



Business Advisory Committee

August 4, 2015



Today's Topics

- Outreach Update
- TI #2 and 3: TH 55/Olson Memorial Highway
- Bass Lake Road Station Configuration
- Transmission Line Update
- Systems Introduction
- Municipal Consent Process Overview and Roadmap



Outreach Update



July 27 Crystal Open House



July 28 Robbinsdale Open House



July 29 Minneapolis Open House



Upcoming Open Houses

- August 11: Brooklyn Park (at North Hennepin Community College)
 - Includes EAW West Broadway Avenue
- August 12: Golden Valley



Upcoming Committee Meetings

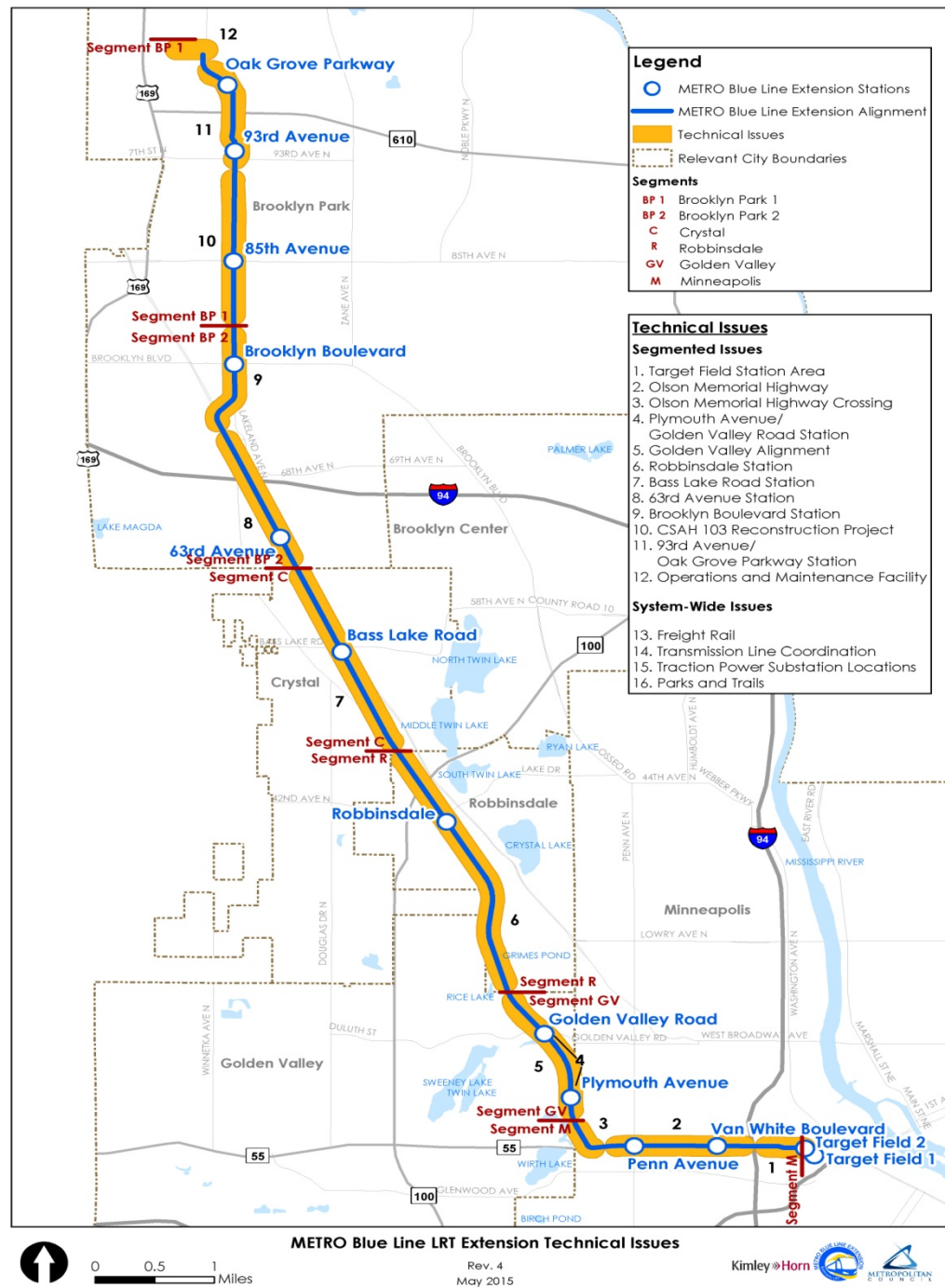
- August 3: Community Advisory Committee
- August 4: Business Advisory Committee
- August 13: Corridor Management Committee



Technical Issues Update



Technical Issues

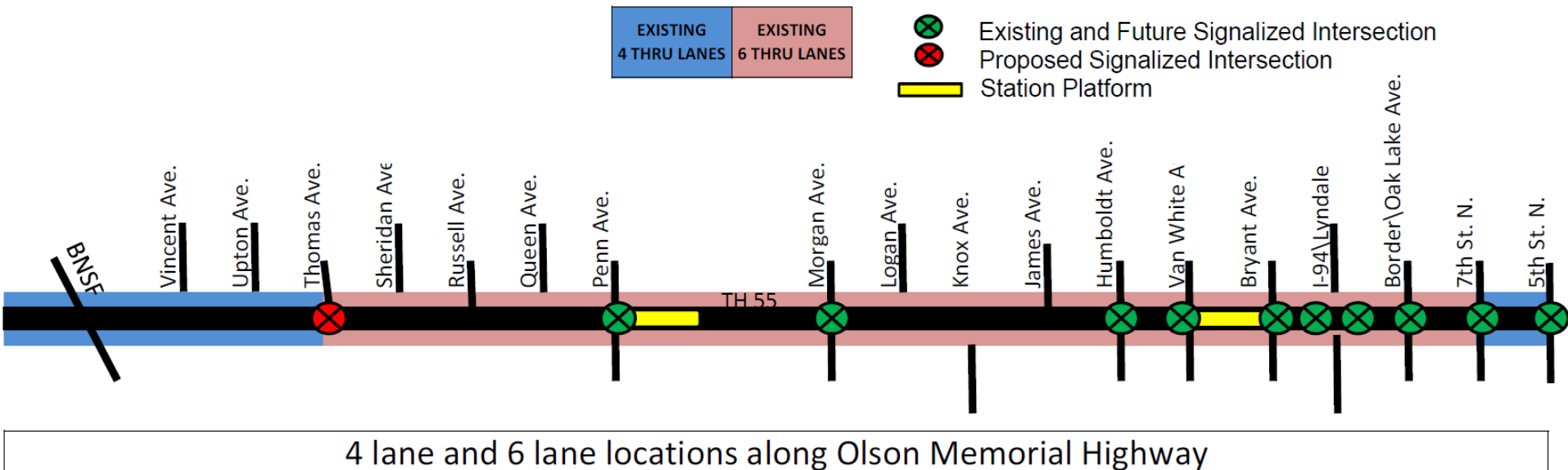


Technical Issue #2: TH 55/Olson Memorial Highway



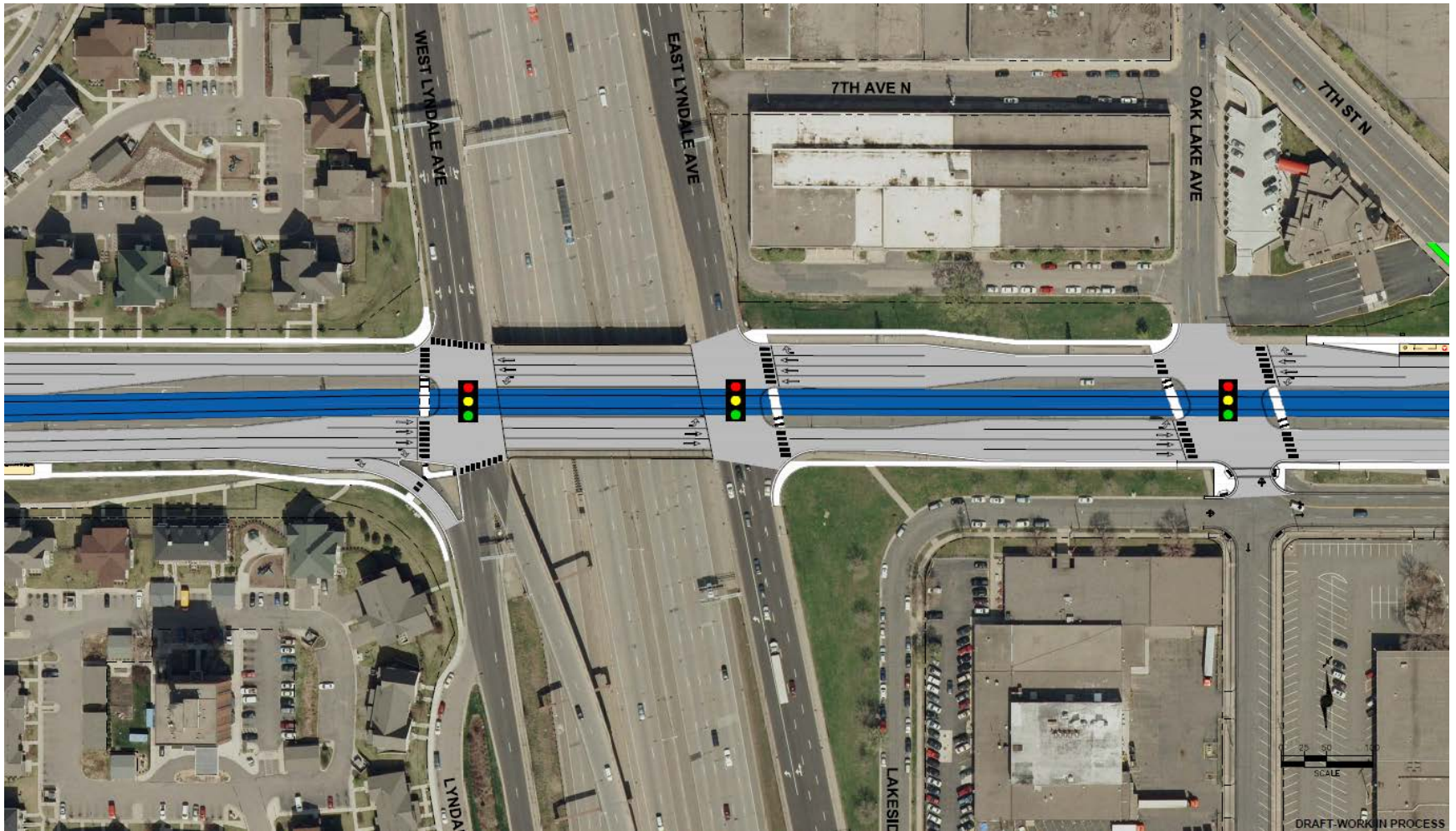
Technical Issue #2:

TH 55/Olson Memorial Highway



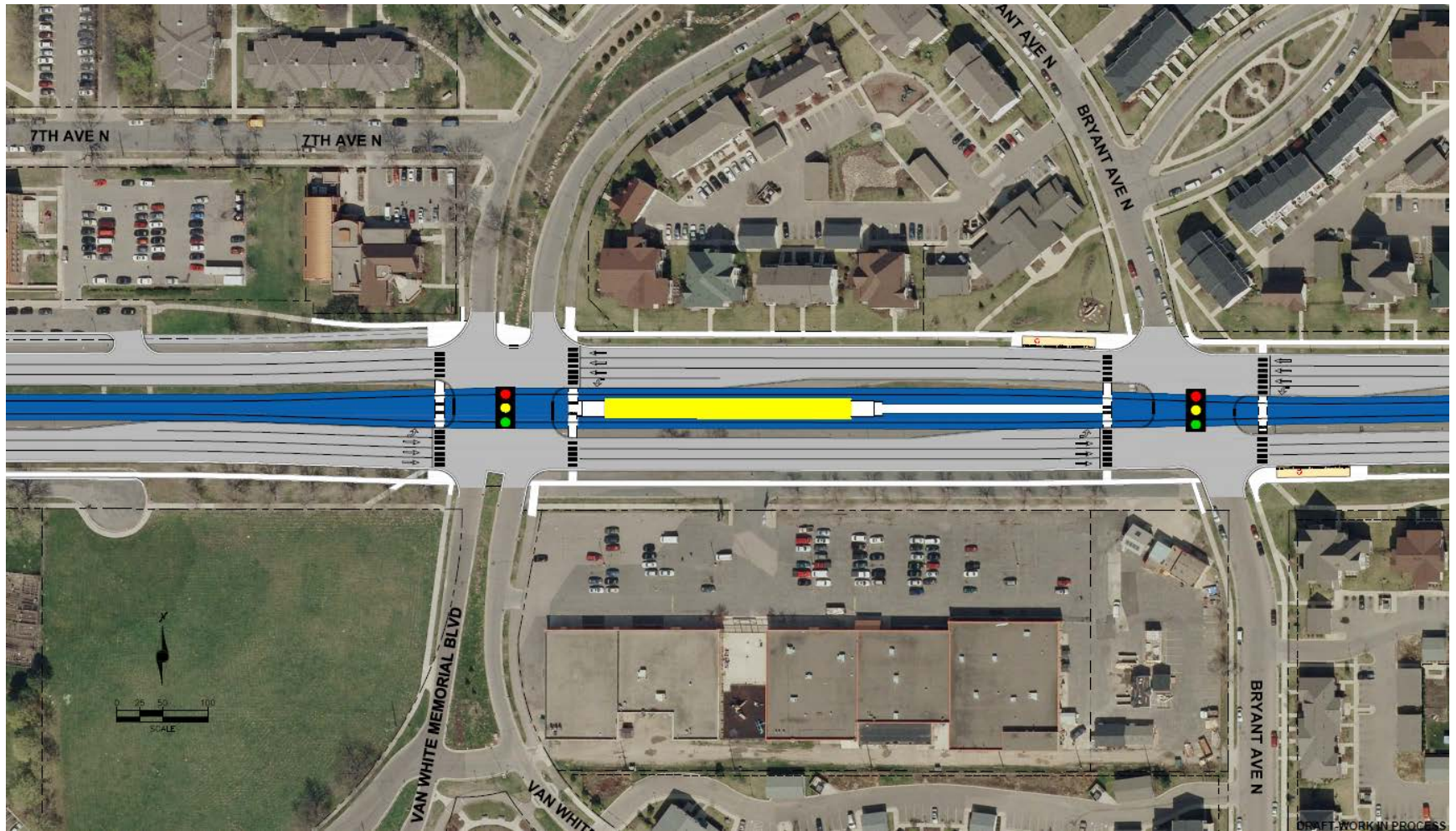
TH 55/Olson Memorial Highway

From I-94



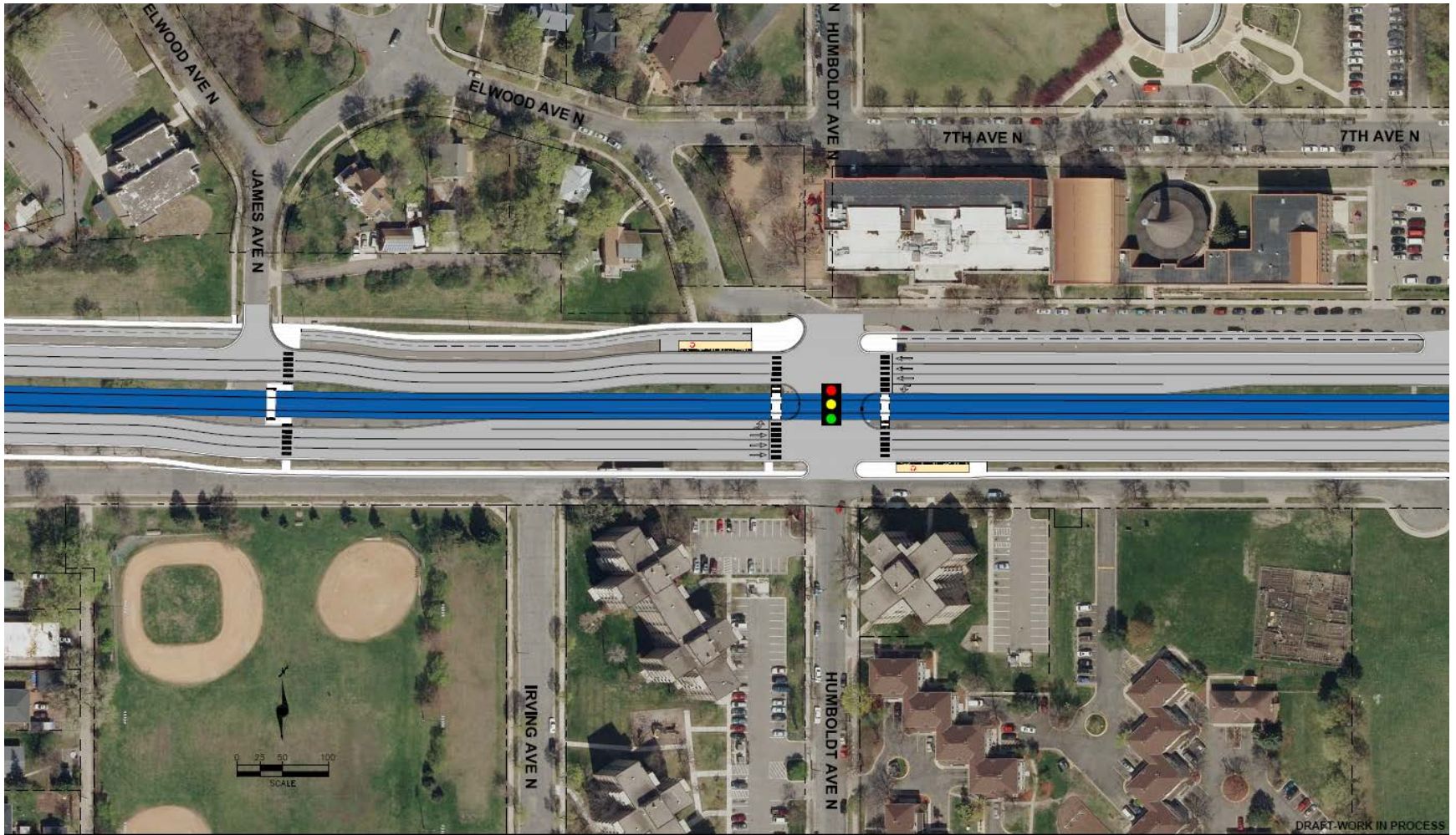
TH 55/Olson Memorial Highway

Van White Station



TH 55/Olson Memorial Highway

Humboldt Ave



TH 55/Olson Memorial Highway

Morgan Ave



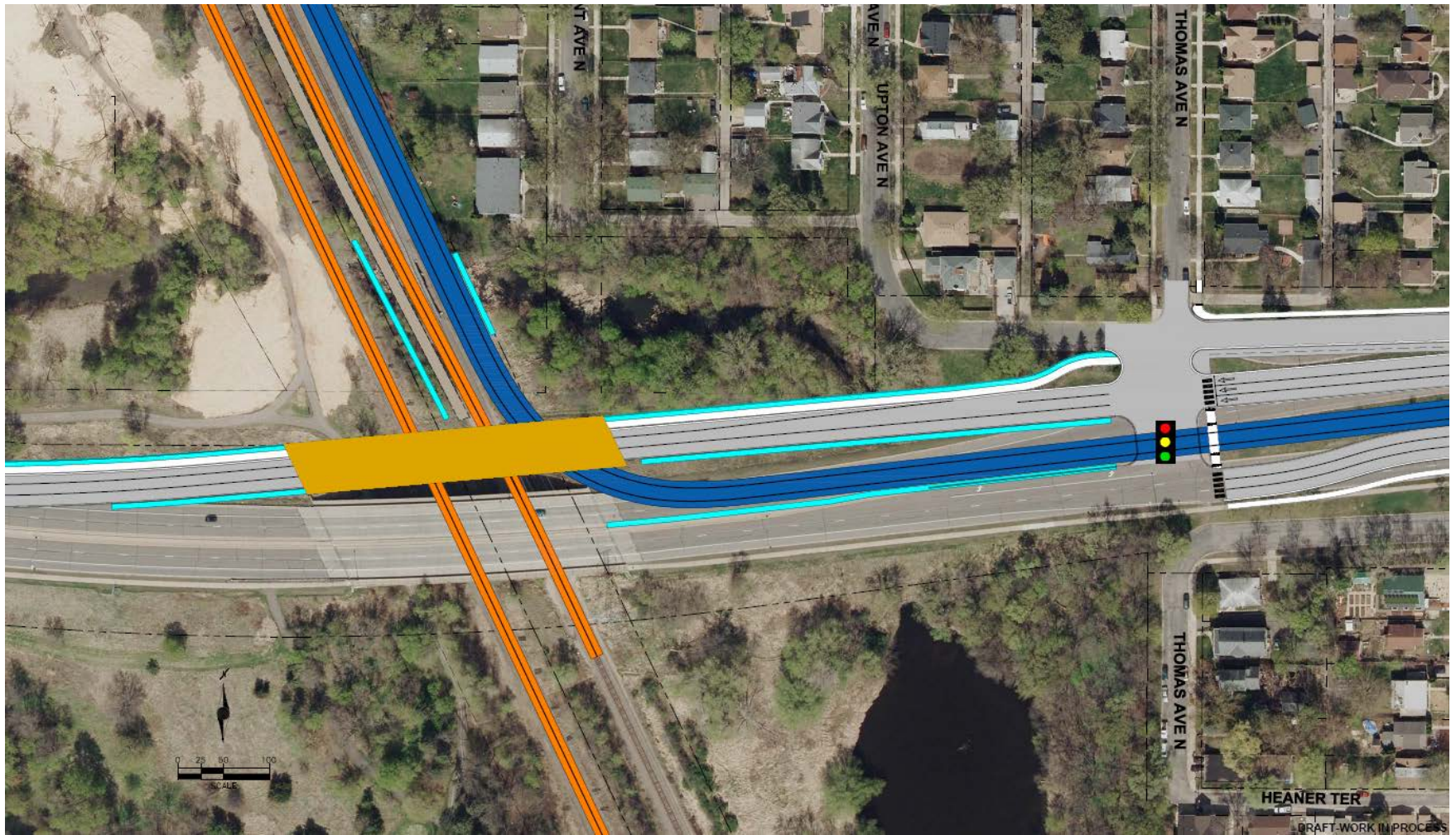
TH 55/Olson Memorial Highway

Penn Ave



TH 55/Olson Memorial Highway

Thomas Ave



TH 55/Olson Memorial Highway:

Key Issues

- Designated principal arterial
- Posted 40 MPH speed limit
- 3 lanes eastbound and westbound (6 total)
- Reliever route for I-394
- Existing lanes are 12'-17'
- Alignment is continuous and straight
- Pedestrian crossings are in poor condition
- No bicycle facilities



Technical Issue #2: TH 55/Olson Memorial Highway



Penn Avenue and Olson Memorial Highway – Looking Northeast

TH 55/Olson Memorial Highway: Proposed Improved Conditions

- Continue as a principal arterial and reliever
- 3 lanes eastbound and westbound (6 total)
- Design and post for 35 MPH speed limit
- Provide for pedestrian connections and safety
- Accommodate for two-way cycle track
- Reduce lane widths to 11'
- Introduce lane shifts
- Enhance lighting along corridor



Technical Issue #2: TH 55/Olson Memorial Highway



Penn Avenue and Olson Memorial Highway – Looking Northeast

Draft – Work in Process

Technical Issue #2:

TH 55/Olson Memorial Highway



Penn Avenue and Olson Memorial Highway - View from Southeast corner looking north

Technical Issue #2: TH 55/Olson Memorial Highway



Penn Avenue and Olson Memorial Highway - View from Southeast corner looking north

Draft – Work in Process

Technical Issue #2: TH 55/Olson Memorial Highway



Penn Avenue and Olson Memorial Highway - View from existing crosswalk looking north

Technical Issue #2:

TH 55/Olson Memorial Highway



Penn Avenue and Olson Memorial Highway - View from crosswalk looking north

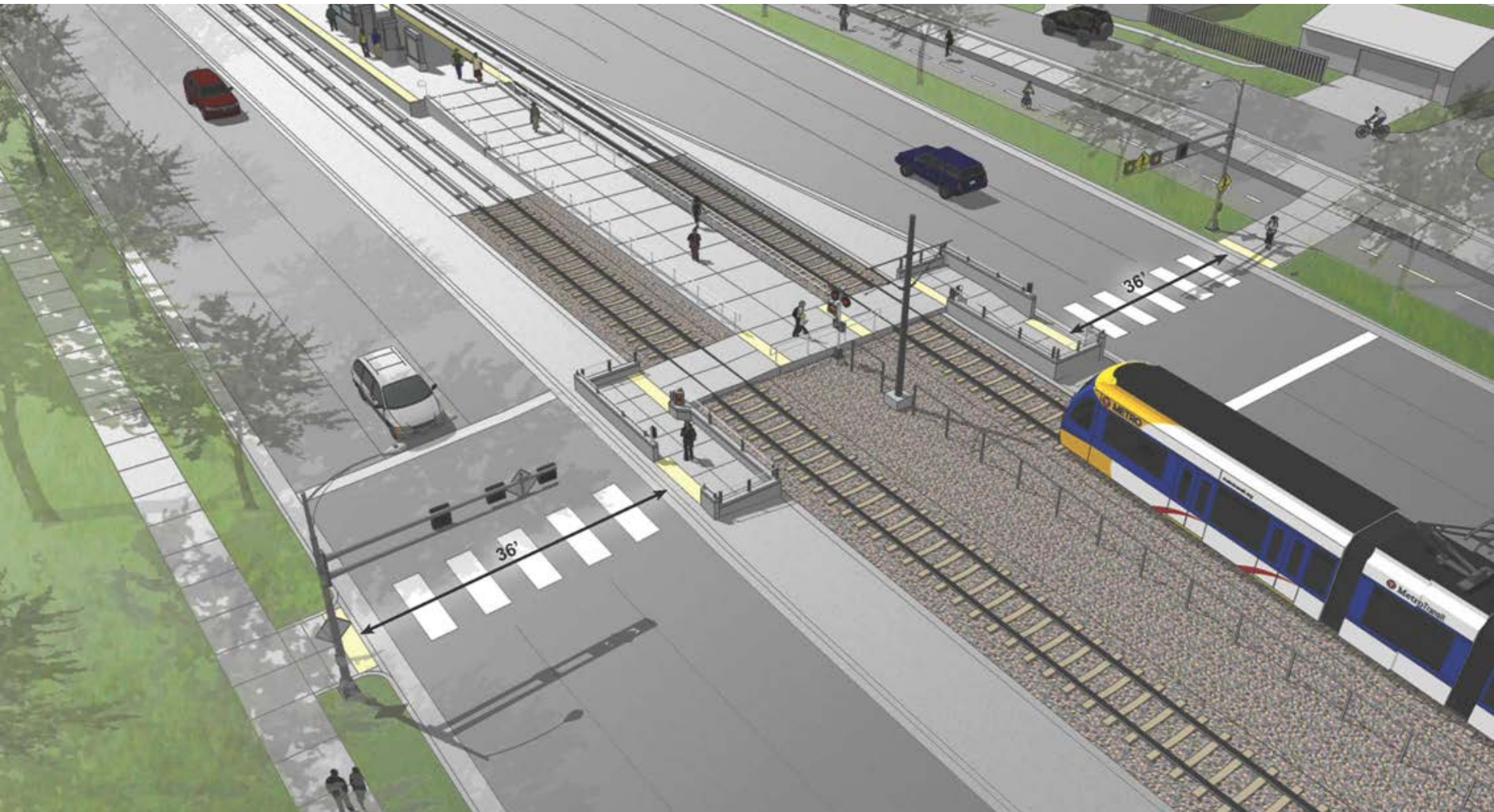
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Technical Issue #2: TH 55/Olson Memorial Highway



Olson Memorial Highway between Newton Avenue and Oliver Avenue – Looking Northwest

Technical Issue #2: TH 55/Olson Memorial Highway



Olson Memorial Highway between Newton Avenue and Oliver Avenue – Looking Northwest

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Technical Issue #2: TH 55/Olson Memorial Highway



Olson Memorial Highway between Newton Avenue and Oliver Avenue – Mid-block view looking North

Technical Issue #2: TH 55/Olson Memorial Highway



Olson Memorial Highway between Newton Avenue and Oliver Avenue – Mid-block view looking North

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Technical Issue #2: TH 55/Olson Memorial Highway



Olson Memorial Highway between Newton Avenue and Oliver Avenue – View from existing median looking East

Technical Issue #2: TH 55/Olson Memorial Highway

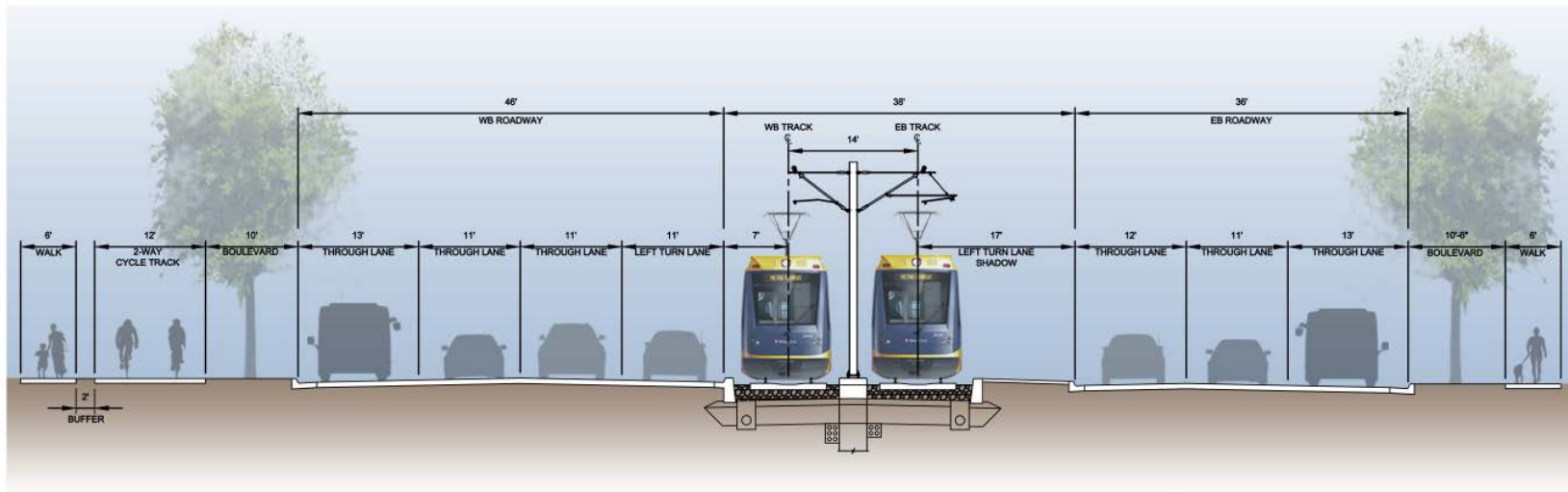
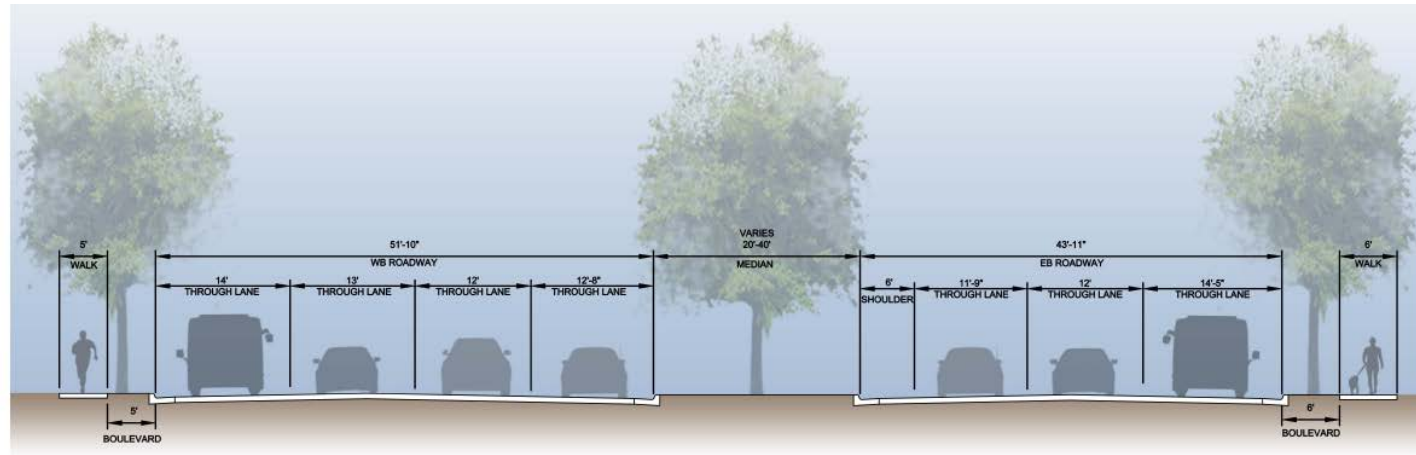


Olson Memorial Highway between Newton Avenue and Oliver Avenue – View from platform ramp looking East

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Technical Issue #2:

TH 55/Olson Memorial Highway



Olson Memorial Highway with 2-Way Cycle Track



Technical Issue #2:

TH 55/Olson Memorial Highway

Recommendations

- Advance design for 6-lane principal arterial
- Center running LRT
- 10' boulevards
- 6' sidewalk on south side
- 3 mid-block pedestrian crossings
- Accommodate for 12' cycle track and 6' sidewalk on north side
- Continue design coordination with MnDOT, Hennepin County and Minneapolis



Technical Issue #3: Olson Memorial Highway Crossing

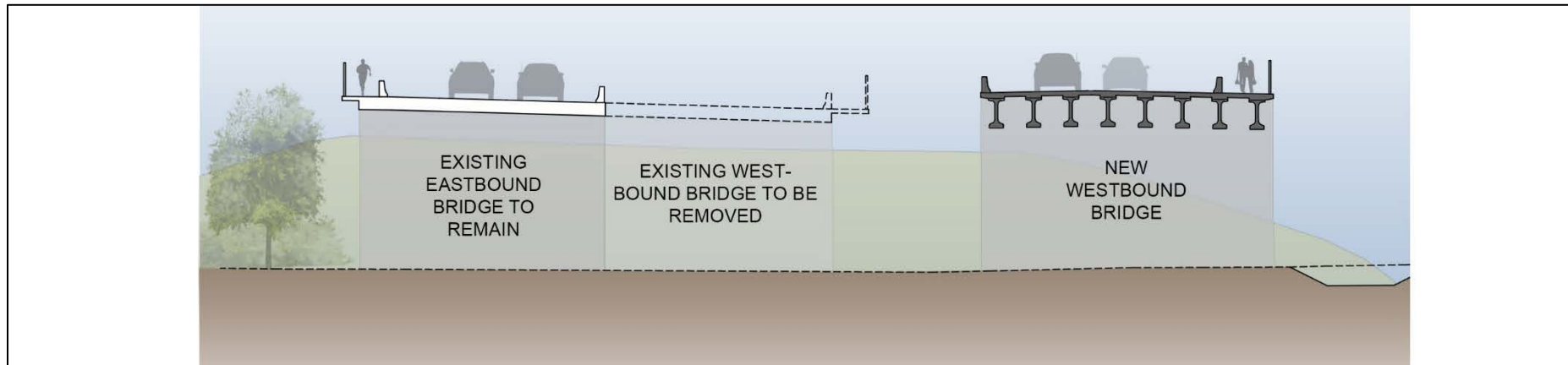
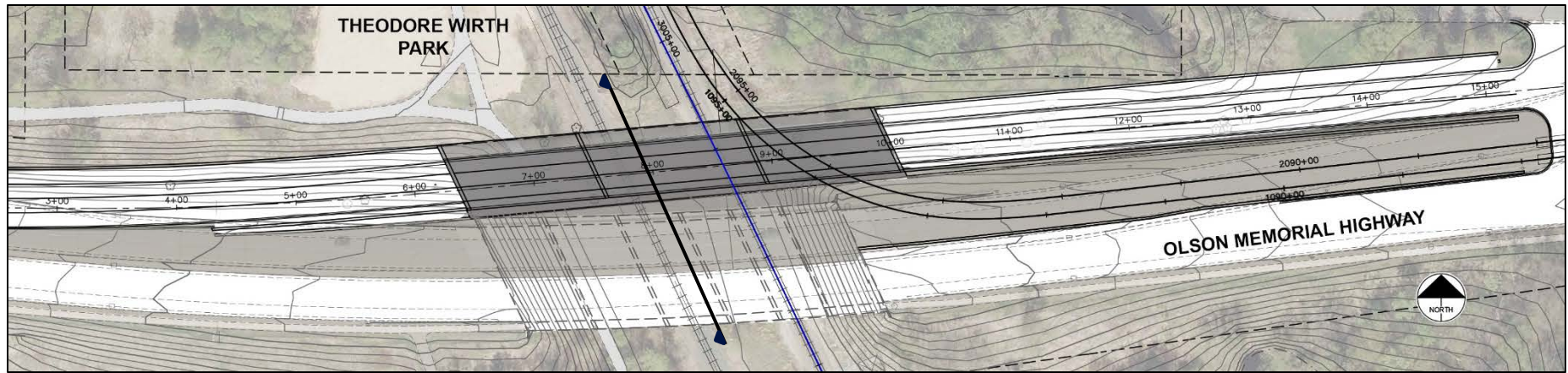


Technical Issue #3: Olson Memorial Highway Crossing Key issues

- LRT is center running on OMH
- Need to connect to freight rail corridor
- Existing OMH bridge structure



Technical Issue #3 OMH Crossing



Cross section at center of bridges, looking west

Technical Issue #3: Olson Memorial Highway Crossing



Aerial view looking West along Olson Memorial Highway

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Technical Issue #3: Olson Memorial Highway Crossing



View West at Thomas Ave

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Technical Issue #3: Olson Memorial Highway Crossing



Northwest view at Olson Memorial Highway Bridge

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Technical Issue #3: Olson Memorial Highway Crossing



View from LRT vehicle looking South

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Technical Issue #3: Olson Memorial Highway Crossing



View looking South from Eastbound LRT vehicle

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Technical Issue #3:

Olson Memorial Highway Crossing Recommendations

- LRT center running on OMH
- Reconstruct westbound OMH span
- Eastbound OMH span remains in place
- Connect to freight rail corridor north of OMH bridge
- Continue to work with MnDOT, Hennepin County and Minneapolis on design



Bass Lake Road Station Configuration

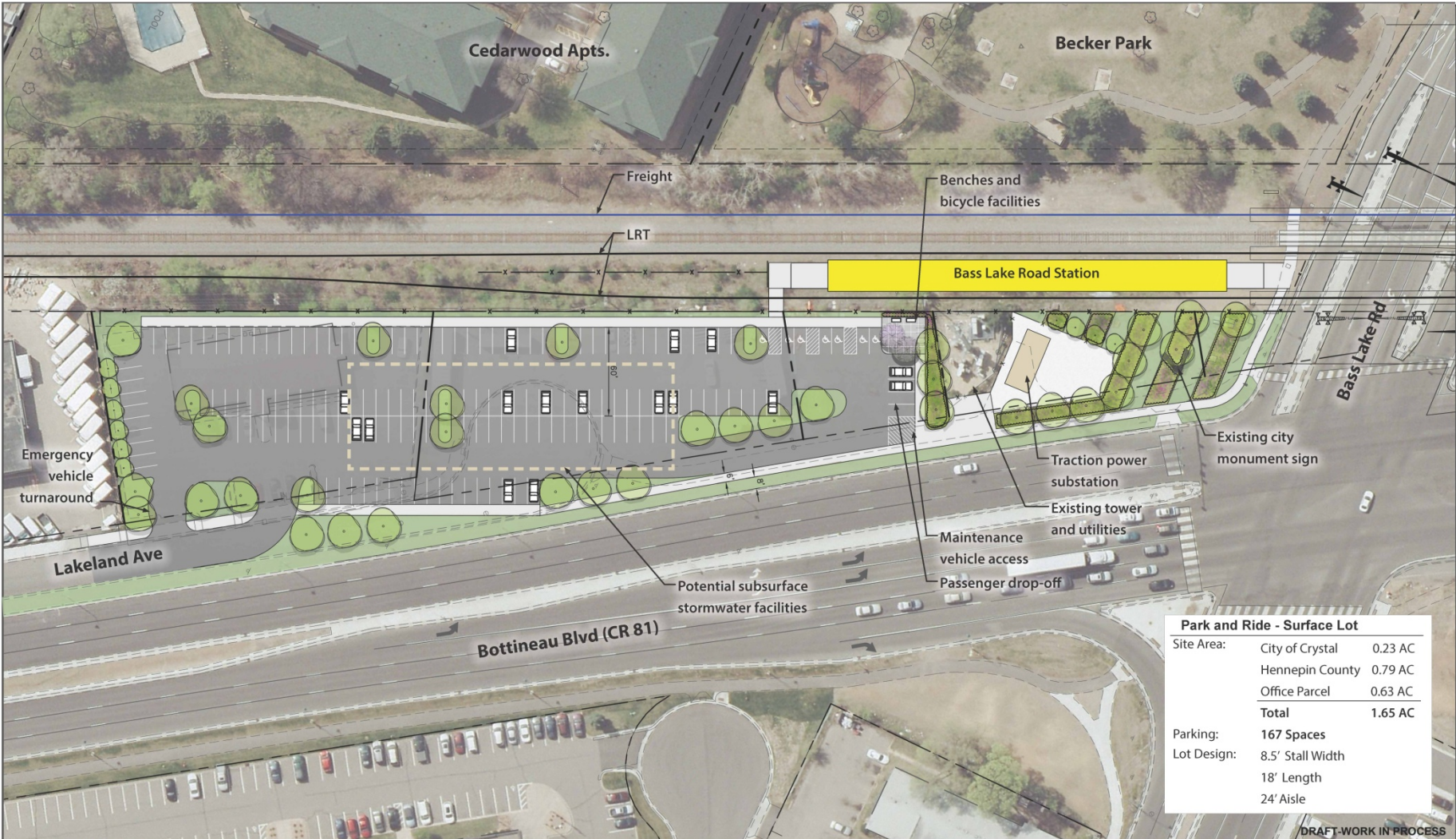


Issues to be Resolved

- Bass Lake Road station park and ride
 - Community input from May and July open houses: support addition of park and ride
- Traffic Operations at Bass Lake Rd
 - Conduct traffic modeling
 - Analyze grade separation at Bass Lake Rd



Station Park and Ride





BLUE LINE LRT EXTENSION
CITY OF CRYSTAL - BASS LAKE ROAD STATION
PARK AND RIDE - SURFACE LOT

TI #07
Rev 1
07/07/2015









Traffic Operations at Bass Lake Rd

- Conduct traffic modeling
- Analyze grade separation at Bass Lake Rd



Bass Lake Road Analysis

- At-grade LRT crossing
- 170-space park-and-ride
 - 94 trips in AM peak, 87 trips in PM peak
- CSAH 81/Bass Lake Road AM/PM Peak Hour Operations
 - Existing intersection operates with 25-35 seconds of average intersection delay
 - 2040 without LRT and park-and-ride operates with 30-40 seconds of average intersection delay
 - 2040 with LRT and park-and-ride operations with 35-45 seconds of average intersection delay
- No significant change in intersection delay due to LRT and park-and-ride



Bass Lake Road Station Recommendation

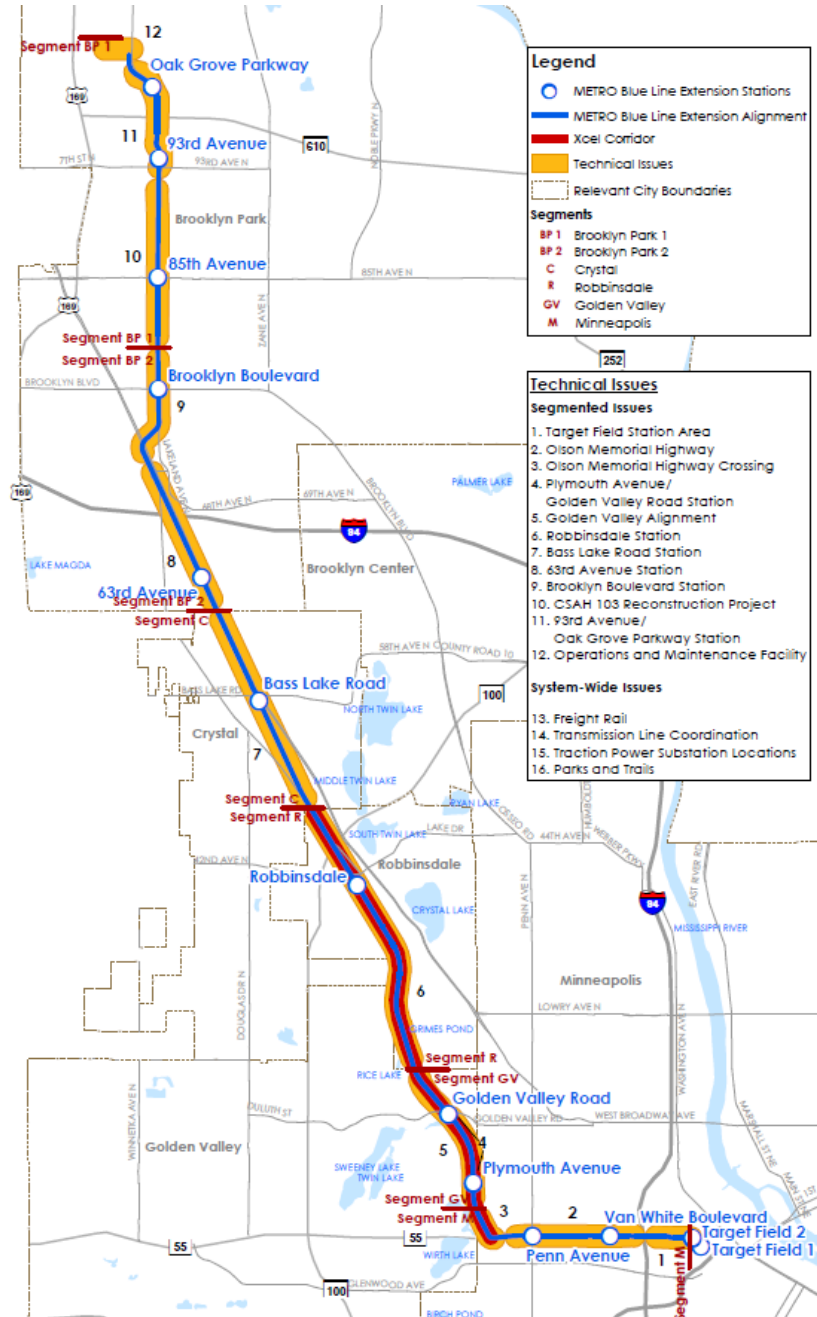
- Station
 - Advance park and ride of 167 spaces
 - Property acquisition and construction costs not included in DEIS cost estimate
- Traffic Operations at Bass Lake Rd
 - Acceptable intersection operations in 2040 with LRT
 - At-grade intersection at Bass Lake Rd



Transmission Line Coordination Update



Xcel Energy Transmission Line Corridor



Xcel Energy Transmission Line Corridor

- BPO has held regular meetings with Xcel Energy
- Xcel feedback to BPO:
 - Xcel intends to own and maintain a transmission line in this corridor
 - Protect Xcel's ability to access and maintain transmission line structures as necessary
 - Accommodate Xcel's ability to replace transmission line structures in the future if not replaced at this time

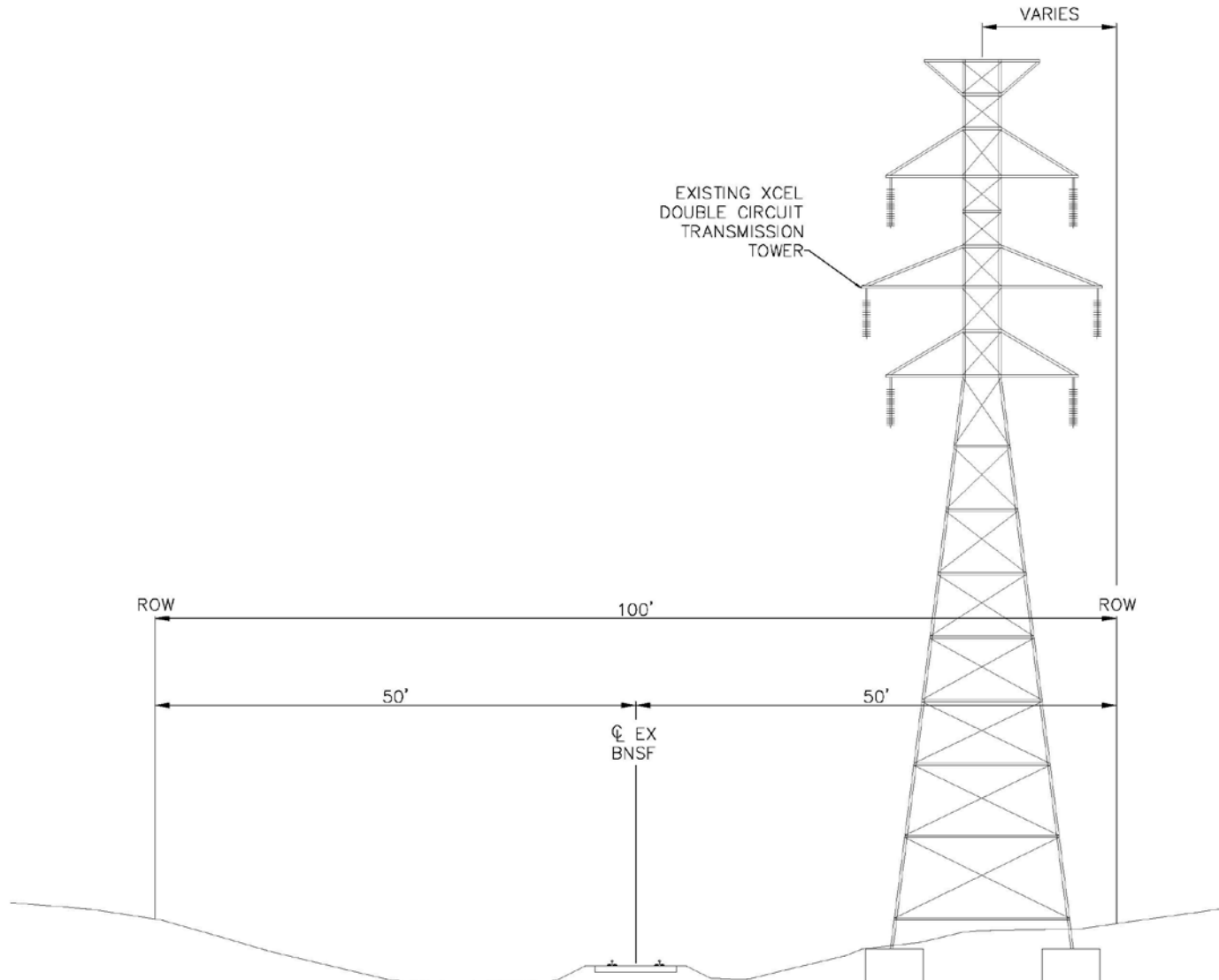


Xcel Energy Transmission Line Corridor

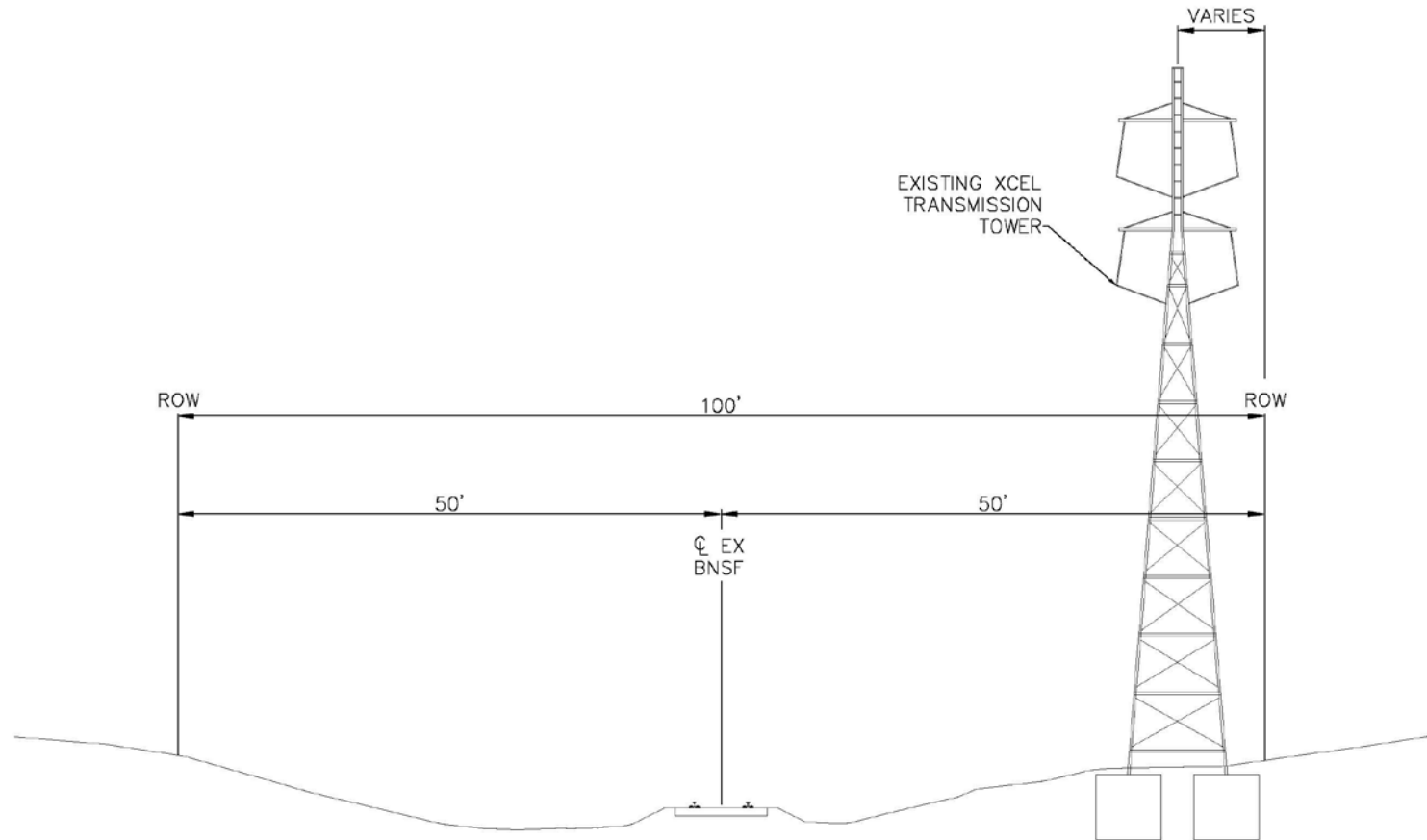
- 115 kV transmission line on BNSF ROW by permit
- Existing transmission line feeds Xcel's Indiana Substation at 33rd Ave North & Indiana Ave North
- Transmission line characteristics:
 - Double circuit steel lattice structures (4)
 - Single circuit steel lattice structures (35)
 - Single circuit wood poles (36)



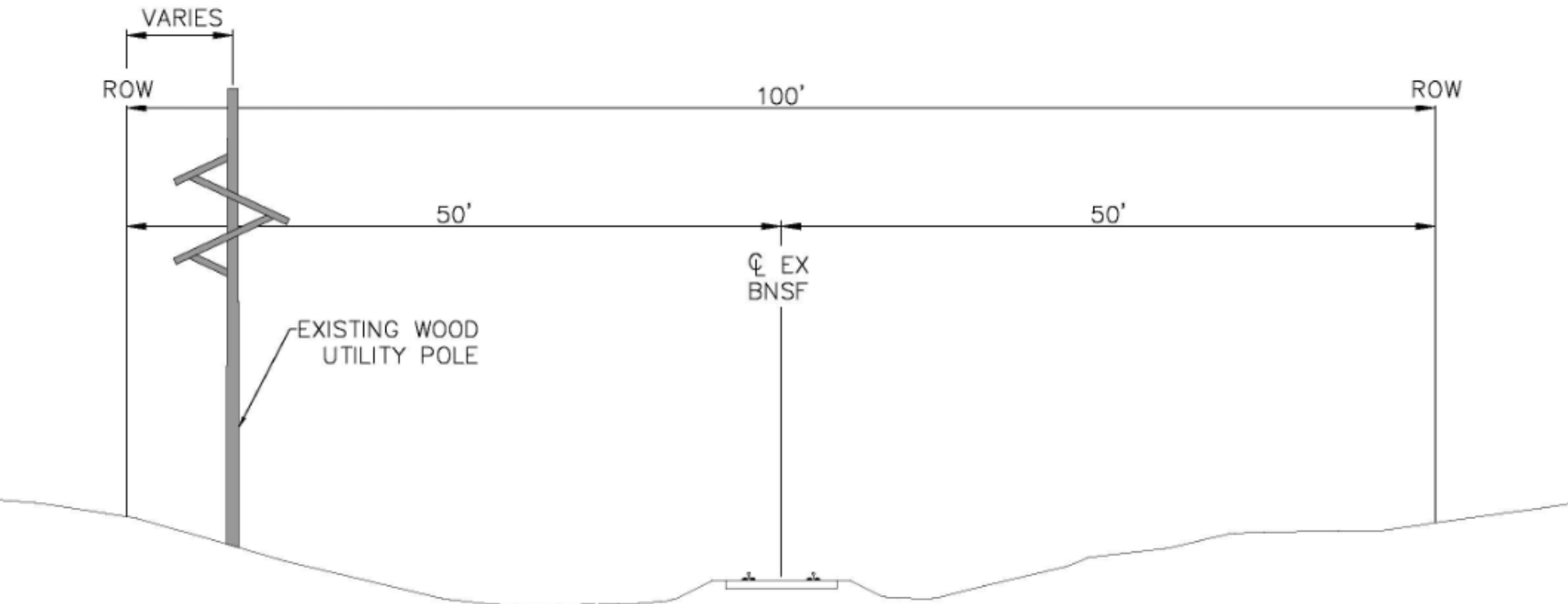
Xcel Energy Transmission Line: Double circuit 115 kV steel lattice structures



Xcel Energy Transmission Line: Single circuit 115 kV steel lattice structures



Existing Xcel Energy Transmission Line: Single circuit 115 kV wood poles

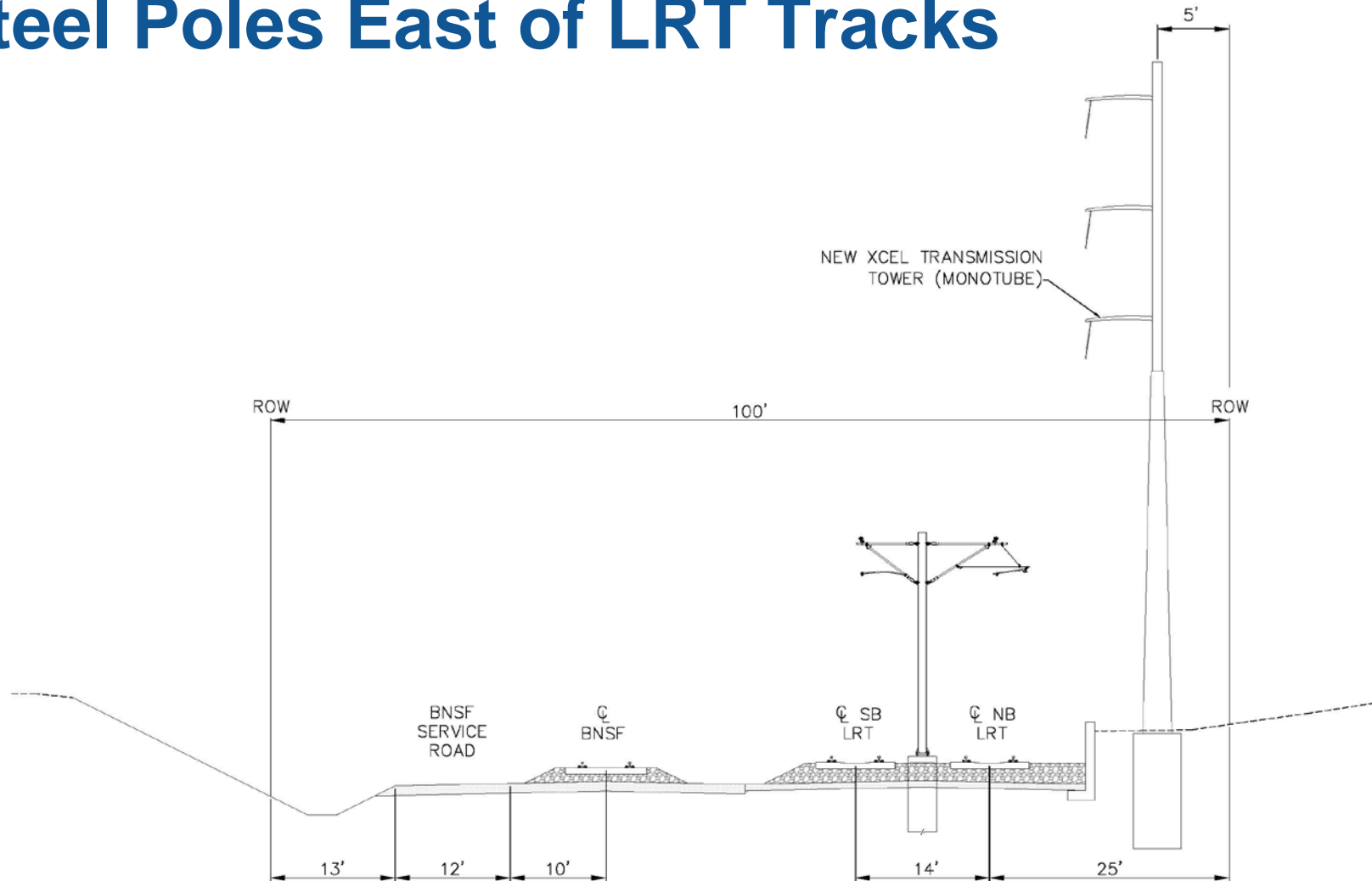


Xcel Energy Transmission Corridor

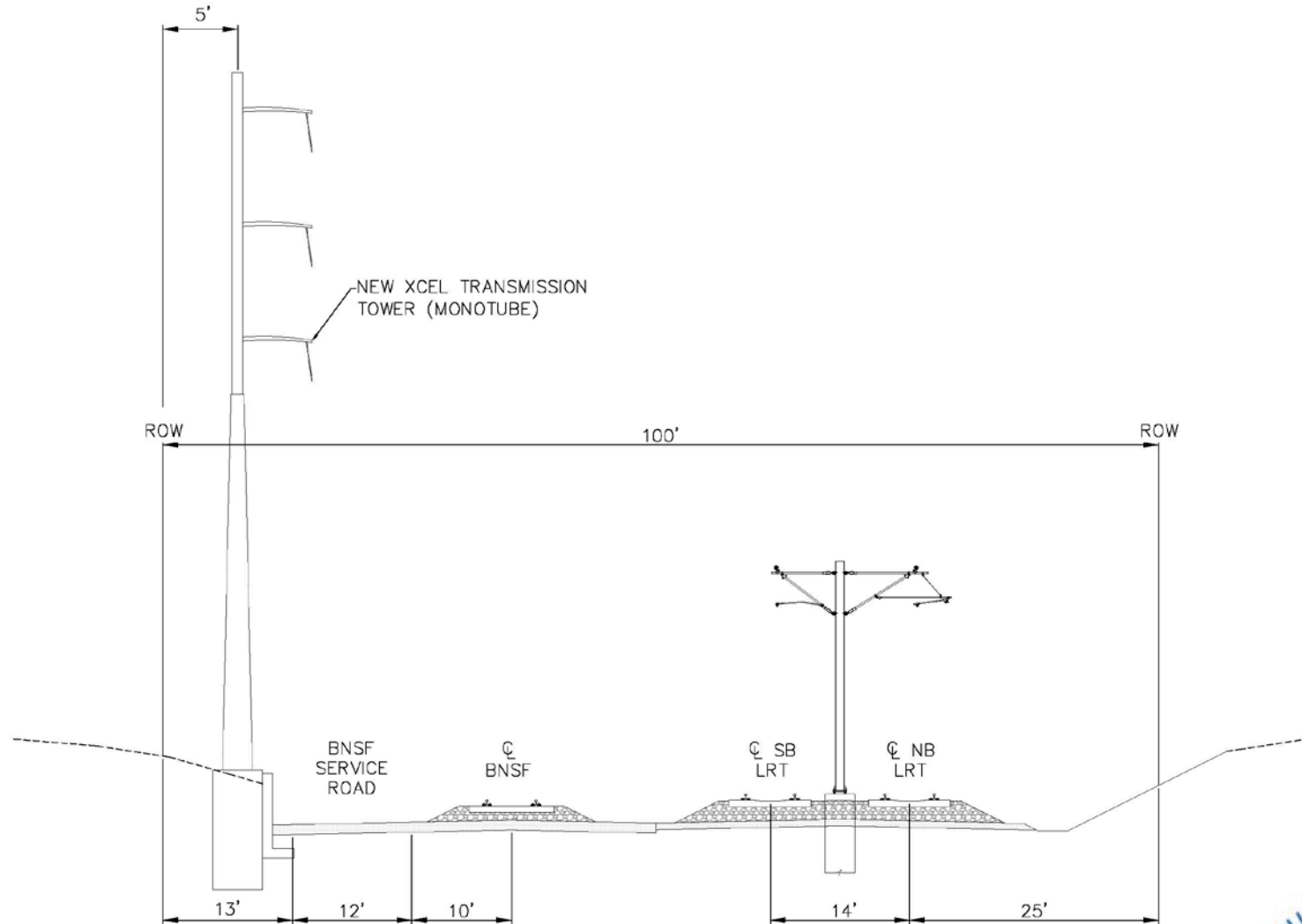
- Potential Xcel Energy transmission line accommodations:
 - Remain in current location
 - Steel poles east of LRT tracks
 - Steel poles west of BNSF tracks
 - Steel poles between LRT tracks
- Other issues:
 - Compatibility with freight rail improvements
 - Constructability
 - Electrical clearances



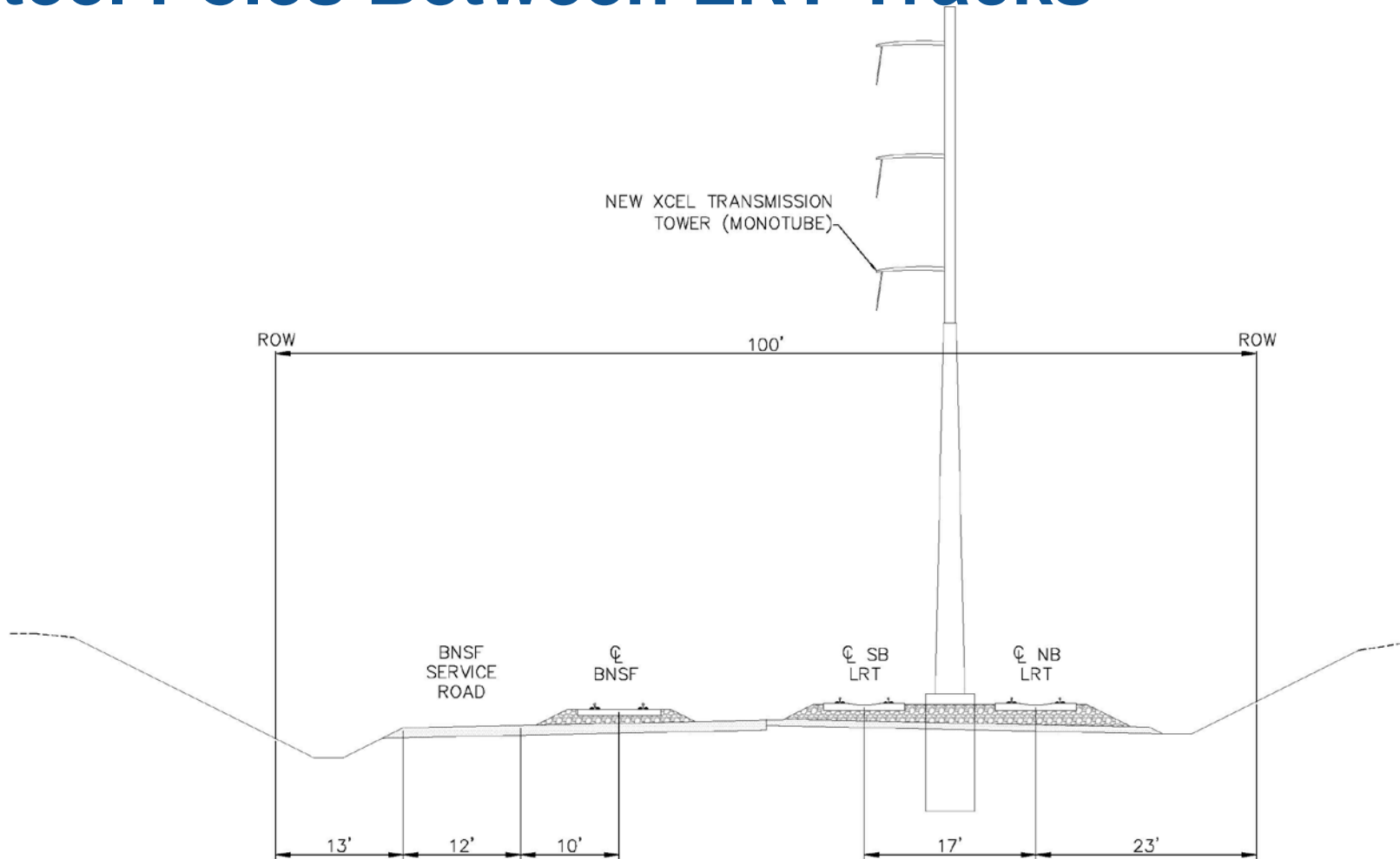
Potential Xcel Energy Accommodation: Steel Poles East of LRT Tracks



Potential Xcel Energy Accommodation: Steel Poles West of BNSF Track



Potential Xcel Energy Accommodation: Steel Poles Between LRT Tracks



Transmission Line Coordination Next Steps

- Continue regular coordination meetings with Xcel
- Advance improvements necessary for BLRT
- Ensure improvements covered in FEIS
- Ensure improvements are compatible with BNSF freight rail improvements and any necessary ground improvements or structures



Systems Introduction



Traction Power Sub Station (TPSS)

- Converts electrical power (AC to DC) to operate trains
- Requires climate controlled environment
- Placement criteria
 - Located within 500' of track preferred
 - Spacing of approximately 5000' between substations preferred to maintain continuous power to trains
 - Requires closer spacing for steeper track grades
 - Located at-grade to minimize cost and provide adequate access for maintenance



TPSS Site Features

- Requires 40' by 80' footprint
 - TPSS enclosure
 - 10' minimum clear zone around TPSS enclosure
 - Maintenance vehicle parking space
- Requires fencing and access gate
 - Grounded architectural or chain link
- Includes porous asphalt pavement
 - Electrical safety
 - Stormwater management
 - Maintain moisture content of soil (assists with conductivity)



Standard TPSS: Blue Line



TPSS Example: Green Line



TPSS – CC03 at 25th and U of M Transitway



Signal Bungalows

- Contains communications, signal and switching controls
- Requires climate controlled environment
- Placement criteria:
 - Located near special trackwork
 - Located within line of sight of special trackwork and equipment testing
 - Requires access for maintenance
 - Located at-grade

Signal Bungalow



Signal Bungalow: Interior View



Overhead Contact System (OCS)

- Transmits electrical power from TPSS to the Light Rail Vehicle via pantograph
- Divided into sections, one per TPSS
- Pole and assembly details:
 - Two wires: contact wire and messenger wire
 - Brackets
 - Insulators
 - Tensioning weights

Standard OCS Pole and Assembly



Rail Signals

- Interlocking Signals
 - Located at LRT interlockings
 - Convey route direction and authority to LRT trains
- Bar Signals
 - Integrated into traffic signals
 - Operate as an independent or concurrent phase of the traffic signal

Rail Signals



Interlocking Signal



Bar Signal

Municipal Consent Process Overview and Roadmap



Municipal Consent Process

- Minnesota Statute 473.3994
- Local jurisdictional review and approval of physical design component of preliminary design plans

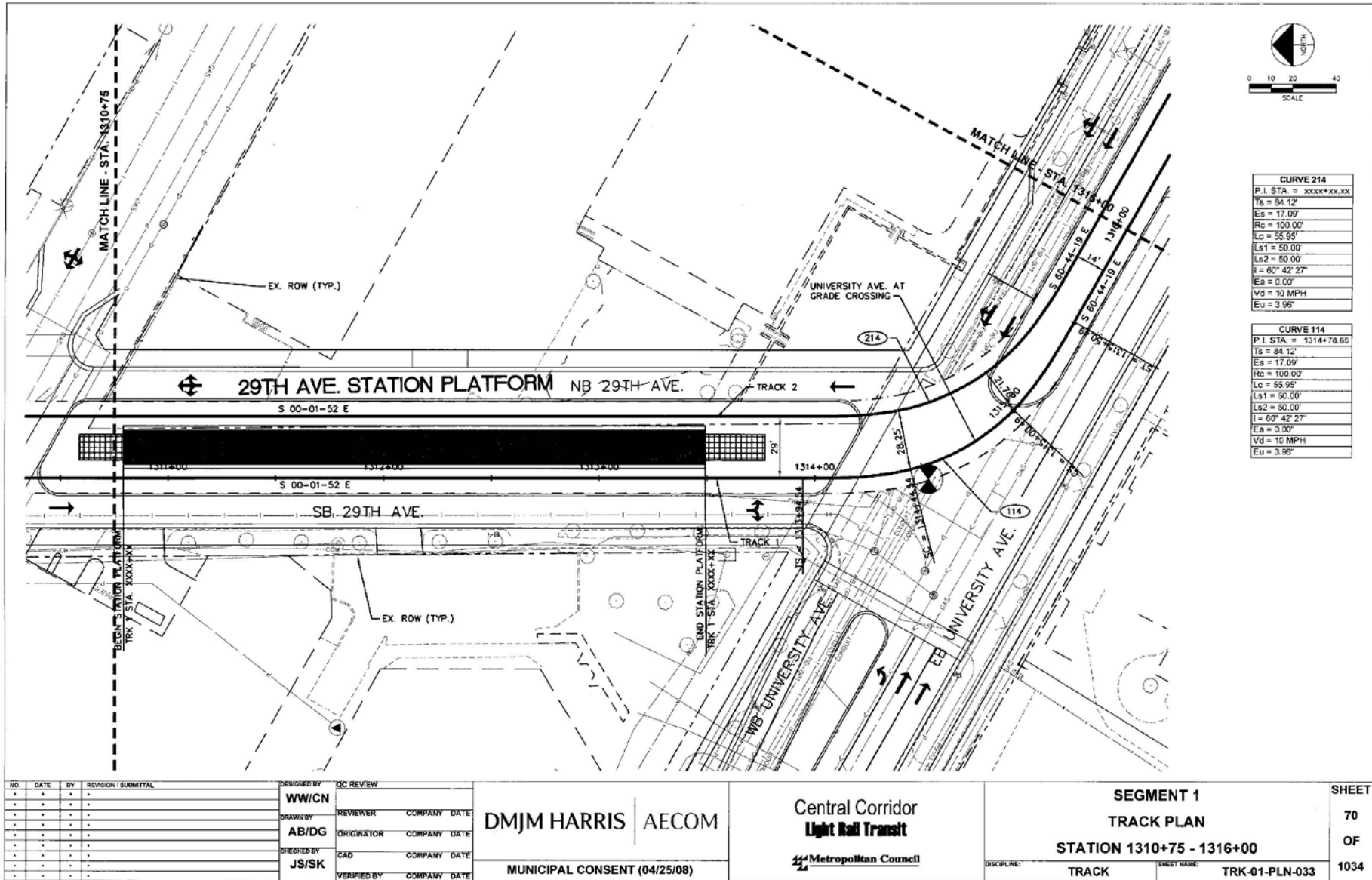


Physical Design Components

- LRT track location
- Station location and layout
- Roadway features
 - Turn lanes
 - Lane widths
 - Traffic signals
- Sidewalks
- Pedestrian crossings
- Operations and Maintenance Facility (OMF) location
- Freight track location
- System elements

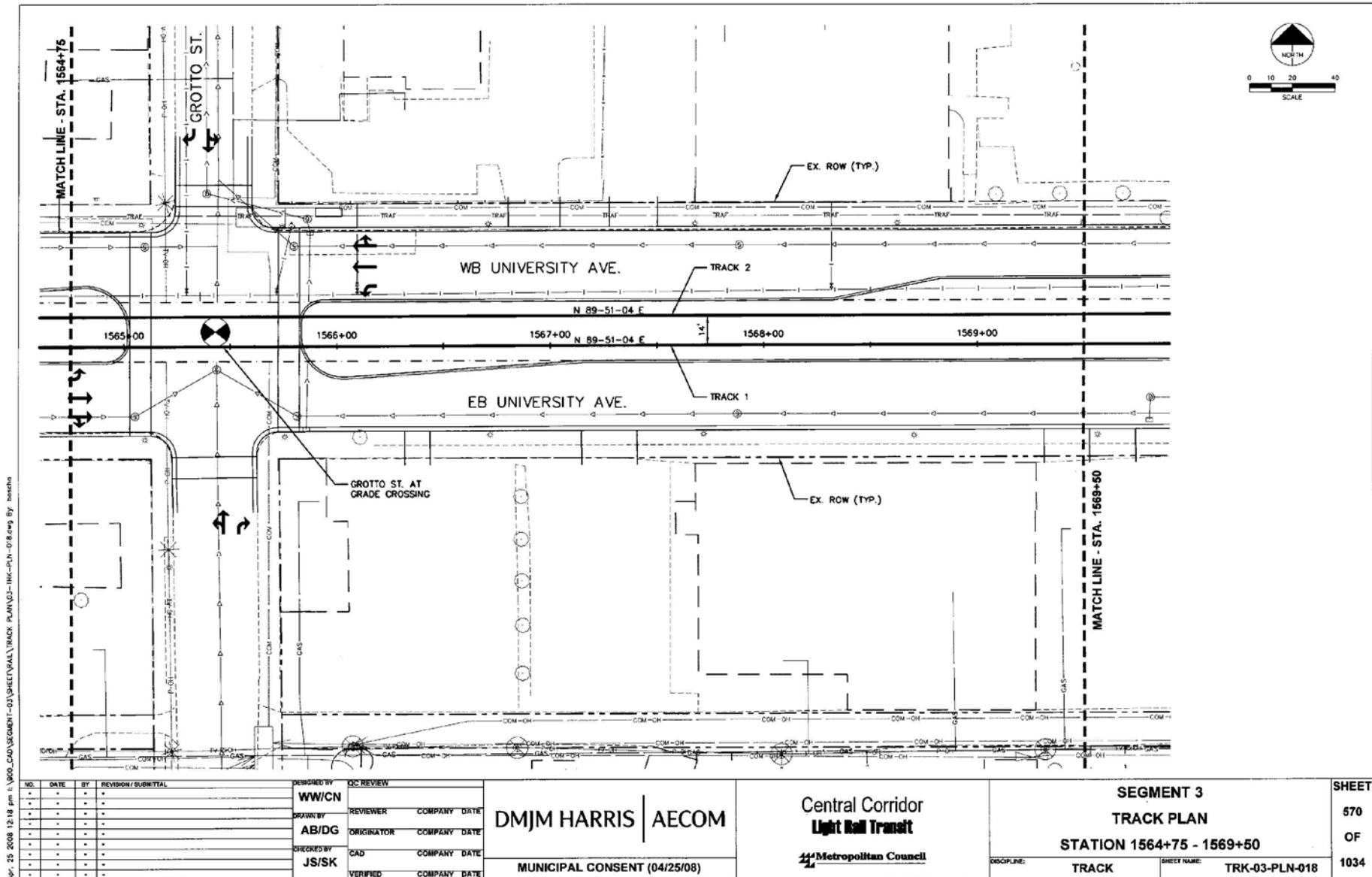


CCLRT Municipal Consent Examples



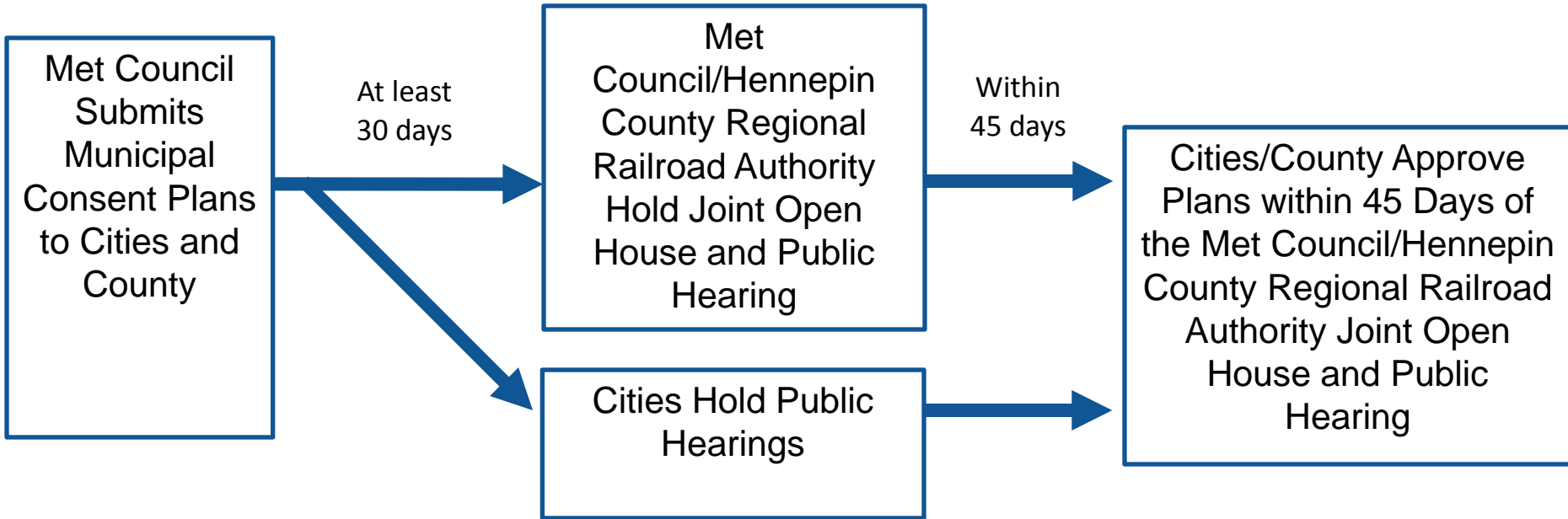
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CCLRT Municipal Consent Examples



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Municipal Consent



Next Steps After Municipal Consent

- Station design and public art
- Streetscape design
- Utility relocation design
- Design advancement:
 - LRT track features
 - Roadway details
 - OMF features
 - Bridges and tunnels
 - System elements
 - Freight rail features



Roadmap to Municipal Consent:

Schedule of Activities

CMC Recommendation on Project Scope	Nov 2015
Met Council Approves Project Scope and Issues Municipal Consent Packages	Dec 2015
Met Council & Hennepin County Regional Railroad Authority Joint Public Hearing	Jan 2016
Individual City Public Hearings	Feb/Mar 2016
Municipal Consent Completion	Mar 2016
30% Plan Completion	Q3 2016
Publish FEIS/ROD	Q3 2016
For Entry to Engineering Applications to the FTA	Q3 2016





Next Meeting: September 8, 2015



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METRO BLUE LINE EXTENSION

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[Stations](#)

[Environmental](#)

[Timeline](#)

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METRO BLUE LINE EXTENSION

Bottineau Transitway – Minneapolis & Northwestern Communities

The METRO Blue Line Extension (LRT) will operate northwest from downtown Minneapolis through north Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park, drawing riders northwest of Brooklyn Park. The proposed alignment is primarily at-grade and will have up to 11 new stations in addition to Target Field Station and about 13 miles of double track. The line will interline with the METRO Blue Line and connect Minneapolis and the region's northwest suburbs with existing LRT on the METRO Green Line, future LRT on the METRO Green Line Extension, bus rapid transit on the METRO Red Line, the Northstar commuter rail line and local and express bus routes.

Latest News

Feds: Met Council can begin designing METRO Blue Line Extension

Route

[Click on the map below for more information](#)

Website: BlueLineExt.org

Email: BlueLineExt@metrotransit.org

Twitter: [@BlueLineExt](https://twitter.com/BlueLineExt)

