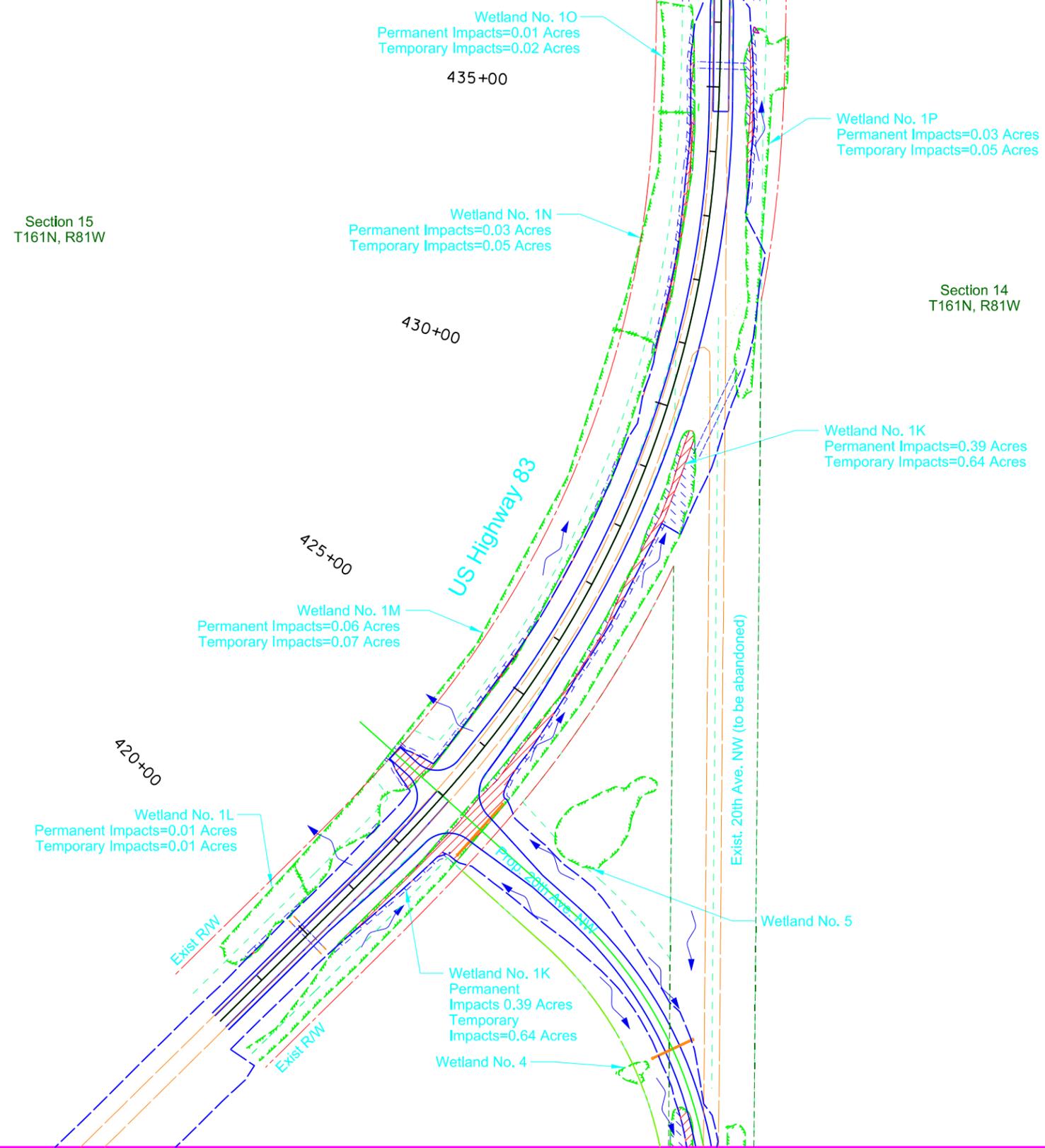
US 83 Radial T Intersections
Wetland Mitigation Plan
93rd St. NW / 20th Ave. NW
Sta. 394+00 to Sta. 418+00
North Dakota Department of Transportation

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	75	2



Section 15
T161N, R81W

Section 14
T161N, R81W



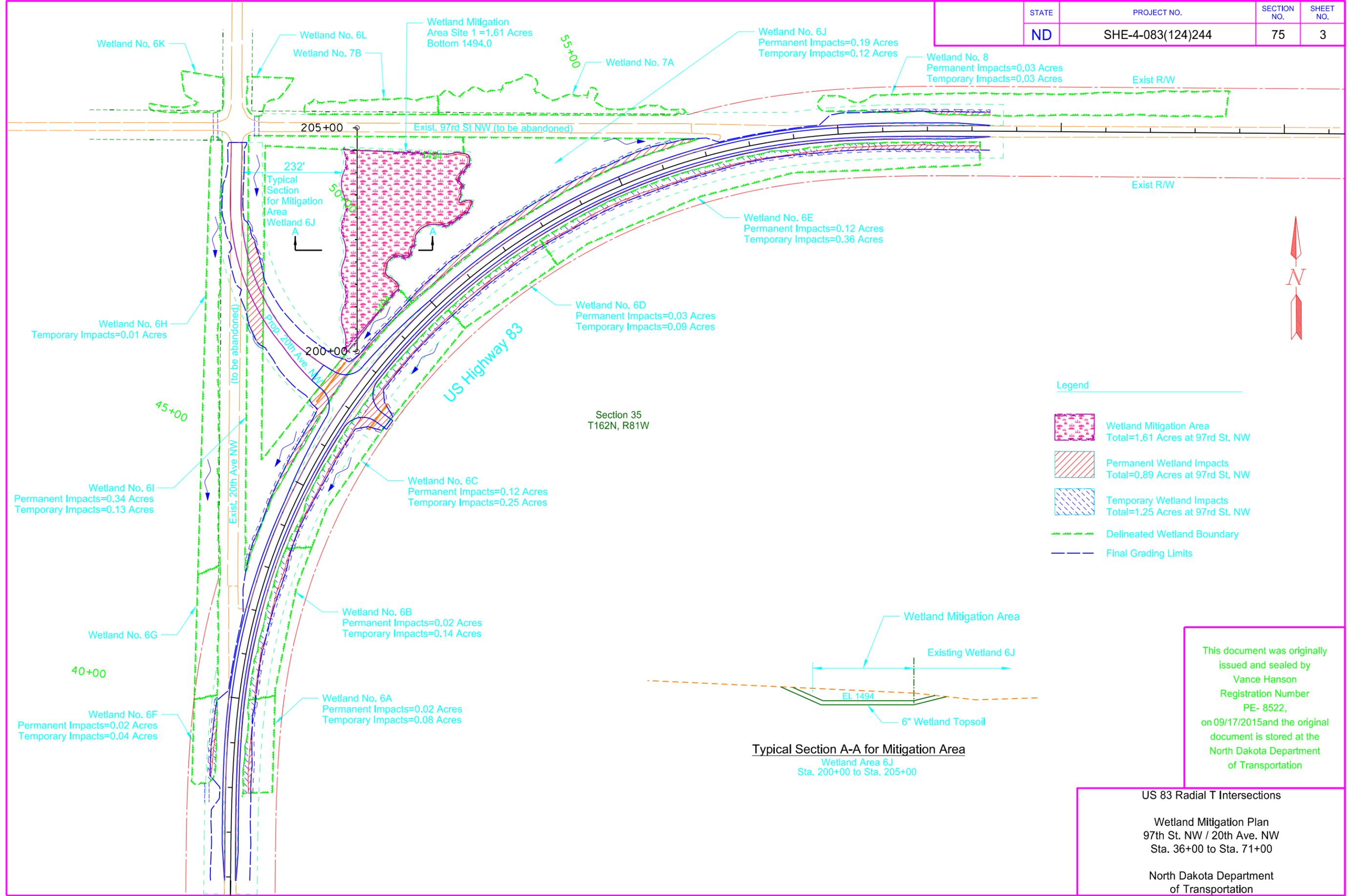
Legend

	Permanent Wetland Impacts Total=0.72 Acres at 93rd St. NW
	Temporary Wetland Impacts Total=1.83 Acres at 93rd St. NW
	Delineated Wetland Boundary
	Final Grading Limits

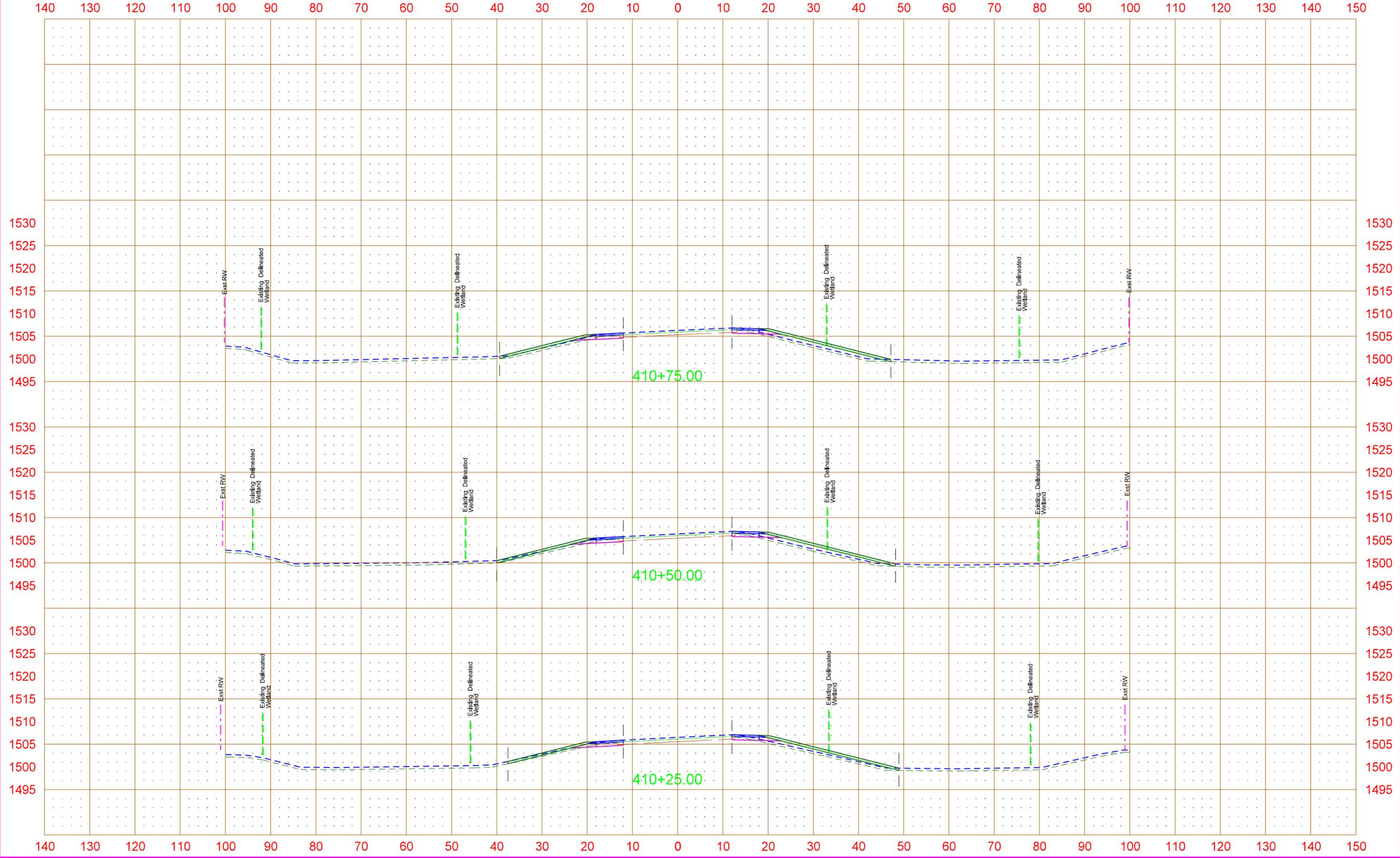
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US 83 Radial T Intersections
Wetland Mitigation Plan
93rd St. NW / 20th Ave. NW
Sta. 418+00 to Sta. 437+00
North Dakota Department of Transportation

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	75	3



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SHE-4-083(124)244	200	46



**Compensatory Wetland Mitigation Plan; Hwy 83 near Maxbass;
September 17, 2015**

12 required components of 33 CFR 332: *Compensatory Mitigation for Losses to Aquatic Resources*: (some language has been modified but see 33CFR332.4c for original)

1. Objectives.

The objective is to create one shallow, seasonal palustrine emergent (PEMx) wetland consisting of a prevalence of herbaceous hydrophytic vegetation. The size of the mitigation area, Site 1, is a 1.61 acre creation (1.59 acre for the USACE) adjacent to the existing PEMC wetland 6I (1.66 Acres) and 6J (1.81 Acres). The created wetland will compensate for unavoidable permanent impacts to 1.54 acres of permanent impacts to USACE jurisdictional waters which are greater than 0.10 acre. The created wetlands will be constructed within the NDDOT right of way along US Highway 83; as such the proposed mitigation is at a 2:1 ratio, with the exception of impacts that will be mitigated at the same wetlands impacted which is a 1:1 ratio, or utilizing the artificial ditch mitigation guidance. *Please see Table 1.* The created wetlands will offset the unavoidable loss of aquatic resource functions, values, and account for a temporal loss of these functions/values of the impacted wetlands.

2. Site selection.

The site was selected due to the location adjacent to existing wetlands, the contributing watershed, suitable soils, the proximity to the project, the ease of construction, and because it is within existing DOT right of way. Excavated material from the created wetland will be utilized in the roadway embankment. The created wetland area will be sustained through storm water runoff and spring snow melt. The existing county road will be obliterated and graded to match surrounding topography and sloped to drain into the creation area. All impacts and mitigation are within the Souris River Regional Service Area.

Hydrology

Site 1 is adjacent to wetlands 6I and 6J which receive hydrology from storm water and snow melt from the adjacent intermittent stream and from the 277 acre of contributing watershed.

Soils

NRCS Web Soil Survey has mapped the site as Hamerly Tonka and Barnes Seva Tonka. These soils generally consist of somewhat poorly drained soils with a 0-1 percent slope with fine-loamy till soils with a 0-42" available water table suitable to creating wetlands. Inclusions in the soil map unit include soils that are poorly to very poorly. However, onsite wetland delineation indicates upland soils that would be somewhat poorly to well drained with no hydric soil inclusions. As indicated by created wetlands in the adjacent HWY 83 road ditches, sufficient water holding capacity is available in these soils.

3. Site protection instrument.

The mitigation site is located within the NDDOT's permanent ROW. The mitigation site will be protected in perpetuity. In the event of highway abandonment, the terms of the permit and mitigation will be transferred to the receiving property owner.

4. Baseline information.

A field delineation was conducted in November 2013. Based on the delineation, the mitigation site is above the existing adjacent wetland and dominated by upland vegetation. The area does not have a cropping history. The upland area will be converted to wetland with hydrology driven by spring snowmelt and storm water runoff.

a. Wetland Hydrology

The mitigation site would be able to accumulate water from surface runoff and direct precipitation. Based on the Bottineau County soils survey this site receives a mean annual precipitation of 16 to 23 inches. Furthermore, the mitigation site is located adjacent to existing wetlands which currently exhibit appropriate wetland hydrology and has sufficient hydrology from the surrounding watershed and intermittent stream to create an additional 1.61 acres of wetlands.

b. Soils

Bottineau County Soils Survey was used to identify the soil units within the proposed mitigation site. The soils survey states 0 to 3 percent slopes with more than 80 inches to a restrictive layer and is somewhat poorly to poorly drained. Soils survey indicates that this area is a Hamerly-Tonka complex with hydric soils in the Tonka depressions. However, the nearest test hole to the mitigation area states the area is non-hydric.

c. Vegetation

The mitigation sites are currently grassland and based on the nearest test hole is dominated by upland species such as smooth brome (*Bromus inermis*) and Kentucky bluegrass (*Poa pratensis*).

5. Determination of credits.

Credit ratios for this wetland creation site were determined using the *Wetland Mitigation Banking in North Dakota – Interagency Guidance for Mitigation Bank* document, utilizing guidance that creation adjacent to the wetland impacted receives a 1:1, mitigation nonadjacent to the wetland impacted receives a 2:1, and the artificial jurisdictional ditch mitigation guidance. The breakdown of impacts, ratios, and resulting mitigation required is below.

Table 1: Wetland Credit Ratios and Credit Calculation

Mitigation Site #	Wetland Number	Cowardin Class	Mitigation Type	Perm. Wetland Impact (acre)	Acre-Credit Ratio (location)	Mitigation after ratios for USACE Impacts (acres)	Total Constructed Onsite Mitigation (acres)
	1A	PEMCx	Creation Non-Adjacent ¹	0.07	1:1	0.07	
	1B	PEMC	Creation Non-Adjacent	0.01	2:1	0.02	
	1D	PEMCx	Creation Non-Adjacent ¹	0.01	1:1	0.01	
	1I	PEMCx	Creation Non-Adjacent ¹	0.01	1:1	0.01	
	1K	PEMC	Creation Non-Adjacent ¹	0.39	1:1	0.39	
	1L	PEMC	Creation Non-Adjacent	0.01	2:1	0.02	
	1M	PEMCx	Creation Non-Adjacent ¹	0.06	1:1	0.06	
	1N	PEMC	Creation Non-Adjacent	0.03	2:1	0.06	
	1O	PEMCx	Creation Non-Adjacent ¹	0.01	1:1	0.01	
	1P	PEMCx	Creation Non-Adjacent ¹	0.03	1:1	0.03	
	1Q	PEMCx	Creation Non-Adjacent ¹	0.01	1:1	0.01	
	1R	PEMCx	Creation Non-Adjacent ¹	0.04	1:1	0.04	
	6A	PEMCx	Creation Non-Adjacent	0.02	1:1	0.02	
	6B	PEMC	Creation Adjacent	0.02	1:1	0.02	

	6C	PEMCx	Creation Non-Adjacent	0.12	1:1	0.12	
	6D	PEMC	Creation Adjacent	0.03	1:1	0.03	
	6E	PEMCx	Creation Non-Adjacent	0.12	1:1	0.12	
	6F	PEMCx	Creation Non-Adjacent	0.02	1:1	0.02	
	6I	PEMCx	Creation Non-Adjacent	0.34	1:1	0.34	
Site 1	6J	PEMC	Creation Adjacent	0.19	1:1	0.19	1.61
Totals				1.54		1.59	1.61

¹ Utilized USACE jurisdictional artificial ditch mitigation guidance.

6. Mitigation work plan.

Site 1 will be constructed by excavating and grading upland to a variable depth up to 2 feet maximum depth depressional area adjacent to the existing wetlands 6 and totaling 1.61 acres (1.59 acre required for the USACE). The site will be over excavated by 6 inches and will be graded with a 3:1 transition from the final 2 foot depth to the existing grade and contours of the adjacent uplands surrounding the mitigation site. Wetland soils from permanently impacted areas will be used at the creation site with the final grade matching the existing wetland. If enough wetland soil is not available, it will be mixed with upland topsoil to meet the 6 inch topsoil depth. The mitigation area will use the following wetland seed mix:

Grass			PLS
Common Name	Scientific Name	Variety	lbs./Ac
Prairie Cord Grass	<i>Spartina pectinata</i>	Red River	1.1
American Slough Grass	<i>Beckmannia syzigachn</i>	Common	0.2
Canada Wild-rye	<i>Elymus canadensis</i>	Mandan	1.3
Fowl Blue Grass	<i>Poa palustris</i>	Common	0.2
Fox Sedge	<i>Carex vulpinoidea</i>	Common	0.2
American Manna Grass**	<i>Glyceria grandis</i>	Common	0.2
Fowl Manna Grass**	<i>Glyceria striata</i>	Common	0.1
Bluejoint Grass***	<i>Calamagrostis canader</i>	Common	0.1
Total			3.1

**American, fowl or both may be used. If only one is used the seeding rate of other species does not need to be increased.

***seed may not be available and can be removed without increasing the seeding rate of other species

All disturbed upland areas will be seeded with upland warm and cool season grasses the typically occur these soils. BMPs will be installed to prevent erosion and sedimentation within the site. All BMPs will be removed from the mitigation site upon the establishment of vegetative cover.

7. Maintenance plan.

The site will be maintained along with the adjacent road right of way. This section of highway is mowed periodically from the edge of pavement to the toe slope of the road grade by NDDOT maintenance staff. The balance of the right of way may be hayed by the adjacent landowner. No haying restrictions will be placed on this site. Noxious weeds will be controlled by NDDOT staff or a certified pesticide applicator. The site will be maintained to meet the success criteria outlined in the performance standards.

8. Performance Standards

Wetland – Success criteria will be met when the hydrology exists at the site for sufficient time periods to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Performance standards are met when the mitigation meets wetland criteria for hydrology and hydrophytic vegetation as defined in the 1987 Corps of Engineers Wetland Delineation Manual and Great Plains Regional Supplement (Version 2.0).

Buffer – No buffer credits are proposed due to ROW restrictions at this location; however, all disturbed terrestrial areas will be reestablished with permanent native grass cover, as described in the mitigation work plan above. No buffer performance standards are necessary.

9. Monitoring requirements.

- I. **Performance standard:** The 1.59 acre mitigation area must successfully meet wetland criteria, as defined in the 1987 Corps of Engineers Wetland Delineation Manual and Great Plains Regional Supplement (Version 2.0).
- II. **Monitoring Requirements:** The NDDOT shall submit a mitigation monitoring report to the NDRO at the end of each of the first three growing seasons occurring immediately following construction of the mitigation site and a final report following the end of the third growing season if all wetland criteria are met. Onsite monitoring shall be conducted from June 15th to the end of the growing season. This requirement may be waived, extended or modified depending on the success of wetland development. The monitoring reports shall include the following:
 1. Corps of Engineers Permit Number (NWO-2013-2254-BIS).
 2. Name and contact information of permittee, point of contact and consultant (if one is used), as well as the dates the inspection(s) was conducted.
 3. Directions to the mitigation/project site.
 4. Log or timeline reflecting the construction and development of the compensatory wetland mitigation, including the completion date for construction of all mitigation, remedial actions (if any), plantings,

monitoring dates, etc., as well as the date the site meets full success criteria (meeting all performance standards).

5. Photographic and narrative summary of the mitigation site's development, specifically including the following:
6. Photographs of the mitigation site prior to construction, encompassing the entire mitigation area.
7. Photographs and narrative summary of the mitigation site's progress and development into meeting wetland criteria as identified in the Great Plains Regional Supplement to the 1987 Manual.
8. Photographs taken from a minimum of two fixed points and directions for each wetland mitigation area. Photo location and points must be sufficiently spaced to provide visual depiction of the entire site's development.
9. Photograph(s) and description(s) of problem areas, if any are identified.
10. Recommendations for any additional corrective or remedial actions (if needed).
11. A wetland delineation map identifying proposed wetland mitigation boundary and actual wetland boundary.
12. Monitoring requirements may be waived by the NDRO once performance standards are met or a determination is made that the site adequately offsets the authorized impacts.

III. **Reports shall be sent to:** North Dakota Regulatory Office, 1513 South 12th Street, Bismarck, North Dakota, 58504.

10. Long-term management plan.

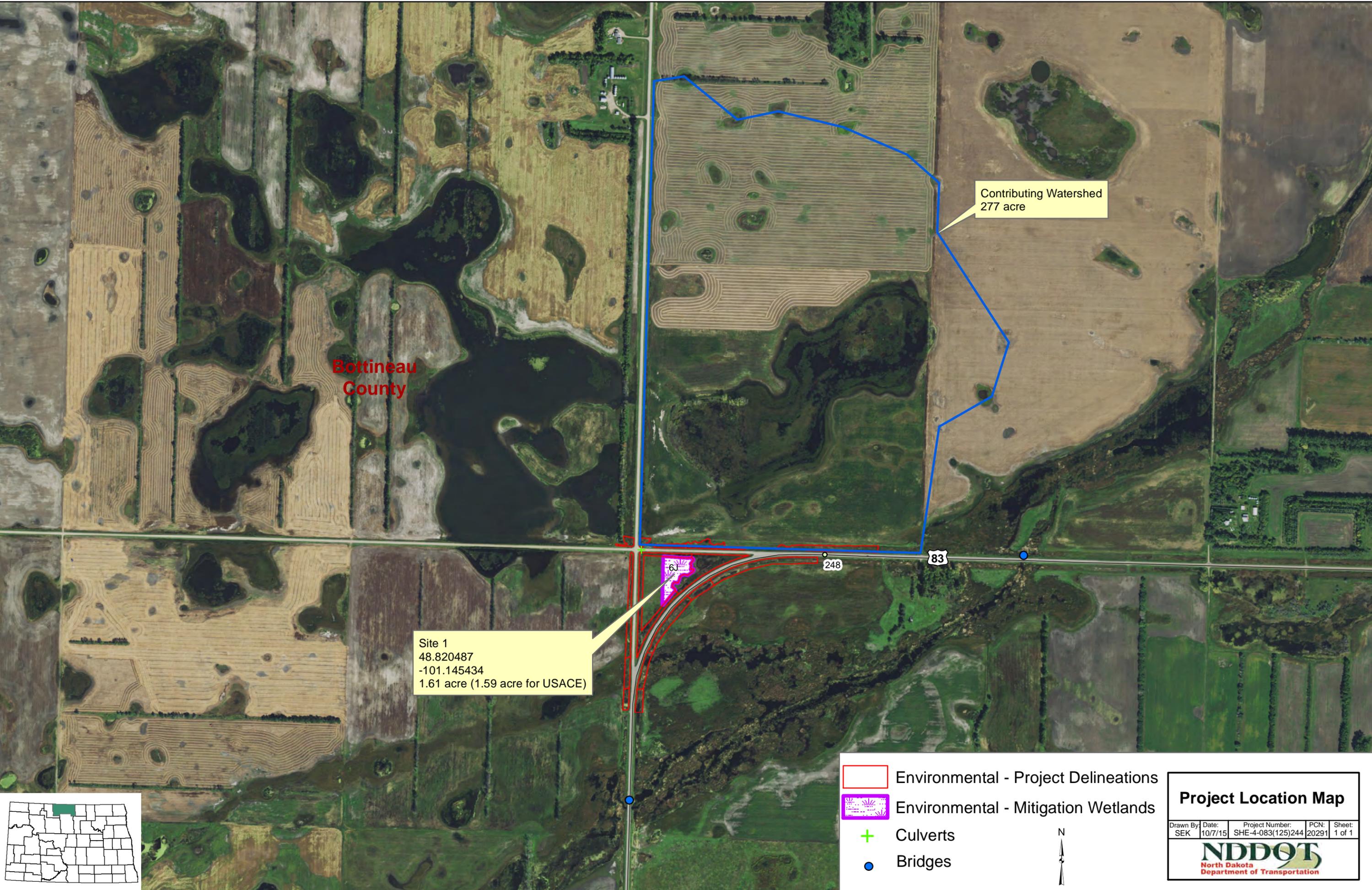
The NDDOT will continue to management the site with noxious weed control, periodic mowing, and litter removal along with the adjacent road right of way. Repairs will be to the original construction specification. The NDDOT will inform the USACE if any corrective measures are needed. SHE-4-083(124)244; PCN 20291NWO-2013-2254-BIS

11. Adaptive management plan.

The NDDOT will continue to management the site with noxious weed control, periodic mowing to reduce litter accumulation, and repair of any structures to original construction specification. The NDDOT will inform the USACE of any adaptive management needs

12. Financial assurances.

The NDDOT receives an allocation from the North Dakota Legislature on biennium basis for road development and maintenance. Historically the NDDOT has allocated \$0.5 million annually for wetland mitigation development, management and monitoring.



**Bottineau
County**

Contributing Watershed
277 acre

Site 1
48.820487
-101.145434
1.61 acre (1.59 acre for USACE)

6J

248

83

- Environmental - Project Delineations
- Environmental - Mitigation Wetlands
- + Culverts
- Bridges



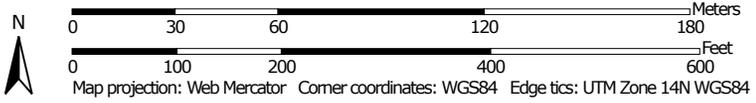
Project Location Map				
Drawn By:	Date:	Project Number:	PCN:	Sheet:
SEK	10/7/15	SHE-4-083(125)244	20291	1 of 1
 NDDOT <small>North Dakota Department of Transportation</small>				



Soil Map—Bottineau County, North Dakota



Map Scale: 1:2,190 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Bottineau County, North Dakota
 Survey Area Data: Version 21, Sep 23, 2014

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

Date(s) aerial images were photographed: May 17, 2010—Jun 23, 2010

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

Map Unit Legend

Bottineau County, North Dakota (ND009)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
F100A	Hamerly-Tonka complex, 0 to 3 percent slopes	14.8	71.6%
F159A	Barnes-Svea-Tonka complex, 0 to 3 percent slopes	5.9	28.4%
Totals for Area of Interest		20.7	100.0%

Bottineau County, North Dakota

F100A—Hamerly-Tonka complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2q4g2

Elevation: 950 to 2,530 feet

Mean annual precipitation: 16 to 23 inches

Mean annual air temperature: 36 to 43 degrees F

Frost-free period: 110 to 150 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Hamerly and similar soils: 42 percent

Tonka and similar soils: 28 percent

Minor components: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hamerly

Setting

Landform: Flats

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Fine-loamy till

Typical profile

Ap - 0 to 8 inches: loam

Bk - 8 to 35 inches: loam

BCK - 35 to 43 inches: loam

C - 43 to 79 inches: loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat):

Moderately low to moderately high (0.14 to 1.42 in/hr)

Depth to water table: About 18 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 45 percent

Gypsum, maximum in profile: 3 percent

Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 7.0

Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: Limy Subirrigated (R055AY040ND)
Other vegetative classification: Subirrigated (G055AY700ND)

Description of Tonka

Setting

Landform: Depressions
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Local alluvium over till

Typical profile

Ap - 0 to 7 inches: silt loam
A - 7 to 13 inches: silt loam
E - 13 to 19 inches: loam
Bt - 19 to 34 inches: silty clay loam
2BC - 34 to 50 inches: clay loam
2Cg - 50 to 79 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat):
Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 10 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: Wet Meadow (R055AY055ND)
Other vegetative classification: Wet (G055AY900ND)

Minor Components

Wyard

Percent of map unit: 7 percent
Landform: Swales, depressions

Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Subirrigated (R055AY048ND)
Other vegetative classification: Subirrigated (G055AY700ND)

Vallers, moderately saline

Percent of map unit: 7 percent
Landform: Flats
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Saline Lowland (R055AY042ND)
Other vegetative classification: Saline (G055AY895ND)

Parnell

Percent of map unit: 5 percent
Landform: Depressions
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Shallow Marsh (R055AY054ND)
Other vegetative classification: Not suited (G055AY000ND)

Balaton

Percent of map unit: 5 percent
Landform: Rises
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Thin Loamy (R055AY052ND)
Other vegetative classification: Limy Upland (G055AY400ND)

Barnes

Percent of map unit: 3 percent
Landform: Rises
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy (R055AY047ND)
Other vegetative classification: Loam (G055AY100ND)

Cavour

Percent of map unit: 3 percent
Landform: Rises
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Claypan (R055AY039ND)

Other vegetative classification: Claypan (G055AY800ND)

Data Source Information

Soil Survey Area: Bottineau County, North Dakota
Survey Area Data: Version 21, Sep 23, 2014