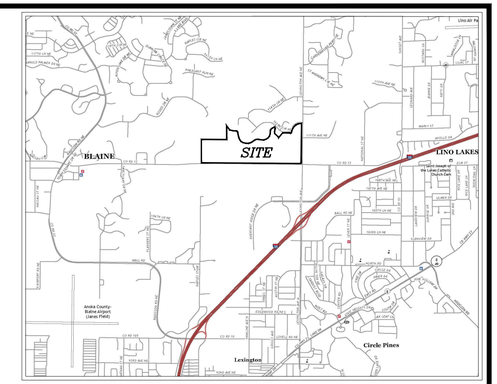
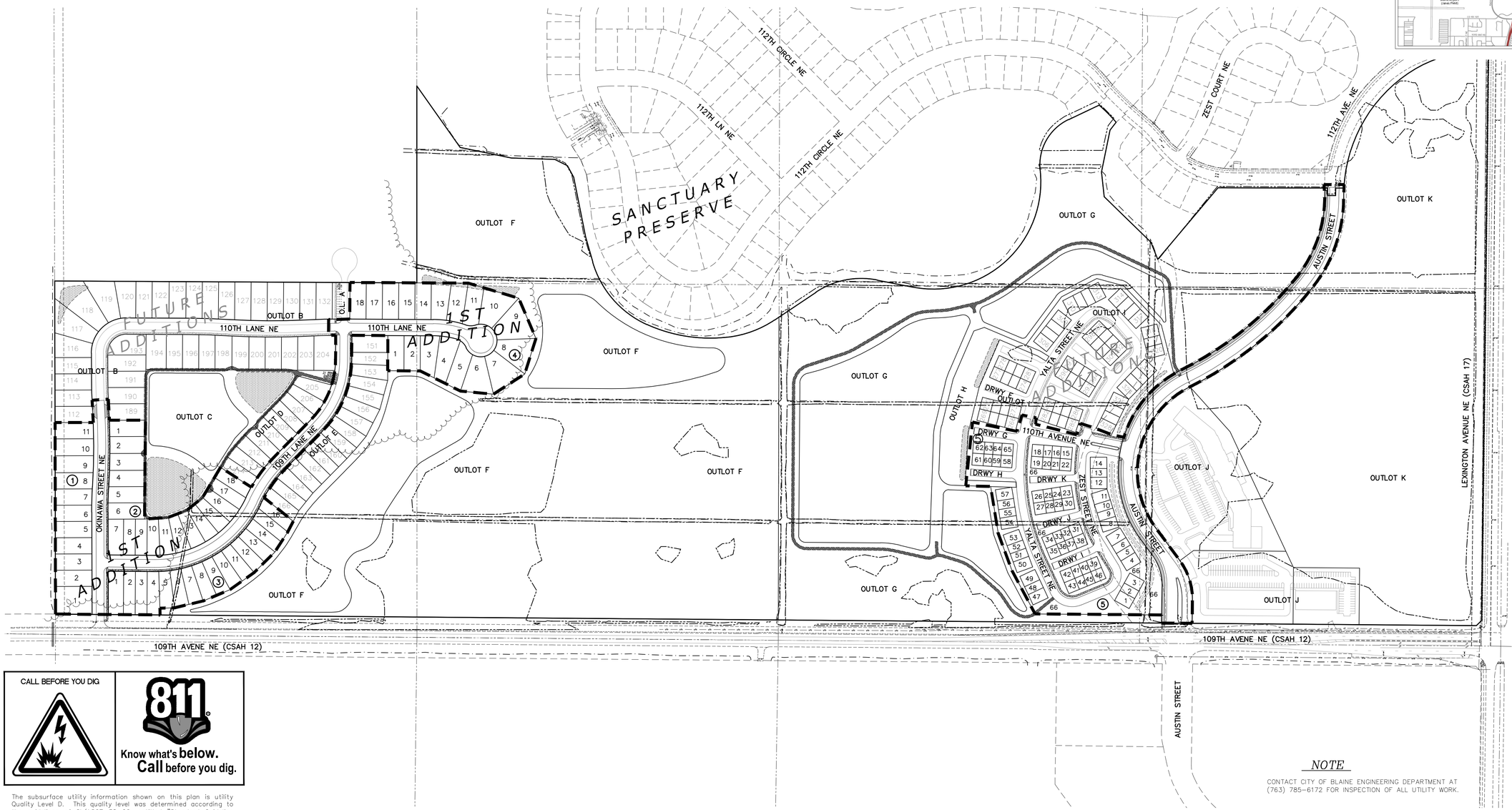
NORTH MEADOWS 1ST ADDITION

SANITARY SEWER, WATER MAIN, STORM SEWER AND STREET CONSTRUCTION PLANS

Blaine, Minnesota



VICINITY MAP



SHEET INDEX

N

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(IN FEET)

NOTE

CONTACT CITY OF BLAINE ENGINEERING DEPARTMENT AT (763) 785–6172 FOR INSPECTION OF ALL UTILITY WORK.

BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)

CALL BEFORE YOU DIG

811 Know what's below. Call before you dig.

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38–02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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• surveying

3890 Pheasant Ridge DR. NE, Suite 100
Blaine, MN 55449
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Print Name: Joseph T. Radach, P.E.
Signature:
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:

WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

COVER

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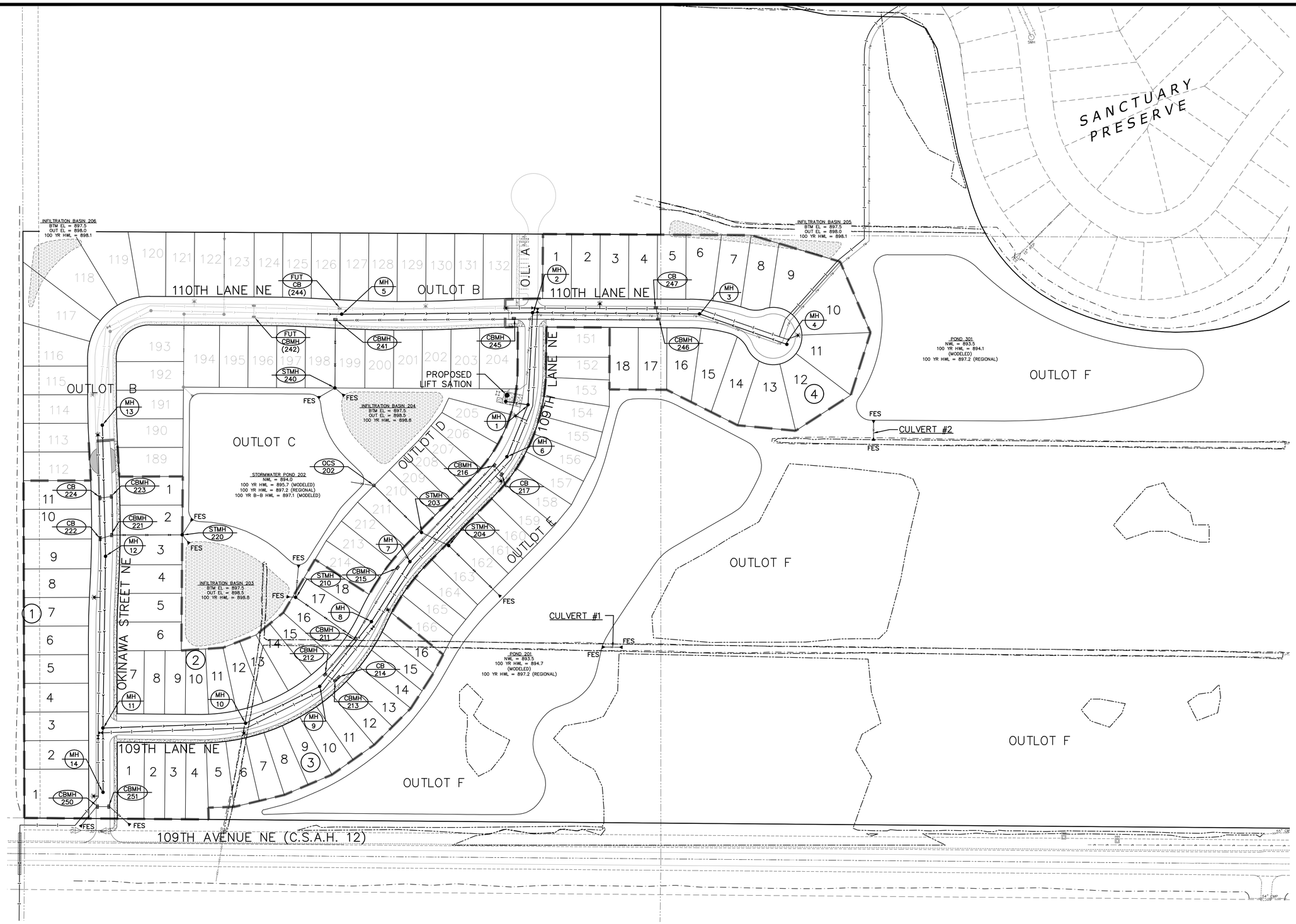

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Blaine, Minnesota

UTILITY INDEX

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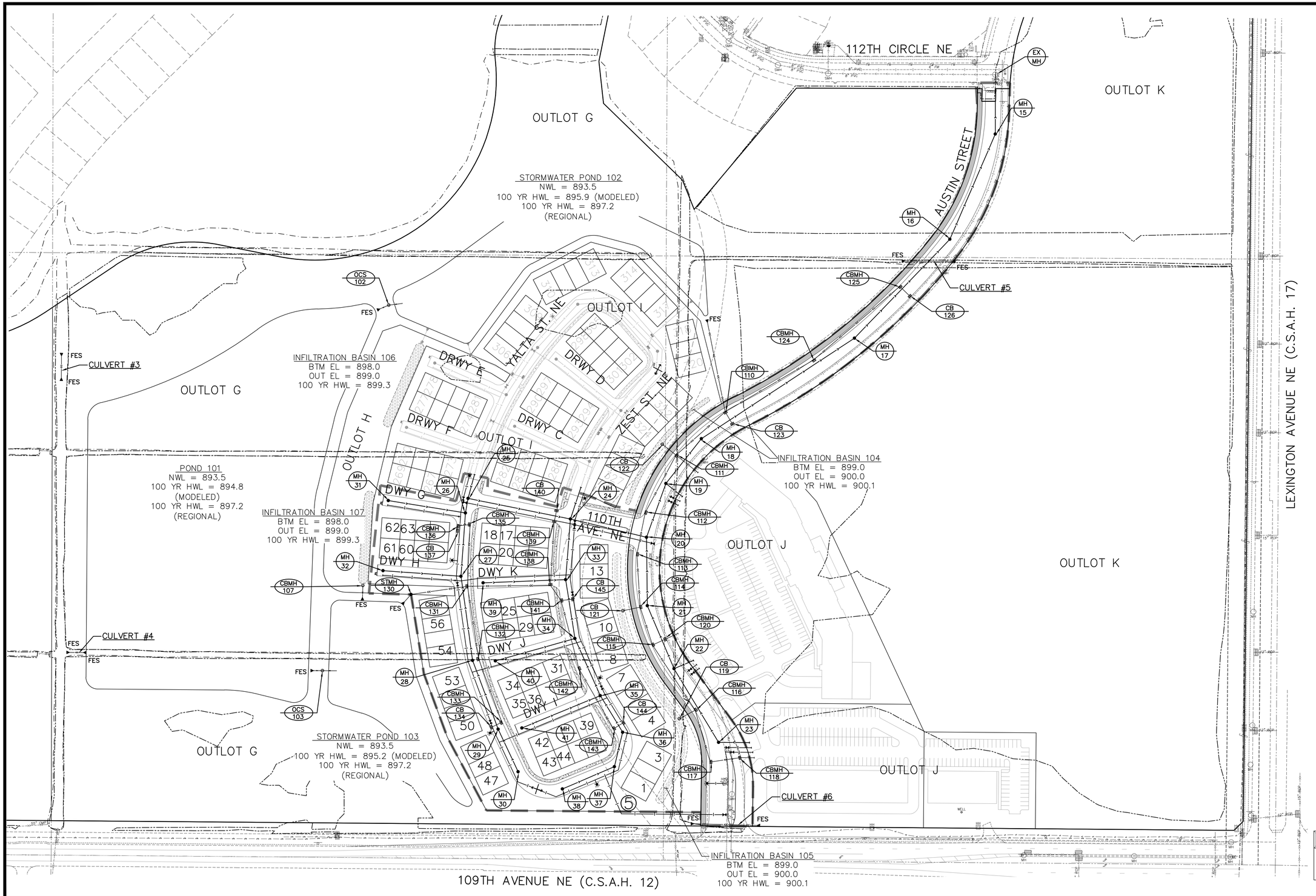

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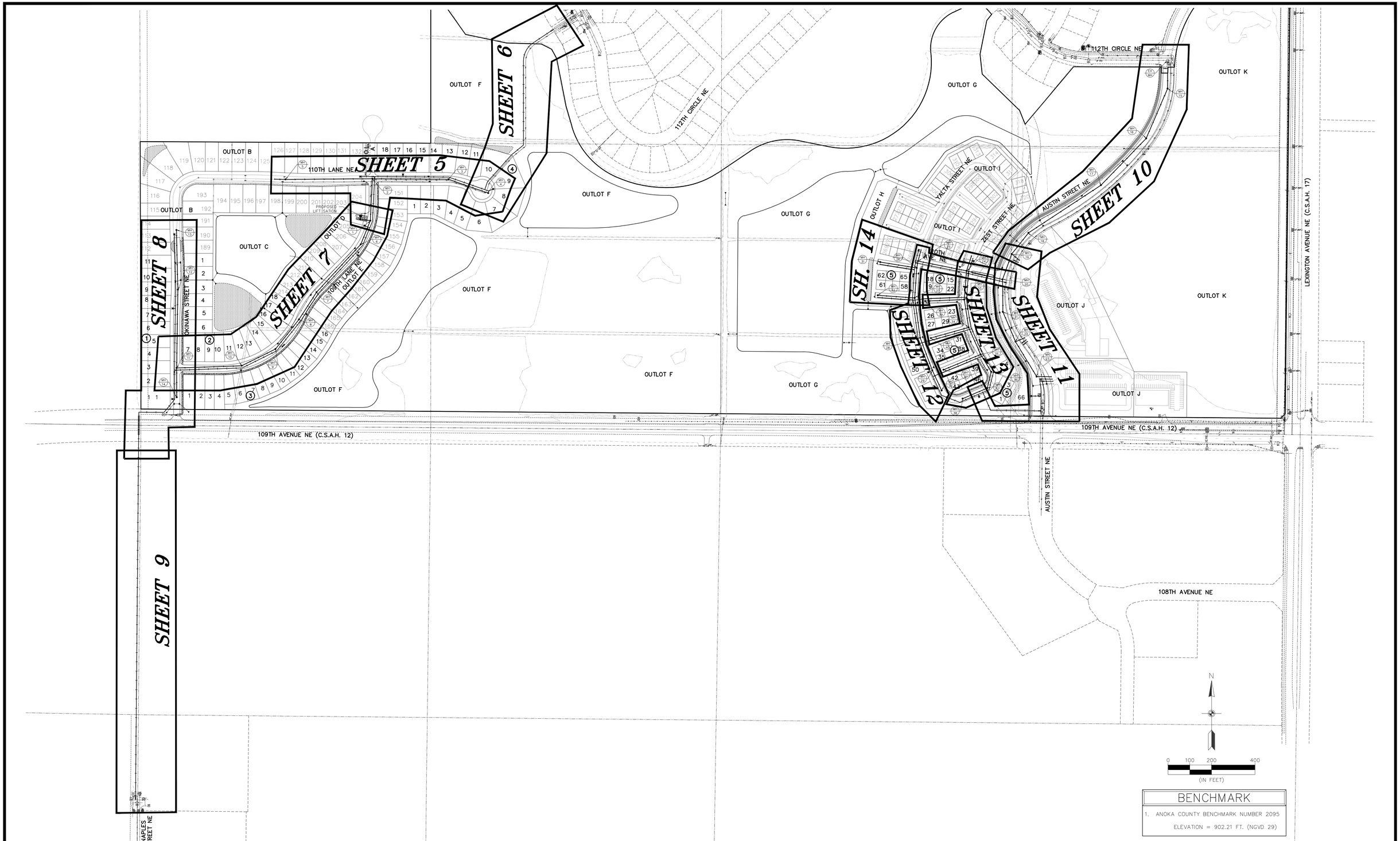

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SANITARY SHEET INDEX

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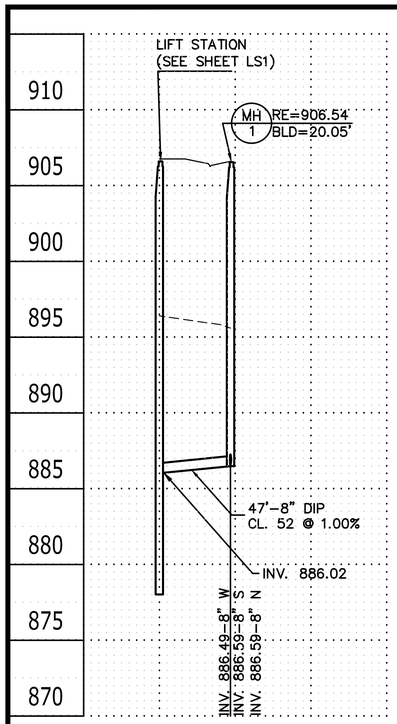

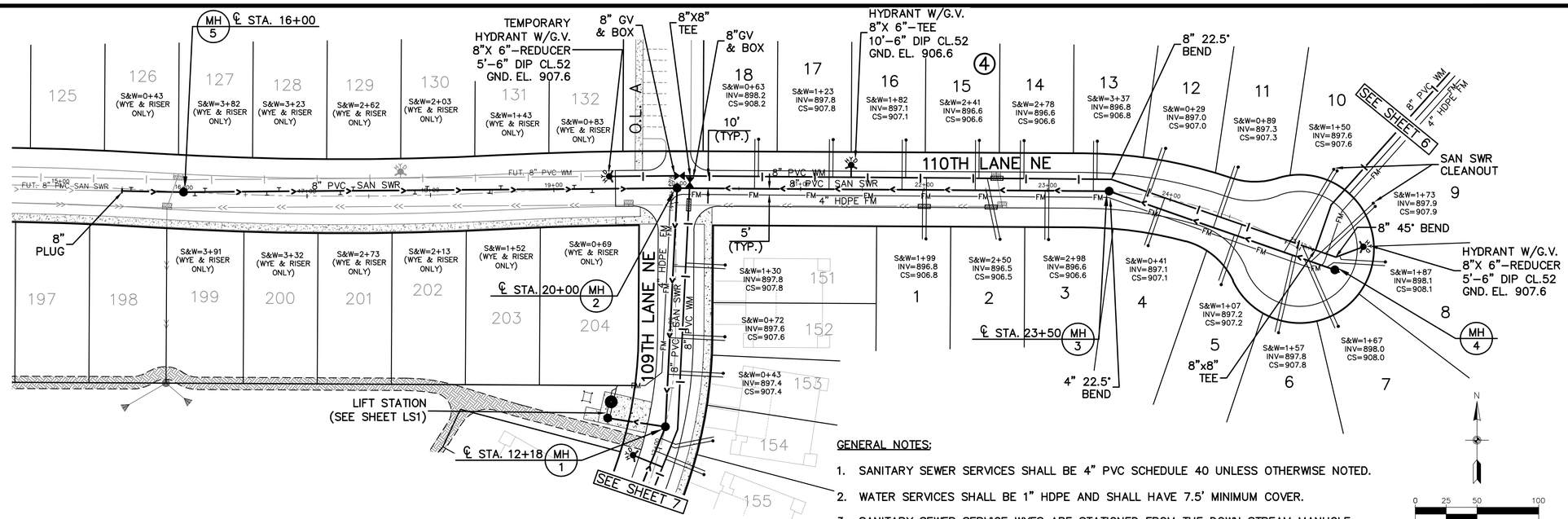

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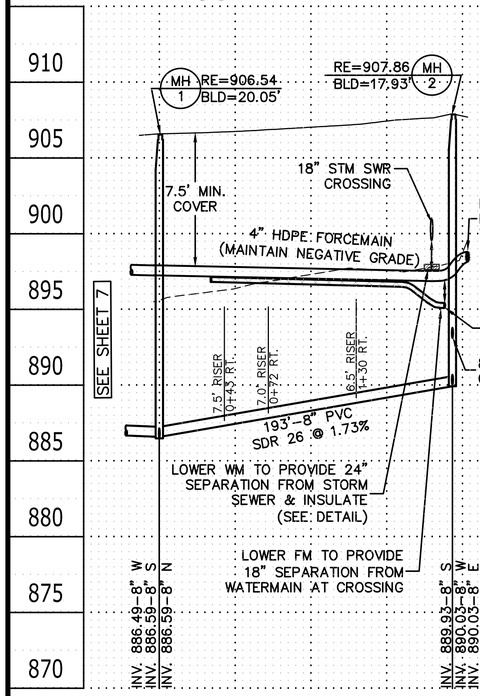
3. SANITARY SEWER SERVICE WYES ARE STATIONED FROM THE DOWN STREAM MANHOLE.
4. SANITARY SEWER INVERTS ARE SHOWN JUST BEFORE THE CURB STOP.
5. SANITARY SEWER & WATER SERVICES SHALL BE CONSTRUCTED 10' BEYOND THE R/W.
6. WATER SERVICE FOR LOTS 1 & 2, BLOCK 4 SHALL BE LOWERED 2' UNDER THE STORM SEWER AND INSULATED.

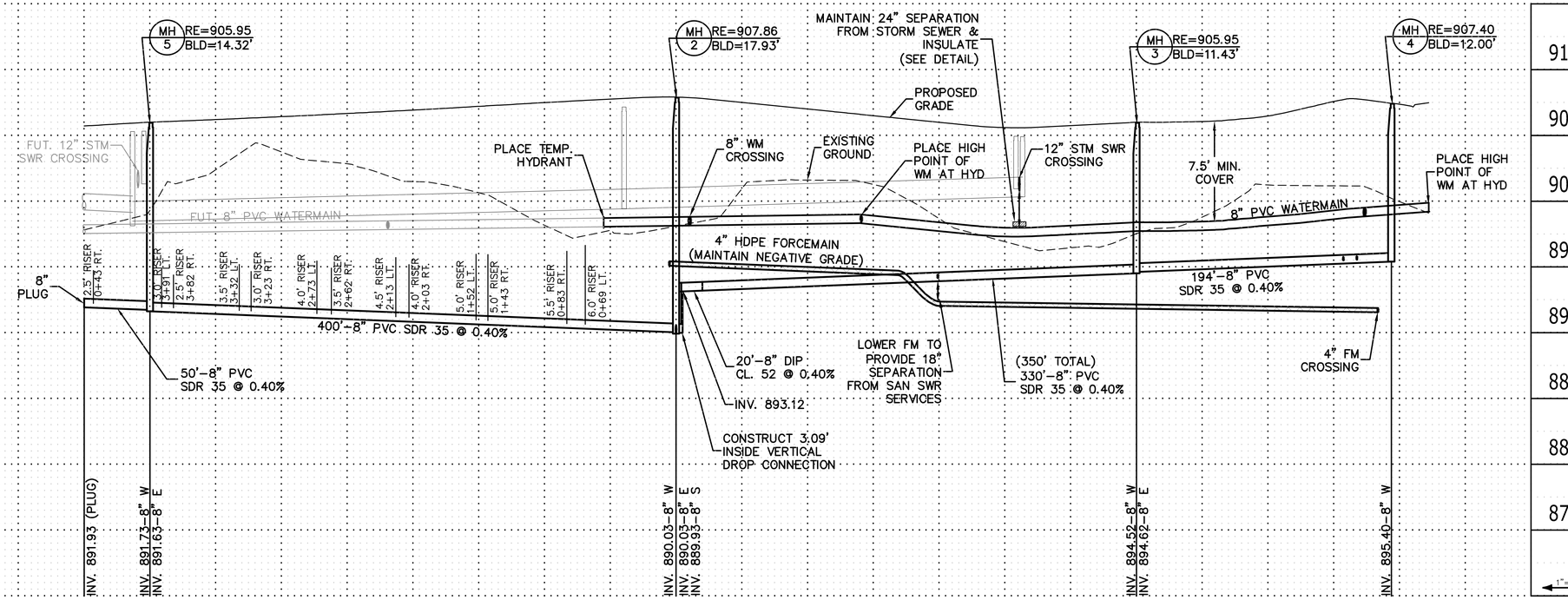
BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)

109TH LANE NE



110TH LANE NE



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NORTH MEADOWS 1ST ADDITION
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SANITARY SEWER & WATER MAIN

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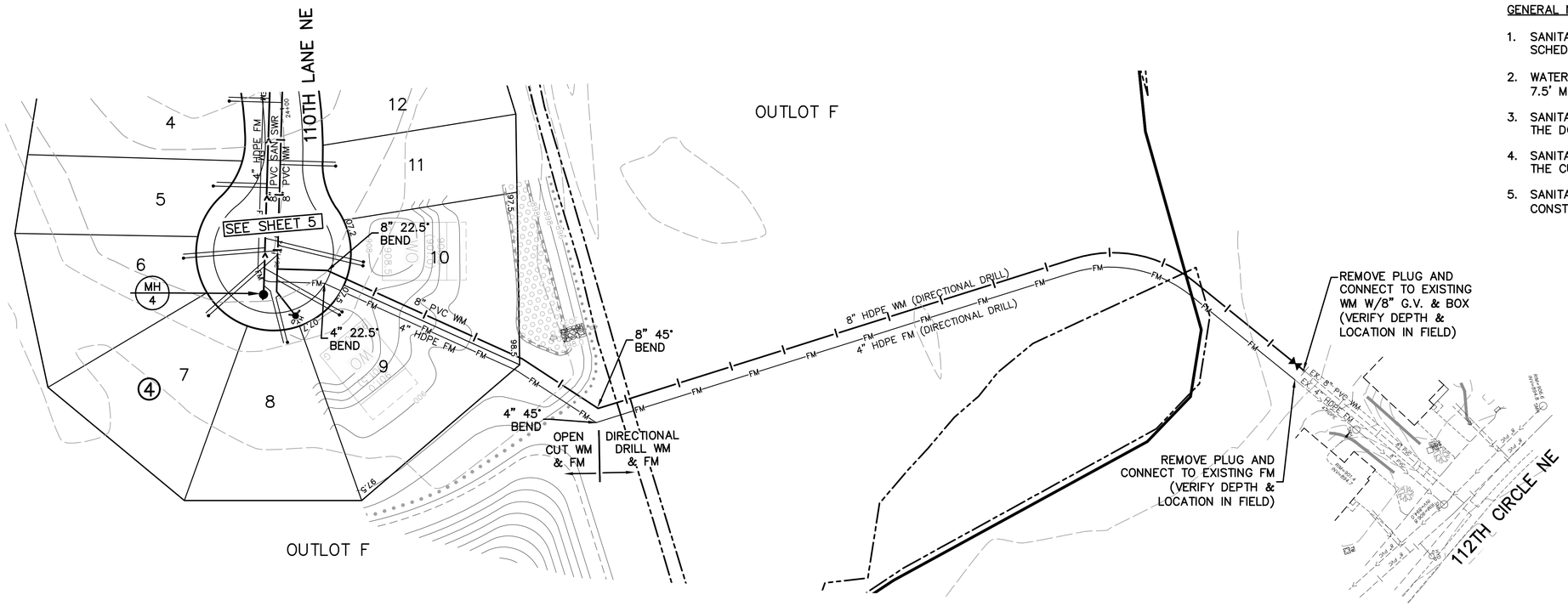

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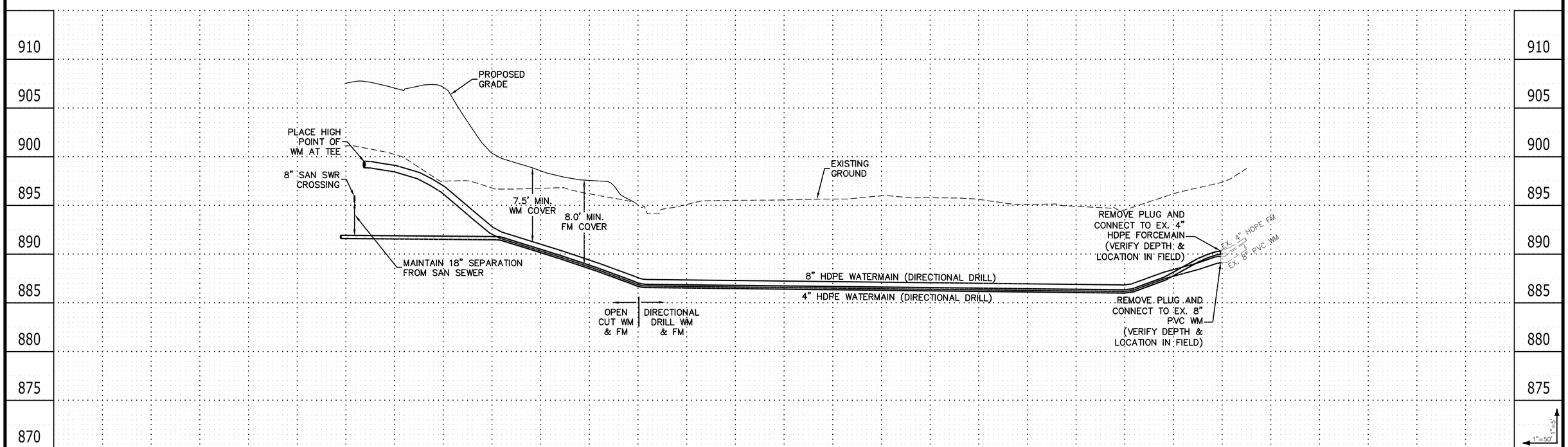

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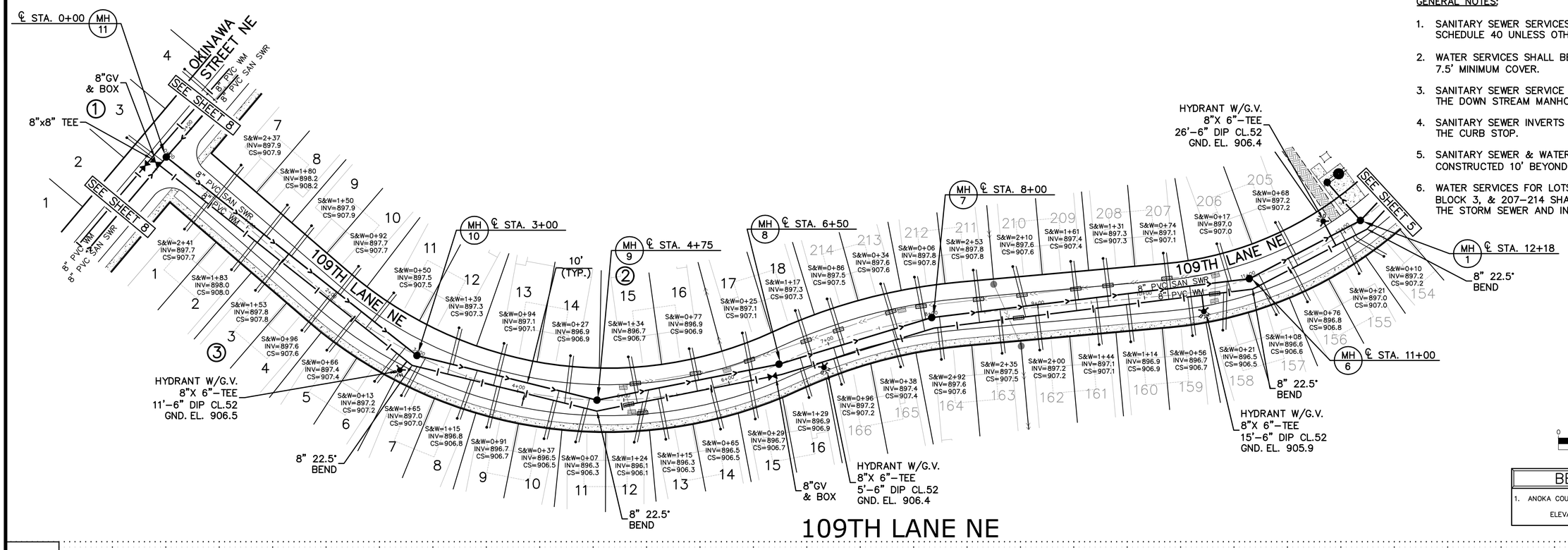
6. WATER SERVICES FOR LOTS 15–18, BLOCK 2, LOT 12, BLOCK 3, & 207–214 SHALL BE LOWERED 2' UNDER THE STORM SEWER AND INSULATED.



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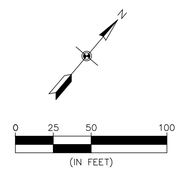

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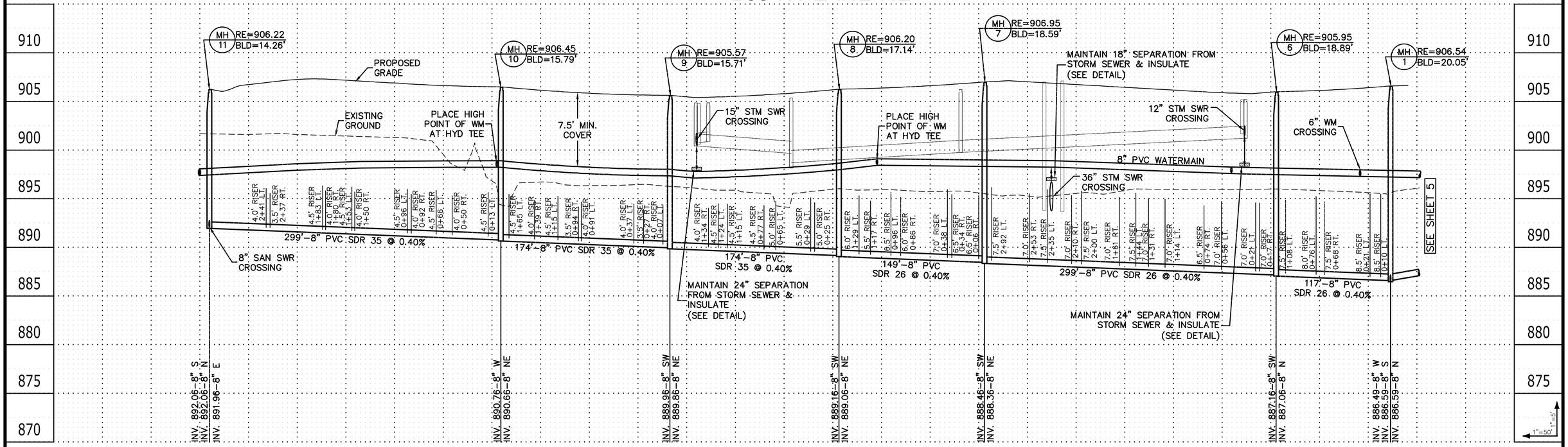

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SANITARY SEWER & WATER MAIN

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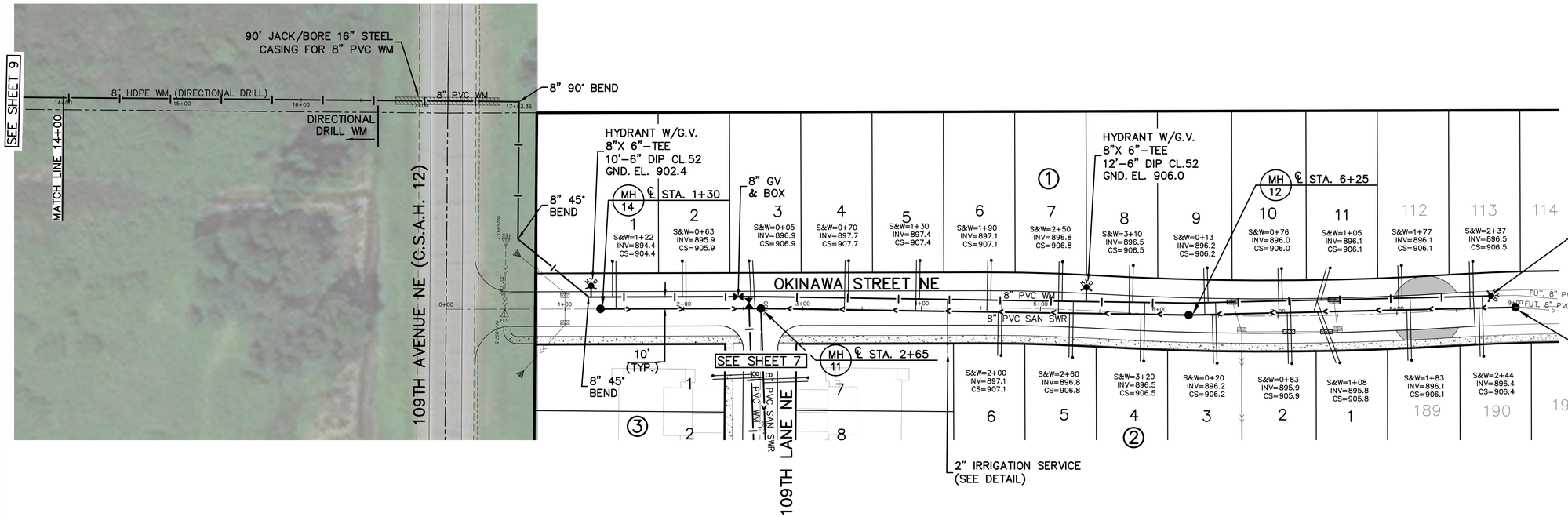

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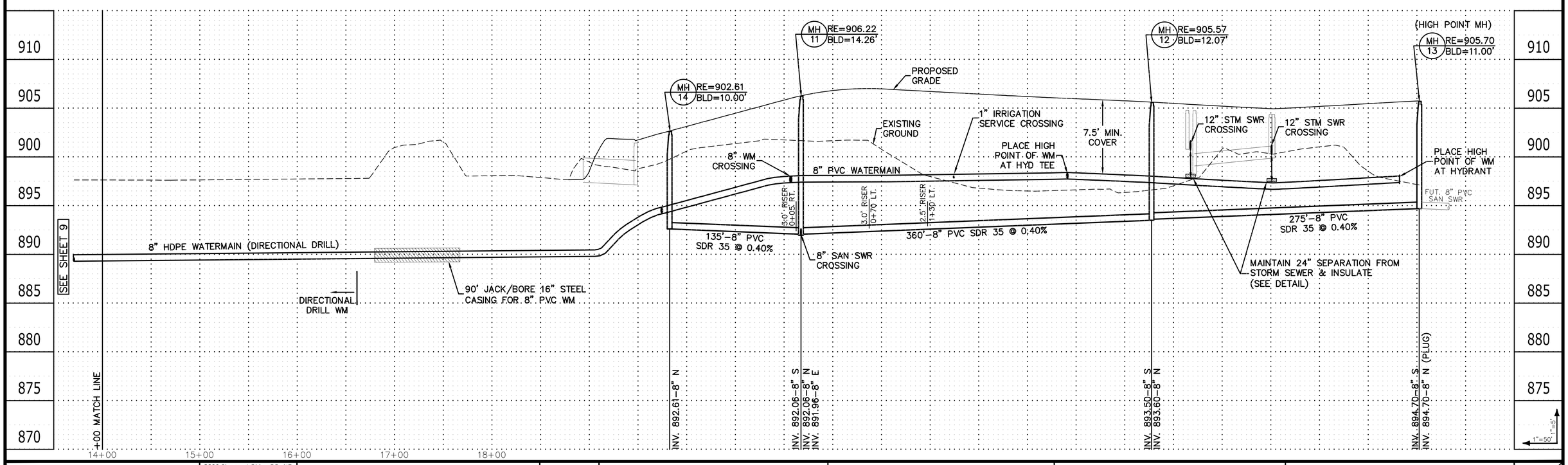

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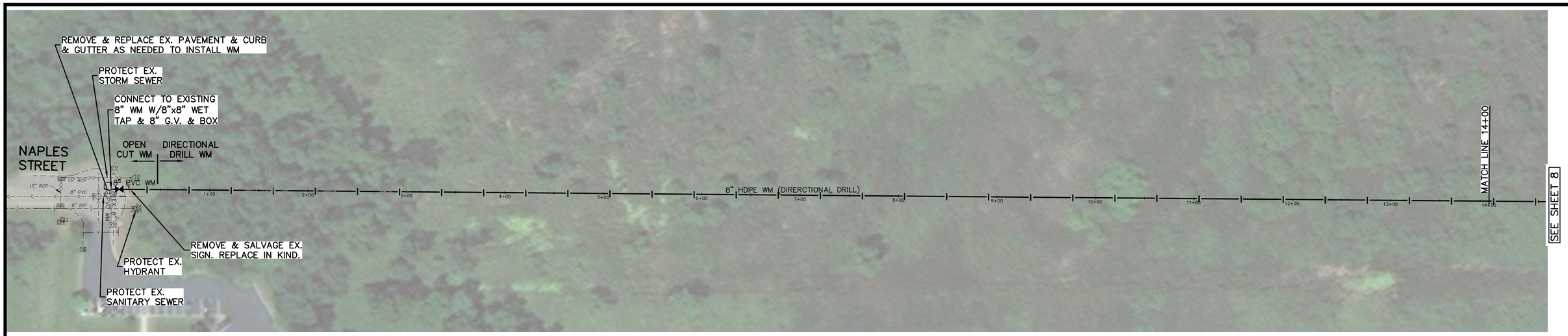

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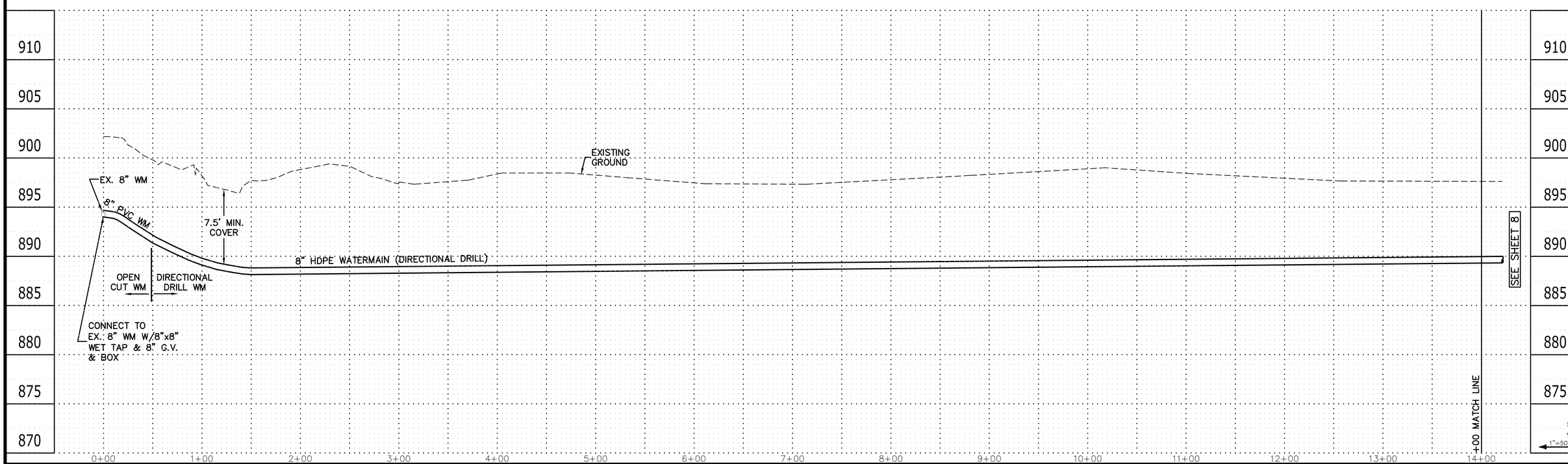

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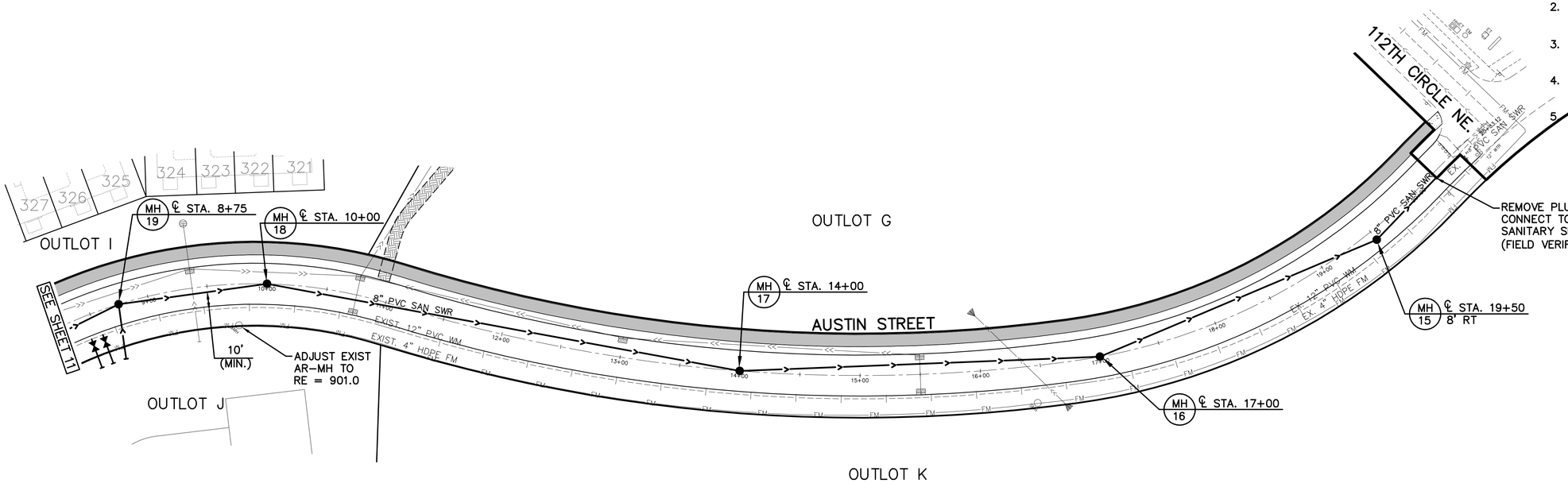

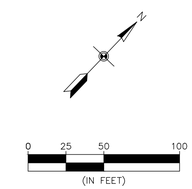

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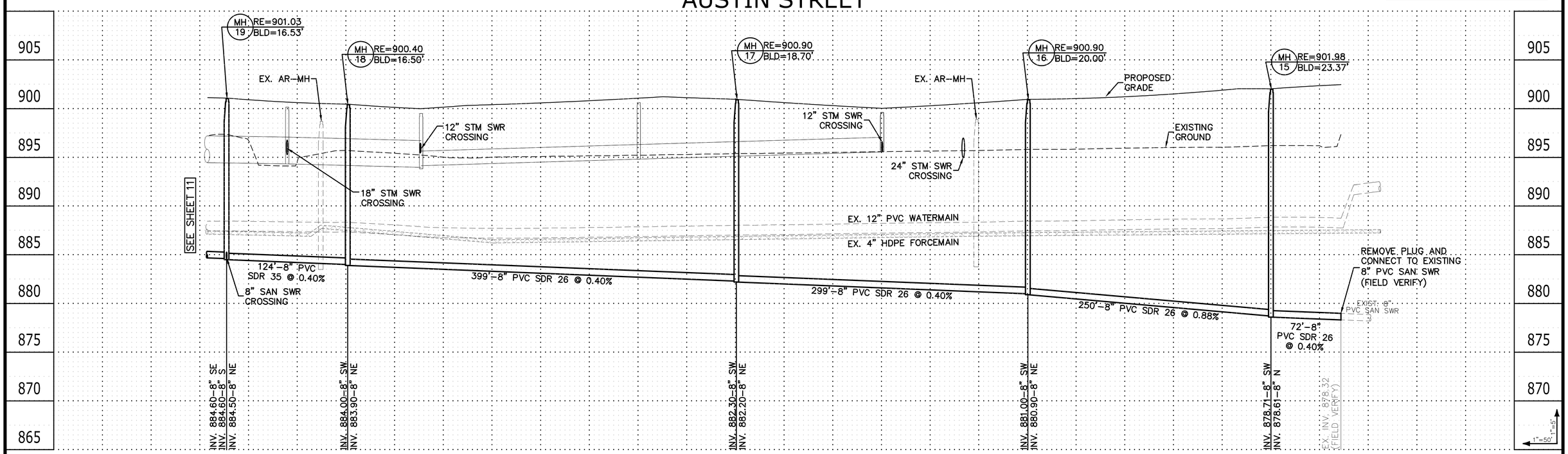
AUSTIN STREET



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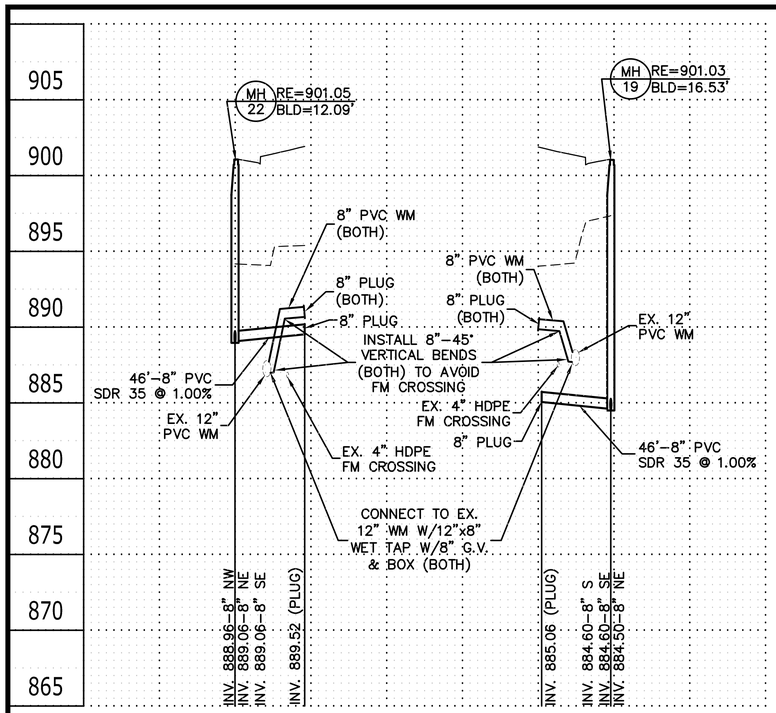

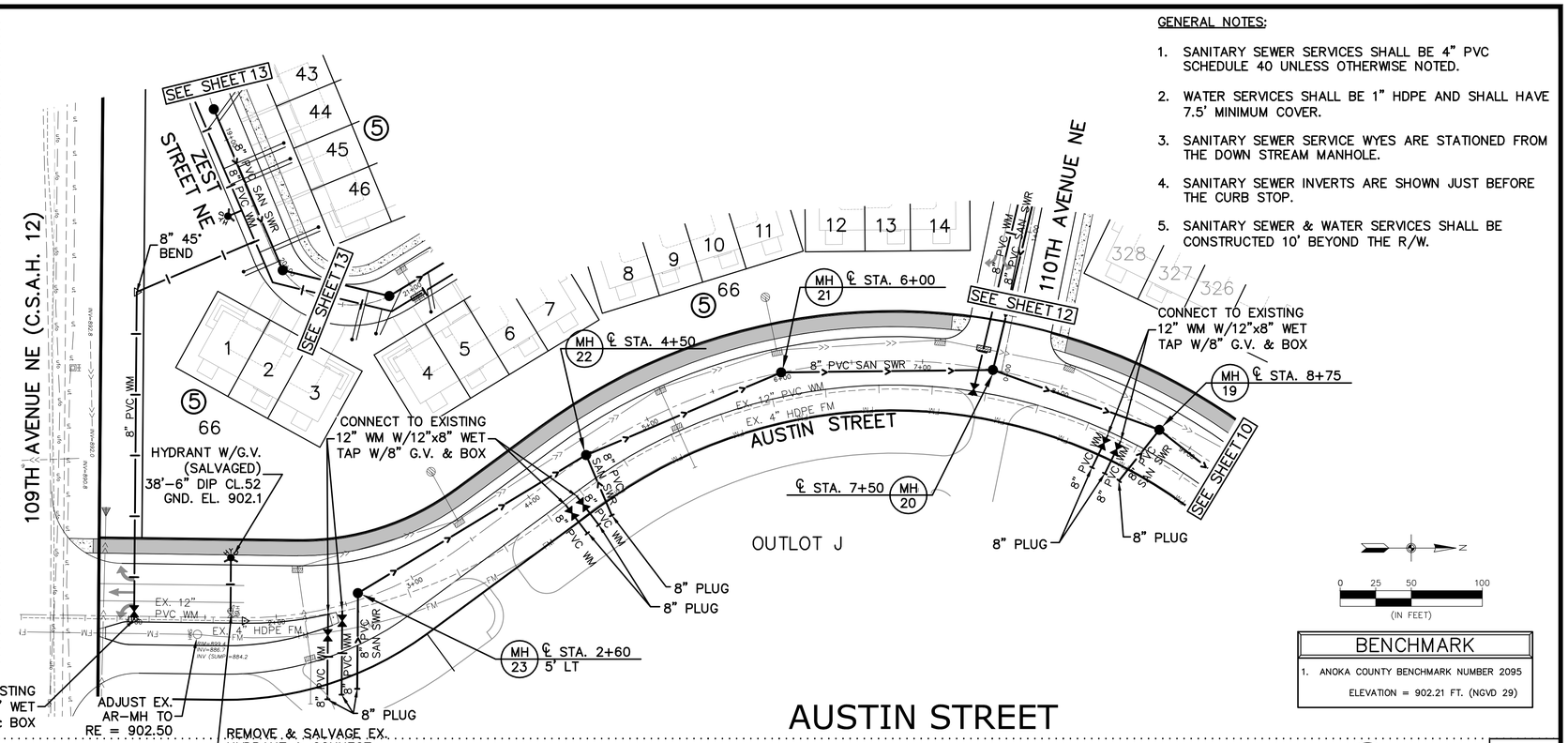

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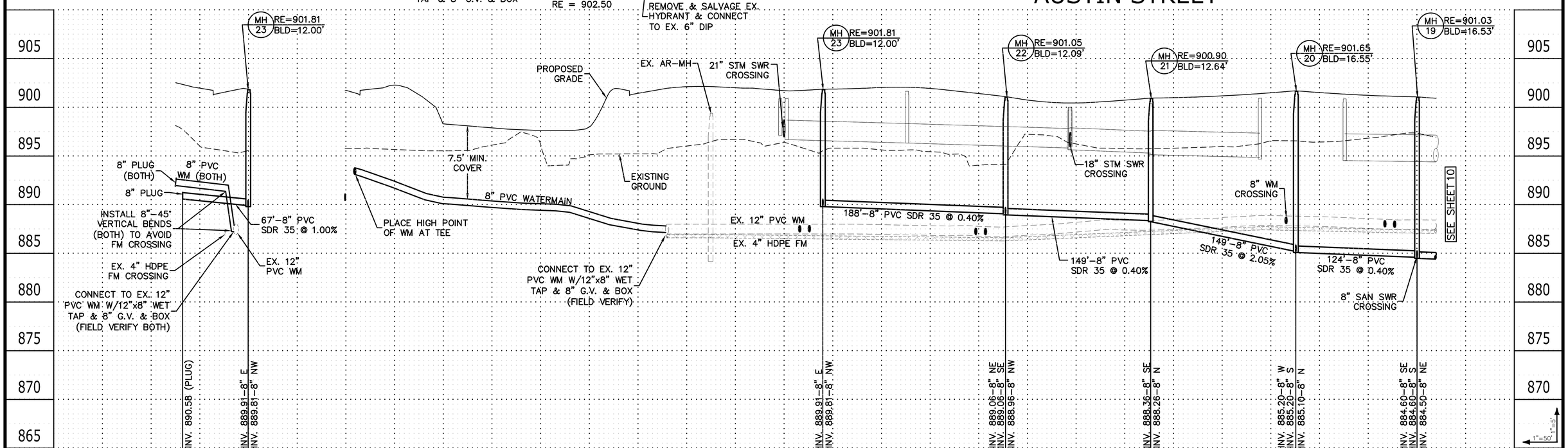

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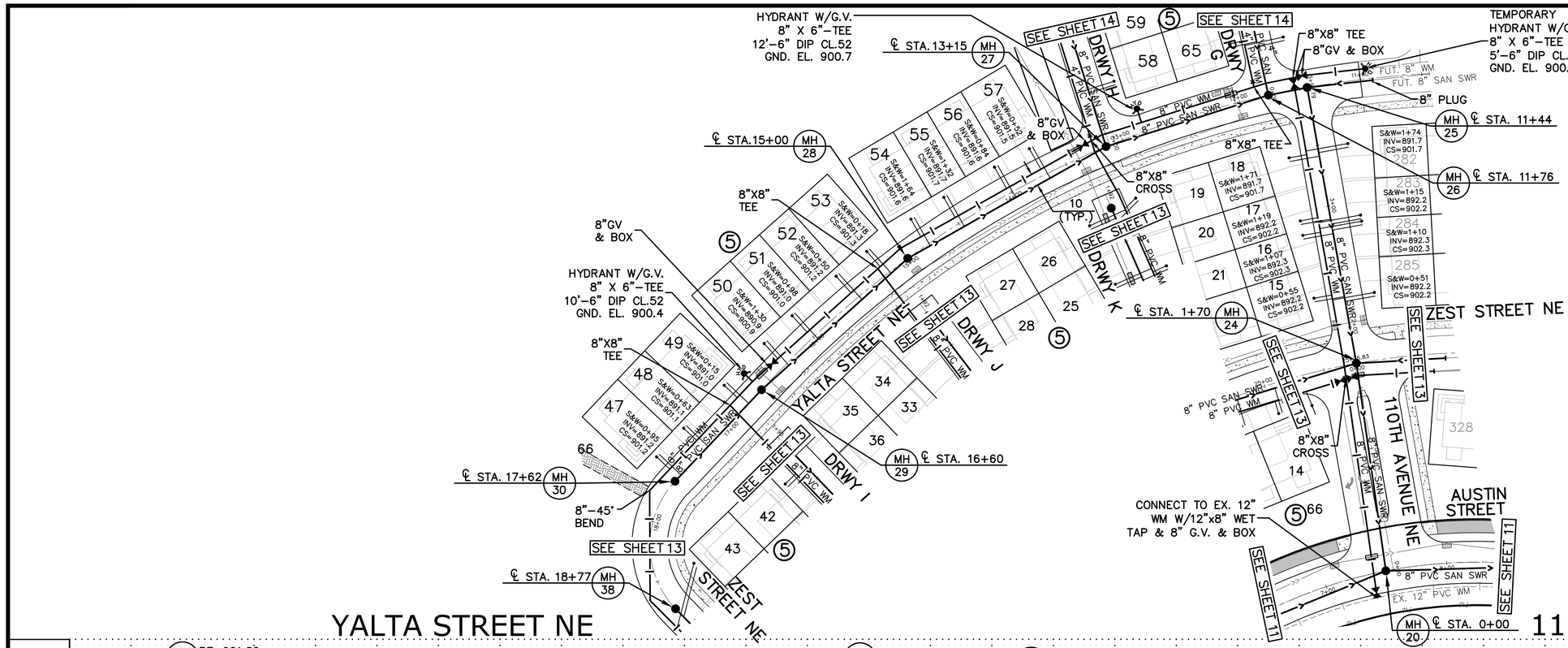

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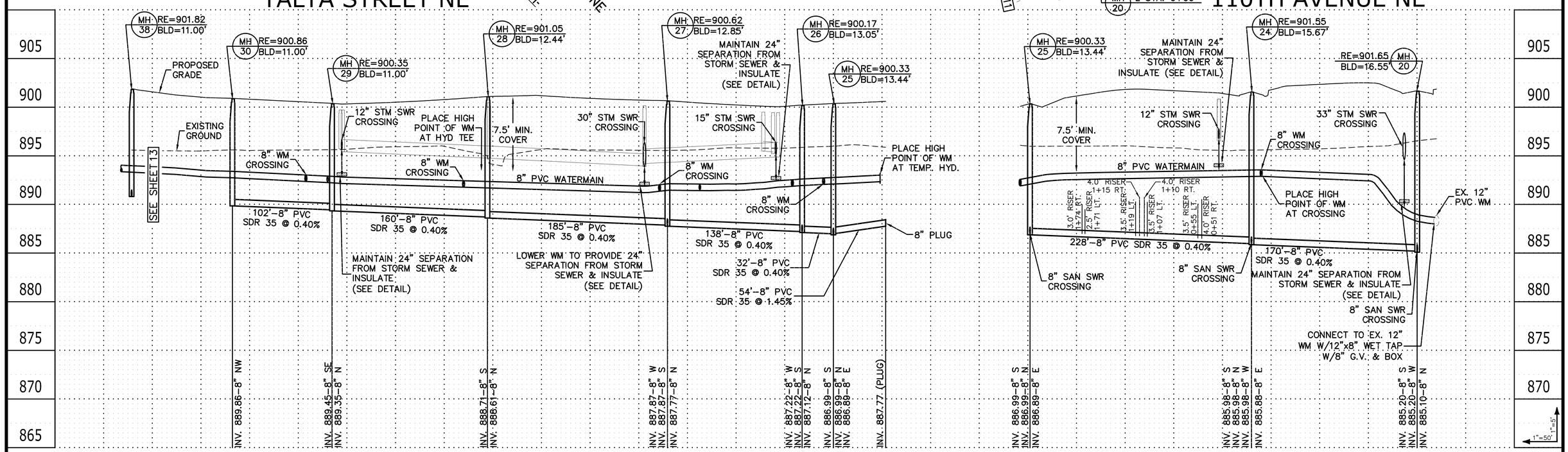
4. SANITARY SEWER INVERTS ARE SHOWN JUST BEFORE THE CURB STOP.
5. SANITARY SEWER & WATER SERVICES SHALL BE CONSTRUCTED 10' BEYOND THE BACK OF CURB.

BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)



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Print Name: Joseph T. Radach, P.E.
Signature: Joe T. R
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:

WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

SANITARY SEWER & WATER MAIN

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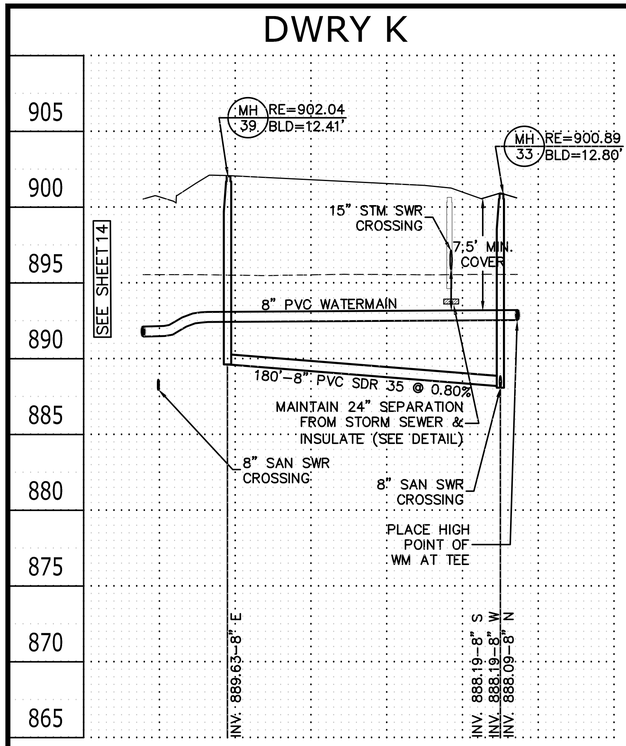
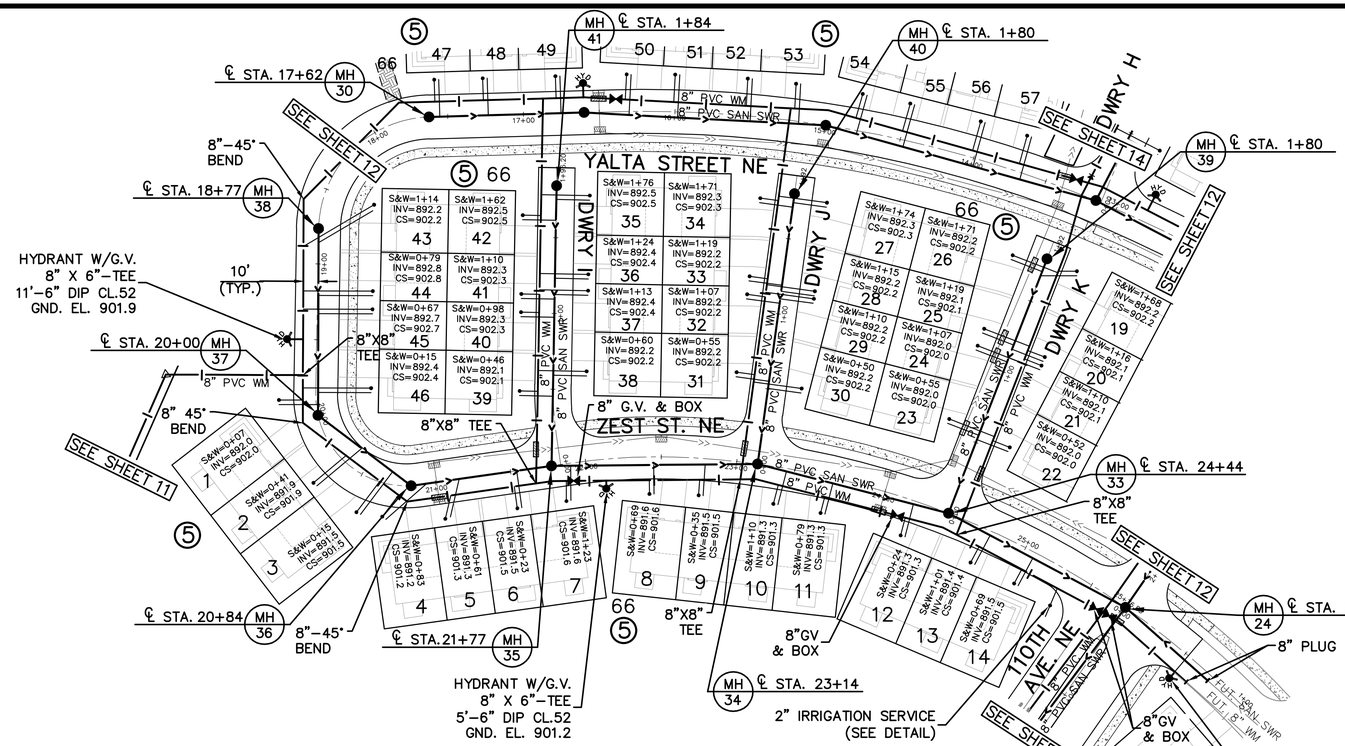




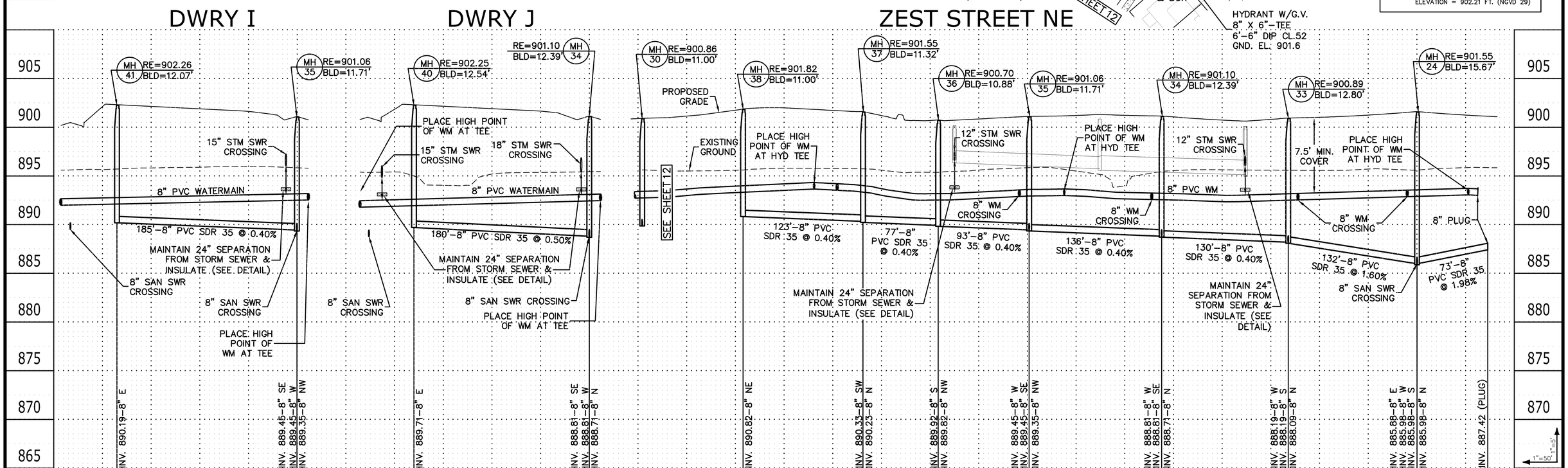
GENERAL NOTES:

1. SANITARY SEWER SERVICES SHALL BE 4" PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.
2. WATER SERVICES SHALL BE 1" HDPE AND SHALL HAVE 7.5' MINIMUM COVER.
3. SANITARY SEWER SERVICE WYES ARE STATIONED FROM THE DOWN STREAM MANHOLE.
4. SANITARY SEWER INVERTS ARE SHOWN JUST BEFORE THE CURB STOP.
5. SANITARY SEWER & WATER SERVICES SHALL BE CONSTRUCTED 10' BEYOND THE BACK OF CURB.
6. WATER SERVICE FOR LOTS 23-26, BLOCK 5 SHALL BE LOWERED 2' UNDER THE STORM SEWER AND INSULATED.

0 25 50 100 (IN FEET)

BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)



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NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

SANITARY SEWER & WATER MAIN

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GENERAL NOTES:

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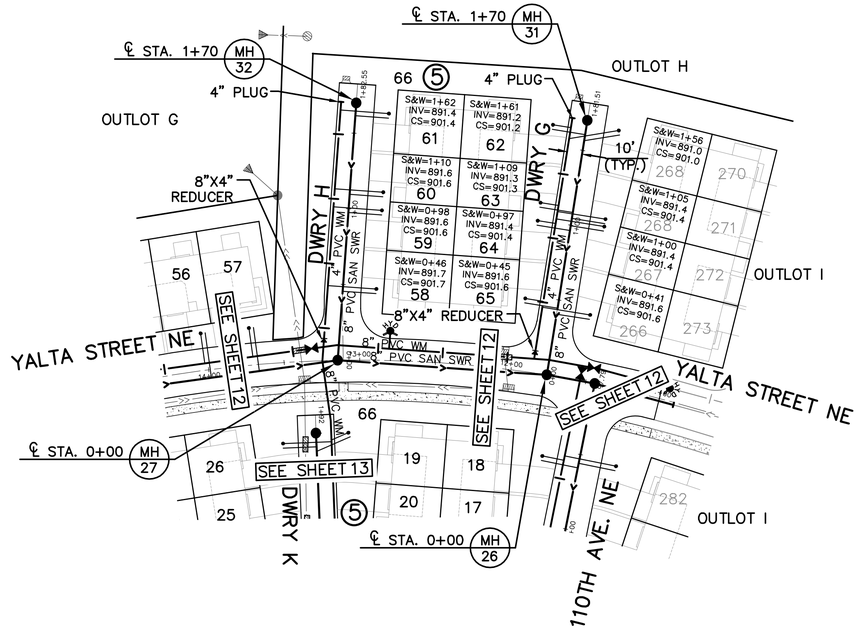

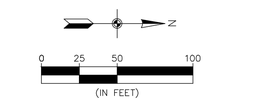

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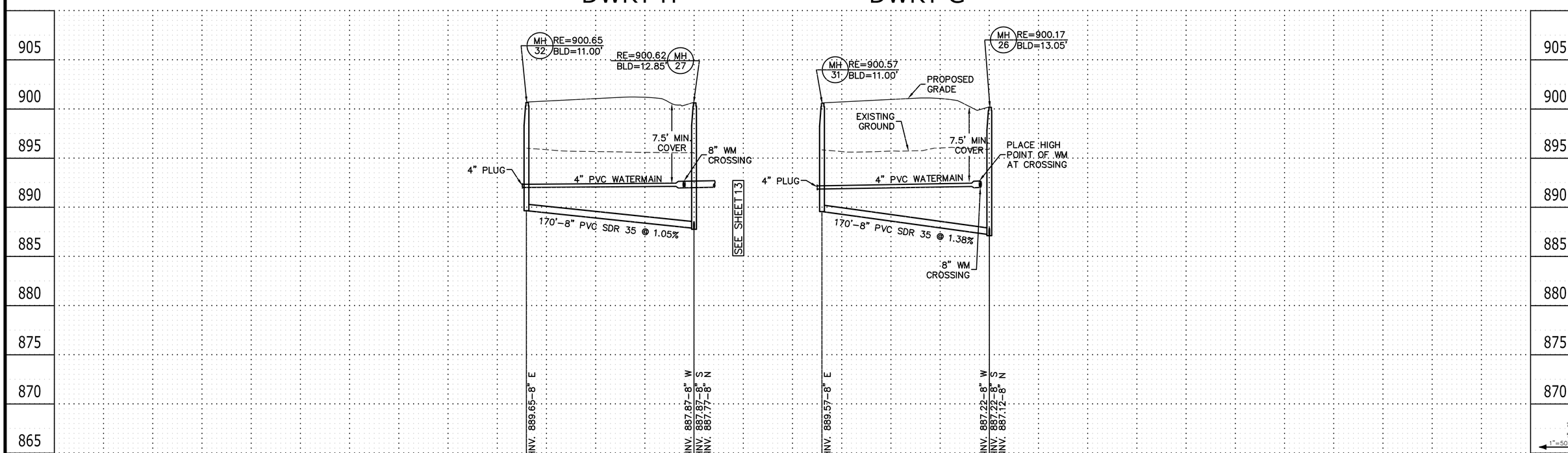

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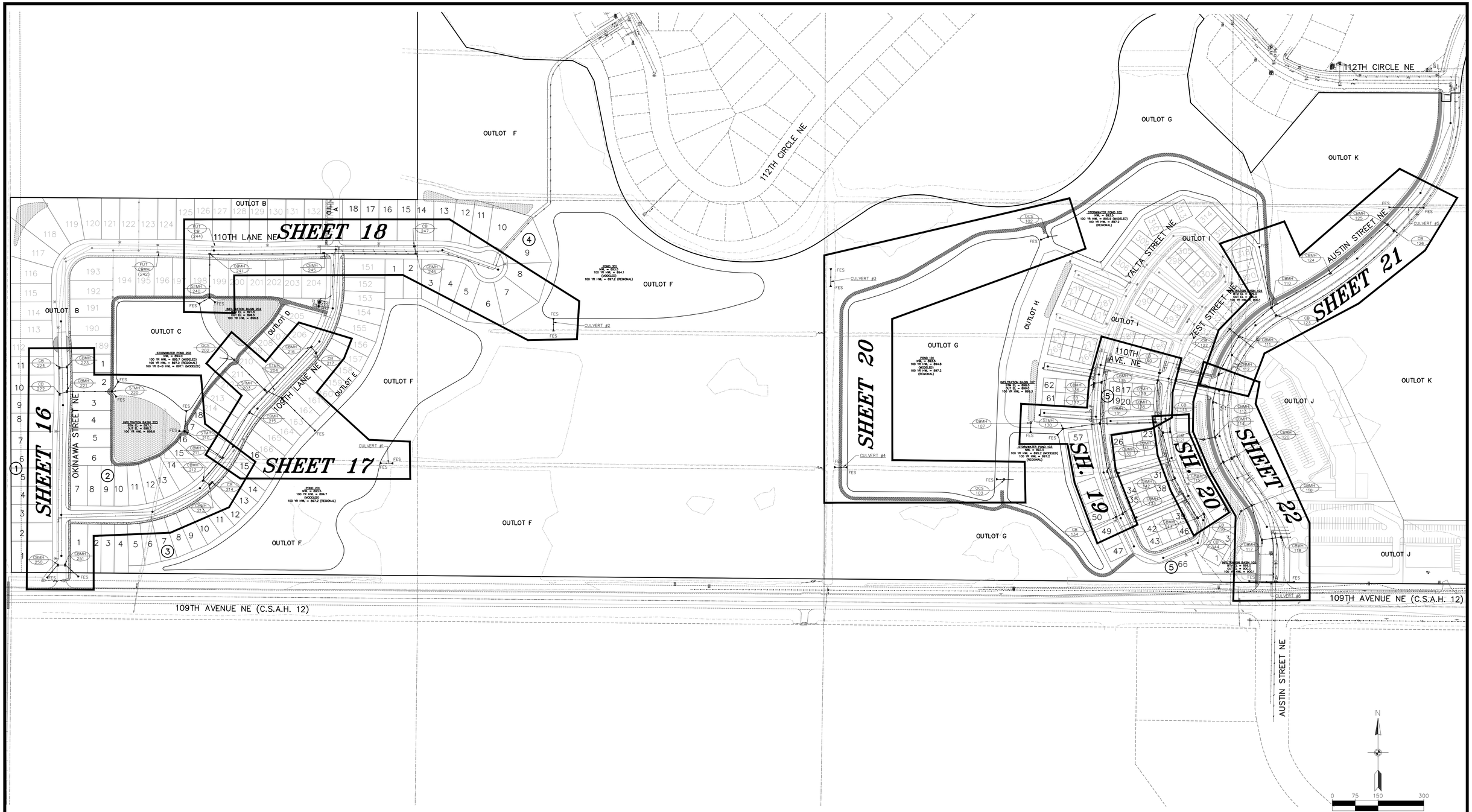

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NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

STORM SHEET INDEX

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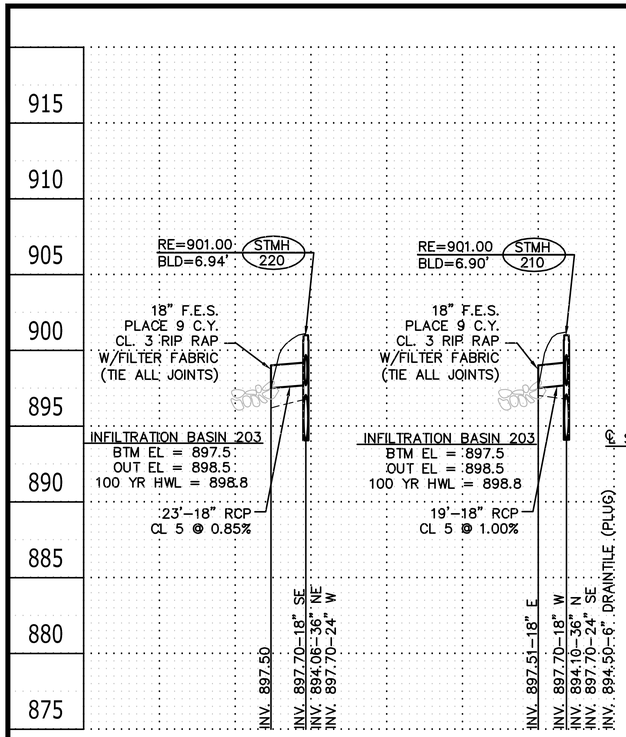
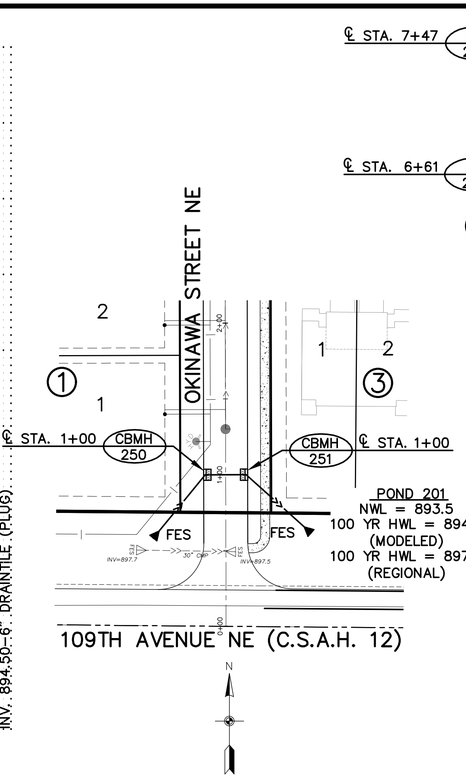
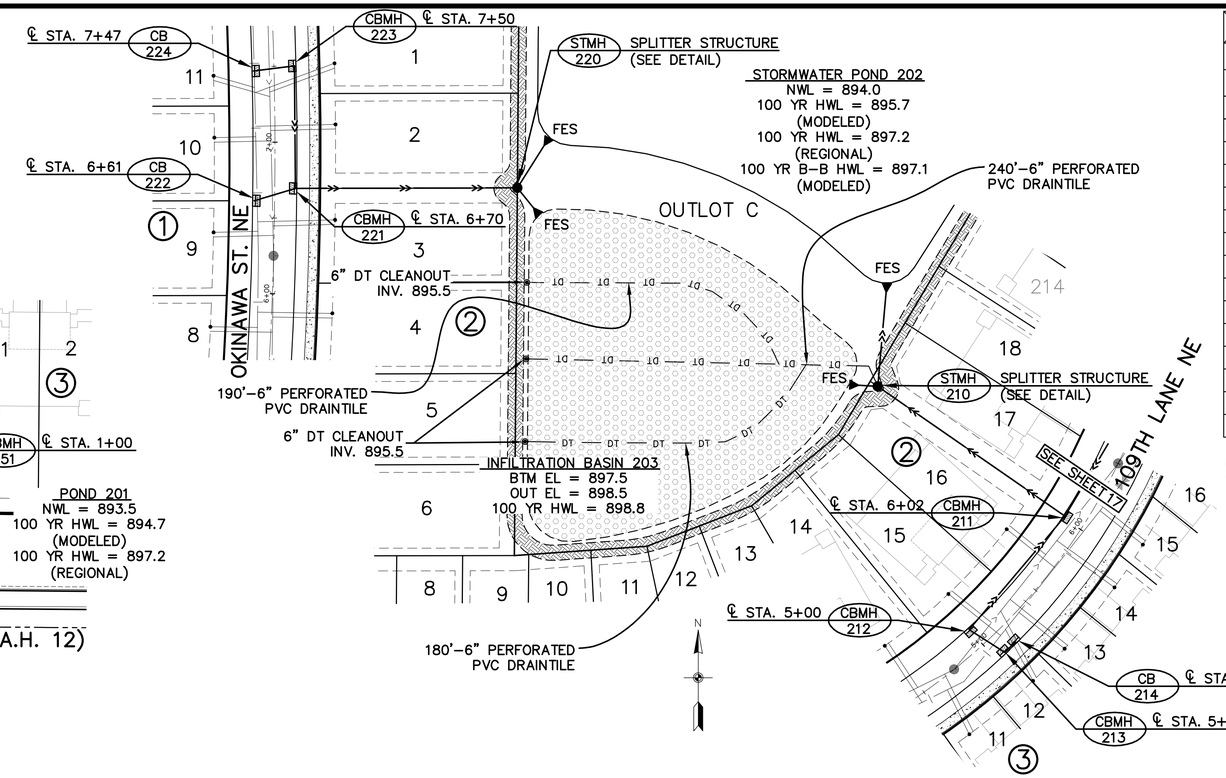






STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-250	60" DIA.	R-3067-V
CBMH-251	60" DIA.	R-3067-V
CB-224	24"x36"	R-3067-VB
CBMH-223	48" DIA.	R-3067-VB
CB-222	24"x36"	R-3067-V
CBMH-221	60" DIA.	R-3067-V
*STMH-220	84" DIA.	R-1733
CB-214	24"x36"	R-3067-VB
CBMH-213	48" DIA.	R-3067-VB
CBMH-212	48" DIA.	R-3067-VB
CBMH-211	60" DIA.	R-3067-V
*STMH-210	84" DIA.	R-1733

* SPLITTER STRUCTURE (SEE DETAIL)

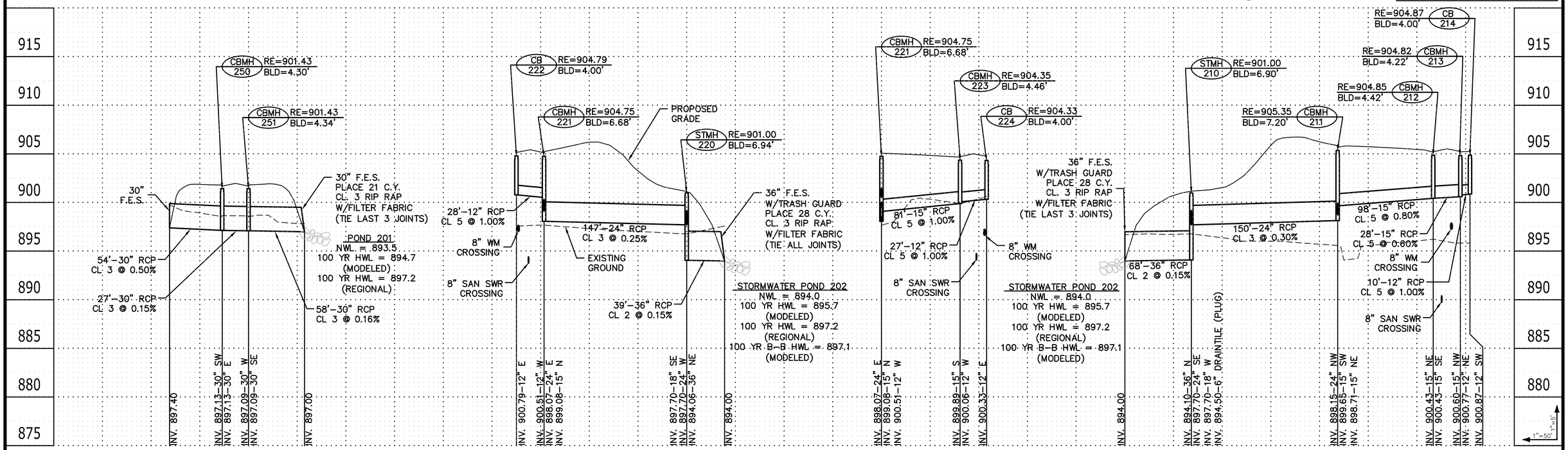
GENERAL NOTES:

1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

0 25 50 100 (IN FEET)

BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)



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Blaine, Minnesota

STORM SEWER

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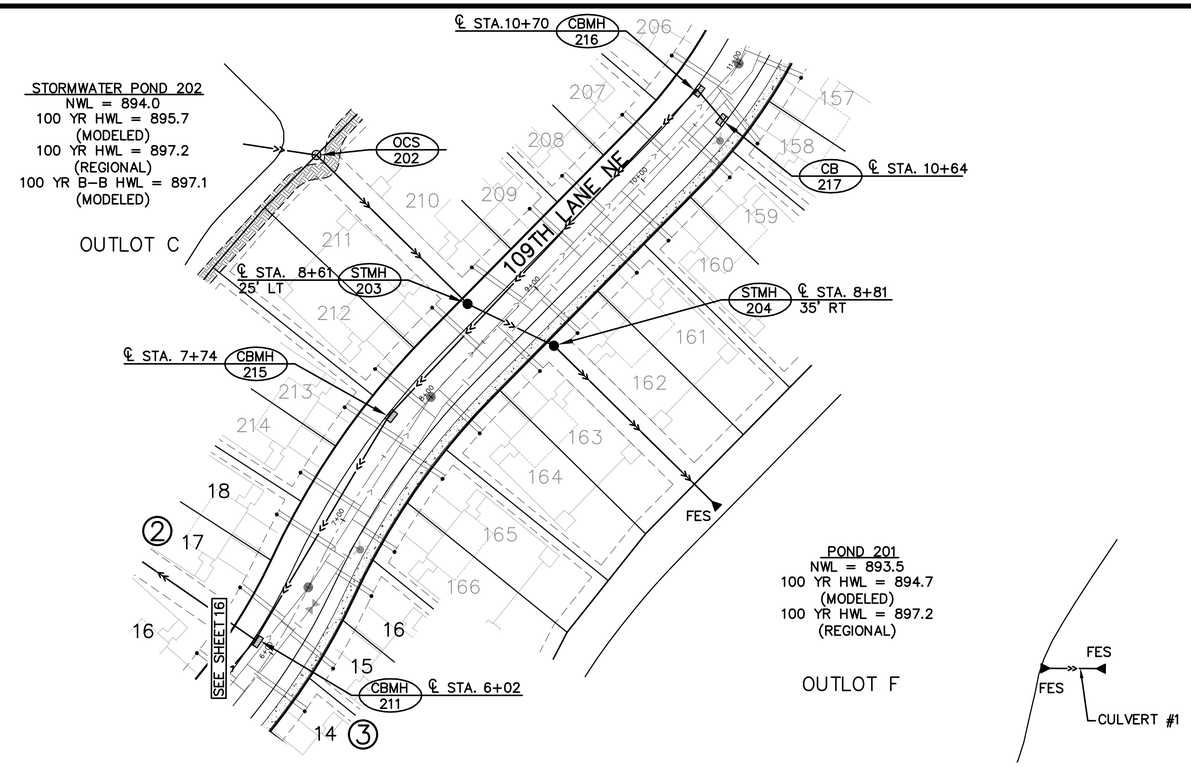

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CB-217	24"x36"	R-3067-VB
CBMH-216	48" DIA.	R-3067-VB
CBMH-215	48" DIA.	R-3067-V
OCS-202	SEE DETAIL	
STMH-203	72" DIA.	R-1733
STMH-204	72" DIA.	R-1733

GENERAL NOTES:
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

N

0 25 50 100
(IN FEET)

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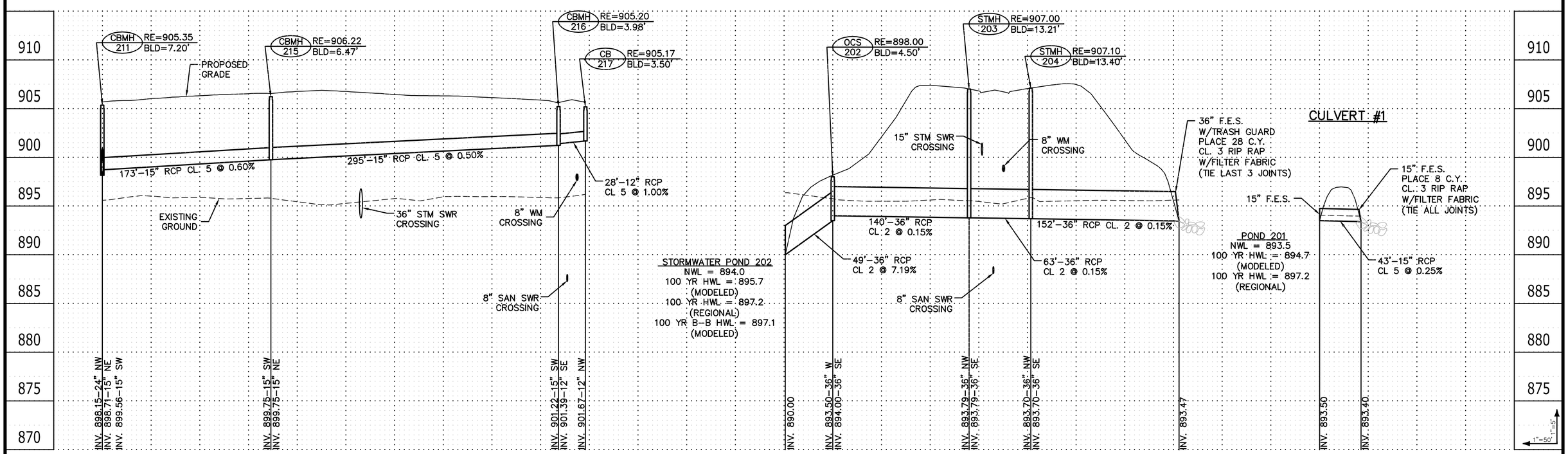

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STORM SEWER

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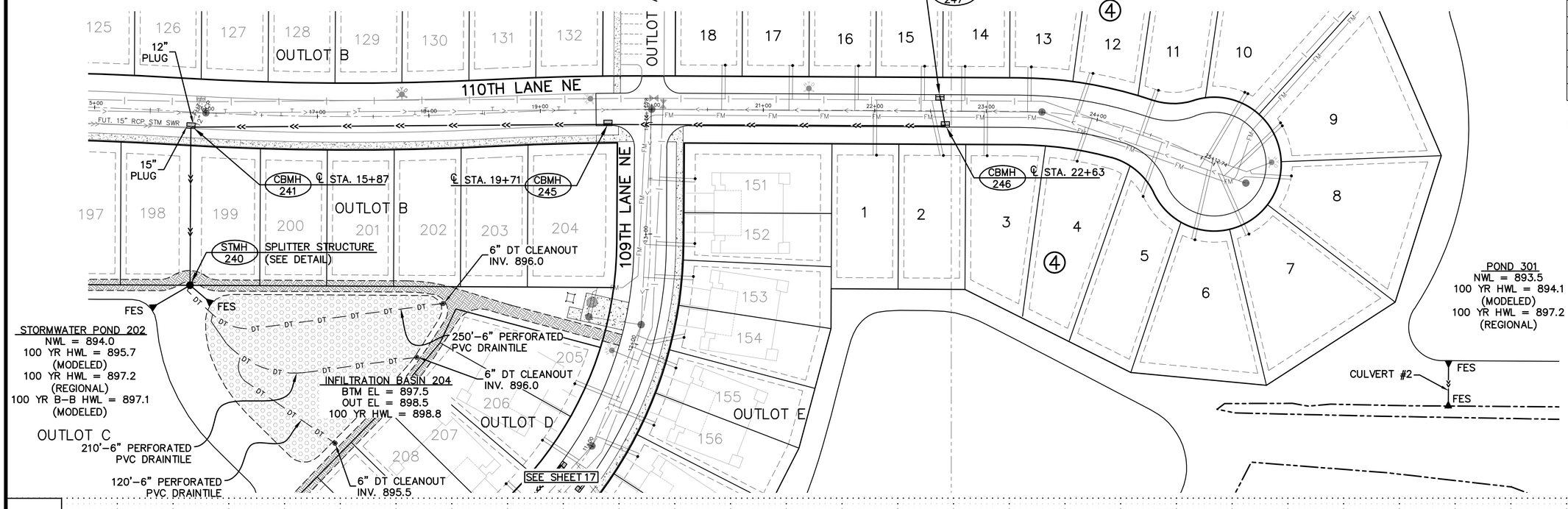
STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CB–247	24"x36"	R–3067–VB
CBMH–246	48" DIA.	R–3067–VB
CBMH–245	48" DIA.	R–3067–V
CBMH–241	60" DIA.	R–3067–V
*STMH–240	84" DIA.	R–1733

* SPLITTER STRUCTURE (SEE DETAIL)

GENERAL NOTES:

1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).



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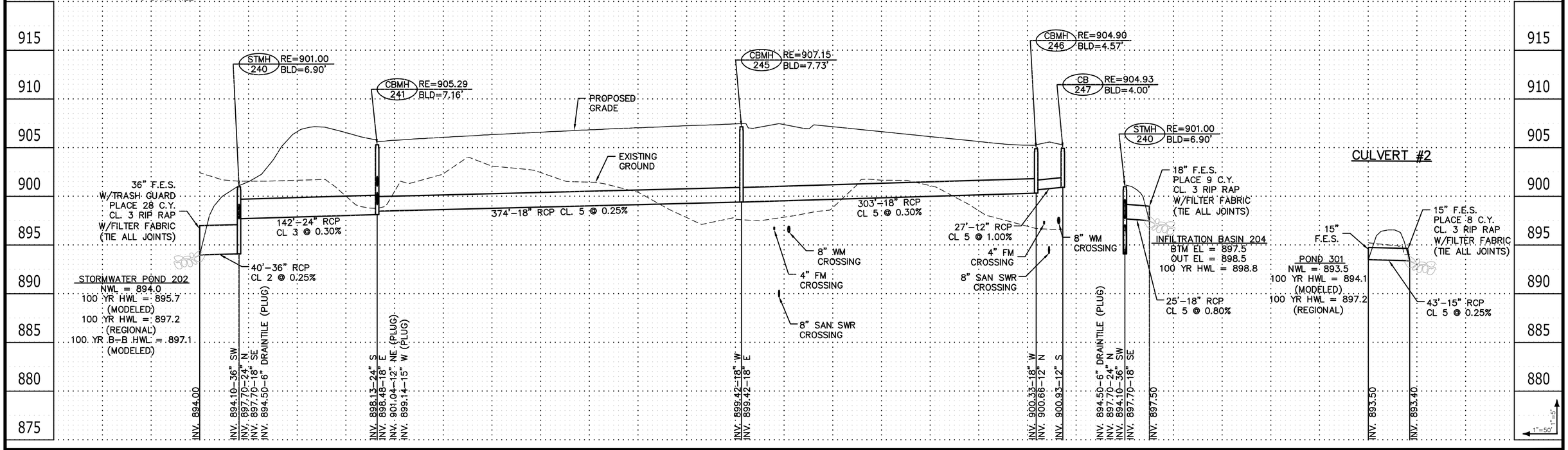

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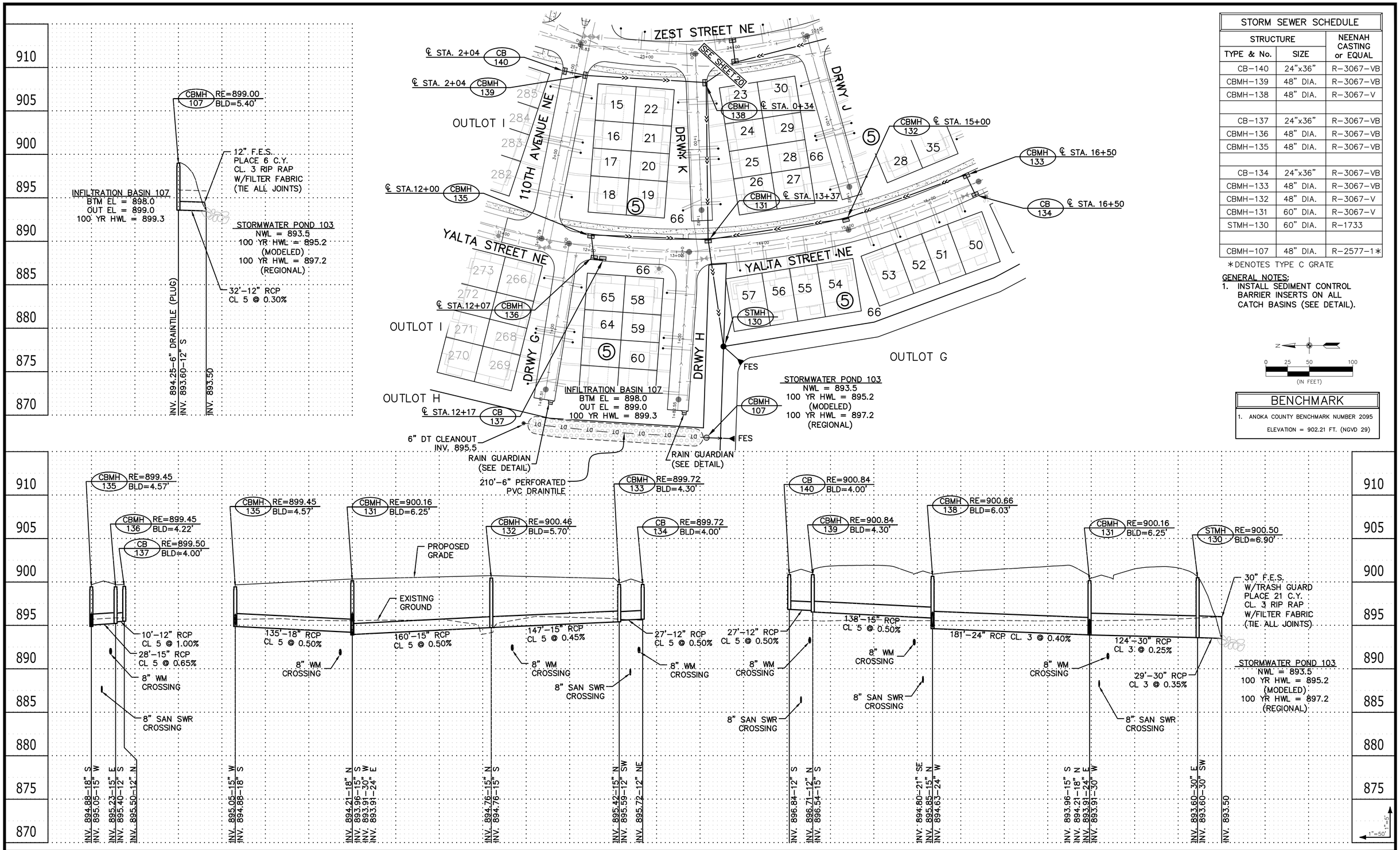

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CB-140	24"x36"	R-3067-VB
CBMH-139	48" DIA.	R-3067-VB
CBMH-138	48" DIA.	R-3067-V
CB-137	24"x36"	R-3067-VB
CBMH-136	48" DIA.	R-3067-VB
CBMH-135	48" DIA.	R-3067-VB
CB-134	24"x36"	R-3067-VB
CBMH-133	48" DIA.	R-3067-VB
CBMH-132	48" DIA.	R-3067-V
CBMH-131	60" DIA.	R-3067-V
STMH-130	60" DIA.	R-1733
CBMH-107	48" DIA.	R-2577-1*

*DENOTES TYPE C GRATE

GENERAL NOTES:
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

N
0 25 50 100
(IN FEET)

BENCHMARK
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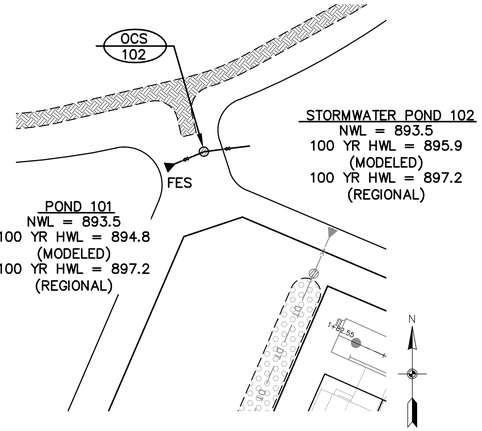

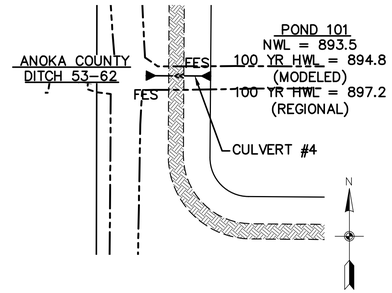

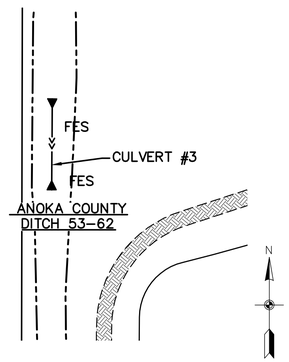

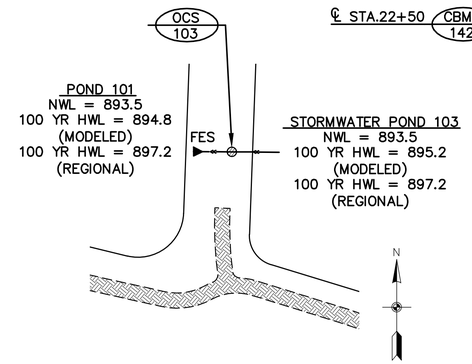

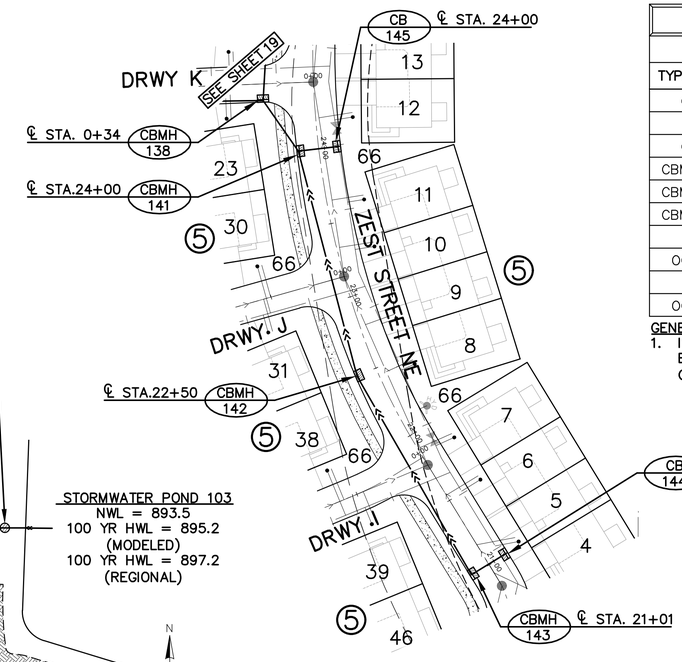

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CB-145	24"x36"	R-3067-VB
CB-144	24"x36"	R-3067-VB
CBMH-143	48" DIA.	R-3067-VB
CBMH-142	48" DIA.	R-3067-V
CBMH-141	48" DIA.	R-3067-VB
OCS-103	SEE DETAIL	
OCS-102	SEE DETAIL	

GENERAL NOTES:
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

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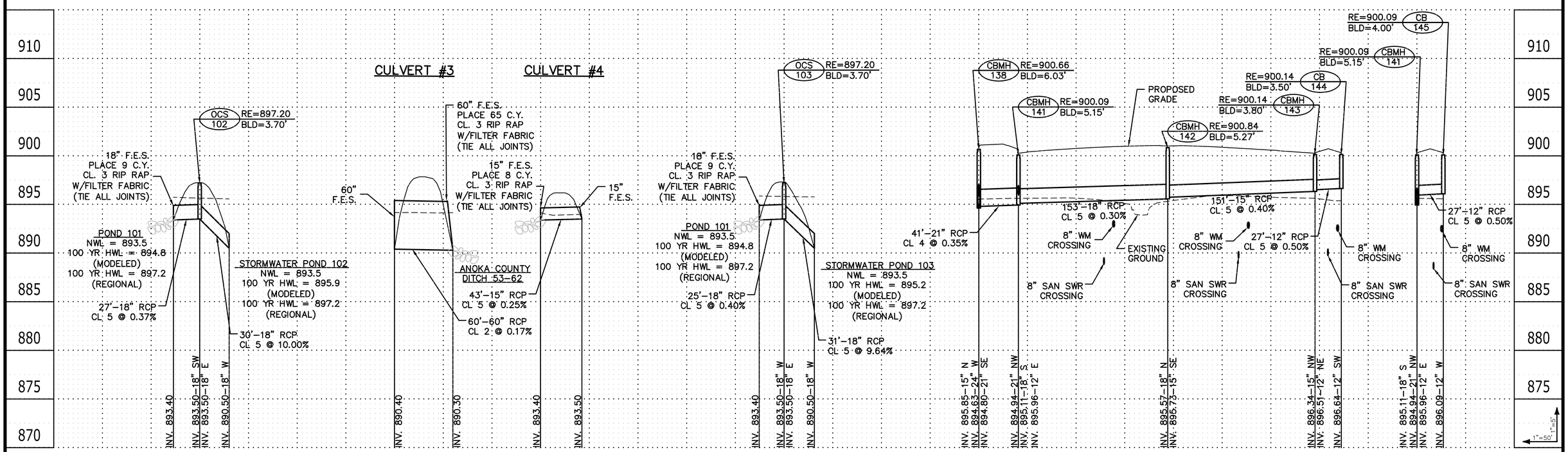

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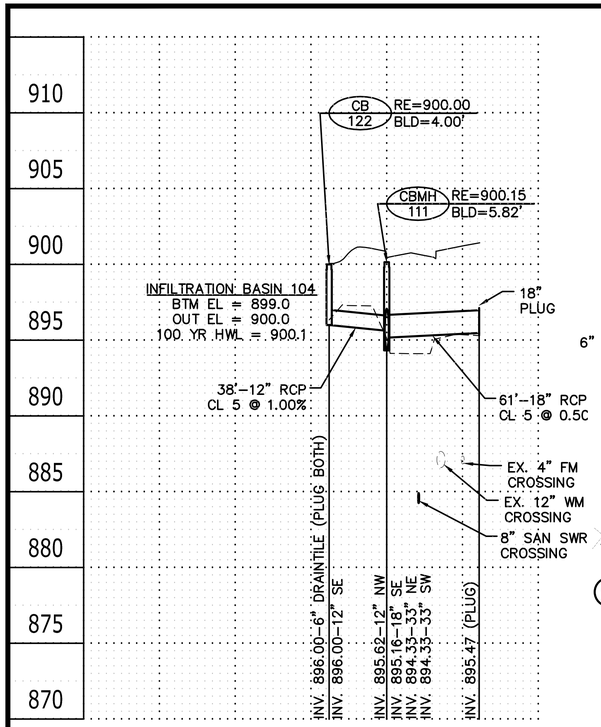

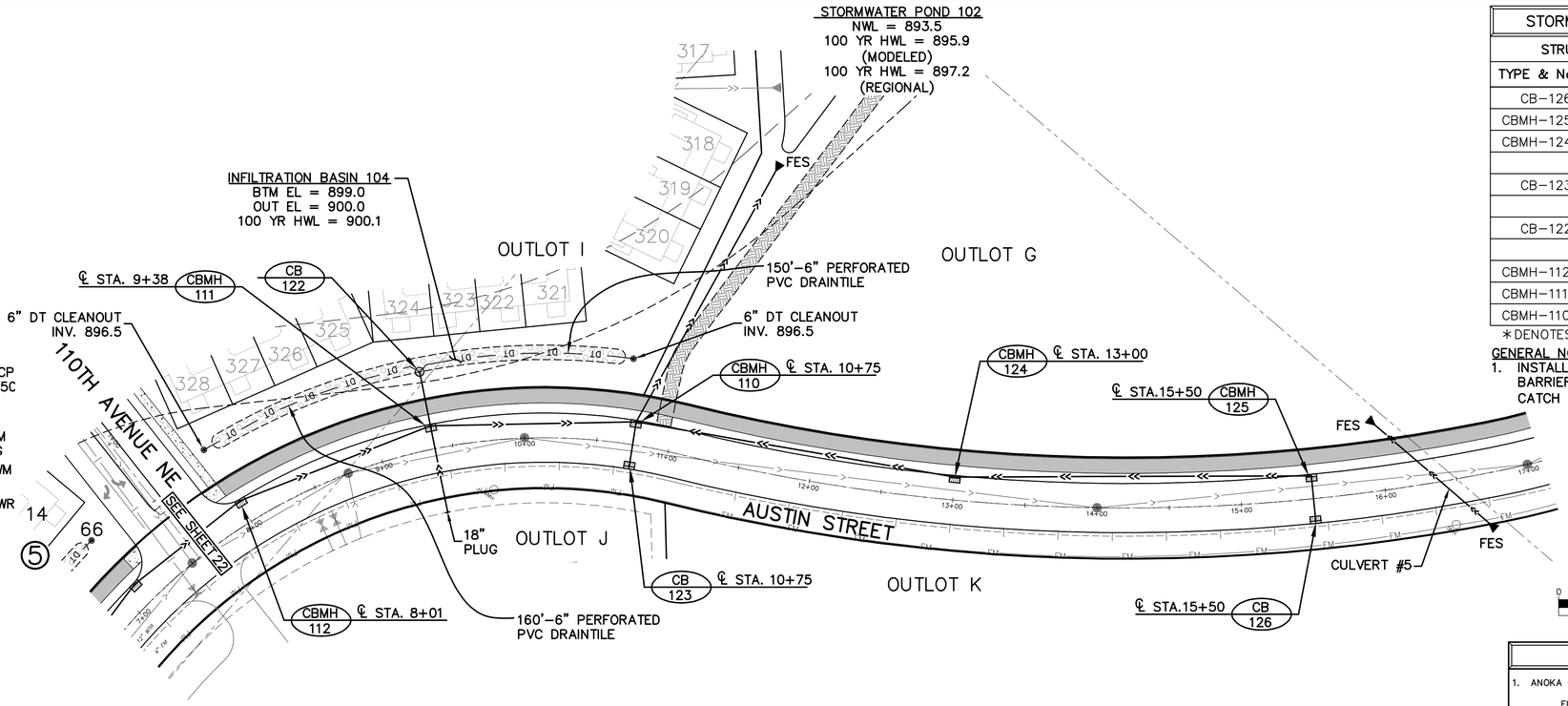

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CB-126	24"x36"	R-3067-VB
CBMH-125	48" DIA.	R-3067-VB
CBMH-124	48" DIA.	R-3067-V
CB-123	24"x36"	R-3067-VB
CB-122	27" DIA.	R-2577-1*
CBMH-112	60" DIA.	R-3067-V
CBMH-111	72" DIA.	R-3067-V
CBMH-110	84" DIA.	R-3067-VB

*DENOTES TYPE C GRATE

GENERAL NOTES:

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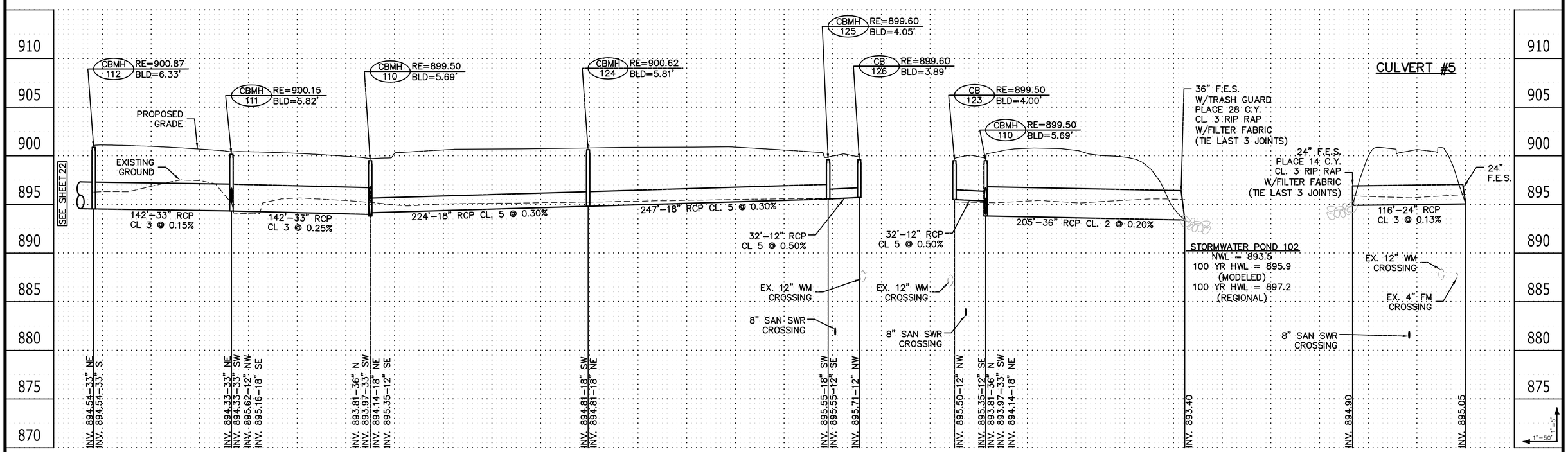
1. ANOKA COUNTY BENCHMARK NUMBER 2095
   ELEVATION = 902.21 FT. (NGVD 29)



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Print Name: Joseph T. Radach, P.E.
Signature: Joe T. R
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

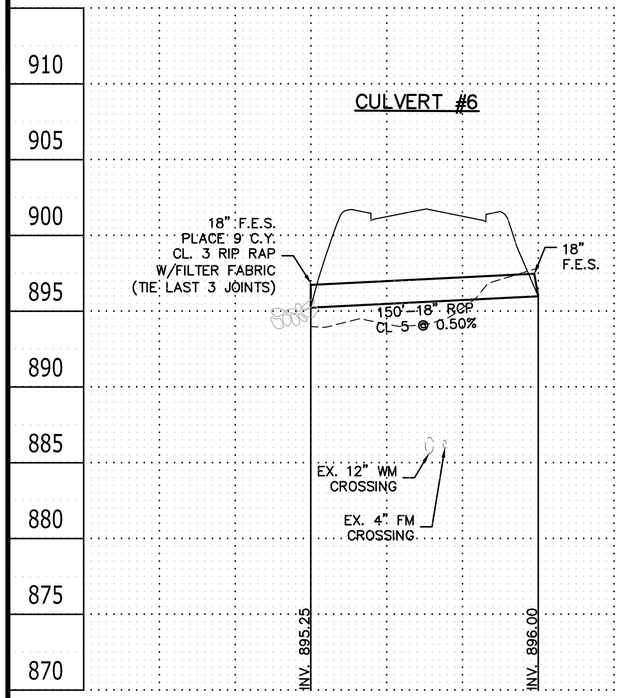
Revisions:

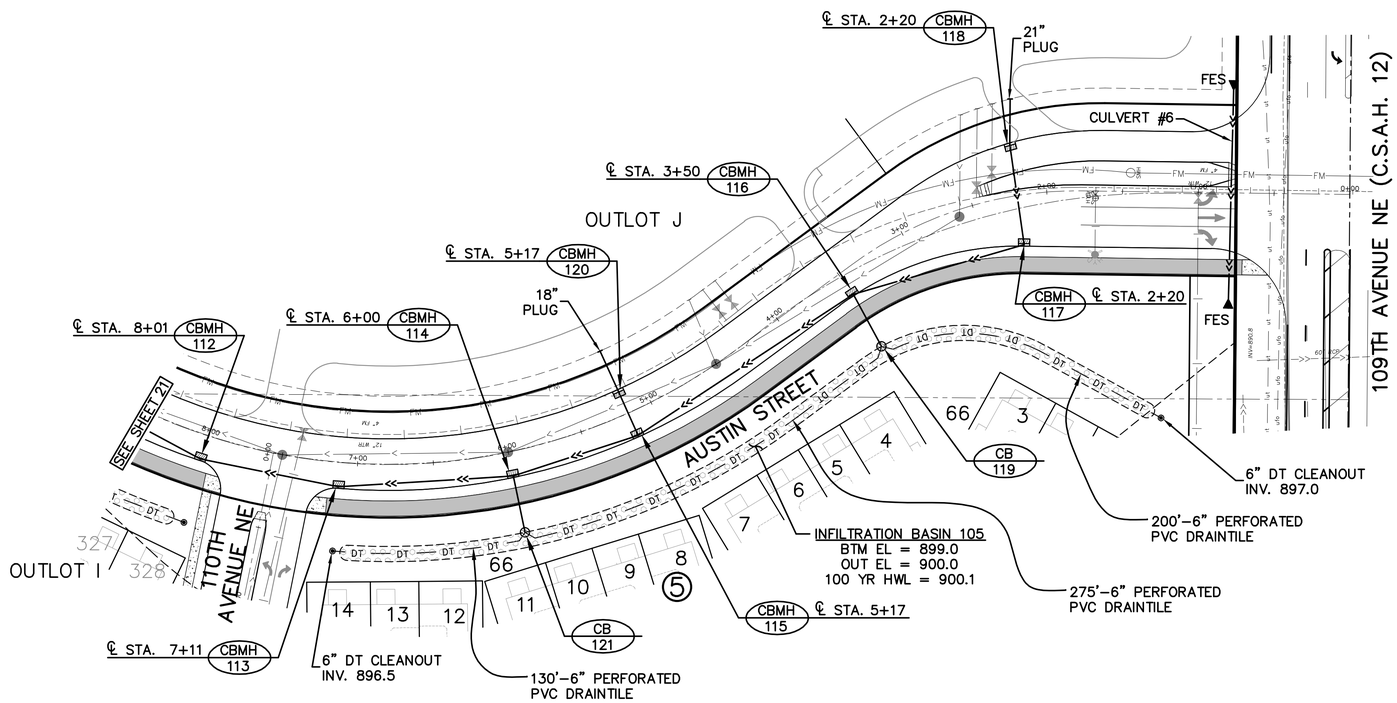
WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

STORM SEWER

Save Date: 04/01/20 | F:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_utility_storm.dwg





STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CB-121	27" DIA.	R-2577-1*
CBMH-120	48" DIA.	R-3067-VB
CB-119	27" DIA.	R-2577-1*
CBMH-118	48" DIA.	R-3067-VB
CBMH-117	60" DIA.	R-3067-VB
CBMH-116	60" DIA.	R-3067-V
CBMH-115	72" DIA.	R-3067-VB
CBMH-114	60" DIA.	R-3067-V
CBMH-113	60" DIA.	R-3067-V

*DENOTES TYPE C GRATE

GENERAL NOTES:

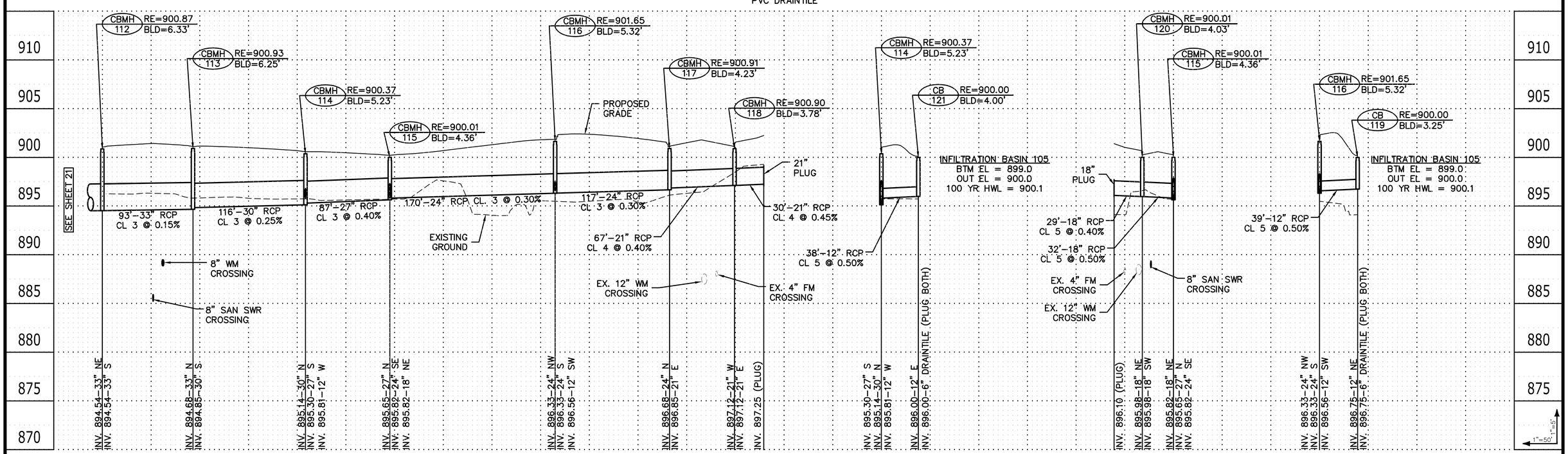
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

N

0 25 50 100

(IN FEET)

BENCHMARK
1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)



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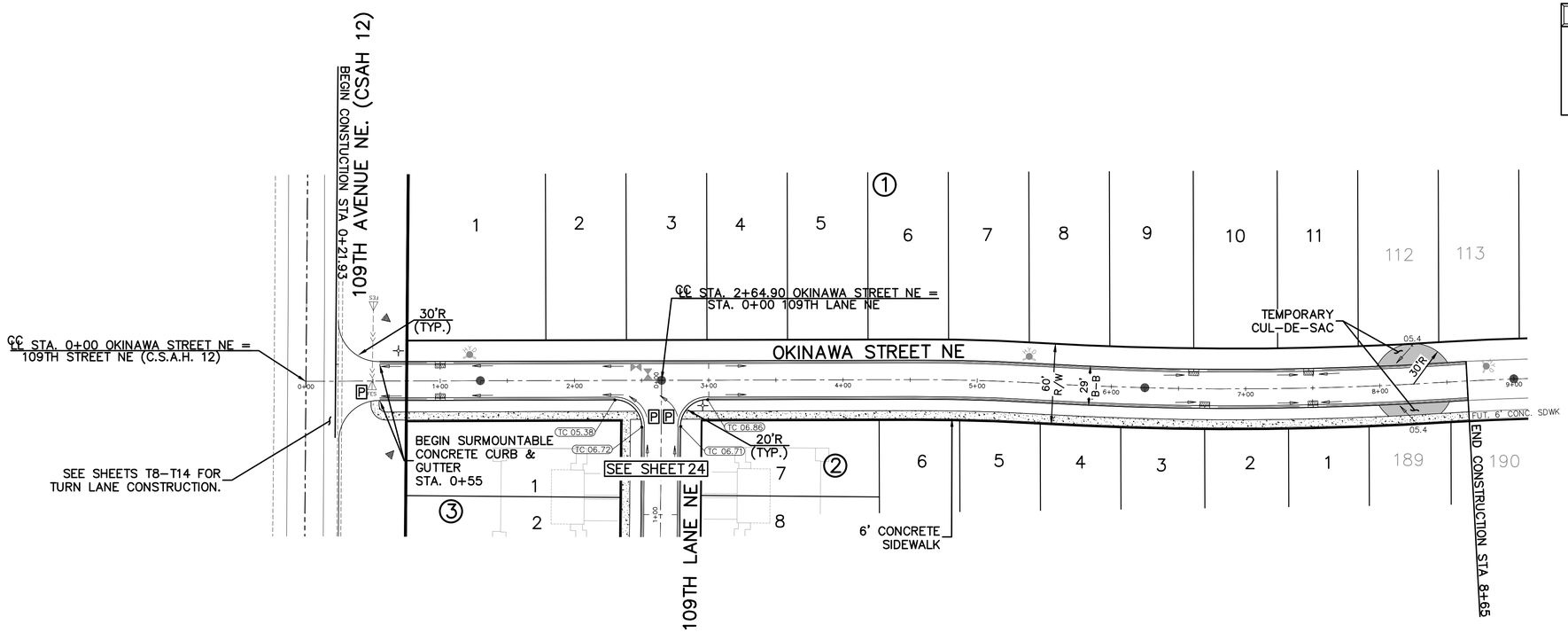
Blaine, Minnesota

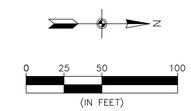
STORM SEWER

Save Date: 04/01/20 | F:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_utility_storm.dwg

℄ CURVE DATA (OKINAWA STREET NE)		
PC = 4+52.88	PC = 5+44.79	PC = 8+51.23
PT = 5+44.79	PT = 8+51.23	PT = 9+43.18
Δ = 03°30'39"	Δ = 07°01'23"	Δ = 03°30'44"
R = 1500.00'	R = 2500.00'	R = 1500.00'
L = 91.9115'	L = 306.4375'	L = 91.9520'
T = 45.97'	T = 153.41'	T = 45.99'

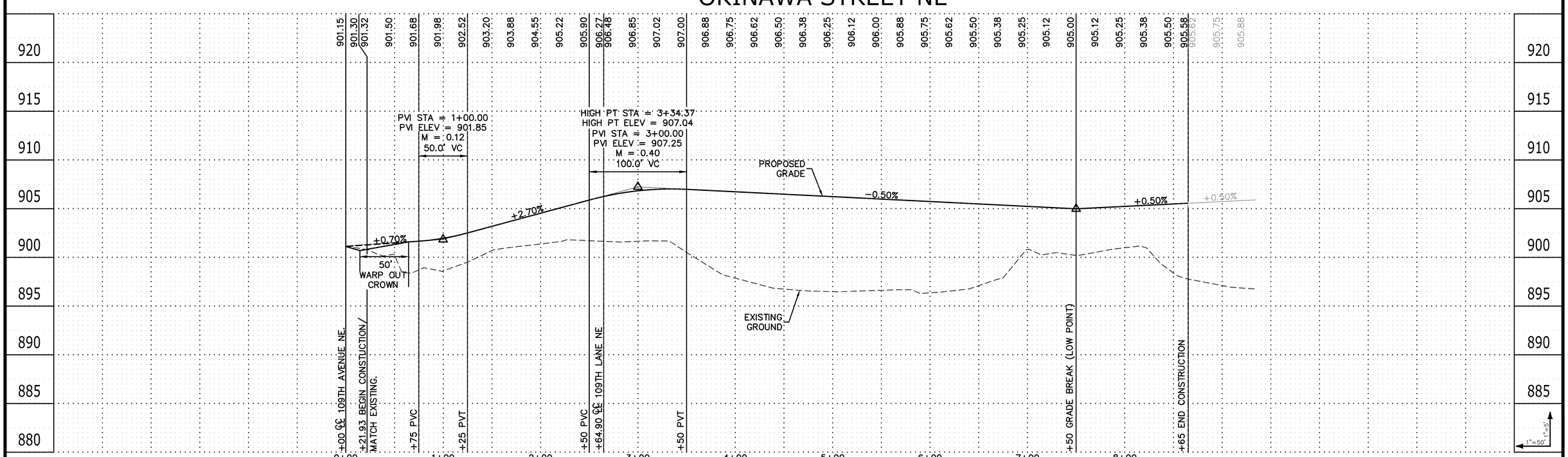
CURB TYPES LEGEND	
	D312 CONCRETE CURB & GUTTER
	B618 CONCRETE CURB & GUTTER
	B612 CONCRETE CURB & GUTTER
TC 96.20	DENOTES TOP OF CURB ELEVATION FOR THE TYPE OF CURB SHOWN.
P	DENOTES PEDESTRIAN RAMP. (SEE DETAIL)
V	DENOTES VALLEY GUTTER. (SEE DETAIL)





BENCHMARK
1. ANOKA COUNTY BENCHMARK NUMBER 2095 ELEVATION = 902.21 FT. (NGVD 29)

OKINAWA STREET NE



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Blaine, Minnesota

STREET CONSTRUCTION

Save Date: 03/31/20 F:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_street.dwg

℄ CURVE DATA (109TH LANE NE)		
PC = 1+99.99	PC = 6+57.34	PC = 10+21.27
PT = 6+57.34	PT = 8+28.65	PT = 12+91.78
Δ = 65°30'35"	Δ = 19°37'51"	Δ = 44°16'56"
R = 400.00'	R = 500.00'	R = 350.00'
L = 457.3436'	L = 171.3118'	L = 270.5042'
T = 257.34'	T = 86.50'	T = 142.41'

CURB TYPES LEGEND	
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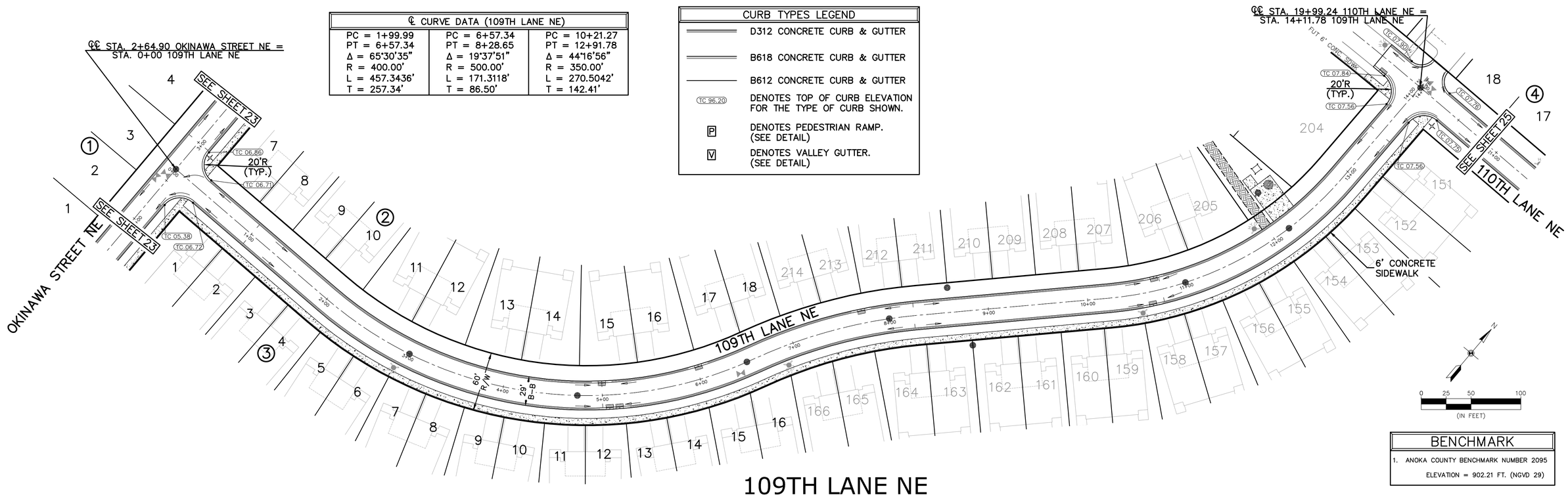
	B618 CONCRETE CURB & GUTTER
	B612 CONCRETE CURB & GUTTER
TC 96.20	DENOTES TOP OF CURB ELEVATION FOR THE TYPE OF CURB SHOWN.
P	DENOTES PEDESTRIAN RAMP. (SEE DETAIL)
V	DENOTES VALLEY GUTTER. (SEE DETAIL)



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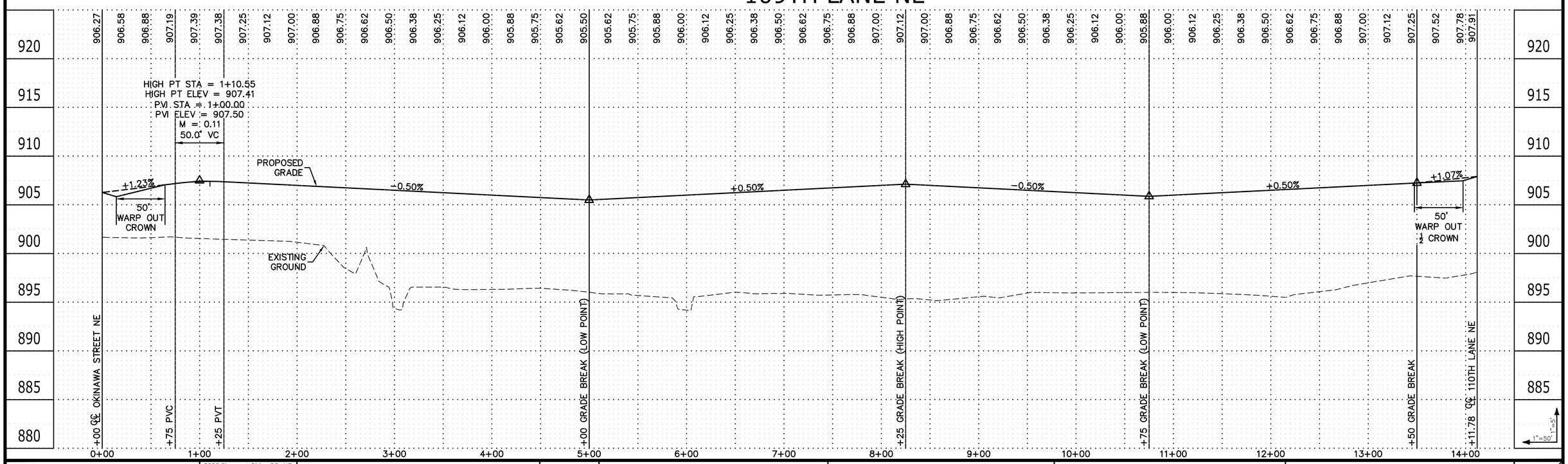
109TH LANE NE



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℄ CURVE DATA (110TH LANE NE)	
PC = 18+57.65	PC = 23+29.35
PT = 19+99.24	PT = 24+93.14
Δ = 03°14'42"	Δ = 26°48'51"
R = 2500.00'	R = 350.00'
L = 141.5859'	L = 163.7986'
T = 70.81'	T = 83.43'

CURB TYPES LEGEND	
	D312 CONCRETE CURB & GUTTER
	B618 CONCRETE CURB & GUTTER
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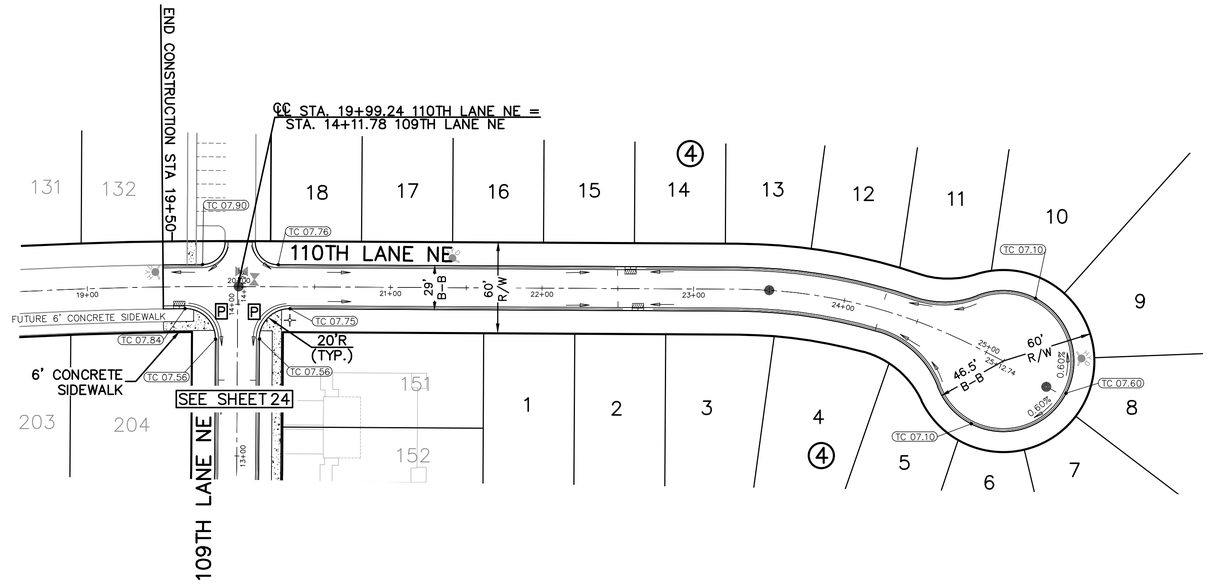
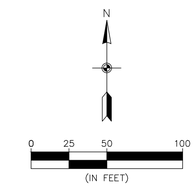
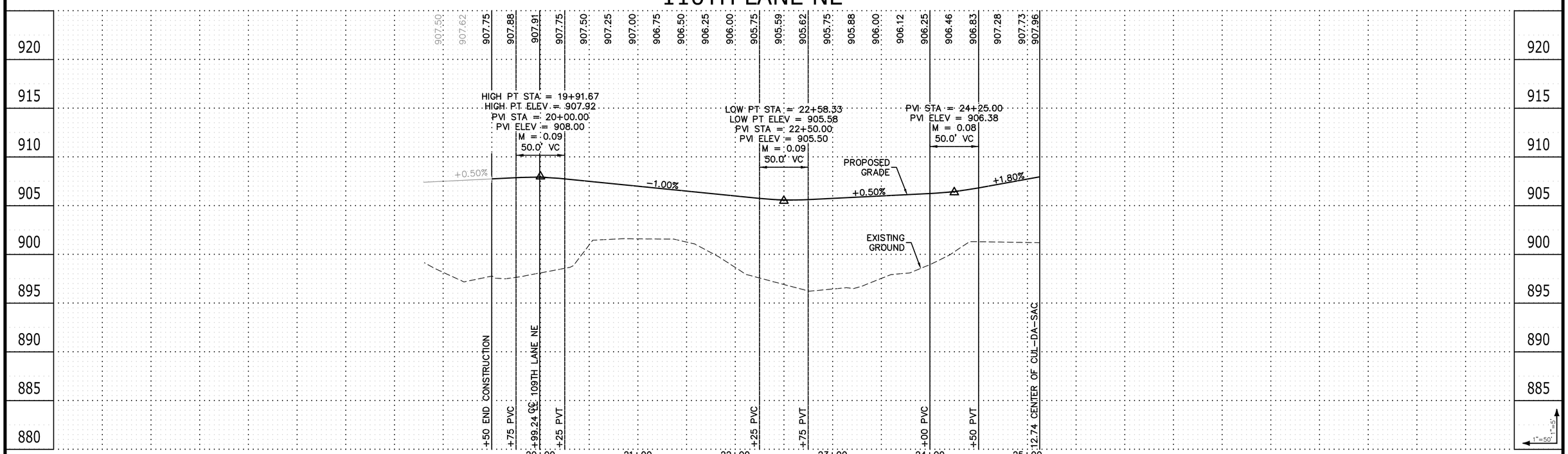




BENCHMARK
1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)

110TH LANE NE



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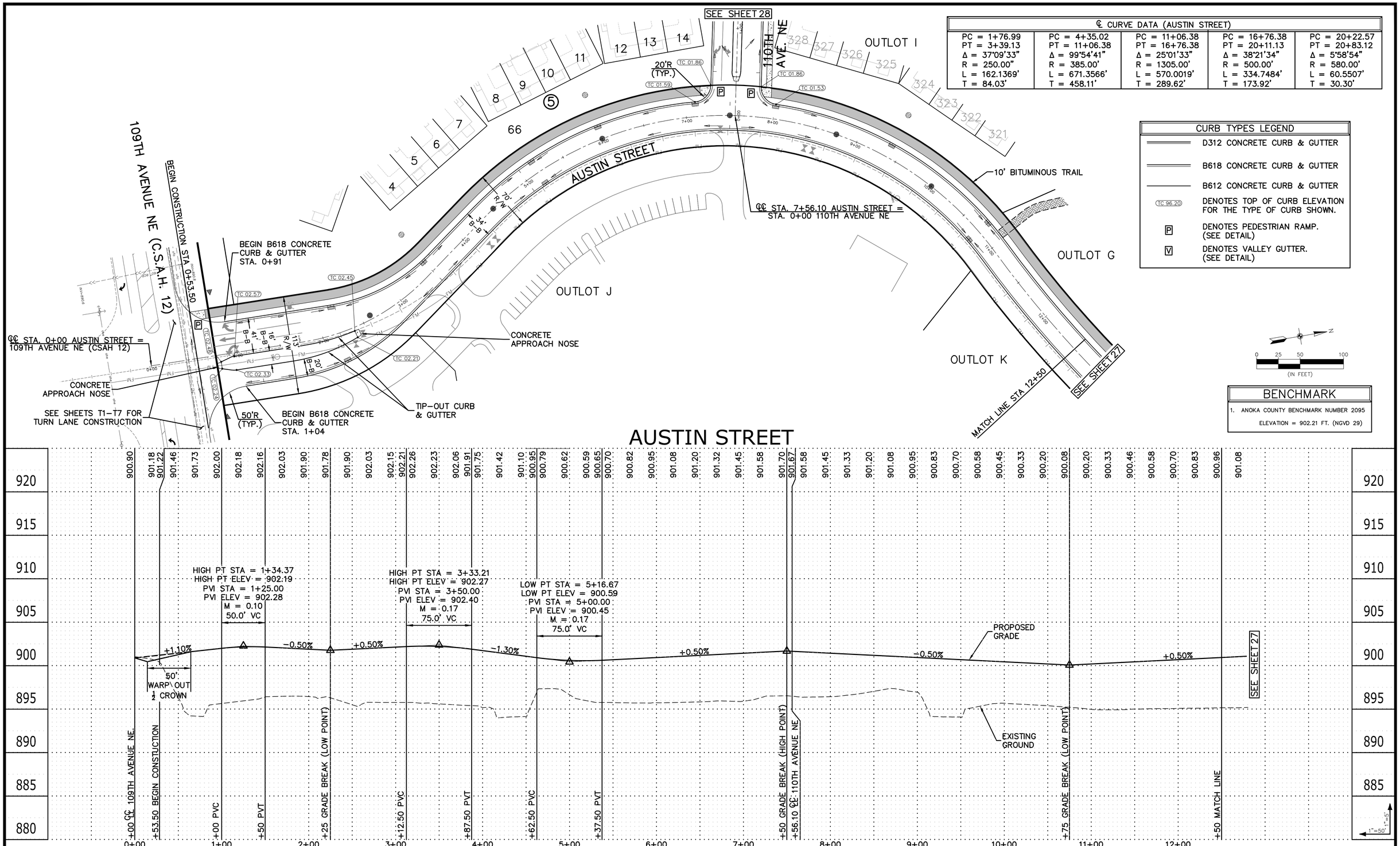

℄ CURVE DATA (AUSTIN STREET)

PC = 1+76.99	PC = 4+35.02	PC = 11+06.38	PC = 16+76.38	PC = 20+22.57
PT = 3+39.13	PT = 11+06.38	PT = 16+76.38	PT = 20+11.13	PT = 20+83.12
Δ = 37°09'33"	Δ = 99°54'41"	Δ = 25°01'33"	Δ = 38°21'34"	Δ = 5°58'54"
R = 250.00"	R = 385.00'	R = 1305.00'	R = 500.00'	R = 580.00'
L = 162.1369'	L = 671.3566'	L = 570.0019'	L = 334.7484'	L = 60.5507'
T = 84.03'	T = 458.11'	T = 289.62'	T = 173.92'	T = 30.30'

CURB TYPES LEGEND

- D312 CONCRETE CURB & GUTTER
- B618 CONCRETE CURB & GUTTER
- B612 CONCRETE CURB & GUTTER
- (TC 96.20) DENOTES TOP OF CURB ELEVATION FOR THE TYPE OF CURB SHOWN.
- (P) DENOTES PEDESTRIAN RAMP. (SEE DETAIL)
- (V) DENOTES VALLEY GUTTER. (SEE DETAIL)

BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
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℄ CURVE DATA (AUSTIN STREET)				
PC = 1+76.99 PT = 3+39.13 Δ = 37°09'33" R = 250.00" L = 162.1369' T = 84.03'	PC = 4+35.02 PT = 11+06.38 Δ = 99°54'41" R = 385.00' L = 671.3566' T = 458.11'	PC = 11+06.38 PT = 16+76.38 Δ = 25°01'33" R = 1305.00' L = 570.0019' T = 289.62'	PC = 16+76.38 PT = 20+11.13 Δ = 38°21'34" R = 500.00' L = 334.7484' T = 173.92'	PC = 20+22.57 PT = 20+83.12 Δ = 5°58'54" R = 580.00' L = 60.5507' T = 30.30'

CURB TYPES LEGEND	
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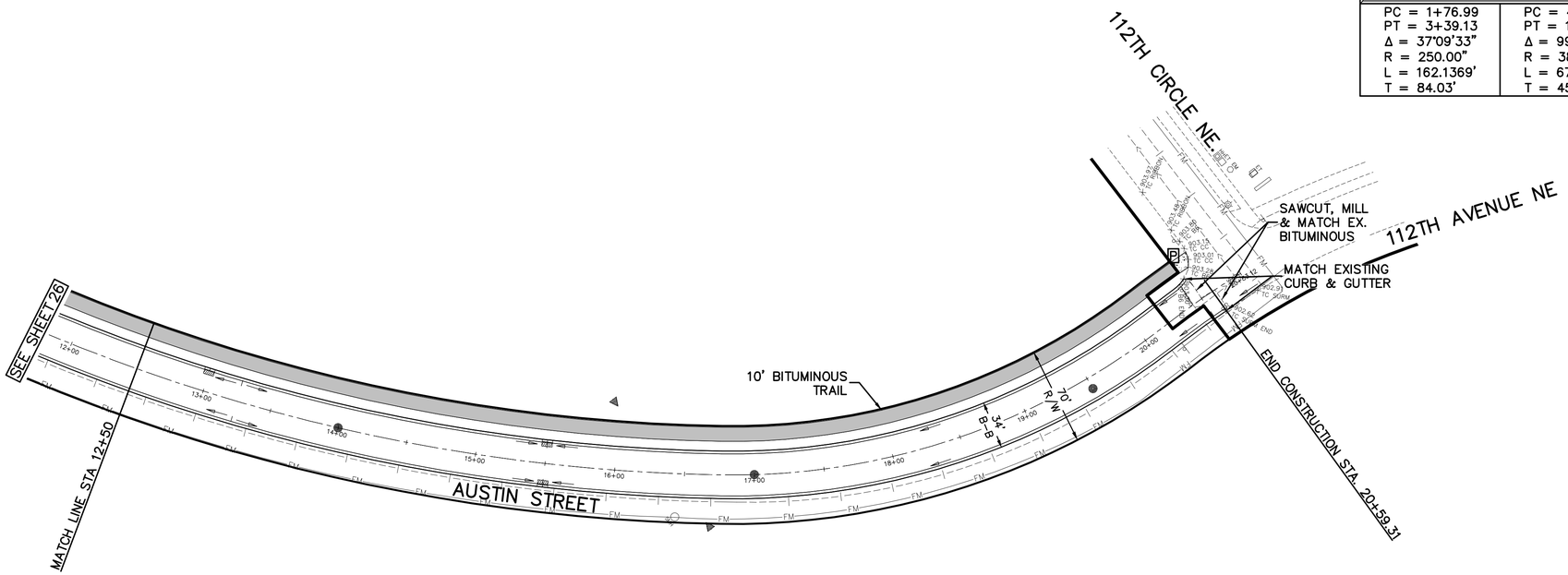

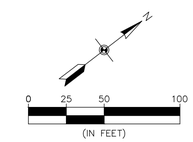

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1. ANOKA COUNTY BENCHMARK NUMBER 2095
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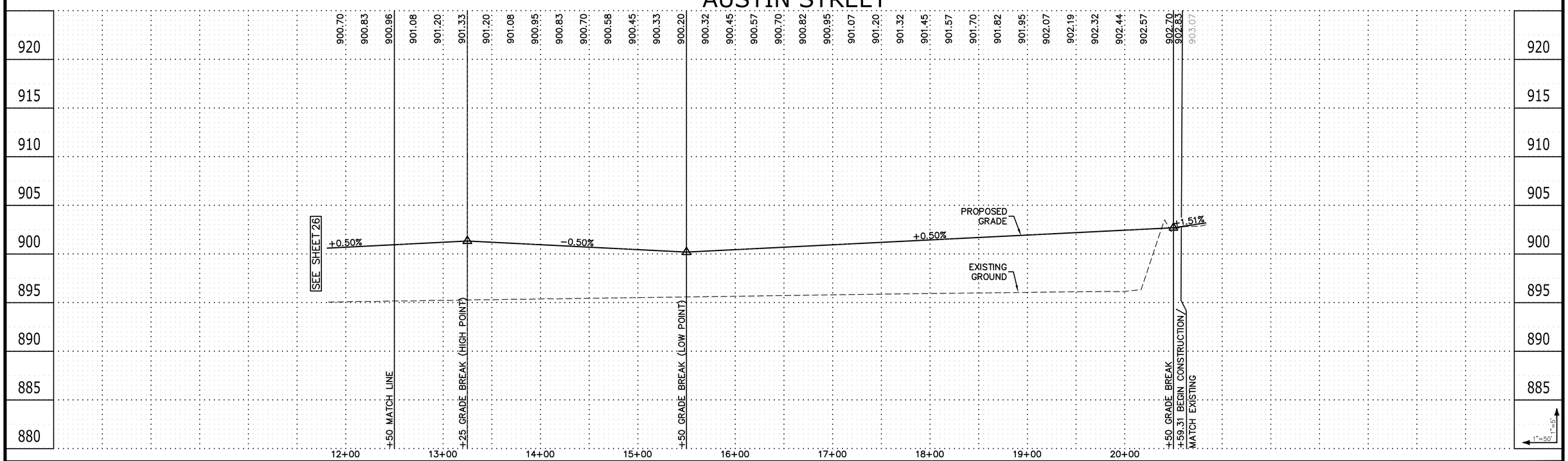
AUSTIN STREET



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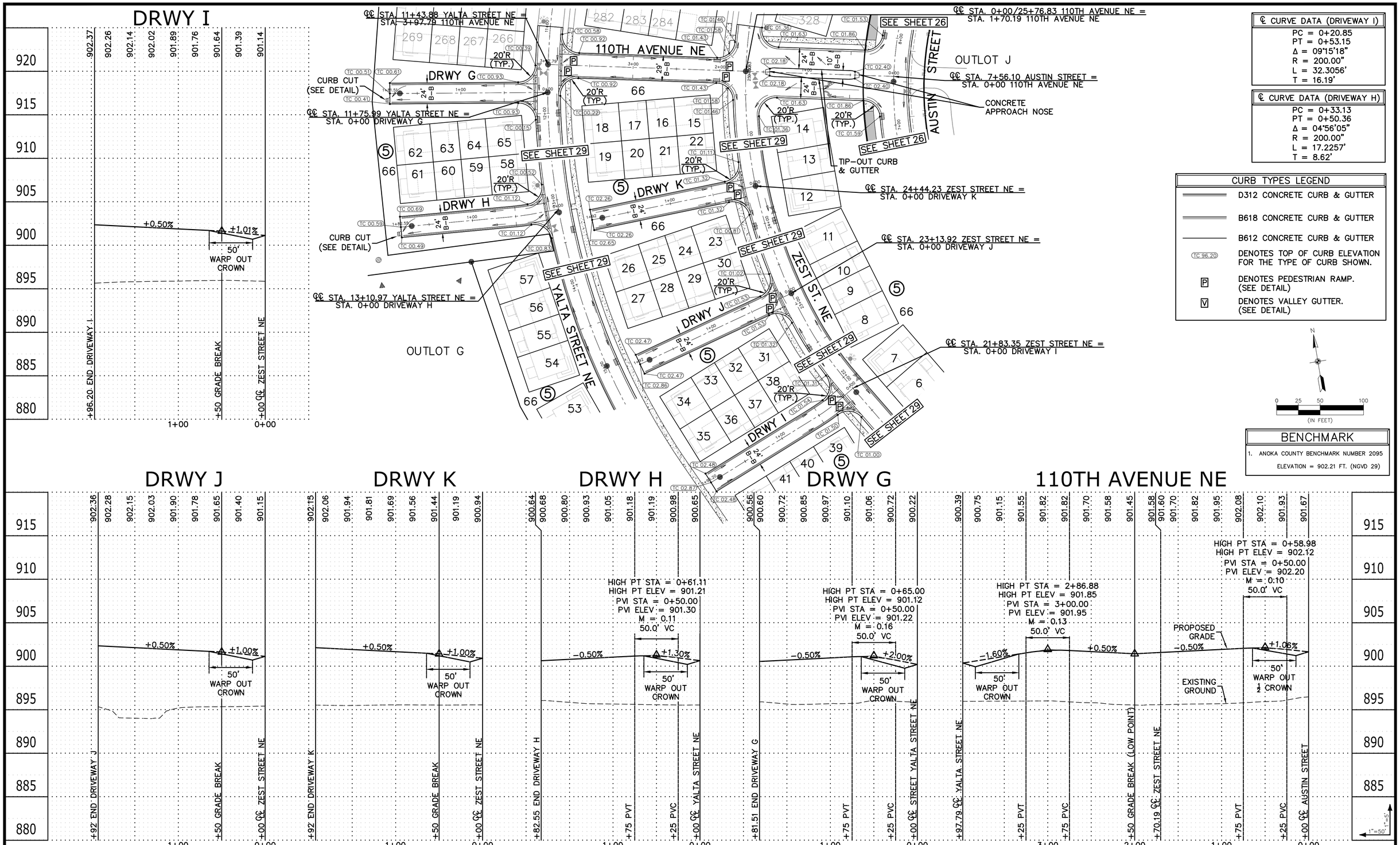

℄ CURVE DATA (DRIVEWAY I)
PC = 0+20.85
PT = 0+53.15
Δ = 09°15'18"
R = 200.00"
L = 32.3056'
T = 16.19'

℄ CURVE DATA (DRIVEWAY H)
PC = 0+33.13
PT = 0+50.36
Δ = 04°56'05"
R = 200.00"
L = 17.2257'
T = 8.62'

CURB TYPES LEGEND	
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V	DENOTES VALLEY GUTTER. (SEE DETAIL)

0 25 50 100 (IN FEET)

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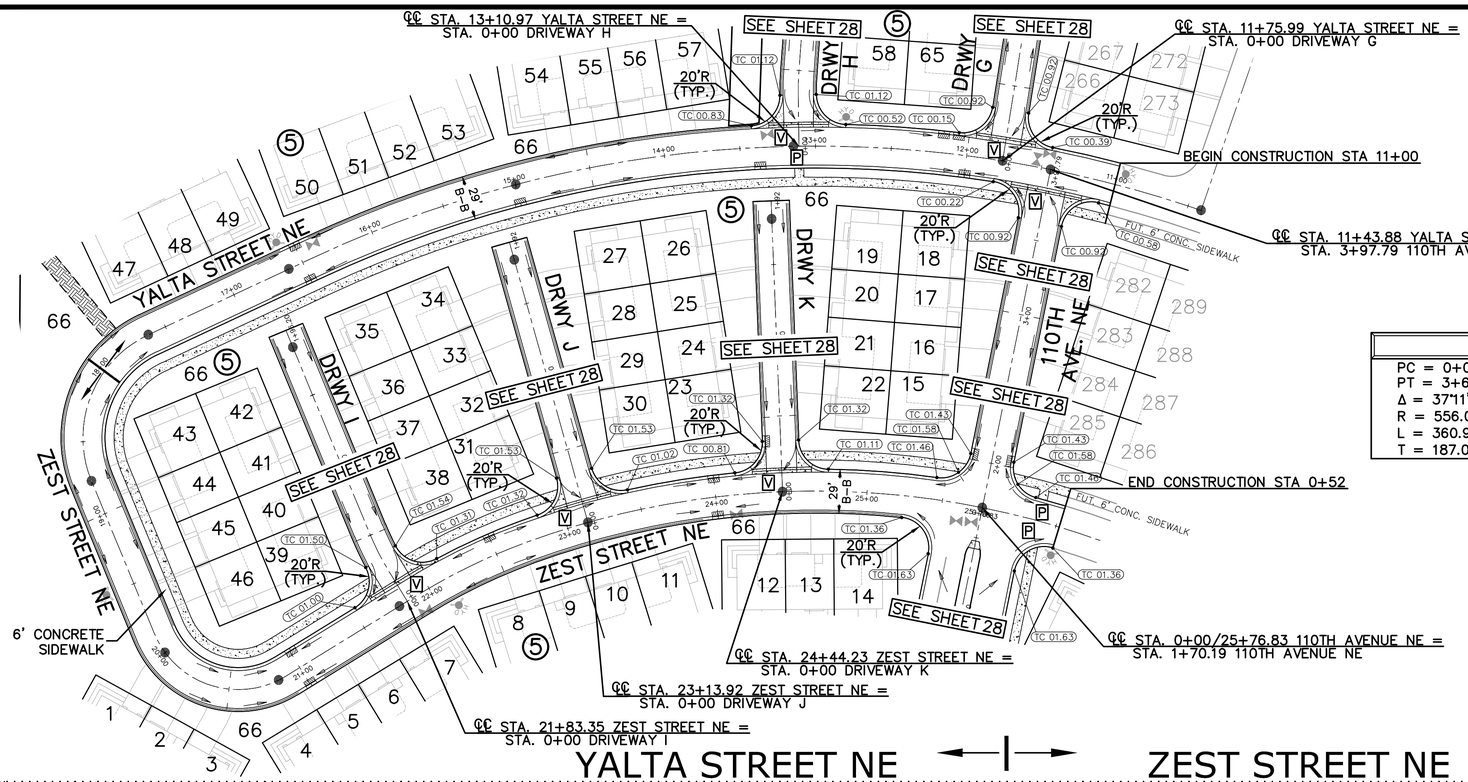

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℄ CURVE DATA (YALTA STREET NE/ZEST STREET NE)					
PC = 0+00.00	PC = 6+53.90	PC = 17+62.35	PC = 19+85.38	PC = 21+90.60	PC = 22+71.72
PT = 3+60.95	PT =16+42.54	PT = 18+76.68	PT = 20+89.32	PT = 22+71.72	PT = 25+76.83
Δ = 37°11'39"	Δ = 72°17'10"	Δ = 87°20'43"	Δ = 99°15'18"	Δ = 11°37'11"	Δ = 31°26'28"
R = 556.02'	R = 783.62"	R = 75.00'	R = 60.00'	R = 400.00'	R = 556.02'
L = 360.9468'	L = 988.6401'	L = 114.3348'	L = 103.9395'	L = 81.1210'	L = 305.1171'
T = 187.09'	T = 572.33'	T = 71.60'	T = 70.57'	T = 40.70'	T = 156.51'

0 25 50 100
(IN FEET)

BENCHMARK
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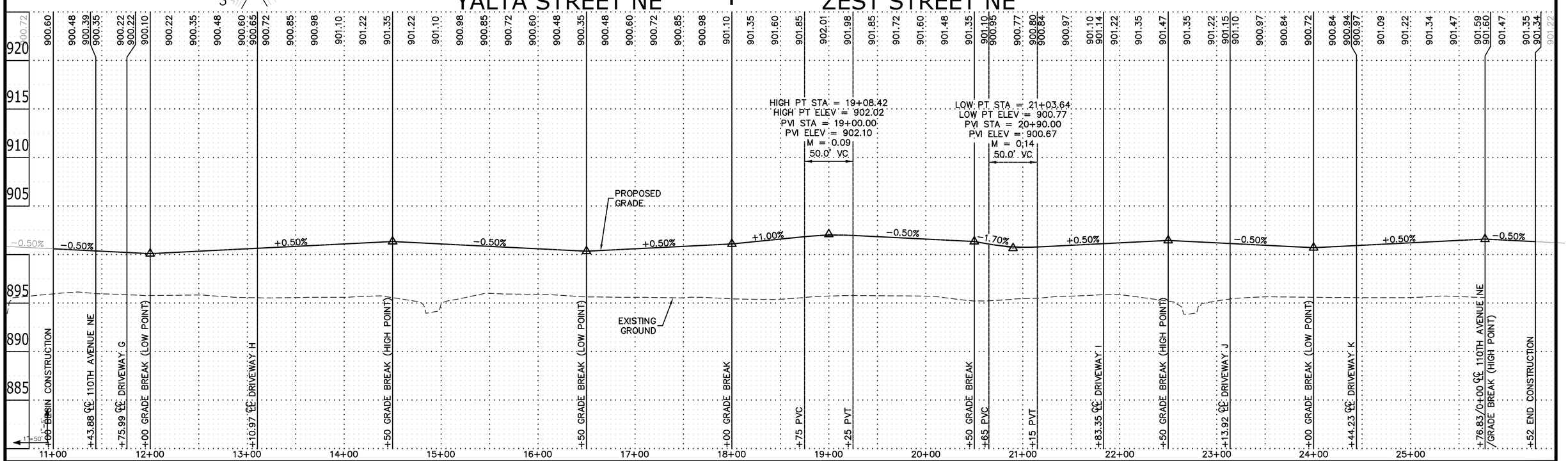

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LIGHTING NOTES:

PROPOSED LIGHT LOCATION.

FINAL LOCATION TO BE VERIFIED WITH CITY/XCEL (EAST)/CONNEXUS (WEST).

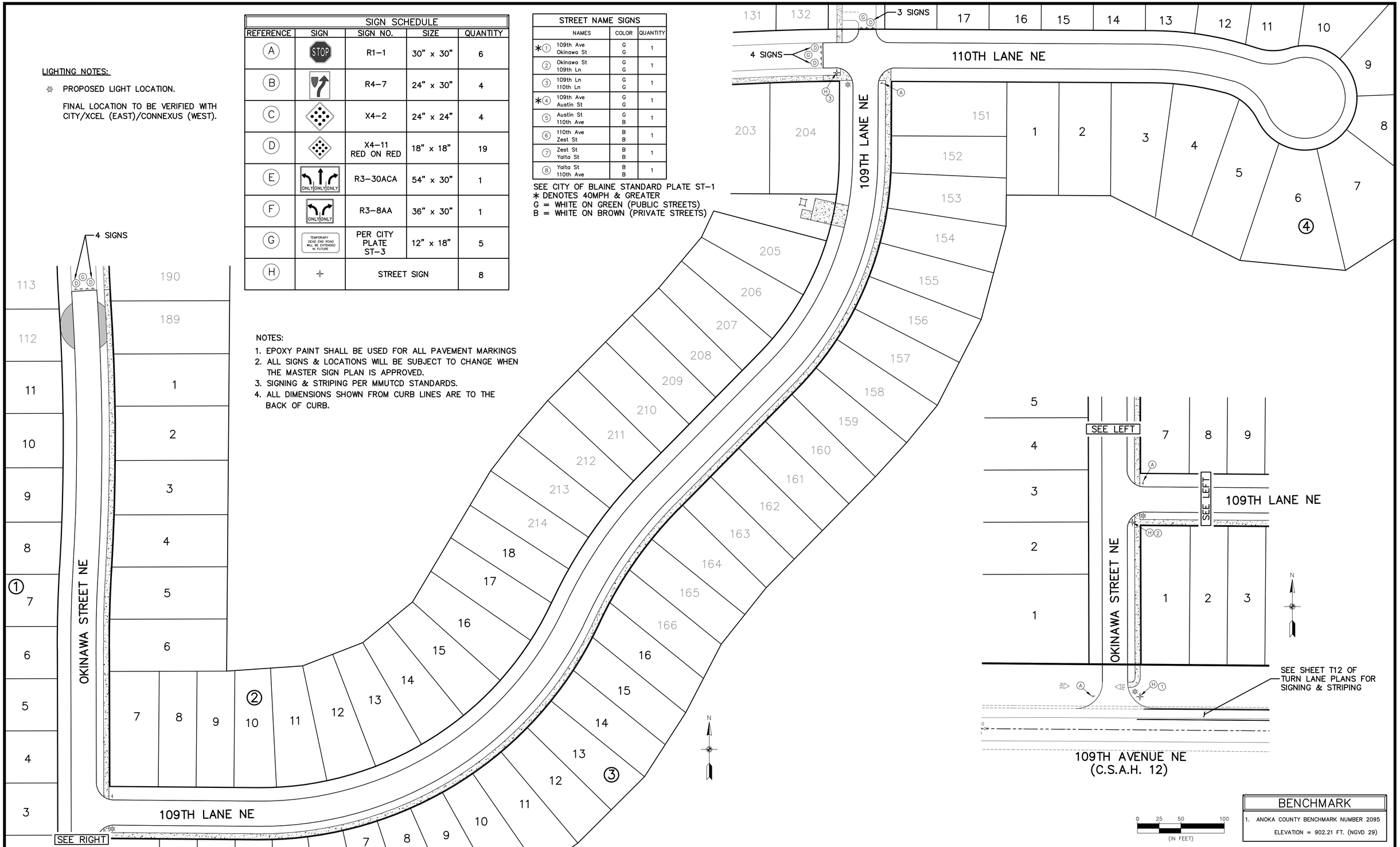
SIGN SCHEDULE				
REFERENCE	SIGN	SIGN NO.	SIZE	QUANTITY
A	STOP	R1-1	30" x 30"	6
B		R4-7	24" x 30"	4
C		X4-2	24" x 24"	4
D		X4-11 RED ON RED	18" x 18"	19
E	ONLY ONLY ONLY	R3-30ACA	54" x 30"	1
F	ONLY ONLY	R3-8AA	36" x 30"	1
G	TEMPORARY DEAD END ROAD WILL BE EXTENDED IN FUTURE	PER CITY PLATE ST-3	12" x 18"	5
H		STREET SIGN		8

STREET NAME SIGNS			
	NAMES	COLOR	QUANTITY
*1	109th Ave Okinawa St	G G	1
2	Okinawa St 109th Ln	G G	1
3	109th Ln 110th Ln	G G	1
*4	109th Ave Austin St	G G	1
5	Austin St 110th Ave	G B	1
6	110th Ave Zest St	B B	1
7	Zest St Yalta St	B B	1
8	Yalta St 110th Ave	B B	1

SEE CITY OF BLAINE STANDARD PLATE ST-1
* DENOTES 40MPH & GREATER
G = WHITE ON GREEN (PUBLIC STREETS)
B = WHITE ON BROWN (PRIVATE STREETS)

NOTES:

1. EPOXY PAINT SHALL BE USED FOR ALL PAVEMENT MARKINGS
2. ALL SIGNS & LOCATIONS WILL BE SUBJECT TO CHANGE WHEN THE MASTER SIGN PLAN IS APPROVED.
3. SIGNING & STRIPING PER MMUTCD STANDARDS.
4. ALL DIMENSIONS SHOWN FROM CURB LINES ARE TO THE BACK OF CURB.



BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
ELEVATION = 902.21 FT. (NGVD 29)

Carlson McCain
• environmental
• engineering
• surveying

3890 Pheasant Ridge DR. NE, Suite 100
Blaine, MN 55449
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

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

Print Name: Joseph T. Radach, P.E.
Signature: [signature]
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

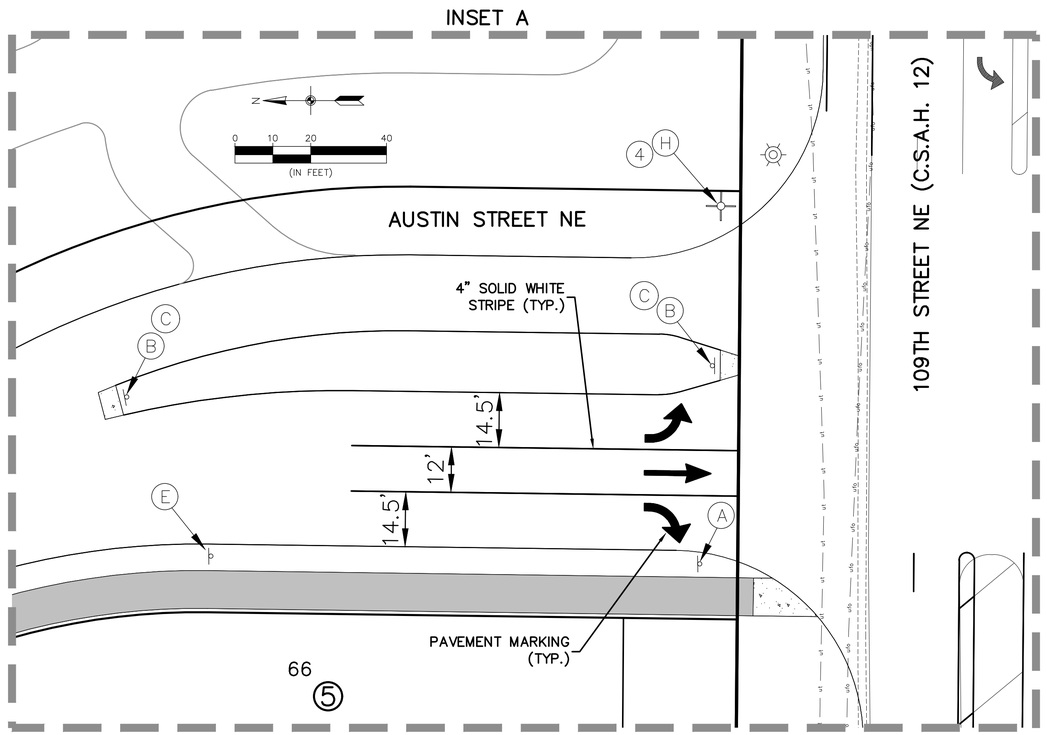
Revisions:

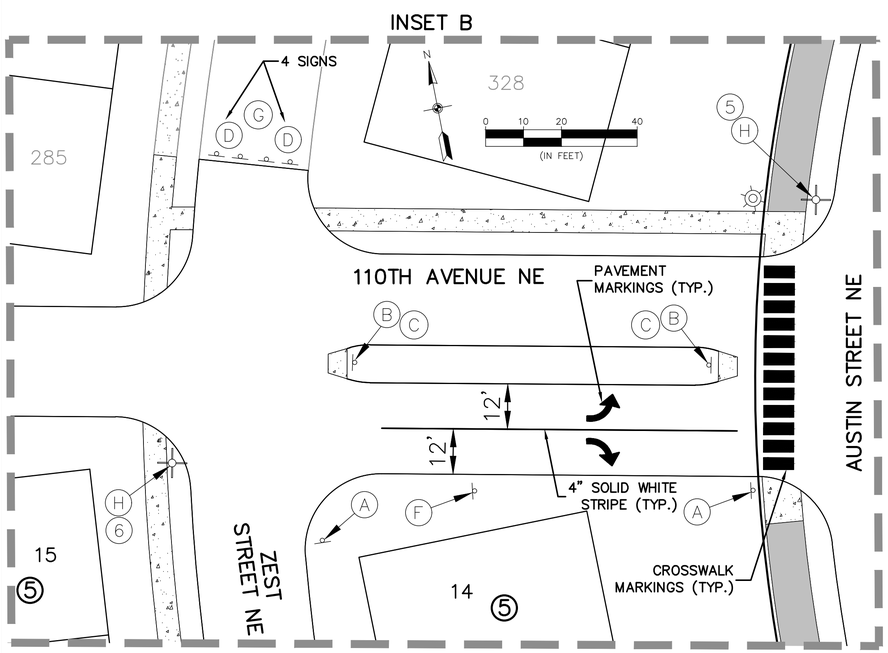
WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

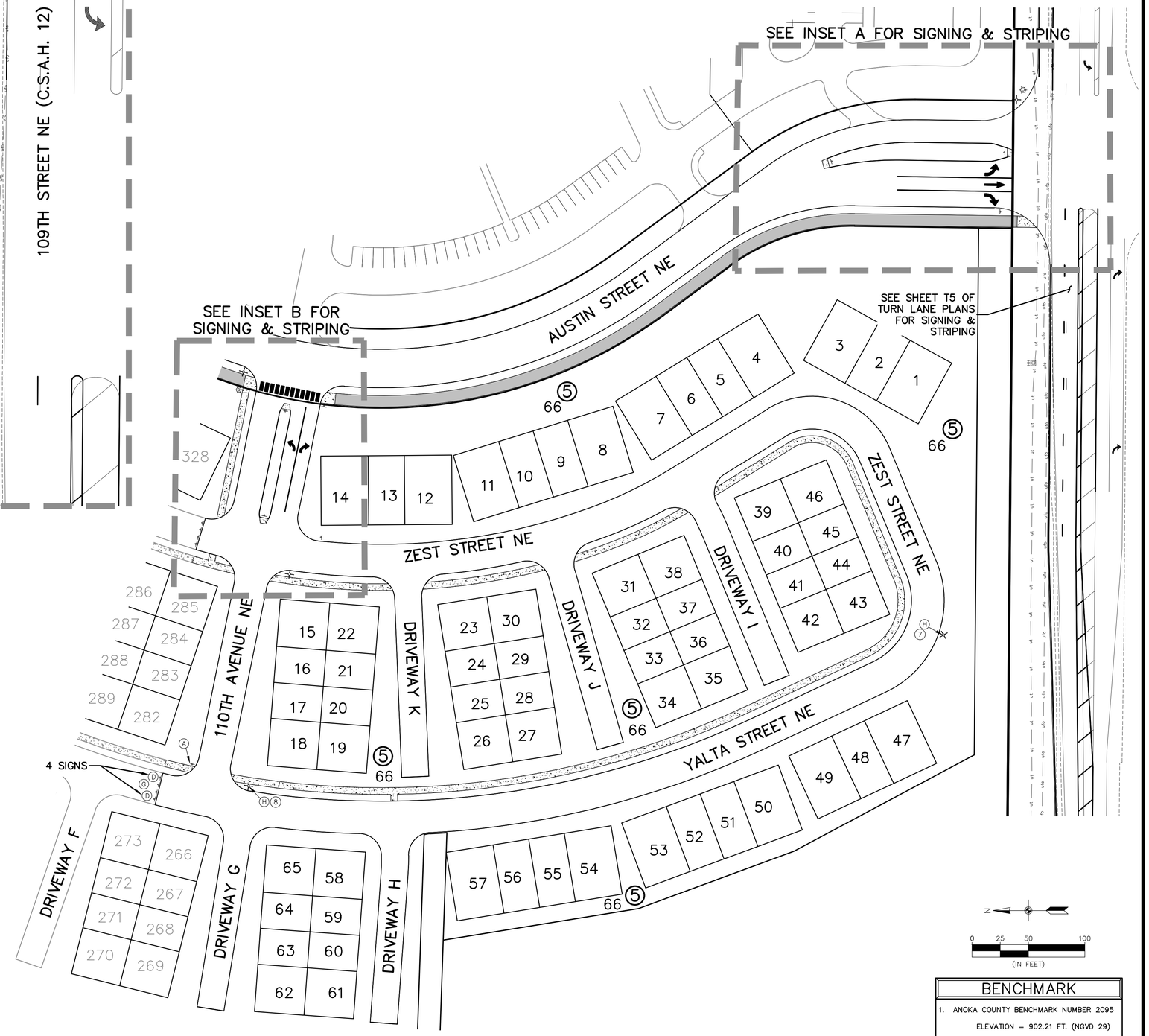
NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

SIGNING, STRIPING & LIGHTING PLAN

Save Date: 03/31/20 f:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_street stripe.dwg





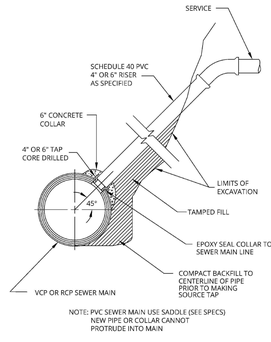


BENCHMARK

1. ANOKA COUNTY BENCHMARK NUMBER 2095
   ELEVATION = 902.21 FT. (NGVD 29)

Carlson McCain • environmental • engineering • surveying	3890 Pheasant Ridge DR. NE, Suite 100 Blaine, MN 55449 Phone: (763) 489-7900 Fax: (763) 489-7959 www.carlsonmccain.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota	Print Name: Joseph T. Radach, P.E. Signature: Date: 3/27/2020 License #: 45889	Drawn: KRO Designed: JTR Date: 3/27/2020	Revisions:	**WELLINGTON MANAGEMENT, INC.** 1625 Energy Park Drive, #100 St. Paul, MN 55108	**NORTH MEADOWS 1ST ADDITION** Blaine, Minnesota	**SIGNING, STRIPING & LIGHTING PLAN**	31 of 35

Save Date: 03/31/20 | f:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_street stripe.dwg

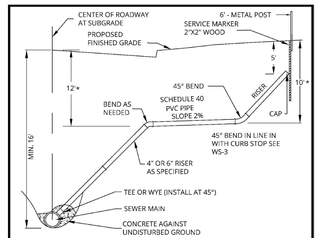


NOTE: PVC SEWER MAIN USE SADDLE (SEE SPECS) NEW PIPE OR COLLAR CANNOT PROTRUDE INTO MAIN

SERVICE TAP CONNECTION EXISTING PIPE

Plate No. SSS-1

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



NOTE: WHEN SANITARY SERVICE IS NOT ACCOMPANIED BY A WATER SERVICE IN THE SAME TRENCH, INSTALL A 6' POST NEXT TO THE 2"x2" MARKER AND PAINT THE TOP 6" GREEN, FOR VACANT LOTS, USE 6' STEEL FENCE POST.

• UNLESS OTHERWISE INDICATED ON PLANS

NO BEND MAY BE USED OTHER THAN THOSE SHOWN ON DETAIL

SOLVENT WELD ALL JOINTS

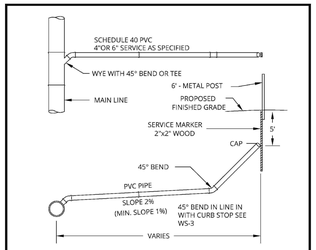
* WILL BE ADJUSTED IN FIELD BY ENGINEER TO SERVE EXISTING STRUCTURES

IF DISTANCE FROM MAIN TO STRUCTURE IS GREATER THAN 100', A CLEAN OUT MUST BE INSTALLED AT 100' INTERVALS, SEE DETAIL SSS-5.

SERVICE RISER SECTION

Plate No. SSS-2

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



NOTE: WHEN SANITARY SERVICE IS NOT ACCOMPANIED BY A WATER SERVICE IN THE SAME TRENCH, INSTALL A 6' POST NEXT TO THE 2"x2" MARKER AND PAINT THE TOP 6" GREEN, FOR VACANT LOTS, USE 6' STEEL FENCE POST.

•UNLESS OTHERWISE INDICATED ON PLANS

NO BEND MAY BE USED OTHER THAN THOSE SHOWN ON DETAIL

SOLVENT WELD ALL JOINTS

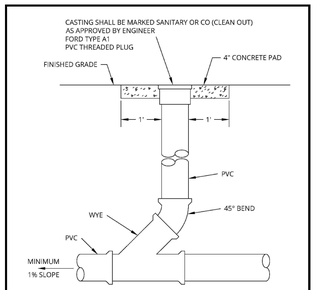
ON EXISTING MAINS, SEE DETAIL SSS-2

IF DISTANCE FROM MAIN TO STRUCTURE IS GREATER THAN 100', A CLEAN OUT MUST BE INSTALLED AT 100' INTERVALS, SEE DETAIL SSS-5.

SERVICE CONNECTION

Plate No. SSS-3

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

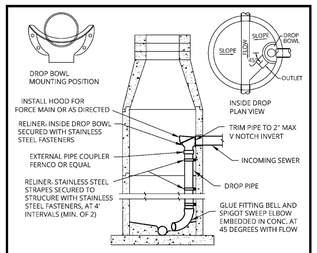


NOTES:
- ALL JOINTS SHALL BE SOLVENT WELD EXCEPT AS NOTED.
- SIZES: RESIDENTIAL = 4" DIAMETER COMMERCIAL/INDUSTRIAL = 6" DIAMETER
- ALL PIPE TO BE SCHEDULE 40 PVC
- CLEAN OUTS ARE REQUIRED AT 100' SPACING AND AT CHANGE OF DIRECTION.

SERVICE CLEAN OUT

Plate No. SSS-4

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

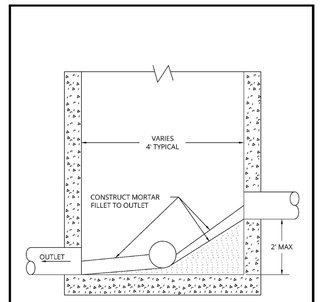


NOTES:
1. INCREASE MANHOLE SIZE 6" IN DIAMETER FOR 2 CONNECTIONS
2. INSTALL DIP TO UNDISTURBED SOIL
3. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
4. ADDITIONAL PIPE TO MANHOLE WITH RELINER-DURAN, INC STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS.
5. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS PRODUCED BY:
RELINER-DURAN, INC.
53 MT. ARCHER RD,
LYME, CT 06371
(860)434-0277 FAX:(877)434-3197

INSIDE DROP MANHOLE

Plate No. SSS-6

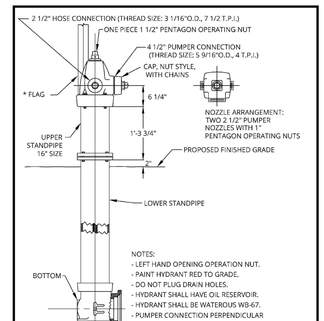
2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



TYPICAL SANITARY MANHOLE INVERT

Plate No. SSS-7

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



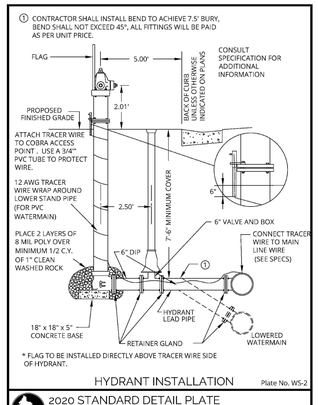
NOTES:
- LEFT HAND OPENING OPERATION NUT.
- PAINT HYDRANT RED TO GRADE.
- DO NOT PLUG DRAIN HOLES.
- HYDRANT SHALL HAVE OIL RESERVOIR.
- HYDRANT SHALL BE WATEROUS WD-67.
- PUMPER CONNECTION PERPENDICULAR TO ROAD.

* FLAG TO BE INSTALLED DIRECTLY ABOVE TRACER WIRE SIDE OF HYDRANT.

TYPICAL HYDRANT

Plate No. WS-1

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

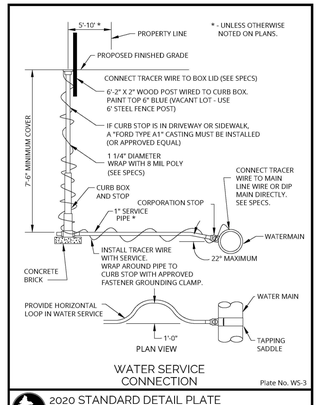


* FLAG TO BE INSTALLED DIRECTLY ABOVE TRACER WIRE SIDE OF HYDRANT.

HYDRANT INSTALLATION

Plate No. WS-2

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



WATER SERVICE CONNECTION

Plate No. WS-3

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

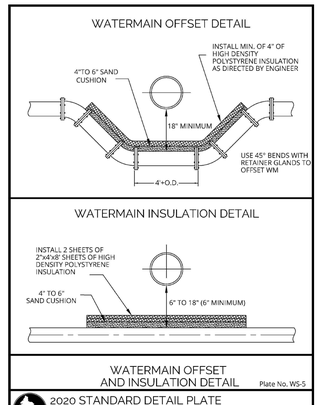
PIPE SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"
BENDS									
90°	39	57	89	108	210	264	335	400	565
45°	32	46	70	86	164	202	250	305	405
22 1/2°	32	46	64	84	148	178	255	310	412
11 1/2°	30	42	58	74	130	158	205	245	315
SLEEVES									
SHORT	28	38	49	56	111	130	160	195	255
LONG	36	46	62	76	140	172	225	255	335
PLUG	18	26	36	46	85	93	130	153	202
CAP	17	25	35	44	79	100	122	202	214
TEES									
RUN	-	-	-	-	-	-	-	-	-
6"	50	-	-	-	-	-	-	-	-
8"	92	66	-	-	-	-	-	-	-
10"	90	105	120	-	-	-	-	-	-
12"	110	125	140	160	-	-	-	-	-
14"	182	206	228	234	280	-	-	-	-
16"	228	248	264	280	316	322	-	-	-
18"	275	295	315	335	380	405	435	-	-
20"	325	345	370	395	440	465	505	535	-
24"	415	445	470	500	550	580	625	660	720
CROSS									
6"	80	-	-	-	-	-	-	-	-
8"	-	105	-	-	-	-	-	-	-
10"	-	-	145	-	-	-	-	-	-
12"	-	-	-	215	-	-	-	-	-
14"	-	-	-	-	335	-	-	-	-
16"	-	-	-	-	-	385	-	-	-
18"	-	-	-	-	-	-	XXX	-	-
20"	-	-	-	-	-	-	-	XXX	-
24"	-	-	-	-	-	-	-	-	XXX
REDUCERS									
8"	35	-	-	-	-	-	-	-	-
10"	50	50	-	-	-	-	-	-	-
12"	60	60	84	-	-	-	-	-	-
14"	100	108	100	100	-	-	-	-	-
16"	124	124	124	124	140	-	-	-	-
18"	-	195	195	190	190	195	-	-	-
20"	-	-	220	205	200	200	225	-	-
24"	-	-	-	305	310	320	305	300	-

WEIGHTS TAKEN FROM AWWA C153; XXX BASED ON C110 WEIGHT DOES NOT INCLUDE GLANDS, GASKETS, BOLTS AND RESTRAINING DEVICES

WATER MAIN FITTINGS

Plate No. WS-4

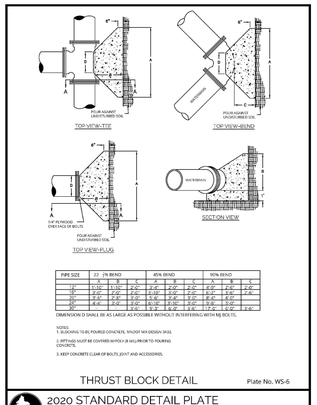
2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



WATERMAIN OFFSET AND INSULATION DETAIL

Plate No. WS-5

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



PIPE SIZE	22.5° BEND		45° BEND		90° BEND			
	A	B	A	B	A	B	A	B
12"	2.0'	2.0'	2.0'	1.0'	2.0'	2.0'	2.0'	1.0'
16"	2.0'	2.0'	2.0'	1.0'	2.0'	2.0'	2.0'	1.0'
20"	2.0'	2.0'	2.0'	1.0'	2.0'	2.0'	2.0'	1.0'
24"	2.0'	2.0'	2.0'	1.0'	2.0'	2.0'	2.0'	1.0'
30"	2.5'	2.5'	2.5'	1.0'	2.5'	2.5'	2.5'	1.0'
36"	3.0'	3.0'	3.0'	1.0'	3.0'	3.0'	3.0'	1.0'

DIMENSION D SHALL BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.

NOTES:
1. BLOCKING TO BE POURED CONCRETE, MYCOST MIX DESIGN 3A52.
2. FITTINGS MUST BE CENTERED IN POUR (3 MJ) PRIOR TO POURING CONCRETE.
3. KEEP CONCRETE CLEAR OF BOLTS, JOINT AND ACCESSORIES.

THRUST BLOCK DETAIL

Plate No. WS-6

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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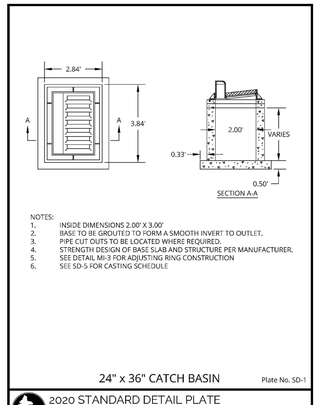
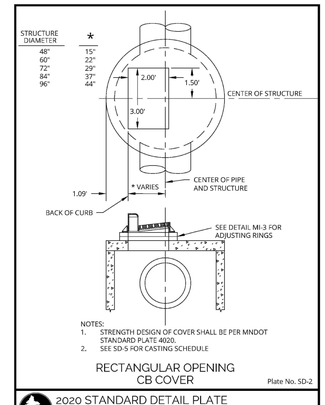


NOTES:
1. INSIDE DIMENSIONS 2.00' X 3.00'
2. BASE TO BE GROUTED TO FORM A SMOOTH INVERT TO OUTLET.
3. PIPE CUT OUTS TO BE LOCATED WHERE REQUIRED.
4. STRENGTH DESIGN OF BASE SLAB AND STRUCTURE PER MANUFACTURER.
5. SEE DETAIL MI-3 FOR ADJUSTING RING CONSTRUCTION
6. SEE SD-5 FOR CASTING SCHEDULE

24" x 36" CATCH BASIN

Plate No. SD-1

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

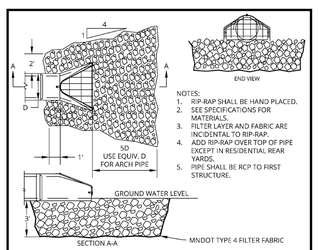


NOTES:
1. STRENGTH DESIGN OF COVER SHALL BE PER MNDOT STANDARD PLATE 4020.
2. SEE SD-5 FOR CASTING SCHEDULE

RECTANGULAR OPENING CB COVER

Plate No. SD-2

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



NOTES:
1. RIP-RAP SHALL BE HAND PLACED.
2. SEE SPECIFICATIONS FOR MATERIALS.
3. FILTER LAYER AND FABRIC ARE INCIDENTAL TO RIP-RAP.
4. ADD RIP-RAP OVER TOP OF PIPE EXCEPT IN RESIDENTIAL REAR YARDS.
5. PIPE SHALL BE RCP TO FIRST STRUCTURE.

RIP-RAP QUANTITIES (C.Y.)

PIPE DIA.	RIP-RAP	PIPE DIA.	RIP-RAP	PIPE DIA.	RIP-RAP
12"	6	24"	14	42"	35
15"	8	27"	17	48"	43
18"	9	30"	21	54"	50
21"	12	36"	28	60"	58

HEAVY DUTY TRASH GUARD REQUIRED ON:
- UPSTREAM APRONS
-DOWNSTREAM APRONS 27" OR LARGER IN MAINTAINED RESIDENTIAL AREAS
-NO TRASH GUARD ON DITCH CROSSINGS UNLESS OTHERWISE DIRECTED

RIP-RAP FOR OUTLET TO WET DITCH OR BASIN

Plate No. SD-3

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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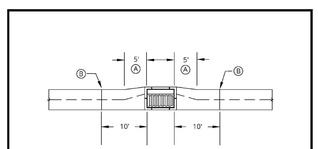


Ⓐ - 5' TRANSITION FROM END OF CASTING OPENING TO D312 CURBING.
Ⓑ - EXPANSION JOINT.

CASTING SCHEDULE

STRUCTURE TYPE	NEENAH CASTING TYPE
MANHOLE (DIA. VARIES)	R-1733 W/ PLATEN LID
CATCH BASIN (DIA. VARIES)	R-3067-V (SEE BLAINE PLATE SD-2)
24" X 36"	R-3067-V (SEE BLAINE PLATE SD-1)
24" X 36"	R-3290-A (DRIVEWAYS)
MNDOT TYPE "H"	R-3250-1 (B STYLE CURBING)
MNDOT TYPE "H"	R-3508-A2 (D312 STYLE CURBING)
MNDOT TYPE "H"	R-2577-1 TYPE C GRATE (OPEN SPACES)

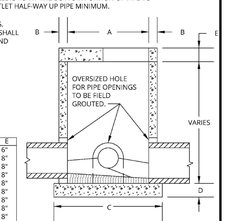
NOTES:
1. IF CATCHBASIN IS NOT LOCATED ON PROPERTY LINE, DO NOT USE 24" X 36" STRUCTURE.
2. CATCH BASIN CASTINGS SHALL BE R-3067-V VANE GRATE FOR FLOW THRU AND BI-DIRECTIONAL R-3067-VB VANE GRATE IN SAG LOCATIONS.

CATCH BASIN/CURBING & CASTING SCHEDULE

Plate No. SD-5

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

NOTES:
1. 54" THRU 120" DIA. STRUCTURES ARE MANUFACTURED WITH BELL END FACING DOWN.
2. STRUCTURES ARE MANUFACTURED IN ACCORDANCE WITH ASTM C-478 AND MNDOT STANDARD PLATE 4005 WITH RUBBER GASKET JOINTS.
3. REFER TO BLAINE DETAIL MI-3 FOR CASTING, ADJUSTING RINGS, AND STEPS.
4. PROVIDE MORTAR FILLETS TO FIT THE BOTTOM PORTION OF PIPE TO DIRECT FLOW TO OUTLET HALF-WAY UP PIPE MINIMUM.
5. COVER SLAB DESIGN VARIES WITH CASTING.
6. REINFORCING STEEL SHALL BE PER ASTM C-478 AND MNDOT PLATE 4005.



A	B	C	D	E
48"	5"	64"	6"	6"
54"	5.5"	72"	8"	8"
60"	6"	78"	8"	8"
66"	6.5"	85"	8"	8"
72"	7"	92"	8"	8"
78"	7.5"	100"	8"	8"
84"	8"	106"	8"	8"
90"	8.5"	114"	8"	8"
96"	9"	120"	8"	8"
102"	9.5"	127"	12"	8"
108"	10"	132"	12"	12"
120"	10"	140"	12"	12"

STANDARD STORM SEWER CATCH BASIN/MANHOLE & MANHOLE

Plate No. SD-6

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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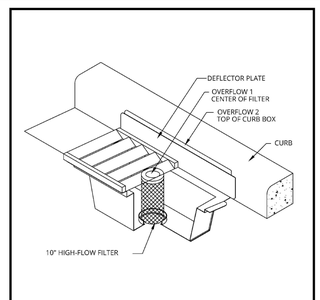
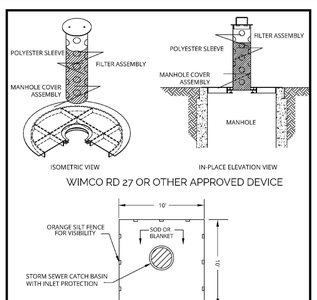


NOTES:
- WIMCO CG MODEL OR APPROVED EQUAL TO MATCH CASTING
- SILT FENCE/FABRIC NOT ALLOWED TO BE USED AS INLET PROTECTION

INLET PROTECTION FOR CURB AND GUTTER

Plate No. EC-4

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



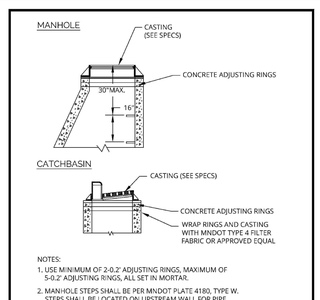
WIMCO RD 27 OR OTHER APPROVED DEVICE

TYPICAL SODDING DETAIL FOR YARD CATCH BASIN

BACK YARD CATCH BASIN INLET PROTECTION

Plate No. EC-5

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

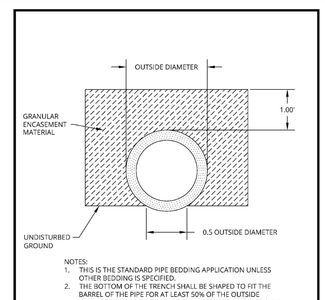


NOTES:
1. USE MINIMUM OF 2-0.2' ADJUSTING RINGS, MAXIMUM OF 5-0.2' ADJUSTING RINGS, ALL SET IN MORTAR.
2. MANHOLE STEPS SHALL BE PER MNDOT PLATE 4180, TYPE W. STEPS SHALL BE LOCATED ON UPSTREAM WALL FOR PIPE SIZES UP TO AND INCLUDING 15" AND ON SIDE WALL FOR GREATER THAN 15".
3. LIDS FOR SANITARY SEWER SHALL BE MARKED "SANITARY" AND LIDS FOR STORM SEWERS SHALL BE MARKED "STORM".
4. NO WOOD SHIMS WILL BE ALLOWED.

ADJUSTING RINGS & STEPS

Plate No. MI-3

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



NOTES:
1. THIS IS THE STANDARD PIPE BEDDING APPLICATION UNLESS OTHER BEDDING IS SPECIFIED.
2. THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE BARREL OF THE PIPE FOR AT LEAST 50% OF THE OUTSIDE DIAMETER OF THE PIPE. THE REMAINDER OF THE PIPE IS TO BE SURROUNDED TO A HEIGHT OF AT LEAST 1' ABOVE ITS TOP.
3. GRANULAR ENCASEMENT MATERIAL SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
4. NATIVE BLAINE GRANULAR MATERIAL IS CONSIDERED TO MEET THE INTENT OF THIS DETAIL.

CLASS C PIPE BEDDING

Plate No. MI-4

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

Carlson McCain
• environmental
• engineering
• surveying

3890 Pheasant Ridge DR. NE, Suite 100
Blaine, MN 55449
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

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

Print Name: Joseph T. Radach, P.E.
Signature: [signature]
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

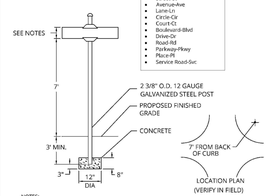
Revisions:

WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

DETAILS

Save Date: 04/02/20 f:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_details.dwg



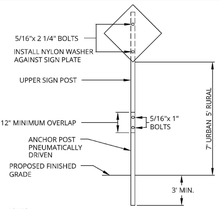
ABBREVIATIONS
- Street-St
- Avenue-Ave
- Lane-Ln
- Circle-Cir
- Court-Ct
- Boulevard-Blvd
- Drive-Dr
- Road-Rd
- Parkway-Pkwy
- Place-Pl
- Service Road-Svc

NOTES:
1. BLADE HEIGHT SHALL BE 9'.
2. BLADE LENGTH SHALL BE AS NECESSARY.
3. LETTER SIZE - 40 MPH AND LESS: 6"UPPER CASE 4.5" LOWER CASE - 40 MPH AND GREATER: 8"UPPER CASE 6" LOWER CASE.
4. DIAMOND GRADE, WHITE ON MNDOT GREEN BACKGROUND FOR PUBLIC STREETS WHITE ON MNDOT BROWN BACKGROUND FOR PRIVATE STREETS, SEE CITY SPECIFICATIONS FOR MATERIALS.
5. STREET NAMES SHALL BE SPELLED COMPLETELY EXCEPT FOR SUFFIXES WHICH MAY BE ABBREVIATED ON LONGER STREET NAMES.
6. SIGNS SHALL NOT HAVE BORDERS.
7. SIGN PANELS SHALL BE 1/4" X 8" X 24" NO. 5 ALSI OR APPROVED EQUAL.
8. ALL PLACEMENTS, MOUNTING HEIGHTS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO SIGN INSTALLATION.
9. FIRST LETTER OF EACH WORD TO BE UPPER CASE; REMAINING LETTERS OF EACH WORD TO BE LOWER CASE

STREET SIGN INSTALLATION

Plate No. ST-1

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



NOTES:
1. MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH CITY SPECIFICATIONS FOR MNDOT 2564 TYPE C TRAFFIC SIGNS.
2. SIGN PANELS-REFLECTIVE SHEETING, VIP DIAMOND GRADE.
3. BOLTS SHALL BE STAINLESS STEEL.
4. FLANGED CHANNEL SIGN POSTS SHALL BE GALVANIZED STEEL, 7' LONG 3LB/LF BOTTOM POST, AND 7'LONG 2LB/LF TOP POST.
5. SIGNS INSTALLED IN CONCRETE SHALL HAVE AN APPROVED BREAK-AWAY DEVICE. SEE DETAIL ST-18.
6. EDGE OF SIGN SHALL BE 2' FROM FACE OF CURB AND/OR 5' FROM EDGE OF SHOULDER.

TRAFFIC SIGN INSTALLATION

Plate No. ST-2

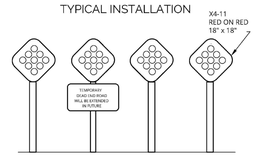
2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

SIGN DETAIL

TEMPORARY
DEAD END ROAD
WILL BE EXTENDED
IN FUTURE

12" HIGH X 18" WIDE
WHITE LETTERING ON BLUE BACKGROUND

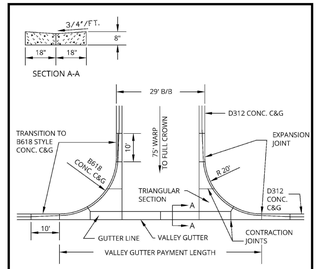
TYPICAL INSTALLATION



FUTURE ROAD SIGNAGE DETAIL

Plate No. ST-3

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



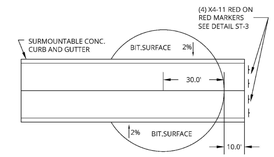
NOTE:

PAYMENT FOR TRANSITION C&G SECTIONS AND B618 CONC. C & G, SHALL BE PER L.F. OF B618 CONC. C & G. PAYMENT FOR VALLEY GUTTER SHALL BE PER L.F. OF VALLEY GUTTER MEASURED AS SHOWN. TRIANGULAR SECTIONS SHALL BE INCIDENTAL TO THE VALLEY GUTTER PAY ITEM.

CONCRETE VALLEY GUTTER

Plate No. ST-4

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



NOTE: BITUMINOUS TURNAROUND SHALL BE 4" AGGREGATE BASE, 2" BITUMINOUS SURFACE OF TYPE SPECIFIED FOR STREET CONSTRUCTION.

PAYMENT SHALL BE PER UNIT PRICE FOR CLASS 5 AND BITUMINOUS.

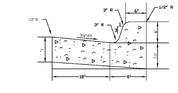
TEMPORARY TURNAROUND

Plate No. ST-5

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

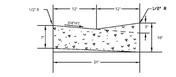
B-612 CONCRETE CURB & GUTTER

MNDOT Standard Plate 7100H



B-618 CONCRETE CURB & GUTTER

MNDOT Standard Plate 7100H

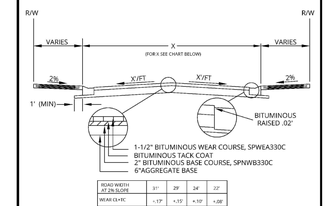


D-312 CONCRETE CURB & GUTTER

CONCRETE CURB & GUTTER

Plate No. ST-6

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



ROAD WIDTH AT 2% SLOPE	31'	29'	24'	22'
WEAR CL+TC	+.17'	+.15'	+.10'	+.08'
BASE CL+TC	+.05'	+.03'	-.03	-.05'
CL-S CL+TC	-.12'	-.14'	-.20'	-.22'
SUBGRADE CL-TC	-.62'	-.64'	-.69'	-.71'

ROAD WIDTH AT 3% SLOPE	31'	29'	24'	22'
WEAR CL+TC	+.31'	+.28'	+.20'	+.17'
BASE CL+TC	+.19'	+.16'	+.08'	+.06'
CL-S CL+TC	+.02'	-.01'	-.09'	-.12'
SUBGRADE CL-TC	-.48'	-.51'	-.59'	-.62'

TYPICAL STREET SECTION WITH D312 CURBING

Plate No. ST-7

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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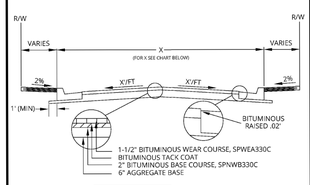


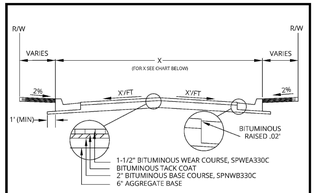
ROAD WIDTH AT 2% SLOPE	31'	29'	24'	22'
WEAR CL+TC	-.14'	-.17'	-.21'	-.23'
BASE CL+TC	-.27'	-.29'	-.34	-.36'
CL-S CL+TC	-.44'	-.46'	-.51'	-.53'
SUBGRADE CL-TC	-.93'	-.95'	-1.0'	-1.02'

ROAD WIDTH AT 3% SLOPE	31'	29'	24'	22'
WEAR CL+TC	-.07'	-.04'	-.11'	-.14'
BASE CL+TC	-.14'	-.17'	-.24'	-.27'
CL-S CL+TC	-.31'	-.34'	-.41'	-.44'
SUBGRADE CL-TC	-.80'	-.83'	-.90'	-.93'

TYPICAL STREET SECTION WITH B612 CURBING

Plate No. ST-8

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139



ROAD WIDTH AT 2% SLOPE	31'	29'	24'	22'
WEAR CL+TC	-.12'	-.14'	-.19'	-.21'
BASE CL+TC	-.24'	-.26'	-.31	-.33'
CL-S CL+TC	-.41'	-.43'	-.48'	-.50'
SUBGRADE CL+TC	-.91'	-.93'	-.98'	-1.0'

ROAD WIDTH AT 3% SLOPE	31'	29'	24'	22'
WEAR CL+TC	+.05'	.02'	-.10'	-.13'
BASE CL+TC	-.11'	-.14'	-.22'	-.25'
CL-S CL+TC	-.28'	-.31'	-.39'	-.42'
SUBGRADE CL+TC	.80'	.81'	.89'	.92'

TYPICAL STREET SECTION WITH B618 CURBING

Plate No. ST-9

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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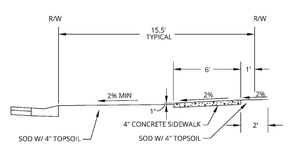

NOTES:
1. INCREASE SIDEWALK THICKNESS THROUGH EXISTING DRIVEWAYS TO 6" MINIMUM.
2. SEE MNDOT STANDARD SPECIFICATIONS 2521.3 D.2 JOINT CONSTRUCTION.
3. SEE DETAIL ST-15 FOR PEDESTRIAN RAMP.

TYPICAL SIDEWALK

Plate No. ST-12

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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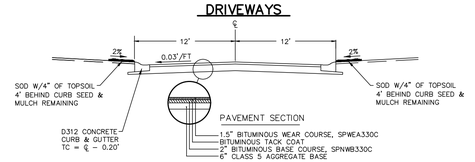
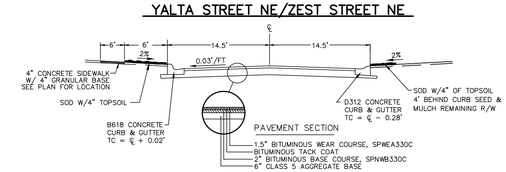
TYPICAL STREET SECTIONS

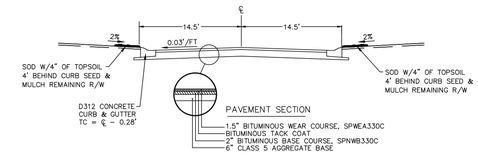
DRIVEWAYS



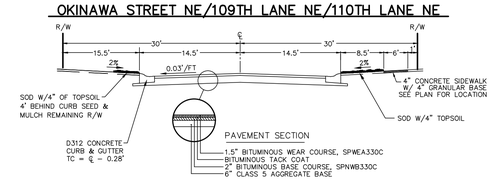
YALTA STREET NE/ZEST STREET NE



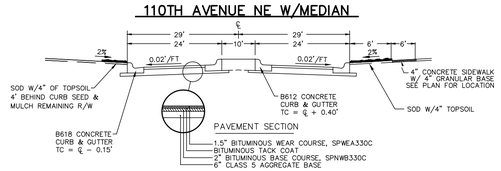
110TH AVENUE NE



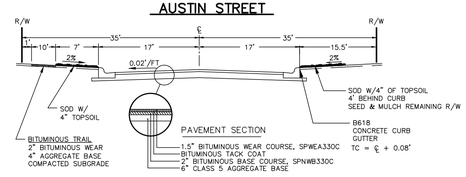
OKINAWA STREET NE/109TH LANE NE/110TH LANE NE



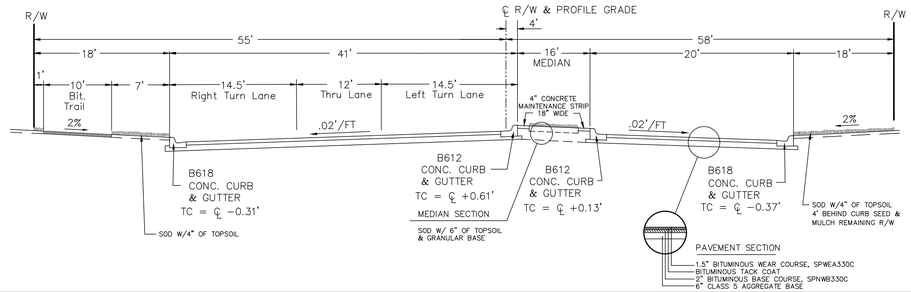
110TH AVENUE NE W/MEDIAN

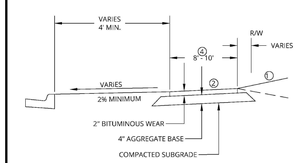


AUSTIN STREET



AUSTIN STREET W/ MEDIAN





NOTES:
1. - SLOPE VARIES 1:2 TO 1:4
2. - CROSS SLOPE 2%
3. - RESTORE ALL DISTURBED AREAS WITH 4" TOPSOIL AND SOD.
4. - CHECK WITH CITY ENGINEERING DEPARTMENT FOR REQUIRED WIDTH.

OFF ROAD TRAIL TYPICAL SECTION

Plate No. ST-13

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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THE CITY OF BLAINE WILL USE MNDOT STANDARD PLAN SHEETS 5-297.250 (1-6) FOR THE CONSTRUCTION OF RAMPS, EXCEPT AS MODIFIED BELOW:

1. TRUNCATED DOME PANELS SHALL BE GRAY EPOXY COATED PER CURRENT MNDOT APPROVED PRODUCTS LIST.
2. THE PANELS SHALL BE INSTALLED IN WET MORTAR BASE OVER A 6" CONCRETE SLAB.

PEDESTRIAN RAMP REQUIREMENTS

Plate No. ST-14

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
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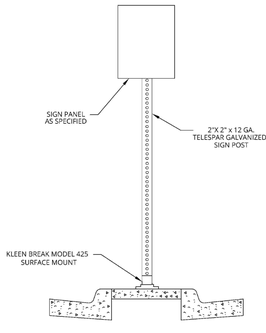


TRAFFIC SIGN INSTALLATION ON CONCRETE

Plate No. ST-15

2020 STANDARD DETAIL PLATE
City of Blaine - Engineering Department
10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

Carlson McCain
• environmental
• engineering
• surveying

3890 Pheasant Ridge DR. NE, Suite 100
Blaine, MN 55449
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

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

Print Name: Joseph T. Radach, P.E.
Signature: Joe T. R
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:

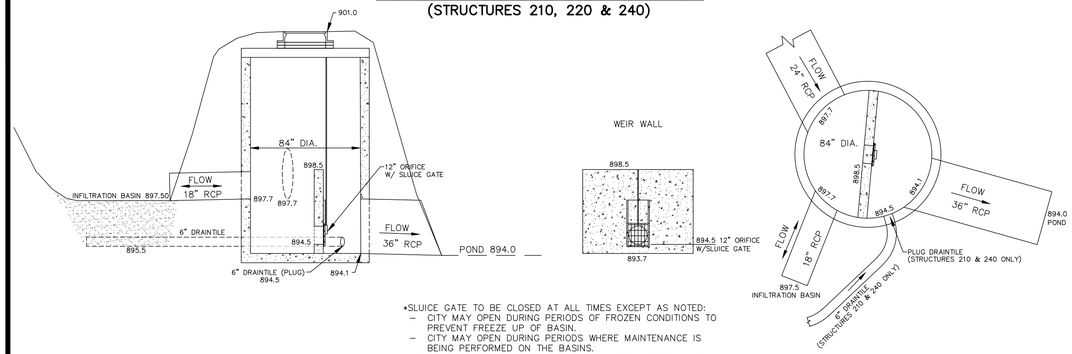
WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

DETAILS

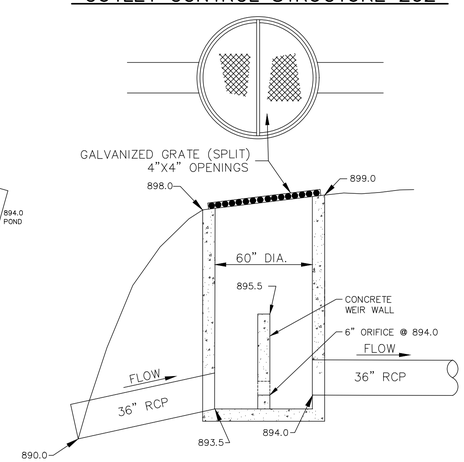
Save Date: 04/02/20 f:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_details.dwg

SPLITTER STRUCTURE FOR BASINS 203 & 204
(STRUCTURES 210, 220 & 240)

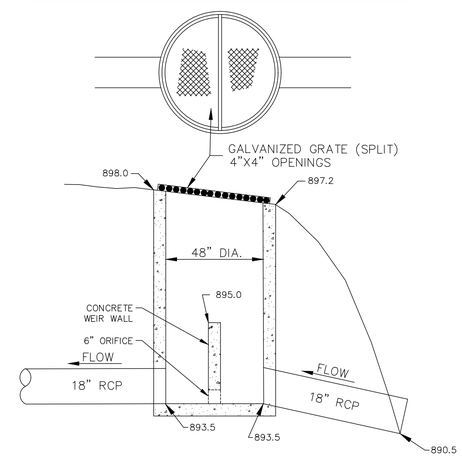


- SLUICE GATE TO BE CLOSED AT ALL TIMES EXCEPT AS NOTED:
  - CITY MAY OPEN DURING PERIODS OF FROZEN CONDITIONS TO PREVENT FREEZE UP OF BASIN.
  - CITY MAY OPEN DURING PERIODS WHERE MAINTENANCE IS BEING PERFORMED ON THE BASINS.
- DRAINTILE PLUG TO BE REMOVED IF BASIN DOESN'T DRAIN WITIN 48 HOURS

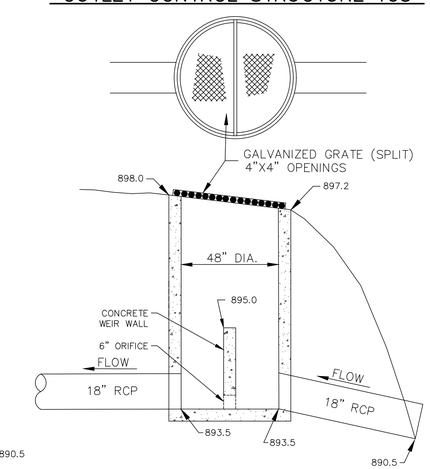
OUTLET CONTROL STRUCTURE 202



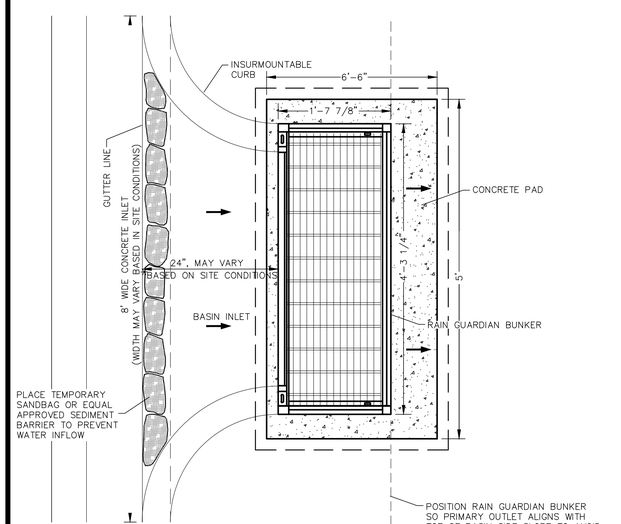
OUTLET CONTROL STRUCTURE 102

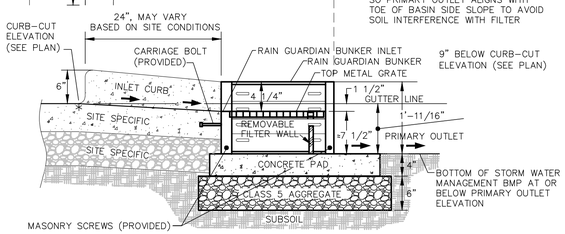


OUTLET CONTROL STRUCTURE 103

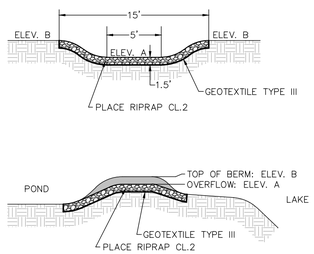


RAIN GUARDIAN DETAIL



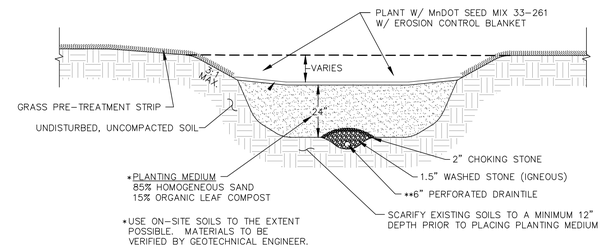


EMERGENCY SPILLWAY



BASIN	ELEV. A	ELEV. B
POND 102	897.5	898.0
POND 103	897.5	898.0
POND 203	899.0	900.0
POND 204	899.0	900.0
POND 205	898.0	899.0
POND 206	898.0	899.0

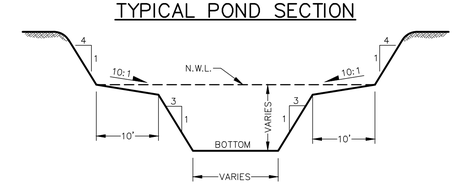
INFILTRATION BASIN



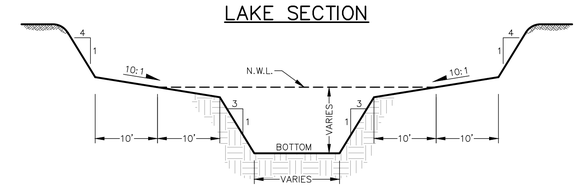
- USE ON-SITE SOILS TO THE EXTENT POSSIBLE. MATERIALS TO BE VERIFIED BY GEOTECHNICAL ENGINEER.

**DRAINTILE PLUG TO BE REMOVED FROM STRUCTURES 119, 121 & 122 IF BASIN DOESN'T DRAIN WITIN 48 HOURS

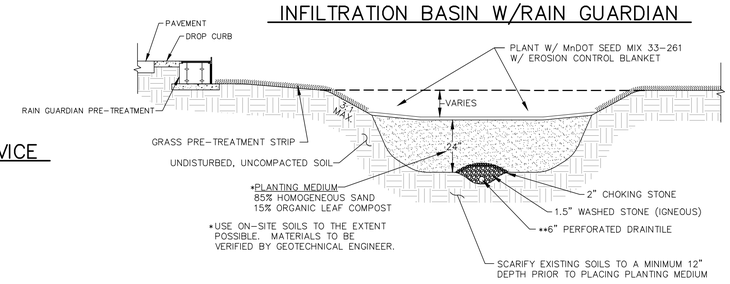
TYPICAL POND SECTION



LAKE SECTION



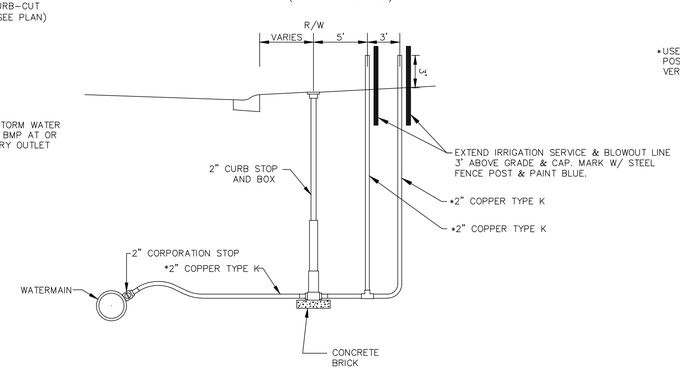
INFILTRATION BASIN W/RAIN GUARDIAN



- USE ON-SITE SOILS TO THE EXTENT POSSIBLE. MATERIALS TO BE VERIFIED BY GEOTECHNICAL ENGINEER.

**DRAINTILE PLUG TO BE REMOVED FROM STRUCTURE 107 IF BASIN DOESN'T DRAIN WITIN 48 HOURS

TYPICAL IRRIGATION SERVICE
(NOT TO SCALE)



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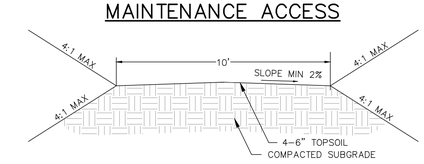
MAINTENANCE ACCESS



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

Print Name: Joseph T. Radach, P.E.
Signature: Joe T. R
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:

WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

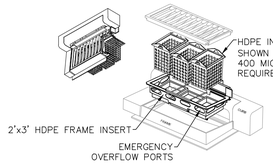
NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

DETAILS

Save Date: 04/02/20 F:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\1st addition\7877_details.dwg

INFRASAFE – 2'x3' DEBRIS COLLECTION DEVICE

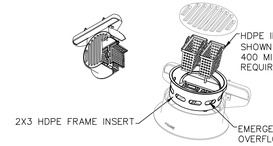
AS MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS



- MEETS MN/DOT SPECIFICATION 3891.F
  "STORM DRAIN INLET PROTECTION – FILTER BAG INSERT"
- DESIGNED FOR NEENAH R-3067 OR R-3290 SERIES

INFRASAFE – 27" DEBRIS COLLECTION DEVICE

AS MANUFACTURED BY ROYAL ENVIRONMENTAL SERVICES



- MEETS MN/DOT SPECIFICATION 3891.F
  "STORM DRAIN INLET PROTECTION – FILTER BAG INSERT"
- DESIGNED FOR NEENAH R-3250-A OR R-3250-1 (MNDOT 801) FRAME CASTING

TURF ESTABLISHMENT

TURF ESTABLISHMENT SHALL APPLY TO ALL DISTURBED AREAS AND SHALL BE ACCORDING TO MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) EXCEPT AS MODIFIED BELOW.

TURF ESTABLISHMENT SHALL OCCUR AS SOON AS POSSIBLE BUT IN NO CASE MORE THAN 14 DAYS.

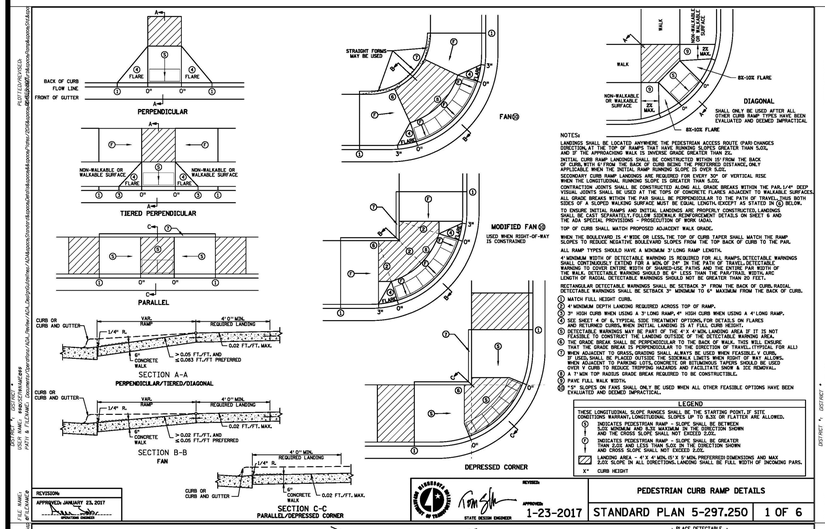
TOPSOIL: MINIMUM OF 6" OF TOPSOIL.

SEED: MnDOT MIXTURE 25–141 AT 60 POUNDS PER ACRE.

DORMANT SEED: SHALL BE APPLIED AT TWICE THE NORMAL RATE AFTER NOVEMBER 1ST.

MULCH: TYPE 1 AT 2 TONS PER ACRE (DISK ANCHORED).

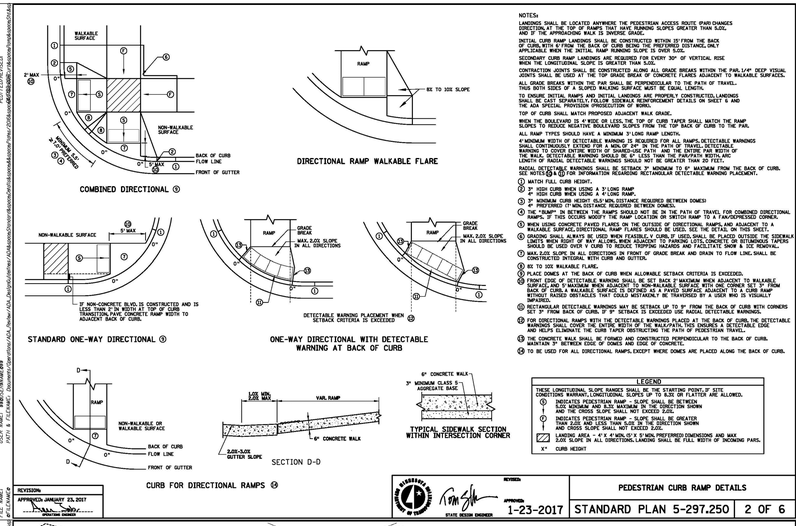
FERTILIZER: TYPE 1 10–10–10 AT 200 POUNDS PER ACRE.



NOTES:
LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTIONS, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS SWEEPS GRADE GREATER THAN 2%.
INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 10' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR.1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF DOMOKITE FLARES ADJACENT TO WALKABLE SURFACES. TWO WIDE SEPARATELY FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS – PROSECUTION OF WORK (ADA).
TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
WHEN THE BOULEVARD IS 4'WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
ALL RAMP TYPES SHOULD HAVE A MINIMUM 3'LONG RAMP LENGTH.
4'MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS.DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINI.OF 24" IN THE PATH OF TRAVEL.DETECTABLE WARNING TO COVER ENTIRE WIDTH OF RAMP/CURB PATH AND THE ENTIRE PAR WIDTH OF THE WALK.DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAVE/PATH WIDTH.ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 30 FEET.
RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB.RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
1. MATCH FULL HEIGHT CURB.
2. 4" MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
3. 3" HIGH CURB WHEN USING A 3'LONG RAMP.4" HIGH CURB WHEN USING A 4'LONG RAMP.
4. SEE SHEET 4 OF 6.TYPICAL SIDE TREATMENT OPTIONS.FOR DETAILS ON FLARES AND RETURNED CURBS.WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
5. DETECTABLE WARNINGS MAY BE PART OF THE 4'X 4'MIN.LANDING AREA IF IT IS NOT PLACED IN THE PATH OF TRAVEL.DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHOULDER.SIDE PATH TO PROVIDE VISUAL CONTRAST.
6. THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL.TYPICAL FOR ALL WHEN ADJACENT TO GRADED GRADING SLOPE, ALWAYS BE USED WHEN FLARES ARE PLACED. 3" USED.SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS,CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
7. A 1'MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
8. PAVE FULL WALK WIDTH.
9. *3" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE STARTING POINT,IF SITE CONDITIONS WARRANT,LONGITUDINAL SLOPES UP TO 5.0% OR FLATTER ARE ALLOWED.
1. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.00 MINIMUM AND 8.33 MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
2. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 8.33 MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA – 4'X 4'MIN.(5'X 5' MIN.PREFERRED)DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

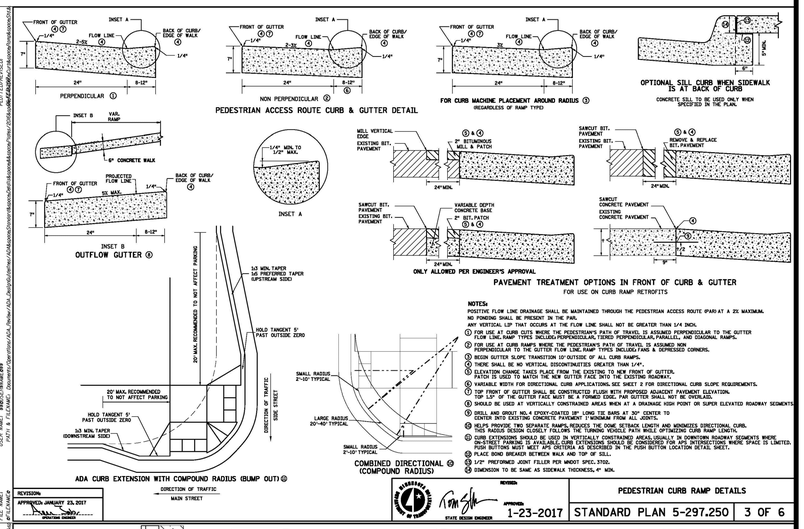
PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 1 OF 6
1-23-2017



NOTES:
LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTIONS, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS SWEEPS GRADE.
INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 10' FROM THE BACK OF CURB,WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE,ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR.1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF DOMOKITE FLARES ADJACENT TO WALKABLE SURFACES.
ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THIS DOTS SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED.LANDINGS SHALL BE CAST SEPARATELY.FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
WHEN THE BOULEVARD IS 4'WIDE OR LESS,THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
ALL RAMP TYPES SHOULD HAVE A MINIMUM 3'LONG RAMP LENGTH.
4'MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS.DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN.OF 24" IN THE PATH OF TRAVEL.DETECTABLE WARNING TO COVER ENTIRE WIDTH OF RAMP/CURB PATH AND THE ENTIRE PAR WIDTH OF THE WALK.DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAVE/PATH WIDTH.ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 30 FEET.
RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
1. MATCH FULL CURB HEIGHT.
2. 3" HIGH CURB WHEN USING A 3'LONG RAMP.
3. 4" HIGH CURB WHEN USING A 4'LONG RAMP.
4. 3" MINIMUM CURB HEIGHT (6X'MIN.DISTANCE REQUIRED BETWEEN DOMES)
5. 4" PREFERRED (7'MIN.DISTANCE REQUIRED BETWEEN DOMES).
6. THE "RAMP" IN DIRECTIONAL RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. 3" THIS OCCURS WHEN THE RAMP LOCATION ON SWITCH RAMP TO 1% CAN/DEPRESSED CORNER.
7. DETECTABLE WARNINGS MAY BE PART OF THE 4'X 4'MIN.LANDING AREA IF IT IS NOT PLACED IN THE PATH OF TRAVEL.DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHOULDER.SIDE PATH TO PROVIDE VISUAL CONTRAST.
8. GRADING SHALL ALWAYS BE USED WHEN FEASIBLE.V CURB,IF USED,SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.WHEN ADJACENT TO PARKING LOTS,CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
9. MAX.5.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE.SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
10. 6X TO 10X SLOPE.
11. PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE.SETBACK CRITERIA IS EXCEEDED.
12. MAX.2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK.BE SET BACK 6' MINIMUM TO WALKABLE SURFACE.WHEN ADJACENT TO A PAVED SURFACE.DETECTABLE WARNINGS SHALL BE SET 6" FROM BACK OF CURB.1' MAXIMUM SET 3" FROM BACK OF CURB.A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MOTIVATION,I BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
13. RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB.3" 6" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
14. FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB.THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK.PATH.THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
15. DETECTABLE WARNINGS SHALL BE PLACED 6" MINIMUM TO 24" MAXIMUM PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
16. TO BE USED FOR ALL DIRECTIONAL RAMPS,EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

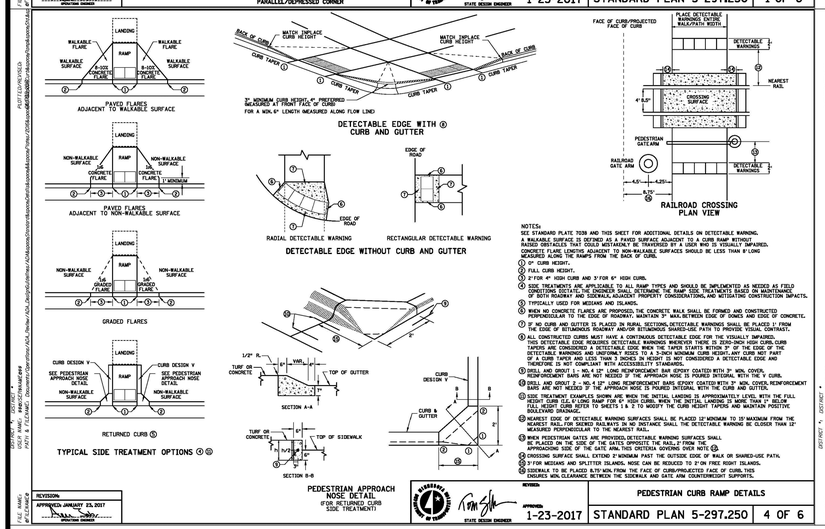
LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE STARTING POINT,IF SITE CONDITIONS WARRANT,LONGITUDINAL SLOPES UP TO 5.0% OR FLATTER ARE ALLOWED.
1. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.00 MINIMUM AND 8.33 MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
2. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 8.33 MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA – 4'X 4'MIN.(5'X 5' MIN.PREFERRED)DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 2 OF 6
1-23-2017



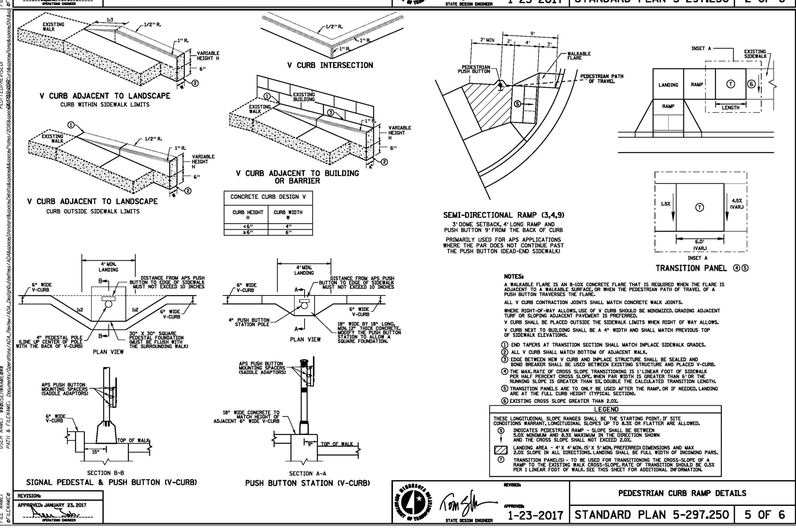
NOTES:
POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
1. FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE.RAMP TYPES INCLUDE:PERPENDICULAR,TIERED PERPENDICULAR,PARALLEL,AND DIAGONAL RAMPS.
2. FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE.RAMP TYPES INCLUDE:FANS & DEPRESSED CORNERS.
3. BEGIN GUTTER SLOPE TRANSITION 10'OUTSIDE OF ALL CURB RAMPS.
4. THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
5. ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
6. VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
7. FLOW FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED GUTTER PAVEMENT ELEVATION. TOP 12" OF THE GUTTER FACE MUST BE A FORMED EDGE.PAR GUTTER SHALL NOT BE.OVERLAID.
8. SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
9. DRILL AND GROUT NO.4 12" LONG REINFORCEMENT BARS AT 36" CENTER TO CENTER.REINFORCEMENT BARS SHALL BE EPOXY COATED.
10. HELPS PROVIDE ZERO DEPARTURE RAMPS,REDUCE THE RAMP SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
11. CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS,USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE.CURB EXTENSIONS SHOULD BE CONSIDERED FOR APV INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET ADA SECTION 4A AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.
12. PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.
13. 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC.3700.
14. DIMENSION TO BE SAME AS SIDEWALK THICKNESS,6" MIN.

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 3 OF 6
1-23-2017



NOTES:
SEE STANDARD PLATE 7039 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MOTIVATION,I BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8'LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
1. 0" CURB HEIGHT.
2. FULL CURB HEIGHT.
3. 2'FOR 4" HIGH CURB AND 3'FOR 6" HIGH CURB.
4. EDGE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE.THE ENGINEER SHALL DETERMINE THE RAMP EDGE TREATMENTS BASED ON MAINTENANCE CONSIDERATIONS,PEDESTRIAN PROPERTY CONDITIONS,AND ANTICIPATING CONSTRUCTION IMPACTS.
5. TYPICALLY USED FOR MEDIANS AND ISLANDS.
6. WHEN NO CONCRETE FLARES ARE PROPOSED,THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY.MAINTAIN 3" MAX.BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
7. IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS,DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHOULDER.SIDE PATH TO PROVIDE VISUAL CONTRAST.
8. ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHENEVER THERE IS 2300-3400 INCH CURB.CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE WALKABLE SURFACE AND THE TAPER LENGTH IS 36 INCHES OR LESS.A CURB TAPER WITH A HEIGHT OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
9. DRILL AND GROUT 1 – NO.4 12" LONG REINFORCEMENT BARS AT 36" CENTER.REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
10. DRILL AND GROUT 2 – NO.4 12" LONG REINFORCEMENT BARS AT 36" CENTER.REINFORCEMENT BARS SHALL BE EPOXY COATED.WITH THE CURB AND GUTTER.
11. THE RETURNED CURB SHOULD MATCH THE APPROACH NOSE.THE RETURNED CURB SHOULD BE POURED INTEGRAL WITH THE CURB AND GUTTER.
12. WHEN THE RETURNED CURB IS PLACED IN THE PATH OF TRAVEL,THE RETURNED CURB SHOULD BE FLUSH WITH THE FULL HEIGHT CURB.ON 2' WIDE CURBS,WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB.REFER TO SHEETS 5 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.
13. NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12'MINIMUM TO 15'MAXIMUM FROM THE CROSSING SURFACE.MEASURED ALONG THE PAVED SURFACE.DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
14. WHEN PEDESTRIAN GATES ARE PROVIDED,DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL,1' FROM THE APPROACHING SIDE OF THE GATE ARM.THIS CRITERIA GOVERNS OVER NOTE 5.
15. CROSSING SURFACE SHALL EXTEND 2'MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
16. 3'FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2'FOR FREE RIGHT ISLANDS.
17. SIDEWALK TO BE PLACED 8/10 MIN.FROM THE FACE OF CURB/PROJECTED FACE OF CURB.THIS ENSURES MIN.CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

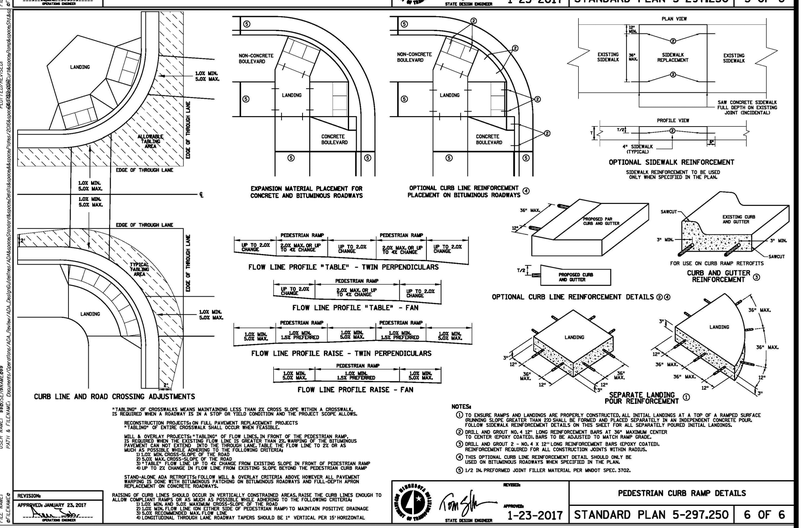
PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 4 OF 6
1-23-2017



NOTES:
A WALKABLE FLARE IS AN 8-10X CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE,OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
WHERE RIGHT-OF-WAY ALLOWS,USE OF V CURB SHOULD BE MINIMIZED.GRADING ADJACENT TO RAMP OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
A CURB RAMP WITHOUT A DETECTABLE WARNING SHALL BE A 4" MINIMUM WIDTH AND SHALL HAVE PROTECTED TOP OF SIDEWALK ELEVATIONS.
END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALL.
BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
THE MAX.RATE OF CROSS SLOPE TRANSITIONS IS 1'LONGITUDINAL FOR EVERY 1'CROSSWALK PER HALF PEDESTRIAN CROSS SLOPE.WHEN PAR WIDTH IS GREATER THAN 8'ON THE TRANSITION SLOPE IS GREATER THAN 5%,DOUBLE THE CALCULATED TRANSITION LENGTH.
TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP,ON IF NEEDED,LANDING HAS BEEN PLACED.SEE TRANSITION PANEL DETAIL.
EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT,IF SITE CONDITIONS WARRANT,LONGITUDINAL SLOPES UP TO 5.0% OR FLATTER ARE ALLOWED.
1. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.00 MINIMUM AND 8.33 MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA – 4'X 4'MIN.(5'X 5' MIN.PREFERRED)DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
TRANSITION PANELS(1) – TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE ROADWAY CROSS SLOPE.WHEN PAR WIDTH IS GREATER THAN 8'ON THE TRANSITION SLOPE IS GREATER THAN 5%,DOUBLE THE CALCULATED TRANSITION LENGTH. PER 1'LINEAR FOOT OF RAMP.SEE THIS SHEET FOR ADDITIONAL INFORMATION.

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 5 OF 6
1-23-2017



NOTES:
1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED,ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE RUNNING SLOPE GREATER THAN 2%SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO.4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER.REINFORCEMENT BARS SHALL BE EPOXY COATED.WITH CURB AND GUTTER.
3. DRILL AND GROUT 2 – NO.4 12" LONG REINFORCEMENT BARS EPOXY COATED.
4. REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN WALKS.
5. THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
6. 1/2" DN PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC.3702.

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 6 OF 6
1-23-2017

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

Print Name: Joseph T. Radach, P.E.
Signature: JTR
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:

WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive, #100
St. Paul, MN 55108

NORTH MEADOWS 1ST ADDITION
Blaine, Minnesota

DETAILS

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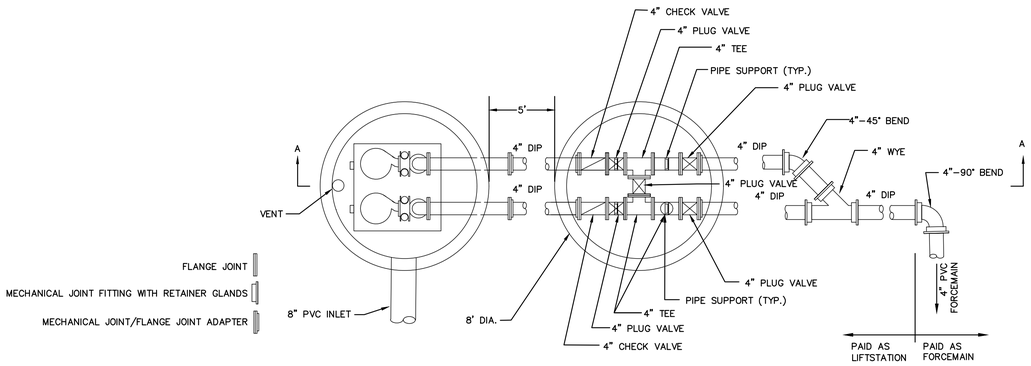
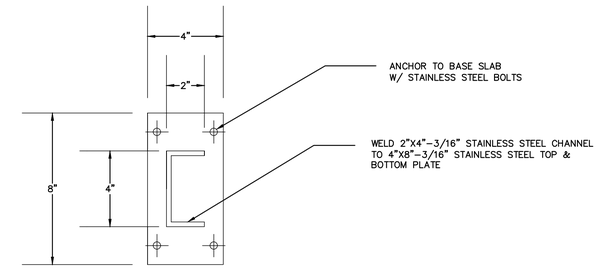
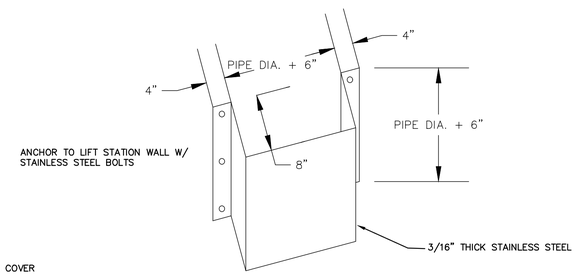


LIFT STATION AND VALVE MANHOLE – PLAN VIEW

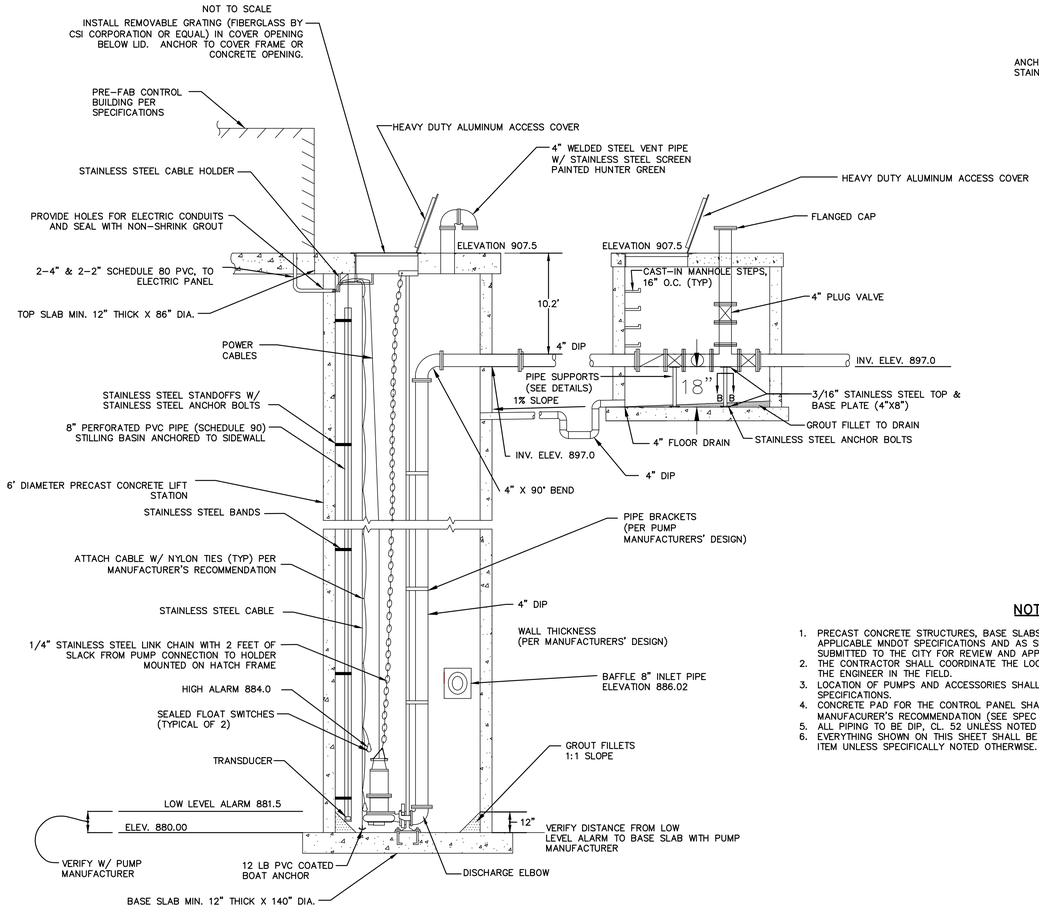


SECTION B–B PIPE SUPPORT DETAIL



STAINLESS STEEL BAFFLE WITH ANCHORS

NOT TO SCALE

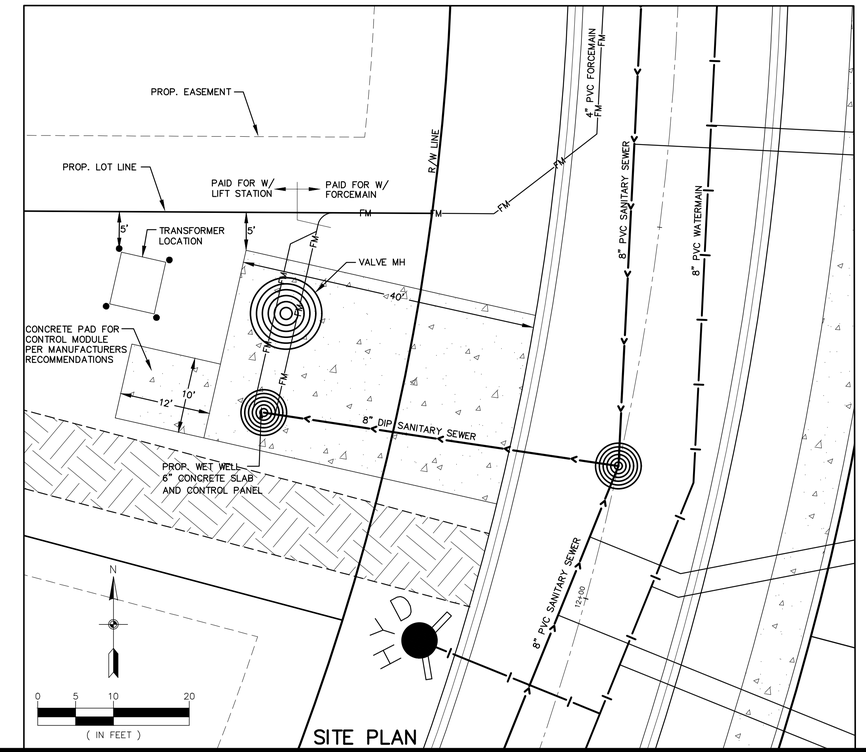


SECTION A–A LIFT STATION AND VALVE MANHOLE

NOT TO SCALE

NOTES

1. PRECAST CONCRETE STRUCTURES, BASE SLABS AND TOP SLABS SHALL BE CONSTRUCTED ACCORDING TO APPLICABLE MNDOT SPECIFICATIONS AND AS SHOWN. DESIGN OF WETWELL BASE SLAB SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE TRANSDUCER AND ALARM FLOATS WITH THE ENGINEER IN THE FIELD.
3. LOCATION OF PUMPS AND ACCESSORIES SHALL BE IN ACCORDANCE TO THE PUMP MANUFACTURER'S SPECIFICATIONS.
4. CONCRETE PAD FOR THE CONTROL PANEL SHALL BE SIZED TO PROVIDE ADEQUATE CLEARANCE TO MEET MANUFACURER'S RECOMMENDATION (SEE SPEC FOR MINIMUMS).
5. ALL PIPING TO BE DIP, CL. 52 UNLESS NOTED OTHERWISE.
6. EVERYTHING SHOWN ON THIS SHEET SHALL BE CONSIDERED PART OF THE LUMP SUM LIFT STATION BID ITEM UNLESS SPECIFICALLY NOTED OTHERWISE.



Carlson McCain • environmental • engineering • surveying	3890 Pheasant Ridge DR. NE, Suite 100 Blaine, MN 55449 Phone: (763) 489-7900 Fax: (763) 489-7959 www.carlsonmccain.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota	Print Name: Joseph T. Radach, P.E. Signature: Date: 3/27/2020 License #: 45889	Drawn: KRO Designed: JTR Date: 3/27/2020	Revisions:	**WELLINGTON MANAGEMENT, INC.** 1625 Energy Park Drive, #100 St. Paul, MN 55108	**NORTH MEADOWS 1ST ADDITION** Blaine, Minnesota	**LIFT STATION**	LS1 of 1

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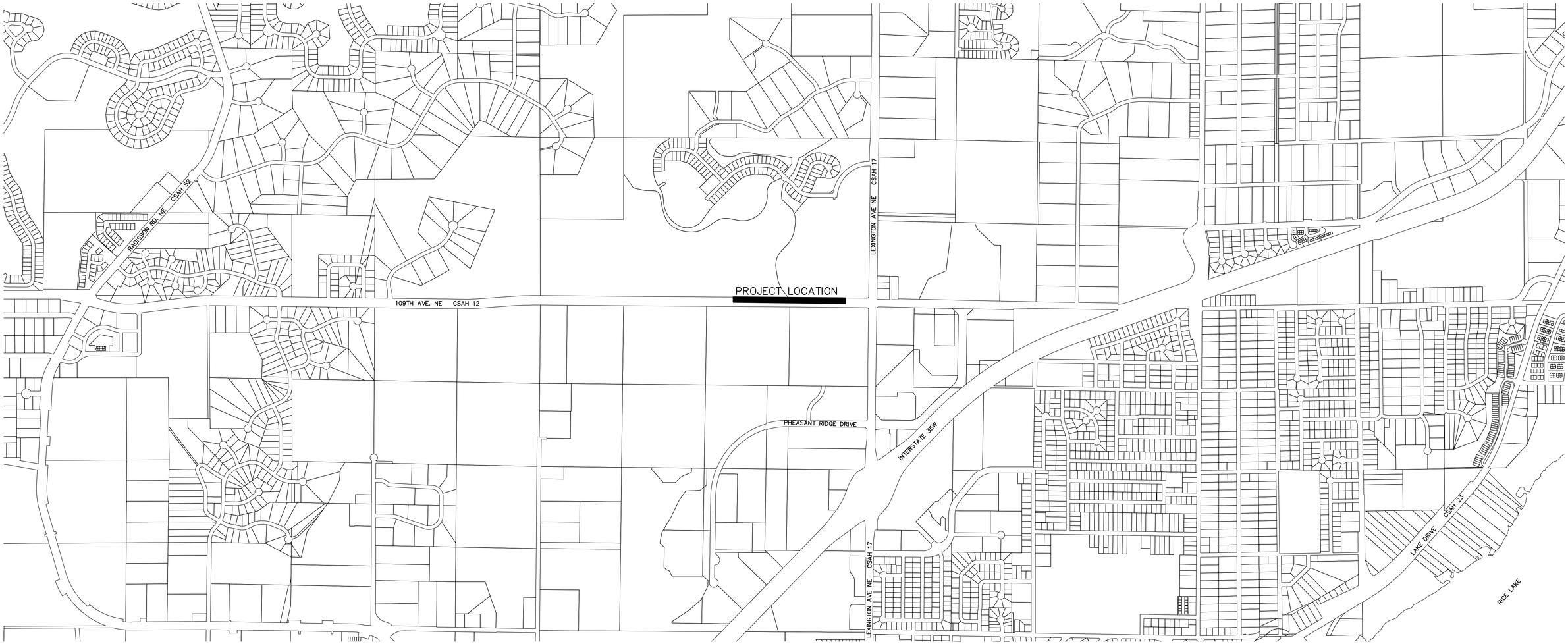
North Meadows

CONSTRUCTION PLANS FOR AUSTIN STREET TURN LANES INCLUDING; GRADING, STORM SEWER, STREETS, SIGNING AND STRIPING

Blaine, Minnesota



APPROVED: BLAINE CITY ENGINEER	DATE	APPROVED: ANOKA COUNTY ENGINEER	DATE

SHEET INDEX

N

0 400 800 1600

(IN FEET)

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NORTH MEADOWS
Blaine, Minnesota

COVER SHEET

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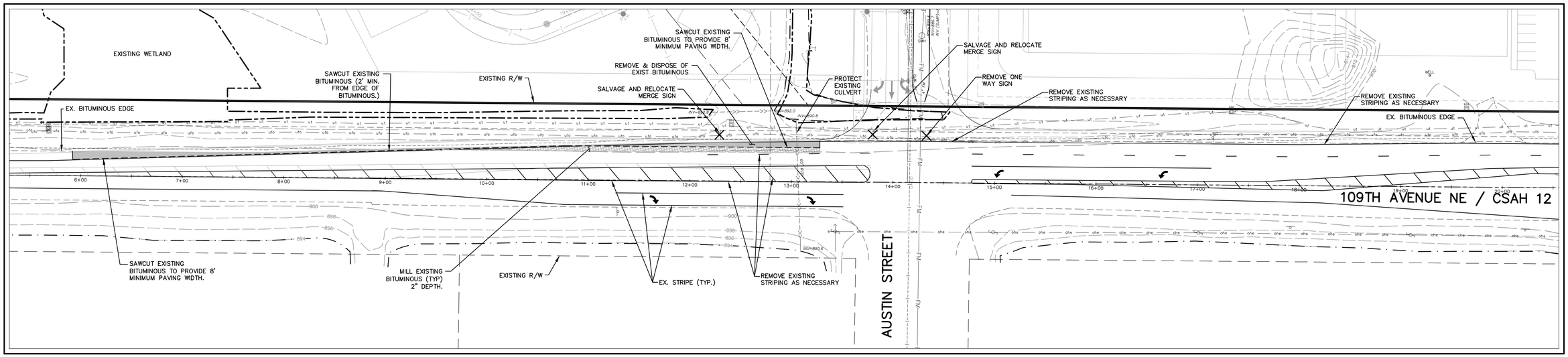


REMOVALS LEGEND

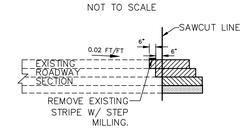
	EXISTING	REMOVALS	MILL
PROPERTY LINE			
EASEMENT LINE			
SAWCUT			
BITUMINOUS			
GRAVEL			
CONCRETE			
SANITARY SEWER			
STORM SEWER			
WATER MAIN			
OVERHEAD UTILITY			
UNDERGROUND TELEPHONE			
UNDERGROUND FIBEROPTIC			
UNDERGROUND GAS			
STORM CATCH BASIN			
SIGN			
HYDRANT			
GATE VALVE			
TELEPHONE BOX			
UTILITY POLE			
FENCE			
GRAVEL EDGE			
STRIPING			
5' CONTOUR			
1' CONTOUR			
WETLAND LINE			
SPOT ELEVATION			
TREE			

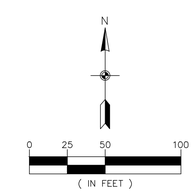
*** CONTRACTOR TO VERIFY UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF ANY EXCAVATION.**

COORDINATE WITH UTILITY COMPANIES FOR RELOCATION OF ANY UNDERGROUND UTILITIES UNDER PROPOSED ROAD.

SAWCUT & MILLING DETAIL

NOT TO SCALE





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Signature: Joe T. R
Date: 3/27/2020 License #: 45889

Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:
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NORTH MEADOWS
Blaine, Minnesota

REMOVALS PLAN

T2 of T14

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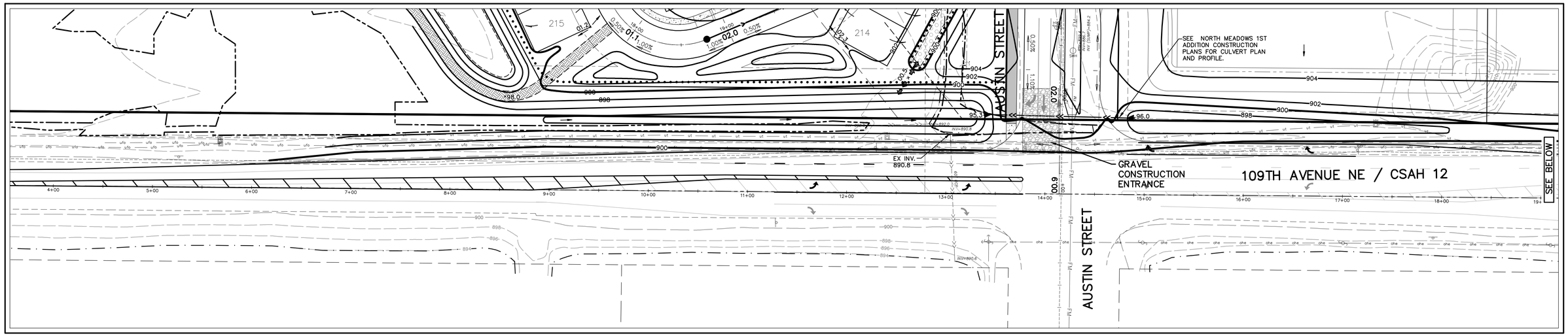

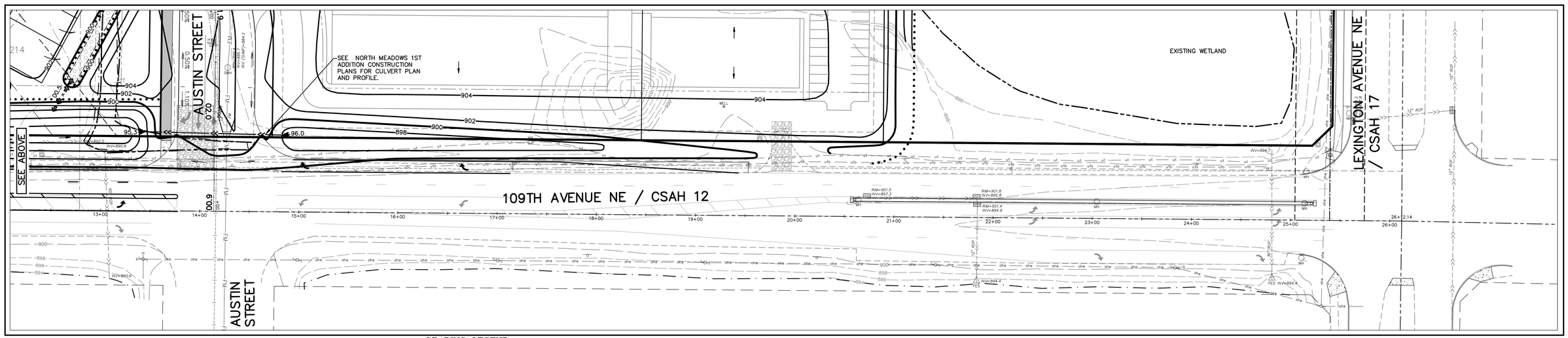

* VERIFY GRADES W/EXISTING BITUMINOUS EDGE ELEVATION IN FIELD

GRADING LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY	ohe	
UNDERGROUND TELEPHONE	ut	ut
UNDERGROUND FIBEROPTIC	ufo	
UNDERGROUND GAS	ug	ug
STORM CATCH BASIN		
STORM MANHOLE	MH	
HYDRANT	HYD	
GATE VALVE	GV	
TELEPHONE BOX		
UTILITY POLE		PP
FENCE	x	x
GRAVEL EDGE		
10' CONTOUR		
2' CONTOUR		
WETLAND LINE		
SPOT ELEVATION	x	00.0 x
SIGN		
TREELINE		
SOIL BORING	TH	

TURF ESTABLISHMENT

TURF ESTABLISHMENT SHALL APPLY TO ALL DISTURBED AREAS AND SHALL BE ACCORDING TO MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) EXCEPT AS MODIFIED BELOW.

TURF ESTABLISHMENT SHALL OCCUR AS SOON AS POSSIBLE BUT IN NO CASE MORE THAN 7 DAYS.

SEED: MnDOT MIXTURE 25-141 AT 59 POUNDS PER ACRE.

DORMANT SEED: SHALL BE APPLIED AT TWICE THE NORMAL RATE AFTER NOVEMBER 1ST.

MULCH: TYPE 1 AT 2 TONS PER ACRE (DISK ANCHORED).

FERTILIZER: TYPE 1 10-10-10 AT 200 POUNDS PER ACRE.

N

0 25 50 100

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Drawn: KRO
Designed: JTR
Date: 3/27/2020

Revisions:
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WELLINGTON MANAGEMENT, INC.
1625 Energy Park Drive #100
St. Paul, MN 55108

NORTH MEADOWS
Blaine, Minnesota

GRADING, DRAINAGE & EROSION CONTROL PLAN

T3 of T14

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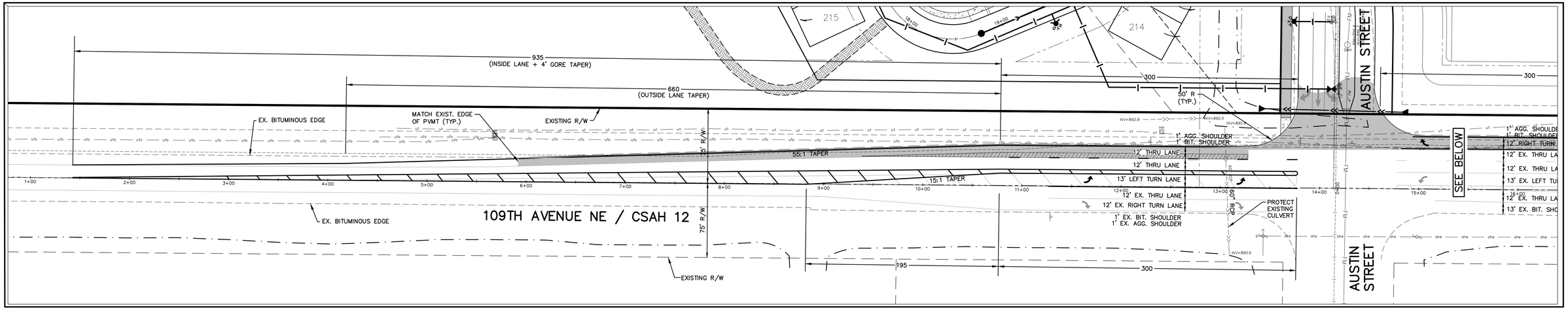
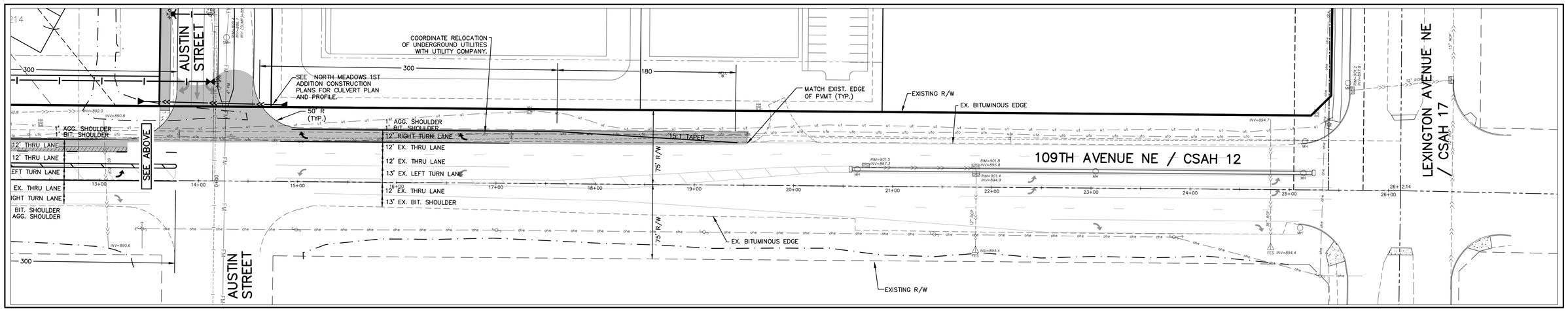
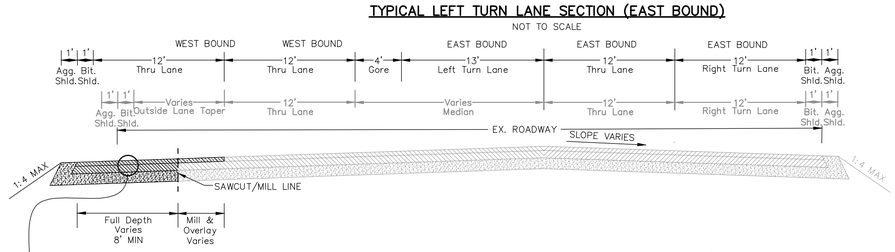




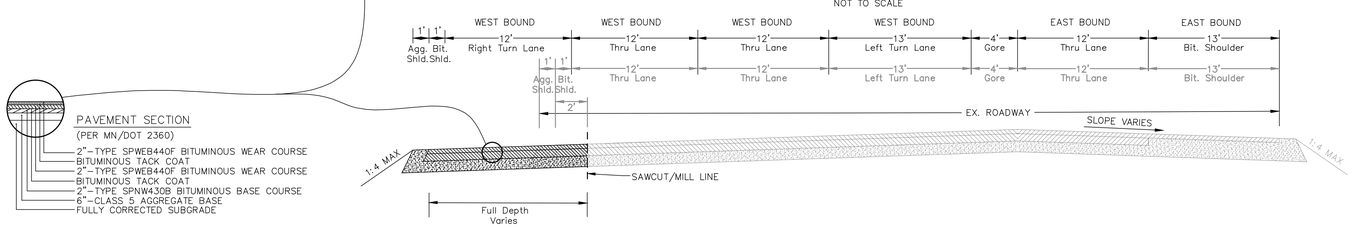
TYPICAL LEFT TURN LANE SECTION (EAST BOUND)

NOT TO SCALE



TYPICAL RIGHT TURN LANE SECTION (WEST BOUND)

NOT TO SCALE



LEGEND

	EXISTING	PROPOSED	
PROPERTY LINE			
EASEMENT LINE			
CURB LINE			
		FULL SECTION	OVERLAY
BITUMINOUS			
GRAVEL			
CONCRETE			
SANITARY SEWER			
STORM SEWER			
WATER MAIN			
OVERHEAD UTILITY			
UNDERGROUND TELEPHONE			
UNDERGROUND FIBEROPTIC			
UNDERGROUND GAS			
STORM CATCH BASIN			
STORM MANHOLE			
HYDRANT			
GATE VALVE			
TELEPHONE BOX			
UTILITY POLE			
FENCE			
GRAVEL EDGE			
STRIPING			
WETLAND LINE			
SIGN			
TREELINE			

TURN LANE NOTES

1. ALL GRADES ARE TO FINISHED PAVEMENT UNLESS OTHERWISE NOTED.
2. GOVERNING SPECIFICATIONS SHALL BE THE LATEST EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION"
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES AND ALL PERMANENT SIGNING & MARKINGS SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, 2018"
4. CONTRACTOR SHALL NOTIFY ANOKA COUNTY HIGHWAY DEPARTMENT AND SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL PRIOR TO PERFORMING ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
5. CONTRACTOR SHALL REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
6. ALL TURN LANE STRIPING SHALL BE COMPLETED USING EPOXY PAINT.
7. CONTRACTOR SHALL COORDINATE WORK AROUND AND RELOCATION OF SMALL UTILITIES.
8. CONTRACTOR TO CONTACT ANOKA COUNTY HIGHWAY DEPARTMENT 48 HOURS BEFORE STRIPING CONSTRUCTION.

N

0 25 50 100

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Revisions:
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NORTH MEADOWS
Blaine, Minnesota

SITE & UTILITY PLAN

T4 of T14

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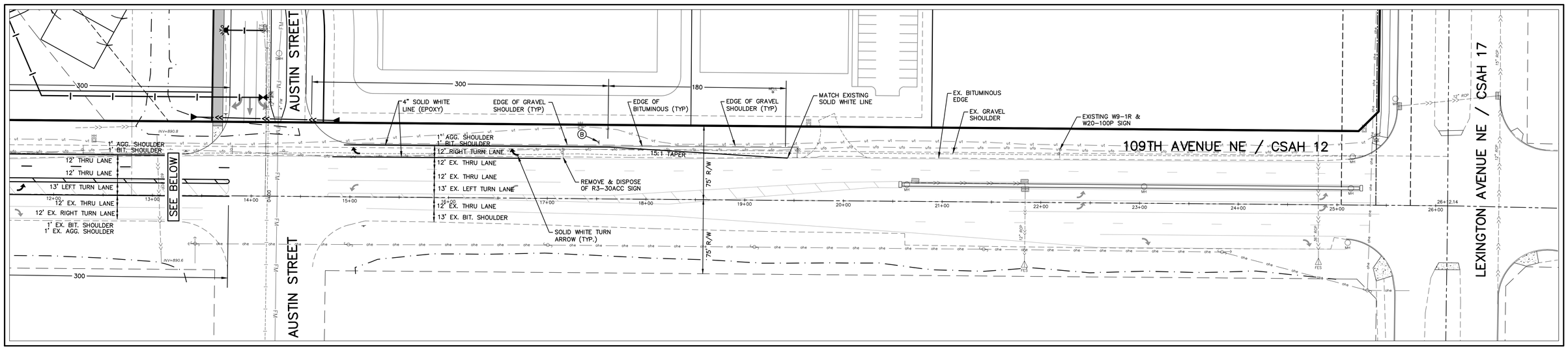

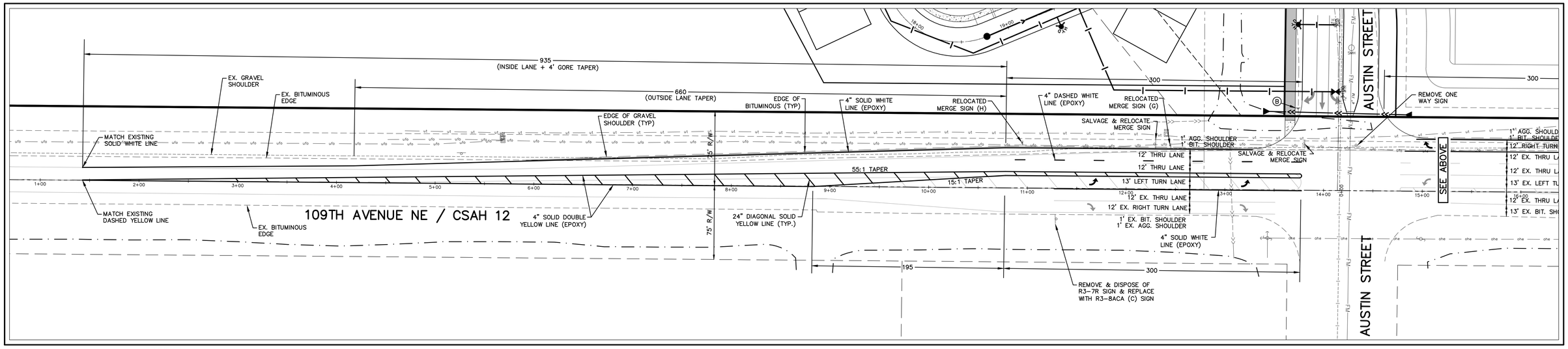

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
GRAVEL		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY		
UNDERGROUND TELEPHONE		
UNDERGROUND FIBEROPTIC		
UNDERGROUND GAS		
STORM CATCH BASIN		
STORM MANHOLE		
HYDRANT		
GATE VALVE		
TELEPHONE BOX		
UTILITY POLE		
FENCE		
GRAVEL EDGE		
STRIPING		
SIGN		

TURN LANE NOTES

1. ALL GRADES ARE TO FINISHED PAVEMENT UNLESS OTHERWISE NOTED.
2. THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN AS WELL AS THE CITY OF BLAINE SPECIFICATIONS.
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, 2018"
4. CONTRACTOR TO OBTAIN A PERMIT FROM ANOKA COUNTY HIGHWAY DEPARTMENT PRIOR TO PERFORMING ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
5. ALL TURN LANE STRIPING SHALL BE COMPLETED USING EPOXY PAINT.
6. CONTRACTOR SHALL REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
7. CONTRACTOR SHALL COORDINATE WORK AROUND AND RELOCATION OF SMALL UTILITIES.
8. CONTRACTOR SHALL COORDINATE RELOCATION OF FIBER INTERCONNECT/CONDUIT & HAND HOLES W/ ANOKA COUNTY HIGHWAY DEPARTMENT.
9. CONTRACTOR TO CONTACT ANOKA COUNTY HIGHWAY DEPARTMENT 48 HOURS BEFORE STRIPING CONSTRUCTION.
10. APPLICABLE MNDOT STANDARD PLATES: 3022C, 4006L, 9000E, 4129G, 4154B, 4160D, 9102E

SIGN SCHEDULE

	SIGN	SIGN NO.	SIZE	QUANTITY
A	STOP	R1-1	30" X 30" (WHITE ON RED)	(INCLUDED IN SITE PLANS)
B	ONLY ONLY ONLY ONLY	R3-8ACCA	66" X 30" (BLACK ON WHITE)	1
C	ONLY ONLY ONLY	R3-8ACA	54" X 30" (BLACK ON WHITE)	1
D	MERGE	W20-X3L	36" X 36" (BLACK ON YELLOW)	SALVAGED
E		W4-2R	36" X 36" (BLACK ON YELLOW)	SALVAGED

N

0 25 50 100

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The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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NORTH MEADOWS
Blaine, Minnesota

SIGNING & STRIPING PLAN

T5 of T14

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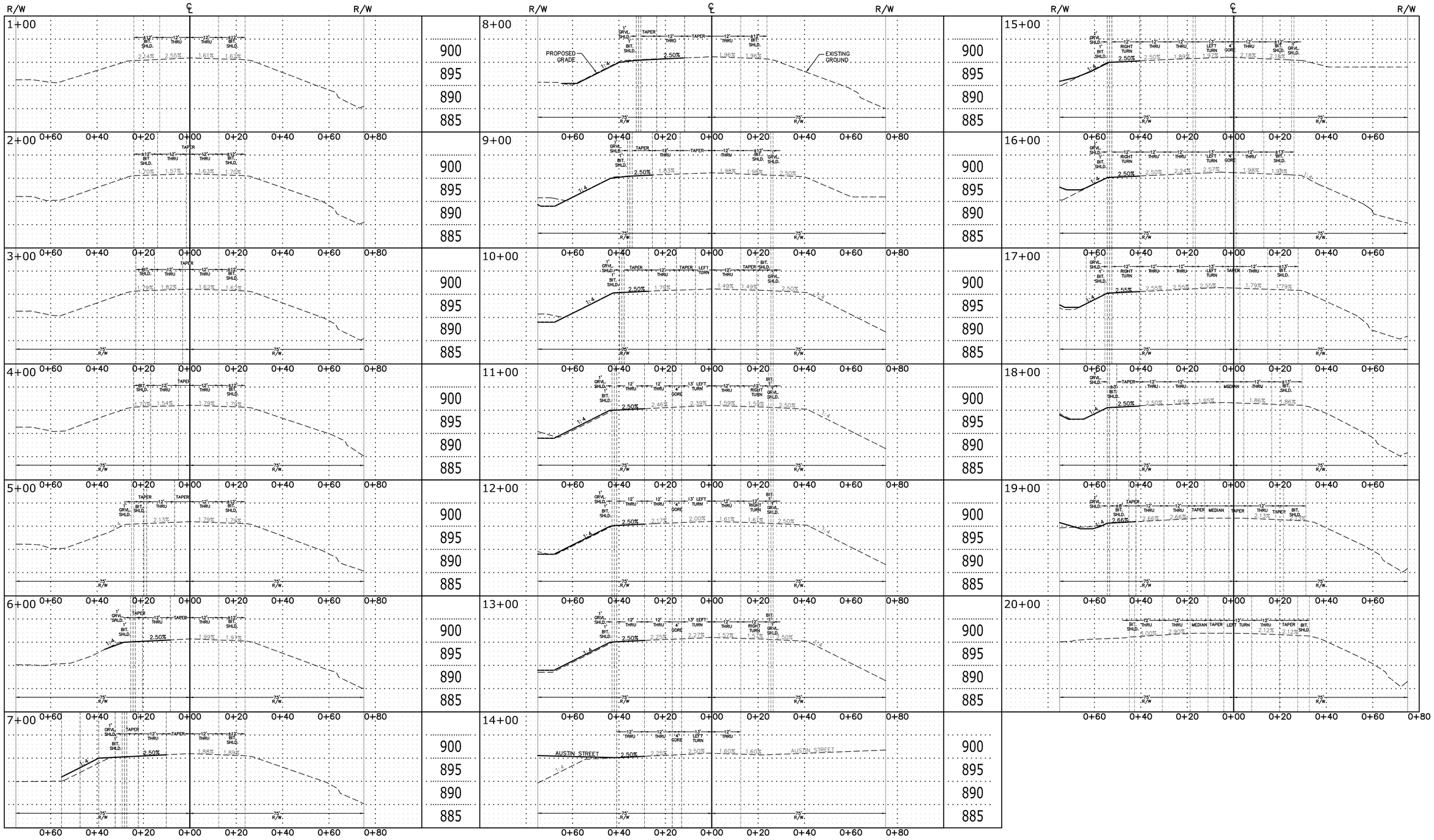


1" = 20'

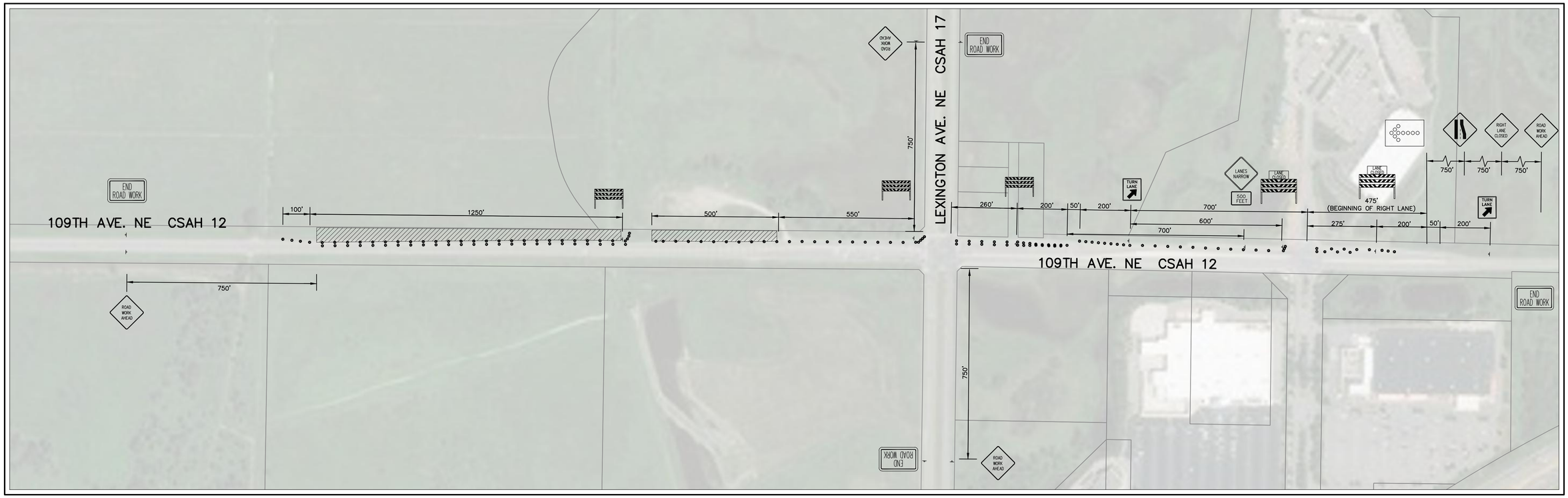
Carlson McCain • environmental • engineering • surveying	3890 Pheasant Ridge Drive NE, Suite 100 Blaine, MN 55449 Phone: (763) 489-7900 Fax: (763) 489-7959 www.carlsonmccain.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota	Print Name: Joseph T. Radach, P.E. Signature: Date: 3/27/2020 License #: 45889	Drawn: KRO Designed: JTR Date: 3/27/2020	Revisions: 1.	**WELLINGTON MANAGEMENT, INC.** 1625 Energy Park Drive #100 St. Paul, MN 55108

NORTH MEADOWS
Blaine, Minnesota

CROSS SECTIONS

T6 of T14

Save Date: 03/27/20 | f:\jobs\7861 - 7880\7877-02 - wellington - glenn meadows\cad c3d\engineering\final plans\turn lane\7877_turn lanes austin street.dwg



SIGN SCHEDULE					
SIGN	QUANTITY	SIGN	QUANTITY	SIGN	QUANTITY
ROAD WORK AHEAD	4	(FLASHING ARROW BOARD)	1	TURN LANE	2
RIGHT LANE CLOSED	1	LANE CLOSED	2	500 FEET / LANES NARROW	1
	1		3	END ROAD WORK	4

NOTES:

- INTERMITTENT SIGNS SHALL BE USED FOR LOOSE GRAVEL, UNEVEN LANES, BUMP, ETC.
- LANE WIDTHS MINIMUM 10'.
- CONTRACTOR TO COMPLY WITH MnDOT LONGITUDINAL DROP OFF GUIDELINES (J-BARRIER MIGHT BE NEEDED)

N

0 100 200 400

(IN FEET)

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The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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Date: 3/27/2020

Revisions:
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NORTH MEADOWS
Blaine, Minnesota

TRAFFIC CONTROL PLAN

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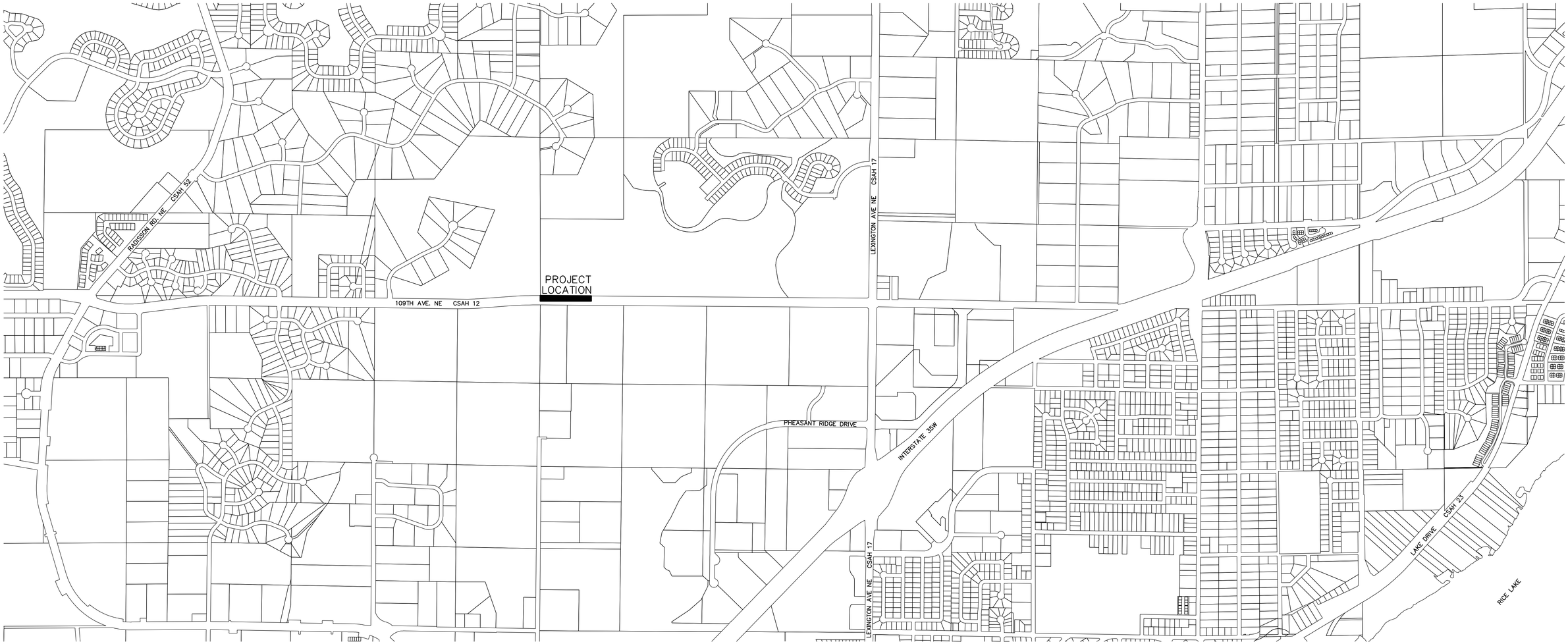
NORTH MEADOWS

CONSTRUCTION PLANS FOR OKINAWA STREET TURN LANE INCLUDING; GRADING, STORM SEWER, STREETS, SIGNING AND STRIPING

BLAINE, MINNESOTA



APPROVED: BLAINE CITY ENGINEER	DATE	APPROVED: ANOKA COUNTY ENGINEER	DATE

SHEET INDEX

N

0 400 800 1600
(IN FEET)

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NORTH MEADOWS
Blaine, Minnesota

COVER SHEET

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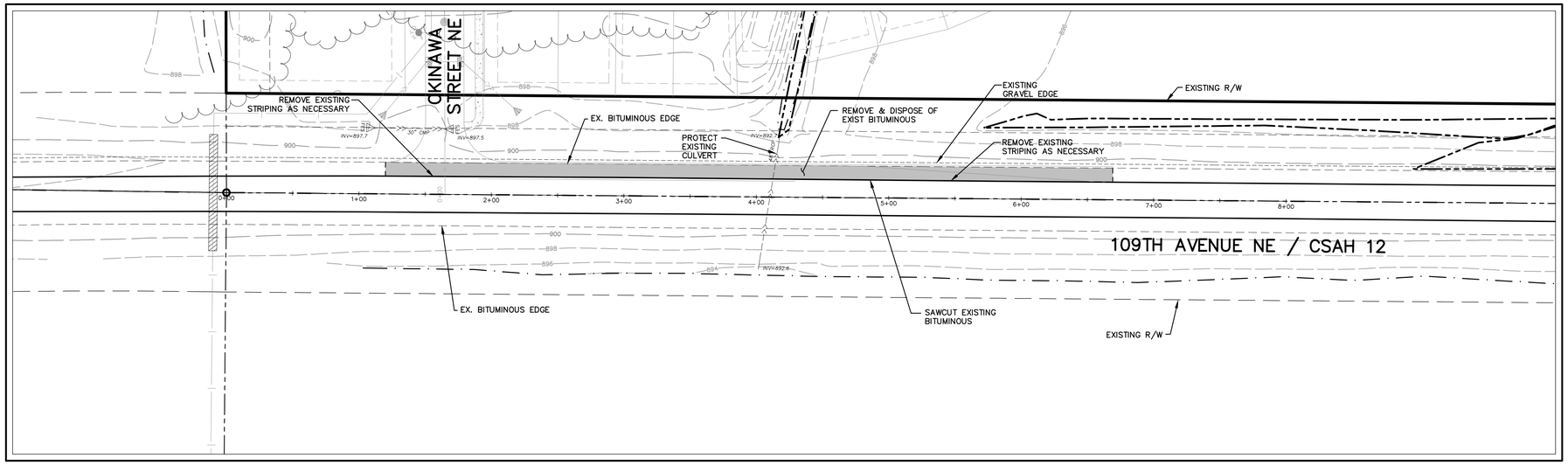


REMOVALS LEGEND

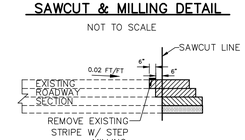
	EXISTING	REMOVALS
PROPERTY LINE		
EASEMENT LINE		
SAWCUT		
BITUMINOUS		
GRAVEL		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY		
UNDERGROUND TELEPHONE		
UNDERGROUND FIBEROPTIC		
UNDERGROUND GAS		
STORM CATCH BASIN		
SIGN		
HYDRANT		
GATE VALVE		
TELEPHONE BOX		
UTILITY POLE		
FENCE		
GRAVEL EDGE		
STRIPING		
5' CONTOUR		
1' CONTOUR		
WETLAND LINE		
SPOT ELEVATION		
TREE		

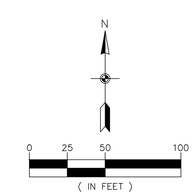
*** CONTRACTOR TO VERIFY UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF ANY EXCAVATION.**

COORDINATE WITH UTILITY COMPANIES FOR RELOCATION OF ANY UNDERGROUND UTILITIES UNDER PROPOSED ROAD.

SAWCUT & MILLING DETAIL

NOT TO SCALE





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NORTH MEADOWS
Blaine, Minnesota

REMOVALS PLAN

T9 of T14

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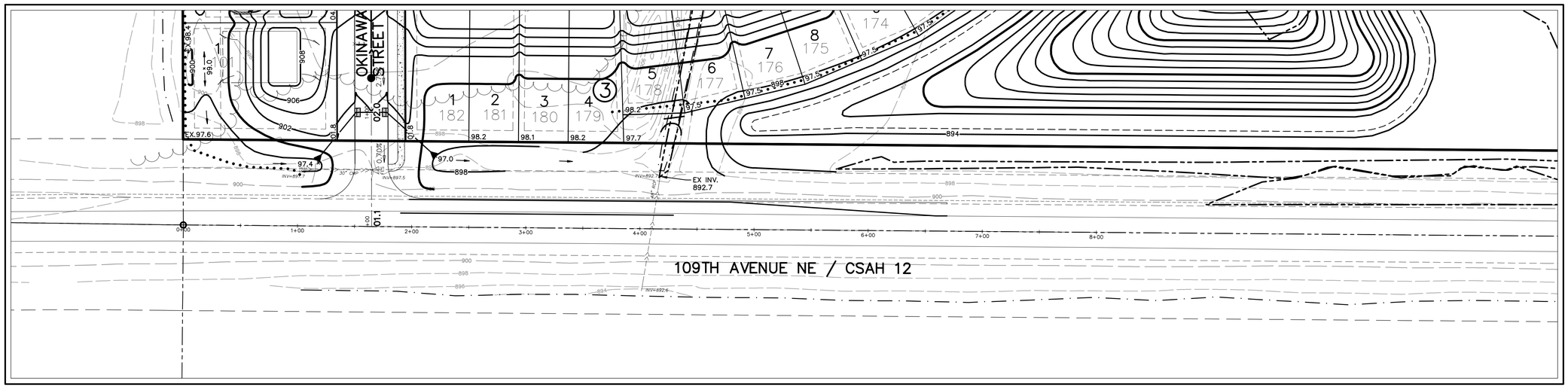

* VERIFY GRADES W/EXISTING BITUMINOUS EDGE ELEVATION IN FIELD

GRADING LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY	ohe	
UNDERGROUND TELEPHONE	ut ut	
UNDERGROUND FIBEROPTIC	ufo	
UNDERGROUND GAS	ug ug	
STORM CATCH BASIN		
STORM MANHOLE	MH	
HYDRANT	HYD	
GATE VALVE	GV	
TELEPHONE BOX		
UTILITY POLE		PP
FENCE	x x	
GRAVEL EDGE		
10' CONTOUR		
2' CONTOUR		
WETLAND LINE		
SPOT ELEVATION	x	00.0 x
SIGN		
TREELINE		
SOIL BORING	TH	

TURF ESTABLISHMENT

TURF ESTABLISHMENT SHALL APPLY TO ALL DISTURBED AREAS AND SHALL BE ACCORDING TO MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) EXCEPT AS MODIFIED BELOW.

TURF ESTABLISHMENT SHALL OCCUR AS SOON AS POSSIBLE BUT IN NO CASE MORE THAN 7 DAYS.

SEED: MnDOT MIXTURE 25–141 AT 59 POUNDS PER ACRE.

DORMANT SEED: SHALL BE APPLIED AT TWICE THE NORMAL RATE AFTER NOVEMBER 1ST.

MULCH: TYPE 1 AT 2 TONS PER ACRE (DISK ANCHORED).

FERTILIZER: TYPE 1 10–10–10 AT 200 POUNDS PER ACRE.

N

0 25 50 100

(IN FEET)

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Designed: JTR
Date: 3/27/2020

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NORTH MEADOWS
Blaine, Minnesota

GRADING, DRAINAGE & EROSION CONTROL PLAN

T10 of T14

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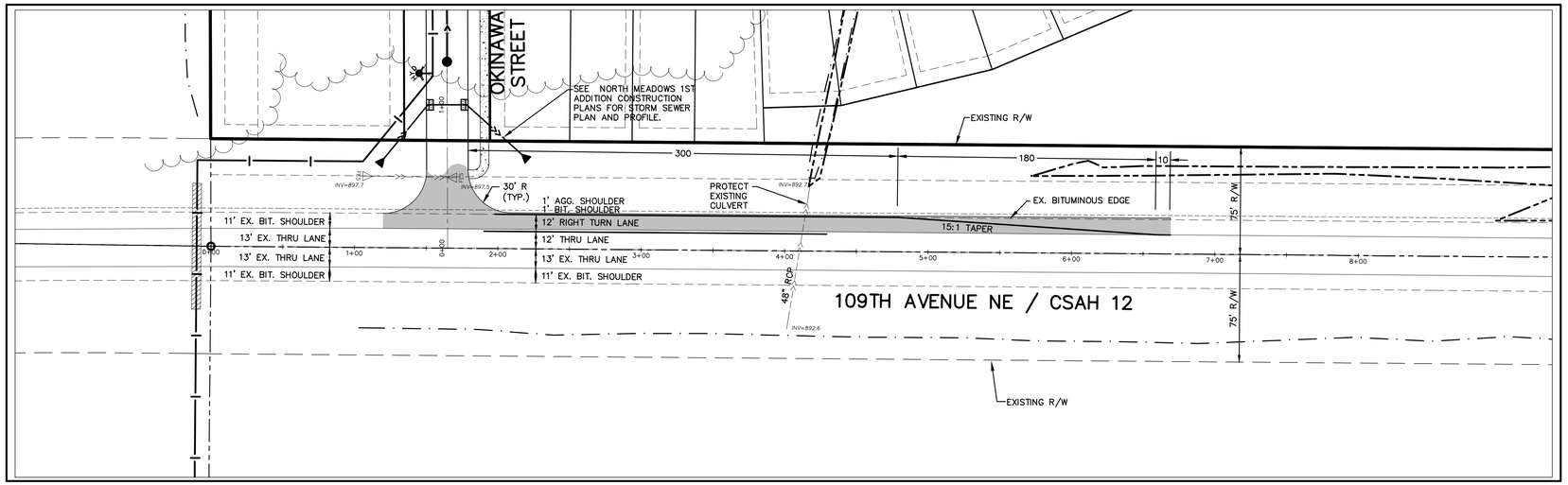
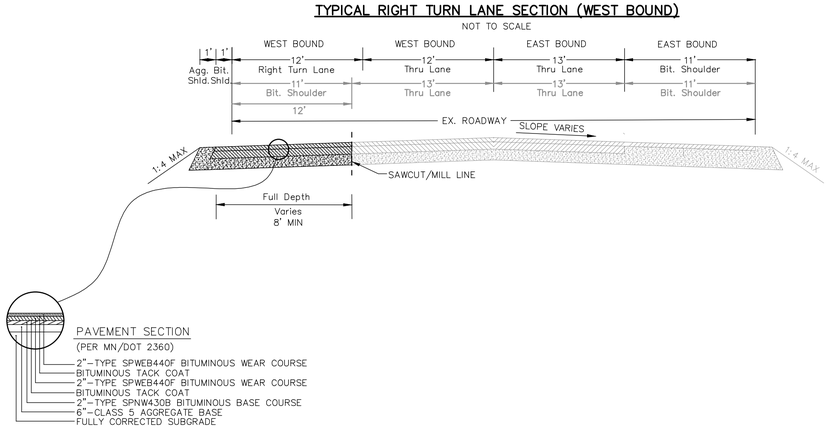


TYPICAL RIGHT TURN LANE SECTION (WEST BOUND)

NOT TO SCALE

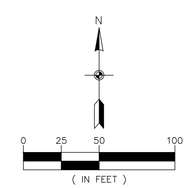


LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		FULL SECTION
BITUMINOUS		
GRAVEL		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY	ohe	
UNDERGROUND TELEPHONE	ut	ut
UNDERGROUND FIBEROPTIC	ufo	
UNDERGROUND GAS	ug	ug
STORM CATCH BASIN	RCB	
STORM MANHOLE	MH	
HYDRANT	HYD	
GATE VALVE	GV	
TELEPHONE BOX		
UTILITY POLE		
FENCE	x x	
GRAVEL EDGE		
STRIPING		
WETLAND LINE		
SIGN		
TREELINE		

TURN LANE NOTES

1. ALL GRADES ARE TO FINISHED PAVEMENT UNLESS OTHERWISE NOTED.
2. GOVERNING SPECIFICATIONS SHALL BE THE LATEST EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION"
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES AND ALL PERMANENT SIGNING & MARKINGS SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, 2018"
4. CONTRACTOR SHALL NOTIFY ANOKA COUNTY HIGHWAY DEPARTMENT AND SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL PRIOR TO PERFORMING ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
5. CONTRACTOR SHALL REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
6. ALL TURN LANE STRIPING SHALL BE COMPLETED USING EPOXY PAINT.
7. CONTRACTOR SHALL COORDINATE WORK AROUND AND RELOCATION OF SMALL UTILITIES.
8. CONTRACTOR TO CONTACT ANOKA COUNTY HIGHWAY DEPARTMENT 48 HOURS BEFORE STRIPING CONSTRUCTION.



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NORTH MEADOWS
Blaine, Minnesota

SITE & UTILITY PLAN

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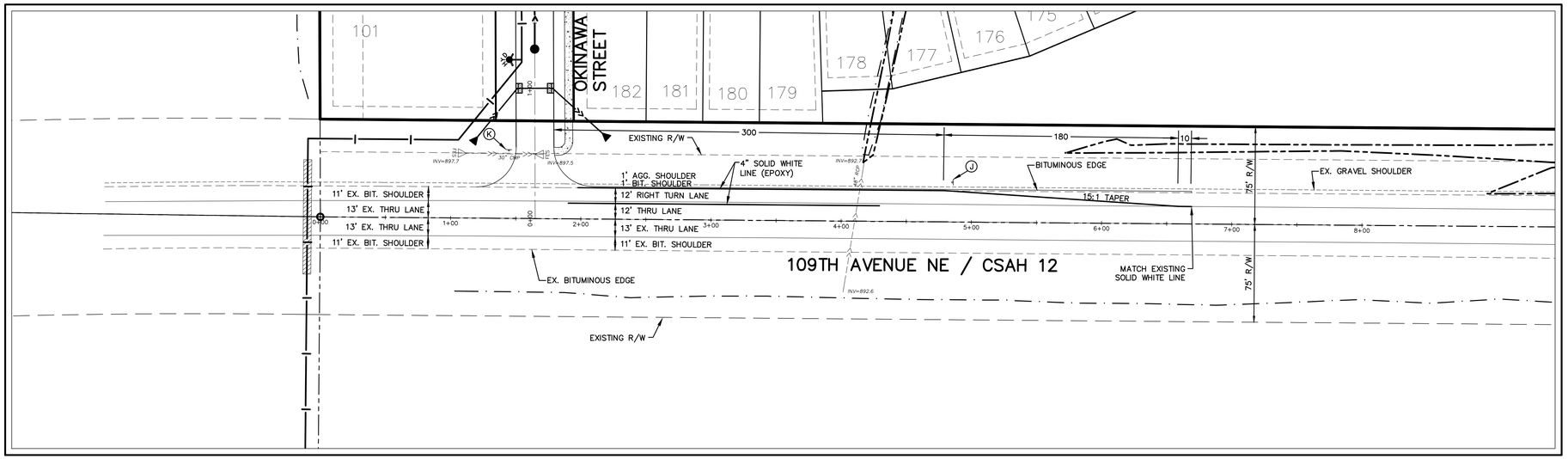

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
GRAVEL		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY	ohe	
UNDERGROUND TELEPHONE	ut ut	
UNDERGROUND FIBEROPTIC	ufo	
UNDERGROUND GAS	ug ug	
STORM CATCH BASIN		
STORM MANHOLE		
HYDRANT	HYD	
GATE VALVE	GV	
TELEPHONE BOX		
UTILITY POLE		
FENCE	x x	
GRAVEL EDGE		
STRIPING		
SIGN		

TURN LANE NOTES

1. ALL GRADES ARE TO FINISHED PAVEMENT UNLESS OTHERWISE NOTED.
2. THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN AS WELL AS THE CITY OF BLAINE SPECIFICATIONS.
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, 2018"
4. CONTRACTOR TO OBTAIN A PERMIT FROM ANOKA COUNTY HIGHWAY DEPARTMENT PRIOR TO PERFORMING ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
5. ALL TURN LANE STRIPING SHALL BE COMPLETED USING EPOXY PAINT.
6. CONTRACTOR SHALL REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
7. CONTRACTOR SHALL COORDINATE WORK AROUND AND RELOCATION OF SMALL UTILITIES.
8. CONTRACTOR SHALL COORDINATE RELOCATION OF FIBER INTERCONNECT/CONDUIT & HAND HOLES W/ ANOKA COUNTY HIGHWAY DEPARTMENT.
9. CONTRACTOR TO CONTACT ANOKA COUNTY HIGHWAY DEPARTMENT 48 HOURS BEFORE STRIPING CONSTRUCTION.
10. APPLICABLE MNDOT STANDARD PLATES: 3022C, 4006L, 9000E, 4129G, 4154B, 4160D, 9102E

SIGN SCHEDULE

SIGN	SIGN NO.	SIZE	QUANTITY
(J) RIGHT TURN LANE	R3-7R	30" X 30" (BLACK ON WHITE)	1
(K) STOP	R1-1	30" X 30" (WHITE ON RED)	(INCLUDED IN SITE PLANS)

N

0 25 50 100

(IN FEET)

CALL BEFORE YOU DIG

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Know what's below. Call before you dig.

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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SIGNING & STRIPING PLAN

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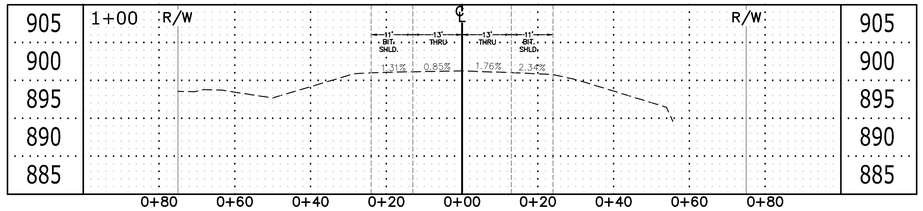

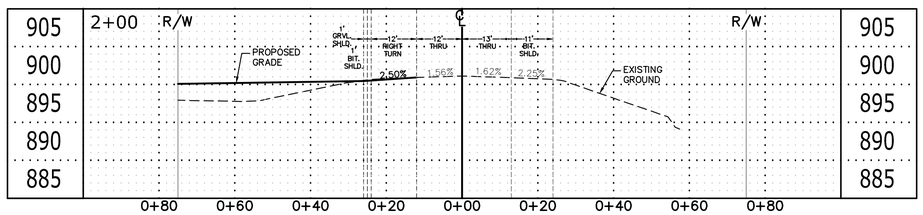

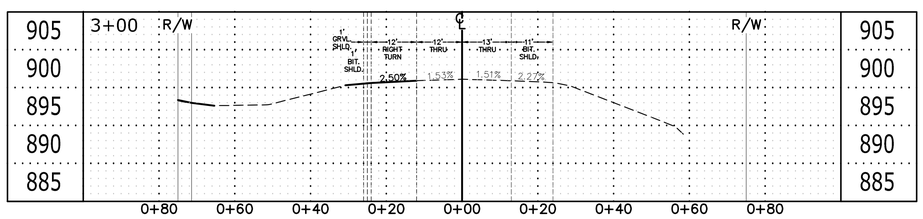

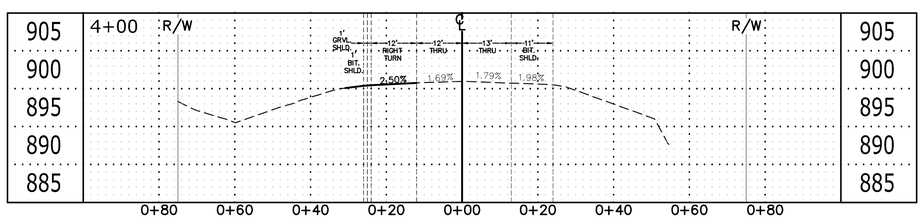

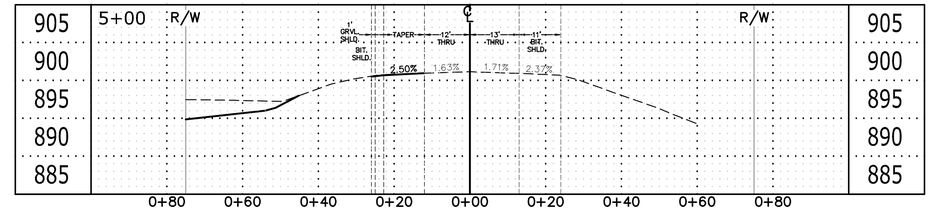

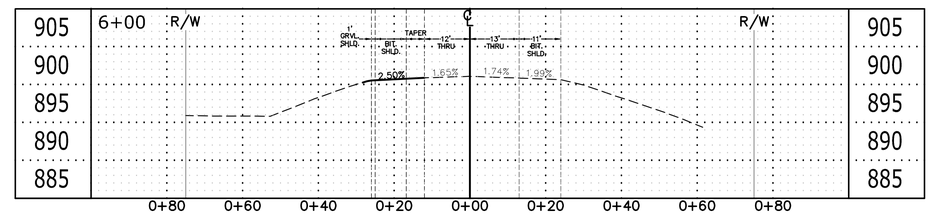

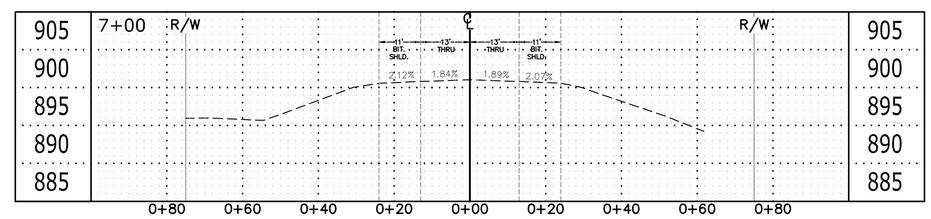

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NORTH MEADOWS
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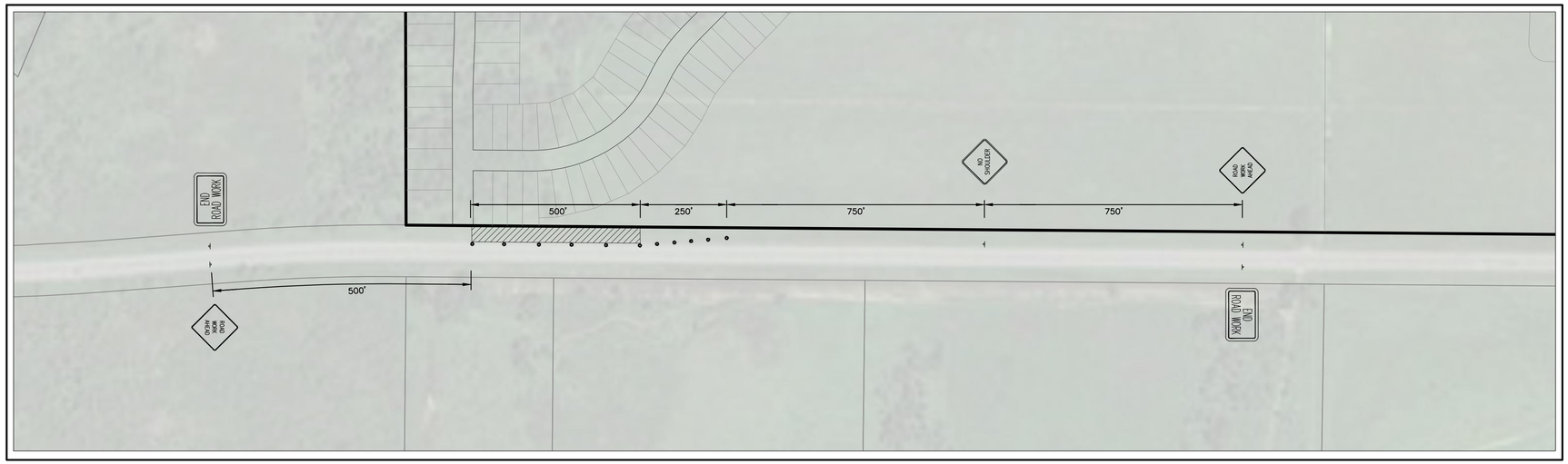
CROSS SECTIONS

T13 of T14



SIGN SCHEDULE	
SIGN	QUANTITY
ROAD WORK AHEAD	2
NO SHOULDER	1
END ROAD WORK	2

NOTES:
- INTERMITTENT SIGNS SHALL BE USED FOR LOOSE GRAVEL, UNEVEN LANES, BUMP, ETC.
- LANE WIDTHS MINIMUM 10'.
- CONTRACTOR TO COMPLY WITH MnDOT LONGITUDINAL DROP OFF GUIDELINES (J-BARRIER MIGHT BE NEEDED)

N

0 100 200 400

(IN FEET)

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Blaine, Minnesota

TRAFFIC CONTROL PLAN

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