

REMOVAL LEGEND

REMOVE PAVEMENT

REMOVE CONCRETE WALK

REMOVE CONCRETE PAVEMENT

REMOVE BRICK SIDEWALK

REMOVE BITUMINOUS PAVEMENT

REMOVE CONCRETE DRIVEWAY

REMOVE BITUMINOUS DRIVEWAY

REMOVE GRAVEL DRIVEWAY

MILL AND OVERLAY AREA

REMOVE CURB AND GUTTER

REMOVE PIPE SEWER

PLUG, FILL, AND ABANDON PIPE SEWER

SAWING PAVEMENT

REMOVE CURB, RETAINING WALL, LANDSCAPE FEATURE

REMOVE FENCE (WOOD, RAIL, CHAIN LINK)

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

TE

TEMPORARY EASEMENT

WE

WALL EASEMENT

DE

DRAINAGE EASEMENT

PE

PERMANENT EASEMENT

WETLAND DELINEATION

CLEARING AND GRUBBING (EACH)

REMOVE LANDSCAPING AND/OR PLANTINGS

PROTECT TREE

PLACE BOULDERS WITHIN CONSTRUCTION LIMITS

NOTES :

- Ⓐ REMOVE MAILBOX
- Ⓑ SALVAGE MAILBOX (BY OWNER)
- Ⓒ REMOVE FENCE
- Ⓓ REMOVE BITUMINOUS CURB
- Ⓔ REMOVE CONCRETE CURB
- Ⓕ REMOVE DRAINAGE STRUCTURE
- Ⓖ REMOVE PIPE SEWER (STM)
- Ⓗ FILL AND ABANDON PIPE SEWER (STM)

- Ⓘ SAWCUT BITUMINOUS PAVEMENT/TRAIL/DRIVEWAY
- ⓵ SAWCUT CONCRETE PAVEMENT/SIDEWALK/DRIVEWAY

SEE INPLACE UTILITY TABULATIONS FOR ADDITIONAL WATER SYSTEM REMOVAL INFORMATION AND TREATMENT.

SEE RETAINING WALL PLAN SHEETS FOR REMOVAL AND REPLACEMENT DATA.

GENERAL NOTES:

- ALL ITEMS WITHIN TEMPORARY EASEMENTS (TE) SHALL REMAIN "AS IS" UNLESS IDENTIFIED FOR REMOVAL OR AS DIRECTED BY THE ENGINEER
- SAW CUTTING CONCRETE/BITUMINOUS SIDEWALK IS INCIDENTAL
- SEE SHEET 21 FOR UTILITY CONTACT INFORMATION
- THE CONTRACTOR SHALL UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM

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: / /

REMOVAL PLAN

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

SHEET

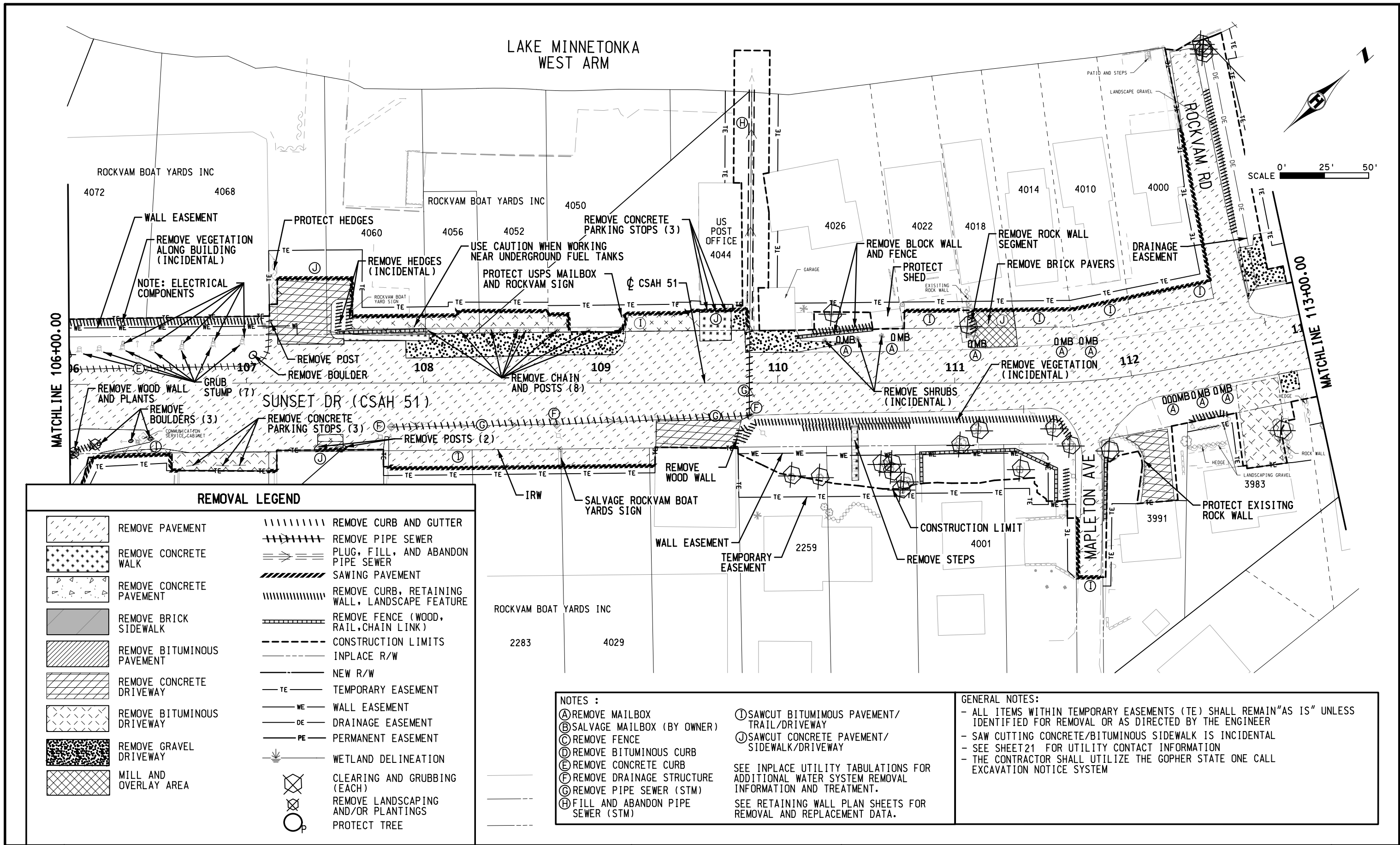
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JOLA007

10/7/2025

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	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			DESIGN BY:	E. ITKONEN	REMOVAL PLAN		SHEET
	AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER	49073	//	CAD BY:	E. ITKONEN	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		89
LICENSE NO.			DATE	CHECKED BY:	S. PARK			336
				LAST REVISION:	//			

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REMOVE PAVEMENT

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REMOVE CONCRETE PAVEMENT

REMOVE BRICK SIDEWALK

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REMOVE CONCRETE DRIVEWAY

REMOVE BITUMINOUS DRIVEWAY

REMOVE GRAVEL DRIVEWAY

MILL AND OVERLAY AREA

REMOVE CURB AND GUTTER

REMOVE PIPE SEWER

REMOVE FENCE

REMOVE BITUMINOUS CURB

REMOVE CONCRETE CURB

REMOVE DRAINAGE STRUCTURE

REMOVE PIPE SEWER (STM)

FILL AND ABANDON PIPE SEWER (STM)

REMOVE CURB, RETAINING WALL, LANDSCAPE FEATURE

REMOVE FENCE (WOOD, RAIL, CHAIN LINK)

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

TEMPORARY EASEMENT

WALL EASEMENT

DRAINAGE EASEMENT

PERMANENT EASEMENT

WETLAND DELINEATION

CLEARING AND GRUBBING (EACH)

REMOVE LANDSCAPING AND/OR PLANTINGS

PROTECT TREE

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Ⓕ REMOVE DRAINAGE STRUCTURE

Ⓖ REMOVE PIPE SEWER (STM)

Ⓗ FILL AND ABANDON PIPE SEWER (STM)

① SAWCUT BITUMINOUS PAVEMENT/TRAIL/DRIVEWAY

② SAWCUT CONCRETE PAVEMENT/SIDEWALK/DRIVEWAY

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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER
49073
LICENSE NO.

//
DATE

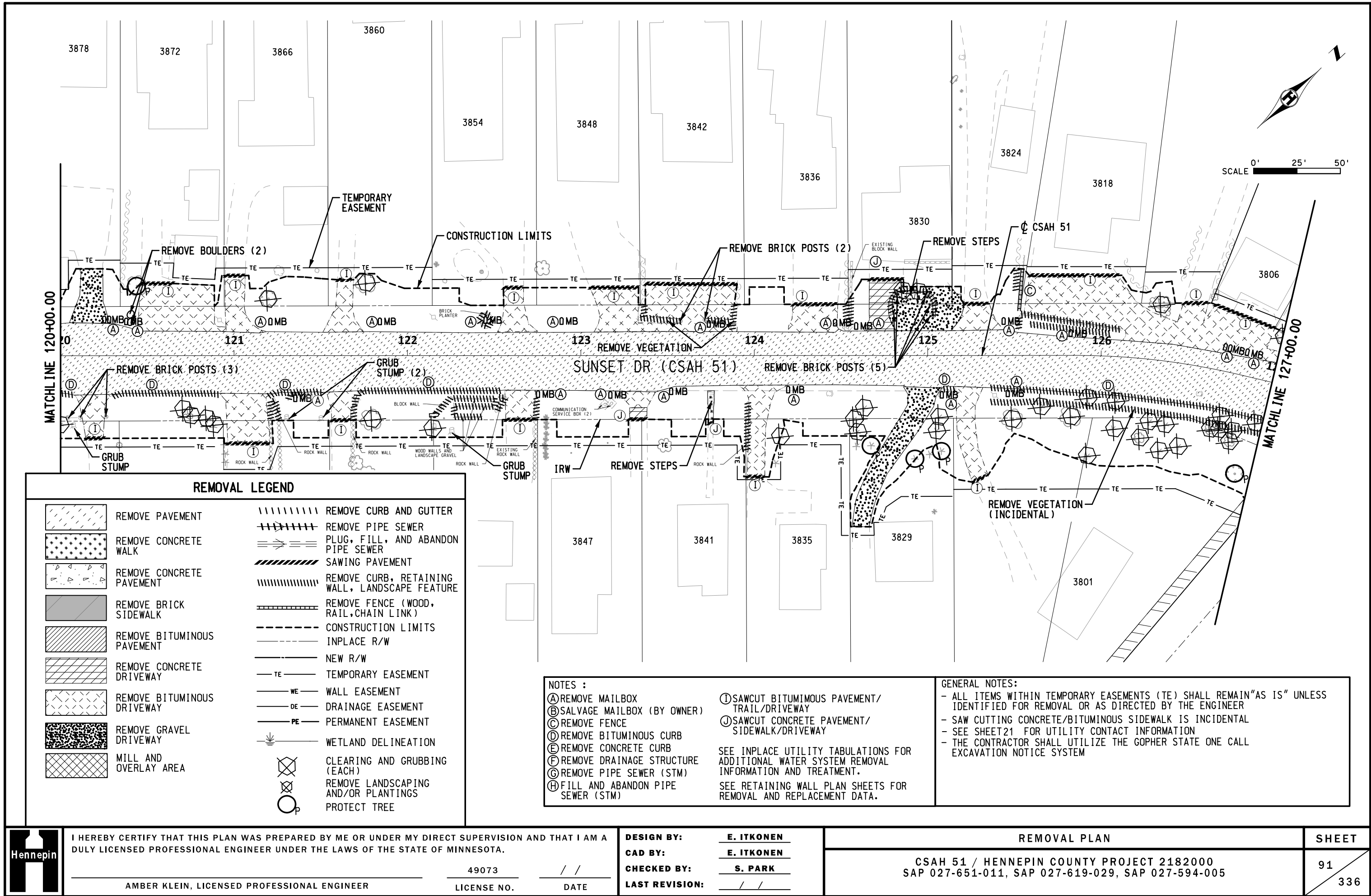
DESIGN BY: E. ITKONEN
CAD BY: E. ITKONEN
CHECKED BY: S. PARK
LAST REVISION: //

REMOVAL PLAN

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

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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

DATE

DESIGN BY: E. ITKONEN

CAD BY: E. ITKONEN

CHECKED BY: S. PARK

LAST REVISION: / /

REMOVAL PLAN

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000

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

SHEET

91

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REMOVAL LEGEND

	REMOVE PAVEMENT
	REMOVE CONCRETE WALK
	REMOVE CONCRETE PAVEMENT
	REMOVE BRICK SIDEWALK
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE DRIVEWAY
	REMOVE BITUMINOUS DRIVEWAY
	REMOVE GRAVEL DRIVEWAY
	MILL AND OVERLAY AREA

	REMOVE CURB AND GUTTER
	REMOVE PIPE SEWER
	PLUG, FILL, AND ABANDON PIPE SEWER
	SAWING PAVEMENT
	REMOVE CURB, RETAINING WALL, LANDSCAPE FEATURE
	REMOVE FENCE (WOOD, RAIL, CHAIN LINK)
	CONSTRUCTION LIMITS
	INPLACE R/W
	NEW R/W
	TE TEMPORARY EASEMENT
	WE WALL EASEMENT
	DE DRAINAGE EASEMENT
	PE PERMANENT EASEMENT
	WETLAND DELINEATION
	CLEARING AND GRUBBING (EACH)
	REMOVE LANDSCAPING AND/OR PLANTINGS
	PROTECT TREE

NOTES :

(A) REMOVE MAILBOX
 (B) SALVAGE MAILBOX (BY OWNER)
 (C) REMOVE FENCE
 (D) REMOVE BITUMINOUS CURB
 (E) REMOVE CONCRETE CURB
 (F) REMOVE DRAINAGE STRUCTURE
 (G) REMOVE PIPE SEWER (STM)
 (H) FILL AND ABANDON PIPE SEWER (STM)

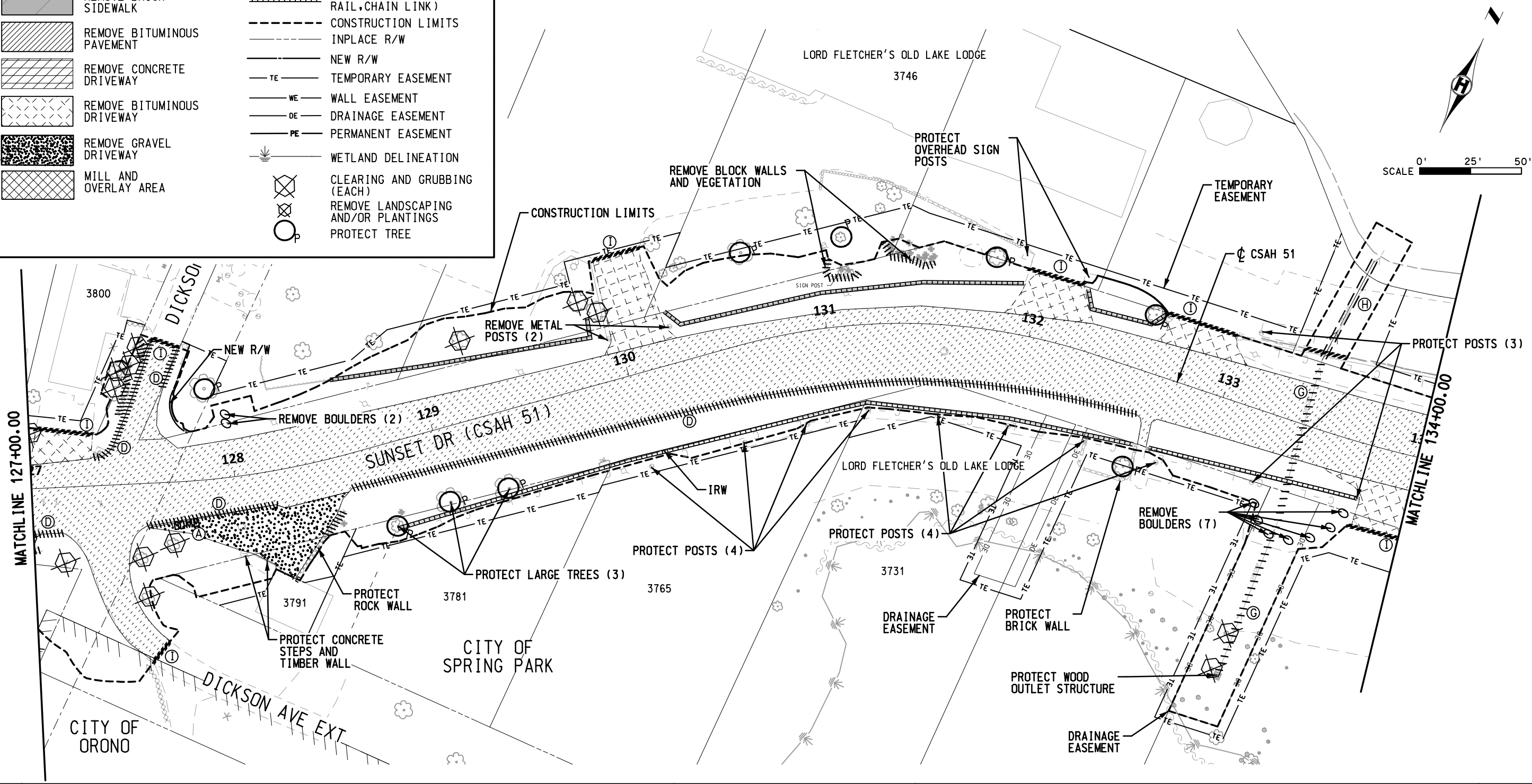
(1) SAWCUT BITUMINOUS PAVEMENT/TRAIL/DRIVEWAY
 (2) SAWCUT CONCRETE PAVEMENT/SIDEWALK/DRIVEWAY

SEE INPLACE UTILITY TABULATIONS FOR ADDITIONAL WATER SYSTEM REMOVAL INFORMATION AND TREATMENT.

SEE RETAINING WALL PLAN SHEETS FOR REMOVAL AND REPLACEMENT DATA.

GENERAL NOTES:

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- SAW CUTTING CONCRETE/BITUMINOUS SIDEWALK IS INCIDENTAL
- SEE SHEET 21 FOR UTILITY CONTACT INFORMATION
- THE CONTRACTOR SHALL UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM



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	AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER	49073	/ /	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	92	336
	LICENSE NO.	DATE				

REMOVAL LEGEND

REMOVE PAVEMENT

REMOVE CONCRETE WALK

REMOVE CONCRETE PAVEMENT

REMOVE BRICK SIDEWALK

REMOVE BITUMINOUS PAVEMENT

REMOVE CONCRETE DRIVEWAY

REMOVE BITUMINOUS DRIVEWAY

REMOVE GRAVEL DRIVEWAY

MILL AND OVERLAY AREA

REMOVE CURB AND GUTTER

REMOVE PIPE SEWER

PLUG, FILL, AND ABANDON PIPE SEWER

SAWING PAVEMENT

REMOVE CURB, RETAINING WALL, LANDSCAPE FEATURE

REMOVE FENCE (WOOD, RAIL, CHAIN LINK)

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

TE

TEMPORARY EASEMENT

WE

WALL EASEMENT

DE

DRAINAGE EASEMENT

PE

PERMANENT EASEMENT

WETLAND DELINEATION

CLEARING AND GRUBBING (EACH)

REMOVE LANDSCAPING AND/OR PLANTINGS

PROTECT TREE

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

NOTES :

Ⓐ REMOVE MAILBOX

Ⓑ SALVAGE MAILBOX (BY OWNER)

Ⓒ REMOVE FENCE

Ⓓ REMOVE BITUMINOUS CURB

Ⓔ REMOVE CONCRETE CURB

Ⓕ REMOVE DRAINAGE STRUCTURE

Ⓖ REMOVE PIPE SEWER (STM)

Ⓗ FILL AND ABANDON PIPE SEWER (STM)

Ⓛ SAWCUT BITUMINOUS PAVEMENT/ TRAIL/DRIVEWAY

Ⓜ SAWCUT CONCRETE PAVEMENT/ SIDEWALK/DRIVEWAY

SEE INPLACE UTILITY TABULATIONS FOR ADDITIONAL WATER SYSTEM REMOVAL INFORMATION AND TREATMENT.

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- SAW CUTTING CONCRETE/BITUMINOUS SIDEWALK IS INCIDENTAL

- SEE SHEET 21 FOR UTILITY CONTACT INFORMATION

- THE CONTRACTOR SHALL UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM

Hennepin

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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

//

DESIGN BY:

CAD BY:

CHECKED BY:

LAST REVISION:

E. ITKONEN

E. ITKONEN

S. PARK

//

REMOVAL PLAN

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

SHEET

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REMOVE PAVEMENT

REMOVE CONCRETE WALK

REMOVE CONCRETE PAVEMENT

REMOVE BRICK SIDEWALK

REMOVE BITUMINOUS PAVEMENT

REMOVE CONCRETE DRIVEWAY

REMOVE BITUMINOUS DRIVEWAY

REMOVE GRAVEL DRIVEWAY

MILL AND OVERLAY AREA

REMOVE CURB AND GUTTER

REMOVE PIPE SEWER
PLUG, FILL, AND ABANDON
PIPE SEWER

SAWING PAVEMENT

REMOVE CURB, RETAINING
WALL, LANDSCAPE FEATURE

REMOVE FENCE (WOOD,
RAIL, CHAIN LINK)

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

TE TEMPORARY EASEMENT

WE WALL EASEMENT

DE DRAINAGE EASEMENT

PE PERMANENT EASEMENT

WETLAND DELINEATION

CLEARING AND GRUBBING
(EACH)

REMOVE LANDSCAPING
AND/OR PLANTINGS

PROTECT TREE

BEGIN HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD STA 200+30.00

NOTES :

Ⓐ REMOVE MAILBOX

Ⓑ SALVAGE MAILBOX (BY OWNER)

Ⓒ REMOVE FENCE

Ⓓ REMOVE BITUMINOUS CURB

Ⓔ REMOVE CONCRETE CURB

Ⓕ REMOVE DRAINAGE STRUCTURE

Ⓖ REMOVE PIPE SEWER (STM)

Ⓗ FILL AND ABANDON PIPE SEWER (STM)

① SAWCUT BITUMINOUS PAVEMENT/
TRAIL/DRIVEWAY

② SAWCUT CONCRETE PAVEMENT/
SIDEWALK/DRIVEWAY

SEE INPLACE UTILITY TABULATIONS FOR
ADDITIONAL WATER SYSTEM REMOVAL
INFORMATION AND TREATMENT.

SEE RETAINING WALL PLAN SHEETS FOR
REMOVAL AND REPLACEMENT DATA.

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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER 49073 / / DATE

LICENSE NO. DATE

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

REMOVAL PLAN		SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		94
		336

SHEET_007 [Sheet] JOLA007 10/7/2025 C:\Users\JOLA007\Hennepin County\Hennepin County Transportation Design - HC\Projects\051-1820\Design\Plans\1820-Removal-Plans.dgn

BITUMINOUS TRAIL

7" BIT. LOT AND DRIVEWAY

4" BIT. LOT AND DRIVEWAY

4" CONCRETE WALK

6" CONCRETE WALK/
6" CONCRETE DRIVEWAY

8" CONCRETE DRIVEWAY

BEGIN/END V CURB

V CURB AT SIDEWALK

T +

TAPER PLUS

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

TE

TEMPORARY EASEMENT

WE

WALL EASEMENT

PE

PERMANENT EASEMENT

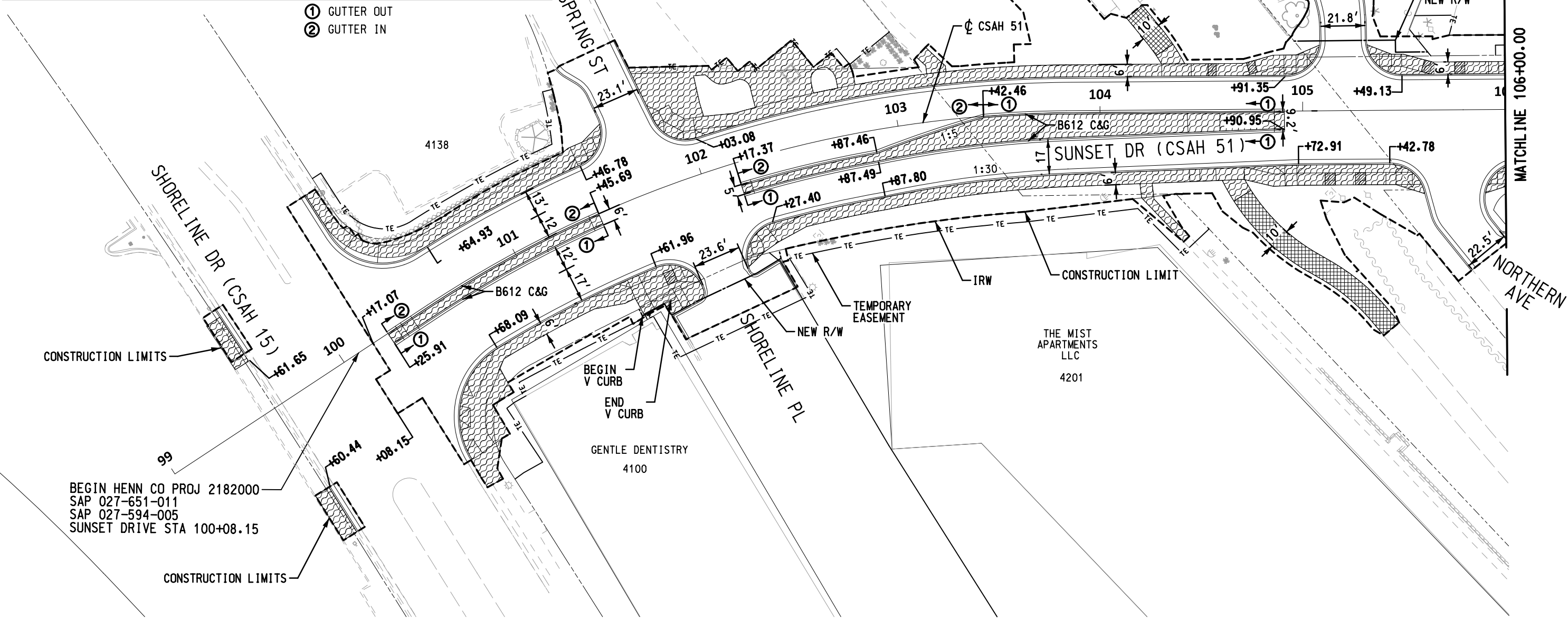
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DRAINAGE EASEMENT

WETLAND DELINEATION

CONSTRUCTION NOTES

CURB AND GUTTER IS B624 UNLESS OTHERWISE NOTED

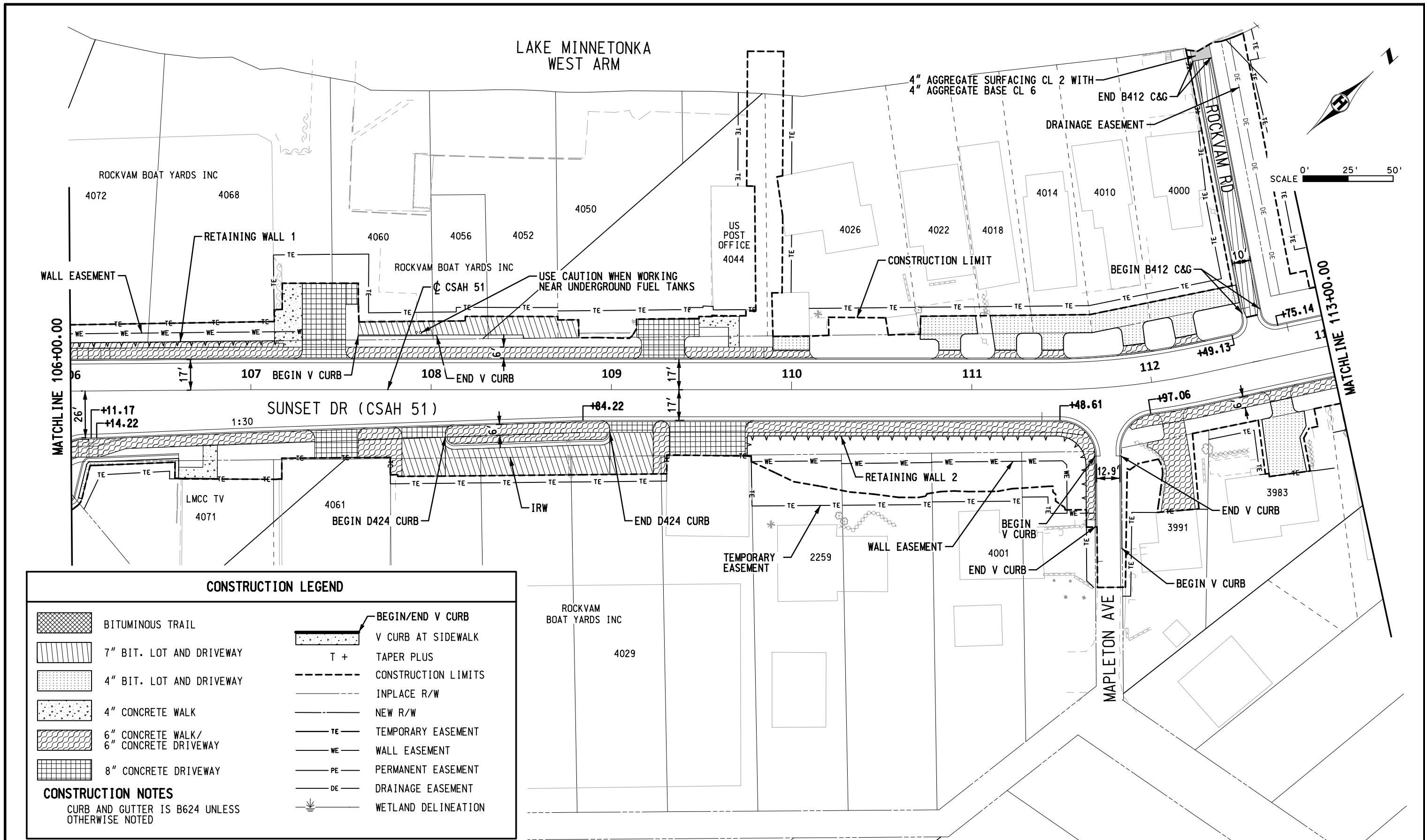


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CONSTRUCTION PLAN		SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		95
		336



BITUMINOUS TRAIL

7" BIT. LOT AND DRIVEWAY

4" BIT. LOT AND DRIVEWAY

4" CONCRETE WALK

6" CONCRETE WALK/
6" CONCRETE DRIVEWAY

8" CONCRETE DRIVEWAY

BEGIN/END V CURB

T +

TAPER PLUS

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

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				CAD BY:	E. ITKONEN			96			
				CHECKED BY:	S. PARK	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		336			
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SHEET_002 [Sheet] CHCU001 10/7/2025 C:\Users\CHCU001\Hennepin County\Hennepin County Transportation Design - HC\Projects\051.1820\Design\Plans\1820_Construction_Plans.dgn

BITUMINOUS TRAIL

7" BIT. LOT AND DRIVEWAY

4" BIT. LOT AND DRIVEWAY

4" CONCRETE WALK

6" CONCRETE WALK/
6" CONCRETE DRIVEWAY

8" CONCRETE DRIVEWAY

BEGIN/END V CURB

V CURB AT SIDEWALK

T + TAPER PLUS

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

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PE PERMANENT EASEMENT

DE DRAINAGE EASEMENT

WETLAND DELINEATION

CONSTRUCTION NOTES

CURB AND GUTTER IS B624 UNLESS OTHERWISE NOTED

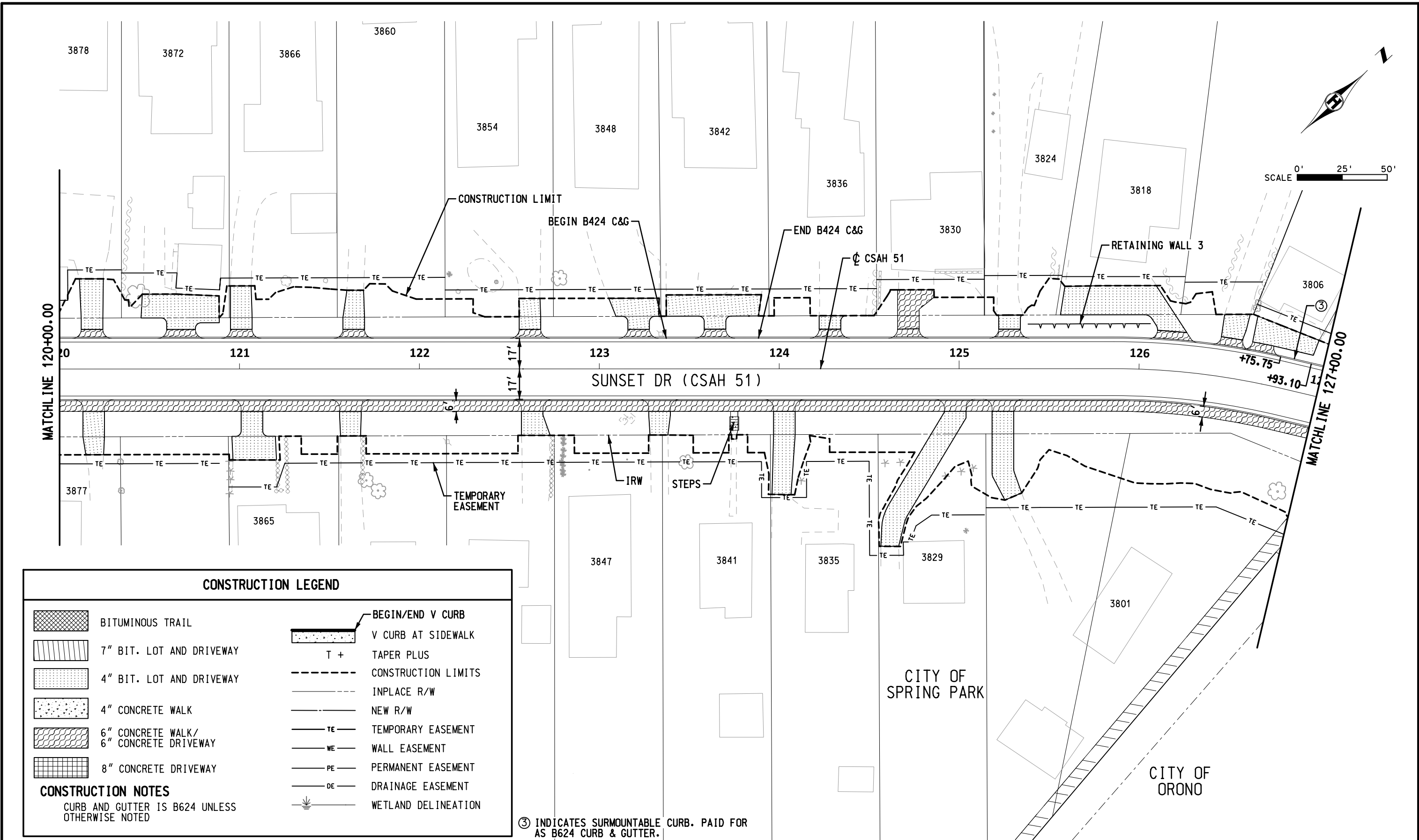
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CONSTRUCTION PLAN	SHEET
CS AH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	97
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CONSTRUCTION LEGEND

	BITUMINOUS TRAIL		BEGIN/END V CURB
	7" BIT. LOT AND DRIVEWAY		V CURB AT SIDEWALK
	4" BIT. LOT AND DRIVEWAY		T + TAPER PLUS
	4" CONCRETE WALK		CONSTRUCTION LIMITS
	6" CONCRETE WALK/ 6" CONCRETE DRIVEWAY		INPLACE R/W
	8" CONCRETE DRIVEWAY		NEW R/W
			TE TEMPORARY EASEMENT
			WE WALL EASEMENT
			PE PERMANENT EASEMENT
			DE DRAINAGE EASEMENT
			WETLAND DELINEATION

CONSTRUCTION NOTES

CURB AND GUTTER IS B624 UNLESS OTHERWISE NOTED

③ INDICATES SURMOUNTABLE CURB. PAID FOR AS B624 CURB & GUTTER.



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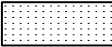
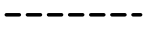
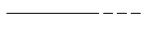
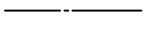
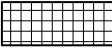
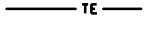
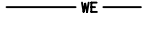
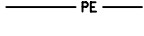
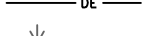
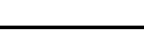
CONSTRUCTION PLAN

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

SHEET

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CONSTRUCTION LEGEND

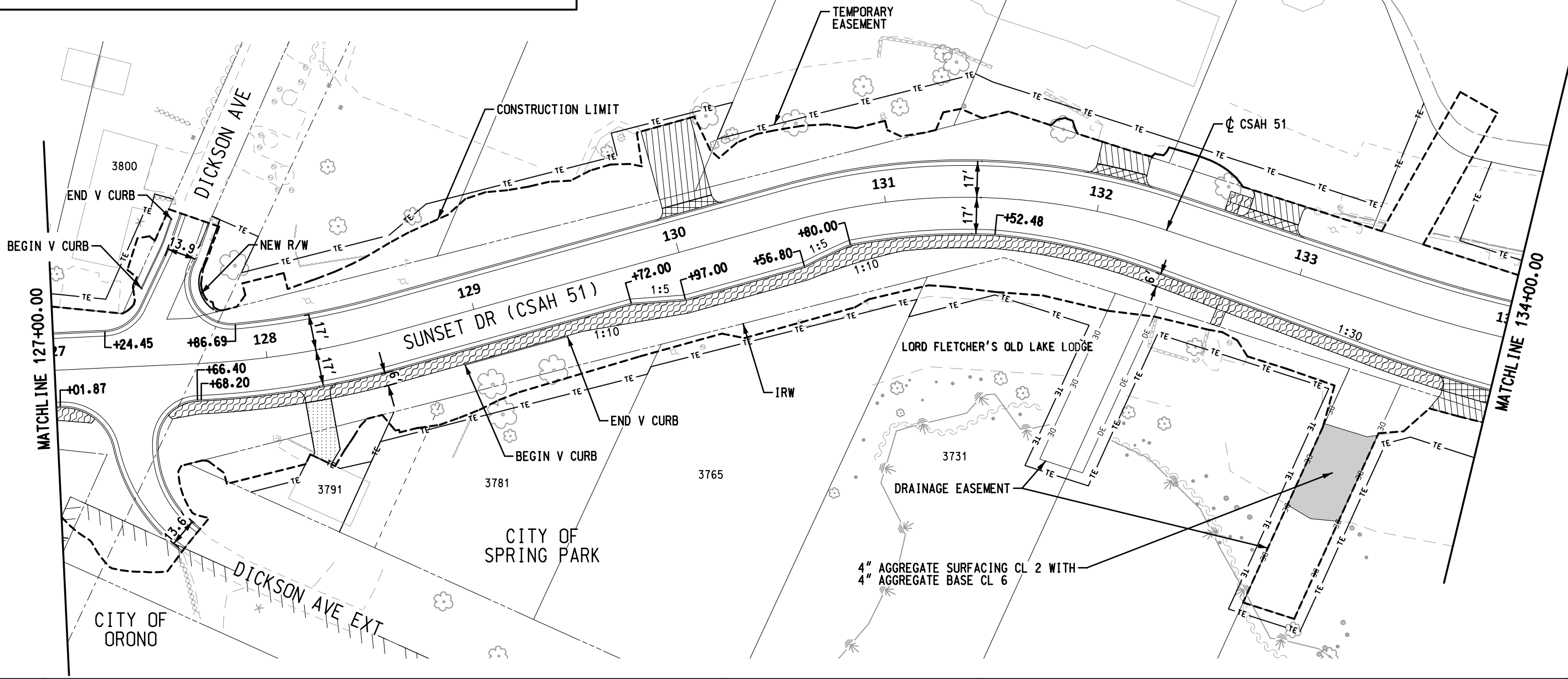
	BITUMINOUS TRAIL		BEGIN/END V CURB
	7" BIT. LOT AND DRIVEWAY		V CURB AT SIDEWALK
	4" BIT. LOT AND DRIVEWAY		T + TAPER PLUS
	4" CONCRETE WALK		CONSTRUCTION LIMITS
	6" CONCRETE WALK/ 6" CONCRETE DRIVEWAY		INPLACE R/W
	8" CONCRETE DRIVEWAY		NEW R/W
			TE TEMPORARY EASEMENT
			WE WALL EASEMENT
			PE PERMANENT EASEMENT
			DE DRAINAGE EASEMENT
			WETLAND DELINEATION

CONSTRUCTION NOTES

CURB AND GUTTER IS B624 UNLESS OTHERWISE NOTED



SCALE 0' 25' 50'



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:	/ /

CONSTRUCTION PLAN

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

SHEET

99
336

BITUMINOUS TRAIL

7" BIT. LOT AND DRIVEWAY

4" BIT. LOT AND DRIVEWAY

4" CONCRETE WALK

6" CONCRETE WALK/
6" CONCRETE DRIVEWAY

8" CONCRETE DRIVEWAY

BEGIN/END V CURB

V CURB AT SIDEWALK

T +

TAPER PLUS

CONSTRUCTION LIMITS

INPLACE R/W

NEW R/W

TE

TEMPORARY EASEMENT

WE

WALL EASEMENT

PE

PERMANENT EASEMENT

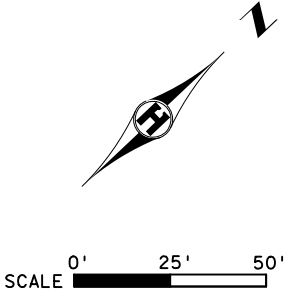
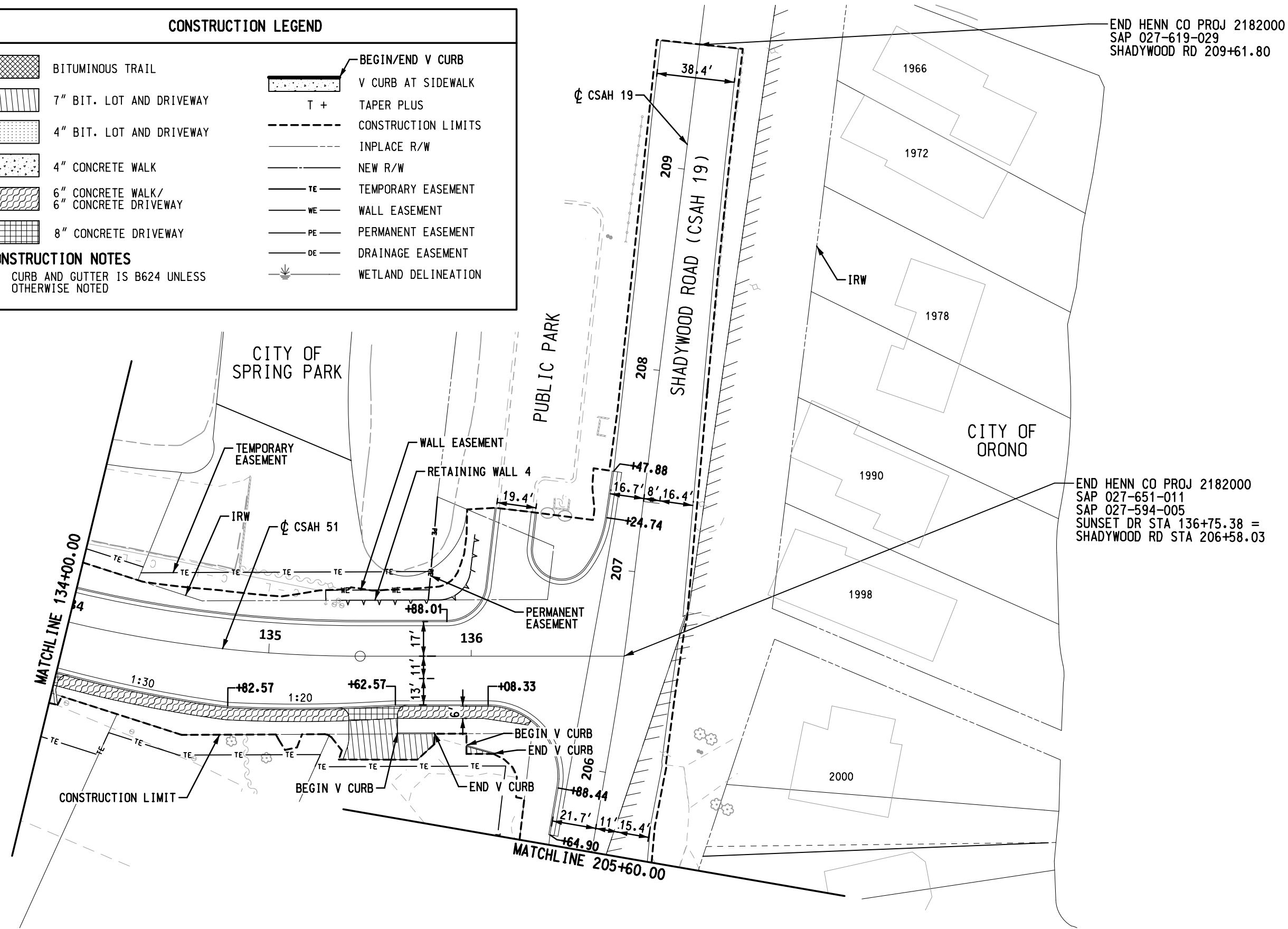
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DRAINAGE EASEMENT

WETLAND DELINEATION

CONSTRUCTION NOTES

CURB AND GUTTER IS B624 UNLESS OTHERWISE NOTED

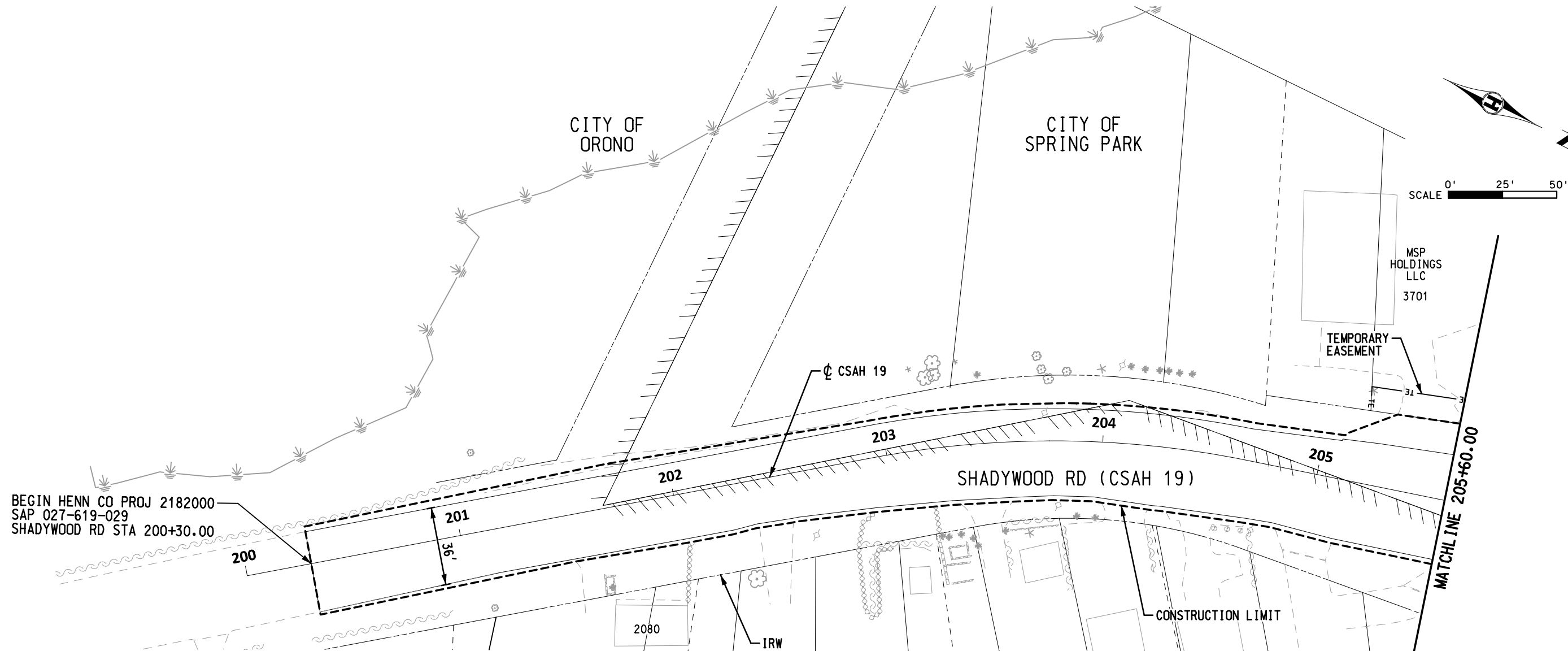


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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER	49073	//
	LICENSE NO.	DATE

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

CONSTRUCTION PLAN		SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		100
		336



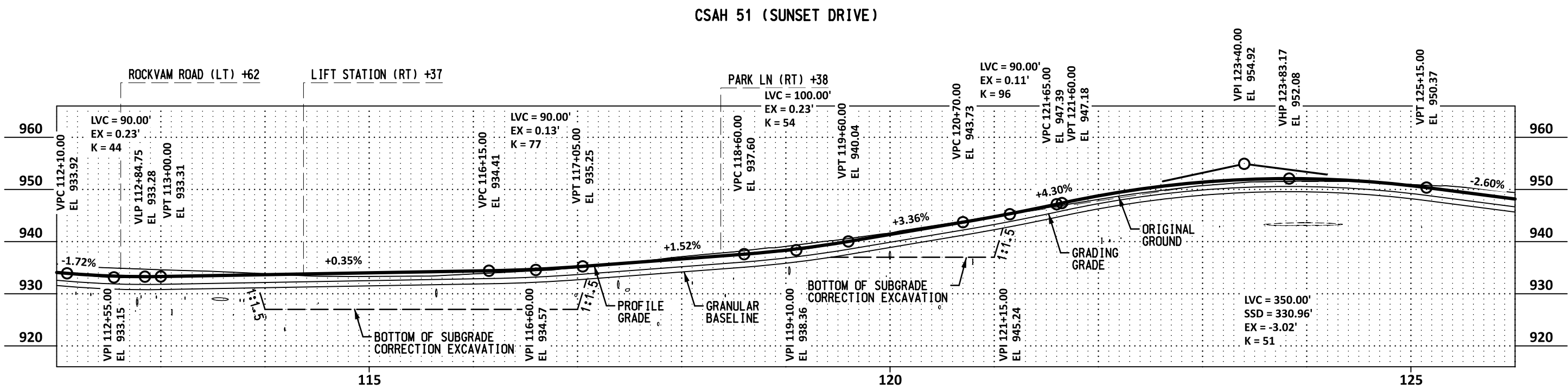
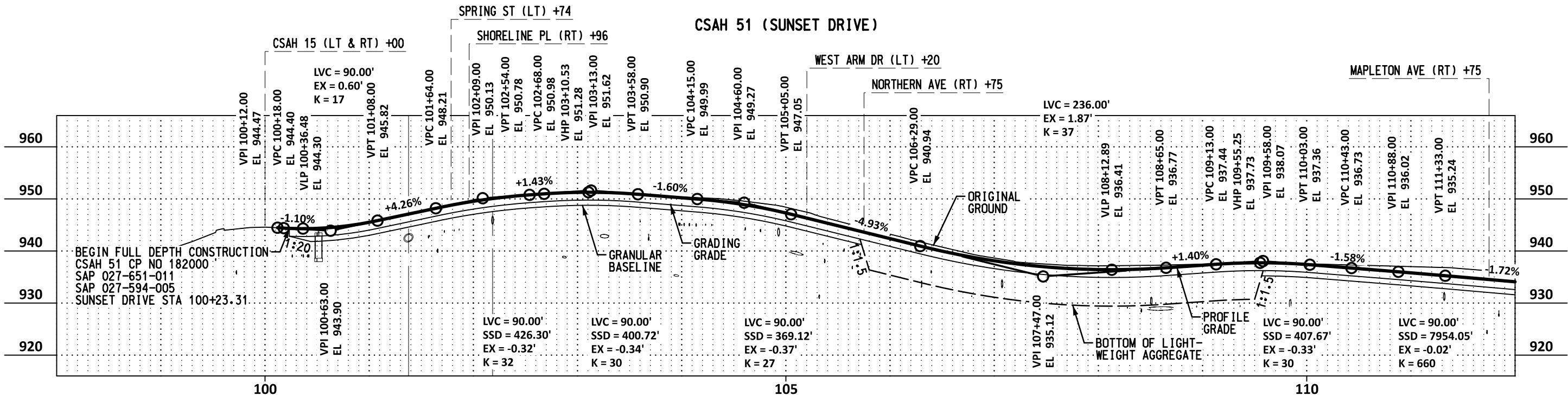
CONSTRUCTION LEGEND

	BITUMINOUS TRAIL		BEGIN/END V CURB
	7" BIT. LOT AND DRIVEWAY		V CURB AT SIDEWALK
	4" BIT. LOT AND DRIVEWAY		T + TAPER PLUS
	4" CONCRETE WALK		CONSTRUCTION LIMITS
	6" CONCRETE WALK/ 6" CONCRETE DRIVEWAY		INPLACE R/W
	8" CONCRETE DRIVEWAY		NEW R/W

CONSTRUCTION NOTES
CURB AND GUTTER IS B624 UNLESS OTHERWISE NOTED

	TEMPORARY EASEMENT
	WALL EASEMENT
	PERMANENT EASEMENT
	DRAINAGE EASEMENT
	WETLAND DELINEATION

IN MINNETONKA BEACH, IN THE SOUTHEAST CORNER OF COUNTY ROAD 19 BRIDGE NUMBER 7180 (COFFEE BRIDGE) BETWEEN CRYSTAL BAY AND THE WEST ARM OF LAKE MINNETONKA, 2.3 MILES SOUTH ALONG COUNTY ROAD 146 FROM THE JUNCTION OF COUNTY ROAD 146 AND TRUNK HIGHWAY 12 IN LONG LAKE, THEN 2.2 MILES WEST ON COUNTY ROAD 51 (NORTH SHORE DRIVE), THEN 0.5 MILE SOUTH ON COUNTY ROAD 19 (SHADYWOOD ROAD). EL = 945.959.



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
//
DATE

DESIGN BY: S. PARK
CAD BY: R. MANKE
CHECKED BY: A. KLEIN
LAST REVISION: //

PROFILES

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

SHEET

102
336

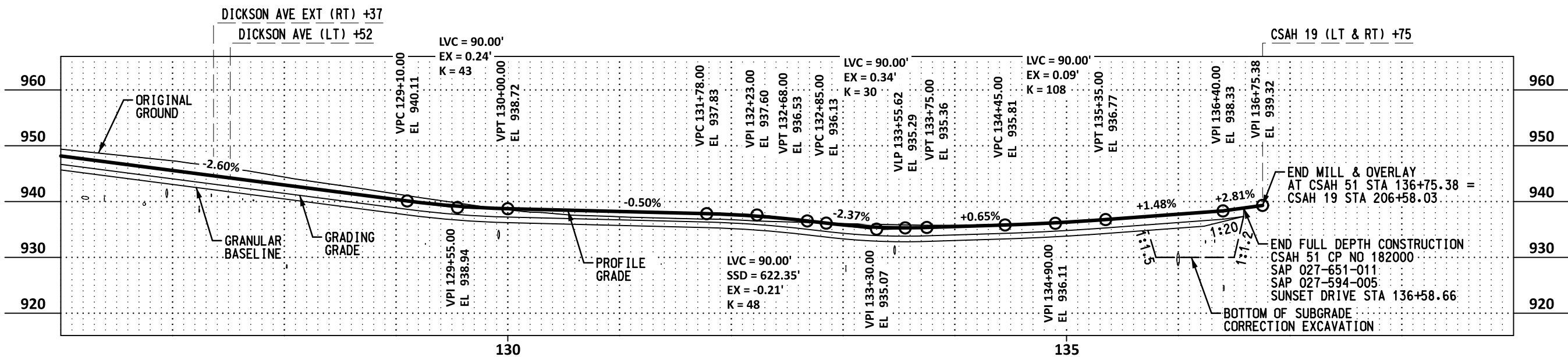
IN MINNETONKA BEACH, IN THE SOUTHEAST CORNER OF COUNTY ROAD 19 BRIDGE NUMBER 7180 (COFFEE BRIDGE) BETWEEN CRYSTAL BAY AND THE WEST ARM OF LAKE MINNETONKA, 2.3 MILES SOUTH ALONG COUNTY ROAD 146 FROM THE JUNCTION OF COUNTY ROAD 146 AND TRUNK HIGHWAY 12 IN LONG LAKE, THEN 2.2 MILES WEST ON COUNTY ROAD 51 (NORTH SHORE DRIVE), THEN 0.5 MILE SOUTH ON COUNTY ROAD 19 (SHADYWOOD ROAD). EL = 945.959.

VERTICAL DATUM
NGVD 29

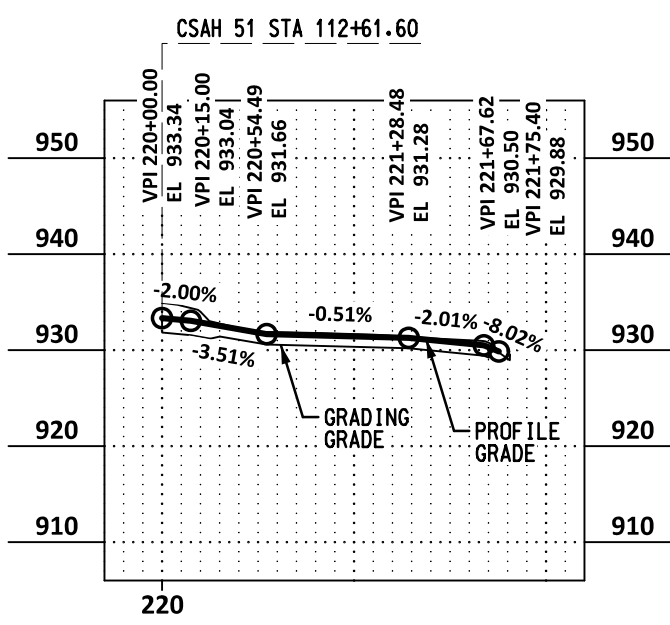
0' 50' 100'
SCALE HORIZ.

0' 10' 20'
SCALE VERT.

CSAH 51 (SUNSET DRIVE)



ROCKVAM ROAD





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
//
DATE

DESIGN BY: S. PARK
CAD BY: R. MANKE
CHECKED BY: A. KLEIN
LAST REVISION: //

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

SHEET
103
336

INTERSECTION LEGEND

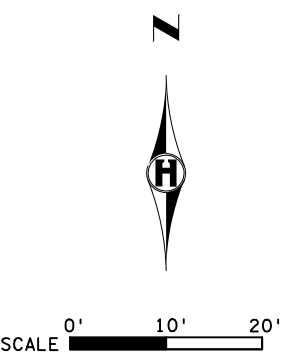
001

— x"

F

S

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT
CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.
TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)
CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.
INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
DRAINAGE FLOW DIRECTION
PROPOSED DRAINAGE STRUCTURES
CONSTRUCTION LIMITS
PEDESTRIAN PUSH BUTTON STATION
FOUNDATION POST AND MAST ARMS



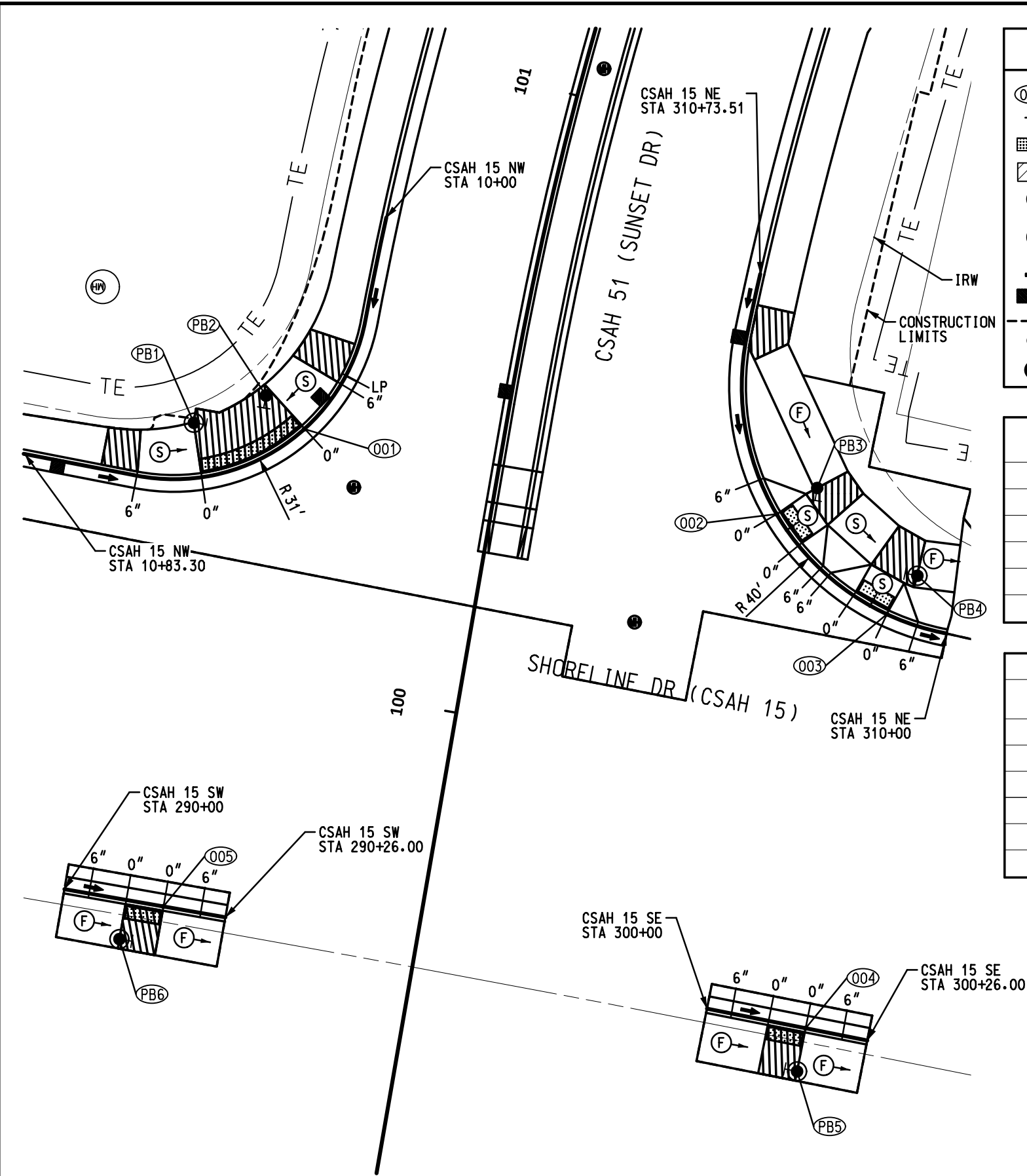
CONTROL POINTS

POINT	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	CSAH 15 NW	10+36.77	944.80	0.0
002	CSAH 15 NE	310+34.07	942.93	0.0
003	CSAH 15 NE	310+10.01	942.28	0.0
004	CSAH 15 SE	300+16.00	942.38	0.0
005	CSAH 15 SW	290+16.00	945.02	0.0

PUSH BUTTON

POINT NO.	ALIGNMENT	STATION	OFFSET	DISTANCE TO FRONT OF	DISTANCE TO BACK OF
PB1	CSAH 15 NW	10+55.13	8.75 RT	8.1	0.9
PB2	CSAH 15 NW	10+38.15	8.03 RT	7.4	1.7
PB3	CSAH 15 NE	310+34.43	7.67 RT	2.0	5.5
PB4	CSAH 15 NE	310+07.79	7.54 RT	2.0	5.7
PB5	CSAH 15 SE	300+15.99	7.00 RT	1.5	6.3
PB6	CSAH 15 SW	290+10.00	6.32 RT	1.5	5.6

SEE SHEET 105 FOR CURB LINE PROFILES



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: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

LAST REVISION: / /

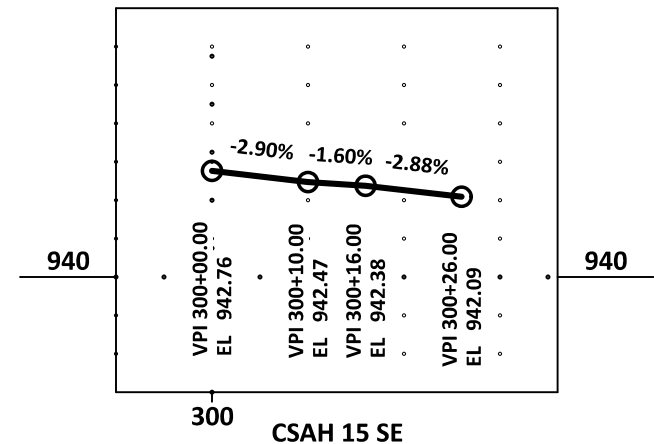
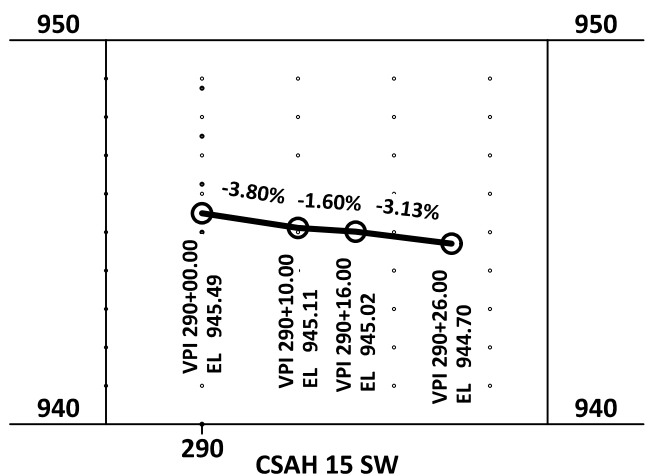
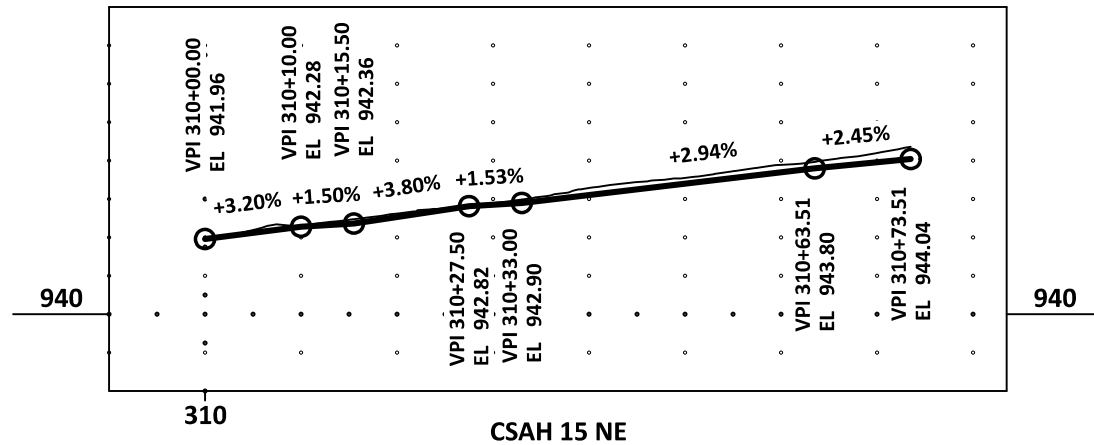
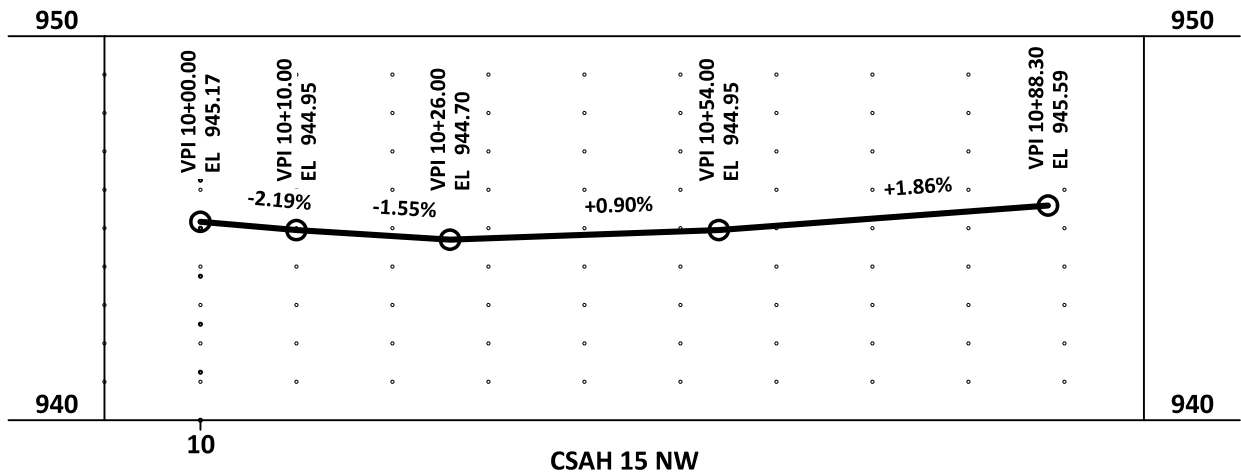
INTERSECTION DETAILS

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

SHEET

104

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.

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

DATE

DESIGN BY: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

LAST REVISION: / /

INTERSECTION DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000

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

SHEET

105

336

INTERSECTION LEGEND

001

— X"

F

S

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.

INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

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

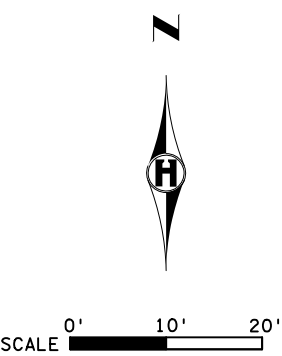
DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

PEDESTRIAN PUSH BUTTON STATION

FOUNDATION POST AND MAST ARMS

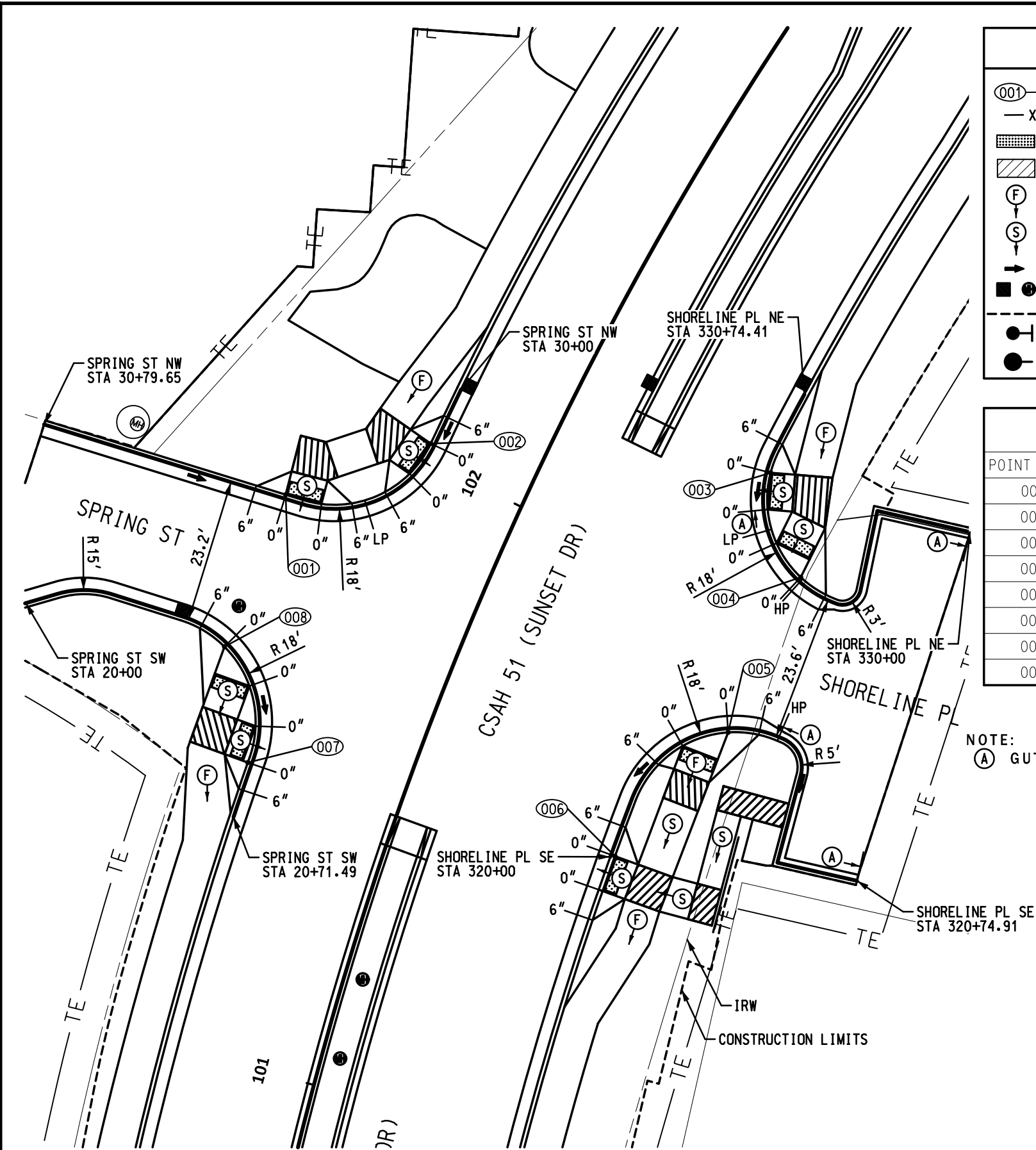


CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	SPRING ST NW	30+38.74	949.81	0.0
002	SPRING ST NW	30+10.00	949.91	0.0
003	SHORELINE PL NE	330+60.39	949.41	0.0
004	SHORELINE PL NE	330+41.12	949.15	0.0
005	SHORELINE PL SE	320+30.51	948.06	0.0
006	SHORELINE PL SE	320+00.35	946.90	0.0
007	SPRING ST SW	20+62.36	947.92	0.0
008	SPRING ST SW	20+41.25	948.70	0.0

SEE SHEET 107 FOR CURB LINE PROFILES

NOTE:
A GUTTER OUTFLOW



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: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

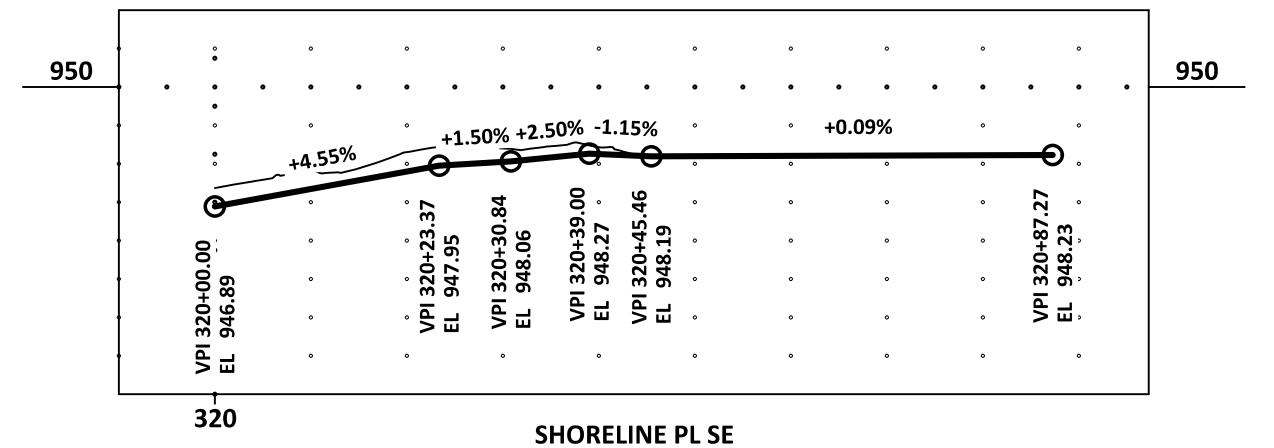
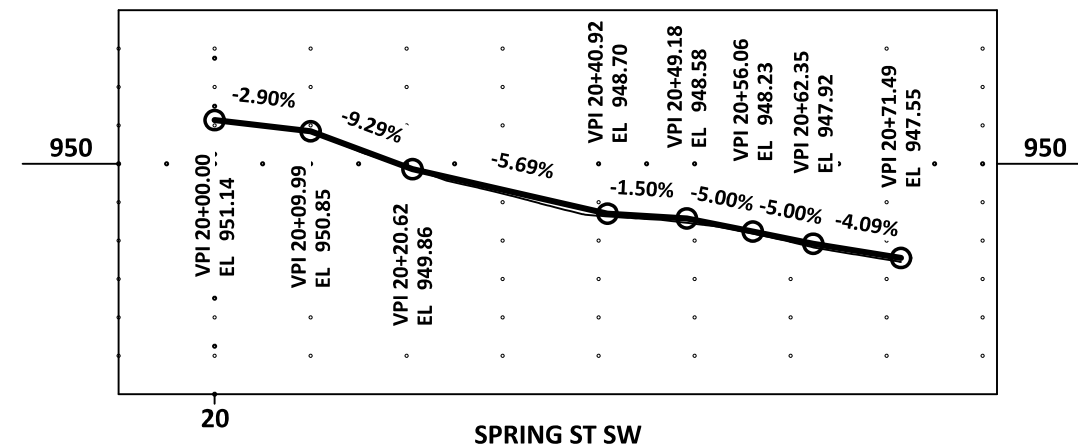
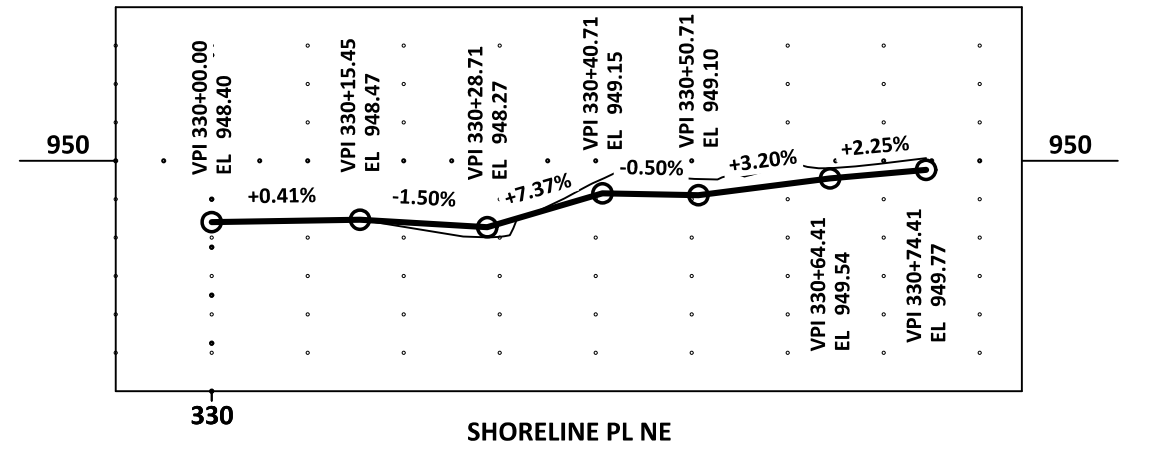
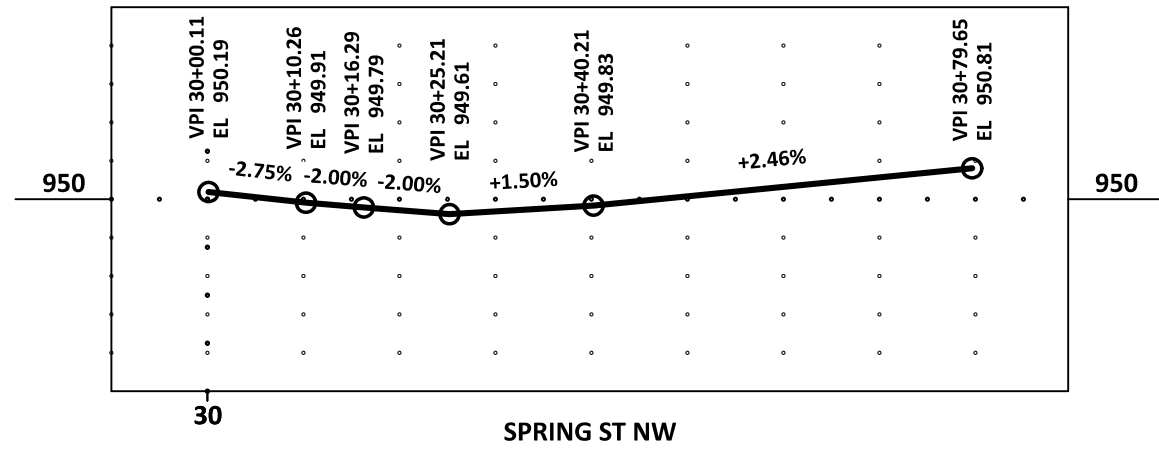
LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

106
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.

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

DATE

DESIGN BY: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

LAST REVISION: / /

INTERSECTION DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000

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

SHEET

107

336

INTERSECTION LEGEND

001

— X"

F

S

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.

INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

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

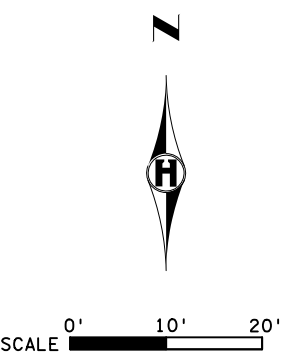
DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

PEDESTRIAN PUSH BUTTON STATION

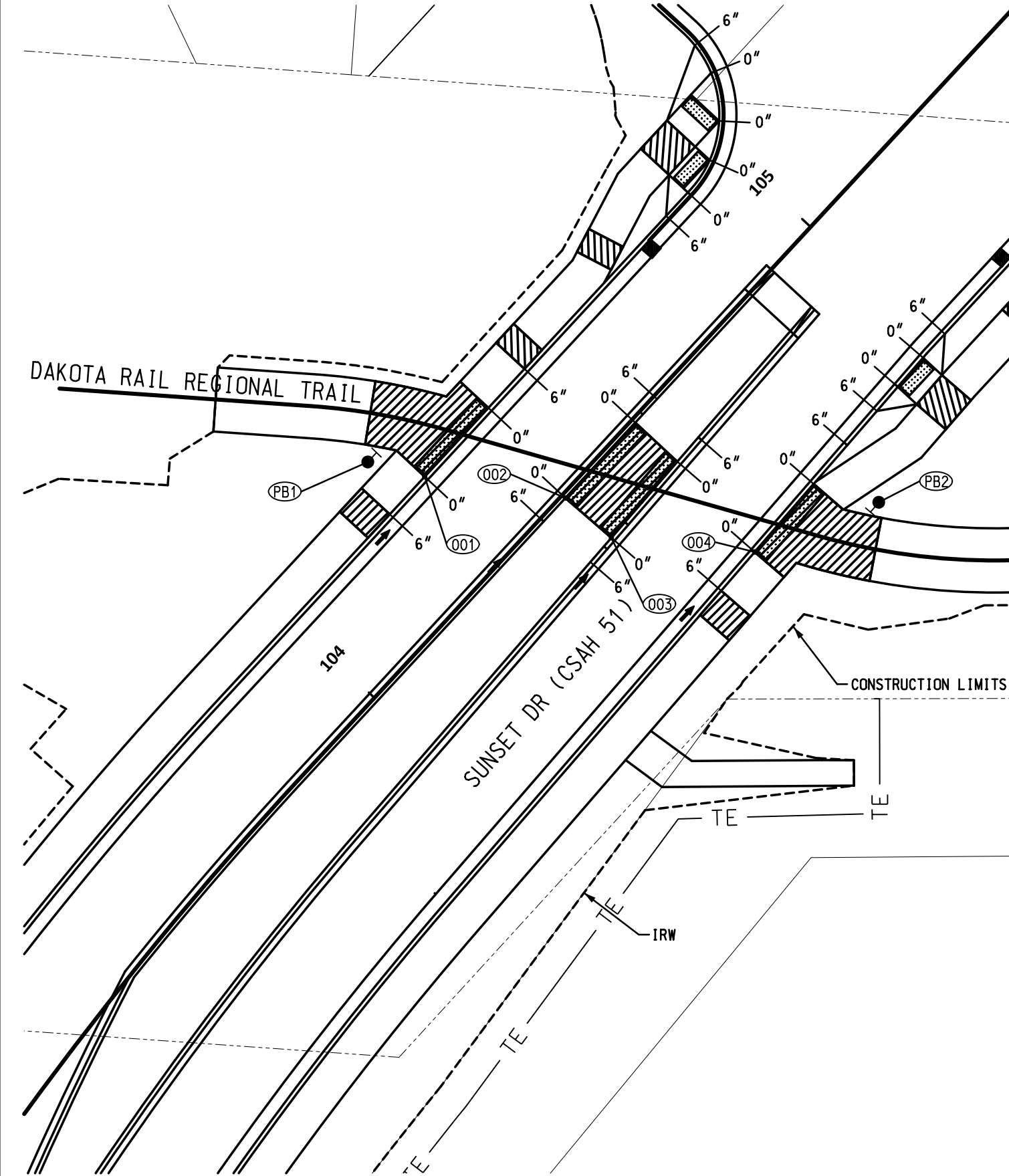
FOUNDATION POST AND MAST ARMS



CONTROL POINTS				
POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	CSAH 51	104+30.60	949.69	17.0 LT
002	CSAH 51	104+43.06	949.39	0.0
003	CSAH 51	104+43.37	949.39	10.13 RT
004	CSAH 51	104+56.91	948.99	27.36 RT

PERMANENT FLASHER ASSEMBLY AND PUSH BUTTON					
POINT NO.	ALIGNMENT	STATION	OFFSET	DISTANCE TO FRONT OF LANDING	DISTANCE TO BACK OF LANDING
PB1	CSAH 51	104+26.26	25.73 LT	9.2	1.0
PB2	CSAH 51	104+75.73	36.94 RT	10.5	1.0

SEE SHEET109 FOR CURB LINE PROFILES



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: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

LAST REVISION: / /

INTERSECTION DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000

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

SHEET

108

336

COORDINATION WITH TRPD ON TRAIL ALIGNMENT ONGOING.
PED DESIGN AND PROFILES TO COME AT LATER DESIGN STAGE



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:	A. BENTSON
CAD BY:	A. BENTSON
CHECKED BY:	S. PARK
LAST REVISION:	/ /

INTERSECTION DETAILS	SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	109 / 336

INTERSECTION LEGEND

001

— X"

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.

INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

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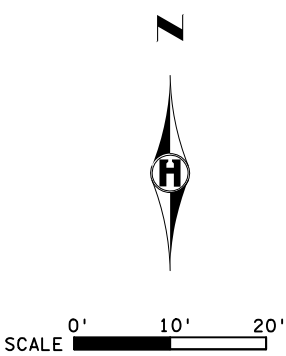
DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

PEDESTRIAN PUSH BUTTON STATION

FOUNDATION POST AND MAST ARMS

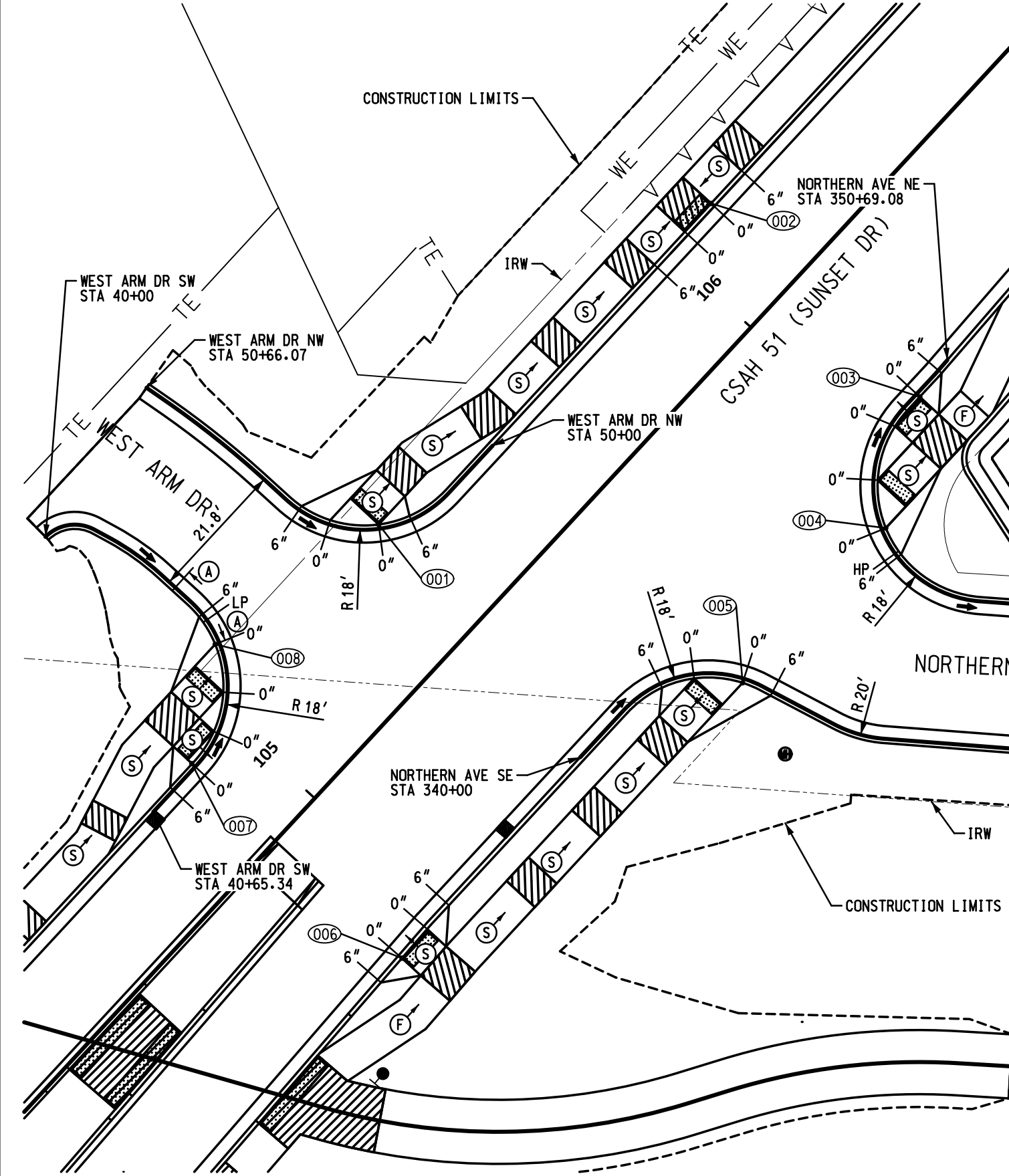


CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	WEST ARM DR NW	50+22.48	945.07	0.0
002	CSAH 51	106+09.94	941.88	17 LT
003	NORTHERN AVE NE	350+61.98	941.28	0.0
004	NORTHERN AVE NE	350+38.67	942.51	0.0
005	NORTHERN AVE SE	340+30.41	943.79	0.0
006	CSAH 51	104+90.93	947.71	26.23 RT
007	WEST ARM DR SW	40+55.75	947.28	0.0
008	WEST ARM DR SW	40+34.93	946.47	0.0

SEE SHEET 111 FOR CURB LINE PROFILES

NOTE:
A GUTTER OUTFLOW



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

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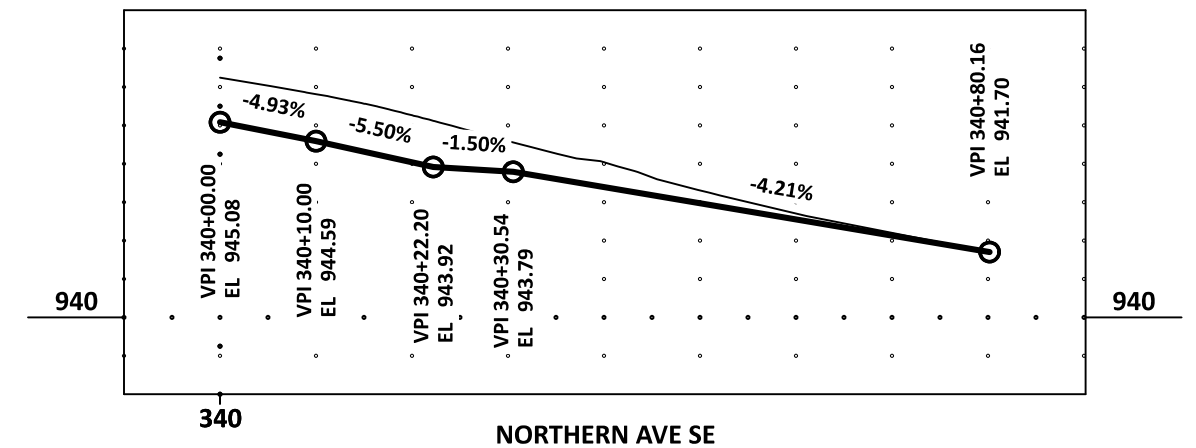
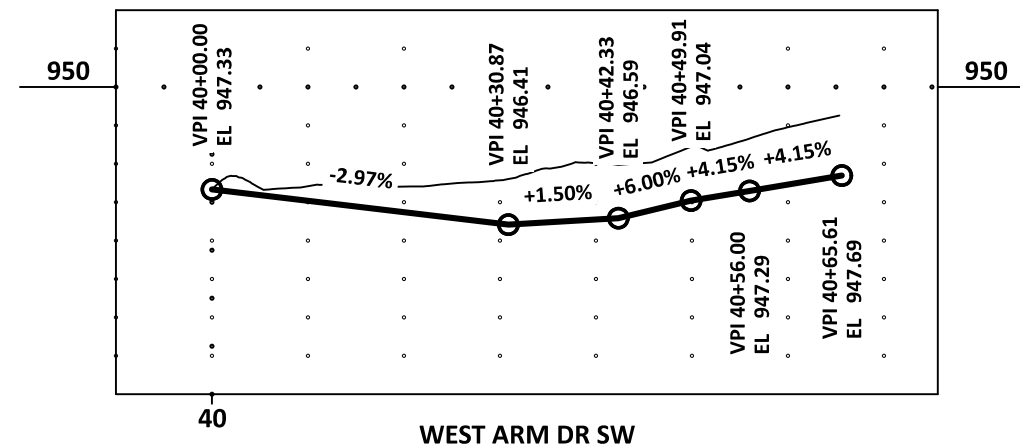
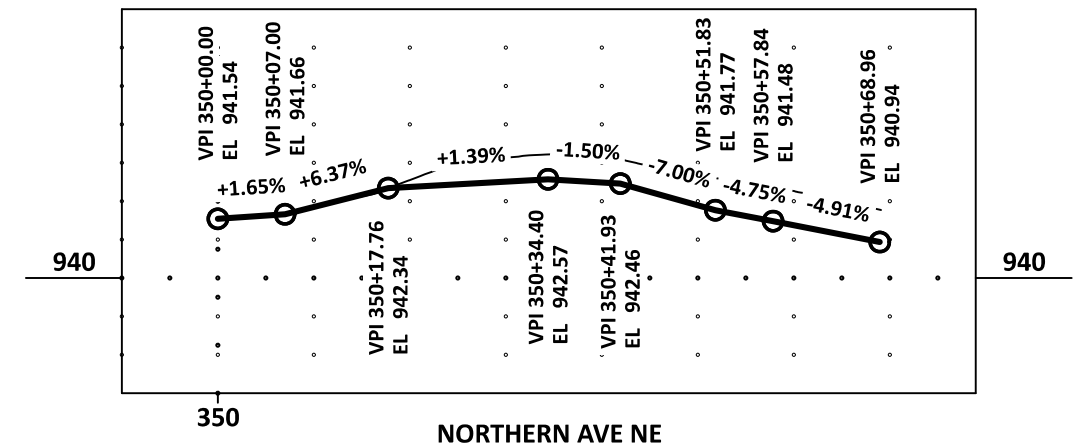
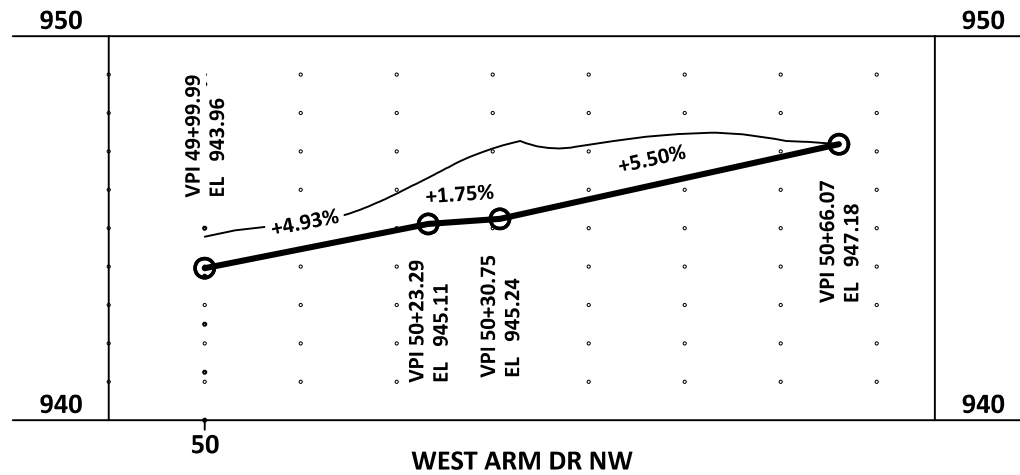
INTERSECTION DETAILS

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

SHEET

110

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.

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073
LICENSE NO. DATE

DESIGN BY: A. BENTSON
CAD BY: A. BENTSON
CHECKED BY: S. PARK
LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

111
336

INTERSECTION LEGEND

001

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

X"

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.

F

INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

S

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

DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

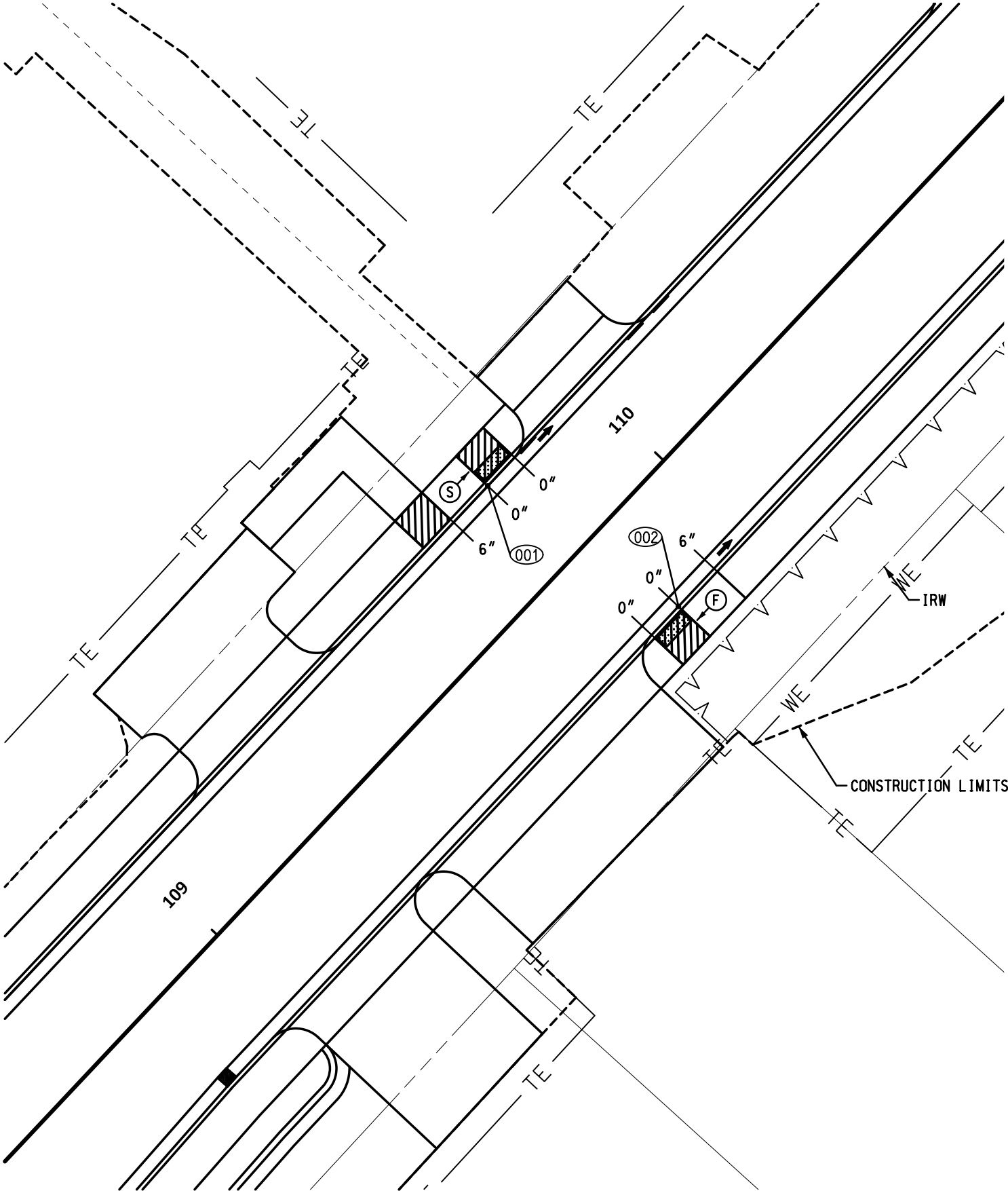
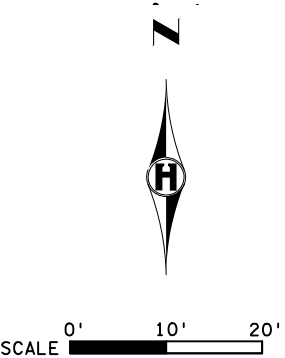
CONSTRUCTION LIMITS

PEDESTRIAN PUSH BUTTON STATION

FOUNDATION POST AND MAST ARMS

CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	CSAH 51	109+78.66	937.64	17 LT
002	CSAH 51	109+85.24	937.59	17 RT



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: A. BENTSON
CAD BY: A. BENTSON
CHECKED BY: S. PARK
LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

112
336

INTERSECTION LEGEND

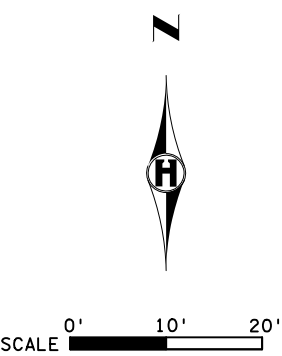
001

— X"

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S

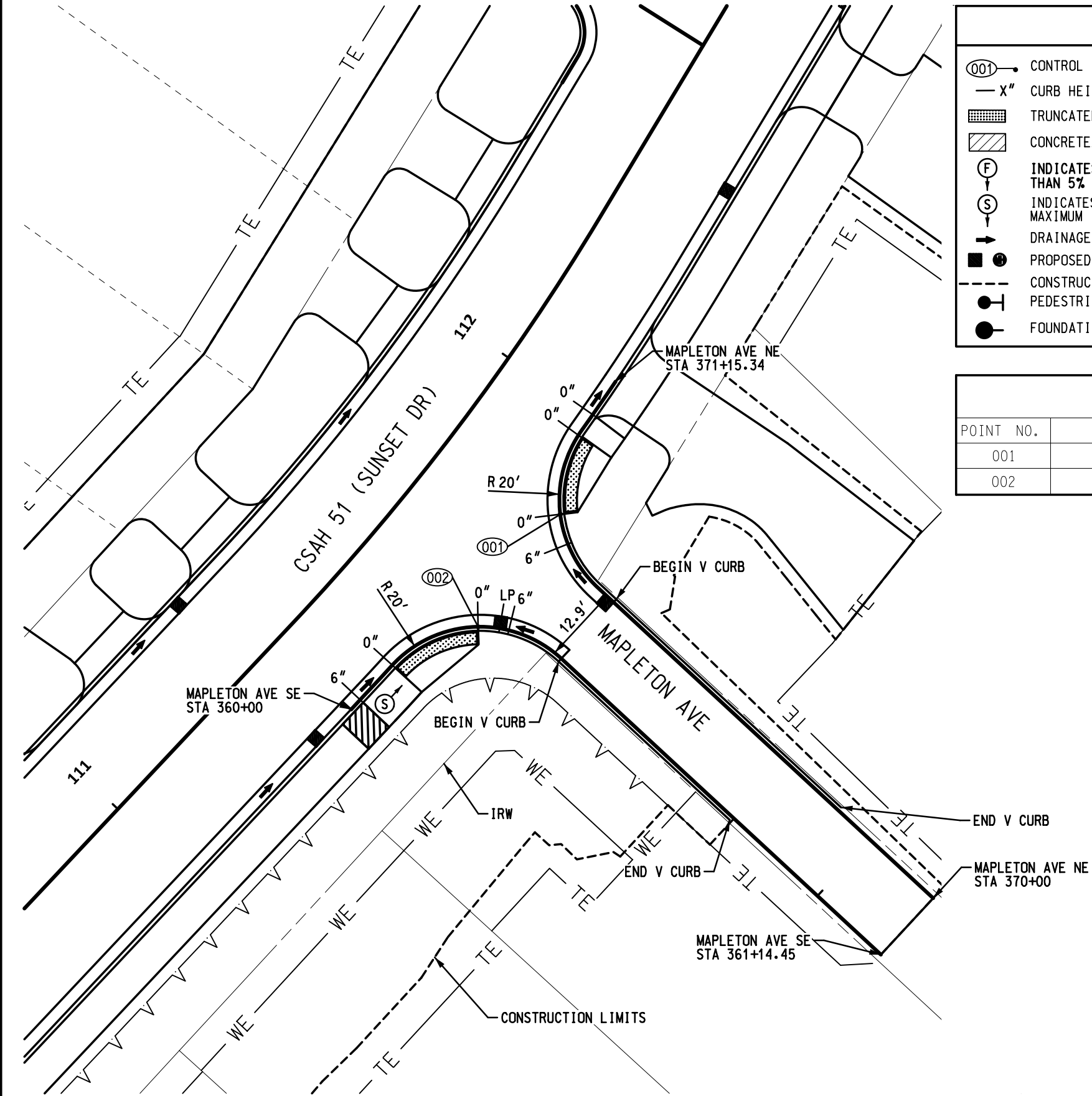
CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT
CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.
TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)
CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.
INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
DRAINAGE FLOW DIRECTION
PROPOSED DRAINAGE STRUCTURES
CONSTRUCTION LIMITS
PEDESTRIAN PUSH BUTTON STATION
FOUNDATION POST AND MAST ARMS



CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	MAPLETON AVE NE	370+90.55	933.90	0.0
002	MAPLETON AVE SE	360+26.30	934.27	0.0

SEE SHEET 114 FOR CURB LINE PROFILES



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

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LICENSE NO.

DATE

DESIGN BY: A. BENTSON

CAD BY: A. BENTSON

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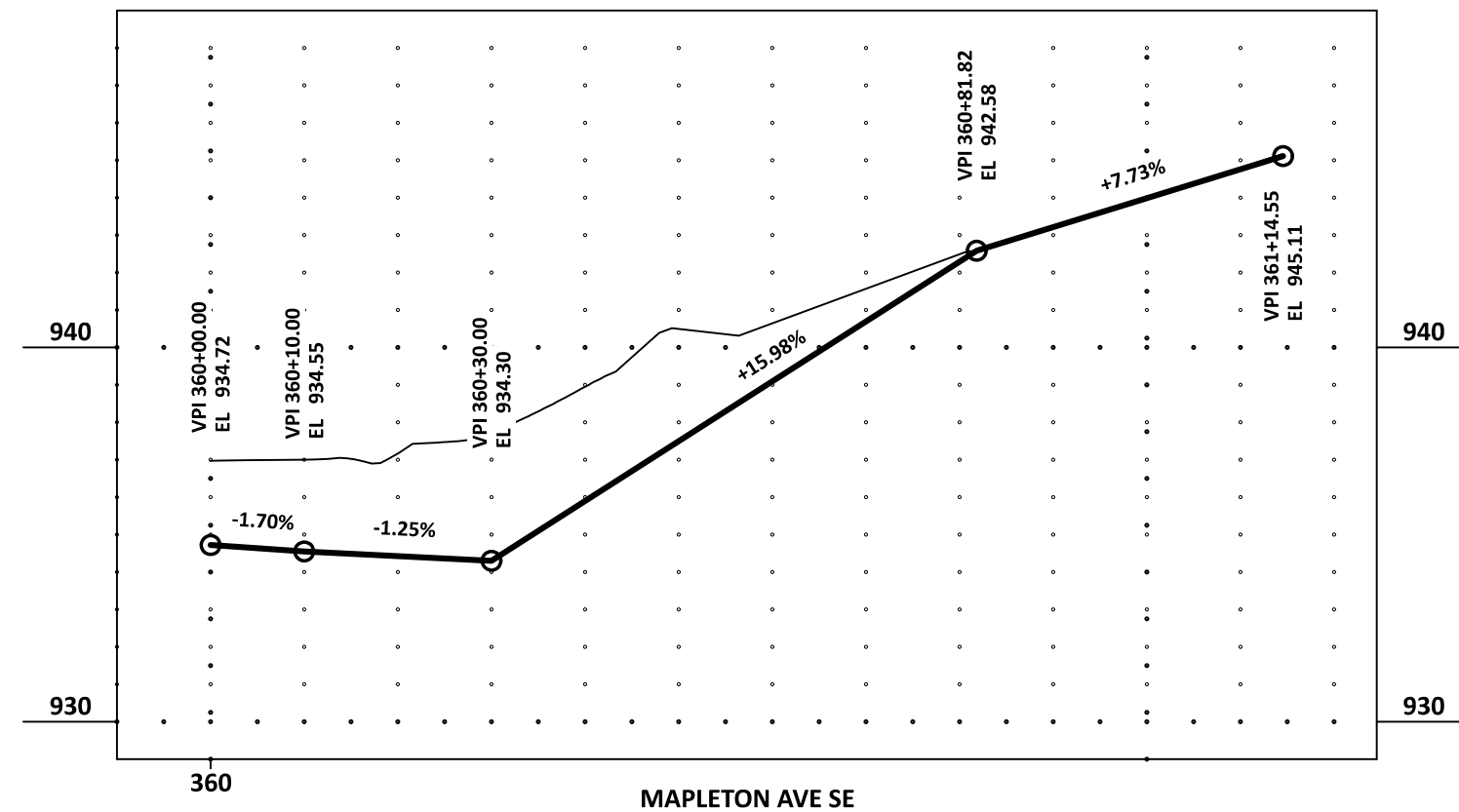
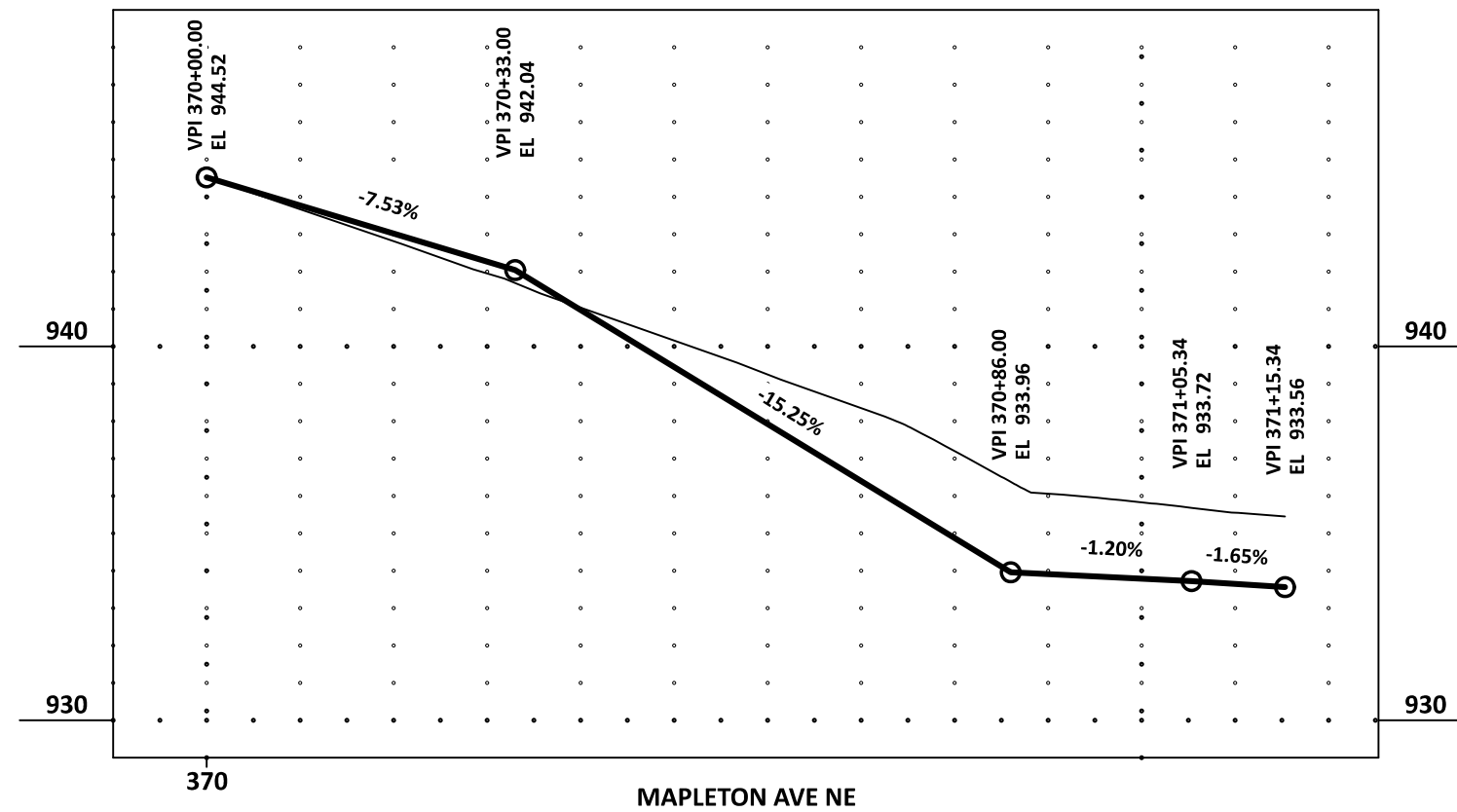
LAST REVISION: / /

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

SHEET

113

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.

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073
LICENSE NO. //
DATE

DESIGN BY: A. BENTSON
CAD BY: A. BENTSON
CHECKED BY: S. PARK
LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

114
336

INTERSECTION LEGEND

001

— X"

F

S

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.

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DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

PEDESTRIAN PUSH BUTTON STATION

FOUNDATION POST AND MAST ARMS

CONTROL POINTS				
POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	LIFT STATION SE	380+26.36	933.17	0.0
002	LIFT STATION NE	390+37.53	933.39	0.0

SEE SHEET 116 FOR CURB LINE PROFILES

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: A. BENTSON

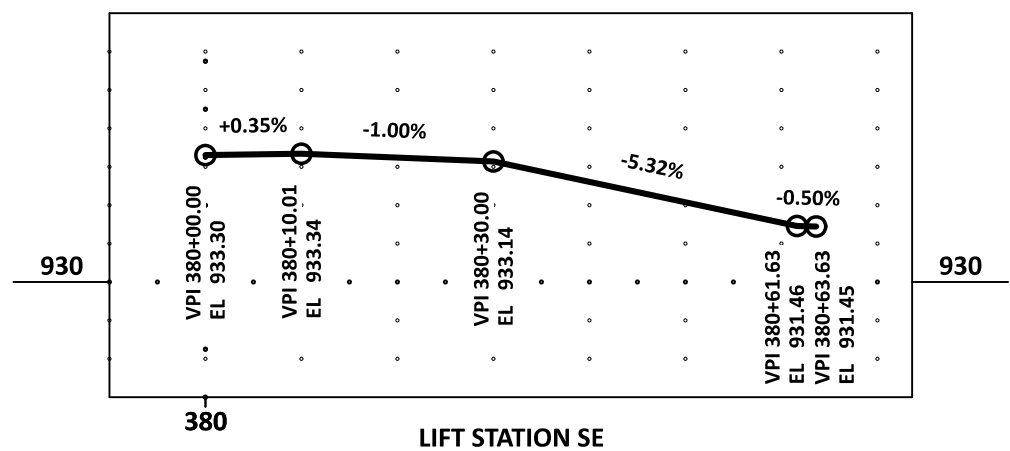
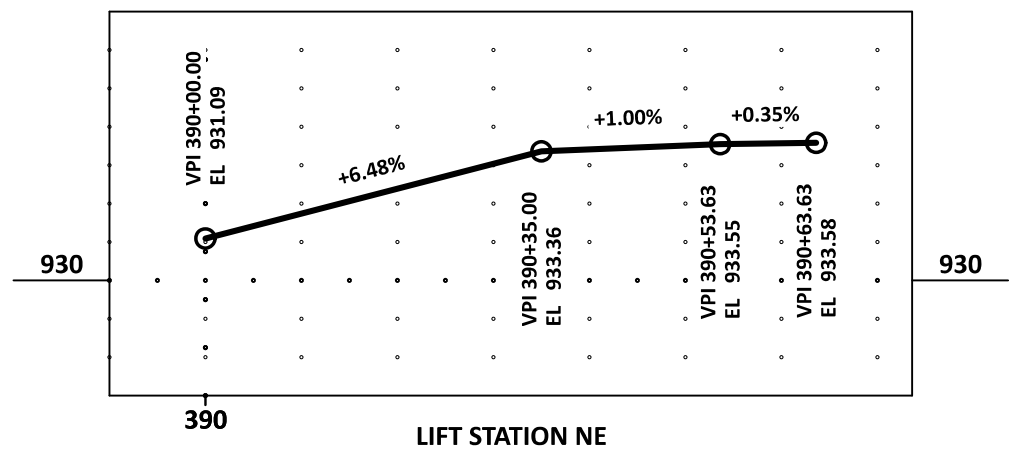
CAD BY: A. BENTSON

CHECKED BY: S. PARK

LAST REVISION: / /

INTERSECTION DETAILS		SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		115 336

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

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073
LICENSE NO. / /
DATE

DESIGN BY: A. BENTSON
CAD BY: A. BENTSON
CHECKED BY: S. PARK
LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

116
336

INTERSECTION LEGEND

001

— X"

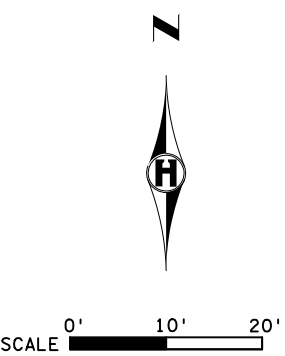
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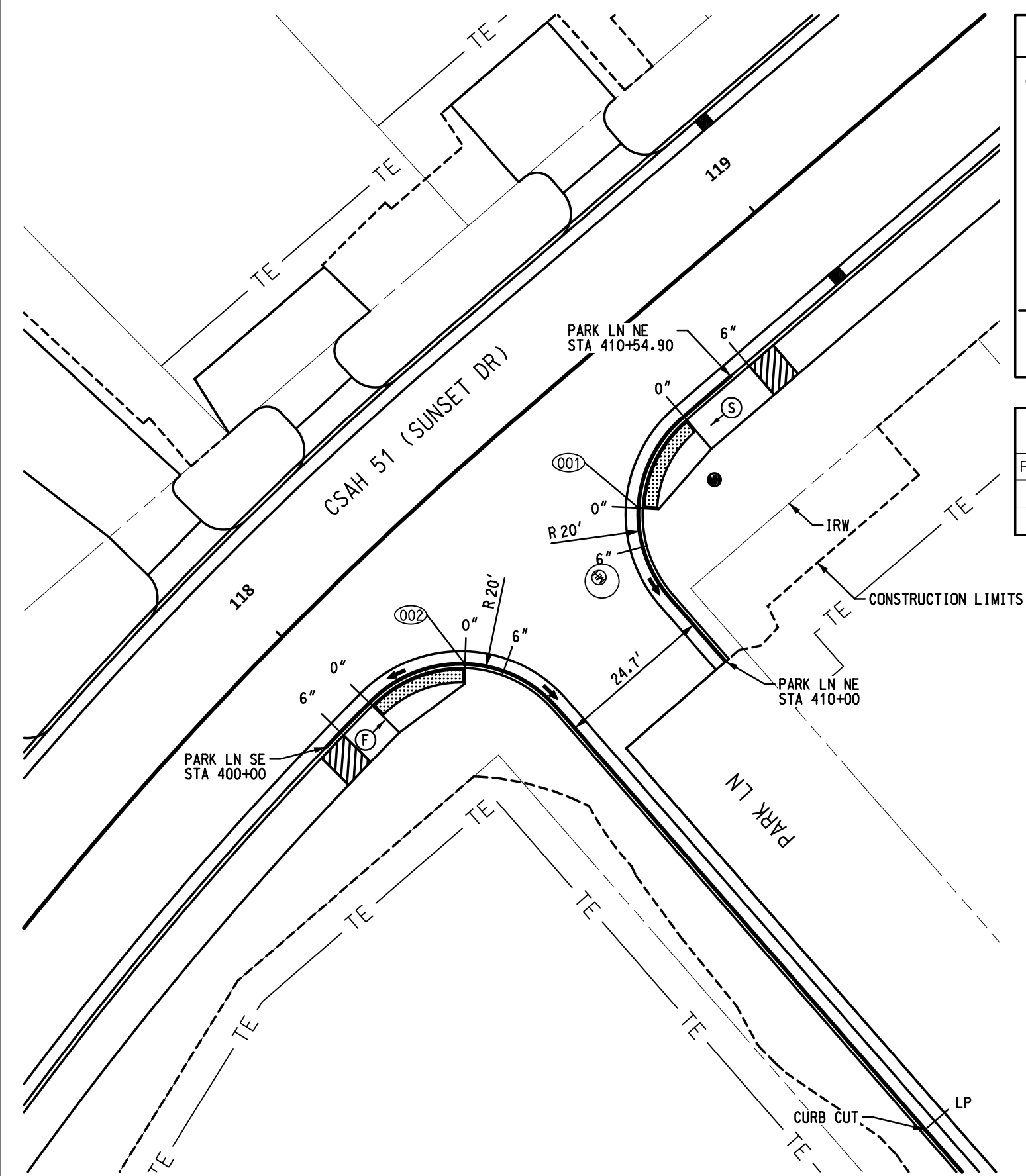
CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT
CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.
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DRAINAGE FLOW DIRECTION
PROPOSED DRAINAGE STRUCTURES
CONSTRUCTION LIMITS
PEDESTRIAN PUSH BUTTON STATION
FOUNDATION POST AND MAST ARMS



CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	PARK LN NE	410+28.68	937.02	0.0
002	PARK LN SE	400+26.43	936.35	0.0

SEE SHEET 118 FOR CURB LINE PROFILES



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: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

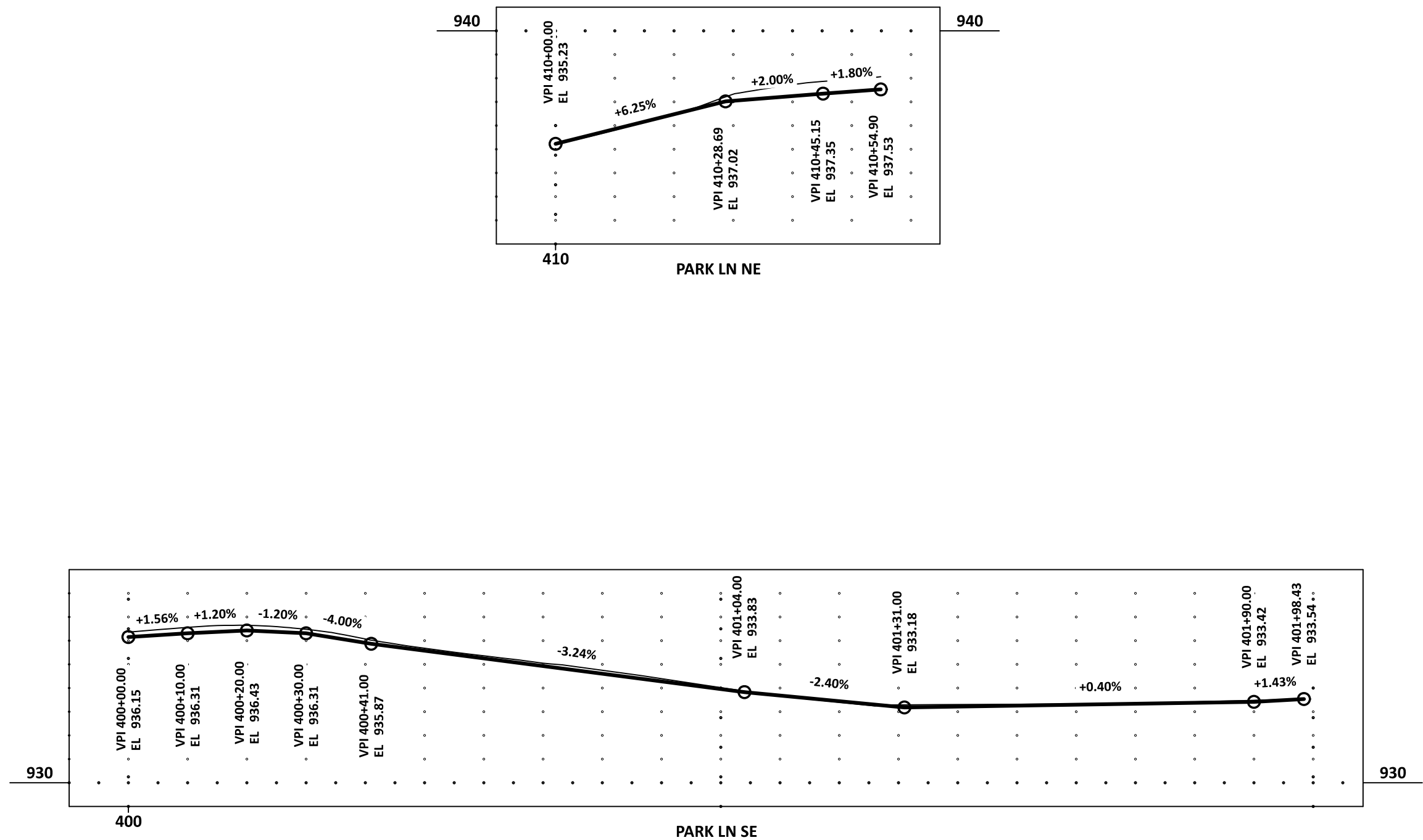
LAST REVISION: / /

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

SHEET

117

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.

AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER
 49073
 LICENSE NO. DATE

DESIGN BY: A. BENTSON
 CAD BY: A. BENTSON
 CHECKED BY: S. PARK
 LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

118
 336

INTERSECTION LEGEND

001

— X"

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CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

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DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

PEDESTRIAN PUSH BUTTON STATION

FOUNDATION POST AND MAST ARMS

CONTROL POINTS				
POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	DICKSON AVE NE	430+61.74	943.64	0.0
002	DICKSON AVE SE	420+27.90	944.56	0.0

SEE SHEET 120 FOR CURB LINE PROFILES

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: A. BENTSON
CAD BY: A. BENTSON
CHECKED BY: S. PARK
LAST REVISION: / /

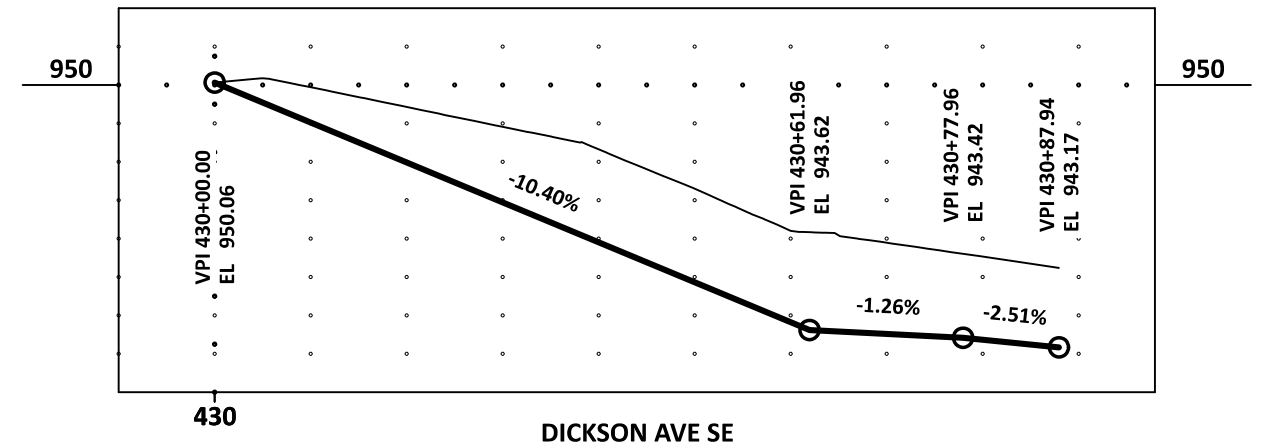
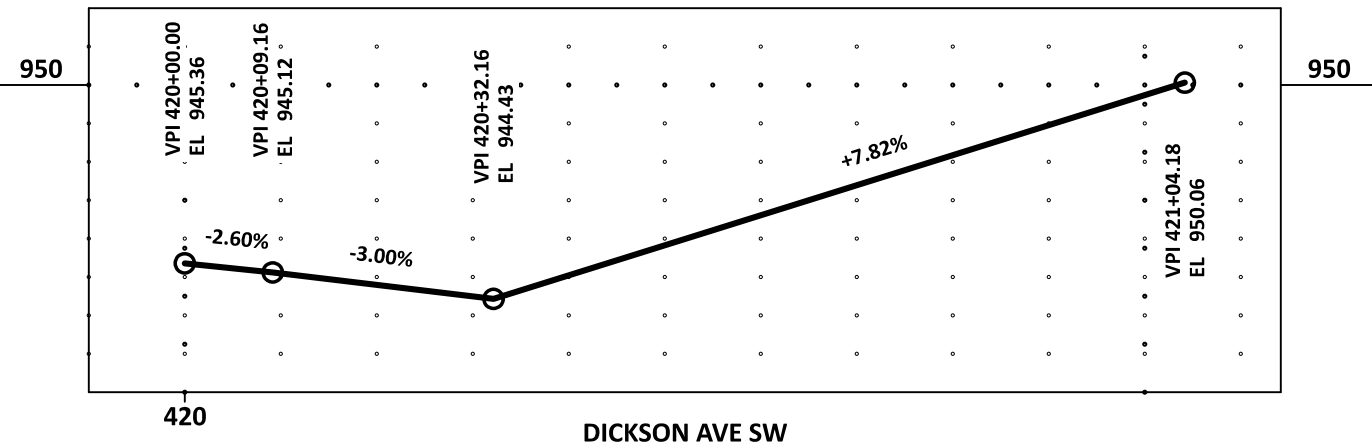
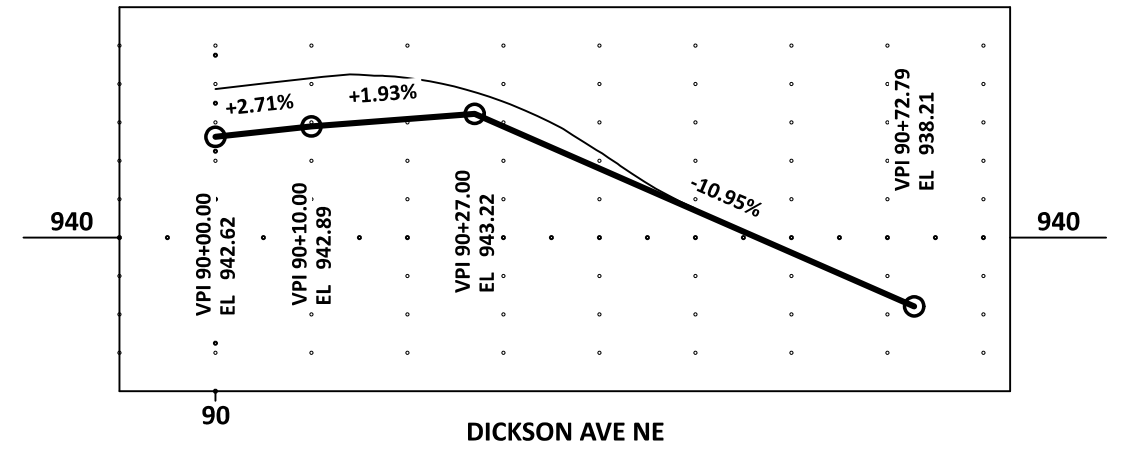
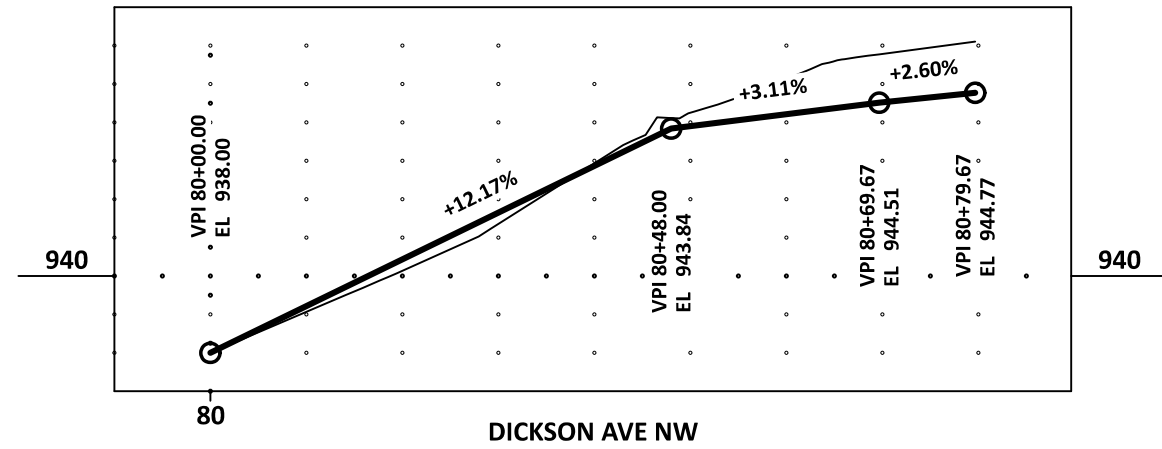
INTERSECTION DETAILS

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

SHEET

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336

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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER
 49073
 LICENSE NO. DATE

DESIGN BY: A. BENTSON
 CAD BY: A. BENTSON
 CHECKED BY: S. PARK
 LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

120
 336

INTERSECTION LEGEND

001

CONTROL POINT(S) ON GUTTER FLOW LINE AT 0" CURB HEIGHT POINT

X"

CURB HEIGHT. SEE STANDARD PLAN SHEETS FOR PEDESTRIAN CURB RAMP DETAILS.

TRUNCATED DOMES (SEE MNDOT STANDARD PLATE 7038)

CONCRETE/LANDING AREA - 2.0% MAX SLOPE FROM GUTTER.

F

INDICATES PEDESTRIAN RAMP. SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

S

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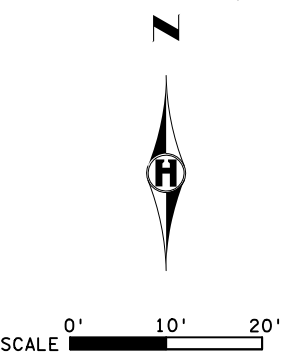
DRAINAGE FLOW DIRECTION

PROPOSED DRAINAGE STRUCTURES

CONSTRUCTION LIMITS

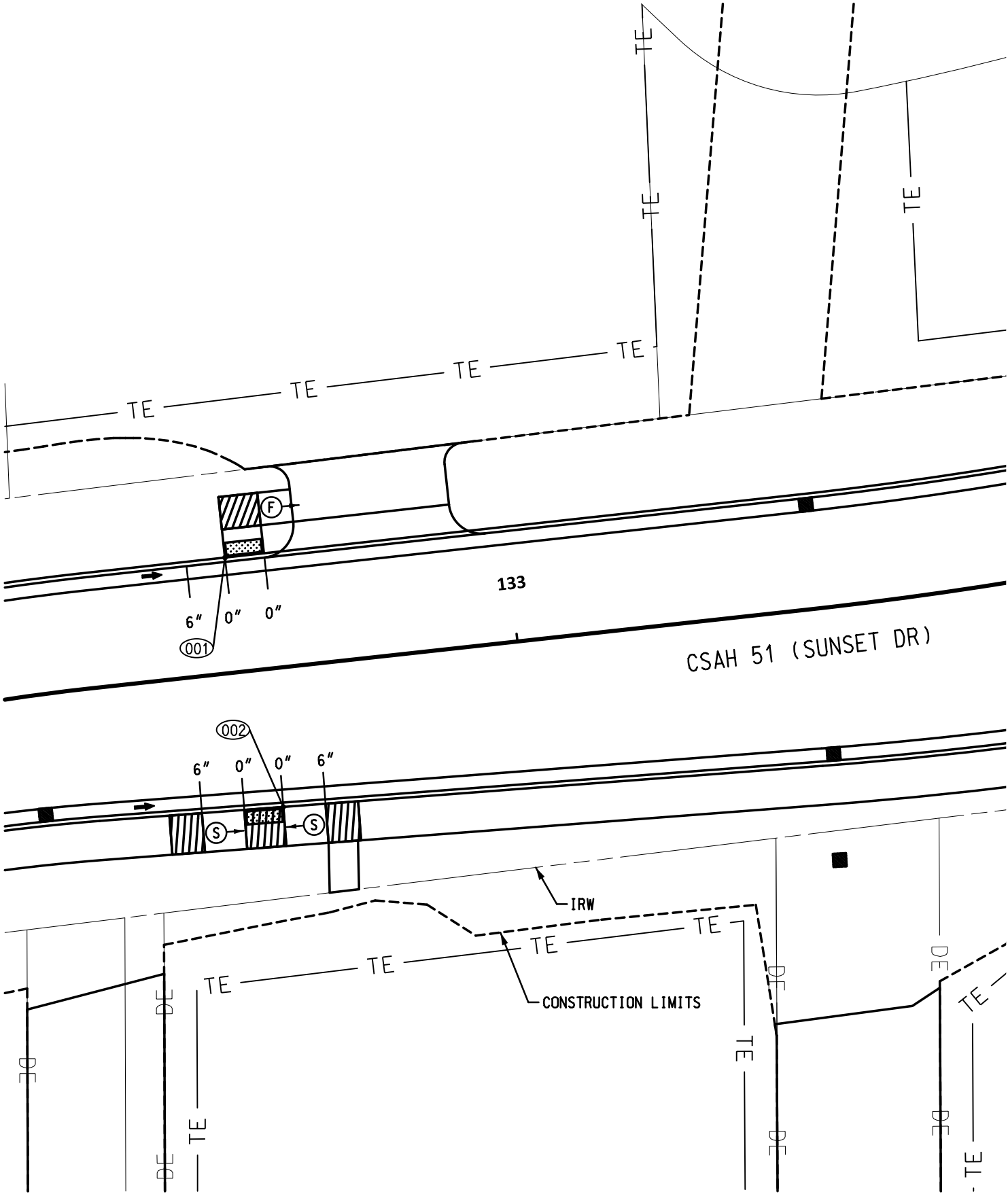
PEDESTRIAN PUSH BUTTON STATION

FOUNDATION POST AND MAST ARMS



CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	CSAH 51	132+56.85	936.79	17 LT
002	CSAH 51	132+61.58	936.68	20.63 RT



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

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LICENSE NO.

DATE

DESIGN BY: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

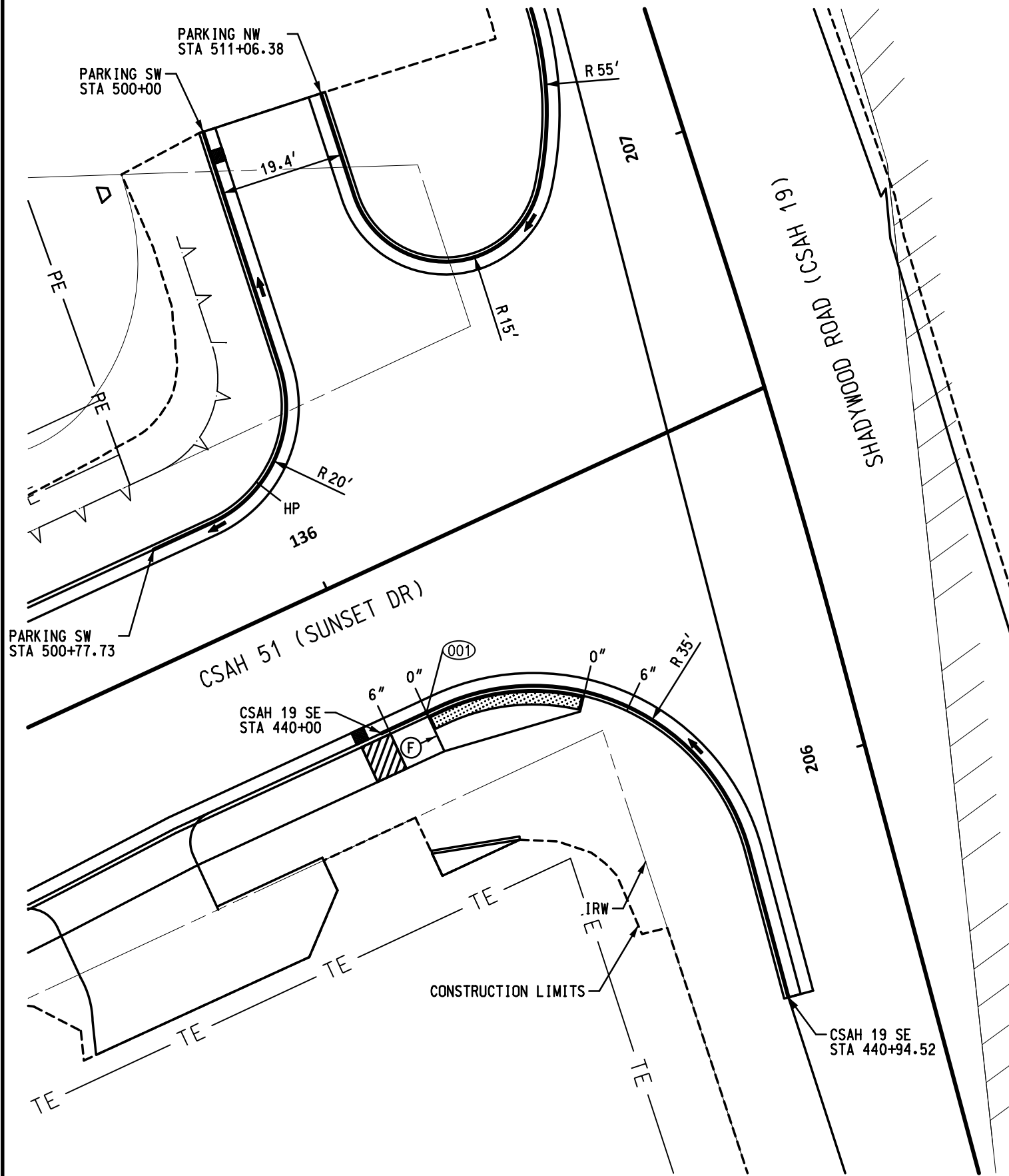
LAST REVISION: //

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

SHEET

121

336



INTERSECTION LEGEND

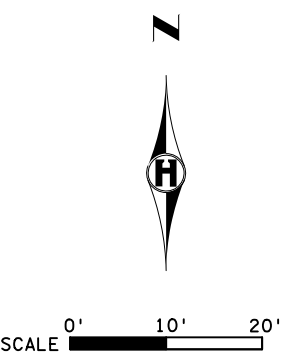
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DRAINAGE FLOW DIRECTION
PROPOSED DRAINAGE STRUCTURES
CONSTRUCTION LIMITS
PEDESTRIAN PUSH BUTTON STATION
FOUNDATION POST AND MAST ARMS



CONTROL POINTS

POINT NO.	ALIGNMENT	STATION	GUTTER ELEV.	OFFSET
001	CSAH 19 SE	440+07.75	937.26	0.0

SEE SHEET 123 FOR CURB LINE PROFILES



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073

//

LICENSE NO.

DATE

DESIGN BY: A. BENTSON

CAD BY: A. BENTSON

CHECKED BY: S. PARK

LAST REVISION: / /

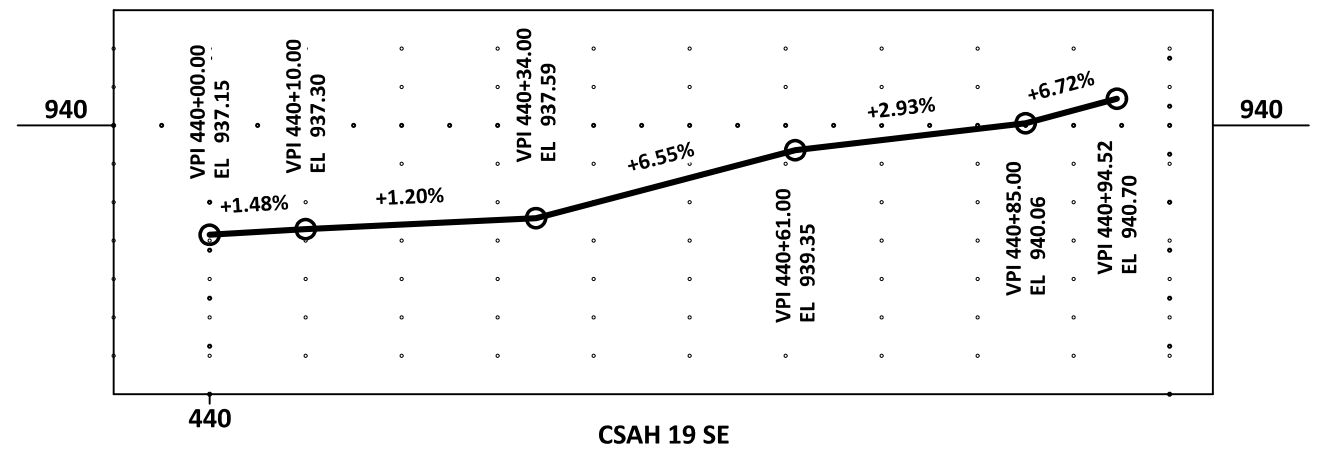
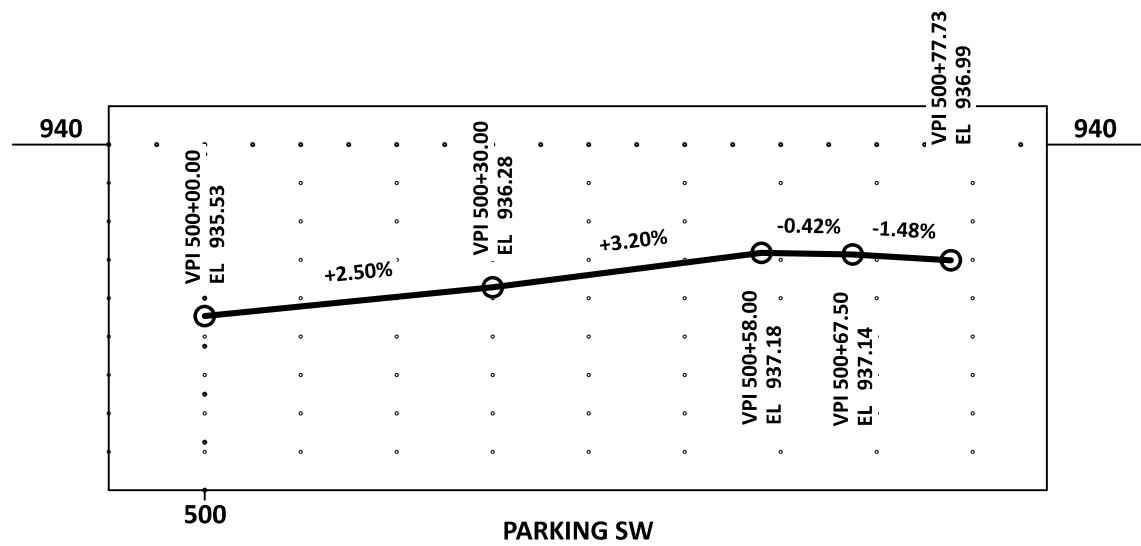
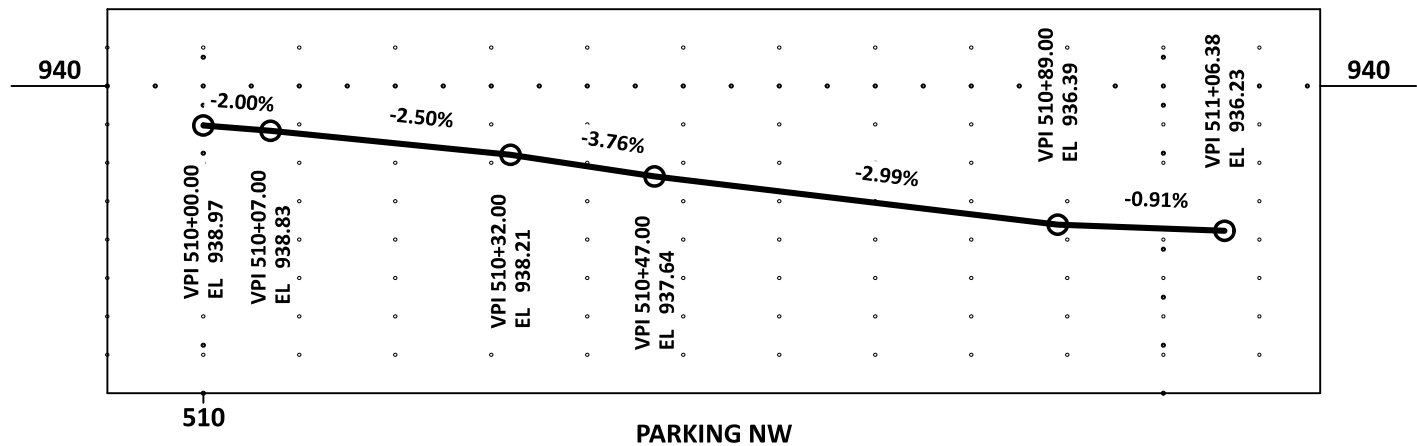
INTERSECTION DETAILS

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

SHEET

122

336



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AMBER KLEIN, LICENSED PROFESSIONAL ENGINEER

49073
LICENSE NO. / /
DATE

DESIGN BY: A. BENTSON
CAD BY: A. BENTSON
CHECKED BY: S. PARK
LAST REVISION: / /

INTERSECTION DETAILS

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

SHEET

123
336

T ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT	WALL 1	WALL 2	WALL 3	WALL 4
			QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
2104.503	REMOVE RETAINING WALL	LIN FT	77		18	59	
2106.507	EXCAVATION - MUCK	CU YD	225	225			
2106.507	SELECT GRANULAR EMBANKMENT MOD 10% (CV)	CU YD	225	225			
2411.618	PREFABRICATED MODULAR BLOCK WALL	SQ FT	4659	801	2758	493	607
2451.507	STRUCTURE EXCAVATION CLASS U	CU YD	2131	233	1586	141	171
2475.503	ORNAMENTAL METAL RAILING	LIN FT	118	118			
2557.503	WIRE FENCE DESIGN 48V-9322	LIN FT	393		233	68	92



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.

JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER

63689

LICENSE NO.

/ /

DATE

DESIGN BY: N. LOCKE

CAD BY: N. LOCKE

CHECKED BY: L. LANGNER

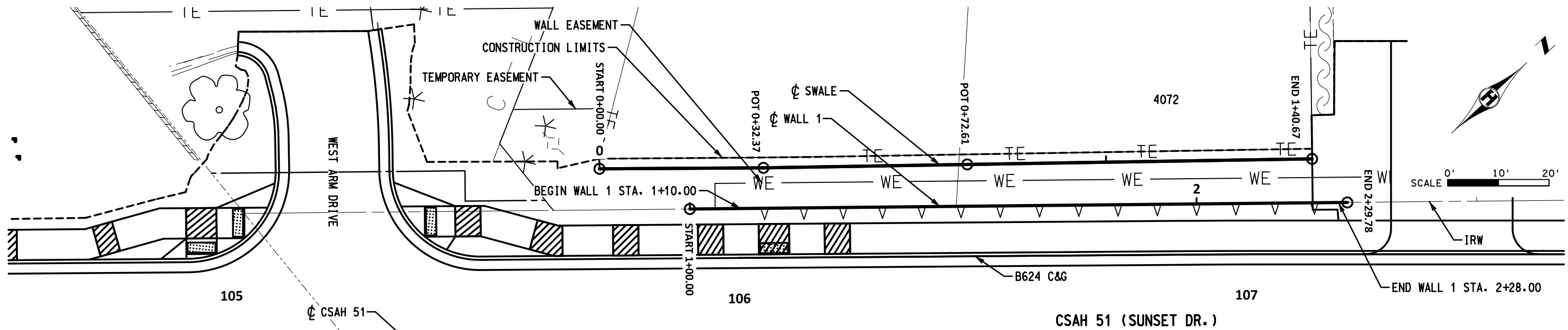
LAST REVISION: / /

RETAINING WALL PLAN AND PROFILES / QUANTITY TABULATIONS

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

SHEET

124
336

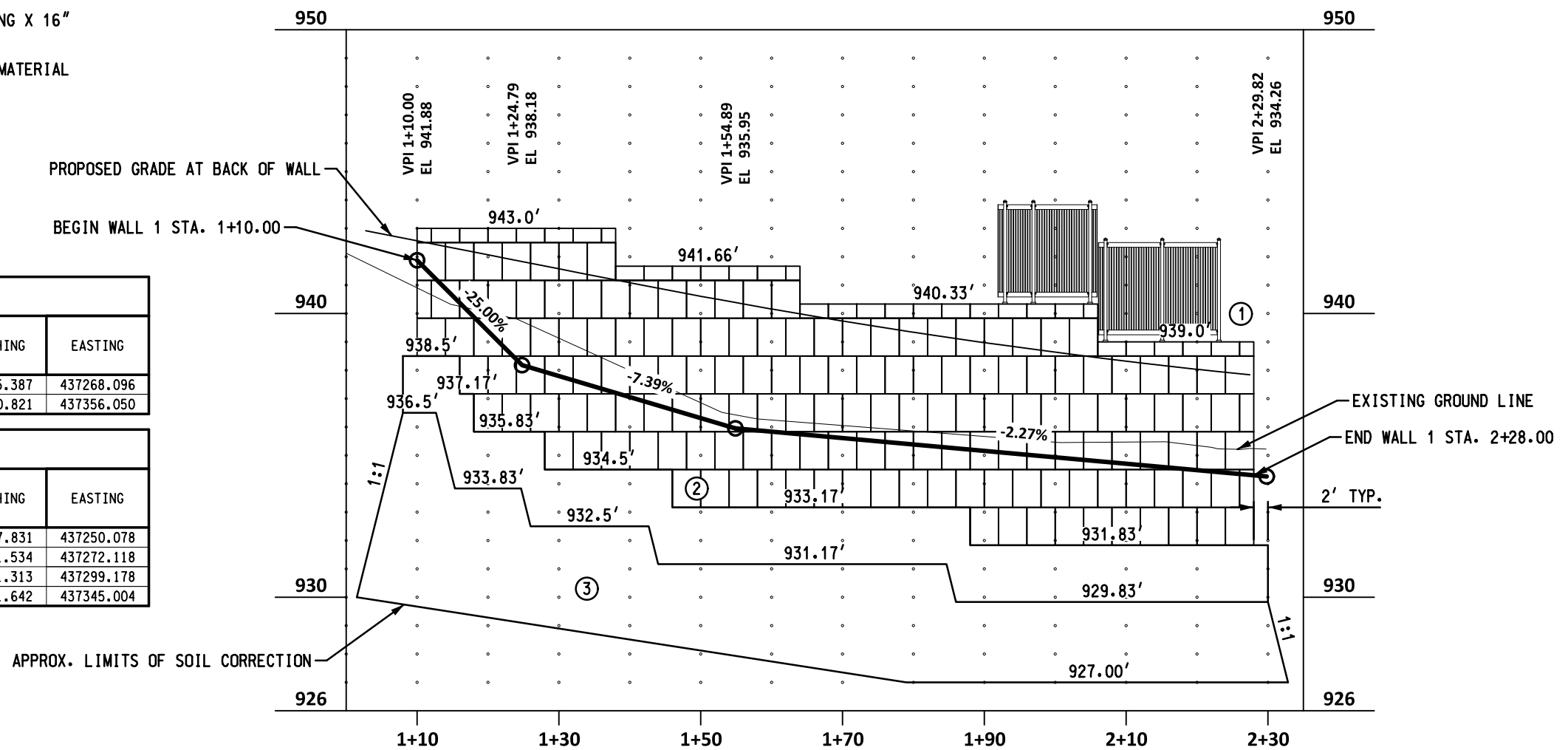


NOTES:

- ① ORNAMENTAL METAL RAILING NOT SHOWN ON ENTIRE WALL FOR CLARITY.
- ② WALL STEPS MAY REQUIRE ADJUSTMENT. LAYOUT DEVELOPED FOR 48" LONG X 16" TALL BLOCK SIZE.
- ③ REMOVE SOFT ORGANIC CLAY SOILS. BACKFILL WITH SELECT GRANULAR MATERIAL MEETING MNDOT SPEC. 2106.3.G.

ALIGNMENT NAME: WALL 1							
TYPE	STATION	AZIMUTH	DELTA	RADIUS	LENGTH	NORTHING	EASTING
START	1+00.00	42°39'51.90"			129.78	153115.387	437268.096
END	2+29.78					153210.821	437356.050

ALIGNMENT NAME: SWALE							
TYPE	STATION	AZIMUTH	DELTA	RADIUS	LENGTH	NORTHING	EASTING
START	0+00.00	42°55'06.53"			32.37	153107.831	437250.078
HPI	0+32.37	42°15'38.03"			40.24	153131.534	437272.118
HPI	0+72.61	42°19'07.54"			68.07	153161.313	437299.178
END	1+40.67					153211.642	437345.004



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JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER **63689** **//** **//**

LICENSE NO. **DATE**

DESIGN BY: **L. LANGNER**

CAD BY: **J. MAKI**

CHECKED BY: **L. LANGNER**

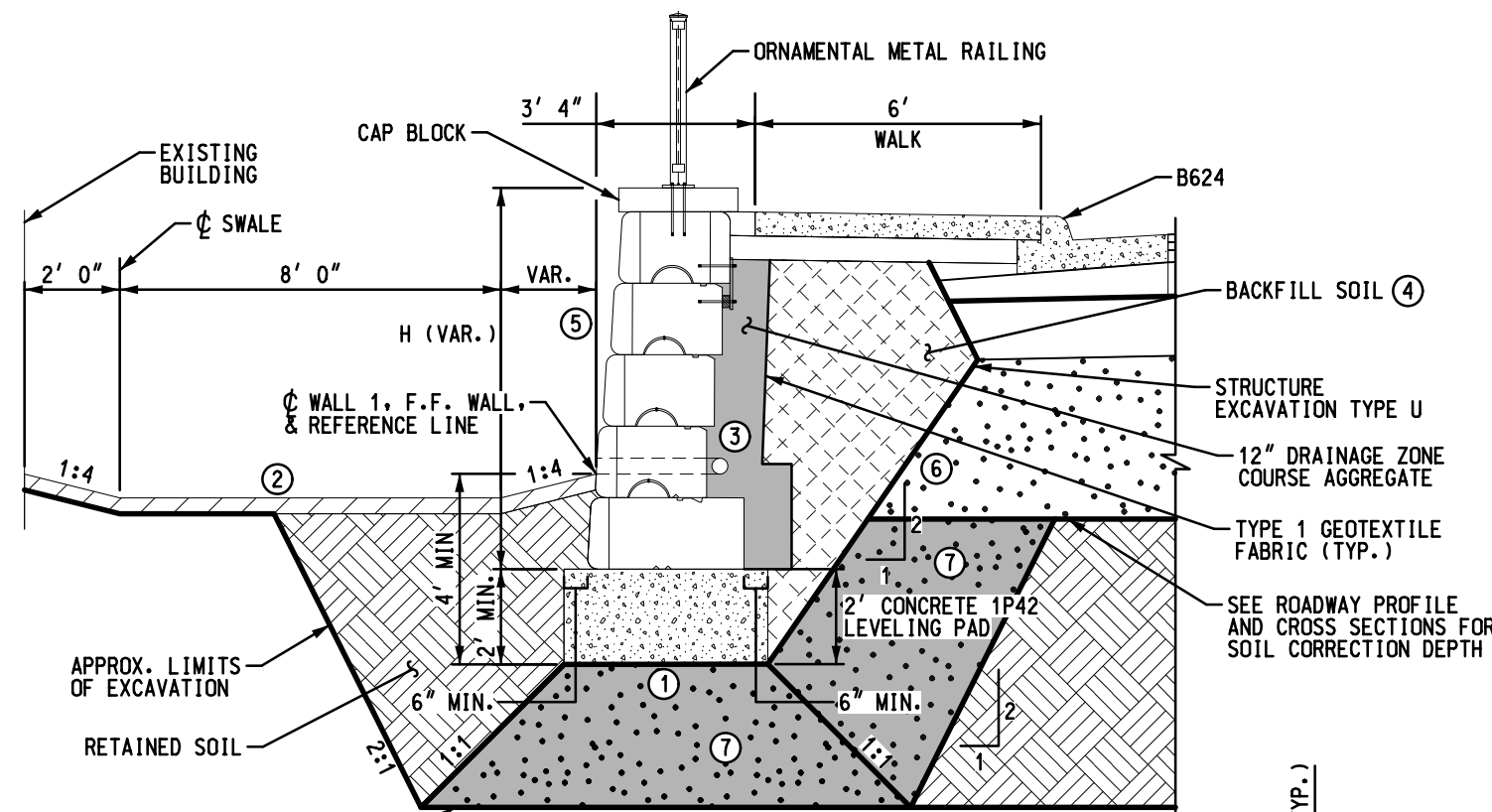
LAST REVISION: **//** **//**

RETAINING WALL 1 PLAN & PROFILE

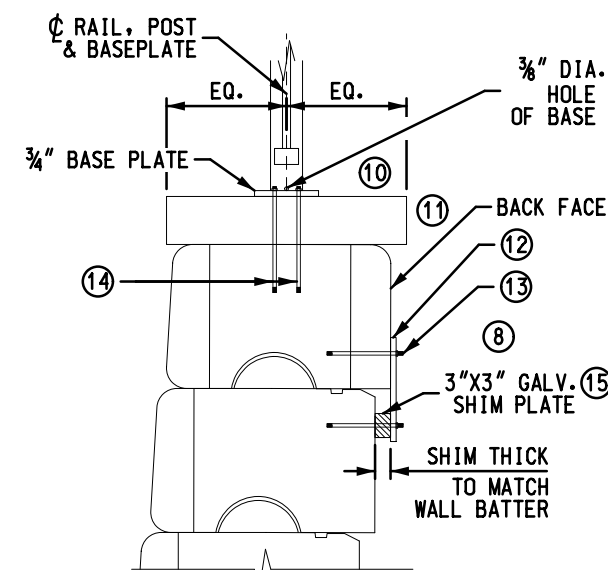
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SHEET

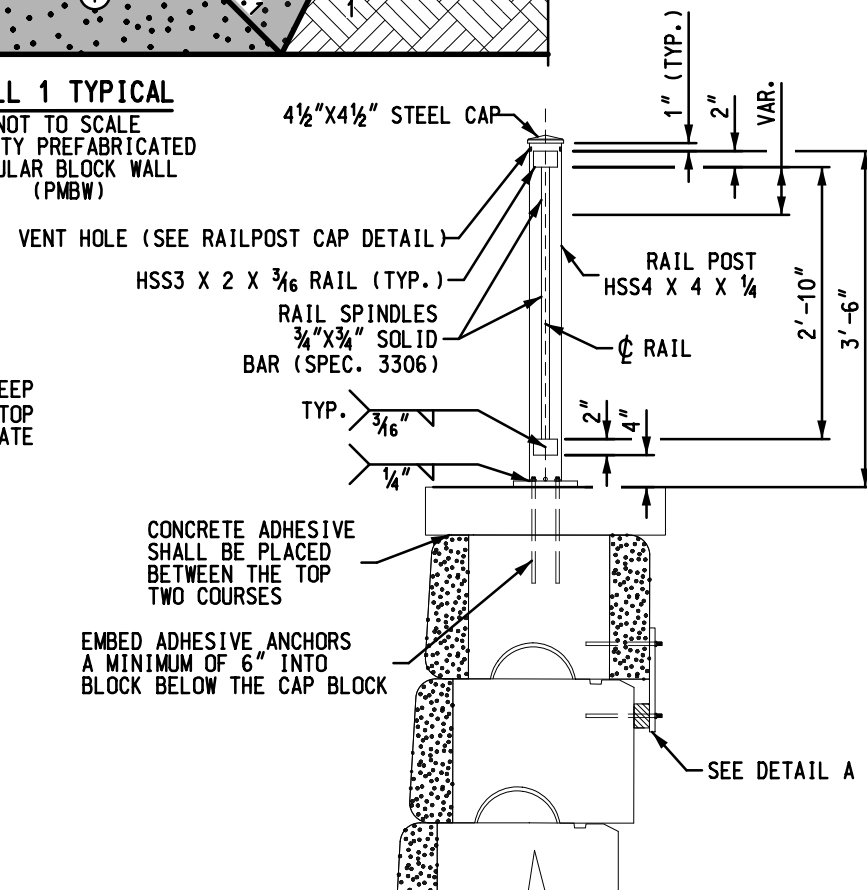
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336



WALL 1 TYPICAL
NOT TO SCALE
GRAVITY PREFABRICATED
MODULAR BLOCK WALL
(PMBW)



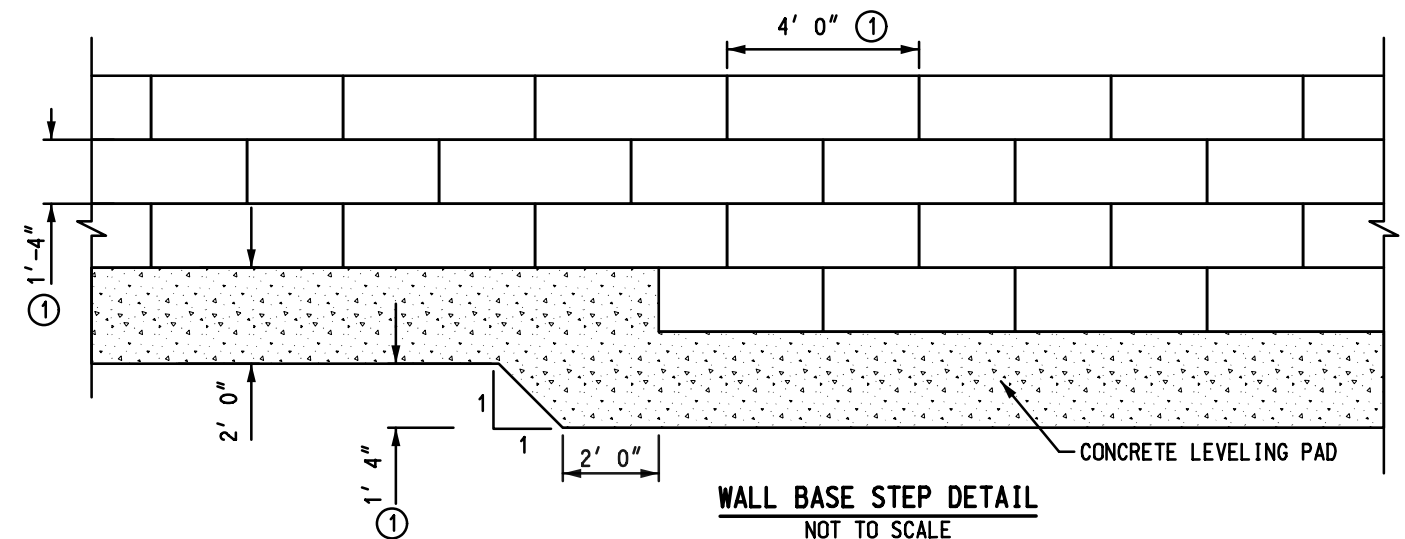
DETAIL A
⑨



TYPICAL SECTION THROUGH RAILING

NOTES:

- DIMENSION MAY VARY DEPENDING ON ACTUAL MODULAR BLOCK MANUFACTURER. CENTER WALL ON FOOTING. FOOTING TO BE INCLUDED IN ITEM PREFABRICATED MODULAR BLOCK WALL.
- SOD WITH 6" MIN. TOPSOIL.
- 4" NOM. DIA. PERFORATED PIPE IN ACCORDANCE WITH SPEC. 3245.2 MEETING ASTM D1785. WRAP WITH TYPE 1 GEOTEXTILE IN ACCORDANCE WITH SPEC. 3733 (TYP.).
- BACKFILL SOIL SHALL MEET THE REQUIREMENTS 3149 "GRANULAR MATERIAL". SEE SPECIAL PROVISIONS.
- MODULAR BLOCK RETAINING WALL AREA FOR PAYMENT BASED ON THE AREA MEASURED FROM TOP COURSE (CAP) OF WALL TO 2' BELOW THE FINISH GRADE. EXCAVATION, LEVELING PAD FOUNDATION, GRADING MATERIALS, DRAINAGE SYSTEM, FILTER FABRIC, AND ALL OTHER MATERIALS OR LABOR TO INSTALL WALL SHALL BE INCLUDED IN THE BID PRICE FOR "PREFABRICATED MODULAR BLOCK WALL".
- PAY LIMIT (2:V TO 1:H) ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS OF IN-SITU SOILS: EXCAVATION BEYOND THESE LIMITS AT CONTRACTORS EXPENSES.
- REMOVE SOFT ORGANIC CLAY SOILS. BACKFILL WITH SELECT GRANULAR EMBANKMENT MOD 10% MEETING MNDOT SPEC. 2106.3.G.
- 2 STRAPS REQUIRED PER BLOCK AT EACH RAILPOST LOCATION. SEE SHEET 127 FOR SPACING DETAILS. PAYMENT FOR LABOR AND ALL MATERIALS NECESSARY FOR STRAP FURNISHING AND PLACEMENT TO BE INCLUDED IN ITEM "PREFABRICATED MODULAR BLOCK RETAINING WALL".
- VARIATION IN ACTUAL BLOCK SIZE FURNISHED MAY REQUIRE MODIFICATION TO STRAP FROM DIMENSIONS AND SHAPE SHOWN. STRAP SHALL BE CAPABLE OF TRANSFERRING A MINIMUM SAFE WORKING LOAD OF 3000 LBS. MODIFICATION IF NEEDED SHALL BE PROPOSED AND FURNISHED BY CONTRACTOR IF NECESSARY AT NO ADDITIONAL COSTS FOR MATERIAL AND LABOR. CONTRACTOR SHALL SUBMIT TO THE PROJECT ENGINEER FOR APPROVAL.
- CAP BLOCK WIDTH AND WIDTH OF EXPOSED (BACK FACE) BLOCKS BENEATH SHALL NOT EXCEED 2'-4".
- TO BE INCLUDED IN PRICE BID FOR ITEM "PREFABRICATED MODULAR BLOCK WALL". CAP BLOCK IS INCLUDED IN SQ FT PAY AREA.
- GALV. 1/2" X 3" X 1'-1" LONG CLIP PLATE WITH 2 GALV. OR STAINLESS STEEL 5/8" X 10" THREADED RODS (ASTM A36), HEX NUTS, AND WASHERS. DRILL 8" DEEP X 3/4" HOLE AND SET THREADED RODS WITH APPROVED EPOXY ADHESIVE.
- THREADS PROJECTION BEYOND NUT TO BE NO LONGER THAN 1/2". NUT TO BE TACK WELDED TO THREAD FOLLOWING ASSEMBLY TO PREVENT LOOSENING.
- ADHESIVE ANCHORAGE WITH 5/8" DIA. ANCHOR ROD PER SPEC. 3385, TYPE A WITH HEX NUT AND WASHER. PROVIDE AN ADHESIVE WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.5 KSI. EMBED THE ANCHORAGE NO LESS THAN 6" INTO THE BLOCK BELOW THE CAP BLOCK REGARDLESS OF CHARACTERISTIC BOND STRENGTH. DRILL THROUGH REINFORCEMENT (IF ENCOUNTERED) TO ACHIEVE MINIMUM EMBEDMENT. ENSURE HEX NUT IS IN CONTACT WITH THE ADJACENT SURFACE AND TORQUE TO 60 FT-LBS UNLESS A HIGHER TORQUE IS RECOMMENDED BY MANUFACTURER. PROOF LOAD TO 8.8 KIPS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
- SHIM SHOWN ON LOWER BLOCK. SHIM MAY BE LOCATED ON TOP BLOCK AS NEEDED FOR VARIABILITY WITH BLOCK DIMENSIONS AND TEXTURE DEPTH.



WALL BASE STEP DETAIL
NOT TO SCALE



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.

JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER

63689
LICENSE NO.

//
DATE

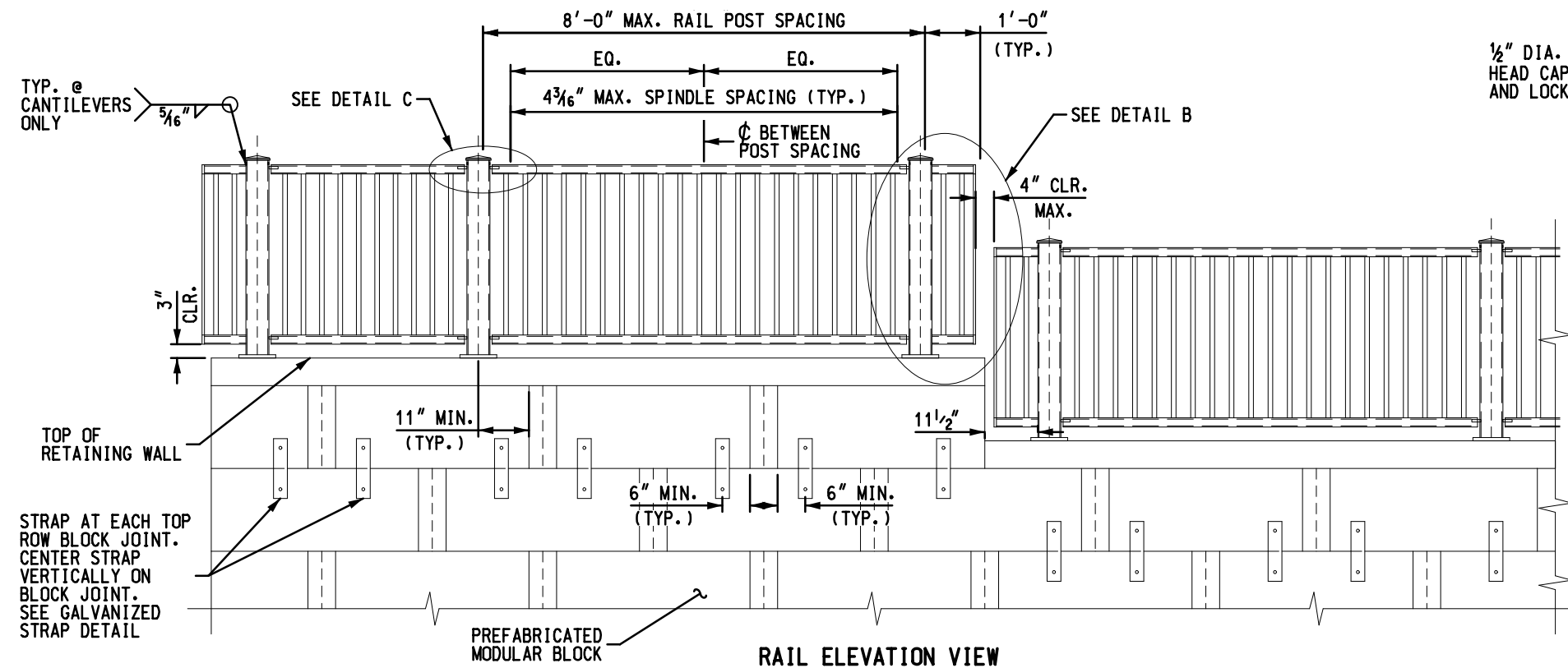
DESIGN BY: L. LANGNER
CAD BY: J. MAKI
CHECKED BY: L. LANGNER
LAST REVISION: //

RETAINING WALL 1 TYPICAL SECTION

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

SHEET

126
336

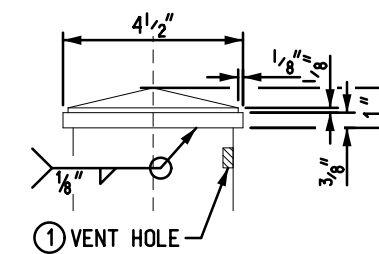


1/2" DIA. SOCKET A307 BUTTON HEAD CAP SCREW WITH WASHER AND LOCK NUT (TYP.)

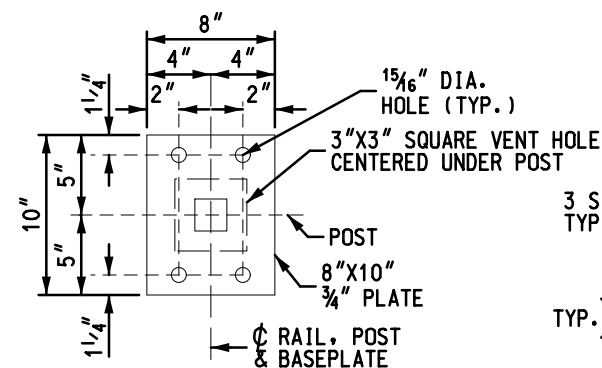
2 1/2" X 1 1/2" X 1/4" NYLON SHIM

TYP. 3/16"

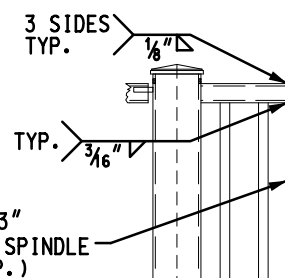
DETAIL D



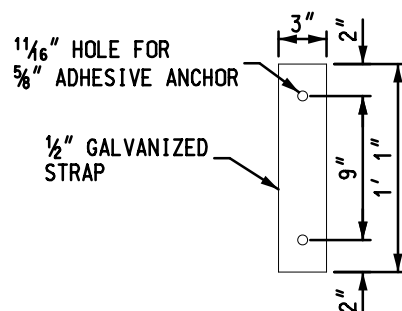
RAILPOST CAP



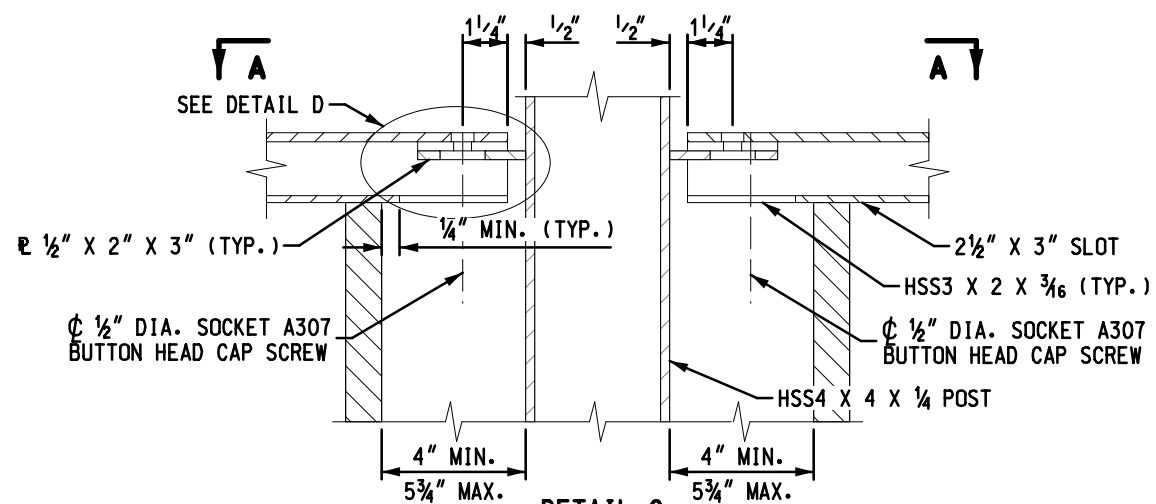
BASE PLATE DETAIL



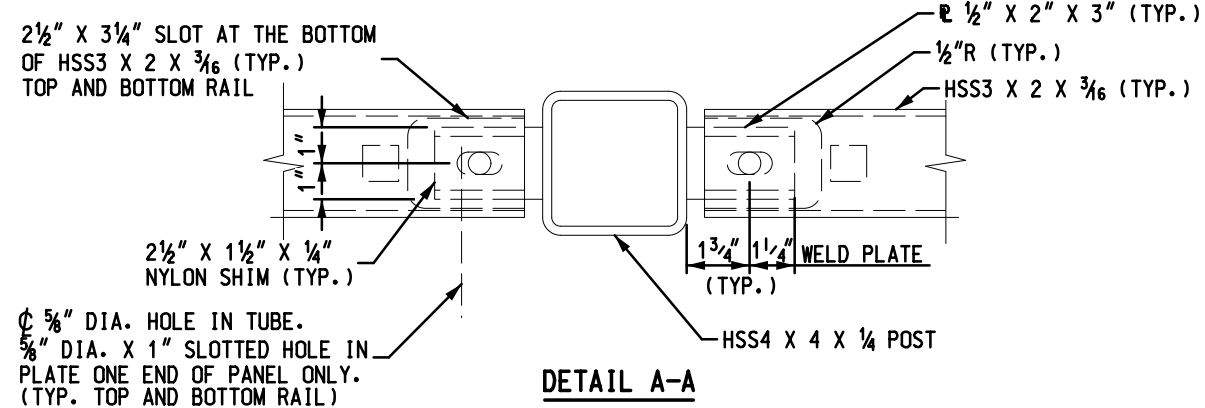
DETAIL B



GALVANIZED STRAP DETAIL



DETAIL C



DETAIL A-A

GENERAL NOTES:

PAYMENT LENGTH FOR ITEM "ORNAMENTAL METAL RAILING TYPE SPECIAL" SHALL BE MEASURED AS THE OUT TO OUT LENGTH ALONG THE CENTERLINE OF THE RAILING BETWEEN THE OUTSIDE ENDS.

ALL WORK AND MATERIALS TO INSTALL ORNAMENTAL RAIL SHALL BE INCIDENTAL, INCLUDING ELECTRICAL GROUNDS, RAIL POST ANCHORAGES, STEEL STRAPS, AND ALL HARDWARE.

CONTRACTOR SHALL FIELD VERIFY CONSTRUCTED TOP OF WALL PROFILE AND INCLUDE ELEVATIONS, STEP LOCATIONS, JOINT LOCATIONS AND DIMENSIONS IN SHOP DRAWINGS.

PROVIDE A500, GRADE B STRUCTURAL STEEL TUBING (HSS) IN THE RAIL CONFORMING TO SPEC. 3361. ALL OTHER STEEL SHALL CONFORM TO SPEC. 3306.

GALVANIZE BOLTS, NUTS, WASHERS AND ANCHORS PER SPEC. 3392. GALVANIZE ALL OTHER STRUCTURAL STEEL PER SPEC. 3394, AFTER FABRICATION.

REFER TO SPEC 2475 AND THE SPECIAL PROVISIONS FOR COATING AND OTHER REQUIREMENTS NOT INCLUDED ON THIS SHEET.

INSTALL RAIL POSTS AND SPINDLES PLUMB.

DRILL 1/2" DIA. MAX. VENT HOLES ON THE UNDERSIDE OF RAIL TUBES AS NECESSARY TO FACILITATE GALVANIZING.

① DRILL VENT HOLE IN THE RAIL POST WITHIN 2" OF THE UNDERSIDE OF THE CAP. ON THE NON-TRAFFIC SIDE OF THE POST AS NECESSARY TO FACILITATE GALVANIZING. MAX. HOLE SIZE IS 1/2" DIA.



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JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER

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LICENSE NO.

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DATE

DESIGN BY: L. LANGNER
CAD BY: J. MAKI
CHECKED BY: L. LANGNER
LAST REVISION: //

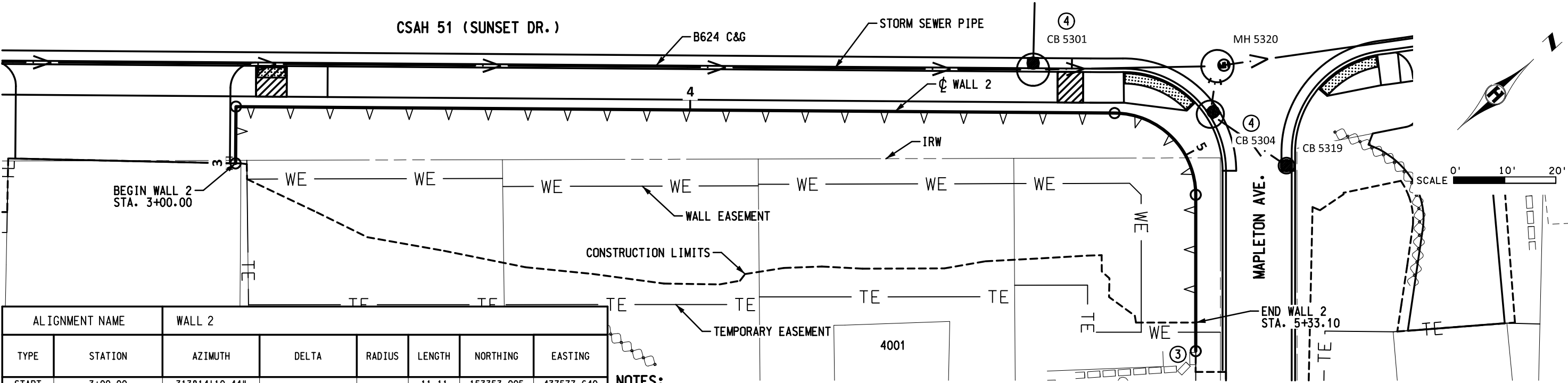
RETAINING WALL 1 ORNAMENTAL METAL RAILING DETAILS

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

SHEET

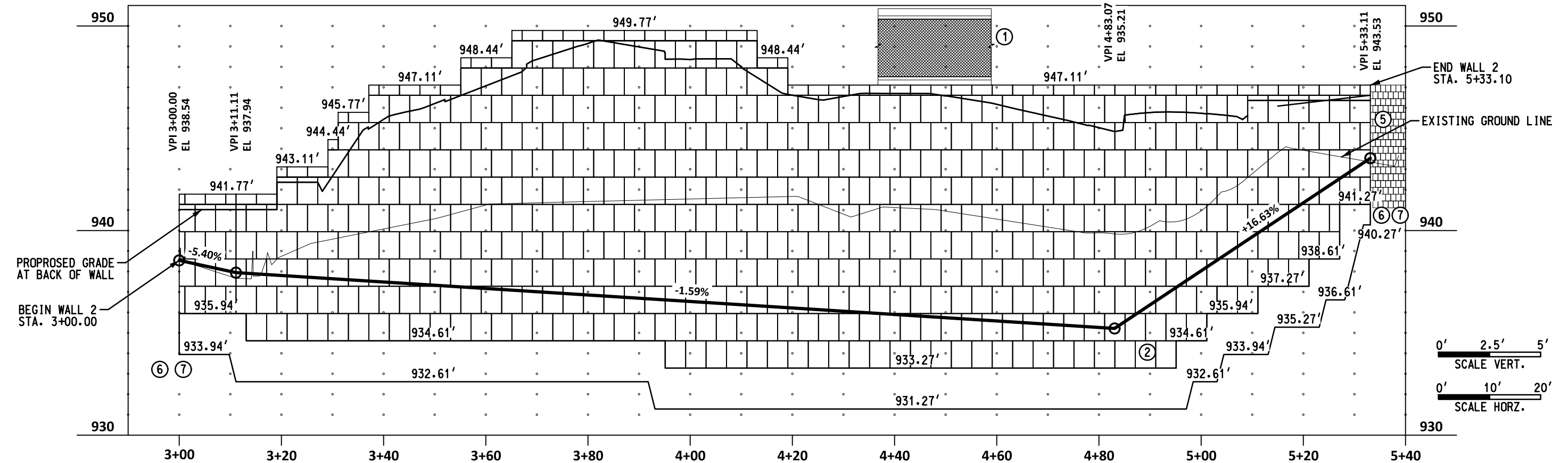
127

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ALIGNMENT NAME		WALL 2					
TYPE	STATION	AZIMUTH	DELTA	RADIUS	LENGTH	NORTHING	EASTING
START	3+00.00	313°14'10.44"			11.11	153353.005	437577.640
HPI	3+11.11	43°14'10.44"			171.96	153360.617	437569.544
PC	4+83.07			16.00	25.01	153485.895	437687.338
CC	4+83.07		89°34'28.50"			153474.935	437698.994
PT	5+08.09	132°48'38.93"			30.61	153486.673	437709.868
END	5+38.70					153465.870	437732.324

- NOTES:**
- ① CHAIN LINK FENCE NOT SHOWN ON ENTIRE WALL FOR CLARITY.
 - ② WALL STEPS MAY REQUIRE ADJUSTMENT. LAYOUT DEVELOPED IS FOR 48" LONG BY 16" TALL BLOCK SIZE.
 - ③ CONNECTION TO EXISTING BLOCK WALL INCIDENTAL TO PREFABRICATED MODULAR BLOCK WALL
 - ④ CONNECT WALL 2 DRAINAGE SYSTEM
 - ⑤ SEE SLIP JOINT DETAIL ON SHEET 129 FOR CONNECTION DETAIL
 - ⑥ HAND COMPACT WITHIN 4' OF EXISTING WALL AND BUILDING.
 - ⑦ THE FOUNDATION DEPTH OF THE EXISTING WALL AND BUILDING ARE UNKNOWN.



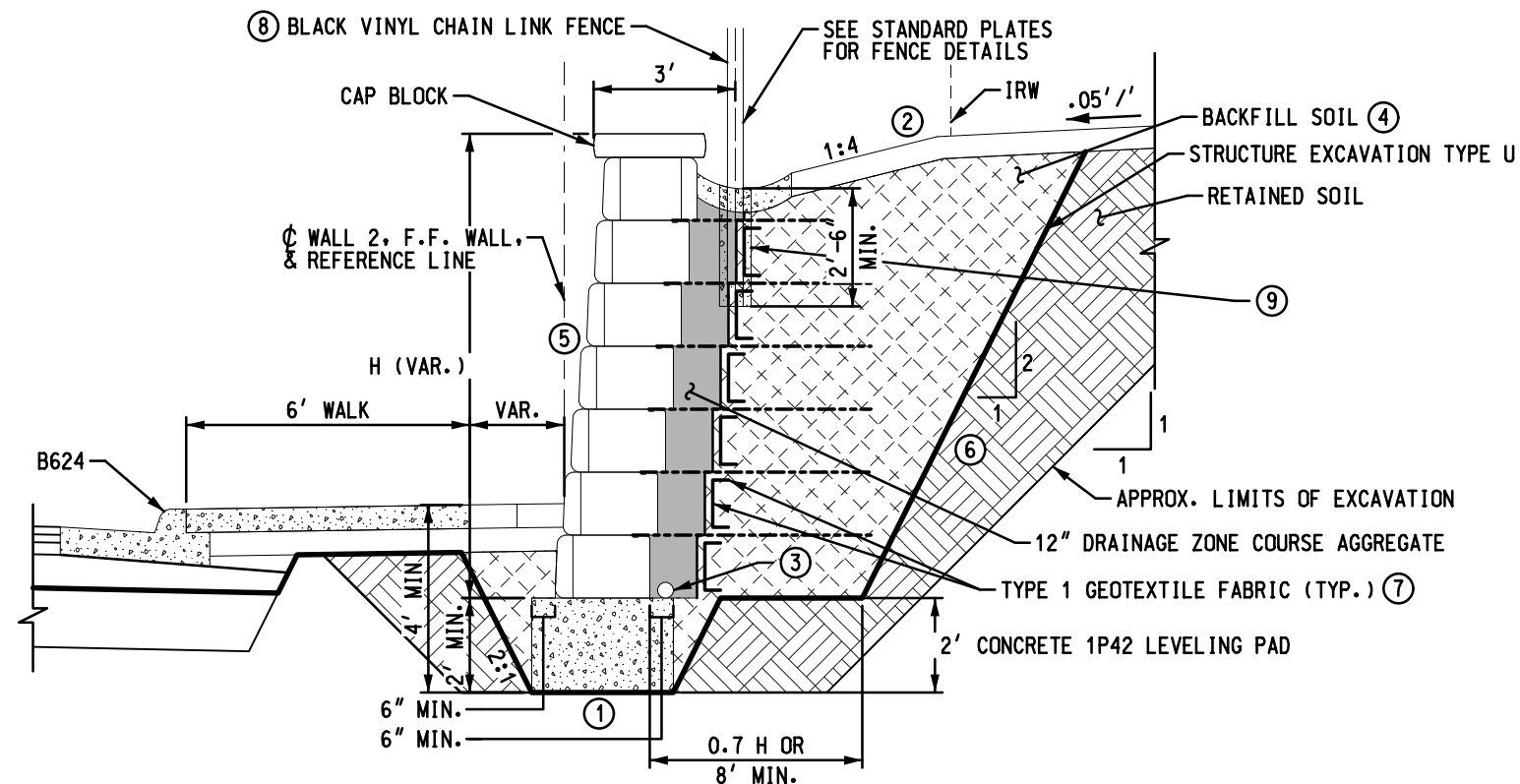
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JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER
63689
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DATE

DESIGN BY: L. LANGNER
CAD BY: J. MAKI
CHECKED BY: L. LANGNER
LAST REVISION: //

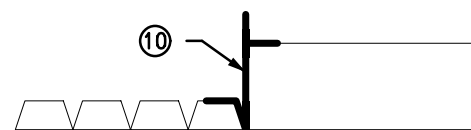
RETAINING WALL 2 PLAN & PROFILE
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET
128
336

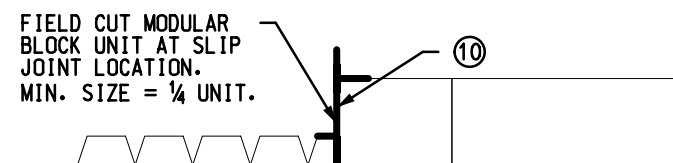


WALL 2 TYPICAL EXPOSED HEIGHT GREATER THAN 8'

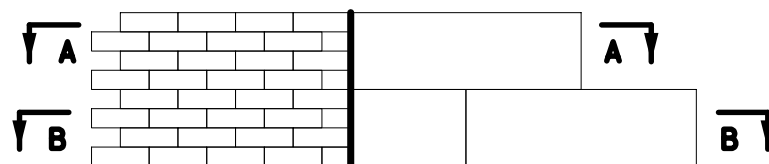
NOT TO SCALE
PREFABRICATED MODULAR BLOCK WALL
WITH SOIL REINFORCEMENT



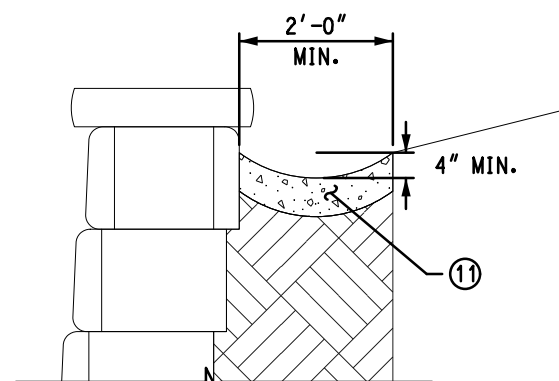
DETAIL A-A PLAN VIEW



DETAIL B-B PLAN VIEW



SLIP JOINT ELEVATION VIEW
NOT TO SCALE

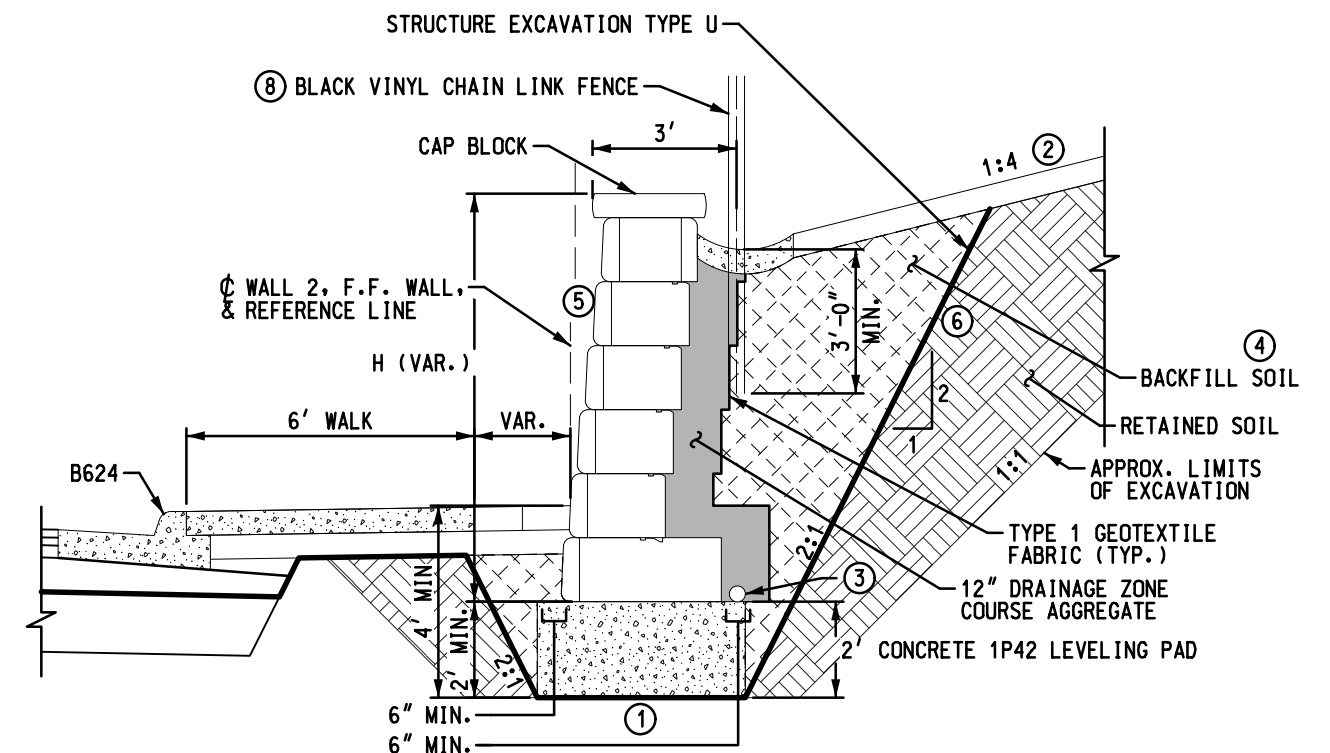


NOTE:
MINIMUM SWALE DIMENSIONS ARE
2 FEET WIDE BY 4 INCHES DEEP

TYPICAL DRAINAGE SWALE DETAIL
NOT TO SCALE

NOTES:

- ① DIMENSION MAY VARY DEPENDING ON ACTUAL MODULAR BLOCK MANUFACTURER. CENTER WALL ON FOOTING. FOOTING TO BE INCLUDED IN ITEM PREFABRICATED MODULAR BLOCK WALL.
- ② SOD WITH 6" MIN. TOPSOIL.
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- ⑦ THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".
- ⑧ FENCE TO SPAN ENTIRE LENGTH OF RETAINING WALL. FINAL FENCE LOCATION TO BE VERIFIED IN THE FIELD BY THE ENGINEER.
- ⑨ ALL POSTS MUST BE SLEEVED THROUGH THE GEOGRID.
- ⑩ SLIP JOINT MATERIAL (DRAINAGE COMPOSITE 250-MIL CORE NET WITH AASHTO M288 CLASS 2 GEOTEXTILE BONDED TO EACH SIDE).
- ⑪ 6" CLAY OR CLAY LOAM, TOPSOIL AND SOD.



WALL 2 TYPICAL EXPOSED HEIGHT LESS THAN 8'

NOT TO SCALE
PREFABRICATED MODULAR BLOCK WALL
WITHOUT SOIL REINFORCEMENT



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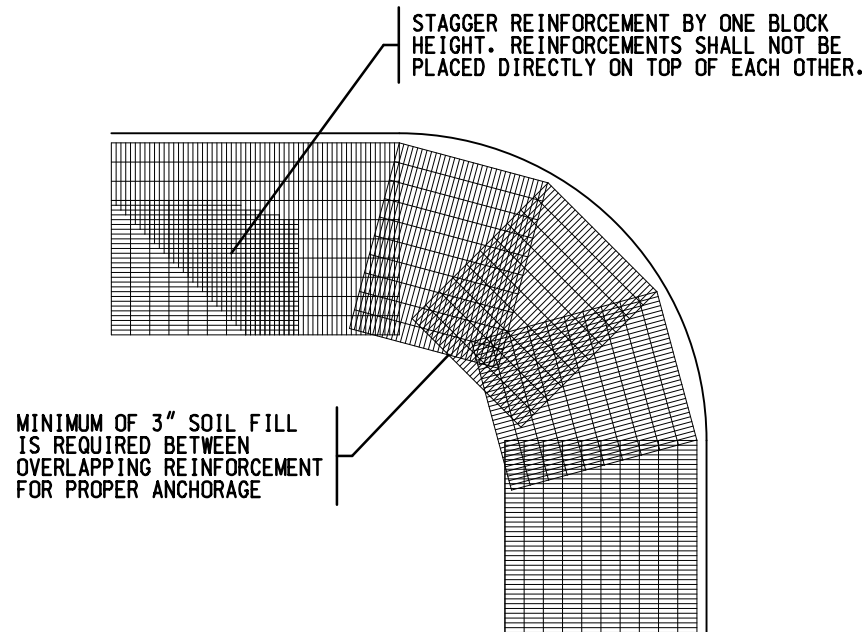
DESIGN BY: L. LANGNER
CAD BY: J. MAKI
CHECKED BY: L. LANGNER
LAST REVISION: //

RETAINING WALL 2 TYPICAL SECTIONS

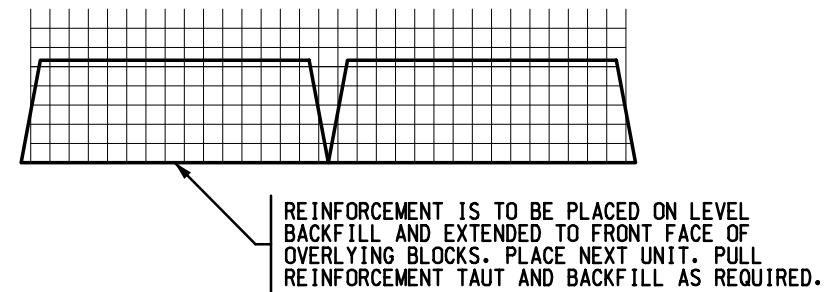
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

129
336



REINFORCEMENT PLACEMENT AROUND CURVES AND CORNERS
NOT TO SCALE

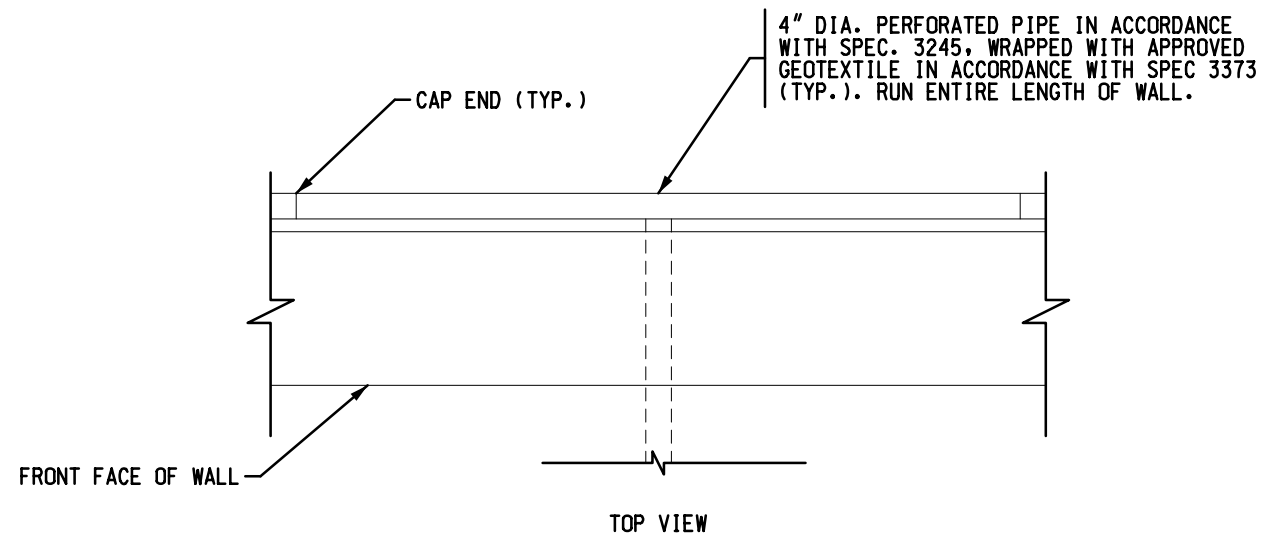


REINFORCEMENT PLACEMENT BETWEEN BLOCK UNITS
NOT TO SCALE

NOTES:

CORRECT ORIENTATION OF GEOSYNTHETIC TO OBTAIN PROPER STRENGTH SHALL BE DETAILED ON CONTRACTOR DRAWINGS.

ADJACENT WIDTHS OF REINFORCEMENT SHALL BE EXTENDED AS NECESSARY AND NOT PLACED DIRECTLY ON TOP OF EACH OTHER.



DRAINAGE DETAIL
NOT TO SCALE



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/ /

DATE

DESIGN BY:

L. LANGNER

CAD BY:

J. MAKI

CHECKED BY:

L. LANGNER

LAST REVISION:

/ /

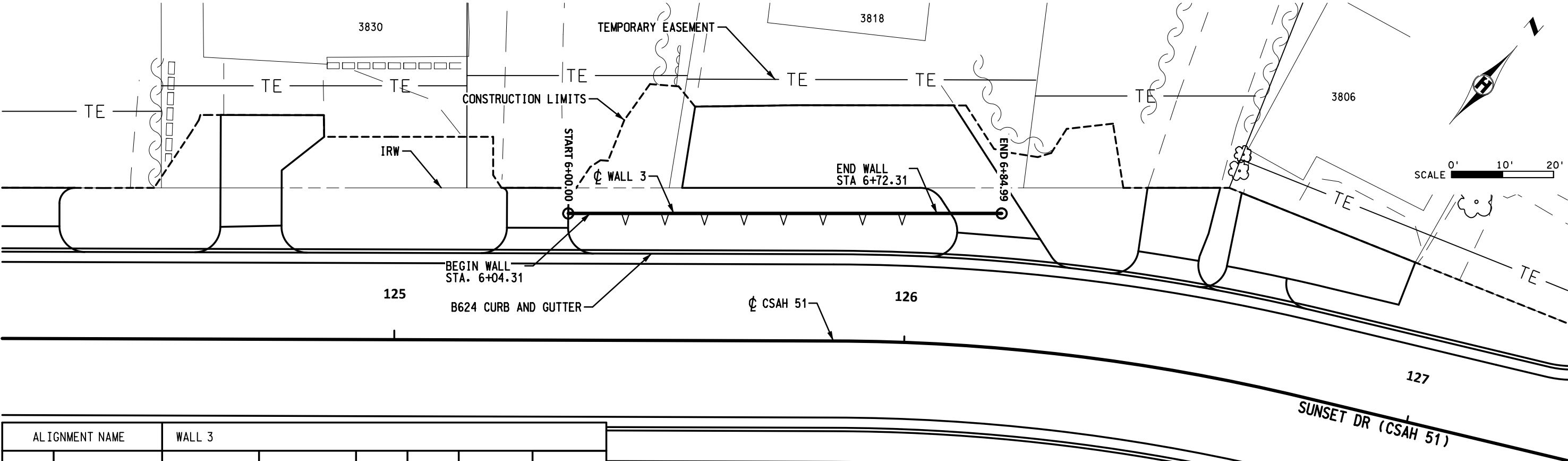
RETAINING WALL 2 DETAILS

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

SHEET

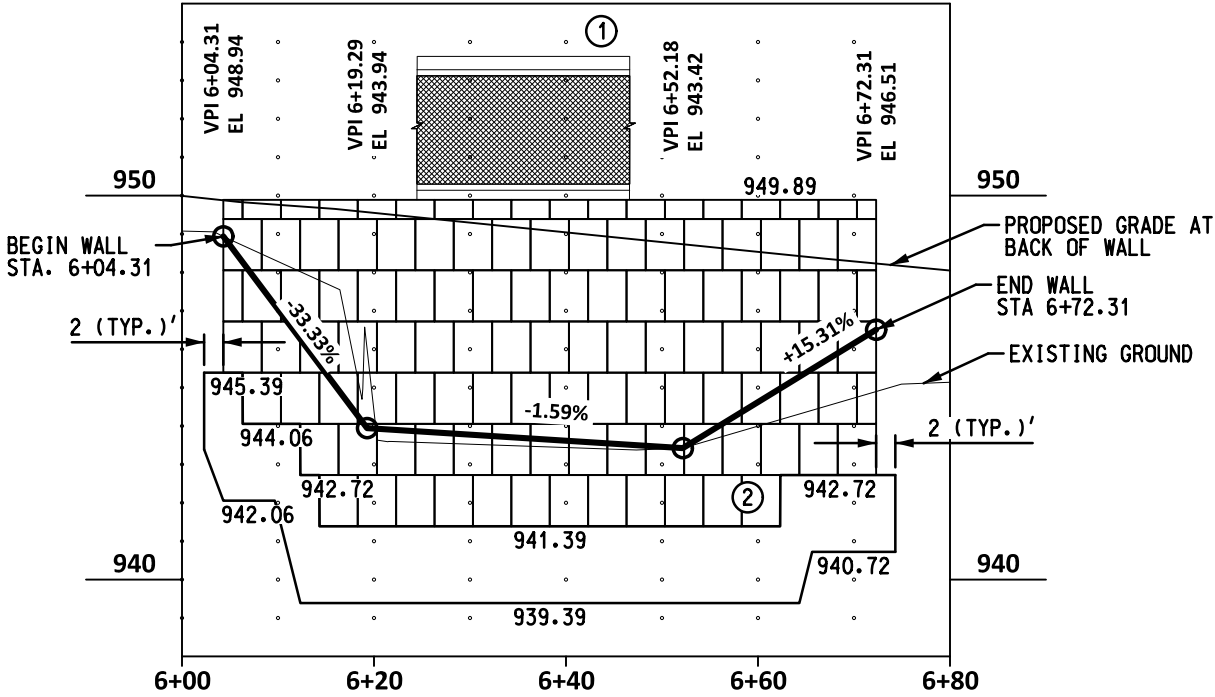
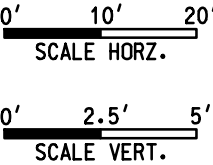
130

336



ALIGNMENT NAME		WALL 3					
TYPE	STATION	AZIMUTH	DELTA	RADIUS	LENGTH	NORTHING	EASTING
START	6+00.00	49°05'15.46"			84.99	154548.088	438563.565
END	6+84.99					154603.747	438627.792

- NOTES:**
- ① CHAIN LINK FENCE NOT SHOWN ON ENTIRE WALL FOR CLARITY.
 - ② WALL STEPS MAY REQUIRE ADJUSTMENT. LAYOUT DEVELOPED FOR 48" LONG X 16" TALL BLOCK SIZE.



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JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER
63689
LICENSE NO.

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DATE

DESIGN BY: N. LOCKE
CAD BY: N. LOCKE
CHECKED BY: L. LANGNER
LAST REVISION: //

RETAINING WALL 3 PLAN AND PROFILE
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

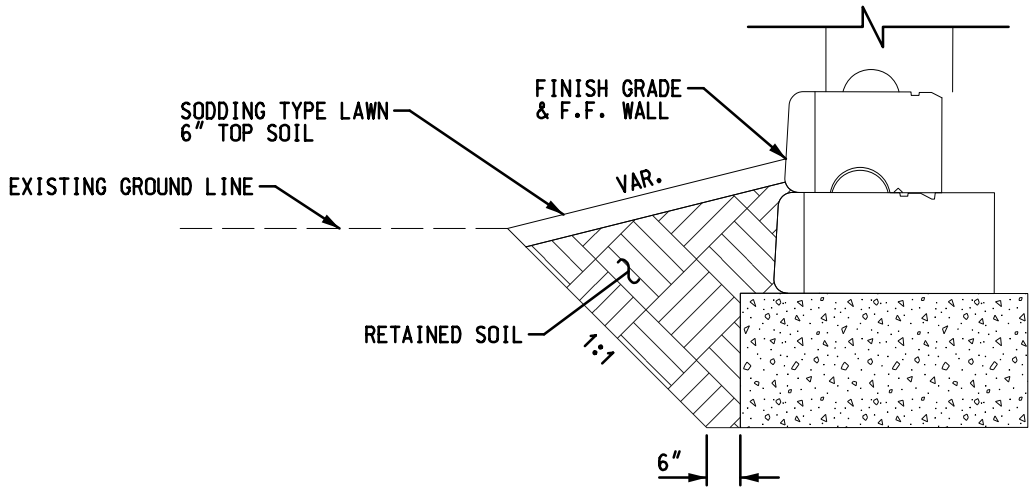
SHEET
131
336

NOTES:

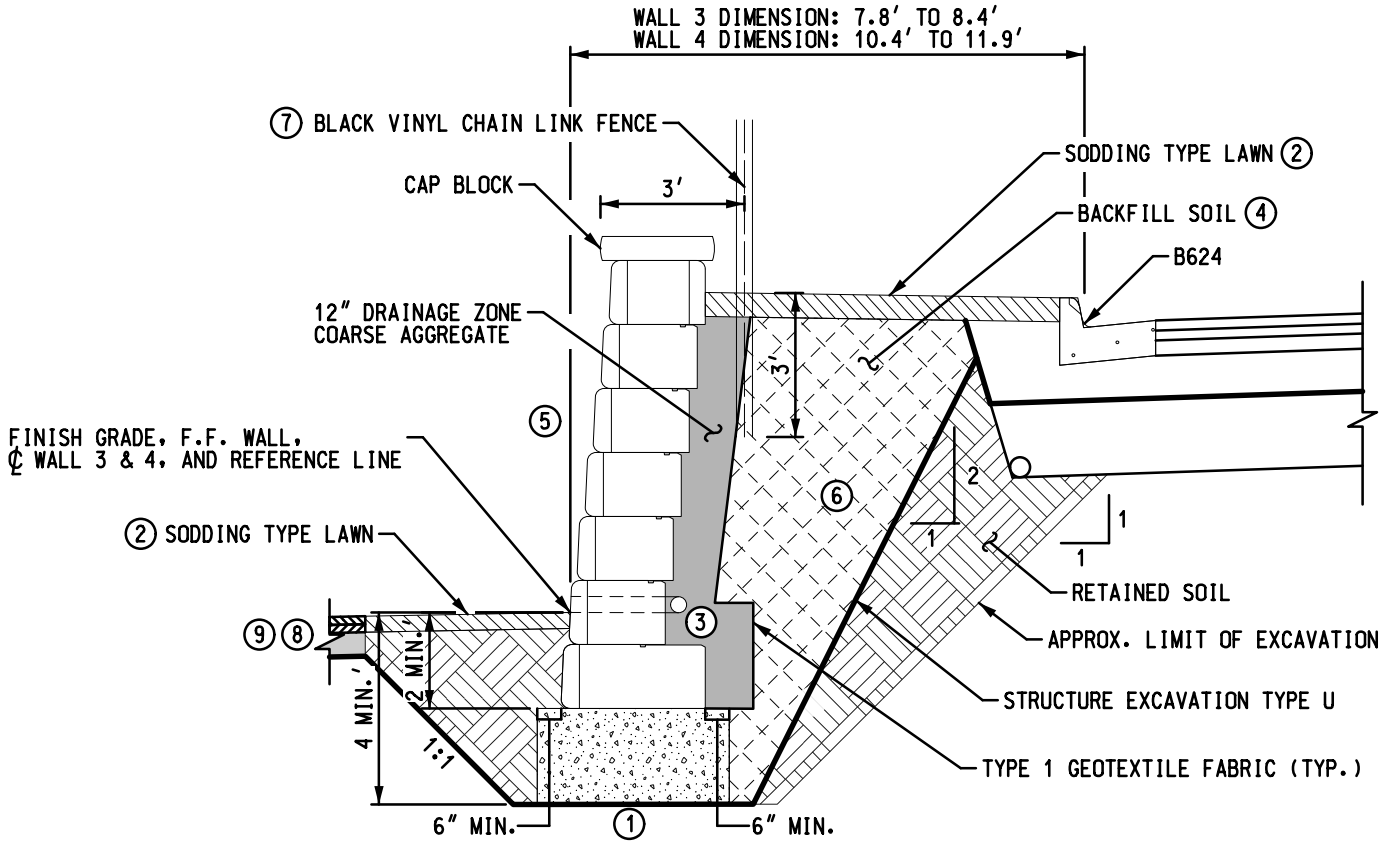
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- ⑥ PAY LIMIT (2:V TO 1:H) ACTUAL EXCAVATION OF SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS: EXCAVATION BEYOND THESE LIMITS AT CONTRACTORS EXPENSES.
- ⑦ FENCE TO SPAN ENTIRE LENGTH OF RETAINING WALL. FINAL FENCE LOCATION TO BE VERIFIED IN THE FIELD BY THE ENGINEER.
- ⑧ SEE INSET D ON SHEET 47
- ⑨ WALL 3: 6+21 TO END. BEG TO 6+21 USE DETAIL A
WALL 4: USE DETAIL A FOR ENTIRE LENGTH OF WALL A

GENERAL NOTES:

SEE WALL BASE STEP DETAIL ON SHEET 126



DETAIL A
WALL 3: 6+04 TO 6+21 SLOPE 14% TO 6%
WALL 4: ENTIRE LENGTH 1:3



WALL 3 & 4 TYPICAL
NOT TO SCALE
GRAVITY PREFABRICATED
MODULAR BLOCK WALL
(PMBW)



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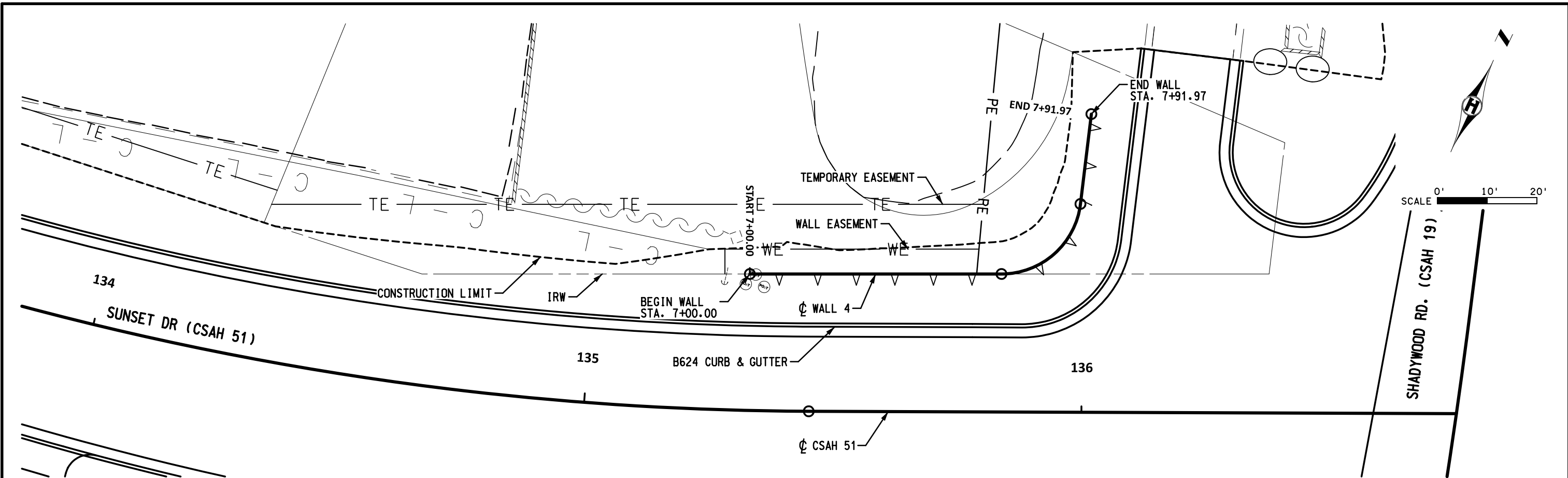
JAKE A. SCHUMACHER, LICENSED PROFESSIONAL ENGINEER
63689
DATE

DESIGN BY: N. LOCKE
CAD BY: N. LOCKE
CHECKED BY: L. LANGNER
LAST REVISION: / /

RETAINING WALL 3 & 4 TYPICAL SECTION

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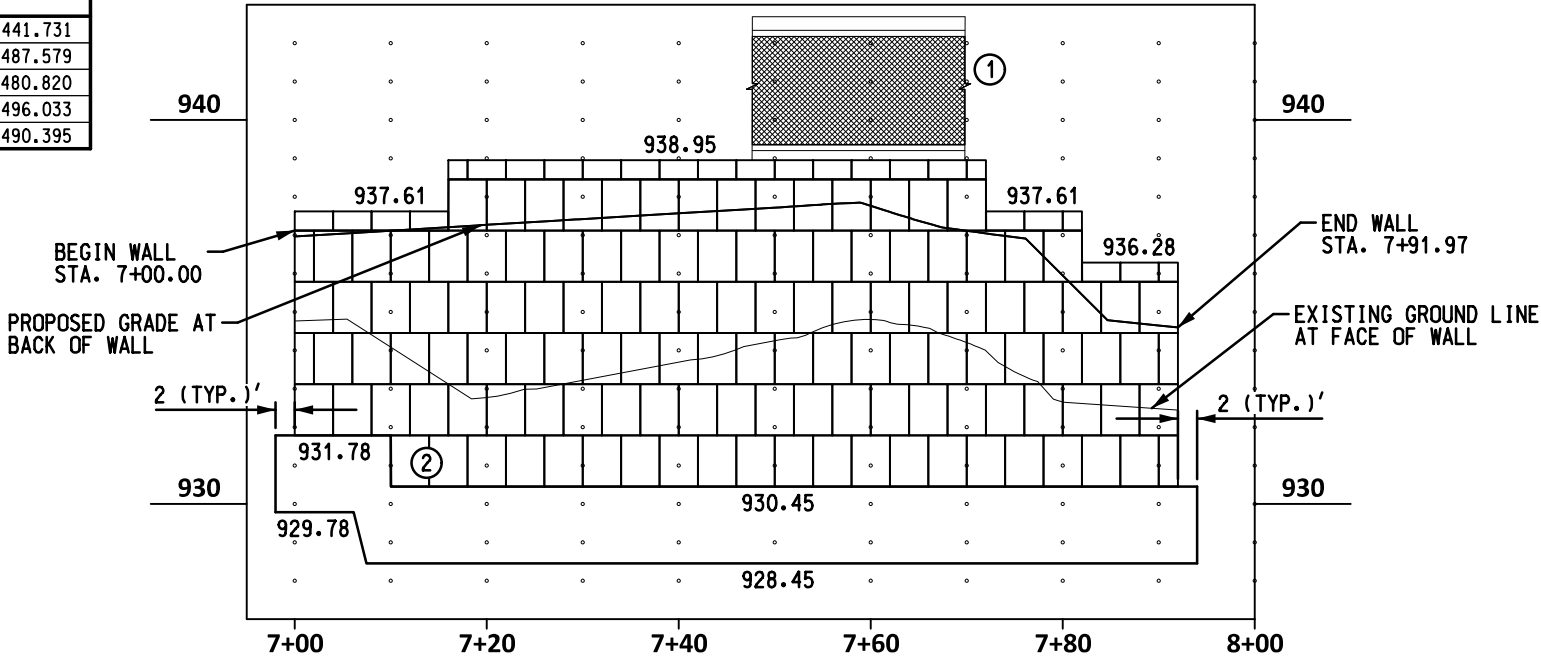
SHEET
132
336



ALIGNMENT NAME		WALL 4					
TYPE	STATION	AZIMUTH	DELTA	RADIUS	LENGTH	NORTHING	EASTING
START	7+00.00	65°00'45.91"			50.58	154989.015	439441.731
PC	7+50.58			16.00	23.20	155010.382	439487.579
CC	7+50.58		83°03'56.03"			155024.884	439480.820
PT	7+73.78	341°56'49.89"			18.19	155029.843	439496.033
END	7+91.97					155047.138	439490.395

NOTES:

- ① CHAIN LINK FENCE NOT SHOWN ON ENTIRE WALL FOR CLARITY.
- ② WALL STEPS MAY REQUIRE ADJUSTMENT. LAYOUT DEVELOPED FOR 48" LONG X 16" TALL BLOCK SIZE.





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DATE

DESIGN BY: N. LOCKE

CAD BY: N. LOCKE

CHECKED BY: L. LANGNER

LAST REVISION: / /

RETAINING WALL 4 PLAN AND PROFILE

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

SHEET

133

336