

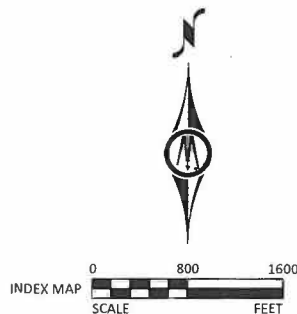
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DESIGN DESIGNATION	RALEIGH AVENUE (MSAS 284)
STA. 101+38 TO STA. 108+00 (± RALEIGH AVE & W 35TH ST)	
FUNTIONAL CLASSIFICATION	MINOR COLLECTOR
R-VALUE	35
ΣN-18	N/A
NO. & WIDTH OF TRAFFIC LANES	2 & 12 ft
NO. & WIDTH OF PARKING LANES	1 & 8 ft
ADT (PRESENT YEAR) 2024	1,527
ADT (PROJECTED YEAR) 2024	1,527
HCA DT (PROJECTED YEAR) 2024	N/A
DESIGN SPEED	30 mph
DESIGN LOAD	10 ton
DESIGN SPEED NOT ACHIEVED AT:	N/A
DESIGN SPEED FOR ROADWAY BASED ON ON STOPPING SIGHT DISTANCE:	
HEIGHT OF EYE = 3.5 FT	
HEIGHT OF OBJECT = 2.0 FT	

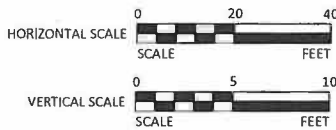
DESIGN DESIGNATION	W 35TH STREET (WEST)
STA. 202+00 TO STA. 212+00 (± W 35TH ST CULDESAC)	
FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	35
ΣN-18	N/A
NO. & WIDTH OF TRAFFIC LANES	2 & 12 ft
NO. & WIDTH OF PARKING LANES	1 & 8 ft
ADT (PRESENT YEAR) 2024	N/A
ADT (PROJECTED YEAR) 2024	N/A
HCA DT (PROJECTED YEAR) 2024	N/A
DESIGN SPEED	30 mph
DESIGN LOAD	10 ton
DESIGN SPEED NOT ACHIEVED AT:	N/A
DESIGN SPEED FOR ROADWAY BASED ON ON STOPPING SIGHT DISTANCE:	
HEIGHT OF EYE = 3.5 FT	
HEIGHT OF OBJECT = 2.0 FT	

DESIGN DESIGNATION	W 35TH STREET (EAST) (MSAS 313)
STA. 108+00 TO STA. 121+18.56 (± RALEIGH AVE & W 35TH ST)	
FUNTIONAL CLASSIFICATION	MINOR COLLECTOR
R-VALUE	35
ΣN-18	N/A
NO. & WIDTH OF TRAFFIC LANES	2 & 12 ft
NO. & WIDTH OF PARKING LANES	1 & 8 ft
ADT (PRESENT YEAR) 2024	2,122
ADT (PROJECTED YEAR) 2024	2,122
HCA DT (PROJECTED YEAR) 2024	N/A
DESIGN SPEED	30 mph
DESIGN LOAD	10 ton
DESIGN SPEED NOT ACHIEVED AT:	N/A
DESIGN SPEED FOR ROADWAY BASED ON ON STOPPING SIGHT DISTANCE:	
HEIGHT OF EYE = 3.5 FT	
HEIGHT OF OBJECT = 2.0 FT	

VICINITY MAP



TYPICAL PLAN SCALE  
UNLESS OTHERWISE NOTED:



PROJECT LOCATION



CITY: ST. LOUIS PARK  
COUNTY: HENNEPIN  
DISTRICT: METRO

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

# MINNESOTA DEPARTMENT OF TRANSPORTATION CITY OF ST. LOUIS PARK HENNEPIN COUNTY, MINNESOTA 2025 COMMERCIAL STREET REHABILITATION PROJECT

CONSTRUCTION PLAN FOR: GRADING, AGGREGATE BASE, PLANT MIXED BITUMINOUS PAVEMENT, CONCRETE CURB AND GUTTER, ADA IMPROVEMENTS, STORM SEWER, SANITARY SEWER, WATER MAIN, STREET LIGHTING, LANDSCAPING AND RELATED APPURTENANCES

SAP 163-030-005 LOCATED ON W 35TH STREET FROM 1000' WEST OF RALEIGH AVENUE TO BELTLINE BOULEVARD IN THE CITY OF ST. LOUIS PARK  
RALEIGH AVENUE FROM W 36TH STREET TO W 35TH STREET IN THE CITY OF ST. LOUIS PARK

RALEIGH AVENUE	
GROSS LENGTH	700.00 FEET 0.133 MILES
BRIDGE LENGTH	0.00 FEET 0.00 MILES
EXCEPTION LENGTH	0.00 FEET 0.00 MILES
NET LENGTH	700.00 FEET 0.133 MILES

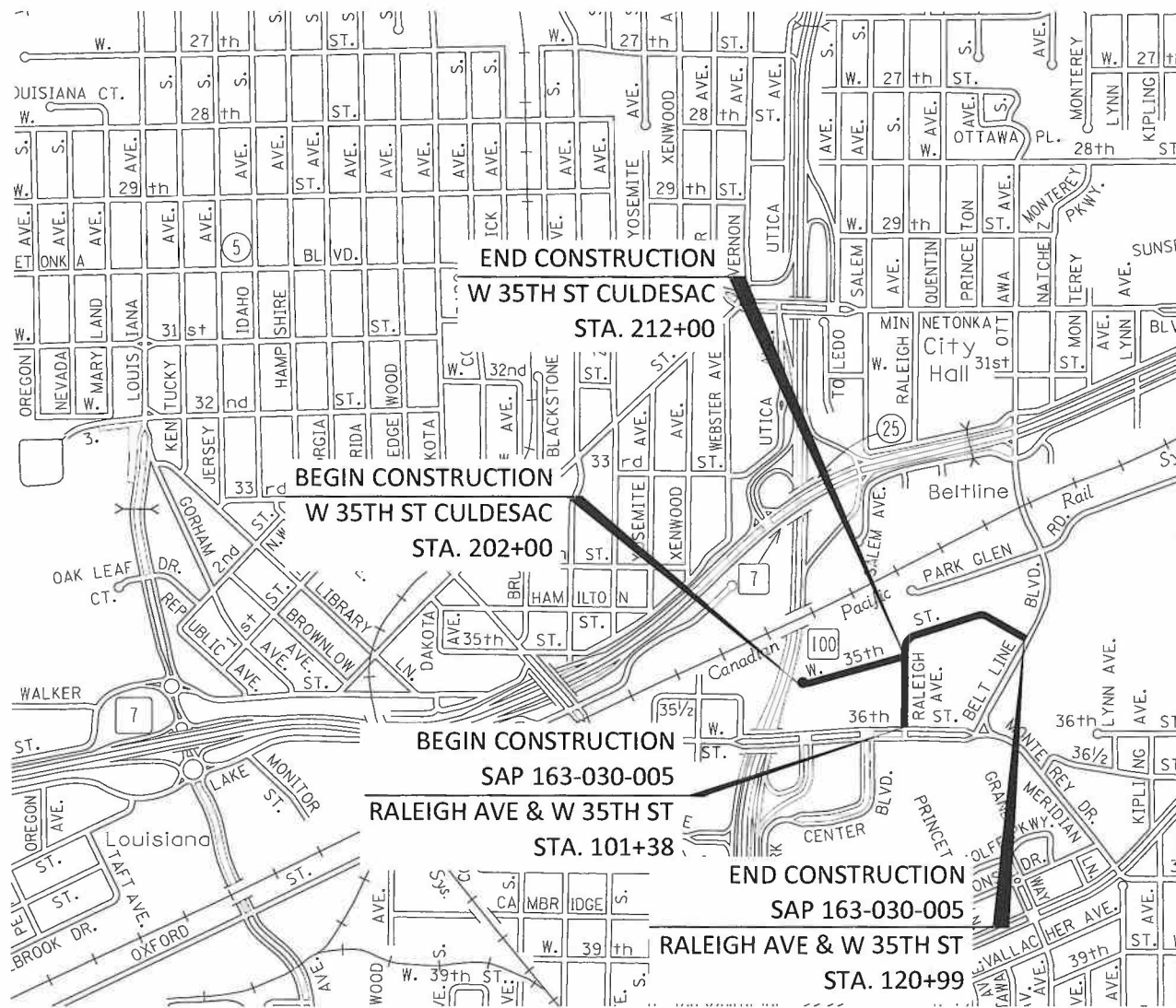
LENGTH AND DESCRIPTION BASED UPON  
PROPOSED RALEIGH AVE & W 35TH ST CENTERLINE

W 35TH STREET (WEST)	
GROSS LENGTH	1000.00 FEET 0.189 MILES
BRIDGE LENGTH	0.00 FEET 0.00 MILES
EXCEPTION LENGTH	0.00 FEET 0.00 MILES
NET LENGTH	1000.00 FEET 0.189 MILES

LENGTH AND DESCRIPTION BASED UPON  
PROPOSED W 35TH ST CULDESAC CENTERLINE

W 35TH STREET (EAST)	
GROSS LENGTH	1298.94 FEET 0.246 MILES
BRIDGE LENGTH	0.00 FEET 0.00 MILES
EXCEPTION LENGTH	0.00 FEET 0.00 MILES
NET LENGTH	1298.94 FEET 0.246 MILES

LENGTH AND DESCRIPTION BASED UPON  
PROPOSED RALEIGH AVE & W 35TH ST CENTERLINE



PROJECT DATUM:  
HORIZONTAL: HENNEPIN COUNTY COORDINATE SYSTEM NAD83 (1996 ADJ.)  
VERTICAL: NGVD29

RECORD DRAWING INFORMATION  
OBSERVER:  
CONTRACTOR:  
DATE:

SAP 163-030-005, CITY PROJ. NO. 4025-1050

MINN. PROJ. NO. LOCAL FUNDS  
--- GOVERNING SPECIFICATIONS ---  
THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" SHALL GOVERN.  
ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE LATEST "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING THE LATEST "FIELD MANUAL" FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.  
THE LATEST ADDITION OF THE MNDOT SPECIFICATIONS FOR CONSTRUCTION IS FURTHER AMENDED BY THE 2018 EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA SPECIFICATIONS. THE LATEST EDITIONS OF THE MNDOT AND CITY ENGINEERS ASSOCIATION OF MINNESOTA SPECIFICATIONS ARE AMENDED BY THE ST. LOUIS PARK SPECIFICATIONS OF CONSTRUCTION.

SHEET NO.	INDEX
1	TITLE SHEET
2-3	LEGEND AND GENERAL CONSTRUCTION NOTES
4	GENERAL LAYOUT
5-7	STATEMENT OF ESTIMATED QUANTITIES
8	STANDARD PLATES AND INDEX OF TABULATIONS
9	EARTHWORK SUMMARY & TABULATION
10-13	QUANTITY TABULATION
14-19	TYPICAL SECTIONS
20-22	MISCELLANEOUS DETAILS
23-33	STANDARD PLANS
34	ALIGNMENT PLAN & TABULATION
35-41	EXISTING CONDITIONS & REMOVALS PLAN
42-52	CONSTRUCTION PLAN & PROFILE
53-59	INTERSECTION DETAILS
60-63	DRAINAGE PLAN
64-68	WATERMAIN AND SANITARY SEWER PLAN & PROFILE
69	STORM SEWER LEAD PROFILES
70-71	DRAINAGE DETAILS
72-74	SWPPP
75-82	EROSION CONTROL PLAN
83-93	SIGNING & STRIPING PLAN
94	STAGING & TRAFFIC CONTROL PLAN
95-103	LIGHTING PLAN
104	CROSS SECTION MATCHLINE LAYOUT
105-115	CROSS SECTIONS

THIS PLAN CONTAINS 115 SHEETS

**BOLTON & MENK**  
12224 NICOLLET AVENUE  
BURNSVILLE, MINNESOTA 55337  
Phone: (952) 890-0509  
Email: Burns@bolton-menk.com  
www.bolton-menk.com

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

PRINT NAME: SAMUEL A. ELLISON LICENSE # 53752

DATE: 02/12/2025 SIGNATURE: Samuel Ellison

APPROVED: Samuel Ellison 2/13/25  
CITY OF ST. LOUIS PARK ENGINEER

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EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGNAL CONTROL CABINET
	BARRICADE PERMANENT		SOIL BORING
	BASKETBALL POST		SIREN
	BENCH		TELEPHONE BOOTH
	BIRD FEEDER		TILE INLET
	BOLLARD		TILE OUTLET
	BUSH		TILE RISER
	CATCH BASIN RECTANGULAR CASTING		TRANSFORMER-ELECTRIC
	CATCH BASIN CIRCULAR CASTING		TREE-CONIFEROUS
	CURB STOP		TREE-DEAD
	CLEAN OUT		TREE-DECIDUOUS
	CULVERT END		TREE STUMP
	DRINKING FOUNTAIN		TRAFFIC ARM BARRIER
	DOWN SPOUT		TRAFFIC SIGNAL
	ELECTRIC CAR CHARGE STATION		TRASH CAN
	FILL PIPE		UTILITY MARKER
	FIRE HYDRANT		VALVE
	FLAG POLE		VALVE POST INDICATOR
	FLARED END / APRON		VALVE VAULT
	FUEL PUMP		VAULT
	GRILL		VENT PIPE
	GUY WIRE ANCHOR		WATER SPIGOT
	HANDHOLE		WELL
	HANDICAP SPACE		WETLAND DELINEATED MARKER
	IRRIGATION SPRINKLER HEAD		WETLAND
	IRRIGATION VALVE BOX		WET WELL
	LIFT STATION CONTROL PANEL		YARD HYDRANT
	LIFT STATION		
	LIGHT POLE		
	MAILBOX		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS

SURVEY SYMBOLS

	BENCHMARK LOCATION		CAST IRON MONUMENT
	CONTROL POINT		STONE MONUMENT
	MONUMENT FOUND		

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS
	BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	RECLAIMED WATER

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING
	TRENCHLESS PIPE (PLAN VIEW)
	TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROJECT LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

HATCH PATTERNS

	BITUMINOUS		GRAVEL
	CONCRETE		

EXISTING PRIVATE UTILITY LINES

NOTE:  
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINE FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL  
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A  
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-22.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EA	EACH
ER	END RADIUS	PERM	PERMANENT	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

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

*Samuel Ellison*

SAMUEL A. ELLISON

LIC. NO. 53752 DATE 02/12/2025



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Email: Burnsville@bolton-menk.com  
www.bolton-menk.com

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4025-1050			

ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

LEGEND AND GENERAL CONSTRUCTION NOTES

SHEET  
2  
OF  
115

GENERAL PHASING NOTES

1.

STAGING REQUIREMENTS SHOWN IN THE PLANS ARE INTENDED AS CONSTRAINTS WITHIN WHICH THE CONTRACTOR MUST SCHEDULE AND COMPLETE WORK. THE CONTRACTOR MUST ALSO DEVELOP AND IMPLEMENT A STAGING PLAN BASED ON THE CONTRACTOR'S RESOURCES, SCHEDULE, SPECIFIED WORK, AND CONTRACT DEADLINES.
2.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROGRESSION OF WORK AND SHALL SUBMIT A DETAILED SCHEDULE TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK ON ANY PHASE.

COORDINATION WITH NEARBY PROJECTS

1.

THE CONTRACTOR IS SPECIFICALLY ADVISED OF THE FOLLOWING CONCURRENT NEARBY PROJECTS:
2.

THE FOLLOWING DEVELOPMENTS ARE EXPECTED TO BEGIN DURING CONSTRUCTION OF THIS PROJECT:
3.

THE CONTRACTOR SHALL COORDINATE WITH NEARBY PROJECTS/CONTRACTORS FOR ACCESS INTO THE PROJECT AREA AND PHASING.

COORDINATION WITH PRIVATE UTILITIES

1.

IT IS ANTICIPATED THAT MULTIPLE UTILITIES WILL REQUIRE RELOCATION.
2.

THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING FINAL RELOCATION NEEDS AND SHALL COORDINATE PRIVATE UTILITY WORK AS REQUIRED TO COMPLETE THE PROJECT.

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW.  
NOTIFY [GOPHER STATE ONE-CALL 1-800-252-1166](tel:1-800-252-1166) OR [651-454-0002](tel:651-454-0002).

REMOVAL NOTES

1.

PRIOR TO REMOVALS, REQUIRED EROSION CONTROL DEVICES ARE TO BE INSTALLED.
2.

CONTRACTOR TO COORDINATE WITH UTILITY OWNER TO RELOCATE POWER AND LIGHT POLES, AND OTHER PRIVATE UTILITIES AS NECESSARY.
3.

ALL ADJACENT BITUMINOUS AND CONCRETE SURFACES SHALL BE CLEANLY SAWCUT PRIOR TO REMOVAL.
4.

REMOVALS SHALL BE LIMITED TO AREAS WITHIN THE DEFINED PROJECT LIMITS. RESTORATION OF AREAS OUTSIDE OF PROJECT LIMITS SHALL BE COMPLETED AT THE CONTRACTOR'S CONST UNLESS OTHERWISE APPROVED.
5.

CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, AND FEDERAL REGULATIONS IN DISPOSING OF MATERIALS REMOVED FROM THE SITE.
6.

DRIVEWAY REMOVAL LIMITS SHOWN IN THE PLAN ARE APPROXIMATE. REMOVAL LIMITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
7.

ANY TREES, SHRUBS, AND PLANTINGS TO BE REMOVED SHALL BE DESIGNATED IN ADVANCE BY THE ENGINEER.
8.

BEFORE ANY CONSTRUCTION OR GRADING OF ANY DEVELOPMENT PROJECT OCCURS, ORANGE "SAFETY FENCE" AT LEAST FOUR FEET (4') IN HEIGHT AND STAKED WITH STEEL POSTS NO LESS THAN EVERY FIVE FEET SHALL BE PLACED AROUND THE DRIP LINES OF SIGNIFICANT TREES TO BE PRESERVED. SIGNS SHALL BE PLACED ALONG THIS FENCE LINE IDENTIFYING THE AREA AS A TREE PROTECTION AREA AND PROHIBITING GRADING BEYOND THE FENCE LINE. THIS FENCE MUST REMAIN IN PLACE UNTIL ALL GRADING AND CONSTRUCTION ACTIVITY IS TERMINATED.
9.

CONTRACTOR SHALL PROTECT ALL ITEMS DESIGNATED FOR SALVAGE AND PROVIDE APPROPRIATE STORAGE UNTIL RE-INSTALLATION. ANY ITEMS DESIGNATED TO BE SALVAGED WHICH ARE DAMAGED SHALL BE REPLACED WITH NEW AT NO COST TO THE OWNER. REPAIR OF DAMAGED ITEMS SHALL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
10.

ALL LANDSCAPING MATERIALS WITHIN THE RIGHT OF WAY TO BE REMOVED SHALL BE DESIGNATED IN ADVANCE BY THE ENGINEER, AND REMOVAL SHALL BE CONSIDERED INCIDENTAL.
11.

ALL ITEMS NOT IDENTIFIED FOR REMOVALS SHALL BE PROTECTED DURING CONSTRUCTION.
12.

SEE PROJECT MANUAL FOR CONTRACTOR'S REQUIREMENTS TO PROVIDE TEMPORARY WATER SERVICE WITH AFFECTED USERS.
13.

SOILS MEETING THE SPECIFICATIONS CAN BE REUSED ONSITE. ANY CONTAMINATED MATERIAL MUST BE DISPOSED OF AT SKB LANDFILL IN ROSEMOUNT, MN.

UTILITY CONSTRUCTION NOTES

1.

WATER SERVICE LOCATIONS SHOWN ARE APPROXIMATE AND ALL SERVICES MAY NOT BE SHOWN.
2.

NEW SERVICES SHALL MATCH EXISTING SERVICE SIZE FITTINGS AS REQUIRED TO CONNECT TO EXISTING SERVICES. IF THE EXISTING SERVICE IS  $\frac{3}{4}$ " OR  $1\frac{1}{4}$ ", THE CONTRACTOR SHALL INSTALL 1" OR  $1\frac{1}{2}$ " COPPER SERVICE PIPE (RESPECTIVELY) AND CONNECT TO THE EXISTING SERVICE WITH A REDUCER AFTER THE CURB STOP (INCIDENTAL).
3.

ROUTING OF NEW SERVICE LINES AROUND TREES AND DRIVEWAYS AS DIRECTED BY ENGINEER MAY BE REQUIRED AND SHALL BE CONSIDERED INCIDENTAL.
4.

WATER SERVICES SHALL BE COPPER TYPE "K".
5.

CONTRACTOR SHALL FIELD VERIFY THE SIZE, LOCATION, AND ELEVATION OF ALL SANITARY SEWER AND WATER SERVICES THAT ARE BEING REPLACED SUCH THAT THEY WILL FUNCTION PROPERLY UPON COMPLETION OF WORK. (INCIDENTAL)
6.

MAINTAIN 10' MINIMUM HORIZONTAL SEPARATION FROM OF WATERMAIN WITH SANITARY AND STORM SEWER MAINS, UNLESS OTHERWISE NOTED ON PLANS. WHERE INFEASIBLE , MAINTAIN 18" VERTICAL CLEARANCE.
7.

ALL CONNECTIONS TO EXISTING UTILITIES (WMN, SAN, STM, ETC.) SHALL BE FIELD VERIFIED FOR LOCATION AND ELEVATION. (INCIDENTAL)
8.

WATER SERVICE PIPE SHALL BE REMOVED TO SERVICE INSTALLATION LIMITS.
9.

EXISTING WATERMAIN DEPTHS AS SHOWN ARE APPROXIMATE.
10.

THE CONTRACTOR SHALL COORDINATE WATERMAIN WORK WITH THE FIRE DEPARTMENT AND THE CITY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING AND PROVIDING ANY REQUIRED WATERMAIN SHUT OFFS WITH THE CITY DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATERMAIN SHUTOFF WILL BE INCIDENTAL.
11.

IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH UTILITY OWNERS TO RELOCATE AND PROTECT PRIVATE UTILITIES AS NECESSARY TO CONSTRUCT STREET AND UTILITIES.
12.

REFER TO PROJECT SPECIFICATIONS FOR STRUCTURE CASTING FRAME & COVER REQUIREMENTS. ALL FRAME & COVER DEVIATIONS SHALL BE INDICATED ON THE PLAN SHEETS.
13.

CONTRACTOR SHALL COORDINATE WITH BUSINESSES PRIOR TO ANY SHORT TERM DISRUPTIONS OF WATER TO FIND AN ACCEPTABLE TIME, THIS MAY INCLUDE LATE NIGHT, EARLY MORNING, OR WEEKEND WORK.
14.

A MINIMUM OF 24 HOURS AND MAXIMUM OF 48 HOURS NOTICE SHALL BE GIVEN TO ALL RESIDENTS AFFECTED BY THE TEMPORARY WATER OUTAGES. A MINIMUM OF 48 HOURS AND MAXIMUM OF 72 HOURS NOTICE SHALL BE GIVEN TO ALL MULTI-FAMILY AND COMMERCIAL PROPERTIES. A MINIMUM OF 7 DAYS AND MAXIMUM OF 9 DAYS NOTICE SHALL BE GIVEN TO ALL BUSINESSES AFFECTED BY TEMPORARY WATER OUTAGES. CONTRACTOR SHALL COORDINATED WITH AFFECTED BUSINESS OWNERS ON WATER SHUTOFFS TO COMPLETE WORK WHEN WATER USAGE IS AT A MINIMUM. THIS MAY REQUIRE EARLY MORNING, LATE NIGHT, OR WEEKEND WORK.
15.

BYPASS PUMPING OF THE SANITARY SEWER IS EXPECTED DURING THE CONSTRUCTION OF SANITARY MH A AND WILL BE PAID FOR USING TEMPORARY CONVEYANCE OF WASTEWATER.
16.

CONTRACTOR TO LOCATE SANITARY SEWER SERVICES HORIZONTALLY & VERTICALLY PRIOR TO CROSSING WITH WATERMAIN TRENCH.
17.

THE CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO PROTECT AND/OR SUPPORT ALL SANITARY SEWER SERVICES.
18.

TEMPORARY WATER SHALL BE PROVIDED TO ALL AFFECTED BUSINESSES AND RESIDENTS PRIOR TO WATERMAIN WORK COMMENCING, THIS MAY INCLUDE TWO LINES TO BUILDINGS WITH FIRE SUPPRESSION. A TEMPORARY WATER PLAN SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL 14 DAYS PRIOR TO TEMPORARY WATER INSTALLATION.
19.

SANITARY SERVICES SHALL BE MAINTAINED TO ALL BUSINESS AT ALL TIMES. CONTRACTOR SHALL PROVIDE A PLAN TO THE ENGINEER FOR APPROVAL 14 DAYS PRIOR TO ANY SANITARY SEWER WORK. ALL COSTS ASSOCIATED WITH DEVELOPING THE PLAN AND PROVIDING A SANITARY BYPASS SYSTEM SHALL BE INCLUDED IN THE 2503 - TEMPORARY CONVEYANCE OF WASTEWATER BID ITEM.

CONSTRUCTION NOTES

1.

SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER MATERIALS AS DETERMINED TO BE UNSUITABLE BY THE ENGINEER.
2.

CONTAMINATED SOIL MATERIAL NOT SUITABLE FOR PROJECT USE SHALL BE DISPOSED OF AT SKB LANDFILL IN ROSEMOUNT, MN.
3.

THE AMOUNT BID FOR EXCAVATION - COMMON SHALL INCLUDE ALL COSTS FOR REMOVAL AND DISPOSAL OF EXCESS EXCAVATED MATERIAL, UNSUITABLE MATERIAL, AND SALVAGING (AND TEMPORARILY STOCKPILING IF NECESSARY) SUITABLE RECLAIMED AGGREGATE BASE MATERIAL FOR REUSE AS AGGREGATE BASE ON THIS PROJECT.
4.

SUBGRADE PREPARATION IN ACCORDANCE WITH MN/DOT SPEC 2112 SHALL BE CONSIDERED INCIDENTAL. IN AREAS OF FULL RECONSTRUCTION, SUBGRADE SHALL BE DEFINED AS THE EXISTING GROUND SURFACE LOCATED IMMEDIATELY BENEATH THE PROPOSED AGGREGATE BASE OR SAND SECTION AS SPECIFIED IN THE PLAN.
5.

SUBGRADE EXCAVATION AND CORRECTION SHALL BE APPLIED IF NECESSARY TO ACHIEVE SATISFACTORY SURFACES STABILITY AS DETERMINED BY THE ENGINEER. AREAS TO RECEIVE SUBGRADE EXCAVATION SHALL BE SPECIFIED BY THE ENGINEER IN THE FIELD FOLLOWING SUBGRADE PREPARATION AND A ROLL TEST. REPLACEMENT MATERIAL IN AREAS OF SUBGRADE PREPARATION SHALL SATISFY THE REQUIREMENTS OF STABILIZING AGGREGATE AS SPECIFIED IN THE SPECIAL PROVISIONS.
6.

WHERE A PROPOSED ROADWAY BEGINS OR TERMINATES AT AN EXISTING ROADWAY, PROVIDE A VERTICAL NOTCH TO THE BOTTOM OF THE AGGREGATE OR BITUMINOUS BASE AND A 20h:1V TAPER.
7.

PROVIDE 20h:1V TAPERS BETWEEN LONGITUDINAL CHANGES IN SUB-CUT DEPTHS, UNLESS OTHERWISE SPECIFIED IN THE FIELD BY THE ENGINEER.
8.

PROVIDE FOR A SAW-CUT (FULL DEPTH) WHERE NEW PAVEMENT IS INSTALLED ADJACENT TO EXISTING PAVEMENT.
9.

ALL MATERIALS TESTING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
10.

ALL USES OF THE WORD "INCIDENTAL" IN THESE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO MEAN INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.
11.

ALL CASTINGS AND ADJUSTMENTS FOR NEW MANHOLES, CATCH BASINS, AND GATE VALVES SHALL BE INCLUDED IN THE PRICE BID FOR THAT RESPECTIVE ITEM.
12.

COORDINATE WITH THE ENGINEER IN THE FIELD FOR LOCATION OF REPLACEMENT BOULEVARD TREES. PUBLIC WORKS STAFF WILL MEET WITH THE CONTRACTOR ON-SITE PRIOR TO ANY TREE PLANTING.

GENERAL TRAFFIC CONTROL NOTES

1.

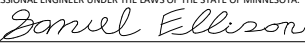
ACCESS TO BUSINESSES AND RESIDENCES SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ALSO SUPPLY ACCESS TO AND FROM THE SITE FOR CONCURRENT CONSTRUCTION PROJECTS, PRIVATE UTILITY IMPROVEMENTS/RELOCATIONS, AND AS OTHERWISE PROVIDED FOR IN THE SPECIAL PROVISIONS.
2.

THE CONTRACTOR SHALL MAINTAIN GARBAGE AND RECYCLING SERVICE ACCESS THROUGHOUT EXECUTION OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCESS FOR GARBAGE TRUCKS. WHEN INFEASIBLE TO MAINTAIN SUCH ACCESS, THE CONTRACTOR SHALL COLLECT CONTAINERS, RELOCATE THEM TO A LOCATION WHERE SUITABLE ACCESS CAN BE PROVIDED, AND RETURN CONTAINERS IN GOOD WORKING CONDITION TO THE SAME PROPERTY FROM WHICH THEY WERE TAKEN. ALL CONTAINERS MUST BE LABELED WITH THE HOUSE ADDRESS PRIOR TO MOVING. COSTS FOR PROVIDING ACCESS OR HAULING CONTAINERS TO AN ACCESSIBLE LOCATION SHALL BE INCIDENTAL.
3.

THE ITEM "TRAFFIC CONTROL" BID AS "LUMP SUM" SHALL INCLUDE ALL COSTS FOR PROVIDING TEMPORARY CONTROLS SPECIFIED IN THE PLAN AND OTHER TRAFFIC CONTROL REQUIRED PER THE MN MUTCD DUE TO THE CONTRACTORS OPERATIONS FOR COMPLETION OF THE PROJECT INCLUDING BUT NOT LIMITED TO, PAVING UNDER TRAFFIC, TEMPORARY ROAD CLOSURES IN FULL OR TO THRU TRAFFIC, TEMPORARY LANE CLOSURES, ADJUSTMENTS TO THE TRAFFIC CONTROL PLAN FOR LARGE AND SMALL SCALE STAGING OPERATIONS, AND NECESSARY DETOURS FOR MOTORISTS, BICYCLISTS, AND/OR PEDESTRIANS.THE AMOUNT BID SHALL ALSO INCLUDE SUFFICIENT TRAFFIC CONTROL FOR WARNING OF POTENTIAL HAZARDS DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO FLASHING BARRICADES AROUND EQUIPMENT AND OBSTRUCTIONS.

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SAMUEL A. ELLISON

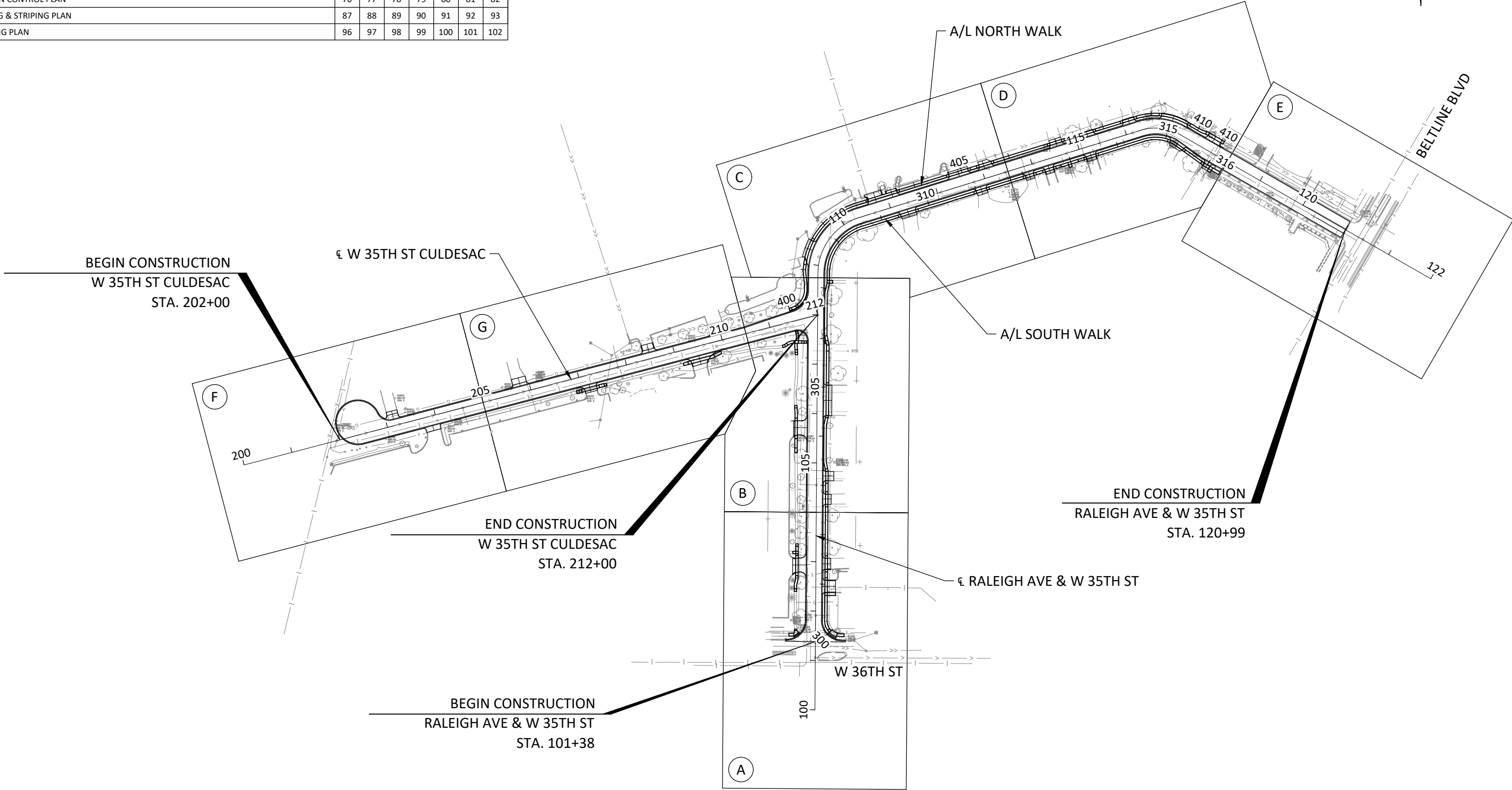
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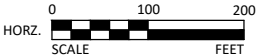
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ST LOUIS PARK, MINNESOTA	SHEET 3 OF 115
2025 COMMERCIAL STREET REHABILITATION PROJECT	
LEGEND AND GENERAL CONSTRUCTION NOTES	

PLAN SHEET LAYOUT							
GENERAL SHEET IDENTIFIER							
EXISTING CONDITIONS & REMOVALS PLAN	A	B	C	D	E	F	G
CONSTRUCTION PLAN & PROFILE	35	36	37	38	39	40	41
DRAINAGE PLAN	42	43	44	45	46	47	48
WATERMAIN AND SANITARY SEWER PLAN & PROFILE		60	61			62	63
EROSION CONTROL PLAN	64	65	66	67			68
SIGNING & STRIPING PLAN	76	77	78	79	80	81	82
LIGHTING PLAN	87	88	89	90	91	92	93
	96	97	98	99	100	101	102



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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
GENERAL LAYOUT

SHEET  
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OF  
115

STATEMENT OF ESTIMATED QUANTITIES													
LINE NO.	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	NOTES	UNIT	TOTAL ESTIMATED QUANTITY	CITY PROJ NO. 4025-1050 RALEIGH AVE & W 35TH ST ROADWAY	CITY PROJ NO. 4025-1050 RALEIGH AVE & W 35TH ST SOUTH WALK	CITY PROJ NO. 4025-1050 RALEIGH AVE & W 35TH ST NORTH WALK	CITY PROJ NO. 4025-1050 RALEIGH AVE & W 35TH ST STORM	CITY PROJ NO. 4025-1050 RALEIGH AVE & W 35TH ST WATERMAIN	CITY PROJ NO. 4025-1050 RALEIGH AVE & W 35TH ST SANITARY
								QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
1			2021.501	MOBILIZATION		LUMP SUM	1	0.48	0.06	0.04	0.08	0.22	0.12
2	B	9	2101.502	CLEARING		EACH	7	1	1	5			
3	B	9	2101.502	GRUBBING		EACH	7	1	1	5			
4	C	10	2104.502	REMOVE CATCH BASIN		EACH	8				8		
5	C	10	2104.502	REMOVE GATE VALVE		EACH	10					10	
6	C	10	2104.502	REMOVE HYDRANT		EACH	6					6	
7	N	82	2104.502	REMOVE SIGN		EACH	8	8					
8	D	10	2104.502	REMOVE LIGHT FOUNDATION		EACH	12	12					
9	D	10	2104.502	SALVAGE LIGHTING UNIT		EACH	12	12					
10	N	82	2104.502	SALVAGE SIGN		EACH	9	9					
11	D	10	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	198	98	49	51			
12	D	10	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	935	387	274	274			
13	C	10	2104.503	REMOVE WATER MAIN		LIN FT	1544					1544	
14	C	10	2104.503	REMOVE SEWER PIPE (STORM)		LIN FT	268				268		
15	C	10	2104.503	REMOVE SEWER PIPE (SANITARY)		LIN FT	813						813
16	D	10	2104.503	REMOVE CURB AND GUTTER		LIN FT	4973	3271			1702		
17	D	10	2104.503	REMOVE UNDERGROUND WIRE		LIN FT	3365	3365					
18	D	10	2104.503	REMOVE WATER SERVICE PIPE		LIN FT	48					48	
19	D	10	2104.504	REMOVE CONCRETE WALK		SQ YD	323	205	114	4			
20	D	10	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	745	481	224	40			
21	D	10	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	618	224	149	245			
22	D	10	2104.504	REMOVE BITUMINOUS PAVEMENT	(P)	SQ YD	12646	12646					
23	A	9	2106.507	EXCAVATION - COMMON	(P)	CU YD	13603	8965	339	409		3890	
24			2106.507	EXCAVATION - SUBGRADE	(2)	CU YD	200	200					
25	A	9	2106.507	SELECT GRANULAR EMBANKMENT (CV)	(P)	CU YD	8545	6037				2508	
26	A	9	2106.507	COMMON EMBANKMENT (CV)	(P)	CU YD	469	375	7	3		84	
27			2106.601	DEWATERING		LUMP SUM	1						
28	J	12	2108.504	GEOTEXTILE FABRIC TYPE 5		SQ YD	440				440		
29			2123.610	STREET SWEEPER (WITH PICKUP BROOM)	(3)	HOURL	40	40					
30	A	9	2211.507	AGGREGATE BASE (CV) CLASS 5	(P)	CU YD	2943	1823	209	125		786	
31	F	11	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3;C)		TON	2700	2639	41	20			
32	J	12	2502.503	6" PVC PIPE DRAIN		LIN FT	20				20		
33	J	12	2502.503	6" PERF PVC PIPE DRAIN		LIN FT	330				330		
34	J	12	2502.602	6" PVC PIPE DRAIN CLEANOUT		EACH	4				4		
35	H	12	2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS V		LIN FT	424				424		
36			2503.601	TEMPORARY CONVEYANCE OF WASTEWATER		LUMP SUM	1						1
37	L	13	2503.602	RECONNECT SANITARY SEWER SERVICE		EACH	4						4
38	L	13	2503.602	CONNECT TO EXISTING MANHOLES (SAN)		EACH	8						8
39	L												

(P) DENOTES PLAN QUANTITY

NOTES:

- (1) USE AT DISCRETION OF ENGINEER.
- (2) USE FOR UNSUITABLE MATERIAL FOUND DURING CONSTRUCTION.
- (3) COMMON LABOR AND EQUIPMENT THAT MAY BE NEEDED, FOR USE AT DISCRETION OF ENGINEER.

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								QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
41			2504.601	TEMPORARY WATER SERVICE		LUMP SUM	1					1	
42	K	13	2504.602	CONNECT TO EXISTING WATER MAIN		EACH	15					15	
43	K	13	2504.602	HYDRANT		EACH	6					6	
44	K	13	2504.602	ADJUST GATE VALVE		EACH	20					20	
45	K	13	2504.602	6" GATE VALVE AND BOX		EACH	12					12	
46	K	13	2504.602	8" GATE VALVE AND BOX		EACH	4					4	
47	K	13	2504.602	12" GATE VALVE AND BOX		EACH	3					3	
48	K	13	2504.603	WATERMAIN INSULATION		LIN FT	40					40	
49	K	13	2504.603	VALVE BOX EXTENSION		LIN FT	19					19	
50	K	13	2504.603	HYDRANT RISER		LIN FT	3					3	
51	K	13	2504.603	1.5" TYPE K COPPER PIPE		LIN FT	48					48	
52	K	13	2504.603	6" WATERMAIN DUCTILE IRON CL 52		LIN FT	97					97	
53	K	13	2504.603	8" WATERMAIN DUCTILE IRON CL 52		LIN FT	150					150	
54	K	13	2504.603	12" WATERMAIN DUCTILE IRON CL 52		LIN FT	423					423	
55	K	13	2504.608	DUCTILE IRON FITTINGS		POUND	2105					2105	
56	H	12	2506.502	CASTING ASSEMBLY		EACH	12				12		
57	C	10	2506.502	ADJUST FRAME AND RING CASTING		EACH	13				2	1	10
58	H	12	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1		EACH	9				9		
59	H	12	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020		LIN FT	8				8		
60	H	12	2506.602	CONNECT INTO EXISTING STORM SEWER		EACH	5				5		
61	E	11	2521.518	4" CONCRETE WALK		SQ FT	9724	893	5743	3088			
62	E	11	2521.518	8" CONCRETE WALK		SQ FT	5278	961	2147	2170			
63	G	11	2521.602	DRILL AND GROUT REINF BAR (EPOXY COATED)		EACH	129	53	66	10			
64	E	11	2521.618	CONCRETE CURB RAMP WALK		SQ FT	1493	631	756	106			
65	E	11	2531.503	CONCRETE CURB AND GUTTER DESIGN B612		LIN FT	260	20	79	44	117		
66	E	11	2531.503	CONCRETE CURB AND GUTTER DESIGN B618		LIN FT	5370	3589			1781		
67	E	11	2531.504	8" CONCRETE DRIVEWAY PAVEMENT		SQ YD	750	702	25	23			
68	G	11	2531.618	TRUNCATED DOMES		SQ FT	92	40	44	8			
69	P	93	2545.502	LIGHTING UNIT TYPE SPECIAL		EACH	1	1					
70	P	93	2545.502	LIGHT FOUNDATION DESIGN E MODIFIED		EACH	13	13					
71	P	93	2545.503	2" NON-METALLIC CONDUIT		LIN FT	3968	3968					
72			2545.503	UNDERGROUND WIRE 1/C 8 AWG		LIN FT	16372	16372					
73	P	93	2545.602	INSTALL LIGHTING UNIT		EACH	12	12					
74			2563.601	TRAFFIC CONTROL		LUMP SUM	1	0.48	0.06	0.04	0.08	0.22	0.12
75	N	82	2564.502	INSTALL SIGN		EACH	9	9					
76	N	82	2564.618	SIGN		SQ FT	66	66					
77	B	9	2571.502	TRANSPLANT TREE (SPADE SIZE 42")		EACH	10				10		
78	B	9	2571.602	TREE PROTECTION		EACH	36	10	16	10			
79			2572.503	TEMPORARY FENCE	(1)	LIN FT	1500	1500					
80			2572.503	CLEAN ROOT CUTTING	(1)	LIN FT	200	200					
81			2572.602	TREE PRUNING	(1)	EACH	20	20					
82	M	13	2573.501	STABILIZED CONSTRUCTION EXIT		LUMP SUM	2	2					
83			2573.501	EROSION CONTROL SUPERVISOR		LUMP SUM	1	1					
84	M	13	2573.502	STORM DRAIN INLET PROTECTION		EACH	29	29					
85	M	13	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER		LIN FT	391	391					

(P) DENOTES PLAN QUANTITY

NOTES:

(1) USE AT DISCRETION OF ENGINEER.

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<i>Samuel Ellison</i>	
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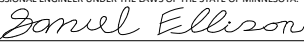
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								QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
86	M	13	2574.505	SUBSOILING		ACRE	0.05	0.05					
87	M	13	2574.505	SOIL BED PREPARATION		ACRE	0.97	0.97					
88	J	12	2574.507	FILTER TOPSOIL BORROW		CU YD	148				148		
89	A	9	2574.507	BOULEVARD TOPSOIL BORROW	(P)	CU YD	688	554	75	59			
90	M	13	2574.508	FERTILIZER TYPE 3		POUND	22	22					
91	M	13	2575.504	SODDING TYPE SALT TOLERANT		SQ YD	2605	2605					
92	M	13	2575.504	ROLLED EROSION PREVENTION CATEGORY 20		SQ YD	522	522					
93	M	13	2575.505	SEEDING	(P)	ACRE	0.11	0.11					
94	M	13	2575.508	WET DITCH SEED MIX		POUND	22	22					
95	M	13	2575.509	MULCH MATERIAL TYPE 3		TON	0.22	0.22					
96	O	82	2582.503	4" SOLID LINE MULTI-COMPONENT GROUND IN (WR)		LIN FT	75	75					
97	O	82	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT GROUND IN (WR)		LIN FT	185	185					
98	O	82	2582.518	PAVEMENT MESSAGE PREFORM THERMOPLASTIC GROUND IN		SQ FT	47	47					
99	O	82	2582.518	CROSSWALK PREFORM THERMOPLASTIC GROUND IN		SQ FT	150	150					

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ST LOUIS PARK, MINNESOTA	SHEET 7 OF 115
2025 COMMERCIAL STREET REHABILITATION PROJECT	
STATEMENT OF ESTIMATED QUANTITIES	

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

STANDARD PLATES	
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CITY OF ST. LOUIS PARK STANDARD DETAILS

STANDARD PLATE	DISCRIPTION
SAN-1	SANITARY SERVICE
SAN-3	SANITARY SEWER MANHOLE
SAN-4	SANITARY SEWER MANHOLE COVER
W-1	WATER SERVICE
W-3	GATE VALVE
W-4	HYDRANT
W-6	WATERMAIN INSULATION
S-1	STORM MANHOLE COVER
S-2	TYPE B CATCH BASIN
S-3	TYPE C MANHOLE/CATCH BASIN
ST-2	COMMERCIAL DRIVEWAY
ST-3	SIDEWALK
ST-4	ADJUST FRAME AND RING CASTING (SPECIAL)
ST-7	LIGHT POLE
ST-8	LED LUMINAIRE
ST-9	ELECTRIC HANDHOLE
ST-25	LOW VOLUME STREET SECTION
ST-26	CURB AND GUTTER
EC-4	MULCH BERM
EC-5	CONSTRUCTION ENTRANCE
EC-6	CATCH BASIN METAL INLET PROTECTION
EC-7	INLET PROTECTION GEOTEXTILE BAG
EC-8	INLET PROTECTION CATCH BASIN RISER
EC-9	INLET PROTECTION ROCK AND GEOTEXTILE BAG
EC-10	SOD PLACEMENT (SPECIAL)
SS-2	SIGN INSTALLATION - CONCRETE
SS-3	SIGN INSTALLATION - NOT CONCRETE
SS-4	STREET NAME BLADES
SS-5	PAVEMENT MARKINGS

## TABULATION INDEX

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CLIENT PROJ. NO. 4025-1050			

ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

STANDARD PLATES AND INDEX OF TABULATIONS

SHEET  
8  
OF  
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EARTHWORK SUMMARY									A
ROADWAY	STATION TO STATION			LOCATION	2106	2106	2106	2211	2574
					EXCAVATION - COMMON (1)	SELECT GRANULAR EMBANKMENT (CV) (2)	COMMON EMBANKMENT (CV) (3)	AGGREGATE BASE (CV) CLASS 5 (4)	BOULEVARD TOPSOIL BORROW
					CU YD	CU YD	CU YD	CU YD	CU YD
CITY PROJ NO. 4025-1050									
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT/RT	1155	789	29	258	59
	104+00	TO	108+75	LT/RT	2735	1719	55	528	120
	108+75	TO	113+50	LT/RT	1786	1313	46	399	63
	113+50	TO	118+25	LT/RT	1803	1337	44	408	58
	118+25	TO	123+00	LT/RT	892	754		189	
W 35TH ST CULDESAC	200+00	TO	205+00	LT/RT	1858	1123	34	331	89
	205+00	TO	210+50	LT/RT	2626	1510	57	496	165
SUBTOTAL:					12855	8545	265	2609	554
SOUTH SIDEWALK	300+00	TO	302+45	LT/RT	56		3	46	18
	302+45	TO	307+22	LT/RT	129		1	60	18
	307+22	TO	311+73	LT/RT	70		1	47	22
	311+73	TO	316+17	LT/RT	84		2	56	16
SUBTOTAL:					339		7	209	75
NORTH SIDEWALK	400+00	TO	400+93	LT/RT	57			13	13
	400+93	TO	405+99	LT/RT	230		2	32	32
	405+99	TO	410+68	LT/RT	122		1	14	14
SUBTOTAL:					409		3	59	59
TOTAL :					13602	8545	275	2877	687

- NOTES:  
(1) TOPSOIL STRIP IS INCLUDED AND PAVEMENT REMOVALS ARE NOT INCLUDED IN THE EXCAVATION-COMMON QUANTITY.  
(2) SELECT GRANULAR EMBANKMENT INCLUDES 24" UNDER ROADWAYS AND 21" UNDER B618 CURBS.  
(3) COMMON EMBANKMENT INCLUDES 1.25 CU FT OF BACKFILL BEHIND CURBS.  
(4) AGGREGATE BASE CLASS 5 INCLUDES 6" UNDER ROADWAYS, DRIVEWAYS, WALKS, AND CURBS.

CLEARING AND GRUBBING							B	
ROADWAY	LOCATION			SIZE	2101	2101	2571	2571
					CLEARING	GRUBBING	TRANSPLANT TREE (SPADE SIZE 42")	TREE PROTECTION
					EACH	EACH	EACH	EACH
CITY PROJ NO. 4025-1050								
RALEIGH AVE & W 35TH ST	102+47	49'	LT	7"				1
	102+58	31'	LT	18"				1
	102+62	47'	LT	7"				1
	103+25	30'	LT	16"				1
	103+40	48'	LT	6"				1
	105+12	31'	LT	20"				1
	105+35	47'	LT	5"				1
	106+04	29'	LT	11"				1
	107+22	51'	LT	7"				1
W 35TH ST CULDESAC	203+79	27'	LT	1"			1	
	204+13	27'	LT	1"			1	
	204+47	27'	LT	1"			1	
	204+81	27'	LT	1"			1	
	205+16	27'	LT	1"			1	
	205+50	27'	LT	1"			1	
	206+20	27'	LT	1"			1	
	206+68	27'	LT	1"			1	
	207+17	27'	LT	1"			1	
	207+42	38'	RT	6"				1
	206+65	27'	LT	1"			1	
	209+93	33'	RT	21"				1
	210+29	26'	RT	8"	1	1		
SUBTOTAL:					1	1	10	11
SOUTH WALK	301+26	19'	RT	6"				1
	301+28	27'	RT	6"				1
	301+74	14'	RT	20"				1
	302+39	14'	RT	18"				1
	303+52	12'	RT	8"				1
	304+24	12'	RT	8"				1
	305+28	23'	RT	20"				1
	306+07	13'	RT	25"				1
	306+47	14'	RT	6"				1
	306+87	13'	RT	26"				1
	307+44	7'	RT	2"	1	1		
	308+10	12'	RT	21"				1
	308+64	12'	RT	27"				1
	309+87	12'	RT	13"				1
	313+18	15'	RT	17"				1
	314+54	11'	RT	9"				1
	315+73	14'	RT	25"				1
SUBTOTAL:					1	1		16
NORTH WALK	400+10	21'	LT	14"				1
	400+81	13'	LT	13"				1
	401+05	6'	LT	3"	1	1		
	401+77	6'	LT	8"	1	1		
	402+12	7'	LT	10"	1	1		
	402+43	1'	LT	9"	1	1		
	402+76	5	LT	11"	1	1		
	403+46	14'	LT	12"				1
	403+75	13'	LT	9"				1
	404+75	14'	LT	12"				1
	407+47	11'	LT	20"				1
	407+97	13'	LT	15"				1
	409+24	11'	LT	19"				1
	409+86	15'	LT	17"				1
		410+26	12'	LT	12"			
SUBTOTAL:					5	5		10
TOTAL :					7	7	10	28

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

EARTHWORK SUMMARY & TABULATION

SHEET  
9  
OF  
115

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UTILITY REMOVALS												C
ROADWAY	STATION TO STATION			LOCATION	2104	2104	2104	2104	2104	2104	2104	2506
					REMOVE CATCH BASIN	REMOVE GATE VALVE	REMOVE HYDRANT	REMOVE WATER SERVICE PIPE	REMOVE WATER MAIN	REMOVE SEWER PIPE (STORM)	REMOVE SEWER PIPE (SANITARY)	ADJUST FRAME AND RING CASTING
					EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	EACH
CITY PROJ NO. 4025-1050												
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT		1						
				RT								
				LT/RT				41	250		209	1
	104+00	TO	108+75	LT	1	6	2					
				RT	1	1						
				LT/RT				7	741	117	475	3
	108+75	TO	113+50	LT	2							
				RT	2	1	1					
				LT/RT					496	80	129	3
	113+50	TO	118+25	LT			2					
				RT								
				LT/RT		1			45			1
118+25	TO	123+00	LT									
			RT									
			LT/RT									
W 35TH ST CULDESAC	200+00	TO	205+00	LT								
				RT								
				LT/RT								1
	205+00	TO	210+50	LT	1							1
				RT	1		1					1
				LT/RT					12	71		2
TOTAL :					8	10	6	48	1544	268	813	13

MISCELLANEOUS REMOVALS														D
ROADWAY	STATION TO STATION			LOCATION	2104	2104	2104	2104	2104	2104	2104	2104	2104	2104
					REMOVE LIGHT FOUNDATION	SALVAGE LIGHTING UNIT	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	REMOVE CURB AND GUTTER	REMOVE UNDERGROUND WIRE	REMOVE CONCRETE WALK	REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	REMOVE BITUMINOUS PAVEMENT
					LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	SQ YD
CITY PROJ NO. 4025-1050														
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT	1	1	26	33	296	130	65	37	54	
				RT					281					
				LT/RT				125						1161
	104+00	TO	108+75	LT	2	2	20	31	674	706	91	40	53	
				RT	2	2			399	428				
				LT/RT										2620
	108+75	TO	113+50	LT	2	2			460	514		106		
				RT	1	1			411	447				
				LT/RT										1949
	113+50	TO	118+25	LT	1	1			337	287		112		
				RT	2	2			413	406		7		
				LT/RT										1949
	118+25	TO	123+00	LT	1	1								
				RT	1	1								
				LT/RT				37						1136
W 35TH ST CULDESAC	200+00	TO	205+00	LT				22	361			14	15	
				RT				30	294			18	21	
				LT/RT										1562
	205+00	TO	210+50	LT			30	53	513	300	49	84	28	
				RT			22	56	534	147		63	53	
LT/RT													2269	
SUBTOTAL:					13	13	98	387	4973	3365	205	481	224	12646
SOUTH WALK	300+00	TO	302+45	LT/RT			12	44			83	46	36	
	302+45	TO	307+22	LT/RT			6	101			6	66	59	
	307+22	TO	311+73	LT/RT				53				36	21	
	311+73	TO	316+17	LT/RT			31	76			25	76	33	
SUBTOTAL:							49	274			114	224	149	
NORTH WALK	400+00	TO	400+93	LT/RT										
	400+93	TO	405+99	LT/RT			39	118				40	129	
	405+99	TO	410+68	LT/RT			12	156			4		116	
SUBTOTAL:							51	274			4	40	245	
TOTAL :					13	13	198	935	4973	3365	323	745	618	12646

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

QUANTITY TABULATION

SHEET  
10  
OF  
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CONCRETE SUMMARY										E
ROADWAY	STATION TO STATION			LOCATION	2521	2521	2521	2531	2531	2531
					4" CONCRETE WALK	8" CONCRETE WALK	CONCRETE CURB RAMP WALK (1)	CONCRETE CURB AND GUTTER DESIGN B612	CONCRETE CURB AND GUTTER DESIGN B618	8" CONCRETE DRIVEWAY PAVEMENT
					SQ FT	SQ FT	SQ FT	LIN FT	LIN FT	SQ YD
CITY PROJ NO. 4025-1050										
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT	285	204	198	14	282	55
				RT					289	29
				LT/RT						
	104+00	TO	108+75	LT	318	209	433	6	667	67
				RT					475	60
				LT/RT						
	108+75	TO	113+50	LT					500	101
				RT					458	33
				LT/RT						
	113+50	TO	118+25	LT					470	100
				RT					448	63
				LT/RT						
118+25	TO	123+00	LT							
			RT							
			LT/RT							
W 35TH ST CULDESAC	200+00	TO	205+00	LT				14	379	27
				RT				11	302	34
				LT/RT						
	205+00	TO	210+50	LT				70	550	87
RT				290	548		22	550	46	
LT/RT										
SUBTOTAL:					893	961	631	137	5370	702
SOUTH WALK	300+00	TO	302+45	LT/RT	936	342	311	40		18
	302+45	TO	307+22	LT/RT	1586	653	203	7		
	307+22	TO	311+73	LT/RT	1870	370				
	311+73	TO	316+17	LT/RT	1351	782	242	32		7
SUBTOTAL:					5743	2147	756	79		25
NORTH WALK	400+00	TO	400+93	LT/RT	307		106			
	400+93	TO	405+99	LT/RT	1484	1063		44		23
	405+99	TO	410+68	LT/RT	1297	1107				
SUBTOTAL:					3088	2170	106	44		23
TOTAL :					9724	5278	1493	260	5370	750

NOTES:  
(1) 6" Depth

PEDESTRIAN RAMPS						G
LOCATION	CORNER		2521	2131	CURB RAMP DESIGN (4)	CURB RADUIS (FT)
			DRILL AND GROUT REINF BAR (EPOXY COATED)	TRUNCATED DOMES		
			EACH	SQ. FT		
CITY PROJ NO. 4025-1050						
RALEIGH AVE & W 36TH ST	NW	(1)	15	24	TIERED PERPENDICULAR	40
RALEIGH AVE & W 36TH ST	NE	(2)	14	36	TIERED PERPENDICULAR	40
RALEIGH AVE & DW 102+50	SE	(1)	6	N/A	N/A	N/A
RALEIGH AVE & DW 102+93	NW	(1)	6	N/A	N/A	N/A
RALEIGH AVE & W 35TH ST	NW	(3)	10	8	TIERED PERPENDICULAR	N/A
RALEIGH AVE & W 35TH ST	NE	(2)	10	N/A	N/A	N/A
RALEIGH AVE & W 35TH ST	SW	(1)	32	16	PERPENDICULAR	N/A
RALEIGH AVE & W 35TH ST	SE	(2)	11	8	TIERED PERPENDICULAR	N/A
W 35TH ST	S	(2)	7	N/A	N/A	N/A
W 35TH ST & DW 209+46	NE	(2)	9	N/A	N/A	N/A
W 35TH ST & DW 209+95	SE	(2)	9	N/A	N/A	N/A
ROADWAY SUBTOTAL:			59	40		
SOUTH SIDEWALK SUBTOTAL:			60	44		
NORTH SIDEWALK SUBTOTAL:			10	8		
TOTAL:			129	92		

NOTES:  
(1) ROADWAY  
(2) SOUTH SIDEWALK  
(3) NORTH SIDEWALK  
(4) SEE PEDESTRIAN CURB RAMP STANDARD PLANS FOR CONSTRUCTION DETAILS

BITUMINOUS SUMMARY						F
ROADWAY	STATION TO STATION			LOCATION	2360	
					TYPE SP 12.5 WEARING COURSE MIX (3,C)	
					TON	
CITY PROJ NO. 4025-1050						
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT	4	
				RT		
				LT/RT	235	
	104+00	TO	108+75	LT	2	
				RT		
				LT/RT	520	
	108+75	TO	113+50	LT		
				RT		
				LT/RT	390	
	113+50	TO	118+25	LT		
				RT		
				LT/RT	402	
118+25	TO	123+00	LT			
			RT			
			LT/RT	272		
W 35TH ST CULDESAC	200+00	TO	205+00	LT	3	
				RT		
				LT/RT	345	
	205+00	TO	210+50	LT	12	
RT				6		
LT/RT				448		
SUBTOTAL:					2639	
SOUTH WALK	300+00	TO	302+45	LT/RT	11	
	302+45	TO	307+22	LT/RT	15	
	307+22	TO	311+73	LT/RT	6	
	311+73	TO	316+17	LT/RT	9	
SUBTOTAL:					41	
NORTH WALK	400+00	TO	400+93	LT/RT		
	400+93	TO	405+99	LT/RT	15	
	405+99	TO	410+68	LT/RT	5	
SUBTOTAL:					20	
TOTAL :					2700	

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

QUANTITY TABULATION

SHEET  
11  
OF  
115

DRAINAGE TABULATION																	H	
STRUCTURE NO.		CASTING LOCATION						CASTING ASSEMBLY TYPE (3)(7)	RIM ELEV (2)(8)	UP- STREAM INVERT ELEV (6)	DOWN- STREAM INVERT ELEV (6)	DES 3006 RC PIPE SEWER (13)					CONNECT TO EXISTING STORM SEWER (5)	REMARKS
		ALIGNMENT	STATION (1)	OFFSET (FT) (1)	DESIGN SPECIAL 1							48-4020	12" CL V	15" CL V	18" CL III	24" CL III		
EACH	LIN FT				EACH	LIN FT	LIN FT					LIN FT	LIN FT	EACH				
CITY PROJ NO. 4025-1050																		
CB-1A	MH-2A	W 35TH ST CULDESAC	205+62.16	13.50	LT	1		R-3067-V	877.73	874.61	873.91		174					
MH-2A	MH-4A	W 35TH ST CULDESAC	207+35.79	9.00	LT		3.5	R-1733	877.36	873.91	873.82		18					
MH-4A	STMH-5	W 35TH ST CULDESAC	207+50.01	20.42	LT		4.0	R-1733	877.85	873.82	873.69		27			1		
CB-3A	MH-2A	W 35TH ST CULDESAC	207+35.79	20.00	RT	1		R-3067-V	876.97	874.06	873.91		29					
CB-12A	CB-11	W 35TH ST CULDESAC	211+60.42	24.49	RT	1		R-3067-V	876.59	873.31	872.99		64			1		
CB-13A	CB-11A	RALEIGH AVE & W 35TH ST	108+07.23	13.50	RT	1		R-3067-V	876.63	873.30	873.07		45					
CB-11A	CB-11	RALEIGH AVE & W 35TH ST	108+24.97	27.84	LT	1		R-3067-V	876.33	873.07	872.99					1		
CB-16A	CB-15A	RALEIGH AVE & W 35TH ST	110+35.63	13.50	RT	1		R-3067-V	877.17	874.15	873.98		34					
CB-15A	CBMH-14	RALEIGH AVE & W 35TH ST	110+35.94	20.00	LT	1		R-3067-V	877.10	873.98	873.92					1		
CB-17A	CB-18A	RALEIGH AVE & W 35TH ST	113+36.10	13.50	RT	1		R-3067-V	876.61	873.30	873.13		33					
CB-18A	STMH-19	RALEIGH AVE & W 35TH ST	113+35.05	19.82	LT	1		R-3067-V	876.55	873.13	872.77					1		
CB-11	CBMH-14	RALEIGH AVE & W 35TH ST	108+29.35	38.05	LT			R-1733										
TOTALS						9	7.5	12				0	424	0	0	0	5	

- NOTES:
- (1) STATION AND OFFSET IS AT CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
  - (2) THE CASTING ELEVATION FOR MANHOLES IS AT CENTER OF THE COVER, UNLESS OTHERWISE NOTED.
  - (3) ALL DESIGN 4020 DRAINAGE STRUCTURES UTILIZING A R-3067 CASTING REQUIRE A 4022 TOP SLAB CONFORMING TO MnDOT STANDARD PLATE 4022 (INCIDENTAL).
  - (4) ALL STRUCTURES GREATER THAN 4' REQUIRE STEPS.
  - (5) CONNECTION TO EXISTING STORM SEWER IS DENOTED AS "EX".
  - (6) INVERT ELEVATIONS ARE TO THE CENTER OF STRUCTURE.
  - (7) ALL CATCH BASIN COVER OPENINGS SHALL MATCH THE PROPOSED CURB & GUTTER AS APPROPRIATE FOR THE DIFFERENT CASTING AND CURB COMBINATIONS.
  - (8) FOR CATCH BASINS SET IN CURB & GUTTER, THE ELEVATION SHOWN IS 0.20' BELOW THE GUTTER FLOWLINE.
  - (9) SALVAGE AND REINSTALL EXISTING CASTING DURING ADJUSTMENT.
  - (10) GEOTEXTILE FILTER TO BE INSTALLED AT RIPRAP PER MnDOT STANDARD PLATE 3133.

CASTING ASSEMBLY (STORM) TABULATION			I
CASTING I.D.	CASTING DESIGNATION	CASTING DESCRIPTION	QUANTITY (EACH)
CITY PROJ NO. 4025-1050			
R-1733	NEENAH R-1733 OR APPROVED EQUAL	MANHOLE CASTING	3
R-3067-V	NEENAH R-3067-V OR APPROVED EQUAL	COMBINATION INLET FRAME, GRATE, AND CURB BOX WITH TYPE-V GRATE	9
TOTAL			12

UNDERDRAIN TABULATION - TREE TRENCH								J
CITY PROJ NO. 4025-1050								
CO ID	CO RIM ELEVATION	CO INVERT ELEVATION	PIPE SLOPE	FILTER TOPSOIL BORROW (CY)	6" PVC PIPE (LIN FT) (1)	6" PERF PVC PIPE (LIN FT) (2)	GEOTEXTILE FABRIC TYPE 5 (SQ YD)	6" PVC PIPE DRAIN CLEANOUT (EA)
1	878.80	875.70	0.50%	45		100	133	1
2	878.30	875.20	0.50%	45	8	100	133	1
3	877.60	874.50	0.50%	29		65	87	1
4	877.30	874.20	0.50%	29	12	65	87	1
TOTAL				148	20	330	440	4

- NOTES:
- (1) INCLUDES AGGREGATE BEDDING
  - (1) INCLUDES FILTER AGGREGATE BEDDING AND COARSE FILTER AGGREGATE

WATERMAIN TABULATION															K
LOCATION	WATERMAIN STATION RANGE	2504													
		CONNECT TO EXISTING WATER MAIN	HYDRANT	6" GATE VALVE & BOX	8" GATE VALVE & BOX	12" GATE VALVE & BOX	ADJUST GATE VALVE	1 1/2" TYPE K COPPER PIPE	VALVE BOX EXTENSION (1)	HYDRANT RISER (2)	6" WATERMAIN DUCTILE IRON CL 52	8" WATERMAIN DUCTILE IRON CL 52	12" WATERMAIN DUCTILE IRON CL 52	4" INSULATION	DUCTILE IRON FITTINGS
		EACH	EACH	EACH	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	POUND
CITY PROJ NO. 4025-1050															
RALEIGH AVE & W 35TH ST	100+00 - 103+50	4		1	1		2	48	2		8	14			327
	103+50 - 108+75	5	1	6	1	2	8		9	0.5	34	30	194	16	933
	108+75 - 113+50	2	2	2	1	1	3		4	1	21	86	229	16	845
	113+50 - 118+25	3	2	2	1		4		3	1	22	20			
	118+25 - 123+00						1								
W 35TH ST CULDESAC	200+00 - 205+00						1								
	205+00 - 210+50	1	1	1			1		1	0.5	12			8	
TOTALS		15	6	12	4	3	20	48	19	3	97	150	423	40	2105

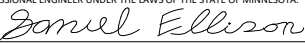
NOTES:  
(1) 1.0 LF OF VALVE BOX EXTENSION IS ESTIMATED FOR EACH GATE VALVE AND BOX. ACTUAL QUANTITY SHALL BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE ENGINEER.  
(2) 0.5 LF OF HYDRANT RISER IS ESTIMATED FOR EACH HYDRANT. ACTUAL QUANTITY SHALL BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE ENGINEER.

SANITARY SEWER TABULATION						L
LOCATION	SANITARY STATION RANGE	2503				
		RECONNECT SANITARY SEWER SERVICE	TELEWISE SWER SERVICE	12" PVC PIPE SEWER	ADJUST CASTING (SPECIAL)	CONNECT TO EXISTING MANHOLE (SAN)
		EACH	EACH	LIN FT	EACH	EACH
CITY PROJ NO. 4025-1050						
W 35TH ST CULDESAC	200+00 - 205+00				1	
	205+00 - 210+50				2	
RALEIGH AVE & W 35TH ST	100+00 - 103+50		1	159	1	1
	103+50 - 108+75	3	4	525	2	4
	108+75 - 113+50	1	1	128	3	3
	113+50 - 118+25				1	
TOTALS		4	6	812	10	8

EROSION CONTROL & TURF ESTABLISHMENT															M	
ROADWAY	STATION TO STATION				LOCATION	2573			2574			2575				
						STABILIZED CONSTRUCTION EXIT	STORM DRAIN INLET PROTECTION (1)	SEDIMENT CONTROL LOG TYPE WOOD FIBER (1)	SUBSOILING	SOIL BED PREP	FERTILIZER TYPE 3 (2)(3)	ROLLED EROSION CONTROL BLANKET CATEGORY 20	SEEDING	SODDING SALT TOLERANT	WET DITCH SEED MIX (7)	MULCH MATERIAL TYPE 3 (8)
						LUMP SUM	EACH	LIN FT	ACRE	ACRE	LBS	SQ YD	ACRE	SQ YD	LBS	TON
CITY PROJ NO. 4025-1050																
RALEIGH AVE & W 35TH ST	BOP	TO	108+75	LT/RT	1	4							797			
	108+75	TO	EOP	LT/RT	1	16	65						972			
W 35TH ST CULDESAC	BOP	TO	EOP	LT/RT		9	326	0.05	0.97	22	522	0.11	836	22	0.22	
TOTALS					2	29	391	0.05	0.97	22	522	0	2605	22	0.22	

NOTES:  
(1) INCLUDES ALL REQUIRED MAINTENANCE AND REPLACEMENT FOR THE DURATION OF THE PROJECT.  
(2) USE FERTILIZER TYPE 3 ANALYSIS 22-5-10.  
(3) APPLICATION RATE TO BE 200 LBS/ACRE.  
(4) USE FERTILIZER TYPE 4 ANALYSIS 17-10-7.  
(5) APPLICATION RATE TO BE 120 LBS/ACRE.  
(6) APPLICATION RATE TO BE 200 LBS/ACRE.  
(7) APPLICATION RATE TO BE 20 LBS/ACRE.  
(8) APPLICATION RATE TO BE 2 TON/ACRE.  
(9) APPLICATION RATE TO BE 0.125 GALLON/ACRE.  
(10) APPLICATION RATE TO BE 3,900 LBS/ACRE.

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SAMUEL A. ELLISON  
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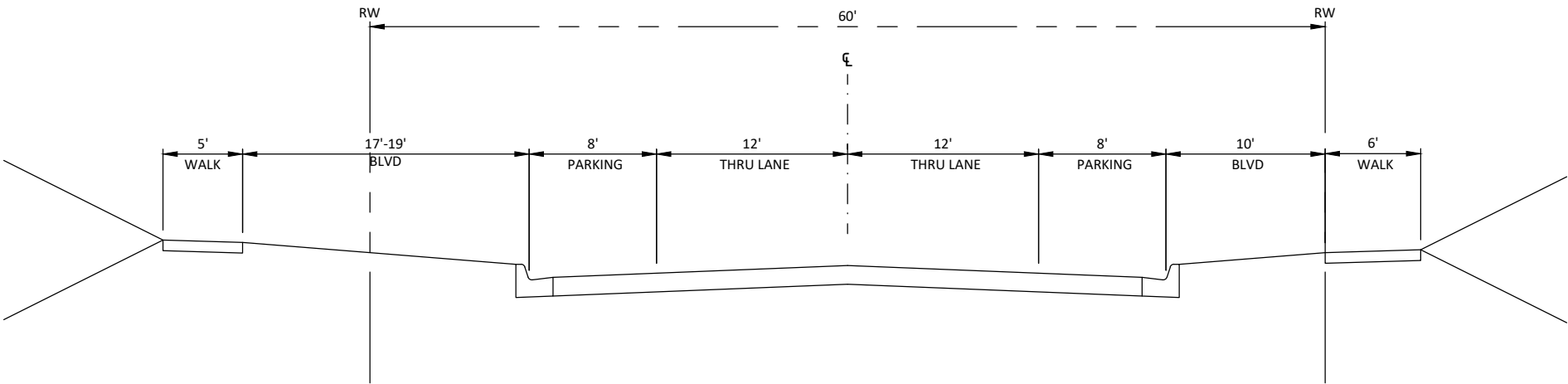


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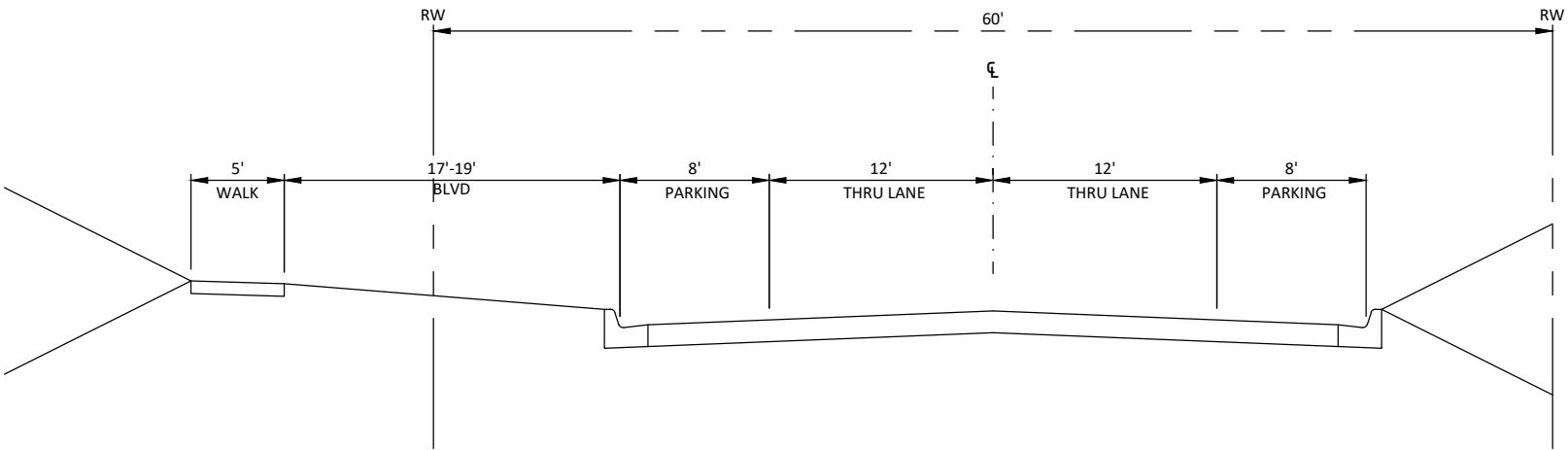
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ST LOUIS PARK, MINNESOTA	SHEET 13 OF 115
2025 COMMERCIAL STREET REHABILITATION PROJECT	
QUANTITY TABULATION	

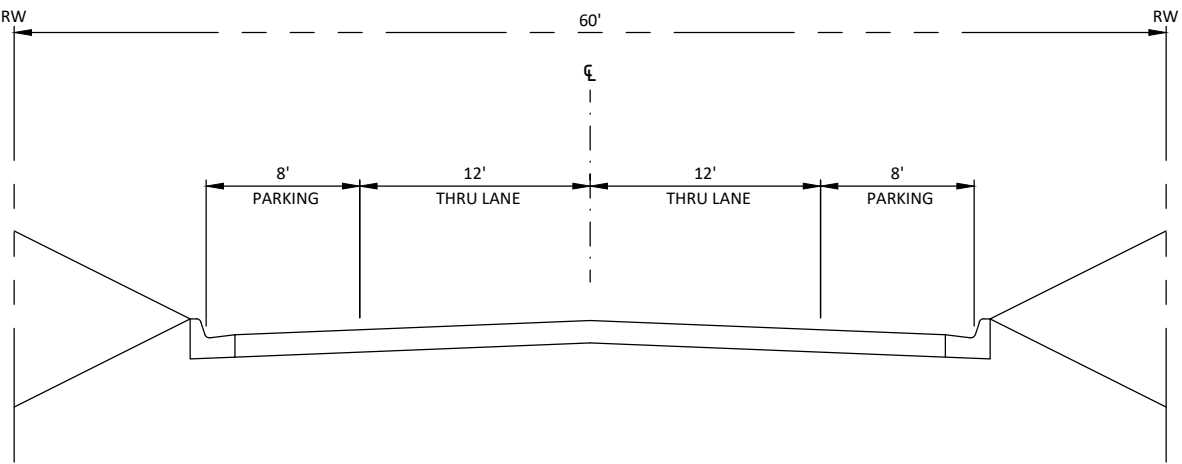
EXISTING RALEIGH AVE & W 35TH ST  
STA. 101+50 TO STA. 102+32



EXISTING RALEIGH AVE & W 35TH ST  
STA. 102+32 TO STA. 108+00



EXISTING RALEIGH AVE & W 35TH ST  
STA. 108+00 TO STA. 117+75



EXISTING PAVEMENT THICKNESS				
ALIGNMENT NAME	STATION	BORING	MATERIAL	THICKNESS
W 35TH ST CULDESAC	205+01	ST-1	BITUMINOUS	5"
W 35TH ST CULDESAC	210+96	ST-2	BITUMINOUS	6.5"
RALEIGH AVE & W 35TH ST	112+23	ST-3	BITUMINOUS	5"
RALEIGH AVE & W 35TH ST	117+54	ST-4	BITUMINOUS	5.75"
RALEIGH AVE & W 35TH ST	106+63	ST-5	BITUMINOUS	4.75"
RALEIGH AVE & W 35TH ST	101+96	ST-6	BITUMINOUS	3.75"

NOTE:  
EXISTING PAVEMENT DEPTHS ARE APPROXIMATE AND ARE REFERENCED IN  
THE SOIL BORING REPORT. FIELD VERIFY THICKNESS. VARIANCE IN  
PAVEMENT THICKNESS WILL NOT BE COMPENSATED AND IS INCIDENTAL.

NOTE:  
PAVEMENT CROSS SLOPES VARY.  
SEE CROSS SECTIONS FOR EXISTING  
PAVEMENT CROSS SLOPES.

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*Samuel Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



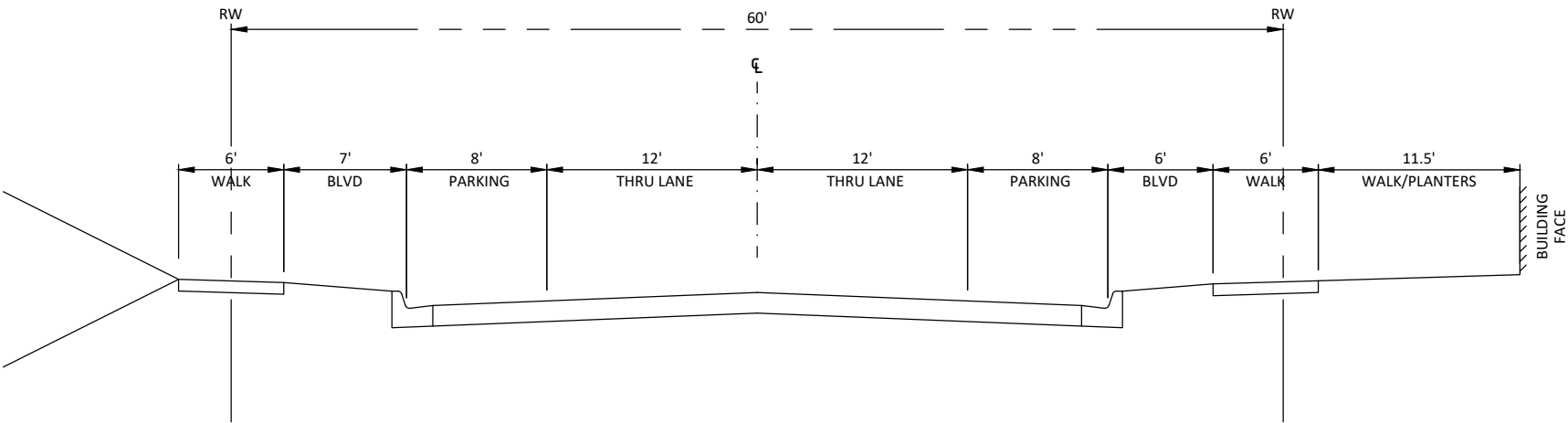
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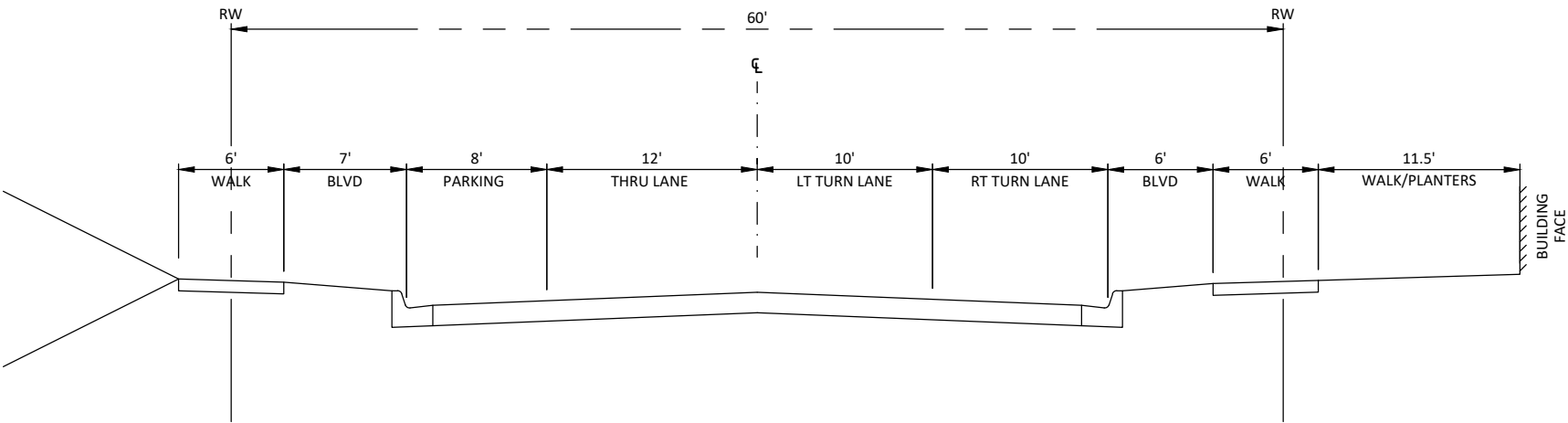
ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
TYPICAL SECTIONS  
EXISTING TYPICAL SECTIONS - RALEIGH AVE & W 35TH ST

SHEET  
14  
OF  
115

EXISTING RALEIGH AVE & W 35TH ST  
STA. 117+75 TO STA. 120+24



EXISTING RALEIGH AVE & W 35TH ST  
STA. 120+24 TO STA. 120+99



EXISTING PAVEMENT THICKNESS

ALIGNMENT NAME	STATION	BORING	MATERIAL	THICKNESS
W 35TH ST CULDESAC	205+01	ST-1	BITUMINOUS	5"
W 35TH ST CULDESAC	210+96	ST-2	BITUMINOUS	6.5"
RALEIGH AVE & W 35TH ST	112+23	ST-3	BITUMINOUS	5"
RALEIGH AVE & W 35TH ST	117+54	ST-4	BITUMINOUS	5.75"
RALEIGH AVE & W 35TH ST	106+63	ST-5	BITUMINOUS	4.75"
RALEIGH AVE & W 35TH ST	101+96	ST-6	BITUMINOUS	3.75"

NOTE:  
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NOTE:  
PAVEMENT CROSS SLOPES VARY.  
SEE CROSS SECTIONS FOR EXISTING  
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*Samuel Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



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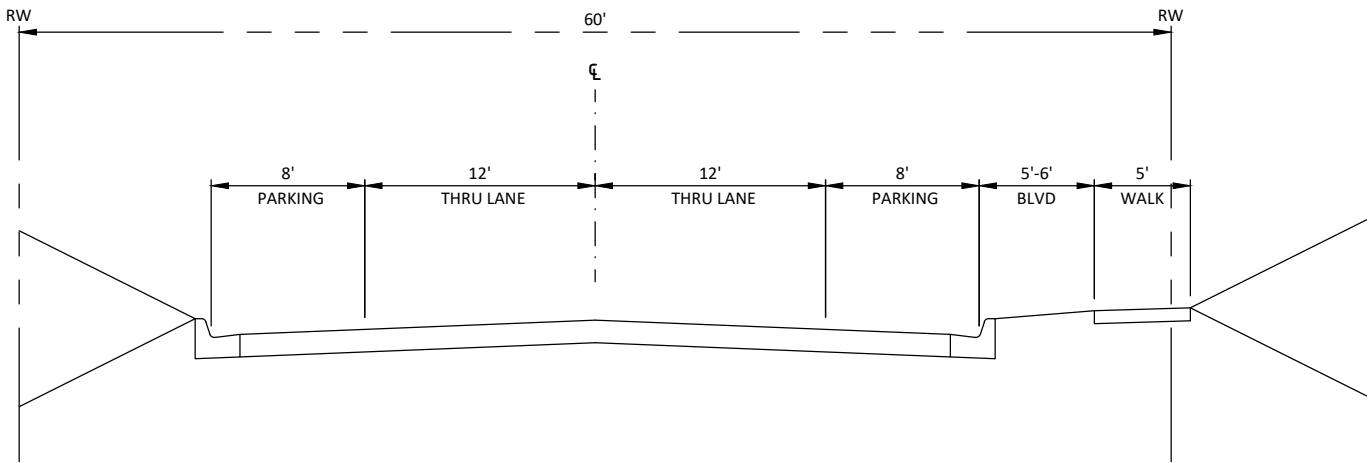
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2025 COMMERCIAL STREET REHABILITATION PROJECT  
TYPICAL SECTIONS  
EXISTING TYPICAL SECTIONS - RALEIGH AVE & W 35TH ST

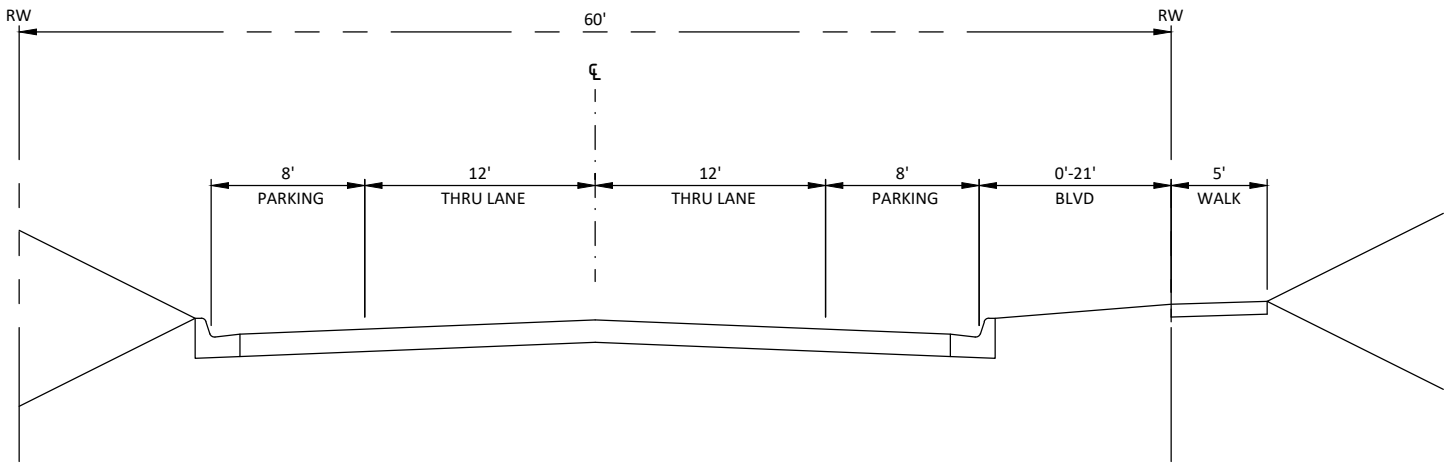
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EXISTING W 35TH ST CULDESAC  
STA. 202+00 TO STA. 209+50



EXISTING W 35TH ST CULDESAC  
STA. 209+50 TO STA. 212+00



EXISTING PAVEMENT THICKNESS				
ALIGNMENT NAME	STATION	BORING	MATERIAL	THICKNESS
W 35TH ST CULDESAC	205+01	ST-1	BITUMINOUS	5"
W 35TH ST CULDESAC	210+96	ST-2	BITUMINOUS	6.5"
RALEIGH AVE & W 35TH ST	112+23	ST-3	BITUMINOUS	5"
RALEIGH AVE & W 35TH ST	117+54	ST-4	BITUMINOUS	5.75"
RALEIGH AVE & W 35TH ST	106+63	ST-5	BITUMINOUS	4.75"
RALEIGH AVE & W 35TH ST	101+96	ST-6	BITUMINOUS	3.75"

NOTE:  
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NOTE:  
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SEE CROSS SECTIONS FOR EXISTING  
PAVEMENT CROSS SLOPES.

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SAMUEL A. ELLISON  
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TYPICAL SECTIONS	
EXISTING TYPICAL SECTIONS - W 35TH ST CULDESAC	

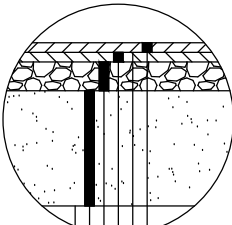
SHEET  
16  
OF  
115

PROPOSED RALEIGH AVE & W 35TH ST  
STA. 101+50 TO STA. 108+00

- GENERAL NOTES:
1. ALL CROSS SLOPES ARE IN FT./FT. UNLESS OTHERWISE NOTED.
  2. THE GRADING GRADE WILL HAVE THE SAME SLOPE AS THE FINISHED ROAD SURFACE.
  3. TOPSOIL DEPTH IS 6" MINIMUM IN THE BOULEVARD AND TIE SLOPE AREAS.
  4. AGGREGATE DEPTH IS 6" UNDER ALL CURBS.

INSET A

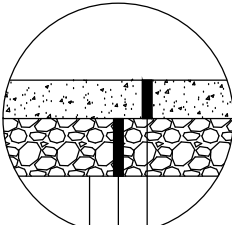
BITUMINOUS SECTION



2" TYPE SP 12.5 WEARING COURSE (3,C) (SPWEB340C) (2360)  
BITUMINOUS MATERIAL FOR TACK COAT (2357) (INCIDENTAL)  
2" TYPE SP 12.5 WEARING COURSE (3,C) (SPWEB340C) (2360)  
6" AGGREGATE BASE (CV) CLASS 5 (2211)  
24" SELECT GRANULAR EMBANKMENT (CV) (2106)  
SUBGRADE PREPARATION (2112) (INCIDENTAL)

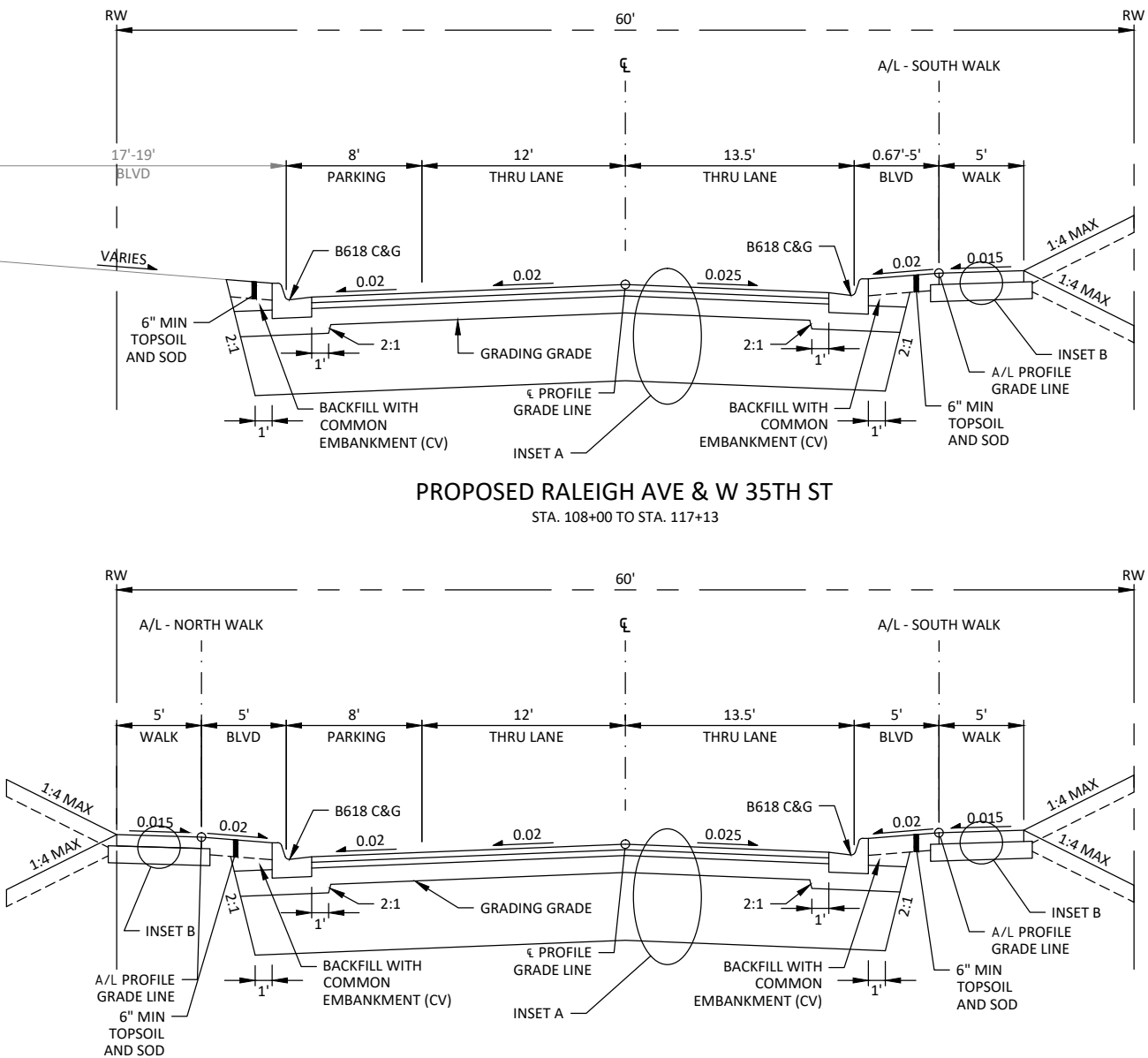
INSET B

4" CONCRETE WALK



4" CONCRETE WALK (2521)  
6" AGGREGATE BASE (CV) CLASS 5 (2211)  
SUBGRADE PREPARATION (2112) (INCIDENTAL)

PROPOSED RALEIGH AVE & W 35TH ST  
STA. 108+00 TO STA. 117+13



PROPOSED RALEIGH AVE & W 35TH ST

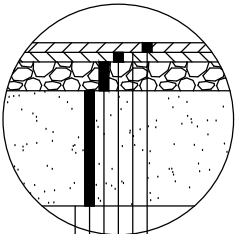
STA. 117+13 TO STA. 118+05

GENERAL NOTES:

1. ALL CROSS SLOPES ARE IN FT./FT. UNLESS OTHERWISE NOTED.
2. THE GRADING GRADE WILL HAVE THE SAME SLOPE AS THE FINISHED ROAD SURFACE.
3. TOPSOIL DEPTH IS 6" MINIMUM IN THE BOULEVARD AND TIE SLOPE AREAS.
4. AGGREGATE DEPTH IS 6" UNDER ALL CURBS.

INSET A

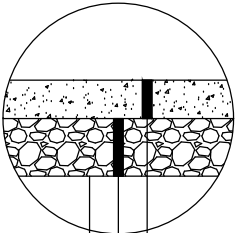
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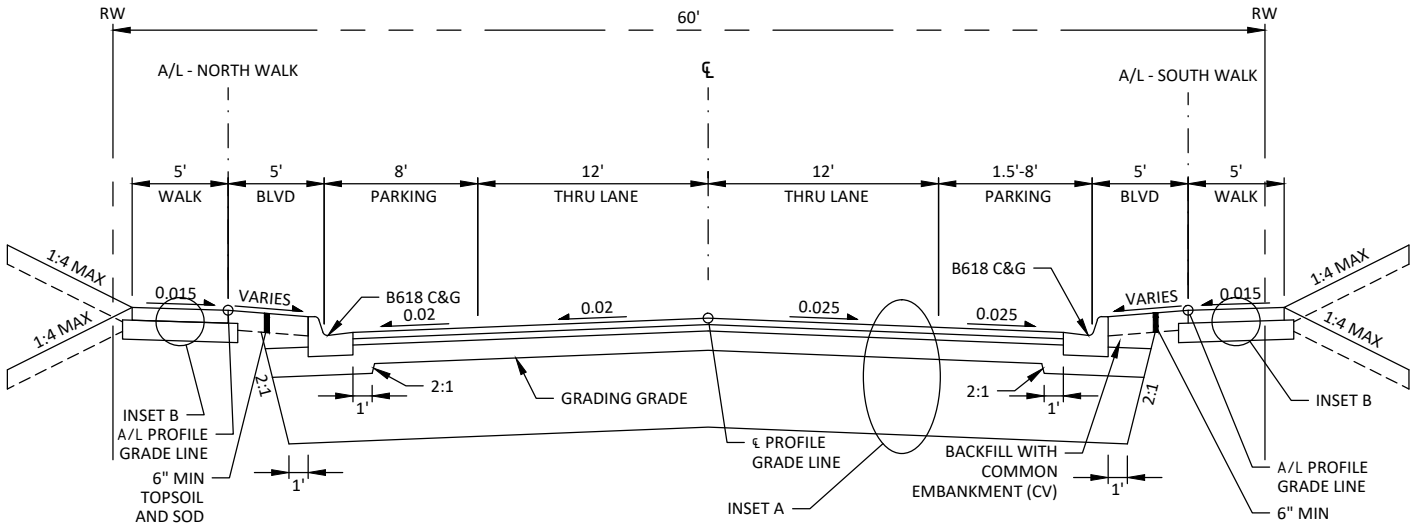
- 2" TYPE SP 12.5 WEARING COURSE (3,C) (SPWEB340C) (2360)
- BITUMINOUS MATERIAL FOR TACK COAT (2357) (INCIDENTAL)
- 2" TYPE SP 12.5 WEARING COURSE (3,C) (SPWEB340C) (2360)
- 6" AGGREGATE BASE (CV) CLASS 5 (2211)
- 24" SELECT GRANULAR EMBANKMENT (CV) (2106)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)

INSET B

4" CONCRETE WALK

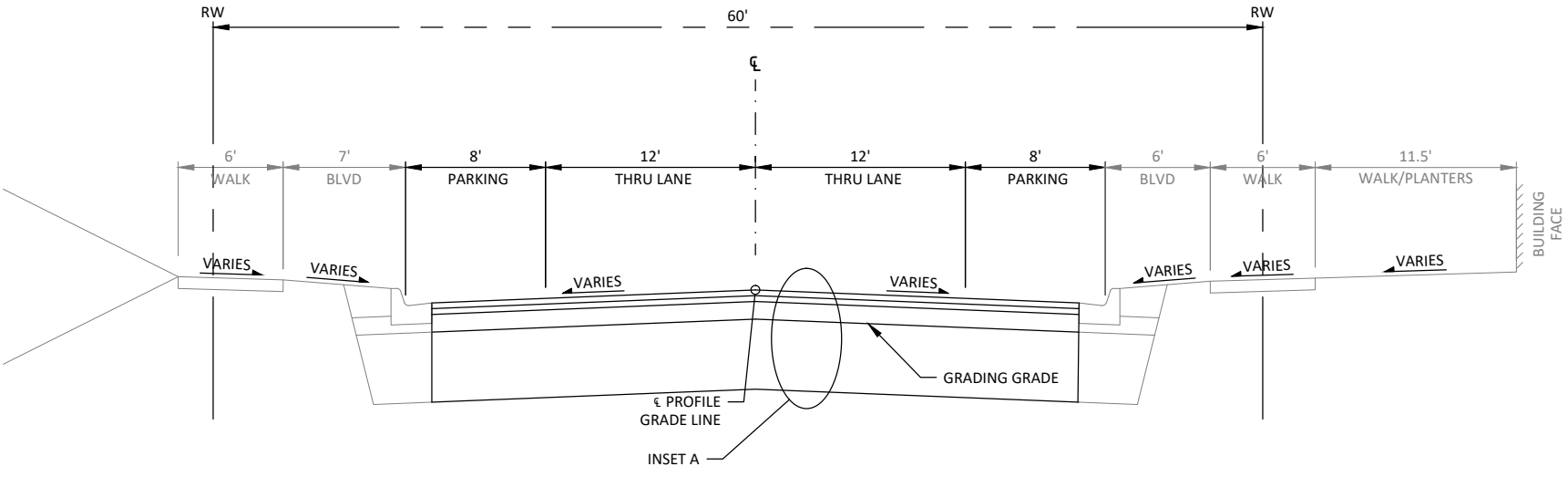


- 4" CONCRETE WALK (2521)
- 6" AGGREGATE BASE (CV) CLASS 5 (2211)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)



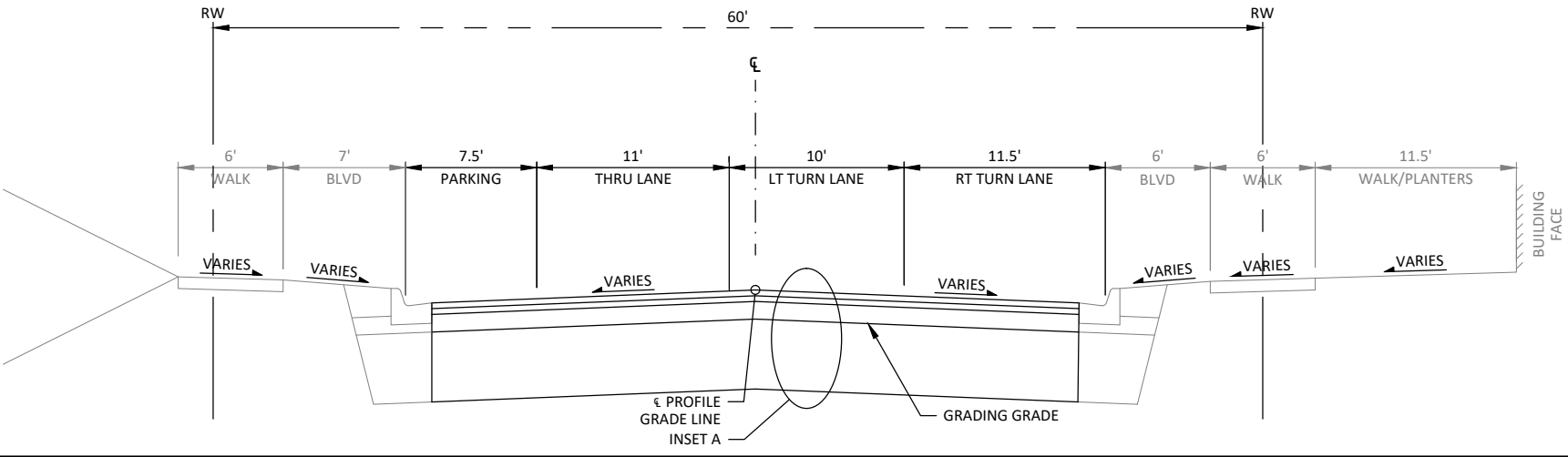
PROPOSED RALEIGH AVE & W 35TH ST

STA. 118+05 TO STA. 120+24



PROPOSED RALEIGH AVE & W 35TH ST

STA. 120+24 TO STA. 120+99



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*Samuel A. Ellison*

SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



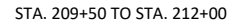
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2025 COMMERCIAL STREET REHABILITATION PROJECT  
TYPICAL SECTIONS  
PROPOSED TYPICAL SECTIONS - RALEIGH AVE & W 35TH ST

SHEET  
18  
OF  
115

## STA. 202+00 TO STA. 209+50

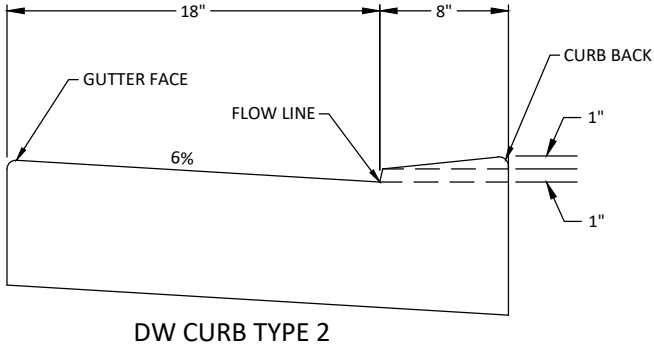
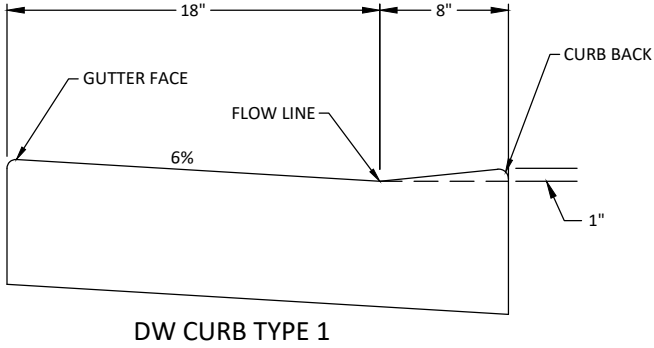
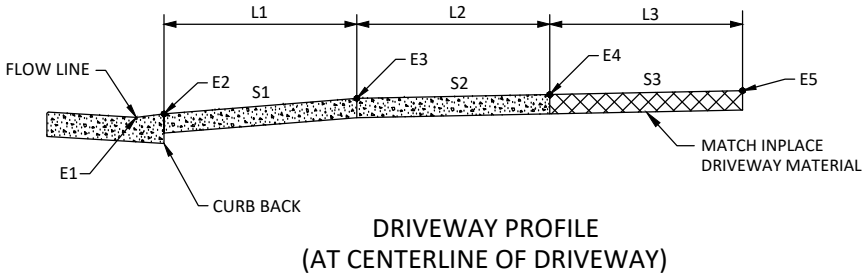


- SHEET  
19  
OF  
15

DRIVEWAY TABULATION																	
STATION (1)	SIDE	WIDTH (2)	DRIVEWAY TYPE	CURB TYPE	E1	E2	L1	S1	E3	L2	S2	E4	L3	S3	EXISTING %	E5	
		FT					FT	%		FT	%		FT	%			
RALEIGH AVE & W 35TH ST																	
102+50	RIGHT	25	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	879.51	879.59	4.3	11.6	880.09	5	1.5	880.17	16.5	0.5	1.2	880.25	
102+93	LEFT	32	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	879.22	879.30	15.3	9.4	880.74	5	1.5	880.81	6.1	3.3	5.6	881.01	
102+96	RIGHT	21	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	879.28	879.36	4.3	11.6	879.86	5	1.5	879.94	6.5	0.9	1.3	880.00	
104+27	RIGHT	20	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	878.62	878.70	4.3	11.6	879.20	5	1.5	879.28	6.5	4.3	4.3	879.56	
104+73	RIGHT	19	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	878.39	878.47	4.3	11.6	878.97	5	1.5	879.05	11.5	0.8	3.0	879.14	
105+71	LEFT	32	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.83	877.91	18.8	8.0	879.42	5	1.5	879.49	2.5	2.6	7.5	879.56	
106+27	RIGHT	61	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.62	877.70	4.3	11.6	878.20	5	1.5	878.28	6.5	3.7	3.1	878.52	
109+25	LEFT	38	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.55	877.63	4.3	11.6	878.13	5	1.5	878.21	5.3	11.0	4.1	878.79	
110+77	LEFT	35	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.38	877.46	4.3	11.6	877.96	5	1.5	878.04	10.5	11.6	7.3	879.26	
111+12	LEFT	22	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.59	877.67	4.3	11.6	878.17	5	1.5	878.25	5.0	12.0	6.5	878.85	
111+32	RIGHT	31	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.74	877.82	4.3	11.6	878.32	5	1.5	878.40	5.5	2.5	5.1	878.54	
112+53	LEFT	41	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.23	877.31	4.3	11.6	877.81	5	1.5	877.89	4.0	12.0	4.8	878.37	
112+87	RIGHT	21	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	876.98	877.06	4.3	11.6	877.56	5	1.5	877.64	5.5	2.8	5.6	877.79	
113+06	LEFT	19	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	876.78	876.86	4.3	11.6	877.36	5	1.5	877.44	6.0	11.5	6.9	878.13	
113+89	RIGHT	17	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	876.95	877.03	4.3	11.6	877.53	5	1.5	877.61	5.5	4.3	7.9	877.84	
114+30	RIGHT	18	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.15	877.23	4.3	11.6	877.73	5	1.5	877.81	5.5	2.7	6.8	877.96	
114+59	LEFT	25	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.23	877.31	4.3	11.6	877.81	5	1.5	877.89	5.0	11.0	5.1	878.44	
115+19	RIGHT	20	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.59	877.67	4.3	11.6	878.17	5	1.5	878.25	5.5	3.0	7.4	878.41	
115+25	LEFT	24	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.55	877.63	4.3	11.6	878.13	5	1.5	878.21	1.0	5.2	3.9	878.26	
116+13	LEFT	24	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.96	878.04	4.3	11.6	878.54	5	1.5	878.62	1.0	9.5	2.2	878.71	
116+90	LEFT	53	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.96	878.04	4.3	11.6	878.54	5	1.5	878.62	1.0	0.5	1.4	878.62	
117+17	RIGHT	23	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.91	877.99	4.3	11.6	878.49	5	1.5	878.57	5.0	5.0	5.5	878.82	
117+77	LEFT	29	PERPENDICULAR DRIVEWAY	DW CURB TYPE 2	877.58	877.75	6.1	11.9	878.47	6	1.5	878.56	N/A	N/A	1.4	878.56	
117+91	RIGHT	13	PERPENDICULAR DRIVEWAY	DW CURB TYPE 2	877.45	877.62	5.1	11.9	878.22	6	1.5	878.31	4.8	8.0	1.8	878.69	
W 35TH ST CULDESAC																	
203+16	LEFT	22	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	879.06	879.14	9.3	4.0	879.51	N/A	N/A	N/A	6.6	4.0	0.8	879.77	
203+89	RIGHT	29	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	878.58	878.66	9.3	8.3	879.43	N/A	N/A	N/A	N/A	N/A	2.9	879.43	
205+81	LEFT	28	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.80	877.88	4.3	7.8	878.22	N/A	N/A	N/A	11.4	7.8	6.1	879.10	
207+17	RIGHT	24	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.13	877.21	4.4	10.6	877.68	6	1.5	877.77	3.9	11.0	4.9	878.20	
208+50	LEFT	25	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	877.66	877.74	4.3	3.9	877.91	N/A	N/A	N/A	11.5	3.9	2.0	878.36	
209+46	RIGHT	31	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	878.00	878.08	4.5	11.1	878.58	6	1.5	878.67	6.1	2.5	4.5	878.82	
209+95	LEFT	29	PERPENDICULAR DRIVEWAY	DW CURB TYPE 1	878.10	878.18	4.3	3.0	878.31	N/A	N/A	N/A	11.51	3.0	0.6	878.66	

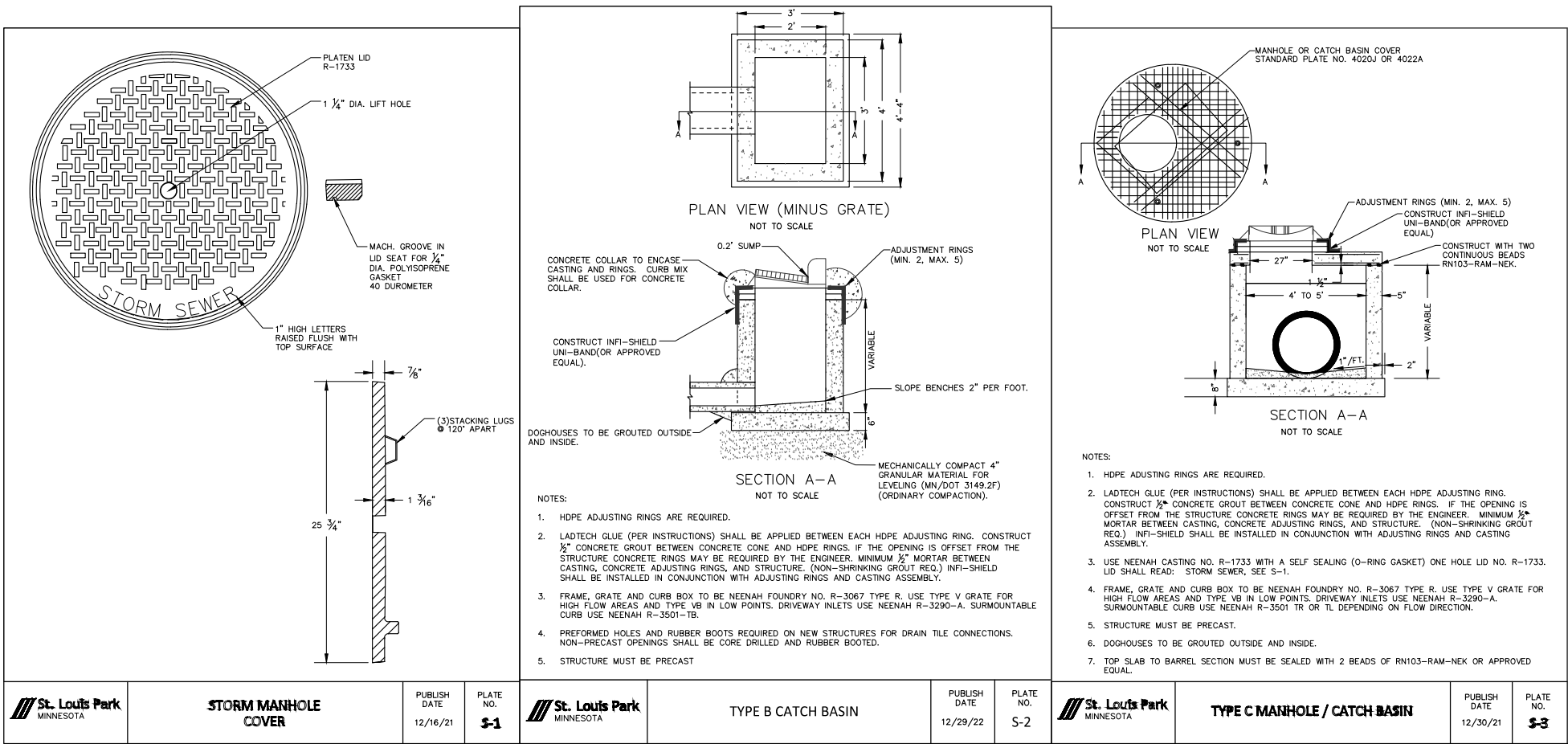
NOTES  
(1) STATION VALUE AT CENTERLINE OF DRIVEWAY  
(2) WIDTH OF DRIVEWAY AT TIE-IN POINT

DRIVEWAY DETAILS





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

*Samuel Ellison*

SAMUEL A. ELLISON

LIC. NO. 53752 DATE 02/12/2025



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CJB			
DRAWN	NO.	ISSUED FOR	DATE
CJB			
CHECKED	NO.	ISSUED FOR	DATE
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CLIENT PROJ. NO.	NO.	ISSUED FOR	DATE
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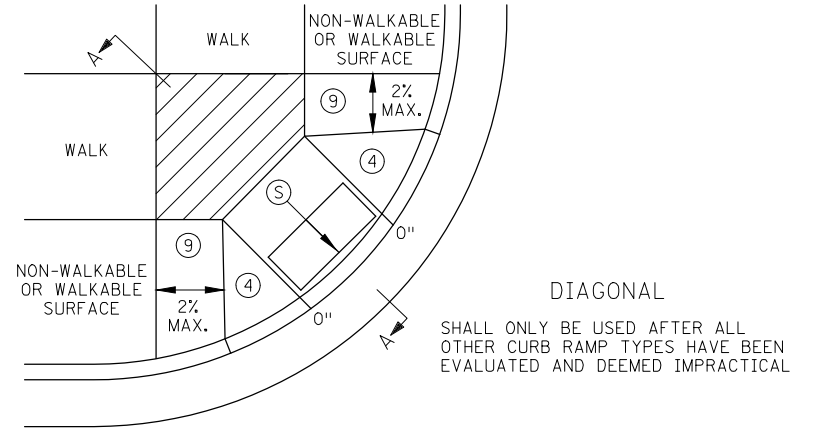
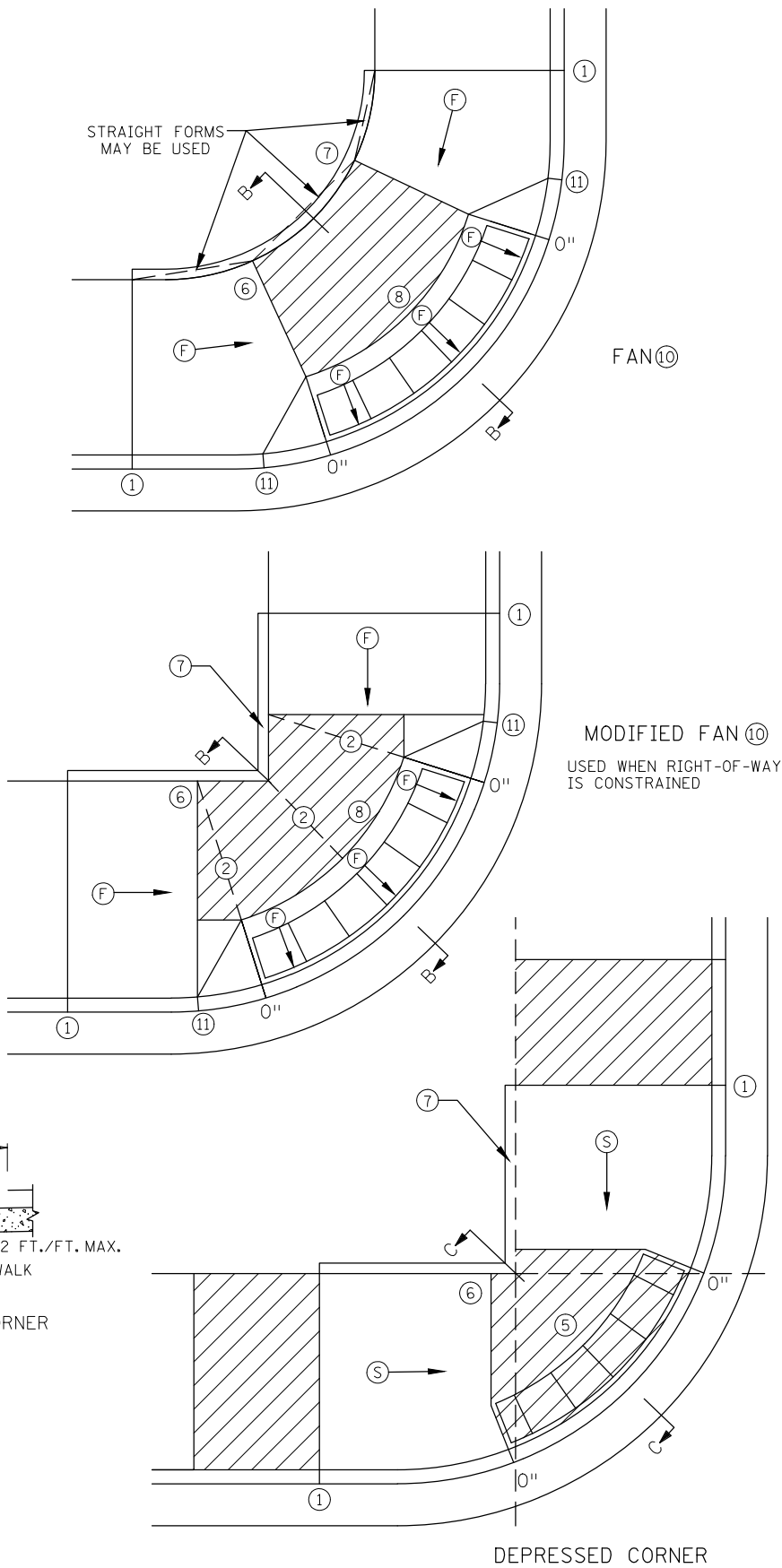
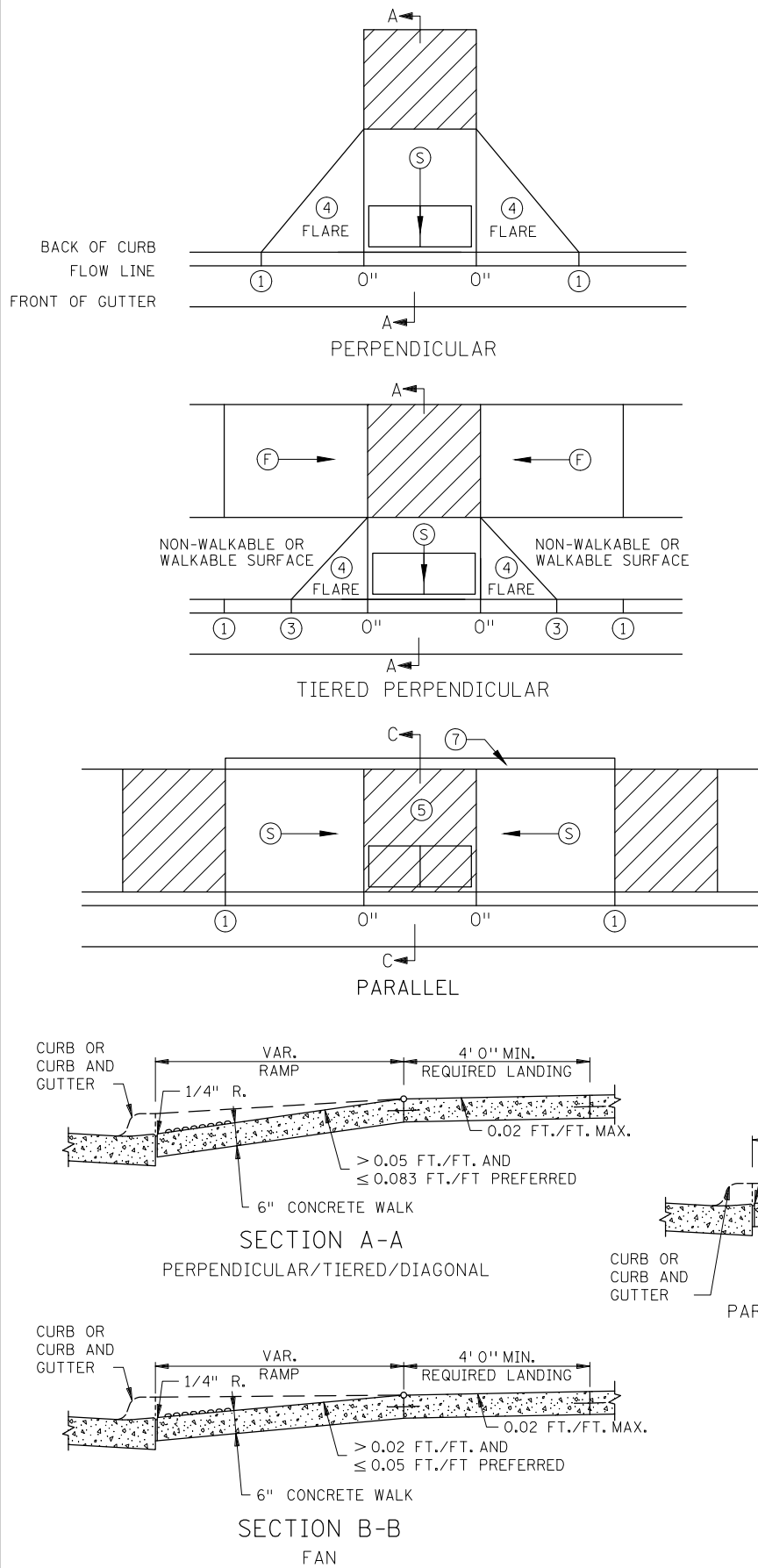
ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

MISCELLANEOUS DETAILS

STORM DETAILS

SHEET  
22  
OF  
115



NOTES:

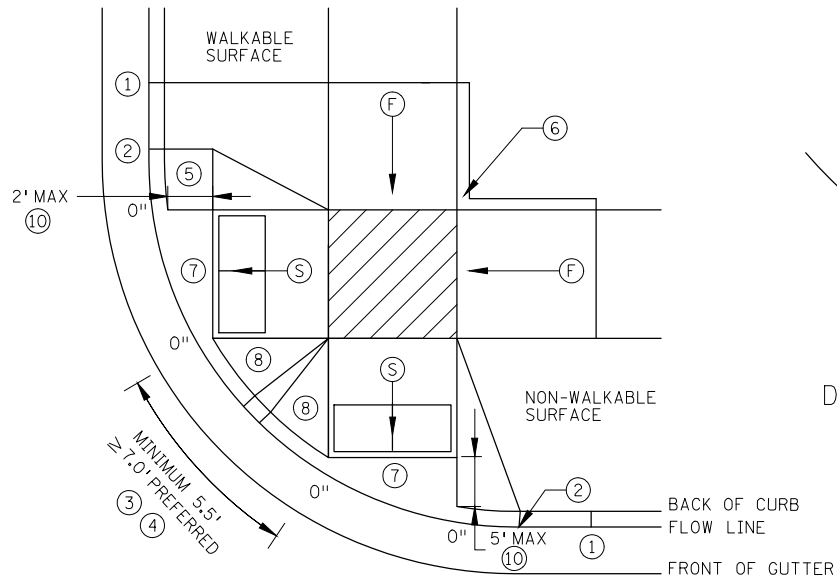
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30' OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN 6) BELOW.
- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
- 1 MATCH FULL HEIGHT CURB.
  - 2 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
  - 3 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
  - 4 SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
  - 5 DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
  - 6 THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
  - 7 WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
  - 8 A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
  - 9 PAVE FULL WALK WIDTH.
  - 10 "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
  - 11 INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
	CURB HEIGHT

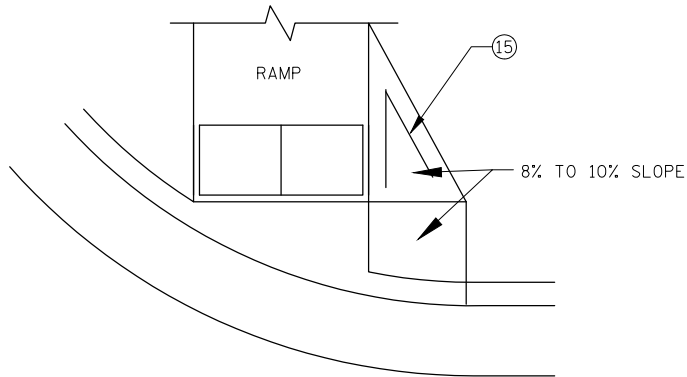
REVISION:
APPROVED: 11-04-2021  JEFFREY PERKINS OPERATIONS DIVISION

	STANDARD PLAN 5-297.250	1 OF 6
	 THOMAS STYRUD STATE DESIGN ENGINEER	APPROVED: 11-04-2021 REVISED:

PEDESTRIAN CURB RAMP DETAILS

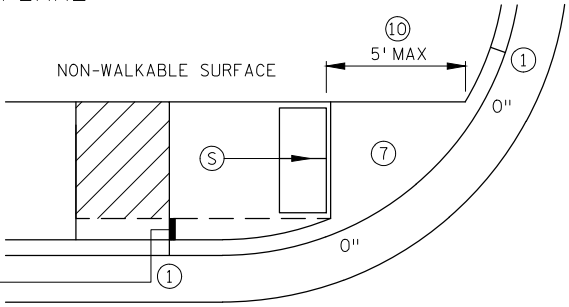


COMBINED DIRECTIONAL

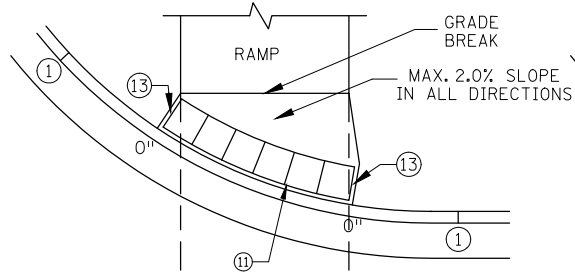


DIRECTIONAL RAMP WALKABLE FLARE

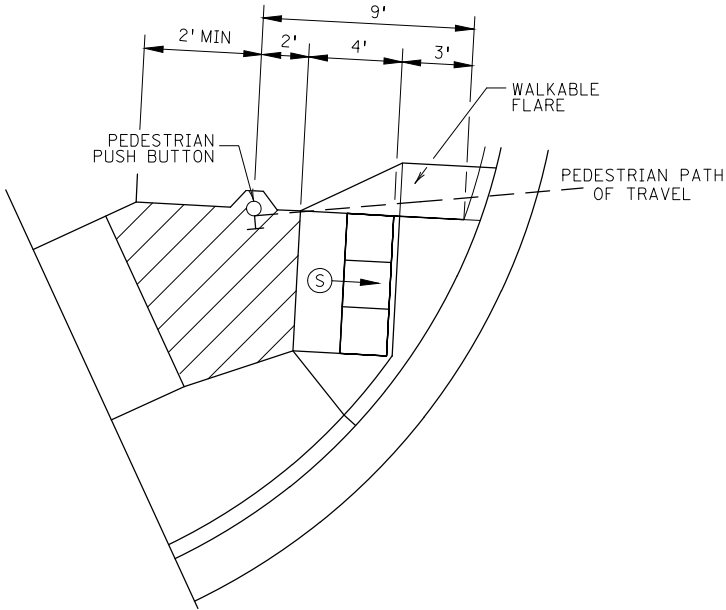
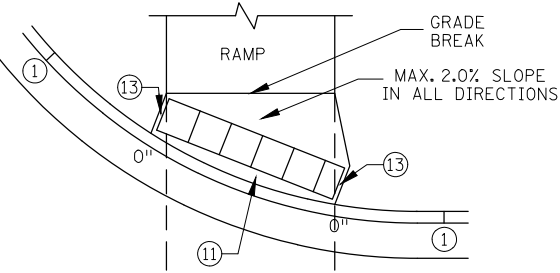
IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



STANDARD ONE-WAY DIRECTIONAL ⑨

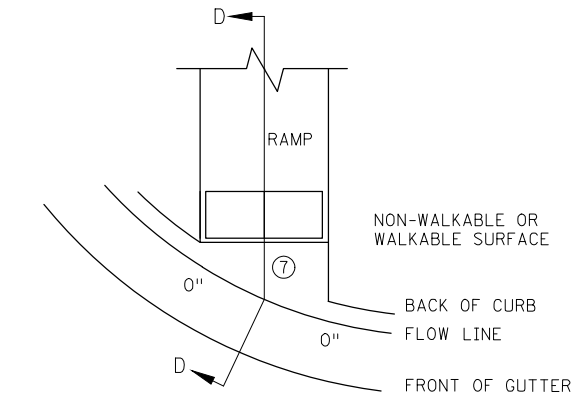


ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

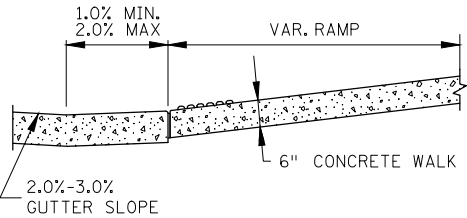


SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB  
PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30' OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
- TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP  
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)  
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
- ⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

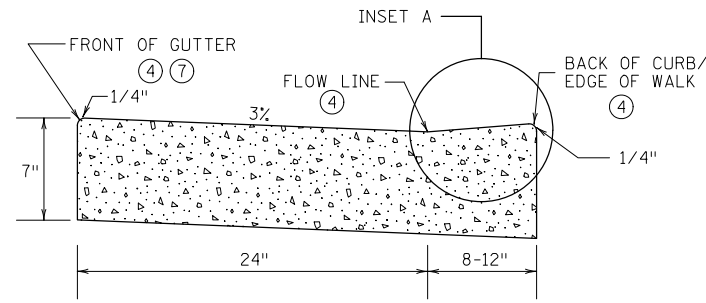
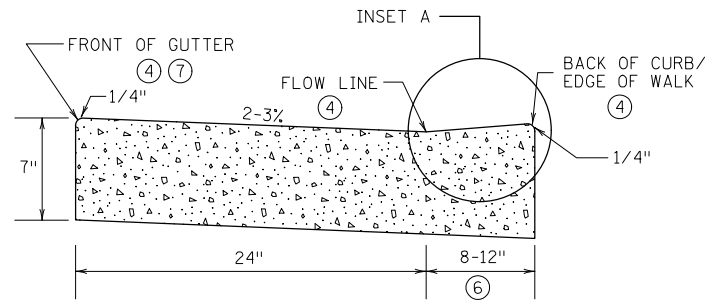
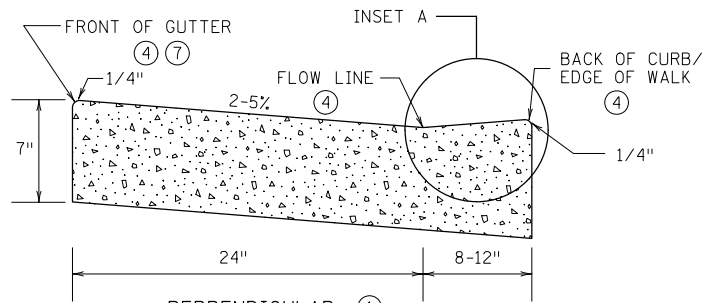
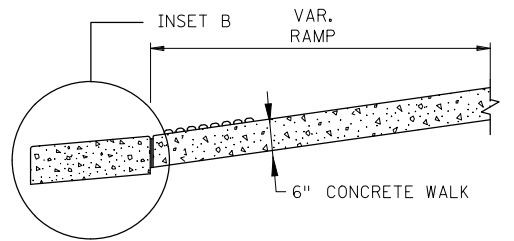
LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
⑤	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
⑥	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

REVISION:
APPROVED: 11-04-2021  JEFFREY PERKINS OPERATIONS DIVISION

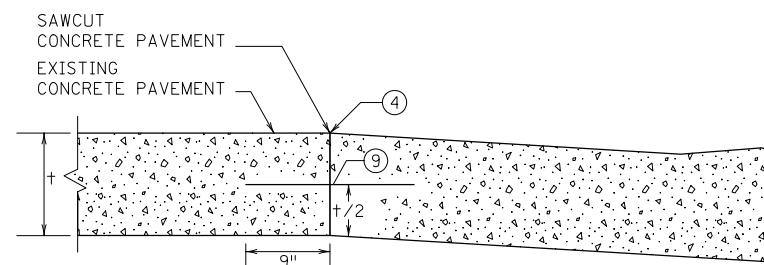
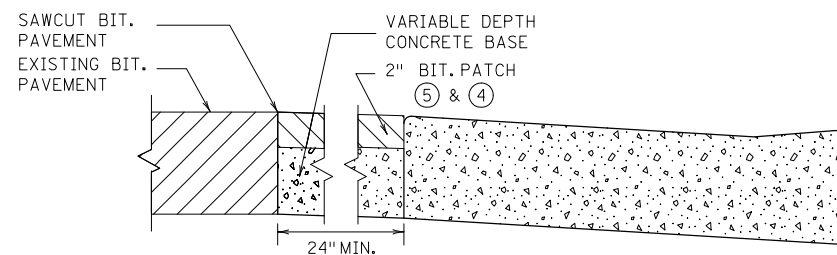
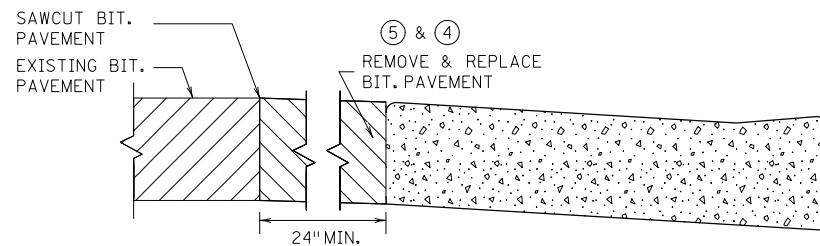
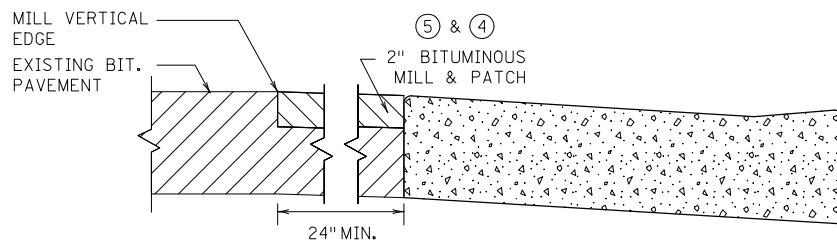
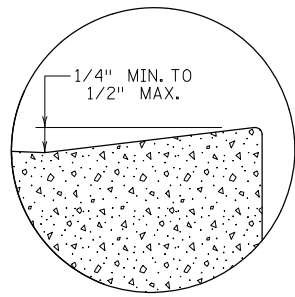
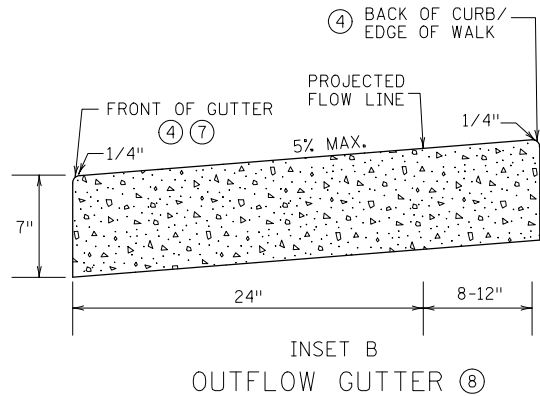
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	APPROVED: 11-04-2021 REVISED:	

PEDESTRIAN CURB RAMP DETAILS

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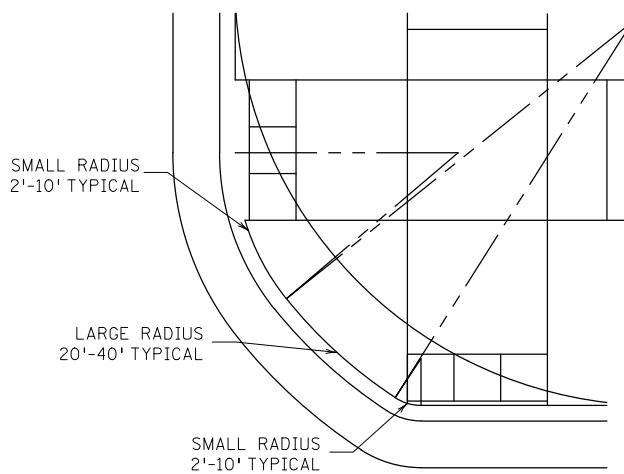
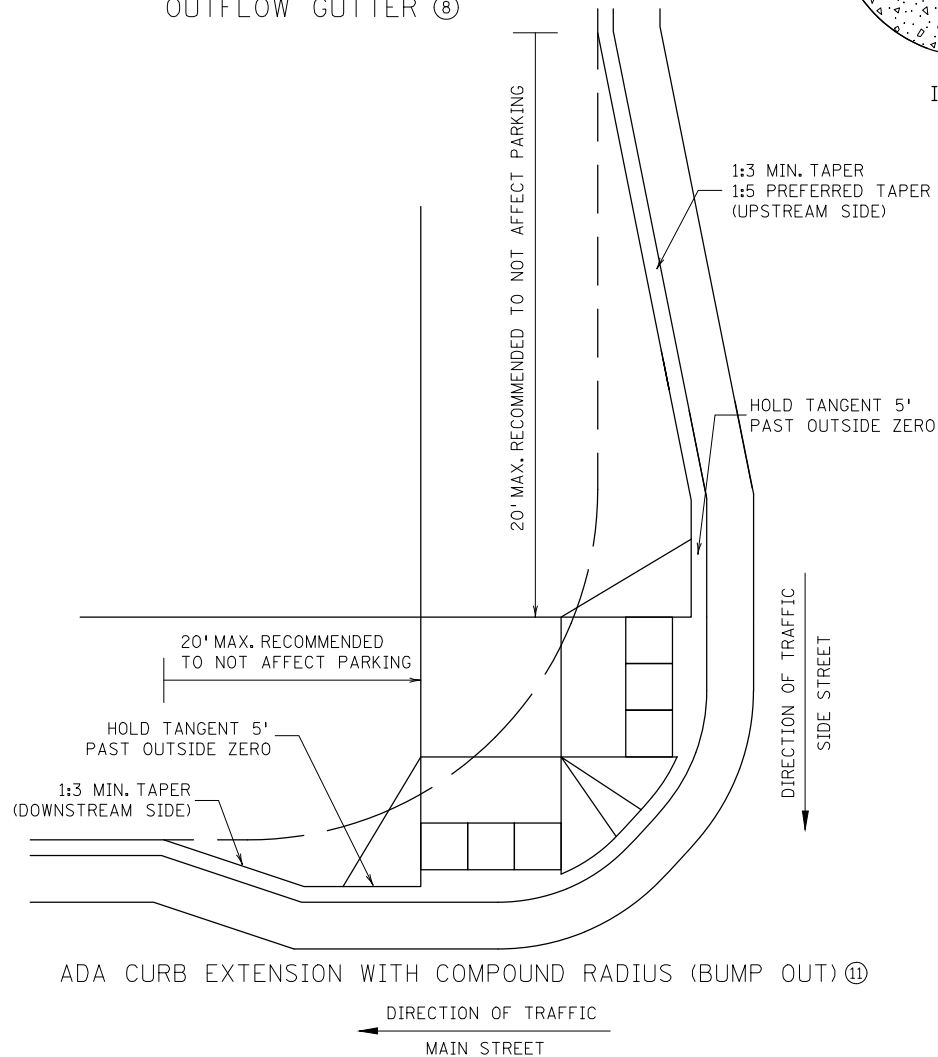


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL  
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③  
(REGARDLESS OF RAMP TYPE)



ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER  
FOR USE ON CURB RAMP RETROFITS



COMBINED DIRECTIONAL ⑩  
(COMPOUND RADIUS)

- NOTES:
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
- ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
- ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
- ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
- ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
- ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
- ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

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APPROVED: 11-04-2021

Jeffrey Perkins  
OPERATIONS DIVISION



STANDARD PLAN 5-297.250

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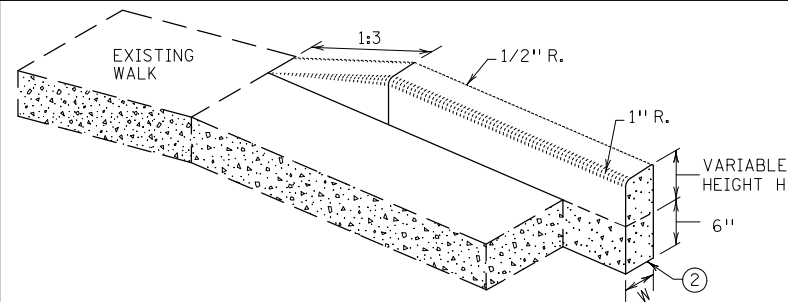
APPROVED: 11-04-2021  
REVISED:

Thomas Styrud  
STATE DESIGN ENGINEER

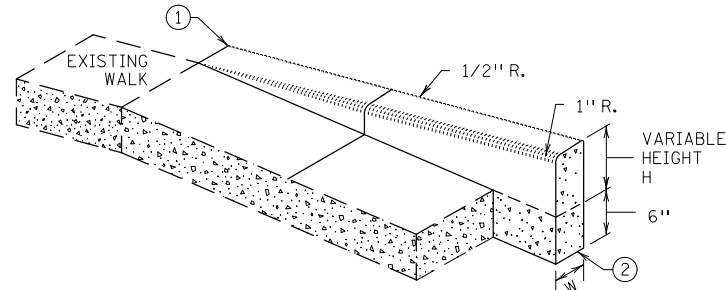
PEDESTRIAN CURB RAMP DETAILS



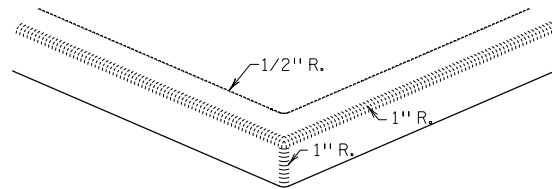
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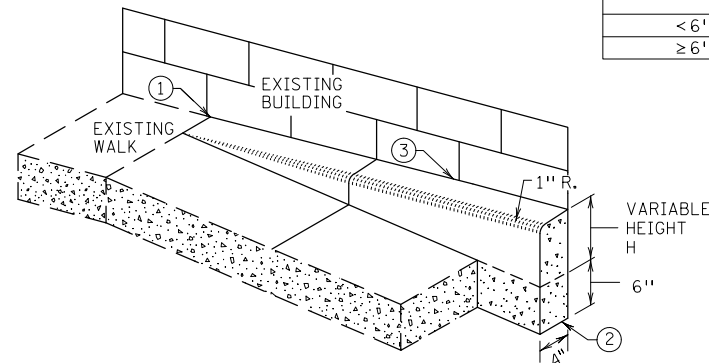
V CURB ADJACENT TO LANDSCAPE  
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE  
CURB OUTSIDE SIDEWALK LIMITS

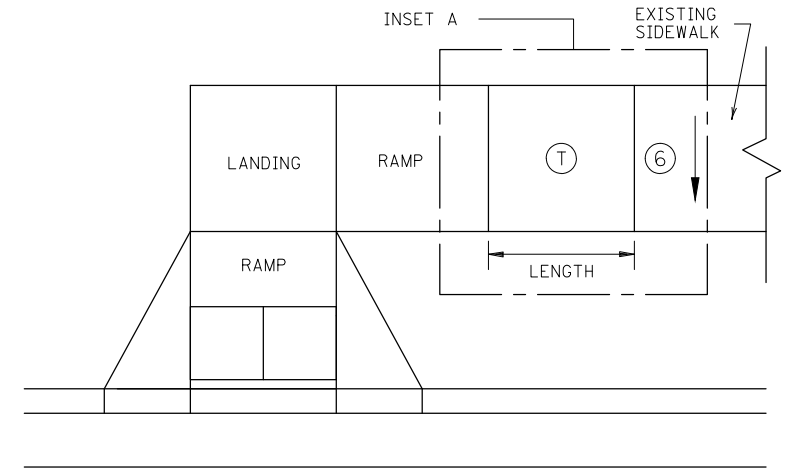


V CURB INTERSECTION

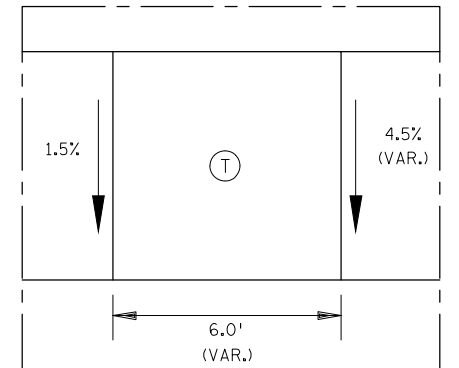


V CURB ADJACENT TO BUILDING  
OR BARRIER

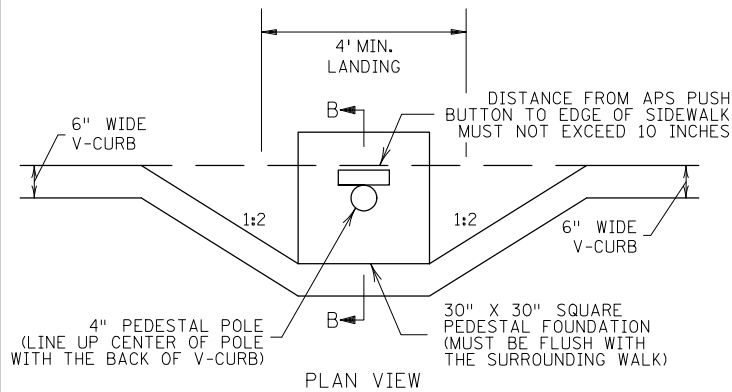
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



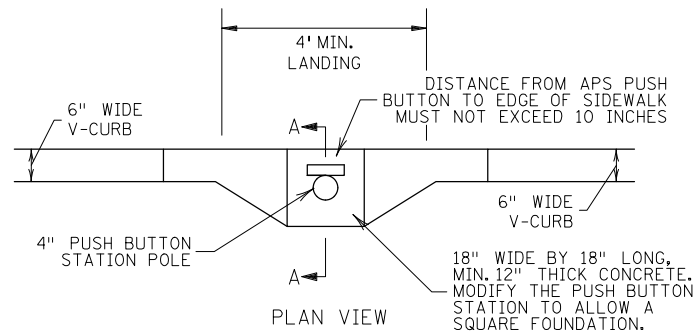
TRANSITION PANEL ④ ⑤



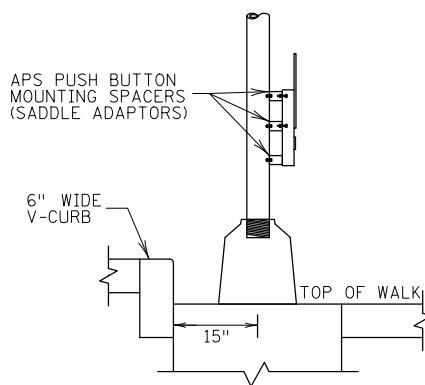
INSET A



PLAN VIEW

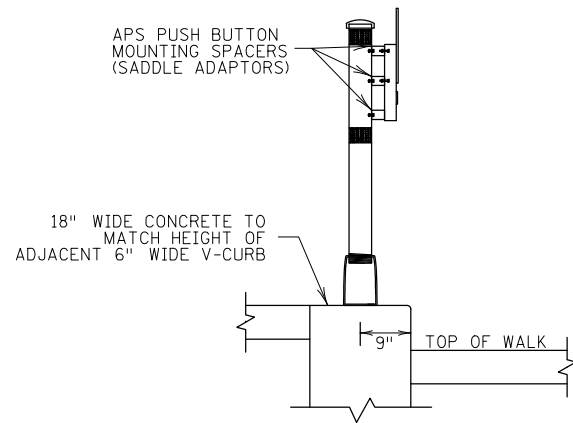


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- ⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ⑤ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
- ⑤ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.



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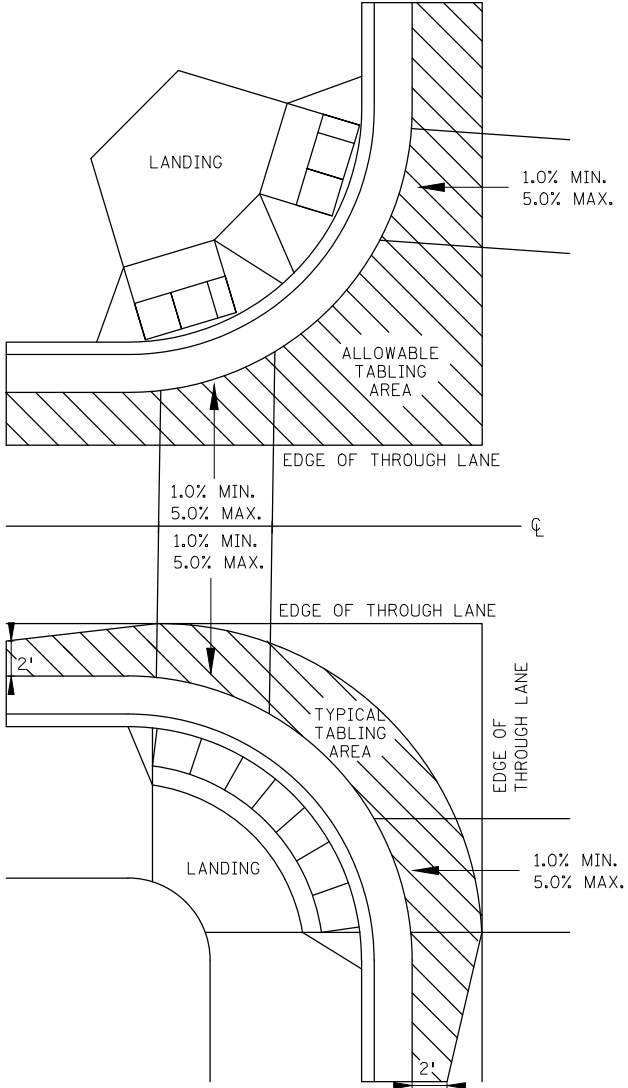
THOMAS STYBRICK  
STATE DESIGN ENGINEER

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REVISED:

PEDESTRIAN CURB RAMP DETAILS

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CURB LINE AND ROAD CROSSING ADJUSTMENTS



GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

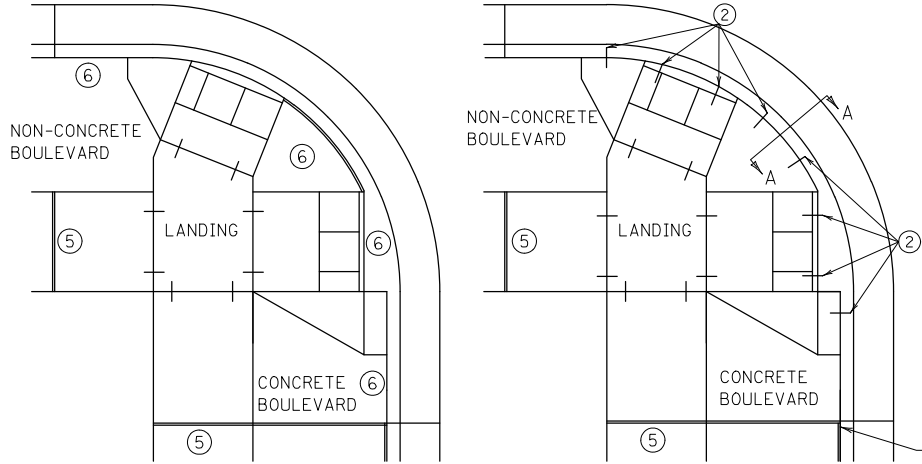
MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:  
1) 1.0% MIN. CROSS-SLOPE OF THE ROAD  
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD  
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP  
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
- 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
- 5.0% RECOMMENDED MAX. FLOW LINE
- LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

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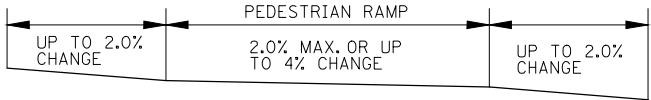


EXPANSION MATERIAL PLACEMENT  
FOR CONCRETE ROADWAYS

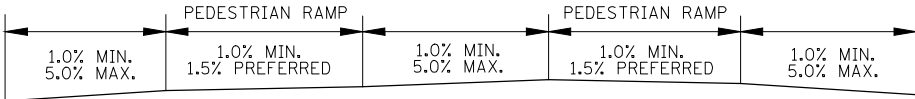
CURB LINE REINFORCEMENT ④  
PLACEMENT ON BITUMINOUS ROADWAYS



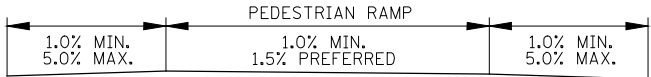
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



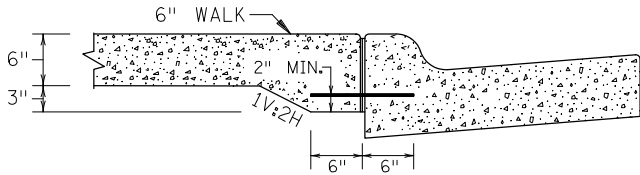
FLOW LINE PROFILE "TABLE" - FAN



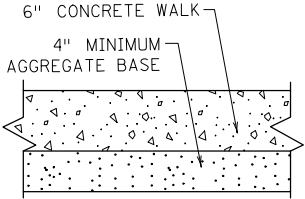
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



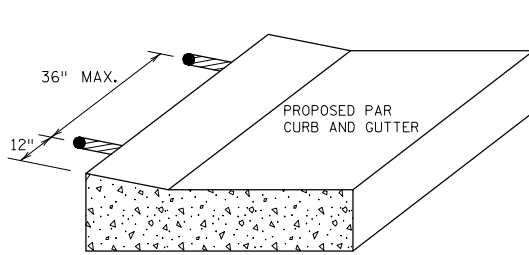
FLOW LINE PROFILE RAISE - FAN



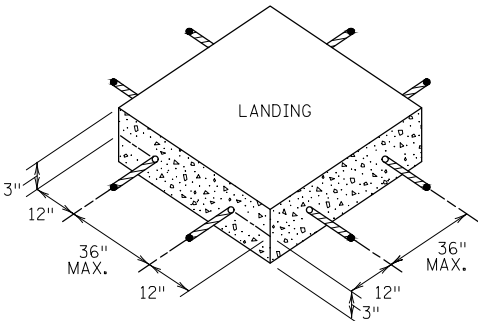
SECTION VIEW A-A  
THICKENED SECTION  
THROUGH CURB RAMP FLARES



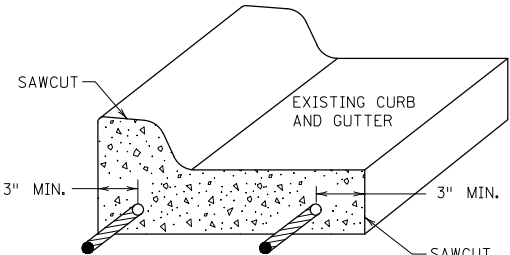
TYPICAL SIDEWALK SECTION  
WITHIN INTERSECTION CORNER



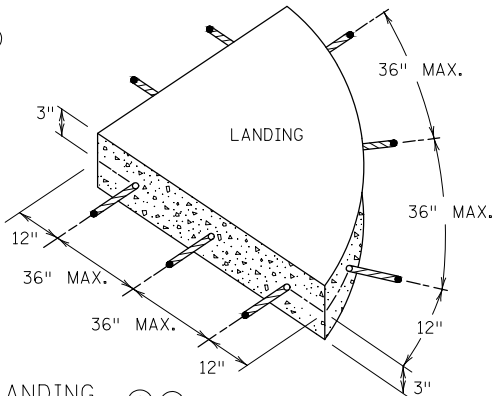
CURB RAMP REINFORCEMENT DETAILS ② ④



SEPARATE LANDING  
POUR REINFORCEMENT ① ②



CURB AND GUTTER  
REINFORCEMENT ③



NOTES:

- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
- DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
- THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
- CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
- USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.



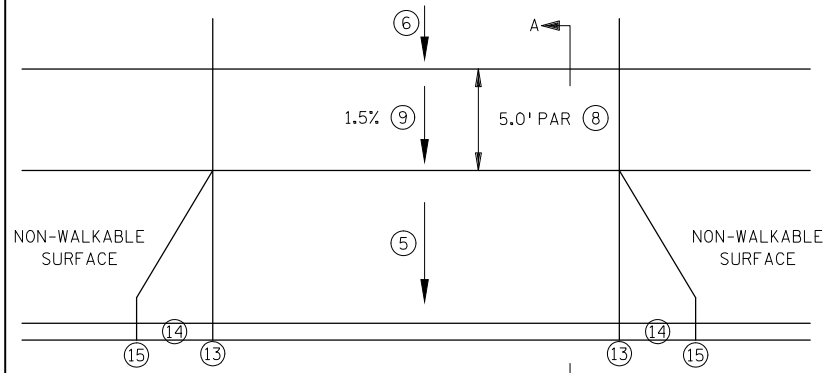
STANDARD PLAN 5-297.250

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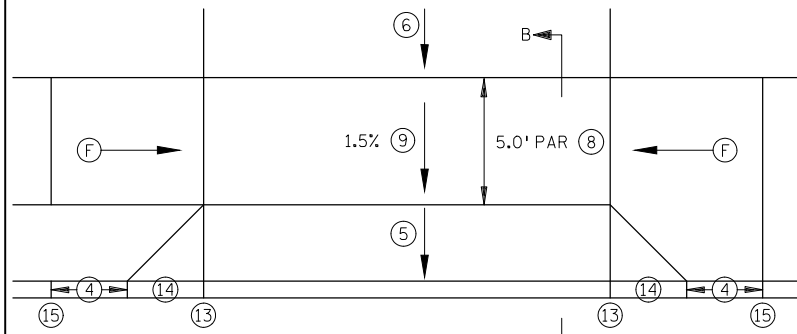
THOMAS STYRUD  
STATE DESIGN ENGINEER

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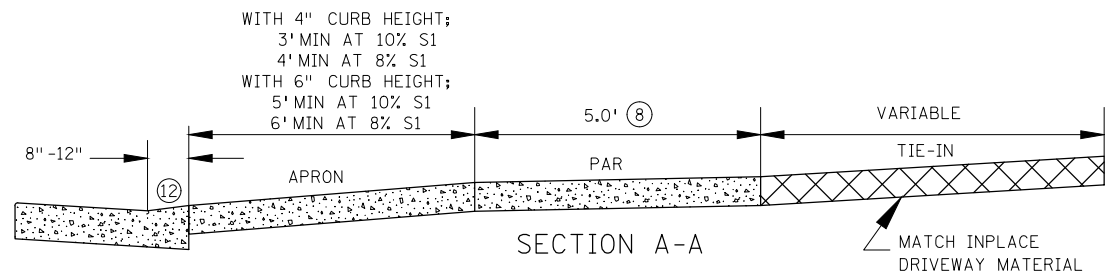
PEDESTRIAN CURB RAMP DETAILS



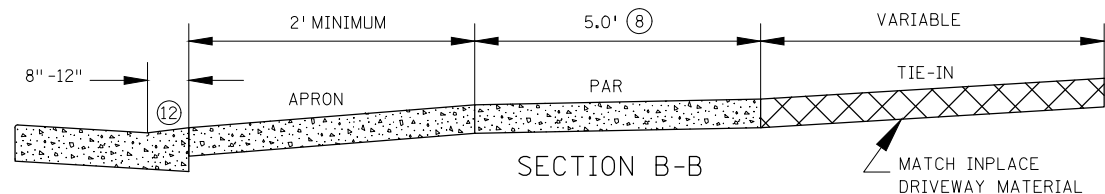
PERPENDICULAR DRIVEWAY ①



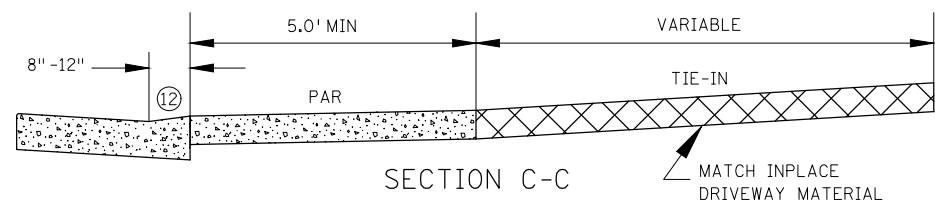
TIERED PERPENDICULAR DRIVEWAY ②



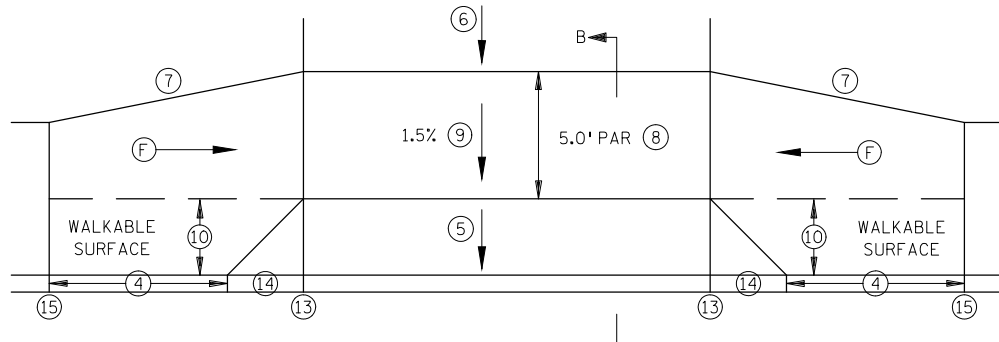
SECTION A-A



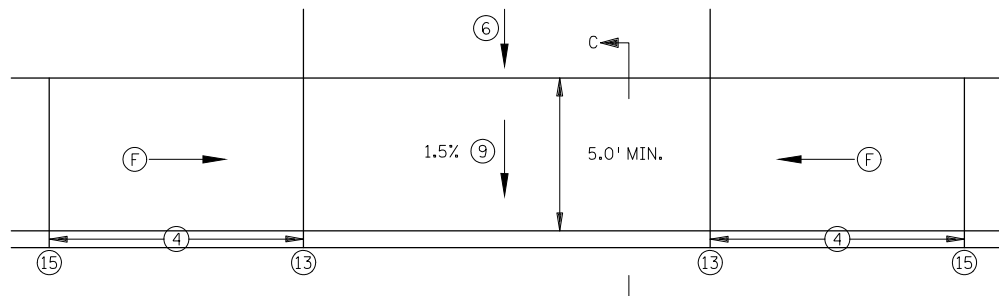
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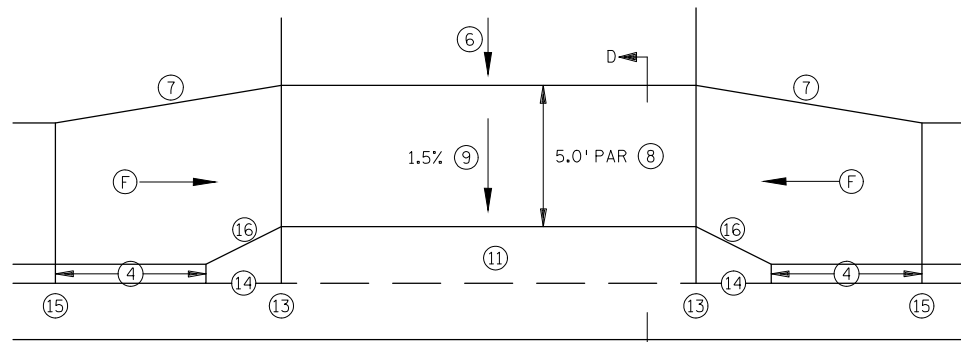
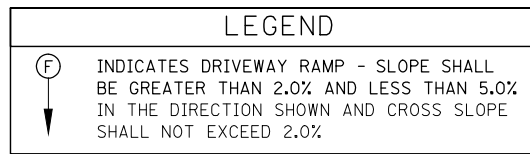
SECTION C-C



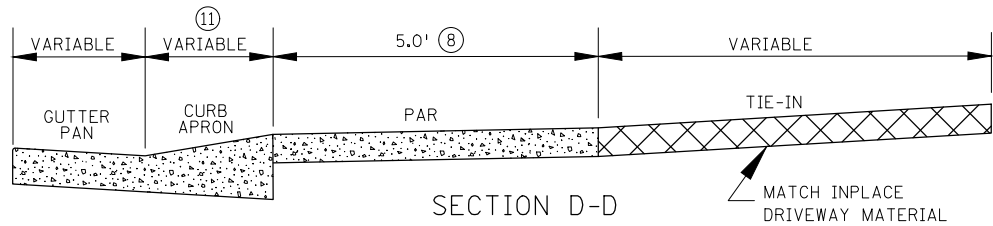
TIERED PERPENDICULAR OFFSET DRIVEWAY ②



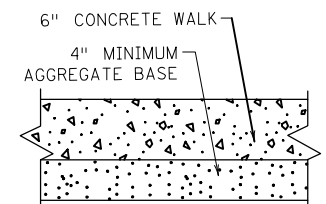
PARALLEL DRIVEWAY ③



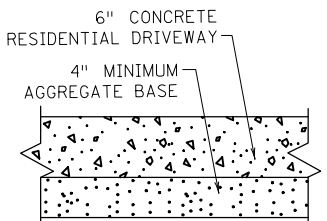
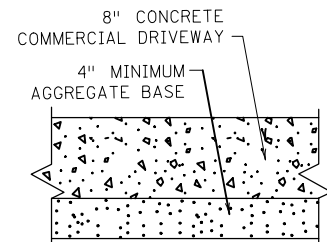
INTEGRAL DRIVEWAY APRON



SECTION D-D



TYPICAL SIDEWALK SECTION ⑰



TYPICAL DRIVEWAY SECTIONS

- NOTES:
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
- IN URBAN ROADWAY SECTIONS, 6" CURB HEIGHT SHOULD BE USED WHEN 6' OR GREATER BOULEVARD WIDTH IS PROPOSED. WHEN BOULEVARD IS LESS THAN 6' WIDE, 4" CURB HEIGHT SHOULD BE USED.
- MAINTAIN EXISTING DRAINAGE PATTERNS FLOWING TO PUBLIC RIGHT OF WAY.
- ACQUIRE ADEQUATE L3 TO ALLOW FOR A CONTINUOUS PAR PROFILE (UNIFORM TYPICAL SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.
- IN NO CASE SHALL SIDEWALK PROFILES EXCEED 5.0%, EXCEPT SIDEWALK PROFILES CAN MATCH ROADWAY GRADE IF ROADWAY GRADE IS GREATER THAN 5.0%. RAMP FOR DRIVEWAYS ARE REQUIRED TO FOLLOW THE ABOVE SIDEWALK CRITERIA.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE (PAR). 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- DRIVEWAY TYPES FROM MOST PREFERRED TO LEAST PREFERRED ARE AS FOLLOWS: PERPENDICULAR, TIERED PERPENDICULAR, TIERED PERPENDICULAR OFFSET & PARALLEL.
- ① PERPENDICULAR DRIVEWAYS ARE THE STANDARD AND STARTING POINT FOR ALL DRIVEWAY DESIGN AND CONSTRUCTION. SHOULD BE USED TO ACHIEVE CONTINUOUS PAR PROFILE THROUGH THE DRIVEWAY. OBTAINING A PERPENDICULAR DRIVEWAY DESIGN BECOMES MORE CRITICAL WITH STEEP ROADWAY PROFILES.
- ② TO BE USED WHEN PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED, THE DRIVEWAY PAR IS BELOW ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.
- ③ TO BE USED WHEN PERPENDICULAR AND TIERED PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED. CAN BE USED FOR STEEP NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 SHOULD BE USED TO RAISE PAR ABOVE GUTTER AND REDUCE "ROLLER COASTER" EFFECT. 4" HIGH ROADWAY CURB SHOULD BE USED TO REDUCE "ROLLER COASTER" EFFECT ESPECIALLY WHEN MULTIPLE DRIVEWAYS ARE PRESENT.
- ④ TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- ⑤ 8% STANDARD, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.
- ⑥ S3 8% MAXIMUM, IF THE SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5', ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. IF EXISTING DRIVEWAY IS NEGATIVELY DRAINING, S3 CAN BECOME SLIGHTLY MORE NEGATIVE TO ACHIEVE PERPENDICULAR DRIVEWAY DESIGN IF THE VERTICAL CLEARANCE IS ACHIEVED IN VEHICLE TEMPLATES.
- ⑦ 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.
- ⑧ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
- ⑨ THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
- ⑩ SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.
- ⑪ INTEGRAL DRIVEWAY APRON TO BE POURED MONOLITHICALLY/INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.
- ⑫ SEE SHEET 2 FOR CURB TYPE INFORMATION.
- ⑬ 0" CURB IS AT FLOW LINE. SEE DRIVEWAY TABLE FOR BACK OF CURB HEIGHTS.
- ⑭ 3' LONG AT 8-10% PREFERRED FOR INITIAL CURB TAPER. REDUCE CURB TAPER SLOPE IF NECESSARY TO MATCH ADJACENT SIDEWALK GRADES.
- ⑮ MATCH FULL CURB HEIGHT.
- ⑯ 1:2 TAPER RATE ON INTEGRAL DRIVEWAY APRONS.
- ⑰ SEE SHEET 4 FOR WHEN 6" WALK IS REQUIRED.

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	STANDARD PLAN 5-297.254	1 OF 4
 THOMAS STYRUD STATE DESIGN ENGINEER	APPROVED: 11-04-2021 REVISED:	

DRIVEWAY AND SIDEWALK DETAILS

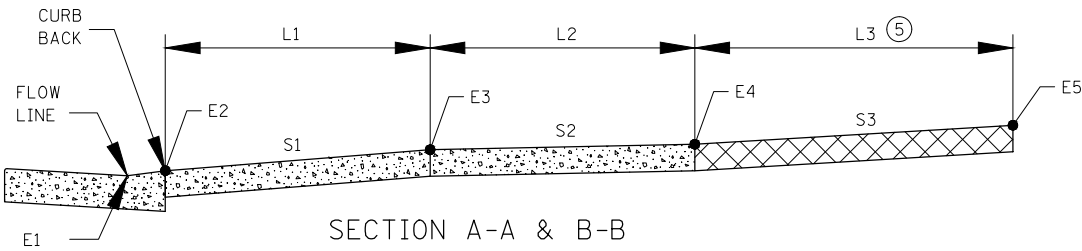
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DRIVEWAY TABLE ①

STATION	SIDE	DRIVEWAY TYPE ②	CURB TYPE ③	E1	E2	L1	S1	E3	L2	S2 ④	E4	L3 ⑤	S3	EXISTING ⑥	E5	COMMENTS
						FT	%		FT	%		FT	%	%		

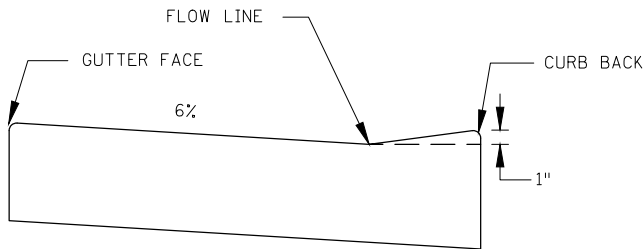
NOTES:

- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
- DW CURB TYPE 1 SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB TYPE 1 SHOULD BE USED IF THERE IS ON STREET PARKING.
- WHERE ROADWAY DRAINAGE IS A CONCERN (NEGATIVE SLOPED APRON) DW CURB TYPE 2 CAN BE USED TO HELP KEEP THE WATER ON PUBLIC RIGHT OF WAY.
- S1 8% STANDARD, 10% MAX. COMMERCIAL AND 12% MAX. RESIDENTIAL. IF EXISTING GRADES ARE STEEPER DO NOT MAKE GRADES APPRECIABLY WORSE BY USING BEST PRACTICES SUCH AS DRIVEWAY CURB HEIGHTS, EXTENDING L3 AND/OR STEEPEN S3.
- S3 8% MAXIMUM, IF THIS SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5', ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.
- ① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY THAT HAS PAR THROUGH IT.
- ② REFERS TO THE FOLLOWING TYPES; PERPENDICULAR DRIVEWAY, TIERED PERPENDICULAR OFFSET DRIVEWAY, TIERED PERPENDICULAR DRIVEWAY, PARALLEL DRIVEWAY, AND INTEGRAL DRIVEWAY APRON.
- ③ DW CURB TYPE 1 IS THE STANDARD AND SHALL BE THE STARTING POINT FOR ALL PERPENDICULAR AND TIERED DRIVEWAYS. DW CURB TYPE 2 SHALL ONLY BE USED AFTER UTILIZING BEST PRACTICES SUCH AS MAXIMIZING S1, S3, AND L3.
- ④ SHOULD BE DESIGNED AT 1.5%.
- ⑤ ACQUIRE ADEQUATE L3 TO ALLOW FOR CONTINUOUS PAR PROFILE (UNIFORM SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.
- ⑥ PROVIDE INPLACE TIE-IN SLOPE INFORMATION AT BACK OF PROPOSED WALK (S3 AREA).
- ⑦ INFORMATION TO BE INCORPORATED INTO DRIVEWAY TABLE WHEN INTEGRAL DRIVEWAY APRON IS USED. OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED.
- ⑧ L1 & S1 FOR INTEGRAL DRIVEWAY APRON IS TO FLOWLINE. 12.5% IS MAXIMUM PREFERRED SLOPE.
- ⑨ TIE ADJACENT SECTIONS. CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINT.



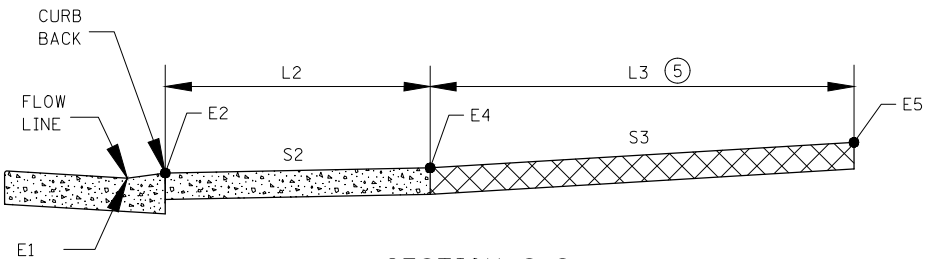
SECTION A-A & B-B

(REFER TO PREVIOUS SHEET)



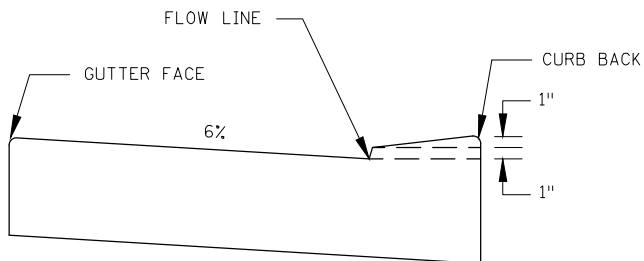
DW CURB TYPE 1

STANDARD CURB AT DRIVEWAY



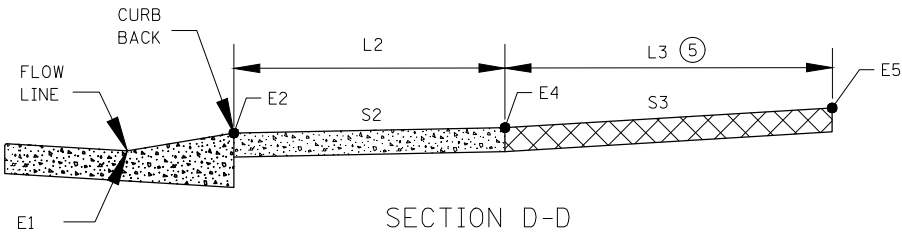
SECTION C-C

(REFER TO PREVIOUS SHEET)



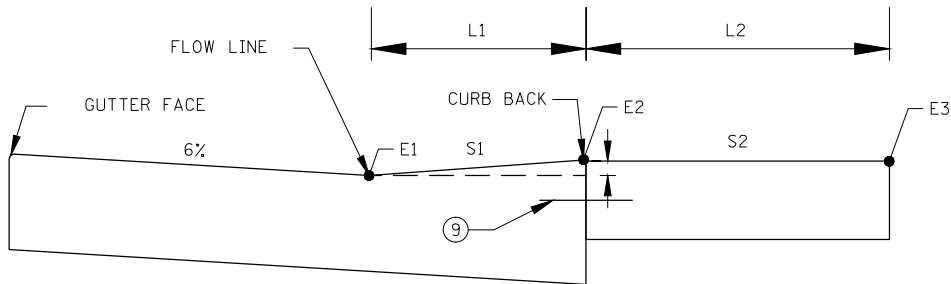
DW CURB TYPE 2

VERTICALLY CONSTRAINED



SECTION D-D

(REFER TO PREVIOUS SHEET)



INTEGRAL DRIVEWAY APRON (IDA)

TYPICAL INTEGRAL DRIVEWAY APRON ⑦			
CURB TYPE	L1	E2	S1 ⑧
	FT		%
IDA 216	1.33	+0.16	12.5
IDA 220	1.67	+0.16	10
IDA 324	2	+0.24	12.5
IDA 432	2.67	+0.33	12.5

REVISION:

APPROVED: 11-04-2021

*Jeff J. Perkins*  
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OPERATIONS DIVISION



STANDARD PLAN 5-297.254

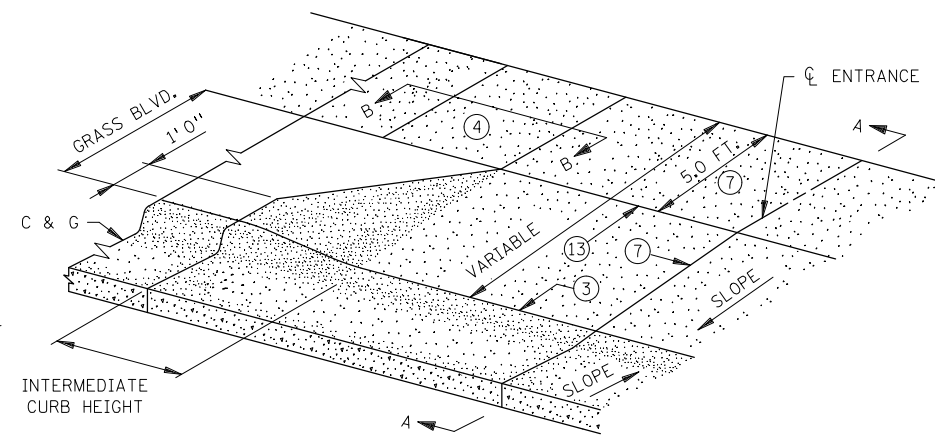
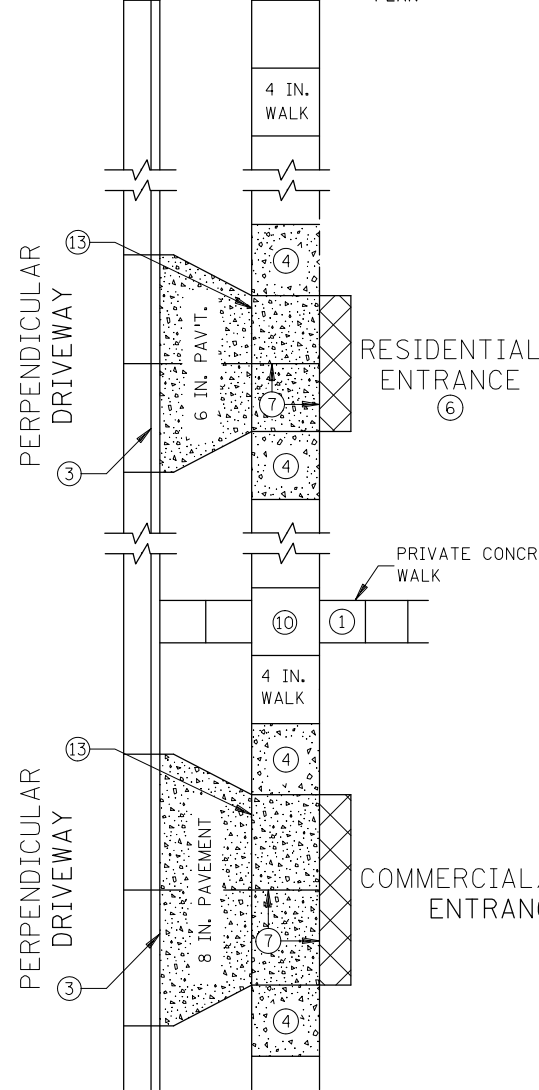
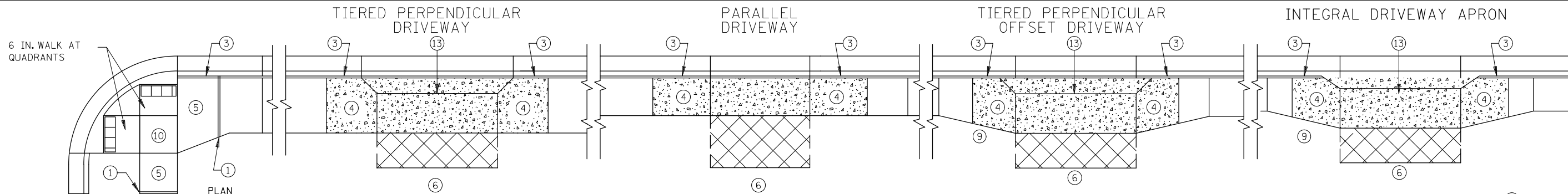
2 OF 4

*Tom Styrud*  
THOMAS STYRUD  
STATE DESIGN ENGINEER

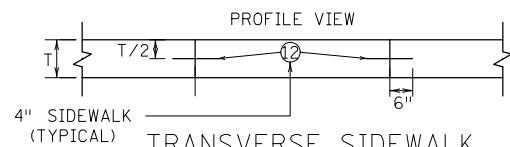
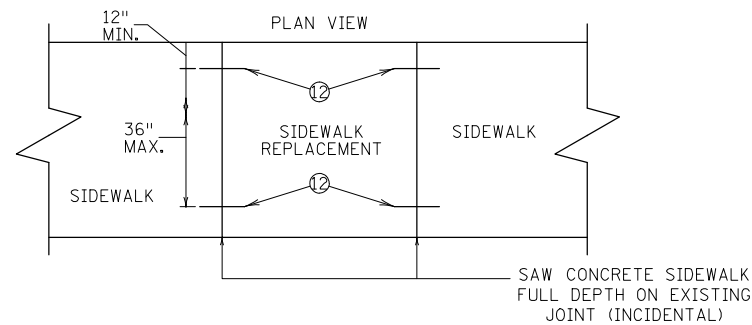
APPROVED: 11-04-2021

REVISED:

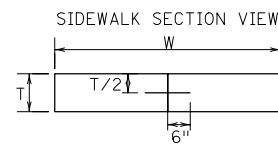
DRIVEWAY AND SIDEWALK DETAILS



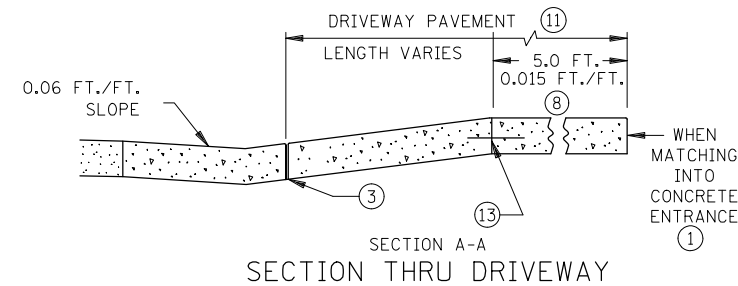
HALF PLAN PERSPECTIVE  
PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



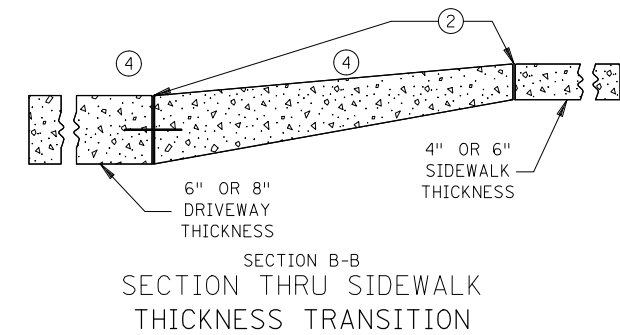
TRANSVERSE SIDEWALK  
TIE BAR  
REINFORCEMENT  
RETROFITS ONLY



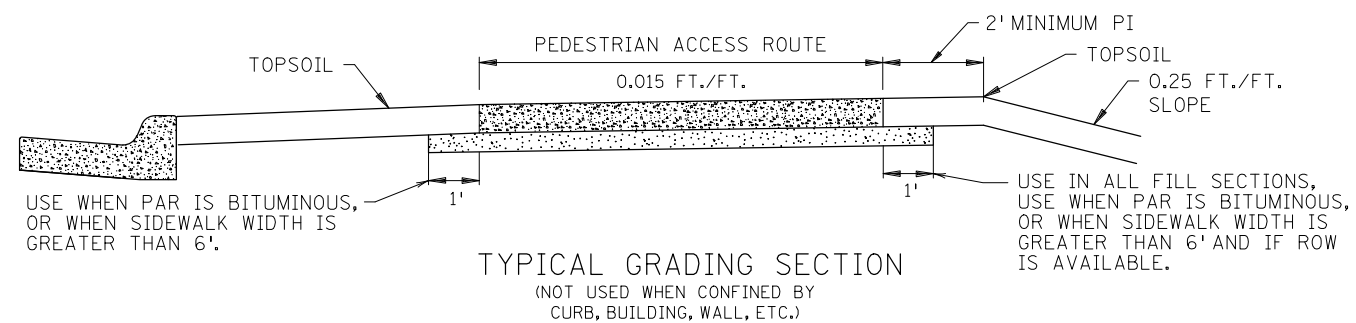
LONGITUDINAL  
SIDEWALK  
REINFORCEMENT JOINTS



SECTION A-A  
SECTION THRU DRIVEWAY



SECTION B-B  
SECTION THRU SIDEWALK  
THICKNESS TRANSITION



TYPICAL GRADING SECTION  
(NOT USED WHEN CONFINED BY  
CURB, BUILDING, WALL, ETC.)

### NOTES:

- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
- TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.
- 4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.
- SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGN OF DRIVEWAYS.
- CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. DRIVEWAY EXPANSION SHALL BE PLACED AT TOP OR BOTTOM OF TRANSITION PANEL.
- CONSTRUCT WITH EXPANSION MATERIAL MNDOT SPEC. 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. MAXIMUM ONE EXPANSION PER DRIVEWAY PLACED AT EITHER TOP OR BOTTOM OF CONCRETE THICKNESS TRANSITION. IF MULTIPLE DRIVEWAYS EXIST PLACE ONE EXPANSION BETWEEN EACH DRIVEWAY. IF NO DRIVEWAY EXIST PLACE A MAXIMUM OF ONE EXPANSION PER 150' OF SIDEWALK RUN.
- USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
- TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS. IF THERE IS A CONSTRUCTION JOINT AND NO EXPANSION IS USED, INSTALL TIE BARS.
- TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
- MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
- FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH. 81 SF FOR 6" CONCRETE DRIVEWAY WITH 9'X9' MAXIMUM PANEL SIZE. 144 SF FOR 8" CONCRETE DRIVEWAY WITH 12'X12' MAXIMUM PANEL SIZE. MATCH DRIVEWAY APRON AND SIDEWALK JOINTS.
- THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
- 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.
- LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.
- CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SECTIONS SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. ENGINEER'S APPROVAL REQUIRED FOR MONOLITHIC PLACEMENTS.
- DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED), 36" MAXIMUM SPACING BETWEEN BARS COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. BARS TO BE ADJUSTED TO MATCH SIDEWALK GRADES. TO BE PAID BY EACH.
- DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED), 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

SIDEWALK LONGITUDINAL JOINT  
TIE BAR TABLE

SIDEWALK WIDTH, W	SIDEWALK THICKNESS, T	TIE BAR SIZE	LENGTH	SPACING
> 7'	4"	No. 4	12"	24"
>10'	6"	No. 4	12"	36"

FOR 4" CONCRETE ONLY: CAST IN PLACE BARS MUST BE SUPPORTED WITH P-STAKES OR REINFORCEMENT BASKETS FOR FULL WIDTH CONCRETE PLACEMENTS.

FOR 6" CONCRETE ONLY: DRILL AND GROUT OR CAST IN PLACE THROUGH HOLES IN THE FORMS REQUIRED FOR STAGED ADJACENT CONCRETE PLACEMENTS.

REVISION: 12-23-2021

APPROVED: 11-04-2021

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OPERATIONS DIVISION



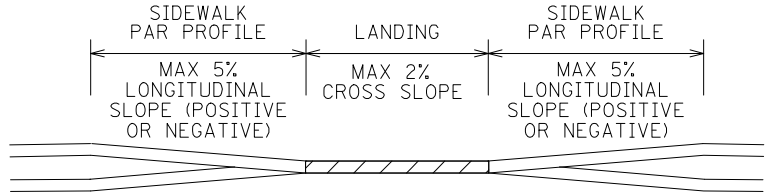
STANDARD PLAN 5-297.254

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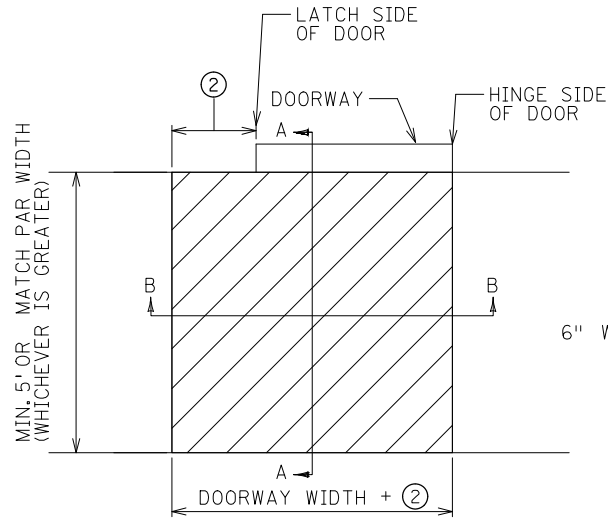
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THOMAS STYRUD  
STATE DESIGN ENGINEER

APPROVED: 11-04-2021  
REVISED: 12-23-2021

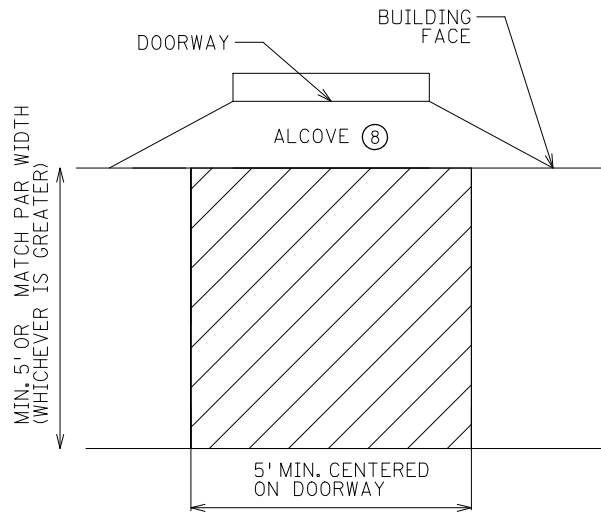
## DRIVEWAY AND SIDEWALK DETAILS



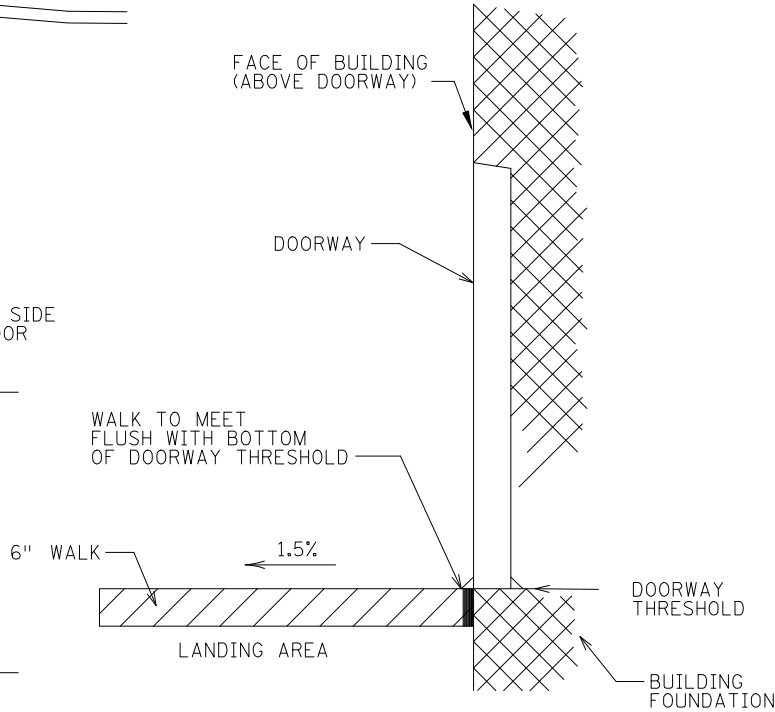
SECTION VIEW B-B



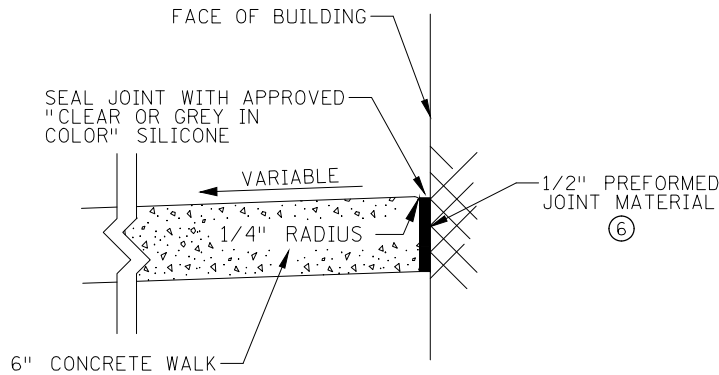
PLAN VIEW DOORWAY



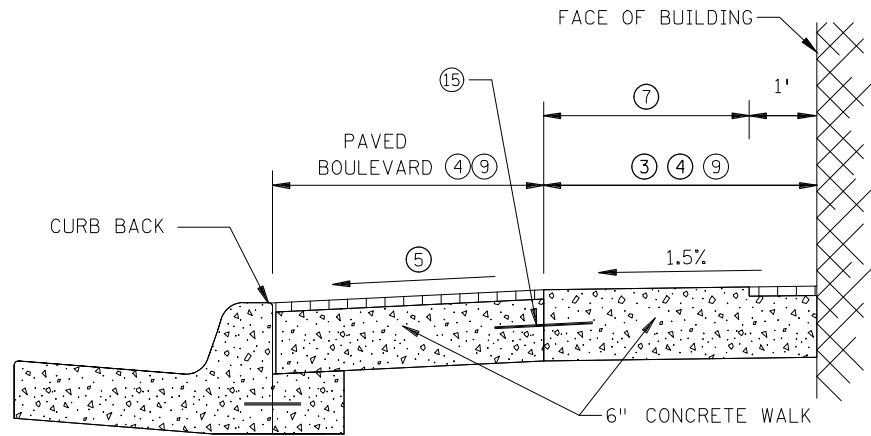
PLAN VIEW DOORWAY WITH ALCOVE  
SIDEWALK LANDING REQUIREMENTS ①



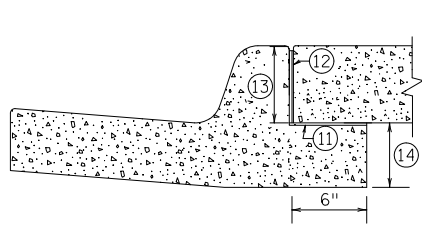
SECTION VIEW A-A



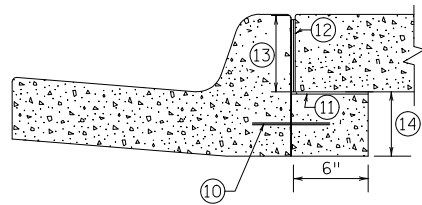
BUILDING JOINT SEAL (INCIDENTAL)



DOWNTOWN SIDEWALK TYPICAL SECTION



SLIP FORM SILL



FIXED FORM SILL

SILL CURB SHOULD BE USED AT ALL LOCATIONS WHEN CONCRETE WALK IS AT BACK OF CURB, INCLUDING PAVED BOULEVARD.

SILL CURB SHALL NOT BE USED IN CURB RAMP AND DRIVEWAY AREAS, INCLUDING CONCRETE FLARES.

SILL CURB WITH 4" WALK CAN USE FIXED OR SLIP FORM OPTIONS.

NOTES:

- 6" WALK IS REQUIRED:
- 1) IN ALL SIDEWALK LOCATIONS WHERE VARIABLE SLOPED CONCRETE BOULEVARDS ARE PAVED, SUCH AS COMMERCIAL (STORE FRONT, DOWNTOWN) AREAS.
  - 2) ANYTIME DRILL AND REINFORCEMENT IS USED TO TIE LONGITUDINAL JOINTS TOGETHER.
  - 3) TO ELIMINATE LONGITUDINAL JOINT WHEN INCREASING PANEL SIZE OVER 36SF.
  - 4) AT LOCATIONS WHERE MAINTENANCE EQUIPMENT WILL SUBJECT CONCRETE TO HEAVY LOADS.

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.

FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.

SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY.

SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.

- ① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, STEPS, AND PRIVATE WALKS. FEASIBILITY DECREASES WITH NARROWER BOULEVARDS AND STEEPER SIDEWALK PROFILES.
- ② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.
- ③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.
- ④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE. HOLD UNIFORM BOULEVARD WIDTH. 4' PREFERRED MINIMUM BOULEVARD.
- ⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS.
- ⑥ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHALL BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.
- ⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.
- ⑨ FORM CONTRACTION JOINTS AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANEL SIZE. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH.
- ⑩ DRILL AND GROUT NO. 4 X 8" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. TIE BARS SHALL BE EMBEDDED 4" WITH 2" MINIMUM CONCRETE COVER AND ARE INCIDENTAL TO SILL PLACEMENT.
- ⑪ FURNISH AND INSTALL THE FULL WIDTH OF THE TOP OF SILL A MINIMUM 2ML THICK POLYTHENE SHEETING.
- ⑫ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
- ⑬ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.
- ⑭ 6" WALK: 5" MIN. FOR B424; 7" MIN. FOR B624  
4" WALK: 7" MIN. FOR B424; 9" MIN. FOR B624
- ⑮ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.



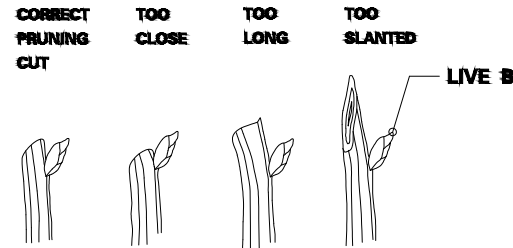
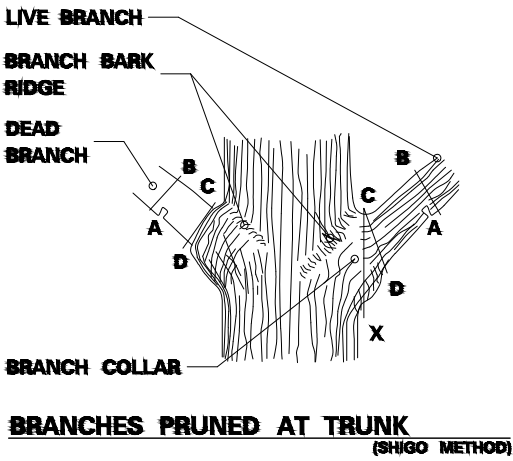
STANDARD PLAN 5-297.254

4 OF 4

THOMAS STYBRICK  
STATE DESIGN ENGINEER

APPROVED: 11-04-2021  
REVISED:

DRIVEWAY AND SIDEWALK DETAILS



BRANCHES PRUNED TO LIVE BUD

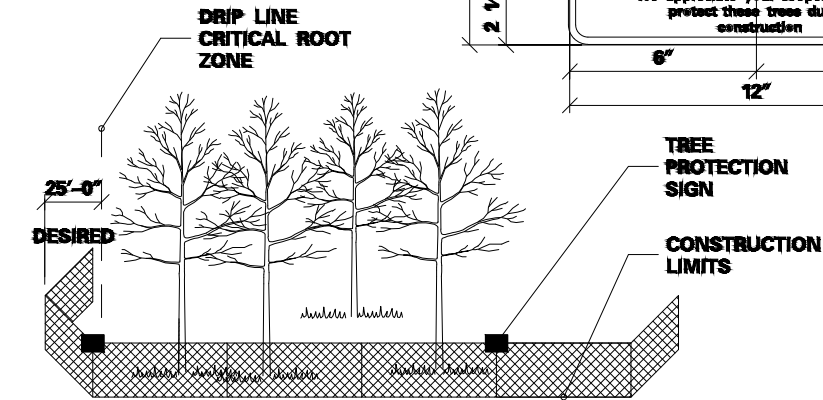
- STEPS TO PRUNING WITH PRUNING SAW:
1. CUT PART WAY THROUGH THE BRANCH AT POINT A.
  2. CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
  3. AT BRANCH COLLAR CUT FROM POINT C TO D.

INCORRECT CUT FROM POINT C TO X (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT FROM POINT C TO D (LEAVING BRANCH COLLAR BUT NOT THE STUB FROM POINT B TO A) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

- PRUNING NOTES:
1. PRUNE USING CLEAN AND SHARP SCISSOR-TYPE PRUNER OR PRUNING SAW.
  2. THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
  3. AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
  4. IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

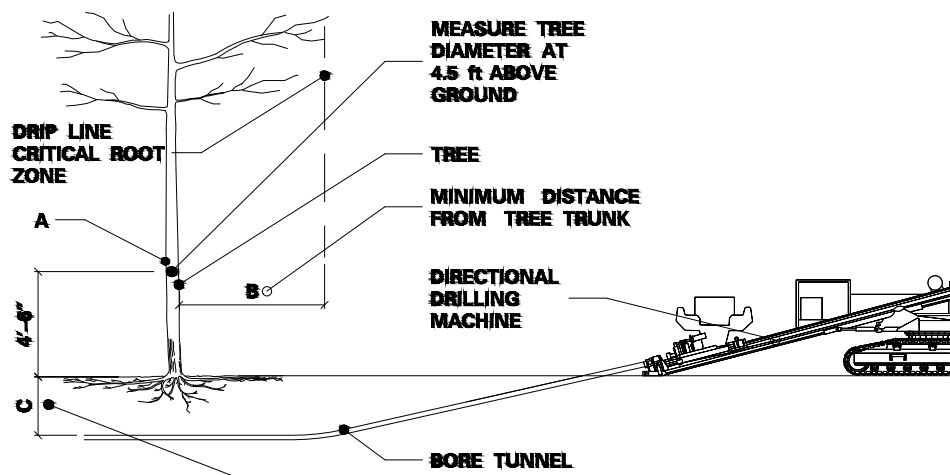
1. FABRICATE 12" X 9" X 3/8" SIGN WITH 0.75" RADIUS CORNERS.
2. SIGN SHALL BE WHITE WITH BLACK LETTERING.
3. ATTACH SIGN TO POST USING 1" LENGTH WOOD SCREWS.



1. FURNISH AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIPLINE OR CONSTRUCTION LIMITS AS SPECIFIED, PRIOR TO ANY CONSTRUCTION.
2. WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIPLINE.
3. PLACE TREE PROTECTION SIGNS ALONG FENCE AT 50' INTERVALS.

TEMPORARY FENCE

(MnDOT 2571.3E.1 and 2571.3K.2.a(9))



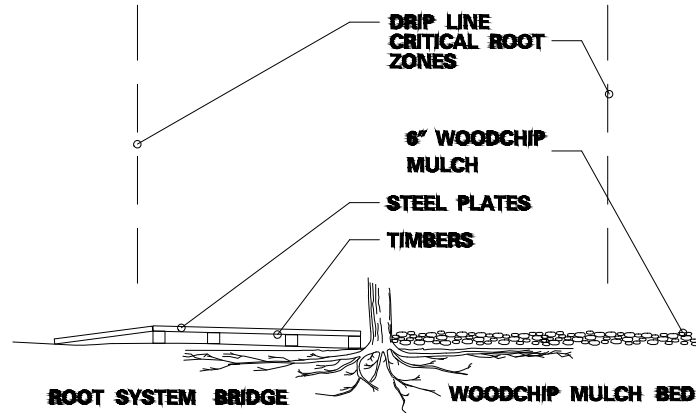
NOTE:

1. (A) IS THE DIAMETER OF TREES MEASURED 4'-6" FEET ABOVE THE GROUND AND IS TERMED THE "DIAMETER AT BREAST HEIGHT," (DBH).
2. USING A TREE DIAMETER TAPE, WRAP THE TAPE AROUND THE GIRTH OF THE TREE, AT THE DBH, BEING CAREFUL NOT TO TWIST THE TAPE.

TREE PROTECTION ZONE		
A	B	C
<2'	2'	2'
2-4'	4'	2.5'
>4-8'	6'	2.5'
>8-14'	10'	3'
>14-19'	12'	3.25'
>19'	15'	4'

UTILITY CONSTRUCTION

(MnDOT 2572.3A.5)

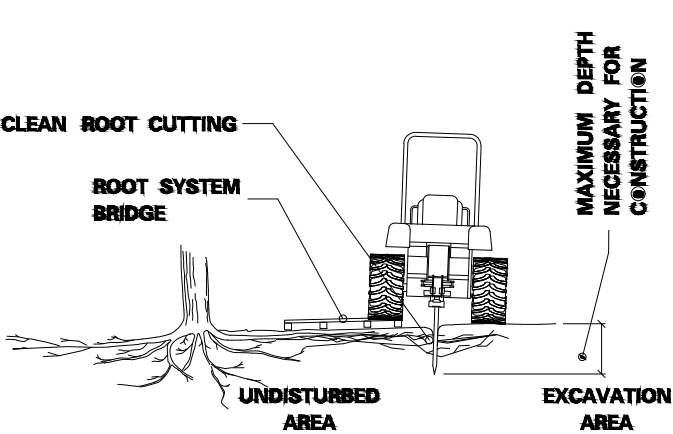


IF CONSTRUCTION VEHICLES MUST PASS OVER ROOT ZONES, THE CONTRACTOR MUST EITHER:

1. CONSTRUCT ROOT SYSTEM BRIDGES WITH STEEL PLATE SUPPORTED ON WOOD TIMBERS PLACED RADIALLY TO THE TREE TRUNK.
- OR
2. PLACE A 6 INCH LAYER OF WOODCHIP MULCH OVER A TYPE III GEOTEXTILE (MnDOT 3733).

OTHER VEGETATION PROTECTION MEASURES

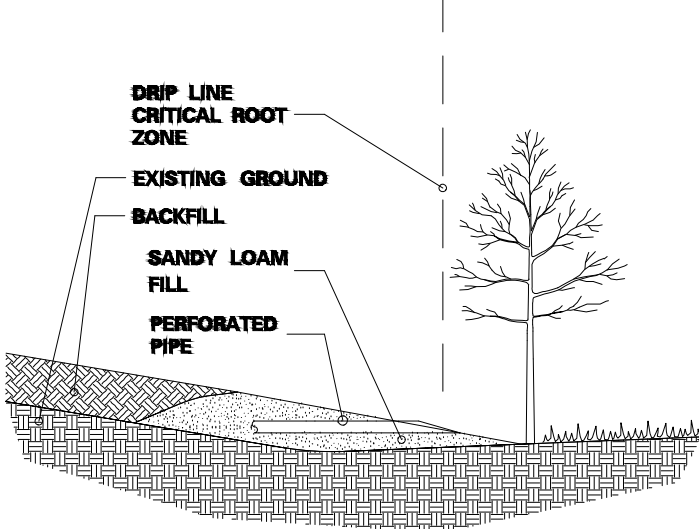
(MnDOT 2572.3A.12)



1. WHEN DESIGNATED IN THE PLAN OR DIRECTED BY THE ENGINEER, PRIOR TO EXCAVATION, ALL TREE ROOTS WILL BE CLEANLY CUT BY A VIBRATORY PLOW OR OTHER APPROVED ROOT CUTTER.
2. THE TREE ROOTS WILL BE CUT CLEANLY TO THE MINIMUM DEPTH NECESSARY FOR CONSTRUCTION.
3. IMMEDIATELY, AND CLEANLY CUT DAMAGED AND EXPOSED ROOTS.
4. ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6" LAYER OF ADJACENT SOIL.
5. EXPOSED CUT OAK ROOTS SHALL BE IMMEDIATELY (WITHIN 5 MINUTES) TREATED WITH A WOUND DRESSING MATERIAL CONSISTING OF LATEX PAINT OR SHELLAC.

CLEAN ROOT CUTTING

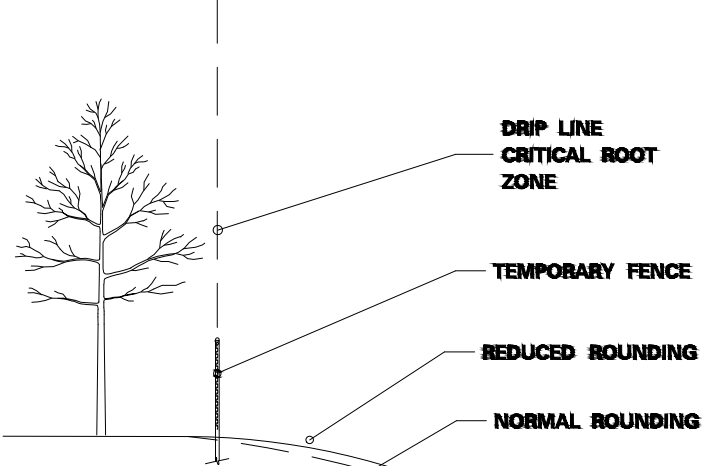
(MnDOT 2572.3A.2)



1. ANY FILL REQUIRED WITHIN THE DRIPLINE OF TREES, IS UNCOMPACTED ROOTING TOPSOIL BORROW.
2. EXCESSIVE FILL MAY REQUIRE PLACING PERFORATED PIPE WITH AT LEAST ONE DAYLIGHTED END OPENING AS AN AERATION SYSTEM.

ROOTING TOPSOIL BORROW

(MnDOT 2572.3A.4)



SIGNIFICANT TREES NEAR THE PROPOSED CONSTRUCTION LIMITS WILL BE IDENTIFIED IN THE PLAN OR BY THE ENGINEER AND WILL BE PRESERVED BY THE CONTRACTOR.

1. PLACE THE TEMPORARY FENCE.
2. REDUCE SLOPE ROUNDING WHERE ROOT ZONES ARE DISTURBED BY NORMAL SLOPE ROUNDING.
3. VARY BACKSLOPE STEEPNESS TO AVOID TREE LOSS OR UNNECESSARY ROOT DAMAGE.

SLOPE ROUNDING

STANDARD PLAN 5-297.302

1 OF 1

APPROVED: 12-11-2015

REVISED:

Tom S. H.

STATE DESIGN ENGINEER

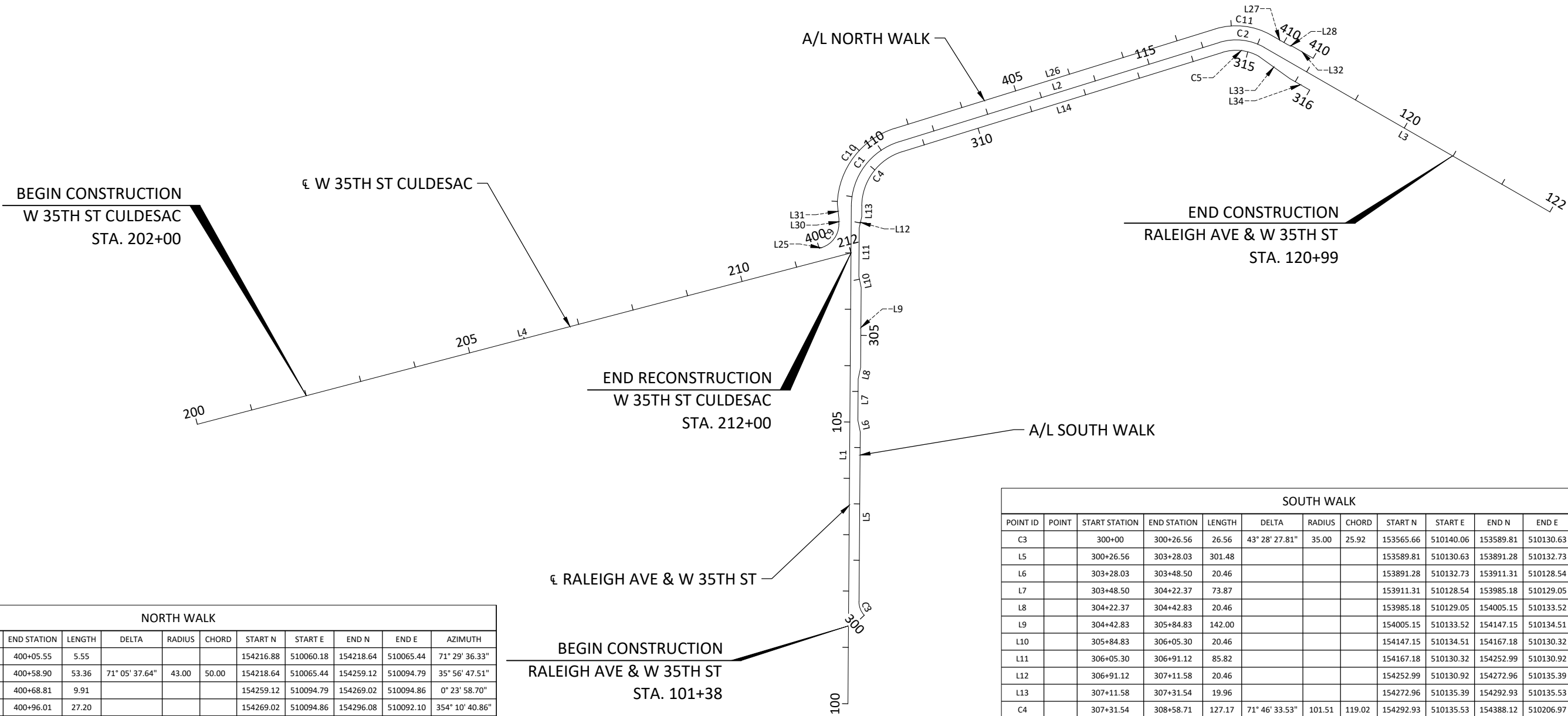
PROTECTION AND RESTORATION OF VEGETATION

HORIZONTAL CONTROL  
THE HORIZONTAL CONTROL FOR THIS PLAN IS NAD83  
(1996 ADJUSTMENT) HENNEPIN COUNTY COORDINATES.



RALEIGH AVE & W 35TH ST											
POINT ID	POINT	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E
L1		100+00	108+83.40	883.40				153408.62	510110.86	154292.01	510117.02
C1		108+83.40	110+34.99	151.59	72° 22' 40.01"	120.00	141.71	154292.01	510117.02	154405.79	510201.49
L2		110+34.99	116+30.87	595.88				154405.79	510201.49	154582.22	510770.65
C2		116+30.87	117+13.15	82.28	47° 08' 31.78"	100.00	79.98	154582.22	510770.65	154573.38	510850.14
L3		117+13.15	122+98.40	585.25				154573.38	510850.14	154281.47	511357.39

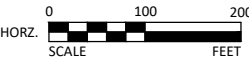
W 35TH ST CULDESAC											
POINT ID	POINT	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E
L4		200+00	212+00	1200.00				153904.48	508955.64	154208.66	510116.44



NORTH WALK											
POINT ID	POINT	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E
L25		400+00	400+05.55	5.55				154216.88	510060.18	154218.64	510065.44
C9		400+05.55	400+58.90	53.36	71° 05' 37.64"	43.00	50.00	154218.64	510065.44	154259.12	510094.79
L30		400+58.90	400+68.81	9.91				154259.12	510094.79	154269.02	510094.86
L31		400+68.81	400+96.01	27.20				154269.02	510094.86	154296.08	510092.10
C10		400+96.01	402+75.28	179.27	70° 50' 08.16"	145.00	168.07	154296.08	510092.10	154429.67	510194.09
L26		402+75.28	408+71.16	595.88				154429.67	510194.09	154606.10	510763.25
C11		408+71.16	409+73.52	102.36	46° 54' 58.17"	125.01	99.52	154606.10	510763.25	154595.29	510862.19
L27		409+73.52	410+09.04	35.53				154595.29	510862.19	154577.57	510892.98
L28		410+09.04	410+17.94	8.89				154577.57	510892.98	154574.71	510901.40
L32		410+17.94	410+58.95	41.01				154574.71	510901.40	154554.23	510936.93

SOUTH WALK											
POINT ID	POINT	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E
C3		300+00	300+26.56	26.56	43° 28' 27.81"	35.00	25.92	153565.66	510140.06	153589.81	510130.63
L5		300+26.56	303+28.03	301.48				153589.81	510130.63	153891.28	510132.73
L6		303+28.03	303+48.50	20.46				153891.28	510132.73	153911.31	510128.54
L7		303+48.50	304+22.37	73.87				153911.31	510128.54	153985.18	510129.05
L8		304+22.37	304+42.83	20.46				153985.18	510129.05	154005.15	510133.52
L9		304+42.83	305+84.83	142.00				154005.15	510133.52	154147.15	510134.51
L10		305+84.83	306+05.30	20.46				154147.15	510134.51	154167.18	510130.32
L11		306+05.30	306+91.12	85.82				154167.18	510130.32	154252.99	510130.92
L12		306+91.12	307+11.58	20.46				154252.99	510130.92	154272.96	510135.39
L13		307+11.58	307+31.54	19.96				154272.96	510135.39	154292.93	510135.53
C4		307+31.54	308+58.71	127.17	71° 46' 33.53"	101.51	119.02	154292.93	510135.53	154388.12	510206.97
L14		308+58.71	314+54.59	595.88				154388.12	510206.97	154564.55	510776.13
C5		314+54.59	315+21.26	66.66	46° 51' 44.76"	81.51	64.82	154564.55	510776.13	154557.54	510840.57
L33		315+21.26	315+89.41	68.15				154557.54	510840.57	154517.87	510895.99
L34		315+89.41	316+29.74	40.33				154517.87	510895.99	154497.75	510930.94

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PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Samuel A. Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



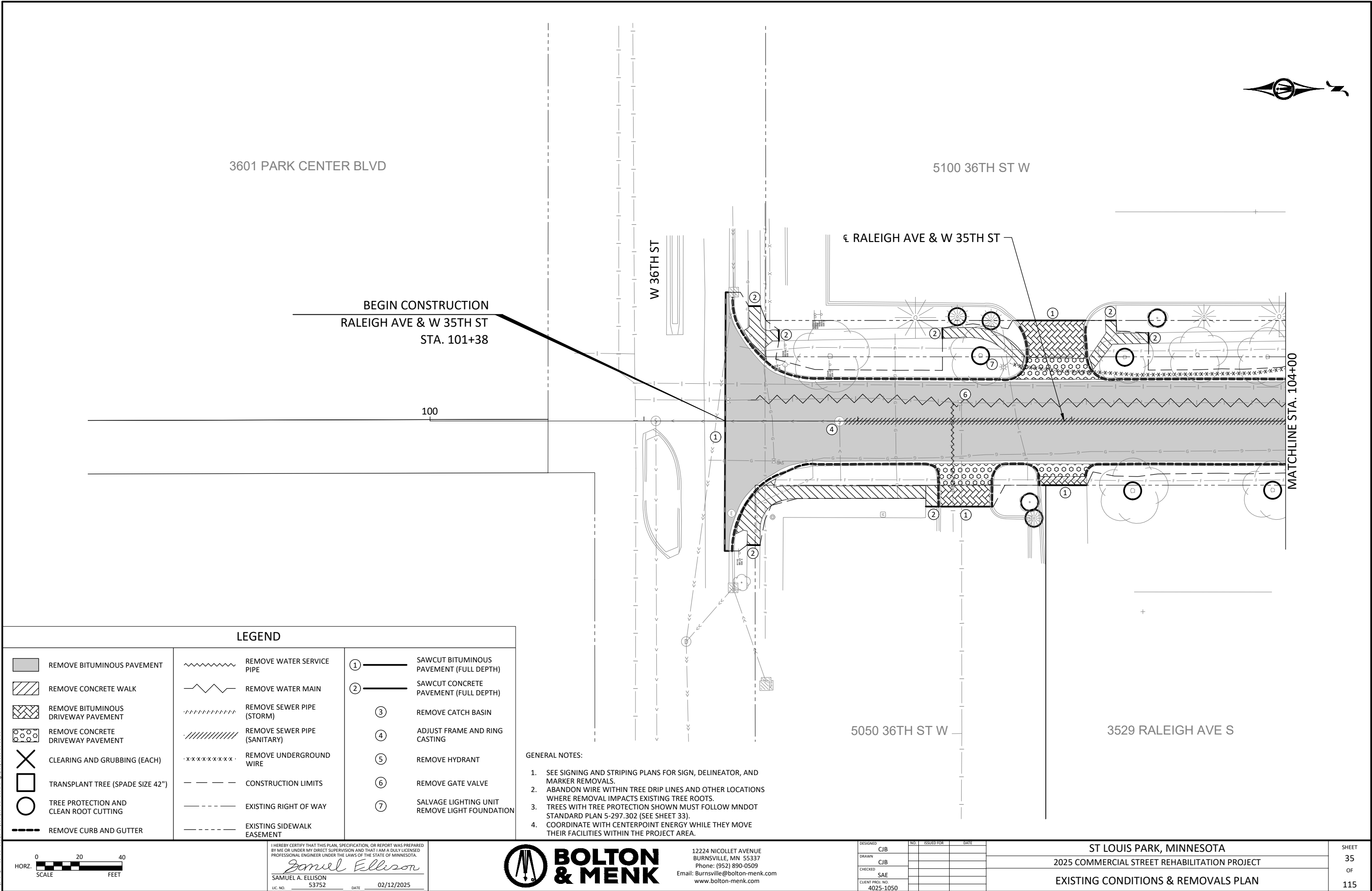
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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
ALIGNMENT PLAN & TABULATION

SHEET  
34  
OF  
115

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LEGEND			
	REMOVE BITUMINOUS PAVEMENT		REMOVE WATER SERVICE PIPE
	REMOVE CONCRETE WALK		REMOVE WATER MAIN
	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (STORM)
	REMOVE CONCRETE DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (SANITARY)
	CLEARING AND GRUBBING (EACH)		REMOVE UNDERGROUND WIRE
	TRANSPLANT TREE (SPADE SIZE 42")		CONSTRUCTION LIMITS
	TREE PROTECTION AND CLEAN ROOT CUTTING		EXISTING RIGHT OF WAY
	REMOVE CURB AND GUTTER		EXISTING SIDEWALK EASEMENT
	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)		SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
	REMOVE CATCH BASIN		ADJUST FRAME AND RING CASTING
	REMOVE HYDRANT		REMOVE GATE VALVE
	SALVAGE LIGHTING UNIT REMOVE LIGHT FOUNDATION		

GENERAL NOTES:

- SEE SIGNING AND STRIPING PLANS FOR SIGN, DELINEATOR, AND MARKER REMOVALS.
- ABANDON WIRE WITHIN TREE DRIP LINES AND OTHER LOCATIONS WHERE REMOVAL IMPACTS EXISTING TREE ROOTS.
- TREES WITH TREE PROTECTION SHOWN MUST FOLLOW MNDOT STANDARD PLAN 5-297.302 (SEE SHEET 33).
- COORDINATE WITH CENTERPOINT ENERGY WHILE THEY MOVE THEIR FACILITIES WITHIN THE PROJECT AREA.

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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
EXISTING CONDITIONS & REMOVALS PLAN

SHEET  
35  
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115



REMOVE BITUMINOUS PAVEMENT

REMOVE CONCRETE WALK

REMOVE BITUMINOUS DRIVEWAY PAVEMENT

REMOVE CONCRETE DRIVEWAY PAVEMENT

CLEARING AND GRUBBING (EACH)

TRANSPLANT TREE (SPADE SIZE 42")

TREE PROTECTION AND CLEAN ROOT CUTTING

REMOVE CURB AND GUTTER

REMOVE WATER SERVICE PIPE

REMOVE WATER MAIN

REMOVE SEWER PIPE (STORM)

REMOVE SEWER PIPE (SANITARY)

REMOVE UNDERGROUND WIRE

CONSTRUCTION LIMITS

EXISTING RIGHT OF WAY

EXISTING SIDEWALK EASEMENT

1

SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)

2

SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

3

REMOVE CATCH BASIN

4

ADJUST FRAME AND RING CASTING

5

REMOVE HYDRANT

6

REMOVE GATE VALVE

7

SALVAGE LIGHTING UNIT REMOVE LIGHT FOUNDATION

GENERAL NOTES:

- SEE SIGNING AND STRIPING PLANS FOR SIGN, DELINEATOR, AND MARKER REMOVALS.
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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
EXISTING CONDITIONS & REMOVALS PLAN

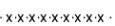
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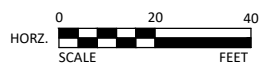
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MATCHLINE STA. 118+25

	REMOVE BITUMINOUS PAVEMENT		REMOVE WATER SERVICE PIPE			SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
	REMOVE CONCRETE WALK		REMOVE WATER MAIN			SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (STORM)			REMOVE CATCH BASIN
	REMOVE CONCRETE DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (SANITARY)			ADJUST FRAME AND RING CASTING
	CLEARING AND GRUBBING (EACH)		REMOVE UNDERGROUND WIRE			REMOVE HYDRANT
	TRANSPLANT TREE (SPADE SIZE 42")		CONSTRUCTION LIMITS			REMOVE GATE VALVE
	TREE PROTECTION AND CLEAN ROOT CUTTING		EXISTING RIGHT OF WAY			SALVAGE LIGHTING UNIT REMOVE LIGHT FOUNDATION
	REMOVE CURB AND GUTTER		EXISTING SIDEWALK EASEMENT			

1. SEE SIGNING AND STRIPING PLANS FOR SIGN, DELINEATOR, AND MARKER REMOVALS.
2. ABANDON WIRE WITHIN TREE DRIP LINES AND OTHER LOCATIONS WHERE REMOVAL IMPACTS EXISTING TREE ROOTS.
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*Samuel Ellison*

SAMUEL A. ELLISON

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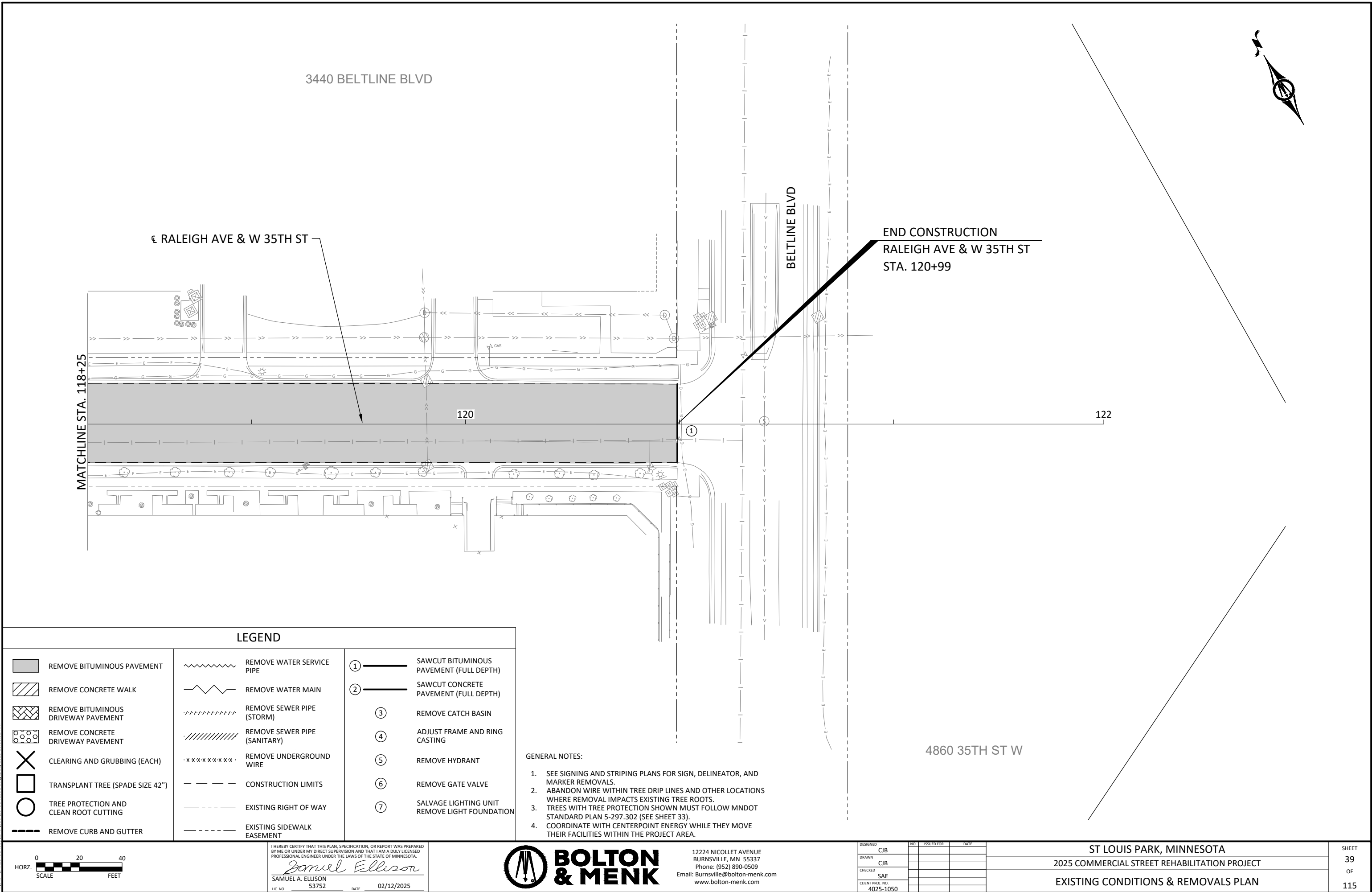
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
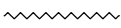





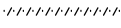
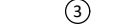

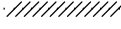
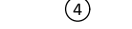

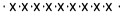
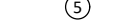

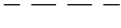
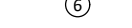

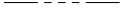



## 2025 COMMERCIAL STREET REHABILITATION PROJECT

### EXISTING CONDITIONS & REMOVALS PLAN

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LEGEND

	REMOVE BITUMINOUS PAVEMENT		REMOVE WATER SERVICE PIPE		SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
	REMOVE CONCRETE WALK		REMOVE WATER MAIN		SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (STORM)		REMOVE CATCH BASIN
	REMOVE CONCRETE DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (SANITARY)		ADJUST FRAME AND RING CASTING
	CLEARING AND GRUBBING (EACH)		REMOVE UNDERGROUND WIRE		REMOVE HYDRANT
	TRANSPLANT TREE (SPADE SIZE 42")		CONSTRUCTION LIMITS		REMOVE GATE VALVE
	TREE PROTECTION AND CLEAN ROOT CUTTING		EXISTING RIGHT OF WAY		SALVAGE LIGHTING UNIT REMOVE LIGHT FOUNDATION
	REMOVE CURB AND GUTTER		EXISTING SIDEWALK EASEMENT		

GENERAL NOTES:

- SEE SIGNING AND STRIPING PLANS FOR SIGN, DELINEATOR, AND MARKER REMOVALS.
- ABANDON WIRE WITHIN TREE DRIP LINES AND OTHER LOCATIONS WHERE REMOVAL IMPACTS EXISTING TREE ROOTS.
- TREES WITH TREE PROTECTION SHOWN MUST FOLLOW MNDOT STANDARD PLAN 5-297.302 (SEE SHEET 33).
- COORDINATE WITH CENTERPOINT ENERGY WHILE THEY MOVE THEIR FACILITIES WITHIN THE PROJECT AREA.



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*Samuel A. Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



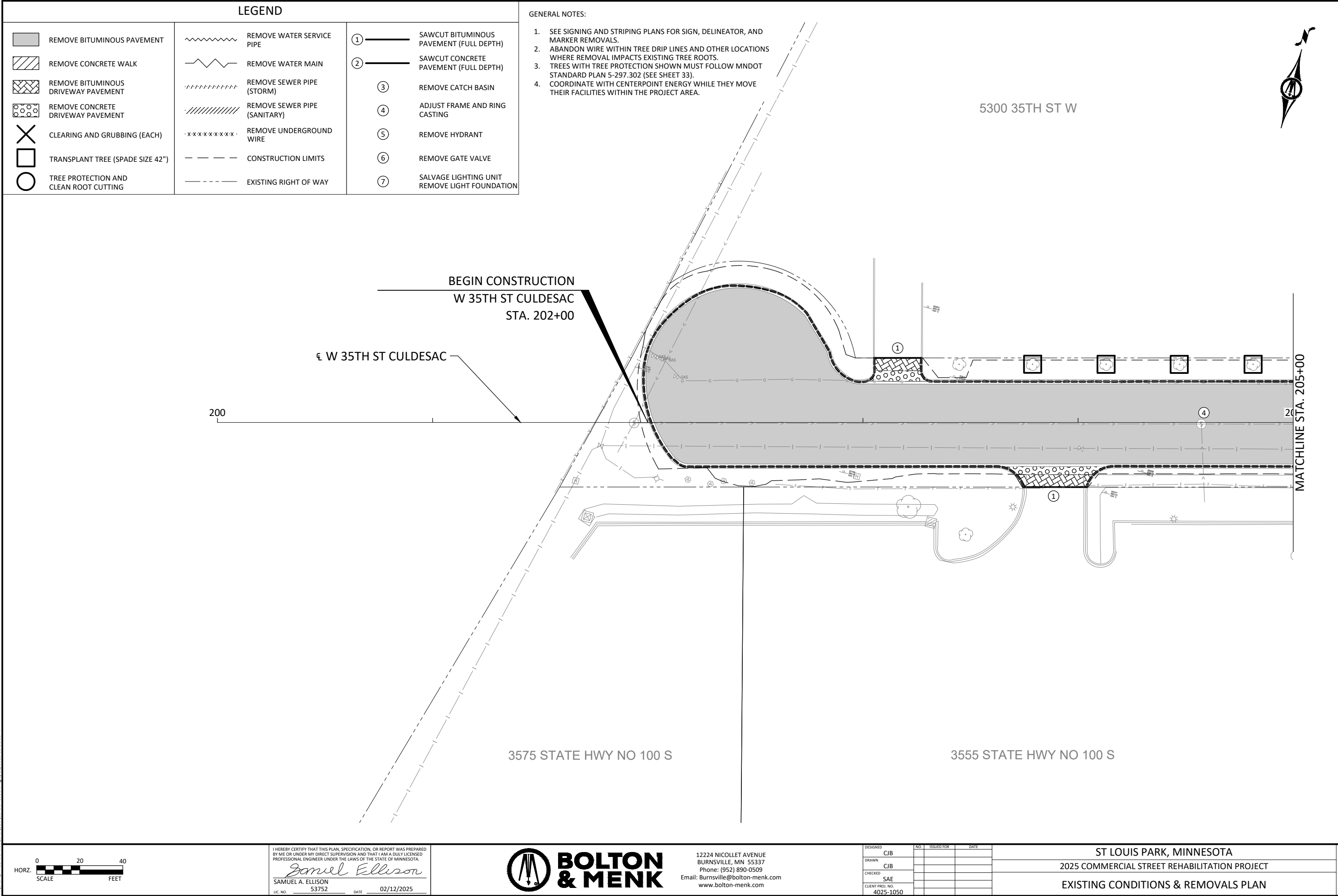
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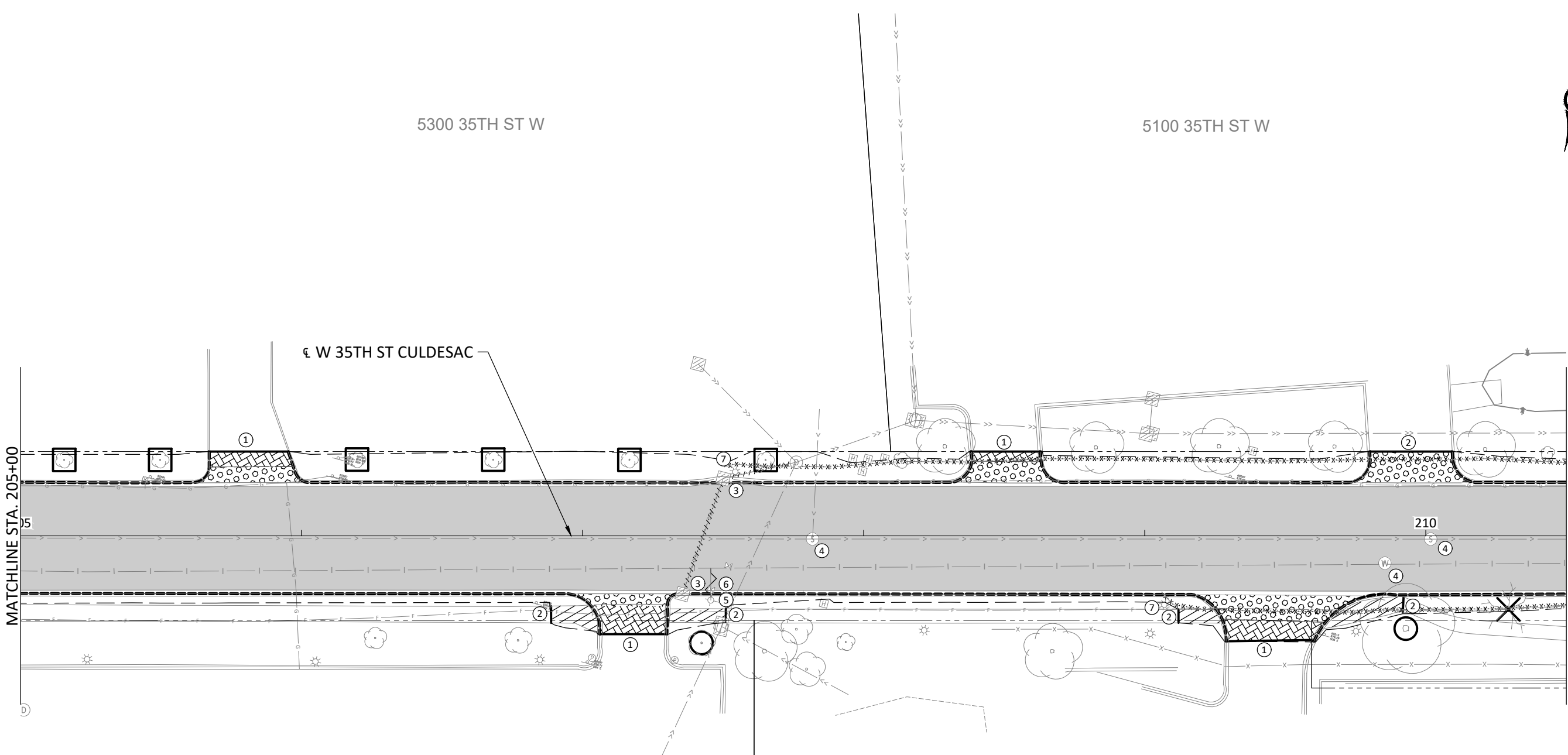
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EXISTING CONDITIONS & REMOVALS PLAN

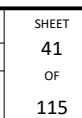
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	REMOVE BITUMINOUS PAVEMENT		REMOVE WATER SERVICE PIPE			SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
	REMOVE CONCRETE WALK		REMOVE WATER MAIN			SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (STORM)			REMOVE CATCH BASIN
	REMOVE CONCRETE DRIVEWAY PAVEMENT		REMOVE SEWER PIPE (SANITARY)			ADJUST FRAME AND RING CASTING
	CLEARING AND GRUBBING (EACH)		REMOVE UNDERGROUND WIRE			REMOVE HYDRANT
	TRANSPLANT TREE (SPADE SIZE 42")		CONSTRUCTION LIMITS			REMOVE GATE VALVE
	TREE PROTECTION AND CLEAN ROOT CUTTING		EXISTING RIGHT OF WAY			SALVAGE LIGHTING UNIT REMOVE LIGHT FOUNDATION
	REMOVE CURB AND GUTTER		EXISTING SIDEWALK EASEMENT			

1. SEE SIGNING AND STRIPING PLANS FOR SIGN, DELINEATOR, AND MARKER REMOVALS.
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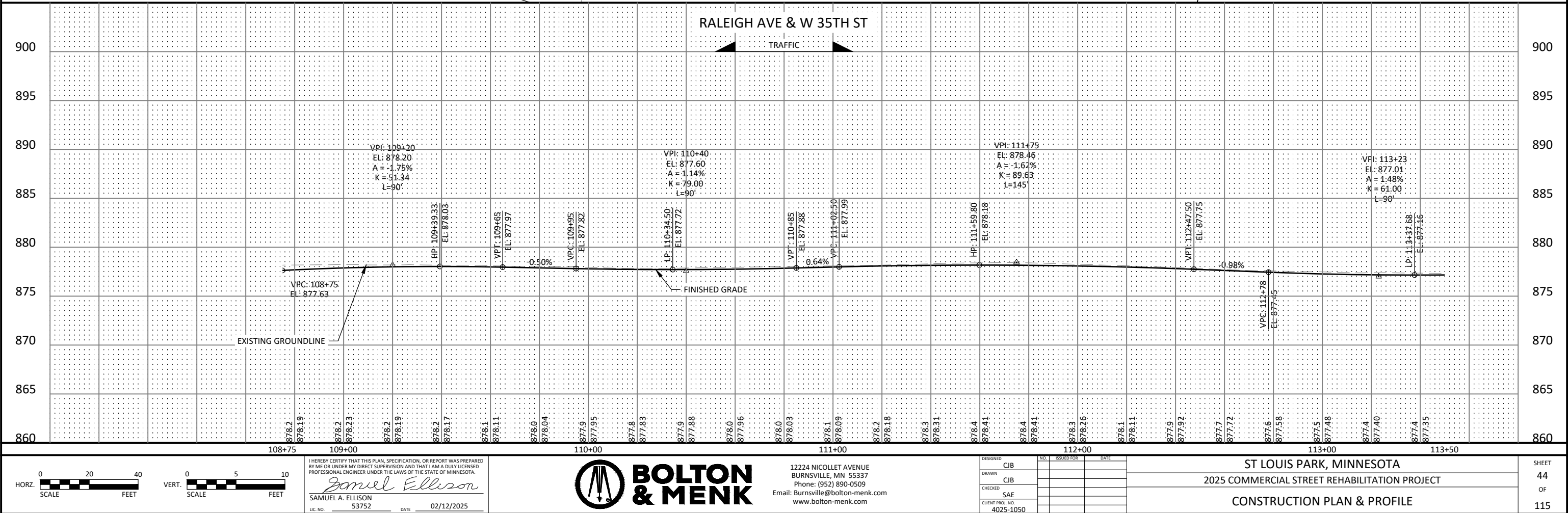
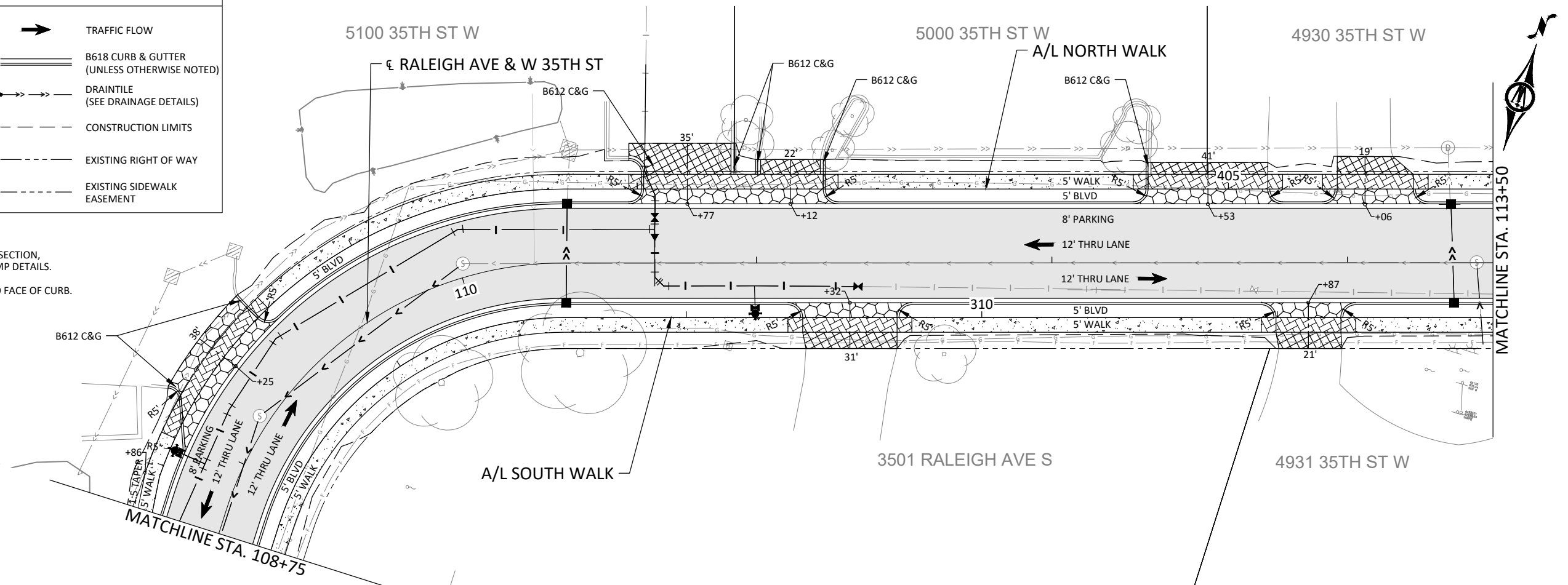


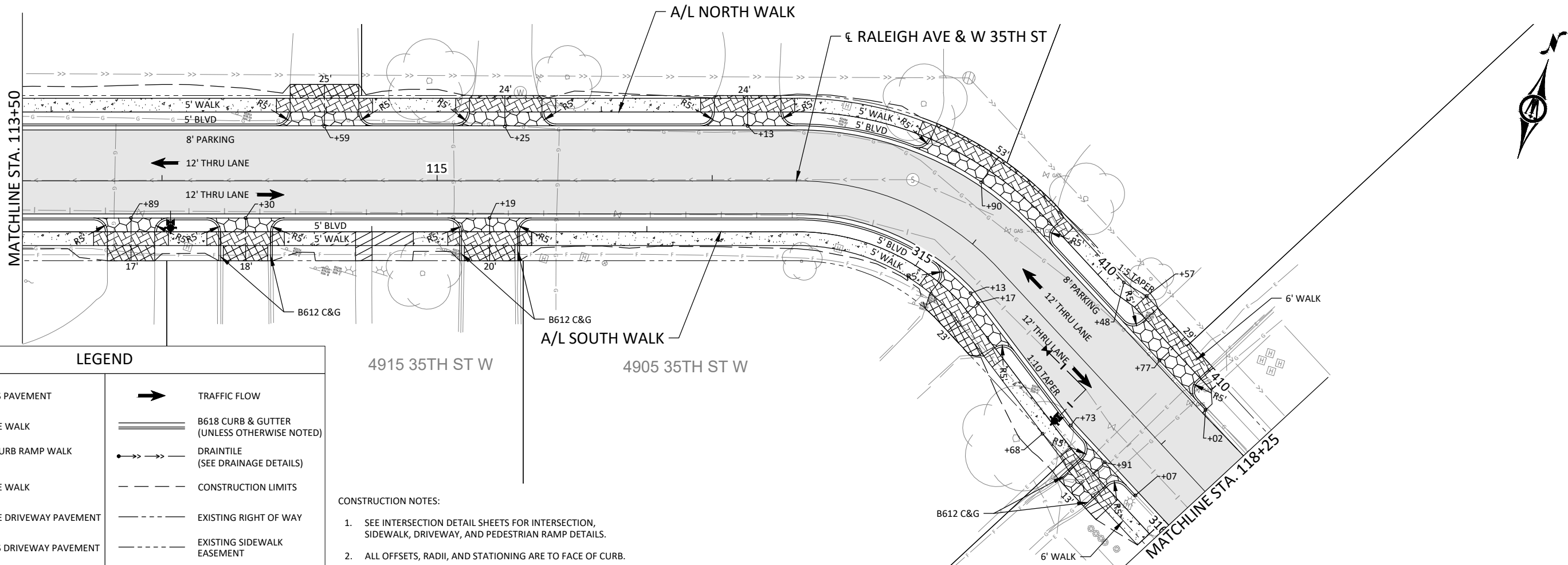




LEGEND			
	BITUMINOUS PAVEMENT		TRAFFIC FLOW
	4" CONCRETE WALK		B618 CURB & GUTTER (UNLESS OTHERWISE NOTED)
	CONCRETE CURB RAMP WALK (6" DEPTH)		DRAINTILE (SEE DRAINAGE DETAILS)
	8" CONCRETE WALK		CONSTRUCTION LIMITS
	8" CONCRETE DRIVEWAY PAVEMENT		EXISTING RIGHT OF WAY
	BITUMINOUS DRIVEWAY PAVEMENT		EXISTING SIDEWALK EASEMENT

1. SEE INTERSECTION DETAIL SHEETS FOR INTERSECTION, SIDEWALK, DRIVEWAY, AND PEDESTRIAN RAMP DETAILS.
2. ALL OFFSETS, RADII, AND STATIONING ARE TO FACE OF CURB.



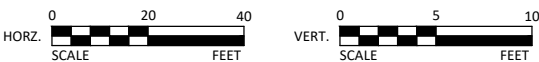
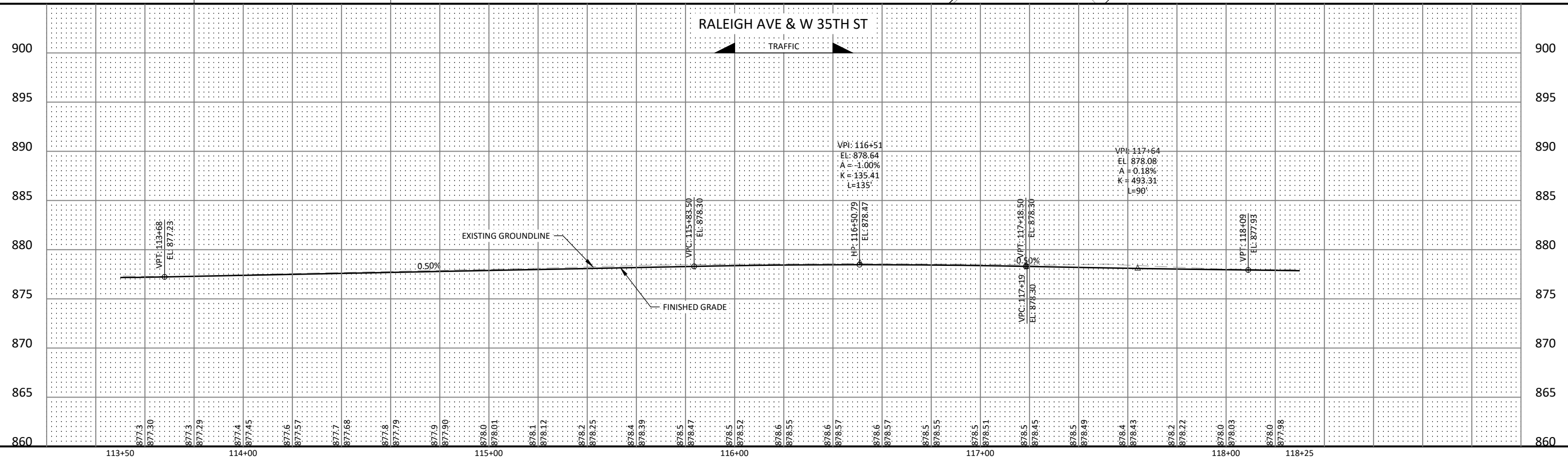


### LEGEND

	BITUMINOUS PAVEMENT		TRAFFIC FLOW
	4" CONCRETE WALK		B618 CURB & GUTTER (UNLESS OTHERWISE NOTED)
	CONCRETE CURB RAMP WALK (6" DEPTH)		DRAINTILE (SEE DRAINAGE DETAILS)
	8" CONCRETE WALK		CONSTRUCTION LIMITS
	8" CONCRETE DRIVEWAY PAVEMENT		EXISTING RIGHT OF WAY
	BITUMINOUS DRIVEWAY PAVEMENT		EXISTING SIDEWALK EASEMENT

### CONSTRUCTION NOTES:

- SEE INTERSECTION DETAIL SHEETS FOR INTERSECTION, SIDEWALK, DRIVEWAY, AND PEDESTRIAN RAMP DETAILS.
- ALL OFFSETS, RADII, AND STATIONING ARE TO FACE OF CURB.



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*Samuel A. Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025

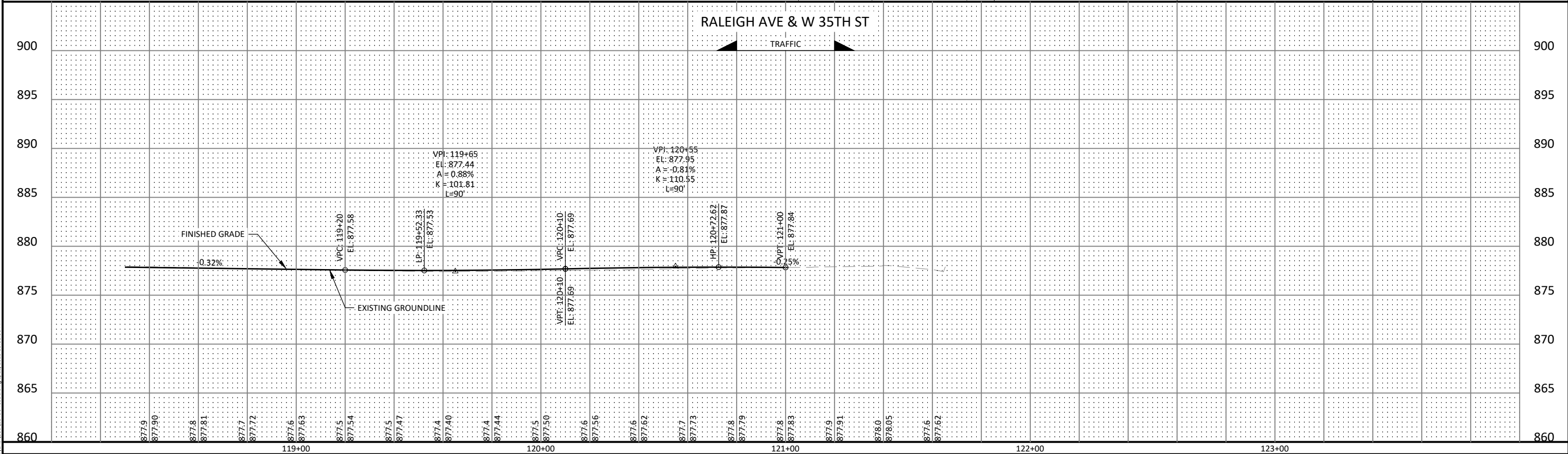
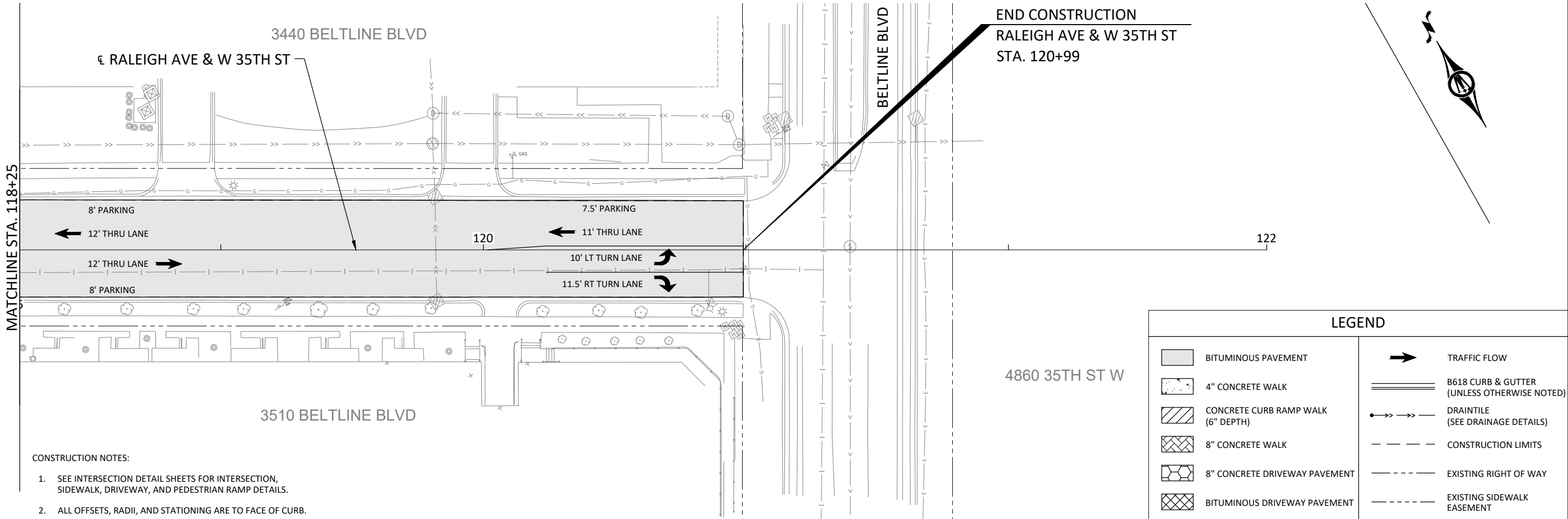


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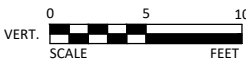
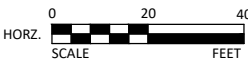
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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
CONSTRUCTION PLAN & PROFILE

SHEET  
45  
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115



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*Samuel Ellison*

SAMUEL A. ELLISON

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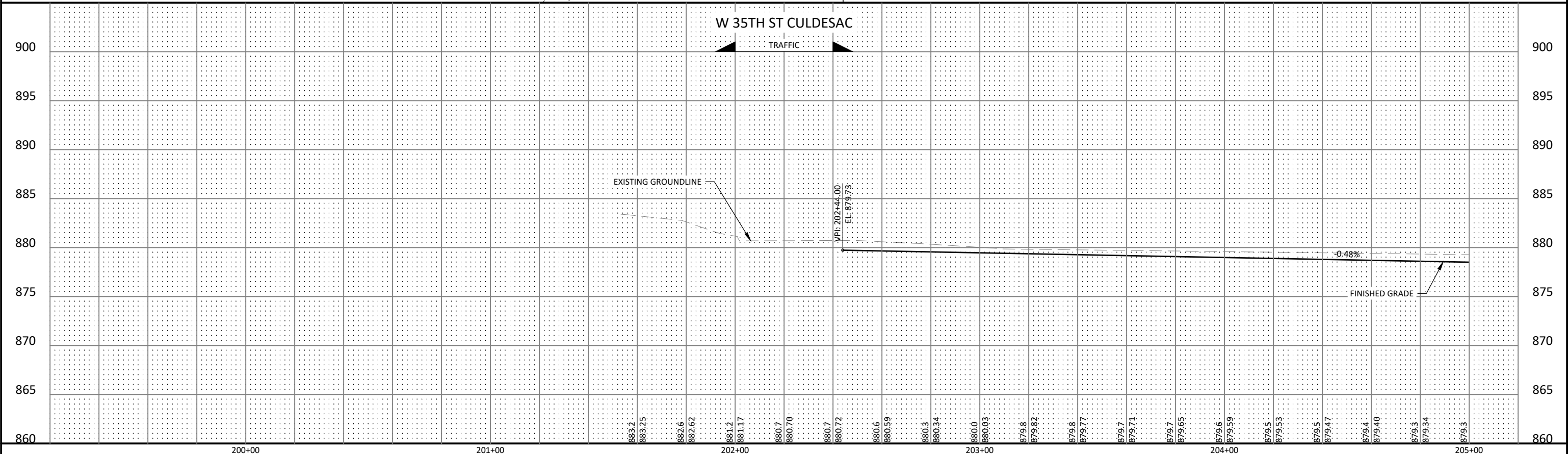
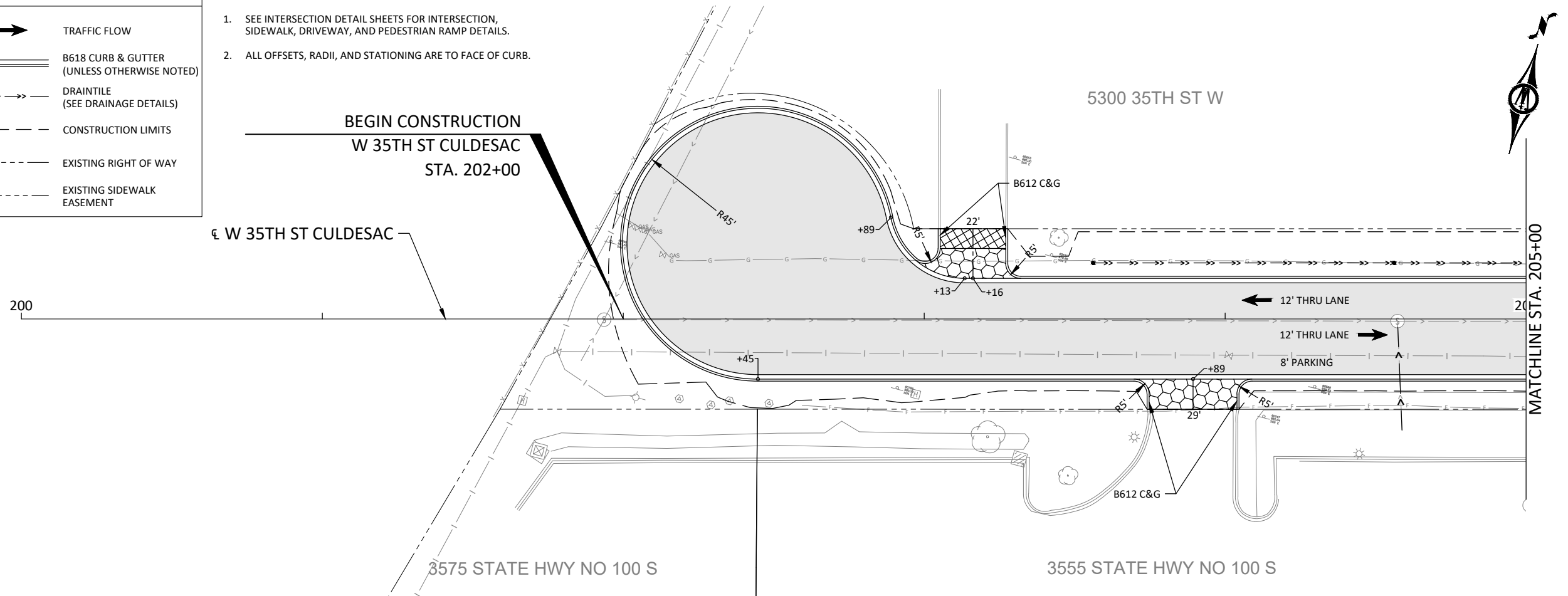
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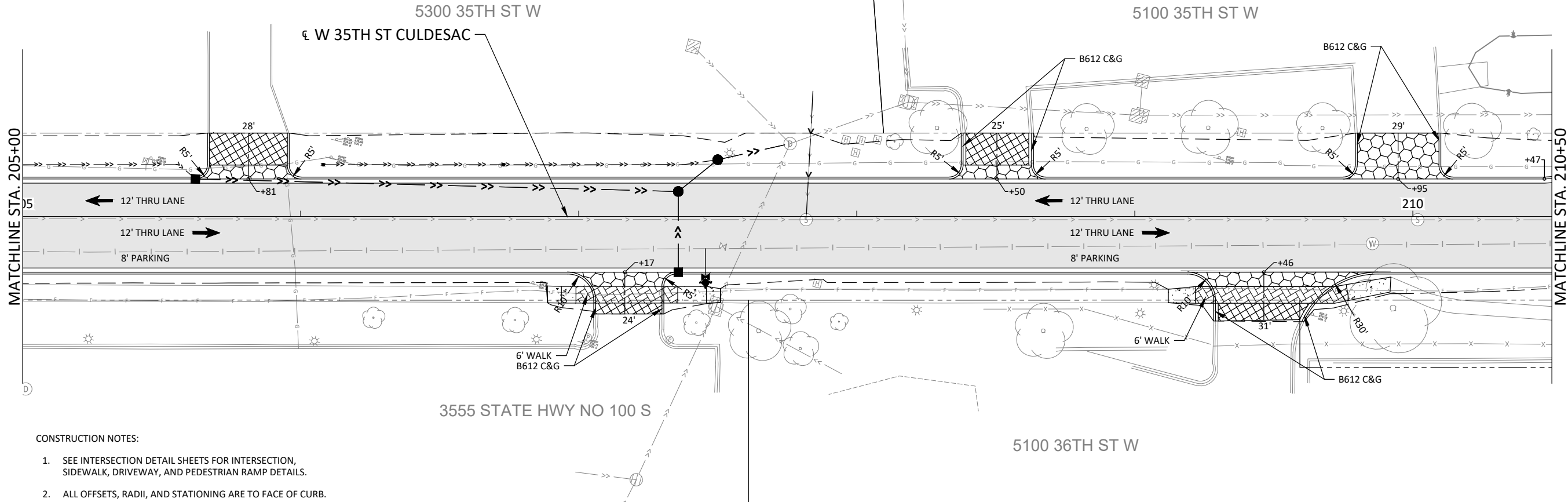
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ST LOUIS PARK, MINNESOTA		SHEET 46 OF 115
2025 COMMERCIAL STREET REHABILITATION PROJECT		
CONSTRUCTION PLAN & PROFILE		

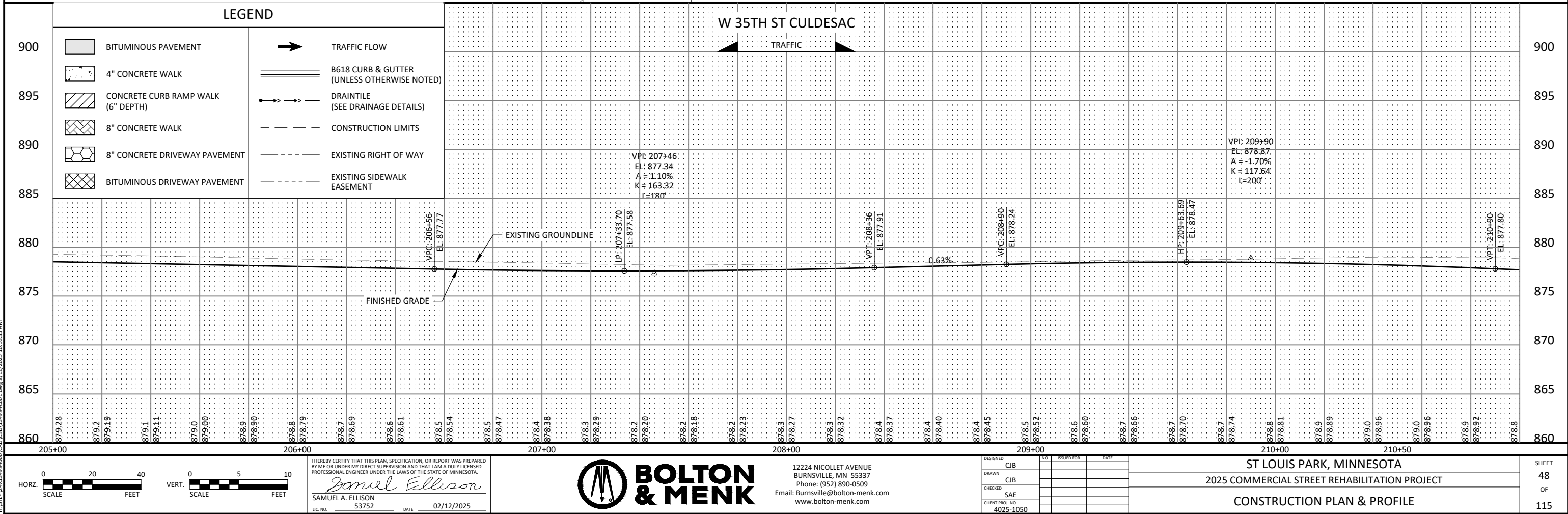
	BITUMINOUS PAVEMENT		TRAFFIC FLOW
	4" CONCRETE WALK		B618 CURB & GUTTER (UNLESS OTHERWISE NOTED)
	CONCRETE CURB RAMP WALK (6" DEPTH)		DRAINTILE (SEE DRAINAGE DETAILS)
	8" CONCRETE WALK		CONSTRUCTION LIMITS
	8" CONCRETE DRIVEWAY PAVEMENT		EXISTING RIGHT OF WAY
	BITUMINOUS DRIVEWAY PAVEMENT		EXISTING SIDEWALK EASEMENT

1. SEE INTERSECTION DETAIL SHEETS FOR INTERSECTION, SIDEWALK, DRIVEWAY, AND PEDESTRIAN RAMP DETAILS.
2. ALL OFFSETS, RADII, AND STATIONING ARE TO FACE OF CURB.

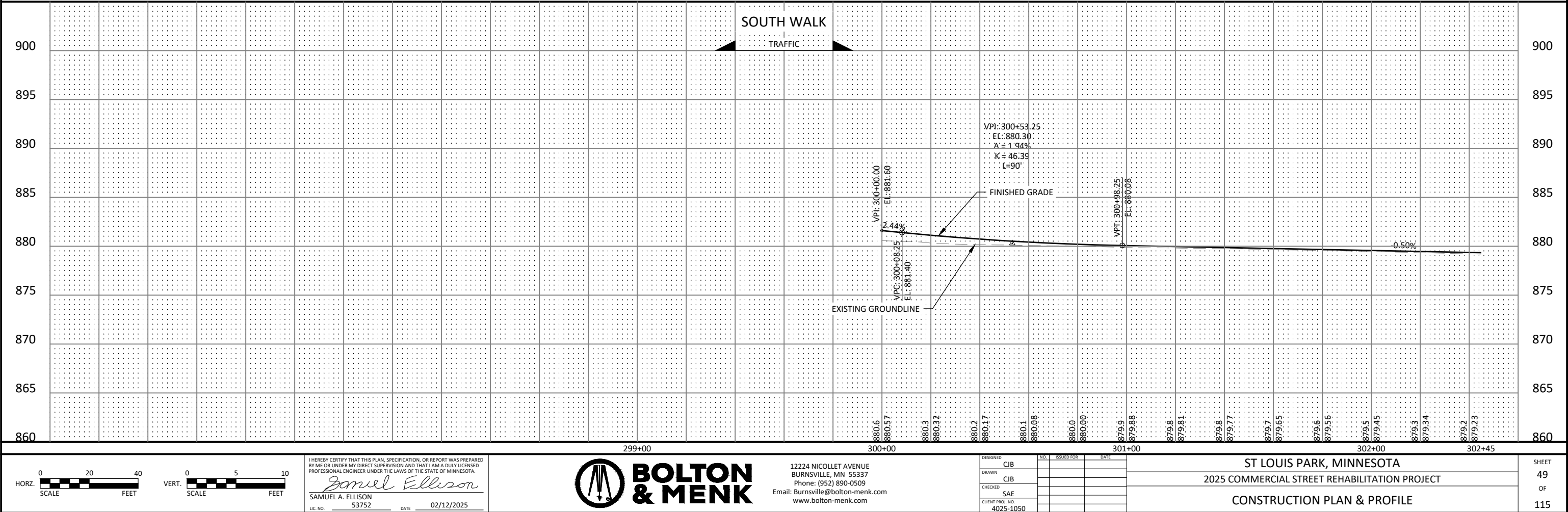


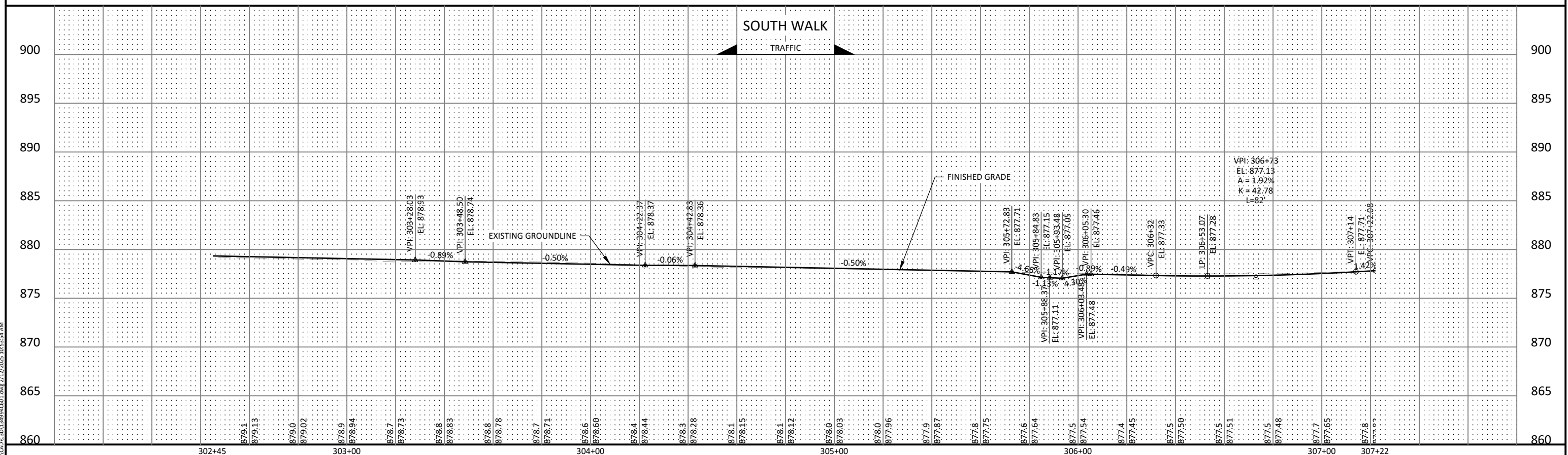
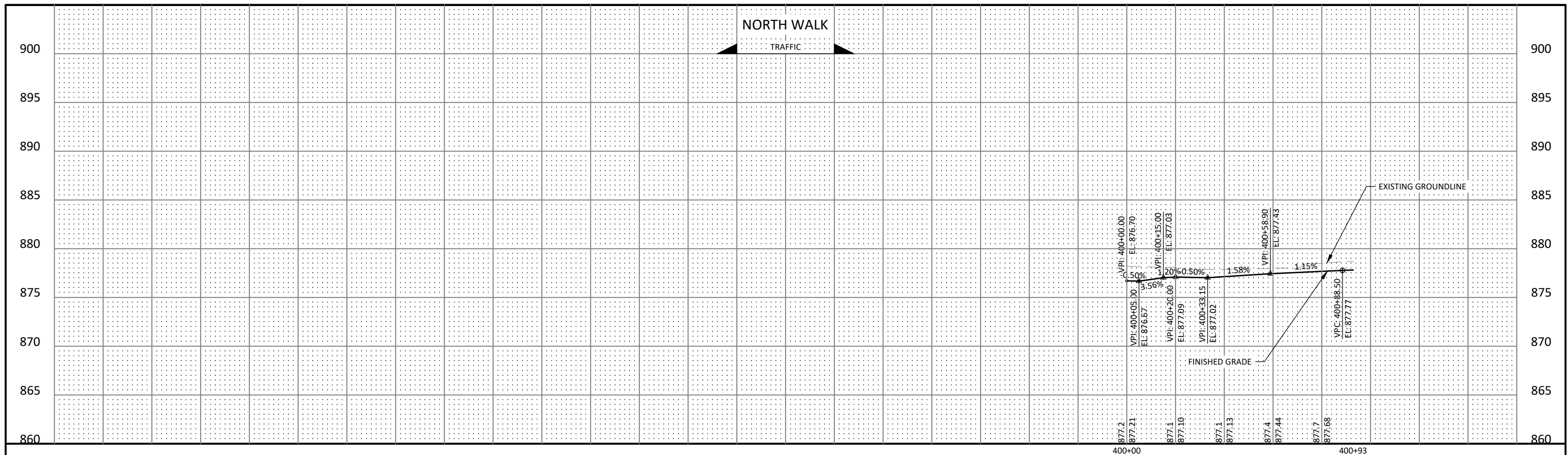


- CONSTRUCTION NOTES:
- SEE INTERSECTION DETAIL SHEETS FOR INTERSECTION, SIDEWALK, DRIVEWAY, AND PEDESTRIAN RAMP DETAILS.
  - ALL OFFSETS, RADII, AND STATIONING ARE TO FACE OF CURB.

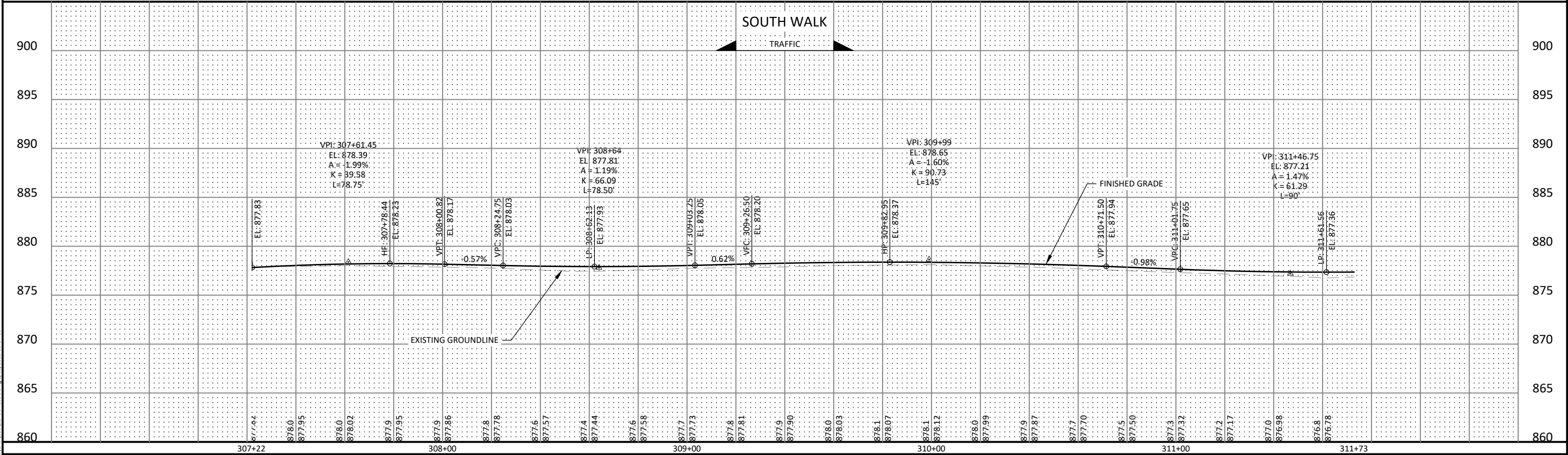
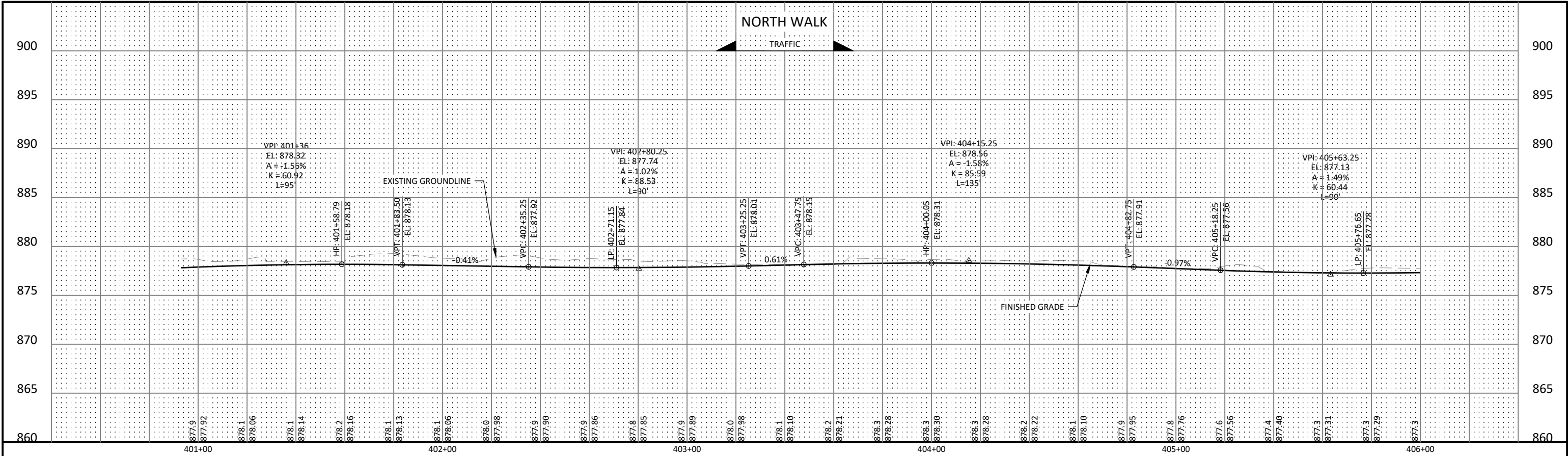


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*Samuel Ellison*

SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025

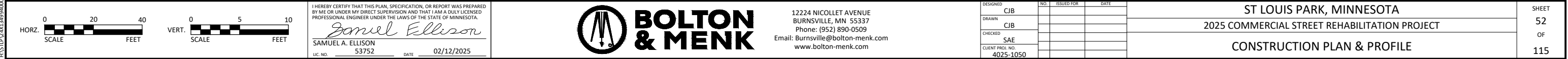
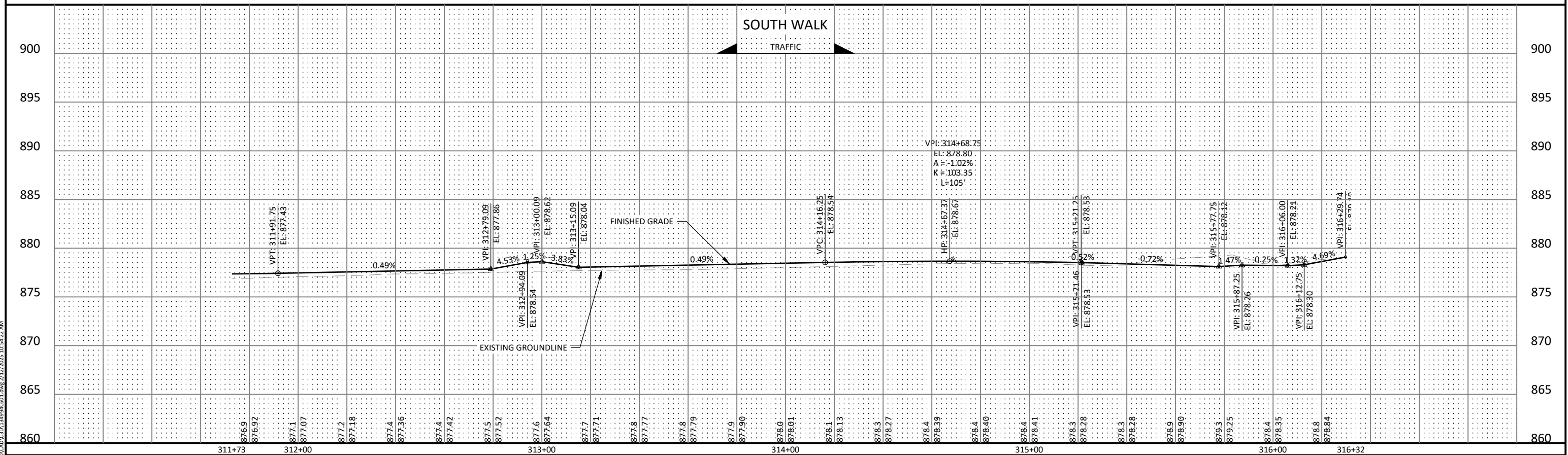
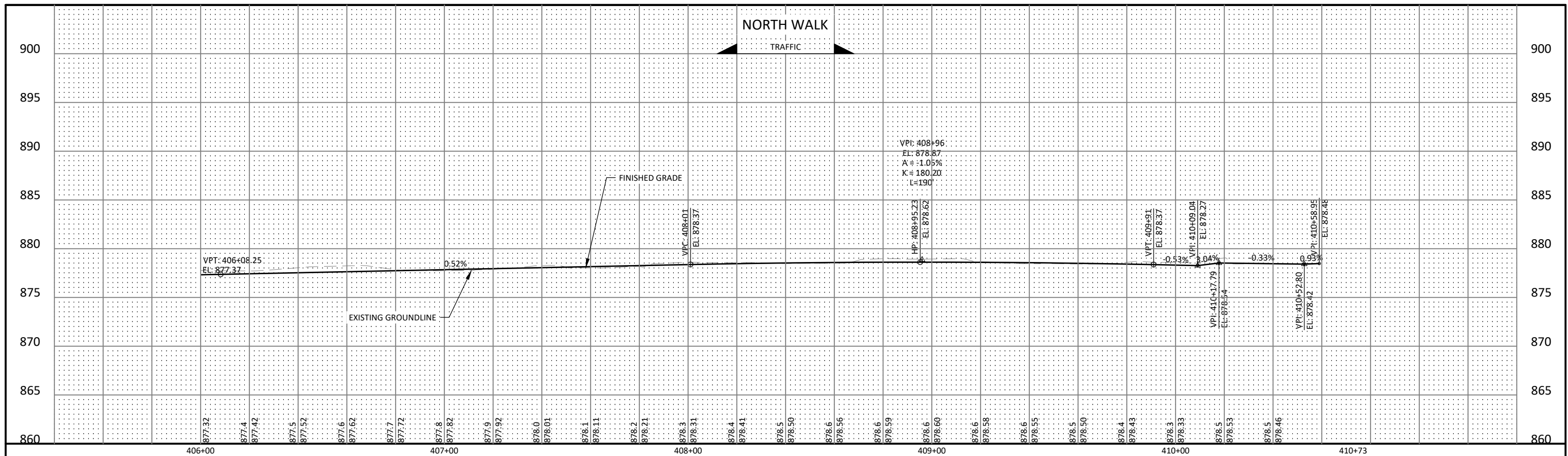


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2025 COMMERCIAL STREET REHABILITATION PROJECT  
CONSTRUCTION PLAN & PROFILE

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OF  
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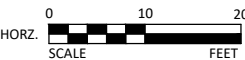


CONTROL POINTS				
POINT NO.	X	Y	ELEV	NOTES
1	510165.21	153549.57	881.01	BR
2	510053.30	153550.74	882.60	BR
3	510051.71	153550.75	882.66	MATCH EXISTING
4	510152.21	153551.88	881.07	
5	510069.78	153554.86	881.99	
6	510153.89	153556.59	881.33	
7	510068.16	153558.15	882.20	
8	510136.41	153562.25	881.23	HP
9	510169.95	153562.49	881.17	MATCH EXISTING
10	510080.76	153562.81	881.85	
11	510058.26	153563.45	882.92	MATCH EXISTING
12	510068.05	153563.65	882.25	
13	510156.57	153564.13	881.45	
14	510078.13	153565.38	882.07	
15	510140.06	153565.66	881.44	
16	510069.43	153568.97	882.23	
17	510074.43	153568.99	882.15	
18	510145.90	153571.13	881.56	
19	510069.41	153571.97	882.11	MATCH EXISTING
20	510140.54	153573.12	881.41	
21	510165.63	153589.57		R=40'
22	510125.63	153589.84	880.61	ER
23	510092.13	153590.47	880.32	ER
24	510052.13	153590.75		R=40'
25	510135.98	153640.23	880.30	
26	510152.54	153645.47	880.69	MATCH EXISTING
27	510136.02	153645.59	880.25	
1000	510172.59	153549.43	880.82	MATCH EXISTING

NOTES:  
BR = BEGIN RADIUS  
ER = END RADIUS  
LP = LOW POINT  
HP = HIGH POINT

LEGEND

- XXX  
CONTROL POINTS AT GUTTER FLOW LINE & TOP OF CONCRETE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- PEDESTRIAN ACCESS ROUTE
- PEDESTRIAN RAMP SLOPE SHALL BE 4.0% OPTIMUM (2.0% MIN. AND 5.0% MAX.) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.).
- PEDESTRIAN RAMP SLOPE SHALL BE 7.0% OPTIMUM (5.0% MIN. AND 8.3% MAX.) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.).
- CURB HEIGHT
- DRAINAGE FLOW ARROW AND GRADE
- CATCH BASIN
- STORM SEWER MANHOLE
- EXISTING SIDEWALK EASEMENT
- EXISTING RIGHT-OF-WAY



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*Samuel A. Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



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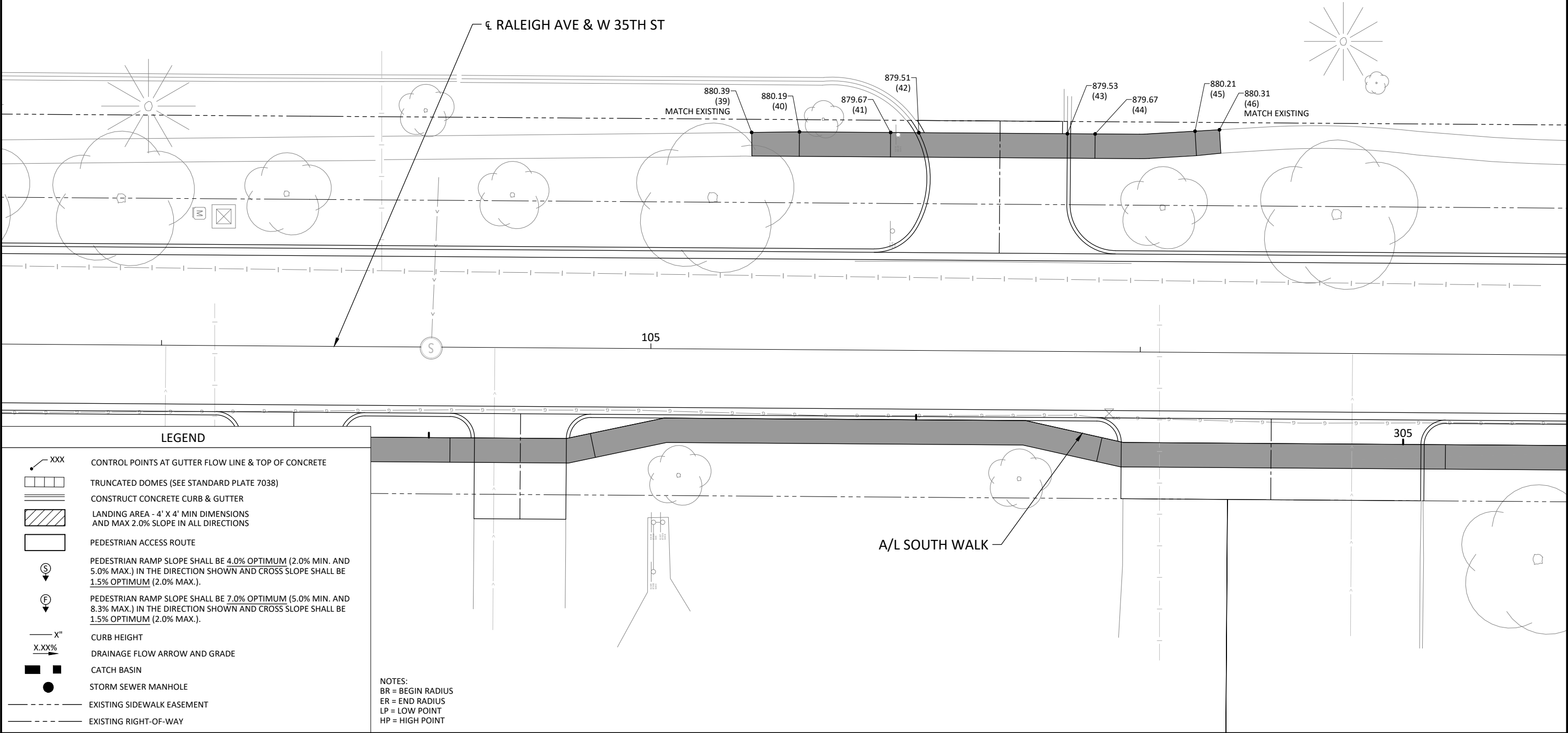
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RALEIGH AVE & W 36TH ST

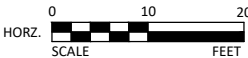
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CONTROL POINTS				
POINT NO.	X	Y	ELEV	NOTES
39	510070.18	153929.20	880.39	MATCH EXISTING
40	510070.06	153938.96	880.19	
41	510070.19	153957.60	879.67	
42	510070.23	153963.36	879.51	
43	510070.44	153993.72	879.53	
44	510070.49	153999.39	879.67	
45	510069.93	154019.80	880.21	
46	510069.64	154024.79	880.31	MATCH EXISTING



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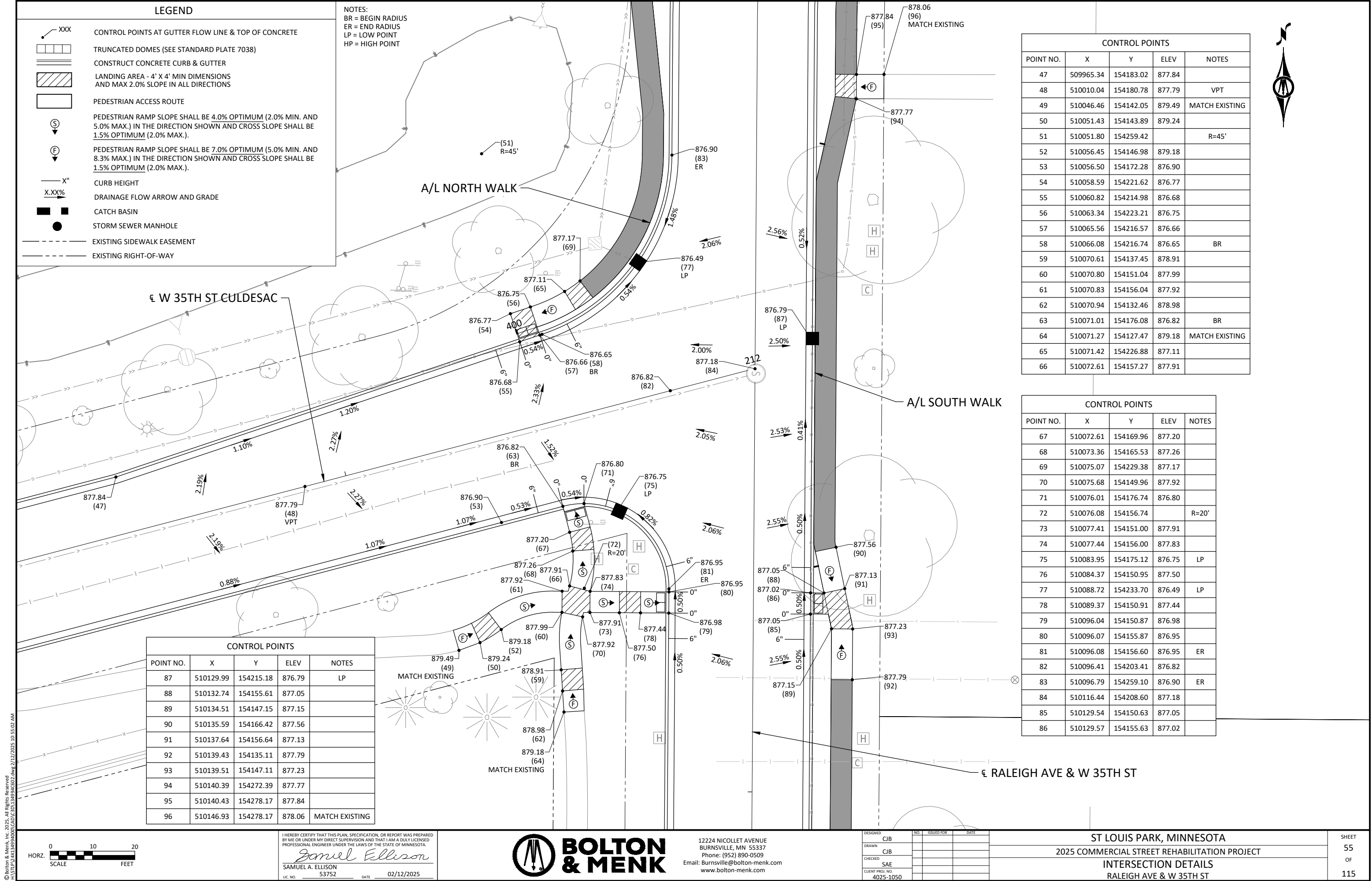


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LEGEND

XXX

CONTROL POINTS AT GUTTER FLOW LINE & TOP OF CONCRETE

TRUNCATED DOMES (SEE STANDARD PLATE 7038)

CONSTRUCT CONCRETE CURB & GUTTER

LANDING AREA - 4' X 4' MIN DIMENSIONS  
AND MAX 2.0% SLOPE IN ALL DIRECTIONS

PEDESTRIAN ACCESS ROUTE

S

↓

PEDESTRIAN RAMP SLOPE SHALL BE 4.0% OPTIMUM (2.0% MIN. AND 5.0% MAX.) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.).

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PEDESTRIAN RAMP SLOPE SHALL BE 7.0% OPTIMUM (5.0% MIN. AND 8.3% MAX.) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.).

X"

X.XX%

CURB HEIGHT  
DRAINAGE FLOW ARROW AND GRADE

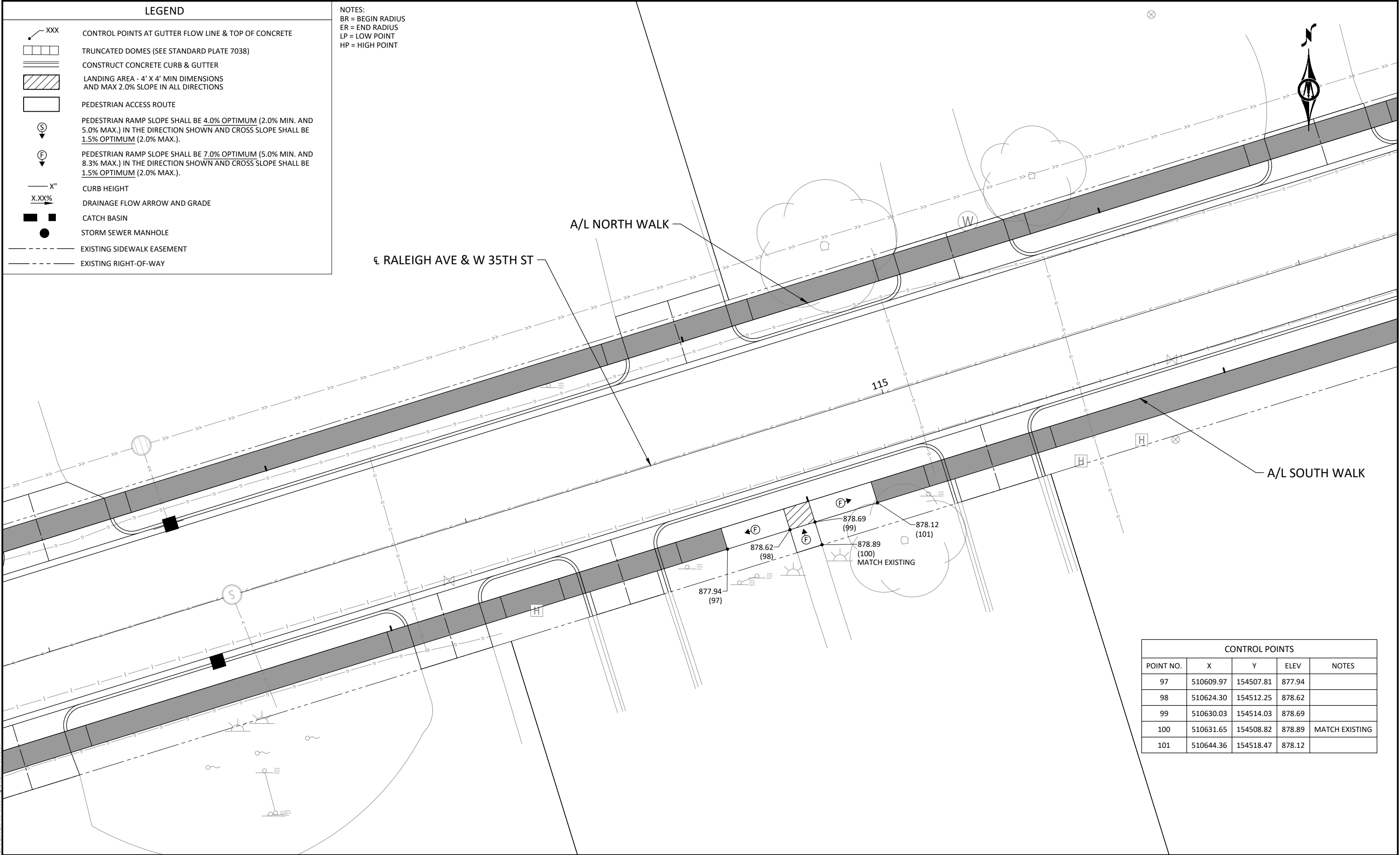
CATCH BASIN

STORM SEWER MANHOLE

EXISTING SIDEWALK EASEMENT

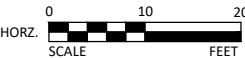
EXISTING RIGHT-OF-WAY

NOTES:  
BR = BEGIN RADIUS  
ER = END RADIUS  
LP = LOW POINT  
HP = HIGH POINT



CONTROL POINTS				
POINT NO.	X	Y	ELEV	NOTES
97	510609.97	154507.81	877.94	
98	510624.30	154512.25	878.62	
99	510630.03	154514.03	878.69	
100	510631.65	154508.82	878.89	MATCH EXISTING
101	510644.36	154518.47	878.12	

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SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025

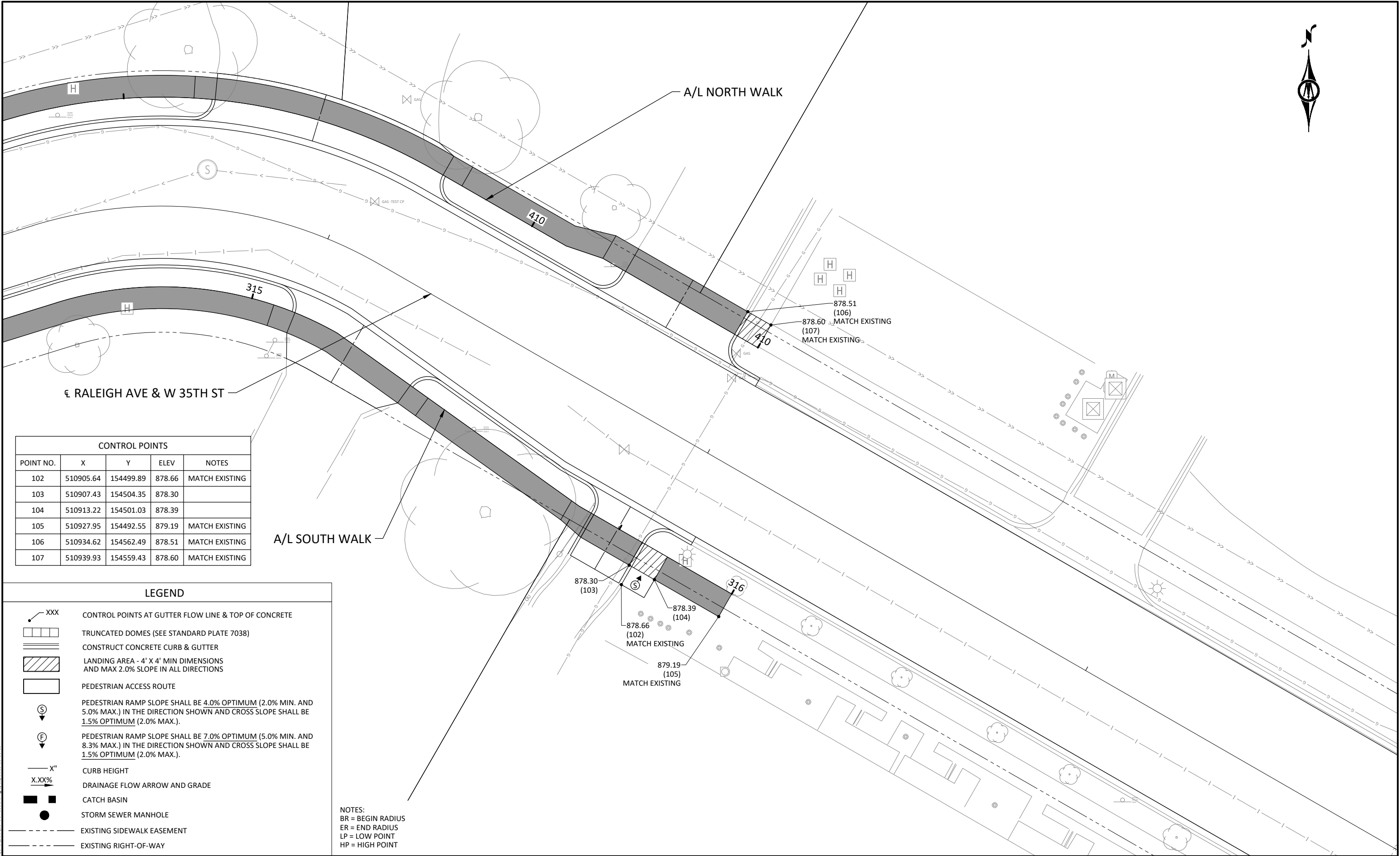


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INTERSECTION DETAILS  
W 35TH ST

SHEET  
56  
OF  
115



CONTROL POINTS				
POINT NO.	X	Y	ELEV	NOTES
102	510905.64	154499.89	878.66	MATCH EXISTING
103	510907.43	154504.35	878.30	
104	510913.22	154501.03	878.39	
105	510927.95	154492.55	879.19	MATCH EXISTING
106	510934.62	154562.49	878.51	MATCH EXISTING
107	510939.93	154559.43	878.60	MATCH EXISTING

LEGEND

XXX

TRUNCATED DOMES (SEE STANDARD PLATE 7038)

CONSTRUCT CONCRETE CURB & GUTTER

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PEDESTRIAN ACCESS ROUTE

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X"

CURB HEIGHT

X.XX%

DRAINAGE FLOW ARROW AND GRADE

CATCH BASIN

STORM SEWER MANHOLE

EXISTING SIDEWALK EASEMENT

EXISTING RIGHT-OF-WAY

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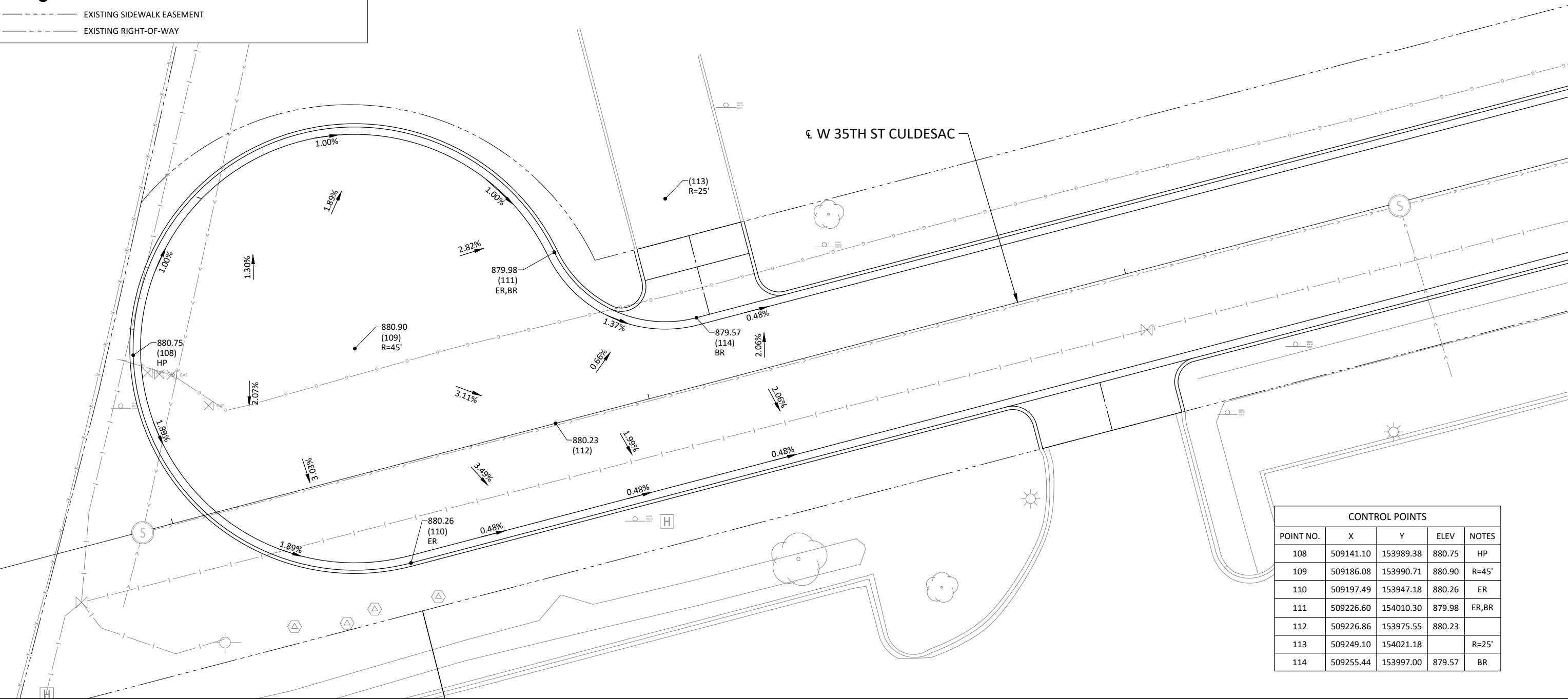
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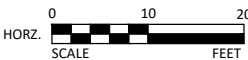
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CONTROL POINTS AT GUTTER FLOW LINE & TOP OF CONCRETE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
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- CURB HEIGHT  
X.XX"
- DRAINAGE FLOW ARROW AND GRADE
- CATCH BASIN
- STORM SEWER MANHOLE
- EXISTING SIDEWALK EASEMENT
- EXISTING RIGHT-OF-WAY

NOTES:  
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ER = END RADIUS  
LP = LOW POINT  
HP = HIGH POINT



CONTROL POINTS				
POINT NO.	X	Y	ELEV	NOTES
108	509141.10	153989.38	880.75	HP
109	509186.08	153990.71	880.90	R=45'
110	509197.49	153947.18	880.26	ER
111	509226.60	154010.30	879.98	ER,BR
112	509226.86	153975.55	880.23	
113	509249.10	154021.18		R=25'
114	509255.44	153997.00	879.57	BR

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*Samuel Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025

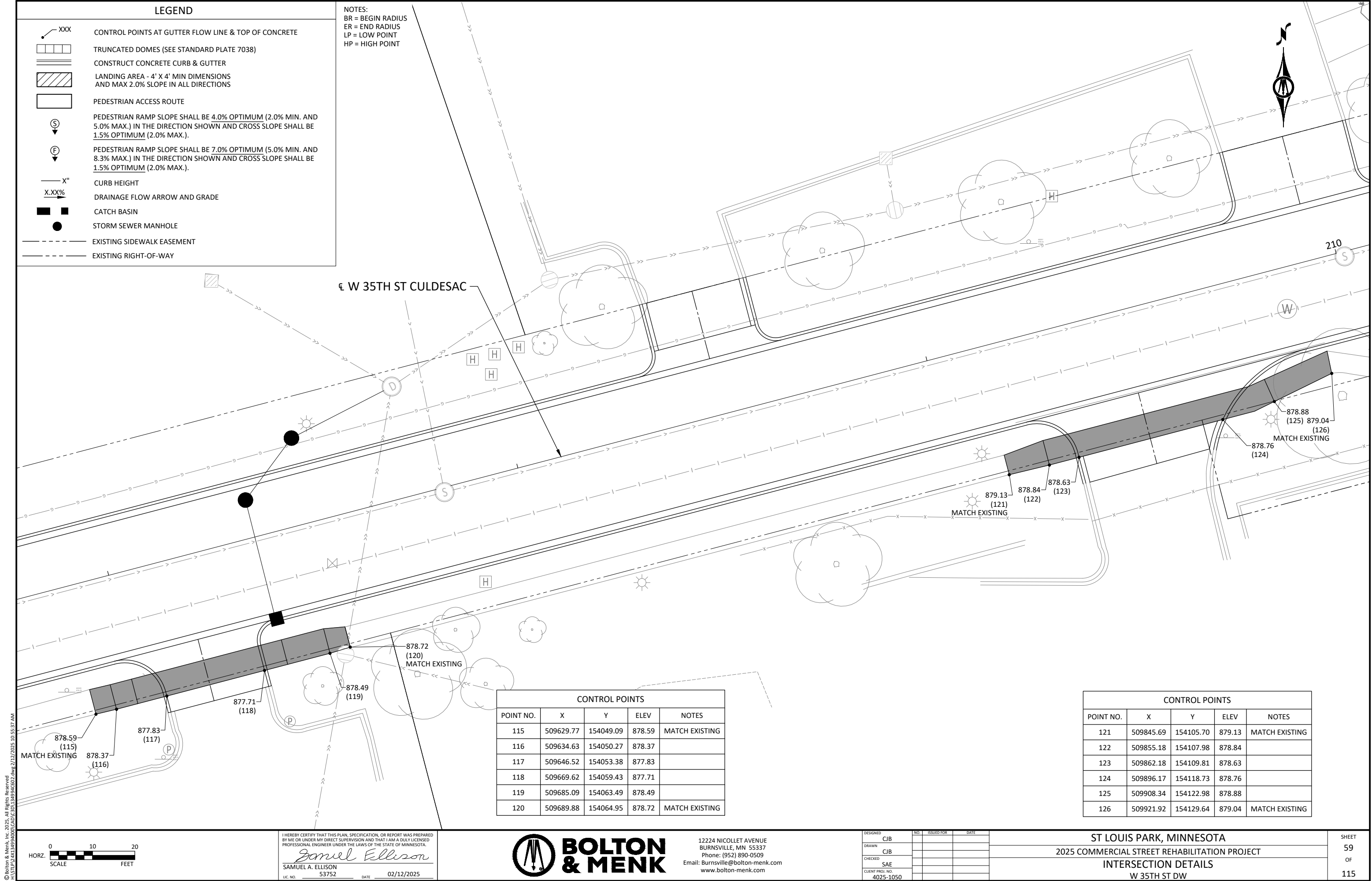


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*Matthew S. Neudecker*  
MATTHEW S. NEUDECKER  
LIC. NO. 62302 DATE 02/12/2025



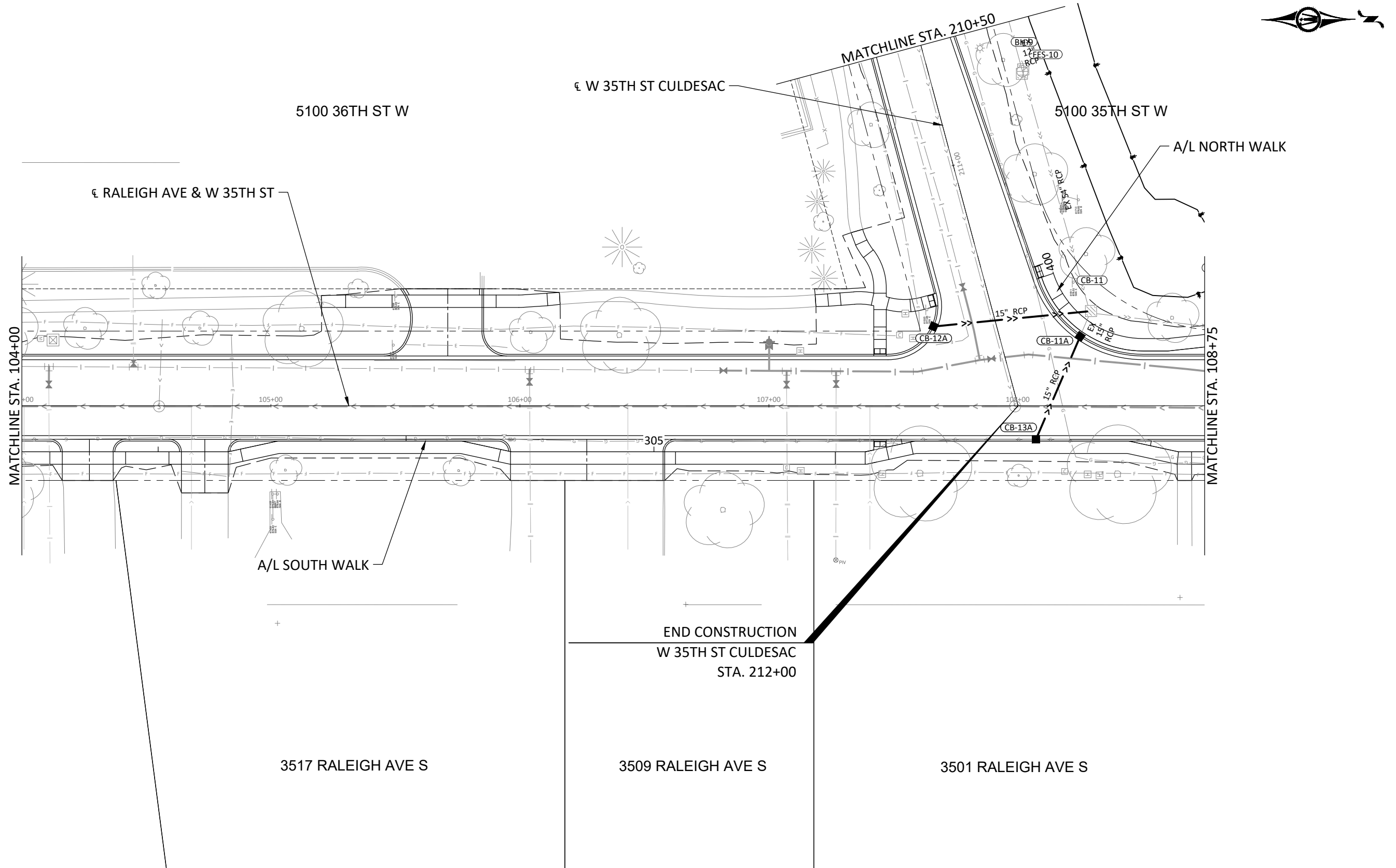
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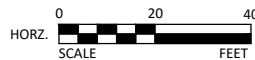
ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT

DRAINAGE PLAN

SHEET  
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*Matthew S. Neudecker*  
MATTHEW S. NEUDECKER  
LIC. NO. 62302 DATE 02/12/2025

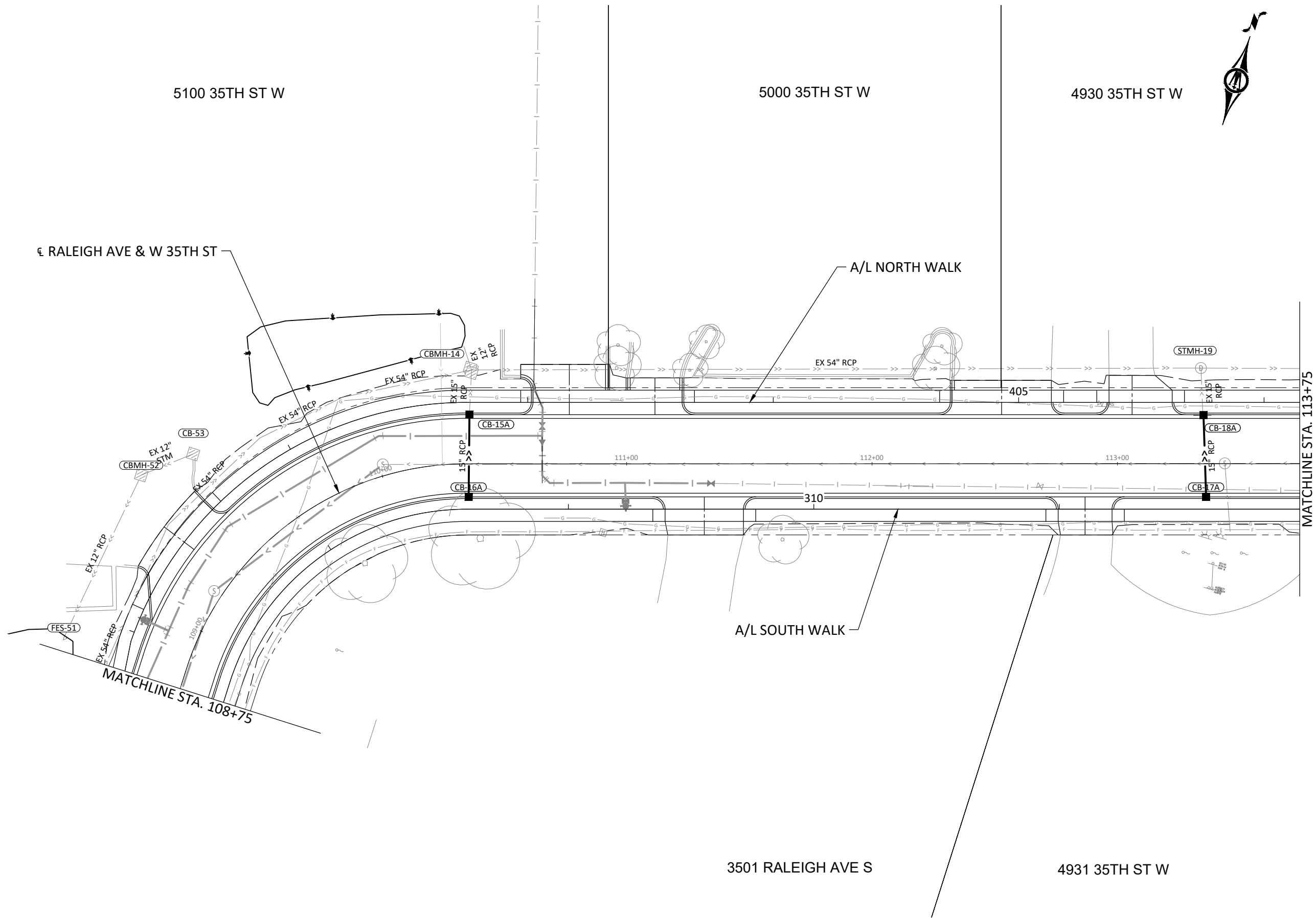


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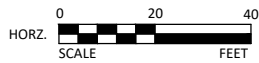
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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
DRAINAGE PLAN

SHEET  
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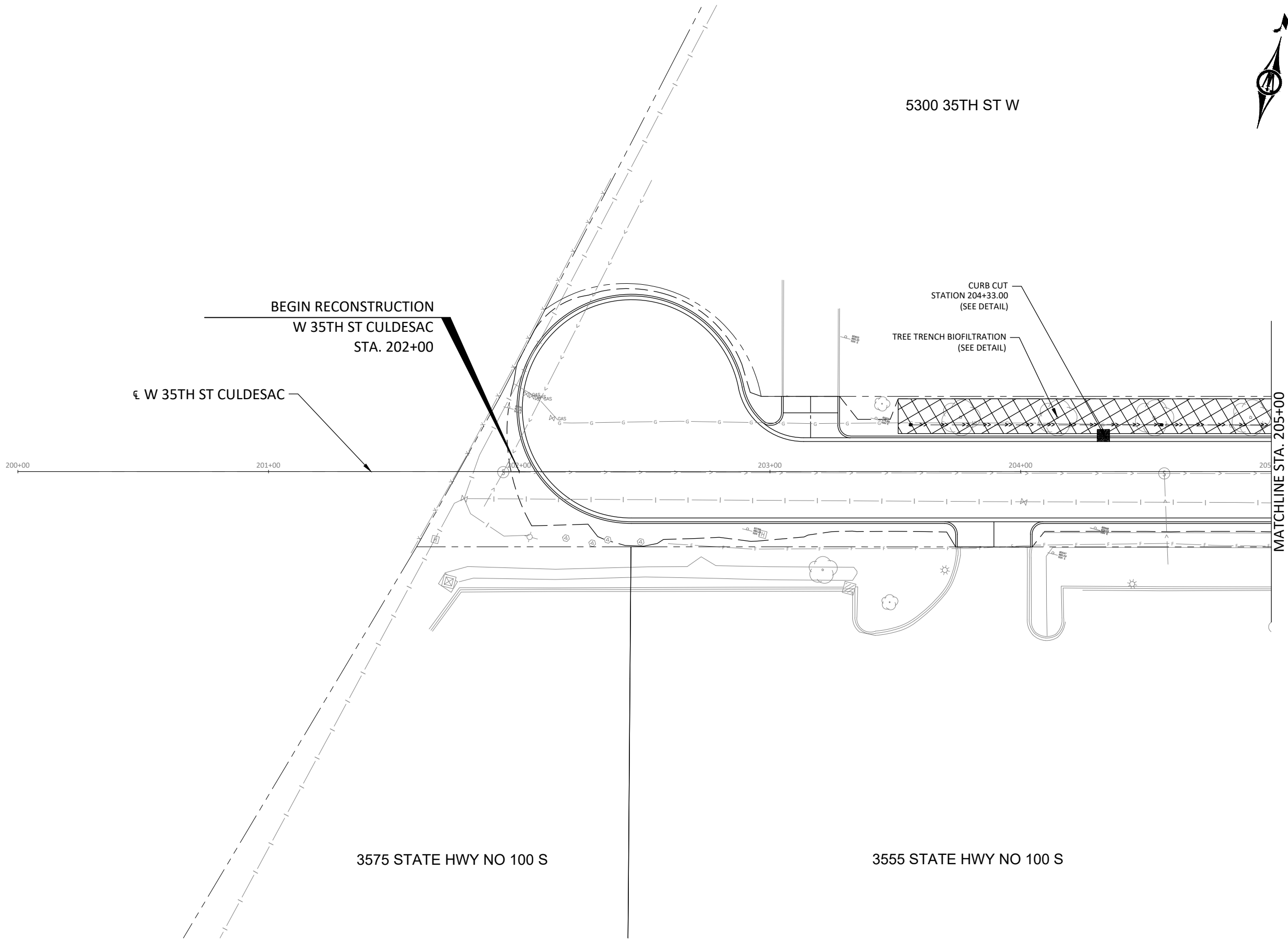


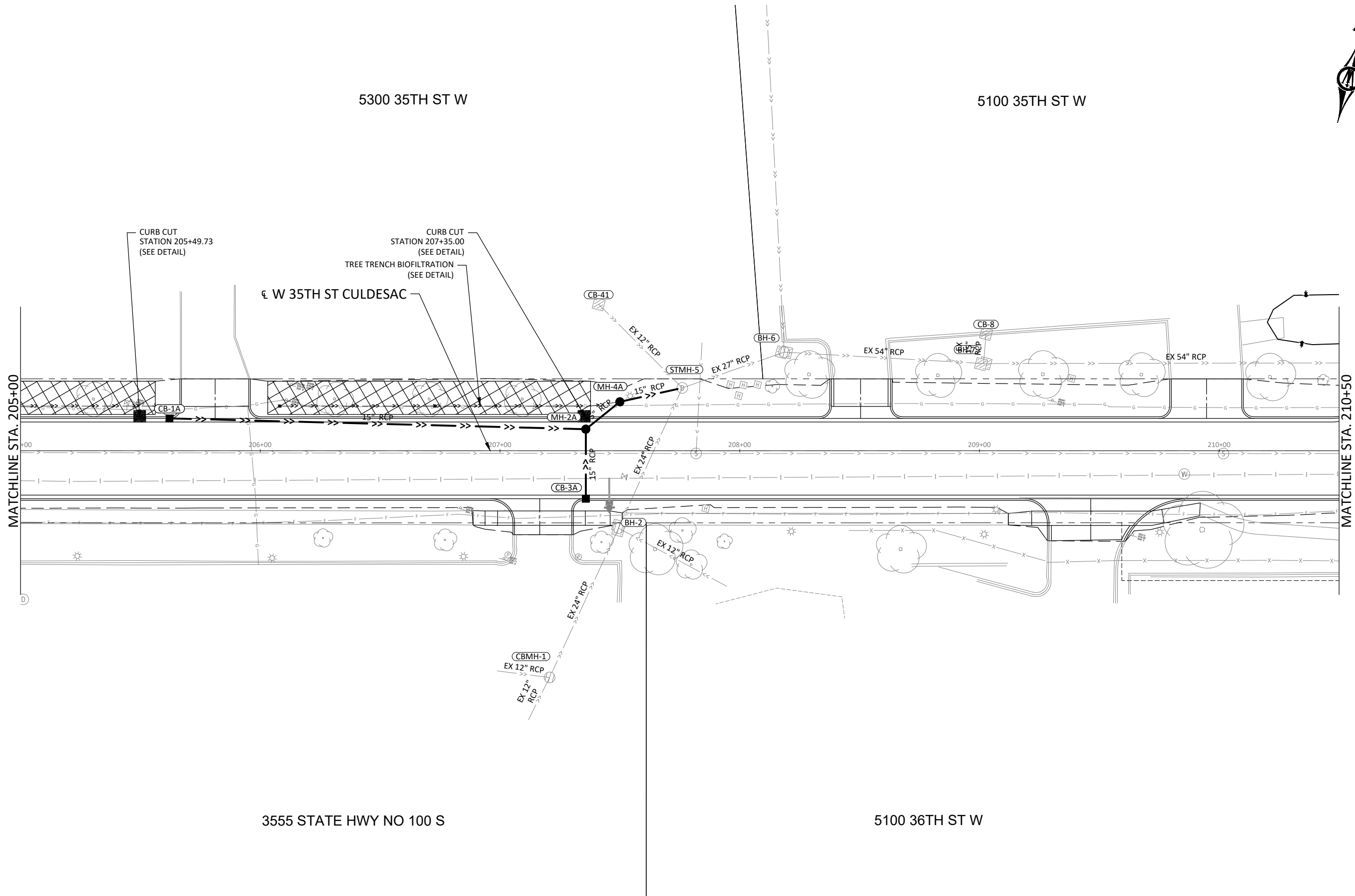
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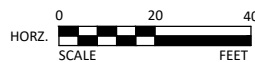
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2025 COMMERCIAL STREET REHABILITATION PROJECT  
DRAINAGE PLAN  
200+00 TO 205+00

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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
DRAINAGE PLAN

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63  
OF  
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## 5100 36TH ST W

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3. A MIN. 1.5' SEPARATION SHALL BE MAINTAINED WHEN WATER SERVICES CROSS SANITARY SEWER.
4. CONTRACTOR SHALL PROTECT ALL EXISTING SANITARY SERVICES
5. MINIMUM COVER OVER PIPE SHALL BE 7.5' OR AS SHOWN IN PLANS.
6. MINIMUM GRADE ON SANITARY SEWER SERVICES SHALL BE 2.0% OR APPROVED BY THE ENGINEER.

CONNECT TO EXISTING 12" DIP WM  
VERIFY LOCATION & ELEVATION (INCIDENTAL)

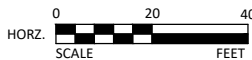
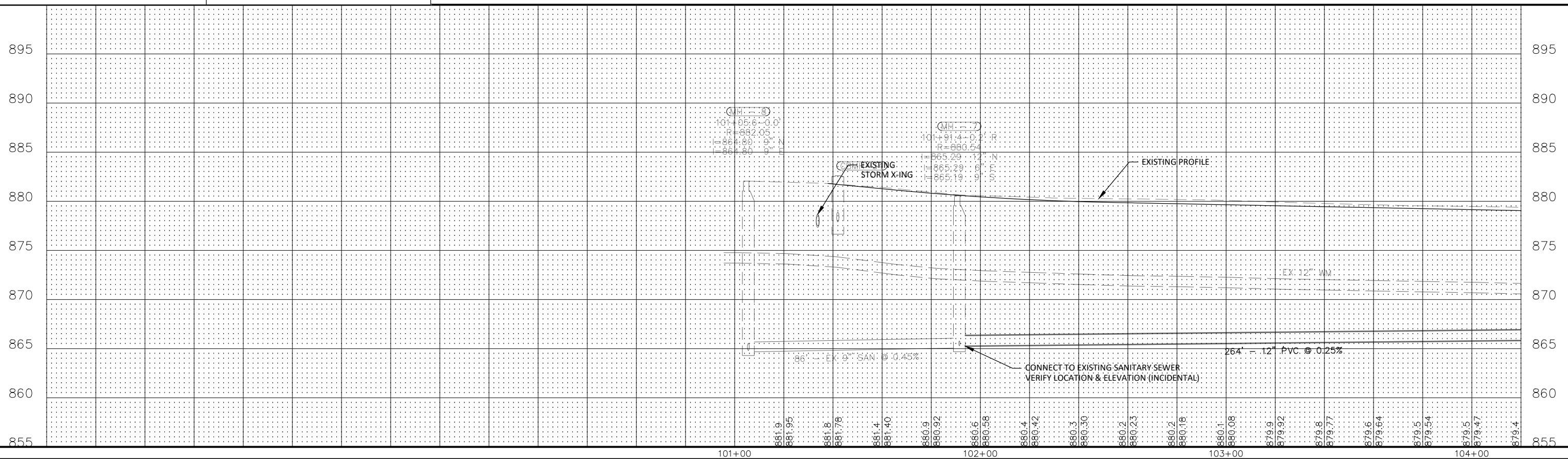
CONNECT TO EXISTING 8" DIP WM  
VERIFY LOCATION & ELEVATION (INCIDENTAL)

8LF 6" DIP WATER SERVICE  
CONNECT TO EXISTING 12" DIP WM  
VERIFY LOCATION & ELEVATION (INCIDENTAL)

48LF 1 1/2" COPPER WATER SERVICE  
CONNECT TO EXISTING 12" WATERMAIN  
& REPLACE BACK TO CURB STOP  
VERIFY LOCATION & ELEVATION (INCIDENTAL)

MATCHLINE STA. 103+50

	PROPOSED STORM SEWER		EXISTING STORM SEWER
	PROPOSED SANITARY SEWER		EXISTING SANITARY SEWER
	PROPOSED WATERMAIN		EXISTING WATERMAIN
	EXISTING RIGHT OF WAY		EXISTING SANITARY MANHOLE
	EXISTING EASEMENT		EXISTING/PROPOSED HYDRANT



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*Samuel Ellison*

SAMUEL A. ELLISON

LIC NO. 53762 DATE 02/12/2025



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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
WATERMAIN AND SANITARY SEWER PLAN & PROFILE

SHEET  
64  
OF  
115

NOTE:

- € W 35TH ST CULDESAC

MATCHLINE STA. 210+50

CONNECT TO EXISTING 8" WATERMAIN  
VERIFY LOCATION & ELEVATION (INCIDENTAL)



Sanitary sewer profile drawing showing a 12-inch PVC pipe with a 0.32% slope. The drawing includes manholes (MH-14, MH-15), catch basins (CB-12A, CB-13A, CB-14), and an existing stormwater crossing. Elevation data is provided along the bottom of the profile.

Key features and labels:

- EXISTING PROFILE**: Indicated by an arrow pointing to the top line of the drawing.
- CONNECT TO EXISTING WATERMAIN**: Indicated by an arrow pointing to the connection point at station 107+92.
- VERIFY LOCATION & ELEVATION (INCIDENTAL)**: Two labels pointing to the connection points at stations 104+15 and 107+92.
- EXISTING STORM X-ING**: Indicated by an arrow pointing to the crossing at station 107+92.
- 7.5' MIN. COVER**: Indicated by a vertical dimension line at station 107+92.
- 12" DIP CL52 WM**: Label for the watermain connection at station 107+92.
- 118' - 12" PVC @ 0.42%**: Label for the existing stormwater crossing at station 107+92.
- 344' - 12" PVC @ 0.32%**: Label for the main sanitary sewer pipe segment from station 104+15 to 107+92.
- MANHOLE DATA (MH-14)**:
  - 04+55.1 = 0.2' R
  - R = 878.82
  - = 866.06' 12" N
  - = 866.06' 6" W
  - = 865.96' 12" S
- MANHOLE DATA (MH-15)**:
  - 107+98.9 = 0.2' R
  - R = 877.18
  - = 867.20' 12" N
  - = 867.20' 6" W
  - = 867.10' 12" S

Elevation data along the bottom of the profile (from left to right):

879.6, 879.64, 879.5, 879.54, 879.3, 879.37, 879.15, 879.1, 879.08, 879.0, 878.99, 878.9, 878.88, 878.8, 878.77, 878.7, 878.68, 878.6, 878.59, 878.5, 878.51, 878.4, 878.42, 878.3, 878.33, 878.2, 878.18, 878.1, 878.13, 878.0, 878.03, 877.9, 877.92, 877.9, 877.92, 877.9, 877.95, 877.9, 877.94, 877.9, 877.91, 878.0, 877.97, 878.1, 878.13, 878.2, 878.19

EXISTING PROFILE :-

CONNECT TO EXISTING WATERMAIN  
VERIFY LOCATION & ELEVATION (INCIDENTAL)

MH = 5  
107+98.9-0.2  
R=877.13  
I=867.20 12  
I=867.20 9'  
I=867.15 12

EXISTING  
STORM

7.5' MIN. COVER

12" DIP CL52 WM

118' - 12" PVC @ 0.42%

CONNECT TO EXISTING SANITARY SEWER  
VERIFY LOCATION & ELEVATION (INCIDENTAL)



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*Samuel Ellison*

SAMUEL A. ELLISON

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

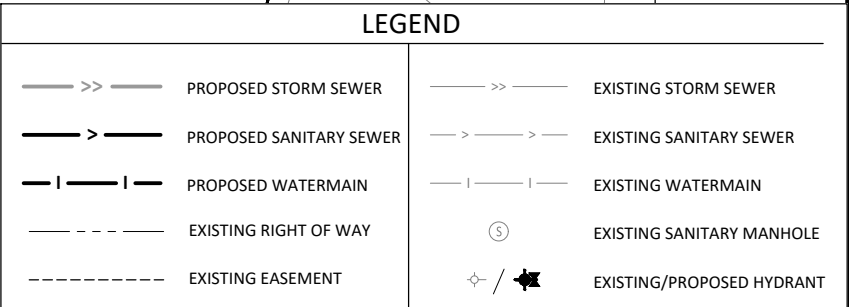
WATERMAIN AND SANITARY SEWER PLAN & PROFILE

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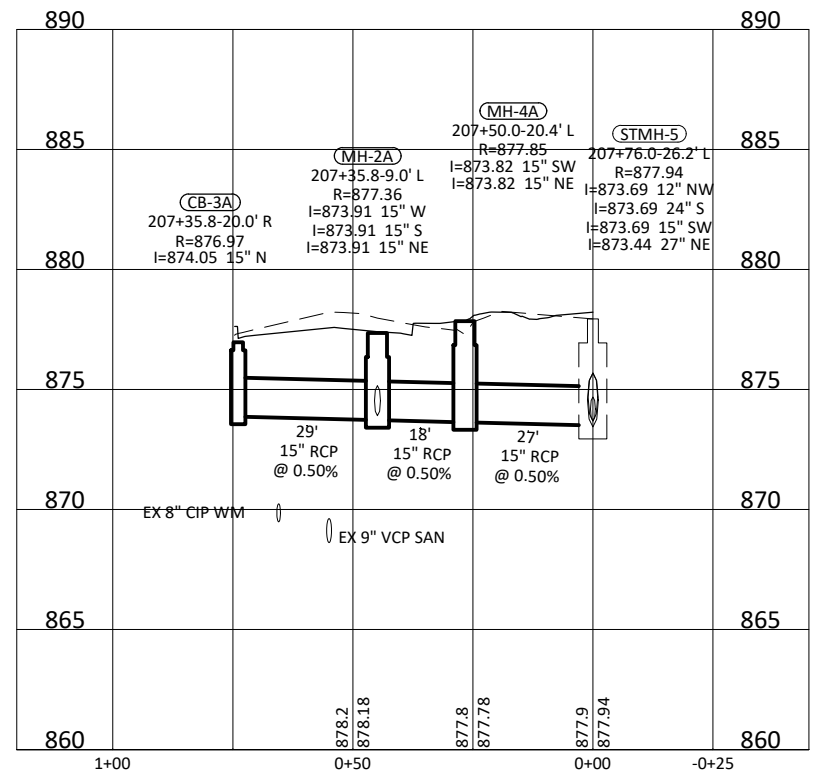
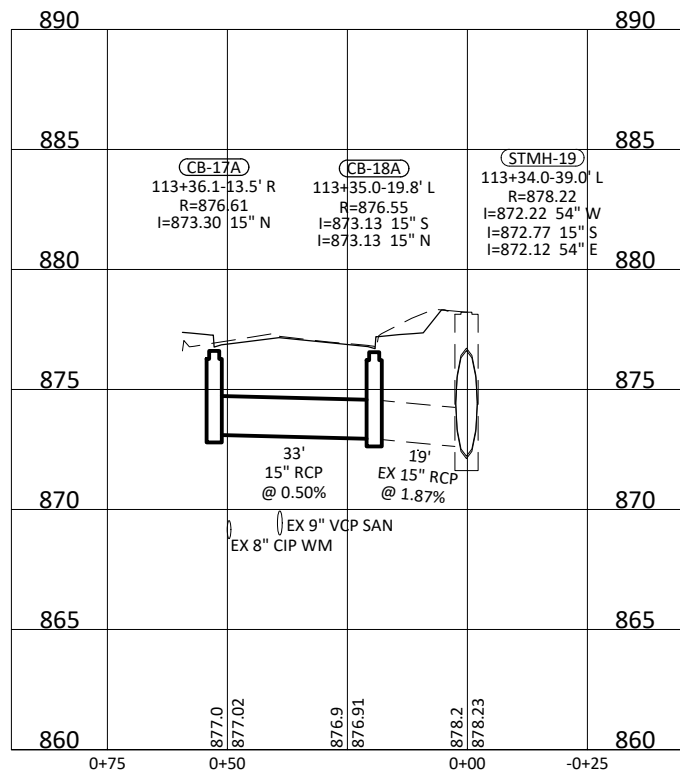
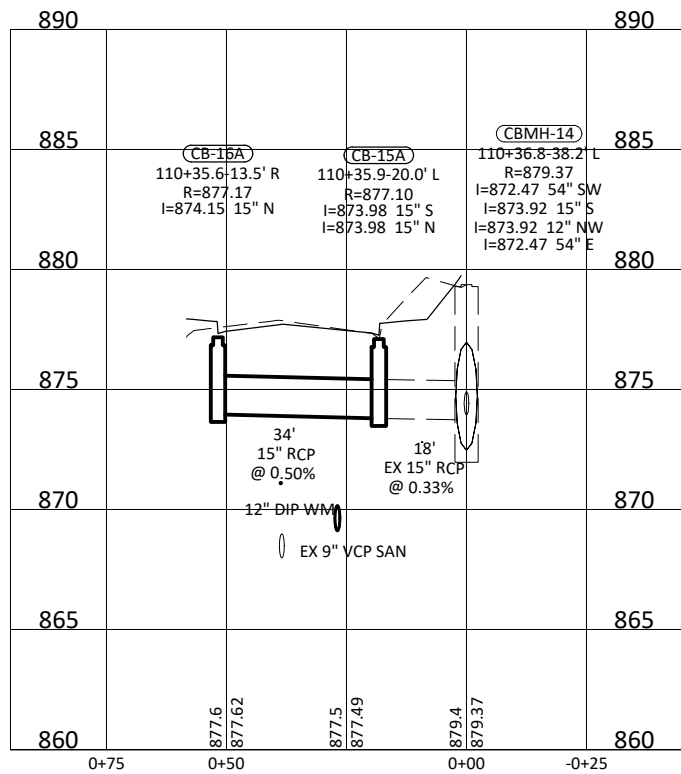
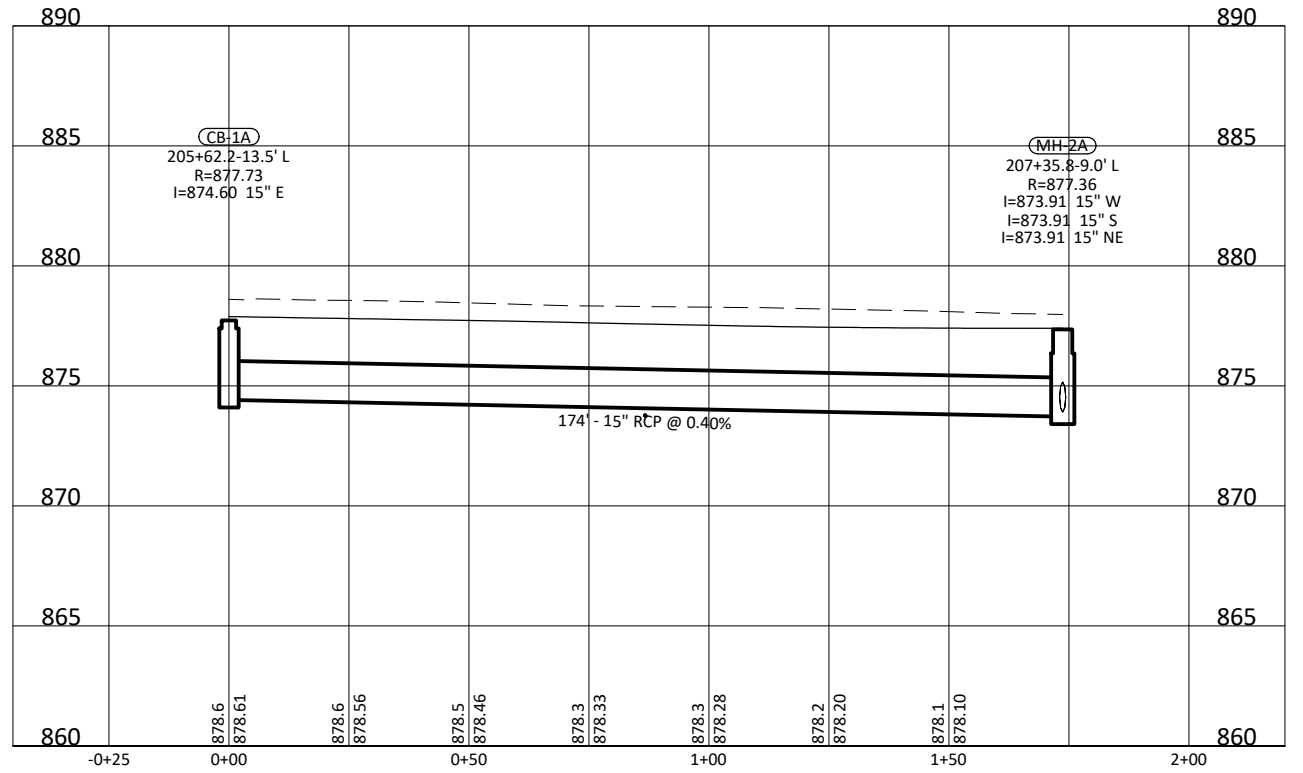
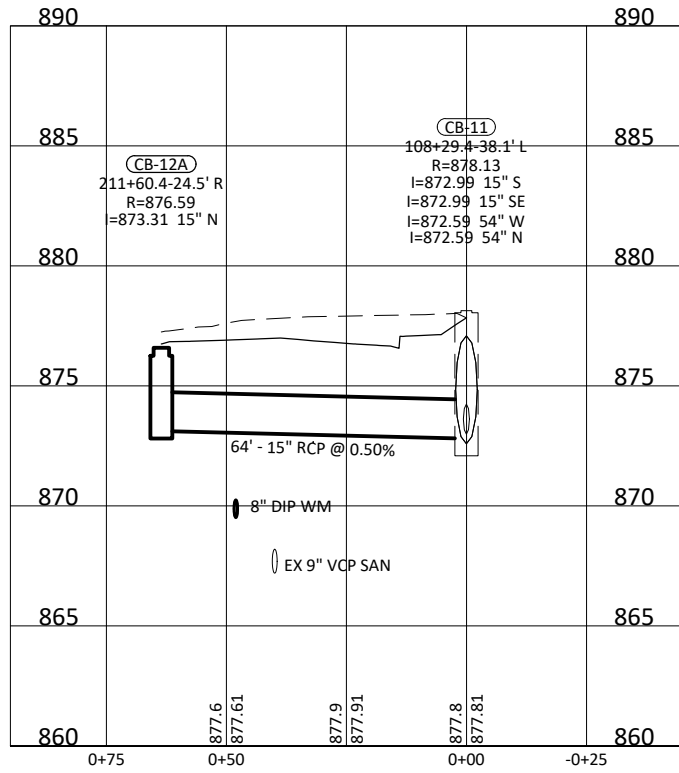
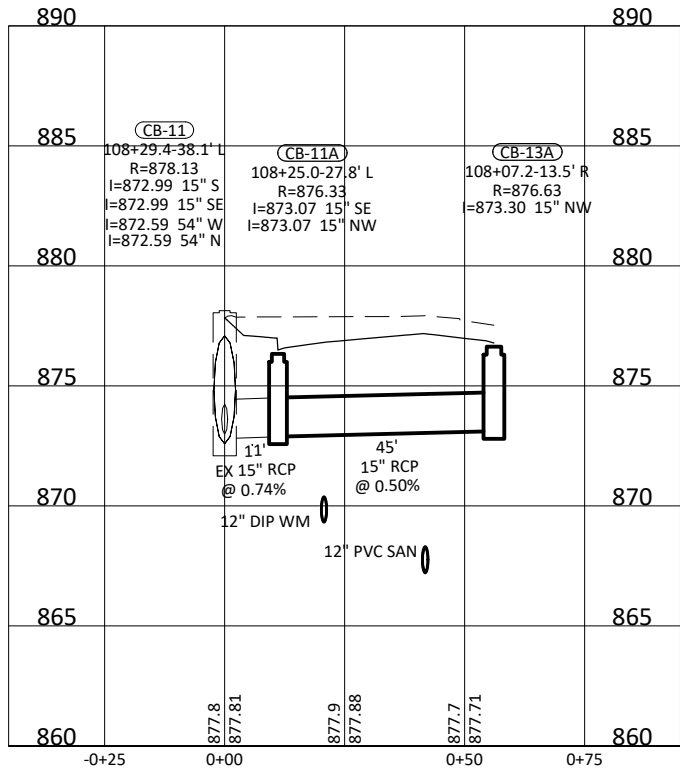
5100 35TH ST W

VERIFY SANITARY & WATERMAIN SERVICE









LEGEND

6" DRAINTILE

PROPOSED STORM SEWER

CONSTRUCTION LIMITS

EXISTING RIGHT OF WAY

TREE TRENCH SWALE

PROPOSED TREE

CONSTRUCTION NOTES:

1. LIMITS AND DEPTHS OF SWALES MAY BE LIMITED BY UTILITIES, TREES, EXISTING OR PROPOSED STRUCTURE, ETC., UNFORESEEN DURING CONSTRUCTION. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, MAY ADJUST LIMITS AND DEPTHS AS NECESSARY IN THE FIELD

2. SWALE SIDE SLOPES SHALL BE 1:3 V:H ALL AROUND

3. FILTER MEDIA SHALL MEET MNDOT SPECIFICATION 3878.2.G. FOR FILTER TOPSOIL BORROW - 80% SAND, 20% COMPOST GRADE 2. INSTALL IN 12" LIFTS. ACHIEVE 85% COMPACTION (FOOT COMPACTION) PRIOR TO SEEDING. TO BE PAID UNDER 2574.507 FILTER TOPSOIL BORROW PER CUBIC YARD.

4. RIGOROUS EROSION PREVENTION AND SEDIMENT CONTROL SHALL BE INSTALLED AROUND THE BMP SWALE CELLS IF THE CONTRIBUTING DRAINAGE AREA TO THE CELLS IS NOT FULLY CONSTRUCTED AND STABILIZED PRIOR TO PLACEMENT OF FILTER TOPSOIL BORROW.

5. KEEP ALL PERSONNEL AND EQUIPMENT OFF THE FILTRATION MEDIA AND STAKE OFF THE PERIMETER OF THE SWALE CELLS AFTER INSTALLATION OF THE FILTRATION MEDIA TO PREVENT COMPACTION

6. SEE TURF & EROSION CONTROL PLAN FOR SEEDING AND EROSION CONTROL MEASURES.

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SCALE

FEET

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MATTHEW S. NEUDECKER

LIC. NO. 62302

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

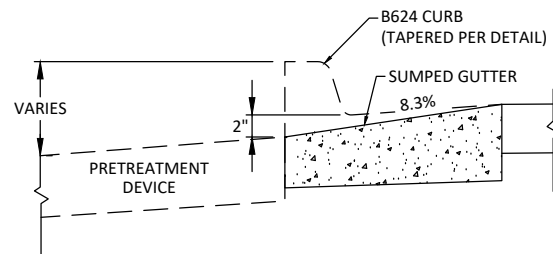
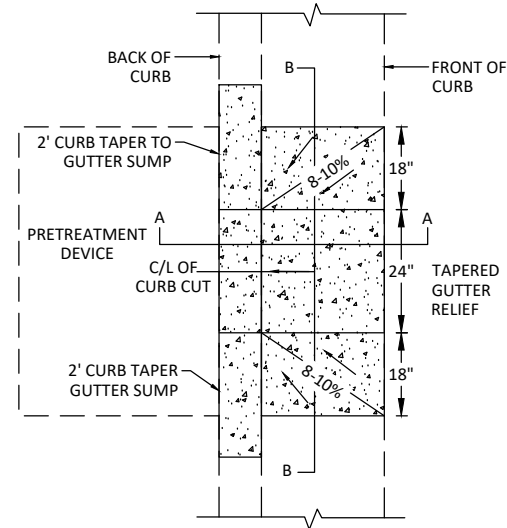
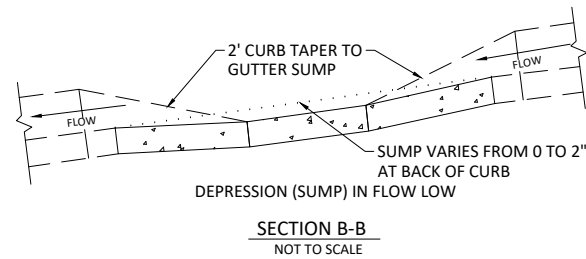
DRAINAGE DETAILS

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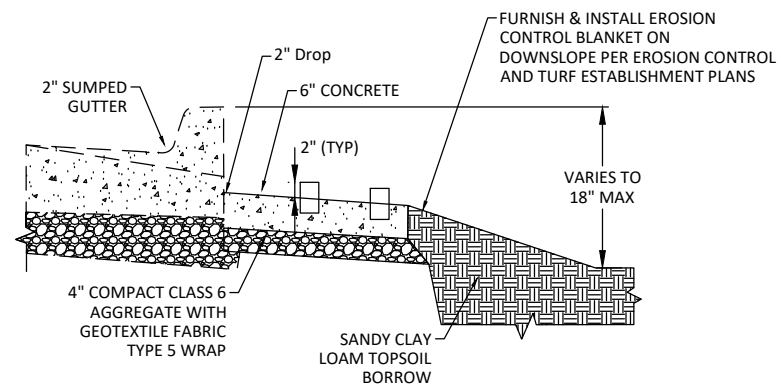
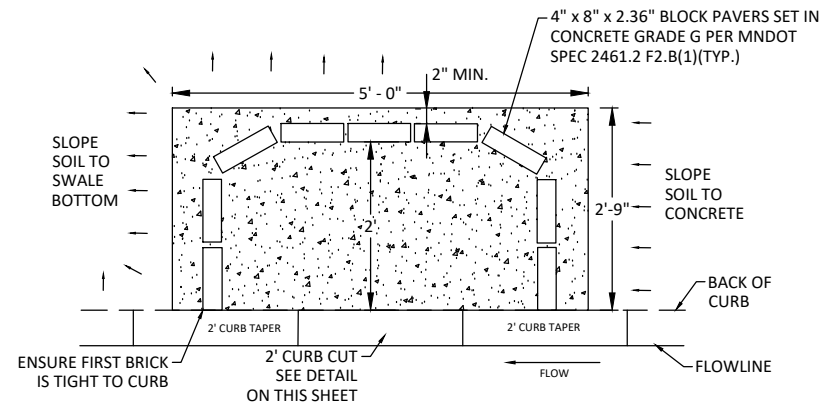
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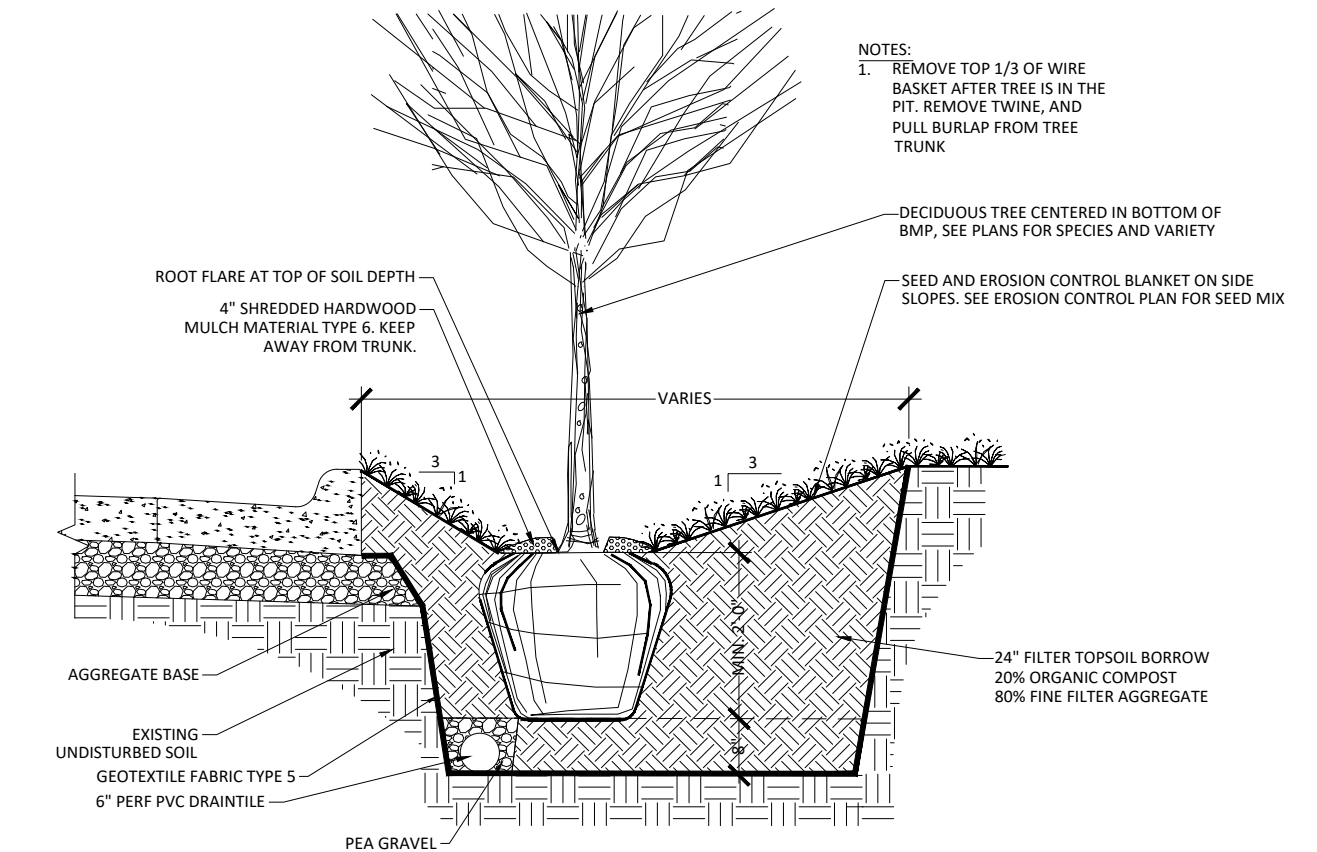
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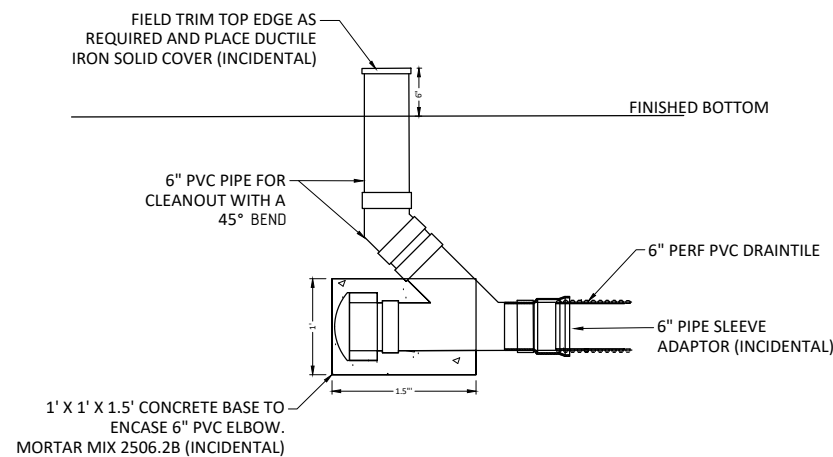
CURB CUT INLET DETAIL ①  
NOT TO SCALE



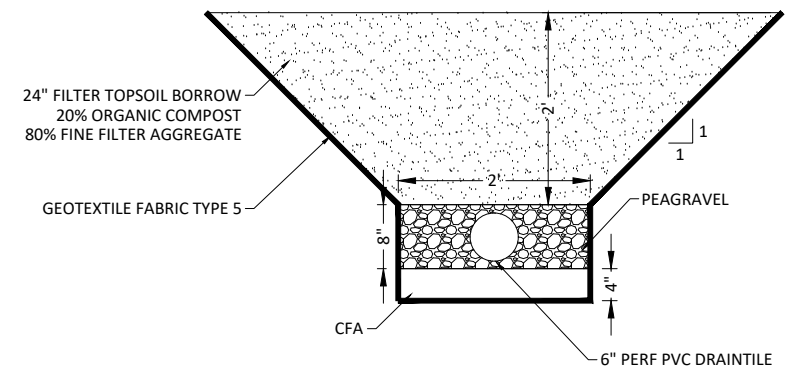
CONTROL STRUCTURE ②  
NOT TO SCALE



① BMP TREE PLANTING DETAIL  
SCALE: N.T.S.



6" PVC PIPE CLEANOUT  
NOT TO SCALE



TREE TRENCH: 6" PERFORATED PVC PIPE  
NOT TO SCALE



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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT

DRAINAGE DETAILS

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OF  
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STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
(NPDES PERMIT IS REQUIRED ON THIS PROJECT)

PROJECT NAME/LOCATION

Raleigh Ave & W 35th St Rehabilitation is located East of Highway 100 and North of 36th St in the City of St. Louis Park in Hennepin County.
Latitude: 44.9398 Longitude: -93.3443 (from Digital Raster Graphic Topo 7.5-minute) Zip Code(s): 55416.

ENVIRONMENTAL REVIEW

There 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. The project is located in a well head protection area or Drinking Water Supply Management Area (DWSMA) with a moderate vulnerability.

PROJECT DESCRIPTION/NARRATIVE

The intent of this project is to improve roadway conditions and safety. This project will include lane reductions, ADA improvements, lighting improvements, utility improvements, and drainage improvements.

LONG TERM MAINTENANCE AND OPERATION

The City of St. Louis Park maintenance staff are responsible for the long term maintenance and operation of the permanent stormwater system.

PROJECT CONTACTS

The project engineer and contractor are responsible for implementation of the SWPPP and installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before, during and after construction until the Notice of Termination (NOT) has been submitted with the Minnesota Pollution Control Agency (MPCA).

Table with 3 columns: ORGANIZATION, CONTACT NAME, PHONE. Rows include SWPPP Designer (Bolton & Menk, Inc.), Contractor's Erosion & Sediment Control Supervisor, Contractor's Erosion & Sediment Control Installer, St. Louis Park Long Term O&M, St. Louis Park Water Resources Engineer, St. Louis Park Design Project Manager, St. Louis Park Construction Project Engineer, Minnesota Pollution Control Agency (MPCA), and Minnehaha Creek Watershed District.

MPCA 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451 TOLL FREE: 800-422-0798

EROSION CONTROL SUPERVISOR

In accordance with spec. 2573.3 A1 the contractor shall provide an Erosion Control Supervisor with a valid certification to direct the contractor and subcontractors operations and insure compliance with federal, state and local ordinances and regulations. The Erosion Control Supervisor will work with the project engineer to oversee the implementation of the SWPPP and the installation, inspection, and maintenance and repair of the erosion prevention and sediment control BMPs before, during and after construction until the NOT has been filed with the MPCA.

The Erosion Control Supervisor is responsible for complying with all the inspection and maintenance requirements stated in the NPDES permit. Inspections of the entire construction site will occur 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. The Erosion Control Supervisor will oversee inspection of all erosion prevention and sediment control BMPs to ensure integrity and effectiveness of each BMP. All inspections and maintenance conducted during construction must be recorded in writing (within 24 hrs.) and these records must become part of the SWPPP. Inspection reports must be submitted to the project engineer in a format that meets or exceeds the project engineer's expectations. Records of each inspection and maintenance activity shall include:

- A. Date and time of inspections;
- B. Name of persons conducting inspections;
- C. Findings of inspections, including specific locations where corrective actions are needed;
- D. Corrective actions taken, including dates, times, and party completing maintenance activities;
- E. Date and amount of all rainfall events greater than 0.5 inch in 24 hours;
- F. Photograph and description of discharge (i.e. color, odor, floating, settled or suspended solids, foam, oil sheen, etc.); and
- G. Documents and changes made to the SWPPP.

Rainfall amounts must be obtained by a properly maintained rain gage on site, a weather station within 1 mile of site, or a weather reporting system that provides site specific rainfall data from radar summaries.

LOCATION OF SWPPP REQUIREMENTS

The required SWPPP elements are located in several places within the plan set as well as in the special provisions, MnDOT spec book (2020 edition) and MnDOT supplemental specs (2022 edition). The notes and table below are a quick reference for the contractor and project engineer to use in the field. There may be additional required SWPPP elements included on the project that are not listed on this sheet.

SWPPP TRAINING

This SWPPP was prepared by personnel certified, or under the supervision of someone certified, in the design of construction SWPPPs. Copies of the certifications are on file with Hennepin County and are available upon request. The contractor is responsible for providing an erosion control supervisor with valid certification that is responsible for overseeing the implementation of the SWPPP. The contractor must provide proof of certification at the preconstruction meeting and will not be allowed to commence work until proof of certification has been provided to the project engineer.

PROJECT WATERBODIES

The following waterbodies are located within one mile of the project limits and receive runoff from the project site. If any of the waterbodies are special or impaired waters, the BMPs described in Section 23 of the NPDES permit will apply to all areas of the site. Approved TMDL implementation plans are also listed.

Table with 5 columns: NAME, TYPE, SPECIAL?, IMPAIRED?, APPROVED TMDL?. Rows include BASS LAKE and BDE MAKA SKA.

No work shall occur within the banks of DNR designated Public Waters between March 1 and June 15. Stabilization of soils within 200 feet of the waters edge must be completed within 24 hours during this period.

STORMWATER CONTROLS AND PRECIPITATION

The contractor must plan and implement BMPs to protect receiving waters. The average annual rainfall amount for the project area is 28.2 inches. Average 2-year and 10-year rainfall intensities are 3.68 in/hr and 5.51 in/hr respectively, assuming a Time of Concentration of 10 minutes.

LAND FEATURE CHANGES

Total disturbed area: 3.7 acres
Total existing impervious surface area: 3.4 acres
Total post construction impervious surface area: 3.3 acres
Total proposed net change in impervious surface area: -0.1 acres

ADDITIONAL SWPPP REQUIREMENTS

- Timing for Installation is described in General SWPPP notes and are specified relative to contractor schedule.
- BMP Design Factors are incorporated in the design of BMP Standard Detail Sheets.
- Soil Management:
Soil types typically found on this project are urban land that has been cut and/or filled over time (See Geotechnical Report provided by Braun Intertec). The hydrologic soil groups for these soils are A/D, B/D
Grading Projects: subsoiling and seeding practices will be done to mitigate for compaction and disturbance beyond road core.
- All MPCA Construction Activity Requirements are incorporated into this SWPPP and associated plan documents, see Geotechnical Report, and Stormwater Memo.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

Table with 2 columns: DESCRIPTION, LOCATION. Rows include SITE MAP & EROSION CONTROL SHEETS, DIRECTION OF FLOW, FINAL STABILIZATION, SOILS AND CONSTRUCTION NOTES, DRAINAGE PLAN/PROFILE SHEETS, DRAINAGE TABULATION, EROSION AND SEDIMENT CONTROL DETAILS, EROSION CONTROL TABULATION, and TURF ESTABLISHMENT TABULATION.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (CONTINUED)

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. Construction shall be governed by the 2023 NPDES Construction Stormwater Permit, MnDOT Spec Book (2020 Edition), project plans, and special provisions. Reference special provision 1717 for additional MPCA NPDES requirements. The contractor will develop a chain of command with all operators on the site to ensure that the SWPPP will be implemented and stay in effect until the construction project is complete, the entire site has undergone final stabilization, and the NOT has been submitted.
2. The contractor will prepare a written, weekly schedule of proposed erosion control activities for the Project Engineer's approval as per MnDOT Spec 1717.2B.
3. The contractor will prepare and submit a site plan for the Engineer's approval as per MnDOT Spec 1717.2C for concrete management, work in environmentally sensitive areas, areas identified in the plans as "site plan requirement area", any work that will require dewatering, the staging of inlet protection devices over the life of the contract, and as requested by the engineer. All site plans must be submitted to the engineer in writing. The contractor shall allow a minimum of 7 days for The City of St. Louis Park to review and approve site plan submittals. The contractor will not be allowed to commence work for which a site plan is required until approval has been granted by the engineer. The contractor will not be given any extra time in the contract due to the untimely submittal of a site plan.
4. The contractor will comply with the requirements regarding pollution prevention management during construction, which will include, but not be limited to:
- A. Concrete (including stucco, paint, form release oils, curing compounds, and other construction materials) washouts are not allowed on site. An engineered collection system can also be used if it is approved by the project engineer. Liquid and solid waste must be disposed of properly and in compliance with all MPCA regulations.
  - B. Solid waste including, but not limited to, collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes, must be disposed of properly and in compliance with MPCA disposal requirements.
  - C. Fuel tanks are not allowed on site. Hazardous waste, such as, oil, gasoline, paint, and other hazardous substances, must be properly stored, including secondary containment, to prevent spills, leaks, or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
  - D. External washing of trucks and other construction vehicles is not allowed on site. Engine degreasing is not allowed on site.
  - E. Chemical spill kits must be available on site at all times.
  - F. Portable restroom facilities must be anchored to prevent tipping.
5. Chemicals must be kept in a secure storage area when not in use. Chemical storage containers must have secondary containment when being used or stored on the project site. Chemical spills of any kind (oil, fuel, fertilizer, etc.) must be cleaned up and removed from the site immediately.
6. The contractor is responsible for creating and following a written disposal plan for all waste materials, and submitting the plan to the engineer. The plan will include how the material will be disposed of and the location of the disposal site.
7. Burning of any material is not allowed within project boundary.
8. The erosion prevention and sediment control BMPs shall be placed as necessary to minimize erosion from disturbed surfaces and to capture sediment onsite. All erosion control measures shall be in place prior to starting any removal work and/or ground disturbing activities and shall be maintained until temporarily or permanently stabilized.
9. Sediment control devices must be established on all down gradient perimeters before any up gradient land disturbing activities begin.
10. Storm sewer inlets will be protected at all times with the appropriate inlet protection for each specific phase of construction. Inlet protection devices may need to be placed multiple times in the same location over the life of the contract. Inlet protection devices will be paid for once per inlet regardless of the number of times the BMP is placed. All storm sewer inlet protection devices will be kept in good functional condition at all times. If the project engineer deems an inlet protection device to be nonfunctional, in poor condition, ineffective, or not appropriate for the current construction activities it will be replaced with a suitable alternative at no cost to The City of St. Louis Park.
11. The contractor will place construction exits, as necessary, to prevent tracking of sediment onto paved surfaces and in compliance with Section 9 of the NPDES permit. Construction exits will be sufficiently sized and maintained to prevent track out. Type 5 mulch (slash mulch) or an approved engineered product will be allowed for construction exits in lieu of crushed rock.
12. All stormwater, including dewatering, must be discharged in a manner that does not cause nuisance conditions or erosion in receiving channels, downslope properties or inundation in wetlands causing an adverse impact to the wetland as determined by the engineer.
13. Backfill placed in streams shall consist of rock or granular material free of fines, silts, and mud. Machinery shall be cleaned of all such material and free of grease, oil, etc. before entering the stream.

14. Slopes steeper than 1:3 (V:H) and greater than 75' in length shall be temporarily or permanently stabilized in increments not to exceed 75' in length prior to constructing or disturbing a new increment. If temporary or permanent stabilization is not feasible at a particular site, a sediment basin or other approved sediment control measure will be allowed as approved by the engineer.
15. Land disturbance and removal of riparian (streamside) vegetation shall be minimized.
16. All exposed soil areas must be temporarily or permanently stabilized no more than 7 days (7 days if within 1 mile of and draining to a special or impaired water) after construction activity on that portion of the site has temporarily or permanently ceased. Stabilization must be initiated immediately. In many instances, this will require stabilization to occur more than once during rough grading. Rapid stabilization methods 1, 2, 3 or 4 will be used to provide temporary cover, as appropriate, in these areas.
17. All temporary or permanent drainage ditches or swales that drain water from the construction site or divert water around the construction site must be stabilized to top of bank within 200 lineal feet from the property edge or point of discharge to any surface water. Stabilization must occur within 24 hours of connection to surface water, existing gutter, storm sewer inlet, drainage ditch, or other stormwater conveyance system according to MnDOT Spec 1717.2. Rapid stabilization Method 4 will be used to stabilize these areas. The remainder of the ditch must be stabilized within 7 days (7 days if within 1 mile of and draining to a special or impaired water) of connecting to the surface water. Permanent erosion control blanket or rapid stabilization Method 4 will be used to stabilize these areas. Disc anchored mulch and hydraulic soil stabilizers are not allowed to be used for permanent ditch stabilization.
18. Outlets shall be permanently or temporarily stabilized with energy dissipation within 24 hours of being constructed.
19. All exposed soil areas will be stabilized prior to the onset of winter. Any work still being performed will be snow mulched, seeded, or blanketed within the time frames indicated in the NPDES permit.
20. The contractor shall comply with the following inspection and maintenance requirements:
- A. Perimeter control devices must be repaired, replaced, or supplemented when it becomes non-functional or sediment reaches 1/2 the height of the device. Repairs must be made within 24 hours of discovery.
  - B. Inlet protection devices should be repaired when they become non-functional or sediment reaches 1/3 the height and/or depth of the device.
  - C. Temporary and permanent sediment basins must be drained and have the sediment removed once the sediment has reached 1/2 the storage volume within 72 hours of discovery.
  - D. Tracked sediment must be removed within 24 hours of discovery of tracking onto paved surfaces.
  - E. All other non-functional BMPs must be repaired, replaced, or supplemented within 24 hours of discovery.
  - F. Contractor is responsible for maintaining all BMPs until all soil disturbing work has been completed, site has gone under final stabilization, and the NOT has been submitted.
21. If sediment deposits in a surface water (including drainage ditches and conveyance systems), the material must be removed within 7 days.
22. Pavement surfaces shall be swept within 24 hours of discovery of sediment or tracking onto pavement that drains to curbs, inlets, ditches, or ponds. Pavement shall be lightly wetted prior to sweeping.
23. Temporary dewatering activities may be required for roadway construction and utility work. The city of St. Louis Park regulates all dewatering. The city regulated all dewatering activities, see city web page for requirements: <https://www.stlouisparkmn.gov/government/departments-divisions/engineering/engineering-permits/dewatering-permit>
24. Final stabilization requires that:
- A. All soil disturbing activities at the site have been completed.
  - B. All soils have been stabilized by a uniform perennial cover with a density of 70% or other equivalent means to prevent soil failure under erosive conditions.
  - C. All accumulated sediment has been removed from permanent water quality basins.
  - D. The permanent stormwater management system has been constructed and is operating as designed.
  - E. All temporary synthetic and structural erosion prevention and sediment control BMPs have been removed.
25. The size and elevation of storm sewer pipes, inlets and overflow devices have been specifically designed to conform to MnDOT design standards, MPCA and watershed district permit requirements. Changing flow directions, quantities, or patterns is not permitted. Any changes to the size, elevation or direction of flow of the drainage system must be approved by the hydraulics engineer.
26. Filing of the NOT is completed electronically through the MPCA permitting webpage. When the project has met the requirements for submission of the NOT, notify The City of St. Louis Park to coordinate the process.
27. Temporary soil stockpiles must have silt fence or other effective perimeter control. Soil stock piles must be covered with mulch, plastic or other BMP if left in place for more than 7 days (incidental).
28. Filtration basins may be used as temporary sedimentation basins when they have been rough graded. They cannot be used for temporary sedimentation after filtration media has been installed in the basin bottoms.
- Note: information on this sheet is available in the permit and is not intended to be all inclusive. Modifications from the permit will be underlined for quick identification.

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*Matthew S. Neudecker*

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LIC. NO. 62302 DATE 02/12/2025



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ST LOUIS PARK, MINNESOTA
2025 COMMERCIAL STREET REHABILITATION PROJECT
SWPPP
DETAILS

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OF  
115

LEGEND



IMPAIRED, SPECIAL OR PROTECTED WATERS



NATIONAL WETLANDS INVENTORY



PROJECT BOUNDARY



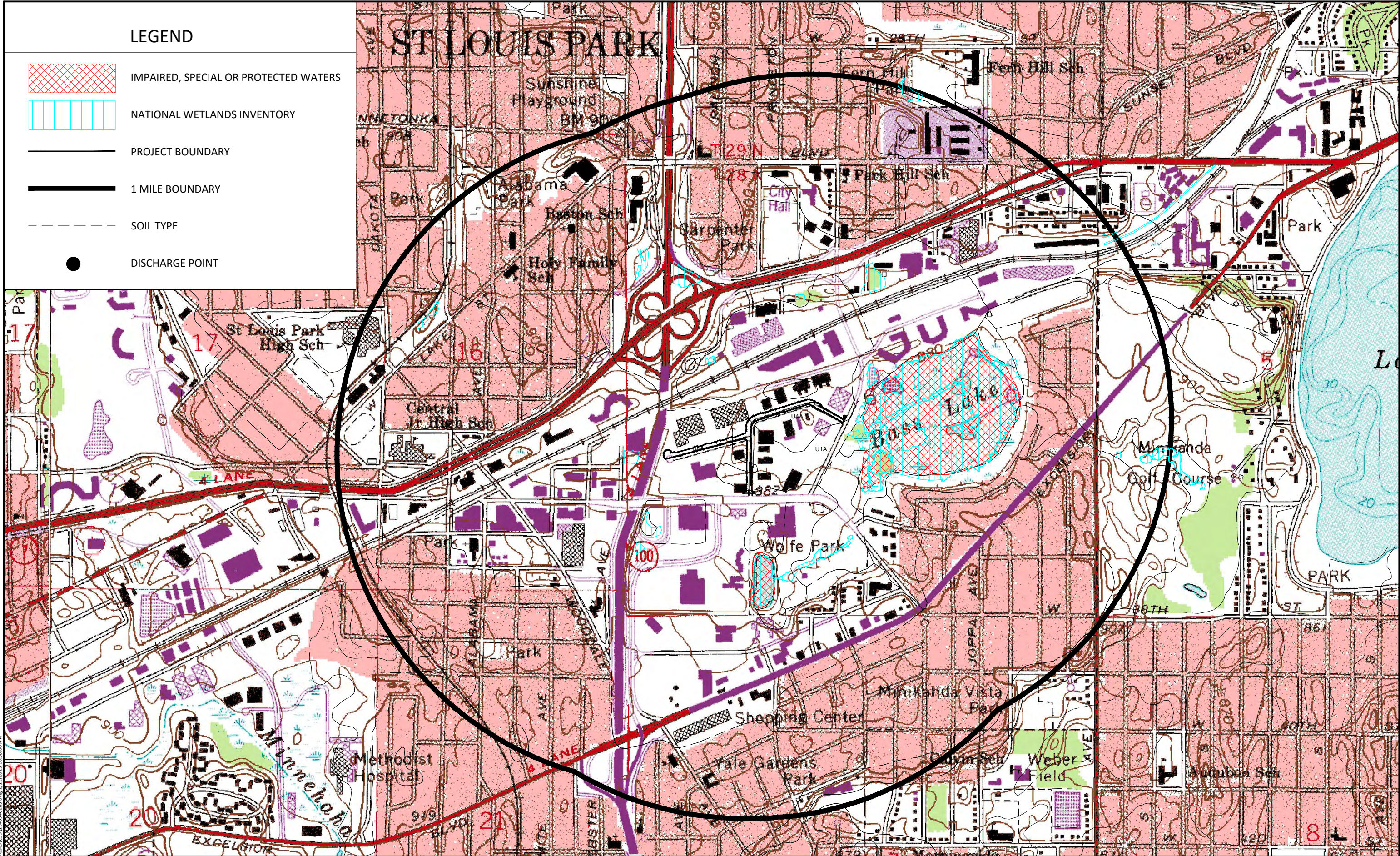
1 MILE BOUNDARY



SOIL TYPE



DISCHARGE POINT



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MATTHEW S. NEUDECKER  
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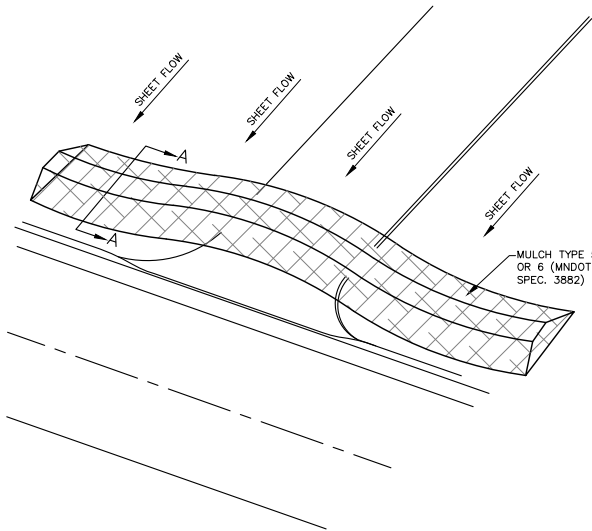


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SWPPP  
DETAILS

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74  
OF  
115



SECTION A-A BERM  
NOT TO SCALE

NOTES:

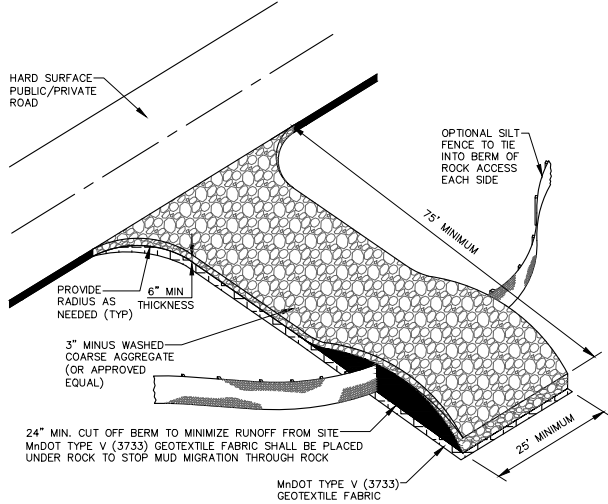
- WOOD CHIP BERM CANNOT BE USED IN AREAS OF CONCENTRATED FLOW WHERE WATER DEPTH OR VELOCITY MAY DISPERSE WOODCHIPS. IDEALLY A MULCH BERM IS USED ON AREAS WITH SMALL WATERSHEDS OR ON INDIVIDUAL LOTS.
- CONSTRUCTION VEHICLES ALLOWED TO DRIVE OVER WOOD MULCH BERM. MAINTENANCE IS REQUIRED DAILY.



MULCH BERM

PUBLISH  
DATE  
10/26/18

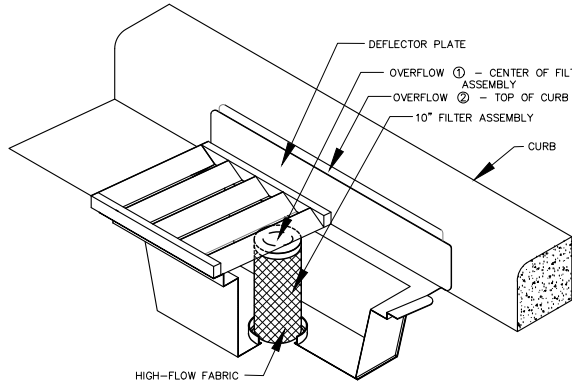
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CONSTRUCTION  
ENTRANCE

PUBLISH  
DATE  
10/26/18

PLATE  
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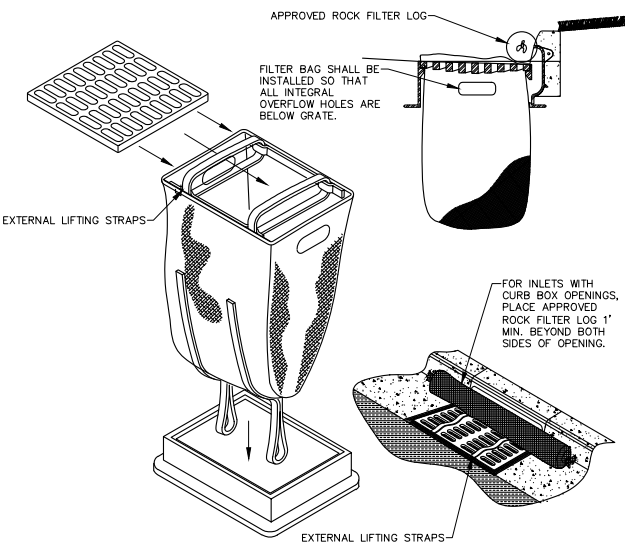
- AS PART OF SWPPP REQUIREMENTS, THE CONTRACTOR SHALL INSPECT ALL INLET PROTECTION AT DEFINED INTERVALS, AS WELL AS AFTER QUALIFYING RAIN EVENTS. INLET PROTECTION SHALL BE MAINTAINED PER MANUFACTURES INSTRUCTIONS AND IN ACCORDANCE WITH ALL SWPPP REQUIREMENTS AND/OR AT THE DIRECTION OF THE ENGINEER.
- INLET PROTECTION DEVICE MUST BE SPECIFIC FOR CURB TYPE AND FIT PROPERLY. THIS WILL ENSURE WATER AND SEDIMENT DO NOT BYPASS THE DEVICE.
- AN ATTACHED BACKSTOP IS REQUIRED FOR INLET PROTECTION. ROCK LOGS OR OTHER DEVICES ARE NOT ALLOWED.
- ALL LABOR, MATERIALS, AND EQUIPMENT TO FURNISH, INSTALL, MAINTAIN, REMOVE DEBRIS AND REMOVE DEVICE SHALL BE PAID PER EACH UNIT.



CATCH BASIN  
METAL INLET PROTECTION

PUBLISH  
DATE  
3/18/20

PLATE  
NO.  
EC-6



NOTES:

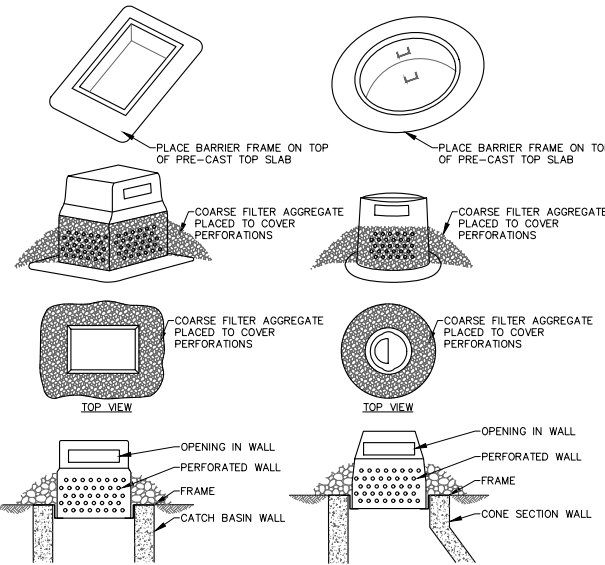
- ONLY APPROVED INLET PROTECTION GEOTEXTILE FABRIC BAGS OF THE CORRECT SIZE AND TYPE FOR THE INTENDED STRUCTURE SHALL BE ACCEPTED. ALTERNATE METHODS OF INLET PROTECTION SHALL NOT BE INSTALLED WITHOUT APPROVAL FROM THE ENGINEER. THE ENGINEER MAY REQUIRE ALTERNATE AND/OR ADDITIONAL METHODS TO ADDRESS SPECIFIC SITE CONDITIONS. THE ALTERNATE AND/OR ADDITIONAL METHODS ARE INCIDENTAL TO THE INLET PROTECTION BID ITEM.
- AS PART OF SWPPP REQUIREMENTS, THE CONTRACTOR SHALL INSPECT ALL INLET PROTECTION BAGS AT DEFINED INTERVALS, AS WELL AS AFTER QUALIFYING RAIN EVENTS. INLET PROTECTION BAGS SHALL BE MAINTAINED PER MANUFACTURES INSTRUCTIONS AND IN ACCORDANCE WITH ALL SWPPP REQUIREMENTS AND/OR AT THE DIRECTION OF THE ENGINEER.
- UPON FINAL REMOVAL OR DURING REQUIRED MAINTENANCE OF INLET PROTECTION, CARE SHALL BE TAKEN SO THAT TRAPPED SEDIMENT DOES NOT FALL INTO THE INLET STRUCTURE. ANY MATERIAL FALLING INTO THE INLET STRUCTURE SHALL BE REMOVED IMMEDIATELY. ALL SEDIMENT REMOVED FROM INLET PROTECTION BAGS OR FROM THE STRUCTURE SHALL BE DISPOSED OF PROPERLY.



INLET PROTECTION  
GEOTEXTILE BAG

PUBLISH  
DATE  
10/26/18

PLATE  
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EC-7



NOTE:

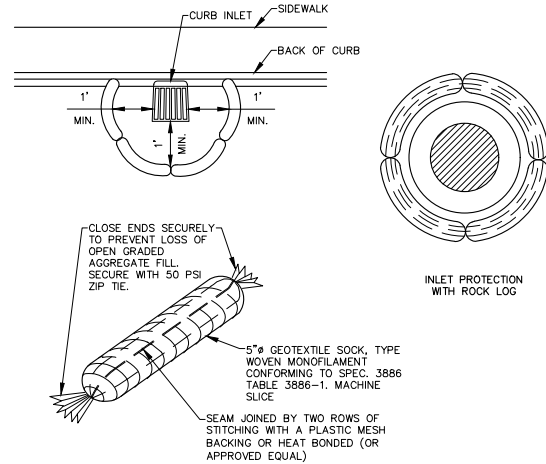
- USING METAL PLATES TO PROTECT MANHOLE STRUCTURES IS NOT ALLOWED



INLET PROTECTION  
CATCH BASIN RISER

PUBLISH  
DATE  
10/26/18

PLATE  
NO.  
EC-8



NOTES:

- ONLY USE THIS INLET PROTECTION DURING ROUGH GRADING, BEFORE ROAD IS PAVED OR OPEN TO TRAFFIC.
- FILL ROCK LOG WITH 45 LBS. OF OPEN GRADED AGGREGATE CONSISTING OF SOUND, DURABLE PARTICLES OF CRUSHED QUARRY ROCK OR GRAVEL CONFORMING TO THE FOLLOWING GRADATION.
- CRUSHED CONCRETE OR BITUMINOUS SHALL NOT BE USED FOR OPEN GRADED AGGREGATE.
- PAYMENT SHALL INCLUDE ALL MATERIALS, FILLING OF LOG, PLACEMENT, MAINTENANCE AND REMOVAL.
- 80% OF BID PRICE SHALL BE PAID UPON PROPER PLACEMENT. THE FINAL 20% WILL BE PAID UPON REMOVAL.

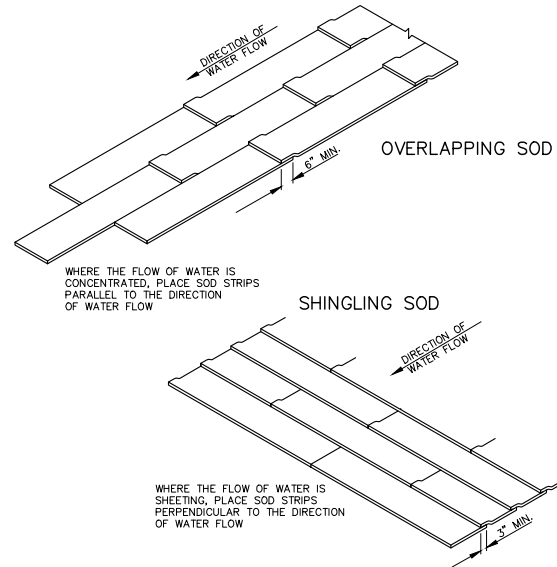
GRADATION	
SIEVE SIZE	PERCENT PASSING
1 1/2"	100
1"	95-100
3/4"	65-95
3/8"	30-65
NO 4	10-35
NO 10	3-20
NO 40	0-8
NO 200	0-3



INLET PROTECTION  
ROCK & GEOTEXTILE BAG

PUBLISH  
DATE  
10/26/18

PLATE  
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EC-9



NOTES:

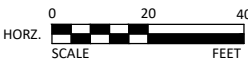
- SEE TURF ESTABLISHMENT SPECIFICATIONS FOR PROPER MAINTENANCE AND WARRANTY INFORMATION.



SOD PLACEMENT (SPECIAL)

PUBLISH  
DATE  
10/26/18

PLATE  
NO.  
EC-10



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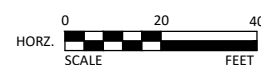
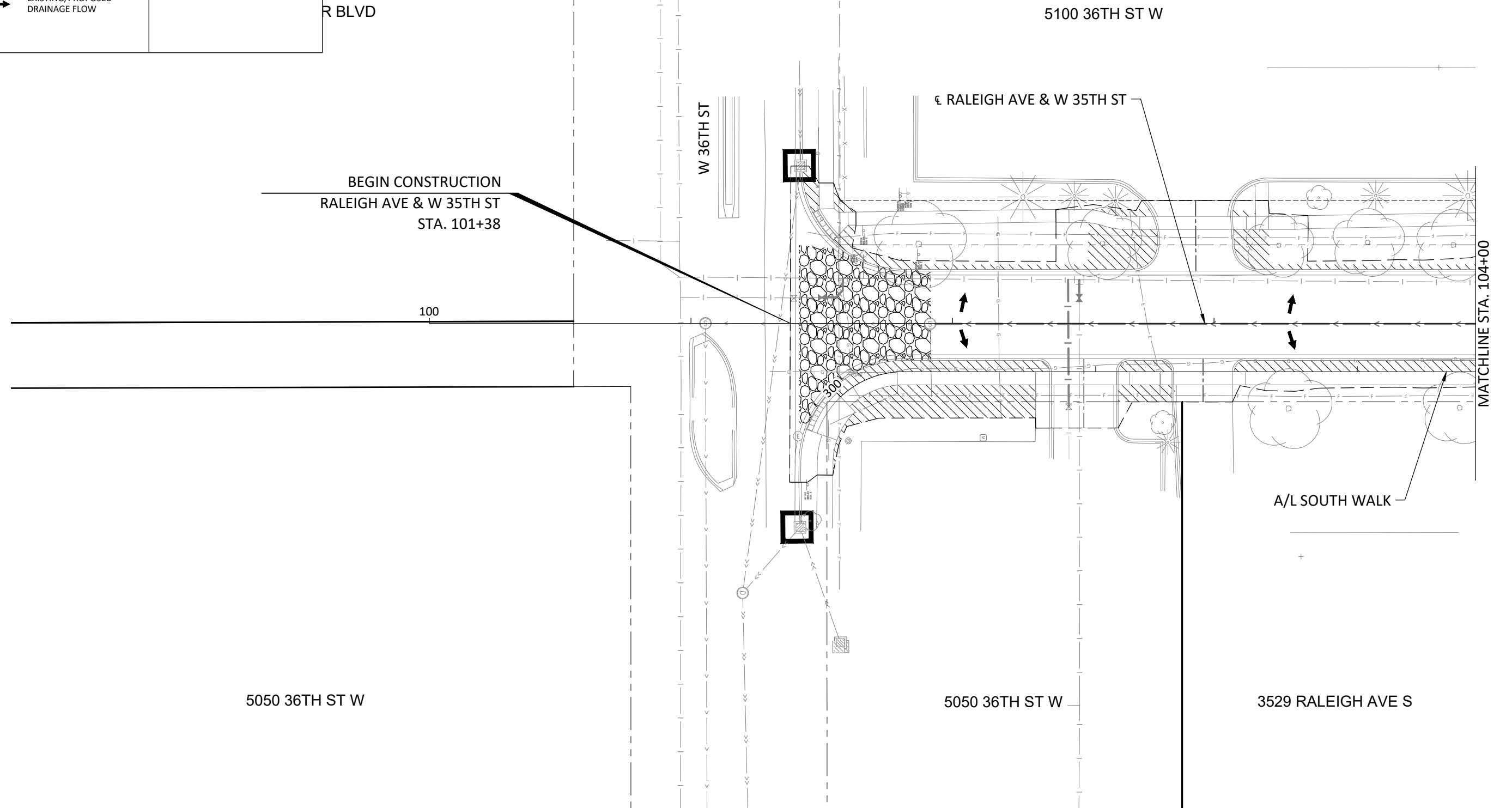
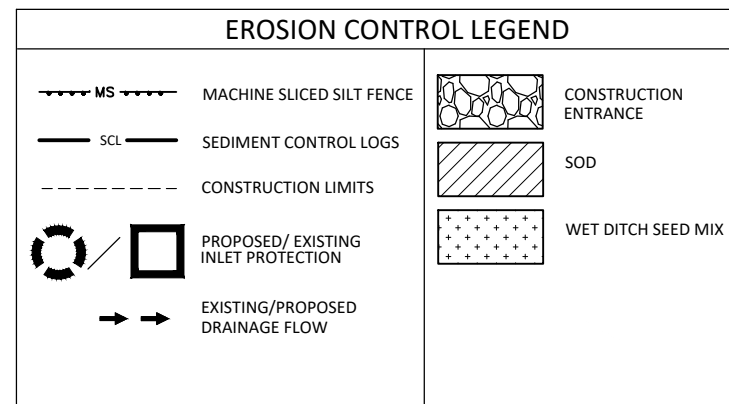


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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
EROSION CONTROL PLAN  
DETAILS

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75  
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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
EROSION CONTROL PLAN

EROSION CONTROL LEGEND	
	MACHINE SLICED SILT FENCE
	SEDIMENT CONTROL LOGS
	CONSTRUCTION LIMITS
	PROPOSED/ EXISTING INLET PROTECTION
	EXISTING/PROPOSED DRAINAGE FLOW
	CONSTRUCTION ENTRANCE
	SOD
	WET DITCH SEED MIX




  
MATTHEW S. NEUDECKER  
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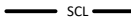
ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
EROSION CONTROL PLAN

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OF  
115

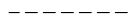
EROSION CONTROL LEGEND

MS


MACHINE SLICED SILT FENCE

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SEDIMENT CONTROL LOGS




CONSTRUCTION LIMITS




PROPOSED/ EXISTING  
INLET PROTECTION



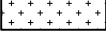
EXISTING/PROPOSED  
DRAINAGE FLOW



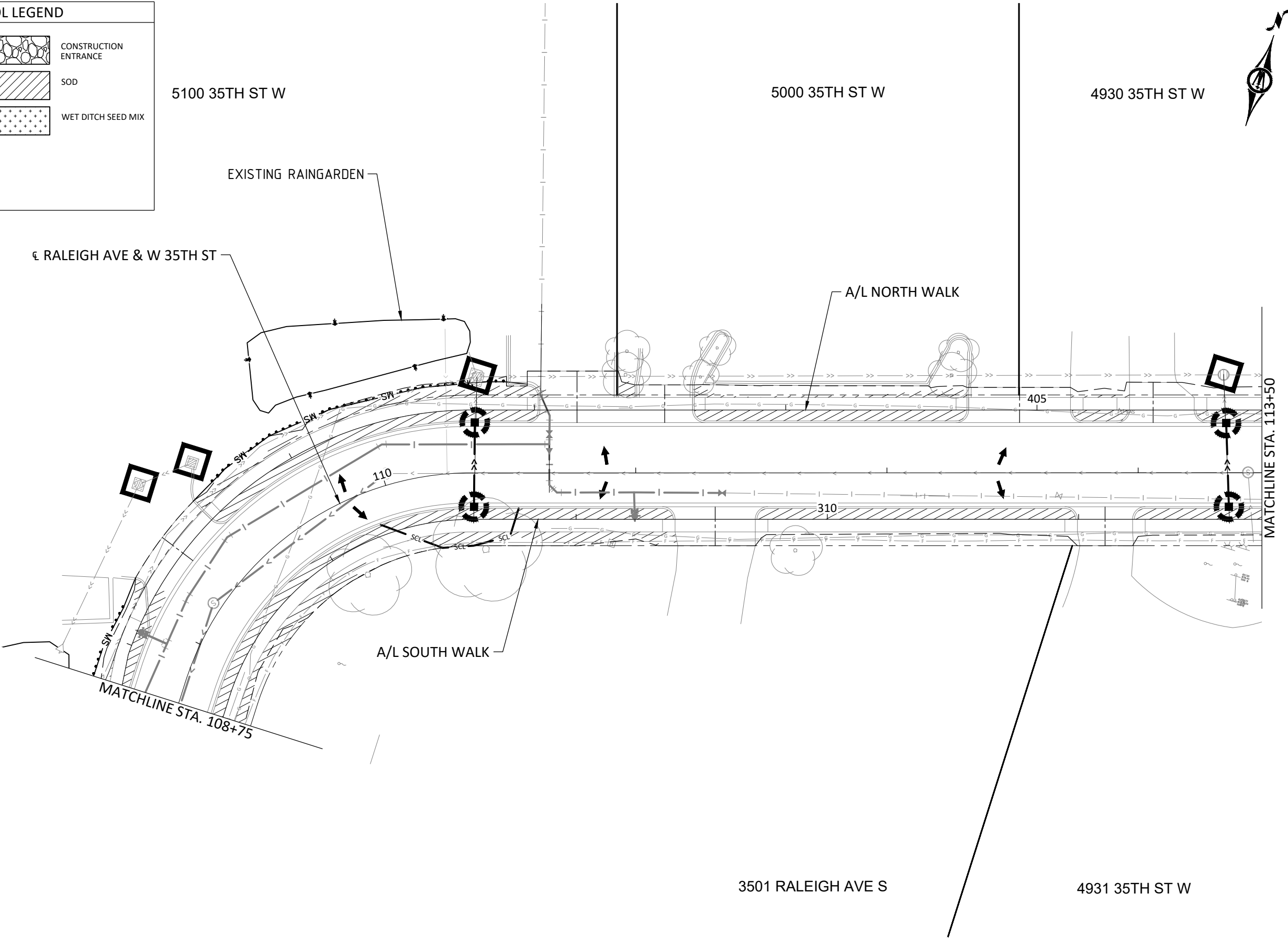
CONSTRUCTION  
ENTRANCE



SOD



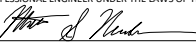
WET DITCH SEED MIX



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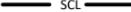
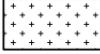


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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
EROSION CONTROL PLAN

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EROSION CONTROL LEGEND	
	MACHINE SLICED SILT FENCE
	SEDIMENT CONTROL LOGS
	CONSTRUCTION LIMITS
	PROPOSED/ EXISTING INLET PROTECTION
	EXISTING/PROPOSED DRAINAGE FLOW
	CONSTRUCTION ENTRANCE
	SOD
	WET DITCH SEED MIX




4838 35TH ST W

— A/L NORTH WALK

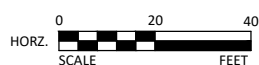
A/L SOUTH WALK -

MATCHLINE STA. 113+50


4905 35TH ST W



A detailed technical drawing of a matchline. It shows a cross-section of a road or embankment with various layers and dimensions. A diagonal line labeled "MATCHLINE STA. 118+20.00" runs across the bottom right corner, indicating the end of the section.



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

  
 MATTHEW S. NEUDECKER  
 LIC. NO. 62302 DATE 02/12/2025



12224 NICOLLET AVENUE  
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[www.bolton-menk.com](http://www.bolton-menk.com)

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CHECKED			
SAE			
CLIENT PROJ. NO.			
4025-1050			

ST LOUIS PARK, MINNESOTA

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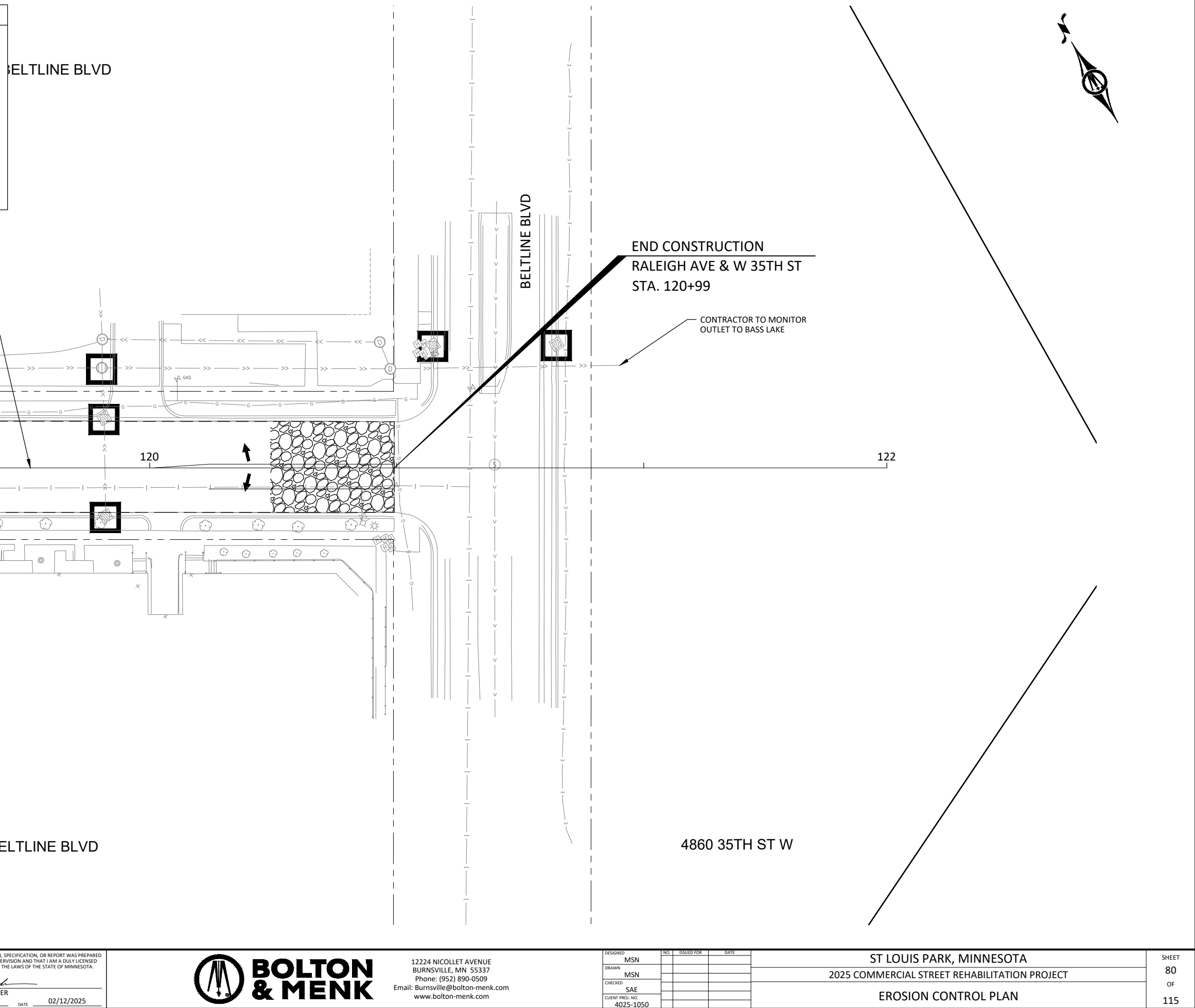
2025 COMMERCIAL STREET REHABILITATION PROJECT

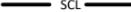
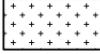
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EROSION CONTROL PLAN

SHEET  
79  
OF  
115

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EROSION CONTROL LEGEND	
	MACHINE SLICED SILT FENCE
	SEDIMENT CONTROL LOGS
	CONSTRUCTION LIMITS
	PROPOSED/ EXISTING INLET PROTECTION
	EXISTING/PROPOSED DRAINAGE FLOW
	CONSTRUCTION ENTRANCE
	SOD
	WET DITCH SEED MIX



BEGIN RECONSTRUCTION  
W 35TH ST CULDESAC  
STA. 202+00

€ W 35TH ST CULDESAC

200


20  
MATCHLINE STA. 205+00

3575 STATE HWY NO 100 S

3555 STATE HWY NO 100 S



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MATTHEW S. NEUDECKER

62302      02/12/2025



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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

EROSION CONTROL PLAN

SHEET  
81  
OF  
115

EROSION CONTROL LEGEND

MS

Machine Sliced Silt Fence

SCL

Sediment Control Logs

Construction Limits

Proposed/Existing Inlet Protection

Existing/Proposed Drainage Flow

Construction Entrance

SOD

Wet Ditch Seed Mix

5300 35TH ST W

5100 35TH ST W

EXISTING RAINGARDEN

W 35TH ST CULDESAC

210

SW

3555 STATE HWY NO 100 S

5100 36TH ST W

MATCHLINE STA. 205+00

MATCHLINE STA. 210+50

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*Matthew S. Neudecker*  
MATTHEW S. NEUDECKER  
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ST LOUIS PARK, MINNESOTA
2025 COMMERCIAL STREET REHABILITATION PROJECT
EROSION CONTROL PLAN

SHEET 82 OF 115

PERMANENT SIGNING & PAVEMENT MARKING PLAN

NOTES AND GUIDELINES

GENERAL INFORMATION:

- 1. SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
- 2. EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS, AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
- 3. DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
- 4. THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

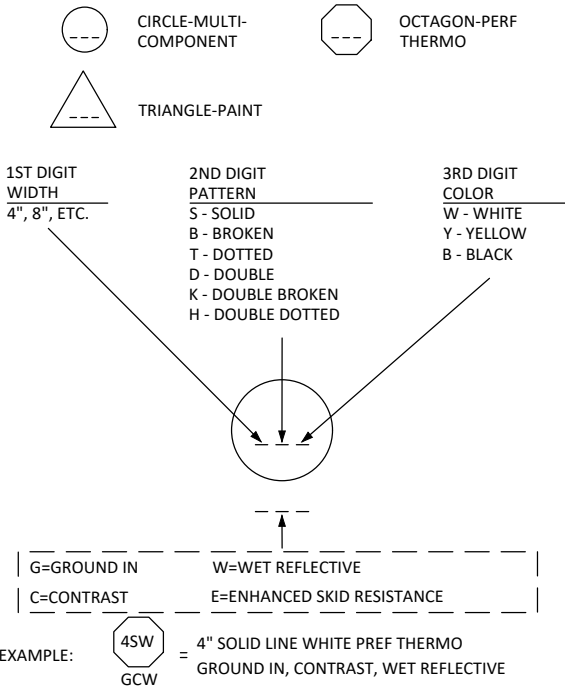
PERMANENT SIGNING AND PAVEMENT MARKING PLAN INDEX

83	TITLE SHEET
84	TABULATIONS
85	SIGNING DETAILS
86	STRIPING DETAILS
87-93	SIGNING & STRIPING PLAN

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE
- PREFORM THERMOPLASTIC GROUND IN
- PAVEMENT MESSAGE (LT ARROW) WHITE
- PREFORM THERMOPLASTIC GROUND IN
- PAVEMENT MESSAGE (RT ARROW) WHITE
- PREFORM THERMOPLASTIC GROUND IN

STRIPING KEY



I HEREBY CERTIFY THAT SHEETS 83 THROUGH 93 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: SAMUEL A. ELLISON LICENSE # 53752  
DATE: 02/12/2025 SIGNATURE: Samuel Ellison  
DESIGNER: CJB

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



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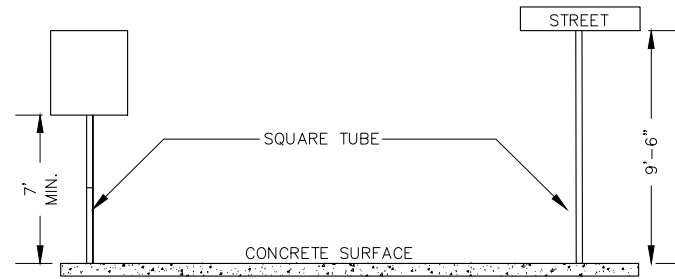
ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
SIGNING & STRIPING PLAN

SHEET  
83  
OF  
115

SIGN AND DELINEATOR / MARKER												N
SIGN NUMBER	PANEL				SUPPORT			REMOVE SIGN	SIGN	SALVAGE SIGN	INSTALL SIGN	
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE	RISER POST SIZE	NUMBER OF POSTS					
			INCHES			FEET						INCHES
S-1	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-SOIL	2-1/2	1			1	1	
	R1-1	STOP	30 x 30									
	R3-5R	RIGHT ONLY	30 x 36									
S-2	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
S-3	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
S-4	R7-SPECIAL	NO PARKING BETWEEN DRIVEWAYS	18 x 24	7	SQ-SOIL	2	1	1				
S-5	R1-1	STOP	30 x 30	7		2	1			1	1	
S-6	R5-1	DO NOT ENTER	30 x 30	7		2	1			1	1	
S-7	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
S-8	R1-1	STOP	30 x 30	7	SQ-SOIL	2	1			1	1	
(1)	S-9		RALEIGH 5100	7	SQ-SOIL	2	1			1	1	
(1)			RALEIGH 5100									36 x 6
			35TH ST									36 x 6
			35TH ST									36 x 6
S-10	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
S-11	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-12	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-13	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1	1				
	R7-202P	THIS SIDE OF SIGN	18 x 6									
(1)	S-14		ENTER ONLY	4	SQ-SOIL	2	1			1	1	
(1)			ENTER ONLY									
S-15			EXIT ONLY	4	SQ-SOIL	2	1			1	1	
			EXIT ONLY									24 x 24
S-16	R7-1	NO PARKING ANY TIME	18 x 24		SQ-SOIL	2	1	1				
S-17	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-18	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1	1				
		BEYOND	18 x 6									
S-19	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1	1				
		BEYOND	18 x 6									
S-20	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-21	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-22	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1	1				
	R7-202P	THIS SIDE OF SIGN	18 x 6									
S-23	R7-11	NO PARKING HERE TO CORNER	18 x 24	7	SQ-SOIL	2	1		3.00			
(1)	S-24A		35TH ST	4	SQ-SOIL	2-1/2	1			1	1	
(1)			35TH ST									36 x 6
			BELTLINE BLVD									36 x 6
			BELTLINE BLVD									36 x 6
		R1-1	STOP									30 x 30
S-24B	R3-8AA	L-R	36 x 30						7.50			
S-25	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-26	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1		3.00			
		BEYOND	18 x 6						0.75			
S-27	R8-3	NO PARKING	24 x 24		SQ-SOIL	2	1		4.00			
S-28	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1	1				
	R7-202P	THIS SIDE OF SIGN	18 x 6									
S-29	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
S-30	R7-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2	1	1				
		BEYOND	18 x 6									
S-31	R1-1	STOP	30 x 30	7	SQ-SOIL	2	1			1	1	
S-32	R8-3	NO PARKING	24 x 24	7	SQ-SOIL	2	1		4.00			
TOTAL								8	66	9	9	

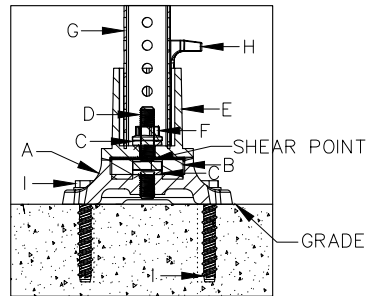
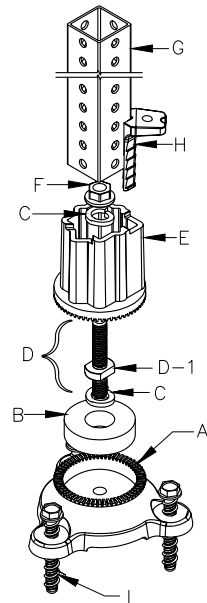
STRIPING TABULATION							O
ROADWAY	STATION TO STATION		LOCATION	2582	2582	2582	2582
				4" SOLID LINE MULTI- COMPONENT GROUND IN (WR)	4" DOUBLE SOLID LINE MULTI- COMPONENT GROUND IN (WR)	PAVEMENT MESSAGE PREFORM THERMOPLASTIC GROUND IN	CROSSWALK PREFORM THERMOPLASTIC GROUND IN
				LIN FT	LIN FT	SQ FT	SQ FT
CITY PROJ NO. 4025-1050							
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT/RT	100	16	
	118+25	TO	123+00	LT/RT	75	31	150
TOTAL				75	185	47	150

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CJB			
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TYPICAL SIGN MOUNTING HEIGHT

KLEEN BREAK MODEL 425  
CROSS SECTION VIEW

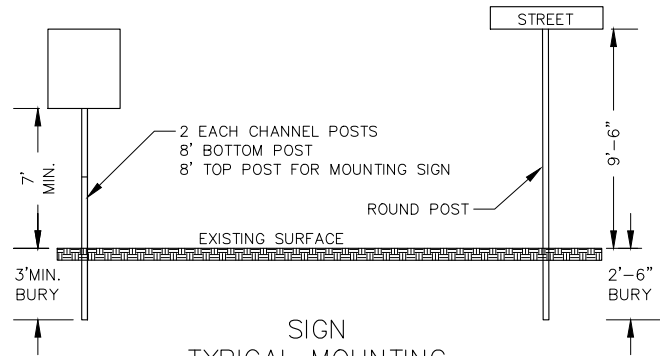


PARTS LIST

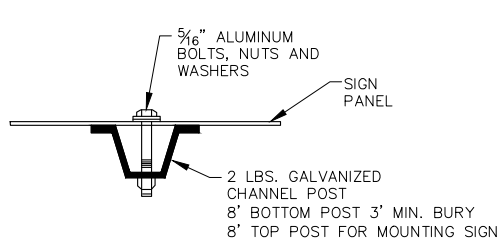
- A SURFACE MOUNT ANCHOR BASE  
B RUBBER BUSHING  
C LOCK WASHER  
D  $\frac{5}{8}$ "-11 X 4" SHEAR BOLT  
D-1 SHOULDER  
E TOP HALF COUPLER  
F  $\frac{5}{8}$ "-11 SERRATED FLANGE NUT  
G SIGN SUPPORT  
H SIGN SUPPORT LOCKING WEDGE  
I CONCRETE MOUNTING FASTENER - RED HEAD LDT  $\frac{1}{2}$ " X 4" (CAT. NO. LDT -1240)

NOTES:

- STREET BLADES TO BE INSTALLED ON TOP OF STOP SIGN IF LOCATED IN THE SAME CORNER OF THE INTERSECTION.
- MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
- SQUARE TUBE SIGN POSTS PER MnDOT SPEC. 3402.
- USE ALUMINUM  $\frac{5}{16}$ " BOLTS, WASHERS, AND NUTS.



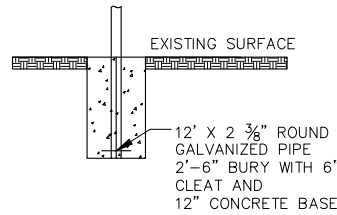
SIGN  
TYPICAL MOUNTING  
HEIGHT



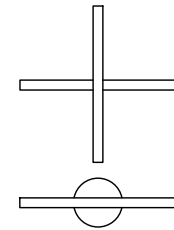
CHANNEL POST MOUNTING FOR  
TYPE "C" SIGNS

NOTES:

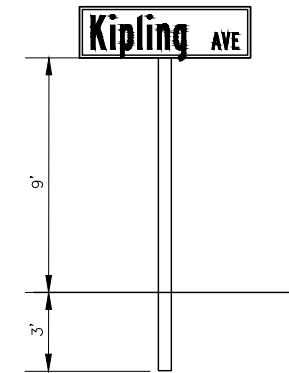
- STREET BLADES TO BE INSTALLED ON TOP OF STOP SIGN IF LOCATED IN THE SAME CORNER OF THE INTERSECTION.
- MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
- ALL RISER (VERTICAL) "U POSTS" SHALL BE 8' LONG.
- USE ALUMINUM  $\frac{5}{16}$ " BOLTS, WASHERS AND NUTS.



ROUND POST  
INSTALLATION  
FOR STREET  
SIGNS



BRACKETS-TOP VIEW

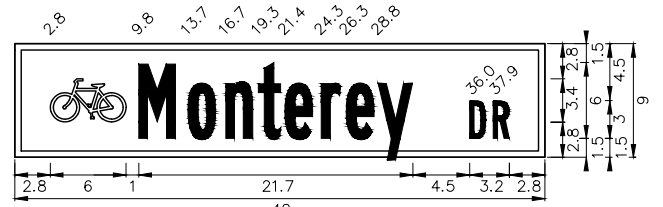


SUFFIX ABBREVIATIONS

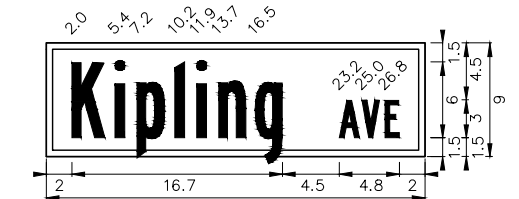
- STREET - ST  
AVENUE - AVE  
LANE - LN  
CIRCLE - CIR  
BOULEVARD - BLVD  
DRIVE - DR  
PLACE - PL

NOTES:

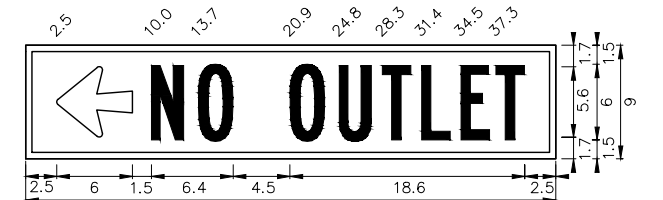
- SIGN BLADE SIZE IS 9" AND IS MADE OUT OF EXTRUDED ALUMINUM AND HAS SQUARED CORNERS.
- MAXIMUM SIZE OF BLADE LENGTH IS 60".
- BLADES SHALL BE DOUBLE FACED AND ATTACHED TO A BRACKET.
- LETTER SIZE IS 6" UPPER CASE & 5" LOWER CASE FOR STREET NAME ON 9" BLADES, 3" UPPER CASE FOR SUFFIX ON 9" BLADES, 6" NUMBERS ON 9" BLADES.
- THE FONT TO USE FOR LETTERING IS SERIES B.
- SIGNS SHALL BE CONSTRUCTED WITH HIGH INTENSITY PRISMATIC (HIP) SHEETING. USE MNDOT GREEN BACKGROUND FOR PUBLIC STREETS AND MNDOT BLUE BACKGROUND FOR PRIVATE STREETS.
- A BIKE SYMBOL WILL PRECEDE THE STREET NAME ON BLADE IF STREET INCLUDES A BIKE FACILITY.
- STREET NAMES SHALL BE SPELLED COMPLETELY EXCEPT FOR SUFFIXES.
- SHOP DRAWINGS FOR STREET BLADE BRACKETS SHALL BE APPROVED BY CITY STAFF PRIOR TO IMPLEMENTATION IN THE FIELD.
- SIGN POST SHALL BE 2 3/8" O.D. X 12' LONG GALVANIZED ROUND TUBE AND INSTALLED WITH BREAKAWAY SLEEVE IN CONCRETE.
- A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.
- SEE CITY SPECIFICATIONS FOR MORE DETAILS ON MATERIALS AND LAYOUT.
- PERMANENT SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.



0.5" Border, White on Green;  
"Monterey DR", B 2K;



0.5" Border, White on Green;  
"Kipling AVE", B 2K;



0.5" Border, Black on Yellow;  
Arrow 1 - 6.0" 180°; "NO OUTLET", B 2K;



SIGN INSTALLATION - CONCRETE

PUBLISH  
DATE  
12/20/21

PLATE  
NO.  
SS-2



SIGN INSTALLATION - NOT  
CONCRETE

PUBLISH  
DATE  
1/12/2023

PLATE  
NO.  
SS-3










STREET NAME BLADES

PUBLISH  
DATE  
12/29/22

PLATE  
NO.  
SS-4

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A:\STLP\2413499\00\CAD\CD\13499-00.dwg 2/12/2025 10:59:12 AM

ARROW	MUTCD CODE	STANDARD	
		INSTALLED AREA (SF)	REMOVAL AREA (SF)
	PMA-1	12.20	33.25
	PMA-2 (R OR L)	15.45	48.00
	PMA-3 (R OR L)	30.09	91.83

PLAN SYMBOL	DESCRIPTION	MUTCD CODE	WIDTH	HEIGHT	CONTRAST COLOR
	DESIGNATED BIKE SYMBOL	PMS-2	36"	72"	BLACK
	DESIGNATED SHARED LANE MARKER	PMS-3	40"	112"	BLACK
	ACCESSIBLE PARKING SYMBOL WHITE SYMBOL WITH BLUE CONTRAST	PMS-8	32.8"	32.8"	BLUE
	BIKE ARROW	PMA-1	26.5"	72"	BLACK

- NOTES:
- ALL STRIPING SHALL BE MULTI COMP EPOXY PER MNDOT 2582.503
  - ALL ARROWS, CROSSWALKS, CROSSBIKES, ACCESSIBLE PARKING, BIKE SYMBOLS AND RAILROAD CROSSINGS SHALL BE GROUND IN PREFORMED THERMOPLASTIC PER MNDOT 2582.518
  - ALL BIKE AND ACCESSIBLE SYMBOLS SHALL BE FULL SHEET (RECTANGLE) PER THE LENGTH AND WIDTH SHOWN IN THE TABLE ABOVE.



PAVEMENT MARKINGS

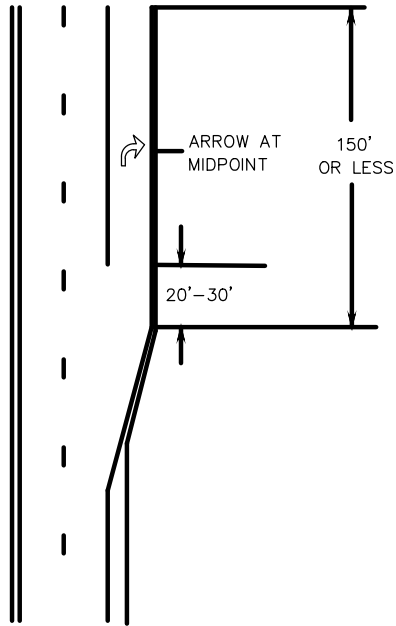
PUBLISH DATE

12/29/22

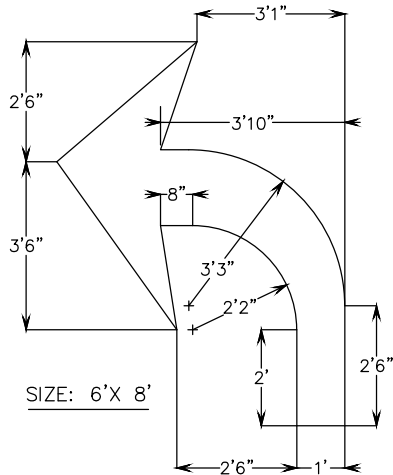
PLATE NO.

SS-5

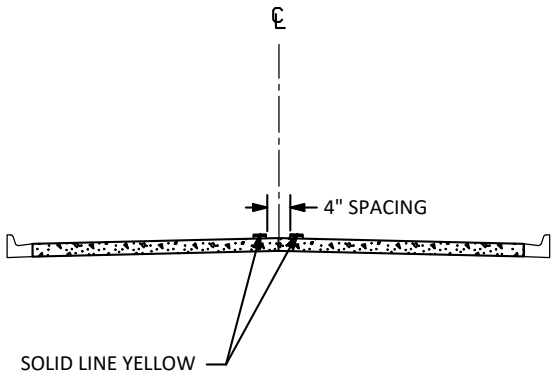
TYPICAL MESSAGE PLACEMENT



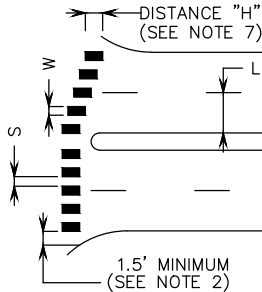
PAVEMENT MARKING DETAILS



DOUBLE YELLOW DETAIL



PEDESTRIAN CROSSWALK MARKINGS  
CONTINENTAL



WIDTH OF INSIDE LANE (L)	WIDTH OF PAINTED AREA (W)	WIDTH OF SPACE (S)	ALTERNATE WIDTH OF PAINTED AREA (W)	ALTERNATE WIDTH OF SPACE (S)
9'	2.0'	2.5'	—	—
10'	2.5'	2.5'	2.0'	3.0'
11'	2.5'	3.0'	2.0'	3.5'
12'	3.0'	3.0'	2.5'	3.5'
13'	3.0'	3.5'	—	—

NOTES:

- PAINTED AREAS TO BE CENTERED AND ALIGNED ON CENTER LINE AND LANE LINES.
- A MINIMUM OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB FACE. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE, IT MUST BE OMITTED.
- ON 2-LANE 2-WAY STREETS, USE SPACING SHOWN FOR 11' INSIDE LANE
- FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
- AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.
- THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES.
- THE BLOCKS SHALL BE MINIMUM OF 6' LONG AND AT LEAST AS LONG AS THE TRUNCATED DOMES. FOR FANNED TRUNCATED DOMES THE BLOCKS SHALL BE AT LEAST AS LONG AS APPROACHING SIDEWALK OR SHARED USE PATH.
- THE ALTERNATE (W) AND (S) MAY BE USED WHEN BLOCKS LONGER THAN 6' (H) ARE USED.

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

*Samuel A. Ellison*

SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
SIGNING & STRIPING PLAN

SHEET  
86  
OF  
115

LEGEND

- 1 F&I
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 6 INSTALL

NOTES:  
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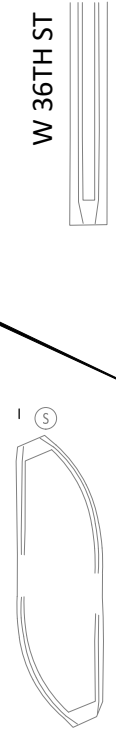


3601 PARK CENTER BLVD

BEGIN CONSTRUCTION  
RALEIGH AVE & W 35TH ST  
STA. 101+38

100

5050 36TH ST W



5100 36TH ST W

4DY  
GW

5050 36TH ST W

3529 RALEIGH AVE S

A/L SOUTH WALK

MATCHLINE STA. 104+00



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*Samuel A. Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



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Email: BurnsVille@bolton-menk.com  
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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
SIGNING & STRIPING PLAN

SHEET  
87  
OF  
115

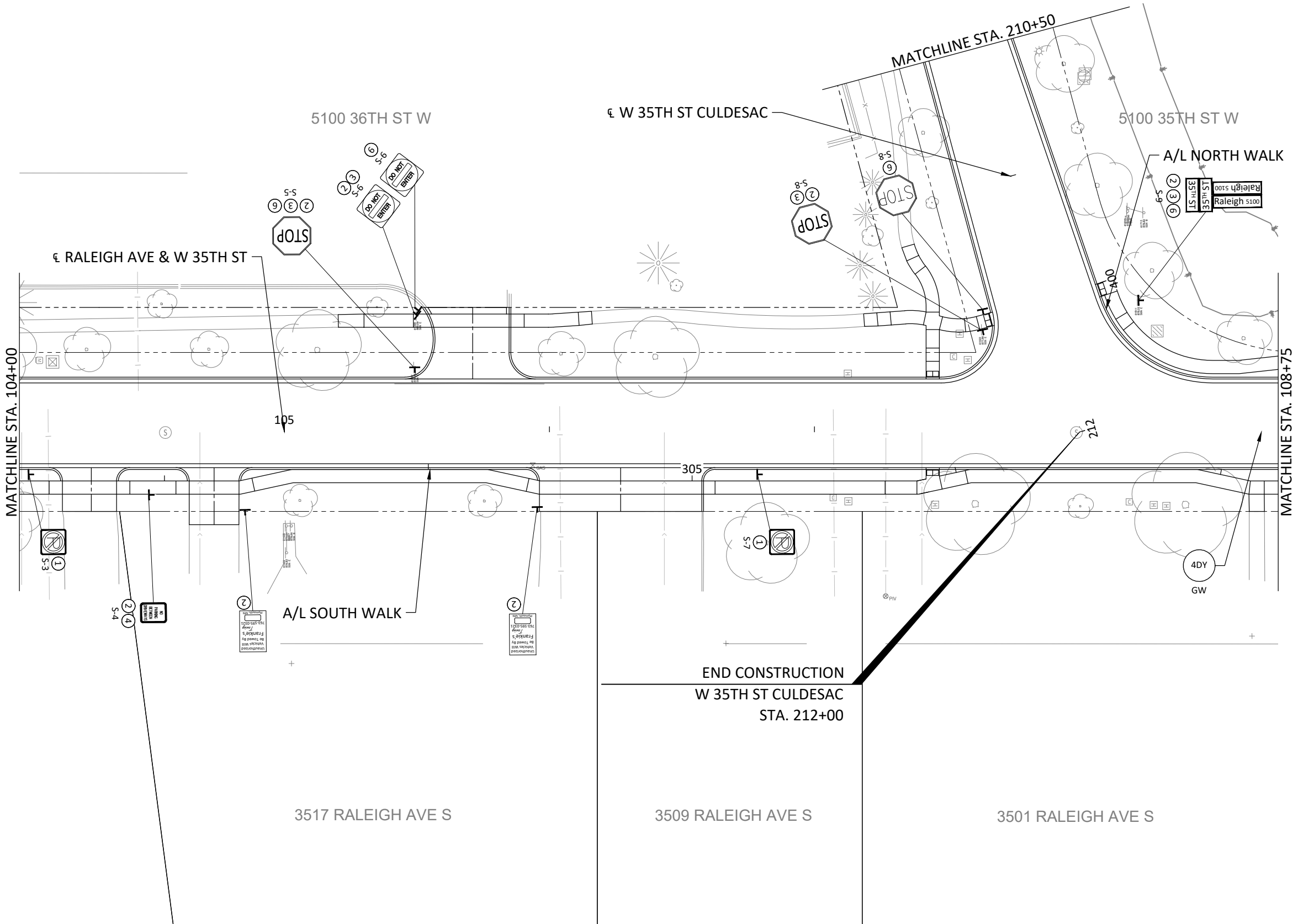
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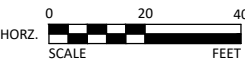
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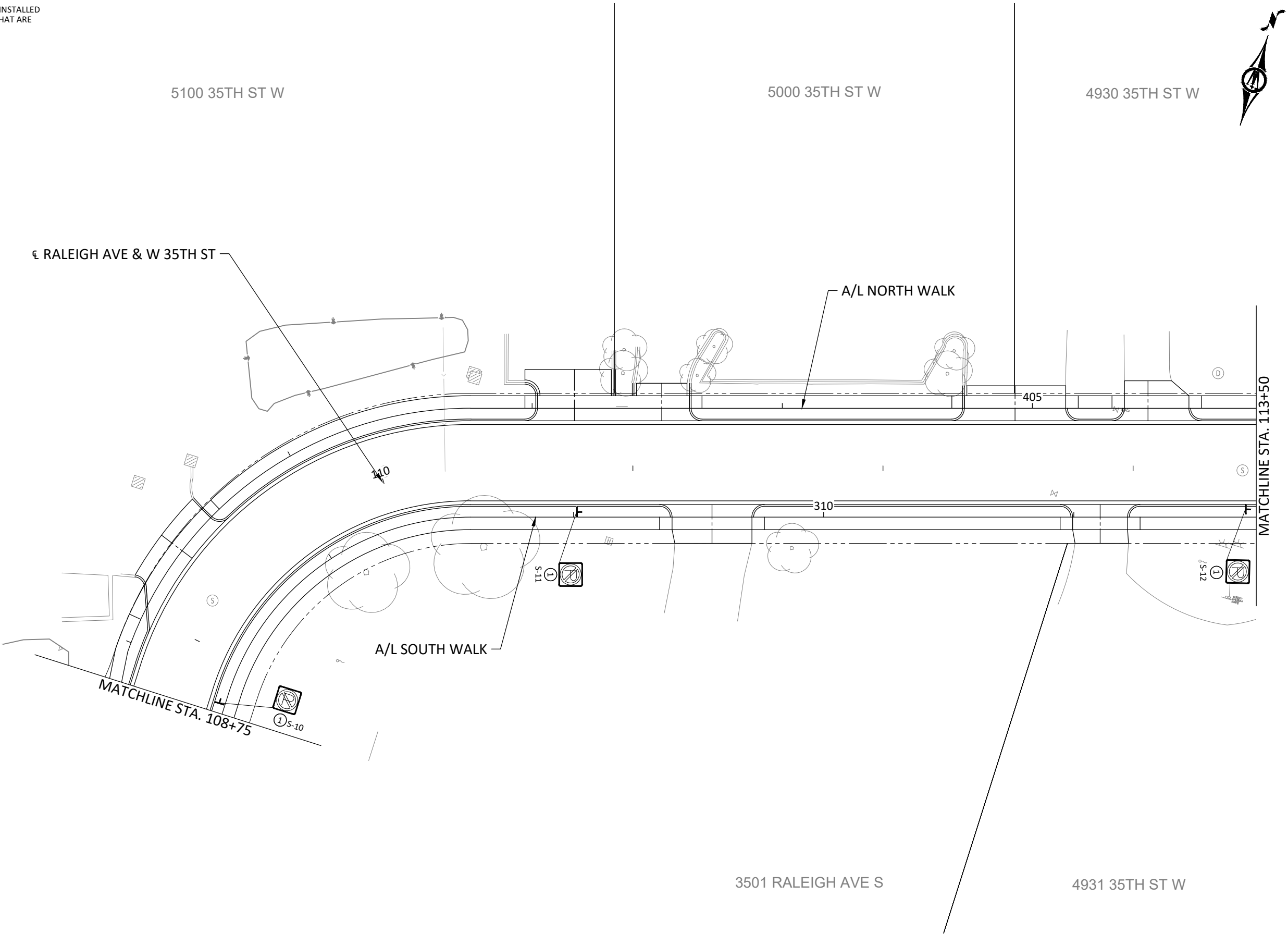
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SIGNING & STRIPING PLAN

LEGEND	
①	F&I
②	INPLACE
③	SALVAGE
④	REMOVE
⑥	INSTALL

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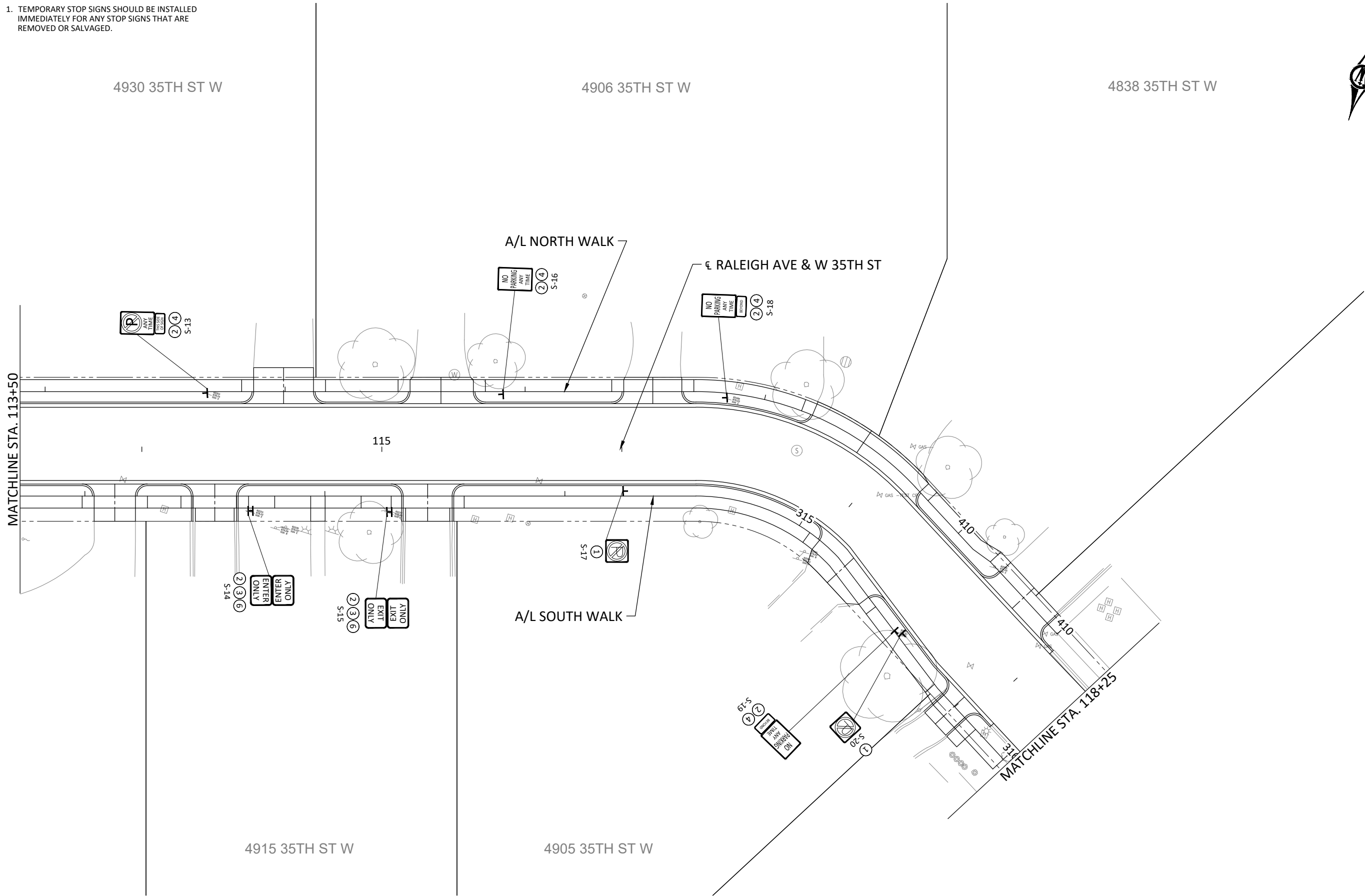
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2025 COMMERCIAL STREET REHABILITATION PROJECT	
SIGNING & STRIPING PLAN	

LEGEND	
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②	INPLACE
③	SALVAGE
④	REMOVE
⑥	INSTALL

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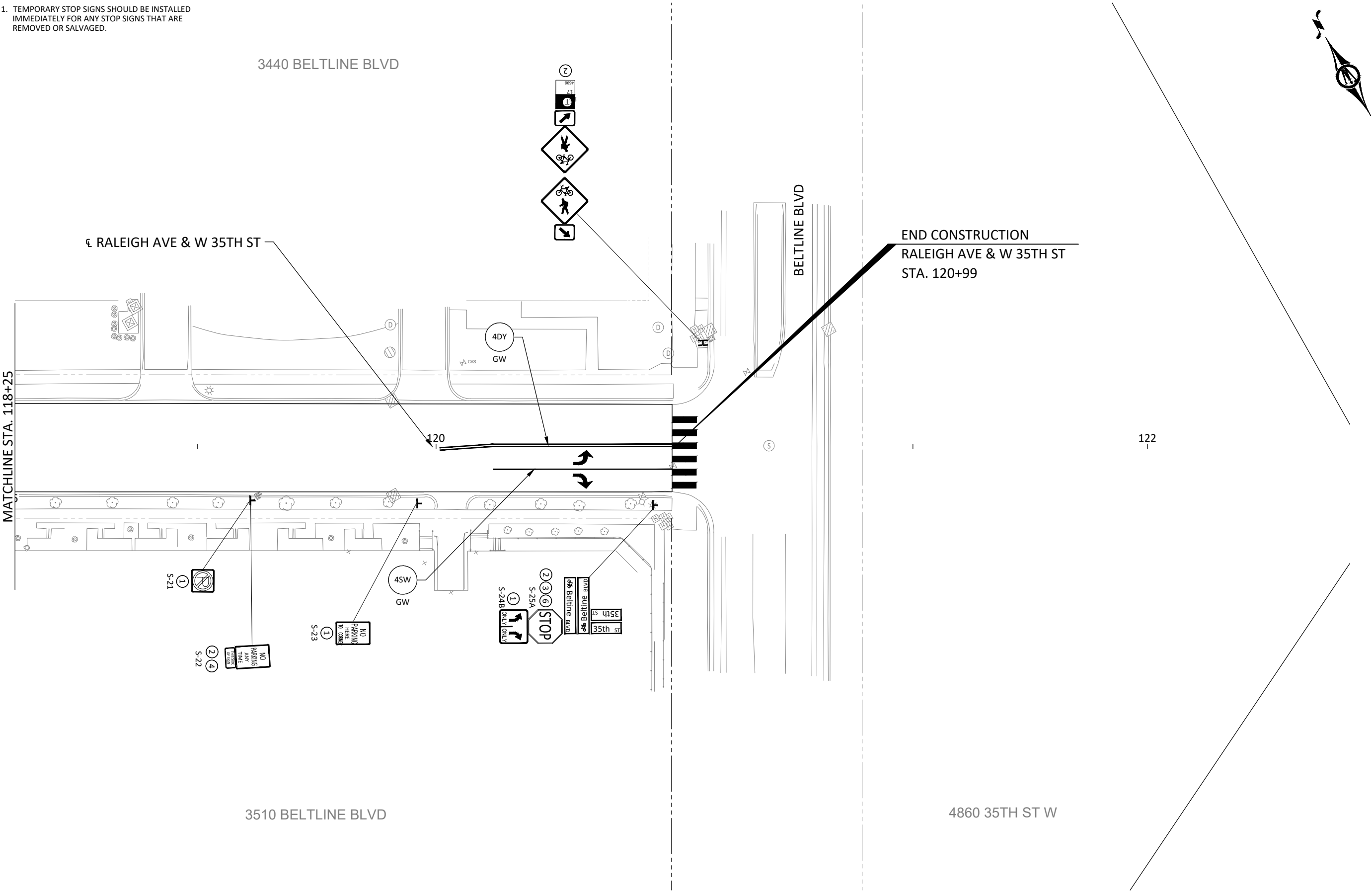
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SIGNING & STRIPING PLAN

SHEET  
90  
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LEGEND

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2025 COMMERCIAL STREET REHABILITATION PROJECT  
SIGNING & STRIPING PLAN

SHEET  
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OF  
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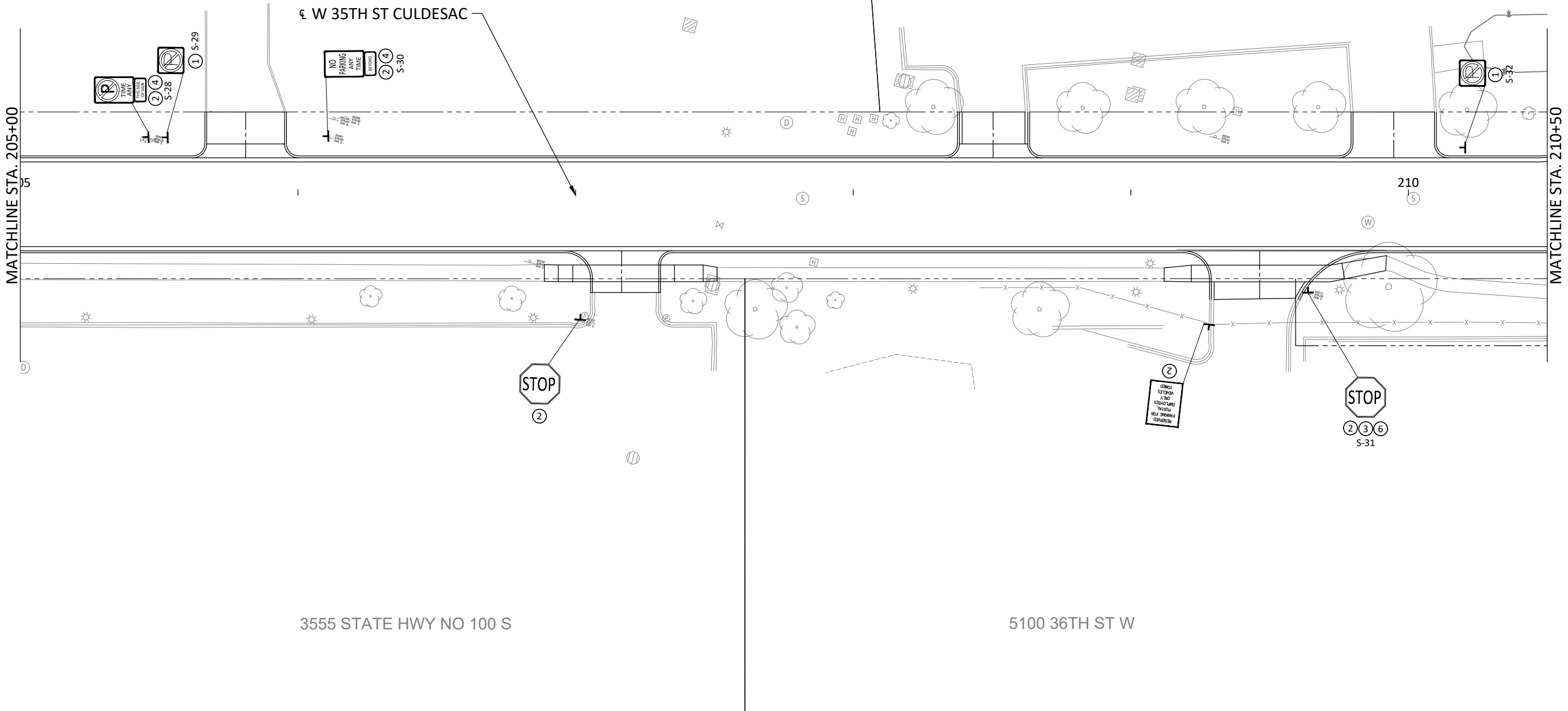
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2025 COMMERCIAL STREET REHABILITATION PROJECT	93
SIGNING & STRIPING PLAN	OF
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STAGING AND TRAFFIC CONTROL PLAN

GENERAL INFORMATION:

1.

THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2.

ONLY THE MAJOR STAGES OF CONSTRUCTION ARE SHOWN IN THE STAGING AND TRAFFIC CONTROL PLANS. ADDITIONAL INTERMEDIATE STAGES OF CONSTRUCTION BASED ON THE CONTRACTOR'S SPECIFIC OPERATIONS ARE ANTICIPATED. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILS TRAFFIC CONTROL PLANS FOR ANY OTHER STAGES THAT MAY BE REQUIRED. ALL COSTS OF PRODUCING AND IMPLEMENTING THESE PLANS AND INSTALLATION OF ITS NECESSARY SIGNAGE SHALL BE INCLUDED IN THE AMOUNT BID FOR TRAFFIC CONTROL. CHANGES TO THE STAGING AND TRAFFIC CONTROL PLANS MUST BE APPROVED BY THE ENGINEER.
3.

FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
4.

ALL DISTANCES ARE APPROXIMATE.
5.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL RESIDENCES, BUSINESSES, PARKING LOTS, DRIVEWAY ENTRANCES, AND LOADING DOCKS AT ALL TIMES DURING CONSTRUCTION (NOT SHOWN IN PLANS). ACCESS CAN BE PROVIDED WITH A COMPACTED AGGREGATE BASE SURFACE. TEMPORARY ACCESS RESTRICTIONS WILL BE ALLOWED IF THE PROPERTY OWNER AND TENANT AGREE IN WRITING TO THE RESTRICTION AND IT IS APPROVED BY THE ENGINEER.
6.

SIGN AND DEVICE PLACEMENTS SHALL NOT OBSTRUCT EXISTING SIGNS OR CAUSE SIGHT LINE ISSUES.
7.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE (MN MUTCD), INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."
8.

ALL TRAFFIC CONTROL DEVICES PROVIDED BY THE CONTRACTOR FOR THE TRAFFIC CONTROL DURING CONSTRUCTION SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITES WHEN THEY ARE NO LONGER NEEDED.
9.

THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL WORK AREAS IN ACCORDANCE WITH THE MN MUTCD.
10.

THE CONTRACTOR SHALL ENSURE THAT AT LEAST ONE TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) MEETING MN MUTCD REQUIREMENTS AND MNDOT TEMPORARY PEDESTRIAN ACCESS ROUT (TPAR) REQUIREMENTS IS PROVIDED AT ALL TIMES THROUGHOUT THE CORRIDOR AND AT LEAST ONE PEDESTRIAN ACCESS IS MAINTAINED TO EACH ENTRANCE ONSITE DURING CONSTRUCTION (BUSINESS, COMMERCIAL, RESIDENTIAL, ETC). ALL TPARS SHALL BE APPROVED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH ESTABLISHING AND MAINTAINING A TPAR SHALL BE INCLUDED IN THE 2563 - ALTERNATE PEDESTRIAN ROUTE BID ITEM.
11.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH PRIVATE UTILITY COMPANIES ON RELOCATION NEEDS. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR COORDINATING WORK SCHEDULES, ACCESS TO FACILITIES, TRAFFIC CONTROL, AND THE MAINTENANCE OF TPARS WITH PRIVATE UTILITY COMPANIES.
12.

TEMPORARY WATER SHALL BE PROVIDED TO ALL AFFECTED BUSINESSES AND RESIDENTS PRIOR TO WATERMAIN WORK COMMENCING. A TEMPORARY WATER PLAN SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL 14 DAYS PRIOR TO TEMPORARY WATER INSTALLATION. ALL COSTS ASSOCIATED WITH DEVELOPING THE PLAN SHALL BE INCLUDED IN THE 2504 - TEMPORARY WATER SERVICE BID ITEM.
13.

SANITARY SERVICES SHALL BE MAINTAINED TO ALL BUSINESSES AT ALL TIMES. CONTRACTOR SHALL PROVIDE A PLAN TO THE ENGINEER FOR APPROVAL 14 DAYS PRIOR TO ANY SANITARY SEWER WORK. ALL COSTS ASSOCIATED WITH DEVELOPING THE PLAN AND PROVIDING A SANITARY BYPASS SYSTEM SHALL BE INCLUDED IN THE 2503 - TEMPORARY CONVEYANCE OF WASTEWATER BID ITEM.

TRAFFIC CONTROL:

1.

ALL TRAFFIC CONTROL DEVICES ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATIONS SHALL BE COVERED, REMOVED, OR REVISED AS DIRECTED BY THE ENGINEER.
2.

WHEN SIGNS ARE PLACED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET. IF THIS IS NOT POSSIBLE, THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED, THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE AND THE SURROUNDING GROUND RETURNED TO ITS ORIGINAL CONDITION.
3.

ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MNDOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS, DELINEATORS, AND MARKER."
4.

BARRICADES SHALL BE TYPE III AND FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MNDOT APPROVED PRODUCT LIST FOR "BARRICADE SHEETING."
5.

THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.
6.

THE ACTUAL NUMBER OF BARRICADES REQUIRED AT EACH LOCATION MAY VARY DEPENDING ON THE SIZE OF BARRICADES USED, THE WIDTH OF THE ROAD CLOSURE, AND THE MOVEMENT OF LOCAL AND CONSTRUCTION TRAFFIC.
7.

THE STAGING AND TRAFFIC CONTROL PLANS DO NOT SHOW ALL TRAFFIC CONTROL DEVICES NEEDED TO PERFORM THE WORK. THE ITEM "TRAFFIC CONTROL" BID AS "LUMP SUM" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTOR'S OPERATIONS SUCH AS, BUT NOT LIMITED TO, MILLING AND PAVING UNDER TRAFFIC, TEMPORARY ROAD CLOSURES, TEMPORARY LANE CLOSURES, CONSTRUCTION UNDER TRAFFIC, ADJUSTMENTS TO THE TRAFFIC CONTROL PLAN FOR CONSTRUCTION OPERATIONS, STAGED UTILITY INSTALLATION, STAGED ROADWAY CONSTRUCTION, TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER, AND PAVEMENT MARKING INSTALLATION.
8.

FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THE STAGING & TRAFFIC CONTROL LAYOUTS AS DEEMED NECESSARY BY THE ENGINEER.
9.

PLACE ALL G-20 SIGNS FOR THE PROJECT 7 CALENDAR DAYS IN ADVANCE OF COMMENCING WORK. PLACE "FOLLOW DETOUR" PANELS ON THE G-20 SIGNS WHEN THE DETOURS BEGIN.
10.

PLACE ALL PORTABLE CHANGEABLE MESSAGES SIGNS (PCMS) AT THE LOCATIONS SHOWN IN THE PLANS 7 CALENDAR DAYS IN ADVANCE OF COMMENCING WORK. PCMS SHALL REMAIN IN PLACE FOR 2 DAYS AFTER RESTRICTIONS ARE PLACED. THE PCMS SHOWN IN THE PLANS ARE CONSIDERED INCIDENTAL TO THE LUMP SUM TRAFFIC CONTROL BID ITEM.
11.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TRAFFIC CONTROL CONFIGURATIONS AND PLACEMENT OF SIGNS AND DEVICES WITH PROPERTY OWNERS TO ENSURE TURNING MOVEMENTS AND ACCESS POINTS PROVIDE SUFFICIENT CLEARANCE AND ARE AVAILABLE FOR TRUCK TRAFFIC AND DELIVERIES.
12.

THE CONTRACTOR SHALL SUPPLY ACCESS TO AND FROM THE SITE FOR CONCURRENT CONSTRUCTION PROJECTS, PRIVATE UTILITY RELOCATIONS, MAIL AND PACKAGE DELIVERY, GARBAGE PICK UP, EMERGENCY VEHICLES, AND AS OTHERWISE PROVIDED FOR IN THE SPECIAL PROVISIONS.
13.

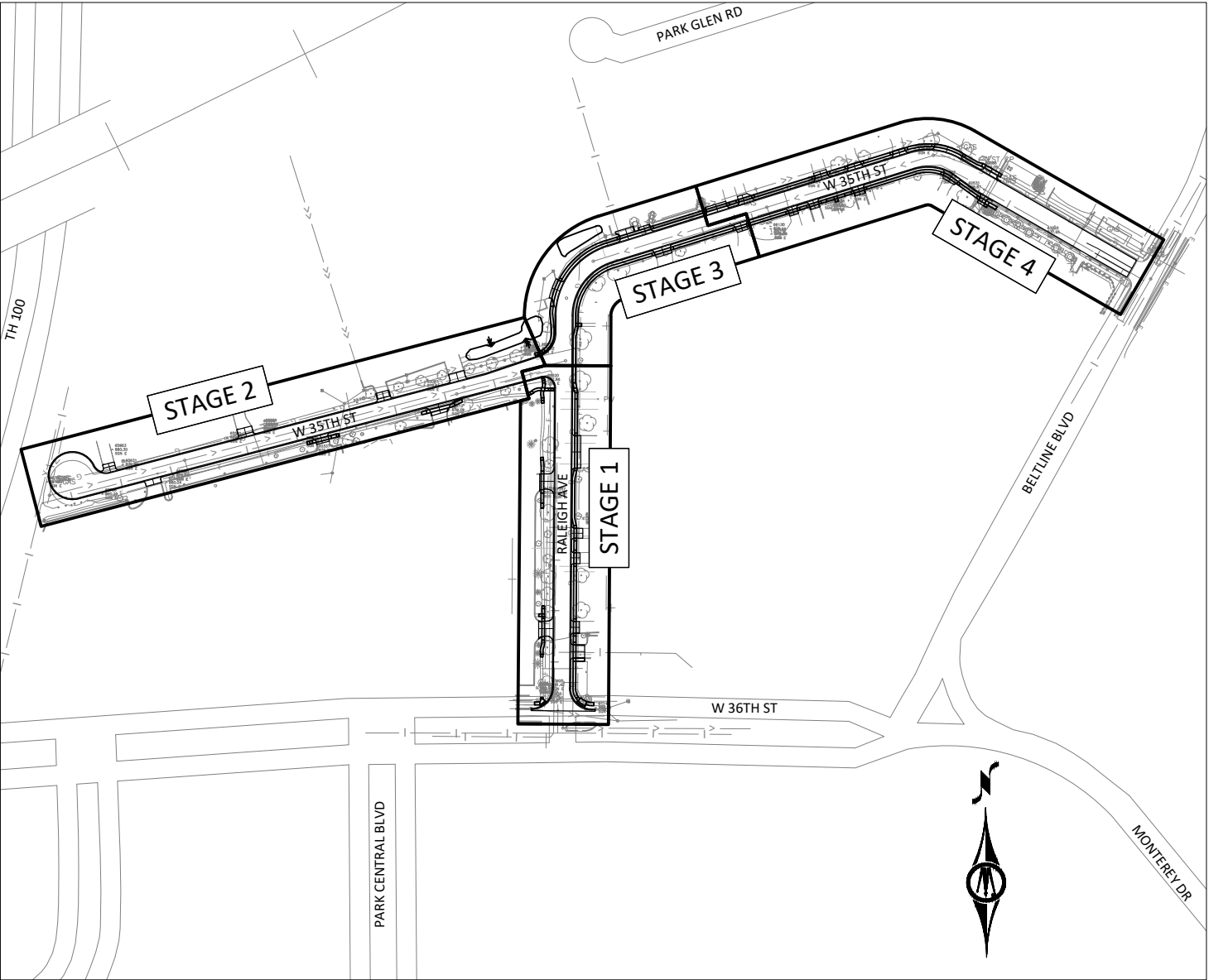
TRAFFIC BARRIER SHALL BE AVAILABLE FOR USE BY THE ENGINEER AT THE ENGINEER'S DISCRETION AND SHALL BE PAID FOR USING ITEMS 2533 PORTABLE PRECAST CONC BARRIER DES 8337 AND 2533 RELOCATE PORT PRECAST CONC BAR DES 8337. TRAFFIC BARRIER USED BY THE CONTRACTOR AS A METHOD OF DROP-OFF PROTECTION IS AT THE CONTRACTOR'S EXPENSE.
14.

THE CONTRACTOR SHALL COVER ALL CONFLICTING SIGNS AND OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS. IN-PLACE SIGNING THAT IS STILL APPLICABLE MUST BE MAINTAINED OR TEMPORARILY RELOCATED OR CONSTRUCTION ACTIVITIES.
15.

ALL PERMANENT SIGNING SHALL BE PLACED BEFORE SECTIONS OF ROADWAYS ARE OPEN TO TRAFFIC, OR PROVIDE TEMPORARY SIGNING AT THE CONTRACTOR'S EXPENSE UNTIL THE FINAL SIGNING IS PLACED.
16.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PLACEMENT OF TEMPORARY AND FINAL STRIPING.
17.

CONTRACTOR SHALL INSTALL BARRICADE CLOSURES AT THE START AND TERMINATION POINTS OF EACH STAGE DURING CONSTRUCTION (INCIDENTAL).



SPECIFIC STAGE NOTES:

STAGE 1:

1.

CONTRACTOR MUST MAINTAIN ACCESS TO ALL BUSINESSES/RESIDENCES AT ALL TIMES. IT IS ASSUMED THIS WILL REQUIRE RESTRICTING RALEIGH AVE TO A ONE WAY ROADWAY TO ACCOMMODATE SEWER INSTALLATION. ALL SIGNAGE (DO NOT ENTER, ONE WAY SIGNAGE, ADVANCED NOTICE SIGNAGE, ETC.) AND OTHER DEVICES REQUIRED TO ESTABLISH A ONE WAY ROADWAY SHALL BE INCIDENTAL.
2.

THE CONTRACTOR SHALL ASSUME CONCRETE BARRIER WILL BE REQUIRED TO SEPARATE EXCAVATION TRENCHES FROM LIVE TRAFFIC DURING STAGE 1. CONCRETE BARRIER (INCLUDING MEDIAN DELINEATORS FOR VISIBILITY) SHALL BE INCIDENTAL.
3.

CONTRACTOR TO MAINTAIN ACCESS TO THE STAGE 2 PORTION OF THE WORK AT THE INTERSECTION OF RALEIGH AVE AND 35TH ST AT ALL TIMES.
4.

CONTRACTOR TO MAINTAIN TWO WESTBOUND LANES OF TRAFFIC ON W 36TH ST TO EXTENT POSSIBLE.

STAGE 2:

1.

CONTRACTOR MUST MAINTAIN ACCESS FOR LARGE AMOUNTS OF TRUCK TRAFFIC AT ALL TIMES. THE CONTRACTOR SHALL ANTICIPATE MULTIPLE TRAFFIC CONTROL ADJUSTMENTS AND CONSTRUCTING THE ROADWAY IN HALVES TO ACCOMMODATE TRUCKS.
2.

CONTRACTOR TO MAINTAIN ACCESS TO THE STAGE 1 PORTION OF THE WORK AT THE INTERSECTION OF RALEIGH AVE & 35TH ST AT ALL TIMES.

STAGE 3:

1.

CONTRACTOR TO MAINTAIN ACCESS TO THE AREA BOTH SOUTH AND NORTH/EAST OF THE STAGE 3 CONSTRUCTION AREA.
2.

CONTRACTOR TO ASSUME ADDITIONAL WAYFINDING SIGNAGE WILL BE REQUIRED TO DIRECT TRAFFIC TO EITHER RALEIGH AVE OR 35TH ST EAST OF STAGE 3. THIS SIGNAGE SHALL BE INCIDENTAL TO THE TRAFFIC CONTROL BID ITEM.
3.

THE CONTRACTOR SHALL ASSUME CONCRETE BARRIER MAY BE REQUIRED TO MAINTAIN ACCESS DURING UTILITY WORK. CONCRETE BARRIER (INCLUDING MEDIAN DELINEATORS FOR VISIBILITY) SHALL BE INCIDENTAL.

STAGE 4:

1.

CONTRACTOR TO MAINTAIN ACCESS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR TO ASSUME THIS MAY REQUIRE CONSTRUCTING THE ROADWAY IN HALVES.

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

STAGING & TRAFFIC CONTROL PLAN

SHEET  
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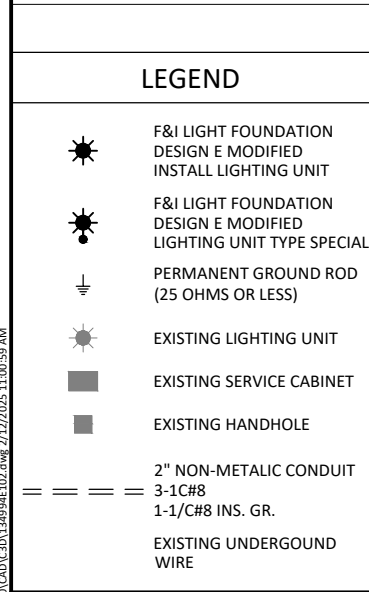
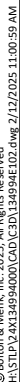


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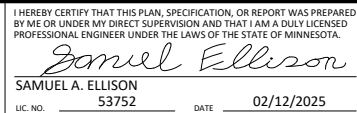
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2025 COMMERCIAL STREET REHABILITATION PROJECT	OF
LIGHTING PLAN	115

LIGHTING TABULATION										P
ROADWAY	STATION TO STATION			LOCATION	2545	2545	2545	2545	2545	
					LIGHTING UNIT TYPE SPECIAL	LIGHT FOUNDATION DESIGN E MODIFIED	2" NON-METALIC CONDUIT	UNDERGROUND WIRE 1/C 8 AWG	INSTALL LIGHTING UNIT	
					EACH	EACH	LIN FT	LIN FT	EACH	
CITY PROJ NO. 4025-1050										
RALEIGH AVE & W 35TH ST	100+00	TO	104+00	LT		1	132	578	1	
				RT						
	104+00	TO	108+75	LT		2	741	3014	2	
				RT		2	490	2010	2	
	108+75	TO	113+50	LT		2	517	2118	2	
				RT		1	451	1854	1	
	113+50	TO	118+25	LT		1	284	1186	1	
				RT		1	416	1714	1	
	118+25	TO	123+00	LT						
				RT						
W 35TH ST CULDESAC	200+00	TO	205+00	LT						
				RT	1	1	90	410		
	205+00	TO	210+50	LT		1	296	1234	1	
				RT		1	551	2254	1	
TOTAL :					1	13	3968	16372	12	



1. ALL CONDUIT TO BE DIRECT BURIED.
2. CONDUIT MUST BE INSTALLED BETWEEN 3' AND 4' DEEP UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. REMOVE ALL EXISTING LIGHT FOUNDATIONS AND INSTALL NEW FOUNDATIONS IN SAME LOCATION UNLESS OTHERWISE NOTED.
4. ALL LIGHTS ARE SALVAGE AND INSTALL UNLESS OTHERWISE NOTED.



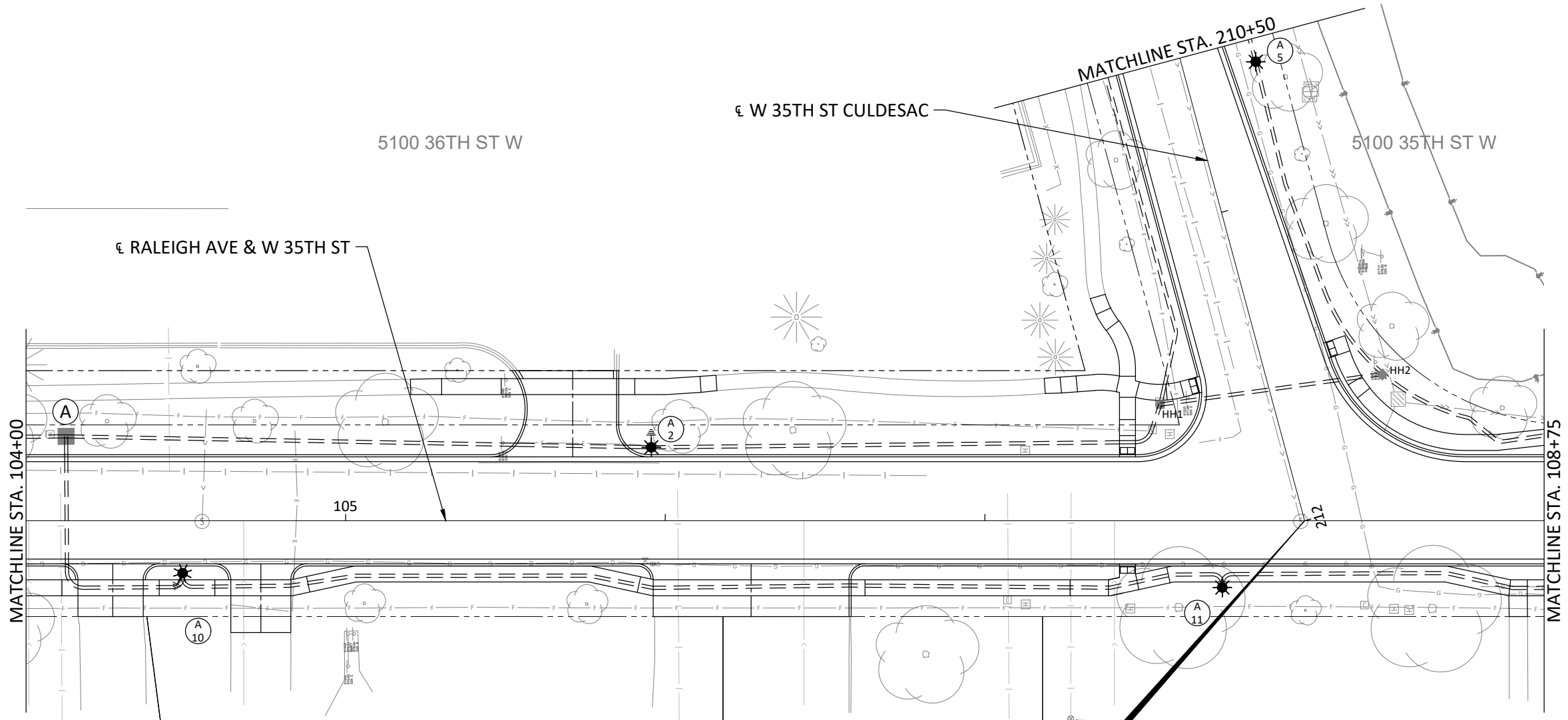
	ST LOUIS PARK, MINNESOTA
	2025 COMMERCIAL STREET REHABILITATION PROJECT
	LIGHTING PLAN

**A** LIGHT SYSTEM A  
INPLACE SERVICE CABINET

2" NMC TO LIGHT A1:  
3-1/C #8  
1-1/C #6 INS. GR.

2" NMC TO LIGHT A2:  
3-1/C #8  
1-1/C #6 INS. GR.

2" NMC TO LIGHT A10:  
3-1/C #8  
1-1/C #6 INS. GR.

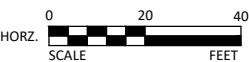


### LEGEND

- F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
INSTALL LIGHTING UNIT
- F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
LIGHTING UNIT TYPE SPECIAL
- PERMANENT GROUND ROD  
(25 OHMS OR LESS)
- EXISTING LIGHTING UNIT
- EXISTING SERVICE CABINET
- EXISTING HANDHOLE
- 2" NON-METALIC CONDUIT  
3-1/C#8  
1-1/C#8 INS. GR.
- EXISTING UNDERGROUND  
WIRE

### NOTES:

- ALL CONDUIT TO BE DIRECT BURIED.
- CONDUIT MUST BE INSTALLED BETWEEN 3' AND 4' DEEP UNLESS OTHERWISE APPROVED BY THE ENGINEER.
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*Samuel A. Ellison*  
SAMUEL A. ELLISON  
LIC. NO. 53752 DATE 02/12/2025



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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
LIGHTING PLAN


SHEET  
97  
OF  
115

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
LEGEND




F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
INSTALL LIGHTING UNIT




F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
LIGHTING UNIT TYPE SPECIAL




PERMANENT GROUND ROD  
(25 OHMS OR LESS)




EXISTING LIGHTING UNIT




EXISTING SERVICE CABINET



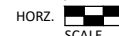
EXISTING HANDHOLE




2" NON-METALIC CONDUIT



3-1/2" C#8



1-1/2" C#8 INS. GR.



EXISTING UNDERGROUND  
WIRE

NOTES:

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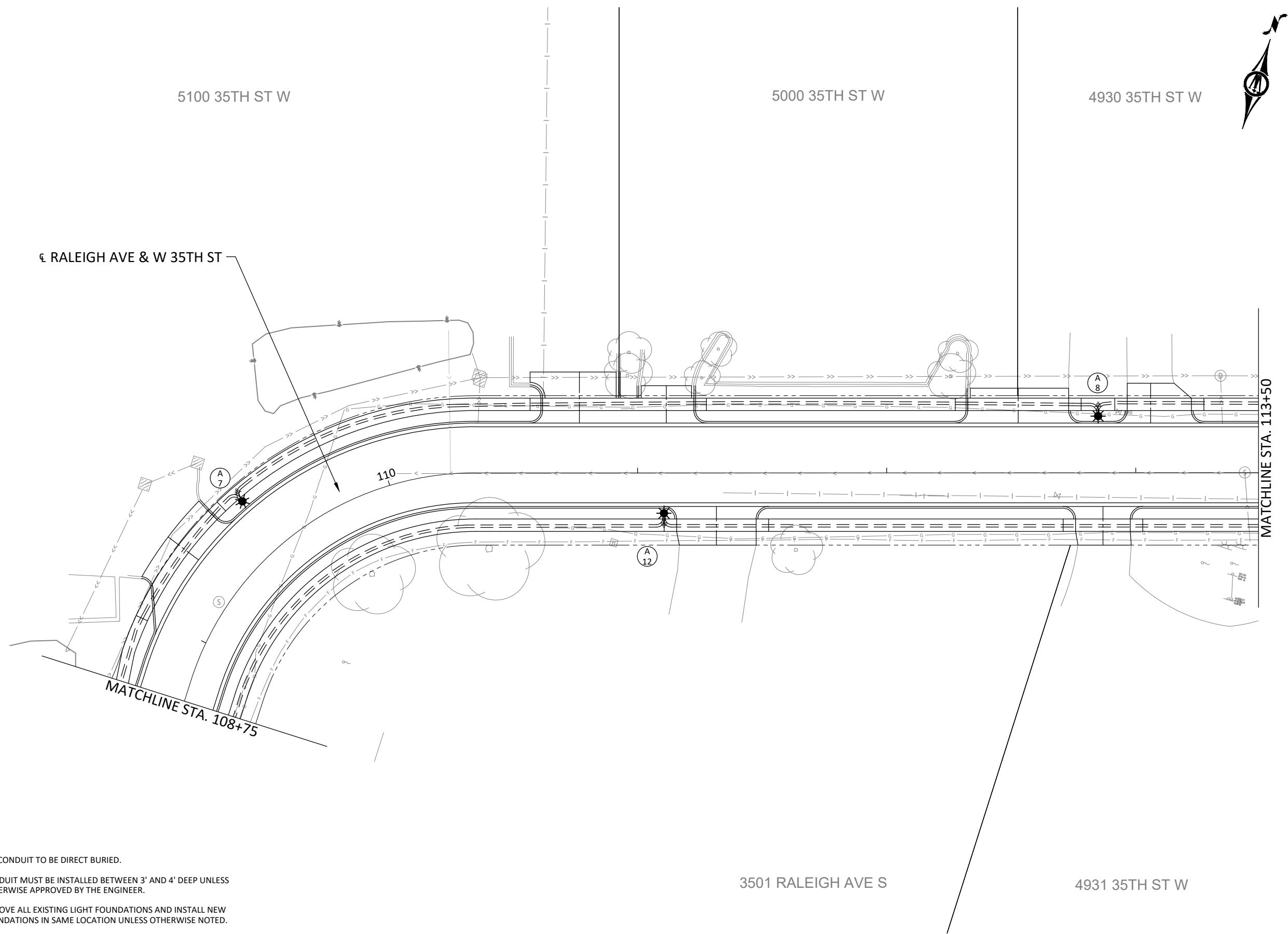


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ST LOUIS PARK, MINNESOTA
2025 COMMERCIAL STREET REHABILITATION PROJECT
LIGHTING PLAN

SHEET  
98  
OF  
115





4930 35TH ST W

4906 35TH ST W

4838 35TH ST W

RALEIGH AVE & W 35TH ST

MATCHLINE STA. 113+50

115

A  
13

A  
9

MATCHLINE STA. 118+25

TIE IN TO EXISTING WIRE

EXISTING LIGHTING  
UNIT TO REMAIN

ABANDON EXISTING WIRE  
AND CABINET

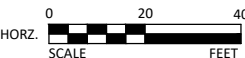
4905 35TH ST W

LEGEND

- F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
INSTALL LIGHTING UNIT
- F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
LIGHTING UNIT TYPE SPECIAL
- PERMANENT GROUND ROD  
(25 OHMS OR LESS)
- EXISTING LIGHTING UNIT
- EXISTING SERVICE CABINET
- EXISTING HANDHOLE
- 2" NON-METALIC CONDUIT
- 3-1/2" C#8
- 1-1/2" C#8 INS. GR.
- EXISTING UNDERGROUND  
WIRE

NOTES:

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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
LIGHTING PLAN

SHEET  
99  
OF  
115



3440 BELTLINE BLVD

€ RALEIGH AVE & W 35TH ST

END CONSTRUCTION  
RALEIGH AVE & W 35TH ST  
STA. 120+99

BELTLINE BLVD

MATCHLINE STA. 118+25

120

122

EXISTING LIGHTING  
UNIT TO REMAIN

## LEGEND



2" NON-METALIC CONDUIT  
= 3-1C#8  
1-1/C#8 INS. GR.

EXISTING UNDERGROUND  
WIRE

## NOTES:

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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT

## LIGHTING PLAN


SHEET  
100  
OF  
115

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LEGEND




F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
INSTALL LIGHTING UNIT




F&I LIGHT FOUNDATION  
DESIGN E MODIFIED  
LIGHTING UNIT TYPE SPECIAL




PERMANENT GROUND ROD  
(25 OHMS OR LESS)



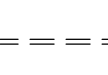
EXISTING LIGHTING UNIT




EXISTING SERVICE CABINET



EXISTING HANDHOLE



2" NON-METALIC CONDUIT  
3-1C#8  
1-1/C#8 INS. GR.



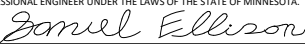
EXISTING UNDERGROUND  
WIRE

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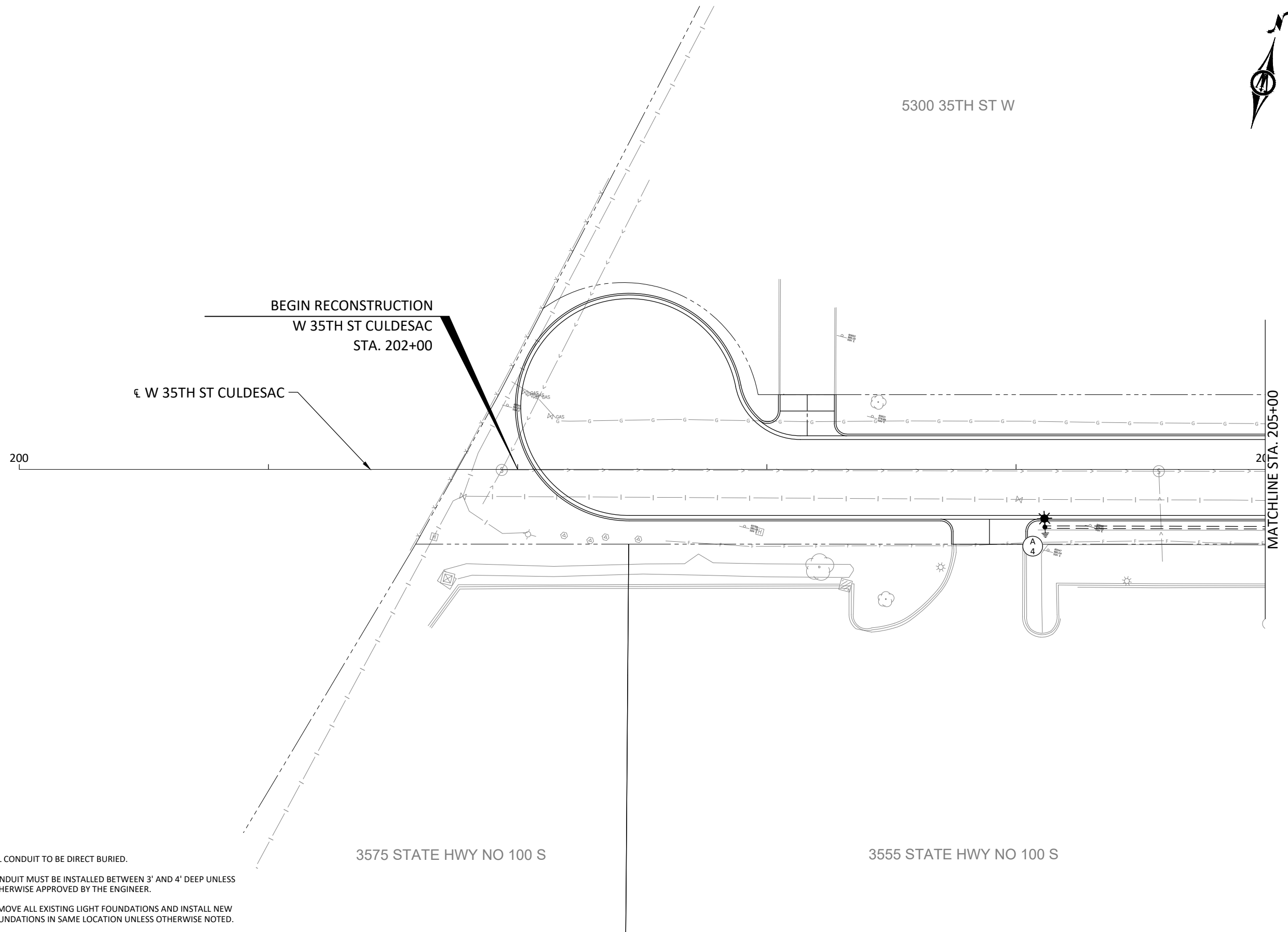
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LIC. NO. 53752 DATE 02/12/2025

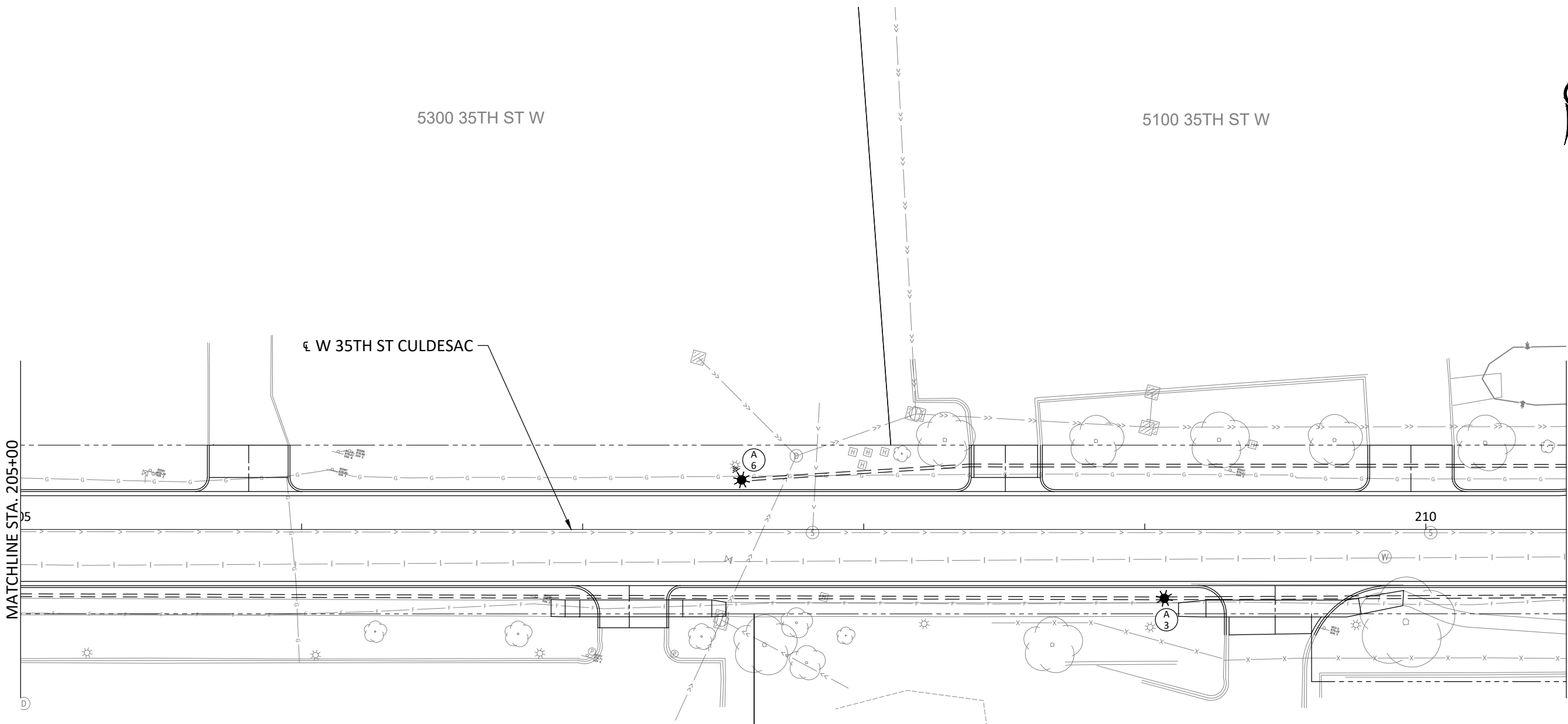


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ST LOUIS PARK, MINNESOTA	SHEET 101 OF 115
2025 COMMERCIAL STREET REHABILITATION PROJECT	
LIGHTING PLAN	

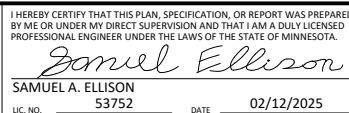




	F&I LIGHT FOUNDATION DESIGN E MODIFIED INSTALL LIGHTING UNIT
	F&I LIGHT FOUNDATION DESIGN E MODIFIED LIGHTING UNIT TYPE SPECIAL
	PERMANENT GROUND ROD (25 OHMS OR LESS)
	EXISTING LIGHTING UNIT
	EXISTING SERVICE CABINET
	EXISTING HANDHOLE
	2" NON-METALLIC CONDUIT 3-1C#8 1-1/C#8 INS. GR. EXISTING UNDERGROUND WIRE

1. ALL CONDUIT TO BE DIRECT BURIED.
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5100 36TH ST W

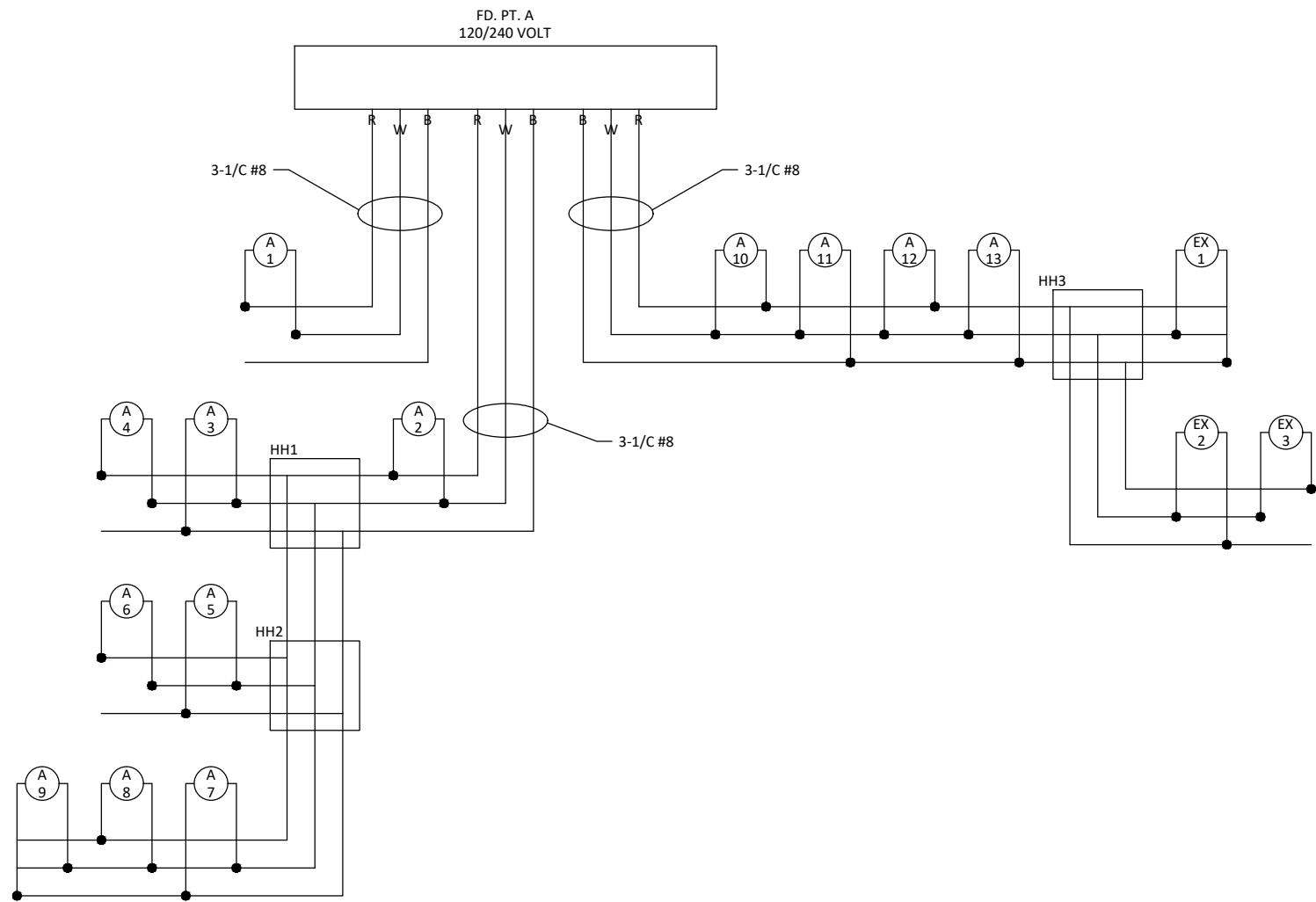


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SHEET  
102  
OF  
115

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NOTE:  
B AND R DENOTES CURRENT CARRYING CONDUCTORS.  
W DENOTES NEUTRAL CONDUCTOR.

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ST LOUIS PARK, MINNESOTA  
2025 COMMERCIAL STREET REHABILITATION PROJECT  
LIGHTING PLAN

SHEET  
103  
OF  
115



CROSS SECTION INDEX	
ALIGNMENT	SHEET NO.
RALEIGH AVE & W 35TH ST	105 - 112
W 35TH ST CULDESAC	113 - 115

BEGIN CONSTRUCTION  
W 35TH ST CULDESAC  
STA. 202+00

W 35TH ST CULDESAC

END RECONSTRUCTION  
W 35TH ST CULDESAC  
STA. 212+00

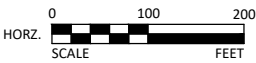
END CONSTRUCTION  
RALEIGH AVE & W 35TH ST  
STA. 120+99

RALEIGH AVE & W 35TH ST

BEGIN CONSTRUCTION  
RALEIGH AVE & W 35TH ST  
STA. 101+38

A/L NORTH WALK

A/L SOUTH WALK



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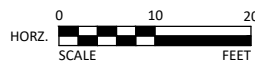
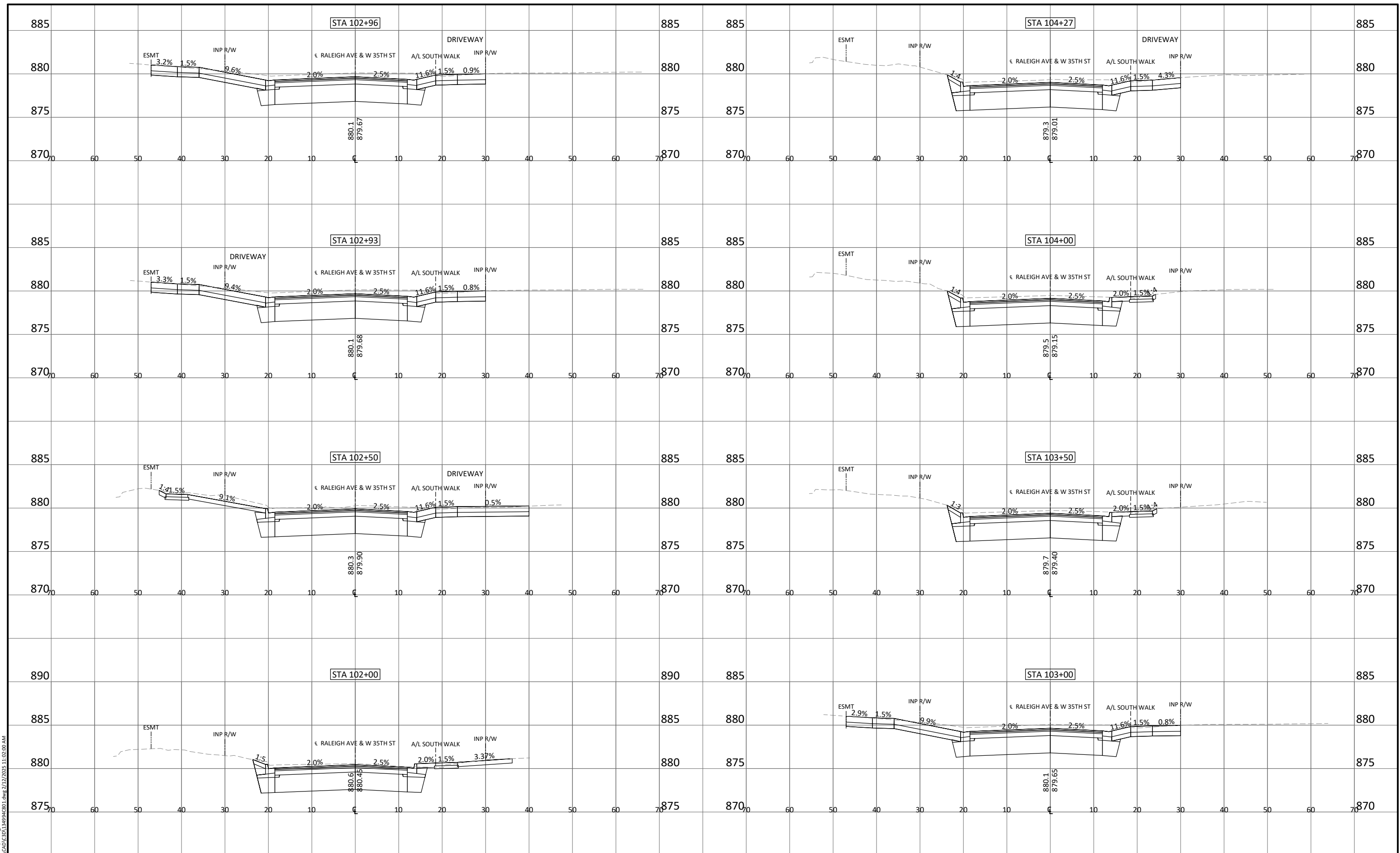


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2025 COMMERCIAL STREET REHABILITATION PROJECT  
CROSS SECTION MATCHLINE LAYOUT

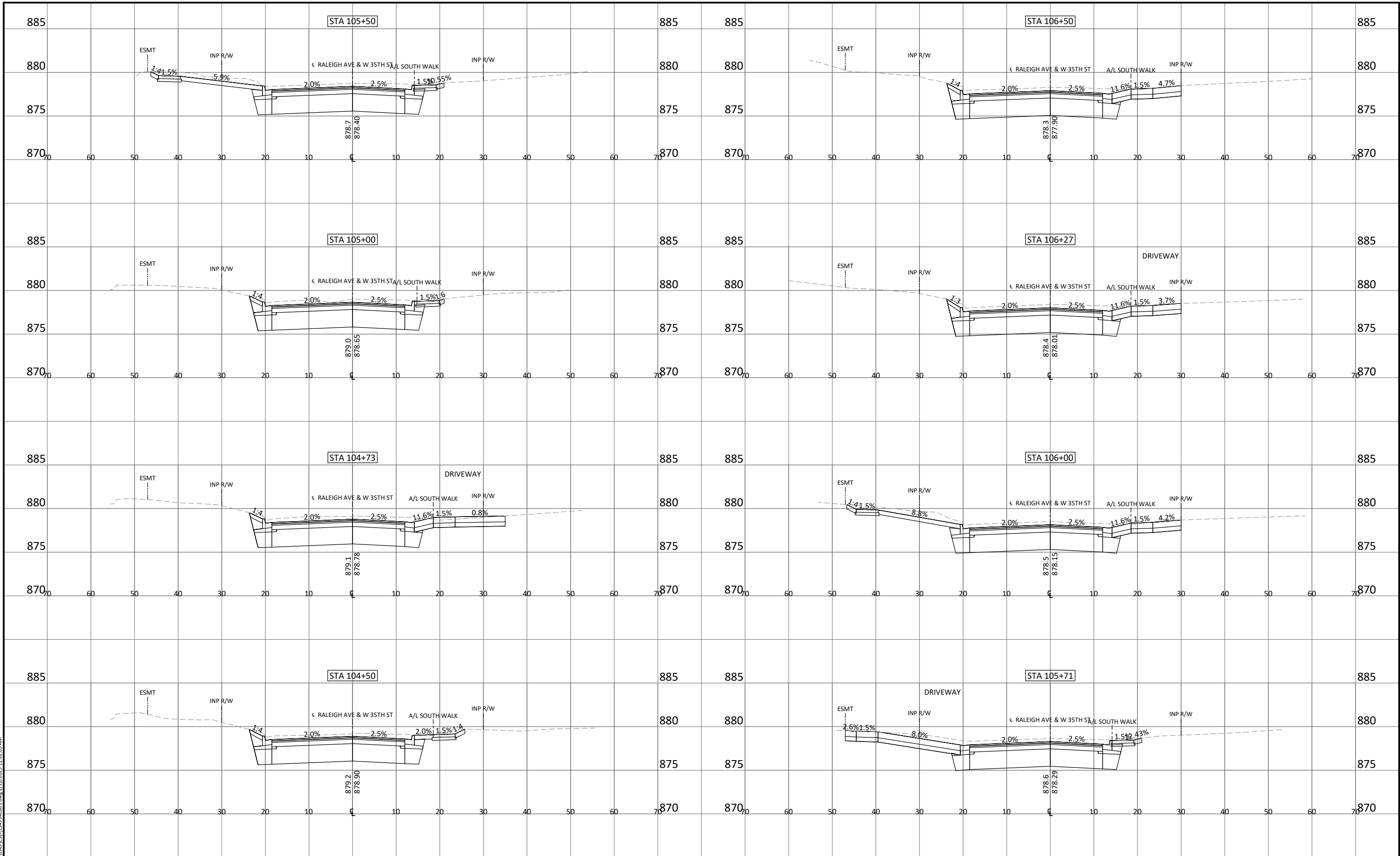
SHEET  
104  
OF  
115



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HORIZ. SCALE FEET

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VERT. SCALE FEET

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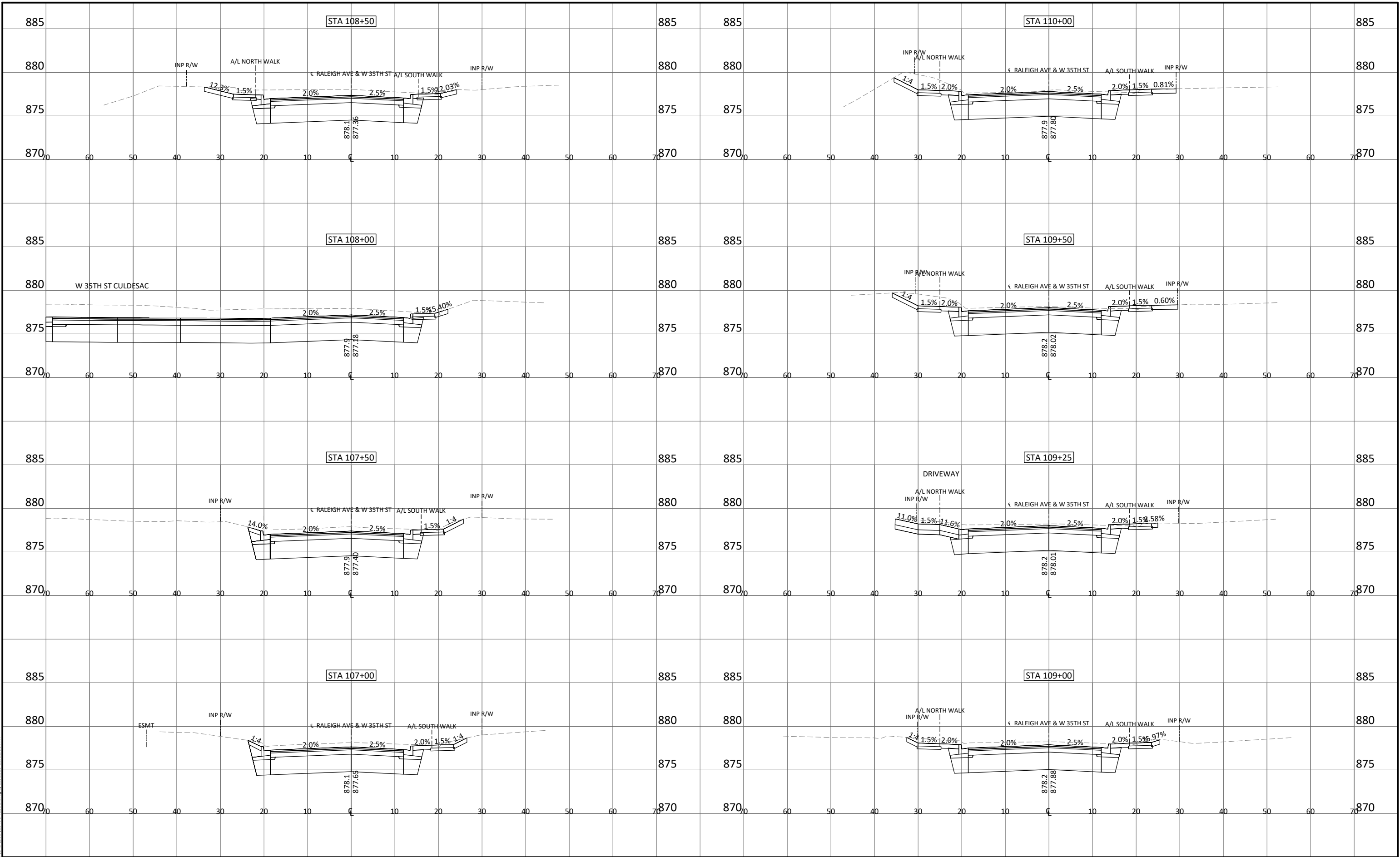
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CROSS SECTIONS  
RALEIGH AVE & W 35TH ST

SHEET  
106  
OF  
115

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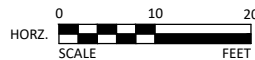
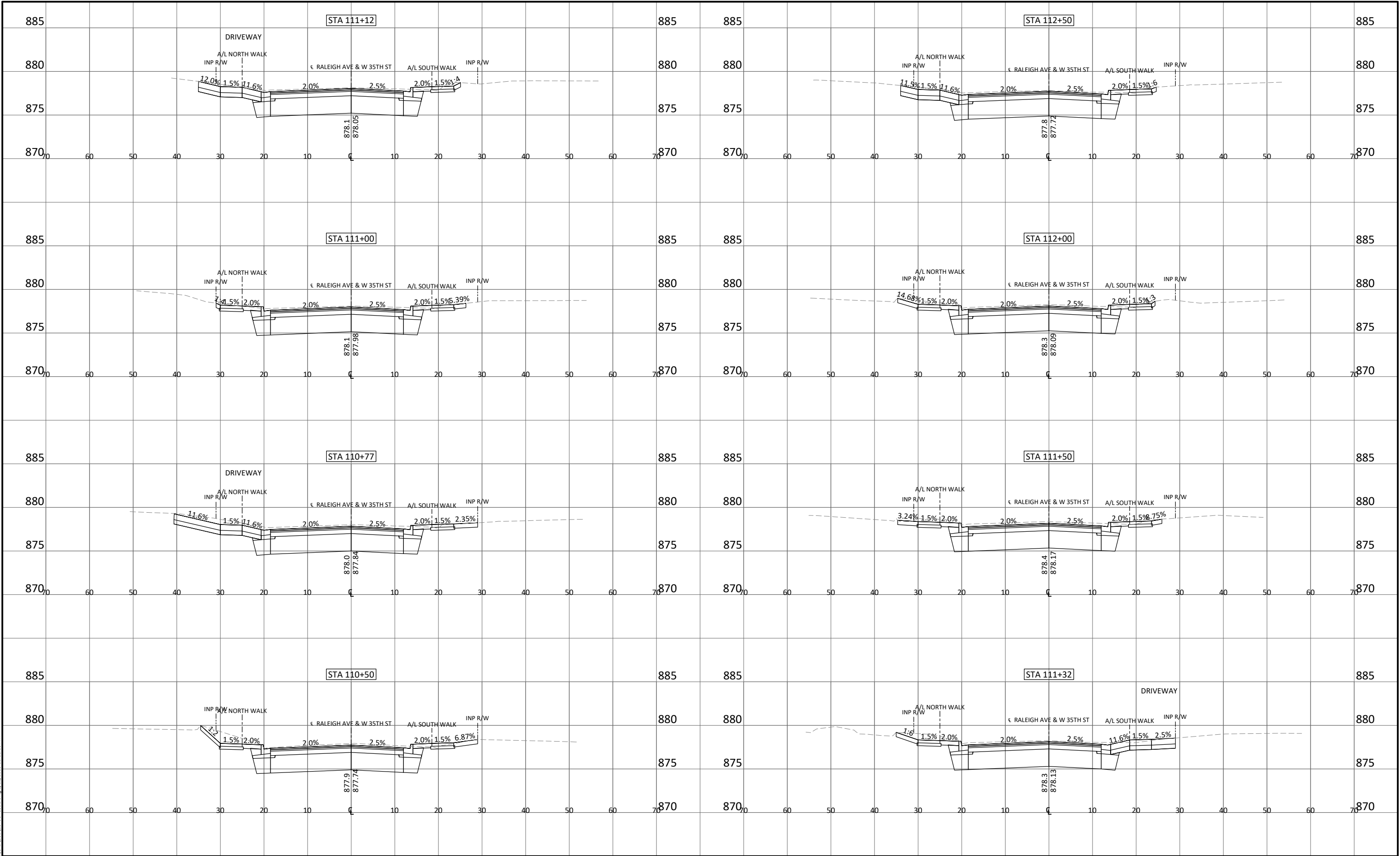
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CROSS SECTIONS  
RALEIGH AVE & W 35TH ST

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107  
OF  
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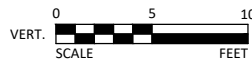
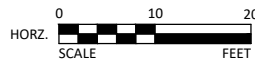
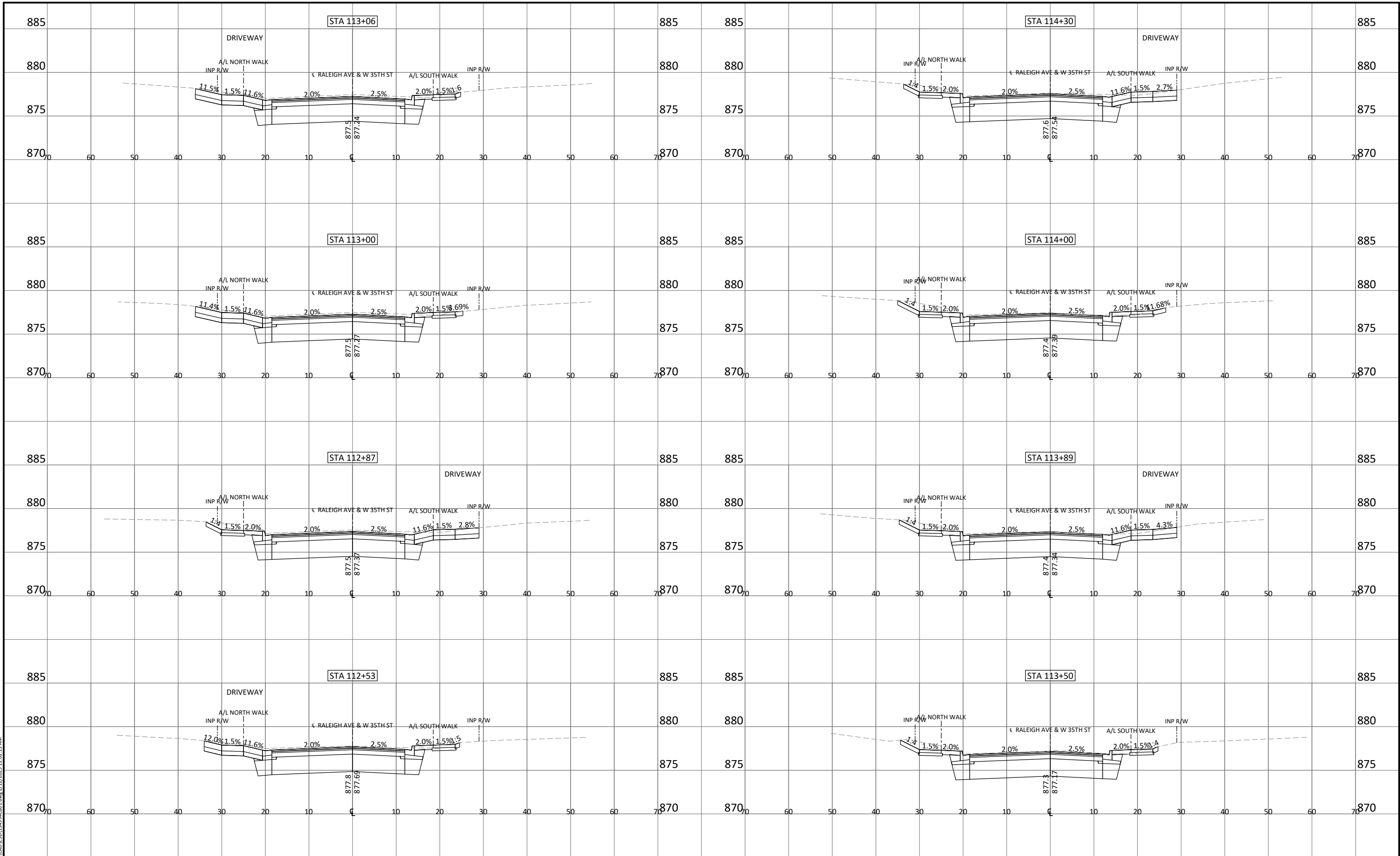
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CROSS SECTIONS  
RALEIGH AVE & W 35TH ST

SHEET  
108  
OF  
115

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ST LOUIS PARK, MINNESOTA

2025 COMMERCIAL STREET REHABILITATION PROJECT

CROSS SECTIONS

RALEIGH AVE & W 35TH ST

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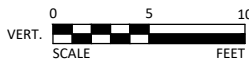
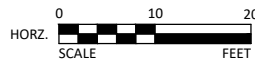
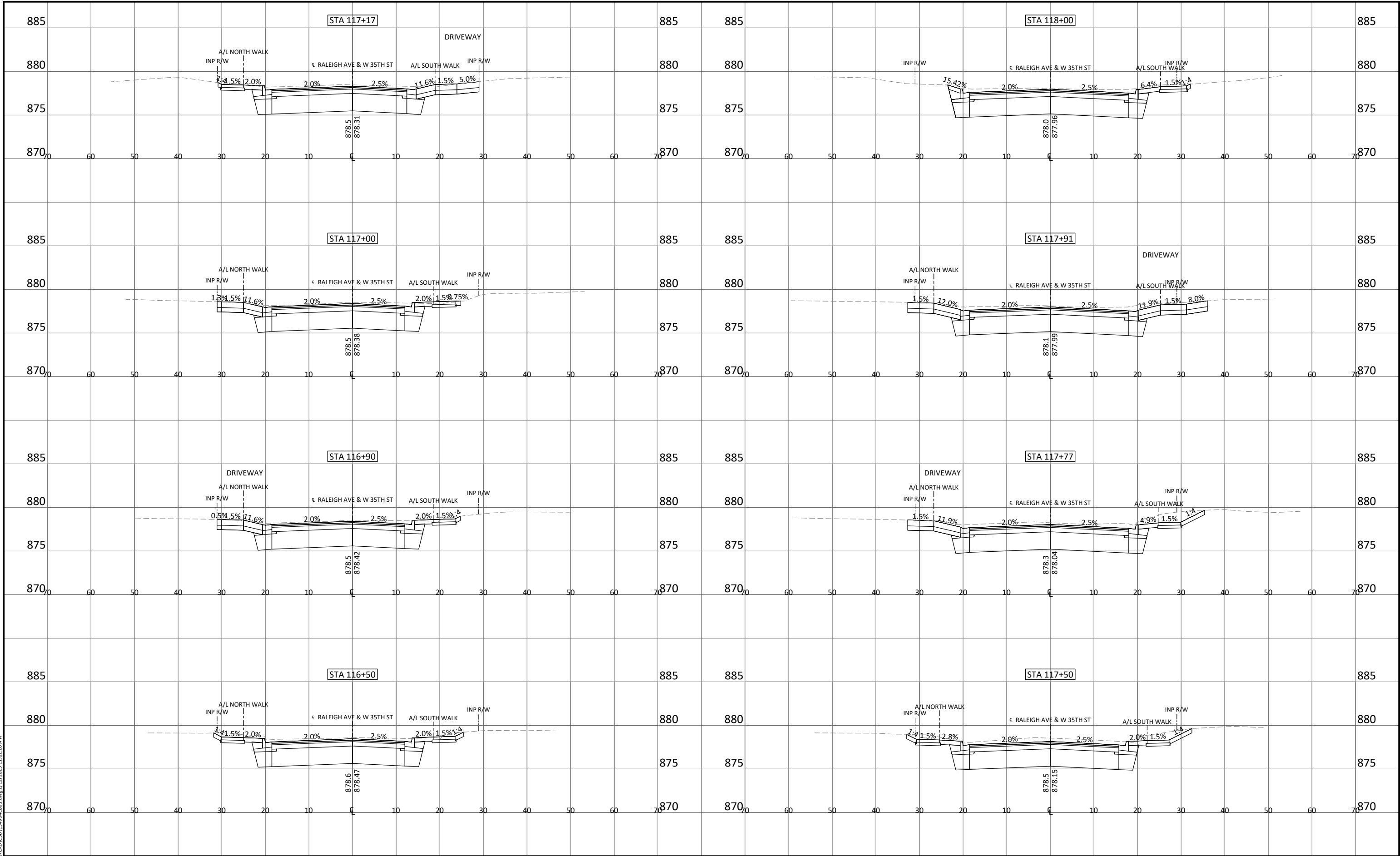
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OF

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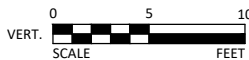
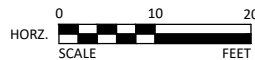
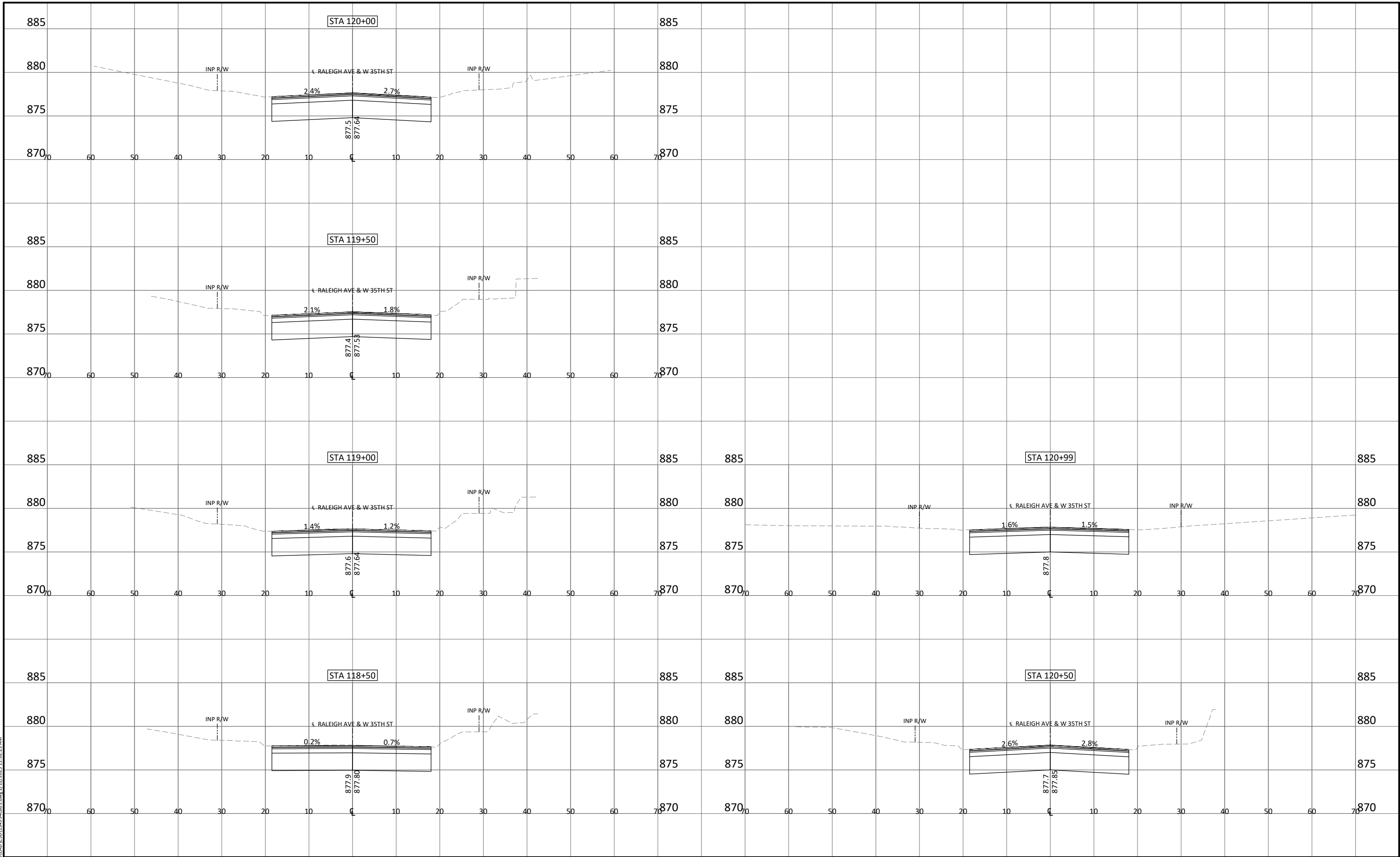
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CROSS SECTIONS  
RALEIGH AVE & W 35TH ST

SHEET  
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OF  
115

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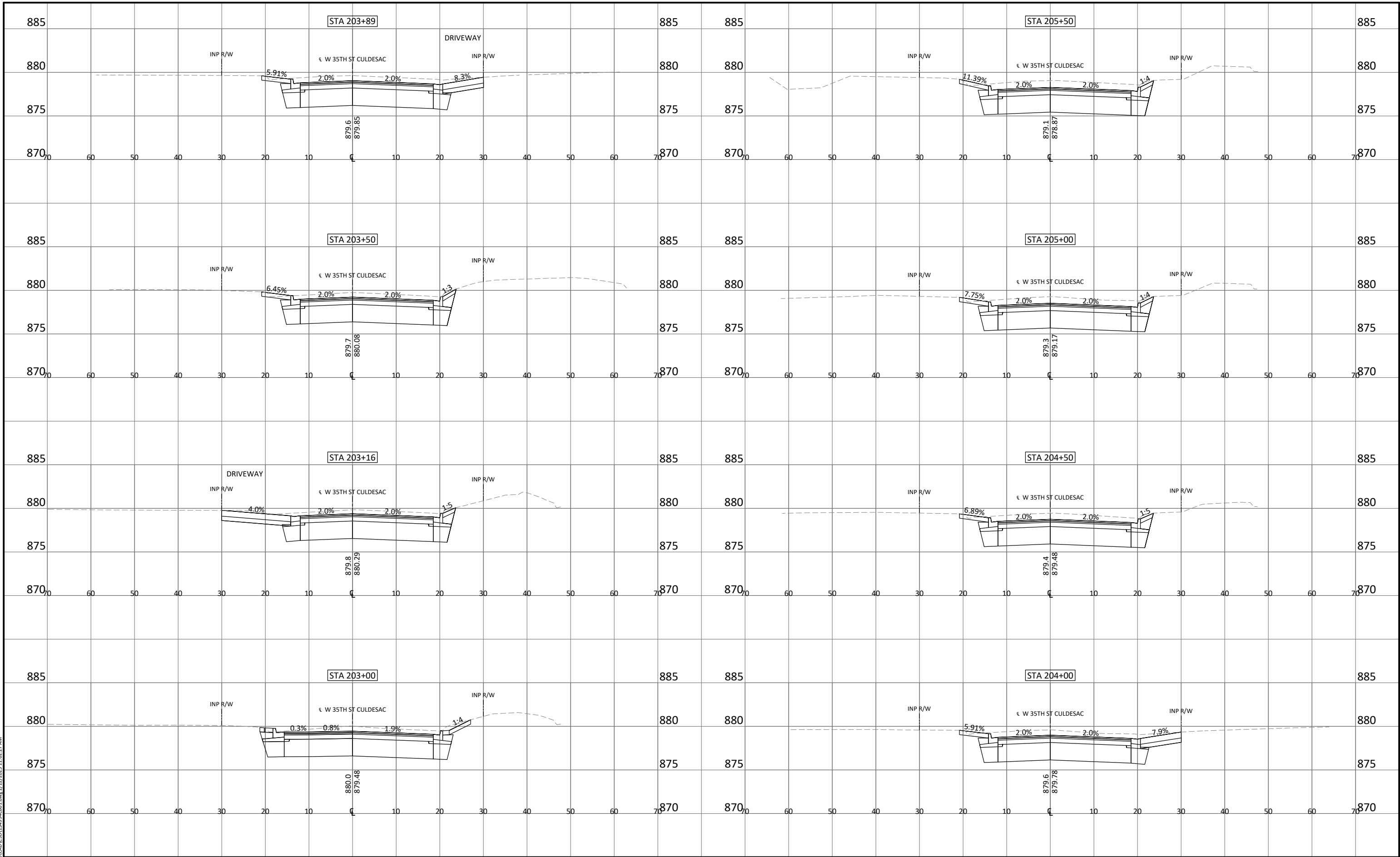
12224 NICOLLET AVENUE  
BURNSVILLE, MN 55337  
Phone: (952) 890-0509  
Email: BurnsVille@bolton-menk.com  
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CROSS SECTIONS  
RALEIGH AVE & W 35TH ST

SHEET  
112  
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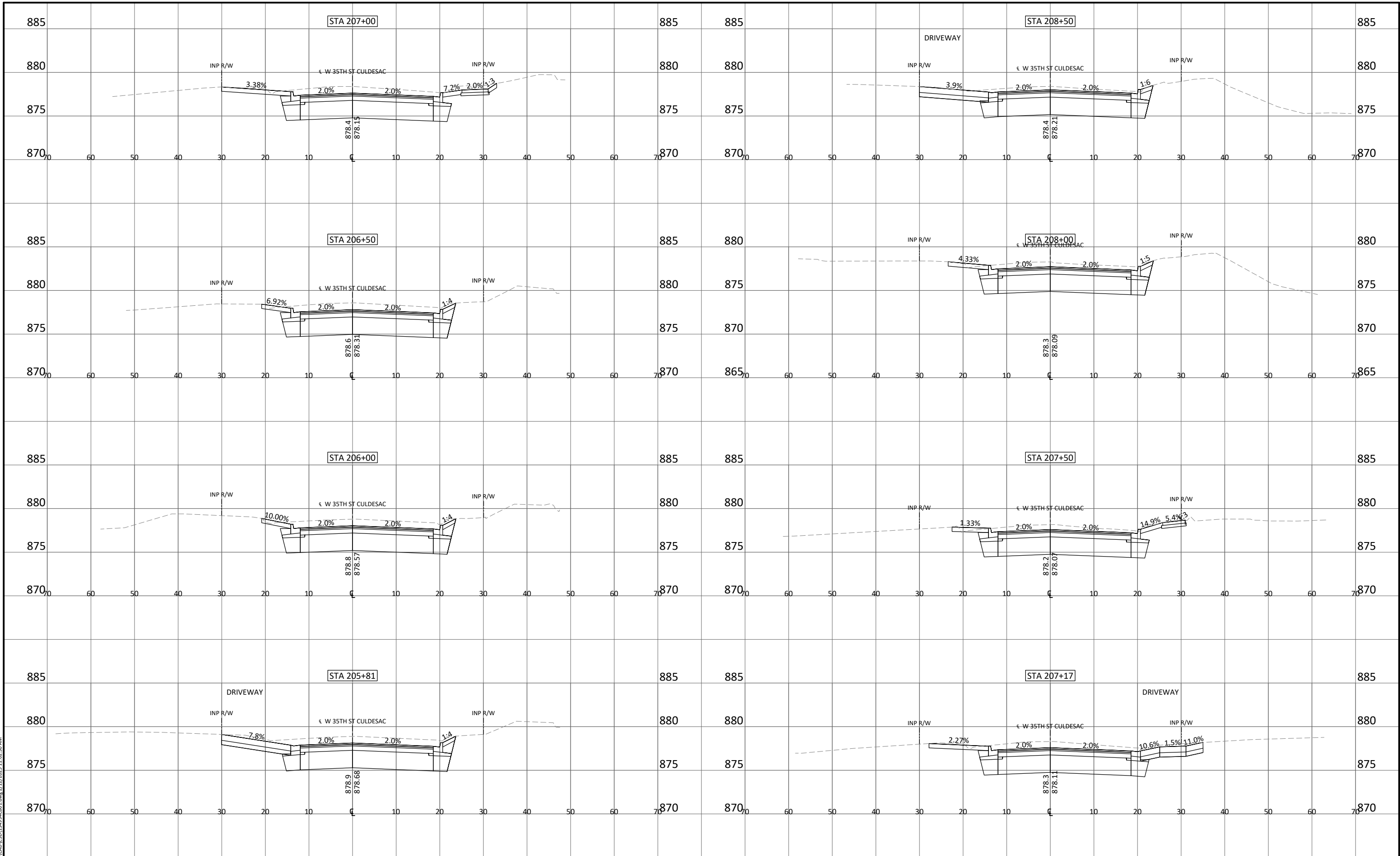
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Phone: (952) 890-0509  
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HORZ. SCALE 0 10 20 FEET

VERT. SCALE 0 5 10 FEET

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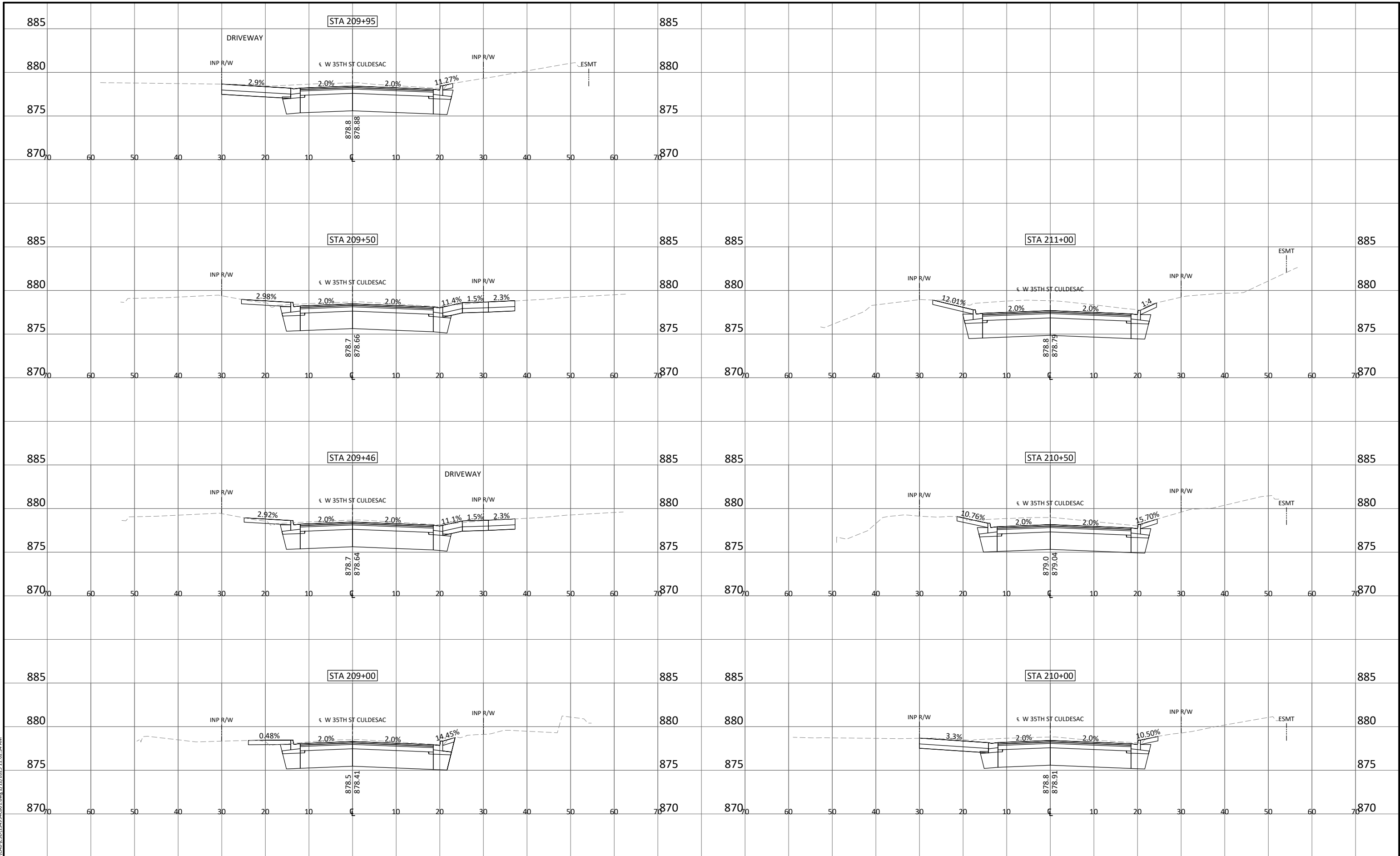
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