2024 STREET REHABILITATION AND TRUNK WATER PROJECT

CITY OF LINO LAKES, MINNESOTA

CONSTRUCTION PLAN FOR BITUMINOUS SURFACING, CONCRETE CURB & GUTTER, TRUNK WATERMAIN

LOCATED ON

BLACK DUCK DR	ASPEN LANE	LINDA AVENUE	LINDA LANE
BLACK DUCK CIR	DEERWOOD CIR	LINDA CT	
BLACK DUCK CT	BEAVER CIR	LINDA CIR	

SEE GENERAL LAYOUT FOR STREET CONSTRUCTION LIMITS

GOVERNING SPECIFICATIONS

THIS WORK SHALL BE DONE IN ACCORDANCE WITH THE 2023 EDITION OF THE CITY OF LINO LAKES "GENERAL SPECIFICATIONS AND STANDARD DETAIL PLATES FOR STREET AND UTILITY CONSTRUCTION."

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" 2022 SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

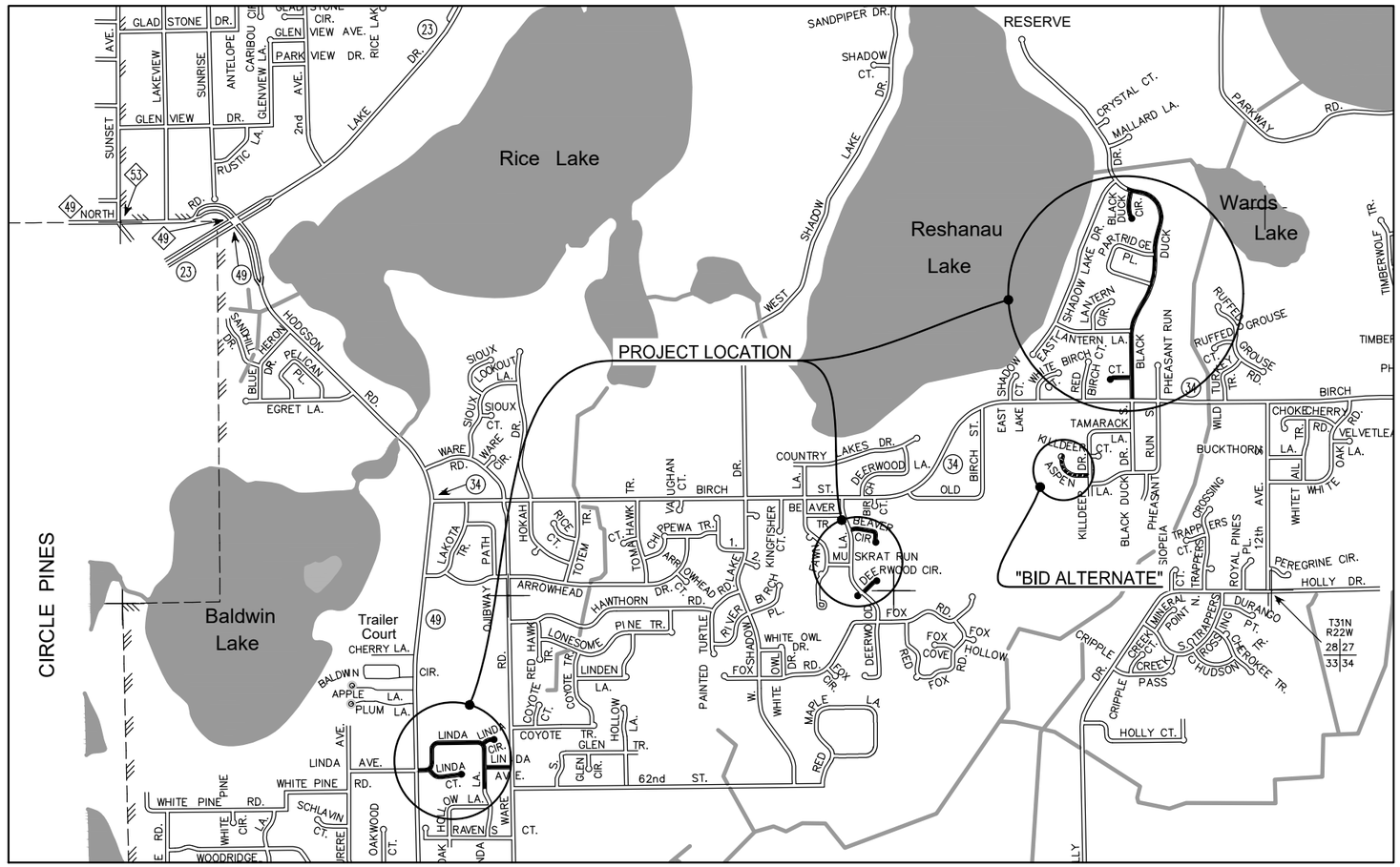
PLAN SET INDEX

EXISTING PLAN SYMBOLS

- PROPERTY LINES/RIGHT-OF-WAY
- DRAINAGE & UTILITY EASEMENT
- TREE LINE
- SIGN
- DECIDUOUS TREE
- SHRUB
- CONIFEROUS TREE

EXISTING UTILITY SYMBOLS

- FIBER OPTIC LINE (F)
- GAS LINE (G)
- COMMUNICATION LINE (C)
- ELECTRIC POWER LINE (E)
- OVERHEAD ELECTRIC (OE)
- OVERHEAD COMMUNICATION (OC)
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- COMMUNICATIONS PEDESTAL
- POWER POLE
- ELECTRIC BOX
- CATCH BASIN
- STORM APRON
- STORM SEWER MANHOLE
- GATE VALVE
- HYDRANT
- SANITARY SEWER MANHOLE



PROJECT LOCATION MAP

EXCAVATION NOTICE SYSTEM

A CALL TO GOPHER STATE ONE (651-454-0002) IS REQUIRED A MINIMUM OF 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION.

PROJECT LOCATION

COUNTY: ANOKA

SECT 28,29,30 TWP 31N, RNG 22W

HORIZONTAL DATUM:
VERTICAL DATUM:

N

0 1000 2000
H: SCALE IN FEET

UTILITY INFORMATION

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

GOPHER ONE CALL TICKET NUMBER: 233401622, 233401621, 233601613, 233401620, 233401619, 233401618, 233401617, 233401616, 23341614, 233401615

UTILITY COORDINATION MEETING HELD ON: 12/13/2023

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

THIS PLAN SET CONTAINS 31 SHEETS

THIS PLAN SET HAS BEEN PREPARED FOR:

CITY OF LINO LAKES
600 TOWN CENTER PARKWAY
LINO LAKES, MN 55014
(651) 982-2400

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

wsb

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.

Diane Hankee

DIANE L. HANKEE, P.E.

DATE: 1/12/2024 LICENSE NUMBER: 43338

WSB PROJ. NO. 023839-000

K:\023839-000\Cad\Plan\023839-000-C-GLAY-PLAN.dwg 1/12/2024 2:57:54 PM

LEGEND

SHEET NO.	DESCRIPTION
X	CONSTRUCTION PLAN
X	EROSION AND SEDIMENT CONTROL PLAN
X	WATERMAIN PLAN

H: 0 200 400
SCALE IN FEET

N

wsb

CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

NO.	DATE	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Diane Hankee

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

GENERAL LAYOUT

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 2 OF 31

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	MNDOT SPEC. NO.	DESCRIPTION	NOTES	UNIT	ESTIMATED TOTAL QUANTITY	PAVEMENT MANAGEMENT FUND - GENERAL	SURFACE WATER MANAGEMENT FUND	TRUNK WATER FUND	OPERATING FUND
BASE BID									
1	2021.501	MOBILIZATION		LS	1.00	0.65		0.16	0.19
2	2101.502	CLEARING		EACH	31		28	3	
3	2101.502	GRUBBING		EACH	30		27	3	
4	2104.502	REMOVE CASTING	8	EACH	36	36			
5	2104.502	REMOVE CASTING	2	EACH	1	1			
6	2104.502	SALVAGE CASTING	1, 2	EACH	40	40			
7	2104.502	REMOVE DRAINAGE STRUCTURE		EACH	1		1		
8	2104.502	REMOVE GATE VALVE & BOX		EACH	12			6	6
9	2104.502	REMOVE HYDRANT		EACH	2			1	1
10	2104.502	SALVAGE STRUCTURE	16	EACH	1		1		
11	2104.502	SALVAGE SIGN	1	EACH	10	5		5	
12	2104.503	SALVAGE CHAIN LINK FENCE		L F	15		15		
13	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)		L F	100	70		30	
14	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)		L F	4800	2670		900	1230
15	2104.503	REMOVE CURB & GUTTER		L F	1680	1430		210	40
16	2104.503	SALVAGE CURB	3	L F	120	120			
17	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	1	S Y	90	50		40	
18	2104.504	REMOVE CONCRETE PAVEMENT	7	S Y	100	80		20	
19	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		S Y	90	60		10	20
20	2104.504	REMOVE BITUMINOUS PAVEMENT		S Y	1630	610		640	380
21	2104.504	REMOVE WATER MAIN		L F	54			28	26
22	2104.518	REMOVE TIMBER DECK	17	S F	6		6		
23	2104.601	SALVAGE AND REINSTALL LANDSCAPE STRUCTURES	1	LS	1.00	1.00			
24	2104.603	ABANDON WATERMAIN		L F	850			850	
25	2106.507	EXCAVATION - COMMON	1	C Y	650	550	100		
26	2106.507	EXCAVATION - SUBGRADE	1	C Y	420	420			
27	2106.507	SELECT GRANULAR EMBANKMENT (CV)	1	C Y	420	420			
28	2106.507	EXCAVATION - CHANNEL AND POND	13	C Y	150		150		
29	2106.601	DEWATERING		LS	1.00			0.45	0.55
30	2108.504	GEOTEXTILE FABRIC TYPE 5		S Y	2780			1890	890
31	2123.610	SKID LOADER	1	HOUR	15	9		4	2
32	2123.610	STREET SWEEPER (WITH PICKUP BROOM)		HOUR	30	24		4	2
33	2123.610	UTILITY CREW	1	HOUR	60	40		10	10
34	2130.523	WATER		MGAL	40	15		20	5
35	2211.507	AGGREGATE BASE (CV) CLASS 5	1	C Y	330	210		60	60
36	2232.504	MILL BITUMINOUS SURFACE	4	S Y	1290	1290			
37	2232.504	MILL BITUMINOUS SURFACE (1.5")		S Y	13470	13470			
38	2232.504	MILL BITUMINOUS SURFACE (2.0")	4	S Y	1720	1720			
39	2331.603	JOINT ADHESIVE		L F	16100	16100			
40	2360.504	TYPE SP 9.5 WEAR CRS MIX(2,B)3.0" THICK		S Y	90	60		10	20
41	2360.509	TYPE SP 9.5 BIT MIXTURE FOR PATCHING		TON	310	220			90
42	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B)		TON	2730	2710		20	
43	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (2,B)	14	TON	80	50		30	
44	2501.602	TRASH GUARD FOR 15" PIPE APRON		EACH	1		1		
45	2503.601	CLEAN STORM SEWER	18	L S	1		1		
46	2503.602	RECONNECT SANITARY SEWER SERVICE	1	EACH	3			3	
47	2503.602	TELEVISE SANITARY SEWER SERVICE		EACH	6			6	
48	2504.602	CONNECT TO EXSITING WATER MAIN		EACH	14			8	6
49	2504.602	HYDRANT ASSEMBLY	11	EACH	3			3	
50	2504.602	6" GATE VALVE & BOX		EACH	2				2
51	2504.602	8" GATE VALVE & BOX		EACH	1				1
52	2504.602	10" GATE VALVE & BOX		EACH	1			1	
53	2504.602	12" GATE VALVE & BOX		EACH	3			3	
54	2504.602	16" GATE VALVE & BOX		EACH	2			2	
55	2504.602	IRRIGATION SYSTEM REPAIR	1	EACH	5				5
56	2504.602	SACRIFICIAL ANODE BAG (32 LB)		EACH	13				13
57	2504.602	ADJUST GATE VALVE		EACH	9	9			
58	2504.603	6" WATERMAIN DUCTILE IRON CL 52		L F	30			30	
59	2504.603	16" WATERMAIN DUCTILE IRON CL 52		L F	150			150	
60	2504.603	12" PVC WATERMAIN	19	L F	60			60	
61	2504.603	12" PVC WATERMAIN (DIRECTIONAL DRILLED)	19	L F	2370			2370	
62	2504.603	18" WATERMAIN HDPE (DIRECTIONAL DRILLED)	5	L F	880			880	
63	2504.604	4" POLYSTYRENE INSULATION		S Y	10			10	
64	2504.608	DUCTILE IRON FITTINGS	6	L B	7021			6446	575
65	2506.502	INSTALL CASTING	8	EACH	36				36
66	2506.502	INSTALL CASTING	2	EACH	1	1			
67	2506.602	INSTALL STRUCTURE	16	EACH	1		1		
68	2506.602	GRATE CASTING SPECIAL	9	EACH	40	40			
69	2506.602	CHIMNEY SEAL		EACH	36	36			
70	2511.507	RANDOM RIP RAP CLASS II		C Y	8		8		
71	2521.518	6" CONCRETE WALK		S F	322	121		201	
72	2531.503	CONCRETE CURB & GUTTER DESIGN B618		L F	930	680		210	40
73	2531.503	CONCRETE CURB & GUTTER DESIGN SPECIAL	12	L F	740	740			
74	2531.504	6" CONCRETE DRIVEWAY PAVEMENT		S Y	90	50		40	
75	2531.618	TRUNCATED DOMES		S F	80	40		40	
76	2554.603	PORTABLE NON-CONCRETE BARRIER		L F	140			70	70
77	2554.603	RELOCATE PORTABLE NON-CONCRETE BARRIER		L F	140			70	70
78	2557.602	REPAIR DOG FENCE	1	EACH	4	2		1	1
79	2557.603	INSTALL CHAIN LINK FENCE		L F	15		15		
80	2563.601	TRAFFIC CONTROL	10, 15	LS	1.00	0.65		0.16	0.19
81	2563.610	FLAGGER		HOUR	20			20	
82	2564.602	INSTALL SALVAGED SIGN	1, 6	EACH	10	5		5	
83	2573.502	STORM DRAIN INLET PROTECTION		EACH	40	40			
84	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	1	L F	400	300		50	50
85	2574.507	COMMON TOPSOIL BORROW		C Y	330	60	50	150	70
86	2574.508	FERTILIZER TYPE 3		LB	105	20	17	48	20
87	2575.504	SODDING TYPE LAWN		S Y	2000	400		1100	500
88	2575.504	ROLLED EROSION PREVENTION CATEGORY 25		S Y	300		300		
89	2575.505	SEEDING		ACRE	0.06		0.06		
90	2575.505	RAPID STABILIZATION METHOD 2		ACRE	0.50	0.10	0.06	0.24	0.10
91	2575.508	SEED MIXTURE 33-261		LB	2		2		

ITEM NO.	MNDOT SPEC. NO.	DESCRIPTION	NOTES	UNIT	ESTIMATED TOTAL QUANTITY	PAVEMENT MANAGEMENT FUND - GENERAL	SURFACE WATER MANAGEMENT FUND	TRUNK WATER FUND	OPERATING FUND
BID ALTERNATE - ASPEN LANE									
92	2104.502	REMOVE CASTING	8	EACH	4	4			
93	2104.502	SALVAGE CASTING	1, 2	EACH	2	2			
94	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)		L F	110	110			
95	2104.503	REMOVE CURB & GUTTER		L F	70	70			
96	2104.504	REMOVE CONCRETE PAVEMENT	7	S Y	60	60			
97	2104.504	REMOVE BITUMINOUS PAVEMENT		S Y	30	30			
98	2123.610	SKID LOADER	1	HOUR	1	1			
99	2123.610	STREET SWEEPER (WITH PICKUP BROOM)		HOUR	2	2			
100	2123.610	UTILITY CREW	1	HOUR	4	4			
101	2130.523	WATER		MGAL	1	1			
102	2232.504	MILL BITUMINOUS SURFACE (1.5")		S Y	1110	1110			
103	2331.603	JOINT ADHESIVE		L F	1250	1250			
104	2360.509	TYPE SP 9.5 BIT MIXTURE FOR PATCHING		TON	10	10			
105	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B)		TON	180	180			
106	2504.602	ADJUST GATE VALVE		EACH	1	1			
107	2506.502	INSTALL CASTING	8	EACH	4	4			
108	2506.602	GRATE CASTING SPECIAL	9	EACH	2	2			
109	2506.602	CHIMNEY SEAL		EACH	4	4			
110	2531.503	CONCRETE CURB & GUTTER DESIGN SPECIAL	12	L F	70	70			
111	2573.502	STORM DRAIN INLET PROTECTION		EACH	2	2			
112	2574.507	COMMON TOPSOIL BORROW		C Y	3	3			
113	2574.508	FERTILIZER TYPE 3		LB	1	1			
114	2575.504	SODDING TYPE LAWN		S Y	20	20			

NOTES

1 TO BE USED AS DIRECTED BY THE ENGINEER.
2 STORM SEWER CASTING
3 TO BE USED FOR MUD JACKING
4 ON BLACK DUCK DR TAPER MILL DEPTH 2.0" AT FACE OF CURB AND TAPER TO 0.5" AT CENTERLINE
5 DR 9 DIPS
6 INCLUSIVE OF 272 LBS FOR 12" WYE
7 VALLEY GUTTER
8 SANITARY SEWER CASTING
9 INSTALL SALVAGED STORM CASTING
10 CONTRACTOR SHALL USE FLAGGING OPERATIONS DURING PEAK HOURS
11 ONE HYDRANT TO BE INSTALLED YELLOW IN COLOR LOCATED AT SE QUAD OF BIRCH ST AND BLACK DUCK DR
12 CURB DESIGN SURMOUNTABLE PER CITY DETAIL
13 POND EXCAVATION AND GRADING IN LINDA LANE POND
14 INSET C PAVEMENT INSTALLATION ON BLACK DUCK BY BIRCH ST WHERE 16" WATERMAIN INSTALLED
15 AGGREGATE BASE FOR TEMPORARY ROAD TO BE INCLUDED IN LS BID ITEM AND NOT IN CLASS 5 ITEM.
16 SALVAGE AND INSTALL WOOD DUCK HOUSE IN POND OFF OF LINDA LANE
17 TO REMOVE EXISTING PLYWOOD PLANK ABOVE AN EXISTING FES.
18 ANTICIPATED CLEANING FOR 6 FLARED END SECTIONS, INCLUSIVE OF COST TO ACCESS FES.
19 C900 (DR 18)

BASIS FOR PLAN QUANTITY

UNIT WEIGHT OF BITUMINOUS MIX	113 LBS / SY-IN
FERTILIZER TYPE 3	300 LBS / ACRE
SEED MIXTURE 33-261	35 LBS / ACRE

wsb

CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

NO.	DATE	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Diane Hankee

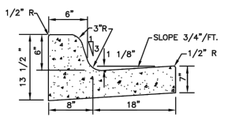
DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

STATEMENT OF ESTIMATED QUANTITIES

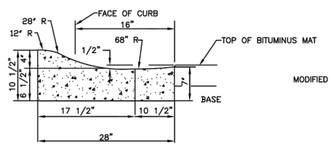
2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000



MnDOT B618

CY CONCRETE PER LIN. FT. = .0582
LIN. FT. PER CY OF CONCRETE = 17.2

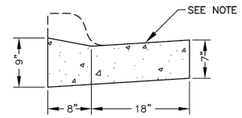


MODIFIED 'S' DESIGN

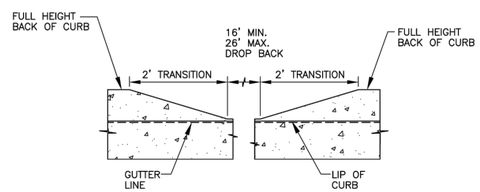
NOTES:
1. MINIMUM OF 3" AGGREGATE BASE, CL 5 UNDER ALL CURB AND GUTTER
2. STAMP W FOR WATER SERVICE AND S FOR SANITARY SERVICE

NO SCALE

CITY OF LINO LAKES	CONCRETE CURB AND GUTTER	JANUARY, 2024 GEN-4

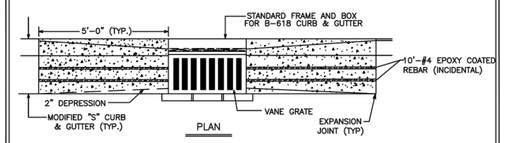


NOTES:
1) SLOPE 3/4" PER FOOT NORMAL, UNLESS OTHERWISE SPECIFIED. IF A DIFFERENT GUTTER SLOPE IS PERMITTED, THE GUTTER FORM MAY BE TILTED.
2) DROP CURB BACK AT DRIVEWAY OPENINGS. TRANSITION FROM FULL BACK TO DROP BACK TO BE MADE IN 2'. ROUND ALL SLOPE INTERSECTIONS.

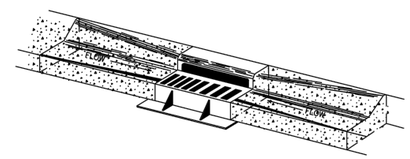


NOTES:
1. DRIVEWAYS WITH GRADE GREATER THAN 10% MUST OBTAIN ENGINEERING DEPT. APPROVAL.
2. DRIVEWAY AREA MUST MEET CODE FOR LOT COVERAGE.
3. NO DRIVEWAY SHALL BE CLOSER THAN 40' FROM END OF CORNER RADII.
4. DRIVEWAY WIDTH IS 28' MAXIMUM FROM RIGHT-OF-WAY LINE TO BACK OF CURB.
5. DRIVEWAYS SHALL BE NO CLOSER THAN 5' FROM THE ADJACENT PROPERTY LINE.
6. A FORD A-1 METER BOX IS REQUIRED FOR ALL CURB STOPS LOCATED WITHIN THE DRIVEWAY.
7. JOINT WIDTH SHALL BE AS SPECIFIED IN Mn/DOT 2521.

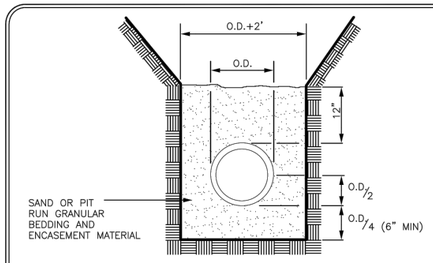
CITY OF LINO LAKES	RESIDENTIAL DRIVEWAY	JANUARY, 2024 GEN-5



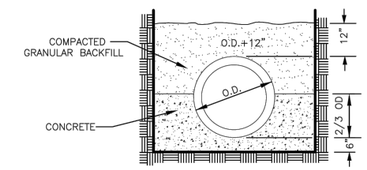
PLAN



CITY OF LINO LAKES	CATCH BASIN INSTALLATION	JANUARY, 2024 GEN-8

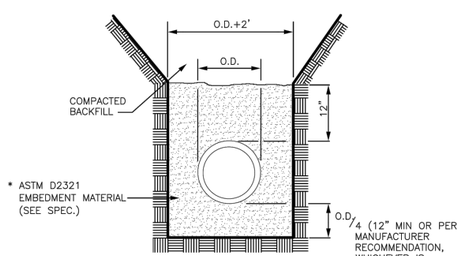


GRANULAR MATERIAL ENCASEMENT



CONCRETE CRADLE

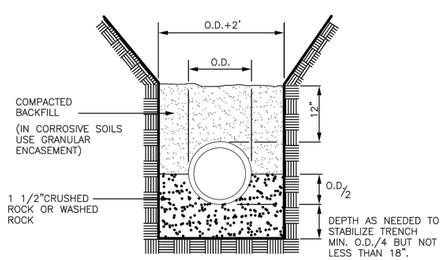
CITY OF LINO LAKES	PIPE BEDDING DETAILS	JANUARY, 2024 GEN-13



PIPE INSTALLATION IN ACCORDANCE WITH ASTM D 2321, TABLE 2.

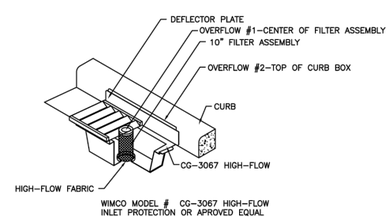
* EMBEDMENT MATERIAL SHALL CONFORM TO ASTM D2321, TABLE 1.

CITY OF LINO LAKES	GRANULAR MATERIAL BEDDING METHOD (FOR PVC PIPE)	JANUARY, 2024 GEN-14

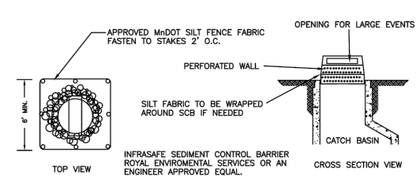


NOTE: STABILIZING OR DEWATERING OF TRENCH IS INCIDENTAL TO THE PIPE INSTALLATION UNLESS A SPECIFIC BID ITEM IS PROVIDED.

CITY OF LINO LAKES	SPECIAL FOUNDATION FOR STABILIZING OR DEWATERING OF TRENCH	JANUARY, 2024 GEN-15

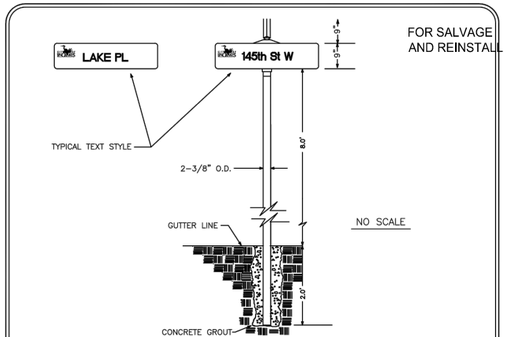


CURB AND GUTTER INLET PROTECTION
NO SCALE



REAR YARD INLET PROTECTION
NO SCALE

CITY OF LINO LAKES	INLET PROTECTION	JANUARY, 2024 GEN-19



STREET SIGN SPECIFICATIONS

MATERIAL:

ALUMINUM BLANKS SHALL BE CONSTRUCTED OF 5052-H38 ALLOY, HAVE A GAUGE OF .080, BE NOTCHED FOR USE WITH E-450 BRACKETS, HAVE HOLES PUNCHED AT EACH END FOR BOLTING TOGETHER, AND BE 9" AS REQUIRED. BLANKS SHALL HAVE 1 1/2" ROUND CORNERS.

PLATES SHALL BE COVERED WITH ENGINEERING GRADE REFLECTIVE SHEETING, WHITE ON GREEN. (PRIVATE STREETS SHALL BE WHITE ON BROWN) LETTERING SHALL BE SERIES C, 6" U.C. AND 4.5" L.C.

E-450 BRACKETS ARE TO BE ALUMINUM DESIGNED FOR USING 9" PLATES AS REQUIRED.

TUBULAR POSTS SPECIFICATIONS

TUBULAR POSTS USED FOR MOUNTING STREET NAME/TRAFFIC CONTROL SIGNS, SHALL VARY IN LENGTH, SHALL BE 2-3/8" O.D. SHALL BE GALVINIZED AND SHALL HAVE A WEIGHT OF 2LB./FT.

ABBREVIATIONS
Ave FOR AVENUE
Blvd FOR BOULEVARD
Cir FOR CIRCLE
Ct FOR COURT
Dr FOR DRIVE
E FOR EAST
Pkwy FOR PARKWAY
Pl FOR PLACE
St FOR STREET
Ter FOR TERRACE
Trl FOR TRAIL
W FOR WEST

CITY OF LINO LAKES	STREET SIGN	JANUARY, 2024 GEN-23

wsb

CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

NO.	DATE	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

MISCELLANEOUS DETAILS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 4 OF 31

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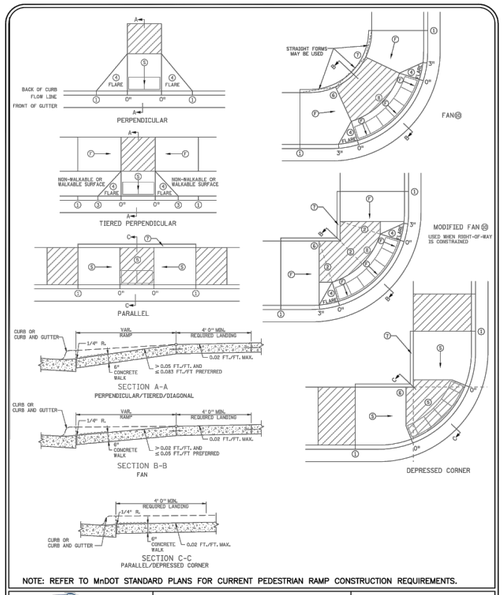
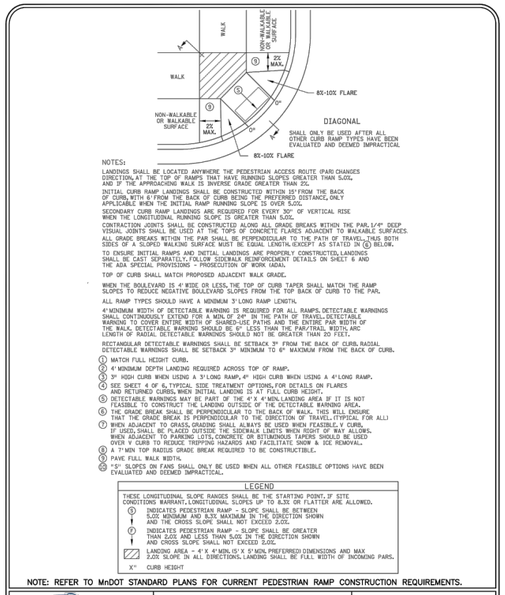


NOTE: REFER TO MnDOT STANDARD PLANS FOR CURRENT PEDESTRIAN RAMP CONSTRUCTION REQUIREMENTS.

CITY OF LINO LAKES	ACCESSIBLE SIDEWALK PEDESTRIAN RAMP (1 of 2)	JANUARY, 2024 GEN-26



NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMPS, LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB. THE 15' DISTANCE IS MEASURED ALONG THE PEDESTRIAN PATH OF TRAVEL, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH, (EXCEPT AS STATED IN (5) BELOW.

TO ENSURE INITIAL RAMPS AND INETIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3'LONG RAMP LENGTH.

4'MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

1. MATCH FULL HEIGHT CURB.
2. 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
3. 3" HIGH CURB WHEN USING A 3'LONG RAMP, 4" HIGH CURB WHEN USING A 4'LONG RAMP.
4. SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
5. DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
6. THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL.(TYPICAL FOR ALL)
7. WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE.Y CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LINETS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER Y CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
8. A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTABLE.
9. PAVE FULL WALK WIDTH.
10. "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT, IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(1) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

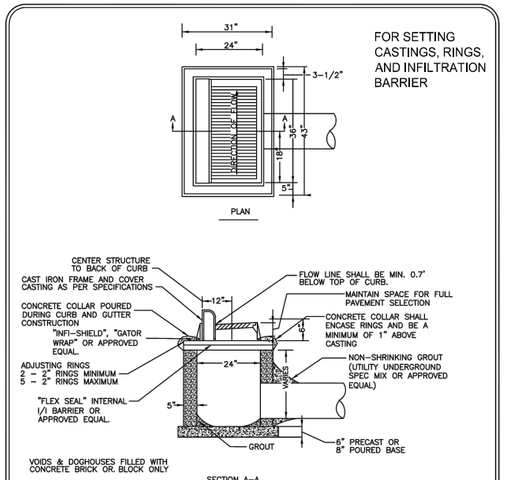
(2) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 5.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4'X 4' MIN.(5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

NOTE: REFER TO MnDOT STANDARD PLANS FOR CURRENT PEDESTRIAN RAMP CONSTRUCTION REQUIREMENTS.

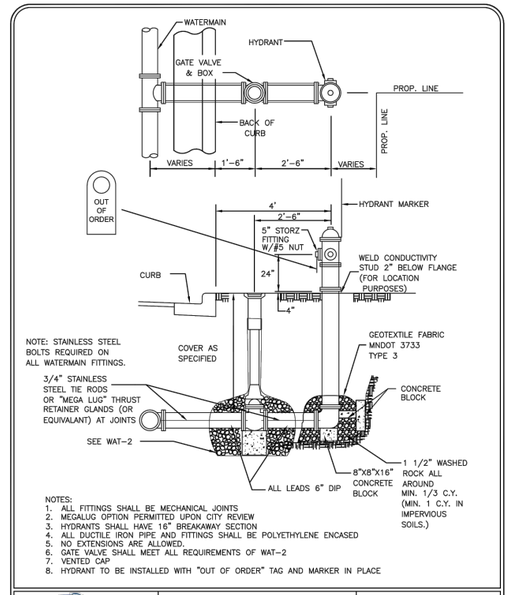
CITY OF LINO LAKES	ACCESSIBLE SIDEWALK PEDESTRIAN RAMP (2 of 2)	JANUARY, 2024 GEN-26A



NOTES:
1. REINFORCING TO CONSIST OF #4 BARS @ 8" O.C., 4' MINIMUM LENGTH, EACH SIDE OF CASTING
2. GROUT BOTTOM TO DRAIN TO CENTER
3. PIPE CUT-OUTS TO BE LOCATED WHERE REQUIRED
4. ADJUSTING RINGS SHALL HAVE MORTAR JOINTS - PLASTER OUTSIDE, STRIKE CLEAN INSIDE
5. CATCH BASINS THAT HOLD WATER AFTER CONSTRUCTION SHALL HAVE "FLEX SEAL" APPLIED TO ENTIRE INTERIOR OF STRUCTURE.
6. INLET PROTECTION TO BE INSTALLED IN CATCH BASIN AND MAINTAINED AS DIRECTED BY THE ENGINEER

NO SCALE

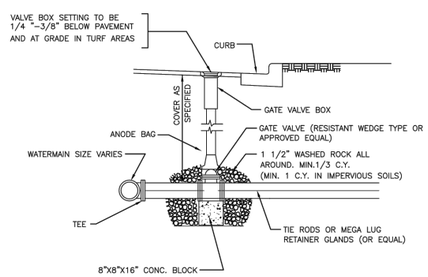
CITY OF LINO LAKES	2 x 3 CATCH BASIN	JANUARY, 2024 STR-6



NOTE: STAINLESS STEEL BOLTS REQUIRED ON ALL WATERMAIN FITTINGS.

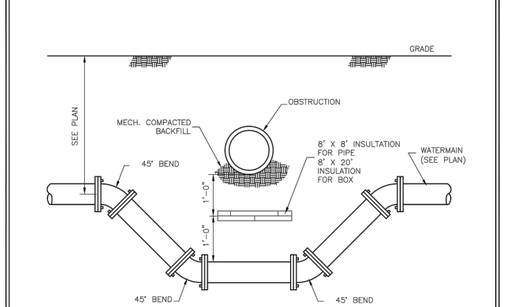
NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS
2. MEGALUG OPTION PERMITTED UPON CITY REVIEW
3. HYDRANTS SHALL HAVE 16" BREAKAWAY SECTION
4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE ENCASED
5. NO EXTENSIONS ARE ALLOWED.
6. GATE VALVE SHALL MEET ALL REQUIREMENTS OF WAT-2
7. VENTED CAP
8. HYDRANT TO BE INSTALLED WITH "OUT OF ORDER" TAG AND MARKER IN PLACE

CITY OF LINO LAKES	TYPICAL HYDRANT DETAILS (VALVE IN BOULEVARD)	JANUARY, 2024 WAT-1



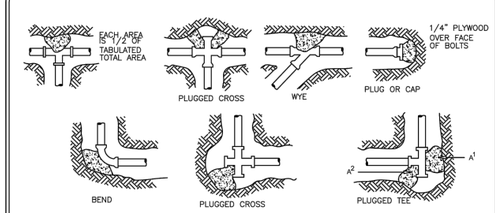
NOTES:
1. GATE VALVES SHOULD BE USED ON 6" THROUGH 16" WATERMAIN.
2. VALVE BOX INSERTS ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.
3. VALVE BOXES SHALL BE INSTALLED PLUMB AND SHALL ALLOW A 4" P.V.C. PIPE TO PASS ENTIRELY OVER THE GATE VALVE NUT AFTER INSTALLATION IS COMPLETE.
4. ALL VALVES SHALL BE TIED WITH 3/4" THREADED TIE RODS TO THE MAIN. MEGALUGS MAY BE USED IN LIEU OF TIE RODS.
5. THE INITIAL & FINAL RAISING OF VALVE BOXES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
6. BONNET ADAPTOR SHALL BE INSTALLED ON TOP OF GATE VALVE.
7. STAINLESS STEEL BOLTS REQUIRED ON ALL WATERMAIN FITTINGS.

CITY OF LINO LAKES	GATE VALVE & BOX INSTALLATION	JANUARY, 2024 WAT-2



NOTES:
1. TIE ALL JOINTS WITH MEGALUGS 8 REQUIRED.
2. STAINLESS STEEL BOLTS REQUIRED ON ALL WATERMAIN FITTINGS.

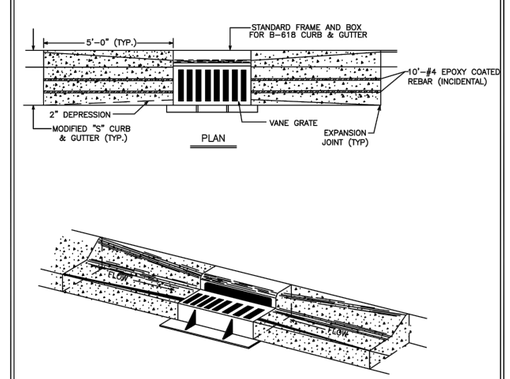
CITY OF LINO LAKES	WATER LOWER	JANUARY, 2024 WAT-3



NOMINAL FITTING SIZE, INCHES	TEE, WYE, PLUG OR CAP	90^ BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		45^ BEND	22-1/2^ BEND	11-1/4^ BEND
			A^1	A^2			
4	1.0	1.4	1.9	1.4	1.0	-	-
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.6	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

NOTES:
1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3. REQUIRED BEARING AREAS AT FITTING SHALL BE AS NOTED ABOVE, UNLESS INDICATED OTHERWISE.
4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON THE PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD PLATE.
5. ABOVE BEARING AREAS BASED ON TEST PRESSURES OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 LBS. PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) X (2000/SOIL BEARING STRESS) X (TABLE VALUE).

CITY OF LINO LAKES	DUCTILE IRON PIPE REACTION BLOCKING (FOR BENDS)	JANUARY, 2024 WAT-4



CITY OF LINO LAKES	CATCH BASIN INSTALLATION	JANUARY, 2024 GEN-8

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wsb | CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

NO.	DATE	DESCRIPTION

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Diane L. Hankee

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

MISCELLANEOUS DETAILS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

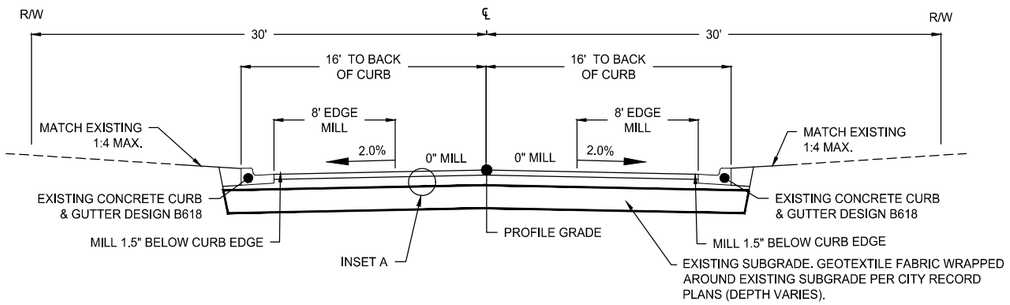
WSB PROJECT NO. 023839-000

TYPICAL MILL AND OVERLAY PAVEMENT SECTION
BLACK DUCK DRIVE STA 70+68 TO STA 93+31
BLACK DUCK CIRCLE, LINDA LN, LINDA AVE, LINDA CT, LINDA CIR, DEERWOOD CT, DEERWOOD CIR STA 35+27 TO 36+27, BLACKDUCK CT, BEAVER CT, ASPEN LANE (BID ALTERNATE)

NOT TO SCALE

NOTE:

1. **THE CONTRACTOR SHALL MILL 1.5" DEPTH OF BITUMINOUS PAVEMENT AT THE CURB LINE AND TAPER MILLING TO 0" DEPTH OF BITUMINOUS APPROXIMATELY 8' FROM CURB. THE CONTRACTOR SHALL PAVE TO INSTALL A2.0% CROSS SLOPE FROM CURB LINE TO CENTERLINE.**

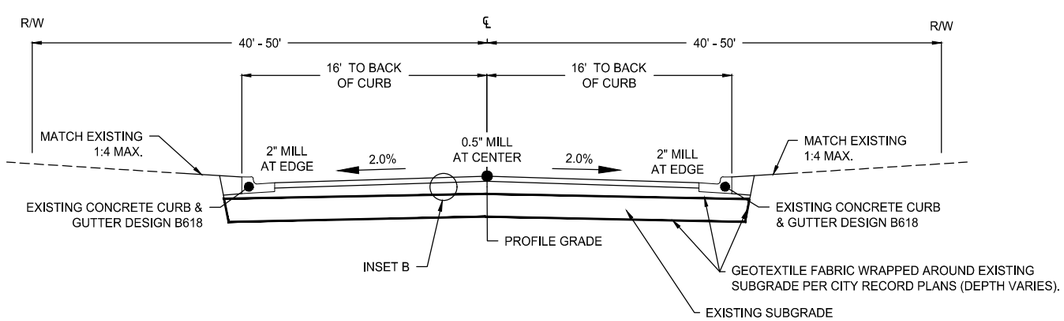


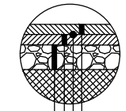
TYPICAL MILL & OVERLAY SECTION
BLACK DUCK DRIVE STA 61+00 TO STA 70+68

NOT TO SCALE

NOTE:

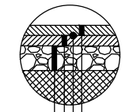
1. **THE CONTRACTOR SHALL MILL 2" DEPTH OF BITUMINOUS PAVEMENT AT THE CURB LINE AND TAPER MILLING TO REMOVE ½" DEPTH OF BITUMINOUS AT THE CENTER OF THE STREET. THE CONTRACTOR SHALL PAVE TO INSTALL A 2.0% CROSS SLOPE FROM CURB TOE TO CENTER LINE.**





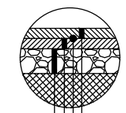
INSET A

- SPEC 2360 1.5" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B) (OVERLAY)**
- 2357 BITUMINOUS TACK COAT (INCIDENTAL)
- EXISTING BITUMINOUS PAVEMENT
- EXISTING AGGREGATE BASE



INSET B

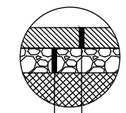
- SPEC 2360 2" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B)
- 2357 BITUMINOUS TACK COAT (INCIDENTAL)
- EXISTING BITUMINOUS PAVEMENT
- EXISTING AGGREGATE BASE



INSET C
FULL DEPTH ROAD REPLACEMENT

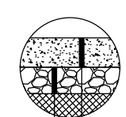
- SPEC 2360 1.5" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B)
- 2357 BITUMINOUS TACK COAT (INCIDENTAL)
- SPEC 2360 2.5" TYPE SP 12.5 NON WEAR COURSE MIX (SPNWB230B)
- 6" AGGREGATE BASE

CONTRACTOR TO REINSTALL GEOTEXTILE FABRIC TYPE 5 ON BLACK DUCK DRIVE BELOW AND ON TOP OF SAND SECTION WHEN REPLACING SUBGRADE.



BITUMINOUS DRIVEWAY

- SPEC 2360 3" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B)
- AGGREGATE BASE CLASS 5 (INCIDENTAL, MATCH EXISTING DEPTH - MAX. 6" DEPTH)



CONCRETE DRIVEWAY

- 6" CONCRETE DRIVEWAY PAVEMENT
- AGGREGATE BASE CLASS 5 (INCIDENTAL, MATCH EXISTING DEPTH - MAX. 6" DEPTH)

wsb

CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

NO.	DATE	DESCRIPTION

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Diane Hankee

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

TYPICAL SECTIONS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT

LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

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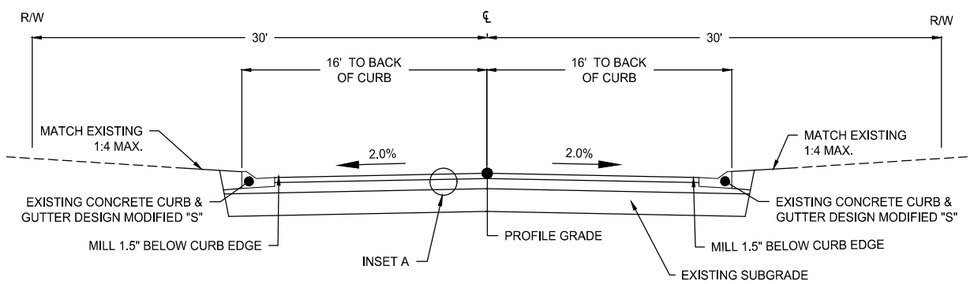
TYPICAL BITUMINOUS MILL & OVERLAY SECTION
DEEERWOOD CIRCLE (STA. 33+12 TO STA. 34+07) (STA. 36+27 TO STA. 37+83)

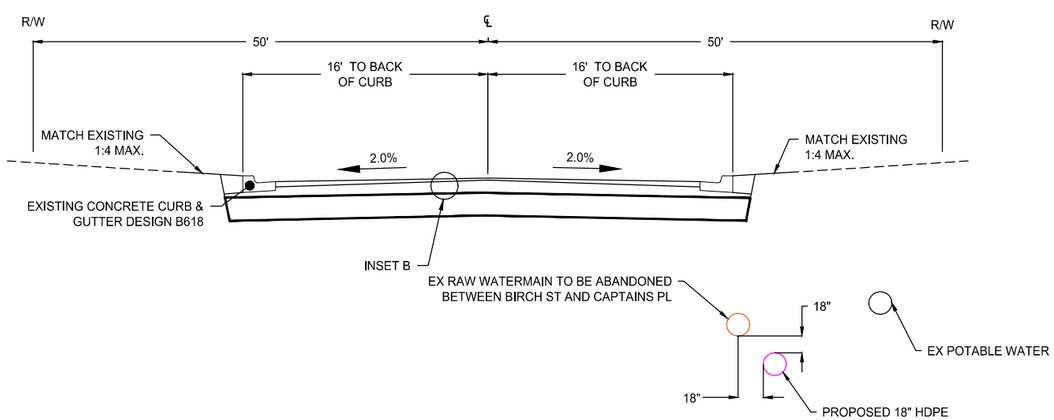
NOT TO SCALE

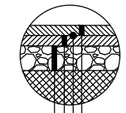
NOTE:
1. **THE CONTRACTOR SHALL MILL FULL WIDTH FOR A DEPTH OF 1 1/2" BITUMINOUS PAVEMENT AND PAVE TO CREATE A 2.0% CROSS SLOPE.**



PROPOSED RAW WATERMAIN TYPICAL SECTION
BLACK DUCK DR (STA. 61+31 TO STA. 69+13)

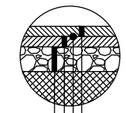
NOT TO SCALE





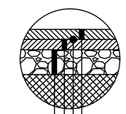
INSET A

- SPEC 2360 1.5" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B) (OVERLAY)**
- 2357 BITUMINOUS TACK COAT (INCIDENTAL)
- EXISTING BITUMINOUS PAVEMENT
- EXISTING AGGREGATE BASE



INSET B

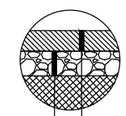
- SPEC 2360 2" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B)
- 2357 BITUMINOUS TACK COAT (INCIDENTAL)
- EXISTING BITUMINOUS PAVEMENT
- EXISTING AGGREGATE BASE



INSET C
FULL DEPTH ROAD REPLACEMENT

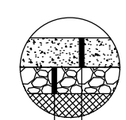
- SPEC 2360 1.5" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B)
- 2357 BITUMINOUS TACK COAT (INCIDENTAL)
- SPEC 2360 2.5" TYPE SP 12.5 NON WEAR COURSE MIX (SPNWB230B)
- 6" AGGREGATE BASE

CONTRACTOR TO REINSTALL GEOTEXTILE FABRIC TYPE 5 ON BLACK DUCK DRIVE BELOW AND ON TOP OF SAND SECTION WHEN REPLACING SUBGRADE.



BITUMINOUS DRIVEWAY

- SPEC 2360 3" TYPE SP 9.5 WEARING COURSE MIX (SPWEA240B)
- AGGREGATE BASE CLASS 5 (INCIDENTAL, MATCH EXISTING DEPTH - MAX. 6" DEPTH)



CONCRETE DRIVEWAY

- 6" CONCRETE DRIVEWAY PAVEMENT
- AGGREGATE BASE CLASS 5 (INCIDENTAL, MATCH EXISTING DEPTH - MAX. 6" DEPTH)

wsb

CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

NO.	DATE	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

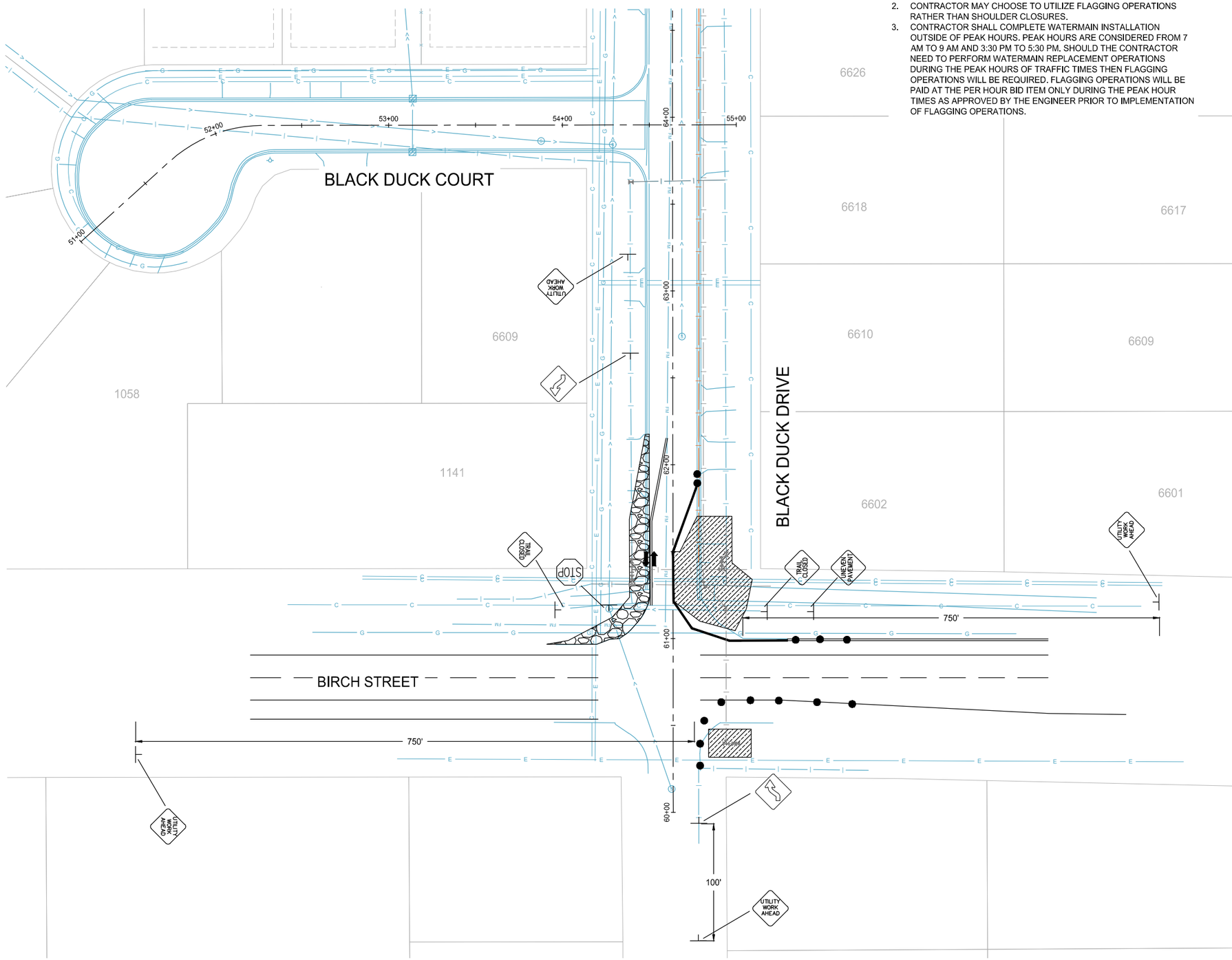
TYPICAL SECTIONS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

K:\023839-000\Cad\Plan\023839-000-C-TYPS-DETL.dwg 1/12/2024 2:58:37 PM

NOTES:
1. 11' MINIMUM LANE WIDTH MUST BE MAINTAINED IN BOTH DIRECTIONS.
2. CONTRACTOR MAY CHOOSE TO UTILIZE FLAGGING OPERATIONS RATHER THAN SHOULDER CLOSURES.
3. CONTRACTOR SHALL COMPLETE WATERMAIN INSTALLATION OUTSIDE OF PEAK HOURS. PEAK HOURS ARE CONSIDERED FROM 7 AM TO 9 AM AND 3:30 PM TO 5:30 PM. SHOULD THE CONTRACTOR NEED TO PERFORM WATERMAIN REPLACEMENT OPERATIONS DURING THE PEAK HOURS OF TRAFFIC TIMES THEN FLAGGING OPERATIONS WILL BE REQUIRED. FLAGGING OPERATIONS WILL BE PAID AT THE PER HOUR BID ITEM ONLY DURING THE PEAK HOUR TIMES AS APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION OF FLAGGING OPERATIONS.



LEGEND
- PORTABLE NON-CONCRETE BARRIER
- 4" DOUBLE WHITE REMOVABLE PREFORM PAVEMENT MARKING TAPE (PAID IN TRAFFIC CONTROL "LS" ITEM)
- EXISTING TEMPORARY EASEMENT
- EXISTING WATERMAIN
- PROPOSED WATERMAIN
- DRUM-LIKE CHANNELIZER (TYPE B)
- TRAFFIC DIRECTION
- TYPE III BARRICADE
- WORK AREA
- INSTALL 6" DEPTH TEMPORARY CLASS 5

N

H: 0 30 60
SCALE IN FEET

TRAFFIC CONTROL NARRATIVE:

STAGE 1 PHASE 1 CONSTRUCTION
- PERFORM ALL WATERMAIN WORK IN THE NORTHEAST QUADRANT AND OPEN CUT THE EAST SIDE OF BLACK DUCK DRIVE TO INSTALL WATERMAIN.
- PERFORM ALL WATERMAIN WORK IN THE SOUTHEAST QUADRANT.

TRAFFIC
- INSTALL TEMPORARY GRAVEL ALONG THE WEST SIDE OF BLACK DUCK DRIVE TO ALLOW FOR MINIMUM 11' WIDE TRAFFIC IN TWO DIRECTIONS.

wsb | CITY OF LINO LAKES

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Diane Hankee

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

TRAFFIC CONTROL PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 8 OF 31

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NOTES:
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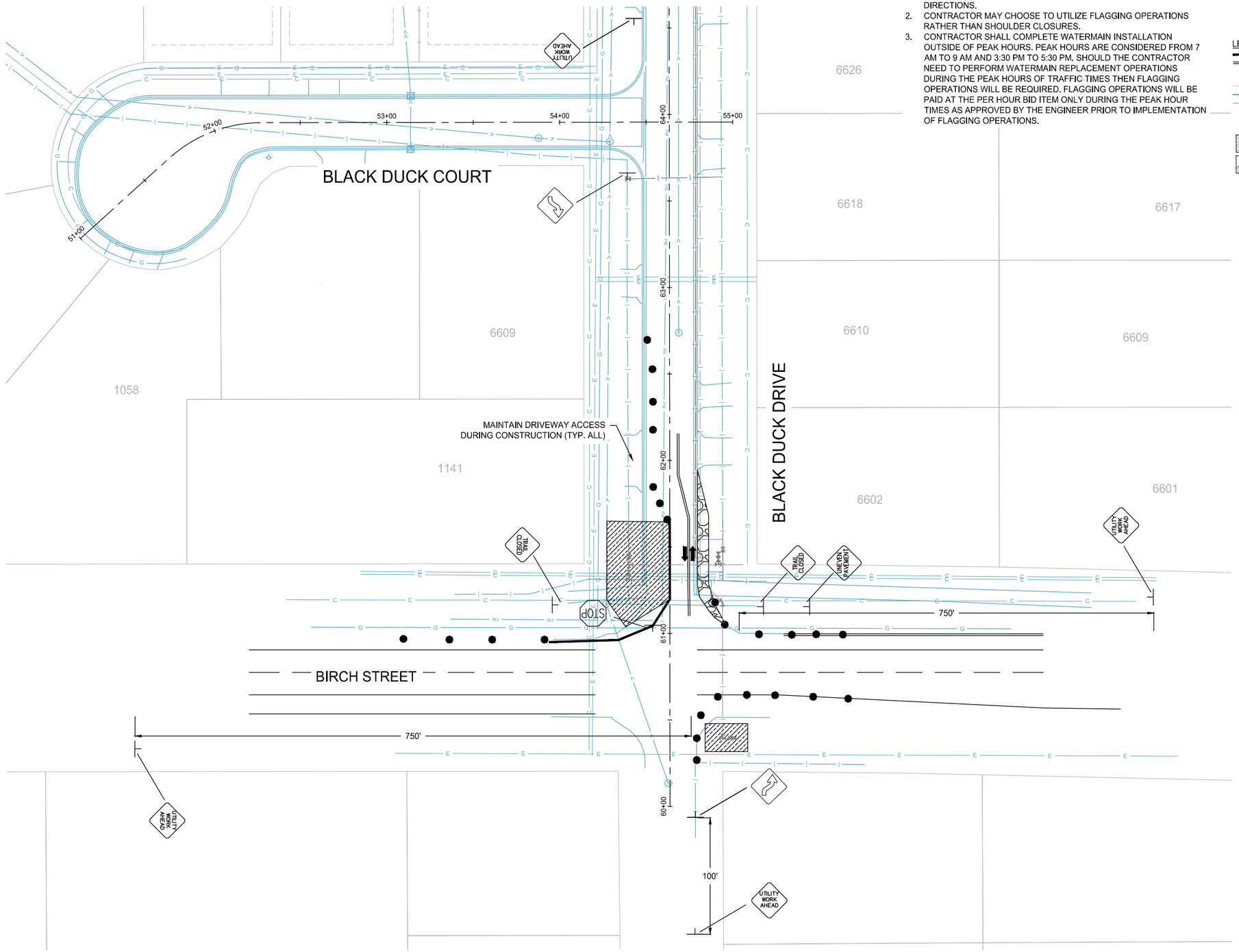
LEGEND
- PORTABLE NON-CONCRETE BARRIER
- 4" DOUBLE WHITE REMOVABLE PREFORM PAVEMENT MARKING TAPE (PAID IN TRAFFIC CONTROL "LS" ITEM)
- EXISTING TEMPORARY EASEMENT
- EXISTING WATERMAIN
- PROPOSED WATERMAIN
- DRUM-LIKE CHANNELIZER (TYPE B)
- TRAFFIC DIRECTION
- TYPE III BARRICADE
- WORK AREA
- INSTALL 6" DEPTH TEMPORARY CLASS 5



TRAFFIC CONTROL NARRATIVE:
STAGE 1 PHASE 2 CONSTRUCTION
- PERFORM ALL WATERMAIN WORK IN THE NORTHWEST QUADRANT AND OPEN CUT THE WEST SIDE OF BLACK DUCK DRIVE TO INSTALL WATERMAIN.

TRAFFIC
- INSTALL TEMPORARY GRAVEL ALONG THE EAST SIDE OF BLACK DUCK DRIVE TO ALLOW FOR MINIMUM 11' WIDE TRAFFIC IN TWO DIRECTIONS.

wsb | CITY OF LINO LAKES

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Diane Hankee
DIANE L. HANKEE
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TRAFFIC CONTROL PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

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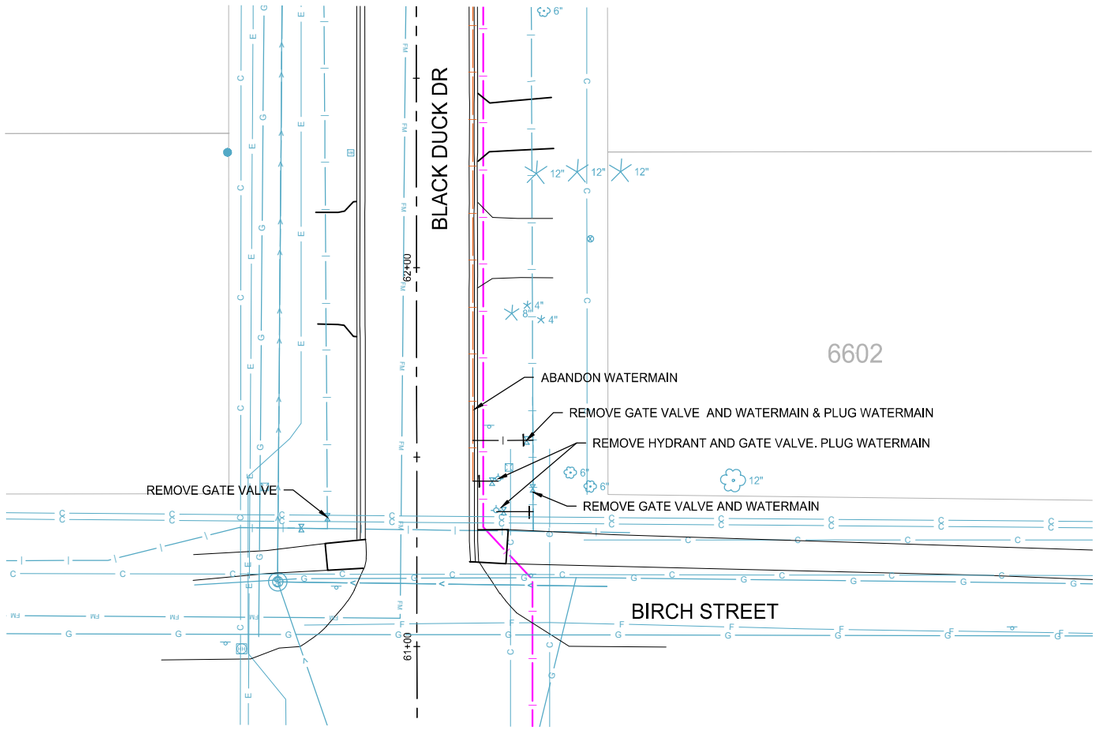
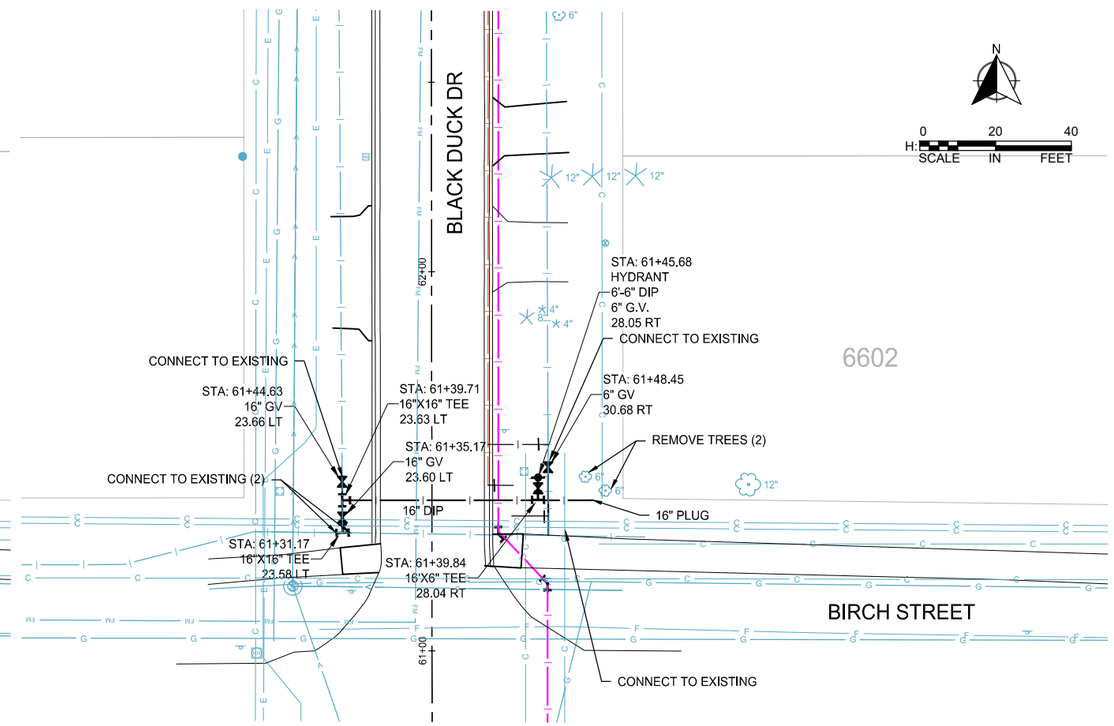


EXISTING CONDITIONS AND REMOVALS

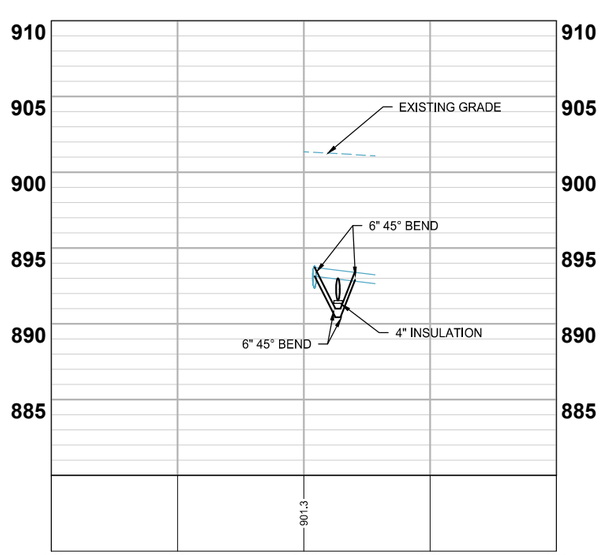


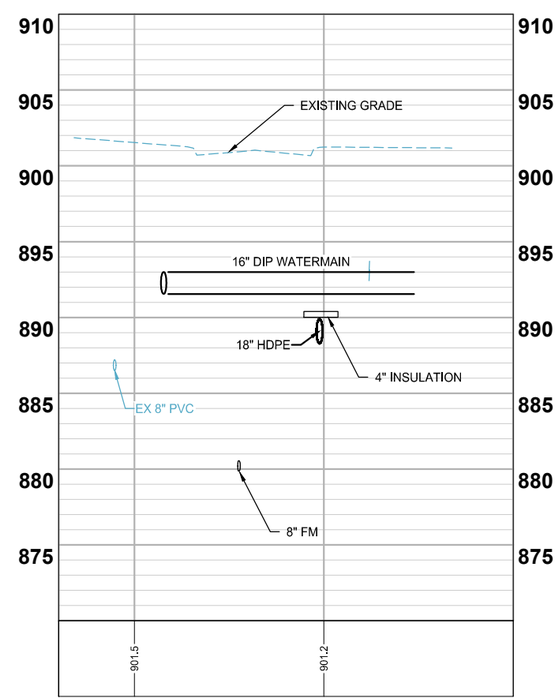
PROPOSED WATERMAIN CROSSING AT BIRCH STREET

LEGEND

- EXISTING POTABLE WATERMAIN
- PROPOSED POTABLE WATERMAIN
- EXISTING RAW WATERMAIN TO BE ABANDONED BETWEEN BIRCH ST AND CAPTAINS PL
- PROPOSED RAW WATERMAIN

PROPOSED WATERMAIN LOWERING AT BIRCH STREET





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DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

WATERMAIN CONSTRUCTION PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 10 OF 31

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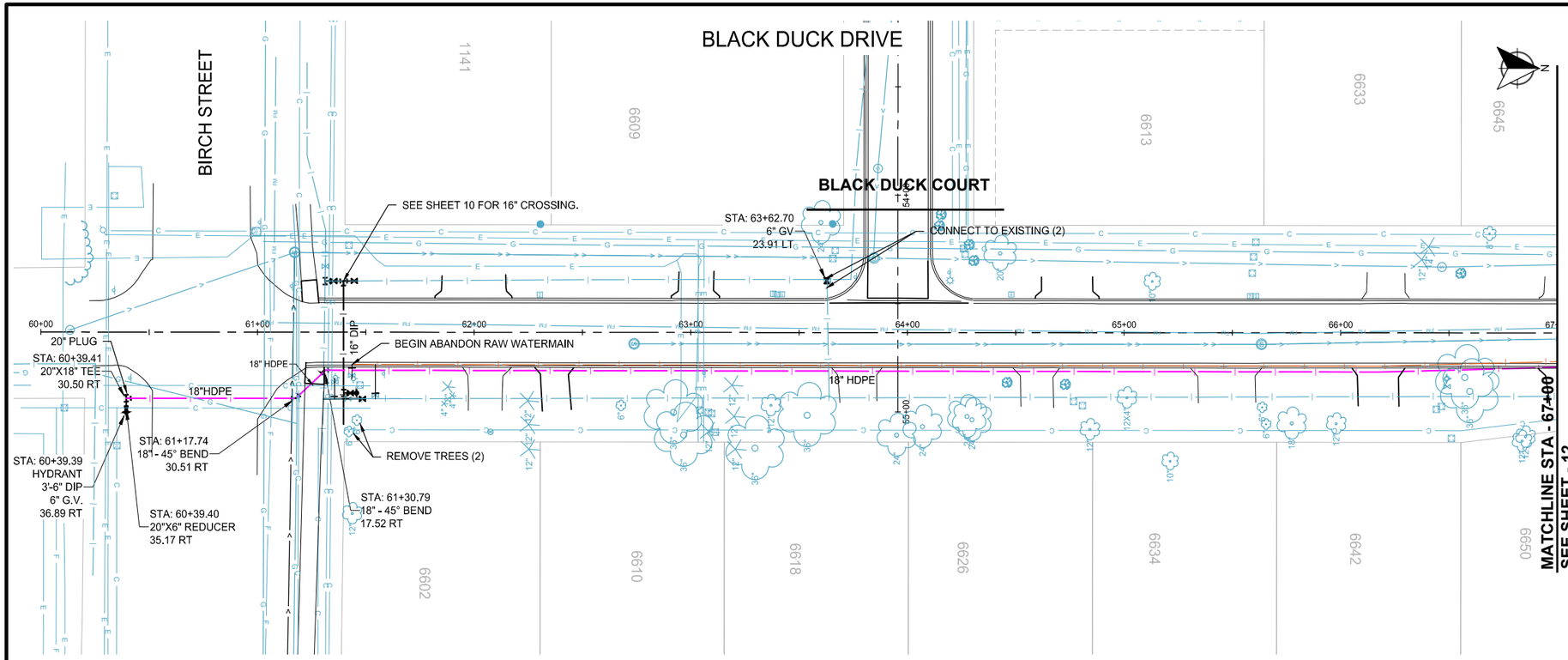
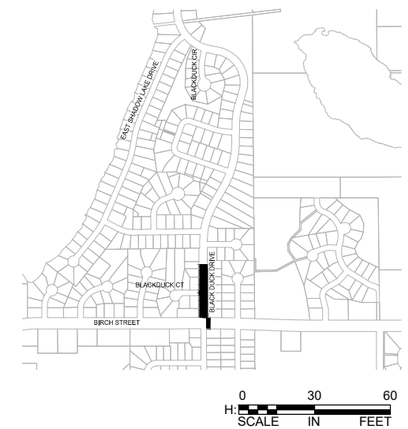
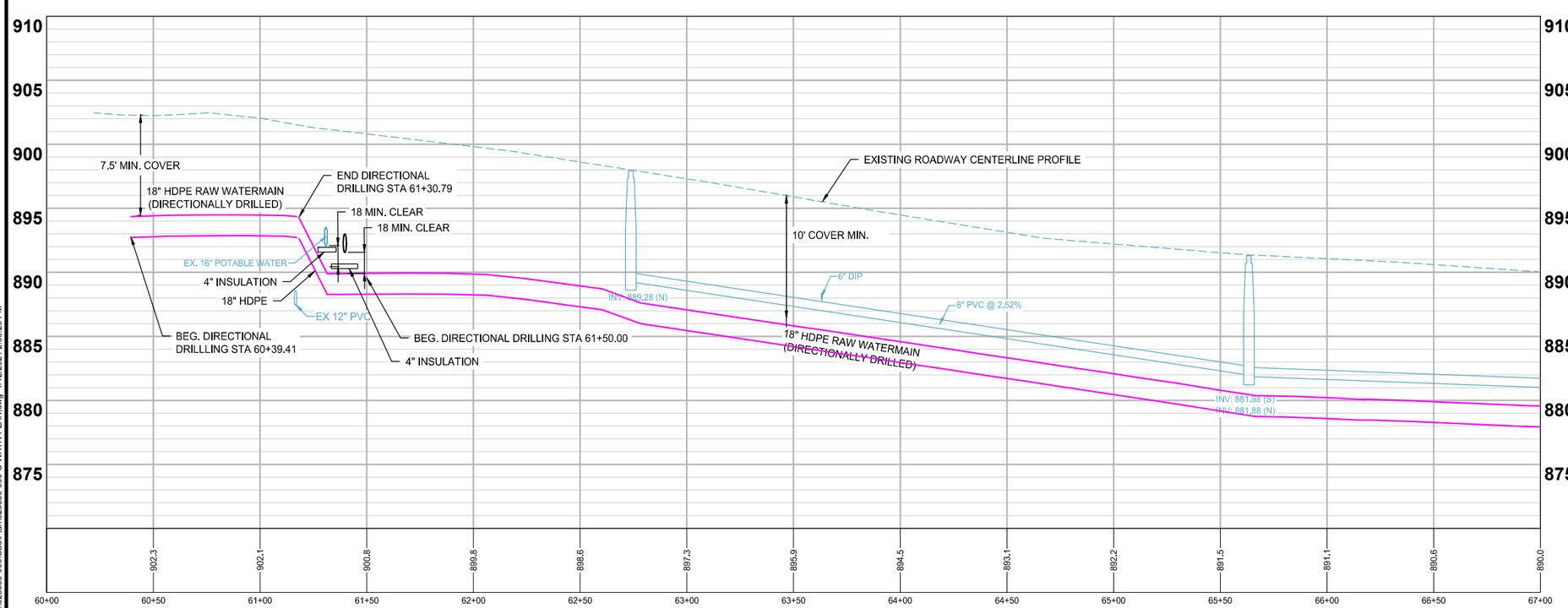


LOCATION



LEGEND

- EXISTING POTABLE WATERMAIN
- PROPOSED POTABLE WATERMAIN
- EXISTING RAW WATERMAIN TO BE ABANDONED BETWEEN BIRCH ST AND CAPTAINS PL
- PROPOSED RAW WATERMAIN



NOTES:

1. CONTRACTOR SHALL POTHOLE LOCATIONS OF ALL SERVICES AND UTILITIES PRIOR TO DRILLING (INCIDENTAL).
2. CONTRACTOR SHALL VIDEO REQUESTED SANITARY SERVICES AFTER WATERMAIN DRILLING INSTALLATION.
3. PROFILE DOES NOT SHOW ALL UTILITIES, CONTRACTOR TO VERIFY UTILITIES PRIOR TO DRILLING OPERATION.
4. WATERMAIN SHUTOFF SHALL BE COORDINATED WITH PUBLIC WORKS. SHUTOFFS ARE NOT PERMITTED TO OCCUR ON FRIDAYS.

wsb

CITY OF LINO LAKES

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WATERMAIN CONSTRUCTION PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT

LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 11 OF 31

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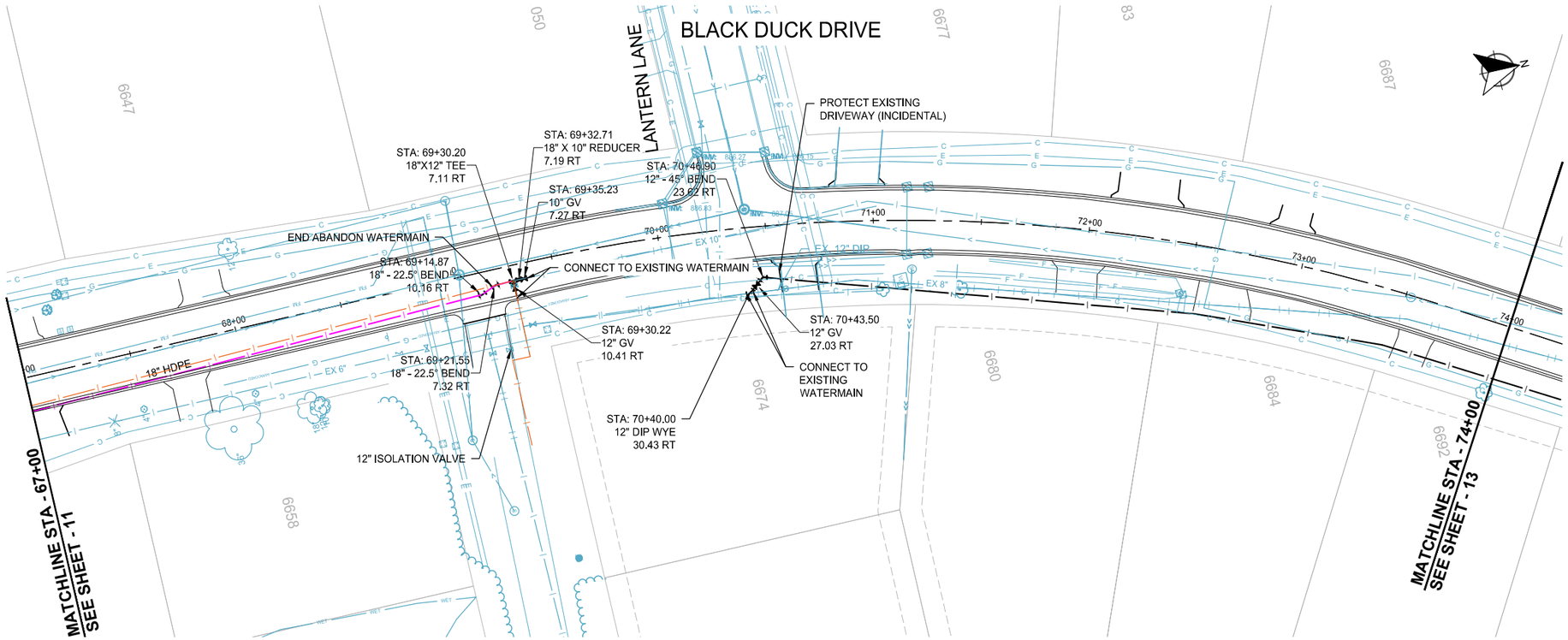
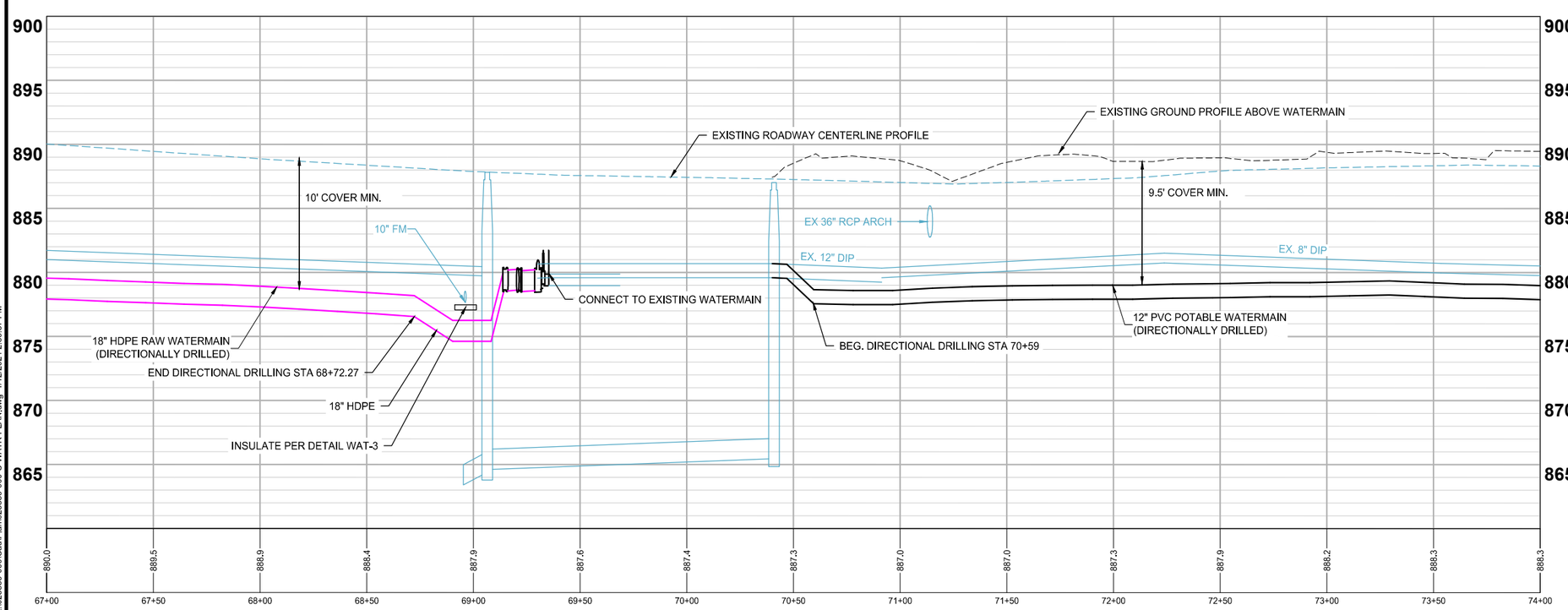


LOCATION

LEGEND

- EXISTING POTABLE WATERMAIN
- PROPOSED POTABLE WATERMAIN
- EXISTING RAW WATERMAIN TO BE ABANDONED BETWEEN BIRCH ST AND CAPTAINS PL
- PROPOSED RAW WATERMAIN



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wsb | CITY OF LINO LAKES

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WATERMAIN CONSTRUCTION PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 12 OF 31

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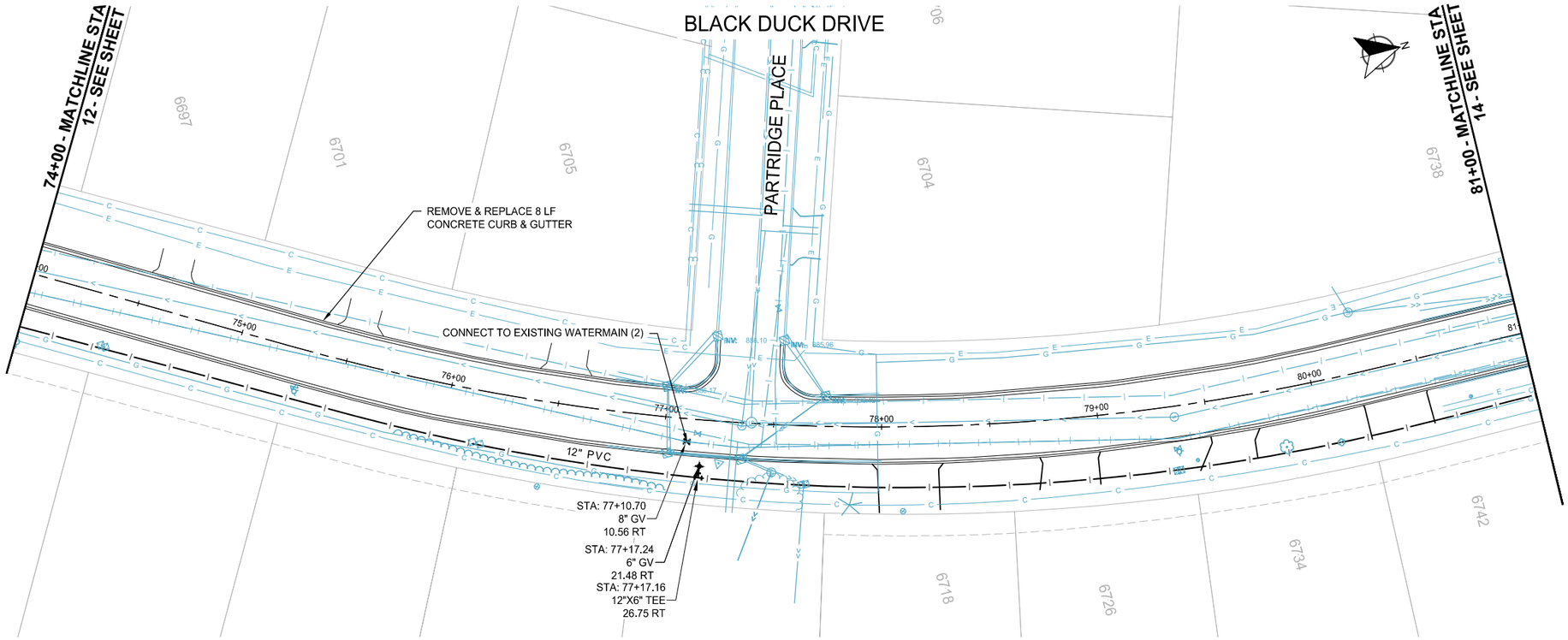
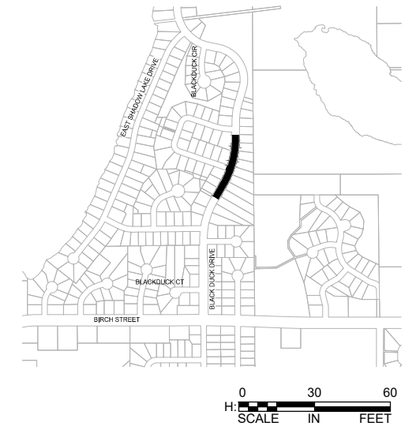
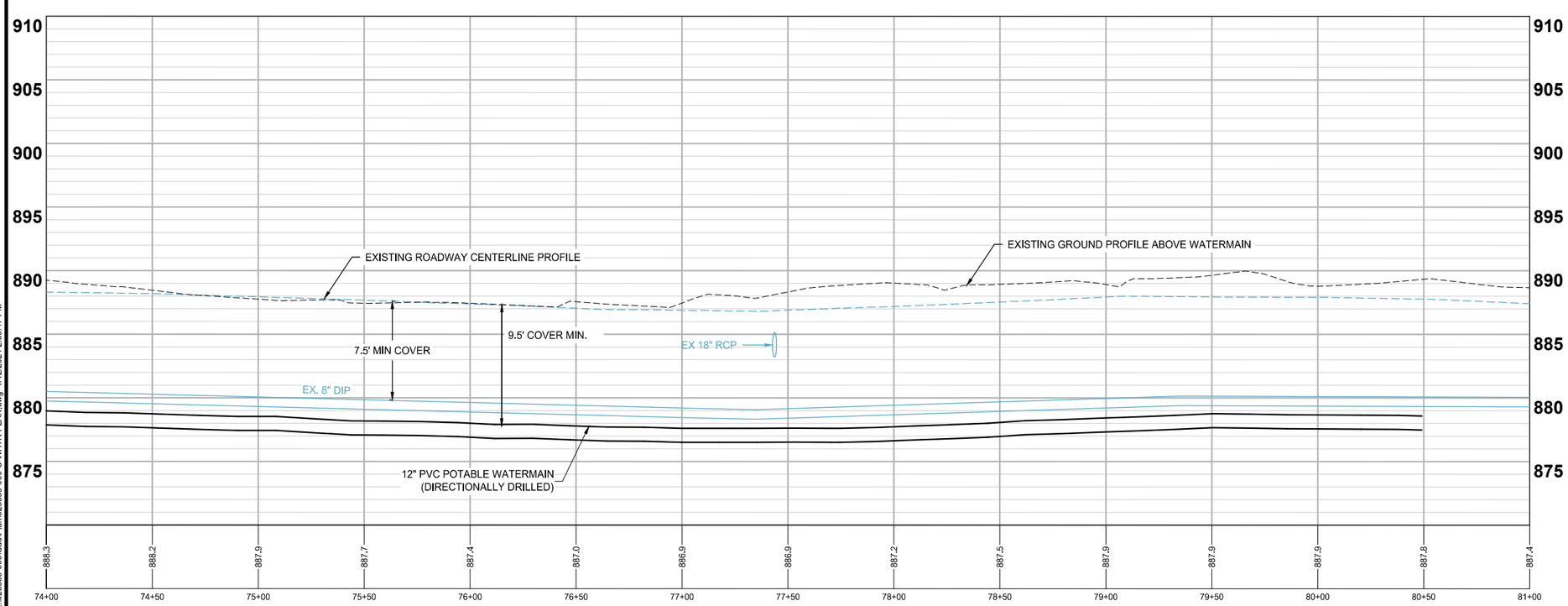


LOCATION



LEGEND

- EXISTING POTABLE WATERMAIN
- PROPOSED POTABLE WATERMAIN
- EXISTING RAW WATERMAIN TO BE ABANDONED BETWEEN BIRCH ST AND CAPTAINS PL
- PROPOSED RAW WATERMAIN



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WATERMAIN CONSTRUCTION PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT

LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 13 OF 31

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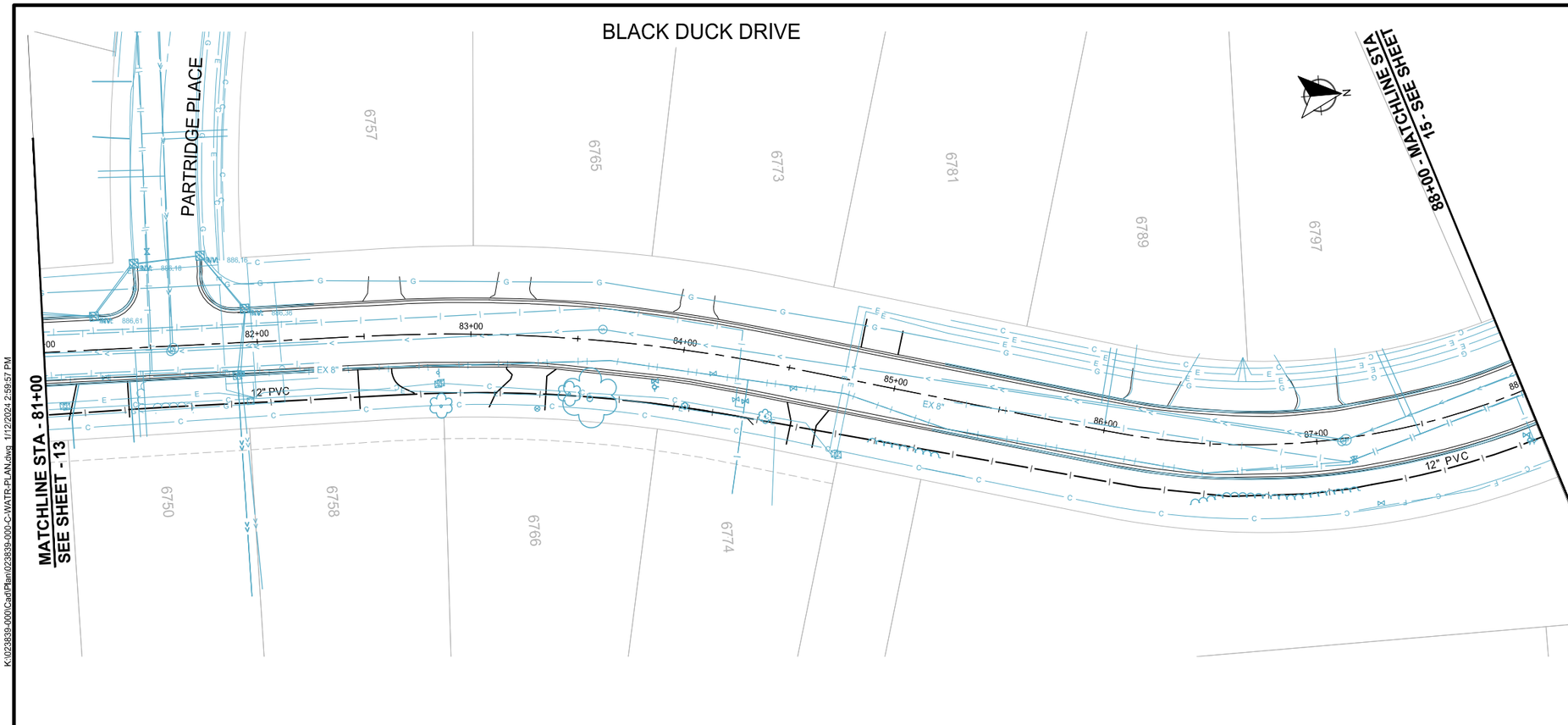

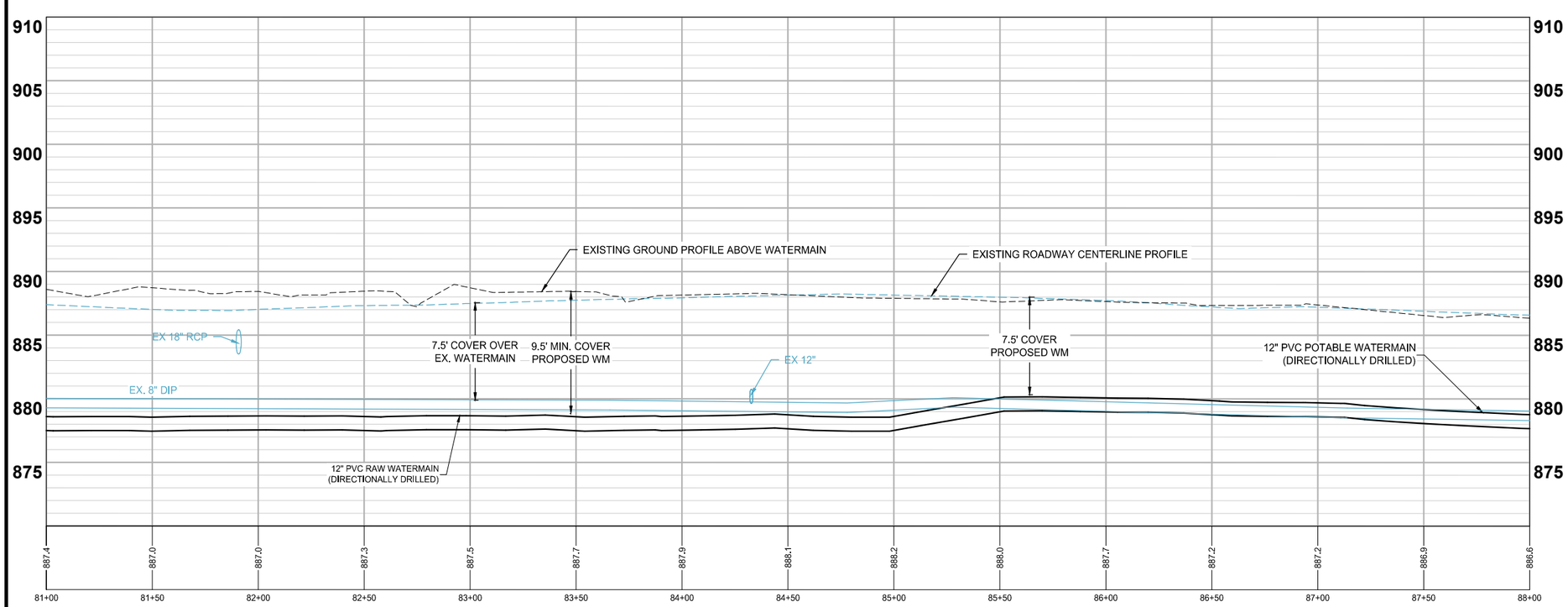

LOCATION

LEGEND

- EXISTING POTABLE WATERMAIN
- PROPOSED POTABLE WATERMAIN
- EXISTING RAW WATERMAIN TO BE ABANDONED BETWEEN BIRCH ST AND CAPTAINS PL
- PROPOSED RAW WATERMAIN

NOTES:

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WATERMAIN CONSTRUCTION PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT

LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

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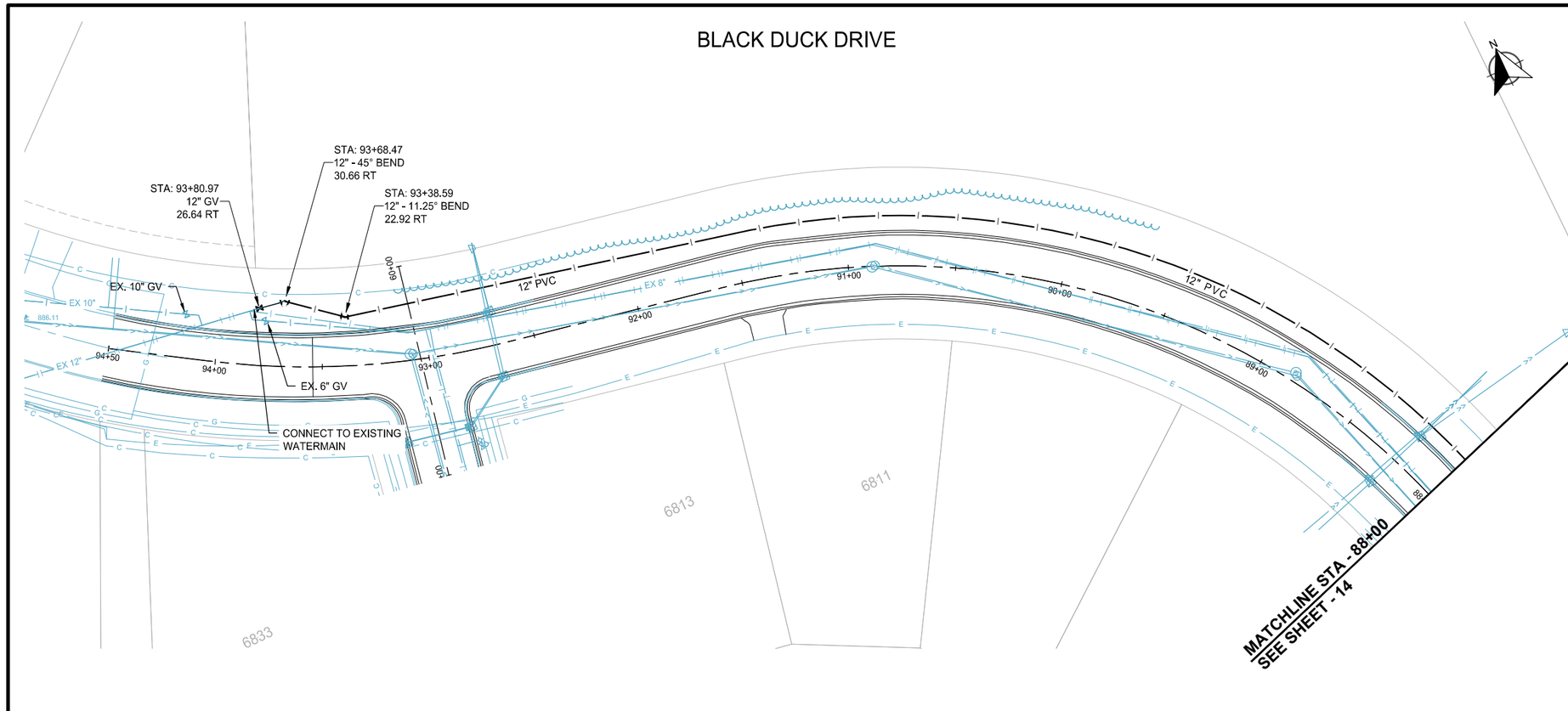
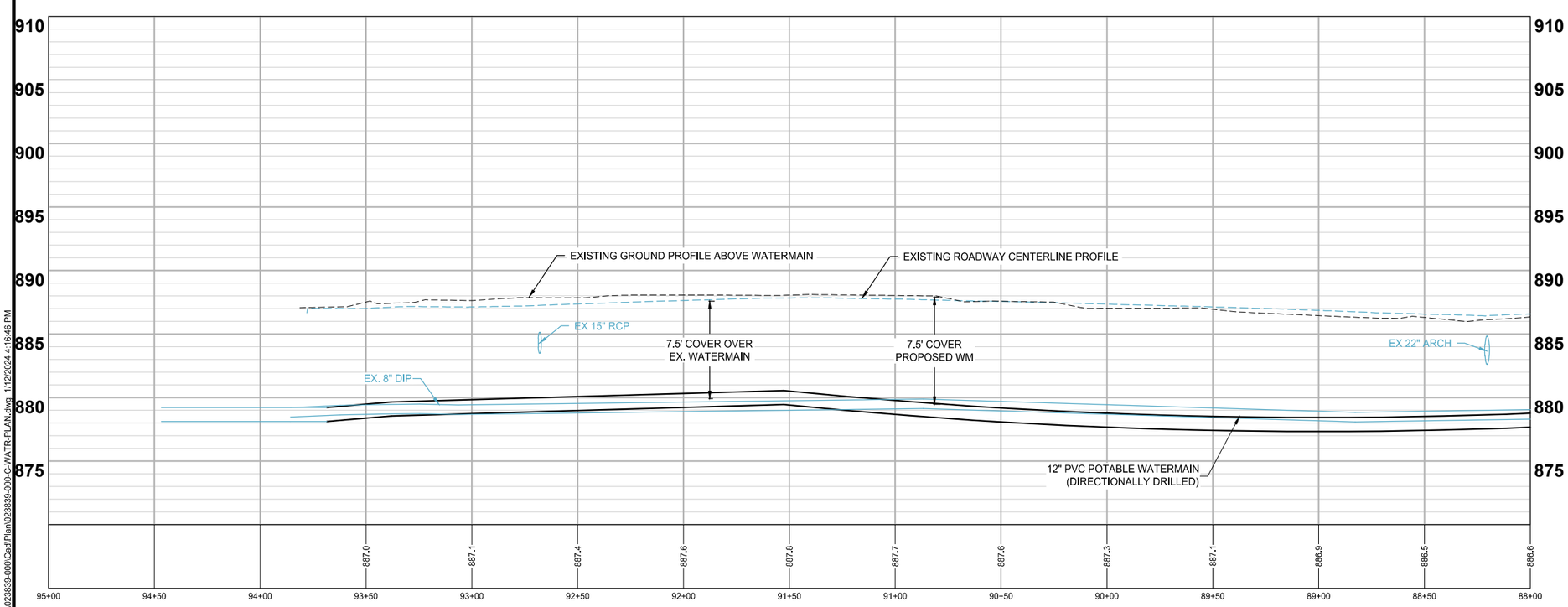
BLACK DUCK DRIVE



LOCATION

LEGEND

- EXISTING POTABLE WATERMAIN
- PROPOSED POTABLE WATERMAIN
- EXISTING RAW WATERMAIN TO BE ABANDONED BETWEEN BIRCH ST AND CAPTAINS PL
- PROPOSED RAW WATERMAIN



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WATERMAIN CONSTRUCTION PLAN

2024 STREET REHABILITATION AND TRUNK WATER PROJECT

LINO LAKES, MINNESOTA

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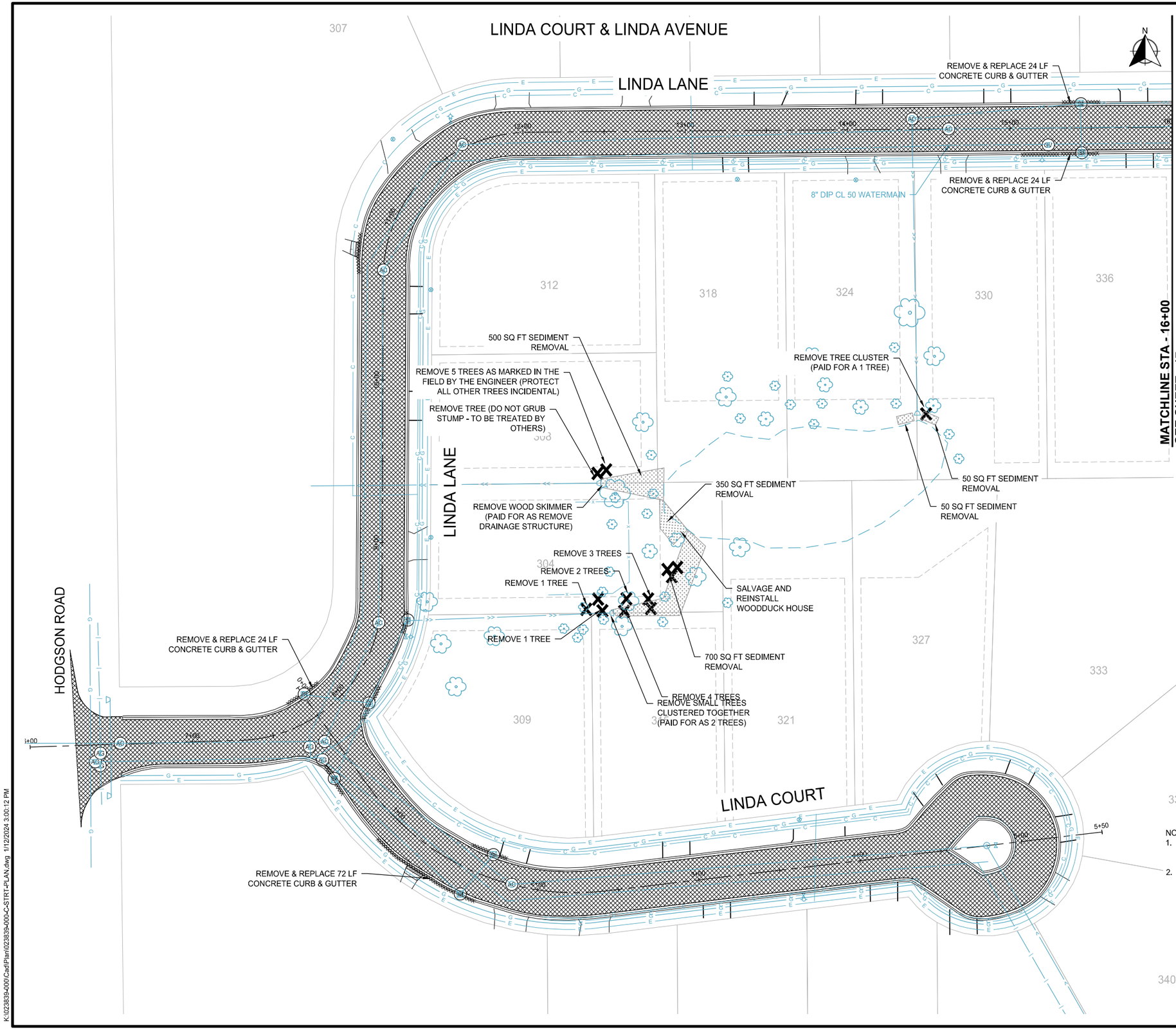
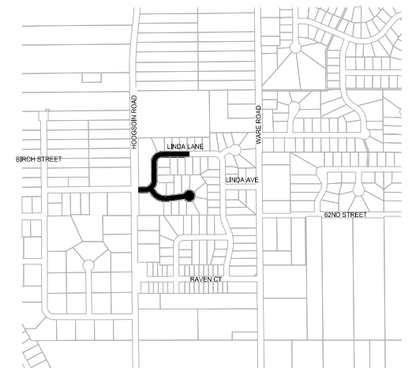


LOCATION



LEGEND

- AC — REMOVE AND REPLACE CASTING AND INSTALL CHIMNEY SEAL
- GV — REMOVE & REPLACE GATE VALVE
- AG — ADJUST GATE VALVE
- SI — SALVAGE & INSTALL ROUND CASTING
- RC — SALVAGE & INSTALL R-3067 CASTING
- ▲ — REMOVE & REPLACE R-3067 CASTING
- M — MUD JACK CONCRETE CURB & GUTTER
- ✕ — CLEAR & GRUB TREE
- REMOVE AND REPLACE EXISTING CURB & GUTTER. MATCH IN-PLACE S OR B STYLE.
- MILL BITUMINOUS SURFACE MILL 1.5" AT CURB TO 0" AT 8' FROM CURB
- MILL BITUMINOUS SURFACE 1.5" DEPTH FULL WIDTH
- MILL BITUMINOUS SURFACE 2" AT CURB TO .5" AT CENTERLINE
- REMOVE AND REPLACE BITUMINOUS DRIVEWAY/TRAIL PAVEMENT
- REMOVE BITUMINOUS & REPLACE WITH CONCRETE & DOMES
- REMOVE VALLEY GUTTER AND INSTALL BITUMINOUS PER INSET C
- REMOVE AND REPLACE CONCRETE DRIVEWAY PAVEMENT
- REMOVE AND REPLACE PEDESTRIAN RAMP
- REMOVE SEDIMENT

NOTES:
1. ALL CURB SPOT CURB REPLACEMENT, LESS THAN A FULL PANEL, SHALL INCLUDE DRILLED EPOXY COATED DOWELS (INCIDENTAL).
2. TREE REMOVAL TO BE MARKED IN THE FIELD BY THE ENGINEER (PROTECT ALL OTHER TREES INCIDENTAL)

wsb | CITY OF LINO LAKES

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Diane L. Hankee

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

CONSTRUCTION PLANS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 16 OF 31

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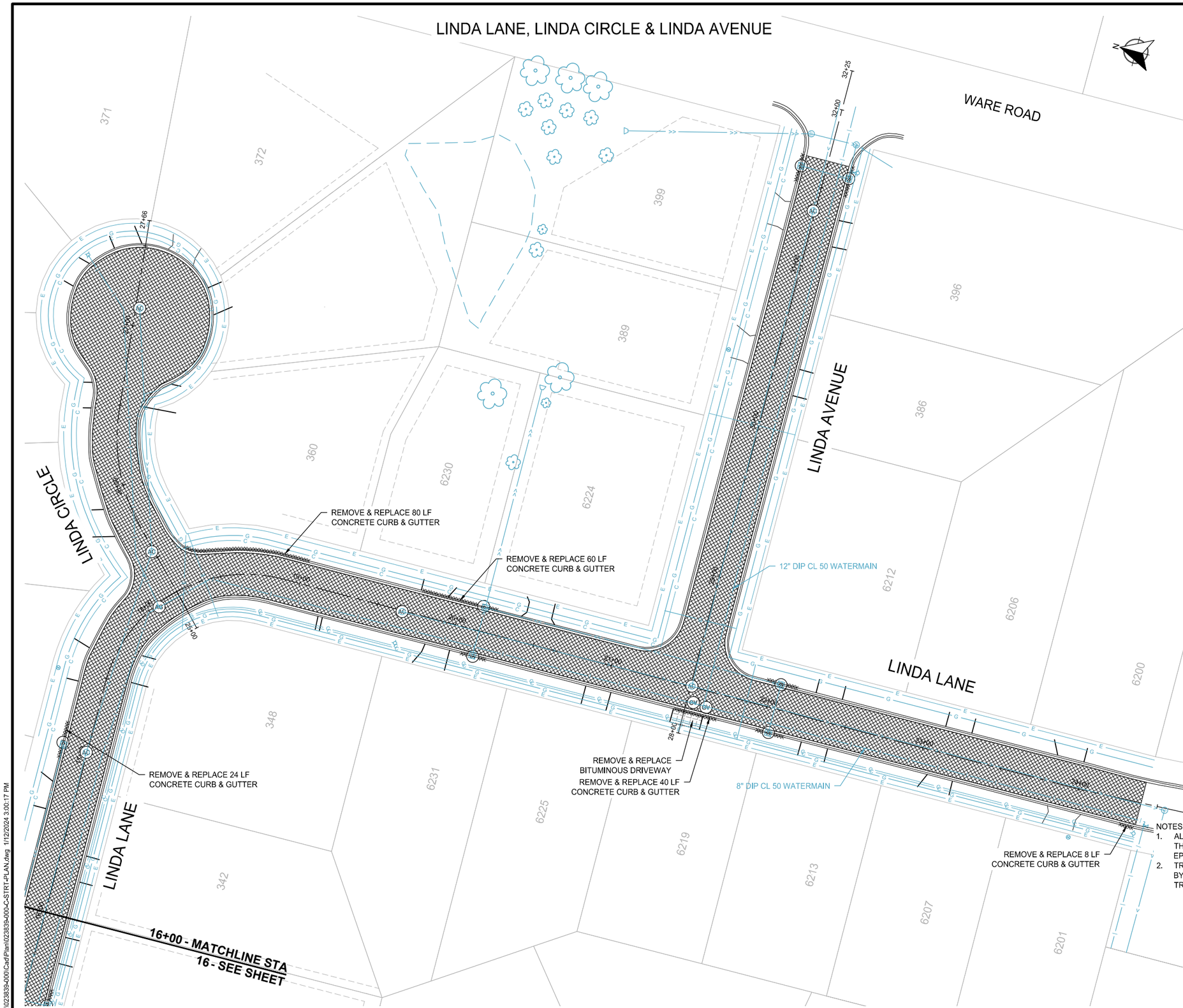
LINDA LANE, LINDA CIRCLE & LINDA AVENUE



LOCATION

0 30 60
H: SCALE IN FEET

LEGEND

- AC — REMOVE AND REPLACE CASTING AND INSTALL CHIMNEY SEAL
- GV — REMOVE & REPLACE GATE VALVE
- AG — ADJUST GATE VALVE
- SI — SALVAGE & INSTALL ROUND CASTING
- RC — SALVAGE & INSTALL R-3067 CASTING
- REMOVE & REPLACE R-3067 CASTING
- M — MUD JACK CONCRETE CURB & GUTTER
- CLEAR & GRUB TREE
- REMOVE AND REPLACE EXISTING CURB & GUTTER. MATCH IN-PLACE S OR B STYLE.
- MILL BITUMINOUS SURFACE MILL 1.5" AT CURB TO 0" AT 8' FROM CURB
- MILL BITUMINOUS SURFACE 1.5" DEPTH FULL WIDTH
- MILL BITUMINOUS SURFACE 2" AT CURB TO .5" AT CENTERLINE
- REMOVE AND REPLACE BITUMINOUS DRIVEWAY/TRAIL PAVEMENT
- REMOVE BITUMINOUS & REPLACE WITH CONCRETE & DOMES
- REMOVE VALLEY GUTTER AND INSTALL BITUMINOUS PER INSET C
- REMOVE AND REPLACE CONCRETE DRIVEWAY PAVEMENT
- REMOVE AND REPLACE PEDESTRIAN RAMP
- REMOVE SEDIMENT

NOTES:
1. ALL CURB SPOT CURB REPLACEMENT, LESS THAN A FULL PANEL, SHALL INCLUDE DRILLED EPOXY COATED DOWELS (INCIDENTAL).
2. TREE REMOVAL TO BE MARKED IN THE FIELD BY THE ENGINEER (PROTECT ALL OTHER TREES INCIDENTAL)

wsb — CITY OF LINO LAKES

SCALE:	DESIGN BY:
AS SHOWN	VCK
PLAN BY:	CHECK BY:
THC	DLH

REVISIONS

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DIANE L. HANKEE

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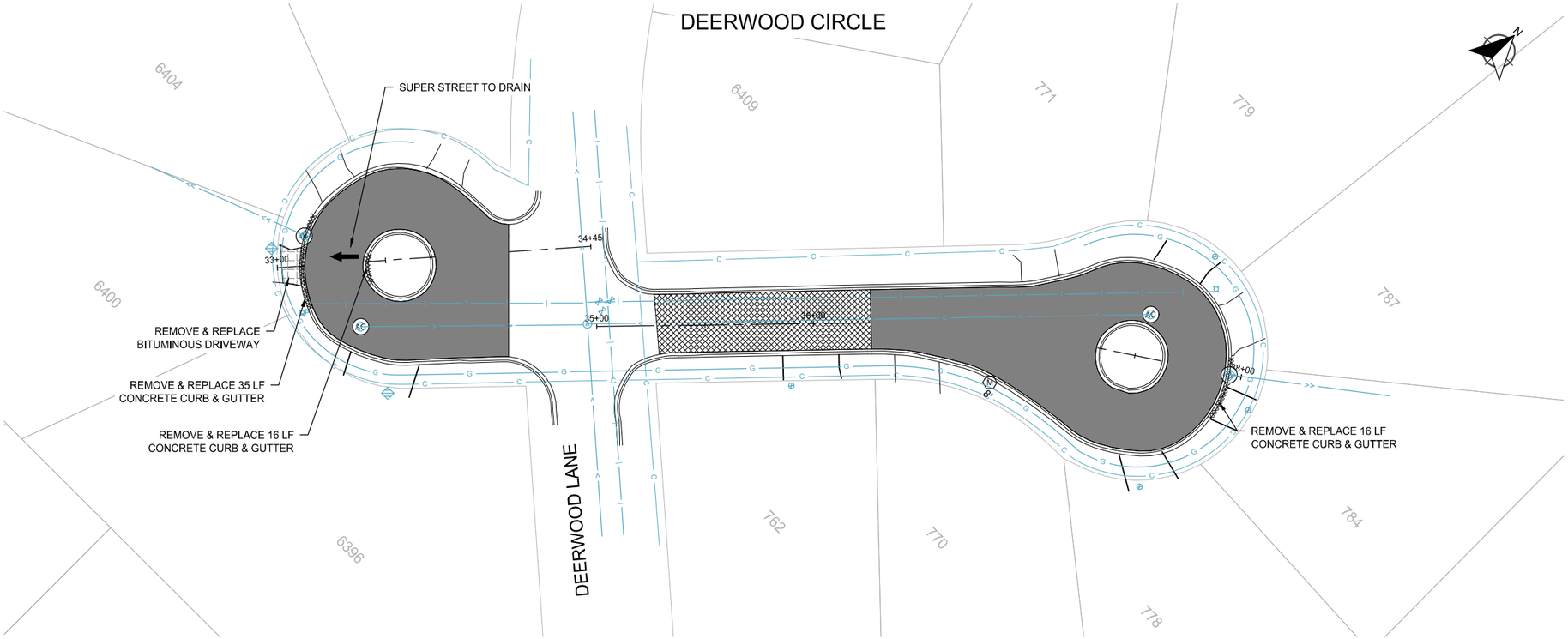

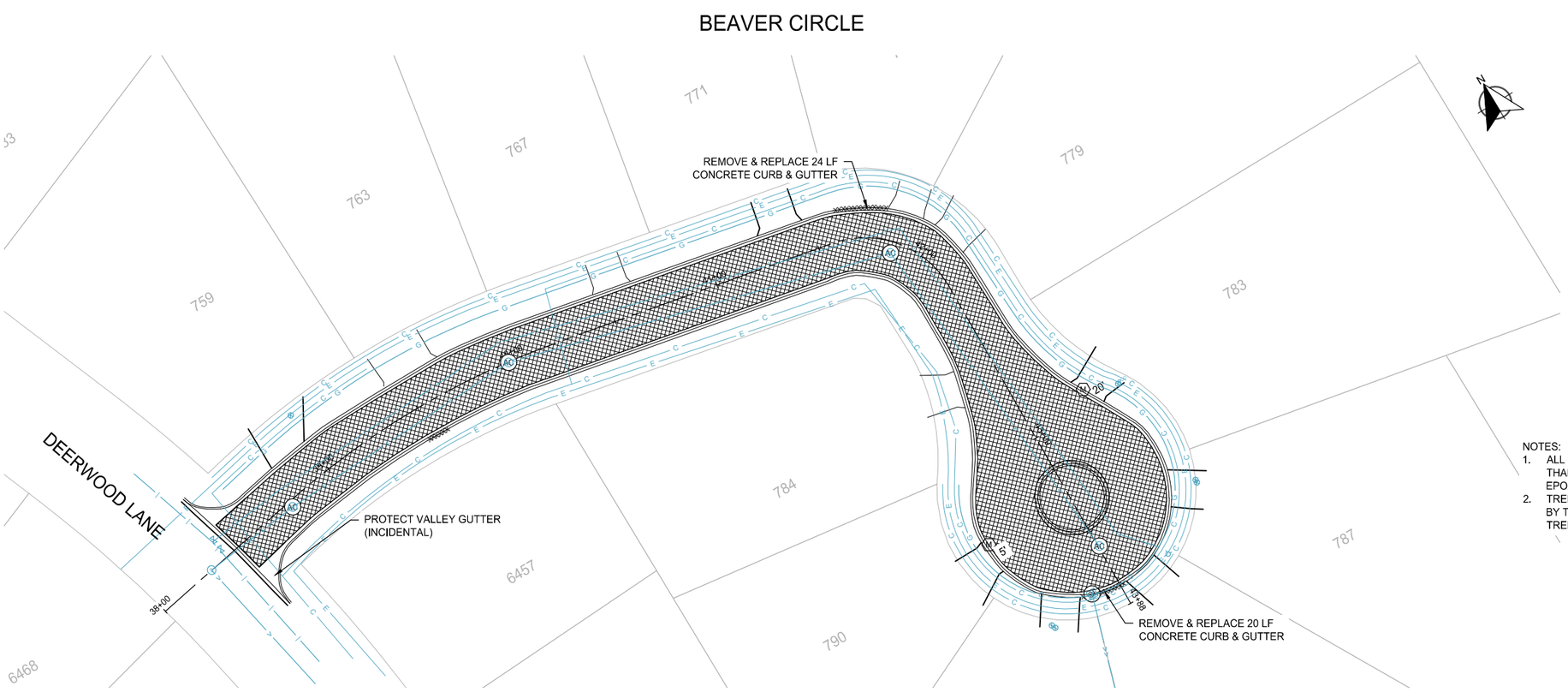

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- M — MUD JACK CONCRETE CURB & GUTTER
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- REMOVE AND REPLACE EXISTING CURB & GUTTER. MATCH IN-PLACE S OR B STYLE.
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Diane Hankee

DIANE L HANKEE

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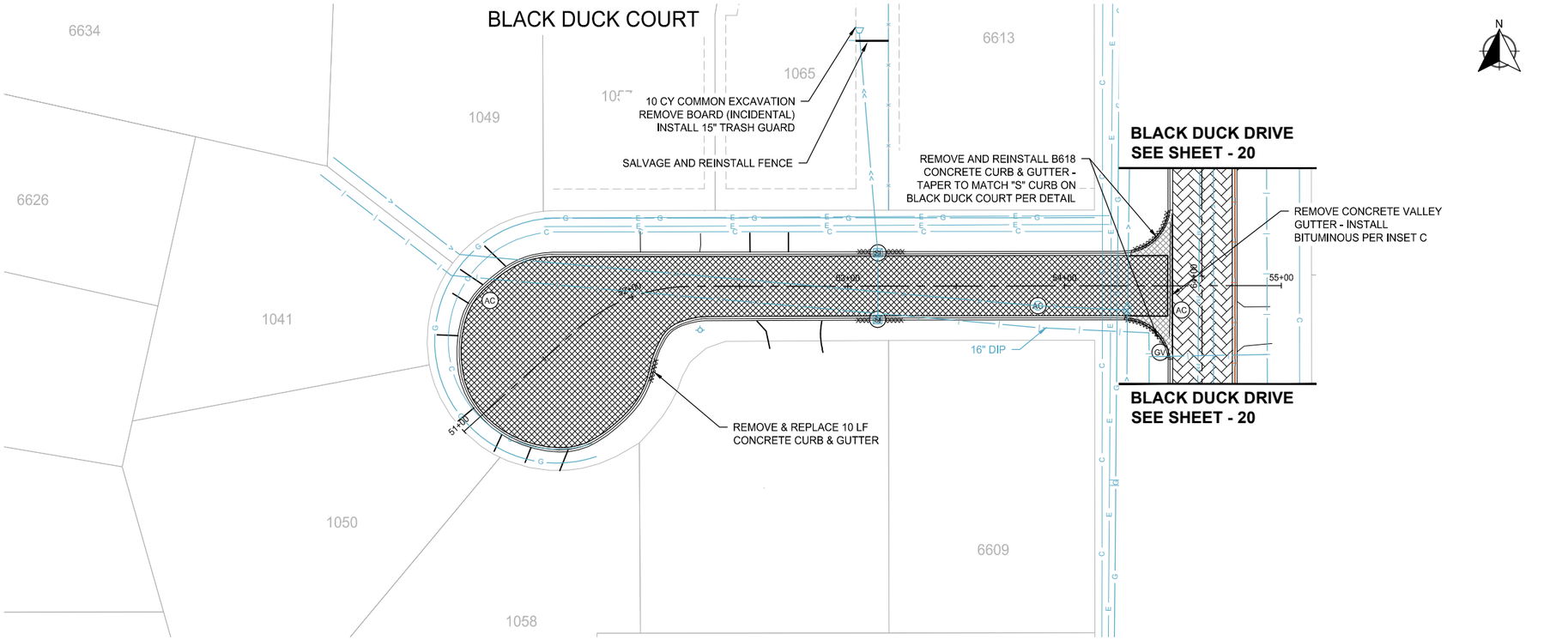

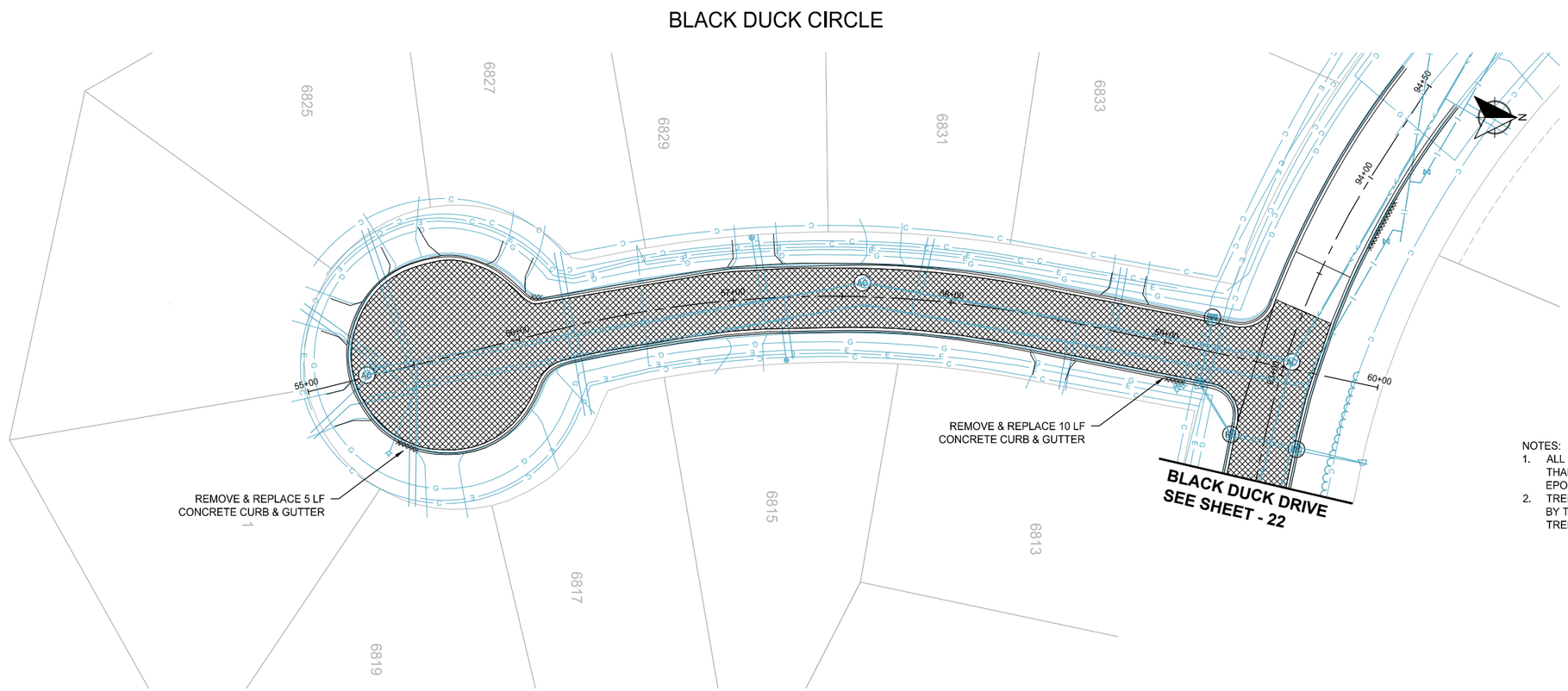

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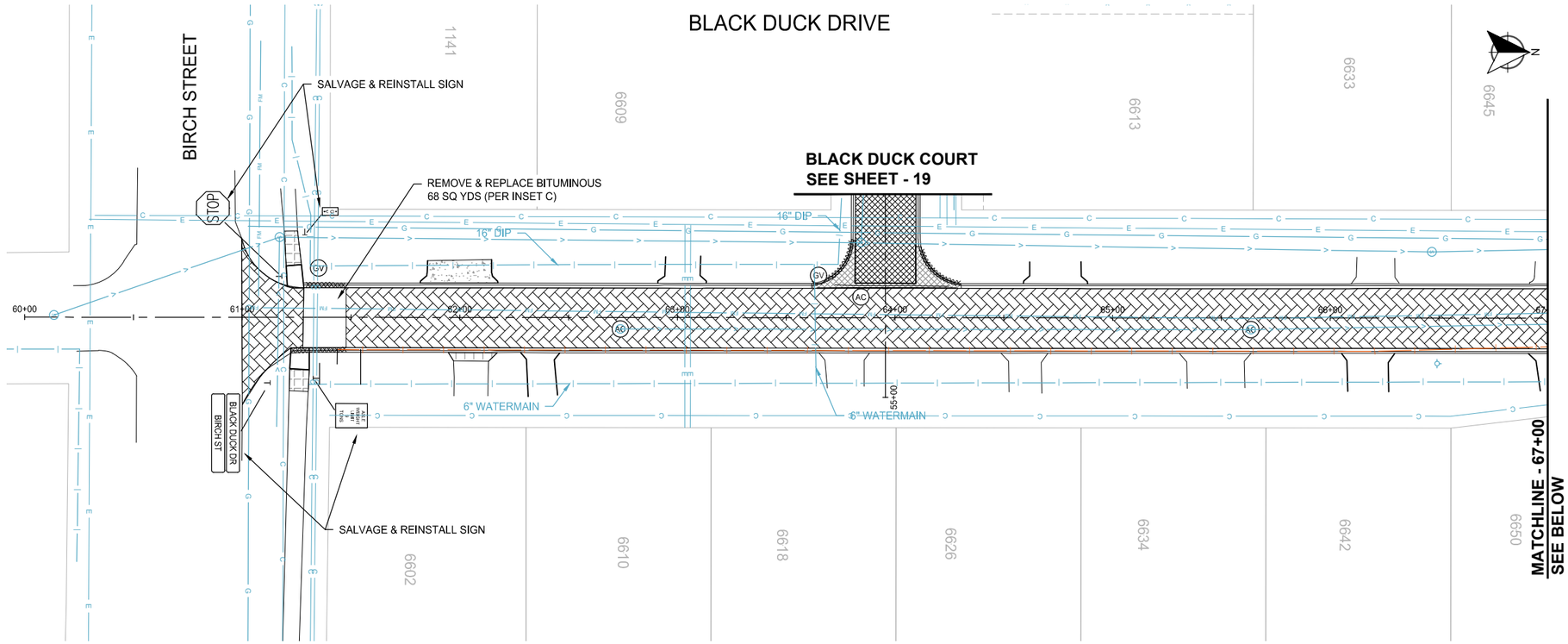
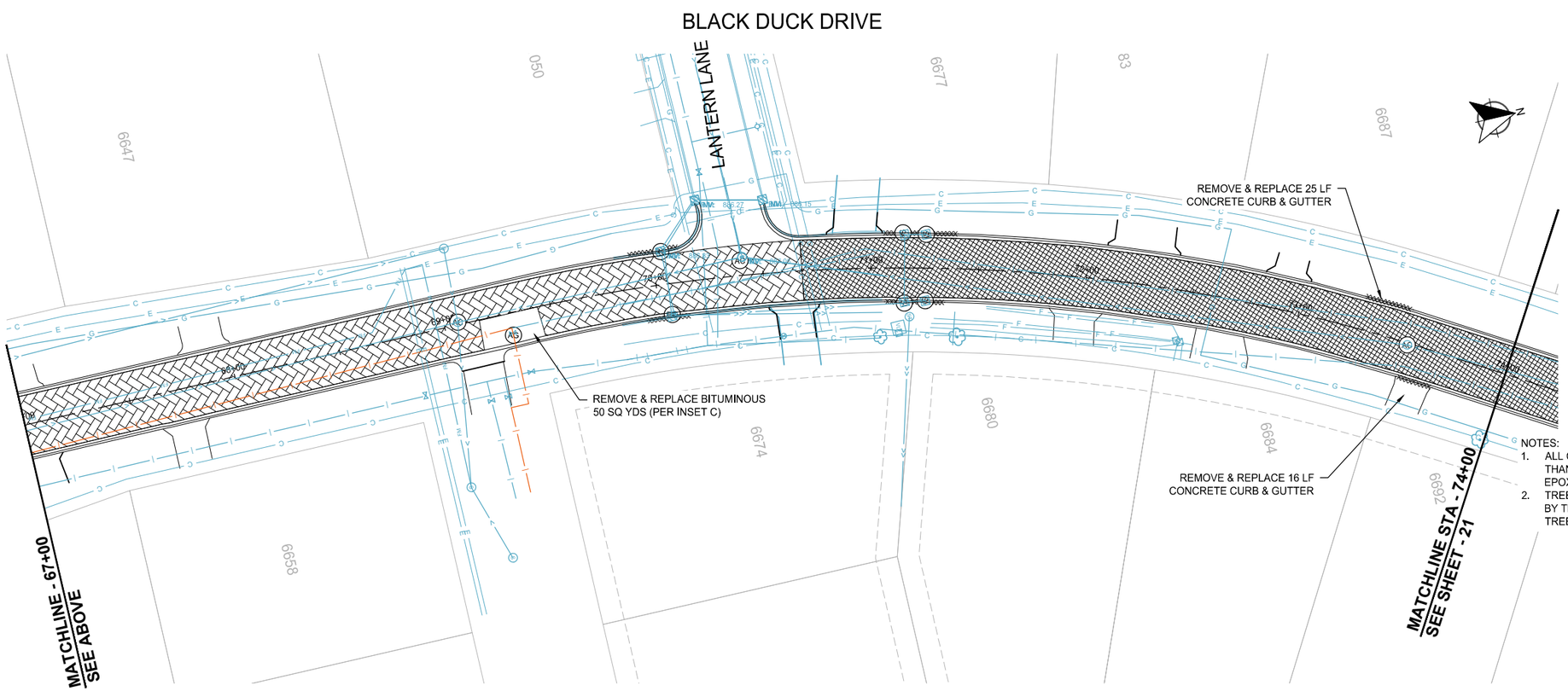
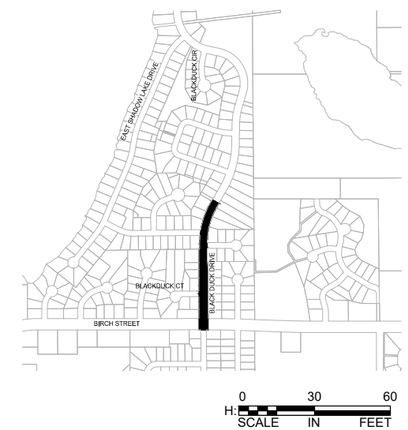




LOCATION



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wsb | CITY OF LINO LAKES

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Diane Hankee

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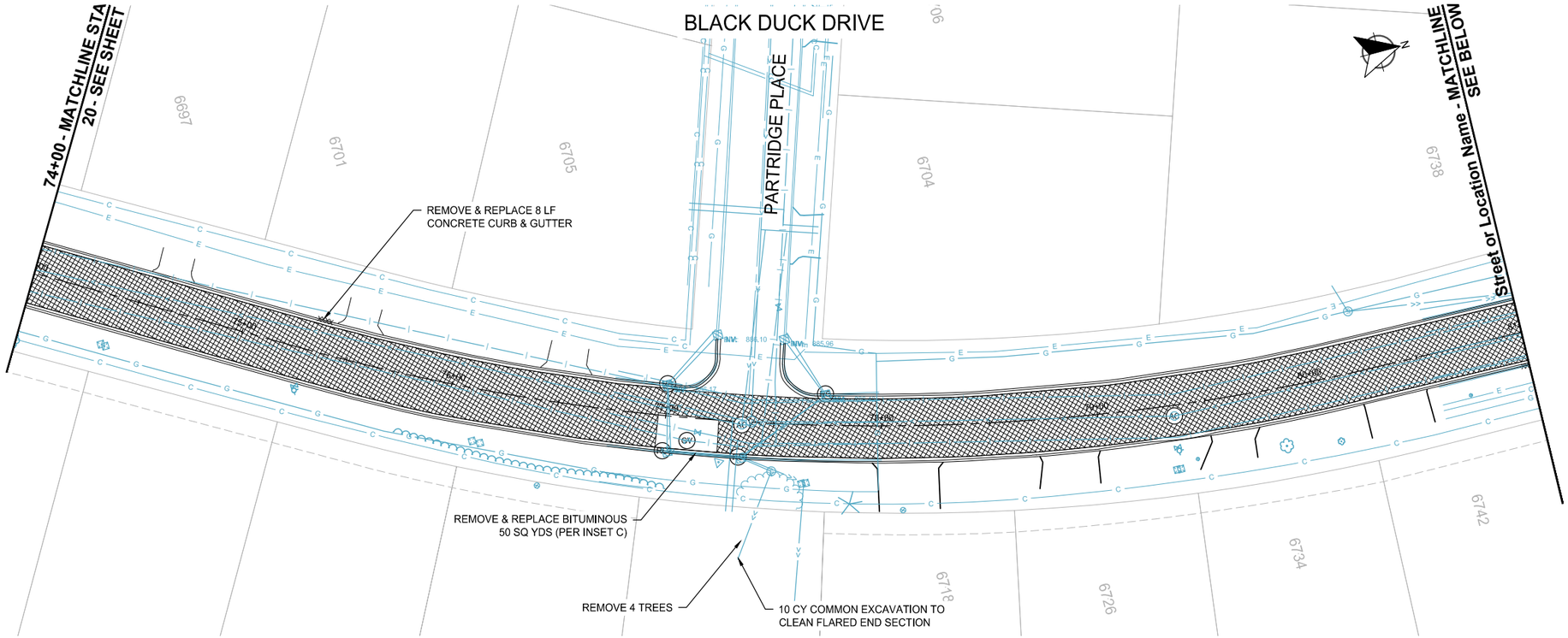

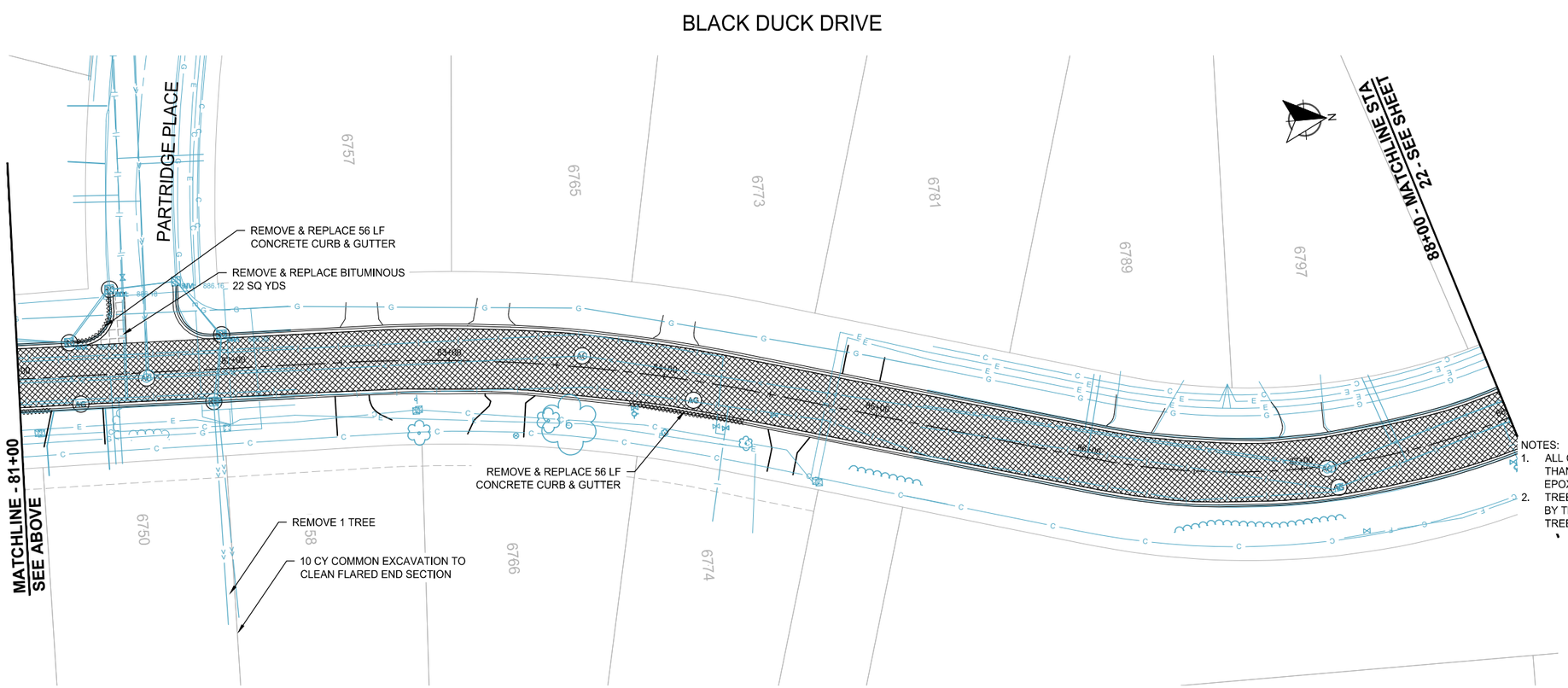

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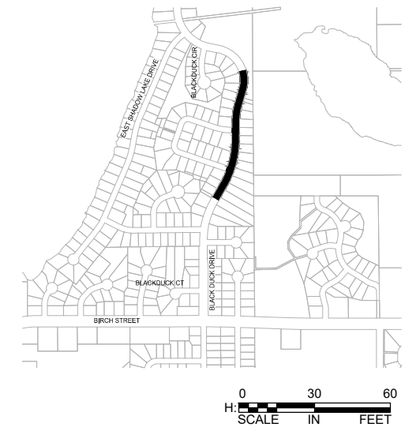

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LINO LAKES, MINNESOTA

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SHEET 21 OF 31

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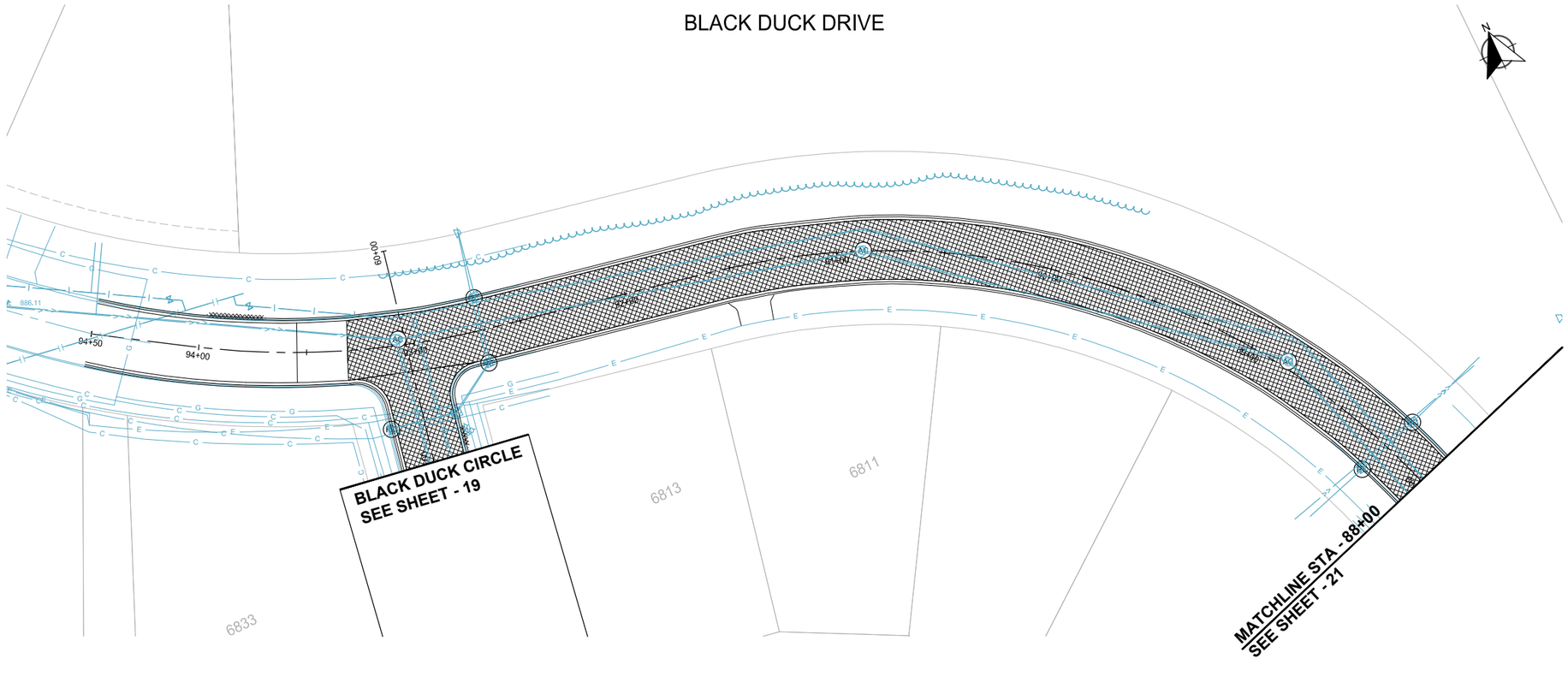
BLACK DUCK DRIVE



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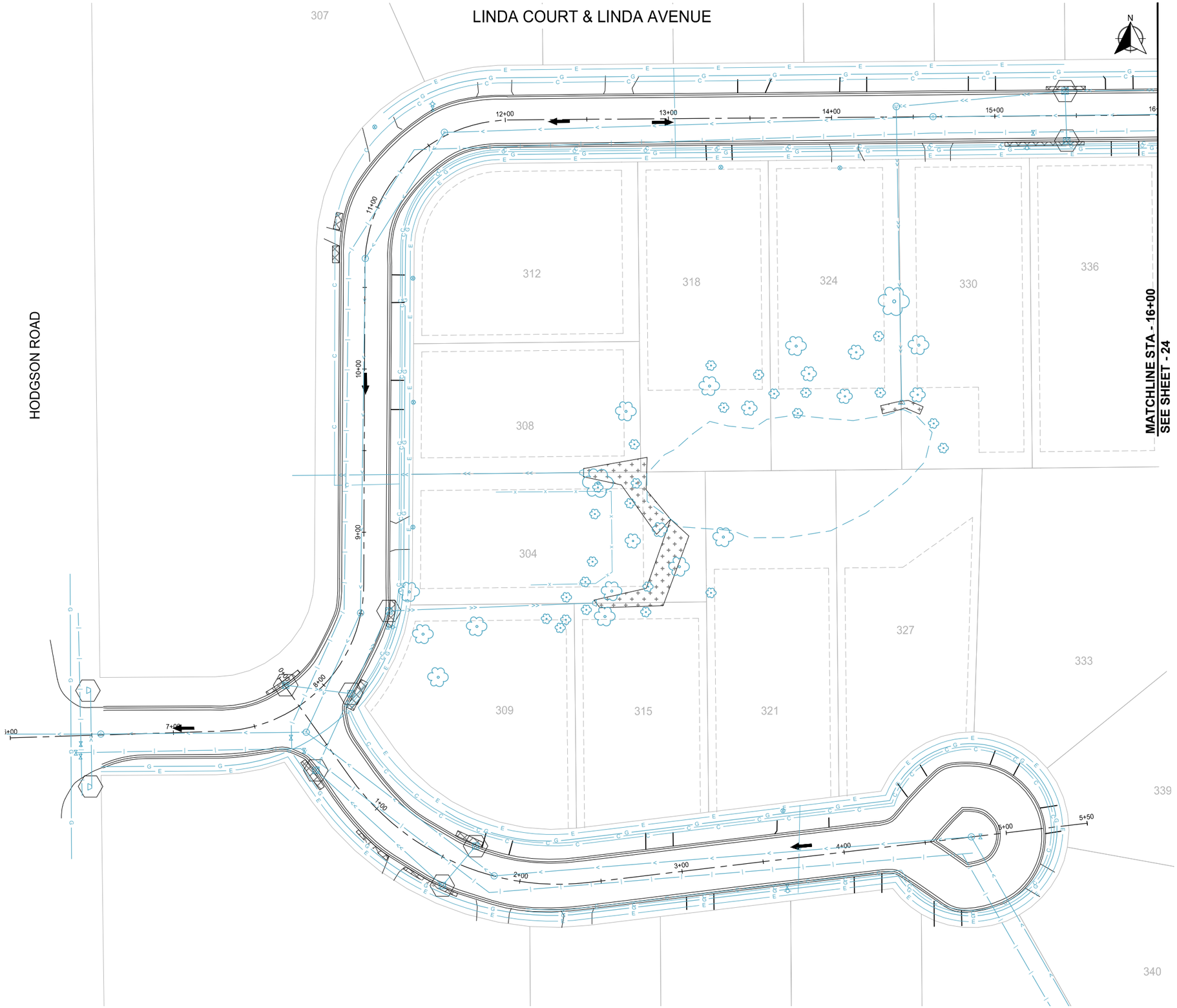
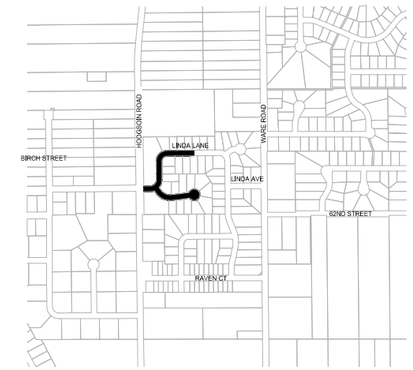


LOCATION



0 30 60
H: SCALE IN FEET

LEGEND

- INLET PROTECTION
- FLOW DIRECTION
- TEMPORARY STABILIZATION: TYPE 3 PERMANENT YARD: SODDING TYPE LAWN WITH FERTILIZER TYPE 3 @ 200 LBS/ACRE
- PERMANENT POND STABILIZATION: SEEDING MN/DOT SEED MIX 33-261, FERTILIZER TYPE 3 @ 300 LBS/ACRE, ROLLED EROSION PREVENTION CATEGORY 25

wsb | CITY OF LINO LAKES

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EROSION CONTROL PLANS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
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SHEET 23 OF 31

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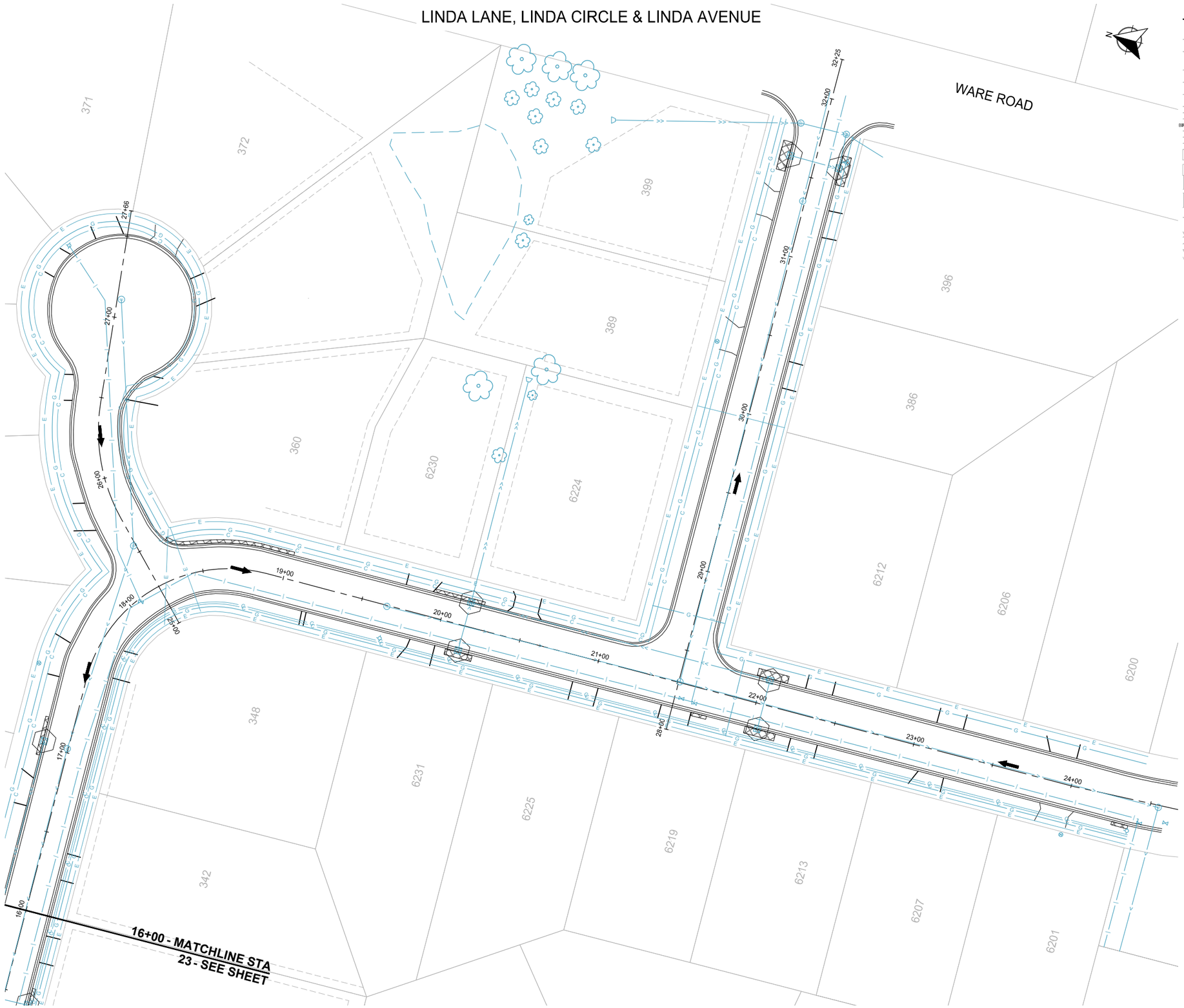
LINDA LANE, LINDA CIRCLE & LINDA AVENUE



LOCATION

H: 0 30 60
SCALE IN FEET

LEGEND

- INLET PROTECTION
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- TEMPORARY STABILIZATION: TYPE 3
  PERMANENT YARD: SODDING TYPE LAWN WITH FERTILIZER TYPE 3 @ 200 LBS/ACRE
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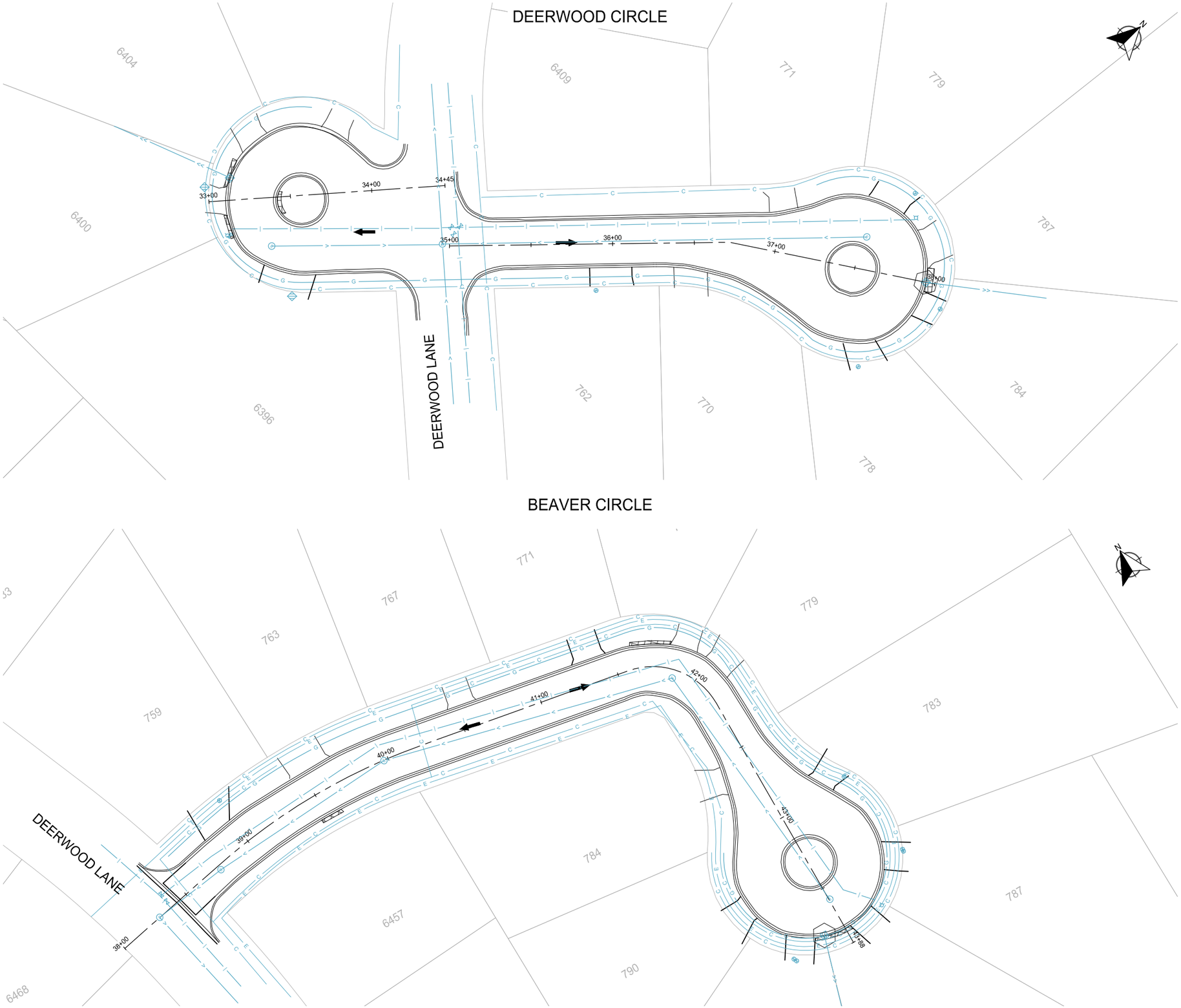

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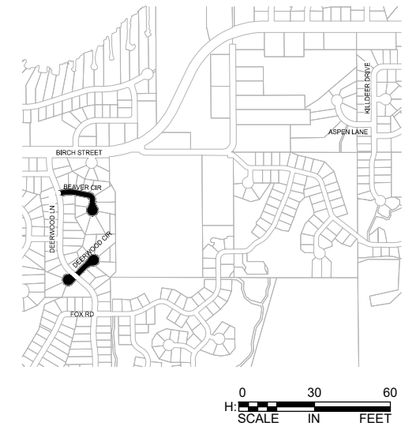

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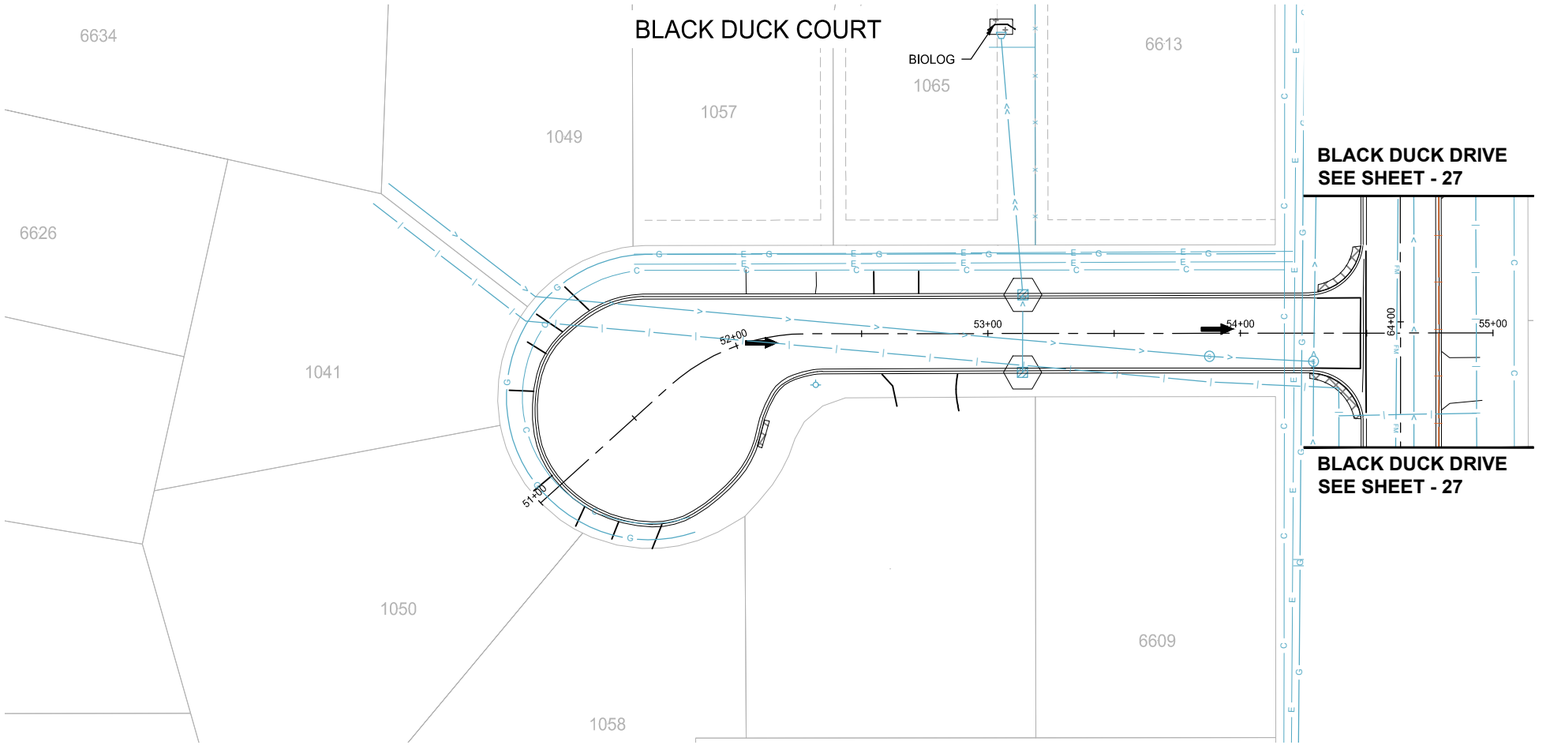
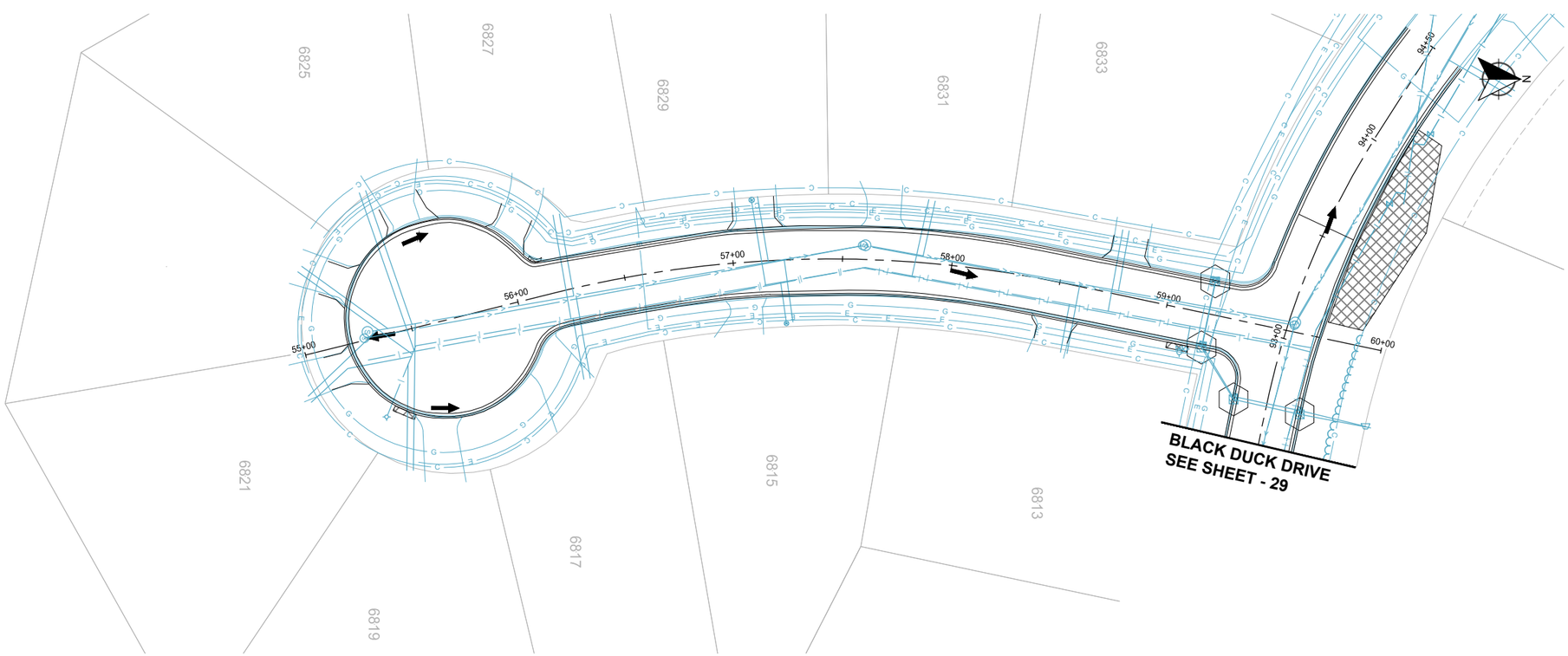


BLACK DUCK CIRCLE



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Diane Hankee

DIANE L. HANKEE

DATE: 1/12/2024 LIC. NO: 43338

EROSION CONTROL PLANS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT

LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 26 OF 31

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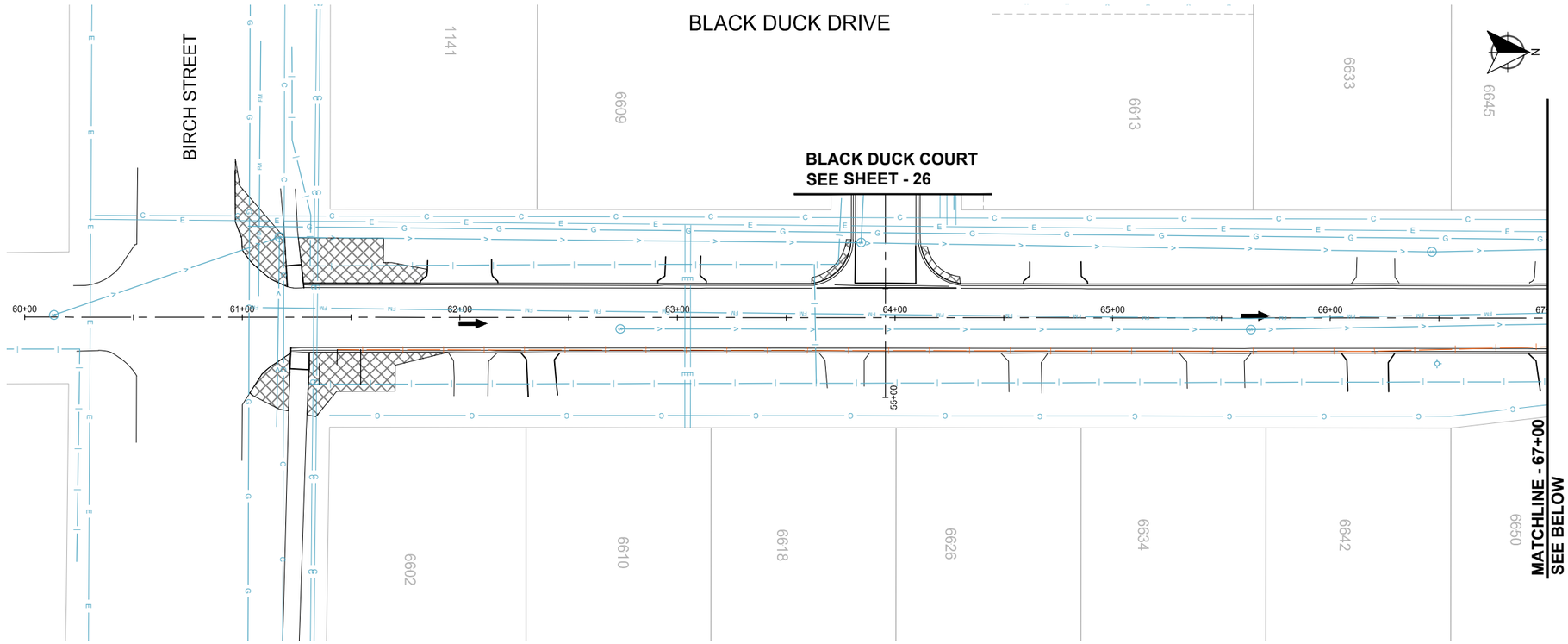

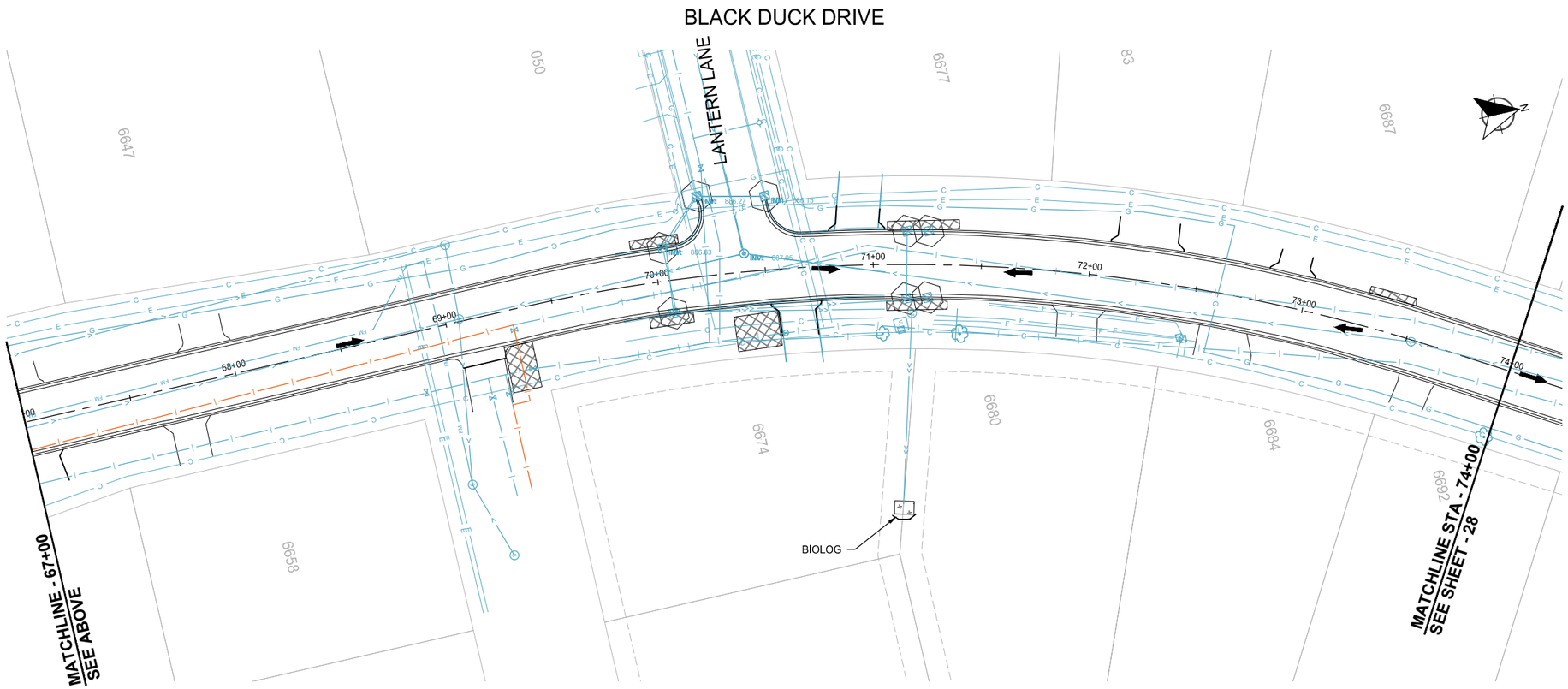

LOCATION

LEGEND

- INLET PROTECTION
- FLOW DIRECTION
- TEMPORARY STABILIZATION: TYPE 3 PERMANENT YARD: SODDING TYPE LAWN WITH FERTILIZER TYPE 3 @ 200 LBS/ACRE
- PERMANENT POND STABILIZATION: SEEDING MN/DOT SEED MIX 33-261, FERTILIZER TYPE 3 @ 300 LBS/ACRE, ROLLED EROSION PREVENTION CATEGORY 25

wsb | CITY OF LINO LAKES

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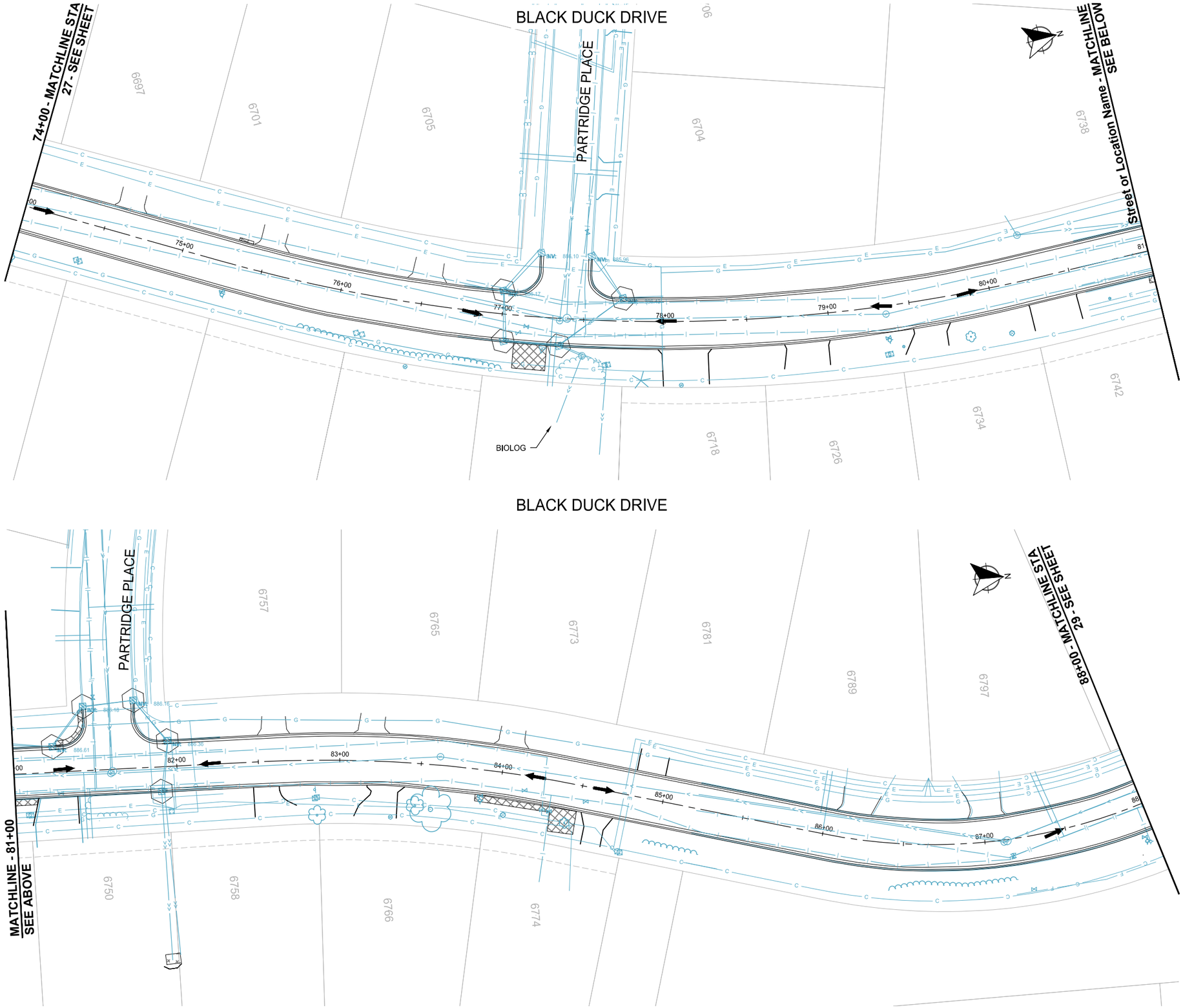
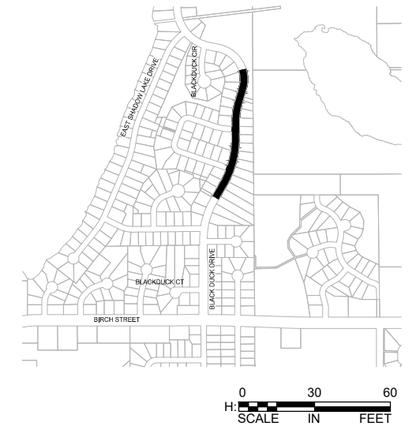


LOCATION



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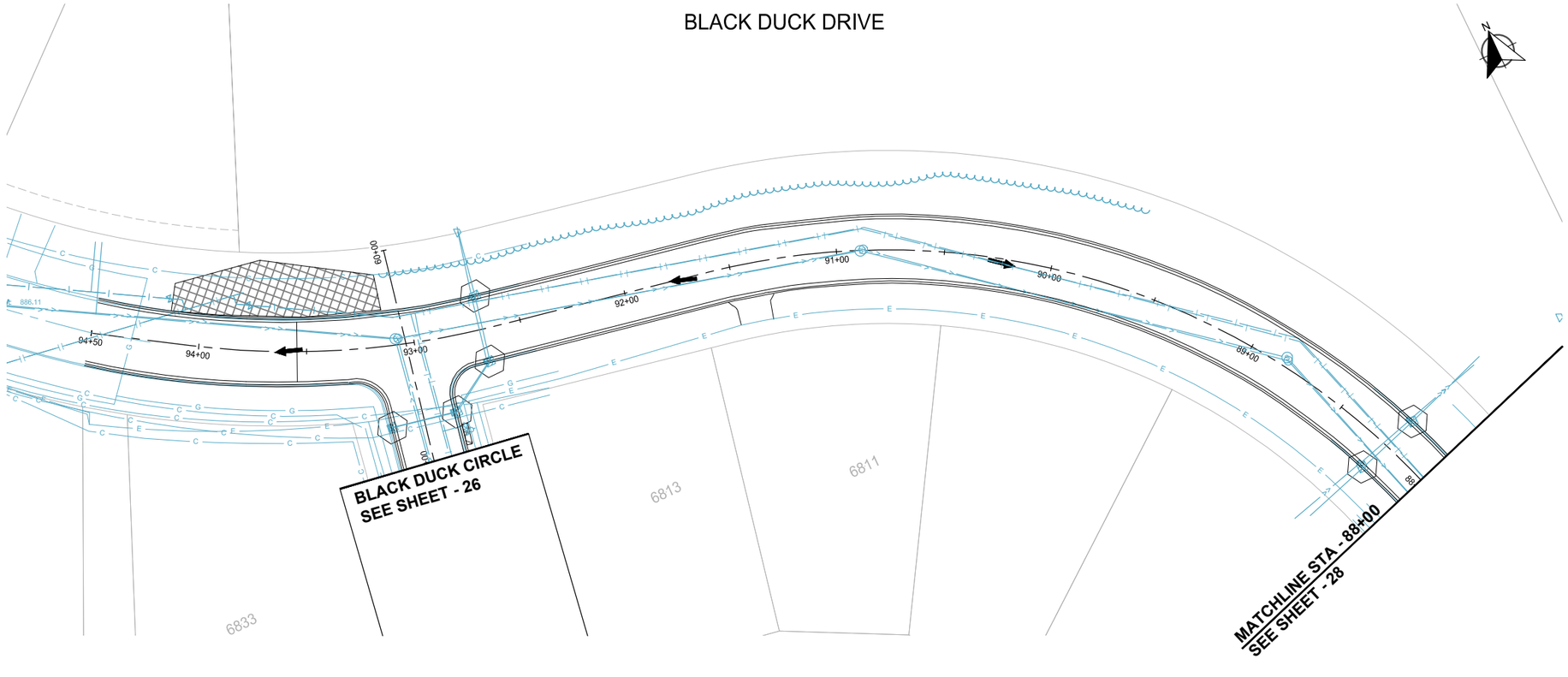
BLACK DUCK DRIVE



LOCATION

0 30 60
H: SCALE IN FEET

LEGEND

INLET PROTECTION

FLOW DIRECTION

TEMPORARY STABILIZATION:
TYPE 3
PERMANENT YARD:
SODDING TYPE LAWN WITH FERTILIZER
TYPE 3 @ 200 LBS/ACRE

PERMANENT POND STABILIZATION:
SEEDING MN/DOT SEED MIX 33-261,
FERTILIZER TYPE 3 @ 300 LBS/ACRE,
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CATEGORY 25

wsb CITY OF LINO LAKES

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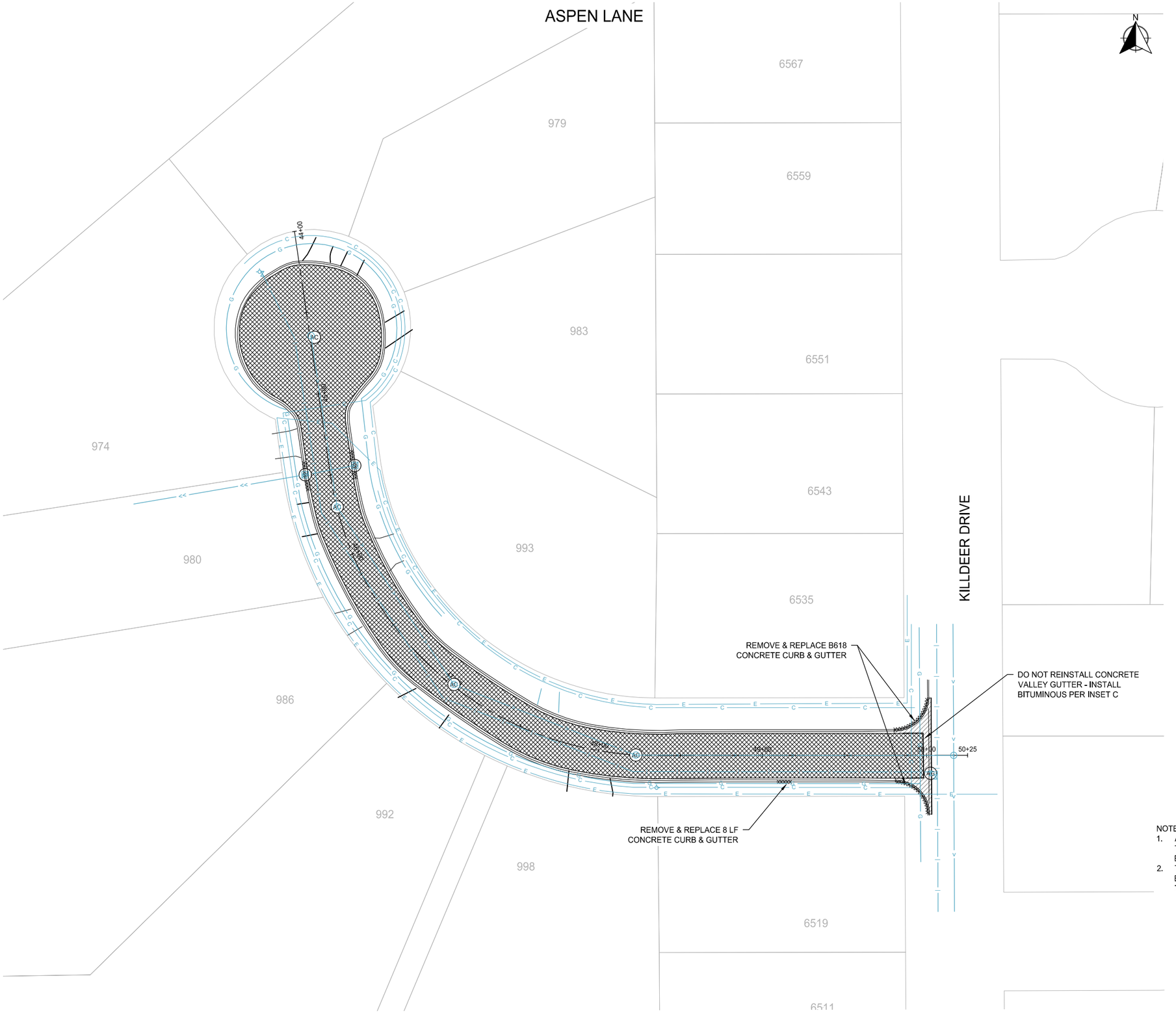

LOCATION

H: 0 30 60
SCALE IN FEET

LEGEND

- (AC) REMOVE AND REPLACE CASTING AND INSTALL CHIMNEY SEAL
- (GV) REMOVE & REPLACE GATE VALVE
- (AG) ADJUST GATE VALVE
- (SI) SALVAGE & INSTALL ROUND CASTING
- (RC) SALVAGE & INSTALL R-3067 CASTING
- ▲ REMOVE & REPLACE R-3067 CASTING
- (M) MUD JACK CONCRETE CURB & GUTTER
- ✕ CLEAR & GRUB TREE
- REMOVE AND REPLACE EXISTING CURB & GUTTER. MATCH IN-PLACE S OR B STYLE.
- MILL BITUMINOUS SURFACE MILL 1.5" AT CURB TO 0" AT 8' FROM CURB
- MILL BITUMINOUS SURFACE 1.5" DEPTH FULL WIDTH
- MILL BITUMINOUS SURFACE 2" AT CURB TO .5" AT CENTERLINE
- REMOVE AND REPLACE BITUMINOUS DRIVEWAY/TRAIL PAVEMENT
- REMOVE BITUMINOUS & REPLACE WITH CONCRETE & DOMES
- REMOVE VALLEY GUTTER AND INSTALL BITUMINOUS PER INSET C
- REMOVE AND REPLACE CONCRETE DRIVEWAY PAVEMENT
- REMOVE AND REPLACE PEDESTRIAN RAMP
- REMOVE SEDIMENT

NOTES:
1. ALL CURB SPOT CURB REPLACEMENT, LESS THAN A FULL PANEL, SHALL INCLUDE DRILLED EPOXY COATED DOWELS (INCIDENTAL).
2. TREE REMOVAL TO BE MARKED IN THE FIELD BY THE ENGINEER (PROTECT ALL OTHER TREES INCIDENTAL)

wsb CITY OF LINO LAKES

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BID ALTERNATE CONSTRUCTION PLANS

2024 STREET REHABILITATION AND TRUNK WATER PROJECT
LINO LAKES, MINNESOTA

WSB PROJECT NO. 023839-000

SHEET 30 OF 31

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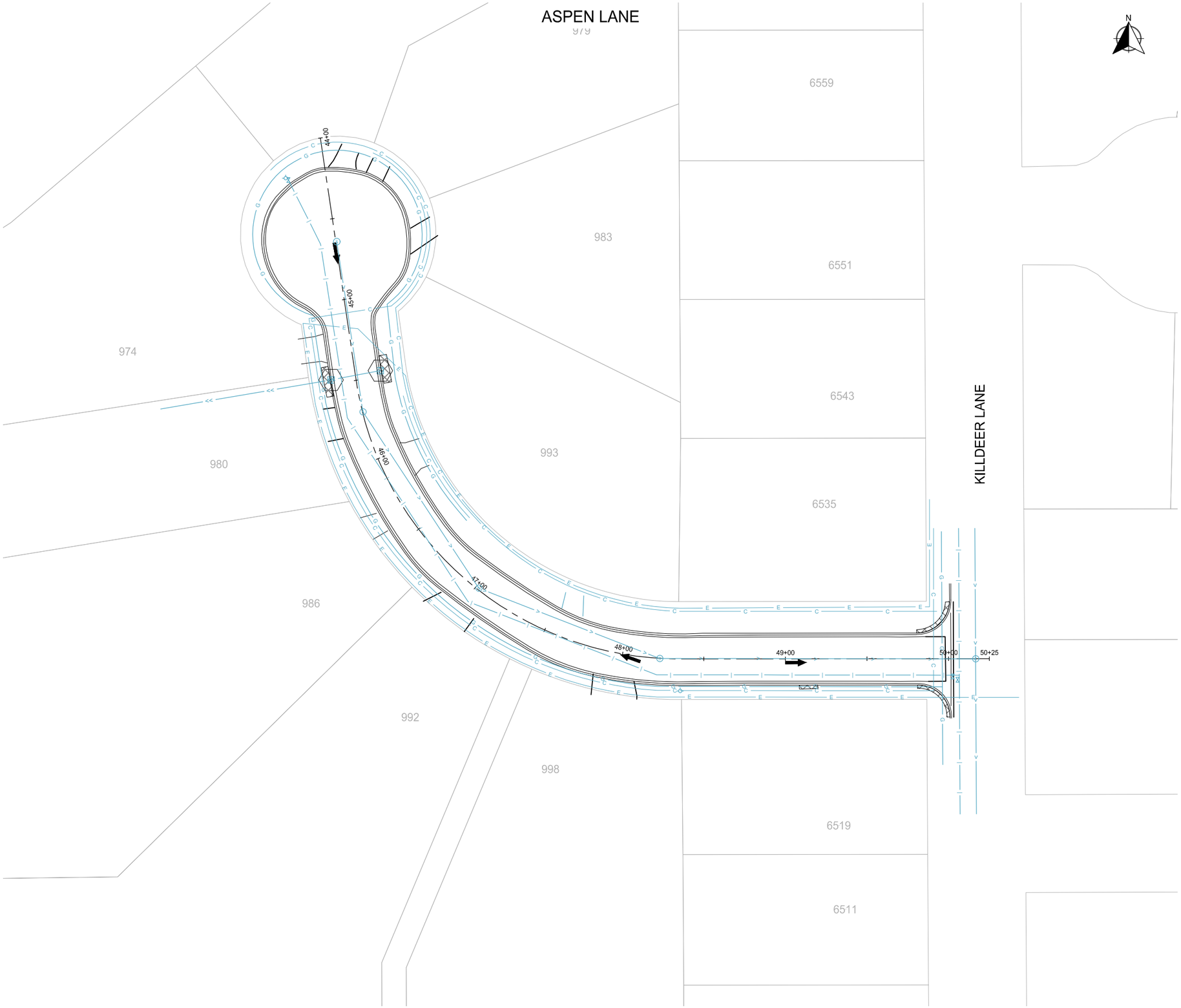

LOCATION

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BID ALTERNATE EROSION CONTROL PLANS

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LINO LAKES, MINNESOTA

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SHEET 31 OF 31

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