

CITY OF RAMSEY, MINNESOTA

CONSTRUCTION PLANS FOR

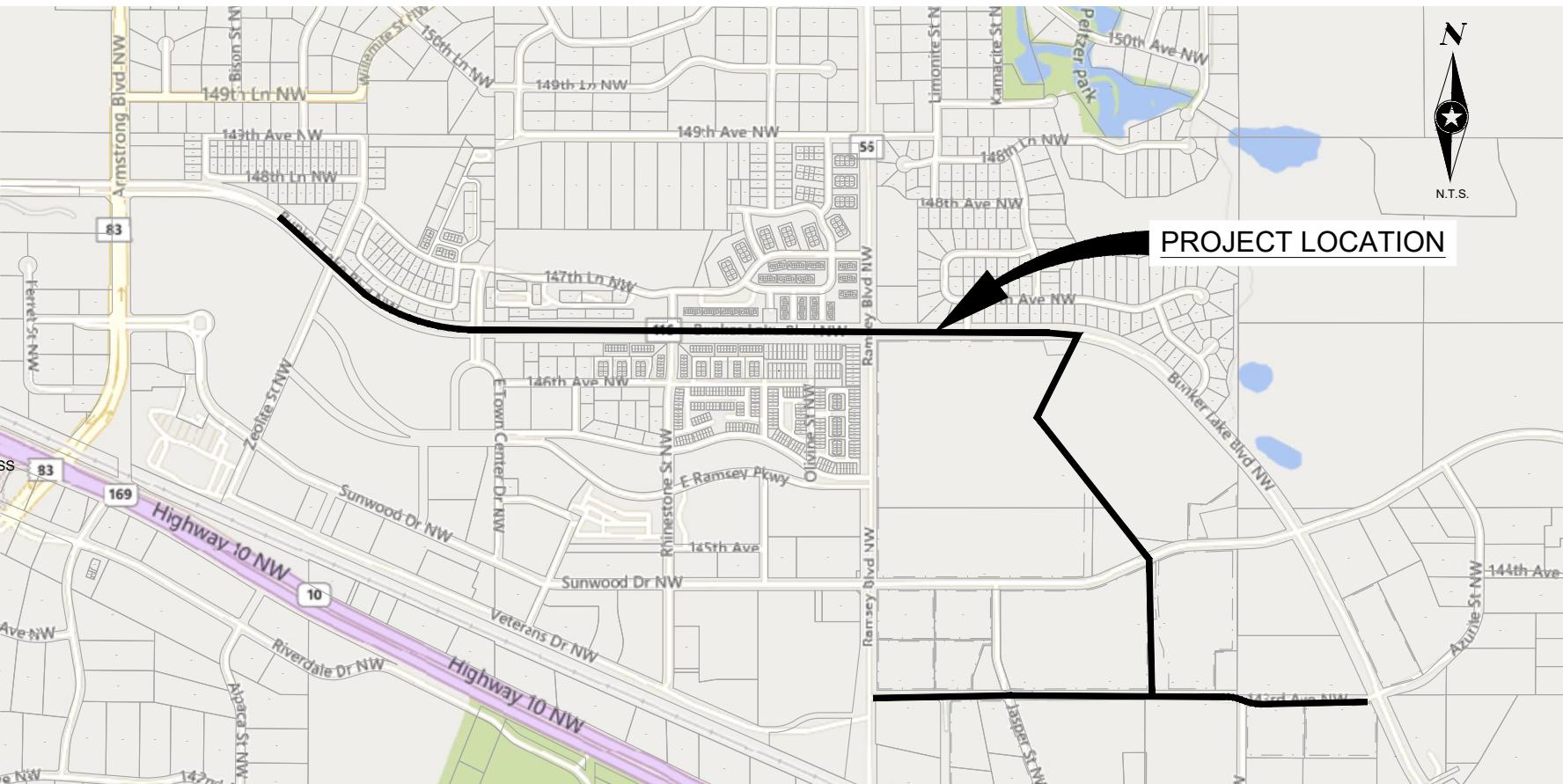
WATER MAIN INSTALLATION, EXCAVATION, HORIZONTAL DIRECTIONAL DRILLING, GRADING, BITUMINOUS PAVING, & RESTORATION

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

CITY PROJECT NO. 21-08

EXISTING	
XX	RIGHT OF WAY
BM	PERMANENT EASEMENT
X	DRAINAGE AND UTILITY EASEMENT
●	PROPERTY LINE
#	HORIZONTAL CONTROL POINT
	BENCHMARK
	SURVEY MARKER
	SOIL BORING
	SANITARY SEWER AND MANHOLE
FM	FORCE MAIN AND LIFT STATION
	SANITARY SEWER SERVICE & CLEANOUT
	WATER MAIN, HYDRANT, VALVE AND MANHOLE
	WATER SERVICE AND CURB STOP BOX
	STORM SEWER, MANHOLE AND CATCH BASIN
	CULVERT AND APRON ENDWALL
G	GAS MAIN, VALVE, VENT AND METER
	HANDHOLE
FO	BURIED FIBER OPTIC CABLE AND MANHOLE
T-BUR	BURIED PHONE CABLE, PEDESTAL AND MANHOLE
TV-BUR	BURIED TV CABLE, PEDESTAL AND MANHOLE
E	BURIED ELECTRIC CABLE, PEDESTAL, MANHOLE, TRANSFORMER AND METER
P-BUR	OVERHEAD WIRE, POLE AND GUY WIRE
	LIGHT POLE
	TRAFFIC SIGNAL
	STREET NAME SIGN
	SIGN (NON STREET NAME)
	RAILROAD TRACKS
	DECIDUOUS AND CONIFEROUS TREE
	BUSH / SHRUB AND STUMP
	EDGE OF WOODED AREA
	WETLAND
	BUILDING
X	FENCE (UNIDENTIFIED)
X	BARBED WIRE FENCE
XC	CHAIN LINK FENCE
XE	ELECTRIC WIRE FENCE
XWD	WOOD FENCE
XWW	WOVEN WIRE FENCE
	PLATE BEAM GUARDRAIL
	CABLE GUARDRAIL
	POST / BOLLARD
	RETAINING WALL
PROPOSED	
6+00	STREET CENTERLINE
	RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	CONSTRUCTION LIMITS
	SANITARY SEWER, BULKHEAD AND MANHOLE
FM	FORCE MAIN
	SANITARY SERVICE AND CLEANOUT
	WATER MAIN, TEE, HYDRANT, BULKHEAD AND VALVE
	WATER VALVE MANHOLE, REDUCER, BEND AND CR
	WATER SERVICE AND CURB STOP BOX
	STORM SEWER, MANHOLE AND CATCH BASIN
	CULVERT AND APRON ENDWALL
	DITCH / SWALE
	RIPRAP
	STREET NAME SIGN
	SIGN (NON STREET NAME)
	RETAINING WALL

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

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



Know what's below.
Call before you dig.

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF
TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "AND
THE SUPPLEMENTAL SPECIFICATIONS DATED SEPTEMBER 2022 SHALL GOVERN
EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

THE 2018 EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA
"STANDARD SPECIFICATIONS" SHALL GOVERN FOR UTILITY INSTALLATION EXCEPT
AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

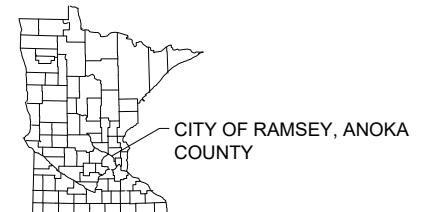
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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THIS PLAN CONTAINS 58 SHEETS.

PROJECT LOCATION



RAMSEY MINNESOTA



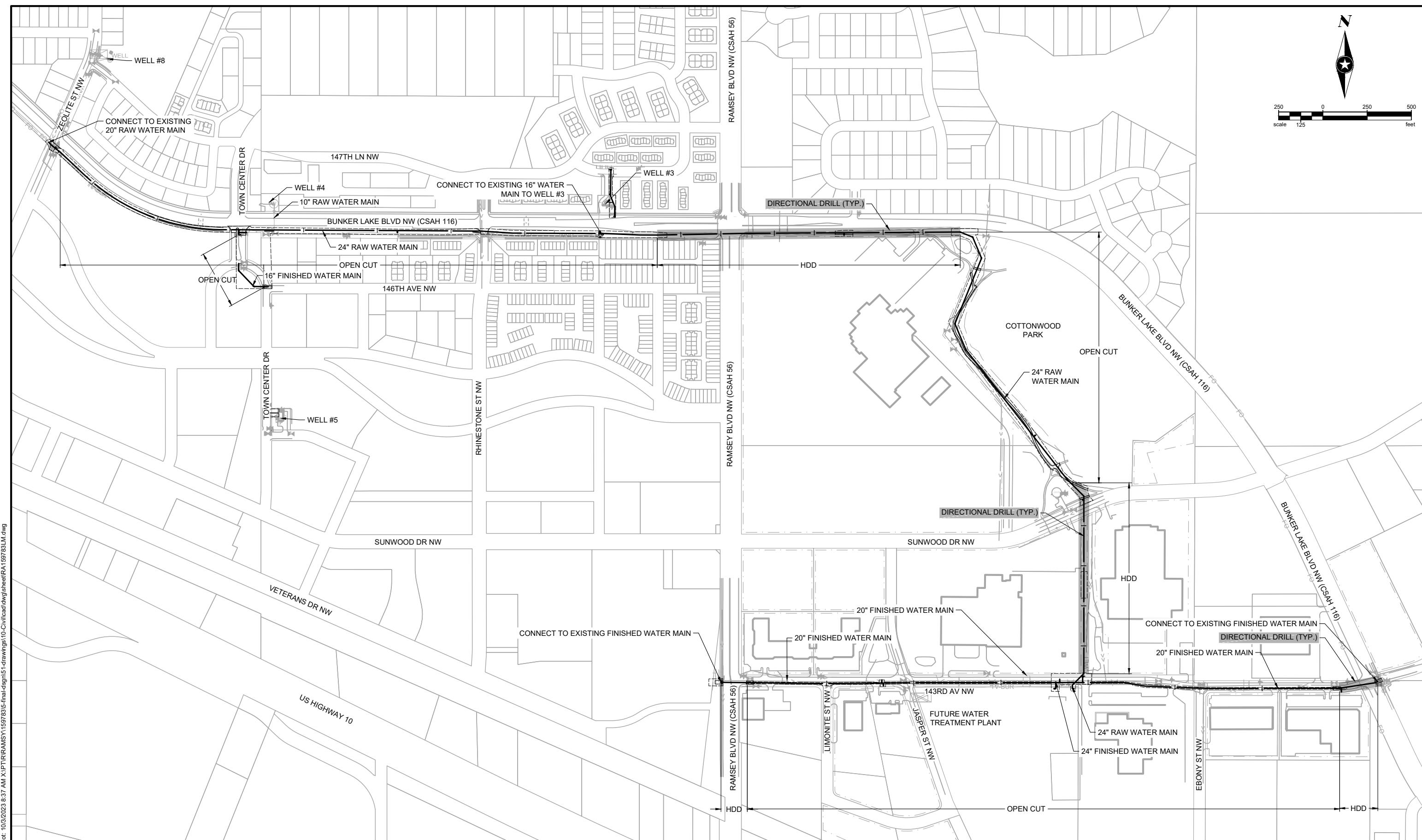
PHONE: 651.490.2000
3535 VADNAIS CENTER DRIVE
ST. PAUL, MN 55110-5196
www.sebinc.com

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 MN.

FILE NO.

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of 58



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SEH Project RAMSY174498
Drawn By JRB, SRP
Designed By KLK
Checked By CES

Rev.#

Revision Issue
Description

Date

Rev.#

Revision Issue
Description

Date



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 MN.

DATE 09-29-2023

David E. Hutton
LICENSURE NO. 19133

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

Ramsey, Minnesota

PROJECT OVERVIEW

STATEMENT OF ESTIMATED QUANTITIES										
LINE	ITEM NO.	ITEM DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITY	BUNKER LAKE BOULEVARD	COTTONWOOD PARK/ SUNWOOD DRIVE EASEMENT	143RD AVE NW	TOWN CENTER DRIVE	WELL #3 CROSSING	WELL #5
SECTION A: STREET										
1	2021.601	MOBILIZATION	LS	1.00	0.42	0.26	0.24	0.05	0.02	0.01
2	2101.505	CLEARING	ACRE	0.50	0.00	0.50	0.00	0.00	0.00	0.00
3	2101.505	GRUBBING	ACRE	0.50	0.00	0.50	0.00	0.00	0.00	0.00
4	2101.502	CLEARING	EA	12.00	2.00	10.00	0.00	0.00	0.00	0.00
5	2101.502	GRUBBING	EA	12.00	2.00	10.00	0.00	0.00	0.00	0.00
6	2104.502	SALVAGE SIGN TYPE C	EA	13.00	9.00	0.00	2.00	0.00	2.00	0.00
7	2104.503	REMOVE CURB AND GUTTER	LF	915.00	0.00	0.00	805.00	85.00	25.00	0.00
8	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	2325.00	430.00	110.00	1425.00	280.00	80.00	0.00
9	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	47.00	26.00	0.00	16.00	0.00	5.00	0.00
10	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	1185.00	380.00	0.00	0.00	759.00	46.00	0.00
11	2104.504	REMOVE BITUMINOUS PAVEMENT (DRIVEWAY & TRAIL)	SY	1662.00	101.00	1547.00	0.00	0.00	14.00	0.00
12	2104.518	REMOVE CONCRETE WALK	SF	825.00	380.00	0.00	320.00	0.00	125.00	0.00
13	2105.610	EXPLORATORY EXCAVATION	HR	31.00	8.00	6.00	12.00	3.00	1.00	1.00
14	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HR	34.00	6.00	2.00	24.00	2.00	0.00	0.00
15	2211.509	AGGREGATE BASE CLASS 5 (MODIFIED)	TON	688.00	125.00	350.00	13.00	175.00	25.00	0.00
16	2215.504	FULL DEPTH RECLAMATION	SY	15667.00	0.00	0.00	15667.00	0.00	0.00	0.00
17	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	1416.00	28.00	0.00	1328.00	56.00	4.00	0.00
18	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TON	354.00	59.00	201.00	0.00	86.00	8.00	0.00
19	2360.509	SODDING TYPE MINERAL	SY	1950.00	0.00	110.00	1700.00	50.00	20.00	70.00
20	2504.602	ADJUST VALVE BOX	EA	14.00	8.00	0.00	3.00	3.00	0.00	0.00
21	2506.502	ADJUST FRAME AND RING CASTING	EA	2.00	1.00	0.00	1.00	0.00	0.00	0.00
22	2531.503	CONCRETE CURB AND GUTTER DESIGN B612	LF	100.00	0.00	0.00	100.00	0.00	0.00	0.00
23	2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LF	815.00	0.00	0.00	705.00	85.00	25.00	0.00
24	2563.601	TRAFFIC CONTROL	LS	1.00	0.00	0.00	0.00	0.00	0.00	0.00
25	2564.502	INSTALL SIGN TYPE C	EA	11.00	9.00	0.00	2.00	0.00	0.00	0.00
26	2573.501	STORM DRAIN INLET PROECTION	EA	49.00	20.00	5.00	23.00	1.00	0.00	0.00
27	2573.503	SILT FENCE, TYPE MS	LF	8500.00	4000.00	4500.00	0.00	0.00	0.00	0.00
28	2575.505	TURF RESTORATION (SEEDING)	ACRE	4.00	2.00	1.00	1.00	0.00	0.00	0.00
29	2575.505	TEMP SEEDING	ACRE	4.00	2.00	1.00	1.00	0.00	0.00	0.00
SECTION B: STORM SEWER										
30	2104.503	REMOVE PIPE CULVERTS	LF	52.00	52.00	0.00	0.00	0.00	0.00	0.00
31	2104.503	SAVAGE STORM SEWER PIPE	LF	65.00	45.00	0.00	20.00	0.00	0.00	0.00
32	2501.502	PROTECT AND SUPPORT 73" SPAN RC PIPE-ARCH	EACH	1.00	1.00	0.00	0.00	0.00	0.00	0.00
SECTION C: WATER MAIN										
33	2104.502	REMOVE/SALVAGE HYDRANT & VALVE	EACH	2.00	1.00	0.00	1.00	0.00	0.00	0.00
34	2104.503	REMOVE WATER MAIN	LF	320.00	110.00	0.00	0.00	200.00	10.00	0.00
35	2105.601	DEWATERING	LS	1.00	0.25	0.75	0.00	0.00	0.00	0.00
36	2105.609	CRUSHED ROCK	TON	2000.00	1500.00	500.00	0.00	0.00	0.00	0.00
37	2503.604	4" INSULATION	SY	8.00	8.00	0.00	0.00	0.00	0.00	0.00
38	2504.602	CONNECT TO EXISTING WATER MAIN (RAW WATER)	EACH	6.00	1.00	0.00	0.00	5.00	0.00	0.00
39	2504.602	CONNECT TO EXISTING WATER MAIN TAPPING SLEEVE AND 8" VALVE (FINISHED WATER)	EACH	1.00	0.00	0.00	1.00	0.00	0.00	0.00
40	2504.602	CONNECT TO EXISTING WATER MAIN TAPPING SLEEVE AND 12" VALVE (FINISHED WATER)	EACH	1.00	0.00	0.00	1.00	0.00	0.00	0.00
41	2504.602	CONNECT TO EXISTING WATER MAIN TAPPING SLEEVE AND 16" VALVE (FINISHED WATER)	EACH	2.00	0.00	0.00	1.00	0.00	1.00	0.00
42	2504.602	CONNECT TO EXISTING WATER MAIN (HYDRANT LEAD)	EACH	2.00	0.00	0.00	0.00	0.00	0.00	0.00
43	2504.602	HYDRANT	EACH	12.00	5.00	2.00	3.00	0.00	0.00	0.00
44	2504.602	INSTALL SALVAGED HYDRANT	EACH	1.00	0.00	0.00	1.00	1.00	1.00	0.00
45	2504.602	6" GATE VALVE AND BOX	EACH	13.00	5.00	2.00	4.00	0.00	0.00	0.00
46	2504.602	16" GATE VALVE AND BOX	EACH	8.00	2.00	0.00	0.00	1.00	1.00	0.00
47	2504.602	20" GATE VALVE AND BOX	EACH	3.00	0.00	0.00	3.00	5.00	1.00	0.00
48	2504.602	24" GATE VALVE AND BOX	EACH	5.00	4.00	0.00	1.00	0.00	0.00	0.00
49	2504.603	1" COPPER SERVICE	LF	145.00	25.00	0.00	0.00	0.00	0.00	0.00
50	2504.603	6" DIP WATER MAIN	LF	225.00	50.00	20.00	110.00	60.00	0.00	60.00
51	2504.603	8" DIP WATER MAIN	LF	288.00	0.00	0.00	18.00	45.00	0.00	0.00
52	2504.603	10" DIP WATER MAIN	LF	20.00	20.00	0.00	0.00	0.00	270.00	0.00
53	2504.603	12" DIP WATER MAIN	LF	25.00	0.00	0.00	25.00	0.00	0.00	0.00
54	2504.603	16" DIP WATER MAIN	LF	355.00	0.00	0.00	5.00	0.00	0.00	0.00
55	2504.603	20" PVC WATER MAIN STAB JOINT TRENCHED (FINISHED WATER)	LF	3035.00	0.00	0.00	3035.00	340.00	10.00	0.00
56	2504.603	20" PVC WATER MAIN RJ TRENCHED (FINISHED WATER)	LF	330.00	0.00	0.00	330.00	0.00	0.00	0.00
57	2504.603	20" DR 18 FUSIBLE PVC WATER MAIN (HDD) (FINISHED WATER)	LF	360.00	0.00	0.00	360.00	0.00	0.00	0.00
58	2504.603	24" DR 18 FUSIBLE PVC WATER MAIN (HDD) (RAW WATER)	LF	2635.00	1650.00	985.00	0.00	0.00	0.00	0.00
59	2504.603	24" PVC WATER MAIN RJ TRENCHED (FINISHED WATER)	LF	45.00	0.00	0.00	45.00	0.00	0.00	0.00
60	2504.603	24" PVC WATER MAIN RJ TRENCHED (RAW WATER)	LF	1320.00	850.00	470.00	0.00	0.00	0.00	0.00
61	2504.603	24" PVC WATER MAIN STAB JOINT TRENCHED (RAW WATER)	LF	4310.00	2810.00	150				

CONSTRUCTION NOTES

ANY USE OF TRENCH BOX, SHEETING, SHORING OR OTHER METHODS OR MEANS OF CONSTRUCTION NECESSARY TO COMPLETE CONSTRUCTION WITHIN THE CONSTRUCTION LIMITS OR SLOPE EASEMENTS SHOWN WILL BE CONSIDERED TO BE INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFORE.

COMPACTATION OF GRADING ITEMS, INCLUDING AGGREGATE BASE, SHALL BE ACCOMPLISHED BY THE "QUALITY COMPACTION METHOD".

BACKFILLING OF CURBS WITH ON-SITE MATERIAL IS INCIDENTAL TO CURB CONSTRUCTION.

WHEN CONNECTION TO EXISTING BITUMINOUS PAVEMENT IS REQUIRED, THE EDGE OF EXISTING PAVEMENT SHALL BE CUT TO A NEAT LINE AND COMPLY WITH CITY OF RAMSEY STANDARD DETAIL STR-25.

PROVIDE FOR A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL COURSES. THE TACK COAT SHALL BE IN ACCORDANCE WITH MN/DOT SPECIFICATION 2357 WITH THE FOLLOWING MODIFICATIONS:

1. THE TACK COAT SHALL CONSIST OF EMULSIFIED ASPHALT (CSS-1 OR CSS-1H) AND SHALL BE APPLIED TO THE MILLED BITUMINOUS SURFACE AND BETWEEN ALL NEWLY CONSTRUCTED COURSES.
2. THE TACK COAT BETWEEN BITUMINOUS LIFTS SHALL BE APPLIED AT A UNIFORM RATE OF 0.08 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE BASED ON DILUTED TACK MATERIAL

WATER, GAS, ELECTRIC, TELEPHONE, SEWER, AND TV CABLE LINES SHOWN ON THE DRAWINGS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION, BUT MAY NOT REFLECT ACTUAL LOCATIONS OR ELEVATIONS. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE BEGINNING CONSTRUCTION WHICH MAY BE AFFECTED BY A UTILITY CONFLICT. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE OWNERS OF ALL KNOWN UTILITIES BEFORE STARTING ANY OPERATIONS AFFECTING THOSE PROPERTIES, OR BEGINNING EXCAVATION IN THE VICINITY OF THOSE PROPERTIES, THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 1507 IN THE STANDARD SPECIFICATIONS. THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

ALL USES OF THE WORD "INCIDENTAL" IN THESE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO MEAN INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.

(P) DENOTES A PLAN QUANTITY ITEM

CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL EROSION CONTROL MEASURES AS SHOWN ON THESE PLANS AND SPECIFICATION, AND WILL IMPLEMENT ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY, OR AS DIRECTED BY ENGINEER, IN ORDER TO PROTECT ADJACENT PROPERTY.

ALL DIMENSIONS SHALL BE TO FACE OF CURB UNLESS STATED OTHERWISE.

PROVIDE FOR THE REMOVAL AND DISPOSAL, OUTSIDE THE CONSTRUCTION ZONE, OF ANY INPLACE SURFACING OR OTHER STRUCTURES THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED OR DISPOSED OF OUTSIDE THE RIGHT OF WAY IN ACCORDANCE WITH SPECIFICATION 2104.3C. PROVIDE FOR SAW CUTTING AS DEEMED NECESSARY BY THE DESIGNER.

ALL EXCAVATED MATERIAL SHALL BE USED ONSITE FOR BORROW ITEMS IF MEETS GRADATION REQUIREMENTS UNLESS DIRECTED OTHERWISE BY THIS PLAN OR AS DIRECTED BY THE ENGINEER.

IN FILL SECTIONS, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE UPPER 3 FEET OF THE "GRADING GRADE" BEHIND THE ROADWAY AS DIRECTED BY THE ENGINEER.

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

7100H	CONCRETE CURB AND GUTTER DESIGN B & V
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
8000I	STANDARD BARRICADES

BASIS OF ESTIMATED QUANTITIES

SELECT GRANULAR BORROW	140 #/CF
AGGREGATE BASE CLASS 5	1.8 TONS/CU YD
TYPE SP 9.5 WEARING COURSE	113 #/SY/INCH
TYPE SP 12.5 NON-WEARING COURSE	113 #/SY/INCH
BITUMINOUS MATERIAL FOR TACK COAT	0.08 GAL/S.Y.
MULCH MATERIAL TYPE 6	80 CY/ACRE
COMM. FERT. ANALYSIS 25-5-10	400 #/ACRE
SEED MIXTURE 25-151	300 #/ACRE
SEED MIXTURE 25-141	59 #/ACRE

KNOWN PRIVATE UTILITIES WITHIN THE PROJECT AREA:

ARVIG (COMM.)
CENTERPOINT ENERGY (GAS)
COMCAST (COMM.)
CENTURYLINK (COMM.)
CONNEXUS (ELECTRIC)
ZAYO (COMM.)

CONSTRUCTION SEQUENCING

RAW WATER MAIN SEQUENCING

1. VERIFY LOCATION OF EXISTING 20" RAW WATER MAIN AT BUNKER LAKE BLVD NW AND ZEOLITE ST NW
2. SHUT DOWN EXISTING RAW WATER MAIN FROM WELL #8 TO WELL #7
3. INSTALL 24"X20" REDUCER ON EXISTING 20" RAW WATER MAIN
4. LAY 24" RAW WATER MAIN AND APPURTENANCES FROM 24"X20" REDUCER TO 24"X10" TEE
5. CONNECT 24"X10" TEE TO EXISTING 10" RAW WATER MAIN USING A BEND, PIPING, AND APPURTENANCES
6. LAY 24" RAW WATER MAIN FROM 24"X10" TEE TO 24" GATE VALVE ON THE EAST SIDE OF BUNKER LAKE BLVD NW AND ZEOLITE ST NW; CLOSE 24" GATE VALVE
7. PLACE RAW WATER MAIN IN SERVICE FROM WELL #8 TO WELL #7
8. INSTALL 24" RAW WATER MAIN AND APPURTENANCES FROM 24" GATE VALVE ON THE EAST SIDE OF BUNKER LAKE BLVD NW AND ZEOLITE ST NW TO 24"X16" TEE AT BUNKER LAKE BLVD NW AND TOWN CENTER DR NW
9. INSTALL 16" STUB FOR A FUTURE CONNECTION TO THE EXISTING 16" RAW WATER MAIN UTILIZING A VALVE, PIPING, AND APPURTENANCES
10. INSTALL 24" RAW WATER MAIN AND APPURTENANCES FROM 24"X16" TEE AT BUNKER LAKE BLVD NW AND TOWN CENTER DR NW TO 24"X16" TEE AT STA. 33+35
11. INSTALL 16" STUB FOR A FUTURE CONNECTION TO THE EXISTING 16" FINISHED WATER MAIN UTILIZING A VALVE, PIPING, AND APPURTENANCES
12. INSTALL 24" RAW WATER MAIN AND APPURTENANCES FROM 24"X16" TEE AT STA. 33+35 TO HYDRANT ASSEMBLY AND PLUG AT THE FUTURE WATER TREATMENT PLANT SITE AT STA. 83+05
13. PRESSURE TEST 24" RAW WATER MAIN AGAINST EVERY 24" GATE VALVE TO VERIFY A "SURE CUT" AT EACH 24" GATE VALVE
14. CHLORINATE RAW WATER MAIN
15. VERIFY THE FOLLOWING GATE VALVES ARE CLOSED WHEN PRESSURE TESTING AND CHLORINATING IS COMPLETE:
 - 15.1. 24" GATE VALVE AT STA. 1+27 (EAST GATE VALVE AT BUNKER LAKE BLVD NW AND ZEOLITE ST NW)
 - 15.2. 24" GATE VALVE AT STA. 12+77 AT BUNKER LAKE BLVD NW AND TOWN CENTER DR NW
 - 15.3. 16" GATE VALVE ON 16" STUB AT BUNKER LAKE BLVD NW AND TOWN CENTER DR NW
 - 15.4. 24" GATE VALVE AT STA. 33+27
 - 15.5. 16" GATE VALVE ON 16" STUB AT STA. 33+35
 - 15.6. 24" GATE VALVE AT STA. 83+00 AT THE FUTURE WATER TREATMENT PLANT SITE
16. VERIFY THE 24" GATE VALVE AT STA. 0+90 (WEST GATE VALVE AT BUNKER LAKE BLVD NW AND ZEOLITE ST NW) IS OPEN WHEN PRESSURE TESTING IS COMPLETE

FINISHED WATER MAIN SEQUENCING

17. INSTALL 12"X12" TAPPING SLEEVE AND TAPPING VALVE AT 143RD AVE NW AND RAMSEY BLVD NW
18. INSTALL 20"X12" REDUCER ON EAST SIDE OF THE 12" TAPPING VALVE AT 143RD AVE NW AND RAMSEY BLVD NW
19. INSTALL 20" FINISHED WATER MAIN AND APPURTENANCES FROM 20"X12" REDUCER TO 20"X8" TEE AT STA. 109+17
20. INSTALL 8" STUB UTILIZING PIPING, APPURTENANCES, AND A TEMPORARY VALVED BLOWOFF ASSEMBLY FOR A CONNECTION TO THE EXISTING 8" FINISHED WATER MAIN; THIS CONNECTION WILL TAKE PLACE AFTER THE FINISHED WATER MAIN HAS BEEN PLACED IN SERVICE
21. INSTALL 20"X4" FINISHED WATER MAIN AND APPURTENANCES FROM 20"X8" TEE TO 20" GATE VALVE AT STA. 119+10
22. INSTALL 24" FINISHED WATER MAIN AND APPURTENANCES FROM 24"X24" TEE AT STA. 200+75 TO 24"X12" TEE AT STA. 200+61
23. INSTALL 12" STUB UTILIZING PIPING, APPURTENANCES, AND A TEMPORARY VALVED BLOWOFF ASSEMBLY FOR A CONNECTION TO THE EXISTING 12" FINISHED WATER MAIN; THIS CONNECTION WILL TAKE PLACE AFTER THE FINISHED WATER MAIN HAS BEEN PLACED IN SERVICE
24. INSTALL 24" FINISHED WATER MAIN FROM 24"X12" TEE AT STA. 200+61 TO HYDRANT ASSEMBLY AND PLUG AT THE FUTURE WATER TREATMENT PLANT SITE
25. DISINFECTION 20"X4" FINISHED WATER MAIN BETWEEN RAMSEY BLVD NW AND THE FUTURE WATER TREATMENT PLANT SITE
26. PRESSURE TEST EVERY SEGMENT OF 20"X4" FINISHED WATER MAIN AGAINST EVERY 20"X4" GATE VALVE TO VERIFY A "SURE CUT" AT EACH 20"X4" GATE VALVE BETWEEN RAMSEY BLVD NW AND THE FUTURE WATER TREATMENT PLANT SITE
27. AFTER 20"X4" FINISHED WATER MAIN ON 143RD ST NW BETWEEN RAMSEY BLVD NW AND THE FUTURE WATER TREATMENT PLANT SITE HAS PASSED PRESSURE TEST AND THE DISINFECTION PROCESS, REMOVE TEMPORARY VALVED BLOWOFF ASSEMBLY AT STA. 109+17 AND CONNECT 8" STUB TO THE EXISTING 8" FINISHED WATER MAIN UTILIZING A TAPPING SLEEVE, TAPPING VALVE, PIPING, AND APPURTENANCES; SWAB CONNECTION PIPING AND APPURTENANCES WITH A MINIMUM OF 50 PPM CHLORINE SOLUTION
28. AFTER 20"X4" FINISHED WATER MAIN ON 143RD ST NW BETWEEN RAMSEY BLVD NW AND THE FUTURE WATER TREATMENT PLANT SITE HAS PASSED PRESSURE TEST AND THE DISINFECTION PROCESS, REMOVE TEMPORARY VALVED BLOWOFF ASSEMBLY AT STA. 200+61 AND CONNECT 12" STUB TO THE EXISTING 12" FINISHED WATER MAIN UTILIZING A TAPPING SLEEVE, TAPPING VALVE, PIPING, AND APPURTENANCES; SWAB CONNECTION PIPING AND APPURTENANCES WITH A MINIMUM OF 50 PPM CHLORINE SOLUTION
29. INSTALL 16"X16" TAPPING SLEEVE AND TAPPING VALVE AT 143RD AVE NW AND BUNKER LAKE BLVD NW
30. INSTALL 20"X16" REDUCER ON WEST SIDE OF THE 16" TAPPING VALVE AT 143RD AVE NW AND BUNKER LAKE BLVD NW
31. INSTALL 20" FINISHED WATER MAIN AND APPURTENANCES FROM 20"X16" REDUCER TO 20"X6" TEE AT STA. 135+49
32. INSTALL HYDRANT TEE, VALVE, AND TEMPORARY VALVED BLOWOFF AT STA. 135+49; THIS CONNECTION TO THE EXISTING HYDRANT WILL TAKE PLACE AFTER THE FINISHED WATER MAIN HAS BEEN PLACED IN SERVICE
33. INSTALL 20" FINISHED WATER MAIN AND APPURTENANCES FROM 20"X6" TEE AT STA. 135+49 TO 20"X6" TEE AT STA. 120+52
34. INSTALL HYDRANT TEE, VALVE, AND TEMPORARY VALVED BLOWOFF AT STA. 120+52; THIS CONNECTION TO THE EXISTING HYDRANT WILL TAKE PLACE AFTER THE FINISHED WATER MAIN HAS BEEN PLACED IN SERVICE
35. INSTALL 20" FINISHED WATER MAIN AND APPURTENANCES FROM 20"X6" TEE AT STA. 120+52 TO THE TEMPORARY VALVED BLOWOFF ASSEMBLY AT STA. 119+30
36. DISINFECTION 20" FINISHED WATER MAIN BETWEEN BUNKER LAKE BLVD NW AND THE TEMPORARY VALVED BLOWOFF ASSEMBLY NEAR THE FUTURE WATER TREATMENT PLANT SITE
37. PRESSURE TEST 20" FINISHED WATER MAIN BETWEEN BUNKER LAKE BLVD NW AND THE TEMPORARY VALVED BLOWOFF ASSEMBLY NEAR THE FUTURE WATER TREATMENT PLANT SITE
38. AFTER 20" FINISHED WATER MAIN BETWEEN BUNKER LAKE BLVD NW AND THE TEMPORARY VALVED BLOWOFF ASSEMBLY NEAR THE FUTURE WATER TREATMENT PLANT SITE HAS PASSED PRESSURE TEST AND THE DISINFECTION PROCESS, REMOVE TEMPORARY VALVED BLOWOFF ASSEMBLY AT STA. 119+30 AND CONNECT 20" FINISHED WATER MAIN TO THE 20" GATE VALVE AT STA. 119+10 UTILIZING PIPING AND APPURTENANCES; SWAB CONNECTION PIPING AND APPURTENANCES WITH A MINIMUM OF 50 PPM CHLORINE SOLUTION
39. AFTER 20" FINISHED WATER MAIN BETWEEN BUNKER LAKE BLVD NW AND THE TEMPORARY VALVED BLOWOFF ASSEMBLY NEAR THE FUTURE WATER TREATMENT PLANT SITE HAS PASSED PRESSURE TEST AND THE DISINFECTION PROCESS, REMOVE TEMPORARY VALVED BLOWOFF ASSEMBLY AT STA. 135+49 AND CONNECT TO EXISTING HYDRANT BRANCH AFTER THE EXISTING HYDRANT HAS BEEN REMOVED, INSTALL HYDRANT ASSEMBLY UTILIZING A TEE, VALVES, PIPING, HYDRANT, AND APPURTENANCES; SWAB HYDRANT ASSEMBLY AND CONNECTION PIPING AND APPURTENANCES WITH A MINIMUM OF 50 PPM CHLORINE SOLUTION
40. AFTER 20" FINISHED WATER MAIN BETWEEN BUNKER LAKE BLVD NW AND THE TEMPORARY VALVED BLOWOFF ASSEMBLY NEAR THE FUTURE WATER TREATMENT PLANT SITE HAS PASSED PRESSURE TEST AND THE DISINFECTION PROCESS REMOVE TEMPORARY VALVED BLOWOFF ASSEMBLY AT STA. 120+52 AND CONNECT TO EXISTING HYDRANT BRANCH AFTER THE EXISTING HYDRANT HAS BEEN REMOVED, INSTALL HYDRANT ASSEMBLY UTILIZING A TEE, VALVES, PIPING, HYDRANT, AND APPURTENANCES; SWAB HYDRANT ASSEMBLY AND CONNECTION PIPING AND APPURTENANCES WITH A MINIMUM OF 50 PPM CHLORINE SOLUTION
41. VERIFY THE 24" GATE VALVE AT THE FUTURE WATER TREATMENT PLANT SITE IS CLOSED WHEN CONNECTIONS ARE COMPLETE
42. VERIFY THE FOLLOWING GATE VALVES ARE OPEN WHEN CONNECTIONS ARE COMPLETE:
 - 42.1. 12" GATE VALVE AT 143RD AVE NW AND RAMSEY BLVD NW
 - 42.2. 8" GATE VALVE AT STA. 109+17
 - 42.3. 12" GATE VALVE AT STA. 200+61
 - 42.4. 6" GATE VALVE AT HYDRANT ASSEMBLY AT STA. 120+52
 - 42.5. 6" GATE VALVE AT HYDRANT ASSEMBLY AT STA. 135+49
 - 42.6. 16" GATE VALVE AT 143RD AVE NW AND BUNKER LAKE BLVD NW

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Drawn By JRB, SRP . .
Designed By KLK . .
Checked By CES . .

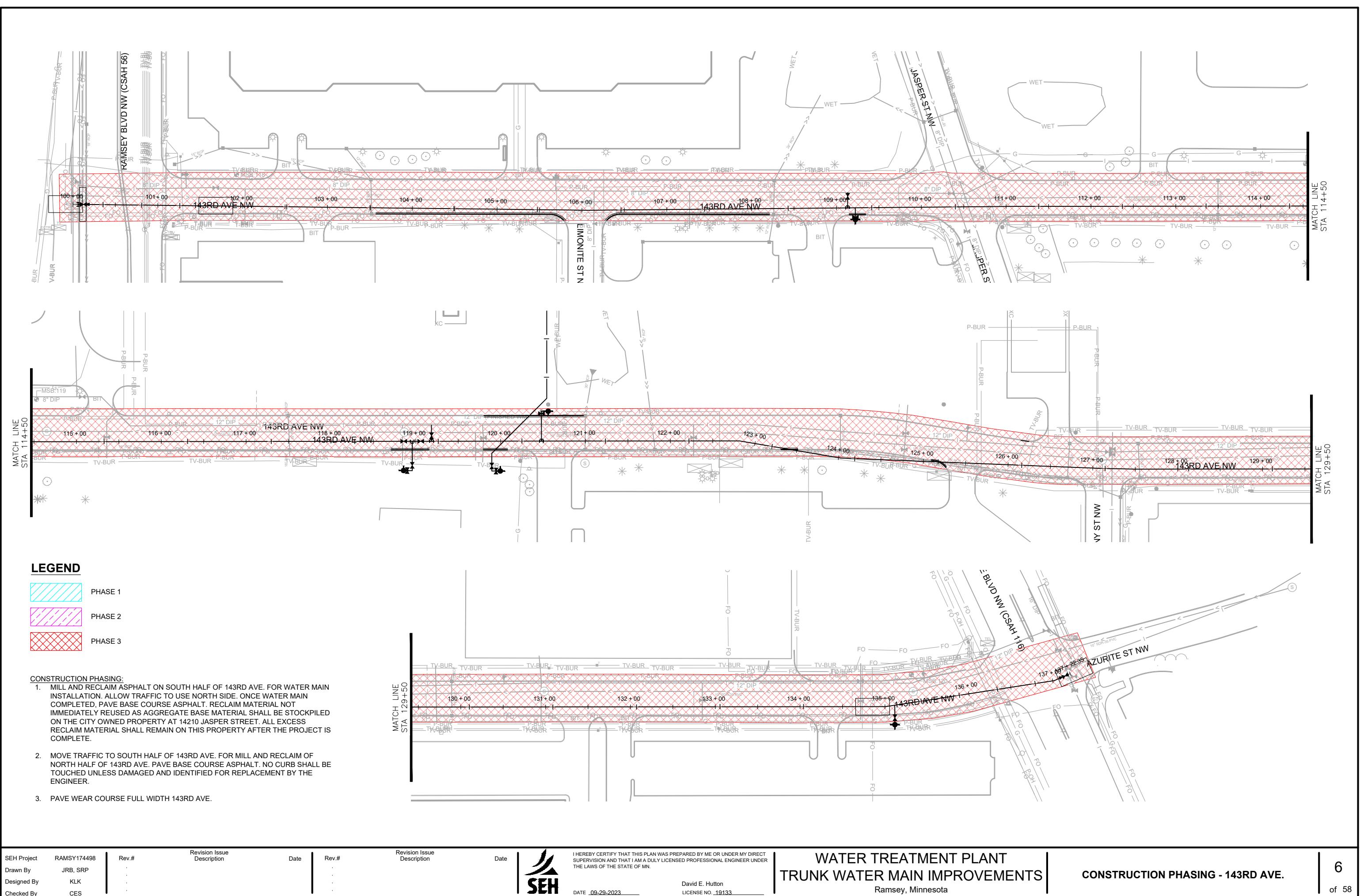


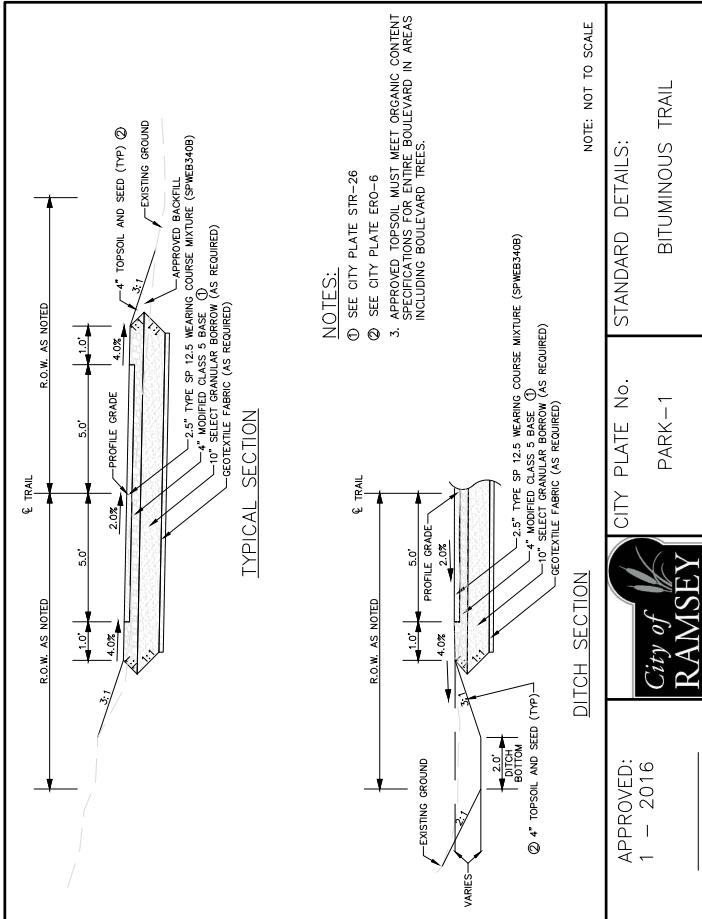
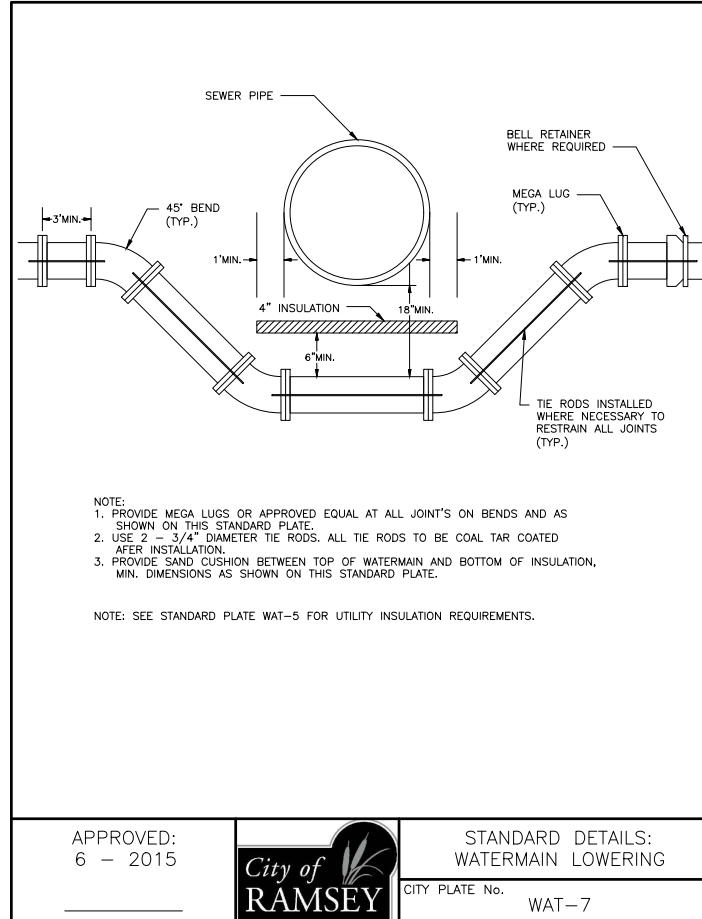
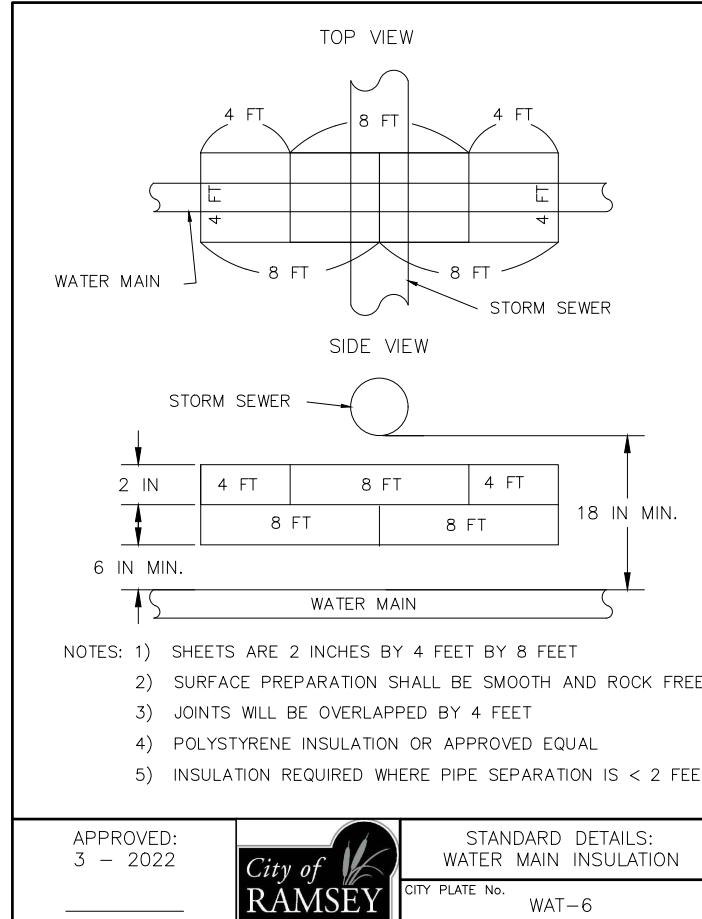
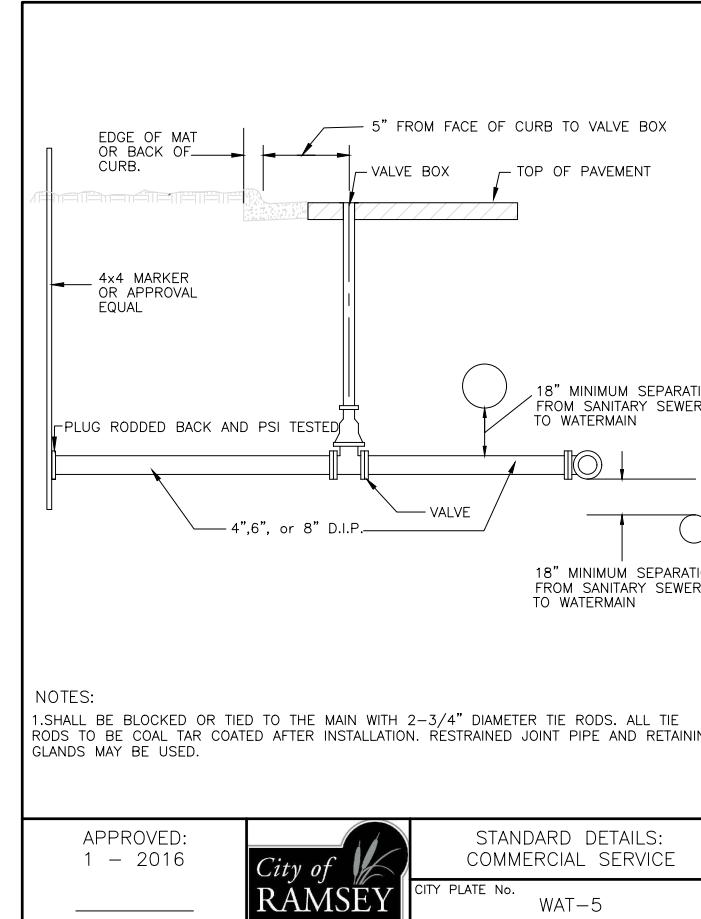
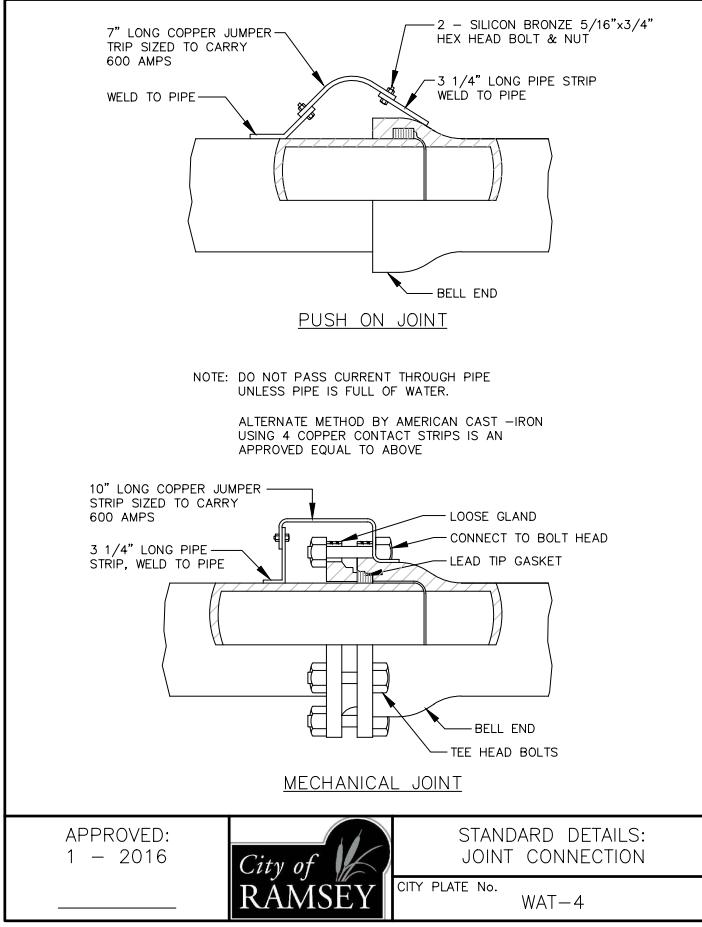
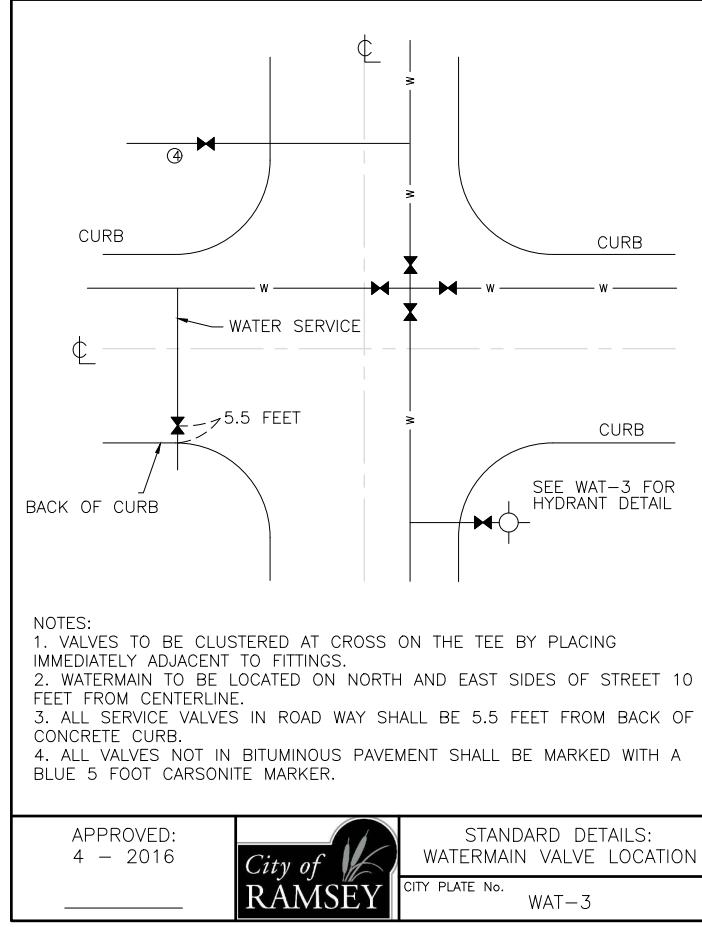
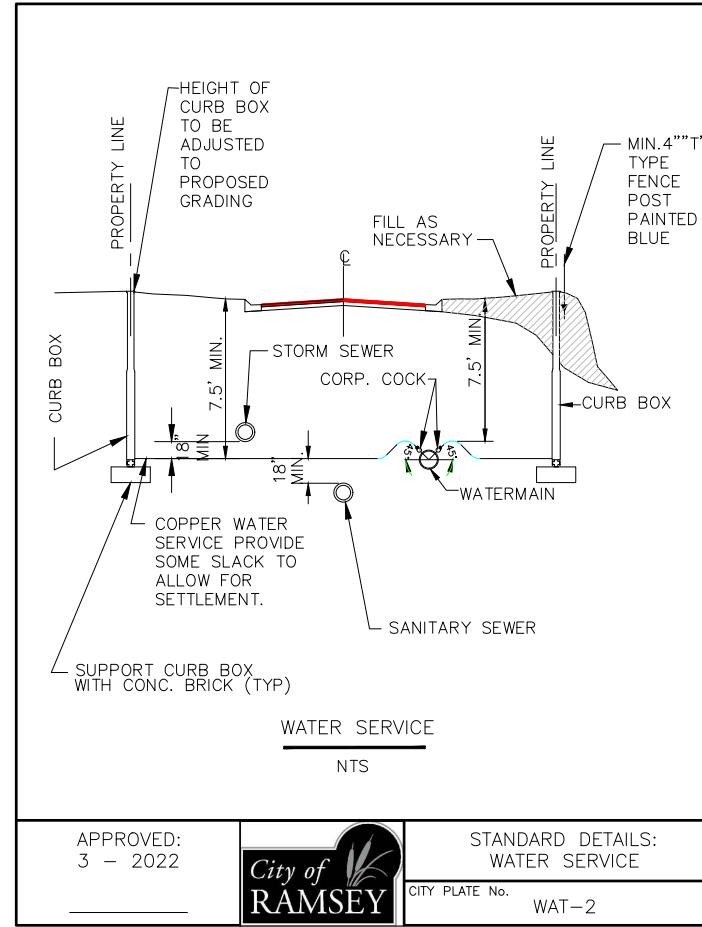
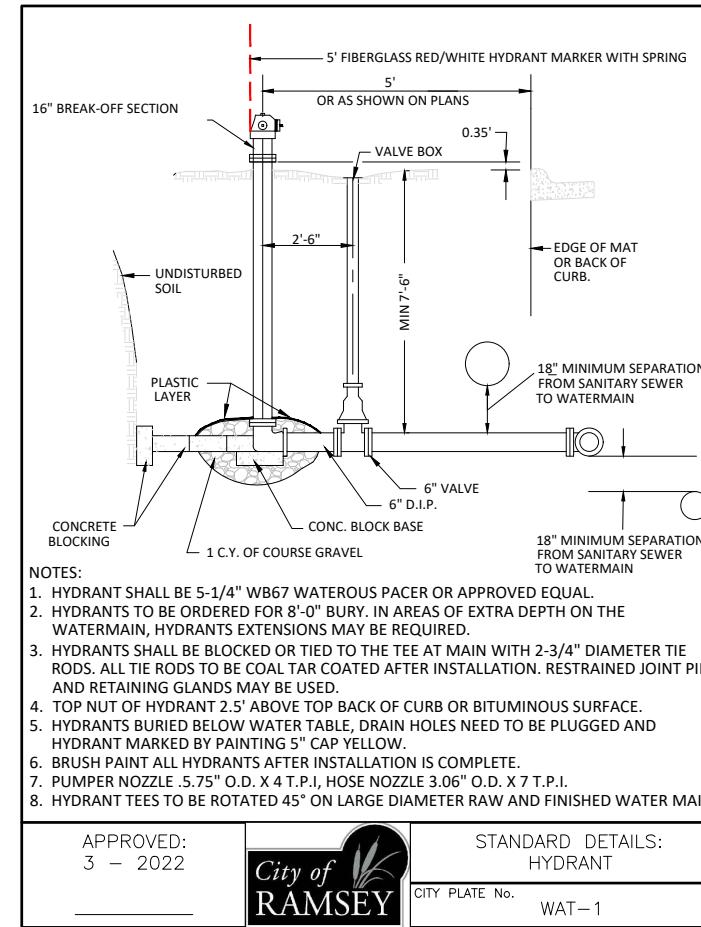
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DATE 09-29-2023
David E. Hutton
LICENSURE NO. 19133

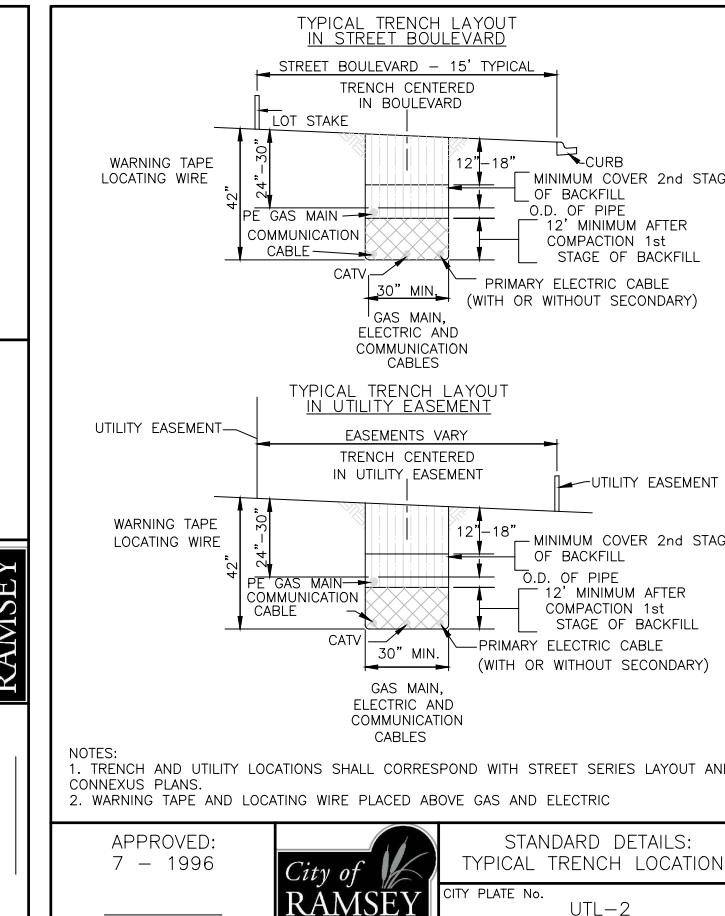
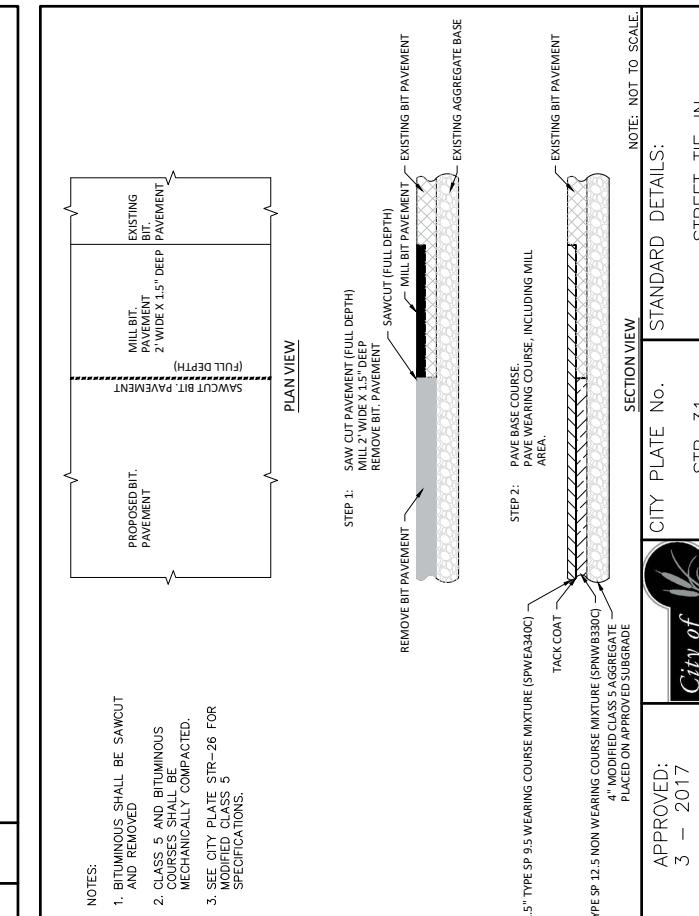
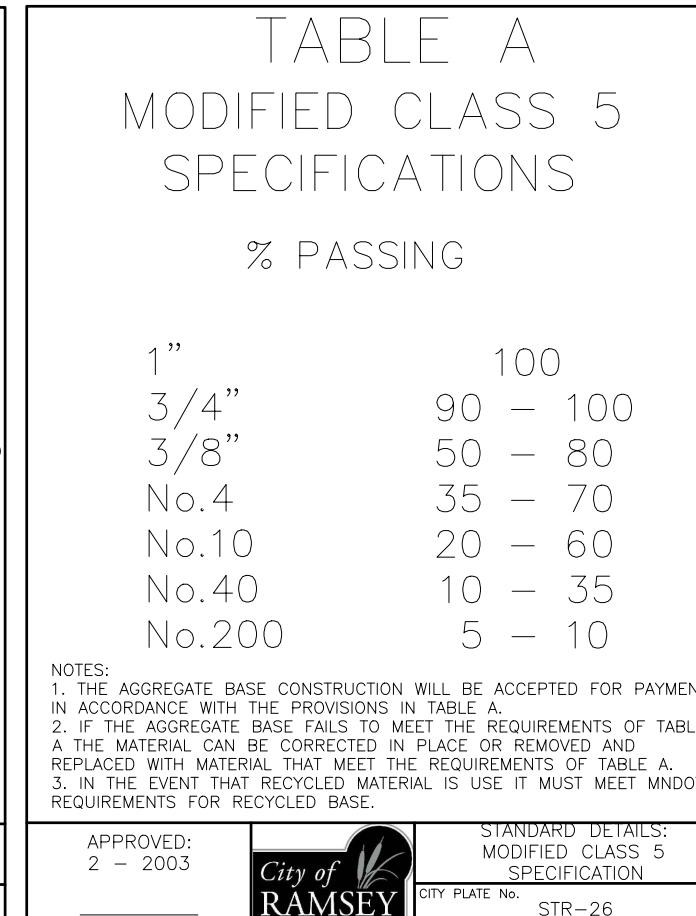
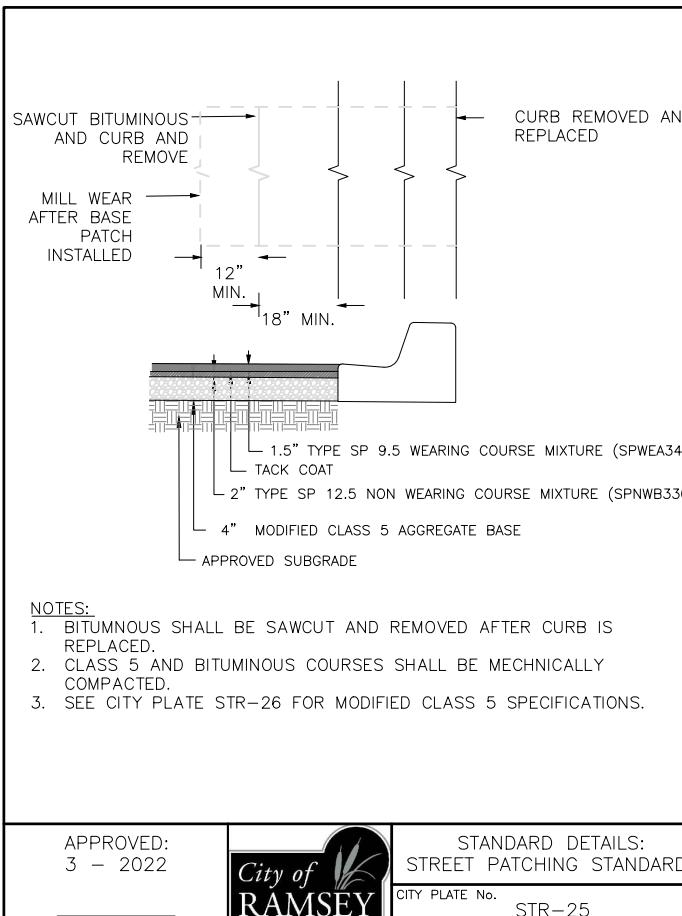
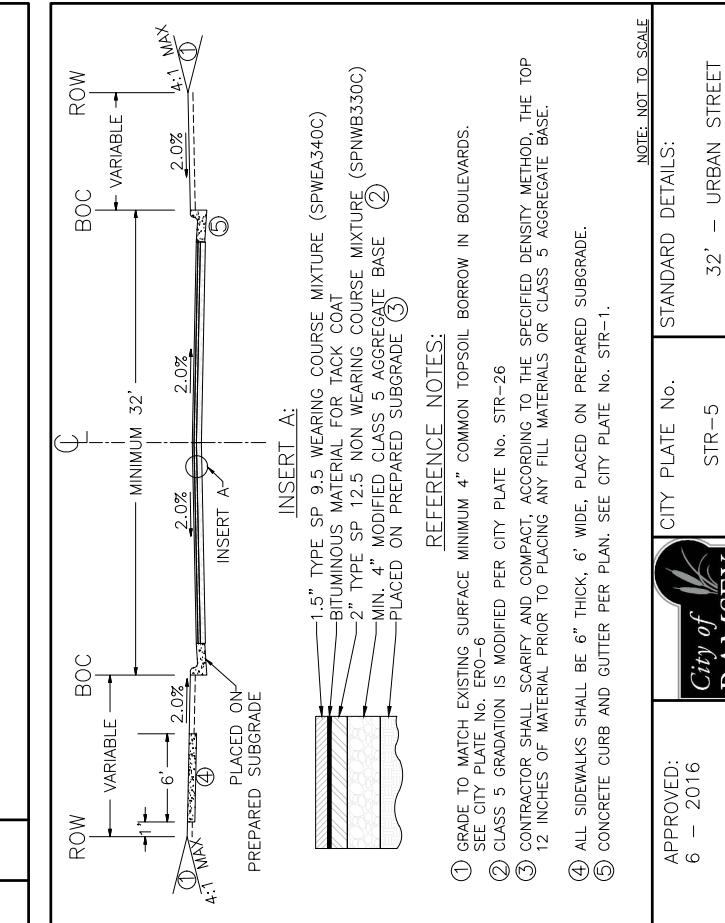
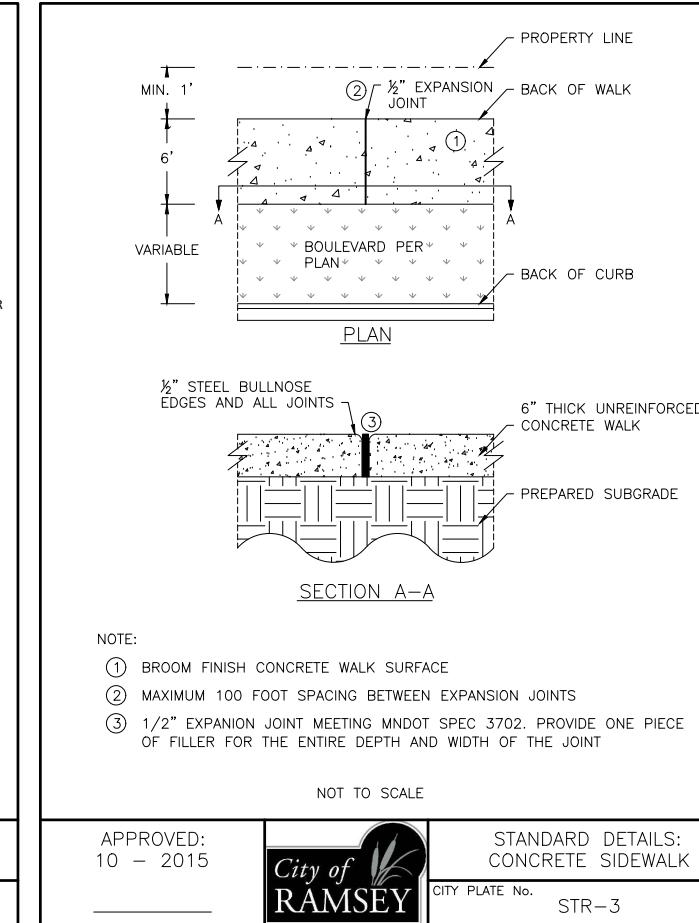
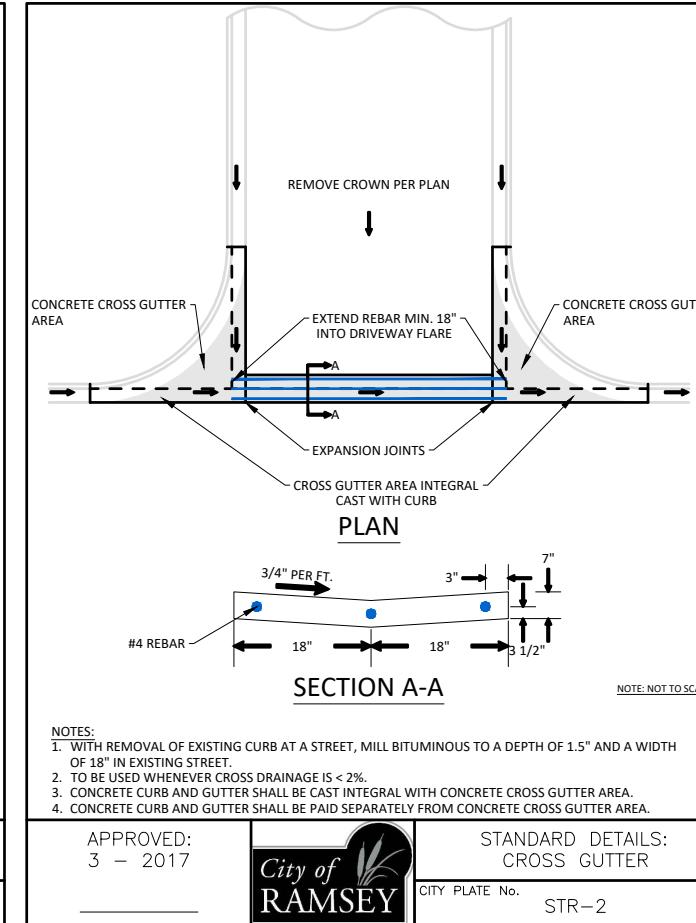
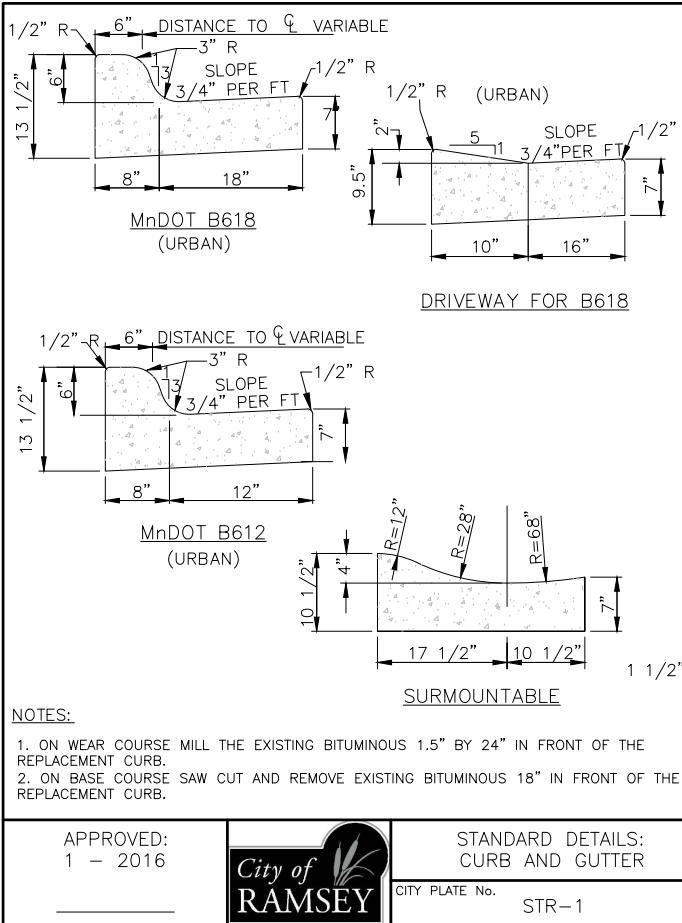
WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

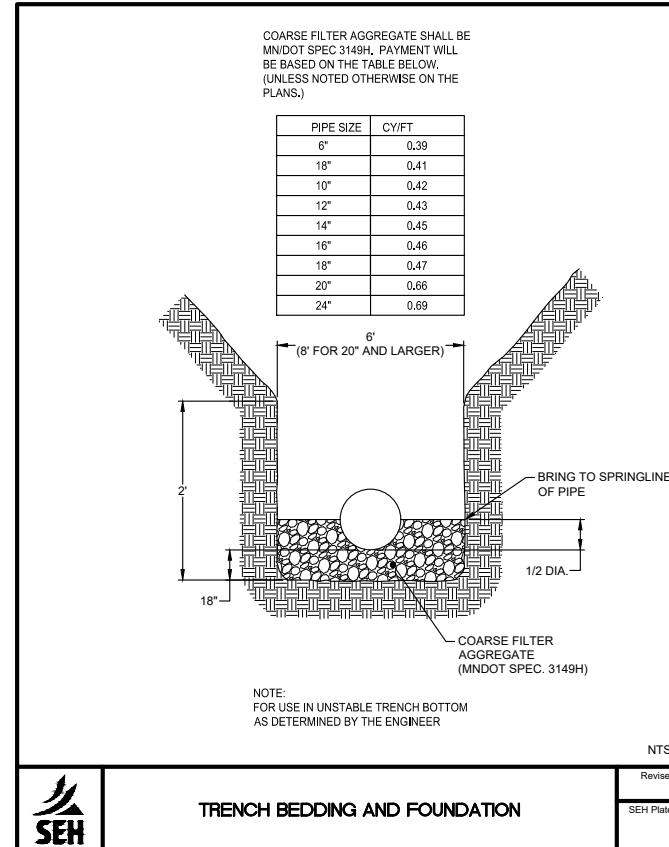
Ramsey, Minnesota

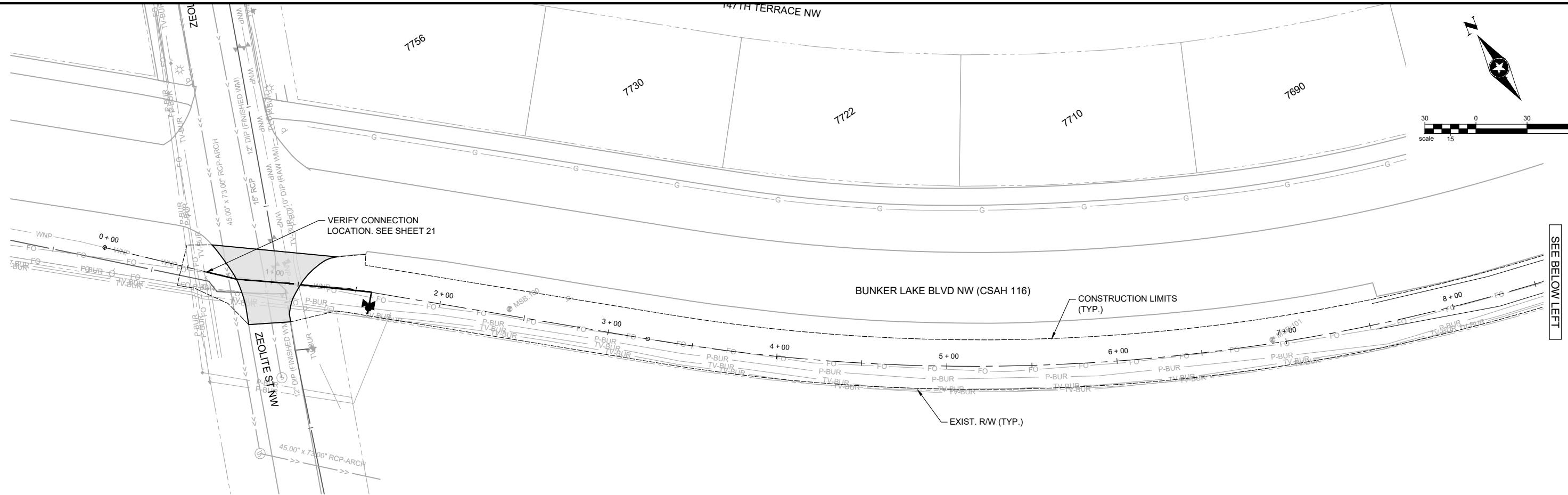
CONSTRUCTION NOTES



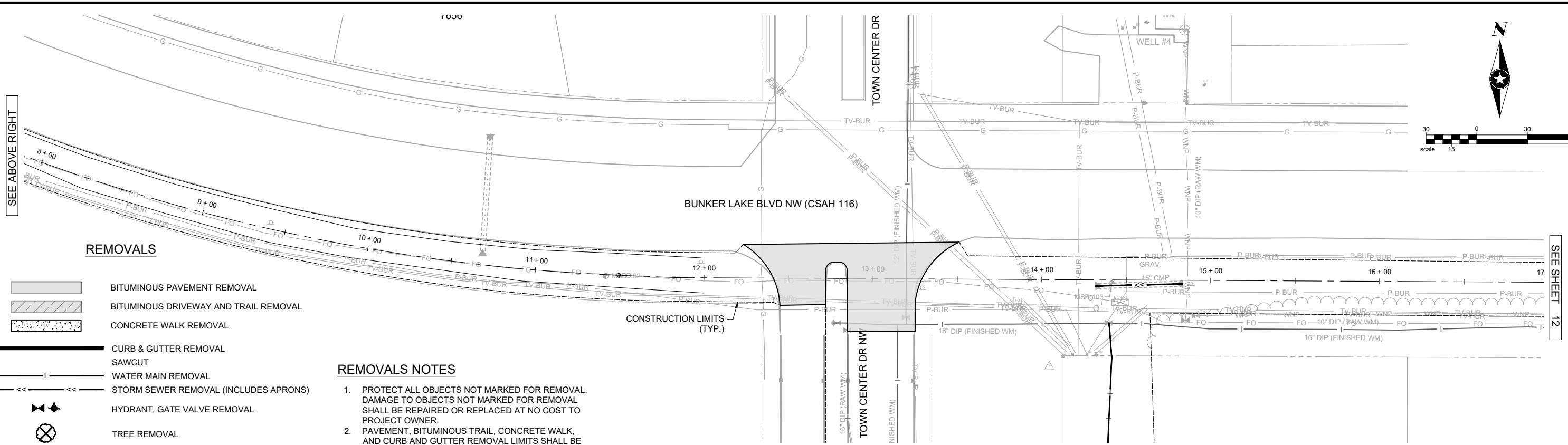








BUNKER LAKE BLVD NW (CSAH 116)



SEH Project	RAMSY17
Drawn By	JKR, S
Designed By	KLK
Checked By	CES

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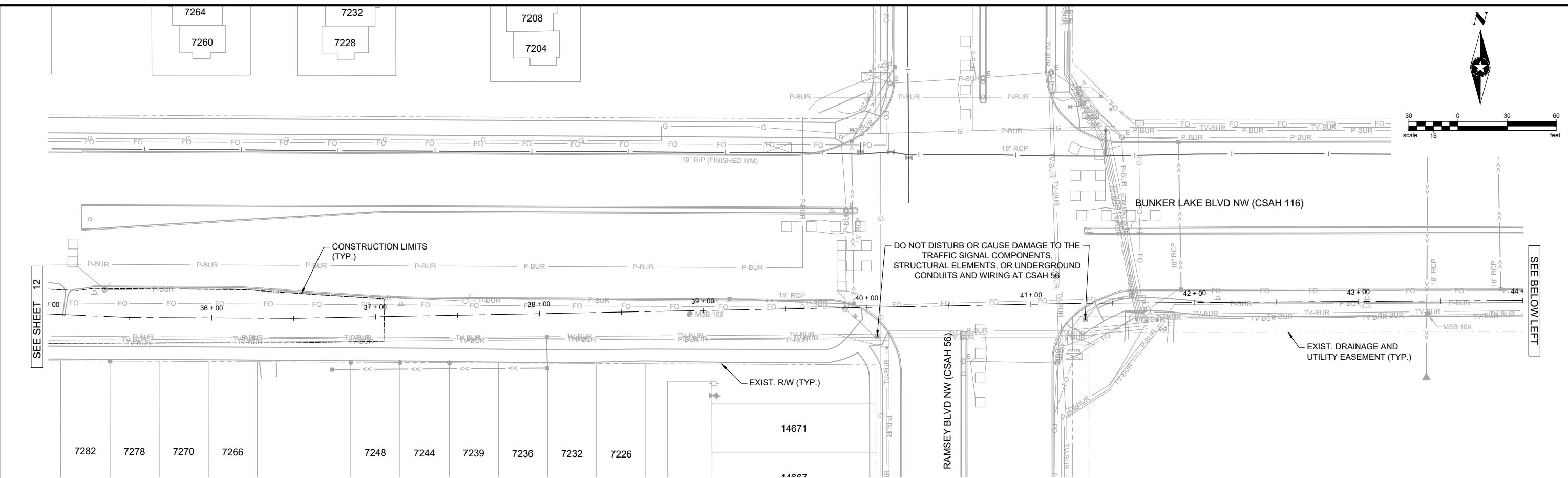
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECTION AND SUPERVISION AND THAT I AM A DULY LICENSED ##### UNDER THE PROFESSIONAL LAWS OF THE STATE OF MN.

MY DIRECT
UNDER THE

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

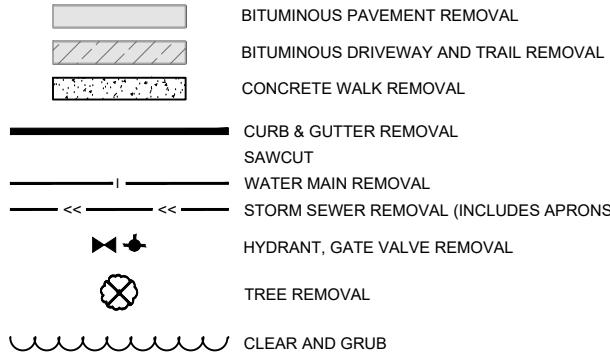
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REMOVAL PLAN BUNKER LAKE BLVD NW (CSAH 116)



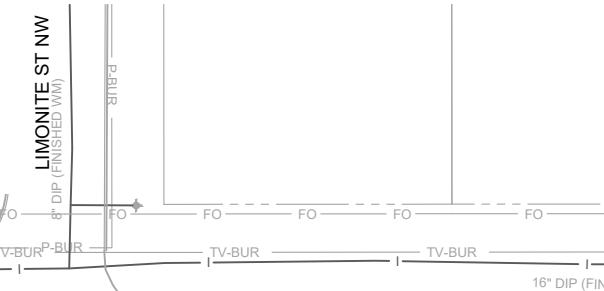
BUNKER LAKE BLVD NW (CSAH 116)

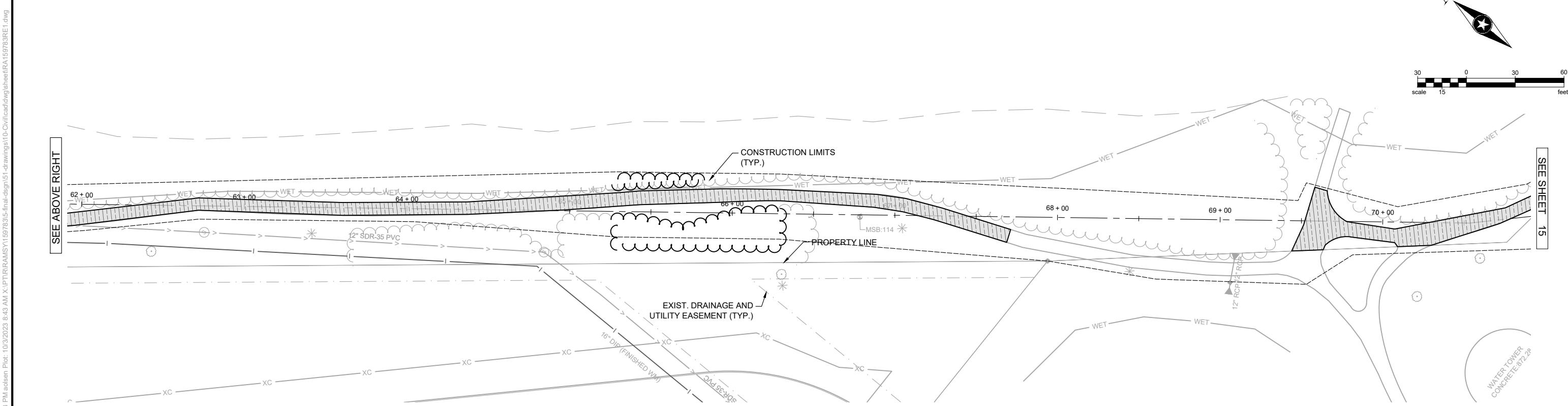
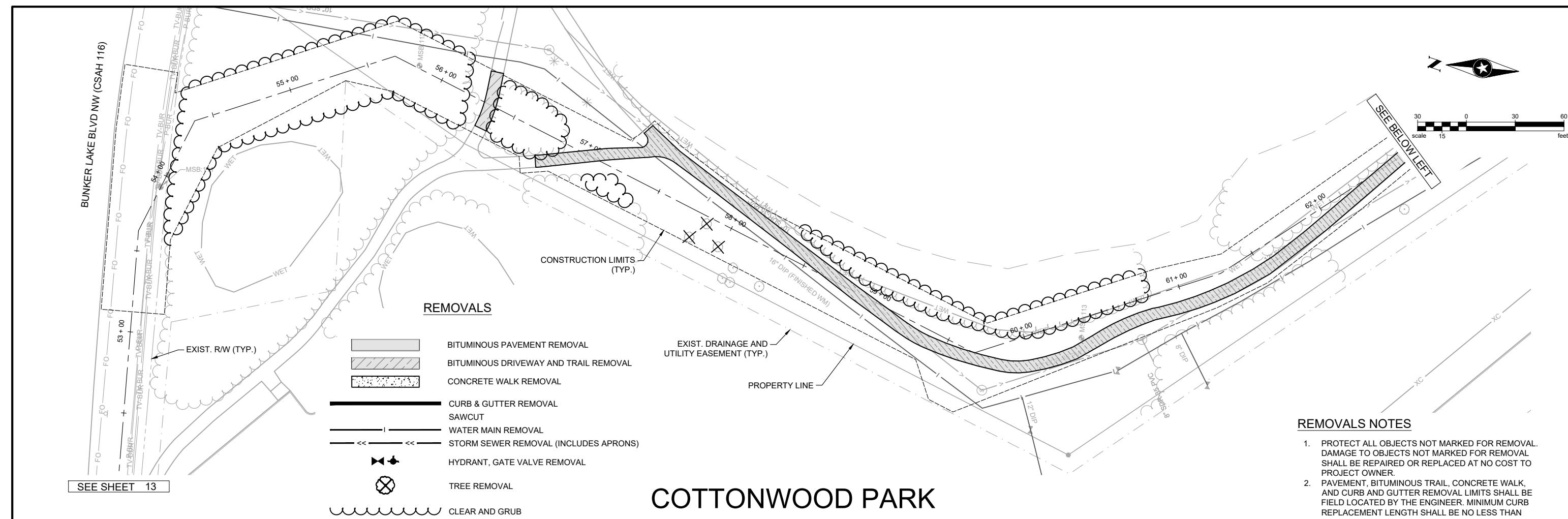
REMOVALS



REMOVALS NOTES

1. PROTECT ALL OBJECTS NOT MARKED FOR REMOVAL. DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
2. PAVEMENT, BITUMINOUS TRAIL, CONCRETE WALK, AND CURB AND GUTTER REMOVAL LIMITS SHALL BE FIELD LOCATED BY THE ENGINEER. MINIMUM CURB REPLACEMENT LENGTH SHALL BE NO LESS THAN 1/2 A CURB BAND.





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SEH Project RAMSY174498 Rev.# . Revision Issue Description Date Rev.# . Revision Issue Description Date

Drawn By JRB, SRP

Designed By KLK

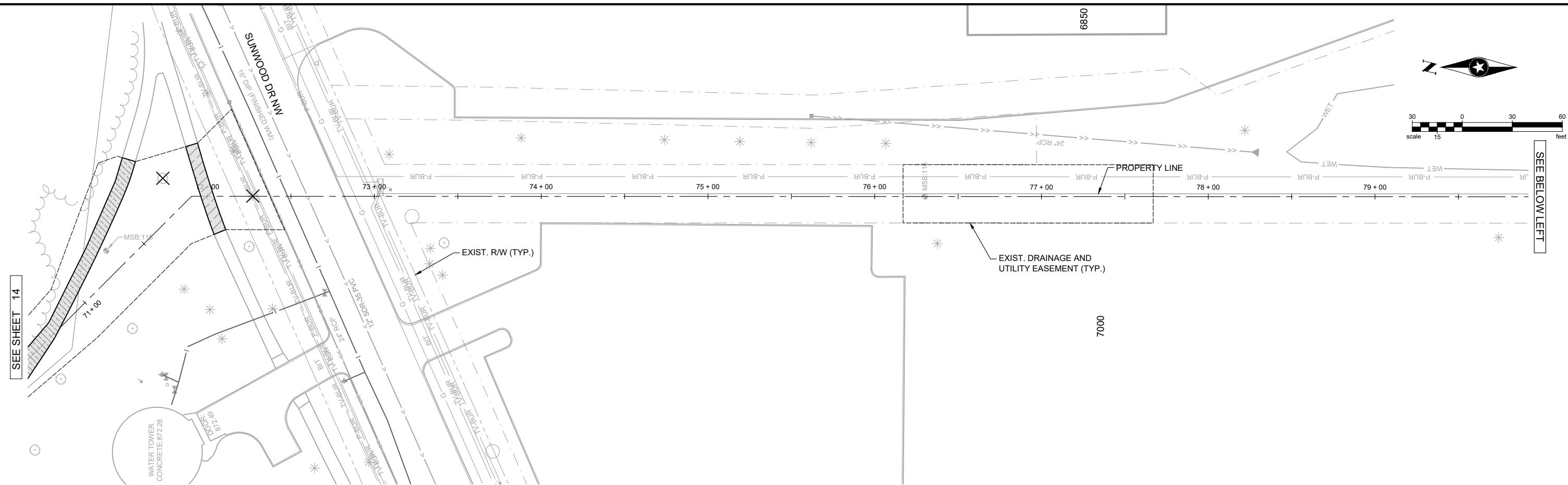
Checked By CES



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DATE 09-29-2023
David E. Hutton
LICENSURE NO. 19133

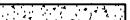
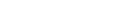
**WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS**
Ramsey, Minnesota

**REMOVAL PLAN
COTTONWOOD PARK**



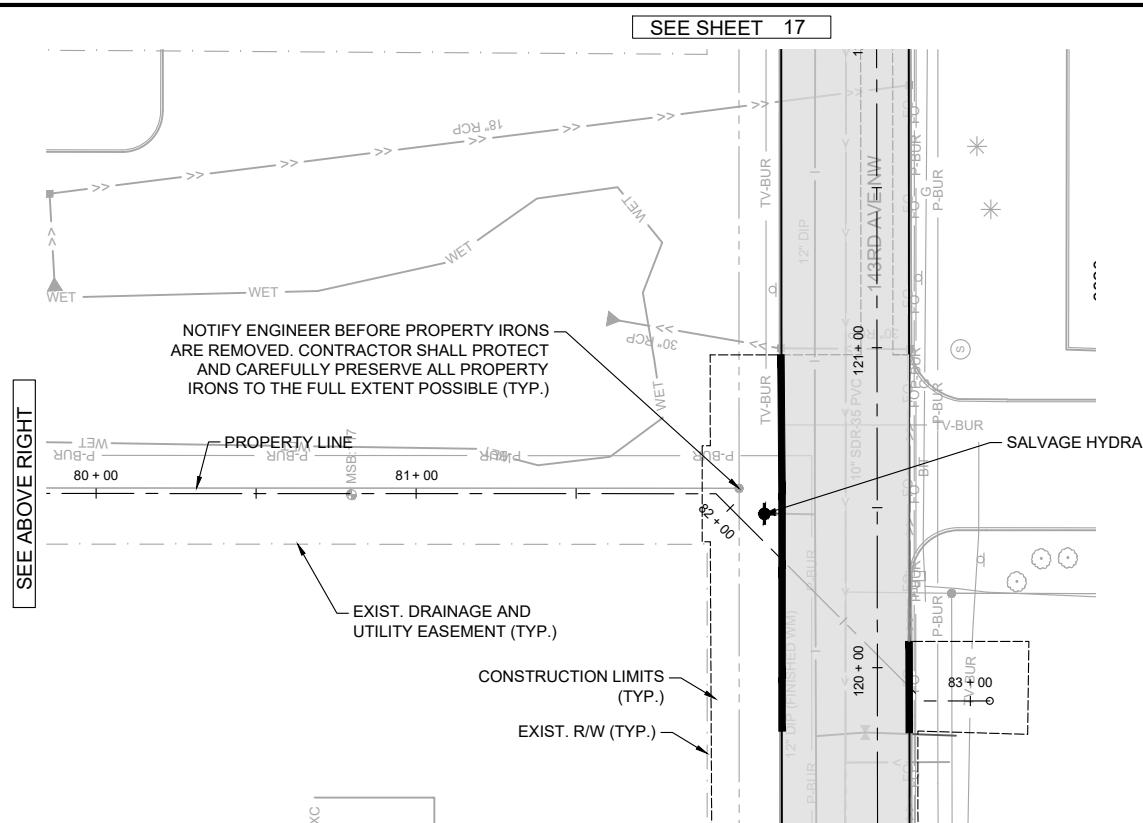
7000 SUNWOOD DR

REMOVALS

	BITUMINOUS PAVEMENT REMOVAL
	BITUMINOUS DRIVEWAY AND TRAIL REMOVAL
	CONCRETE WALK REMOVAL
	CURB & GUTTER REMOVAL
	SAWCUT
	WATER MAIN REMOVAL
	STORM SEWER REMOVAL (INCLUDES APRONS)
	HYDRANT, GATE VALVE REMOVAL
	TREE REMOVAL
	CLEAR AND GRUB

REMOVALS NOTES

1. PROTECT ALL OBJECTS NOT MARKED FOR REMOVAL. DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
2. PAVEMENT, BITUMINOUS TRAIL, CONCRETE WALK, AND CURB AND GUTTER REMOVAL LIMITS SHALL BE FIELD LOCATED BY THE ENGINEER. MINIMUM CURB REPLACEMENT LENGTH SHALL BE NO LESS THAN HALF A CURB PANEL.



SEE SHEET 17

SEH Project	RAMSY174498	Rev.#	Revision Issue Description	Date	Rev.#
Drawn By	JRB, SRP	.		.	.
Designed By	KLK	.		.	.
checked By	GTG	.		.	.



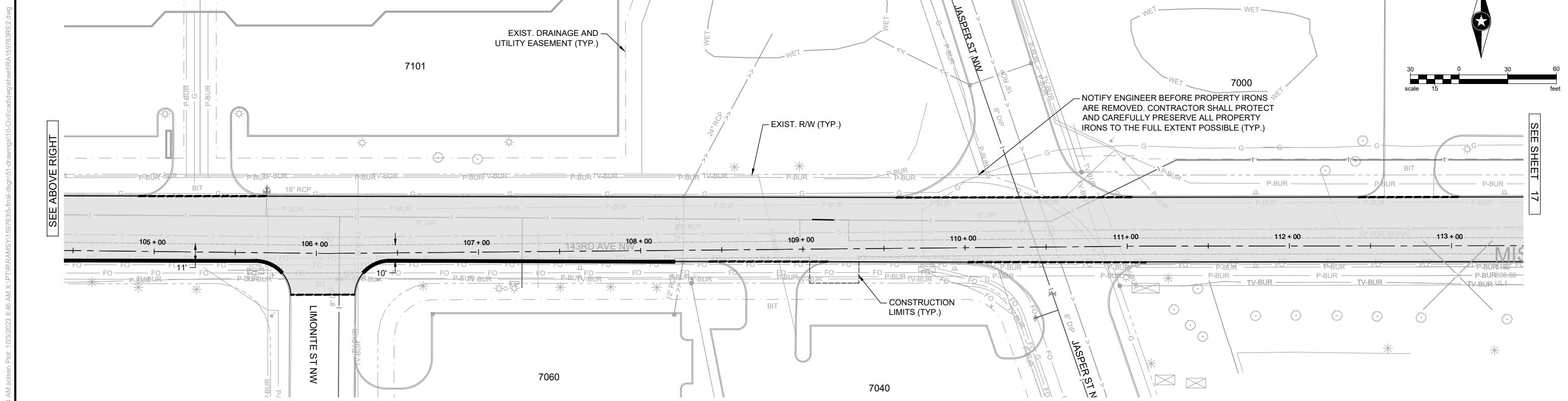
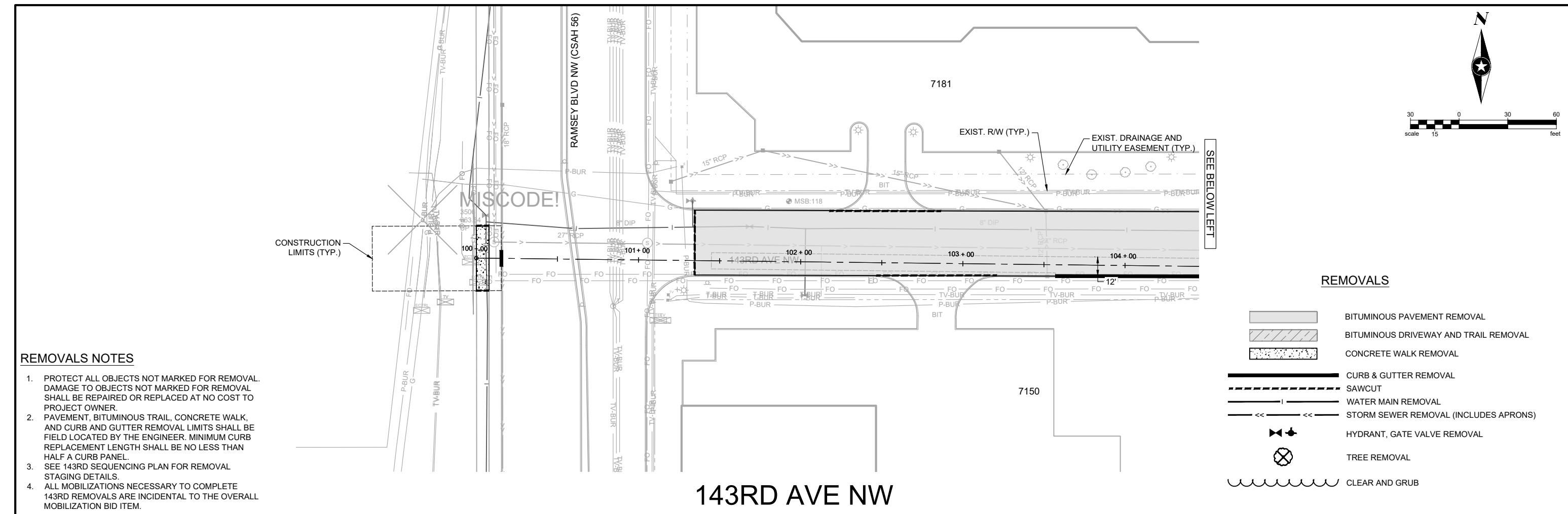
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SUPERVISION AND THAT I AM A DULY LICENSED ##### UNDER THE
LAWS OF THE STATE OF MN.

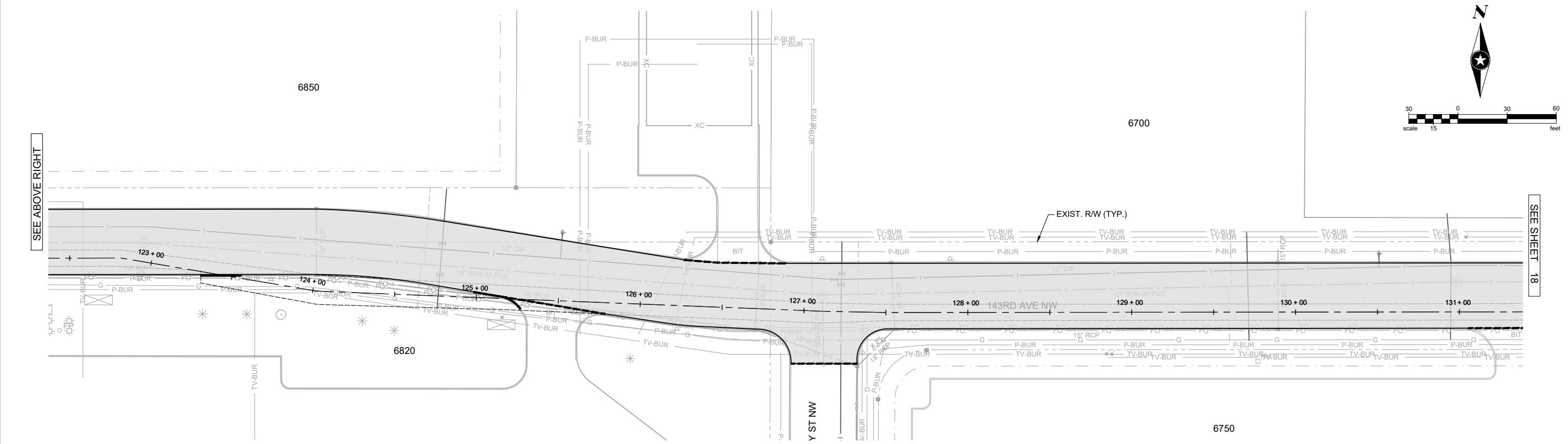
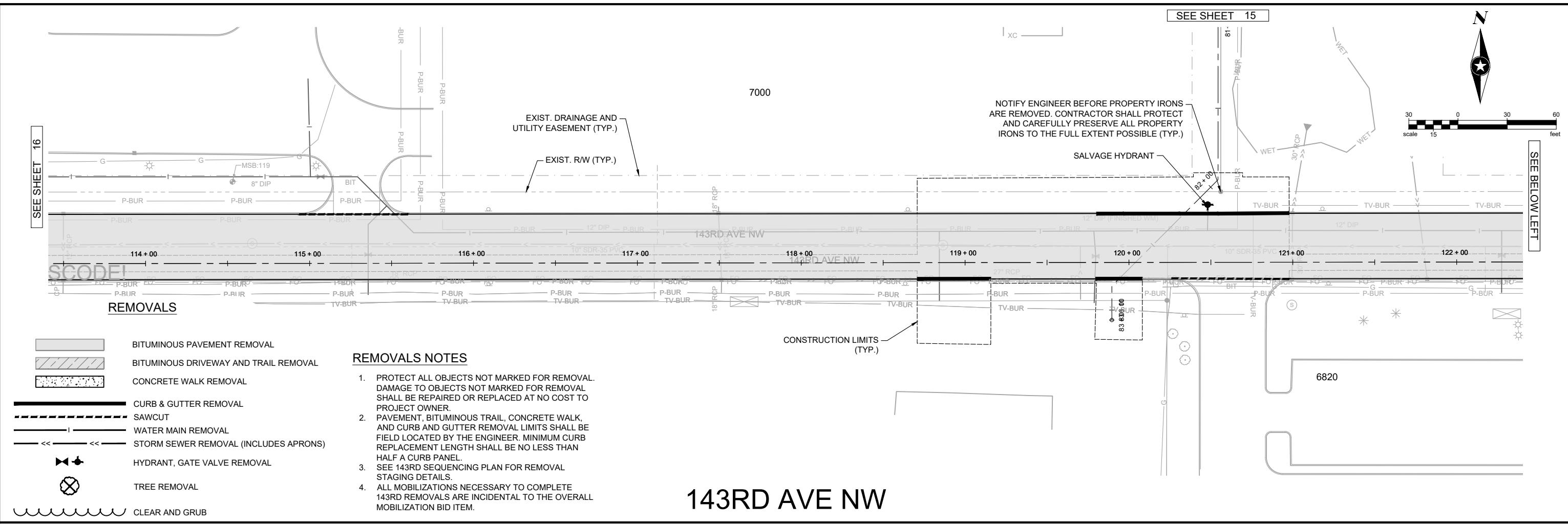
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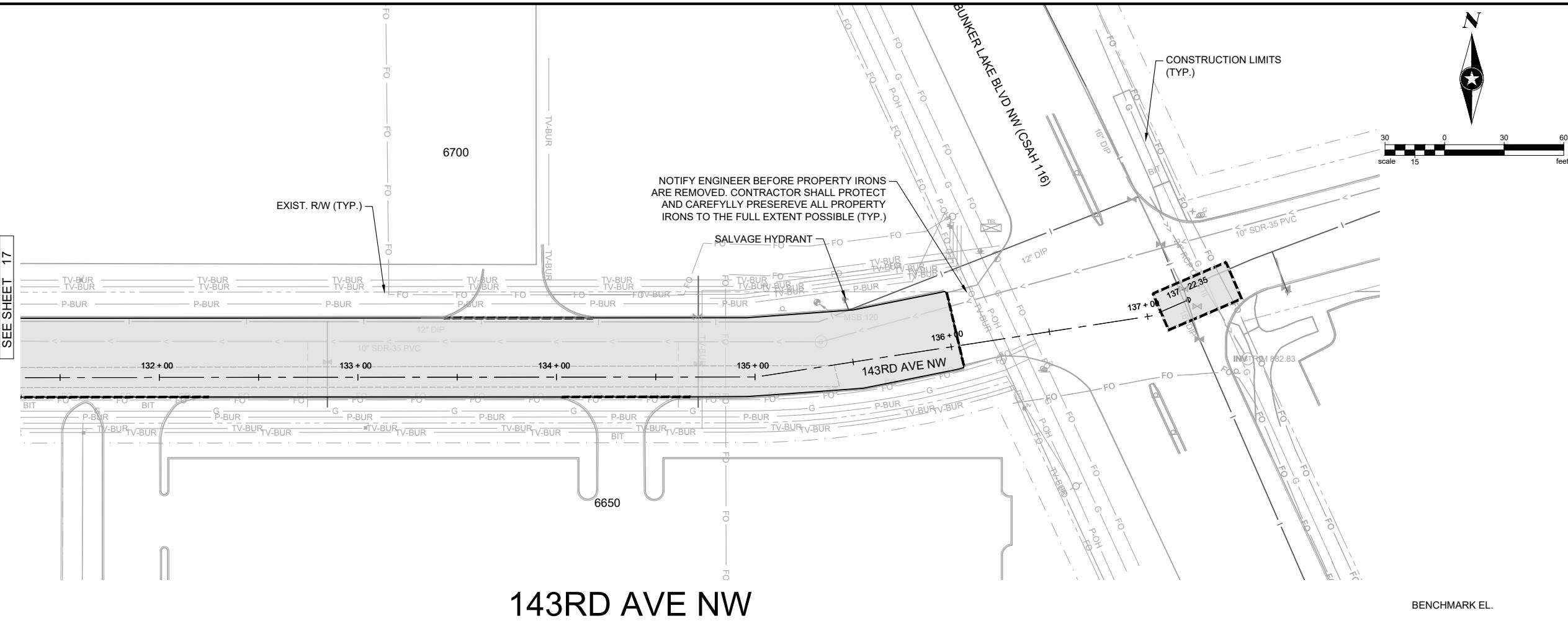
David E. Hutton
LICENSE NO. 40123

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

**REMOVAL PLAN
7000 SUNWOOD DR**







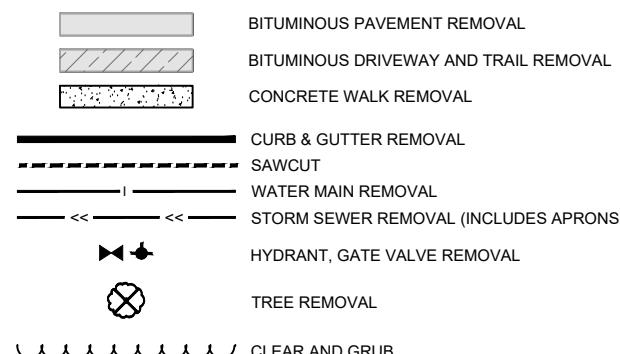
143RD AVE NW

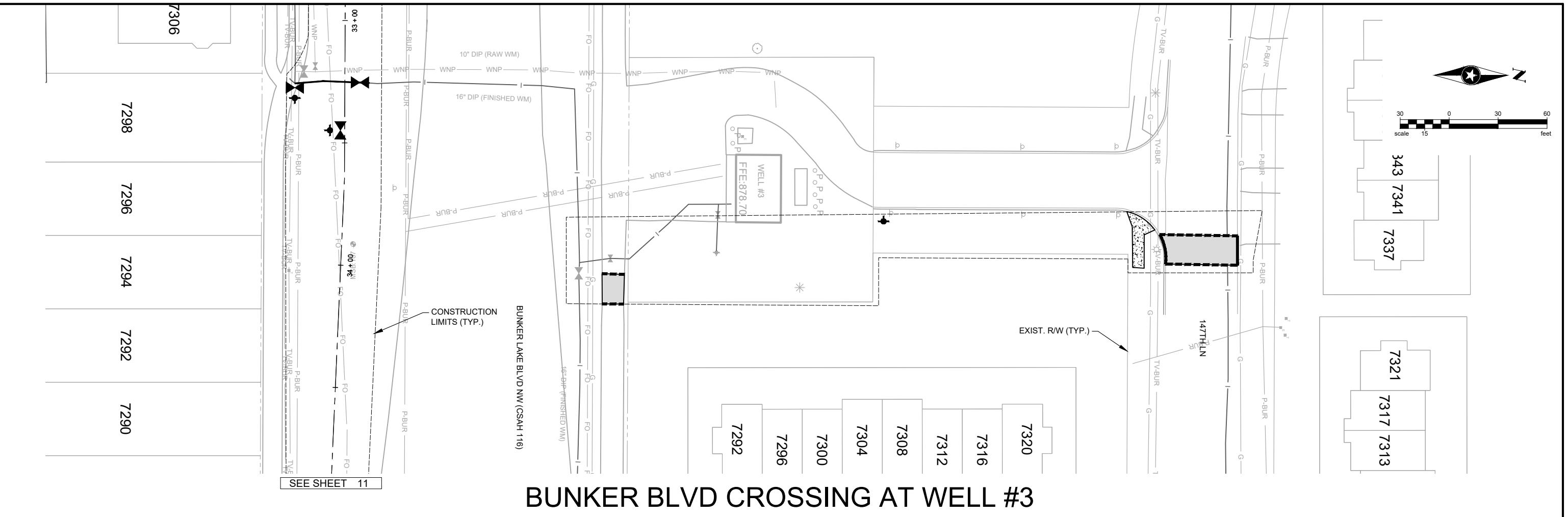
REMOVALS

REMOVALS NOTES

1. PROTECT ALL OBJECTS NOT MARKED FOR REMOVAL. DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
2. PAVEMENT, BITUMINOUS TRAIL, CONCRETE WALK, AND CURB AND GUTTER REMOVAL LIMITS SHALL BE FIELD LOCATED BY THE ENGINEER. MINIMUM CURB REPLACEMENT LENGTH SHALL BE NO LESS THAN HALF A CURB PANEL.
3. SEE 143RD SEQUENCING PLAN FOR REMOVAL STAGING DETAILS.
4. ALL MOBILIZATIONS NECESSARY TO COMPLETE 143RD REMOVALS ARE INCIDENTAL TO THE OVERALL MOBILIZATION BID ITEM.

BENCHMARK EI





REMOVALS



BITUMINOUS PAVEMENT REMOVAL

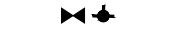
BITUMINOUS DRIVEWAY AND TRAIL REMOVAL



CURB & GUTTER REMOVAL



WATER MAIN REMOVAL



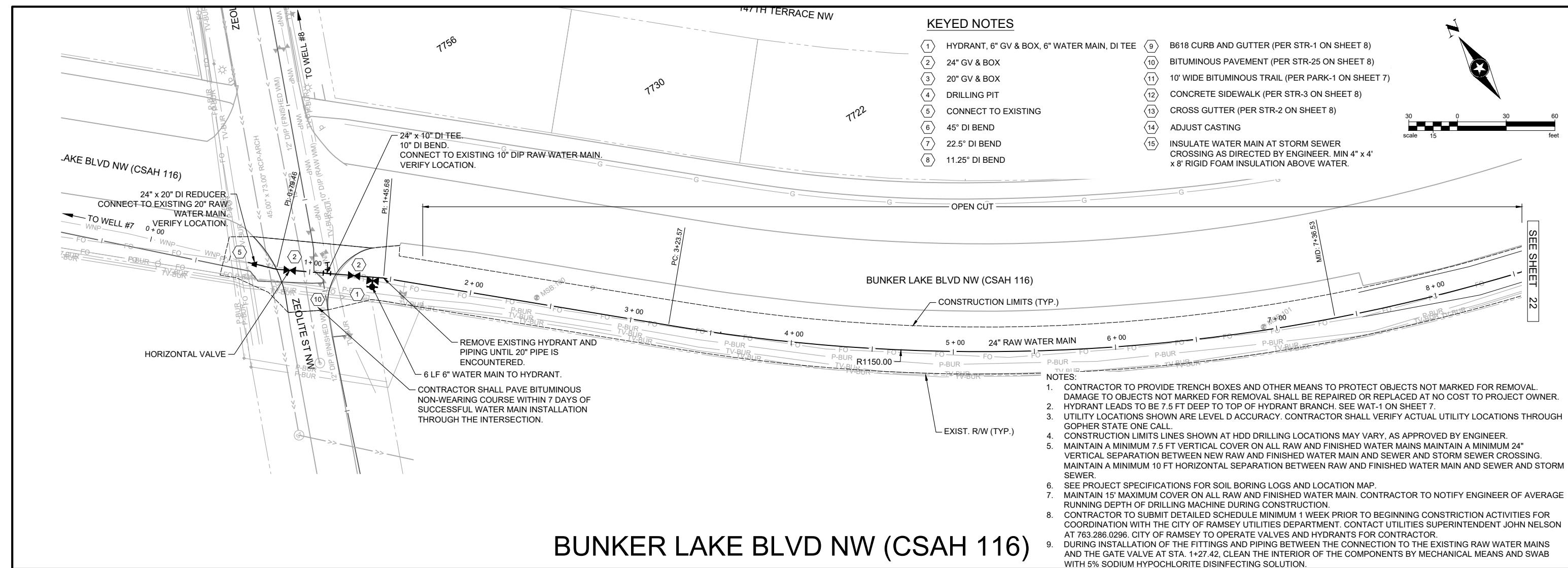
TREE REMOVAL



CLEAR AND GRIB

REMOVALS NOTES

1. PROTECT ALL OBJECTS NOT MARKED FOR REMOVAL
DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL
SHALL BE REPAIRED OR REPLACED AT NO COST TO
PROJECT OWNER.
2. PAVEMENT, BITUMINOUS TRAIL, CONCRETE WALK,
AND CURB AND GUTTER REMOVAL LIMITS SHALL BE
FIELD LOCATED BY THE ENGINEER. MINIMUM CURB
REPLACEMENT LENGTH SHALL BE NO LESS THAN



SEH Project	RAMSY174498	Rev.#	Revision Issue Description	Date	Rev.#
Drawn By	JRB, SRP
Designed By	KLK



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECTION AND SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER AND THAT I AM FAMILIAR WITH THE LAWS OF THE STATE OF MN.

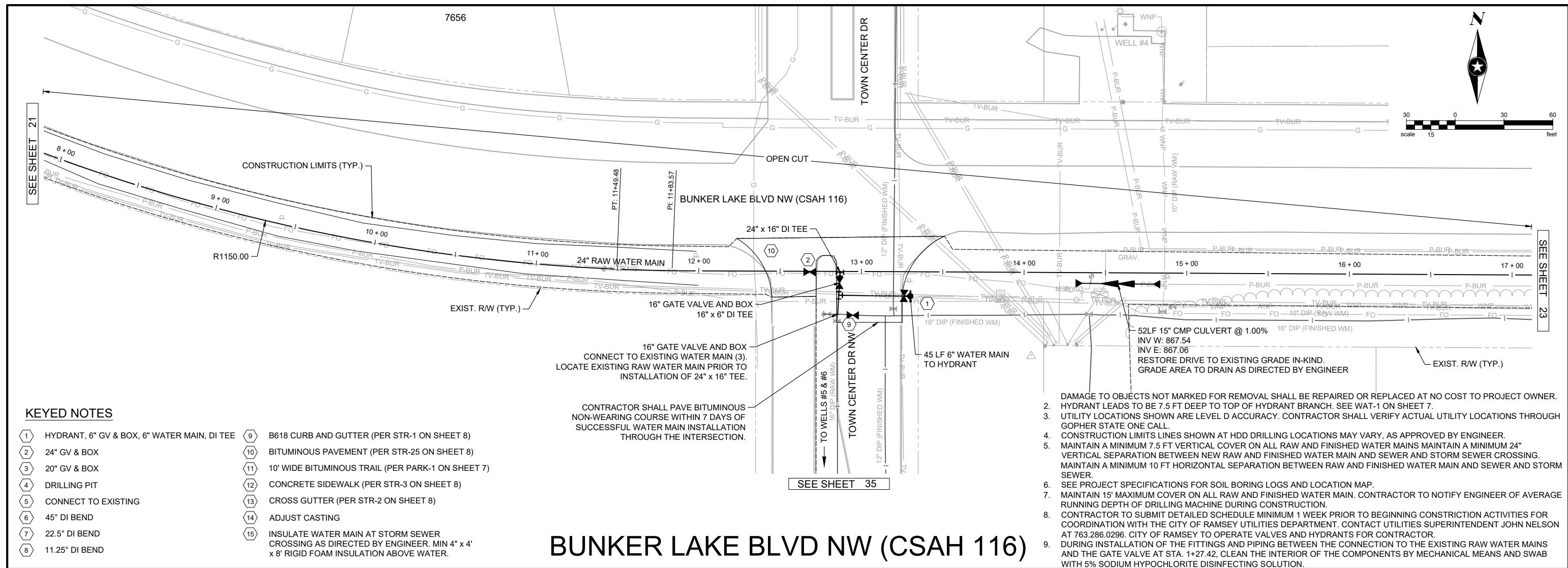
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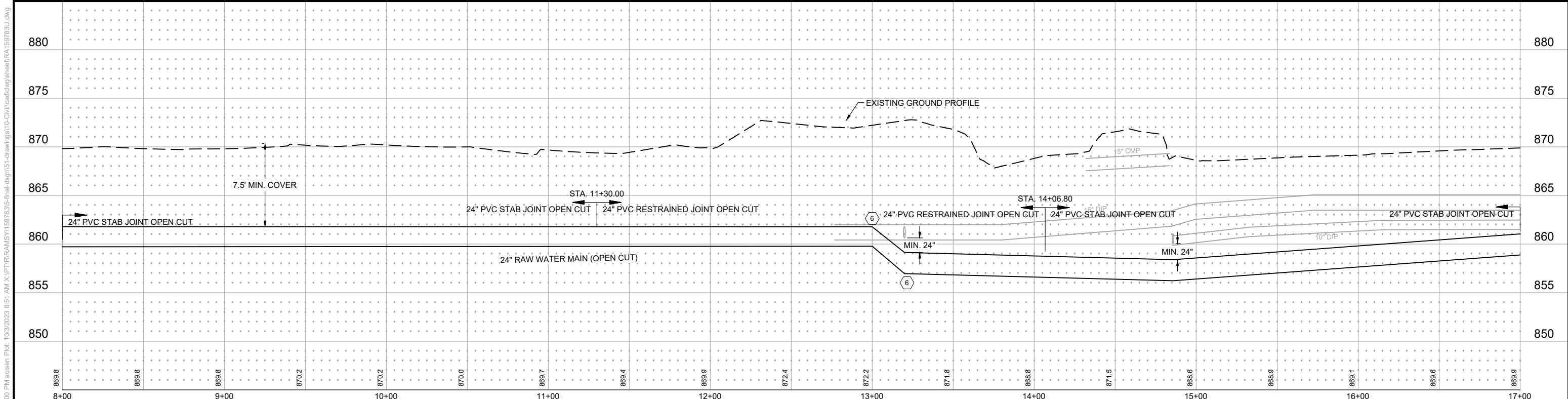
DIRECT
UNDER

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

UTILITY PLAN & PROFILE BUNKER LAKE BLVD NW (CSAH 116)



BUNKER LAKE BLVD NW (CSAH 116)



KEYED NOTES

1 HYDRANT, 6" GV & BOX, 6" WATER MAIN, DI TEE	9 B618 CURB AND GUTTER (PER STR-1 ON SHEET 8)
2 24" GV & BOX	10 BITUMINOUS PAVEMENT (PER STR-25 ON SHEET 8)
3 20" GV & BOX	11 10' WIDE BITUMINOUS TRAIL (PER PARK-1 ON SHEET 7)
4 DRILLING PIT	12 CONCRETE SIDEWALK (PER STR-3 ON SHEET 8)
5 CONNECT TO EXISTING	13 CROSS GUTTER (PER STR-2 ON SHEET 8)
6 45° DI BEND	14 ADJUST CASTING
7 22.5° DI BEND	15 INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4" x 8' RIGID FOAM INSULATION ABOVE WATER.
8 11.25° DI BEND	

7548

7436

N


BUNKER LAKE BLVD NW (CSAH 116)

SEE SHEET 22

SEE SHEET 24

DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.

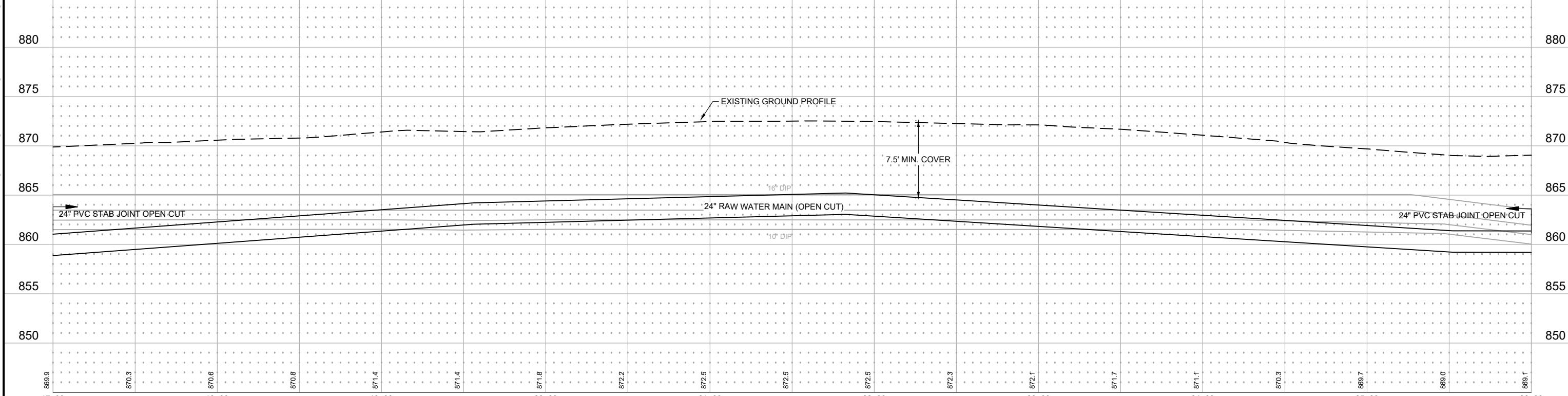
- HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
- UTILITY LOCATIONS SHOWN ARE LEVEL D ACCURACY. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS THROUGH GOPHER STATE ONE CALL.
- CONSTRUCTION LIMITS LINES SHOWN AT HDD DRILLING LOCATIONS MAY VARY, AS APPROVED BY ENGINEER.
- MAINTAIN A MINIMUM 7.5 FT VERTICAL COVER ON ALL RAW AND FINISHED WATER MAINS MAINTAIN A MINIMUM 24" VERTICAL SEPARATION BETWEEN NEW RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER CROSSING. MAINTAIN A MINIMUM 10 FT HORIZONTAL SEPARATION BETWEEN RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER.
- SEE PROJECT SPECIFICATIONS FOR SOIL BORING LOGS AND LOCATION MAP.
- MAINTAIN 15' MAXIMUM COVER ON ALL RAW AND FINISHED WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF AVERAGE RUNNING DEPTH OF DRILLING MACHINE DURING CONSTRUCTION.
- CONTRACTOR TO SUBMIT DETAILED SCHEDULE MINIMUM 1 WEEK PRIOR TO BEGINNING CONSTRICTION ACTIVITIES FOR COORDINATION WITH THE CITY OF RAMSEY UTILITIES DEPARTMENT. CONTACT UTILITIES SUPERINTENDENT JOHN NELSON AT 763.286.0296. CITY OF RAMSEY TO OPERATE VALVES AND HYDRANTS FOR CONTRACTOR.
- DURING INSTALLATION OF THE FITTINGS AND PIPING BETWEEN THE CONNECTION TO THE EXISTING RAW WATER MAINS AND THE GATE VALVE AT STA. 1+27.42, CLEAN THE INTERIOR OF THE COMPONENTS BY MECHANICAL MEANS AND SWAB WITH 5% SODIUM HYPOCHLORITE DISINFECTING SOLUTION.

BUNKER LAKE BLVD NW (CSAH 116)

7462	7458	7456	7454	7450	7448	7444
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7434	7430	7428	7426	7424	7422	7418
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SEH Project RAMSY174498
Drawn By JRB, SRP
Designed By KLK
Checked By CES

Revision Issue
Description Date
Rev.#

Revision Issue
Description Date
Rev.#

Revision Issue
Description Date
Rev.#



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 MN.
DATE 09-29-2023
David E. Hutton
LICENSURE NO. 19133

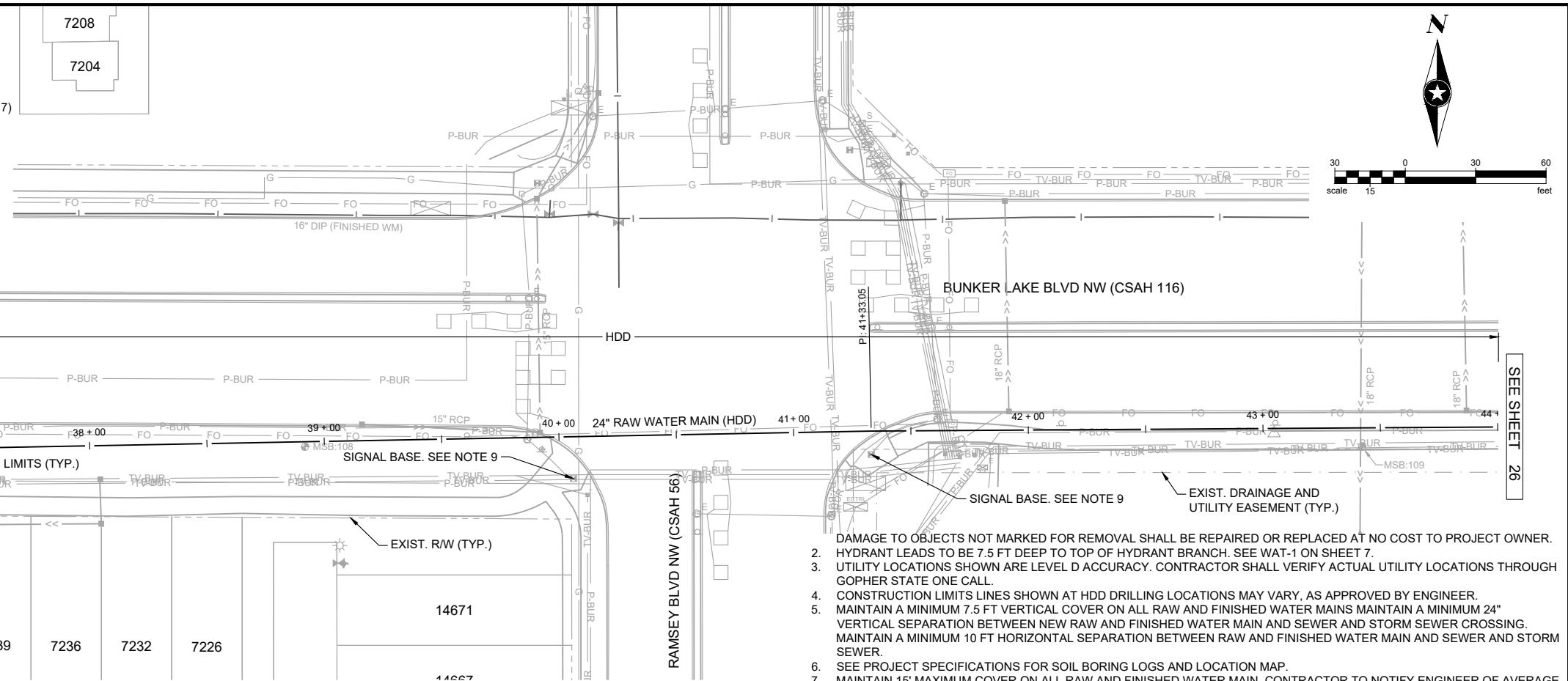
**WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS**
Ramsey, Minnesota

**UTILITY PLAN & PROFILE
BUNKER LAKE BLVD NW (CSAH 116)**

23
of 58

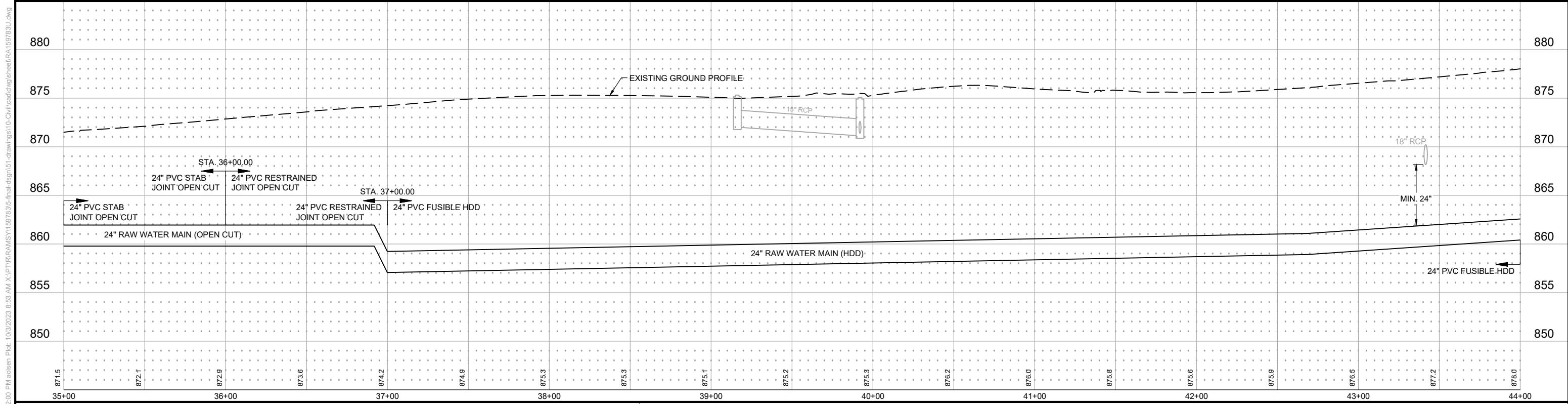
KEYED NOTES

1	HYDRANT, 6" GV & BOX, 6" WATER MAIN, DI TEE	9	B618 CURB AND GUTTER (PER STR-1 ON SHEET 8)
2	24" GV & BOX	10	BITUMINOUS PAVEMENT (PER STR-25 ON SHEET 8)
3	20" GV & BOX	11	10' WIDE BITUMINOUS TRAIL (PER PARK-1 ON SHEET 8)
4	DRILLING PIT	12	CONCRETE SIDEWALK (PER STR-3 ON SHEET 8)
5	CONNECT TO EXISTING	13	CROSS GUTTER (PER STR-2 ON SHEET 8)
6	45° DI BEND	14	ADJUST CASTING
7	22.5° DI BEND	15	INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4 x 8" RIGID FOAM INSULATION ABOVE WATER.
8	11.25° DI BEND		



BUNKER LAKE BLVD NW (CSAH 116)

- DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
- 2. HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
- 3. UTILITY LOCATIONS SHOWN ARE LEVEL D ACCURACY. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS THROUGH GOPHER STATE ONE CALL.
- 4. CONSTRUCTION LIMITS LINES SHOWN AT HDD DRILLING LOCATIONS MAY VARY, AS APPROVED BY ENGINEER.
- 5. MAINTAIN A MINIMUM 7.5 FT VERTICAL COVER ON ALL RAW AND FINISHED WATER MAINS MAINTAIN A MINIMUM 24" VERTICAL SEPARATION BETWEEN NEW RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER CROSSING. MAINTAIN A MINIMUM 10 FT HORIZONTAL SEPARATION BETWEEN RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER.
- 6. SEE PROJECT SPECIFICATIONS FOR SOIL BORING LOGS AND LOCATION MAP.
- 7. MAINTAIN 15' MAXIMUM COVER ON ALL RAW AND FINISHED WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF AVERAGE RUNNING DEPTH OF DRILLING MACHINE DURING CONSTRUCTION.
- 8. CONTRACTOR TO SUBMIT DETAILED SCHEDULE MINIMUM 1 WEEK PRIOR TO BEGINNING CONSTRICTION ACTIVITIES FOR COORDINATION WITH THE CITY OF RAMSEY UTILITIES DEPARTMENT. CONTACT UTILITIES SUPERINTENDENT JOHN NELSON AT 763.286.0296. CITY OF RAMSEY TO OPERATE VALVES AND HYDRANTS FOR CONTRACTOR.
- 9. DURING INSTALLATION OF THE FITTINGS AND PIPING BETWEEN THE CONNECTION TO THE EXISTING RAW WATER MAINS AND THE GATE VALVE AT STA. 1+27.42, CLEAN THE INTERIOR OF THE COMPONENTS BY MECHANICAL MEANS AND SWAB WITH 5% SODIUM HYPOCHLORITE DISINFECTING SOLUTION.
- 9. DO NOT DISTURB OR CAUSE DAMAGE TO THE TRAFFIC SIGNAL COMPONENTS, STRUCTURAL ELEMENTS, OR UNDERGROUND CONDUITS AND WIRING AT CSAH 56.



SEH Project RAMSY174498
Drawn By JRB, SRP
Designed By KLK
Checked By CES

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Revision Issue Description

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David E. Hutton
E 09-29-2023
LICENSE NO. 19133

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

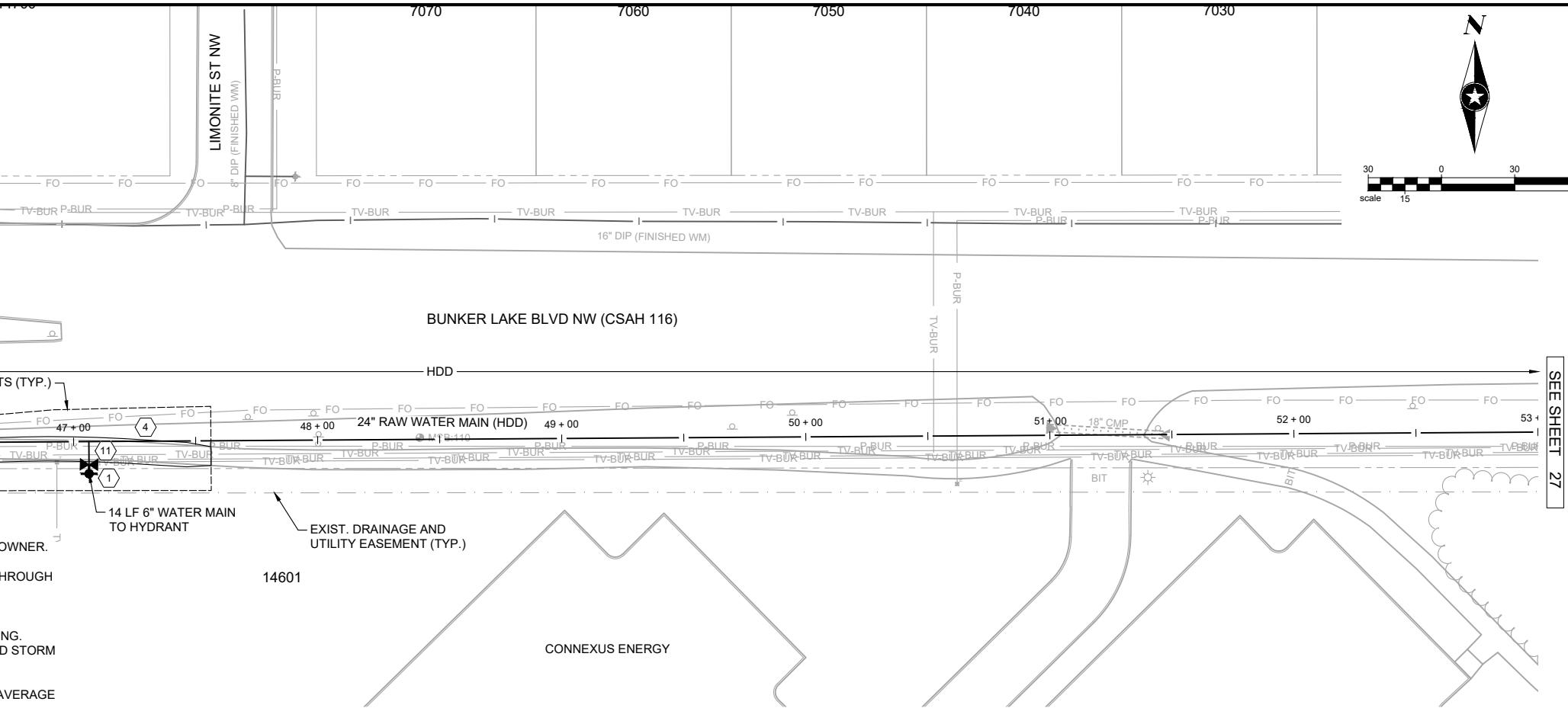
Ramsey, Minnesota

UTILITY PLAN & PROFILE BUNKER LAKE BLVD NW (CSAH 116)

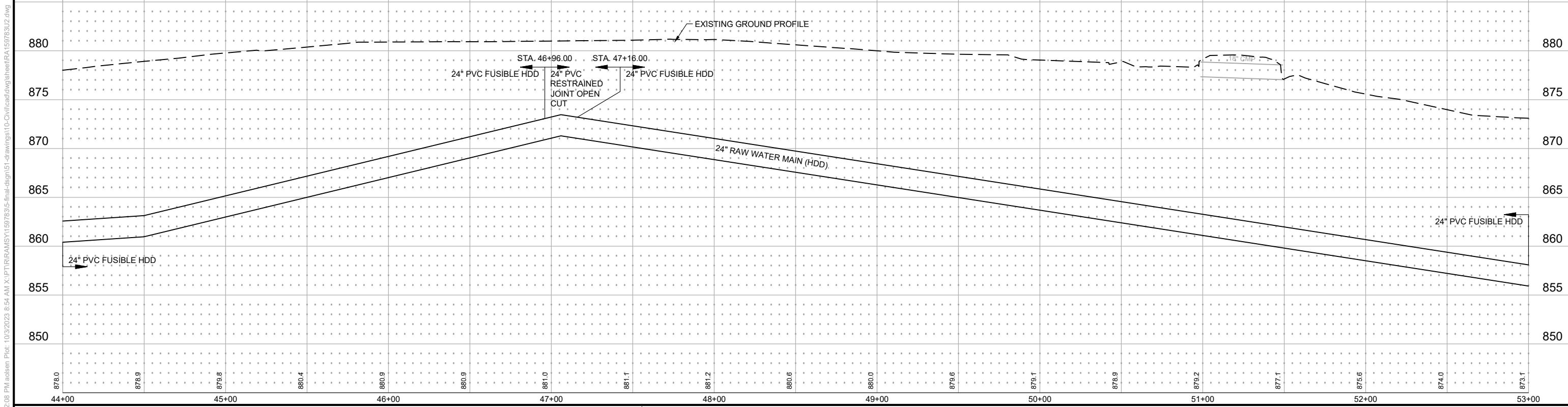
25
of 5

KEYED NOTES

- 1 HYDRANT, 6" GV & BOX, 6" WATER MAIN, DI TEE
- 2 24" GV & BOX
- 3 20" GV & BOX
- 4 DRILLING PIT
- 5 CONNECT TO EXISTING
- 6 45° DI BEND
- 7 22.5° DI BEND
- 8 11.25° DI BEND
- 9 B618 CURB AND GUTTER (PER STR-1 ON SHEET 8)
- 10 BITUMINOUS PAVEMENT (PER STR-25 ON SHEET 8)
- 11 10' WIDE BITUMINOUS TRAIL (PER PARK-1 ON SHEET 7)
- 12 CONCRETE SIDEWALK (PER STR-3 ON SHEET 8)
- 13 CROSS GUTTER (PER STR-2 ON SHEET 8)
- 14 ADJUST CASTING
- 15 INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4" x 8" RIGID FOAM INSULATION ABOVE WATER.



BUNKER LAKE BLVD NW (CSAH 116)



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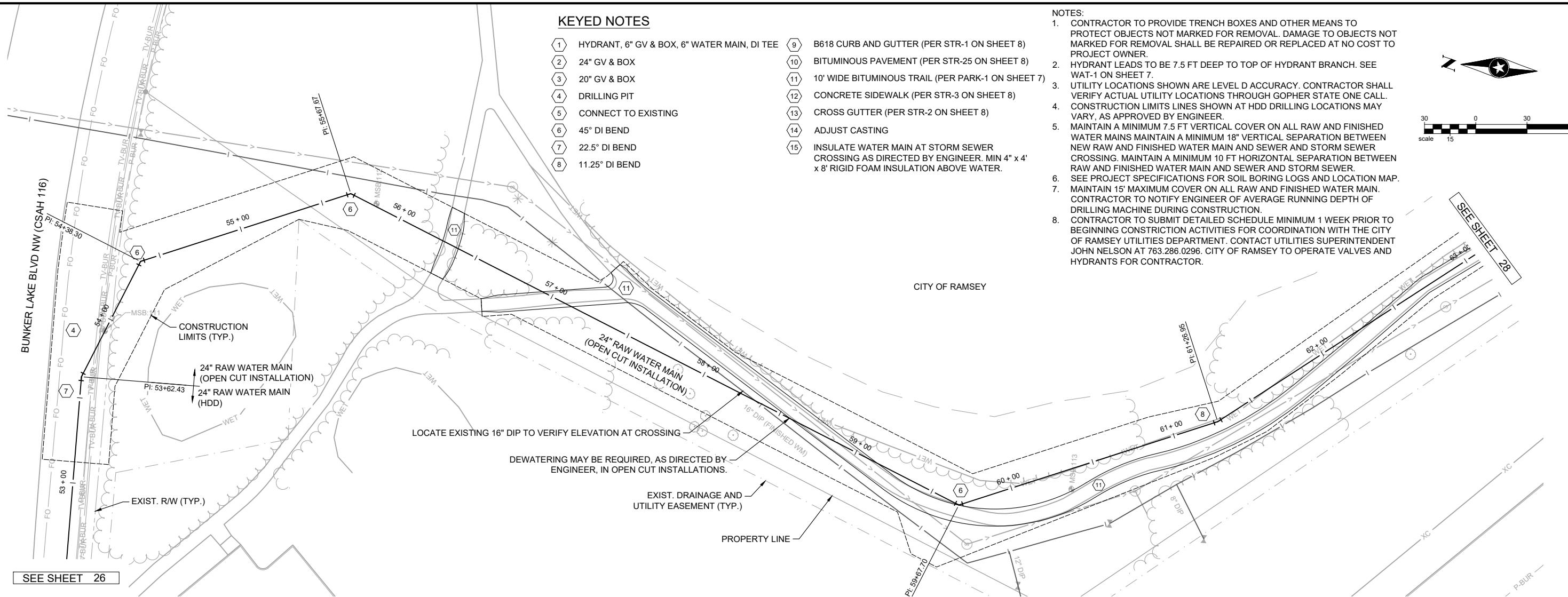
Rev.#
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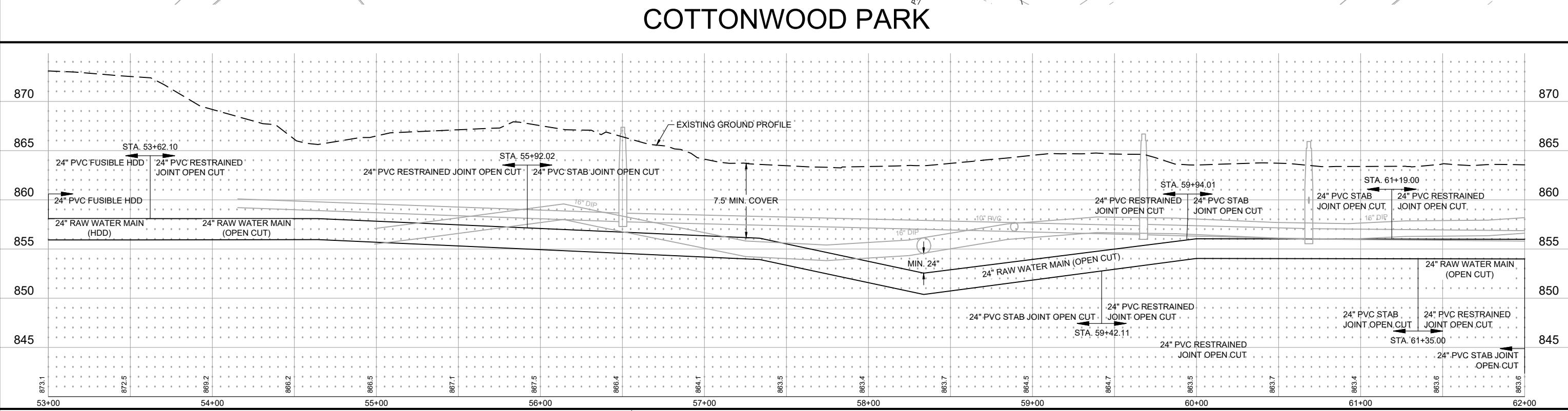
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WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS
Ramsey, Minnesota

UTILITY PLAN & PROFILE
BUNKER LAKE BLVD NW (CSAH 116)



COTTONWOOD PARK

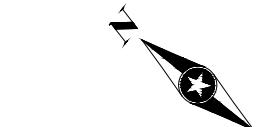


KEYED NOTES

- 1 HYDRANT, 6" GV & BOX, 6" WATER MAIN, DI TEE
- 2 24" GV & BOX
- 3 20" GV & BOX
- 4 DRILLING PIT
- 5 CONNECT TO EXISTING
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- 7 22.5° DI BEND
- 8 11.25° DI BEND
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- 11 10' WIDE BITUMINOUS TRAIL (PER PARK-1 ON SHEET 7)
- 12 CONCRETE SIDEWALK (PER STR-3 ON SHEET 8)
- 13 CROSS GUTTER (PER STR-2 ON SHEET 8)
- 14 ADJUST CASTING
- 15 INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4" x 8" RIGID FOAM INSULATION ABOVE WATER.

DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.

2. HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
3. UTILITY LOCATIONS SHOWN ARE LEVEL D ACCURACY. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS THROUGH GOPHER STATE ONE CALL.
4. CONSTRUCTION LIMITS LINES SHOWN AT HDD DRILLING LOCATIONS MAY VARY, AS APPROVED BY ENGINEER.
5. MAINTAIN A MINIMUM 7.5 FT VERTICAL COVER ON ALL RAW AND FINISHED WATER MAINS. MAINTAIN A MINIMUM 24" VERTICAL SEPARATION BETWEEN NEW RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER CROSSING. MAINTAIN A MINIMUM 10 FT HORIZONTAL SEPARATION BETWEEN RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER.
6. SEE PROJECT SPECIFICATIONS FOR SOIL BORING LOGS AND LOCATION MAP.
7. MAINTAIN 15' MAXIMUM COVER ON ALL RAW AND FINISHED WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF AVERAGE RUNNING DEPTH OF DRILLING MACHINE DURING CONSTRUCTION.
8. CONTRACTOR TO SUBMIT DETAILED SCHEDULE MINIMUM 1 WEEK PRIOR TO BEGINNING CONSTRICTION ACTIVITIES FOR COORDINATION WITH THE CITY OF RAMSEY UTILITIES DEPARTMENT. CONTACT UTILITIES SUPERINTENDENT JOHN NELSON AT 763.286.0296. CITY OF RAMSEY TO OPERATE VALVES AND HYDRANTS FOR CONTRACTOR.
9. DURING INSTALLATION OF THE FITTINGS AND PIPING BETWEEN THE CONNECTION TO THE EXISTING RAW WATER MAINS AND THE GATE VALVE AT STA. 1+27.42, CLEAN THE INTERIOR OF THE COMPONENTS BY MECHANICAL MEANS AND SWAB WITH 5% SODIUM HYPOCHLORITE DISINFECTING SOLUTION.

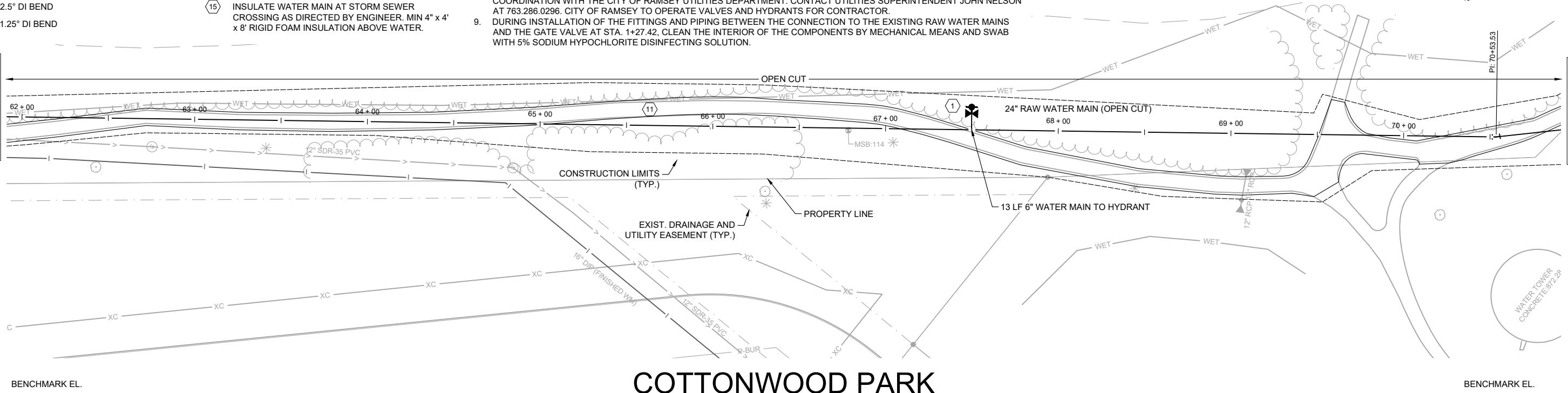


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CITY OF RAMSEY

SEE SHEET 27

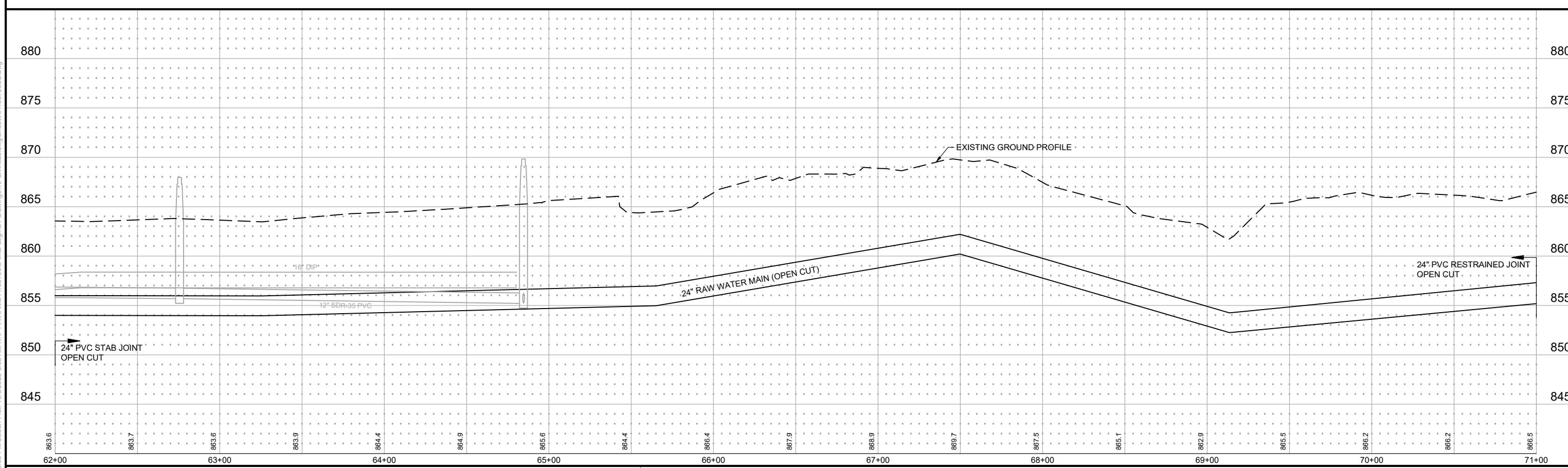
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BENCHMARK EL.

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Drawn By JRB, SRP
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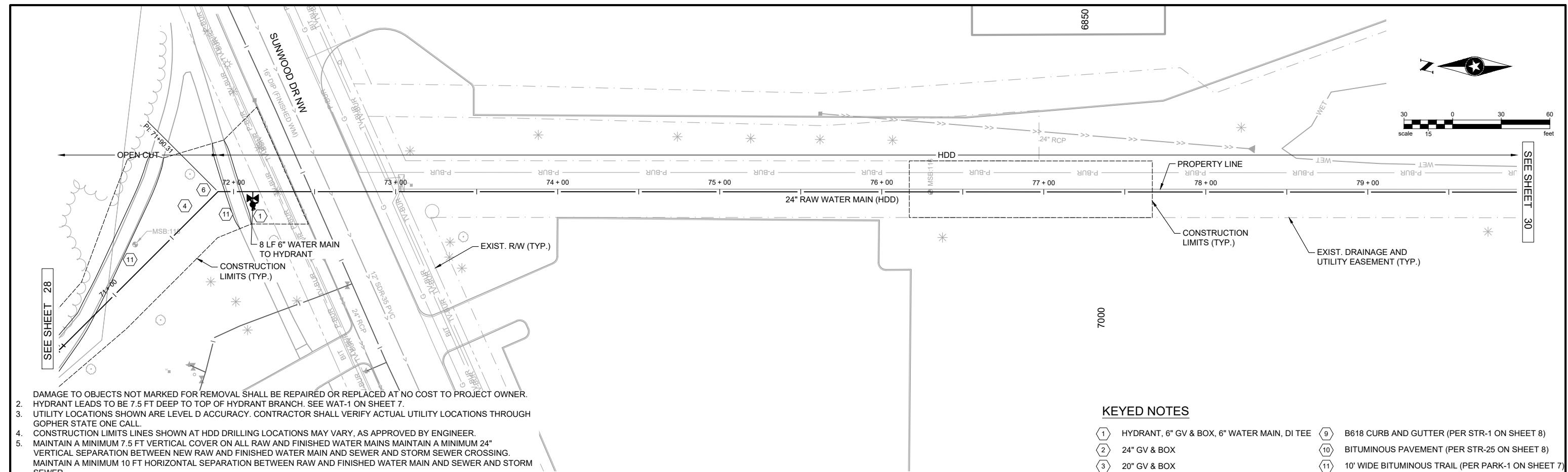
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SEH

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David E. Hutton
LICENSURE NO. 19133

WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS
Ramsey, Minnesota

UTILITY PLAN & PROFILE
COTTONWOOD PARK

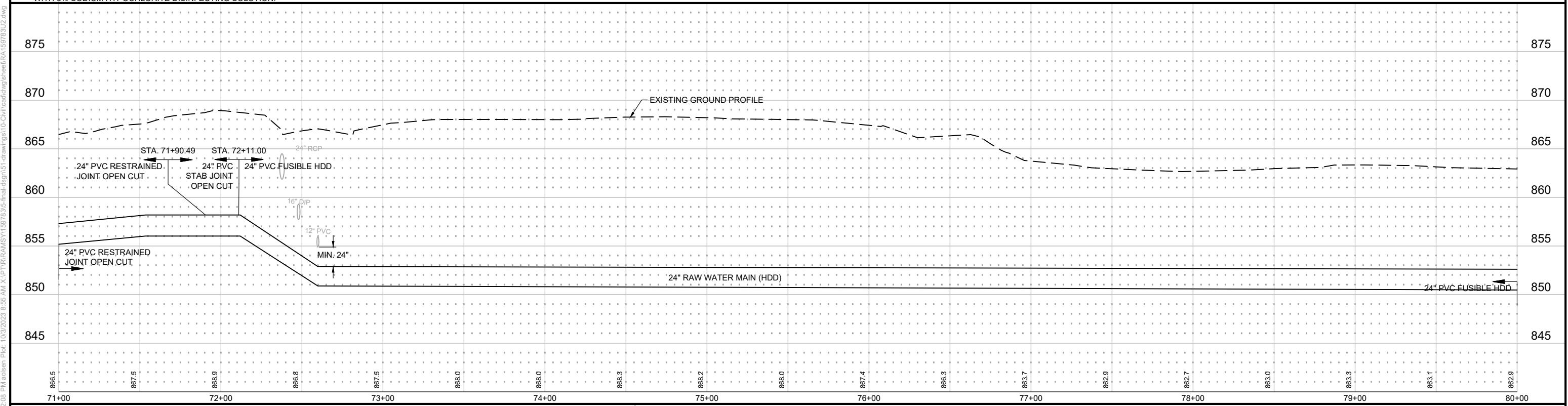


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CONSTRUCTION LIMITS LINES SHOWN AT HDD DRILLING LOCATIONS MAY VARY, AS APPROVED BY ENGINEER.
MAINTAIN A MINIMUM 7.5 FT VERTICAL COVER ON ALL RAW AND FINISHED WATER MAINS MAINTAIN A MINIMUM 24"
VERTICAL SEPARATION BETWEEN NEW RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER CROSSING.
MAINTAIN A MINIMUM 10 FT HORIZONTAL SEPARATION BETWEEN RAW AND FINISHED WATER MAIN AND SEWER AND STORM
SEWER.
SEE PROJECT SPECIFICATIONS FOR SOIL BORING LOGS AND LOCATION MAP.
MAINTAIN 15' MAXIMUM COVER ON ALL RAW AND FINISHED WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF AVERAGE
RUNNING DEPTH OF DRILLING MACHINE DURING CONSTRUCTION.
CONTRACTOR TO SUBMIT DETAILED SCHEDULE MINIMUM 1 WEEK PRIOR TO BEGINNING CONSTRICKTION ACTIVITIES FOR
COORDINATION WITH THE CITY OF RAMSEY UTILITIES DEPARTMENT. CONTACT UTILITIES SUPERINTENDENT JOHN NELSON
AT 763.286.0296. CITY OF RAMSEY TO OPERATE VALVES AND HYDRANTS FOR CONTRACTOR.
DURING INSTALLATION OF THE FITTINGS AND PIPING BETWEEN THE CONNECTION TO THE EXISTING RAW WATER MAINS
AND THE GATE VALVE AT STA. 1+27.42, CLEAN THE INTERIOR OF THE COMPONENTS BY MECHANICAL MEANS AND SWAB
WITH 5% SODIUM HYPOCHLORITE DISINFECTING SOLUTION

7000 SUNWOOD DR

KEYED NOTES

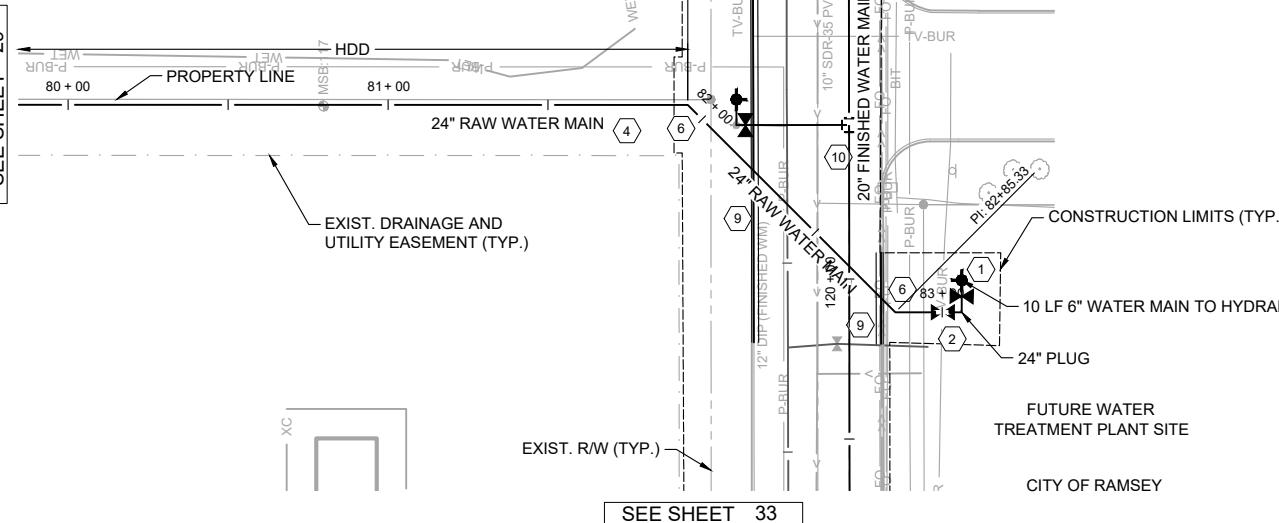
1	HYDRANT, 6" GV & BOX, 6" WATER MAIN, DI TEE	9	B618 CURB AND GUTTER (PER STR-1 ON SHEET 8)
2	24" GV & BOX	10	BITUMINOUS PAVEMENT (PER STR-25 ON SHEET 8)
3	20" GV & BOX	11	10' WIDE BITUMINOUS TRAIL (PER PARK-1 ON SHEET 7)
4	DRILLING PIT	12	CONCRETE SIDEWALK (PER STR-3 ON SHEET 8)
5	CONNECT TO EXISTING	13	CROSS GUTTER (PER STR-2 ON SHEET 8)
6	45° DI BEND	14	ADJUST CASTING
7	22.5° DI BEND	15	INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4' x 8' RIGID FOAM INSULATION ABOVE WATER.
8	11.25° DI BEND		



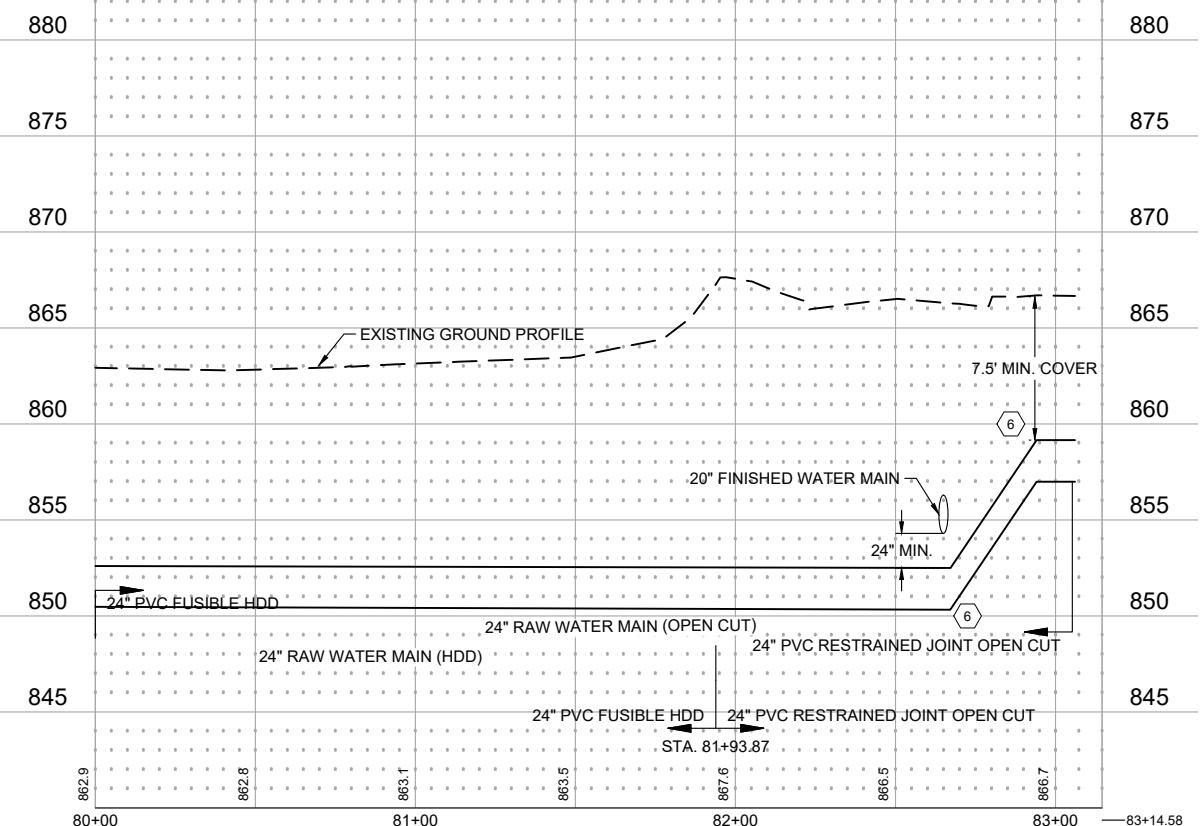
KEYED NOTES

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- 14 ADJUST CASTING
- 15 INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4' x 8' RIGID FOAM INSULATION ABOVE WATER.

SEE SHEET 29



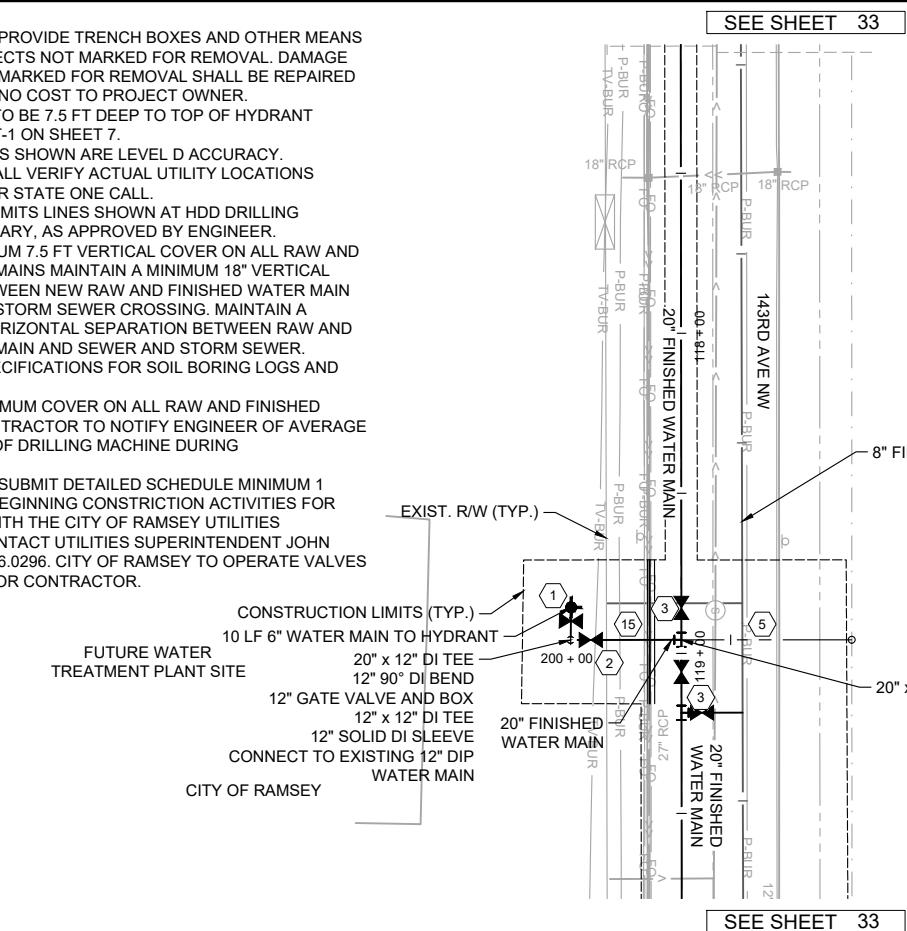
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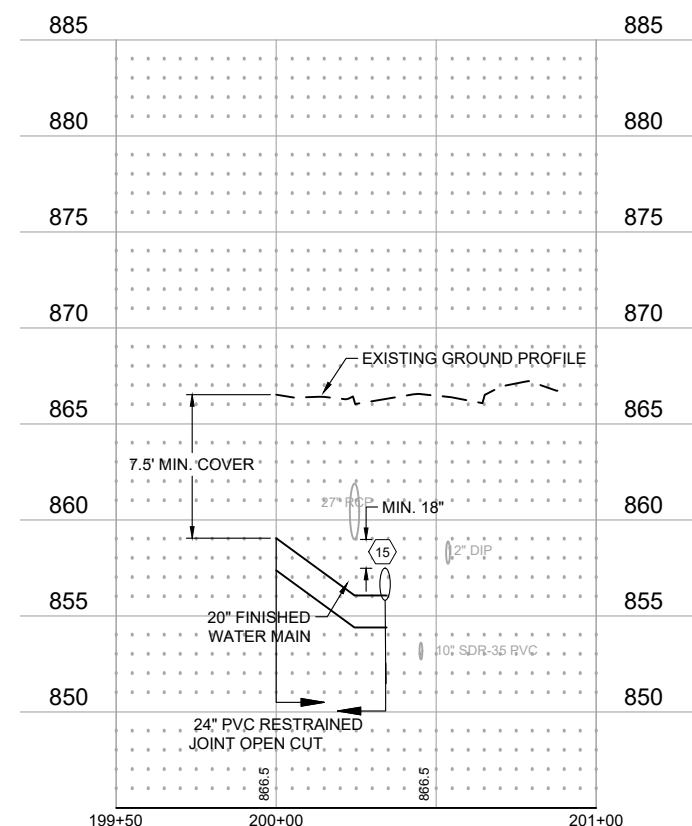
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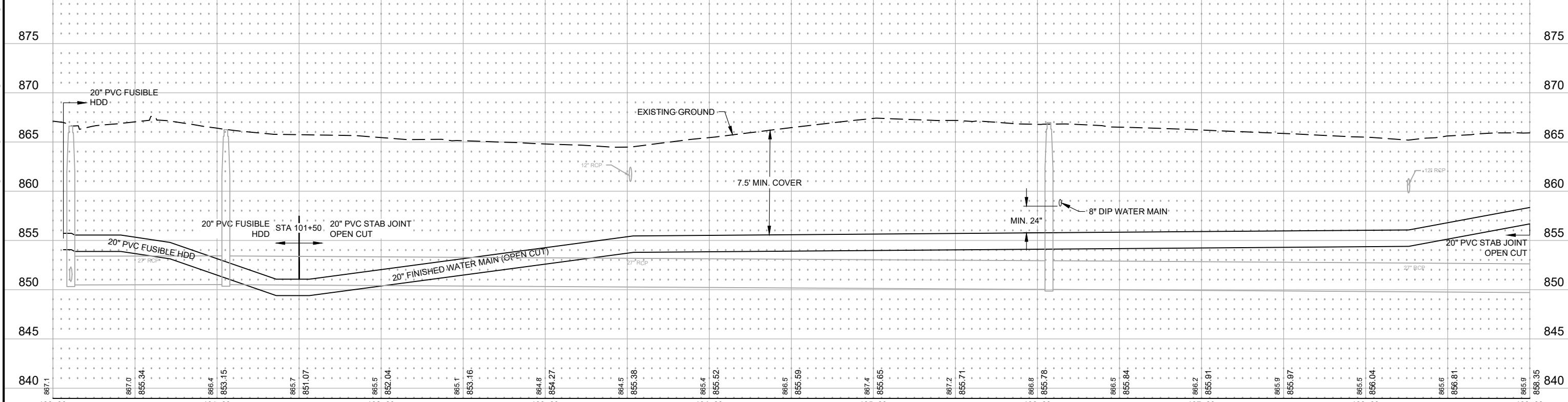
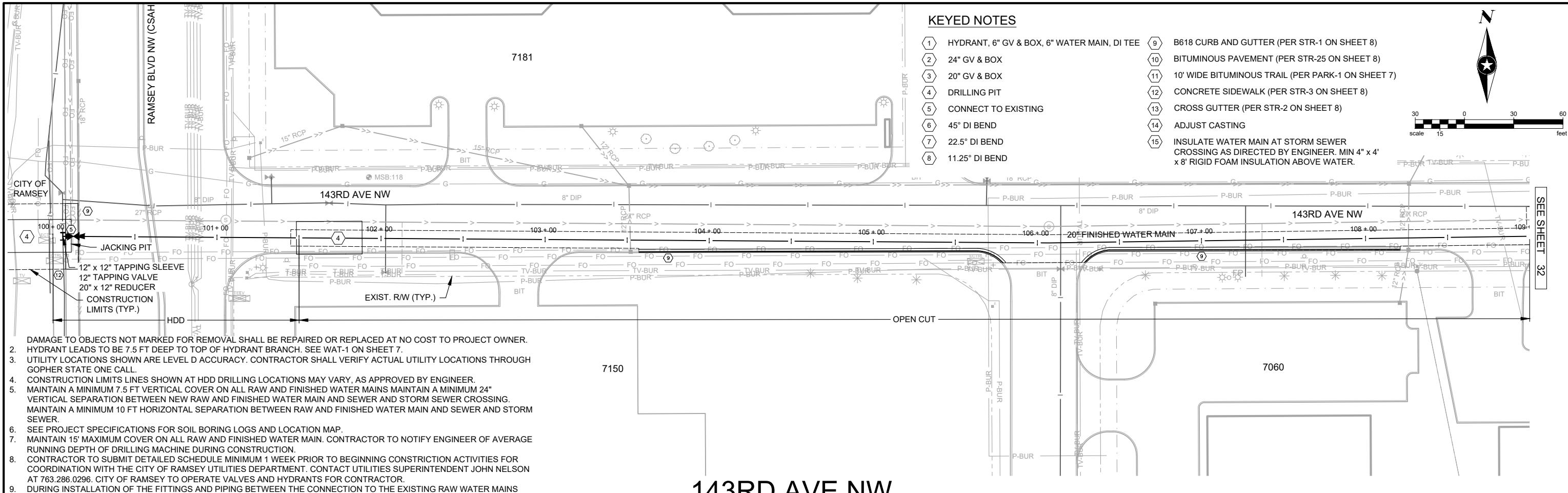
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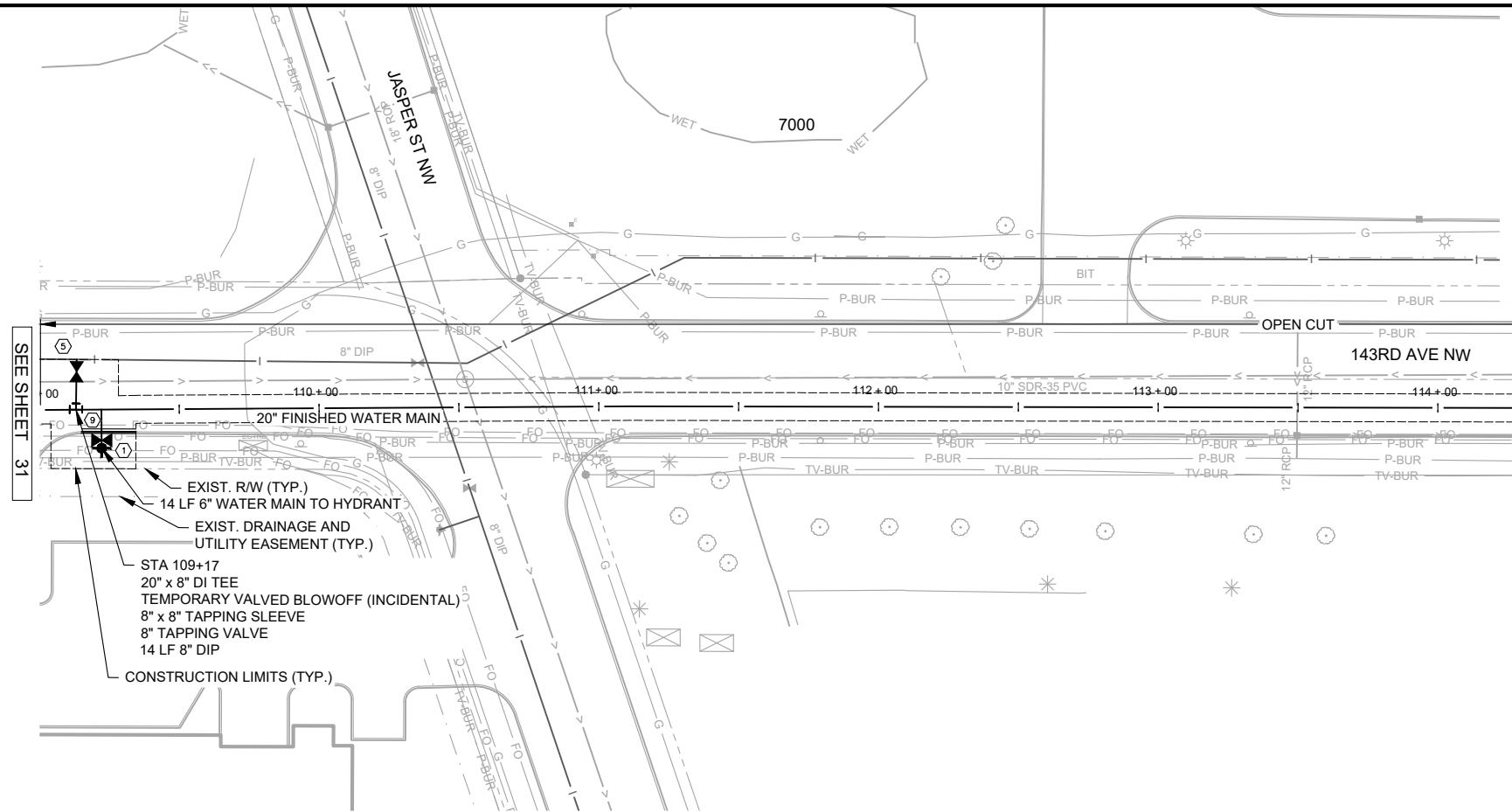
1. CONTRACTOR TO PROVIDE TRENCH BOXES AND OTHER MEANS TO PROTECT OBJECTS NOT MARKED FOR REMOVAL. DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
2. HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
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5. MAINTAIN A MINIMUM 7.5 FT VERTICAL COVER ON ALL RAW AND FINISHED WATER MAINS MAINTAIN A MINIMUM 18" VERTICAL SEPARATION BETWEEN NEW RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER CROSSING. MAINTAIN A MINIMUM 10 FT HORIZONTAL SEPARATION BETWEEN RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER.
6. SEE PROJECT SPECIFICATIONS FOR SOIL BORING LOGS AND LOCATION MAP.
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FUTURE WTP

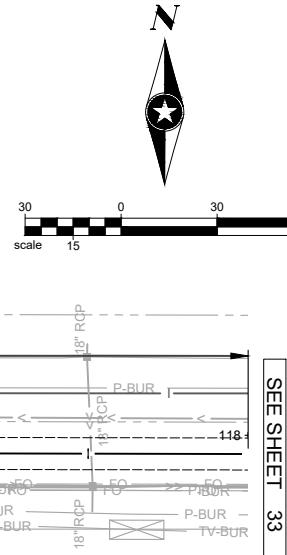






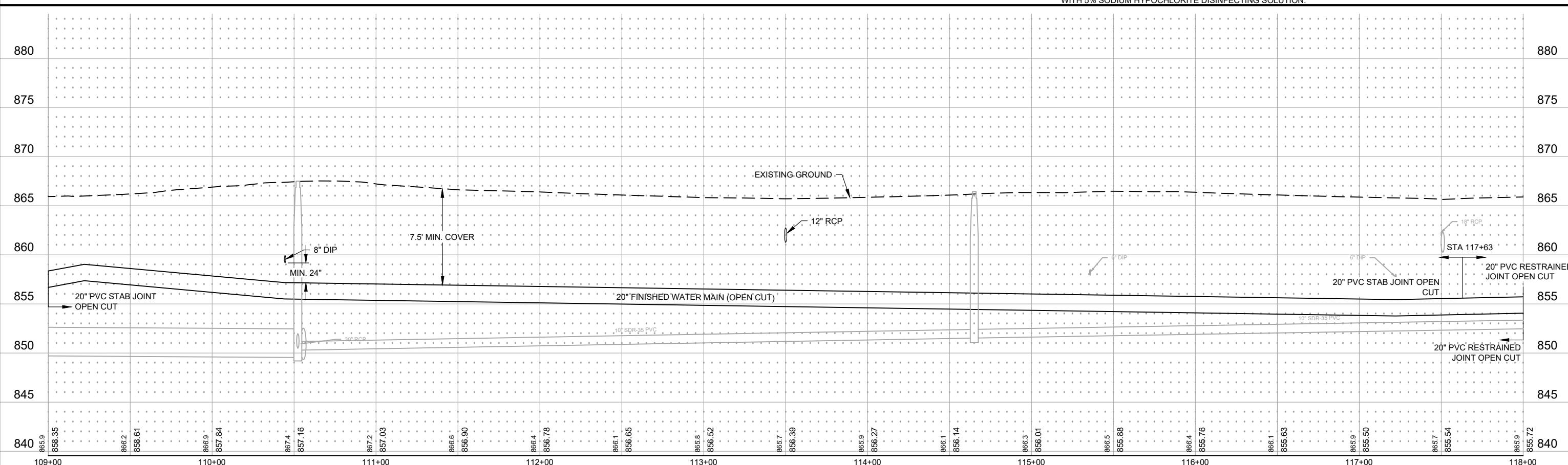
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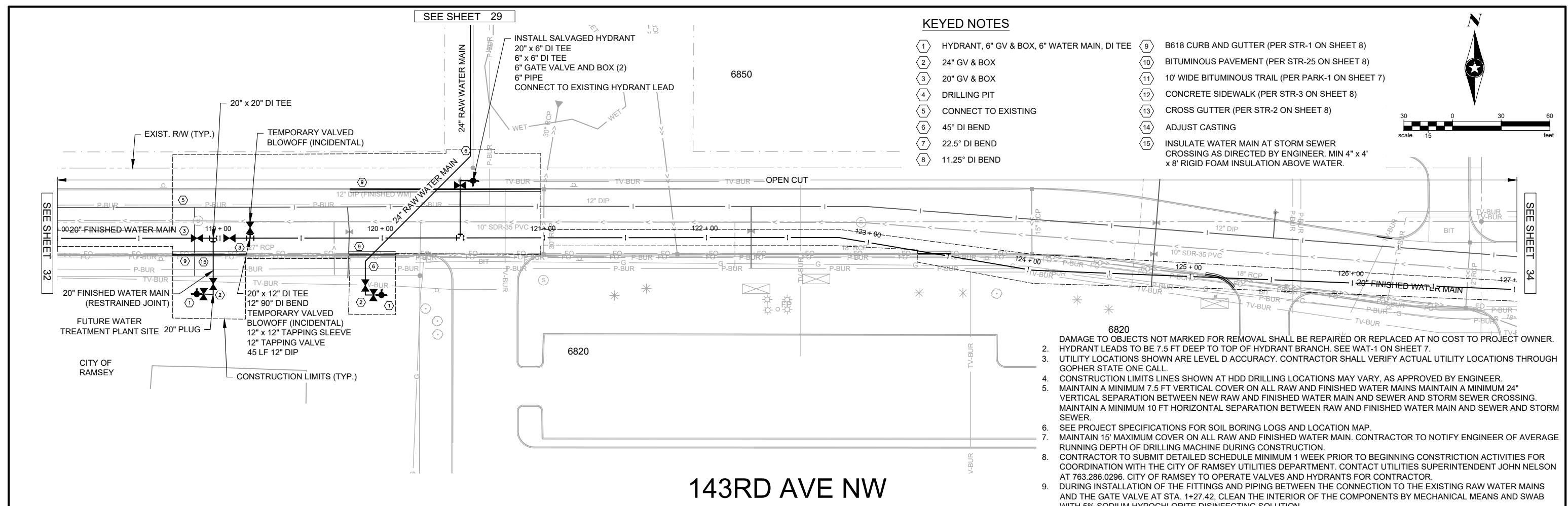
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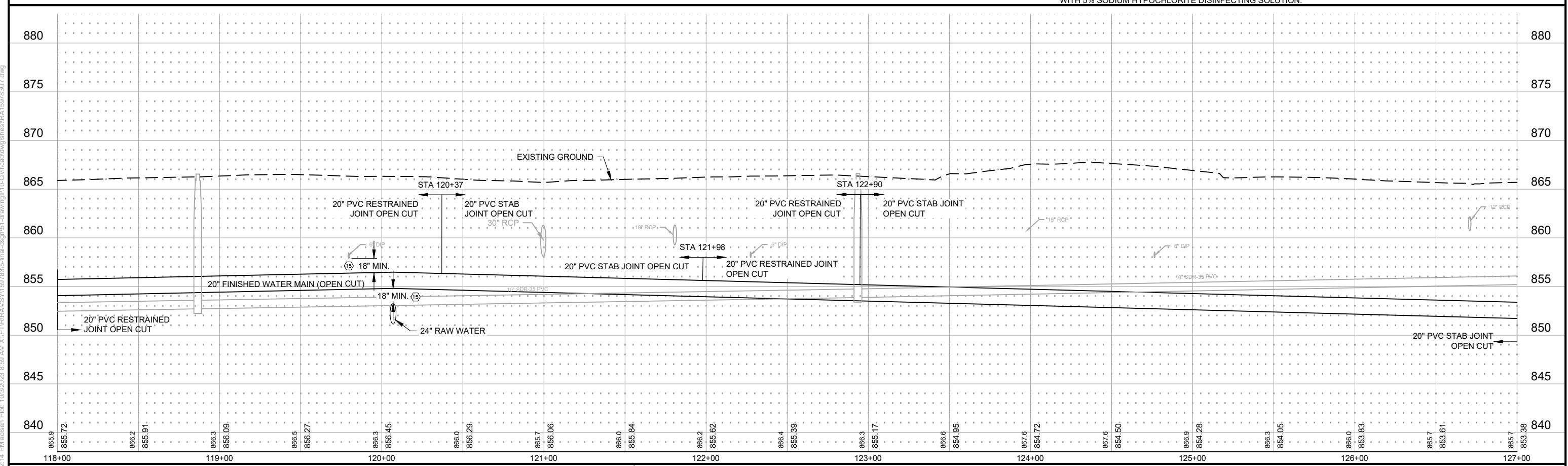
143RD AVE NW

1. DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
2. HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
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7. MAINTAIN 15' MAXIMUM COVER ON ALL RAW AND FINISHED WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF AVERAGE RUNNING DEPTH OF DRILLING MACHINE DURING CONSTRUCTION.
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143RD AVE NW



Save: 9/26/2023
SEH Project RAMSY174498
Drawn By JRB, SRP
Designed By KLK
Checked By CES

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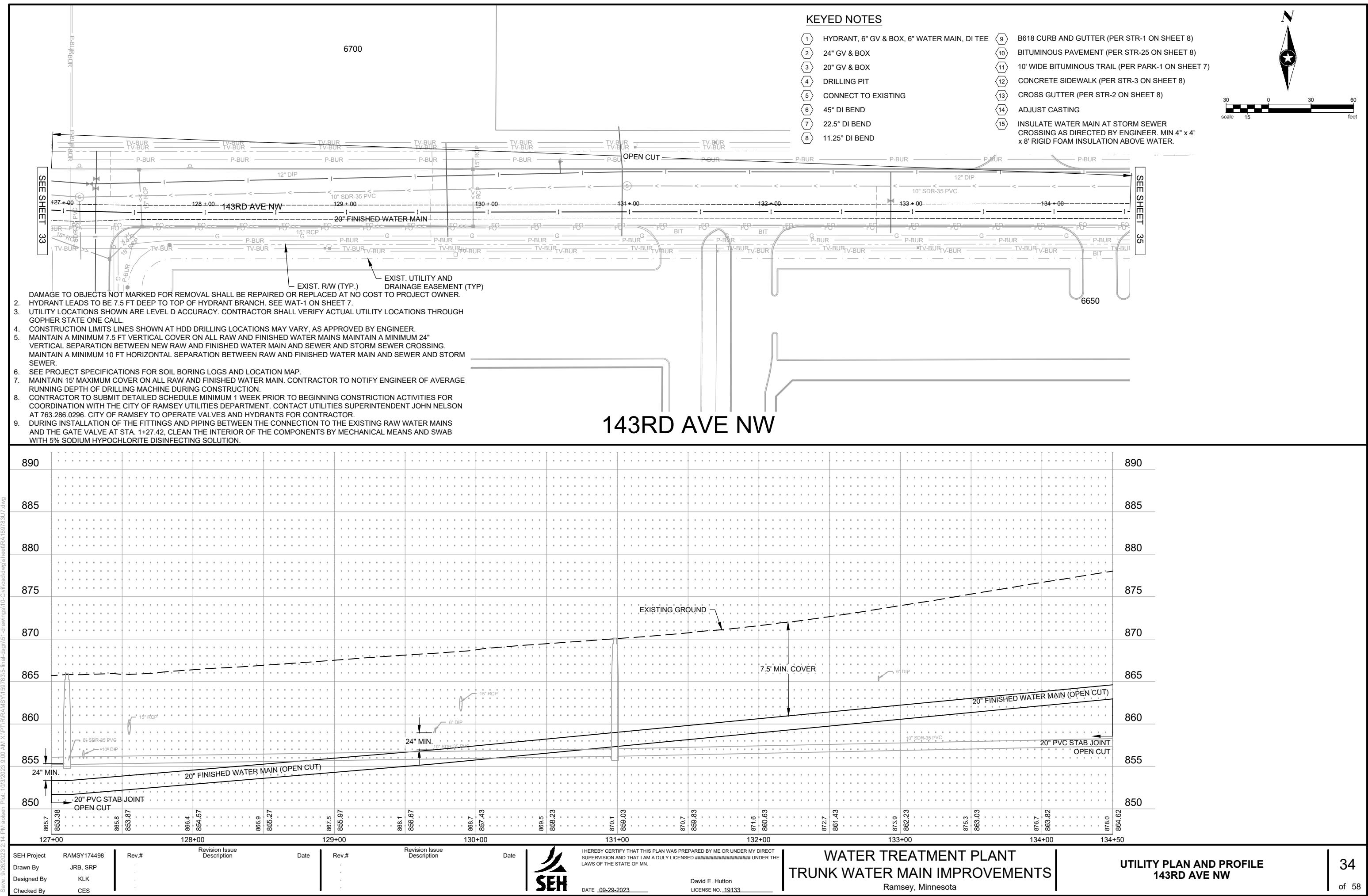
WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

Ramsey, Minnesota

WATER TREATMENT PLANT TRUNK WATER MAIN IMPROVEMENTS

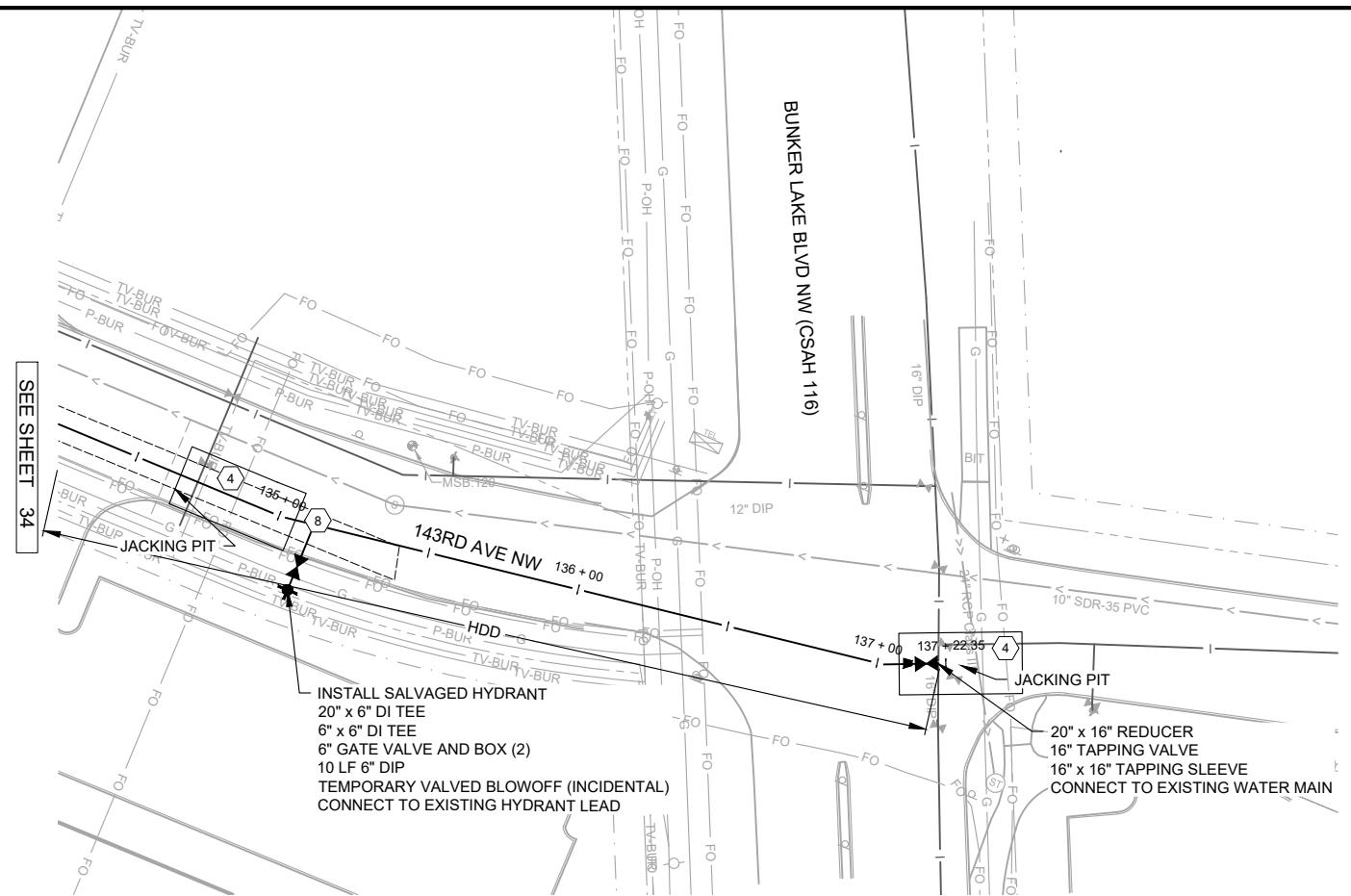
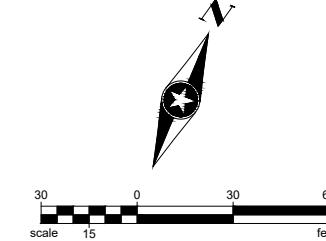
Ramsey, Minnesota

UTILITY PLAN AND PROFILE 143RD AVE NW



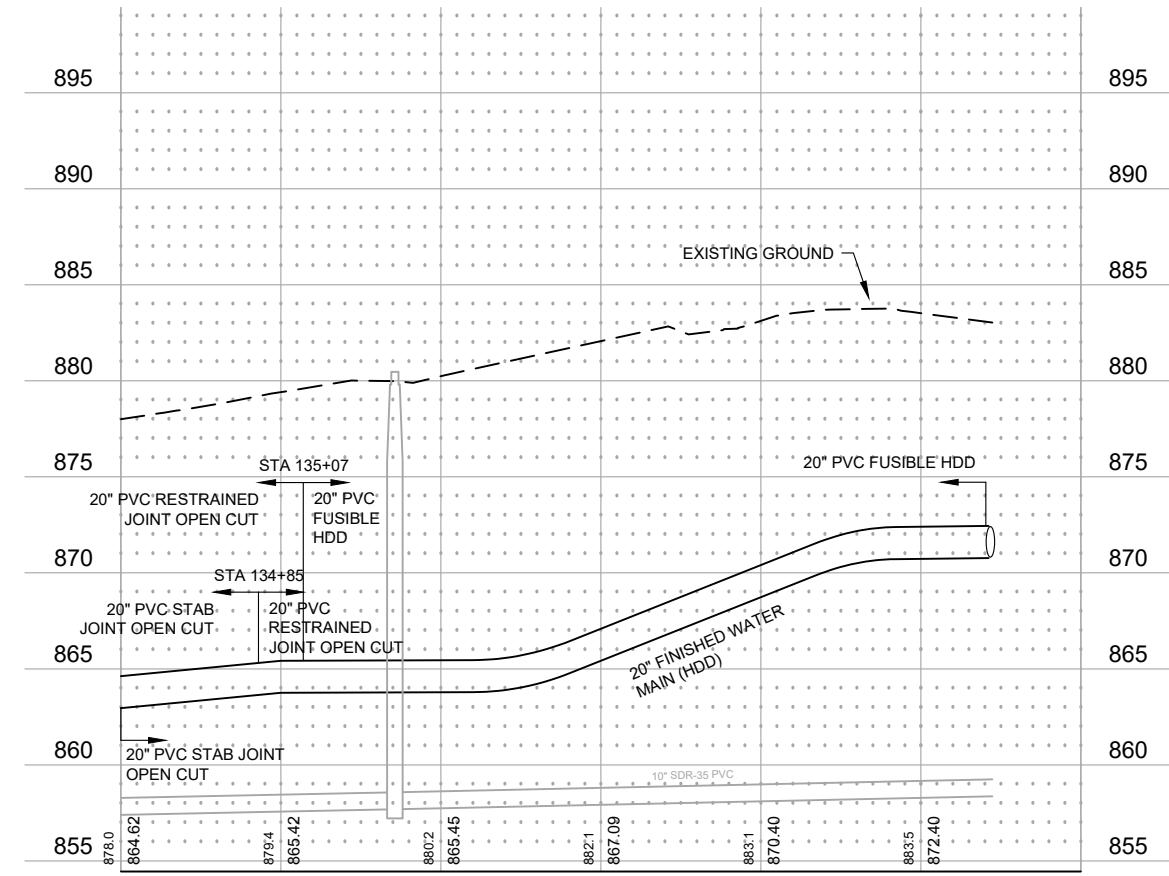
KEYED NOTES

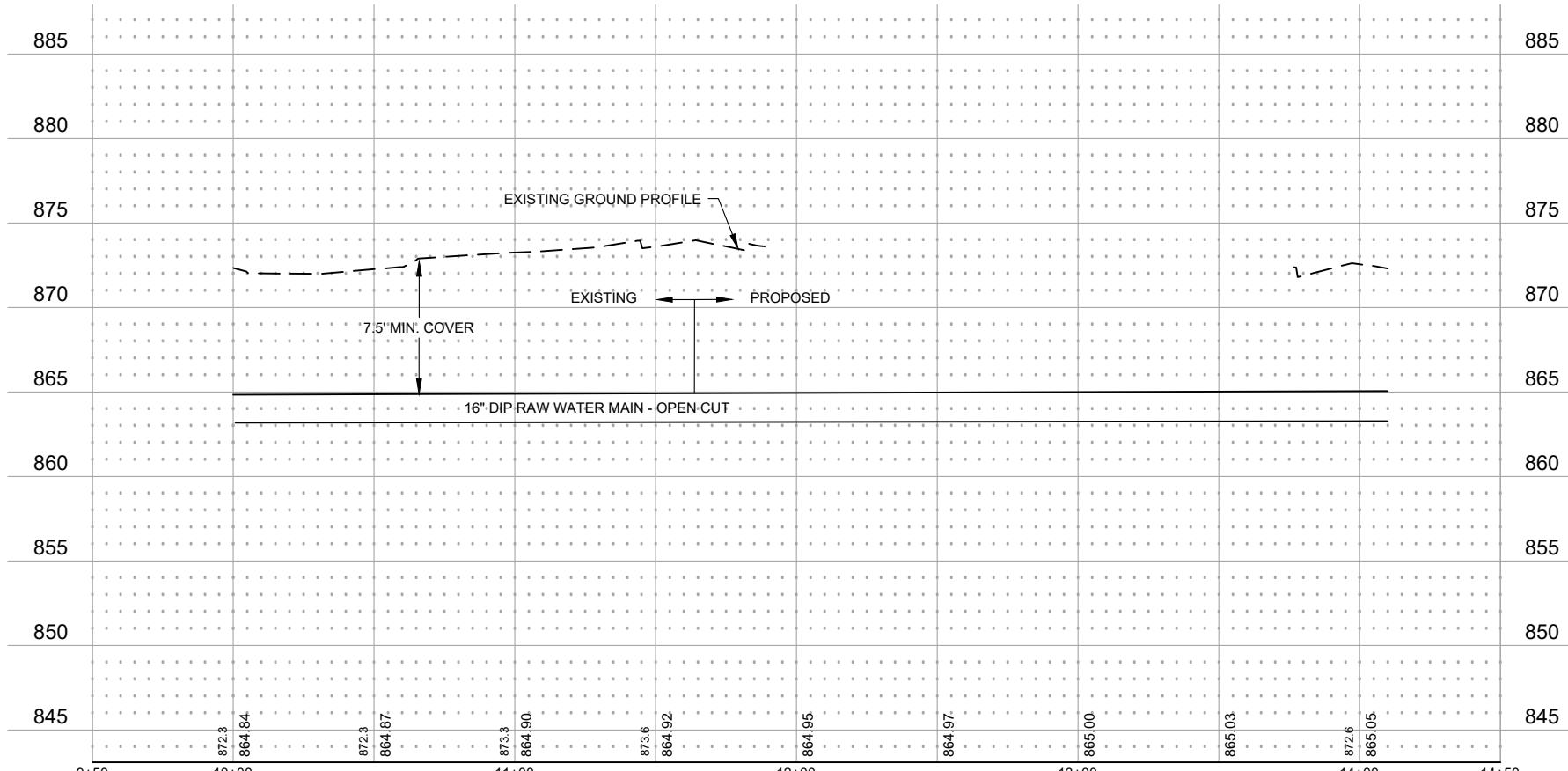
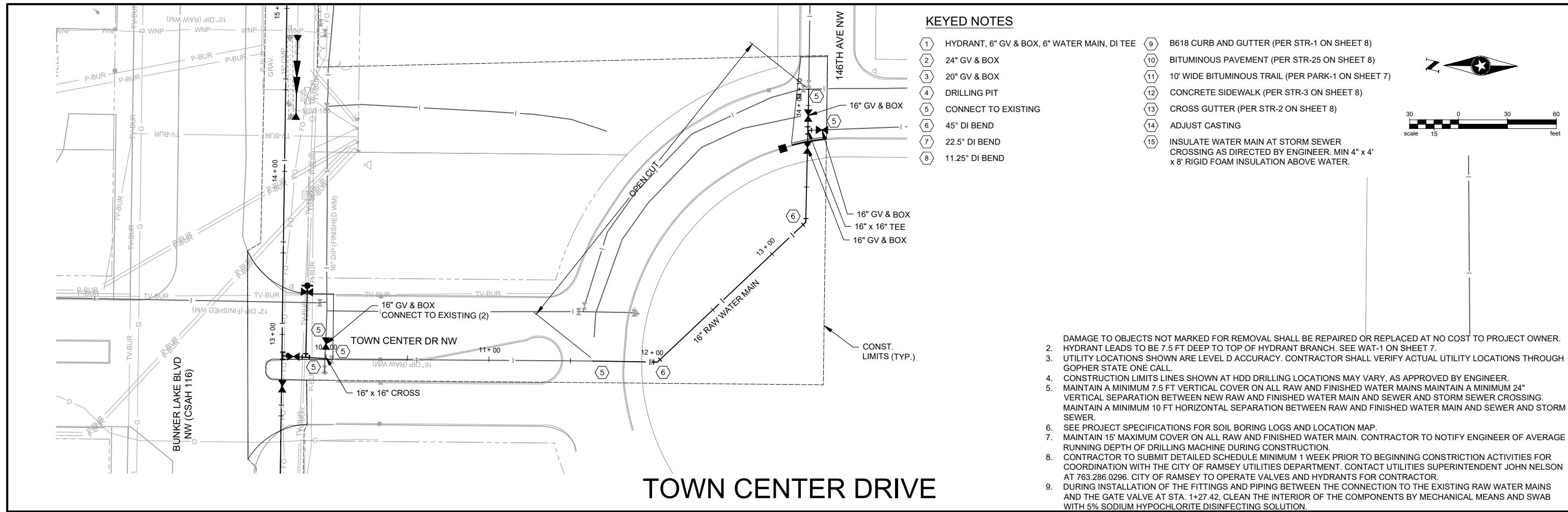
1 HYDRANT, 6" GV & BOX, 6" WATER MAIN, DI TEE	9 B618 CURB AND GUTTER (PER STR-1 ON SHEET 8)
2 24" GV & BOX	10 BITUMINOUS PAVEMENT (PER STR-25 ON SHEET 8)
3 20" GV & BOX	11 10' WIDE BITUMINOUS TRAIL (PER PARK-1 ON SHEET 7)
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5 CONNECT TO EXISTING	13 CROSS GUTTER (PER STR-2 ON SHEET 8)
6 45° DI BEND	14 ADJUST CASTING
7 22.5° DI BEND	15 INSULATE WATER MAIN AT STORM SEWER CROSSING AS DIRECTED BY ENGINEER. MIN 4" x 4" x 8' RIGID FOAM INSULATION ABOVE WATER.
8 11.25° DI BEND	

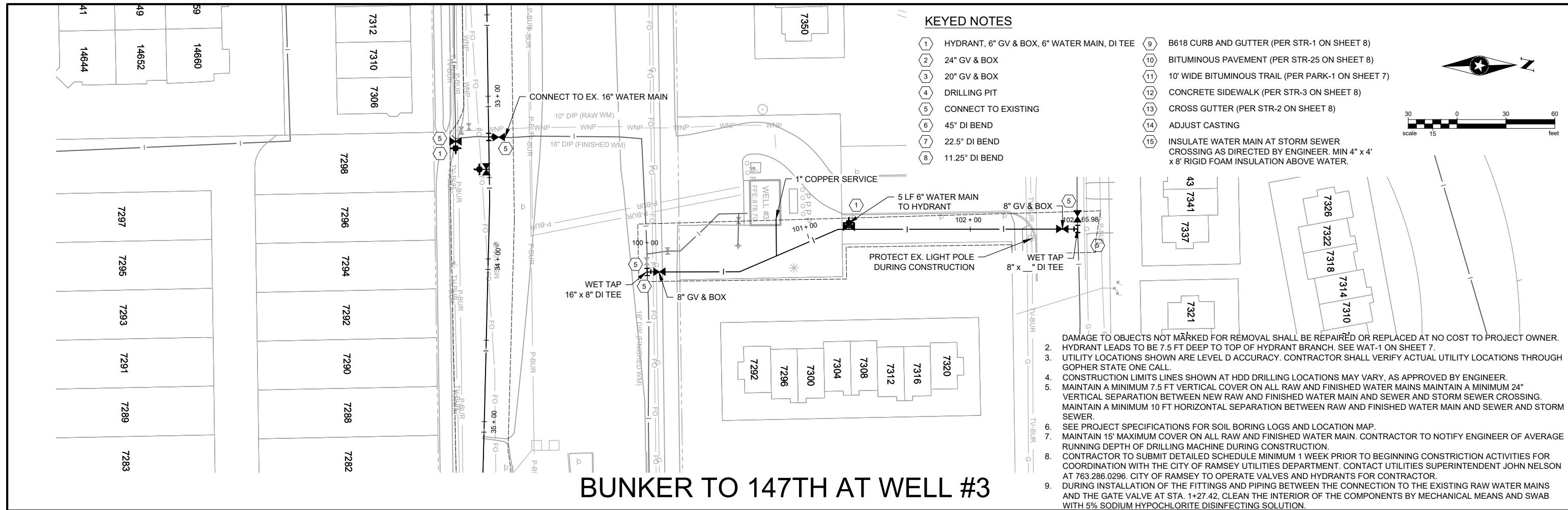


143RD AVE NW

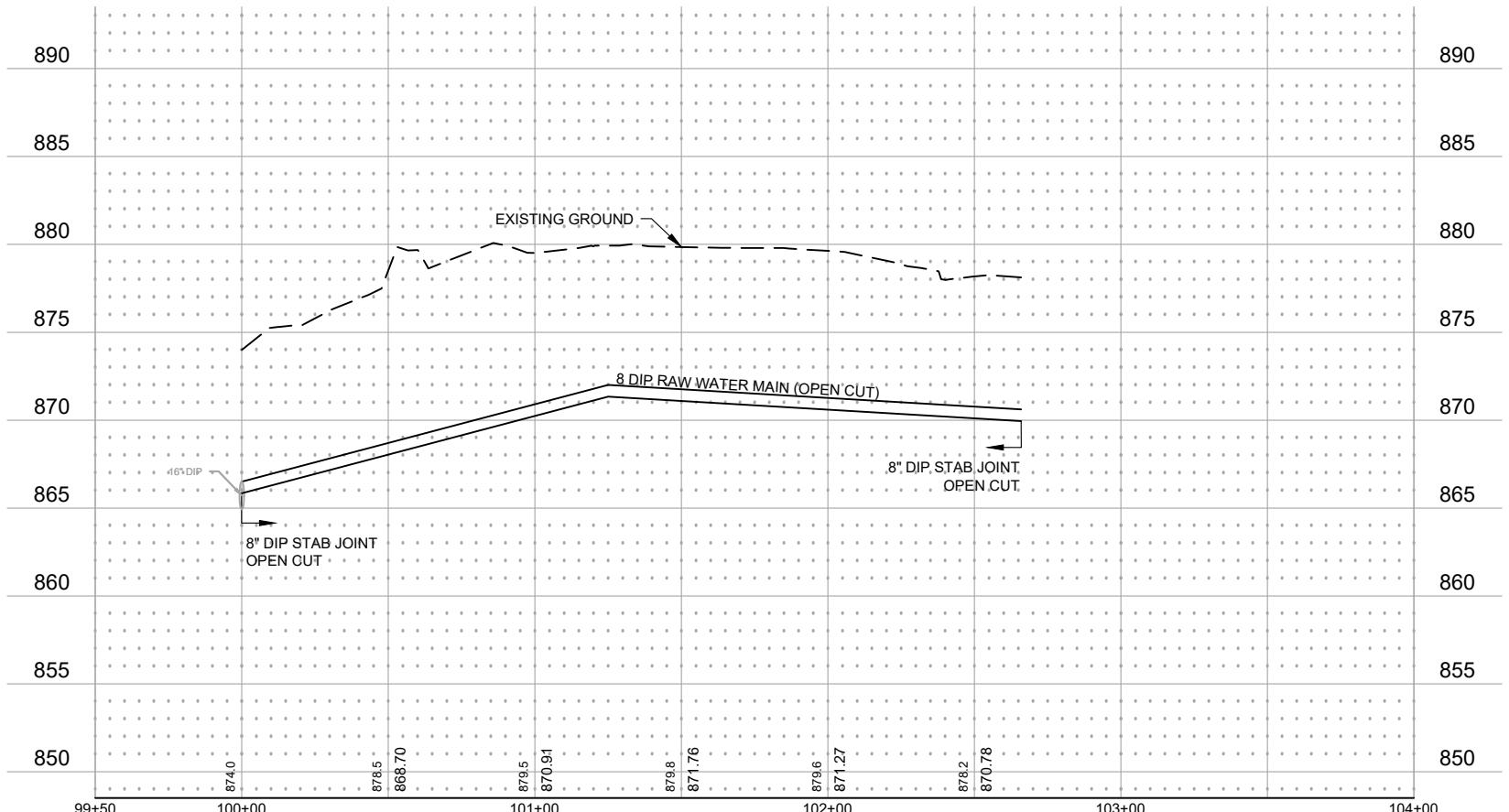
- DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
- HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
- UTILITY LOCATIONS SHOWN ARE LEVEL D ACCURACY. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS THROUGH GOPHER STATE ONE CALL.
- CONSTRUCTION LIMITS LINES SHOWN AT HDD DRILLING LOCATIONS MAY VARY, AS APPROVED BY ENGINEER.
- MAINTAIN A MINIMUM 7.5 FT VERTICAL COVER ON ALL RAW AND FINISHED WATER MAINS MAINTAIN A MINIMUM 24" VERTICAL SEPARATION BETWEEN NEW RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER CROSSING. MAINTAIN A MINIMUM 10 FT HORIZONTAL SEPARATION BETWEEN RAW AND FINISHED WATER MAIN AND SEWER AND STORM SEWER.
- SEE PROJECT SPECIFICATIONS FOR SOIL BORING LOGS AND LOCATION MAP.
- MAINTAIN 15' MAXIMUM COVER ON ALL RAW AND FINISHED WATER MAIN. CONTRACTOR TO NOTIFY ENGINEER OF AVERAGE RUNNING DEPTH OF DRILLING MACHINE DURING CONSTRUCTION.
- CONTRACTOR TO SUBMIT DETAILED SCHEDULE MINIMUM 1 WEEK PRIOR TO BEGINNING CONSTRCTION ACTIVITIES FOR COORDINATION WITH THE CITY OF RAMSEY UTILITIES DEPARTMENT. CONTACT UTILITIES SUPERINTENDENT JOHN NELSON AT 763.286.0296. CITY OF RAMSEY TO OPERATE VALVES AND HYDRANTS FOR CONTRACTOR.
- DURING INSTALLATION OF THE FITTINGS AND PIPING BETWEEN THE CONNECTION TO THE EXISTING RAW WATER MAINS AND THE GATE VALVE AT STA. 1+27.42, CLEAN THE INTERIOR OF THE COMPONENTS BY MECHANICAL MEANS AND SWAB WITH 5% SODIUM HYPOCHLORITE DISINFECTING SOLUTION.

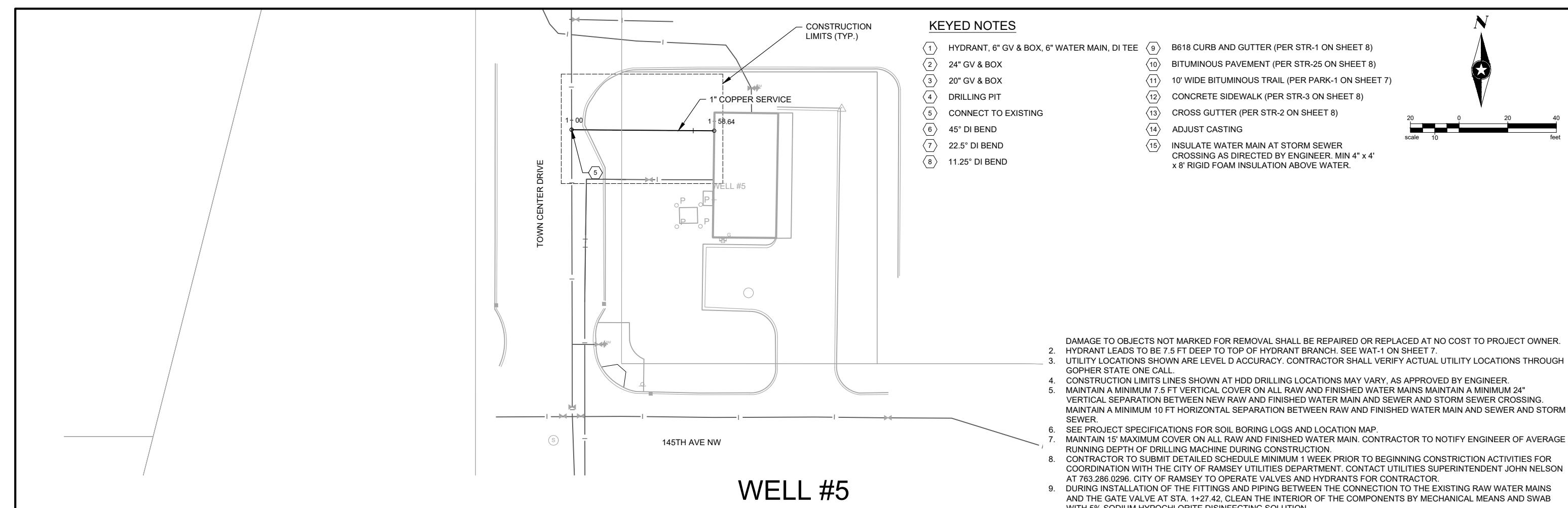




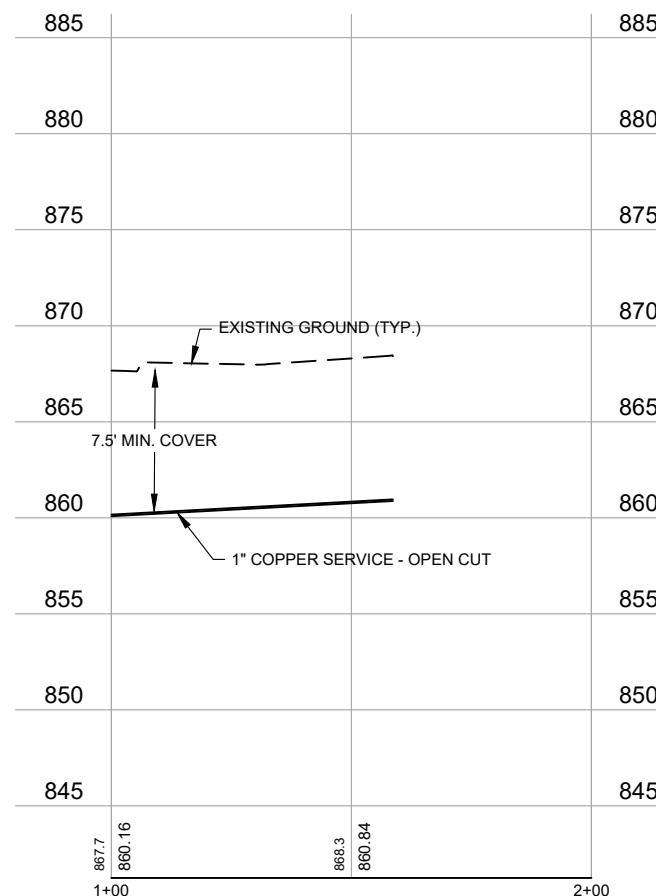


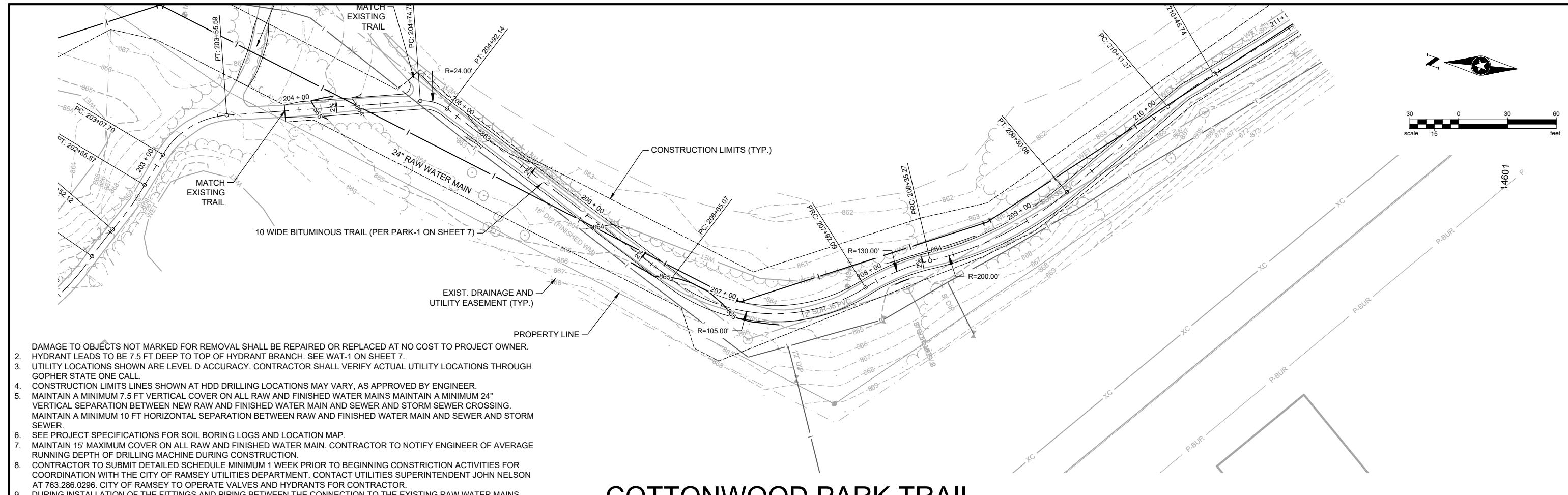
BUNKER TO 147TH AT WELL #3





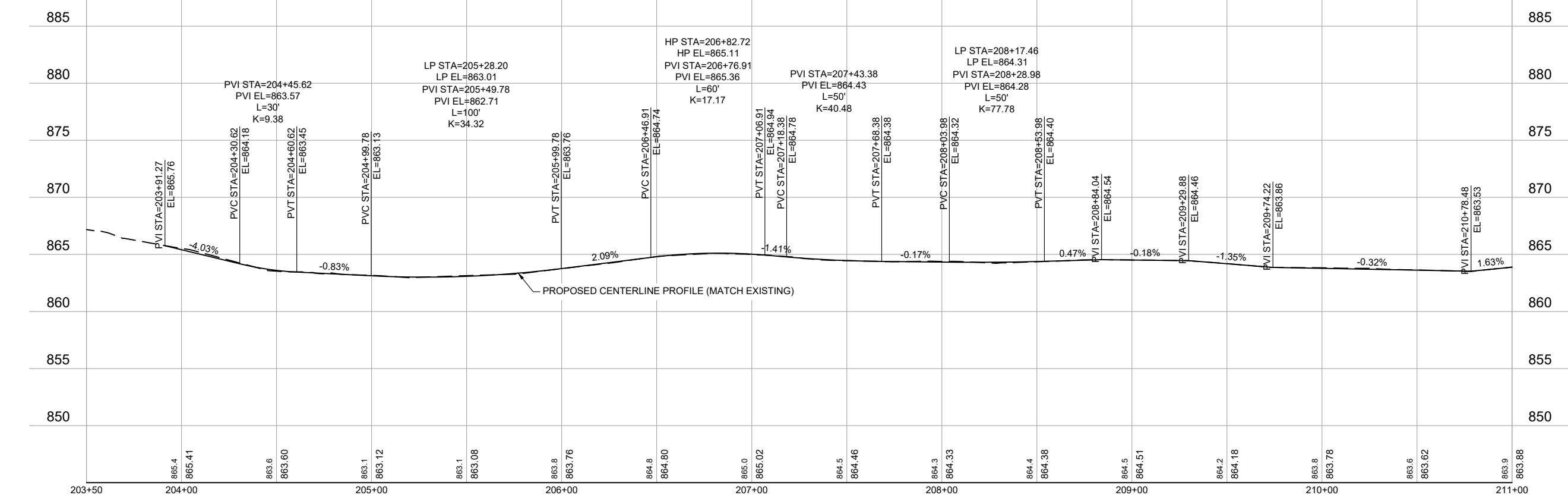
WELL #5





COTTONWOOD PARK TRAIL

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SEH Project RAMSY174498
Drawn By JRB, SRP
Designed By KLK
Checked By CES

Revision Issue
Description
Date
Rev.#

Revision Issue
Description
Date
Rev.#

SEH

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 MN.
DATE 09-29-2023
David E. Hutton
LICENSURE NO. 19133

WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS
Ramsey, Minnesota

PLAN AND PROFILE
COTTONWOOD PARK TRAIL



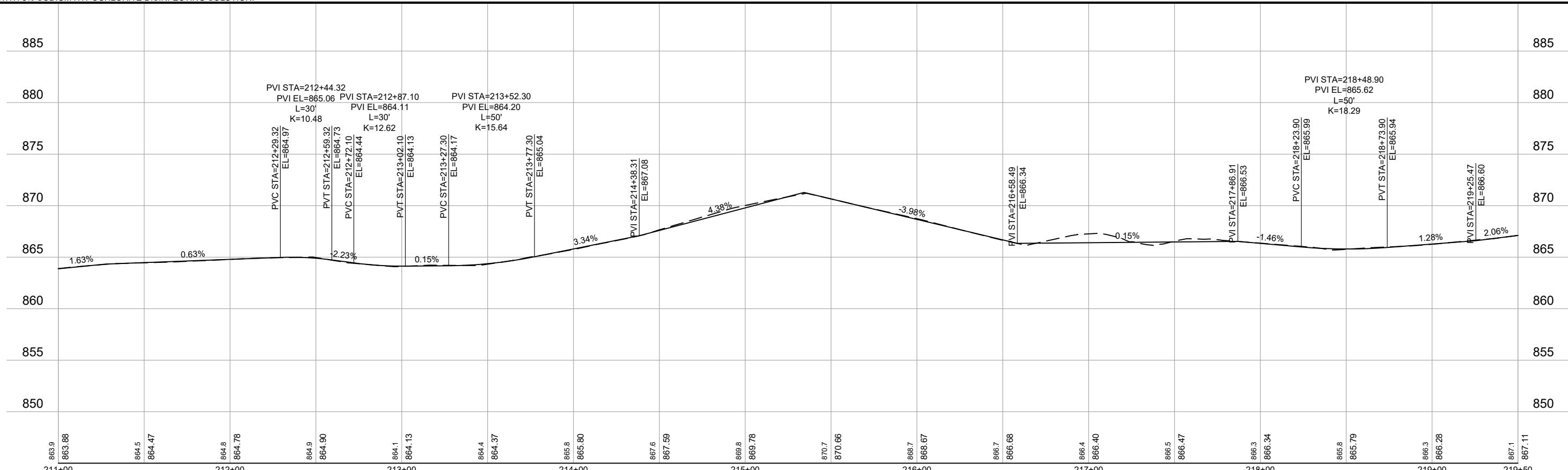
30
scale 15 0 30 60
feet

SEE SHEET 39

- DAMAGE TO OBJECTS NOT MARKED FOR REMOVAL SHALL BE REPAIRED OR REPLACED AT NO COST TO PROJECT OWNER.
- HYDRANT LEADS TO BE 7.5 FT DEEP TO TOP OF HYDRANT BRANCH. SEE WAT-1 ON SHEET 7.
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COTTONWOOD PARK TRAIL

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SEH Project RAMSY174498
Drawn By JRB, SRP
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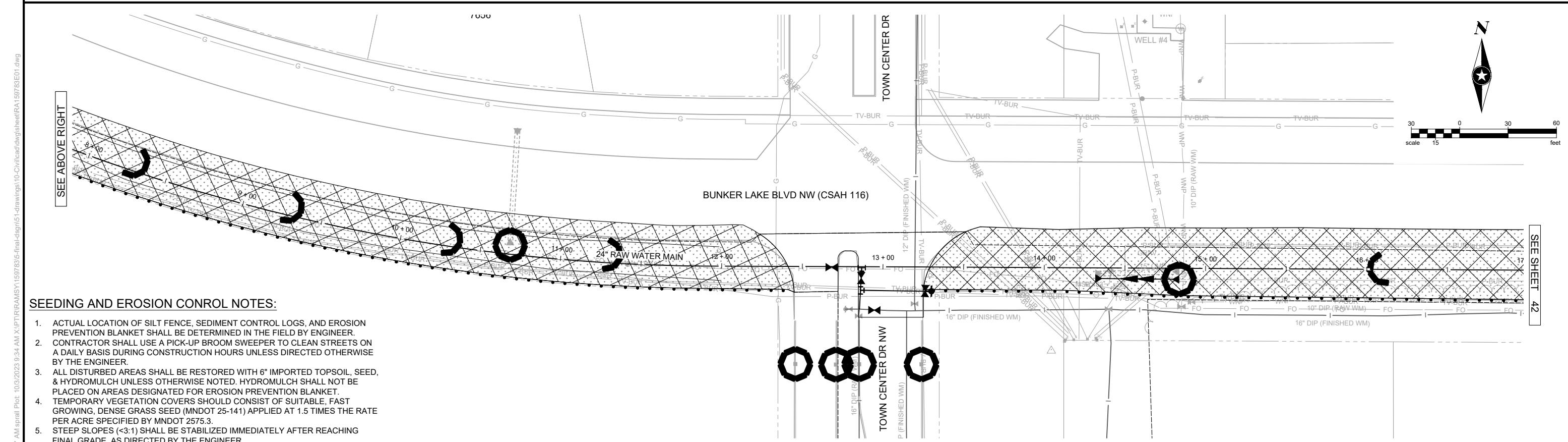
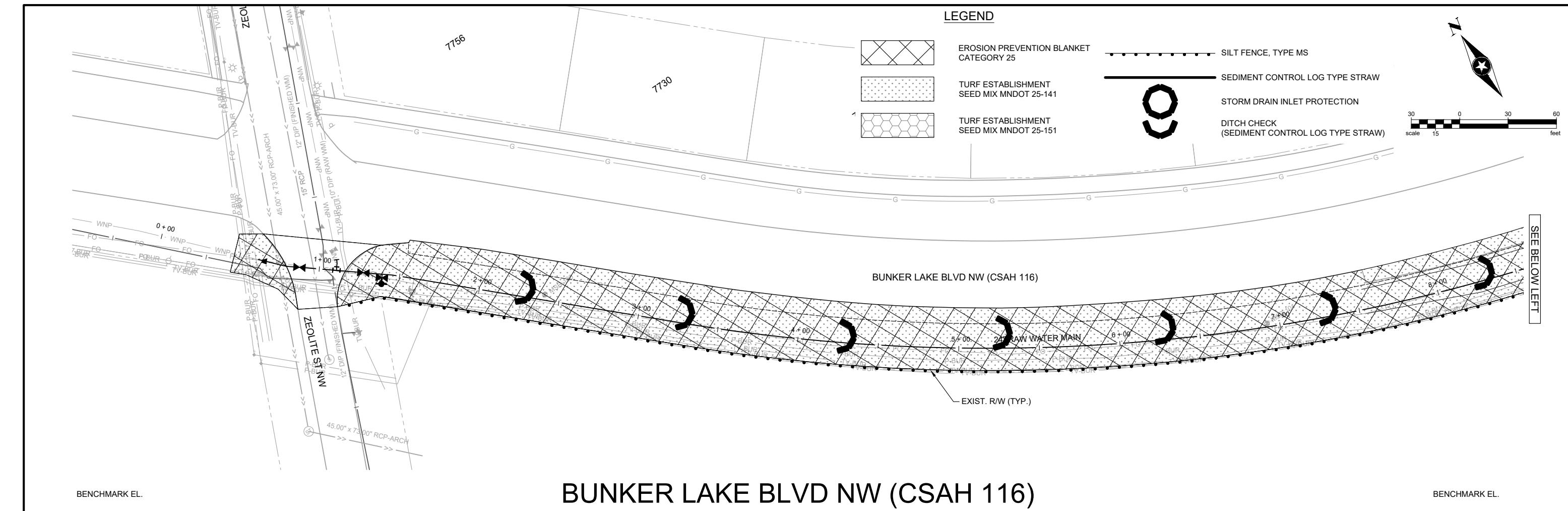
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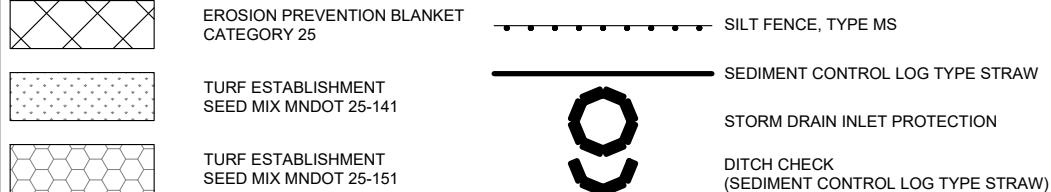
David E. Hutton
LICENSURE NO. 19133

WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS
Ramsey, Minnesota

PLAN AND PROFILE
COTTONWOOD PARK TRAIL

40
of 58



LEGEND

7548

SEEDING AND EROSION CONROL NOTES:

- ACTUAL LOCATION OF SILT FENCE, SEDIMENT CONTROL LOGS, AND EROSION PREVENTION BLANKET SHALL BE DETERMINED IN THE FIELD BY ENGINEER.
- CONTRACTOR SHALL USE A PICK-UP BROOM SWEEPER TO CLEAN STREETS ON A DAILY BASIS DURING CONSTRUCTION HOURS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- ALL DISTURBED AREAS SHALL BE RESTORED WITH 6" IMPORTED TOPSOIL, SEED, & HYDROMULCH UNLESS OTHERWISE NOTED. HYDROMULCH SHALL NOT BE PLACED ON AREAS DESIGNATED FOR EROSION PREVENTION BLANKET.
- TEMPORARY VEGETATION COVERS SHOULD CONSIST OF SUITABLE, FAST GROWING, DENSE GRASS SEED (MNDOT 25-141) APPLIED AT 1.5 TIMES THE RATE PER ACRE SPECIFIED BY MNDOT 2575.3.
- STEEP SLOPES (>3:1) SHALL BE STABILIZED IMMEDIATELY AFTER REACHING FINAL GRADE, AS DIRECTED BY THE ENGINEER.

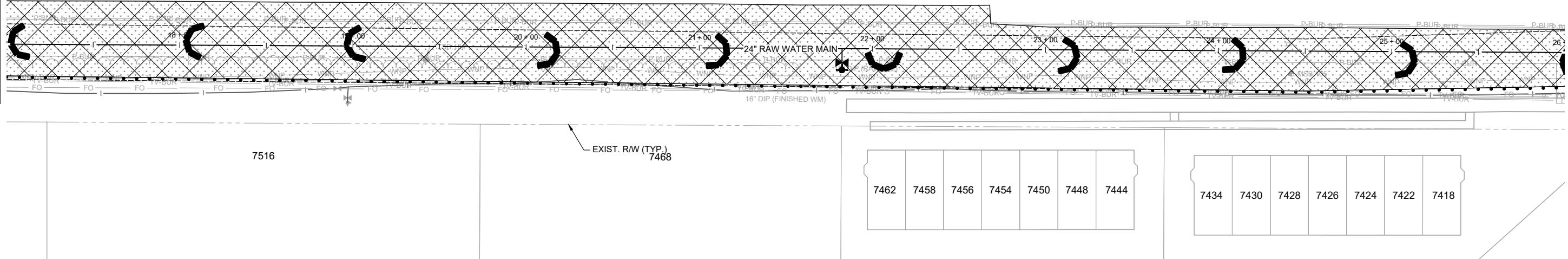
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BUNKER LAKE BLVD NW (CSAH 116)

SEE SHEET 41

SEE SHEET 42



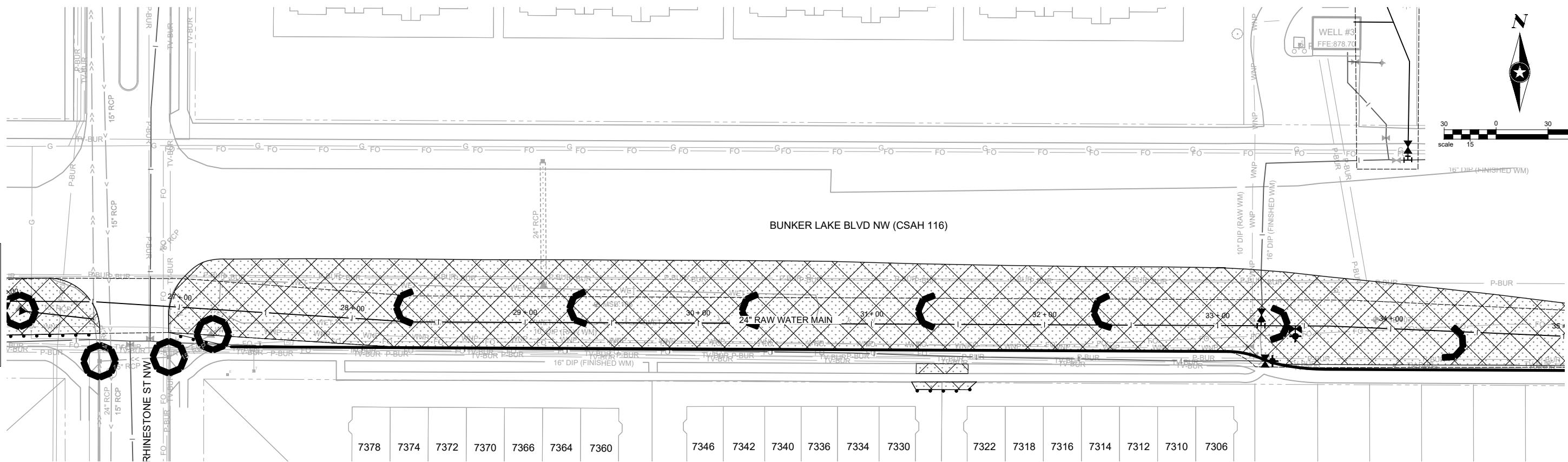
BENCHMARK EL.

BENCHMARK EL.

BUNKER LAKE BLVD NW (CSAH 116)

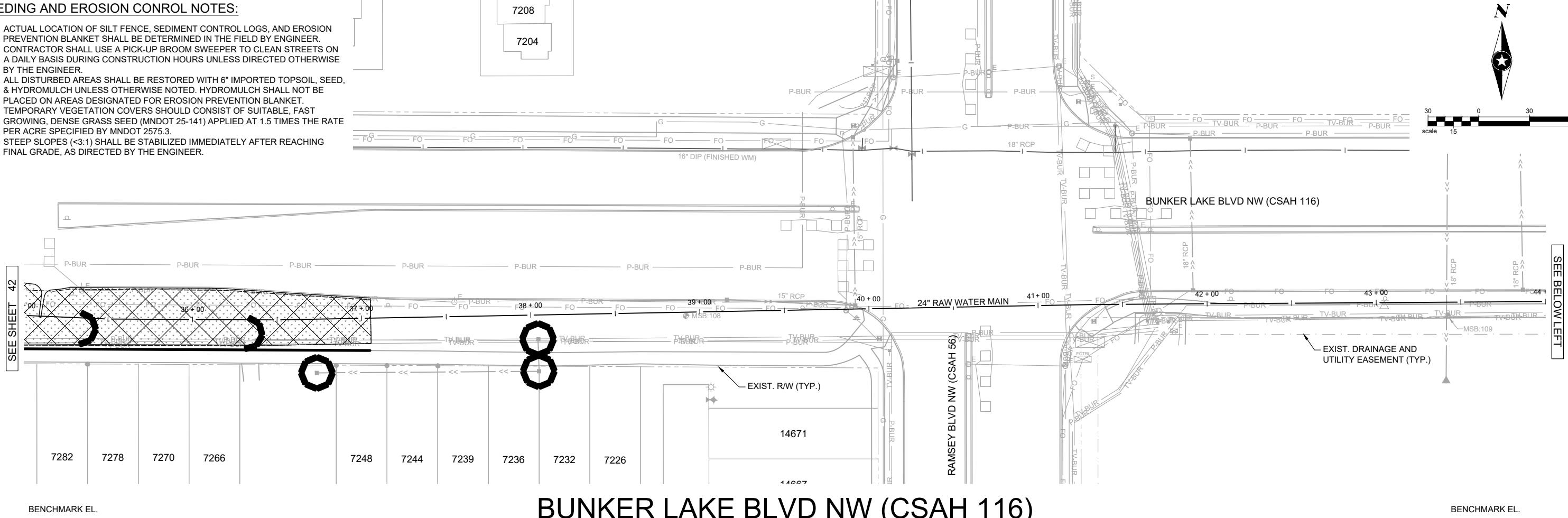
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SEE SHEET 43



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5. STEEP SLOPES (>3:1) SHALL BE STABILIZED IMMEDIATELY AFTER REACHING FINAL GRADE, AS DIRECTED BY THE ENGINEER.



LEGEND

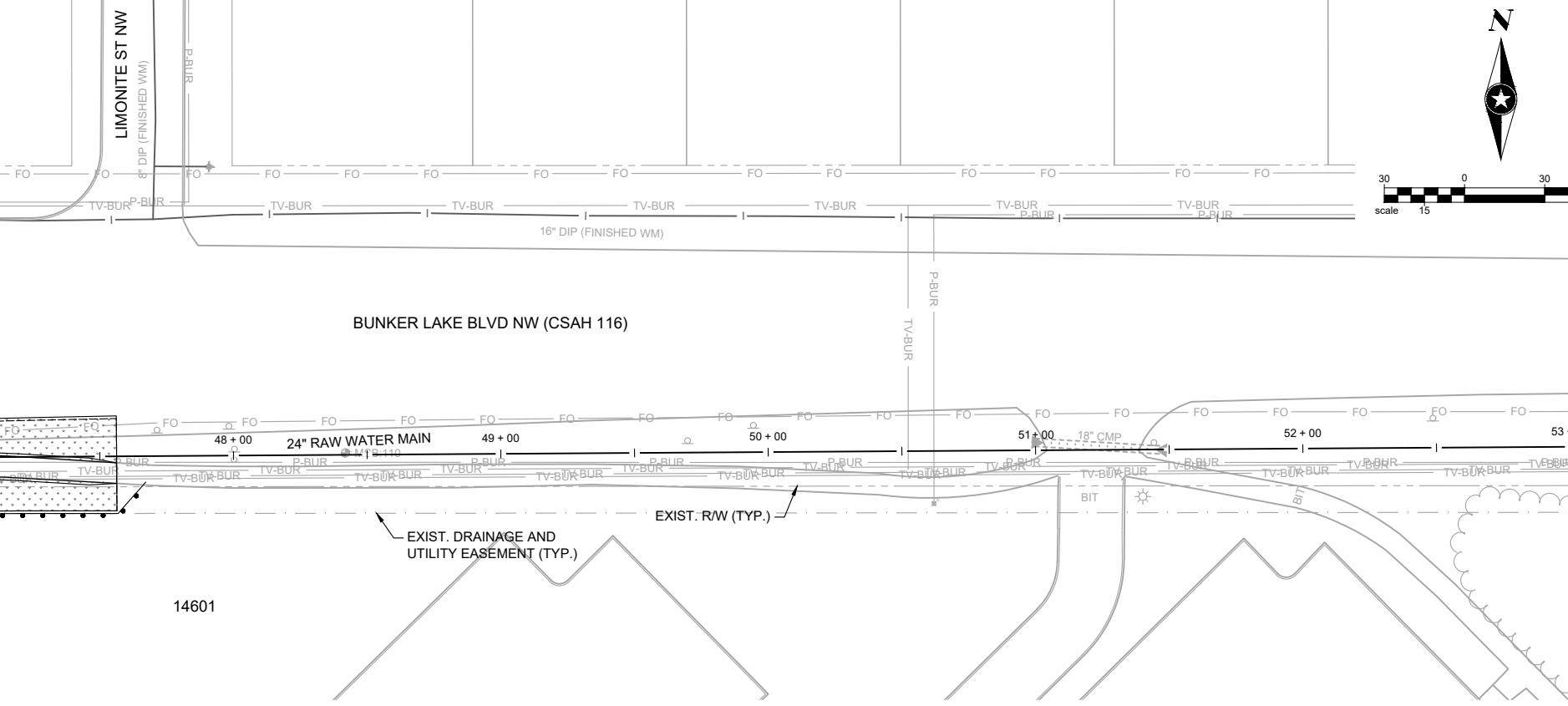


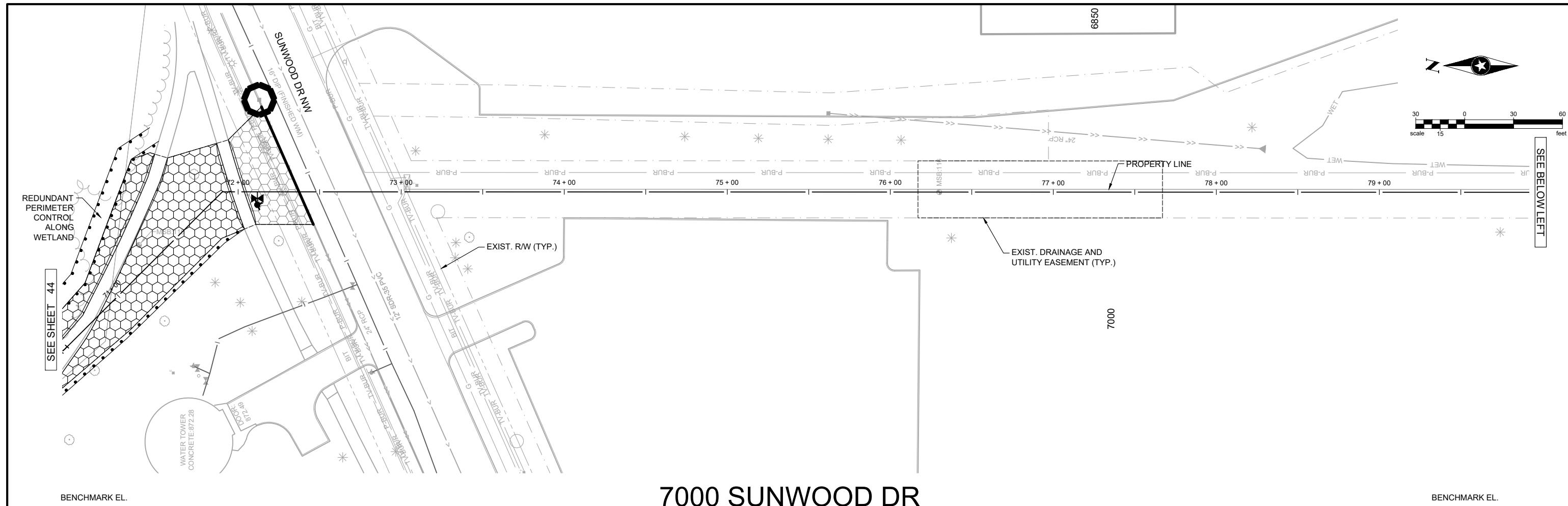
SILT FENCE, TYPE MS

SEDIMENT CONTROL LOG TYPE STRAW

STORM DRAIN INLET PROTECTION

DITCH CHECK (SEDIMENT CONTROL LOG TYPE STRAW)





7000 SUNWOOD DR

SEEDING AND EROSION CONTROL NOTES:

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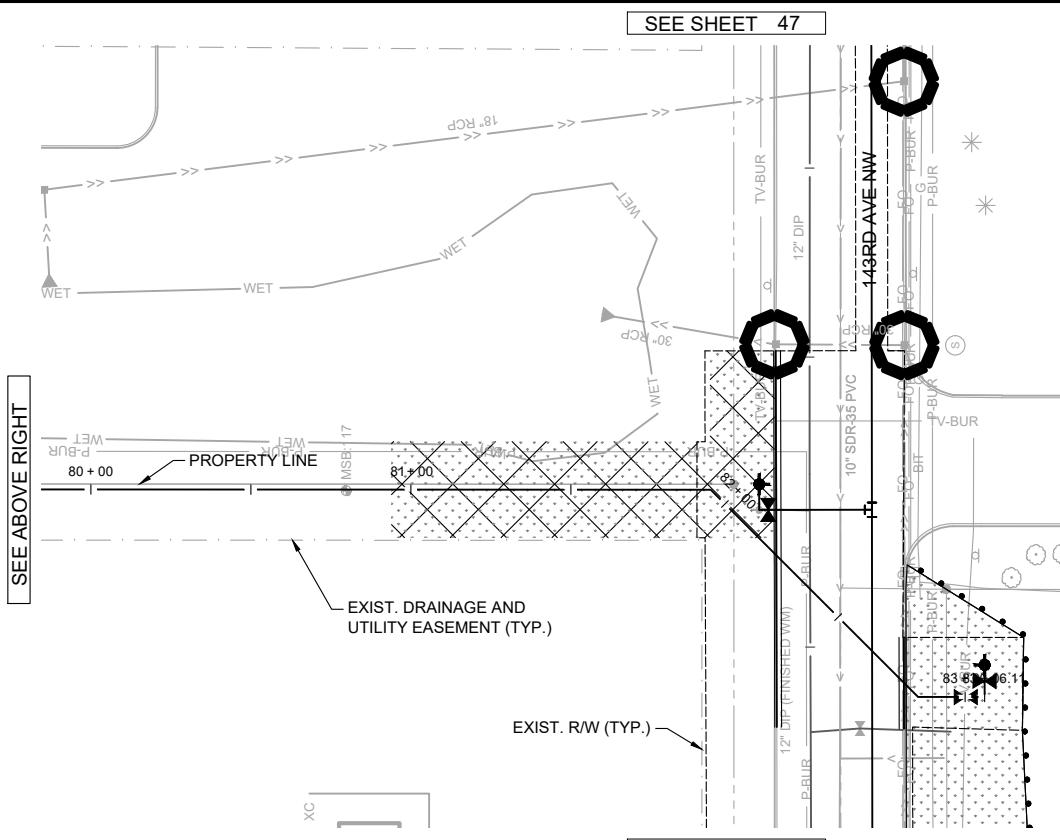
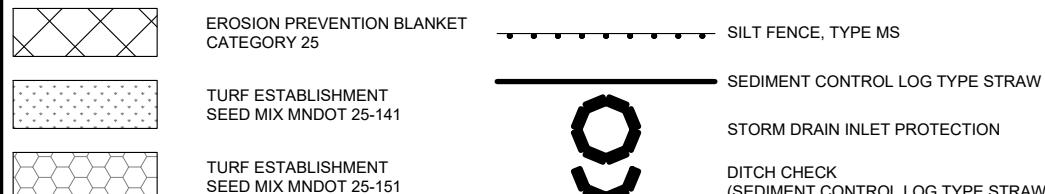
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LEGEND



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 MN.
DATE 09-29-2023
David E. Hutton
LICENSURE NO. 19133

SEH Project RAMSY174498 Rev.# . Revision Issue Description Date

Drawn By JRB, SRP . .

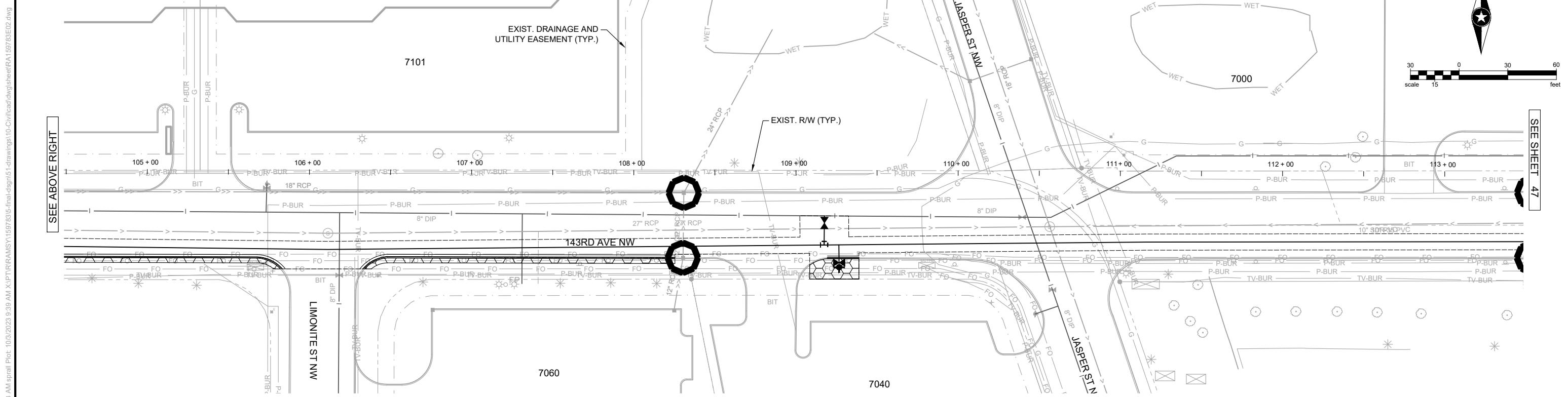
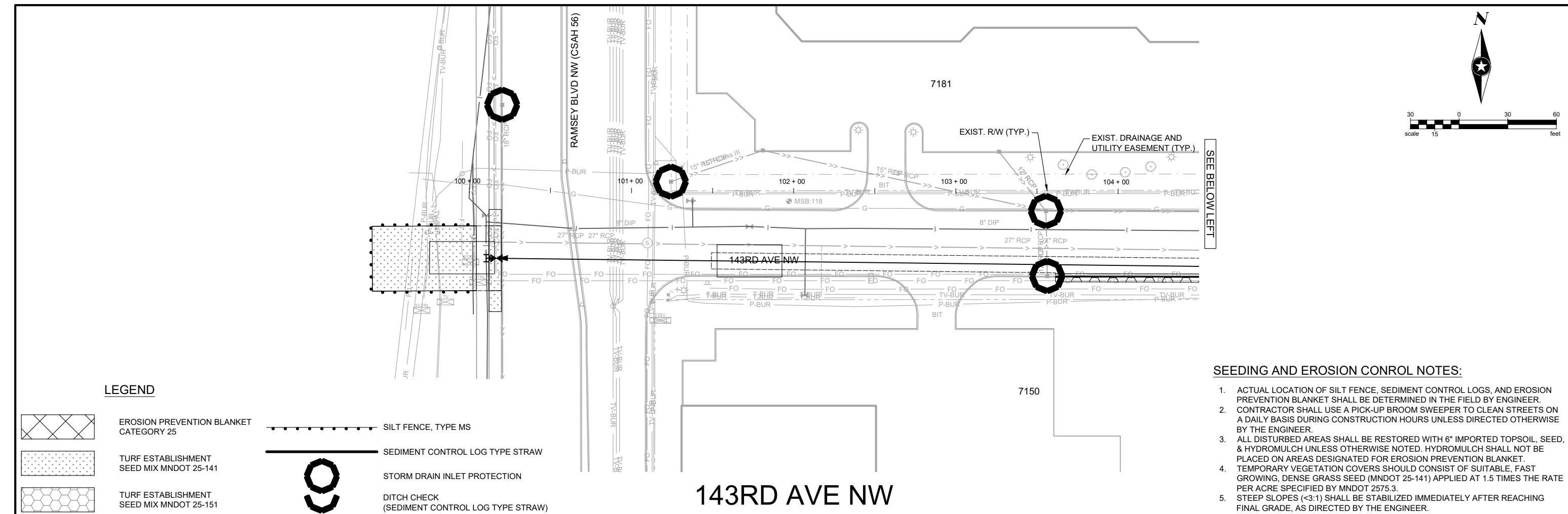
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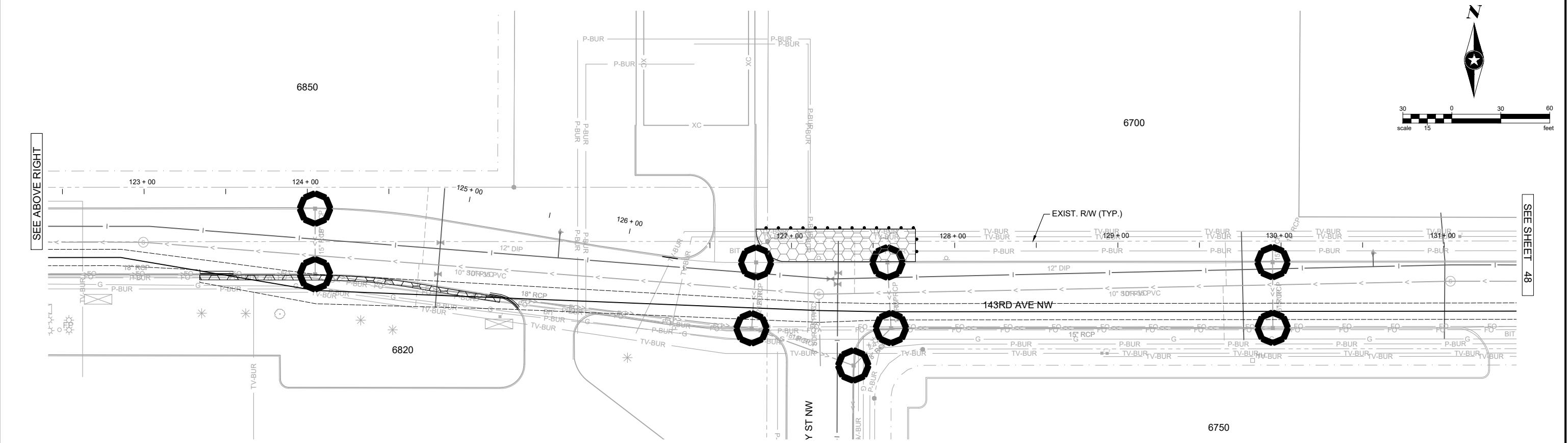
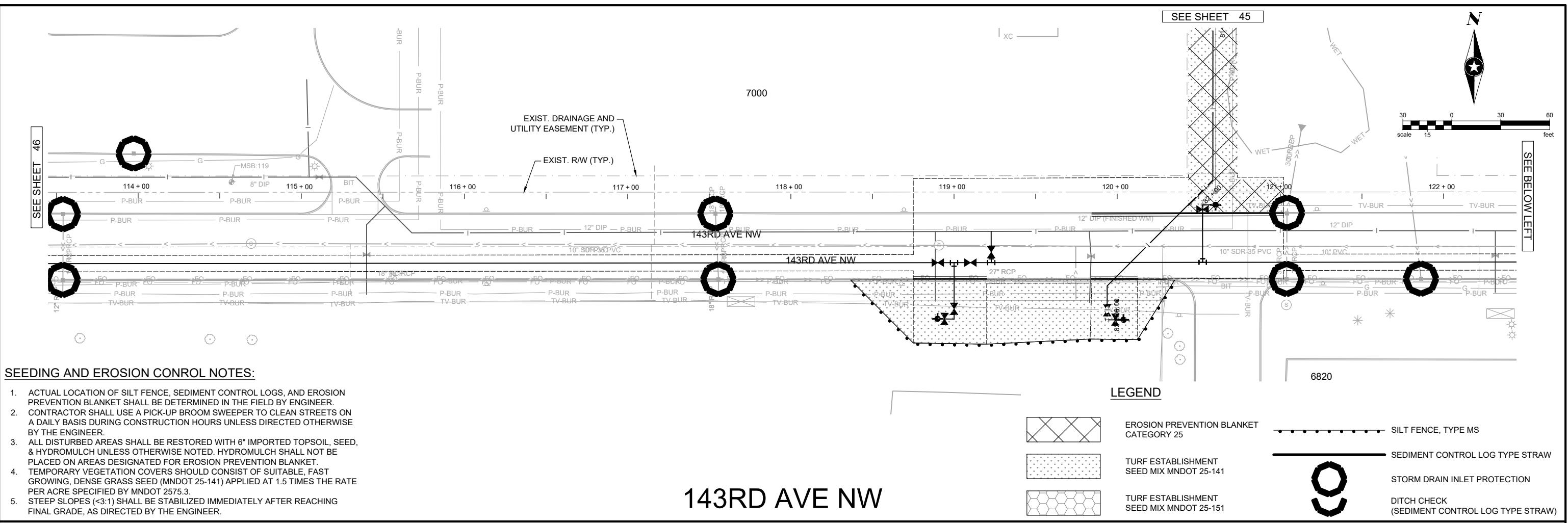
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Rev.# . Revision Issue Description Date

WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS
Ramsey, Minnesota

EROSION CONTROL AND TURF
ESTABLISHMENT PLAN
7000 SUNWOOD DR





SWPPP SUMMARY/OVERVIEW:
THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO ADDRESS THE REQUIREMENTS OF NPDES PERMIT MN R100001. THIS SWPPP INCLUDES A COMBINATION OF NARRATIVE AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT PLAN FOR THE PROJECT.

PROJECT INFORMATION:

LOCATION:	CITY OF RAMSEY, MINNESOTA
LATITUDE/LONGITUDE:	45.237184N, 93.449348W
PROJECT DESCRIPTION:	NEW WATER MAIN FOR FUTURE WATER TREATMENT PLANT
SOIL DISTURBING ACTIVITIES:	TRENCH EXCAVATION AND HDD FOR WATER MAIN

CONTACTS:

OWNER:	CITY OF RAMSEY
CONTACT:	BRUCE WESTBY, CITY ENGINEER
ADDRESS:	7550 SUNWOOD DRIVE NW, RAMSEY, MN 55303
PHONE:	763.433.9825
EMAIL:	bwestby@cityoframsey.com
ENGINEER:	SHORT ELLIOTT HENDRICKSON INC. (SEH)
CONTACT:	ANDREW OLSEN
PHONE:	641.590.3198
EMAIL:	aolsen@sehinc.com
PROJECT NO.:	RAMSY 174498

KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY

THE CONTRACTOR SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMP'S WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP.

CONTRACTOR	TBD
CONTACT	TBD
PHONE	TBD
EMAIL	TBD

THE CONTRACTOR SHALL ESTABLISH A CHAIN OF RESPONSIBILITY FOR ALL CONTRACTORS AND SUB-CONTRACTORS ON SITE TO ENSURE THE SWPPP IS BEING PROPERLY IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE CHAIN OF RESPONSIBILITY TO THE OWNER AND ATTACH TO THE SWPPP PRIOR TO ANY CONSTRUCTION ACTIVITY.

GENERAL SWPPP RESPONSIBILITIES:

THE CONTRACTOR SHALL KEEP THE SWPPP, INCLUDING ALL AMENDMENTS AND INSPECTION AND MAINTENANCE RECORDS ON SITE DURING CONSTRUCTION.

THE SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMP'S AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.

AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR AND WILL BE ATTACHED OR OTHERWISE INCLUDED WITH THE SWPPP DOCUMENTS. THE SWPPP AMENDMENTS SHALL BE INITIATED, FACILITATED, AND PROCESSED BY THE CONTRACTOR.

ALL SWPPP CHANGES MUST BE DONE BY AN INDIVIDUAL TRAINED IN ACCORDANCE WITH SECTION 21.4 OR 21.5. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

BOTH THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION AND/OR TRANSFER OF THE PERMIT.

LONG TERM OPERATION AND MAINTENANCE

THE OWNER WILL BE RESPONSIBLE OR WILL OTHERWISE IDENTIFY WHO WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM(S).

THE OWNER WILL PREPARE AND IMPLEMENT A PERMANENT STORMWATER TREATMENT SYSTEM(S) MAINTENANCE PLAN.

PROJECT LOCATION MAP, INCLUDING ALL RECEIVING WATERS WITHIN ONE MILE OF PROJECT SITE AND ARROWS SHOWING OVERLAND FLOW.



TRAINING DOCUMENTATION:

PREPARER/DESIGNER OF SWPPP:	STEVE PRALL, PE
EMPLOYER:	SEH
DATE OBTAINED / REFRESHED	2/6/2020

INSTRUCTOR(S)/ENTITY PROVIDING TRAINING: UNIVERSITY OF MINNESOTA

CONTENT OF TRAINING AVAILABLE UPON REQUEST.

THE CONTRACTOR (OPERATOR) SHALL ADD TO THE SWPPP TRAINING RECORDS FOR THE FOLLOWING PERSONNEL:

-INDIVIDUALS OVERSEEING THE IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP
-INDIVIDUALS PERFORMING INSPECTIONS
-INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMP'S

TRAINING MUST RELATE TO THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES AND SHALL INCLUDE:

- 1) DATES OF TRAINING
- 2) NAME OF INSTRUCTORS
- 3) CONTENT AND ENTITY PROVIDING TRAINING

THE CONTRACTOR SHALL ENSURE THAT THE INDIVIDUALS ARE TRAINED BY LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PERMANENT STORMWATER MANAGEMENT AND THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER PERMIT.

PROJECT SUMMARY:

TOTAL DISTURBED AREA:	7.0 AC
PRE-CONSTRUCTION IMPERVIOUS AREA:	0.5 AC
POST-CONSTRUCTION IMPERVIOUS AREA:	0.5 AC
IMPERVIOUS AREA ADDED:	0 AC

RECEIVING WATER(S) WITHIN ONE MILE FROM PROJECT BOUNDARIES:

(<http://pca-gis02.pca.state.mn.us/CSW/index.html>)

ID	NAME	TYPE	SPECIAL WATER?	IMPAIRED WATER?	CONSTRUCTION RELATED IMPAIRMENT OR SPECIAL WATER CLASSIFICATION	TMDL
02-0117-00	UNNAMED	LAKE	NO	NO	N/A	N/A
07010206-805	MISSISSIPPI	RIVER	YES	YES	SCENIC AND RECREATIONAL RIVER IMPAIRED FOR NUTRIENTS	Hg-F

ADDITIONAL BMP'S AND/OR ACTIONS REQUIRED: SECTION 23.9 (IMMEDIATELY INITIATE STABILIZATION OF EXPOSED SOIL AREAS AND COMPLETE STABILIZATION WITHIN 7 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE TEMPORARILY OR PERMANENTLY CEASES)

SEE SECTION 23 OF THE PERMIT AND APPLICABLE TMDL WLA'S

WATERBODY	NO WORK DURING	SEE DNR PERMIT FOR MORE INFORMATION
LAKES	APRIL 1 - JUNE 30	
NON-TROUT STREAMS	MARCH 15 - JUNE 15	
TROUT STREAMS	SEPTEMBER 1 - APRIL 1	

SITE SOIL INFORMATION: (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>)
(SOIL INFORMATION PROVIDED IS FOR NPDES PERMIT INFORMATION ONLY. SOIL INFORMATION WAS OBTAINED FROM THE USGS WEBSITE. THE CONTRACTOR SHALL NOT RELY ON THIS SOIL INFORMATION FOR CONSTRUCTION PURPOSES.)

SOIL NAME:	HYDROLOGIC CLASSIFICATION:
HUBBARD LOAMY SAND	A
DUELML LOAMY SAND	A
MARSH	A/D
ANTICIPATED RANGE OF PARTICLE SIZES	LOAMY SAND

RELATED REVIEWS & PERMITS:
ENVIRONMENTAL, WETLAND, ENDANGERED OR THREATENED SPECIES, ARCHEOLOGICAL, LOCAL, STATE, AND/OR FEDERAL REVIEWS/PERMITS:

AGENCY:	TYPE OF PERMIT:
LOWER RUM RIVER WMO	WCA PERMIT
MDH	WATER MAIN PERMIT

IMPLEMENTATION SEQUENCE:

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING SEQUENCE.
THE ENGINEER MAY APPROVE ADJUSTMENTS TO THE SEQUENCE AS NEEDED.

2. INSTALL PERIMETER CONTROL AND STABILIZE DOWN GRADIENT BOUNDARIES
3. INSTALL INLET PROTECTION ON EXISTING CATCH BASINS
5. INSTALL UTILITIES, STORM SEWER, INLET PROTECTION, CURB & GUTTER, PAVING
6. COMPLETE FINAL GRADING AND STABILIZE DISTURBED AREAS
7. AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ACCUMULATED SEDIMENT, REMOVE BMP'S, AND RE-STABILIZE ANY AREAS DISTURBED BY THEIR REMOVAL.

THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE SWPPP:

PLAN AND PROFILE PLAN SHEETS:

EROSION AND SEDIMENT CONTROL PLAN SHEETS:

TURF ESTABLISHMENT PLAN SHEETS:

GRADING PLAN SHEETS:

DETAIL PLAN SHEETS:

SWPPP NOTE AND DETAIL SHEETS:

PROJECT SPECIFICATIONS:

PROJECT BID FORM:

TEMPORARY BMP DESIGN FACTORS:

EROSION PREVENTION AND SEDIMENT CONTROL BMP'S MUST BE DESIGNED TO ACCOUNT FOR:

THE EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION

THE NATURE OF STORMWATER RUNOFF AND RON-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES

THE STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS

THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT.

TEMPORARY SEDIMENT BASINS:

THE CONTRACTOR SHALL INSTALL TEMPORARY SEDIMENT BASIN(S) INDICATED ON PLANS AND REQUIRED BY THE NPDES CONSTRUCTION PERMIT.

THE TEMPORARY BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2)-YEAR, 24-HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN OR 1,800 CUBIC FEET OF LIVE STORAGE PER ACRE DRAINED, WHICHEVER IS GREATER.

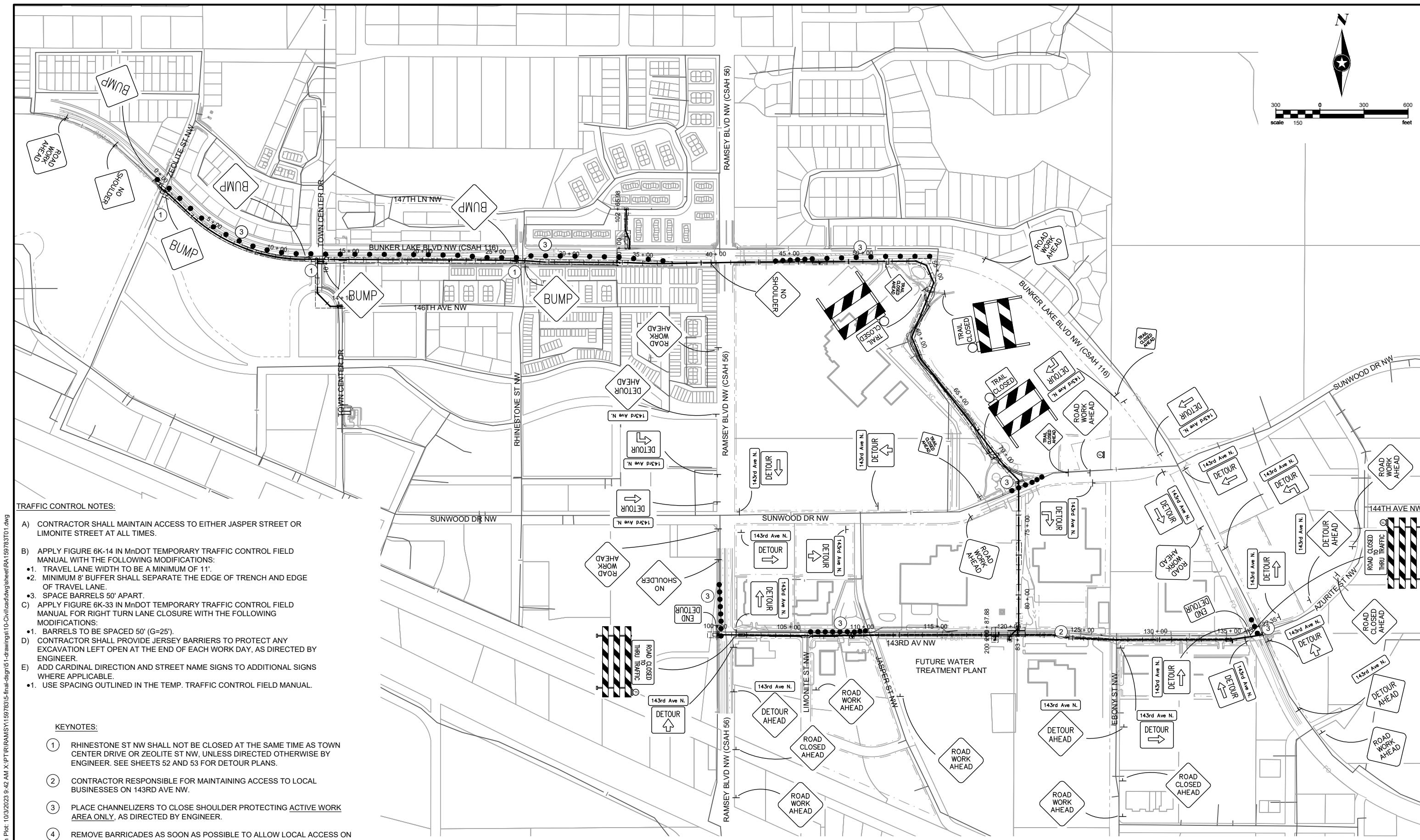
TEMPORARY SEDIMENT BASIN OUTLETS SHALL BE CONSTRUCTED TO PREVENT SHORT-CIRCUITING AND PREVENT THE DISCHARGE OF FLOATING DEBRIS.

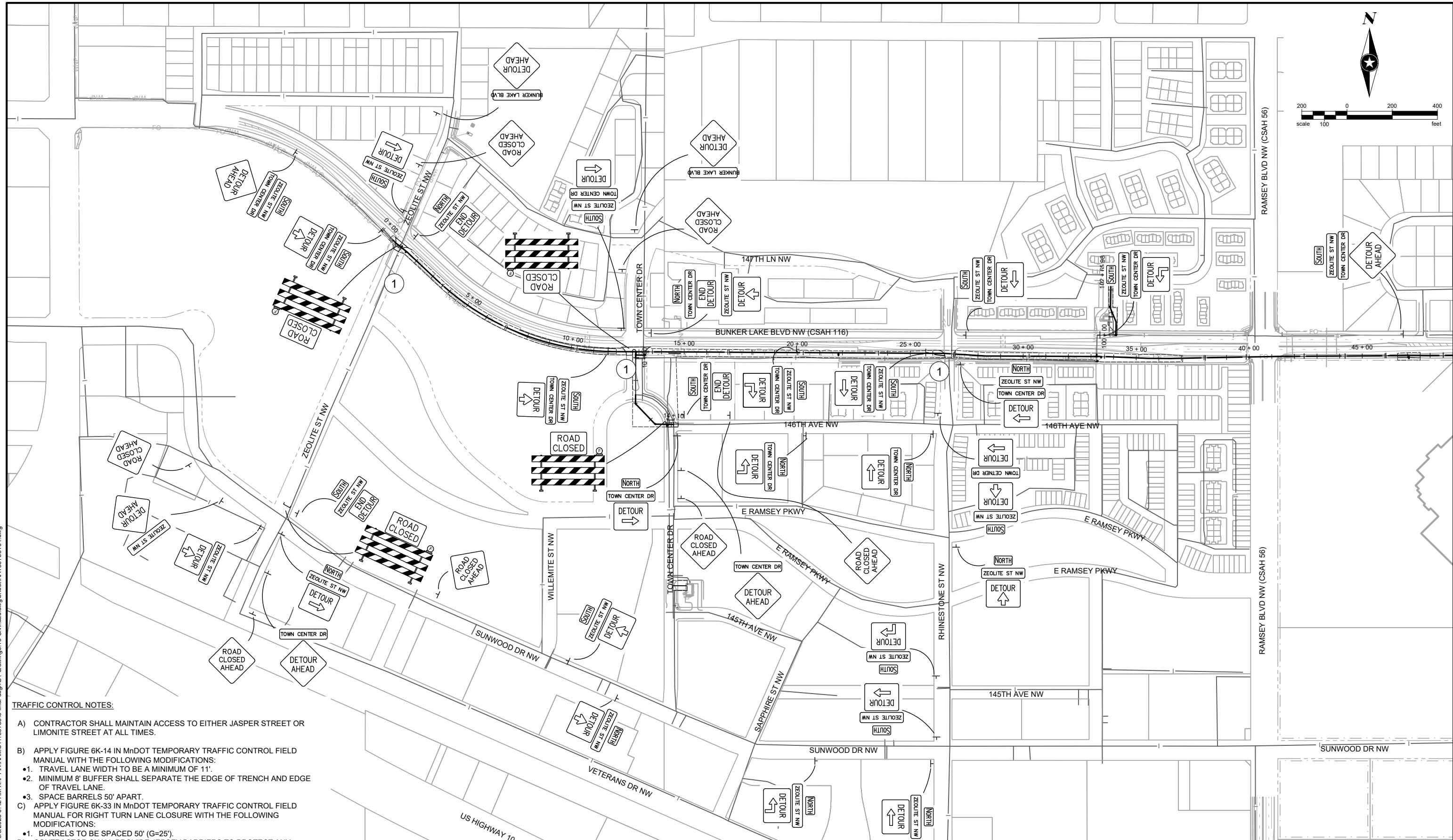
OUTLET STRUCTURES MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

BASINS MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW, WITHDRAW WATER FROM THE SURFACE, AND PROVIDE ENERGY DISSIPATION AT THE OUTLET.

TEMPORARY SEDIMENT BASINS SHALL BE PROVIDED WITH ENERGY DISSIPATION AT ANY BASIN OUTLET TO PREVENT SOIL EROSION.

SEDIMENT BASINS MUST BE SITUATED OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONES, AND MUST BE DESIGNED TO AVOID THE DRAINING WATER FROM WETLANDS.





TRAFFIC CONTROL NOTES:

- A) CONTRACTOR SHALL MAINTAIN ACCESS TO EITHER JASPER STREET OR LIMONITE STREET AT ALL TIMES.
- B) APPLY FIGURE 6K-14 IN MnDOT TEMPORARY TRAFFIC CONTROL FIELD MANUAL WITH THE FOLLOWING MODIFICATIONS:
 - 1. TRAVEL LANE WIDTH TO BE A MINIMUM OF 11'.
 - 2. MINIMUM 8' BUFFER SHALL SEPARATE THE EDGE OF TRENCH AND EDGE OF TRAVEL LANE.
 - 3. SPACE BARRELS 50' APART.
- C) APPLY FIGURE 6K-33 IN MnDOT TEMPORARY TRAFFIC CONTROL FIELD MANUAL FOR RIGHT TURN LANE CLOSURE WITH THE FOLLOWING MODIFICATIONS:
 - 1. BARRELS TO BE SPACED 50' (G=25').
- D) CONTRACTOR SHALL PROVIDE JERSEY BARRIERS TO PROTECT ANY EXCAVATION LEFT OPEN AT THE END OF EACH WORK DAY, AS DIRECTED BY ENGINEER.
- E) ADD CARDINAL DIRECTION AND STREET NAME SIGNS TO ADDITIONAL SIGNS WHERE APPLICABLE.
 - 1. USE SPACING OUTLINED IN THE TEMP. TRAFFIC CONTROL FIELD MANUAL.

KEYNOTES:

① RHINESTONE ST NW SHALL NOT BE CLOSED AT THE SAME TIME AS TOWN CENTER DRIVE OR ZELITE ST NW, UNLESS DIRECTED OTHERWISE BY ENGINEER. SEE SHEETS 52 AND 53 FOR DETOUR PLANS.

SEH Project RAMSY174498 | Rev.# . | Revision Issue Description Date |

Drawn By JRB, SRP | Rev.# . | Revision Issue Description Date |

Designed By KLK | Rev.# . |

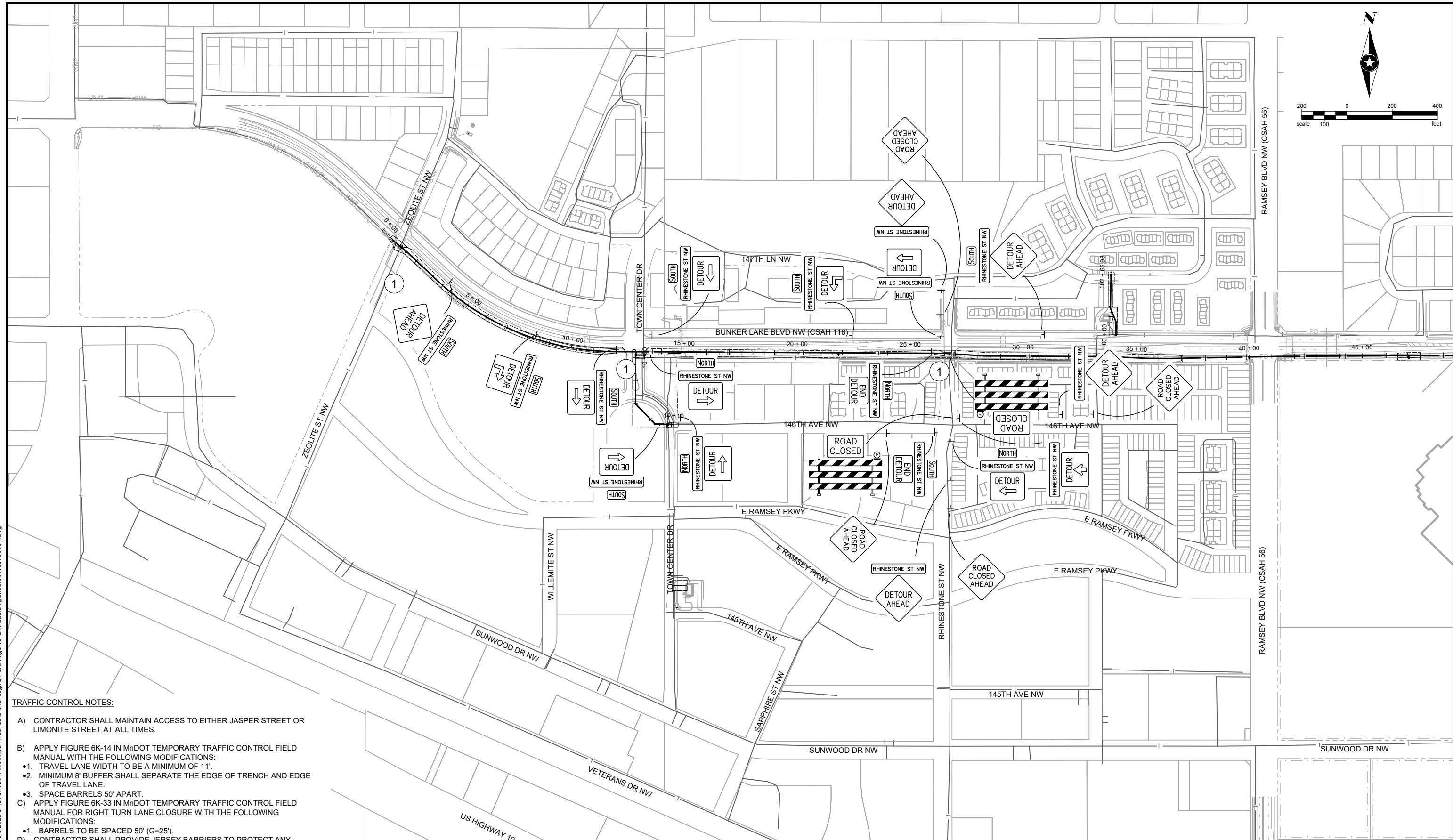
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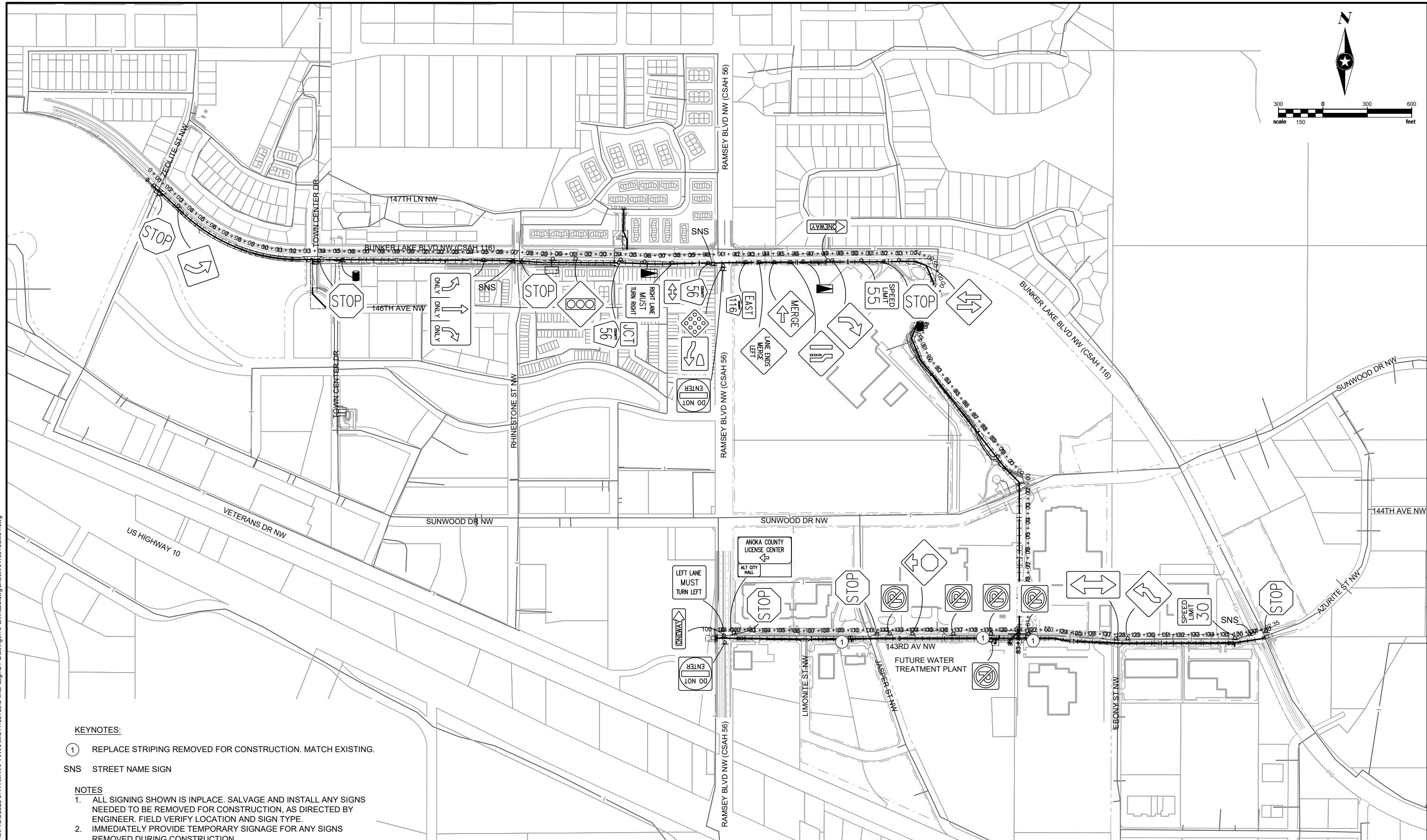


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MN.
DATE 09-29-2023
David E. Hutton
LICENSING NO. 19133

**WATER TREATMENT PLANT
TRUNK WATER MAIN IMPROVEMENTS**
Ramsey, Minnesota

**DETOUR PLAN
ZELITE ST NW AND TOWN CENTER DR
NW**



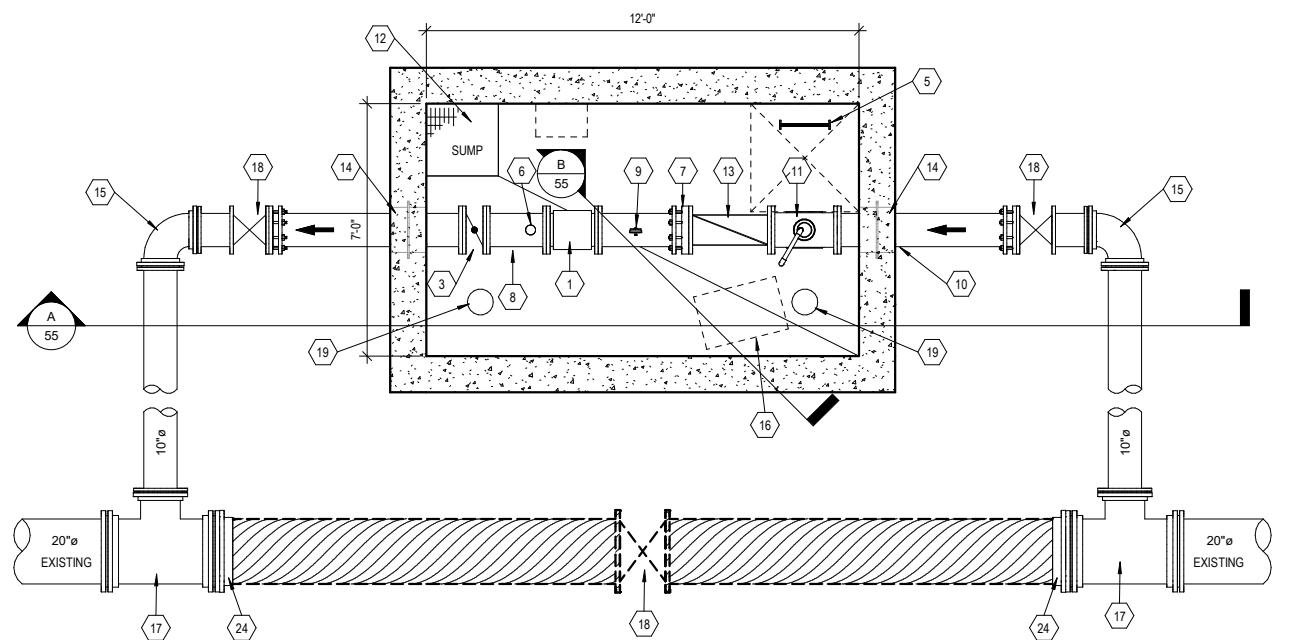
**KEYNOTES:**

① REPLACE STRIPING REMOVED FOR CONSTRUCTION. MATCH EXISTING.

SNS STREET NAME SIGN

NOTES

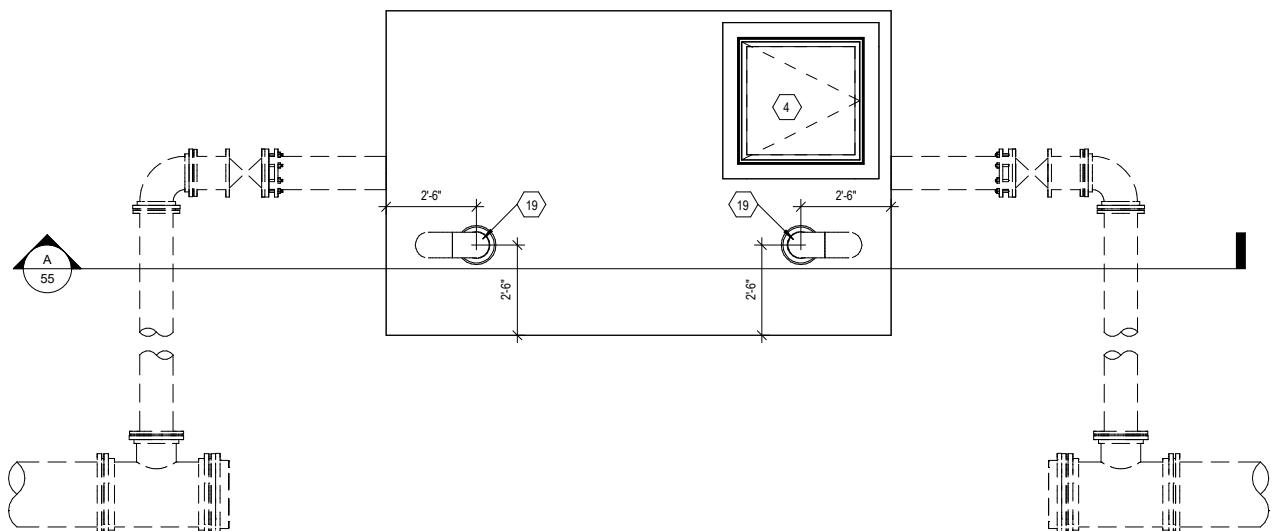
- ALL SIGNING SHOWN IS INPLACE. SALVAGE AND INSTALL ANY SIGNS NEEDED TO BE REMOVED FOR CONSTRUCTION, AS DIRECTED BY ENGINEER. FIELD VERIFY LOCATION AND SIGN TYPE.
- IMMEDIATELY PROVIDE TEMPORARY SIGNAGE FOR ANY SIGNS REMOVED DURING CONSTRUCTION.



Vault Plan View

PROJECT
NORTH

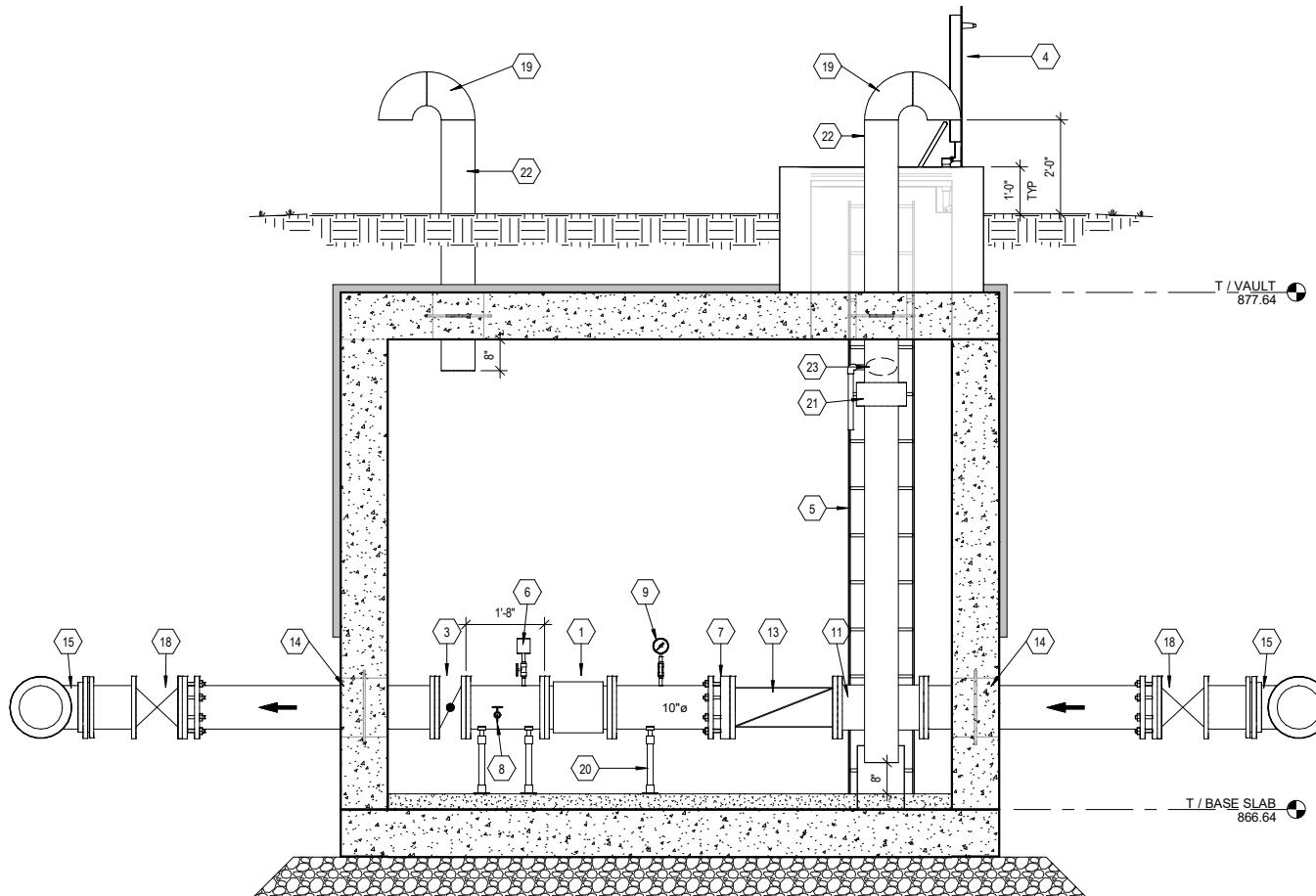
1 55 3/8" = 1'-0" 0 2 4 6



Main Level Plan

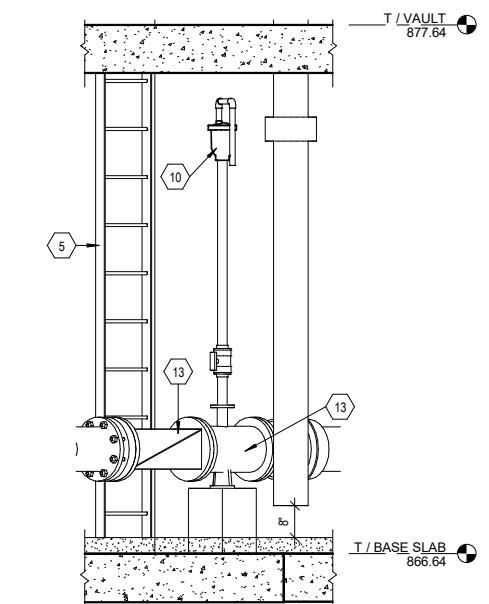
PROJECT
NORTH

2 55 3/8" = 1'-0" 0 2 4 6



SECTION

55 1/2" = 1'-0" 0 1' 2' 4'



SECTION

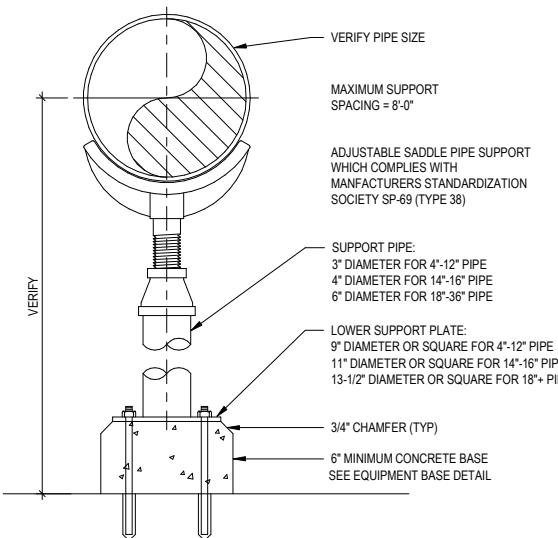
55 1/2" = 1'-0" 0 1' 2' 4'

KEYNOTES

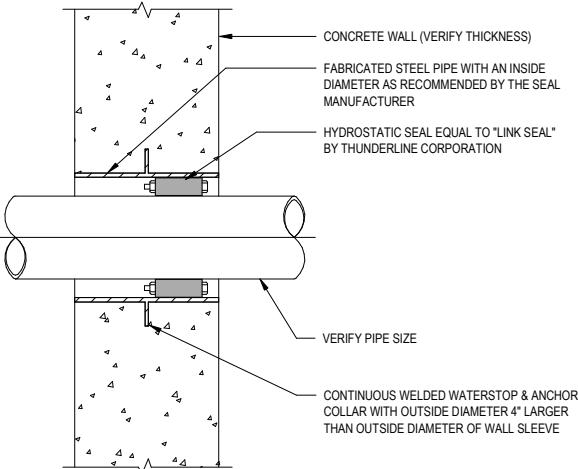
- 1 10" FLOW METER
- 2 2" RIGID POLYSTYRENE BOARD INSULATION TYPE X (ASTM C578) FASTENED TO CONCRETE WITH COMPATIBLE ADHESIVE
- 3 10" BUTTERFLY VALVE
- 4 36" x 36" CLEAR OPENING. WATER TIGHT, ALUMINUM ACCESS HATCH WITH FALL THROUGH PROTECTION.
- 5 ALUMINUM LADDER W/ EXTENSION. SEE G/54
- 6 AIR RELIEF VALVE
- 7 10" FLANGE COUPLING ADAPTER
- 8 SAMPLE TAP. SEE F/54
- 9 TAP FOR 4-1/2" PRESSURE GAUGE 3/4" TAP, 3/4" SS VALVE, SS NIPPLES AND SS CAP (QTY OF 2). SEE C/54.
- 10 2" AIR/VACUUM VALVE
- 11 10" x 4" FLANGED TEE, REDUCING
- 12 SUMP PUMP
- 13 10" CHECK VALVE
- 14 WALL SLEEVE. SEE DETAIL B/54.
- 15 10" MJ 90° ELBOW (TYP 2)
- 16 ELECTRIC HEATER MOUNTED TO CEILING
- 17 20"x10" MJ TEE
- 18 REMOVE EXISTING 20" GATE VALVE
- 19 8" STEEL RETURN AIR VENT WITH INSECT SCREEN. SEE E/54
- 20 STEEL PIPE SUPPORT. SEE A/54
- 21 8" INLINE FAN
- 22 8" FRP VENT PIPE
- 23 GRAVITY EXHAUST DAMPER
- 24 20" MJ CAP

NOTES:

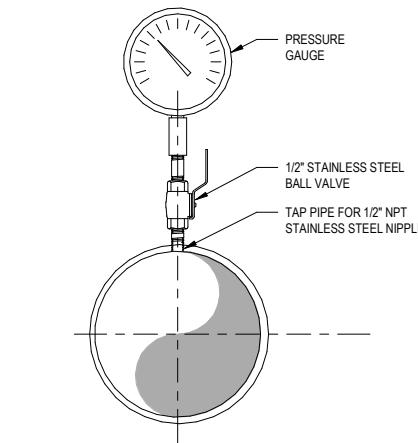
- ALL UNDERGROUND PIPING SHALL BE LAY ON GRADE BETWEEN THE ELEVATION POINTS SHOWN. NO LOW OR HIGH POINTS WILL BE ALLOWED EXCEPT AS SHOWN.
- ALL MECHANICAL JOINTS SHALL BE RESTRAINED
- SIZE OF FITTINGS AND VALVES SHALL CORRESPOND TO THE SIZE OF ADJACENT PIPING. ALL BOLTS AND TIES SHALL BE OF STAINLESS STEEL
- ALL LINES SHALL BE ADEQUATELY ANCHORED AND SUPPORTED TO PREVENT EXCESSIVE MOVEMENT DURING OPERATION AND TESTING.
- Pipeline, including valves, fittings, and appurtenances outside of vault shall be fully encased in polyethylene film conforming to the requirements of AWWA C-105 for tube type installations and 8 mil nominal thickness.
- Piping within the valve vault shall be flanged.
- ALL FASTENERS SHALL BE STAINLESS STEEL.



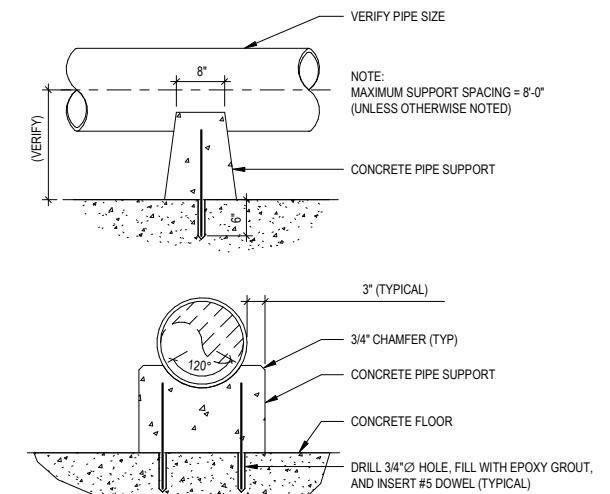
A STEEL PIPE SUPPORT
56 NOT TO SCALE



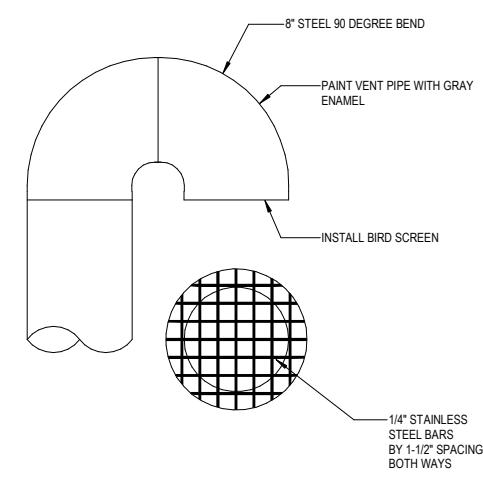
B WALL SLEEVE DETAIL
56 NOT TO SCALE



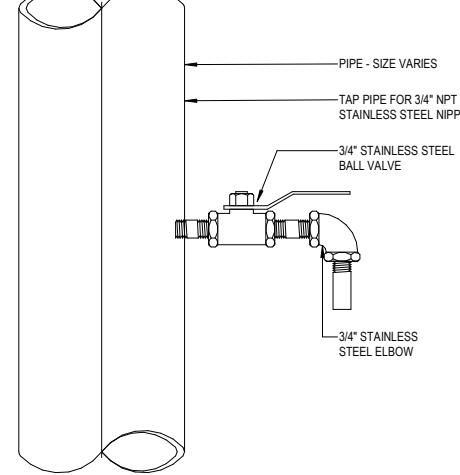
C PRESSURE GAUGE TAP DETAIL
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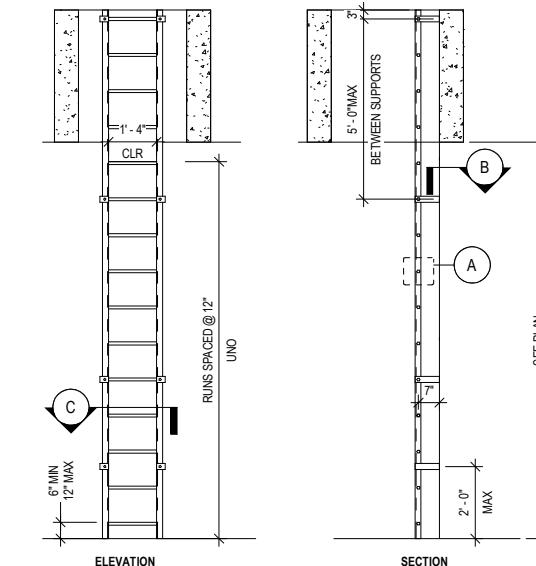
D CONCRETE PIPE SUPPORT
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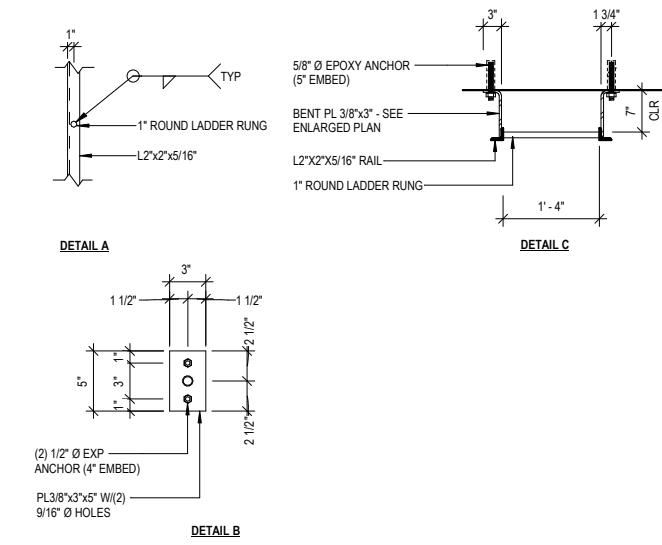
E STEEL VENT SCREEN
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F SAMPLE TAP DETAIL
56 NOT TO SCALE

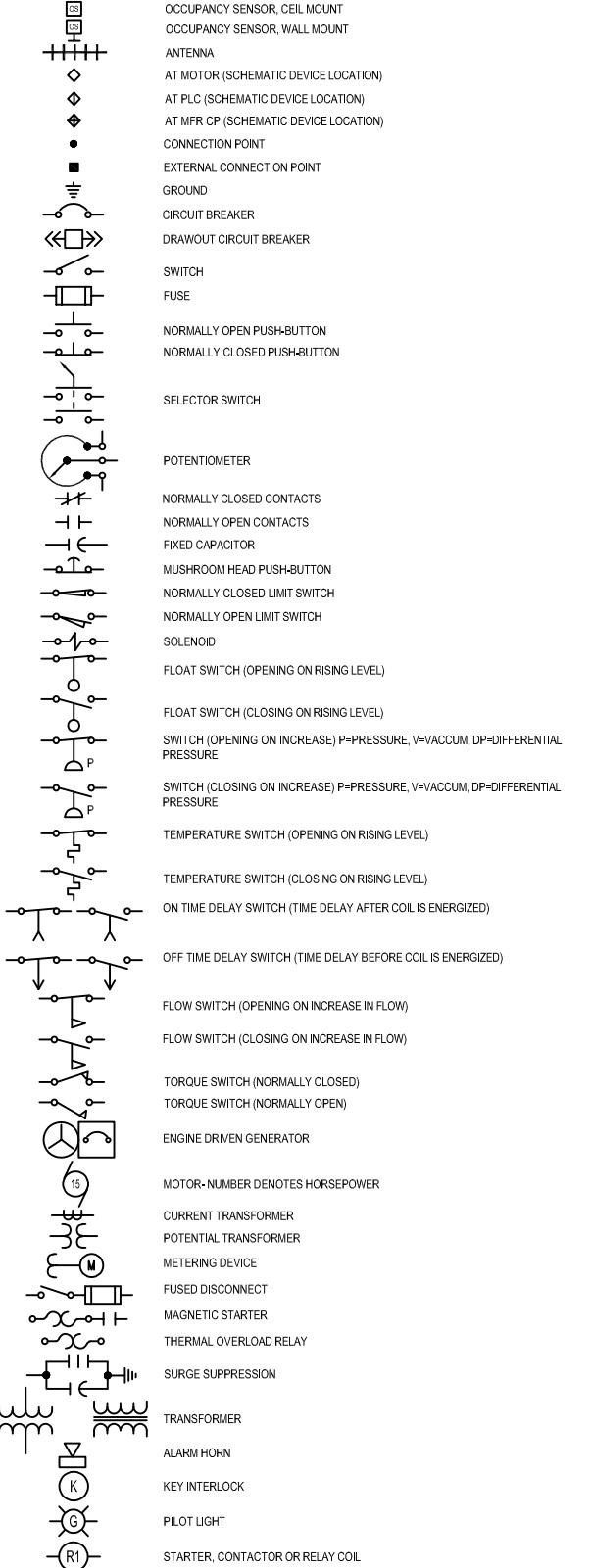


G ALUMINUM LADDER DETAIL
56 NOT TO SCALE





SCHEMATIC SYMBOLS



MISC. SYSTEM COMPONENT, SEE ABBREVIATIONS FOR LETTER DESIGNATIONS NOT LISTED BELOW.

LE = LEVEL ELEMENT
 LIT = LEVEL INDICATING TRANSMITTER
 FE = FLOW ELEMENT
 FIT = FLOW INDICATING TRANSMITTER
 FS = FLOW SWITCH
 HS = HAND SWITCH
 PB = PULLBOX
 PT = PRESSURE TRANSDUCER
 SS = SOFT STARTER
 TS = TAMPER SWITCH
 ATS = AUTOMATIC TRANSFER SWITCH
 HOA = HAND OFF AUTO SELECTOR SWITCH
 TIT = TEMPERATURE INDICATING TRANSMITTER
 TSH = TEMPERATURE SWITCH HIGH
 TVSS = TRANSIENT VOLTAGE SURGE SUPPRESSER
 VFD = VARIABLE FREQUENCY DRIVE
 SV = SOLENOID VALVE
 XS = MOISTURE SWITCH
 XSH = MOISTURE SWITCH HIGH
 ZS = POSITION SWITCH

ELECTRICAL ABBREVIATIONS

A	AMBER, AMPERE, ALARM	LIT	LEVEL INDICATING TRANSMITTER
AC	ALTERNATING CURRENT	LP	LIGHTING PANEL
AFF	ABOVE FINISHED FLOOR	LS	LIMIT OR LEVEL SWITCH
AFG	ABOVE FINISHED GRADE	LTG	LIGHTING
AM	AMMETER	LWCO	LOW WATER CUTOFF
ANN	ANNUNCIATOR	M	MAGNETIC MOTOR STARTER
AR	ALARM RELAY	MA	MILLIAMPERE
AS	AMMETER SWITCH	MCB	MAIN CIRCUIT BREAKER
ATS	AUTOMATIC TRANSFER SWITCH	MCC	MOTOR CONTROL CENTER
AWG	AMERICAN WIRE GAUGE	MD	MOISTURE DETECTOR
BC	BATTERY CHARGER	MFR	MANUFACTURER
BLDG	BUILDING	MH	MANHOLE OR MOUNTING HEIGHT
C	CLOSE, COUNTER OR CONTACTOR	MOV	MOTOR OPERATED VALVE
CAP	CAPACITOR	MS	MANUAL MOTOR STARTER
CB	CIRCUIT BREAKER	MSH	MOTOR SPACE HEATER
CD	CONTROL DAMPER	MTR	MOTOR
CGD	COMBUSTIBLE GAS DETECTOR	MTS	MANUAL TRANSFER SWITCH
CKT	CIRCUIT	MV	MILLIVOLT, MEDIUM VOLTAGE
CL2	CHLORINE	MVA	MEGA VOLT AMPERE
CP	CONTROL PANEL	N	NEUTRAL
CPT	CONTROL POWER TRANSFORMER	NC	NORMALLY CLOSED
CR	CURRENT OR CONTROL RELAY	NMC	NON-METALLIC CONDUIT
CS	CONTROL STATION	NO	NORMALLY OPEN
CT	CYCLE TIMER OR CURRENT TRANSFORMER	O	OPEN
CV	CONTROL VALVE	OL	OVERLOAD
2/C	2 CONDUCTOR	OOA	ON-OFF-AUTO
4/C	4" CONDUIT	OOR	ON-OFF-REMOTE
DI	DIRECT CURRENT	OH	OVERHEAD
DM	DAMPER MOTOR OR DEMAND METER	P	PRIMARY
DPDT	DOUBLE POLE DOUBLE THROW	PB	PUSHBUTTON OR PULL BOX
DP	DOUBLE POLE SINGLE THROW	PLC	PROGRAMMABLE LOGIC CONTROLLER
DPS	DIFFERENTIAL PRESSURE	PF	POWER FACTOR
DS,DISC	DISCONNECT SWITCH	PFCC	POWER FACTOR CORRECTION CAPACITOR
DWG	DRAWING	PH	PHASE, CHEMICAL TERM
E	EMERGENCY OR DAMPER OPERATOR	PRS	PROXIMITY SWITCH
EC	EMPTY CONDUIT	PRV	POWER ROOF VENTILATOR
ECP	EQUIPMENT CONTROL PANEL	PS	PRESSURE SWITCH OR PUMP STATION
EG	ENGINE GENERATOR	PT	POTENTIAL TRANSFORMER OR PROGRAM TIMER
EL	ELEVATION OR EMERGENCY LIGHT	PVC	POLYVINYL CONDUIT
EMH	ELECTRICAL MANHOLE	2P	2 POLE
ES	END SWITCH	R	RED, RAISE RELAY OR REVERSE
ETM	ELAPSED TIME METER	RECP	RECEPTACLE
EUH	ELECTRICAL UNIT HEATER	RGS	RIGID GALVANIZED STEEL
EVS	EMERGENCY VENTILATION SHUTOFF	RMC	RIGID METALLIC CONDUIT
EXIST	EXISTING	RTD	RESISTANCE TYPE TEMP DETECTOR
F	FORWARD	RTU	REMOTE TERMINAL UNIT
FA	FIRE ALARM	SA	SURGE SUPPRESSOR
FACP	FIRE ALARM CONTROL PANEL	SCCA	SHORT CIRCUIT CURRENT
FDR	FEEDER	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
FE	FLOW ELEMENT	S2	SIZE 2 STARTER
FIT	FLOW INDICATING TRANSMITTER	SP	SINGLE POLE
FO	FIBER OPTIC	SPD	SURGE PROTECTOR
FS	FLOW SWITCH	SPDT	SINGLE POLE DOUBLE THROW
FPSP	FIRE PROTECTION SIGNALING PANEL	SPST	SINGLE POLE SINGLE THROW
FVNR	FULL VOLTAGE NON-REVERSING	SS	SELECTOR SWITCH OR SOFT STARTER
G	GREEN OR GROUND OR GENERATOR	S.S., SST	STAINLESS STEEL
GD	GROUND DETECTOR OR GAS DETECTOR	SSRV	SOLID STATE REDUCED VOLTAGE STARTER
GEN	GENERATOR	STR	STARTER
GFI	GROUND FAULT INTERRUPTER	SV	SOLENOID VALVE
GCI	GROUND FAULT CIRCUIT INTERRUPTER	SWBD	SWITCHBOARD
GND	GROUND	SWG	SWITCHGEAR
GUH	GUH	T	THERMOSTAT, TIMER OR TOTALIZER
H	HIGH OR HUMIDSTAT	TB	TERMINAL BLOCK
HH	HANDHOLE	TC	TEMPERATURE CONTROL PANEL
HOA	HAND-OFF-AUTO	TD	TIME DELAY RELAY
HP	HORSEPOWER	TEMP	TEMPERATURE
HTR	HEATER	TQ	TORQUE
HVMH	HIGH VOLTAGE ELECTRIC MANHOLE	TTB	TELEPHONE TERMINAL BOX
Hz	HERTZ CYLES PER SECOND)	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
I/O	INPUT/OUTPUT	UG	UNDERGROUND
INST	INSTANTANEOUS	UPS	UNINTERRUPTIBLE POWER SUPPLY
IS	INTRINSICALLY SAFE	UV	UNDER VOLTAGE OR ULTRAVIOLET
ISO	ISOLATION	V	VOLTS
J	JUNCTION BOX	VA	VOLT AMPERE
K	KEY INTERLOCK	VAR	VOLTAMPERE REACTIVE
KAIC	KILOAMPERE	VFD	VARIABLE FREQUENCY DRIVE
KCMIL	THOUSAND CIRCULAR MILS	VM	VOLTMETER
KV	KILOVOLT	VS	VOLTMETER SWITCH
KVA	KILOVOLT AMPERE	W	WHITE OR WATTS
KVAR	KILOVAR	WE	WEIGHT ELEMENT
KW	KILOWATT	WIT	WEIGHT INDICATING TRANSMITTER
KWH	KILOWATT HOUR	WP	WEATHERPROOF
L	LOW LEVEL	WPI	WEATHERPROOF IN-USE RECEPTACLE COVER
LA	LIGHTNING ARRESTER	XFMR	TRANSFORMER
LAN	LOCAL AREA NETWORK	XP	EXPLOSION-PROOF
LC	LIGHTING CONTACTOR		
LE	LEVEL ELEMENT		

INDEX OF ELECTRICAL DRAWINGS	
57	ELECTRICAL - SYMBOLS, ABBREVIATIONS AND NOTES
58	ELECTRICAL - PLANS, ELEVATION AND DIAGRAMS

NOTES

GENERAL WIRING METHODS:

1. USE NO. 10 AWG CONDUCTOR FOR 20 AMPERE, 120-VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 75 FEET; AND FOR 20 AMPERE, 277-VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 150 FEET.

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SEH Project: Ramsy174498
 Drawn By: JRB
 Designed By: JRB
 Checked By: JPC

Revision Issue
 Description
 Date
 Rev.#

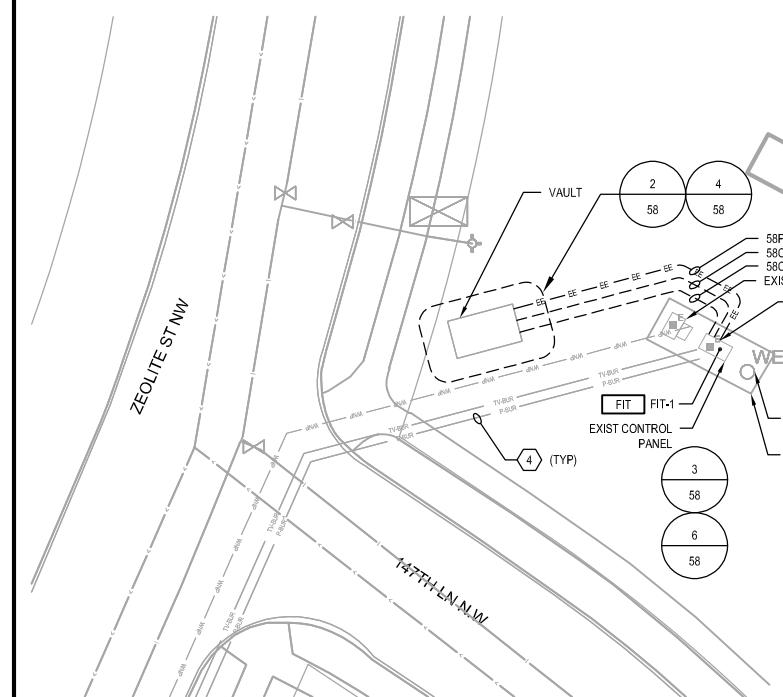
Revision Issue
 Description
 Date

John P. Carlson
 JOHN P. CARLSON, P.E.
 DATE 09-29-2023
 SEH

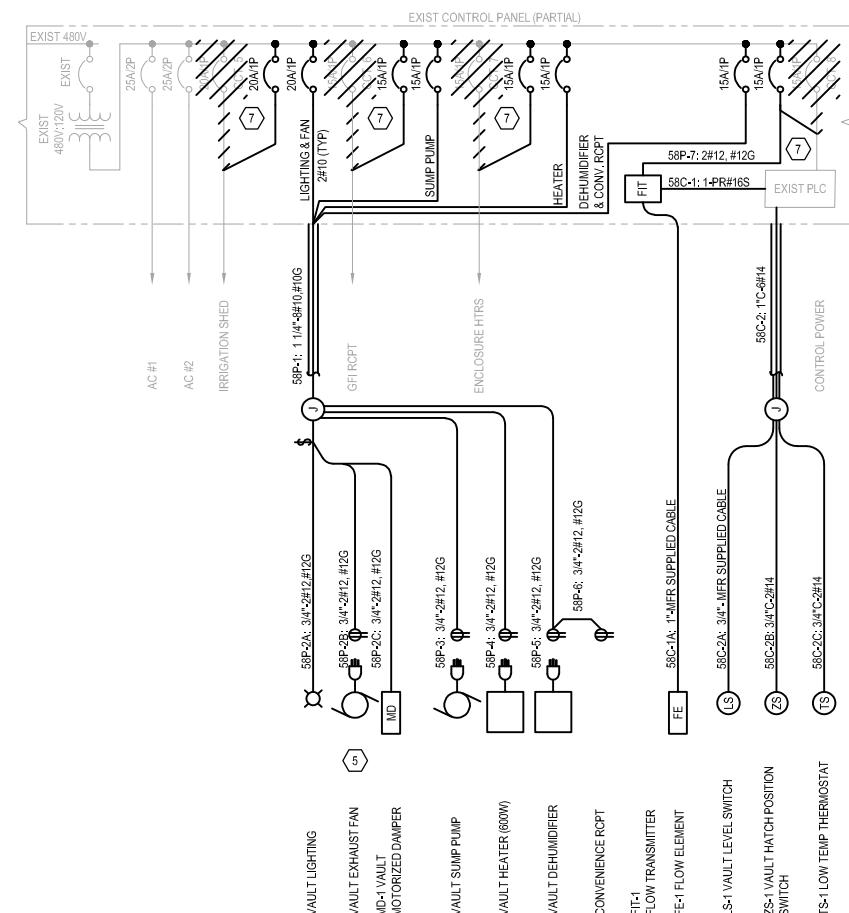
LICENSE NO. 24001

WATER TREATMENT PLANT
 TRUNK WATER MAIN IMPROVEMENTS
 Ramsey, Minnesota

ELECTRICAL - SYMBOLS,
 ABBREVIATIONS AND NOTES
 BUNKER LAKE BLVD NW (CSAH 116)



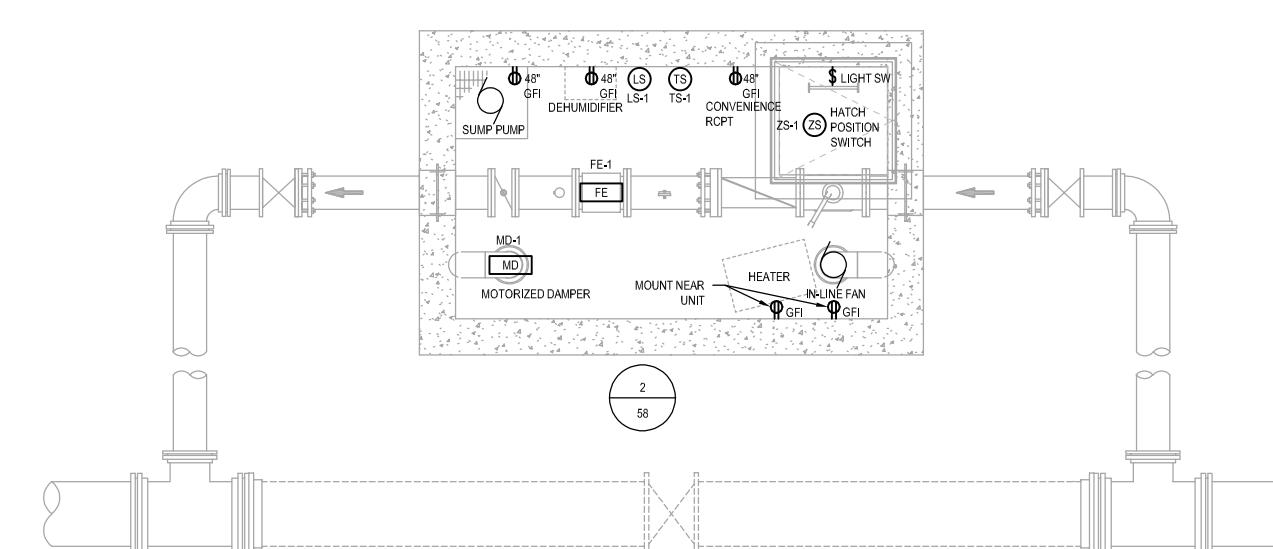
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SCALE IN FEET



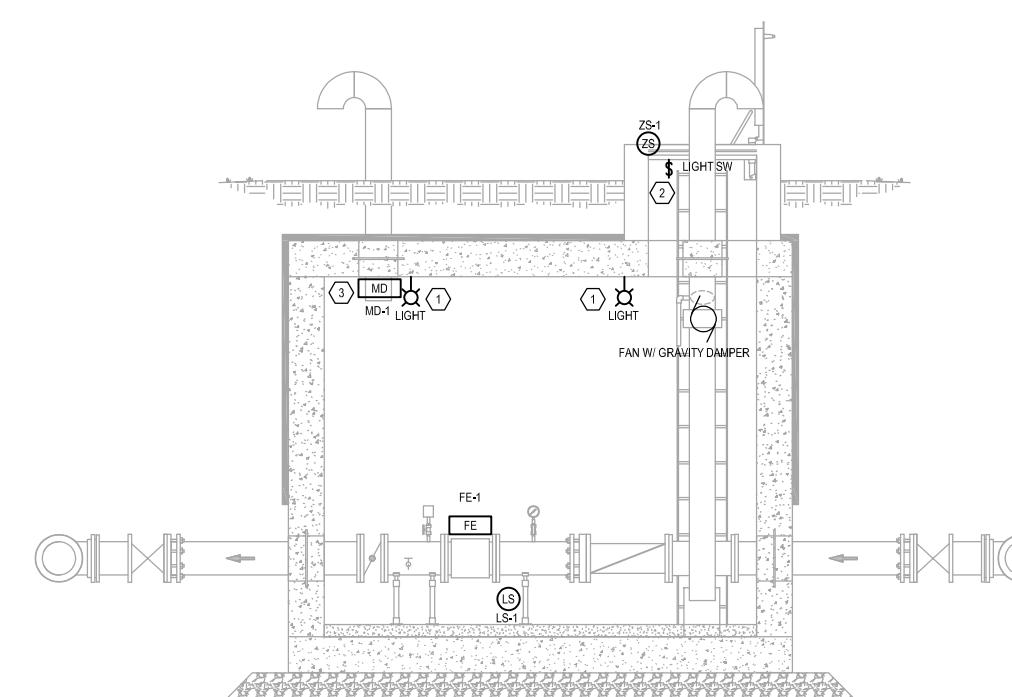
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ELECTRICAL - SITE PLAN

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 58
 ELECTRICAL - PLAN
 
 SCALE: 3/8"=1'-0"
 
 SCALE: 3/8"=1'-0"

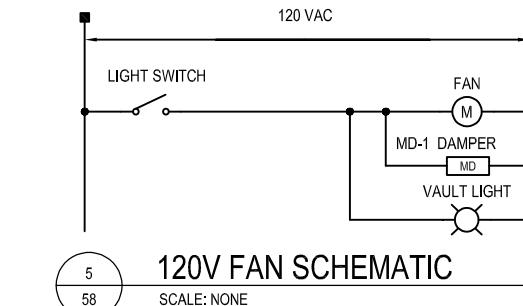


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ELECTRICAL - ELEVATION

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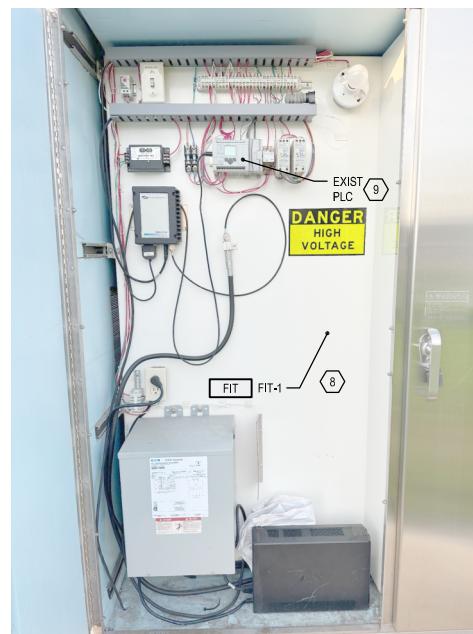




120V FAN SCHEMATIC



EXIST LOADCENTER ELEVATION



GENERAL NOTES:

- A. COORDINATE ELECTRICAL REQUIREMENTS WITH OTHER TRADES.
- B. ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST ADDITION OF THE NATIONAL ELECTRICAL CODE, STATE, COUNTY, MUNICIPAL, AND FEDERAL LAWS OR ORDINANCES GOVERNING THE PROJECT. IF THE PLANS AND SPECIFICATIONS ARE IN CONFLICT WITH SUCH CODES, LAWS OR ORDINANCES, NOTIFY THE ENGINEER FOR RESOLUTION PRIOR TO MAKING CHANGES. WORK SHALL BE PERFORMED UNDER A LICENSED MASTER ELECTRICIAN.
- C. PROVIDE LABOR, MATERIALS, EQUIPMENT AND NECESSARY OPERATIONS REQUIRED TO PROVIDE COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION IN ACCORDANCE WITH ACCOMPANYING PLANS AND SPECIFICATIONS.
- D. MATERIAL SHALL BE NEW, UL LISTED AND APPROVED FOR THE PURPOSE AND INSTALLATION PER CODE IN A WORKMANSHIP MANNER.
- E. SECURE AND PAY FOR PERMITS, LICENSES AND INSPECTION FEES, AND COORDINATE WITH UTILITIES AND AUTHORITIES HAVING JURISDICTION.
- F. EXPOSED CONDUIT SHALL BE RIGID METAL CONDUIT (RMC), BELOW GRADE CONDUIT SHALL BE SCHEDULE 40 PVC.
- G. 600V CONDUCTORS SHALL BE XHHW OR THWN/THHN STRANDED COPPER AS SPECIFIED.
- H. PROVIDE GROUNDING OF SERVICE PER LATEST ADDITION OF NATIONAL ELECTRICAL CODE.

KEYNOTES: 

1. PROVIDE RAB LIGHTING FIXTURE #/XLED13NDG.
2. LIGHT SWITCH SHALL CONTROL LIGHT, FAN AND MOTORIZED DAMPER. SEE SCHEMATIC 5/58.
3. MOTORIZED DAMPER TURNS ON WITH LIGHT SWITCH AND FAN.
4. APPROXIMATE LOCATION OF BURIED CIRCUITRY. VERIFY ROUTING WITH UTILITY, OTHER TRADES AND CIVIL PLANS.
5. PROVIDE MATCHING CORD AND PLUG.
6. SAWCUT CONCRETE FOR COMPLETELY CONCEALED CONDUIT ENTRY.
7. REPLACE EXIST 1-POLE LOADCENTER BREAKER WITH TANDEM 1-POLE BREAKER OF SAME AMPERAGE.
8. INSTALL FIT-1 IN EXIST CONTROL PANEL.
9. RERARRANGE DEVICES TO ADD ANALOG AND DIGITAL INPUT CARDS TO EXIST PLC.

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