

Appendix E
Preliminary Engineering Plans

SOUTHWEST LRT (METRO GREEN LINE EXTENSION)

APPENDIX E

Preliminary Engineering Plans

This appendix includes the Preliminary Engineering Plans¹ for the Southwest Light Rail Transit (LRT) Project, which helps form the definition of the Project for this Final Environmental Impact Statement (EIS). This appendix also includes the following tables that describe elements of the proposed Project. The Project, which includes the Locally Preferred Alternative (LPA) and Locally Requested Capital Investments (LRCIs), is defined in Section 2.1 of this Final EIS.

The improvements described in the following tables are illustrated within the Preliminary Engineering Plans included within this appendix.

- Table E-1 – Locally Preferred Alternative: Proposed Light Rail Traction Power Substation and Signal Bungalow Locations
- Table E-2 – Locally Preferred Alternative: Roadway Improvements by Jurisdiction
- Table E-3 – Bicycle and Pedestrian Improvements by Light Rail Station
- Table E-4 – Locally Requested Capital Investments

¹ See Appendix C for instructions on how to access the Project's 90 percent design drawings.

TABLE E-1

Locally Preferred Alternative: Proposed Light Rail Traction Power Substation and Signal Bungalow Locations

LRT Facilities	Location
Traction Power Substation	At north end of SouthWest Station
	At west end of proposed Eden Prairie Town Center
	At west end of proposed Valley View Road Bridge
	At south end of Nine Mile Creek Bridge
	At south end of Shady Oak Road Bridge
	At south end of City West Station
	North of Bren Road W
	At intersection of Smetana Road and Feltl Road
	Within the Hopkins Operations and Maintenance Facility (OMF)
	At west end of Shady Oak Station south of LRT
	At east end of Downtown Hopkins Station
	On east end of Excelsior Blvd Bridge
	1,500 feet east of Blake Station
	At east end of Louisiana Station
	East of Highway 100 overpass
	East of Cedar Lake Trail Bridge
	Southwest of Cedar Lake Parkway
	Midpoint between 21st Street and Penn Station
	East of alignment and Highway 394
	Near I-94
Signal Bungalow	At SouthWest Station
	At West end of Proposed Eden Prairie Town Center Station
	At west end of Proposed Valley View Road Bridge
	At proposed West 70th Street south of Golden Triangle Station
	At south end of City West Station
	At northwest end of Opus Station
	North of Bren Road W
	At the intersection of Red Circle Drive and Yellow Circle Drive
	At intersection of Smetana Road and Feltl Road
	South of proposed Hopkins OMF
	Northwest of proposed Hopkins OMF
	Northeast of proposed Hopkins OMF
	At west end of Shady Oak Station at intersection of K-tel Drive and 5 th St S
	At west end of Downtown Hopkins Station
	At west end of Blake Station
	1350 feet west of Louisiana Station
	East of Louisiana Station
	East of Wooddale Station
	At east end of Beltline Station
	South of West Lake Station
	North of the Midtown Greenway
North of Cedar Lake Pkwy, off of Burnham Rd (2 structures)	
West 21st Street Station	
Signal Bungalow (continued)	East of Penn Station

LRT Facilities	Location
	East of the alignment and Highway 394, midway between Penn Station and Van White Station
	East of Van White Station
	South of Royalston Station
	South of 6th Avenue North at Target Field Station

TABLE E-2

Locally Preferred Alternative: Roadway Improvements by Jurisdiction

Jurisdiction	Roadway Improvement Description
Eden Prairie	<ul style="list-style-type: none"> • Changing a through lane to a right-turn lane for the north ramp on the Highway 212/Prairie Center Drive Interchange and add a turn lane along Technology Drive at the south ramp • Adding a right turn lane to Technology Drive at Prairie Center Drive near SouthWest Station • Extension of Eden Road west to the Town Center Station to terminate in a cul-de-sac; change the Eden Road through movement to a signalized intersection where Eden Road currently turns south; modification of the roadway to accommodate light rail side-running, including the addition of one new traffic signal and turn lanes along the roadway at Flying Cloud Drive; modification of Eden Road to change through movement to Eden Road extension to the west; addition of a traffic signal at the new intersection; addition of minor geometric modifications to accommodate modifications of Eden Road^a • Addition of turning lanes to Technology Drive at Flying Cloud Drive • Addition of turning lanes to Flying Cloud Drive at Technology drive and a new signal at Viking Drive • Widening of the roadway and turning lanes at intersection of Technology Drive and Flying Cloud Drive • Realignment of the on-ramp to eastbound Highway 212 at Valley View Road • Modification of West 70th Street to provide LRT passenger drop-off and bus bays • Change in intersection control of Shady Oak Road at West 70th Street • Extension of roadway at West 62nd Street to provide access to station and new park-and-ride lot
Minnetonka	<ul style="list-style-type: none"> • Realignment of Red Circle Drive and new cul-de-sac for Yellow Circle Drive • New roadway bridges to allow for grade-separated LRT crossing under the roadway at Feltl Road and Smetana Road
Hopkins	<ul style="list-style-type: none"> • New grade-separated trail crossing with construction of pedestrian underpass at Blake Road North • Roadway will be permanently eliminated at 16th Avenue between 5th Street and 6th Street at location of proposed Hopkins OMF • Short extension of 15th Avenue south to create turnaround and access to the proposed Hopkins OMF • New cul-de-sac on 6th Street at existing 16th Avenue • Addition of south leg at the 17th Avenue South intersection and associated turn-lane additions • Extension of 17th Avenue south from Excelsior Boulevard to the Shady Oak Station and park-and-ride lot • Addition of access road connecting Blake Road North and Excelsior Boulevard by means of existing Pierce Avenue, with a new traffic signal at Excelsior Boulevard and Pierce Avenue intersection
St. Louis Park	<ul style="list-style-type: none"> • Reconstruction of light rail /freight rail/trail bridge structures over Louisiana Avenue intersection • Reconstruction of intersection at Oxford Street and Edgewood Avenue South • Modification of roadway from a single through lane in each direction to two through lanes with bike lanes in each direction on Wooddale Avenue South • New signalized intersections at Highway 7 interchange ramps on Wooddale Avenue South, access at Minnesota 7 Service road changed to right-in/right-out • New at-grade light rail crossing combined with the existing at-grade freight rail crossing at Beltline Boulevard. • New Beltline Access Road south and east of Beltline park-and-ride lot, including modifications of the existing Highway 7 Service road east of Beltline Boulevard • Addition of new northbound left-turn lane at Beltline Boulevard/County Road 25 • Modification of Beltline roadway from Park Glen Road to the LRT at-grade crossing to add bike lanes and sidewalk on the west side of Beltline Boulevard • Addition of new eastbound right-turn lane on County Road 25 to new Beltline Access Road • Road closed at Highway 7 Service Road east of Beltline Boulevard • Reconfiguration of the existing roadway/intersection alignment at Lynn Avenue/County Road 25/Service Road, including new westbound left-turn lane and new traffic signal on County Road 25

Jurisdiction	Roadway Improvement Description
	<ul style="list-style-type: none"> • Pedestrian and vehicular circulation and access improvements at Beltline Station, including the extension of Lynn Avenue and a new road along the north side of the LRT and freight rail corridor; extends south of the County Road 25/Lynn Avenue intersection to just north of the pedestrian trail and along the north side of the trail to the park-and-ride surface lot, and includes excavation quantities and limits temporary shoring, retaining walls, and a new roadway section
Minneapolis	<ul style="list-style-type: none"> • Reconfiguration of lane widths at West Lake Street to accommodate barrier placement between roadway and sidewalks from Chowen Avenue South to Market Plaza • Permanent modification of the alignment of Abbott Avenue and Chowen Avenue to create West 31st Street near West Lake Station to accommodate future development • Narrowing of roadway widths at Abbott Avenue and Chowen Avenue to remove parking on one side of the roadway and accommodate boulevard section between back of curb and adjacent sidewalk • New roadway/trail signal at Cedar Lake Parkway Trail at-grade crossing, combined with existing freight rail at-grade crossing, and reconstruction of intersection with Burnham Road • Reconstruction of the intersection at West 21st Street Thomas Avenue South/West 22nd Street • Reconfiguration of lane widths on Penn Avenue South to accommodate wider sidewalk on bridge • Removal of right-turn lane for southbound Penn Avenue South at I-394 ramps • New access for the passenger drop-off at Penn Station on South Wayzata Boulevard/I-394 ramp intersection • Modifications of sidewalk and path on Van White Boulevard south of the bridge • Addition of a new station access road under the Van White Boulevard bridge connecting Van White Boulevard and Linden Avenue West • Removal of the existing bridge and replacement with two vehicular bridges on Glenwood Avenue Modification to the alignment of Royalston Avenue to accommodate side-running light rail and Royalston Station • Modification of Royalston Avenue from a four-lane roadway to a two-lane roadway and the addition of an at-grade, signal-controlled crossing through the Royalston Avenue/Holden Street intersection • Modification of Holden Street North from a four-lane roadway to a two-lane roadway • Modification of Border Avenue from a four-lane roadway to a two-lane roadway from Holden Street North to Cesar Chavez Avenue. • Narrowing of roadway widths on Border Avenue from Cesar Chavez Avenue to Royalston Avenue North to accommodate boulevard section between back of curb and adjacent sidewalk • Reconstruction of intersections on Border Avenue with 3rd Avenue North, Cesar Chavez Avenue, and Royalston Avenue North/Lakeside Avenue • New traffic signal at intersection of 5th Avenue North and North 7th Street • Reconstruction of Fremont Avenue North roadway from 2nd Street to north of Glenwood Avenue North • Addition of northbound and southbound protected bike lanes on North 7th Street from Plymouth Avenue North to 2nd Avenue North

^a These roadway improvements are deferred with the Eden Prairie Town Center Station and will be constructed when the Eden Prairie Town Center Station is constructed.

TABLE E-3
Bicycle and Pedestrian Improvements by Light Rail Station

Light Rail Station	Bicycle and Pedestrian Improvement Description
Improvements Not Specific to a Proposed Light Rail Station	<ul style="list-style-type: none"> • ADA-compliant curb ramps and detectable warnings will be constructed at light rail stations, as well as at modified roadway intersections • Pedestrian crossings of light rail tracks will include flashing light signal assemblies with an audible warning to notify pedestrians of train arrival at crossing locations (these crossing treatments may also include detectable warnings and signs) • Existing private trails that are displaced by the Project will be replaced at the discretion of the owner of that private trail • All existing public regional and local trails relocated by the Project will be replaced by similar facilities that will provide the same transportation connectivity • Bicycle and pedestrian improvements, to provide the level of access for transit-dependent populations who cannot use park-and-ride facilities, including: <ul style="list-style-type: none"> • Close a trail gap along Van White Boulevard/Fremont Avenue North between Van White Memorial Boulevard and 2nd Avenue North • Work with City Minneapolis Park and Recreation Board staff to redesign the connection of the Cedar Lake Trail and Kenilworth Trail near Penn Station for a more functional connection • Add a push button signal or some form of traffic control at the intersection of Cedar Lake Parkway and the Kenilworth Trail • Connect to East Cedar Beach from 21st Street Station, including additional wayfinding • Convert the existing 7th Street bikeway to a protected bikeway facility between 2nd Avenue North and Plymouth Avenue North
Opus Station	<ul style="list-style-type: none"> • Stairs and ramps will be provided to make the connection between existing facilities and station; ramps will accommodate pedestrian and bicycle users, and will be ADA-compliant
Downtown Hopkins Station	<ul style="list-style-type: none"> • Ramps will be provided to make the connection between existing facilities and station; ramps will accommodate pedestrian and bicycle users, and will be ADA-compliant • Crosswalk improvements at all four legs of the Excelsior Boulevard and 8th Avenue South intersection, consisting of standard concrete construction between the outer crosswalk boundaries with additional jointing identifying the crosswalk area, contingent on the approval of Hennepin County, the roadway owner
Blake Station	<ul style="list-style-type: none"> • New grade-separated trail crossing at Blake Road
Wooddale Station	<ul style="list-style-type: none"> • New grade-separated trail crossing at Wooddale Avenue
Beltline Station	<ul style="list-style-type: none"> • New grade-separated trail bridge to span over the LRT and freight rail tracks and Beltline Boulevard
West Lake Station	<ul style="list-style-type: none"> • Stairs and ramps will be provided to make the connection between existing facilities and station; ramps will accommodate pedestrian and bicycle users and will be ADA-compliant; station will include elevators • Enhanced pedestrian connections will be provided along West Lake Street between Drew Avenue South and Market Plaza and along Excelsior Boulevard between Market Plaza and West 32nd Street • Abbott Avenue and Chowen Avenue will be realigned to accommodate future development on the Hennepin County Regional Railroad Authority (HCRRA) property, as shown in the Transitional Station Area Action Plan, and the platform and LRT tracks will be designed to not preclude the space required for the Midtown Rail project.; enhanced pedestrian connections will be built along Chowen and Abbott Avenues and along the newly aligned street segment
Penn Station	<ul style="list-style-type: none"> • Elevators, stairs, and ramps will be provided to make the connection between existing facilities and station; ramps will accommodate pedestrian and bicycle users and will be ADA-compliant • Pedestrian connections from Penn Station across I-394 and north to Mount View Avenue will be improved and enhanced • Additional ADA-compliant improvements at Penn Avenue and Cedar Lake Road will be added; ADA-compliant curb ramps and detectable warnings will be constructed to the latest standards at light rail stations, as well as at roadway intersections that will be modified (e.g., accommodating light rail crossings, widening the roadway for vehicle traffic as necessary) • Additional sidewalks will be provided, as enhanced pedestrian connections, along the south side of Wayzata Boulevard from Thomas Avenue east to the access to Penn Station

Light Rail Station	Bicycle and Pedestrian Improvement Description
Van White Station	<ul style="list-style-type: none">• Sidewalk improvements along Dunwoody Boulevard will be added, including improvements to the under-bridge area beneath I-394 and intersection improvements at Stadium Parkway/Emerson Avenue South• New pedestrian bridge to Bryn Mawr Meadows will be added (replacing the existing trail bridge)
Royalston Station	<ul style="list-style-type: none">• Pedestrian connections will be enhanced to the Farmers Market, from both the north and south, via the frontage road and Holden and Border Avenues

TABLE E-4

Locally Requested Capital Investments

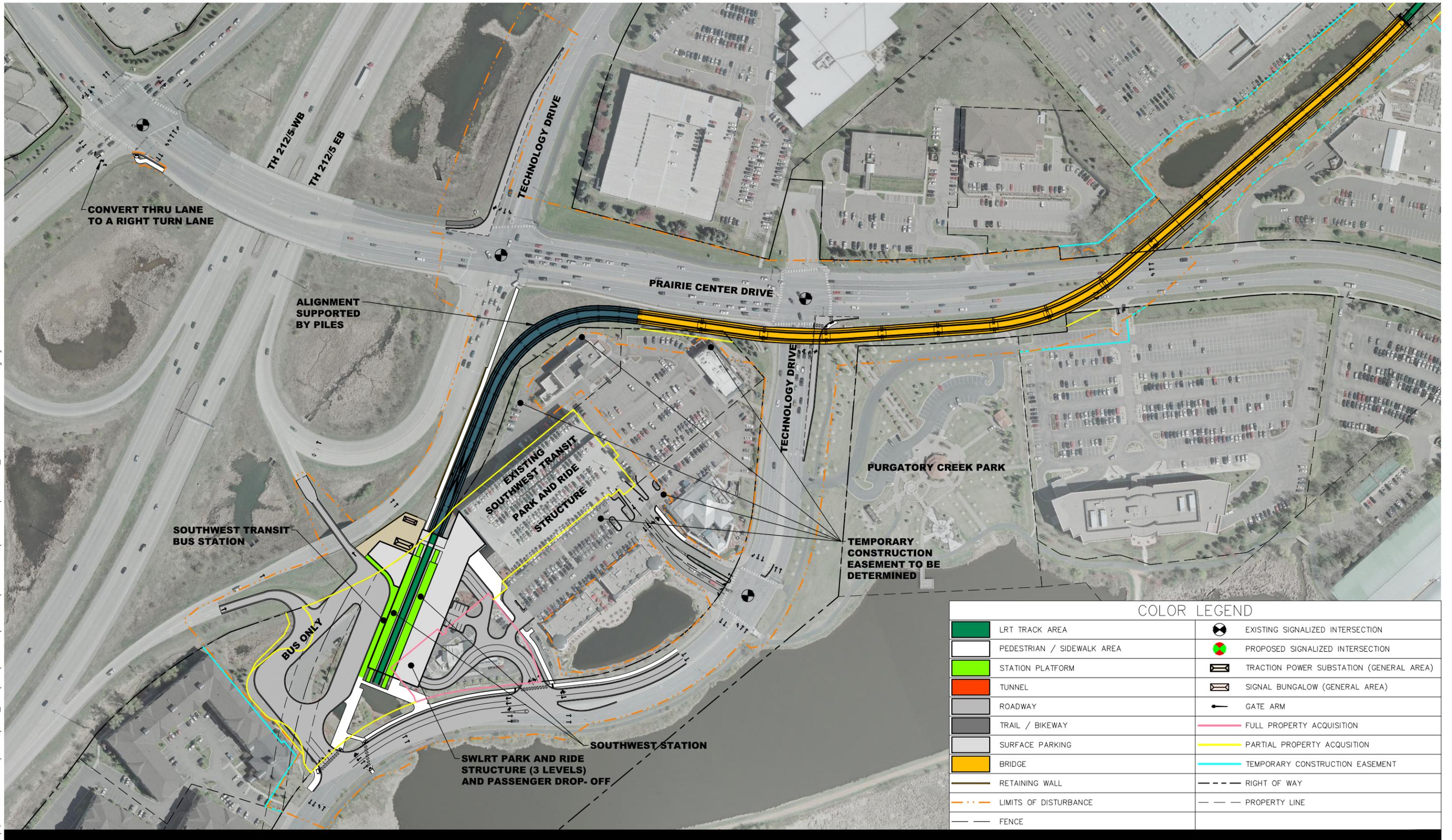
Jurisdiction/Improvement	Description
Eden Prairie	
#1: N-S Roadway	A new north-south roadway connecting the proposed Town Center Station in the City of Eden Prairie to Singletree Lane. This proposed roadway is generally located immediately west of the Town Center Station and cul-de-sac, both to be constructed as part of the Project, and proceeding south to Singletree Lane; and includes curb, gutter, trail, sidewalk, streetscaping, and utilities.
#2: Trail from Golden Triangle Station	A new 8-foot-wide bituminous trail with a 2-foot buffer on each side extending from the south side of West 70th Street to an existing trail that continues to Valley View Road and includes retaining walls and fencing between the Golden Triangle Trail and the light rail tracks.
#3: SouthWest Station Trail	A new 8-foot-wide concrete trail with a 2-foot buffer on each side, extending from the east side of the SouthWest Station platform to Prairie Center Drive along the north side of the light rail tracks, and includes retaining walls, pedestrian-scale lighting, fencing between the SouthWest Station Trail and the light rail tracks, storm sewer relocation, demolition, new pavement, curb, gutter, and guardrails associated with the Highway 212 off-ramp.
#4: Catenary Poles	Tapered, tubular catenary poles at selected locations Eden Prairie.
#5: Decorative Street Lighting	Installation of decorative street lighting in the Town Center area.
#6: Decorative Fencing and Bridge Railing	One-level upgrade of decorative fencing and bridge railings along the alignment in Eden Prairie.
#7: Planter Boxes	Installation of concrete planter boxes and walls adjacent to the alignment in the Town Center area.
#8: Bridge Aesthetics Upgrade	Upgrade bridge aesthetic quality by 5 percent on the Prairie Center Drive, Valley View Road, and Shady Oak Road/Highway 212 bridges (excludes Nine Mile and I-494).
#9: Embedded Track	Embedded track from Station 2112+50 (west of the proposed north-south road near Town Center Station, at the western edge of the traction power substation) to Station 2128+50 (east of Eden Road and Glen Road intersection).
#10: Public Plaza at Stations	Construct public plazas adjacent to the station platforms at City West, Golden Triangle, Town Center, and SouthWest Stations, including elements beyond the base project.
#11: Technology Drive Extension	Reconstruct a 150-foot section of Technology Drive located west of 11825 Technology Drive in Eden Prairie, and includes curb, gutter, trail, and stormwater utilities.
Minnetonka	
#12: Extension of 17th Avenue	Extend 17th Avenue from the southern park and ride driveway to K-Tel Drive, and includes pavement, sidewalks along both sides of the Extension, and installation of a 10-inch water main and an 8-inch sanitary sewer.
#13: Guideway Profile Adjustment	Adjust guideway profile, which requires additional earth excavation and additional retaining walls along the guideway to not preclude a future potential infill LRT station at Smetana Road.
Hopkins	
#14: 17th Avenue Water Main and Sewer	Installation of a water main and sanitary sewer generally located under 17th Avenue starting from Excelsior Boulevard then southward to the second park and ride driveway, and installation of a water main from the roundabout heading east to the limits of the Metro Transit Park-and-Ride site to an existing main in the City of Hopkins.
St. Louis Park	
#17: Xenwood Avenue Underpass	A roadway underpass of Xenwood Avenue near the Wooddale Station in the City, and includes excavation qualities and limits, temporary shoring, utility relocations, retaining walls, bridges for the pedestrian/bike trail, freight railroad tracks and LRT tracks, and direct fixation of LRT track to accommodate future Xenwood Avenue improvements.

Jurisdiction/Improvement	Description
#32: Beltline Blvd/CSAH 25 Improvements	Circulation and access improvements at the intersection of Beltline Boulevard and Highway 25, and includes adding bicycle lanes along Beltline Boulevard, lengthening the second left-turn lane for eastbound Highway 25, pedestrian ramp improvements, pavement, and lighting. The Beltline/Highway 25 Improvements may include adjusting utilities and widening Beltline Boulevard to accommodate bike lanes on each side of the roadway.
#33 Louisiana Station Area Trail	A new 8-foot pedestrian/bicycle trail along Oxford Street beginning at the intersection of Oxford Street and Edgewood Avenue and continuing eastward along the south side of the proposed project alignment and terminating at the intersection of Railroad Avenue and Brunswick Avenue, and including clearing and grubbing, excavation, pavement, signing, and fencing, and design adjustments of ballast curbs, and retaining walls along the Project alignment.
Hennepin County	
#26: New Trail between LRT Tracks and CSAH 61	A new bicycle/pedestrian trail along the corridor between the LRT track and Highway 61 ("Flying Cloud Drive") from Technology Drive to Valley View Road in the City of Eden Prairie, Minnesota. The addition of the Trail requires Flying Cloud Drive to shift slightly eastward to accommodate the Trail and includes new roadway pavement, curb and gutter, drainage systems, sidewalk, barrier wall, signage, Flying Cloud Drive bridge over I-494, and traffic signal mast adjustments.
#27: Fiber Optic Conduit	Conduit for fiber optic installed along the length of the corridor.

Source: Council, 2015.

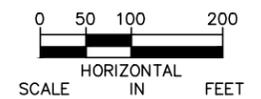
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SOUTHWEST LRT ALIGNMENT

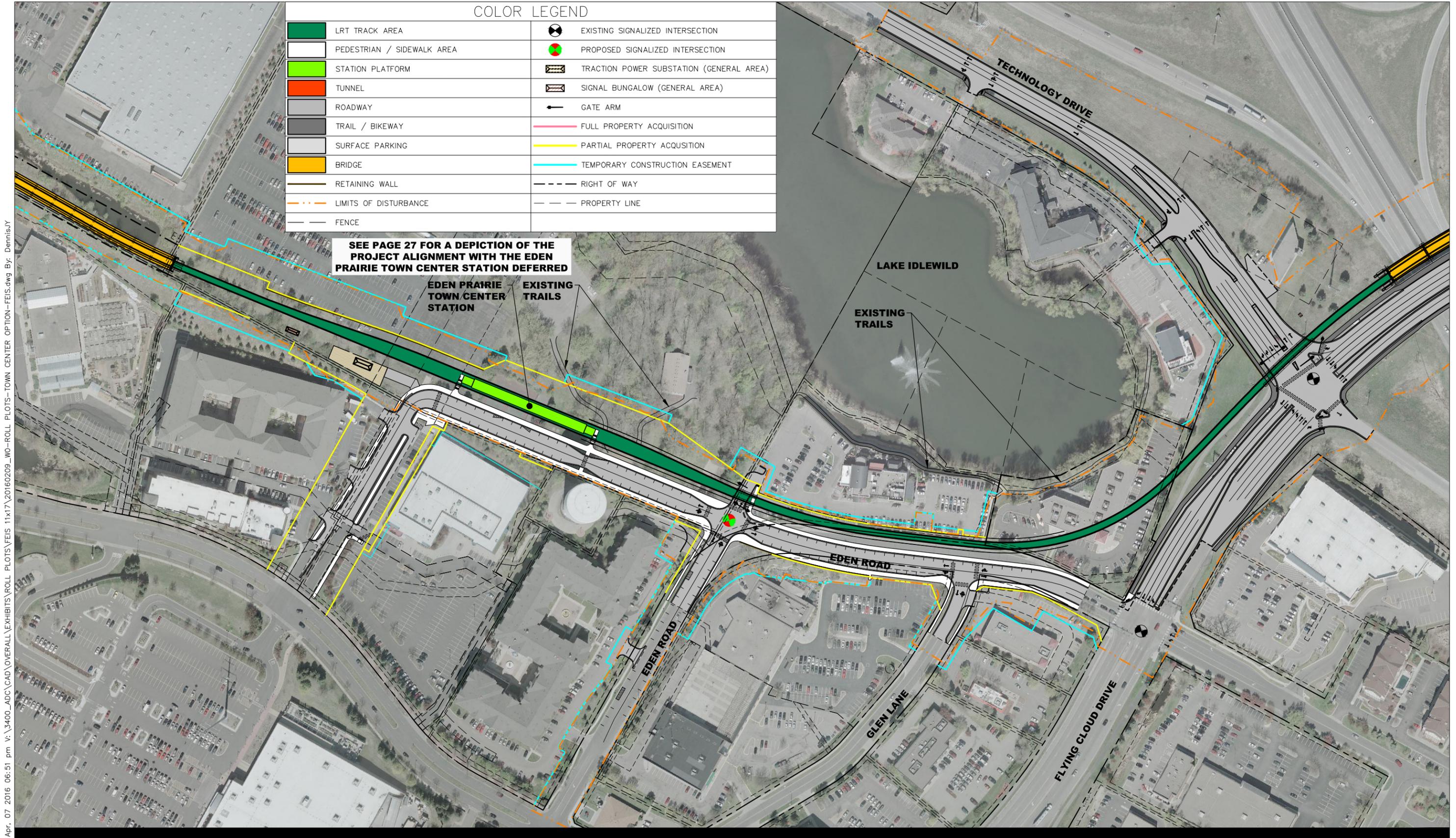
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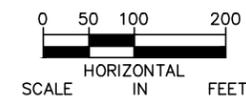
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	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

SEE PAGE 27 FOR A DEPICTION OF THE PROJECT ALIGNMENT WITH THE EDEN PRAIRIE TOWN CENTER STATION DEFERRED

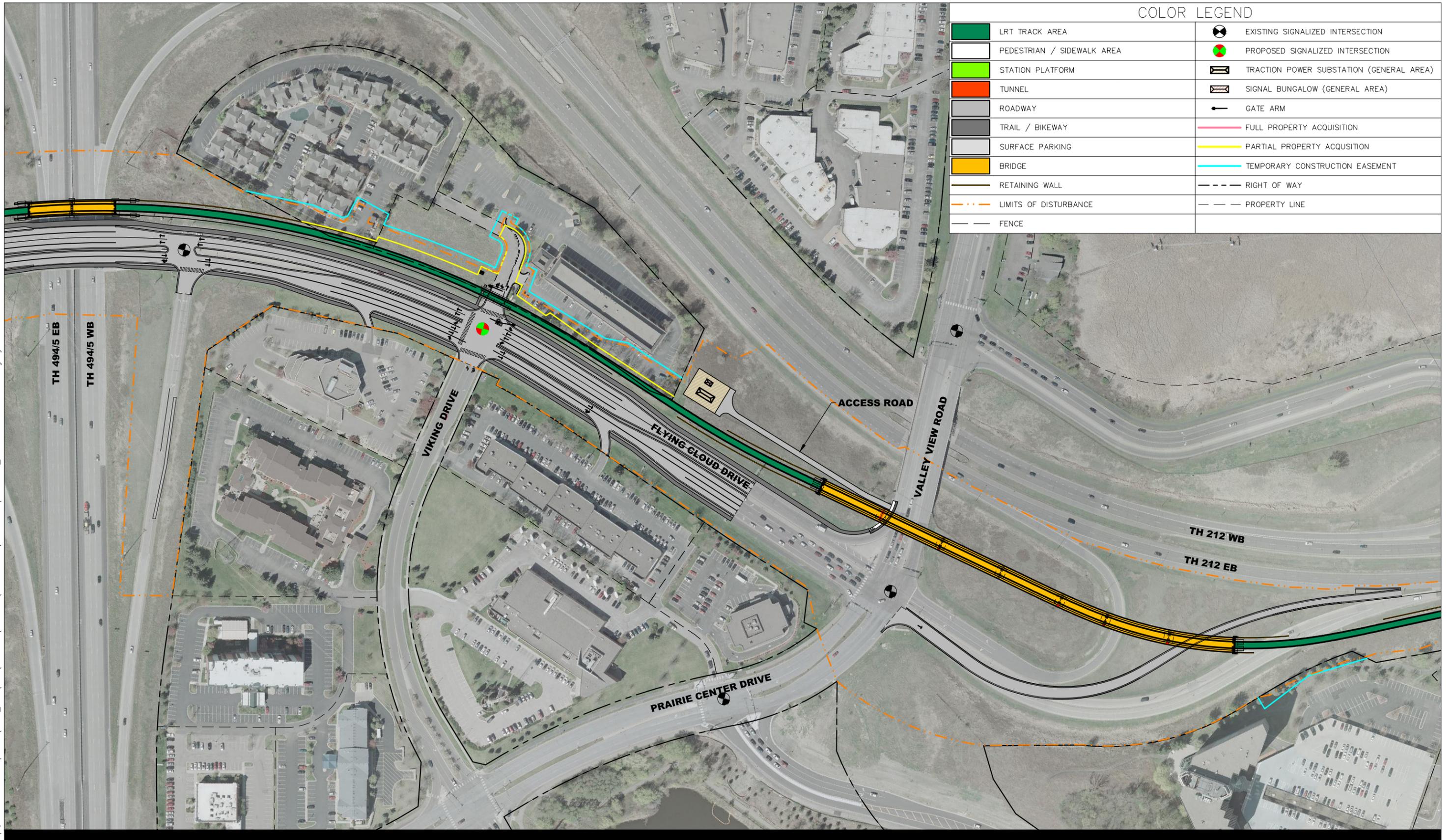


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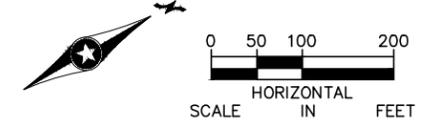
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	TUNNEL		SIGNAL BUNGLOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
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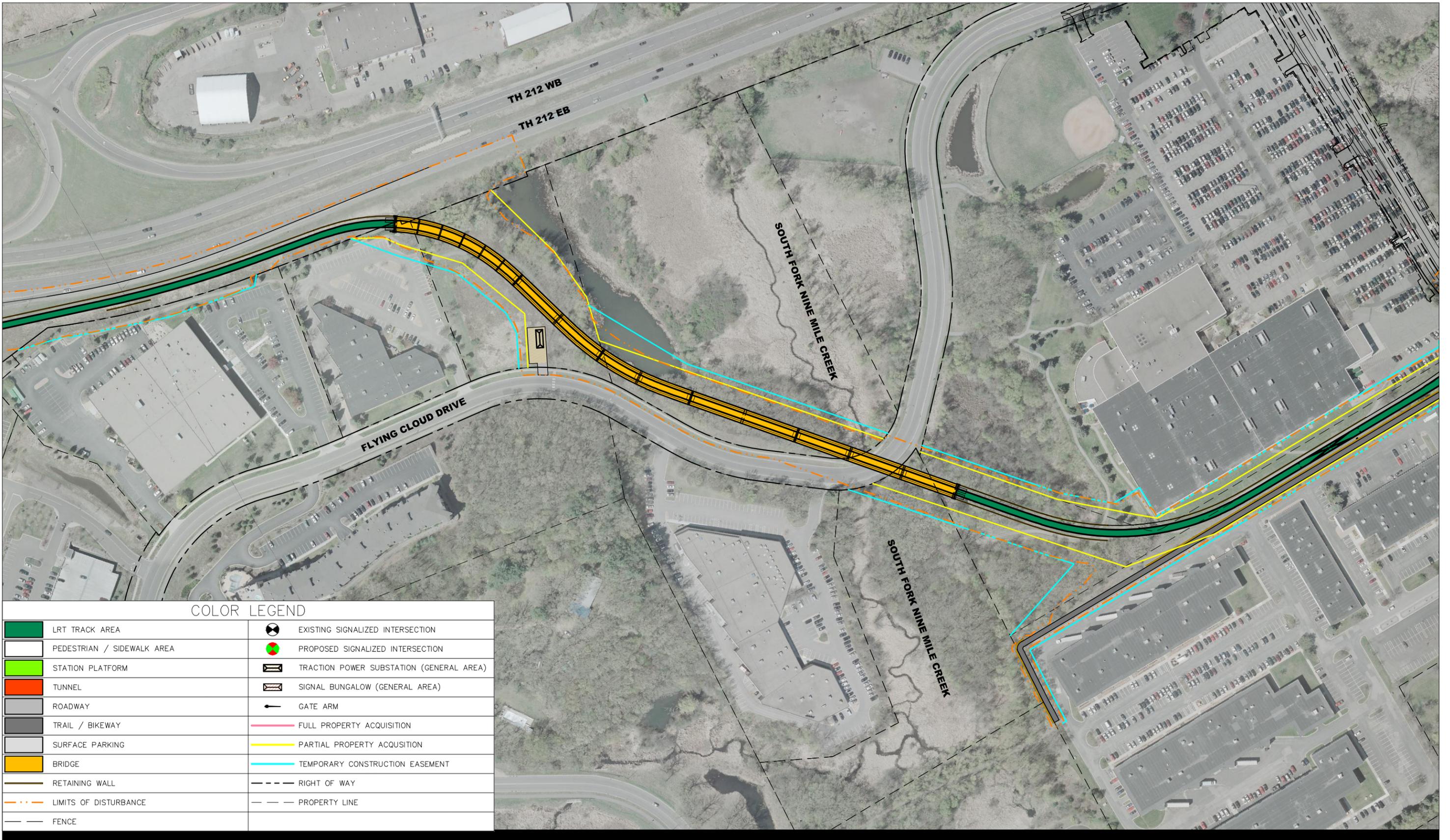
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SEGMENT W1 - EDEN PRAIRIE

FLYING CLOUD DRIVE



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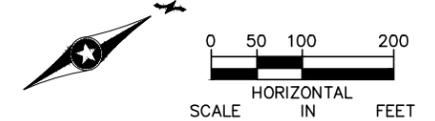


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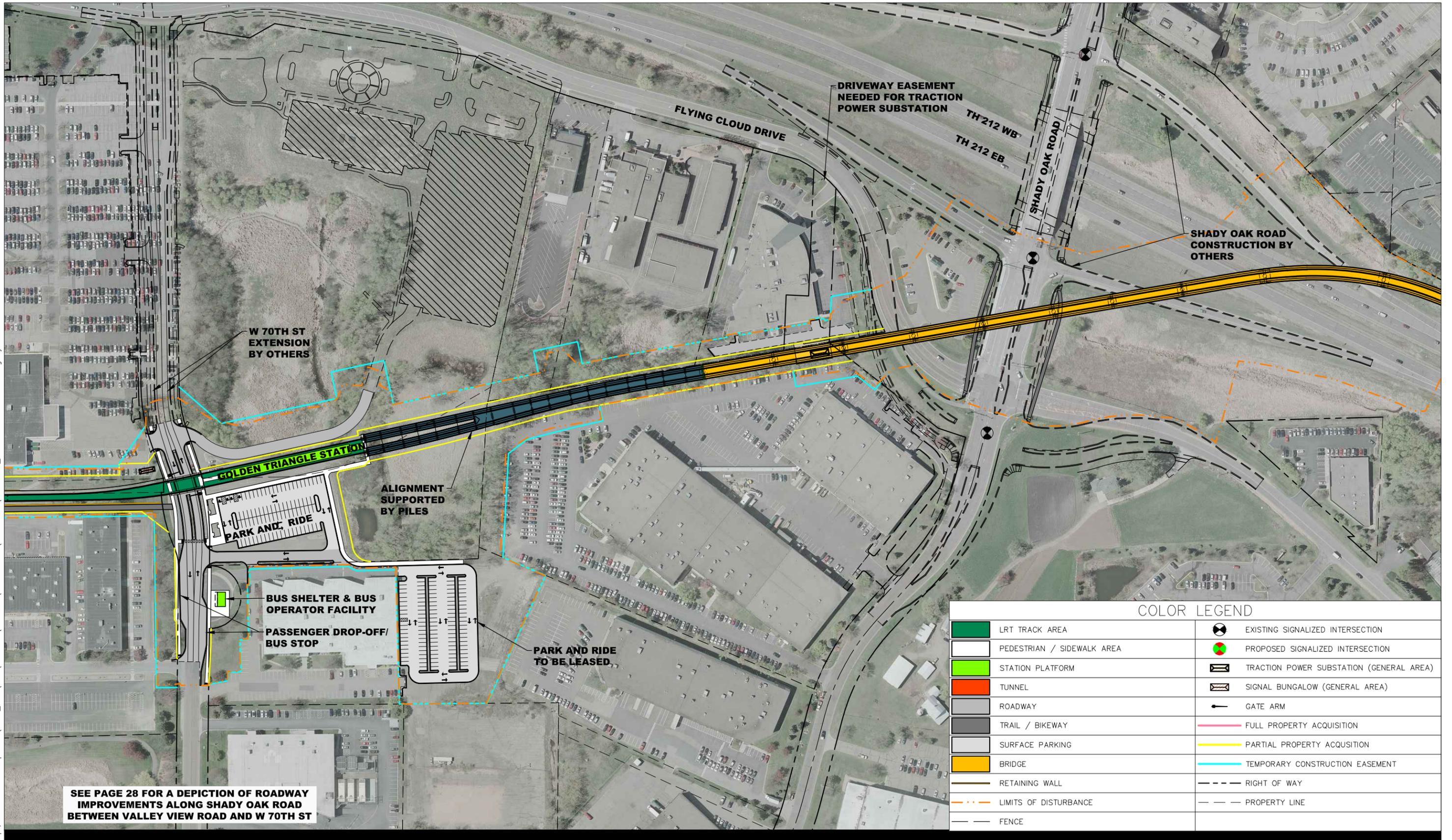
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	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



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 NINE MILE CREEK



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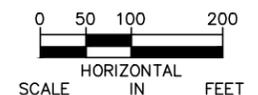
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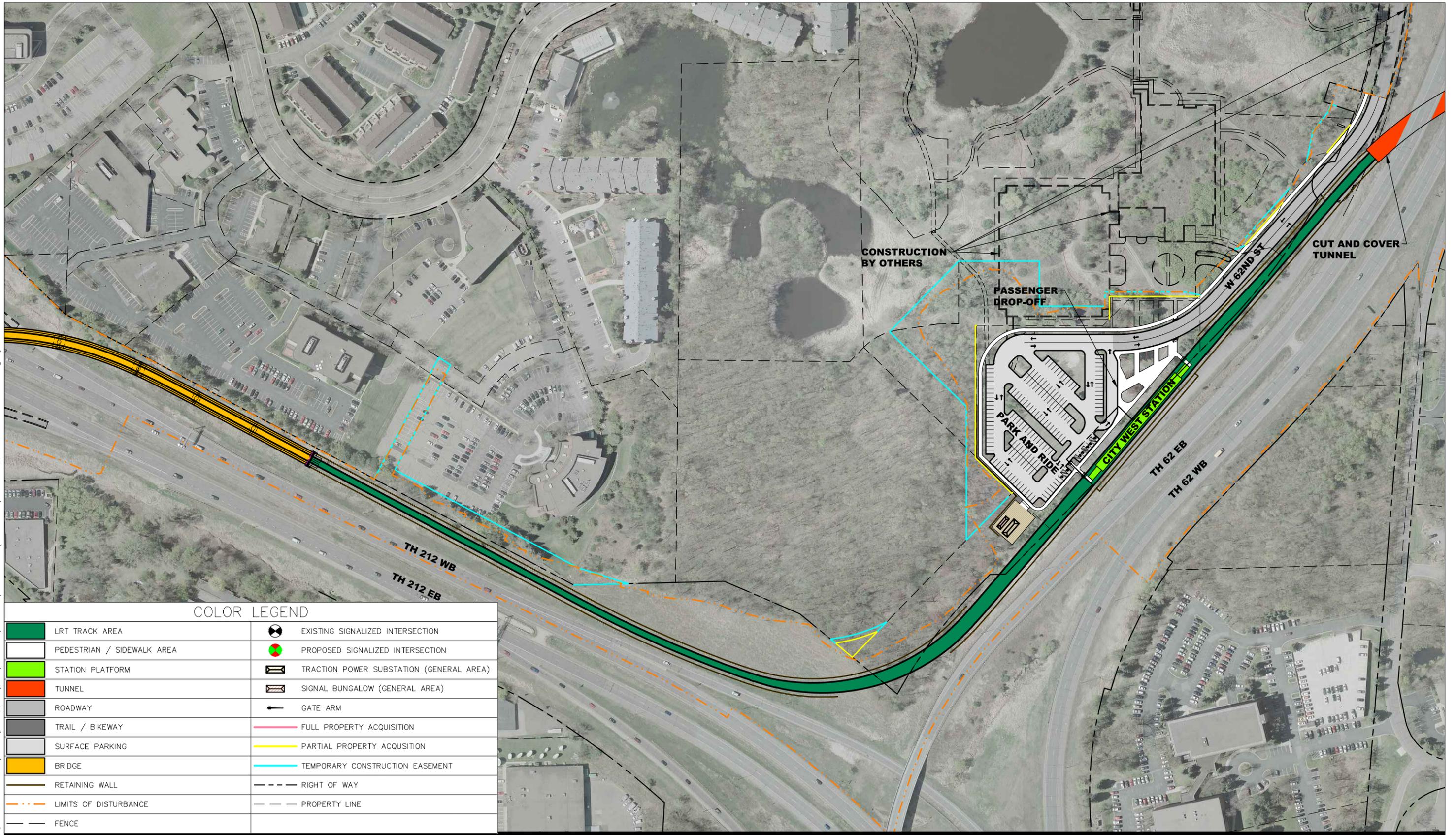
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GOLDEN TRIANGLE STATION



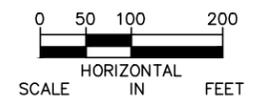
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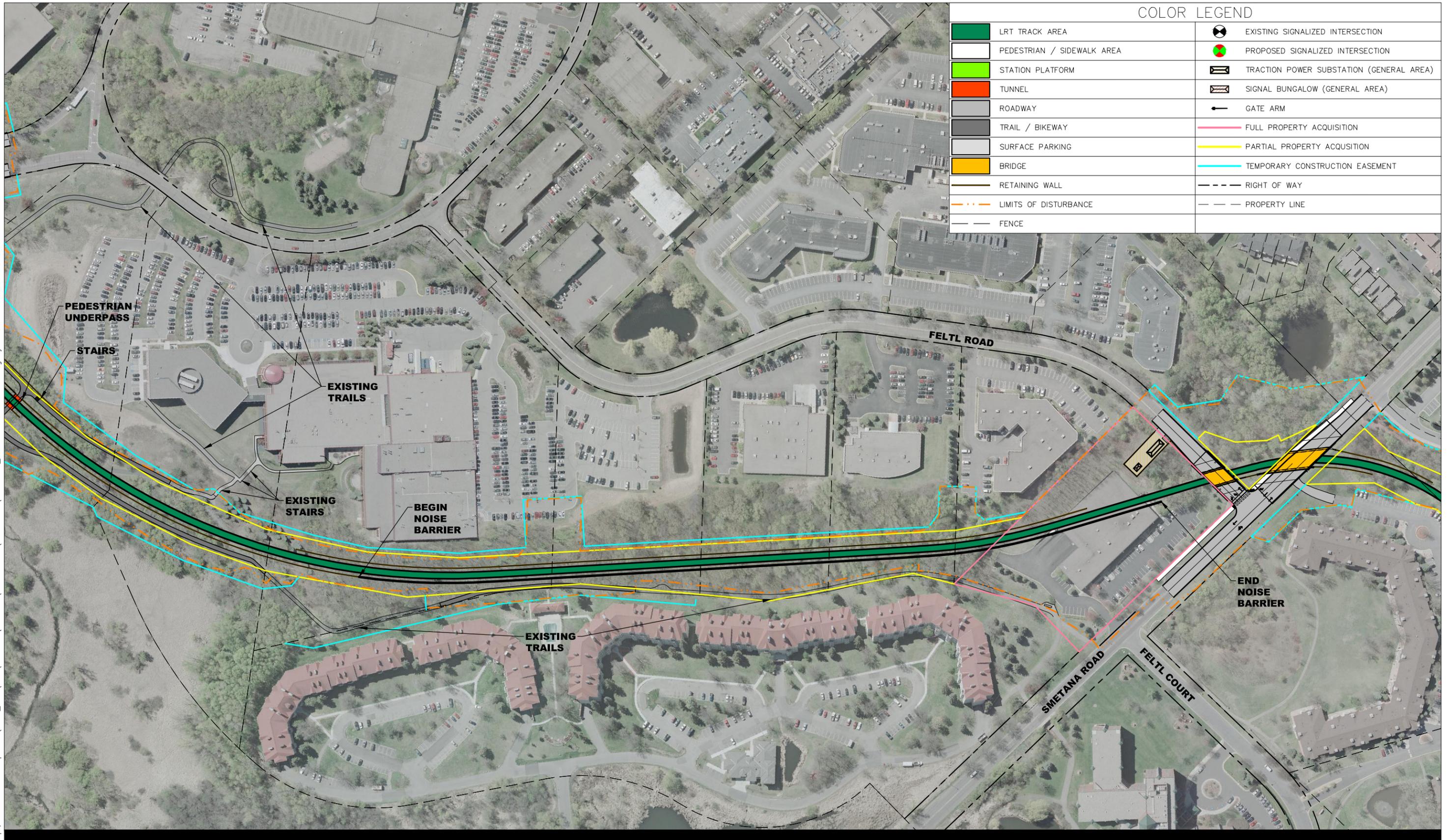
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CITY WEST STATION



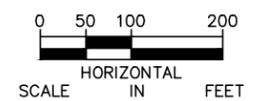
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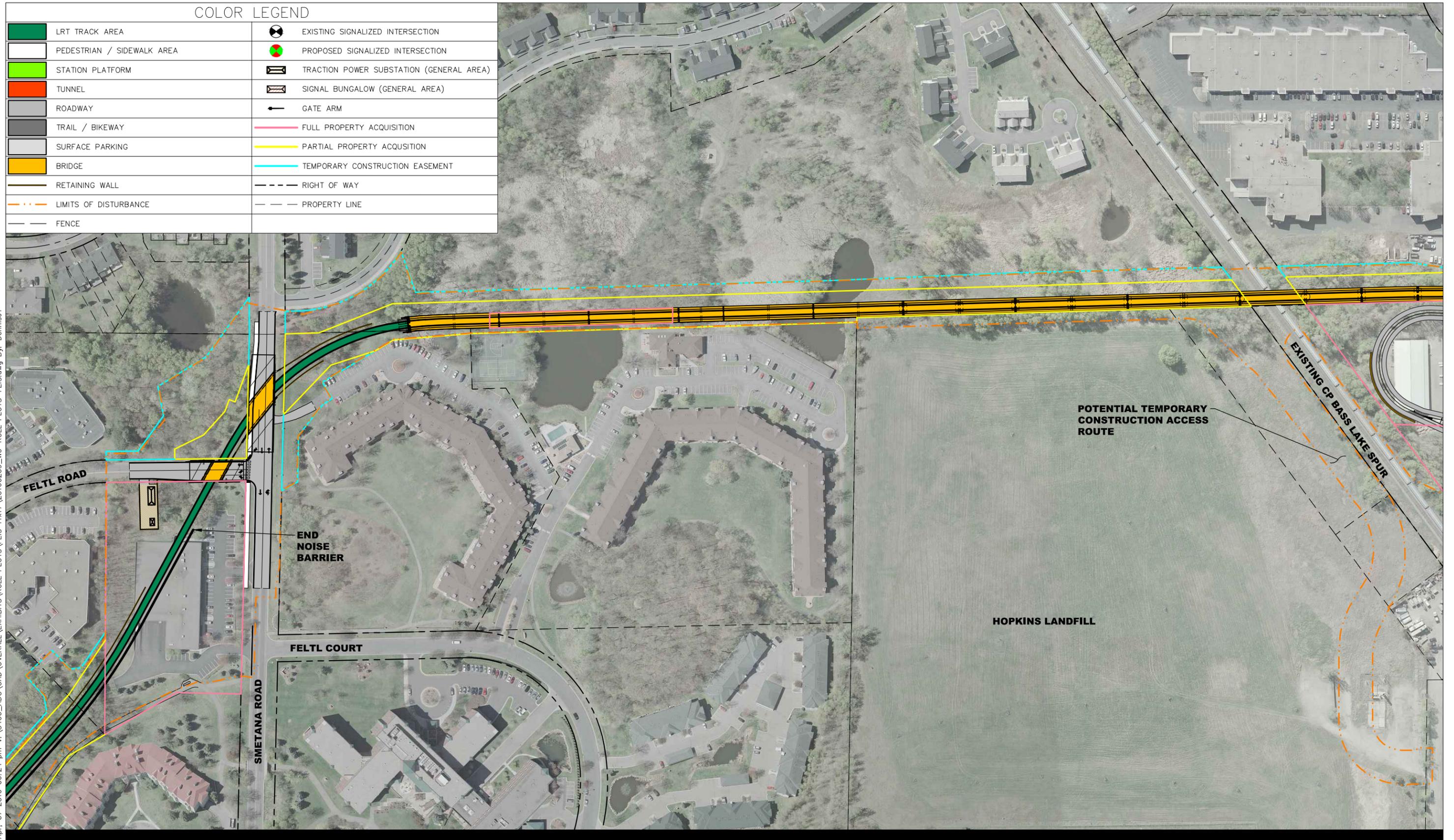
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OPUS HILL



COLOR LEGEND

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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
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	FENCE		



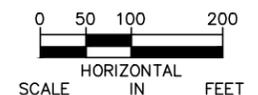
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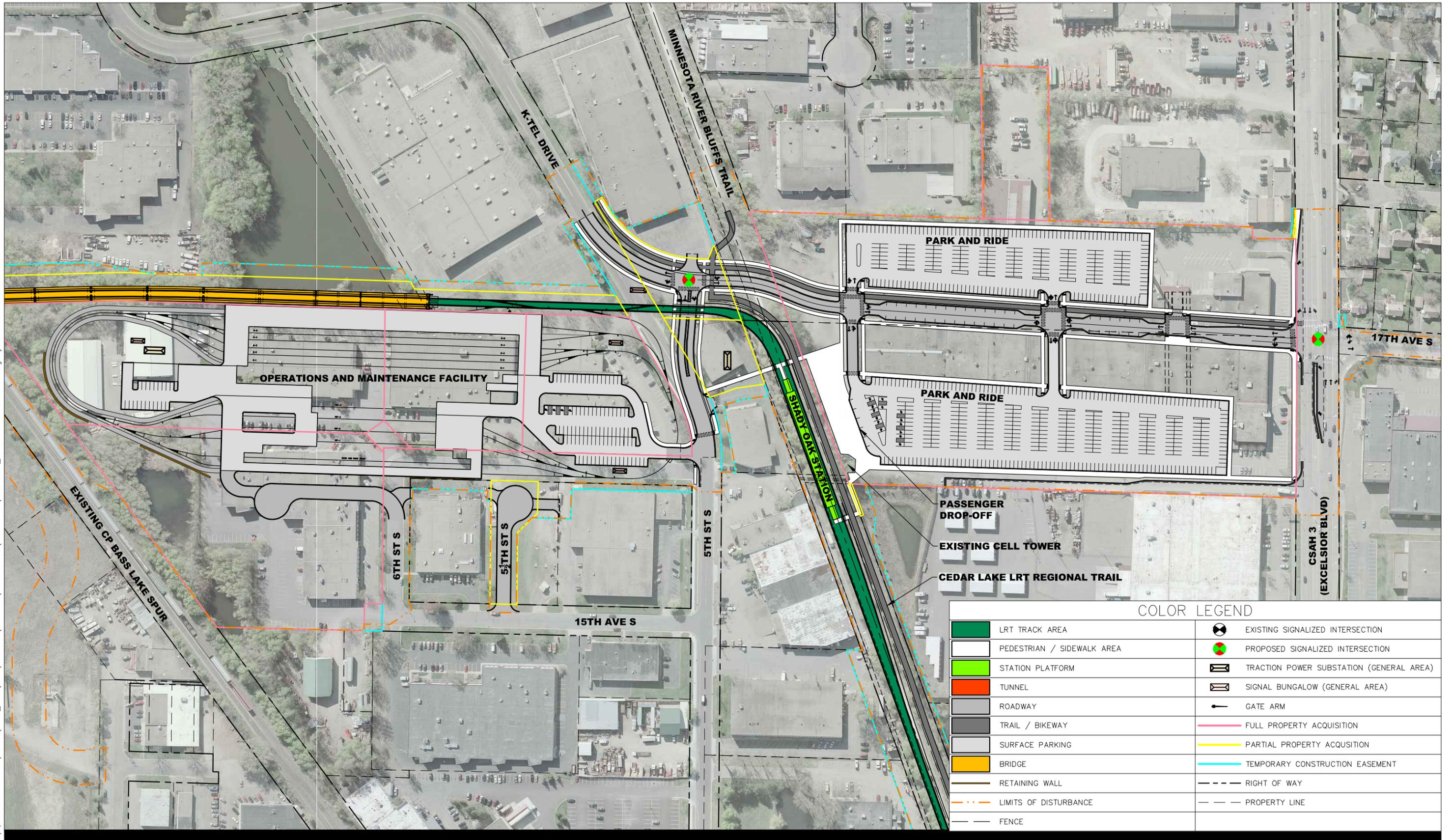
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MINNETONKA / HOPKINS BRIDGE



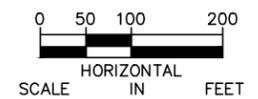
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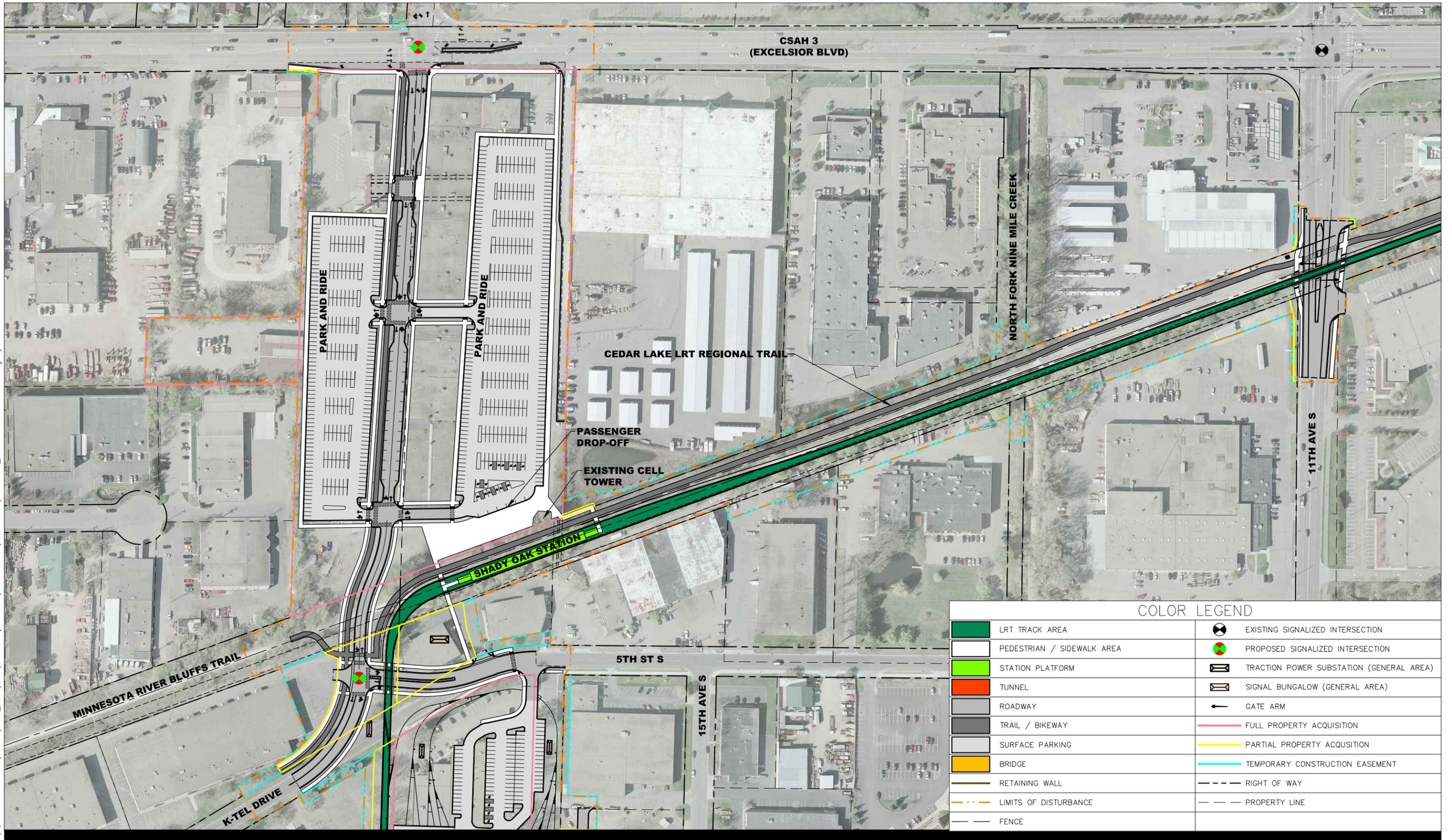
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SEGMENT W3 - MINNETONKA / HOPKINS

SHADY OAK STATION



Apr. 07 2016 06:43 pm v:\3400_ADC\CAD\OVERALL_EXHIBITS\ROLL_PLOTS\FEIS\11x17\20160209_WO-ROLL_PLOTS-FEIS.dwg By: Dennis.Y



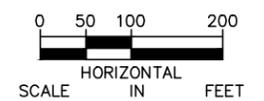
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGLOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



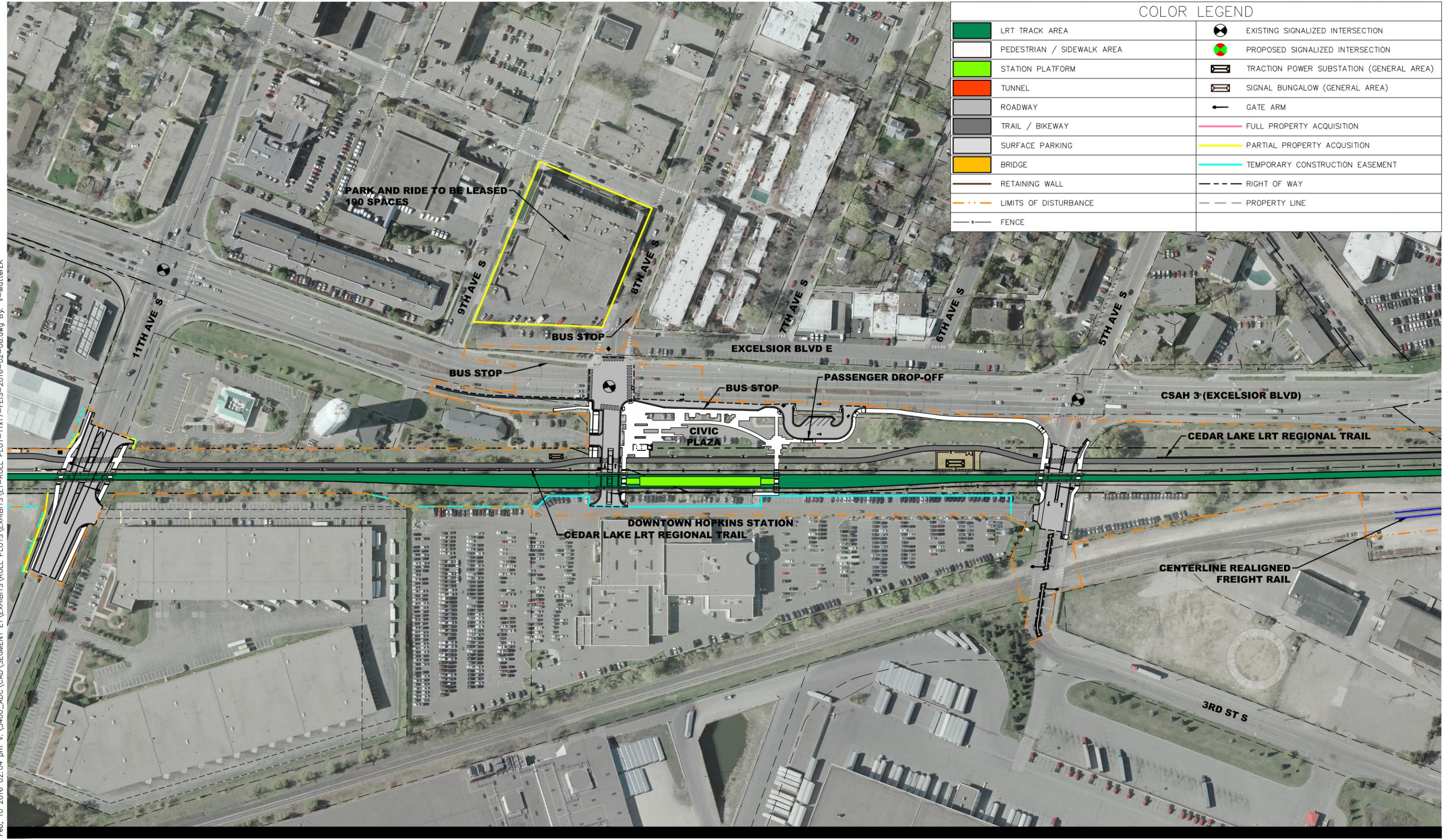
SOUTHWEST LRT ALIGNMENT

SEGMENT W3 - MINNETONKA / HOPKINS

SHADY OAK STATION



Feb, 10 2016 02:04 pm v:\3400_ADC\CAD\SEGMENT E1\EXHIBITS\ROLL PLOTS\11x17-FEIS-2016-02-08.dwg By: V-MotteEK



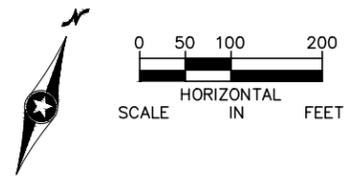
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



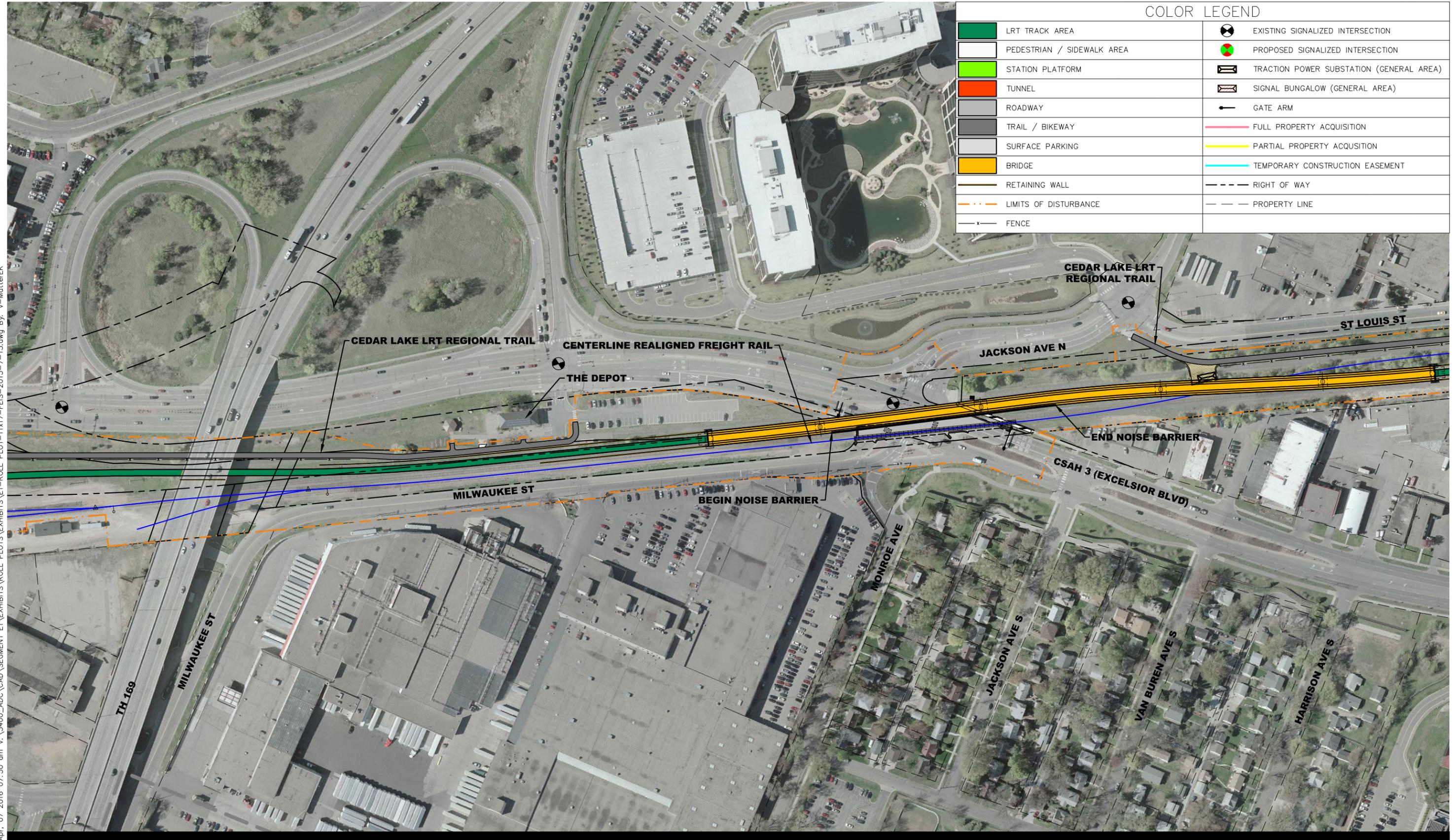
SOUTHWEST LRT ALIGNMENT

SEGMENT E1 - HOPKINS

DOWNTOWN HOPKINS STATION



Apr. 07 2016 07:50 am v:\3400_ADC\CAD\SEGMENT E1\EXHIBITS\ROLL PLOTS\EXHIBITS\E1-ROLL_PLOT-11x17-FEIS-2015-7-15.dwg By: V-MatterEK



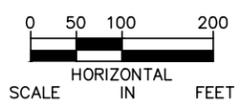
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGLOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



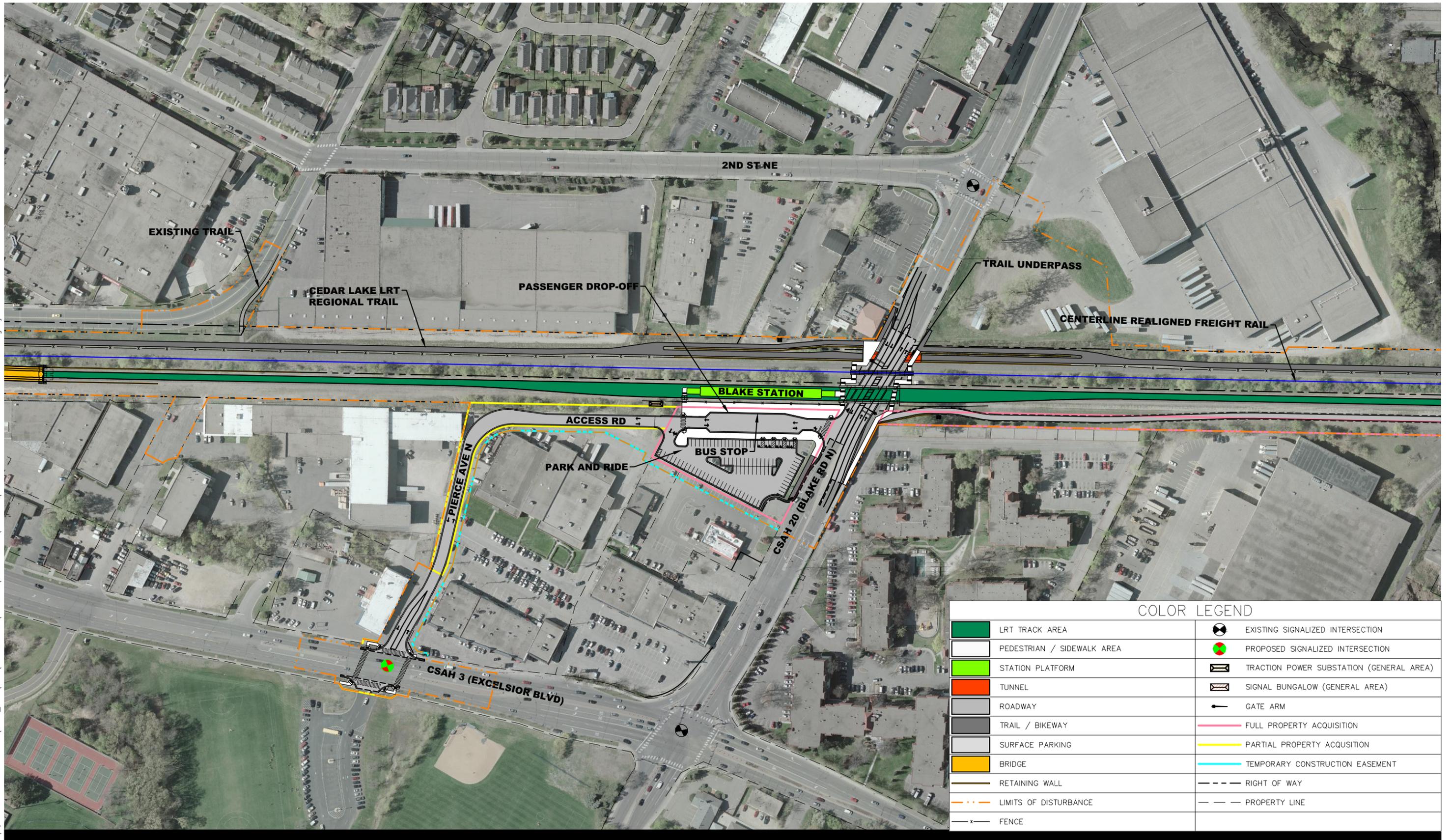
SOUTHWEST LRT ALIGNMENT

SEGMENT E1 - HOPKINS

EXCELSIOR BLVD. CROSSING



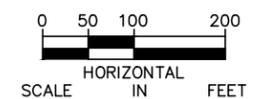
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SOUTHWEST LRT ALIGNMENT

SEGMENT E1 - HOPKINS

BLAKE STATION



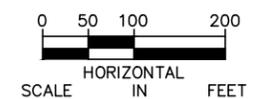
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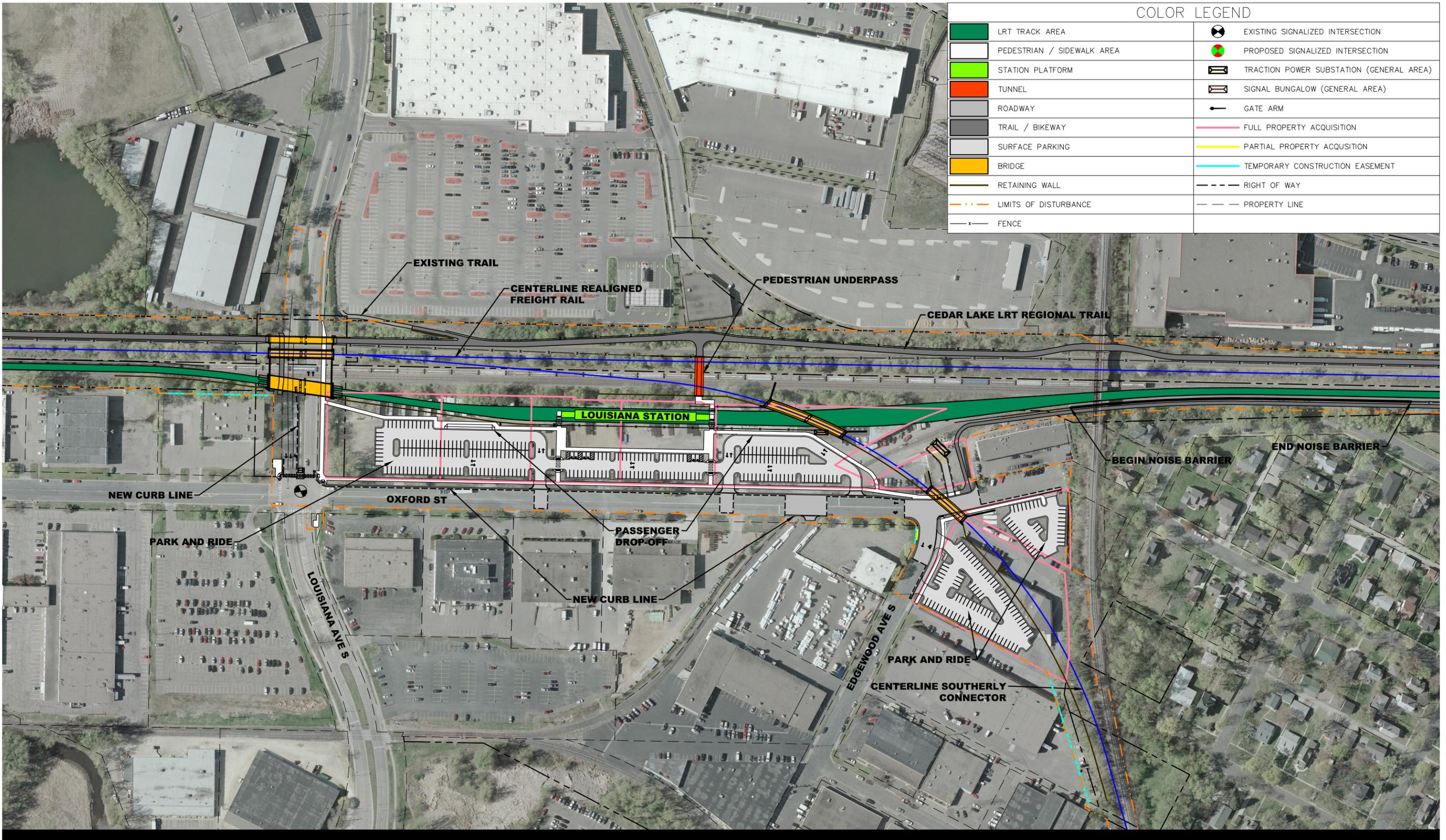
SOUTHWEST LRT ALIGNMENT

SEGMENT E2 - ST. LOUIS PARK

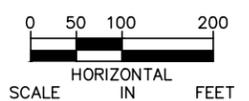
MINNEHAHA CREEK



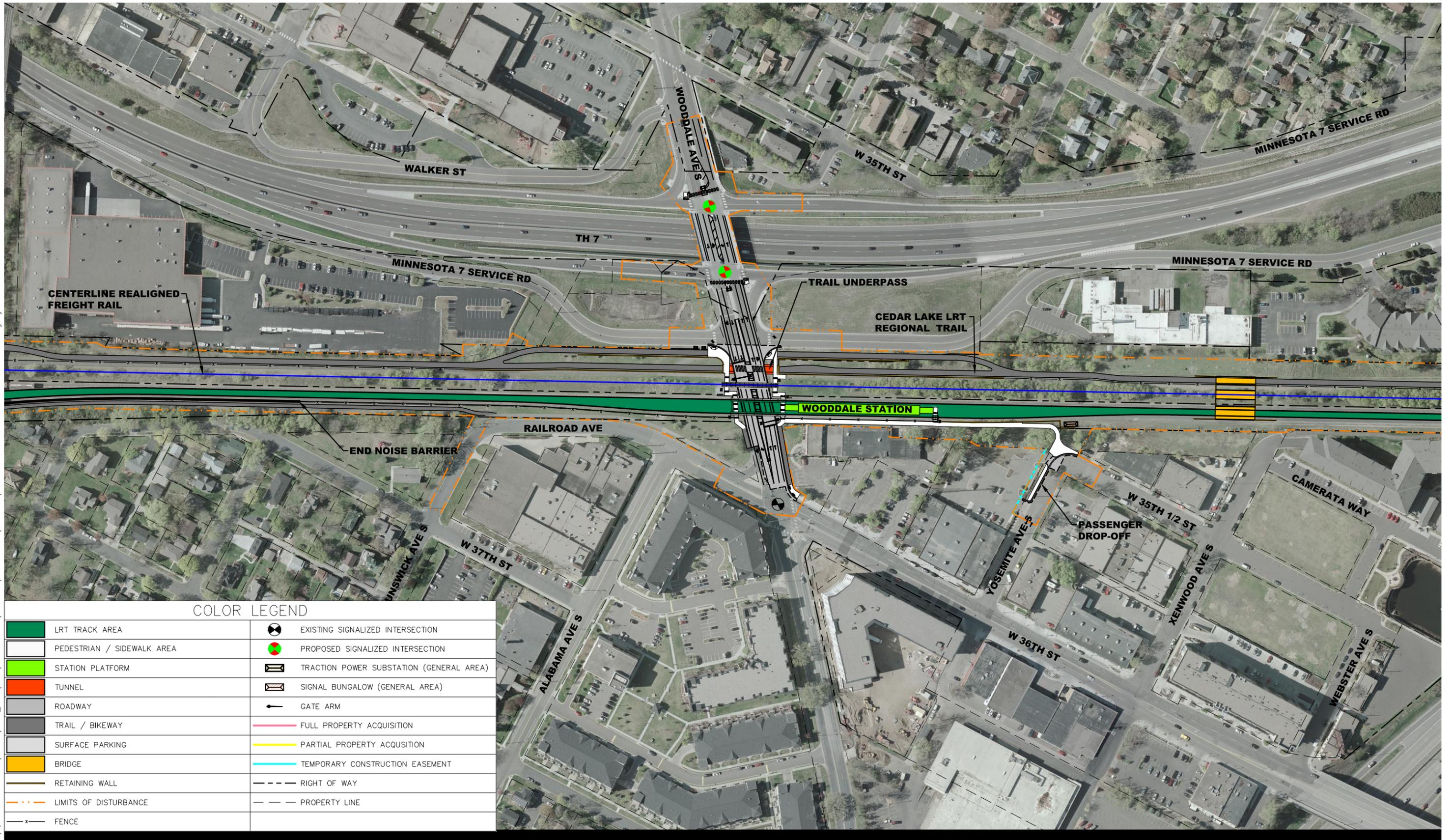
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SOUTHWEST LRT ALIGNMENT
 SEGMENT E2 - ST. LOUIS PARK
 LOUISIANA STATION



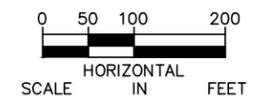
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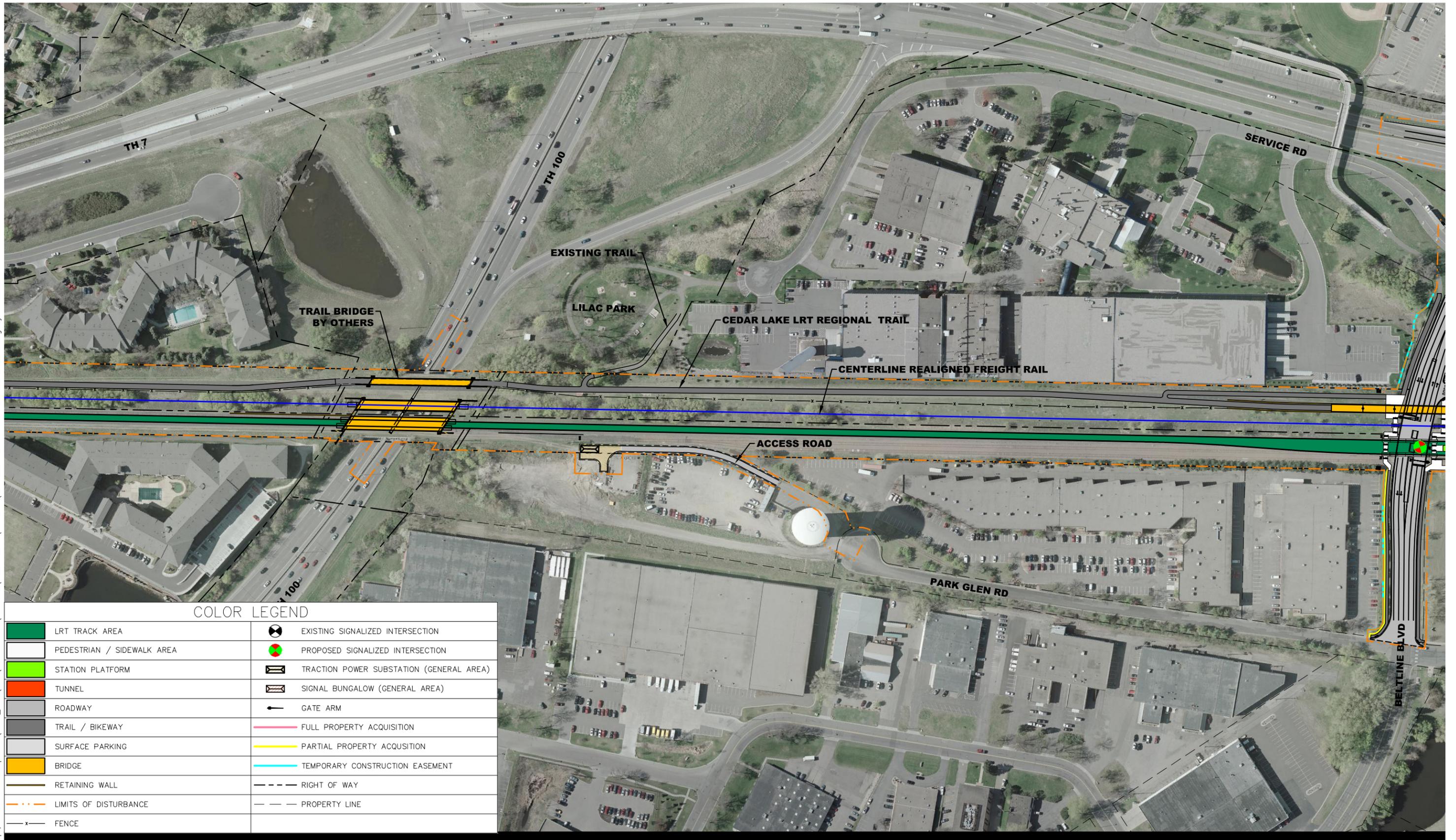
COLOR LEGEND

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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

SOUTHWEST LRT ALIGNMENT
 SEGMENT E2 - ST. LOUIS PARK
 WOODDALE STATION



Apr. 08 2016 01:15 pm V:\3400_ADC\CAD\SEGMENT E2\EXHIBITS\ROLL PLOTS\11x17-FEIS-2015-7-15.dwg By: V-MatterEK

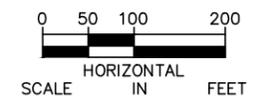


COLOR LEGEND

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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGLOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



SOUTHWEST LRT ALIGNMENT
 SEGMENT E2 - ST. LOUIS PARK
 TH 100



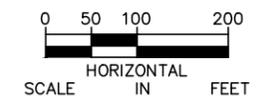
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SOUTHWEST LRT ALIGNMENT

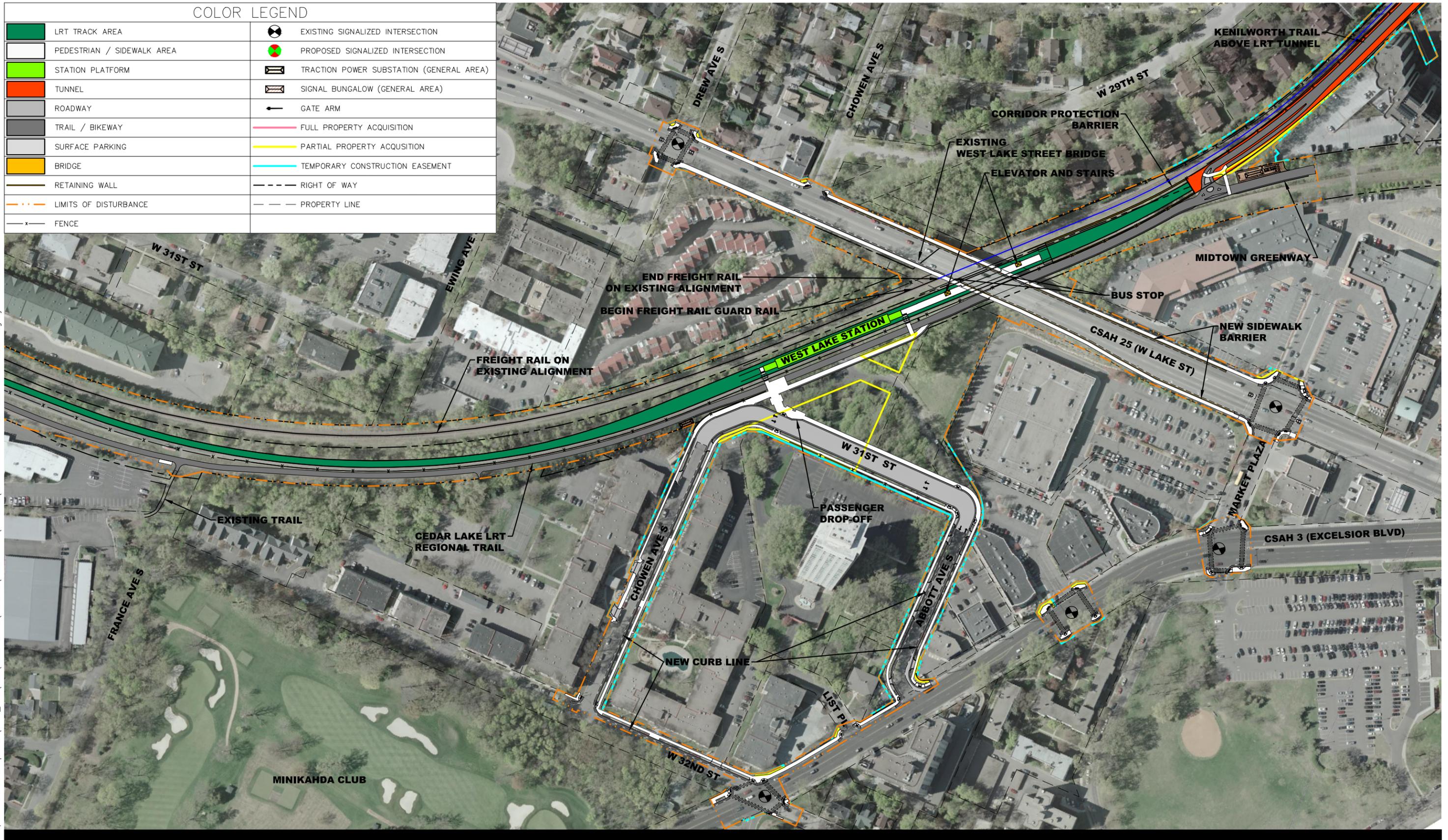
SEGMENT E2 - ST. LOUIS PARK

BELTLINE STATION



COLOR LEGEND

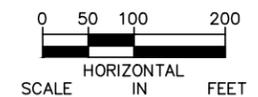
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



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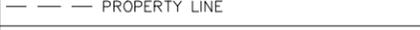
SOUTHWEST LRT ALIGNMENT
 SEGMENT E3 - MINNEAPOLIS
 WEST LAKE STATION



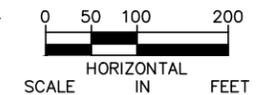
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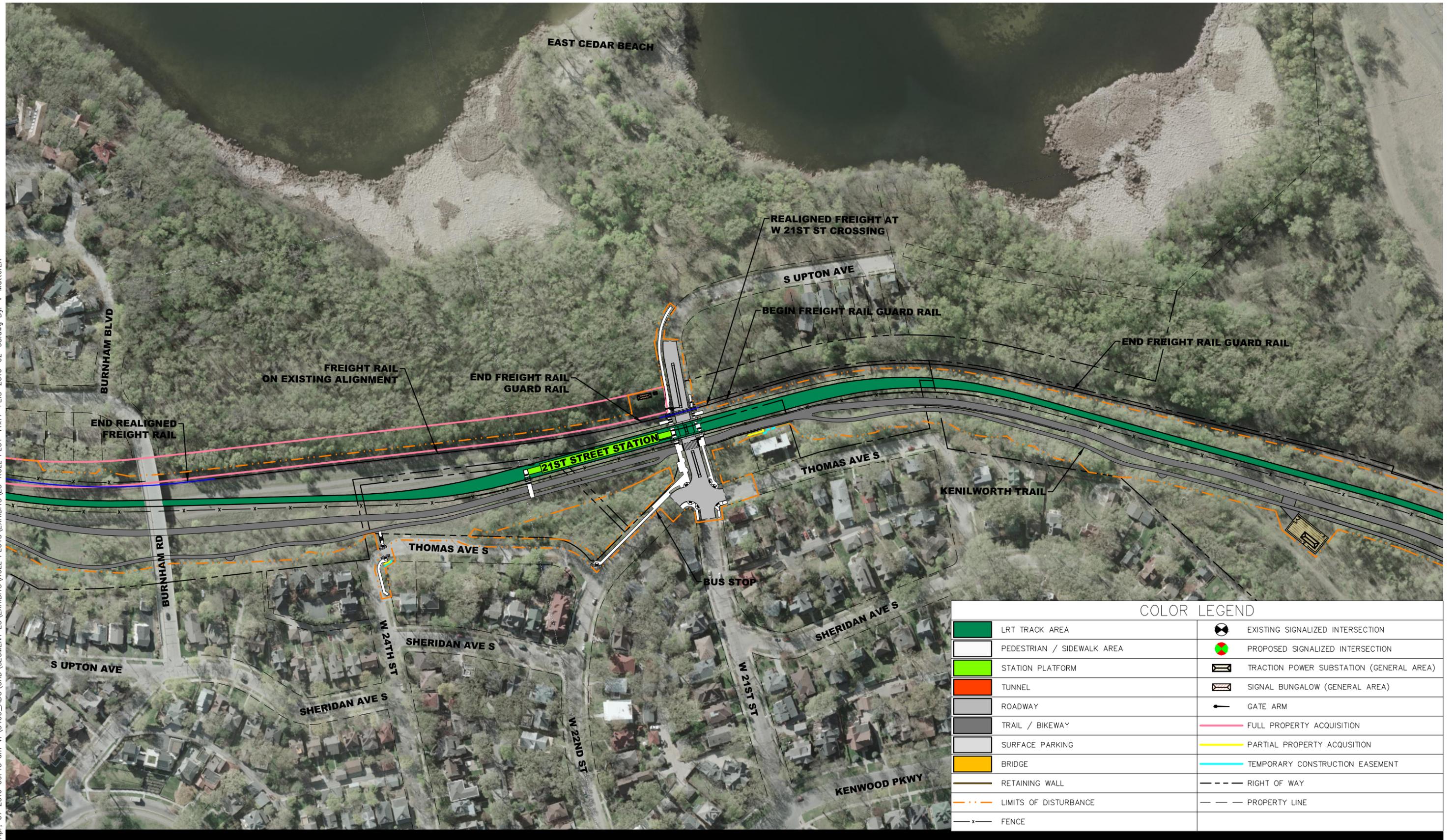
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

SOUTHWEST LRT ALIGNMENT
 SEGMENT E3 - MINNEAPOLIS
 CEDAR LAKE PKWY CROSSING



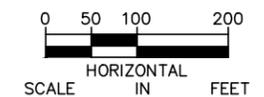
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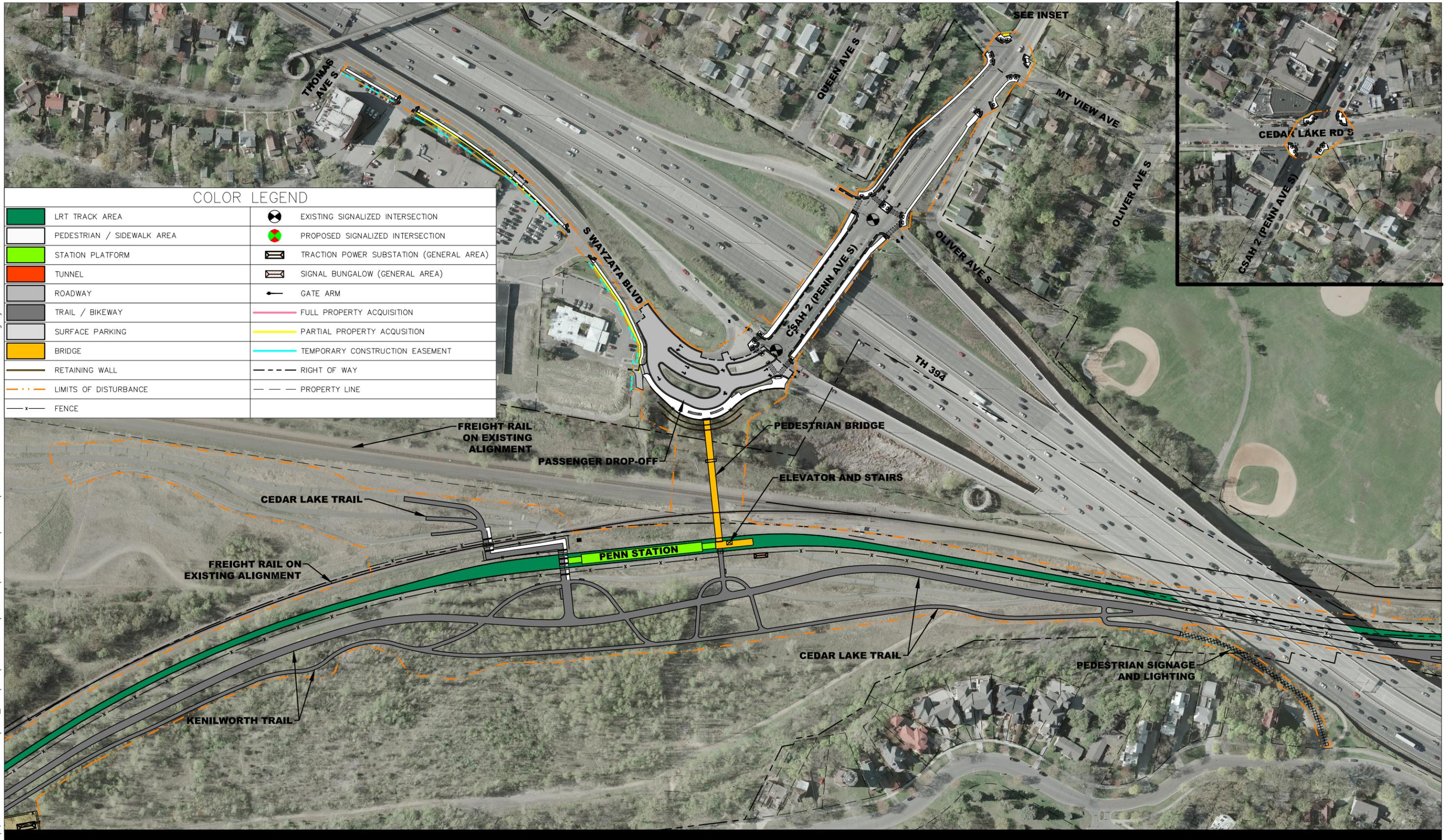
SOUTHWEST LRT ALIGNMENT

SEGMENT E3 - MINNEAPOLIS

21S ST STATION



Apr. 07 2016 10:11 am V:\3400_ADC\CAD\SEGMENT E4\EXHIBITS\ROLL PLOTS\11x17-FEIS-2016-02-08.dwg By: V-MatterEK



SOUTHWEST LRT ALIGNMENT

SEGMENT E4 - MINNEAPOLIS

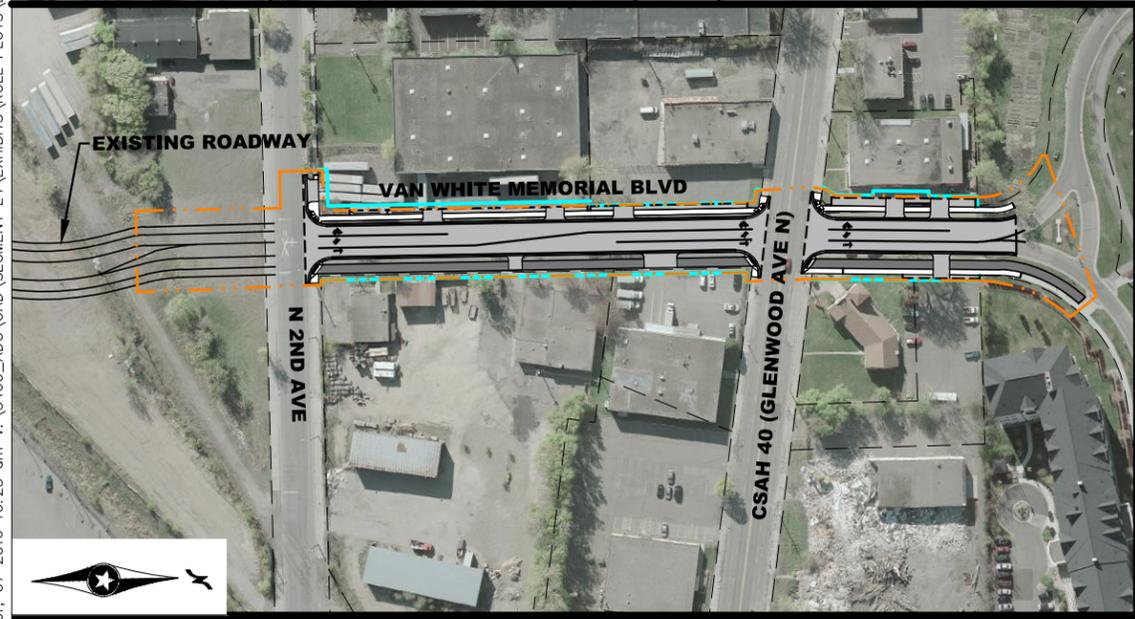
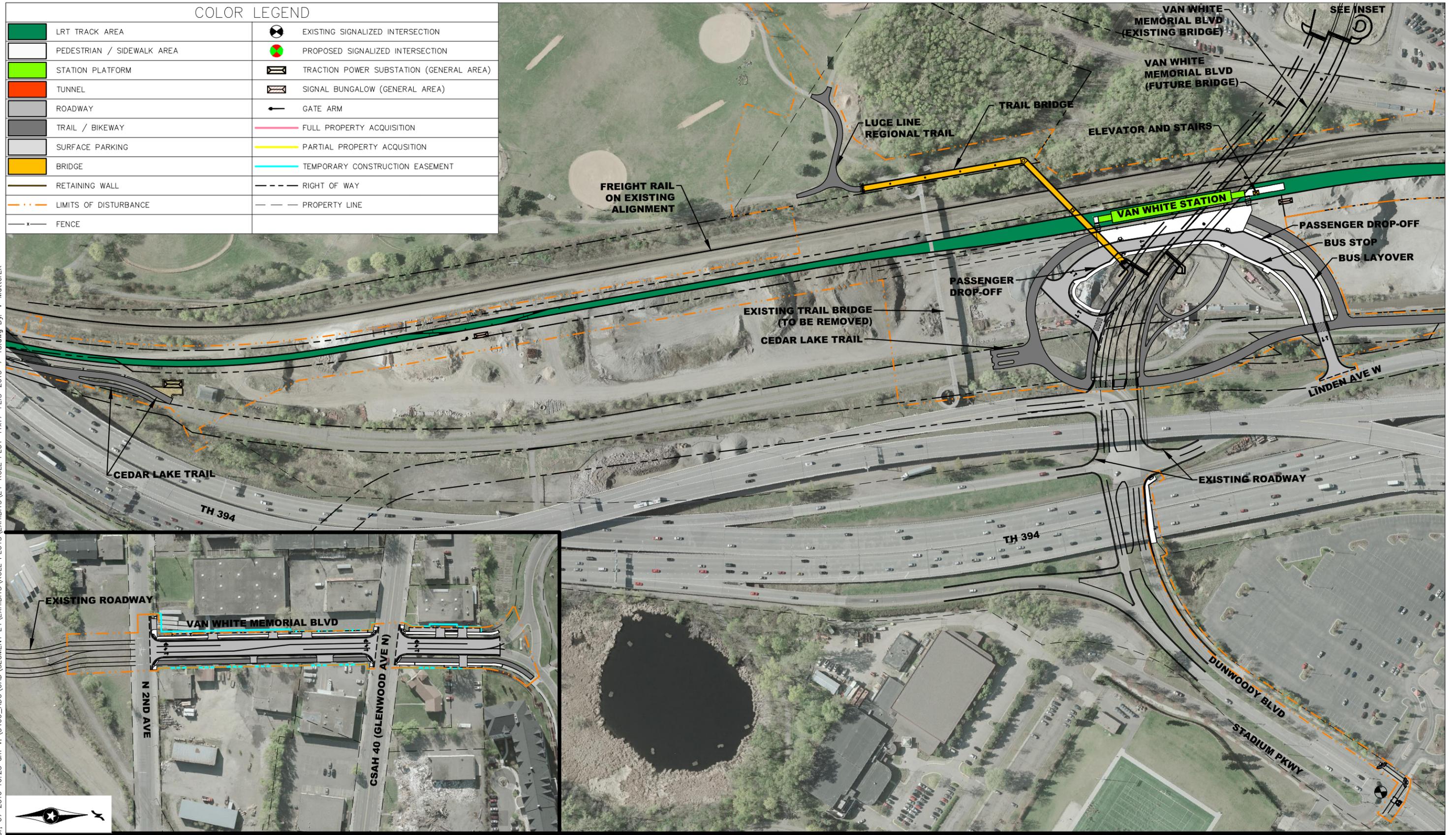
PENN STATION



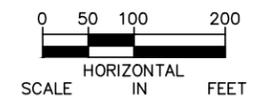
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COLOR LEGEND

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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGLOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

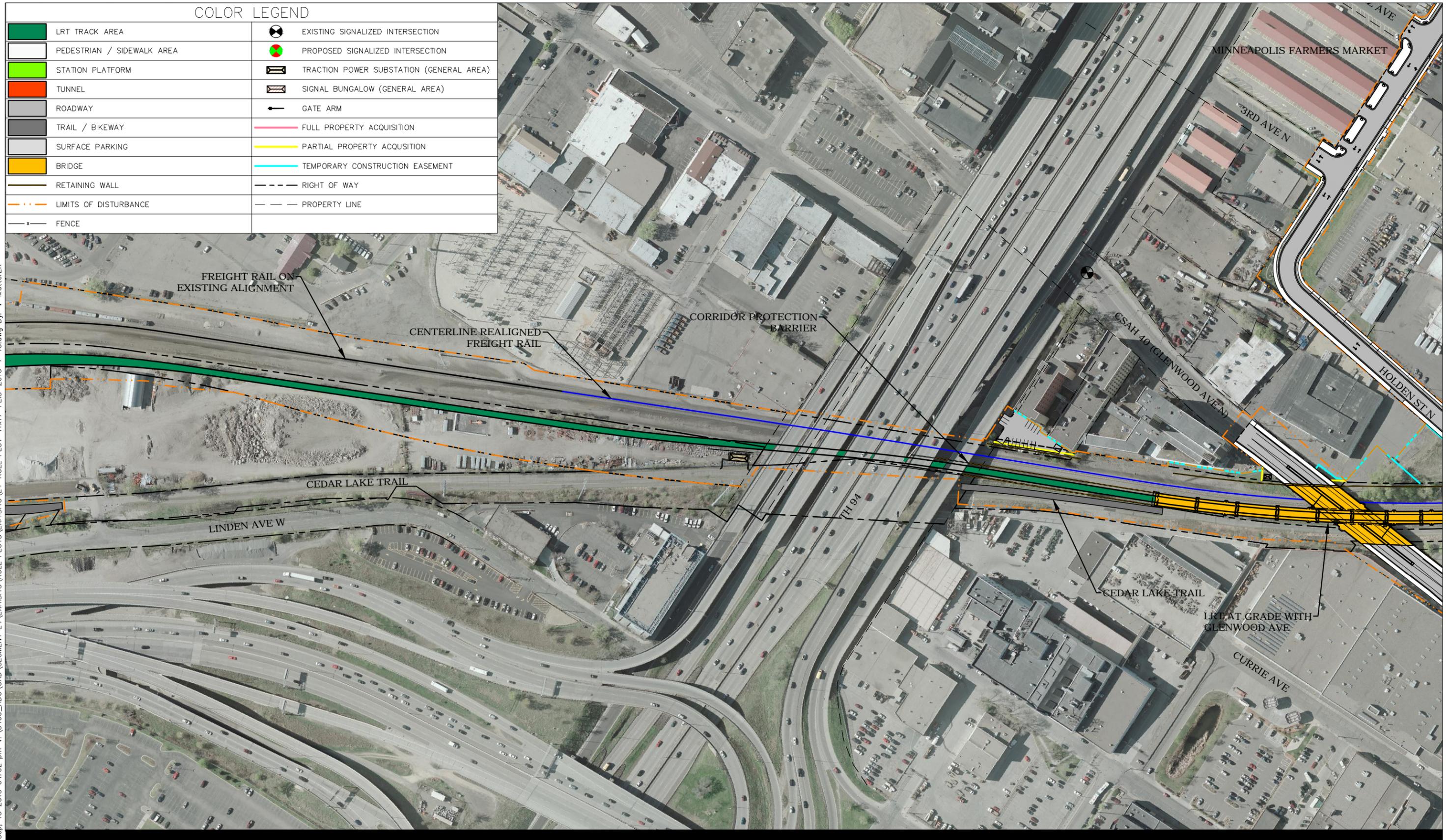


SOUTHWEST LRT ALIGNMENT
 SEGMENT E4 - MINNEAPOLIS
 VAN WHITE STATION



Sep. 15 2015 04:02 pm v:\3400_ADC\CAD\SEGMENT E4\EXHIBITS\ROLL PLOTS\EXHIBITS E4-ROLL PLOT-11x17-FEIS-2015-7-15.dwg By: V-MatterEK

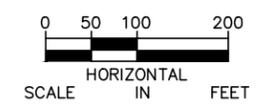
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		



SOUTHWEST LRT ALIGNMENT

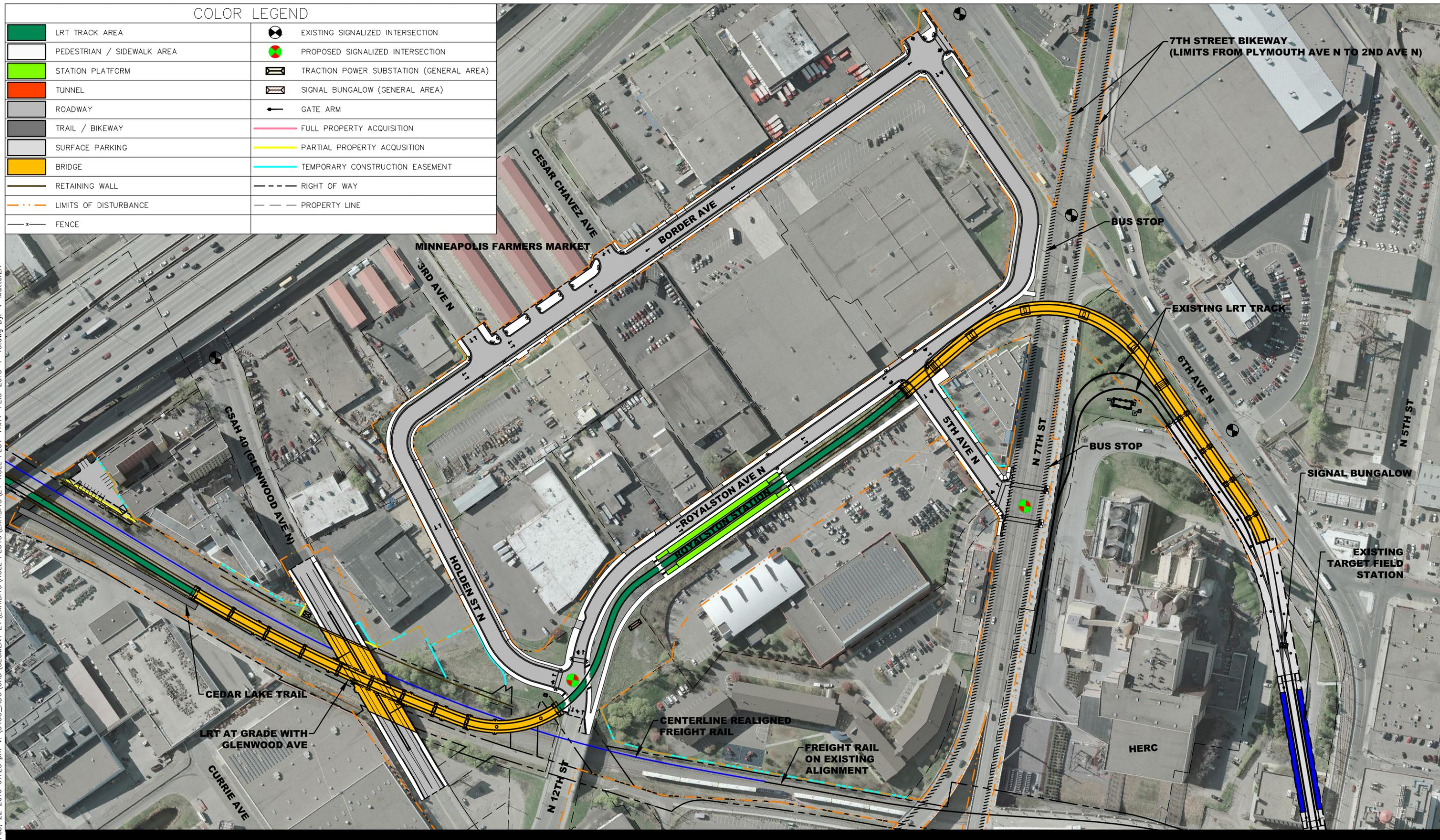
SEGMENT E4 - MINNEAPOLIS

TH 94 TRENCH



COLOR LEGEND

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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

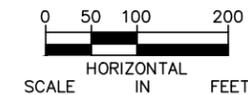


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SOUTHWEST LRT ALIGNMENT

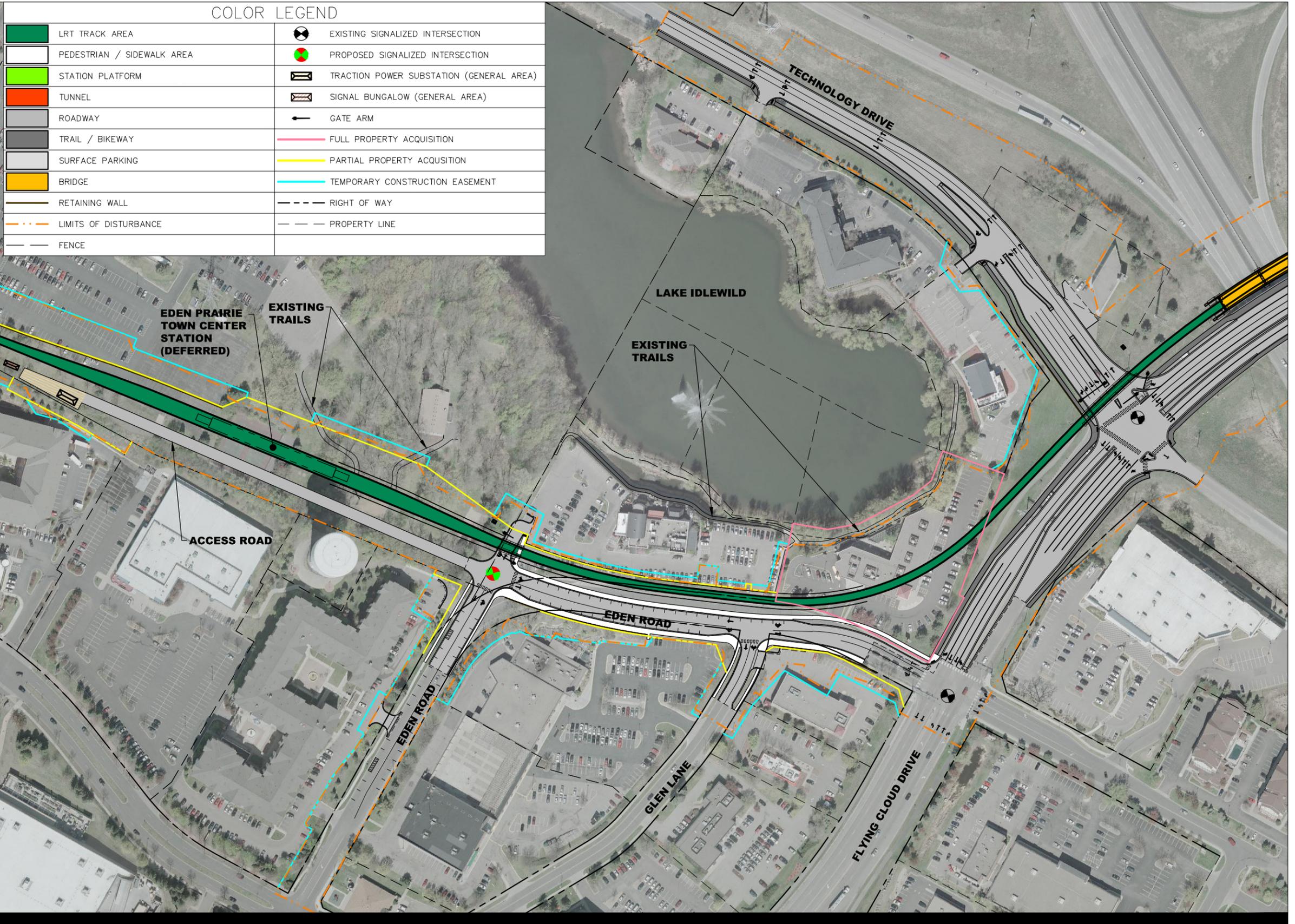
SEGMENT E4 - MINNEAPOLIS

ROYALSTON STATION



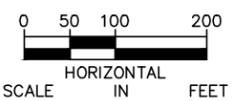
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COLOR LEGEND			
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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

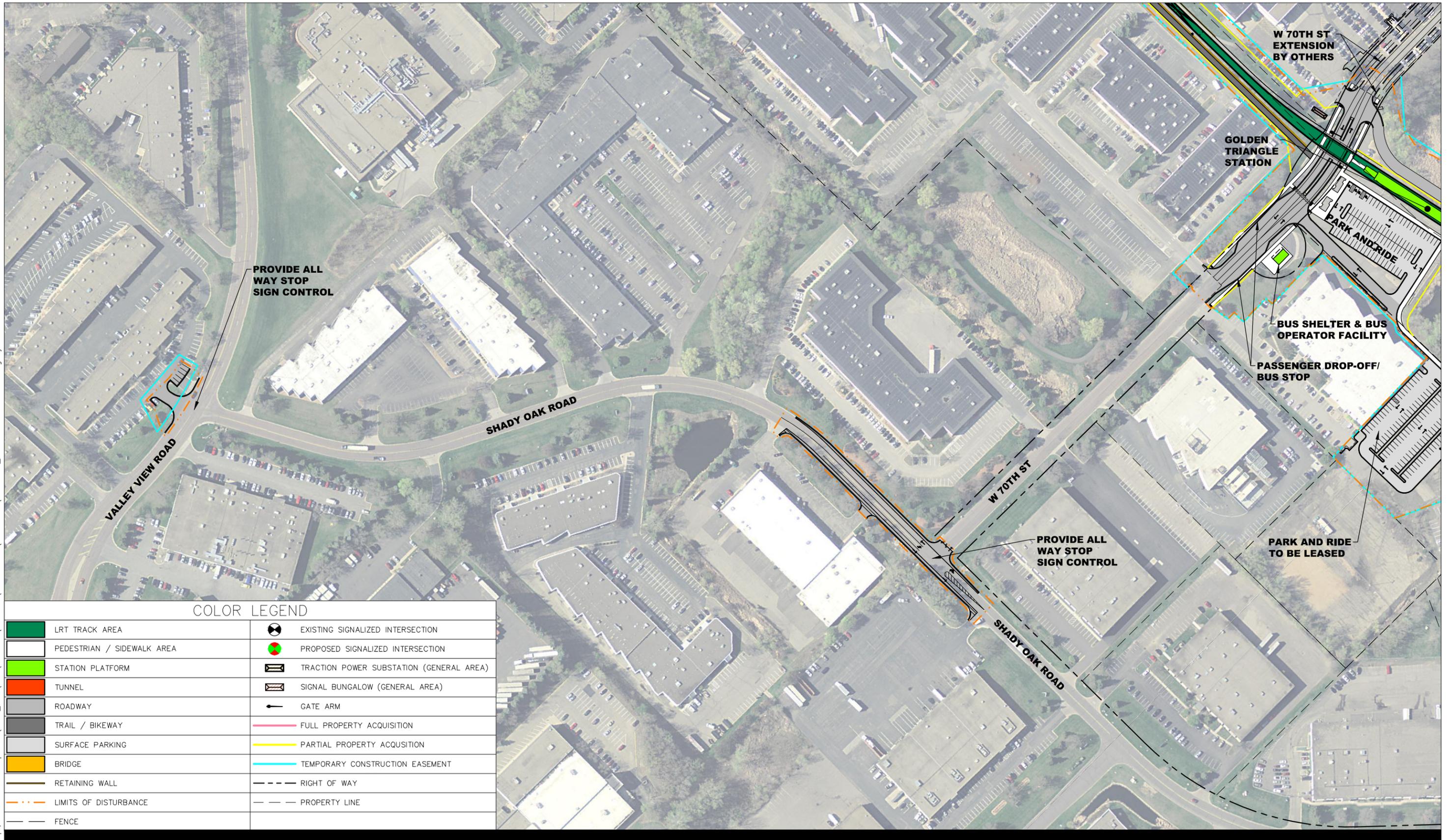


SOUTHWEST LRT ALIGNMENT

SEGMENT W1 - EDEN PRAIRIE TOWN CENTER STATION (DEFERRED)



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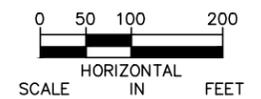


COLOR LEGEND

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	PEDESTRIAN / SIDEWALK AREA		PROPOSED SIGNALIZED INTERSECTION
	STATION PLATFORM		TRACTION POWER SUBSTATION (GENERAL AREA)
	TUNNEL		SIGNAL BUNGALOW (GENERAL AREA)
	ROADWAY		GATE ARM
	TRAIL / BIKEWAY		FULL PROPERTY ACQUISITION
	SURFACE PARKING		PARTIAL PROPERTY ACQUISITION
	BRIDGE		TEMPORARY CONSTRUCTION EASEMENT
	RETAINING WALL		RIGHT OF WAY
	LIMITS OF DISTURBANCE		PROPERTY LINE
	FENCE		

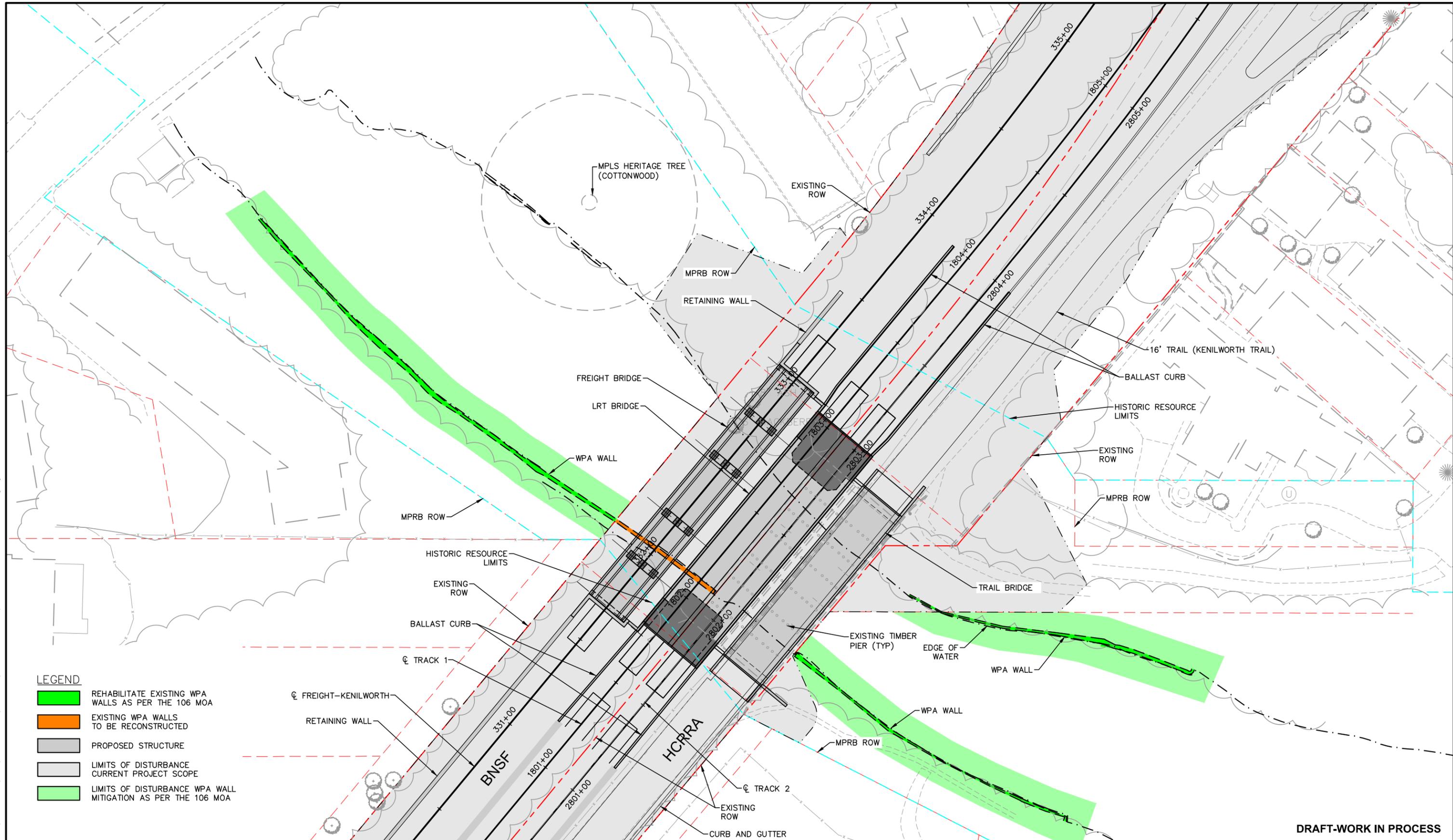
SOUTHWEST LRT ALIGNMENT

SEGMENT W2 - EDEN PRAIRIE GOLDEN TRIANGLE STATION



28

Feb. 23 2016 09:14 am V:\3400_ADC\CAD\SEGMENT E3\EXHIBITS\CHANNEL BRIDGE\E3-CIV-BRIDGE_WPA WALLS.dwg By: V-MozzetteBR



- LEGEND**
- REHABILITATE EXISTING WPA WALLS AS PER THE 106 MOA
 - EXISTING WPA WALLS TO BE RECONSTRUCTED
 - PROPOSED STRUCTURE
 - LIMITS OF DISTURBANCE CURRENT PROJECT SCOPE
 - LIMITS OF DISTURBANCE WPA WALL MITIGATION AS PER THE 106 MOA

DRAFT-WORK IN PROCESS



SOUTHWEST LIGHT RAIL
LAGOON/CHANNEL BRIDGE - WPA WALLS
ATTACHMENT C

Rev 0
02/23/2016

