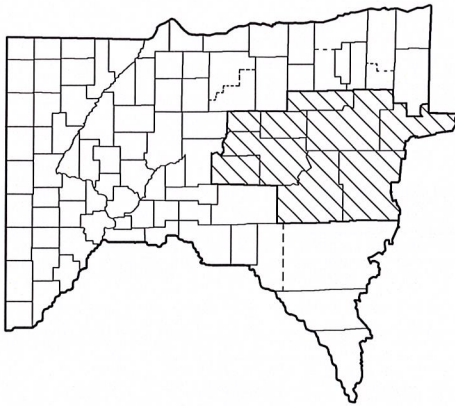
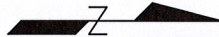
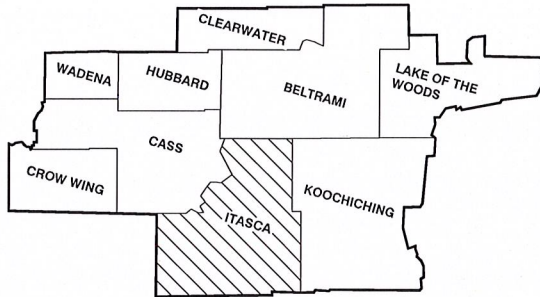


# COLERAINE - SCHOOL RAINGARDENS



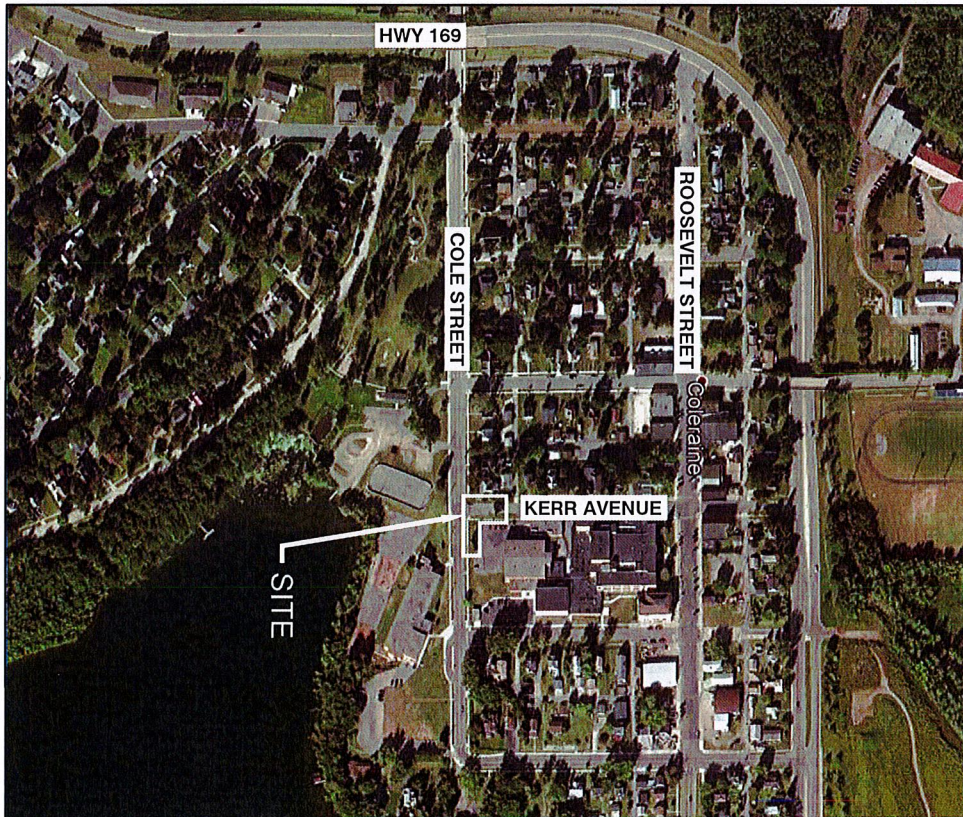
CITY OF COLERAINE  
P.O. BOX 670  
COLERAINE, MN 55722

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  
STATE ONE-CALL AT (612) 454-0002 (TWIN CITIES METRO  
AREA) OR (507) 253-1111 (OTHER LOCATIONS) AT LEAST  
48 HOURS 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 INDEX	
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	West Side Kerr Avenue	East Side Kerr Avenue	North of Cole St Sidewalk	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 I	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	2573.533	Sediment Control Logs 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 Hardwood	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
EMBANKMENT (EARTHFILL)	TOPSOIL	18.5 CY
	SUITABLE MATERIAL	2 CY
EXCESS MATERIAL	SUITABLE MATERIAL-ENGINEERED FILL	30 CY
	TOPSOIL	17.3 CY
	SUITABLE MATERIAL	146 CY

# Rock Check Dam Detail

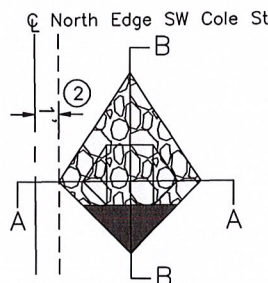
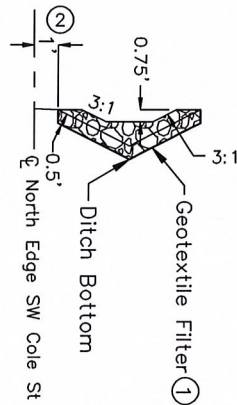
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A-A

PLAN VIEW

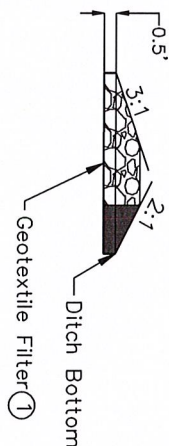
Random Rip Rap shall be Class 1 in accordance with MNDOT Spec 2511 and 3601.

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



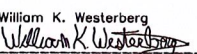
RANDOM RIP RAP CLASS 1		
% PASSING BY WEIGHT	ROCK SIZE (IN)	
100	6	
25-50	3	
10	1	

- 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

Drawn By: Brad Kennedy  
 Checked By: William Westerberg  
 Details

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

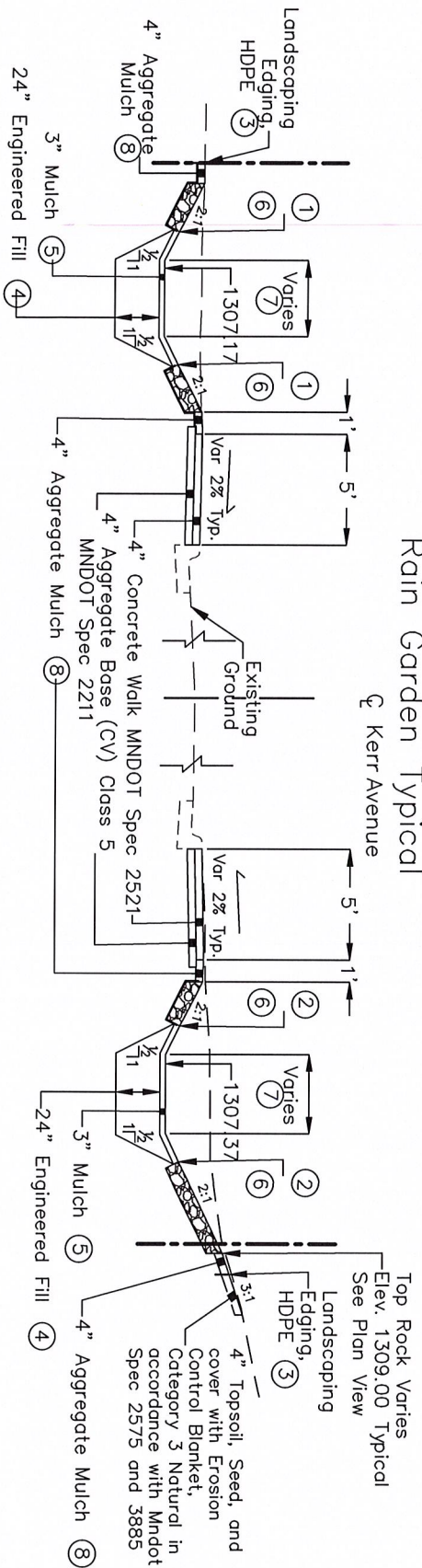


Sheet No.  
3



# Rain Garden Typical

☐ Kerr Avenue



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.

Groding 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.

① Elevation where mulch and rock meet 1307.84

② Elevation where mulch and rock meet 1308.00

③ Landscaping Edging, HDPE shall be furnished and installed as per manufactures recommendations at the locations shown in the Plans and as per Engineer in the field.

⑦ Engineer Fill is a well blended mixture by volume of 30% Organic Leaf Compost and 70% Sand.

⑧ -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 raingarden 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 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

Drawn By: Brad Kennedy DATE  
Checked By: William Westerberg

Typical Sections

Technical Service Area 8

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



Sheet No. 4

Concrete Curb & Gutter Design B618 (5)

Modular Concrete Dry Filter Box (4)

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

1.5'

4"

2'

4"

Kerr Avenue

Concrete Curb & Gutter Design B618 (5)

Modular Concrete Dry Filter Box (4)

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

1.5'

4"

2'

4"

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

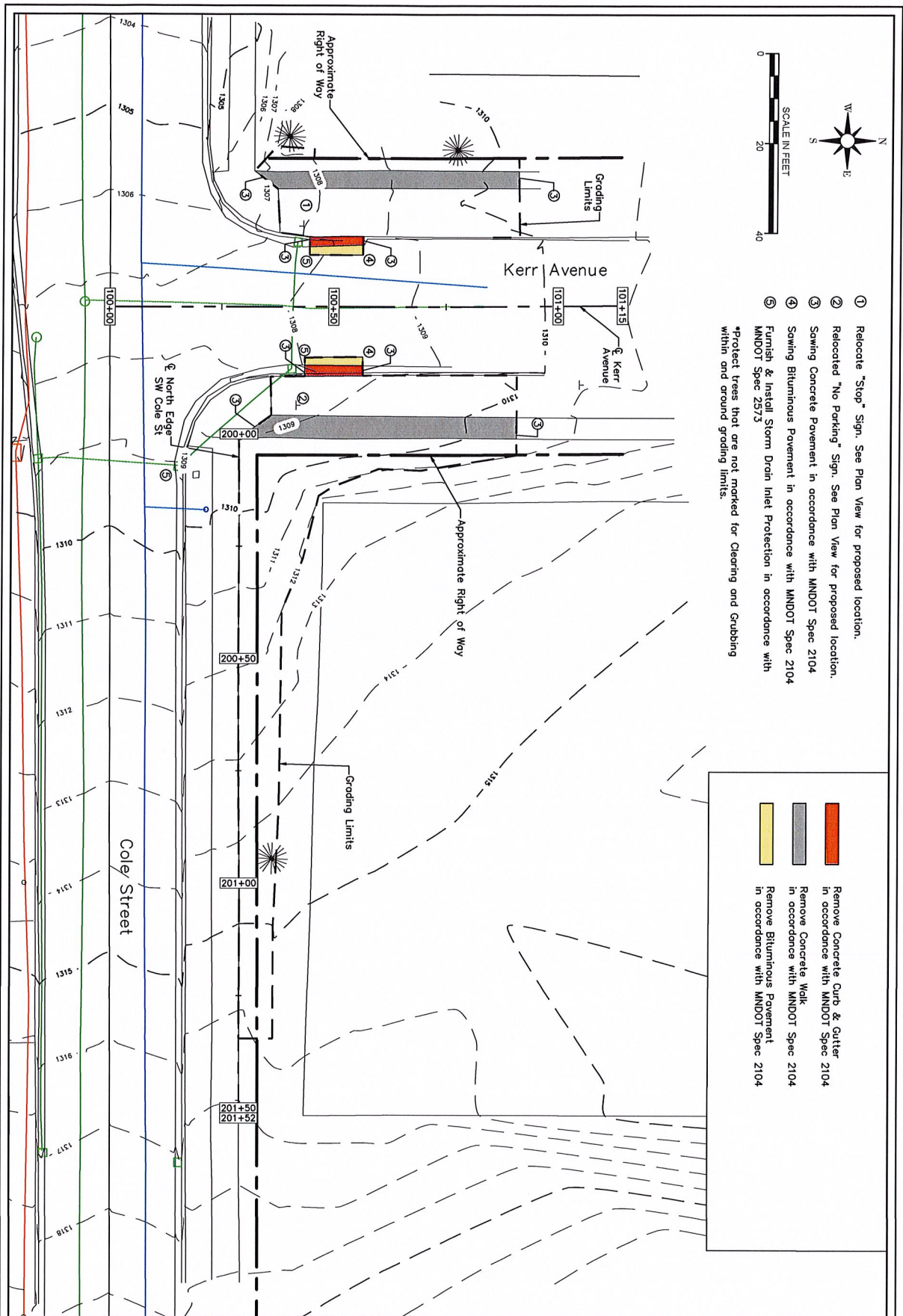
④ Modular Concrete Dry Filter Box shall be Rain Guardian-Foxhole. See Plan View and Specifications for additional information.

[illegible]

- 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. 6

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

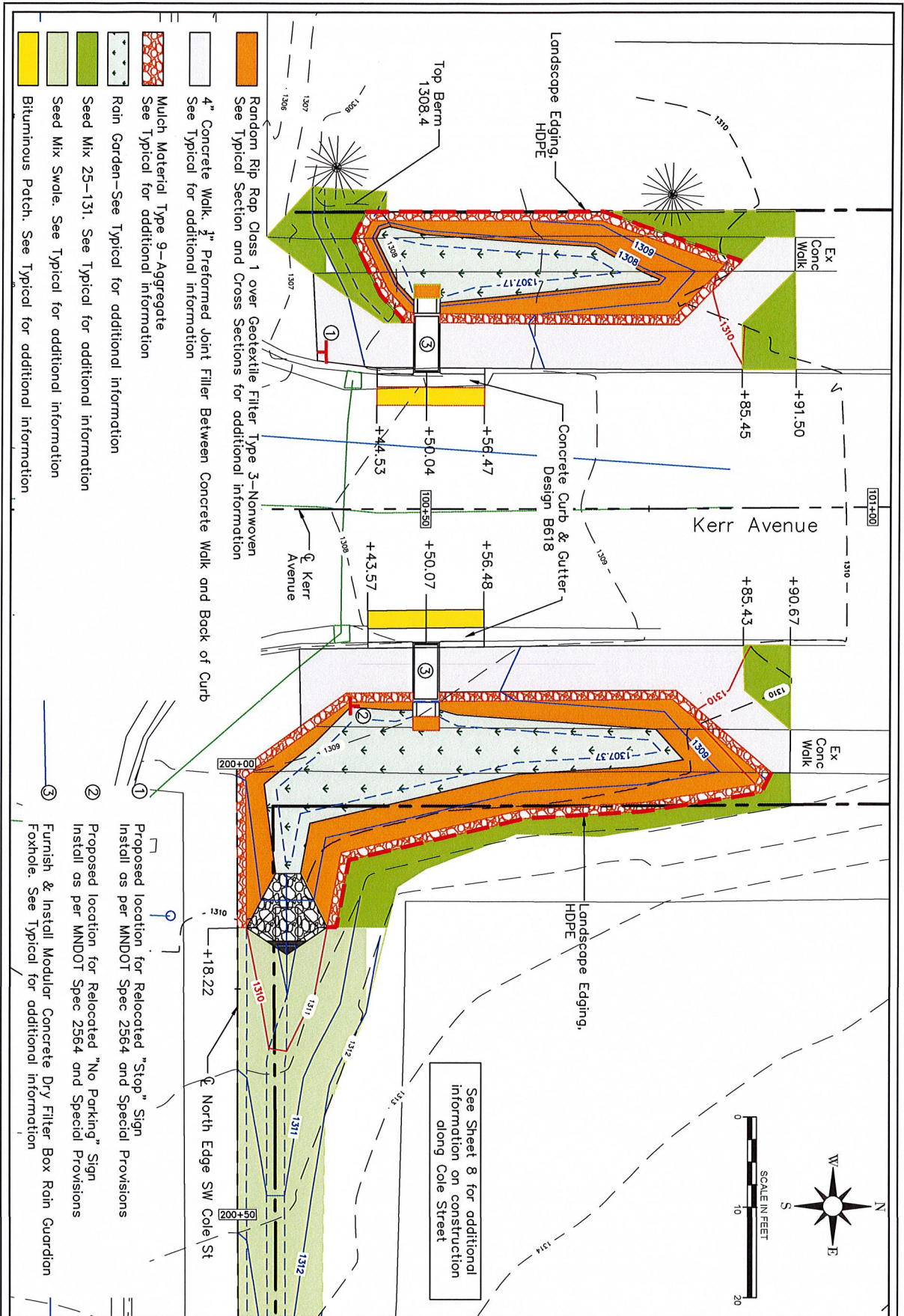
Coleraine-School Raingardens


Drawn By: Brad Kennedy  
 Checked By: William Westerberg

Existing Topography

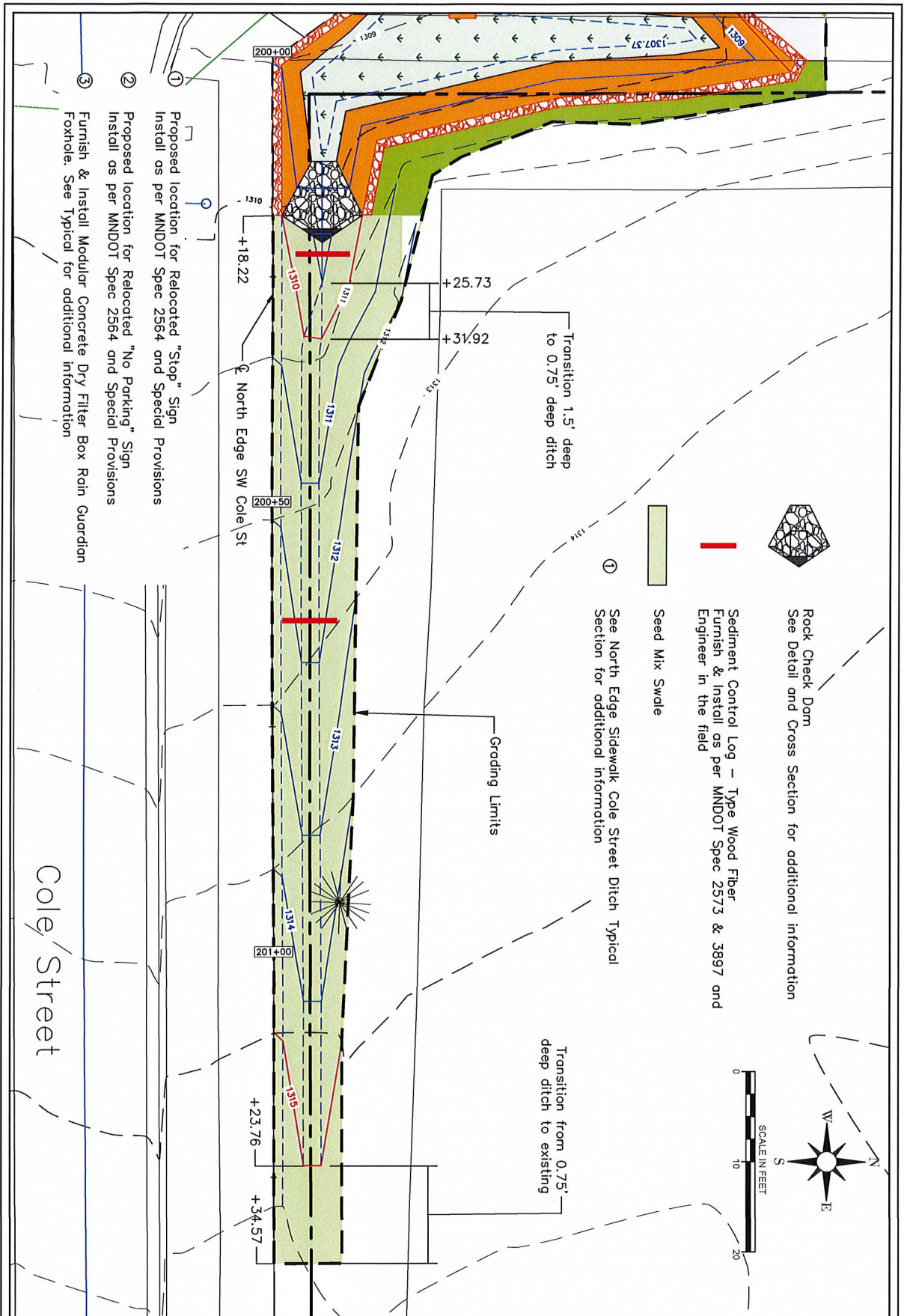
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 Brainerd, MN 56401  
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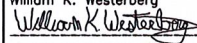





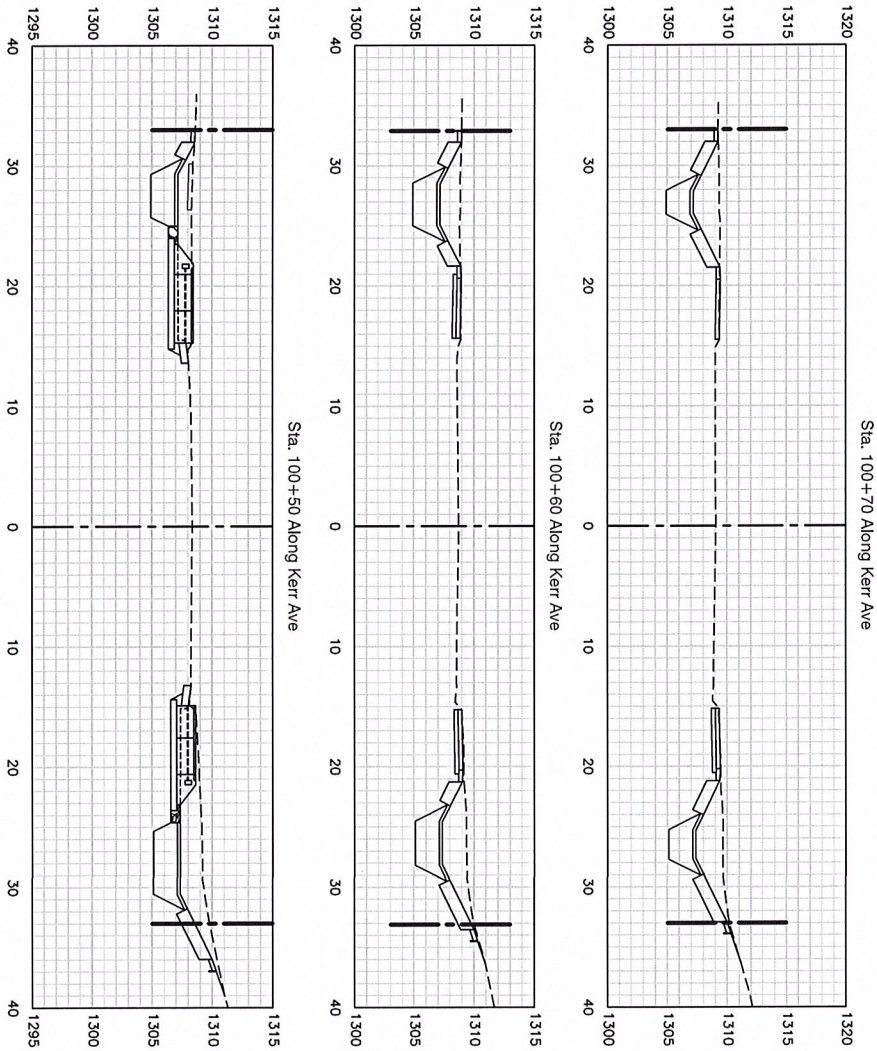
Sheet No. 7	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.	<b>Coleraine--School Raingardens</b>	<b>Technical Service Area 8</b> 322 Laurel St, Suite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





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.	Coleraine-School Raingardens	Technical Service Area 8 322 Laurel St, Suite 22 Brainerd, MN 56401 (218) 828-6197
	William K. Westerberg 	Drawn By: Brad Kennedy Checked By: William Westerberg	DATE
	License #: 21874 Date: 2/6/21	Plan View-Cole Street	





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

*William K. Westerberg*

Date: 2/6/21

### Coleraine-School Raingardens

Drawn By: Brad Kennedy

DATE

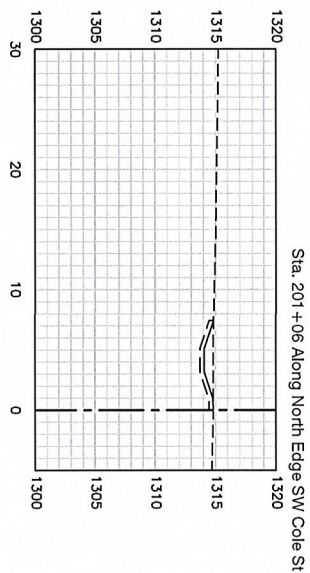
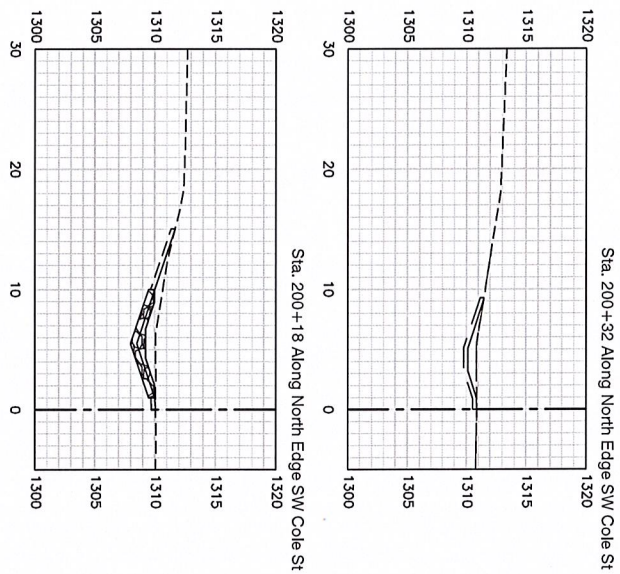
Checked By: William Westerberg

### Cross Sections

Technical Service Area 8

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





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William K. Westerberg

License #: 21874

*William K. Westerberg*

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







<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
	Contact Contractor and affected parties to set up preconstruction Conference	TSA 8			3
6.2			3/29/21	4/2/21	
6.2.1	Preconstruction Conference		4/5/21	4/16/21	11
	Contractor prepare shop drawings of all materials for review	Contractor	4/19/21	5/2/21	13
6.3					
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