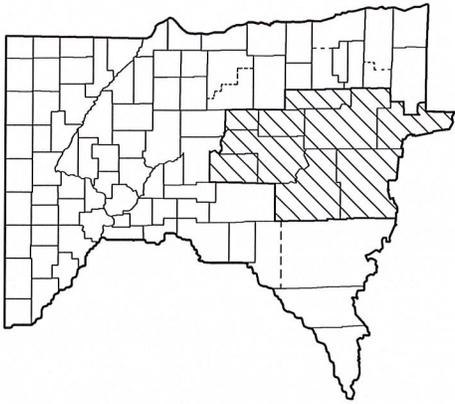
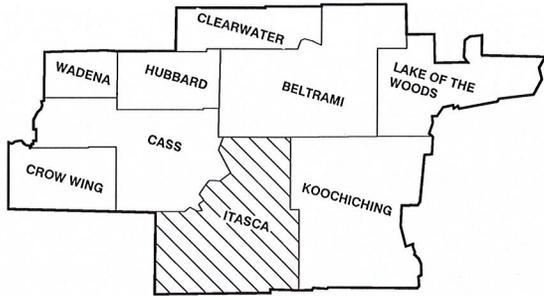


# COLERAINE - SCHOOL RAINGARDENS



CITY OF COLERAINE  
P.O. BOX 670  
COLERAINE, MN 55722

TOWNSHIP 56 NORTH  
RANGE 24 WEST  
SECTION 32



BEFORE START OF CONSTRUCTION, THE OWNERS OF ANY LOT INVOLVED IN THIS PROJECT SHALL BE RESPONSIBLE FOR GIVING THIS NOTICE BY CALLING TOGETHER WITH STATE ONE - CALL AT (612) 454-0022 (TWIN CITIES METRO AREA) PRIOR TO ANY EXCAVATION.

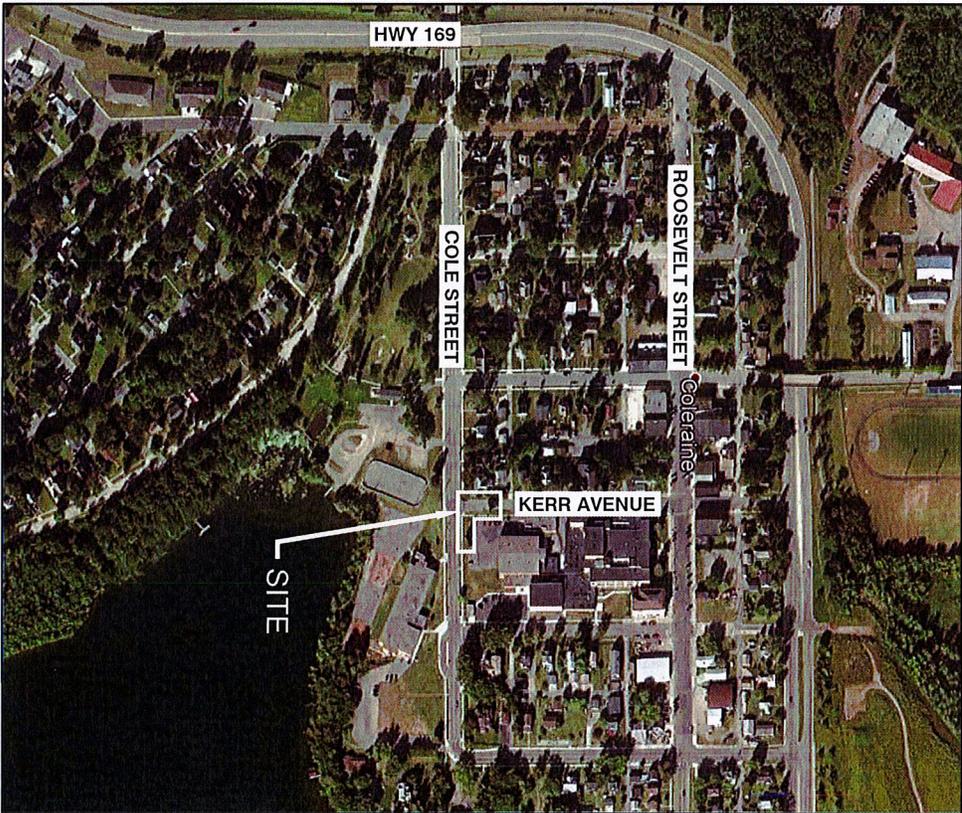
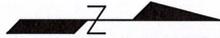
THE OWNER IS RESPONSIBLE FOR OBTAINING LAND RIGHTS AND ALL PERMITS OR OTHER PERMISSION NECESSARY TO PERFORM AND MAINTAIN THE PROJECT.

- GOVERNING SPECIFICATIONS -

THE CONSTRUCTION AND MATERIALS SPECIFICATIONS PREPARED FOR THIS PROJECT SHALL GOVERN. THESE SPECIFICATIONS ARE PART OF THE PLAN.

CHANGES IN THE DRAWINGS OR SPECIFICATIONS MUST BE AUTHORIZED BY THE OWNER AND THE RESPONSIBLE ENGINEER.

SHEET NO.	TITLE
1	LOCATION MAP
2	QUANTITIES
3	DETAILS
4	TYPICAL SECTIONS
5	TYPICAL SECTIONS
6	EXISTING TOPOGRAPHY
7	PLAN VIEW - KERR AVENUE
8	PLAN VIEW - COLE STREET
9	CROSS SECTIONS
10	CROSS SECTIONS



LOCATION MAP

NOT TO SCALE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

William K. Westerberg License #: 21874  
Date: 2/6/21

Coleraine-School Raingardens

Drawn By: Brad Kennedy DATE  
Checked By: William Westerberg

Location Map

Technical Service Area 8  
322 Laurel St, Suite 22  
Brainerd, MN 56401  
(218) 828-6197



Sheet No.  
1

Statement of Estimated Quantities

No.	Item Number	Item	Unit	Quantity	West Side Kerr Avenue	Quantity	East Side Kerr Avenue	Quantity	North of Cole St Sidewalk	Quantity	Total
1	2021.501	Mobilization	Lump Sum	0.4		0.5		0.1		1.0	
2	2104.503	Remove Concrete Curb and Gutter	Lin Ft	12		13				25	
3	2104.518	Remove Bituminous Pavement	Sq Ft	30		30				60	
4	2104.518	Remove Concrete Walk	Sq Ft	217		287				504	
5	2104.503	Sawing Bituminous Pavement	Lin Ft	16		17				33	
6	2104.503	Sawing Concrete Pavement	Lin Ft	15		18				33	
7	2105.507	Common Excavation (CV)	Cu Yd	48		84		51.8		183.8	
8	2105.607	Engineered Fill	Cu Yd	8		22				30	
9	2211.507	Aggregate Base (CV) Class 5	Cu Yd	2.0		2.0				4	
10	2360.601	Bituminous Patch- Kerr Avenue	Sq Ft	30		30				60	
11	2506.601	Modular Concrete Dry Filter Boxes	Each	1		1				2	
12	2511.507	Random Riprap, Class 1	Cu Yd	6		11				17	
13	2511.504	Geotextile Filter, Type 3 Nonwoven	Sq Yd	55		60				115	
14	2511.601	Rock Check Dam	Each					1		1	
15	2521.518	4 in. Concrete Walk	Sq Ft	303		300				603	
16	2531.503	Concrete Curb and Gutter Design B618	Lin Ft	12		13				25	
17	2563.601	Traffic Control	Lump Sum	0.4		0.5		0.1		1.0	
18	2564.601	Relocate "Stop" Sign	Each	1						1	
19	2564.601	Relocate "No Parking" Sign	Each			1				1	
20	2573.553	Sediment Control Log: Type Wood Fiber	Lin Ft	73		118		20		211	
21	2573.502	Storm Drain Inlet Protection	Each	1		2				3	
22	2575.505	Seeding	ACRE	0.0049		0.0042		0.0250		0.0341	
23	2575.507	Mulch Material, Type 6 Handwood	Cu Yd	2.0		3.5				5.5	
24	2575.507	Mulch Material, Type 9 Aggregate 3/4 minus	Cu Yd	1.5		2.0				3.5	
25	2575.508	Seed, Mixture MNDOT Seed Mix 25-131	POUND	1.1		1.0				2.1	
25	2575.508	Seed, Mixture Swale	POUND					6.5		6.5	
26	2575.504	Erosion Control Blanket, Category 3 Natural	Sq Yd	25		21		30		76	

EARTHWORK SUMMARY		
EXCAVATION	TOPSOIL	35.8 CY
	SUITABLE MATERIAL	148 CY
	TOPSOIL	18.5 CY
	SUITABLE MATERIAL	2 CY
EMBANKMENT (EARTH FILL)	SUITABLE MATERIAL-ENGINEERED FILL	30 CY
	TOPSOIL	17.3 CY
EXCESS MATERIAL	SUITABLE MATERIAL	146 CY

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

William K. Westerberg License #: 21874  
 Date: 2/6/21

Coleraine-School Raingardens

Drawn By: Brad Kennedy DATE  
 Checked By: William Westerberg

Quantities

Technical Service Area 8  
 322 Laurel St, Suite 22  
 Brainerd, MN 56401  
 (218) 828-6197



# Rock Check Dam Detail

Not to Scale

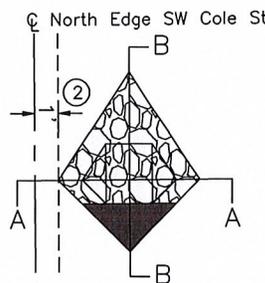
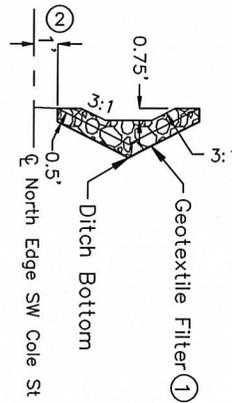
A-A

PLAN VIEW

 Random Rip Rap shall be Class 1 in accordance with MNDOT Spec 2511 and 3601.

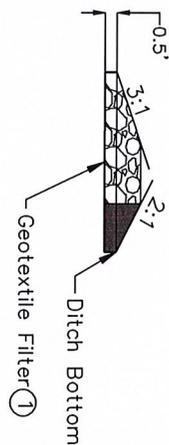
 1 1/2" Rock shall be coarse filter aggregate in accordance with MNDOT Spec 2451

RANDOM RIP RAP CLASS 1		
% PASSING BY WEIGHT	ROCK SIZE (IN)	
100	6	
25-50	3	
10	1	



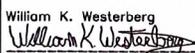
① Shall be Non-woven Type 3 in accordance with MNDOT Spec 2511 and 3733

② Slope 4.0%  
See plan view and cross sections for additional information



Furnish and install items necessary to construct Rock Check Dam such as Random Rip Rap Class 1, 1 1/2" Rock, and Geotextile Filter.  
Quantity measured for the Rock Check Dam on Lump Sum Basis and include items mentioned above.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

William K. Westerberg License #: 21874  
  
 Date: 2/6/21

Coleraine-School Raingardens

Technical Service Area 8

Drawn By: Brad Kennedy DATE  
 Checked By: William Westerberg

322 Laurel St, Suite 22  
 Brainerd, MN 56401  
 (218) 828-6197

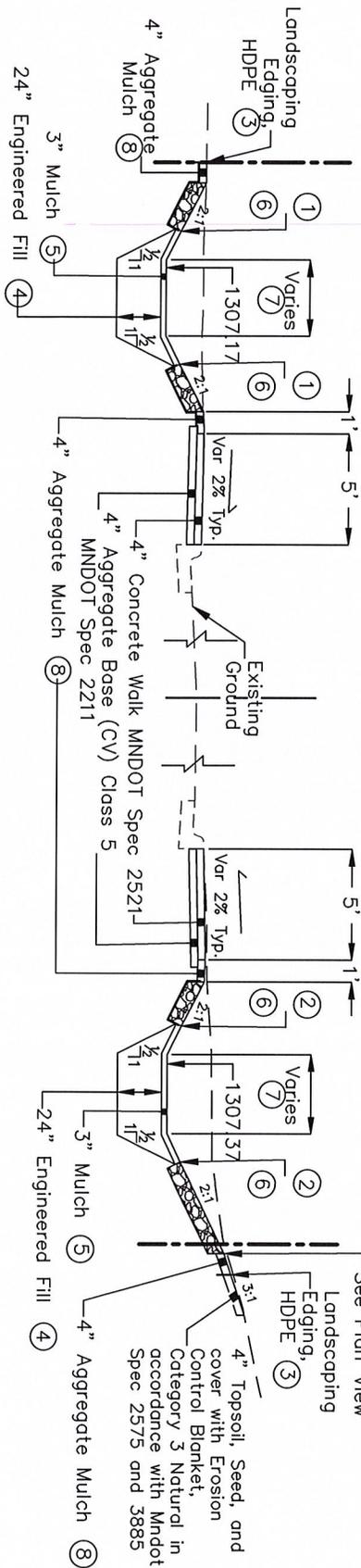
Details



Sheet No. 3

# Rain Garden Typical

☐ Kerr Avenue



Top Rock Varies  
Elev. 1309.00 Typical  
See Plan View

4" Topsoil, Seed, and cover with Erosion Control Blanket, Category 3 Natural in accordance with Mndot Spec 2575 and 3885

If soil conditions at the proposed rain garden locations consist of soil not conducive to infiltration, or ground water encountered, the Engineer shall be notified immediately and installation shall wait until the site can be reviewed by the Engineer.

Contractor shall avoid compaction of soils by heavy equipment within rain garden area.

Grading shall be accomplished in rain garden areas using low compaction equipment to prevent compaction of underlying soils.

Use toothed bucket to excavate rough rain garden volume to reduce compaction. Avoid entering rain garden area with excavation equipment.

Contractor shall protect rain garden slopes from erosion with sediment control logs immediately after engineered fill is installed.

Elevation where mulch and rock meet 1307.84

Elevation where mulch and rock meet 1308.00

Landscaping Edging, HDPE shall be furnished and installed as per manufacturers recommendations at the locations shown in the Plans and as per Engineer in the field.

Engineer Fill is a well blended mixture by volume of 30% Organic Leaf Compost and 70% Sand.

Organic Leaf Compost: MNDOT Grade 2 (MNDOT Spec. 3890)

Sand: Clean construction sand, free of deleterious. AASHTO M-6 or ASTM C-33 with grain size of 0.02 to 0.04 inches.

As approved by the engineer

in the field sand may be obtained from excavated material in area of rain garden, if sand meets the above requirements.

Mulch Material shall be hardwood type 6 in accordance with MNDOT Spec 3882

Sediment Control Log shall be wood fiber in accordance with MNDOT Spec 2573 and 3897.

The dimensions of the rain garden finished surface varies. See plan view and cross sections for additional information

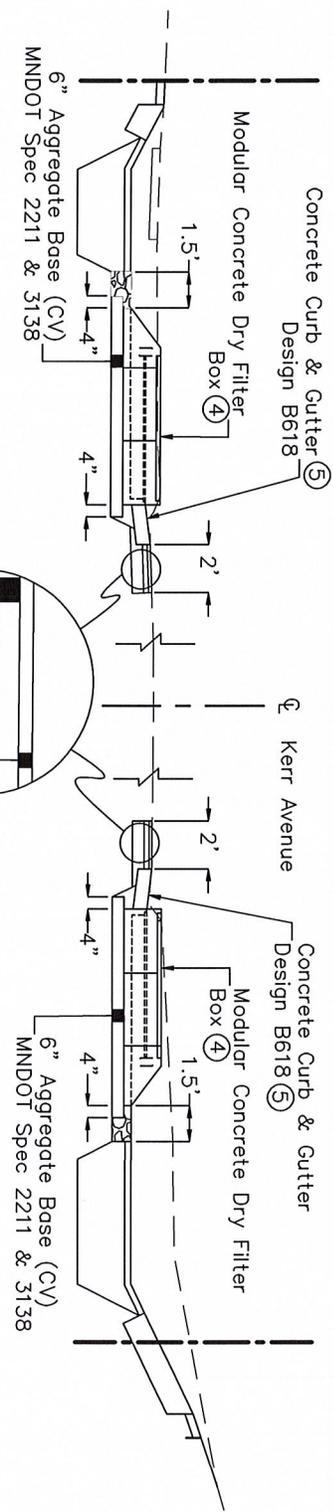
Mulch shall be aggregate type 9 in accordance with Mndot 3881.

over Geotextile Filter Type 3 in accordance with MNDOT Spec 2511.

Furnish and install 8" thick Random Rip Rap Class 1 in accordance with MNDOT Spec 2511 & 3601 over Geotextile Filter Type 3 in accordance with MNDOT Spec 2511 & 3735.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  William K. Westerberg License #: 21874 Date: 2/6/21	Coleraine-School Raingardens	Technical Service Area 8 322 Laurel St, Suite 22 Brainerd, MN 56401 (218) 828-6197	
	Drawn By: Brad Kennedy DATE Checked By: William Westerberg	Typical Sections	

# Kerr Avenue Typical Section at Sediment Removal Structure



2 1/2" Type SSP 12.5 Non-Wearing Course Mixture MNDOT Spec 2360 (SPNWB230B)

6" Aggregate Base (CV) Class 5 MNDOT Spec 2211 & 3138

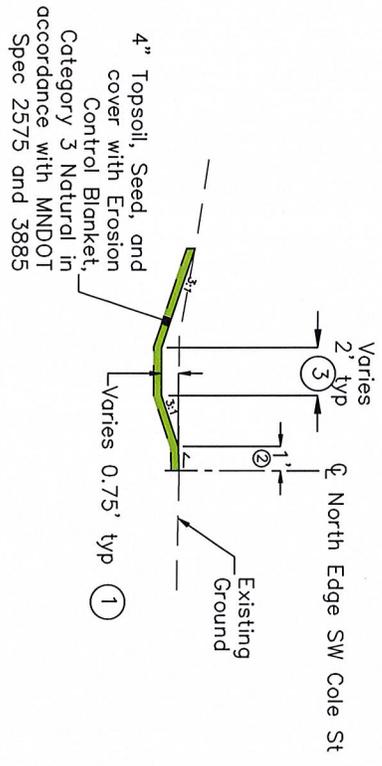
Furnish and install 8" thick Random Rip Rap Class 1 in accordance with MNDOT Spec 2511 and 3601 over Geotextile Filter Type 3 in accordance with MNDOT Spec 2511 and 3733

1 1/2" Type SP 9.5 Wearing Course Mixture MNDOT Spec 2360 (SPWEA240B)

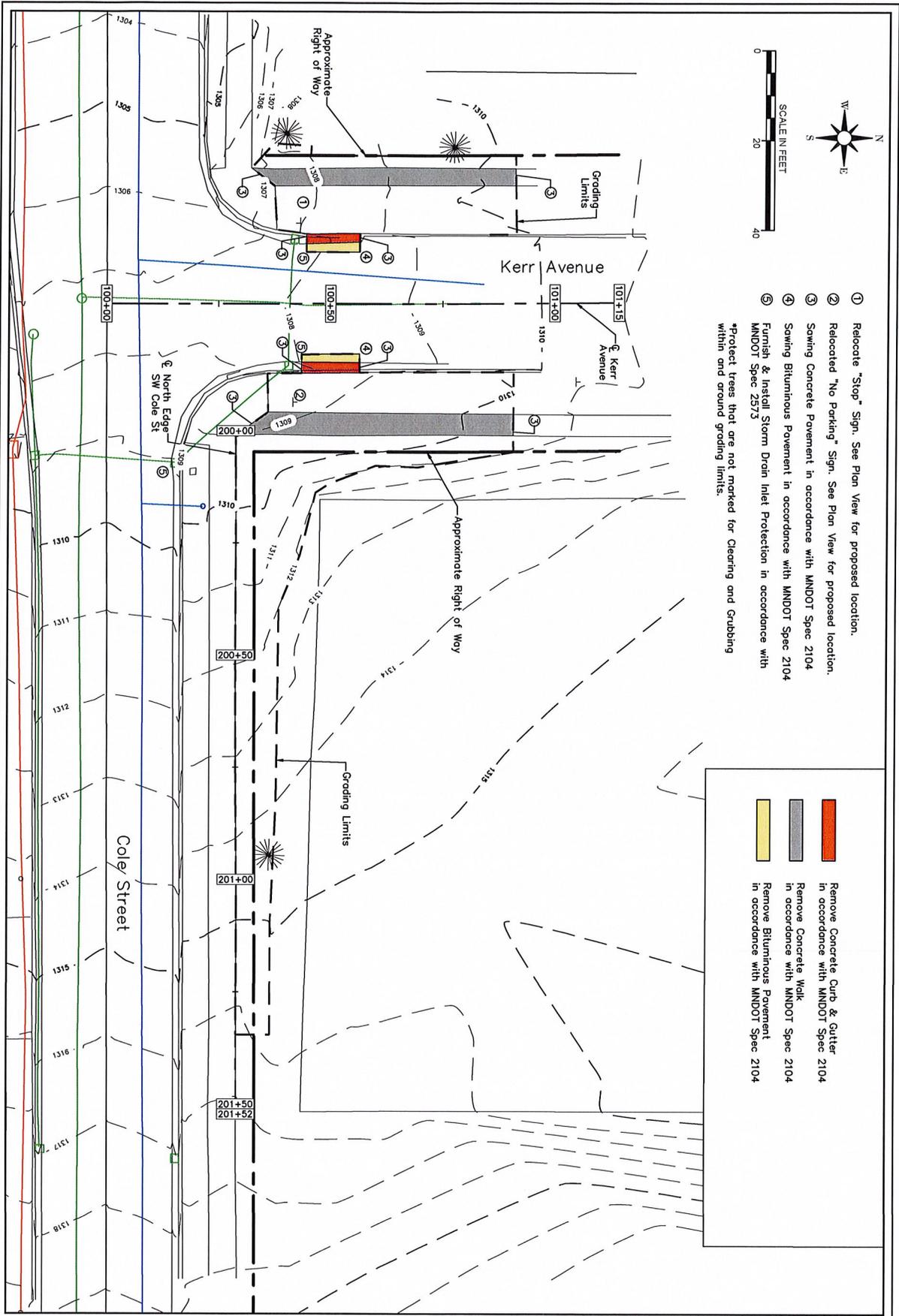
4 Modular Concrete Dry Filter Box shall be Rain Guardian-Foxhole. See Plan View and Specifications for additional information.

5 Curb shall be curved into Sediment Removal System as per Engineer in the field. Gutter cross slope of Concrete Curb and Gutter varies to match pavement of Kerr Avenue and Sediment Removal System.

## North Edge Sidewalk Cole Street Ditch Typical Section

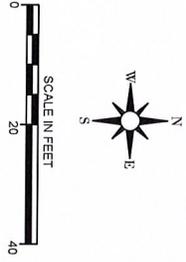


- 1 Ditch depth varies. See plan view and cross sections for additional information.
  - 2 4.0% slope.
  - 3 Ditch width varies. See plan view and cross sections for additional information.
- Suitable Material shall be all soils excavated except topsoil, peat, debris, muck, silty soils, and organics.

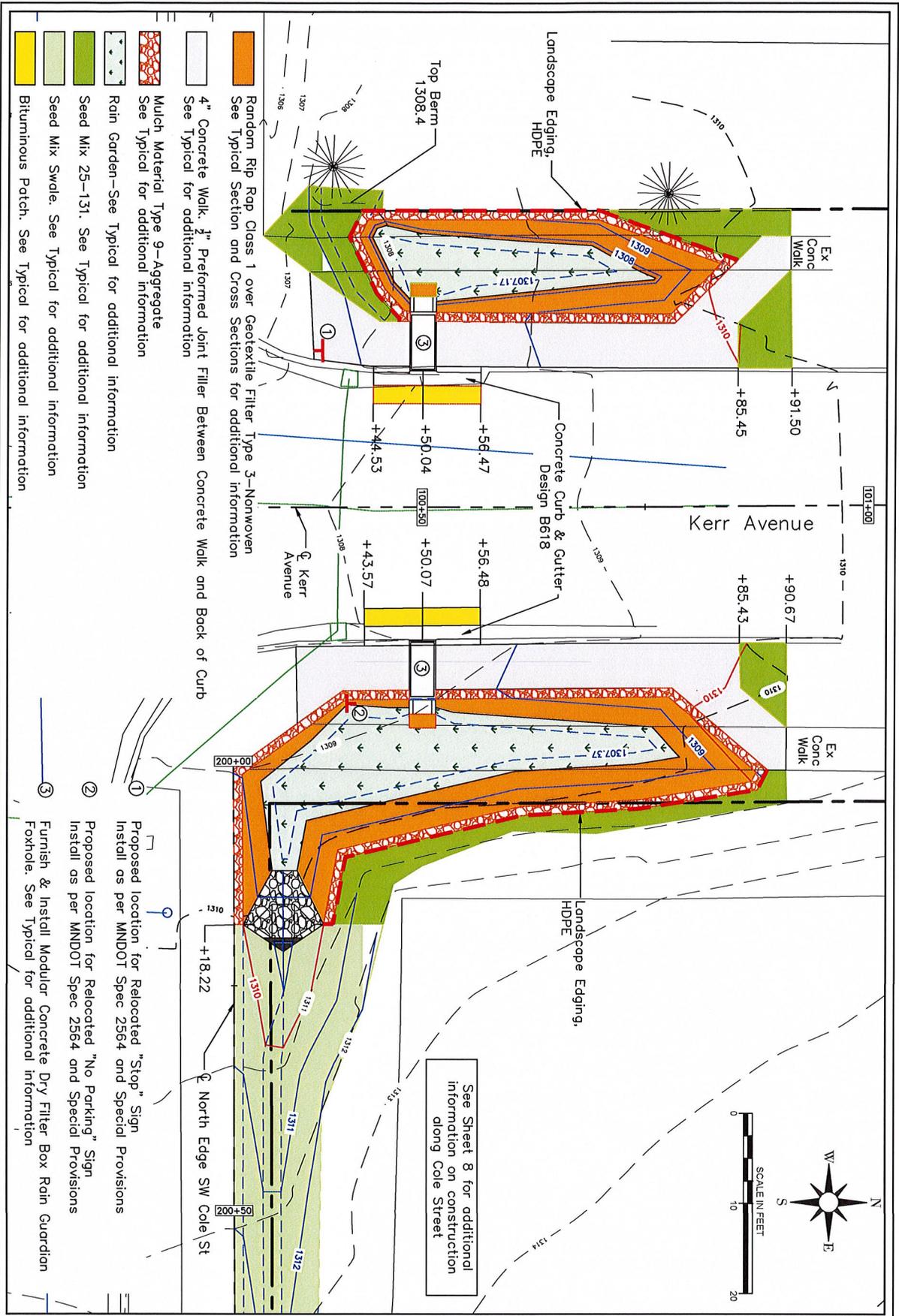


- ① Relocate "Stop" Sign. See Plan View for proposed location.
  - ② Relocate "No Parking" Sign. See Plan View for proposed location.
  - ③ Sowing Concrete Pavement in accordance with MNDOT Spec 2104
  - ④ Sowing Bituminous Pavement in accordance with MNDOT Spec 2104
  - ⑤ Furnish & Install Storm Drain Inlet Protection in accordance with MNDOT Spec 2573
- \*Protect trees that are not marked for Clearing and Grubbing within and around grading limits.

- Remove Concrete Curb & Gutter in accordance with MNDOT Spec 2104
- Remove Concrete Wall in accordance with MNDOT Spec 2104
- Remove Bituminous Pavement in accordance with MNDOT Spec 2104



Sheet No. <b>6</b>	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.	<b>Coleraine-School Raingardens</b>	<i>Technical Service Area 8</i>
	William K. Westerberg <i>William K. Westerberg</i>	License #: 21874 Date: 2/6/21	Drawn By: Brad Kennedy Checked By: William Westerberg
Existing Topography			 TECHNICAL SERVICE AREA 8

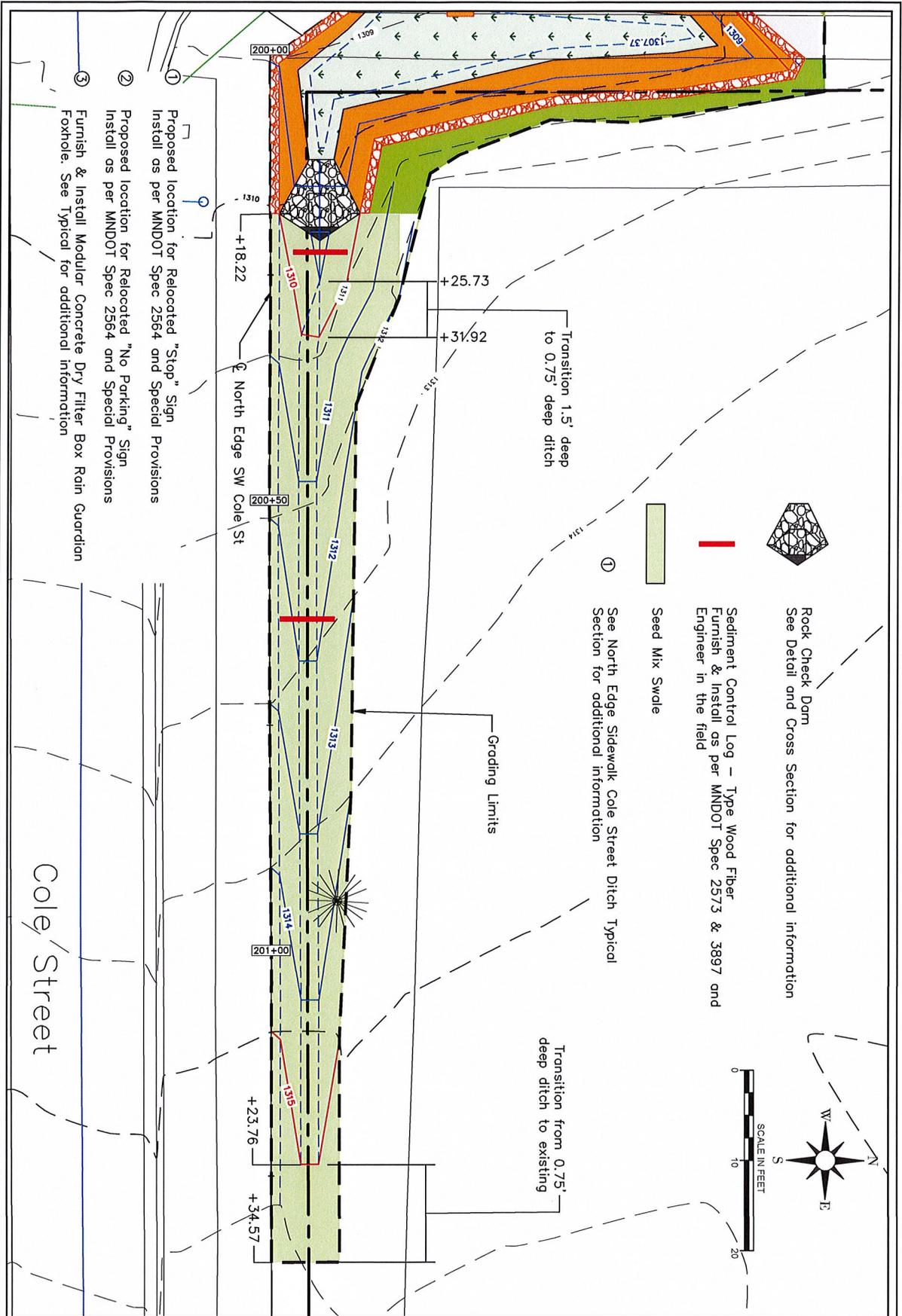


- Random Rip Rap Class 1 over Geotextile Filter Type 3--Nonwoven See Typical Section and Cross Sections for additional information
- 4" Concrete Walk, 1/2" Performed Joint Filler Between Concrete Walk and Back of Curb See Typical for additional information
- Mulch Material Type 9--Aggregate See Typical for additional information
- Rain Garden--See Typical for additional information
- Seed Mix 25--131. See Typical for additional information
- Seed Mix Swale. See Typical for additional information
- Bituminous Patch. See Typical for additional information

- ① Proposed location for Relocated "Stop" Sign Install as per MNDOT Spec 2564 and Special Provisions
- ② Proposed location for Relocated "No Parking" Sign Install as per MNDOT Spec 2564 and Special Provisions
- ③ Furnish & Install Modular Concrete Dry Filter Box Rain Guardian Foxhole. See Typical for additional information

See Sheet 8 for additional information on construction along Cole Street

Sheet No. 7	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.	<b>Coleraine--School Raingardens</b>	Technical Service Area 8 322 Laurel St, Suite 22 Brainerd, MN 56401 (218) 828-6197	
	William K. Westerberg 	License #: 21874 Date: 2/6/21	Drawn By: Brad Kennedy Checked By: William Westerberg	
	Plan View--Kerr Avenue		SCALE IN FEET 0 10 20	



Sheet No.  
8

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

William K. Westerberg License #: 21874  
 Date: 2/6/21

Coleraine-School Raingardens

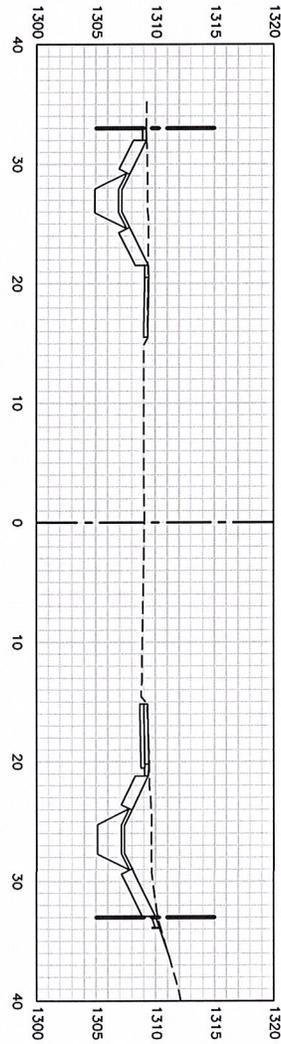
Drawn By: Brad Kennedy DATE  
 Checked By: William Westerberg

Plan View-Cole Street

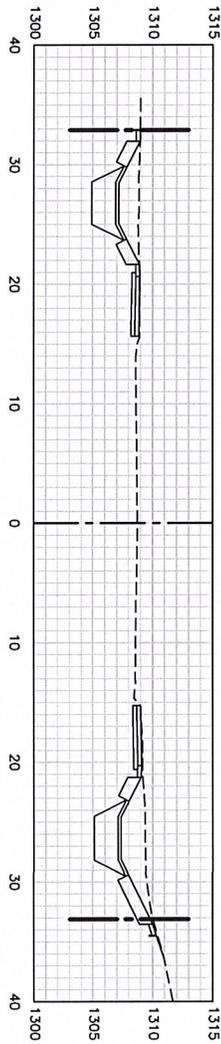
Technical Service Area 8  
 322 Laurel St, Suite 22  
 Brainerd, MN 56401  
 (218) 828-6197



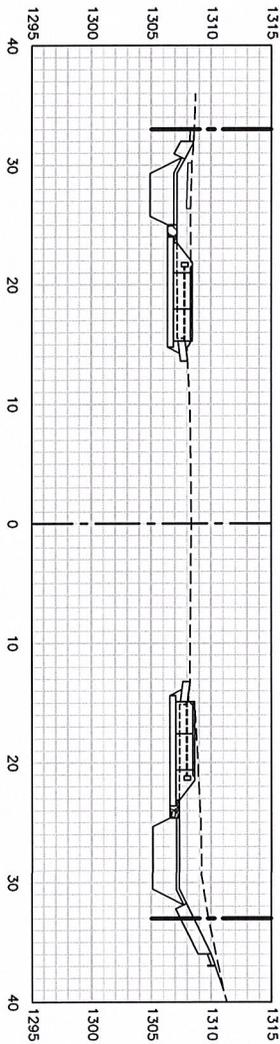
Sta. 100+70 Along Kerr Ave



Sta. 100+60 Along Kerr Ave



Sta. 100+50 Along Kerr Ave



Technical Service Area 8  
322 Laurel St, Suite 22  
Brainerd, MN 56401  
(218) 828-6197



Coleraine-School Raingardens

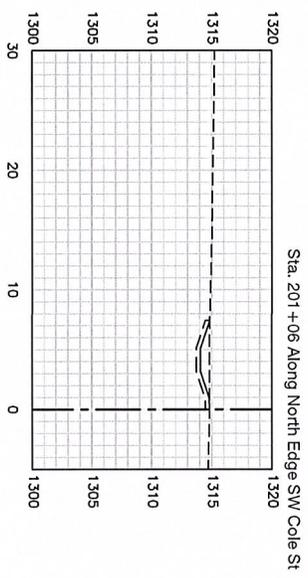
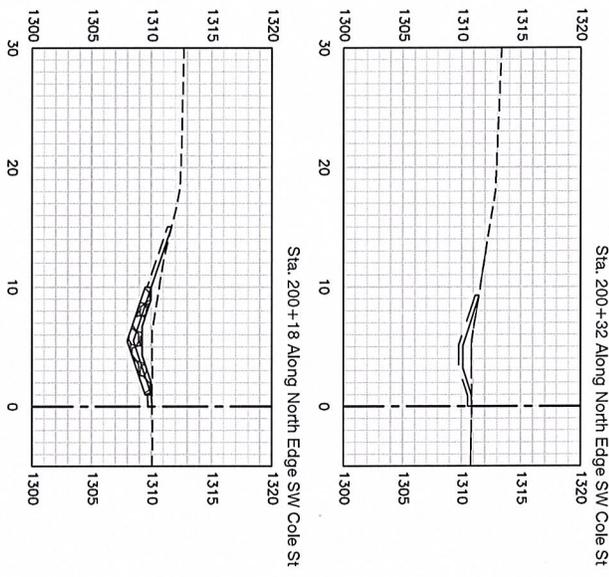
Drawn By: Brad Kennedy DATE  
Checked By: William Westerberg

Cross Sections

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

William K. Westerberg License #: 21874  
Date: 2/6/21

Sheet No. 9



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

William K. Westerberg License #: 21874  
 Date: 2/6/21

Coleraine-School Raingardens

Drawn By: Brad Kennedy DATE  
 Checked By: William Westerberg

Cross Sections

Technical Service Area 8  
 322 Laurel St, Suite 22  
 Brainerd, MN 56401  
 (218) 828-6197



**Trout Lake Stormwater Enhancement Project**

Budget Item	Grant Amount Requested	"Out-of-Pocket" Cash Match (\$)	Source of Cash Match	"In-Kind" Match (\$)	Source of "In-Kind" Match	Total
Kerr Ave. Raingardens	\$39,467					\$
Underground storage BMP	\$238,533					\$
Mississippi Headwaters Board funding match				\$10,000		\$
Blandin Grant				\$5,000		\$
Engineering costs	\$48,000					\$
Admin costs	\$25,000					\$
Private contributions				\$6,300		\$
City of Coleraine contributions						\$
						\$
						\$
						\$
						\$
<b>TOTAL</b>						\$
						\$
<b>Total Grant Request</b>						\$ 351,000
<b>Total Cash Match</b>						\$ 21,300
<b>Total In-Kind Match</b>						\$
<b>Total Match</b>						\$ <b>\$87,850</b>
<b>Total Project Balance</b>						\$

**Notes on Matching Funds/Sources**

Cash Match: *Insert text.* In-Kind Match: *Insert text.*

(must be 25% or greater)

(should be \$0)

<b>2</b>	<b>Plans Specifications Estimate Maintenance Plan</b>				
2.1	Prepare Plans	TSA 8	11/25/20	1/20/21	55
2.2	Quantities	TSA 8	1/4/21	1/20/21	16
2.3	Specifications	TSA 8	1/4/21	1/20/21	16
2.4	Maintenance Plan	TSA 8	1/4/21	1/20/21	16
2.5	Review plans with Owners and SWCD	TSA 8	1/20/21	1/27/21	7
<b>3</b>	<b>Approvals</b>				
3.1	Owner Approve Plans and Specs and Authorize Ad for Bid				
3.1.1	City of Coleraine	City	2/8/21	2/8/21	0
3.1.2	Itasca SWCD	SWCD	2/9/21	2/9/21	0
3.1.3	ISD 316	ISD 316	1/27/21	1/27/21	0
<b>4</b>	<b>Bid Process</b>				
4.1	Prepare and submit ad for bid	TSA 8	2/16/21	2/16/21	0
4.2	Advertise	TSA 8	2/16/21	3/3/21	17
4.3	Open bids/quotes	TSA 8	3/3/21	3/3/21	0
4.3	Tabulate bids/quotes	TSA 8	3/3/21	3/4/21	1
<b>5</b>	<b>Award of Contract</b>				
5.1	Send in Recommendation for Award	TSA 8	3/4/21	3/4/21	0
5.2	SWCD Award Contract		3/9/21	3/9/21	0
5.3	Prepare Contracts	TSA 8	3/4/21	3/10/21	6
5.4	Send Contracts to Contractor	TSA 8	3/10/21	3/10/21	0
5.5	Contractor Prepare Contract including Bonds and certificate of Insurance	Contractor	3/10/21	3/20/21	10
5.6	Receive Contracts from Contractor	TSA 8	3/20/21	3/22/21	2
5.7	Review Contract including Bonds and Certificate of Insurance	TSA 8	3/22/21	3/26/21	4
<b>6</b>	<b>Contractor Construction</b>				
6.1	Issue Notice to Proceed	TSA 8	3/29/21	3/29/21	0
6.2	Contact Contractor and affected parties to set up preconstruction Conference	TSA 8	3/29/21	4/2/21	3
6.2.1	Preconstruction Conference		4/5/21	4/16/21	11
6.3	Contractor prepare shop drawings of all materials for review	Contractor	4/19/21	5/2/21	13
6.4	Review shop drawings	TSA 8	5/3/21	5/7/21	4
6.4.1	Approve Shop Drawings	TSA 8	5/7/21	5/7/21	0
6.5	Weight Restrictions lifted	Itasca County	5/8/21	5/8/21	0
6.6	Contractor Construction	Contractor	5/10/21	5/21/21	11
6.6.1	Prepare Punchlist	TSA 8	5/10/21	5/21/21	11
6.6.2	Contractor complete punchlist	Contractor	5/21/21	5/21/21	0
6.7	TSA 8 Prepare Final Documentation	TSA 8	5/24/21	6/1/21	7
6.7.1	Prepare Asbuilts	TSA 8	5/24/21	6/1/21	7
6.7.1.1	Prepare Certification Memo	TSA 8	5/24/21	6/1/21	7
6.7.2	Complete pay application	TSA 8	5/24/21	5/26/21	2
6.7.2.1	Get Contractor Agreement	TSA 8	5/26/21	6/1/21	5
6.7.2.2	Submit signed Pay App to SWCD for Approval	TSA 8	6/1/21	6/1/21	0