



West Superior Street Reconstruction Project



Alex Popp, PE

City of Duluth Project Engineer

West Superior Street Project



 Project Location

Project Funding and Requirements

- \$24,990,160 Rebuilding America Infrastructure with Sustainability and Equity (RAISE) grant from FHWA administered by MnDOT
- \$7,684,530 Infrastructure Investment and Jobs Act (IIJA) Match Program grant from MnDOT
- Grant funding comes with specific requirements



RAISE Grants

Rebuilding America Infrastructure with Sustainability and Equity



U.S. Department
of Transportation

Project Schedule



- Design Almost Complete
- Bidding Spring 2025
- Project Construction 2025 - 2028

Design Team



Building a Better World
for All of Us®

Design Lead – SEH, Inc
Project Manager – Matt Bolf, PE



Damon Farber
Urban and Streetscape Design



ALLIANT

Alliant Engineering
Traffic Engineering, Preliminary
Design, and Construction Staging

West Superior Street Character Districts

CARLTON STREET TO 27TH AVE W



Character District 01

LIGHT INDUSTRIAL

27TH AVE W TO 22ND AVE W



Character District 02

INDUSTRIAL TO COMMERCIAL TRANSITION

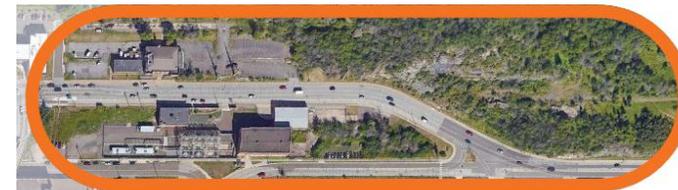
22ND AVE W TO PEIDMONT AVE / GARFIELD AVE



Character District 03

NEIGHBORHOOD COMMERCIAL CORE

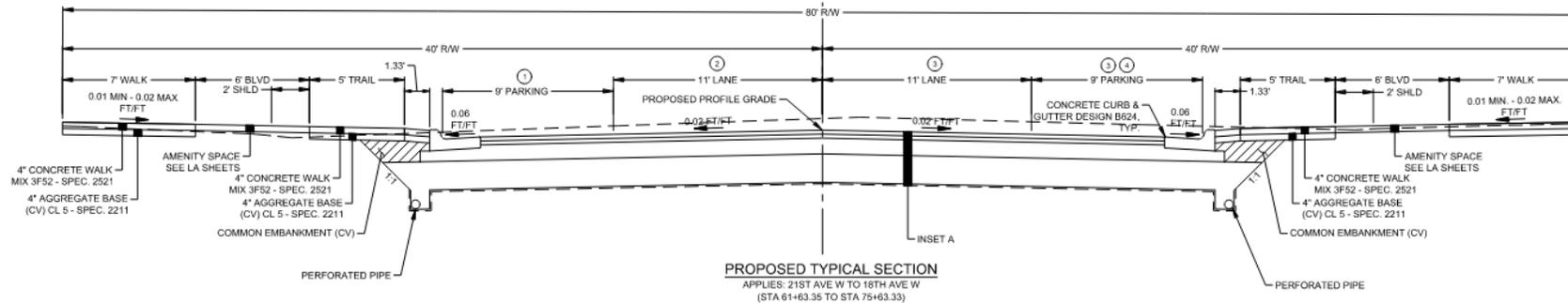
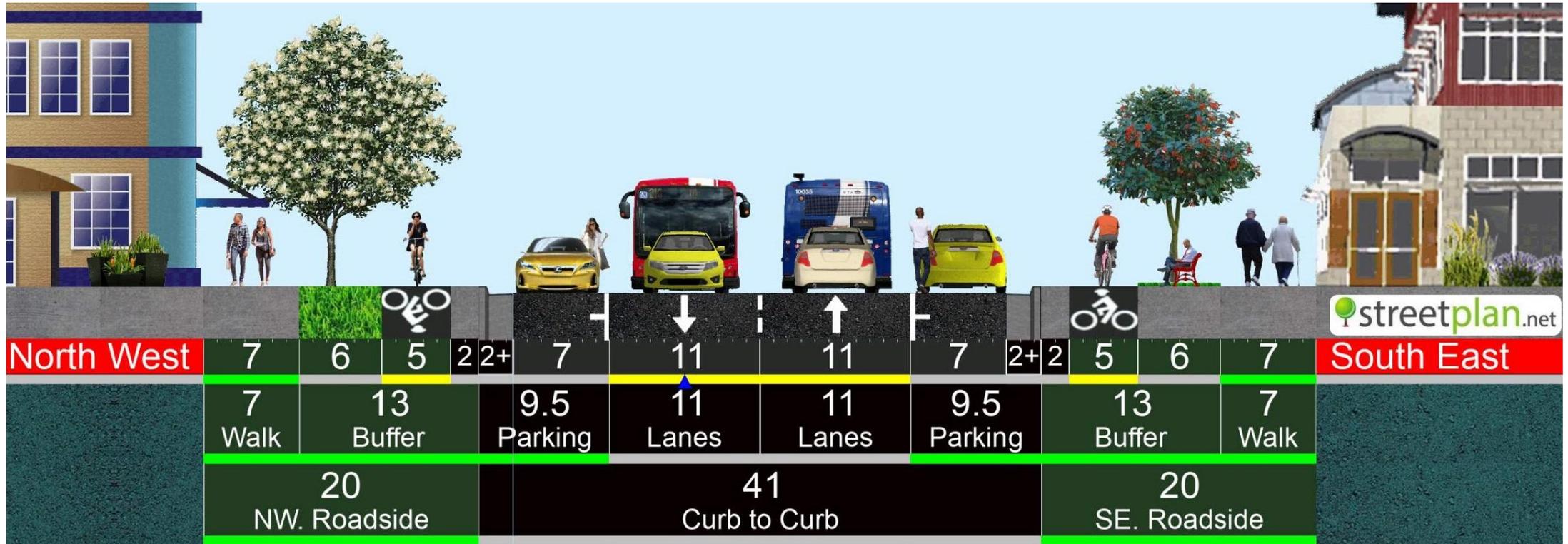
PEIDMONT AVE / GARFIELD AVE TO WEST MICHIGAN STREET



Character District 04

THE POINT OF ROCKS

Typical Section



Layout Rendering – Character District 1



Layout Renderings – Character District 3



Curbside Management

W SUPERIOR STREET RECONSTRUCTION PROJECT LOADING ZONES AND ACCESSIBLE SPACES SURVEY

Please fill out the below survey to help the project team understand your needs in order to manage the curbside parking spaces following the completion of the W Superior Street reconstruction project. The information gathered will inform the final design of the area's on-street parking configuration

Your name (printed): _____

Your business/organization's name: _____

3009 W. SUPERIOR ST.

Loading Zone

Does your organization require an on-street loading zone to serve an ongoing need for deliveries?

Yes

No

If yes:

Is there currently a nearby on-street loading zone that serves your organizations needs

Yes

No

If an on-street zone is not provided, is there an off-street loading zone option that serves your needs?

Yes

No

What would be your preferred hours for the loading zone?

Morning (8 AM - 12 PM)

Afternoon (12 PM - 5 PM)

Evening (5 PM - 11 PM)

Overnight (11 PM – 8 AM)

Other (please specify): _____

What vehicle would you like to be accommodated in the loading zone?

Passenger car (19' long, 1 space)

Intermediate semitrailer (33' trailer, 46' long, 3 spaces)

Delivery Box Truck (30' long, 2 spaces)

Other (please specify): _____

Short Term Parking (outside your building)

Do you desire short term parking spaces?

Yes

No

If yes, how long should the short-term parking be allowed?

15 minutes

30 minutes

1 hour

Other (please specify): _____

Accessible Parking (outside your building)

Do you currently have an accessible parking space?

Yes

No

Do you (still) require an accessible parking space?

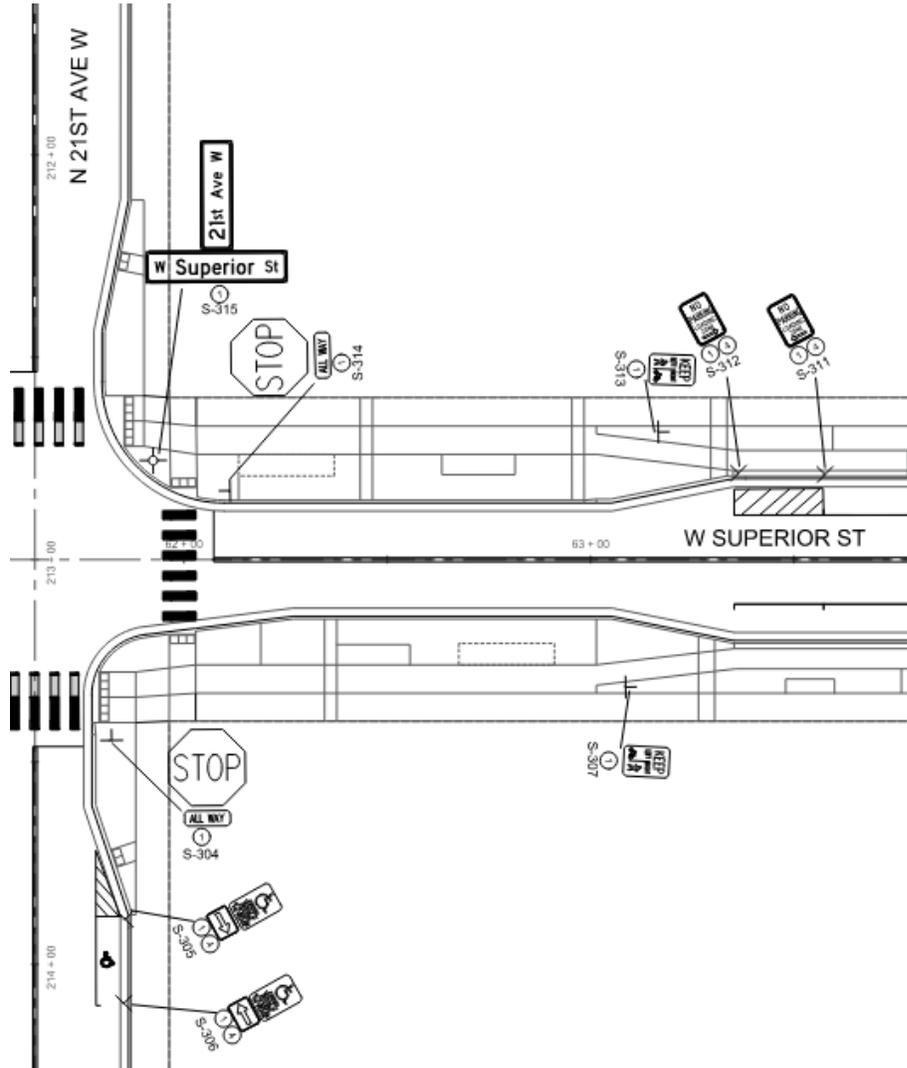
Yes

No

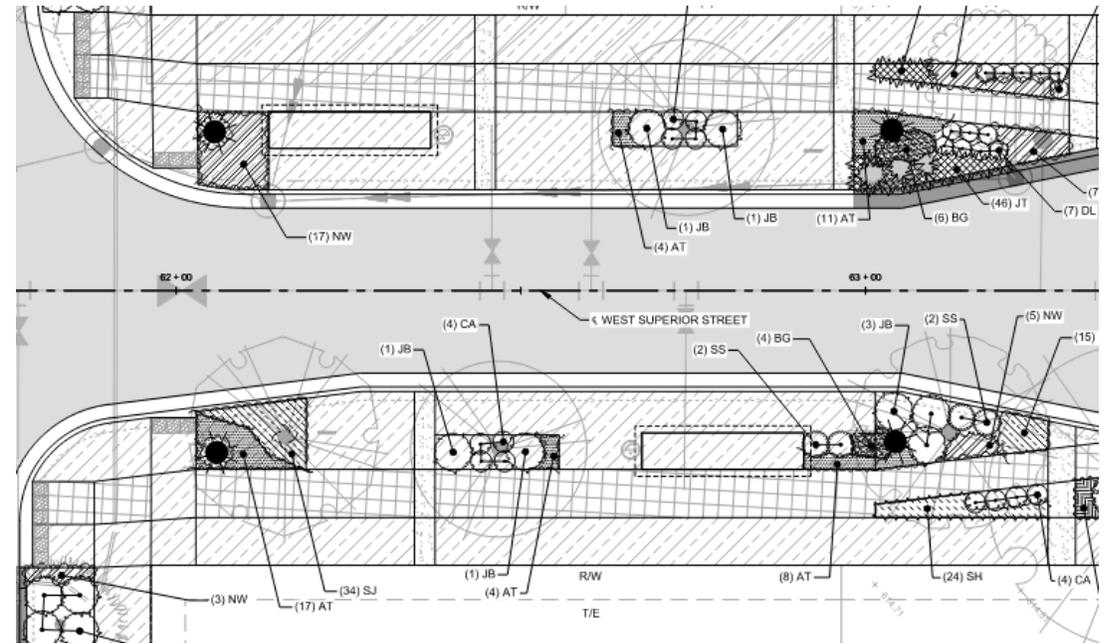
If you don't currently have a space but are requesting a new one:

Reason for the request: _____

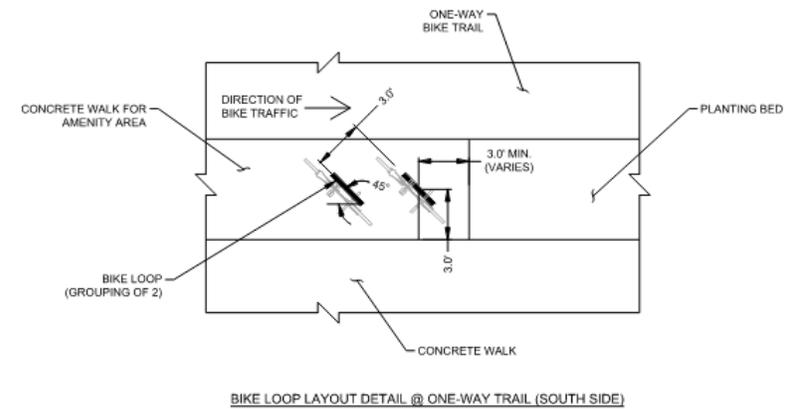
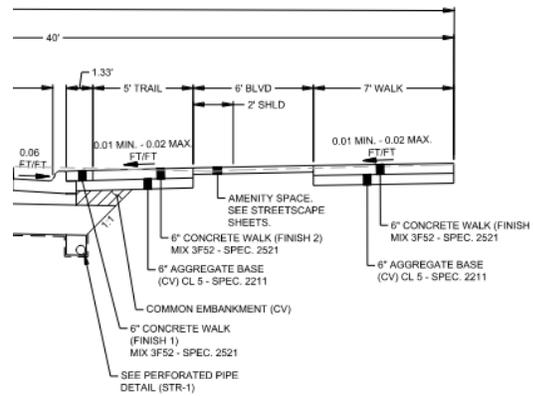
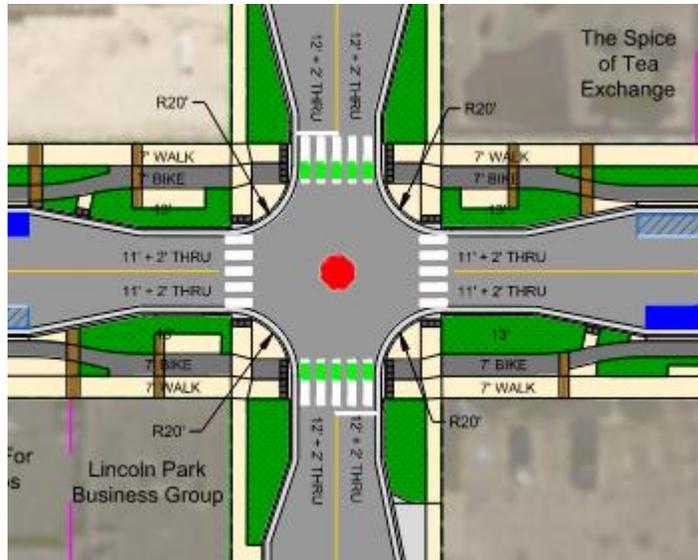
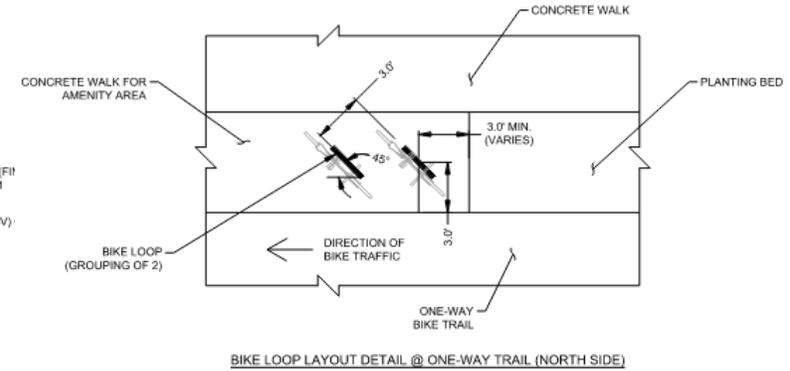
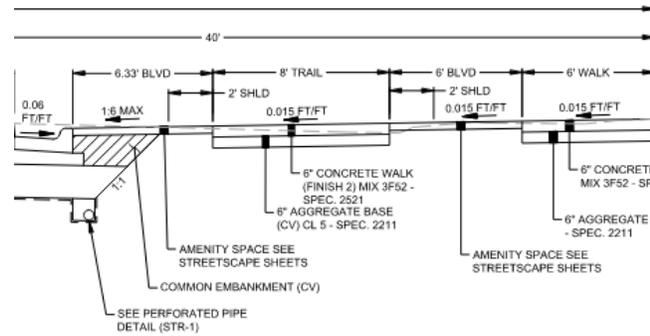
Who will use this zone? (applicant's car, Stride bus, etc.) _____



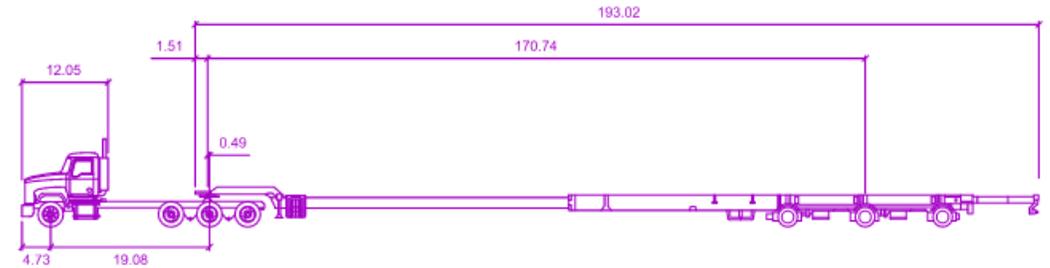
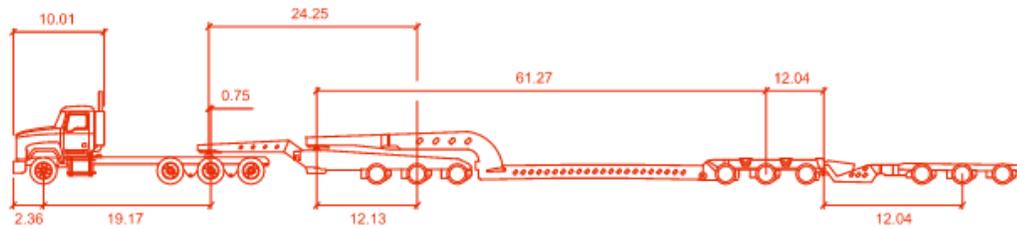
DTA Bus Rapid Transit Accommodations



Bike and Pedestrian Design Elements



Design Vehicles for OSOW Routes

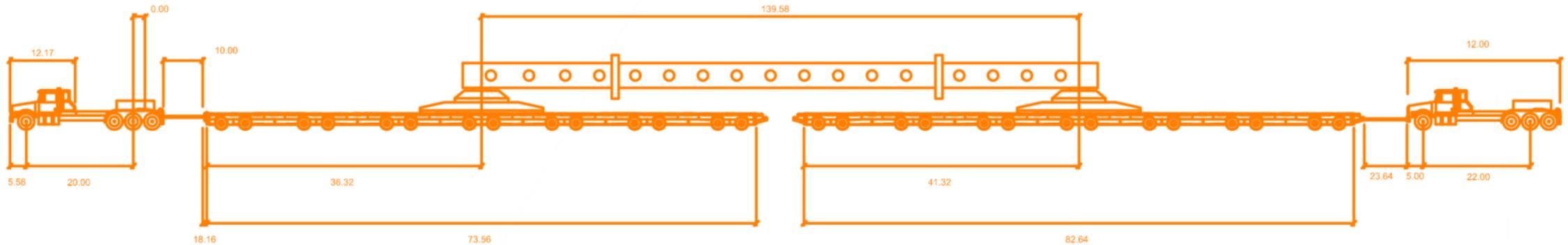


New OSOW Transport Vehicle

	feet		
First Unit Width	: 8.50	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 40.0
First Unit Track	: 8.50	Articulating Angle	: 70.0
Trailer Track	: 8.50		

ST - Wind Blade Trailer 3

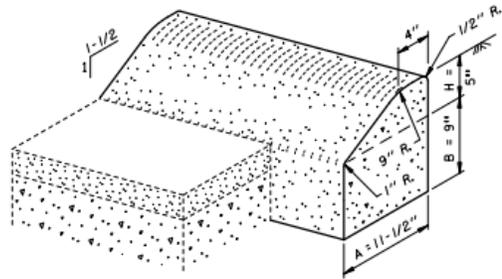
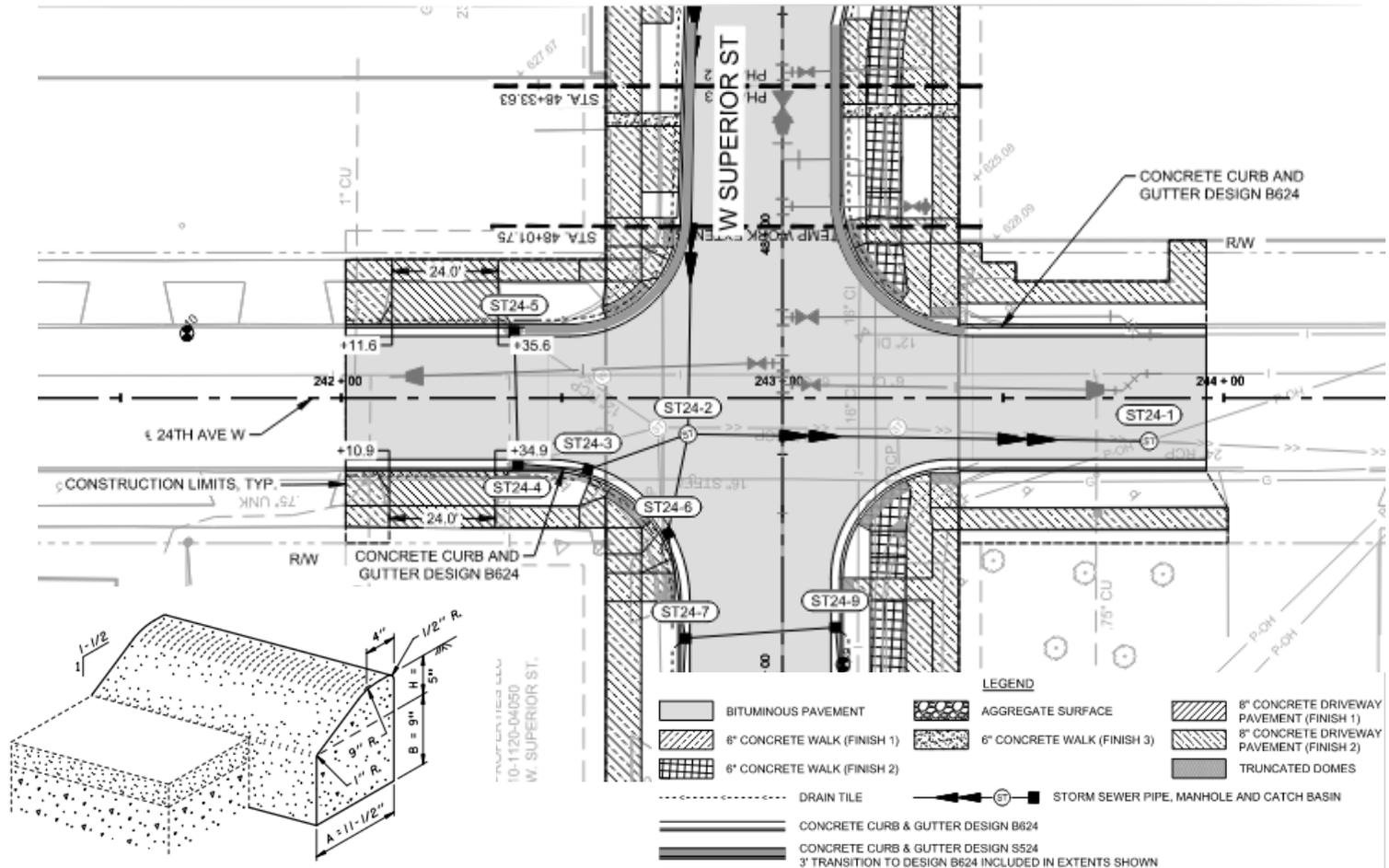
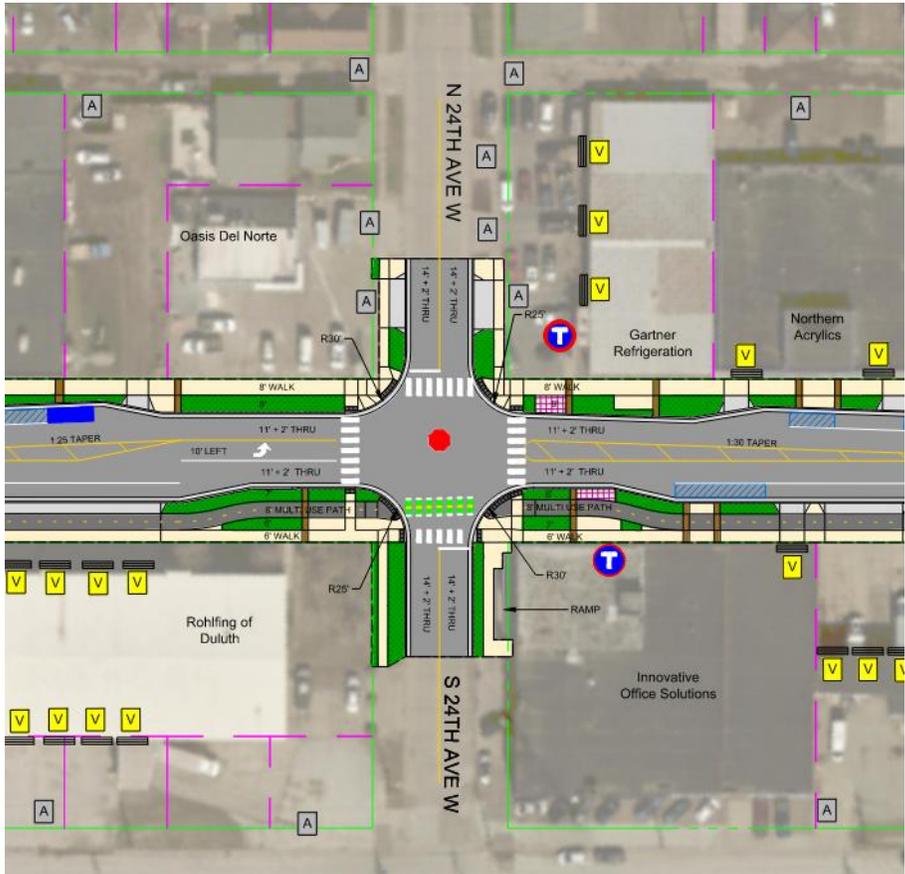
	feet		
First Unit Width	: 8.01	Lock to Lock Time	: 6.0
Trailer Width	: 2.99	Steering Angle	: 40.0
First Unit Track	: 8.01	Articulating Angle	: 70.0
Trailer Track	: 8.01		



BARNHART BOILER

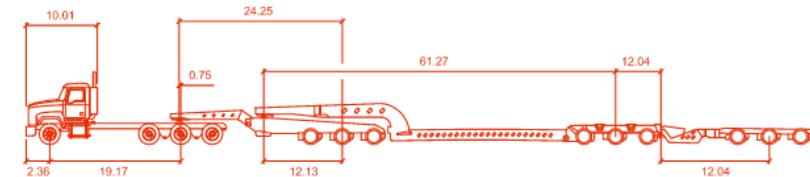
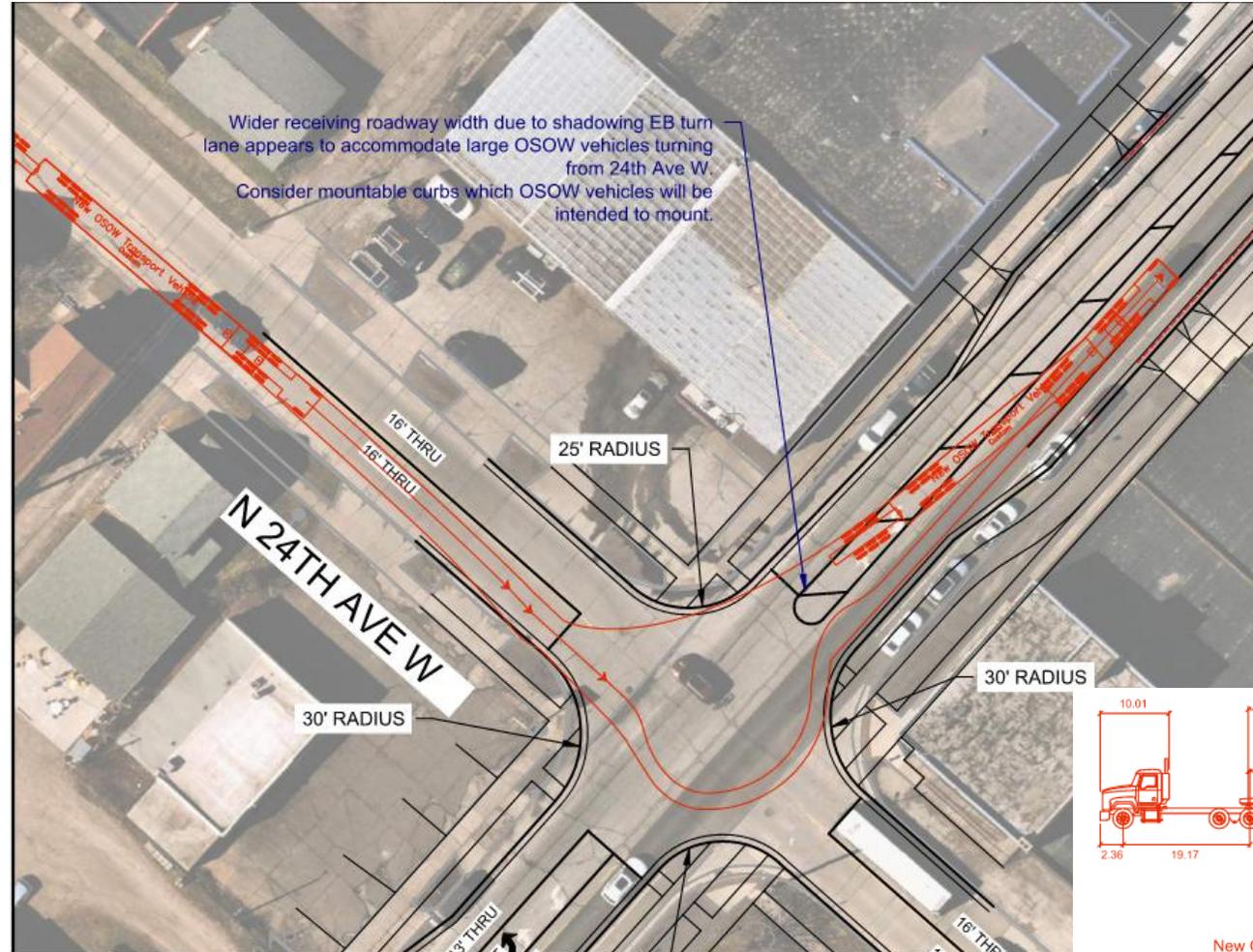
	feet		
Tractor Width	: 8.20	Lock to Lock Time	: 6.0
Trailer Width	: 18.00	Steering Angle	: 25.0
Tractor Track	: 8.20	Articulating Angle	: 50.0
Trailer Track	: 18.00		

24th Avenue West Layout



DESIGN S

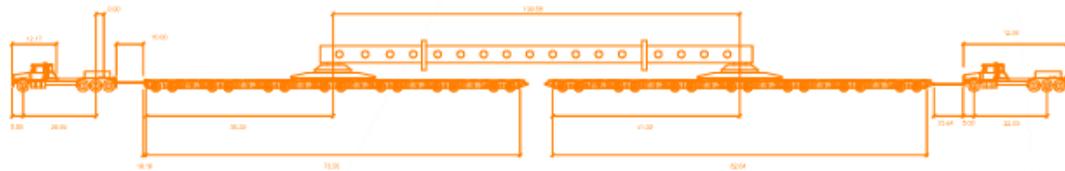
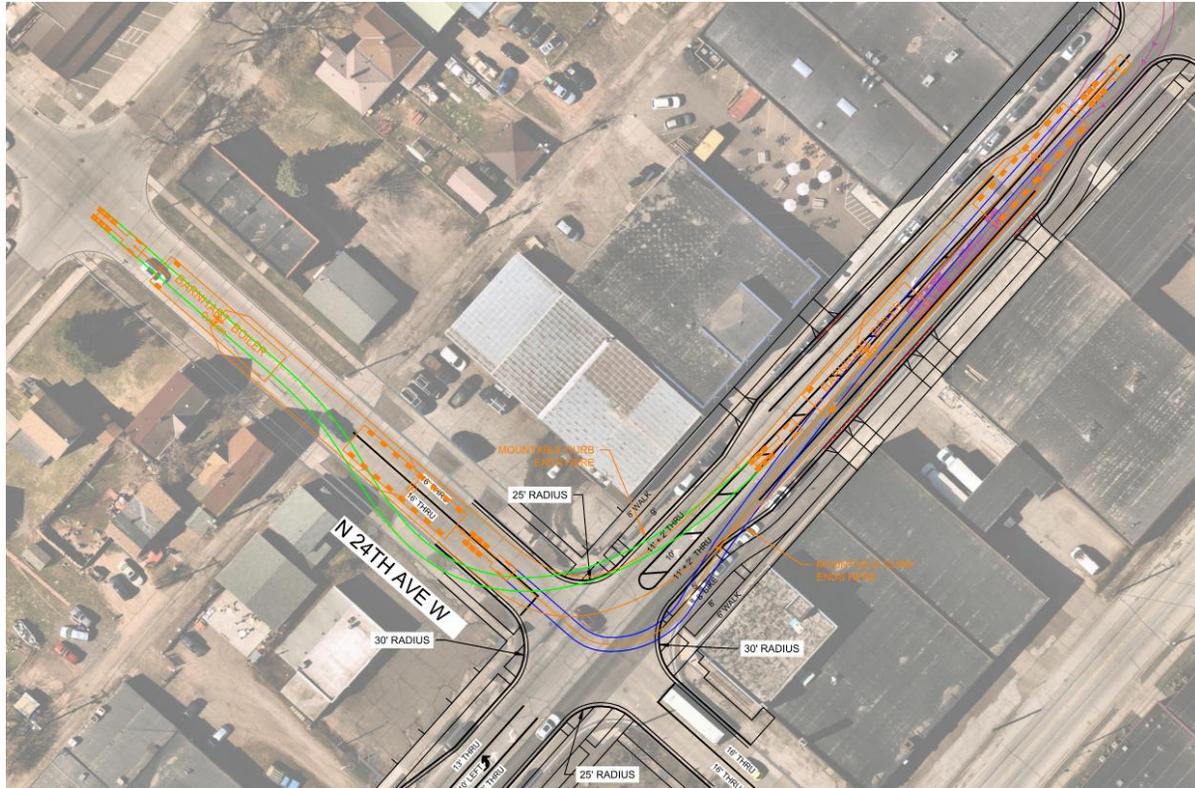
24th Avenue West Turning Movements



New OSOW Transport Vehicle

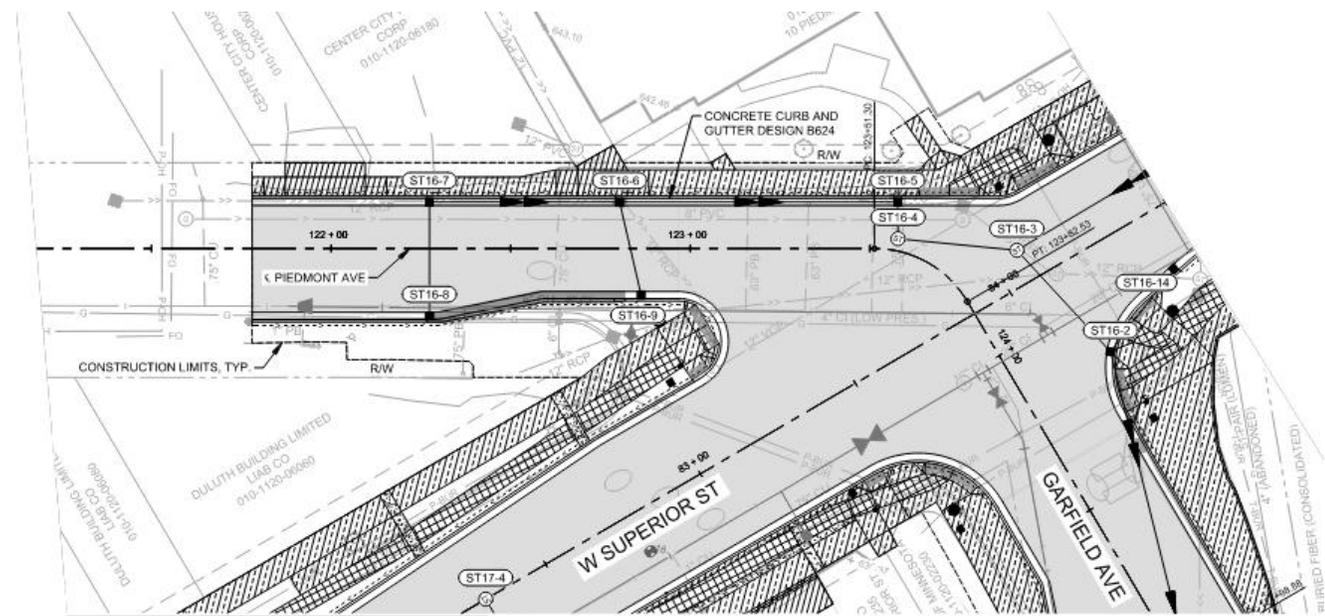
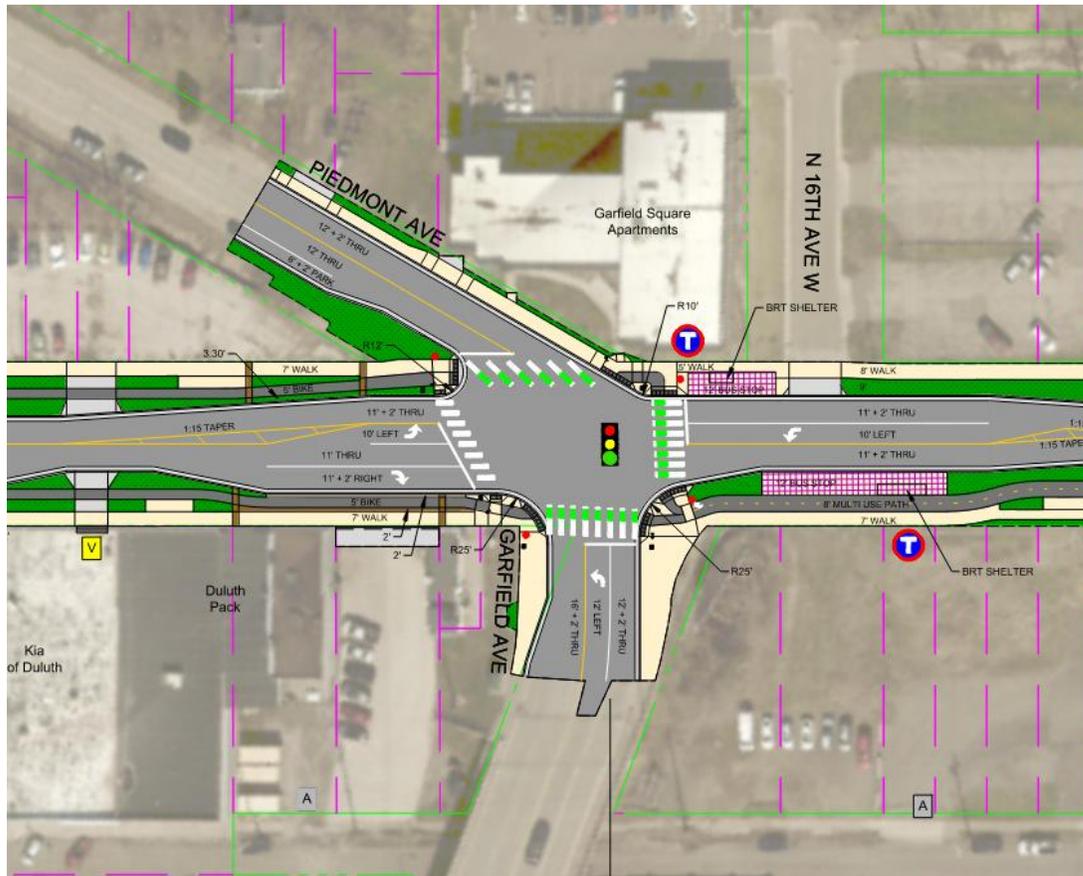
First Unit Width	: 8.50	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 40.0
First Unit Track	: 8.50	Articulating Angle	: 70.0
Trailer Track	: 8.50		

24th Avenue West Turning Movements



BARNHART SOILER		
ITEM NO.	DESCRIPTION	QTY
1	SOILER	1
2	WHEEL	4
3	AXLE	2
4	BRACKET	2
5	WHEEL	4
6	AXLE	2
7	BRACKET	2
8	WHEEL	4
9	AXLE	2
10	BRACKET	2

Garfield Avenue/Piedmont Avenue Layout



LEGEND

	BITUMINOUS PAVEMENT		AGGREGATE SURFACE		8" CONCRETE DRIVEWAY PAVEMENT (FINISH 1)
	8" CONCRETE WALK (FINISH 1)		8" CONCRETE WALK (FINISH 3)		8" CONCRETE DRIVEWAY PAVEMENT (FINISH 2)
	8" CONCRETE WALK (FINISH 2)		TRUNCATED DOMES		
	DRAIN TILE		STORM SEWER PIPE, MANHOLE AND CATCH BASIN		
	CONCRETE CURB & GUTTER DESIGN B624				
	CONCRETE CURB & GUTTER DESIGN S524				
	3' TRANSITION TO DESIGN B624 INCLUDED IN EXTENTS SHOWN				

Garfield Avenue/Piedmont Avenue Signals

NOTES:

- 1) ENSURE THAT THE EXACT LOCATION OF HANDHOLES, POLES, AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY THE ENGINEER AND VIA CITY TRAFFIC PERSONNEL.
- 2) SEE SPECIAL PROVISIONS FOR CITY FURNISHED MATERIALS.
- 3) THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE SERVICE CONNECTION FOR THE SIGNAL SYSTEM WITH MINN POWER. THE CITY OF DULUTH IS RESPONSIBLE FOR COSTS ASSOCIATED WITH THE SERVICE CONNECTION AND MONTHLY ELECTRICAL SERVICE.
- 4) REFER TO EXISTING SIGNAL PLANS FOR INPLACE SIGNAL COMPONENTS.
- 5) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER EXISTING ROADWAYS/ SIDEWALKS WILL REQUIRE BORING.
- 6) SEE SHEET _____ FOR MAST ARM MOUNTED SIGNS AND SIGN MOUNTING DETAILS.
- 7) FOR CONSTRUCTION OF PEDESTRIAN CURB RAMP, TRAILS, AND CONCRETE WALK, SEE DETAIL SHEETS.
- 8) USE PVC OR HDPE FOR ALL NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
- 9) ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
- 10) FOR PAVEMENT MARKINGS, SEE DETAIL SHEETS.
- 11) REMOVAL OF THE INPLACE SIGNAL SYSTEM WILL BE MEASURED AND PAID FOR SEPARATELY FROM THE "TRAFFIC CONTROL SIGNAL SYSTEM C" PAY ITEM.
- 12) (*) DENOTES ITEMS TO BE INCLUDED AS PART OF EMERGENCY VEHICLE PREEMPTION SYSTEM C. SEE SPECIAL PROVISIONS.

4 F&d

X:
Y:
POLE FOUNDATION TYPE TS30-40 DS S
TYPE TS-A-30 X6-350/CAM 400 EXTENSION (DAVIT AT 350 DEG) (INCLUDES LIGHTNING ROD, 7/16-INCH GROUND BRAID, AND GROUND ROD)
1-PAIR SWING AWAY HINGES
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)

Typical all poles

F&d APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PUSH BUTTON & SIGN (LT ARROW) (PB4-1)
EXTEND INTO HH 2:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS.GR.)

F&d APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PUSH BUTTON & SIGN (LT ARROW) (PB6-1)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS.GR.)

F&d APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PUSH BUTTON & SIGN (RT ARROW) (PB2-2)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS.GR.)

HH 4 TO HH 5:
2-3" CONDUITS
2-6/C 16
7-4/C 16
1-3/C 16
1-3/C 20
2-2/C 14
2-CAT SE CABLES (VIDEO)
1-CAT SE CABLE (PT2)
1-3/C 16 (LUM)
1-1/C 6 (INS GR)

HH 1 TO HH 2:
2-3" CONDUITS
7-6/C 16
9-4/C 16
2-3/C 16
3-3/C 20
4-2/C 14
2-CAT SE CABLES (VIDEO)
2-3/C 16 (LUM)
1-1/C 6 (INS GR)

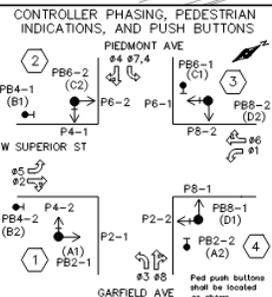
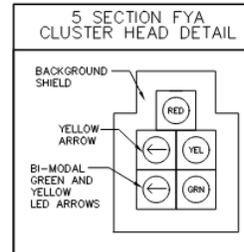
(B) INPLACE WOOD POLE (SOP - MINN POWER)
F&d 2" CONDUIT RISER AND WEATHERHEAD
3-1/C 2
EXTEND TO SERVICE CABINET:
2" CONDUIT
3-1/C 2

F&d APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PUSH BUTTON & SIGN (RT ARROW) (PB4-2)
EXTEND INTO HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS.GR.)



VIDEO DETECTION					
CAMERA NO.	APPROACH FACING	POLE	LOCATION	EXTENSION	PHASE
V-1	NB SUPERIOR ST	4	LUM EXT.	YES	2,5
V-2	SB SUPERIOR ST	2	LUM EXT.	YES	1,6
V-3	WB GARFIELD AVE	3	LUM EXT.	YES	3,8
V-4	EB PIEDMONT AVE	4	LUM EXT.	YES	4,7

- VIDEO DETECTION CAMERAS AND MOUNTING HARDWARE SHALL BE CONTRACTOR FURNISHED AND INSTALLED.



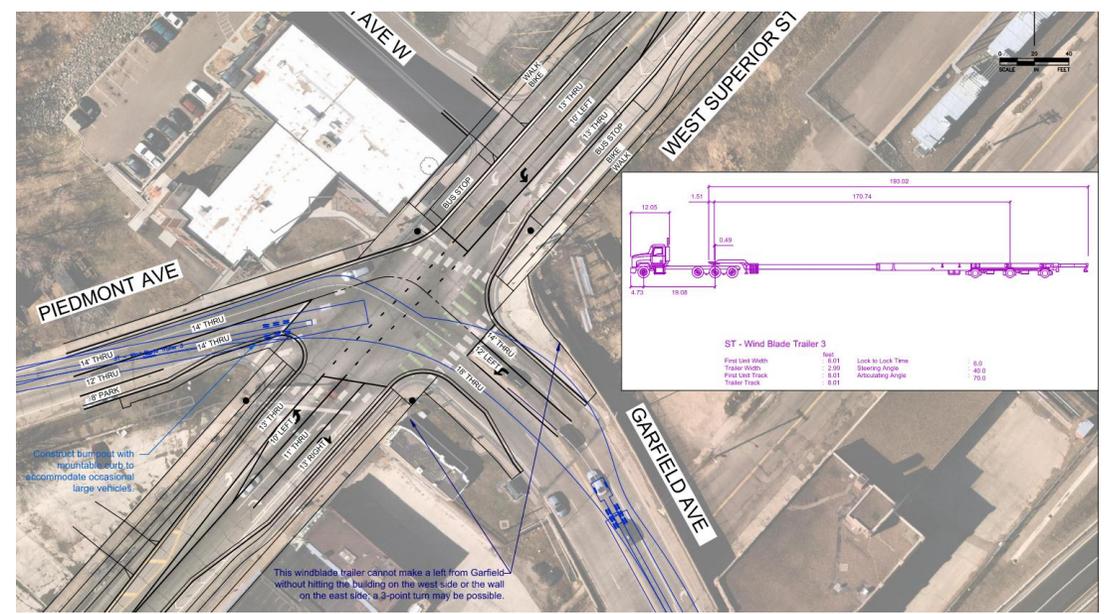
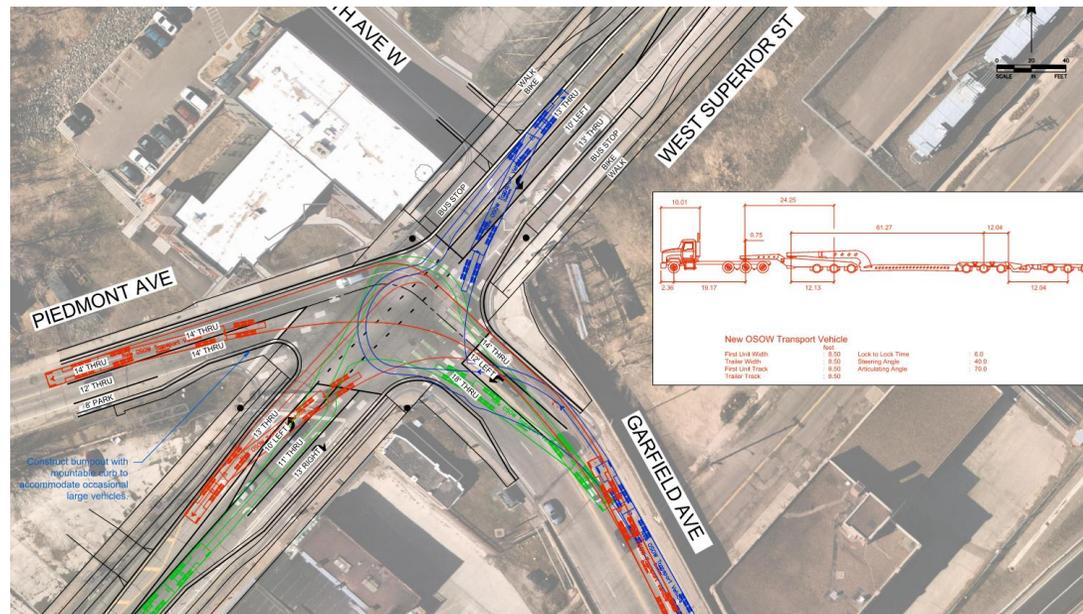
SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1,3,5,7 BEING FLASHING YELLOW ARROW SEQUENCING SELECTABLE BY TOD PROGRAMS.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SIGNAL HEAD CHART						
SIGNAL HEAD	R	Y	FYA	G	Y	G
1-1, 1-2	←	←	←	←		
2-1, 2-2	●	●	●	●		
3-1, 3-2	←	←	←	←		
4-1, 4-2, 4-3	●	●	●	●		
4-4, 4-5	●	●	←	●	←	←
5-1, 5-2	←	←	←	←		
6-1, 6-2	●	●	●	●		
8-1, 8-2, 8-3	●	●	●	●		

- ALL SIGNAL INDICATIONS SHALL BE 12" LED.
- FYA DENOTES FLASHING YELLOW ARROW.
- ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELD.
- ALL BACKGROUND SHIELDS SHALL HAVE YELLOW RETROREFLECTIVE BORDER.

Garfield Avenue/Piedmont Avenue Turning Movements

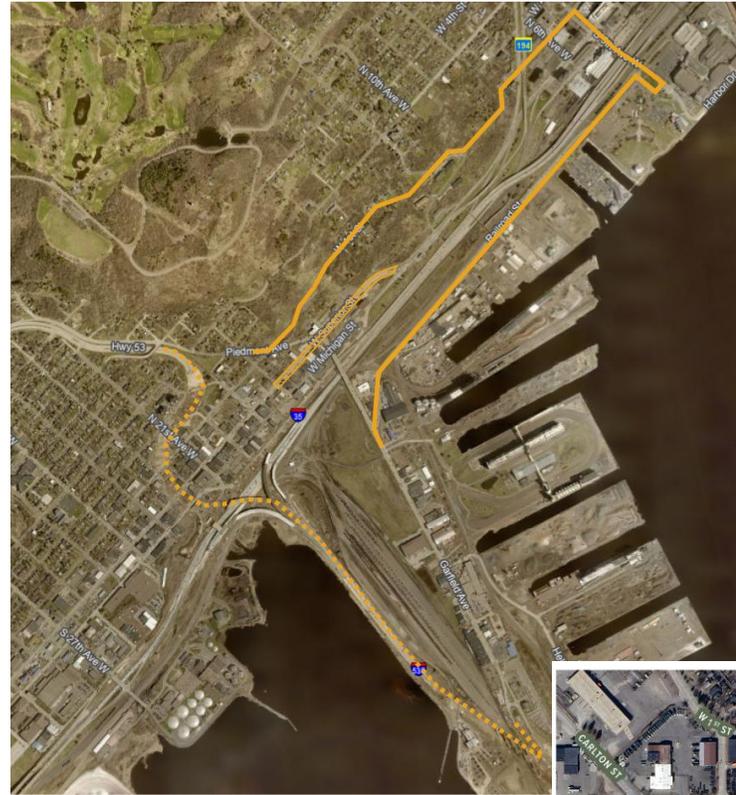


Project Phasing and Schedule

- 2025 Phase 0: 27th Avenue West and Michigan Street Intersections
- 2026 Phase 1: Michigan Street through 18th Avenue W
- 2027 Phase 2: 18th Avenue W to 24th Avenue W
- 2028 Phase 3: 24th Avenue W to Carlton Street



Detour Routes



2025

2026

2027

2028



Match Line - See Bottom View Left Side

Match Line - See Top View Right Side



Questions or Comments?

