MINNESOTA DEPARTMENT OF TRANSPORTATION
CITY OF FRIDLEY
ANOKA COUNTY, MINNESOTA
2023 STREET REHABILITATION
PROJECT NO. ST2023-01

CONSTRUCTION PLAN FOR: STREET RECLAIMING, BITUMINOUS MILLING, BITUMINOUS SURFACING CONCRETE CURB & GUTTER, WATERMAIN AND RELATED APPURTENANCES

S.A.P. 127-319-009 (53RD AVENUE, CHERI LANE, FILLMORE STREET),
S.A.P. 127-353-002 (STINSON BOULEVARD/PLEASANT VIEW DRIVE),
S.A.P. 146-242-002 (STINSON BOULEVARD/PLEASANT VIEW DRIVE),
S.A.P. 127-354-001 (E RIVER ROAD SERVICE RD),
S.A.P. 127-355-001 (51ST WAY),
S.A.P. 127-050-031 (LOCAL STREETS)

53RD AVENUE SAP 127-319-009

CENTRAL AVENUE (T.H. 65) TO CHERI LANE
STA. 5+77.40 TO STA. 7+41.94

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	50
NO. OF TRAFFIC LANES	5 & 12.5 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	2,600
ADT (PROJECTED YEAR) 2043	2,420
HCADT (PROJECTED YEAR) 2043	3.95%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	145 FEET (0.03 MILES)

CHERI LANE SAP 127-319-009

53RD AVENUE TO FILLMORE STREET
STA. 7+43.94 TO STA. 27+08.70

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	50
NO. OF TRAFFIC LANES	2 & 16 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	2,600
ADT (PROJECTED YEAR) 2043	2,420
HCADT (PROJECTED YEAR) 2043	3.95%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	1,965 FEET (0.37 MILES)

FILLMORE STREET SAP 127-319-009

CHERI LANE TO 53RD AVENUE
STA. 27+06.70 TO STA. 33+65.10

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	50
NO. OF TRAFFIC LANES	2 & 16 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	2,600
ADT (PROJECTED YEAR) 2043	2,420
HCADT (PROJECTED YEAR) 2043	3.95%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	659 FEET (0.12 MILES)

STINSON BOULEVARD / PLEASANT VIEW DRIVE SAP 127-353-002 / SAP 146-242-002

53RD AVENUE (COUNTY ROAD 42) TO OSBORNE ROAD (COUNTY ROAD I)
STA. 125+00.00 TO STA. 150+12.75

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	50
NO. OF TRAFFIC LANES	2 & 11 ft
NO. OF PARKING LANES	1 & 8 ft
ADT (PRESENT YEAR) 2023	425
ADT (PROJECTED YEAR) 2043	418
HCADT (PROJECTED YEAR) 2043	3.85%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	2,513 FEET (0.48 MILES)

EAST RIVER ROAD EAST SERVICE DRIVE SAP 127-354-001

51ST WAY to 53RD WAY
STA. 75+34.66 TO STA. 91+59.16

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	35
NO. OF TRAFFIC LANES	2 & 20 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	1,950
ADT (PROJECTED YEAR) 2043	1,903
HCADT (PROJECTED YEAR) 2043	9.16%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	1,625 FEET (0.31 MILES)

51ST WAY SAP 127-355-001

EAST RIVER ROAD (CSAH 1) to INDUSTRIAL BOULEVARD
STA. 50+24.98 TO STA. 81+19.64

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	35
NO. OF TRAFFIC LANES	2 & 20 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	1,658
ADT (PROJECTED YEAR) 2043	1,287
HCADT (PROJECTED YEAR) 2043	9.12%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	1,095 FEET (0.21 MILES)

EAST RIVER ROAD EAST SERVICE DRIVE SAP 127-050-031

53RD WAY to NORTH TERMINUS
STA. 91+56.16 TO STA. 110+18.35

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	35
NO. OF TRAFFIC LANES	2 & 20 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	1,950
ADT (PROJECTED YEAR) 2043	1,903
HCADT (PROJECTED YEAR) 2043	9.16%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	1,859 FEET (0.35 MILES)

EAST RIVER ROAD WEST SERVICE DRIVE SAP 127-050-031

SOUTH TERMINUS to NORTH TERMINUS
STA. 150+09.71 TO STA. 160+95.90

FUNTIONAL CLASSIFICATION	LOCAL
R-VALUE	50
NO. OF TRAFFIC LANES	2 & 12.5 ft
NO. OF BIKING LANES	N/A
ADT (PRESENT YEAR) 2023	2,600
ADT (PROJECTED YEAR) 2043	2,640
HCADT (PROJECTED YEAR) 2043	3.94%
DESIGN SPEED	SPEED LOCALLY CONTROLLED
DESIGN LOAD	9 ton
GROSS LENGTH	1,085 FEET (0.21 MILES)

BIKE TRAIL DESIGN DESIGNATION

STA. 20+00.00 TO STA. 44+79.03 (STINSON BOULEVARD/PLEASANT VIEW DRIVE)

FUNTIONAL CLASSIFICATION	BIKE TRAIL
DESIGN SPEED	20 MPH

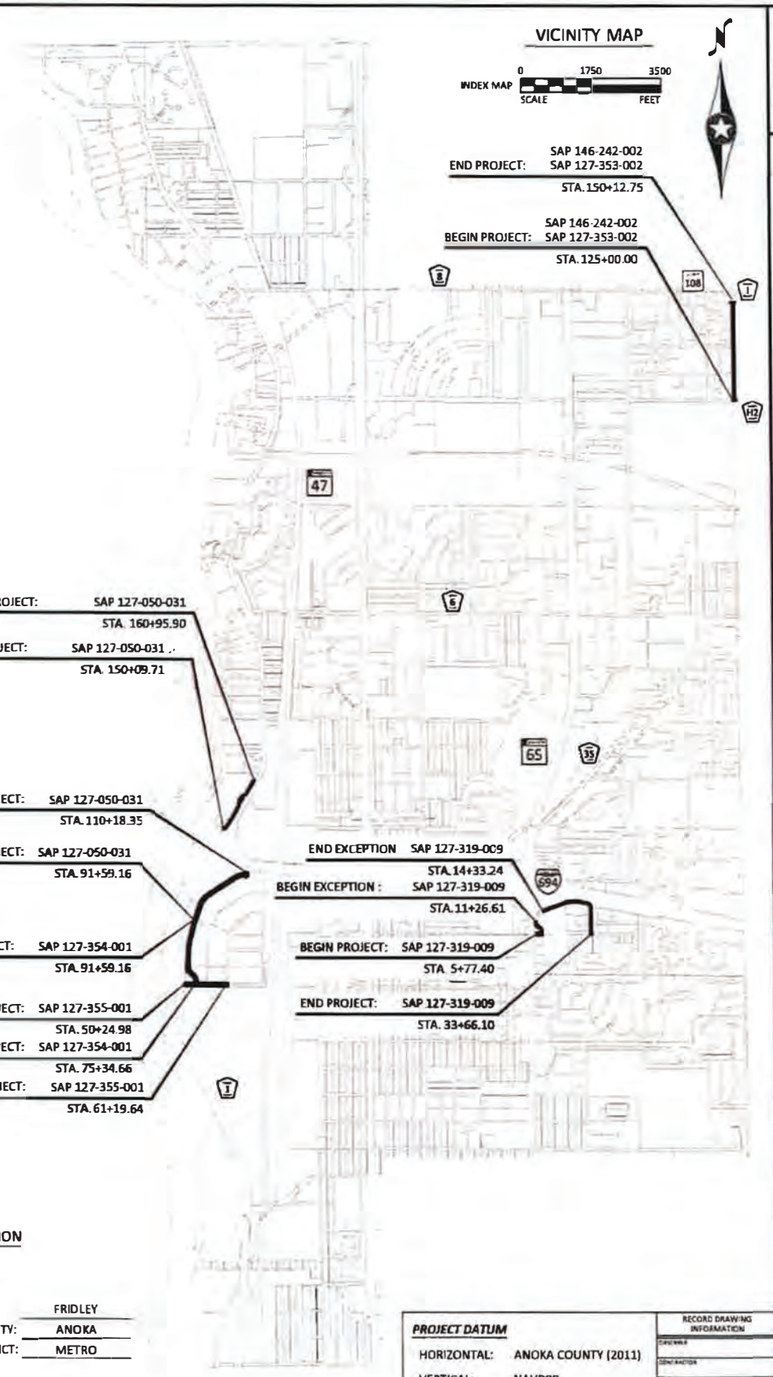
DESIGN SPEED FOR ROADWAY BASED ON STOPPING SIGHT DISTANCE:
HEIGHT OF EYE = 4.5 FT
HEIGHT OF OBJECT = 0.0 FT

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 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

PROJECT LOCATION

CITY: FRIDLEY
COUNTY: ANOKA
DISTRICT: METRO

VICINITY MAP



PROJECT DATUM

HORIZONTAL: ANOKA COUNTY (2011)
VERTICAL: NAVD88

RECORD DRAWING INFORMATION

— GOVERNING SPECIFICATIONS —
THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AND THE "SUPPLEMENTAL SPECIFICATIONS" DATED SEPTEMBER 2022 SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL" FOR TEMPORARY TRAFFIC CONTROL DEVICES.

THIS PLAN SET CONTAINS 75 SHEETS.

TYPICAL PLAN SCALE UNLESS OTHERWISE NOTED:

HORIZONTAL SCALE 0 25 50 SCALE FEET
VERTICAL SCALE 0 5 10 SCALE FEET

Brandon J. Brodhag, P.E.
Design Engineer: I hereby certify that this plan was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Date 04/25/2023 License Number 59297

Approved: City of Fridley Engineer — Date 4/25/2023

Approved: City of Mounds View Public Works Director — Date 4/26/2023

Joseph MacPherson — Digitally signed by Joseph MacPherson Date: 2023.05.03 08:03:03 -05'00' — Date 05/03/2023
Approved: Anoka County Engineer

John R. Mazzitello — Date 05/04/2023
Approved: Ramsey County Engineer

Dan Erickson — Digitally signed by Dan Erickson Date: 2023.05.11 15:09:35 -05'00' — Date
District State Aid Engineer:
Reviewed for compliance with State Aid Rules/Policy

for Dan Erickson — Digitally signed by Dan Erickson Date: 2023.05.11 15:10:01 -05'00' — Date
Approved for State Aid Funding: State Aid Engineer

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

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED CRL | CHECKED BJB | CLIENT PROJ. NO. 2023-01
NO. | SUBMITTAL | DATE: BID 04/25/2023

2023 STREET REHABILITATION PROJECT
S.A.P. 127-319-009, S.A.P. 127-353-002, S.A.P. 146-242-002,
S.A.P. 127-354-001, S.A.P. 127-355-001, S.A.P. 127-050-031
TITLE SHEET

SHEET 1 OF 75

I:\Engineer\Projects\2023\2023-01\Design\Drawings\Survey\2023 ST2023-01.dwg, 4/25/2023 2:24:51 PM

EXISTING TOPOGRAPHIC SYMBOLS

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

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

- BENCH MARK LOCATION
- CONTROL POINT
- MONUMENT IRON FOUND
- CAST IRON MONUMENT

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

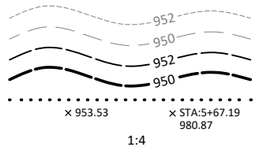
EXISTING UTILITY LINES

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

PROPOSED UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING

GRADING INFORMATION



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

HATCH PATTERNS

- BITUMINOUS
- CONCRETE
- GRAVEL

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 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

- F F F F — UNDERGROUND FIBER OPTIC
- E E E E — UNDERGROUND ELECTRIC
- G G G G — UNDERGROUND GAS
- C C C C — UNDERGROUND COMMUNICATION
- OE OE OE — OVERHEAD ELECTRIC
- OC OC OC — OVERHEAD COMMUNICATION
- OU OU OU — 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 38-02.

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		

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

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.
Brandon Brodhag
BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	NO.	ISSUED FOR	DATE
CRL		BID	04/25/2023
DRAWN			
CRL/JBQ			
CHECKED			
BJB			
CLIENT PROJ. NO.			
2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
LEGEND

SHEET 2 OF 75

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CONTRACT ADMINISTRATION

1. The Contractor shall notify the engineer in writing 48 hours prior to commencing work on any project item. Notification shall be given per project and per item.

2. The Contractor shall provide names and contact information of the Project Manager, Superintendent and Twenty-four Hour Emergency Response contact assigned to the project prior to commencing work.

3. The Superintendent shall be on site during all utility installation, reclaim, and paving operations.

4. If the Superintendent leaves the site, The Contractor shall designate a responsible representative capable of being on site within one-hour, contact information of the representative shall be provided to the Inspector 48 hours prior to Superintendent leaving site.

5. A Project Schedule showing project phasing, intermediate project deadlines, anticipated substantial completion and final completion shall be submitted by the Contractor at the Pre-Construction meeting.

6. The Project Manager and Superintendent shall schedule and attend a meeting once a week in the office of the City Engineer to discuss project schedule, progress, and issues.

7. A report of work completed the previous week, work scheduled to be completed the current week, and any change to the overall schedule or cost shall be submitted at each weekly project meeting. See Specifications.

8. All work shall conform with local ordinances, laws and rules.

PROJECT REPRESENTATIVE: CARL LIND, Engineering 612-295-3990

HOURS OF OPERATION

1. Hours of work are limited to 7:00 am to 7:00 pm Monday through Friday, and 9:00 am to 7:00 pm on Saturdays, unless otherwise approved by the Engineer.

UTILITIES

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

2. The contractor is responsible for locating and protecting all existing utilities. The Contractor shall arrange locates with Gopher State One Call prior to the start of any excavation. Below are contacts for the major utilities related to this project:

a.	Gopher State One Call	800-252-1166	Emergency Call 811
b.	Centerpoint Energy	612-321-5502	Emergency 888-944-4564
c.	Xcel Energy	612-630-4568	Emergency 800-895-1999
d.	Century Link	612-998-1920	

3. In the event of an emergency related to utilities on the project Call 811. In the event of an accident or personal injury Call 911. Upon control of the emergency situation, the contractor shall contact the City within one hour of the incident. A full detailed incident report must be submitted to the Project Engineer within seven (7) days of the event.

CITY OWNED WATER

1. No water service shut-downs will be allowed for longer than 96 hours unless approved by the Engineer. See Specifications.

2. Water service shut down requests must be submitted in writing 72 hours before the planned shutdown.

3. Water will be available from a hydrant identified by the Engineer for the project. A meter is available through the City of Fridley and a security deposit will be submitted by the Contractor. See Specifications.

STAGING

1. The City will assist in identifying potential staging sites upon request, the Contractor shall be responsible to negotiate the use of theses areas. See Specifications.

2. The Contractor is responsible to propose a staging area for the work. No additional storage of equipment or materials will be allowed outside of city Right of Way.

NON-CITY OWNED FACILITIES

1. All non-City of Fridley manhole castings must be salvaged and replaced. Castings shall be adjusted to match the final road surface prior to paving the bituminous wear course.

2. Metropolitan Council may provide new castings for the MCES manhole structures. If new castings are not available at the time of paving, the existing castings will be replaced on each structure.

RESIDENTIAL NOTICES & SERVICES

1. The City will notify the residents of the start of work, and final completion. Coordination of all other notifications is the responsibility of the Contractor. See Specifications.

2. The Contractor shall notify residents, and City of Fridley Water Department, of water shut-offs or installation of temporary water service for their property at least 72 hours before the shut-down.

3. The Contractor shall notify the residents of work scheduled in each phase of the project.

4. Prior to starting work on a block, the Contractor shall hand deliver a notice to each property stating the starting date of the work, the dates of closure of the street, the planned date for paving, and expected date of final completion in that area.

5. Any work that will prevent residents from reaching their driveway requires a minimum of 72 hours notice before the work begins.

6. It the contractor is to do any work outside of City Right of Way, the Contractor must obtain a written agreement with the property owner and submit agreement to The Engineer prior to the start of the work.

7. The Contractor shall provide access for mail delivery, garbage collection, and bus service. Any time this access will not be available, the Contractor will provide temporary facilities, and insure service to the residents.

8. If access to garbage and recycling trucks will not be available to an area, the Contractor shall move all waste containers to the nearest end of block before 7:00am, and return them to the respective property before the end of the day.

9. The Contractor will notify The Engineer immediately and respond to Resident complaints within one (1) hour of notification of the complaint. This will include access issues, damage to property, interruption of service, general questions, or others.

LANDSCAPING, TOPSOIL, EROSION CONTROL

1. The Contractor is responsible for protecting all trees and landscaping in the limits of construction, and of adjacent properties. Protection of landscaping shall be incidental to the work.

2. Any tree adjacent to the work requiring trimming to prevent damage to the tree will be done prior to the work, and will be incidental to the work.

3. The Contractor shall be responsible for protection of the stormwater system according to the SWPPP (Sheets 25,26) and the NPDES Construction Stormwater Permit issued by the MPCA.

4. All inlet protection and silt fence must be in place prior to the start of the work.

5. The Contractor will be responsible for all reporting required by the NPDES Permit. See Specifications.

6. Restoration of all boulevards and other project areas must be completed within 7 days of cessation of work in the area, and prior to paving the wear course bituminous surface.

TRAFFIC CONTROL

1. The Contractor shall prepare a traffic control plan showing all signage for the project and detours required as a part of the project. The traffic control plan must be approved by the Engineer prior to any work in the project area.

2. The Contractor will be responsible for maintaining all traffic control during the project, and will be required to make changes if required.

3. All traffic control signage shall be removed within seven (7) days of completion of paving. See Specifications.

CONSTRUCTION STAKING

1. Staking - The Agency will provide one set of construction stakes for utilities and curb at the discretion of the Engineer.

2. The Contractor must request staking a minimum of 48 hours in advance.

3. The Contractor will be responsible for protection of the stakes, and any re-staking if needed. See Specifications.

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

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.

BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL		
DRAWN	CRL/JBQ		
CHECKED	BJB		
CLIENT PROJ. NO.	2023-01		

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
GENERAL NOTES

SHEET 3 OF 75

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STATEMENT OF ESTIMATED QUANTITIES

TAB.	MnDOT NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES	53RD AVE, CHERI LN, FILLMORE ST STATE AID PARTICIPATING S.A.P. 127-319-009	STINSON BOULEVARD/ PLEASANT VIEW DRIVE		EAST RIVER ROAD EAST SERVICE DRIVE STATE AID PARTICIPATING S.A.P. 127-354-001	51ST WAY STATE AID PARTICIPATING S.A.P. 127-355-001	EAST RIVER ROAD EAST SERVICE DRIVE, EAST RIVER ROAD WEST SERVICE DRIVE STATE AID PARTICIPATING LOCAL STREETS S.A.P. 127-050-031	LOCAL NON-PARTICIPATING
						STATE AID PARTICIPATING S.A.P. 127-353-002	STATE AID PARTICIPATING S.A.P. 146-242-002				
					QTY	QTY	QTY	QTY	QTY	QTY	QTY
	2021.501	MOBILIZATION	LS	1.00	0.10	0.10	0.10	0.10	0.10	0.20	0.30
B	2101.501	CLEARING AND GRUBBING	LS	1.00		0.50	0.50				
B	2104.502	REMOVE BOLLARD	EA	1							1
B	2104.502	REMOVE CASTING	EA	1	1						
B	2104.502	REMOVE DRAINAGE STRUCTURE	EA	2		1	1				
B	2104.502	REMOVE GATE VALVE & BOX	EA	5							5
B	2104.502	REMOVE HYDRANT & GATE VALVE	EA	13							13
B	2104.502	SALVAGE SIGN TYPE C	EA	5	1	2	2				
B	2104.502	REMOVE SIGN TYPE C	EA	1		0.5	0.5				
B	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	1233	326	158	158	155	177	259	
B	2104.503	REMOVE CONCRETE CURB & GUTTER	LF	4834	449	1369	1369	303	257	729	358
B	2104.503	REMOVE CONCRETE VALLEY GUTTER	LF	33		16.5	16.5				
B	2104.503	REMOVE PIPE SEWERS (STORM)	LF	17		8.5	8.5				
B	2104.503	REMOVE WATERMAIN	LF	127							127
B	2104.504	REMOVE BITUMINOUS PAVEMENT	SY	105	74	15.5	15.5				
B	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SY	134		67	67				
B	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SY	58		29	29				
B	2104.504	REMOVE CONCRETE WALK	SY	41		20.5	20.5				
F	2105.607	COMMON EXCAVATION (P) (EXCESS RECLAIM)	CY	407		46	46			315	
F	2105.607	COMMON EXCAVATION (P)	CY	200		100	100				
F	2106.507	SELECT GRANULAR EMBANKMENT (CV)	CY	50		25	25				
F	2112.519	SUBGRADE PREPARATION (P)	RDST	10.86						10.86	
G	2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	22	5	3	3	3	3	5	
F	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	CY	436		218	218				
F	2215.504	FULL DEPTH RECLAMATION (P)	SY	5,925		1,346	1,346			3,233	
F	2232.504	MILL BITUMINOUS SURFACE (2.0" DEPTH)	SY	33,676	8,312	3,408	3,408	6,768	3,741	8,039	
F	2232.504	MILL BITUMINOUS SURFACE (3.5" DEPTH)	SY	3,528				714	2,814		
F	2331.603	BITUMINOUS JOINT SAW & SEAL	LF	700						700	
F	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	2683	499	226	226	492	563	677	
F	2360.604	3" BITUMINOUS DRIVEWAY W/ 6" CLASS 5 AGGREGATE	SY	70		35	35				
F	2360.509	TYPE SP. 9.5 WEARING COURSE MIX (2,C) - TRAIL	TON	474		237	237				
F	2360.509	TYPE SP 9.5 WEARING COURSE MIX (3,C)	TON	5,231	1,052	539	539	947	830	1,324	
F	2360.509	TYPE SP 12.5 NON WEARING COURSE MIX (3,C)	TON	744				68	267	409	
C	2501.503	15" RC PIPE SEWER DES 3006	LF	8		4	4				
C	2503.602	CONNECT TO EXISTING STORM SEWER	EA	3		2.0	1.0				
D	2504.602	6" GATE VALVE & BOX	EA	2							2
D	2504.602	8" GATE VALVE & BOX	EA	4							4
D	2504.602	HYDRANT WITH 6" GATE VALVE ASSEMBLY (INSTALL ONLY)	EA	13							13
F	2504.602	ADJUST GATE VALVE & BOX	EA	16	5	2	2	1	3	3	
D	2504.602	CONNECT TO EXISTING WATERMAIN	EA	11							11
D	2504.603	6" DUCTILE IRON WATERMAIN, CL 52	LF	25							25
D	2504.603	8" DUCTILE IRON WATERMAIN, CL 52	LF	70							70
D	2504.603	8" FPVC WATERMAIN (DIRECTIONAL DRILLED)	LF	253							253
D	2504.603	8" PVC WATERMAIN	LF	50							50
D	2504.603	6-INCH CIPP WATERMAIN LINING	LF	360							360
D	2504.603	8-INCH CIPP WATERMAIN LINING	LF	387							387
D	2504.608	FITTINGS	LB	1195							1195
C	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	EA	1		0.5	0.5				
C	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 2' X 3'	EA	1		0.5	0.5				
C	2506.502	CASTING ASSEMBLY	EA	3	1	1	1				
F	2506.602	ADJUST FRAME AND RING CASTING (SEWER)	EA	49	5	5	5	14	1	19	
E	2521.518	6" CONCRETE WALK	SF	1072		536.0	536.0				
E	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LF	4,773	449	1317	1317	303	257	729	401
E	2531.503	CONCRETE CURB & GUTTER DESIGN B624	LF	124		62	62				
E	2531.503	CONCRETE CURB & GUTTER DESIGN V6	LF	10		5	5				
E	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SY	103		51.5	51.5				
E	2531.604	6" CONCRETE VALLEY GUTTER	SY	22		11	11				
E	2531.618	TRUNCATED DOMES	SF	191		95.5	95.5				
	2540.601	REPAIR/REPLACE PET FENCE IRRIGATION SYSTEM	LS	1.00	0.10	0.10	0.10	0.10	0.10	0.20	0.30
H	2540.602	REMOVAL, TEMPORARY INSTALLATION & REINSTALLATION OF MAILBOXES	EA	21		11	10				
	2563.601	TRAFFIC CONTROL	LS	1.00	0.10	0.10	0.10	0.10	0.10	0.20	0.30
H	2564.502	INSTALL SIGN TYPE C	EA	5	1	2	2				
I	2564.518	SIGN PANELS TYPE C	SF	43		21.5	21.5				
H	2565.602	RIGID PVC LOOP DETECTOR 6' x 6'	EA	11					9	2	
H	2565.616	FLASHING BEACON SYSTEM	SYS	2							2
G	2573.502	STORM DRAIN INLET PROTECTION	EA	40	17	3	3	5	2	10	
G	2573.502	STABILIZED CONSTRUCTION EXIT	EA	1						1	
G	2574.507	COMMON TOPSOIL BORROW	CY	215	34	25	25	17	15	42	57
G	2574.508	FERTILIZER TYPE 3	LB	204	18	60	60	11	7	22	26
G	2575.505	SEEDING	AC	0.57	0.05	0.17	0.17	0.03	0.02	0.06	0.07
G	2575.508	HYDRAULIC BONDED FIBER MATRIX	LB	1995	175	595	595	105	70	210	245
G	2575.508	SEED MIXTURE 25-151 (120 LB/AC)	LB	71	6	21	21	4	3	8	8
G	2575.508	SEED MIXTURE 33-262 (44 LB/AC)	LB	1							1
H	2582.503	4" BROKEN LINE PAINT	LF	5,072	1,288			1,402	662	1,720	
H	2582.503	4" SOLID LINE PAINT	LF	5,012	401	2,075	2,075		461		
H	2582.503	4" DOUBLE SOLID LINE PAINT	LF	3,303	1,065	1,119	1,119				
H	2582.503	24" SOLID LINE PAINT	LF	60	10				50		
H	2582.518	PAVEMENT MESSAGE PAINT	SF	343.5	148				195.5		
H	2582.518	CROSSWALK PAINT	SF	856		248	248		360		

INDEX OF TABULATIONS

STANDARD PLATES

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

PLATE NO.	DESCRIPTION
4026B	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTINGS
8000K	CHANNELIZERS (3 SHEETS)
8112I	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8122F	PEDESTAL & PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT) (2 SHEETS)
8132B	PREFORMED RIGID PVC CONDUIT LOOP DETECTOR (3 SHEETS)

BASIS FOR ESTIMATED QUANTITIES	A
BID ITEM	**BASIS**
TYPE SP WEARING & NON-WEARING COURSE MIX	110 lb/sy-in
BITUMINOUS TACK COAT	0.06 gal/sy
HYDRAULIC BONDED FIBER MATRIX	3500 lb/ac
SEED, MIXTURE 25-151	120 lb/ac
SEED, MIXTURE 33-262	44 lb/ac
FERTILIZER TYPE 3 (22-5-10)	350 lb/ac

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
STATEMENT OF ESTIMATED QUANTITIES, TABULATIONS

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MISCELLANEOUS REMOVALS — B

ALIGNMENT	STATION	CLEARING & GRUBBING	REMOVE BOLLARD	REMOVE CASTING	REMOVE DRAINAGE STRUCTURE	REMOVE GATE VALVE & BOX	REMOVE HYDRANT & GATE VALVE	REMOVE SIGN TYPE C	SALVAGE SIGN TYPE C	REMOVE CONCRETE CURB & GUTTER	REMOVE CONCRETE VALLEY GUTTER	REMOVE PIPE SEWERS (STORM)	REMOVE WATERMAIN	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	REMOVE BITUMINOUS PAVEMENT	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE CONCRETE WALK
		LUMP SUM	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	SQ YD
STATE AID PARTICIPATING, S.A.P. 127-319-009																		
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66			1					1	449				326	74			
S.A.P. 127-319-009 SUBTOTAL:				1					1	449				326	74			
STATE AID PARTICIPATING, S.A.P. 127-353-002																		
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	0.5			1			0.5	2	1,369	16.5	8.5		158	15.5	67	29	20.5
S.A.P. 127-353-002 SUBTOTAL:		0.5			1			0.5	2	1369	16.5	8.5		158	15.5	67	29	20.5
STATE AID PARTICIPATING, S.A.P. 146-242-002																		
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	0.5			1			0.5	2	1,369	16.5	8.5		158	15.5	67	29	20.5
S.A.P. 146-242-002 SUBTOTAL:		0.5			1			0.5	2	1369	16.5	8.5		158	15.5	67	29	20.5
STATE AID PARTICIPATING, S.A.P. 127-354-001																		
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 91+59									303				155				
S.A.P. 127-354-001 SUBTOTAL:										303				155				
STATE AID PARTICIPATING, S.A.P. 127-355-001																		
51ST WAY NE	50+25 TO 61+20									257				177				
S.A.P. 127-355-001 SUBTOTAL:										257				177				
LOCAL STREET, S.A.P. 127-050-031																		
EAST RIVER ROAD EAST SERVICE DRIVE	91+59 TO 110+18									327								
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96									402				259				
S.A.P. 127-050-031 SUBTOTAL:										729				259				
NON-PARTICIPATING/LOCAL FUNDS																		
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66						2			69			4					
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13																	
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 110+18		1				10			198			20					
51ST WAY NE	50+25 TO 61+20						1			20			2					
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96					5				71			101					
NON-PARTICIPATING SUBTOTAL:			1			5	13			358			127					
TOTAL:		**1**	**1**	**1**	**2**	**5**	**13**	**1**	**5**	**4834**	**33**	**17**	**127**	**1233**	**105**	**134**	**58**	**41**

STORM SEWER — C

STINSON BOULEVARD (PLEASANT VIEW DRIVE), S.A.P. 127-353-002 & S.A.P. 146-242-002

DRAINAGE NUMBER		STRUCTURE LOCATION			DRAINAGE STRUCTURE				TOP OF CASTING ELEVATION	OUTLET ELEV.	INLET ELEV.	15" RCP CLASS DES 3006
						PAY QUANTITY						
FLOWS FROM:	FLOWS TO:	ALIGN.	STATION	OFFSET	TYPE	2' x 3'	48-4020	CASTING ASSEMBLY TYPE				
						EACH	EACH					LIN FT
5001		Stinson Blvd CL			CB	1		NEENAH R3067-VB	901.49			
5001	6001	Stinson Blvd CL								898.55	898.29	
6002	5002	Stinson Blvd CL								899.20	898.64	8
5002		Stinson Blvd CL			CBMH		1	NEENAH R3067-VB	901.91			
5002	6003	Stinson Blvd CL								898.64	989.47	
TOTAL:						**1.00**	**1.00**					**8**

SAP 127-319-009
SAP 127-353-002
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SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TABULATIONS

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WATER — D

ALIGNMENT	STATION	6" GATE VALVE & BOX	8" GATE VALVE & BOX	HYDRANT WITH 6" GATE VALVE (INSTALL ONLY)	6" WATERMAIN DUCTILE IRON CL 52	8" WATERMAIN DUCTILE IRON CL 52	8" FPVC WATERMAIN (DIRECTION DRILLED)	8" PVC WATERMAIN	CONNECT TO EXISTING WATERMAIN	FITTINGS	6-INCH CIPP WATERMAIN LINING	8-INCH CIPP WATERMAIN LINING
		EACH	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	EACH	POUND	LIN FT	LIN FT
STATE AID PARTICIPATING, S.A.P. 127-319-009												
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66											
S.A.P. 127-319-009 SUBTOTAL:												
STATE AID PARTICIPATING, S.A.P. 127-353-002												
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13											
S.A.P. 127-353-002 SUBTOTAL:												
STATE AID PARTICIPATING, S.A.P. 146-242-002												
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13											
S.A.P. 146-242-002 SUBTOTAL:												
STATE AID PARTICIPATING, S.A.P. 127-354-001												
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 91+59											
S.A.P. 127-354-001 SUBTOTAL:												
STATE AID PARTICIPATING, S.A.P. 127-355-001												
51ST WAY NE	50+25 TO 61+20											
S.A.P. 127-355-001 SUBTOTAL:												
LOCAL STREET, S.A.P. 127-050-031												
EAST RIVER ROAD EAST SERVICE DRIVE	91+59 TO 110+18											
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96											
S.A.P. 127-050-031 SUBTOTAL:												
NON-PARTICIPATING/LOCAL FUNDS												
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66			2								
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13											
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 110+18			10								
51ST WAY NE	50+25 TO 61+20			1								
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96	2	4		25	70	253	50	11	1,195	360	387
NON-PARTICIPATING SUBTOTAL:		2	4	13	25	70	253	50	11	1,195	360	387
TOTAL:		**2**	**4**	**13**	**25**	**70**	**253**	**50**	**11**	**1,195**	**360**	**387**

CONCRETE — E

ALIGNMENT	STATION	CONCRETE CURB & GUTTER DESIGN B618	CONCRETE CURB & GUTTER DESIGN B624	CONCRETE CURB & GUTTER DESIGN V6	6" CONCRETE WALK	6" CONCRETE DRIVEWAY PAVEMENT	6" CONCRETE VALLEY GUTTER	TRUNCATED DOMES
		LIN FT	LIN FT		SQ FT	SQ YD	SQ YD	SQ FT
STATE AID PARTICIPATING, S.A.P. 127-319-009								
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66	449						
S.A.P. 127-319-009 SUBTOTAL:		449						
STATE AID PARTICIPATING, S.A.P. 127-353-002								
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	1317	62	5	536	51.5	11	95.5
S.A.P. 127-353-002 SUBTOTAL:		1317	62	5	536	51.5	11	95.5
STATE AID PARTICIPATING, S.A.P. 146-242-002								
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	1317	62	5	536	51.5	11	95.5
S.A.P. 146-242-002 SUBTOTAL:		1317	62	5	536	51.5	11	95.5
STATE AID PARTICIPATING, S.A.P. 127-354-001								
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 91+59	303						
S.A.P. 127-354-001 SUBTOTAL:		303						
STATE AID PARTICIPATING, S.A.P. 127-355-001								
51ST WAY NE	50+25 TO 61+20	257						
S.A.P. 127-355-001 SUBTOTAL:		257						
LOCAL STREET, S.A.P. 127-050-031								
EAST RIVER ROAD EAST SERVICE DRIVE	91+59 TO 110+18	327						
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96	402						
S.A.P. 127-050-031 SUBTOTAL:		729						
NON-PARTICIPATING/LOCAL FUNDS								
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66	112						
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13							
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 110+18	198						
51ST WAY NE	50+25 TO 61+20	20						
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96	71						
NON-PARTICIPATING SUBTOTAL:		401						
TOTAL:		**4,773**	**124**	**10**	**1,072**	**103**	**22**	**191**

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
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SHEET 6 OF 75

AGGREGATE & BITUMINOUS — F

ALIGNMENT	STATION	COMMON EXCAVATION (P) EXCESS RECLAIM	COMMON EXCAVATION (P)	SELECT GRANULAR EMBANKMENT (CV)	AGGREGATE BASE (CV) CLASS 5 (P)	SUBGRADE PREPARATION	FULL DEPTH RECLAMATION	MILL BITUMINOUS SURFACE (2.0" DEPTH)	MILL BITUMINOUS SURFACE (3.5" DEPTH)	BITUMINOUS MATERIAL FOR TACK COAT	3" BITUMINOUS DRIVEWAY W/ 6" CLASS 5 AGGREGATE	TYPE SP 9.5 WEARING COURSE MIX (2,C) - TRAIL	TYPE SP 9.5 WEARING COURSE MIX (3,C)	TYPE SP 12.5 NON WEARING COURSE MIX (3,C)	ADJUST GATE VALVE & BOX	ADJUST FRAME AND RING CASTING (SEWER)	BITUMINOUS JOINT SAW & SEAL
		CU YD	CU YD	CU YD	CU YD	RDST	SQ YD	SQ YD	SQ YD	GAL	SQ YD	TON	TON	TON	EACH	EACH	LIN FT
STATE AID PARTICIPATING, S.A.P. 127-319-009																	
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66							8,312		499			1,052		5	5	
S.A.P. 127-319-009 SUBTOTAL:								8,312		499			1,052		5	5	
STATE AID PARTICIPATING, S.A.P. 127-353-002																	
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	46	100	25	218		1,346	3,408.0		226.0	35	237	539		2	5	
S.A.P. 127-353-002 SUBTOTAL:		46	100	25	218		1,346	3,408		226	35	237	539		2	5	
STATE AID PARTICIPATING, S.A.P. 146-242-002																	
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	46	100	25	218		1,346	3,408.0		226.0	35	237	539		2	5	
S.A.P. 146-242-002 SUBTOTAL:		46	100	25	218		1,346	3,408		226	35	237	539		2	5	
STATE AID PARTICIPATING, S.A.P. 127-354-001																	
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 91+59							6,768	714	492			947	68	1	14	
S.A.P. 127-354-001 SUBTOTAL:								6,768	714	492			947	68	1	14	
STATE AID PARTICIPATING, S.A.P. 127-355-001																	
51ST WAY NE	50+25 TO 61+20							3,741	2,814	563			830	267	3	1	
S.A.P. 127-355-001 SUBTOTAL:								3,741	2,814	563			830	267	3	1	
LOCAL STREET, S.A.P. 127-050-031																	
EAST RIVER ROAD EAST SERVICE DRIVE	91+59 TO 110+18							8,039		483			1,017			15	
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96	315				10.86	3,233			194			307	409	3	4	700
S.A.P. 127-050-031 SUBTOTAL:		315				11	3,233	8,039		677			1,324	409	3	19	700
NON-PARTICIPATING/LOCAL FUNDS																	
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66																
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13																
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 110+18																
51ST WAY NE	50+25 TO 61+20																
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96																
NON-PARTICIPATING SUBTOTAL:																	
TOTAL:		**407**	**200**	**50**	**436**	**10.86**	**5,925**	**33,676**	**3,528**	**2,683**	**70**	**474**	**5,231**	**744**	**16**	**49**	**700**

EROSION CONTROL & TURF ESTABLISHMENT — G

ALIGNMENT	STATION	STREET SWEEPER (WITH PICKUP BROOM)	STORM DRAIN INLET PROTECTION	STABILIZED CONSTRUCTION EXIT	COMMON TOPSOIL BORROW	FERTILIZER TYPE 3	SEEDING	SEED MIXTURE 25-151	SEED MIXTURE 33-262	HYDRAULIC BONDED FIBER MATRIX
		HOUR	EACH	EACH	CU YD	POUND	ACRE	POUND	POUND	POUND
STATE AID PARTICIPATING, S.A.P. 127-319-009										
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66	5	17		34	18	0.05	6		175
S.A.P. 127-319-009 SUBTOTAL:		5	17		34	18	0	6		175
STATE AID PARTICIPATING, S.A.P. 127-353-002										
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	3	3		25	60	0.17	21		595
S.A.P. 127-353-002 SUBTOTAL:		3	3		25	60	0	21		595
STATE AID PARTICIPATING, S.A.P. 146-242-002										
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	3	3		25	60	0.17	21		595
S.A.P. 146-242-002 SUBTOTAL:		3	3		25	60	0	21		595
STATE AID PARTICIPATING, S.A.P. 127-354-001										
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 91+59	3	5		17	11	0.03	4		105
S.A.P. 127-354-001 SUBTOTAL:		3	5		17	11	0	4		105
STATE AID PARTICIPATING, S.A.P. 127-355-001										
51ST WAY NE	50+25 TO 61+20	3	2		15	7	0.02	3		70
S.A.P. 127-355-001 SUBTOTAL:		3	2		15	7	0	3		70
LOCAL STREET, S.A.P. 127-050-031										
EAST RIVER ROAD EAST SERVICE DRIVE	91+59 TO 110+18	3	6		19	11	0.03	4		105
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96	2	4	1	23	11	0.03	4		105
S.A.P. 127-050-031 SUBTOTAL:		5	10	1	42	22	0	8		210
NON-PARTICIPATING/LOCAL FUNDS										
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66				9	4	0.01	2		35
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13									
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 110+18				25	11	0.03	4		105
51ST WAY NE	50+25 TO 61+20				9	4	0.01	2		35
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96				14	7	0.02		1	70
NON-PARTICIPATING SUBTOTAL:					57	26	0	8	1	245
TOTAL:		**22**	**40**	**1**	**215**	**204**	**0.57**	**71**	**1**	**1,995**

SAP 127-319-009
SAP 127-353-002
SAP 127-146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TABULATIONS

SHEET 7 OF 75

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PAVEMENT MARKINGS & SIGNAGE — H

ALIGNMENT	STATION	4" SOLID LINE PAINT		4" BROKEN LINE PAINT		24" SOLID LINE PAINT	4" DOUBLE SOLID LINE PAINT	PAVEMENT MESSAGE PAINT	CROSSWALK PAINT	RELOCATE MAIL BOX	RIGID PVC LOOP DETECTOR 6' X 6'	FLASHING BEACON SYSTEM
		WHITE	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE	WHITE			
		LIN FT		LIN FT		LIN FT	LIN FT	SQ FT	SQ FT	EACH	EACH	SYSTEM
STATE AID PARTICIPATING, S.A.P. 127-319-009												
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66	256	145		1,288	10	1,065	148				
S.A.P. 127-319-009 SUBTOTAL:		401		1,288		10	1,065	148.0				
STATE AID PARTICIPATING, S.A.P. 127-353-002												
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	2,075					1,119		248	11		
S.A.P. 127-353-002 SUBTOTAL:		2,075					1,119		248	11		
STATE AID PARTICIPATING, S.A.P. 146-242-002												
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	2,075					1,119		248	10		
S.A.P. 146-242-002 SUBTOTAL:		2,075					1,119		248	10		
STATE AID PARTICIPATING, S.A.P. 127-354-001												
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 91+59				1,402							
S.A.P. 127-354-001 SUBTOTAL:				1,402								
STATE AID PARTICIPATING, S.A.P. 127-355-001												
51ST WAY NE	50+25 TO 61+20	461		208	454	50		195.5	360		9	
S.A.P. 127-355-001 SUBTOTAL:		461		662		50		196	360		9	
LOCAL STREET, S.A.P. 127-050-031												
EAST RIVER ROAD EAST SERVICE DRIVE	91+59 TO 110+18				1,720							
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96										2	
S.A.P. 127-050-031 SUBTOTAL:				1,720							2	
NON-PARTICIPATING/LOCAL FUNDS												
53RD AVENUE NE, CHERI LANE NE, FILLMORE STREET NE	05+77 TO 33+66											
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13											2
EAST RIVER ROAD EAST SERVICE DRIVE	75+35 TO 110+18											
51ST WAY NE	50+25 TO 61+20											
EAST RIVER ROAD WEST SERVICE DRIVE	150+10 TO 160+96											
NON-PARTICIPATING SUBTOTAL:												2
TOTAL:		**5,012**		**5,072**		**60**	**3,303**	**343.5**	**856**	**21**	**11**	**2**

SIGN PANELS — I

STINSON BOULEVARD (PLEASANT VIEW DRIVE), S.A.P. 127-353-002 & S.A.P. 146-242-002

SIGN	DESCRIPTION	W	H	SQ. FT. EACH	SIGN TOTALS	SIGN SQ. FT TOTALS
					STATE AID PARTICIPATING, S.A.P. 127-353-002	STATE AID PARTICIPATING, S.A.P. 127-353-002
R8-3A		12	12	1	6	6
				TOTAL:	**6**	**6**

EARTHWORK — J

ALIGNMENT	STATION	EXCAVATION				EMBANKMENT			
		RECLAIM	COMMON	TOPSOIL	TOTAL	AGGREGATE (CL. 5)	COMMON	TOPSOIL	TOTAL
STATE AID PARTICIPATING, S.A.P. 127-353-002									
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	46	100	116	**262**	218	25	88.0	**331**
S.A.P. 127-353-002 SUBTOTAL:		**46**	**100**	**116**	**262**	**218**	**25**	**88**	**331**
STATE AID PARTICIPATING, S.A.P. 146-242-002									
STINSON BOULEVARD / PLEASANT VIEW DRIVE	125+00 TO 150+13	46	100	116	**262**	218	25	88.0	**331**
S.A.P. 146-242-002 SUBTOTAL:		**46**	**100**	**116**	**262**	**218**	**25**	**88**	**331**
TOTAL:		**92**	**200**	**232**	**524**	**436**	**50**	**176**	**662**

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TABULATIONS

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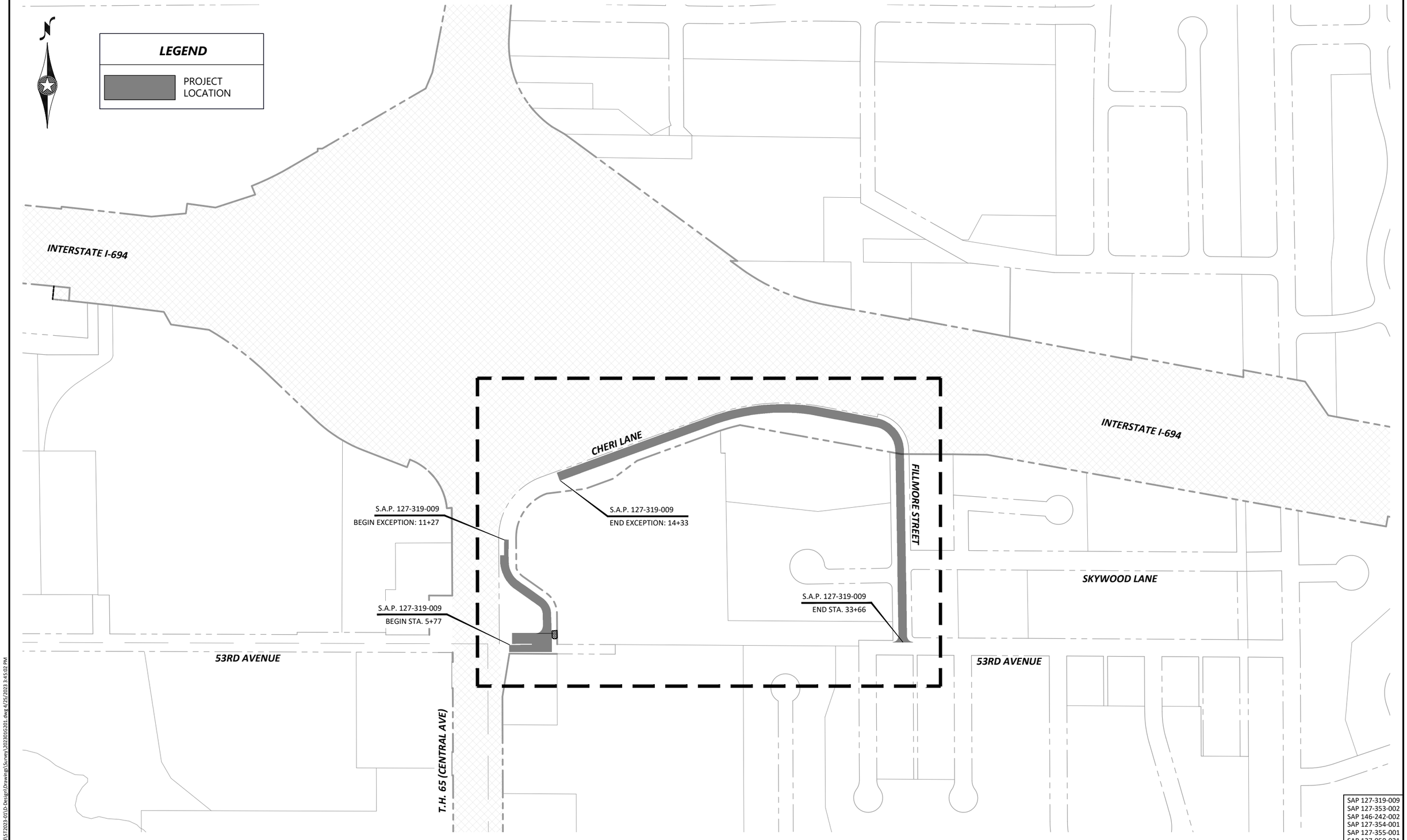

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 150 300 FEET

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
LOCATION PLAN
53RD AVENUE, CHERI LANE, FILLMORE STREET

SHEET 9 OF 75

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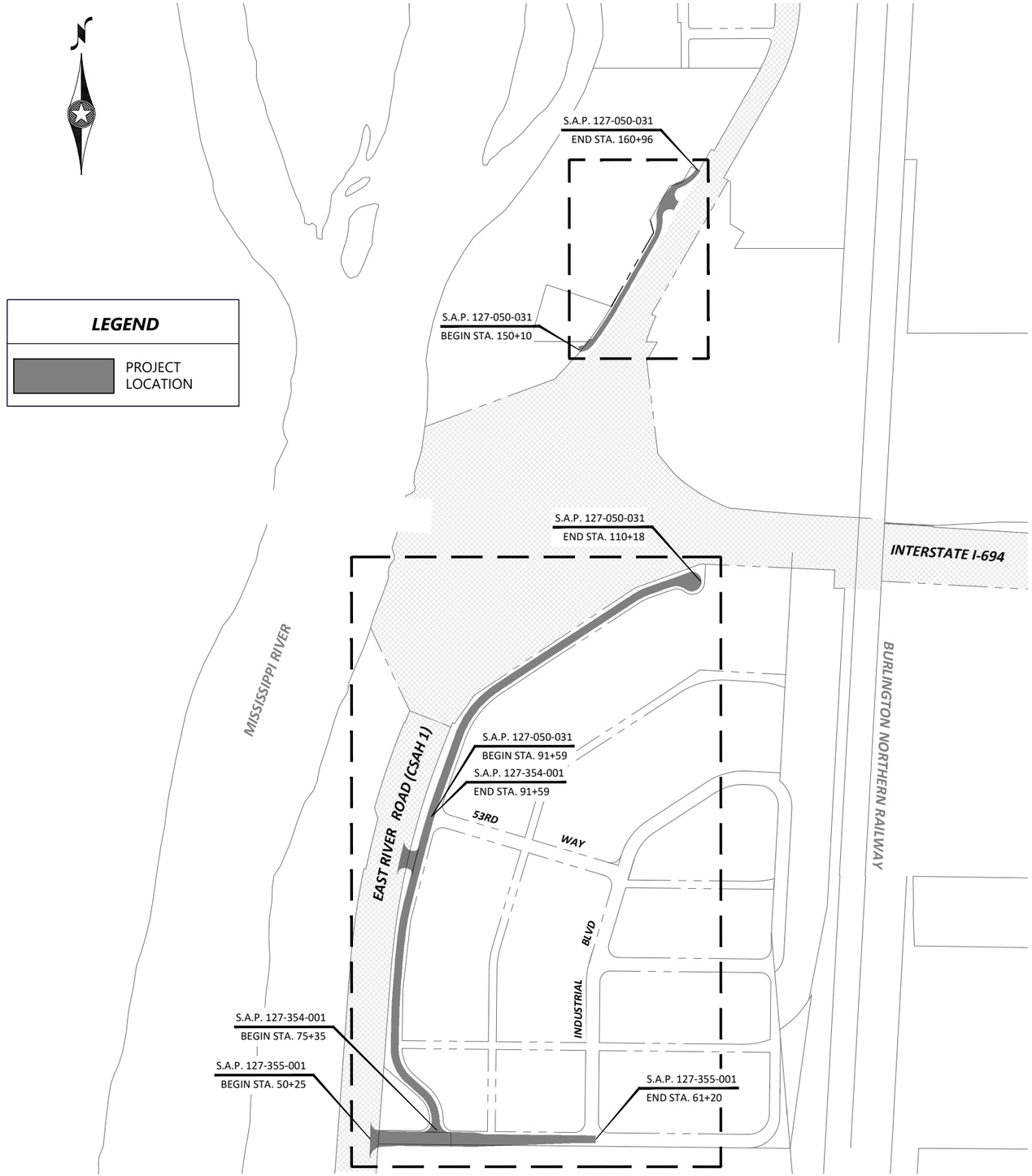

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

0 300 600
HORZ. SCALE FEET

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Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

LOCATION PLAN

51ST WAY, E RIVER RD SERVICE DRIVE (EAST, WEST)

SHEET 10 OF 75

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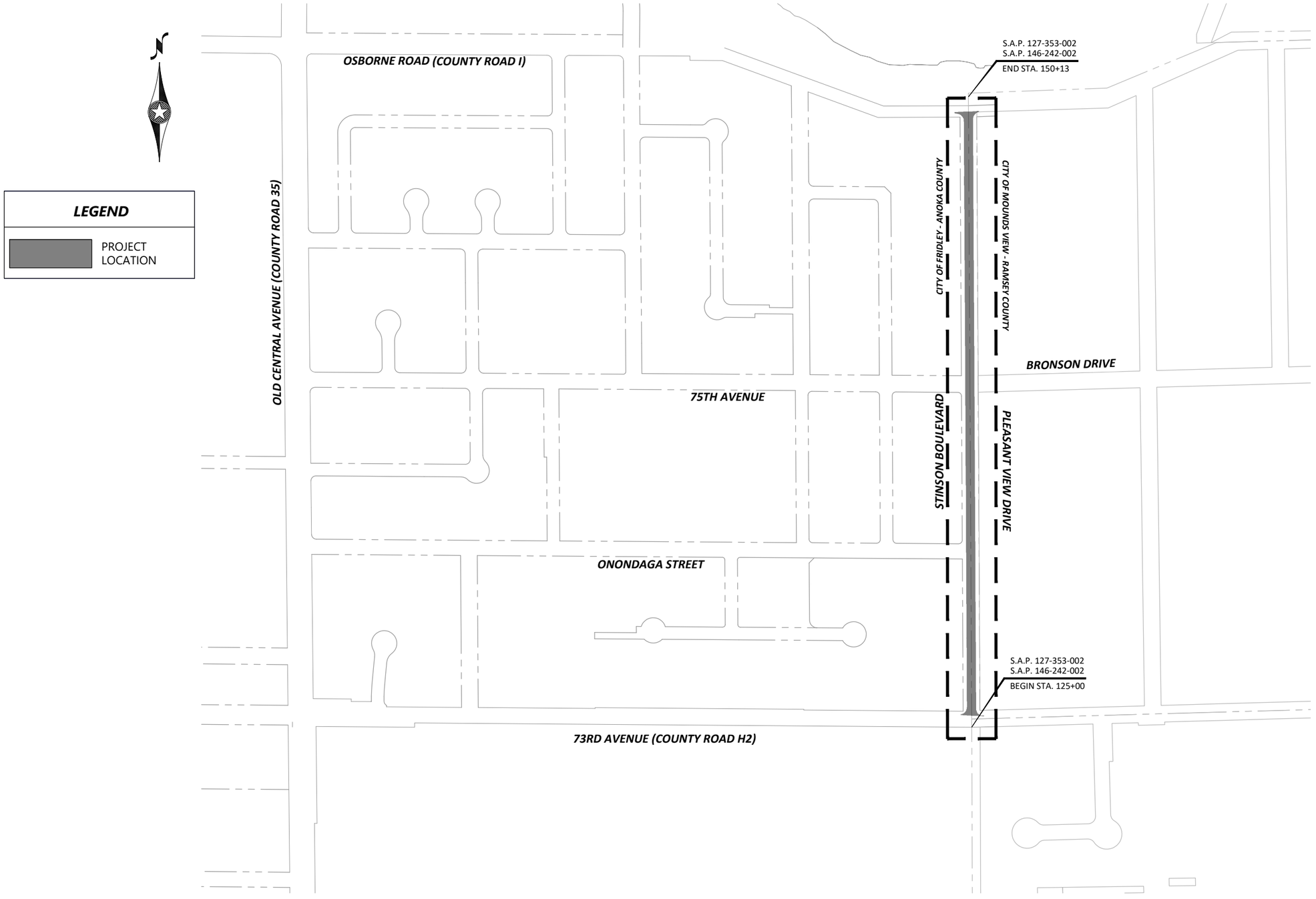

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 200 400 FEET

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
LOCATION PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE)

SHEET 11 OF 75

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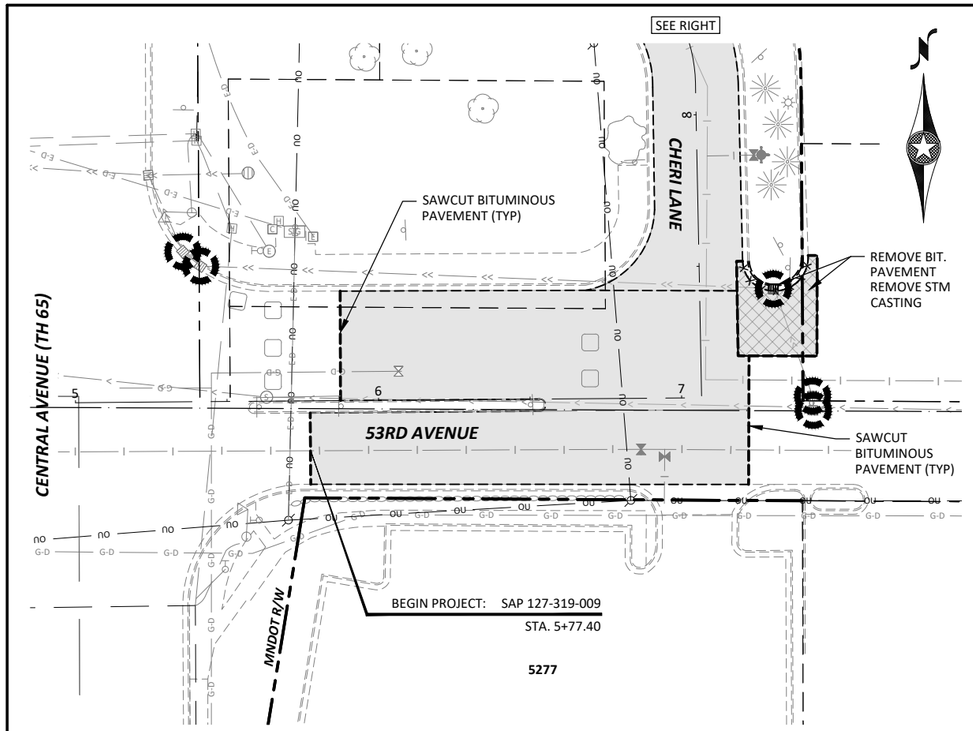
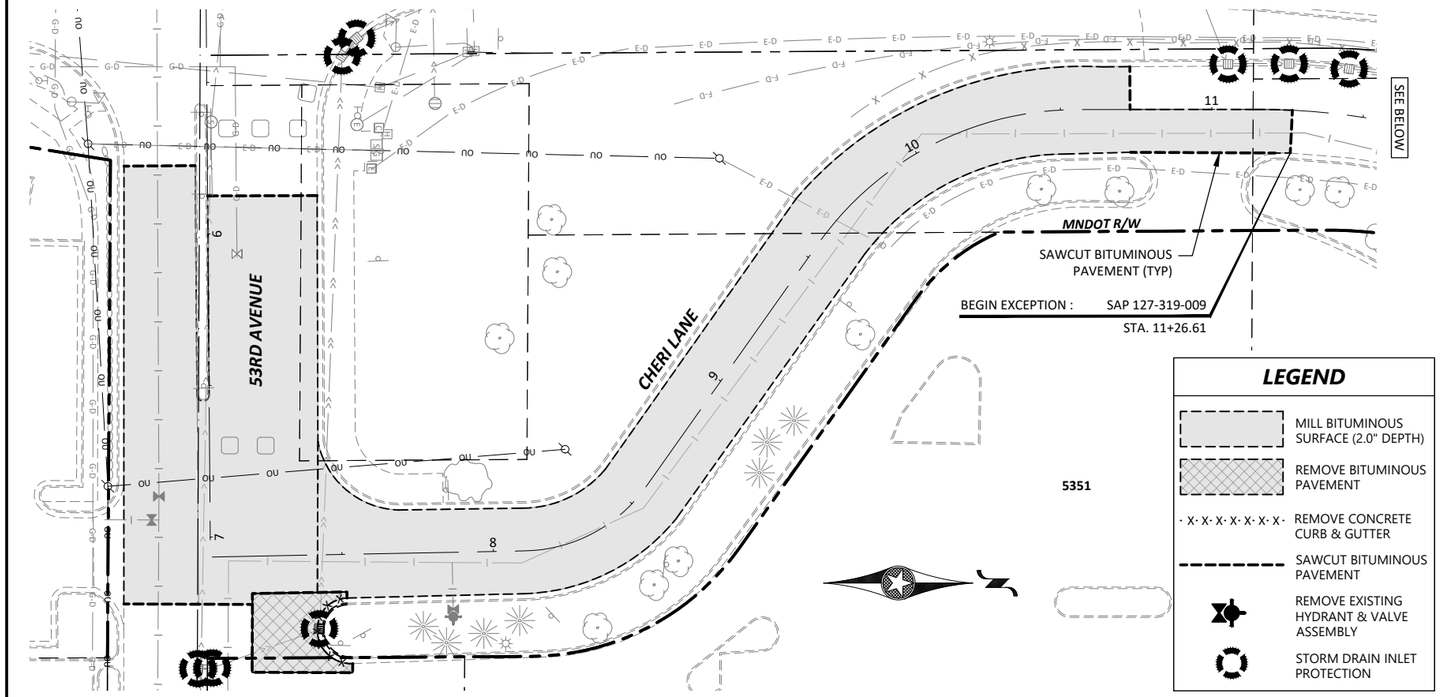
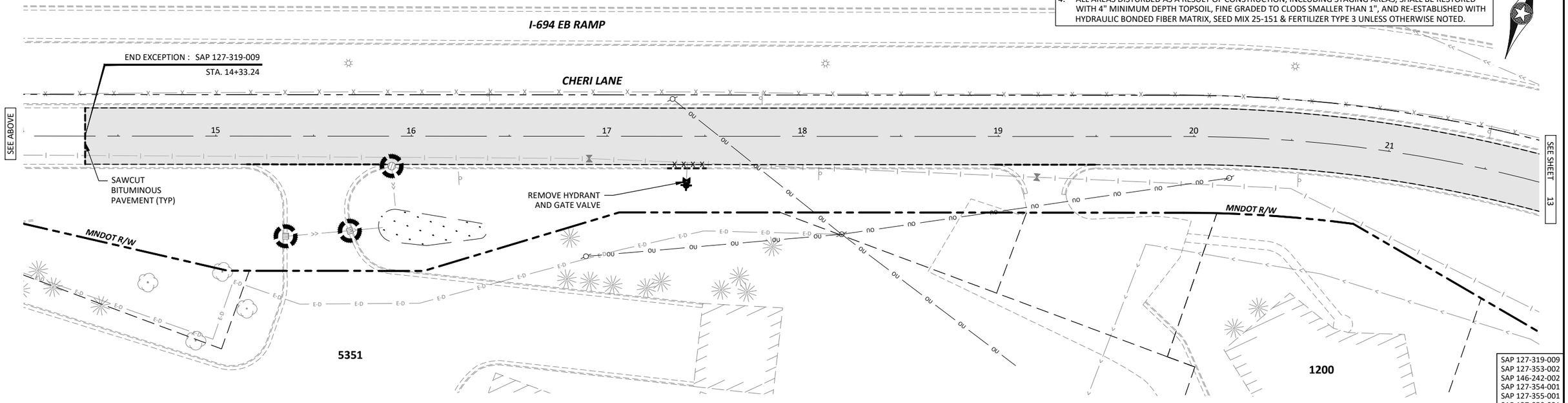




EROSION & SEDIMENT CONTROL NOTES:

1. CONTRACTOR SHALL FURNISH & INSTALL ALL APPLICABLE EROSION CONTROL MEASURES PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.
2. CONTRACTOR SHALL FURNISH & INSTALL INLET PROTECTION AT ALL EXISTING DOWNSTREAM INLETS.
3. ALL ADJACENT STREETS SHALL BE SWEPT CLEAN OF TRACKED DEBRIS.
4. ALL AREAS DISTURBED AS A RESULT OF CONSTRUCTION, INCLUDING STAGING AREAS, SHALL BE RESTORED WITH 4" MINIMUM DEPTH TOPSOIL, FINE GRADED TO CLODS SMALLER THAN 1", AND RE-ESTABLISHED WITH HYDRAULIC BONDED FIBER MATRIX, SEED MIX 25-151 & FERTILIZER TYPE 3 UNLESS OTHERWISE NOTED.



SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
53RD AVENUE, CHERI LANE

SHEET 12 OF 75

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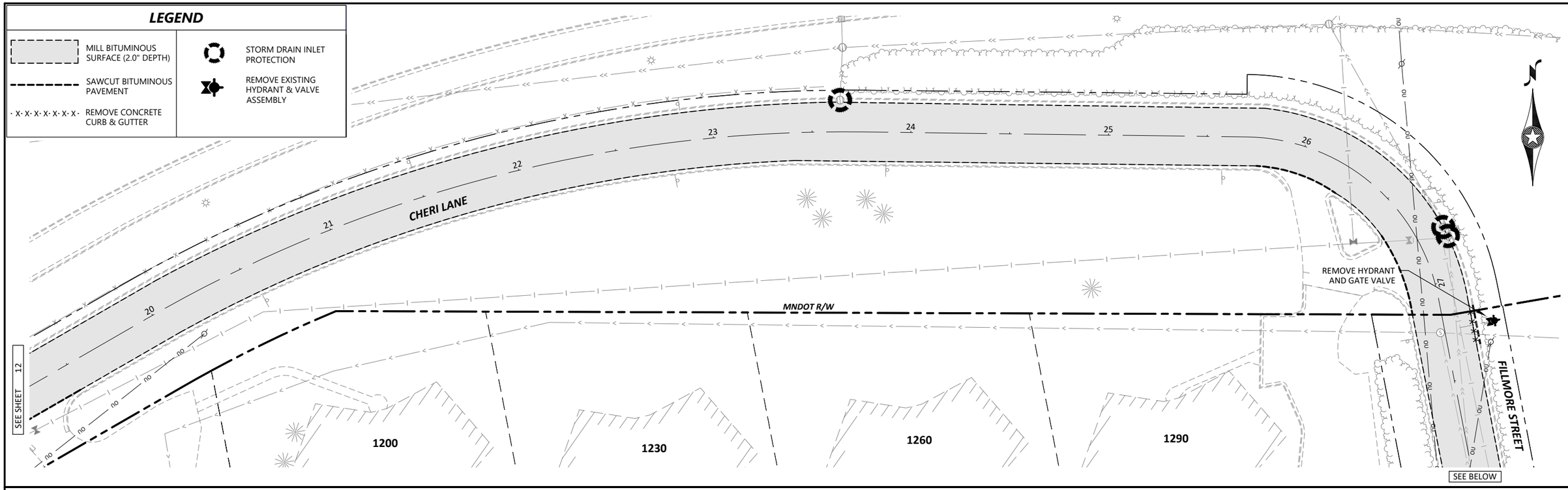
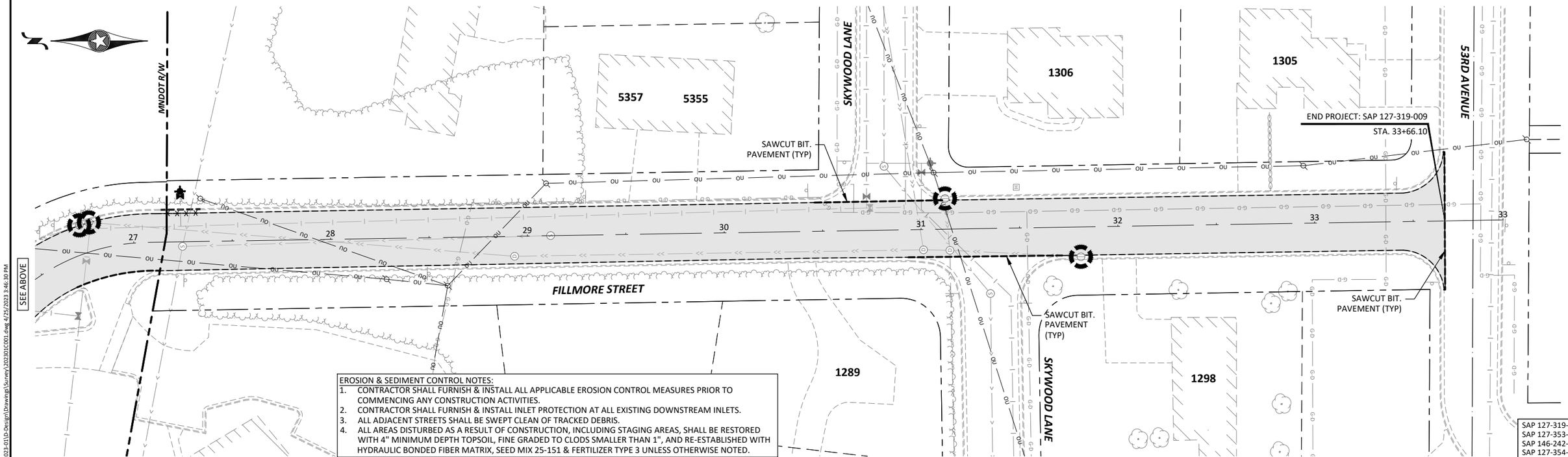
LEGEND

- MILL BITUMINOUS SURFACE (2.0" DEPTH)
- SAWCUT BITUMINOUS PAVEMENT
- REMOVE CONCRETE CURB & GUTTER
- STORM DRAIN INLET PROTECTION
- REMOVE EXISTING HYDRANT & VALVE ASSEMBLY





EROSION & SEDIMENT CONTROL NOTES:

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2. CONTRACTOR SHALL FURNISH & INSTALL INLET PROTECTION AT ALL EXISTING DOWNSTREAM INLETS.
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SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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BRANDON J. BRODHAG
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City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
CHERI LANE, FILLMORE STREET

SHEET 13 OF 75

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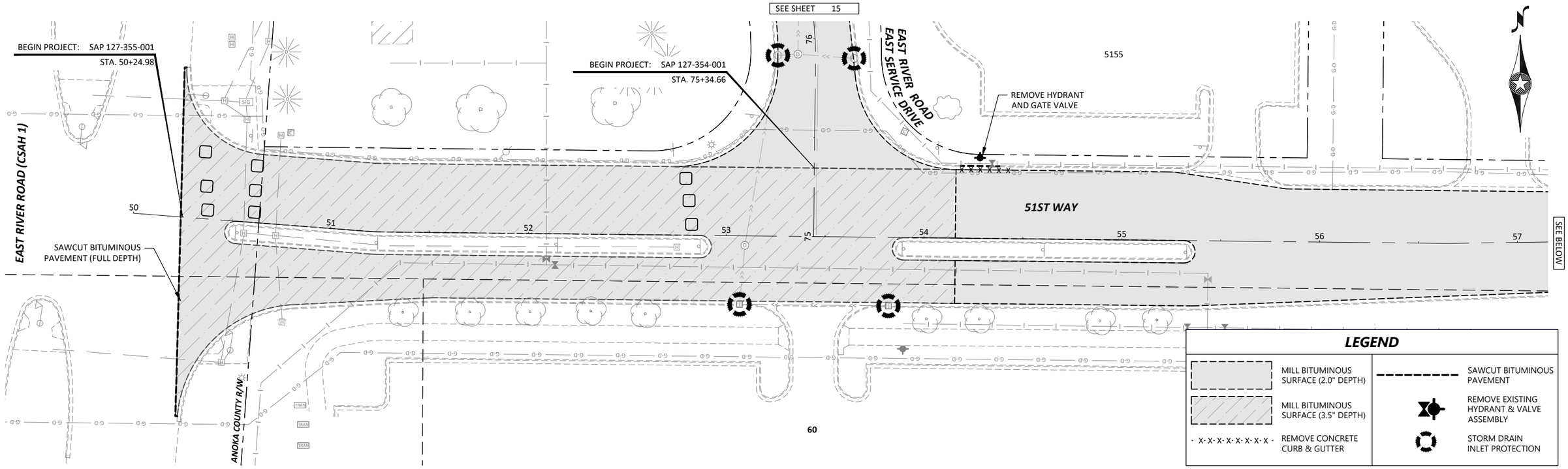

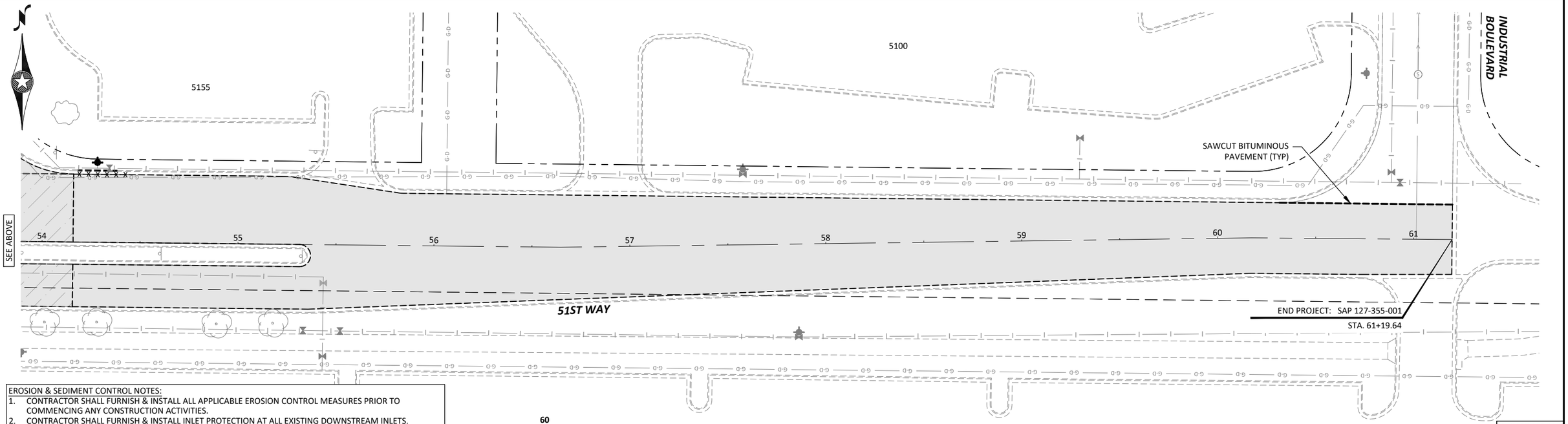

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SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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

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.

BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
51ST WAY

SHEET 14 OF 75

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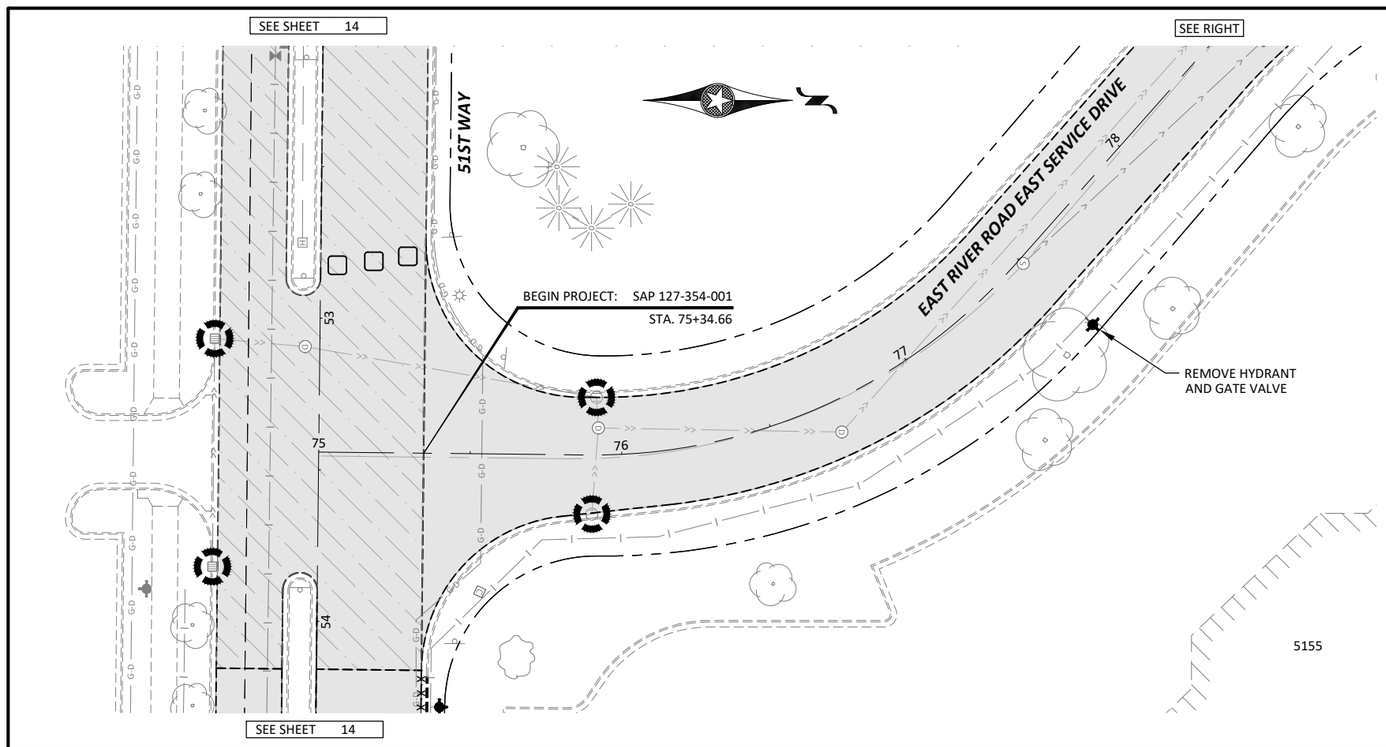

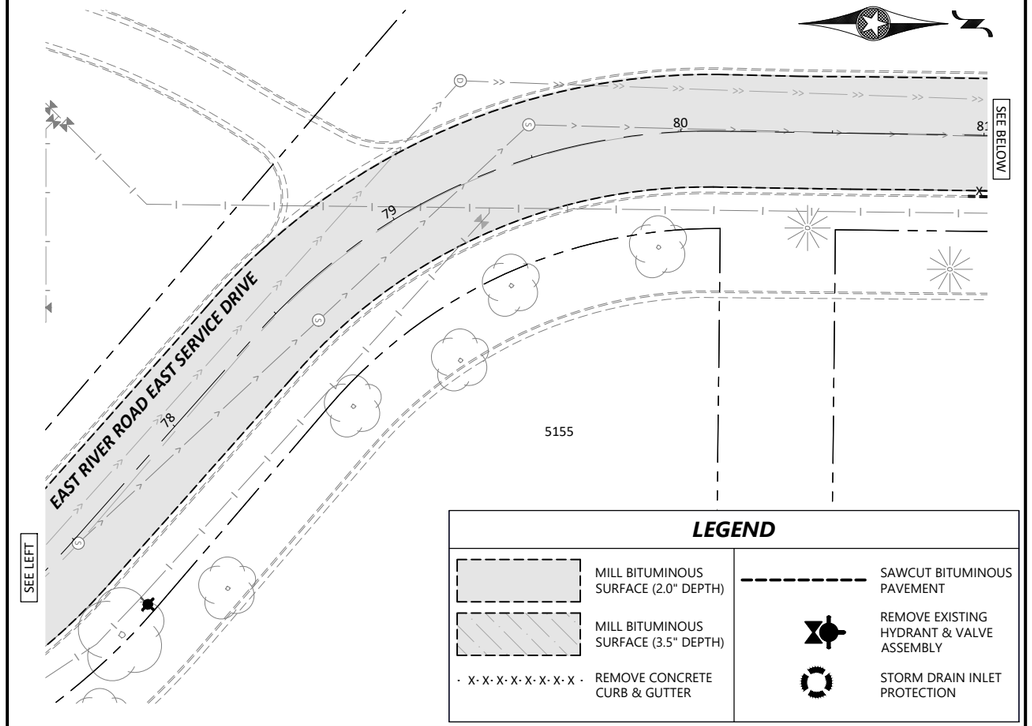

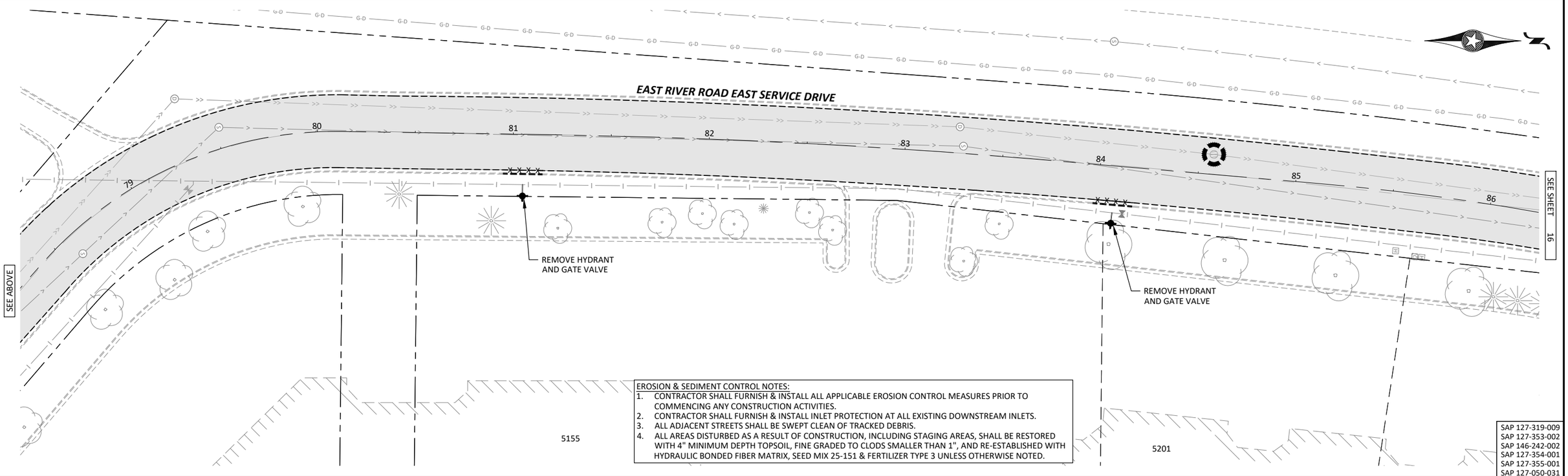

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SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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BRANDON J. BRODHAG
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City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (1 OF 3)

SHEET 15 OF 75

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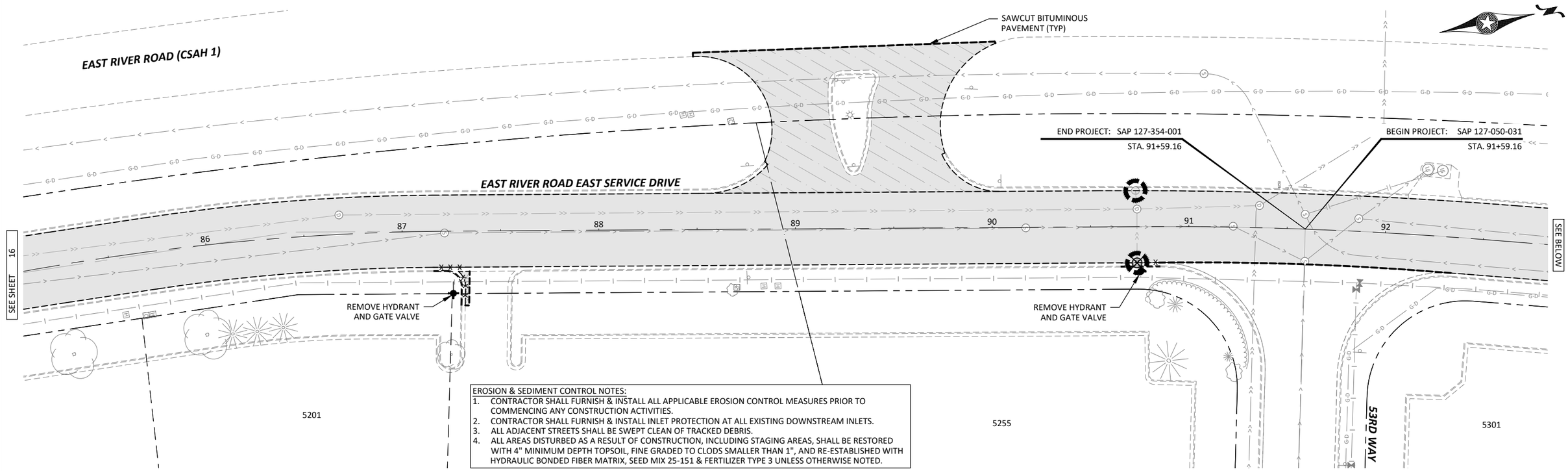

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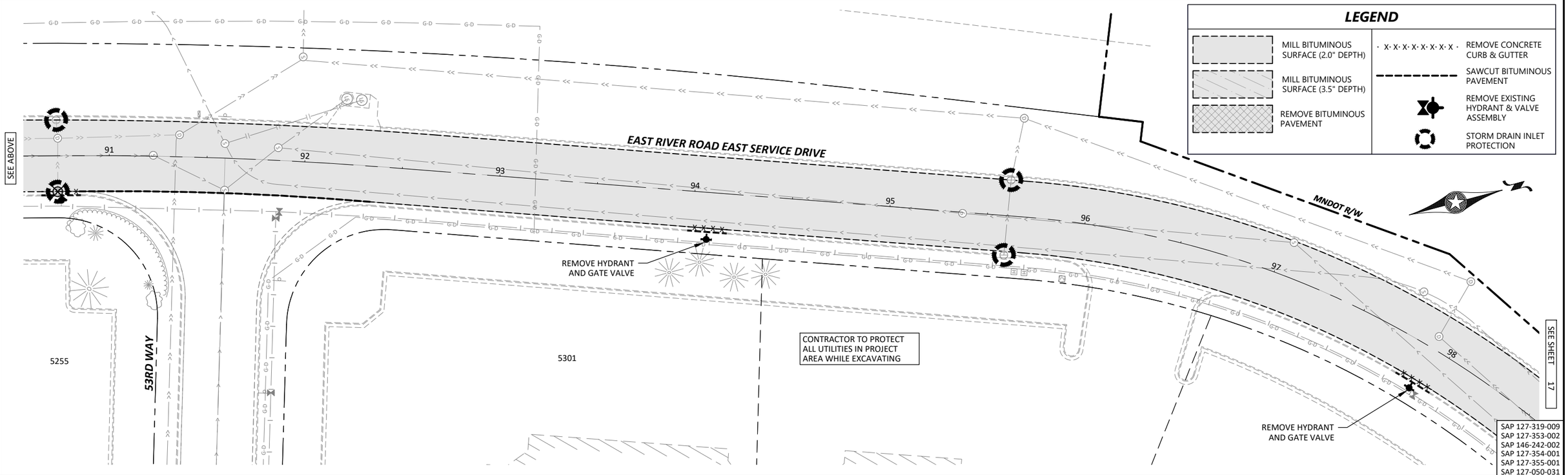

CONTRACTOR TO PROTECT ALL UTILITIES IN PROJECT AREA WHILE EXCAVATING

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
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Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

EXISTING CONDITIONS & REMOVALS PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (2 OF 3)

SHEET 16 OF 75

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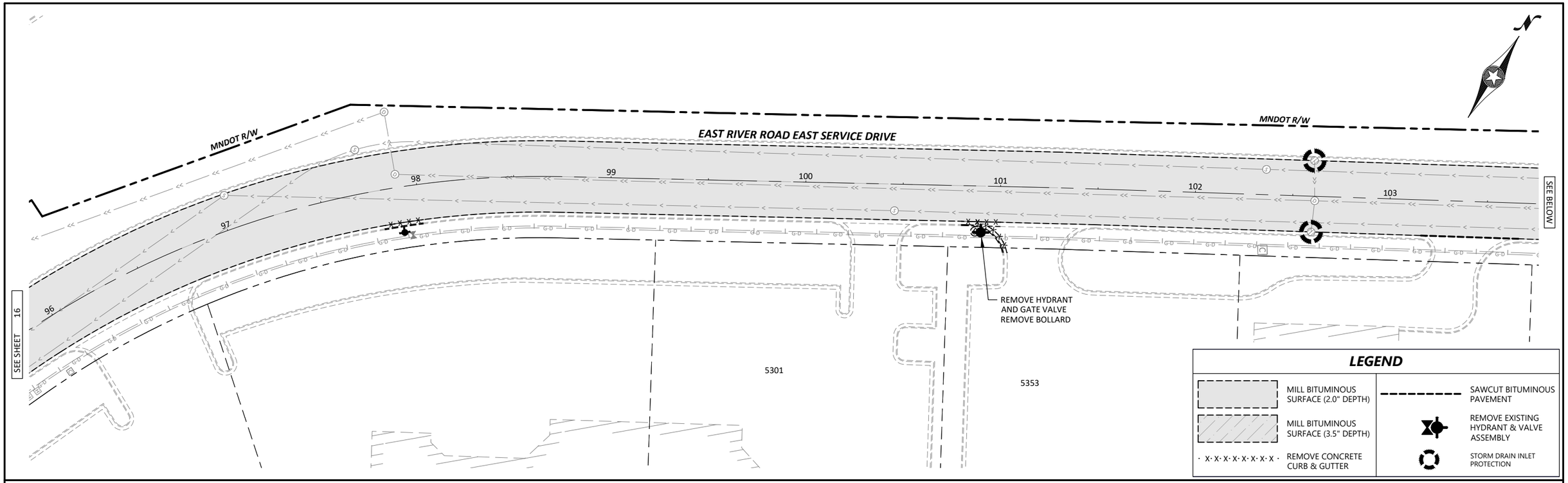

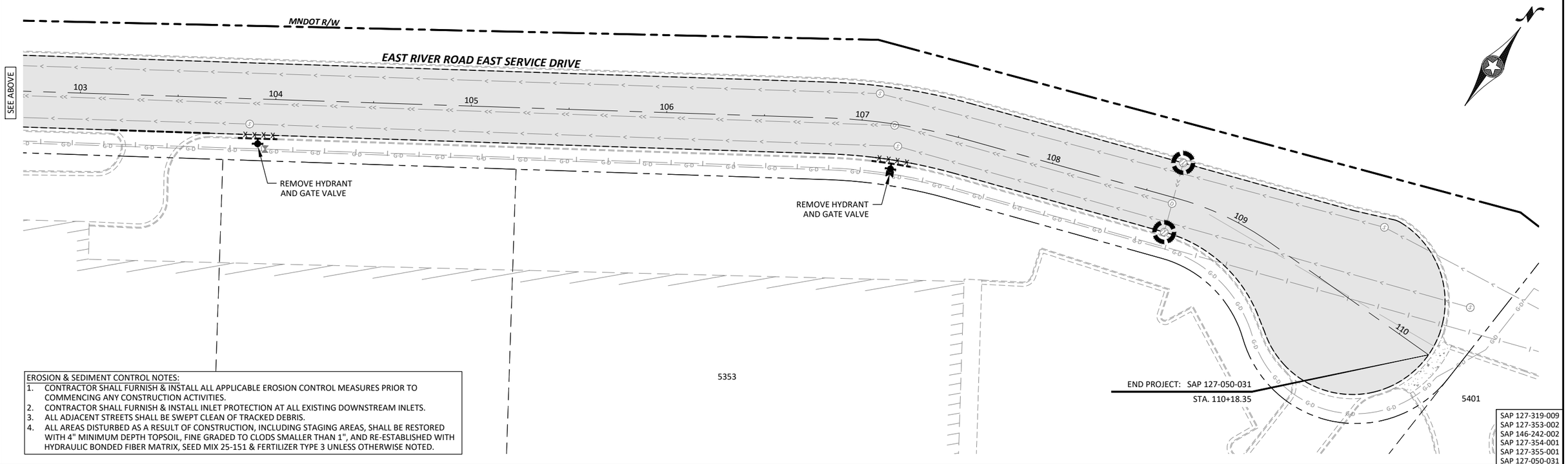

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (3 OF 3)

SHEET 17 OF 75

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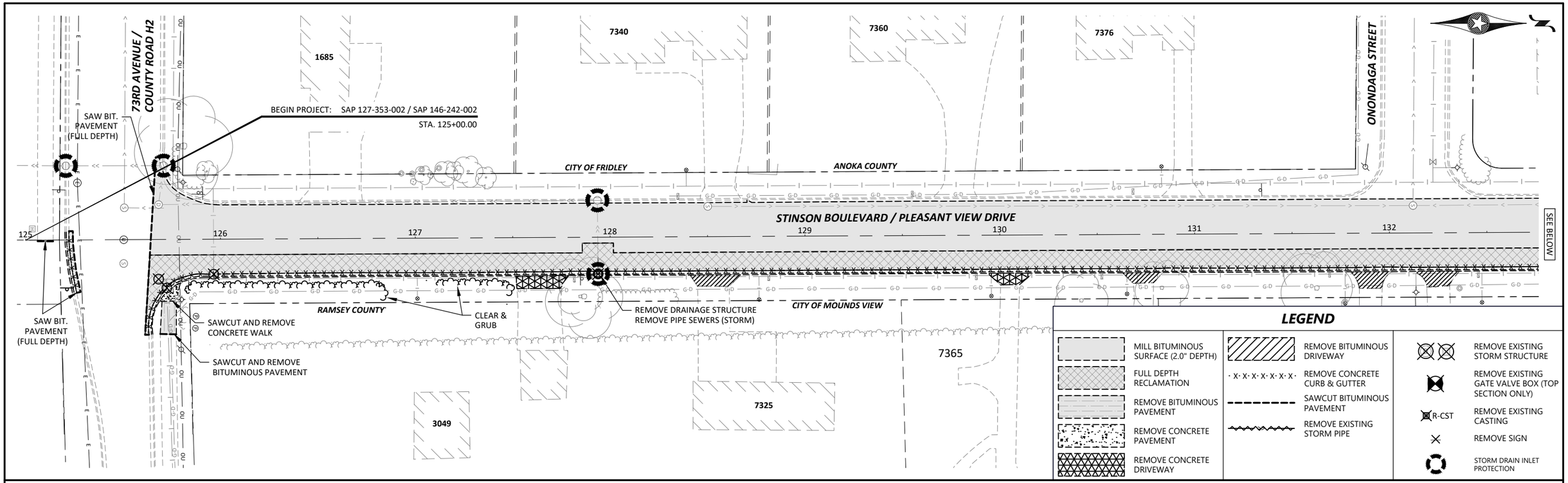

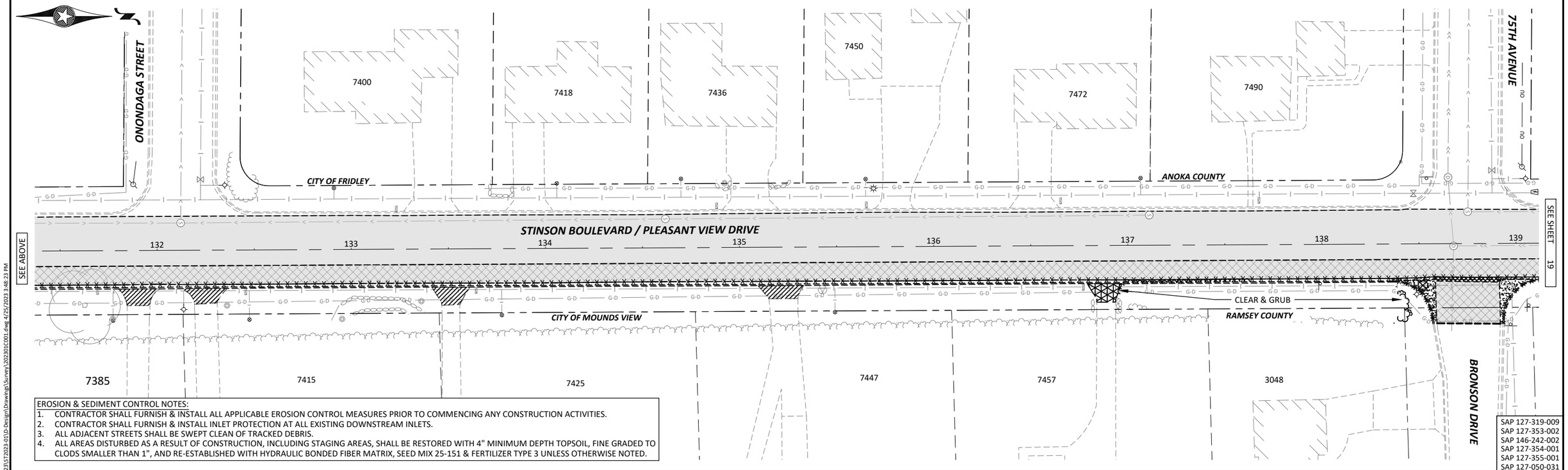

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE) (1 OF 2)

SHEET 18 OF 75

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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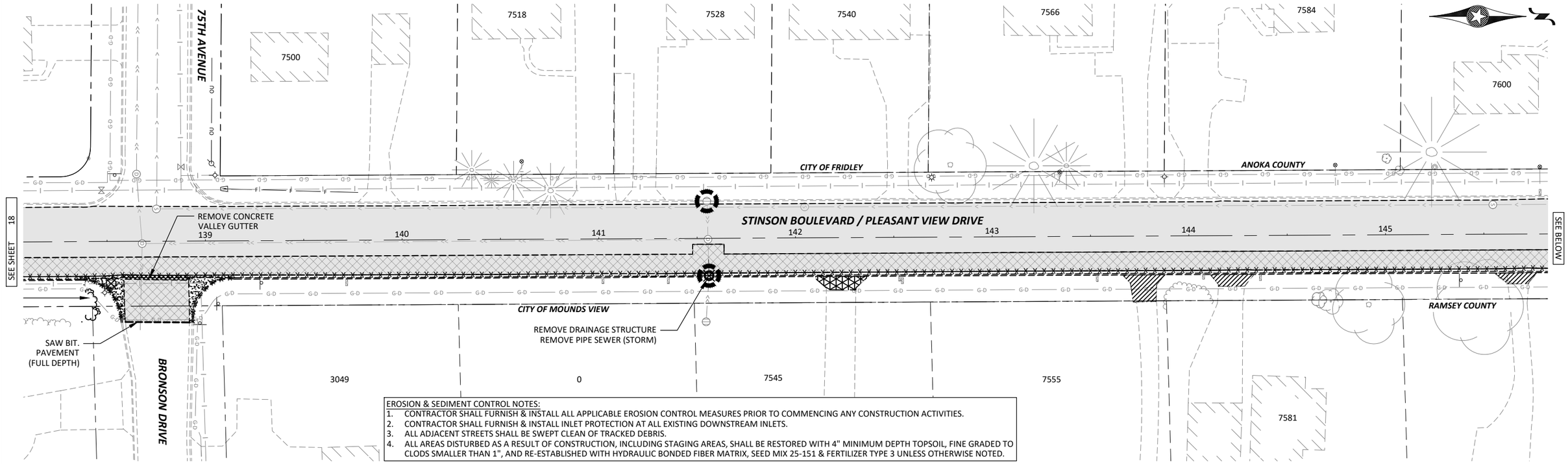

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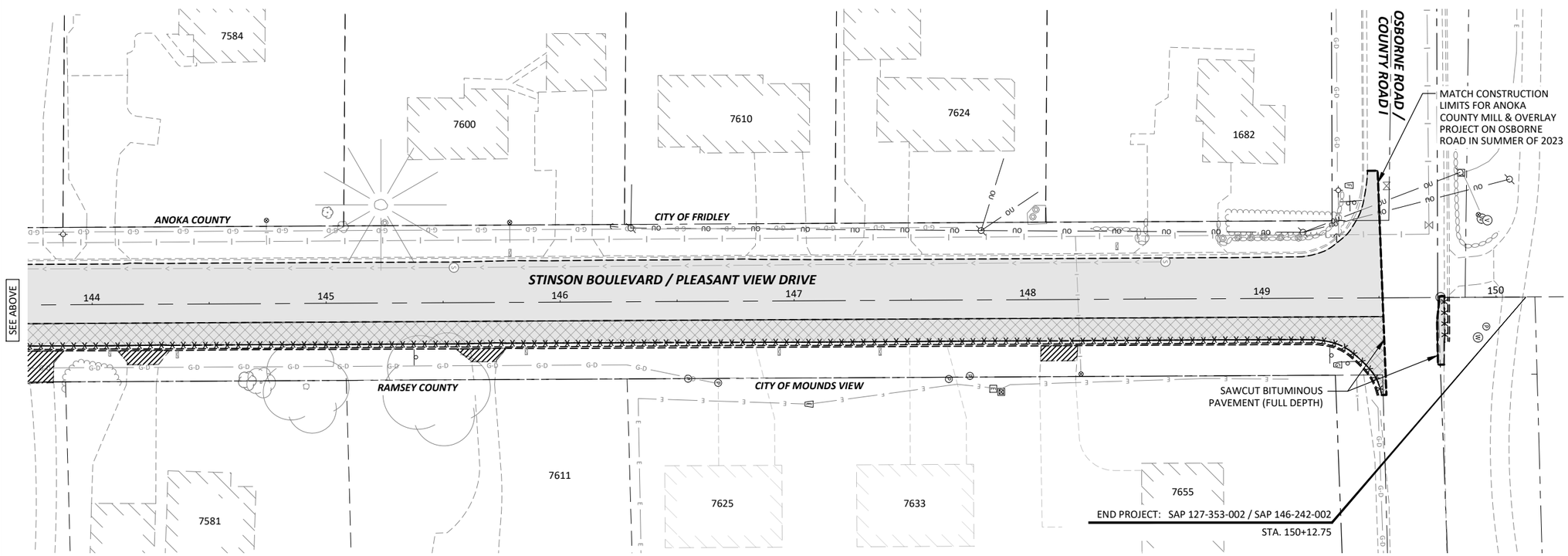

LEGEND

- MILL BITUMINOUS SURFACE (2.0" DEPTH)
- FULL DEPTH RECLAMATION
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE DRIVEWAY
- REMOVE BITUMINOUS DRIVEWAY
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT BITUMINOUS PAVEMENT
- REMOVE EXISTING STORM PIPE
- REMOVE EXISTING STORM STRUCTURE
- REMOVE EXISTING GATE VALVE BOX (TOP SECTION ONLY)
- R-CST REMOVE EXISTING CASTING
- REMOVE SIGN
- STORM DRAIN INLET PROTECTION

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

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	BID	04/25/2023

2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

EXISTING CONDITIONS & REMOVALS PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE) (2 OF 2)

SHEET 19 OF 75

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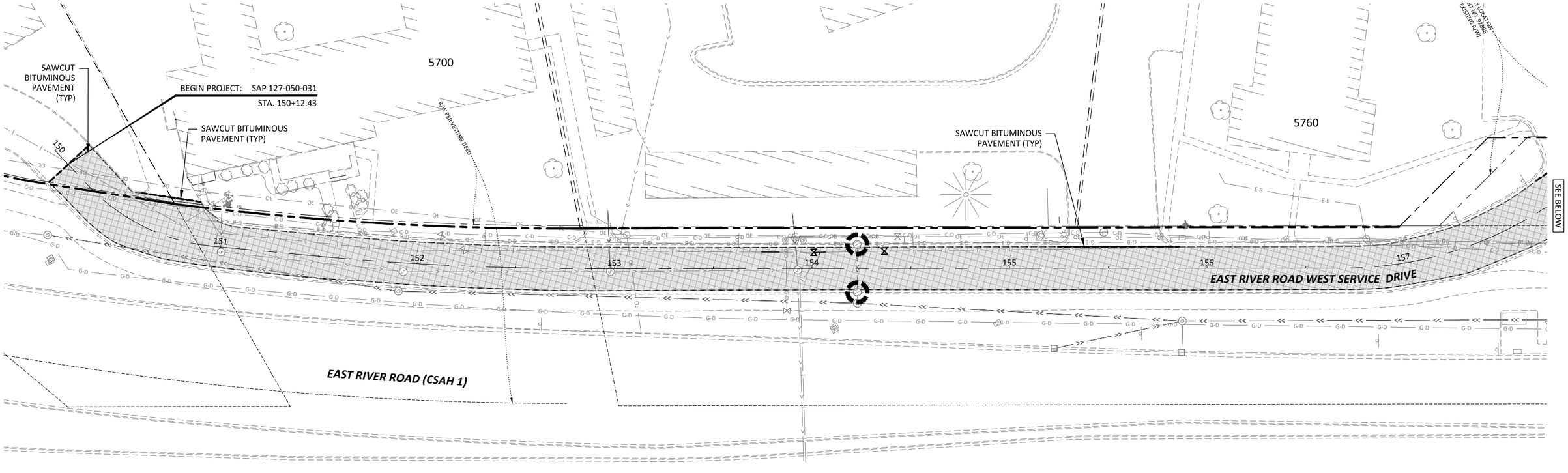

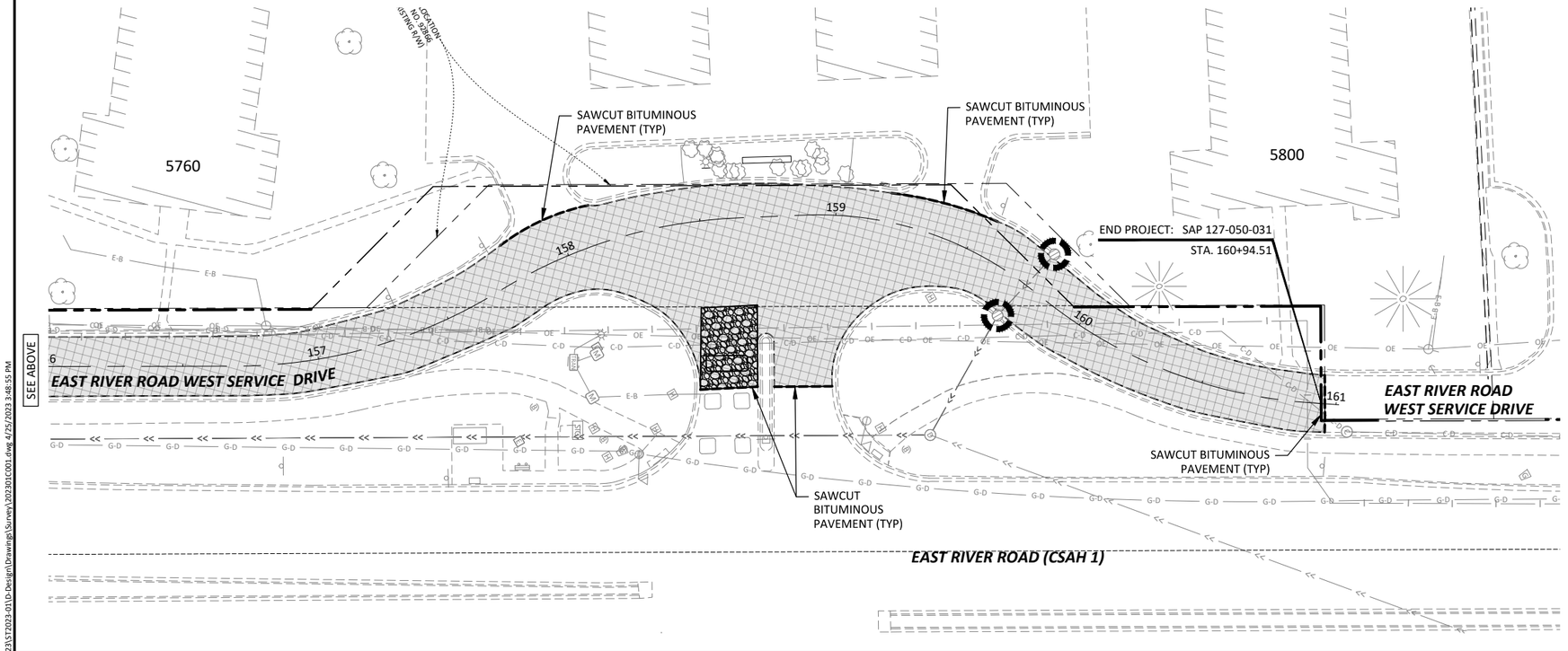

LEGEND

- FULL DEPTH RECLAMATION
- STABILIZED CONSTRUCTION EXIT
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT BITUMINOUS PAVEMENT
- STORM DRAIN INLET PROTECTION

REMOVAL NOTES:
1. SEE WATERMAIN PLAN & PROFILE (SHEETS 27-28) FOR WATERMAIN REMOVALS.

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SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
EXISTING CONDITIONS & REMOVALS PLAN
EAST RIVER ROAD WEST SERVICE DRIVE (GEORGETOWN)

SHEET 20 OF 75

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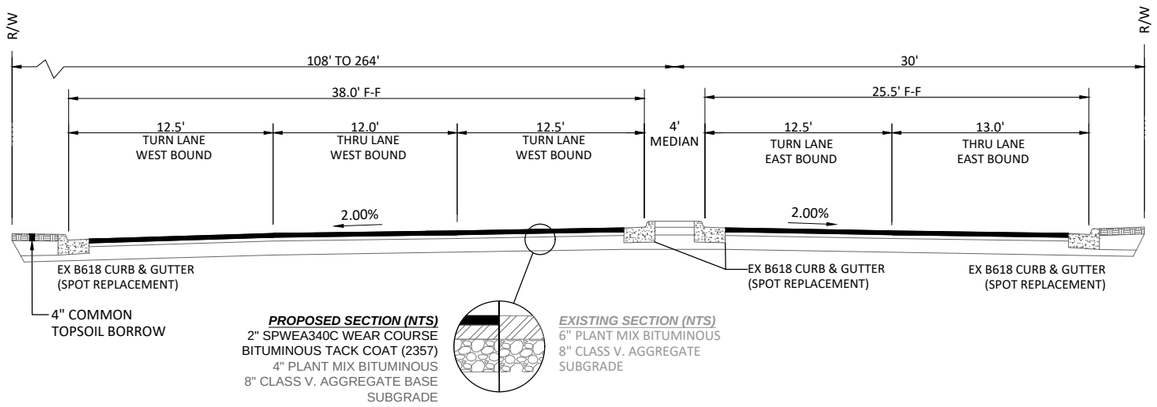
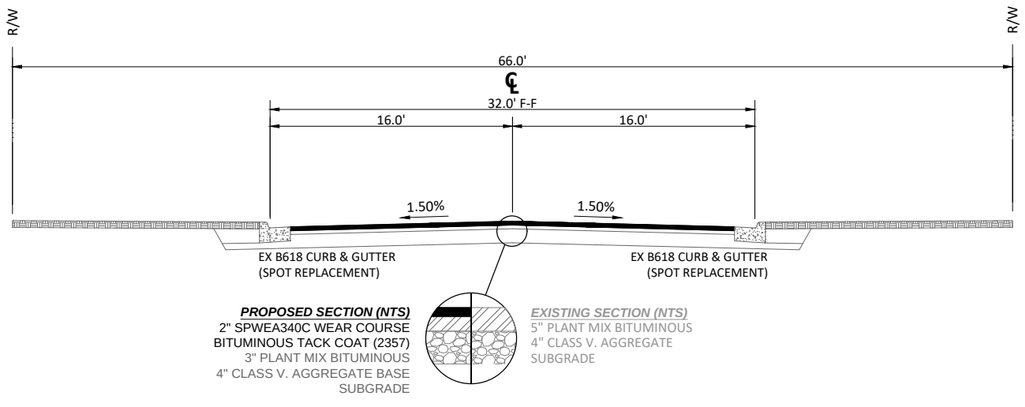
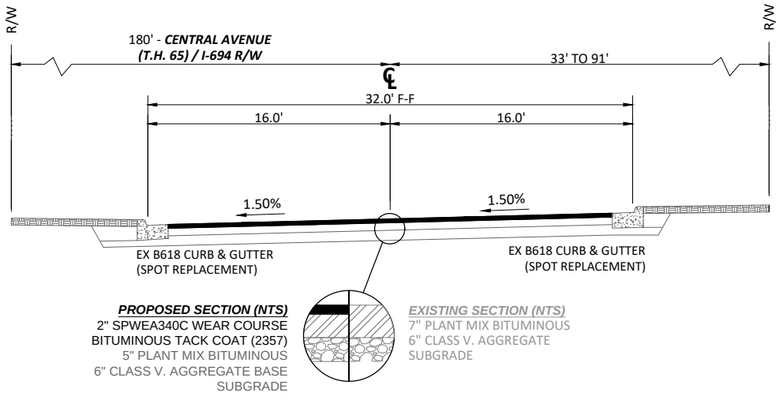


A — 53RD AVENUE NE (2" MILL & OVERLAY)
STA 5+77 - STA 7+42



C — FILLMORE STREET NE (2.0" MILL & OVERLAY)
STA 27+07 - STA 33+66



B — CHERI LANE NE (2.0" MILL & OVERLAY)
STA 7+42 - STA 27+07

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TYPICAL SECTIONS
CHERI LN, FILLMORE ST, STINSON BLVD

SHEET 21 OF 75

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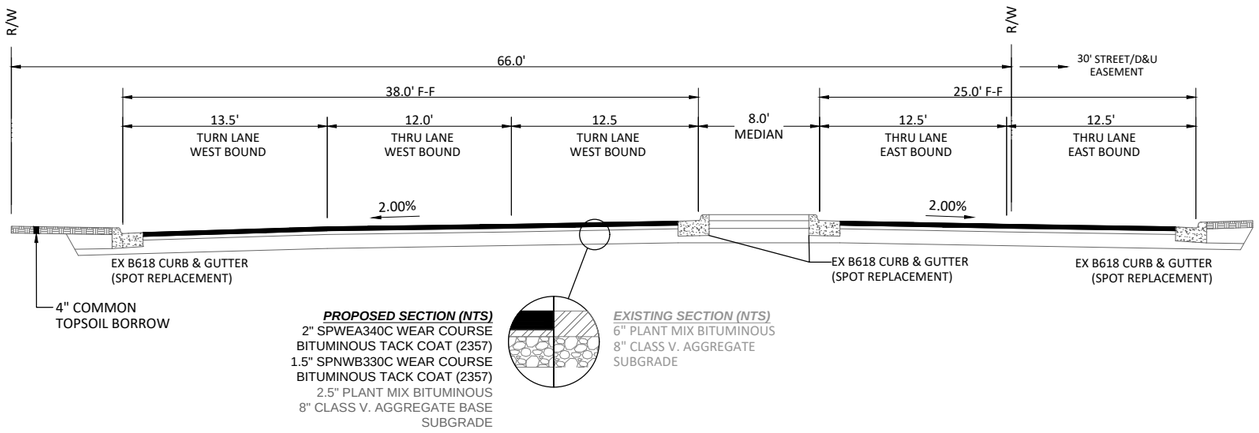
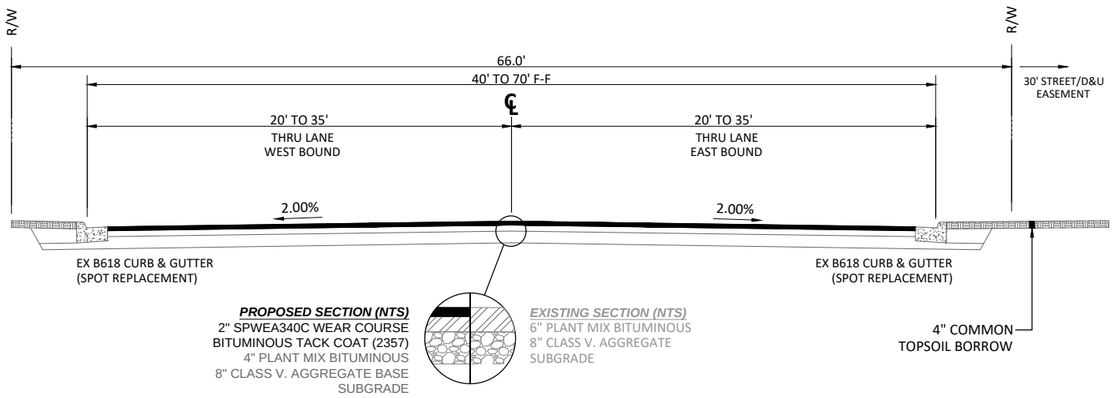
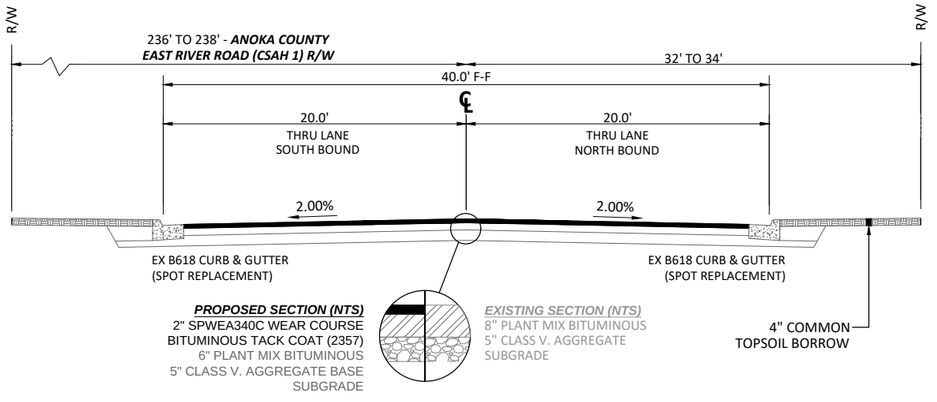


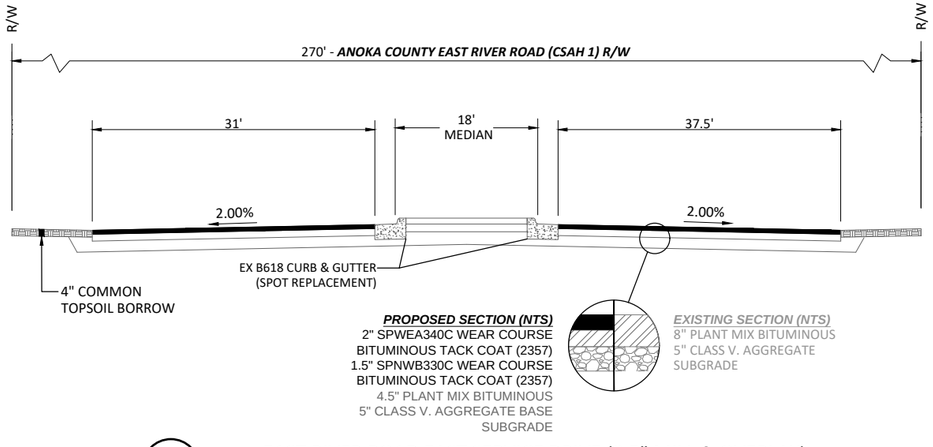
D — 51ST WAY NE (3.5" MILL & OVERLAY)
STA 50+25 - STA 54+16



E — 51ST WAY NE (2.0" MILL & OVERLAY)
STA 54+16 - STA 61+20



F — EAST RIVER ROAD EAST SERVICE DRIVE (2.0" MILL & OVERLAY)
STA 75+35 - STA 110+18



G — EAST RIVER ROAD EAST SERVICE DRIVE (3.5" MILL & OVERLAY)
EAST RIVER ROAD (CSAH 1) ACCESS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TYPICAL SECTIONS
51ST WAY, E RIVER RD EAST SERVICE DRIVE

SHEET 22 OF 75

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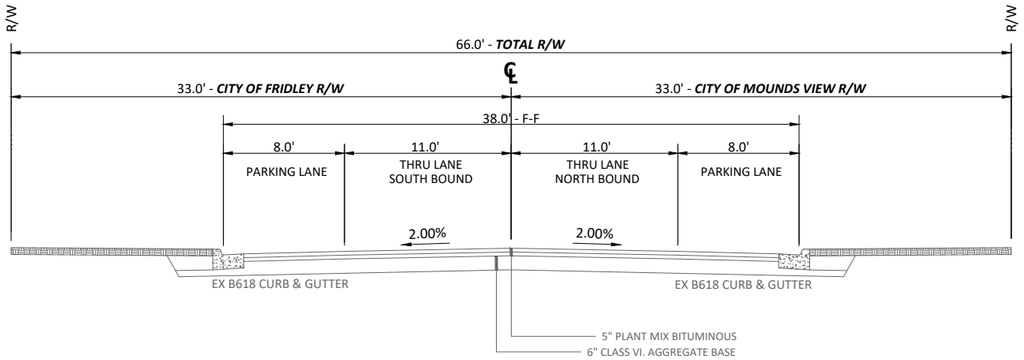
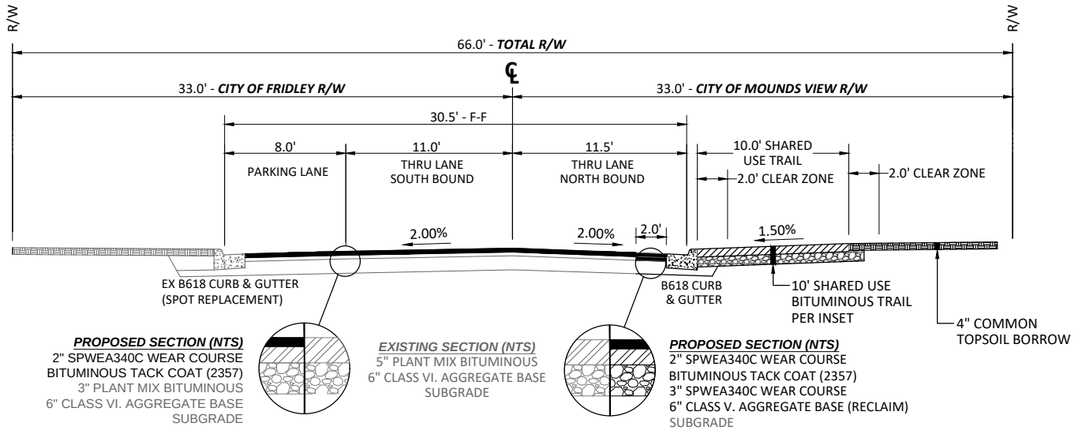
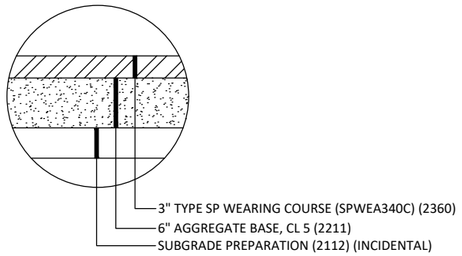


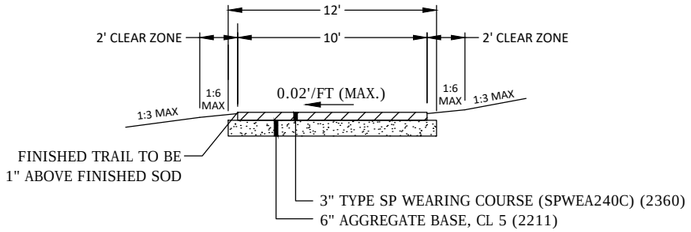
PROPOSED



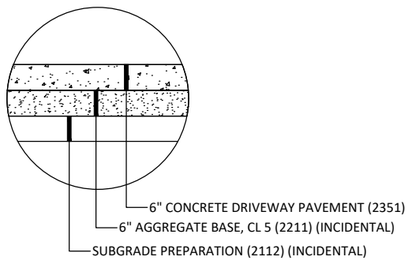
H — STINSON BOULEVARD / PLEASANT VIEW DRIVE
STA 125+00 - STA 150+13



BITUMINOUS DRIVEWAY SECTION
NOT TO SCALE

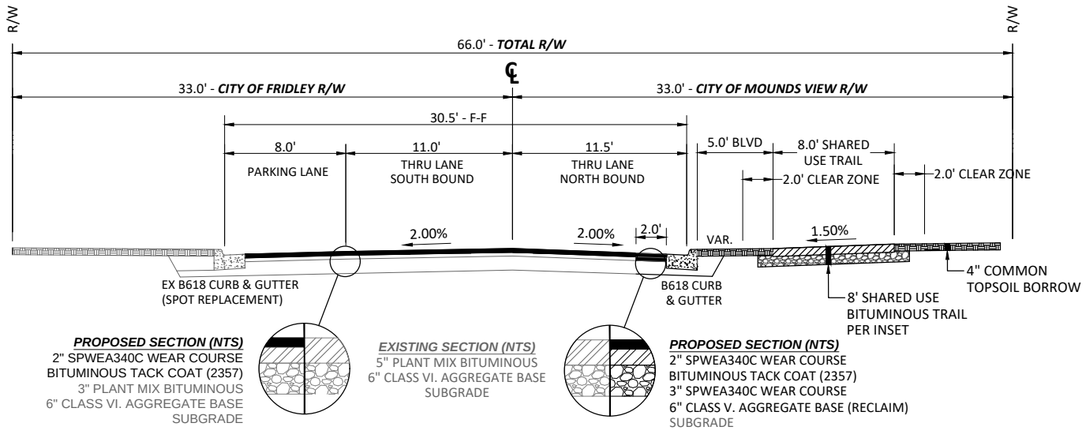


SHARED-USE BITUMINOUS TRAIL



CONCRETE DRIVEWAY SECTION
NOT TO SCALE

PROPOSED (ALTERNATE 1)



H — STINSON BOULEVARD / PLEASANT VIEW DRIVE
STA 125+00 - STA 150+13

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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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.
BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TYPICAL SECTIONS
STINSON BOULEVARD / PLEASANT VIEW DRIVE

SHEET 23 OF 75

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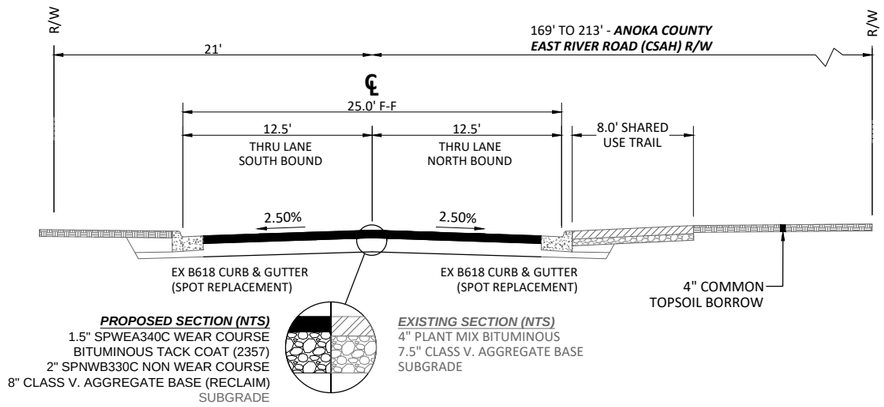
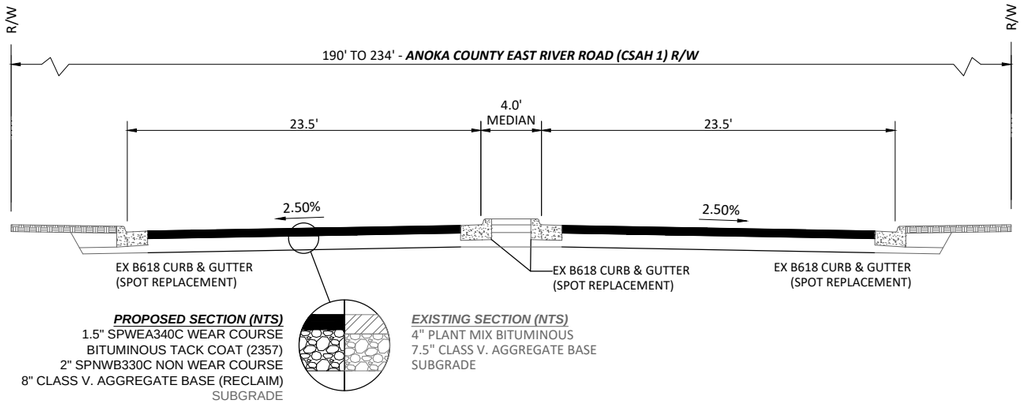


I — EAST RIVER ROAD WEST SERVICE DRIVE
STA 150+10 - STA 160+96



J — EAST RIVER ROAD WEST SERVICE DRIVE
EAST RIVER ROAD (CSAH 1) ACCESS

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
TYPICAL SECTIONS
E RIVER RD WEST SERVICE DRIVE (GEORGETOWN)

SHEET 24 OF 75

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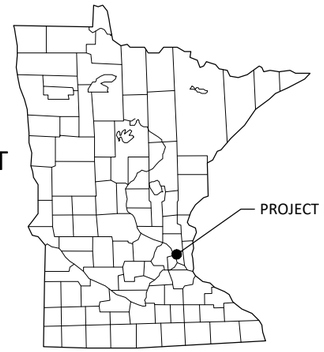
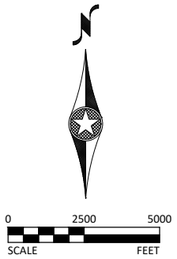
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

2023 STREET REHABILITATION PROJECT

S.A.P. 127-319-009
S.A.P. 127-353-002
S.A.P. 146-242-002
S.A.P. 127-354-001
S.A.P. 127-355-001
S.A.P. 127-050-031
CITY OF FRIDLEY
ANOKA COUNTY, MINNESOTA





RESPONSIBLE PARTIES:
The Contractor and Owner will be joint applicants under the MPCA's General Stormwater Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program.

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs.

A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	City of Fridley	JIM KOSLUCHAR	763-572-3550
SWPPP DESIGNER:	City of Fridley	BRANDON BRODHAG	763-238-8086
CONTRACTOR:	TBD	TBD	TBD
CONSTRUCTION SWPPP MANAGER:	TBD	TBD	TBD
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Fridley	Public Works	763-572-3566

The SWPPP Designer, Construction SWPPP Manager, and BMP Installer must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on the Narrative sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager and BMP Installer prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION
Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Stormwater Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

DOCUMENT RETENTION
Permittees must make the SWPPP, including all inspection reports, maintenance records, training records and other information required by this permit, available to federal, state, and local officials within three (3) days upon request for the duration of the permit and for three (3) years following the NOT.

GENERAL STORMWATER DISCHARGE REQUIREMENTS
All requirements listed in Section 5.1 of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

1. The expected amount, frequency, intensity, and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

Permanent stormwater treatment systems for this project have been designed in accordance with the guidance in the MN Stormwater Manual in place at the time of bidding. Copies of the design information and calculations are part of this SWPPP and will be provided in digital format upon written request to the Engineer.

PROJECT AREAS:

Total Project Size (disturbed area) =	9.58	ACRES
Existing area of impervious surface =	8.98	ACRES
Post construction area of impervious surface =	9.09	ACRES
Total new impervious surface area created =	0.11	ACRES

Planned Construction Start Date:	6/1/2023
Estimated Construction Completion Date:	11/1/2023

PERMANENT STORMWATER MANAGEMENT SYSTEM:
Type of storm water management used if more than 1 acre of new impervious surface is created:

	Wet Sedimentation Basin
	Infiltration/Filtration
	Regional Pond
X	Permanent Stormwater Management Not Required

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
ANOKA	T30N	R24W	24	45.0645°	-93.2467°
ANOKA	T30N	R24W	22, 27	45.0610°	-93.2798°
ANOKA	T30N	R24W	12	45.1041°	-93.2278°
ANOKA	T30N	R24W	22	45.0735°	-93.2755°

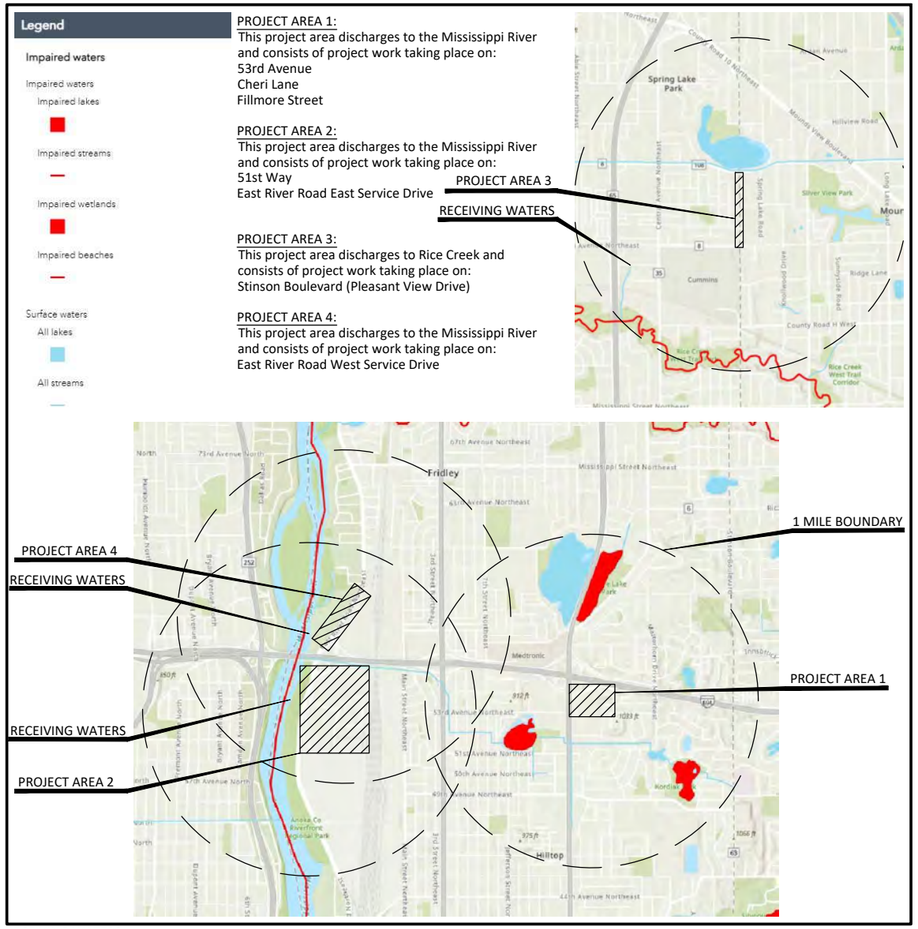
BMP SUMMARY	QUANTITY	UNIT
STORM DRAIN INLET PROTECTION	40	EACH
STABILIZED CONSTRUCTION EXIT	1	EACH

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Street reclamation, bituminous milling, bituminous surfacing, concrete curb & gutter, watermain lining and extension, temporary erosion prevention and sediment control and permanent stabilization.

Stormwater currently drains to the existing surrounding storm sewer network before discharging to the the Mississippi River and Rice Creek.

During construction, all storm sewer system inlets receiving drainage from the Project Areas will be protected and maintained. Stabilized construction exits will be also installed and maintained at sites with full-depth reclamation of existing pavement and roadway base (Project Area 4) to minimize sediment tracking to adjacent roadways.

After construction is complete, the project will create 0.11 acres of new impervious surfaces, but there will be no change in drainage area or land use.



RECEIVING WATERS:
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water [1]	Flows to Impaired Water Within 1-Mile [2]	USEPA Approved Construction Related TMDL [3]
MISSISSIPPI RIVER	RIVER	NO	YES	YES
RICE CREEK	STREAM	YES	YES	NO

[1] Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
[2] Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.
[3] Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
2) Install perimeter sediment control, inlet protection, and construction exit.
3) Remove existing impervious pavement.
4) Excavate subgrade.
5) Complete utility improvements.
6) Pave roadway and trail.
7) Add additional temporary BMPs as necessary during construction based on inspection reports.
8) Ensure final stabilization measures are complete.
9) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.
10) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.

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SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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CHECKED BJB			
CLIENT PROJ. NO. 2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
STORMWATER POLLUTION PREVENTION PLAN

SHEET 25 OF 75

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Information contained in this SWPPP narrative sheet summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN RI0000I (Permit) as they apply to this project. All provisions of the Permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the Permit is available at: https://www.pca.state.mn.us/sites/default/files/wq-strm2-80a.pdf

SWPPP AMENDMENTS AND SUBMITTALS

Contractor must prepare and submit to the Engineer a SWPPP amendment as necessary to include additional Best Management Practices (BMPs) to correct problems identified or address the following situations.

1. Contact information and training documentation for Construction SWPPP Manager and BMP Installer,
2. There is a change in construction method of phasing, operation, maintenance, weather or seasonal conditions not anticipated during the design of the SWPPP including but not limited to:
   a. Types and/or Locations of BMPs
   b. Material Storage and Spill Response
   c. Fueling Plans
   d. Locations for Stockpiles, Concrete Washout, and Sanitation Facilities and
   e. Project Phasing
3. It is determined that the SWPPP is not achieving objectives of minimizing pollutants in stormwater discharges associated with construction activity, or
4. The SWPPP is not consistent with the terms and conditions of the permit.

The Contractor may implement SWPPP amendments immediately and is not required to wait for Engineer review of the submittal. The responsibility for completeness of SWPPP amendments and compliance with the Permit lies with the Contractor. Review, comment, or lack of comment by the Engineer on a SWPPP amendment shall not absolve the responsibilities of the Contractor in any way.

If a change order is issued for a design change the SWPPP amendment will be prepared by the Engineer and included in the change order.

In addition to SWPPP amendments, the Contractor shall submit to the Engineer Weekly Erosion and Sediment Control Schedule meeting the requirements of MnDOT 1717.

The Contractor shall keep copies of all SWPPP amendments, Weekly Erosion and Sediment Control Schedules, inspection logs, and maintenance logs with the field copy of the SWPPP. A PDF copy of these documents will be provided along with a copy of the final Field Copy of the SWPPP to the Engineer along with the signed Notice of Termination when final stabilization is complete.

EROSION PREVENTION PRACTICES

Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.

The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.

Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.

Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of the wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent.

Energy dissipation shall be installed at all temporary or permanent pipe outlets within 24 hours of connection to a surface water or permanent stormwater treatment system.

The Contractor shall phase construction and use construction methods to the extent practical to minimize exposed soils. The project phasing shall be documented in the Weekly Erosion and Sediment Control Schedule.

SEDIMENT CONTROL PRACTICES

Down gradient BMPs including perimeter BMPs must be in place before up gradient land- disturbing activities begin and shall remain in place until final stabilization.

All BMPs that have been adjusted or removed to accommodate short-term activities shall be re-installed or replaced the earlier of the end of the work day or before the next precipitation event even if the activity is not complete.

Inlet BMPs may be removed for specific safety concerns. The BMPs shall be replaced as soon as the safety concern is resolved. The removal shall be documented in the SWPPP as a SWPPP amendment.

Temporary stockpiles must have sediment control BMPs. The Contractor shall prepare and submit to the Engineer a SWPPP amendment showing the location of temporary stockpiles and the BMPs for each stockpile. The SWPPP amendment must meet the minimum requirements of Section 9 of the Permit.

Soil compaction shall be minimized and topsoil shall be preserved, unless infeasible or if construction activities dictate soil compaction or topsoil stripping.

The use of polymers, flocculants, or other sedimentation treatment chemicals are not proposed as part of this SWPPP as designed by the Engineer. If methods or phasing of construction require the use of any of these chemicals, the Contractor shall prepare and submit to the Engineer a SWPPP amendment that meets the minimum requirements of Section 9 of the Permit.

TEMPORARY SEDIMENTATION BASINS

A temporary sedimentation basin has not been included in this SWPPP as designed by the Engineer. If a basin is later determined to be desirable or necessary the Contractor shall prepare and submit to the Engineer a SWPPP amendment. Temporary sedimentation basins shall meet or exceed the minimum requirements of Section 14 of the Permit and shall include a basin draining plan meeting or exceeding the minimum requirements of Section 10 of the Permit. Where the site discharges to Special and/or Impaired Waters the SWPPP amendment shall also meet or exceed the minimum requirements of Section 23 of the permit.

DEWATERING

A dewatering plan has not been included in this SWPPP as designed by the Engineer. If dewatering is required for this project, the Contractor shall prepare and submit to the Engineer a SWPPP amendment. All dewatering shall meet or exceed the minimum requirements of Section 10 of the Permit.

POLLUTION PREVENTION

Products and materials that have the potential to leach pollutants that are stored on the site must be stored in a manner designed to minimize contact with stormwater. Materials that are not a source of potential contamination to stormwater or that are designed for exposure to stormwater are not required to be covered.

Hazardous materials including but not limited to pesticides, fertilizer, petroleum products, curing compounds and toxic waste must be properly stored and protected from stormwater exposure as recommended by the manufacturer in an access restricted area.

Solid waste must be stored, collected and disposed of in compliance with Minnesota Administrative Rules Chapter 7035.

Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.

Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. No engine degreasing is allowed on site. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

The Contractor shall prepare and submit a SWPPP amendment detailing the location and BMPs proposed for storage of materials, solid waste, portable toilets, and exterior vehicle or equipment washing on the site. The SWPPP amendment shall include shall include a spill prevention and response plan that is appropriate for the materials proposed to be on the site. The SWPPP amendment sheet meet or exceed the minimum requirements of Section 12 of the Permit.

INSPECTION & MAINTENANCE

A trained person shall routinely inspect the entire construction site at the time interval indicated on this sheet of the SWPPP during active construction and within 24-hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24-hours after a rainfall event, the next inspection must be conducted at the time interval indicated in the Receiving Waters Table found on the SITE PLAN AND INFORMATION SHEET of the SWPPP.

All inspections and maintenance conducted during construction must be recorded on the day it is completed and must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.

The Contractor may request a change in inspection schedule for the following conditions:

a. Inspections of areas with permanent cover to be reduced to once per month,
b. Inspections of areas that have permanent cover and have had no construction activity for 12 months to be suspended until construction resumes,
c. Inspections of areas where construction is suspended due to frozen ground conditions, inspections to be suspended until the earlier of within 24 hours of runoff occurring, or upon resuming construction.

No change in inspection schedule shall occur until authorized by the Engineer.

Inspections must include:

1. All erosion prevention and sediment control BMPs and Pollution Prevention Management Measures to ensure integrity and effectiveness.
2. Surface waters, including drainage ditches and conveyance systems for evidence of erosion and sediment deposition.
3. Construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles.
4. Infiltration areas to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.

All non-functioning BMPs and those BMPs where sediment reaches one-half (1/2) of the depth of the BMP, or in the case of sediment basins one-half (1/2) of the storage volume, must be repaired, replaced, or supplemented by the end of the next business day after discovery, or as soon as field conditions allow.

Permittees must repair, replace or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow.

Any sediment that escapes the site must be removed and the area stabilized within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access in which case the work shall be completed within 7 calendar days of authorization. Paved surfaces such as streets shall have any escaped or tracked sediment removed by the end of the day that it is discovered. Sediment release, other than paved surfaces that can be cleaned up with street sweeping shall be reported immediately upon discovery to the Engineer.

PUBLIC WATER RESTRICTIONS:

For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period. MN DNR permits are not valid for work in waters that are designated as infested waters unless accompanied by an Infested Waters Permit or written notification has been obtained from MN DNR stating that such permit is not required. There is no exception for pre-existing permits. If a MN DNR Permit has been issued for the project and the water is later designated as infested, the Contractor shall halt all work covered by the MN DNR Permit until an Infested Waters Permit is obtained or that written notification is obtained stating that such permit is not required.

FINAL STABILIZATION

Final Stabilization is not complete until all the following requirements have been met:

1. Substantial Completion has been reached and no ground disturbing activities are anticipated.
2. Permanent cover has been installed with an established minimum uniform perennial vegetation density of 70 percent of its expected final growth. Vegetation is not required in areas where no vegetation is proposed by this project such as impervious surfaces or the base of a sand filter.
3. Accumulated sediment has been removed from all permanent stormwater treatment systems as necessary to ensure the system is operating as designed.
4. All sediment has been removed from conveyance systems
5. All temporary synthetic erosion prevention and sediment control BMPs have been removed. BMPs designated on the SWPPP to remain to decompose on-site may remain.
6. For residential construction only, permit coverage terminates on individual lots if the structures are finished and temporary erosion prevention and downgradient perimeter control is complete, the residence sells to the homeowner, and the permittee distributes the MPCA's "Homeowner Fact Sheet" to the homeowner.
7. For agricultural land only (e.g., pipelines across cropland), the disturbed land must be returned to its preconstruction agricultural use prior to submitting the NOT.

SITE STABILIZATION COMPLETION:

Stabilization of exposed soils shall begin immediately and shall be completed after the construction activity has temporarily or permanently ceased no later than:	7 calendar days

SITE INSPECTION INTERVAL:

A trained person shall routinely inspect the entire construction site during active construction at an interval of no less than:	7 calendar days

SPECIAL ENVIRONMENTAL CONSIDERATIONS AND PERMITS:

1)	Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
2)	Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
3)	Does any portion of this site discharge to a Calcareous fen.	NO
4)	Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
5)	Have any Karst features have been identified in the project vicinity?	NO
6)	Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO
7)	Has the MN DNR promulgated "work in water restrictions" for any Public Water this site disharges to during fish spawning?	NO

TYPE OF PERMIT	PERMITTING AGENCY	PERMIT STATUS AND CONDITIONS
Construction Stormwater NPDES	MPCA	SHALL BE OBTAINED BY CONTRACTOR

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
STORMWATER POLLUTION PREVENTION PLAN

SHEET 26 OF 75

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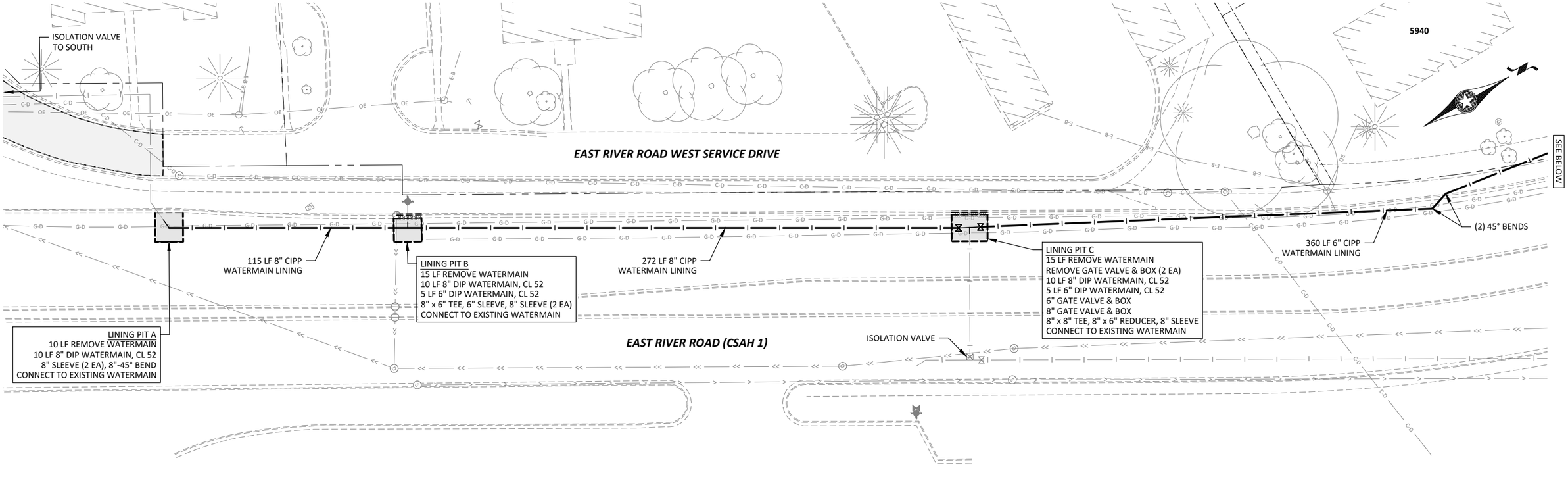

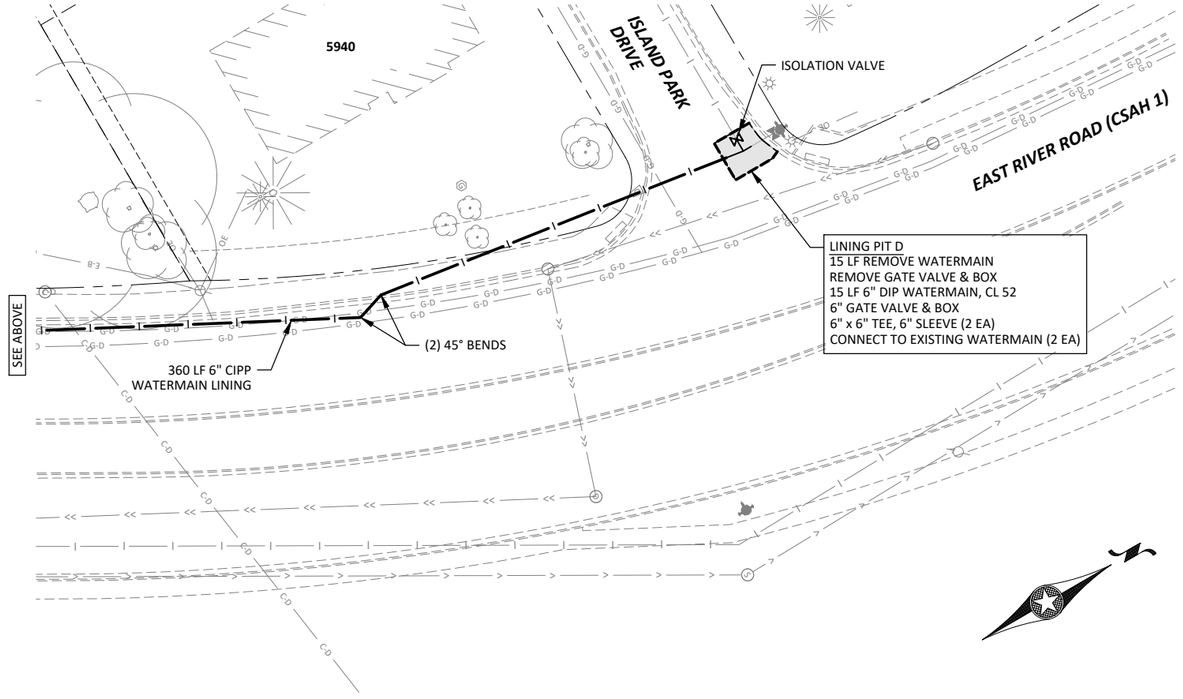

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING WATERMAIN SIZE, DEPTH, AND PROFILE PRIOR TO LINER INSTALLATION.
2. ALL WATER MAIN SHALL BE DUCTILE IRON, CLASS 52 UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL MINIMIZE LINING PIT DIMENSIONS AND THE AREA DISTURBED.
4. PAVEMENT REMOVALS FOR LINING PITS SHALL BE MARKED AND APPROVED BY THE ENGINEER PRIOR TO REMOVAL.
5. PAVEMENT REMOVALS SHALL BE SAWCUT (FULL DEPTH) PRIOR TO REMOVAL (INCIDENTAL).
6. CONTRACTOR SHALL LINE THROUGH ALL EXISTING BENDS AND VERIFY LINER PERFORMANCE AT ALL BENDS FOLLOWING INSTALLATION. THE NEED FOR SPOT EXCAVATION AND REPLACEMENT OF THE LINER SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD AT THE TIME OF INSTALLATION INSPECTION.
7. ALL DISTURBED PAVEMENT AREAS SHALL BE RESTORED WITH BITUMINOUS PATCH TO MATCH EXISTING SECTION (INCIDENTAL).
8. ALL DISTURBED BOULEVARD AREAS SHALL BE RESTORED WITH HYDROMULCH, SEED MIX 25-151, AND FERTILIZER UNLESS NOTED OTHERWISE.

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CURED-IN-PLACE WATERMAIN LINING
EAST RIVER ROAD WEST SERVICE DRIVE

SHEET 27 OF 75

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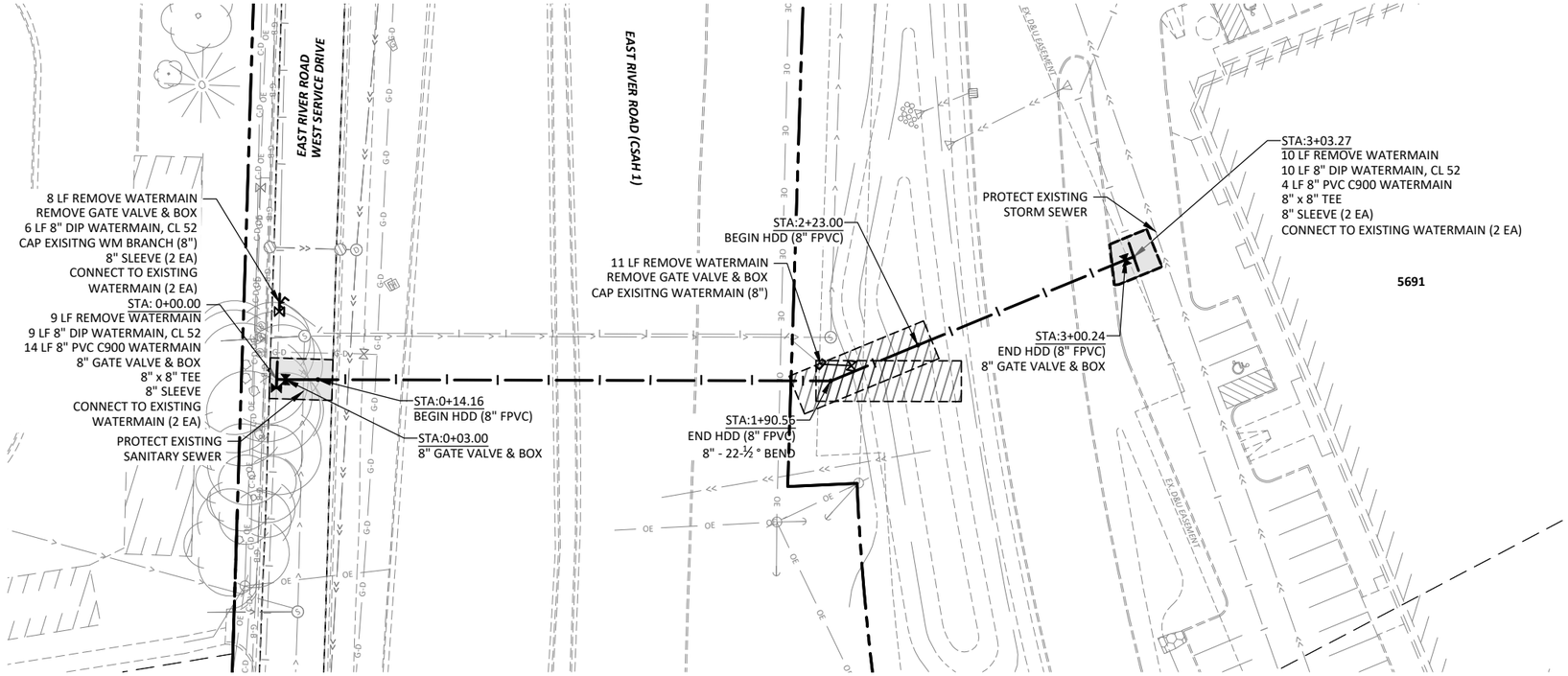
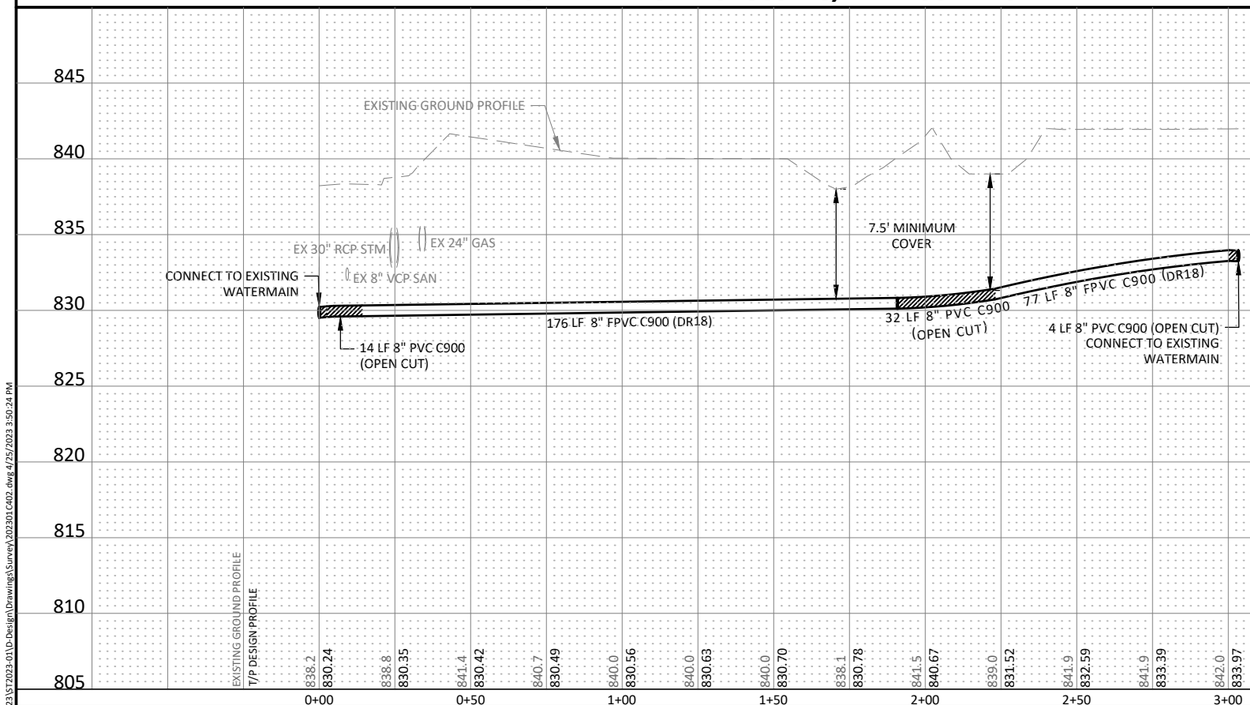


EAST RIVER ROAD CROSSING/INTERCONNECT



LEGEND

- DIRECTIONAL DRILLING PIT
- RECEIVING PIT

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING WATERMAIN SIZE, DEPTH, AND PROFILE AT CONNECTION LOCATIONS PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL INSTALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS PRIOR TO ANY EXCAVATION OR DRILLING OPERATIONS.
3. CONTRACTOR SHALL PLACE DRILLING UNIT IN EXCAVATIONS TO BEGIN DRILLING AT GRADE IMMEDIATELY.
4. CONTRACTOR SHALL MINIMIZE THE DRILLING PIT DIMENSIONS AND THE AREA DISTURBED.
5. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES DURING PIT EXCAVATION AND DRILLING OPERATIONS.
6. ALL PAVEMENT AND CURB & GUTTER REMOVALS FOR DIRECTIONAL OPERATIONS SHALL BE MARKED AND APPROVED BY THE ENGINEER AND SAWCUT (FULL DEPTH) PRIOR TO REMOVAL (INCIDENTAL).
7. ALL WATER MAIN SHALL BE DUCTILE IRON, CLASS 52 UNLESS NOTED OTHERWISE.
8. ALL WATER MAIN SHALL HAVE 7.5' MINUMUM COVER UNLESS OTHERWISE NOTED.
9. ALL DISTURBED PAVEMENT AREAS SHALL BE RESTORED WITH BITUMINOUS PATCH TO MATCH EXISTING SECTION (INCIDENTAL).
10. DISTURBED SOILS WITHIN EXISTING STORMWATER POND SHALL BE RESTORED WITH HYDROMULCH, SEED, SEEX MIX 33-262 AND FERTILIZER. ALL OTHER DISTURBED SOILS SHALL BE RESTORED WITH HYDROMULCH, SEED MIX 25-151 AND FERTILIZER UNLESS NOTED OTHERWISE.

SAP 127-319-009	
SAP 127-353-002	
SAP 146-242-002	
SAP 127-354-001	
SAP 127-355-001	
SAP 127-050-031	

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VERT. 0 5 10 SCALE FEET

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City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
WATERMAIN PLAN AND PROFILE
EAST RIVER ROAD CROSSING AND INTERCONNECT

SHEET 28 OF 75

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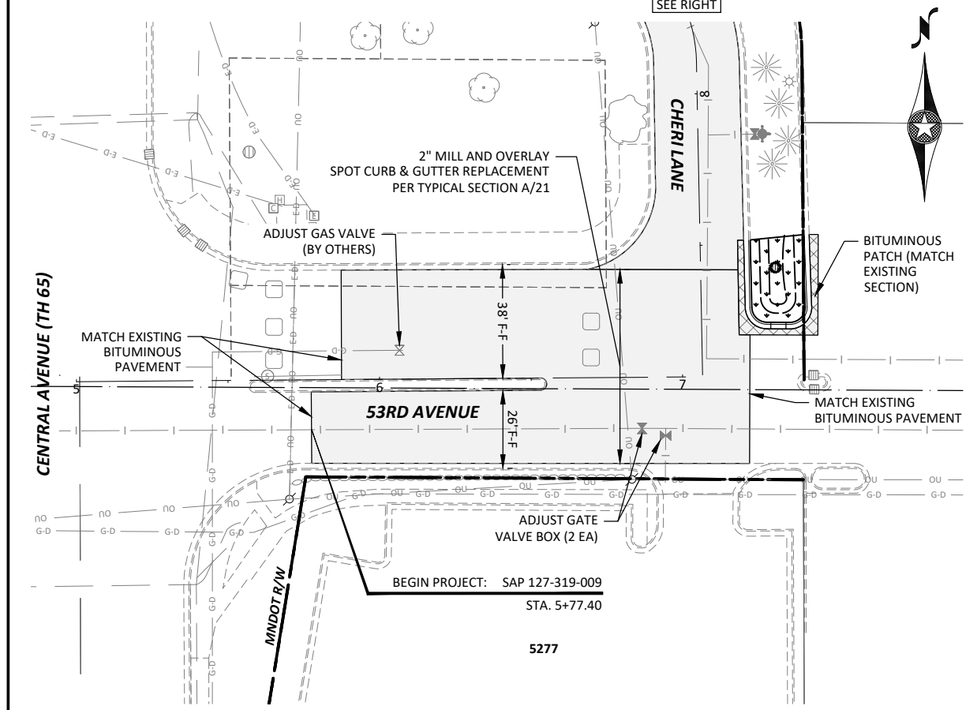

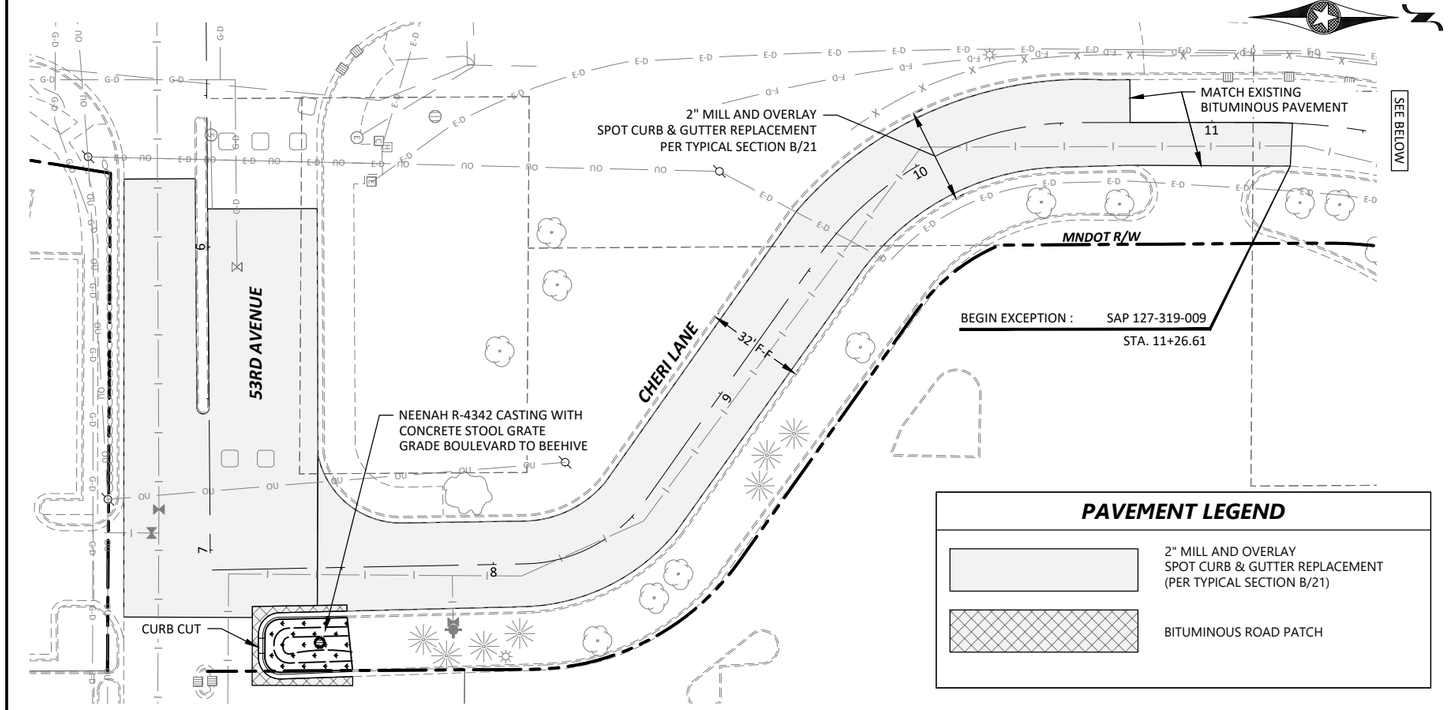

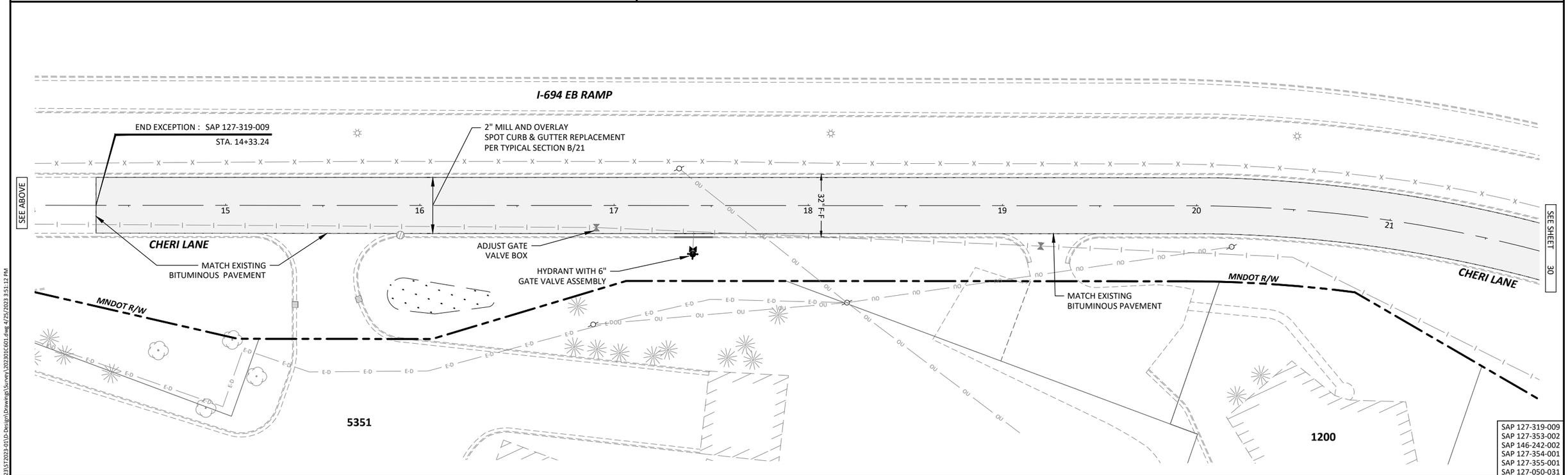

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
53RD AVENUE, CHERI LANE

SHEET 29 OF 75

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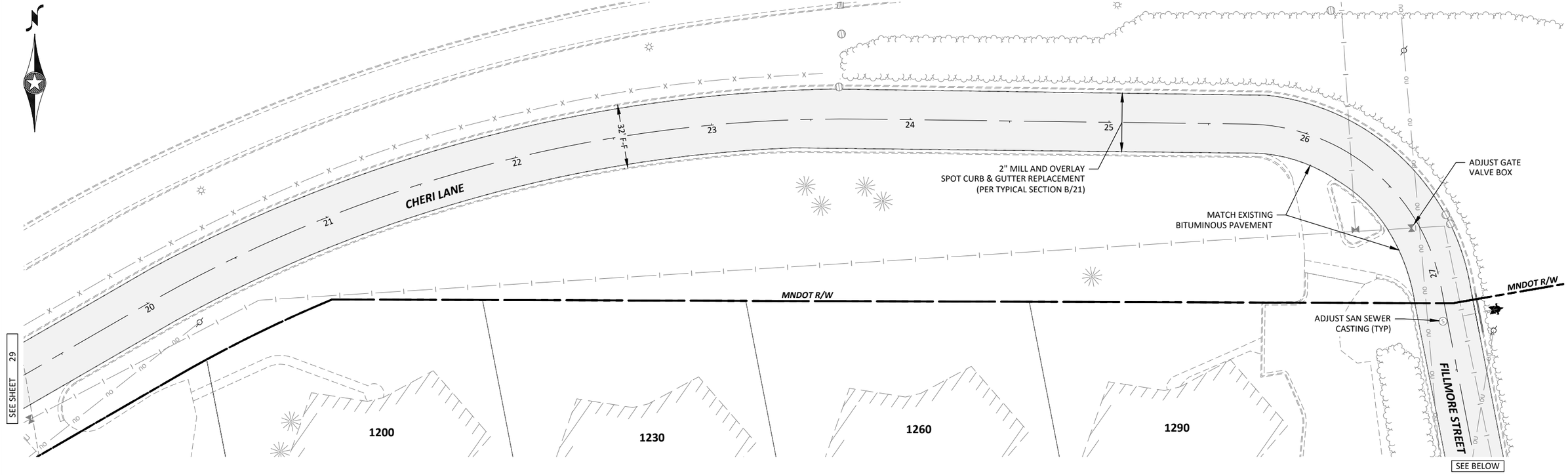

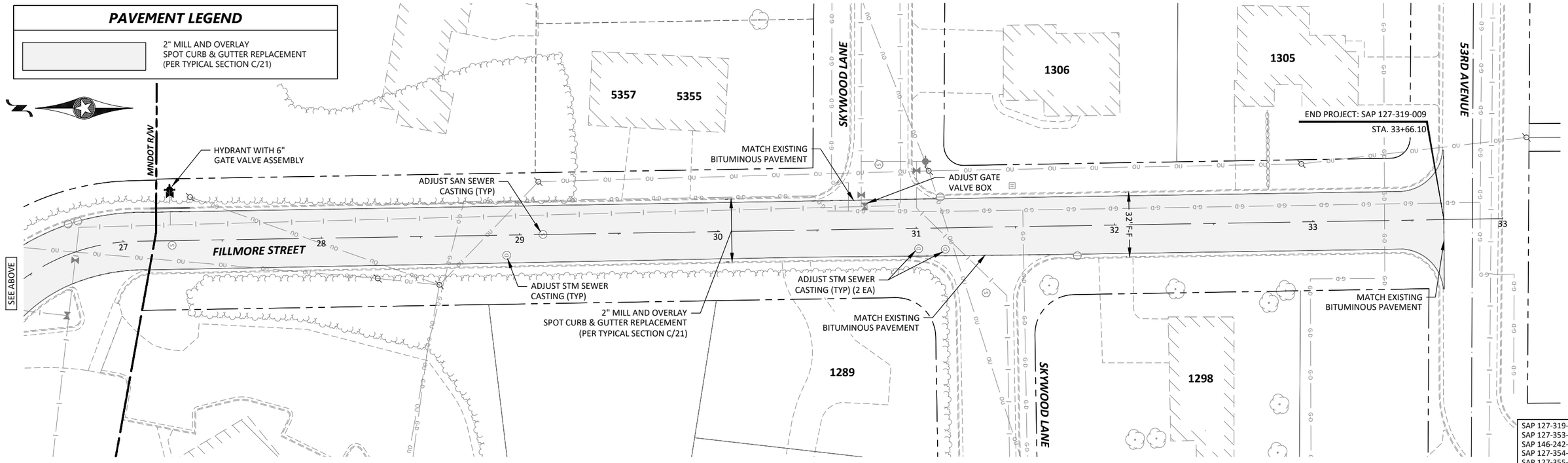

SAP 127-319-009
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SAP 146-242-002
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SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
CHERI LANE, FILLMORE STREET

SHEET 30 OF 75

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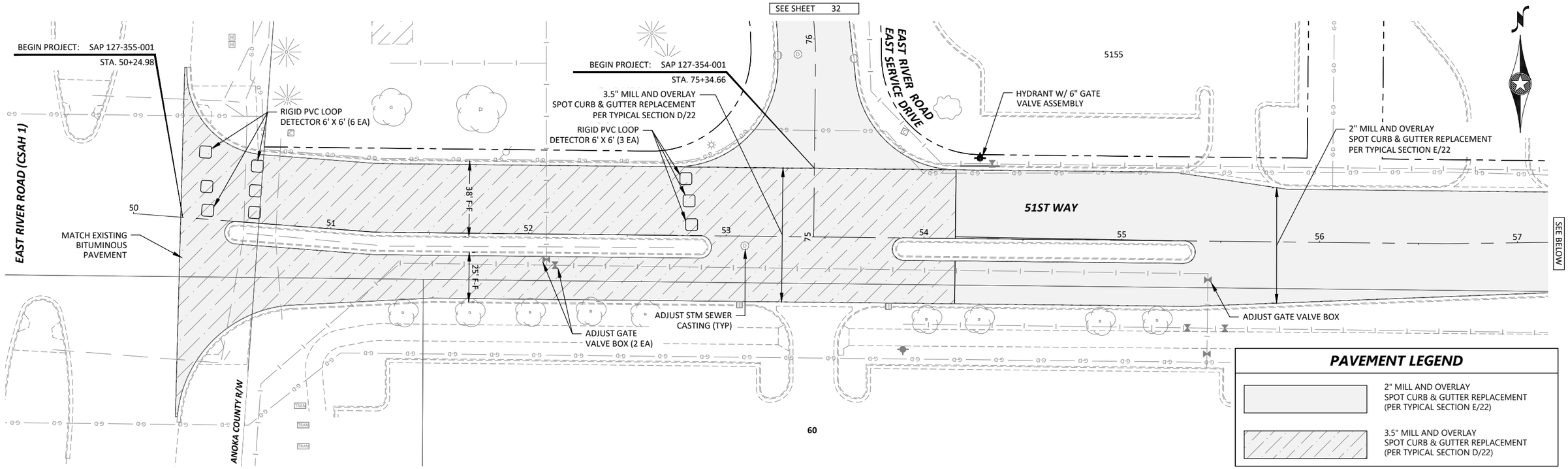

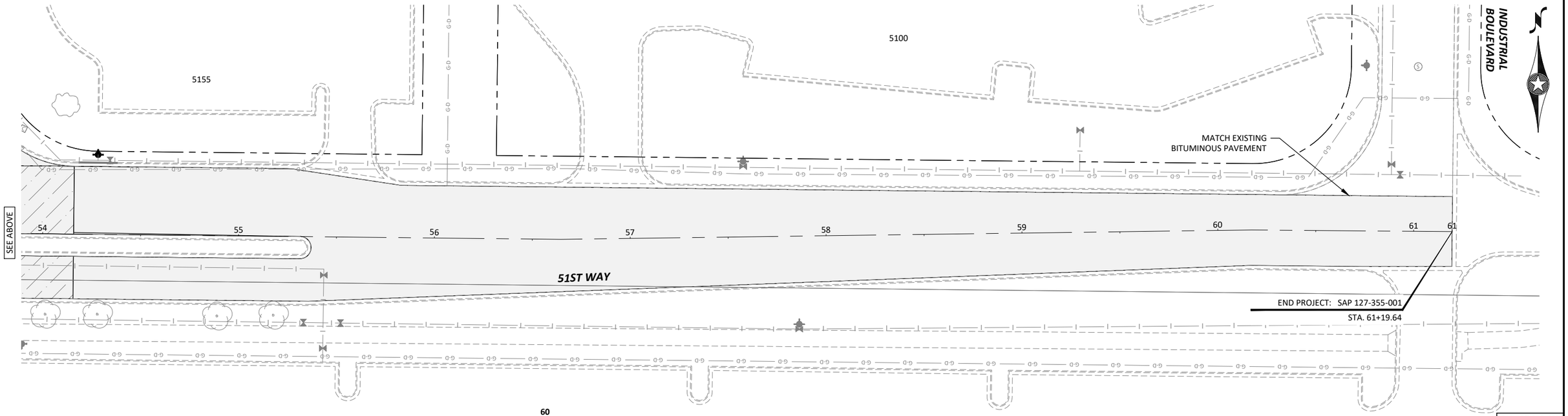

SAP 127-319-009
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SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
51ST WAY

SHEET 31 OF 75

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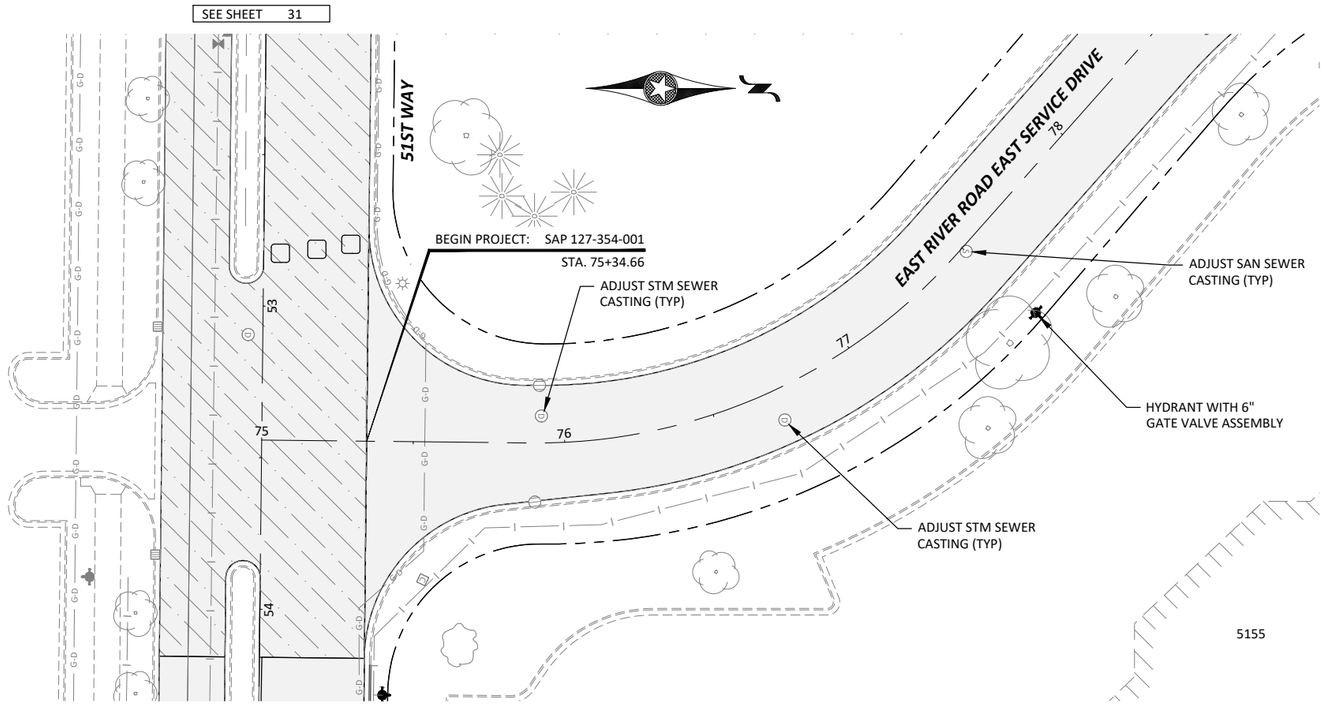

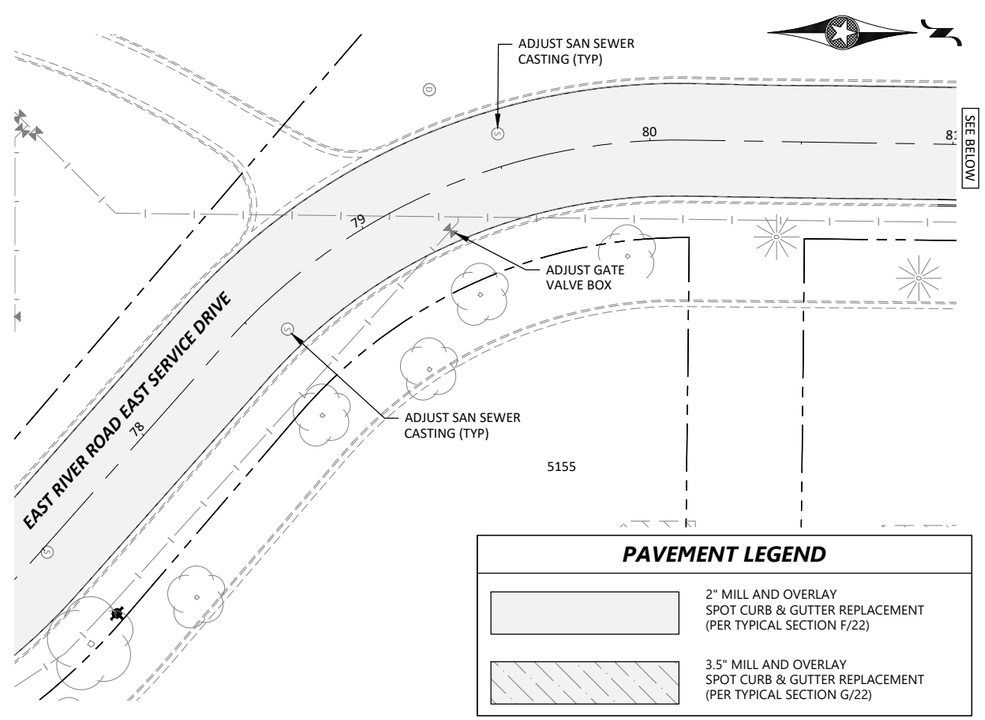

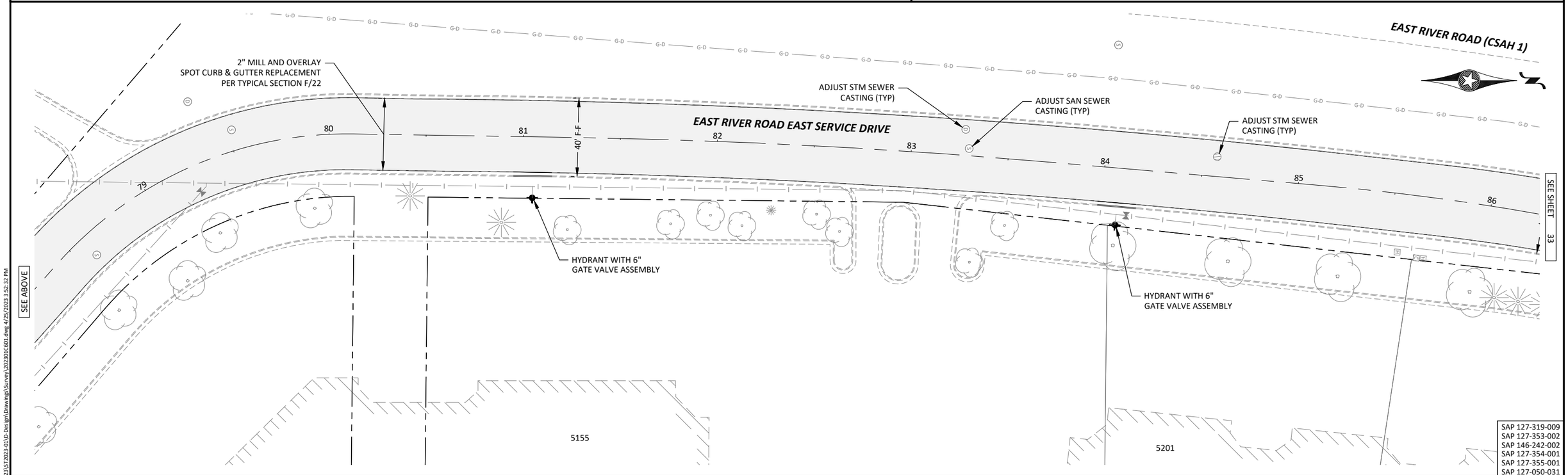

SAP 127-319-009
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SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (1 OF 3)

SHEET 32 OF 75

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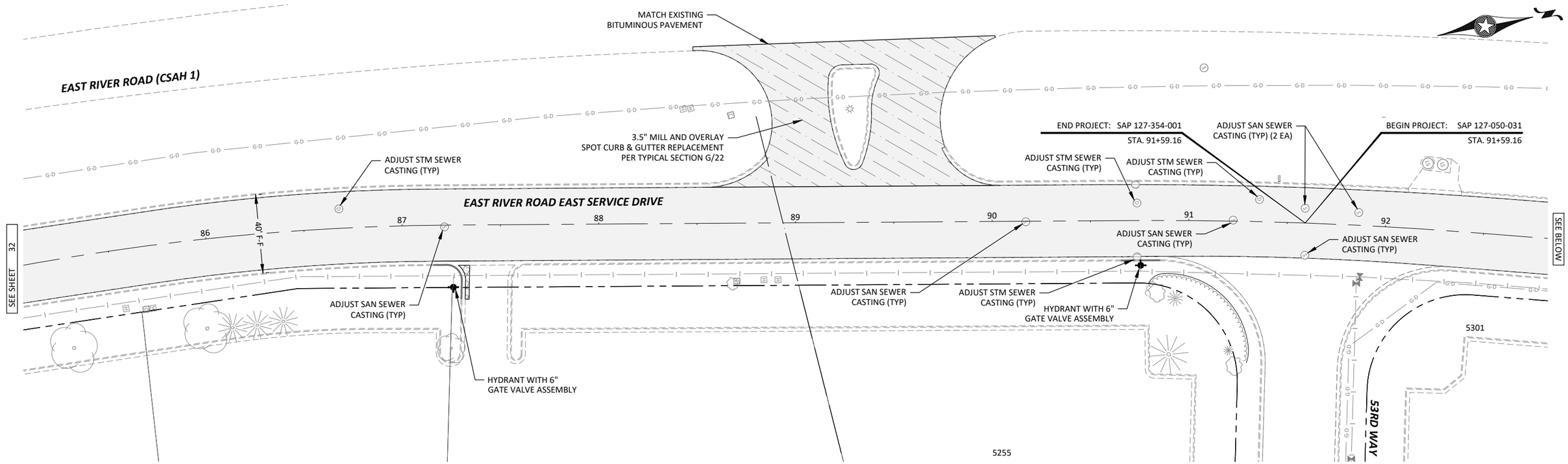

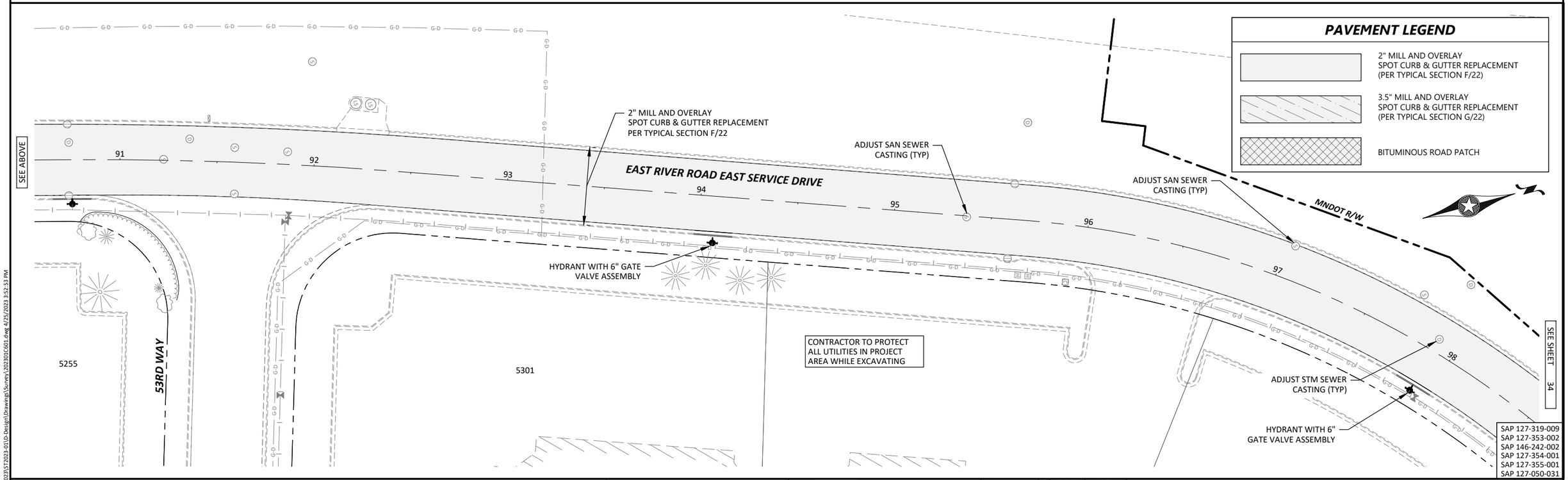

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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Fridley, MN 55432

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	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (2 OF 3)

SHEET 33 OF 75

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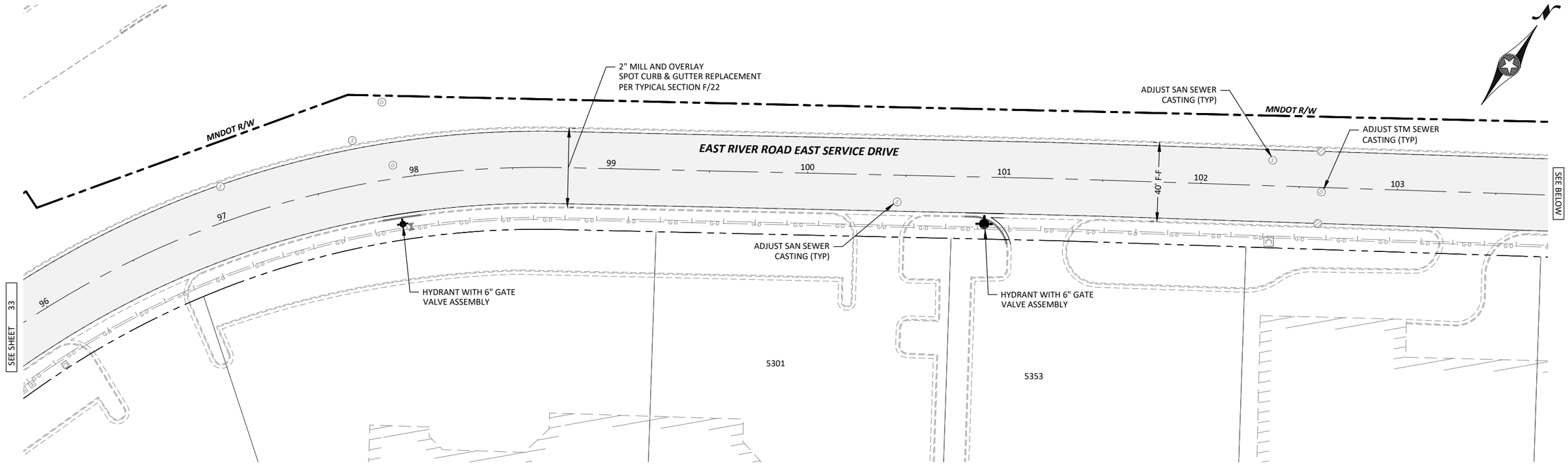

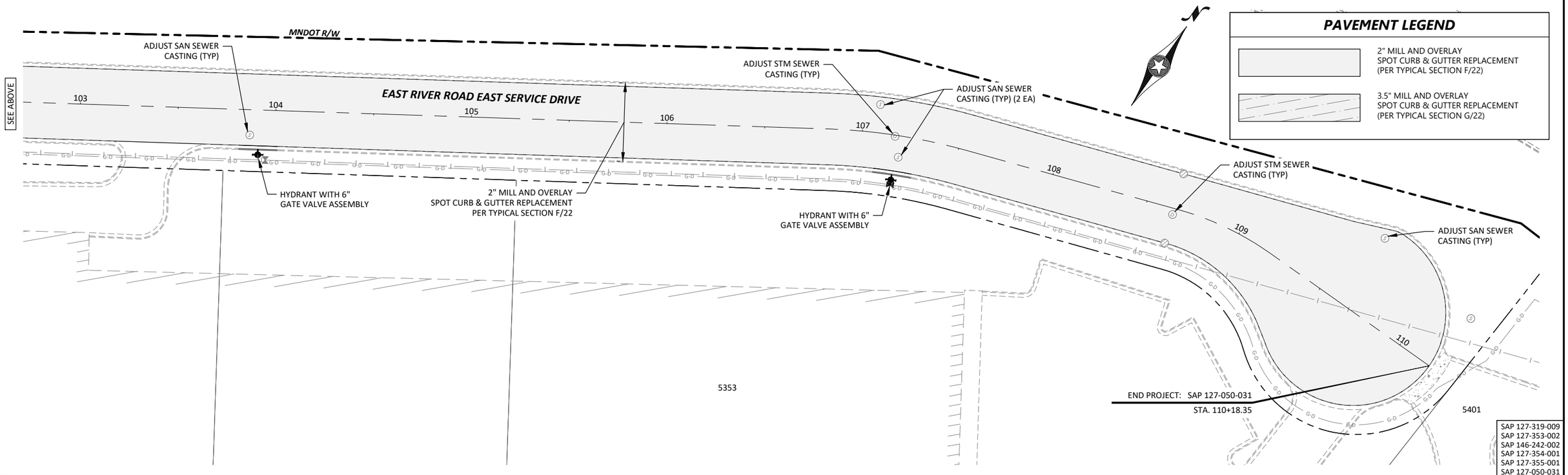

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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SCALE FEET

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7071 University Avenue NE
Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (3 OF 3)

SHEET 34 OF 75

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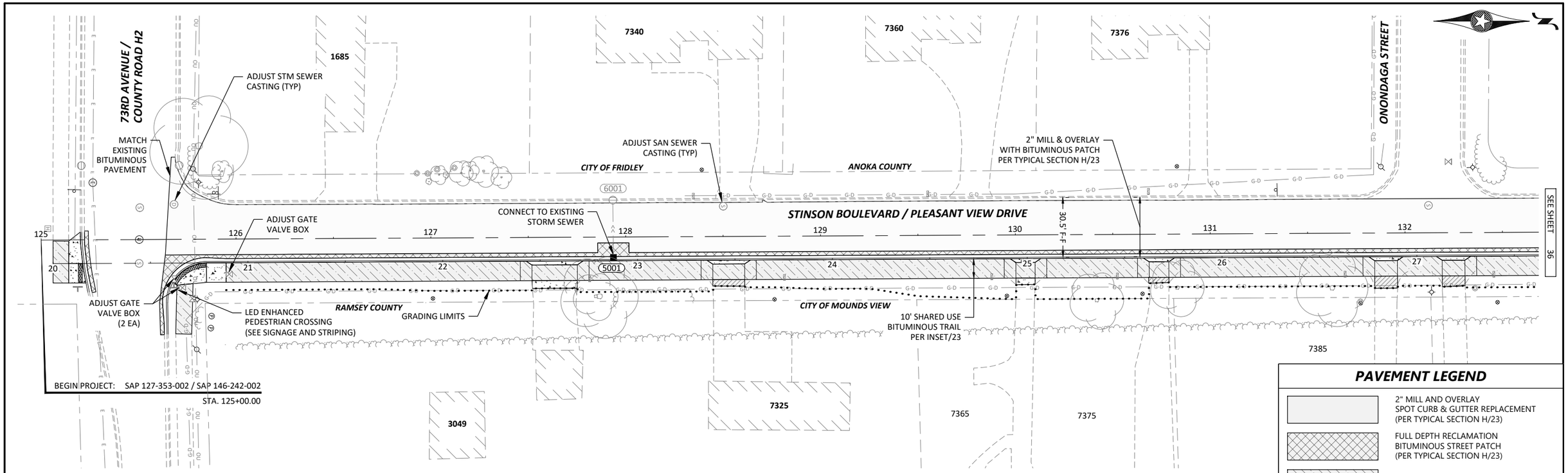
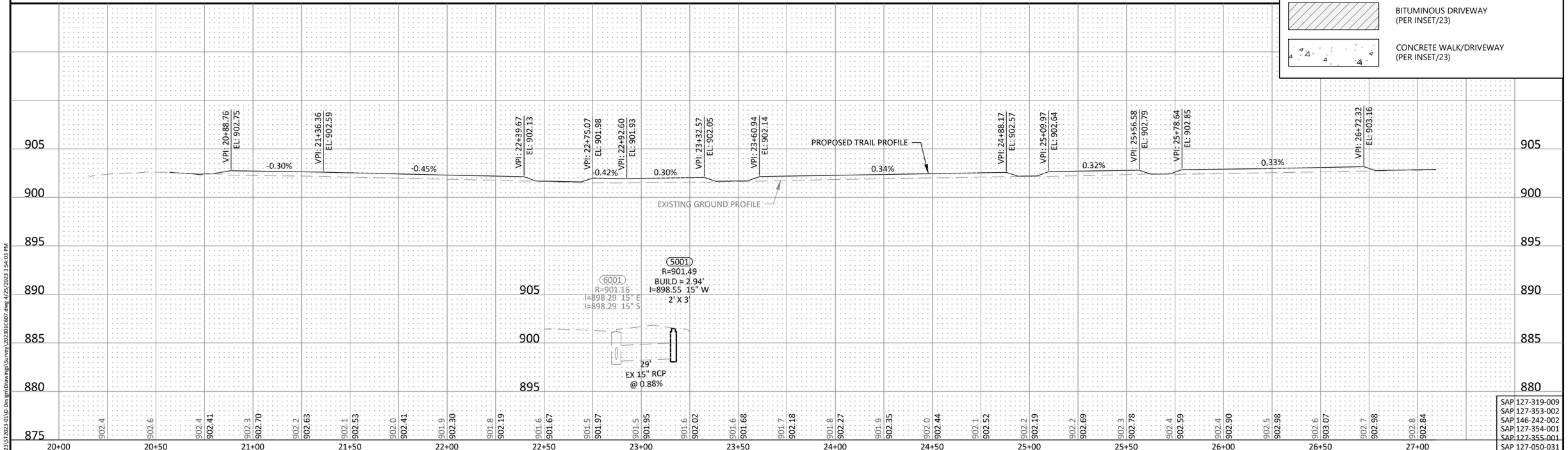


CONSTRUCTION NOTES:
1. MAILBOX RELOCATIONS TO BE IDENTIFIED AND MARKED BY ENGINEER IN THE FIELD.

PAVEMENT LEGEND

- 2" MILL AND OVERLAY SPOT CURB & GUTTER REPLACEMENT (PER TYPICAL SECTION H/23)
- FULL DEPTH RECLAMATION BITUMINOUS STREET PATCH (PER TYPICAL SECTION H/23)
- BITUMINOUS TRAIL (PER INSET/23)
- BITUMINOUS DRIVEWAY (PER INSET/23)
- CONCRETE WALK/DRIVEWAY (PER INSET/23)

STINSON BLVD / PLEASANT VIEW DR TRAIL



SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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VERT. 0 5 10 SCALE FEET

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Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE) (1 OF 4)

SHEET 35 OF 75

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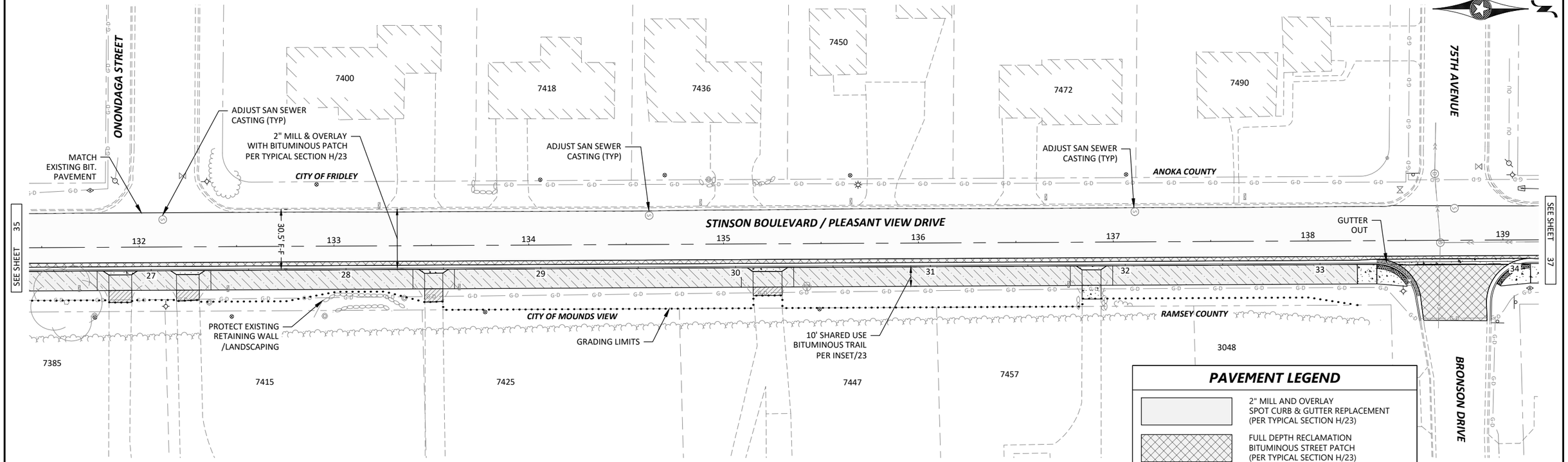
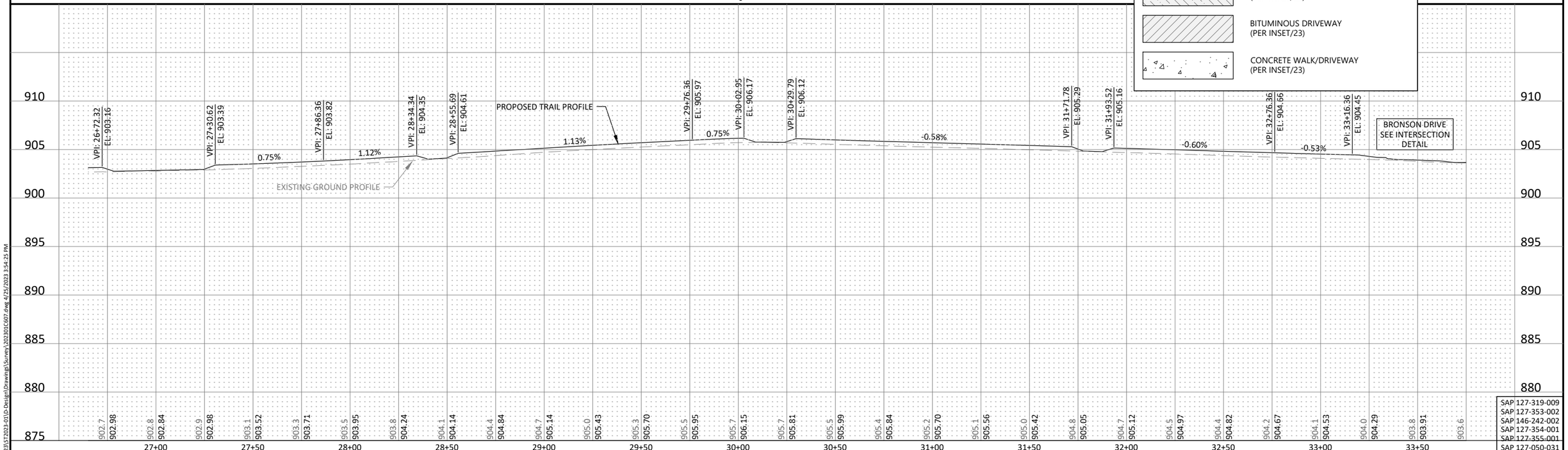


PAVEMENT LEGEND

- 2" MILL AND OVERLAY SPOT CURB & GUTTER REPLACEMENT (PER TYPICAL SECTION H/23)
- FULL DEPTH RECLAMATION BITUMINOUS STREET PATCH (PER TYPICAL SECTION H/23)
- BITUMINOUS TRAIL (PER INSET/23)
- BITUMINOUS DRIVEWAY (PER INSET/23)
- CONCRETE WALK/DRIVEWAY (PER INSET/23)

CONSTRUCTION NOTES:
1. MAILBOX RELOCATIONS TO BE IDENTIFIED AND MARKED BY ENGINEER IN THE FIELD.

STINSON BLVD / PLEASANT VIEW DR TRAIL



SAP	127-319-009
SAP	127-353-002
SAP	146-242-002
SAP	127-354-001
SAP	127-355-001
SAP	127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE) (2 OF 4)

SHEET 36 OF 75

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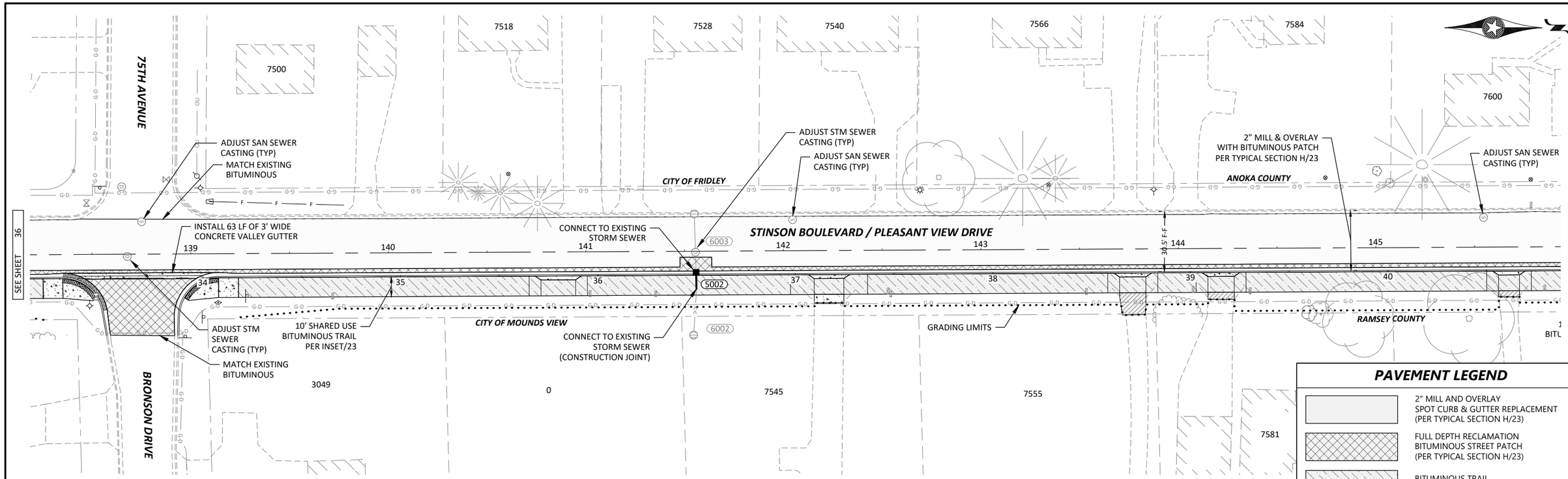

PAVEMENT LEGEND

- 2" MILL AND OVERLAY SPOT CURB & GUTTER REPLACEMENT (PER TYPICAL SECTION H/23)
- FULL DEPTH RECLAMATION BITUMINOUS STREET PATCH (PER TYPICAL SECTION H/23)
- BITUMINOUS TRAIL (PER INSET/23)
- BITUMINOUS DRIVEWAY (PER INSET/23)
- CONCRETE WALK/DRIVEWAY (PER INSET/23)

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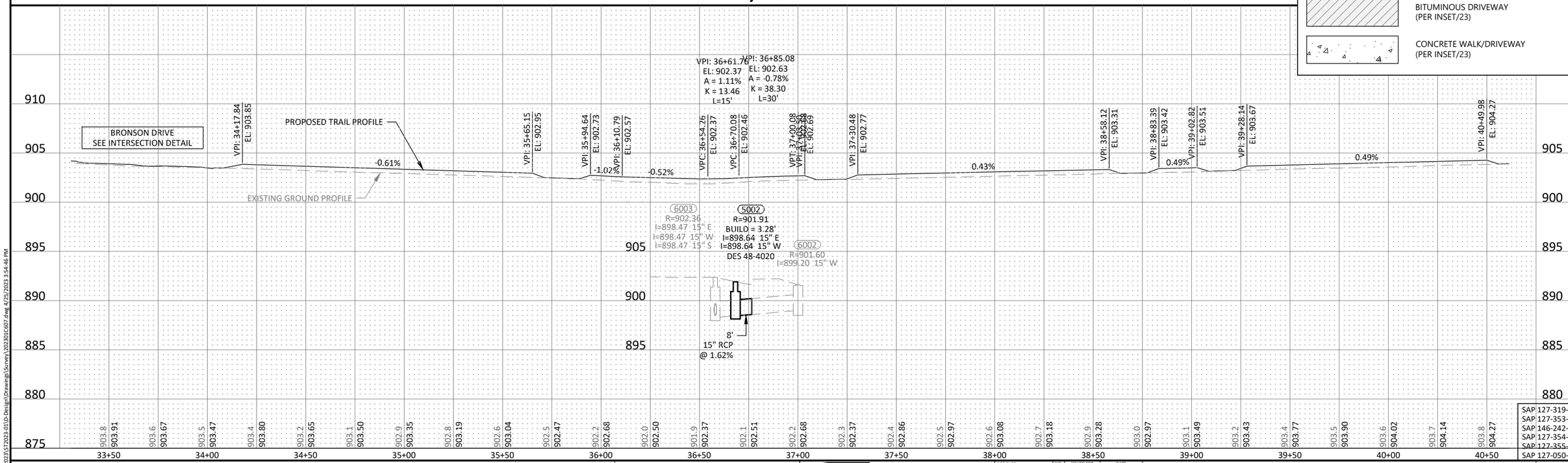
1. MAILBOX RELOCATIONS TO BE IDENTIFIED AND MARKED BY ENGINEER IN THE FIELD.

STINSON BLVD / PLEASANT VIEW DR TRAIL



SAP
127-319-009
127-353-002
146-242-002
127-354-001
127-355-001
127-050-031

HORZ. SCALE 0 25 50 FEET
VERT. SCALE 0 5 10 FEET

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

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.

BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

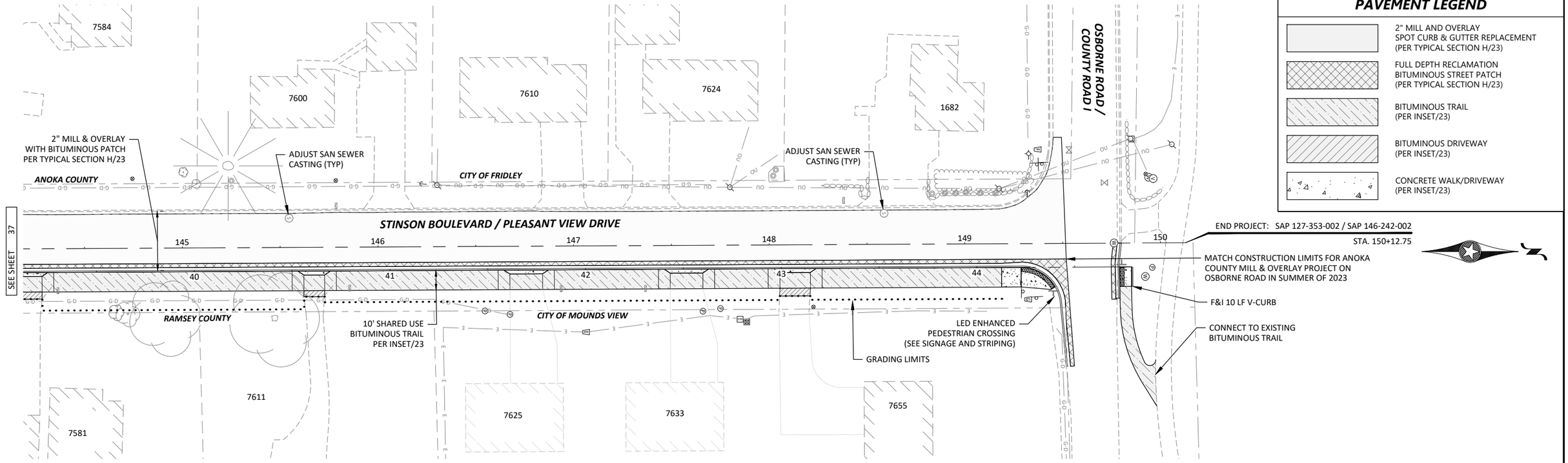
DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE) (3 OF 4)

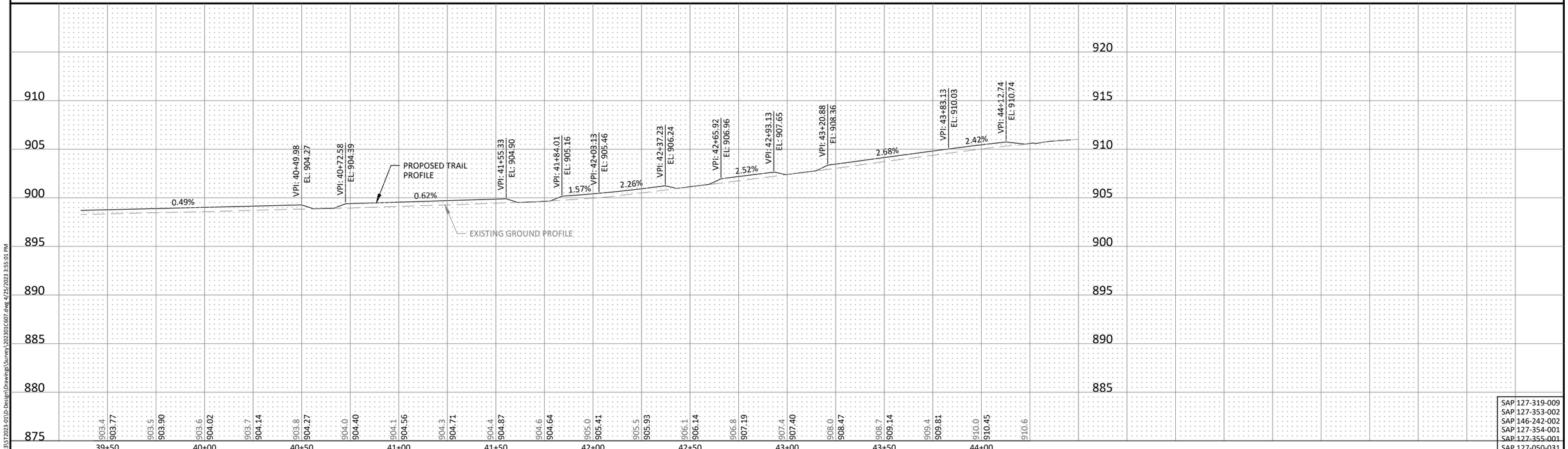
SHEET 37 OF 75

J:\Engineer\Projects\2023\ST2023-01\D-Design\Drawings\Survey\20230ICE607.dwg 4/25/2023 3:54:46 PM



CONSTRUCTION NOTES:
1. MAILBOX RELOCATIONS TO BE IDENTIFIED AND MARKED BY ENGINEER IN THE FIELD.

STINSON BLVD / PLEASANT VIEW DR TRAIL



SAP 127-319-009	
SAP 127-353-002	
SAP 146-242-002	
SAP 127-354-001	
SAP 127-355-001	
SAP 127-050-031	

HORZ. SCALE 0 25 50 FEET
VERT. SCALE 0 5 10 FEET

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Brandon Brodhag
BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
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Fridley, MN 55432

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	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
STINSON BOULEVARD (PLEASANT VIEW DRIVE) (4 OF 4)

SHEET 38 OF 75

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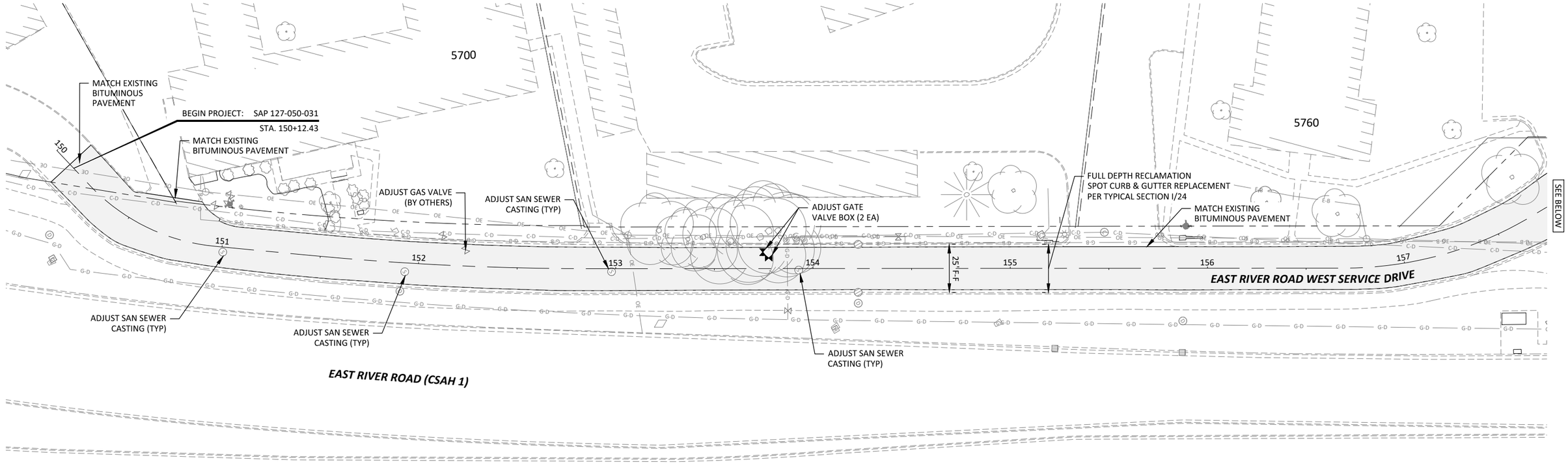

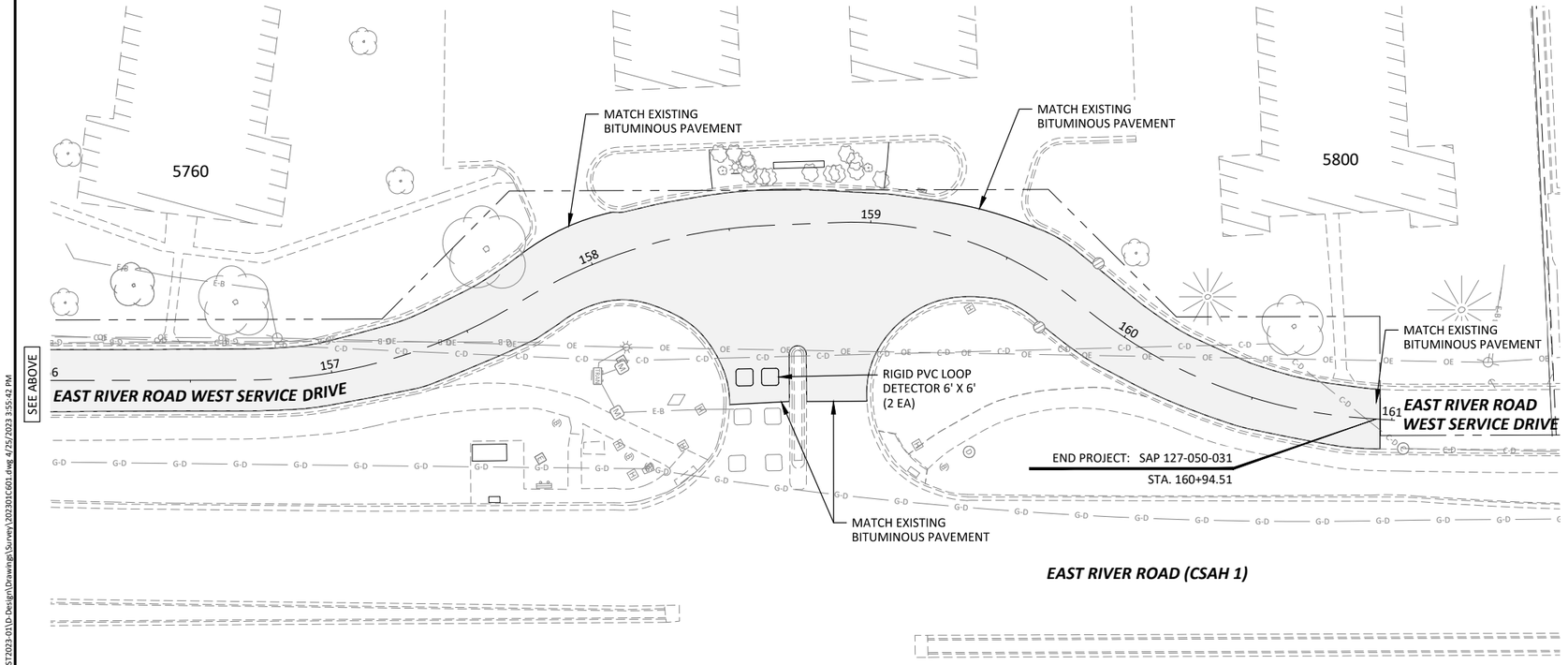

PAVEMENT LEGEND

FULL DEPTH RECLAMATION
SPOT CURB & GUTTER REPLACEMENT
(PER TYPICAL SECTION I/24)

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CONSTRUCTION PLAN
EAST RIVER ROAD WEST SERVICE DRIVE (GEORGETOWN)

SHEET 39 OF 75

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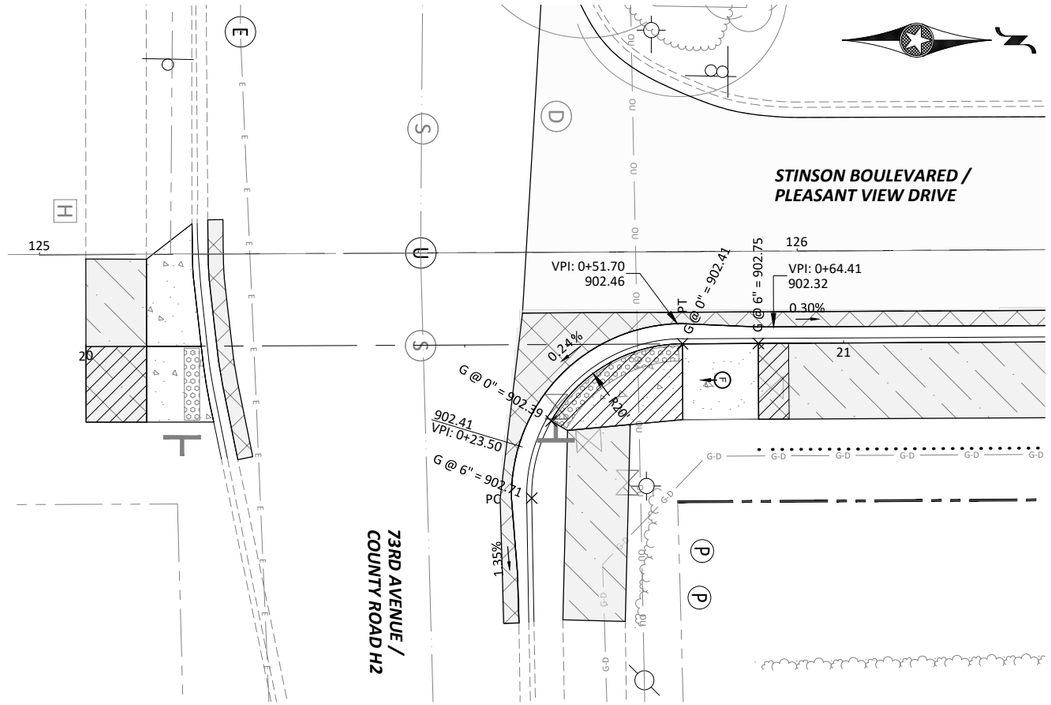

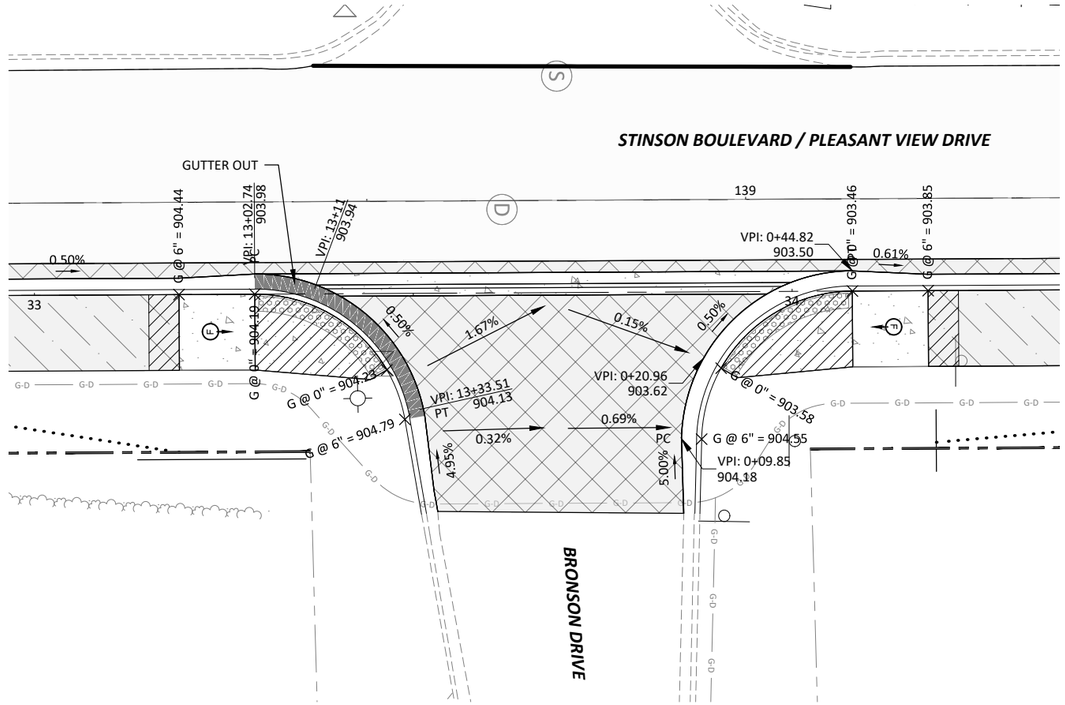

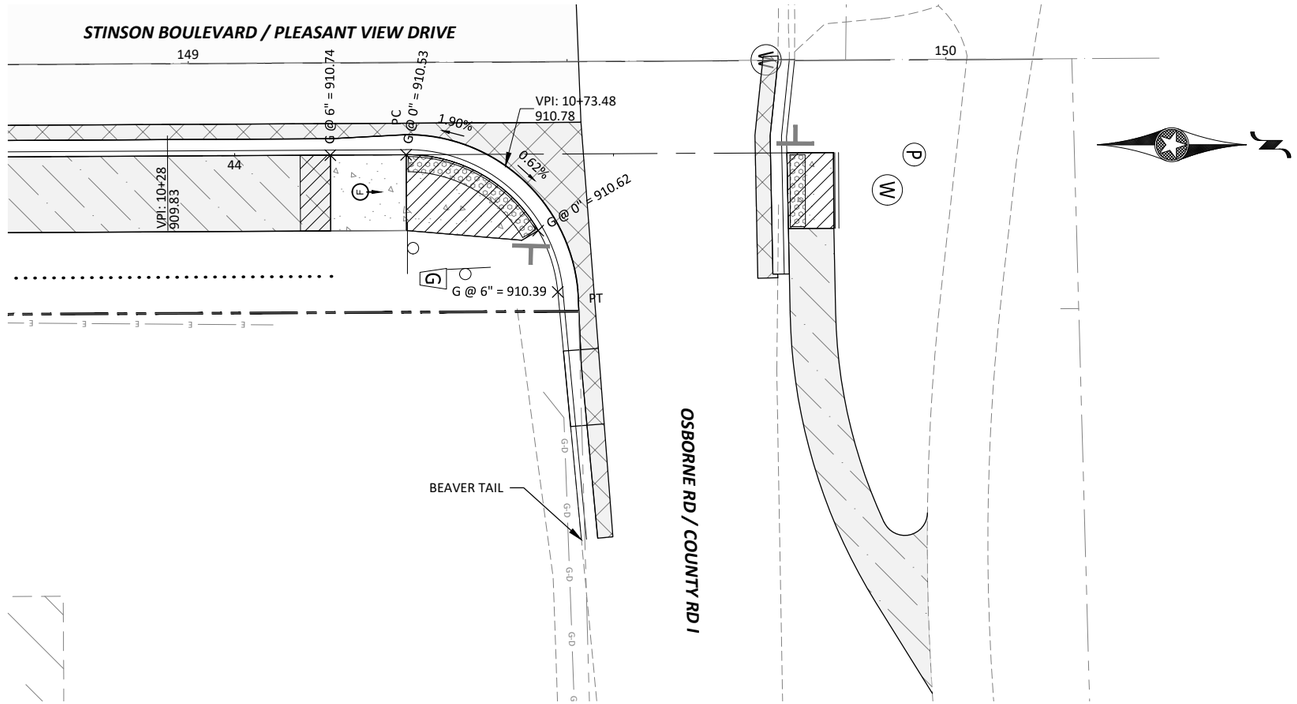

LEGEND

- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM & 8.3% MAXIMUM IN THE DIRECTION SHOWN & CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% & LESS THAN 5.0% IN THE DIRECTION SHOWN & CROSS SLOPE SHALL NOT EXCEED 2.0%
- PROPOSED B618 CURB & GUTTER
- EXISTING CURB & GUTTER
- SURFACE DRAINAGE ARROW
- TC = 890.26 = PROPOSED TOP OF CURB
- G = 890.26 = PROPOSED GUTTER
- C = 890.26 = PROPOSED TOP OF CONCRETE
- (GB) = GRADE BREAK
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- LANDING AREA - 4' X 4' MIN. DIMINSION & MAX. 2.0% SLOPE IN ALL DIRECTIONS
- CONCRETE PEDESTRIAN RAMP

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 10 20 FEET

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City of Fridley
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Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
INTERSECTION DETAILS
STINSON BOULEVARD (PLEASANT VIEW DRIVE)

SHEET 40 OF 75

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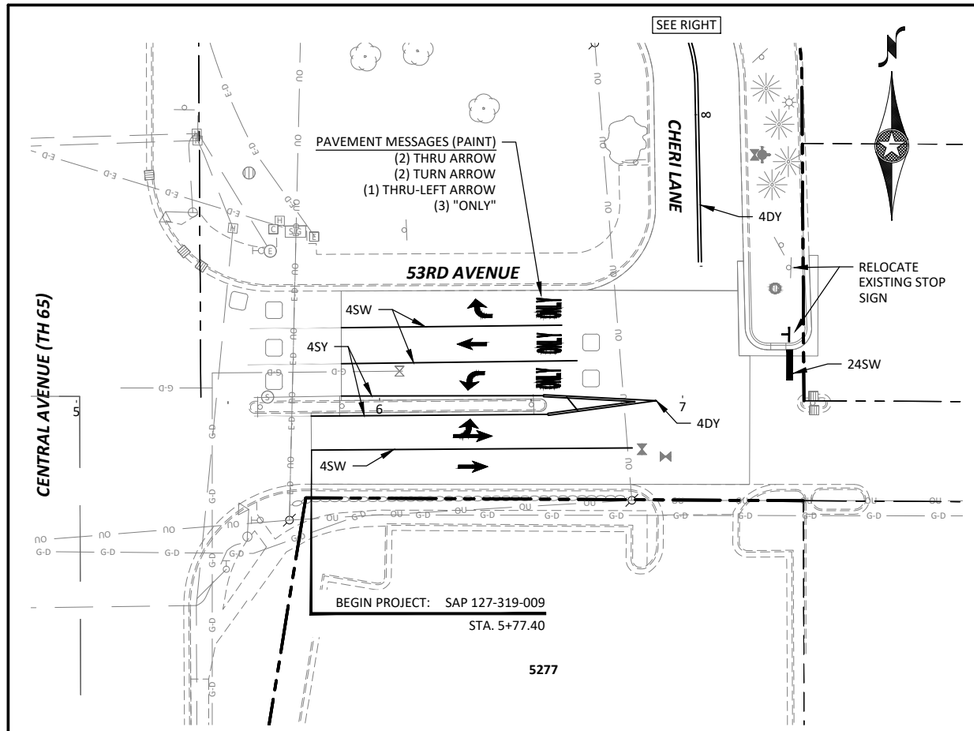
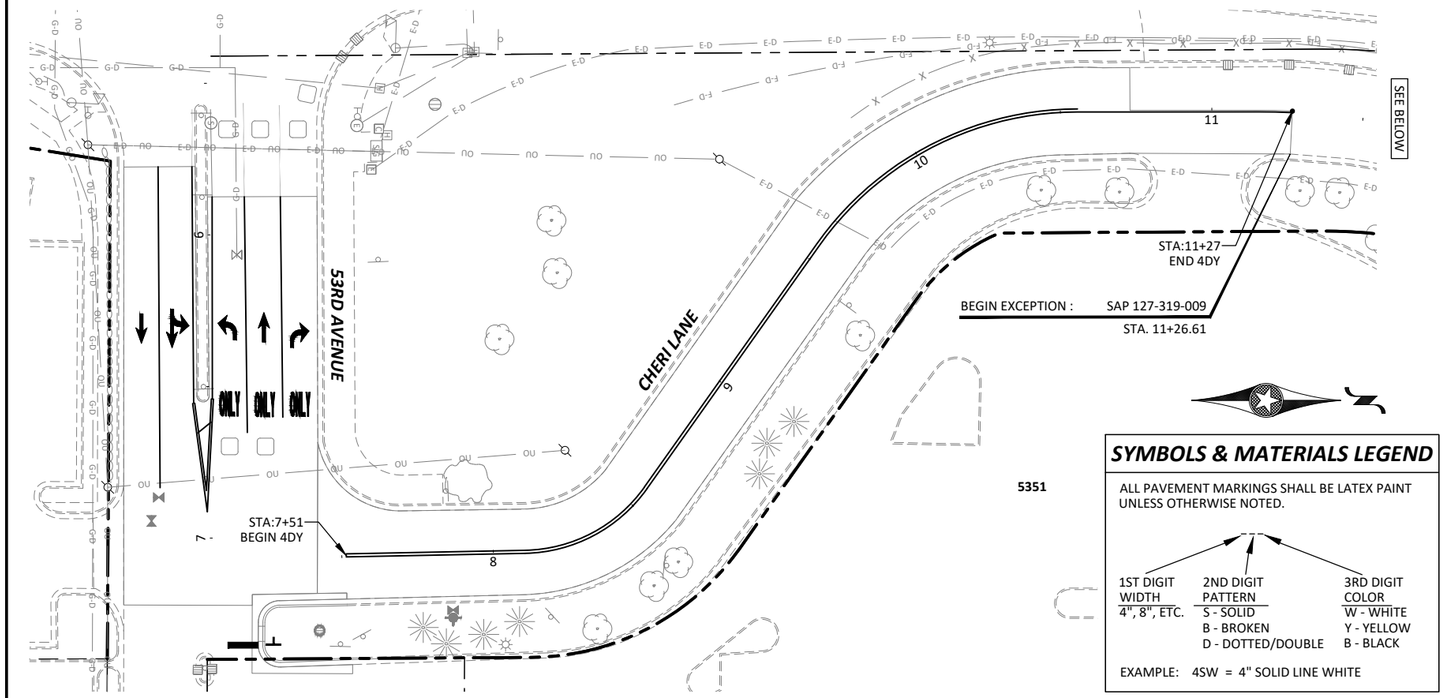


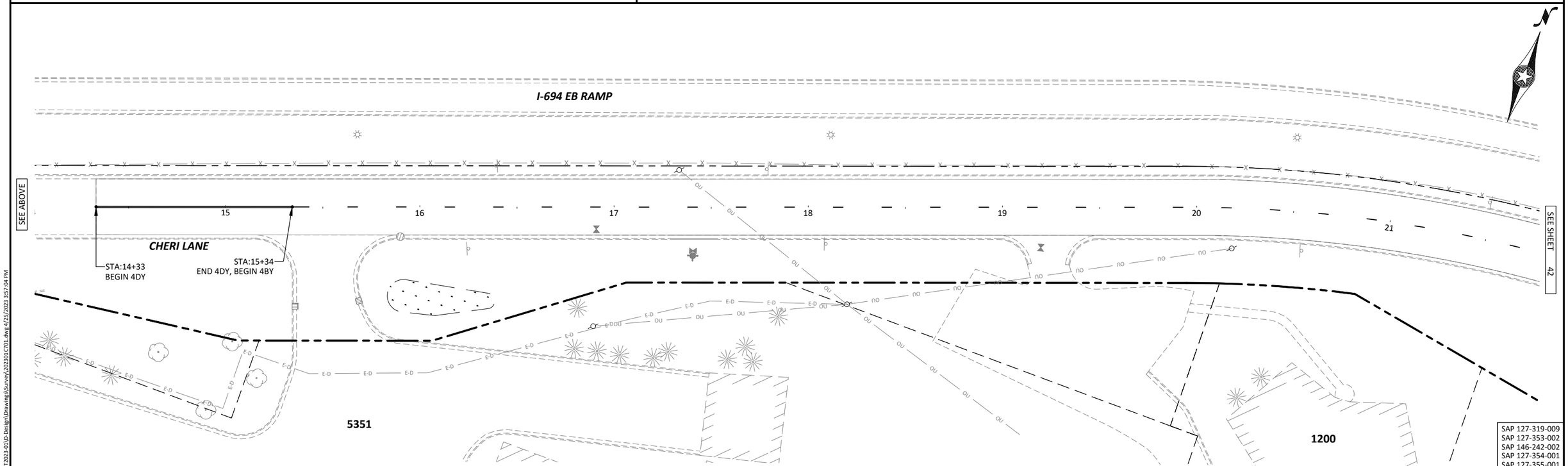


SYMBOLS & MATERIALS LEGEND

ALL PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4", 8", ETC.	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	D - DOTTED/DOUBLE	B - BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE



SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
SIGNING AND STRIPING PLAN
53RD AVENUE, CHERI LANE

SHEET 41 OF 75

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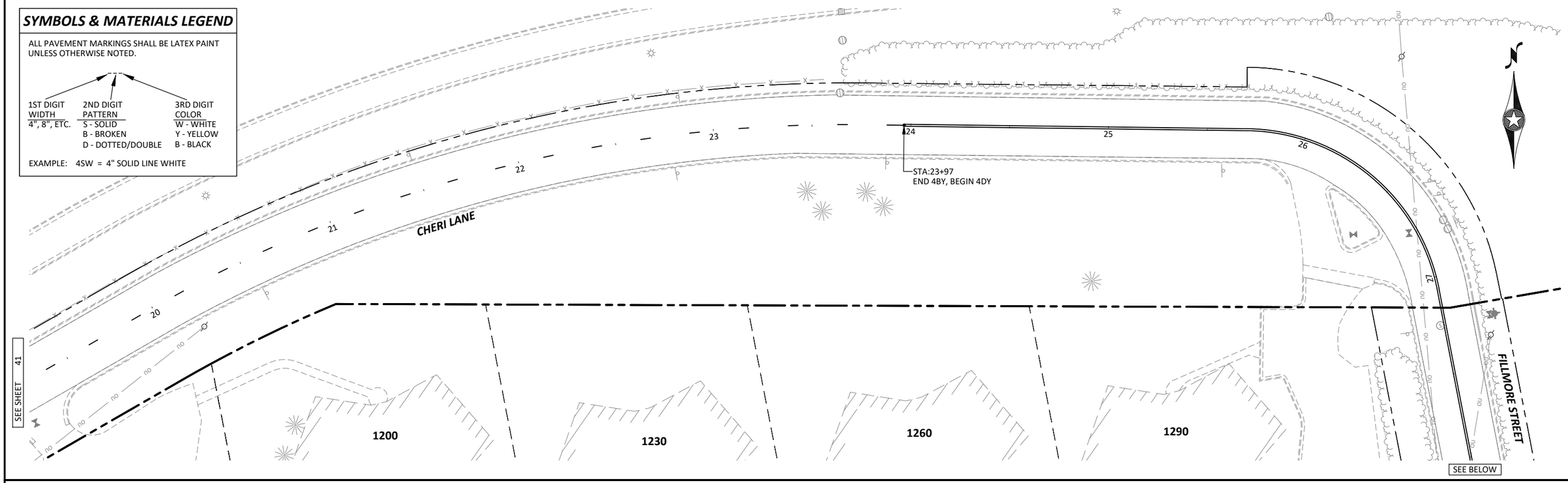
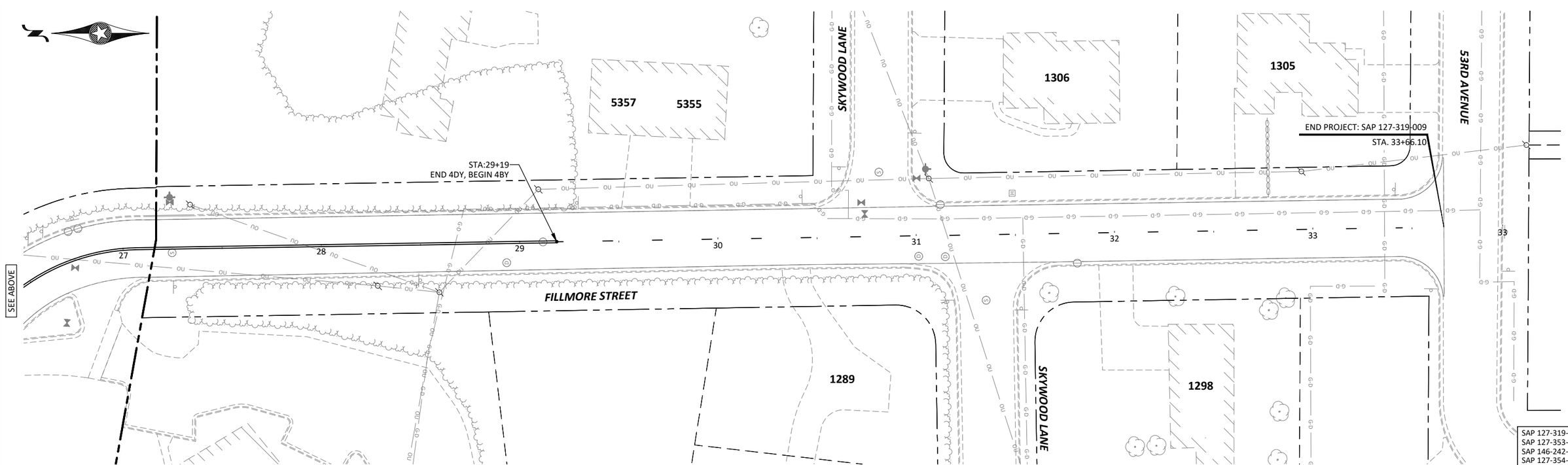
SYMBOLS & MATERIALS LEGEND

ALL PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.

1ST DIGIT	2ND DIGIT	3RD DIGIT
WIDTH	PATTERN	COLOR
4", 8", ETC.	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	D - DOTTED/DOUBLE	B - BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE





SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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City of Fridley
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Fridley, MN 55432

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CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

SIGNING AND STRIPING PLAN

CHERI LANE, FILLMORE STREET

SHEET 42 OF 75

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SEE SHEET 44

BEGIN PROJECT: SAP 127-355-001
STA. 50+24.98

PAVEMENT MESSAGE (PAINT)
(4) TURN ARROW
(2) THRU-LEFT ARROW
(4) "ONLY"

BEGIN PROJECT: SAP 127-354-001
STA. 75+34.66

EAST RIVER ROAD (CSAH 1)

EAST RIVER ROAD
EAST SERVICE DRIVE

24SW
4SW
4BW
24SW

CROSSWALK
(20) 3' x 6'S

5155
5100

51ST WAY

STA:55+96
BEGIN 4BY

SEE BELOW

50 51 52 53 54 55 56 57 58 59 60 61

75 76

SYMBOLS & MATERIALS LEGEND

ALL PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.

1ST DIGIT	2ND DIGIT	3RD DIGIT
WIDTH	PATTERN	COLOR
4", 8", ETC.	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	D - DOTTED/DOUBLE	B - BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE

5155
5100

INDUSTRIAL BOULEVARD

SEE ABOVE

STA:55+96
BEGIN 4BY

51ST WAY

STA:60+49
END 4BY

END PROJECT: SAP 127-355-001
STA. 61+19.64

60

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
SIGNING AND STRIPING PLAN
51ST WAY

SHEET 43 OF 75

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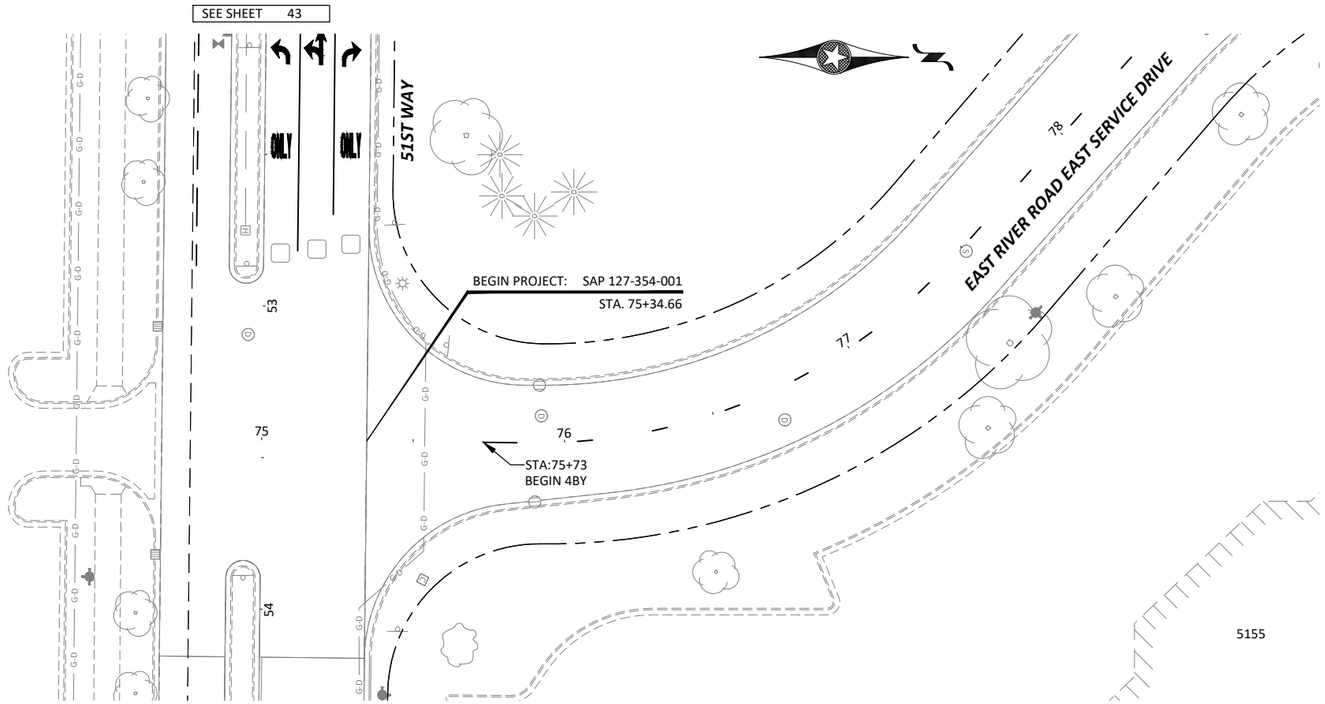
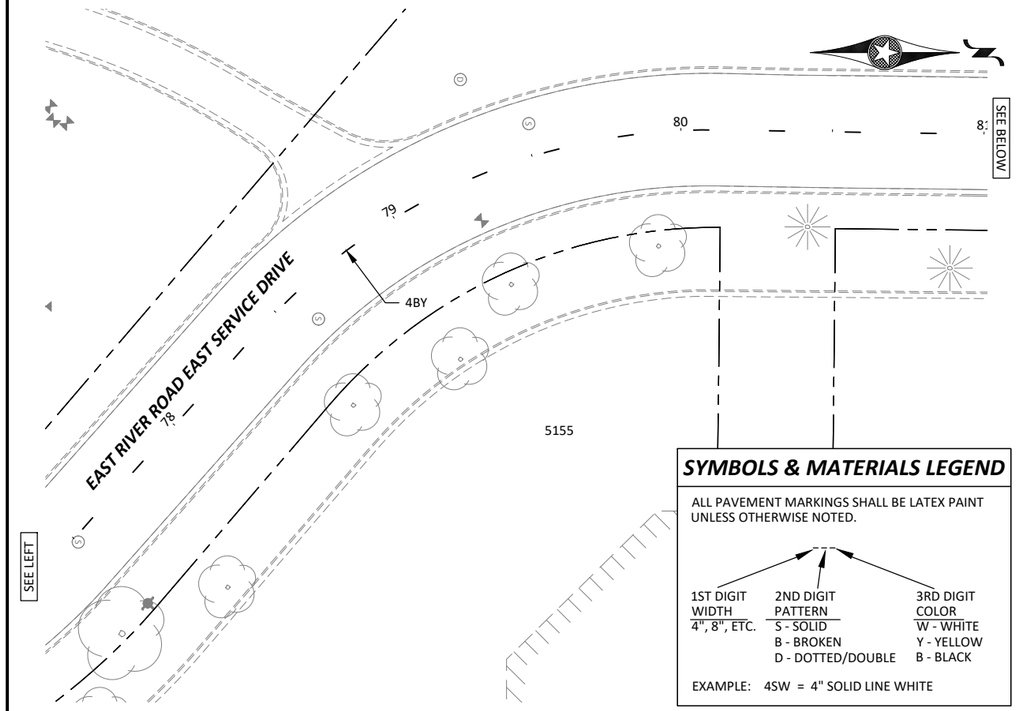


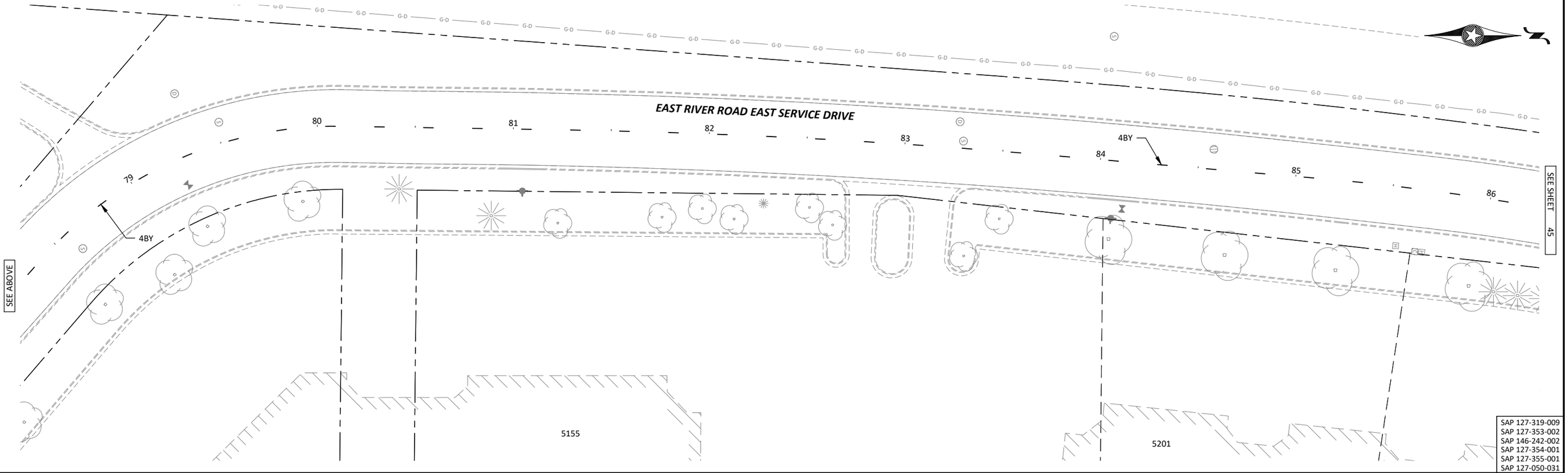


SYMBOLS & MATERIALS LEGEND

ALL PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.

1ST DIGIT WIDTH 4", 8", ETC.	2ND DIGIT PATTERN	3RD DIGIT COLOR
	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	D - DOTTED/DOUBLE	B - BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE



SAP 127-319-009
SAP 127-353-002
SAP 127-146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

SIGNING AND STRIPING PLAN

EAST RIVER ROAD EAST SERVICE DRIVE (1 OF 3)

SHEET 44 OF 75

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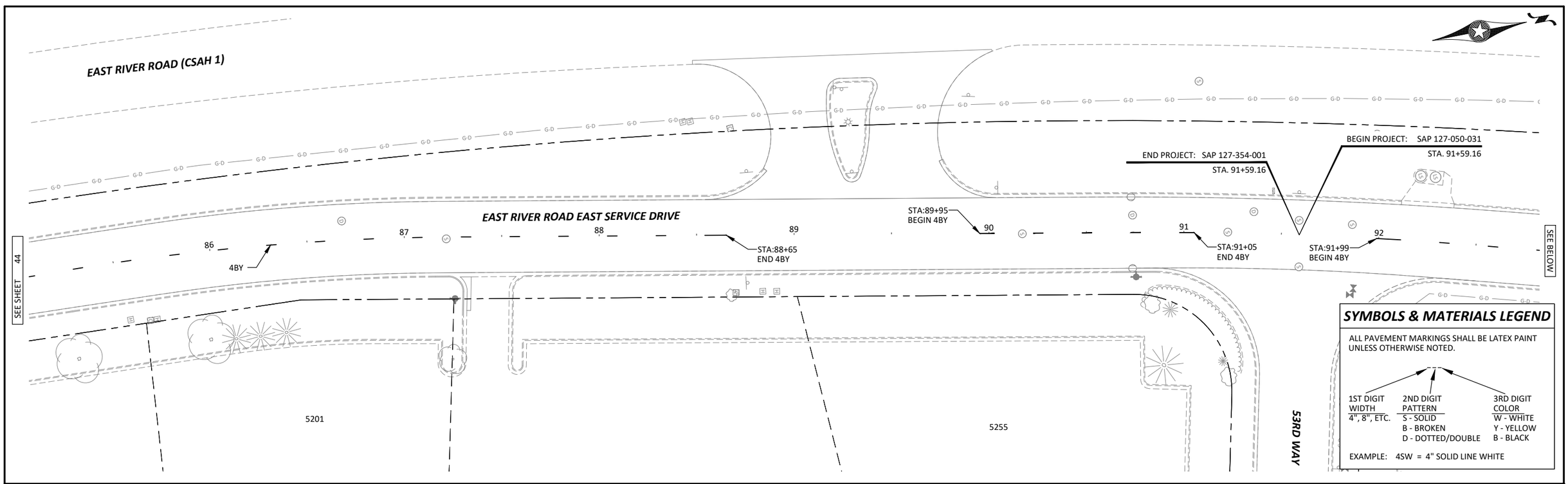

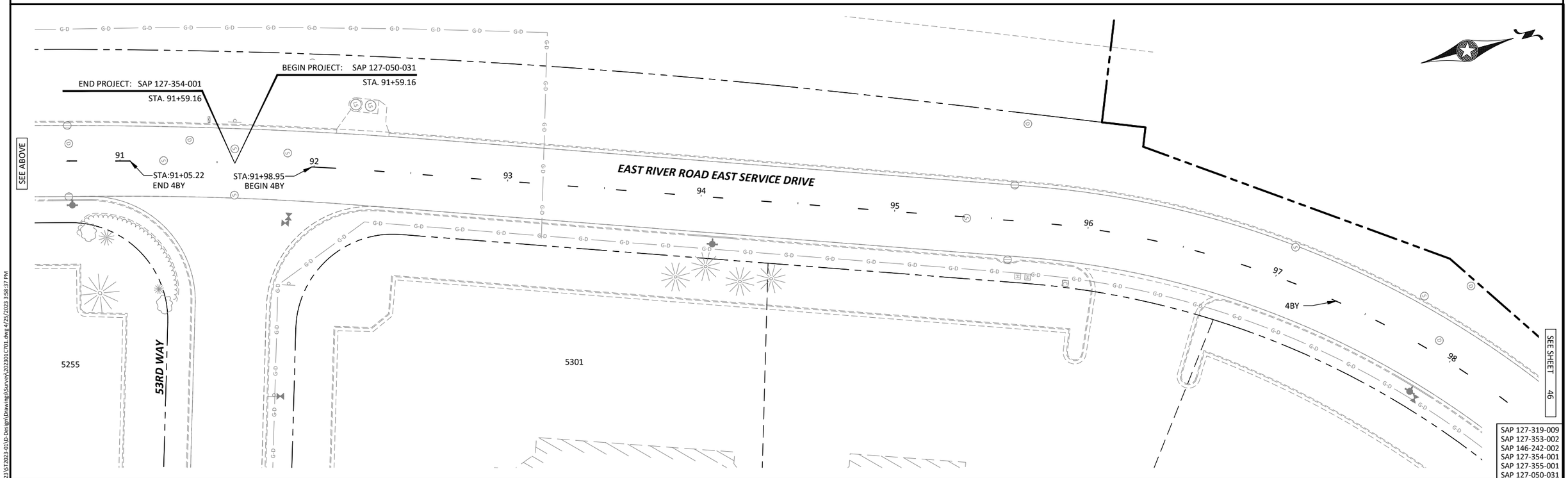

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
SIGNING AND STRIPING PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (2 OF 3)

SHEET 45 OF 75

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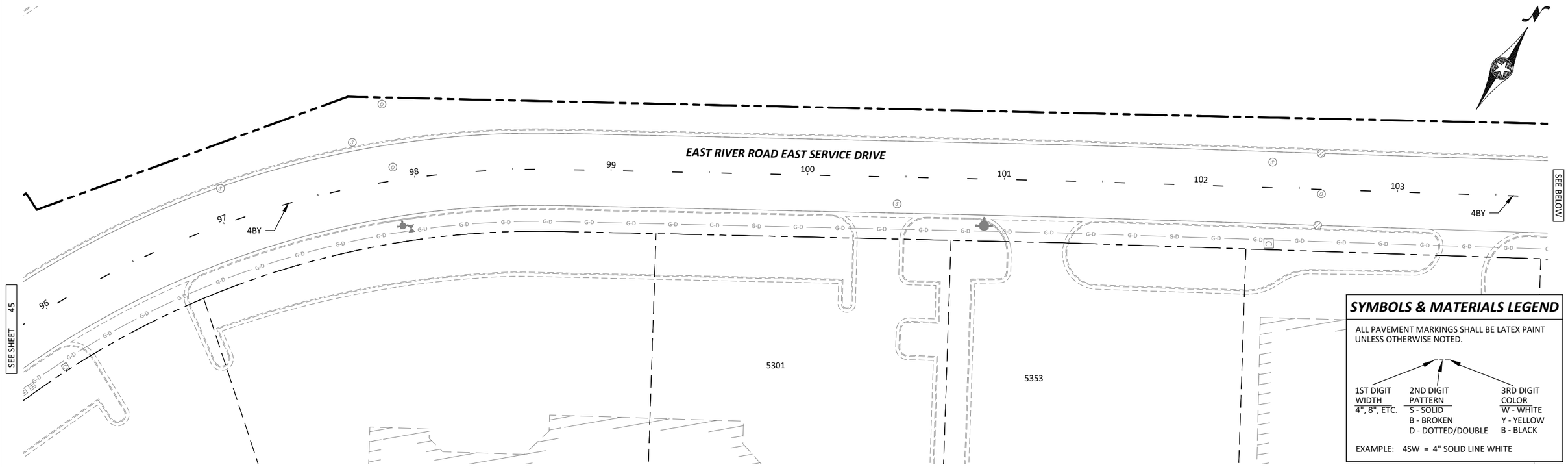

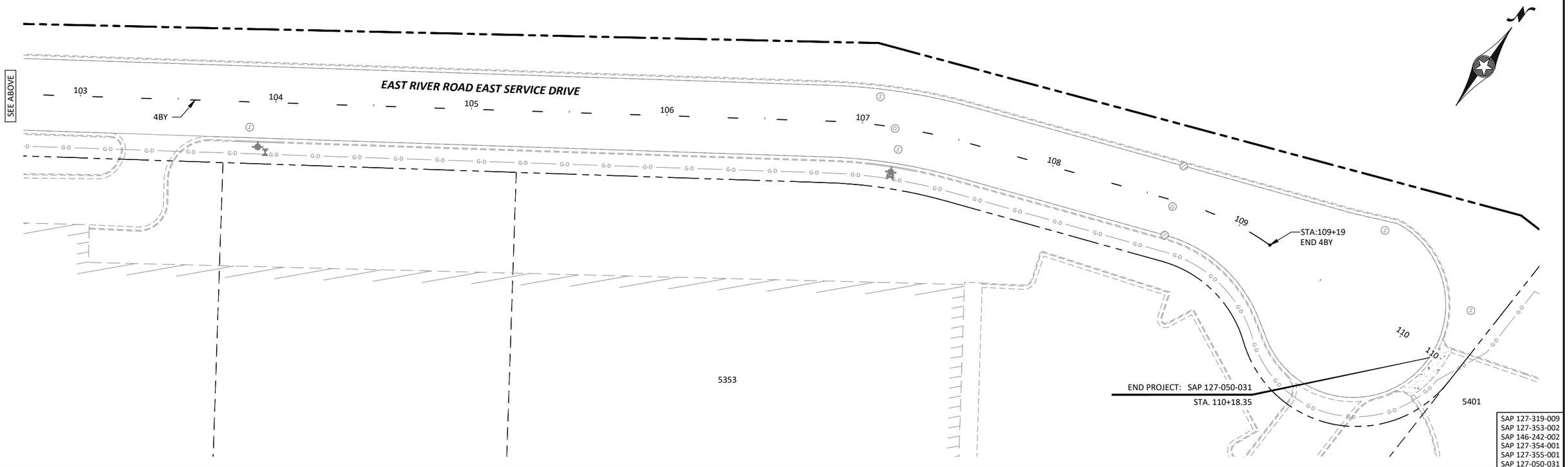

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. 0 25 50
SCALE FEET

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
SIGNING AND STRIPING PLAN
EAST RIVER ROAD EAST SERVICE DRIVE (3 OF 3)

SHEET 46 OF 75

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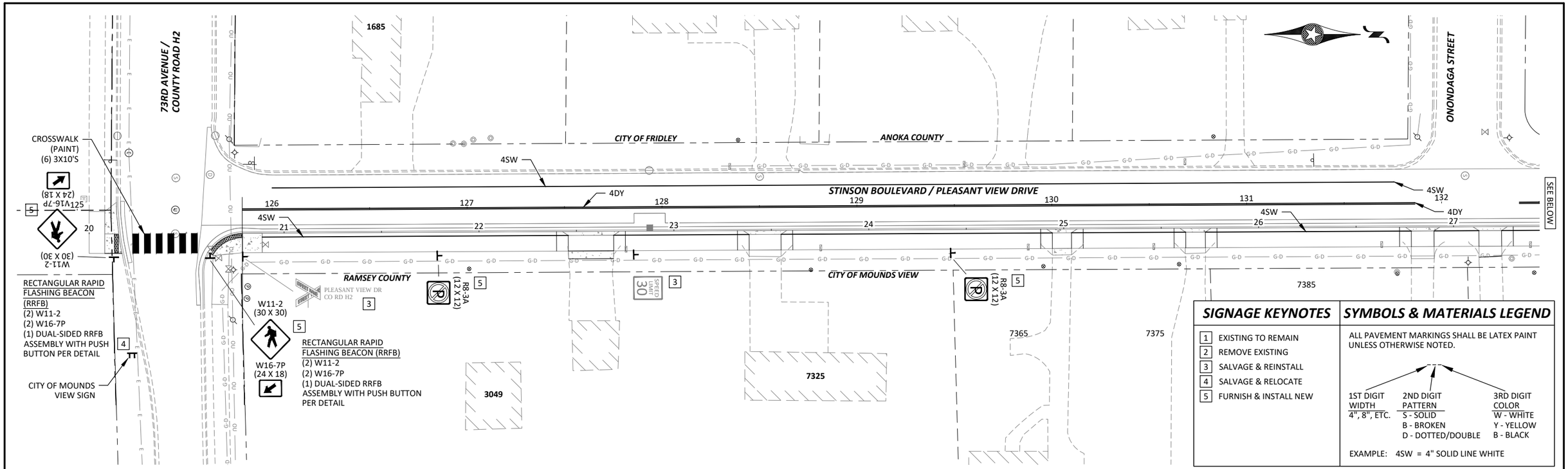


SIGNAGE KEYNOTES

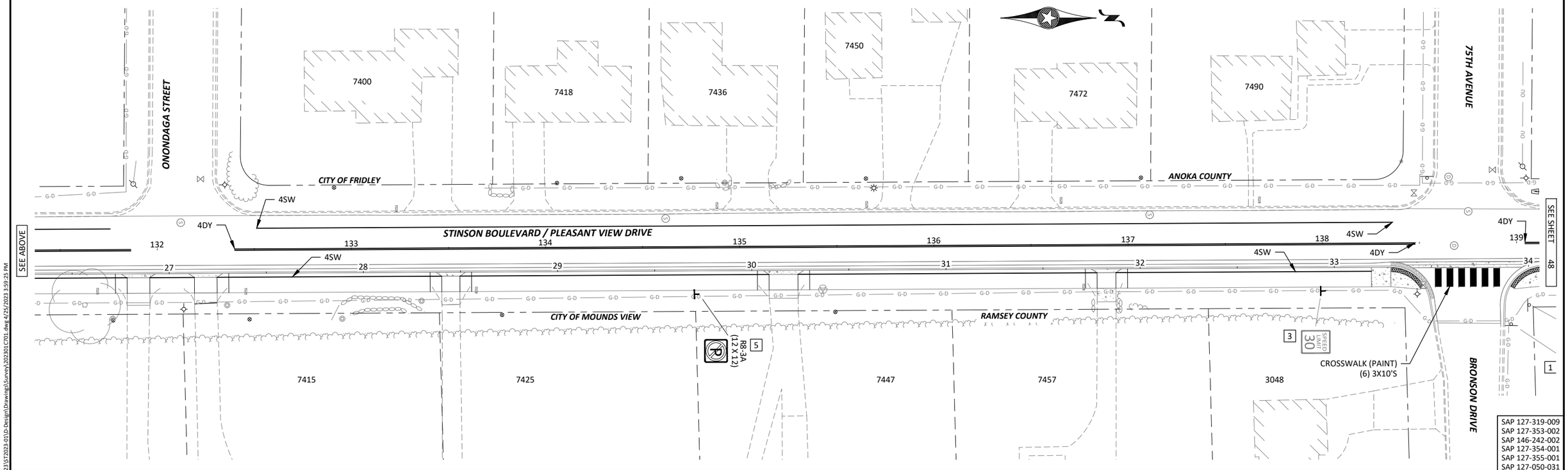
1	EXISTING TO REMAIN
2	REMOVE EXISTING
3	SALVAGE & REINSTALL
4	SALVAGE & RELOCATE
5	FURNISH & INSTALL NEW

SYMBOLS & MATERIALS LEGEND

ALL PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4", 8", ETC.	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	D - DOTTED/DOUBLE	B - BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE



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7071 University Avenue NE
Fridley, MN 55432

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DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

SIGNING AND STRIPING PLAN

STINSON BOULEVARD (PLEASANT VIEW DRIVE) (1 OF 2)

SHEET 47 OF 75

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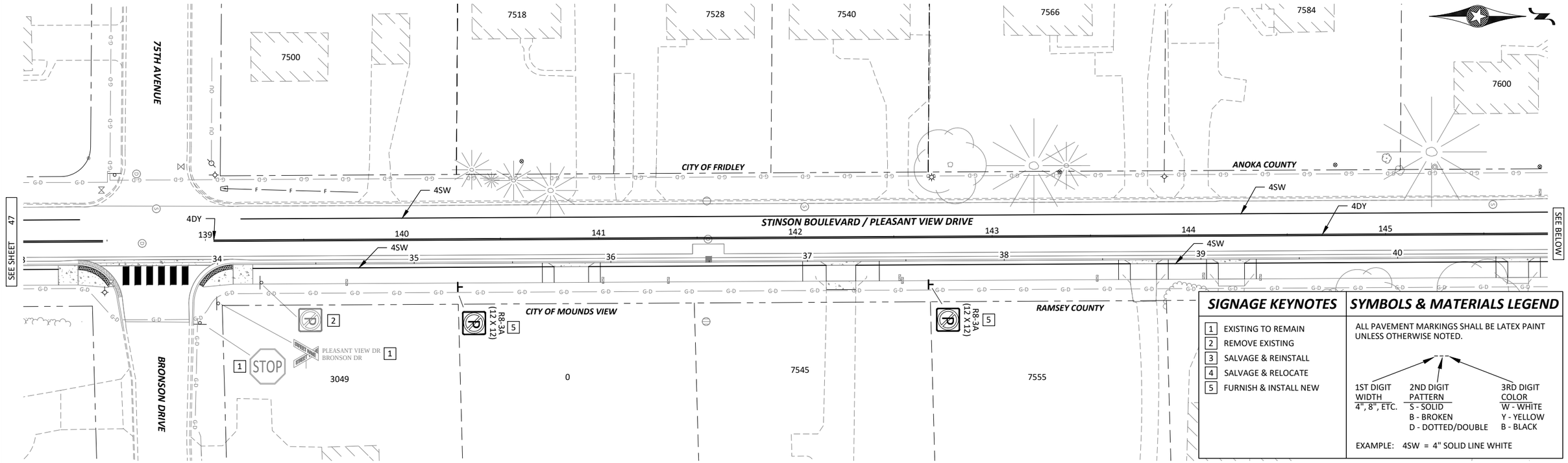


SIGNAGE KEYNOTES

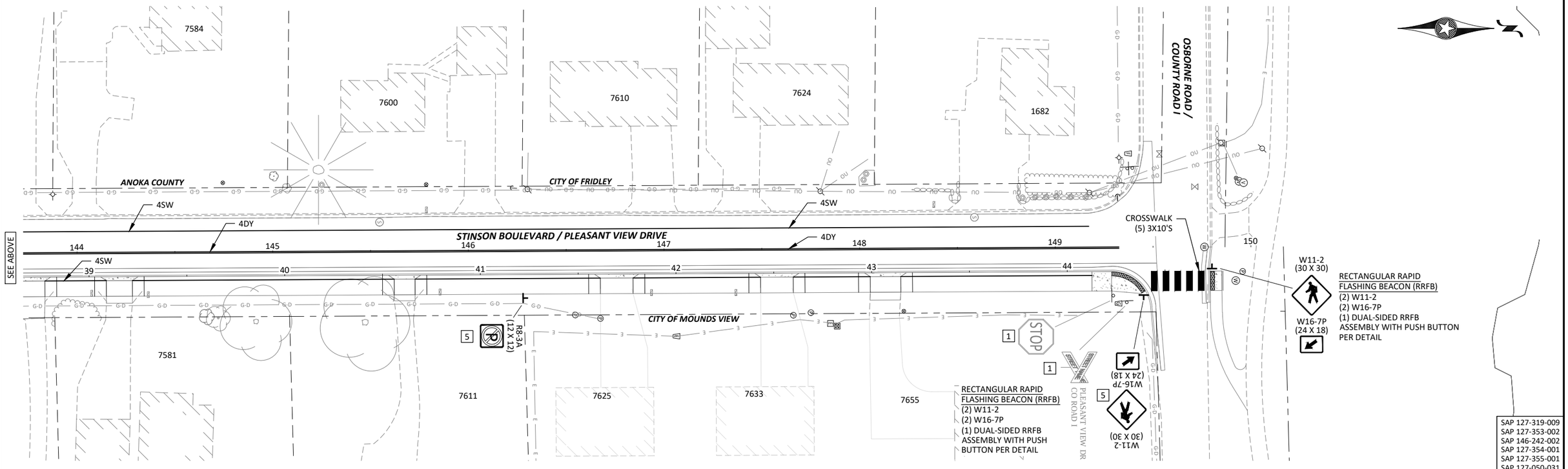
1	EXISTING TO REMAIN
2	REMOVE EXISTING
3	SALVAGE & REINSTALL
4	SALVAGE & RELOCATE
5	FURNISH & INSTALL NEW

SYMBOLS & MATERIALS LEGEND

ALL PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.

1ST DIGIT WIDTH	2ND DIGIT PATTERN	3RD DIGIT COLOR
4", 8", ETC.	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	D - DOTTED/DOUBLE	B - BLACK

EXAMPLE: 4SW = 4" SOLID LINE WHITE



SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. SCALE 0 25 50 FEET

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BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

SIGNING AND STRIPING PLAN

STINSON BOULEVARD (PLEASANT VIEW DRIVE) (2 OF 2)

SHEET 48 OF 75

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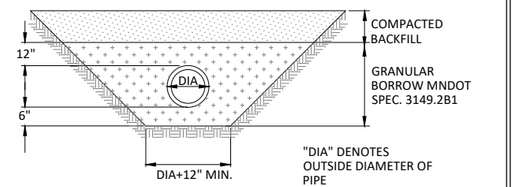
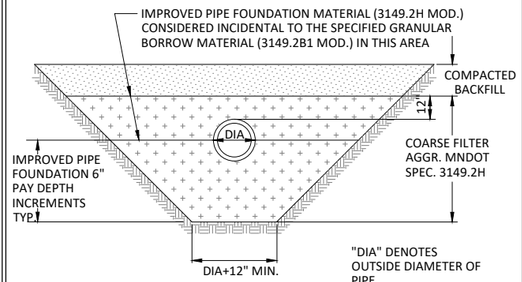
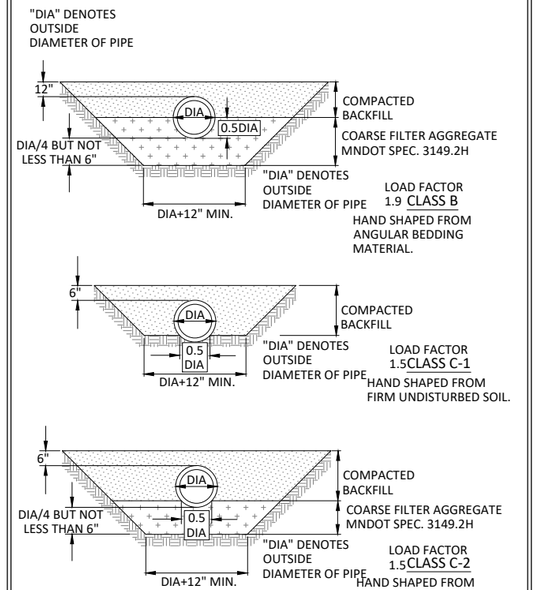


PIPE FOUNDATION & BEDDING
GOOD SOILS

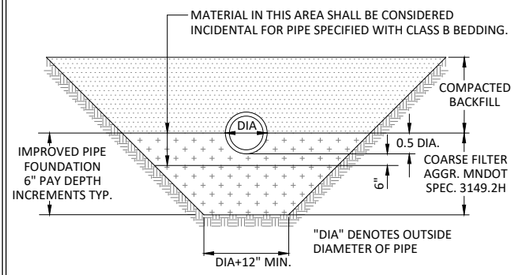


IMPROVED PIPE FOUNDATION MATERIAL
POOR SOILS

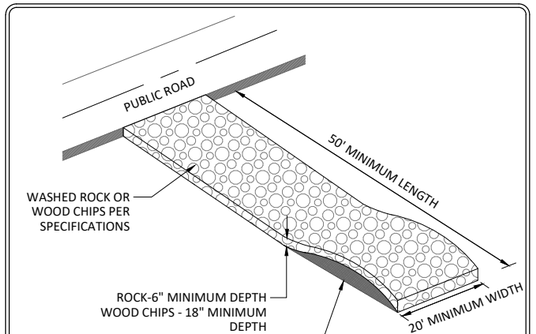
	STANDARD DETAILS PIPE FOUNDATION & BEDDING METHODS FOR PVC FRIDLEY, MINNESOTA	LAST REVISION: DEC 2018 CITY PLATE NO. BED-1



	STANDARD DETAILS BEDDING METHODS FOR RCP OR DIP FRIDLEY, MINNESOTA	LAST REVISION: APRIL 2016 CITY PLATE NO. BED-2

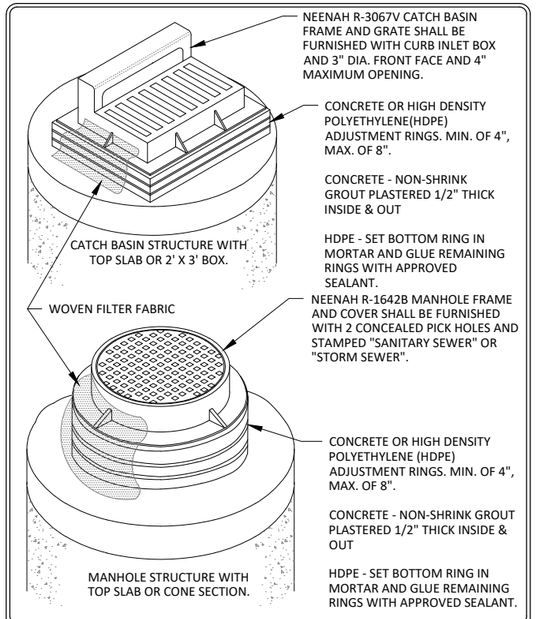


	STANDARD DETAILS IMPROVED FOUNDATION FOR ALL PIPE TYPES FRIDLEY, MINNESOTA	LAST REVISION: APR 2016 CITY PLATE NO. BED-3

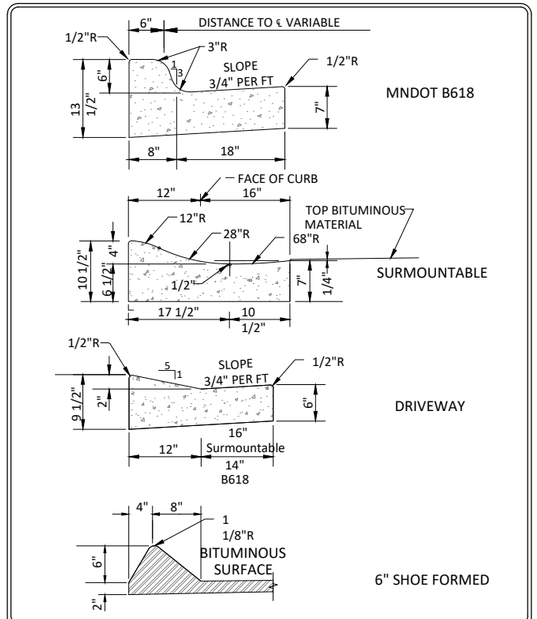


NOTES:
1. FILTER FABRIC SHALL BE PLACED UNDER ROCK OR MULCH TO STOP MUD MIGRATION THROUGH ROCK. FILTER FABRIC IS NOT REQUIRED UNDER WOOD CHIPS.
2. 80% OF WOOD CHIPS USED FOR CONSTRUCTION ENTRANCES MUST BE BETWEEN 2 INCHES AND 5 INCHES. NO CHIPPED-UP MANUFACTURED WOOD AND / OR CHEMICALLY TREATED WOOD IS ALLOWED.
3. ENTRANCE MUST BE MAINTAINED REGULARLY TO PREVENT SEDIMENTATION ON PUBLIC ROADWAYS. FUGITIVE ROCK OR WOOD CHIPS WILL BE REMOVED FROM ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NECESSARY.

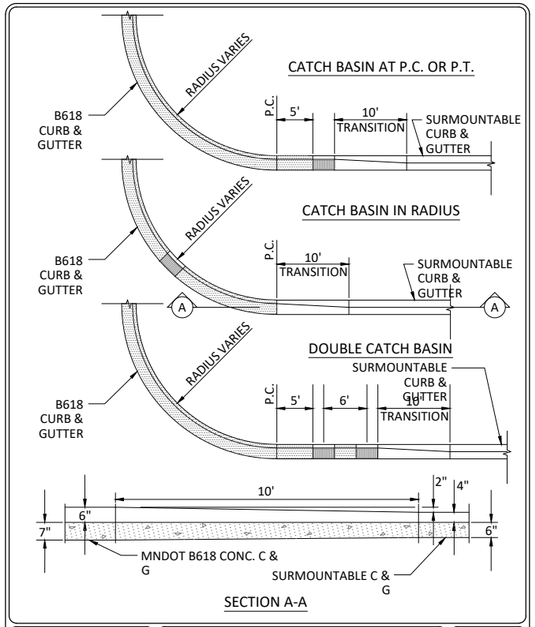
	STANDARD DETAILS CONSTRUCTION ENTRANCE ROCK, WOOD CHIP FRIDLEY, MINNESOTA	LAST REVISION: DEC 2018 CITY PLATE NO. ERO-7



	STANDARD DETAILS CATCH BASIN AND MANHOLE ADJUSTMENT FRIDLEY, MINNESOTA	LAST REVISION: DEC 2018 CITY PLATE NO. STO-18



	STANDARD DETAILS CURB AND GUTTER FRIDLEY, MINNESOTA	LAST REVISION: DEC 2018 CITY PLATE NO. STR-1



	STANDARD DETAILS CONCRETE CURB & GUTTER FRIDLEY, MINNESOTA	LAST REVISION: DEC 2018 CITY PLATE NO. STR-2

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
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SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
STANDARD DETAILS

SHEET 49 OF 75

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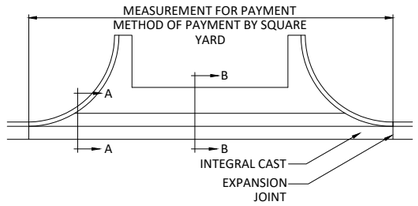
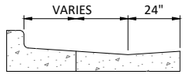
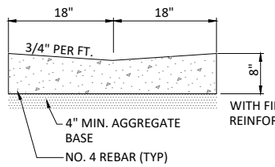




SECTION A-A THRU
B618 C & G

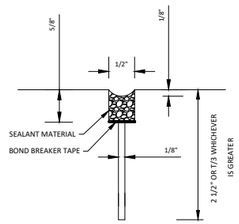
NOTE:
TIP OUT GUTTER AND HIGH POINTS DETERMINED IN FIELD BY ENGINEER



WITH FIBERGLASS REINFORCEMENT

SECTION B-B
THRU CONCRETE GUTTER

STANDARD DETAILS
CONCRETE VALLEY GUTTER
FRIDLEY, MINNESOTA
LAST REVISION: DEC 2018
CITY PLATE NO. STR-10



T/3 = ONE THIRD THE TOTAL OVERLAY THICKNESS (OVERLAY PROJECTS) OR ONE THIRD THE TOTAL BITUMINOUS THICKNESS (NEW CONSTRUCTION PROJECTS)

TYPICAL JOINT SECTION

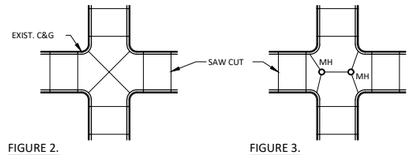


FIGURE 2.
NO MANHOLES IN THE INTERSECTION

FIGURE 3.
TWO MANHOLES IN THE INTERSECTION

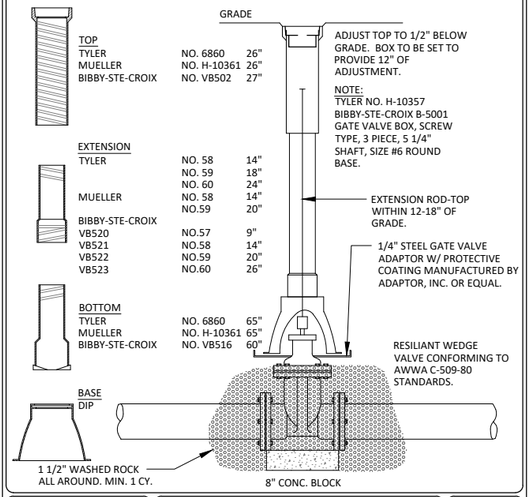
SAW AND SEAL IN URBAN SECTIONS:
WHEN USING SAW AND SEAL IN AN URBAN SETTING WHERE CURB AND GUTTER IS PRESENT THE SAW CUTS SHOULD LINE UP WITH THE CONTROL JOINTS IN THE GUTTER SECTIONS WHENEVER POSSIBLE, EVEN IF THIS RESULTS IN A SLIGHTLY SKEWED JOINT AS SHOWN IN FIGURES 2 AND 3.

IN INTERSECTIONS, SAWING SHOULD BE SIMILAR TO FIGURES 2 OR 3 DEPENDING ON WHETHER MANHOLES ARE PRESENT.

STANDARD DETAILS
BITUMINOUS SAW & SEAL
FRIDLEY, MINNESOTA
LAST REVISION: DEC 2018
CITY PLATE NO. STR-24

DROP LID
TYLER
MUELLER
BIBBY-STE-CROIX
NO. 6860
NO. H-10361
NO. B-5160

NOTES:
1. VALVE BOX SHALL BE 3-PIECE DUCTILE IRON SCREW-TYPE.
2. 8' MINIMUM COVER REQUIRED OVER TOP OF WATER MAIN.



ADJUST TOP TO 1/2" BELOW GRADE. BOX TO BE SET TO PROVIDE 12" OF ADJUSTMENT.

NOTE:
TYLER NO. H-10357
BIBBY-STE-CROIX B-5001
GATE VALVE BOX, SCREW TYPE, 3 PIECE, 5 1/4" SHAFT, SIZE #6 ROUND BASE.

EXTENSION ROD-TOP WITHIN 12-18" OF GRADE.

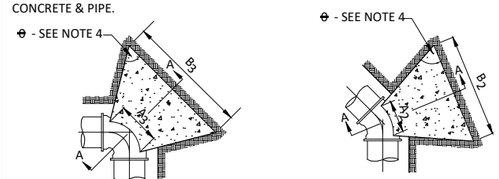
1/4" STEEL GATE VALVE ADAPTOR W/ PROTECTIVE COATING MANUFACTURED BY ADAPTOR, INC. OR EQUAL.

RESILIANT WEDGE VALVE CONFORMING TO AWWA C-509-80 STANDARDS.

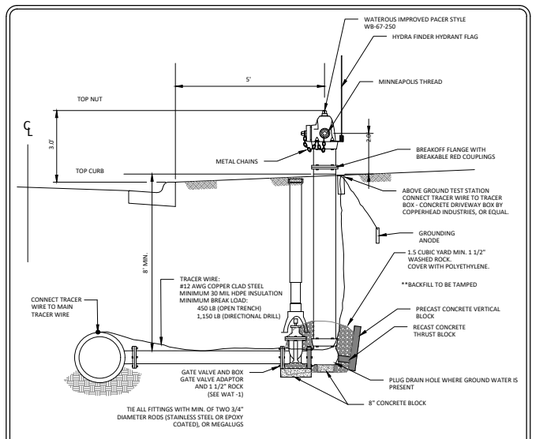
STANDARD DETAILS
GATE VALVE AND BOX
FRIDLEY, MINNESOTA
LAST REVISION: DEC 2018
CITY PLATE NO. WAT-1

NOTES:
1. SHAPE OF BACK OF BUTTRESS MAY VERY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.
2. DIMENSION C1,C2,C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°.
3. DIMENSION A1,A2,A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.
4. θ = 45° MINIMUM.
5. PLACE POLYETHYLENE BETWEEN CONCRETE & PIPE.

BUTTRESS DIMENSIONS						
PIPE SIZE	22 1/2° BEND		45° BEND		90° BEND	
	B_1	D_1	B_2	D_2	B_3	D_3
6"	1'-5"	1'-5"	1'-5"	1'-5"	2'-1"	1'-6"
8"	1'-5"	1'-5"	2'-1"	1'-6"	2'-8"	2'-0"
12"	1'-10"	1'-10"	3'-4"	2'-0"	4'-9"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-6"
20"	3'-6"	2'-8"	5'-6'	3'-4"	8'-4"	4'-0"
24"	4'-4"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"
30"	-	-	9'-3"	6'-0"	17'-0"	6'-0"

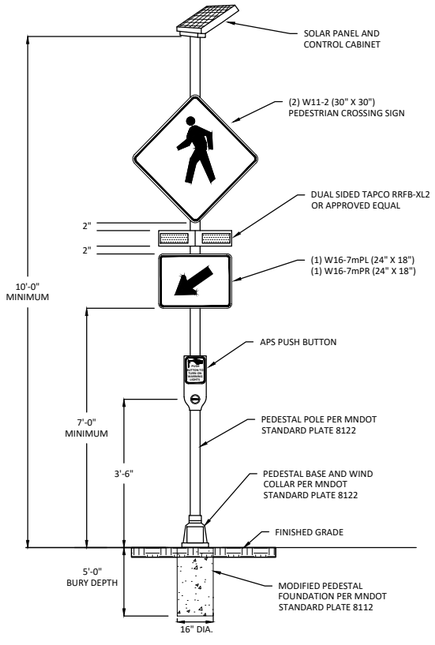


STANDARD DETAILS
CONCRETE THRUST BLOCKING
FRIDLEY, MINNESOTA
LAST REVISION: DEC 2018
CITY PLATE NO. WAT-6



NOTES:
1. HYDRANTS SHALL HAVE ONE 4 ½ INCH PUMPER NOZZLE AND TWO 2 ½ INCH SIDE NOZZLES.
2. HYDRANTS SHALL NOT BE MORE THAN ONE YEAR OLDER THAN YEAR OF INSTALLATION
3. FACTORY INSTALLED PLUGS REQUIRED WHENEVER HYDRANTS ARE INSTALLED IN AREAS WITH HIGH GROUNDWATER LEVEL, AS DETERMINED BY DEWATERING REQUIREMENTS AND THE ENGINEER.
4. ALL DUCTILE IRON WATERMAIN FITTINGS SHALL BE FUSION BONDED EPOXY COATED.
5. HYDRANTS SHALL BE MARKED WITH STAINLESS STEEL TAG FROM FACTORY
6. CONTRACTOR SHALL SUPPLY ONE HYDRANT FLAG
7. ALL HYDRANT LEADS ARE TO BE CONSTRUCTED WITH POLY-WRAPPED DIP, CLASS 52
8. PROVIDE POLYWRAP UP THE HYDRANT BARREL TO THE BREAK OFF FLANGE
9. ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL
10. HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: FLOW RATE OF 1,000 GPM OR MORE - GREEN; FLOW RATE BETWEEN 500 GPM AND 1,000 GPM - YELLOW; FLOW RATE OF 500 GPM OR LESS - RED
11. ABOVE GROUND TEST STATION SHALL BE COBRA T3 (T2-R7S) OR APPROVED EQUAL. OUTDOOR RATED PVC CONDUIT SHALL BE INSTALLED FROM BOTTOM OF TEST STATION TO 2' BELOW FINISHED GRADE
12. MIN 1 LB. DRIVE IN ANODE WITH MIN 20' WIRE LEAD.
13. CONNECTORS SHALL BE DRY CONN DIRECT BURY LUG AQUA, PRO-TRACE DB OR APPROVED EQUAL

STANDARD DETAILS
HYDRANT
FRIDLEY, MINNESOTA
LAST REVISION: MAR 2019
CITY PLATE NO. WAT-8



RECTANGULAR RAPID FLASHING BEACON
(RRFB) PEDESTRIAN CROSSING SYSTEM

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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2023 STREET REHABILITATION PROJECT
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STANDARD DETAILS

SHEET 50 OF 75

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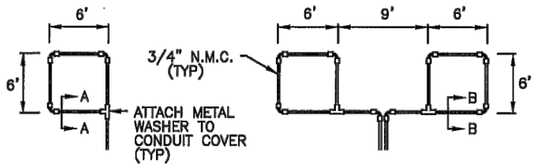
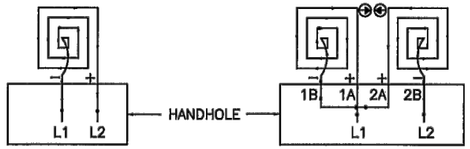


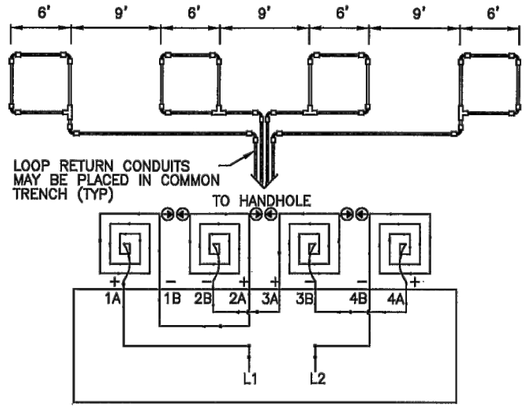


LOOP DETECTOR DETAIL 'A'
(LOOP PHASING FOR SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO L2

LOOP DETECTOR DETAIL 'B'
(LOOP PHASING FOR SERIES CONNECTION)

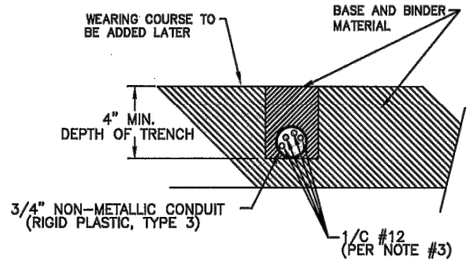


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO 3A
3B TO 4A
4B TO L2

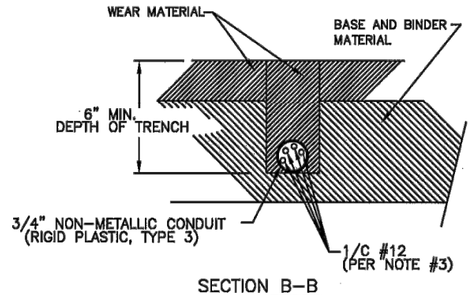
SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR SERIES CONNECTION)



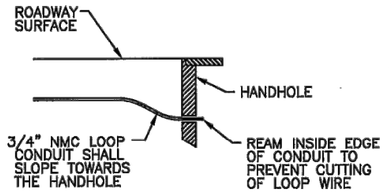
SECTION A–A

DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B–B

DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's
SIGNAL BASE NO.
SIGNAL FACE NO.
LUMINAIRE NO.
CONTROLLER AND CABINET
CONTROLLER AND CABINET – IN PLACE
HANDHOLE
HANDHOLE – IN PLACE
RIGID STEEL CONDUIT (RSC)
RIGID STEEL CONDUIT (RSC) – IN PLACE
SIGNAL FACE WITH BACKGROUND SHIELD
SIGNAL FACE W/O BACKGROUND SHIELD
SIGNAL FACE – IN PLACE
PEDESTRIAN INDICATORS
PEDESTRIAN INDICATORS – IN PLACE
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE
PEDESTRIAN PUSH BUTTON STATION
TRAFFIC SIGNAL PEDESTAL
TRAFFIC SIGNAL PEDESTAL – INPLACE
TRAFFIC SIGNAL POLE AND MAST ARM
TRAFFIC SIGNAL POLE AND MAST ARM – IN PLACE
STREET LIGHT POLE AND LUMINAIRE
STREET LIGHT POLE AND LUMINAIRE – IN PLACE
MAST ARM AND LUMINAIRE
MAST ARM AND LUMINAIRE – INPLACE
WOOD POLE
WOOD POLE – IN PLACE
SOURCE OF POWER
RAILROAD SIGNAL – IN PLACE
RIGHT OF WAY LINE
CENTERLINE
EDGE OF ROADWAY
SHOULDERLINE
CURB LINE
STOP BAR
EMERGENCY VEHICLE PREEMPTION DETECTOR

ABBREVIATIONS

3–1(EG)	SIGNAL HEAD PHASE "3" – NO "1"	P2–1(EG)	PED INDICATION PHASE "2" – NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2–1(EG)	PUSH BUTTON PHASE "2" – NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2–1(EG)	DETECTOR PHASE "2" – NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE–EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

TABULATION OF SIGNAL QUANTITIES

[N]

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATION	
				SAP 002–XXX–XXX	LOCAL FUNDS
2545	SERVICE CABINET	EACH	1		
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1		
2565	TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1		

TRAFFIC SIGNAL STANDARD PLATES

THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

PLATE NO.	DESCRIPTION
8000 J	CHANNELIZERS, TYPE A, B, C (3 SHEETS)
8111 E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS)
8112 I	PEDESTAL FOUNDATION (FOR TRAFFIC CONTROL SIGNALS)
8118 D	SERVICE EQUIPMENT & POLE–TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8121 H	TRANSFORMER BASE & POLE BASE PLATE (2 SHEETS)
8122 F	PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT) (2 SHEETS)
8123 G	POLE & MAST ARM–LUMINAIRES & TRAFFIC LIGHTS ASSEMBLY (2 SHEETS)
8126 L	POLE FOUNDATION (PA90 & PA100)
8129 A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)

S.A.P. 002–XXX–XXX

NO	DATE	BY	CKD	APPR	REVISION

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: _____ DATE: _____

SIGNATURE: _____ LICENSE NO. _____

DRAWN BY _____ DATE _____

DESIGN BY _____ DATE _____

CHECKED BY _____ DATE _____

ANOKA COUNTY HIGHWAY DEPT.

SAP XXX-XX-XXX

TRAFFIC SIGNAL DETAILS AND STANDARD PLATES

SHEET XX OF XX SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

7071 University Avenue NE
Fridley, MN 55432

DESIGNED	NO.	ISSUED FOR	DATE
CRL		BID	04/25/2023
DRAWN CRL/JBQ			
CHECKED BJB			
CLIENT PROJ. NO. 2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
STANDARD DETAILS

SHEET 51 OF 75

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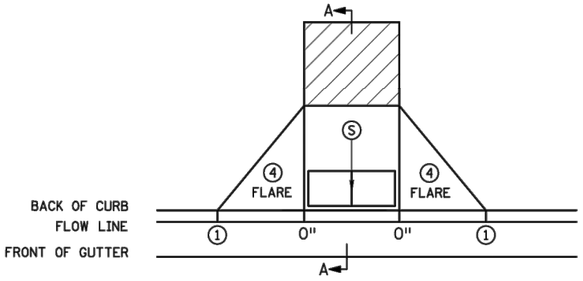
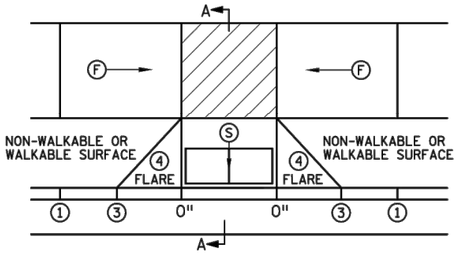


PERPENDICULAR



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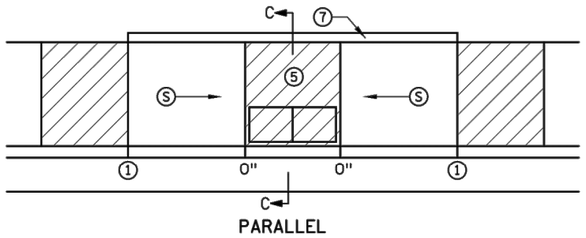
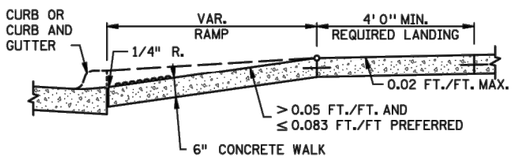
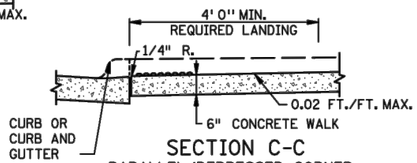


PARALLEL



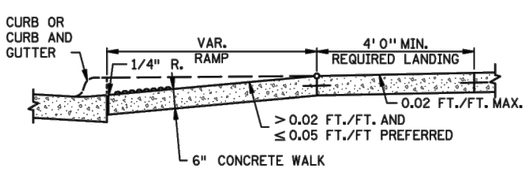
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



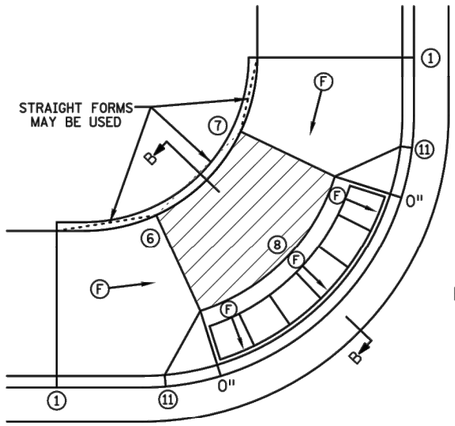
SECTION C-C

PARALLEL/DEPRESSED CORNER

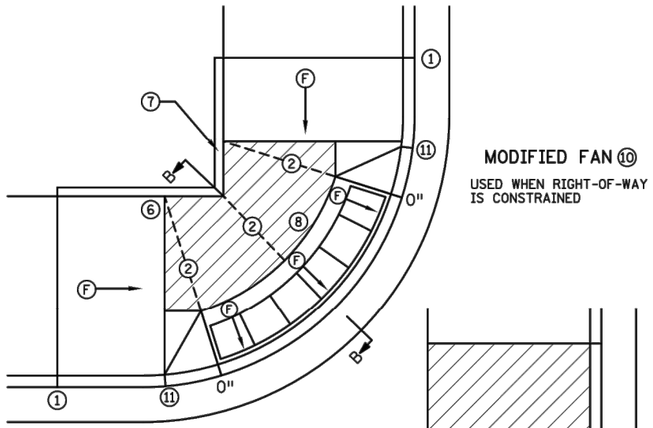


SECTION B-B

FAN

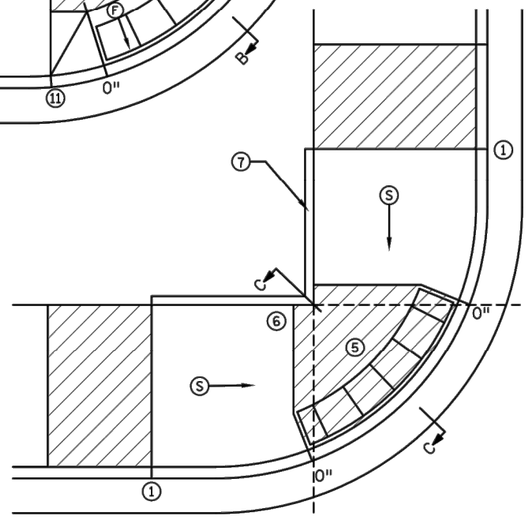


FAN ⑩

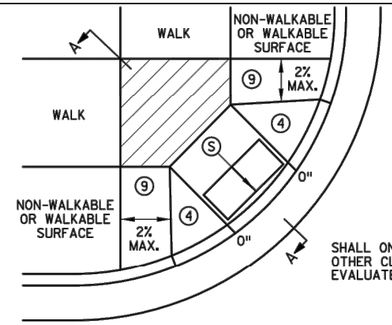


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY
IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

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.

(S) 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%.

(F) 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 PARS.

X" CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 1 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

Brandon Bradley

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL	NO.	ISSUED FOR	DATE
DRAWN	CRL/JBQ		BID	04/25/2023
CHECKED	BJB			
CLIENT PROJ. NO.	2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
PEDESTRIAN CURB RAMP DETAILS

SHEET 52 OF 75

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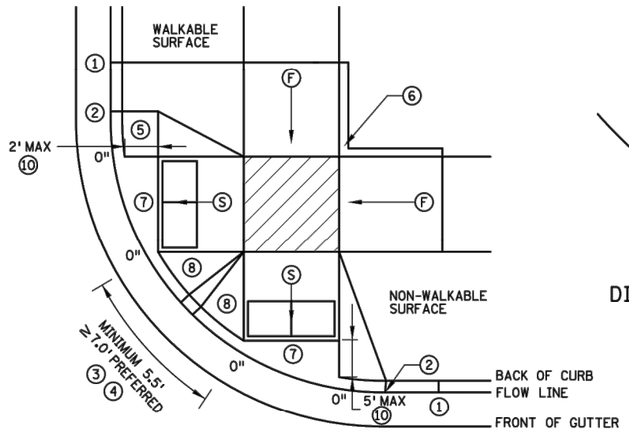
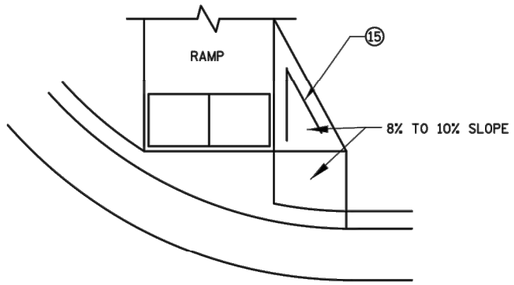
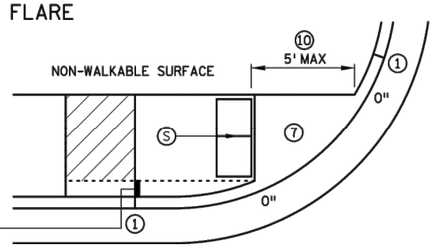


COMBINED DIRECTIONAL

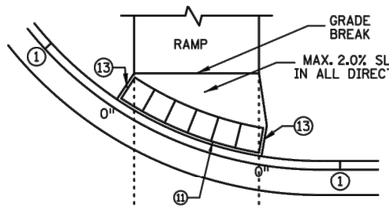


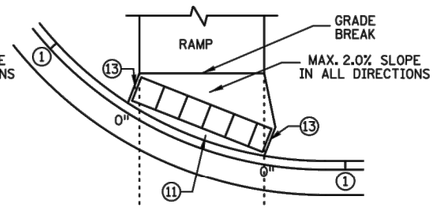
DIRECTIONAL RAMP WALKABLE FLARE



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.

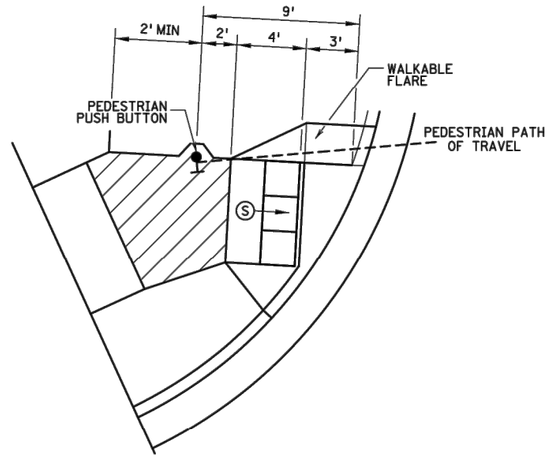
STANDARD ONE-WAY DIRECTIONAL ⑨





DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

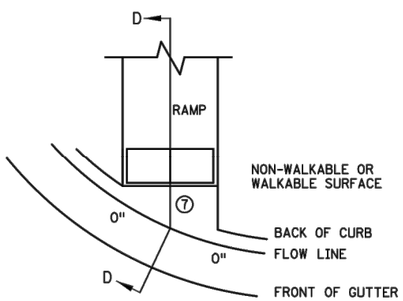
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

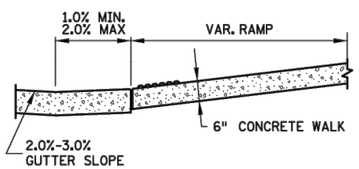


SEMI-DIRECTIONAL RAMP ③④⑨

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)





SECTION D-D

CURB FOR DIRECTIONAL RAMPS ⑭

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.

(S) 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%.

(F) 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 PARS.

X" CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 2 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. | (T.H.) | SHEET NO. OF SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

Brandon Bradley

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL	NO.	ISSUED FOR	DATE
DRAWN	CRL/JBQ		BID	04/25/2023
CHECKED	BJB			
CLIENT PROJ. NO.	2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
PEDESTRIAN CURB RAMP DETAILS

SHEET 53 OF 75

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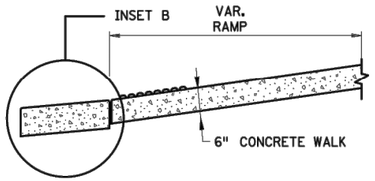
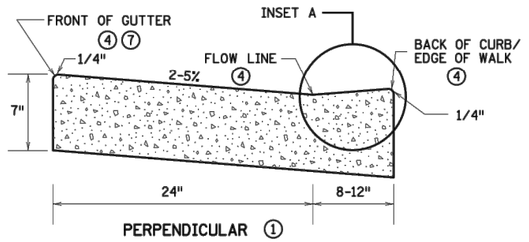
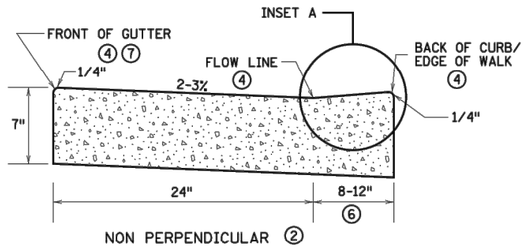




PERPENDICULAR ①



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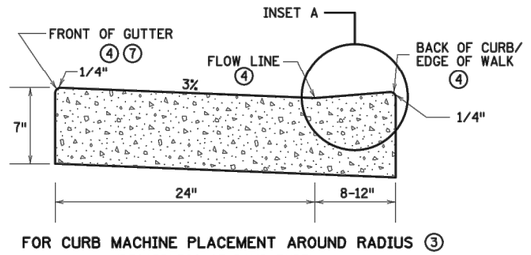
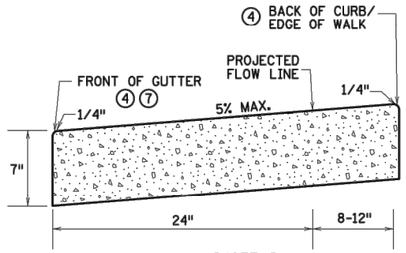
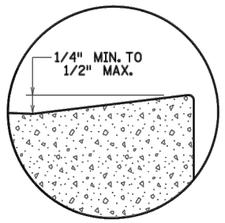


FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

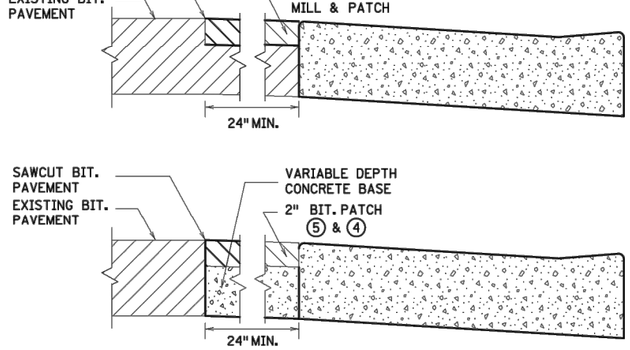
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



INSET B
OUTFLOW GUTTER ⑧



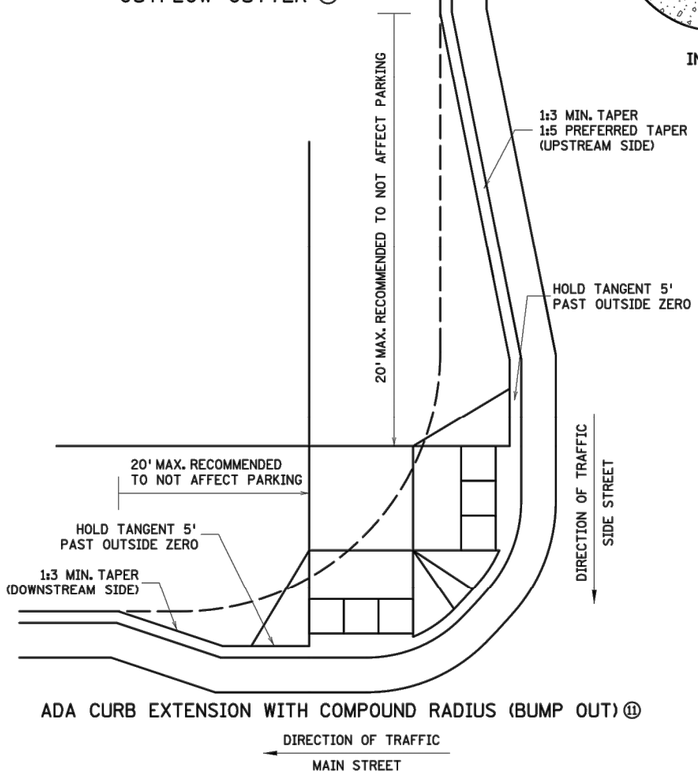
INSET A



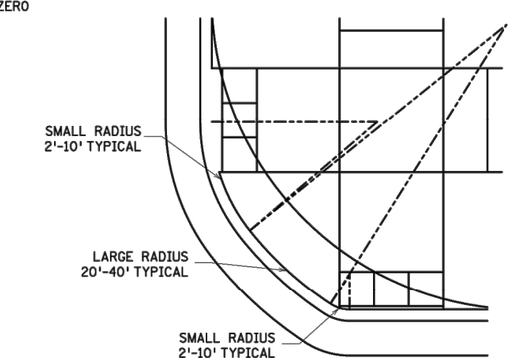
ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



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.

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

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 3 OF 6
APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL	NO.	ISSUED FOR	DATE
DRAWN	CRL/JBQ		BID	04/25/2023
CHECKED	BJB			
CLIENT PROJ. NO.	2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
PEDESTRIAN CURB RAMP DETAILS

SHEET 54 OF 75

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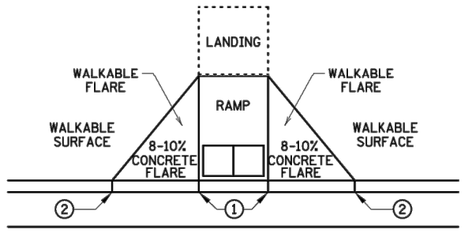
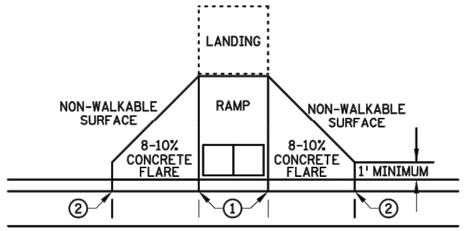
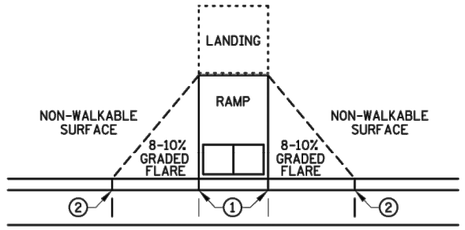


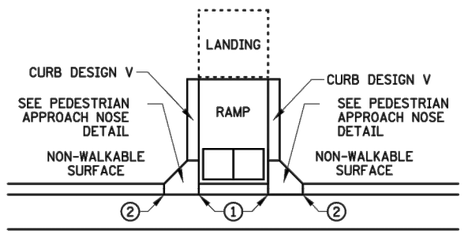
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

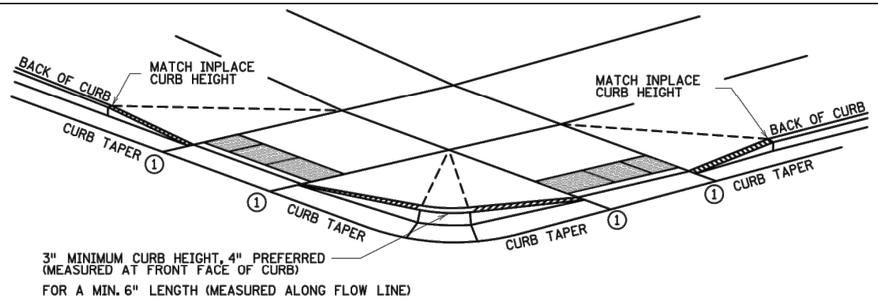


GRADED FLARES

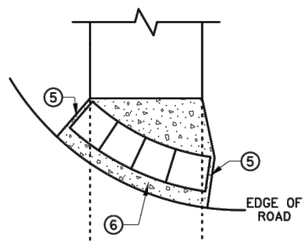


RETURNED CURB ④

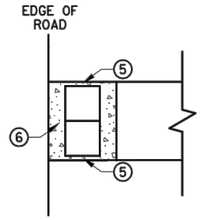
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

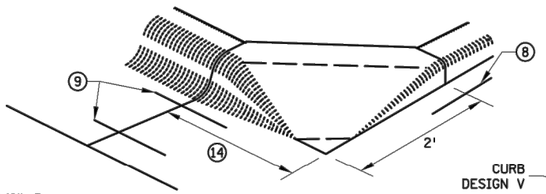


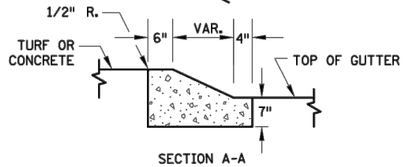
RADIAL DETECTABLE WARNING

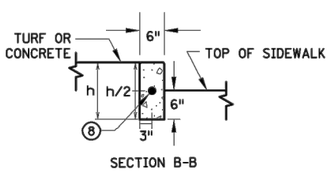


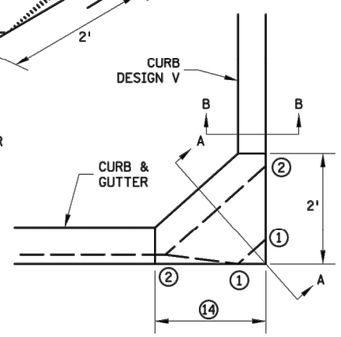
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

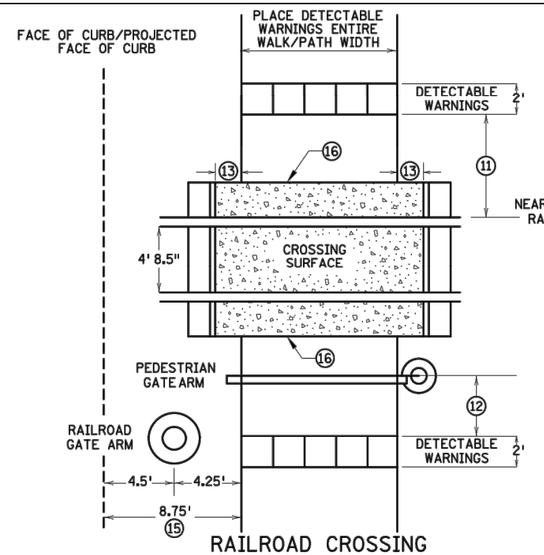








PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.

② FULL CURB HEIGHT.

③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

④ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS. AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.

⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.

⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 4 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

Brandon Bradley

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
PEDESTRIAN CURB RAMP DETAILS

SHEET 55 OF 75

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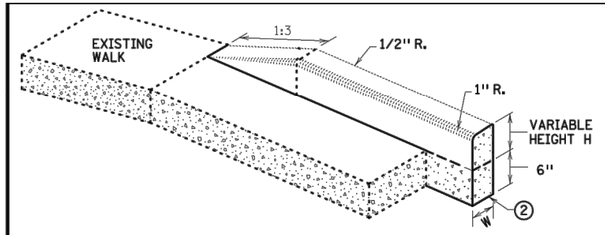
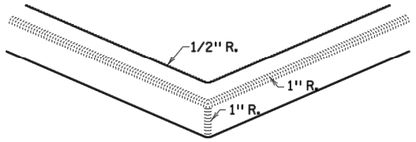


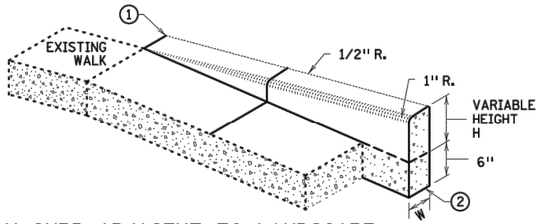
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS



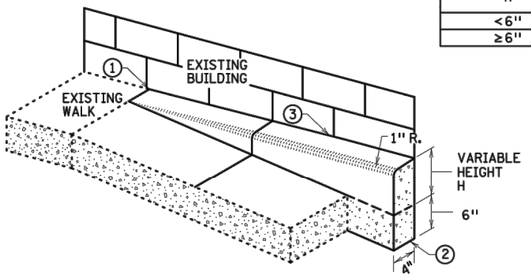
V CURB INTERSECTION

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

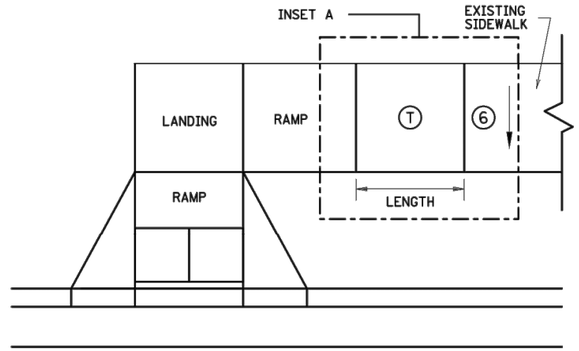


V CURB ADJACENT TO LANDSCAPE

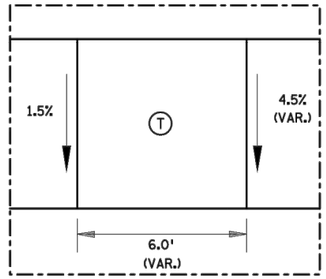
CURB OUTSIDE SIDEWALK LIMITS



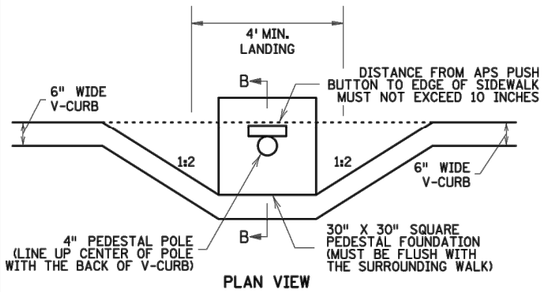
V CURB ADJACENT TO BUILDING OR BARRIER



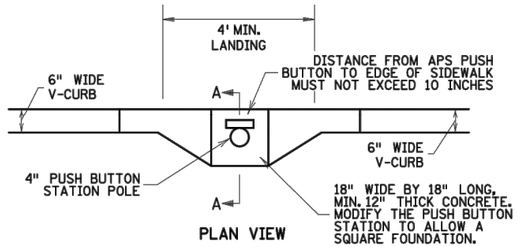
TRANSITION PANEL ④⑤



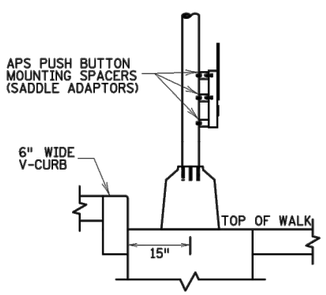
INSET A



PLAN VIEW

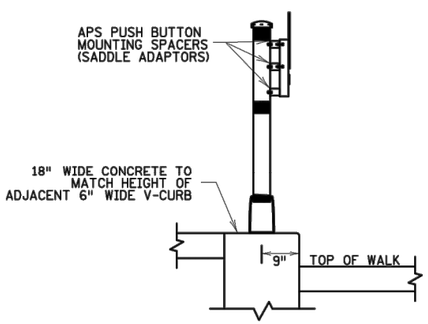


PLAN VIEW



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 ½" 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 PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
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.

- (S) 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%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- (T) 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.

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 5 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

Brandon Bradley

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	NO.	ISSUED FOR	DATE
CRL		BID	04/25/2023
DRAWN CRL/JBQ			
CHECKED BJB			
CLIENT PROJ. NO. 2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
PEDESTRIAN CURB RAMP DETAILS

SHEET 56 OF 75

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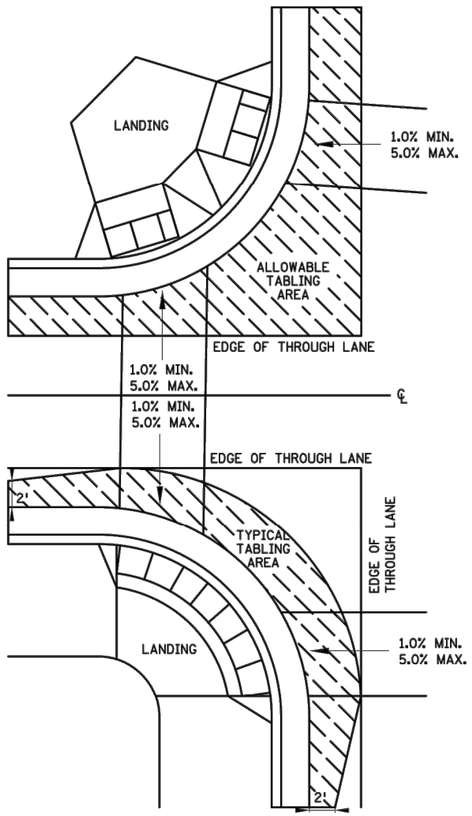
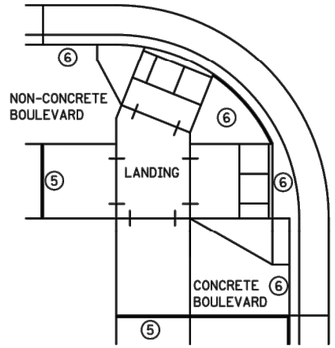
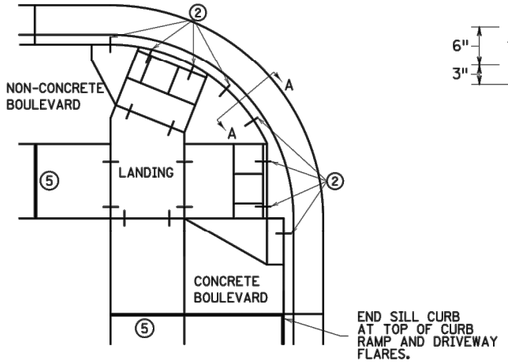


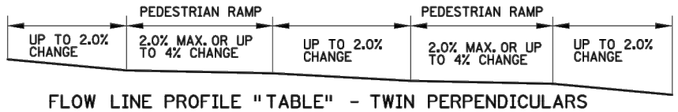
CURB LINE AND ROAD CROSSING ADJUSTMENTS



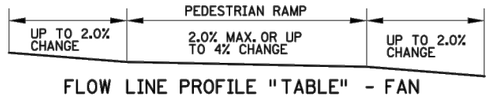
EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS



CURB LINE REINFORCEMENT ④
PLACEMENT ON BITUMINOUS ROADWAYS



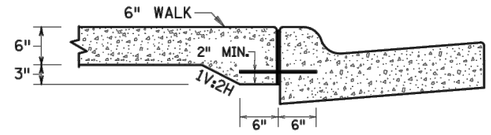
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



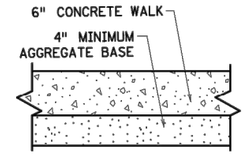
FLOW LINE PROFILE "TABLE" - FAN

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

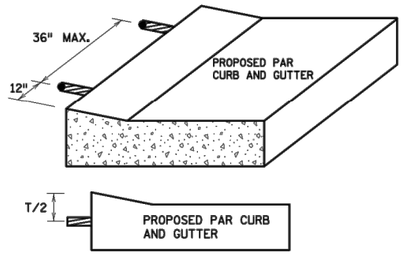
FLOW LINE PROFILE RAISE - FAN



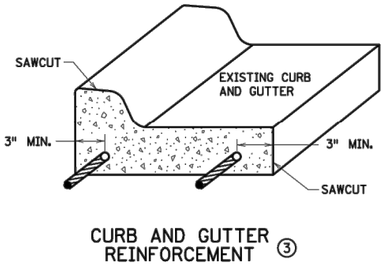
SECTION VIEW A-A
THICKENED SECTION
THROUGH CURB RAMP FLARES



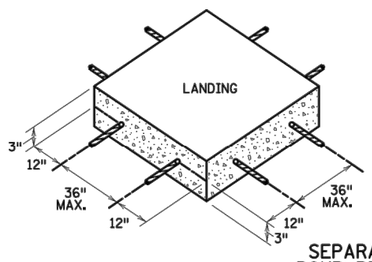
TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

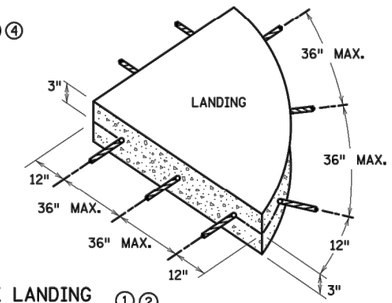


CURB RAMP REINFORCEMENT DETAILS ②④



CURB AND GUTTER
REINFORCEMENT ③





SEPARATE LANDING
POUR REINFORCEMENT ①②

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) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.

② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (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.

③ 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.

④ THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.

⑤ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

⑥ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 | 6 OF 6

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

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PEDESTRIAN CURB RAMP DETAILS

SHEET 57 OF 75

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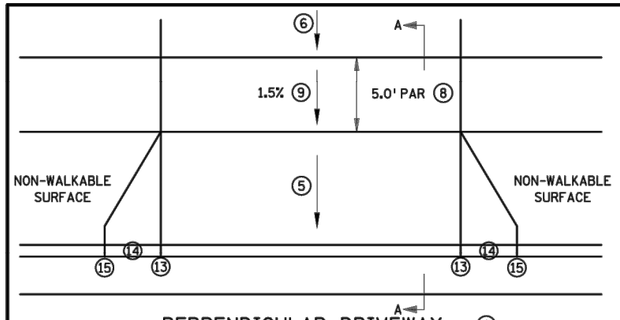
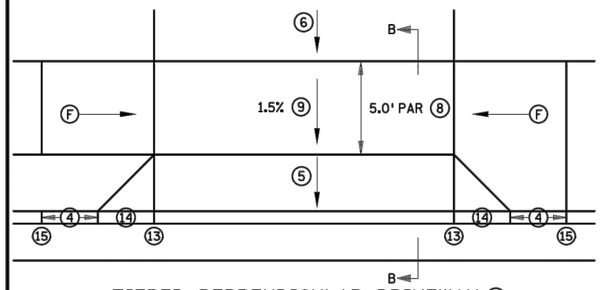
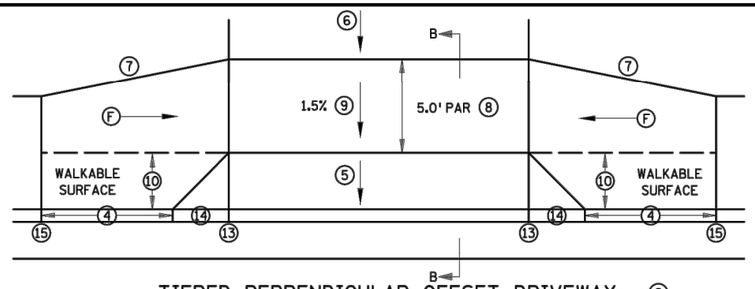


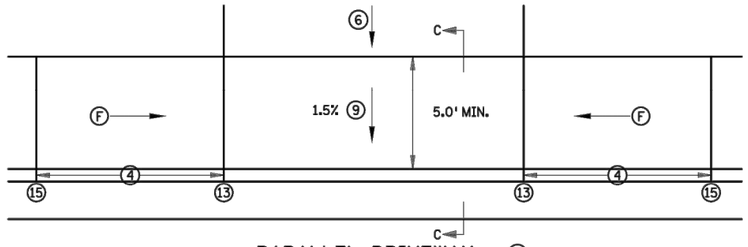
PERPENDICULAR DRIVEWAY ①



TIERED PERPENDICULAR DRIVEWAY ②



TIERED PERPENDICULAR OFFSET DRIVEWAY ②



PARALLEL DRIVEWAY ③

LEGEND	
F	INDICATES DRIVEWAY 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%

NOTES:

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURE 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%. RAMPS 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.

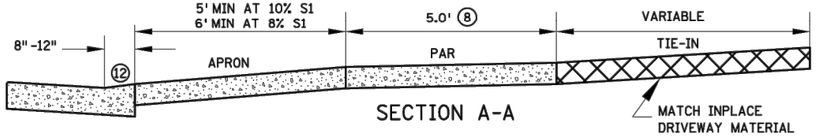
⑭ 3' LONG AT 8-10% PREFERRED FOR INITIAL CURB TAPER. REDUCE CURB TAPER SLOPE IF NECESSARY TO MATCH ADJACENT SIDEWALK GRADES.

⑮ MATCH FULL CURB HEIGHT.

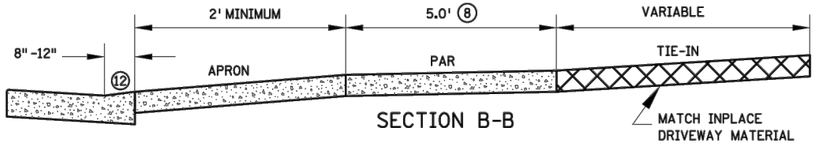
⑯ 1:2 TAPER RATE ON INTEGRAL DRIVEWAY APRONS.

⑰ SEE SHEET 4 FOR WHEN 6" WALK IS REQUIRED.

WITH 4" CURB HEIGHT;
3' MIN AT 10% S1
4' MIN AT 8% S1
WITH 6" CURB HEIGHT;
5' MIN AT 10% S1
6' MIN AT 8% S1



SECTION A-A



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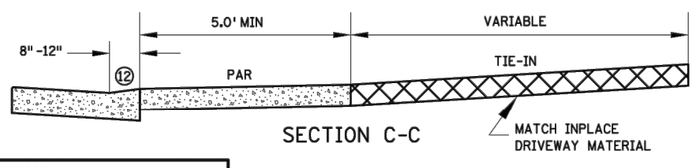

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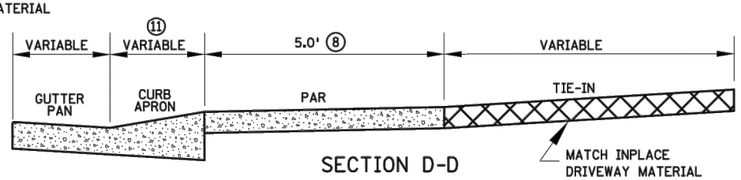

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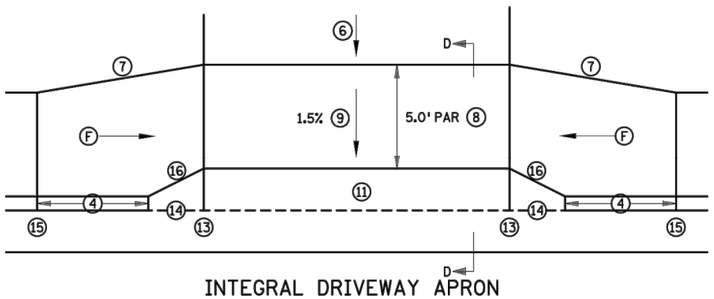
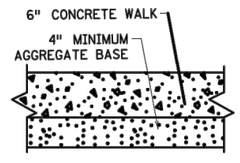
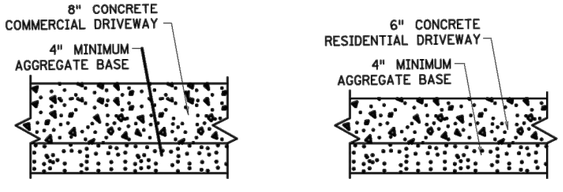


INTEGRAL DRIVEWAY APRON



TYPICAL SIDEWALK SECTION ⑰



TYPICAL DRIVEWAY SECTIONS

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.254 | 1 OF 4

APPROVED: 11-04-2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

SAP 127-319-009
SAP 127-353-002
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SAP 127-354-001
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811 Know what's below. Call 811 before you dig.

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
DRIVEWAY AND SIDEWALK DETAILS

SHEET 58 OF 75

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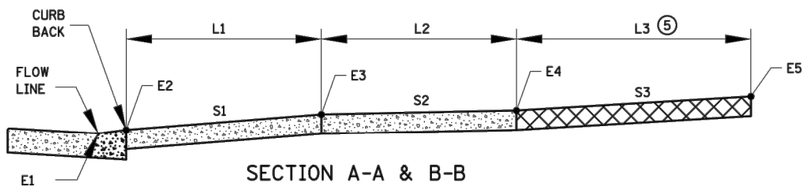
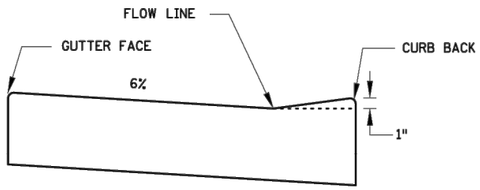
DRIVEWAY TABLE ①

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



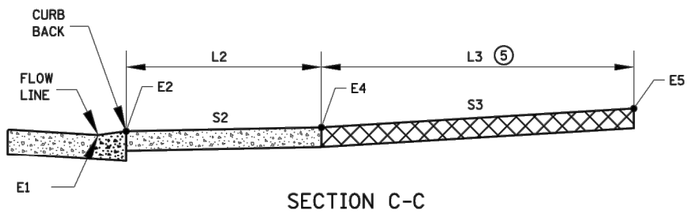
SECTION A-A & B-B

(REFER TO PREVIOUS SHEET)



DW CURB TYPE 1

STANDARD CURB AT DRIVEWAY



SECTION C-C

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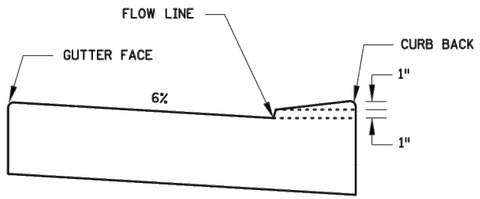
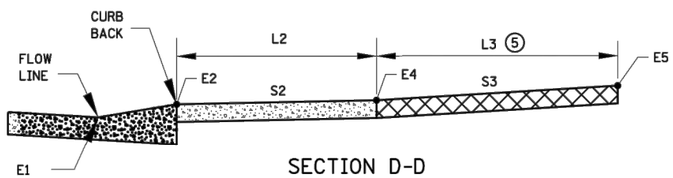


DW CURB TYPE 2

VERTICALLY CONSTRAINED



SECTION D-D

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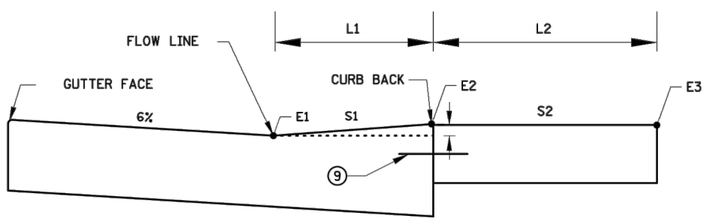

INTEGRAL DRIVEWAY APRON (IDA)

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.

TYPICAL INTEGRAL DRIVEWAY APRON ⑦

CURB TYPE	L1 FT	E2	S1 ⑧ %
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

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.254 | 2 OF 4

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

DRIVEWAY AND SIDEWALK DETAILS

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

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SAP 127-353-002
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Brandon Bradley

City of Fridley

7071 University Avenue NE
Fridley, MN 55432

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DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT

CITY PROJECT NO. ST2023-01

DRIVEWAY AND SIDEWALK DETAILS

SHEET 59 OF 75

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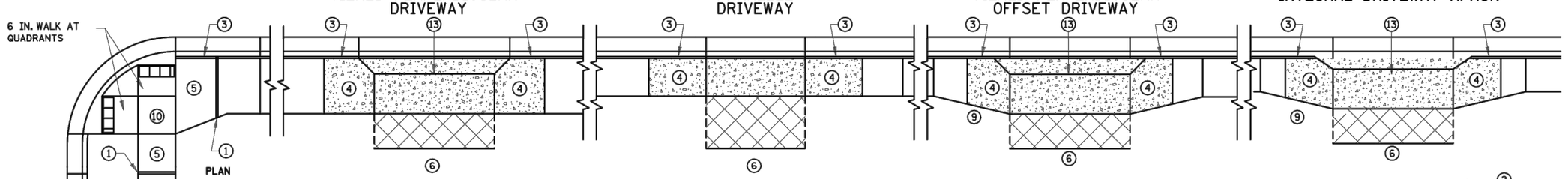
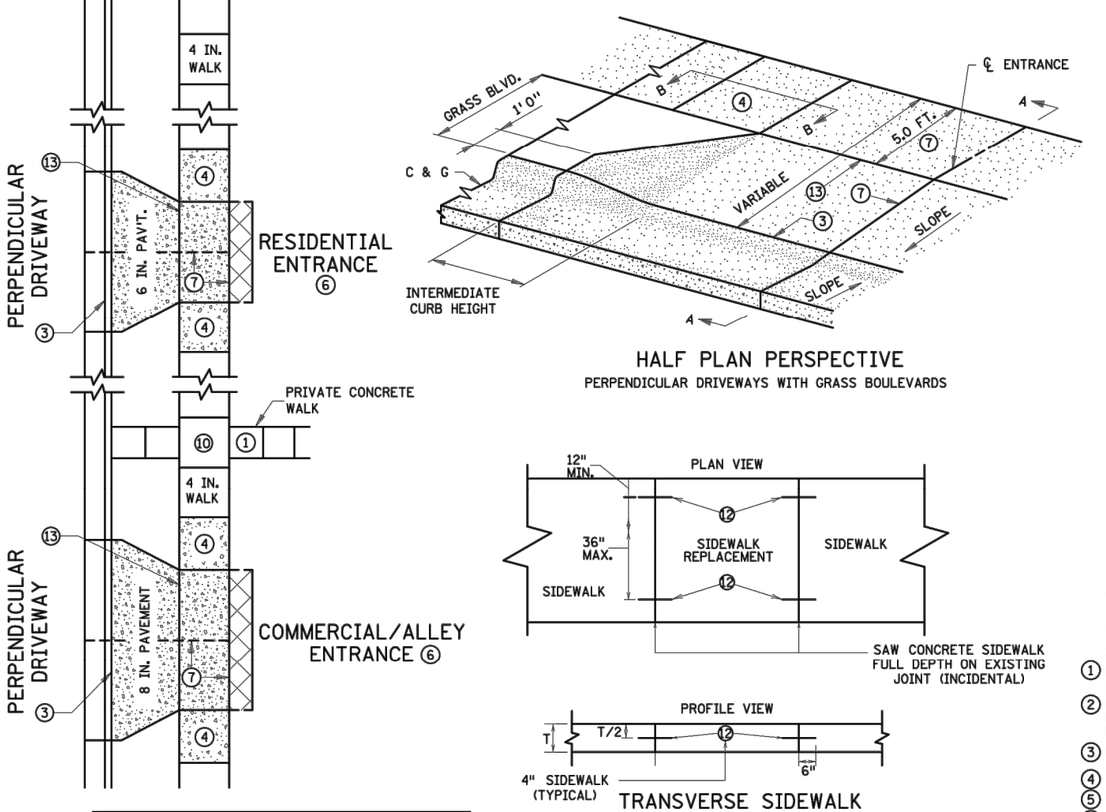
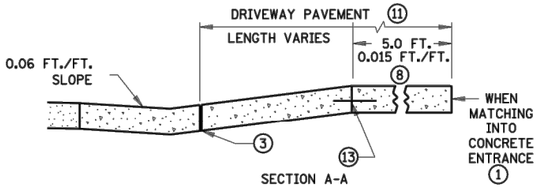


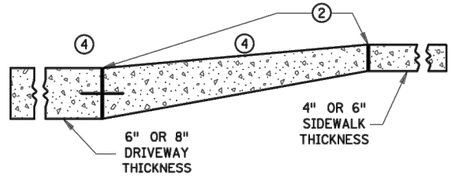


HALF PLAN PERSPECTIVE

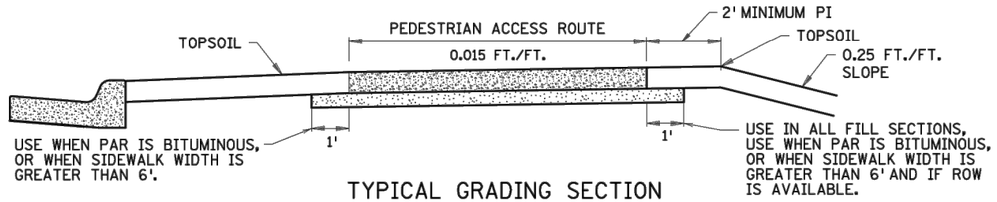
PERPENDICULAR DRIVEWAYS WITH GRASS BOULEVARDS



SECTION THRU DRIVEWAY



SECTION THRU SIDEWALK THICKNESS TRANSITION



TYPICAL GRADING SECTION

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

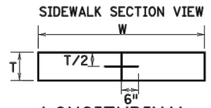
TRANSVERSE SIDEWALK TIE BAR REINFORCEMENT

RETROFITS ONLY

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.



LONGITUDINAL SIDEWALK REINFORCEMENT JOINTS

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.

① 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.

② CONSTRUCT WITH EXPANSION MATERIAL MNDOT PER 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.

③ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

④ TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS. IF THERE IS A CONSTRUCTION JOINT AND NO EXPANSION IS USED, INSTALL TIE BARS.

⑤ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.

⑥ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.

⑦ 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.

⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.

⑨ 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.

⑩ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.

⑪ CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SECTIONS SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. ENGINEER'S APPROVAL REQUIRED FOR MONOLITHIC PLACEMENTS.

⑫ 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.

⑬ 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.

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JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.254 | 3 OF 4

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

THOMAS STYRBICKI
STATE DESIGN ENGINEER

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CITY PROJECT NO. ST2023-01

DRIVEWAY AND SIDEWALK DETAILS

SHEET 60 OF 75

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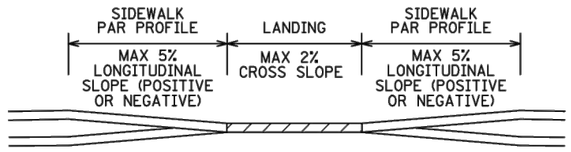
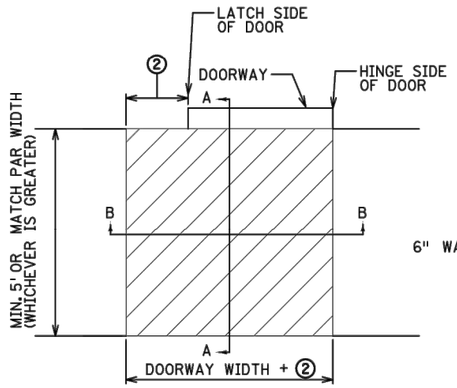
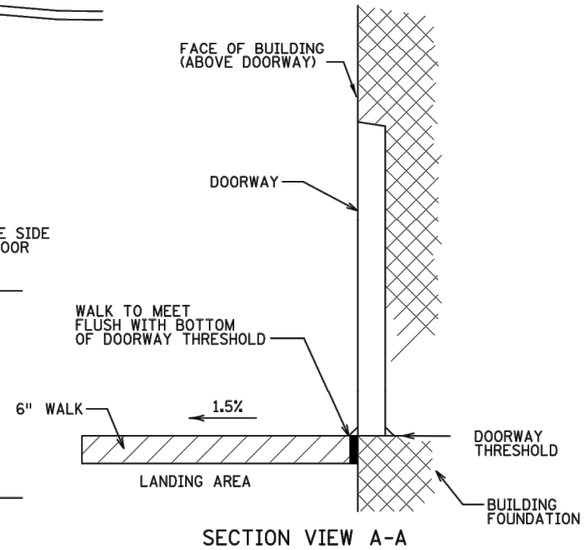


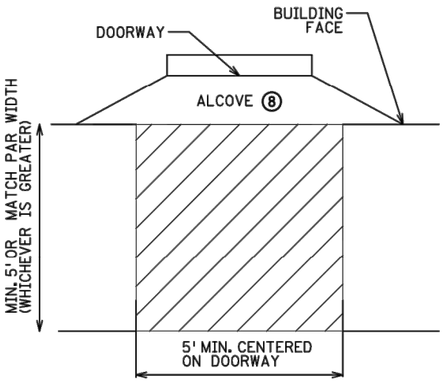
SECTION VIEW B-B



PLAN VIEW DOORWAY

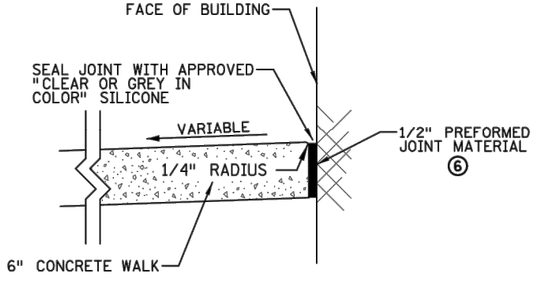


SECTION VIEW A-A

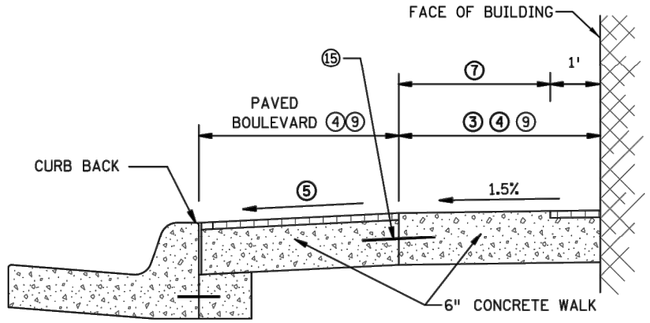


PLAN VIEW DOORWAY WITH ALCOVE

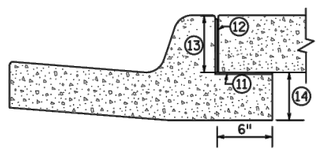
SIDEWALK LANDING REQUIREMENTS ①



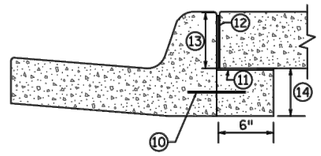
BUILDING JOINT SEAL (INCIDENTAL)



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 ½" 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. CONRETE PANEL SIZE SHOULD NOT EXCEED 1½ : 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. 1' MINIMUM FROM ADJACENT CONCRETE 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 (¼ 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.

REVISION:

APPROVED: 11-04-2021
JEFFREY PERKINS
OPERATIONS DIVISION

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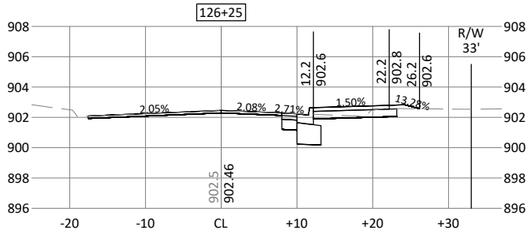

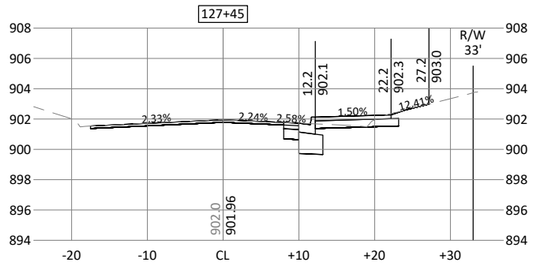

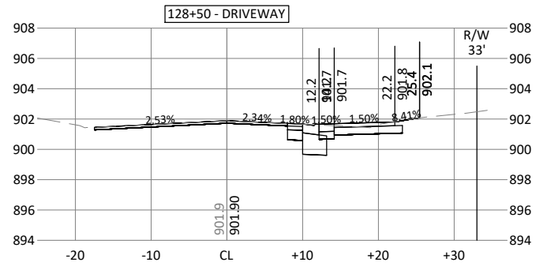

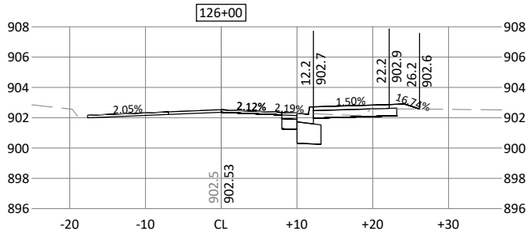

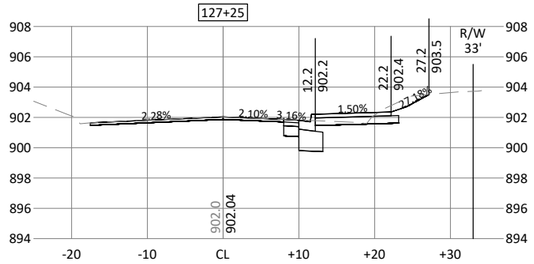

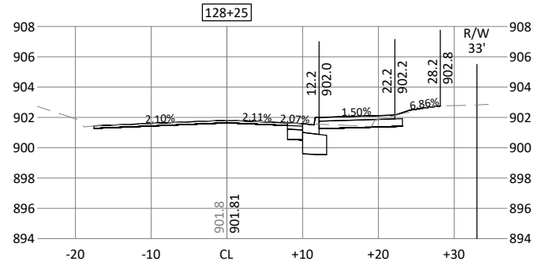

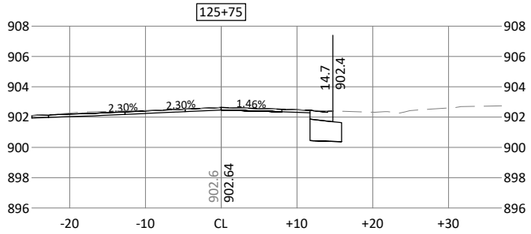

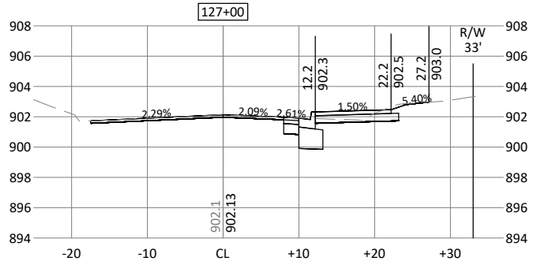

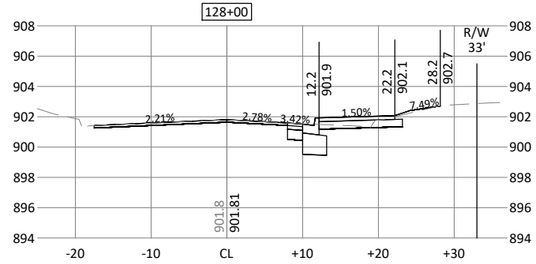

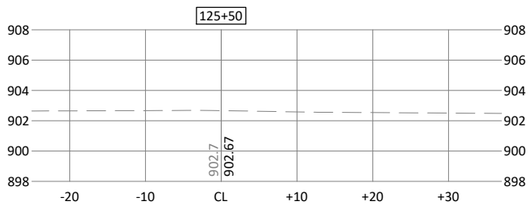

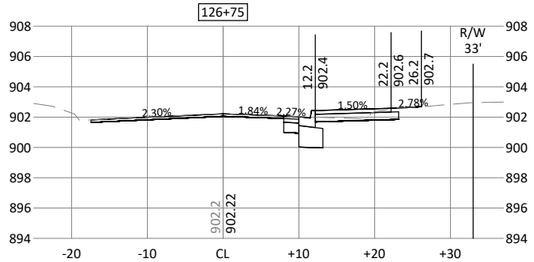

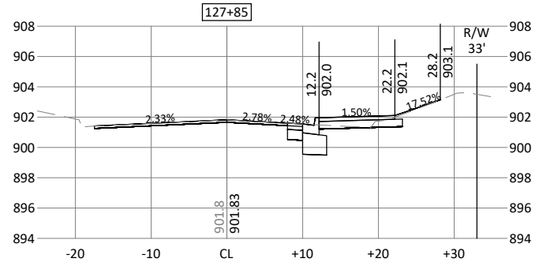

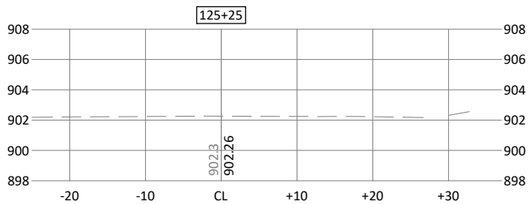

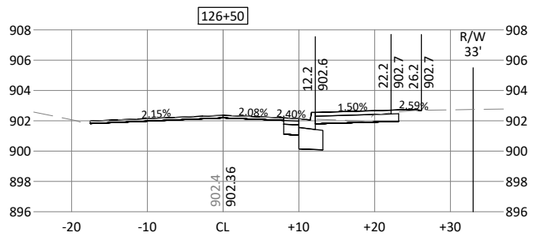

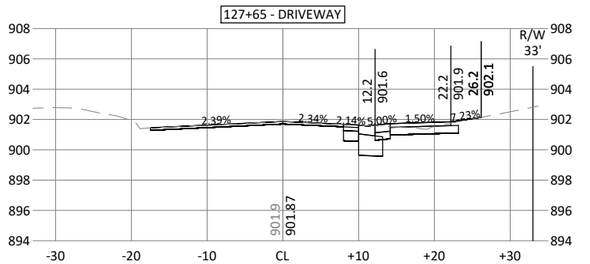

SAP 127-319-009
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Brandon Brodhag

BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CROSS SECTIONS
STINSON BOULEVARD TRAIL (1 OF 8)

SHEET 62 OF 75

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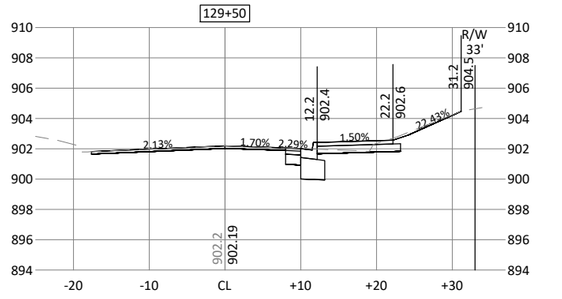

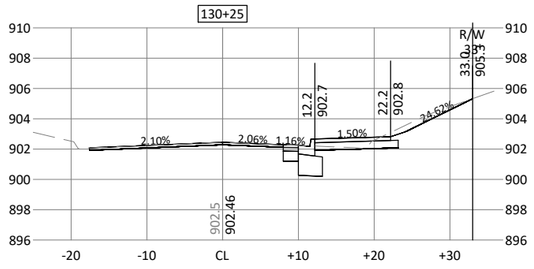

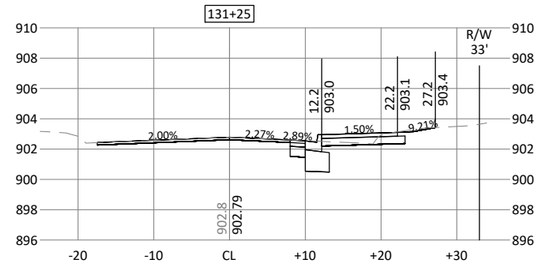

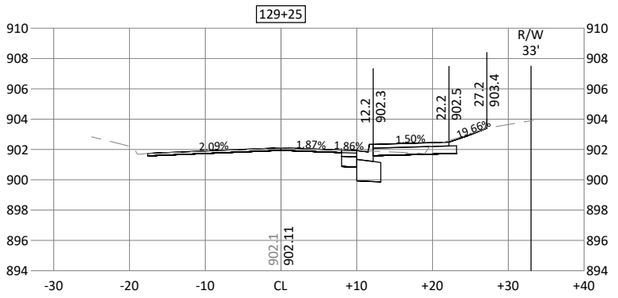

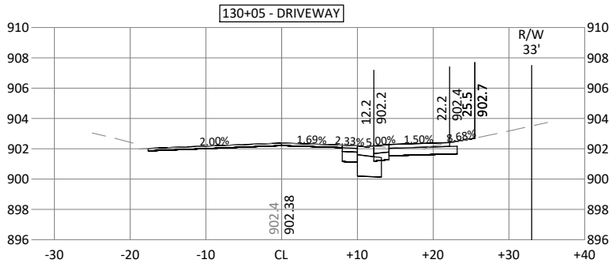

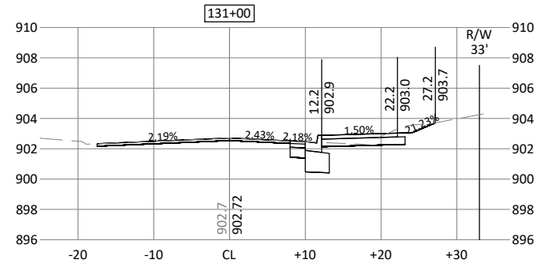

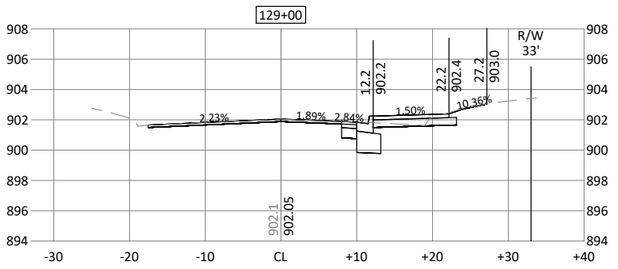

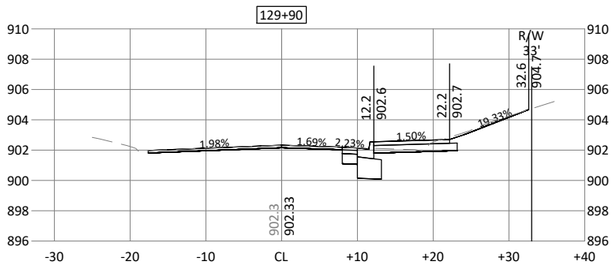

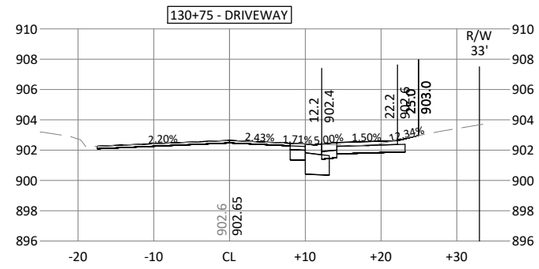

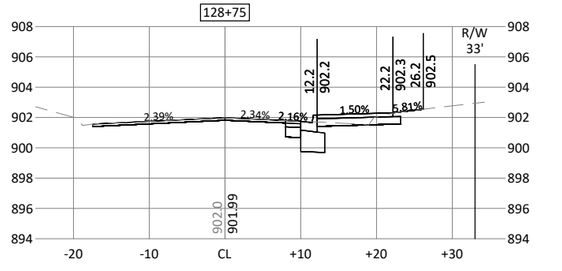

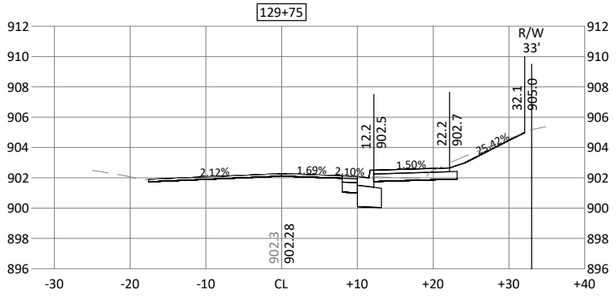

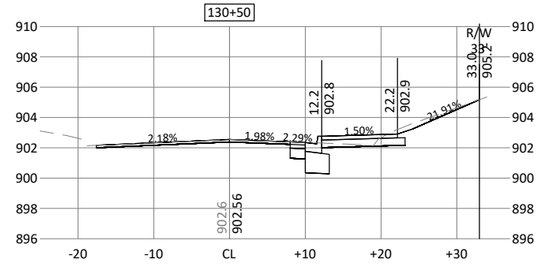

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STINSON BOULEVARD TRAIL (2 OF 8)

SHEET 63 OF 75

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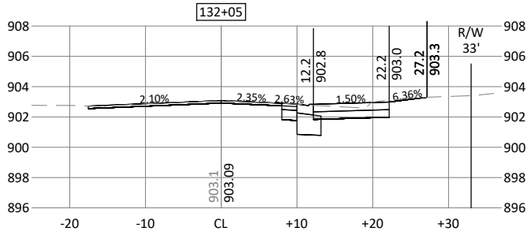

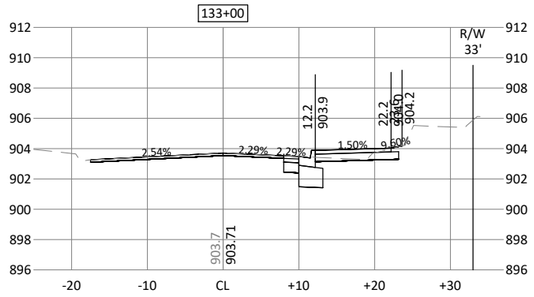

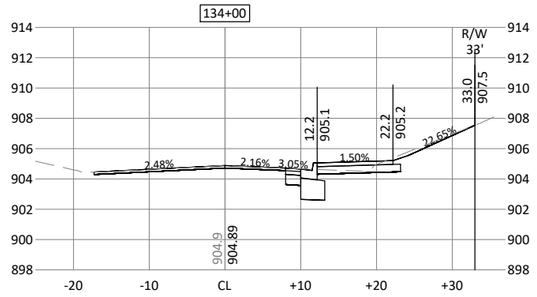

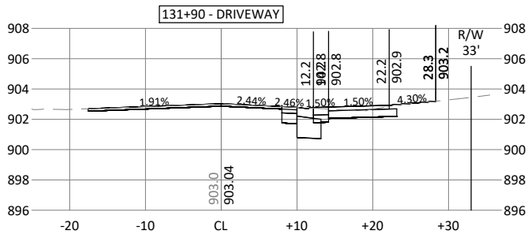

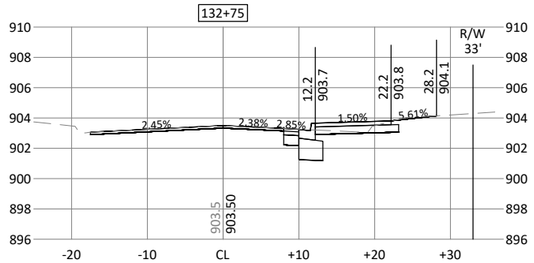

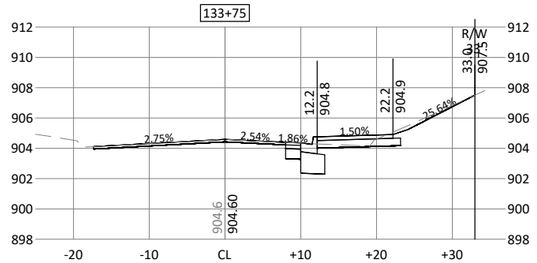

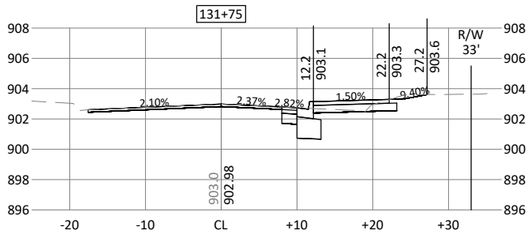

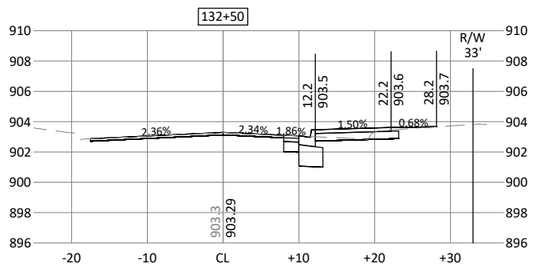

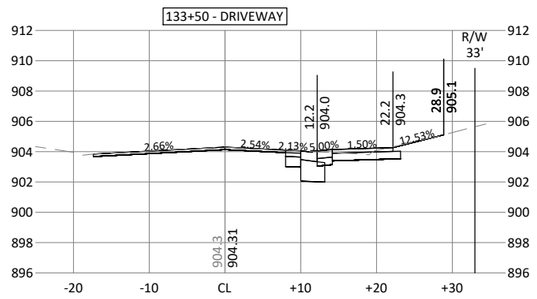

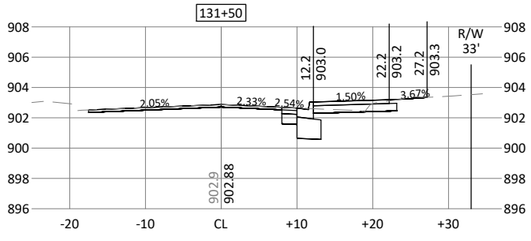

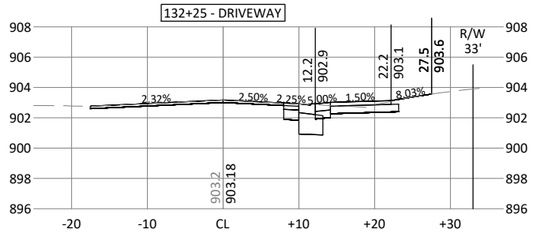

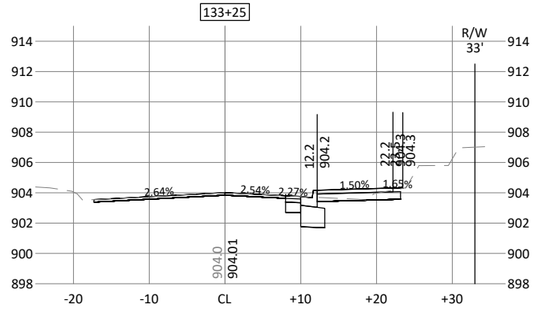

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CROSS SECTIONS
STINSON BOULEVARD TRAIL (3 OF 8)

SHEET 64 OF 75

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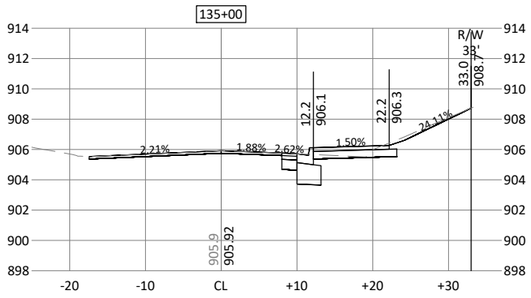

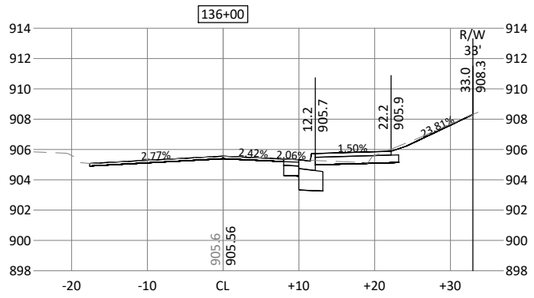

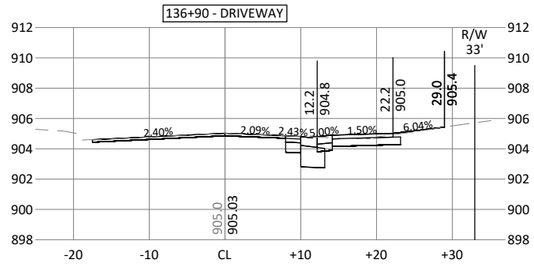

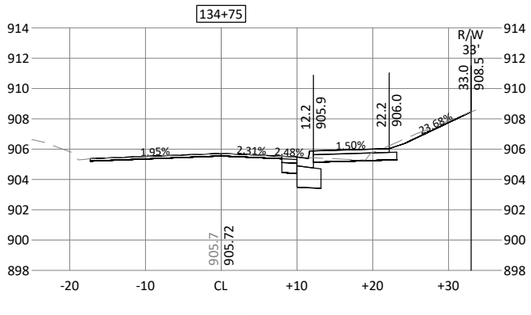

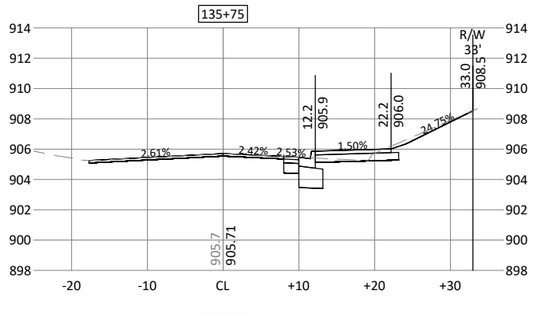

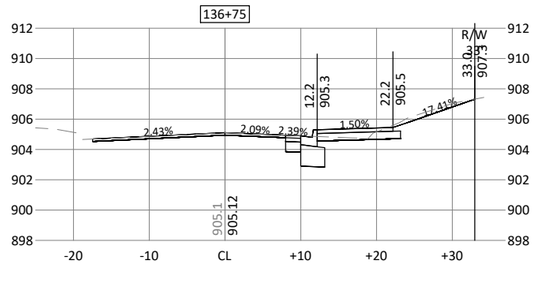

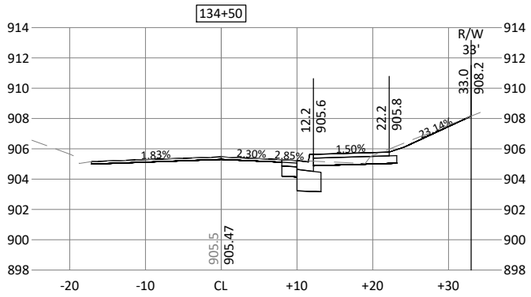

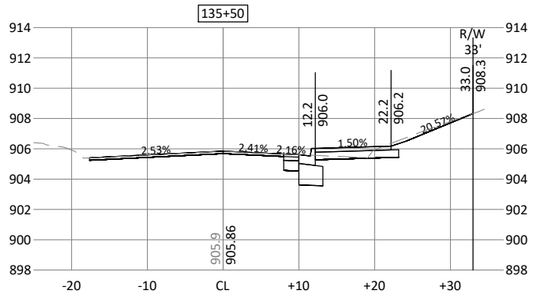

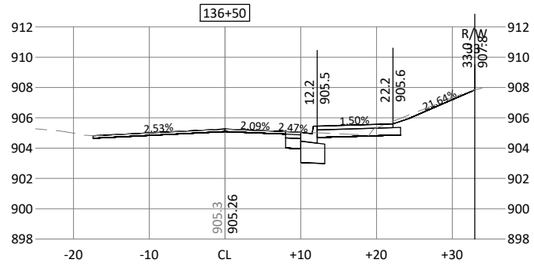

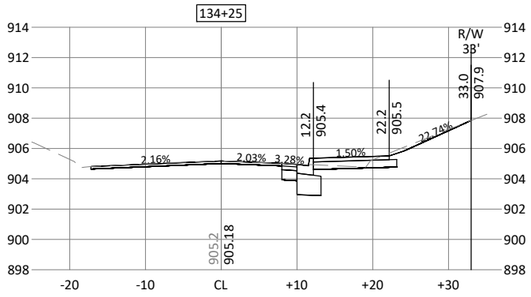

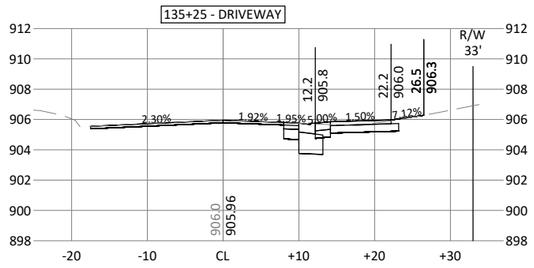

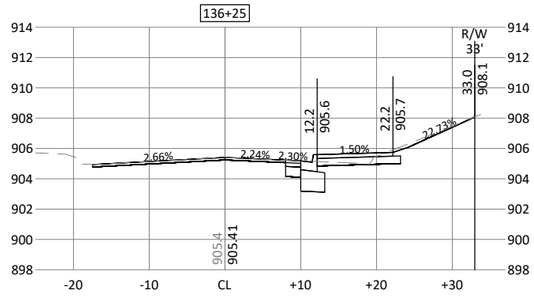

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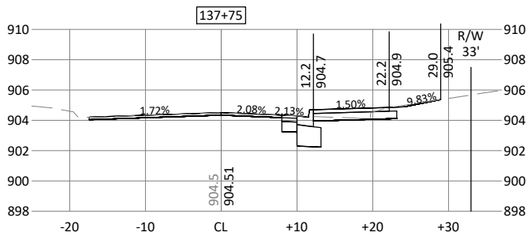
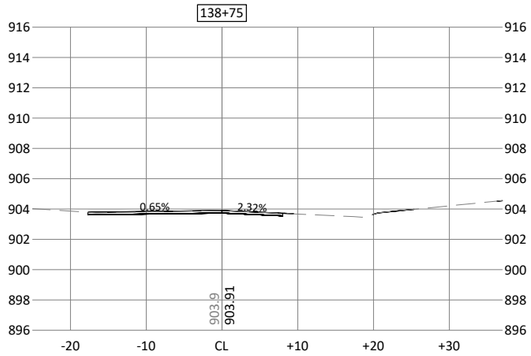
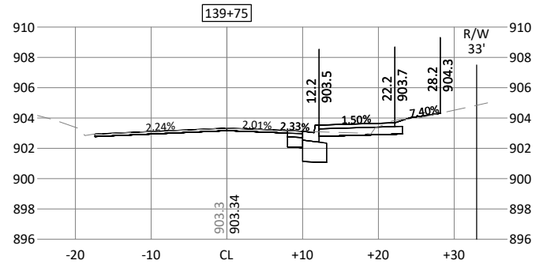
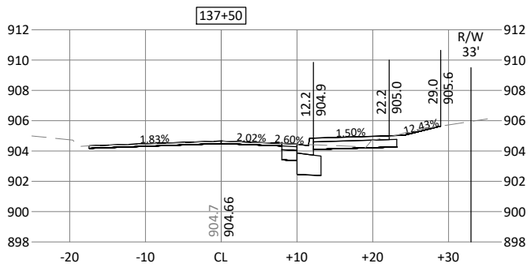
STINSON BOULEVARD TRAIL (4 OF 8)

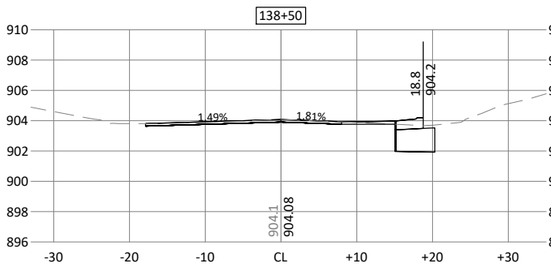
SHEET 65 OF 75

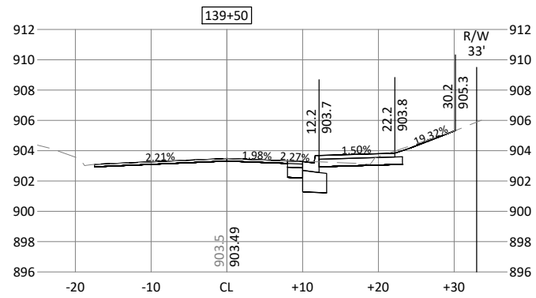


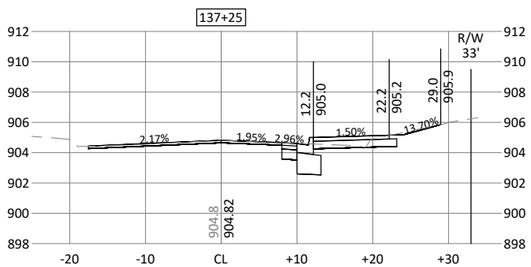


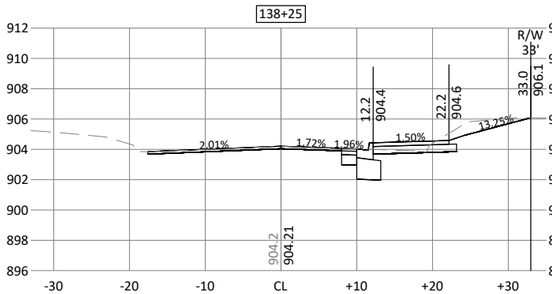


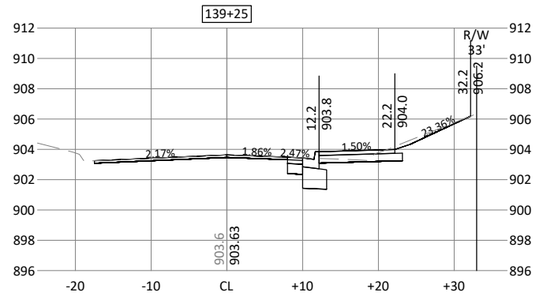


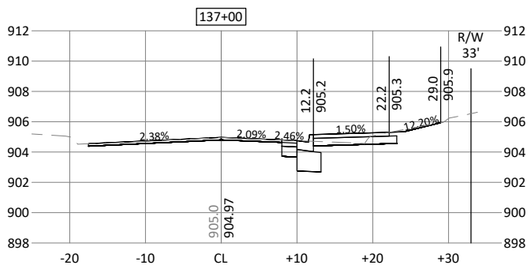


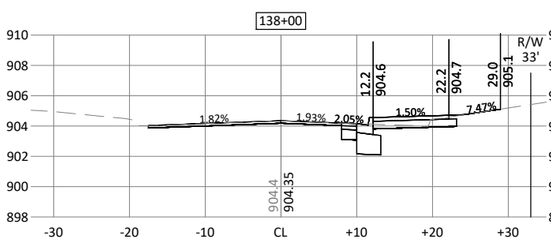


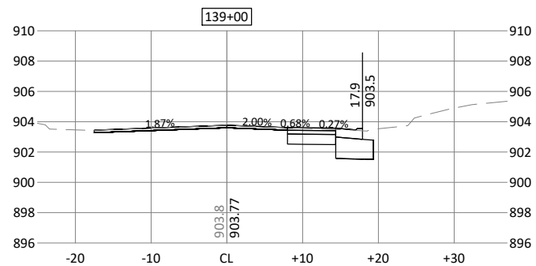












SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

HORZ. 0 25 50 SCALE FEET

VERT. 0 5 10 SCALE FEET

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Brandon Brodhag

BRANDON J. BRODHAG
LIC. NO. 59297 DATE XX/XX/2023

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
CROSS SECTIONS
STINSON BOULEVARD TRAIL (5 OF 8)

SHEET 66 OF 75

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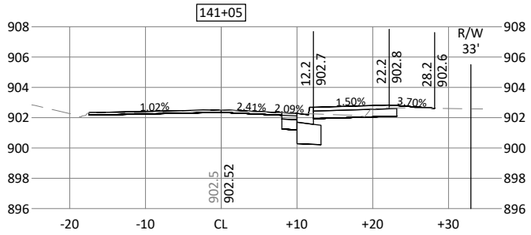

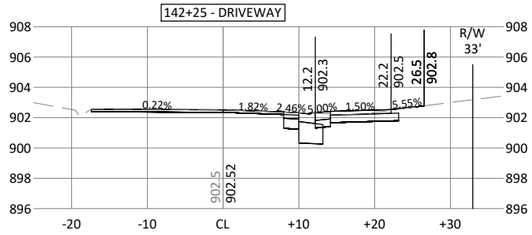

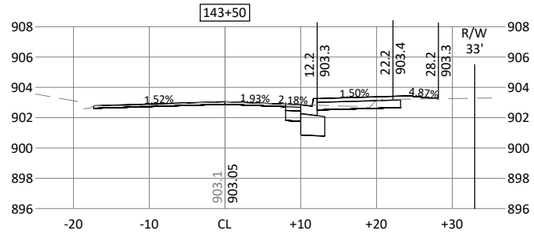

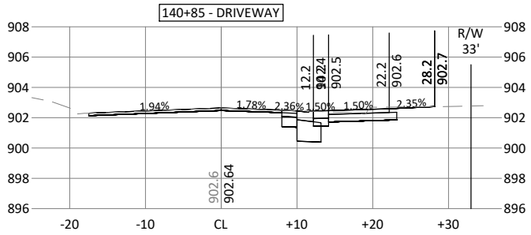

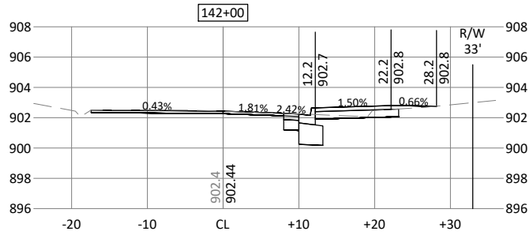

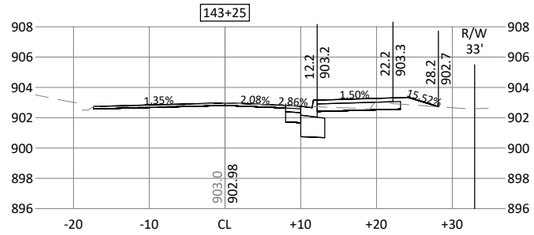

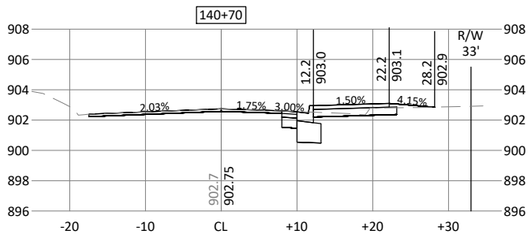

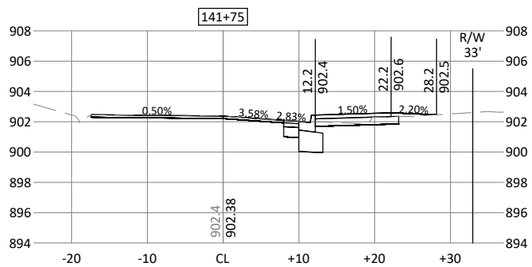

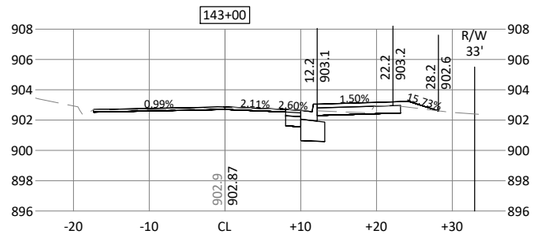

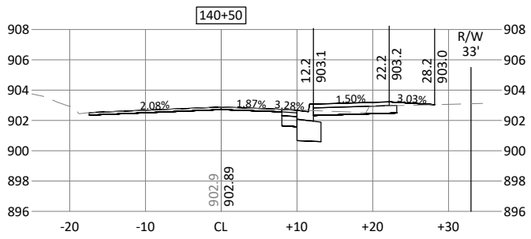

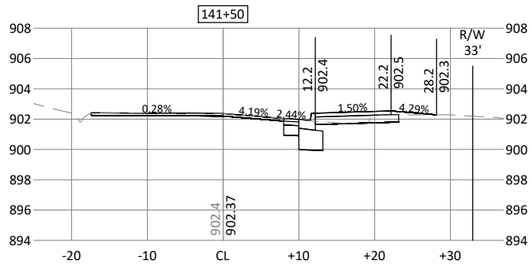

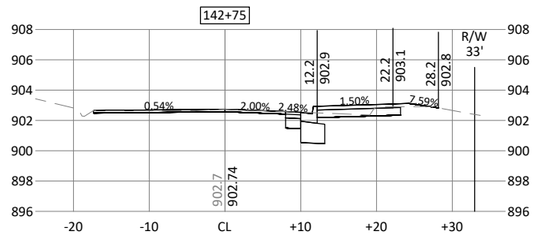

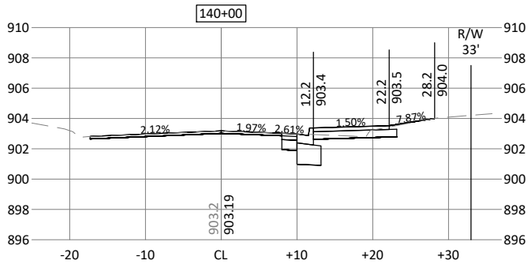

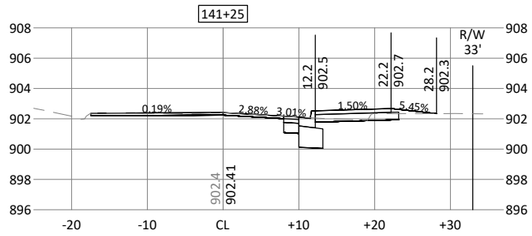

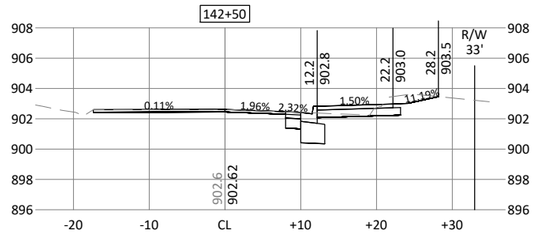

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SAP 127-353-002
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STINSON BOULEVARD TRAIL (6 OF 8)

SHEET 67 OF 75

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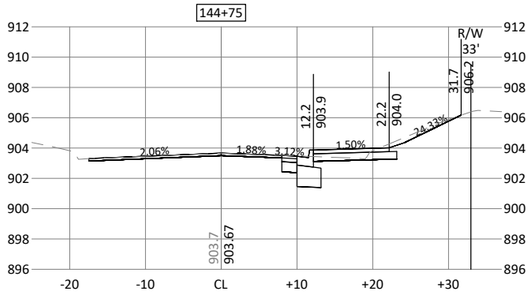

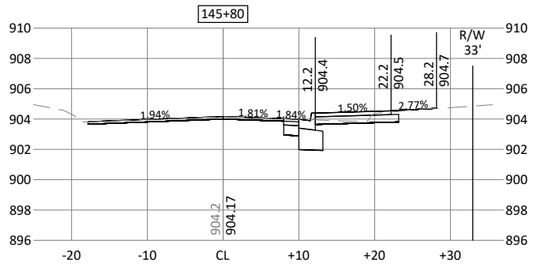

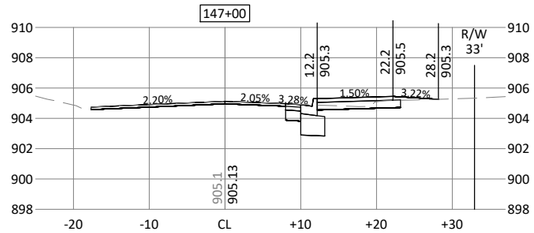

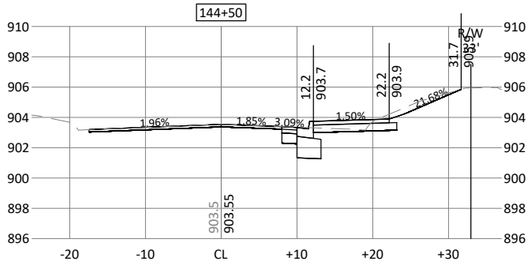

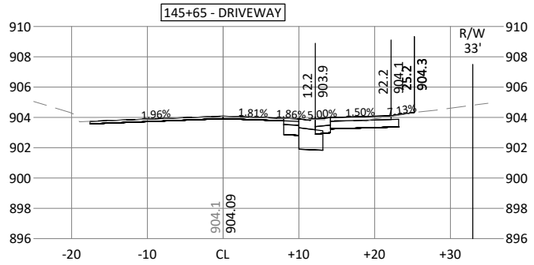

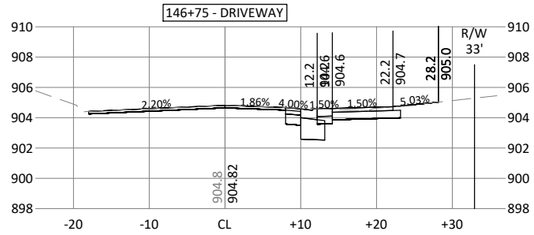

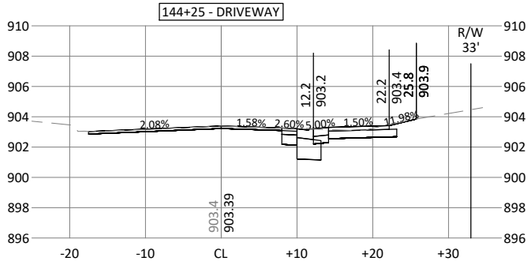

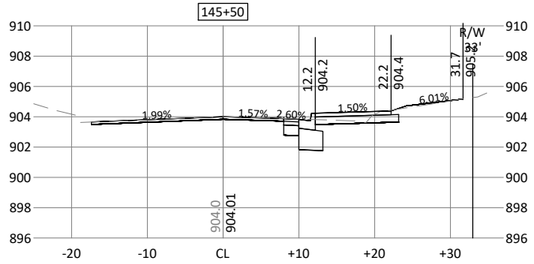

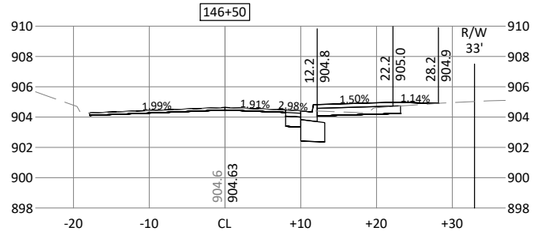

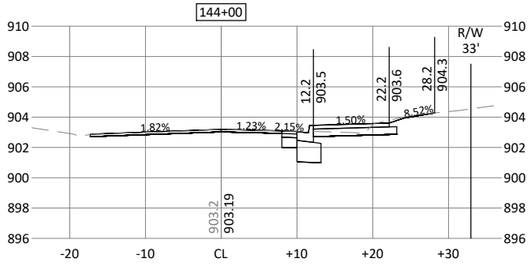

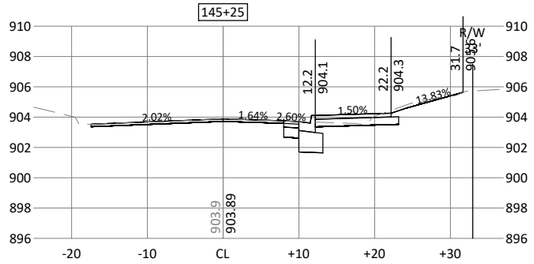

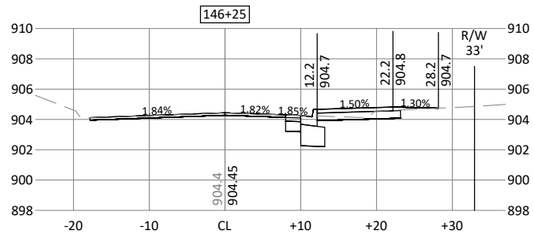

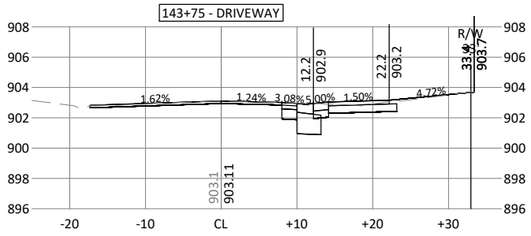

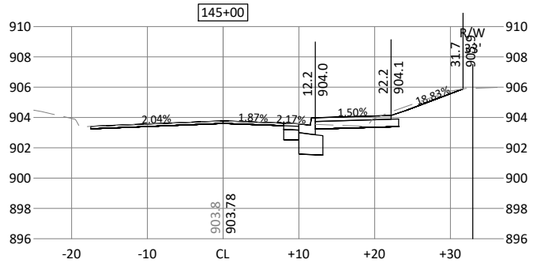

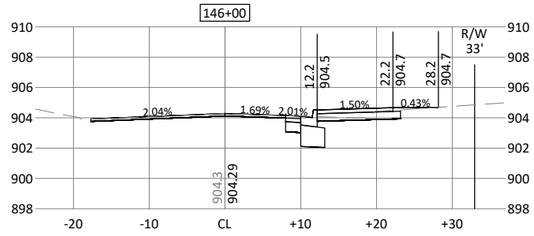

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SAP 146-242-002
SAP 127-354-001
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CITY PROJECT NO. ST2023-01
CROSS SECTIONS
STINSON BOULEVARD TRAIL (7 OF 8)

SHEET 68 OF 75

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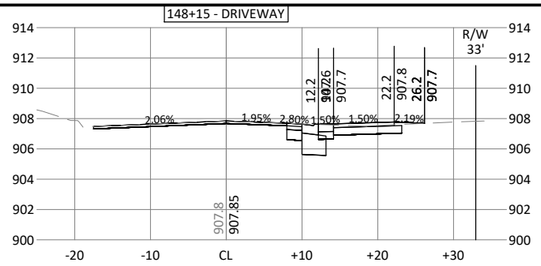
148+15 - DRIVEWAY



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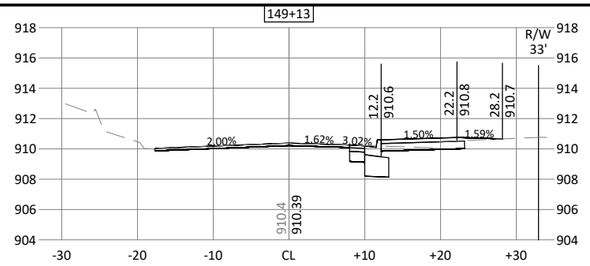

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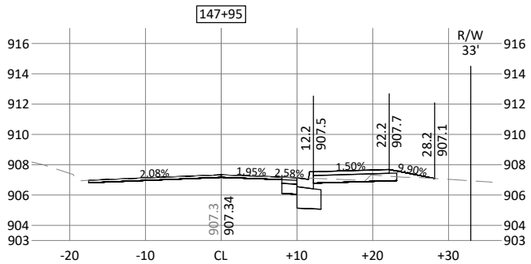

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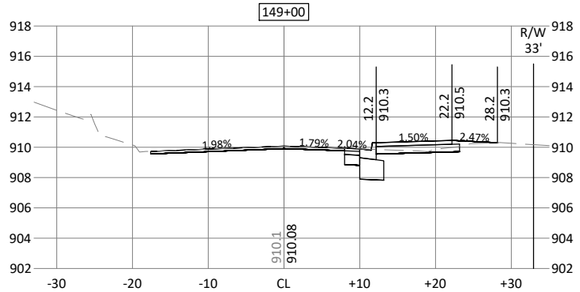

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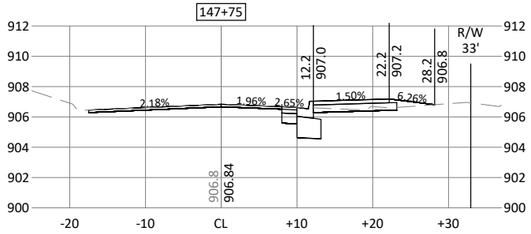

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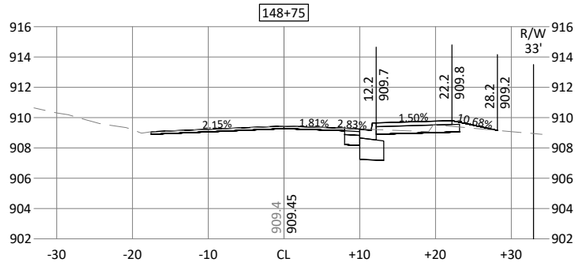

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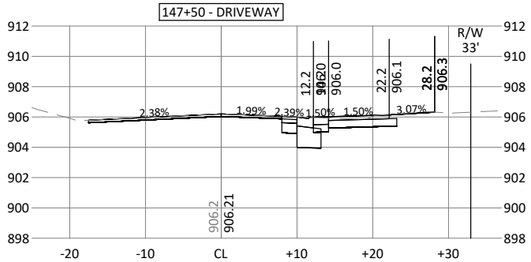
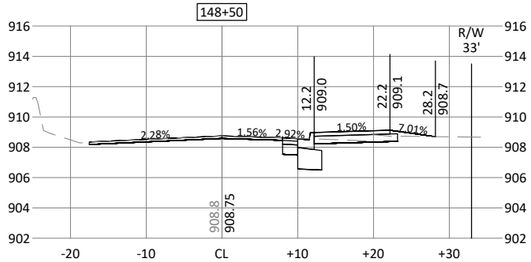


148+50



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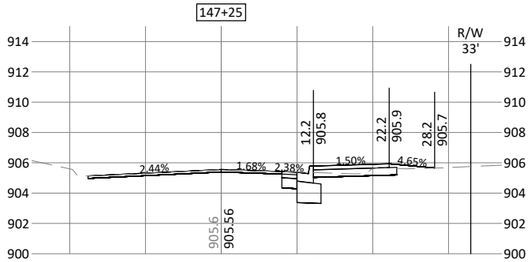

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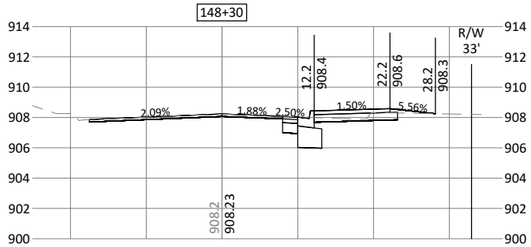

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SHEET 69 OF 75

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PLOTTED/REVISED: 21-DEC-2021

VIDEO DETECTION				
CAMERA		LOCATION		PHASE
NO.	TYPE	POLE	MOUNT LOC.	
V-1	DIRECTIONAL	1	POLE	4
V-2	DIRECTIONAL	1	MAST ARM	5
V-3	DIRECTIONAL	3	POLE	2
V-4	DIRECTIONAL	3	MAST ARM	3
V-5	DIRECTIONAL	2	POLE	3
V-6	DIRECTIONAL	2	MAST ARM	1
V-7	DIRECTIONAL	4	POLE	6
V-8	DIRECTIONAL	4	MAST ARM	4

0 5 10 15 20 25 m

SIGNAL FACES						
SIGNAL FACE	ALL SIGNAL INDICATIONS ARE 300 mm.					
	LED R	Y	G	LED R	Y	G
I-1, I-2, I-3				⇐	⇐	⇐
2-1, 2-2, 2-3	o	o	o			
3-3, 4-2, 4-3	o	o	o			
3-1, 3-4, 4-1, 4-4	o				⇐	⇐
3-2	o	o	o			⇐
5-1, 5-2, 5-3				⇐	⇐	⇐
6-1, 6-2, 6-3	o	o	o			

1-1/4" PVC
1-FO CABLE (36SM)

1-1/4" PVC
1-FO PATCH/PIGTAIL (6SM)

PULL VAULT

35 mm PVC
1-2/c#14

53 mm R.S.C.
2-1/c#10

53rd AVENUE NE
(50 KMH)
(30 MPH)

103 mm R.S.C.
5-12/c#12
2-3/c#12
9-2/c#14
2-3/c#20
2-1/c#10

103 mm R.S.C.
3-1/c#10
1-RG11 CABLE
6-1/c#10
2-RG11 CABLES
1-27/c#18
1-F.O. CABLE

103 mm R.S.C.
3-1/c#10
1-RG11 CABLE
3-12/c#12
1-3/c#12
9-2/c#14
1-3/c#20
2-1/c#10

1-1/4" PVC
1-FO CABLE (36SM)

53 mm R.S.C.

53 mm PVC (INTERCONNECT)

TRUNK HIGHWAY 65
(CENTRAL AVENUE)
(65 KMH)
(40 MPH)

BETWEEN H.H.9 AND H.H.16:
103 mm R.S.C.
3-1/c#10
1-RG11 CABLE

103 mm R.S.C.
3-12/c#12
1-3/c#12
6-2/c#14
1-3/c#20
2-1/c#10

103 mm R.S.C.
6-1/c#10
1-RG11 CABLE
1-27/c#18
1-F.O. CABLE

103 mm R.S.C.
3-1/c#10
1-RG11 CABLE

103 mm R.S.C.
2-12/c#12
1-3/c#12
4-2/c#14
1-3/c#20
2-1/c#10

53 mm PVC (TO
TWC SHELTER)
1-F.O. CABLE

78 mm R.S.C.
4-2/c#14

103 mm R.S.C.
(empty)

35 mm PVC
1-2/c#14

103 mm R.S.C.
2-12/c#12
1-3/c#12
4-2/c#14
1-3/c#20

35 mm PVC
3-2/c#14

BETWEEN H.H.3 AND HH.19:
103 mm R.S.C.
3-1/c#10
1-RG11 CABLE

103 mm R.S.C.
3-1/c#10
1-RG11 CABLE

LOOP DETECTORS			
NUMBER	SIZE (meters)	LOCATION	STATUS
D1-1	2-1.7 x 1.7	3 m & 12 m	INPLACE
D1-2	2-1.7 x 1.7	3 m & 12 m	INPLACE
D2-1	1.7 x 1.7	76 m	INPLACE
D2-2	1.7 x 1.7	76 m	INPLACE
D3-1	2-1.7 x 1.7	35 m	INPLACE
D3-2	2-1.7 x 1.7	3 m	INPLACE
D3-3	2-1.7 x 1.7	3 m	INPLACE
D4-1	2-1.7 x 1.7	37 m	INPLACE
D4-2	2-1.7 x 1.7	3 m	INPLACE
D4-3	2-1.7 x 1.7	3 m	INPLACE
D5-1	2-1.7 x 1.7	3 m & 12 m	INPLACE
D5-2	2-1.7 x 1.7	3 m & 12 m	INPLACE
D6-1	1.7 x 1.7	90 m	INPLACE
D6-2	1.7 x 1.7	90 m	INPLACE
D6-3	1.7 x 1.7	90 m	INPLACE

LOCATION = DISTANCE FROM CROSSWALK TO FRONT OF LOOP DETECTOR.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

T.H.65

53rd Avenue

SIGNAL SYSTEM OPERATIONS:

- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 AND 4 BEING SPLIT PHASES.
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

DISTRICT: Metro
IPLOT NAME: LAYOUT
FILENAME: Projfeds\DM_ROS\065\0000\Traffic\Signals\7.8L_2\156_53RD_AVE_NE_1735530v2\156L_sgl.dgn

BY	DATE	REVISIONS
SJK	12/21/21	OPERATION PLAN

SYSTEM ID: 1735530 T.E.
METER ADDRESS: 5305 US HIGHWAY 65
OLD SYSTEM ID: 21156

INTERSECTION LAYOUT
TH 65 AT 53RD AVE
IN FRIDLEY, HENNEPIN COUNTY

S.A.P. NO. | DRAWN BY: | CKD BY: | DATE:

CERTIFIED BY _____ LIC. NO. _____ DATE: _____
LICENSED PROFESSIONAL ENGINEER

STATE PROJ.NO. 0207-100 (T.H.65) SHEET NO. 1 OF 3 SHEETS

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	NO.	ISSUED FOR	DATE
CRL		BID	04/25/2023
DRAWN CRL/JBQ			
CHECKED BJB			
CLIENT PROJ. NO. 2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
FOR INFORMATION ONLY - SIGNAL PLANS FOR 53RD AVE & T.H. 65

SHEET 70 OF 75

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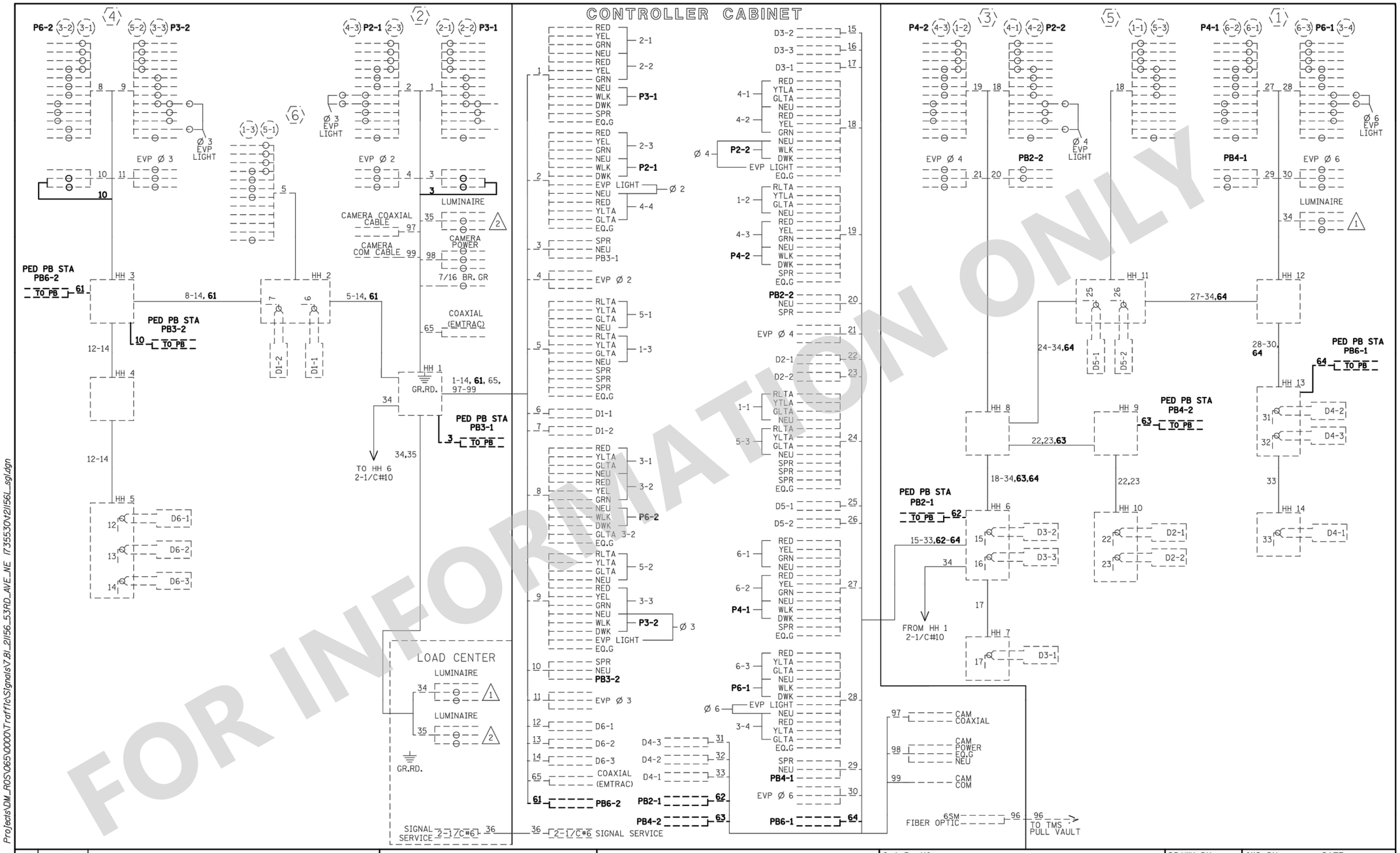

PLOTTED/REVISED: 21-DEC-2021

DISTRICT *: Metro
IPLOT NAME: WIRING DIAGRAM
FILENAME: Projects\DM_ROS\065\0000\Traffic\Signals\7.8i_2i156_53RD_AVE_NE_1735530\2i156_sgl.dgn

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BY	DATE	REVISIONS
SJK	12/21/21	OPERATION PLAN

SYSTEM ID: 1735530 T.E.
METER ADDRESS: 5305 US HIGHWAY 65
OLD SYSTEM ID: 21156

WIRING DIAGRAM
TH 65 AT 53RD AVE
IN FRIDLEY, HENNEPIN COUNTY

S.A.P. NO. | DRAWN BY: | CKD BY: | DATE:

CERTIFIED BY _____ LIC. NO. _____ DATE: _____
LICENSED PROFESSIONAL ENGINEER

STATE PROJ.NO. 0207-100 (T.H.65) **SHEET NO. 3 OF 3 SHEETS**

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	NO.	ISSUED FOR	DATE
CRL		BID	04/25/2023
DRAWN CRL/JBQ			
CHECKED BJB			
CLIENT PROJ. NO. 2023-01			

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
FOR INFORMATION ONLY - SIGNAL PLANS FOR 53RD AVE & T.H. 65

SHEET 71 OF 75

7002

NOTES:

1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
2) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
3) LUMINAIRE (2) AND (4) WITH P.E.C. AND CHECK SWITCH.
4) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED EQUIPMENT.
5) INTERNALLY ILLUMINATED OVERHEAD MOUNTED SIGN PANELS SHALL BE FURNISHED AND INSTALLED ON EACH MAST ARM. SIGN PANELS ▽ AND ▽ WITH P.E.C. AND CHECK SWITCH. SEE SPECIAL PROVISIONS
6) SEE SPECIAL PROVISIONS FOR SERVICE CABINET DETAILS.
7) LOOP DETECTORS SHALL BE CROSS LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE DETAIL SHEET.
8) ALL PEDESTRIAN INDICATIONS SHALL BE 12"x12".
9) FOUR HUBS FOR SIGNAL BRACKETING SHALL BE INSTALLED ON EACH MAST ARM POLE, ONE EACH AT 0°, 90°, 180°, AND 270°.
10) A 3/4"HALF COUPLING, 3/4"PIPE NIPPLE AND CONDUIT OUTLET BODY FOR FUTURE INSTALLATION OF EMERGENCY VEHICLE PRE-EMPTION EQUIPMENT SHALL BE INSTALLED 4 FEET FROM THE END OF MAST ARMS AT (3) (5) AND (6).
11) CONTRACTOR SHALL ADJUST HANDHOLES 11 , 16 AND 17 AS DIRECTED BY THE ENGINEER.
12) REMOVE AND SALVAGE EXISTING SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
13) ALL HANDHOLES SHALL BE CONCRETE HANDHOLES WITH TYPE "C" COVERS.

(2) TYPE P100-A-35
P100 POLE FOUNDATION
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
ONE PEDESTRIAN PUSH BUTTON AND SIGN
EXTEND INTO H.H.8:
3"R.S.C.
2-12/c#12
1-3/c#12
2-1/c#10(SIGN PANEL)

(3) TYPE P90-A-30-D40-9(DAVIT AT 355°)
P90 POLE FOUNDATION
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
LUMINAIRE-200 WATT H.P.S.
TWO PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H.16:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20 (FUTURE EVP)
2-1/c#10
2-1/c#10(SIGN PANEL)

(4) TYPE 1D
PEDESTAL POLE AND FOUNDATION
TWO PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H.12:
2"R.S.C.
1-12/c#12
1-3/c#12

(5) TYPE P100-A-35-D40-9 (DAVIT AT 45°)
P100 POLE FOUNDATION
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
ONE PEDESTRIAN PUSH BUTTON AND SIGN
EXTEND INTO H.H.10:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20 (FUTURE EVP)
4-1/c#10
4-1/c#10(SIGN PANEL)

(A) INPLACE WOOD POLE (S.O.P.)
1 1/4"R.S.C. RISER AND WEATHERHEAD
3-1/c#6
EXTEND INTO H.H.18:
1 1/4"R.S.C.
3-1/c#6

(B) SERVICE CABINET
CABINET FOUNDATION
EXTEND INTO H.H.18:
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.19:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.9:
UNMETERED STREET LIGHT AND SIGN PANEL SERVICE
1 1/4"R.S.C.
8-1/c#10

(C) CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO H.H.19:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C.
3-12/c#12
1-3/c#12
7-2/c#14
EXTEND INTO H.H.9:
4"R.S.C.
7-12/c#12
4-3/c#12
3*3/c#20
6-2/c#14

7002
30 0 30 60
scale feet

SOUTHBOUND C.S.A.H. 1 (EAST RIVER ROAD) (50MPH)

NORTHBOUND C.S.A.H. 1 (EAST RIVER ROAD) (50MPH)

PARK ENTRANCE

51st WAY (30MPH)

FUTURE TURN LANE (BY OTHERS)

H.H.1 H.H.2 H.H.3 H.H.4 H.H.5 H.H.6 H.H.7 H.H.8 H.H.9 H.H.10 H.H.11 H.H.12 H.H.13 H.H.14 H.H.15 H.H.16 H.H.17 H.H.18 H.H.19 H.H.20 H.H.21 H.H.22

D1-1 D2-1 D2-2 D4-1 D4-2 D4-3 D5-1 D6-1 D6-2 D8-1 D8-2 D8-3 D8-4

3"R.S.C. 2-12/c#12 1-3/c#12 1-2/c#14 2-1/c#10

1 1/4"R.S.C. (INPLACE) 1-2/c#14

3"R.S.C. 2-12/c#12 1-3/c#12 1-3/c#20 3-2/c#14 4-1/c#10

3"R.S.C. 3-12/c#12 2-3/c#12 1-3/c#20 5-2/c#14 4-1/c#10

2"R.S.C. 2-2/c#14

4"R.S.C. 6-12/c#12 3-3/c#12 2-3/c#20 6-2/c#14 4-1/c#10

NOTE:
BETWEEN H.H.10 AND H.H.11:
1 1/4"R.S.C.
1-2/c#14

CONTROLLER AND CABINET SEE (C)
SERVICE CABINET SEE (B)
INPLACE WOOD POLE (S.O.P.) SEE (A)

(6) TYPE P90-A-30-D40-9(DAVIT AT 355°)
P90 POLE FOUNDATION
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
LUMINAIRE-200 WATT H.P.S.
TWO PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H.9:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20 (FUTURE EVP)
2-1/c#10
4-1/c#10(SIGN PANEL)

(1) TYPE 1D
PEDESTAL POLE AND BASE
TWO PEDESTRIAN PUSH BUTTONS AND SIGNS
EXTEND INTO H.H.4:
2"R.S.C.
1-12/c#12
2-3/c#12

3"R.S.C. 3-12/c#12 1-3/c#12 3-2/c#14 2-1/c#10

1 1/4"R.S.C. 2-2/c#14

3"R.S.C. 3-12/c#12 1-3/c#12 6-2/c#14 2-1/c#10

2"R.S.C. 2-1/c#10

3"R.S.C. (FOR FUTURE LIGHTING)

2"R.S.C. 2-2/c#14

LOOP DETECTORS

NUMBER	SIZE	LOCATION	FUNCTION
D1-1	INPLACE	—	1
D2-1	6'x6'	400'	1
D2-2	6'x6'	400'	1
D4-1	2-6'x6'	90'	3
D4-2	2-6'x6'	—	1
D4-3	2-6'x6'	—	7
D5-1	MULTIPLE	—	1
D6-1	6'x6'	400'	1
D6-2	6'x6'	400'	1
D8-1	2-6'x6'	220'	1,6
D8-2	6'x6'	220'	3,8
D8-3	4-6'x6'	—	1
D8-4	2-6'x6'	—	7

LOCATION = DISTANCE FROM STOP LINE TO DETECTOR.

LOOP DETECTOR FUNCTIONS:

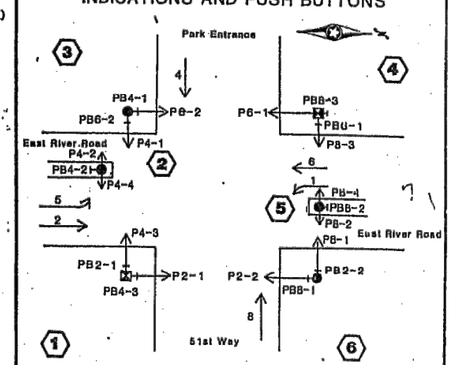
1) CALL AND EXTEND
2) CALL ONLY
3) EXTEND ONLY
4) CALL ONLY DENSITY
5) DELAYED CALL ONLY
6) DELAYED CALL ONLY DENSITY
7) DELAYED CALL-IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)
9) ADVISORY DETECTOR
10) SAMPLING DETECTOR
11) SPECIAL DETECTOR

SIGNAL INDICATIONS

FACE	PHASE	FLASH	R	Y	G	RLTA	YLTA	GLTA
1-1	1	R				12	12	12
2-1	2	R	12	12	12			
2-2	2	R	12	12	12			
4-1	4	R	12	12	12			
4-2	4	R	12	12	12			
4-3	4	R	12	12	12			
4-4	4	R	12	12	12			
5-1	5	R				12	12	12
6-1	6	R	12	12	12			
6-2	6	R	12	12	12			
8-1	8	R	12	12	12			
8-2	8	R	12	12	12			
8-3	8	R	12	12	12			
8-4	8	R	12	12	12			

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

CONTROLLER PHASING , PEDESTRIAN INDICATIONS AND PUSH BUTTONS



"ELECTRICAL ENGINEER CERTIFICATION"
I hereby certify that this plan was prepared by me under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Robert A Ellis
Date: 3/28/23 Reg.No. 5059

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Brian VanWormer

ESG

FRIDLEY, MINNESOTA

SIGNAL SYSTEM
INTERSECTION LAYOUT

FILE NO. 86135
DATE 3/16/23

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

Brandon Bradley

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
FOR INFORMATION ONLY - SIGNAL PLANS FOR 51ST WAY & EAST RIVER RD

SHEET 72 OF 75

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7002

CONTROLLER CABINET

RED 4–3
YEL 4–3
GRN 4–3
NEU 4–3, P4–3
SPR
WLK P2–1
DWK P2–1
NEU P2–1
WLK P4–3
DWK P4–3
SPR
EQG

2
RED 4–1
YEL 4–1
GRN 4–1
NEU 4–1, 4–2
RED 4–2
YEL 4–2
GRN 4–2
NEU 1–1
RLTA 1–1
YLTA 1–1
GLTA 1–1
EQG

3
WLK P4–2
DWK P4–2
WLK P4–4
NEU P4–2, P4–4
DWK P4–4
SPR
SPR
NEU
SPR
SPR
SPR
EQG

4
RED 2–1
YEL 2–1
GRN 2–1
NEU 2–1,P2–2
WLK P2–2
DWK P2–2
SPR
NEU P8–1
WLK P8–1
DWK P8–1
SPR
EQG

5
RED 2–2
YEL 2–2
GRN 2–2
NEU 2–2
RED 4–4
YEL 4–4
GRN 4–4
NEU 4–4
SPR
SPR
SPR
SPR
EQG

6
RLTA 5–1
YLTA 5–1
GLTA 5–1
NEU 5–1
RED 8–2
YEL 8–2
GRN 8–2
NEU 8–2
SPR
SPR
SPR
EQG

7
RED 8–1
YEL 8–1
GRN 8–1
NEU 8–1,P8–2,P8–4
WLK P8–2
DWK P8–2
SPR
NEU
SPR
WLK P8–4
DWK P8–4
EQG

8
RED 8–3
YEL 8–3
GRN 8–3
NEU 8–3, P8–3
WLK P8–3
DWK P8–3
SPR
NEU P6–1
WLK P6–1
DWK P6–1
SPR
EQG

9
RED 6–1
YEL 6–1
GRN 6–1
NEU 6–1,P6–2
WLK P6–2
DWK P6–2
SPR
NEU P4–1
WLK P4–1
DWK P4–1
SPR
EQG

10
RED 6–2
YEL 6–2
GRN 6–2
NEU 6–2
RED 8–4
YEL 8–4
GRN 8–4
NEU 8–4
SPR
SPR
SPR
SPR
EQG

11
PB2–1
NEU
PB4–3, PB4–2

12
PB2–2
NEU
PB8–1

13
SPR
NEU
PB8–2

PB6–1
NEU
PB8–3 — 14

PB6–2
NEU
PB4–1 — 15

FUTURE Ø2 EVP DETECTOR — 16

FUTURE Ø4 AND Ø8 EVP DETECTOR — 17

FUTURE Ø6 EVP DETECTOR — 18

D1–1 — 19
D2–1 — 20
D2–2 — 21
D4–1 — 22
D4–2 — 23
D4–3 — 24
D5–1 — 25
D6–1 — 26
D6–2 — 27
D8–1 — 28
D8–2 — 29
D8–3 — 30
D8–4 — 31
SIGNAL SERVICE — 32

1,2,3,11,20,21,25,28,29,30,31

H.H.19 — 32 — 32

H.H.1 — 31 — 1,2,3,11,20,21,25, 28,29,30,34A — 34A — D8–4

H.H.2 — 30 — 28,29 — D8–3

28,29

SERVICE CABINET

32 32 SIGNAL SERVICE
SIGNALS NEUTRAL LIGHTING 33 33

34 34 SIGN PANEL (7) (8)
LUMINAIRE (6) 36 36

35 35 SIGN PANEL (7) (8)
LUMINAIRE (5) (6) 37 37

36,37

H.H.18 — 33 — S.O.P.

34A

H.H.3 — 28 29 — D8–1D8–2

1,2,3,11,20,21,25, 34A

H.H.4 — 2,3,11A,25,34A — H.H.8 — 25 — D5–1

20,21 — H.H.5 — 20,21 — H.H.6 — 20,21 — H.H.7 — 20 21 — D2–1D2–2

(1) P2–1 P4–3 — 1

PB2–1 PB4–3 — 11A — 11

(2) P4–4 P4–2 — 2 — 3 — 34A — SIGN PANEL (2)

PB4–2 — 11A

(3)

(4) LUMINAIRE (5) — 37A
SIGN PANEL (7) (6–2) P6–2 P4–1 — 35A — 10
FUTURE Ø6 EVP — 9 — 18
PB6–2 PB4–1 — 15

CHECK SWITCH (6)
SIGN PANEL (6) — 34 — P.E.C. — 34A
CHECK SWITCH
LUMINAIRE (5) — 36 — 5
(2–2) P2–2 P8–1
FUTURE Ø2 EVP — 4 — 16
PB2–2 PB8–1 — 12

CHECK SWITCH (5)
SIGN PANEL (7) — 35 — P.E.C. — 35A
CHECK SWITCH
LUMINAIRE (5) — 37 — P.E.C. — 37A
(5–2) (8–2)
FUTURE Ø4 AND Ø8 EVP — 6 — 17
PB8–2 — 13

P8–4P8–2 — 7
(8–1) P8–3 P6–1 — 8
PB6–1 PB8–3 — 14

34,35,36,37
4,5,6,7,8,9,10,12,13,14,15,16, 17,18,19,22,23,24,26,27 — H.H.9 — 34A — 6,7,8,9,10,13,14,15,17,18,19,22,23, 24,26,27,35,37

H.H.10 — 8,9,10,14,15,18,22,23, 24,26,27,35A,37A — H.H.12 — 9,10,15,18,22,23, 24,35A,37A

H.H.16 — 23 24 — D4–2D4–3 — 22 — H.H.17 — 22 — D4–1

H.H.11 — 19 — D1–1

H.H.13 — 26,27 — H.H.14 — 26,27 — H.H.15 — 26 27 — D6–1D6–2

"ELECTRICAL ENGINEER CERTIFICATION"
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Date: 3/28/88 Reg No. 5859

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Minnesota.
Date: 3/31/88 Reg. No. 9089

BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

ENGINEERS ARCHITECTS PLANNERS

FRIDLEY, MINNESOTA

SIGNAL SYSTEM
WIRING DIAGRAM
51st WAY AT C.S.A.H.1(EAST RIVER ROAD)

FILE NO. 88135
DATE 3/16/88

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

Brandon Bradley

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

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CLIENT PROJ. NO.	2023-01

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2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
FOR INFORMATION ONLY - SIGNAL PLANS FOR 51ST WAY & EAST RIVER RD

SHEET 73 OF 75

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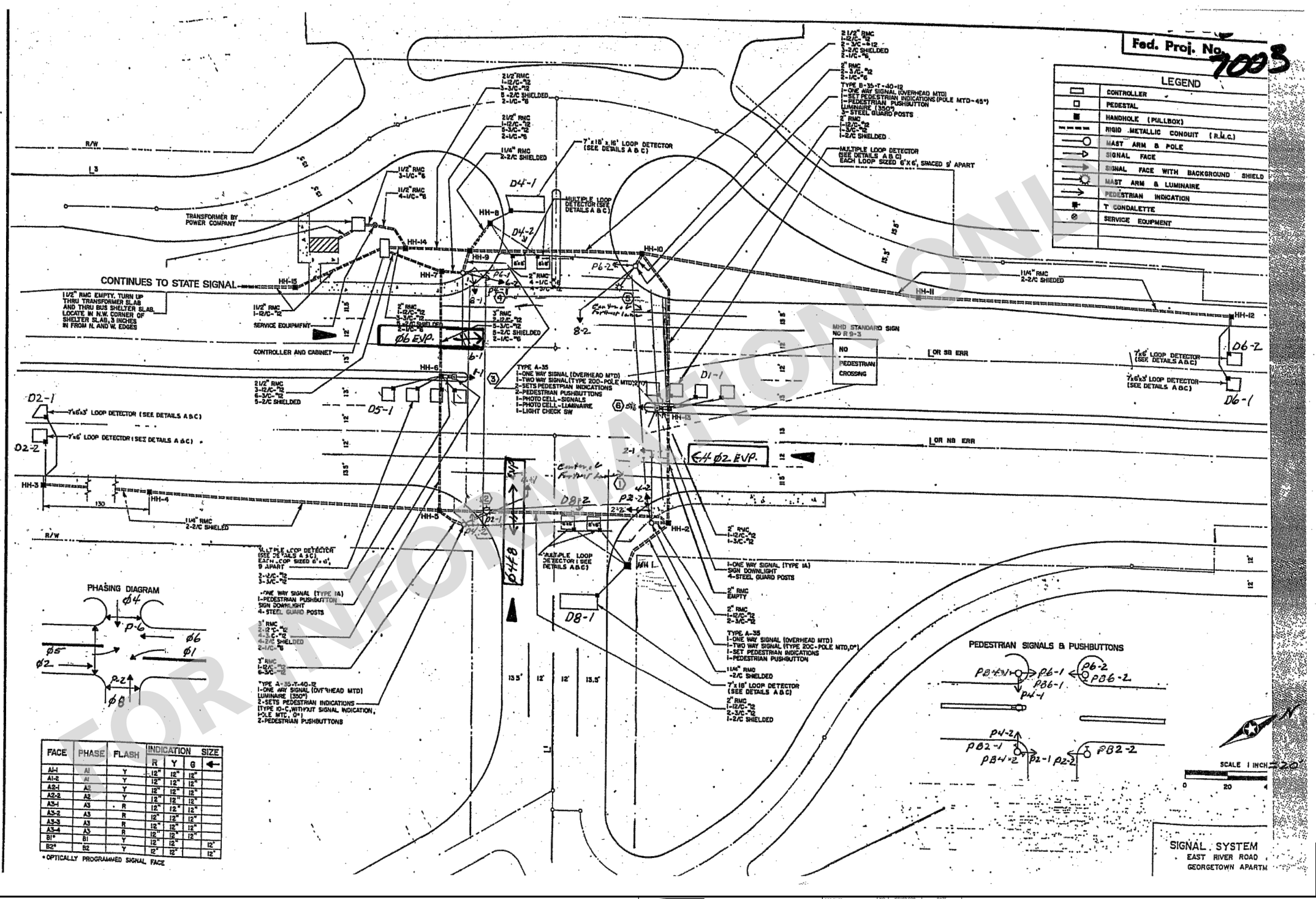
Fed. Proj. No. 7008

LEGEND	
	CONTROLLER
	PEDESTAL
	HANDHOLE (PULLBOX)
	RIGID METALLIC CONDUIT (R.M.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	PEDESTRIAN INDICATION
	T CONDALETTE
	SERVICE EQUIPMENT



FACE	PHASE	FLASH	INDICATION			SIZE
			R	Y	G	←
A1-1	A1	Y	12"	12"	12"	
A1-2	A1	Y	12"	12"	12"	
A2-1	A2	Y	12"	12"	12"	
A2-2	A2	Y	12"	12"	12"	
A3-1	A3	R	12"	12"	12"	
A3-2	A3	R	12"	12"	12"	
A3-3	A3	R	12"	12"	12"	
A3-4	A3	R	12"	12"	12"	
B1*	B1	Y	12"	12"		12"
B2*	B2	Y	12"	12"		12"

*OPTICALLY PROGRAMMED SIGNAL FACE

SAP 127-319-009
SAP 127-353-002
SAP 146-242-002
SAP 127-354-001
SAP 127-355-001
SAP 127-050-031

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

City of Fridley
7071 University Avenue NE
Fridley, MN 55432

DESIGNED	CRL
DRAWN	CRL/JBQ
CHECKED	BJB
CLIENT PROJ. NO.	2023-01

NO.	ISSUED FOR	DATE
	BID	04/25/2023

2023 STREET REHABILITATION PROJECT
CITY PROJECT NO. ST2023-01
FOR INFORMATION ONLY- SIGNAL PLAN FOR GEORGETOWN & EAST RIVER RD

SHEET 74 OF 75

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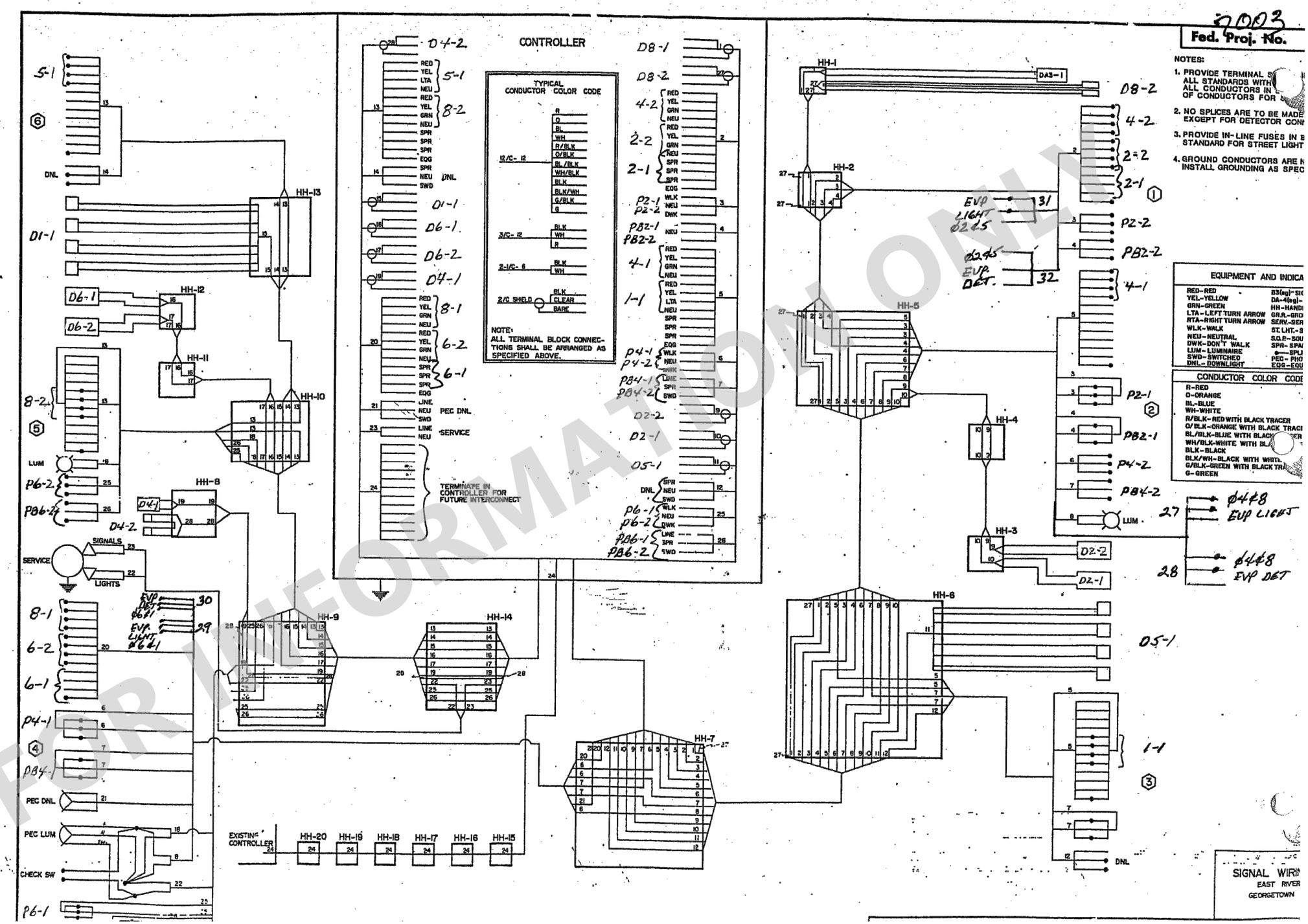
2007

Fed. Proj. No.



NOTES:

1. PROVIDE TERMINAL S... ALL STANDARDS WITH... ALL CONDUCTORS IN... OF CONDUCTORS FOR S...
2. NO SPLICES ARE TO BE MADE... EXCEPT FOR DETECTOR CONN...
3. PROVIDE IN-LINE FUSES IN B... STANDARD FOR STREET LIGHT...
4. GROUND CONDUCTORS ARE N... INSTALL GROUNDING AS SPEC...

EQUIPMENT AND INDICA...

RED-RED	B3(eg)-SI...
YEL-YELLOW	DA-1(eg)-...
GRN-GREEN	HH-HAND...
LTA-LEFT TURN ARROW	GR.R.-GRO...
RTA-RIGHT TURN ARROW	SERV.-SER...
WLK-WALK	ST.LHT.-S...
NEU-NEUTRAL	S.G.P.-SOU...
DWK-DON'T WALK	SPR-SPA...
LUM-LUMINAIRE	SPL...
SWD-SWITCHED	PED-PHO...
DNL-DOWNLIGHT	EQG-EQU...

CONDUCTOR COLOR CODE

R-RED
O-ORANGE
BL-BLUE
WH-WHITE
R/BLK-RED WITH BLACK TRACER
O/BLK-ORANGE WITH BLACK TRACI...
BL/BLK-BLUE WITH BLACK TR...
WH/BLK-WHITE WITH BL...
BLK-BLACK
BLK/WH-BLACK WITH WHITE...
G/BLK-GREEN WITH BLACK TR...
G-GREEN

SAP 127-319-009	
SAP 127-353-002	
SAP 146-242-002	
SAP 127-354-001	
SAP 127-355-001	
SAP 127-050-031	

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Brandon Bradley

City of Fridley

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Fridley, MN 55432

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SHEET 75 OF 75

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