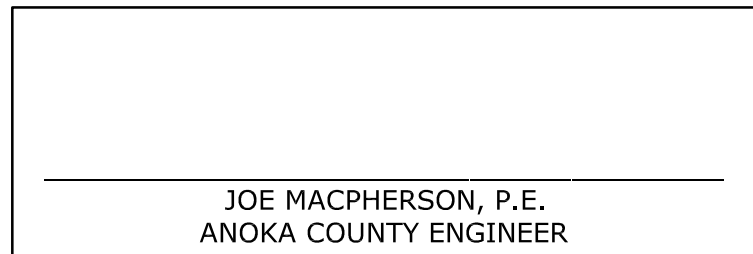


PRAIRIE HILLS

TITLE SHEET, LEGEND, & EXISTING CONDITIONS

EAST BETHEL, MINNESOTA



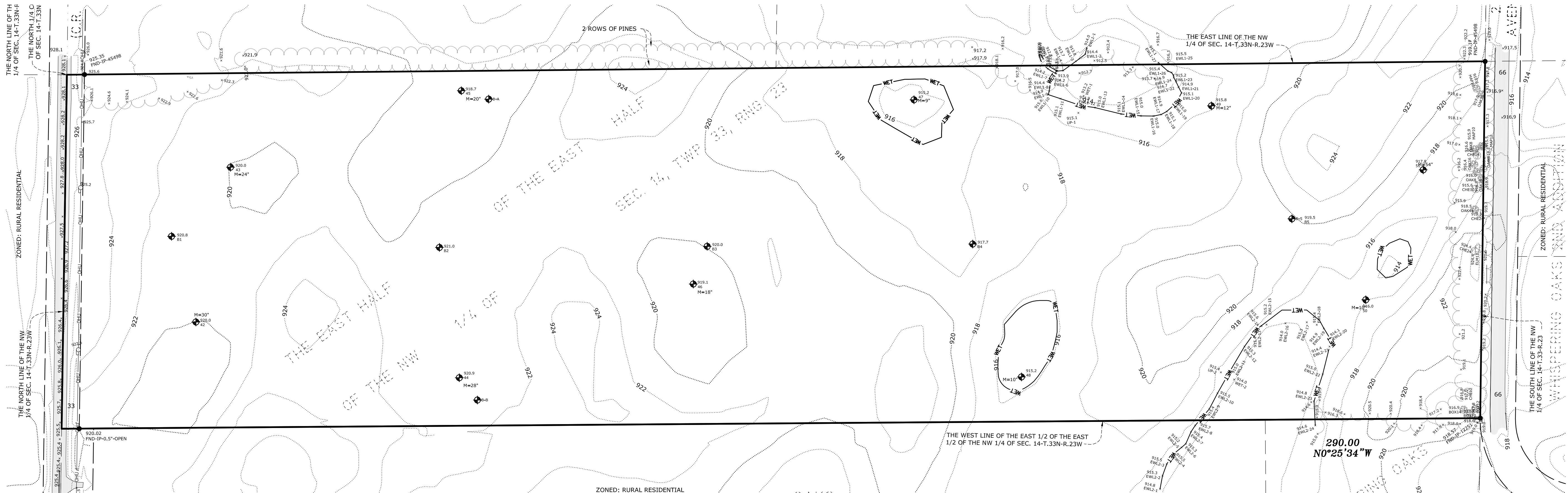
Signed by Joe MacPherson for the approval of the turn lane construction
on CR 74 (213th Avenue)



below.
Call before you dig.



NOT TO SCALE



LEGEND *

	EXISTING OVERHEAD ELECTRIC		EXISTING WELL		PROPOSED WATER PIPE		PROPOSED SILT FENCE
	EXISTING UNDERGROUND TELEPHONE		EXISTING SANITARY SEWER MANHOLE		PROPOSED SANITARY SEWER PIPE		PROPOSED DIRECTION OF DRAINAGE
	EXISTING UNDERGROUND CABLE		EXISTING CONTOUR		PROPOSED STORM SEWER PIPE		PROPOSED BITUMINOUS
	EXISTING TELEPHONE PEDESTAL		EXISTING SPOT ELEVATION		PROPOSED DRAINTILE AND CLEAN-OUT		PROPOSED FILTRATION MEDIA
	EXISTING ELECTRICAL PEDESTAL		EXISTING SPOT ELEVATION (MATCH INTO ELEVATION)		PROPOSED ELECTRIC SERVICE *		PROPOSED INLET PROTECTION
	EXISTING CABLE PEDESTAL				PROPOSED GAS SERVICE *		PROPOSED HEAVY-DUTY PAVEMENT
	EXISTING UTILITY POLE		EXISTING BITUMINOUS		PROPOSED TELEPHONE SERVICE *		PROPOSED ENKAMAT
	EXISTING LIGHT POLE		EXISTING TREES		PROPOSED STORM MANHOLE		PROPOSED RETAINING WALL
	EXISTING STORM SEWER		EXISTING TREE TO BE REMOVED		PROPOSED CATCH BASIN		BITUMINOUS PAVEMENT REMOVAL
	EXISTING WATER MAIN		SURFACE DRAINAGE DIRECTION		PROPOSED FLARED-END SECTION		CONCRETE SIDEWALK REMOVAL
	EXISTING SANITARY SEWER		EXISTING FENCE		PROPOSED GATE VALVE		PROPOSED CONCRETE SIDEWALK
	EXISTING FORCEMAIN		EXISTING RETAINING WALL		PROPOSED HYDRANT		
	EXISTING STORM MANHOLE		EXISTING WETLAND		PROPOSED SANITARY SEWER MANHOLE		
	EXISTING CATCH BASIN				PROPOSED CONTOUR		
	EXISTING FLARED-END SECTION				PROPOSED SPOT ELEVATION (GUTTERLINE, BITUMINOUS SURFACE, OR GRADING SURFACE UNLESS OTHERWISE INDICATED)		
	EXISTING GATE VALVE						* NOT ALL SYMBOLS ARE APPLICABLE.
	EXISTING HYDRANT						

GENERAL NOTES

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF EXISTING UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UTILITIES AS NECESSARY TO AVOID DAMAGE TO THESE UTILITIES.

CALL "811" FOR EXISTING UTILITIES LOCATIONS PRIOR TO ANY EXCAVATIONS

THE CONTRACTOR SHALL FIELD VERIFY SIZE, ELEVATION, AND LOCATION OF EXISTING SANITARY SEWER, STORM SEWER, AND WATER MAIN AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO THE START OF INSTALLATIONS.

INSTALLATIONS SHALL CONFORM TO THE CITY STANDARD SPECIFICATIONS AND DETAIL PLATES.

ALL UTILITIES THAT WILL BE OWNED AND MAINTAINED BY THE CITY AFTER CONSTRUCTION SHALL BE BUILT TO CITY STANDARDS.

THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE CITY PRIOR TO ANY WORK.

STORAGE OF MATERIALS OR EQUIPMENT SHALL NOT BE ALLOWED ON PUBLIC STREETS OR WITHIN PUBLIC RIGHT-OF-WAY.

NOTIFY CITY A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

ALL ELECTRIC, TELEPHONE, AND GAS EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.

SHEET INDEX

- C0 TITLE SHEET, LEGEND & EXISTING CONDITIONS
- S1 EXISTING CONDITIONS / CERTIFICATE OF SURVEY
- S2 PRELIMINARY PLAN
- C1.1 STREET PLAN & PROFILE
- C1.2 STREET PLAN & PROFILE
- C2.1 GRADING, DRAINAGE & EROSION CONTROL PLAN
- C2.2 GRADING, DRAINAGE & EROSION CONTROL PLAN
- C2.3 INTERSECTION DETAILS
- C2.4 STREET CROSS-SECTIONS
- C2.5 STREET CROSS-SECTIONS
- C3.1 DETAILS & NOTES
- C3.2 DETAILS
- C4.1 STORM WATER POLLUTION PREVENTION PLAN
- C4.2 STORM WATER POLLUTION PREVENTION PLAN
- C5.1 TURN LANE PLAN
- C5.2 TURN LANE PLAN

DRAWN BY: M.Q.A.	DESIGN BY: C.W.P.
CHKD BY: M.Q.A.	PROJ. NO. 22-2011

ORIGINAL DATE:
JANUARY 10, 2022

DATE	REVISION DESCRIPTION
6/30/22	CITY REVIEW; TEP PANEL COMMENTS

I hereby certify that this plan 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

CHARLES W. PLOWE

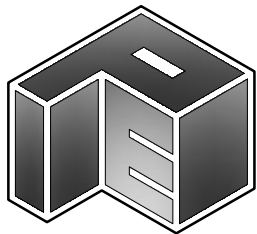
DATE: 07.01.2022 LIC. NO. 18227

PRAIRIE HILLS

EAST BETHEL, MINNESOTA

TITLE SHEET, LEGEND, & EXISTING CONDITIONS

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.



SITE PLANNING
& ENGINEERING

PLOWE
ENGINEERING, INC.

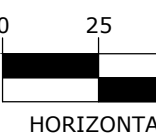
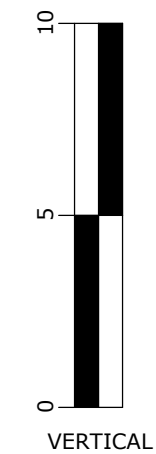
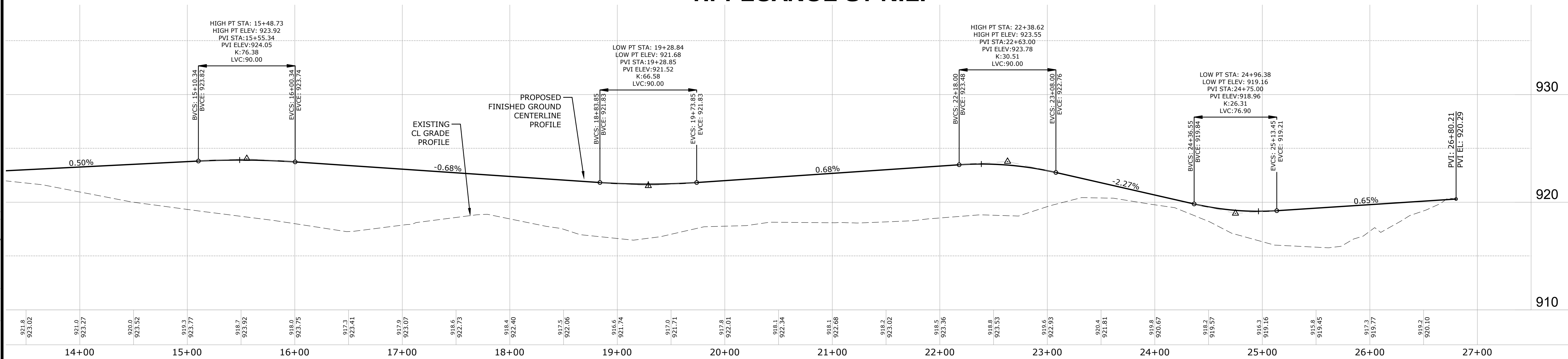
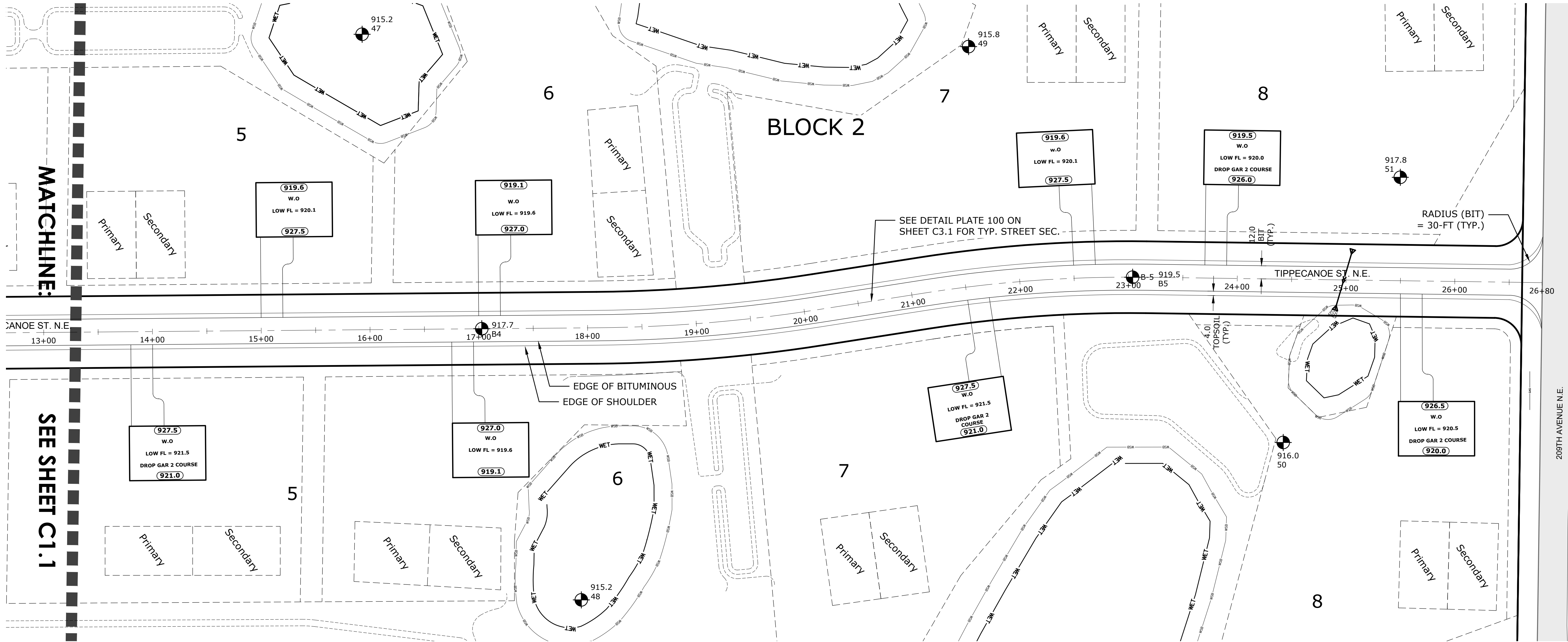
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH



CO

S:\Users\cadd\2022\2021\PRairie Hills\22-2011\PRairie Hills\22-2011 CAD\22-2011 BASE\21.dwg 6/30/2022



STREET PLAN & PROFILE PRAIRIE HILLS

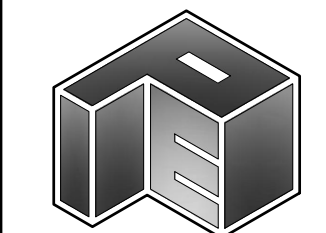
DRAWN BY:	DESIGN BY:
M.Q.A.	C.W.P.
CHKD BY:	PROJ. NO.
M.Q.A.	22-2011
ORIGINAL DATE:	
JANUARY 10, 2022	
DATE	REVISION DESCRIPTION
6/30/22	CITY REVIEW: TEP PANEL COMMENTS

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Charles W. Plowe
CHARLES W. PLOWE
DATE: 07.01.2022 LIC. NO. 18227

PRAIRIE HILLS
EAST BETHEL, MINNESOTA
STREET PLAN & PROFILE

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.



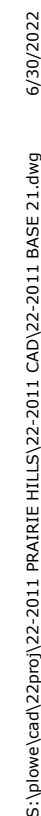
SITE PLANNING
& ENGINEERING
**PLOWE
ENGINEERING, INC.**
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH



0 25 50
1 INCH = 50 FEET

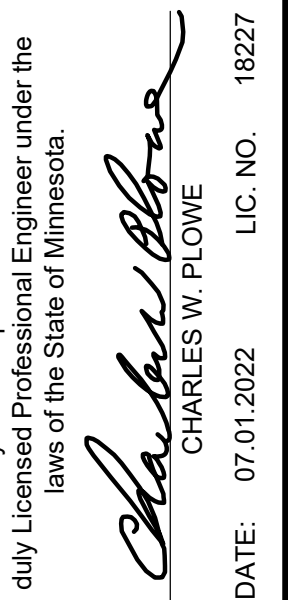
C1.2



LOT	HOUSE TYPE	STREET ELEV. AT EDGE OF BIT	GAR. ELEV.	LOWEST LIVABLE FLOOR ELEV.	LOOKOUT ELEV.	LOWEST OPENING ELEV.	EST. 100-YR FLOOD ELEV.	EOF	HIGHEST ANTICIPATED WATER TABLE (OR MOTTLE)*
1	WALK-OUT	924.5	928.8	921.1	N/A	921.1	916.4	916.5	917.5
2	WALK-OUT	923.8	928.8	921.8	N/A	921.8	916.4	916.5	918.5
3	WALK-OUT	924.8	928.8	921.8	N/A	921.8	916.4	916.5	918.50
4	WALK-OUT	923.2	928.8	921.8	N/A	921.8	916.4	916.5	917.60

LOT	HOUSE TYPE	STREET ELEV. AT EDGE OF BIT	GAR. ELEV.	LOWEST LIVABLE FLOOR ELEV.	LOOKOUT ELEV.	LOWEST OPENING ELEV.	EST. 100-YR FLOOD ELEV.	EOF	HIGHEST ANTICIPATED WATER TABLE (OR MOTTLE)*
1	WALK-OUT	924.5	928.8	921.1	N/A	921.1	915.4	916.5	918.0
2	WALK-OUT	923.8	928.8	921.8	N/A	921.8	915.4	916.5	917.0
3	WALK-OUT	924.0	928.8	921.8	N/A	921.8	915.4	916.5	917.0
4	WALK-OUT	923.5	928.8	921.8	N/A	921.8	915.4	916.5	917.0

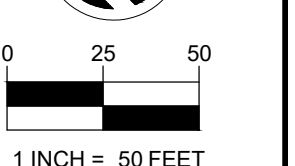
GRADING, DRAINAGE, AND EROSION CONTROL PLAN PRAIRIE HILLS



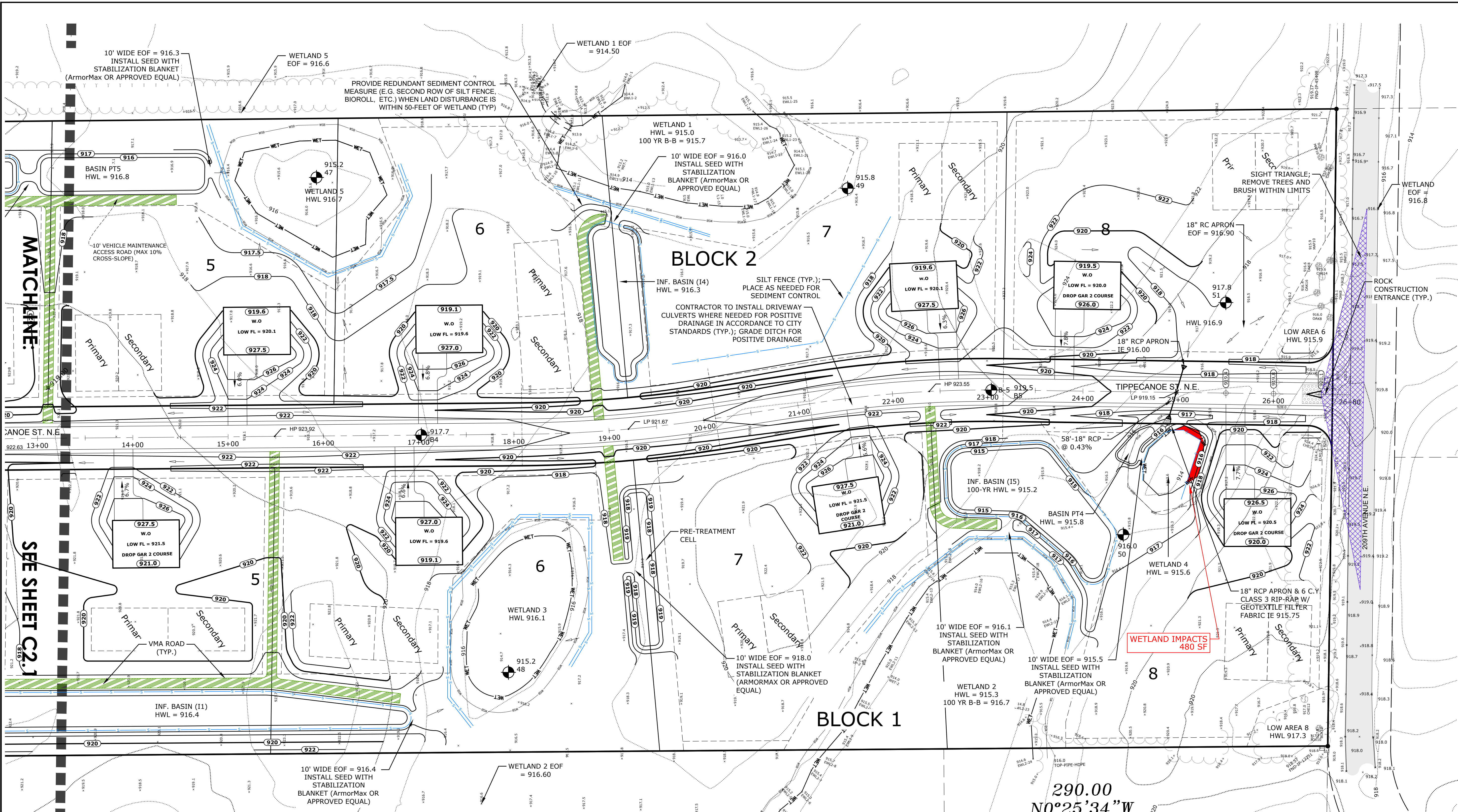
PREPARED FOR:
CONSTRUCTION
OF ANOKA, INC.



6 LAKE DRIVE
TE 110
O LAKES, MN 55014
ONE: (651) 361-8210
X: (651) 361-8701



C2.1



BLOCK 1 LOT TABULATION:

LOT	HOUSE TYPE	STREET ELEV. AT EDGE OF BIT	GAR. ELEV.	LOWEST LIVABLE FLOOR ELEV.	LOOKOUT ELEV.	LOWEST OPENING ELEV.	EST. 100-YR FLOOD ELEV.	EOF	HIGHEST ANTICIPATED WATER TABLE (OR MOTTLE)
5	WALK-OUT	922.9	927.8	921.5	N/A	921.5	916.4	916.4	914.3
6	WALK-OUT	922.8	927.3	919.6	N/A	919.6	916.4	916.4	914.3
7	WALK-OUT	922.7	927.8	921.5	N/A	921.5	916.7	916.6	914.3
8	WALK-OUT	919.2	926.8	920.5	N/A	921.5	916.7	916.6	915.1

BLOCK 2 LOT TABULATION:

LOT	HOUSE TYPE	STREET ELEV. AT EDGE OF BIT	GAR. ELEV.	LOWEST LIVABLE FLOOR ELEV.	LOOKOUT ELEV.	LOWEST OPENING ELEV.	EST. 100-YR FLOOD ELEV.	EOF	HIGHEST ANTICIPATED WATER TABLE (OR MOTTLE)
5	WALK-OUT	923.5	927.8	920.1	N/A	920.1	916.8	916.6	914.5
6	WALK-OUT	922.6	927.3	919.6	N/A	919.6	916.8	916.6	914.5
7	WALK-OUT	923.1	927.8	920.1	N/A	920.1	916.3	916.0	914.8
8	WALK-OUT	920.8	927.0	920.0	N/A	920.0	916.9	916.9	913.3

DRAWN BY: M.Q.A. DESIGN BY: C.W.P.
CHKD BY: M.Q.A. PROJ. NO. 22-2011
ORIGINAL DATE: JANUARY 10, 2022

DATE	REVISION DESCRIPTION
4/21/22	ADDED VMA ROADS; ADDED EOF LABELS
6/30/22	CITY REVIEW; TEP PANEL COMMENTS

I hereby certify that this plan 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.
Charles W. Plowe
CHARLES W. PLOWE
DATE: 07.01.2022 LIC. NO. 19227

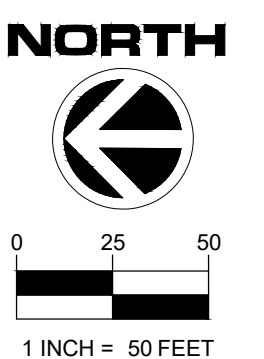
PRAIRIE HILLS
EAST BETHEL, MINNESOTA
GRADING, DRAINAGE AND EROSION CONTROL PLAN

PREPARED FOR:
T.H. CONSTRUCTION OF ANOKA, INC.

PLOWE ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701



Know what's below.
Call before you dig.



*SEE SHEET C3.1 FOR GRADING AND EROSION CONTROL NOTES

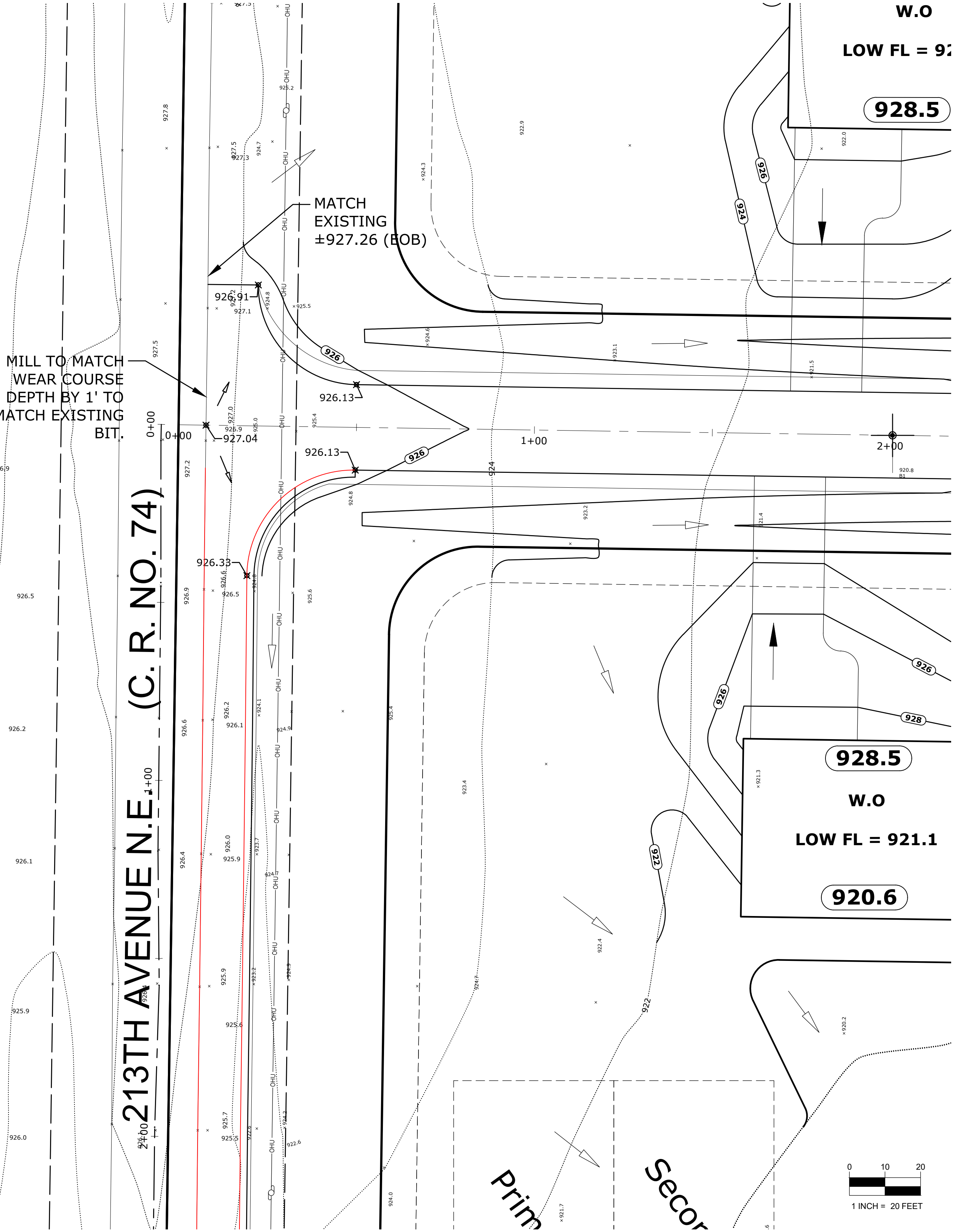
GRADING, DRAINAGE, AND EROSION CONTROL PLAN PRAIRIE HILLS

C2.2

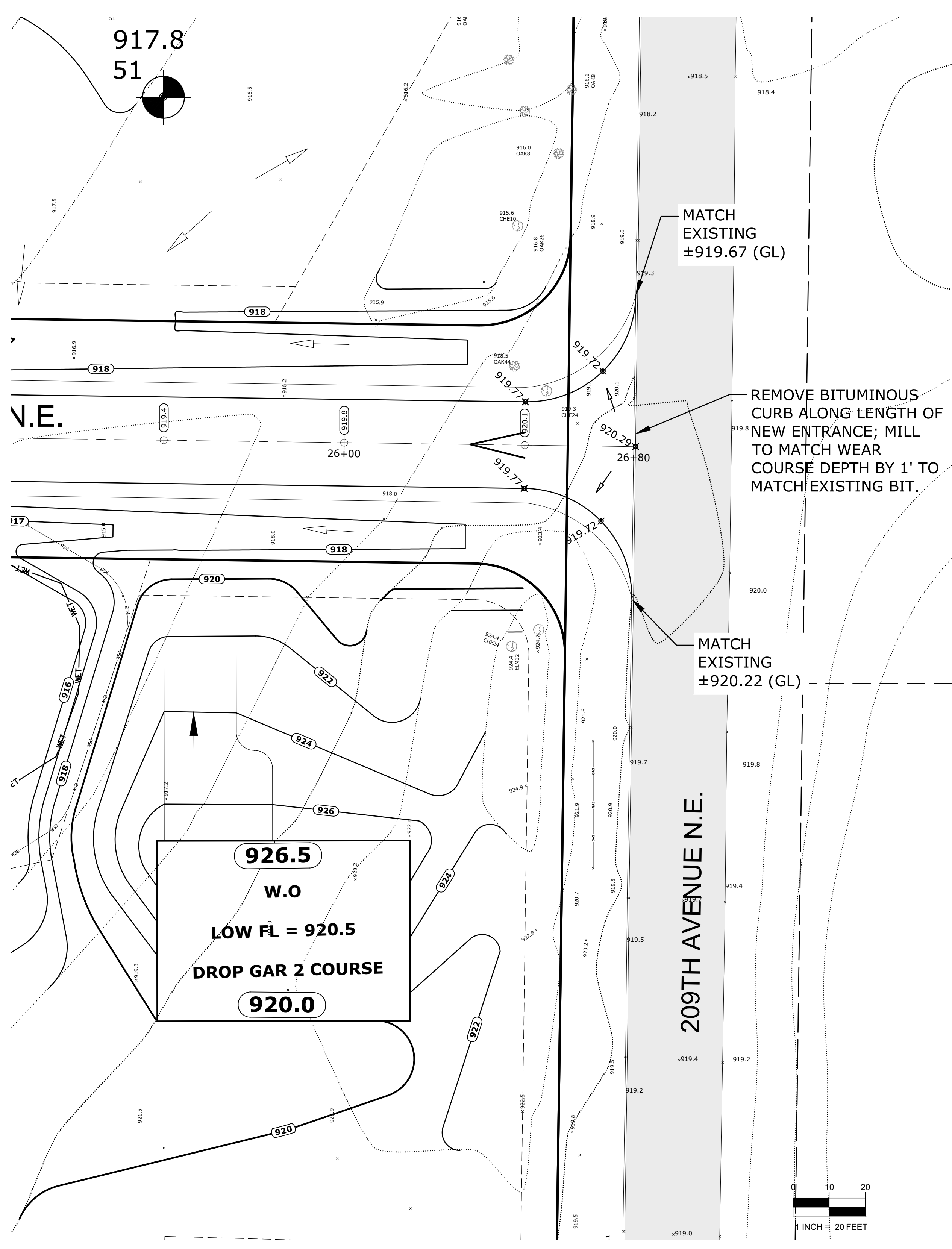
S:\Users\cadd\22020122-2011 PRAIRIE HILLS\22-2011 CAD\22-2011 BASE 21.dwg 6/30/2022



Know what's below.
Call before you dig.



INTERSECTION (NORTH) OF TIPPECANOE ST N.E. WITH 213TH AVE N.E. (C.R. NO. 74)



INTERSECTION (SOUTH) OF TIPPECANOE ST N.E. WITH 209TH AVE N.E.

INTERSECTION DETAILS
PRAIRIE HILLS

DRAWN BY: M.Q.A. DESIGN BY: C.W.P.
CHKD BY: M.Q.A. PROJ. NO. 22-2011
ORIGINAL DATE: JANUARY 10, 2022

DATE	REVISION DESCRIPTION
6/30/22	CITY REVIEW, TEP PANEL COMMENTS
07/01/22	ACHD REVIEW

I hereby certify that this plan 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.

Charles W. Plowe
CHARLES W. PLOWE
DATE: 07.01.2022 LIC. NO. 18227

PRAIRIE HILLS
EAST BETHEL, MINNESOTA
INTERSECTION DETAILS

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.

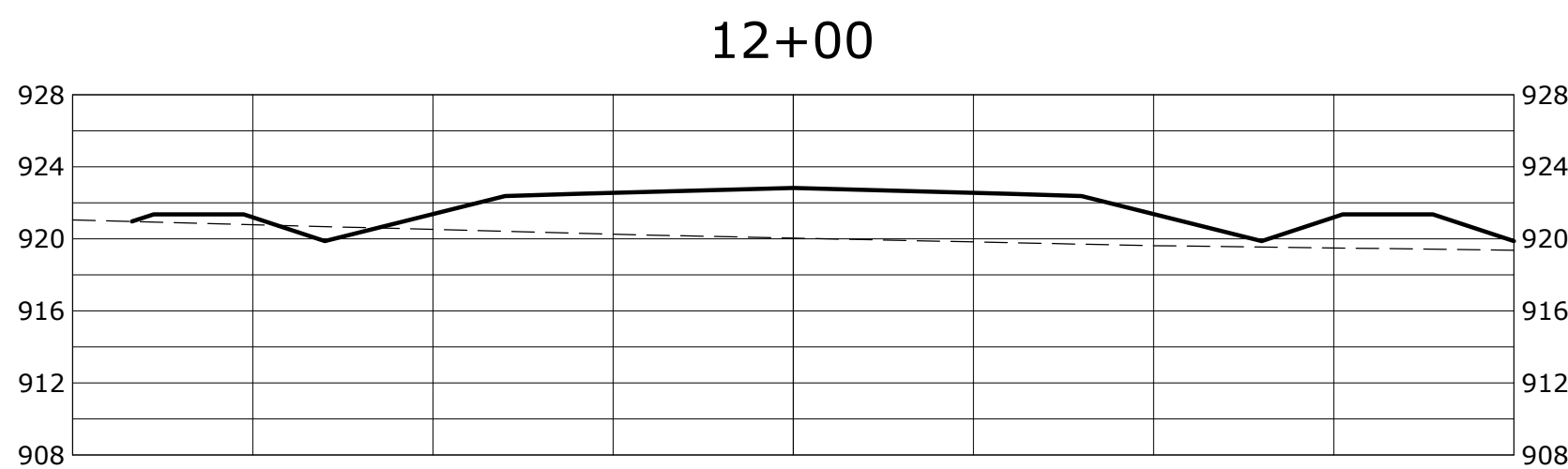
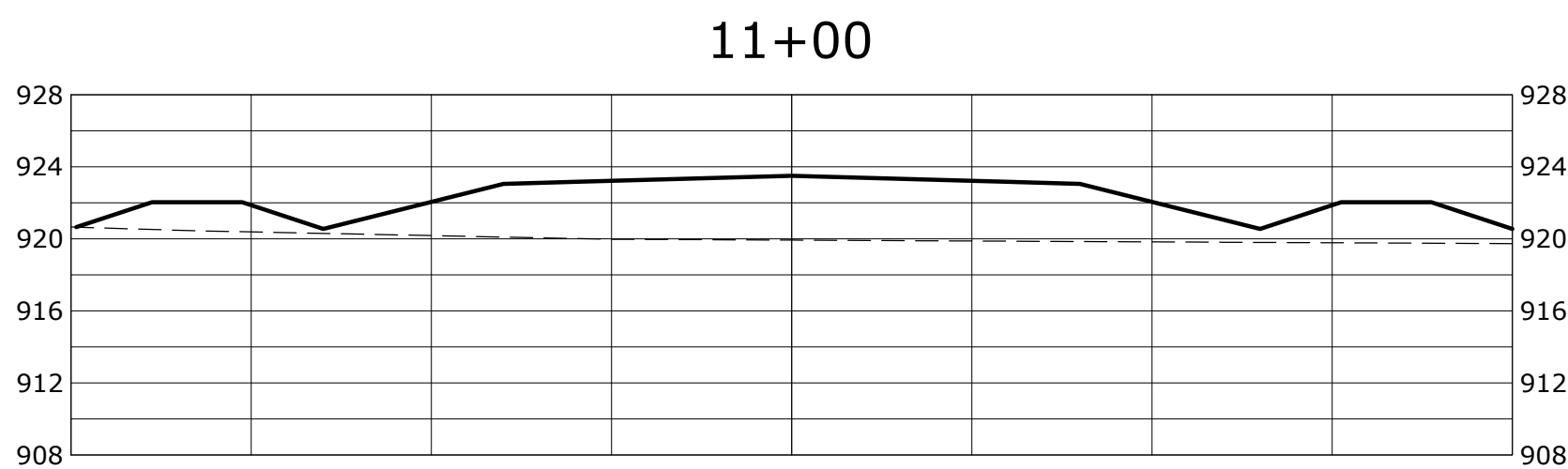
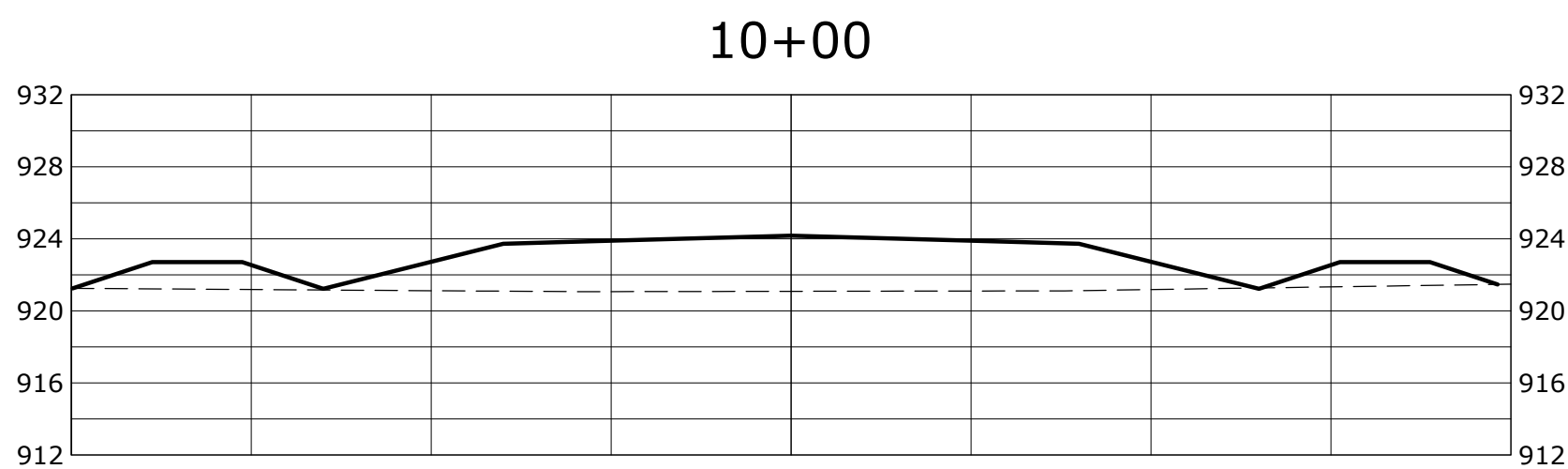
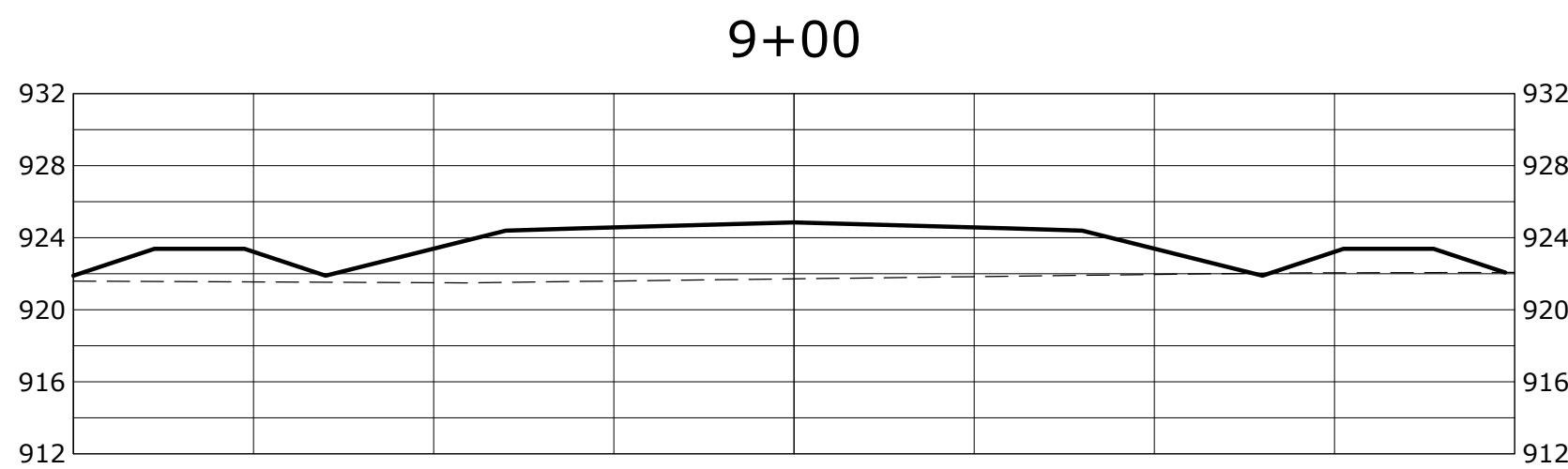
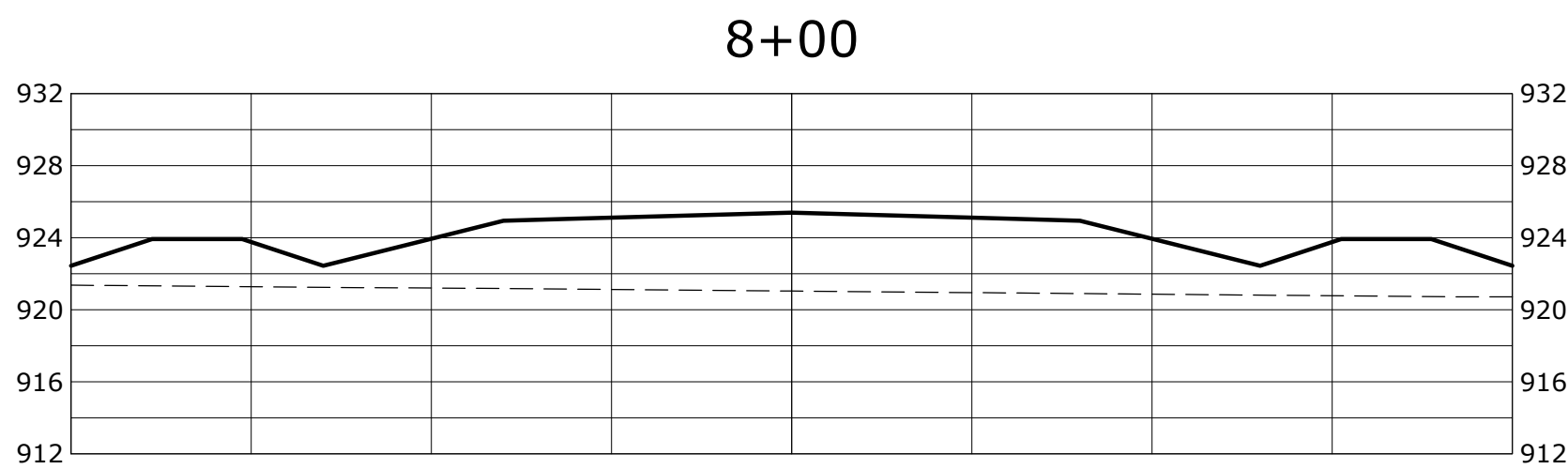
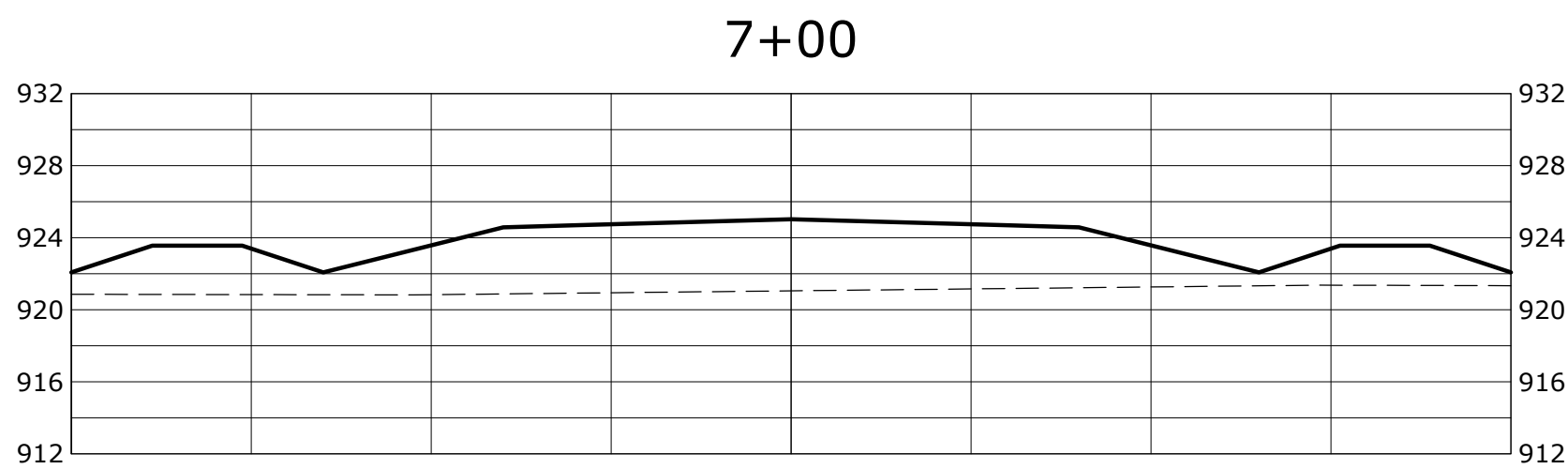
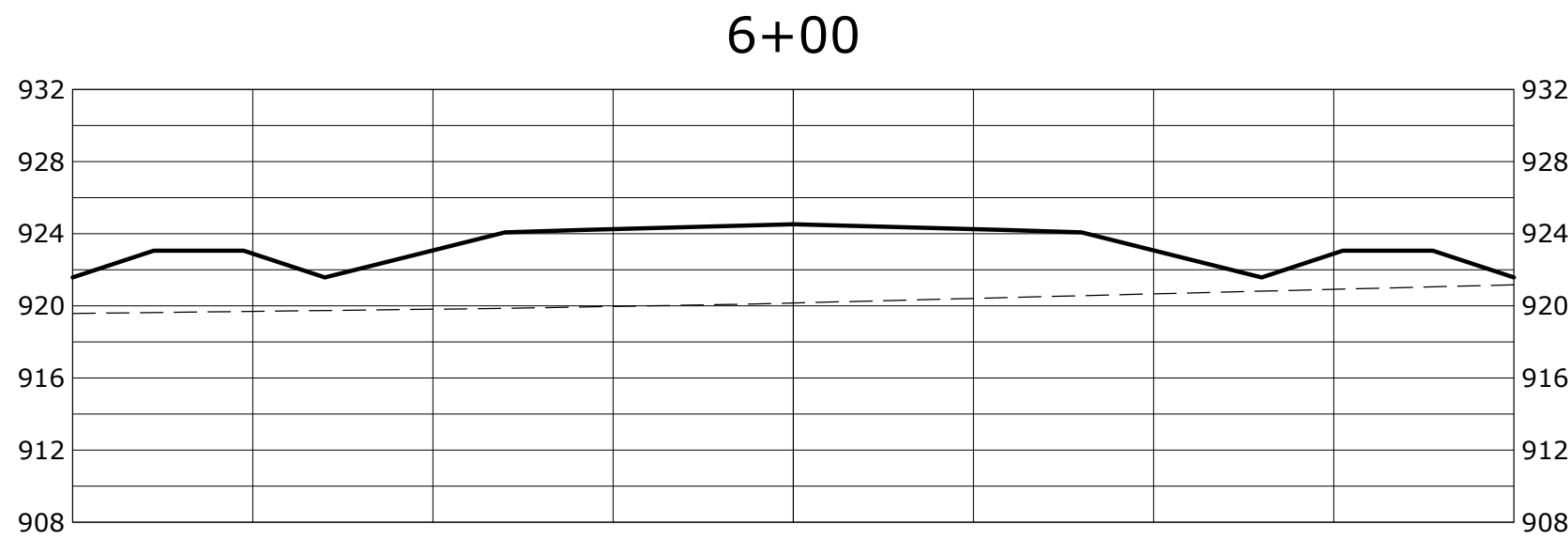
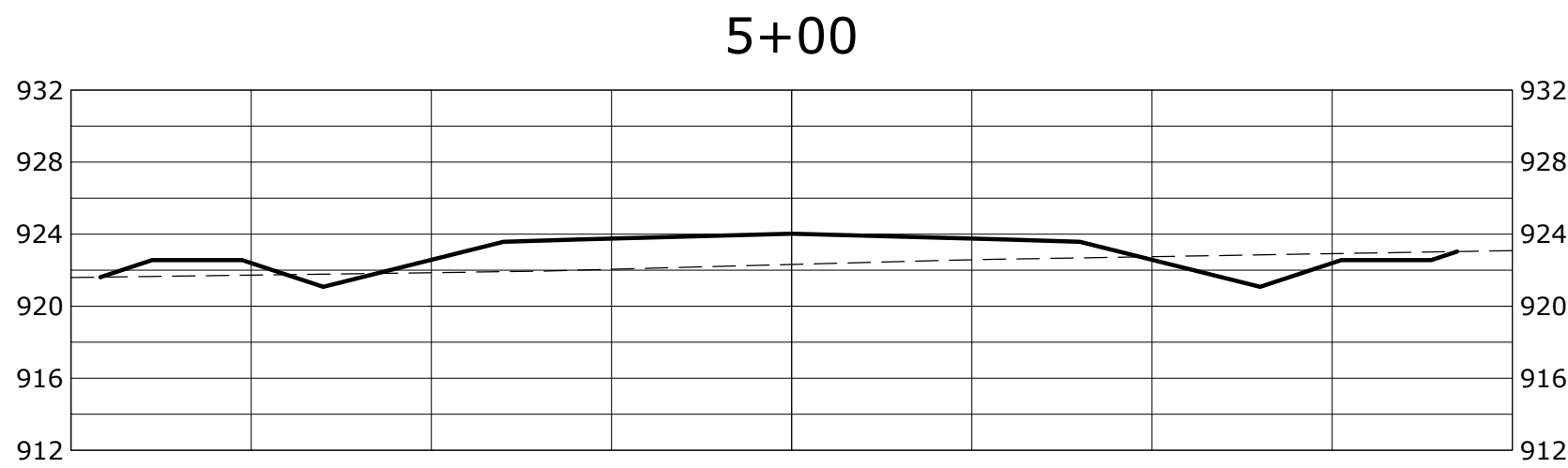
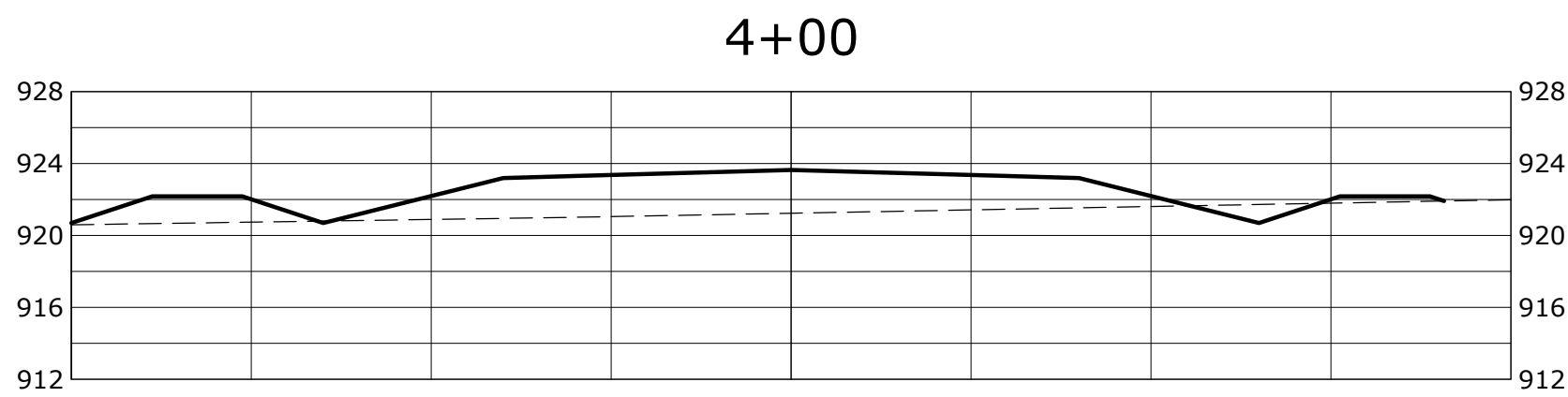
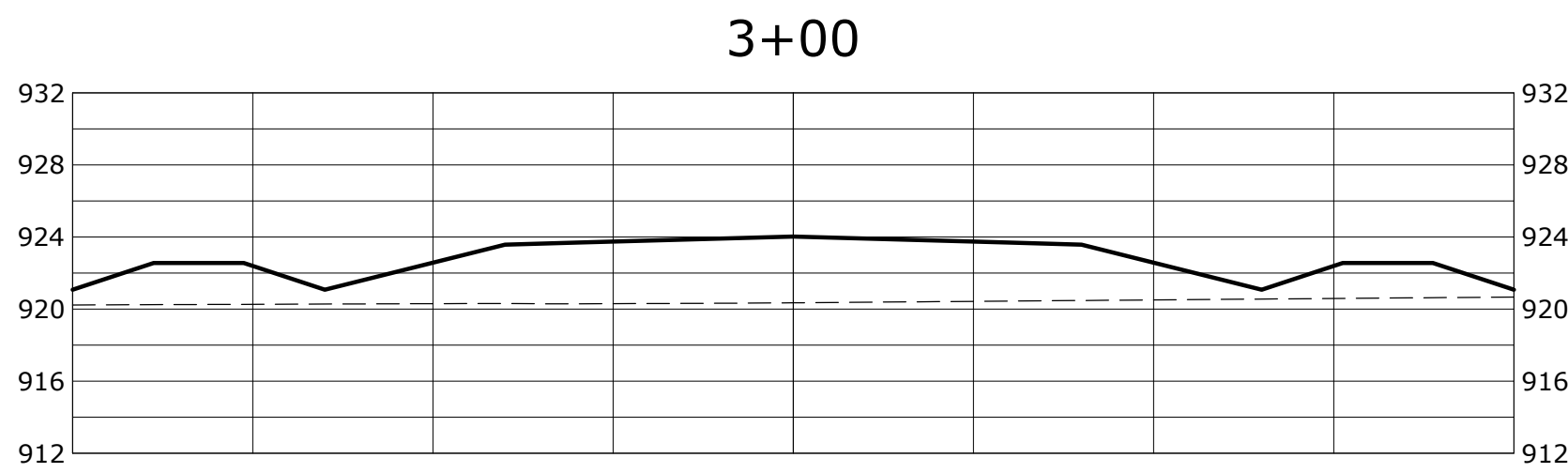
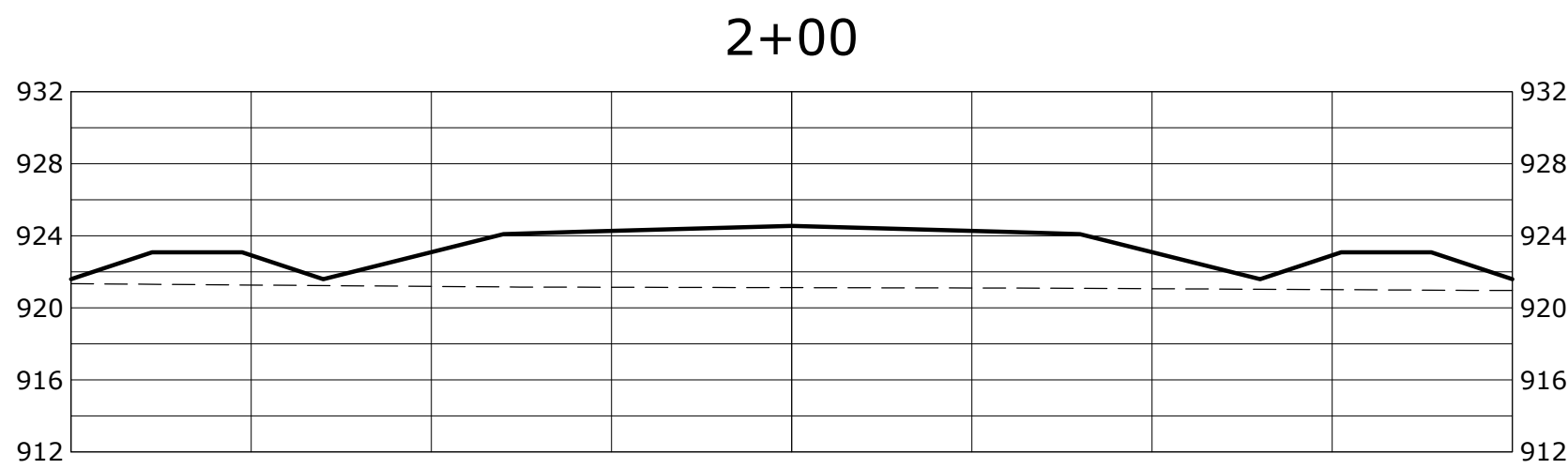
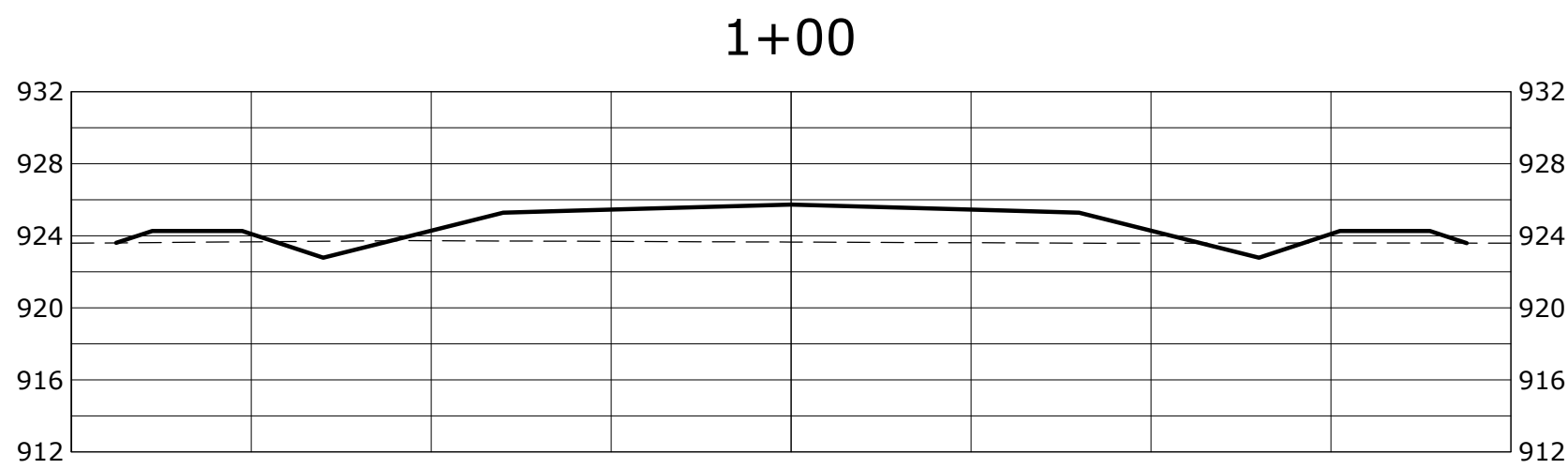
SITE PLANNING
& ENGINEERING
PLOWE
ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH

0 10 20
1 INCH = 20 FEET

C2.3

S:\Users\csh22\p022-2011 PRAIRIE HILLS\22-2011 CAD\22-2011 BASE\21.dwg 6/30/2022



DRAWN BY:	DESIGN BY:
M.Q.A.	C.W.P.
CHKD BY:	PROJ. NO.
M.Q.A.	22-2011
ORIGINAL DATE:	
JANUARY 10, 2022	

DATE	REVISION DESCRIPTION
6/30/22	CITY REVIEW, TEP PANEL COMMENTS

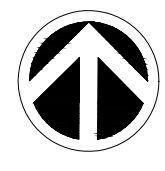
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Charles W. Plowe
CHARLES W. PLOWE
DATE: 07.01.2022 LIC. NO. 18227

PRAIRIE HILLS
EAST BETHEL, MINNESOTA
STREET CROSS-SECTIONS

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.

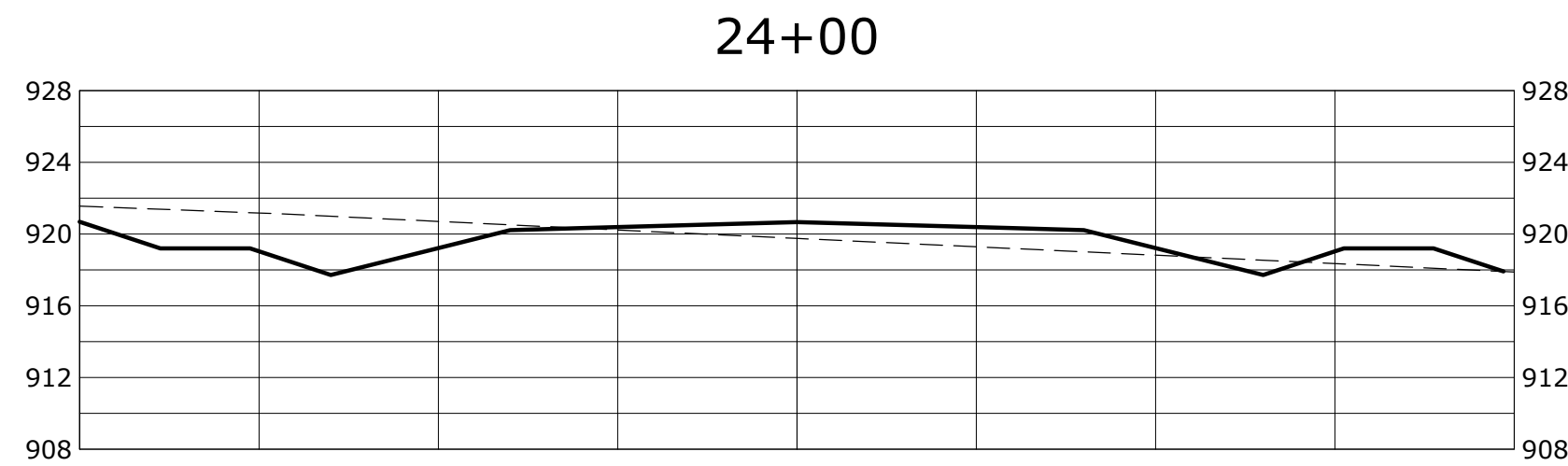
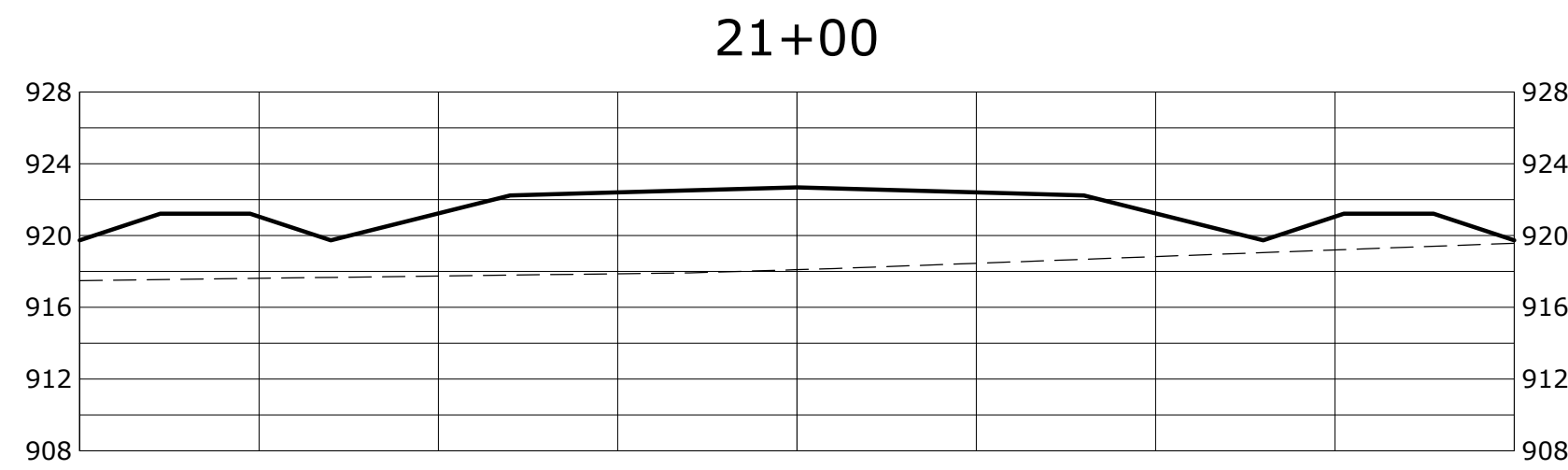
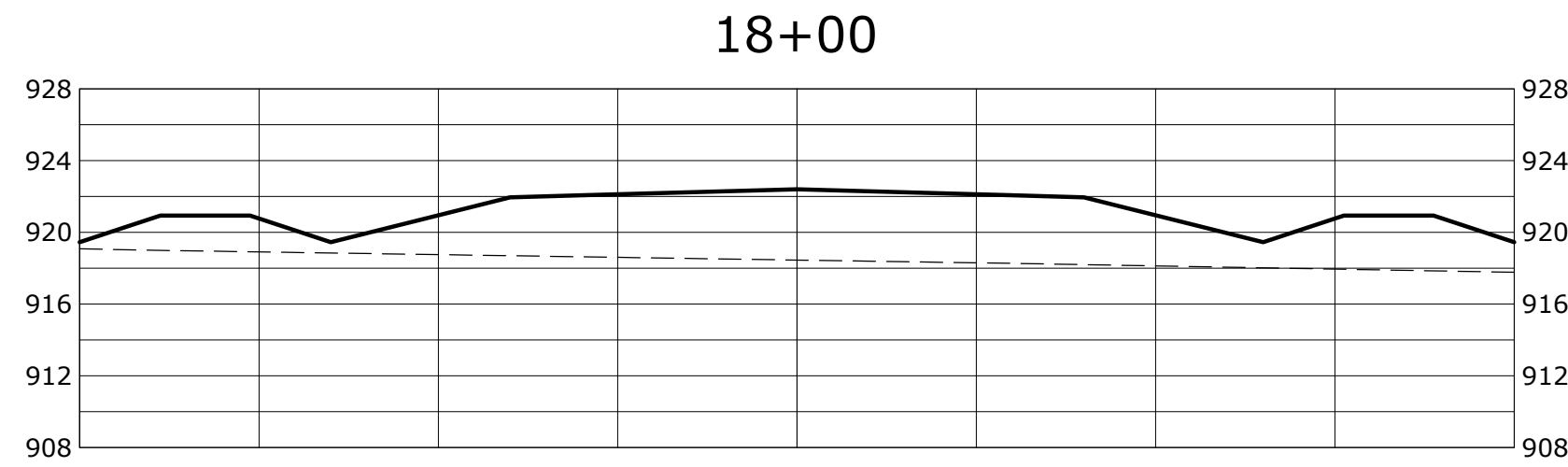
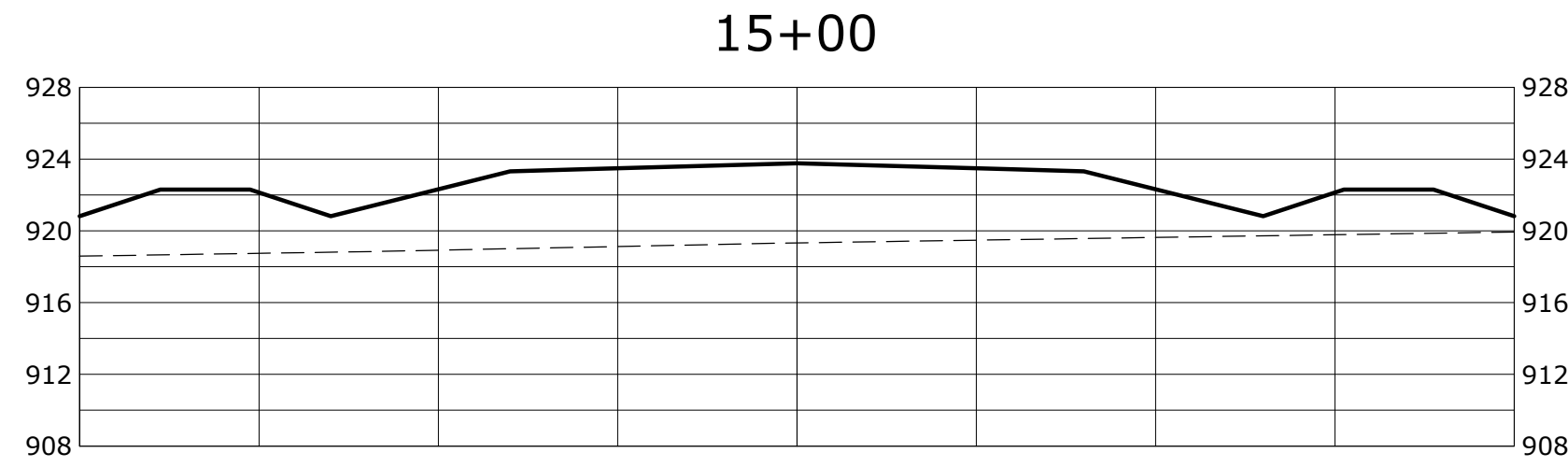
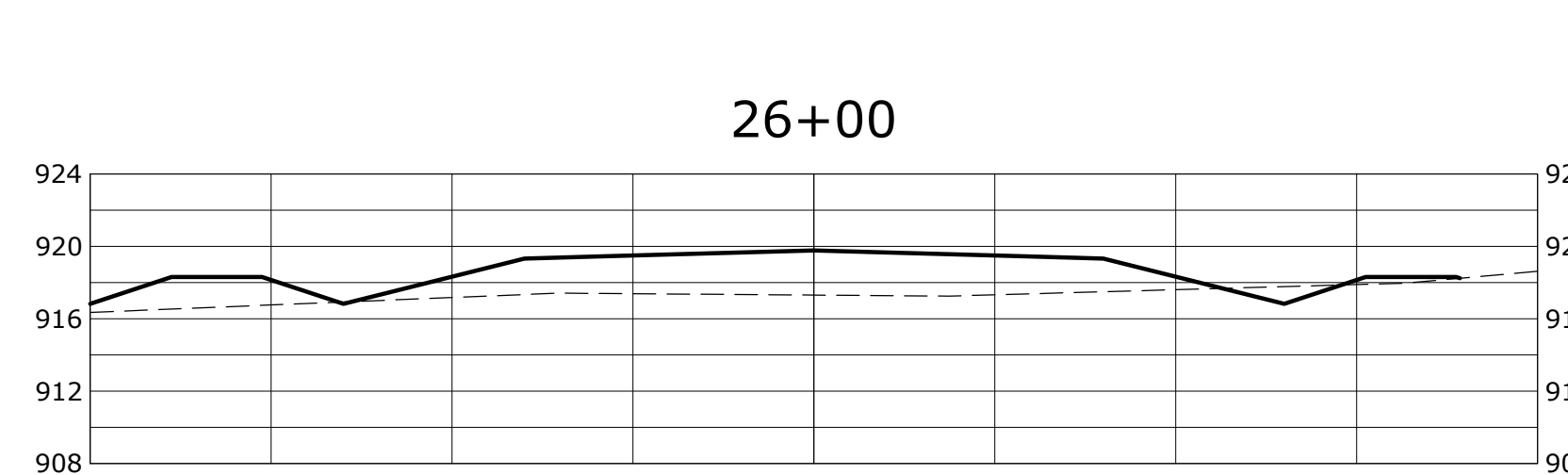
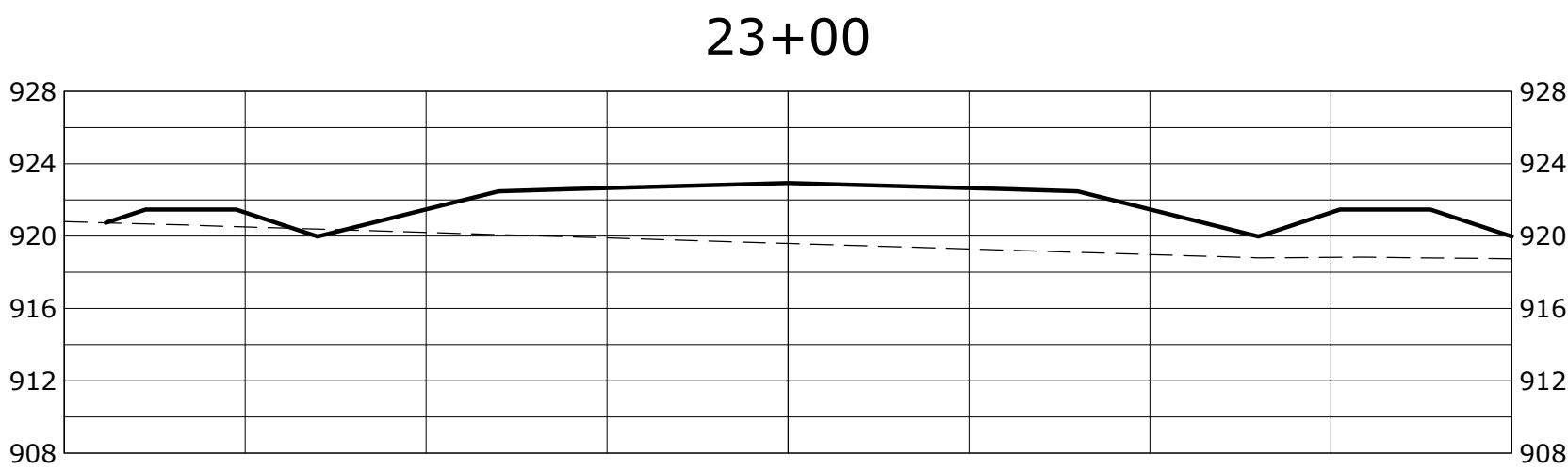
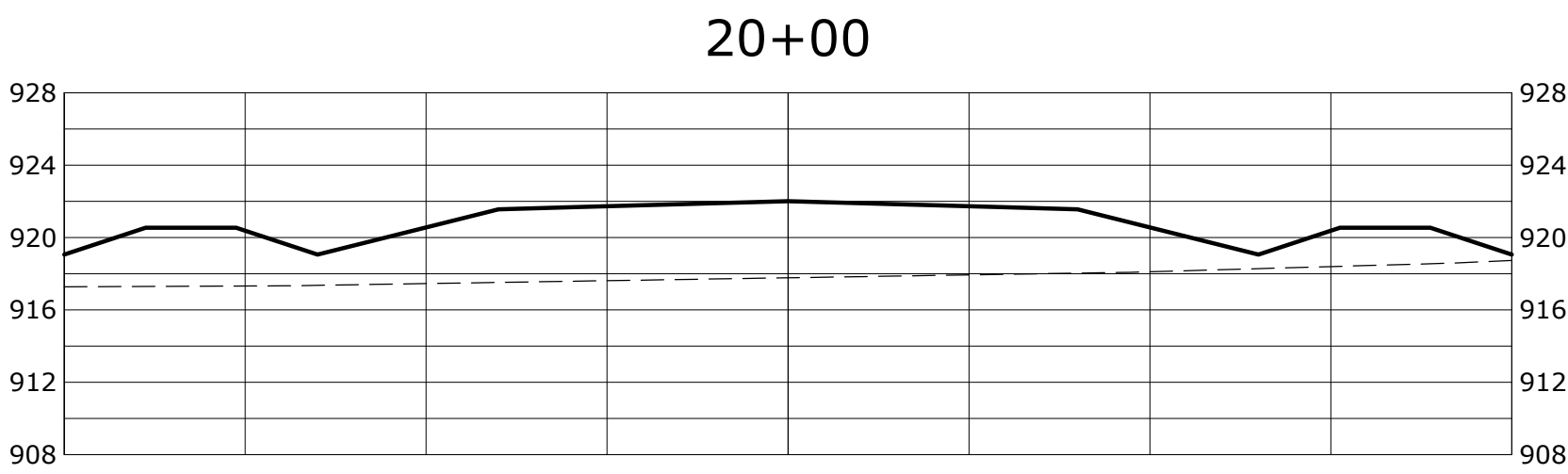
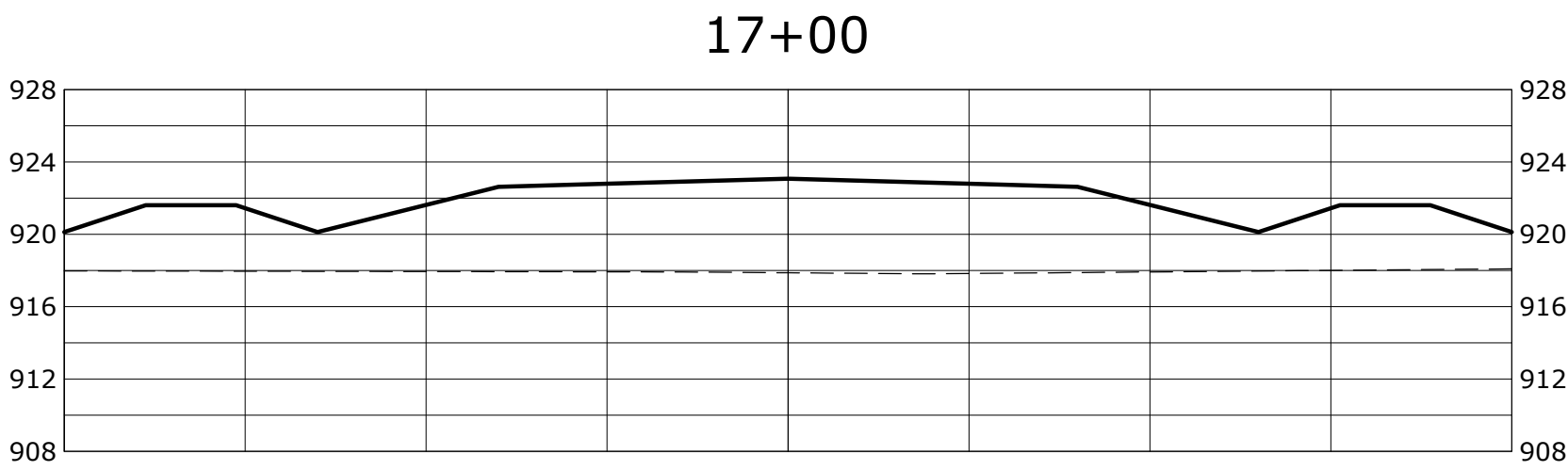
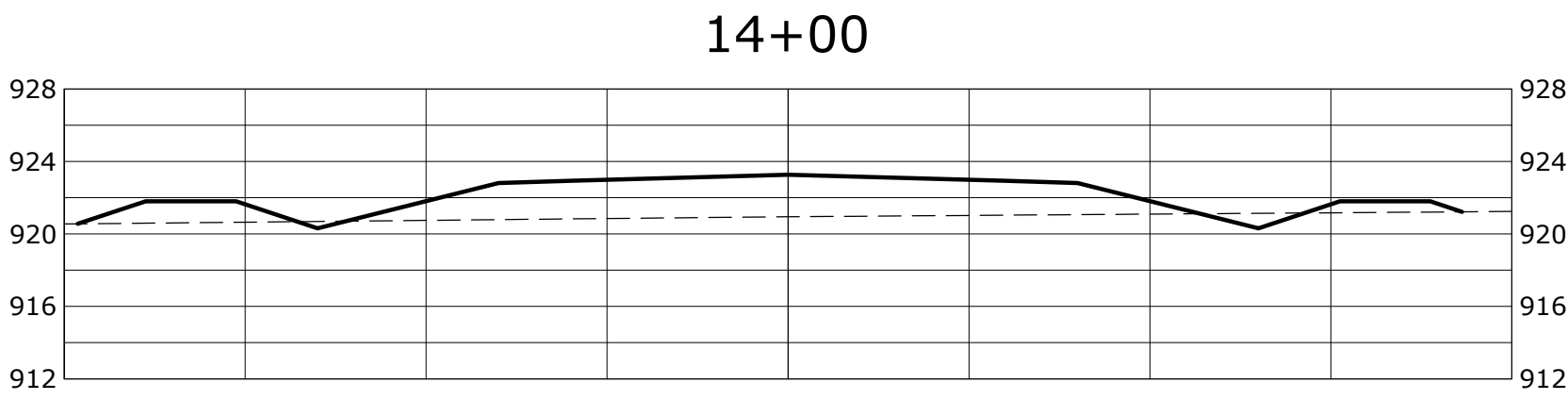
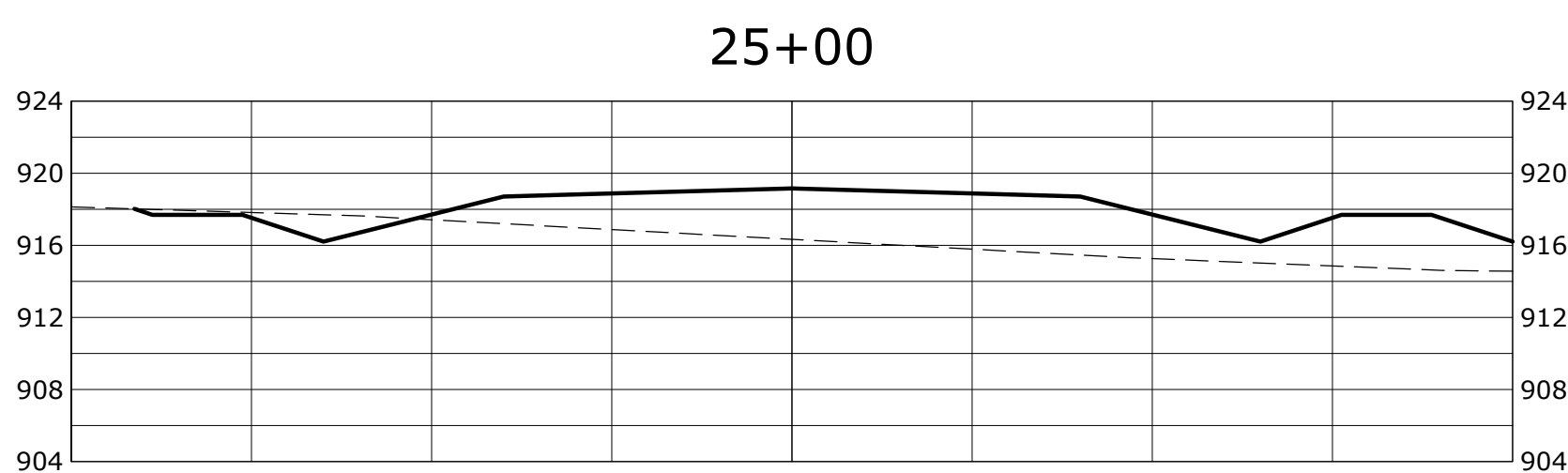
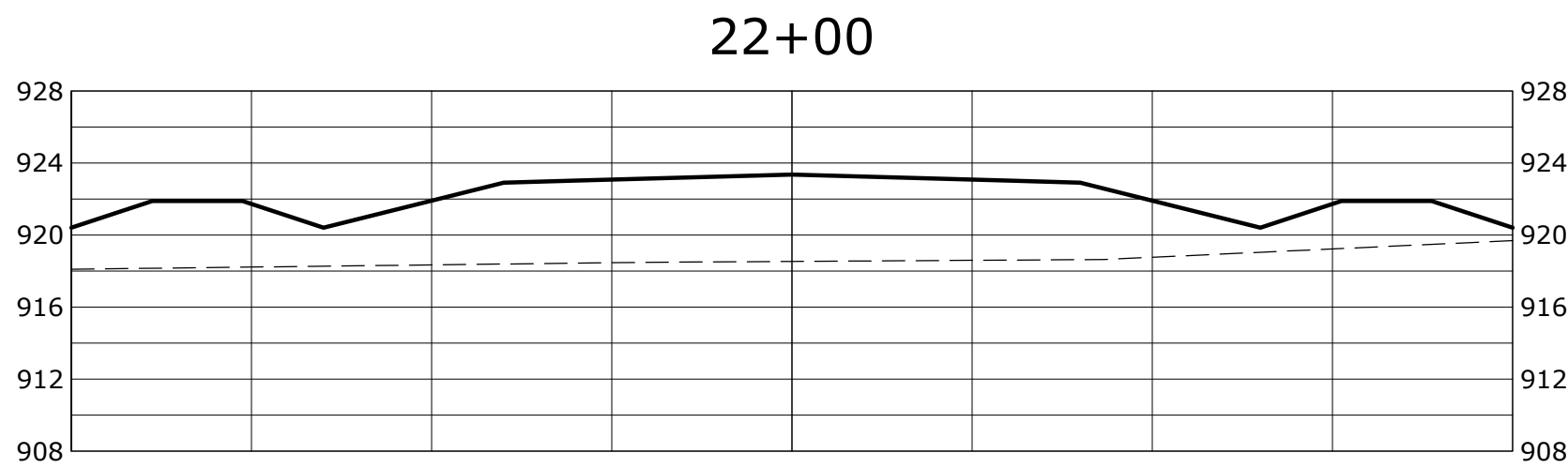
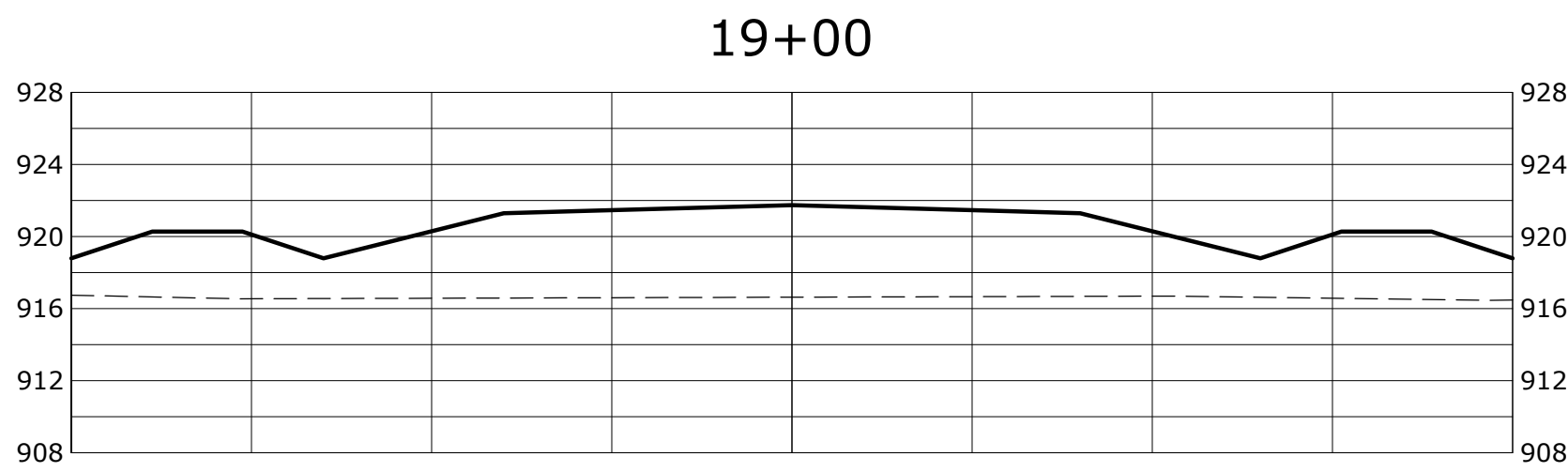
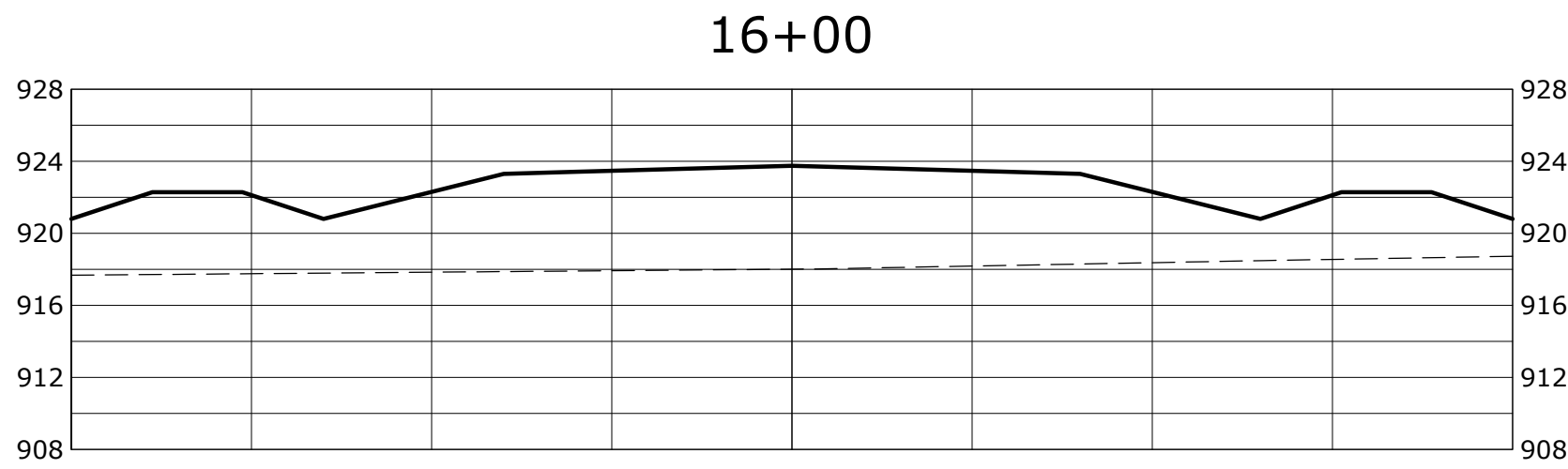
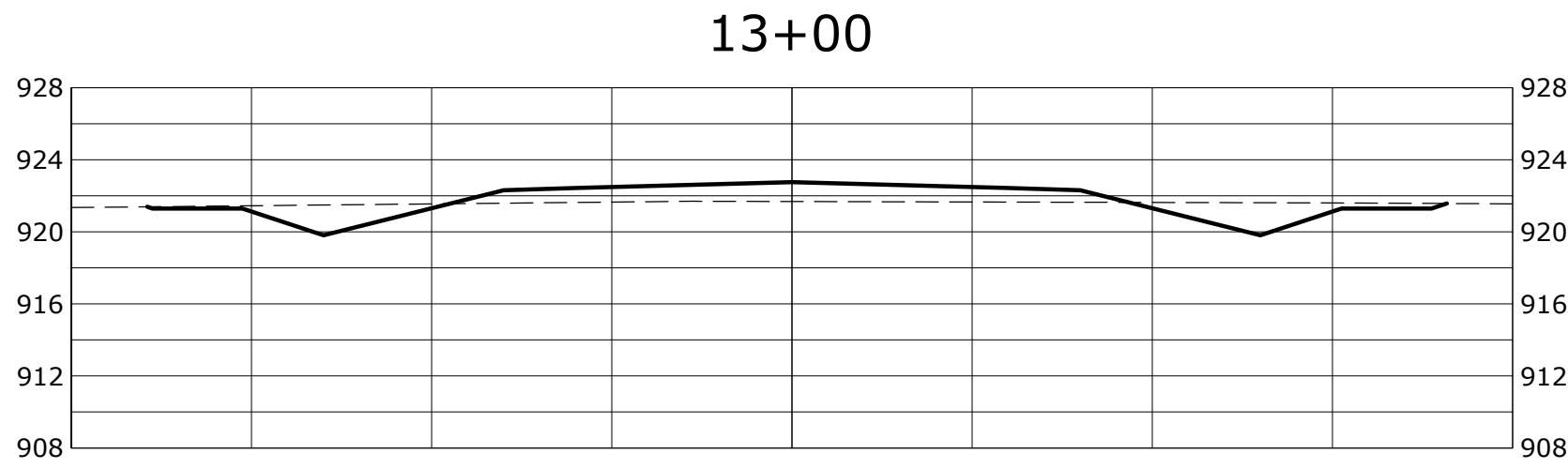

SITE PLANNING
& ENGINEERING
PLOWE
ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH

0 5 10
1 INCH = 10 FEET

STREET CROSS-SECTIONS
PRAIRIE HILLS

C2.4

S:\view\cadd\22proj\22-2011 PRAIRIE HILLS\22-2011 CAD\22-2011 BASE\21.dwg 6/30/2022



STREET CROSS-SECTIONS
PRAIRIE HILLS

DRAWN BY:	DESIGN BY:
M.Q.A.	C.W.P.
CHCKD BY:	PROJ. NO.
M.Q.A.	22-2011
ORIGINAL DATE:	
JANUARY 10, 2022	

DATE	REVISION DESCRIPTION
6/30/22	CITY REVIEW, TEP PANEL COMMENTS

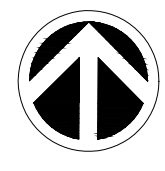
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Charles W. Plowe
CHARLES W. PLOWE
DATE: 07.01.2022 LIC. NO. 18227

PRAIRIE HILLS
EAST BETHEL, MINNESOTA
STREET CROSS-SECTIONS

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.


SITE PLANNING
& ENGINEERING
PLOWE
ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH

0 5 10
1 INCH = 10 FEET

C2.5

- PRIOR TO ANY GRADING OPERATIONS, THE CONTRACTOR SHALL INSTALL ROCK CONSTRUCTION ENTRANCE (LOCATIONS TO BE DETERMINED - COORDINATE WITH OWNER) AND PERIMETER SILT FENCE AS SHOWN ON PLAN. (CONTACT CITY TO INSPECT EROSION CONTROL MEASURES PRIOR TO GRADING OPERATIONS, IF NECESSARY.) ADDITIONAL SILT FENCE MAY BE NECESSARY IF LOCAL CONDITIONS REQUIRE.

- | ITEM | MNDOT SPECIFICATION/NOTES |
|--------------------------|----------------------------------|
| SOD | 3878 |
| SEED ** | 3876 |
| * FOR TURF ESTABLISHMENT | |
| COMMERCIAL TURF | MNDOT MIX 25-131 (220 LBS/ACRE) |
| RESIDENTIAL TURF | MNDOT MIX 25-131 (120 LBS/ACRE) |
| TEMPORARY FALL COVER | MNDOT MIX 21-112 (100 LBS/ACRE) |
| SPRING/SUMMER | MNDOT MIX 21-111 (100 LBS/ACRE) |
| SOIL-BUILDING COVER | MNDOT MIX 21-113 (110 LBS/ACRE) |
| 1-2 YEARS COVER | MNDOT MIX 22-111 (30.5 LBS/ACRE) |
| 2-5 YEARS COVER | MNDOT MIX 22-112 (40 LBS/ACRE) |
| MULCH | 3882 (TYPE 1 - DISC ANCHORED) |
| FERTILIZER | 3881 |
| WOOD FIBER BLANKET | 3885 (CATEGORY 2) |

- IF A STREET, ALLEY, SIDEWALK OR OTHER PUBLIC PLACE SHOULD BECOME SOILED OR LITTERED, THE CONTRACTOR SHALL CAUSE SUCH SOILING OR LITTERING TO BE CLEANED UP BY SWEEPING NOT LATER THAN THE END OF THE WORKING DAY IN WHICH SUCH SOILING OR LITTERING SHALL HAVE OCCURRED OR BEEN OBSERVED.

CONSTRUCTION WASTE MATERIALS - ALL WASTE MATERIALS GENERATED AS A RESULT OF SITE CONSTRUCTION SHALL BE COLLECTED AND REMOVED ACCORDING TO ALL LOCAL AND/OR STATE WASTE MANAGEMENT REGULATIONS BY A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE CONTRACTOR WILL ENSURE THAT ALL SITE PERSONNEL ARE INSTRUCTED IN THESE PRACTICES.

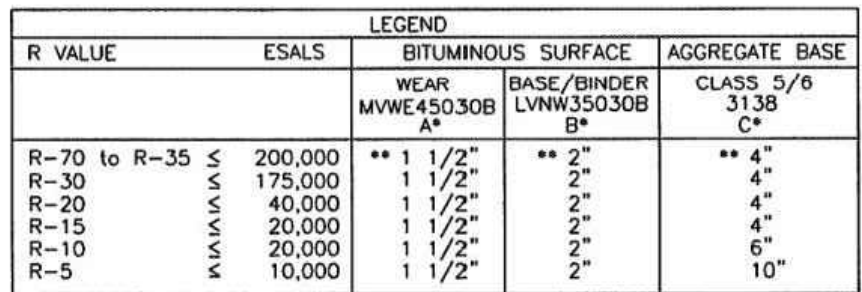
SANITARY WASTE - ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS BY A LOCAL, LICENSED WATER MANAGEMENT COMPANY, AS REQUIRED BY LOCAL REGULATION.

VEHICLE CLEANING - NO ENGINE DEGREASING IS ALLOWED ON-SITE. EXTERNAL WASHING OF VEHICLES TO BE CONFINED TO A DEFINED AREA ("BONE YARD") ON-SITE. CONTRACTOR TO PROVIDE DESIGNATED TRUCK WASHOUT AREA WITH APPROPRIATE SIGNAGE. WASHOUT AREA IS TO BE A MINIMUM OF 50' FROM DITCHES, PONDS, OR OTHER STORMWATER FEATURES. ALL LIQUID AND SOLID WASTE GENERATED BY WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER (E.G. COMPACTED CLAY LINER, IMPERMEABLE GEO-MEMBRANE) AND DISPOSED OF PROPERLY.

SOIL STOCKPILES - INSTALL SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AROUND ALL TEMPORARY SOIL STOCKPILES. LOCATE SOIL OR DIRT STOCKPILES SUCH THAT DOWNSLOPE DRAINAGE LENGTH IS NO LESS THAN 8 M (25 FEET) FROM THE TOE OF THE PILE TO A SURFACE WATER, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER. IF REMAINING FOR MORE THAN 7 DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. DURING STREET REPAIR, COVER CONSTRUCTION SOIL OR DIRT STOCKPILES LOCATED CLOSER THAN 8 M (25 FEET) TO A ROADWAY OR DRAINAGE CHANNEL WITH TARPS, AND PROTECT STORM SEWER INLETS WITH SILT SOCKS OR STAKED SILT FENCE.

CONTRACTOR TO PROVIDE DESIGNATED CONCRETE TRUCK WASHOUT AREA WITH APPROPRIATE SIGNAGE. KEEP WASHOUT AREAS AS FAR AS PRACTICAL FROM STORM DRAINS, DITCHES AND PONDS. DO NOT ALLOW RUN-OFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE. AFTER WASTE CONCRETE IS SET, BREAK-UP AND DISPOSE OF PROPERLY.

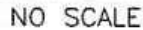
THE CONTRACTOR MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. THE CONTRACTOR MAY DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASINS TO SURFACE WATERS IF THE BASIN WATER HAS BEEN VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED IN THE BASIN AND THAT NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) WILL NOT RESULT FROM THE DISCHARGE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPs, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM PROPERTIES.



CUMULATIVE DESIGN LANE 18 KIP ESAL'S IS THE CUMULATIVE DAMAGE EFFECT OF VEHICLES DURING THE DESIGN LIFE OF A FLEXIBLE PAVEMENT.

NO SCALE

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F:\CAD_ENG\DETAILS\EASTBETH\EROSION\Ers-500.DWG

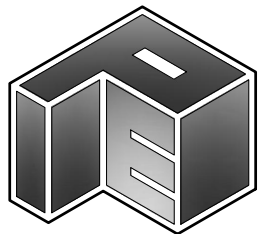
C3.1

DATE: 07.01.2022 LIC. NO. 182277

PRAIRIE HILLS
EAST BETHEL, MINNESOTA

DETAILS & NOTES

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SITE PLANNING
& ENGINEERING

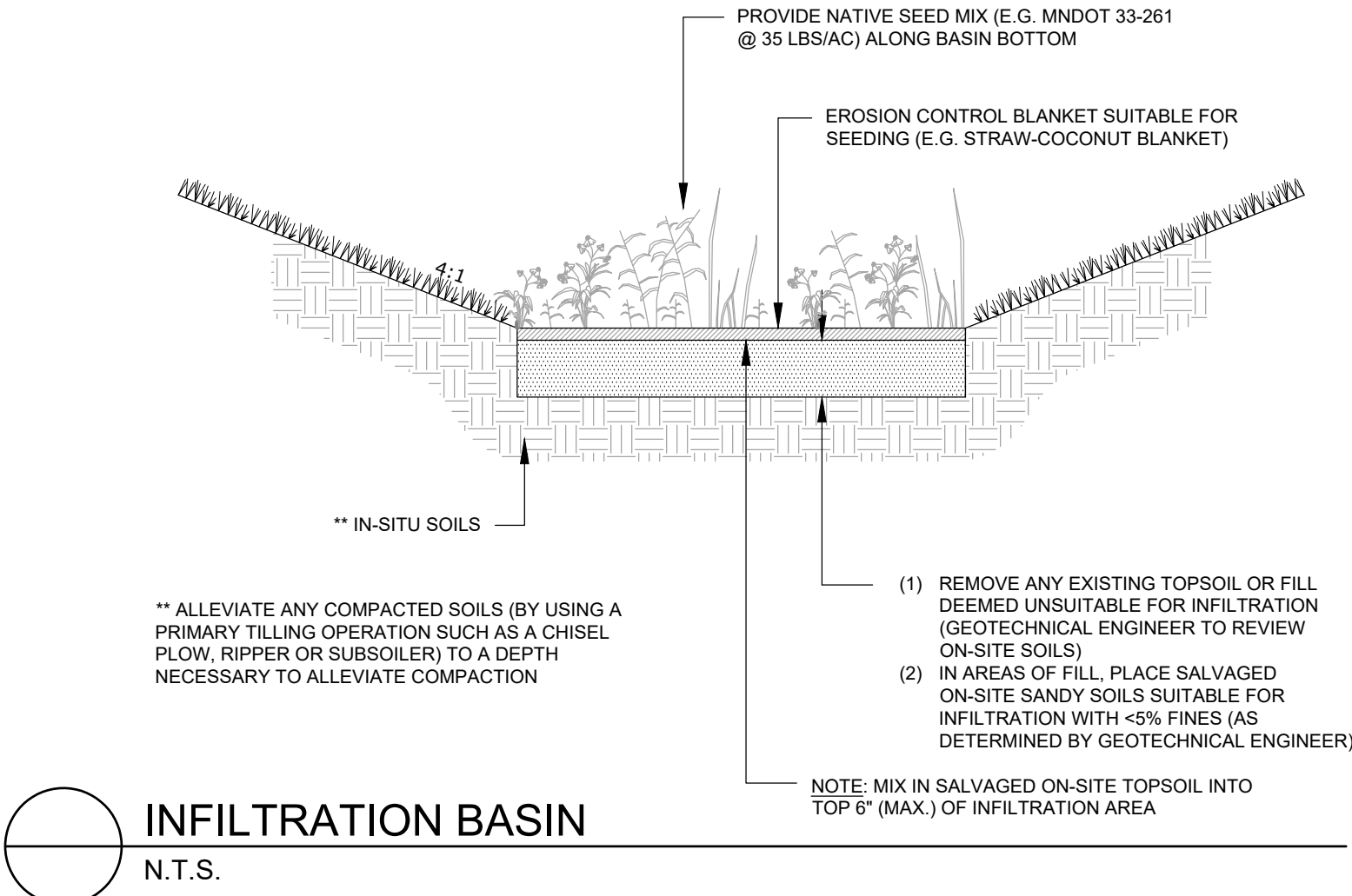
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NOTES

1. MARK-OFF BASIN AREA (E.G. FENCING, SILT FENCE, ETC.) TO PREVENT CONSTRUCTION TRAFFIC FROM ENTERING BASIN AREA.
2. USE LOW-IMPACT, EARTH-MOVING EQUIPMENT (WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT-EQUIPMENT WITH TURF-TYPE TIRES) WITHIN BASIN.
3. PROTECT BASIN FROM RUN-OFF DURING CONSTRUCTION ACTIVITIES.
4. DO NOT EXCAVATE BASIN TO FINAL GRADE UNTIL UPSTREAM DRAINAGE AREAS HAVE BEEN STABILIZED.
5. REMOVE ANY TOPSOIL AND/OR UNSUITABLE SOILS WITHIN INFILTRATION BASIN FOOTPRINT. ANY SEDIMENT THAT IS WASHED INTO THE BASIN SHALL BE REMOVED.
6. NO MINING OF SANDY SOILS ALLOWED IN BASIN AREA.
7. EXCAVATE BASIN TO FINAL GRADE ONLY UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREAS. ALLEVIATE ANY COMPACTED SOILS DUE TO FINAL GRADING OPERATIONS PRIOR TO SEEDING.

AFTER INFILTRATION BASIN AREA HAS BEEN EXCAVATED TO FINAL GRADE, PERFORM A DOUBLE-RING INFILTROMETER TEST TO VERIFY INFILTRATION CAPACITY OF IN-SITU SOILS.



INFILTRATION BASIN

N.T.S.

TABLE OF QUANTITIES

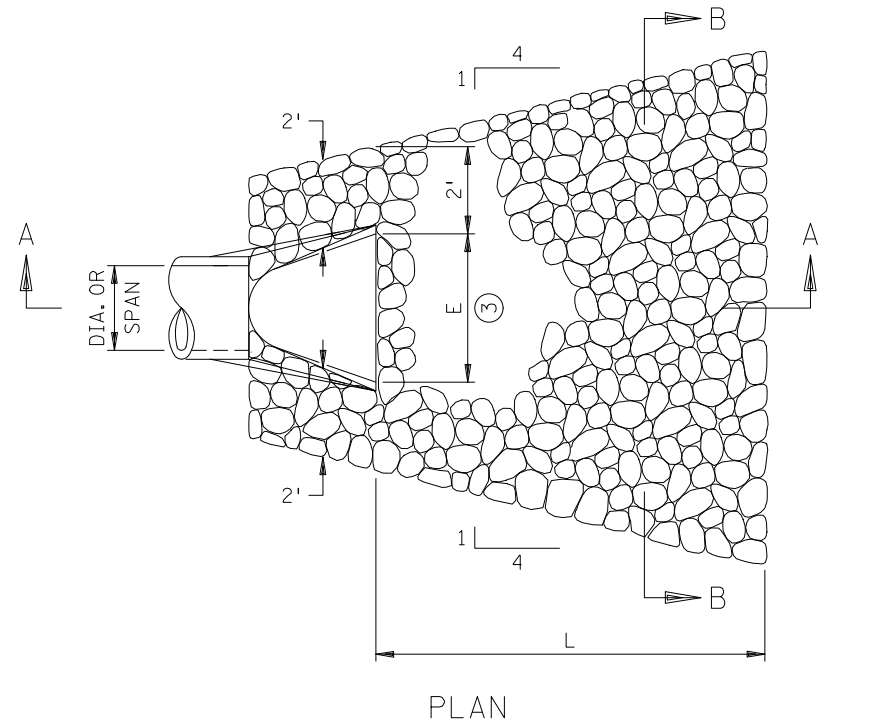
RIPRAP AT RCP OUTLETS

DIA. OF ROUND PIPE (IN.)	L (FT.)	CLASS II d ₅₀ = 6"			CLASS III d ₅₀ = 9"			CLASS IV d ₅₀ = 12"		
		GEO-TEXTILE FILTER (SQ. YD.)	GRANULAR FILTER UNDER APRON (CU. YD.)	12" DEPTH RIPRAP (CU. YD.)	GEO-TEXTILE FILTER (SQ. YD.)	GRANULAR FILTER UNDER APRON (CU. YD.)	18" DEPTH RIPRAP (CU. YD.)	GEO-TEXTILE FILTER (SQ. YD.)	GRANULAR FILTER UNDER APRON (CU. YD.)	24" DEPTH RIPRAP (CU. YD.)
12	8	16.9	0.2	3.0	19.6	0.3	4.4	22.6	0.3	5.9
15	8	18.0	0.2	3.2	20.8	0.3	4.8	23.9	0.4	6.4
18	10	22.4	0.3	4.3	25.6	0.4	6.4	29.0	0.5	8.5
21	10	24.1	0.4	4.7	27.4	0.6	7.1	30.9	0.7	9.4
24	12	29.7	0.5	6.2	33.4	0.8	9.2	37.3	1.0	12.3
27	12	31.4	0.6	6.6	35.2	0.9	9.9	39.2	1.2	13.2
30	14	37.4	0.8	8.2	41.6	1.1	12.3	46.0	1.5	16.4
36	16	45.9	1.1	10.6	50.5	1.6	15.8	55.4	2.1	21.1
42	18	52.8	1.2	12.5	57.8	1.7	18.7	63.0	2.3	24.9
48	20	61.1	1.5	14.8	66.5	2.2	22.2	72.0	2.9	29.6

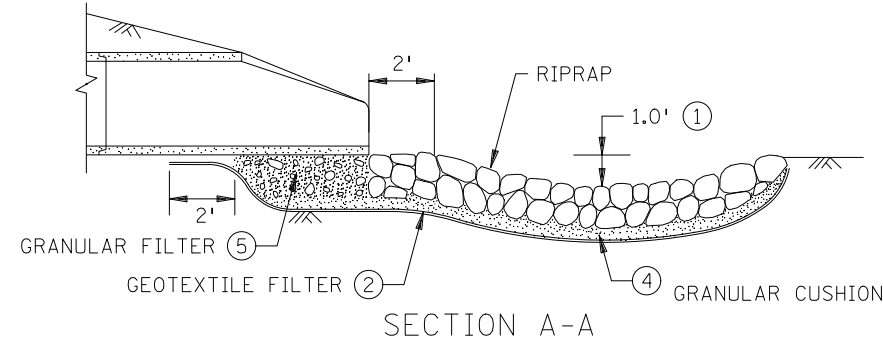
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RIPRAP AT RCP-A OUTLETS

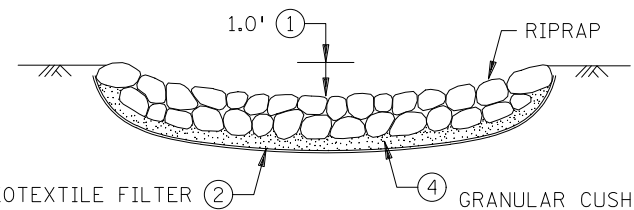
SPAN OF PIPE ARCH (IN.)	L (FT.)	CLASS II d ₅₀ = 6"			CLASS III d ₅₀ = 9"			CLASS IV d ₅₀ = 12"		
		GEO-TEXTILE FILTER (SQ. YD.)	GRANULAR FILTER UNDER APRON (CU. YD.)	12" DEPTH RIPRAP (CU. YD.)	GEO-TEXTILE FILTER (SQ. YD.)	GRANULAR FILTER UNDER APRON (CU. YD.)	18" DEPTH RIPRAP (CU. YD.)	GEO-TEXTILE FILTER (SQ. YD.)	GRANULAR FILTER UNDER APRON (CU. YD.)	24" DEPTH RIPRAP (CU. YD.)
22	10	22.4	0.3	4.1	25.6	0.4	6.1	29.0	0.5	8.1
28	12	29.5	0.5	5.7	33.2	0.7	8.5	37.1	0.9	11.3
36	14	37.3	0.8	7.5	41.5	1.1	11.2	45.8	1.5	14.9
43	16	45.9	1.1	9.5	50.5	1.6	14.3	55.3	2.1	19.0
51	18	52.5	1.2	11.3	57.5	1.7	16.9	62.7	2.3	22.5
58	20	59.9	1.3	13.2	65.2	1.9	19.8	70.7	2.5	26.4



PLAN



SECTION A-A



SECTION B-B

NOTES:

- REQUIREMENTS FOR GEOTEXTILE TYPE, RIPRAP SIZE AND THICKNESS WILL BE DESIGNATED IN THE PLANS.
- PIPE SIZES LARGER THAN THOSE SHOWN REQUIRE A SPECIAL DESIGN.
- ① FOR PIPES GREATER THAN OR EQUAL TO 30", USE 1.5'.
 - ② GEOTEXTILE FILTER, SPEC. 3733, SHALL COVER THE BOTTOM AND SIDES OF THE AREA EXCAVATED FOR THE RIPRAP, GRANULAR FILTER MATERIALS.
 - ③ DIMENSION E IS GIVEN ON STANDARD PLATES 3100 AND 3110.
 - ④ GRANULAR FILTER, SPEC. 3601, MAY BE USED AS A CUSHION LAYER. PLACE FILTER PER SPEC. 2511. THE CUSHION LAYER IS INCIDENTAL.
 - ⑤ GRANULAR FILTER OR RIPRAP, SPEC. 3601, TO EXTEND UNDER ENTIRE OPEN PORTION OF PIPE APRON. DEPTH OF MATERIAL UNDER APRON SHALL MATCH RIPRAP DEPTH. WHEN USING RIPRAP INCREASE RIPRAP QUANTITY ACCORDINGLY AND PLACE A 3" LAYER OF 1.5" CRUSHED ROCK UNDER THE APRON TO AID IN GRADING FOR APRON PLACEMENT. CRUSHED ROCK IS INCIDENTAL.

APPROVED DECEMBER 9, 2013

Christopher Ky
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

RIPRAP AT RCP OUTLETS

SPECIFICATION
REFERENCE
3100
3110
3601
3733
2511

STANDARD
PLATE
NO.

3133D

DRAWN BY: M.Q.A. DESIGN BY: C.W.P.

CHCKD BY: M.Q.A. PROJ. NO. 22-2011

ORIGINAL DATE: JANUARY 10, 2022

DATE

REVISION DESCRIPTION

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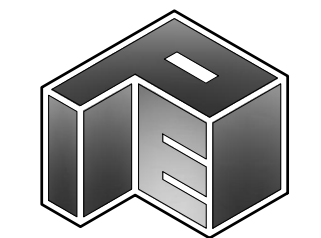
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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Charles W. Plowe
CHARLES W. PLOWE
DATE: 07.01.2022 LIC. NO. 18227

PRAIRIE HILLS
EAST BETHEL, MINNESOTA
DETAILS & NOTES

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DETAILS & NOTES
PRAIRIE HILLS

C3.2

4.1 TERMINATION OF COVERAGE. [MINN. R. 7090]

- 4.2 PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER ALL TERMINATION CONDITIONS LISTED IN SECTION 13 ARE COMPLETE. [MINN. R. 7090]
- 4.3 PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING THE ENTIRE SITE, INCLUDING PERMIT RESPONSIBILITY FOR ROADS (E.G., STREET SWEEPING) AND STORMWATER INFRASTRUCTURE FINAL CLEAN OUT, OR TRANSFERRING PORTIONS OF A SITE TO ANOTHER PARTY. THE PERMITTEES' COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE SUBMISSION DATE OF THE NOT. [MINN. R. 7090]
- 4.4 PERMITTEES MAY TERMINATE PERMIT COVERAGE PRIOR TO COMPLETION OF ALL CONSTRUCTION ACTIVITY IF THEY MEET ALL OF THE FOLLOWING CONDITIONS:

- A. CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 90 DAYS; AND
- B. AT LEAST 90 PERCENT (BY AREA) OF ALL ORIGINALLY PROPOSED CONSTRUCTION ACTIVITY HAS BEEN COMPLETED AND PERMANENT COVER HAS BEEN ESTABLISHED ON THOSE AREAS; AND
- C. ON AREAS WHERE CONSTRUCTION ACTIVITY IS NOT COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED; AND
- D. THE SITE COMPLIES WITH ITEM 13.3 THROUGH 13.7.

AFTER PERMIT COVERAGE IS TERMINATED UNDER THIS ITEM, ANY SUBSEQUENT DEVELOPMENT ON THE REMAINING PORTIONS OF THE SITE WILL REQUIRE PERMIT COVERAGE IF THE SUBSEQUENT DEVELOPMENT ITSELF OR AS PART OF THE REMAINING COMMON PLAN OF DEVELOPMENT OR SALE WILL RESULT IN LAND DISTURBING ACTIVITIES OF ONE (1) OR MORE ACRES IN SIZE. [MINN. R. 7090]

4.5 PERMITTEES MAY TERMINATE COVERAGE UPON MPCA APPROVAL AFTER SUBMITTING INFORMATION DOCUMENTING THE OWNER CANCELED THE PROJECT. [MINN. R. 7090]

5.1 STORMWATER POLLUTION PREVENTION PLAN (SWPPP) CONTENT [MINN. R. 7090]

5.3 THE SWPPP MUST INCORPORATE SPECIFIC BEST MANAGEMENT PRACTICES (BMP) USED TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT. [MINN. R. 7090]

5.4 THE SWPPP MUST INCLUDE A NARRATIVE DESCRIBING THE TIMING FOR INSTALLATION OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs AND A DESCRIPTION OF THE PERMANENT STORMWATER TREATMENT SYSTEMS. [MINN. R. 7090]

5.5 THE SWPPP MUST INCLUDE THE LOCATION AND TYPE OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMPs ALONG WITH PROCEDURES USED TO ESTABLISH ADDITIONAL TEMPORARY BMPs AS NECESSARY FOR THE SITE CONDITIONS DURING CONSTRUCTION. STANDARD DETAILS AND/OR SPECIFICATIONS FOR BMPs MUST BE INCLUDED IN THE FINAL PLANS AND SPECIFICATIONS FOR THE PROJECT. [MINN. R. 7090]

5.6 THE SWPPP MUST INCLUDE THE CALCULATIONS AND OTHER INFORMATION USED FOR THE DESIGN OF TEMPORARY SEDIMENT BASINS AND ANY OF THE PERMANENT STORMWATER TREATMENT SYSTEMS REQUIRED IN SECTION 15. [MINN. R. 7090]

5.7 THE SWPPP MUST INCLUDE ESTIMATED QUANTITIES ANTICIPATED AT THE START OF THE PROJECT FOR THE LIFE OF THE PROJECT FOR ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs (E.G., LINEAR FEET OF SILT FENCE OR SQUARE FEET OF EROSION CONTROL BLANKET). [MINN. R. 7090]

5.8 THE SWPPP MUST INCLUDE THE NUMBER OF ACRES OF IMPERVIOUS SURFACE FOR BOTH PRE- AND POST-CONSTRUCTION. [MINN. R. 7090]

5.9 THE SWPPP MUST INCLUDE A SITE MAP WITH EXISTING AND FINAL GRADES, INCLUDING DRAINAGE AREA BOUNDARIES, DIRECTIONS OF FLOW AND ALL DISCHARGE POINTS WHERE STORMWATER IS LEAVING THE SITE OR ENTERING A SURFACE WATER.

THE SITE MAP MUST INDICATE THE AREAS OF STEEP SLOPES. THE SITE MAP MUST ALSO INCLUDE IMPERVIOUS SURFACES, SOIL TYPES AND LOCATIONS OF POTENTIAL POLLUTANT-GENERATING ACTIVITIES AS IDENTIFIED IN SECTION 12. [MINN. R. 7090]

5.10 THE SWPPP MUST INCLUDE A MAP OF ALL SURFACE WATERS, EXISTING WETLANDS, AND STORMWATER PONDS OR BASINS THAT CAN BE IDENTIFIED ON MAPS SUCH AS UNITED STATES GEOLOGICAL SURVEY 7.5 MINUTE QUADRANGLE MAPS, THE NATIONAL WETLAND INVENTORY MAP OR EQUIVALENT MAPS AND ARE WITHIN ONE MILE (AERIAL RADIIUS MEASUREMENT) FROM THE PROJECT BOUNDARIES THAT WILL RECEIVE STORMWATER FROM THE CONSTRUCTION SITE, DURING OR AFTER CONSTRUCTION. THE SWPPP MUST IDENTIFY IF THE SURFACE WATERS ARE SPECIAL OR IMPAIRED WATERS. [MINN. R. 7090]

5.11 THE SWPPP MUST INCLUDE A SITE MAP SHOWING CONSTRUCTION ACTIVITY AREAS THAT ARE ADJACENT TO AND DRAIN TO PUBLIC WATERS FOR WHICH THE DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES. [MINN. R. 7090]

5.12 PERMITTEES MUST IDENTIFY LOCATIONS OF 50' BUFFER ZONES AS REQUIRED IN ITEM 9.17 AND 100' PERMANENT BUFFER ZONES AS REQUIRED IN ITEM 23.11, ON PLAN SHEETS IN THE SWPPP. [MINN. R. 7090]

5.13 IF PERMITTEES DETERMINE COMPLIANCE WITH THE FOLLOWING REQUIREMENTS IS INFEASIBLE, THEY MUST DOCUMENT THE DETERMINATION ON THE SWPPP:

- a. TEMPORARY SEDIMENT BASIN AS DESCRIBED IN SECTION 14; AND
- b. FOR LINEAR PROJECTS, IF THE PERMANENT STORMWATER TREATMENT SYSTEM CANNOT BE CONSTRUCTED WITHIN THE RIGHT-OF-WAY, A REASONABLE ATTEMPT MUST BE MADE TO OBTAIN ADDITIONAL RIGHT-OF-WAY (ITEM 15.9); AND
- c. BUFFER ZONES AS DESCRIBED IN ITEM 9.17 AND ITEM 23.11. [MINN. R. 7090]

5.14 IF PERMITTEES DETERMINE THAT A TEMPORARY SEDIMENT BASIN IS INFEASIBLE AS DESCRIBED IN ITEM 14.10, THE SWPPP MUST DESCRIBE THE ALTERNATIVE BMPs USED. [MINN. R. 7090]

5.15 WHERE SYSTEMS CANNOT MEET THE FULL VOLUME REDUCTION REQUIREMENT ON SITE, (E.G., THE SITE HAS INFILTRATION PROBLEMS), SEE ITEM 16.14 THROUGH ITEM 16.21) THE PERMITTEE MUST DOCUMENT THE REASONS IN THE SWPPP. [MINN. R. 7090]

5.16 THE SWPPP MUST INCLUDE ANY STORMWATER MITIGATION MEASURES PROPOSED TO BE PART OF THE FINAL PROJECT IN ANY ENVIRONMENTAL REVIEW DOCUMENT, ENDANGERED SPECIES REVIEW, ARCHEOLOGICAL OR OTHER REQUIRED LOCAL, STATE OR FEDERAL REVIEW CONDUCTED FOR THE PROJECT. FOR PURPOSES OF THIS PERMIT, MITIGATION MEASURES MEANS ACTIONS NECESSARY TO AVOID, MINIMIZE, OR MITIGATE FOR IMPACTS RELATED TO EROSION PREVENTION, SEDIMENT CONTROL, THE PERMANENT STORMWATER TREATMENT SYSTEM, POLLUTION PREVENTION MANAGEMENT MEASURES AND DISCHARGES ASSOCIATED WITH THE PROJECTS CONSTRUCTION ACTIVITY. [MINN. R. 7090]

5.17 THE SWPPP MUST DESCRIBE THE METHODS USED FOR PERMANENT COVER OF ALL EXPOSED SOIL AREAS. [MINN. R. 7090]

5.18 PERMITTEES MUST IDENTIFY THE LOCATIONS OF AREAS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE THE DURATION OF EXPOSED SOIL AREAS IN THE SWPPP. [MINN. R. 7090]

5.19 FOR PROJECTS WITH A DISCHARGE POINT ON THE PROJECT WITHIN ONE (1) MILE (AERIAL RADIIUS MEASUREMENT) OF AND WHICH FLOWS TO AN IMPAIRED WATER, PERMITTEES MUST IDENTIFY THE IMPAIRED WATER(S), AND ANY UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)-APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL) FOR THE POLLUTANT(S) OR SEDIMENT(S) DESCRIBED IN ITEM 17. PERMITTEES MUST IDENTIFY THE TMDL(S) AND THE TMDL(S) APPROVED AT ANY TIME PRIOR TO PERMIT APPLICATION SUBMITTAL AND ARE STILL IN EFFECT. [MINN. R. 7090]

5.20 PERMITTEES MUST DOCUMENT IN THE SWPPP, ALL TRAINED INDIVIDUALS IDENTIFIED IN ITEM 21.2. DOCUMENTATION MUST INCLUDE:

- a. NAMES OF PERSONNEL REQUIRED TO BE TRAINED; AND
- b. DATES OF TRAINING AND NAME OF INSTRUCTOR(S) AND ENTITY PROVIDING TRAINING; AND
- c. CONTENT OF TRAINING COURSE.

IF PERMITTEES DO NOT KNOW THE NAMES OF THE INDIVIDUALS AT THE TIME OF APPLICATION, THE PERMITTEES MUST ENSURE THEY DOCUMENT TRAINING BEFORE CONSTRUCTION ACTIVITY COMMENCES. [MINN. R. 7090]

5.21 THE SWPPP MUST IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP. [MINN. R. 7090]

5.22 THE SWPPP MUST DESCRIBE ANY SPECIFIC CHEMICALS AND CHEMICAL TREATMENT SYSTEMS USED FOR ENHANCING THE SEDIMENTATION PROCESS AND HOW IT ACHIEVES COMPLIANCE WITH ITEM 9.18. [MINN. R. 7090]

5.23 THE SWPPP MUST IDENTIFY THE PERSON(S), ORGANIZATIONS, OR ENTITIES RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PERMANENT STORMWATER TREATMENT SYSTEMS. [MINN. R. 7090]

5.24 THE SWPPP MUST DESCRIBE METHODS TO MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL, MINIMIZING SOIL COMPACTION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES COMPACTION. [MINN. R. 7090]

5.25 THE SWPPP MUST INCLUDE ANY SITE ASSESSMENTS FOR GROUNDWATER OR SOIL CONTAMINATION REQUIRED IN ITEM 16.15. [MINN. R. 7090]

5.26 THE SWPPP MUST ACCOUNT FOR THE FOLLOWING FACTORS IN DESIGNING TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL BMPs:

- a. THE EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION; AND
- b. THE NATURE OF STORMWATER RUNOFF AND RUN-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES; AND
- c. THE STORMWATER VOLUME, VELOCITY, AND PEAK FLOWRATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS; AND
- d. THE RANGE OF SOIL PARTICLES SIZES EXPECTED TO BE PRESENT. [MINN. R. 7090]

6.1 SWPPP AMENDMENTS. [MINN. R. 7090]

6.2 ONE OF THE INDIVIDUALS DESCRIBED IN ITEM 21.2.A OR ITEM 21.2.B OR ANOTHER QUALIFIED INDIVIDUAL MUST COMPLETE ALL SWPPP CHANGES, CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS. [MINN. R. 7090]

6.3 PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPs AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. [MINN. R. 7090]

6.4 PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPs AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES (E.G., NUISANCE CONDITIONS AS DEFINED IN MINN. R. 7050.0210, SUBP. 2) OR THE SWPPP IS NOT CONSISTENT WITH THE OBJECTIVES OF A USEPA APPROVED TMDL. [MINN. R. 7050.0210]

7.1 BMP SELECTION AND INSTALLATION. [MINN. R. 7090]

7.2 PERMITTEES MUST SELECT, INSTALL, AND MAINTAIN THE BMPs IDENTIFIED IN THE SWPPP AND IN THIS PERMIT IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES. [MINN. R. 7090]

8.1 EROSION PREVENTION PRACTICES. [MINN. R. 7090]

8.2 BEFORE WORK BEGINS, PERMITTEES MUST DELINEATE THE LOCATION OF AREAS NOT TO BE DISTURBED. [MINN. R. 7090]

8.3 PERMITTEES MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES, WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES (E.G., SLOPE DRAINING AND TERRACING). [MINN. R. 7090]

8.4 PERMITTEES MUST STABILIZE ALL EXPOSED SOIL AREAS, INCLUDING STOCKPILES, STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 7 CALENDAR DAYS. STABILIZATION MUST BE COMPLETED NO LATER THAN 7 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY HAS CEASED. STABILIZATION IS NOT REQUIRED ON CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES. STABILIZATION IS NOT REQUIRED ON TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) BUT PERMITTEES MUST PROVIDE SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE. [MINN. R. 7090]

8.5 FOR PUBLIC WATERS THAT THE MINNESOTA DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES, PERMITTEES MUST COMPLETE STABILIZATION OF ALL EXPOSED SOIL AREAS WITHIN 200 FEET OF THE WATER'S EDGE, AND THAT DRAIN TO THESE WATERS, WITHIN 24 HOURS DURING THE RESTRICTION PERIOD. [MINN. R. 7090]

8.6 PERMITTEES MUST STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 LINEAR FEET OF TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE, PERMITTEES MUST COMPLETE STABILIZATION OF REMAINING PORTIONS OF TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 7 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH TEMPORARILY OR PERMANENTLY CEASES. [MINN. R. 7090]

8.7 TEMPORARY OR PERMANENT DITCHES OR SWALES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION (WITHIN THE ROCK-CHECK DITCH, BIG ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED, PERMITTEES MUST STABILIZE THESE AREAS WITHIN 24 HOURS AFTER THEIR USE AS A SEDIMENT CONTAINMENT SYSTEM CEASES. [MINN. R. 7090]

8.8 PERMITTEES MUST NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT. [MINN. R. 7090]

8.9 PERMITTEES MUST PROVIDE TEMPORARY OR PERMANENT ENERGY DISSIPATION AT ALL PIPE OUTLETS WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER OR PERMANENT STORMWATER TREATMENT SYSTEM. [MINN. R. 7090]

8.10 PERMITTEES MUST NOT DISTURB MORE LAND (I.E., PHASING) THAN CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH SECTION 11. [MINN. R. 7090]

9.1 SEDIMENT CONTROL PRACTICES. [MINN. R. 7090]

9.2 PERMITTEES MUST ESTABLISH SEDIMENT CONTROL BMPs ON ALL DOWNGRADIENT PERIMETERS OF THE SITE AND DOWNGRADIENT AREAS OF THE SITE THAT DRAIN TO ANY SURFACE WATER, INCLUDING CURB AND GUTTER SYSTEMS. PERMITTEES MUST LOCATE SEDIMENT CONTROL PRACTICES UPGRADIENT OF ANY BUFFER ZONES. PERMITTEES MUST INSTALL SEDIMENT CONTROL PRACTICES AND DISTURBING ACTIVITY IN SUCH A MANNER AS TO NOT CAUSE EROSION AND SEDIMENT CONTROL PRACTICES IN PLACE UNTIL THEY ESTABLISH PERMANENT COVER. [MINN. R. 7090]

9.3 IF DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED, BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE REQUIREMENTS, PERMITTEES MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPs TO ELIMINATE THE OVERLOADING AND AMEND THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN ITEM 6.1. [MINN. R. 7090]

9.4 TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK-CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS. [MINN. R. 7090]

9.5 A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP TO SATISFY ITEM 9.2 EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY (E.G., INSTALLATION OF RIP RAP ALONG THE SHORELINE) IN THAT AREA IS COMPLETE, PERMITTEES MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER. [MINN. R. 7090]

9.6 PERMITTEES MUST RE-INSTALL ALL SEDIMENT CONTROL PRACTICES ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES, IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY IS COMPLETED. PERMITTEES MUST RE-INSTALL SEDIMENT CONTROL PRACTICES BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE. [MINN. R. 7090]

9.7 PERMITTEES MUST PROTECT ALL STORM DRAIN INLETS USING APPROPRIATE BMPs DURING CONSTRUCTION UNTIL THEY ESTABLISH PERMANENT COVER ON ALL AREAS WITH POTENTIAL FOR DISCHARGING TO THE INLET. [MINN. R. 7090]

9.8 PERMITTEES MAY REMOVE INLET PROTECTION FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (E.G., STREET FLOODING/FREEZING) IS IDENTIFIED BY THE PERMITTEES OR THE JURISDICTIONAL AUTHORITY (E.G., CITY/COUNTY/TOWNSHIP/MINNESOTA DEPARTMENT OF TRANSPORTATION ENGINEER), PERMITTEES MUST DOCUMENT THE NEED FOR REMOVAL IN THE SWPPP. [MINN. R. 7090]

9.9 PERMITTEES MUST PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AT THE BASE OF STOCKPILES ON THE DOWNGRADIENT PERIMETER. [MINN. R. 7090]

9.10 PERMITTEES MUST LOCATE STOCKPILES OUTSIDE OF NATURAL BUFFERS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS UNLESS THERE IS A BYPASS IN PLACE FOR THE SITE. [MINN. R. 7090]

9.11 PERMITTEES MUST INSTALL A VEHICLE TRACKING BMP TO MINIMIZE THE TRACK OUT OF SEDIMENT FROM THE CONSTRUCTION SITE OR ONTO PAVED ROADS WITHIN THE SITE. [MINN. R. 7090]

9.12 PERMITTEES MUST USE STREET SWEEPING IF VEHICLE TRACKING BMPs ARE NOT ADEQUATE TO PREVENT SEDIMENT TRACKING ONTO THE STREET. [MINN. R. 7090]

9.13 PERMITTEES MUST INSTALL TEMPORARY SEDIMENT BASINS AS REQUIRED IN SECTION 14. [MINN. R. 7090]

9.14 IN ANY AREAS OF THE SITE WHERE FINAL VEGETATIVE STABILIZATION WILL OCCUR, PERMITTEES MUST RESTRICT VEHICLE AND EQUIPMENT USE TO MINIMIZE SOIL COMPACTION. [MINN. R. 7090]

9.15 PERMITTEES MUST PRESERVE TOPSOIL ON THE SITE, UNLESS INFEASIBLE. [MINN. R. 7090]

9.16 PERMITTEES MUST DIRECT DISCHARGES FROM BMPs TO VEGETATED AREAS UNLESS INFEASIBLE. [MINN. R. 7090]

9.17 PERMITTEES MUST PRESERVE A 50 FOOT NATURAL BUFFER OR, IF A BUFFER IS INFEASIBLE ON THE SITE, PROVIDE TOPSOIL (DO NOT USE DISTURBED SEDIMENT) WITHIN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECTS EARTH DISTURBANCE. TO PREVENT FLOWS TO THE SURFACE WATER, PERMITTEES MUST INSTALL PERIMETER SEDIMENT CONTROLS AT LEAST 5 FEET APART UNLESS LIMITED BY LACK OF AVAILABLE SPACE. NATURAL BUFFERS ARE NOT REQUIRED ADJACENT TO ROAD DITCHES, JUDICIAL DITCHES, COUNTY DITCHES, STORMWATER CONVEYANCE CHANNELS, STORMWATER DRAINAGE BASINS, IF PRESERVING THE BUFFER IS INFEASIBLE. PERMITTEES MUST DOCUMENT THE REASONS IN THE SWPPP. SHEET PILING IS A REDUNDANT PERIMETER CONTROL, IF INSTALLED IN A MANNER THAT RETAINS ALL STORMWATER. [MINN. R. 7090]

9.18 PERMITTEES MUST USE POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, DOSING SPECIFICATIONS AND SEDIMENT REMOVAL DESIGN SPECIFICATIONS PROVIDED BY THE MANUFACTURER OR SUPPLIER. THE PERMITTEES MUST USE CONVENTIONAL EROSION AND SEDIMENT CONTROLS PRIOR TO CHEMICAL ADDITION AND MUST DIRECT TREATED STORMWATER TO A SEDIMENT CONTROL SYSTEM FOR FILTRATION OR SETTLEMENT OF THE FLOC PRIOR TO DISCHARGE. [MINN. R. 7090]

10.1 DEWATERING AND BASIN DRAINING. [MINN. R. 7090]

10.2 PERMITTEES MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCHDITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENT BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. PERMITTEES MAY DEWATER TO SURFACE WATERS IF THEY VISUALLY CHECK TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED AND NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) WILL NOT RESULT FROM THE DISCHARGE. IF PERMITTEES CANNOT DISCHARGE THE WATER TO A SEDIMENTATION BASIN PRIOR TO ENTERING A SURFACE WATER, PERMITTEES MUST TREAT IT WITH APPROPRIATE BMPs SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE SURFACE WATER OR DOWNSTREAM PROPERTIES. [MINN. R. 7050.0210]

10.3 IF PERMITTEES MUST DISCHARGE WATER CONTAINING OIL OR GREASE, THEY MUST USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE (E.G., CARTRIDGE FILTERS, ABSORBENTS PADS) PRIOR TO DISCHARGE. [MINN. R. 7090]

10.4 PERMITTEES MUST DISCHARGE ALL WATER FROM DEWATERING OR BASIN DRAINING ACTIVITIES IN A MANNER THAT DOES NOT CAUSE EROSION OR SCOURING. REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF THE IMMEDIATE VICINITY OF DISCHARGE POINTS THAT CAUSES SIGNIFICANT ADVERSE IMPACT TO THE WETLAND. [MINN. R. 7090]

10.5 IF PERMITTEES USE FILTERS WITH BACKWASH WATER, THEY MUST HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. [MINN. R. 7090]

11.1 INSPECTIONS AND MAINTENANCE. [MINN. R. 7090]

11.2 PERMITTEES MUST ENSURE A TRAINED PERSON, AS IDENTIFIED IN ITEM 21.2.B, WILL INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 1/2 INCH IN 24 HOURS. [MINN. R. 7090]

11.3 PERMITTEES MUST INSPECT AND MAINTAIN ALL PERMANENT STORMWATER TREATMENT BMPs. [MINN. R. 7090]

11.4 PERMITTEES MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL NON-FUNCTIONAL BMPs PRIOR TO THE NEXT BUREAU OF THE NEXT BUREAU OF THE NEXT BUREAU OF THE NEXT BUREAU. ANOTHER TIME FRAME IS SPECIFIED IN ITEM 11.5 OR 11.6, PERMITTEES MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA. [MINN. R. 7090]

11.5 DURING EACH INSPECTION, PERMITTEES MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. PERMITTEES MUST REPAIR OR REPLACE EROSION AND SEDIMENT CONTROL BMPs, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. PERMITTEES MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. PERMITTEES MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS TO THE PROJECT SITE FOR INSPECTION AND STABILIZATION WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. PERMITTEES ARE RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS. [MINN. R. 7090]

11.6 PERMITTEES MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. PERMITTEES MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS. [MINN. R. 7090]

11.7 PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE. [MINN. R. 7090]

11.8 PERMITTEES MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. [MINN. R. 7090]

11.9 PERMITTEES MUST ENSURE THAT AT LEAST ONE INDIVIDUAL PRESENT ON THE SITE (OR AVAILABLE TO THE PROJECT SITE IN THREE (3) CALENDAR DAYS) IS TRAINED IN THE JOB DUTIES DESCRIBED IN ITEM 21.2.B. [MINN. R. 7090]

11.10 PERMITTEES MAY ADJUST THE INSPECTION SCHEDULE DESCRIBED IN ITEM 11.2 AS FOLLOWS:

- A. INSPECTIONS OF AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE PER MONTH, EVEN IF CONSTRUCTION ACTIVITY CONTINUES ON OTHER PORTIONS OF THE SITE, OR
- B. WHERE SITES HAVE PERMANENT COVER ON ALL EXPOSED SOIL AND NO CONSTRUCTION ACTIVITY IS OCCURRING ANYWHERE ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES. THE MPCA MAY REQUIRE INSPECTIONS TO RESUME IF CONDITIONS Warrant A MORE FREQUENT INSPECTION.
- C. WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTIONS MAY BE SUSPENDED, INSPECTIONS MUST RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING, OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST. [MINN. R. 7090]

11.11 PERMITTEES MUST RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES WITHIN 24 HOURS OF BEING CONDUCTED AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. THESE RECORDS MUST INCLUDE:

- A. DATE AND TIME OF INSPECTIONS; AND
- B. NAME OF PERSONS CONDUCTING INSPECTIONS; AND
- C. ACCURATE FINDINGS OF INSPECTIONS, INCLUDING THE SPECIFIC LOCATION WHERE CORRECTIVE ACTIONS ARE NEEDED; AND
- D. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); AND
- E. DATE OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCHES IN 24 HOURS, AND THE AMOUNT OF RAINFALL FOR EACH EVENT. PERMITTEES MUST OBTAIN RAINFALL AMOUNTS BY EITHER A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ONSITE, A WEATHER STATION THAT IS WITHIN ONE (1) MILE OF YOUR LOCATION, OR A WEATHER REPORTING SYSTEM THAT PROVIDES SITE SPECIFIC RAINFALL DATA FROM RADAR SUMMARIES; AND
- F. IF PERMITTEES OBSERVE A DISCHARGE DURING THE INSPECTION, THEY MUST RECORD AND SHOULD PHOTOGRAPH AND DESCRIBE THE LOCATION OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLED OR SUSPENDED SOLIDS, OIL, SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS); AND
- G. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED AS REQUIRED IN SECTION 6 WITHIN SEVEN (7) CALENDAR DAYS. [MINN. R. 7090]

12.1 POLLUTION PREVENTION MANAGEMENT MEASURES. [MINN. R. 7090]

12.2 PERMITTEES MUST PLACE BUILDING PRODUCTS AND LANDSCAPE MATERIALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER. PERMITTEES ARE NOT REQUIRED TO COVER OR PROTECT PRODUCTS WHICH ARE EITHER NOT SOURCE OF CONTAMINATION TO STORMWATER OR ARE DESIGNED TO BE EXPOSED TO STORMWATER. [MINN. R. 7090]

12.3 PERMITTEES MUST PLACE PESTICIDES, FERTILIZERS AND TREATMENT CHEMICALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER. [MINN. R. 7090]

12.4 PERMITTEES MUST STORE HAZARDOUS MATERIALS AND TOXIC WASTE, INCLUDING OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS TO PREVENT SPLITS, LEAKS OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE. [MINN. R. 7090]

12.5 PERMITTEES MUST PROPERLY STORE, COLLECT AND DISPOSE SOLID WASTE IN COMPLIANCE WITH MINN. R. CH. 7035. [MINN. R. 7090]

12.6 PERMITTEES MUST POSITION PORTABLE TOILETS SO THEY ARE SECURE AND WILL NOT TIP OR BE KNOCKED OVER. PERMITTEES MUST PROPERLY DISPOSE SANITARY WASTE IN ACCORDANCE WITH MINN. R. CH. 7041. [MINN. R. 7041]

12.7 PERMITTEES MUST TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED INCLUDING THE USE OF DRIP TANS OR ABSORBENT MATERIALS. UNLESS INFEASIBLE, PERMITTEES MUST ENSURE ADEQUATE SUPPLIES ARE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS. PERMITTEES MUST REPORT AND CLEAN UP SPILLS IMMEDIATELY AS REQUIRED BY MINN. STAT. 115.061, USING DRY CLEAN UP MEASURES WHERE POSSIBLE. [MINN. STAT. 115.061]

12.8 PERMITTEES MUST LIMIT VEHICLE EXTERIOR WASHING AND EQUIPMENT TO A DEFINED AREA OF THE SITE. PERMITTEES MUST CONTAIN RUNOFF FROM THE WASHING AREA IN A SEDIMENT BASIN OR OTHER SIMILARLY EFFECTIVE CONTROLS AND MUST DISPOSE WASTE FROM THE WASHING ACTIVITY PROPERLY. PERMITTEES MUST PROPERLY USE AND STORE SOAPS, DETERGENTS, OR SOLVENTS. [MINN. R. 7090]

12.9 PERMITTEES MUST PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS (E.G., CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS) RELATED TO THE CONSTRUCTION ACTIVITY. PERMITTEES MUST PREVENT LIQUID AND SOLID WASHOUT WASTES FROM CONTACTING THE GROUND AND MUST DESIGN THE CONTAINMENT SO IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR AREAS. PERMITTEES MUST PROPERLY DISPOSE LIQUID AND SOLID WASTES IN COMPLIANCE WITH MPCA RULES. PERMITTEES MUST INSTALL A SIGN INDICATING THE LOCATION OF THE WASHOUT FACILITY. [MINN. R. 7035, MINN. R. 7090]

13.1 PERMIT TERMINATION CONDITIONS. [MINN. R. 7090]

13.2 PERMITTEES MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOT. VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER. [MINN. R. 7090]

13.3 PERMITTEES MUST CLEAN THE PERMANENT STORMWATER T

18.1 WET SEDIMENTATION BASIN [MINN. R. 7090]

18.2 PERMITTEES USING A WET SEDIMENTATION BASIN TO MEET THE PERMANENT STORMWATER TREATMENT REQUIREMENTS OF THIS PERMIT MUST INCORPORATE THE DESIGN PARAMETERS IN ITEM 18.3 THROUGH 18.10. [MINN. R. 7090]

18.3 PERMITTEES MUST DESIGN THE BASIN TO HAVE A PERMANENT VOLUME OF 1,800 CUBIC FEET OF STORAGE BELOW THE OUTLET PIPE FOR EACH ACRE THAT DRAINS TO THE BASIN. THE BASIN'S PERMANENT VOLUME MUST REACH A MINIMUM DEPTH OF AT LEAST THREE (3) FEET AND MUST HAVE NO DEPTH GREATER THAN 10 FEET. PERMITTEES MUST CONFIGURE THE BASIN TO MINIMIZE SCOUR OR RESUSPENSION OF SOLIDS. [MINN. R. 7090]

18.4 PERMITTEES MUST DESIGN THE BASIN TO PROVIDE LIVE STORAGE FOR A WATER QUALITY VOLUME (CALCULATED AS AN INSTANTANEOUS VOLUME) OF ONE (1) INCH OF RUNOFF, OR ONE (1) INCH MINUS THE VOLUME OF STORMWATER TREATED BY ANOTHER SYSTEM ON THE SITE, FROM THE NET INCREASE IN IMPERVIOUS SURFACES CREATED BY THE PROJECT. [MINN. R. 7090]

18.5 PERMITTEES MUST DESIGN BASIN OUTLETS SO THE WATER QUALITY VOLUME DISCHARGES AT NO MORE THAN 5.66 CUBIC FEET PER SECOND (CFS) PER ACRE OF SURFACE AREA OF THE BASIN. [MINN. R. 7090]

18.6 PERMITTEES MUST DESIGN BASIN OUTLETS TO PREVENT SHORT-CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS. BASIN OUTLETS MUST HAVE ENERGY DISSIPATION. [MINN. R. 7090]

18.7 PERMITTEES MUST DESIGN THE BASIN TO INCLUDE A STABILIZED EMERGENCY OVERFLOW TO ACCOMMODATE STORM EVENTS IN EXCESS OF THE BASIN'S HYDRAULIC DESIGN. [MINN. R. 7090]

18.8 PERMITTEES MUST DESIGN A MAINTENANCE ACCESS, TYPICALLY EIGHT (8) FEET WIDE, FOR THE BASIN. [MINN. R. 7090]

18.9 PERMITTEES MUST LOCATE BASINS OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONE REQUIRED IN ITEM 23.11.

PERMITTEES MUST DESIGN BASINS TO AVOID DRAINING WATER FROM WETLANDS UNLESS THE IMPACT TO THE WETLAND COMPLIES WITH THE REQUIREMENTS OF SECTION 22. [MINN. R. 7090]

18.10 PERMITTEES MUST DESIGN BASINS USING AN IMPERMEABLE LINER IF LOCATED WITHIN ACTIVE KARST TERRAIN. [MINN. R. 7090]

19.1 REGIONAL WET SEDIMENTATION BASINS. [MINN. R. 7090]

19.2 WHEN THE ENTIRE WATER QUALITY VOLUME CANNOT BE RETAINED ONSITE, PERMITTEES CAN USE OR CREATE REGIONAL WET SEDIMENTATION BASINS PROVIDED THEY ARE CONSTRUCTED BASINS, NOT A NATURAL WETLAND OR WATER BODY. (WETLANDS USED AS REGIONAL BASINS MUST BE MITIGATED FOR. SEE SECTION 22.) THE OWNER MUST ENSURE THE REGIONAL BASIN CONFORMS TO ALL REQUIREMENTS FOR A WET SEDIMENTATION BASIN AS DESCRIBED IN ITEMS 18.3 THROUGH 18.10 AND MUST BE LARGE ENOUGH TO ACCOUNT FOR THE ENTIRE AREA THAT DRAINS TO THE REGIONAL BASIN. PERMITTEES MUST PROVIDE A MAINTENANCE ACCESS, TYPICALLY EIGHT (8) FEET WIDE, FOR THE BASIN. PERMITTEES MUST PROVIDE A LIVE STORAGE VOLUME OF ONE INCH TIMES ALL THE IMPERVIOUS AREA DRAINING TO THE BASIN. PERMITTEES CANNOT SIGNIFICANTLY DEGRADE WATERWAYS BETWEEN THE PROJECT AND THE REGIONAL BASIN. THE OWNER MUST OBTAIN WRITTEN AUTHORIZATION FROM THE APPLICABLE LGU OR PRIVATE ENTITY THAT OWNS AND MAINTAINS THE REGIONAL BASIN. [MINN. R. 7090]

20.1 SWPPP AVAILABILITY. [MINN. R. 7090]

20.2 PERMITTEES MUST KEEP THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS AT THE SITE DURING NORMAL WORKING HOURS BY PERMITTEES WHO HAVE OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. [MINN. R. 7090]

21.1 TRAINING REQUIREMENTS. [MINN. R. 7090]

21.2 PERMITTEES MUST ENSURE ALL OF THE FOLLOWING INDIVIDUALS RECEIVE TRAINING AND THE CONTENT AND EXTENT OF THE TRAINING IS COMMENSURATE WITH THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES WITH REGARD TO ACTIVITIES COVERED UNDER THIS PERMIT:

- INDIVIDUALS PREPARING THE SWPPP FOR THE PROJECT.
 - INDIVIDUALS OVERSEEING IMPLEMENTATION OF, REVISING AND/OR AMENDING THE SWPPP AND INDIVIDUALS PERFORMING INSPECTIONS FOR THE PROJECT. ONE OF THESE INDIVIDUALS MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE MPCA.
 - INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPS. [MINN. R. 7090]
- 21.3 PERMITTEES MUST ENSURE INDIVIDUALS IDENTIFIED IN SECTION 21 RECEIVE TRAINING FROM LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, AND STORMWATER TREATMENT AND THE PERMIT. PERMITTEES MUST OBTAIN WRITTEN AUTHORIZATION FROM THE PERMIT. PERMITTEES MUST ENSURE THESE INDIVIDUALS ATTEND A REFRESHER-TRAINING COURSE EVERY THREE (3) YEARS. [MINN. R. 7090]

23.1 ADDITIONAL REQUIREMENTS FOR DISCHARGES TO SPECIAL (PROHIBITED, RESTRICTED, OTHER) AND IMPAIRED WATERS. [MINN. R. 7090]

23.6 DISCHARGES TO THE TROUT STREAMS (OTHER SPECIAL WATER) LISTED IN MINN. R. 6264.0050, SUBP. 4 MUST INCORPORATE THE BMPS OUTLINED IN ITEMS 23.9, 23.10, 23.11, AND 23.12. [MINN. R.6264.0050, SUBP. 4]

23.9 PERMITTEES MUST IMMEDIATELY INITIATE STABILIZATION OF EXPOSED SOIL AREAS, AS DESCRIBED IN ITEM 8.4 AND COMPLETE STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE TEMPORARILY OR PERMANENTLY CEASES. [MINN. R. 7090]

23.10 PERMITTEES MUST PROVIDE A TEMPORARY SEDIMENT BASIN AS DESCRIBED IN SECTION 14 FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME. [MINN.R. 7090]

23.11 PERMITTEES MUST INCLUDE AN UNDISTURBED BUFFER ZONE OF NOT LESS THAN 100 LINEAR FEET FROM A SPECIAL WATER (NOT INCLUDING TRIBUTARIES) AND MUST MAINTAIN THIS BUFFER ZONE AT ALL TIMES, BOTH DURING CONSTRUCTION AND AS A PERMANENT FEATURE AFTER CONSTRUCTION, EXCEPT WHERE A WATER CROSSING OR OTHER ENCROACHMENT IS NECESSARY TO COMPLETE THE PROJECT. PERMITTEES MUST FULLY DOCUMENT THE CIRCUMSTANCE AND REASON THE BUFFER ENCROACHMENT IS NECESSARY IN THE SWPPP AND INCLUDE RESTORATION ACTIVITIES. THIS PERMIT ALLOWS REPLACEMENT OF EXISTING IMPERVIOUS SURFACE WITHIN THE BUFFER. PERMITTEES MUST MINIMIZE ALL POTENTIAL WATER QUALITY, SCENIC AND OTHER ENVIRONMENTAL IMPACTS OF THESE EXCEPTIONS BY THE USE OF ADDITIONAL OR REDUNDANT (DOUBLE) BMPS AND MUST DOCUMENT THIS IN THE SWPPP FOR THE PROJECT. [MINN. R. 7090]

23.12 PERMITTEES MUST DESIGN THE PERMANENT STORMWATER TREATMENT SYSTEM SO THE DISCHARGE FROM THE PROJECT MINIMIZES ANY INCREASE IN THE TEMPERATURE OF TROUT STREAMS RESULTING FROM THE ONE (1) AND TWO (2) YEAR 24-HOUR PRECIPITATION EVENTS. THIS INCLUDES ALL TRIBUTARIES OF DESIGNATED TROUT STREAMS LOCATED WITHIN THE SAME PUBLIC LAND SURVEY SYSTEM (PLSS) SECTION. PERMITTEES MUST INCORPORATE ONE OR MORE OF THE FOLLOWING MEASURES, IN ORDER OF PREFERENCE:

- PROVIDE STORMWATER INFILTRATION OR OTHER VOLUME REDUCTION PRACTICES AS DESCRIBED IN ITEM 15.4 AND 15.5, TO REDUCE RUNOFF. INFILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
- PROVIDE STORMWATER FILTRATION AS DESCRIBED IN SECTION 17. FILTRATION SYSTEMS MUST DISCHARGE ALL STORMWATER ROUTED TO THE SYSTEM WITHIN 24 HOURS.
- MINIMIZE THE DISCHARGE FROM CONNECTED IMPERVIOUS SURFACED BY DISCHARGING TO VEGETATED AREAS, OR GRASS SWALES, AND THROUGH THE USE OF NON-STRUCTURAL CONTROLS.
- IF PONDING IS USED, THE DESIGN MUST INCLUDE AN APPROPRIATE COMBINATION OF MEASURES SUCH AS SHADING, VEGETATED SWALE DISCHARGES, OR CONSTRUCTED WETLAND TREATMENT CELLS THAT LIMIT TEMPERATURE INCREASES. THE POND MUST BE DESIGNED AS A DRY POND AND SHOULD DRAW DOWN IN 24 HOURS OR LESS.
- OTHER METHODS THAT MINIMIZE ANY INCREASE IN THE TEMPERATURE OF THE TROUT STREAM. [MINN. R. 7090]

24.1 GENERAL PROVISIONS. [MINN. R. 7090]

24.2 IF THE MPCA DETERMINES THAT AN INDIVIDUAL PERMIT WOULD MORE APPROPRIATELY REGULATE THE CONSTRUCTION ACTIVITY, THE MPCA MAY REQUIRE AN INDIVIDUAL PERMIT TO CONTINUE THE CONSTRUCTION ACTIVITY. COVERAGE UNDER THIS GENERAL PERMIT WILL REMAIN IN EFFECT UNTIL THE MPCA ISSUES AN INDIVIDUAL PERMIT. [MINN. R.7001.0210, SUBP. 6]

24.3 IF THE PERMITTEE CANNOT MEET THE TERMS AND CONDITIONS OF THIS GENERAL PERMIT, AN OWNER MAY REQUEST AN INDIVIDUAL PERMIT, IN ACCORDANCE WITH MINN. R. 7001.0210 SUBP. 6. [MINN. R. 7001.0210, SUBP. 6]

24.4 ANY INTERESTED PERSON MAY PETITION THE MPCA TO REQUIRE AN INDIVIDUAL NPDES/SDS PERMIT IN ACCORDANCE WITH 40 CFR 122.28(b)(3), [40 CFR 122.28(b)(3)]

24.5 PERMITTEES MUST MAKE THE SWPPP, INCLUDING ALL INSPECTION REPORTS, MAINTENANCE RECORDS, TRAINING RECORDS AND OTHER INFORMATION REQUIRED BY THIS PERMIT, AVAILABLE TO FEDERAL, STATE, AND LOCAL OFFICIALS WITHIN THREE (3) DAYS UPON REQUEST FOR THE DURATION OF THE PERMIT AND FOR THREE (3) YEARS FOLLOWING THE NOT. [MINN. R. 7090]

24.6 PERMITTEES MAY NOT ASSIGN OR TRANSFER THIS PERMIT EXCEPT WHEN THE TRANSFER OCCURS IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ITEM 9.7 AND 3.8. [MINN. R. 7090]

24.7 NOTHING IN THIS PERMIT MUST BE CONSTRUED TO RELIEVE THE PERMITTEES FROM CIVIL OR CRIMINAL PENALTIES FOR NONCOMPLIANCE WITH THE TERMS AND CONDITIONS PROVIDED HEREIN. NOTHING IN THIS PERMIT MUST BE CONSTRUED TO PRECLUDE THE INITIATION OF ANY LEGAL ACTION OR RELIEVE THE PERMITTEES FROM ANY RESPONSIBILITIES, LIABILITIES, OR PENALTIES TO WHICH THE PERMITTEES IS/ARE OR MAY BE SUBJECT TO UNDER SECTION 311 OF THE CLEAN WATER ACT AND MINN. STAT. SECT. 115 AND 116. AS AMENDED, PERMITTEES ARE NOT LIABLE FOR PERMIT REQUIREMENTS FOR ACTIVITIES OCCURRING ON THOSE PORTIONS OF A SITE WHERE THE PERMIT HAS BEEN TRANSFERRED TO ANOTHER PARTY AS REQUIRED IN ITEM 3.7 OR THE PERMITTEES HAVE SUBMITTED THE NOT AS REQUIRED IN SECTION 4. [MINN. R. 7090]

24.8 THE PROVISIONS OF THIS PERMIT ARE SEVERABLE. IF ANY PROVISION OF THIS PERMIT OR THE APPLICATION OF ANY PROVISION OF THIS PERMIT TO ANY CIRCUMSTANCES IS HELD INVALID, THE APPLICATION OF SUCH PROVISION TO OTHER CIRCUMSTANCES, AND THE REMAINDER OF THIS PERMIT MUST NOT BE AFFECTED THEREBY. [MINN. R. 7090]

24.9 THE PERMITTEES MUST COMPLY WITH THE PROVISIONS OF MINN. R. 7001.0150, SUBP. 3 AND MINN. R. 7001.1090, SUBP. 1(A), 1(B), 1(C), 1(H), 1(I), 1(J), 1(K), AND 1(L). [MINN. R. 7090]

24.10 THE PERMITTEES MUST ALLOW ACCESS AS PROVIDED IN 40 CFR 122.41(i) AND MINN. STAT. SECT. 115.04. THE PERMITTEES MUST ALLOW REPRESENTATIVES OF THE MPCA OR ANY MEMBER, EMPLOYEE OR AGENT THEREOF, WHEN AUTHORIZED BY IT, UPON PRESENTATION OF IDENTIFICATION TO ENTER THE PROPERTY, PUBLIC OR PRIVATE, FOR THE PURPOSE OF OBTAINING INFORMATION OR EXAMINATION OF RECORDS OR CONDUCTING SURVEYS OR INVESTIGATIONS. [40 CFR 122.41(i)]

24.11 FOR THE PURPOSES OF MINN. R. 7090 AND OTHER DOCUMENTS THAT REFERENCE SPECIFIC SECTIONS OF THIS PERMIT, "STORMWATER DISCHARGE DESIGN REQUIREMENTS" CORRESPONDS TO SECTIONS 5, 6 AND 14 THROUGH 21; "CONSTRUCTION ACTIVITY REQUIREMENTS" CORRESPONDS TO SECTIONS 7 THROUGH 13; AND "APPENDIX A" CORRESPONDS TO SECTIONS 22 AND 23. [MINN. R. 7090]

DOCUMENTATION OF TRAINED INDIVIDUALS

A. INDIVIDUAL WHO PREPARED THE SWPPP:

ADAM GINKEL
PLOWE ENGINEERING, INC.
6776 LAKE DRIVE
LINO LAKE MN 55014
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ADAM@plowe.com

UNIVERSITY OF MINNESOTA

Adam Ginkel

Design of Construction SWPPP (May 31 2023)

PROJECT NAME

PRAIRIE HILLS

PROJECT LOCATION

PID: 14-33-23-21-0003

LATITUDE: 45.354

LONGITUDE: -93.177

DEVELOPER

T.H. CONSTRUCTION OF ANOKA

517 E. MAIN STREET, SUITE 3

EAST BETHEL, MN 55303

CONTACT NAME: TONY HENNEN

CONTACT PHONE: 763-422-8809

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NARRATIVE - PERMANENT STORMWATER TREATMENT SYSTEMS

THE PROJECT CONSISTS OF THE CONSTRUCTION OF 18 SINGLE-FAMILY RESIDENCES AND SEVERAL INFILTRATION BASINS FOR STORMWATER TREATMENT.

PERMANENT STORMWATER MANAGEMENT TREATMENT SYSTEMS PER MPCA RULES, CITY OF EAST BETHEL, AND SUNRISE RIVER WATERSHED MANAGEMENT ORGANIZATION ARE REQUIRED FOR THIS PROJECT.

SITE IMPERVIOUS AREAS

	BEFORE CONSTRUCTION	AFTER CONSTRUCTION
TOTAL SITE AREA		40.67 ACRES
TOTAL ESTIMATED IMPERVIOUS	0.12 ACRES	3.98 ACRES
TOTAL ESTIMATED PERVIOUS	40.55 ACRES	36.69 ACRES

APPROX. 3.86 ACRE INCREASE IN IMPERVIOUS

TOTAL DISTURBED AREA

30.03 ACRES

SITE MAP W/ EXISTING AND FINAL GRADES AND DESIGN CALCULATIONS

SEE "STORMWATER DRAINAGE REPORT" FOR EXISTING AND PROPOSED AREA MAPS, DENOTING DRAINAGE AREA BOUNDARIES, DIRECTIONS OF FLOW, AND DISCHARGE POINTS WHERE STORMWATER LEAVES THE SITE.

RECEIVING WATERS WITHIN ONE MILE

NAME OF WATER BODY	TYPE OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
DEVIL LAKE	CREEK	NO	NO
COUNTY DITCH 16	DITCH	NO	NO
ON-SITE WETLANDS	CREEK	NO	NO
ON-SITE RAIN INFILTRATION BASINS	BASIN	NO	NO

BUFFER TO SURFACE WATER

☒ ☐ ☐ IF THE SITE DRAINS TO A SURFACE WATER, IS A 50-FT NATURAL BUFFER ADJACENT TO THE SURFACE WATER PRESERVED?

YES NO N/A

NOTE: NATURAL BUFFERS ARE NOT REQUIRED ADJACENT TO ROAD DITCHES, STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS, AND SEDIMENT BASINS.

A) WHERE A 50-FT BUFFER CANNOT BE MAINTAINED, REDUNDANT SEDIMENT CONTROL MEASURES AND LOW OF SILT FENCE, BIO-ROLL, OR OTHER ENGINEER APPROVED EQUAL) WILL BE PROVIDED

TEMPORARY SEDIMENTATION BASINS

☒ ☐ ☐ IF TEN (10) OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION IS A TEMPORARY SEDIMENT BASIN PROVIDED FOR TREATMENT OF THE RUNOFF BEFORE IT LEAVES THE CONSTRUCTION SITE OR ENTERS SURFACE WATERS?

YES NO N/A

A) THE CONTRACTOR WILL PROVIDE TEMPORARY SEDIMENTATION BASINS IF 10 (TEN) OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION.

INFILTRATION FEASIBILITY

☐ ☒ ☐ ARE THERE ANY INFILTRATION RESTRICTIONS FOR THE SITE (SEE 16.14 THROUGH 16.21)?

YES NO N/A

A) THE SITE HAS HSG A SOILS AND A LOW WATER TABLE; INFILTRATION IS FEASIBLE.

ADDITIONAL STORMWATER MITIGATION MEASURES

☐ ☒ ARE THERE ANY STORMWATER MITIGATION MEASURES PER:

- ENVIRONMENTAL REVIEW DOCUMENT?
- ENDANGERED SPECIES REVIEW?
- ARCHAEOLOGICAL REVIEW?
- OTHER LOCAL, STATE OR FEDERAL REVIEW?

IF YES TO ANY OF THE ABOVE, DESCRIBE THE MITIGATION MEASURES. FOR PURPOSES OF THIS PERMIT, MITIGATION MEASURES MEANS ACTIONS NECESSARY TO AVOID, MINIMIZE, OR MITIGATE FOR IMPACTS RELATED TO EROSION PREVENTION, SEDIMENT CONTROL, THE PERMANENT STORMWATER TREATMENT SYSTEM, POLLUTION PREVENTION MANAGEMENT MEASURES AND DISCHARGES ASSOCIATED WITH THE PROJECT'S CONSTRUCTION ACTIVITY. [MINN. R. 7090]

LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORMWATER FACILITIES

THE PERMANENT STORMWATER MANAGEMENT FACILITIES ARE PUBLICALLY OWNED AND THE LONG-TERM OPERATIONS AND MAINTENANCE WILL BE PROVIDED BY THE CITY OF EAST BETHEL.

REVEGETATION SPECIFICATIONS

ITEM		MNDOT SPECIFICATION/NOTES
SOD		3878
SEED **		3876
* FOR TURF ESTABLISHMENT		
COMMERCIAL TURF		MNDOT MIX 25-131 (220 LBS/ACRE)
RESIDENTIAL TURF		MNDOT MIX 25-131 (120 LBS/ACRE)
TEMPORARY		
FALL COVER		MNDOT MIX 21-112 (100 LBS/ACRE)
FALL COVER		MNDOT MIX 21-111 (100 LBS/ACRE)
SOIL-BUILDING COVER		MNDOT MIX 21-113 (110 LBS/ACRE)
1-2 YEARS COVER		MNDOT MIX 22-111 (30.5 LBS/ACRE)
2-5 YEARS COVER		MNDOT MIX 22-112 (40 LBS/ACRE)
MULCH		3882 (TYPE 1 - DISC ANCHORED)
FERTILIZER		3881
WOOD FIBER BLANKET		3885 (CATEGORY 0)

* MOW A MINIMUM OF:
RESIDENTIAL TURF - ONCE PER 2 WEEKS
COMMERCIAL TURF - ONCE PER 4 WEEKS

** SEEDING AREAS SHALL BE EITHER MULCHED OR COVERED BY FIBROUS BLANKETS TO PROTECT SEEDS AND LIMIT EROSION.

QUANTITIES - ESTIMATED QUANTITIES FOR EROSION AND SEDIMENT CONTROL MEASURES

TYPE	QTY	UNIT
SILT FENCE	11,254	LINEAR FEET
RIP-RAP W/ GEO-FABRIC	12	CUBIC YARDS
TURF REINFORCEMENT MAT (ENKAMAT)	110	SQUARE YARDS
SEED & MULCH (GENERAL)	N/A	ACRE
ROCK CONSTRUCTION ENTRANCE	1	EACH
SOD	0	SQUARE YARDS
EROSION CONTROL BLANKET	0	SQUARE YARDS
INLET PROTECTION	0	EACH

NARRATIVE - TIMING FOR INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES

- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND SWPPP MUST BE AVAILABLE ON THE PROJECT SITE AT ALL TIMES.
- CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLAN.
 - ADDITIONAL SILT FENCE MAY BE NECESSARY IF LOCAL CONDITIONS REQUIRE.
 - THE CONTRACTOR SHALL MAINTAIN SILT FENCE, INCLUDING THE REMOVAL OF ACCUMULATED SEDIMENT, THROUGH COMPLETION OF BUILDING CONSTRUCTION.
 - SILT FENCE SHALL REMAIN IN-PLACE UNTIL SITE HAS BEEN STABILIZED.
- CONTRACTOR SHALL INSTALL THE ROCK CONSTRUCTION ENTRANCE WHEREVER CONSTRUCTION TRAFFIC ENTERS ONTO EXISTING PAVED SURFACES.
- CONTRACTOR TO INSTALL TREE PROTECTION FENCING AS APPLICABLE
- CONTRACTOR SHALL PERFORM SITE GRADING ON AN AREA-BY-AREA BASIS TO MINIMIZE UNSTABILIZED AREAS.
 - CONTRACTOR MUST IMMEDIATELY INITIATE STABILIZATION OF EXPOSED SOIL AREAS, AS DESCRIBED IN ITEM 8.4 OF THE PERMIT, AND COMPLETE THE STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE TEMPORARILY OR PERMANENTLY CEASES.
- CONTRACTOR TO PROTECT PERMANENT STORMWATER MANAGEMENT FACILITIES FROM CONSTRUCTION RUN-OFF.
 - INFILTRATION SYSTEMS MUST NOT BE EXCAVATED TO FINAL GRADE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED.
- CONTRACTOR TO SHALL PAY SPECIAL ATTENTION TO ADJACENT PROPERTY LINES TO ENSURE THE EROSION CONTROL PRACTICES INPLACE IN THOSE AREAS PREVENT MIGRATION OF SEDIMENT ONTO ADJACENT PROPERTIES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS OR IMPLEMENTED IN THE FIELD SHALL BE IN ACCORDANCE WITH THE CITY AND NPDES PHASE II PERMIT REQUIREMENTS.
- CONTRACTOR TO PROVIDE ADDITIONAL SILT FENCE, BIOROLLS, EROSION CONTROL BLANKET, OR OTHER APPROVED EQUAL FOR ANY SLOPES THAT APPEAR TO BE FAILING.
- CONTRACTOR TO STABILIZE SOIL STOCKPILES. STABILIZATION SHALL BE INITIATED IMMEDIATELY.
- CONTRACTOR SHALL FINAL GRADE SWALE AREAS UPON STABILIZATION OF UPSTREAM AREAS.
- CONTRACTOR SHALL BE RESPONSIBLE TO SWEEP/SCRAPE ADJACENT STREETS WHEN MATERIALS OR DEBRIS HAVE WASHED/FLOWED ONTO ADJACENT STREETS OR AS DIRECTED BY CITY.
- COORDINATE SMALL UTILITIES INSTALLATIONS (GAS, PHONE, ELECTRIC, GAS, ETC.) AFTER CURB & GUTTER INSTALLATION.

LIST OF IMPAIRED WATERS:

NONE

"BEST MANAGEMENT PRACTICES (BMPS)" MEANS THE MOST EFFECTIVE AND PRACTICABLE MEANS OF EROSION PREVENTION AND SEDIMENT CONTROL, AND WATER QUALITY MANAGEMENT PRACTICES THAT ARE THE MOST EFFECTIVE AND PRACTICABLE MEANS OF TO CONTROL, PREVENT, AND MINIMIZE DEGRADATION OF SURFACE WATER, INCLUDING AVOIDANCE OF IMPACTS, CONSTRUCTION-PHASING, MINIMIZING THE LENGTH OF TIME SOIL AREAS ARE EXPOSED, PROHIBITIONS, POLLUTION PREVENTION THROUGH GOOD HOUSEKEEPING, AND OTHER MANAGEMENT PRACTICES PUBLISHED BY STATE OR DESIGNATED AREA-WIDE PLANNING AGENCIES. [MINN. R. 7090]

"CONSTRUCTION ACTIVITY" MEANS ACTIVITIES INCLUDING CLEARING, GRADING, AND EXCAVATING, THAT RESULT IN LAND DISTURBANCE OF EQUAL TO OR GREATER THAN ONE ACRE, INCLUDING THE DISTURBANCE OF LESS THAN ONE ACRE OF TOTAL LAND AREA THAT IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE IF THE LARGER COMMON PLAN WILL ULTIMATELY DISTURB EQUAL TO OR GREATER THAN ONE ACRE. THIS INCLUDES A DISTURBANCE TO THE LAND THAT RESULTS IN A CHANGE IN THE TOPOGRAPHY, EXISTING SOIL COVER, BOTH VEGETATIVE AND NONVEGETATIVE, OR THE EXISTING SOIL TOPOGRAPHY THAT MAY RESULT IN ACCELERATED STORMWATER RUNOFF THAT MAY LEAD TO SOIL EROSION AND MOVEMENT OF SEDIMENT. CONSTRUCTION ACTIVITY DOES NOT INCLUDE A DISTURBANCE TO THE LAND OF LESS THAN FIVE ACRES FOR THE PURPOSE OF ROUTINE MAINTENANCE PERFORMED TO MAINTAIN THE ORIGINAL LINE AND GRADE, HYDRAULIC CAPACITY, AND ORIGINAL PURPOSE OF THE FACILITY. ROUTINE MAINTENANCE DOES NOT INCLUDE ACTIVITIES SUCH AS REPAIRS, REPLACEMENT AND OTHER TYPES OF NON-ROUTINE MAINTENANCE. PAVEMENT REHABILITATION THAT DOES NOT DISTURB THE UNDERLYING SOILS (E.G., MILL AND OVERLAY PROJECTS) IS NOT CONSTRUCTION ACTIVITY. [MINN. R. 7090]

"DEWATERING" MEANS THE REMOVAL OF SURFACE OR GROUND WATER TO DRY AND/OR SOLIDIFY A CONSTRUCTION SITE TO ENABLE CONSTRUCTION ACTIVITY. DEWATERING MAY REQUIRE A MINNESOTA DEPARTMENT OF NATURAL RESOURCES WATER APPROPRIATION PERMIT AND, IF DEWATERING WATER IS CONTAMINATED, DISCHARGE OF SUCH WATER MAY REQUIRE AN INDIVIDUAL MPCA NPDES/SDS PERMIT. [MINN. R. 7090]

"EROSION PREVENTION" MEANS MEASURES EMPLOYED TO PREVENT EROSION SUCH AS SOIL STABILIZATION PRACTICES, PERMANENT COVER OR CONSTRUCTION PHASING. [MINN. R. 7090]

"GENERAL CONTRACTOR" MEANS THE PARTY WHO SIGNS THE CONSTRUCTION CONTRACT WITH THE OWNER TO CONSTRUCT THE ENTIRE PROJECT DESCRIBED IN THE FINAL PLANS AND SPECIFICATIONS, WHERE THE CONSTRUCTION PROJECT INVOLVES MORE THAN ONE CONTRACTOR, THE GENERAL CONTRACTOR IS THE PARTY RESPONSIBLE FOR MANAGING THE ENTIRE PROJECT ON BEHALF OF THE OWNER. IN SOME CASES, THE OWNER IS THE GENERAL CONTRACTOR. IN THESE CASES, THE OWNER SIGNS THE PERMIT APPLICATION AS THE OPERATOR AND BECOMES THE SOLE PERMITTEE. [MINN. R. 7090]

"GROUNDWATER" MEANS THE WATER CONTAINED BELOW THE SURFACE OF THE EARTH IN THE SATURATED ZONE INCLUDING, WITHOUT LIMITATION, ALL WATERS WHETHER UNDER CONFINED, UNCONFINED, OR PERCHED CONDITIONS, IN NEAR SURFACE UNCONSOLIDATED SEDIMENT OR REGolith, OR IN ROCK FORMATIONS DEEPER UNDERGROUND. [MINN. R. 7090]

"HOMEOWNER FACT SHEET" MEANS AN MPCA FACT SHEET AVAILABLE ON THE MPCA CONSTRUCTION STORMWATER WEBSITE FOR PERMITTEES TO GIVE TO HOMEOWNERS AT THE TIME OF SALE. [MINN. R. 7090]

"INFEASIBLE" MEANS NOT TECHNOLOGICALLY POSSIBLE OR NOT ECONOMICALLY PRACTICABLE AND ACHIEVABLE IN LIGHT OF THE BEST INDUSTRY PRACTICES. [MINN. R. 7090]

"INITIATED IMMEDIATELY" MEANS TAKING AN ACTION TO COMMENCE SOIL STABILIZATION AS SOON AS PRACTICABLE, BUT NO LATER THAN THE END OF THE WORK DAY, FOLLOWING THE DAY WHEN THE LAND-DISTURBING ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE. IF THE PERMITTEES KNOW THAT CONSTRUCTION WORK ON THAT PORTION OF THE SITE WILL BE TEMPORARILY CEASED FOR 14 OR MORE ADDITIONAL CALENDAR DAYS OR 7 CALENDAR DAYS WHERE ITEM 23.9 APPLIES, PERMITTEES CAN INITIATE STABILIZATION BY:

- PREPPING THE SOIL FOR VEGETATIVE OR NON-VEGETATIVE STABILIZATION; OR
- APPLYING MULCH OR OTHER NON-VEGETATIVE PRODUCT TO THE EXPOSED SOIL AREA; OR
- SEEDING OR PLANTING THE EXPOSED AREA; OR
- STARTING ANY OF THE ACTIVITIES IN A - C ON A PORTION OF THE AREA TO BE STABILIZED, BUT NOT ON THE ENTIRE AREA; OR
- FINALIZING ARRANGEMENTS TO HAVE STABILIZATION PRODUCT FULLY INSTALLED IN COMPLIANCE WITH THE APPLICABLE

DEADLINE FOR COMPLETING STABILIZATION. [MINN. R. 7090]

"IMPERVIOUS SURFACE" MEANS A CONSTRUCTED HARD SURFACE THAT EITHER PREVENTS OR RETARDS THE ENTRY OF WATER INTO THE SOIL AND CAUSES WATER TO RUN OFF THE SURFACE IN GREATER QUANTITIES AND AT AN INCREASED RATE OF FLOW THAN PRIOR TO DEVELOPMENT. EXAMPLES INCLUDE ROOFTOPS, SIDEWALKS, DRIVEWAYS, PARKING LOTS, AND CONCRETE, ASPHALT, OR GRAVEL ROADS. BRIDGES OVER SURFACE WATERS ARE CONSIDERED IMPERVIOUS SURFACES. [MINN. R. 7090]

"NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)" MEANS THE PROGRAM FOR ISSUING, MODIFYING, REVOKING, REISSUING, TERMINATING, MONITORING, AND ENFORCING PERMITS UNDER THE CLEAN WATER ACT, AS AMENDED (33 U.S.C. 1251 ET SEQ. SECTION 1342 AND 40 CFR PARTS 122, 123, 124 AND 450). [MINN. R. 7090]

"NATURAL BUFFER" MEANS AN AREA OF UNDISTURBED COVER SURROUNDING SURFACE WATERS WITHIN WHICH CONSTRUCTION ACTIVITIES ARE RESTRICTED. NATURAL BUFFER INCLUDES THE VEGETATION, EXPOSED ROCK, OR BARREN GROUND THAT EXISTS PRIOR TO COMMENCEMENT OF EARTH-DISTURBING ACTIVITIES. [MINN. R. 7090]

"NOTICE OF TERMINATION (NOT)" MEANS THE FORM (ELECTRONIC OR PAPER) REQUIRED FOR TERMINATING COVERAGE UNDER THE CONSTRUCTION GENERAL PERMIT. [MINN. R. 7090]

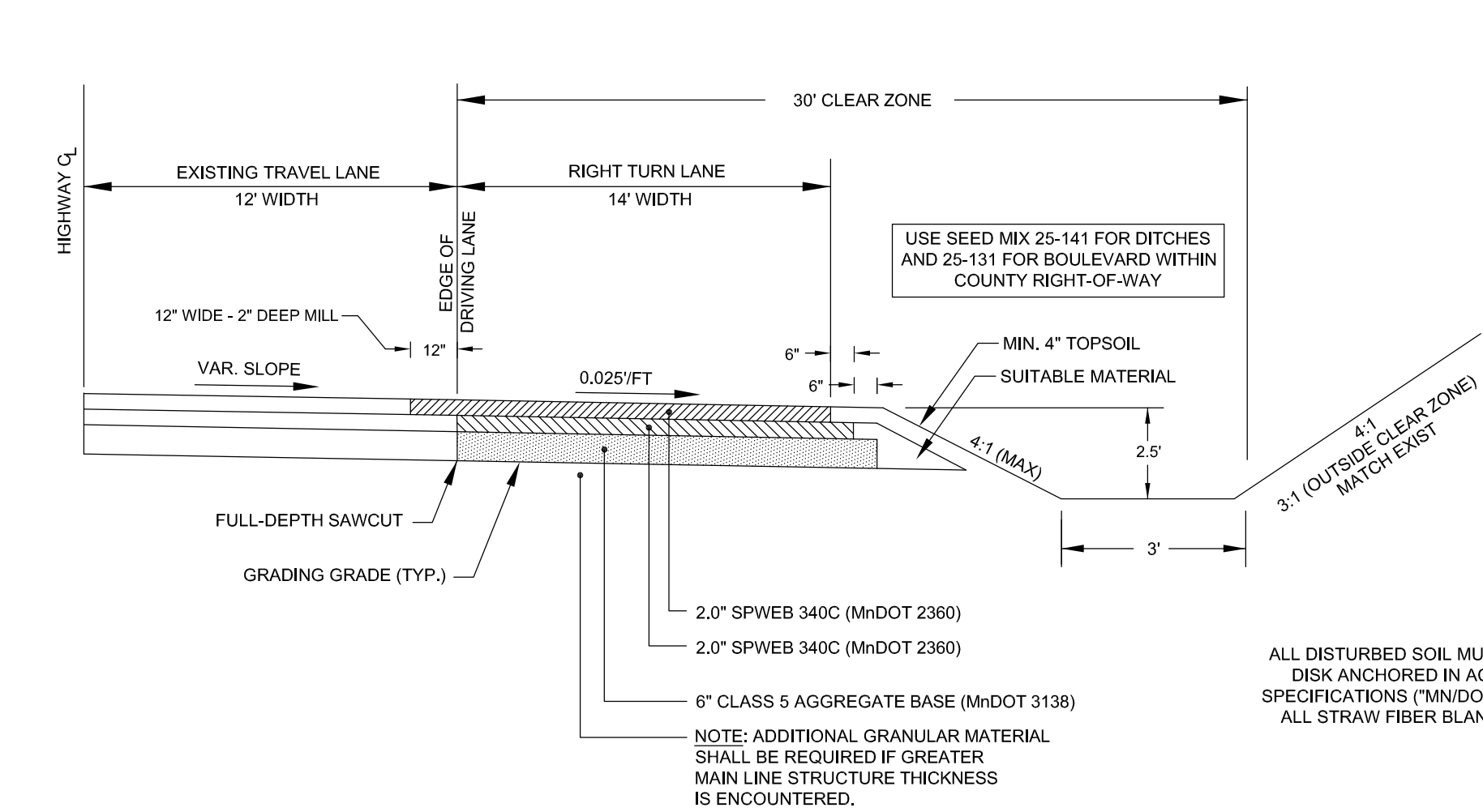
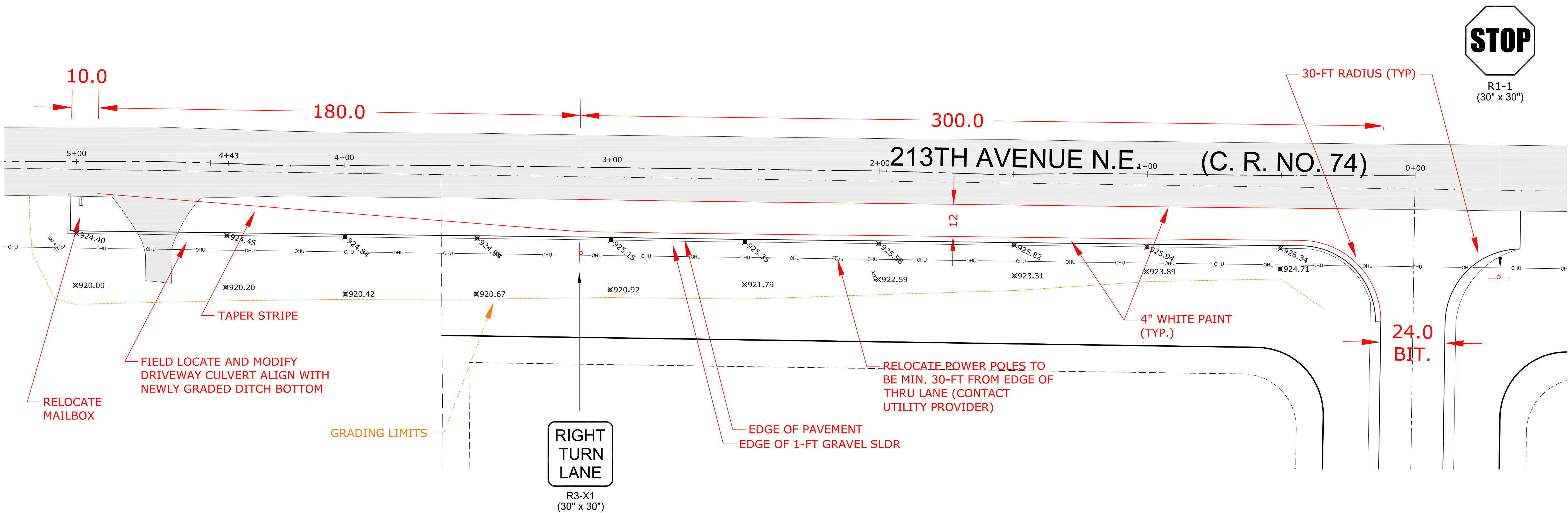
"OPERATOR" MEANS THE PERSON (USUALLY THE GENERAL CONTRACTOR), FIRM, GOVERNMENTAL AGENCY, OR OTHER ENTITY DESIGNATED BY THE OWNER WHO HAS DAY TO DAY OPERATIONAL CONTROL AND/OR THE ABILITY TO MODIFY PROJECT PLANS AND SPECIFICATIONS RELATED TO THE SWPPP. THE PERMIT APPLICATION MUST LIST THE OPERATOR AS A PERMITTEE. SUBCONTRACTORS HIRED BY AND UNDER SUPERVISION OF THE GENERAL CONTRACTOR ARE NOT OPERATORS. [MINN. R. 7090]

"OWNER" MEANS THE PERSON, FIRM, GOVERNMENTAL AGENCY, OR OTHER ENTITY POSSESSING THE TITLE OF THE LAND ON WHICH THE CONSTRUCTION ACTIVITIES WILL OCCUR OR, IF THE CONSTRUCTION ACTIVITY IS FOR A LEASE, EASEMENT, OR MINERAL RIGHTS LICENSE HOLDER, THE PARTY OR INDIVIDUAL IDENTIFIED AS THE LEASE, EASEMENT OR MINERAL RIGHTS LICENSE HOLDER, OR THE CONTRACTING GOVERNMENT AGENCY RESPONSIBLE FOR THE CONSTRUCTION ACTIVITY. [MINN. R. 7090]

"PERMANENT COVER" MEANS SURFACE TYPES THAT WILL PREVENT SOIL FAILURE UNDER EROSION CONDITIONS. EXAMPLES INCLUDE: GRAVEL, CONCRETE, PERENNIAL COVER, OR OTHER LANDSCAPED MATERIAL THAT WILL PERMANENTLY ARREST SOIL EROSION. PERMITTEES MUST ESTABLISH A UNIFORM PERENNIAL VEGETATIVE COVER (I.E., EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) WITH A DENSITY OF 70 PERCENT OF THE NATIVE BACKGROUND VEGETATIVE COVER ON ALL AREAS NOT COVERED BY PERMANENT STRUCTURES, OR EQUIVALENT PERMANENT STABILIZATION MEASURES. PERMANENT COVER DOES NOT INCLUDE TEMPORARY BMPS SUCH AS WOOD FIBER BLANKET, MULCH, AND ROLLED EROSION CONTROL PRODUCTS. [MINN. R. 7090]

"PERMITTEES" MEANS THE PERSONS, FIRM, GOVERNMENTAL AGENCY, OR OTHER ENTITY IDENTIFIED AS THE OWNER AND OPERATOR ON THE APPLICATION SUBMITTED TO THE MPCA AND ARE RESPONSIBLE FOR COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT. [MINN. R. 7090]

S:\dms\gdp\22proj\02-2011 PRAIRIE HILLS\02-2011 CAD\22-2011 BASE 22.dwg 8/22/2022

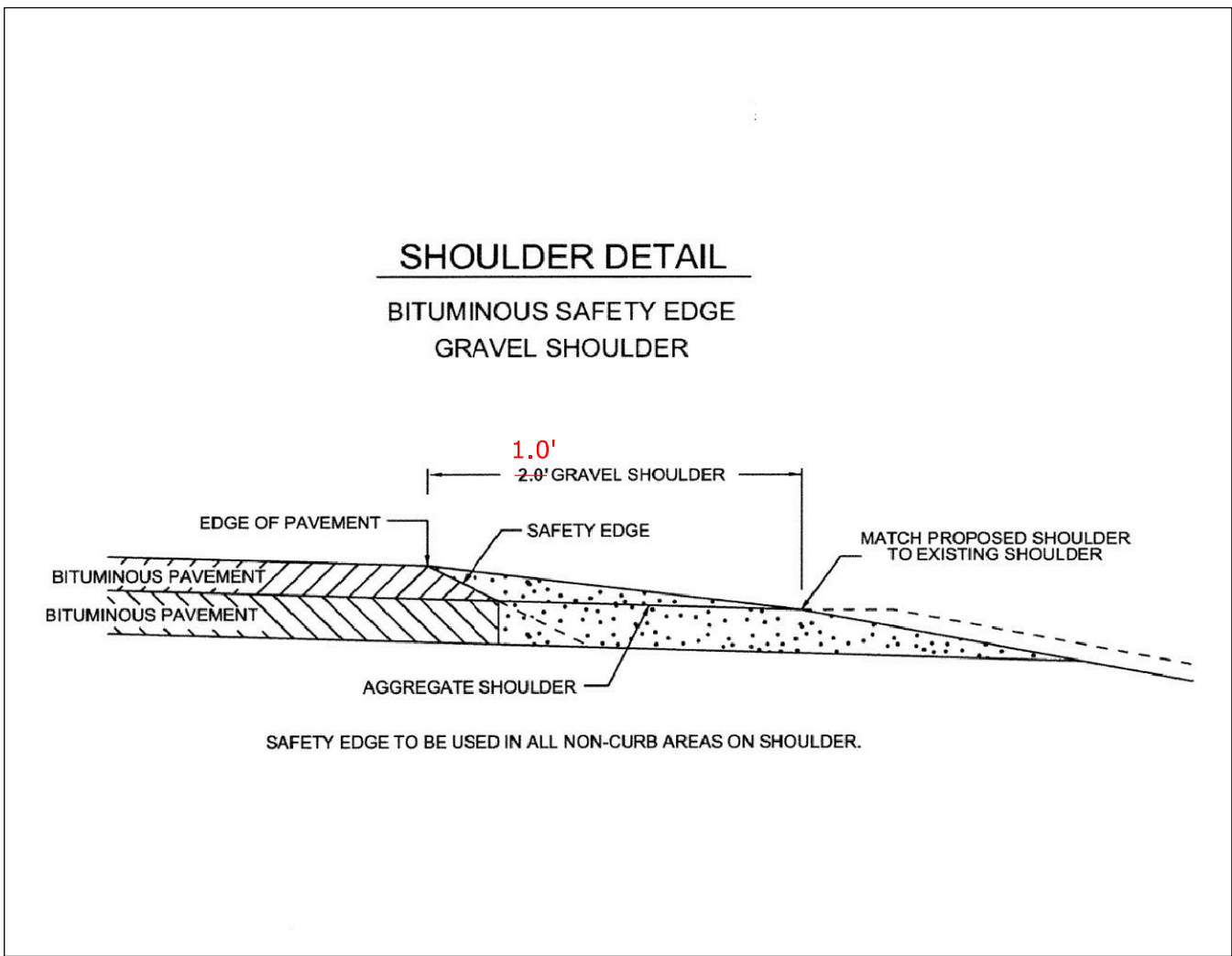


RIGHT TURN LANE DETAIL

NOT TO SCALE

STRIPING NOTES:

1. USE EITHER EPOXY OR LATEX FOR LANE MARKINGS. USE DURABLE MARKING FOR PAVEMENT MESSAGES AND PAVEMENT ARROWS.
2. AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.
3. EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.
4. THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCURRING THE COST AND REPLACING ANY EXISTING PAVEMENT MARKINGS THAT HAVE BEEN DAMAGED FROM CONSTRUCTION ACTIVITIES AS DETERMINED BY THE PROJECT ENGINEER.
6. THE CONTRACTOR SHALL EXECUTE ANY PAVEMENT MARKING FIELD CHANGES THAT ARE DEEMED NECESSARY BY THE PROJECT ENGINEER.
7. ALL SIGNING AND STRIPING SHALL MEET ANOKA COUNTY STANDARDS AND SPECIFICATIONS.



JOE MACPHERSON, P.E.
ANOKA COUNTY ENGINEER

Signed by Joe MacPherson for the approval of the turn lane construction on CR 74 (213th Avenue)

RIGHT-IN TURN LANE PLAN
PRAIRIE HILLS

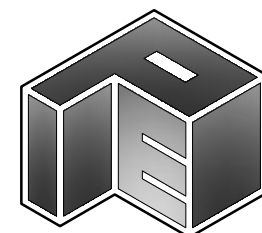
DRAWN BY:	M.Q.A.	DESIGN BY:	C.W.P.
CHCKD BY:	M.Q.A.	PROJ. NO.	22-2011
ORIGINAL DATE:	JANUARY 10, 2022		
DATE	REVISION DESCRIPTION		
7/1/22	ACHD REVIEW		
8/22/22	ADDRESS ACHD REVIEW LETTER ROM 8/18/22		

I hereby certify that this plan 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.

CHARLES W. PLOWE
LIC. NO. 18227
DATE: 08.22.2022

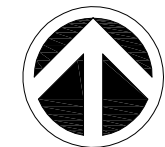
PRAIRIE HILLS
EAST BETHEL, MINNESOTA
TURN LANE PLAN

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.



SITE PLANNING
& ENGINEERING
**PLOWE
ENGINEERING, INC.**
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH

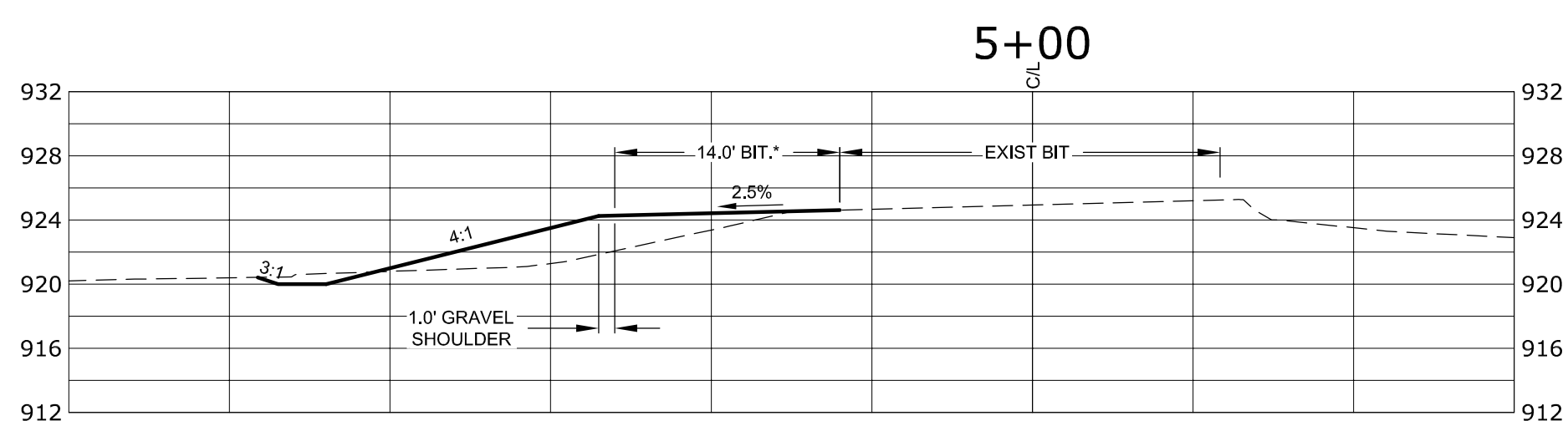
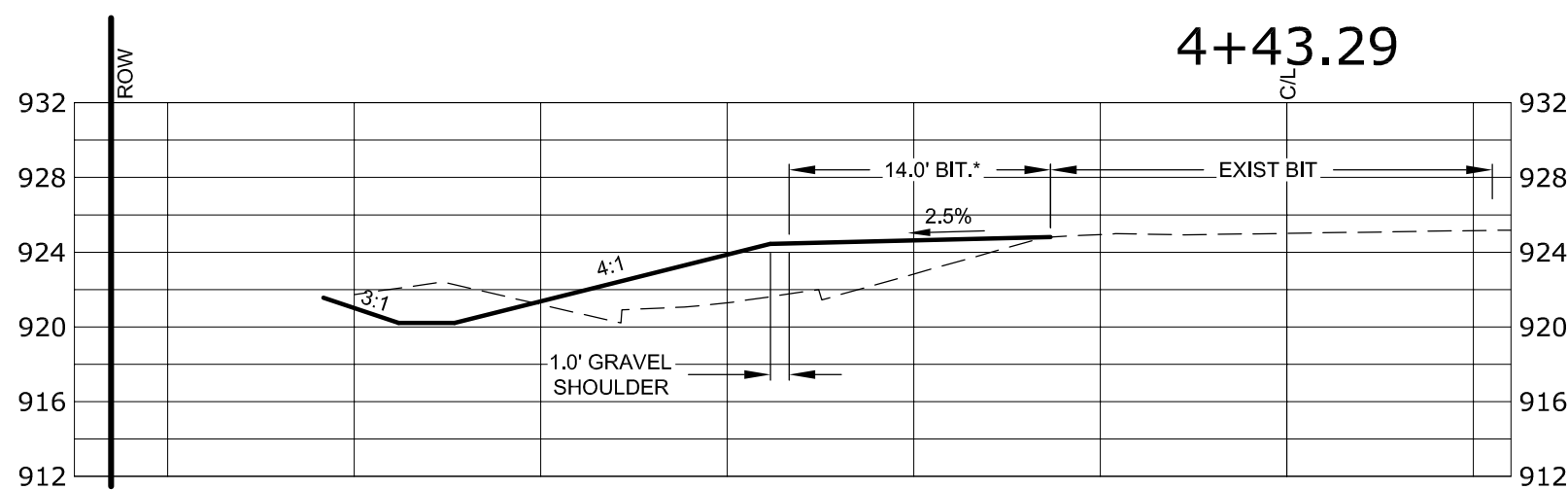
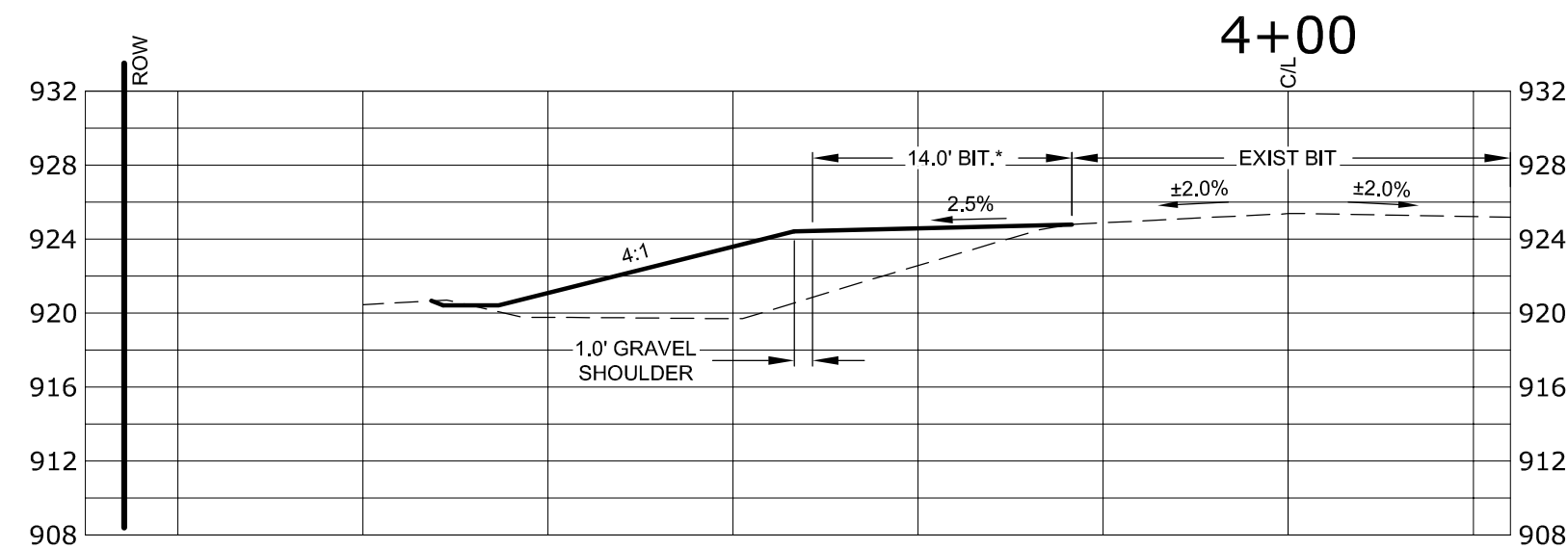
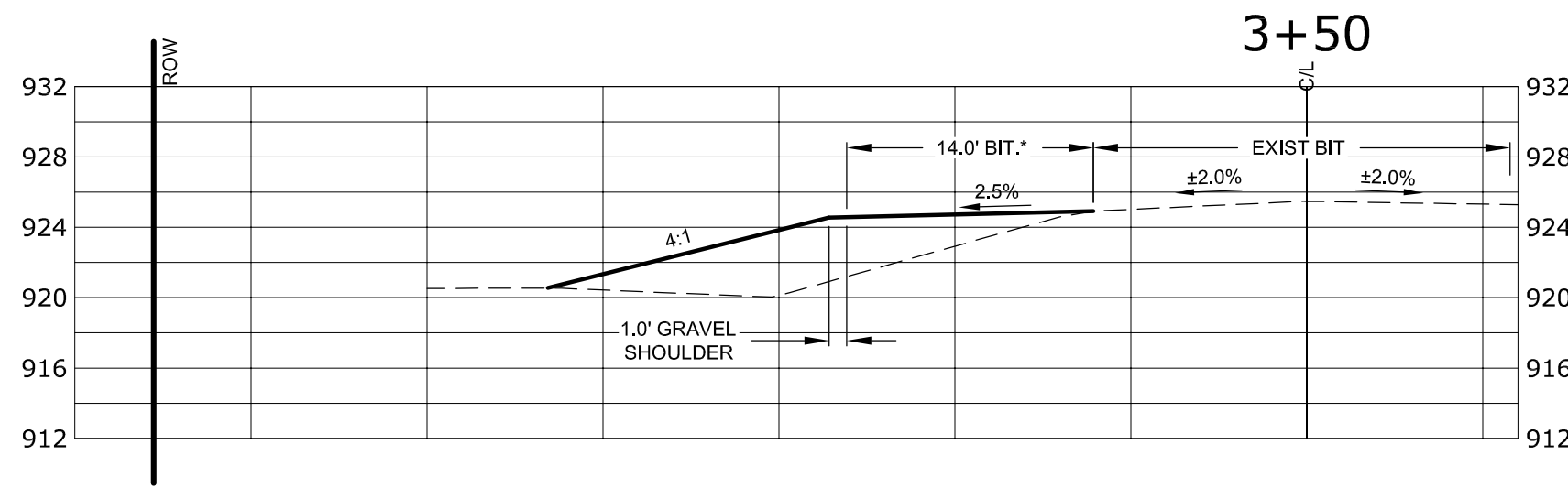
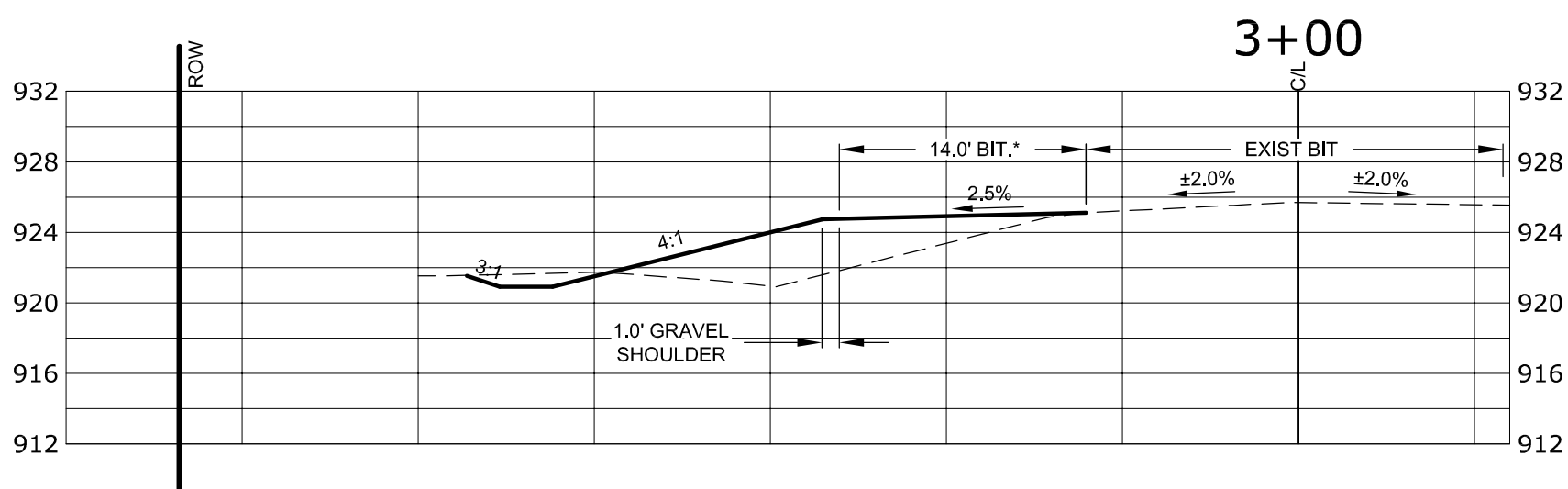
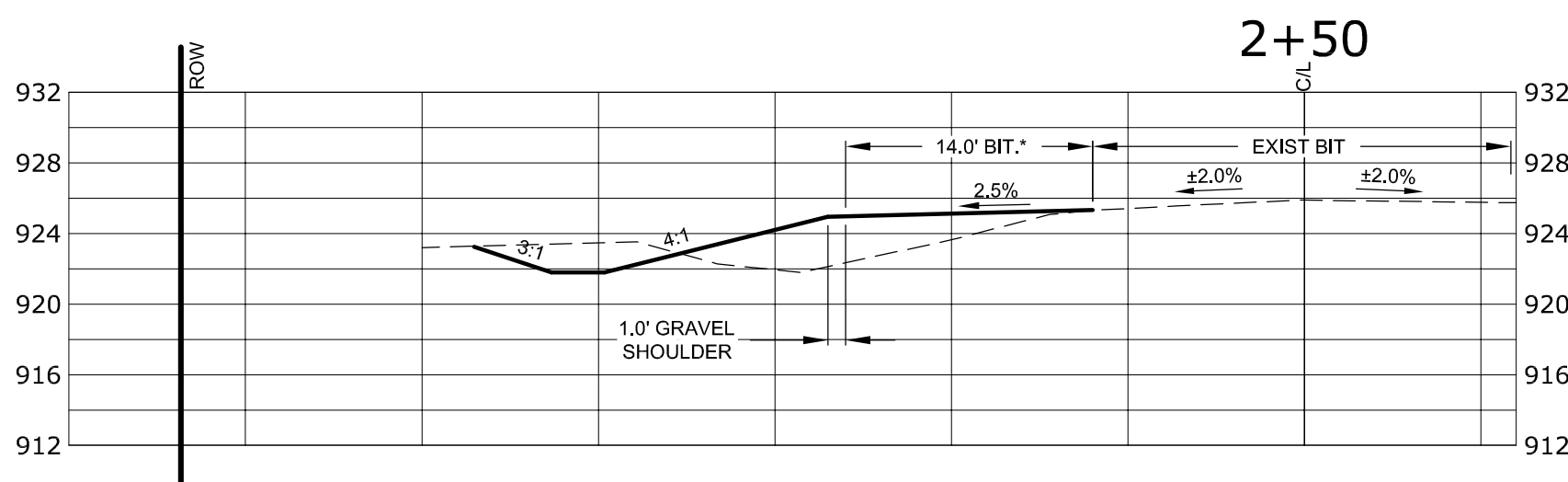
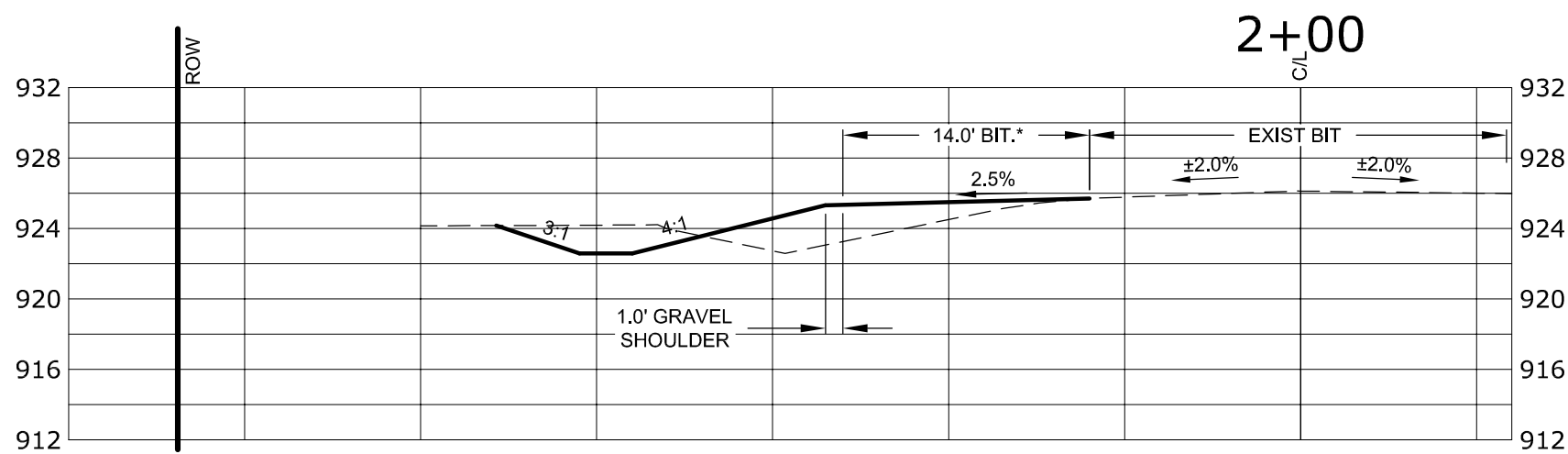
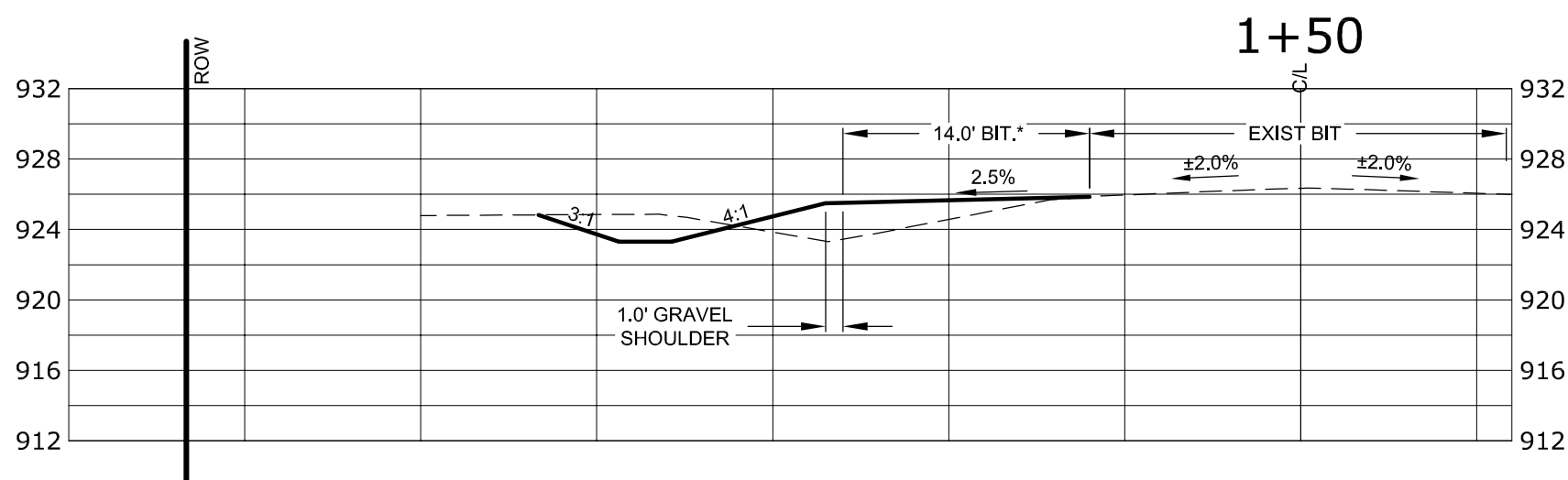
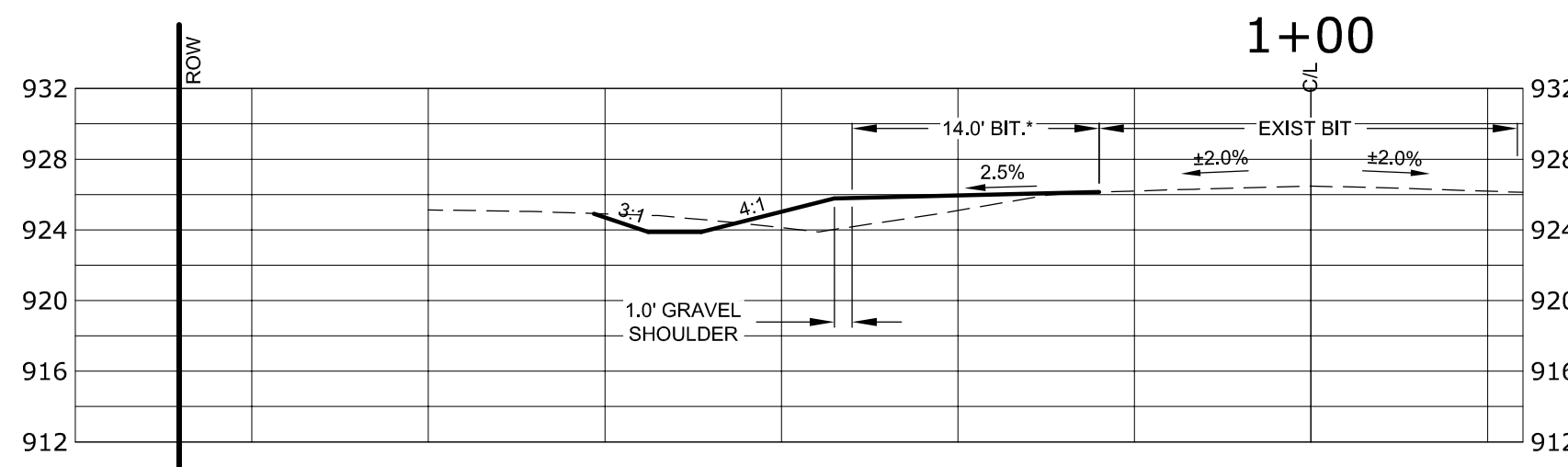
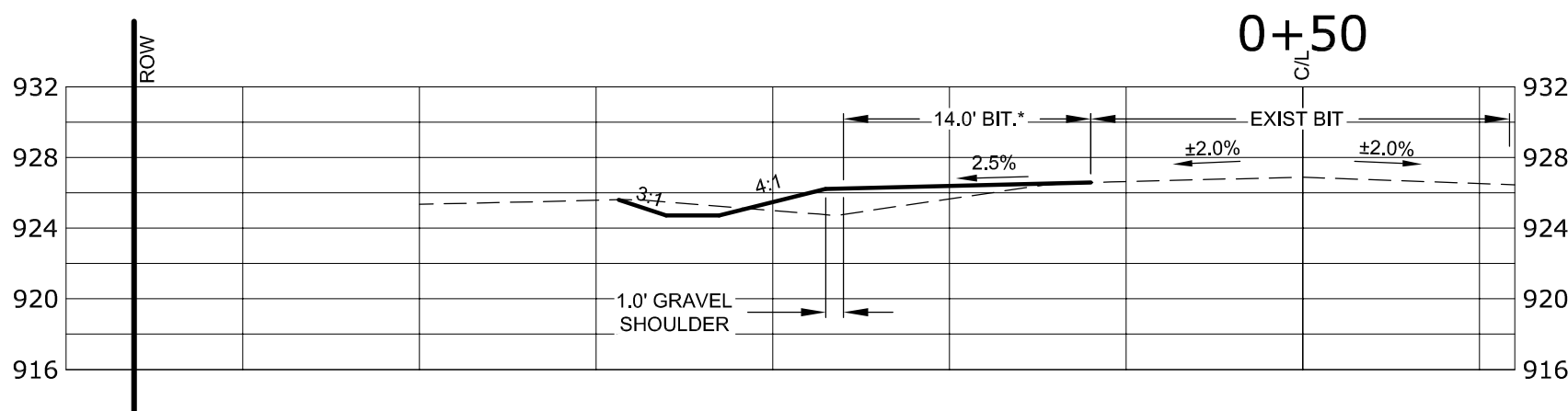
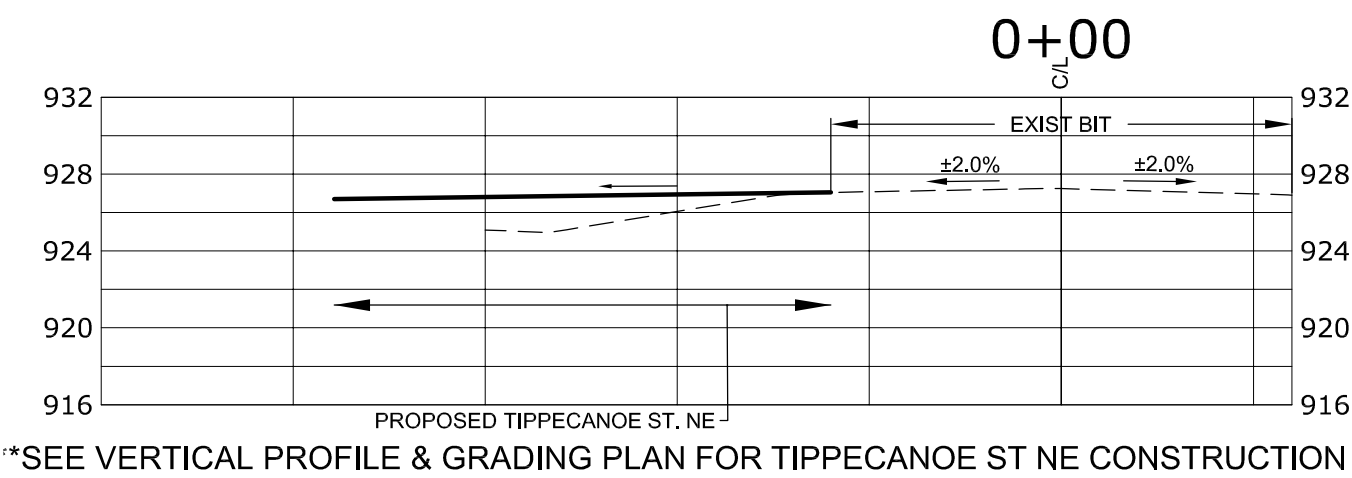


0 10 20
1 INCH = 20 FEET

C5.1



Know what's below.
Call before you dig.



* DUE TO VARYING WIDTHS OF 213TH AVE NE (TYPICALLY 24.0' WIDE), CONTRACTOR SHALL ADHERE TO LANE AND SHOULDER WIDTHS AS DENOTED ON SHEET C5.1.

JOE MACPHERSON, P.E.
ANOKA COUNTY ENGINEER



Know what's below.
Call before you dig.

RIGHT-IN TURN LANE PLAN
PRAIRIE HILLS

DRAWN BY: M.Q.A. DESIGN BY: C.W.P.
CHKD BY: M.Q.A. PROJ. NO. 22-2011

ORIGINAL DATE: JANUARY 10, 2022

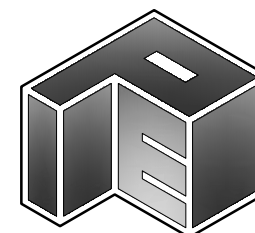
DATE	REVISION DESCRIPTION
7/1/22	ACHD REVIEW

I hereby certify that this plan 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.

CHARLES W. FLOWE
LIC. NO. 18227

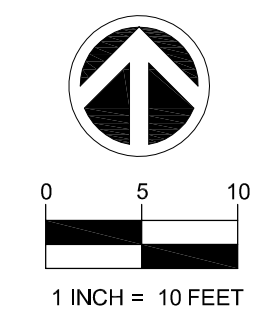
PRAIRIE HILLS
EAST BETHEL, MINNESOTA
TURN LANE PLAN

PREPARED FOR:
T.H. CONSTRUCTION
OF ANOKA, INC.



SITE PLANNING
& ENGINEERING
PLOWE
ENGINEERING, INC.
6776 LAKE DRIVE
SUITE 110
LINO LAKES, MN 55014
PHONE: (651) 361-8210
FAX: (651) 361-8701

NORTH



C5.2

NOTES & GUIDELINES

GENERAL INFORMATION:

- 1) ALL DISTANCES ARE APPROXIMATE. REFERENCE THE TEMPOARY TRAFFIC CONTROL FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL SIGN AND DEVICE SPACING.
- 2) FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
- 3) THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
- 4) IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
- 5) ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MN MUTCD PART VI, THE TEMPORARY TRAFFIC CONTROL FIELD MANUAL, AND MNDOT STANDARD SIGNS MANUAL.

SIGNING:

- 1) ALL TEMPORARY SIGNS ARE REQUIRED TO BE CRASHWORTHY PER THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE 2016 (MASH-2016). TEMPORARY SIGN STRUCTURES THAT ARE CRASHWORTHY UNDER THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP-350) MAY BE USED PROVIDED THE DEVICES WERE ACQUIRED BY THE CONTRACTOR PRIOR TO DECEMBER 31ST, 2019. THE MINNESOTA TYPE "C" AND "D" U-CHANNEL (KNEE BRACE) SIGN SUPPORT IS NOT ALLOWED.
- 2) WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO ROAD USERS INCLUDING BIKES AND PEDESTRIANS IS REDUCED ENOUGH TO CAUSE A HAZARD, DELINEATE THE SIGN / BARRICADE WITH APPROPRIATE DEVICES.
- 3) TEMPORARY SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS AND BUILDINGS.
- 4) TEMPORARY SIGNS SHALL BE PLACED AND ORIENTED APPROXIMATELY AS SHOWN IN THE PLAN. AT RIGHT ANGLES TO DIRECTION OF AND FACING THE TRAFFIC THEY ARE INTENDING TO SERVE, UNLESS OTHERWISE SPECIFIED.
- 5) ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS, ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATIONS SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER. ONCE WORK IS COMPLETE, SIGNS SHALL BE UNCOVERED.
- 6) LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL" PAGES (6K-aj) THRU (6K-al) UNLESS OTHERWISE SPECIFIED IN THESE PLANS.

CONSTRUCTION INFORMATION SIGNING:

- 1) THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN WHICH ARE TO BE USED AS FOLLOWS:
- 2) PLACE G20-X1 ADVANCE CLOSURE NOTICES SIGN(S) 7 DAYS PRIOR TO THE PLANNED CLOSURE DATE.
- 3) IF CONSTRUCTION INFORMATION SIGNING IS NO LONGER VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS, MOVE SAID SIGNING TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS DIRECTED BY THE PLAN OR ENGINEER.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
<div></div>	WORK ZONE
<div></div>	TEMPORARY TRAFFIC CONTROL SIGN
<div></div>	TYPE III OR TYPE II BARRICADE






INDEX

SHEET NO.	DESCRIPTIONS
1	TITLE SHEET
2	TEMPORARY TRAFFIC CONTROL TABULATION
3-5	TRAFFIC CONTROL PLAN

TEMPORARY TRAFFIC CONTROL TABULATION

"R" SERIES			
SIGN	SIGN NO.	COLOR	SIZE

DEVICES			
ITEM	DESCRIPTION		
O	DRUM		



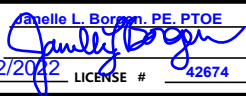
"W" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	W20-1	BLACK ON ORANGE	48 x 48
	W8-23	BLACK ON ORANGE	48 x 48
	W20-7	BLACK ON ORANGE	48 x 48
	W3-4	BLACK ON ORANGE	48 x 48
	W20-4	BLACK ON ORANGE	48 x 48

"G" SERIES			
SIGN	SIGN NO.	COLOR	SIZE




"M" SERIES			

"M" SERIES CONTINUED			



REV	DATE	BY	APP	COMMENT	DESIGNED BY:	NS		I HEREBY CERTIFY THAT THIS PLAN 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.	PRINT NAME:	Ashelle L. Borman, PE, PTOE	CSAH 74 (213TH AVE NE) - ROAD CLOSURE PRAIRIE HILLS - TH CONSTRUCTION		TRAFFIC CONTROL PLAN		
1	9/22/2022	NS			DRAWN BY:	NS			SIGNATURE:				SHEET NO.	3 OF 5	SHEETS
					CHECKED BY:	JB			DATE	09/22/2022	LICENSE #	42674			



REV	DATE	BY	APP	COMMENT	DESIGNED BY: NS		I HEREBY CERTIFY THAT THIS PLAN 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.	PRINT NAME: <u>Chavella L. Borron, PE, PTOE</u>	<div>CSAH 74 (213TH AVE NE) - ROAD CLOSURE</div> <div>PRAIRIE HILLS - TH CONSTRUCTION</div>		TRAFFIC CONTROL PLAN		
1	9/22/2022	NS			DRAWN BY: NS			SIGNATURE: 			SHEET NO.	4 OF 5	SHEETS
					CHECKED BY: JB			DATE <u>09/22/2022</u> LICENSE # <u>42674</u>					

