

REVISIONS

CJV

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DESIGN TEAM

DESIGNER:

CONSTRUCTION PLANS FOR REPAIR OF COUNTY DITCH NO. 20 MCLEOD COUNTY, MINNESOTA

BIDDING DOCUMENTS



SHEET INDEX

- TITLE SHEET
- PLAN VIEW / WATERSHED
- OUTLET PLAN AND PROFILE
- CEMETERY PLAN AND PROFILE
- PROF ILE
- SWPPP

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYDUTS", - CURRENT EDITION.

NOTE:
THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D.
THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE
GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE
COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE CONTRACTOR SHALL CALL THE GOPHER STATE ONE CALL SYSTEM AT 811 BEFORE COMMENCING EXCAVATION.

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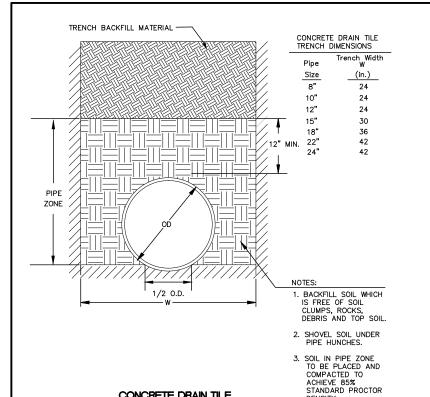
PHUNE: 800.838.8666
1390 HWY. 15 S.

SEH HUTCHINSDIN, MN 55350-0308
www.sehinc.com

CONSTRUCTION PLANS FOR REPAIR OF COUNTY DITCH NO. 20. MCLEOD COUNTY, MINNESOTA

TITLE

FILE NO. MCLEO 131902



CONCRETE DRAIN TILE

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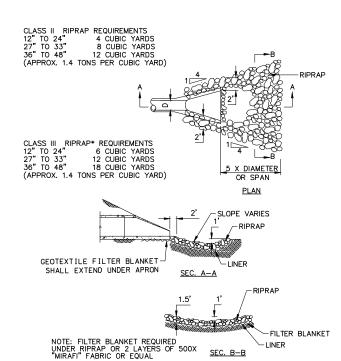
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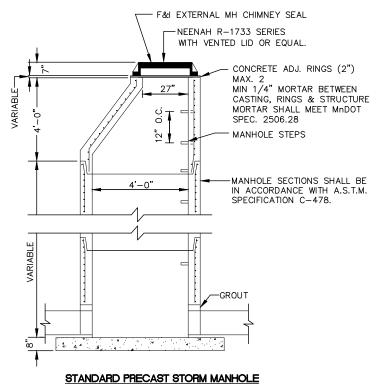
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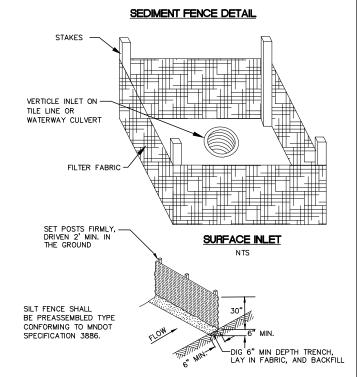
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CLASS II AND III RIPRAP AT OUTLETS NTS

* CLASS III RIPRAP, D50= 9 IN.





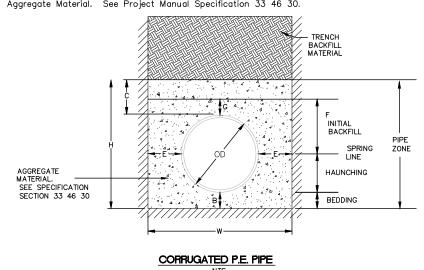
TYPICAL EROSION CONTROL SILT FENCE

FLAT TRENCH BOTTOM INSTALLATION

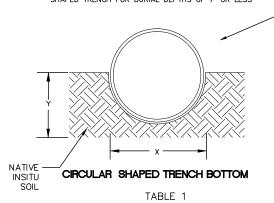
CPE PIPE ENVELOPE & TRENCH DIMENSIONS (1)

Pipe Size	Pipe OD (Nominal) in.	B Bed Depth Aggregate Material (2) in.	C Min. Cover (2) in.	H Min. Trench Depth (OD+B+C) ft.	E Envelope Width in.	W Min. Trench Width (OD+2E) in.	F Initial Backfill (2) in.	G Initial Backfill Over Pipe in.
4"	4.8	4 - 6	12	17 – 21	8	21	8	6
6"	6.9	4 - 6	12	19 - 23	8	23	10	6
8"	9.1	4 - 6	12	22 - 26	8	25	11	6
10"	11.4	4 - 6	12	24 - 28	8	28	12	6
12"	14.5	4 - 6	12	26 - 30	8	31	13	6
15"	17.6	4 - 6	12	30 - 34	8	34	15	6
18"	21.2	4 - 6	12	34 - 38	9	39	17	6

- (1) Refer To Specific Manufacture's Installation Instructions.
- (2) Aggregate Material. See Project Manual Specification 33 46 30.



SHAPED TRENCH BOTTOM INSITU INSTALLATION THIS APPLIES ONLY TO THOSE INSITU SOIL CONDITIONS WHERE THE NATIVE SOIL CAN BE CUT TO A STABLE SHAPED TRENCH FOR BURIAL DEPTHS OF 7' OR LESS



SECTION 33 46 30 NOTES: 1. A ROUND TRENCH BOTTOM MAY BE FORMED WITH THE USE OF A SHAPED TRENCHER OR WITH A BACKHOE WITH A HALF-CIRCLE SHAPED BUCKET, ALSO REFERRED TO AS A "SPOON". 2. THE ROUNDED TRENCH BOTTOM SHOULD CLOSELY FIT THE OUTSIDE OF THE PIPE TO PROVIDE SUFFICIENT SUPPORT OF THE PIPE. APPROXIMATE DIMENSIONS OF THE ROUNDED TRENCH BOTTOM

ARE FOUND IN TABLE 1

ACCEPTABLE BACKFILL MATERIAL AND COMPACTION REQUIREMENTS SEE SPECIFICATION

ROU	INDED TRENCH DIMENSI	ONS
PIPE DIA. (IN.)	WIDTH "X" (IN.)	DEPTH "Y" (IN.)
8	9.5	4.80
10	11.6	5.80
12	14.2	7.10
15	18.3	9.20
18	21.5	10.80

(USING P.E. RISER FACTORY (USING P.E. RISER FACTORY -CONE GRATE -SOLID CAP DUAL WALL P.E. RISER CUT IN RISER NOTE: CEMENT TOTAL CIRCUMFERENCE OF TILE NOTE: CEMENT TOTAL CIRCUMFERENCE OF TILE CEMENT AT LEAST ONE TILE JOINT EACH WAY FROM INLET.

DENSITY.

TYPICAL SURFACE INLET F & I MATERIAL & LABOR FOR SURFACE INLETS

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PHONE: 800.838.8666 1390 HWY. 15 S. SUITE 200, PO BOX 308 UTCHINSON, MN 55350-030

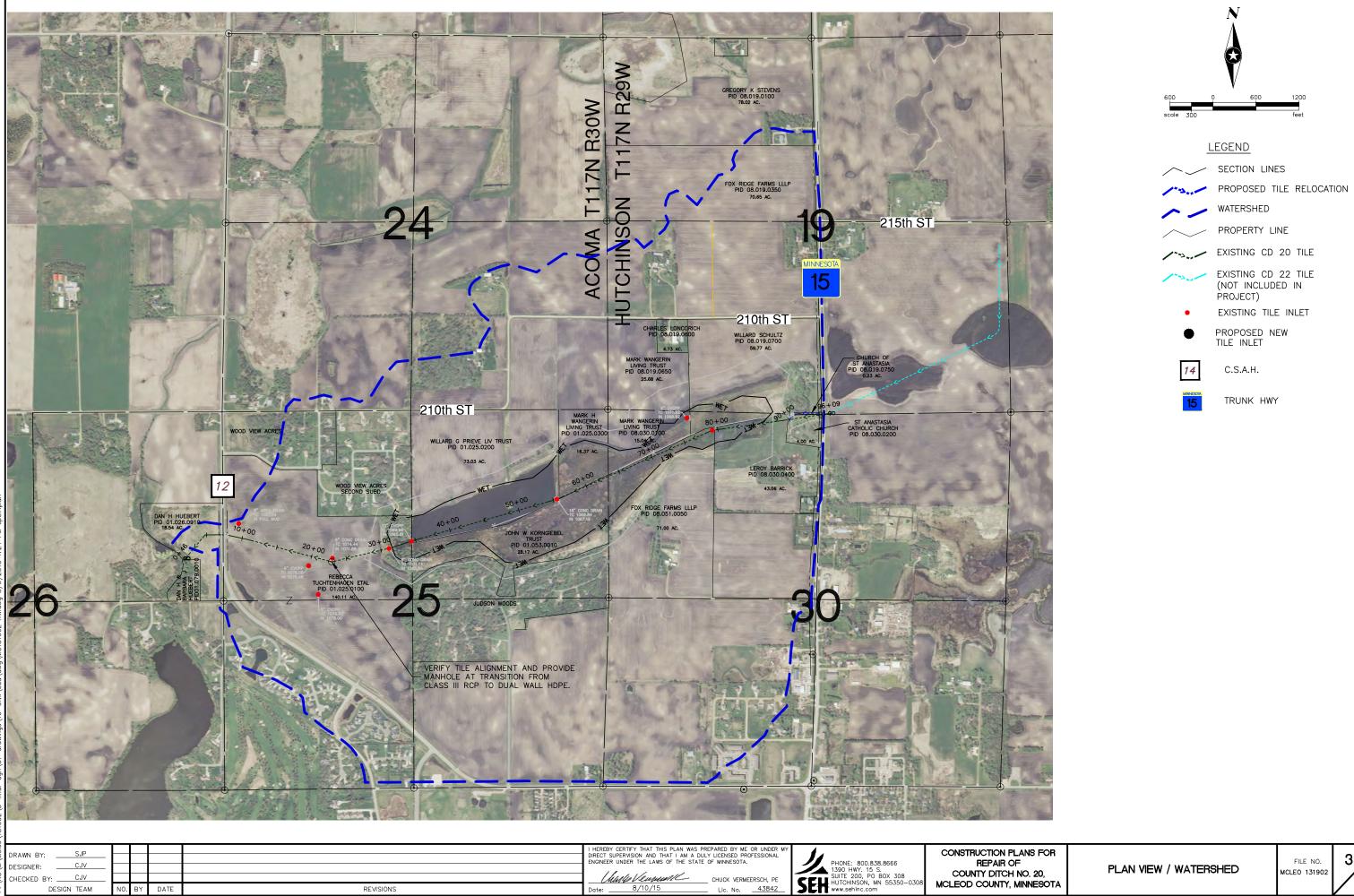
CONSTRUCTION PLANS FOR REPAIR OF COUNTY DITCH NO. 20, MCLEOD COUNTY, MINNESOTA

DETAILS

MCLEO 131902

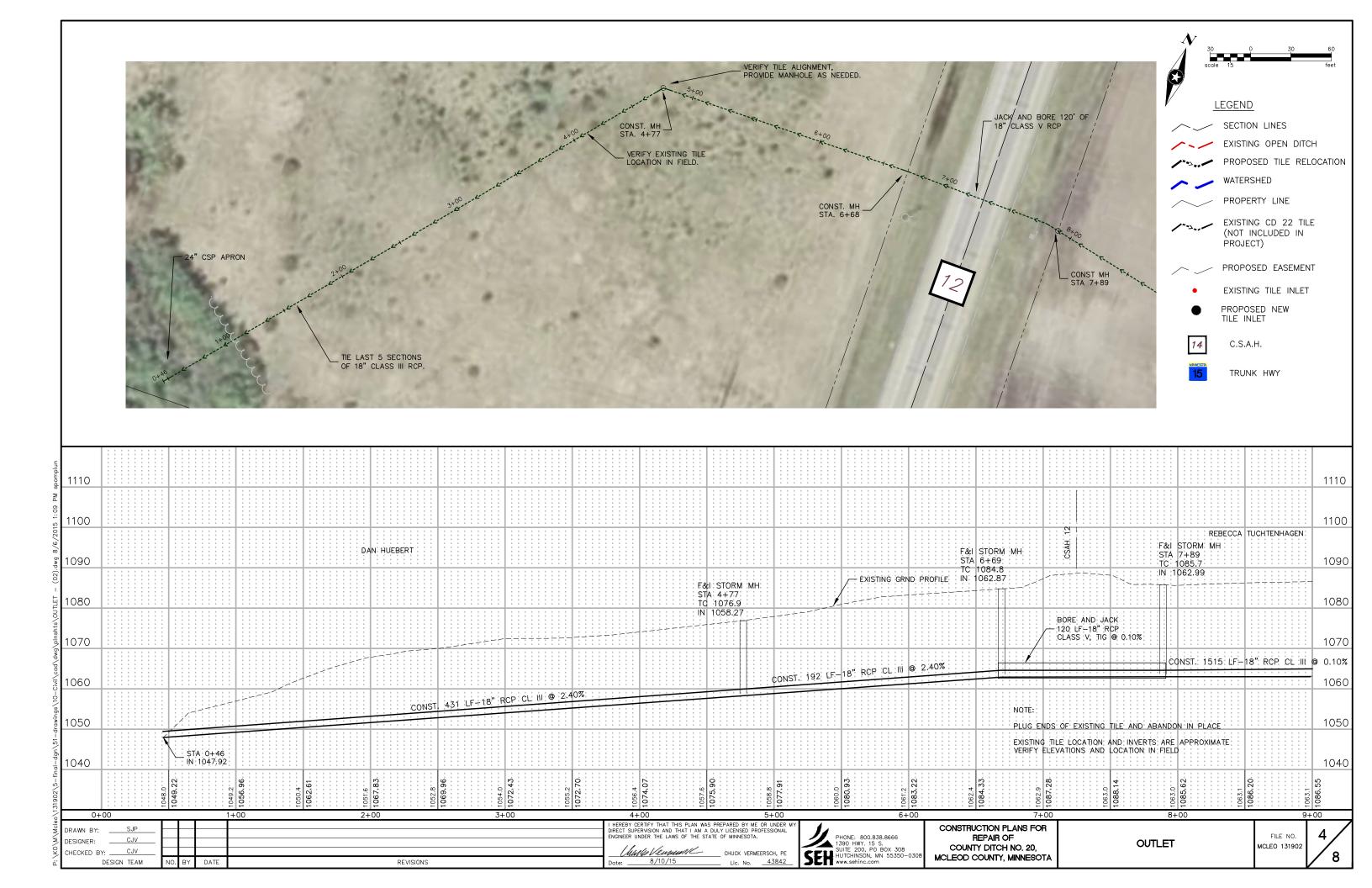
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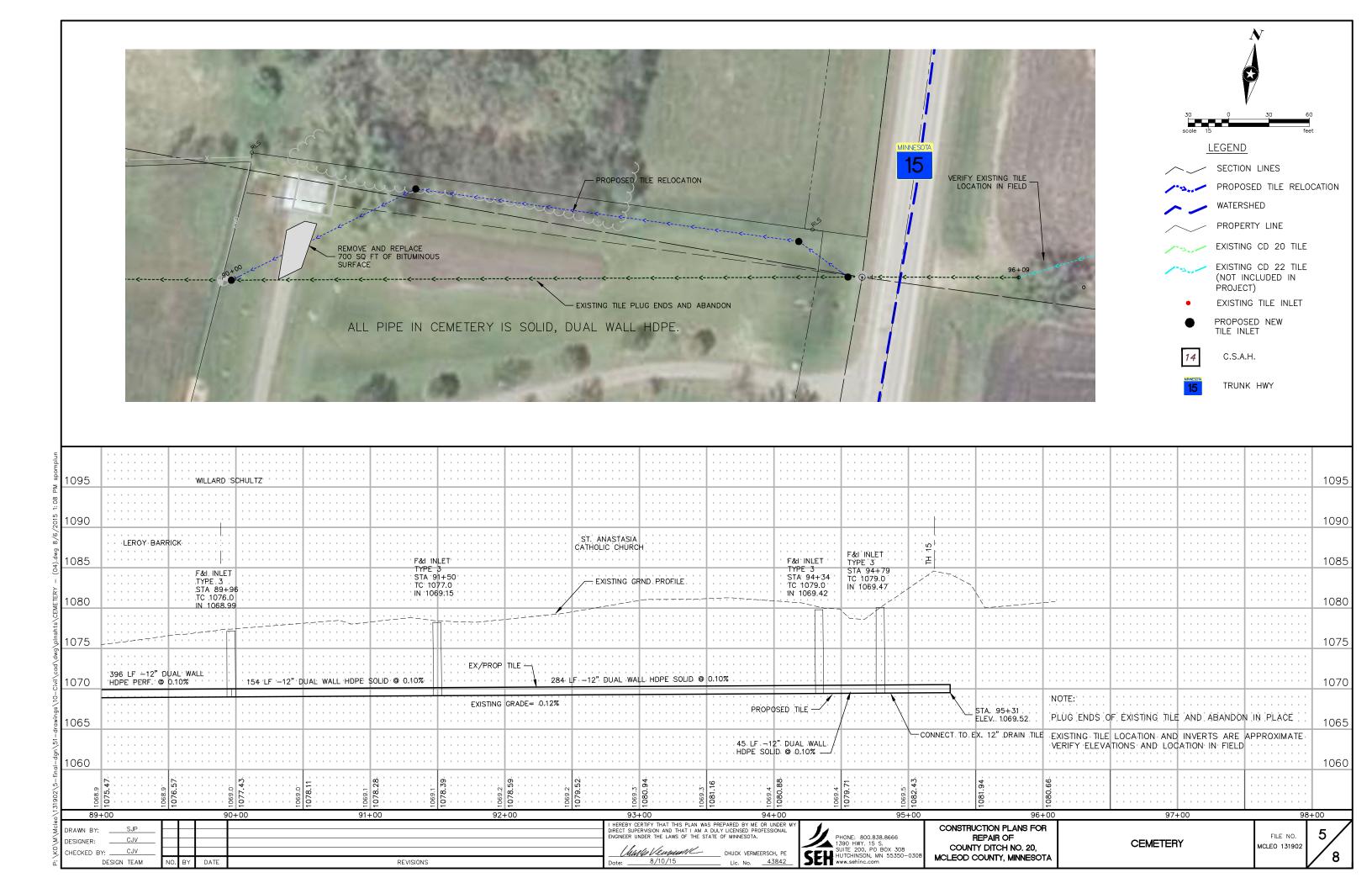
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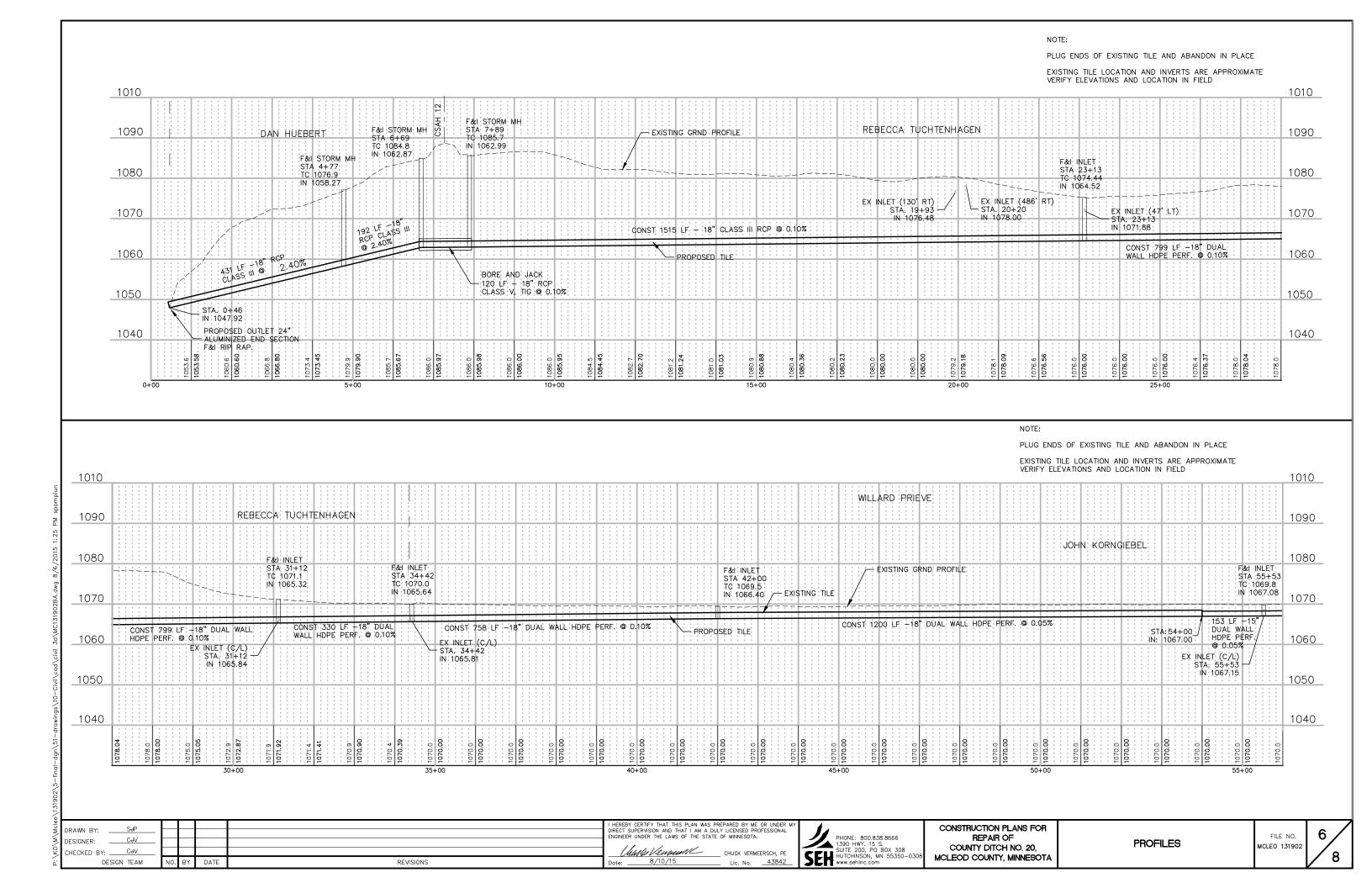


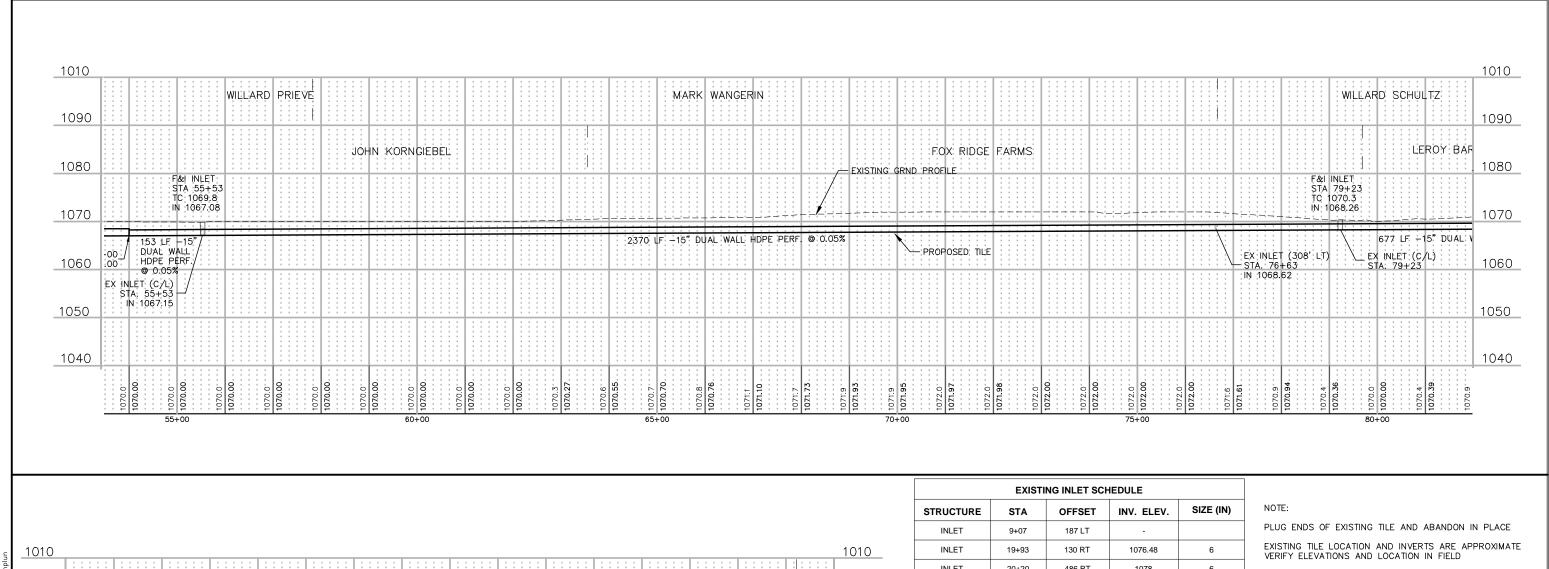
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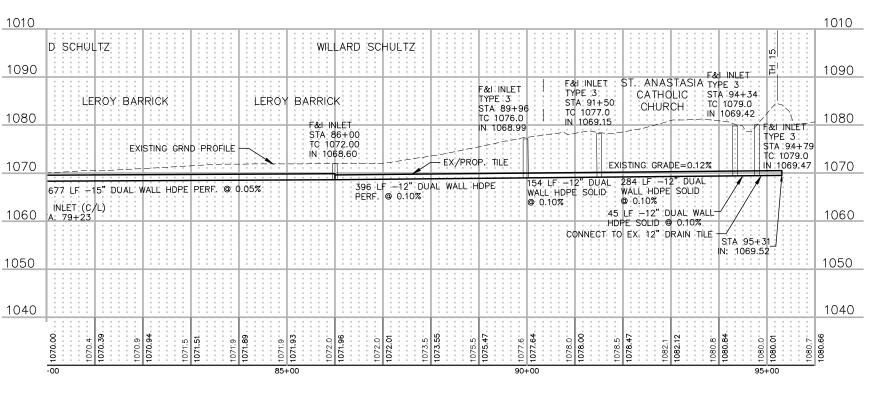
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EXISTING INLET SCHEDULE							
STRUCTURE	STA	OFFSET	INV. ELEV.	SIZE (IN)			
INLET	9+07	187 LT	-				
INLET	19+93	130 RT	1076.48	6			
INLET	20+20	486 RT	1078	6			
INLET	23+13	47 LT	1071.88	6			
INLET	31+12	0.0	1065.84	8			
INLET	34+42	0.0	1065.81	12			
INLET	55+53	0.0	1067.15	18			
INLET	76+63	308 LT	1068.62	6			
INLET	79+23	0.0					

		INCLI	73123		0.0				
PIPE TABLE									
	STA ROM	STA TO	EXISTING TILE SIZE (INCHES	E	PROPOS TILE SI (INCHE	ZE		OPOSED LE TYPE	
0	+46	6+69	18		18		CL	ASS III RCP	
6	+99	7+89	18		18		CLAS	SS V RCP TIG	
7	+89	23+13	18		18		CL	ASS III RCP	
23	3+13	40+00	18		18		DUAL W	ALL HDPE PERF.	
40	0+00	54+00	16		18		DUAL W	ALL HDPE PERF.	
54	1+00	69+00	15		15		DUAL W	ALL HDPE PERF.	
69	9+00	86+00	14		15		DUAL W	ALL HDPE PERF.	
86	6+00	89+97	12		12		DUAL W	ALL HDPE PERF.	
89	9+97	94+82	12		12		DUAL W	ALL HDPE SOLID	,
	1								_

PROPOSED INLET AND MANHOLE SCHEDULE							
TRUCTURE	STA	OFFSET	INV. ELEV.	SIZE (IN.)			
MANHOLE	4+77	0	1058.27	-			
MANHOLE	6+69	0	1062.87	-			
MANHOLE	7+89	0	1062.99	-			
MANHOLE	23+13	0	1064.52	-			
INLET	31+12	0	1065.32	8			
INLET	34+42	0	1065.64	12			
INLET	42+00	0	1066.4	12			
INLET	55+53	0	1067.08	18			
INLET	79+23	0	1068.26	12			
INLET	86+00	0	1068.6	12			
INLET	89+96	0	1068.99	12			
INLET	91+50	0	1069.15	12			
INLET	94+34	0	1069.42	12			

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3Y: CJV
DESIGN TEAM NO. BY DATE REVISIONS

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DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CHUCK VERMEERSCH, PE
Date: 8/10/15 Lic, No. 43842

DRAWN BY:

DESIGNER:

CHECKED BY:

PHONE: 800.838.8666 1390 HWY. 15 S. SEH HUTCHINSON, MN 55350-0308 www.sehinc.com

CONSTRUCTION PLANS FOR REPAIR OF COUNTY DITCH NO. 20, MCLEOD COUNTY, MINNESOTA

PROFILE

94+79

INLET

FILE NO. MCLEO 131902

1069.47

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Project: REPAIR OF MCLEOD COUNTY DITCH NO. 20 SWPPP DESIGNER(S): _ SANDRA POMPLUN Owner: MCLEOD COUNTY CERTIFICATION: <u>DESIGN OF CONSTRUCTION SWPPP</u> EXP. <u>MAY 31, 2018</u> 830 East 11th St. Glencoe, Minnesota 55336 SWPPP SUMMARY/OVERVIEW This Stormwater Pollution Prevention Plan (SWPPP) has been developed by Short Elliott Hendrickson, Inc. for the owner to address the requirements of NPDES Permit MN R100001, Part III, Subpart A. This SWPPP includes a combination of narrative and references to plan sheets that describe the temporary and permanent storm water management plan for the project. The numbered sections below correspond to the same sections of the NPDES PART III. STORMWATER DISCHARGE DESIGN REQUIREMENTS A. Stormwater Pollution Prevention Plan Nature of construction activity: This ditch maintenance project consists of the repair and replacement of tile within the project area as shown in the project drawings. Person knowledgeable in erosion prevention and sediment control and who will oversee implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction: Responsible for long-term operation and maintenance: Owner, MCLEOD COUNTY 830 East 11th St. Glencoe, Minnesota 55336 2. Training requirements: See Part III.A.2.a,b,c,d.
Contractor to submit proof of SWPPP maintenance and installation certification before construction is to begin. CONTRACTOR'S SWPPP INSPECTOR: PHONE NO. EXP. ___ CARD NUMBER: _____ CERTIFICATION: 3. Narrative describing timing of installation of BMPs in Parts III, IV, Appendix A: The Contractor and the Owner or Owner's representative shall meet on site prior to the start of grading operations to discuss the locations where sit fence and other erosion control features are proposed and to recommend any additions or modifications prior to installation. Silt fence and other erosion prevention features will be placed prior to any construction activities and on an as needed basis as determined by the contractor and owner or the owner's representative in the field. The site is an existing ditch for McLeod County that is being maintained and repaired. Erosion and sediment control devices shall be removed once the site is stabilized. 4 SWPPP Requirements: a. Erosion Prevention and Sediment Control BMPs Temporary: Erosion and sediment control prevention features will be placed as described herein and as determined in the field by the Contractor or Engineer. Existing vegetation will be retained whenever possible. The contractor will conduct construction operations to minimize the area of exposed or disturbed soil at any given time, to the extent practical. Permanent Turf Establishment: Side slope areas of the ditch will be seeded. Disturbed areas of the site where seeding is required will be seeded with Mn/DOT Seed Mixtures as approved by the McLeod County. The site is an existing ditch for McLeod County that is being maintained and repaired.

- b. Estimated preliminary quantities tabulation
- Rock Log Inlet Protection 100 L.F.
- Preassembled Silt Fence 300 L.F.
 Permanent Seeding MnDot Mix 25-141 4.000 S.Y.
- Mulch Material MnĎot Type 1 and Disk Anchorina
 - -3 Tons
- c. Impervious surface

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DESIGN TEAM

Preconstruction 0 acres of Impervious Post Construction 0 acres of Impervious

- Site map with existing and final grades and drainage areas, soil types and impervious surfaces.
- Locations of areas not to be disturbed:

Areas within the construction limits to be disturbed are shown in the cross sections of the project drawings. Areas adjacent to and outside of the construction limits are in agricultural production and will not be disturbed as part of the project.

REVISIONS

- Locations where construction will be phased to minimized exposed soil areas: The entire project will be phased as described in Part III.A.3
 - Surface waters and wetlands within 1 mile that will receive stormwater: Otter (North Arm/Campbells), Crow River South Fork

- Amendments to the SWPPP
 - The SWPPP will be amended as needed and/or as required by provisions of the Permit.
 - All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - Seeding shall be done weekly for the areas disturbed that week.
- 6. Mitigation measures required from previous reviews (EAW, EIS, local, etc):
- 7. Karst and drinking water supply management area measures: n/a
- 8. Calcareous fen;

n/a

- Discharges to Impaired waters and TMDL: Crow River South Fork 07010205-540) Mercury in Fish Major Watershed: South Fork of Crow River
- Temporary Sediment Basins

Use of temporary sediment basins is not anticipated.

Permanent Stormwater Management System

Stormwater will be managed through the use existing stormwater conveyance and treatment infrastructure

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

Stormwater Pollution Prevention Plan

The SWPPP and BMPs identified will be installed and implemented in an appropriate and functional manner.

Erosion Prevention Practices

See Part III.A.3 for erosion prevention and sediment control BMPs.

Sediment Control Practices

See Part III.A.3 for erosion prevention and sediment control BMPs.

- D. Dewatering and Basin Draining
 - Dewatering is incidental to the project. If any dewatering is required, the contractor must either outlet the water to a temporary sediment basin or utilize a sediment control system approved by engineer in the field.
 - Discharge water shall be properly treated to effectively remove sediment.
 - Discharge water shall be dispersed over effective energy dissipation measure
- F Inspections and Maintenance

n. Construction site will be observed by the contractor's SWPPP inspector once every 7 days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.

Repairs must be made within 24 hours of discovering BMP maintenance needs

When sediment is observed up to approximately one-third of the height of silt fence, sediment will be removed. Silt fence will be repaired, replaced, or supplemented if it becomes nonfunctional.

Tracked sediment will be removed within 24 hrs of discovery. Sediment will be removed from conveyances within 7 days.

Permanent seeding will be observed for growth and washouts.

A summary maintenance/construction observation report will be recorded after each site visit/observation, with information outlined in Part IV.E.2

- F. Pollution Prevention Management Measures
 - 1. Solid Waste: Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements. No stockpiling on site.
 - 2. The disposal of any hazardous waste and materials will comply with MPCA regulations.
 - 3. External washing of trucks, construction vehicles, or engine degreasing shall not be allowed on site.
 - 4. Concrete washout will not be allowed on site unless the proper disposal methods are followed according to guidelines set forth by MPCA.

G. Final Stabilization

See Part III.A.3 for permanent erosion and sediment control.

The permittee will submit a Notice of Termination (NOT) within 30 days after final stabilization is complete.

- All soil disturbing activities have been completed.
- Exposed soils have been uniformly stabilized to min. 70% vegetation coverage
- All ditches, ponds, storm sewer conveyance systems have been cleared of sediment. All BMPs have been properly removed and disposed of.

Appendix A.

General Requirements

All requirements in this Appendix are in addition to BMPs already specified. The provisions in this Appendix take precedence.

- Requirements for Discharge to Special Water
- Additional BMPs for Special Waters & Impaired Waters

All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased. Seeding shall be done weekly for the areas disturbed that week. The entire project will be phased as described in Park III.A.3

- Requirements for Discharging to Wetlands
- E. Discharges Requiring Environmental Review
- Discharges Affecting Endangered or Threatened Species
- Discharges Affecting Historic Places or Archeological Sites
- G. n/a

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CONSTRUCTION PLANS FOR REPAIR OF COUNTY DITCH NO. 20. MCLEOD COUNTY, MINNESOTA

STORM WATER POLLUTION PREVENTION PLAN

FILE NO. MCLEO 131902

