

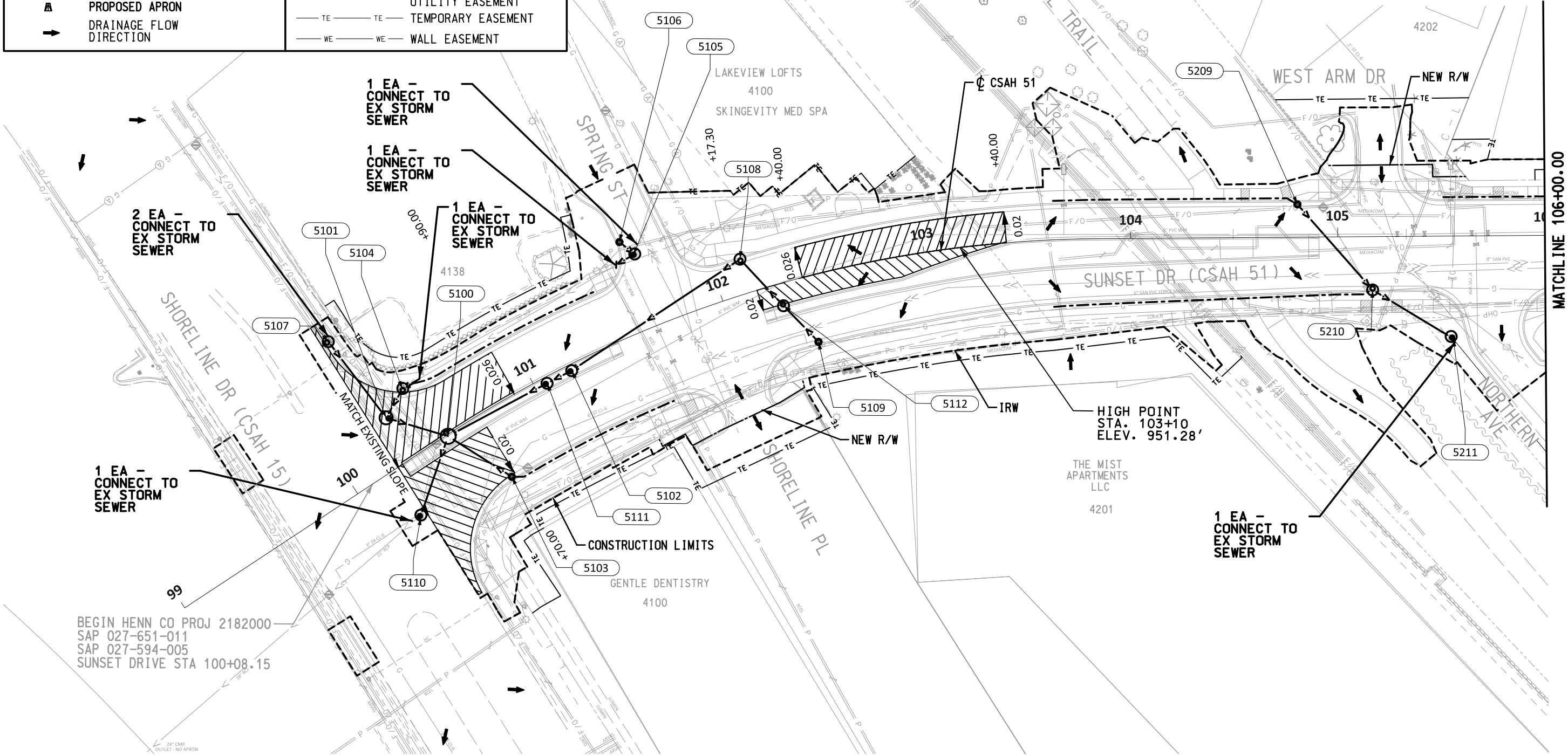
DRAINAGE LEGEND	
	SUPERELEVATION TRANSITION
	PROPOSED RIPRAP
	PROPOSED STRUCTURE NUMBER
	INPLACE DRAINAGE STRUCTURES
	PROPOSED DRAINAGE STRUCTURES
	PROPOSED APRON
	DRAINAGE FLOW DIRECTION
	EX. STORM SEWER PIPE
	PROP. STORM SEWER PIPE
	4" PERF PE PIPE DRAIN
	CONSTRUCTION LIMITS
	WETLAND BOUNDARY
	INPLACE RIGHT OF WAY
	NEW RIGHT OF WAY
	DRAINAGE & UTILITY EASEMENT
	TEMPORARY EASEMENT
	WALL EASEMENT

GENERAL NOTES:

LOW POINT AND HIGH POINT LABELS ARE AT THE FINISHED GRADE AT THE ALIGNMENT.

SUBSURFACE DRAIN IS SHOWN SCHEMATICALLY TO INDICATE AREAS WHERE SUBSURFACE DRAINAGE SHOULD BE INSTALLED. ADJUSTMENTS MAY BE REQUIRED TO AVOID CONFLICTS.

SEE UTILITY PLANS FOR MORE INFORMATION ON PRIVATE UTILITIES, SANITARY, AND WATERMAIN.



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

JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

//

DATE

DESIGN BY:

J. LABAT

CAD BY:

B. SPECHT

CHECKED BY:

A. MCGOVERN

LAST REVISION:

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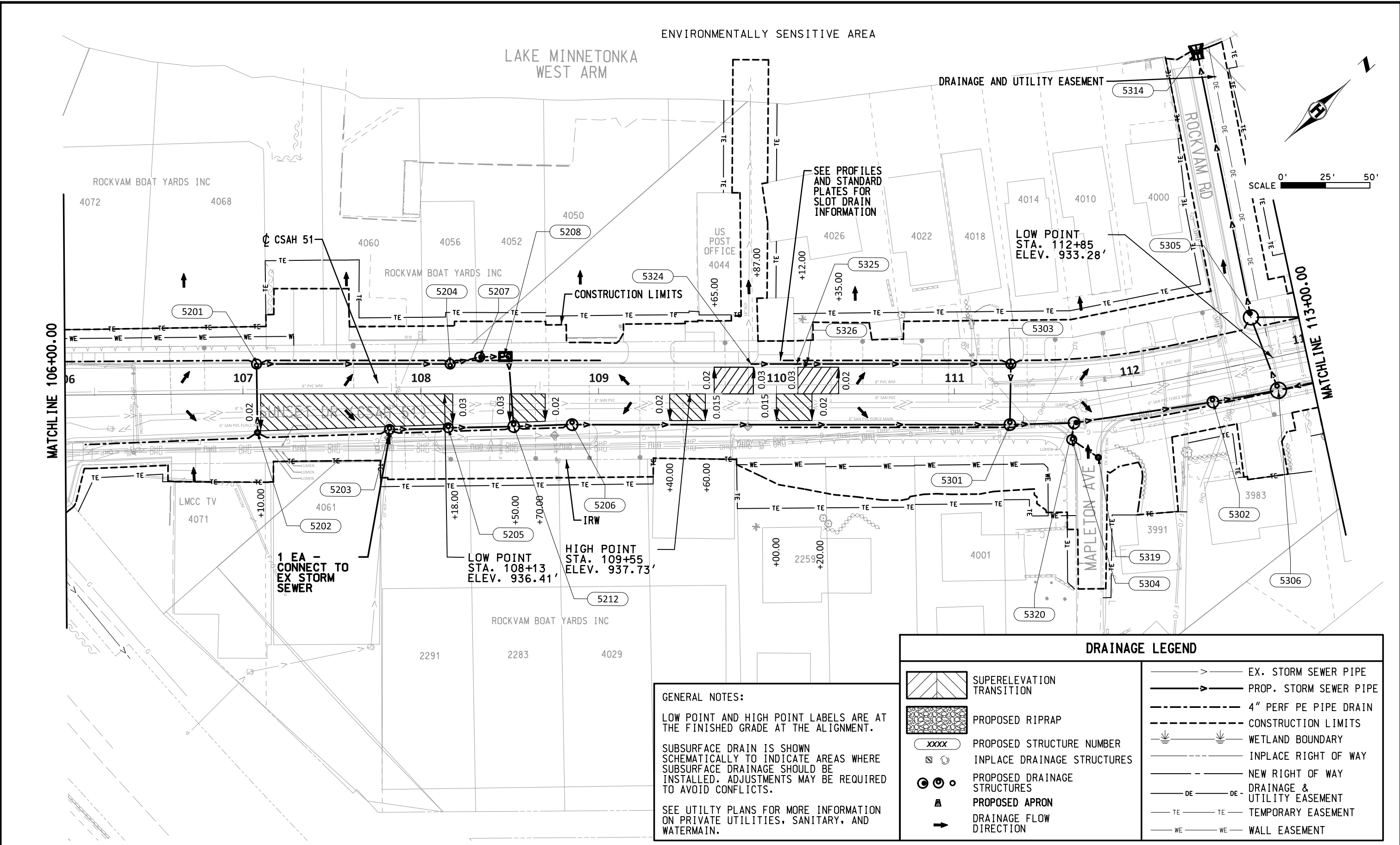
DRAINAGE PLANS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

134

336



SUPERELEVATION
TRANSITION

PROPOSED RIPRAP

XXXX

PROPOSED STRUCTURE NUMBER

INPLACE DRAINAGE STRUCTURES

PROPOSED DRAINAGE
STRUCTURES

PROPOSED APRON

DRAINAGE FLOW
DIRECTION

EX. STORM SEWER PIPE

PROP. STORM SEWER PIPE

4" PERF PE PIPE DRAIN

CONSTRUCTION LIMITS

WETLAND BOUNDARY

INPLACE RIGHT OF WAY

NEW RIGHT OF WAY

DE

DE

DRAINAGE &
UTILITY EASEMENT

TE

TE

TEMPORARY EASEMENT

WE

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WALL EASEMENT

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SHEET

136

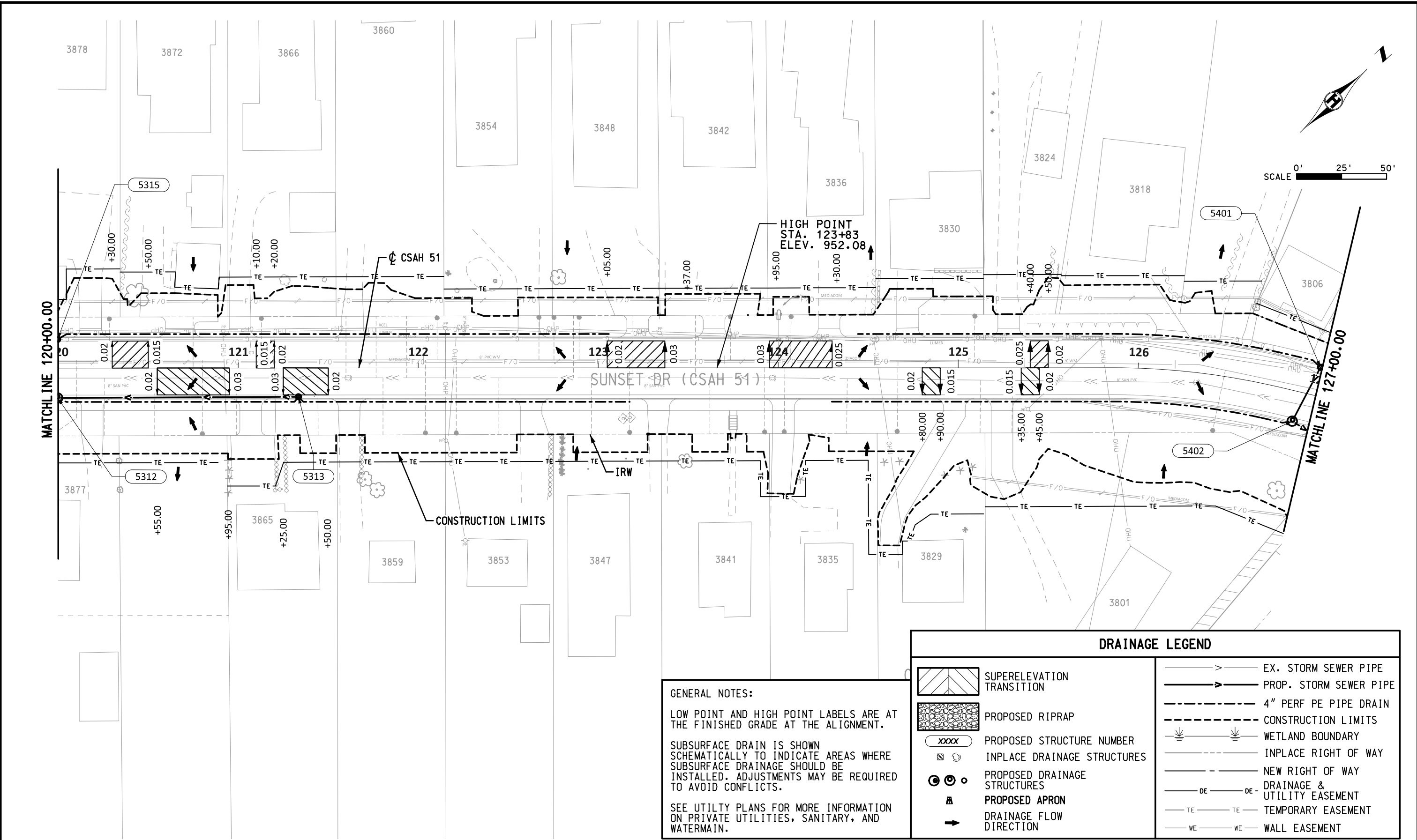
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JOLA007

10/7/2025

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	SUPERELEVATION TRANSITION
	PROPOSED RIPRAP
	PROPOSED STRUCTURE NUMBER
	INPLACE DRAINAGE STRUCTURES
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	DRAINAGE & UTILITY EASEMENT
	TEMPORARY EASEMENT
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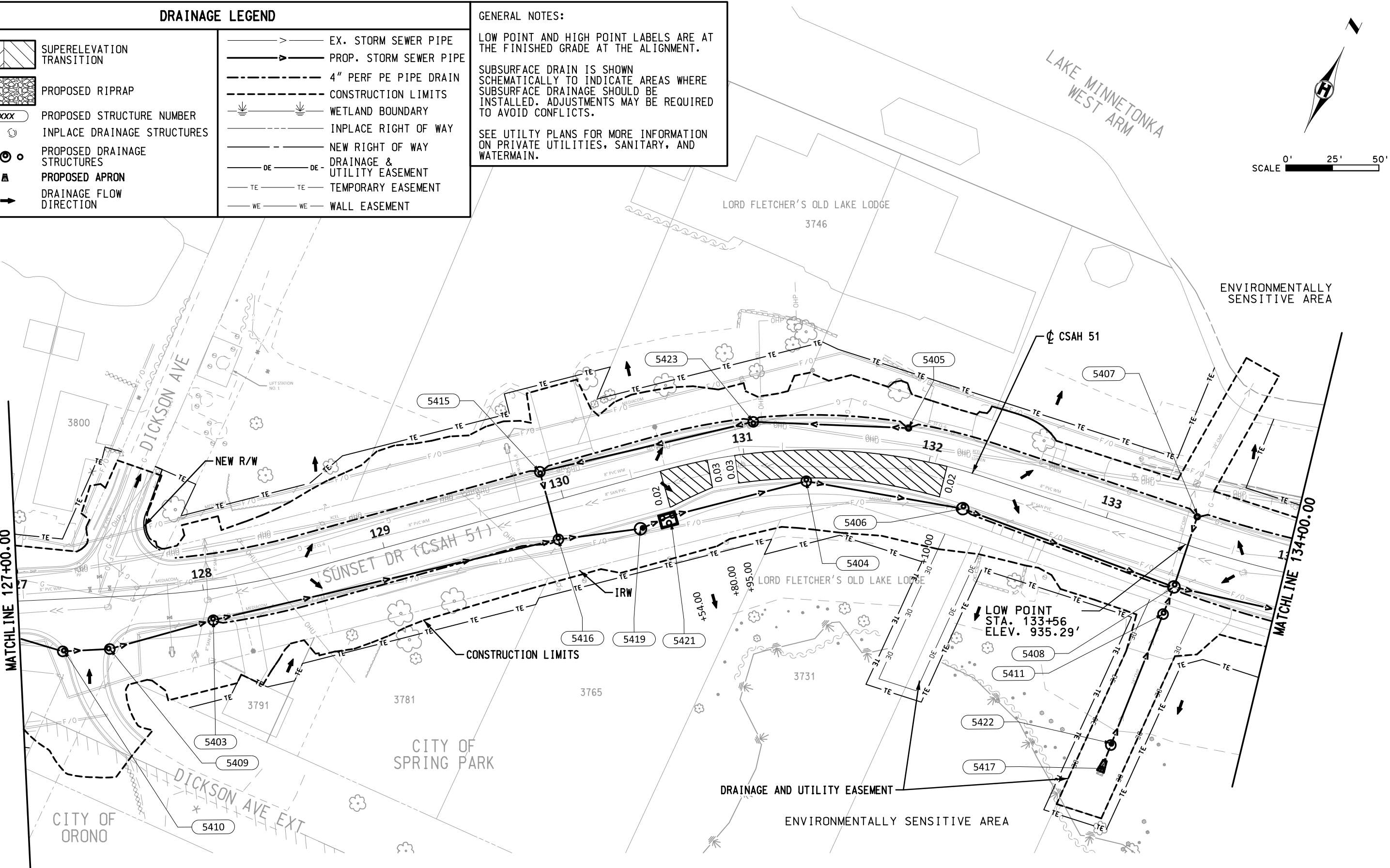
DRAINAGE LEGEND	
	SUPERELEVATION TRANSITION
	PROPOSED RIPRAP
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	INPLACE DRAINAGE STRUCTURES
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DE DE	DRAINAGE & UTILITY EASEMENT
TE TE	TEMPORARY EASEMENT
WE WE	WALL EASEMENT

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DRAINAGE PLANS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

138

336

SUPERELEVATION
TRANSITION

PROPOSED RIPRAP

XXXX

PROPOSED STRUCTURE NUMBER

INPLACE DRAINAGE STRUCTURES

PROPOSED DRAINAGE
STRUCTURES

PROPOSED APRON

DRAINAGE FLOW
DIRECTION

EX. STORM SEWER PIPE

PROP. STORM SEWER PIPE

4" PERF PE PIPE DRAIN

CONSTRUCTION LIMITS

WETLAND BOUNDARY

INPLACE RIGHT OF WAY

NEW RIGHT OF WAY

DE

DE

DRAINAGE &
UTILITY EASEMENT

TE

TE

TEMPORARY EASEMENT

WE

WE

WALL EASEMENT

The main plan shows a drainage system layout. Key features include:
- **CS AH 51** and **CS AH 19** alignments.
- **Shadywood Road (CS AH 19)** running vertically.
- **IRW** (Inplace Right of Way) lines.
- **CONSTRUCTION LIMITS** indicated by dashed lines.
- **Wetland Boundary** shown with wavy lines.
- **Easements** labeled as DE (Drainage & Utility), TE (Temporary), and WE (Wall).
- **Structures** numbered 5412, 5413, 5414, and 5420.
- **Matchlines** at stations 134+00.00 and 205+60.00.
- **Environmental Sensitive Area** near Lake Minnetonka West Arm.
- **Public Park** area.
- **City of Spring Park** and **City of Orono** labels.

END HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD 209+61.80

North arrow pointing towards the top right.
Scale bar: 0' 25' 50'

END HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DR STA 136+75.38 =
SHADYWOOD RD STA 206+58.03

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DRAINAGE PLANS

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SHEET

139

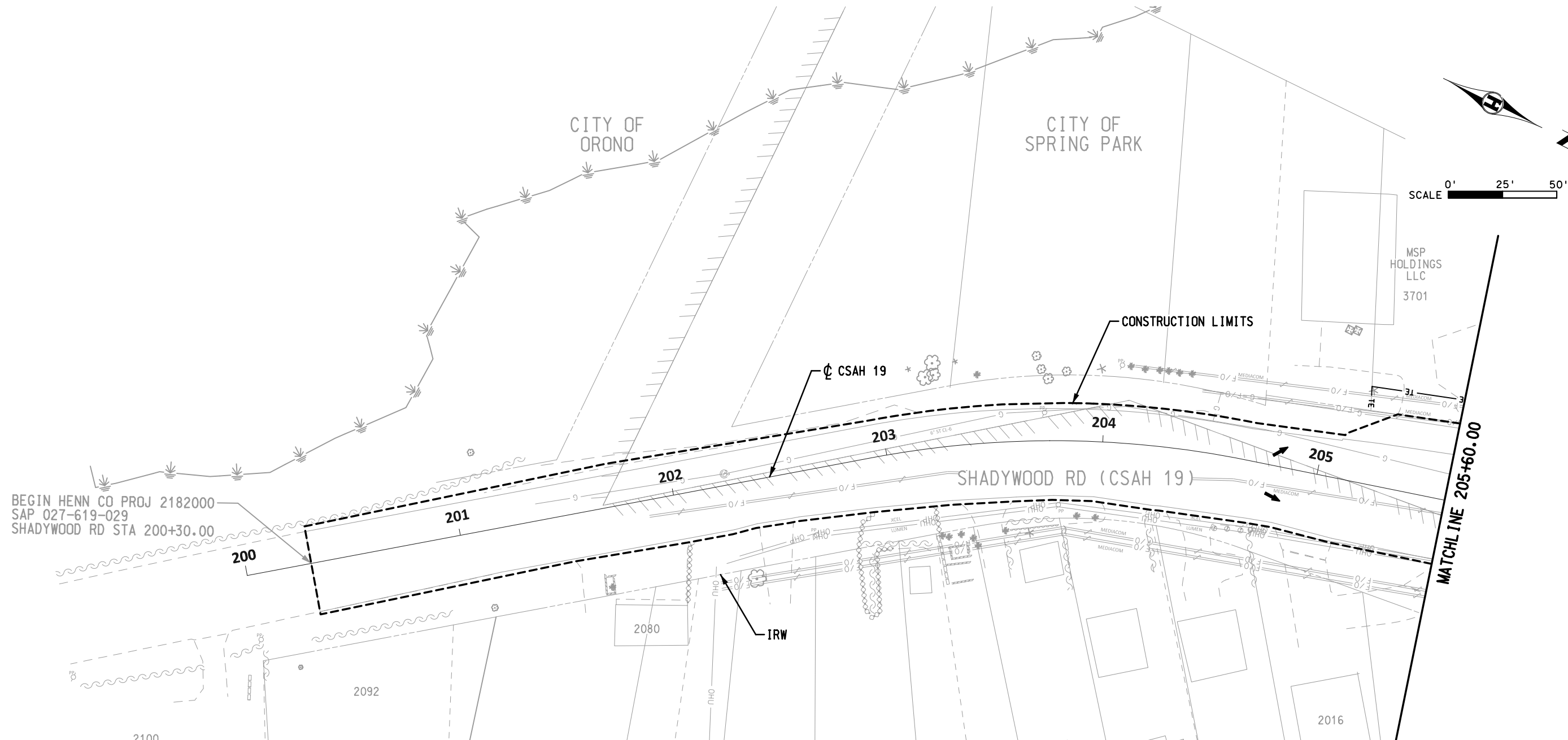
336

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JOLA007

10/7/2025

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DRAINAGE LEGEND	
	SUPERELEVATION TRANSITION
	PROPOSED RIPRAP
	PROPOSED STRUCTURE NUMBER
	INPLACE DRAINAGE STRUCTURES
	PROPOSED DRAINAGE STRUCTURES
	PROPOSED APRON
	DRAINAGE FLOW DIRECTION
	EX. STORM SEWER PIPE
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	4" PERF PE PIPE DRAIN
	CONSTRUCTION LIMITS
	WETLAND BOUNDARY
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DRAINAGE PLANS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

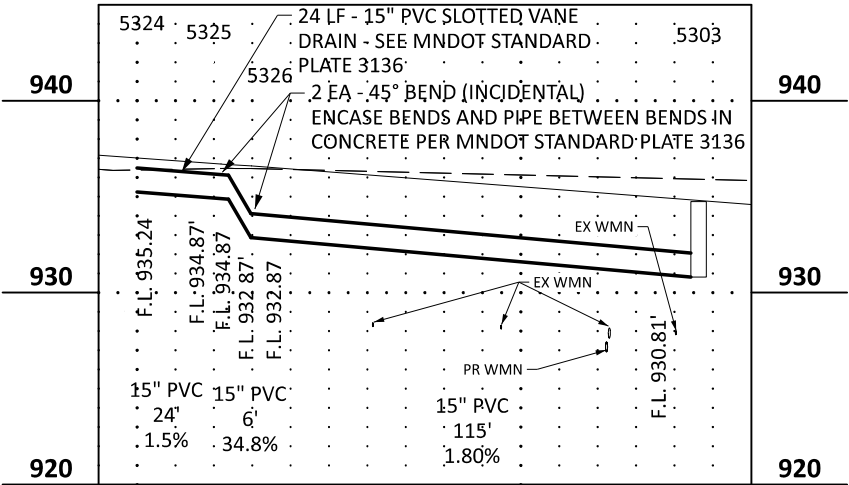
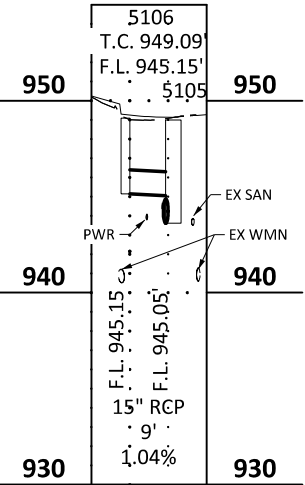
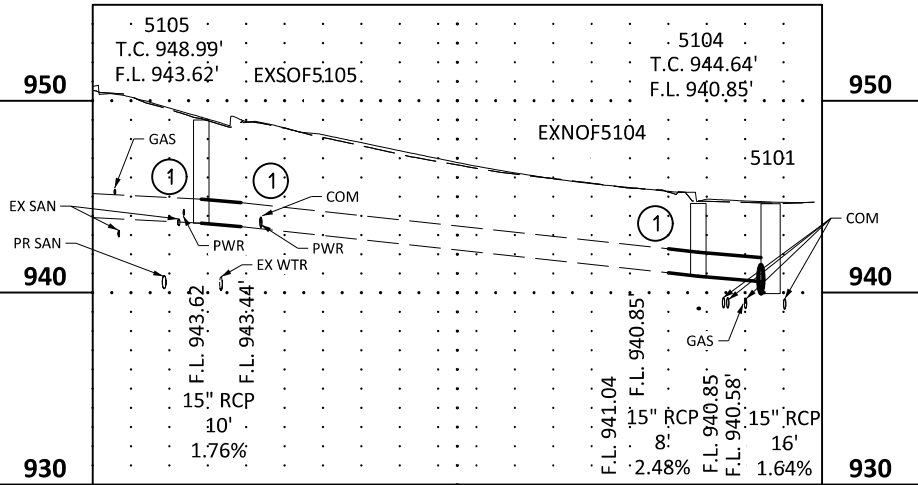
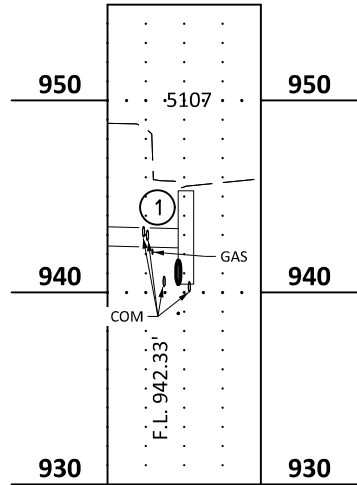
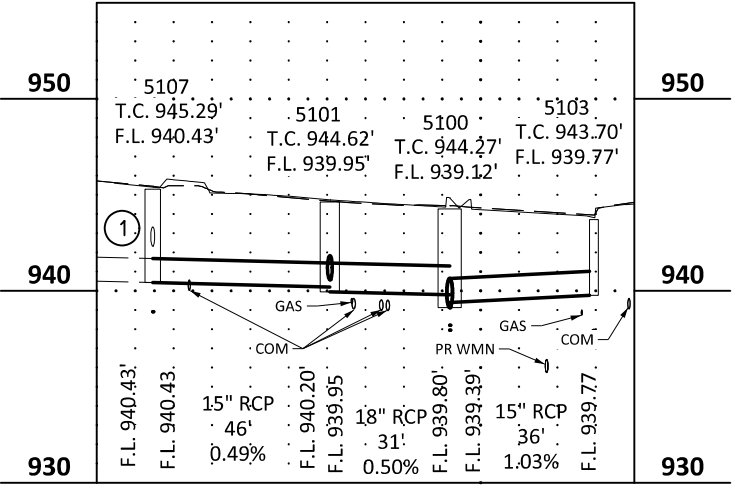
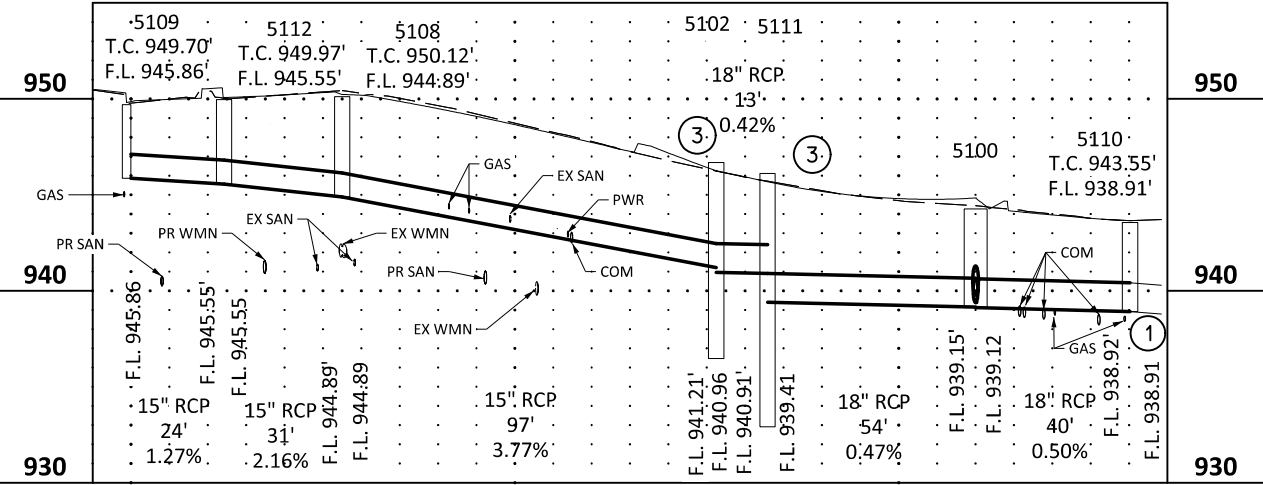
SHEET

140

336

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			DRAINAGE STRUCTURES										TOP OF CASTING ELEV	FLOWS FROM PIPE OUTLET ELEV	FLOWS TO PIPE INLET ELEV	15" RC PIPE SEWER DES 3006 CL V	18" RC PIPE SEWER DES 3006 CL III	15" PVC PIPE SLOTTED DRAIN	15" PVC SLOTTED DRAIN	CONNECT TO EXISTING STORM SEWER	REMARKS
					PAY HEIGHT						CASTING ASSEMBLY TYPE	STEPS REQ'D											
		ALIGN.	STATION	OFFSET	TYPE	G OR H	48-4020	60-4020	72-4020	DESIGN SPECIAL 1			DESIGN SPECIAL 2										
		FLOW FROM	FLOW TO					LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH										
5100	5110	CSAH .51	100+51.7	1.0L	CB				5.2			B - 9	YES	944.27	939.11	938.93		40					
5101	5100	CSAH .51	100+32.5	22.2L	MH			4.7				A - 7D	YES	944.62	939.94	939.81		31					
5102	5111	CSAH .51								1			YES		940.96	940.91		13			SEE DRAINAGE DETAILS		
5103	5100	CSAH .51	100+68.3	33.8R	CB	3.9						B - 9		943.70	939.76	939.41	36						
5104	5101	CSAH .51	100+45.7	29.9L	CB		3.8					B - 13		944.64	940.84	940.59	16						
5105	EXSOF5105	CSAH .51	101+68.2	35.9L	MH		5.4					A - 7D	YES	948.99	943.61	943.44	10			1			
5106	5105	CSAH .51	101+64.4	44.1L	CB	3.9						B - 9		949.09	945.14	945.06	9						
5107	5101	CSAH .51	100+27.8	69.2L	CB		4.9					B - 9	YES	945.29	940.42	940.21	46			2			
5108	5102	CSAH .51	102+13.9	16.0L	CB		5.2					B - 9	YES	950.12	944.88	941.22	97						
5109	5112	CSAH .51	102+39.7	32.0R	CB	3.8						B - 9		949.70	945.86	945.56	24						
5110	ICB 201	CSAH .51	100+19.1	25.5R	MH		4.6					A - 7D	YES	943.55	938.90					1			
5111	5100	CSAH .51									1		YES		939.41	939.17		54			SEE DRAINAGE DETAILS		
5112	5108	CSAH .51	102+27.6	10.0R	CB		4.4					B - 9		949.97	945.55	944.90	31						
5324	5325	CSAH .51	109+87.5	16.8L											935.24	934.87		24	24		SLOTTED DRAIN		
5325	5326	CSAH .51	110+11.4	16.8L											934.87	932.87		6					
5326	5303	CSAH .51	110+17.2	16.8L											932.87	930.81		115					
ICB-WCSAH15	5107	CSAH .51														940.43					EXISTING PIPE		
ICB-NWCSAH15	5107	CSAH .51														942.33					EXISTING PIPE		
EXSOF5105	EXNOF5104	CSAH .51	101+59.2	34.5L											943.44					1	SEE CON. JOINT DETAIL		
EXNOF5104	5104	CSAH .51	100+53.6	30.0L											941.04	940.86	8			1	SEE CON. JOINT DETAIL		
IMH207	5105	CSAH .51														943.62					EXISTING PIPE		
						11.6	28.3	4.7	5.2	1	1						277	138	145	24	6		



GENERAL NOTES:

STA. AND OFFSET IS AT
- CENTER OF CASTING UNLESS
OTHERWISE NOTED.
- END OF APRON OR END OF PIPE
IF NO APRON.

THE INLET ELEVATION ON THE
TABULATIONS IS THE
INVERT ELEVATION OF THE
PIPE AT THE INSIDE EDGE
OF THE FLOWS TO STRUCTURE.

INVERT ELEVATIONS (F.L.) ARE AT
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END OF APRON ON PROFILES.

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ELEVATION OF THE PIPE AT
THE INSIDE EDGE OF THE
FLOWS FROM STRUCTURE.

PIPE LENGTHS ARE TO CENTER OF
STRUCTURE OR END OF APRON
ON PROFILES AND TABULATION.

BUILD HEIGHTS ARE CALCULATED
PER MNDOT 2506.

ALL CIRCULAR CONCRETE PIPE
SHALL BE SEWER DESIGN
3006 GASKET JOINT PIPE.

CASTING SUMP = 0.10' FOR CATCH
BASIN CASTINGS. SUMP HAS
BEEN INCLUDED IN TOP OF
CASTING ELEVATIONS.

SEE APPLICABLE MNDOT STANDARD
PLATES FOR DETAILS OF
DRAINAGE STRUCTURE DESIGN.

TIE ALL JOINTS FROM APRON TO
NEXT STORM SEWER STRUCTURE.
TIED JOINTS SHALL BE
INCIDENTAL.

FOR CASTING ASSEMBLY KEY AND
SUMMARY, SEE SHEET 146

SEE EXISTING UTILITY PLAN
AND PROPOSED SANITARY
& WATERMAIN PLAN FOR
MORE INFORMATION ON
UTILITIES

PROFILE REMARKS:

- CONNECT TO EXISTING STORM
SEWER. FIELD VERIFY
EXISTING INVERT ELEVATION.
- CONNECT INTO EXISTING
DRAINAGE STRUCTURE. FIELD
VERIFY EXISTING INVERT
ELEVATION.
- SEE DRAINAGE DETAILS ON
SHEETS 147 - 155

STRUCTURES ON THIS SHEET
5100 5104 5108 5112 5326
5101 5105 5109 5303
5102 5106 5110 5324
5103 5107 5111 5325



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DRAINAGE PROFILES AND TABULATION

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

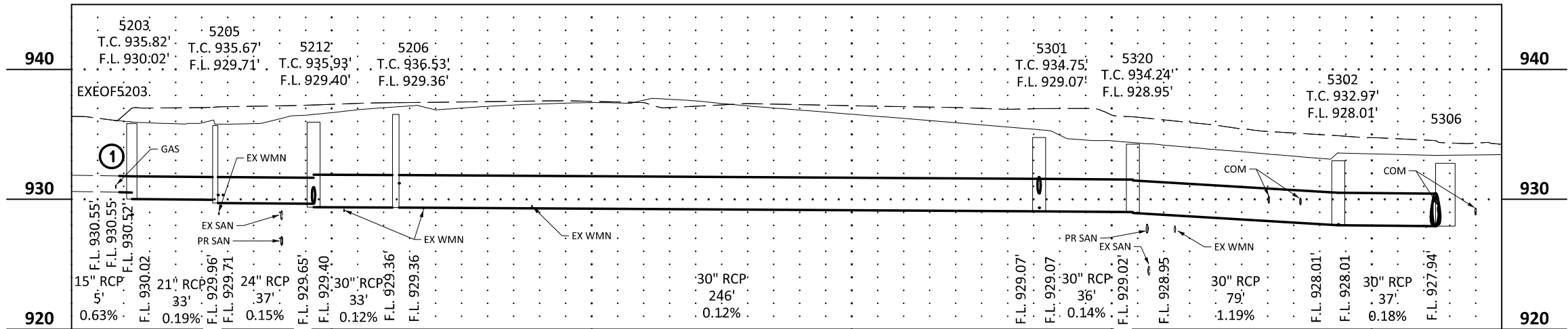
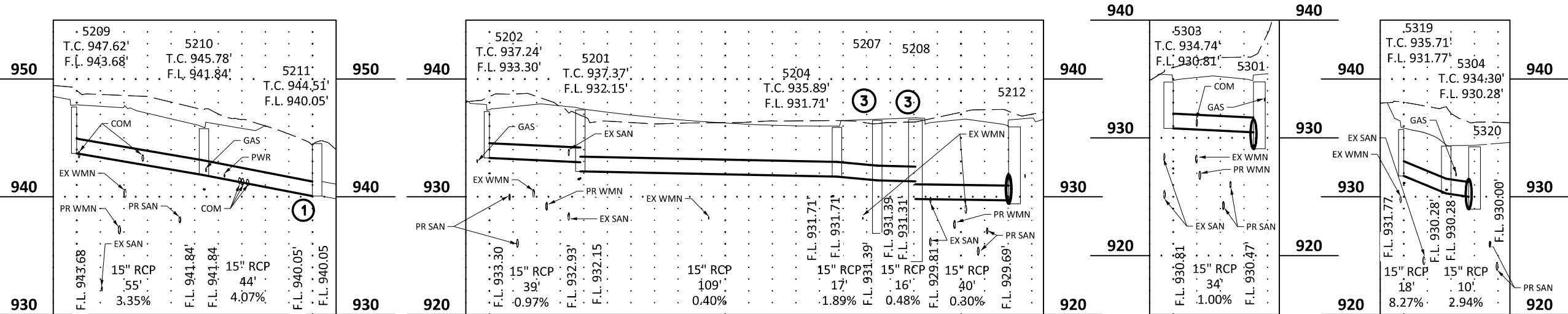
SHEET

141

336

DRAINAGE TABULATION (THIS SHEET ONLY)

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						PAY HEIGHT					CASTING ASSEMBLY TYPE	STEPS REQ'D													
						ALIGN.	STATION	OFFSET	TYPE	G OR H												48-4020	60-4020	DESIGN SPECIAL 3	DESIGN SPECIAL 4
										LIN FT												LIN FT	LIN FT	EACH	EACH
5201	5204	CSAH .51	107+07.7	16.0L	MH		5.2				B - 9	YES	937.37	932.14	931.72	109									
5202	5201	CSAH .51	107+08.2	21.8R	CB	4.0					B - 9		937.24	933.29	932.94	39									
5203	5205	CSAH .51	107+82.5	19.3R	CB		5.8				B - 9	YES	935.82	930.01	929.97		33								
5204	5207	CSAH .51	108+16.6	16.0L	CB		4.2				B - 13		935.89	931.70	931.39	17									
5205	5212	CSAH .51	108+15.5	18.3R	CB		6.0				B - 13	YES	935.67	929.70	929.66			37							
5206	5301	CSAH .51	108+85.1	16.0R	CB			7.2			B - 9	YES	936.53	929.35	929.08				246						
5207	5208	CSAH .51							1			YES		931.39	931.31	16					SEE DRAINAGE DETAILS				
5208	5212	CSAH .51								1		YES		929.81	929.70	40					SEE DRAINAGE DETAILS				
5209	5210	CSAH .51	104+80.7	15.9L	CB	3.9					B - 9		947.62	943.68	941.85	55									
5210	5211	CSAH .51	105+17.3	25.0R	CB		3.9				B - 9		945.78	941.83	940.06	44									
5211	NORTHERNAVEOUTLET	CSAH .51	105+54.9	49.1R	MH		4.5				A - 7D	YES	944.51	940.04					1						
5212	5206	CSAH .51	108+52.3	17.1R	CB			6.5			B - 13	YES	935.93	929.39	929.37				33						
5301	5320	CSAH .51	111+31.3	16.0R	CB			5.7			B - 9	YES	934.75	929.06	929.03				36						
5302	5306	CSAH .51	112+42.8	15.9R	CB			5.0			B - 13	YES	932.97	928.00	927.96				37						
5303	5301	CSAH .51	111+31.8	16.0L	CB		3.9				B - 9		934.74	930.80	930.48	34									
5304	5320	CSAH .51	111+65.2	25.9R	CB		4.0				B - 13		934.30	930.27	930.01	10									
5319	5304	CSAH .51	111+77.8	37.4R	CB	4.0					B - 9		935.71	931.76	930.29	18									
5320	5302	CSAH .51	111+67.6	16.9R	MH			5.3			A - 7D	YES	934.24	928.94	928.02				79						
EXEOF5203	5203	CSAH .51	107+82.7	24.7R										930.55	930.53	5				1	SEE CON. JOINT DETAIL				
						11.9	37.5	29.7	1	1						387	33	37	431	2					



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- END OF APRON OR END OF PIPE IF NO APRON.

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BUILD HEIGHTS ARE CALCULATED PER MNDOT 2506.

ALL CIRCULAR CONCRETE PIPE SHALL BE SEWER DESIGN 3006 GASKET JOINT PIPE.

CASTING SUMP = 0.10' FOR CATCH BASIN CASTINGS. SUMP HAS BEEN INCLUDED IN TOP OF CASTING ELEVATIONS.

SEE APPLICABLE MNDOT STANDARD PLATES FOR DETAILS OF DRAINAGE STRUCTURE DESIGN.

TIE ALL JOINTS FROM APRON TO NEXT STORM SEWER STRUCTURE. TIED JOINTS SHALL BE INCIDENTAL.

FOR CASTING ASSEMBLY KEY AND SUMMARY, SEE SHEET 146

SEE EXISTING UTILITY PLAN AND PROPOSED SANITARY & WATERMAIN PLAN FOR MORE INFORMATION ON UTILITIES

- PROFILE REMARKS:
- ① CONNECT TO EXISTING STORM SEWER. FIELD VERIFY EXISTING INVERT ELEVATION.
 - ② CONNECT INTO EXISTING DRAINAGE STRUCTURE. FIELD VERIFY EXISTING INVERT ELEVATION.
 - ③ SEE DRAINAGE DETAILS ON SHEETS 147 - 155

STRUCTURES ON THIS SHEET
5201 5205 5209 5301 5306
5202 5206 5210 5302 5319
5203 5207 5211 5303 5320
5204 5208 5212 5304



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

JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

DATE

DESIGN BY: J. LABAT

CAD BY: B. SPECHT

CHECKED BY: A. MCGOVERN

LAST REVISION: / /

DRAINAGE PROFILES AND TABULATION	SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000	142
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	336

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			DRAINAGE STRUCTURES							TOP OF CASTING ELEV	FLOWS FROM PIPE OUTLET ELEV	FLOWS TO PIPE INLET ELEV	15" RC PIPE SEWER DES 3006 CL V LIN FT	18" RC PIPE SEWER DES 3006 CL III LIN FT	30" RC PIPE SEWER DES 3006 CL III LIN FT	REMARKS	
					TYPE	PAY HEIGHT					CASTING ASSEMBLY TYPE								STEPS REQ'D
		ALIGN.	STATION	OFFSET		G OR H	48-4020	60-4020	DESIGN SPECIAL 5	DESIGN SPECIAL 6									
5308	5306	CSAH .51	115+63.5	16.0R	CB			5.4			B - 9	YES	933.71	928.28	928.00			283	
5309	5308	CSAH .51	117+05.0	16.0R	CB			6.3			B - 9	YES	934.73	928.46	928.35			140	
5310	5311	CSAH .51	119+03.3	16.0L	CB	3.9					B - 9		937.91	933.96	933.65	33			
5311	5316	CSAH .51	119+03.3	16.0R	CB		5.9				B - 9	YES	937.91	931.97	931.73	35			
5312	5311	CSAH .51	119+99.7	15.9R	CB		4.3				B - 9		940.85	936.58	933.98	96			
5313	5312	CSAH .51	121+33.5	16.0R	CB	3.5					B - 9		945.46	941.96	936.92	134			
5315	5312	CSAH .51	119+99.7	16.0L	CB	4.0					B - 9		940.85	936.90	936.60	33			
5316	5317	CSAH .51							1			YES	931.73	931.50	931.50	26			SEE DRAINAGE DETAILS
5317	5309	CSAH .51								1		YES	929.75	929.47	929.47		134		SEE DRAINAGE DETAILS
						11.4	10.2	11.7	1	1						357	134	423	

GENERAL NOTES:

STA. AND OFFSET IS AT
- CENTER OF CASTING UNLESS OTHERWISE NOTED.
- END OF APRON OR END OF PIPE IF NO APRON.

THE INLET ELEVATION ON THE TABULATIONS IS THE INVERT ELEVATION OF THE PIPE AT THE INSIDE EDGE OF THE FLOWS TO STRUCTURE.

INVERT ELEVATIONS (F.L.) ARE AT CENTER OF STRUCTURE OR END OF APRON ON PROFILES.

THE OUTLET ELEVATION ON THE TABULATION IS THE INVERT ELEVATION OF THE PIPE AT THE INSIDE EDGE OF THE FLOWS FROM STRUCTURE.

PIPE LENGTHS ARE TO CENTER OF STRUCTURE OR END OF APRON ON PROFILES AND TABULATION.

BUILD HEIGHTS ARE CALCULATED PER MNDOT 2506.

ALL CIRCULAR CONCRETE PIPE SHALL BE SEWER DESIGN 3006 GASKET JOINT PIPE.

CASTING SUMP = 0.10' FOR CATCH BASIN CASTINGS. SUMP HAS BEEN INCLUDED IN TOP OF CASTING ELEVATIONS.

SEE APPLICABLE MNDOT STANDARD PLATES FOR DETAILS OF DRAINAGE STRUCTURE DESIGN.

TIE ALL JOINTS FROM APRON TO NEXT STORM SEWER STRUCTURE. TIED JOINTS SHALL BE INCIDENTAL.

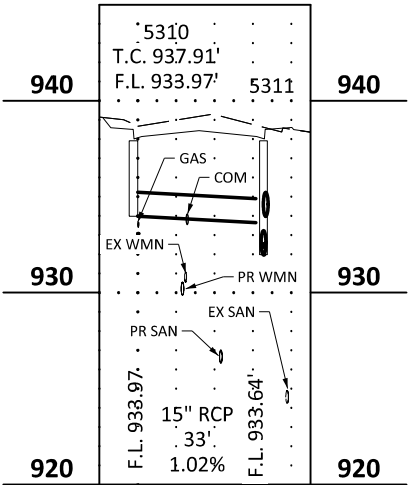
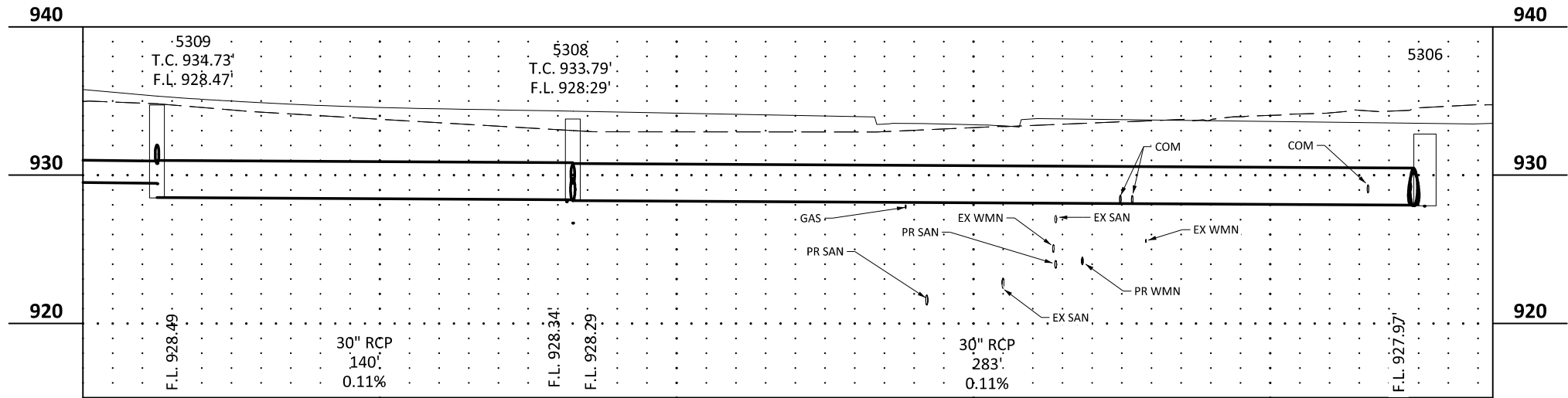
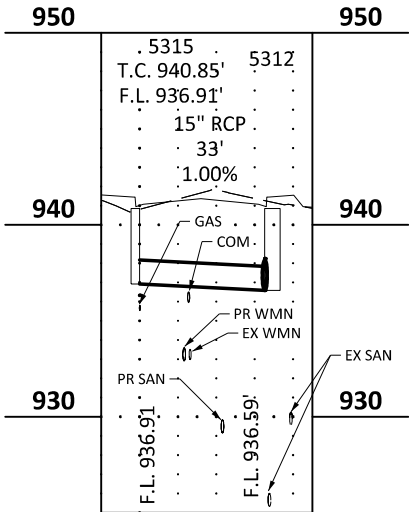
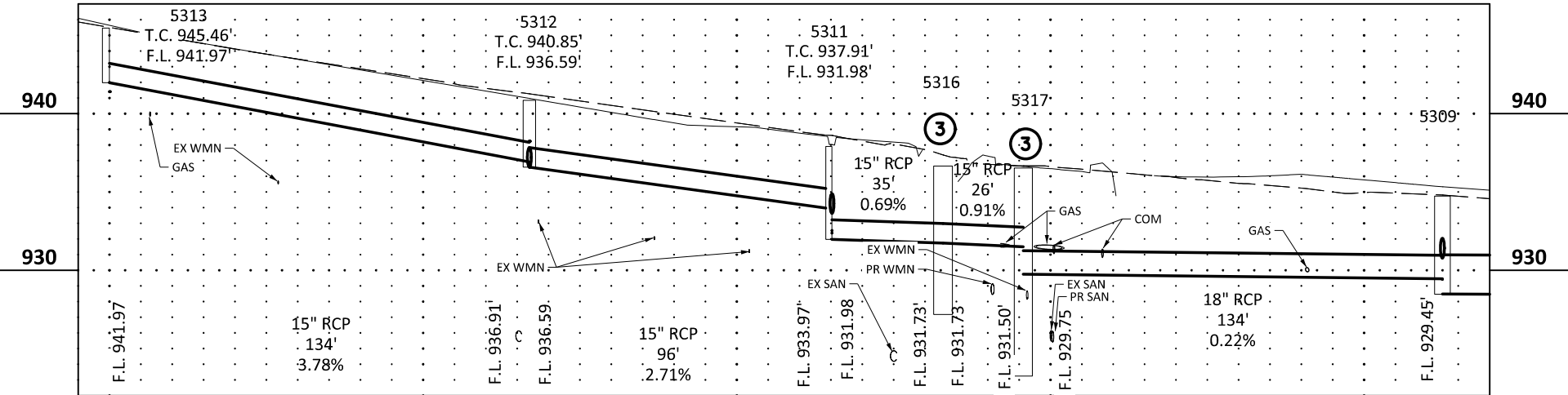
FOR CASTING ASSEMBLY KEY AND SUMMARY, SEE SHEET 146

SEE EXISTING UTILITY PLAN AND PROPOSED SANITARY & WATERMAIN PLAN FOR MORE INFORMATION ON UTILITIES

PROFILE REMARKS:

- CONNECT TO EXISTING STORM SEWER. FIELD VERIFY EXISTING INVERT ELEVATION.
- CONNECT INTO EXISTING DRAINAGE STRUCTURE. FIELD VERIFY EXISTING INVERT ELEVATION.
- SEE DRAINAGE DETAILS ON SHEETS 147 - 155

STRUCTURES ON THIS SHEET
5306 5311 5316
5308 5312 5317
5309 5313
5310 5315



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JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

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DATE

DESIGN BY:

J. LABAT

CAD BY:

B. SPECHT

CHECKED BY:

A. MCGOVERN

LAST REVISION:

//

DRAINAGE PROFILES AND TABULATION

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

143

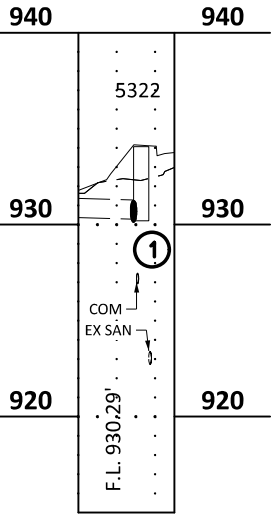
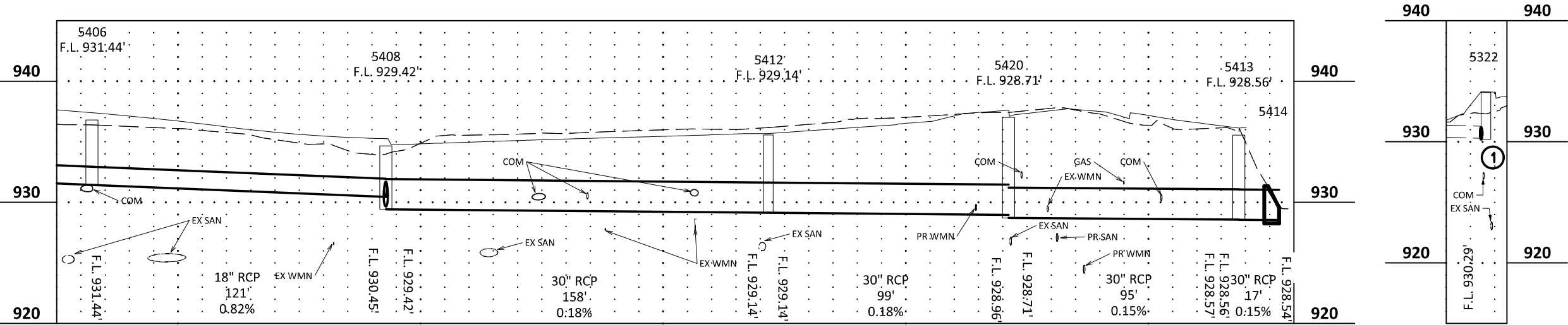
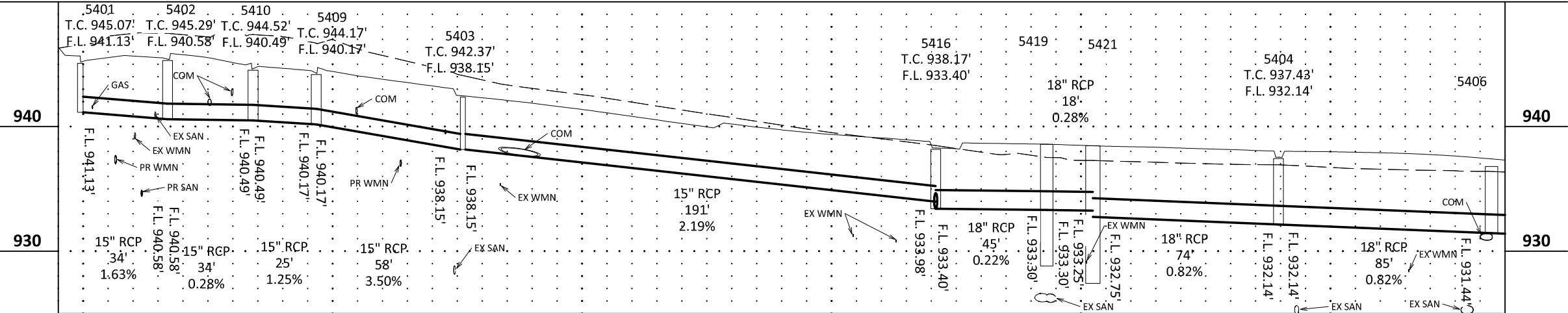
336

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			DRAINAGE STRUCTURES								TOP OF CASTING ELEV	FLOWS FROM PIPE OUTLET ELEV	FLOWS TO PIPE INLET ELEV	15" RC PIPE SEWER DES 3006 CL V LIN FT	18" RC PIPE SEWER DES 3006 CL III LIN FT	21" RC PIPE SEWER DES 3006 CL III LIN FT	24" RC PIPE SEWER DES 3006 CL III LIN FT	APRON	APRON TYPE	RIPRAP CLASS III CU YD	GEOTEXTILE FILTER TYPE IV SQ YD	GUIDE POSTS TYPE B EACH	REMARKS	
					PAY HEIGHT						CASTING ASSEMBLY TYPE	STEPS REQ'D														
		ALIGN.	STATION	OFFSET	TYPE	G OR H	48-4020	60-4020	DESIGN SPECIAL 7	DESIGN SPECIAL 8																DESIGN SPECIAL 9
						LIN FT	LIN FT	LIN FT	EACH	EACH																EACH
5401	5402	CSAH .51	126+99.0	16.0L	CB	3.9						B - 9		945.07	941.13	940.59	34									
5402	5410	CSAH .51	126+90.6	16.0R	CB		4.7					B - 9	YES	945.29	940.57	940.50	34									
5403	5416	CSAH .51	128+03.1	16.0R	CB		4.2					B - 9		942.37	938.14	933.99	191									
5404	5406	CSAH .51	131+33.4	16.0R	CB		4.8					B - 9	YES	937.43	932.58	932.41		85								
5407	5408	CSAH .51	133+46.3	16.0L	CB	3.9						B - 13		934.79	930.84	930.47	40									
5408	5412	CSAH .51	133+46.3	22.5R	CB			5.2				B - 13	YES	934.66	929.41	929.15		158								
5409	5403	CSAH .51	127+47.6	27.7R	CB		4.0					B - 13		944.17	940.16	938.16	58									
5410	5409	CSAH .51	127+23.6	27.7R	CB		4.0					B - 13		944.52	940.48	940.18	25									
5411	5408	CSAH .51	133+45.4	38.7R	CB		4.2					M - 11		933.91	929.70	929.68		16								
5412	5420	CSAH .51	134+98.0	26.2R	CB		6.4					B - 9	YES	935.56	929.13	928.97		99								
5413	5414	CSAH .51	136+12.9	68.7L	CB			7.0				B - 9	YES	935.54	928.55	928.50			21							
5414		CSAH .51	135+91.1	71.2L	APRON										928.50					1	24" RC PIPE APRON	9.2	33.4	1		
5416	5419	CSAH .51	129+91.6	19.9R	CB		4.8					B - 9	YES	938.17	933.39	933.30		45								
5417	5422	CSAH .51	133+40.2	130.3R	APRON									932.11	932.11	931.00		15		1	18" RC PIPE APRON			1		
5419	5421	CSAH .51							1						933.30	933.25		18							SEE DRAINAGE DETAILS	
5420	5413	CSAH .51	135+95.1	23.0R	CB			8.3				B - 9	YES	937.00	928.70	928.58										
5421	5404	CSAH .51								1					932.75	932.60		74							SEE DRAINAGE DETAILS	
5422	5411	CSAH .51	133+41.2	115.5R							1				930.09	929.72		76							SEE DRAINAGE DETAILS	
						7.8	37.1	20.5	1	1	1						382	329	257	116	2		9.2	33.4	2	

950

950



GENERAL NOTES:

STA. AND OFFSET IS AT
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OTHERWISE NOTED.
- END OF APRON OR END OF PIPE
IF NO APRON.

THE INLET ELEVATION ON THE
TABULATIONS IS THE
INVERT ELEVATION OF THE
PIPE AT THE INSIDE EDGE
OF THE FLOWS TO STRUCTURE.

INVERT ELEVATIONS (F.L.) ARE AT
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END OF APRON ON PROFILES.

THE OUTLET ELEVATION ON THE
TABULATION IS THE INVERT
ELEVATION OF THE PIPE AT
THE INSIDE EDGE OF THE
FLOWS FROM STRUCTURE.

PIPE LENGTHS ARE TO CENTER OF
STRUCTURE OR END OF APRON
ON PROFILES AND TABULATION.

BUILD HEIGHTS ARE CALCULATED
PER MNDOT 2506.

ALL CIRCULAR CONCRETE PIPE
SHALL BE SEWER DESIGN
3006 GASKET JOINT PIPE.

CASTING SUMP = 0.10' FOR CATCH
BASIN CASTINGS. SUMP HAS
BEEN INCLUDED IN TOP OF
CASTING ELEVATIONS.

SEE APPLICABLE MNDOT STANDARD
PLATES FOR DETAILS OF
DRAINAGE STRUCTURE DESIGN.

TIE ALL JOINTS FROM APRON TO
NEXT STORM SEWER STRUCTURE.
TIED JOINTS SHALL BE
INCIDENTAL.

FOR CASTING ASSEMBLY KEY AND
SUMMARY, SEE SHEET 146

SEE EXISTING UTILITY PLAN
AND PROPOSED SANITARY
& WATERMAIN PLAN FOR
MORE INFORMATION ON
UTILITIES

PROFILE REMARKS:

- CONNECT TO EXISTING STORM
SEWER. FIELD VERIFY
EXISTING INVERT ELEVATION.
- CONNECT INTO EXISTING
DRAINAGE STRUCTURE. FIELD
VERIFY EXISTING INVERT
ELEVATION.
- SEE DRAINAGE DETAILS ON
SHEETS 147 - 155

STRUCTURES ON THIS SHEET
5401 5405 5409 5413 5417 5422
5402 5406 5410 5414 5419
5403 5407 5411 5415 5420
5404 5408 5412 5416 5421



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A
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JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER
61874
LICENSE NO. DATE

DESIGN BY: J. LABAT
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CHECKED BY: A. MCGOVERN
LAST REVISION: / /

DRAINAGE PROFILES AND TABULATION

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

145

336

DRAINAGE TABULATION (SUMMARY OF ALL SHEETS)																														U							
PAY HEIGHT															4" PERFE PIPE DRAIN	FINE FILTER AGGREGATE (CV) (1)	12" RC PIPE SEWER DES 3006 CL V	15" RC PIPE SEWER DES 3006 CL V	18" RC PIPE SEWER DES 3006 CL III	21" RC PIPE SEWER DES 3006 CL III	24" RC PIPE SEWER DES 3006 CL III	30" RC PIPE SEWER DES 3006 CL III	44" SPAN RC PIPE-ARCH SEWER CL IIIA	58" SPAN RC PIPE-ARCH SEWER CL IIIA	15" PVC PIPE SEWER	15" PVC SLOTTED DRAIN	12" RC PIPE APRON	18" RC PIPE APRON	24" RC PIPE APRON	58" SPAN RC PIPE- ARCH APRON	TRASH GUARD FOR 12" PIPE APRON	TRASH GUARD FOR 58" SPAN PIPE APRON	RIPRAP CLASS III	GEOTEXTILE FILTER TYPE IV	GUIDE POSTS TYPE B	CONNECT INTO EXISTING DRAINAGE STRUCTURE	CONNECT TO EXISTING STORM SEWER
G OR H	48-4020	60-4020	72-4020	84-4020	90-4020	DESIGN SPECIAL 1	DESIGN SPECIAL 2	DESIGN SPECIAL 3	DESIGN SPECIAL 4	DESIGN SPECIAL 5	DESIGN SPECIAL 6	DESIGN SPECIAL 7	DESIGN SPECIAL 8	DESIGN SPECIAL 9	LIN FT	CU YD	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	CU YD	SQ YD	EACH	EACH	EACH
53.4	129.8	71.1	5.2	4.9	4.9	1	1	1	1	1	1	1	1	1	5445	463	108	1753	708	290	153	854	44	156	145	24	1	2	1	1	1	1	35.4	124.2	5	1	9

CASTING ASSEMBLIES SUMMARY							V
CASTING ASSEMBLY	MNDOT RING OR FRAME CASTING NO.	MNDOT GRATE OR COVER CASTING NO.	MNDOT CURB BOX NO.	MNDOT STANDARD PLATE NO.	CASTING HEIGHT (SUBTRACTED FROM STRUCTURE BUILD HEIGHT)	CASTING ASSEMBLIES	REMARKS
					LIN FT	EACH	
B-9	805 SQUARE			4132	0.75	38	
		816		4154			
			N/A	N/A			
B-13	806 SQUARE			4125	0.75	11	
		816		4154			
			824	4133			
M-11	ROUND CONC.			4143	0.67	2	731 STOOL
		731		4143			
			N/A	N/A			
A-70	700-7 ROUND			4101	0.58	6	
		715		4110			
			N/A	N/A			
TOTAL						57	

NOTES:
(1) FOR USE WITH 4" PERF PE PIPE DRAIN

SUBDRAIN SUMMARY					W
ALIGNMENT	OFFSET	START STRUCTURE CONNECTION	START STATION IF NO STRUCTURE CONNECTION	STOP STRUCTURE CONNECTION	4" PERF PE PIPE DRAIN LIN FT
CSAH .51	LT		101+45	5104	100
CSAH .51	RT		101+60	5103	90
CSAH .51	RT		103+62	5210	155
CSAH .51	LT		103+63	5209	120
CSAH .51	LT		105+51	5201	160
CSAH .51	RT		106+11	5202	100
CSAH .51	LT	5201		5204	110
CSAH .51	RT	5202		5203	75
CSAH .51	RT	5203		5205	30
CSAH .51	RT	5212		5205	35
CSAH .51	RT	5206		5212	30
CSAH .51	LT		109+02	5204	85
CSAH .51	RT		110+02	5301	135
CSAH .51	LT		110+02	5303	130
CSAH .51	LT	5303		5305	140
CSAH .51	RT		111+97	5302	45
CSAH .51	RT	5302		5306	35
CSAH .51	LT	5321		5305	45
CSAH .51	LT	5307		5321	250
CSAH .51	RT	5308		5306	280
CSAH .51	LT	5318		5307	145
CSAH .51	RT	5309		5308	135
CSAH .51	RT		118+02	5309	95
CSAH .51	LT	5310		5318	205
CSAH .51	RT	5312		5311	95
CSAH .51	LT	5315		5310	100
CSAH .51	RT	5313		5312	135
CSAH .51	LT		123+06	5315	310
CSAH .51	RT		123+18	5313	190
CSAH .51	RT		124+29	5402	255
CSAH .51	LT		124+44	5401	260
CSAH .51	LT		127+87	5415	200
CSAH .51	RT	5403		5416	190
CSAH .51	LT	5415		5423	120
CSAH .51	LT	5423		5405	85
CSAH .51	LT	5405		5407	165
CSAH .51	RT	5406		5408	120
CSAH .51	RT	5412		5408	155
CSAH .51	LT		135+78		230
CSAH .51	RT	5420		5412	105
					5445



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

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DRAINAGE PROFILES AND TABULATION

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SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

146

336



COUNT	DESCRIPTION	INSTALLED BY
1	2015-4 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	2015, 2400 micron, 2.17' O.D. x 1.67' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	20 SERIES PVC HYDRAULIC SHEAR PLATE*	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	30"Ø X 4" FRAME AND COVER, EJ #41600483, OR EQUIV.	CONTRACTOR

WATER QUALITY FLOW RATE	0.32 CFS
PEAK FLOW RATE	1.24 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHEET AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

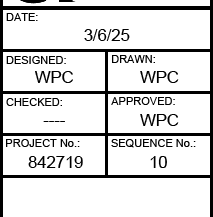
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH
PROPOSAL
DRAWING

WIES-MR
LAYOUT 1A

[illegible]

SITE DESIGNATION: 5102

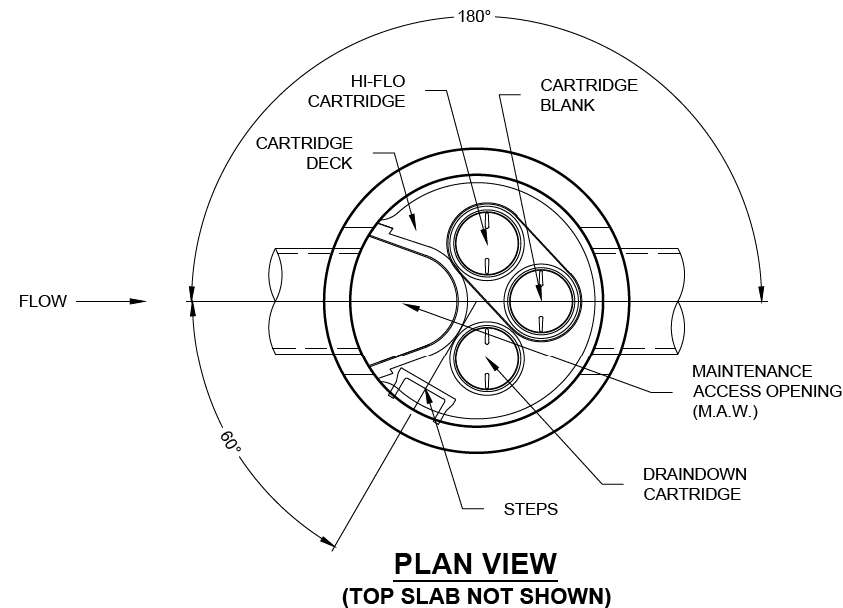


DATE _____

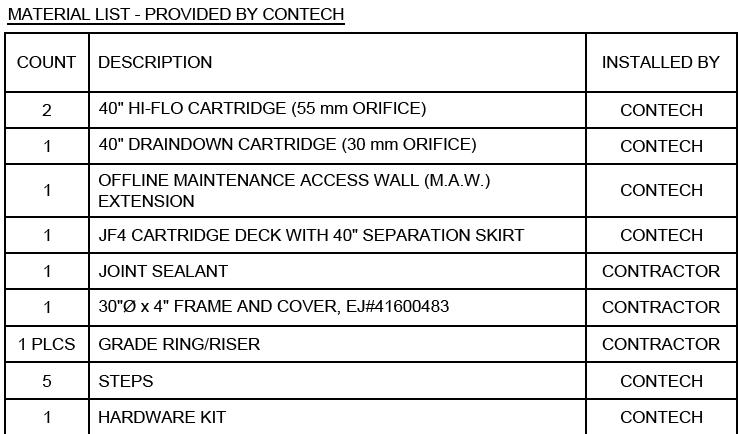
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CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

336



PLAN VIEW



ELEVATION VIEW

RIM ELEVATION = 946.11'±

TOP OF STRUCTURE
ELEVATION = 945.31'

INLET PIPE 1
ELEVATION = 940.91'

OUTLET PIPE
ELEVATION = 939.41'

ELEVATION 500.11

BOTTOM OF STRUCTURE
ELEVATION = 933.65'

GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. WWW.ContechES.COM
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20, ASSUMING EARTH COVER OF 0' - 1', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
- D. WHEN ACTIVATED PRIOR TO SITE STABILIZATION, CONTRACTOR TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ACCORDING TO THE PROVISIONS IN THE ACTIVATION CHECKLIST AND THE QUOTED SCOPE OF WORK. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION AT (866) 740-3318.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK OF 5 PIECES = 4500 LBS.

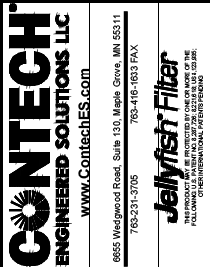
CONTECH
PROPOSAL
DRAWING

WIES-MR
LAYOUT 1A

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[illegible]

JF4-2-1 (40")- 842719-30
CSAH 51
MOUND, MN
FOR SYSTEM: 5111



DATE: 03/06/25

DESIGNED: WPC	DRAWN: WPC
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CHECKED:	APPROVED:
----------	-----------

PROJECT No.:	SEQUENCE
842719	30



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

JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874 / /
LICENSE NO. DATE

DESIGN BY:	<u>J. LABAT</u>
CAD BY:	<u>B. SPECHT</u>
CHECKED BY:	<u>A. MCGOVERN</u>
LAST REVISION:	/ /

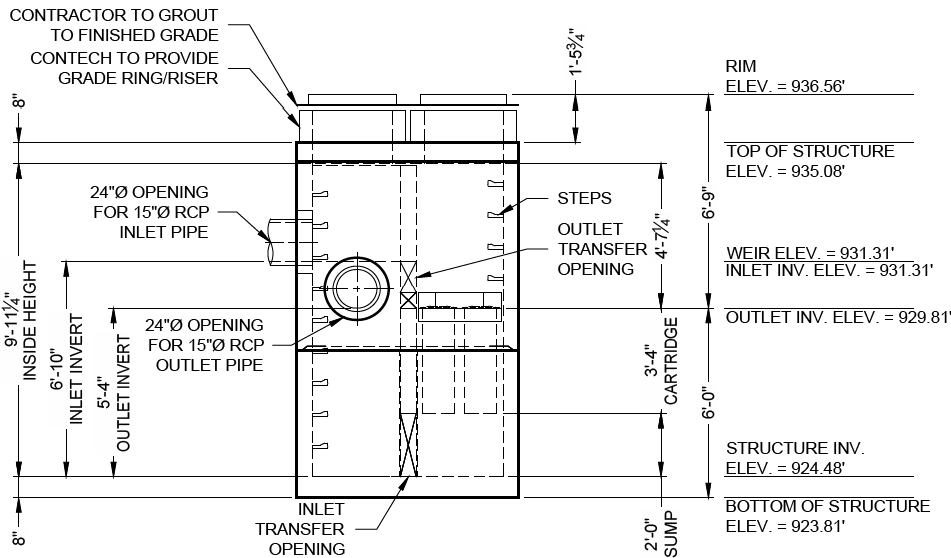
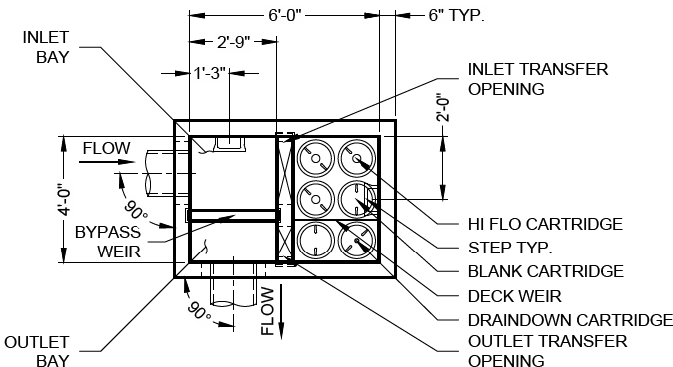
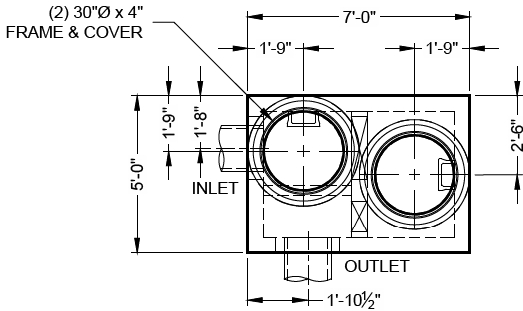
DRAINAGE DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

$$\begin{array}{r} 148 \\ \hline 330 \end{array}$$

I:\MERLIN\PROJECT\ACTIVE\842720\8427 JELLYFISH\DRAWINGS\842719-035-JFPD0406-CONFAB.DWG 3/14/2025 11:37 AM



MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
3	40" HI-FLO CARTRIDGE (55 mm ORIFICE)	CONTECH
1	40" DRAINDOWN CARTRIDGE (30 mm ORIFICE)	CONTECH
2	CARTRIDGE BLANK (NO ORIFICE)	CONTECH
1	JELLYFISH VAULT 6-CARTRIDGE DECK, STANDARD	CONTECH
1	JOINT SEALANT (BY PRECASTER)	CONTRACTOR
2	30"Ø X 4" FRAME & COVER, EJ #41600483	CONTRACTOR
2 PLCS.	GRADE RING/RISER	CONTRACTOR
13	STEPS	CONTECH

SITE DESIGN DATA

WATER QUALITY FLOW RATE	0.37 CFS
PEAK FLOW RATE	1.79 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS

GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. WWW.CONTECHES.COM
- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
- WHEN ACTIVATED PRIOR TO SITE STABILIZATION, CONTRACTOR TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ACCORDING TO THE PROVISIONS IN THE ACTIVATION CHECKLIST AND THE QUOTED SCOPE OF WORK. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (800) 338-1122.

STRUCTURE WEIGHT

APPROXIMATE HEAVIEST PICK OF (3) PIECES = 12500 LBS.

CONTECH
CONTRACT
DRAWING

WIES-MR
5883/454041
LAYOUT 7
CLASS 1

4' X 6' JELLYFISH - 842719-035
CSAH 51
MOUND, MN
SITE DESIGNATION: 5208

CONTECH
ENGINEERED SOLUTIONS LLC
www.conteches.com
4444 West 7th Street, Bloomington, MN 55455
600-338-1122

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. AND INTERNATIONAL PATENT PENDING.

DATE:		3/14/2025	
DESIGNED: WPC		DRAWN: KOL	
CHECKED: WPC		APPROVED: WPC	
PROJECT No.: 842719		SEQUENCE No.: 035	



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JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

//

DATE

DESIGN BY:

J. LABAT

CAD BY:

B. SPECHT

CHECKED BY:

A. MCGOVERN

LAST REVISION:

//

DRAINAGE DETAILS

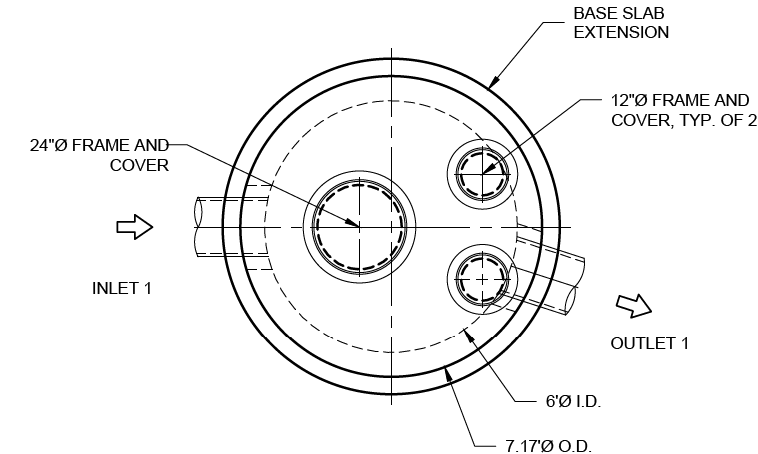
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

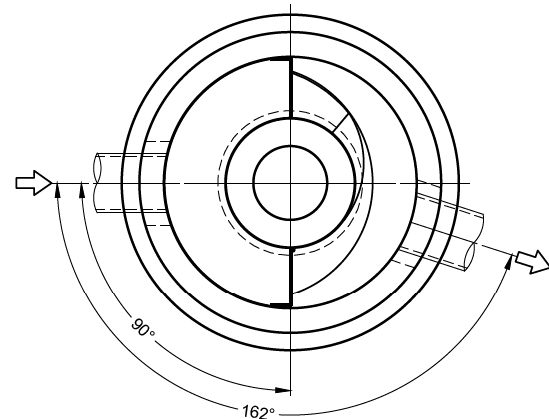
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PLAN VIEW
INTERNALS NOT SHOWN



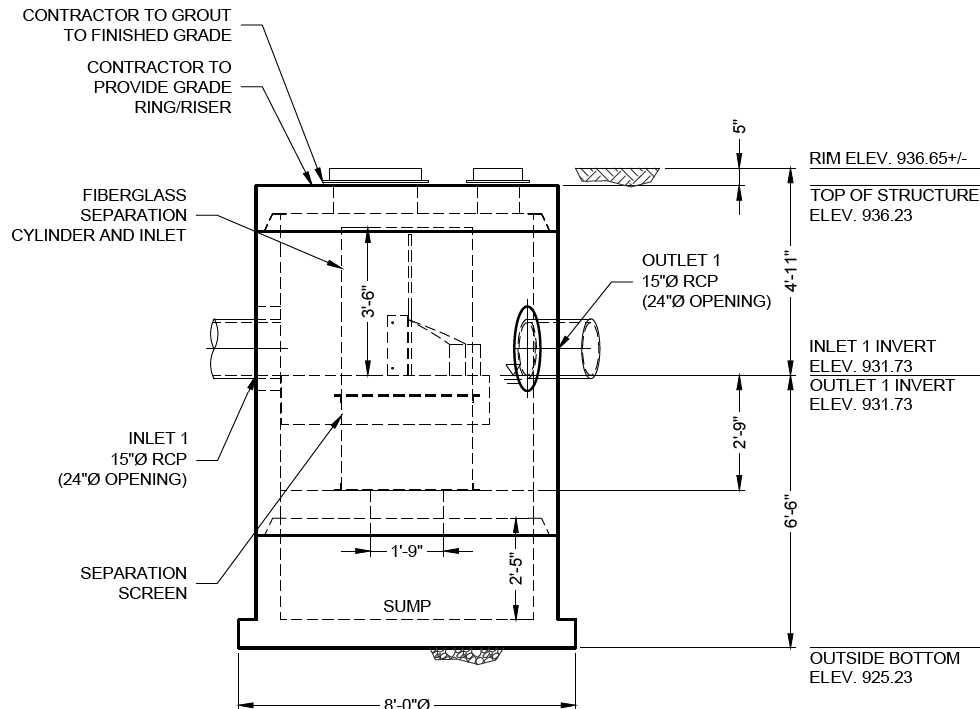
PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	3020-6 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	3020, 2400 micron, 3.1' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
*		
1	SEALANT FOR JOINTS	CONTRACTOR
1	24"Ø X 4" FRAME AND COVER, EJ #41600389, OR EQUIV.	CONTRACTOR
2	12"Ø X 4" FRAME AND COVER, EJ #41610201, OR EQUIV.	CONTRACTOR

SITE DESIGN DATA

WATER QUALITY FLOW RATE	1.93 CFS
PEAK FLOW RATE	9.84 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS



ELEVATION VIEW

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- IF REQUIRED, PVC HYDRAULIC SHIFTER AT BOTTOM OF SCREEN CYLINDER REMOVE AND REPIACE AS NECESSARY DURING MAINTENANCE CLEANING.
- CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 16500 LBS.
STRUCTURE IS DELIVERED IN 3 PIECES

MAX FOOTPRINT = 8.00'

CONTECH
PROPOSAL
DRAWING

WIES-MR
LAYOUT

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DATE:	3/6/25	MARK	BY
DESIGNED:	WPC	REVISION DESCRIPTION	
CHECKED:	---		
PROJECT No.:	842719		
SEQUENCE No.:	20		

CDS3020-6-C - 842719-20
CSAH 51
MOUND, MN
SITE DESIGNATION: 5316

CONTECH
ENGINEERED SOLUTIONS LLC
www.ContechES.com
6655 Wedgwood Road, Suite 130, Maple Grove, MN 55311
763-416-1633 FAX
763-231-1706

FOR FURTHER INFORMATION, GO TO www.ContechES.com

CDS



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

JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874
LICENSE NO. DATE

DESIGN BY: J. LABAT
CAD BY: B. SPECHT
CHECKED BY: A. MCGOVERN
LAST REVISION: / /

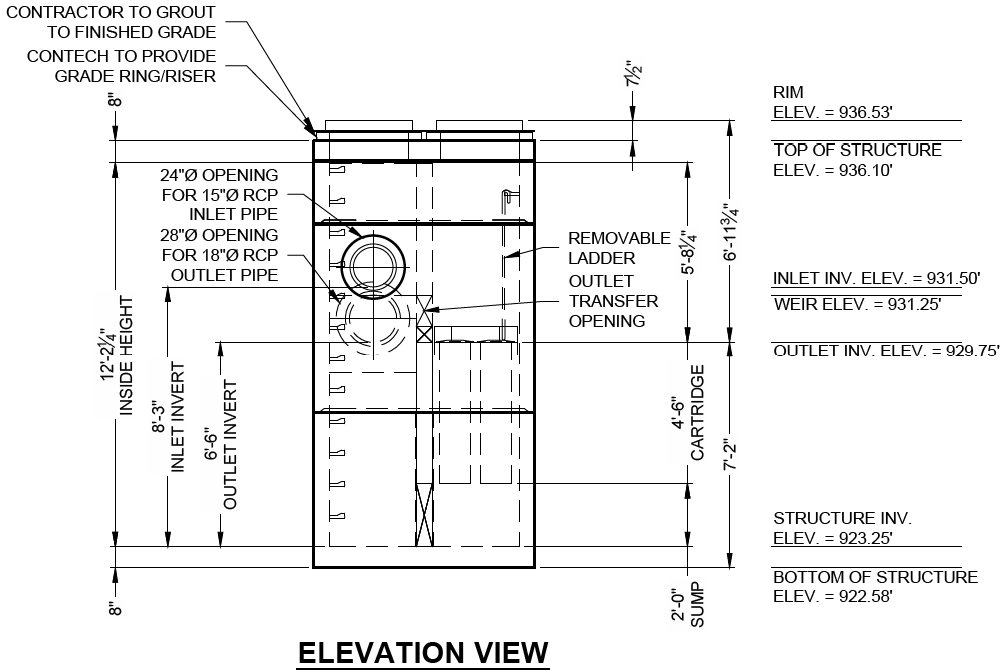
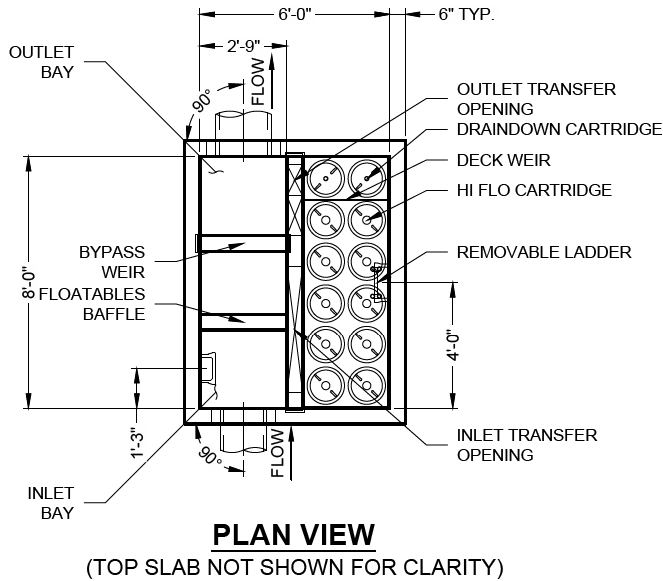
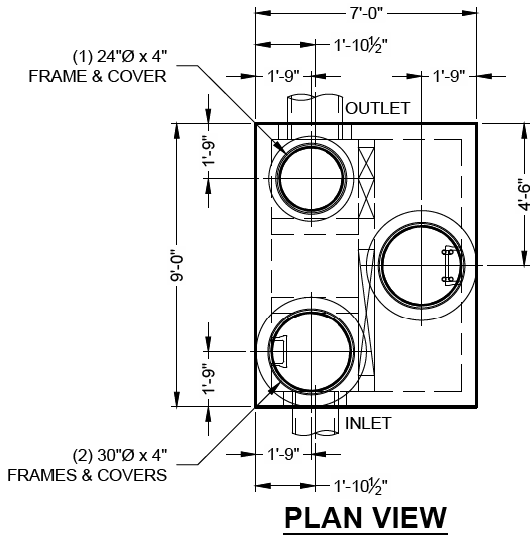
DRAINAGE DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

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MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
10	54" HI-FLO CARTRIDGE (70 mm ORIFICE)	CONTECH
2	54" DRAINDOWN CARTRIDGE (35 mm ORIFICE)	CONTECH
0	CARTRIDGE BLANK (NO ORIFICE)	CONTECH
1	JELLYFISH VAULT 12-CARTRIDGE DECK, STANDARD	CONTECH
1	JOINT SEALANT (BY PRECASTER)	CONTRACTOR
2	30"Ø X 4" FRAME & COVER, EJ #41600483	CONTRACTOR
1	24"Ø X 4" FRAME & COVER, EJ #41600389	CONTRACTOR
3 PLCS.	GRADE RING/RISER	CONTRACTOR
12	STEPS	CONTECH
1	STEP, LANE P-14850 (FOR LADDER ATTACHMENT)	CONTECH
1	REMOVABLE, LANE 4-STEP POLY LADDER	CONTECH

SITE DESIGN DATA

WATER QUALITY FLOW RATE	1.93 CFS
PEAK FLOW RATE	9.84 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS

GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. WWW.CONTECHES.COM
- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20, ASSUMING EARTH COVER OF 0' - 1', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
- WHEN ACTIVATED PRIOR TO SITE STABILIZATION, CONTRACTOR TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ACCORDING TO THE PROVISIONS IN THE ACTIVATION CHECKLIST AND THE QUOTED SCOPE OF WORK. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (800) 338-1122.

STRUCTURE WEIGHT

APPROXIMATE HEAVIEST PICK OF (3) PIECES = 20000 LBS.

CONTECH
CONTRACT
DRAWING

WIES-MR
5883 / 454041
LAYOUT 7
CLASS 800

8' X 6' JELLYFISH - 842719-040
CSAH 51
MOUND, MN
SITE DESIGNATION: 5317



DATE: 3/14/2025	
DESIGNED: WPC	DRAWN: KOL
CHECKED: WPC	APPROVED: WPC
PROJECT No.: 842719	SEQUENCE No.: 040



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JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

DATE

DESIGN BY:

J. LABAT

CAD BY:

B. SPECHT

CHECKED BY:

A. MCGOVERN

LAST REVISION:

DRAINAGE DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

152

336



COUNT	DESCRIPTION	INSTALLED BY
1	2025-5 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	2025, 2400 micron, 2.17' O.D. x 2.58' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	20 SERIES PVC HYDRAULIC SHEAR PLATE*	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	30"Ø X 4" FRAME AND COVER, EJ #41600483, OR EQUIV.	CONTRACTOR

WATER QUALITY FLOW RATE	1.25 CFS
PEAK FLOW RATE	5.42 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHEET PILE AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH
PROPOSAL
DRAWING

WIES-MR
LAYOUT

CDS2025-5-C - 842719-25
CSAH 51
MOUND, MN
SITE DESIGNATION: 5419

CONTECH.
ENGINEERED SOLUTIONS LLC
www.ContechES.com
6655 Wedgwood Road, Suite 130, Maple Grove, MN 55311
763-231-3705 763-416-1633 FAX



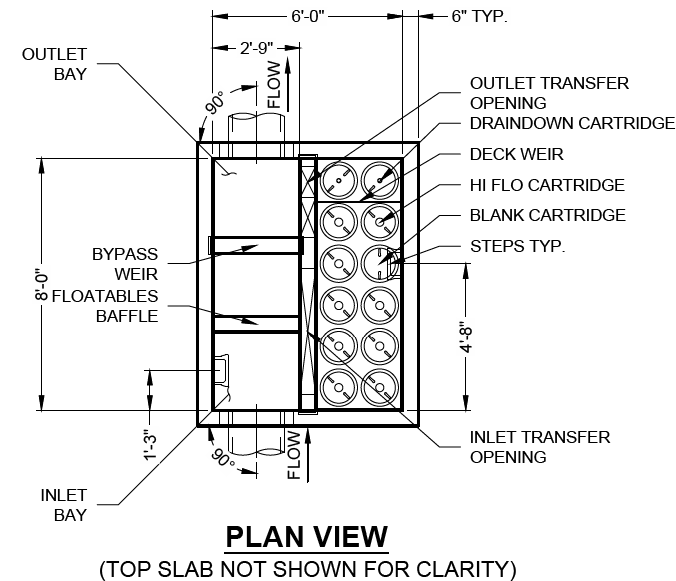
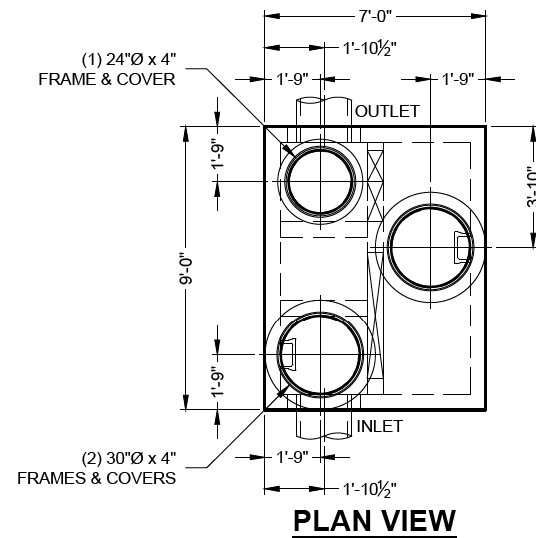
SEQUENCE No.:
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CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

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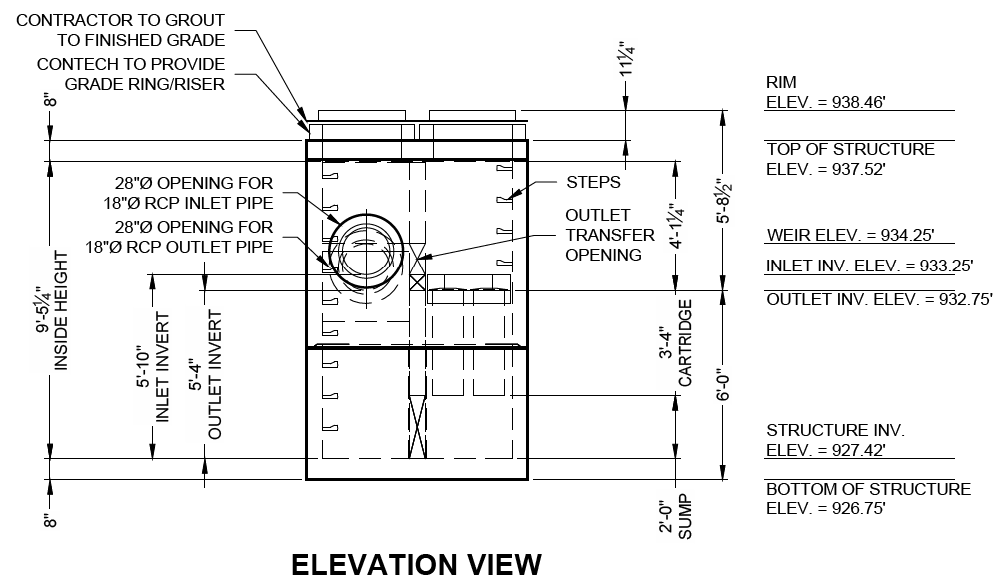


MATERIAL LIST - PROVIDED BY CONTECH

COUNT	DESCRIPTION	INSTALLED BY
9	40" HI-FLO CARTRIDGE (55 mm ORIFICE)	CONTECH
2	40" DRAINDOWN CARTRIDGE (30 mm ORIFICE)	CONTECH
1	CARTRIDGE BLANK (NO ORIFICE)	CONTECH
1	JELLYFISH VAULT 12-CARTRIDGE DECK, STANDARD	CONTECH
1	JOINT SEALANT (BY PRECASTER)	CONTRACTOR
2	30"Ø X 4" FRAME & COVER, EJ #41600483	CONTRACTOR
1	24"Ø X 4" FRAME & COVER, EJ #41600389	CONTRACTOR
3 PLCS.	GRADE RING/RISER	CONTRACTOR
13	STEPS	CONTECH

SITE DESIGN DATA

WATER QUALITY FLOW RATE	1.25 CFS
PEAK FLOW RATE	5.42 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS



GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. WWW.ContechES.COM
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20, ASSUMING EARTH COVER OF 0' - 1', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- | | | |
|----|---|---|
| A. | ANY SUB-BASE, BACKFILL, DEPTFT, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD. | C |
| B. | CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE. | C |
| C. | CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT) | C |
| D. | WHEN ACTIVATED PRIOR TO SITE STABILIZATION, CONTRACTOR TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF. | C |
| E. | CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ACCORDING TO THE PROVISIONS IN THE ACTIVATION CHECKLIST AND THE QUOTED SCOPE OF WORK. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (800) 338-1122. | C |

STRUCTURE WEIGHT

APPROXIMATE HEAVIEST PICK OF (3) PIECES = 18500 LBS.

CONTECH
CONTRACT
DRAWING

WIES-MR
5883 / 454041
LAYOUT 7
CLASS 800

[illegible]

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

JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874
LICENSE N

DATE

DESIGN BY:

J. LABAT

CAD BY:

B. SPECHT

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A. MCGOVERN

LAST REVISION:

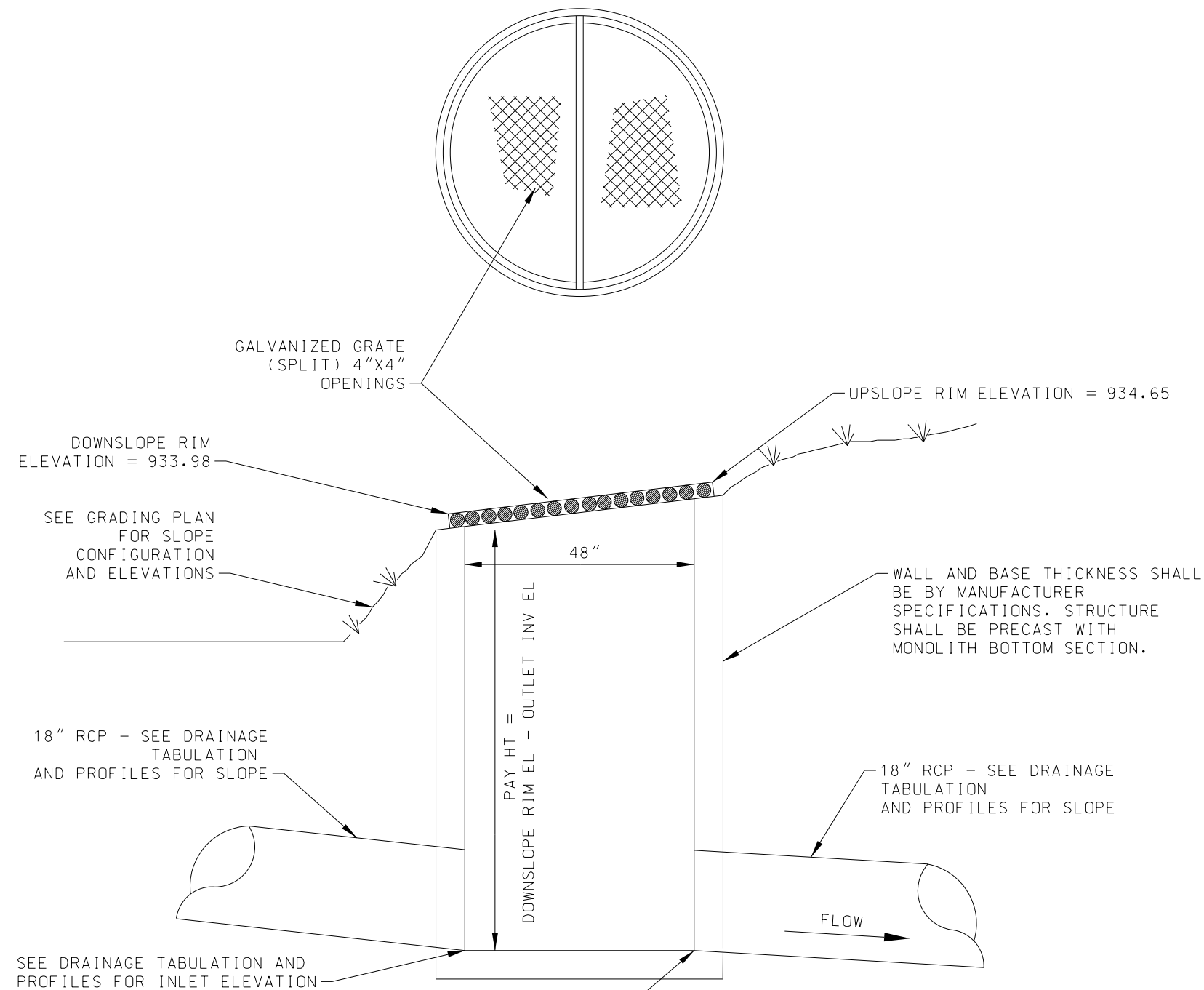
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DRAINAGE DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

$$\begin{array}{r} 154 \\ \hline 336 \end{array}$$

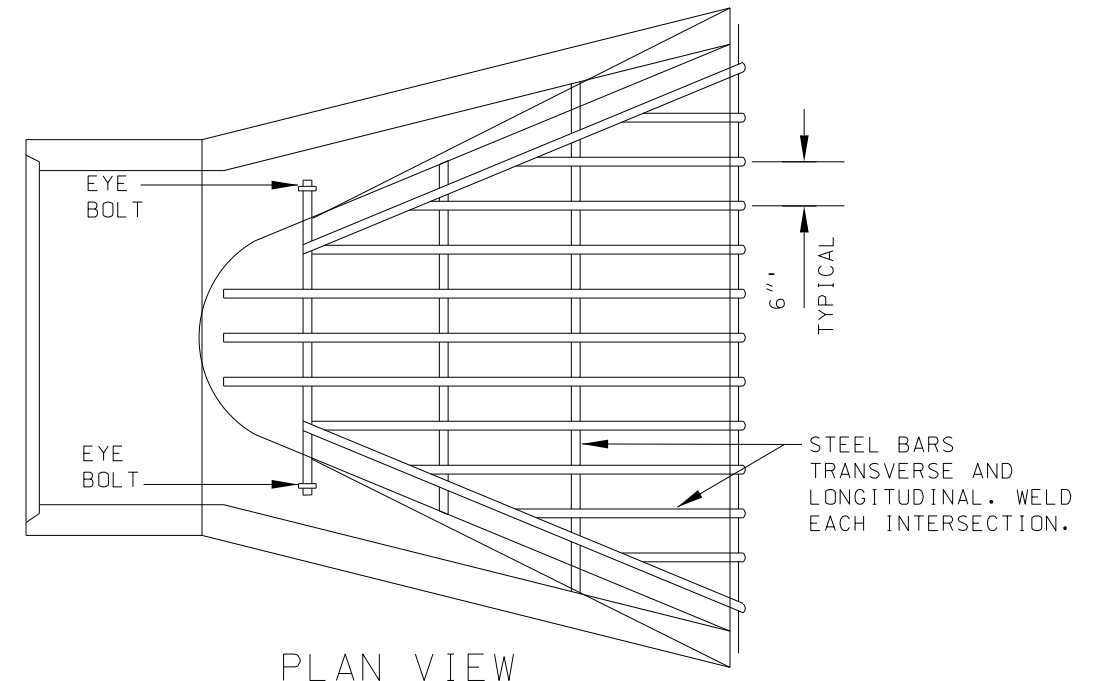


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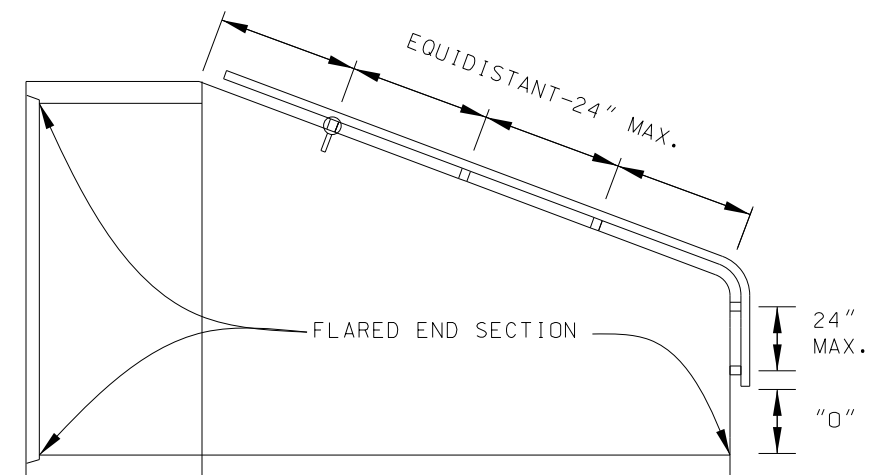
- ALL APPURTENANCES RELATED TO STRUCTURE INSTALLATION INCLUDING BUT NOT LIMITED TO GRATE AND BASE MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM.

DRAINAGE STRUCTURE DESIGN SPECIAL 9

NOT TO SCALE



PLAN VIEW



ELEVATION

SIZE OF PIPE	BARS	BOLTS	"O"
12" TO 18"	3/4"	5/8"	4"
21" TO 42"	1"	3/4"	6"
48" TO 72"	1-1/4"	1"	12"

PROVIDE 3 CLIPS TO FASTEN TRASH GUARD TO FLARED END SECTION. HOT DIP GALVANIZE AFTER FABRICATION.

TRASH GUARD

NOT TO SCALE



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JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

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DATE

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SHEET

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PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

EXISTING RIGHT OF WAY

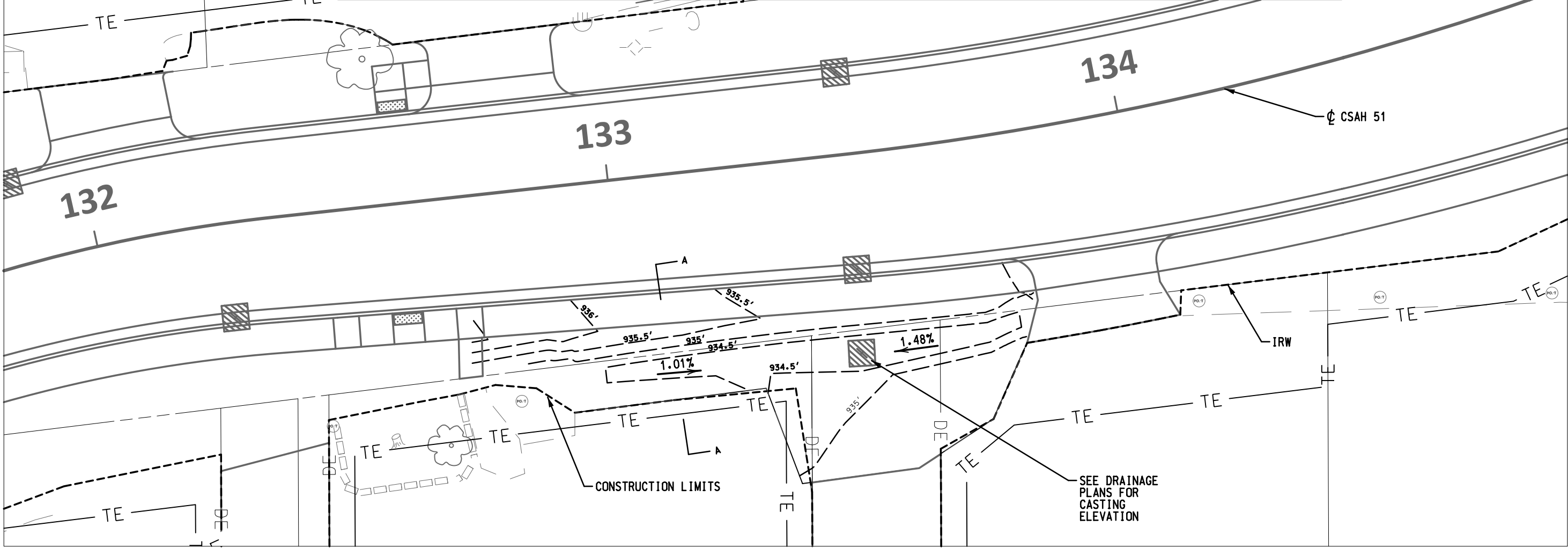
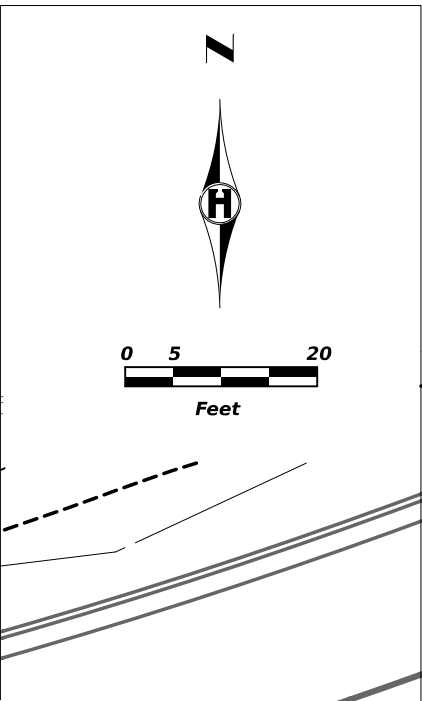
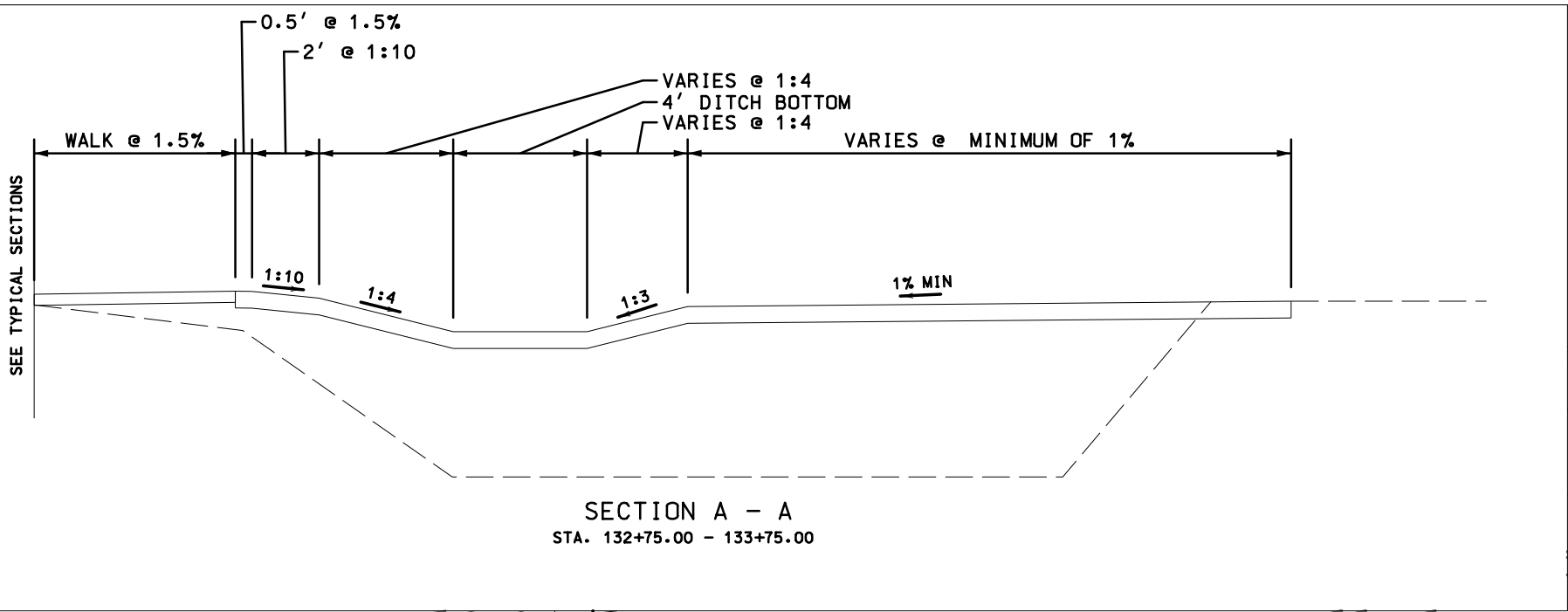
PROPOSED RIGHT OF WAY

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TEMPORARY EASEMENT

DE

DRAINAGE AND UTILITY EASEMENT



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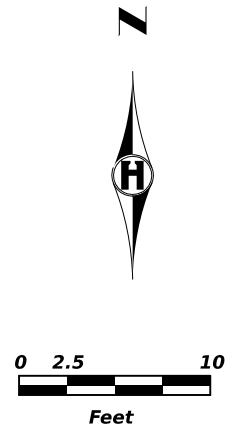
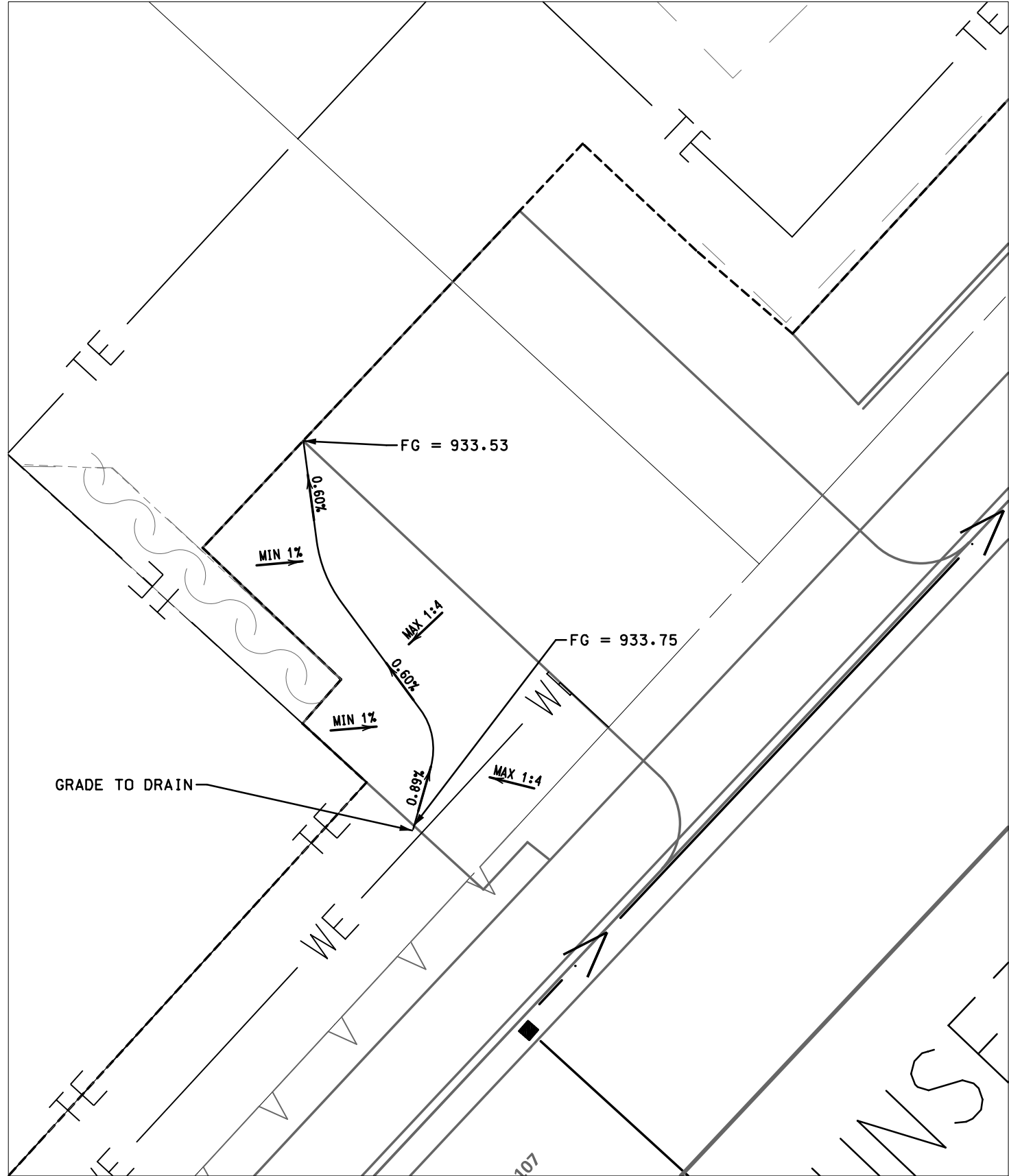
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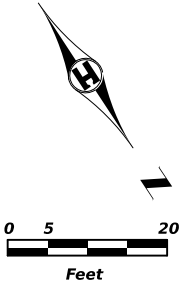
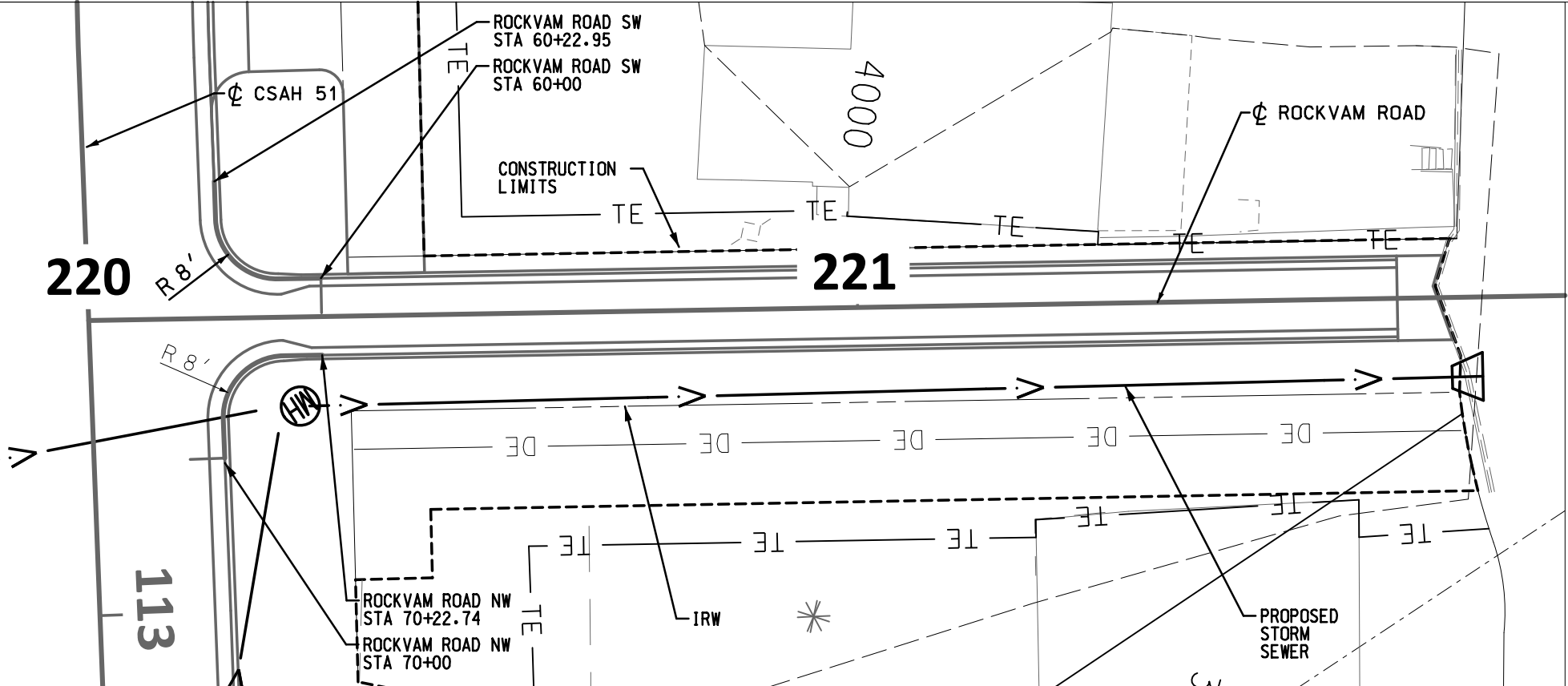
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SHEET

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LEGEND

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

EXISTING RIGHT OF WAY

PROPOSED RIGHT OF WAY

TE TEMPORARY EASEMENT

DE DRAINAGE AND UTILITY EASEMENT

GENERAL NOTES:

SEE TYPICAL SECTIONS FOR CURB TYPE, DIMENSIONS, AND PAVEMENT SECTION.

SEE PROFILES FOR CENTERLINE PROFILE INFORMATION.

SEE CROSS SECTIONS FOR MORE INFORMATION.

SEE DRAINAGE PLANS FOR STORM SEWER INFORMATION.



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SHEET

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STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT DESCRIPTION/LOCATION

CP 2182000 IS LOCATED ON CSAH 51 FROM CSAH 15 (SHORELINE DR) TO CSAH 19 (SHADYWOOD RD) IN THE CITY OF SPRING PARK IN HENNEPIN COUNTY. THE PLANNED SCOPE OF THE PROJECT INCLUDES: GRADING, BITUMINOUS SURFACING, ADA IMPROVEMENTS, STORM SEWER, SANITARY SEWER, AND WATERMAIN.

THE SWPPP MUST BE AMENDED TO DOCUMENT ANY CHANGES TO EROSION AND SEDIMENT CONTROLS, METHODS, OR PRACTICES. THESE AMENDMENTS MUST BE TIMELY TO KEEP THE SWPPP UPDATED AND NEED TO BE KEPT ON SITE.

RESPONSIBILITIES

PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR PER MNDOT SPECIFICATION 2573.3.A.1. EROSION CONTROL SUPERVISOR WILL WORK WITH PROJECT ENGINEER TO OVERSEE IMPLEMENTATION OF SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING AND AFTER CONSTRUCTION UNTIL PERMIT TERMINATION CONDITIONS HAVE BEEN MET.

PROVIDE AT LEAST ONE CERTIFIED INSTALLER PER MNDOT SPECIFICATION 2573.3.A.2. FOR EACH CONTRACTOR OR SUBCONTRACTOR THAT PLACES THE PRODUCTS LISTED IN MNDOT SPECIFICATION SECTION 2573.3.A.2.

CHAIN OF RESPONSIBILITY

HENNEPIN COUNTY AND THE CONTRACTOR ARE CO-PERMITTEES FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. HENNEPIN COUNTY'S CONSTRUCTION PROJECT ENGINEER WILL ENSURE THAT THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL SUPERVISOR FULFILLS THEIR DUTIES.

LAND FEATURE CHANGES

TOTAL DISTURBED AREA	7.2 AC
WITHIN THE DISTURBED AREA: TOTAL EXISTING IMPERVIOUS SURFACE AREA	6.0 AC
WITHIN THE DISTRUBED AREA: TOTAL PROPOSED IMPERVIOUS SURFACE AREA	6.2 AC
TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA	0.2 AC

SWPPP SHEET DESCRIPTIONS	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS NO. 163 - 169
PERMANENT EROSION CONTROL MEASURES	SHEETS NO. 170 - 176
DIRECTION OF FLOW	SHEETS NO. 134 - 140
FINAL STABILIZATION	SHEETS NO. 170 - 176
SOILS AND CONSTRUCTION NOTES	SHEETS NO. 11
DRAINAGE STRUCTURES	SHEETS NO. 134 - 158
DRAINAGE TABULATION	SHEETS NO. 141 - 146
STORM SEWER PROFILE SHEETS	SHEETS NO. 141 - 145
STORM SEWER TABULATION	SHEETS NO. 141 - 146
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS NO. 61 - 64
EROSION CONTROL TABULATION	SHEETS NO. 16
TURF ESTABLISHMENT TABULATION	SHEETS NO. 16
SITE MAP	SHEET NO. 162
STORMWATER CALCULATIONS	PER REQUEST



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CHECKED BY: J. LABAT

LAST REVISION: //

STORMWATER POLLUTION PREVENTION PLAN	SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	159 / 336

SOIL TYPES

SOIL TYPES TYPICALLY FOUND ON THIS PROJECT ARE ANGUS LOAM, WITH 2% TO 6% SLOPES; AND LESTER LOAM, MODERATELY ERODED WITH 6% TO 10% SLOPES.

ENVIRONMENTAL REVIEW

THERE ARE/ARE NO STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHEOLOGICAL OR AGENCY REVIEW. ALL MITIGATION MEASURES HAVE BEEN ADDRESSED IN THIS PLAN SET OR THE SPECIAL PROVISIONS.

THIS PROJECT IS LOCATED IN A WELL HEAD PROTECTION AREA.

THIS PROJECT IS LOCATED IN A DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA). THE DWSMA VULNERABILITY IS CLASSIFIED AS "LOW".

THIS PROJECT IS NOT LOCATED IN A KARST AREA.

THIS PROJECT IS NOT LOCATED IN AN EMERGENCY RESPONSE AREA (ERA) PER DEPARTMENT OF HEALTH.

WATER RELATED PERMITS

AGENCY	TYPE OF PERMIT
MINNESOTA POLLUTION CONTROL AGENCY (MPCA)	NPDES CONSTRUCTION PERMIT
WATERSHED DISTRICT	CONSTRUCTION PERMIT
DEPARTMENT OF NATURAL RESOURCES (DNR)	
ARMY CORPS OF ENGINEERS	TRGP

READ AND REVIEW ALL PERMITS FOR SPECIAL CONDITIONS THAT WILL AFFECT CONSTRUCTION OF THE PROJECT.

ARMY CORPS PERMIT IS NON REPORTING EOR THIS PROJECT, FOLLOW THE CONDITIONS IN THE GENERAL PERMIT FOR TRGP.

IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, OPERATIONS SHOULD CEASE AND DETERMINATION MADE IF ADDITIONAL PERMITS ARE NEEDED OR EXISTING PERMITS NEED TO BE MODIFIED.

TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED FOR ROADWAY CONSTRUCTION AND UTILITY WORK. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE PERMIT. SUBMIT A SITE MANAGEMENT PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.

WATER BODY	NO WORK DURING
LAKES	APRIL 1 - JUNE 30
NON-TROUT STREAMS	MARCH 15 - JUNE 15
TROUT STREAMS	SEPTEMBER 1 - APRIL 1

SPECIAL AND IMPAIRED WATERS THAT ARE LOCATED WITHIN ONE MILE (AERIAL RADIUS) OF THE PROJECT LIMITS AND RECEIVE RUNOFF FROM THE PROJECT SITE:

WATERBODY NAME	IMPAIRMENT(S) OR SPECIAL STATUS
MINNETONKA WEST ARM	Hg-F, NUTRIENTS
MINNETONKA UPPER LAKE	Hg-F (NON-CONSTRUCTION RELATED)
MINNETONKA CRYSTAL BAY	Hg-F (NON-CONSTRUCTION RELATED)
MINNETONKA LOWER LAKE	Hg-F (NON-CONSTRUCTION RELATED)

AREAS OF ENVIRONMENTAL SENSITIVITY (AES)

WETLANDS AND EXISTING STORMWATER FACILITIES WITHIN AND NEAR THE PROJECT BOUNDARY ARE SHOWN ON DRAINAGE PLANS.

PROJECT ORGANIZATION CONTACTS	NAME	PHONE
CONTRACTOR'S EROSION AND SEDIMENT CONTROL SUPERVISOR	TBD	XXX-XXX-XXXX
CONTRACTOR'S EROSION AND SEDIMENT CONTROL INSTALLER	TBD	XXX-XXX-XXXX
HENNEPIN COUNTY DESIGN PROJECT MANAGER	AMBER KLEIN	612-596-0176
HENNEPIN COUNTY WATER RESOURCES ENGINEER	ANDREW MCGOVERN	612-596-0208
HENNEPIN COUNTY SWPPP DESIGNER	JORDAN LABAT	612-596-0703
HENNEPIN COUNTY CONSTRUCTION PROJECT MANAGER	ZACHARY ROTHSTEIN	612-596-0410
EROSION CONTROL SUPERVISOR	TBD	XXX-XXX-XXXX
MINNESOTA DEPARTMENT OF NATURAL RESOURCES	WES SAUNDERS-PEARCE	651-259-5822
MINNEHAHA CREEK WATERSHED DISTRICT	PERMITTING	952-641-4532
MPCA DUTY OFFICER 24 HR EMERGENCY NOTIFICATION	651-649-5451 OR 1 (800)-422-0798	

INSPECTION TIMEFRAMES

INSPECT THE ENTIRE CONSTRUCTION SITE A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECT ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPS, SURFACE WATERS AND CONSTRUCTION SITE EXITS UNTIL ALL CONSTRUCTION IS COMPLETE AND THE SITE HAS UNDERGONE FINAL STABILIZATION. RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER.

EROSION AND SEDIMENT CONTROL MEASURES

AREA	TIME FRAME
ESTABLISH SEDIMENT CONTROL DEVICES ON ALL DOWN GRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER ZONES	BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN
REPAIR, REPLACE OR SUPPLEMENT PERIMETER CONTROL BMPS	HENNEPIN BMP BECOMES NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE BMP BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REPLACE, REPAIR OR SUPPLEMENT ALL NONFUNCTIONAL BMPS	BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REPAIR, REPLACE, OR SUPPLEMENT INLET PROTECTION BMPS	WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT ANO/OR DEPTH OF THE BMP BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY.
REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE (LIGHTLY WET PRIOR TO SWEEPING)	WITHIN 24 HOURS OF DISCOVERY
REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS AND RESTABILIZE	WITHIN 7 DAYS OF DISCOVERY

1.

PROVIDE PERIMETER CONTROL AROUND ALL STOCKPILES AND DO NOT PLACE THEM IN NATURAL BUFFER AREAS, SURFACE WATERS OR STORMWATER CONVEYANCES. TOPSOIL BERMS MUST BE STABILIZED IN ORDER TO BE CONSIDERED PERIMETER CONTROL BMPS.
2.

PROTECT STORM SEWER INLETS AT ALL TIMES WITH THE APPROPRIATE INLET PROTECTION BMP AND PROVIDE EMERGENCY OVERFLOW CAPABILITIES. SILT FENCE PLACED IN THE INLET GRATE IS NOT AN ACCEPTABLE INLET PROTECTION BMP FOR GRADING OPERATIONS.
3.

PLACE AND MAINTAIN CONSTRUCTION EXITS OF SUFFICIENT SIZE TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES BOTH ON AND OFF THE PROJECT SITE. REGULAR STREET SWEEPING IS NOT AN ACCEPTABLE ALTERNATIVE TO PROPER CONSTRUCTION EXIT INSTALLATION ANO MAINTENANCE.
4.

PROVIDE SCOUR PROTECTION AT OUTFALL OF DEWATERING ACTIVITIES. PROVIDE STABILIZATION IN TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
5.

PREPARE AND SUBMIT A SITE MANAGEMENT PLAN AND CONTACT ALL APPROPRIATE AUTHORITIES PRIOR TO WORKING IN SURFACE WATERS.
6.

MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION FOR PERMIT TERMINATION, ANO THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

STABILIZATION

AREA	TIME FRAME	NOTES
LAST 200 LINEAL FEET OF DRAINAGE DITCH OR SWALE	WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER OR PROPERTY EDGE	2A, 3A
REMAINING PORTIONS OF DRAINAGE DITCH OR SWALE	7 DAYS	3A
PIPE AND CULVERT OUTLETS	24 HOURS	
EXPOSED SOILS ANO STOCKPILES	7 DAYS	1A
WHEN CONSTRUCTION HAS TEMPORARILY OR PERMENANTLY CEASED	IMMEDIATELY	

- 1A.

TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT CLAY OR SILT AND STOCKPILED AND CONSTRUCTED ROAD BASE ARE EXEMPT FROM THE STABILIZATION REQUIREMENT.
- 2A.

STABILIZE WETTED PERIMETER OF DITCH (I.E. WHERE THE DITCH GETS WET).
- 3A.

APPLICATION OF MULCH, HYDROMULCH (SLOPE>2%), DISCANCHORED MULCH (SLOPE>2%), TACKIFIER AND POLYACRYLAMIDE ARE NOT ACCEPTABLE STABILIZATION METHODS IN DITCHES AND SWALES.

MATERIAL STORAGE, WASTE MANAGEMENT, FUELING AND DUST CONTROL

1.

PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE. ENSURE ALL SPILLS ARE CLEANED UP IMMEDIATELY.
2.

STORE ALL LIQUID CHEMICALS UNDER COVER WITH SECONDARY CONTAINMENT. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS, STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.
3.

FUEL AND MAINTAIN VEHICLES IN A DESIGNATED CONTAINED AREA WHENEVER FEASIBLE. USE DRIP PANS OR ABSORBENT MATERIALS TO PREVENT SPILLS OR LEAKED CHEMICALS FROM DISCHARGING TO SURFACE WATER OR STORMWATER CONVEYANCES.
4.

PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS. LIQUID AND SOLID WASHOUT WASTES MUST NOTCONTACT THE GROUND. DESIGN THE CONTAINMENT SO THAT IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR CONTAINMENT AREA.
5.

USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
6.

USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE OUST, STREET SWEEPING OUST, SAWCUT SLURRY, PLANING WASTE, CONCRETE WASH OUT, AND OTHER CONCRETE WASTES FROM LEAVING HENNEPIN COUNTY RIGHT OF WAY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, AND FROM ENTERING STORMWATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.

Hennepin

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STORMWATER POLLUTION PREVENTION PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

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10/1/2025

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IMPORTANT SWPPP NOTES FOR CONSTRUCTION ACTIVITY									
1.	PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR THE ENGINEER'S ACCEPTANCE FOR CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, AREAS IDENTIFIED IN THE PLANS AS "SITE MANAGEMENT PLAN AREA", ANY WORK THAT WILL REQUIRE DEWATERING, AND AS REQUESTED BY THE ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS TO THE ENGINEER IN WRITING. ALLOW A MINIMUM OF 7 DAYS FOR HENNEPIN COUNTY TO REVIEW AND ACCEPT SITE MANAGEMENT PLAN SUBMITTALS. WORK WILL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEH GRANTED BY THE ENGINEER. THERE WILL BE NO EXTRA TIME ADDED TO THE CONTRACT DUE TO THE UNTIMELY SUBMITTAL.								
2.	DO NOT BUILD INFILTRATION AREAS OR PLACE FINAL FILTRATION MEDIA UNTIL THE PROJECT IS NEARLY COMPLETE. PROTECT THESE AREAS FROM COMPACTION AND FROM CONSTRUCTION STORMWATER RUNOFF.								
3.	ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER FEASIBLE.								
4.	CONSTRUCTION PROJECT SHOULD BE PHASED TO MINIMIZE THE DURATION OF EXPOSED SOILS.								
5.	MINIMIZE COMPACTION OF SOILS AND PRESERVE TOPSOIL IN AREAS WHERE VEGETATION WILL BE ESTABLISHED.								
6.	DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS WHENEVER FEASIBLE. PROVIDE VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION.								
7.	FLOATING SILT CURTAIN IS ALLOWED AS PERIMETER CONTROL FOR IN WATER WORK ONLY. PLACE THE FLOATING SILT CURTAIN AS CLOSE TO SHORE AS POSSIBLE. PLACE PERIMETER CONTROL BMP ON LAND IMMEDIATELY AFTER THE IN WATER WORK IS COMPLETED.								
8.	DISCHARGE TURBID OR SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT BASINS WHENEVER FEASIBLE. (REQUIRED IF DRAINAGE AREA IS 10 ACRES OR LARGER OR 5 ACRES OR LARGER ANO WITHIN 1 MILE OF IMPAIRED WATER) THE EVENT THAT IT IS NOT FEASIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN, THE WATER MUST BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS. MUST DOCUMENT WHY SEDIMENT BASIN IS NOT FEASIBLE.								
9.	PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES,								
10.	REMOVE SEDIMENT FROM STORMWATER SYSTEM AND BMPS AT THE END OF PROJECT.								
11.	PROVIDE A 50 FOOT NATURAL BUFFER OR, IF BUFFER IS INFEASIBLE, PROVIDE A DOUBLE ROW OF SEDIMENT CONTROLS SPACED AT LEAST 5' APART WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF LAND DISTURBANCE AND STORMWATER FLOWS TO THE SURFACE WATER.								
12.	PROVIDE A 100 FOOT NATURAL BUFFER OR, IF BUFFER IS INFEASIBLE, PROVIDE A DOUBLE ROW OF SEDIMENT CONTROLS SPACED AT LEAST 5' APART WHEN A SPECIAL WATER IS LOCATED WITHIN 100 FEET OF THE LAND DISTURBANCE AND STORMWATER FLOWS TO THE SPECIAL WATER.								
13.	SUBSOIL ALL DISTURBED GREEN SPACES EXCEPT AS LISTED IN 2574.3A.5.								
PIPE AND STRUCTURE NOTES									
1.	SIZE AND ELEVATION OF CULVERTS, STORM SEWER PIPES, CATCH BASINS, PONDS, INFILTRATION/FILTRATION BASINS, PERMEABLE DITCH BLOCKS AND OVERFLOW DEVICES HAVE BEEN SPECIFICALLY DESIGNED TO CONFORM TO MNDOT DESIGN STANDARDS AND PERMIT REQUIREMENTS. THE DESIGN COMPUTATIONS ARE ON FILE WITH HENNEPIN COUNTY WATER RESOURCES. CHANGING THESE ITEMS OR THE DIRECTION OF FLOW FROM WHAT IS SHOWN ON THE PLANS MAY CAUSE PROBLEMS OFF THE PROJECT ANO COULD MEAN THE PROJECT IS OUT OF COMPLIANCE WITH APPROVED DRAINAGE PERMITS. ANY CHANGES OF THE DRAINAGE SYSTEM MUST BE APPROVED BY THE HENNEPIN COUNTY WATER RESOURCES DESIGNER.								
2.	PERFORM POST INSTALLATION MANDREL TESTING OF ALL PLASTIC PIPE.								
3.	SUBSURFACE DRAINAGE TILES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED, REPLACED OR REROUTED, AND CONNECTED TO THE EXISTING TILE OR DRAINAGE SYSTEM TO ENSURE THAT EXISTING UPLAND DRAINAGE IS PERPETUATED. THIS SHALL BE DONE TO THE APPROVAL AND SATISFACTION OF THE ENGINEER.								
TREATMENT BMPS INCLUDED WITH THIS PROJECT ARE:									
23.9: PERMITTEES MUST IMMEDIATELY INITIATE STABILIZATION OF EXPOSED SOIL AREAS, AS DESCRIBED IN ITEM 8.4, AND COMPLETE THE STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE TEMPORARILY OR PERMANENTLY CEASES.									
23.10: PERMITTEES MUST PROVIDE A TEMPORARY SEDIMENT BASIN AS DESCRIBED IN SECTION 14 FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME.									
LONG TERM MAINTENANCE AND OPERATION									
HENNEPIN COUNTY OPERATIONS AND MAINTENANCE STAFF ARE RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEM. CONTACT HENEPIN COUNTY OPERATIONS FOR ADDITIONAL INFORMATION.									
	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. _____ JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER			61874 _____ LICENSE NO.	/ / _____ DATE	DESIGN BY: J. LABAT	STORMWATER POLLUTION PREVENTION PLAN		SHEET
						CAD BY: C. CULMONE	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		161 336
CHECKED BY: J. LABAT									
LAST REVISION: / /									

OFFSITE FLOW INFORMATION

EXISTING DRAINAGE

REACHES LAKE MINNETONKA - UPPER LAKE:

FROM NORTH OF THE SPRING ST. - SUNSET DR. INTERSECTION, SURFACE WATER WILL FLOW SOUTH, BE CAPTURED BY STORM SEWER, AND CONTINUE FLOWING SOUTH TO DISCHARGE INTO THE LAKE.

REACHES LAKE MINNETONKA - WEST ARM:

BETWEEN THE SPRING ST. - SUNSET DR. INTERSECTION AND SHADYWOOD RD., SURFACE WATER WILL FLOW DOWNHILL AND BE CAPTURED BY STORM SEWER. SEWER DISCHARGES TO LAKE MINNETONKA AT 3 PLACES.

REACHES LAKE MINNETONKA - CRYSTAL BAY:

SURFACE WATER ON THE EAST SIDE OF SHADYWOOD RD. BREAKS EAST, FLOWING DIRECTLY TO CRYSTAL BAY AT BREAKS IN THE CURB.

PROPOSED DRAINAGE

REACHES LAKE MINNETONKA - UPPER LAKE:

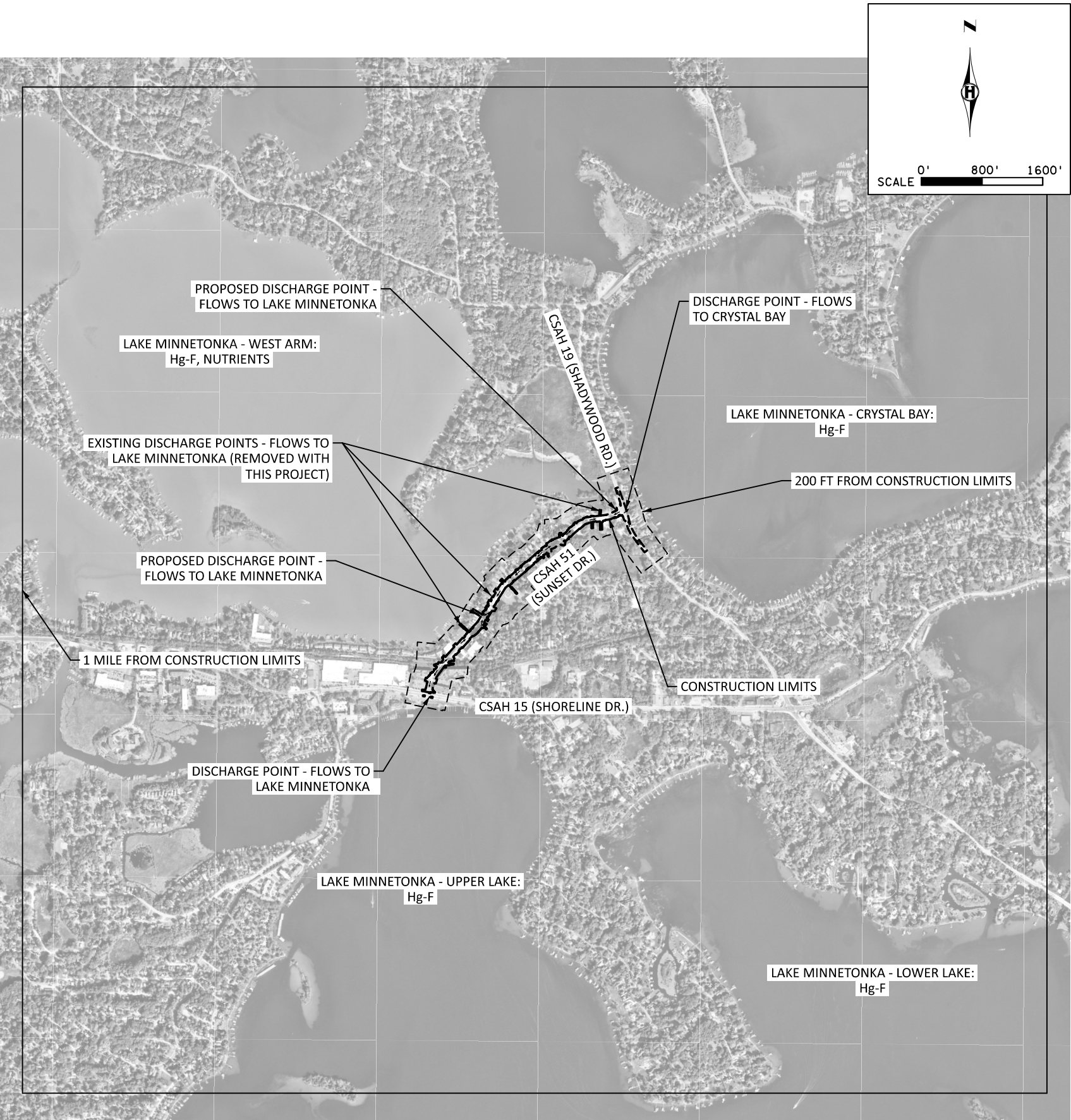
FROM NORTH OF THE SPRING ST. - SUNSET DR. INTERSECTION, SURFACE WATER WILL FLOW SOUTH, BE CAPTURED BY STORM SEWER, AND CONTINUE FLOWING SOUTH TO DISCHARGE INTO THE LAKE.

REACHES LAKE MINNETONKA - WEST ARM:

BETWEEN THE SPRING ST. - SUNSET DR. INTERSECTION AND SHADYWOOD RD., SURFACE WATER WILL FLOW DOWNHILL AND BE CAPTURED BY STORM SEWER. SEWER DISCHARGES TO LAKE MINNETONKA AT 2 PLACES.

REACHES LAKE MINNETONKA - CRYSTAL BAY:

SURFACE WATER ON THE EAST SIDE OF SHADYWOOD RD. BREAKS EAST, FLOWING DIRECTLY TO CRYSTAL BAY AT BREAKS IN THE CURB.



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

JORDAN M. LABAT, LICENSED PROFESSIONAL ENGINEER

61874

LICENSE NO.

//

DATE

DESIGN BY:

J. LABAT

CAD BY:

C. CULMONE

CHECKED BY:

J. LABAT

LAST REVISION:

//

STORMWATER POLLUTION PREVENTION PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

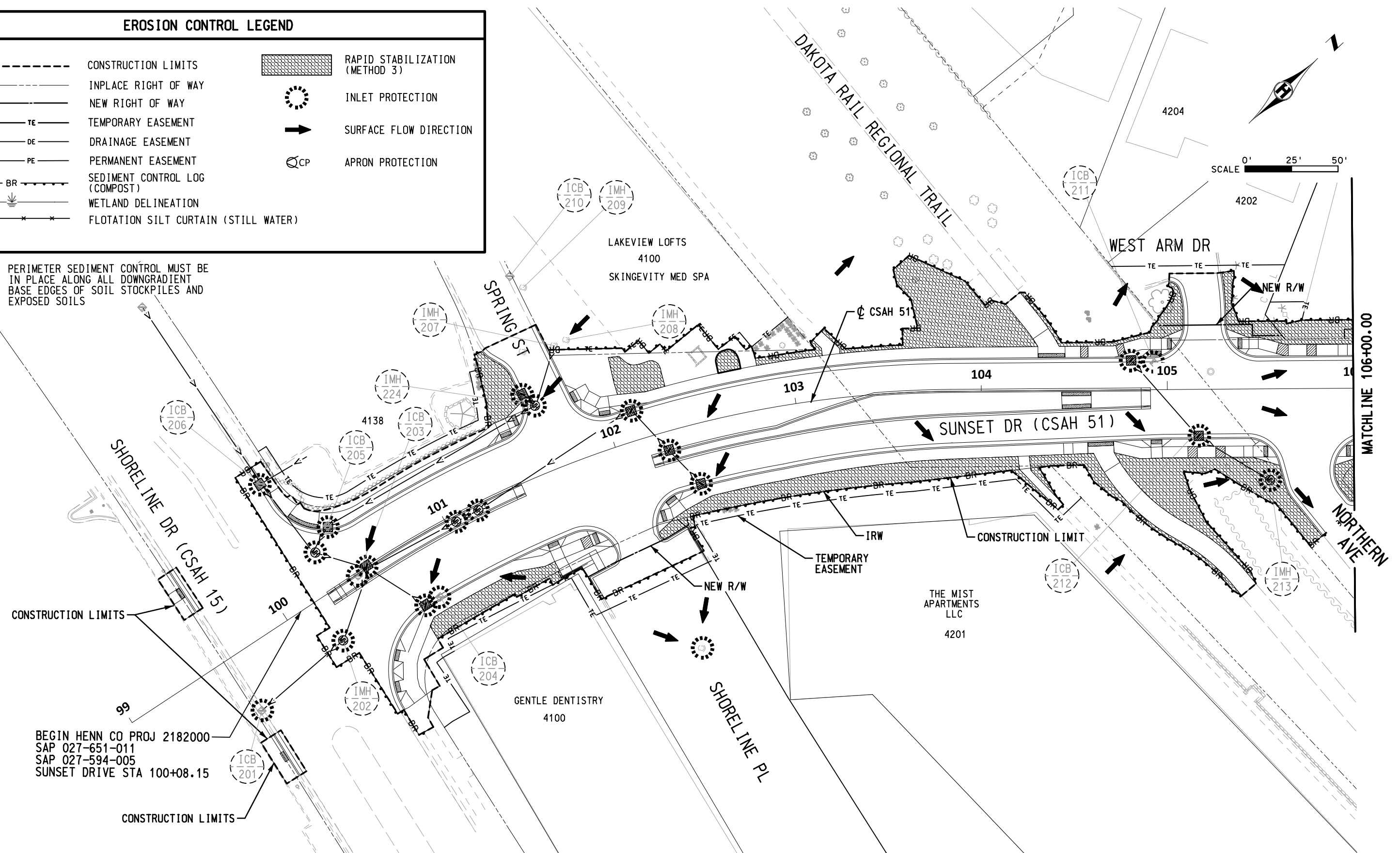
SHEET

162

336

EROSION CONTROL LEGEND			
	CONSTRUCTION LIMITS		RAPID STABILIZATION (METHOD 3)
	INPLACE RIGHT OF WAY		INLET PROTECTION
	NEW RIGHT OF WAY		SURFACE FLOW DIRECTION
	TEMPORARY EASEMENT		APRON PROTECTION
	DRAINAGE EASEMENT		
	PERMANENT EASEMENT		
	SEDIMENT CONTROL LOG (COMPOST)		
	WETLAND DELINEATION		
	FLOTATION SILT CURTAIN (STILL WATER)		

NOTE: PERIMETER SEDIMENT CONTROL MUST BE
IN PLACE ALONG ALL DOWNGRAIDENT
BASE EDGES OF SOIL STOCKPILES AND
EXPOSED SOILS



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

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073 / /
LICENSE NO. DATE

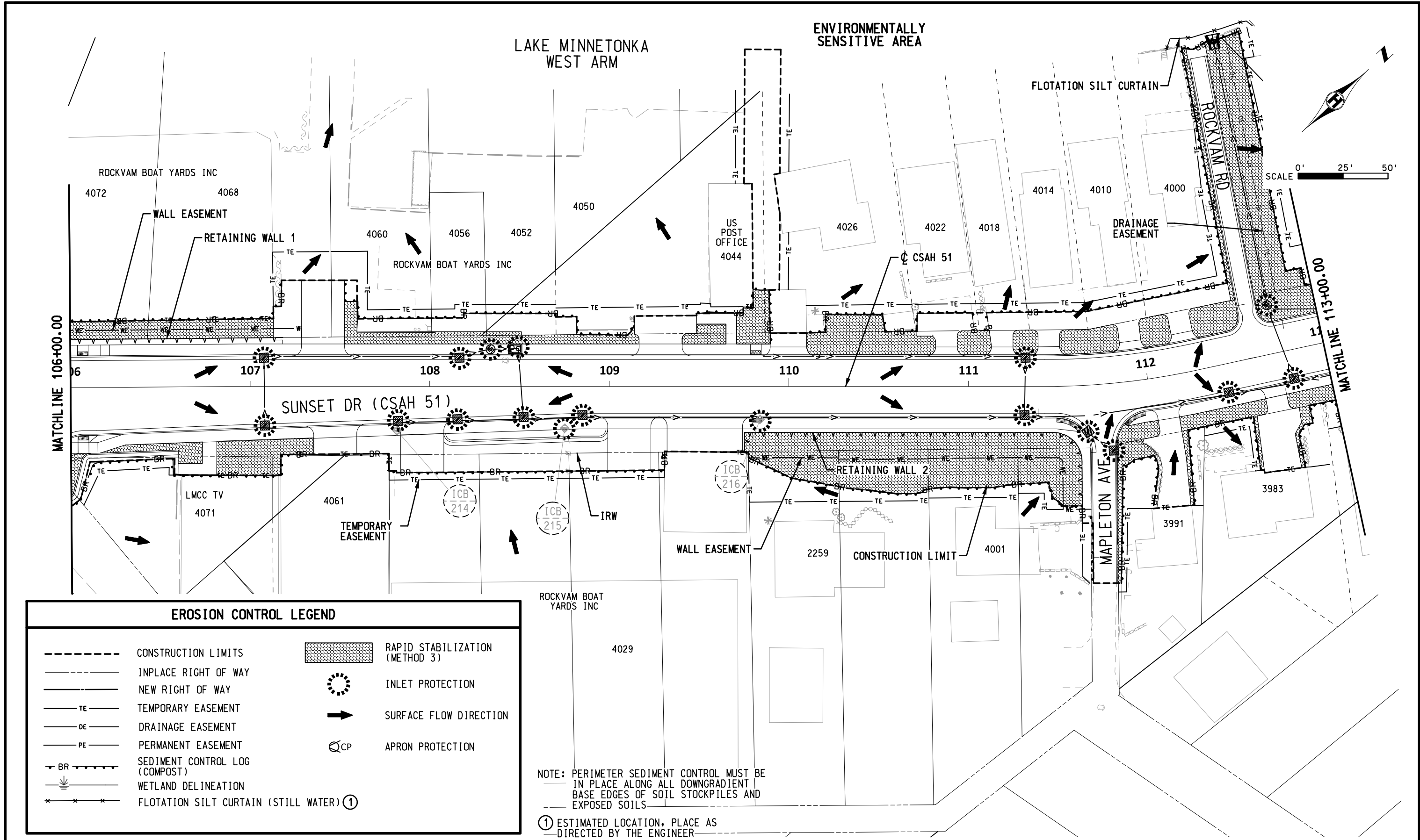
DESIGN BY:	E. ITKONEN
CAD BY:	E. ITKONEN
CHECKED BY:	S. PARK
LAST REVISION:	/ /

EROSION CONTROL PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

$$\frac{.63}{336}$$



EROSION CONTROL LEGEND

---	CONSTRUCTION LIMITS		RAPID STABILIZATION (METHOD 3)
---	INPLACE RIGHT OF WAY		INLET PROTECTION
---	NEW RIGHT OF WAY		SURFACE FLOW DIRECTION
TE	TEMPORARY EASEMENT		APRON PROTECTION
DE	DRAINAGE EASEMENT		
PE	PERMANENT EASEMENT		
BR	SEDIMENT CONTROL LOG (COMPOST)		
	WETLAND DELINEATION		
* * *	FLOTATION SILT CURTAIN (STILL WATER) ①		

NOTE: PERIMETER SEDIMENT CONTROL MUST BE IN PLACE ALONG ALL DOWNGRADE BASE EDGES OF SOIL STOCKPILES AND EXPOSED SOILS

① ESTIMATED LOCATION, PLACE AS DIRECTED BY THE ENGINEER



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

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073
LICENSE NO. DATE

DESIGN BY: E. ITKONEN
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EROSION CONTROL PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

164
336

EROSION CONTROL LEGEND

----- CONSTRUCTION LIMITS --- -- INPLACE RIGHT OF WAY ===== NEW RIGHT OF WAY ----- TE ----- TEMPORARY EASEMENT ----- DE ----- DRAINAGE EASEMENT ----- PE ----- PERMANENT EASEMENT BR ----- SEDIMENT CONTROL LOG (COMPOST) WETLAND DELINEATION × × × FLOTATION SILT CURTAIN (STILL WATER)	RAPID STABILIZATION (METHOD 3) INLET PROTECTION SURFACE FLOW DIRECTION APRON PROTECTION
---	---

NOTE: PERIMETER SEDIMENT CONTROL MUST BE IN PLACE ALONG ALL DOWNGRADIENT BASE EDGES OF SOIL STOCKPILES AND EXPOSED SOILS

00+00 MATCHLINE 113+11

114

115

116

117

118

119

SUNSET DR (CSAH 51)

THOR THOMPSON PARK

PARK LN

CONSTRUCTION LIMIT

IRW

APR 234

APR 235

APR 238

APR 233

APR 232

APR 239

APR 228

ICB 217

ICB 220

ICB 219

ICB 218

ICB 221

ICB 222

3990

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3950

3960

3940

3901

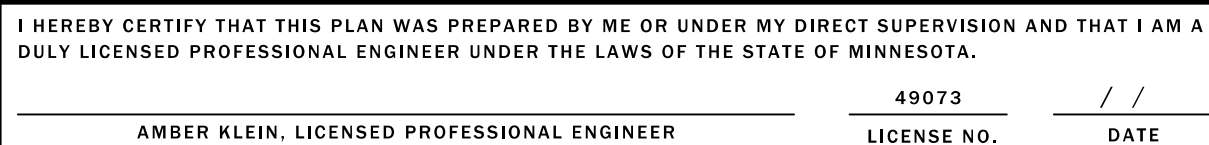
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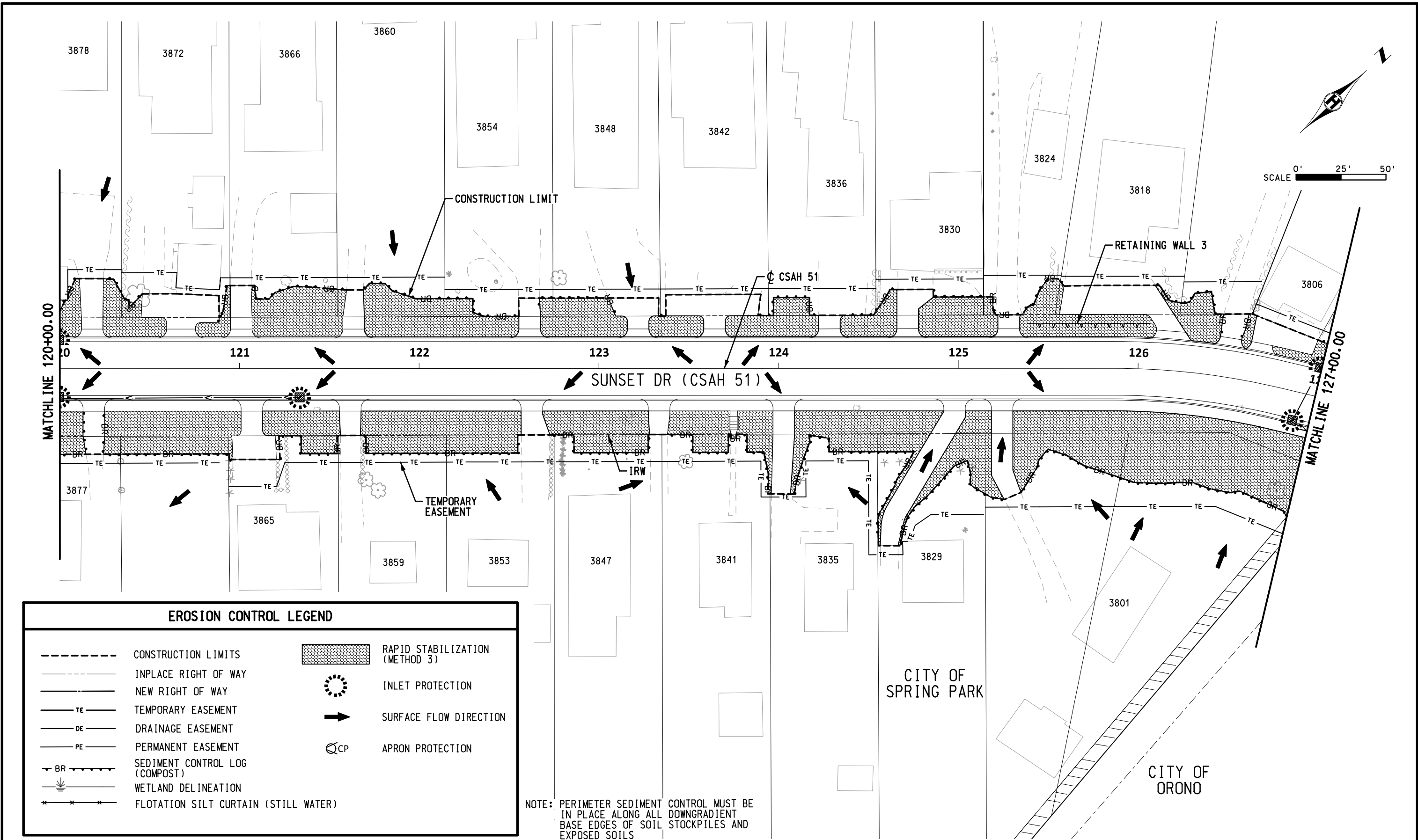
120+00 MATCHLINE



E. ITKONEN
E. ITKONEN
S. PARK

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

65	336
----	-----



	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			DESIGN BY:	<u>E. ITKONEN</u>	EROSION CONTROL PLAN		SHEET	
				CAD BY:	<u>E. ITKONEN</u>				
				CHECKED BY:	<u>S. PARK</u>				
								LAST REVISION:	<u>/ /</u>
AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER			49073	/ /	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005				166 336
			LICENSE NO.	DATE					

EROSION CONTROL LEGEND

CONSTRUCTION LIMITS

INPLACE RIGHT OF WAY

NEW RIGHT OF WAY

TE

TEMPORARY EASEMENT

DE

DRAINAGE EASEMENT

PE

PERMANENT EASEMENT

BR

SEDIMENT CONTROL LOG (COMPOST)

WETLAND DELINEATION

*

FLOTATION SILT CURTAIN (STILL WATER)

RAPID STABILIZATION (METHOD 3)

INLET PROTECTION

SURFACE FLOW DIRECTION

CP

APRON PROTECTION

NOTE: PERIMETER SEDIMENT CONTROL MUST BE IN PLACE ALONG ALL DOWNGRADIENT BASE EDGES OF SOIL STOCKPILES AND EXPOSED SOILS

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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

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LICENSE NO.

DATE

DESIGN BY: E. ITKONEN

CAD BY: E. ITKONEN

CHECKED BY: S. PARK

LAST REVISION: / /

EROSION CONTROL PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000

SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

167

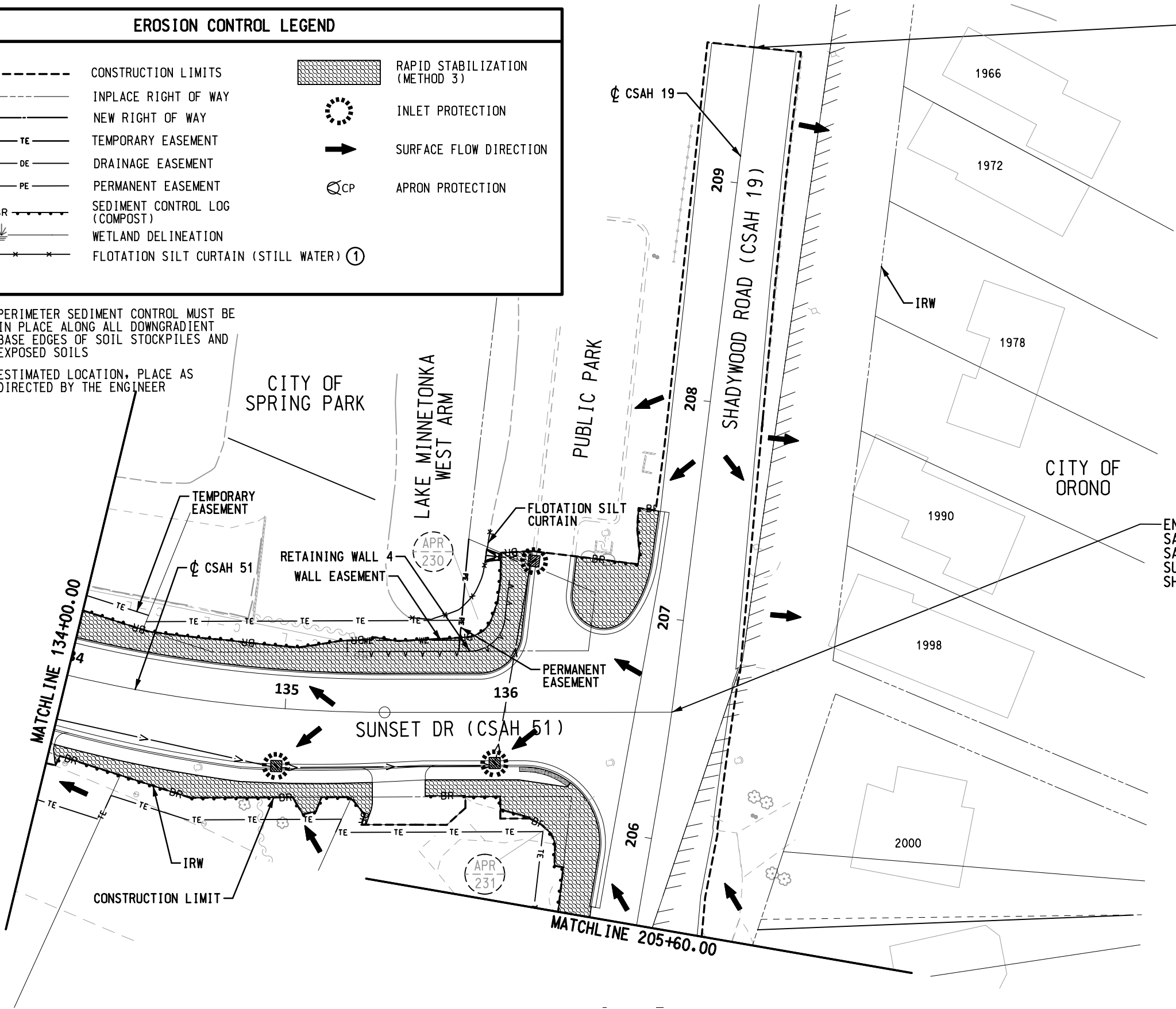
336

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EROSION CONTROL LEGEND			
-----	CONSTRUCTION LIMITS		RAPID STABILIZATION (METHOD 3)
-----	INPLACE RIGHT OF WAY		INLET PROTECTION
-----	NEW RIGHT OF WAY		SURFACE FLOW DIRECTION
---TE---	TEMPORARY EASEMENT		APRON PROTECTION
---DE---	DRAINAGE EASEMENT		
---PE---	PERMANENT EASEMENT		
---BR---	SEDIMENT CONTROL LOG (COMPOST)		
	WETLAND DELINEATION		
-----	FLOTATION SILT CURTAIN (STILL WATER) ①		

NOTE: PERIMETER SEDIMENT CONTROL MUST BE IN PLACE ALONG ALL DOWNGRADIENT BASE EDGES OF SOIL STOCKPILES AND EXPOSED SOILS

① ESTIMATED LOCATION. PLACE AS DIRECTED BY THE ENGINEER



END HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD 209+61.80

END HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DR STA 136+75.38 =
SHADYWOOD RD STA 206+58.03



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

LICENSE NO.

//

DATE

DESIGN BY:

E. ITKONEN

CAD BY:

E. ITKONEN

CHECKED BY:

S. PARK

LAST REVISION:

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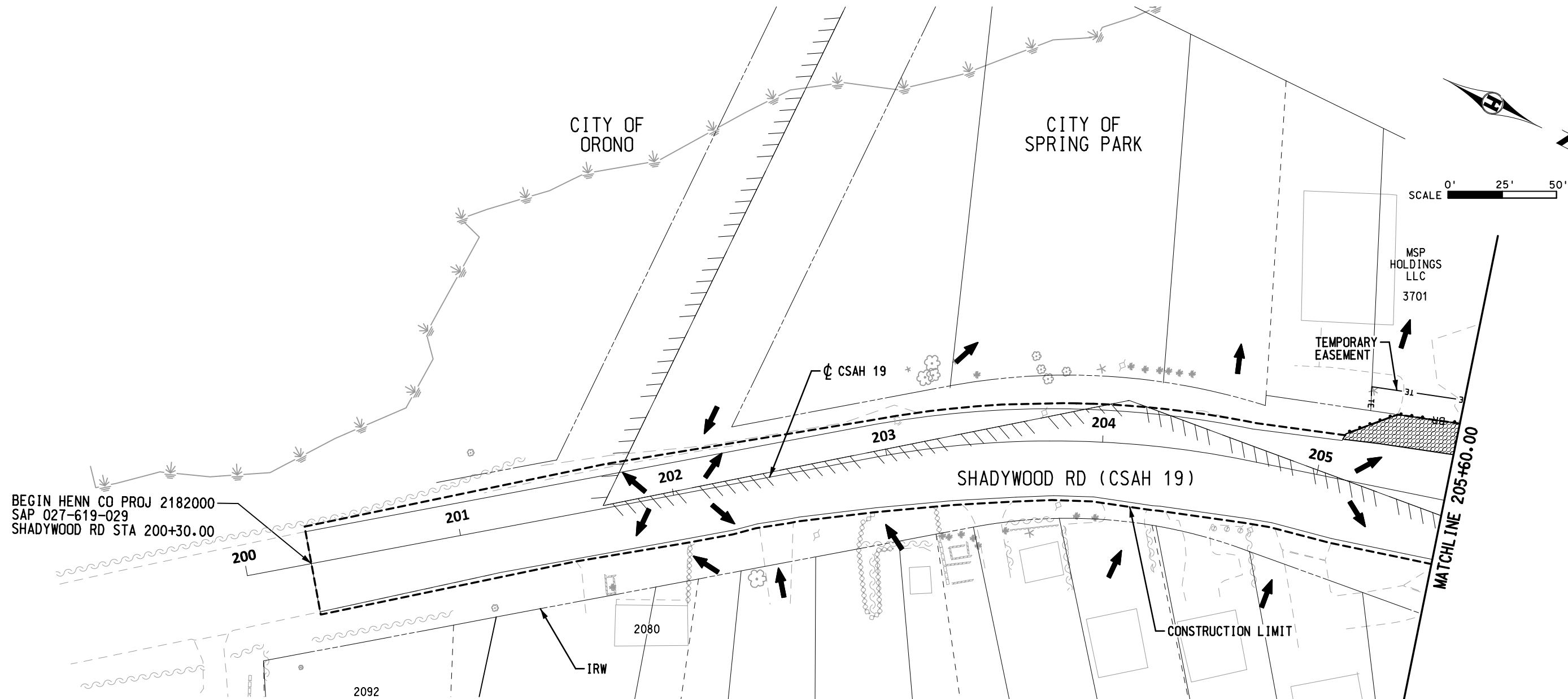
EROSION CONTROL PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

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336



EROSION CONTROL LEGEND			
---	CONSTRUCTION LIMITS		RAPID STABILIZATION (METHOD 3)
- - -	INPLACE RIGHT OF WAY		INLET PROTECTION
---	NEW RIGHT OF WAY	➔	SURFACE FLOW DIRECTION
—TE—	TEMPORARY EASEMENT	⊙CP	APRON PROTECTION
—DE—	DRAINAGE EASEMENT		
—PE—	PERMANENT EASEMENT		
—BR—	SEDIMENT CONTROL LOG (COMPOST)		
	WETLAND DELINEATION		
--*	FLOTATION SILT CURTAIN (STILL WATER)		

NOTE: PERIMETER SEDIMENT CONTROL MUST BE IN PLACE ALONG ALL DOWNGRADIENT BASE EDGES OF SOIL STOCKPILES AND EXPOSED SOILS



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER	49073	//
LICENSE NO.		DATE

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CHECKED BY:	S. PARK
LAST REVISION:	//

EROSION CONTROL PLAN	
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	

SHEET
169 336

TURF ESTABLISHMENT LEGEND

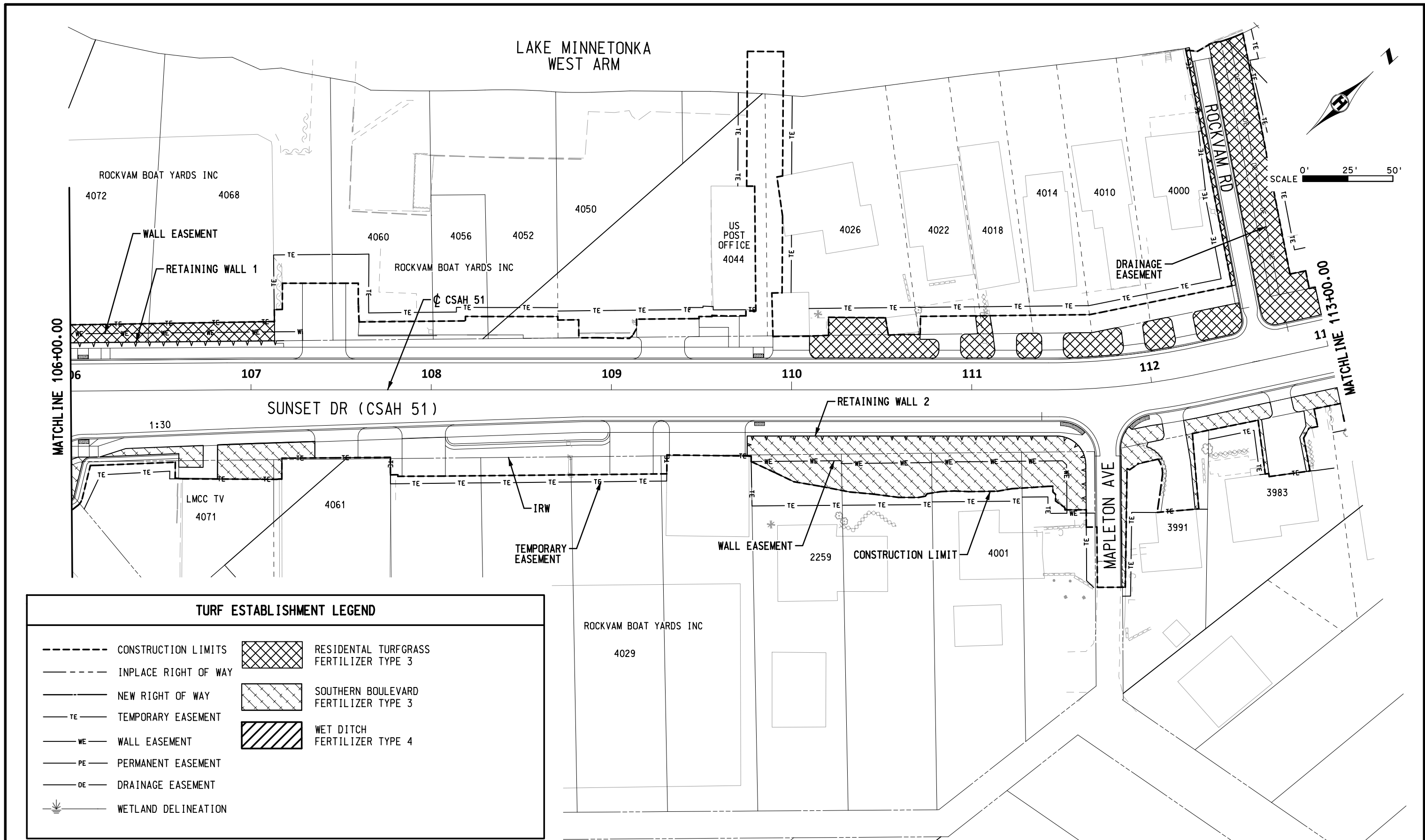
----- CONSTRUCTION LIMITS ----- INPLACE RIGHT OF WAY ----- NEW RIGHT OF WAY ----- TE ----- TEMPORARY EASEMENT ----- WE ----- WALL EASEMENT ----- PE ----- PERMANENT EASEMENT ----- DE ----- DRAINAGE EASEMENT ----- WETLAND DELINEATION	 	RESIDENTIAL TURFGRASS FERTILIZER TYPE 3 SOUTHERN BOULEVARD FERTILIZER TYPE 3 WET DITCH FERTILIZER TYPE 4
---	---	---



49073 / /
LICENSE NO. DATE

E. ITKONEN
E. ITKONEN
S. PARK

70
336



TURF ESTABLISHMENT LEGEND		
---	CONSTRUCTION LIMITS	RESIDENTIAL TURFGRASS FERTILIZER TYPE 3
- - -	INPLACE RIGHT OF WAY	SOUTHERN BOULEVARD FERTILIZER TYPE 3
---	NEW RIGHT OF WAY	WET DITCH FERTILIZER TYPE 4
—TE—	TEMPORARY EASEMENT	
—WE—	WALL EASEMENT	
—PE—	PERMANENT EASEMENT	
—DE—	DRAINAGE EASEMENT	
	WETLAND DELINEATION	

	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			DESIGN BY: <u>E. ITKONEN</u>	TURF ESTABLISHMENT PLAN	SHEET	
				CAD BY: <u>E. ITKONEN</u>			
				CHECKED BY: <u>S. PARK</u>			
				LAST REVISION: <u>/ /</u>			
AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER		49073	/ /	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005			171
		LICENSE NO.	DATE				336

TURF ESTABLISHMENT LEGEND

CONSTRUCTION LIMITS

INPLACE RIGHT OF WAY

NEW RIGHT OF WAY

TE

TEMPORARY EASEMENT

WE

WALL EASEMENT

PE

PERMANENT EASEMENT

DE

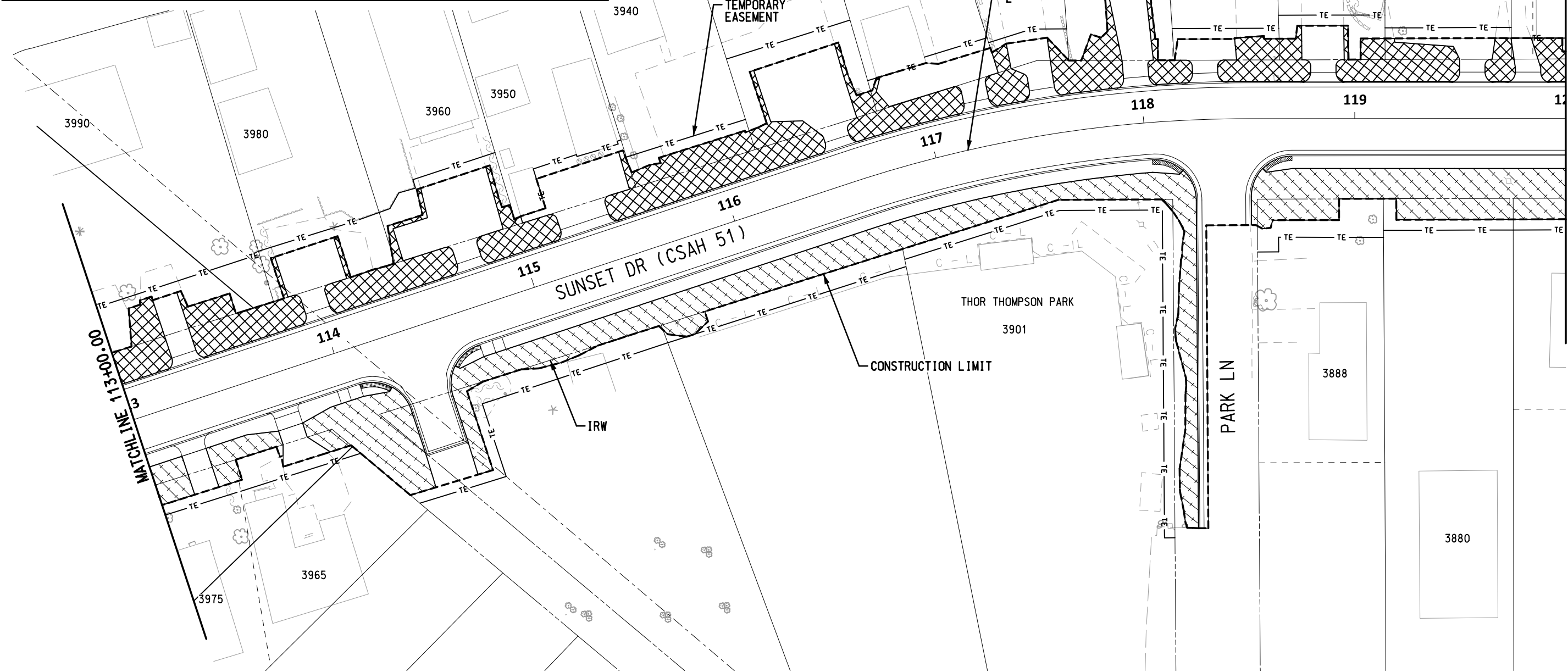
DRAINAGE EASEMENT

WETLAND DELINEATION

RESIDENTIAL TURFGRASS
FERTILIZER TYPE 3

SOUTHERN BOULEVARD
FERTILIZER TYPE 3

WET DITCH
FERTILIZER TYPE 4



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER
 49073
 LICENSE NO.

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 DATE

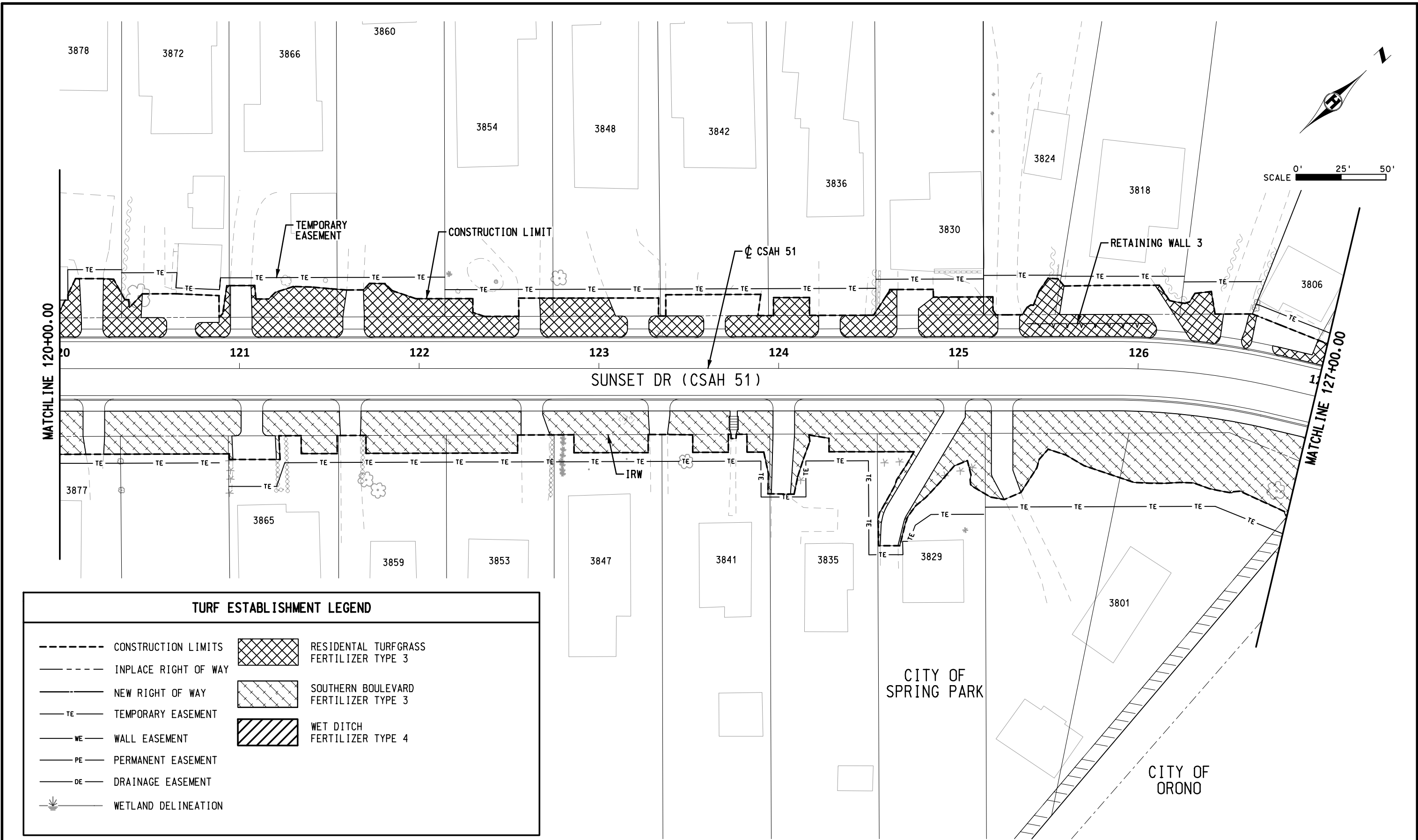
DESIGN BY: E. ITKONEN
 CAD BY: E. ITKONEN
 CHECKED BY: S. PARK
 LAST REVISION: / /

TURF ESTABLISHMENT PLAN

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SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

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336



TURF ESTABLISHMENT LEGEND			
-----	CONSTRUCTION LIMITS		RESIDENTIAL TURFGRASS FERTILIZER TYPE 3
-----	INPLACE RIGHT OF WAY		SOUTHERN BOULEVARD FERTILIZER TYPE 3
-----	NEW RIGHT OF WAY		WET DITCH FERTILIZER TYPE 4
-----	TE-----		
-----	TEMPORARY EASEMENT		
-----	WE-----		
-----	WALL EASEMENT		
-----	PE-----		
-----	PERMANENT EASEMENT		
-----	DE-----		
-----	DRAINAGE EASEMENT		
	WETLAND DELINEATION		

TURF ESTABLISHMENT LEGEND

- ---

CONSTRUCTION LIMITS

INPLACE RIGHT OF WAY

NEW RIGHT OF WAY

TEMPORARY EASEMENT

WALL EASEMENT

PERMANENT EASEMENT

DRAINAGE EASEMENT

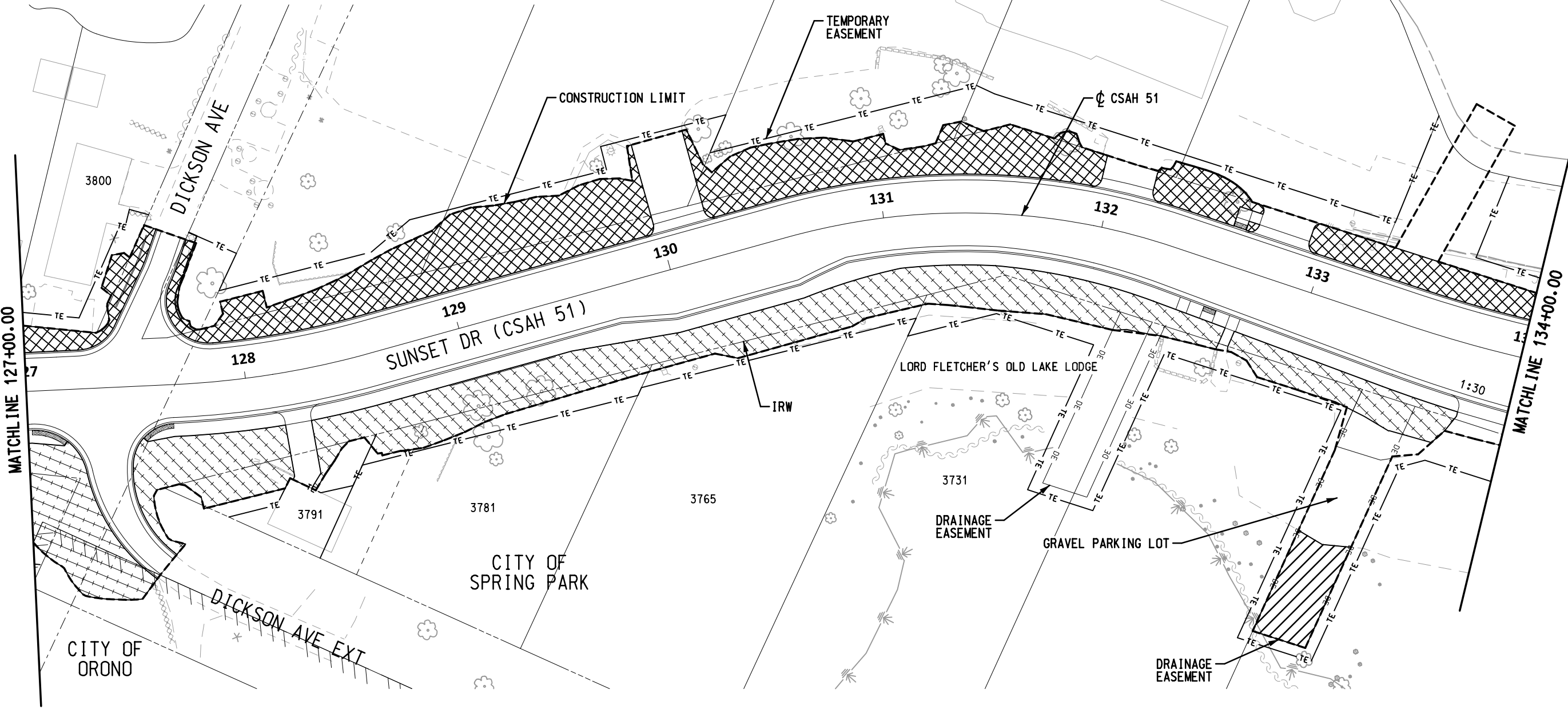
WETLAND DELINEATION
- RESIDENTAL TURFGRASS
FERTILIZER TYPE 3

SOUTHERN BOULEVARD
FERTILIZER TYPE 3

WET DITCH
FERTILIZER TYPE 4



SCALE 0' 25' 50'



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER	49073	//
LICENSE NO.		DATE

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TURF ESTABLISHMENT PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

174
336

TURF ESTABLISHMENT LEGEND

CONSTRUCTION LIMITS

INPLACE RIGHT OF WAY

NEW RIGHT OF WAY

TE

TEMPORARY EASEMENT

WE

WALL EASEMENT

PE

PERMANENT EASEMENT

DE

DRAINAGE EASEMENT

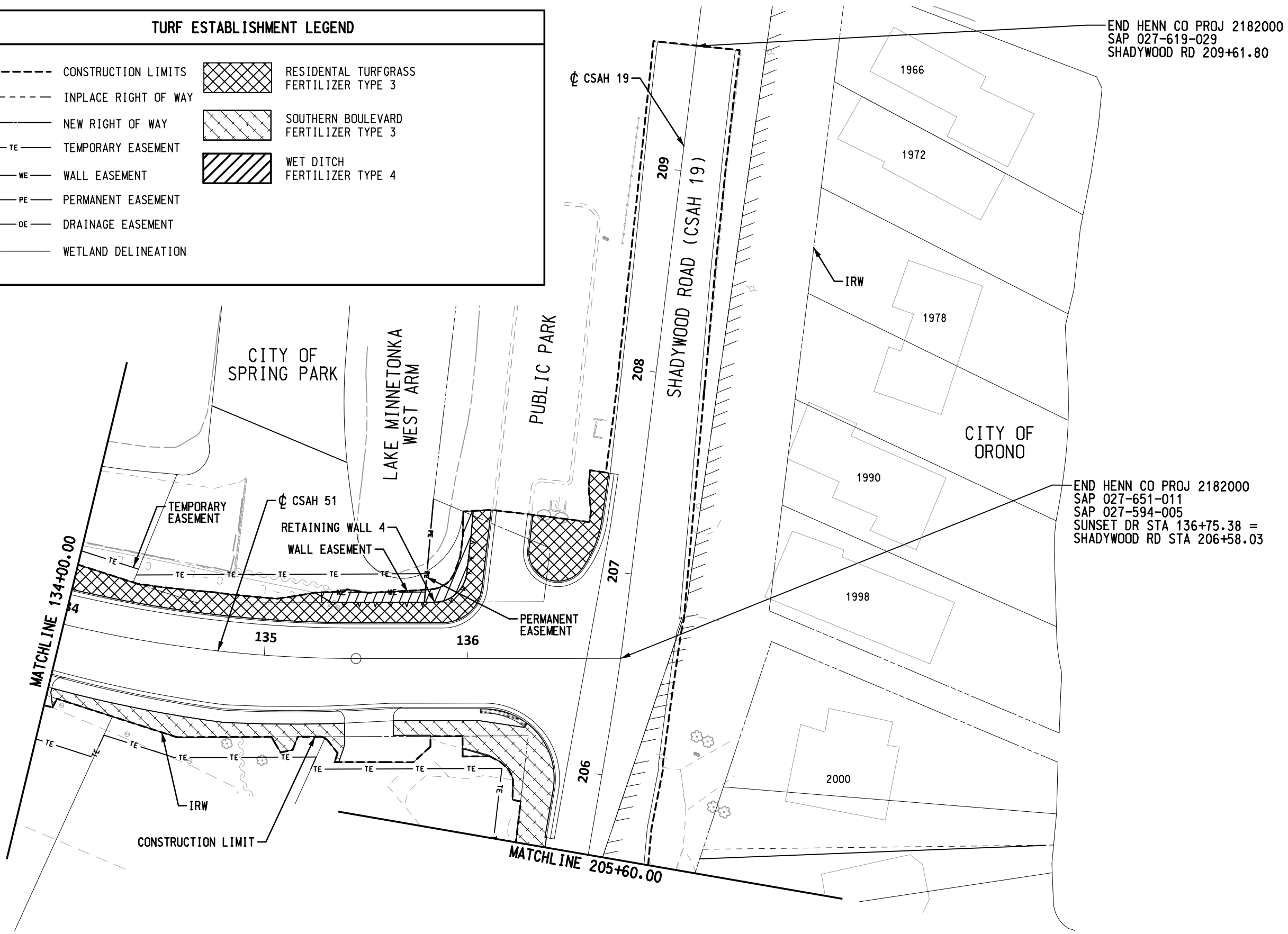
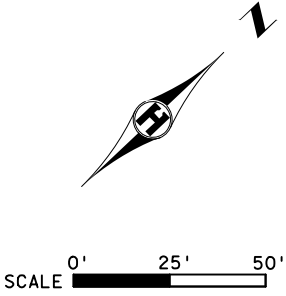
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WETLAND DELINEATION

RESIDENTAL TURFGRASS
FERTILIZER TYPE 3

SOUTHERN BOULEVARD
FERTILIZER TYPE 3

WET DITCH
FERTILIZER TYPE 4



END HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD 209+61.80

END HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DR STA 136+75.38 =
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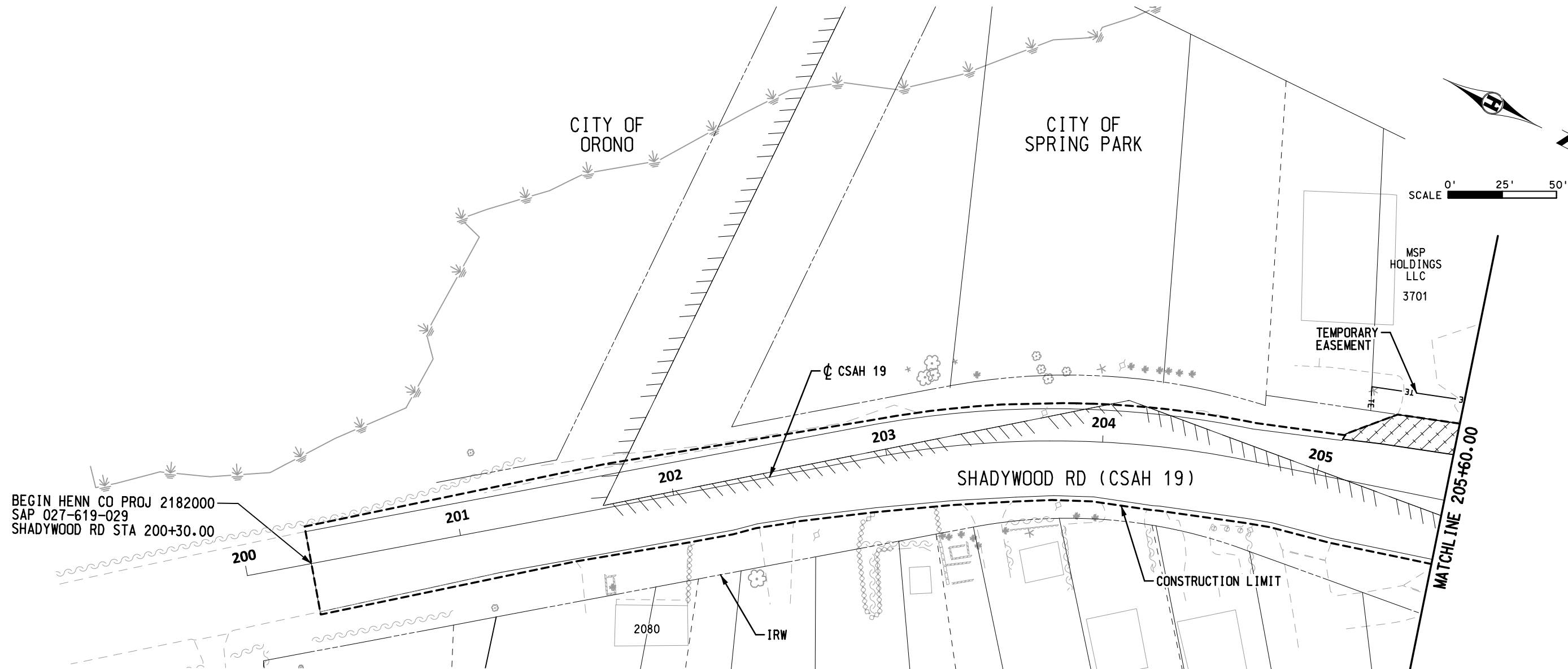
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TURF ESTABLISHMENT PLAN
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET
175 / 336



TURF ESTABLISHMENT LEGEND			
-----	CONSTRUCTION LIMITS		RESIDENTIAL TURFGRASS FERTILIZER TYPE 3
- - - - -	INPLACE RIGHT OF WAY		SOUTHERN BOULEVARD FERTILIZER TYPE 3
-----	NEW RIGHT OF WAY		WET DITCH FERTILIZER TYPE 4
---TE---	TEMPORARY EASEMENT		
---WE---	WALL EASEMENT		
---PE---	PERMANENT EASEMENT		
---DE---	DRAINAGE EASEMENT		
	WETLAND DELINEATION		



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

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CAD BY:

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CHECKED BY:

S. PARK

LAST REVISION:

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TURF ESTABLISHMENT PLAN

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SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

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