

Madison, Wisconsin

CITY OF MADISON

CITY ENGINEERING DIVISION

DEPARTMENT OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENT

S. BRYAN STREET, DALEY DRIVE, JAMES STREET AND THORP STREET RECONSTRUCTION DISTRICT - 2018


CITY PROJECT NO. 11185
CONTRACT NO. 8119

PUBLIC IMPROVEMENT PROJECT APPROVED

JULY 10, 2018

BY THE COMMON COUNCIL
OF MADISON, WISCONSIN

PUBLIC IMPROVEMENT DESIGN
APPROVED BY:

 2/11/19
City Engineer Date

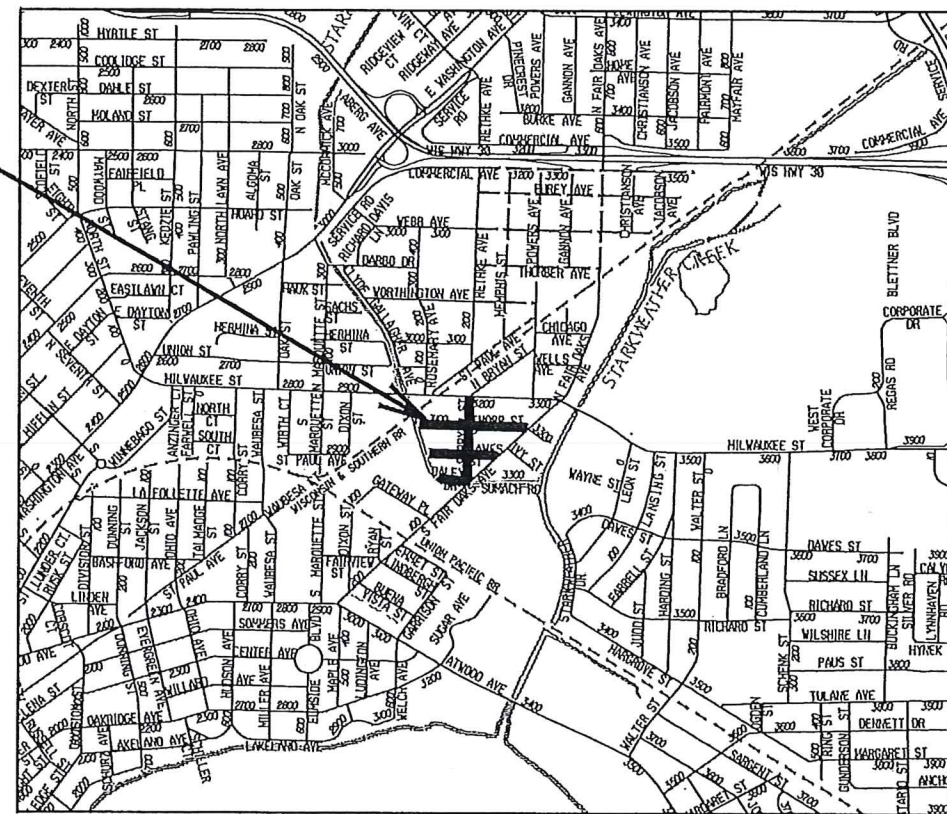
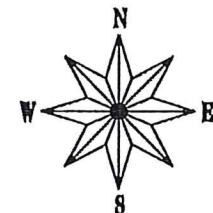
STREET
DESIGNED BY:



INDEX OF SHEETS

SHEET NO.	TITLE
1	TYPICAL SECTIONS
DI	OVERVIEW PLAN
RG1-RG2	RAIN GARDEN PLANS
EC1-EC3	EROSION CONTROL PLANS
P1-P8	STREET PLAN & PROFILES
U1-U8	SEWERS PLAN & PROFILES
U9-U11	SEWER SCHEDULES
LS1-LS22	LIFT STATION PLAN & PROFILES & DETAILS
W1-W8	WATER PLAN & PROFILES
W9	WATER IMPACT PLAN
W10	WATER MATERIALS & DETAILS
SB1-SB11	STREAMBANK PLANS
PM1-PM4	PAVEMENT MARKING PLANS
X1-X24	CROSS SECTIONS

PROJECT
LOCATION



CONVENTIONAL SIGNS
FIELD VERIFY ALL UTILITY LOCATIONS

GAS	G
STORM SEWER	ST
SANITARY SEWER	SAN
WATER	W
OVERHEAD ELECTRIC	OH
POWER POLE	□

NOTES:

ALL GUTTERS SHALL DRAIN WITH A MINIMUM GRADE OF 0.50% TOWARD STORM SEWER INLETS.

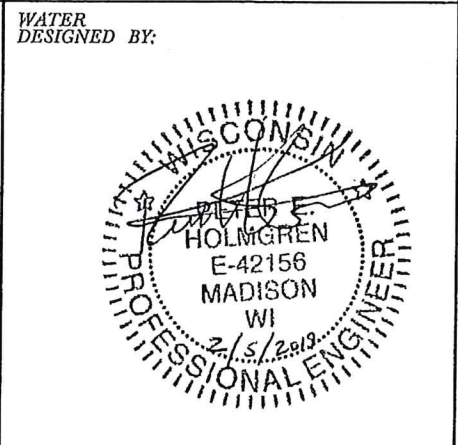
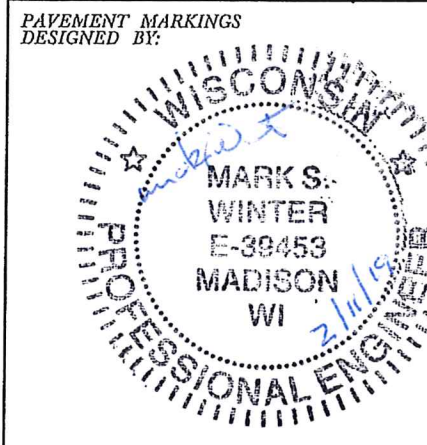
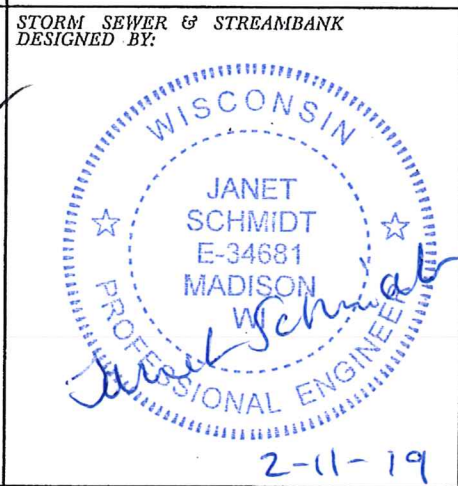
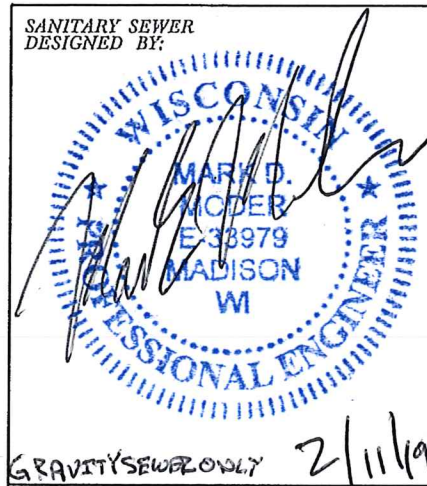
SIDEWALK RAMPS AND CURB THRU SIDEWALK RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1" PER 12". SIDEWALK AND CURB RAMPS SHALL BE CONSTRUCTED WITH A SIDE SLOPE OF 2.00%. SIDEWALK SHALL HAVE A MINIMUM LONGITUDINAL SLOPE OF 0.50% AND A MAXIMUM LONGITUDINAL SLOPE OF 5.00%

EARTH WORK SUMMARY:

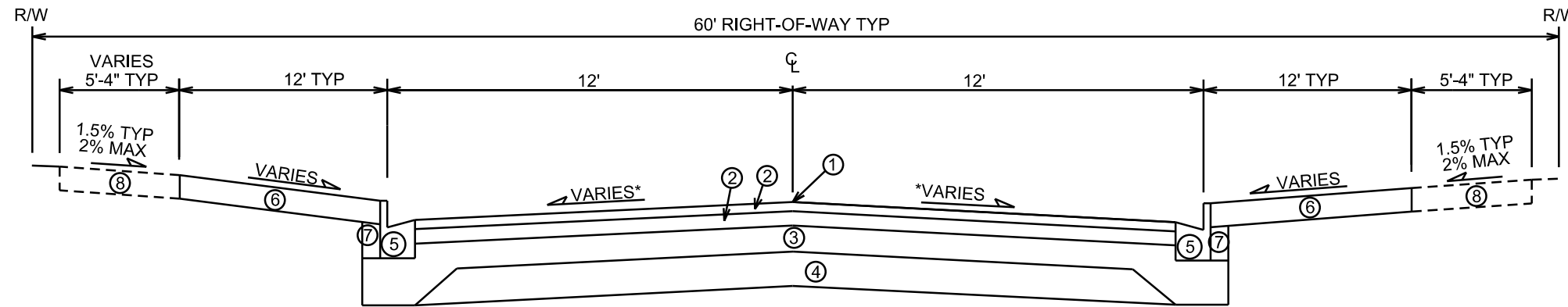
EXCAVATION CUT (MEASURED PLAN QUANTITY).....4,105 C.Y.

ESTIMATED UNDISTRIBUTED UNDERCUT.....1,620 C.Y.

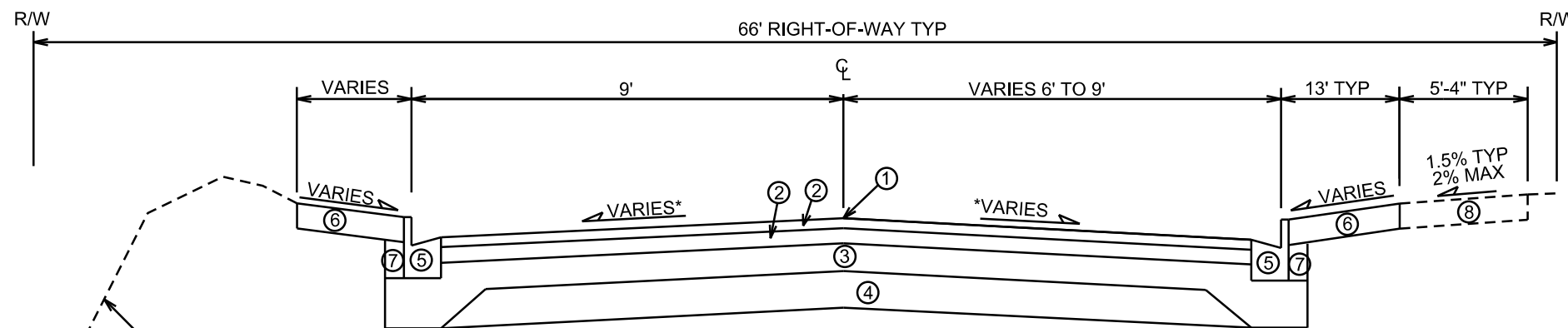
TOTAL UNCLASSIFIED EXCAVATION CUT.....5,725 C.Y.



PLOT SCALE: _____
PLOT NAME: _____
REV. DATE: _____
ORIGINATOR: CITY OF MADISON - STREETS DIVISION



TYPICAL FINISHED SECTION
BRYAN ST., JAMES ST., THORP ST.
NOT TO SCALE



TYPICAL FINISHED SECTION
DALEY DR.
NOT TO SCALE

- ① POINT REFERRED TO ON PROFILE
- ② 1 3/4" HMA PAVEMENT 4 LT 58-28 S
- ③ 6" GRADATION 2 CRUSHED AGGREGATE BASE
- ④ 6" GRADATION 1 CRUSHED AGGREGATE BASE
- ⑤ TYPE 'A' OR 'X' CONCRETE CURB & GUTTER
- ⑥ 6" TOPSOIL, SEED & EROSION MAT***
- ⑦ FILL, INCIDENTAL
- ⑧ 5" CONCRETE SIDEWALK, REPLACE AS SHOWN ON PLAN OR AS NECESSARY FOR UTILITY WORK

* SEE CROSS SECTION SHEETS FOR CROSS SLOPES AND TOP OF CURB ELEVATIONS.

** REPLACE AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

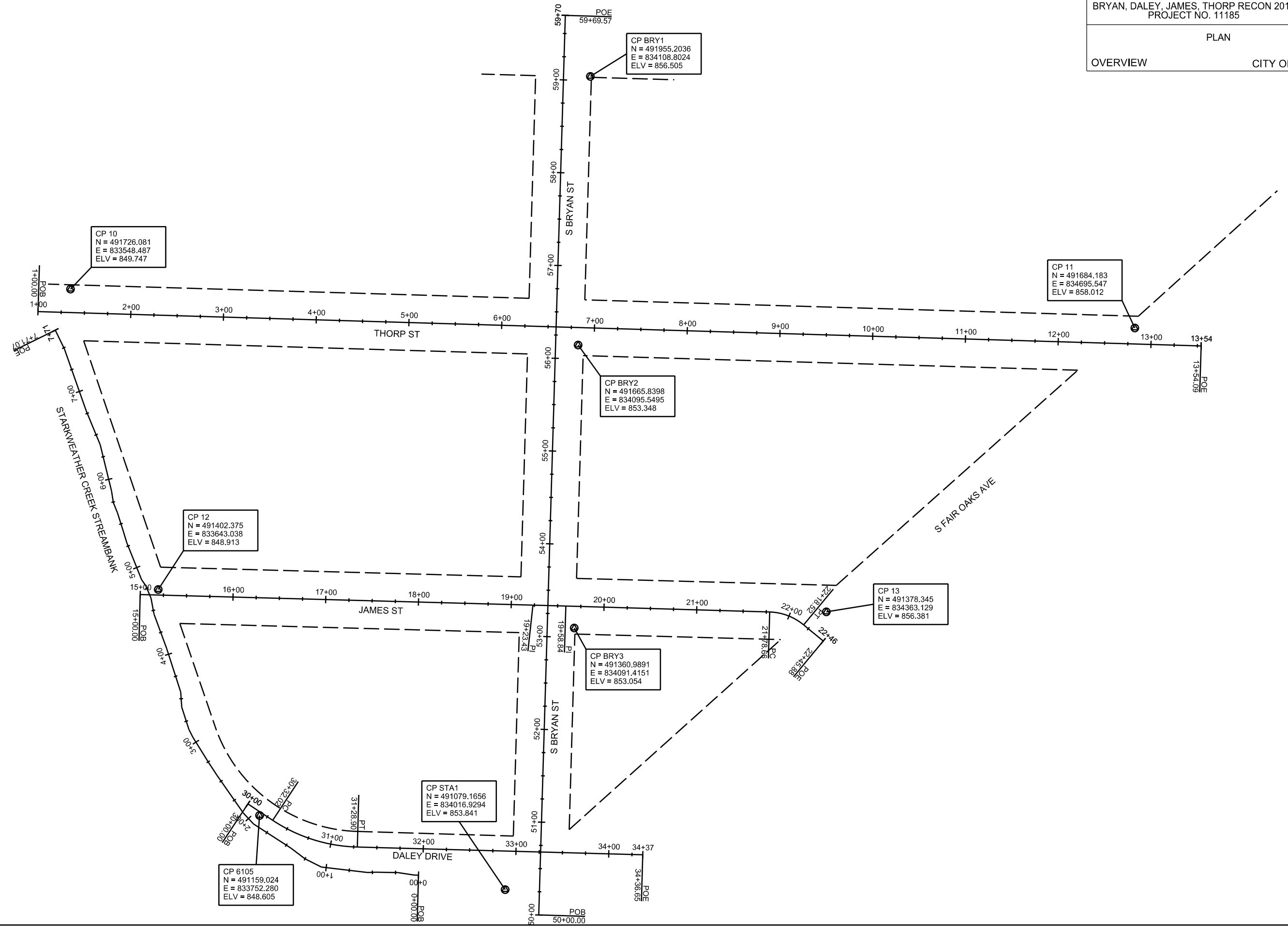
*** ADJUST TERRACE RESTORATION AS NECESSARY AROUND EXISTING TREES. CROSS SECTIONS MAY NOT REFLECT ANY ADJUSTMENTS NECESSARY IN THESE LOCATIONS. CONFIRM LIMITS WITH ENGINEER.

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



PLOT SCALE: _____

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REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

NEW SHEET 2/25/2019 C.W.

NOTE:
ENGINEERED SOIL MIX FOR THE
TERRACE RAIN GARDENS SHALL
BE AS STATED IN STANDARD
SPECIFICATION 211.2(a)

0710-051-1127-5
HAZA, PATRICIA M
3238 Thorp St

STA 10+73.07, LT 23.18'
856.69 @ POINT

STA 10+68.90, LT 19.01'
855.30 @ BOTTOM

STA 10+69.71, LT 16.92'
855.30 @ BOTTOM

STA 10+73.07, LT 13.56'
856.42 @ POINT

STA 10+65.22, LT 14.55'
855.48 @ CENTERLINE OF FLUME

STA 10+58.07, LT 23.18'
856.51 @ POINT

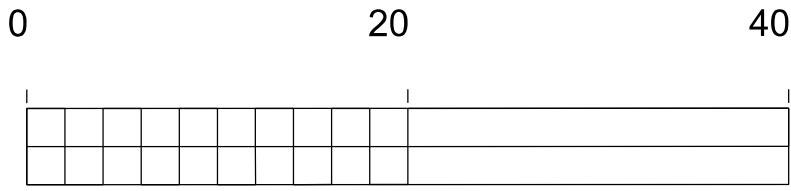
STA 10+61.70, LT 19.55'
855.30 @ BOTTOM

STA 10+61.07, LT 16.56'
855.30 @ BOTTOM

10+00 STA 10+58.07, LT 13.56'
856.30 @ POINT

STA 10+65.24, LT 12.50'
855.66 @ FLUME CENTERLINE

0710-051-1202-5
KINNEY, GRANT M
ROBIN P KINNEY
3237 Thorp St

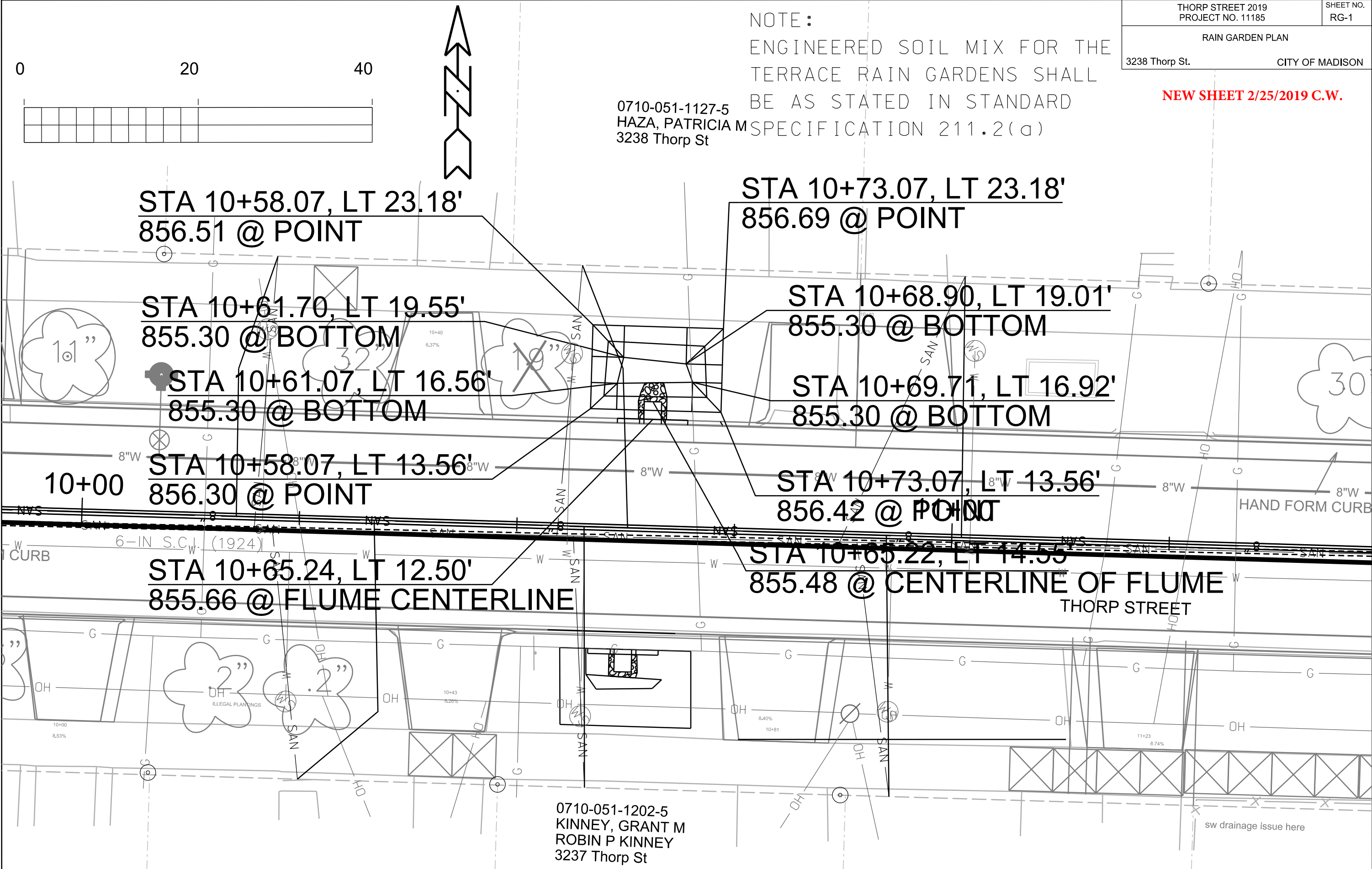


PLOT SCALE: 20

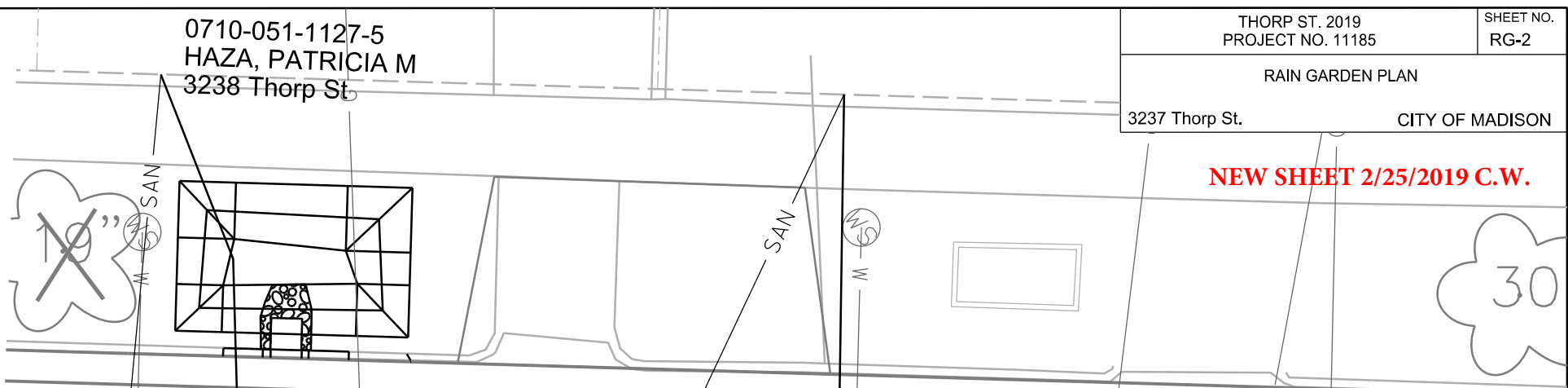
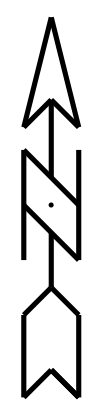
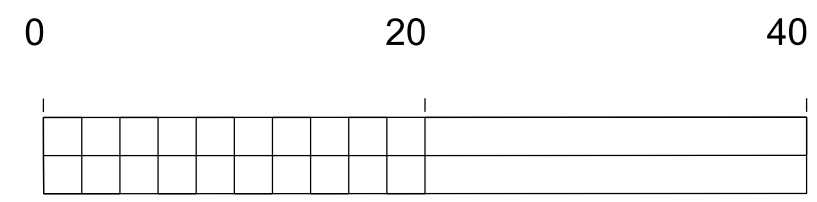
PLOT NAME: RG-1

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



NEW SHEET 2/25/2019 C.W.



10+00

STA 10+62.51, RT 12.57'
855.66 @ FLUME CENTERLINE

STA 10+62.53, RT 14.58'
855.50 @ CENTERLINE OF FLUME

STA 10+55.33, RT 14.00'
856.32 @ POINT

STA 10+70.42, RT 13.99'
856.44 @ POINT

STA 10+58.43, RT 17.00'
855.32 @ BOTTOM

STA 10+67.15, RT 17.35'
855.32 @ BOTTOM

STA 10+59.66, RT 18.65'
855.32 @ BOTTOM

STA 10+66.10, RT 18.38'
855.32 @ BOTTOM

STA 10+55.62, RT 22.82'
856.71 @ POINT

STA 10+70.68, RT 22.83'
856.80 @ POINT

0710-051-1203-3
MOORE, MICHAEL EUGENE
& DIANE MARY FARRIS
3233 Thorp St

0710-051-1202-5
KINNEY, GRANT M
ROBIN P KINNEY
3237 Thorp St

0710-051-1201-7
DAILY TRUST, RIM
3241 Thorp St

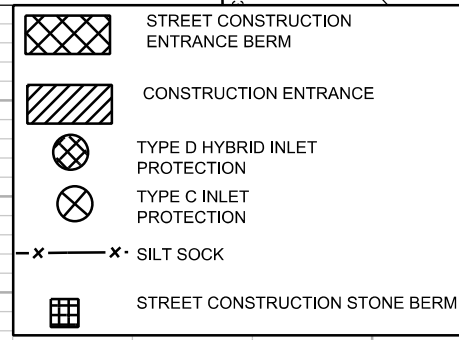
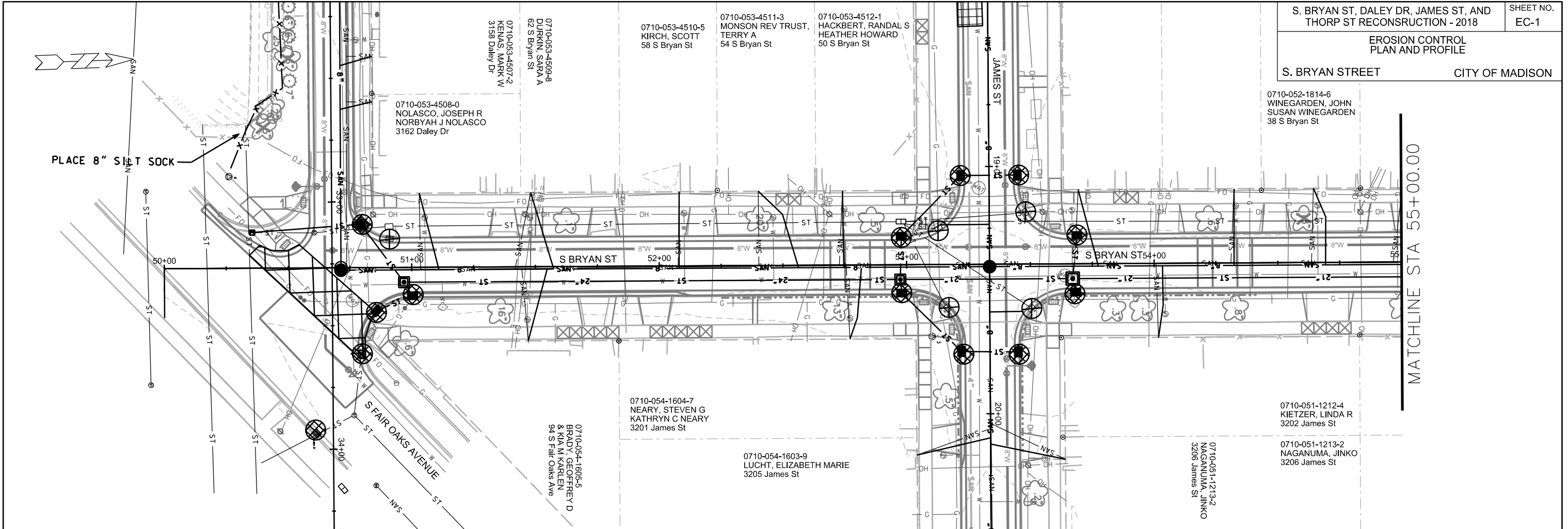
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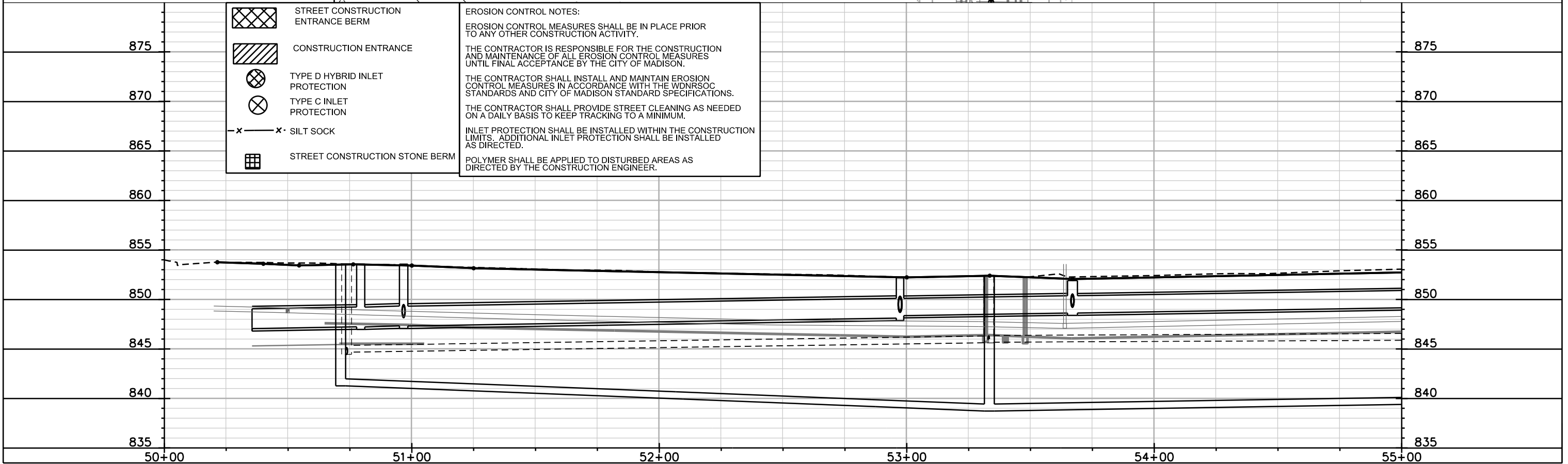
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REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



EROSION CONTROL NOTES:
 EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.
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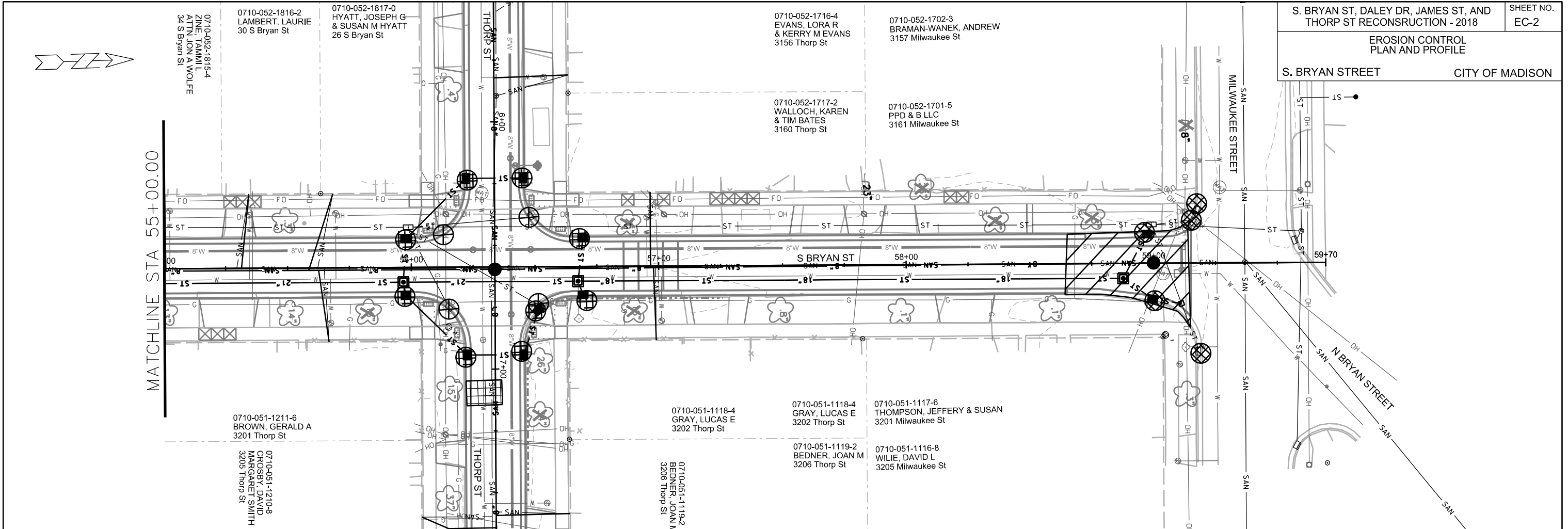
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REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

EROSION CONTROL PLAN AND PROFILE

S. BRYAN STREET CITY OF MADISON



	STREET CONSTRUCTION ENTRANCE BERM
	CONSTRUCTION ENTRANCE
	TYPE D HYBRID INLET PROTECTION
	TYPE C INLET PROTECTION
	SILT SOCK (VELOCITY CHECK)
	STREET CONSTRUCTION STONE BERM

EROSION CONTROL NOTES:

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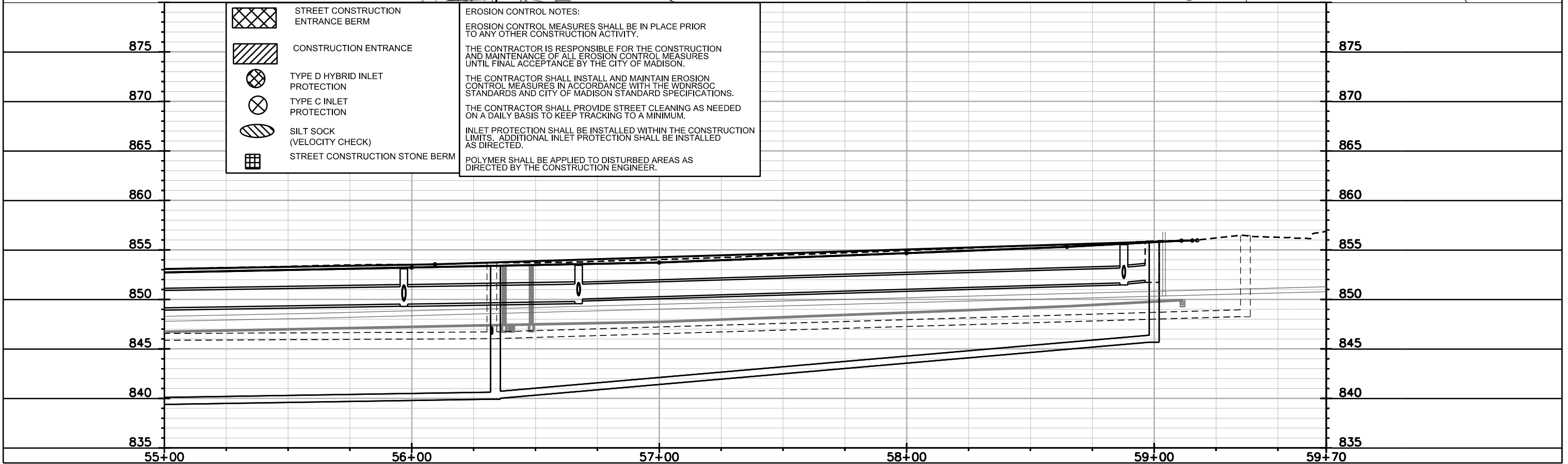
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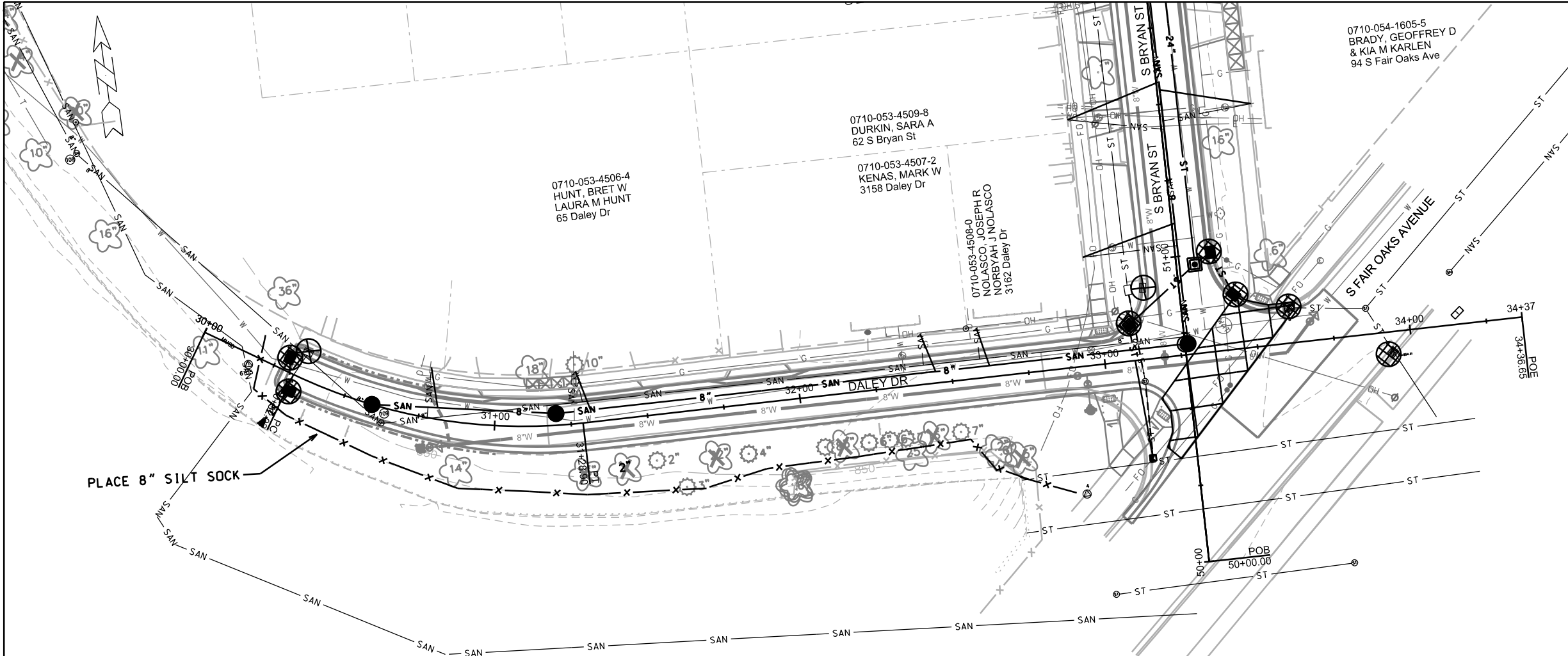








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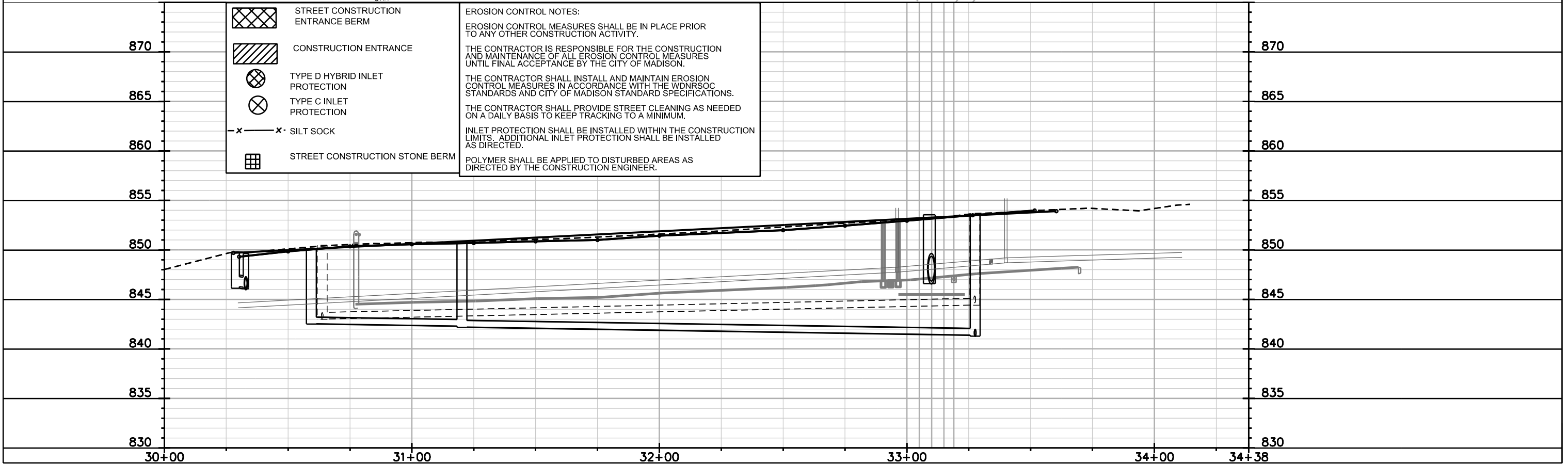
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION



-  STREET CONSTRUCTION ENTRANCE BERM
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-  TYPE D HYBRID INLET PROTECTION
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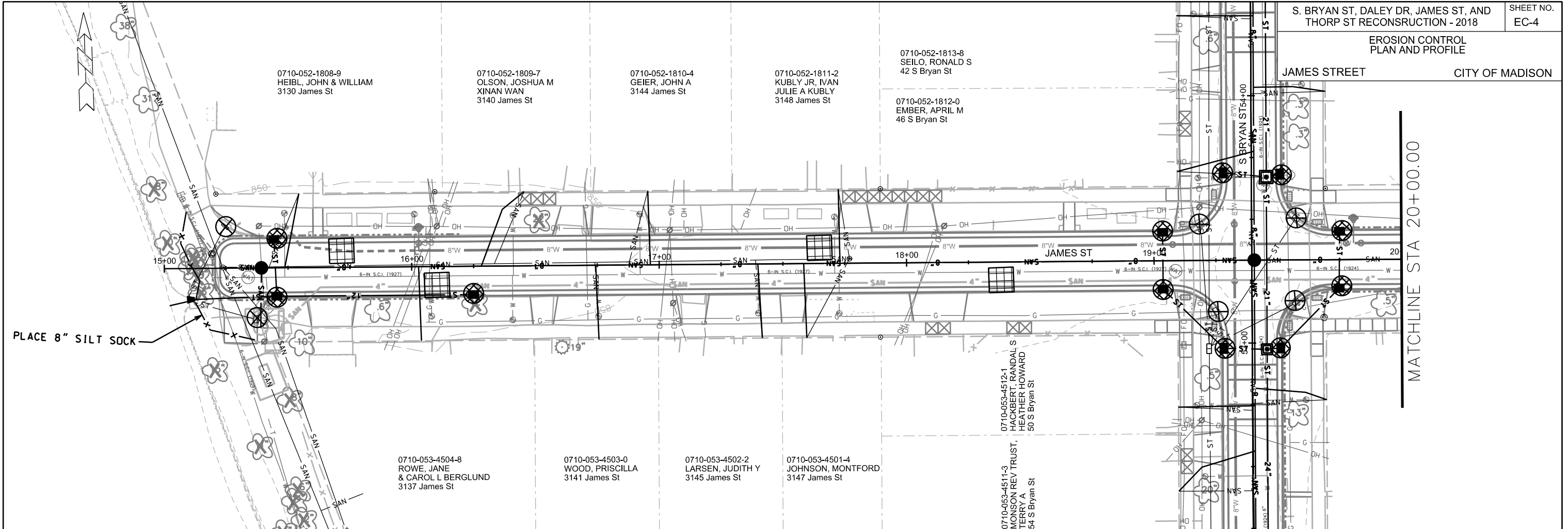
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION

EROSION CONTROL PLAN AND PROFILE
 CITY OF MADISON

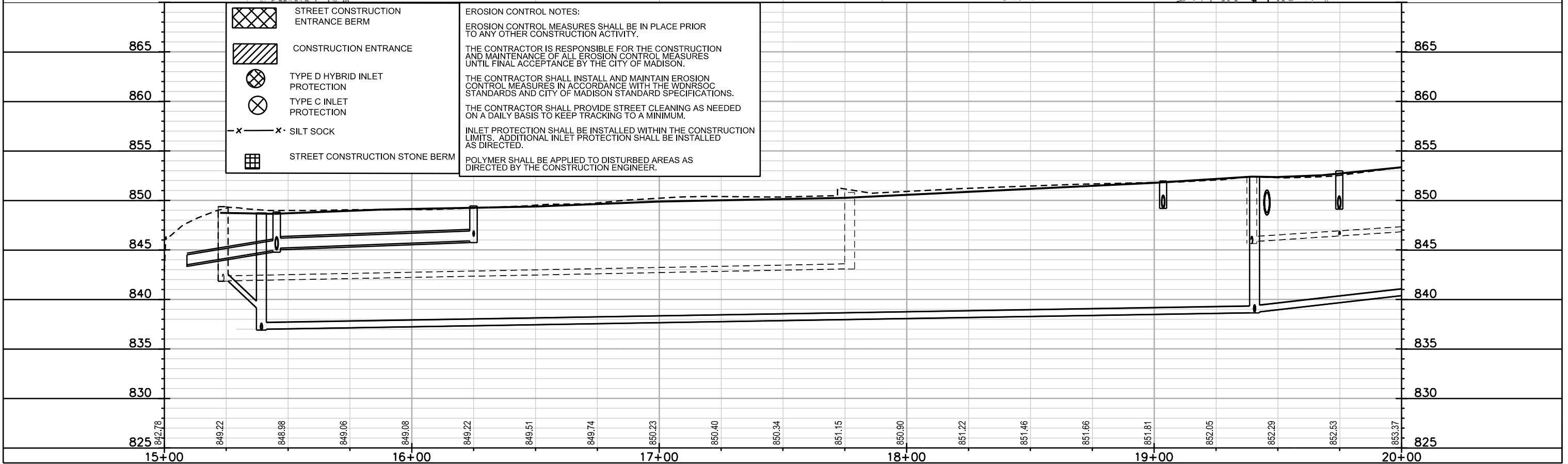


PLACE 8" SILT SOCK

MATCHLINE STA 20+00.00

	STREET CONSTRUCTION ENTRANCE BERM
	CONSTRUCTION ENTRANCE
	TYPE D HYBRID INLET PROTECTION
	TYPE C INLET PROTECTION
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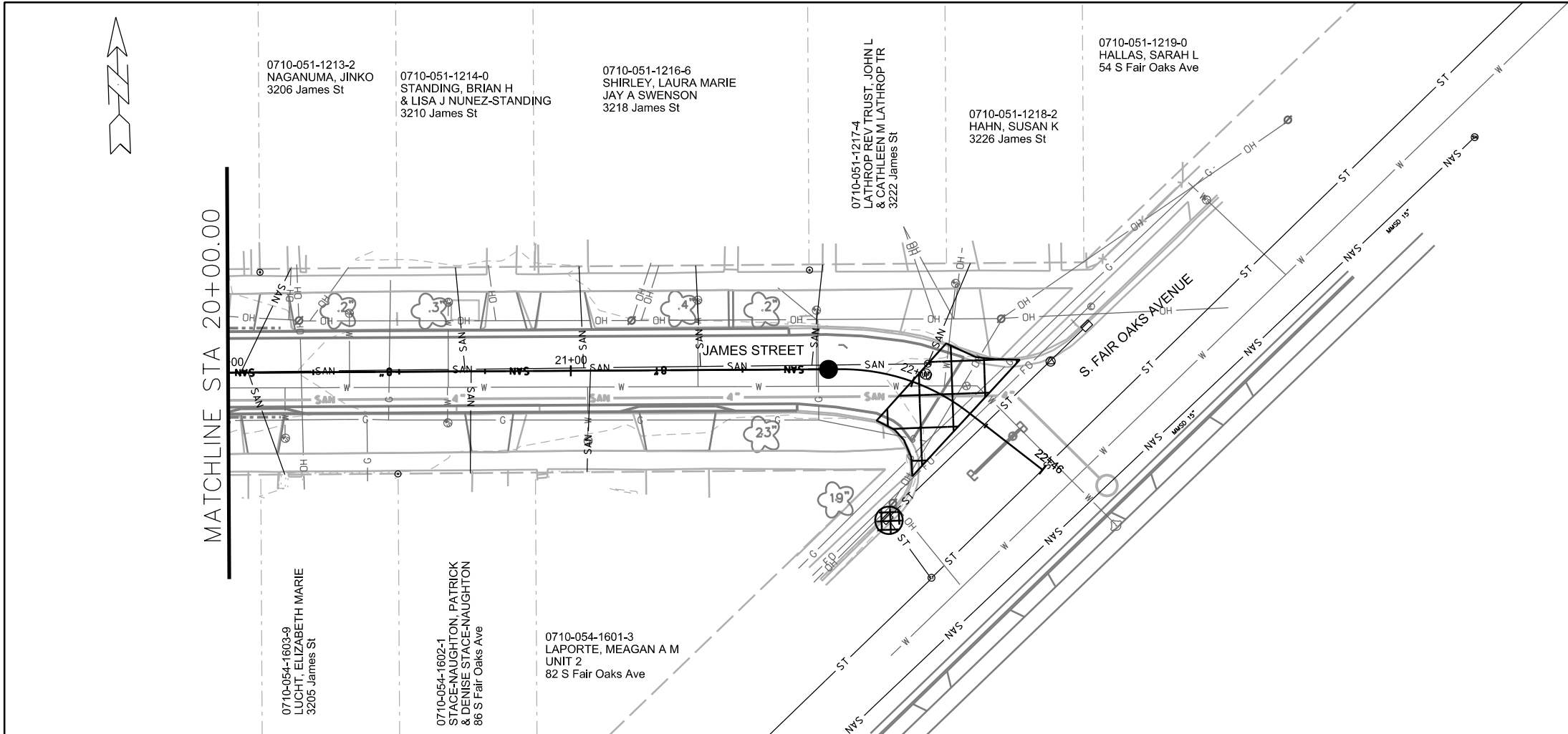


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
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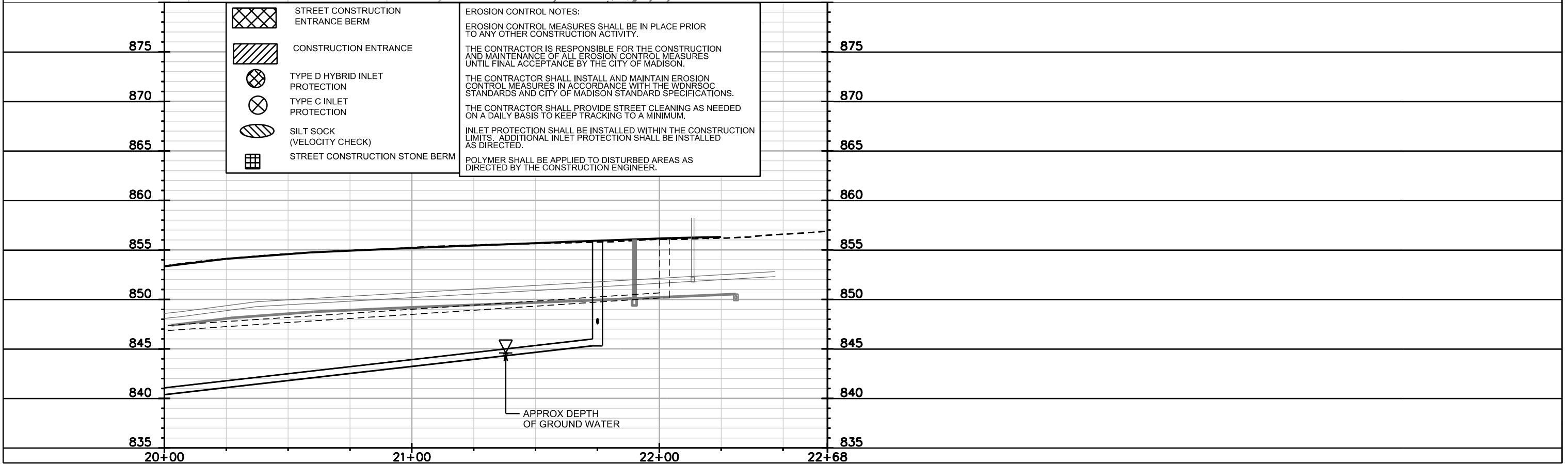
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



MATCHLINE STA 20+00.00

-  STREET CONSTRUCTION ENTRANCE BERM
-  CONSTRUCTION ENTRANCE
-  TYPE D HYBRID INLET PROTECTION
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-  SILT SOCK (VELOCITY CHECK)
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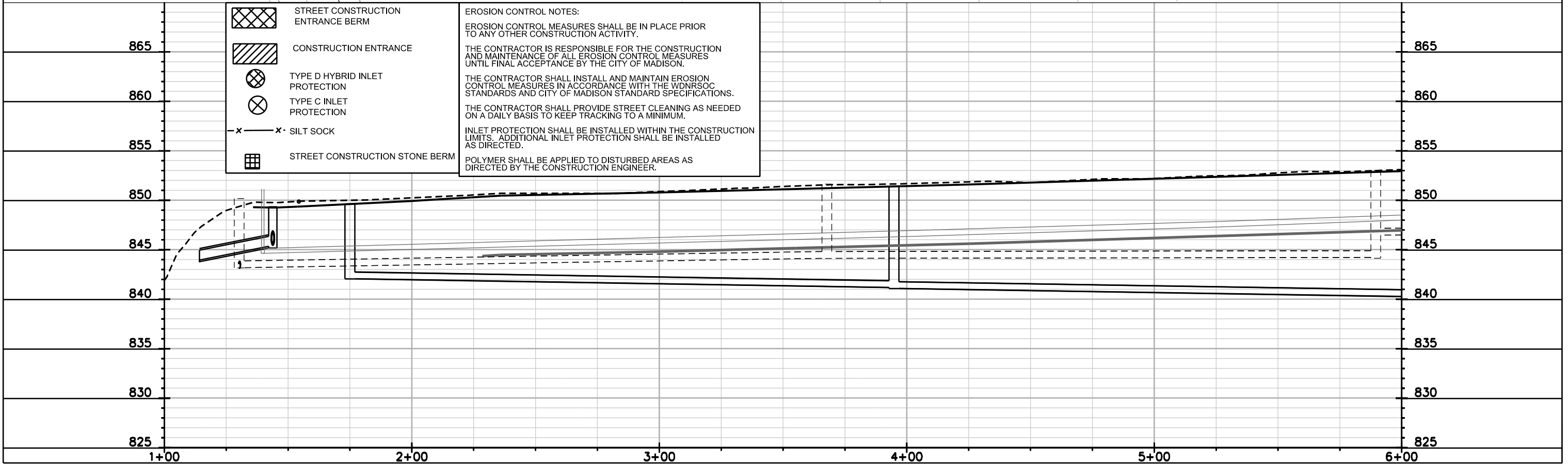
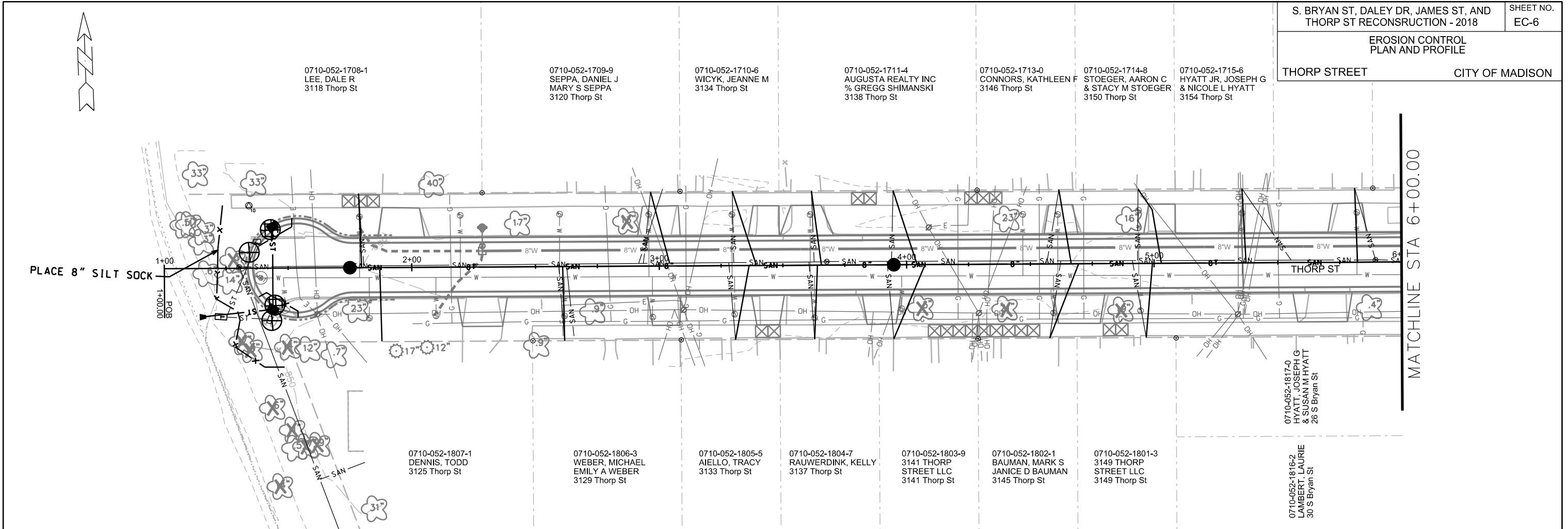
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION

EROSION CONTROL PLAN AND PROFILE
 THORP STREET CITY OF MADISON

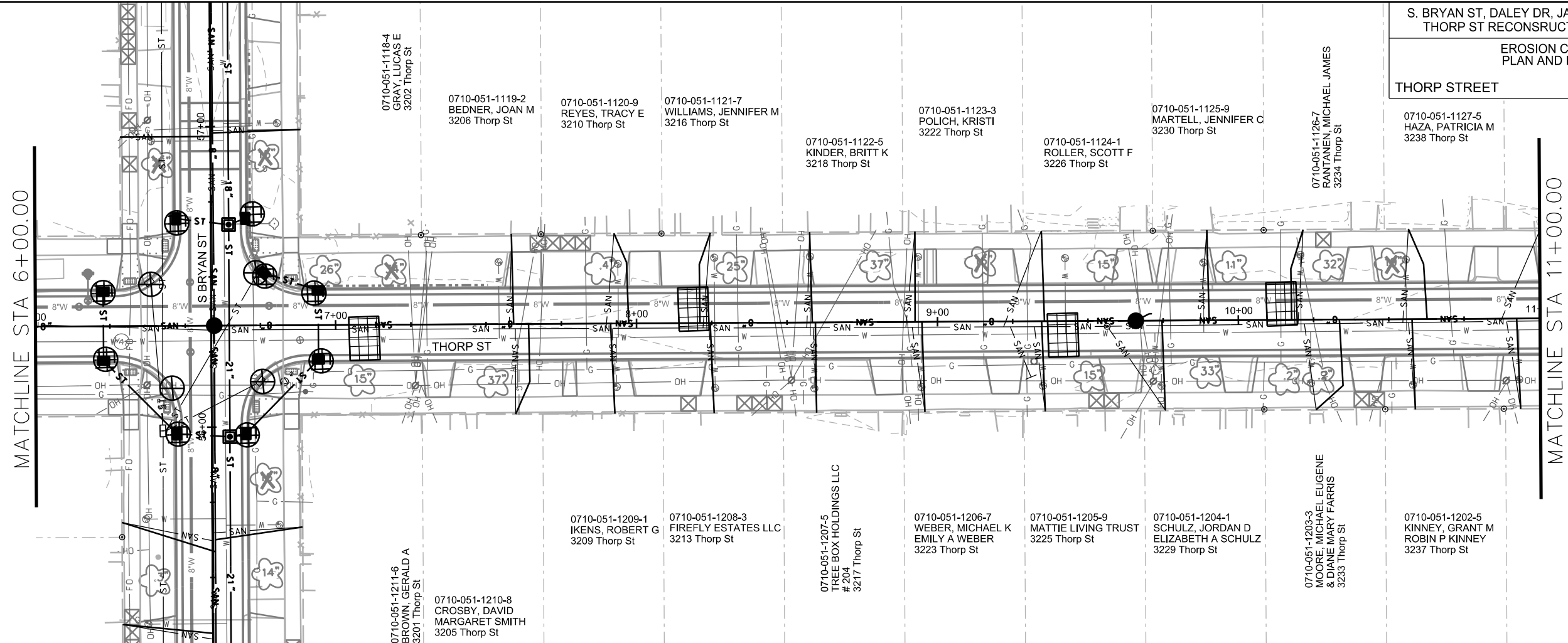


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
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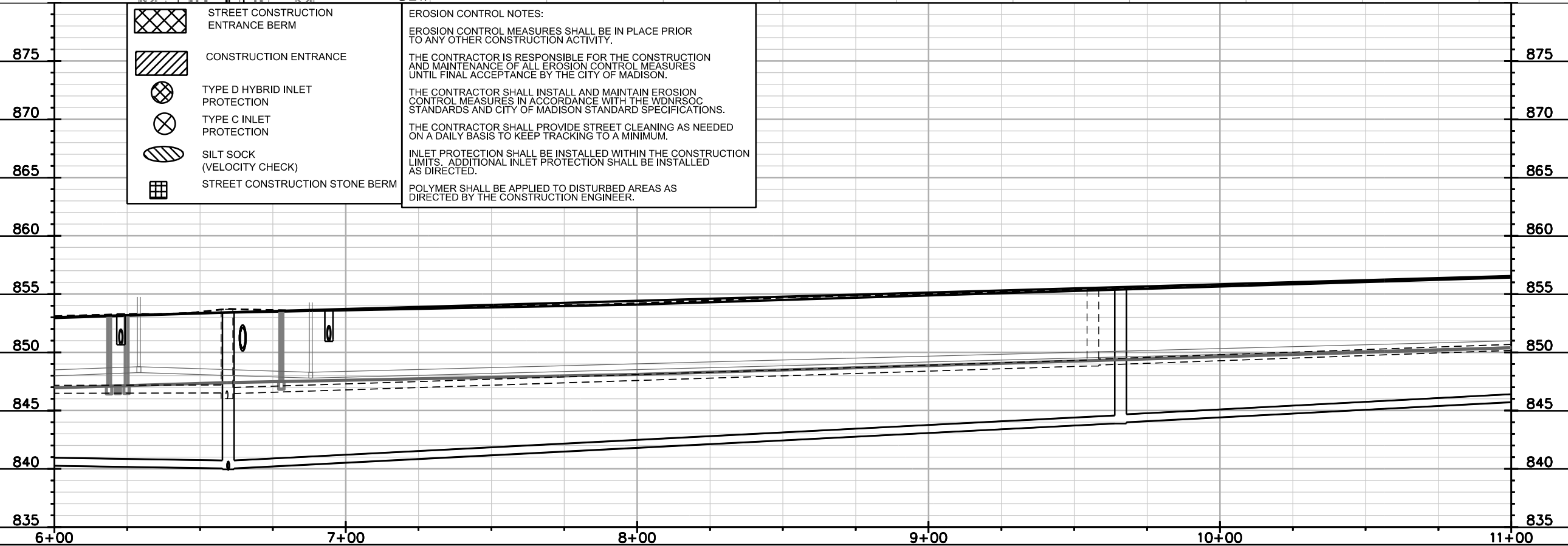


MATCHLINE STA 6+00.00

MATCHLINE STA 11+00.00

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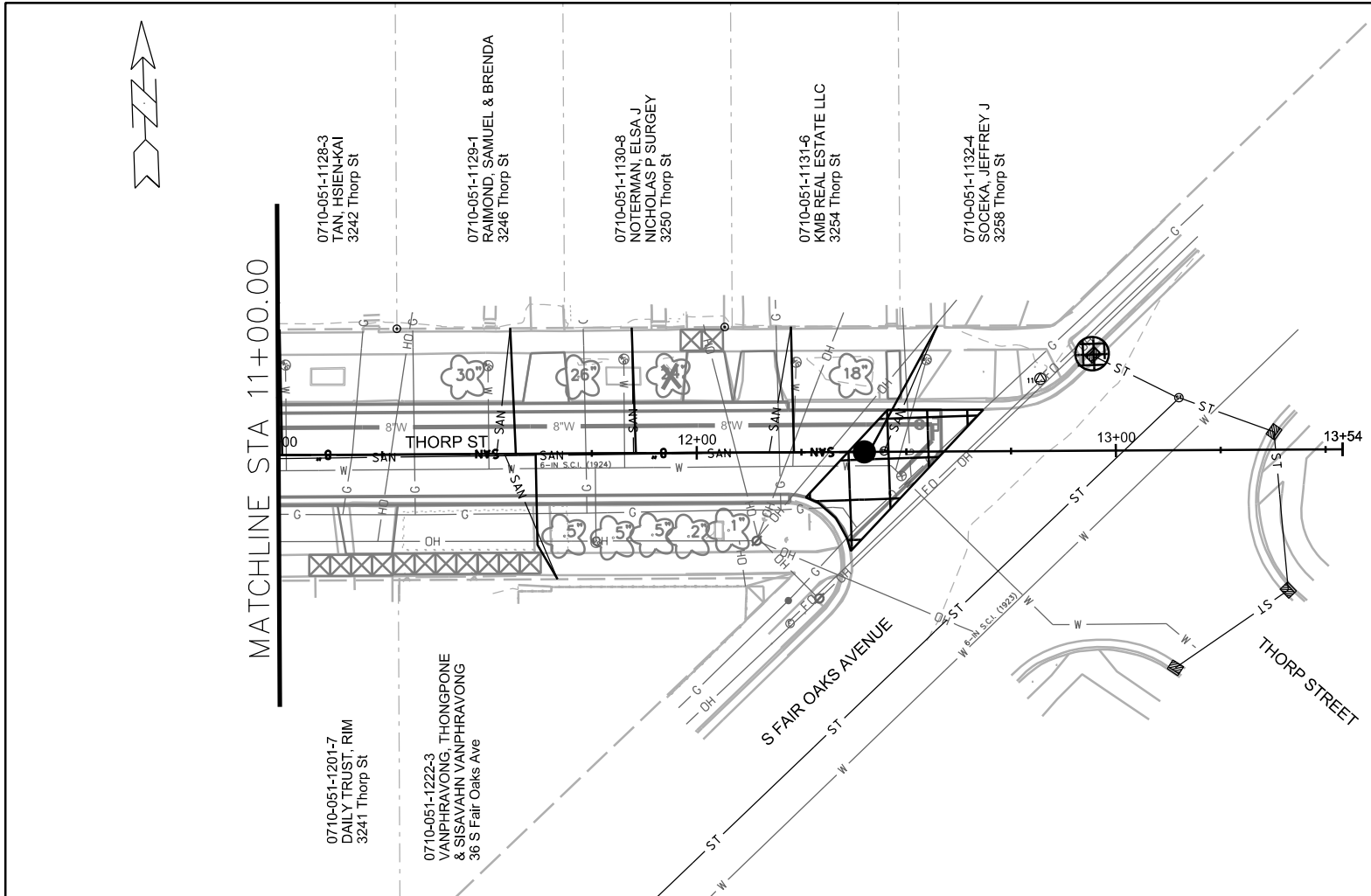
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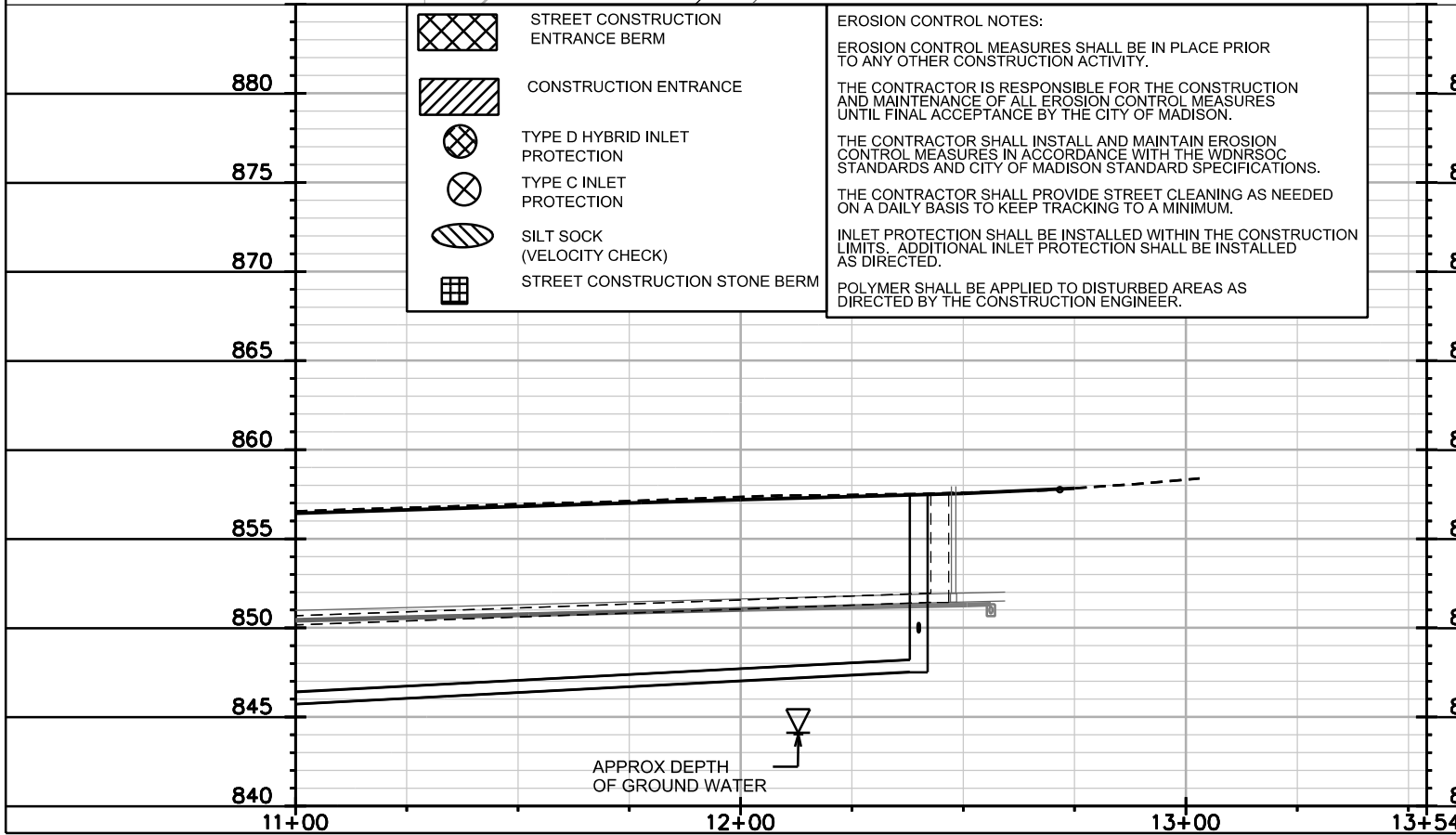
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION



- STREET CONSTRUCTION ENTRANCE BERM
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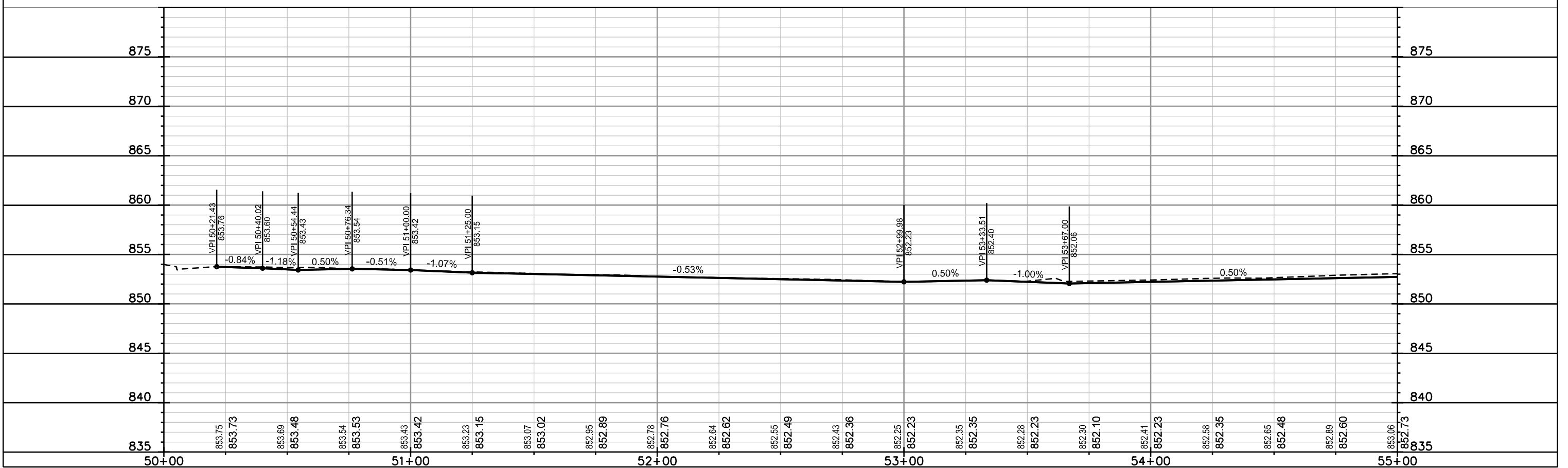
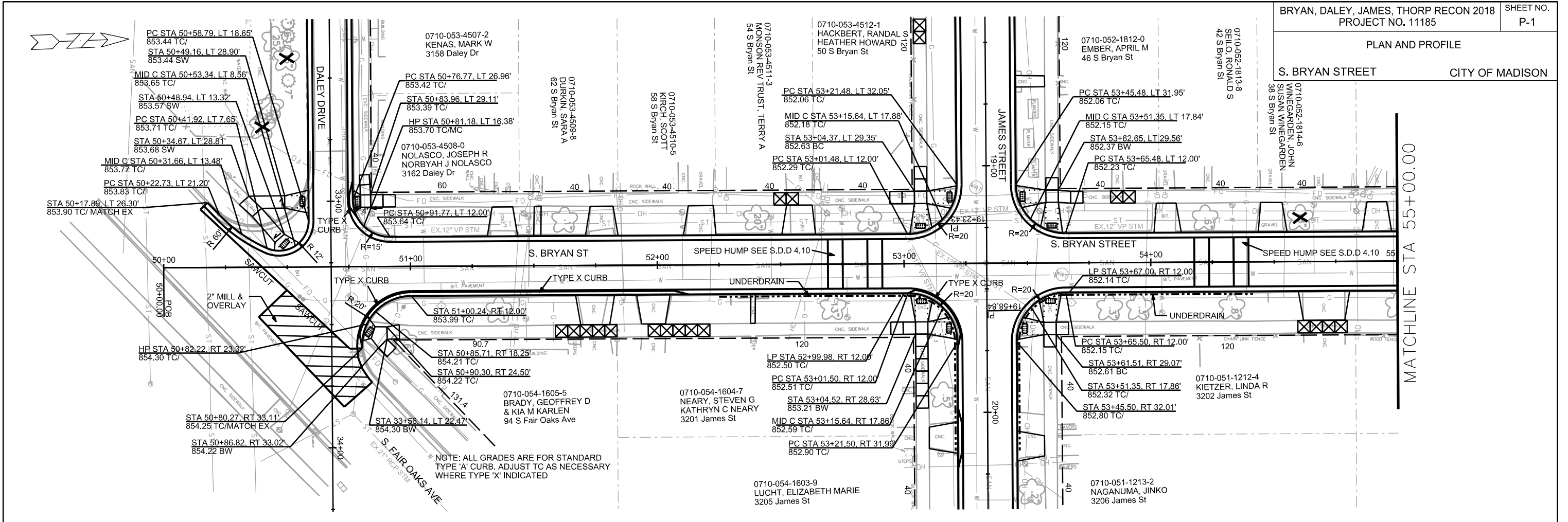
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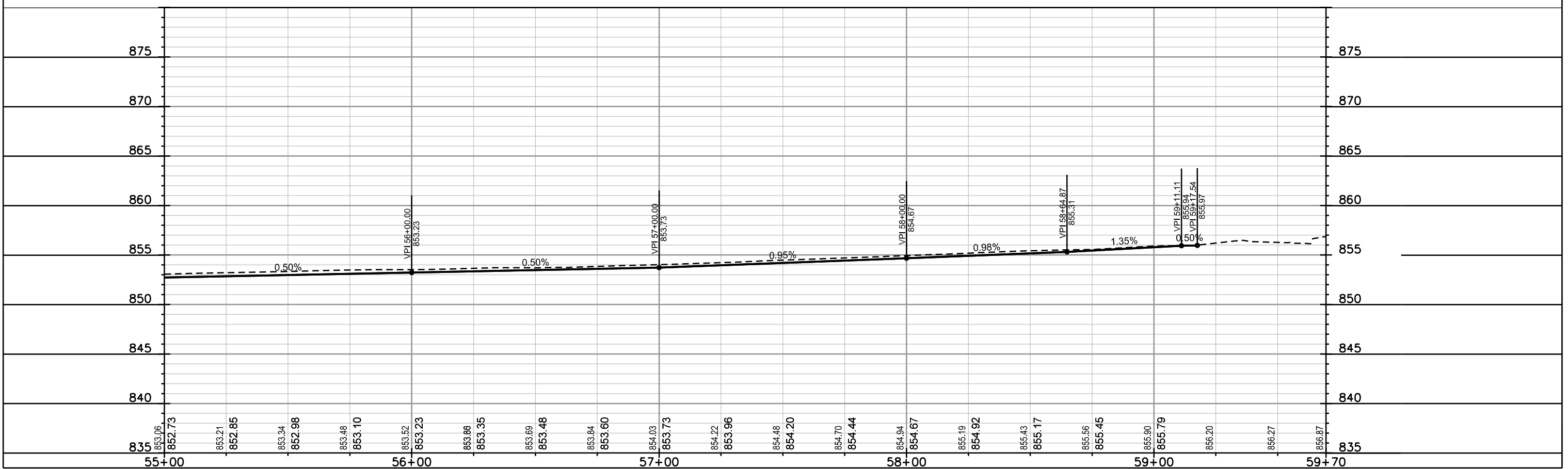
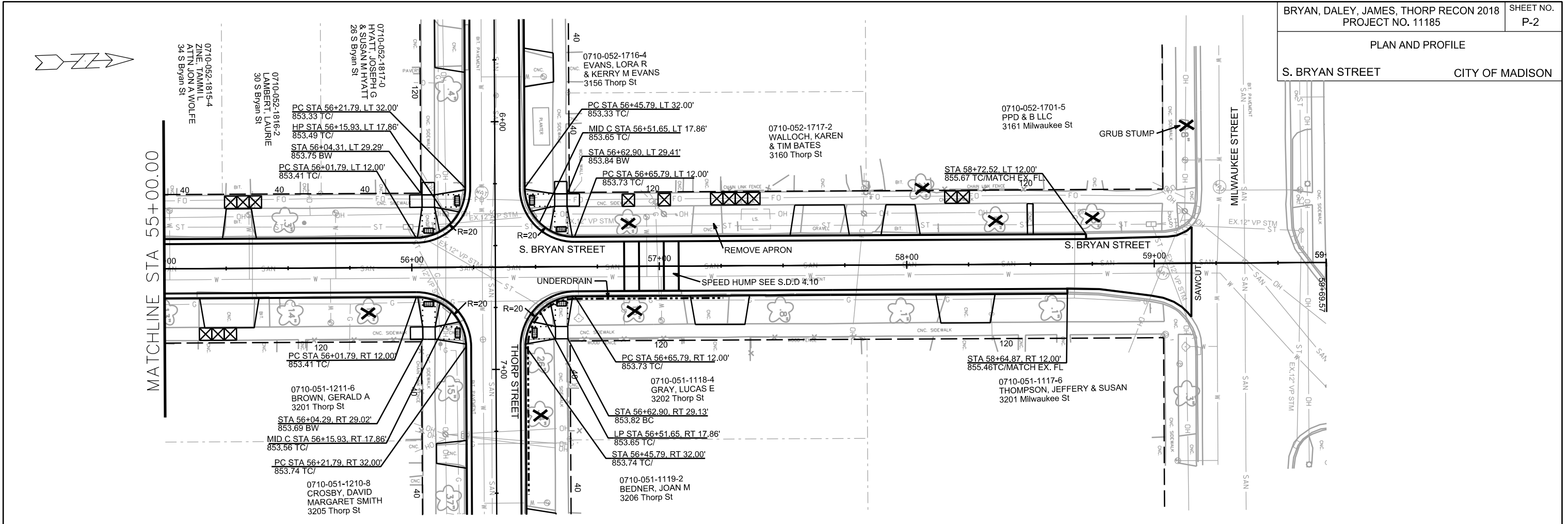
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLAN AND PROFILE

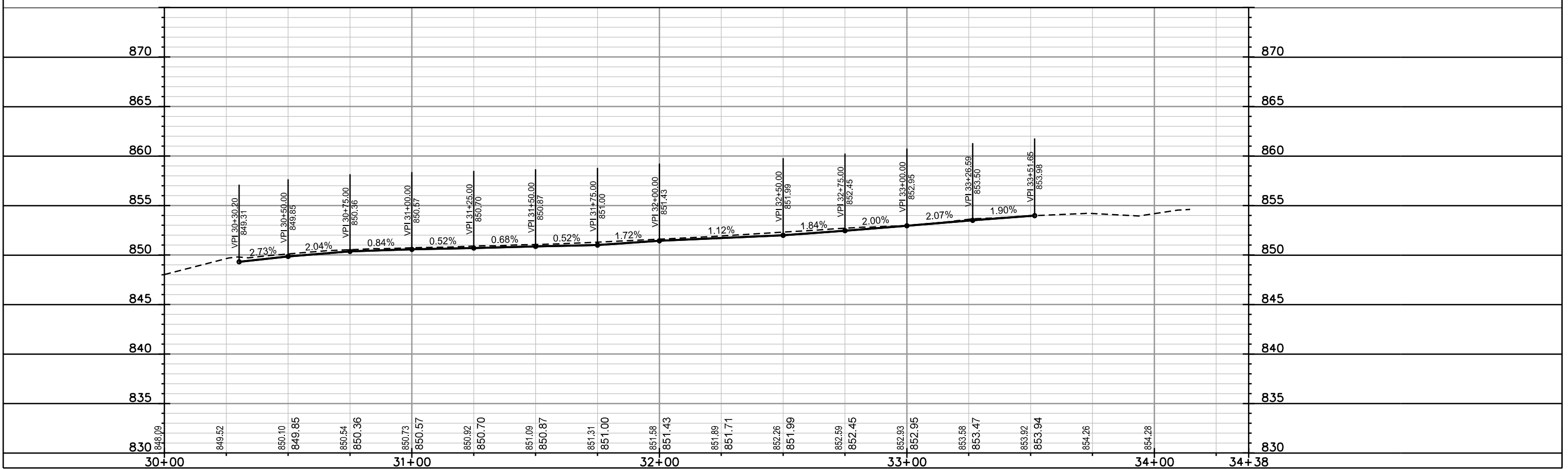
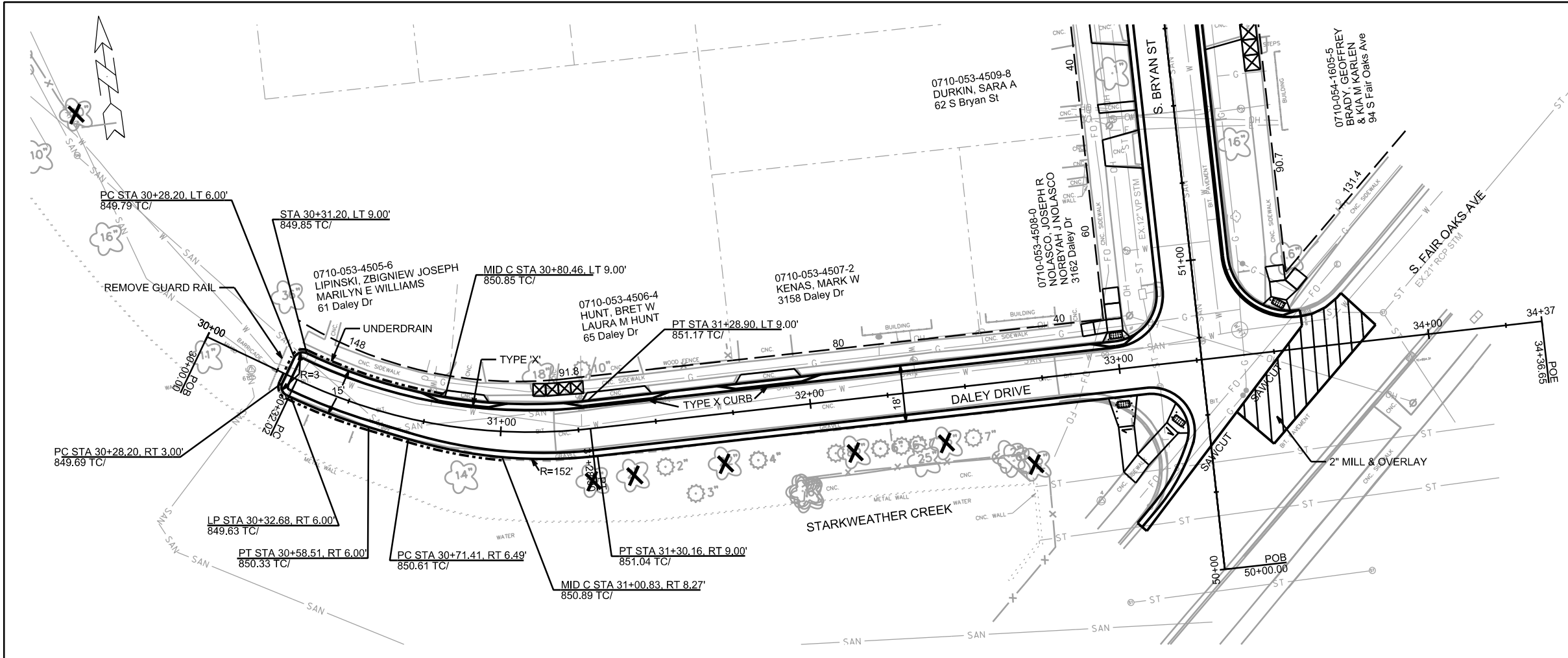
S. BRYAN STREET CITY OF MADISON



PLAN AND PROFILE
S. BRYAN STREET CITY OF MADISON



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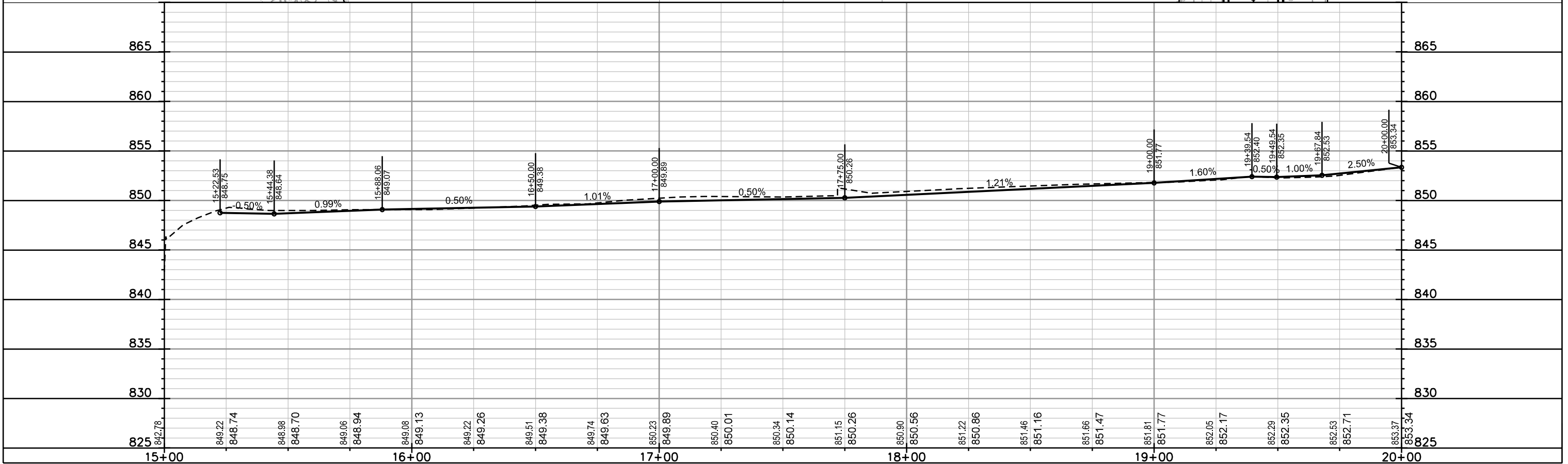
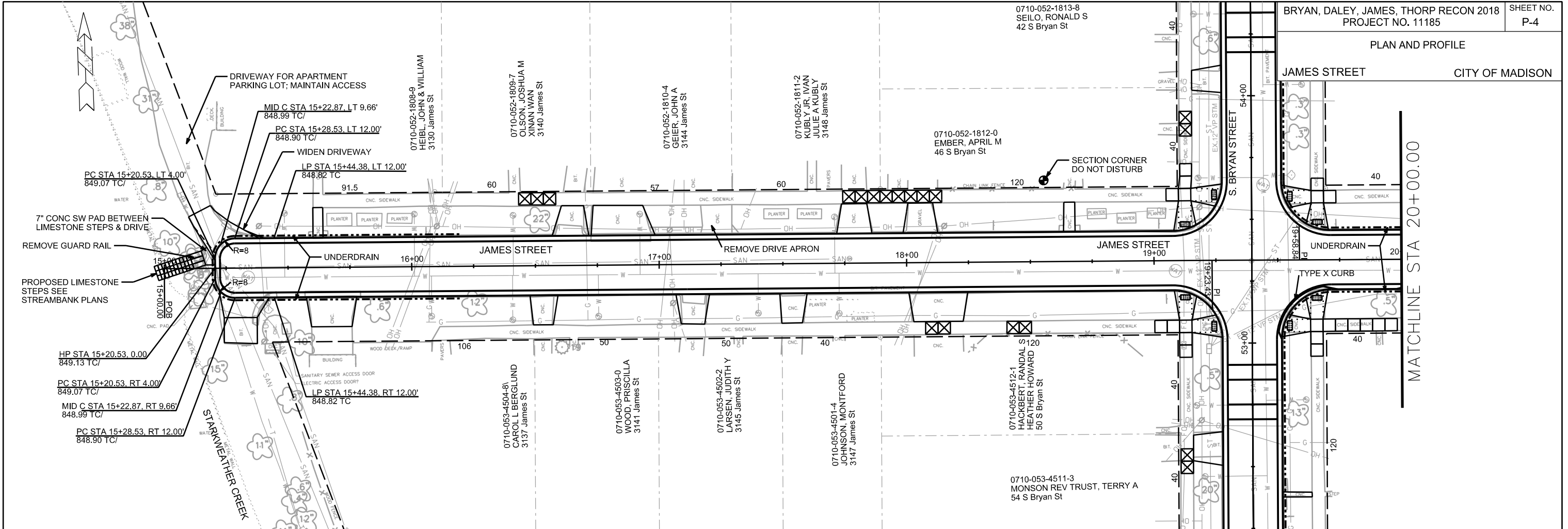
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PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLAN AND PROFILE CITY OF MADISON

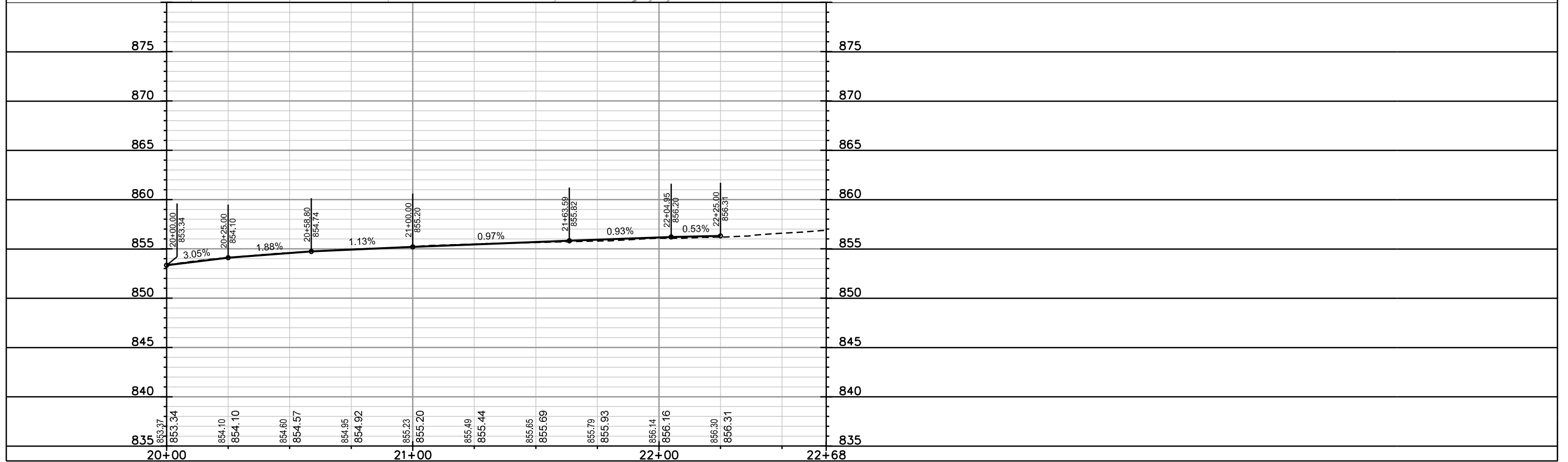
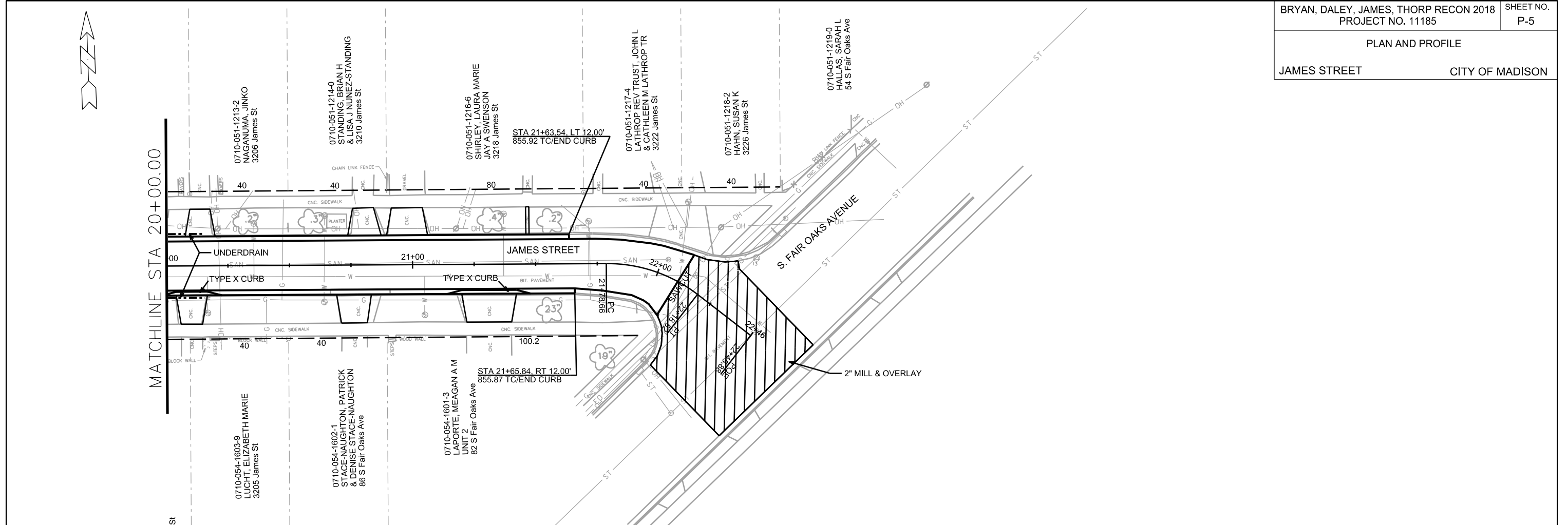


PLOT SCALE: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLAN AND PROFILE
 JAMES STREET CITY OF MADISON



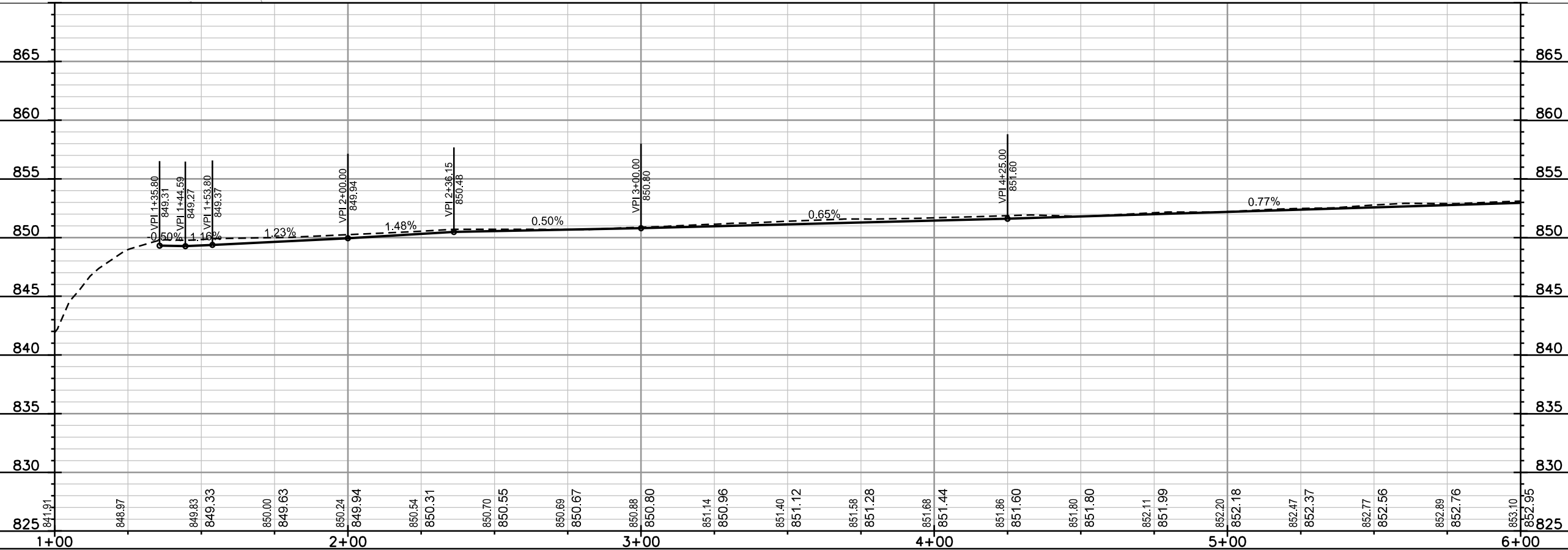
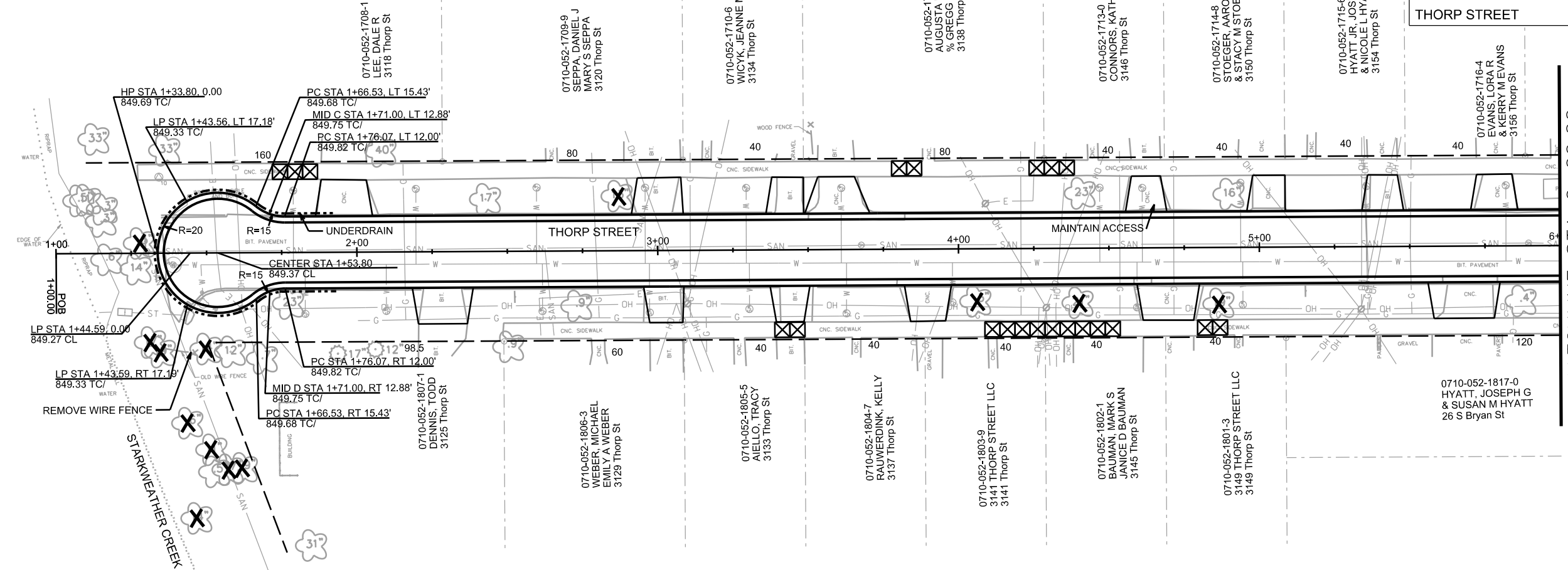
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PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLAN AND PROFILE
THORP STREET CITY OF MADISON



MATCHLINE STA 6+00.00

PLOT SCALE: _____

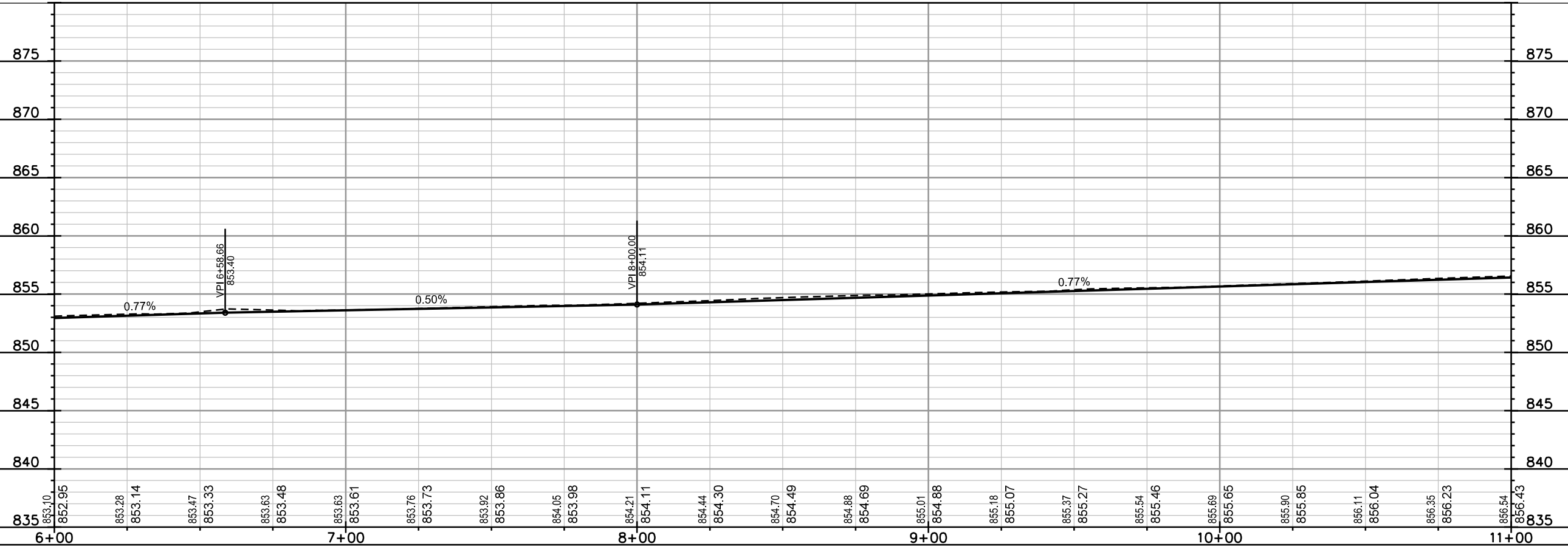
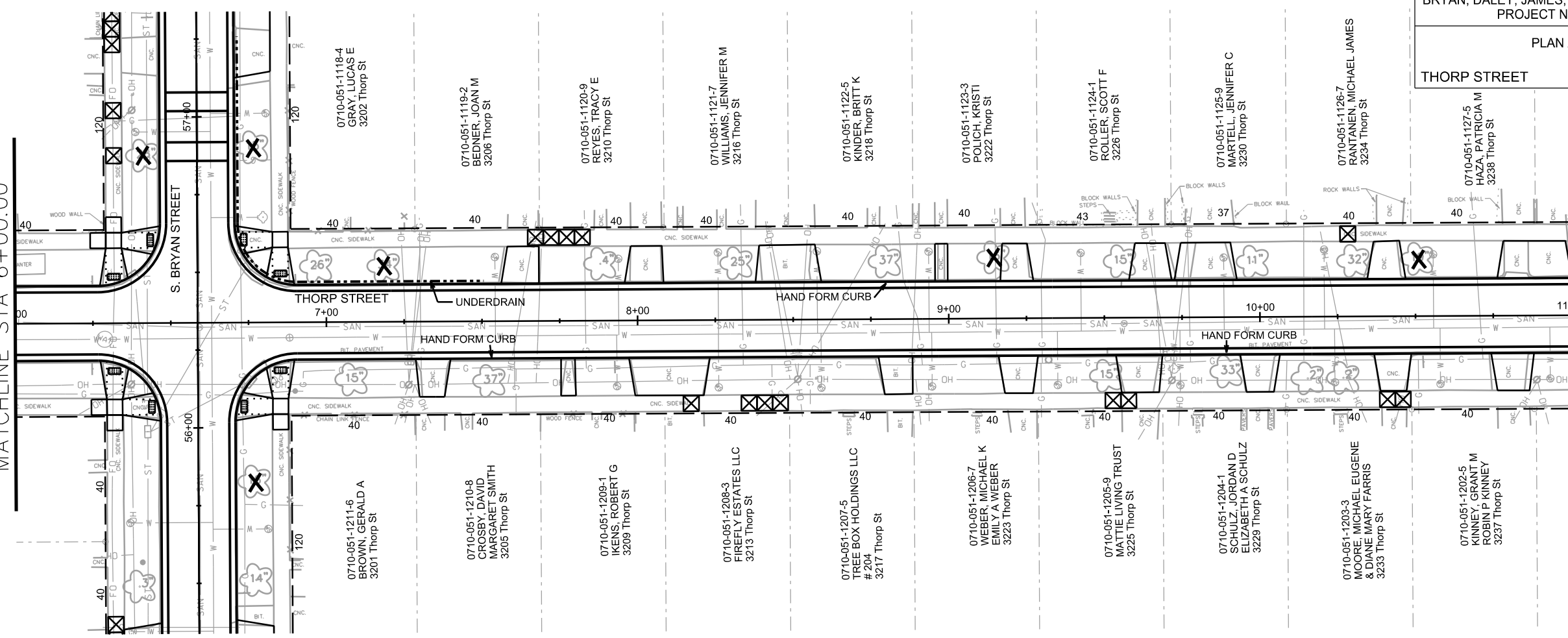
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION



MATCHLINE STA 6+00.00

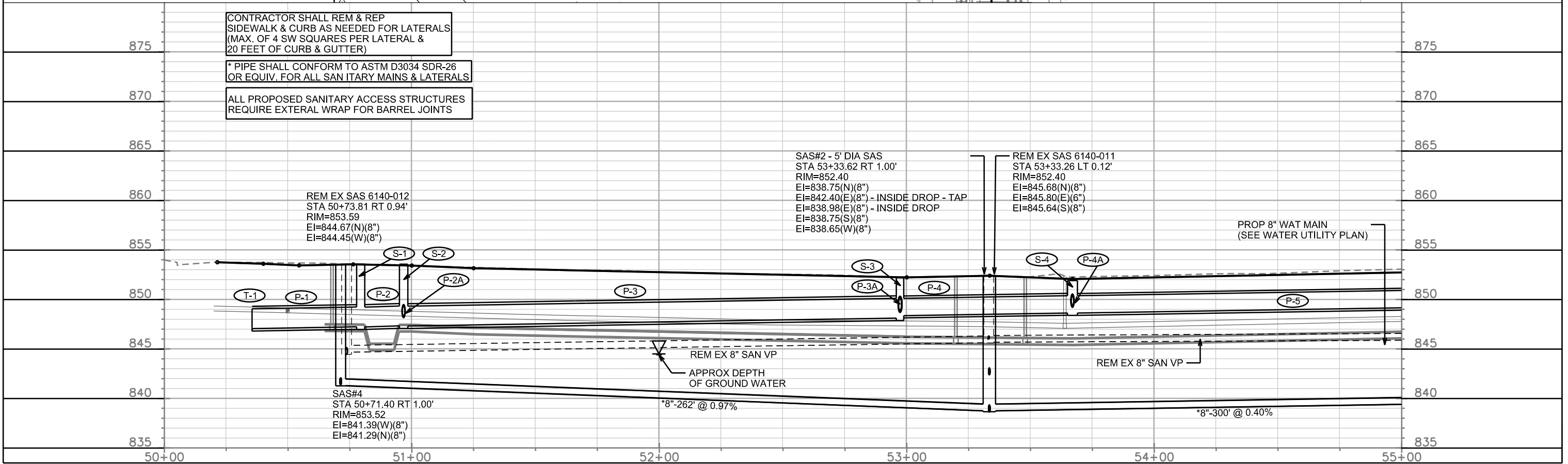
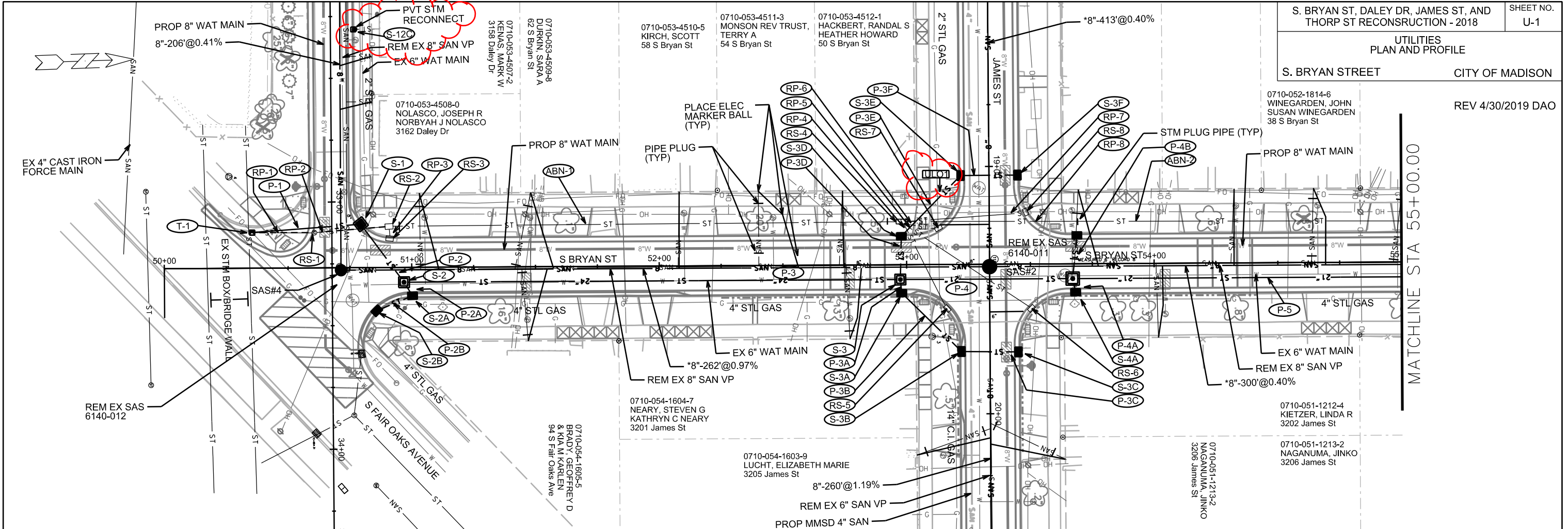
MATCHLINE STA 11+00.00



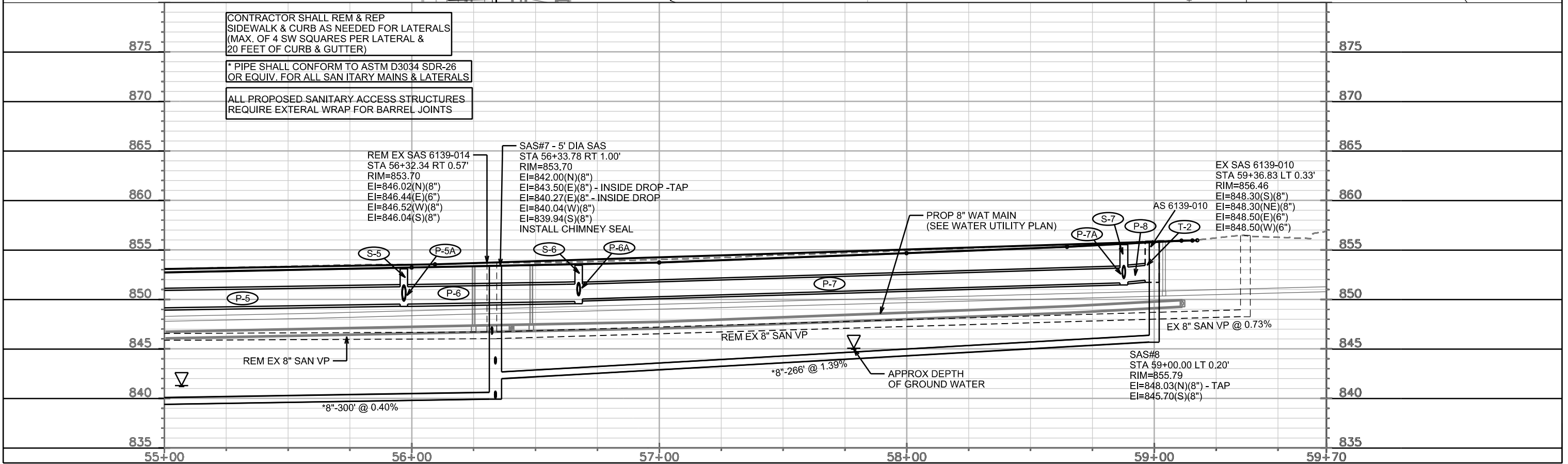
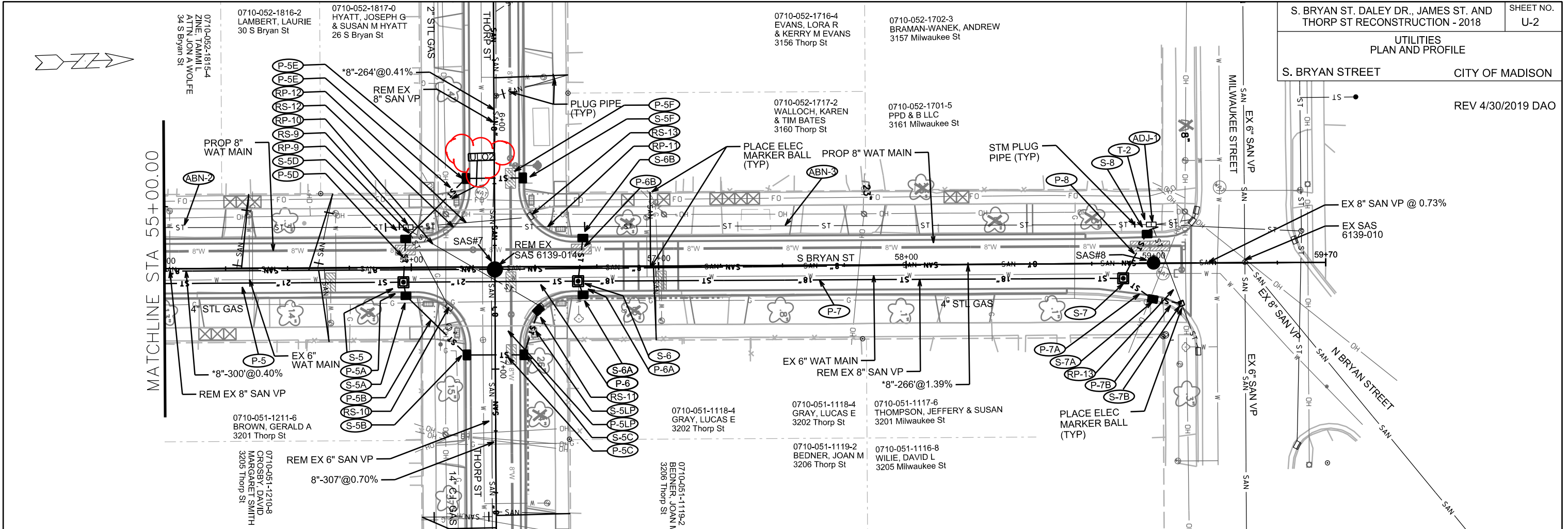
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ORIGINATOR: CITY OF MADISON, STREETS DIVISION



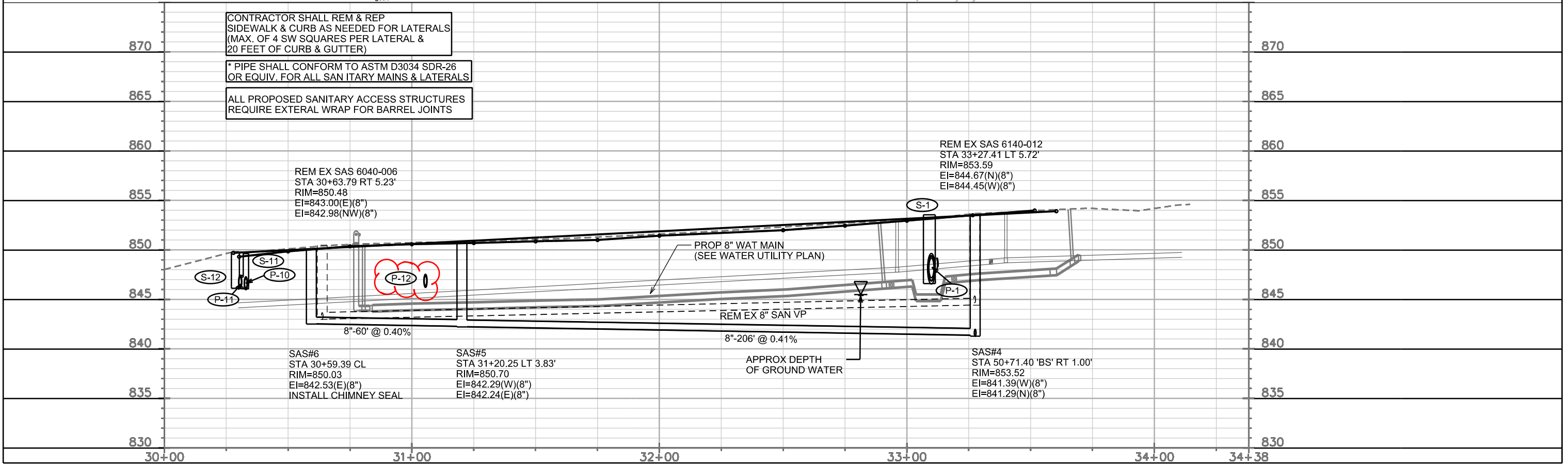
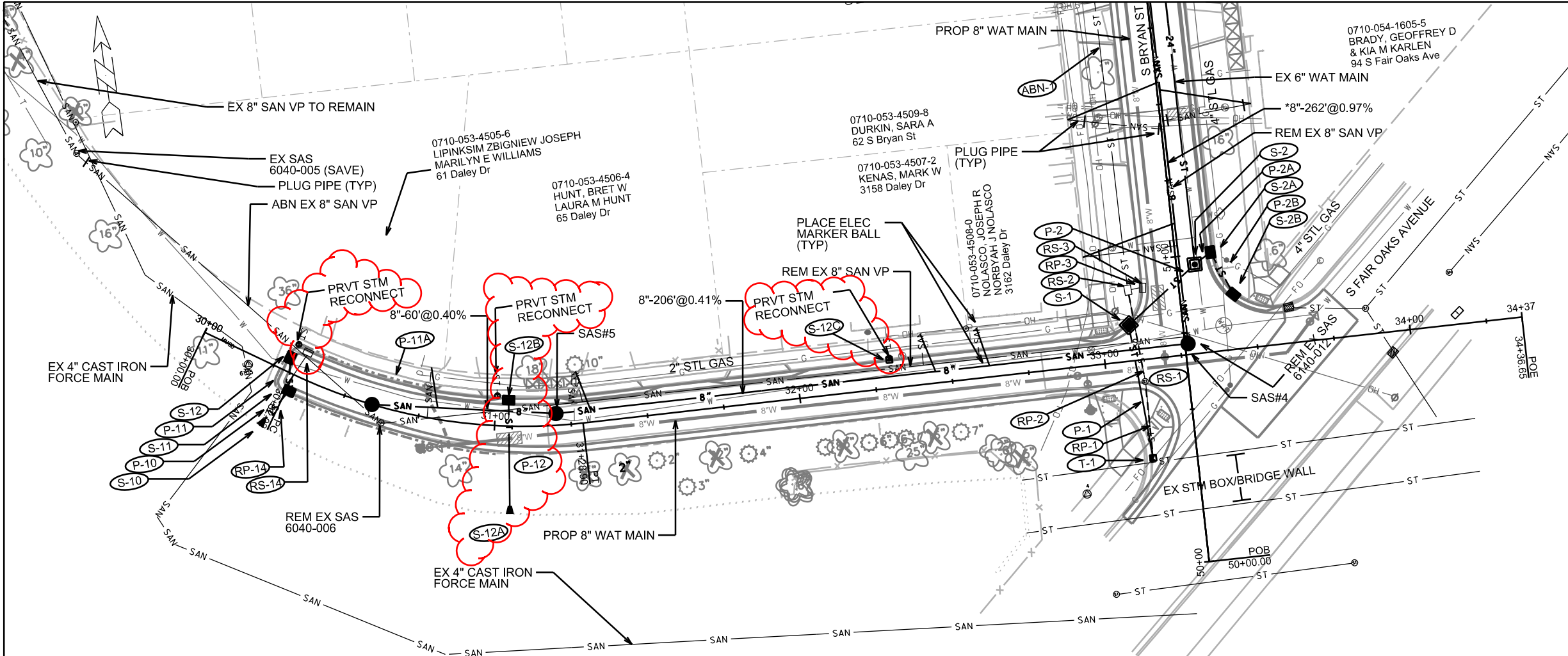
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PLOT SCALE: _____

REV. DATE: _____

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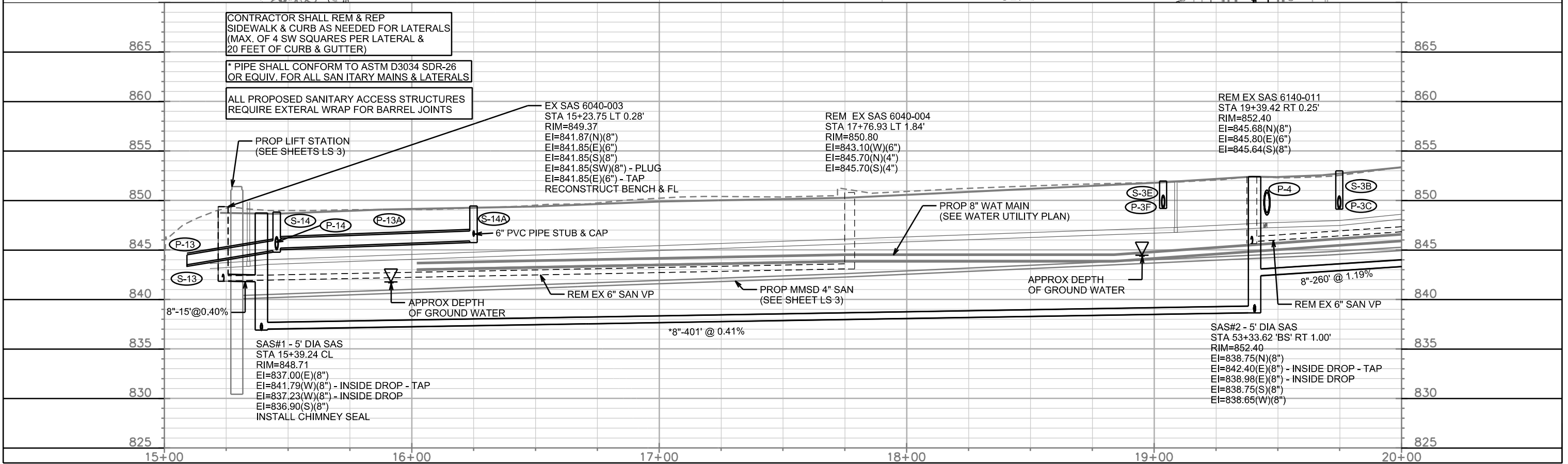
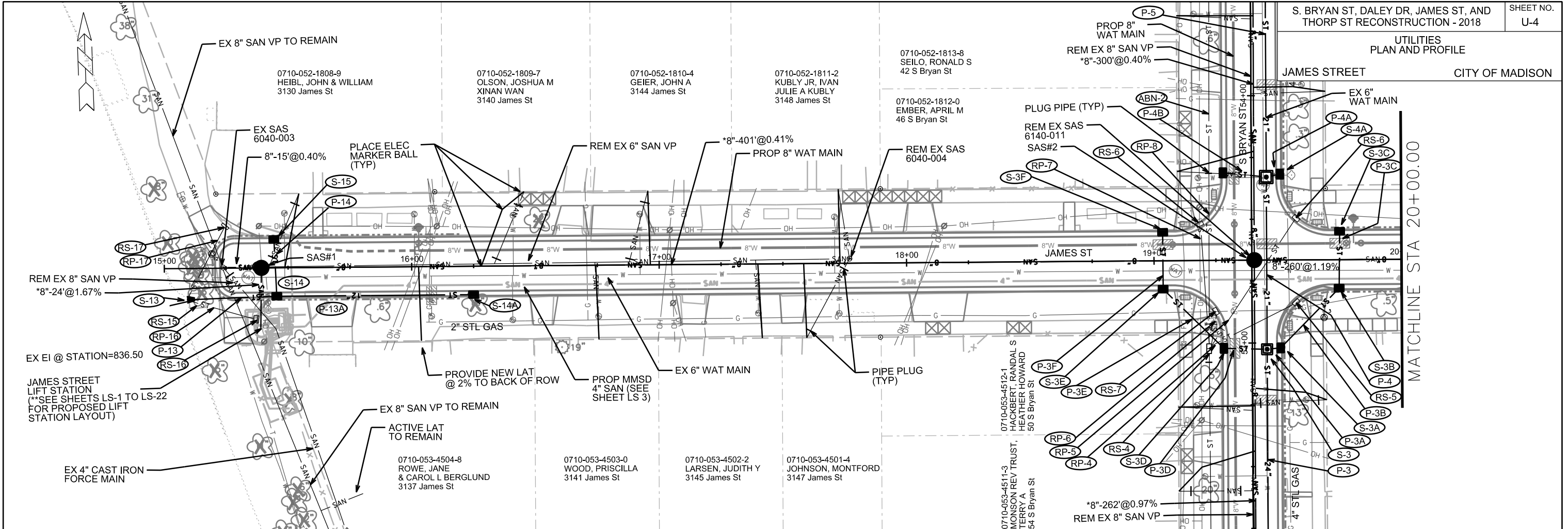


CONTRACTOR SHALL REM & REP SIDEWALK & CURB AS NEEDED FOR LATERALS (MAX. OF 4 SW SQUARES PER LATERAL & 20 FEET OF CURB & GUTTER)

* PIPE SHALL CONFORM TO ASTM D3034 SDR-26 OR EQUIV. FOR ALL SANITARY MAINS & LATERALS

ALL PROPOSED SANITARY ACCESS STRUCTURES REQUIRE EXTERNAL WRAP FOR BARREL JOINTS

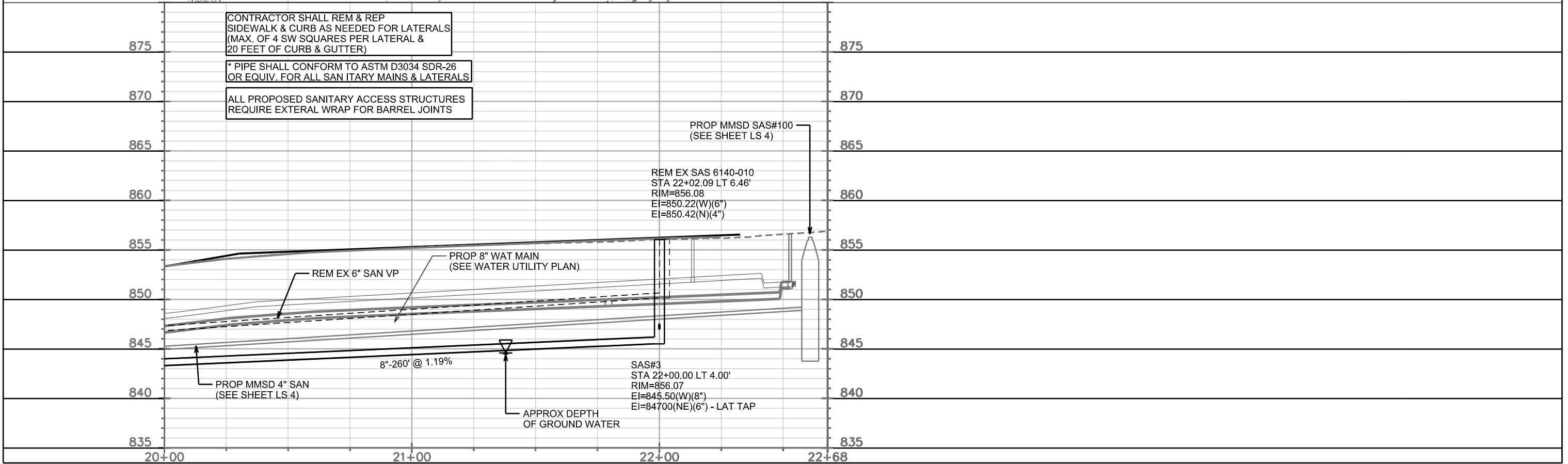
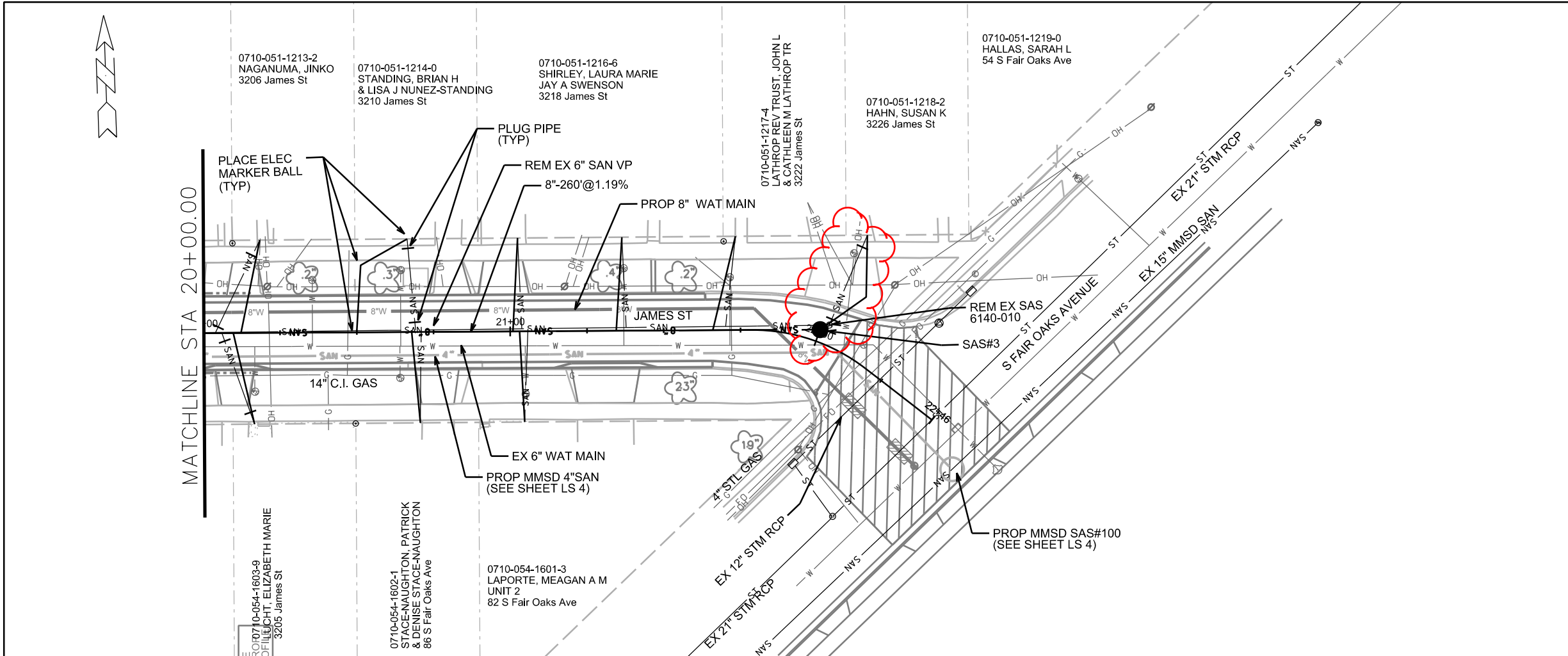
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 ORIGINATOR: CITY OF MADISON, STREETS DIVISION

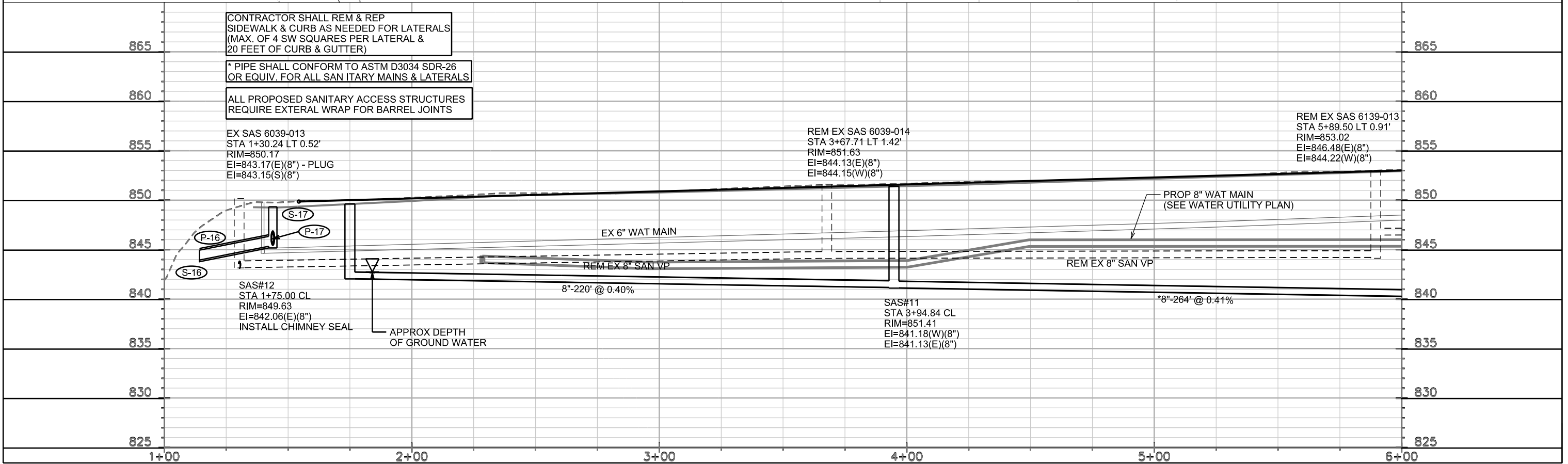
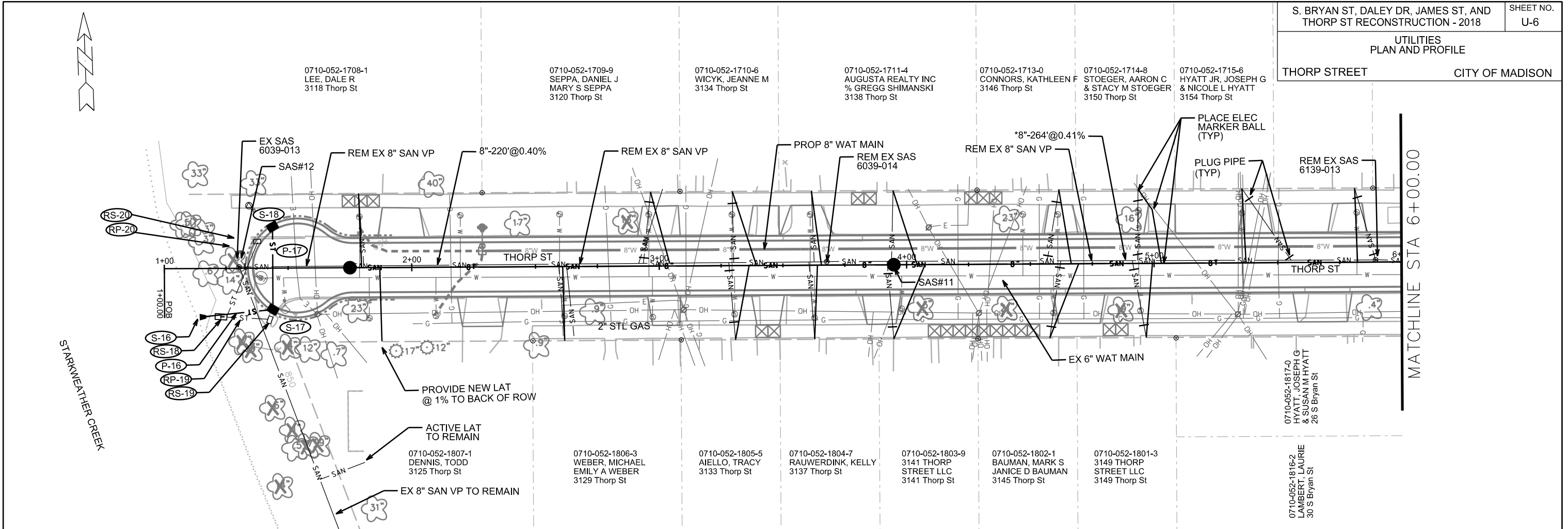


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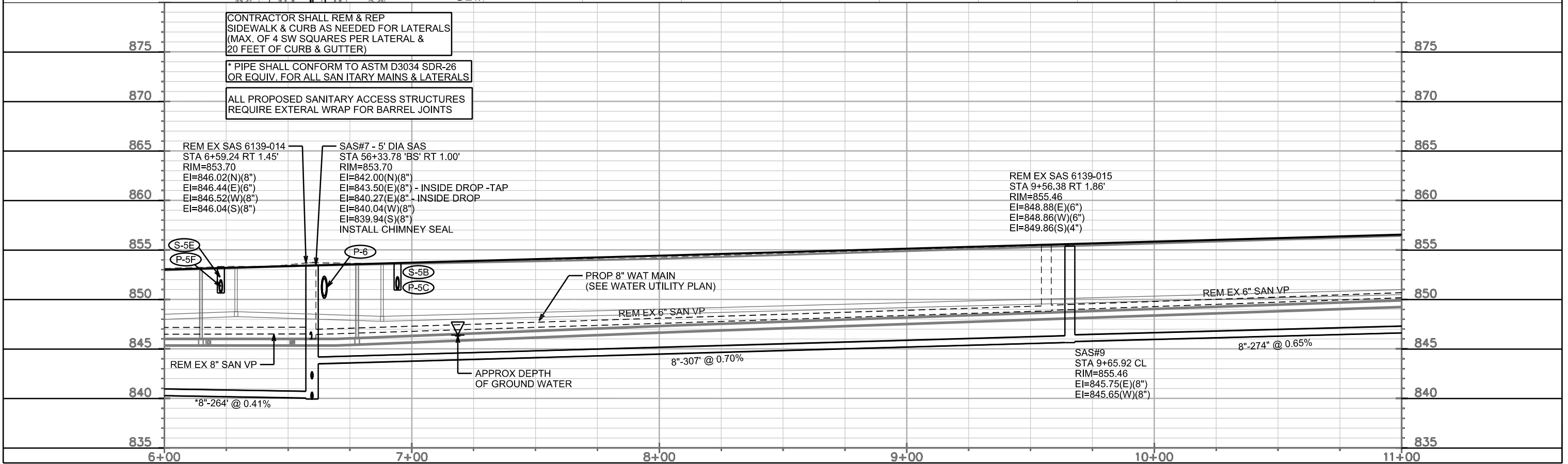
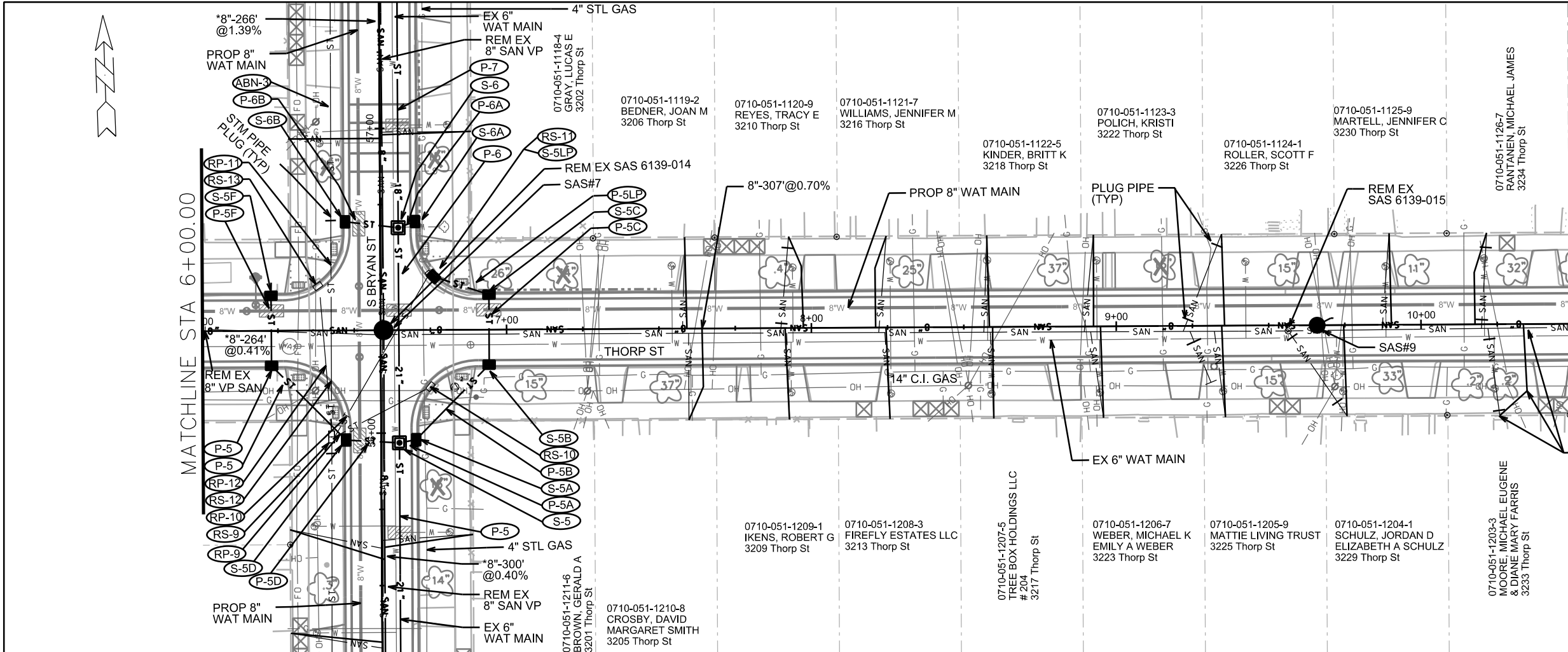
REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION





PLOT SCALE: _____
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ALL PROPOSED SANITARY ACCESS STRUCTURES REQUIRE EXTERNAL WRAP FOR BARREL JOINTS

REM EX SAS 6139-014
 STA 6+59.24 RT 1.45'
 RIM=853.70
 EI=846.02(N)(8")
 EI=846.44(E)(6")
 EI=846.52(W)(8")
 EI=846.04(S)(8")

SAS#7 - 5' DIA SAS
 STA 56+33.78 'BS' RT 1.00'
 RIM=853.70
 EI=842.00(N)(8")
 EI=843.50(E)(8") - INSIDE DROP -TAP
 EI=840.27(E)(8") - INSIDE DROP
 EI=840.04(W)(8")
 EI=839.94(S)(8")
 INSTALL CHIMNEY SEAL

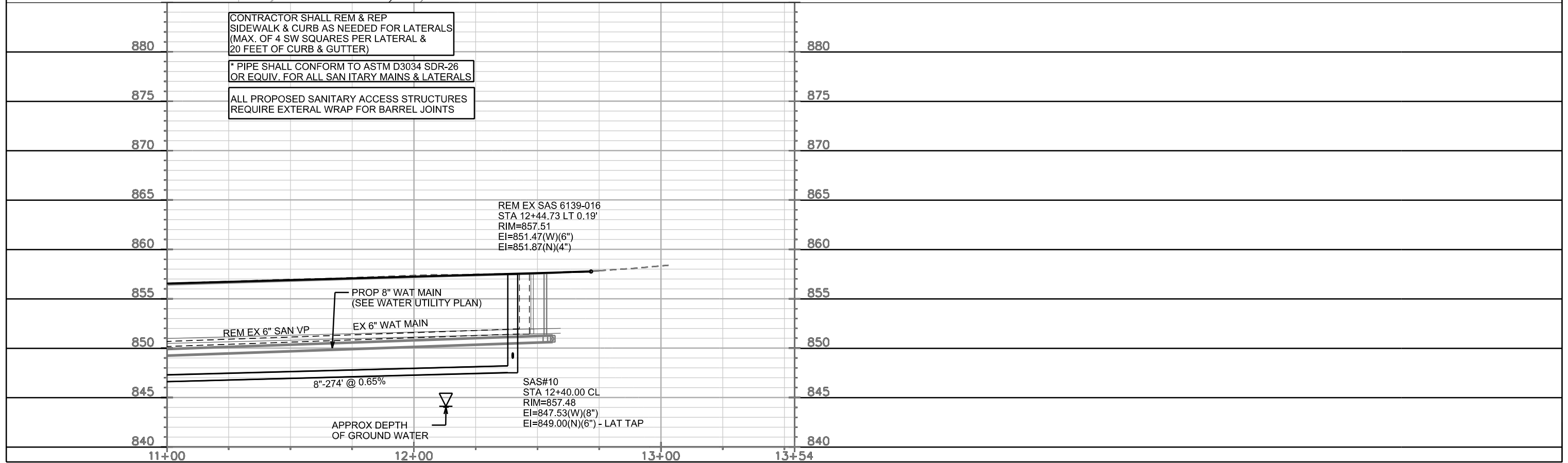
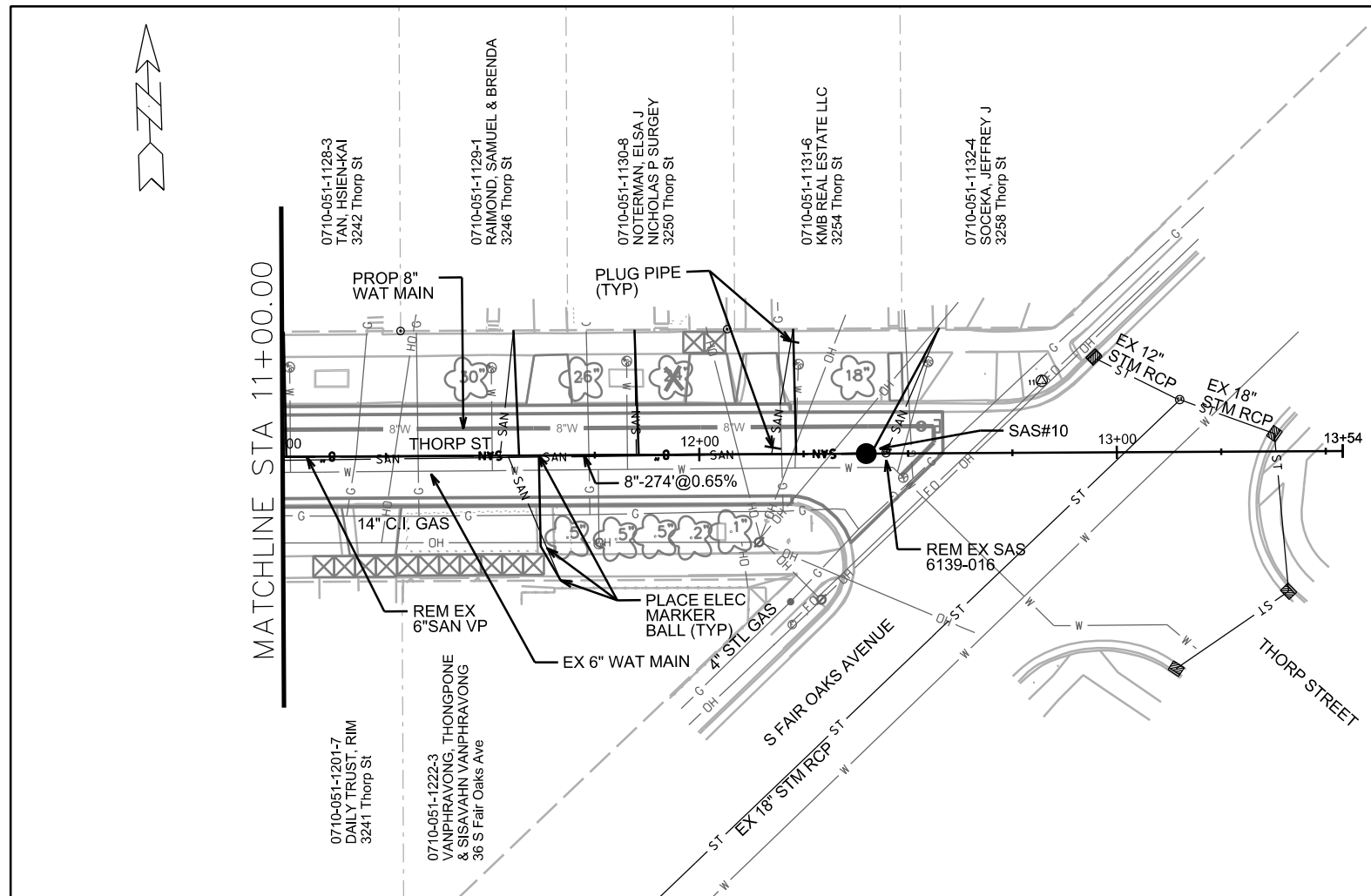
REM EX SAS 6139-015
 STA 9+56.38 RT 1.86'
 RIM=855.46
 EI=848.88(E)(6")
 EI=848.86(W)(6")
 EI=849.86(S)(4")

SAS#9
 STA 9+65.92 CL
 RIM=855.46
 EI=845.75(E)(8")
 EI=845.65(W)(8")

PLOT SCALE: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

SANITARY SEWER SCHEDULE

PROPOSED SANITARY STRUCTURES

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	NOTES
BRYAN STREET						
SAS#2	53+33.62	RT-1.00	852.40	838.65	13.75	(2)(5) - 5' DIA SAS
SAS#4	50+71.40	RT-1.00	853.52	841.29	12.23	(2)
SAS#7	56+33.78	RT-1.00	853.70	839.94	13.76	(1)(2)(5) - 5' DIA SAS
SAS#8	59+00.00	LT-0.2	855.79	845.70	10.09	(2)
DALEY DRIVE						
SAS#5	31+20.25	LT-3.83	850.70	842.24	8.46	(2)
SAS#6	30+59.39	CL	850.03	842.53	7.50	(1)(2)
JAMES STREET						
SAS#1	15+39.24	CL	848.71	836.90	11.81	(1)(2)(5) - 5' DIA SAS
SAS#3	22+00.00	LT-4.0	856.07	845.50	10.57	(2)
SAS#100	22+60.96	RT-8.71	856.28	844.25	12.03	6' DIA SAS (NO DOGHOUSE)
THORP STREET						
SAS#9	9+65.92	CL	855.46	845.65	9.81	(2)
SAS#10	12+40.00	CL	857.48	847.53	9.95	(2)
SAS#11	3+94.84	CL	851.41	841.13	10.28	(2)
SAS#12	1+75.00	CL	849.63	842.06	7.57	(1)(2)

REMOVE SANITARY STRUCTURES

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	NOTES
BRYAN STREET						
EX SAS 6139-014	56+32.34	RT-0.57	853.70	846.04	7.66	-
EX SAS 6140-011	53+33.26	LT-0.12	852.40	845.64	6.76	-
EX SAS 6140-012	50+73.81	RT-0.94	853.59	844.45	9.14	-
DALEY DRIVE						
EX SAS 6040-006	30+63.79	RT-5.23	850.48	842.98	7.50	-
JAMES STREET						
EX SAS 6040-004	17+76.93	LT-1.84	850.80	843.10	7.70	-
EX SAS 6140-010	22+02.09	LT-6.46	856.08	850.22	5.86	-
THORP STREET						
EX SAS 6039-014	3+67.71	LT-1.42	851.63	844.13	7.50	-
EX SAS 6139-013	5+89.50	LT-0.91	853.02	844.22	8.80	-
EX SAS 6139-015	9+56.38	RT-1.86	855.46	848.86	6.60	-
EX SAS 6139-016	12+44.73	LT-0.19	857.51	851.47	6.04	-

SANITARY STRUCTURES TO REMAIN

SAS NO.	STATION	LOCATION (OFFSET)	NOTES
EX SAS 6040-003	15+23.75	JAMES LT-0.3	
EX SAS 6040-005	15+87.24	JAMES RT-159.80	ACTIVE LAT BETWEEN SAS 6040-003 & SAS 6040-005
EX SAS 6039-013	1+30.24	THORP LT-0.52	ACTIVE LAT BETWEEN SAS 6040-003 & SAS 6039-013

SPECIFIC NOTES

- (1) INSTALL CHIMNEY SEAL
- (2) EXTERNAL WRAP BARREL JOINTS
- (3) REMOVE ONLY TO LOCATION OF SAS#8, STA 59+00
- (4) RECONSTRUCT BENCH & FLOWLINE FOR EX SAS 6040-003; TAP
- (5) STRUCTURE HAS INSIDE DROP

PROPOSED SANITARY PIPES

FROM (DNSTM)	TO (UPSTM)	DWNSTRM E.I.	UPSTRM E.I.	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	PVC TYPE	NOTES
BRYAN STREET								
SAS#2	SAS#4	838.75	841.29	262	0.97%	8"	SDR-26	-
SAS#2	SAS#7	838.75	839.94	300	0.40%	8"	SDR-26	-
SAS#7	SAS#8	842.00	845.70	266	1.39%	8"	SDR-26	-
DALEY DRIVE								
SAS#4	SAS#5	841.39	842.24	206	0.41%	8"	SDR-35	-
SAS#5	SAS#6	842.29	842.53	60	0.40%	8"	SDR-35	-
JAMES STREET								
MMSD LIFT STATION	SAS#1	836.50	836.90	24	1.67%	8"	SDR-26	TAP AT LIFT STATION CONNECTION
SAS#1	EX SAS 6040-003	841.79	841.85	15	0.40%	8"	SDR-35	(4); 4.56' VERTICAL INSIDE DROP
SAS#1	SAS#2	837.00	838.65	401	0.41%	8"	SDR-26	-
SAS#2	SAS#3	842.40	845.50	260	1.19%	8"	SDR-35	3.42' VERTICAL INSIDE DROP
THORP STREET								
SAS#7	SAS#9	843.50	845.65	307	0.70%	8"	SDR-35	3.23' VERTICAL INSIDE DROP
SAS#9	SAS#10	845.75	847.53	274	0.65%	8"	SDR-35	-
SAS#7	SAS#11	840.04	841.13	264	0.41%	8"	SDR-26	-
SAS#11	SAS#12	841.18	842.06	220	0.40%	8"	SDR-35	-

EXISTING SANITARY PIPES

BRYAN STREET								
SAS#8	EX 6139-010	848.03	848.30	37	0.73%	8"		EX SAN VP TO REMAIN

REMOVE SANITARY PIPES

FROM (DNSTM)	TO (UPSTM)	LENGTH (FT)	PAID (Y/N)	PIPE SIZE	PIPE TYPE	NOTES
BRYAN STREET						
EX SAS 6140-012	EX SAS 6140-011	255	N	8"	VP	-
EX SAS 6140-011	EX SAS 6139-014	295	N	8"	VP	-
EX SAS 6139-014	EX SAS 6139-010	267	N	8"	VP	(3)
DALEY DRIVE						
EX SAS 6040-006	EX SAS 6140-012	260	N	8"	VP	-
JAMES STREET						
EX LIFT STATION	EX SAS 6040-003	33	Y	8"	VP	-
EX SAS 6040-003	EX SAS 6040-004	249	N	6"	VP	-
EX SAS 6140-011	EX SAS 6140-010	261	N	6"	VP	-
THORP STREET						
EX SAS 6039-013	EX SAS 6039-014	233	N	8"	VP	-
EX SAS 6039-014	EX SAS 6139-013	218	N	8"	VP	-
EX SAS 6139-013	EX SAS 6139-014	66	N	8"	VP	-
EX SAS 6139-014	EX SAS 6139-015	293	N	6"	VP	-
EX SAS 6139-015	EX SAS 6139-016	284	N	6"	VP	-

ABANDON SANITARY PIPES

FROM (DNSTM)	TO (UPSTM)	LENGTH (FT)	PIPE SIZE	PIPE TYPE	NOTES
EX SAS 6040-005	EX SAS 6040-006	129	8"	VP	ABANDON W/ PIPE PLUGS

STORM SEWER SCHEDULE

* REV 4/30/2019 DAO

S. BRYAN ST, DALEY DR, JAMES ST, AND	SHEET NO.
THORP ST RECONSTRUCTION - 2018	U-10
STORM SEWER SCHEDULE	
CITY OF MADISON	

PROPOSED STORM STRUCTURES

STRUC. NO.	STATION	LOCATION (OFFSET)	TYPE	TOP OF CASTING	E.I.	DEPTH	NOTES
BRYAN ST							
T-1	50+35.60	LT-14.39	TAP EX BOX WALL	-	847.05	-	(1)
S-1	50+79.49	LT-17.54	3x3 SAS	853.55	847.22	6.33	W/3067-7004-V
S-2	50+96.84	RT-6.00	3x3 SAS	853.55	847.32	6.23	W/1550-0054
S-2A	51+00.24	RT-11.50	H INLET	853.99	848.34	5.65	W/3067-7004-V
S-2B	50+85.78	RT-17.47	H INLET	852.18	848.45	3.73	W/3067-7004-V
S-3	52+97.43	RT-6.00	3x3 SAS	852.18	848.11	4.07	FP; W/1550-0054
S-3A	52+97.97	RT-11.50	H INLET	852.30	848.89	3.41	W/3067-7004-V
S-3B	53+22.00	RT-35.23	H INLET	852.98	849.29	3.69	W/3067-7004-V
S-3C	53+45.00	RT-35.52	H INLET	852.89	849.40	3.49	W/3067-7004-V
S-3D	52+97.90	LT-11.50	H INLET	851.85	848.95	2.90	FP; W/3067-7004-V
S-3E	53+21.97	LT-35.91	H INLET	851.95	849.36	2.59	FP; W/3067-7004-V
S-3F	53+44.97	LT-35.99	H INLET	852.00	849.47	2.53	FP; W/3067-7004-V
S-4	53+67.08	RT-6.00	3x3 SAS	851.90	848.62	3.28	FP; W/1550-0054
S-4A	53+68.23	RT-11.50	H INLET	852.15	849.39	2.76	FP; W/3067-7004-V
S-4B	53+68.86	LT-11.50	H INLET	852.25	849.44	2.81	FP; W/3067-7004-V
S-5	55+96.80	RT-6.00	3x3 SAS	853.09	849.52	3.57	FP; W/1550-0054
S-5A	55+97.82	RT-11.50	H INLET	853.38	850.04	3.34	FP; W/3067-7004-V
S-5B	56+22.29	RT-35.56	H INLET	853.67	850.45	3.22	W/3067-7004-V
S-5C	56+45.29	RT-35.61	H INLET	853.69	850.61	3.08	FP; W/3067-7004-V
S-5LP	56+51.29	17.51	H INLET	853.65	850.69	2.96	LP;FP; W/3067-7004-VB
S-5D	55+97.81	LT-11.50	H INLET	853.39	850.10	3.29	FP; W/3067-7004-V
S-5E	56+22.29	LT-35.82	H INLET	853.29	850.51	2.78	FP; W/3067-7004-V
S-5F	56+45.29	LT-35.90	H INLET	853.30	850.67	2.63	FP; W/3067-7004-V
S-6	56+67.39	RT-5.95	3x3 SAS	853.44	849.79	3.65	FP; W/1550-0054
S-6A	56+69.40	RT-11.50	H INLET	853.79	850.56	3.23	W/3067-7004-V
S-6B	56+69.40	LT-11.50	H INLET	853.79	850.62	3.17	W/3067-7004-V
S-7	58+87.71	RT-6.00	3x3 SAS	855.52	851.67	3.85	FP; W/1550-0054
S-7A	58+99.55	RT-14.46	H INLET	855.94	852.33	3.61	W/3067-7004-V
S-7B	59+11.15	RT-16.27	PIPE BEND	852.43	851.93	-	(2)
S-8	58+97.44	LT-11.84	SADDLED INLET TYPE 1	855.87	851.90	3.97	W/3067-7004-V; (3)
T-2	58+99.13	LT-15.71	TAP EX AS 6139-010	-	851.93	-	
DALEY ST							
S-10	30+29.26	RT-19.81	12" Apron Endwall	-	845.36	-	
S-11	30+32.93	RT-5.50	H INLET	849.63	846.13	3.50	LP; W/3067-7004-VB
* S-12	30+28.70	LT-4.50	H INLET	849.79	846.29	3.50	W/3067-7004-V; (5)
* S-12A	31+05.58	RT-28.63	12" Apron Endwall	-	844.00	-	
* S-12B	31+04.36	LT-8.50	H INLET	850.58	847.08	3.50	W/1550-0054; (5)
* S-12C	32+30.28	LT-9.23	CURB OPENING STR	852.21	-	-	R-3262-6 (OR SIMILAR); (5)
JAMES ST							
S-13	15+09.11	RT-12.66	12" Apron Endwall	-	843.50	-	
S-14	15+45.38	RT-11.50	H INLET	848.82	845.06	3.76	LP; W/3067-7004-VB
S-14A	16+24.92	RT-11.50	H INLET	849.43	845.93	3.50	W/3067-7004-V; (4)
S-15	15+44.38	LT-11.50	H INLET	848.82	845.32	3.50	LP; W/3067-7004-VB
THORP ST							
S-16	1+14.20	RT-19.67	12" Apron Endwall	-	843.95	-	
S-17	1+43.84	RT-16.76	H INLET	849.33	845.50	3.83	LP; W/3067-7004-VB
S-18	1+43.81	LT-16.74	H INLET	849.33	845.83	3.50	LP; W/3067-7004-VB

PROPOSED STORM PIPES

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	DISCH. E.I.	INLET E.I.	PLAN (PAY) LGTH (FT)	PIPE LGTH (FT)	SLOPE (%)	PIPE SIZE	TYPE	NOTES
BRYAN ST										
P-1	T-1	S-1	847.05	847.22	44	42	0.40%	24"	RCP	
P-2	S-1	S-2	847.22	847.32	29	26	0.39%	24"	RCP	
P-2A	S-2	S-2A	848.32	848.34	7	4	0.56%	12"	RCP	
P-2B	S-2A	S-2B	848.39	848.45	16	12	0.48%	12"	RCP	
P-3	S-2	S-3	847.32	848.11	201	198	0.40%	24"	RCP	
P-3A	S-3	S-3A	848.88	848.89	6	3	0.40%	15"	RCP	
P-3B	S-3A	S-3B	849.14	849.29	34	31	0.49%	12"	RCP	
P-3C	S-3B	S-3C	849.29	849.40	23	21	0.52%	12"	RCP	
P-3D	S-3	S-3D	848.88	848.95	18	15	0.48%	15"	RCP	
P-3E	S-3D	S-3E	849.20	849.36	35	32	0.51%	12"	RCP	
P-3F	S-3E	S-3F	849.36	849.47	23	21	0.52%	12"	RCP	
P-4	S-3	S-4	848.36	848.62	70	66	0.39%	21"	RCP	
P-4A	S-4	S-4A	849.37	849.39	6	3	0.78%	12"	RCP	
P-4B	S-4	S-4B	849.37	849.44	18	15	0.48%	12"	RCP	
P-5	S-4	S-5	848.62	849.52	230	226	0.40%	21"	RCP	
P-5A	S-5	S-5A	850.02	850.04	6	3	0.65%	15"	RCP	
P-5B	S-5A	S-5B	850.29	850.45	35	32	0.51%	12"	RCP	
P-5C	S-5B	S-5C	850.50	850.61	23	21	0.52%	12"	RCP	
P-5LP	S-5C	S-5LP	850.61	850.69	19	16	0.50%	12"	RCP	
P-5D	S-5	S-5D	850.02	850.10	18	15	0.53%	15"	RCP	
P-5E	S-5D	S-5E	850.35	850.51	35	32	0.50%	12"	RCP	
P-5F	S-5E	S-5F	850.56	850.67	23	21	0.52%	12"	RCP	
P-6	S-5	S-6	849.52	849.79	71	67	0.40%	21"	RCP	
P-6A	S-6	S-6A	850.54	850.56	6	3	0.62%	12"	RCP	
P-6B	S-6	S-6B	850.54	850.62	18	15	0.53%	12"	RCP	
P-7	S-6	S-7	850.04	851.67	221	217	0.75%	18"	RCP	
P-7A	S-7	S-7A	852.27	852.33	15	11	0.55%	12"	RCP	
P-8	S-7	T-2	851.77	851.93	25	20	0.80%	18"	RCP	
DALEY ST										
P-10	S-10	S-11	845.36	846.13	15	14	5.58%	12"	RCP	
P-11	S-11	S-12	846.23	846.29	11	8	0.73%	12"	RCP	
* P-12	S-12A	S-12B	844.00	847.08	37	36	8.56%	12"	RCP	
JAMES ST										
P-13	S-13	S-14	843.50	845.06	36.5	35	4.48%	12"	RCP	
P-13A	S-14	S-14A	845.16	845.93	79.5	77	1.01%	12"	RCP	
P-14	S-14	S-15	845.16	845.32	23	21	0.76%	12"	RCP	
THORP ST										
P-16	S-16	S-17	843.95	845.50	30	28	5.52%	12"	RCP	
P-17	S-17	S-18	845.60	845.83	33.5	31	0.74%	12"	RCP	

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- APPROXIMATE DISCHARGE E.I. GIVEN, ADJUST E.I. AND PIPE SLOPE IN THE FIELD.

- TOP OF CASTING GRADE GIVEN IS THE TOP OF CURB FOR INLET STRUCTURES AND THE FLOWLINE OF THE CLOSED CASTING FOR SAS'S.

- TOP OF CONCRETE ROOF (TR) IS 1.25' BELOW TOP OF CASTING UNLESS OTHERWISE NOTED.

- ALL REINFORCED CONCRETE PIPES TO BE CLASS III UNLESS OTHERWISE NOTED.

- SURVEYOR TO CONFIRM THAT ALL INLET STATION / OFFSETS LINE UP WITH PROPOSED CURB AND GUTTER.

- ALL STRUCTURES CALLED OUT AS FIELD POURED SHALL BE FIELD POURED. ALL OTHER STRUCTURES (NOT INDICATED AS FIELD POURED) SHALL BE SUBMITTED TO CITY ENGINEERING FOR APPROVAL IF PRECAST STRUCTURES ARE PREFERRED. CONTACT DANIEL OLIVARES OF CITY ENGINEERING AT (608) 261-9285 FOR PRECAST APPROVALS, FAX SHOP DRAWINGS TO (608)264-9275, OR EMAIL SHOP DRAWINGS TO DAOLIVARES@CITYOFMADISON.COM.

SPECIFIC NOTES

(1) SEE BID ITEM 90039

(2) PAID AS TWO CONCRETE COLLARS (BID ITEM 50499) TO INCLUDE INCIDENTAL MATERIALS AND LABOR

(3) SADDLED INLET TYPE 1 OVER P-8

(4) PROVIDE PVC PIPE STUB AND CAP @ EI= 846.43 (S)(6"), EXTEND 12" IN FROM BOX EXTERIOR

* (5) PRIVATE STORM PIPE CONNECTION (SEE U-3)

NOTE: PLAN LENGTH (PAY LENGTH) IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. PIPE LENGTH IS ACTUAL LENGTH OF PIPE FROM STRUCTURE WALL TO STRUCTURE WALL. SLOPE CALCULATED USING PIPE LENGTH.

STORM SEWER SCHEDULE

* REV 4/30/2019 DAO

S. BRYAN ST, DALEY DR, JAMES ST, AND THORP ST RECONSTRUCTION - 2018	SHEET NO. U-11
STORM SEWER SCHEDULE	
CITY OF MADISON	

REMOVE STORM STRUCTURES

STRUC. NO.	ID NO.	STATION	LOCATION (OFFSET)	TYPE	NOTES
BRYAN ST					
RS-1	CB 6040-051	50+60.70	LT-14.25	EX 5X5 CB	HAS 4' SUMP
RS-2	IN 6140-002	50+90.91	LT-16.57	EX INLET	
RS-3	IN 6140-003	50+91.20	LT-11.77	EX INLET	
RS-4	AS 6140-015	52+97.81	LT-17.45	EX 5X7 SAS	
RS-5	IN 6140-012	53+16.59	RT-17.53	EX INLET	
RS-6	IN 6140-013	53+50.25	RT-17.54	EX INLET	
RS-7	IN 6140-014	53+13.05	LT-14.37	EX INLET	
RS-8	IN 6140-011	53+48.31	LT-21.18	EX INLET	
RS-9	AS 6139-015	55+98.86	LT-16.23	EX 5X7 SAS	
RS-10	IN 6139-019	56+15.43	RT-15.88	EX INLET	
RS-11	IN 6139-017	56+51.73	RT-15.83	EX INLET	
RS-12	IN 6139-018	56+13.81	LT-14.43	EX INLET	
RS-13	IN 6139-016	56+48.25	LT-20.46	EX INLET	
DALEY DR					
RS-14	IN 6040-033	30+33.24	LT-8.50	EX INLET	
JAMES ST					
RS-15	AS 6040-029	15+12.78	RT-12.64	EX 5X7 SAS	
RS-16	IN 6040-031	15+36.99	RT-20.73	EX INLET	
RS-17	IN 6040-030	15+24.67	LT-16.90	EX INLET	
THORP ST					
RS-18	AS 6039-010	1+22.79	RT-19.59	EX 5X7 SAS	
RS-19	IN 6039-012	1+42.55	RT-20.90	EX INLET	
RS-20	IN 6039-011	1+36.99	LT-10.77	EX INLET	

STORM SEWER ULOs

ULO NO.	STATION	LOCATION (OFFSET)	TYPE	NOTES
BRYAN ST				
* ULO1	53+13.73	LT-27.56	FO	
* ULO2	56+14.19	LT-27.30	FO	

SPECIFIC NOTES

(1) MODIFY EXISTING ROOF; INSTALL TWO (2) R-1500-0054 CASTINGS

REMOVE STORM PIPES

REMOVE NO.	REMOVE FROM	REMOVE TO	LGTH (FT)	PIPE SIZE	PIPE TYPE	PAID (Y/N)	NOTES
BRYAN ST							
RP-1	T-1	RS-1	32	15"	RCP	N	
RP-2	RS-1	RS-2	31	15"	RCP	N	
RP-3	RS-2	RS-3	5	12"	RCP	N	
RP-4	RS-4	RS-5	40	12"	VP	Y	
RP-5	RS-4	RS-6	63	12"	VP	Y	
RP-6	RS-4	RS-7	14	12"	VP	Y	
RP-7	RS-4	RS-8	55	12"	VP	Y	
RP-8	RS-4	STA 53+70.00, LT 17.17'	48	12"	VP	Y	
RP-9	RS-9	RS-10	36	12"	VP	Y	
RP-10	RS-9	RS-11	62	12"	VP	Y	
RP-11	RS-9	STA 56+70.00, LT 16.16'	47	12"	VP	Y	
RP-12	RS-9	RS-13	50	12"	VP	Y	
RP-13	ADJ-1	STA 59+11.15, RT 16.27'	23	12"	VP	Y	
DALEY DR							
RP-14	STA 30+29.27, RT 19.82'	RS-14	19	12"	VP	N	
JAMES ST							
RP-16	RS-15	RS-16	18	12"	VP	Y	
RP-17	RS-15	RS-17	23	12"	VP	Y	
THORP ST							
RP-19	RS-18	RS-19	12	12"	VP	N	
RP-20	RS-18	RS-20	22	12"	VP	Y	

STORM SEWER ABANDONMENTS

PIPE NO.	FROM (DNSTM)	TO (UPSTM)	LGTH (FT)	PIPE SIZE	TYPE	NOTES
BRYAN ST						
ABN-1	S-2	RS-4	138	12"	VP	ABANDON W/ PIPE PLUGS
ABN-2	STA 53+70.00, LT 17.17'	RS-9	154	12"	VP	ABANDON W/ PIPE PLUGS
ABN-3	STA 56+70.00, LT 16.16'	ADJ-1	153	12"	VP	ABANDON W/ PIPE PLUGS

STORM STRUCTURE ADJUSTMENTS

ADJUST NO.	STATION	LOCATION (OFFSET)	EX. TOC ELEV.	ADJUST ELEV.	ADJUST DIFF.	NOTES
BRYAN ST						
ADJ-1	58+99.13	LT-15.71				EX SAS 6139-010; (1)

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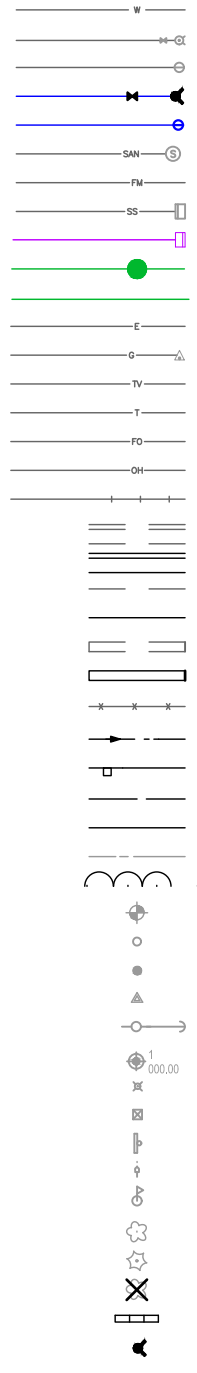
ABBREVIATIONS

A.B.	ANCHOR BOLT	HVAC	HEATING/VENTILATING/ AIR CONDITIONING
ACOUST	ACOUSTIC(AL)	I.F.	INSIDE FACE
A/C	AIR CONDITIONER	ID	INSIDE DIAMETER
ADJ	ADJACENT	IE	INVERT ELEVATION
A.F.F.	ABOVE FINISH FLOOR	INSUL	INSULATION
ALP	AIR LIFT PUMP	INV	INVERT
ALT	ALTERNATE	JT	JOINT
ALUM	ALUMINUM	LAV	LAVATORY
APPROX	APPROXIMATE(LY)	LP	LOW POINT
AVG	AVERAGE	LR	LONG RADIUS
B/	BOTTOM OF	LS	LIFT STATION
B/T	BETWEEN	LWL	LOW WATER LEVEL
BD	BOARD	MATL	MATERIAL
BF	BLIND FLANGE	MAX	MAXIMUM
BFP	BACKFLOW PREVENTER	MECH	MECHANICAL
BLDG	BUILDING	MFR	MANUFACTURER
BLK	BLOCK	MH	MANHOLE
BLKG	BLOCKING	MJ	MECHANICAL JOINT
BM	BEAM	MIN	MINIMUM
BRG	BEARING	MO	MASONRY OPENING
BUR	BUILT UP ROOF	MR	MOISTURE RESISTANT
C.B.	CORNER BARS	MTD	MOUNTED
C.J.	CONTROL JOINT	MTL	METAL
CABC	CRUSHED AGGREGATE BASE COURSE	N.I.C.	NOT IN CONTRACT
CIPP	CAST IN PLACE PIPE	NO. or #	NUMBER
CL	CENTERLINE	NPW	NON-POTABLE WATER
CLG	CEILING	N.T.S.	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
CO	CLEAN OUT	O.F.	OUTSIDE FACE
COL	COLUMN	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OPP HD	OPPOSITE HAND
CONT	CONTINUOUS	P.C.	PRECAST CONCRETE
CP	CONTROL POINT	P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
CPVC	CHLORINATED POLYVINYL CHLORIDE	PDF	POWER DRIVEN FASTENER
DBL	DOUBLE	PCP	PRESTRESSED CONCRETE PIPE
DEG or °	DEGREE	PLBG	PLUMBING
DF	DRINKING FOUNTAIN	PLWD	PLYWOOD
DI	DUCTILE IRON	PNT.	PAINT(ED)
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DIP	DUCTILE IRON PIPE	PSI	POUNDS PER SQUARE INCH
DN	DOWN	PVC	POLYVINYL CHLORIDE
DS	DOWN SPOUT	P.T.	PRESSURE TREATED
D.T.	DRAIN TILE	R.C.P.	REFLECTED CEILING PLAN
DWG	DRAWING	R.D.	ROOF DRAIN
E.F.	EACH FACE	RCP	REINFORCED CONCRETE PIPE
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	RED	REDUCER
EA	EACH WAY	REINF	REINFORCING OR REINFORCED
EB	ELBOW	REQ'D	REQUIRED
ECC	ECCENTRIC	RO	ROUGH OPENING
ELEC	ELECTRIC	SG	SLUICE GATE
EL	ELEVATION	SIM	SIMILAR
EQ	EQUAL	SM	SHEET METAL
EWC	ELECTRIC WATER COOLER	SPA	SPACED
EXIST	EXISTING	SPECS	SPECIFICATIONS
EXP	EXPANSION	SQ	SQUARE
EXT	EXTERIOR	SQ FT	SQUARE FOOT
F.E.	FIRE EXTINGUISHER	SR	SHORT RADIUS
F.D.	FLOOR DRAIN	SS	SERVICE SINK
FCA	FLANGED COUPLING ADAPTOR	SST	STAINLESS STEEL
FIN	FINISH(ED)	STD	STANDARD
FLG	FLANGE	STG	STOP GATE
FLR	FLOOR	STH	STATE HIGHWAY
FM	FLOW METER	STL	STEEL
FOC	FACE OF CONCRETE	SUSP	SUSPENDED
FOM	FACE OF MASONRY	T&G	TONGUE & GROOVE
FOS	FACE OF STUD	T/	TOP OF
FT	FOOT OR FEET	T.O.F.	TOP OF FOOTING
FTG	FOOTING	TOC	TOP OF CONCRETE
GALV	GALVANIZED	TOG	TOP OF GRATING
GC	GENERAL CONTRACTOR	TOW	TOP OF WALL
GPM	GALLON PER MINUTE	TP	TEST PIT
GYP	GYPSUM	TYP	TYPICAL
GWB	GYPSUM WALL BOARD	UNEXC	UNEXCAVATED
H.B.	HOOKEED BARS	UNO	UNLESS NOTED OTHERWISE
H.D.	HOOKEED DOWELS	UV	UNIT VENTILATOR
HB	HOSE BIBB	VERT	VERTICAL
HC	HANDICAP	WD	WOOD
HDD	HORIZONTAL DIRECTIONAL DRILLING	WH	WALL HYDRANT
HGT	HEIGHT	W/	WITH
HM	HOLLOW METAL	W/O	WITH OUT
HORIZ	HORIZONTAL	WG	WEIR GATE
HTG	HEATING	WL	WATER LEVEL
HP	HIGH POINT	WT	WEIGHT
HWH	HOT WATER HEATER	WWM	WIRE WELDED MESH
HWL	HIGH WATER LEVEL	WWTF	WASTEWATER TREATMENT FACILITY
		YR	YEAR

GENERAL NOTES

- FOR CLARITY, IN A FEW INSTANCES WORK FOR A DISCIPLINE MAY BE SHOWN ON A SHEET WITH A DIFFERENT DISCIPLINE SHEET DESIGNATION. THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
- REFER TO ELECTRICAL DRAWINGS AND SCHEDULES FOR WORK REQUIRED FOR ALL ELECTRICAL AND CONTROL DEVICES.

LEGEND



- EXISTING WATER MAIN
- EXISTING GATE VALVE & HYDRANT
- EXISTING WATER SERVICE & CURB STOP
- PROPOSED WATERMAIN, VALVE, & HYDRANT
- PROPOSED WATER SERVICE & CURB STOP
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING FORCEMAIN
- EXISTING STORM SEWER & INLET
- PROPOSED STORM SEWER & INLET
- PROPOSED SANITARY MANHOLE & SEWER MAIN
- PROPOSED FORCE MAIN
- BURIED ELECTRIC
- BURIED GAS & VALVE
- BURIED CABLE TELEVISION
- BURIED TELEPHONE
- BURIED FIBER OPTICS
- OVERHEAD UTILITY
- RAILROAD TRACKS
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- EXISTING SIDEWALK
- PROPOSED SIDEWALK
- EXISTING CULVERT PIPE
- PROPOSED CULVERT PIPE
- FENCE LINE
- DRAINAGE ARROW
- SILT FENCE
- RIGHT-OF-WAY
- BASELINE
- PROPERTY LINE
- TREE LINE
- BENCHMARK
- IRON PIPE
- IRON ROD
- CONTROL POINT
- UTILITY POLE & GUY
- SOIL BORING
- LIGHT POLE
- PEDESTAL
- STREET SIGN
- MAILBOX
- FLAGPOLE
- TREE - DECIDUOUS
- TREE - CONIFEROUS
- TREE TO BE REMOVED
- EROSION BALES
- HYDRANT

PIPELINE IDENTIFIERS

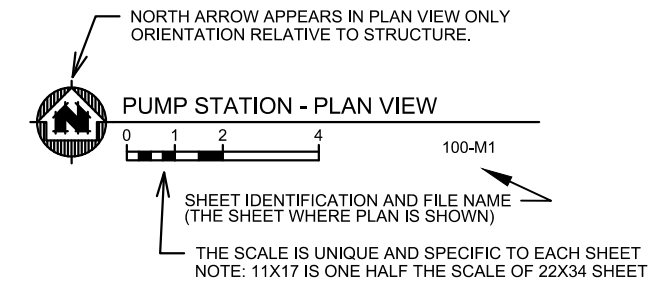
AIR	AIR LOW PRESSURE
AL/FE	ALUM OR FERRIC CHEMICAL
ALK	ALKALINITY CHEMICAL
BYP	BYPASS
CHLOR	CHLORINATION CHEMICAL
CA	CAUSTIC SODA CHEMICAL
CHEM	CHEMICAL
D	DRAIN
DCT	DECANT
DECHLOR	DECHLORINATION
DS	DIGESTION FLUID
EFFL	EFFLUENT
FEI	FLOW EQUALIZATION INFLUENT
FER	FLOW EQUALIZATION RETURN
FM	FORCEMAIN
G	GAS
HYPO	HYPOCHLORITE
INFL	INFLUENT
ML	MIXED LIQUOR
NG	NATURAL GAS
NPW	NON-POTABLE WATER
OF	OVERFLOW
OP	ORTHOPHOSPHATE
OXD	OXIDATION DITCH
PLE	PLANT EFFLUENT WATER
POL	POLYMER CHEMICAL
RAS	RETURN ACTIVATED SLUDGE
RYC	RECYCLE
RET	RETURN SIDESTREAM
SAN	RAW WASTEWATER
SAM	SAMPLE
SCE	SECONDARY EFFLUENT
SEL	SELECTOR TANK
SI	SECONDARY INFLUENT
SL	SLUDGE
SS	STORM SEWER
TWAS	THICKENED WAS
V	VENT
W	POTABLE WATER
WAS	WASTE ACTIVATED SLUDGE



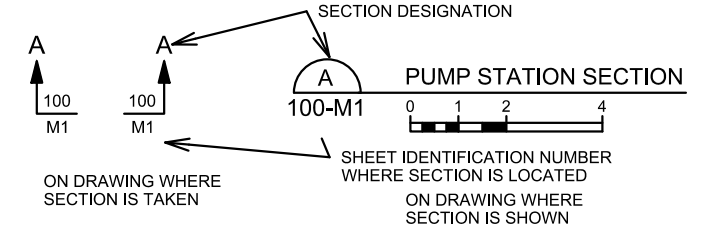
SHEETS LS1-LS22 OF THE S BRYAN ST., DALEY DR., JAMES ST., AND THORP ST RECONSTRUCTION - 2018 (CITY OF MADISON PROJECT NO. 1185) WERE PREPARED BY MSA PROFESSIONAL SERVICES, INC.

THE PROFESSIONAL ENGINEER STAMP ON THIS SHEET APPLIES ONLY TO SHEETS LS-1 THRU LS-22.

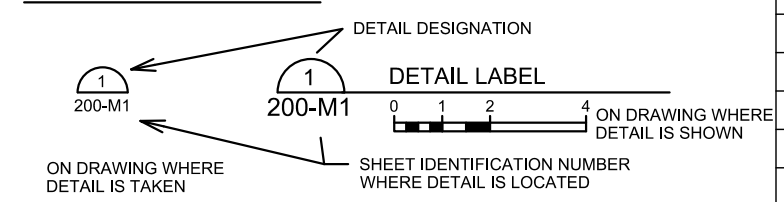
PLAN VIEW LABEL: LS SHEETS



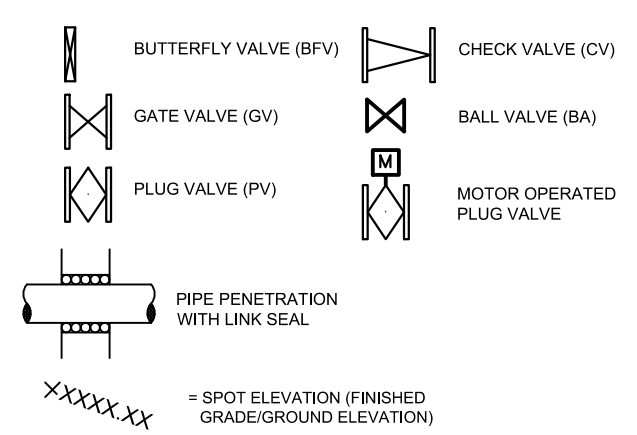
SECTION DESIGNATION



DETAIL DESIGNATION



PROCESS SYMBOLS (M SHEETS)



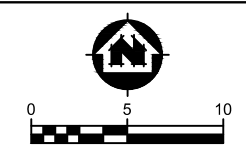
SHEET INDEX

SHEET NO.	SHEET TITLE
LS-1	SHEET INDEX, SYMBOLS & ABBREVIATIONS
LS-2	EXISTING SITE & REMOVAL PLAN
LS-3	PROPOSED PLAN & PROFILE - FORCE MAIN
LS-4	PROPOSED PLAN & PROFILE - FORCE MAIN
LS-5	FORCE MAIN DETAILS
LS-6	ELECTRICAL EQUIPMENT FOUNDATION PLANS
LS-7	ELECTRICAL EQUIPMENT SECTIONS AND DETAILS
LS-8	EXISTING PUMP STATION REMOVAL PLAN
LS-9	PROPOSED LIFT STATION SITE PLAN
LS-10	PROPOSED LIFT STATION SECTIONS
LS-11	PROPOSED LIFT STATION SECTIONS
LS-12	ELECTRICAL SYMBOLS & ABBREVIATIONS 1
LS-13	ELECTRICAL SYMBOLS & ABBREVIATIONS 2
LS-14	ELECTRICAL SITE PLAN
LS-15	SCADA OVERVIEW
LS-16	ELECTRICAL ONE-LINE
LS-17	P&ID
LS-18	ELECTRICAL SCHEDULE
LS-19	CONTROL PANEL LAYOUT
LS-20	ELECTRICAL DETAILS 1
LS-21	ELECTRICAL DETAILS 2
LS-22	ELECTRICAL DETAILS 3

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

EXISTING SITE & REMOVAL PLAN

CITY OF MADISON



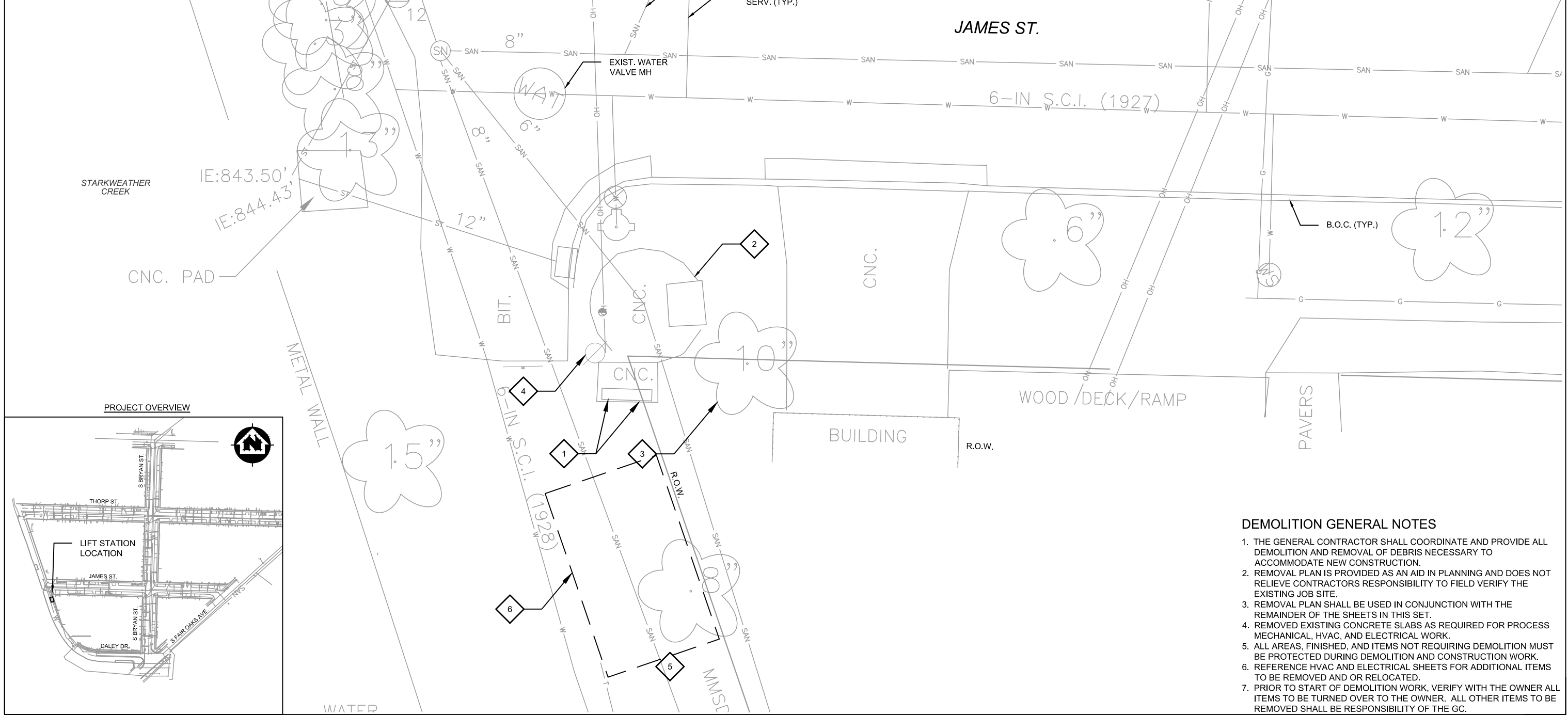
GENERAL NOTE:

1. SOIL BORING LOCATIONS ARE APPROXIMATE. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION
2. EXISTING PUMP STATION AND SECURITY FENCE SHALL REMAIN IN PLACE AND FULLY OPERATIONAL AS LONG AS POSSIBLE.
3. ASPHALT PAVEMENT, CURB, AND GUTTER REMOVAL AND REPLACEMENT IS REQUIRED FOR NEW CONSTRUCTION. SEE SITE PLAN AND PROFILE. THIS WORK IS DETAILED ON PLAN SHEETS OUTSIDE OF LS-1 - LS-22.
4. CONTRACTOR IS REQUIRED TO REMOVE ONLY UTILITY LINES AND PIPING NECESSARY FOR PROPOSED CONSTRUCTION. ALL OTHERS CAN BE ABANDONED IN PLACE PER PART II OF THE CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
5. AFTER DEMOLITION, EXCAVATION SHALL BE BACKFILLED WITH STRUCTURAL FILL PER PART II OF THE CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
6. SEE OTHER SHEETS FOR ADDITIONAL REMOVAL REQUIREMENTS.

REMOVAL NOTES:

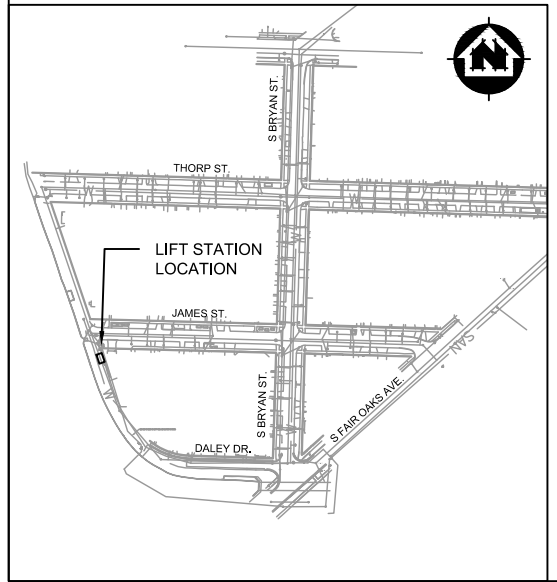
1. REMOVE EXISTING CONTROL PANEL AND SHELTER. SEE DIV. 26 FOR DEMOLITION REQUIREMENTS.
2. REMOVE EXISTING LIFT STATION, STRUCTURE & EQUIPMENT. EQUIPMENT SHALL BE SALVAGED FOR USE BY THE OWNER. COORDINATE WITH CITY AND MMSD. EQUIPMENT TO BE SALVAGED INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 1. ALL DOCUMENTATION AT THE STATION
 2. RADIO CONTROL BOX (INCLUDING EVERYTHING INSIDE)
 3. GENERATOR PLUG
 4. UPS
 5. HOFFMAN CABINET HEATER
 6. OUT OF THE CONTROL PANEL:
 - 6.1. TRANSFORMER
 - 6.2. ALLEN BRADLEY POWER SUPPLY - 1606-XLP
 - 6.3. INTRINSIC BARRIER
 - 6.4. ALLEN BRADLEY MICROLOGIX 1400
 - 6.5. WARRICK CONTROLLERS
 - 6.6. ETM METERS
 7. COMPRESSOR MOTORS
 8. PRESSURE TRANSMITTER
 9. ANTENNA MAST

3. TREE TO REMAIN. PROTECT AS NECESSARY.
4. REMOVE EXISTING UTILITY POLE AND ELECTRIC SERVICE. REMOVE OH ELECTRIC BACK TO POLE ON NORTH SIDE OF STREET. SEE ELECTRICAL SHEETS FOR PROPOSED SERVICE MODIFICATIONS.
5. REMOVE EXISTING TREE (APPROX. 8" DIA.).
6. CLEAR & GRUB AS NECESSARY TO INSTALL GENERATOR & FENCE. CONTRACTOR TO MINIMIZE CLEARING & GRUBBING TO EXTENT POSSIBLE (TRIMMING CONSIDERED INCLUSIVE).



IE:843.50'
IE:844.43'

PROJECT OVERVIEW

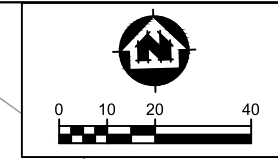


DEMOLITION GENERAL NOTES

1. THE GENERAL CONTRACTOR SHALL COORDINATE AND PROVIDE ALL DEMOLITION AND REMOVAL OF DEBRIS NECESSARY TO ACCOMMODATE NEW CONSTRUCTION.
2. REMOVAL PLAN IS PROVIDED AS AN AID IN PLANNING AND DOES NOT RELIEVE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXISTING JOB SITE.
3. REMOVAL PLAN SHALL BE USED IN CONJUNCTION WITH THE REMAINDER OF THE SHEETS IN THIS SET.
4. REMOVED EXISTING CONCRETE SLABS AS REQUIRED FOR PROCESS MECHANICAL, HVAC, AND ELECTRICAL WORK.
5. ALL AREAS, FINISHED, AND ITEMS NOT REQUIRING DEMOLITION MUST BE PROTECTED DURING DEMOLITION AND CONSTRUCTION WORK.
6. REFERENCE HVAC AND ELECTRICAL SHEETS FOR ADDITIONAL ITEMS TO BE REMOVED AND OR RELOCATED.
7. PRIOR TO START OF DEMOLITION WORK, VERIFY WITH THE OWNER ALL ITEMS TO BE TURNED OVER TO THE OWNER. ALL OTHER ITEMS TO BE REMOVED SHALL BE RESPONSIBILITY OF THE GC.

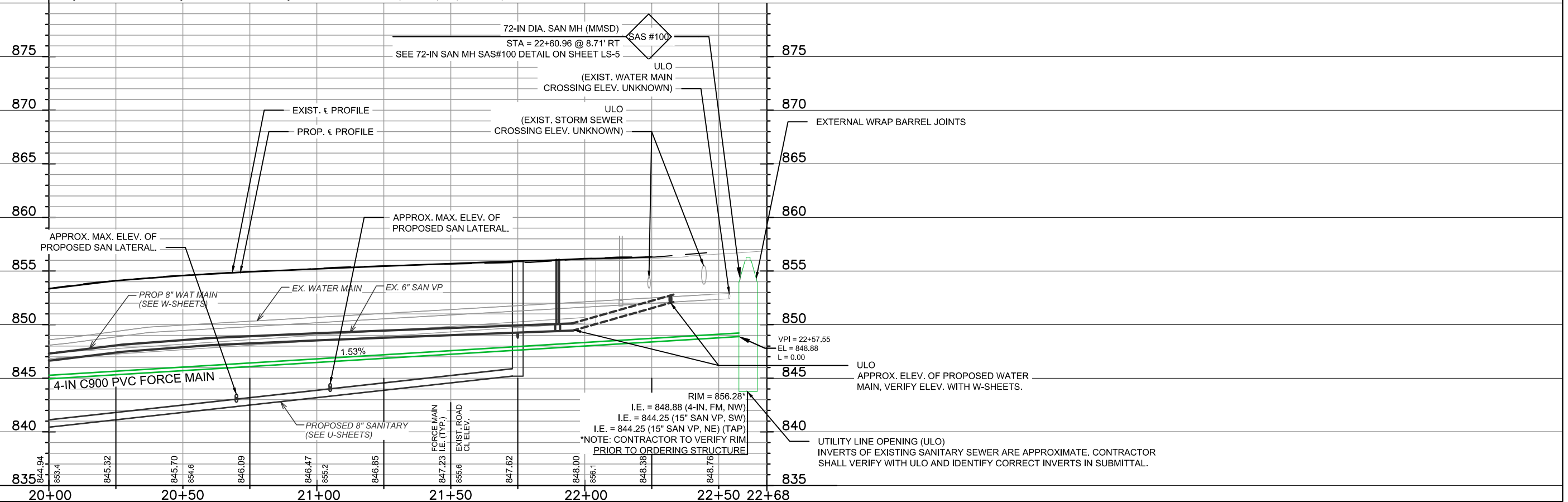
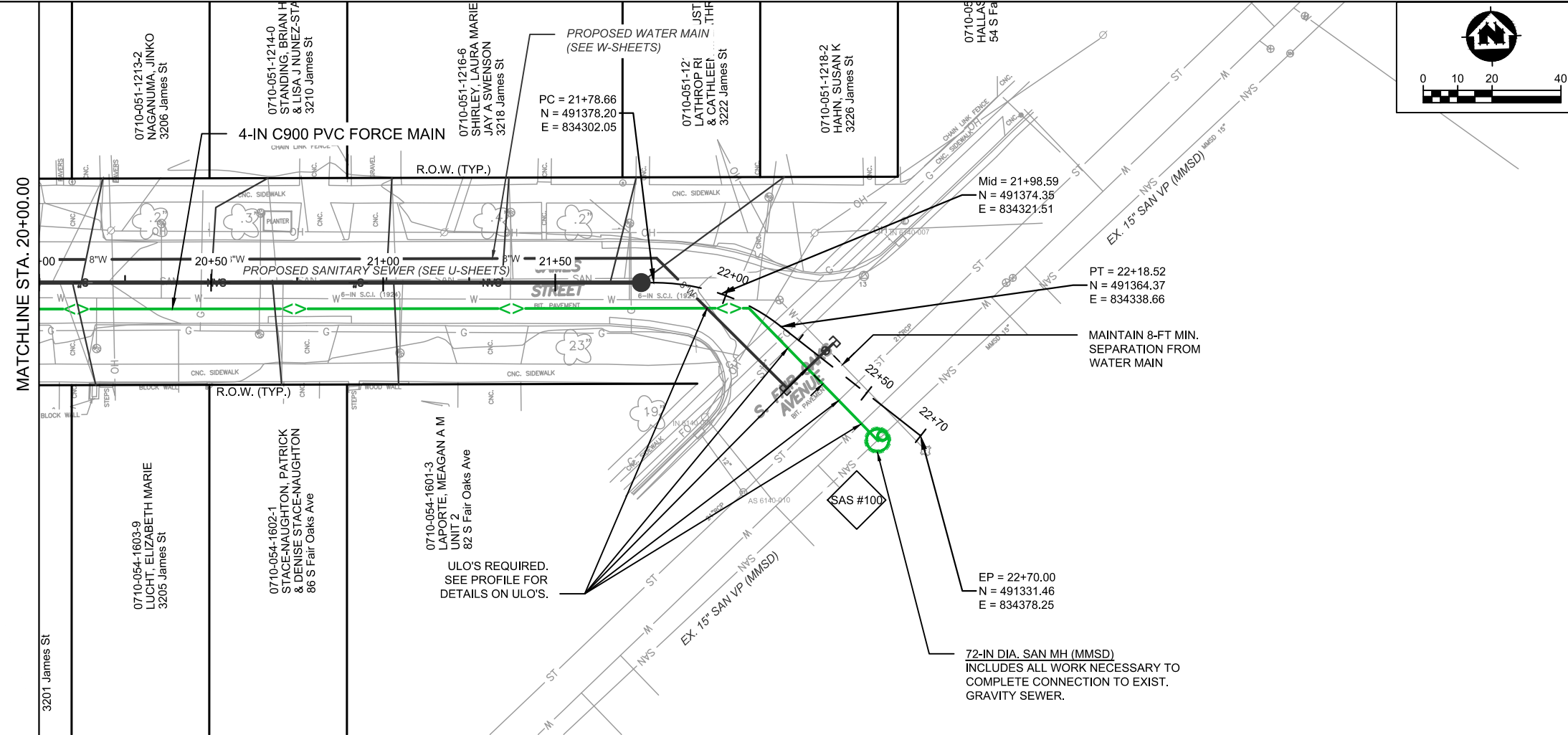
ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

PLOT SCALE: _____ PLOT NAME: _____ REV. DATE: _____

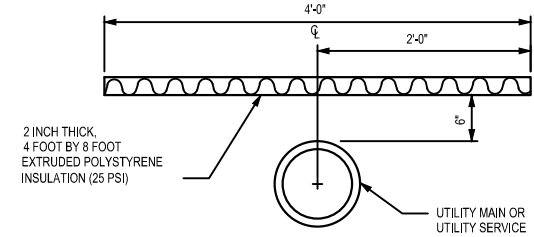


PROPOSED PLAN & PROFILE - FORCE MAIN
 JAMES STREET CITY OF MADISON

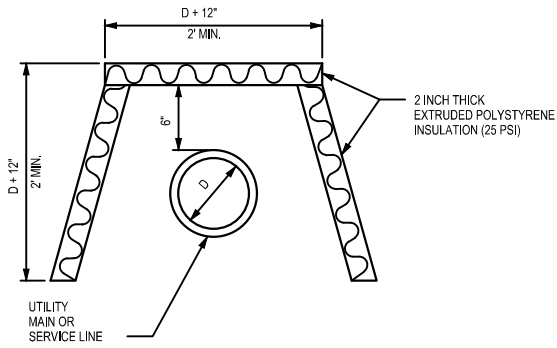
- NOTES:
1. NOTES IN *ITALICS* INDICATE NOTES RELATED TO WORK THAT IS DETAILED ON PLAN SHEETS OUTSIDE OF LS-1-LS-22.
 2. INSTALL ELECTRONIC MARKER BALLS AT 25-FT INTERVALS AND AT ALL FORCE MAIN BENDS.
 3. CONTRACTOR SHALL NOTIFY RAY SCHNEIDER AT 608-347-3628, RAYS@MADSEWER.ORG 5 DAYS PRIOR TO INSTALLING MMSD SAS #100 TO ARRANGE FOR PERMITTING AND INSPECTION OF MANHOLE INSTALLATION. STRUCTURE SHALL CONFORM TO ALL MMSD SPECIFICATION CRITERIA. CONTRACTOR IS RESPONSIBLE FOR MMSD PERMIT FEE. MMSD CASTING IS REQUIRED. MMSD WILL PROVIDE CASTING AND CONTRACTOR SHALL REIMBURSE MMSD FOR CASTING.
 4. A DOG HOUSE STYLE MANHOLE WILL NOT BE ALLOWED.



PLOT SCALE: _____ REV. DATE: _____ ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION



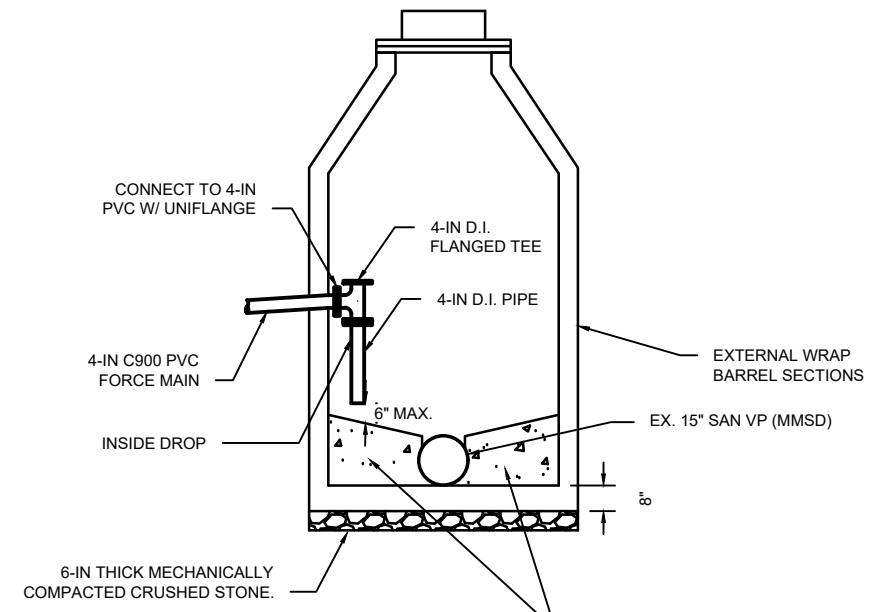
STANDARD INSTALLATION



SIDE PROTECTION INSTALLATION

GENERAL NOTES:
1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT.

PIPE INSULATION DETAIL
SCALE: NONE

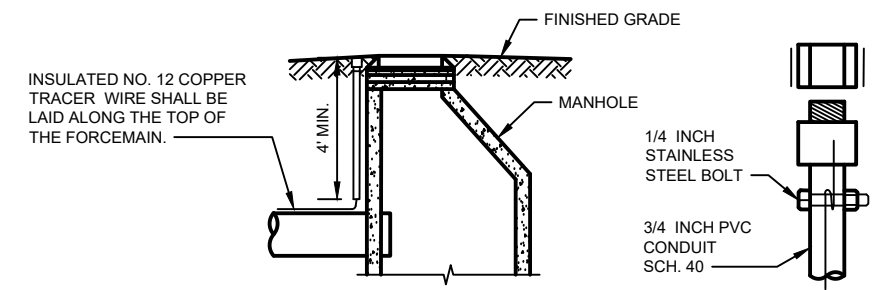


MANHOLE SHALL BE BUILT IN ACCORDANCE WITH CITY OF MADISON STANDARD DETAIL DRAWING 5.7.2 FOR SANITARY SEWER PRECAST SAS.

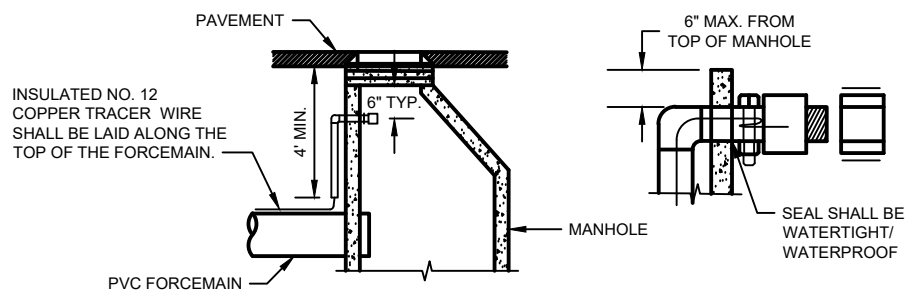
72-IN SANITARY MANHOLE SAS #100
NO SCALE

THE DETAIL DRAWINGS LOCATED IN THE CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION THAT ARE APPLICABLE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

1. PIPE BEDDING & BACKFILL, SDD 5.2.1
2. TYPICAL TRENCH COMPACTION, SDD 5.2.2
2. SANITARY SEWER PRECAST SAS, SDD 5.7.2



INSTALLATION IN UNPAVED AREA



INSTALLATION IN PAVED AREA

- GENERAL NOTES:
1. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE.
 2. A THREADED, FEMALE PVC SCHEDULE 40 PLUG AND MALE COUPLING GLUED TO 3/4 INCH SCHEDULE 40 SHALL BE INSTALLED IN OR ADJACENT TO THE VALVE VAULT AND MANHOLE.
 3. WIRE PIGTAIL SHALL BE WRAPPED AROUND BOLT AND READILY ACCESSIBLE, WITH SUFFICIENT LENGTH FOR EASY CONNECTION.
 4. IN ADDITION TO TRACER WIRE INSTALLATION, MARKER BALLS SHALL BE INSTALLED. INSTALLATION OF MARKER BALLS SHALL BE IN ACCORDANCE WITH CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECTION 503.3(H).
- 4.1. ALL NEW SANITARY SEWER FORCE MAINS SHALL HAVE MARKER BALLS (TO BE PROVIDED BY THE CITY) INSTALLED IN ACCORDANCE WITH THE FOLLOWING.
 - 4.2. THE MARKER BALLS SHALL BE INSTALLED ON A MAXIMUM OF 25-FT INCREMENTS AND AT ALL HORIZONTAL BENDS IN THE PIPE, AND AT ALL AIR VENTS OR OTHER STRUCTURES INSTALLED ON THE LINE.

TRACER WIRE INSTALLATION FOR PVC FORCEMAIN
NO SCALE

PLOT SCALE: _____ PLOT NAME: _____ REV. DATE: _____ ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

REV.PLAN ISSUED 8/22/19

REVISED 02/15/2019 TKM
 • REVISED KEY NOTES PER LIFT STATION FOUNDATION PLAN EDITS.
 • REVISED LIFT STATION FOUNDATION PLAN PER CITY COMMENTS.
 REVISED 04/15/2019 TKM
 • REMOVED RAILING & AND ADJUSTING GRADING AROUND ELEVATED CONCRETE PAD.

DESIGN LOADINGS	
LIVE LOADS	
SLAB LIVE LOAD	40 psf

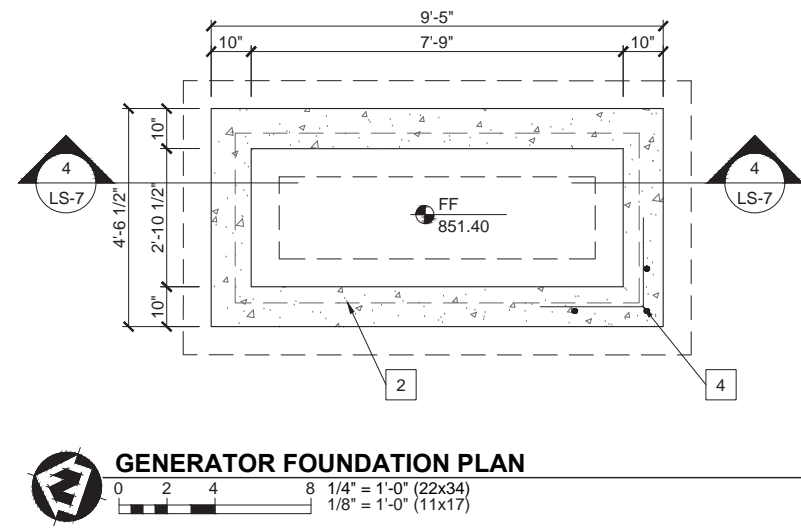
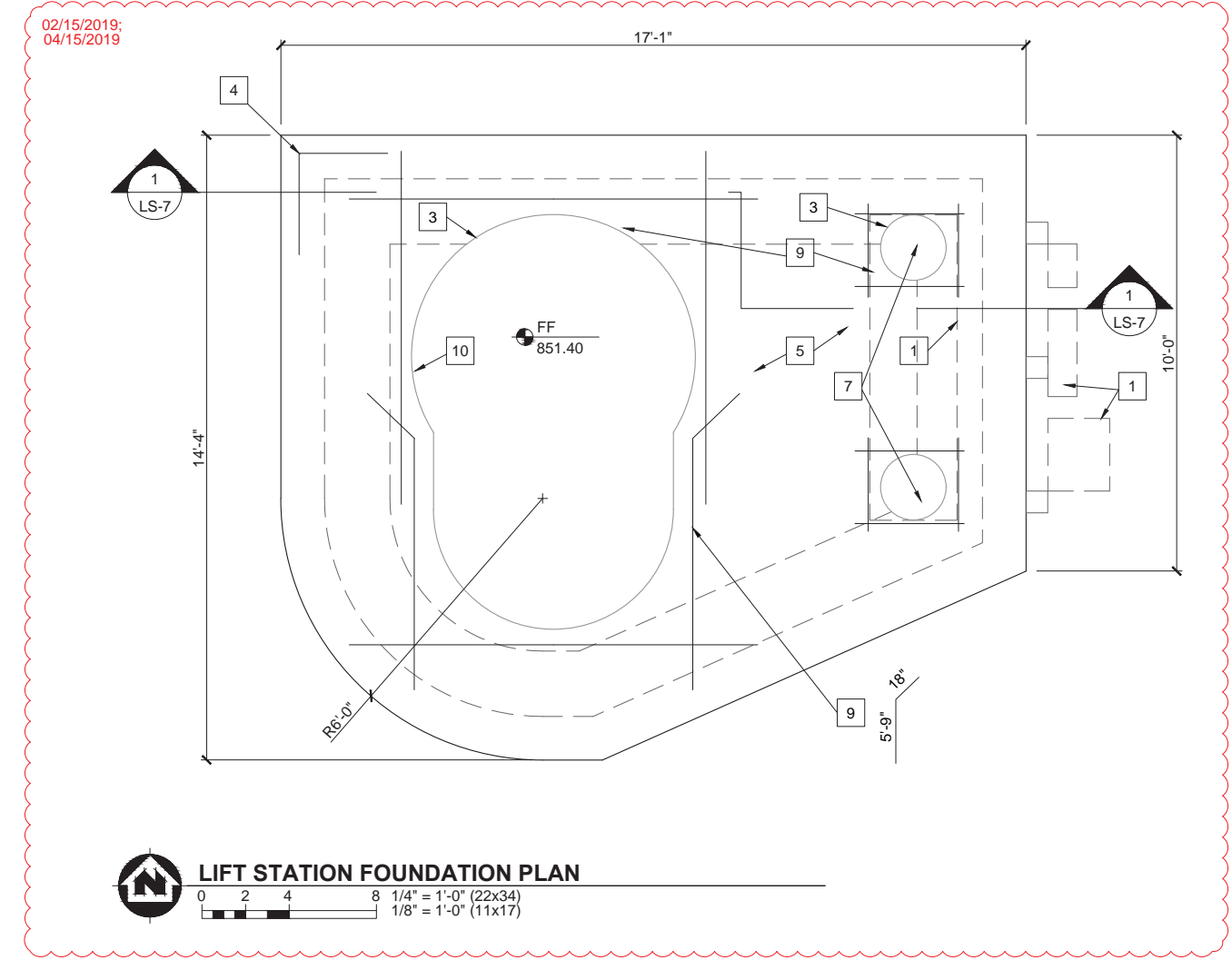
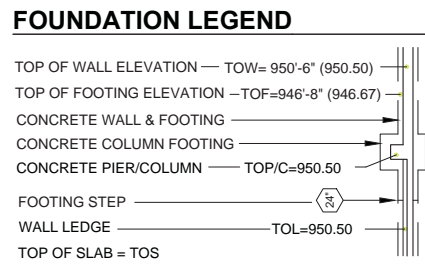
DESIGN STRESSES	
CAST-IN-PLACE CONCRETE	
- SEE SPECS	
STEEL	
REINFORCING	fy = 60 ksi
BOLTS	
ANCHOR	F1554, GRADE 36
EXPANSION	WEDGE TYPE
SOIL BEARING PRESSURE CAPACITY	
PER GEOTECHNICAL REPORT	q = 1000 psf

STEEL REINFORCING	
MIN CLEAR COVER, UNO	
FOUNDATION WALLS (FORMED)	
#5 BARS & SMALLER	1 1/2"
#6 BARS & LARGER	2"
NON-STRUCTURAL SLABS ON GRADE	
BOTTOM & SIDES	1 1/2"
TOP	3/4"
FOOTINGS AND STRUCTURAL SLABS ON GRADE	
BOTTOM & SIDES	3"
TOP	2"
NOTES	
1. CLASS 'B' LAP AT SPLICES.	

- ### GENERAL FOUNDATION NOTES
- CONTRACTOR TO COORDINATE STRUCTURAL, ARCHITECTURAL, PLUMBING, PROCESS MECHANICAL, HVAC, AND ELECTRICAL PLANS FOR DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, ETC. NOTIFY ARCHITECT OF ANY VARIANCE BEFORE COMMENCING CONSTRUCTION.
 - IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY ENGINEER.
 - SIMILAR PORTIONS OF THE STRUCTURES SHALL HAVE SIMILAR DETAILING, UNLESS NOTED OTHERWISE.
 - ALL WALL FORM TIES SHALL BE KNOCKED OFF FLUSH W/ THE FACE OF THE WALL AT INTERIOR AND EXTERIOR FACE OF WALLS. AT TIES BELOW THE FINISHED FLOOR AND/ OR FINISHED GRADE PROVIDE A LAYER OF DAMPPROOFING PRODUCT OVER THE REMOVED TIE AREA, TYP.
 - BACKFILL AND COMPACT W/ ENGINEERED FILL ON BOTH SIDES OF FOUNDATION AT THE SAME TIME.
 - FOOTINGS SHALL BE CENTERED ABOUT THE WALLS, UNLESS NOTED OTHERWISE.
 - PROVIDE 3'-0" X 3'-0" CORNER BARS IN FOUNDATION WALL AT CORNERS. BARS SHALL BE SAME SIZE AND LOCATION OF THE HORIZONTAL REINFORCING.
 - PROVIDE OPENING REINFORCING FOR ALL MISCELLANEOUS OPENINGS THROUGH FOOTING, FOUNDATION WALL OR FLOOR SLAB.

- ### GENERAL REINFORCING/CONCRETE NOTES
- ALL LAPS SHALL BE CLASS-'B' PER ACI 318-14, UNLESS NOTED OTHERWISE ON THE DESIGN DRAWINGS. USE TOP BAR LAP LENGTHS FOR ALL HORIZONTAL ALL BARS AND FOR BARS IN SLABS WITH MORE THAN 12" OF CONCRETE BELOW.
 - BAR PLACEMENT TOLERANCES SHALL BE AS SPECIFIED IN THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE, CURRENT EDITION.
 - ALL REINFORCING BAR DIMENSIONS ARE FROM OUT-TO-OUT OF BAR. ALL BEND ANGLES ARE AT 45° AND 90°, UNLESS NOTED OTHERWISE.
 - SEE SPECIFICATION FOR CONCRETE CLASS AND FINISH SCHEDULES, UNO.
 - SEE GENERAL FOUNDATION NOTES FOR ADDITIONAL REINFORCING REQUIREMENTS.

- ### KEY NOTES
- DASHED LINE INDICATES CONTROL PANELS ABOVE LOCATED ON SLAB-ON-GRADE, TYP - COORDINATE WITH ELECTRICAL
 - DASHED LINE INDICATES GENERATOR ABOVE LOCATED ON SLAB-ON-GRADE, TYP - COORDINATE WITH ELECTRICAL
 - 1/2" EXPANSION JOINT MATERIAL W/ REMOVABLE CAP AND SELF-LEVELING SEALANT, TYP
 - CORNER REINFORCING IN FOUNDATION WALL, AT ALL CORNERS, TYP - SEE GENERAL FOUNDATION NOTES
 - 12" THICK REINFORCED SLAB W/ THICKENED EDGES OVER MIN. 12" COMPACTED GRAVEL FILL AND COMPACTED GRANULAR FILL 02/15/2019
 - ~~NOTE NOT USED.~~ 02/15/2019
 - CONTROL PANEL SUPPORTED ON SONOTUBE FOUNDATIONS. SEE TYPICAL DETAIL FOR FREE STANDING CONTROL PANEL MOUNTING ON SHEET LS-22
 - ~~HOT-DIP GALVANIZED STEEL GUARDRAIL AND POSTS - SEE DETAILS: 2/LS-7 AND 3/LS-7~~ 02/15/2019; 04/15/2019
 - REBAR AROUND ELECTRICAL OPENING, ADDITIONAL #6 BARS AROUND SLAB OPENINGS AND AROUND SONOTUBE FOUNDATIONS PENETRATING SLAB. MAINTAIN MINIMUM CLEARANCE. BAR LENGTHS EQUAL TO DIAMETER OF OPENING + 36" U.N.O. 02/15/2019
 - LIFT STATION VALVE VAULT COORDINATE PLACEMENT WITH MECHANICAL / ELECTRICAL AND SITE CIVIL.



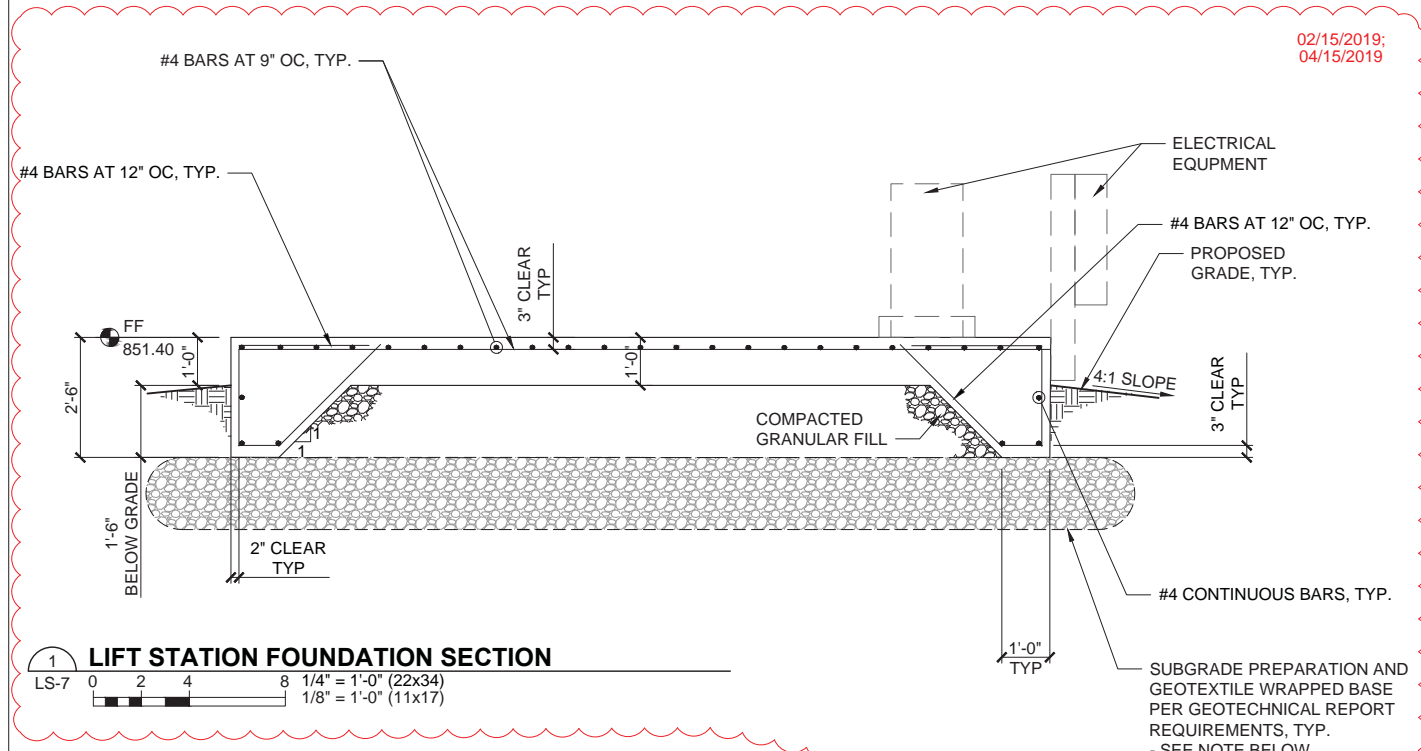
ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

REV. DATE: PLOT NAME: PLOT SCALE:

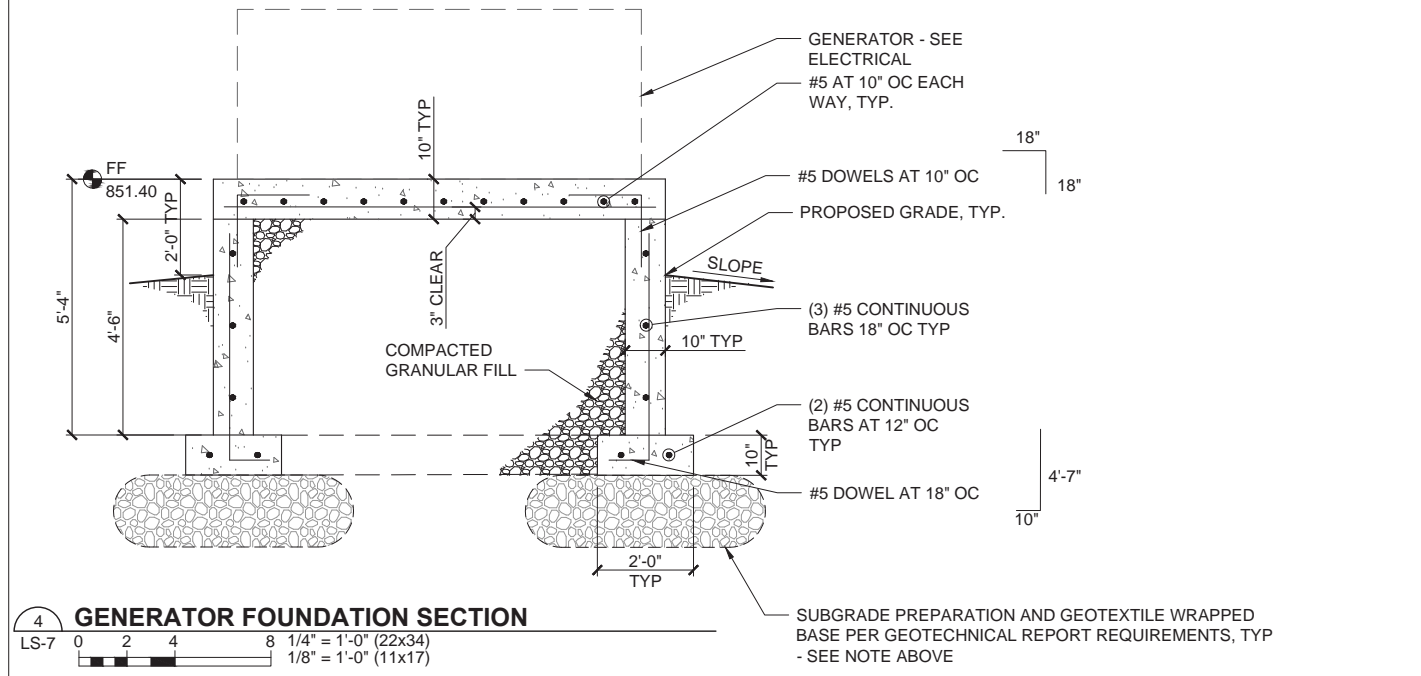
- REVISED 02/15/2019 TKM
- REVISED LIFT STATION FOUNDATION SECTION 1/LS-7 PER CITY COMMENTS.
 - REVISED TYP. REMOVABLE POST MOUNTED DETAIL 2/LS-7. REMOVED TOE-PLATE AND REVISED POST TO GO OVER TOP OF MOUNTING PLATE VERTICAL MEMBER.
 - REVISED GUARDRAIL ELEVATION DETAIL 3/LS-7. CHANGED DIAMETER OF GUARDRAIL.
 - REMOVED TYPICAL SLAB ON GRADE (CJ) DETAIL 5/LS-7.
- REVISED 04/15/2019 TKM
- REMOVED RAILING & AND ADJUSTING GRADING AROUND ELEVATED CONCRETE PAD.

REV.PLAN ISSUED 8/22/19

02/15/2019;
04/15/2019



NOTE:
 CONTRACTOR TO PREPARE SUBGRADE AND PROVIDE GEOTEXTILE WRAPPED, COMPACTED STONE BASE PER DIRECTION BY THE GEOTECHNICAL REPORT (GEOTECHNICAL EXPLORATION REPORT, JAMES STREET LIFT STATION BY CGC, INC. DATED JANUARY 25, 2019) - ATTACHED AS APPENDIX A TO PROJECT SPECIFICATIONS.

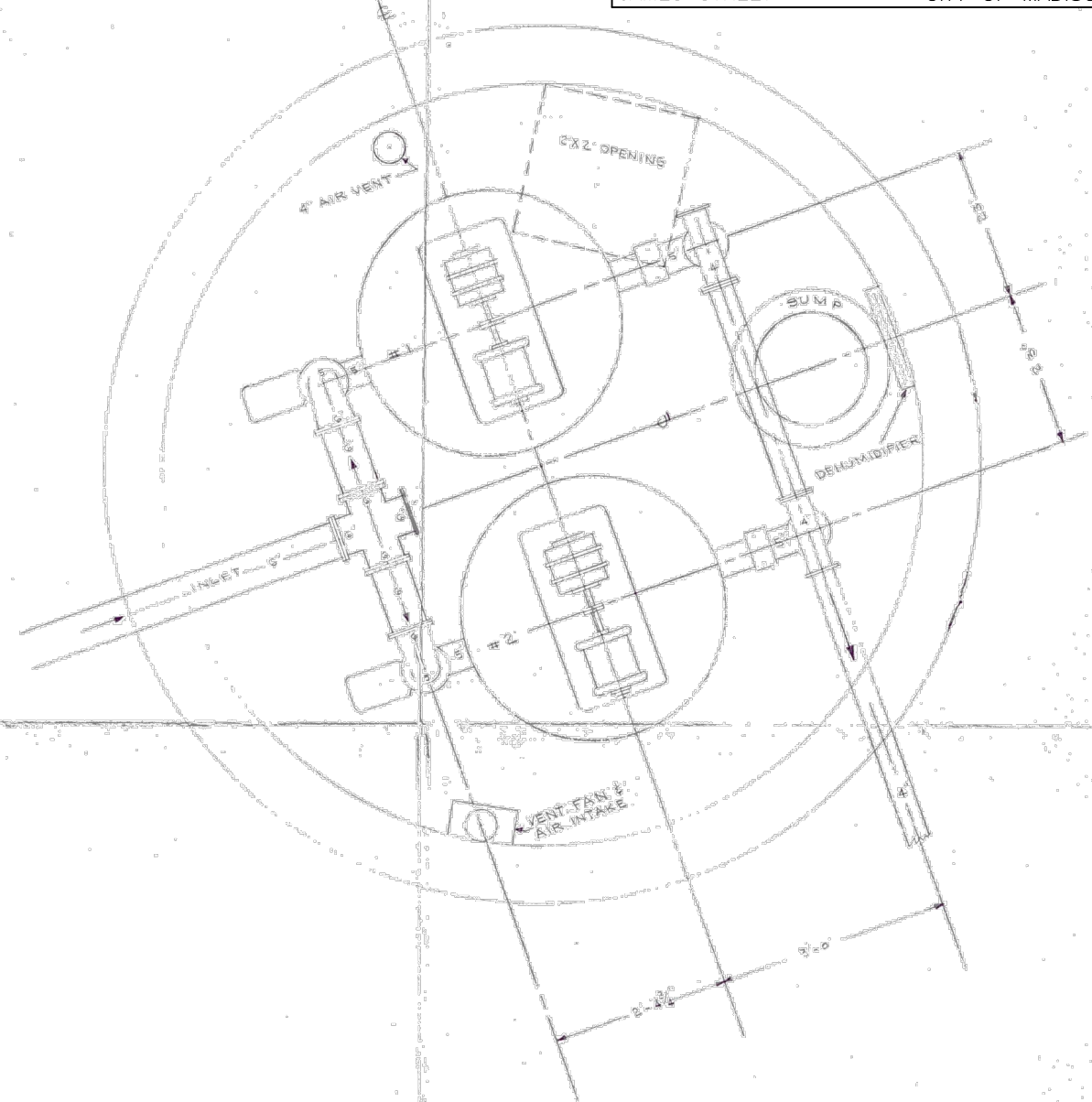
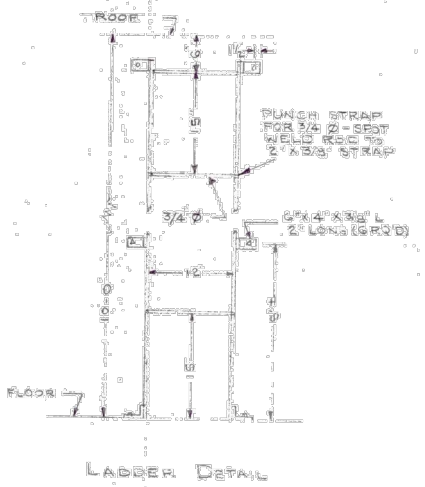
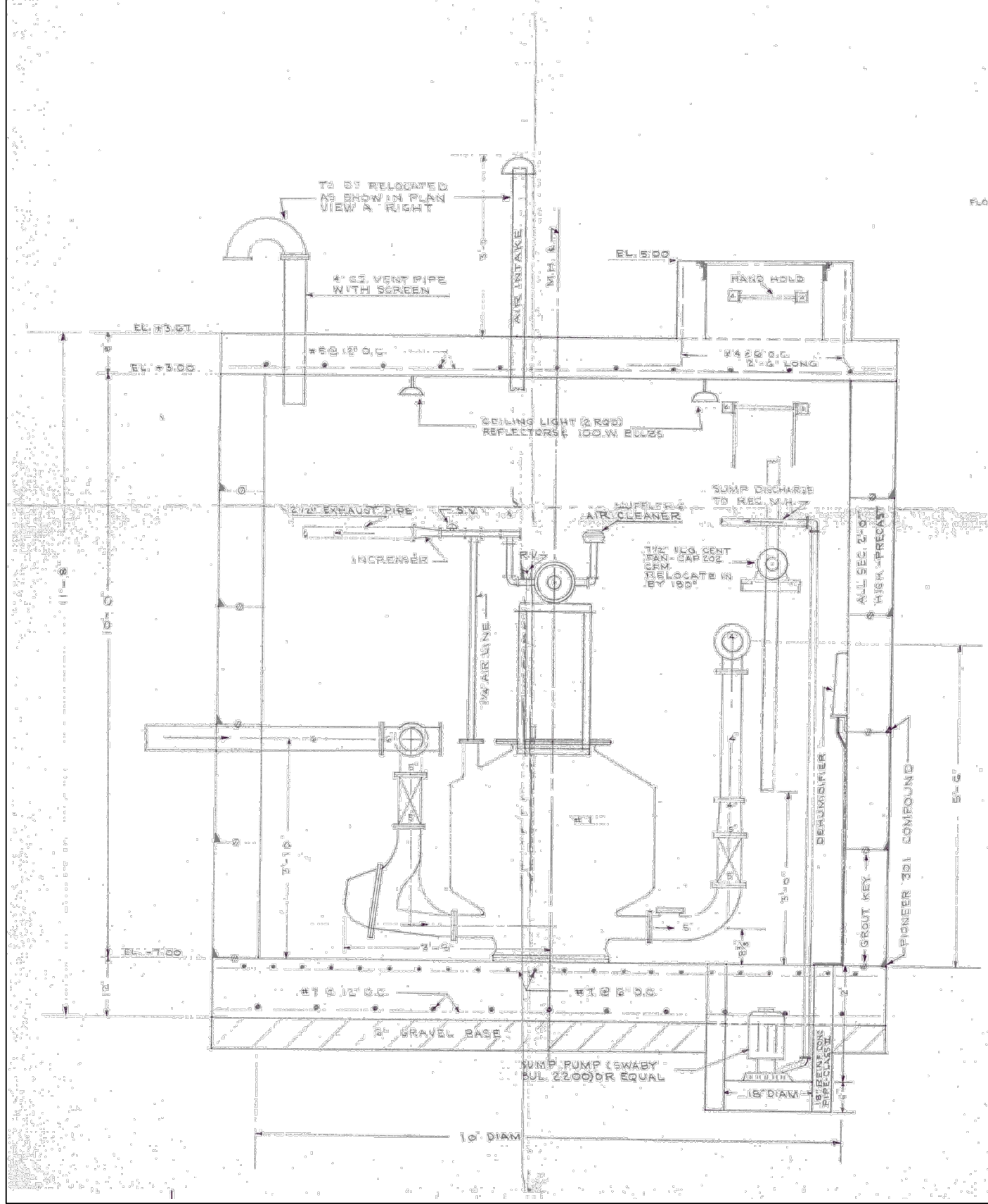


PLOT SCALE: _____
 PLOT NAME: _____
 REV. DATE: _____

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

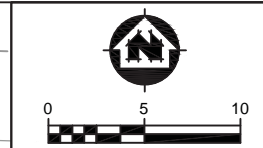
NOTES:
 1. DRAWING NOT TO SCALE.
 2. DEMOLITION PER SHEET LS-2.
 3. PLAN ON THIS SHEET IS TAKEN FROM THE ORIGINAL DESIGN PLANS DATED 12/12/59 AND ARE INCLUDED SOLELY FOR GUIDANCE PURPOSES ONLY. REFERENCES ARE NOT CORRECT AS THEY DO NOT APPLY TO THIS PROJECT. ACTUAL CONSTRUCTION, AND SUBSEQUENT MODIFICATIONS, MAY HAVE DEVIATED FROM THAT SHOWN. CONTRACTOR IS REQUIRED TO FIELD VERIFY EXISTING CONDITIONS.

REV. DATE: _____ PLOT NAME: _____ PLOT SCALE: _____



MADISON, WISCONSIN 1959
 REVISED
 LINDEN HILL SEWER LIFT STATION
 CITY OF MADISON ENG DEPT.
 DRAWN BY DON T. 12/12/59

PROPOSED LIFT STATION SITE PLAN
JAMES STREET CITY OF MADISON

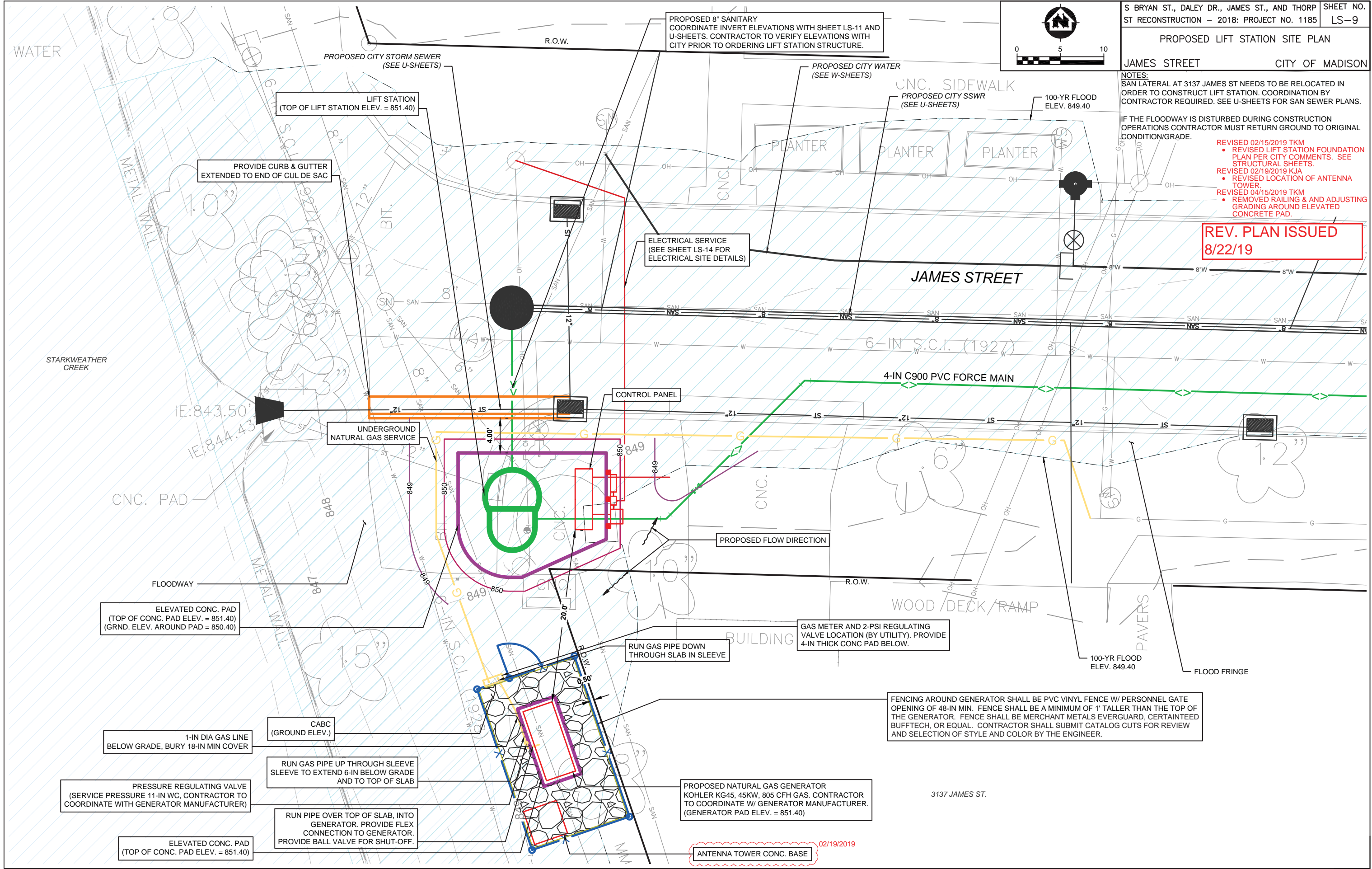


NOTES:
SAN LATERAL AT 3137 JAMES ST NEEDS TO BE RELOCATED IN ORDER TO CONSTRUCT LIFT STATION. COORDINATION BY CONTRACTOR REQUIRED. SEE U-SHEETS FOR SAN SEWER PLANS.

IF THE FLOODWAY IS DISTURBED DURING CONSTRUCTION OPERATIONS CONTRACTOR MUST RETURN GROUND TO ORIGINAL CONDITION/GRADE.

- REVISED 02/15/2019 TKM
- REVISED LIFT STATION FOUNDATION PLAN PER CITY COMMENTS. SEE STRUCTURAL SHEETS.
- REVISED 02/19/2019 KJA
- REVISED LOCATION OF ANTENNA TOWER
- REVISED 04/15/2019 TKM
- REMOVED RAILING & ADJUSTING GRADING AROUND ELEVATED CONCRETE PAD.

REV. PLAN ISSUED 8/22/19



ELEVATED CONC. PAD (TOP OF CONC. PAD ELEV. = 851.40) (GRND. ELEV. AROUND PAD = 850.40)

1-IN DIA GAS LINE BELOW GRADE, BURY 18-IN MIN COVER

PRESSURE REGULATING VALVE (SERVICE PRESSURE 11-IN WC, CONTRACTOR TO COORDINATE WITH GENERATOR MANUFACTURER)

ELEVATED CONC. PAD (TOP OF CONC. PAD ELEV. = 851.40)

CABC (GROUND ELEV.)

RUN GAS PIPE UP THROUGH SLEEVE SLEEVE TO EXTEND 6-IN BELOW GRADE AND TO TOP OF SLAB

RUN PIPE OVER TOP OF SLAB, INTO GENERATOR. PROVIDE FLEX CONNECTION TO GENERATOR. PROVIDE BALL VALVE FOR SHUT-OFF.

RUN GAS PIPE DOWN THROUGH SLAB IN SLEEVE

PROPOSED NATURAL GAS GENERATOR KOHLER KG45, 45KW, 805 CFH GAS. CONTRACTOR TO COORDINATE W/ GENERATOR MANUFACTURER. (GENERATOR PAD ELEV. = 851.40)

ANTENNA TOWER CONC. BASE 02/19/2019

GAS METER AND 2-PSI REGULATING VALVE LOCATION (BY UTILITY). PROVIDE 4-IN THICK CONC PAD BELOW.

FENCING AROUND GENERATOR SHALL BE PVC VINYL FENCE W/ PERSONNEL GATE OPENING OF 48-IN MIN. FENCE SHALL BE A MINIMUM OF 1' TALLER THAN THE TOP OF THE GENERATOR. FENCE SHALL BE MERCHANT METALS EVERGUARD, CERTAINTTEED BUFTTECH, OR EQUAL. CONTRACTOR SHALL SUBMIT CATALOG CUTS FOR REVIEW AND SELECTION OF STYLE AND COLOR BY THE ENGINEER.

PLOT SCALE:

PLOT NAME:

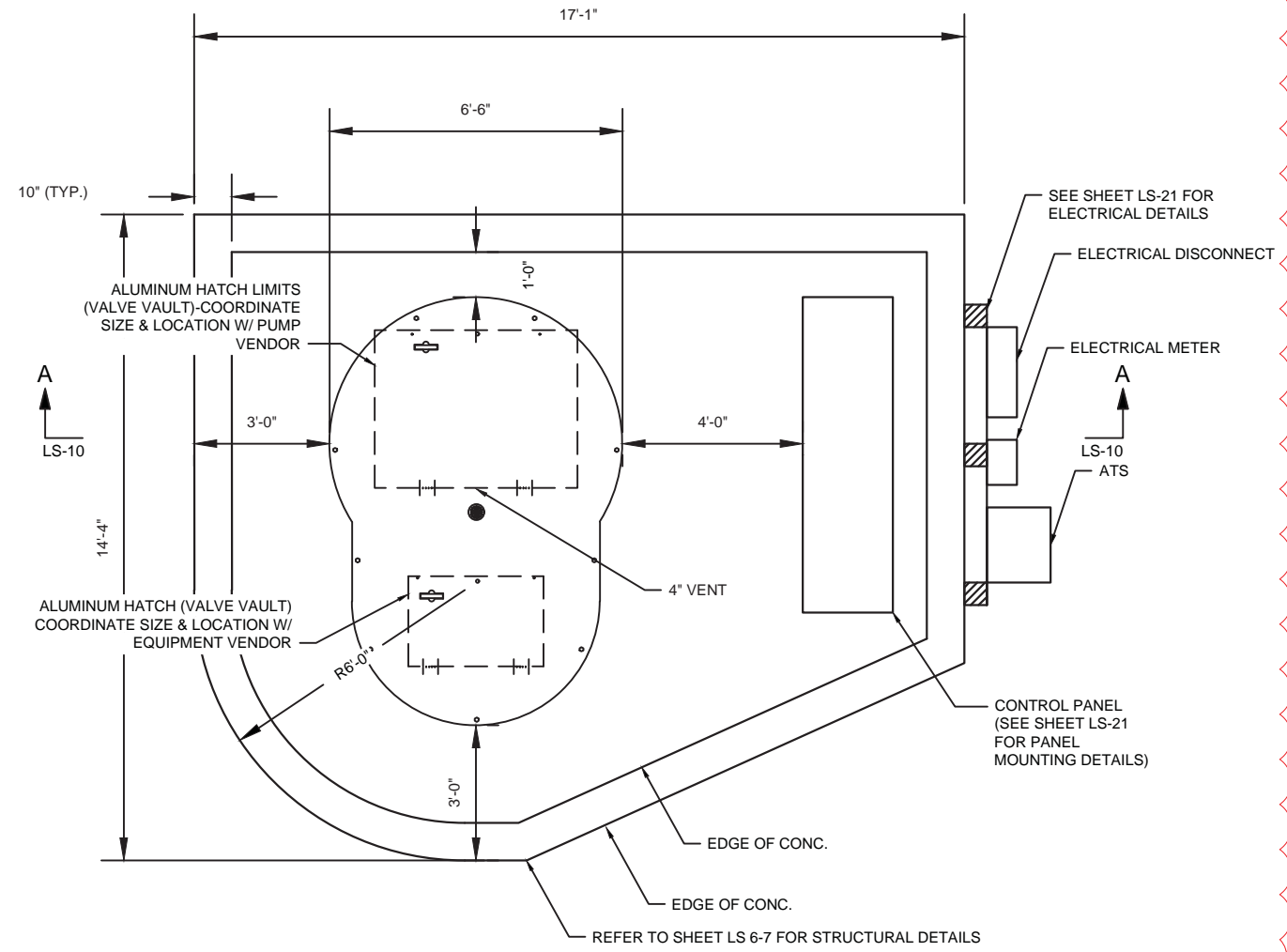
REV. DATE:

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

REVISED 04/15/2019 TKM
REMOVED RAILING & AND ADJUSTING GRADING AROUND ELEVATED CONCRETE PAD.

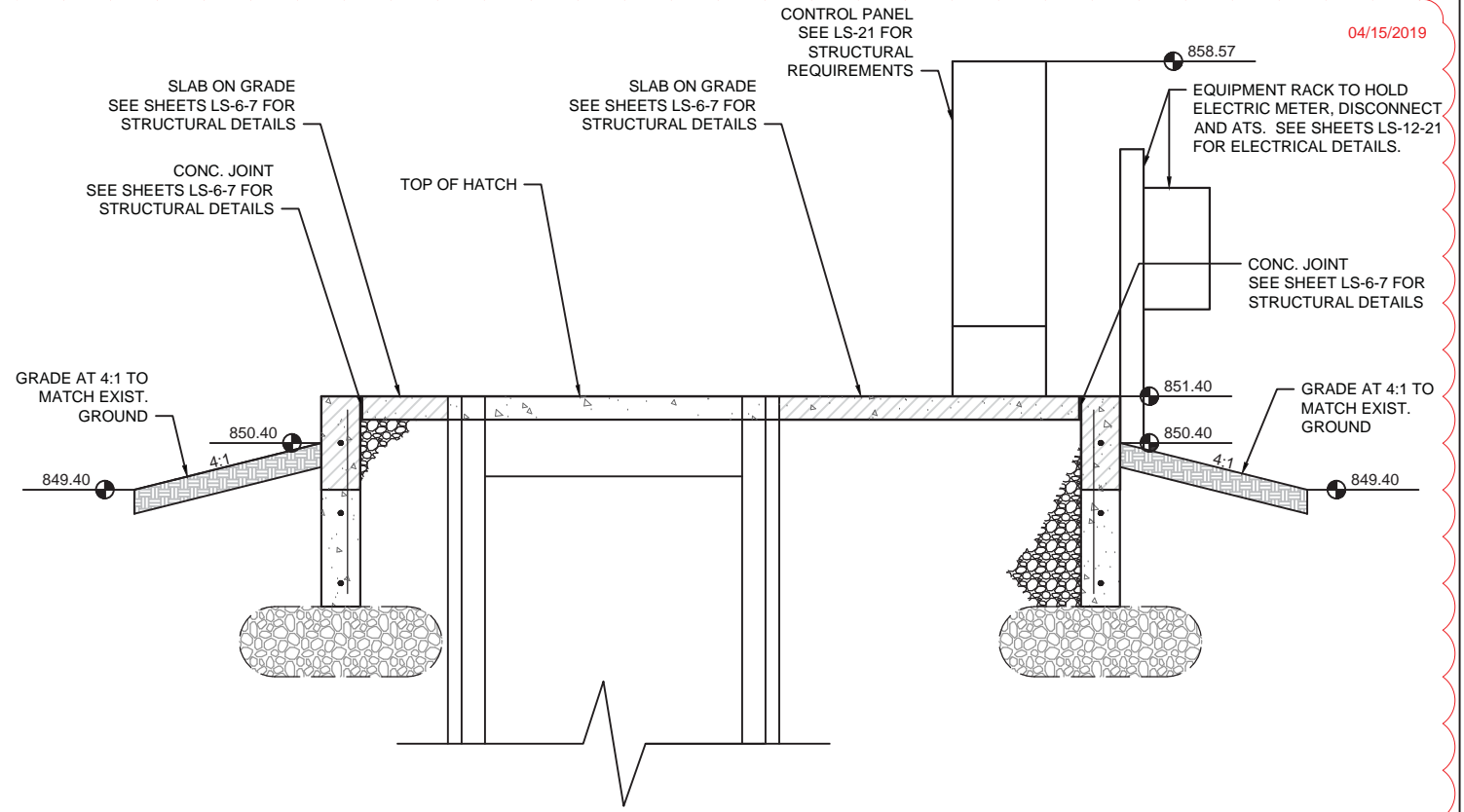
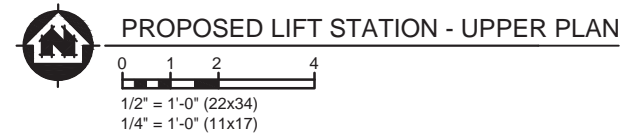
REV. PLAN ISSUED
8/22/19

04/15/2019

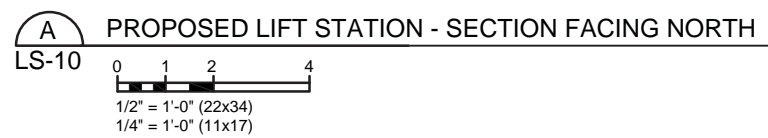


GENERAL NOTES:

1. SEE CIVIL, EROSION CONTROL AND ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.



04/15/2019



ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

ELECTRICAL SYMBOLS & ABBREVIATIONS 1
JAMES STREET CITY OF MADISON

ABBREVIATIONS

@	ARCHITECT / ENGINEER	FAS	FIRE ALARM SYSTEM	NPT	NATIONAL PIPE THREAD
AE	ARCHITECT / ENGINEER	FCO	FLOOR CLEANOUT	NTS	NOT TO SCALE
A	AMPERES (AMPS)	FD	FLOOR CLEAN	OA	OUTSIDE AIR
AC	ABOVE COUNTER APPROX 44" AFF	FD	FIRE DAMPER	OC	ON CENTER
ACCU	AIR-COOLED CONDENSING UNIT	FLA	FULL LOAD AMPS	PC	PHOTO CELL
AD	AIR DEVICE	FLEX	FLEXIBLE	PLBG	PLUMBING
ADA	AMERICAN W/ DISABILITIES ACT	FLUOR	FLUORESCENT	PR	PUMPED CONDENSATE RETURN
ADJ	USER-ADJUSTABLE	FP	FIRE PROTECTION	PREP	PREPARATION
AFF	ABOVE FINISH FLOOR	FPM	FEET PER MINUTE	PSI	POUNDS PER SQUARE INCH
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	FPT	FEMALE PIPE THREAD	PSIG	POUNDS PER SQUARE INCH, GAUGE
AHU	AIR HANDLING UNIT	GA	GAUGE	PVC	POLYVINYL CHLORIDE
AL	ALUMINUM	GA	GALVANIZED	QTY	QUANTITY
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	GC	GENERAL CONTRACTOR	RA	RETURN AIR
APPROX	APPROXIMATELY	GFI	GROUND FAULT CIRCUIT INTERRUPTER	REC	RECEPTACLE, RECOMMENDATION
ARCH	ARCHITECT / ARCHITECTURAL	GSHF	GROUND SOURCE HEAT PUMP	REFR	REFRIGERATION/REFRIGERANT
ARI	AMERICAN REFRIGERATION INSTITUTE	GWB	GYPSON WALL BOARD ("SHEET ROCK")	RHG	REFRIGERANT HOT GAS LINE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	HACR	HEATING, AIR-CONDITIONING, REFRIGERATION	RL	REFRIGERANT LIQUID LINE
BF	BACKFLOW PREVENTER	HB	HOSE BIB	RLA	RUNNING LOAD AMPS
BLDG	BUILDING	HID	HIGH INTENSITY DISCHARGE	RS	REFRIGERANT SUCTION LINE
BOB	BOTTOM OF BEAM	HOA	HAND/OFF/AUTO	S	SINK
BOC	BOTTOM OF CONDUIT	HP	HORSEPOWER	SF	SQUARE FEET
BOD	BOTTOM OF DUCT	HPS	HIGH PRESSURE SODIUM	SA	SUPPLY AIR
BOP	BOTTOM OF PIPE	HTW	HIGH TEMP WATER	SA	SANITARY
BSMT	BASEMENT	HWR	HOT WATER RECIRCULATION (DOMESTIC)	SAT	SUSPENDED ACOUSTIC TILE
BTU	BRITISH THERMAL UNIT	HWS	HEATING HOT WATER SUPPLY	SEER	SEASONAL ENERGY EFFICIENCY RATIO
C	CONDUIT	IAC	ILLINOIS ACCESSIBILITY CODE	SO	SCREENED OPENING
COND	CONDUIT, CONDENSATE	IG	ISOLATED GROUND	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
CAP	CAPACITY	INT'L	INTERLOCK/INTERLOCKED	SPEC	PROJECT SPECIFICATIONS
CB	CIRCUIT BREAKER	JBOX	JUNCTION BOX	SS	SERVICE SINK
CFM	CUBIC FEET PER MINUTE	KTR	CONTRACTOR	SS	STORM
CHS, R	CHILLED WATER SUPPLY, RETURN	KVA	KILO VOLT AMPERES	STM	STRUCTURAL
CKT	CIRCUIT	L	LAVATORY	T&P	TEMPERATURE & PRESSURE
CLG	CEILING	LED	LIGHT EMITTING DIODE	T&B	TEST & BALANCE
CO	CLEAN OUT	LF	LINEAR FEET	TAB	TRANSITION
CONT	CONTINUATION	LCR	LOW PRESSURE CONDENSATE RETURN	TRANS	TRANSITION
CU	COPPER	MAX	MAXIMUM	TXV	THERMAL EXPANSION VALVE
CR	CONDENSER RETURN	MBH	THOUSAND BTU PER HOUR	TYP	TYPICAL
CS	CONDENSER SUPPLY	MCA	MINIMUM CIRCUIT AMPACITY	UC	UNDER COUNTER
D	CONDENSATE DRAIN	MECH	MECHANICAL	UL	UNDERWRITERS LABORATORIES
DCW	DIRECT CURRENT	MFR	MANUFACTURER	UON	UNLESS OTHERWISE NOTED
DEMO	DEMOLITION	MH	METAL HALIDE	V	VENT, VOLTS
DHW	DOMESTIC HOT WATER	MIN	MINIMUM	VAC	VOLTS ALTERNATING CURRENT
DIA	DIAMETER	MOCP	MAXIMUM OVERCURRENT PROTECTION	VERT	VERTICAL
DWH	DOMESTIC WATER HEATER	MOD	MOTOR OPERATED DAMPER	VD	VOLUME DAMPER (MANUAL, LOCKING TYPE)
EC	ELECTRICAL CONTRACTOR	MOP	MOP SINK	VACUUM	VACUUM (CONDENSATE) RETURN
ELEC	ELECTRICAL, ELECTRICIAN	MS	NORTH AMERICAN INSULATION MFR'S ASSOCIATION	VTR	VENT THRU ROOF
EF	EXHAUST FAN	NAIMA	NORTH AMERICAN INSULATION MFR'S ASSOCIATION	W	WATTS
ESP	EXTERNAL STATIC PRESSURE	NC	NORMALLY CLOSED	W	WITH
EM	LIGHTING FIXTURE W/INTEGRAL EMERGENCY BATTERY OPERATION	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	W/O	WITHOUT
ETC	ETCETERA	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	WC	WATER COLUMN
LWH	ELECTRIC WALL HEATER	NIC	NOT IN CONTRACT	WCO	WALL CLEAN OUT
EXH	EXHAUST	NL	NIGHT LIGHT FIXTURE	WH	WALL HYDRANT
FACP	FIRE ALARM CONTROL PANEL	NO	NORMALLY OPEN	WP	WEATHERPROOF
				YCO	YARD CLEAN OUT

PROJECT GENERAL NOTES

- SEE INSTRUMENTATION DRAWINGS FOR INSTRUMENTATION SYMBOLS AND DETAILS.
- OTHER ABBREVIATIONS PER ANSI Z32.13 AND ISA S5.1
- THE LETTERS "GFI" ADJACENT TO A RECEPTACLE INDICATES A GROUND FAULT INTERRUPTER FEED-THROUGH RECEPTACLE ASSEMBLY. THE LETTERS ADJACENT TO A PANELBOARD CIRCUIT BREAKER INDICATES A GROUND FAULT CIRCUIT BREAKER. THE LETTERS "IG" INDICATE AN ISOLATED GROUND RECEPTACLE, PROVIDE SEPARATE GROUND WIRE.
- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
- EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES, HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
- SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND NEC GUIDELINES.
- MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED.
- ALL BRANCH CIRCUIT HOMERUNS TO BE (2)#12 & #12G IN 3/4" MINIMUM UNLESS OTHERWISE NOTED OR REQUIRED. MOTOR WIRING AS INDICATED ON ONE-LINE DIAGRAM.
- PROVIDE ALL MOTOR AND SIGNAL CIRCUIT HOMERUNS RELATED TO PROCESS EQUIPMENT.
- COORDINATE EXACT LOCATION OF ALL EQUIPMENT AND FIXTURES WITH GC, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
- EC SHALL MODIFY WIRE AND CIRCUIT SIZES BASED ON ACTUAL EQUIPMENT SUPPLIED.
- CONTRACTOR SHALL REVIEW TYPICAL DETAILS AND ALL CONSTRUCTION SHALL COMPLY WITH ALL TYPICAL DRAWINGS AND DETAILS.
- FUTURE EQUIPMENT AND DEVICES SHALL BE ROUGHED-IN. ROUGH-IN CONDUIT AND MAKE PROVISION FOR FUTURE WIRING AND CABLING FOR POWER AND CONTROL. (TYP.)
- DISCONNECTS RELATED TO PROCESS CONNECTIONS SHALL BE PROVIDED AND INSTALLED BY THE EC.
- DISCONNECTS RELATED TO HVAC EQUIPMENT SHALL BE PROVIDED BY EQUIPMENT SUPPLIER AND INSTALLED BY THE EC.
- CONSTRUCTION AND DEMOLITION SHALL BE COMPLETE AND COORDINATE WITH ALL OTHER TRADES.
- EC SHALL REVIEW CONTRACT DOCUMENT AND PROVIDE ALL WORK, MATERIALS, AND EQUIPMENT FOR A COMPLETE AND OPERABLE PROJECT.
- EXTERIOR RECEPTACLES SHALL BE METALLIC INSERVICE WEATHER PROOF COVERS AND GFI REC.
- PROVIDE CONCRETE HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT.
- ALL EXTERIOR RACEWAYS THAT EXTEND FROM BELOW GRADE TO ABOVE GRADE SHALL BE INSTALLED WITH EXPANSION COLLAR SLEEVES.
- COORDINATE ACTUAL LOCATIONS OF ALL EQUIPMENT WITH GC, OWNER, AUTHORITY WITH JURISDICTION, OTHER TRADES, AND ENGINEER PRIOR TO ROUGH-IN. ACTUAL LAYOUT MAY VARY. ALL CHANGES SHALL BE JUSTIFIED AND COORDINATED.
- OBSERVE ENVIRONMENT AND AREA CLASSIFICATIONS AS REQUIRED. FOLLOW ALL APPLICABLE CODES.
- ELECTRIC SERVICE SHALL BE INSTALLED COMPLETE AND IN COMPLIANCE TO THE UTILITY REQUIREMENTS. ONLY DIRECT FEES FROM THE UTILITY MAY BE APPLIED TO THE UTILITY ALLOWANCE. ALL OTHER WORK, LABOR, MATERIALS SHALL BE INCLUSIVE TO THE CONTRACT.
- ALL WALL SLEEVES SHALL BE LOCATED PER ACTUAL EQUIPMENT AND COORDINATED W/GC. AND BUILDING MANUFACTURER.

FEEDER SCHEDULE (600 V)

FEEDER AMPACITY	CONDUCTOR SIZE (kcmil)		CONDUIT SIZE	
	Ø & N	GRD	3Ø & GRD	3Ø & N & GRD
20	#12	#12	3/4"	3/4"
30	#10	#10	3/4"	3/4"
40	#8	#10	3/4"	1"
50	#6	#8	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#3	#8	1-1/4"	1-1/4"
110	#2	#6	1-1/2"	1-1/2"
125	#1	#6	1-1/2"	2"
150	#1/0	#6	1-1/2"	2"
175	#2/0	#6	2"	2"
200	#3/0	#6	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
250	#250	#4	2-1/2"	3"
300	#250	#4	3"	3"
350	#500	#3	3"	3-1/2"
380	#500	#3	3"	3-1/2"
400	(2) #3/0	(2) #3	(2) 2"	(2) 2-1/2"
450	(2) #4/0	(2) #2	(2) 2"	(2) 2-1/2"
500	(2) #250	(2) #2	(2) 2-1/2"	(2) 3"
600	(2) #350	(2) #1	(2) 3"	(2) 3"
700	(2) #500	(2) #1/0	(2) 3"	(2) 3-1/2"
800	(2) #600	(2) #1/0	(2) 3-1/2"	(2) 4"
1000	(3) #400	(3) #2/0	(3) 3"	(3) 3-1/2"
1200	(3) #600	(3) #3/0	(3) 3-1/2"	(3) 4"
1600	(4) #600	(4) #4/0	(4) 3-1/2"	(5) 4"
2000	(5) #600	(5) #250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:

- THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDS AND SOME SIZES MAY NOT BE UTILIZED.
- CONDUIT FOR FEEDERS UTILIZING MULTI-CONDUCTOR CABLING (SUCH AS SHIELDED AFD CABLE) SHALL BE SIZED BASED ON ACTUAL CABLE SPECIFICATIONS.
- ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
- FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DURATION FACTORS REQUIRED BY CODE AND/ OR ARE OVERSIZED FOR VOLTAGE DROP.
- WHERE MULTIPLE CONDUITS ARE INDICATED FOR A SINGLE FEEDER EACH CONDUIT SHALL CONTAIN AN AØ, BØ, CØ, GROUND CONDUCTOR, AND NEUTRAL CONDUCTOR.

SYMBOLS

EQUIPMENT MARKER
EQUIPMENT TAG

SECTION CUT MARKER
SHEET WHERE SECTION IS SHOWN
SHEET WHERE SECTION IS CUT

EQUIPMENT SERVED
CIRCUIT NUMBER
ELEC PANEL TAG

POINT OF CONNECTION:
NEW WORK TO EXISTING

EQUIPMENT TO BE DEMOLISHED
SHOWN WITHIN DOTTED LINES
AND/OR HATCH

EXISTING TO REMAIN
SHOWN WITHIN SOLID LINES

NEW WORK INSTALLED UNDER
THIS CONTRACT SHOWN
WITHIN THICK SOLID LINES

THERMOSTAT

COMBINATION MAGNETIC MOTOR
STARTER AND SAFETY SWITCH.
PROVIDE WHERE SHOWN, SUFFICIENT
FOR VOLTAGE AND MOCP SHOWN
HEREIN. PROVIDE W/ HACR TYPE FUSES
SIZED TO MOCP SHOWN HEREIN.
F- DENOTES FUSED SWITCH

SAFETY SWITCH. PROVIDE WHERE
SHOWN, SUFFICIENT FOR VOLTAGE AND
MOCP SHOWN HEREIN. PROVIDE AS
NONFUSED SWITCH, UON. IF PROVIDING A
FUSED SWITCH PROVIDE W/ HACR TYPE
FUSES SIZED TO MOCP SHOWN HEREIN.
F- DENOTES FUSED SWITCH

TRANSFORMER FOR LOW VOLTAGE
LIGHTING

FIRE ALARM MANUAL PULL STATION

FIRE ALARM AUDIO-VISUAL ALARM -
89DBA UON. 15 CD REFERS TO
CANDELA RATING.

FIRE ALARM VISUAL ONLY ALARM - 15
CD REFERS TO CANDELA RATING.

FIRE ALARM IONIZATION TYPE SMOKE
DETECTOR

COMBINATION SMOKE/CARBON
MONOXIDE DETECTOR

FIRE ALARM HEAT DETECTOR

ELECTRIC PANEL

WALL MOUNTED FIXTURE - AS
SCHEDULED

WALL MOUNTED SCNCE FIXTURE - AS
SCHEDULED

"CAN"-TYPE DOWNLIGHT MOUNTED
IN
CEILING - AS SCHEDULED

FLUORESCENT LIGHTING FIXTURE - AS
SCHEDULED.
"F3" FIXTURE TAG
"25" CIRCUIT NUMBER
"a" SWITCH

EMERGENCY LIGHT-AS SCHEDULED

WALL / CEILING MOUNTED EXIT SIGN
FIXTURE SHADED AREA INDICATES
FACE LOCATION, ARROW DENOTES
DIRECTION OF EXIT, PUNCHOUT ARROW
IN FIELD.

MOTOR CONNECTION (MOTOR BY
OTHERS)

JUNCTION BOX - WALL, CEILING, OR
FLOOR MOUNTED AS REQUIRED

EXPOSED CONDUIT WITH WIRING - LINE,
NEUTRAL, SWITCH LEG AND GROUND
INDICATED

CONDUIT TURN DOWN
GROUND
SWITCH LEG
NEUTRAL
LINE
CONDUIT TURN UP

CONCEALED TELECOMM CONDUIT
T = TELEPHONE ONLY
TC = COMBINATION
TELEPHONE/COMPUTER

CONCEALED COMPUTER/DATA SYSTEM
CONDUIT

CONCEALED CONDUIT IN WALL OR
CEILING CONSTRUCTION

CONDUIT UNDER FLOOR OR GRADE

FLEXIBLE CONDUIT CONNECTION

CENTER OF ALL SWITCHES IN NON-ADA AREAS = 54" AFF, UON.
CENTER OF ALL SWITCHES IN ADA AREAS = 48" AFF, UON.

SINGLE POLE SWITCH

THREE WAY SWITCH

FOUR WAY SWITCH

AUTOMATIC WALL SWITCH W/ MANUAL
OVERRIDE

CEILING MOUNTED OCCUPANCY
SENSOR.

CEILING MOUNTED PHOTOCCELL
SENSOR.

MANUAL MOTOR STARTER (TT SWITCH)

120 VOLT DUPLEX RECEPTACLE

120 VOLT RECEPTACLE PROTECTED BY
ARC-FAULT CIRCUIT BREAKER IN PANEL

120 VOLT DOUBLE DUPLEX (QUADPLEX)
RECEPTACLE

120 VOLT DUPLEX RECEPTACLE,
MOUNTED FLUSH WITH FLOOR LEVEL.

120 VOLT GFI TYPE DUPLEX
RECEPTACLE

120 VOLT GFI TYPE DUPLEX
RECEPTACLE, MOUNTED FLUSH WITH
FLOOR LEVEL.

120 VOLT GFI TYPE DUPLEX
RECEPTACLE WITH WEATHERPROOF
COVER PLATE

120 VOLT, ISOLATED GROUND TYPE
DUPLEX RECEPTACLE

SPECIAL USE RECEPTACLE, TYPE AS
NOTED ON DRAWINGS

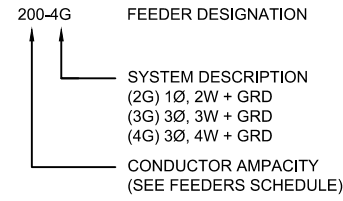
PROVIDE JBOX FOR TELECOMM OUTLETS SIZED AS NOTED &
COVERED BY BLANKOFF. ROUTE 1" CONDUIT W/PULLSTRINGS
FROM JBOX INSIDE WALL AND ABOVE CEILING, TO TERMINATE
WITHIN 6LF OF THE ABOVE CEILING CABLE TRAY. PROVIDE
BUSHING ON END OF CONDUIT.

TELEPHONE OUTLET, MOUNT AS NOTED

DATA OUTLET, MOUNT AS NOTED

COMBINATION DATA/TELEPHONE
OUTLET, MOUNT AS NOTED.

TELEVISION OUTLET, MOUNT AS NOTED



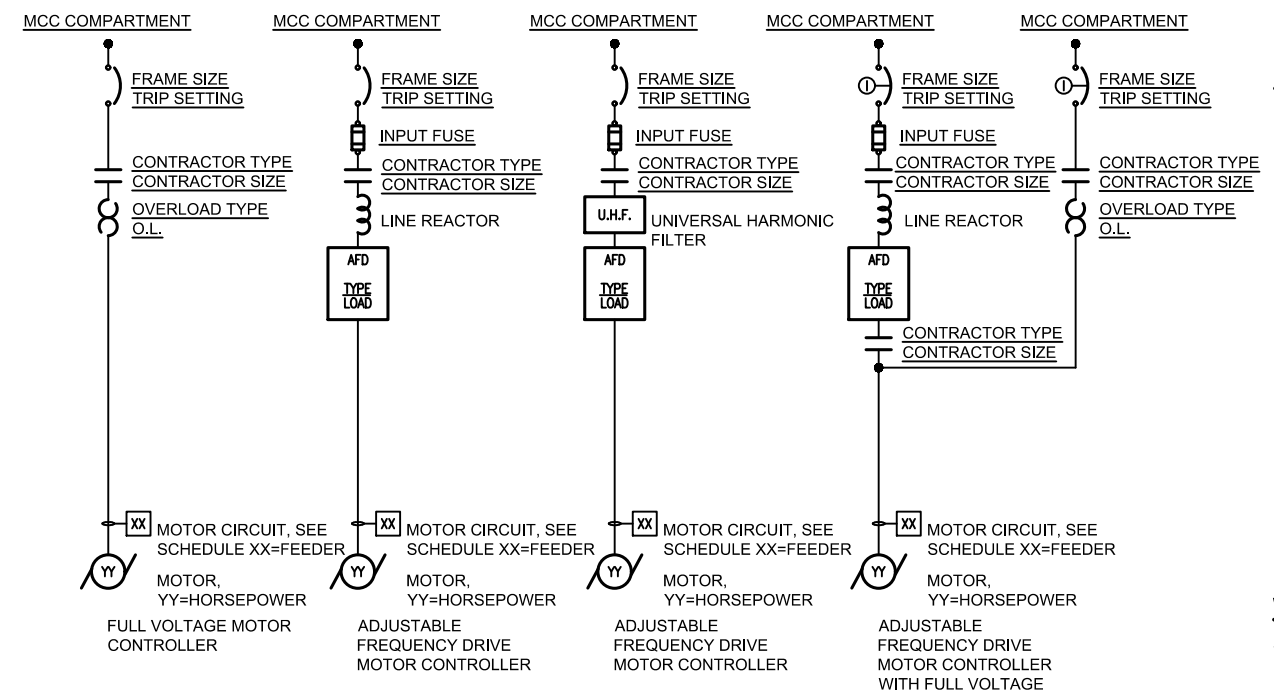
PLOT SCALE: _____
PLOT NAME: _____
REV. DATE: _____

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

**INSTRUMENT SOCIETY OF AMERICA
 INSTRUMENT IDENTIFICATION**

	FIRST LETTER(S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSOUT FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO(FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL				
M	MOISTURE				LOW
N	TORQUE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE (OR VACUUM)		POINT, TEST CONNECTION		
Q	QUANTITY	INTEGRATE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION				
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE	Y AXIS		RELAY OR COMPUTE DRIVE ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	
Z	POSITION, DIMENSION	Z AXIS			

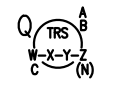
**MOTOR CONTROL CENTER (MCC)
 SYMBOLS**



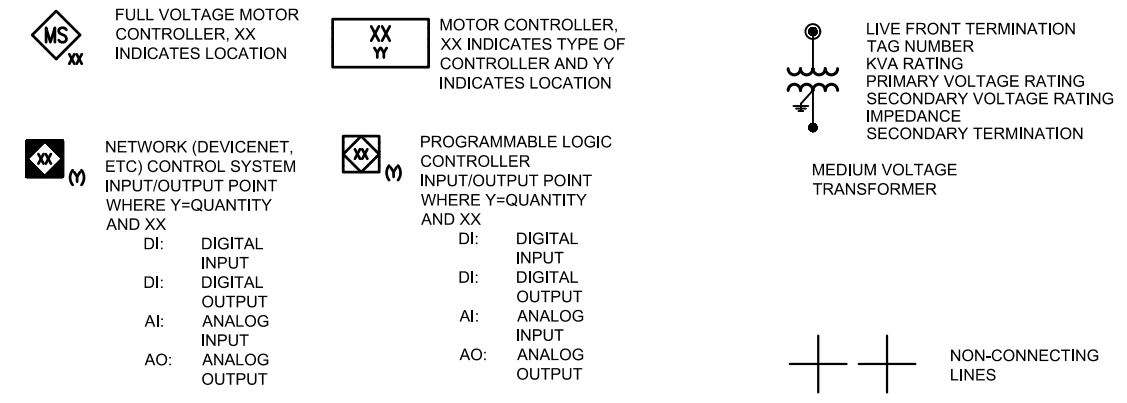
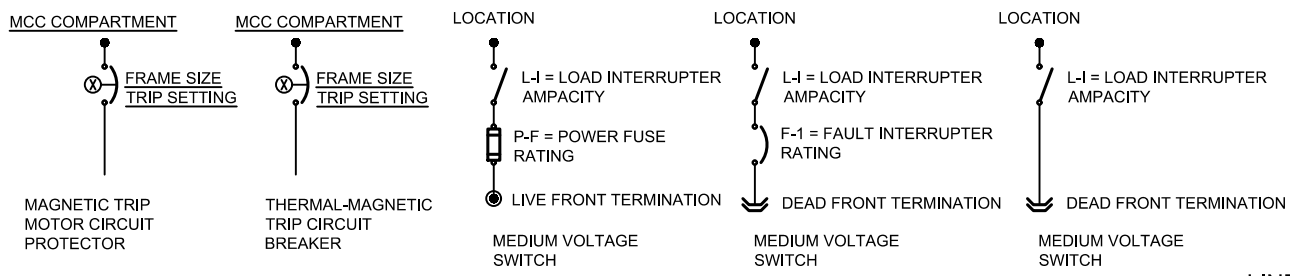
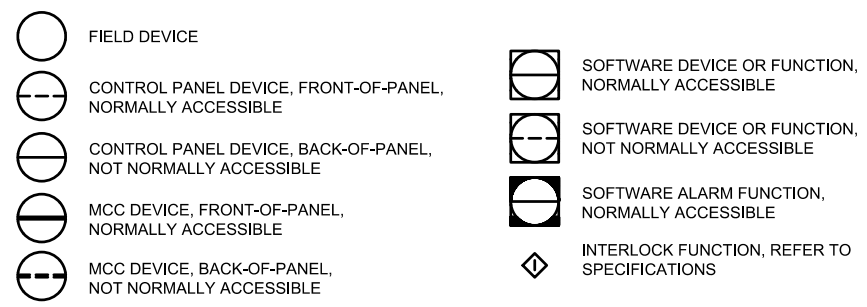
- PROCESS NOTES:**
- SIZE CONDUIT PER NEC. MINIMUM SIZE 3/4".
 - PROVIDE SEPARATE CONDUITS FOR THE FOLLOWING:
 - 4-20mADC
 - 120 VOLT CONTROL
 - 120 VOLT POWER
 - 480 VOLT POWER
 - LOW VOLTAGE INSTRUMENTATION
 - COMMUNICATION
 - REFER TO SPECIFICATION 16900 FOR DETAILS ON VARIOUS LOOP FUNCTIONS AS WELL AS DETAILS REGARDING OPERATOR INTERFACE FUNCTIONS.
 - REFER TO DIVISION 11000, 13000, 15000 FOR ADDITIONAL DETAILS REGARDING INSTRUMENTATION AND CONTROL EQUIPMENT FURNISHED UNDER THOSE SPECIFICATIONS.
 - (1) 1-1/2" C REFERS TO NUMBER OF WIRES AND SIZE OF WIRE REQUIRED, WHERE AS:
 - (1) = ONE WIRE
 - 1-1/2" C = THE SIZE OF WIRE REQUIRED

- WIRING & CONDUIT (TYPICAL)**
- (X) #12 & #12G REFERS TO NUMBER OF WIRE(S) AND SIZE OF WIRE(S) REQUIRED, WHERE AS:
 - (1) = ONE WIRE
 - #12 = THE SIZE OF WIRE REQUIRED
 - G = GROUND WIRE
 - (X) 1-1/2" C REFERS TO NUMBER OF CONDUIT(S) AND SIZE OF CONDUIT(S) REQUIRED, WHERE AS:
 - (1) = ONE CONDUIT
 - 1-1/2" C = THE SIZE OF CONDUIT REQUIRED

P&ID SYMBOLS (TYPICAL)

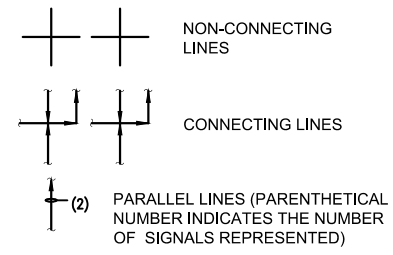


- A: DESCRIPTION, TOP LINE
 B: DESCRIPTION, BOTTOM LINE
 TRS: FIRST LETTER(S) AND SUCCEEDING LETTERS OF INSTRUMENT IDENTIFICATION, REFER TO ISA TABLE
 W: UNIT PROCESS NUMBER
 X: LOOP NUMBER
 Y: UNIT NUMBER, USED FOR MULTIPLE SETS WITH THE SAME X-Y DESIGNATION
 Z: SET NUMBER, USED FOR MULTIPLE SETS OF UNITS WITH THE SAME W-X-Y DESIGNATION
- N: NUMBER OF UNITS
 C: INSTALLATION REQUIREMENT:
 e.p.: CLASS 1, DIVISION 1 HAZARDOUS LOCATION
 i.s.: INTRINSICALLY SAFE, INSTALLED IN CLASS 1, DIVISION 1 HAZARDOUS LOCATION
 Q: PROVISION REQUIREMENT:
 * : EXISTING, RE-USED EQUIPMENT
 ** : EQUIPMENT SPECIFIED UNDER DIVISION OTHER THAN 26
 *** : FUTURE EQUIPMENT
 BLANK : EQUIPMENT SPECIFIED UNDER DIVISION 26



LINETYPE LEGEND

- Ax = 2C#16 SHIELDED, TWISTED PAIR CABLE
 Dx = #14 THHN WIRE (x = NUMBER OF WIRES)
 Mx = 1" CONDUIT FOR CABLE SUPPLIED BY MANUFACTURER BY MFG. (x=NUMBER OF CONDUITS)
 Ex = 3/4" CONDUIT AND CAT5e(x) CABLE(S) (x = NUMBER OF CABLES)
 FO = CONDUIT AND FIBER OPTIC CABLE
- SOFTWARE SIGNAL/FUNCTION
 ——— ANALOG SIGNAL, 4-20mADC OR PULSE FREQUENCY
 - - - PULSE FREQUENCY
 ——— DISCRETE SIGNAL, DRY CONTACT
 ——— MANUFACTURER'S SIGNAL
 ——— PNEUMATIC SIGNAL
 ——— MAJOR PROCESS
 ——— MINOR PROCESS



ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

PLOT SCALE:

PLOT NAME:

REV. DATE:

ELECTRICAL SITE PLAN

JAMES STREET CITY OF MADISON

REVISED 02/19/2019 KJA
 • REVISED ELECTRICAL PLAN NOTES PER MMSD COMMENTS.
 REVISED 04/15/2019 TKM
 • REMOVED RAILING & AND ADJUSTING GRADING AROUND ELEVATED CONCRETE PAD.

REV.PLAN ISSUED 8/22/19

REVISED 2/18/19 BY KJA
 -REVISED ANTENNA TOWER LOCATION
 -ADDED NOTE FOR CONDUIT FROM ATS TO CONTROL PANEL FOR STATUS SIGNALS
 -CHANGED ALL CONDUIT TO PVC COATED RIGID STEEL

STARKWEATHER CREEK

JAMES STREET

- LSH-1-1 HIGH LEVEL ALARM
- LSC-1-3 LAG PUMP START
- LSC-1-2 LEAD PUMP START
- LSC-1-1 PUMPS OFF
- LSL-1-1 LOW LEVEL ALARM

CLASS 1 DIV. I HAZARDOUS AREA

WAT

PLAN NOTES:

1. PUMP STATION CONTROL PANEL. VERIFY FINAL DIMENSIONS WITH SYSTEM INTEGRATOR
2. EQUIPMENT RACK
3. 200 AMP RATED, STAINLESS STEEL, 4 POLE, FUSED DISCONNECT. PROVIDE SERVICE ENTRANCE GUTTER PER UTILITY REQUIREMENTS.
4. UTILITY APPROVED METER SOCKET.
5. AUTOMATIC TRANSFER SWITCH
6. SPARE 1-1/2" CONDUIT STUBBED OUT FROM CONTROL PANEL TO PAST CONCRETE FOR FUTURE YARD LIGHT.
7. CONDUITS FROM ATS TO GENERATOR AND CONTROL PANEL
- 7.1. (1) CONDUIT FOR 3 PHASE POWER CONDUCTORS FROM GENSET TO ATS 02/19/2019
- 7.2. (1) CONDUIT FOR START/STOP CONDUCTORS FROM ATS TO GENSET
- 7.3. (1) CONDUIT FOR SPARE
- 7.4. (1) CONDUIT FOR STATUS FROM ATS TO CONTROL PANEL
8. CONDUITS FROM CONTROL PANEL TO WETWELL
- 8.1. (1) 2" CONDUIT FOR PUMP NO.1 MOTOR CABLE AND SENSOR CABLES.
- 8.2. (1) 2" CONDUIT FOR PUMP NO.2 MOTOR CABLE AND SENSOR CABLES.
- 8.3. (2) 1-1/2" CONDUITS FOR FLOAT SWITCHES
- 8.4. (1) 1-1/2" CONDUIT FOR SPARE
9. CONDUITS FROM CONTROL PANEL TO GENERATOR
- 9.1. (1) CONDUIT FOR 120VAC POWER FROM THE CONTROL PANEL TO THE GENERATOR FOR THE BLOCK HEATER.
- 9.2. (1) CONDUIT FOR 120VAC POWER FROM THE CONTROL PANEL TO THE GENERATOR FOR THE BATTERY CHARGER.
- 9.3. (1) CONDUIT FOR SIGNAL WIRING FROM THE GENERATOR TO THE CONTROL PANEL FOR GENERATOR STATUS.
- 9.4. (1) CONDUIT FROM THE CONTROL PANEL TO THE GENERATOR FOR SPARE.
10. UTILITY NATURAL GAS SERVICE MAIN
11. NATURAL GAS METER. INSTALLED PER UTILITY REQUIREMENTS
12. 1" NATURAL GAS LINE SUPPLIED BY CONTRACTOR.
13. UTILITY SUPPLIED 200 AMP UNDERGROUND ELECTRICAL SERVICE. COORDINATE SERVICE WITH UTILITY.
14. ANTENNA TOWER
- 14.1. PROVIDE CONCRETE BASE PER DETAIL
- 14.2. ANTENNA TO BE MOUNTED 20' ABOVE FINISH GRADE
- 14.3. ANTENNA TOWER TO BE INSIDE GENERATOR FENCE.
15. PROVIDE 3/4" HELIAX RAN INSIDE 2" CONDUIT FROM CONTROL PANEL TO ANTENNA TOWER.
- 15.1. AIR GAP INSIDE LEGS OF CONTROL PANEL IS A CLASS 1 DIV I SPACE. VERTICAL CONDUIT ENTERING THE AIR GAP OF THE LEGS MUST BE PVC COATED GALVANIZED RIGID STEEL. HORIZONTAL CONDUIT ATTACHED TO THE VERTICAL CAN BE PVC CONDUIT.
16. GENERATOR
- 16.1. COORDINATE CONDUIT ENTRY WITH GENERATOR SUPPLIER. CONDUIT PLACEMENT IS COORDINATED WITH KOHLER 45 KW NATURAL GAS GENERATOR.
17. WETWELL FLOATS
- 17.1. SUSPENDED WITH STAINLESS STEEL SUSPENSION KIT
- 17.2. DON'T MOUNT UNDER INFLUENT
- 17.3. LEAVE SLACK CABLE COILED UP IN WETWELL

GENERAL NOTES:

1. ALL CONDUIT TO BE PVC COATED GALVANIZED RIGID STEEL

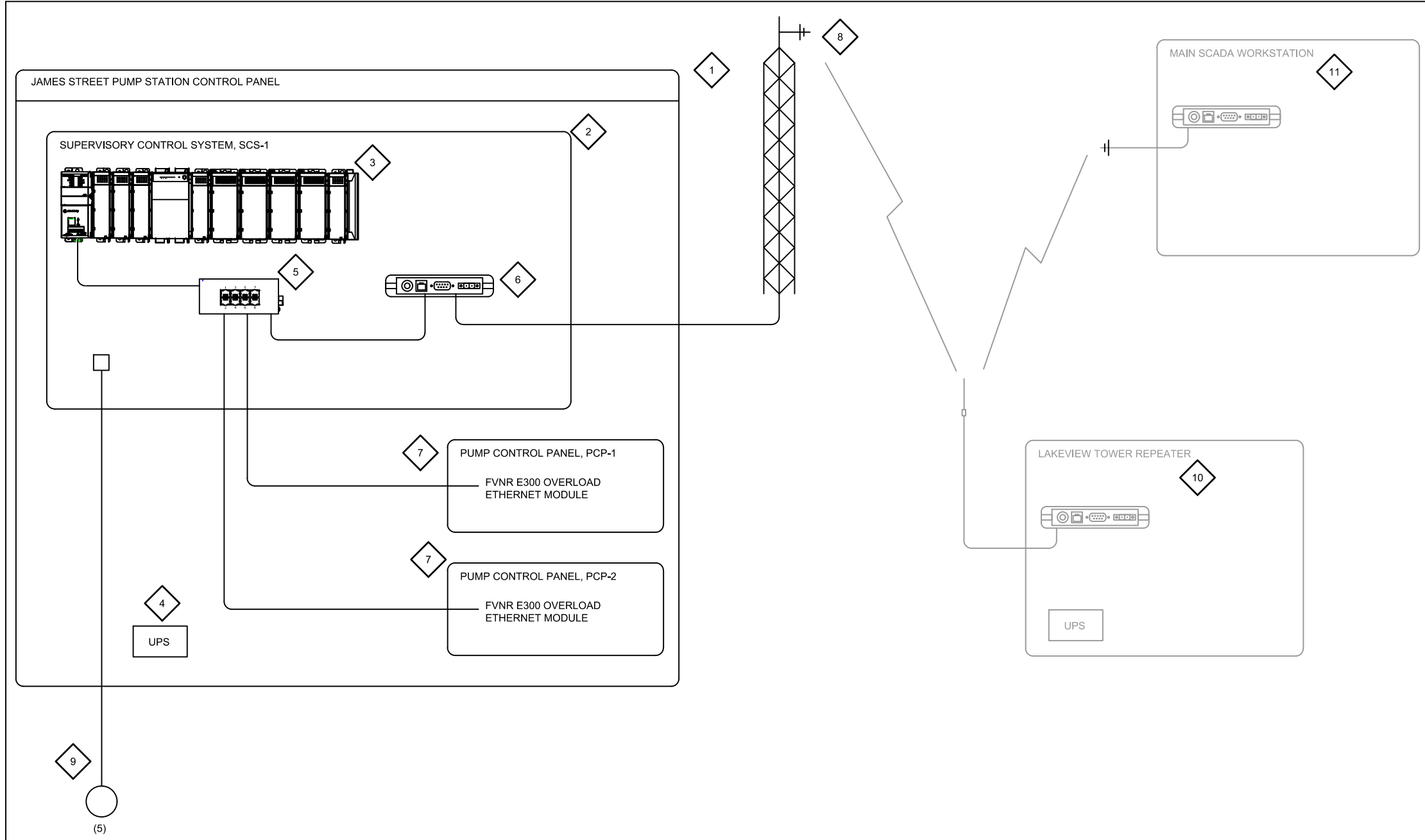
PLOT SCALE: _____
 PLOT NAME: _____
 REV. DATE: _____

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

SCADA OVERVIEW
 JAMES STREET CITY OF MADISON

REVISED 02/19/2019 BY KJA
 • REVISED NOTE 8 FOR OWNER FURNISHED ANTENNA EQUIPMENT.
 • DELETED STATION HAND/AUTO AND START/STOP PUSHBUTTON.

02/19/2019



PLC I/O LIST

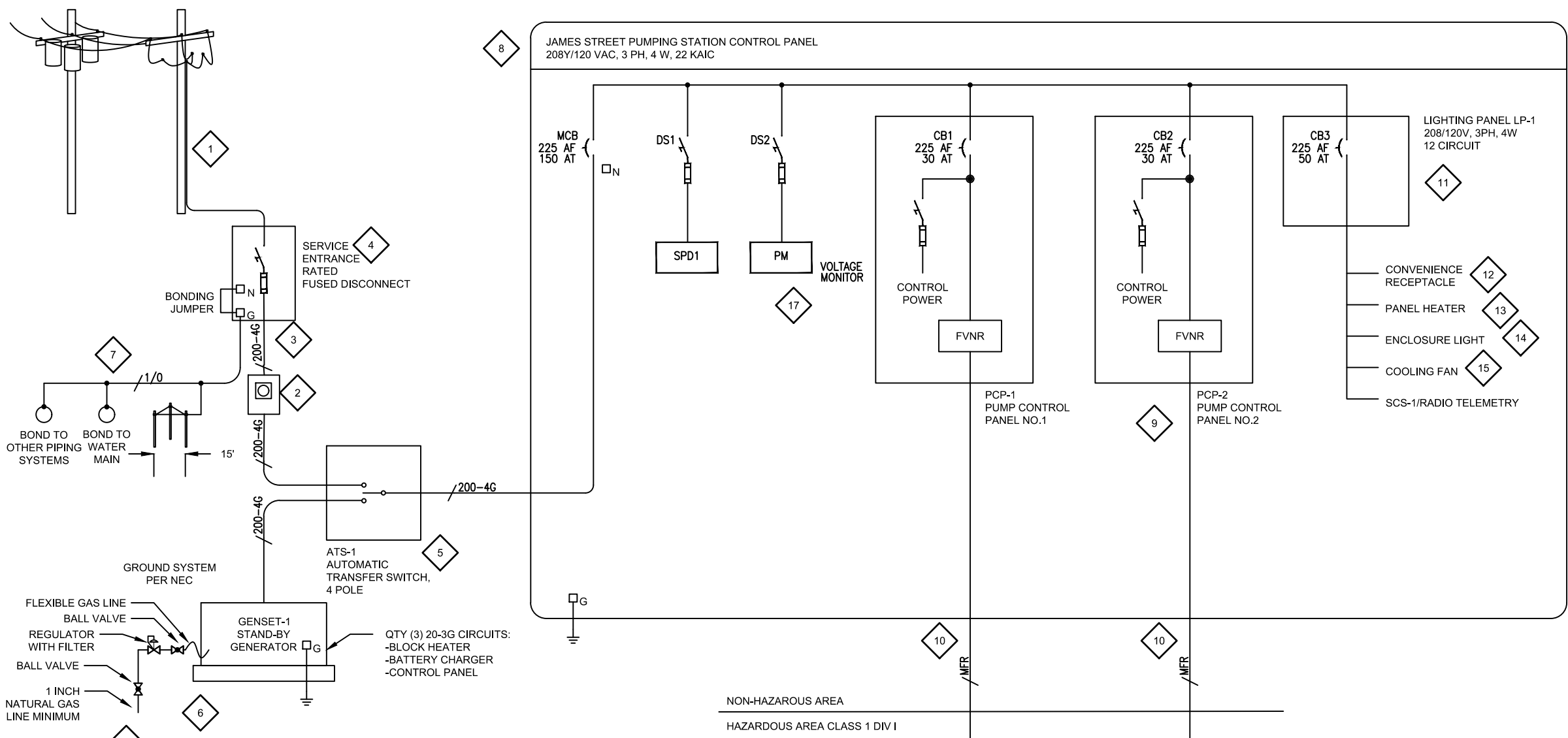
PANEL	EQUIPMENT NAME	TAG	DI	DO	AI	AO	WIRE
STATION STATUS							
SCS-1	CONTROL POWER AVAILABLE		X				(2) #14
SCS-1	UPS POWER AVAILABLE		X				(2) #14
SCS-1	UPS SERVICE REQUIRED		X				(2) #14
SCS-1	PANEL ENTRY		X				(2) #14
SCS-1	3 PHASE POWER FAIL		X				(2) #14
SCS-1	ALTERNATION 1-2		X				(2) #14
SCS-1	ALTERNATION 2-1		X				(2) #14
SCS-1	E-STOP		X				(2) #14
WETWELL							
SCS-1	HIGH LEVEL ALARM	LSH-1-1	X				(2) #14
SCS-1	LAG PUMP START	LSC-1-3	X				(2) #14
SCS-1	LEAD PUMP START	LSC-1-2	X				(2) #14
SCS-1	COMMON PUMPS OFF	LSC-1-1	X				(2) #14
SCS-1	LOW LEVEL ALARM	LSL-1-1	X				(2) #14
PUMP 1							
SCS-1	IN SERVICE		X				(2) #14
SCS-1	IN AUTO		X				(2) #14
SCS-1	RUNNING		X				(2) #14
SCS-1	FAILED		X				(2) #14
SCS-1	CALL TO RUN			X			(2) #14
SCS-1	AMPS				X		ETHERNET
SCS-1	KW				X		ETHERNET
PUMP 2							
SCS-1	IN SERVICE		X				(2) #14
SCS-1	IN AUTO		X				(2) #14
SCS-1	RUNNING		X				(2) #14
SCS-1	FAILED		X				(2) #14
SCS-1	CALL TO RUN			X			(2) #14
SCS-1	MOTOR HIGH TEMPERATUR		X				(2) #14
SCS-1	SEAL FAIL		X				(2) #14
SCS-1	AMPS				X		ETHERNET
SCS-1	KW				X		ETHERNET
GENERATOR							
SCS-1	IN AUTO		X				(2) #14
SCS-1	RUNNING		X				(2) #14
SCS-1	FAILED		X				(2) #14
ATS							
SCS-1	NORMAL SOURCE AVAILABLE		X				(2) #14
SCS-1	NORMAL SOURCE CONNECTED		X				(2) #14
SCS-1	EMERGENCY SOURCE AVAILABLE		X				(2) #14
SCS-1	EMERGENCY SOURCE CONNECTED		X				(2) #14
SCS-1	IN AUTO		X				(2) #14
SCS-1	FAILED TO TRANSFER		X				(2) #14
SCS-1	INITIATE TEST			X			(2) #14
TOTALS			32	3	4	0	

- PLAN NOTES:**
- JAMES STREET PUMP STATION CONTROL PANEL
 - PROVIDE SUPERVISORY CONTROL SYSTEM, SCS-1, INSIDE PUMP STATION CONTROL PANEL
 - PROVIDE ALLEN BRADLEY PLC 1769-L30ER, PLC PROGRAMMING PROVIDED BY OWNER.
 - PROVIDE UNINTERRUPTIBLE POWER SUPPLY ON SHELF INSIDE PUMP STATION AND OUTSIDE OF SCS-1 ENCLOSURE.
 - PROVIDE 8 PORT UNMANAGED INDUSTRIAL ETHERNET SWITCH.
 - INSTALL OWNER FURNISHED RADIO EQUIPMENT. PROVIDE MINIMUM 12"X12" SPACE ALLOCATED FOR RADIO EQUIPMENT. COORDINATE DIMENSIONS OF EQUIPMENT WITH OWNER. PROVIDE 24 VDC POWER SUPPLY WITH ADDITIONAL 2.5 A DEDICATED TO RADIO EQUIPMENT.
 - PROVIDE PUMP CONTROL PANELS PCP-1 AND PCP-2 INSIDE PUMP STATION CONTROL PANEL. PROVIDE ETHERNET CONNECTION TO E300 OVERLOAD ON STARTER.
 - ANTENNA TO BE MOUNTED AT 20 FT AFG FOR COMMUNICATIONS BACK TO MASTER PLC. 02/19/2019
 - PROVIDE ANTENNA TOWER PER SHEET LS-22
 - THE CITY WILL PROVIDE THE 1/2" HELIAX ANTENNA CABLE, CONNECTOR, GROUNDING CABLE AND RADIO. COORDINATE ANTENNA INSTALLATION WITH THE CITY.
 - PROVIDE FIBER OPTIC FLOATS WITH TRANSCEIVER RELAY. PROVIDE FLOAT WITH MANUFACTURERS CABLE LONG ENOUGH FOR HOME RUN TO PUMP STATION CONTROL PANEL. PROVIDE STAINLESS STEEL SUSPENSION KIT WITH ANCHOR WEIGHT.
 - EXISTING REPEATER SITE TO REMAIN.
 - EXISTING MAIN SCADA WORKSTATION, ALL PROGRAMMING UPDATES, ALARMS, REPORTS AND SCADA CONFIGURATION PROVIDED BY OWNER.

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

ELECTRICAL ONE-LINE
 JAMES STREET CITY OF MADISON

REVISED 02/19/2019 BY KJA
 • ADDED NOTE TO GENERATOR TO GROUND PER NEC CODE.



- PLAN NOTES:**
- UTILITY TO PROVIDE ELECTRICAL SERVICE FROM POWER POLE TO FUSED DISCONNECT.
 - ELECTRICAL UNDERGROUND SERVICE PROVIDED AND INSTALLED BY UTILITY INCLUDES 4/0-ALUMINUM 3 PHASE CONDUCTORS IN 3" CONDUIT FROM THE POWER POLE TO THE FUSED DISCONNECT.
 - PROVIDE UTILITY APPROVED METER SOCKET. MOUNT PER UTILITY REQUIREMENTS.
 - PROVIDE 3 PHASE CONDUCTORS FROM FUSED DISCONNECT TO METER SOCKET
 - PROVIDE NEMA 4X STAINLESS STEEL SERVICE ENTRANCE RATED FUSED DISCONNECT SWITCH WITH ONE SET OF SPARE FUSES.
 - INSTALL PER UTILITY REQUIREMENTS.
 - PROVIDE 3" CONDUIT STUBBED OUT TO EXPANSION JOINT. UTILITY WILL RUN THEIR CONDUIT TO THAT EXPANSION JOINT.
 - PROVIDE 4-POLE, OPEN TRANSITION, AUTOMATIC TRANSFER SWITCH HOUSED IN A NEMA 4X STAINLESS STEEL ENCLOSURE.
 - PROVIDE PERMANENT GENERATOR
 - NATURAL GAS 45 KW, 208Y/120, 3 PHASE, 4 WIRE OUTPUT
 - PROVIDE NG LINE SIZED PER MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE BALL VALVES, GAS REGULATOR, FILTER AND FLEXIBLE FUEL LINE.
 - GROUND PER NEC CODE
 - PROVIDE GROUNDING SYSTEM PER NEC.
 - PUMP STATION CONTROL PANEL
 - PUMP CONTROL PANELS, PCP-1 & PCP-2 SHALL BE MOUNTED IN NEMA 12 ENCLOSURES MOUNTED INSIDE PUMP CONTROL STATION.
 - PUMP MOTOR CABLES SHALL HOMERUN TO PUMP STATION MOTOR STARTER PANELS.
 - PROVIDE NEMA 1 LIGHTING PANEL, 12 CIRCUITS MINIMUM.
 - PROVIDE WEATHERPROOF GROUND FAULT INTERRUPTER CONVENIENCE RECEPTACLE.
 - PROVIDE PANEL HEATER WITH BUILT IN THERMOSTAT.
 - PROVIDE LED ENCLOSURE LIGHTS. PROVIDE (1) 18" LIGHT FOR EVERY 3 FT OF PANEL WIDTH.
 - PROVIDE COOLING FAN, THERMOSTATICALLY CONTROLLED. FAN SHALL PULL FILTERED AIR INTO PANEL. PROVIDE FILTERED LOUVERS. PROVIDE COVERS FOR LOUVERS FOR WINTER MONTHS. PROVIDE SPARE FILTERS.
 - PROVIDE CIRCUIT BREAKER FOR FUTURE YARD LIGHT. PROVIDE CONDUIT STUBBED OUT OF CONCRETE SLAB FOR FUTURE CONNECTION.
 - PROVIDE 3 PHASE VOLTAGE MONITOR, TIMEMARK MODEL 269 HOUSED IN POWER DISTRIBUTION PANEL.

JAMES ST PUMP STATION

NTS

THREE PHASE PANEL SCHEDULE LP-1									
TYPE: LIGHTING & APPLIANCE LOAD CENTER					BUS AMPACITY: 100A				
VOLTAGE 208 / 120 - 3P4W					BUS CONSTRUCTION: CU MAIN CIRCUIT BREAKER: NO				
MOUNT: SURFACE					GROUND BUS: YES SUB-FEED LUGS: NO				
SINGLE TUB					ISOLATED GROUND BUS: YES INTERRUPTING CAPACITY: 10 KAIC				
DESCRIPTION	LOAD	BKR	A	B	C	BKR	LOAD	DESCRIPTION	
1 MAIN CIRCUIT BREAKER		50/3	3.0	3.0	3.0	20/1	3.00	CONTROL/RADIO	2
3			3.0	3.0	3.0	20/1	3.00	LIGHT/RECEPTACLE	4
5			3.7	3.7	3.7	20/1	3.70	GENSET BATTERY CHARGER	6
7 HEATER/COOLING FAN	1.89	20/1	4.9	4.9	4.9	20/1	3.00	GENSET CONTROL PANEL	8
9 YARD LIGHT (FUTURE)		20/1	12.5	12.5	12.5	20/1	12.50	GENSET BLOCK HEATER	10
11 SPARE		20/1	0.0	0.0	0.0	20/1		GENSET SPARE	12
TOTAL AMPS / PHASE:			7.9	15.5	3.7				
KVA / PHASE:			0.9	1.9	0.4	TOTAL CONNECTED KVA: 3.3			

LIGHTING PANEL

NTS

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

PLOT SCALE: _____
 PLOT NAME: _____
 REV. DATE: _____

P&ID

JAMES STREET CITY OF MADISON

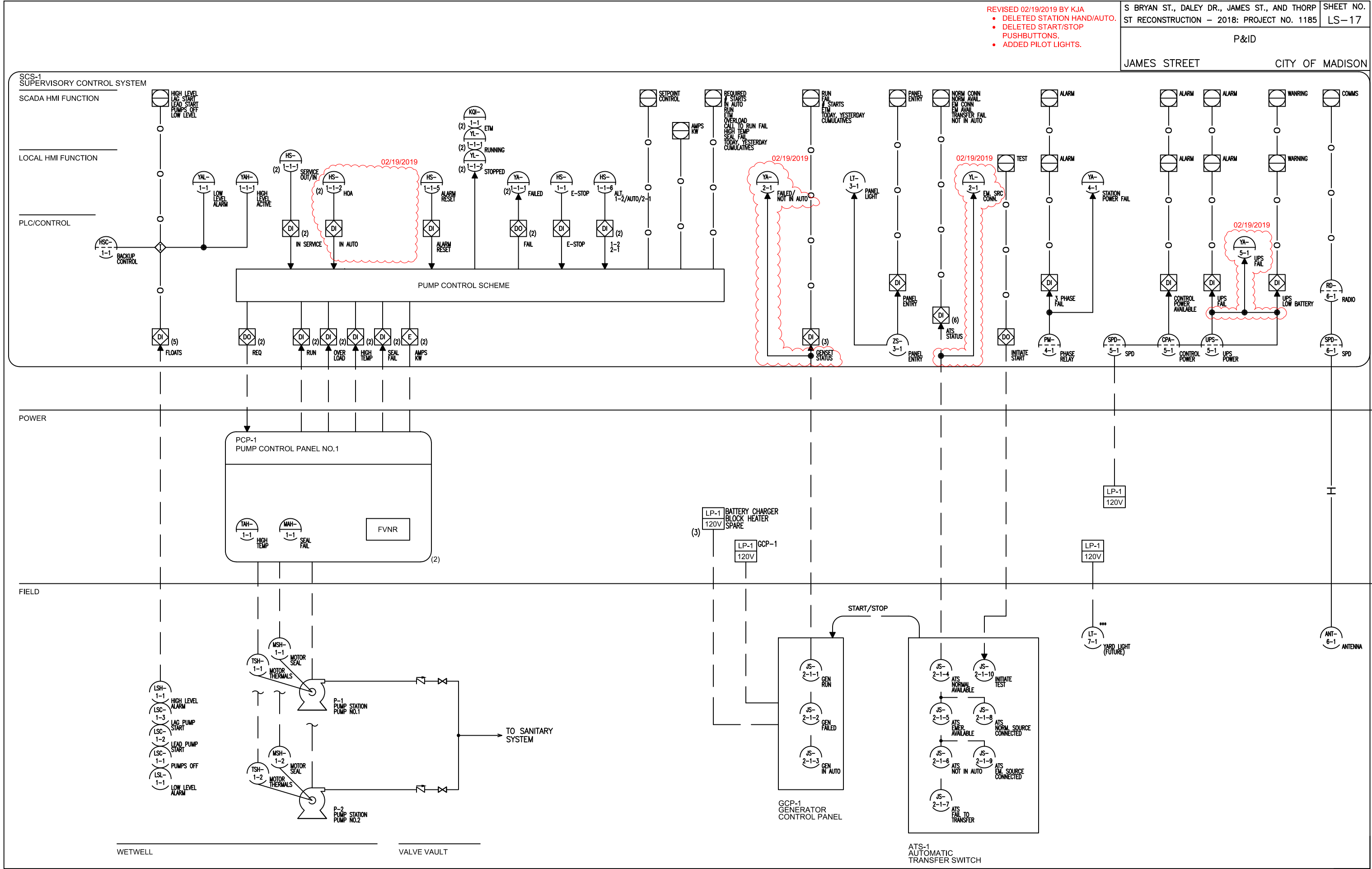
- REVISED 02/19/2019 BY KJA
- DELETED STATION HAND/AUTO.
- DELETED START/STOP PUSHBUTTONS.
- ADDED PILOT LIGHTS.

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION



REVISED 02/19/2019 BY KJA
 • REVISED CONDUIT AND BOX SCHEDULE.

ELECTRICAL SCHEDULE

JAMES STREET CITY OF MADISON

FIELD INSTRUMENTATION														
TAGNAME	SHEET	DESC1	DESC2	LOCATION	ENVIRONMENT	SPEC SECTION	DESTINATION 1	WIRE TYPE 1	DESTINATION 2	WIRE TYPE 2	POWER SOURCE	POWER WIRING	DETAIL	COMMENT
ANT-6-1	E6	ANTENNA		REMOTE	OD	26 90 41	SCS-1	HELIAX					26 90 41	1
ATS-1	E6	AUTOMATIC	TRANSFER SWITCH	REMOTE	OD	26 36 23	SCS-1	D14, D4 SPARE	GCP-1	D2, D2 SPARE				5
GCP-1	E6	GENERATOR	CONTROL PANEL	REMOTE	OD	26 32 13	SCS-1	D6, D4 SPARE	ATS	D2, D2 SPARE	LP-1	(4) 20-3G	26 32 13	5
LSC-1-1	E6	PUMPS OFF		REMOTE		26 90 20-L2	SCS-1	MFR (FIBER)						4
LSC-1-2	E6	LEAD PUMP	START	REMOTE		26 90 20-L2	SCS-1	MFR (FIBER)						4
LSC-1-3	E6	LAG PUMP	START	REMOTE		26 90 20-L2	SCS-1	MFR (FIBER)						4
LSH-1-1	E6	HIGH LEVEL	ALARM	REMOTE		26 90 20-L2	SCS-1	MFR (FIBER)						4
LSL-1-1	E6	LOW LEVEL	ALARM	REMOTE		26 90 20-L2	SCS-1	MFR (FIBER)						4
LT-7-1	E6	YARD LIGHT	(FUTURE)	REMOTE										2
P-1	E6	PUMP STATION	PUMP NO.1	REMOTE	H		PCP-1	MFR			PCP-1	MFR		3
P-2	E6	PUMP STATION	PUMP NO.2	REMOTE	H		PCP-2	MFR			PCP-2	MFR		3

WIRE TYPE

A = ANALOG SIGNAL, # = NUMBER OF TWISTED SHIELDED PAIR

D = DIGITAL SIGNAL, # = NUMBER OF CONDUCTORS

H = ANTENNA CABLE

MFR = MANUFACTURER'S CABLE

20-2G

EX. A1 = 1 TWISTED SHIELDED PAIR FOR ANALOG SIGNAL

D2 = 2 CONDUCTORS FOR DIGITAL SIGNAL

20-2G = 20 IS THE AMPERE RATING OF THE CONDUCTORS, 2G IS 2 WIRES AND A GROUND.

SEE SPECIFICATION SECTION 26 05 19 FOR CONDUCTORS AND CABLES

LOCATION/DESTINATION

THE LOCATION IS THE PHYSICAL LOCATION THE TAGNAME CAN BE FOUND. THE DESTINATION IS WHERE THE DEVICE IS BEING WIRED TO

ENVIRONMENT

NH = NON-HAZARDOUS/NOT RATED

OD = OUTDOOR RATED, NEMA 3R OR NEMA 4X

C = CORROSIVE

SUB = SHALL BE RATED FOR FULL CONTACT AND 100% SUBMERSION IN WASTEWATER

XP = CLASS 1, DIVISION I OR II, INTRINSICALLY SAFE CIRCUITS MAY BE APPLIED

i.s. = CLASS 1, DIVISION I OR II, WITH INTRINSICALLY SAFE CIRCUIT APPLIED

COMMENTS:

- OWNER FURNISHED EQUIPMENT. 02/19/2019
- PROVIDE SPARE CONDUIT STUBBED OUT PAST CONCRETE FOR FUTURE YARD LIGHT.
- MOTOR CABLE TO HOMERUN TO PUMP CONTROL PANELS.
- EQUIPMENT CABLE TO HOMERUN TO PUMP STATION.
- COORDINATE VOLTAGE REQUIREMENTS WITH EQUIPMENT SUPPLIER.

CONDUIT & BOX SCHEDULE								
AREA CLASSIFICATION	VOLT.	TYPE	INSTALLATION	CONDUIT	USE BOX	SUPPORTS	HARDWARE	LOCATION
NON-HAZARDOUS	ALL	ALL	CONCEALED AFF	PGRS	PCB	SS/GS	SSGS	AS REQUIRED
NON-HAZARDOUS	ALL	ALL	UG/BELOW SLAB	PGRS	PCB	SS	SS	AS REQUIRED
WET/ NON-HAZARDOUS	ALL	ALL	INTERIOR EXPOSED	PGRS	PCB	SS	SS	AS REQUIRED
WET/ NON-HAZARDOUS	ALL	ALL	EXTERIOR EXPOSED	PGRS	PCB	SS	SS	AS REQUIRED
WET/ NON-HAZARDOUS	ALL	ALL	DIRECT BURIED OUTDOOR	PGRS	PCB	SS	SS	AS REQUIRED
HAZARDOUS	ALL	ALL	ALL	PGRS	PCB	SS	SS	AS REQUIRED
HAZARDOUS	ALL	ALL	SLEEVE	PVC 80	PCB	SS	SS	AS REQUIRED

SPACE CLASSIFICATION			
STRUCTURE	ROOM	NAME	CLASSIFICATION
WETWELL			HAZARDOUS
EXTERIOR			WET/NON-HAZARDOUS

02/19/2019

FEEDER SCHEDULE (600 V)				
FEEDER AMPACITY	CONDUCTOR SIZE (KCMIL)		CONDUIT SIZE	
	Ø & N	GRD	3Ø & GRD	3Ø & N & GRD
20	#12	#12	3/4"	3/4"
30	#10	#10	3/4"	1"
40	#8	#10	3/4"	1"
50	#6	#8	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#2	#6	1-1/2"	2"
110	#2	#6	1-1/2"	2"
125	#1	#6	1-1/2"	2"
150	1/0	#6	1-1/2"	2"
175	2/0	#6	2"	2"
200	3/0	#6	2"	2-1/2"
225	4/0	#4	2"	2-1/2"
250	250	#4	2-1/2"	3"
300	350	#4	3"	3"
350	500	#3	3"	3-1/2"
380	500	#3	3"	3-1/2"
400	(2) 3/0	(2) #3	(2) 2"	(2) 2-1/2"
450	(2) 4/0	(2) #2	(2) 2"	(2) 2-1/2"
500	(2) 250	(2) #2	(2) 2-1/2"	(2) 3"
600	(2) 350	(2) #1	(2) 3"	(2) 3"
700	(2) 500	(2) #1/0	(2) 3"	(2) 3-1/2"
800	(2) 600	(2) #1/0	(2) 3-1/2"	(2) 4"
1000	(3) 400	(2) #2/0	(3) 3"	(3) 3-1/2"
1200	(3) 600	(2) #3/0	(3) 3-1/2"	(3) 4"
1600	(4) 600	(2) #4/0	(4) 3-1/2"	(4) 4"
2000	(5) 600	(2) #250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:

- THE ABOVE FEED SCHEDULE IS A SCHEDULE OF TYPICAL FEEDS AND SOME SIZES MAY NOT BE UTILIZED.
- ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
- FEEDER SIZED ON THE RISER DIAGRAM INDICATOR FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DURATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.
- WHERE MULTIPLE CONDUITS ARE INDICATED FOR THE SINGLE FEEDER EACH CONDUIT SHALL CONTAIN AN Aφ, Bφ, Cφ, GROUND CONDUCTOR, AND NEUTRAL CONDUCTOR.

200-4G FEEDER DESIGNATION

SYSTEM DESCRIPTION
 (2G) 1φ, 2W + GRD
 (3G) 3φ, 3W + GRD
 (4G) 3φ, 4W + GRD

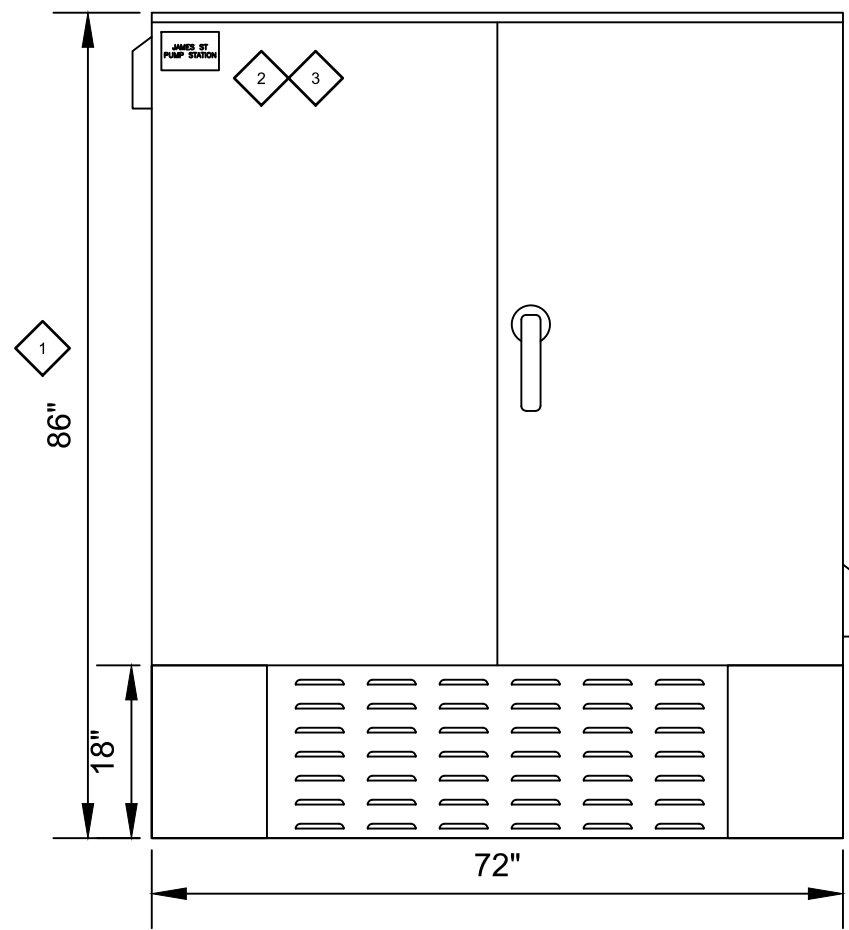
CONDUCTOR AMPACITY
 (SEE FEEDER SCHEDULE)

NOTES:

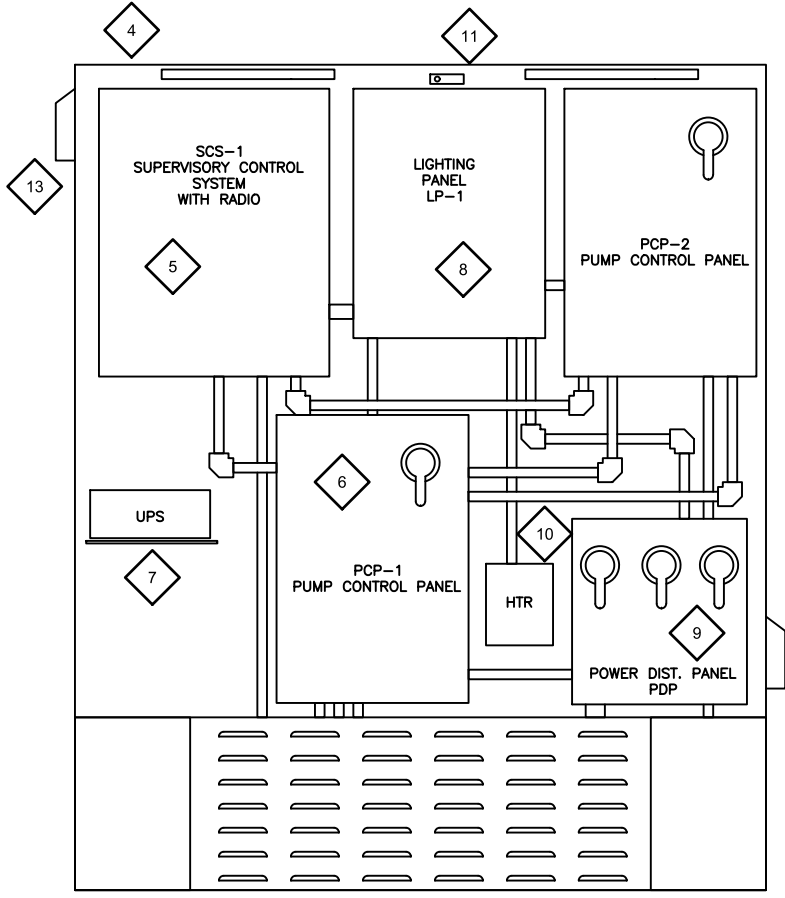
- ALL CONDUIT AND RACEWAYS SHALL BE CONCEALED
- NO SUBSTITUTIONS SHALL BE ALLOWED UNLESS WRITTEN PERMISSION TO THE CONTRARY HAS BEEN OBTAINED FROM ENGINEER
- TRANSITION TO EXPOSED CONDUIT SHALL COMPLY WITH SPECIFIED REQUIREMENTS FOR EXPOSED CONDUIT, REGARDLESS OF WHETHER TRANSITION IS RIGID OR FLEXIBLE. EMBEDDED TRANSITIONS SHALL BE RIGID MATERIAL
- ALL JUNCTION BOXES NOT LOCATED IN XP AREAS SHALL BE SS NEMA 4X, OR COST NEMA 7
- EC SHALL FURNISH AND INSTALL WIRE GUTTERS AS REQUIRED
- EX SHALL ONLY USE FLEX CONDUIT IN EQUIPMENT CONNECTIONS, USE ON FIXTURES AND I&C DEVICES SHALL NOT BE PERMITTED
- VFD MOTOR FEEDERS SHALL BE INSTALLED IN GRS CONDUIT AND USE VFD MOTOR CABLES
- EXPOSED CONDUIT SHALL BE PAINTED TO MATCH MOUNTING LOCATION.
- EC MAY SELECT MATERIAL FOR INTERMEDIATE AND TEMPORARY CONNECTION AND CONDUIT, SHALL BE CODE COMPLIANT
- NOTE SCHEDULE 80 PVC SHALL BE USED TO REATED EQUIPMENT CABLE SLEEVES AS DETAILED

ABBREVIATIONS:

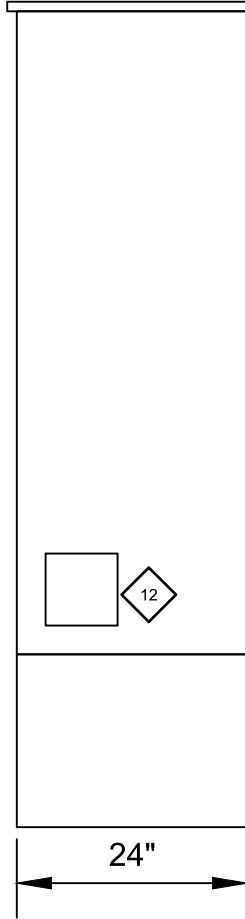
CONDUIT:		SUPPORTS & HARDWARE		BOXES	
PVC:	POLYVINYL CHLORIDE	GS:	GALVANIZED STEEL	SB:	STEEL
PVC 40:	SCHEDULE 40 PVC PIPE	SS:	STAINLESS STEEL	CB:	CAST BOX
PVC 80:	SCHEDULE 80 PVC PIPE	PVC:	POLYVINYL CHLORIDE	PCB:	PVC-COATED CAST BOX
GRS:	GALVANIZED RIGID STEEL	ZPS:	ZINC PLATED STEEL		
PBRs:	PVC-COATED GRS	PCS:	PVC COATED STEEL		
EMT:	ELECTRICAL METALLIC TUBING	S:	STEEL		
HDPE:	HIGH DENSITY POLYETHYLENE	AL:	ALUMINUM		



PUMP STATION PANEL ELEVATION - EXTERIOR FRONT
NTS



PUMP STATION PANEL ELEVATION - INTERIOR FRONT
NTS



PUMP STATION ELEVATION - SIDE VIEW
NTS

- PLAN NOTES:**
1. CONTROL PANEL DIMENSIONS ARE PROJECTED SIZES, PROVIDE CONTROL PANEL SIZED TO HOUSE ALL EQUIPMENT AND SUPPLY 25% SPARE SPACE.
 2. PROVIDE NEMA 4X STAINLESS STEEL ENCLOSURE.
 - 2.1. PROVIDE 3 POINT LATCH, LOCKABLE DOOR HANDLES.
 - 2.2. PROVIDE DATA POCKET.
 - 2.3. PROVIDE LOUVERED SKIRTING.
 - 2.4. PROVIDE FILTERED COOLING FAN AND FILTERS LOUVER.
 3. PROVIDE DOOR STOP KIT ON EXTERIOR DOORS AND INSULATE TO OUTER ENCLOSURE.
 4. CONTROL PANEL SHOWN WITHOUT DOORS.
 - 4.1. SCS-1, PCP-1, PCP-2, LIGHTING PANEL OR POWER DISTRIBUTION PANEL ARE NOT TO BE USED AS CONDUIT OR RACEWAY.
 - 4.2. PROVIDE SEPARATE CONDUIT FOR EACH RUN.
 - 4.3. ALL INTERCONNECTIONS BETWEEN PANELS AND DEVICES SHALL BE DONE WITH GALVANIZED RIGID STEEL CONDUIT.
 - 4.4. 1/2" MINIMUM CONDUIT SIZE.
 - 4.5. PROVIDE 25% SPARE ROOM FOR EACH CONDUIT FOR ADDITIONAL CONDUCTORS.
 - 4.6. USE ONLY LR, LL OR SIDE ACCESS CONDUIT BODIES WITHIN ENCLOSURE.
 - 4.7. PANEL LAYOUT, CONDUIT RUNS AND RACEWAYS ARE FOR GENERAL INTENT, SYSTEM INTEGRATOR TO LAYOUT ACTUAL PANEL AND RACEWAYS.
 5. PROVIDE SUPERVISORY CONTROL SYSTEM, SCS-1, HOUSED IN NEMA 12 GRAY PAINTED STEEL ENCLOSURE, PROVIDE SPACE FOR OWNER SUPPLIED RADIO.
 6. PROVIDE PUMP CONTROL PANELS HOUSE IN A NEMA 12 GRAY PAINTED STEEL ENCLOSURE WITH THROUGH THE DOOR, LOCKABLE, BREAKER OPERATOR.
 7. PROVIDE SHELF FOR UPS.
 8. PROVIDE LIGHTING PANEL WITH MAIN CIRCUIT BREAKER, PROVIDE MINIMUM 12 CIRCUITS.
 9. PROVIDE POWER DISTRIBUTION PANEL TO HOUSE MAIN CIRCUIT BREAKER, SURGE PROTECTION DEVICE, PHASE RELAY AND POWER DISTRIBUTION BLOCKS. POWER DISTRIBUTION BLOCKS ARE TO ONLY HAVE ONE CONDUCTOR PER SCREW TERMINAL.
 10. PROVIDE HEATER WITH INTEGRAL THERMOSTAT. SIZE HEATER PER MANUFACTURER RECOMMENDATIONS.
 11. PROVIDE DOOR SWITCH FOR PANEL ENTRY AND ENCLOSURE LIGHT.
 12. PROVIDE COOLING FAN AND LOUVER. COOLING FAN TO PULL OUTSIDE AIR INTO PANEL. LOUVER SHALL HAVE BIRD SCREEN AND AIR FILTER. PROVIDE COVER FOR LOUVER FOR WINTER MONTHS. PROVIDE SPARE FILTERS.
 13. PROVIDE LOUVER WITH BIRD SCREEN. PROVIDE COVER FOR WINTER MONTHS.

REV. DATE: PLOT NAME: PLOT SCALE:

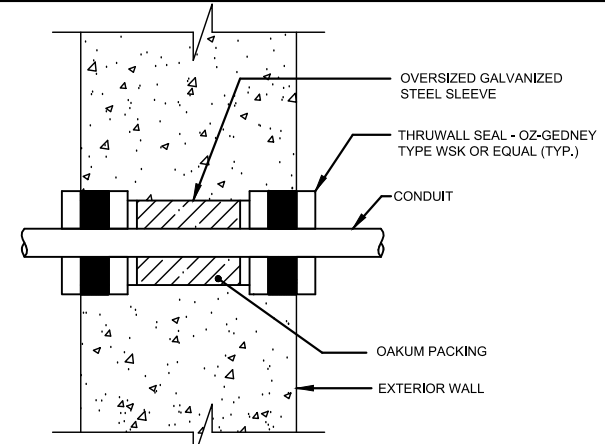
ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

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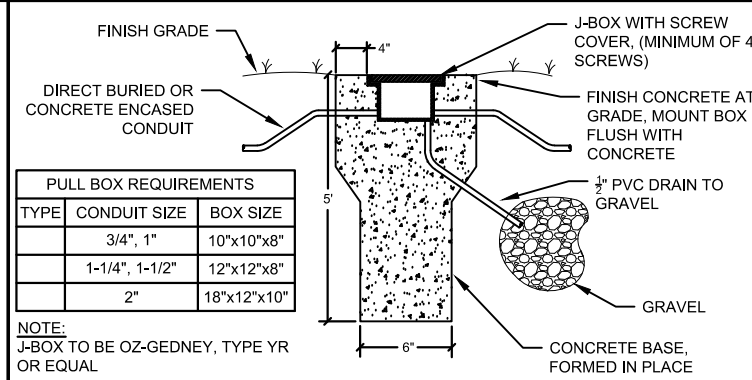
PLOT NAME:

REV. DATE:

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION



WALL PENETRATION

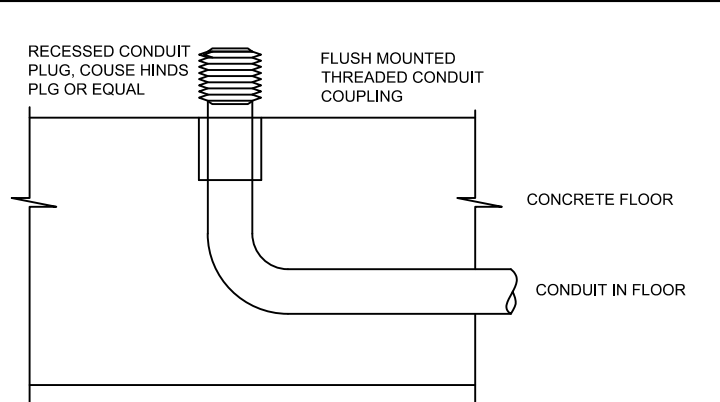


PULL BOX REQUIREMENTS		
TYPE	CONDUIT SIZE	BOX SIZE
	3/4", 1"	10"x10"x8"
	1-1/4", 1-1/2"	12"x12"x8"
	2"	18"x12"x10"

NOTE:
 J-BOX TO BE OZ-GEDNEY, TYPE YR OR EQUAL

PULL BOX
 26 05 34-2

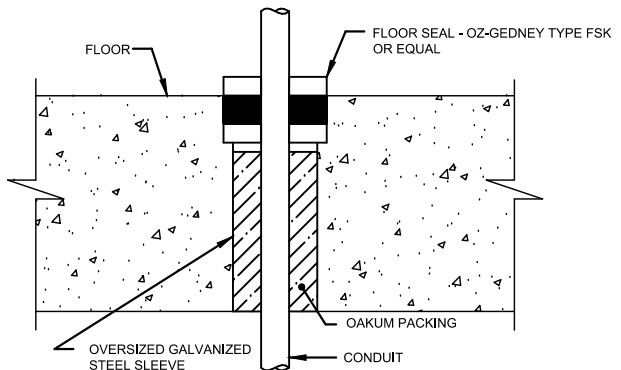
N.T.S.



IN-FLOOR CONDUIT FUTURE EQUIPMENT

26 05 34-4

N.T.S.

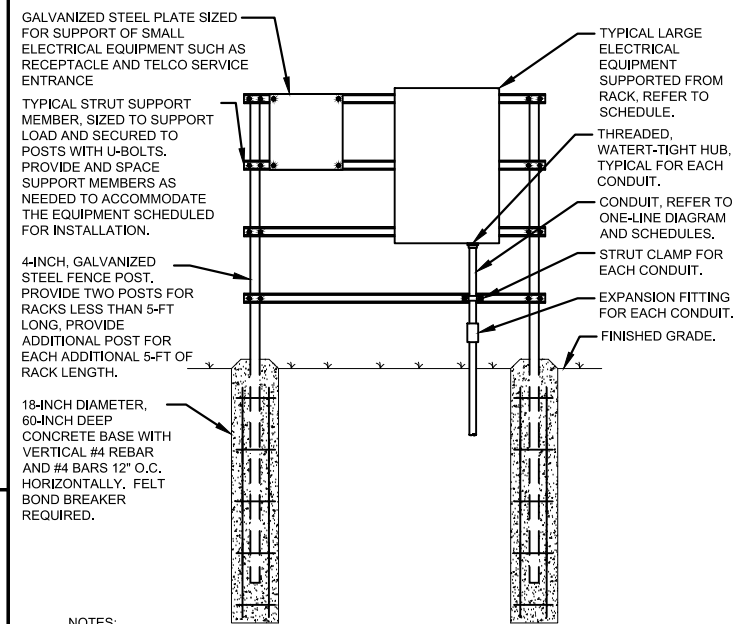


FLOOR PENETRATION

CONDUIT WALL PENETRATION

26 05 34-3

N.T.S.

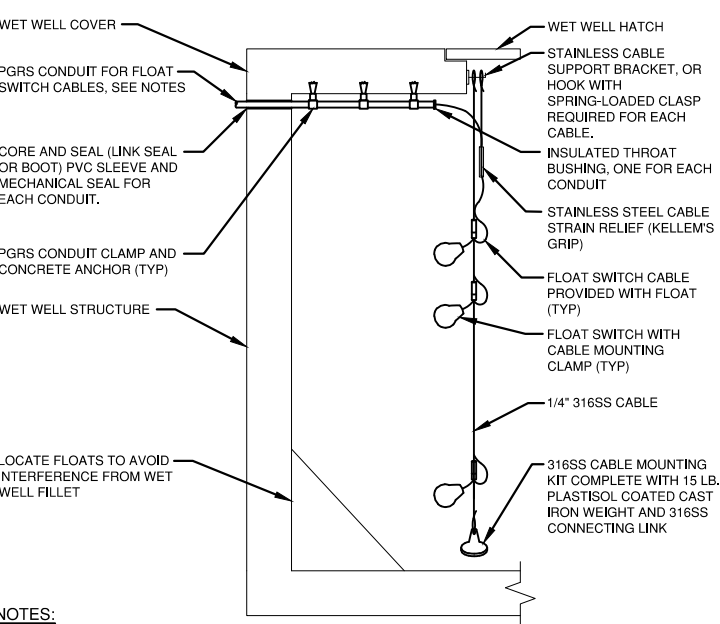


NOTES:

- REFER TO SITE PLAN FOR LOCATION AND ORIENTATION.
- CONTRACTOR SHALL VERIFY THAT SELECTED COMPONENTS ARE SUITABLE FOR THE WEIGHT OF THE MOUNTED EQUIPMENT.
- SUPPORT MEMBERS SHALL BE CONSTRUCTED OF GALVANIZED STEEL. ALL HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- THE FOLLOWING EQUIPMENT SHALL BE MOUNTED ON THE SUPPORT RACK
 UTILITY METER LOAD-BREAK SWITCH
 UTILITY APPROVED SELF-CONTAINED METER SOCKET
 SERVICE DISCONNECT SWITCH
 AUTOMATIC TRANSFER SWITCH
 EXTERNAL CONTROL POWER TRANSFORMER
 EXTERIOR RECEPTACLE
 TELEPHONE SERVICE

TYPICAL EQUIPMENT SUPPORT STAND

N.T.S.



NOTES:

- INSTALL FLOAT SWITCHES IN LOCATION WHERE, SUSPENSION HOOKS, CABLES, AND CONDUIT ENDS ARE ALL ACCESSIBLE FROM THE WET WELL HATCH WITHOUT ENTERING THE WET WELL.
- INSTALL NO MORE THAN THREE FLOAT SWITCH CABLES IN EACH 1-1/2" CONDUIT. PROVIDE MULTIPLE CONDUITS IF MORE THAN THREE FLOATS ARE SPECIFIED.
- REFER TO PLANS AND SPECIFICATIONS FOR THE NUMBER OF FLOAT SWITCHES REQUIRED. ADJUST FLOAT SWITCH MOUNTING TO ACHIEVE ACTIVATION ELEVATIONS AS SPECIFIED, SHOWN ON PLANS, OR DIRECTED IN THE FIELD BY THE ENGINEER.
- FLOAT SWITCH GROUND CONDUCTOR SHALL BE SOLIDLY GROUNDED.
- PROVIDED SUFFICIENT SLACK CABLE, COILED AND SUSPENDED FROM HOOK, TO ALLOW ADJUSTMENT +/- 3 FT. FROM SPECIFIED ELEVATION.

FLOAT SUSPENSION KIT MOUNTING

26 90 20 - L2

N.T.S.

- NOTES:**
- ADJUST TRENCH DEPTH AND WIDTH TO ACCOMMODATE CONDUITS SCHEDULED.
 - COORDINATE ROUTING TO AVOID CONFLICTS WITH MECHANICAL PIPING.

DIRECT BURIED UNDERGROUND CONDUIT

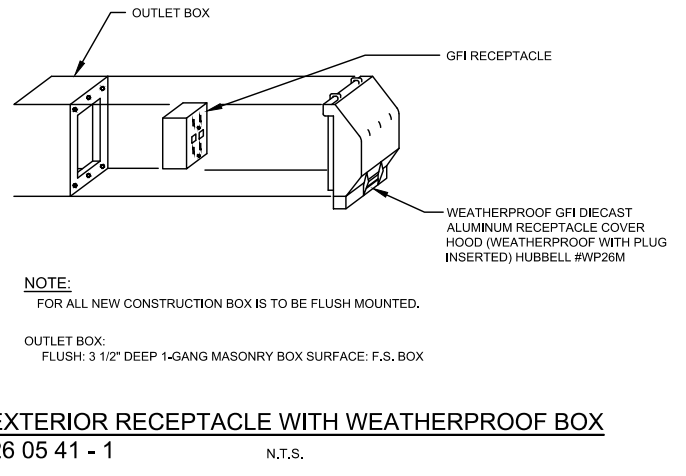
26 05 34-1

N.T.S.

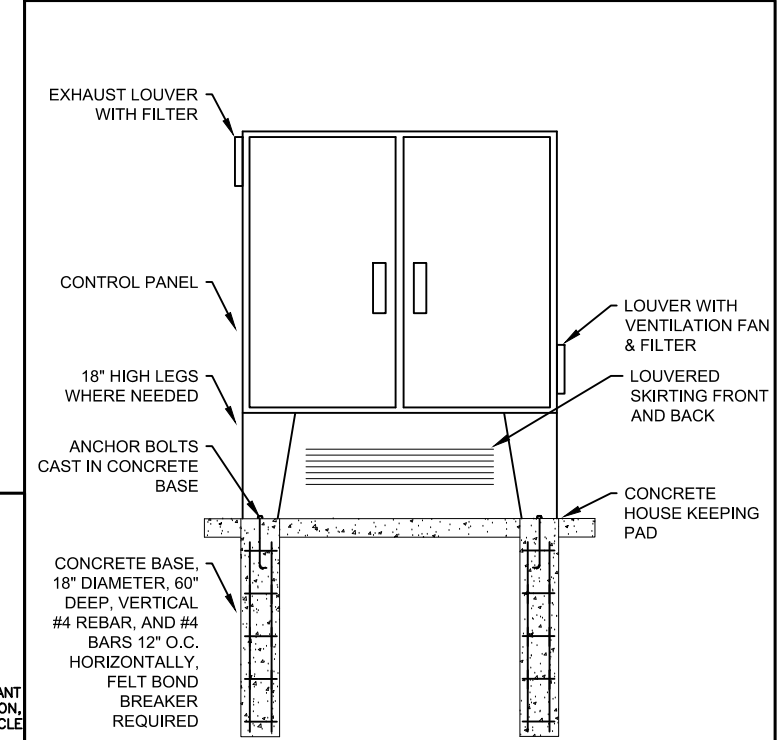
REVISED 02/19/2019 BY KJA
 • REVISED GENERATOR PAD DETAIL.
 • REVISED FREE STANDING CONTROL PANEL DETAIL.

PLOT SCALE: _____
PLOT NAME: _____

REV. DATE: _____

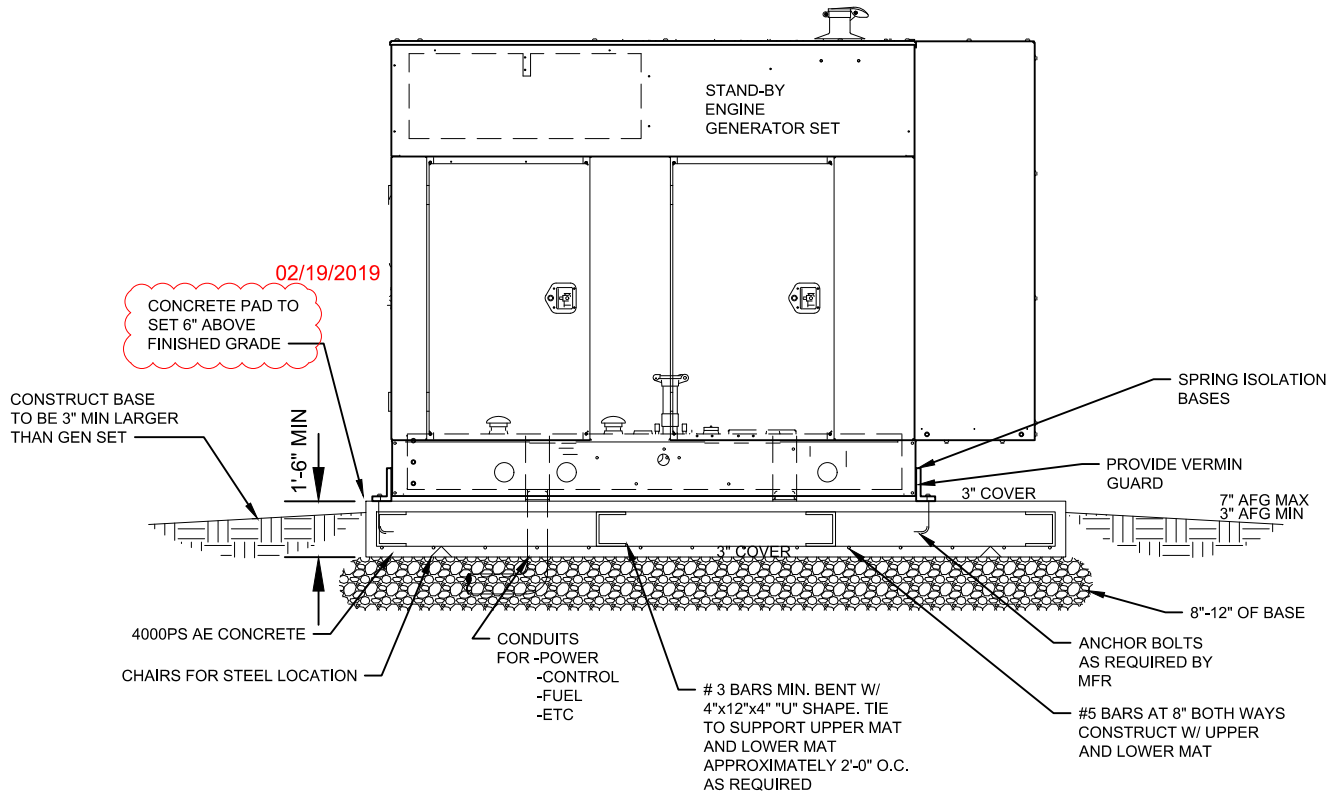


EXTERIOR RECEPTACLE WITH WEATHERPROOF BOX
26 05 41 - 1 N.T.S.

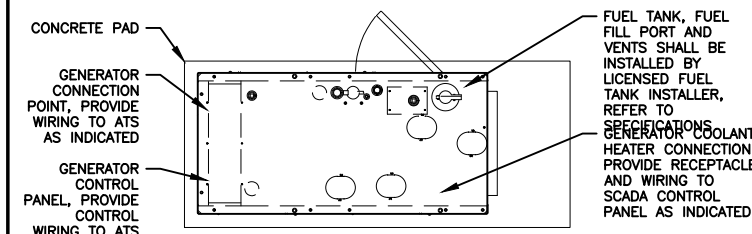


- NOTES:
1. REFER TO SITE PLAN FOR LOCATION AND ORIENTATION.
 2. ALL HARDWARE SHALL BE STAINLESS STEEL.
 3. PROVIDE VENTILATION AND AIR CONDITIONING WHEN REQUIRED FOR PANEL COMPONENT OPERATION.
 4. CONTROL PANEL TO HAVE LOCKABLE THREE POINT LATCH AND DOOR STOPS.
 5. VENTILATION FAN IS TO PUSH COOLER AIR INTO PANEL.

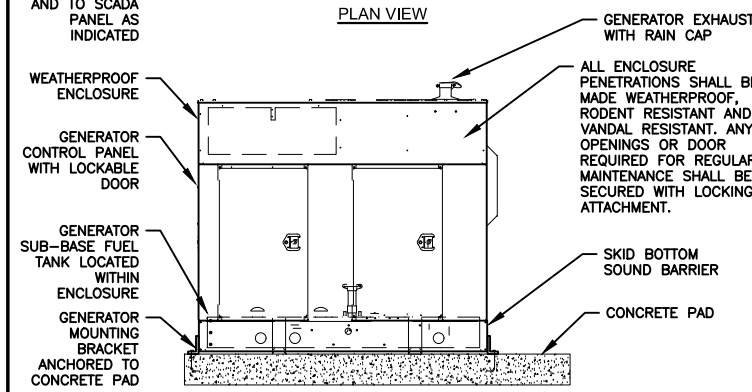
FREE STANDING CONTROL PANEL MOUNTING
26 90 10 - 2 N.T.S.



GENERATOR BASE DETAIL
26 32 13-2 N.T.S.



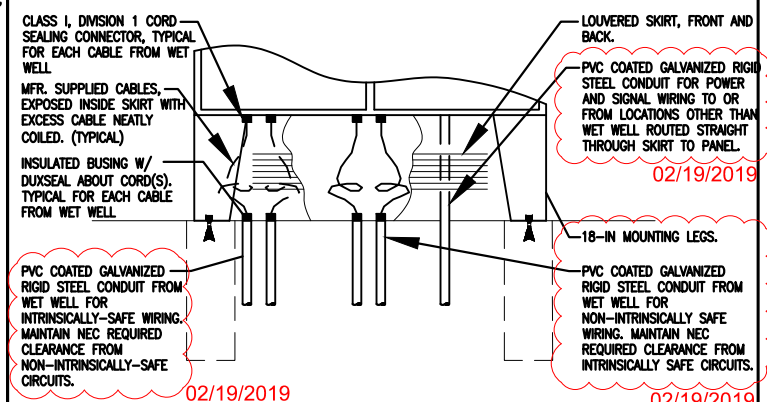
PLAN VIEW



ELEVATION VIEW

- NOTES:
1. INSTALL GENERATOR PER MANUFACTURERS RECOMMENDATIONS, IN ACCORDANCE WITH ALL CODES AND ON CONCRETE INSULATION PAD. REFER TO ARCHITECTURAL/STRUCTURAL/CIVIL PLANS.
 2. REFER TO SITE PLAN FOR LOCATION AND ORIENTATION.

PERMANENT STANDBY EMERGENCY GENERATOR
26 32 13-1 N.T.S.



CABLE AND CONDUIT INSTALLATION
26 90 10 - 2-1 N.T.S.

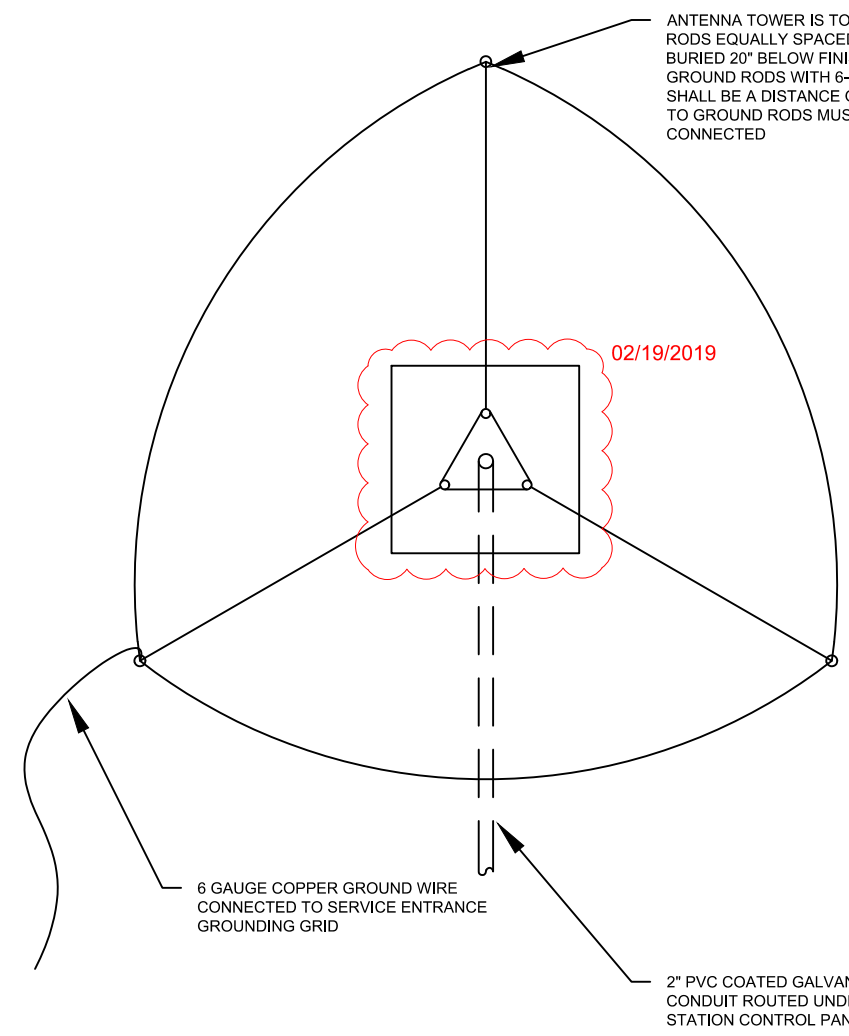
ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

ELECTRICAL DETAILS 3

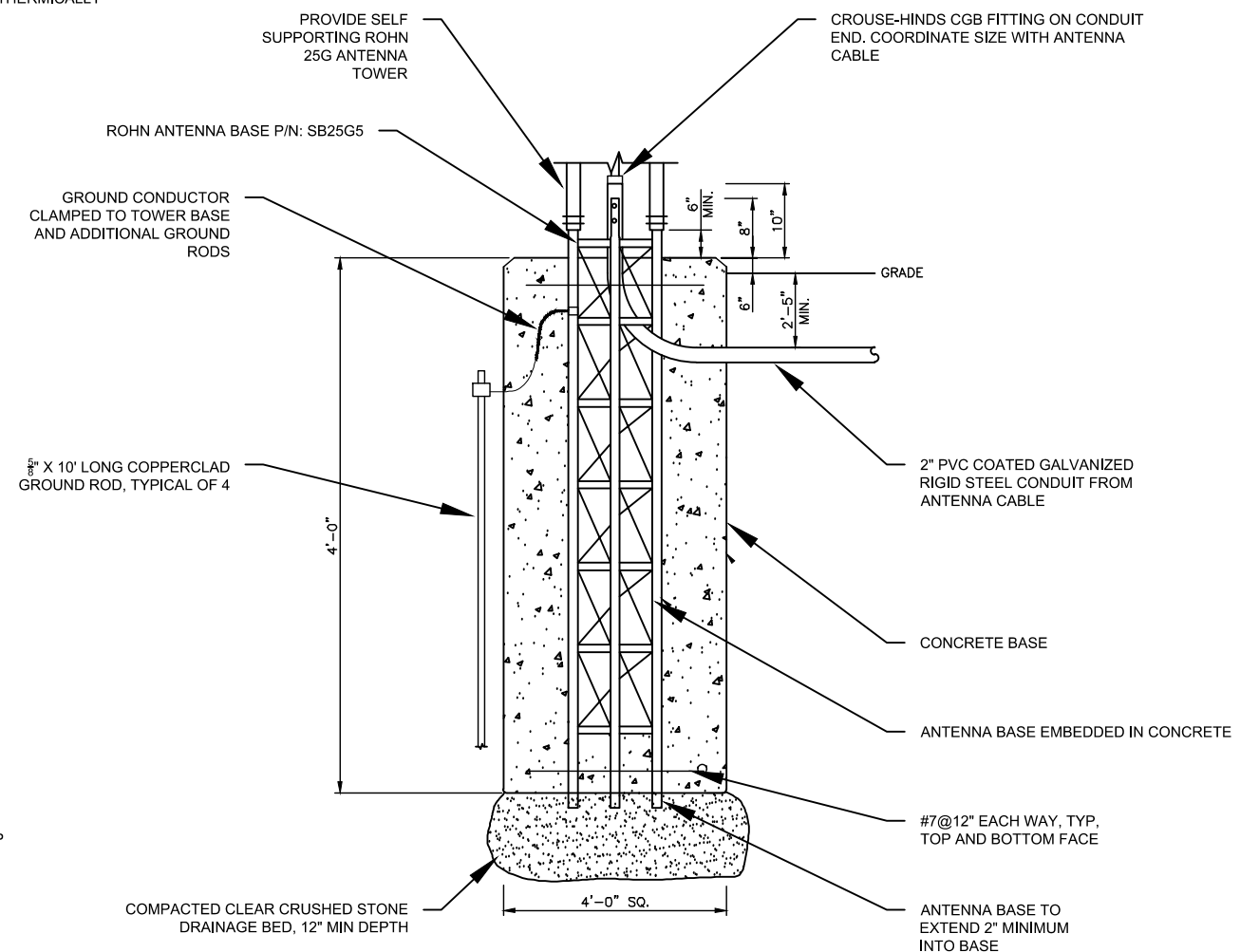
JAMES STREET CITY OF MADISON

REVISED 02/19/2019 BY KJA
 • REVISED ANTENNA BASE.

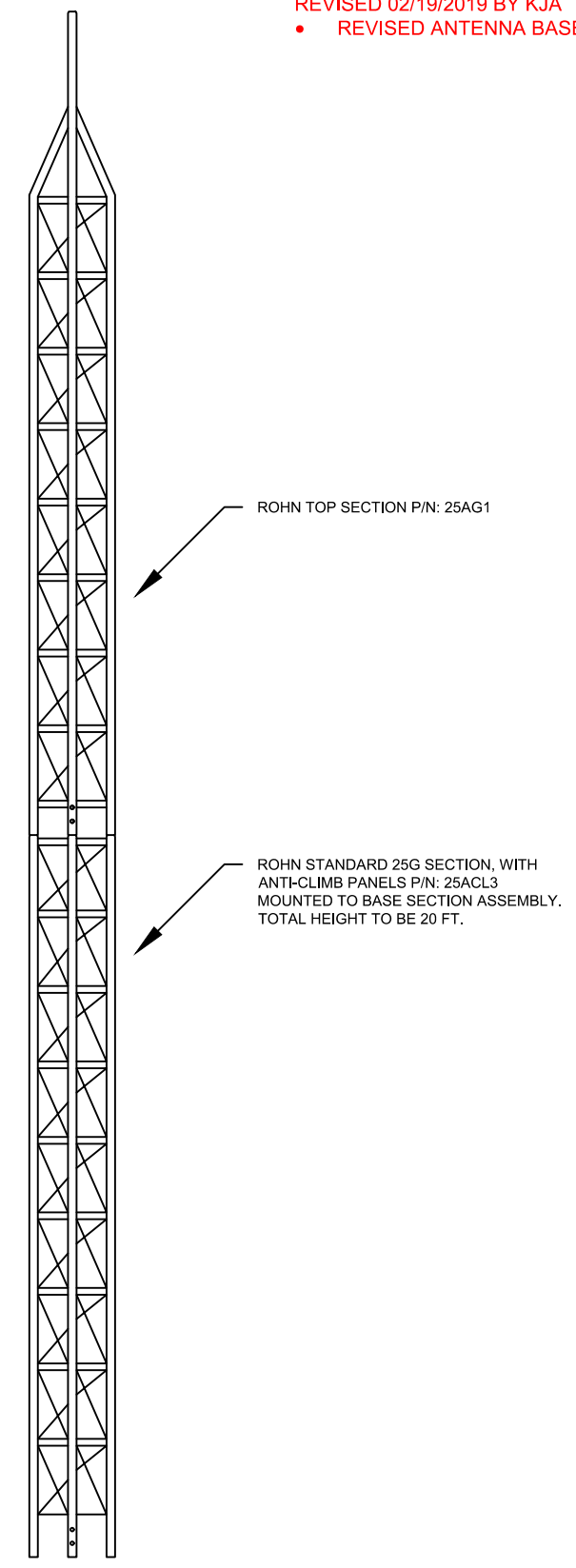
PLOT SCALE: _____
 PLOT NAME: _____
 REV. DATE: _____



ANTENNA TOWER GROUND GRID - TOP VIEW
 NTS

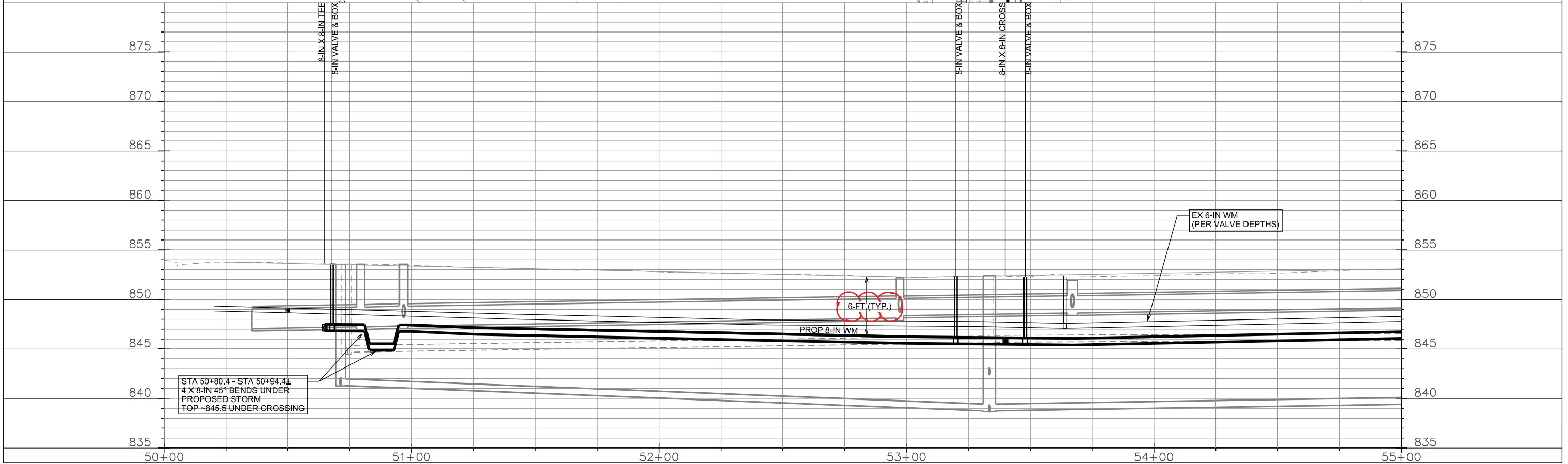
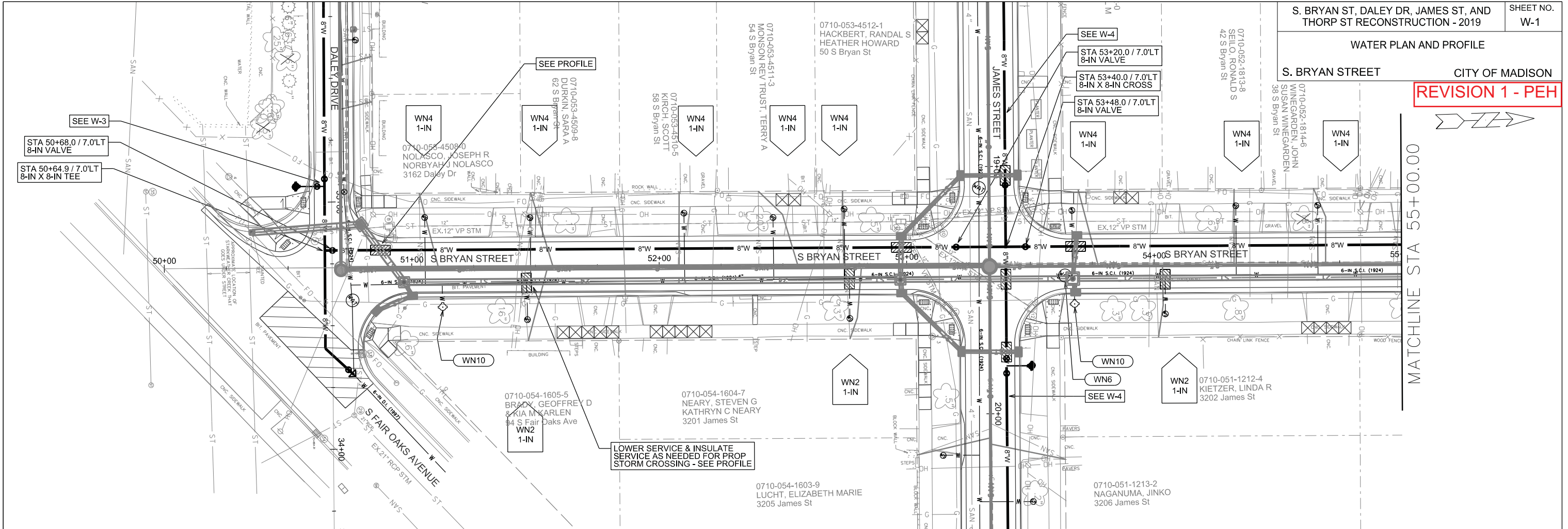


ANTENNA TOWER CONCRETE BASE - SIDE VIEW
 NTS



ANTENNA TOWER - SIDE VIEW
 NTS

ORIGINATOR: CITY_OF_MADISON_STREETS_DIVISION

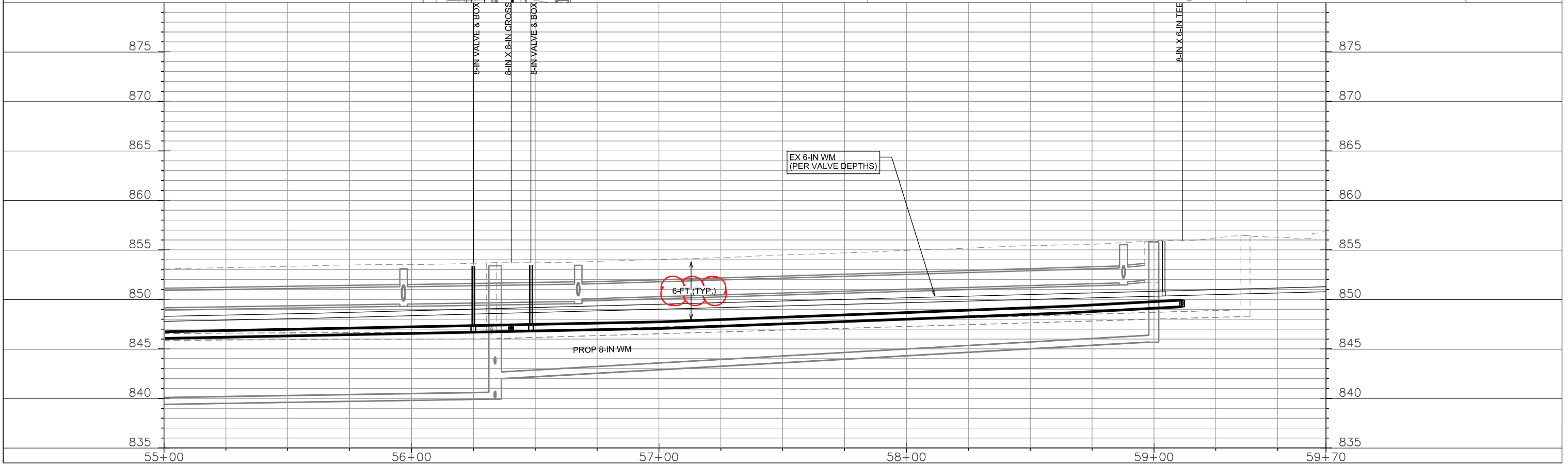
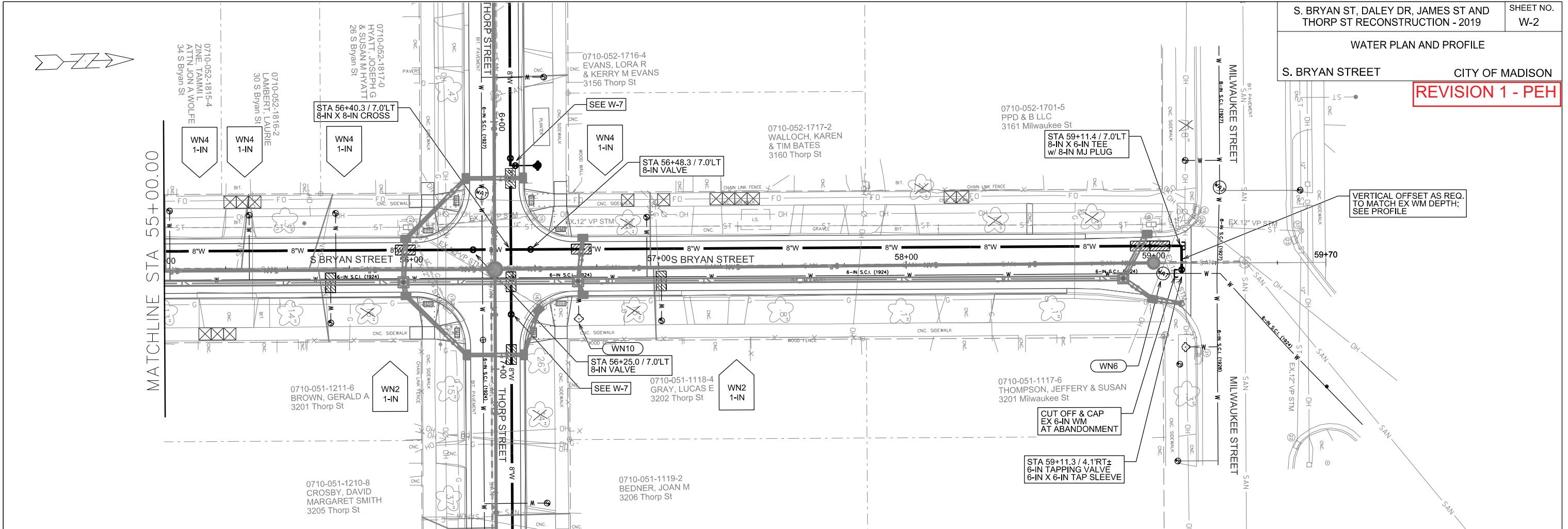


PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



PLOT SCALE:

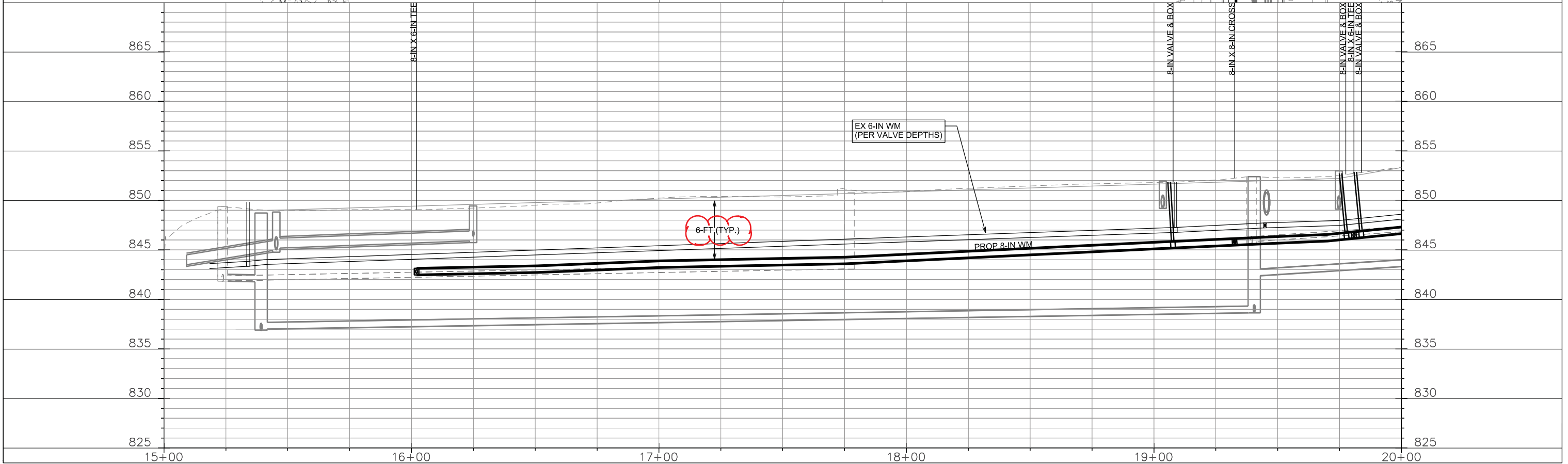
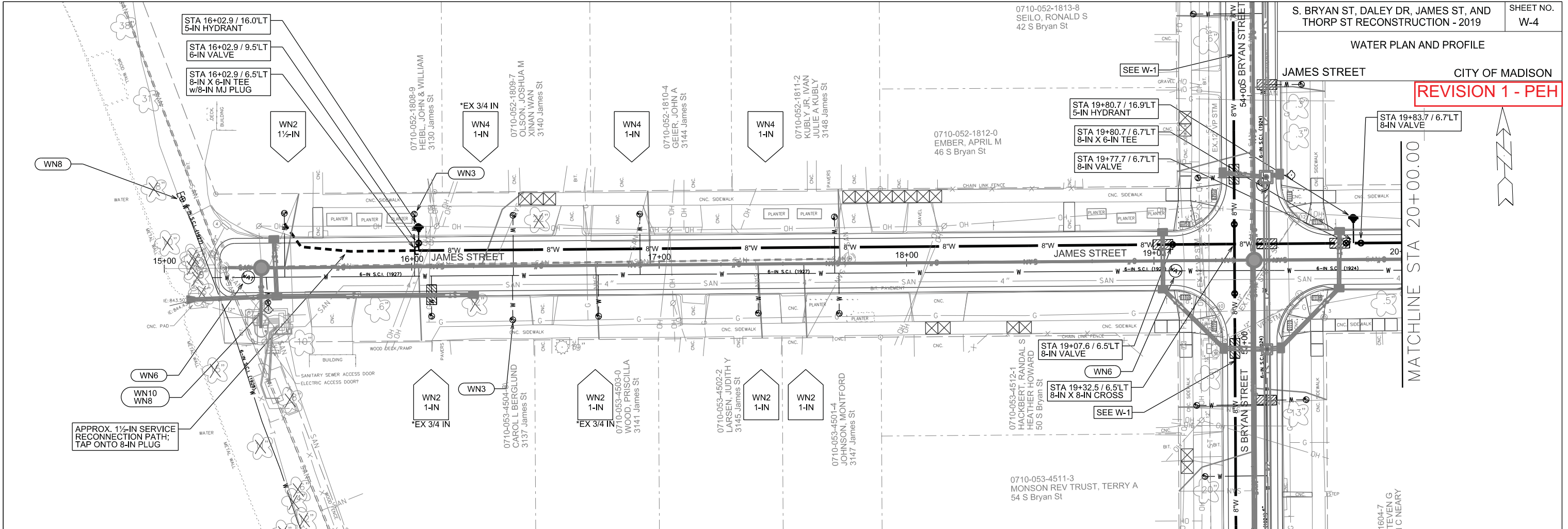
PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

WATER PLAN AND PROFILE

CITY OF MADISON
REVISION 1 - PEH

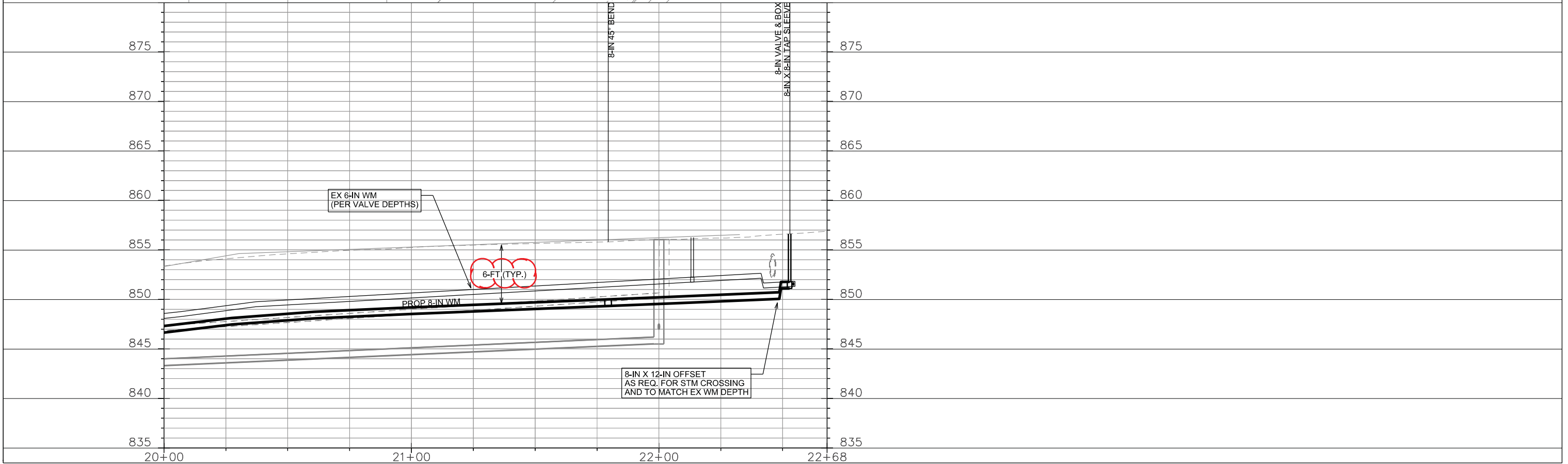
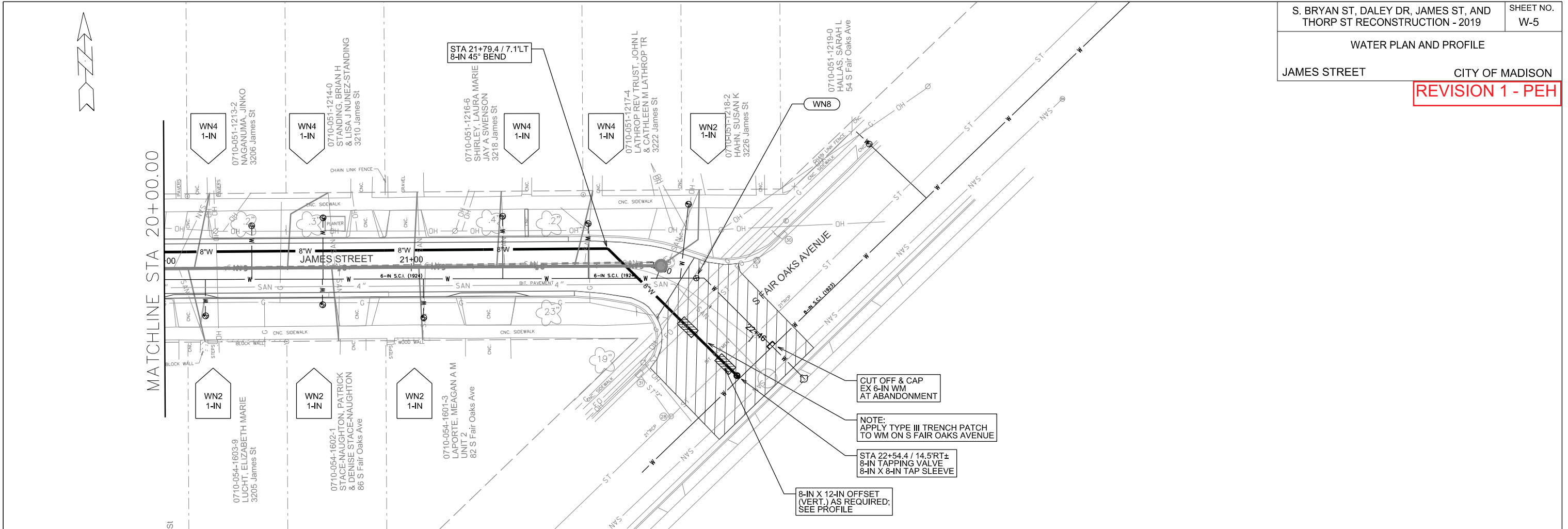


PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



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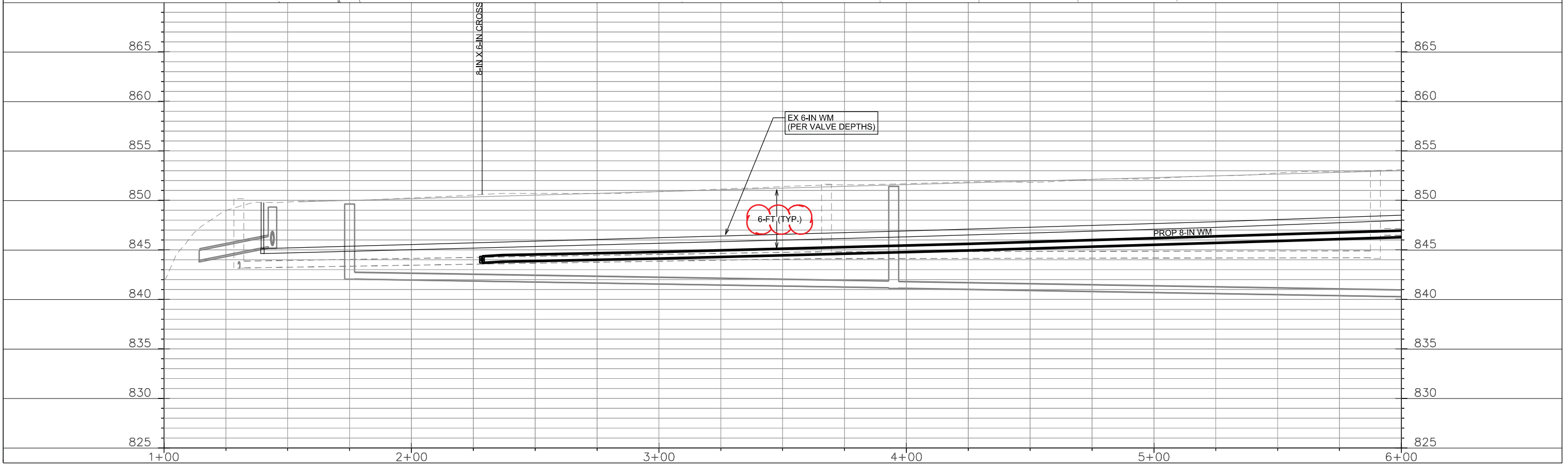
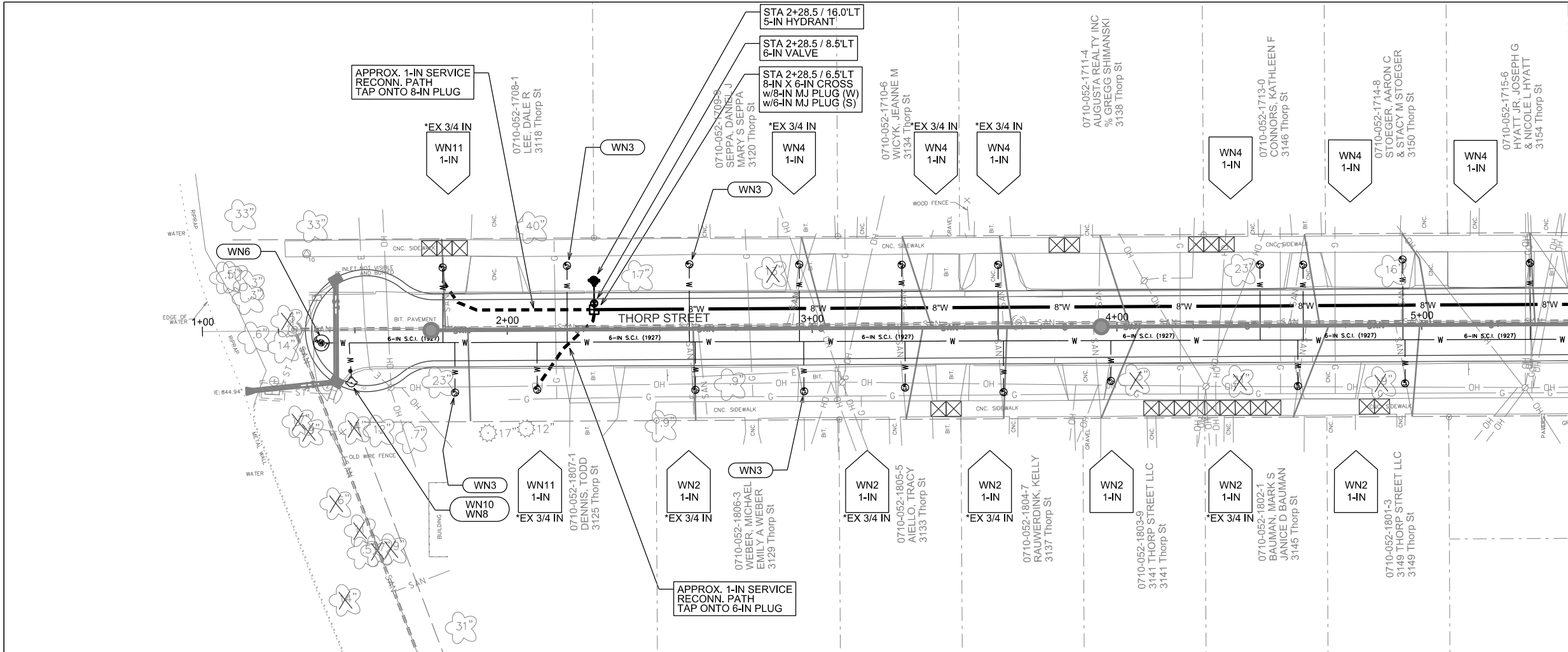
PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREET'S DIVISION

WATER PLAN AND PROFILE
THORP STREET CITY OF MADISON

REVISION 1 - PEH



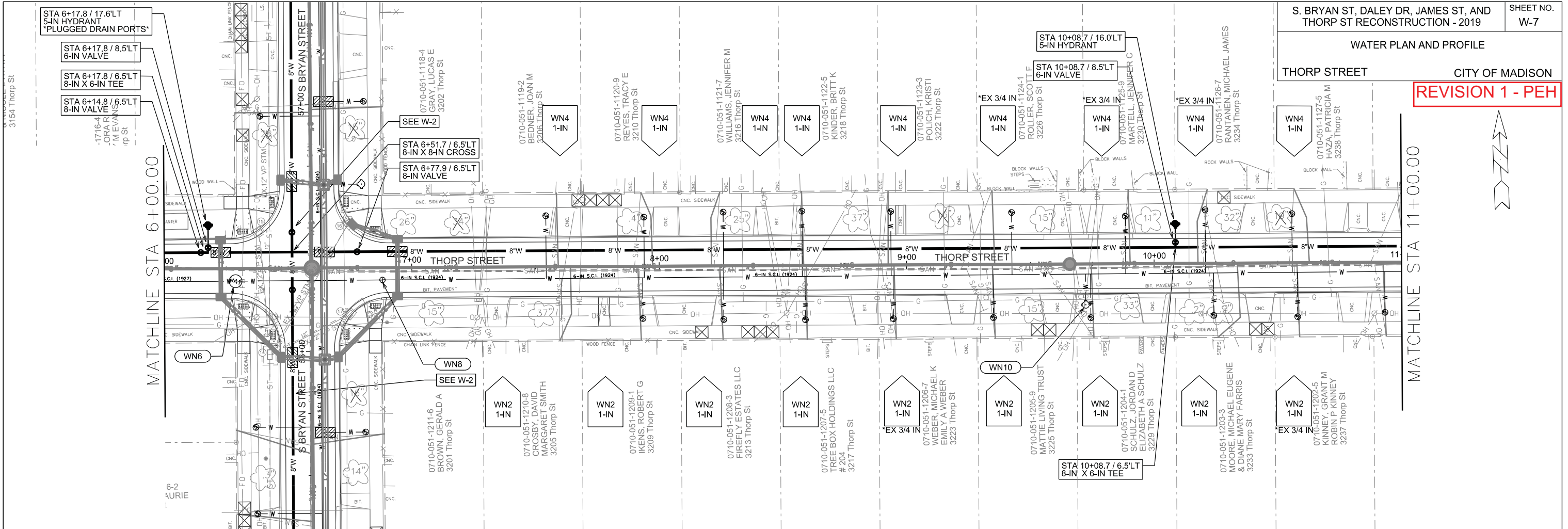
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PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

REVISION 1 - PEH



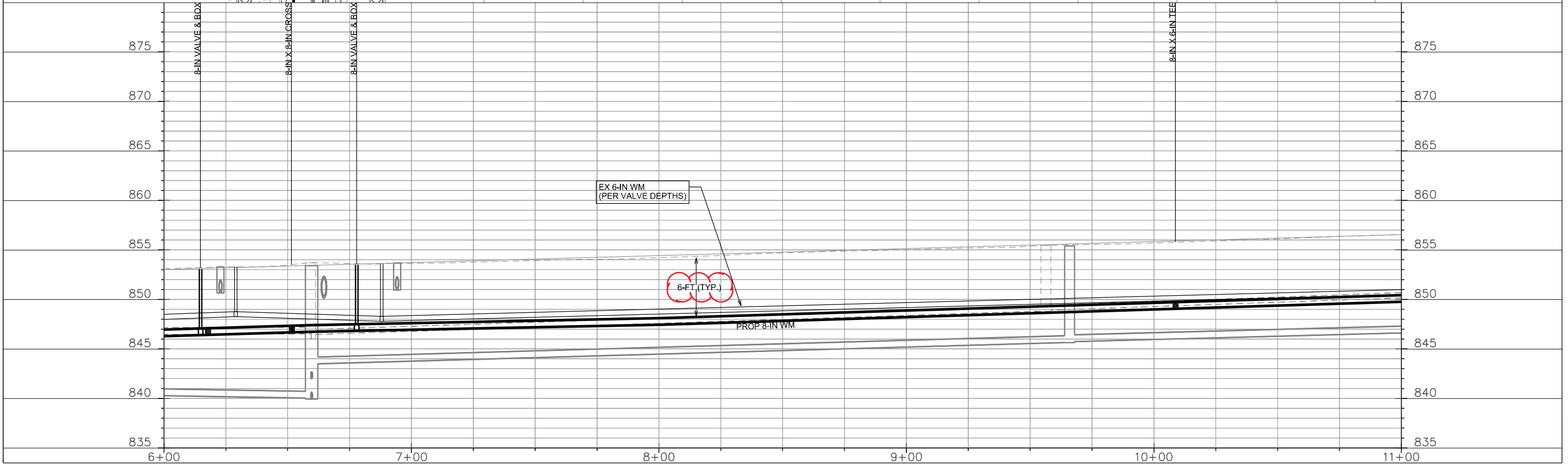
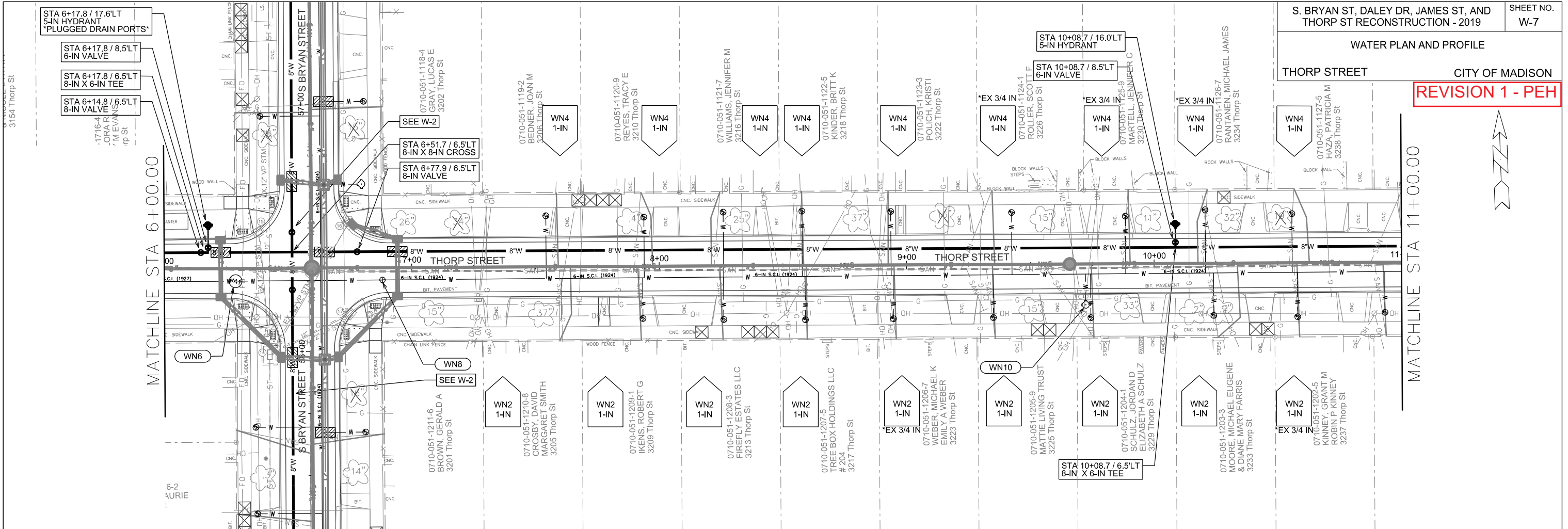
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REVISION 1 - PEH

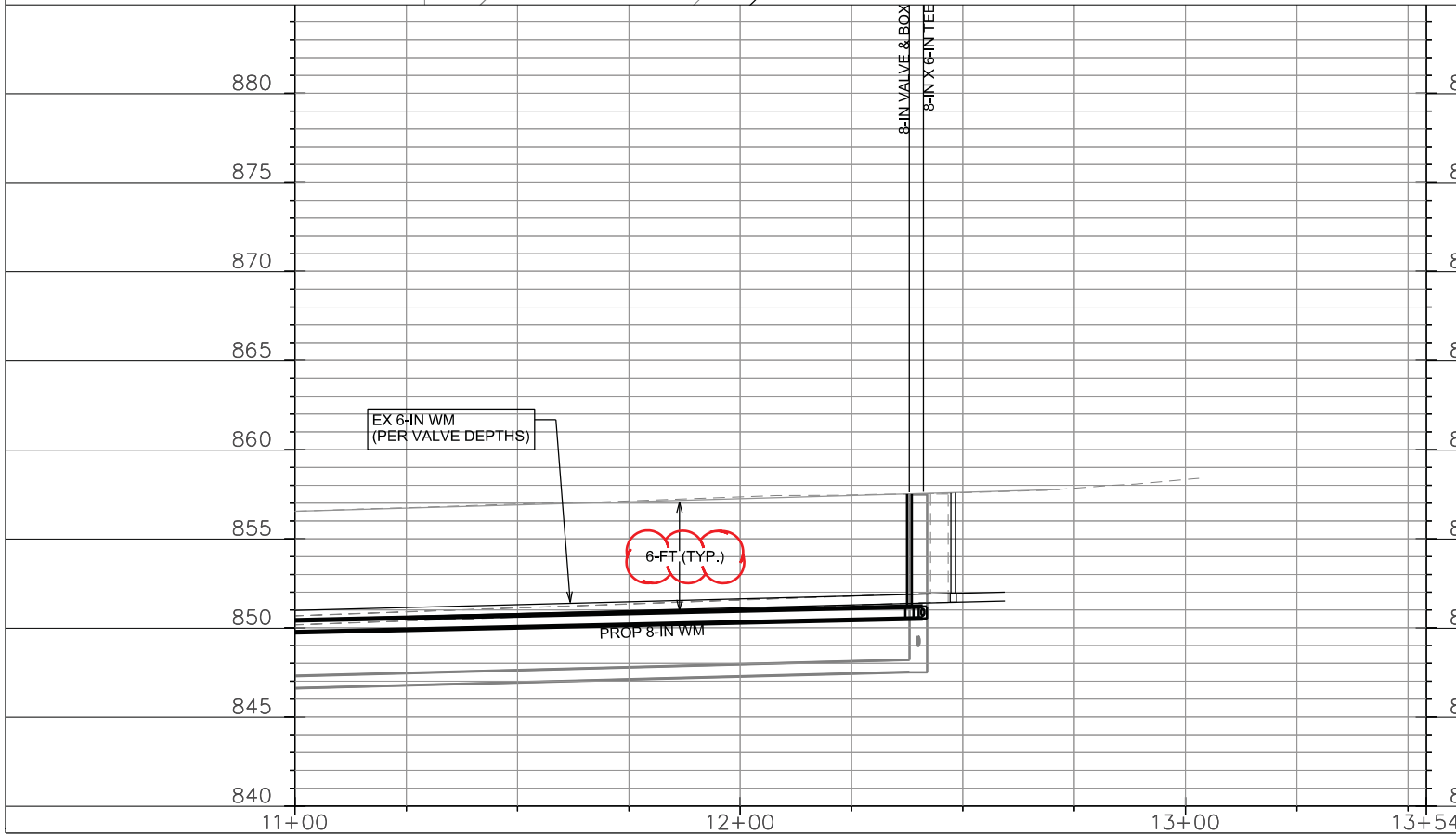
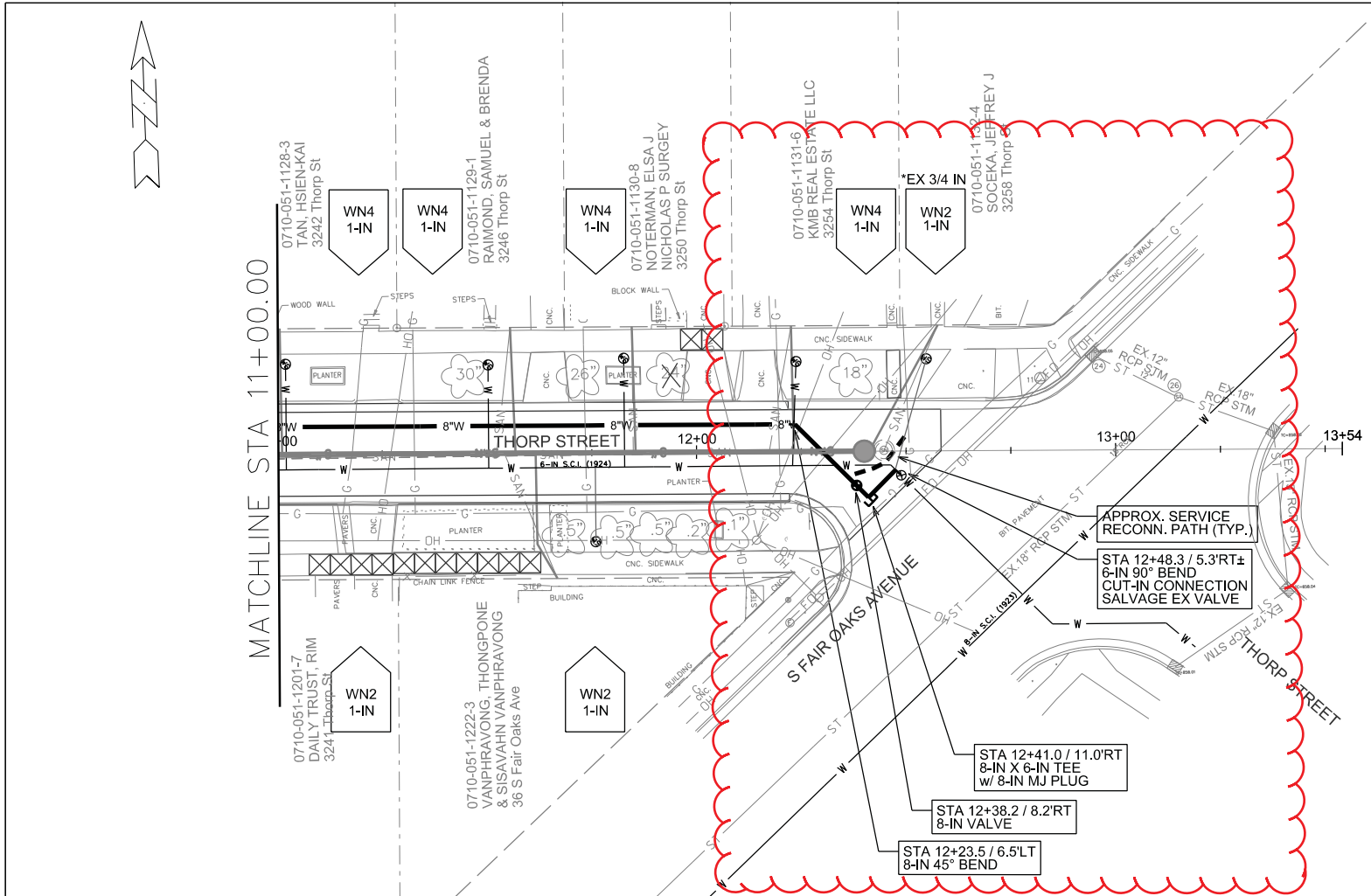


PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

DISCLAIMER NOTE:
THE WATER IMPACT PLAN IS PROVIDED
FOR REFERENCE PURPOSES TO AIDE PLANNING
CONNECTION POINT ISOLATION AND PREPARING
NOTIFICATION LISTS DURING PLANNED OUTAGES.
REQUEST ANY ALTERNATIVE CONNECTION
METHODS IN WRITING, PER SPECS.



PLOT SCALE:

PLOT NAME:

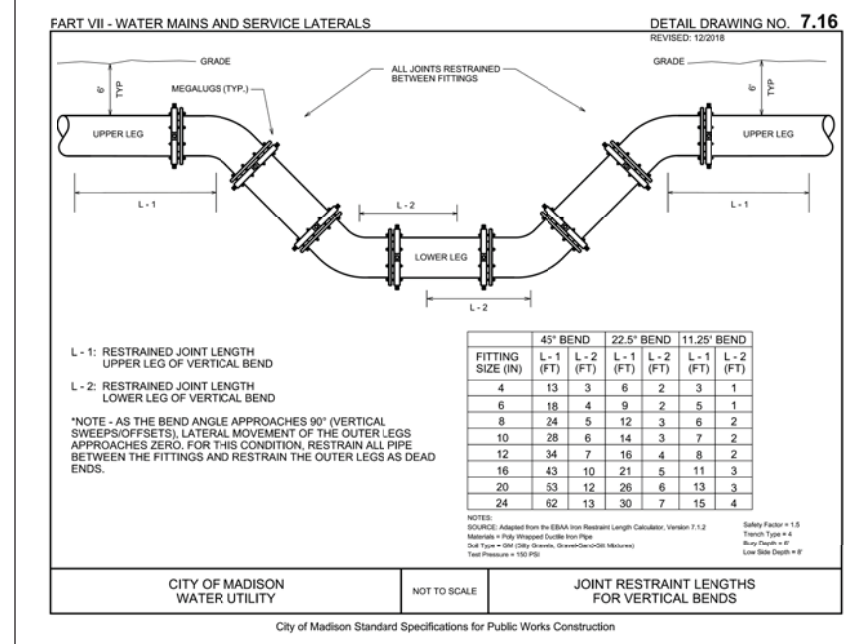
REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

ADDENDUM 1

CONSTRUCTION NOTES:

- CONSTRUCT NEW WATER MAIN 6.0' BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED. INSULATE MAIN WITH POLYSTYRENE BOARD AT STORM SEWER UTILITY CROSSINGS OR OTHER AREAS IDENTIFIED BY ENGINEER AS HAVING INADEQUATE COVER.
 - VERIFY SIZE OF EXISTING WATER SERVICES AND RECONNECT SERVICES AS INDICATED.
 - MINIMIZE DISRUPTION OF SERVICE TO EXISTING CUSTOMERS. NOTIFY PER CONTRACT REQUIREMENTS OF ANY PLANNED WATER OUTAGE.
 - THE EXISTING UTILITIES SHOWN ON THIS PLAN REPRESENT THE BEST INFORMATION AVAILABLE TO THE WATER UTILITY AT THE TIME OF PLAN PREPARATION. CONTRACTOR IS RESPONSIBLE FOR HAVING EACH UTILITY LOCATED PRIOR TO COMMENCING WORK.
- WN1 REPLACE THE EXISTING LEAD SERVICE WITH A NEW COPPER SERVICE.
 - WN2 EXTEND AND RECONNECT THE EXISTING COPPER SERVICE FROM THE OLDER WATER MAIN TO THE NEWER WATER MAIN.
 - WN3 EXISTING SERVICE TO BE ABANDONED WHEN THE WATER MAIN IS CUT OFF; ABANDON CURB BOX AS REQUIRED.
 - WN4 DISCONNECT FROM THE OLDER WATER MAIN AND RECONNECT THE EXISTING COPPER WATER SERVICE LATERAL TO THE NEWER WATER MAIN.
 - WN5 RELOCATE THE EXISTING FIRE HYDRANT.
 - WN6 ABANDON WATER VALVE ACCESS STRUCTURE.
 - WN7 FURNISH AND INSTALL THE NEW TOP SECTION FOR THE WATER ACCESS STRUCTURE.
 - WN8 ABANDON THE VALVE BOX.
 - WN9 FURNISH THE DITCH, COMPACTION, AND ALL MATERIALS AND LABOR FOR THE INSTALLATION OF NEW SERVICE LATERAL.
 - WN10 REMOVE AND SALVAGE EXISTING HYDRANT
 - WN11 REPLACE THE EXISTING COPPER SERVICE WITH A COPPER SERVICE



ESTIMATE OF PROJECT WATER MATERIALS - FROM CONTRACTOR:

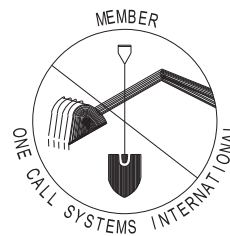
* ESTIMATE OF MATERIALS IS FOR INFORMATION ONLY. ENGINEER DOES NOT GUARANTEE ACCURACY OF MATERIAL TAKE-OFF. ALWAYS REFER TO PLANS.

WATER ASSETS	TOTAL
6-IN PIPE (LF)	100
8-IN PIPE (LF)	2820
POLY WRAP	3230
6-IN VALVE & BOX	6
8-IN VALVE & BOX	14
8-IN - 45° BEND	10
6-IN - 45° BEND	1
6-IN - 90° BEND	1
8-IN X 6-IN TEE	7
8-IN X 8-IN TEE	1
8-IN X 6-IN CROSS	1
8-IN X 8-IN CROSS	2
5-IN HYDRANT	7
6-IN MJ PLUG	1
8-IN MJ PLUG	4
6-IN MJ CAP	2
8-IN X 6-IN REDUCER	2
2-IN STYROFOAM (LF)	168
8-IN X 12-IN OFFSET	1
6-IN X ?-IN OFFSET (AS REQ)	1
1-IN OR 1.5-IN COPPER PIPING	AS REQ

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE TOLL FREE
 811 OR 1-800-242-8511
 FAX-A-LOCATE 1-800-338-3860
 TDD (FOR HEARING IMPAIRED) 1-800-542-2289

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.



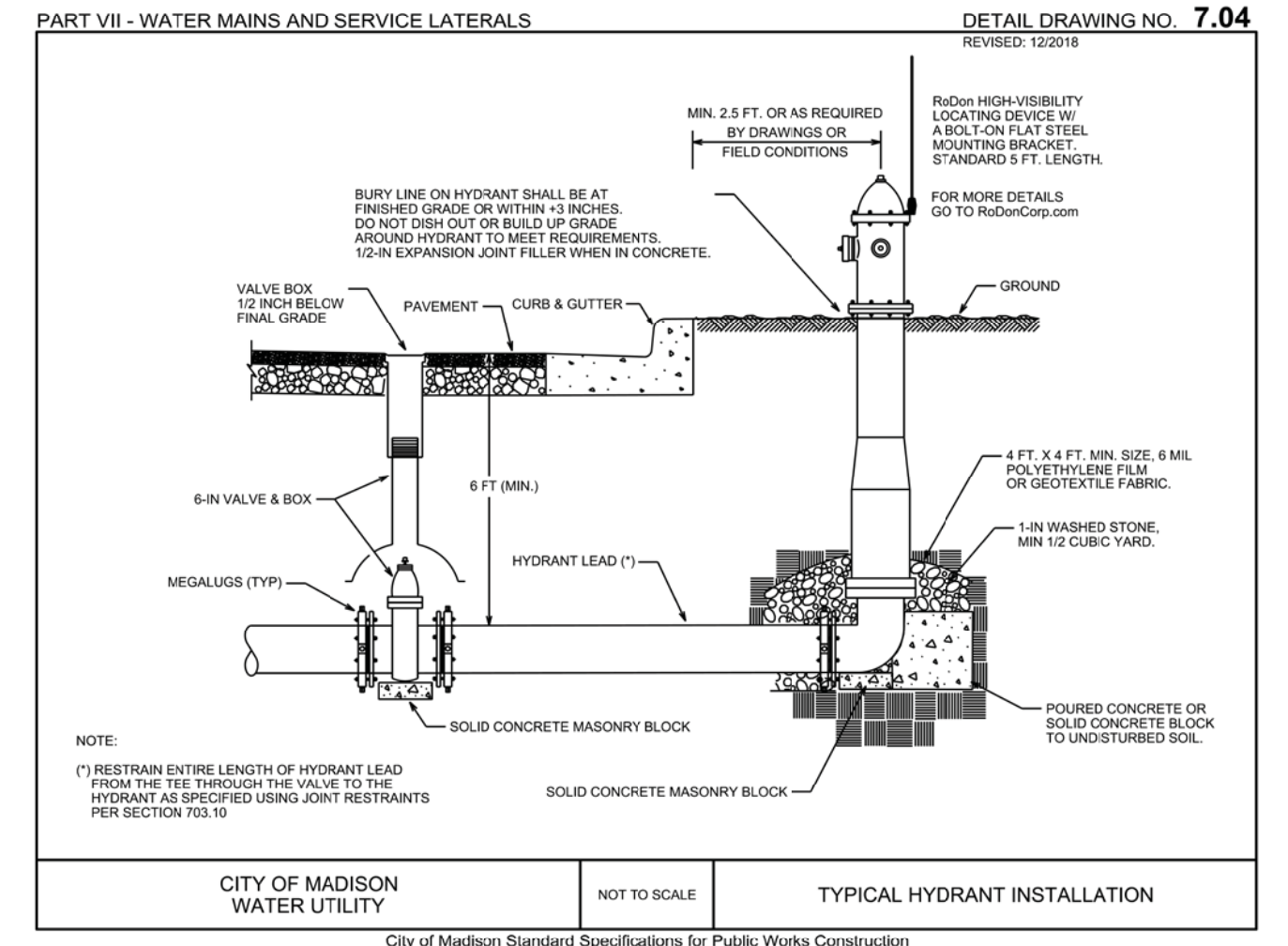
= APPLY STYROFOAM INSULATION OVER THE WATER MAIN AND SERVICES AT STORM SEWER CROSSINGS, PER STANDARD SPECIFICATIONS

ESTIMATE OF PROJECT WATER MATERIALS - FROM CITY:

* ESTIMATE OF MATERIALS IS FOR INFORMATION ONLY. ENGINEER DOES NOT GUARANTEE ACCURACY OF MATERIAL TAKE-OFF. ALWAYS REFER TO PLANS.

WATER ASSETS	TOTAL
6-IN TAPPING VALVE & BOX	1
8-IN TAPPING VALVE & BOX	1
6-IN X 6-IN TAPPING SLEEVE	1
8-IN X 8-IN TAPPING SLEEVE	1

DISCLAIMER NOTE:
 UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING WORK.



PLOT SCALE: _____ PLOT NAME: _____ REV. DATE: _____ ORIGINATOR: CITY OF MADISON - STREETS DIVISION



EXISTING TREE TO REMAIN



AREA TO BE STABILIZED WITH TOPSOIL, WOODY UNDERSTORY AGGRESSIVE SPECIES SEED MIX, AND ECRM CLASS 1 URBAN TYPE A



TYPE D HYBRID INLET PROTECTION



TURBIDITY BARRIER



SILT SOCK

EROSION CONTROL NOTES:

- 1) EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.
- 2) THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL FINAL ACCEPTANCE BY THE CITY OF MADISON.
- 3) THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WDNR SOC STANDARDS AND CITY OF MADISON STANDARD SPECIFICATIONS.
- 4) THE CONTRACTOR SHALL PROVIDE STREET CLEANING AS NEEDED ON A DAILY BASIS TO KEEP TRACKING TO A MINIMUM.
- 5) INLET PROTECTION SHALL BE INSTALLED WITHIN THE CONSTRUCTION LIMITS. ADDITIONAL INLET PROTECTION SHALL BE INSTALLED AS DIRECTED.
- 6) THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF SHORELINE DISTURBED AT A TIME. THE CONTRACTOR SHALL FOCUS ON DISTURBING AND STABILIZING UNIFORM SECTIONS OF THE SHORELINE BEFORE MOVING TO ANOTHER SECTION, UNLESS THEY ARE EMPLOYING MULTIPLE CREWS TO COMPLETE THE WORK.
- 7) THE CONTRACTOR SHALL BE PREPARED TO MANAGE WET AND UNSTABLE SOIL CONDITIONS. THE CONTRACTOR SHALL BE PREPARED TO USE EQUIPMENT WITH LOW GROUND PRESSURES.
- 8) THE CONTRACTOR SHALL INSTALL TURBIDITY BARRIER BEFORE GRUBBING TREE STUMPS WITHIN 50' OF THE SHORELINE.
- 9) THE CONTRACTOR SHALL CLEAR ALL TRACKED SEDIMENT FROM STREETS IMMEDIATELY

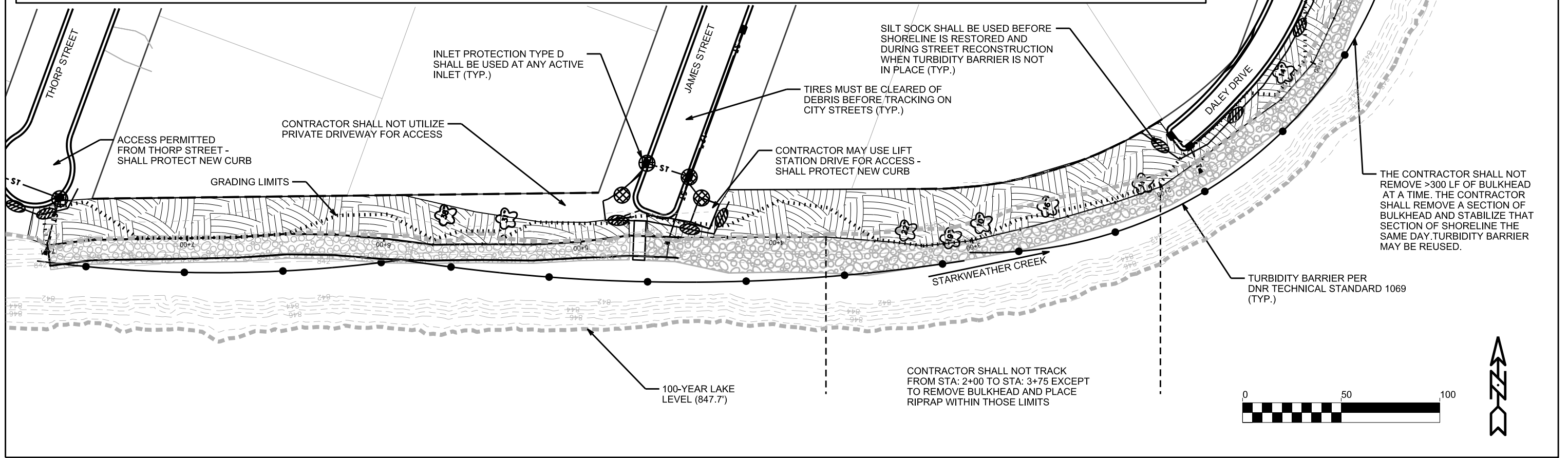
CITY OF MADISON WOODY UNDERSTORY AGGRESSIVE SPECIES-SEED MIX:

- FRINGED BROME (BROMUS CILIATUS)*
BLUE JOINT GRASS (CALAMAGROSTIS CANADENSIS)
PLAINS OVAL SEDGE (CAREX BREVIOR)
LONG-BEAKED SEDGE (CAREX SPRENGELII)
BROWN FOX SEDGE (CAREX VULPINOIDEA)
NEEDLE SPIKE RUSH (ELEOCHARIS ACICULARIS)
CANADA WILD RYE (ELYMUS CANADENSIS)
RIVER BANK WILD RYE (ELYMUS RIPARIUS)
SILKY WILD RYE (ELYMUS VILOSUS)
VIRGINIA WILD RYE (ELYMUS VIRGINICUS)
FOWL MANNA GRASS (GLYCERIA STRIATA)
BOTTLEBRUSH GRASS (ELYMUS HYSTRIX)
SWITCHGRASS (PANICUM VIRGATUM)
FOWL BLUEGRASS (POA PALUSTRIS)
LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM)
PRAIRIE CORDGRASS (SPARTINA PECTINATA)
- MEADOW ANEMONE (ANEMONE CANADENSIS)*
CANADA MILK VETCH (ASTRAGALUS CANADENSIS)
DRUMMOND'S ASTER (SYMPHYOTRICHUM DRUMMONDII)
TALL COREOPSIS (COREOPSIS TRIPTERIS)
CANADA TICK TREFOIL (DESMODIUM CANADENSE)
PURPLE CONEFLOWER (ECHINACEA PURPUREA)
SNEEZEWEED (HELIENIUM AUTUMNALE)
SAWTOOTH SUNFLOWER (HELIANTHUS GROSSESERRATUS)
PALE-LEAVED SUNFLOWER (HELIANTHUS STRUMOSUS)
BERGAMOT (MONARDA FISTULOSA)
OBEDIENT PLANT (PHYSOSTEGIA VIRGINIANA)
MOUNTAIN MINT (PYCNANTHEMUM VIRGINIANA)
SWEET BLACK-EYED SUSAN (RUBBECKIA SUBTOMENTOSA)
GRASS-LEAVED GOLDENROD (SOLIDAGO GRAMINIFOLIA)
CULVER'S ROOT (VERONICASTRUM VIRGINICUM)
BLUE VERVAIN (VERBENA HASTATA)

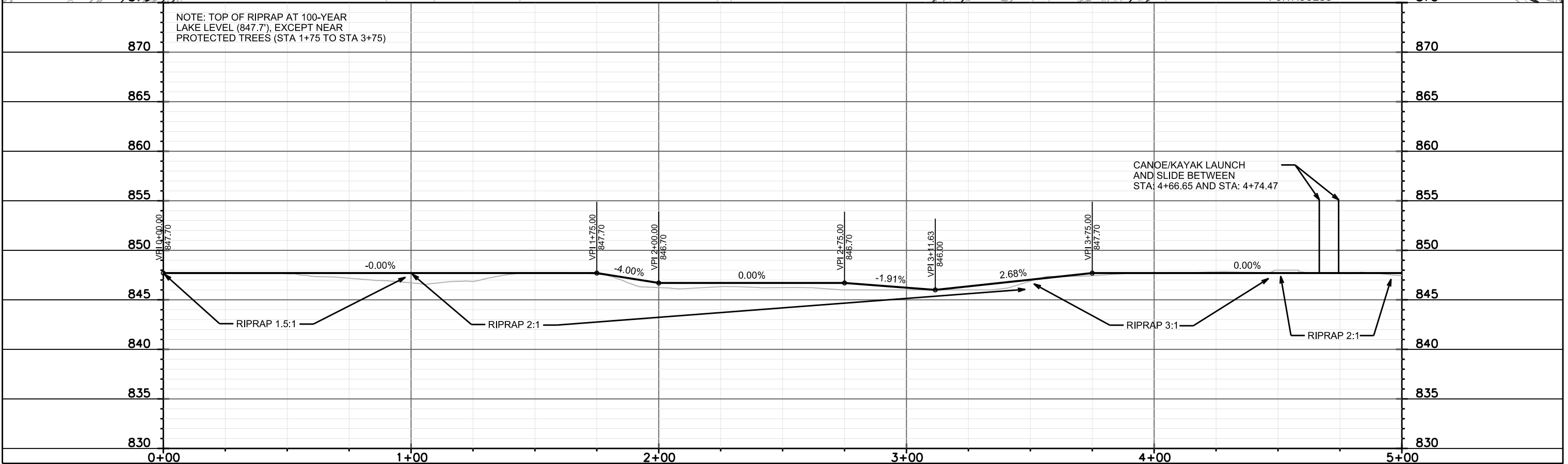
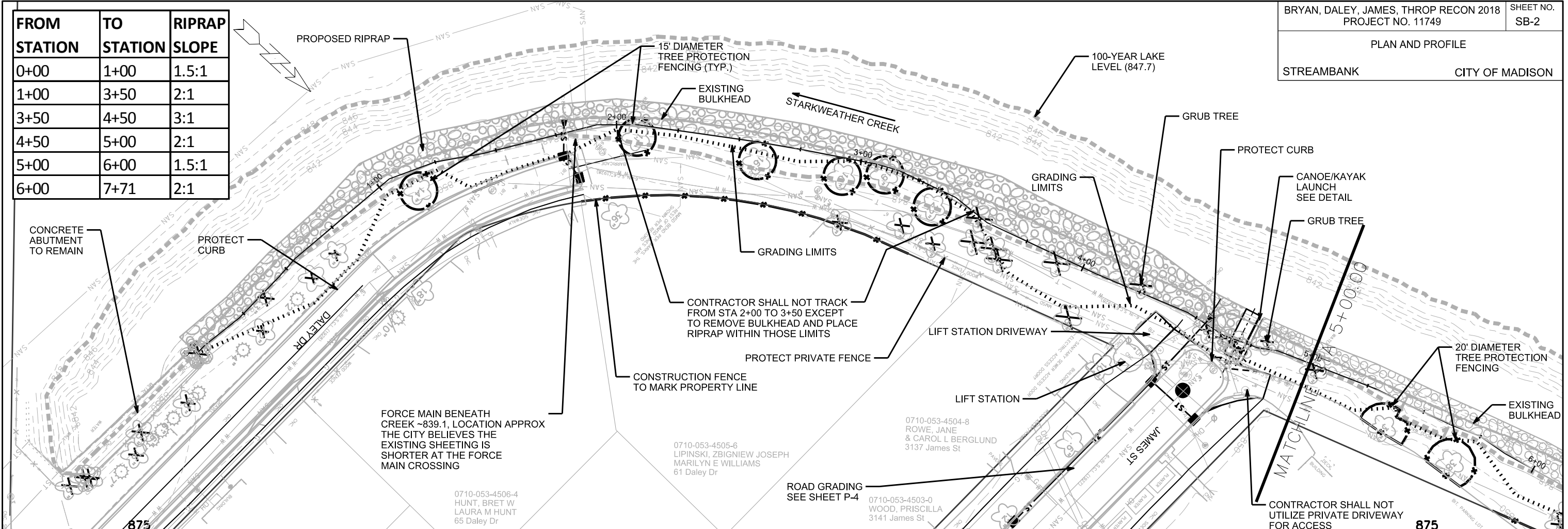
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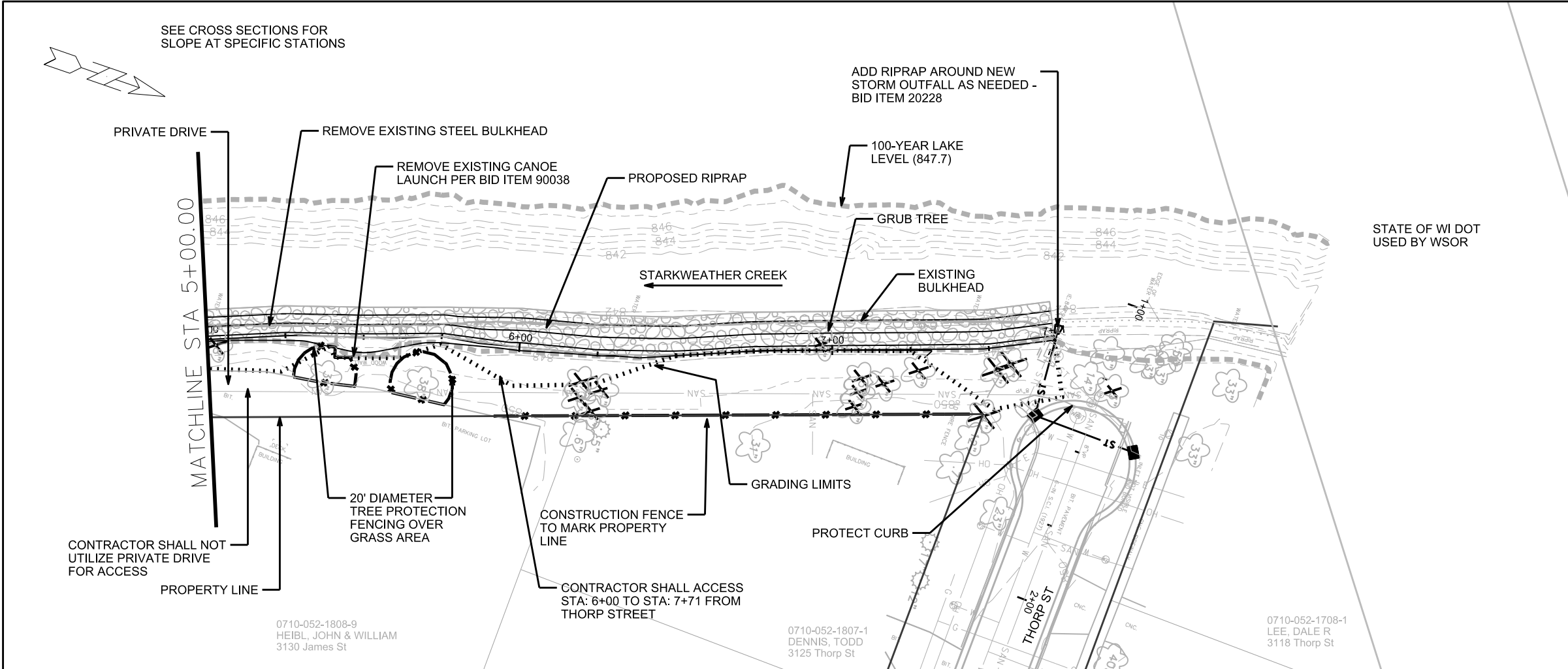
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



FROM STATION	TO STATION	RIPRAP SLOPE
0+00	1+00	1.5:1
1+00	3+50	2:1
3+50	4+50	3:1
4+50	5+00	2:1
5+00	6+00	1.5:1
6+00	7+71	2:1

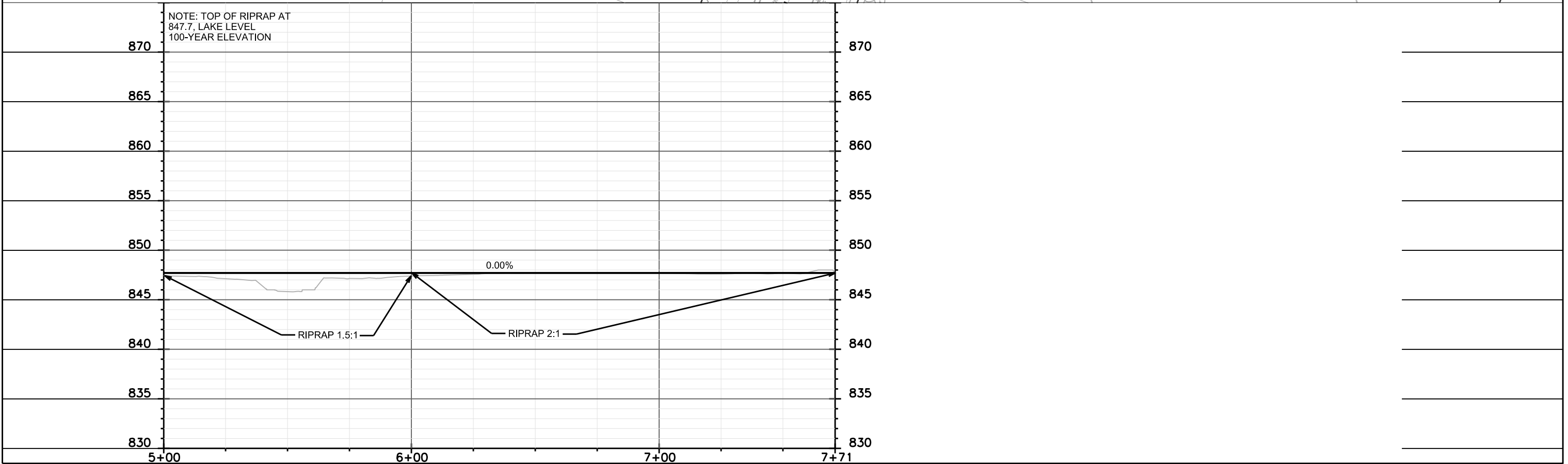


PLOT SCALE: _____
 REV. DATE: _____
 ORIGINATOR: CITY OF MADISON, STREETS DIVISION



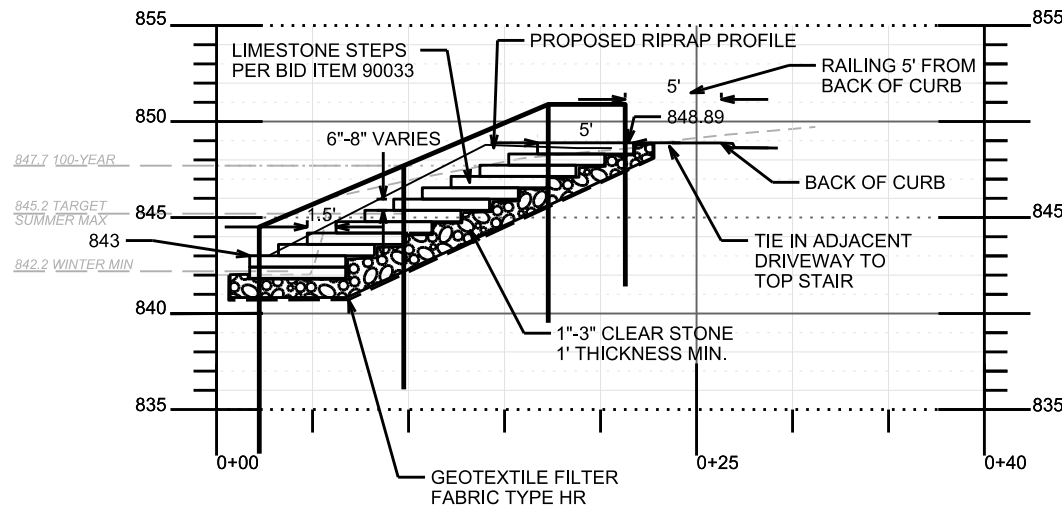
STATE OF WI DOT
USED BY WSOR

FROM STATION	TO STATION	RIPRAP SLOPE
0+00	1+00	1.5:1
1+00	3+50	2:1
3+50	4+50	3:1
4+50	5+00	2:1
5+00	6+00	1.5:1
6+00	7+71	2:1

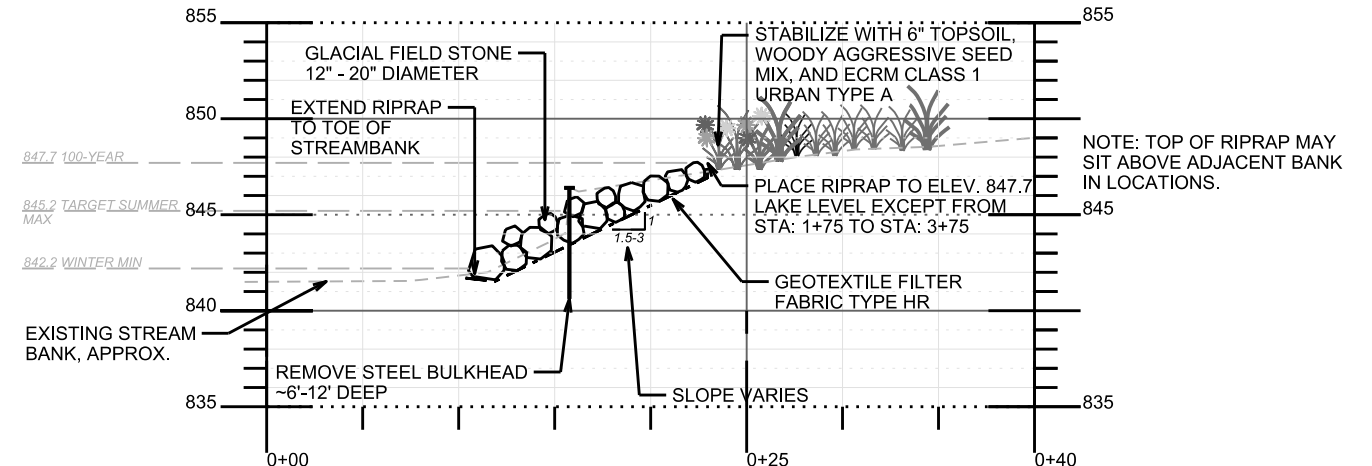


PLOT SCALE: _____ PLOT NAME: _____ REV. DATE: _____ ORIGINATOR: CITY OF MADISON, STREETS DIVISION

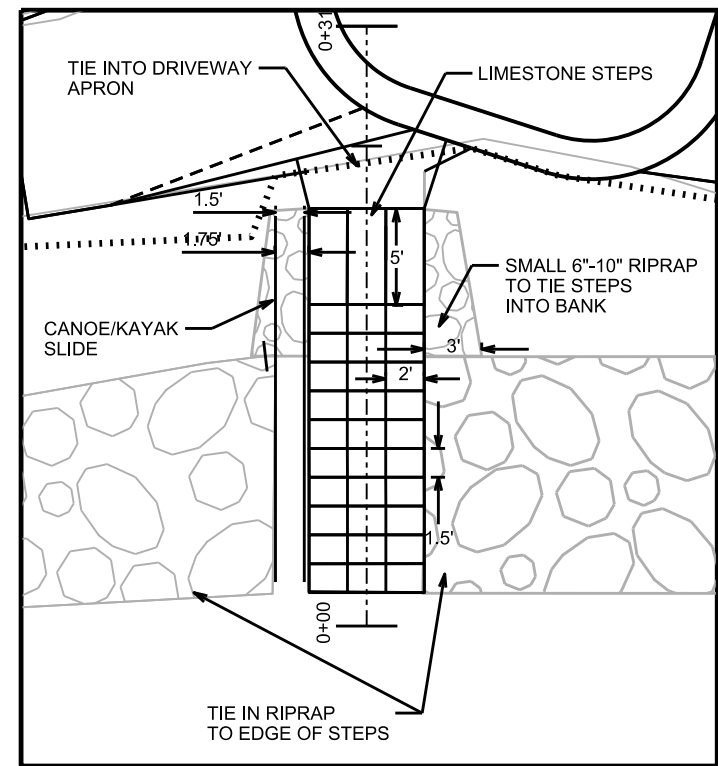
CANOE/KAYAK LAUNCH PROFILE STA: 4+66.65 TO STA: 4+74.47



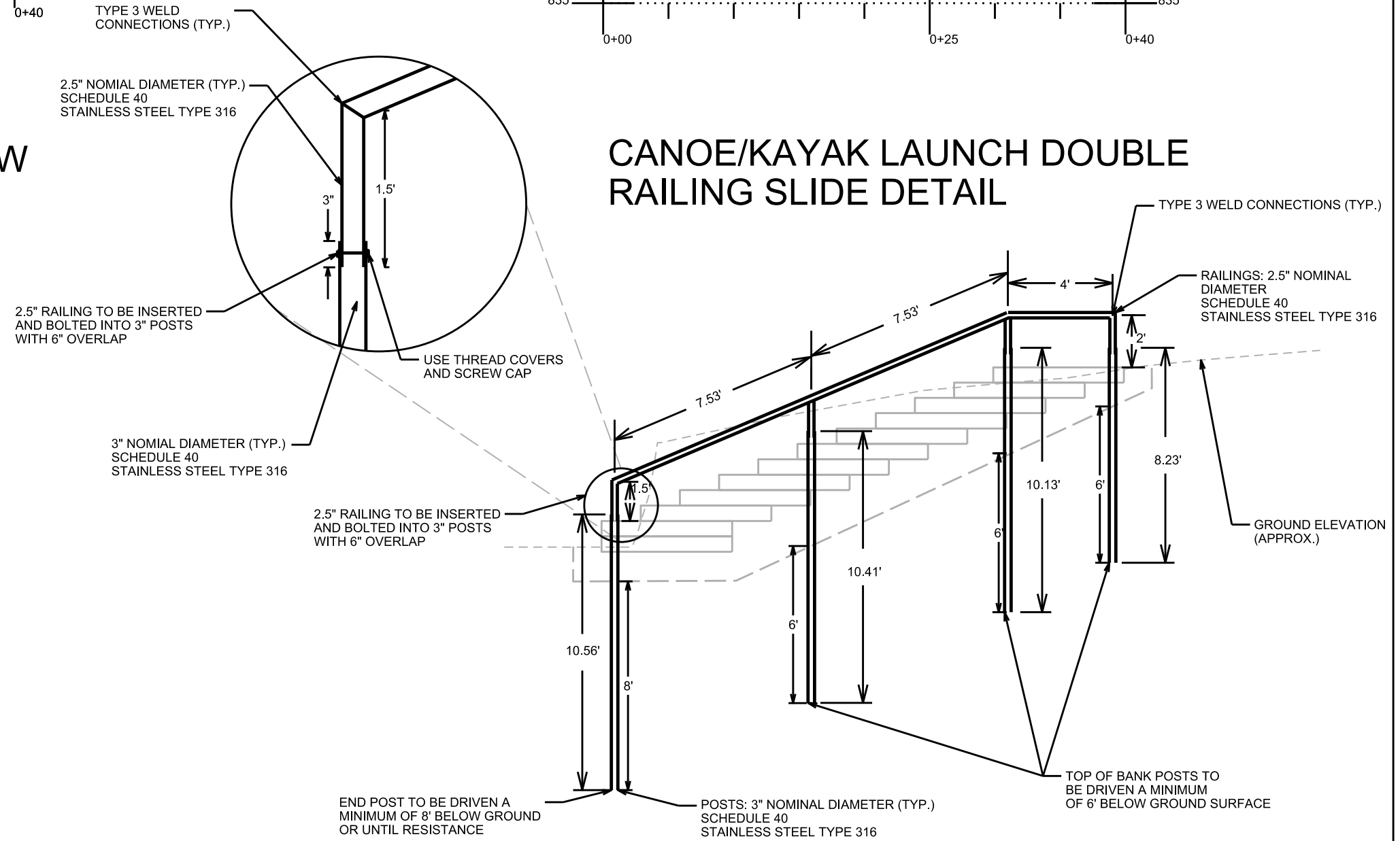
TYPICAL RIPRAP CROSS SECTION



CANOE/KAYAK LAUNCH PLAN VIEW STA: 4+66.65 TO STA: 4+74.47



CANOE/KAYAK LAUNCH DOUBLE RAILING SLIDE DETAIL



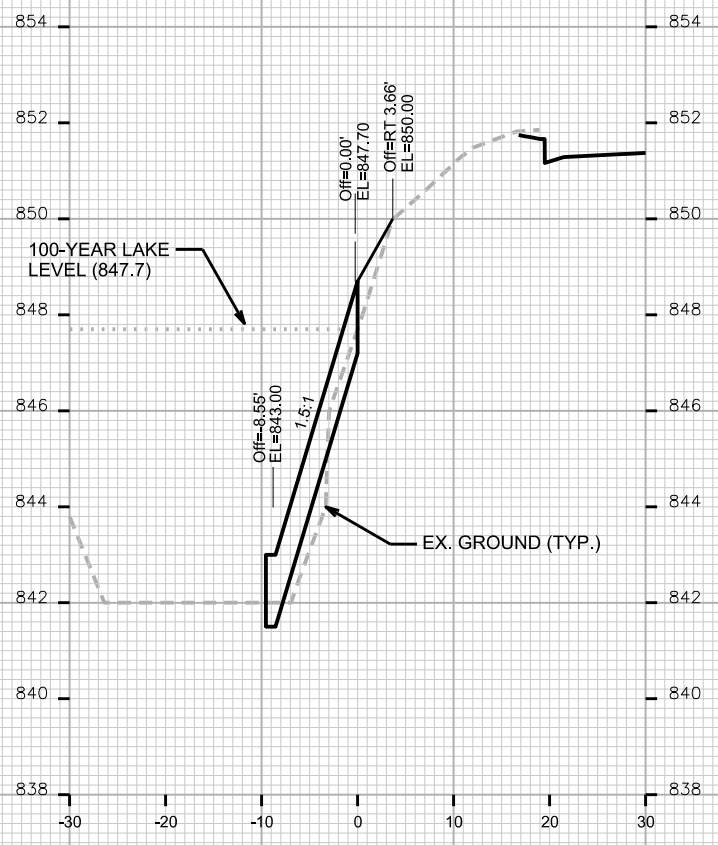
PLOT SCALE: _____ PLOT NAME: _____ REV. DATE: _____ ORIGINATOR: CITY OF MADISON, STREETS DIVISION

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



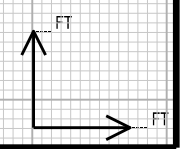
STA. 0+00



STA. 0+25



STA. 0+50

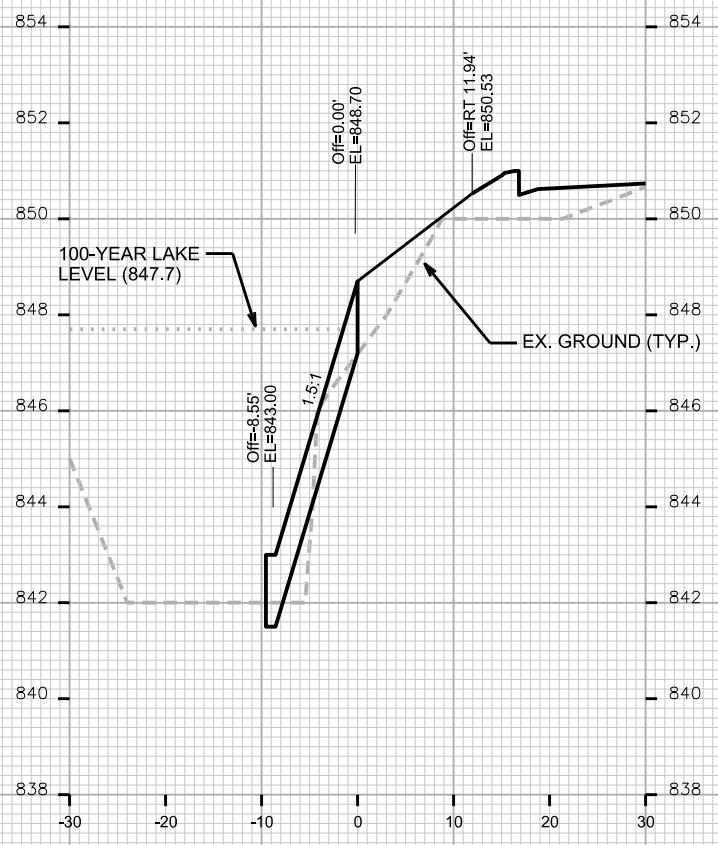


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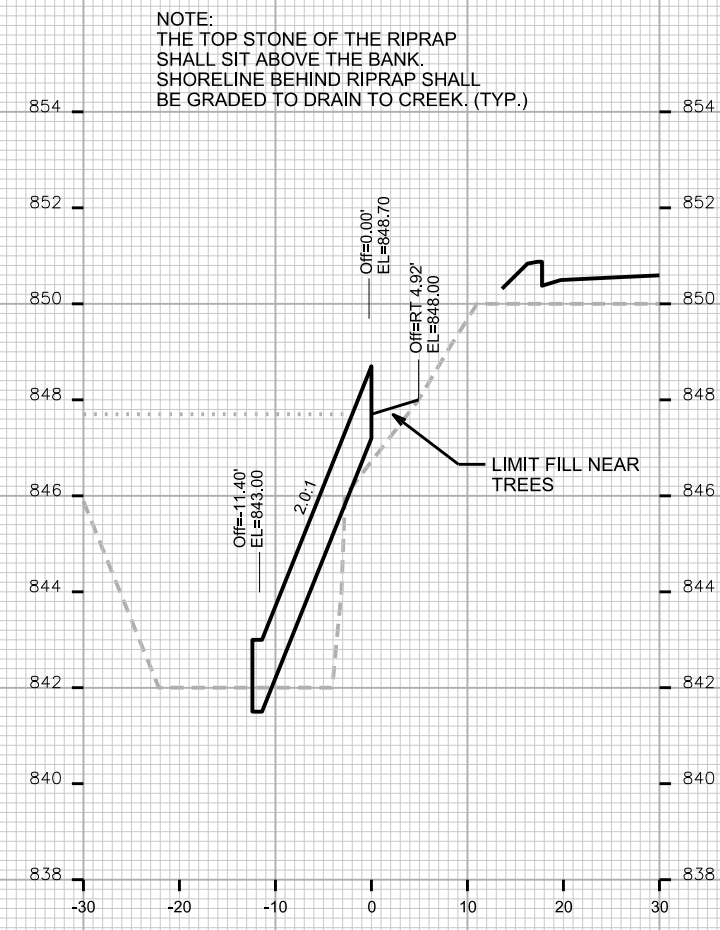
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REV. DATE: _____

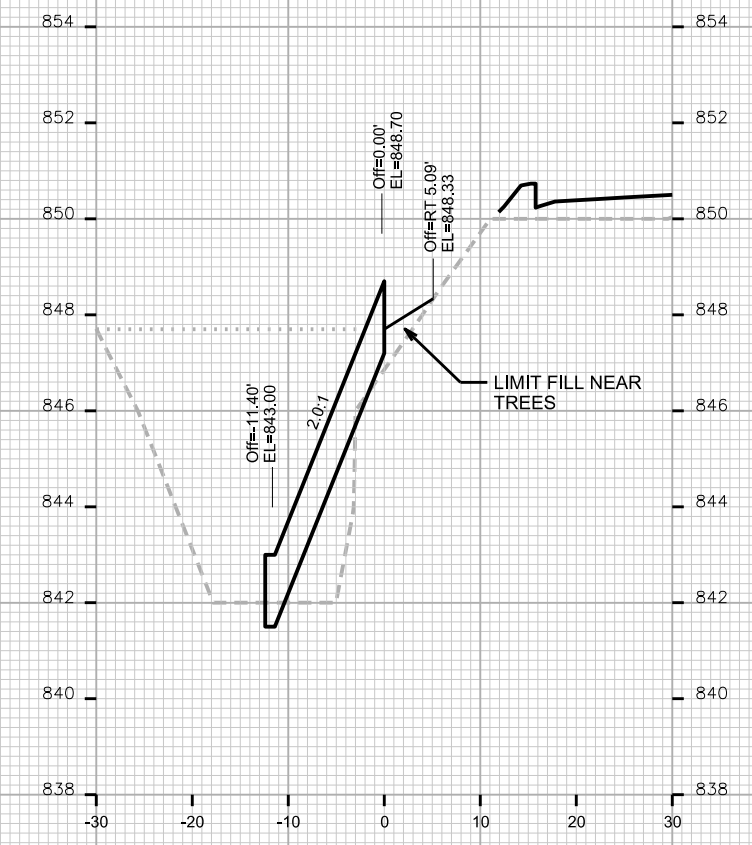
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



STA. 0+75



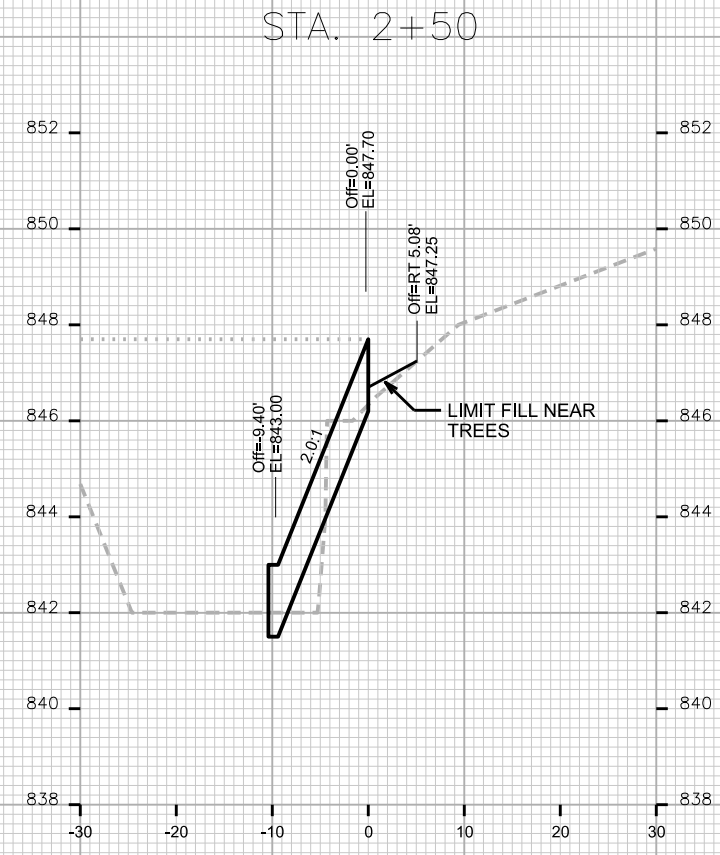
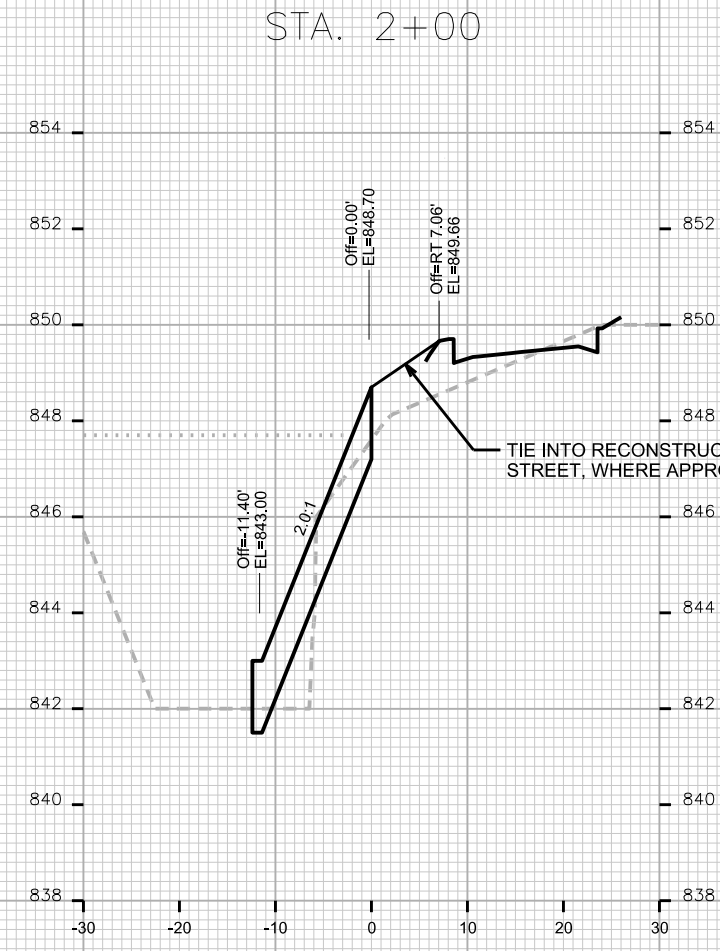
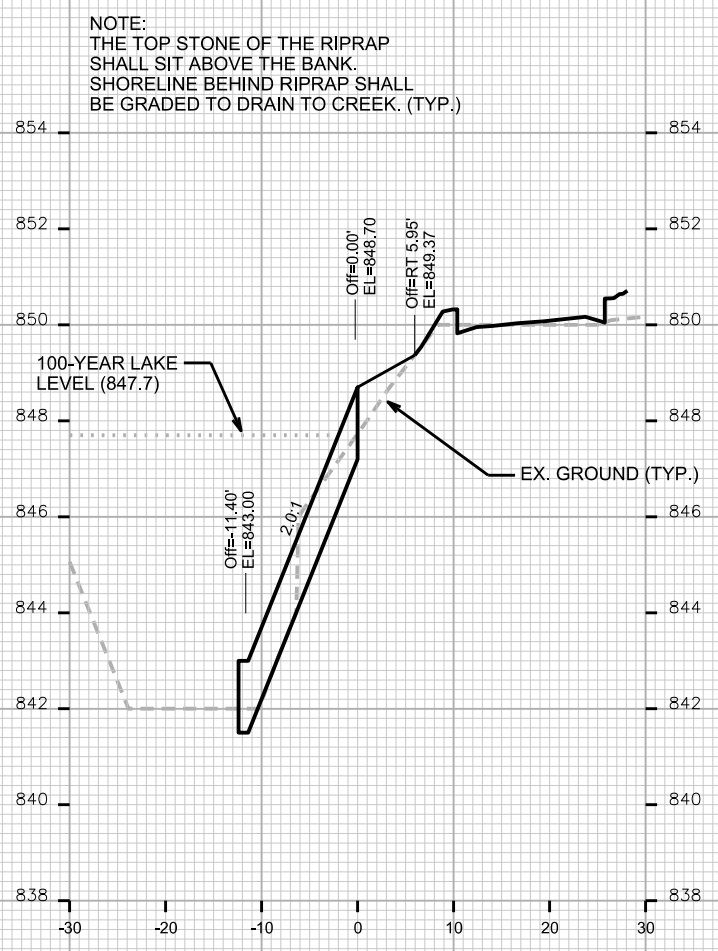
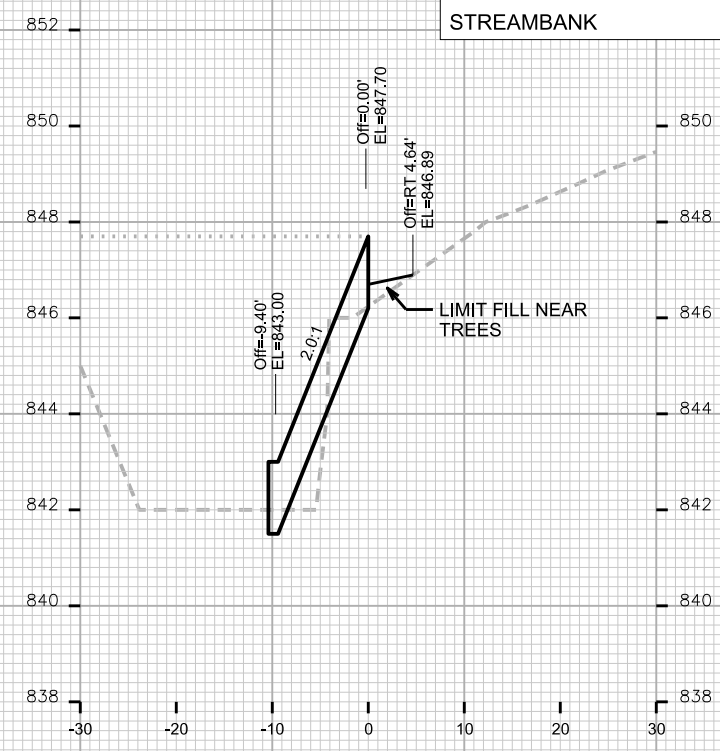
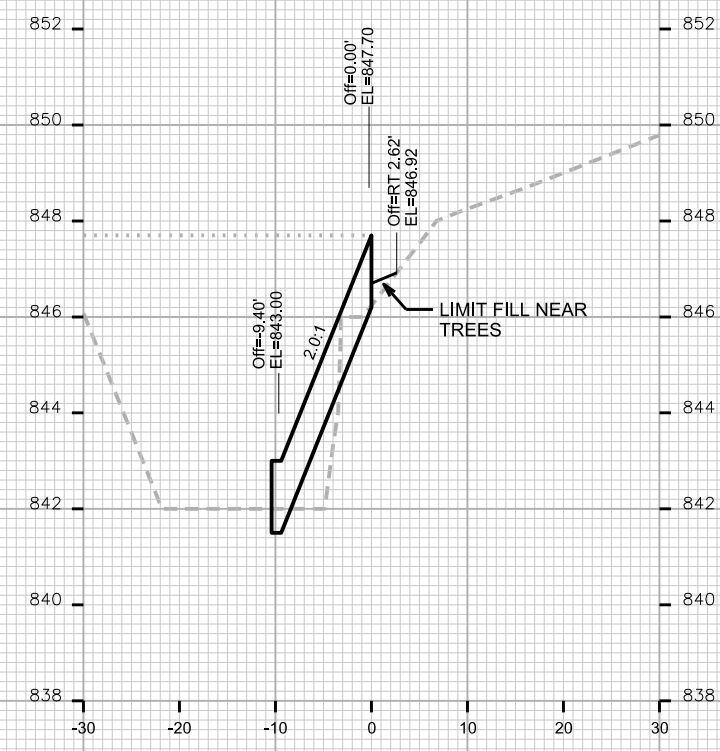
STA. 1+00



STA. 1+25



CROSS SECTIONS
STREAMBANK CITY OF MADISON



PLOT SCALE: _____

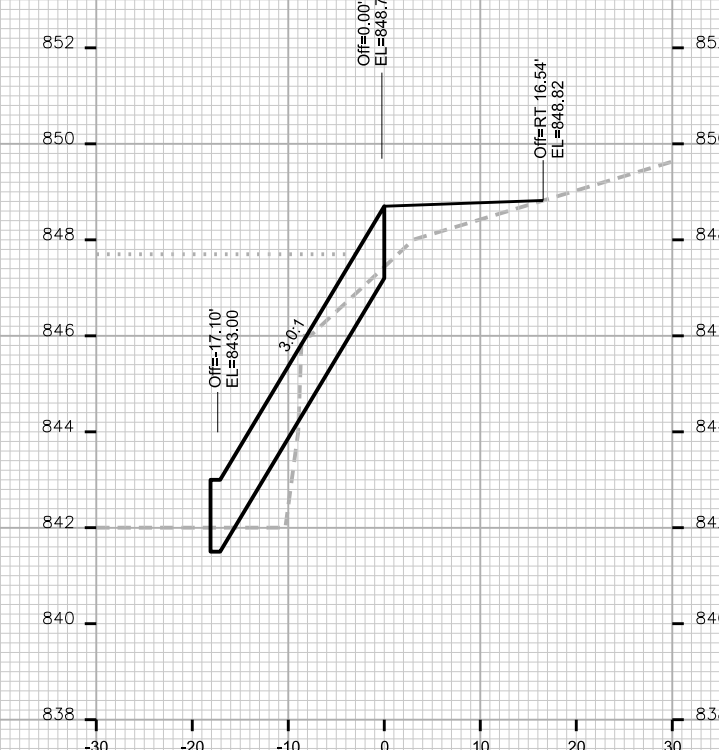
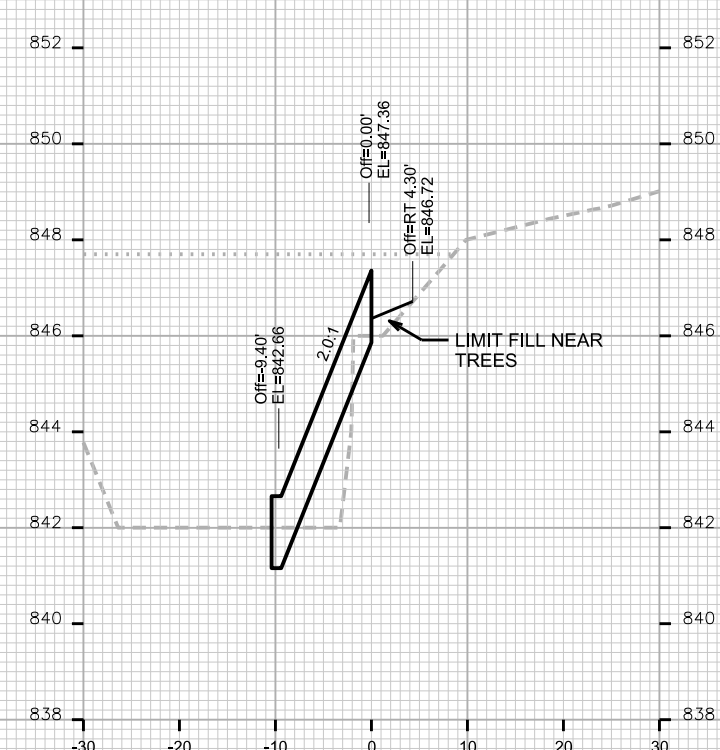
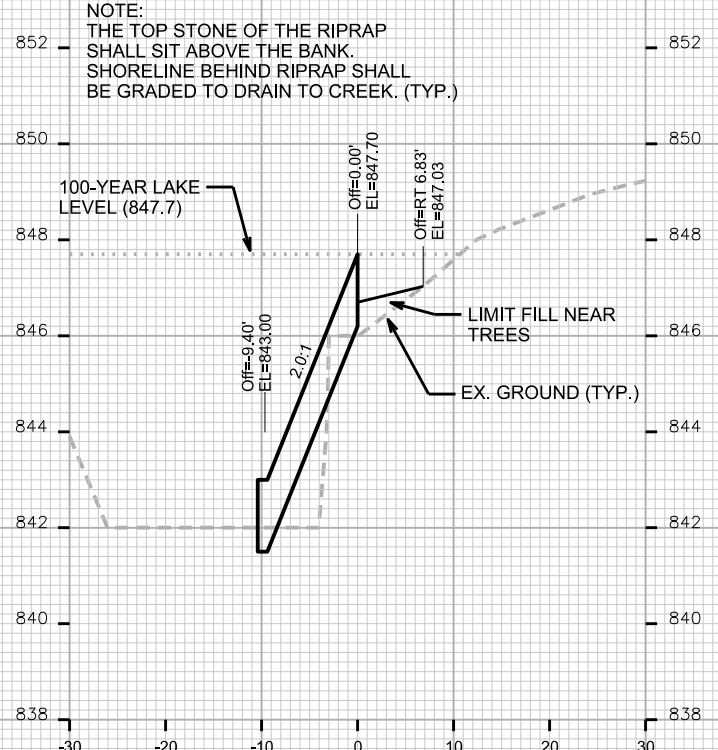
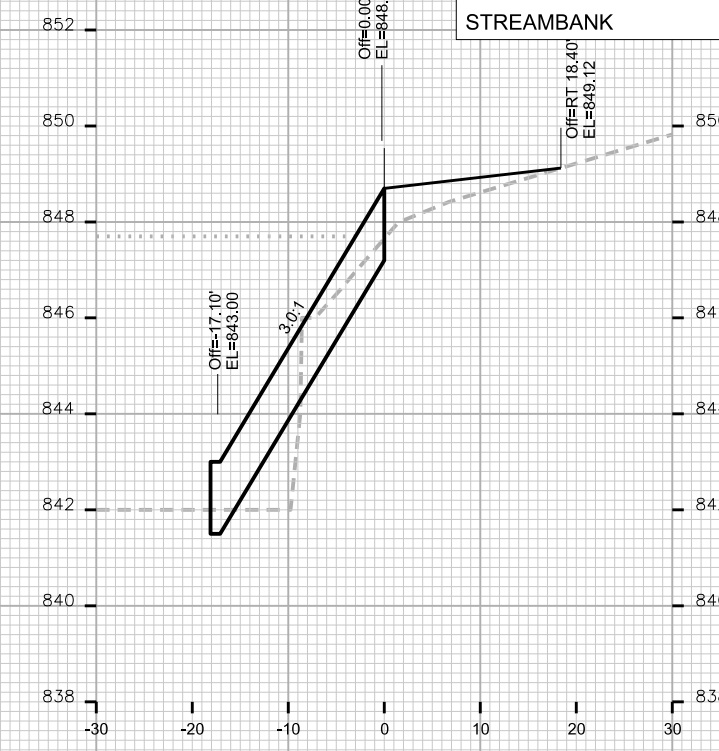
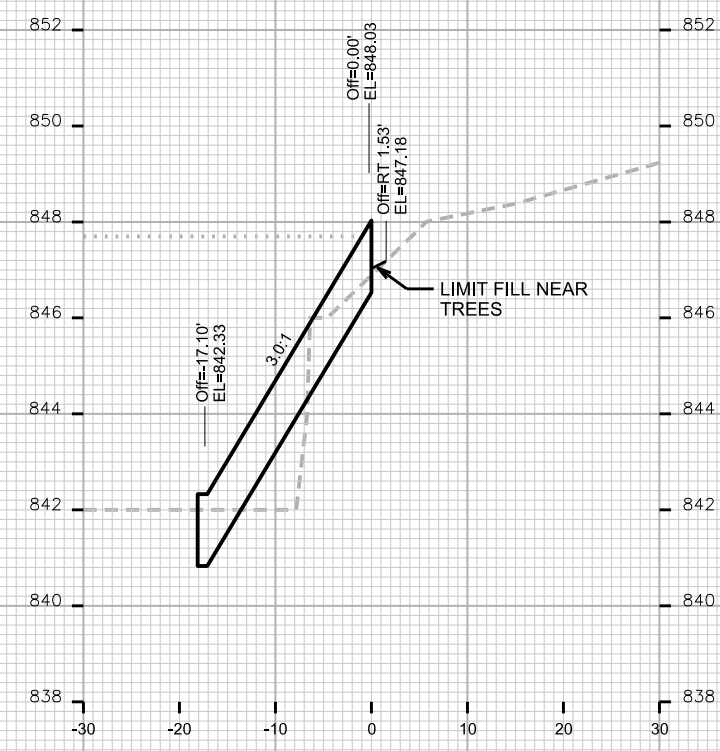
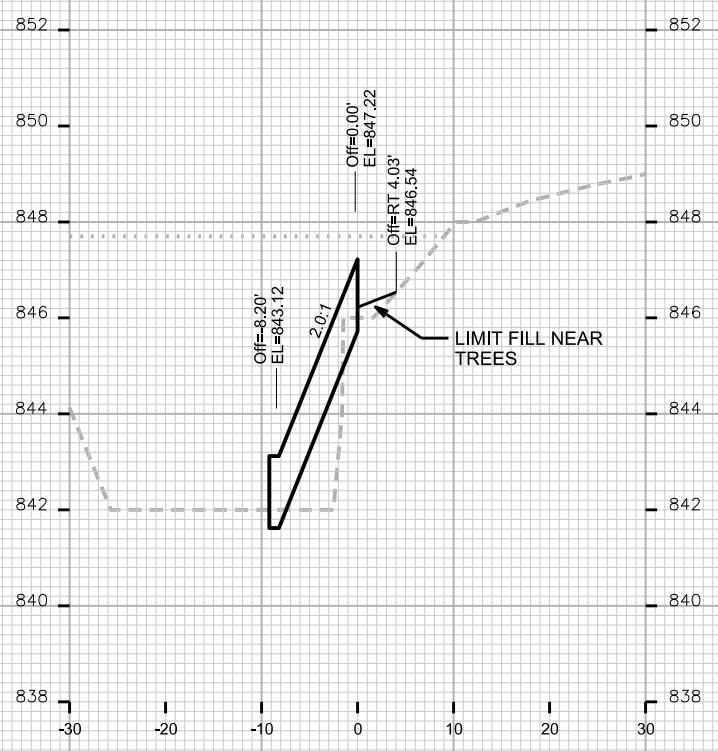
PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

CROSS SECTIONS

STREAMBANK CITY OF MADISON



PLOT SCALE: _____

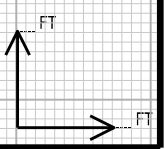
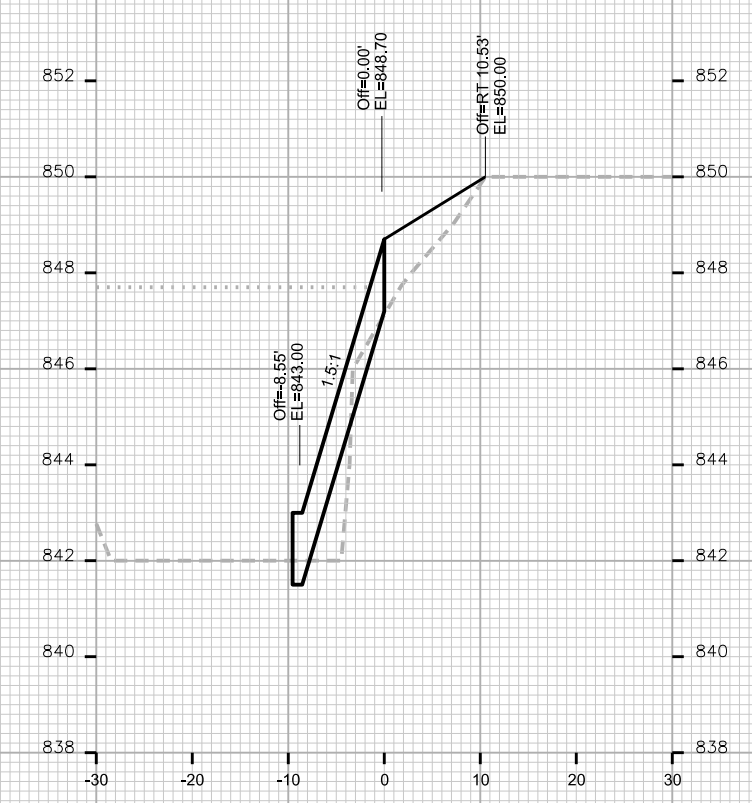
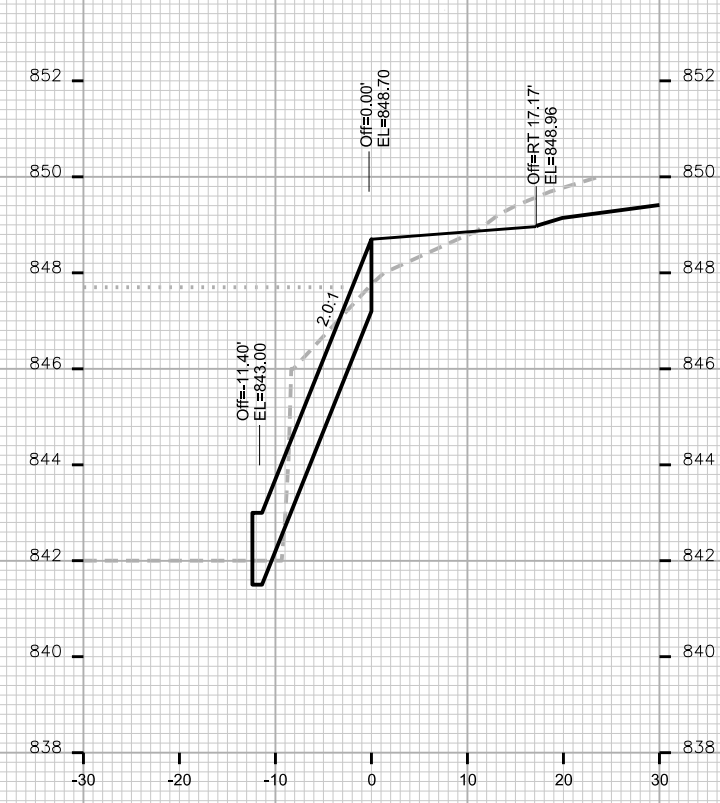
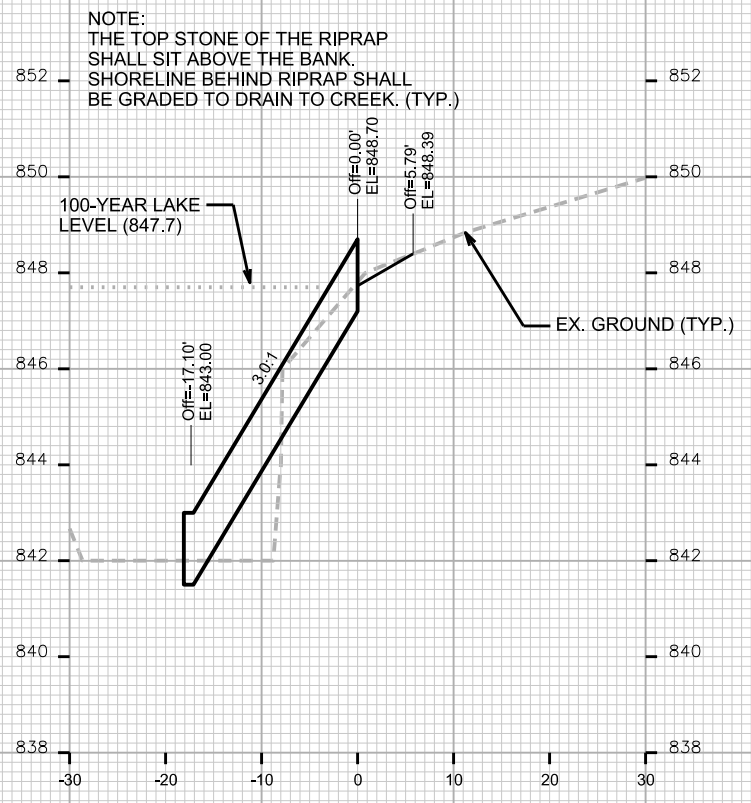
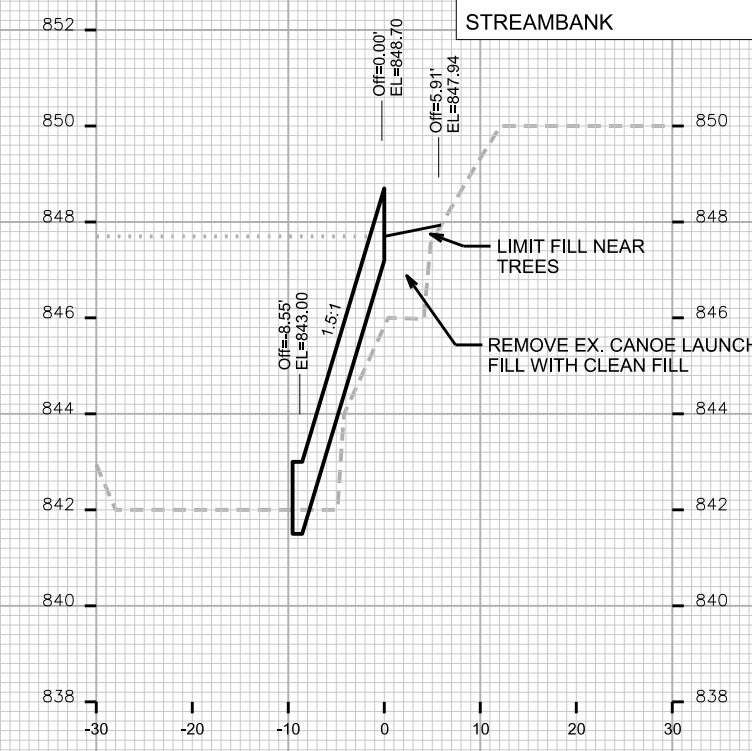
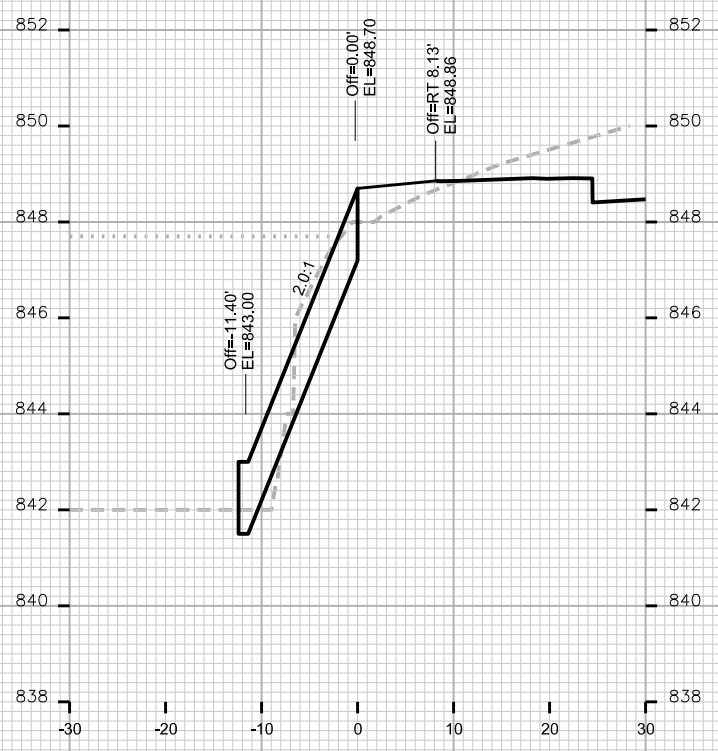
PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

CROSS SECTIONS

STREAMBANK CITY OF MADISON



PLOT SCALE: _____

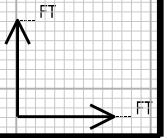
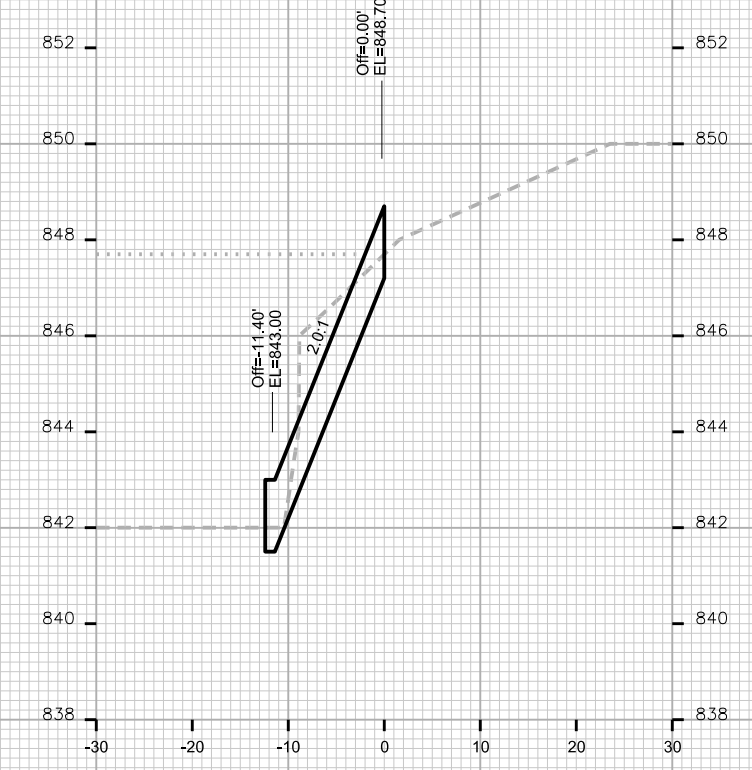
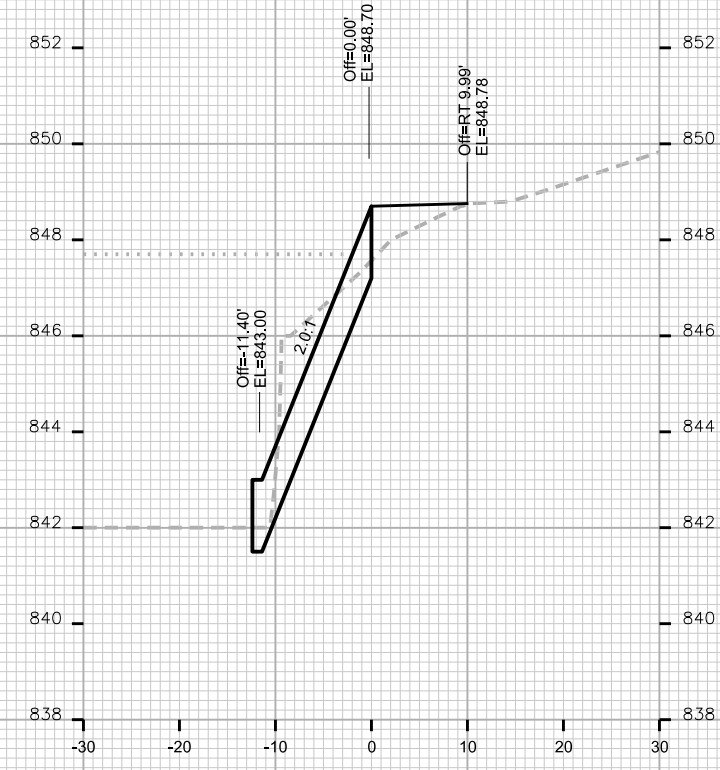
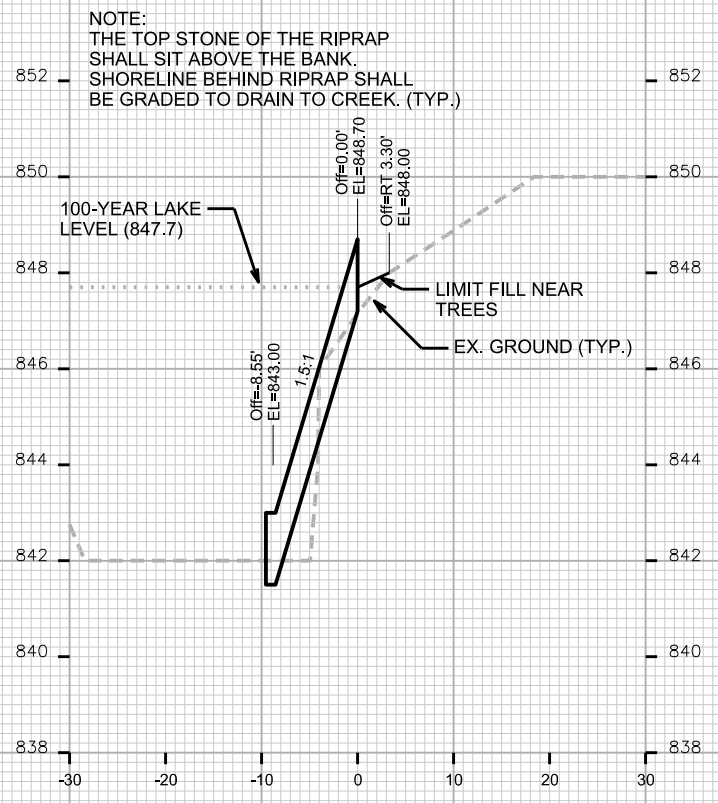
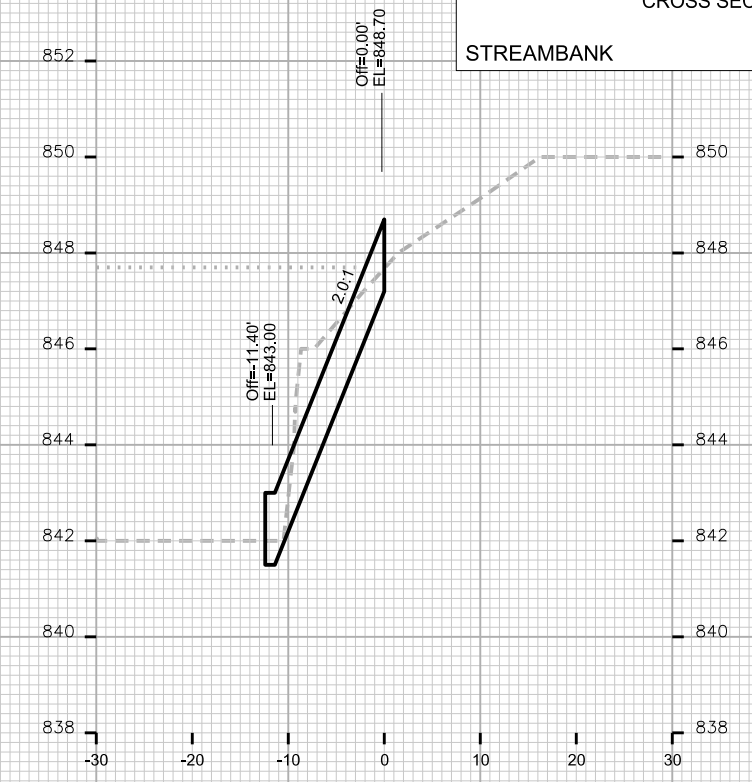
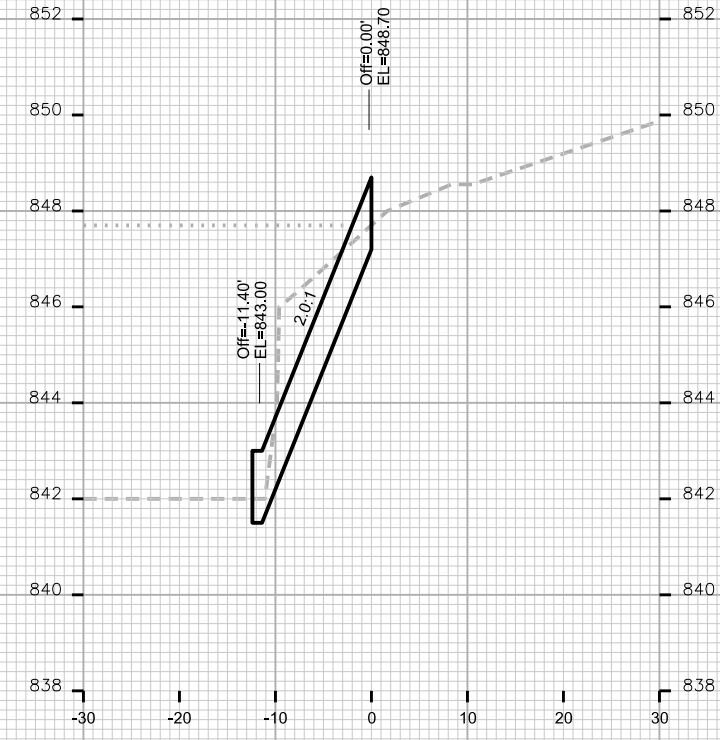
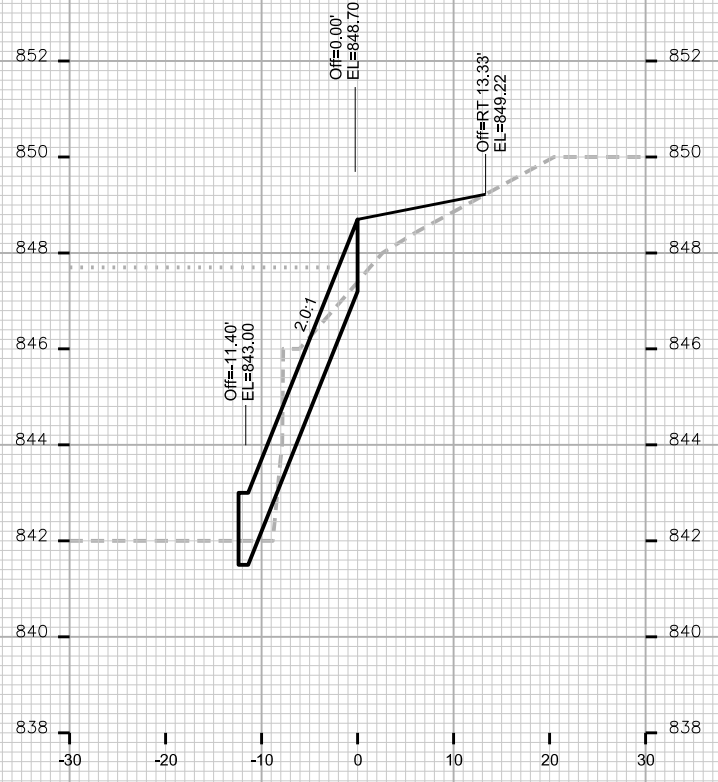
PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

CROSS SECTIONS

STREAMBANK CITY OF MADISON

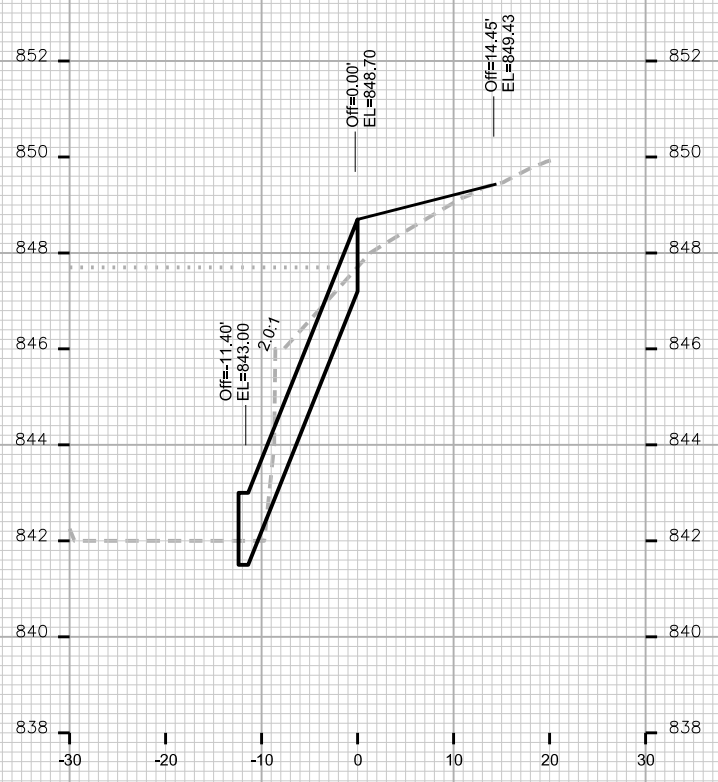


PLOT SCALE: _____

PLOT NAME: _____

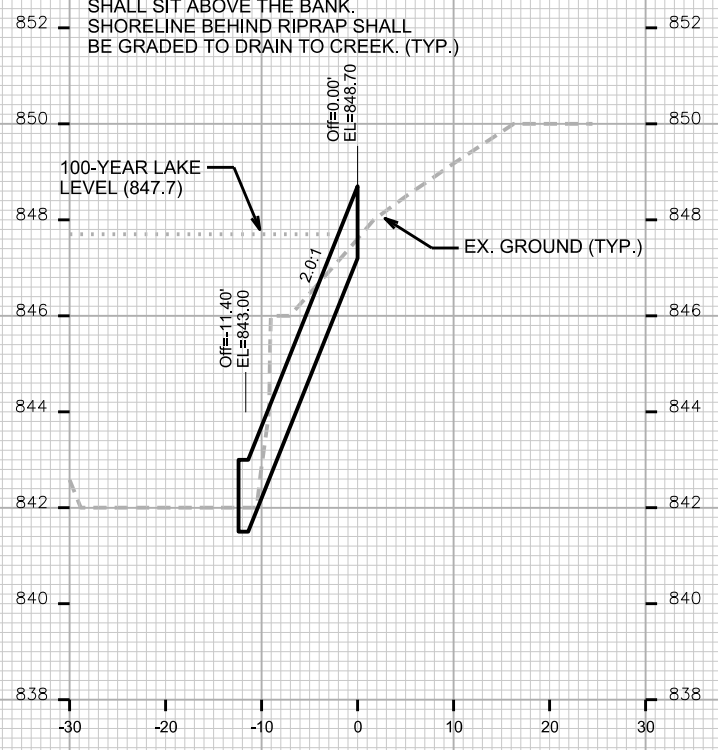
REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

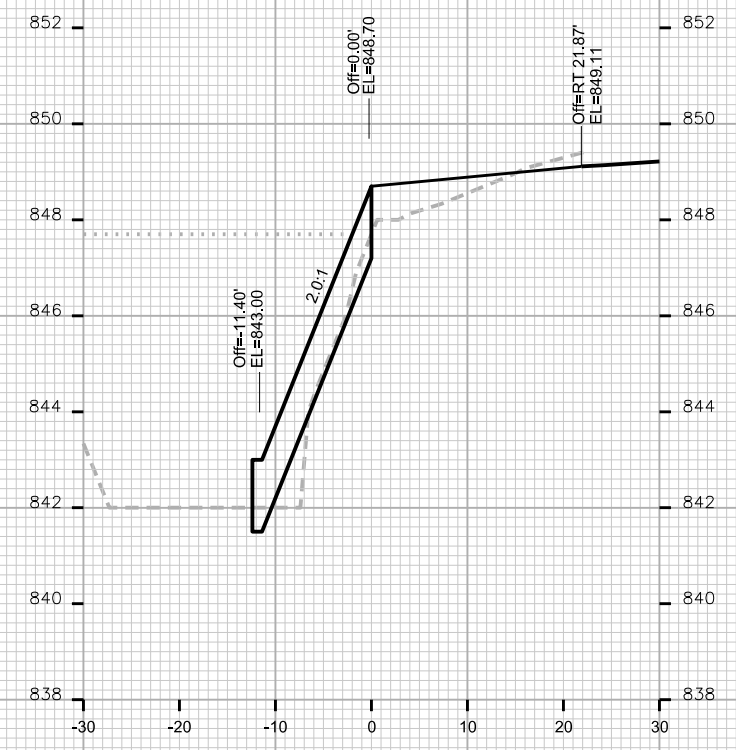


STA. 7+50

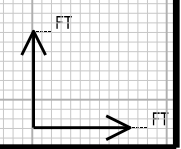
NOTE:
THE TOP STONE OF THE RIPRAP SHALL SIT ABOVE THE BANK.
SHORELINE BEHIND RIPRAP SHALL BE GRADED TO DRAIN TO CREEK. (TYP.)



STA. 7+25



STA. 7+71



PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

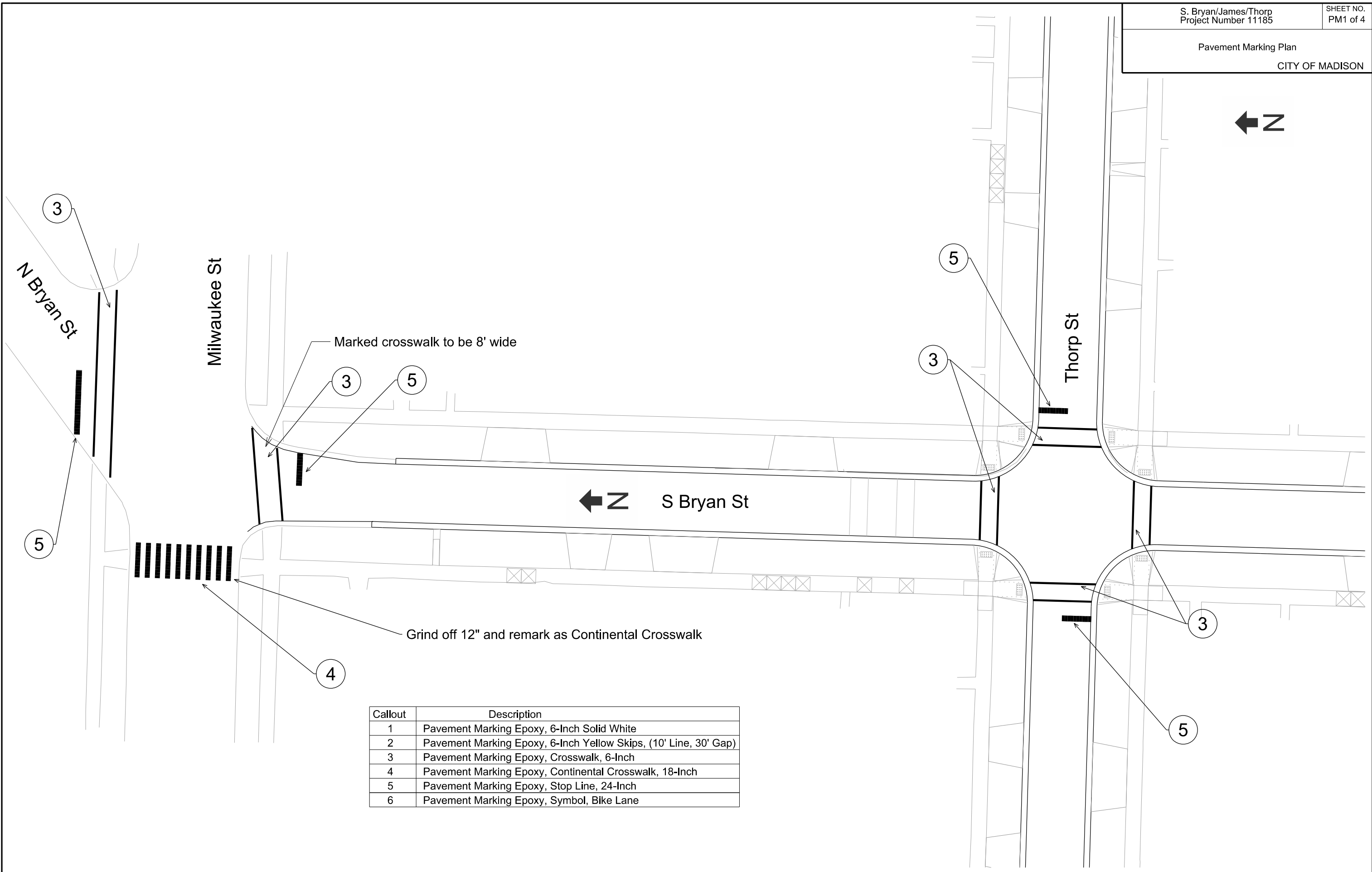


PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



Callout	Description
1	Pavement Marking Epoxy, 6-Inch Solid White
2	Pavement Marking Epoxy, 6-Inch Yellow Skips, (10' Line, 30' Gap)
3	Pavement Marking Epoxy, Crosswalk, 6-Inch
4	Pavement Marking Epoxy, Continental Crosswalk, 18-Inch
5	Pavement Marking Epoxy, Stop Line, 24-Inch
6	Pavement Marking Epoxy, Symbol, Bike Lane

← Z

Matchline 1
Sheet PM3

S Bryan St ← Z

James St

Daley Dr

5

3

3

5

3

5

Callout	Description
1	Pavement Marking Epoxy, 6-Inch Solid White
2	Pavement Marking Epoxy, 6-Inch Yellow Skips, (10' Line, 30' Gap)
3	Pavement Marking Epoxy, Crosswalk, 6-Inch
4	Pavement Marking Epoxy, Continental Crosswalk, 18-Inch
5	Pavement Marking Epoxy, Stop Line, 24-Inch
6	Pavement Marking Epoxy, Symbol, Bike Lane

PLOT SCALE:

PLOT NAME:

REV. DATE:

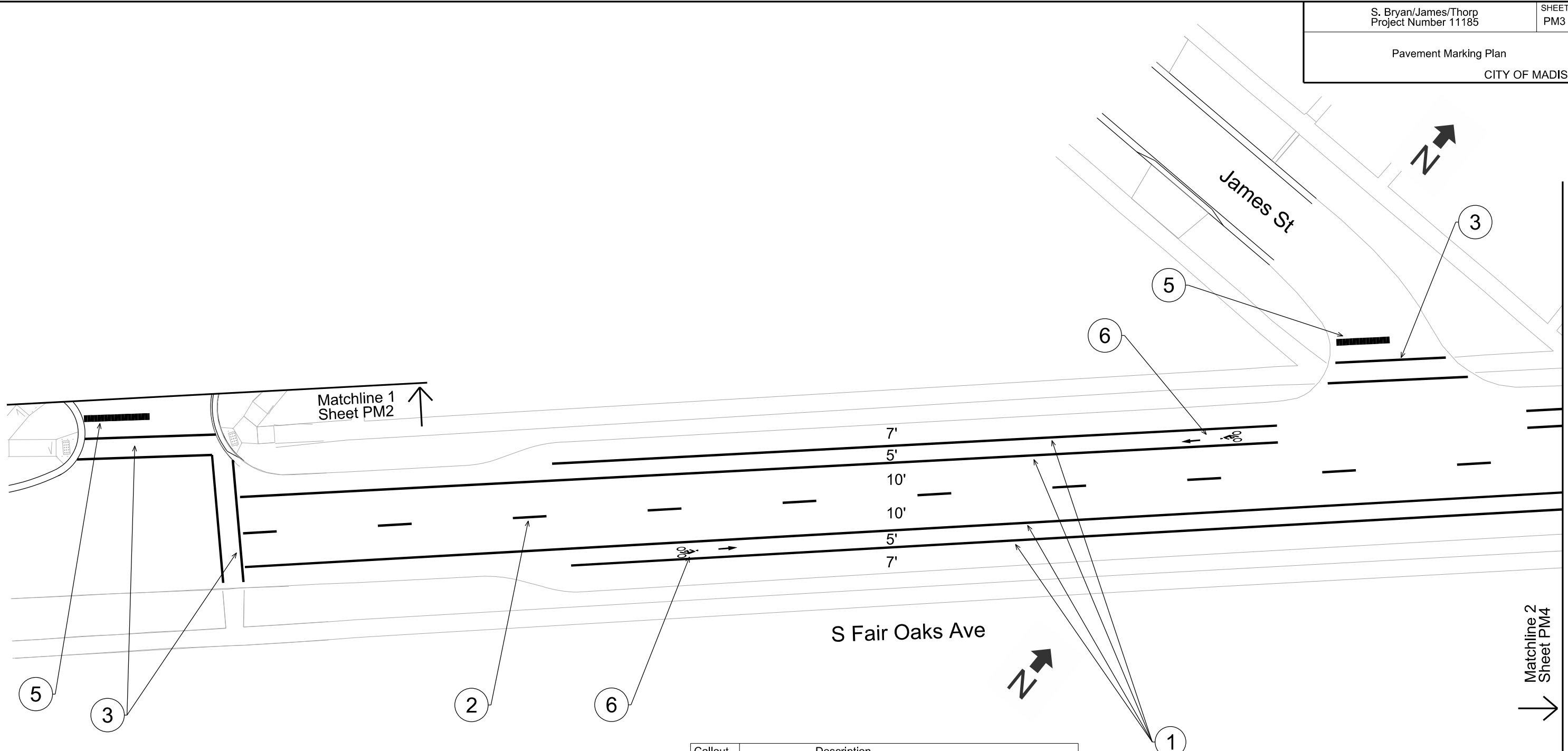
ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



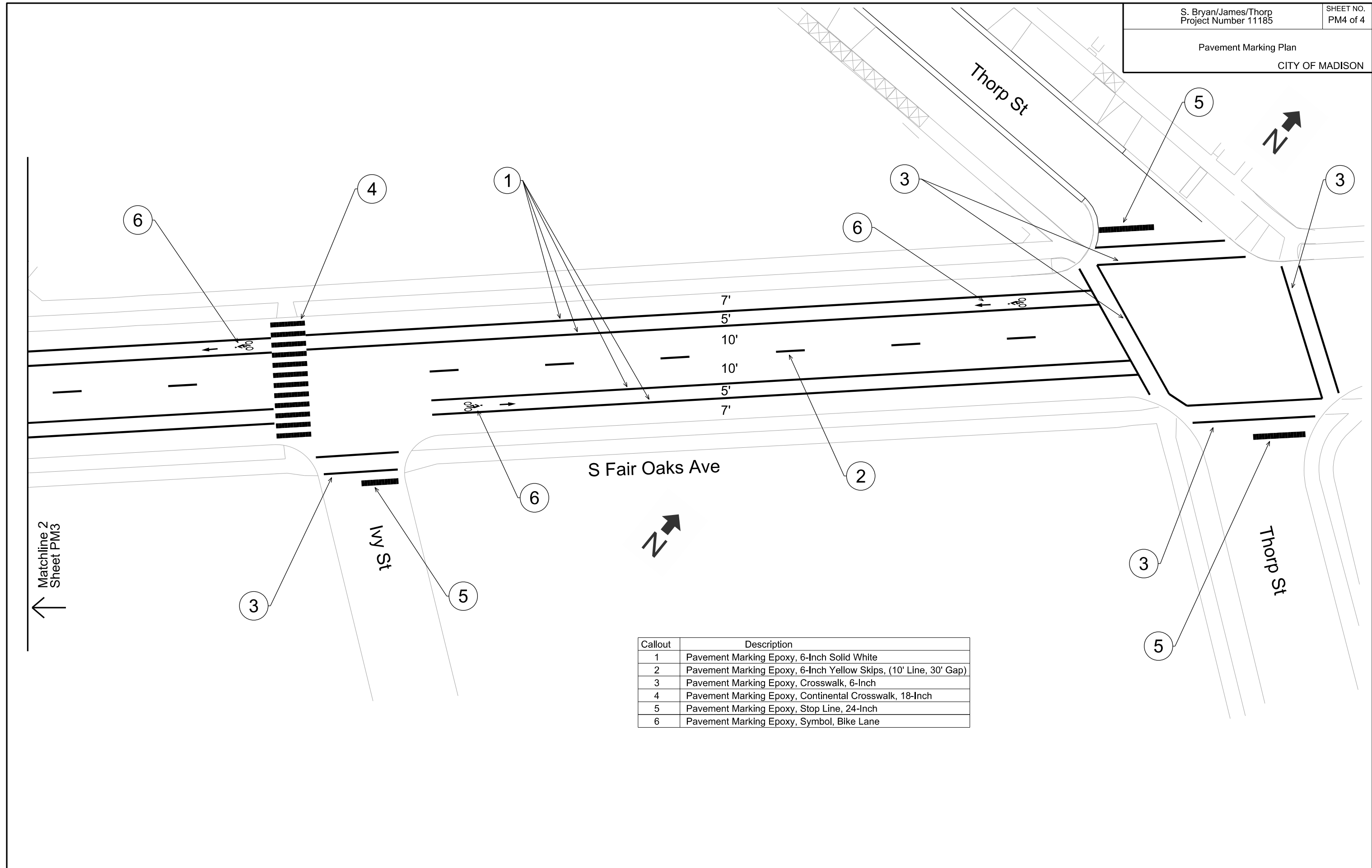
Callout	Description
1	Pavement Marking Epoxy, 6-Inch Solid White
2	Pavement Marking Epoxy, 6-Inch Yellow Skips, (10' Line, 30' Gap)
3	Pavement Marking Epoxy, Crosswalk, 6-Inch
4	Pavement Marking Epoxy, Continental Crosswalk, 18-Inch
5	Pavement Marking Epoxy, Stop Line, 24-Inch
6	Pavement Marking Epoxy, Symbol, Bike Lane

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, TRAFFIC ENG. DIV.



Callout	Description
1	Pavement Marking Epoxy, 6-Inch Solid White
2	Pavement Marking Epoxy, 6-Inch Yellow Skips, (10' Line, 30' Gap)
3	Pavement Marking Epoxy, Crosswalk, 6-Inch
4	Pavement Marking Epoxy, Continental Crosswalk, 18-Inch
5	Pavement Marking Epoxy, Stop Line, 24-Inch
6	Pavement Marking Epoxy, Symbol, Bike Lane

CROSS SECTIONS

S. BRYAN STREET

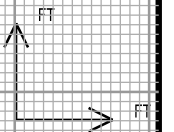
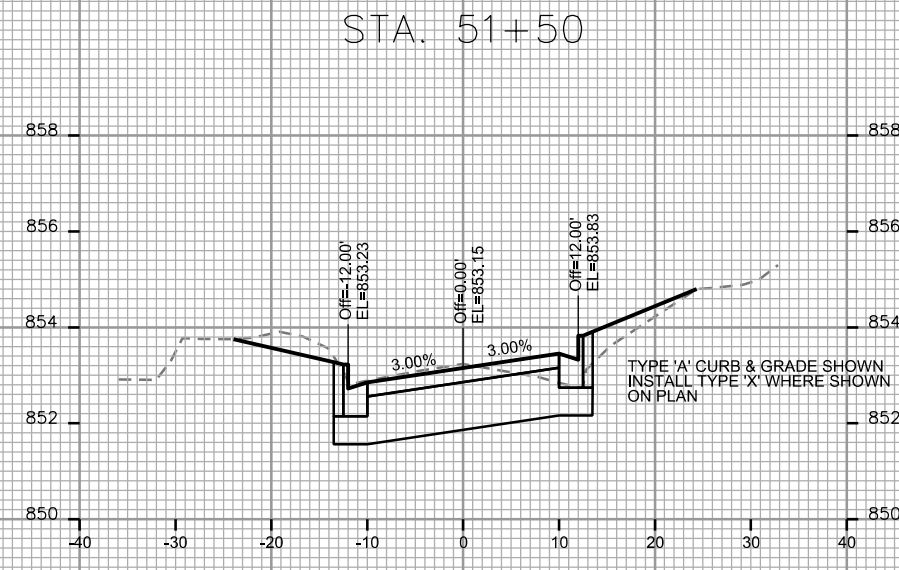
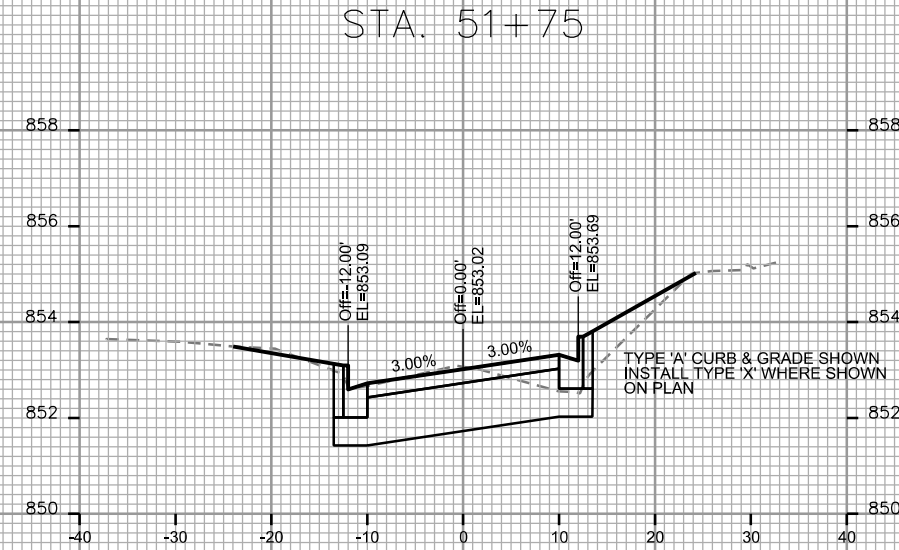
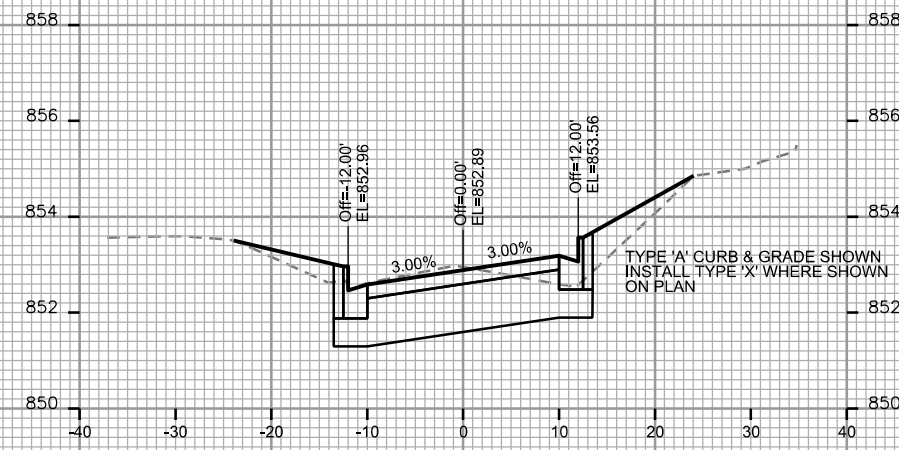
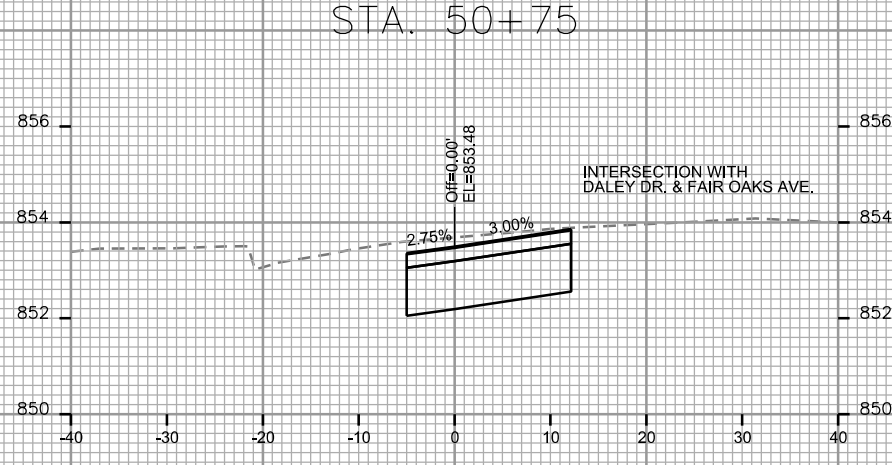
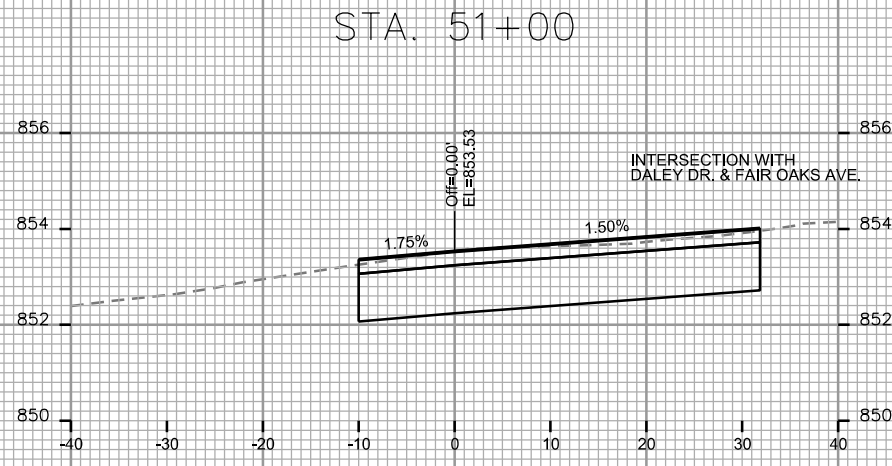
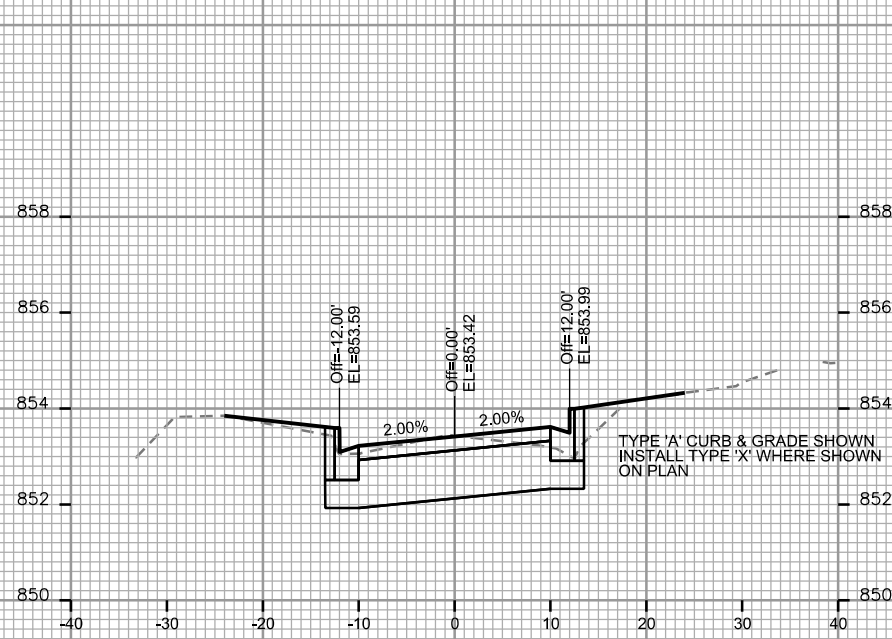
CITY OF MADISON

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

S. BRYAN STREET

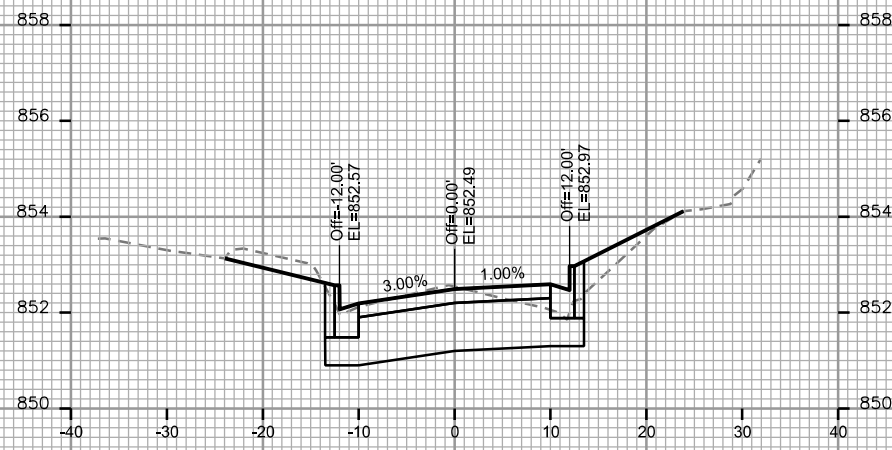
CITY OF MADISON

PLOT SCALE:

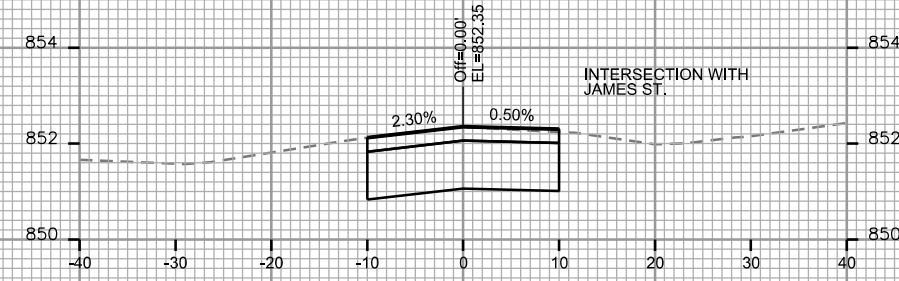
PLOT NAME:

REV. DATE:

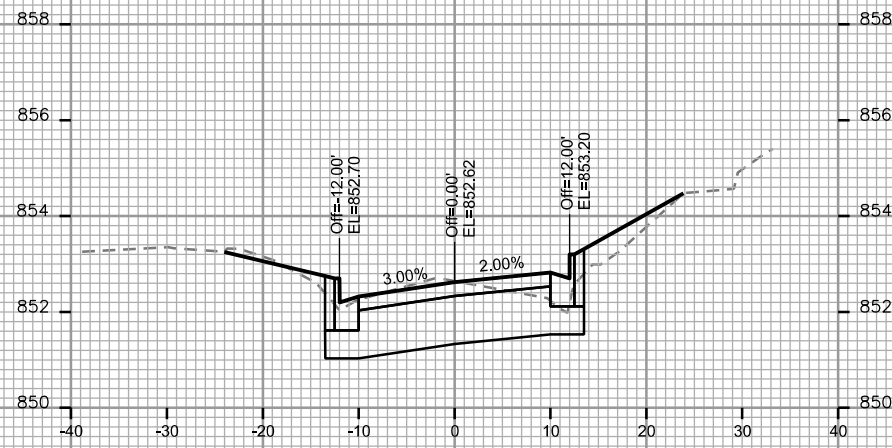
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



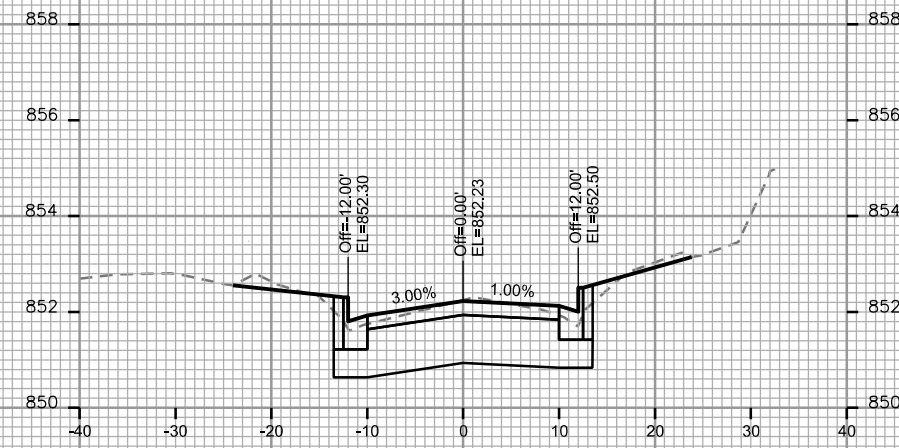
STA. 52+50



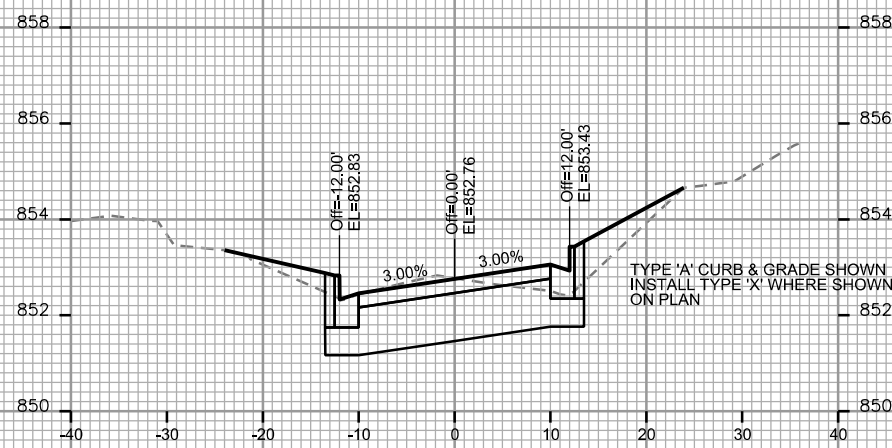
STA. 53+25



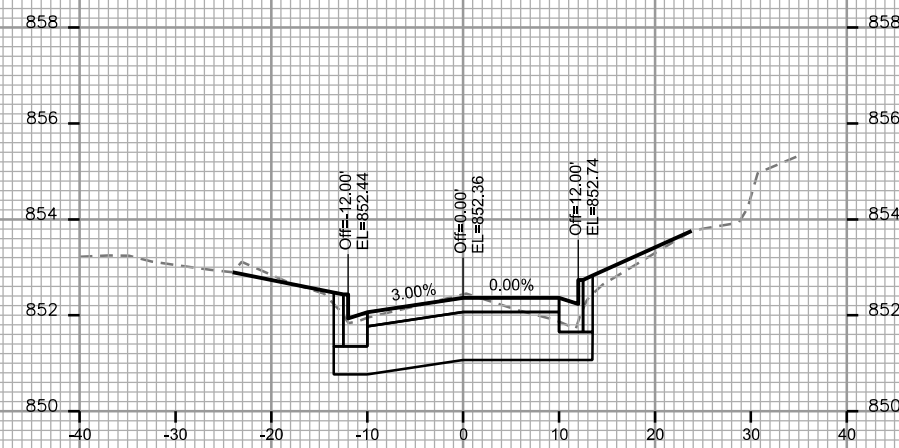
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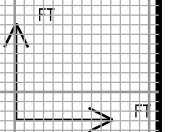
STA. 53+00



STA. 52+00



STA. 52+75



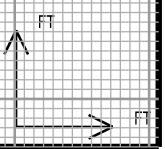
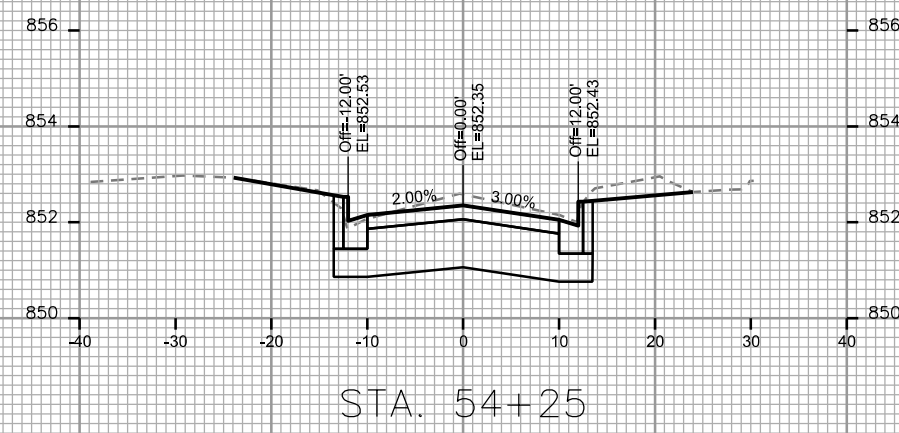
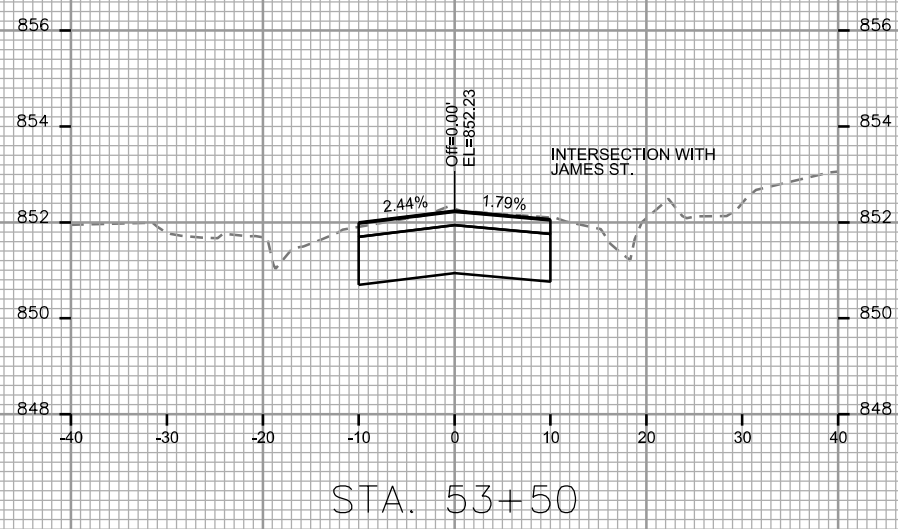
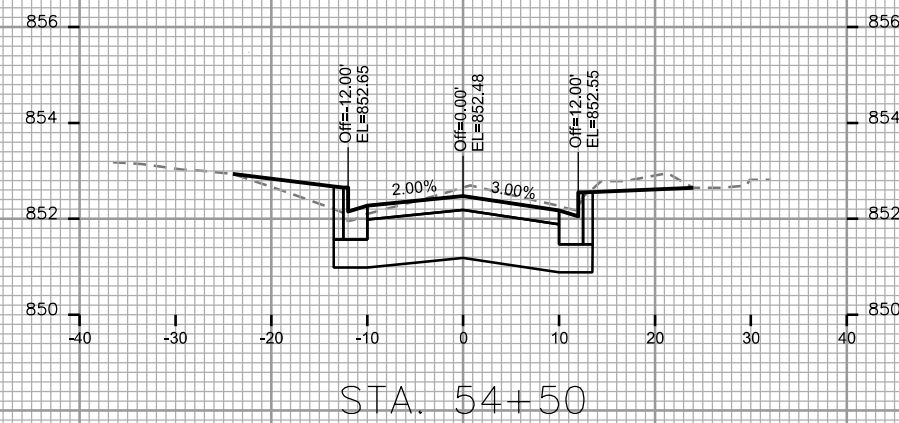
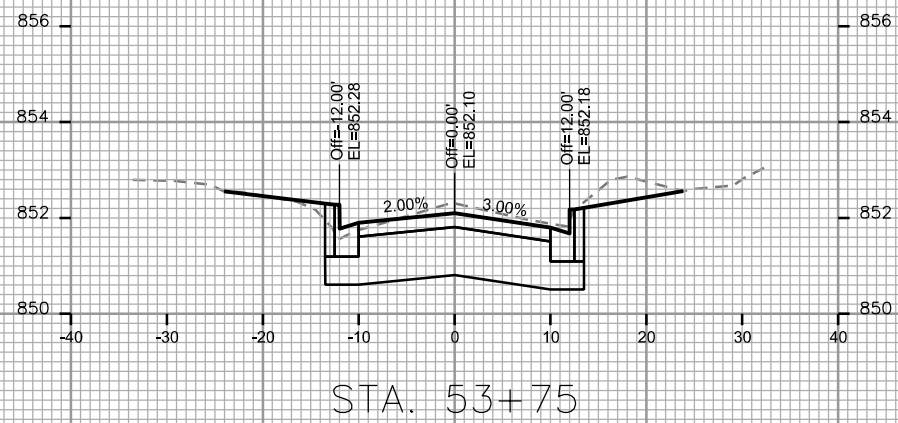
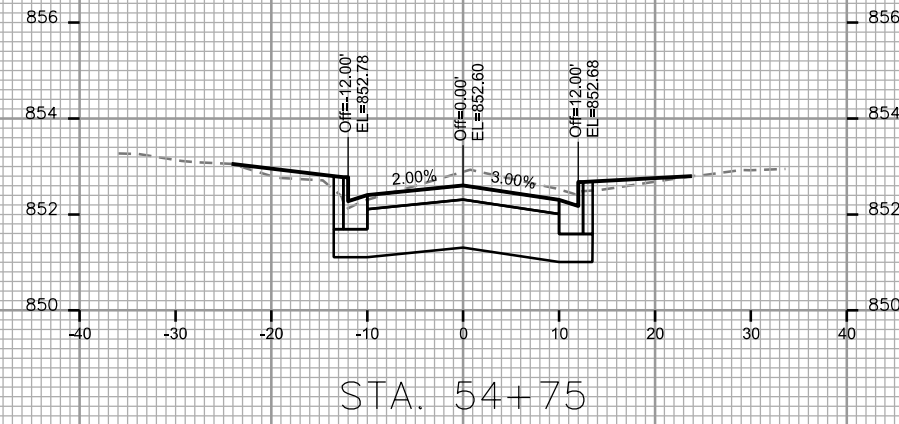
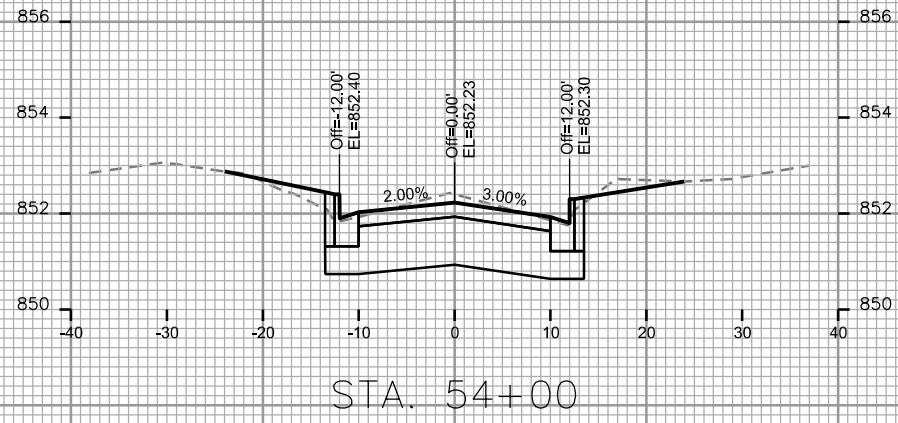
CROSS SECTIONS
S. BRYAN STREET CITY OF MADISON

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

S. BRYAN STREET

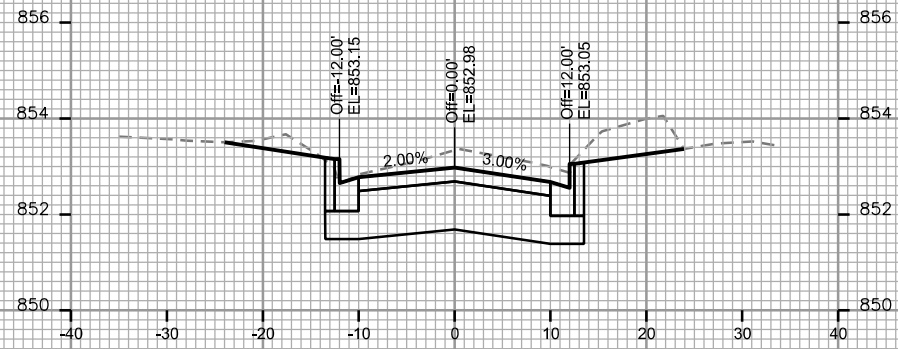
CITY OF MADISON

PLOT SCALE:

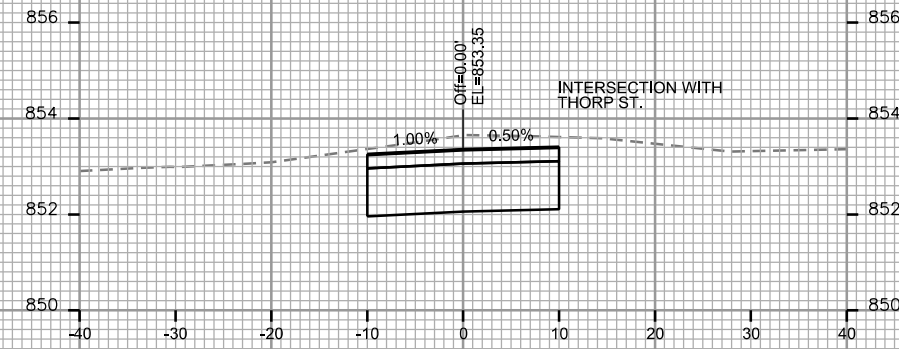
PLOT NAME:

REV. DATE:

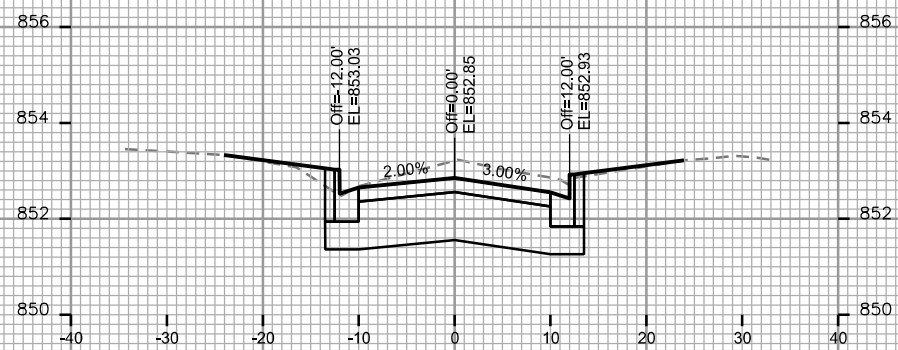
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



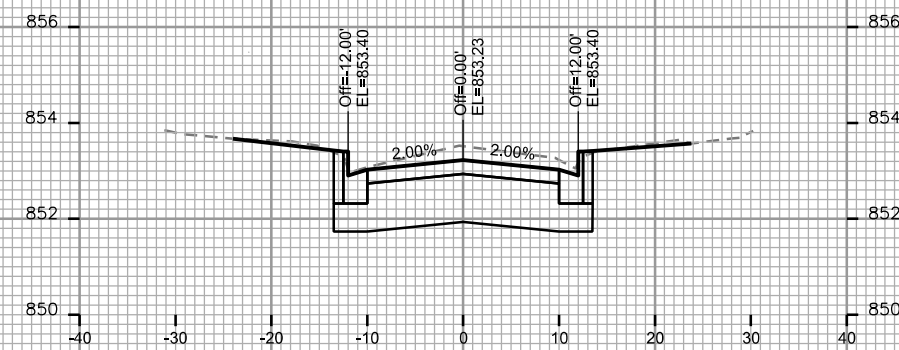
STA. 55+50



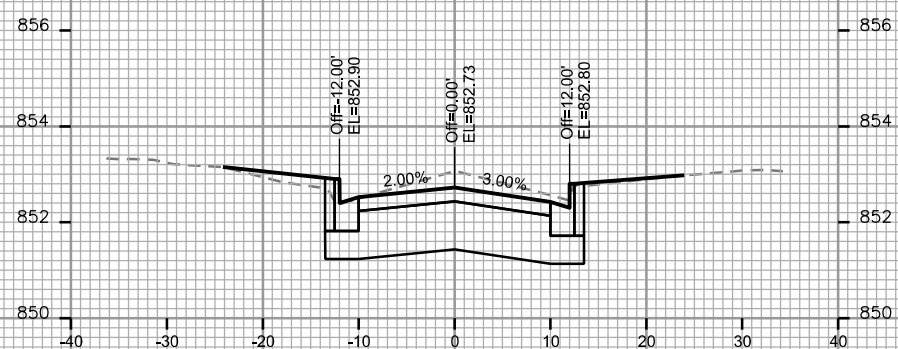
STA. 56+25



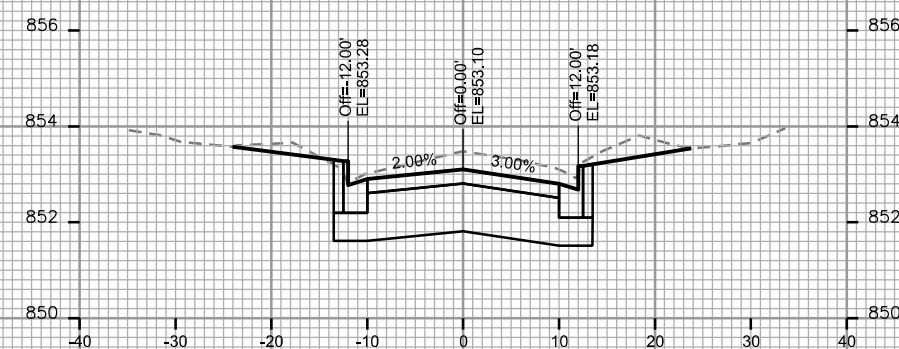
STA. 55+25



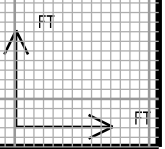
STA. 56+00



STA. 55+00



STA. 55+75



CROSS SECTIONS

S. BRYAN STREET

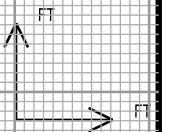
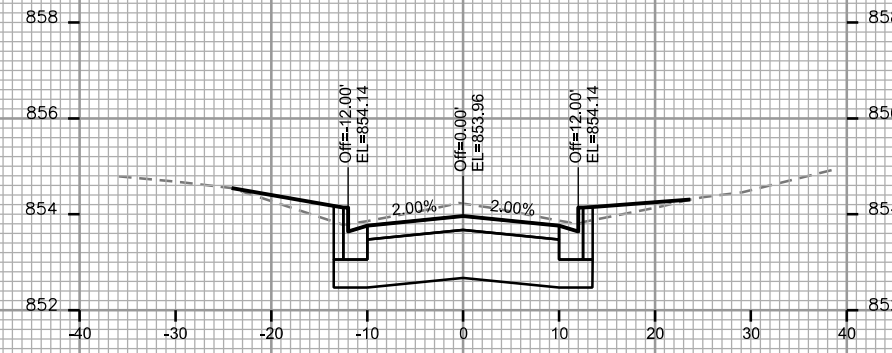
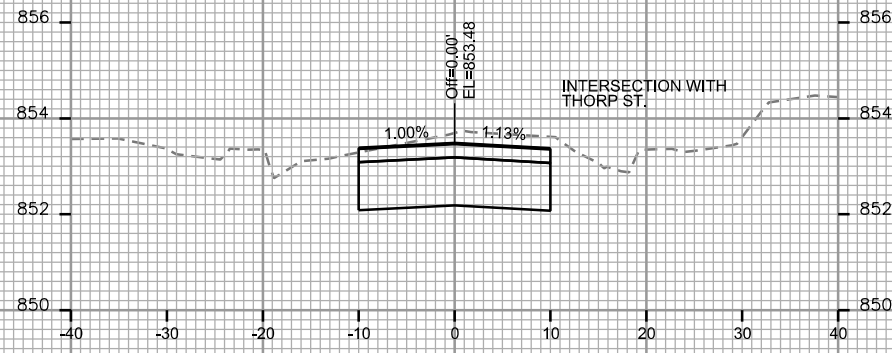
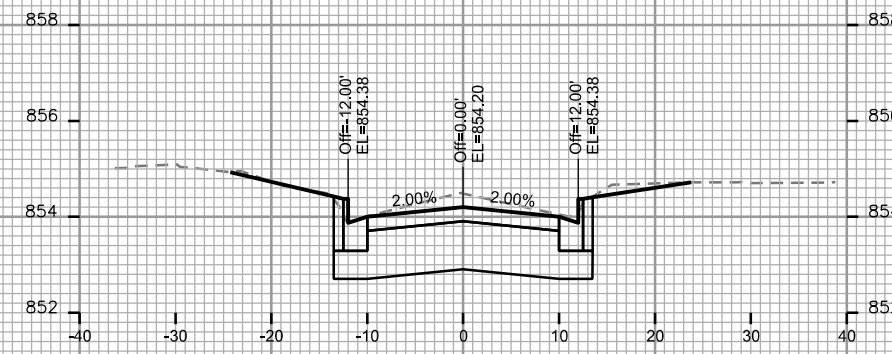
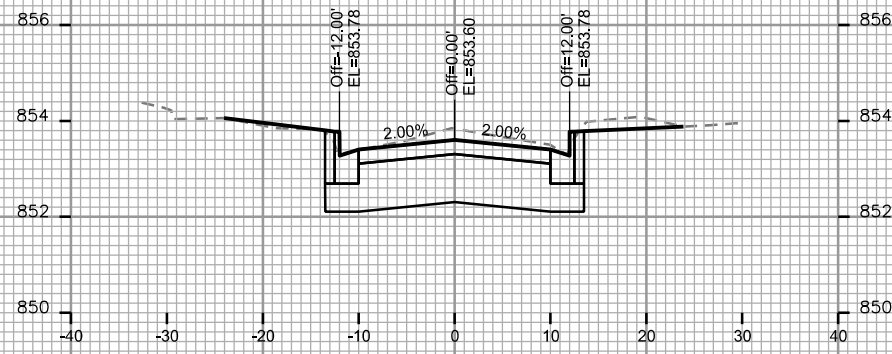
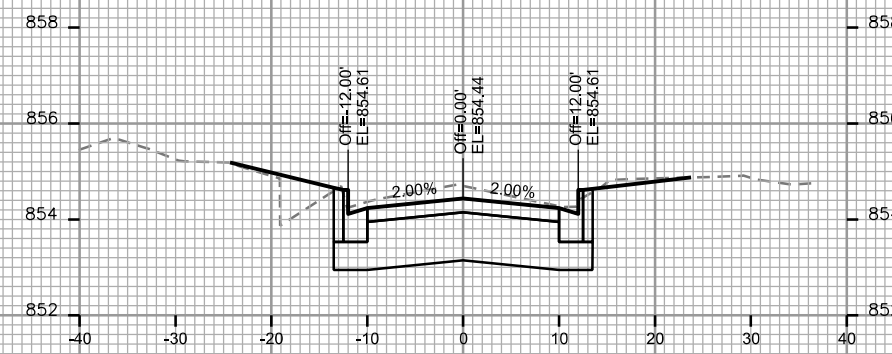
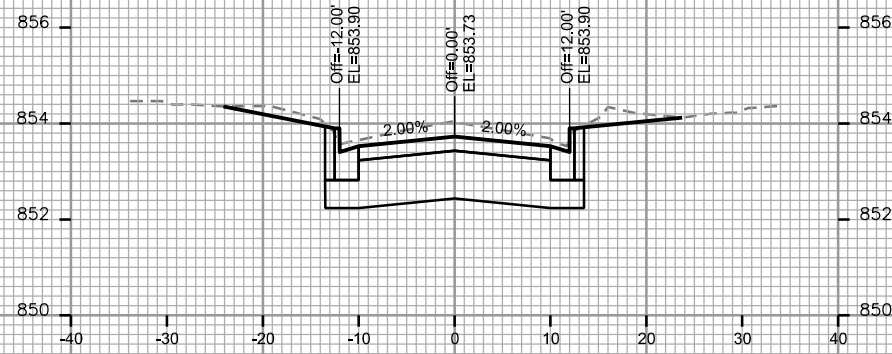
CITY OF MADISON

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



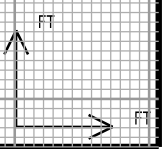
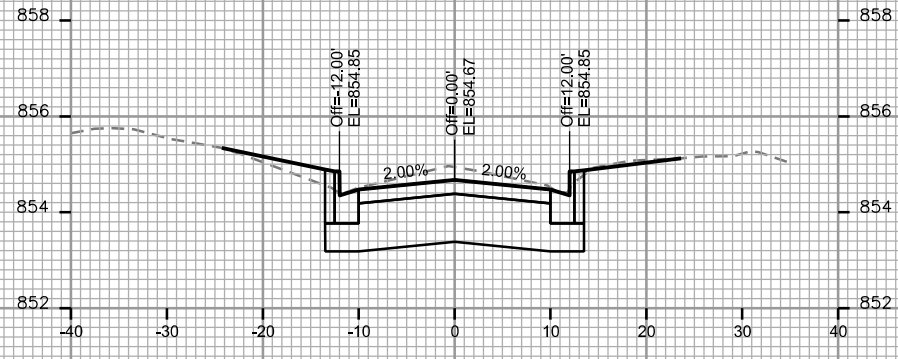
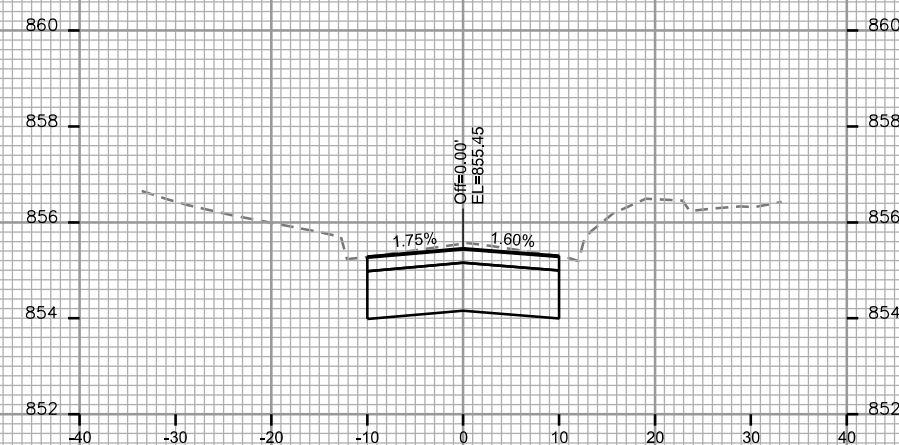
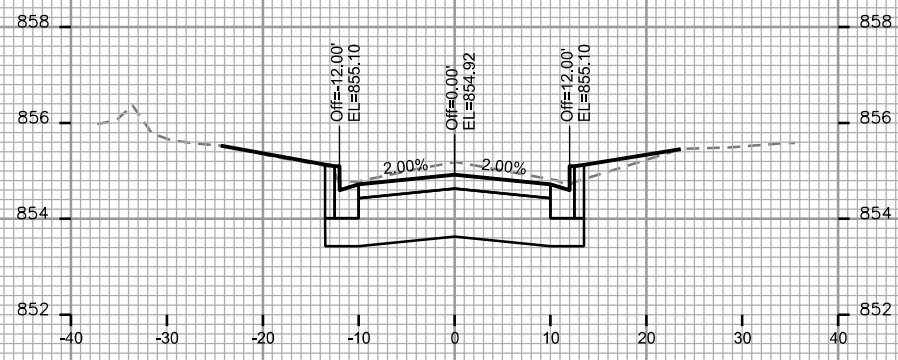
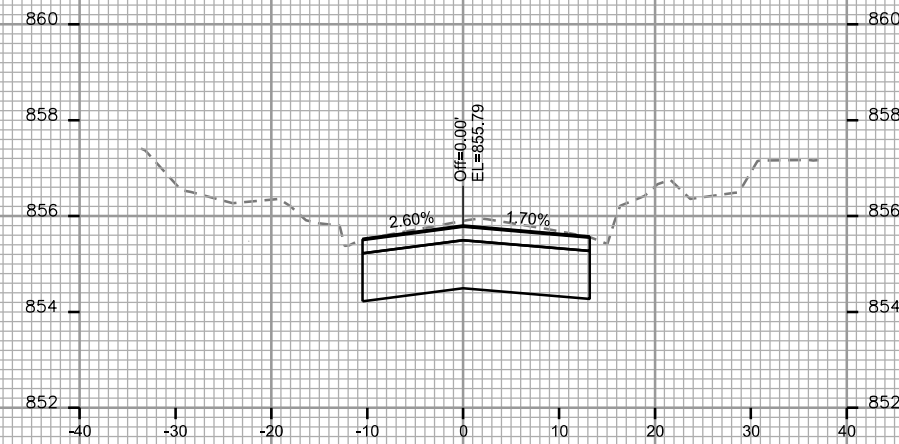
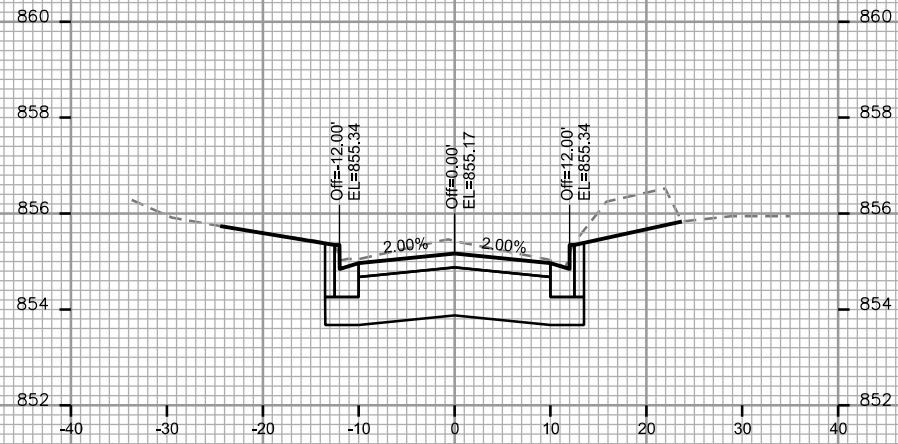
CROSS SECTIONS
S. BRYAN STREET CITY OF MADISON

PLOT SCALE:

PLOT NAME:

REV. DATE:

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

DALEY DRIVE

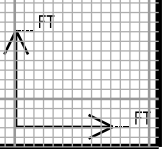
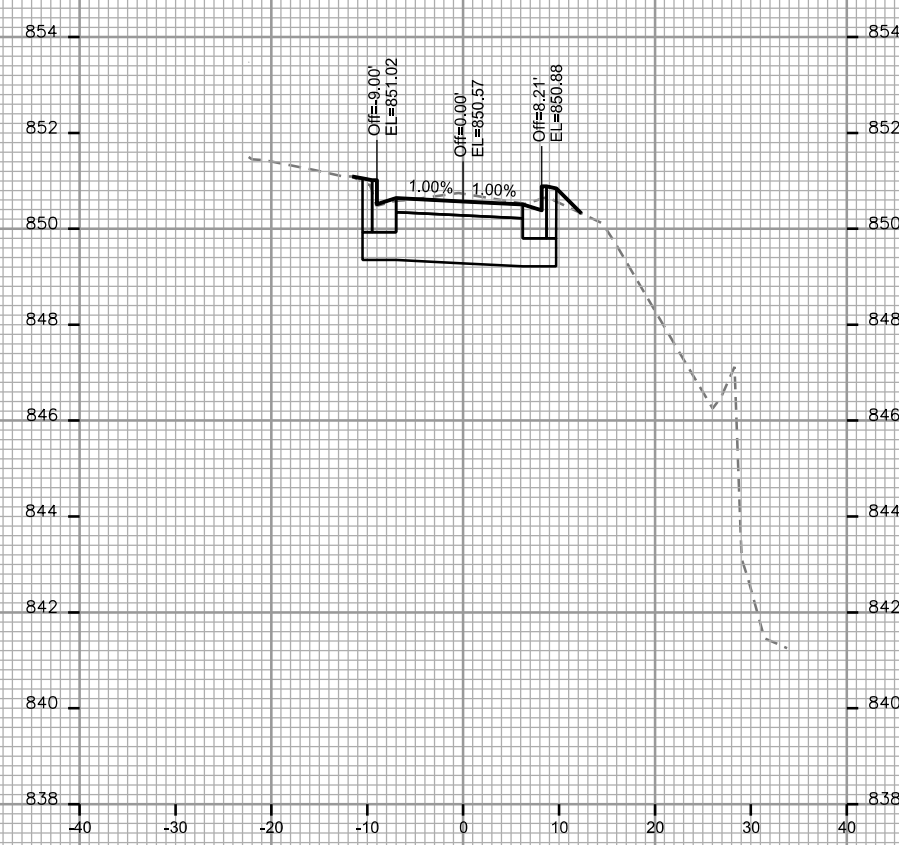
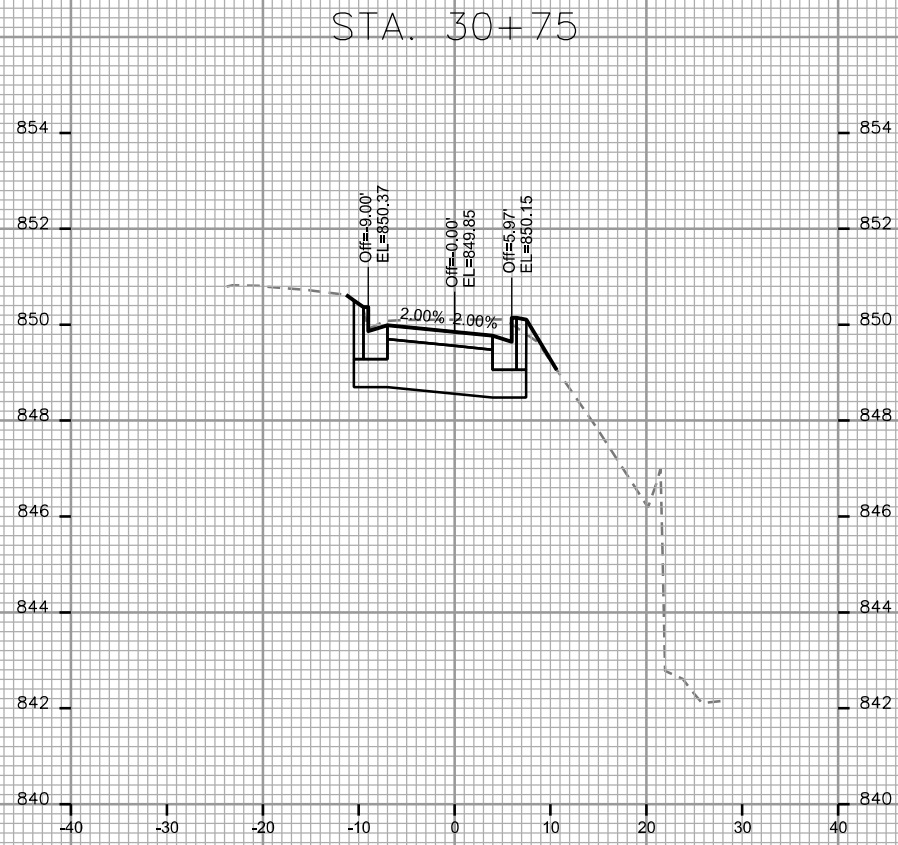
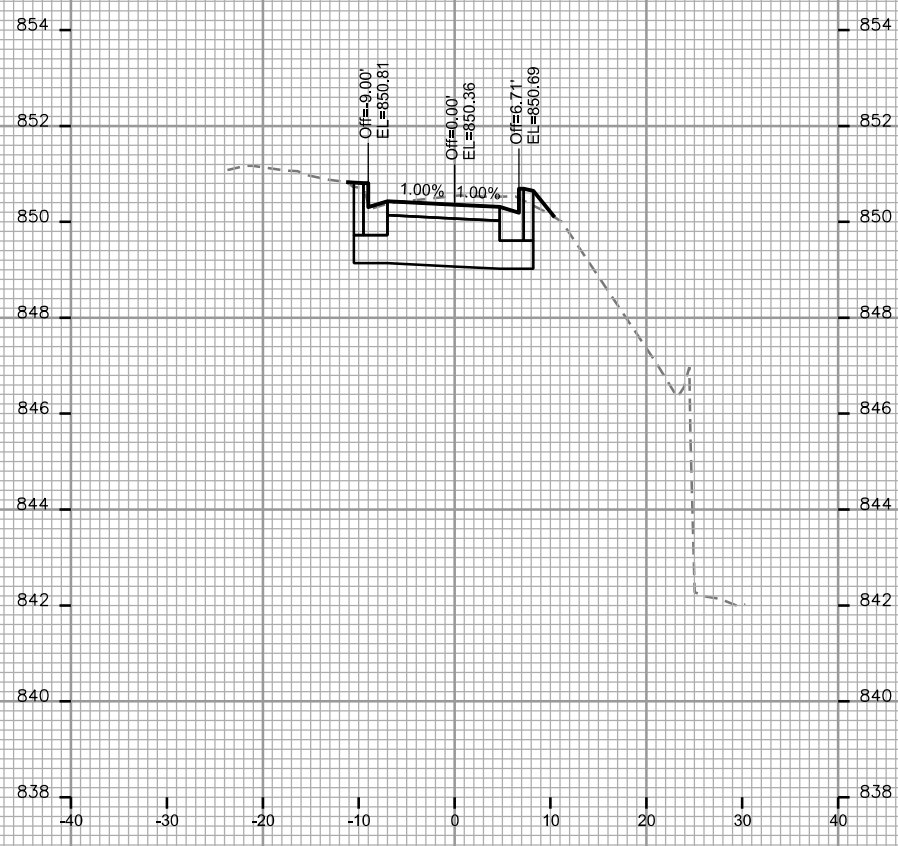
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

DALEY DRIVE

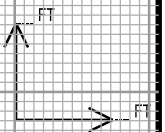
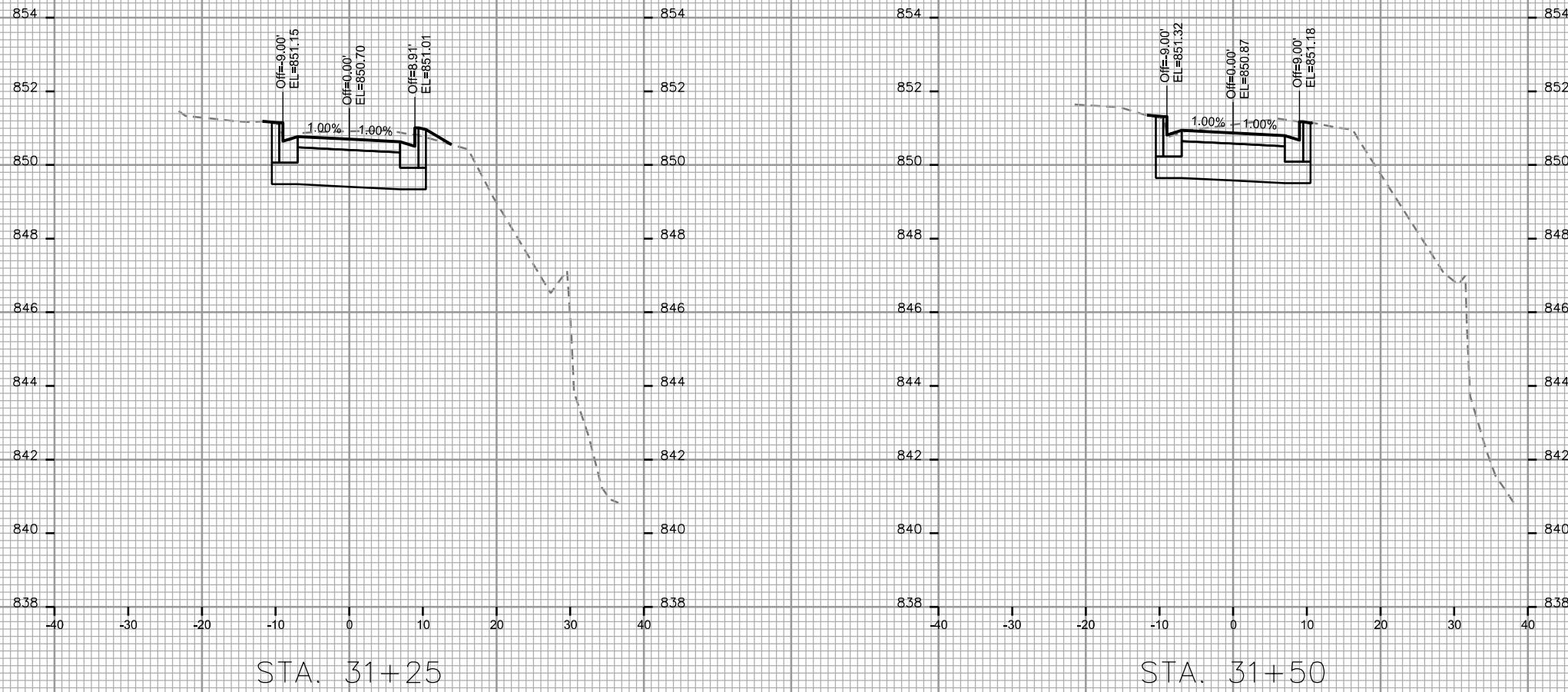
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

DALEY DRIVE

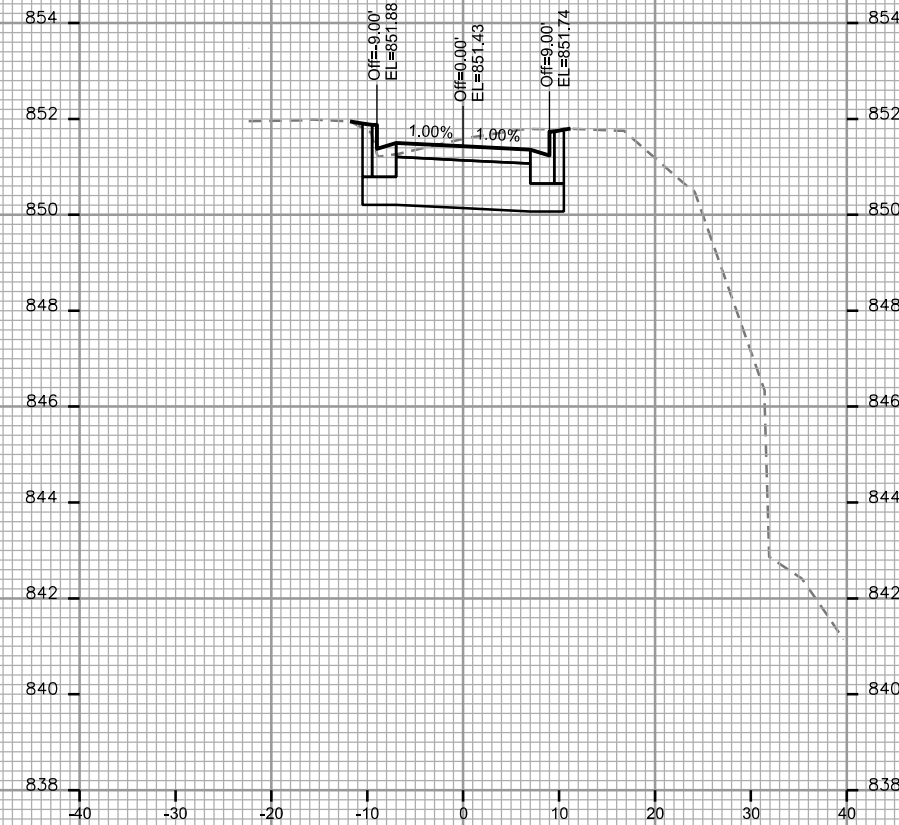
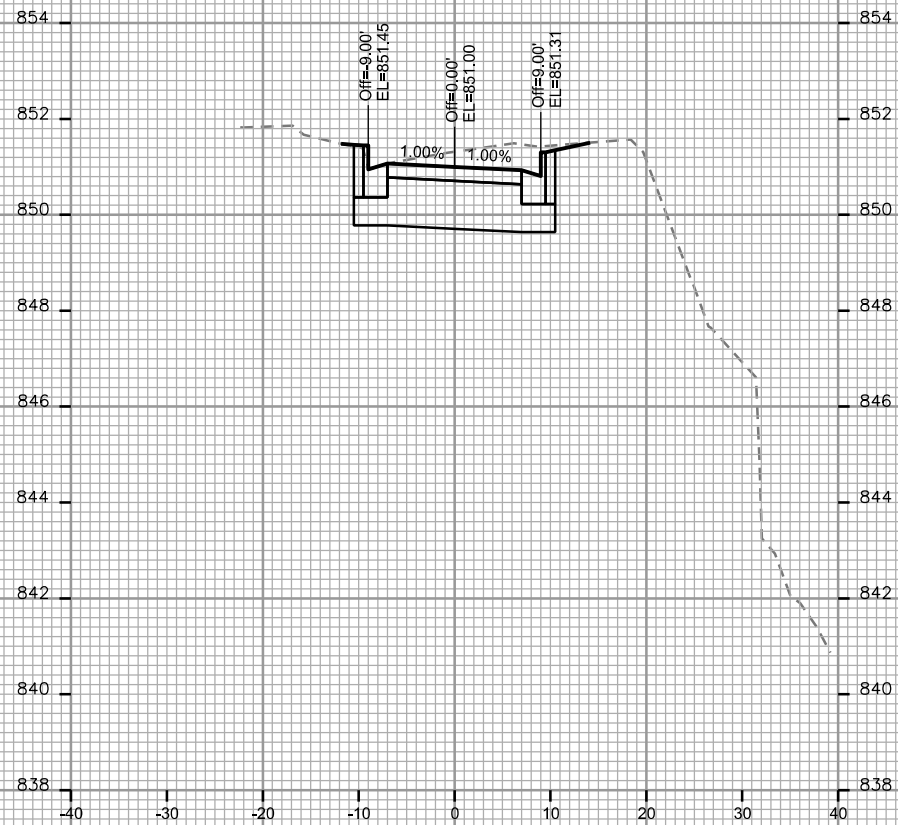
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

DALEY DRIVE

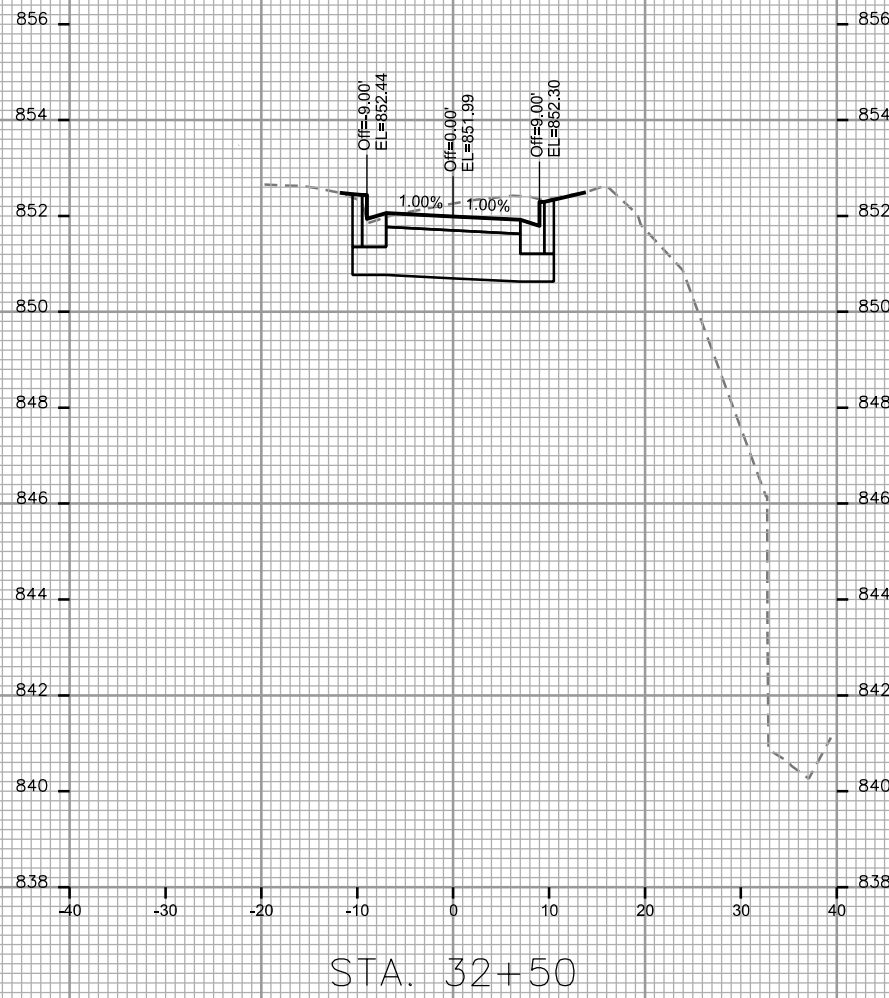
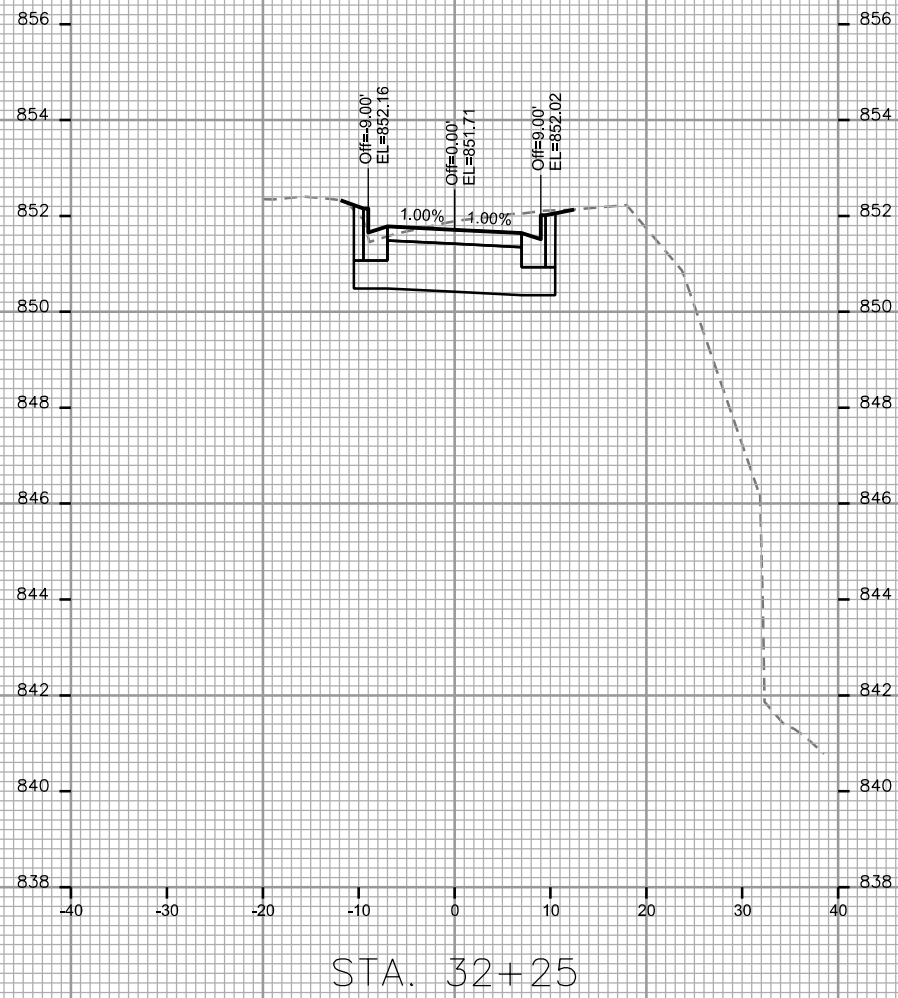
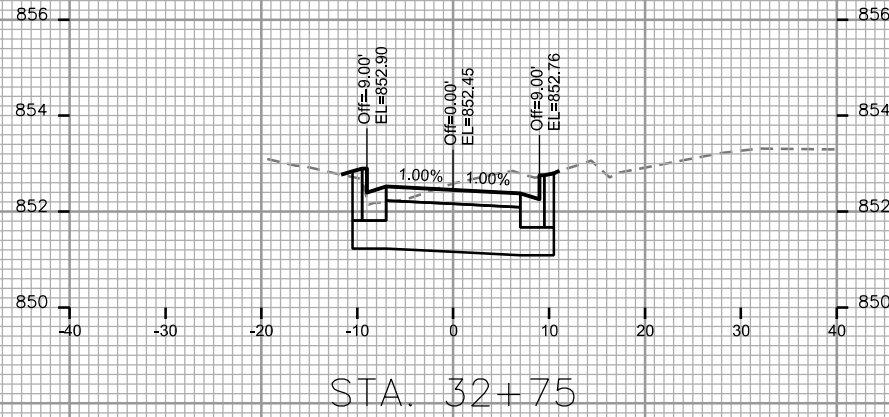
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



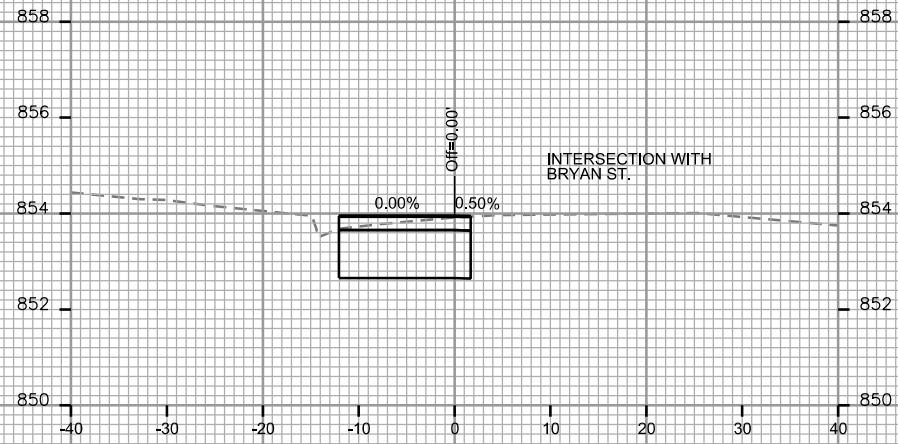
CROSS SECTIONS
DALEY DRIVE CITY OF MADISON

PLOT SCALE: _____

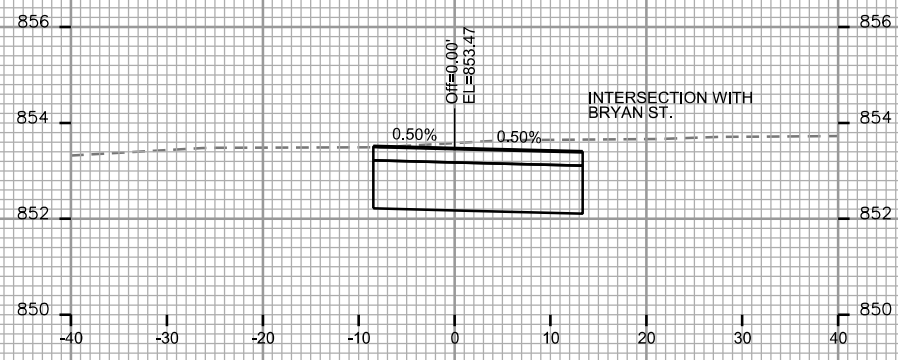
PLOT NAME: _____

REV. DATE: _____

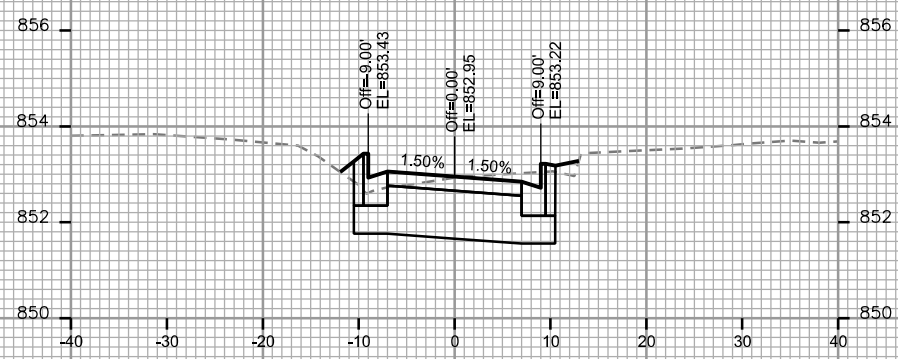
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



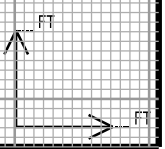
STA. 33+50



STA. 33+25



STA. 33+00



CROSS SECTIONS

JAMES STREET

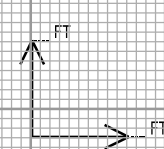
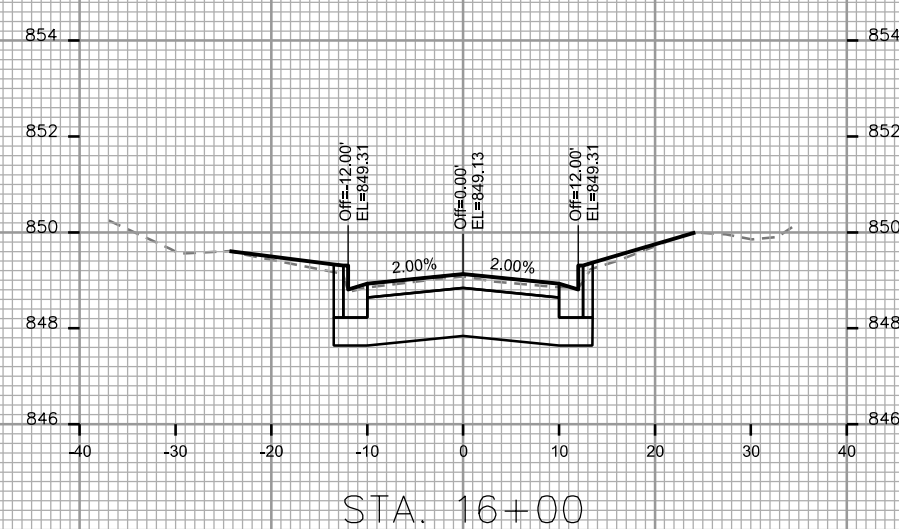
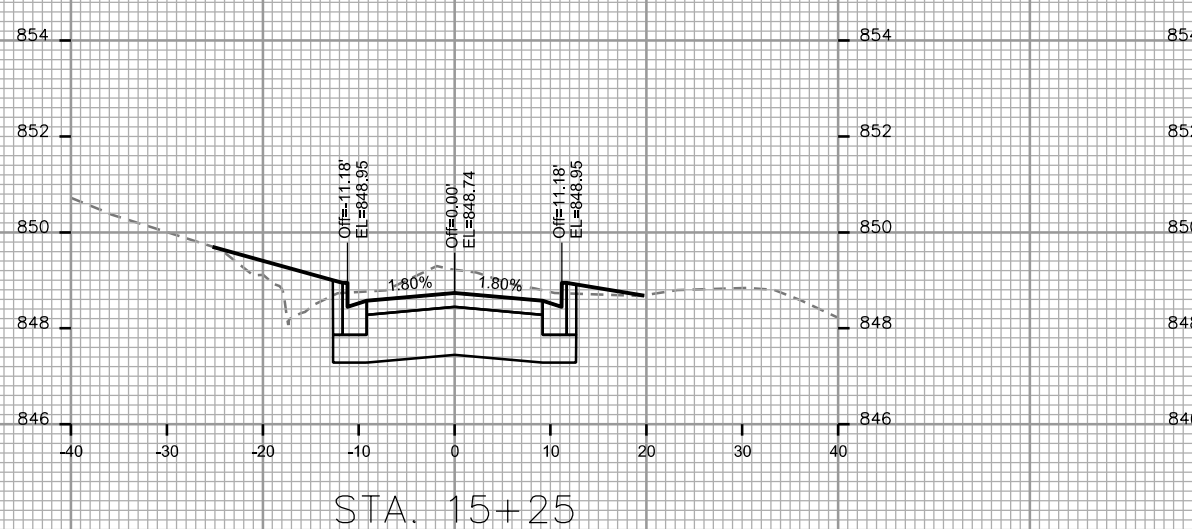
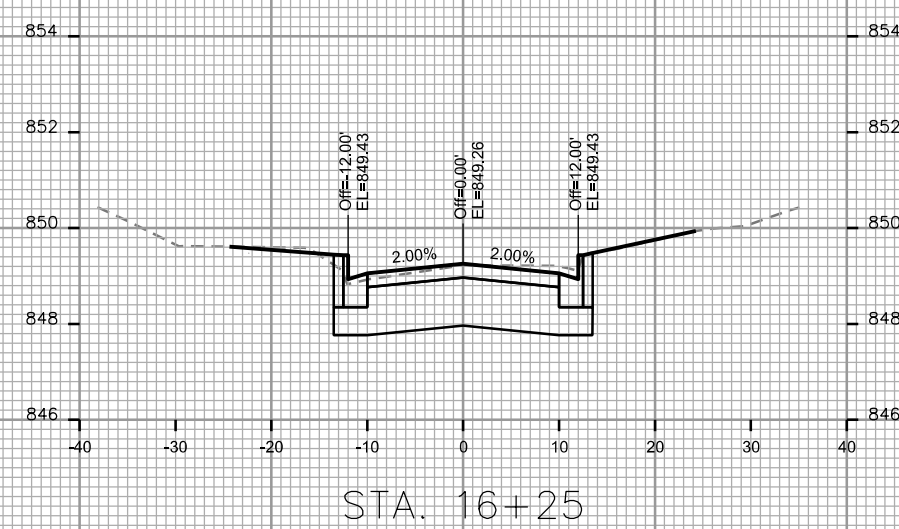
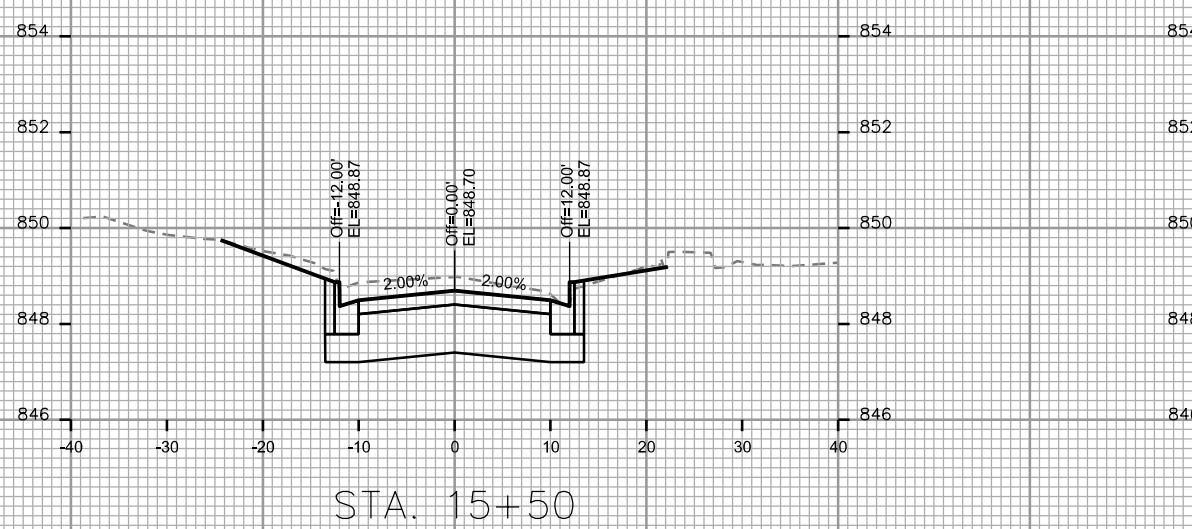
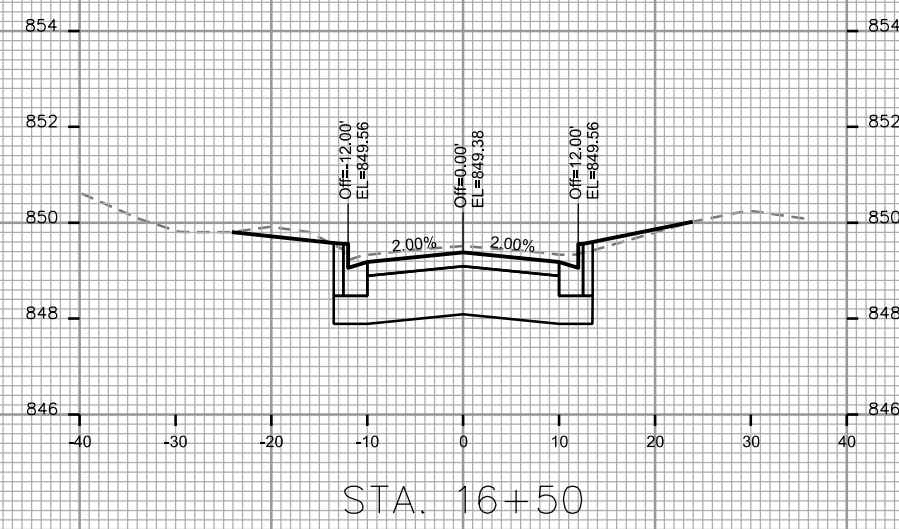
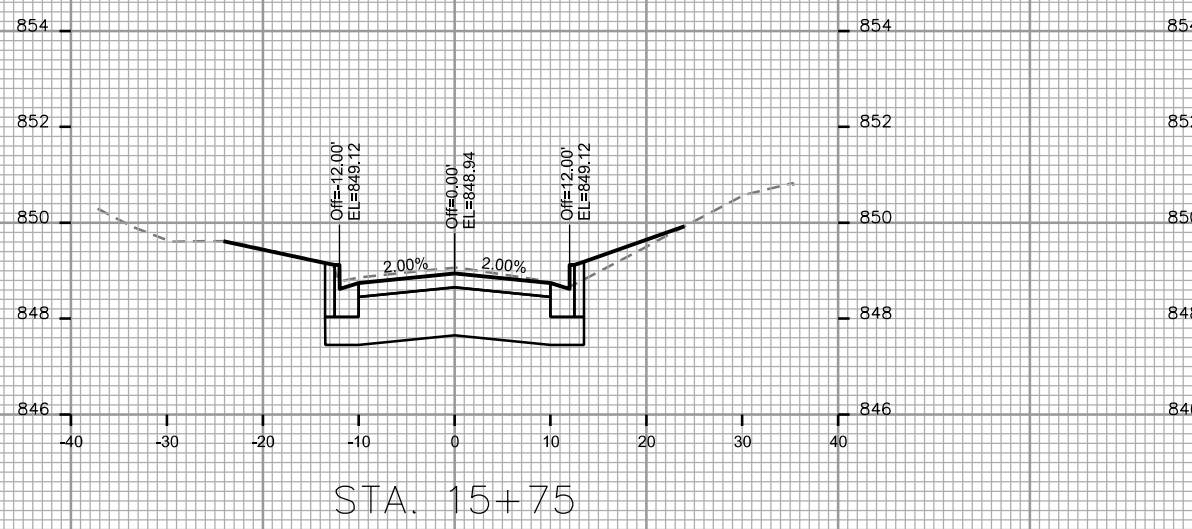
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

JAMES STREET

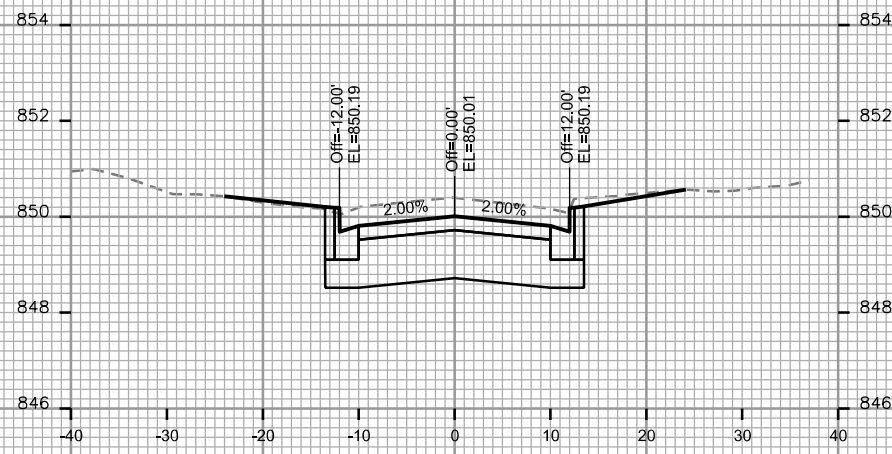
CITY OF MADISON

PLOT SCALE: _____

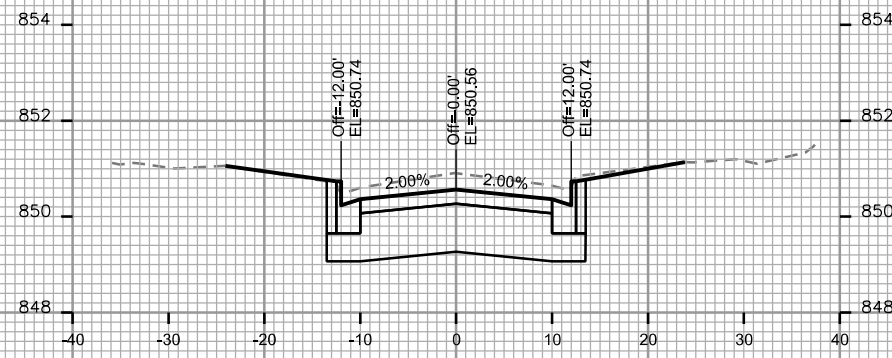
PLOT NAME: _____

REV. DATE: _____

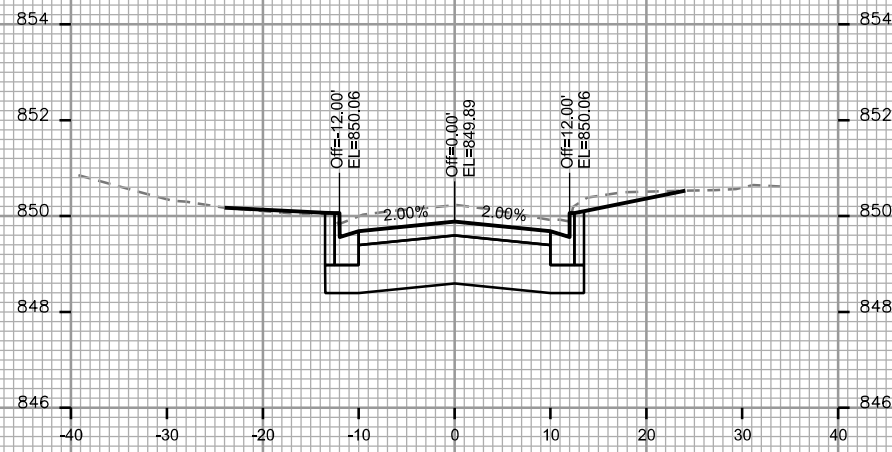
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



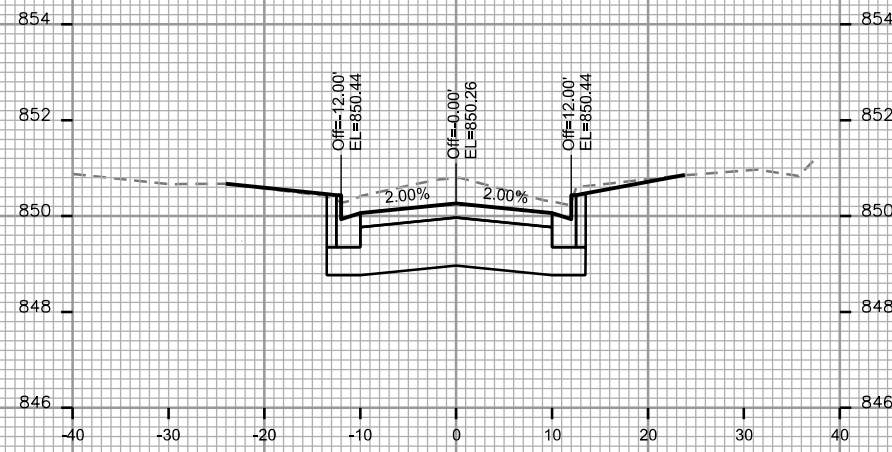
STA. 17+25



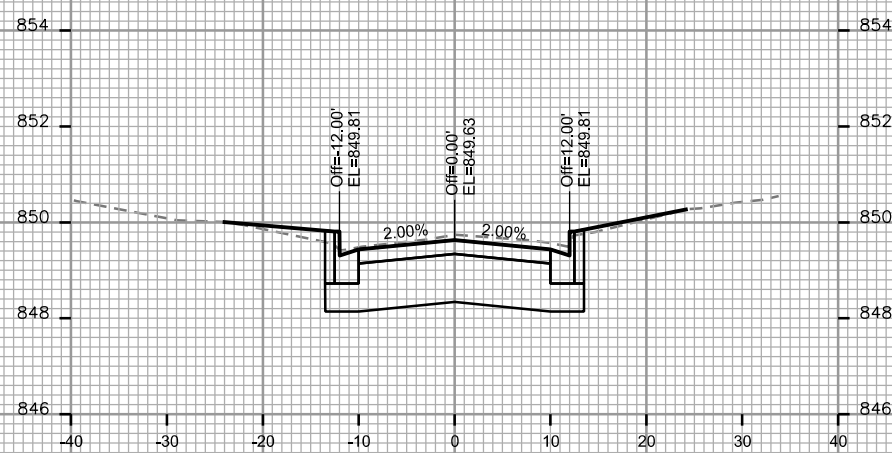
STA. 18+00



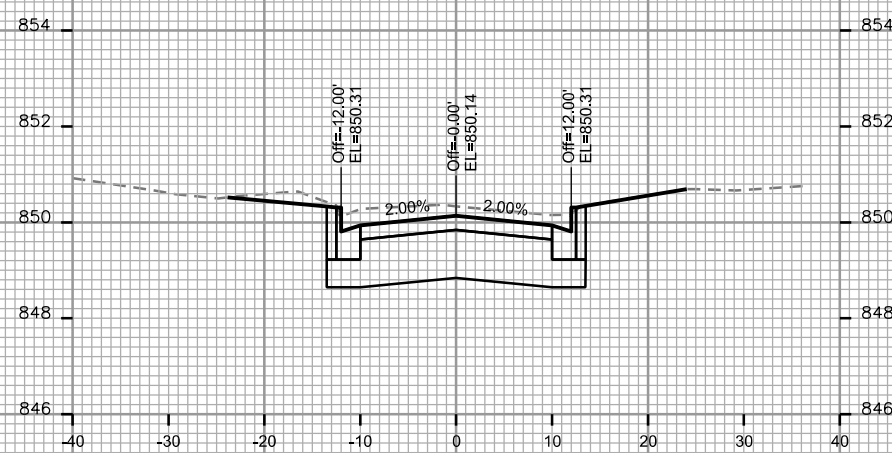
STA. 17+00



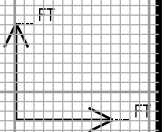
STA. 17+75



STA. 16+75



STA. 17+50



CROSS SECTIONS

JAMES STREET

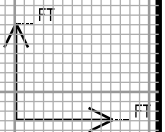
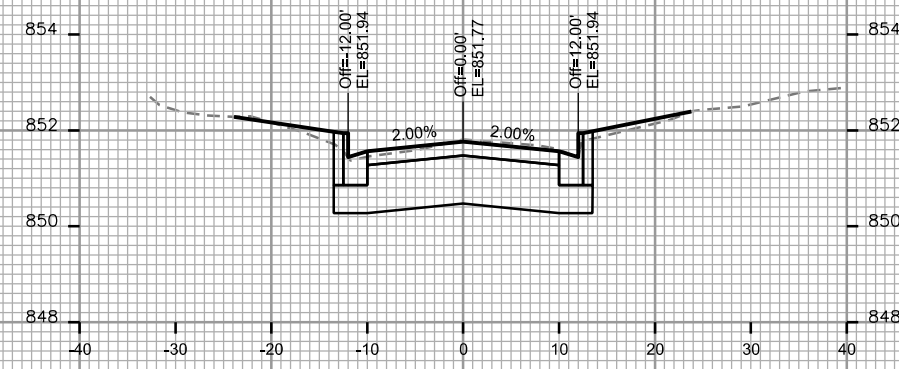
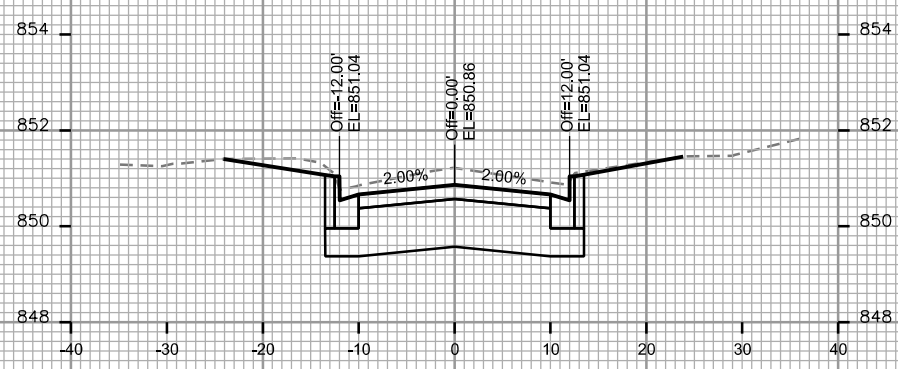
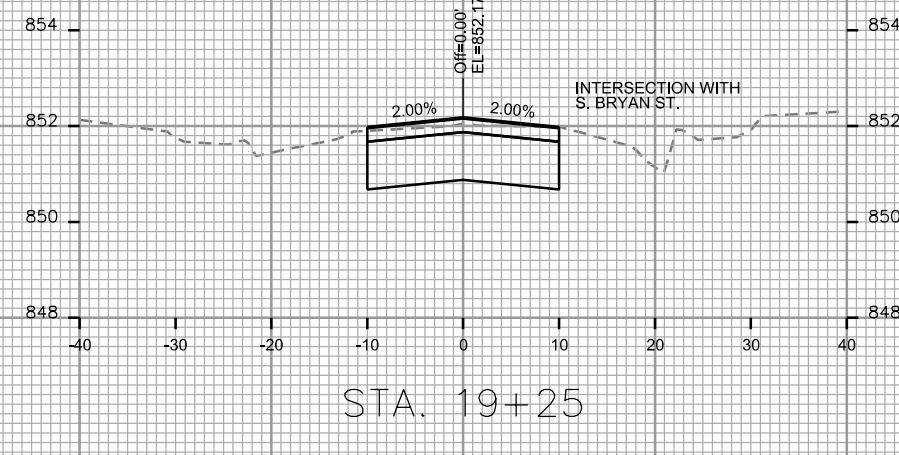
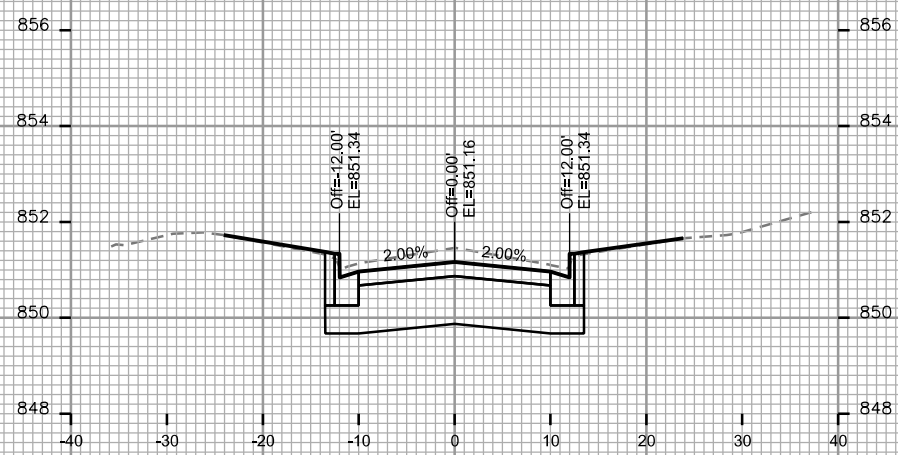
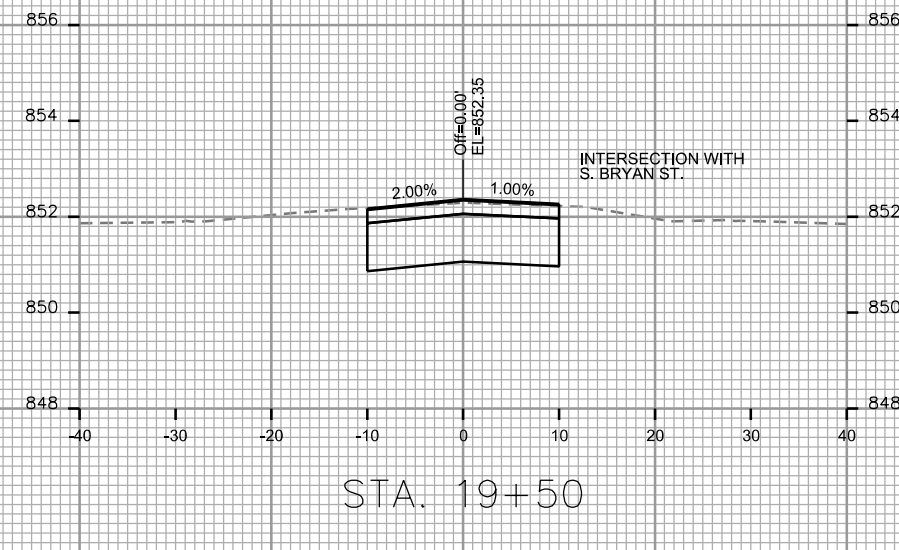
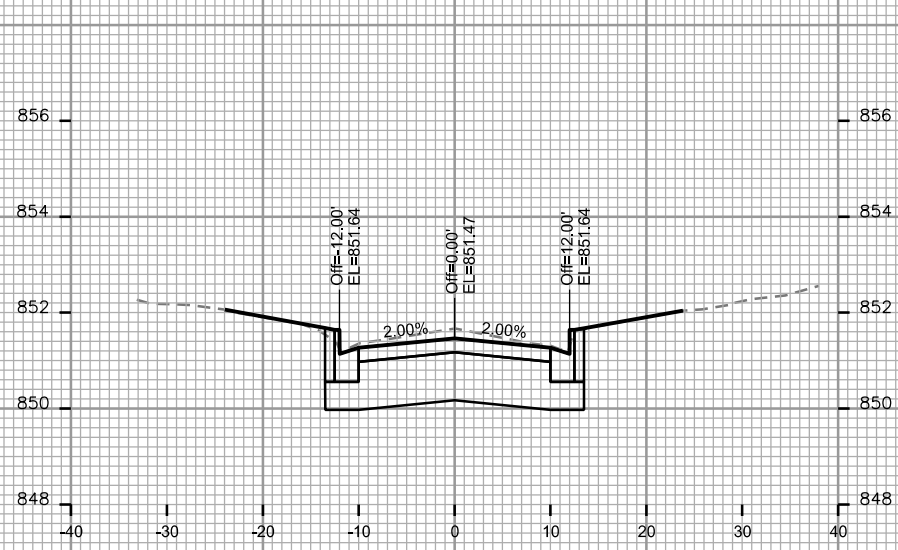
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

JAMES STREET

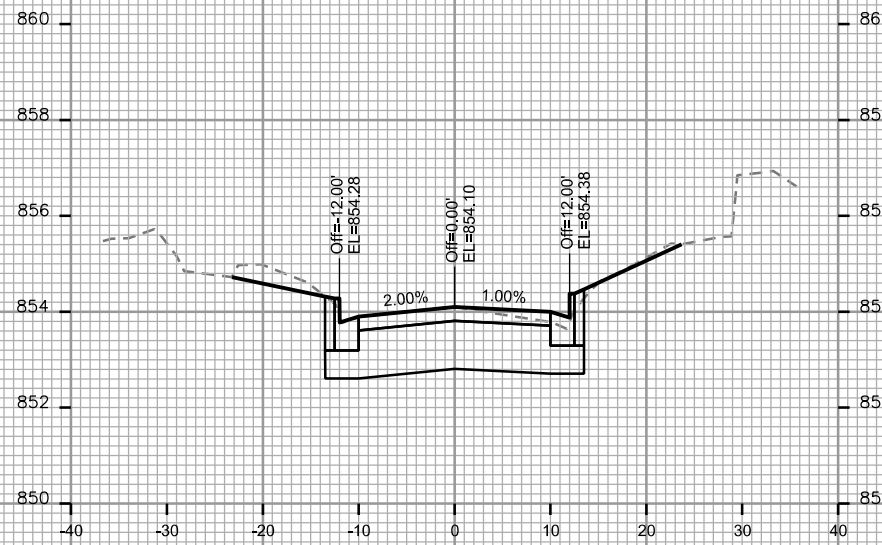
CITY OF MADISON

PLOT SCALE: _____

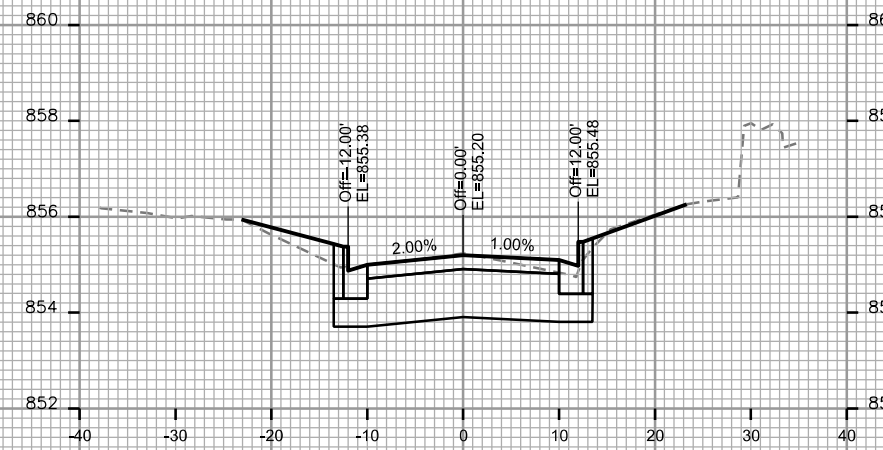
PLOT NAME: _____

REV. DATE: _____

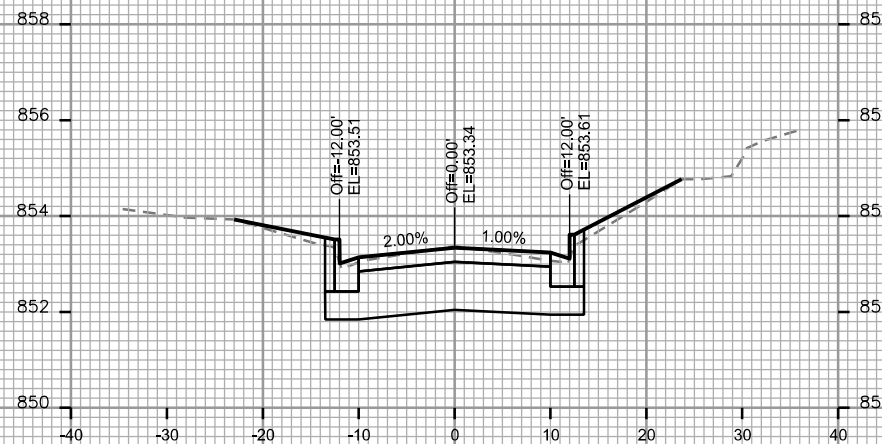
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



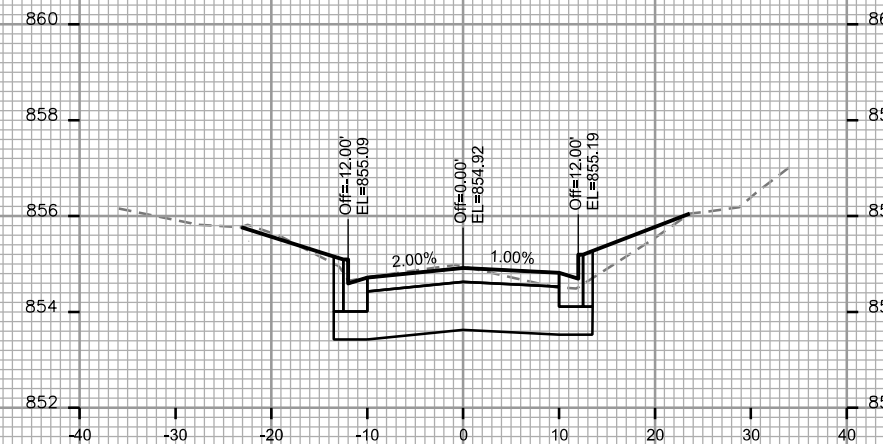
STA. 20+25



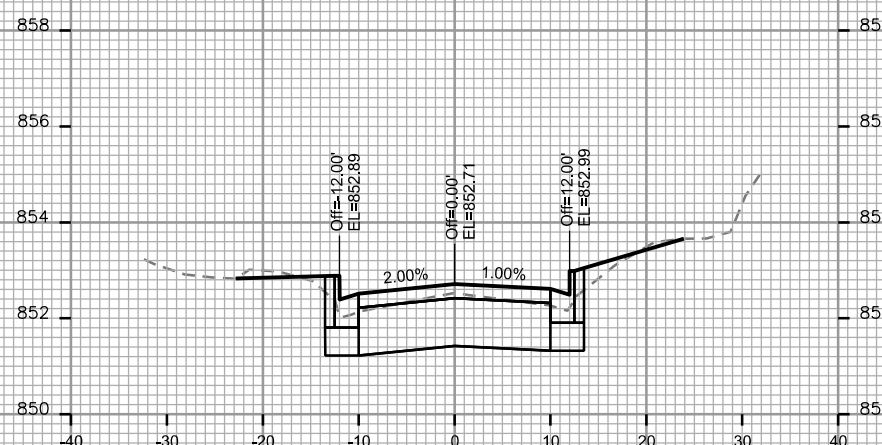
STA. 21+00



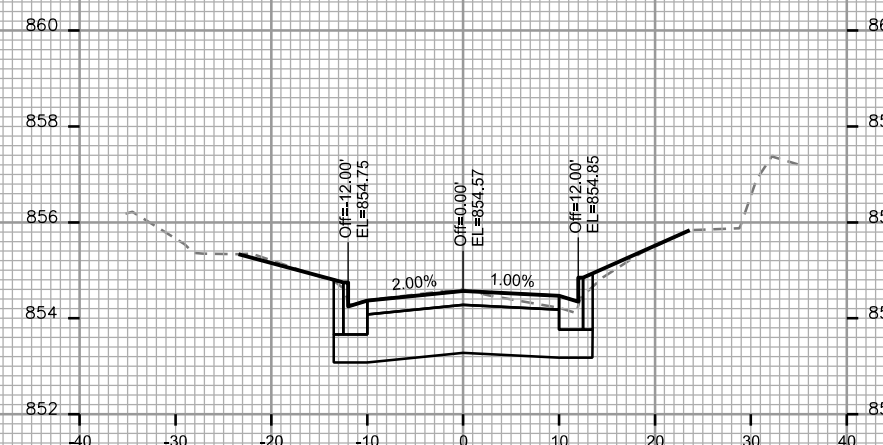
STA. 20+00



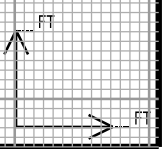
STA. 20+75



STA. 19+75



STA. 20+50



CROSS SECTIONS

JAMES STREET

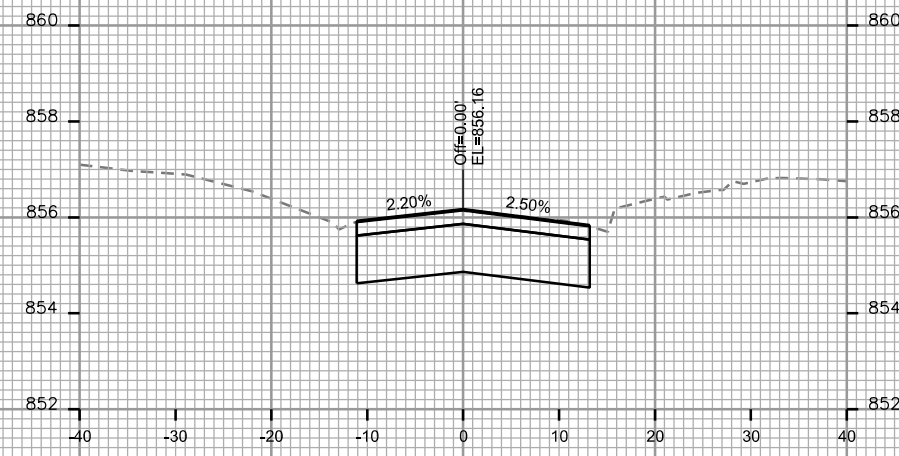
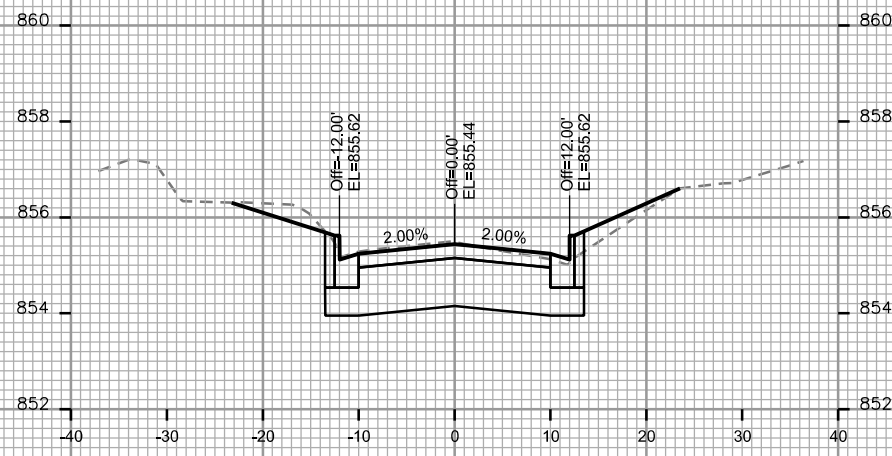
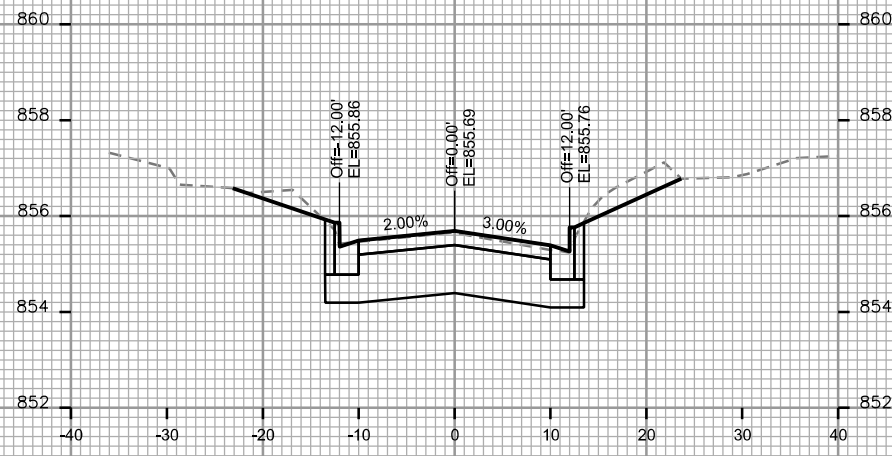
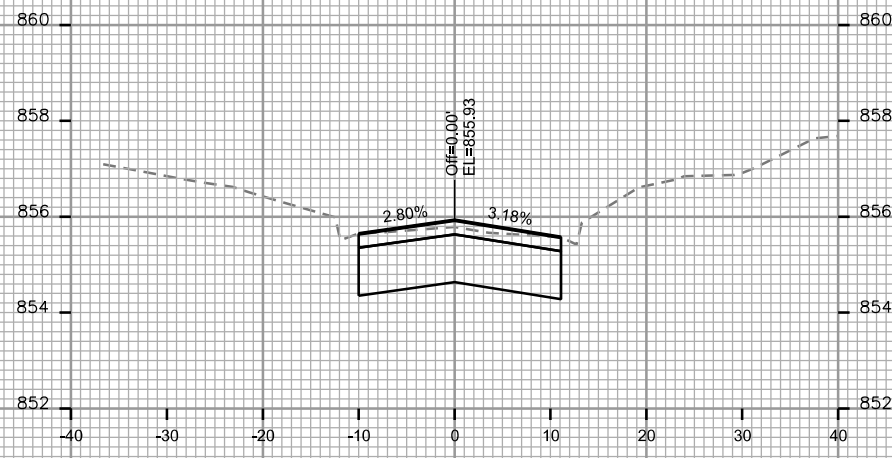
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

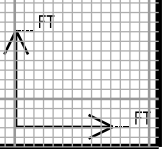
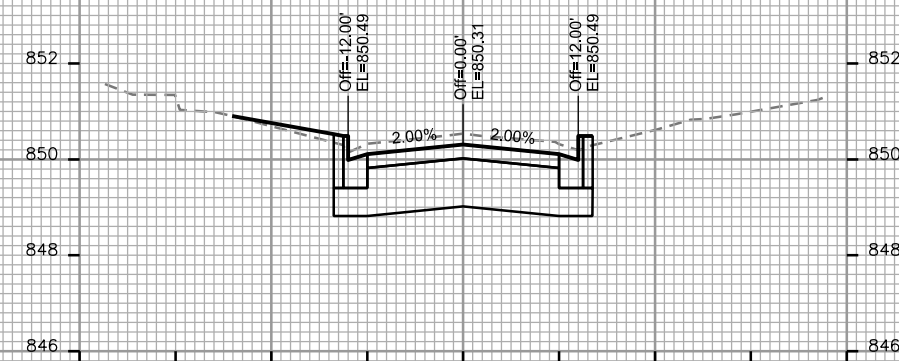
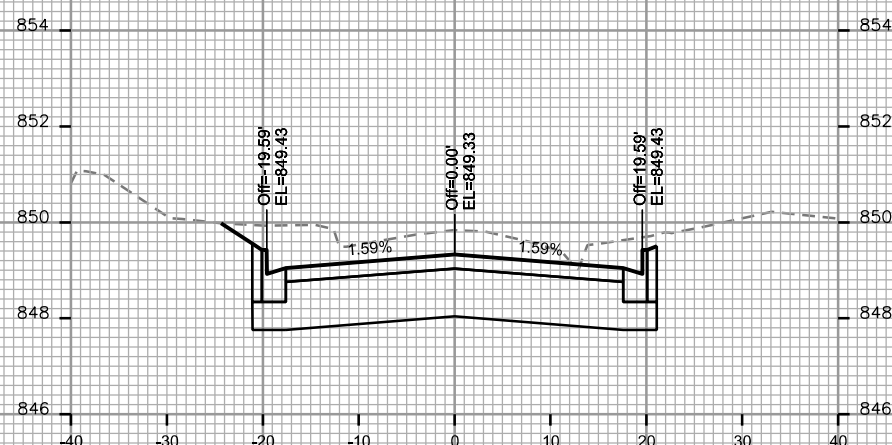
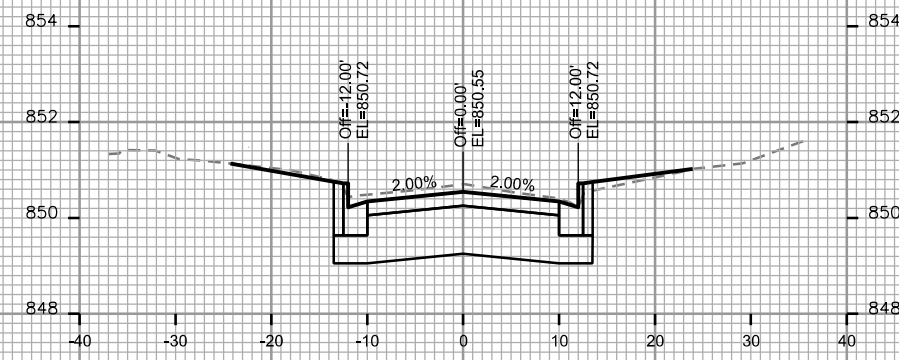
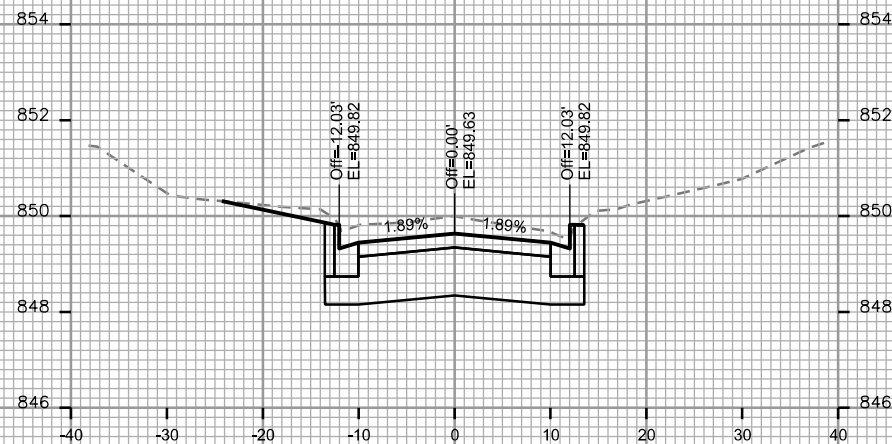
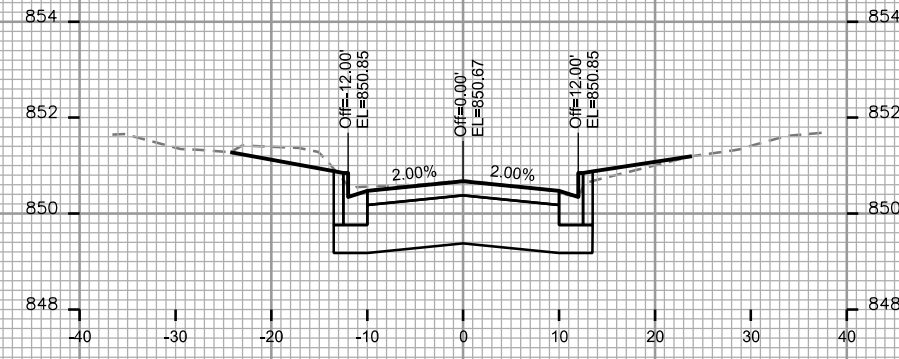
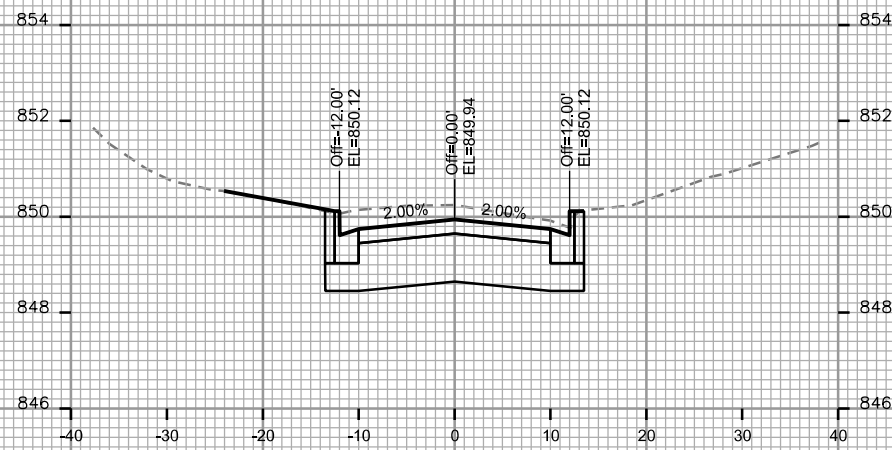
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

THORP STREET

CITY OF MADISON



PLOT SCALE: _____

PLOT NAME: _____

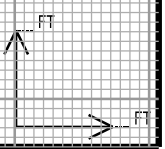
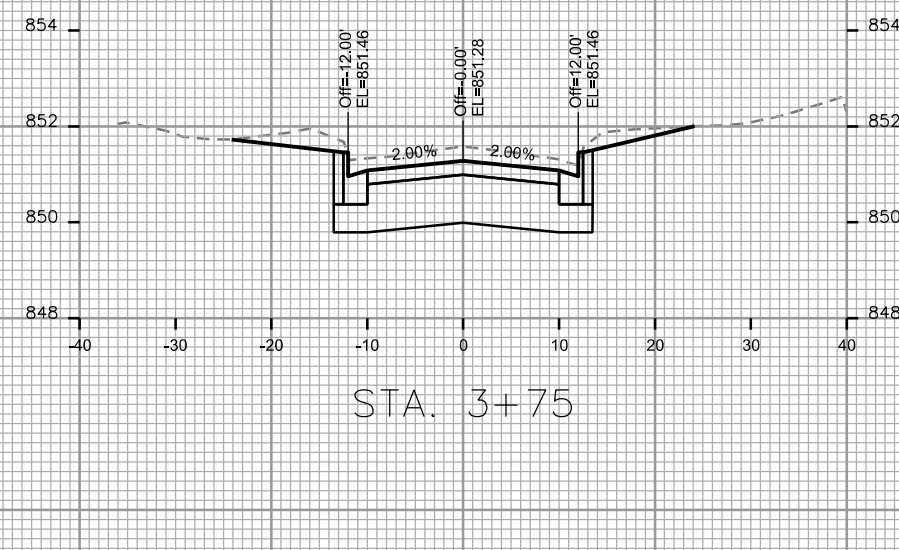
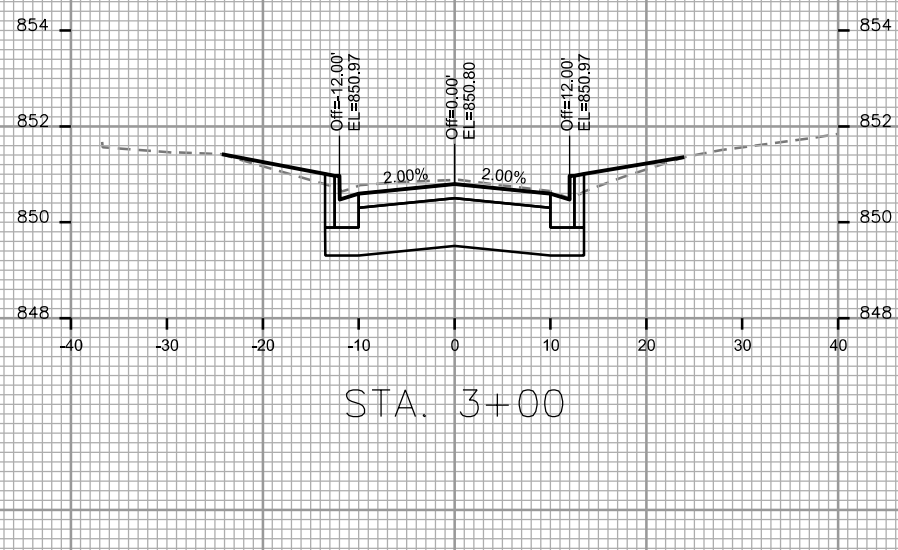
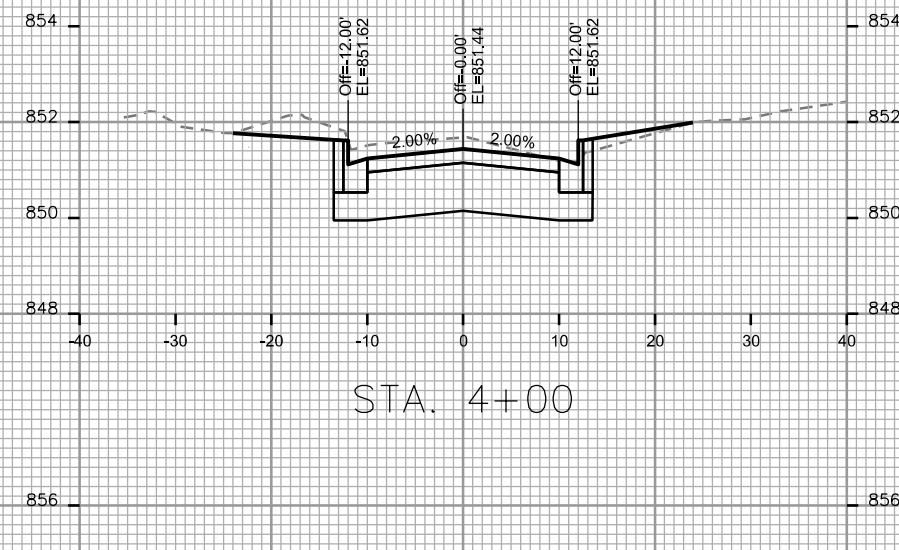
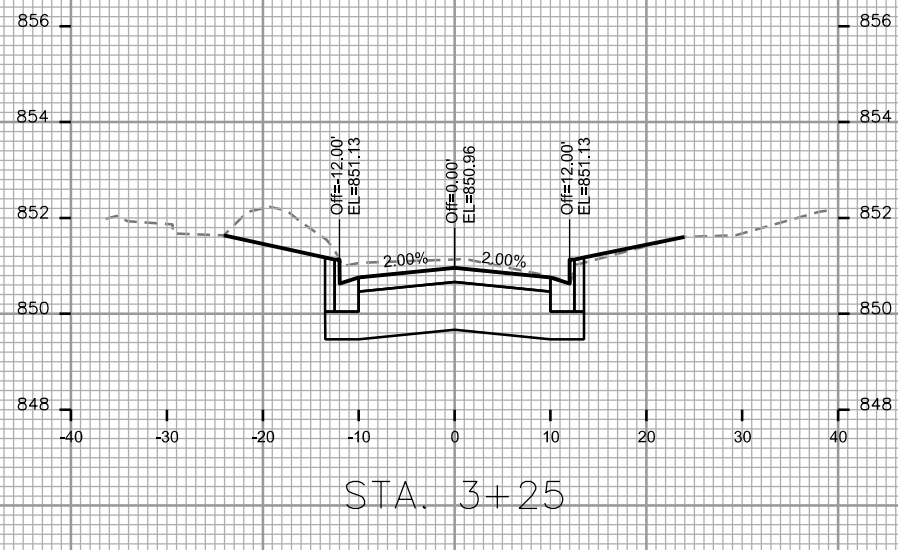
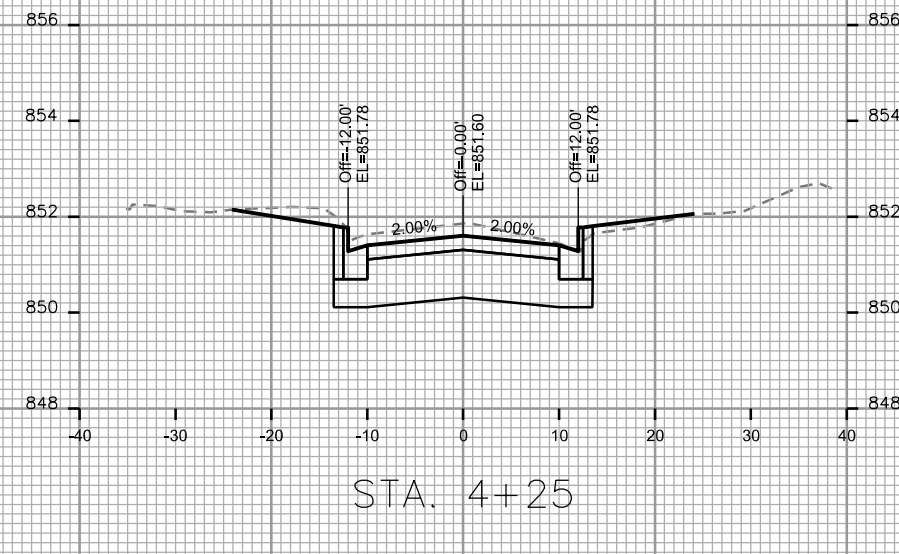
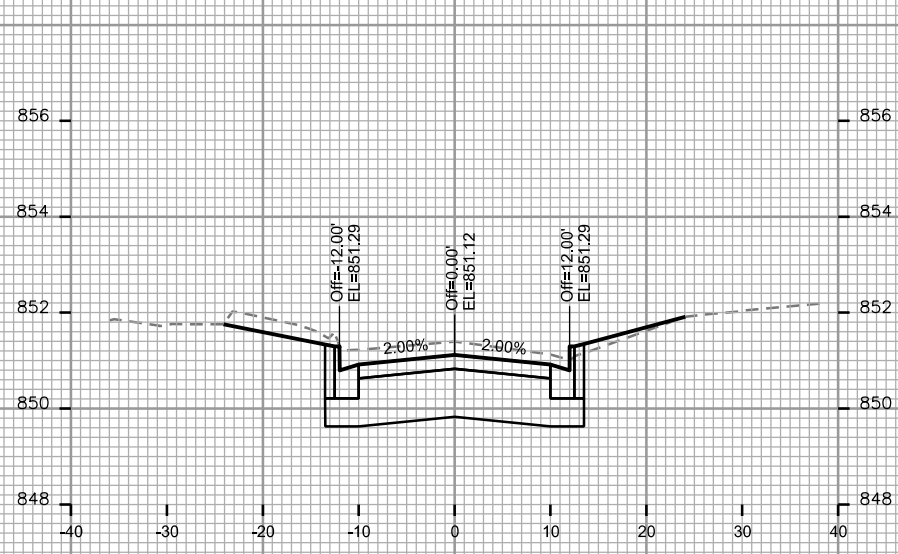
REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

CROSS SECTIONS

THORP STREET

CITY OF MADISON



PLOT SCALE: _____

PLOT NAME: _____

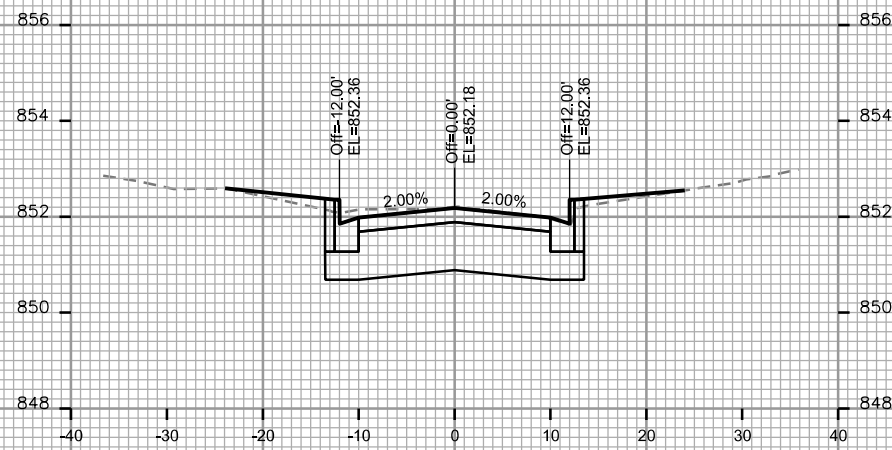
REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

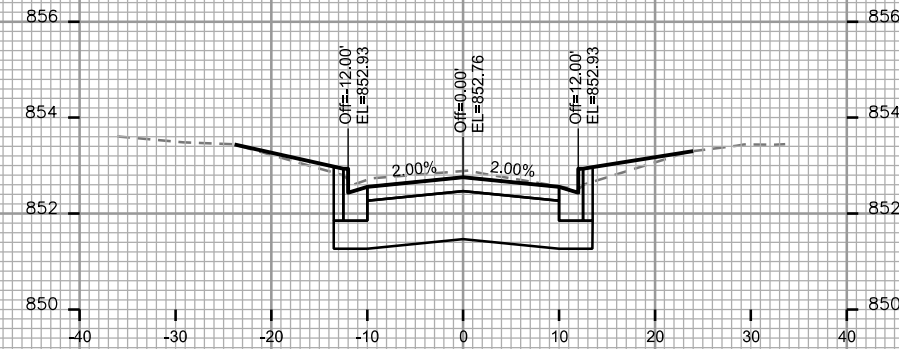
CROSS SECTIONS

THORP STREET

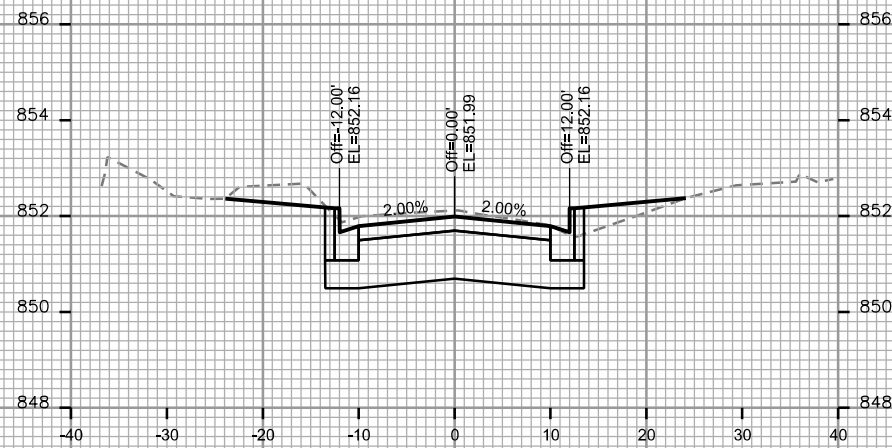
CITY OF MADISON



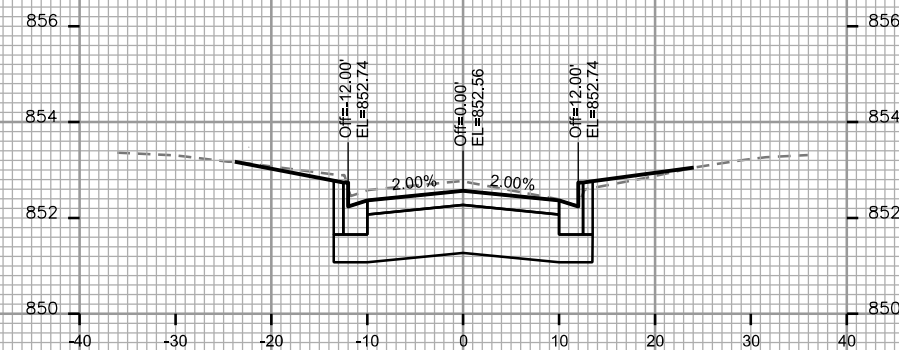
STA. 5+00



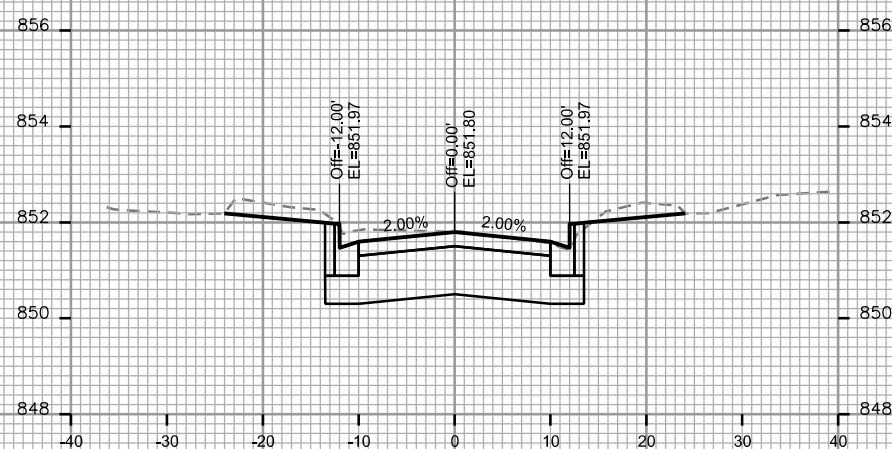
STA. 5+75



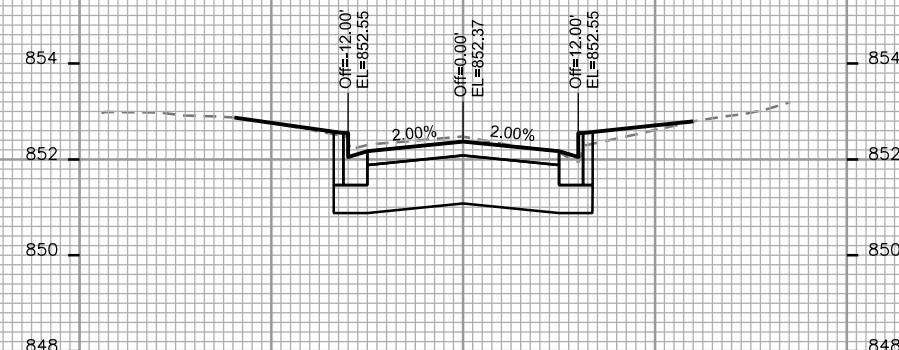
STA. 4+75



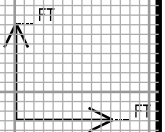
STA. 5+50



STA. 4+50



STA. 5+25



PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON - STREETS DIVISION

CROSS SECTIONS

THORP STREET

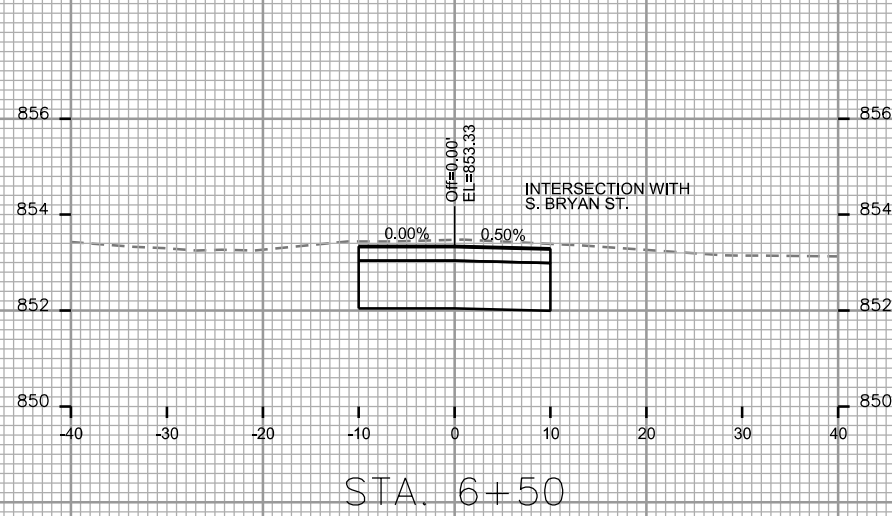
CITY OF MADISON

PLOT SCALE: _____

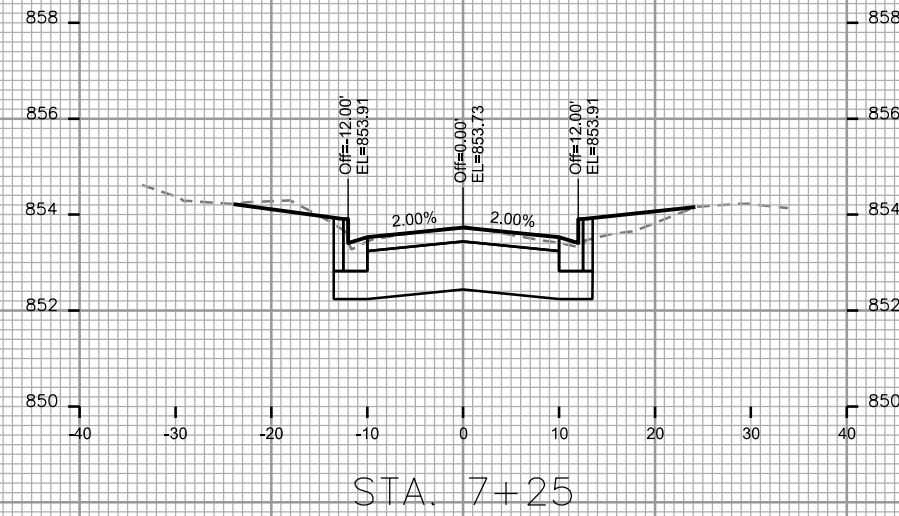
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REV. DATE: _____

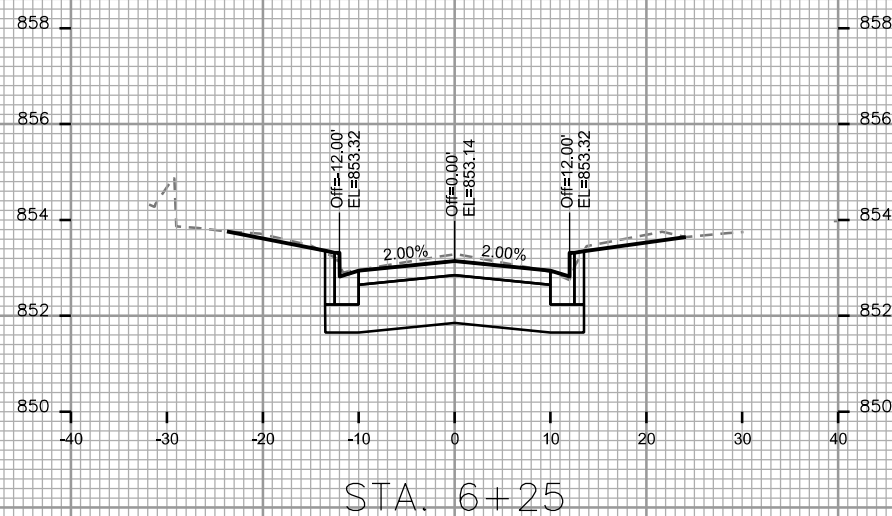
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



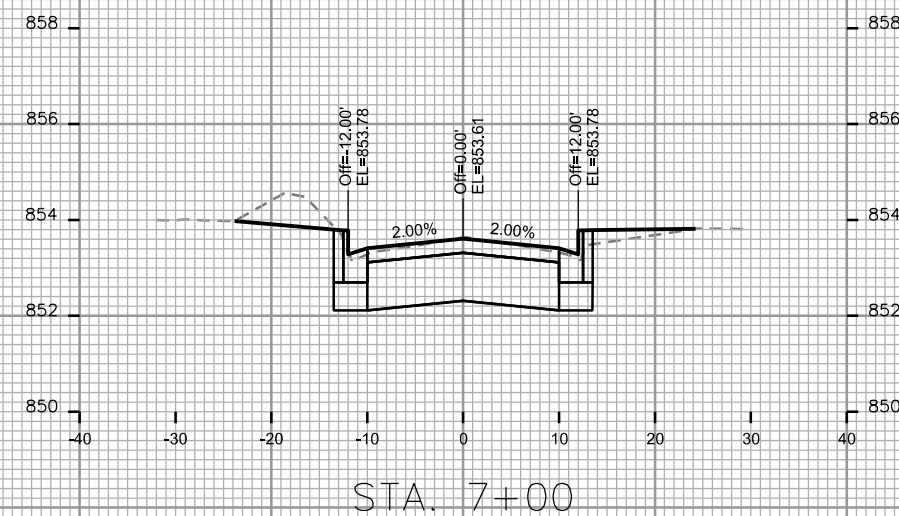
STA. 6+50



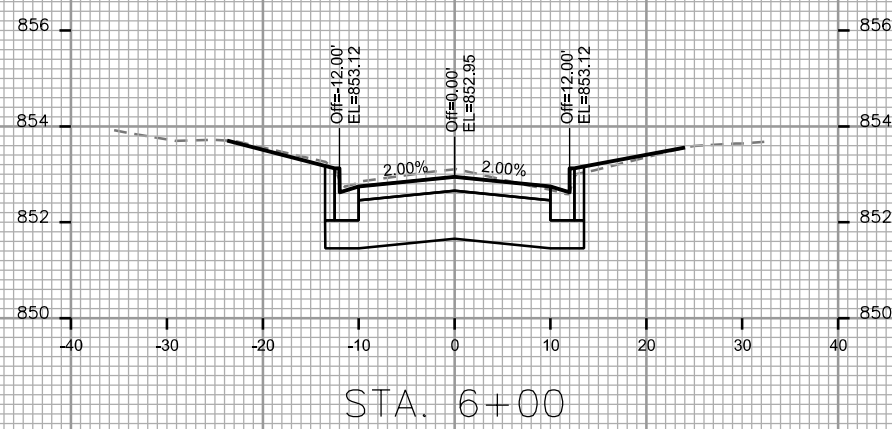
STA. 7+25



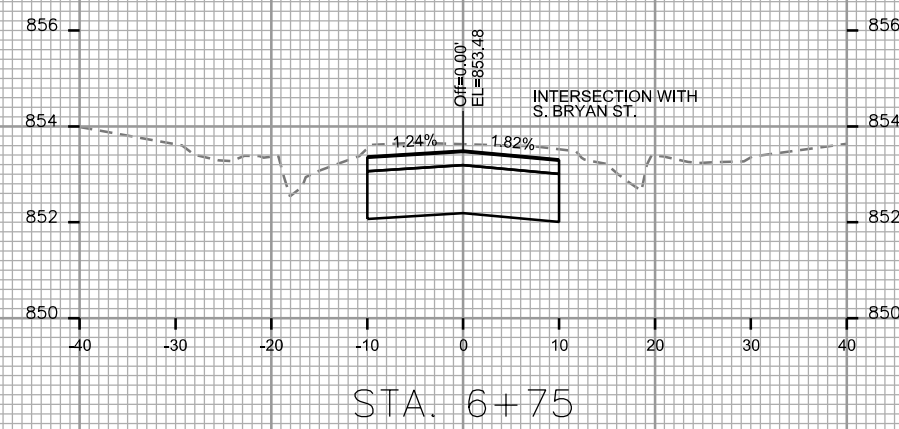
STA. 6+25



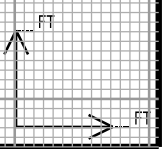
STA. 7+00



STA. 6+00



STA. 6+75



CROSS SECTIONS

THORP STREET

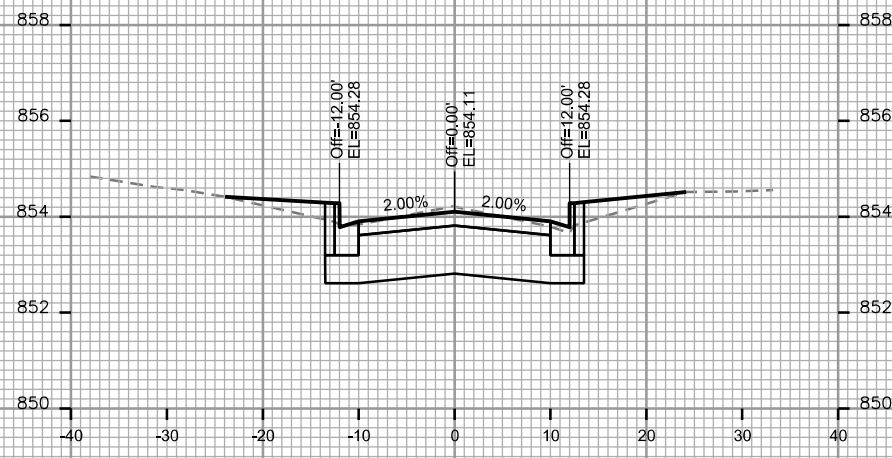
CITY OF MADISON

PLOT SCALE: _____

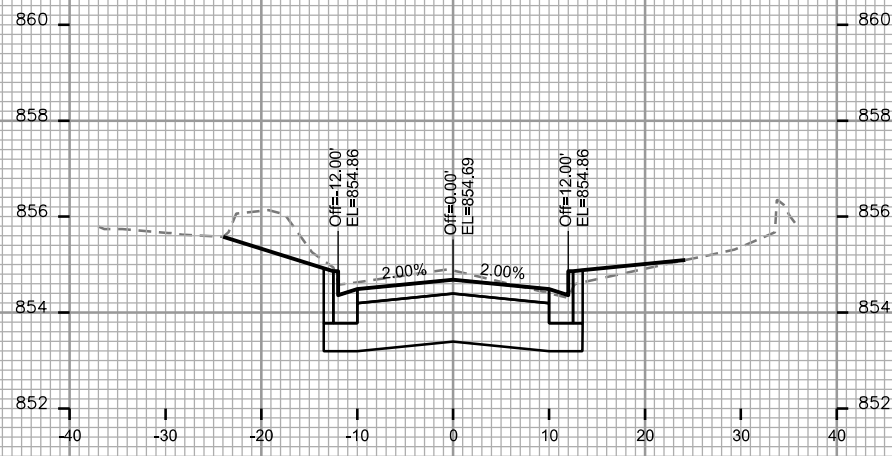
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REV. DATE: _____

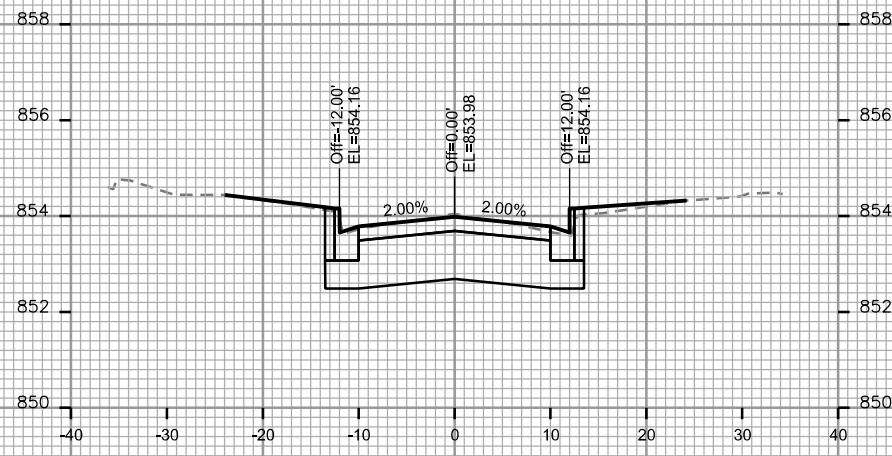
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



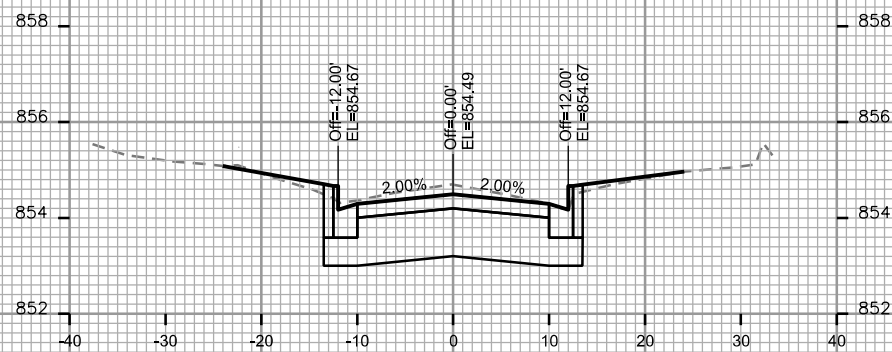
STA. 8+00



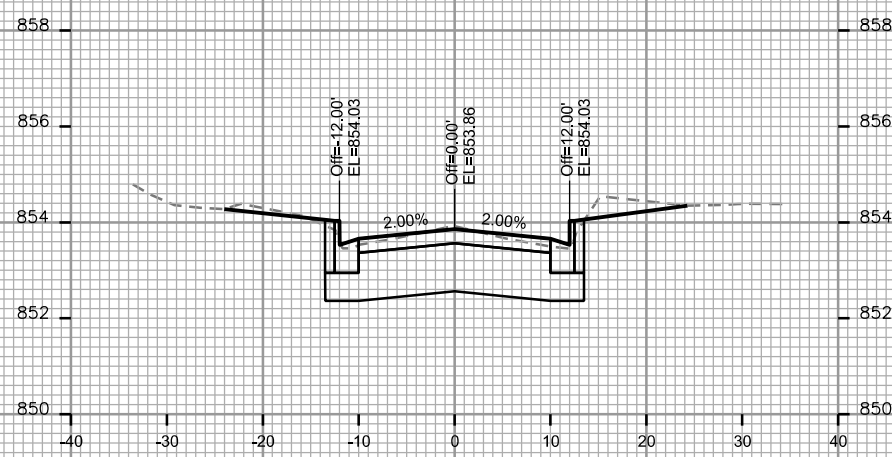
STA. 8+75



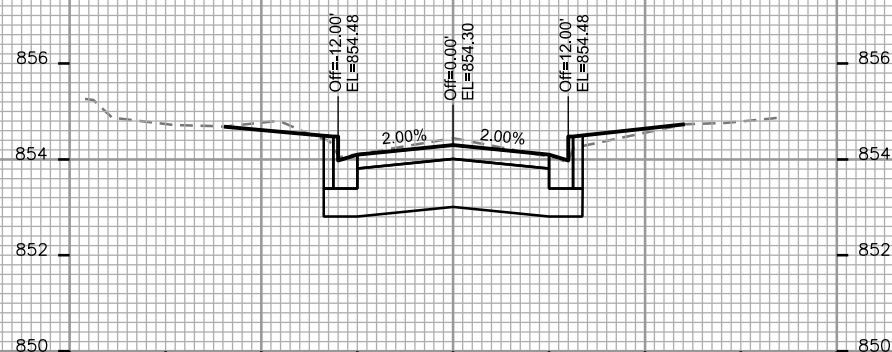
STA. 7+75



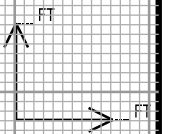
STA. 8+50



STA. 7+50



STA. 8+25



CROSS SECTIONS

THORP STREET

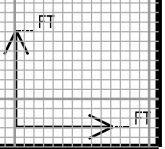
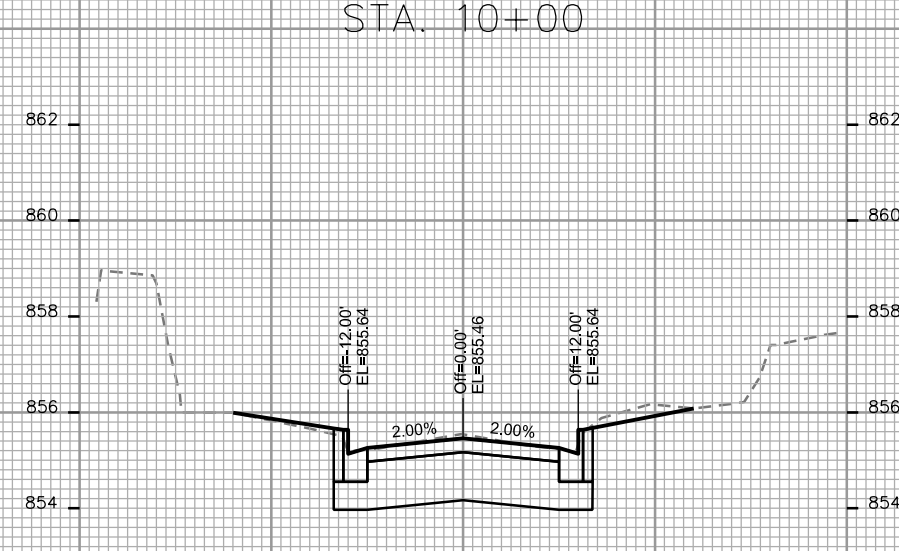
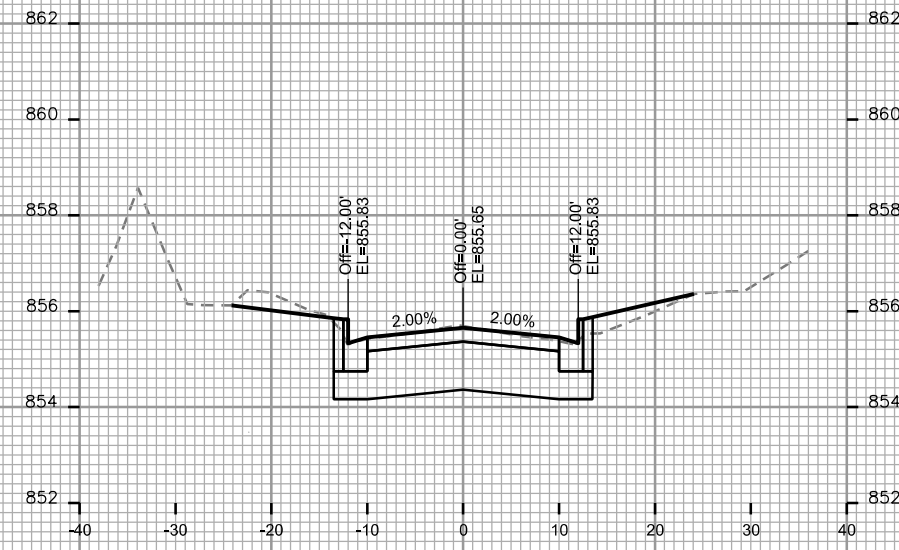
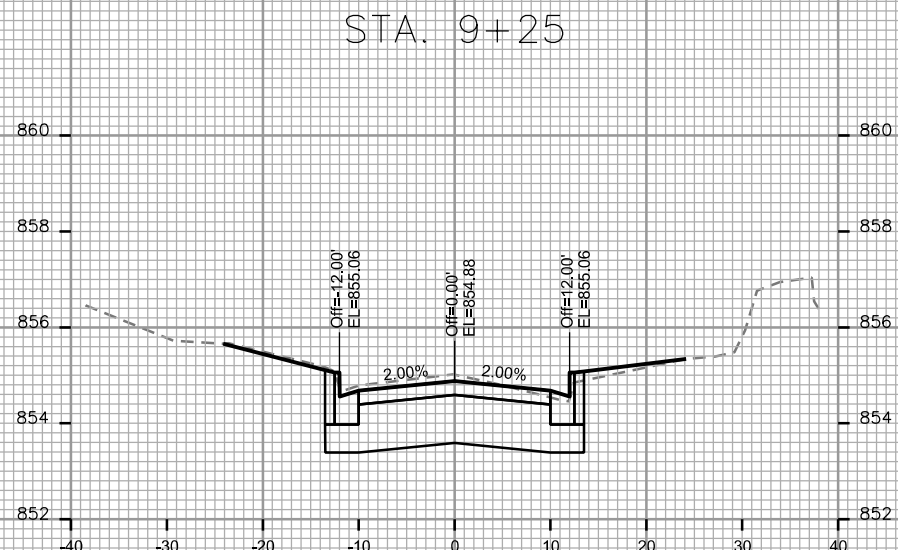
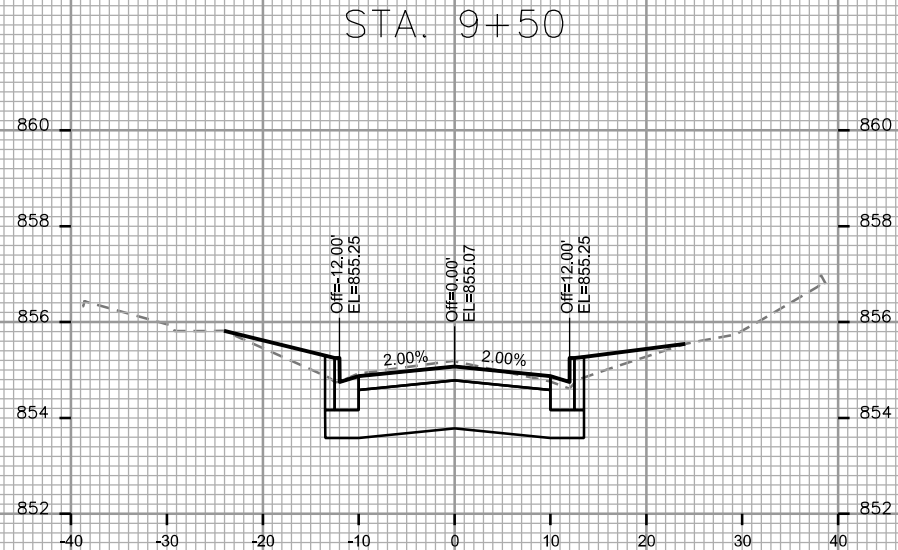
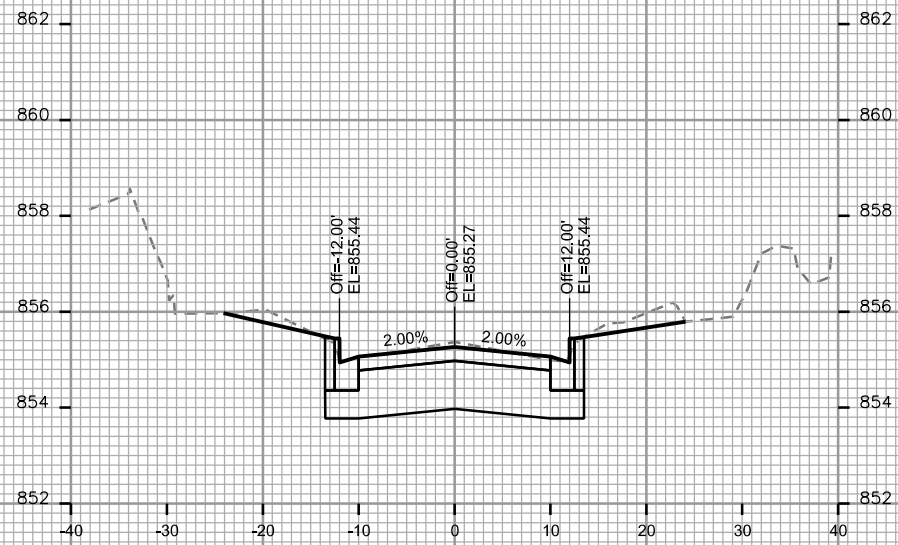
CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

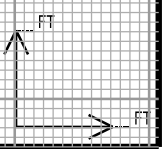
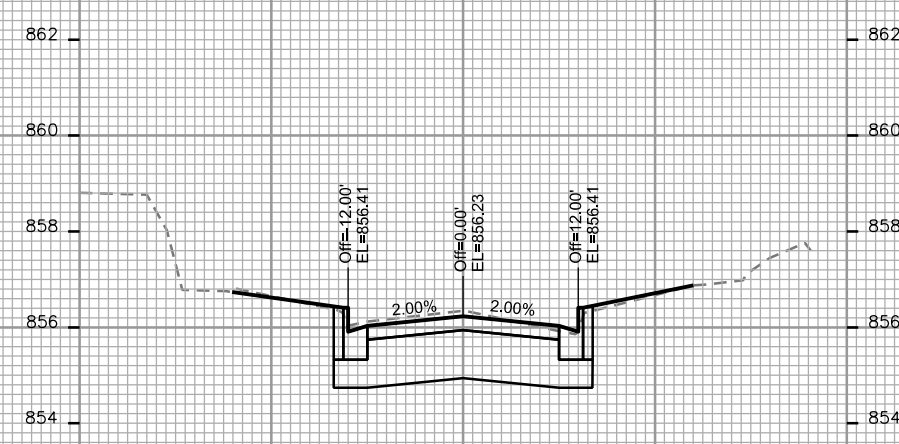
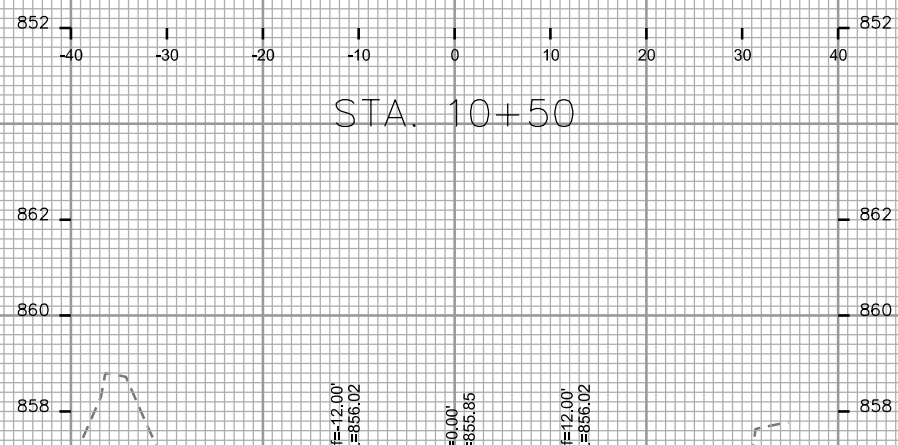
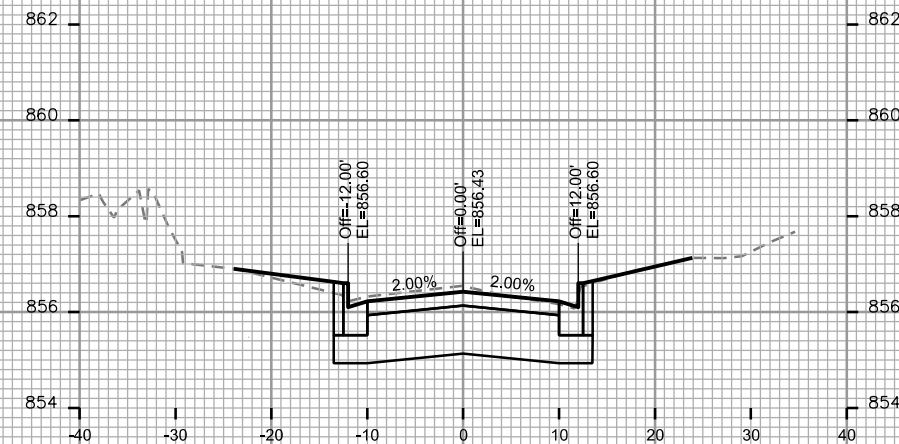
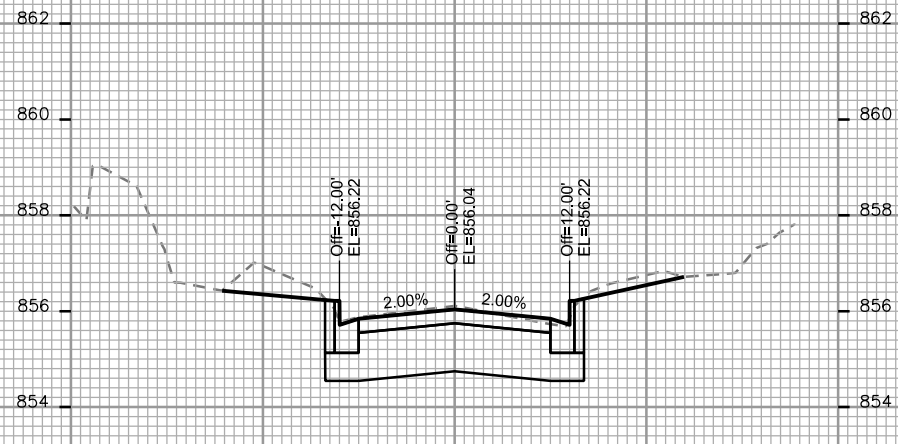
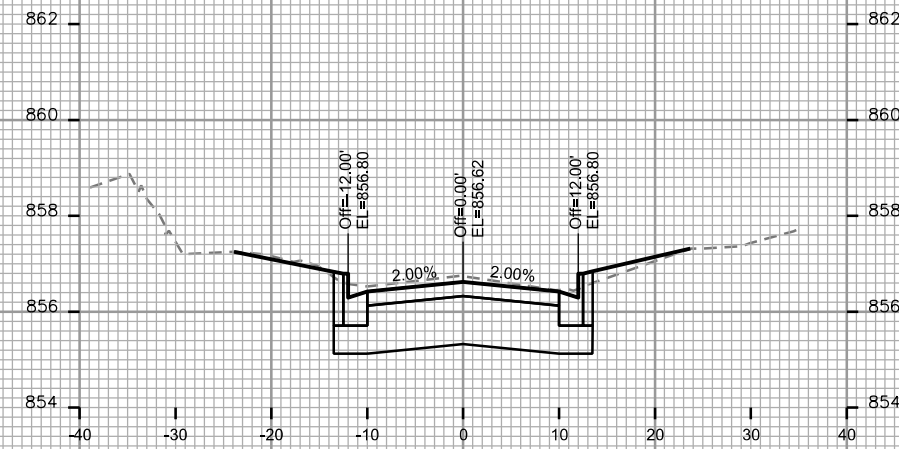
ORIGINATOR: CITY OF MADISON, STREETS DIVISION



CROSS SECTIONS

THORP STREET

CITY OF MADISON



PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON - STREETS DIVISION

CROSS SECTIONS

THORP STREET

CITY OF MADISON

PLOT SCALE: _____

PLOT NAME: _____

REV. DATE: _____

ORIGINATOR: CITY OF MADISON, STREETS DIVISION

