MINNETONKA PLANNING COMMISSION
August 4, 2016

Brief Description Items concerning construction of that portion of the Southwest Light Rail Transit line located in the City of Minnetonka:

1) Wetland rezoning;

2) Wetland and floodplain alteration permit;

3) Wetland, wetland buffer, and floodplain variances;

4) Conditional use permit for impervious trails within wetland buffers; and

5) Approval of construction on a steep slope development and tree removal.

Recommendation Recommend the city council adopt the ordinance and resolutions approving the various items

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Background

The Southwest Light Rail Transit (SWLRT) line will be a roughly 14.5 mile extension of the existing METRO Green Line. Beginning at Target Field in downtown Minneapolis, the SWLRT line will serve the cities of Minneapolis, St. Louis Park, Edina, Hopkins, Minnetonka and Eden Prairie. Since 2002, when SWLRT planning began, there have been countless meetings of various committees to discuss and evaluate all aspects of the line. These committees include:

- The Metropolitan Council Corridor Management Committee – made up of policy makers associated with Met Council, Hennepin County, and each city within the transit corridor.

- The Hennepin County Community Works Steering Committee – made up of policy makers associated with Hennepin County and each city within the transit corridor.

- The Metropolitan Council Technical Project Advisory Committee (TPAC) – made up of staff planners and engineers from the State of Minnesota, Met Council, Hennepin County, Minneapolis Park Board, Three Rivers Park District, and all cities and watershed districts with the transit corridor.

- The Hennepin County Community Works Technical Implementation Committee (TIC) – made up of staff planners from Met Council, Hennepin County, Minneapolis Park

Board, Three Rivers Park District, and all cities and watershed districts within the transit corridor.

- The Metropolitan Council Community Advisory Committee – made up of appointed residents of each city within the transit corridor.

- The Metropolitan Council Business Advisory Committee – made up of appointed business owners along the transit line and within the transit corridor.

- The Technical Evaluation Panel – made up of water resource professionals including the Board of Water and Soil Resources, Army Corps of Engineers, and all cities and watershed districts within the transit corridor.

In addition to official meetings of these various committees and panels, opportunities for public input and involvement have been provided at both large and small scales.

General Approvals

In June 2014, the city council granted municipal consent to the SWLRT project. In granting consent, the council essentially approved preliminary design plans and the transit route through the city.

In September 2015, the city council again granted municipal consent to the project, approving revised preliminary design plans.

In April 2016, design plans were finalized.

In July 2016, the Federal Transit Administration issued a formal “record of decision” (ROD) that indicates that SWLRT line, as designed, complies with all relevant federal environmental requirements.

Specifically Required Approvals

Each community within the SWLRT corridor may have different zoning regulations that apply to construction of the transit line. As such, each community will have to take separate action on their separate regulations. The Minnetonka regulations pertaining to construction of the line pertain primarily to natural resources. The following approvals are required:

- **Wetland Rezoning:** By City Code §300.23 Subd.9, wetland area may be filled – or removed from wetland overlay zoning district – only by rezoning. Construction of the SWLRT line will require fill of 2.99 acres of wetland.

- **Alteration Permits:** By City Codes §300.23 Subd.10 and §300.24 Subd.9, alteration of wetland and floodplain areas is permitted only upon approval of a wetland and/or floodplain alteration permit. Construction of the SWLRT line will require temporary

alteration of 1.24 acres of wetland. It will also result in fill of 1,180 cubic yards of 100-year floodplain and creation of 1,582 cubic yards of 100-year floodplain.

- **Variances**: By City Codes §300.23 Subd.8 and §300.24 Subd.8, transportation routes – driveways, roads, rails, trails – and retaining walls associated with these routes, must maintain certain setbacks from wetlands and floodplains. Similarly, such infrastructure must be located outside of required wetland buffers. The SWLRT line requires the following variances:

	Item Requiring a Variance	Required	Proposed**
Wetland	Rail Line	25 foot setback	1 foot
	Bridge Abutments	35 foot setback	1 foot
	Transit Power Substation	35 foot setback	15 feet
	Trails	25 foot setback	2 feet
Wetland Buffer	Rail Line	25 foot buffer	5 feet
	Bridge Abutments	25 foot buffer	1 foot
	Transit Power Substation	25 foot buffer	15 feet
	Trails	25 foot buffer	11 feet
Floodplain	Rail Line	10 foot horizontal setback 1 foot vertical separation	0 feet
	Bridge Abutments	10 foot setback	0 feet

** Varies within the corridor. Proposed numbers are minimums

- **Conditional Use Permit:** By City Code §300.23 Subd.7, impervious trails are allowed in wetland buffers only by conditional use permit. Small sections of relocated pedestrian trails throughout the corridor will be located with required wetland buffers.

- **Steep Slopes:** By City Code §300.28 Subd.20, development or construction activities may occur on steep slopes only if certain standards are met. Throughout the corridor there are areas of topography that are considered steep by city code definition. Appropriate best management practices and erosion control is specified in the design plans to minimize additional impacts to the site during construction.

- **Tree Removal:** By City Code §300.28 Subd.19, the city council may approve removal of trees within woodland preservation areas, as well as high-priority and significant trees, if the council finds that the removal is necessary to contribute toward a greater public good. The SWLRT project will result in tree removal within the transit corridor for construction of the rail line and within wetland and floodplain alteration areas. Many

of these trees will be located outside of the “basic tree removal area” as defined by city code.

Staff Analysis and Comment

Staff acknowledges that the SWLRT line will impact natural resources within Minnetonka. As with any major infrastructure project, this impact must be weighed against the public good provided. Regional and local policy makers have determined that the SWLRT line will ultimately provide the regional population with a transportation alternative and, as such, contribute toward the greater public good. Further, the project and its alignment have been approved at both regional and local levels. Staff supports approval of the various items – rezoning, alteration permits, variances, conditional use permits, etc. – required to accommodate construction of the line. Nevertheless, staff has included several conditions of approval, including:

- Funding of the SWLRT project;
- Payment of negotiated application fees;
- Submittal of acceptable ownership information and maintenance and operations agreements for all SWLRT property and infrastructure with Minnetonka; and
- Issuance of construction permits by December 31, 2017.

Staff Recommendation

Recommend the city council adopt the following, all for construction of that part of the SWLRT project located within the City of Minnetonka:

1) An ordinance removing area from the wetland overlay zoning district. (See page A97–A101.)

2) A resolution approving a wetland and floodplain alteration permit. (See page A102–A117.)

3) A resolution approving wetland, wetland buffer, and floodplain variances. (See page A118–A121.)

4) A resolution approving a conditional use permit for impervious trails within wetland buffers. (See page A122–A124.)

5) A resolution approving construction on a steep slope development and tree removal. (See page A125–A127.)

Originators: Susan Thomas, AICP, Assistant City Planner
Jo Colleran, Natural Resources Manager

Through: Loren Gordon, AICP, City Planner

Supporting Information

SWLRT Info

Information regarding the SWLRT can be found here: http://tinyurl.com/SWLRT

Wetland Mitigation

Wetland impact associated with construction of the SWLRT project is not exempt from the mitigation requirements of the city's wetland ordinance. The ordinance requires that filled wetland be re-created within the same subwatershed unless approved by the city council. As proposed, mitigation for the project would be wetland banking credits which would be purchased from a Scott County wetland bank. As the wetland banking would be located outside of the subwatershed, the council must approve the use of these credits.

Wetland/Buffer Variance Summary

Wetland #	Wetland Setback Variance	Wetland Buffer Variance
MTA-7	33 feet to Traction Power Substation	5 feet to rail line
MTA-8	15 feet to Traction Power Substation	15 feet to Traction Power Substation
MTA-9	2 feet to trail	11 feet to trail
MTA-11	1 foot to bridge abutment	23 feet to rail line
MTA-12	1 foot to rail	1 foot to 7 feet for bridge abutments
NM HOP-13	1 foot to bridge abutment	Meets wetland buffer

Wetland Alteration Pertaining to MTA-MTA-11

A wetland restoration plan has been developed by the SWLRT Project Office (SPO) to demonstrate the project's intention to fully restore the temporarily impacted portion of wetland MTA-MTA-11 to pre-project conditions following construction. The proposed LRT design at this particular location necessitates an extended duration of temporary impact to allow for construction access during the multiple phase construction of a bridge that will cross over wetland MTA-MTA-11 and the existing Canadian Pacific freight rail line located between Minnetonka and Hopkins.

It is estimated that construction of the proposed crossing will last for approximately 13 to 18 months, which is longer than the standard timeframe that the federal, state, and local agencies typically allow for *temporary* impacts. As a result, the project will be required to mitigate for the total construction workspace

impacts in Minnetonka in the amount of 120,194 square feet at a ratio of 2:1 to meet the requirements of the MN Wetland Conservation Act (WCA).

To meet requirements specified under Section 404(b) of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has indicated that the project will be allowed to mitigate for the temporary loss of the wetland's functions and values at a reduced compensation ratio of 0.5:1.

As stated above, the SPO is intending on restoring the wetland after the 13-18 month construction duration. Since this area is being restored and will once again function as a wetland, the city and watershed staff believe this is a *temporary* impact and should be considered an *alteration* versus a *permanent impact.*

As a condition of approval, details of the final restoration plan, must be submitted for review and approval of as staff.

Tree Impacts

Approximately 3,000 regulated trees were inventoried within the City of Minnetonka project corridor, including approximately 1,400 in a woodland preservation area. About 50% of the trees will be removed as a result of the light rail project. Given site constraints, there is not an opportunity to mitigate at the ratio defined by city code. The council has the authority to approve the plan if they find that the removal is necessary to contribute toward a greater public good.

Motion Options

The planning commission has three options:

1. Concur with the staff recommendation. In this case a motion should be made to recommending the city council adopt the ordinance and resolutions approving the various items.

2. Disagree with staff's recommendation. In this case, a motion should be made recommending the council deny the various items. This motion must include a statement as to why the items are denied.

3. Table the request. In this case, a motion should be made to table the item. The motion should include a statement as to why the request is being tabled with direction to staff, the applicant, or both.

Deadline for Decision

August 22, 2016

WETLAND INFORMATION

SOUTHWEST
Green Line LRT Extension

Minnesota Interagency Water Resource Application
(MN Wetland Conservation Act Wetland Replacement Plan)
Southwest LRT (METRO Green Line Extension)—

Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, Minnesota

CH2M —Project No. 474576

May 6, 2016

EXCERPTS PERTAINING TO MTKA WETLANDS

METROPOLITAN COUNCIL

MINNETONKA WETLANDS, DESCRIPTION

an existing gravel rural roadway abutting the southern right of way of TH 62 to a paved urban roadway with a sidewalk along the south side of the road. The wider urban cross section for the roadway and sidewalk would result in the need to widen the embankment at this wetland (see Overhead Plan Sheet 16 and Cross-Section Profile Sheet 12). The location of the proposed access road is fixed by the location of City West Station.

A retaining wall has been proposed between the proposed access road and track alignment. The proposed retaining wall would allow the access road to remain closer to the track alignment while limiting the amount of lateral grading southwest of the road into NM-EP-12.

Temporary Impacts: No temporary wetland impacts are proposed to NM-EP-12.

MTA-MTA-03

MTA-MTA-03 is an isolated Type 1, seasonally flooded basin that is dominated by sandbar willow *(Salix interior)* and common buckthorn (*Rhamnus cathartica*).

Permanent Impacts: Approximately 644 SF (0.01 Ac) of MTA-MTA-03 (the entire wetland) will be permanently filled as a result of grading that is necessary to accommodate the proposed track alignment within the Opus Development in Minnetonka (see Overhead Plan Sheet 17 and Cross-Section Profile Sheet 13). The location of the proposed track alignment in this area is fixed by existing commercial development to the east, and Bren Road to the west.

Given the small size of MTA-MTA-03 (644 SF), it would not be feasible to preserve any portion of the wetland.

Temporary Impacts: MTA-MTA-03 will be entirely filled as a result of the proposed track alignment construction within the Opus Development in Minnetonka. No temporary impacts are proposed.

MTA-MTA-04

MTA-MTA-04 is an isolated Type 1, seasonally flooded basin that is dominated by sandbar willow *(Salix interior)* and common buckthorn (*Rhamnus cathartica*).

Permanent Impacts: Approximately 6,832 SF (0.16 Ac) of MTA-MTA-04 (the entire wetland) will be permanently filled as a result of grading that is necessary to accommodate the proposed track alignment within the Opus Development in Minnetonka (see Overhead Plan Sheet 17 and Cross-Section Profile Sheet 14). The location of the proposed track alignment in this area is fixed by existing commercial development to the east, and Bren Road to the west.

Given the small size of MTA-MTA-04 (6,832 SF), it would not be feasible to preserve any portion of the wetland.

Temporary Impacts: MTA-MTA-04 will be entirely filled as a result of the proposed track alignment construction within the Opus Development in Minnetonka. No temporary impacts are proposed.

MTA-MTA-07

The portion of MTA-MTA-07 that will be impacted by the proposed Southwest LRT Project is a linear Type 3, shallow marsh that currently contains stormwater drainage and is dominated by box elder (*Acer negundo*) and narrow-leaf cat-tail (*Typha angustifolia*). Note that this wetland is also regulated by MnDNR because it is associated with an unnamed public water wetland (ID 27079600), as indicated on MnDNR's PWI map.

Permanent Impacts: Approximately 2,086 (0.05 Ac) of MTA-MTA-07 (approximately 27% of the wetland) will be permanently filled as a result of the grading necessary to accommodate the proposed track alignment within the Opus Development in Minnetonka and an access road to the proposed traction power substation

(TPSS) located north of this wetland (see Overhead Plan Sheet 18 and Cross-Section Profile Sheet 16). The location of the proposed track alignment in this area is fixed by existing commercial development to the east, and Bren Road East to the west of the track alignment. The TPSS will provide electricity for the light rail catenary wires. The location of the TPSS is based on optimal spacing requirement for power distribution, access roadways, security requirements, and adequate spacing between other TPSS locations to provide sufficient electrical power to the train.

Temporary Impacts: Approximately 5,595 SF (0.13 Ac) (the remaining 73% of the wetland) will be temporarily affected by vegetation clearing and the potential placement of clean temporary fill along the western portion of the wetland for construction access and staging during the creation of the proposed floodplain mitigation in this area. This is the minimum area necessary to accommodate safe construction access. These temporary impacts will be considered "no-loss" under the WCA and will meet the applicable requirements specified in Section 7, Attachment B of this application.

MTA-MTA-08

The portion of MTA-MTA-08 that will be temporarily impacted by the proposed Southwest LRT Project is a Type 3, shallow marsh that is dominated by box elder (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and reed canary grass (*Phalaris arundinacea*). Note that this wetland is also regulated by MnDNR because it is associated with an unnamed public water wetland (ID 27079600), as indicated on MnDNR's PWI map.

Permanent Impact: No permanent wetland fill is being proposed at this location. Impacts are limited to temporary vegetation clearing and construction staging that will be required for the creation of the proposed floodplain mitigation in this area (see Overhead Plan Sheet 19).

Temporary Impacts: Approximately 3,145 SF (0.07 Ac) (approximately 21% of the wetland) will be temporarily affected by vegetation clearing and the potential placement of clean temporary fill along the western portion of the wetland for construction access and staging during the creation of the proposed floodplain mitigation in this area. This is the minimum area necessary to accommodate safe construction access. These temporary impacts will be considered "no-loss" under the WCA and will meet the applicable requirements specified in Section 7, Attachment B of this application.

Note that the design of the TPSS structure depicted on Overhead Plan Sheet 19 is located approximately 25 feet from the wetland boundary, which is less than the City of Minnetonka's setback requirement of 35 feet for this wetland. The project will be submitting a request for a setback variance for this structure as a part of the overall local permit application package submittal to the City of Minnetonka.

MTA-MTA-09

The portion of MTA-MTA-09 that will be temporarily impacted by the proposed Southwest LRT Project is a Type 3, shallow marsh that is dominated by box elder (*Acer negundo*) and orange jewelweed (*Impatiens capensis*). Note that this wetland is also regulated by MnDNR because it is associated with an unnamed public water wetland (ID 27079600), as indicated on MnDNR's PWI map.

Permanent Impact: Approximately 63 SF (0.001 Ac) of MTA-MTA-09 (less than 1% of the wetland) will be permanently filled by the flared end section of a culvert to be installed on the western edge of the wetland (see Overhead Plan Sheet 20). This impact is the result of a change in stormwater conveyance due to the slight realignment of the trail west of the proposed at-grade track alignment that necessitates the placement of a culvert west of the wetland, underneath the track alignment and realigned pedestrian trail. The trail

realignment is related to design refinements to raise the elevations of the three pedestrian underpasses in this area to keep the trail above the high water level of the nearby wetlands, and to help avoid and reduce any impacts to groundwater. The design of the trail went through several iterations and the project was ultimately able to modify the design to avoid permanently impacting the southwestern corner of the wetland. In addition, the design of the stormwater outfall was modified to use turf reinforcement mat (TRM) material instead of riprap, which resulted in a reduction in permanent wetland impact. The proposed TRM at the western edge of MTA-MTA-09 will dissipate stormwater velocity and reduce scour and erosion at the stormwater outfall on the east side of the pedestrian trail.

Temporary Impacts: Approximately 1,470 SF (0.03 Ac) (less than 1% of the wetland) will be temporarily affected by vegetation clearing and the potential placement of clean temporary fill along the southwestern edge of the wetland for proposed construction access and staging during the slight realignment of the existing pedestrian trail, as well as the placement of TRM (as indicated on Overhead Plan Sheet 20). This is the minimum area necessary to accommodate safe construction access. These temporary impacts will be considered "no-loss" under the WCA and will meet the applicable requirements specified in Section 7, Attachment B of this application.

MTA-MTA-11

The portion of MTA-MTA-11 that will be impacted by the proposed Southwest LRT Project contains Types 2/3/5/6/7, fresh wet meadow/shallow marsh/shallow open water/scrub carr/hardwood swamp wetland types. The wetland vegetation is dominated by reed canary grass (*Phalaris arundinacea*), sandbar willow *(Salix interior)*, box elder (*Acer negundo*), and green ash (*Fraxinus pennsylvanica*). The majority of this wetland is located within the municipal boundary of the City of Minnetonka, however, the eastern edge of the wetland lies within the municipal boundary of the City of Hopkins, which is under the WCA jurisdiction of NMCWD. This wetland meets the NMCWD Rule 3 definition of a "medium value wetland" based on the MnRAM assessment that was submitted with the project's *Wetland Investigation Report* in 2013.

Permanent Impacts: Approximately 1,864 SF (0.04 Ac) of MTA-MTA-11 (less than 1% of the wetland) will be permanently filled as a result of placing 8-foot diameter bridge piers to support the proposed elevated track alignment that will pass through the majority of MTA-MTA-11, and the bridge abutment structure in the southern portion of MTA-MTA-11 to transition to the proposed elevated track alignment north of Smetana Road (see Overhead Plan Sheet 21 & 22 and Cross-Section Profile Sheet 17). All proposed permanent impacts due to bridge abutments and piers are located within the City of Minnetonka.

The proposed design of the alignment through MTA-MTA-11 went through several design modifications to minimize wetland impacts and address safety concerns. The design alternative specified in the Draft EIS included a 3,200 foot long, 120 foot-span pre-stressed beam light rail bridge over the wetlands south of the Canadian Pacific (CP) Bass Lake Spur Rail alignment and over the CP line towards K-Tel Road. This initial light rail alignment would have resulted in temporary wetland impacts due to bridge construction activities and substantial permanent wetland impacts from the placement of bridge columns and a required an emergency and maintenance access road at-grade and paralleling the length of the bridge. Due to visual and noise impacts, maintenance and safety access considerations, and cost concerns, the Southwest LRT team developed and evaluated adjustments to the alignment in the Draft EIS as part of the Project Development process.

The first adjustment considered was an at-grade crossing between Smetana Road and the CP Rail Line, with a tunnel beneath the CP Rail Line. The at-grade option would result in more adverse wetland impacts than the Draft EIS bridge alignment due to at-grade (fill) crossing for the entire alignment across MTA-MTA-11. There

would also be wetland impacts in the direct footprint of the excavated tunnel beneath CP Rail line and potential adverse impacts due to active groundwater pumping or lateral drainage effect as result of the tunnel underneath the CP Rail Line.

While the at-grade option would have been more cost effective and would have required less maintenance than the Draft EIS Bridge Alignment, it was dismissed from further study due primarily due to aquatic resource impacts and CP Rail not supporting a light rail tunnel underneath their existing freight rail line.

The current proposed alignment is the at-grade and bridge option which would result in the least amount of wetland impact, while still meeting other needs of the project. This alignment is a hybrid of the previously considered options, incorporating an at-grade alignment, low bridge spans over portions of MTA-MTA-11, and a high bridge section that would span over the northern portion of MTA-MTA-11 and the existing CP rail line. Permanent wetland fill was further minimized when Metro Transit confirmed that the regularly scheduled bridge inspections can be provided on the bridge utilizing special equipment, and from the ground level without the aid of a permanent access roadway beneath the bridge. Coordination with first responders from Hopkins and Minnetonka confirmed that response efforts to incidents on the bridge can be accessed from each end of the bridge without a permanent access roadway beneath the bridge. Permanent wetland fill will be limited to the proposed western bridge abutment structure and the proposed elevated alignment footings.

In addition to the 1,864 SF of wetland fill described above, approximately 125,037 SF (2.87 Ac) (approximately 24% of the wetland) will be temporarily affected (for a duration that exceeds the "no-loss" criteria specified in Section 7.1) by vegetation clearing, hydrology alteration, and the placement of clean temporary fill and/or interlocking tracking pads for construction access and staging during the installation of the proposed elevated track alignment. Of the 125,037 SF of impact due to construction activities, 118,330 SF is located within the City of Minnetonka, and 6,707 SF is located within the City of Hopkins (within NMCWD's WCA jurisdiction). This is the minimum area necessary to accommodate safe construction access to facilitate the proposed LRT bridge construction.

Proposed construction activities will generally consist of excavation for footing construction, pile driving, material delivery of piles, reinforcing steel, ready mix concrete, beams and rails, forming of concrete substructures, beam erection, deck forming and eventual stripping, walkway and barrier placement. Proposed construction will likely require the use of several cranes to be placed immediately adjacent to the foundations for pile driving operations, foundation and substructure construction, and immediately adjacent to the bridge alignment to erect beams and provide for material delivery. Geotextile fabric and interlocking tracking pads, or other accepted form of temporary access, will likely be needed along the west side of the bridge, within the wetland boundary, to provide access for construction equipment. The tracking pads will reduce the compaction and temporary impacts in the wetland. Temporary removal of water within the open water portion of this wetland may be required together with sump drains within the excavation area needed to place the proposed foundations for the bridge substructures.

Within approximately thirteen to eighteen months of construction commencement, the proposed construction workspace will be restored to the original grade, the existing vegetated areas will be re-seeded with an appropriate native wetland species seed mix, and the hydrology of the wetland will be restored to pre-project conditions.

As discussed in Section 7.1, Attachment B of this application, the proposed impacts associated with wetland MTA-MTA-11's temporary construction workspace do not meet the standard WCA definition of a temporary impact. Although the activities required for construction staging and access are temporary in nature,

construction at this location will last longer than the duration allowed under the "no-loss" criteria specified in Section 7.1 of this application due to the relatively large expanse of the proposed crossing and the multiple phases of construction that will be required. As a result, the temporary impacts associated with this wetland will be considered permanent under the WCA and will require full mitigation at a ratio of 2:1 for the portion located within the jurisdictional boundaries of Minnetonka and at a ratio of 2.25:1 for the portion located within the jurisdictional boundaries of Nine Mile Creek Watershed District.

Note: For reference, the activities associated with the temporary workspace for constructing the bridge within wetland MTA-MTA-11 will be considered temporary under the CWA because the area will be fully restored to pre-project conditions following construction. However, because the duration of impact that is being proposed is longer than the 180 days that the USACE typically allows for temporary impacts, the project has proposed to mitigate for the temporal loss of the wetland's functions and values at a compensation ratio of 0.5:1 to meet CWA requirements. This compensation ratio is specific to the Section 404 CWA permit application and was proposed based on USACE guidance for determining baseline compensation ratios for impacts associated with linear projects. The *MTA-MTA-11 Wetland Restoration Plan* (developed to meet City of Minnetonka and USACE/CWA requirements) has been included in Appendix E of this document.

NM-HOP-13

The portion of NM-HOP-13 that will be impacted by the proposed Southwest LRT Project is a linear wetland that is partially used as a stormwater pond and contains Types 1/3/5/6, seasonally flooded basin/shallow marsh/shallow open water/scrub carr wetland types. Wetland vegetation is dominated by black willow (*Salix nigra*), sandbar willow *(Salix interior)*, reed canary grass (*Phalaris arundinacea*), and purple loosestrife (*Lythrum salicaria*). The majority of this wetland is located within the municipal boundary of the City of Hopkins, which is under the WCA jurisdiction of NMCWD, however, the western portion of the wetland lies within the municipal boundary of the City of Minnetonka. This wetland meets the NMCWD Rule 3 definition of a "medium value wetland" based on the MnRAM assessment that was submitted with the project's *Wetland Investigation Report* in 2013.

Permanent Impacts: Approximately 16,435 SF (0.38 Ac) of NM-HOP-13 (approximately 14% of the wetland) will be permanently filled as a result of grading associated within the proposed Operations and Maintenance Facility (OMF) (see Overhead Plan Sheet 23 and Cross-Section Profile Sheet 18). Of the 16,435 SF of permanent impact, 16,319 SF is located in the City of Hopkins (under NMCWD's WCA jurisdiction), and 116 SF is located within the City of Minnetonka. The location of the proposed OMF site was chosen among several other alternatives because it best meets the siting criteria specified in the Draft EIS and is centrally located along the light rail extension, allowing for more efficient operational maintenance than the other alternatives considered. The layout of the proposed OMF is fixed to allow for a flat grade and the minimum interior track radius within the OMF. The proposed interior track grading within NM-HOP-13 must also be wide enough to accommodate safe derailments, which are more likely to occur in OMF facilities than at any other location along the alignment.

The proposed OMF site is designed to minimize permanent wetland fill as much as possible, given operational and safety criteria that must be incorporated into the design. The design was modified to remove a proposed permanent access road beneath the bridge after Metro Transit confirmed that the regularly scheduled bridge inspections can be provided on the bridge utilizing special equipment and from the ground level without the aid of a permanent access roadway beneath the bridge. Coordination with first responders from Hopkins and Minnetonka confirmed that response efforts to incidents on the bridge can be accessed from each end of the bridge without a permanent access roadway beneath the bridge. In addition, the original site layout was

modified from the design depicted in the SDRAFT EIS to allow for a single interior loop track, which has reduced the amount of track and potential permanent wetland fill. Fill within the eastern portion of the wetland will be necessary for the proposed loop track.

Temporary Impacts: Approximately 40,098 SF (0.92 Ac) (approximately 34% of the wetland) will be temporarily affected by vegetation clearing and the potential placement of clean temporary fill for construction access and staging during the proposed OMF construction, and to allow for improvements to the stormwater treatment and conveyance system located near the eastern most portion of this wetland. Of the 40,089 SF of temporary impact, 19,560 SF is located in the City of Hopkins (under NMCWD's WCA jurisdiction), and 20,538 SF is located within the City of Minnetonka. This is the minimum area necessary to accommodate safe construction access. These temporary impacts will be considered "no-loss" under the WCA and will meet the applicable requirements specified in Section 7, Attachment B of this application.

MTA-MTA-12

The portion of MTA-MTA-12 that will be impacted by the proposed Southwest LRT Project is a Type 5, shallow open water stormwater pond. The vegetated portion of the wetland is dominated by box elder (*Acer negundo*) and reed canary grass (*Phalaris arundinacea*).

Permanent Impacts: Approximately 141 SF (0.003 Ac) of MTA-MTA-12 (less than 1% of the wetland) will be permanently filled as a result of the installation of one bridge pier that will be required to accommodate the proposed elevated track alignment crossing of K-Tel Drive, north of the proposed OMF (see Overhead Plan Sheet 24 and Cross-Section Profile Sheet 19). The location of the proposed track alignment in this area is fixed by the proposed OMF to the east and wetland MTA-MTA-12 to the west.

Temporary Impacts: Approximately 23,066 SF (0.53 Ac) (approximately 20% of the wetland) will be temporarily affected by vegetation clearing and a temporary drawdown of the open water portion of the wetland in order to facilitate bridge pier construction to the east, to excavate the proposed floodplain mitigation area to the south, and to potentially replace the existing outlet structure and pipe located at the southeastern corner of the wetland. This is the minimum area necessary to accommodate safe construction access.

The previous construction plans for this wetland involved temporarily impacting the entire basin, assuming that a full drawdown of the wetland would be required. To reduce the temporary impacts, the project has restricted the temporary drawdown area to the 50-foot offset shown on Overhead Plan Sheet 24. If a drawdown is needed, the contractor would install a corrugated sheet pile wall to allow for pumping within the 50-foot offset area of the wetland. These temporary impacts will be considered "no-loss" under the WCA and will meet the applicable requirements specified in Section 7, Attachment B of this application.

8.4 Avoidance & Minimization: Non-WCA Regulated Wetlands

As mentioned previously, the proposed Southwest LRT Project will result in impact to six aquatic resources that are regulated under Section 404 of the CWA, but are not regulated under WCA. The avoidance and minimization efforts associated with these six resources are summarized below in geographic order, from west to east, for reference. In addition, the project has included avoidance and minimization details for channel MC-SLP-01 (Minnehaha Creek) and channel NM-HOP-16 (North Fork of Nine Mile Creek), for which no impact is being proposed.

WETLAND ALTERATION/FILL

9 Attachment D: Replacement/Compensatory Mitigation

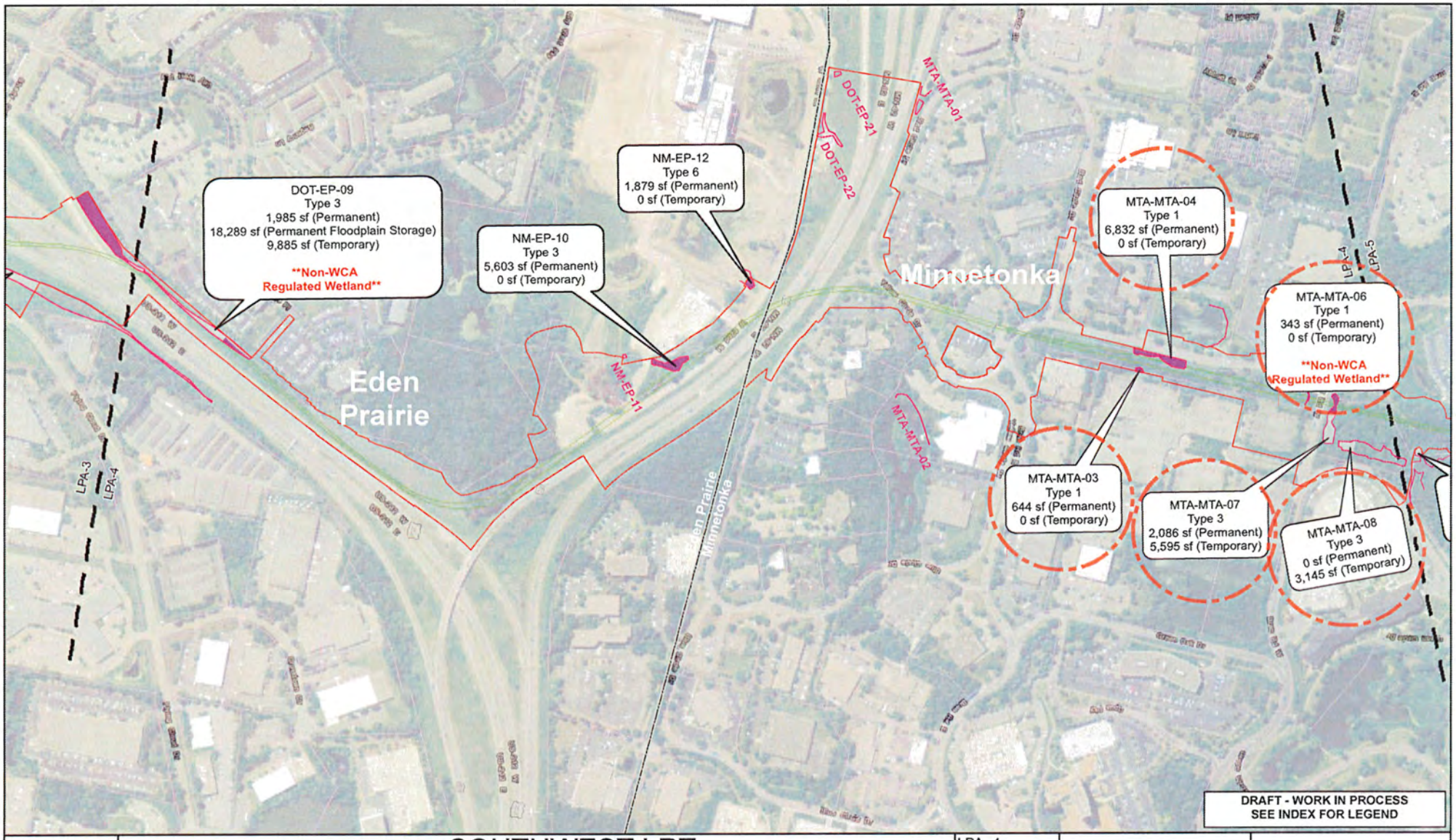
The wetland replacement/compensatory mitigation for this project will be fulfilled through wetland bank credit purchase. The remainder of this section consists of a summary of the mitigation credits that will be required for the project, details on the mitigation that will be provided by the project, and a summary description of the justification for how the proposed replacement/mitigation method meets WCA and individual LGU wetland replacement requirements.

9.1 Mitigation Required for Project

The proposed Southwest LRT Project will result in a total of 181,742 SF (4.17 Ac) of permanent impact to WCA regulated wetlands that will require replacement under MN Rule 8420.0522 and other local ordinances. These impacts, as well as the proposed mitigation replacement ratios and resulting compensatory mitigation credits that will be required for each impacted wetland, are summarized in Table 9-1.

TABLE 9-1
Summary of WCA Regulated Wetland Impacts Requiring Compensatory Mitigation

LGU	Wetland ID	Type (Circ. 39)	Impact Quantity Requiring Mitigation (SF)	WCA/LGU Replacement Ratio	WCA Credits Required (SF)
Eden Prairie	EP-EP-22	3	3,316	2:1	6,632
	EP-EP-24	5	16,617	2:1	33,234
	DOT-EP-17	2	203	2:1	406
	Eden Prairie Totals		20,136		40,272
Nine Mile Creek WD	NM-EP-06[a]	3	638	2.25:1	1,436
	NM-EP-08[a]	3/6	384	9:1	3,456
	NM-EP-10[a]	3	5,603	2.25:1	12,607
	NM-EP-12[a]	6	1,879	2.25:1	4,228
	MTA-MTA-11[a] (In Hopkins)	2/5/6	6,707	2.25:1	15,091
	NM-HOP-13[a] (In Hopkins)	1/3/6	16,319	2.25:1	36,718
	NMCWD Totals		31,530		73,536
Minnetonka	MTA-MTA-03	1	644	2:1	1,288
	MTA-MTA-04	1	6,832	2:1	13,664
	MTA-MTA-07	3	2,086	2:1	4,172
	MTA-MTA-09	3	63	2:1	126
	MTA-MTA-11 (In Minnetonka)	2/3/5/6/7	120,194	2:1	240,388
	NM-HOP-13 (In Minnetonka)	6	116	2:1	232
	MTA-MTA-12	5	141	2:1	282
	Minnetonka Totals		130,076		260,152
	Overall Totals		181,742		373,960
[a] Impact will be mitigated at the highest ratio required by WCA or the LGU			(4.1722 Ac)		(8.5849 Ac)



SOUTHWEST LRT

WCA Regulated Aquatic Resource Impacts
MapBook

LPA- 4
Rev 00.00
4/6/2016
Sheet 4 of 15

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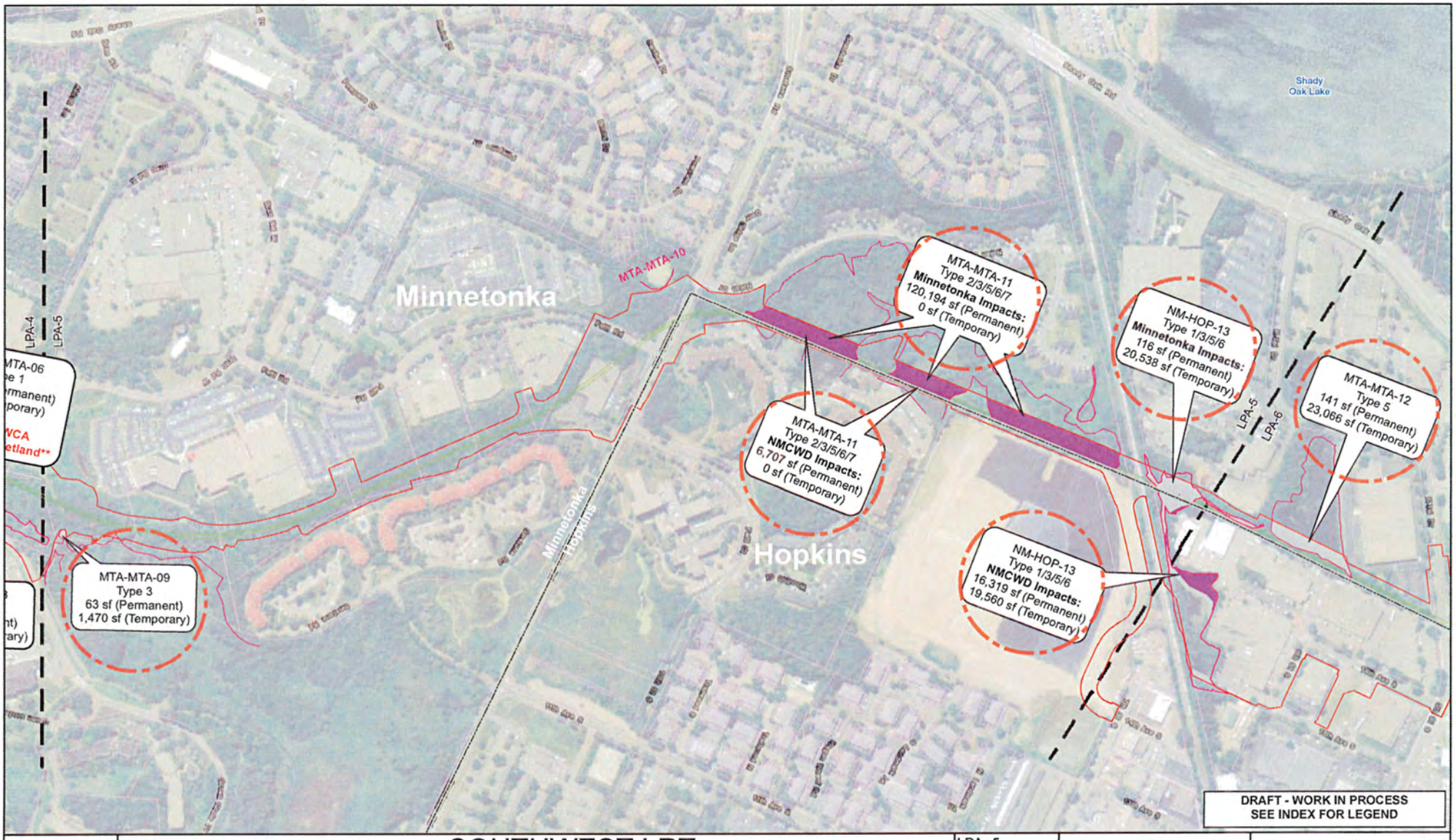

SOUTHWEST LRT

WCA Regulated Aquatic Resource Impacts
MapBook

LPA- 5
Rev 00.00
4/6/2016
Sheet 5 of 15

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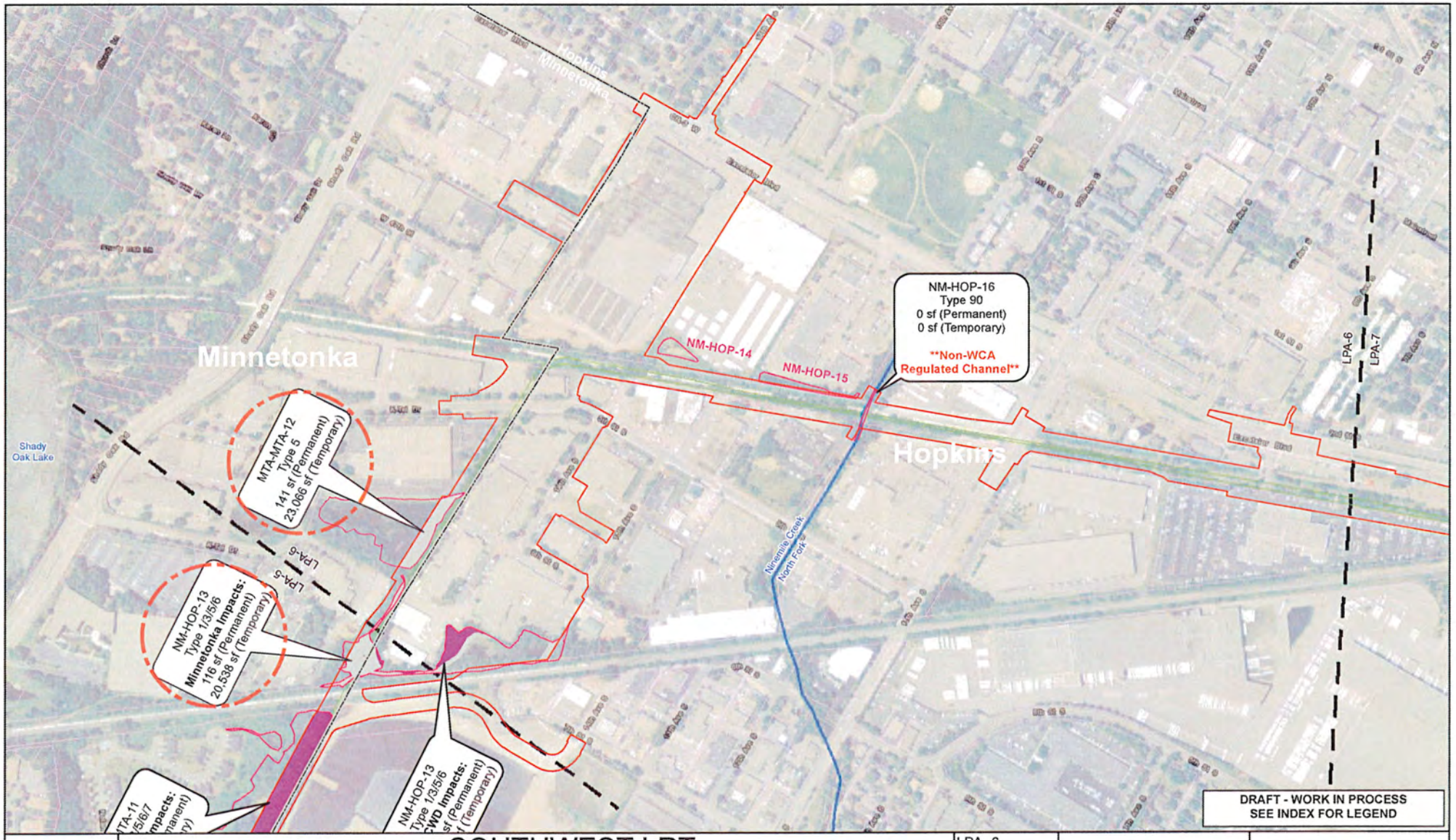
Scale



SOUTHWEST LRT

WCA Regulated Aquatic Resource Impacts
MapBook

LPA- 6
Rev 00.00
4/6/2016
Sheet 6 of 15

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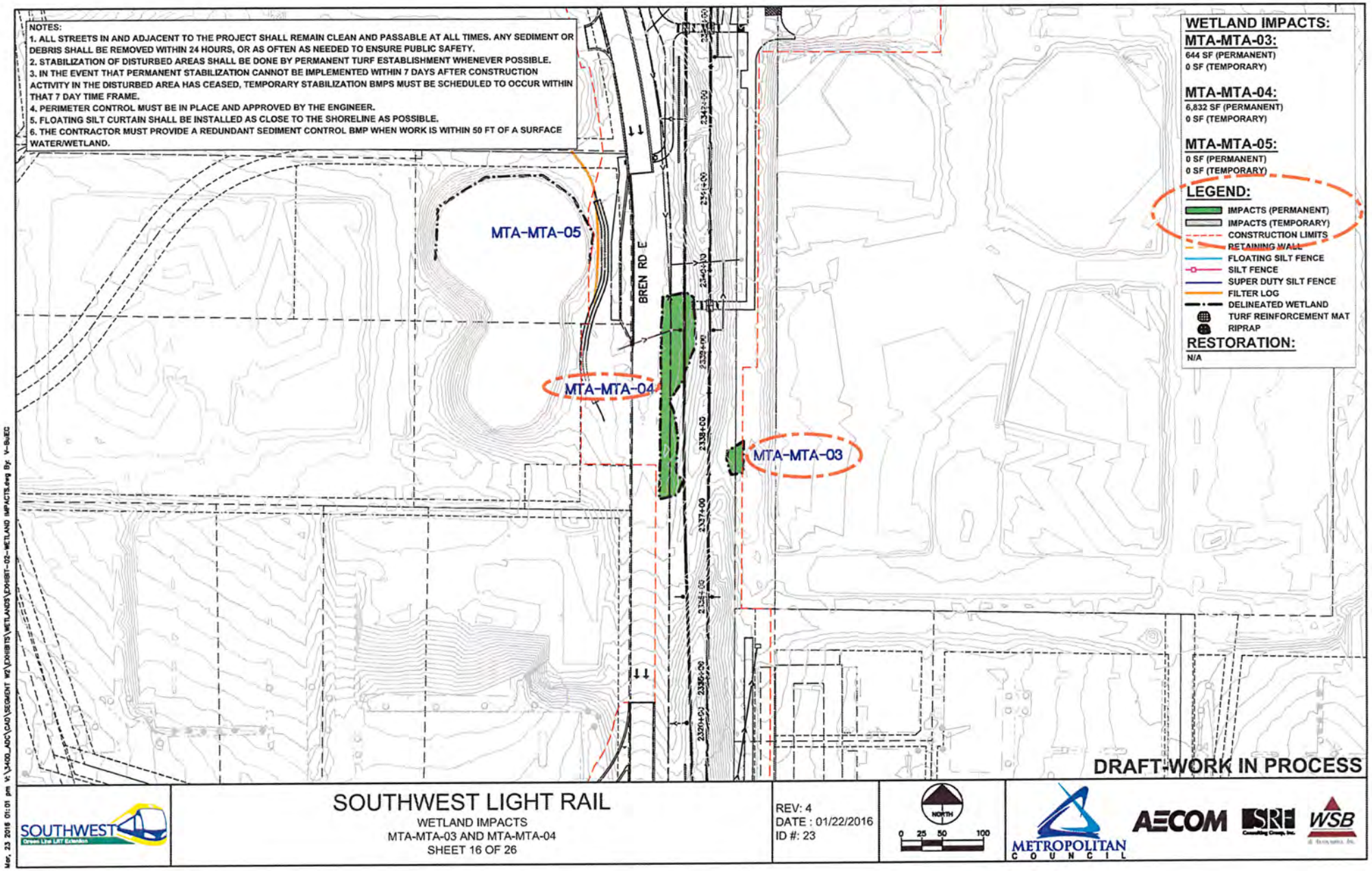
NOTES:
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2. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
3. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME.
4. PERIMETER CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER.
5. FLOATING SILT CURTAIN SHALL BE INSTALLED AS CLOSE TO THE SHORELINE AS POSSIBLE.
6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
MTA-MTA-03:
644 SF (PERMANENT)
0 SF (TEMPORARY)
MTA-MTA-04:
6,832 SF (PERMANENT)
0 SF (TEMPORARY)
MTA-MTA-05:
0 SF (PERMANENT)
0 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
SUPER DUTY SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
N/A
MTA-MTA-05
MTA-MTA-04
MTA-MTA-03
BREN RD E
DRAFT-WORK IN PROCESS
SOUTHWEST LIGHT RAIL
WETLAND IMPACTS
MTA-MTA-03 AND MTA-MTA-04
SHEET 16 OF 26
REV: 4
DATE : 01/22/2016
ID #: 23
NORTH
0 25 50 100
METROPOLITAN COUNCIL
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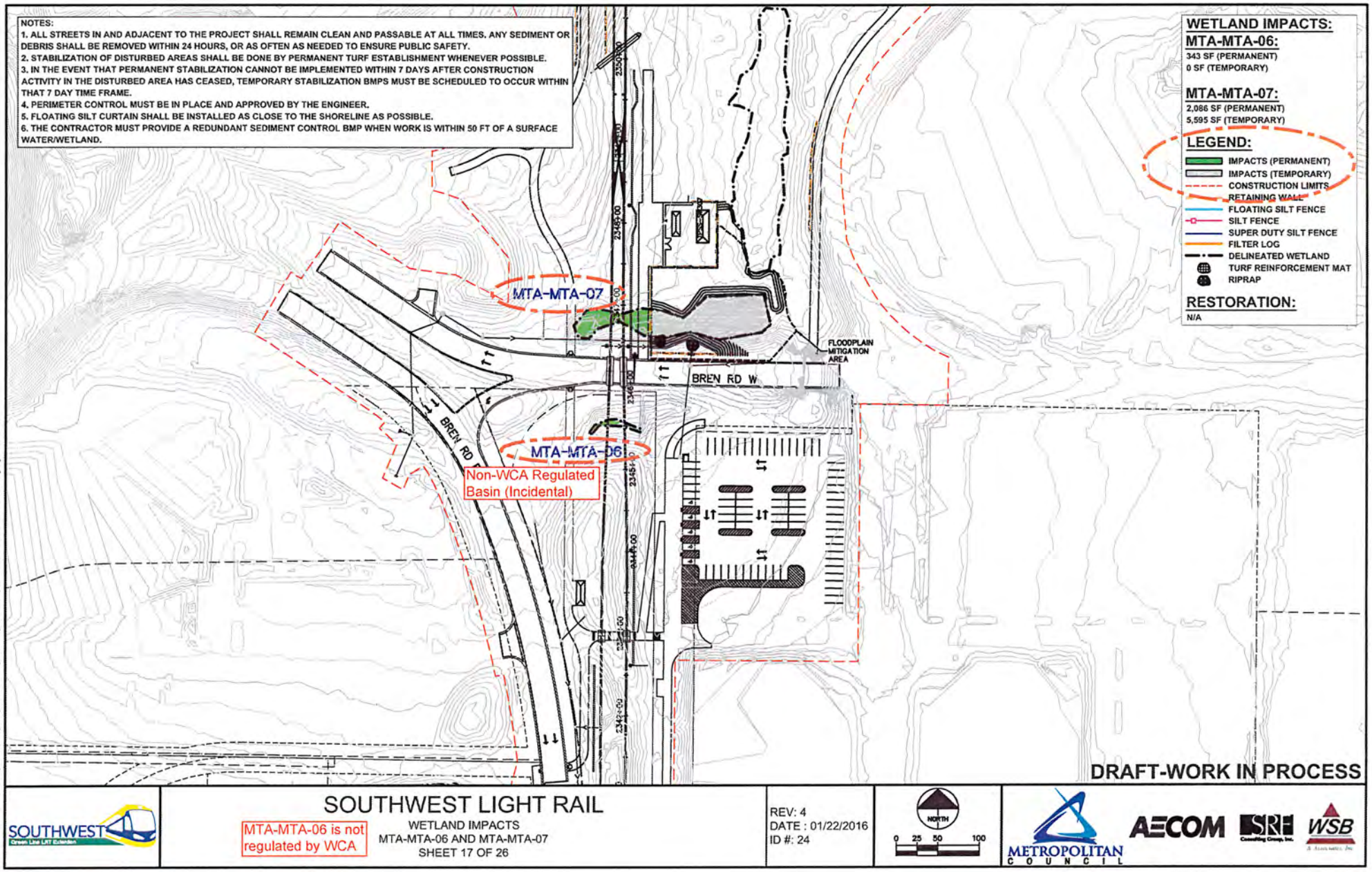
SRF
WSB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6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
MTA-MTA-06:
343 SF (PERMANENT)
0 SF (TEMPORARY)
MTA-MTA-07:
2,086 SF (PERMANENT)
5,595 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
SUPER DUTY SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
N/A
MTA-MTA-07
MTA-MTA-06
Non-WCA Regulated Basin (Incidental)
FLOODPLAIN MITIGATION AREA
BREN RD W
BREN RD
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
MTA-MTA-06 is not regulated by WCA
WETLAND IMPACTS
MTA-MTA-06 AND MTA-MTA-07
SHEET 17 OF 26
REV: 4
DATE : 01/22/2016
ID #: 24
NORTH
0 25 50 100
METROPOLITAN COUNCIL
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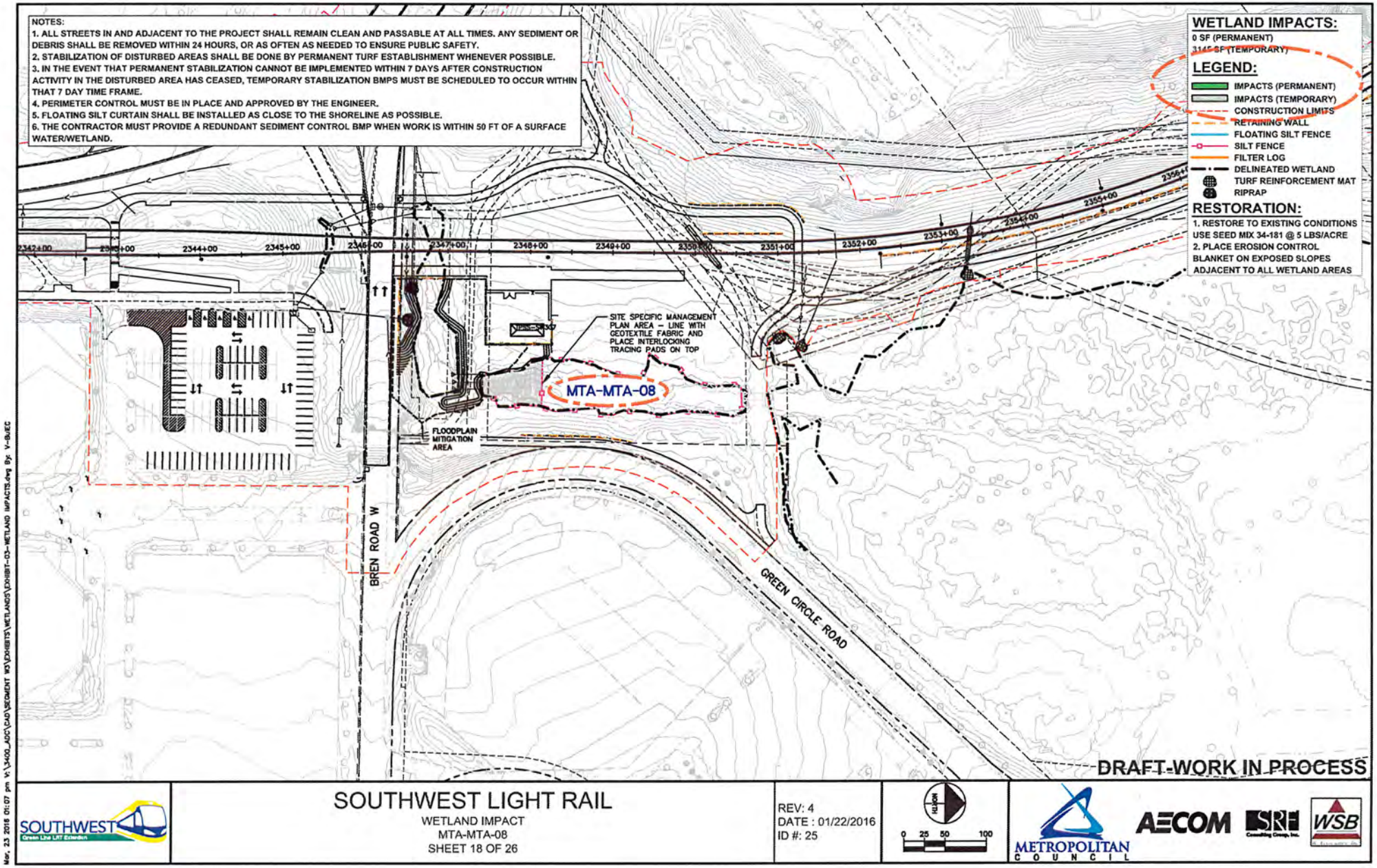
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6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
0 SF (PERMANENT)
3145 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
2342+00
2343+00
2344+00
2345+00
2346+00
2347+00
2348+00
2349+00
2350+00
2351+00
2352+00
2353+00
2354+00
2355+00
SITE SPECIFIC MANAGEMENT PLAN AREA – LINE WITH GEOTEXTILE FABRIC AND PLACE INTERLOCKING TRACING PADS ON TOP
MTA-MTA-08
FLOODPLAIN MITIGATION AREA
BREN ROAD W
GREEN CIRCLE ROAD
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-08
SHEET 18 OF 26
REV: 4
DATE : 01/22/2016
ID #: 25
NORTH
0 25 50 100
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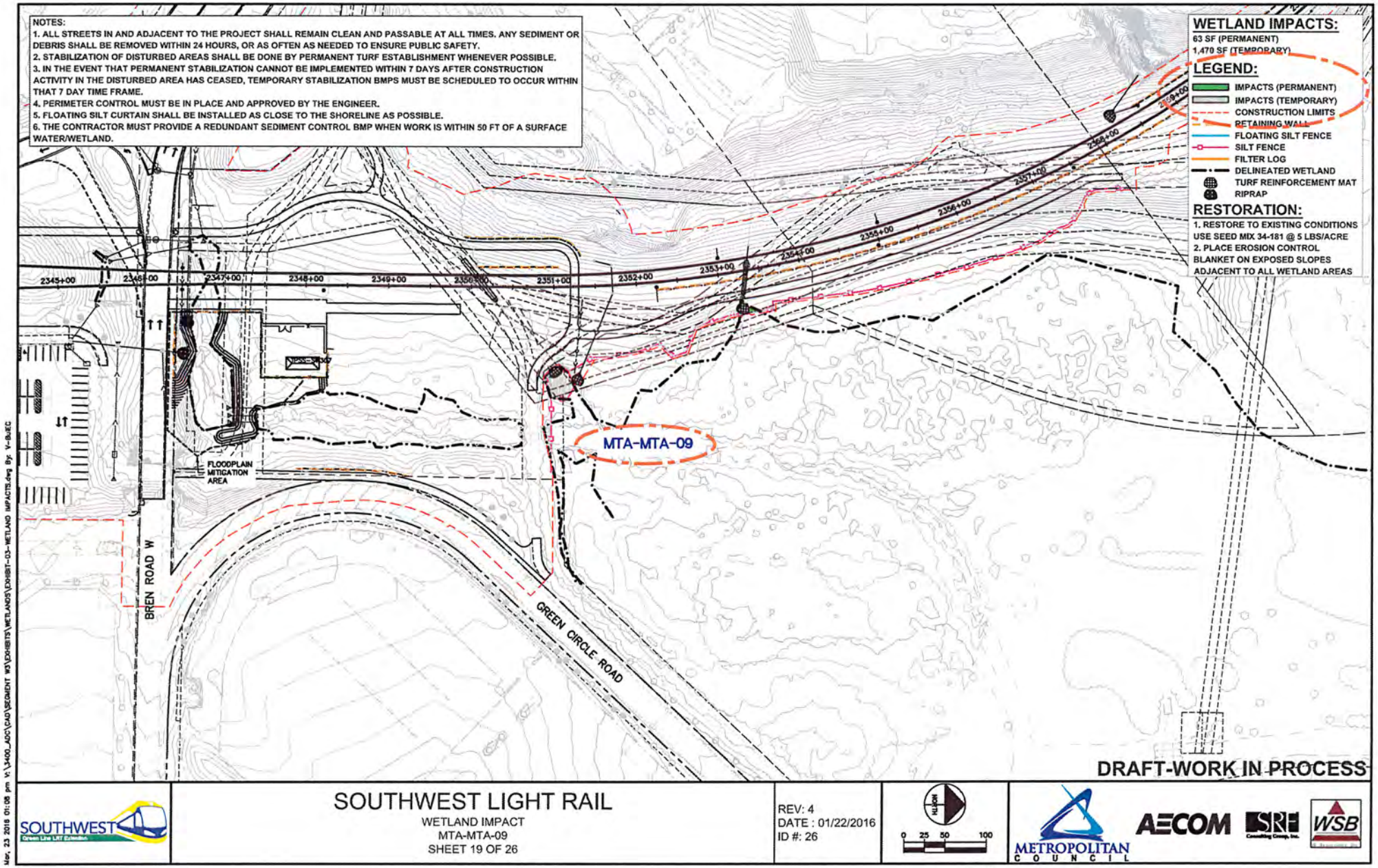
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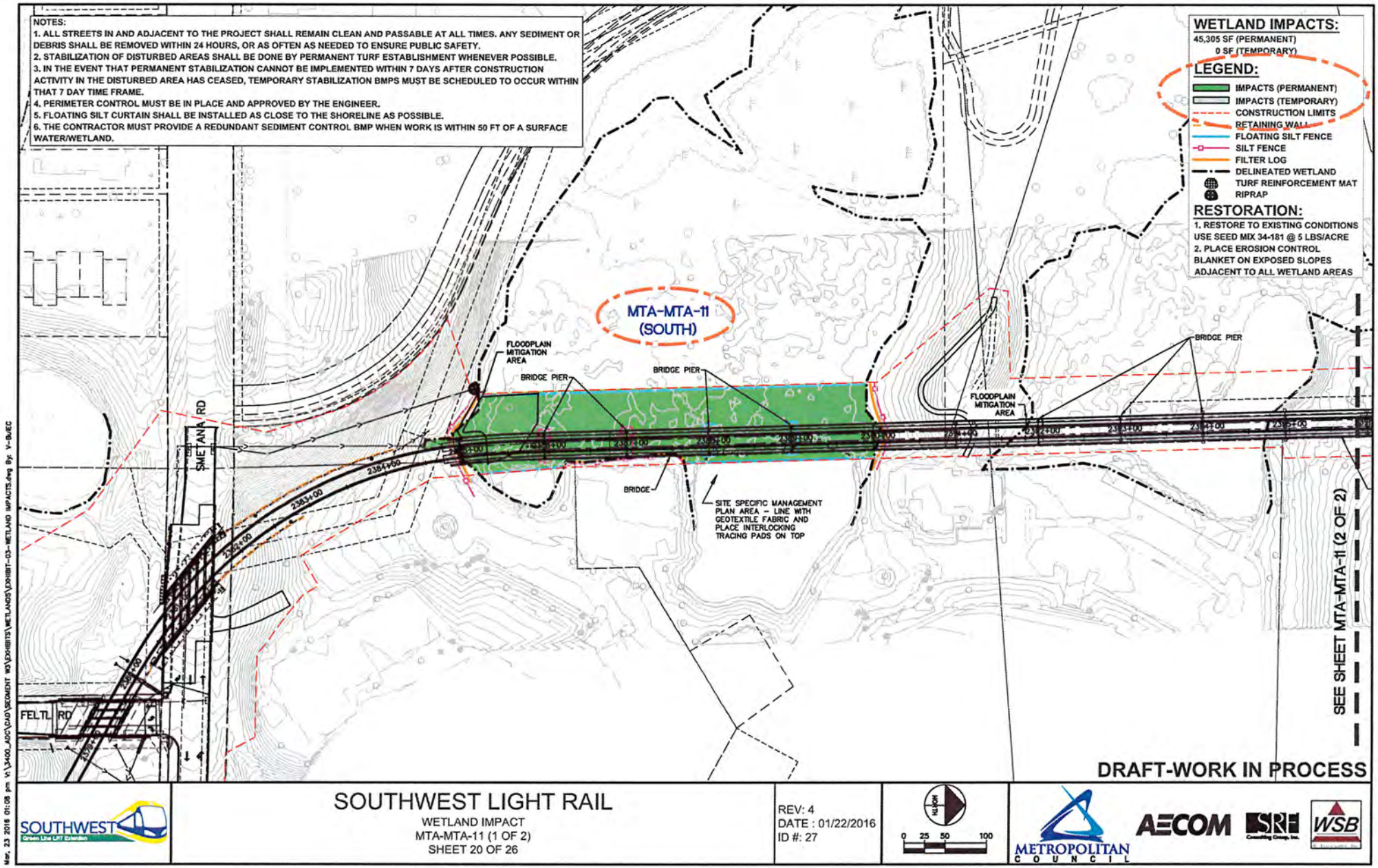
5. FLOATING SILT CURTAIN SHALL BE INSTALLED AS CLOSE TO THE SHORELINE AS POSSIBLE.
6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
63 SF (PERMANENT)
1,470 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
2345+00
2346+00
2347+00
2348+00
2349+00
2350+00
2351+00
2352+00
2353+00
2354+00
2355+00
2356+00
2357+00
2358+00
2359+00
MTA-MTA-09
FLOODPLAIN MITIGATION AREA
BREN ROAD W
GREEN CIRCLE ROAD
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-09
SHEET 19 OF 26
REV: 4
DATE : 01/22/2016
ID #: 26
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF
WSB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WETLAND IMPACTS:
45,305 SF (PERMANENT)
0 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
MTA-MTA-11 (SOUTH)
FLOODPLAIN MITIGATION AREA
BRIDGE PIER
BRIDGE PIER
BRIDGE PIER
FLOODPLAIN MITIGATION AREA
BRIDGE
SITE SPECIFIC MANAGEMENT PLAN AREA – LINE WITH GEOTEXTILE FABRIC AND PLACE INTERLOCKING TRACING PADS ON TOP
SMETANA RD
FELTL RD
SEE SHEET MTA-MTA-11 (2 OF 2)
DRAFT-WORK IN PROCESS
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-11 (1 OF 2)
SHEET 20 OF 26
REV: 4
DATE : 01/22/2016
ID #: 27
0 25 50 100
METROPOLITAN COUNCIL
AECOM
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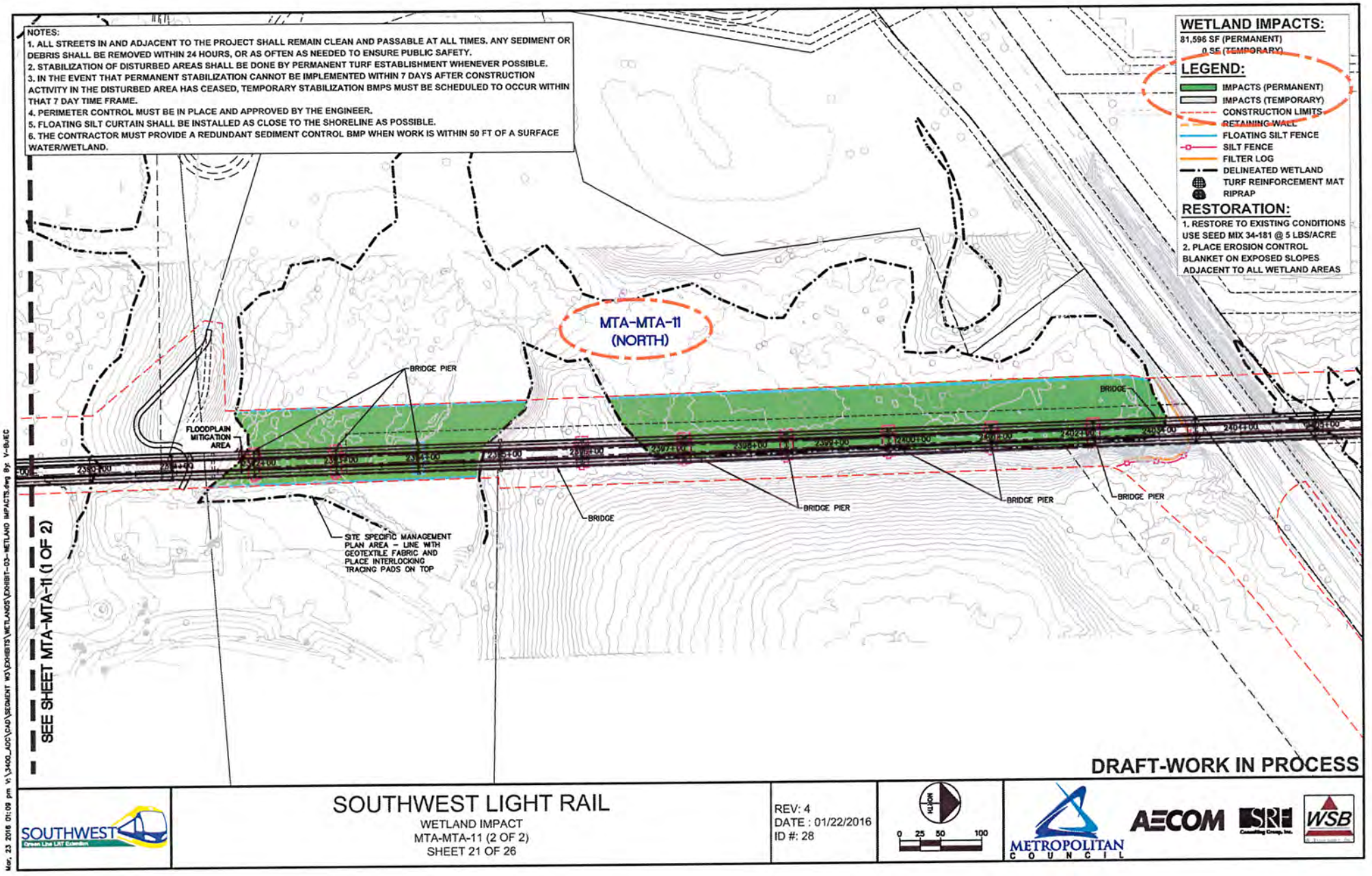
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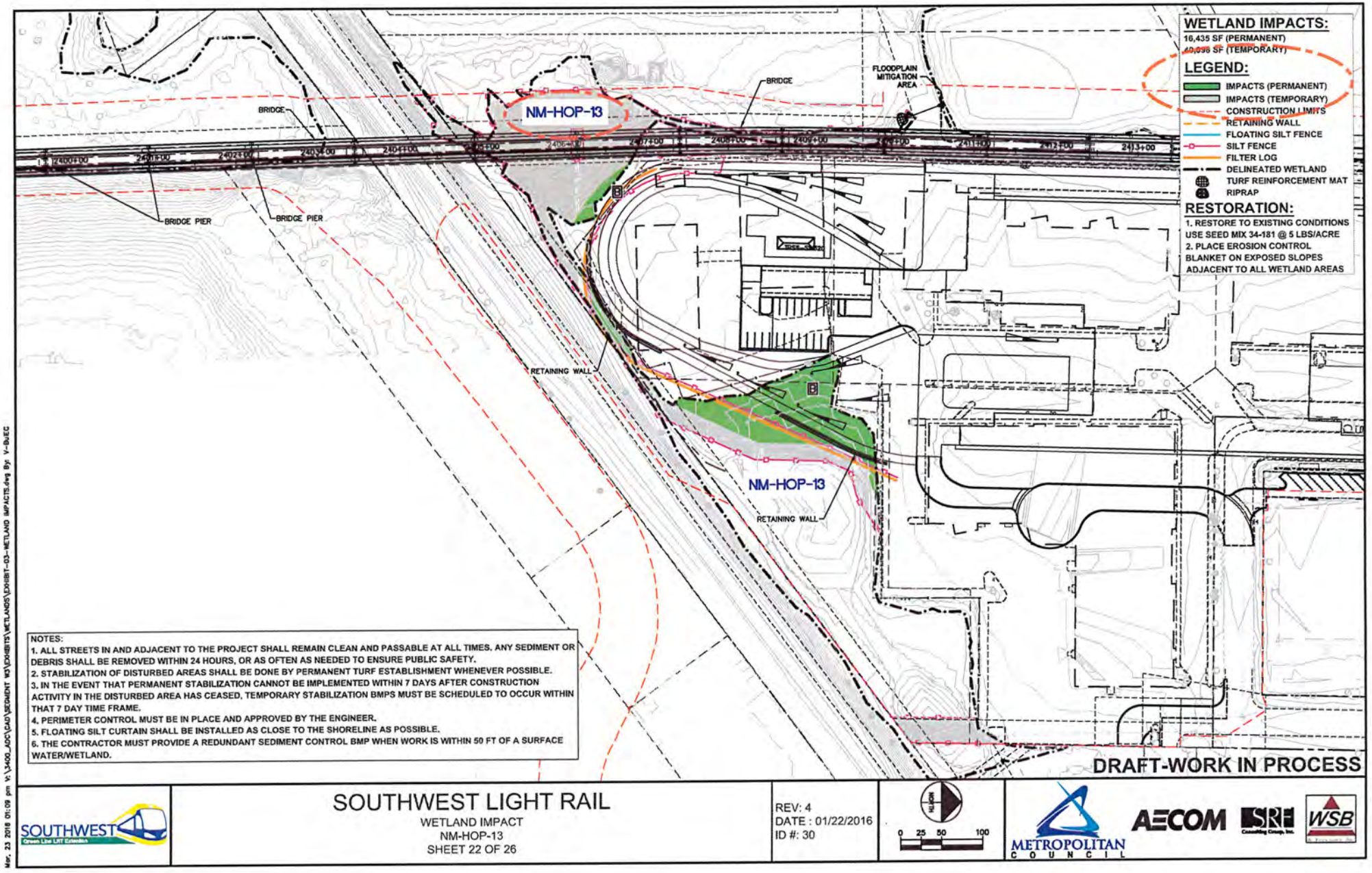
6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
81,596 SF (PERMANENT)
0 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
MTA-MTA-11 (NORTH)
BRIDGE PIER
BRIDGE
FLOODPLAIN MITIGATION AREA
SITE SPECIFIC MANAGEMENT PLAN AREA – LINE WITH GEOTEXTILE FABRIC AND PLACE INTERLOCKING TRACING PADS ON TOP
SEE SHEET MTA-MTA-11 (1 OF 2)
DRAFT-WORK IN PROCESS
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-11 (2 OF 2)
SHEET 21 OF 26
REV: 4
DATE : 01/22/2016
ID #: 28
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF
WSB


WETLAND IMPACTS:
16,435 SF (PERMANENT)
40,096 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
NM-HOP-13
NM-HOP-13
BRIDGE
BRIDGE
BRIDGE PIER
BRIDGE PIER
FLOODPLAIN MITIGATION AREA
RETAINING WALL
RETAINING WALL
NOTES:
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DRAFT-WORK IN PROCESS
SOUTHWEST
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
NM-HOP-13
SHEET 22 OF 26
REV: 4
DATE : 01/22/2016
ID #: 30
NELSON
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRI
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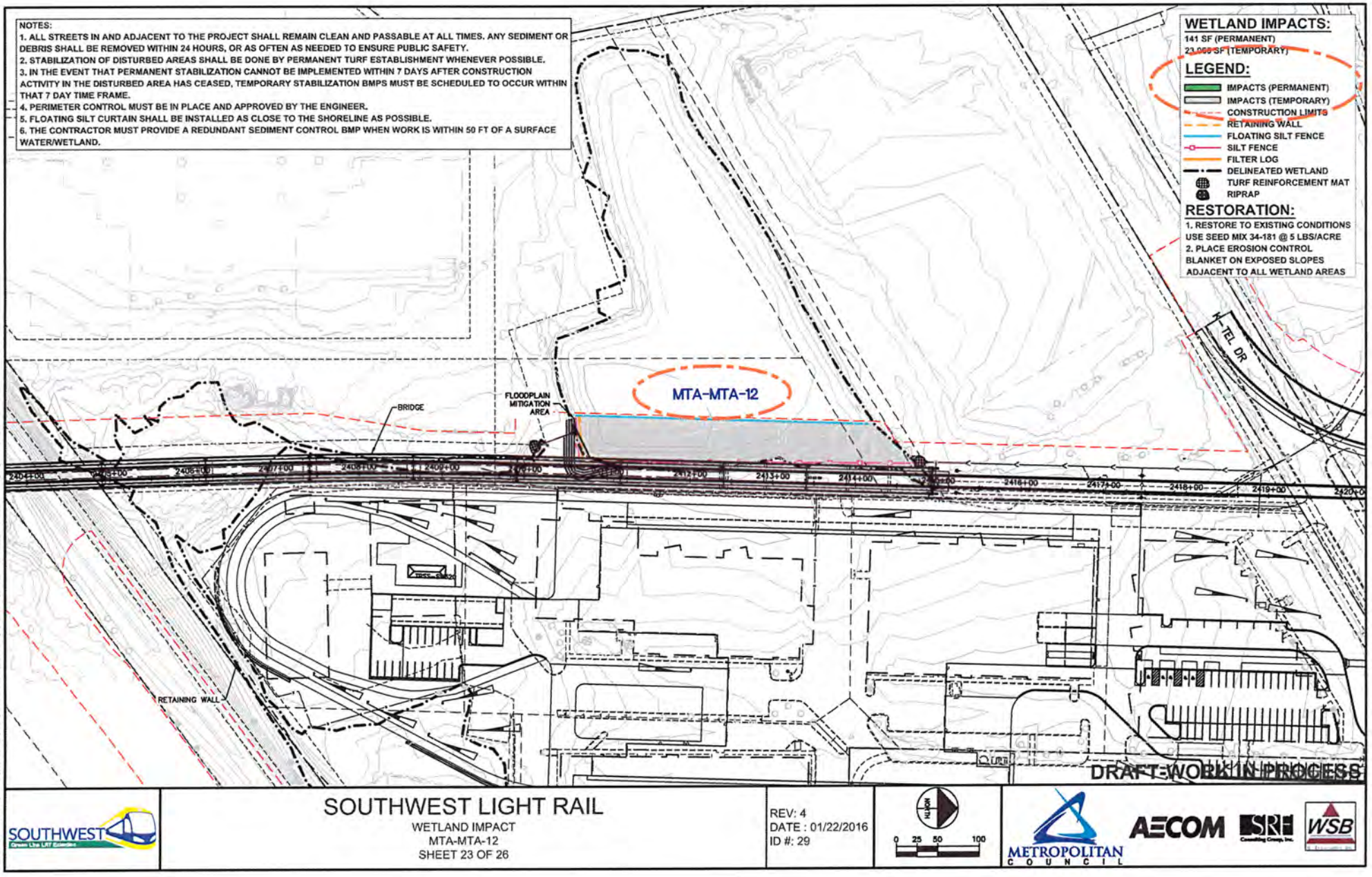
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6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
141 SF (PERMANENT)
23,003 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
MTA-MTA-12
FLOODPLAIN MITIGATION AREA
BRIDGE
RETAINING WALL
TEL DR
2404+00
2405+00
2406+00
2407+00
2408+00
2409+00
2410+00
2411+00
2412+00
2413+00
2414+00
2415+00
2416+00
2417+00
2418+00
2419+00
2420+00
DRAFT-WORK IN PROGRESS
SOUTHWEST
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-12
SHEET 23 OF 26
REV: 4
DATE : 01/22/2016
ID #: 29
0 25 50 100
METROPOLITAN COUNCIL
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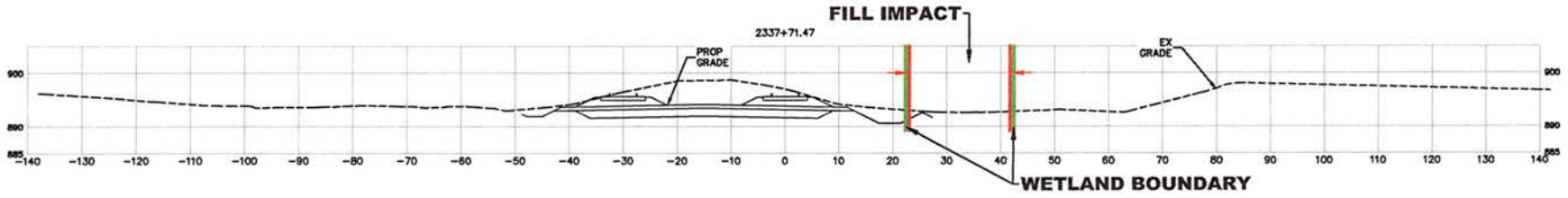
Mar, 23 2016 01:10 pm V:\2400_ADC\CAD\SEGMENT 03\EXHIBITS\WETLANDS\EXHIBIT-03-WETLAND IMPACTS.dwg By: V-BuiEC

ALTERATION/FILL CROSS SECTIONS



SOUTHWEST Green Line LRT Extension	MTA-MTA-03 WETLAND IMPACTS SHEET 13 OF 20	Rev 0 12/10/15	0 5 10 20	METROPOLITAN COUNCIL · WSB · SRF Consulting Group, Inc. · ISTHMUS engineering, PA

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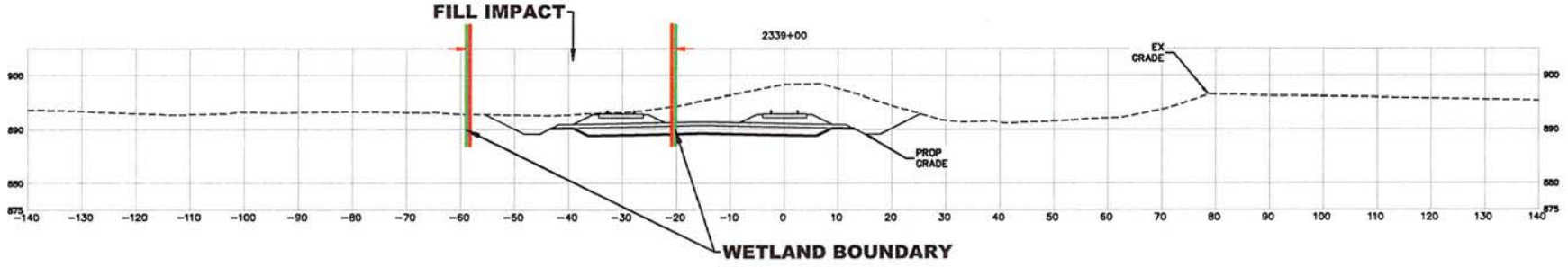

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SOUTHWEST Green Line LRT Extension

MTA-MTA-04
WETLAND IMPACTS
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SRF Consulting Group, Inc.

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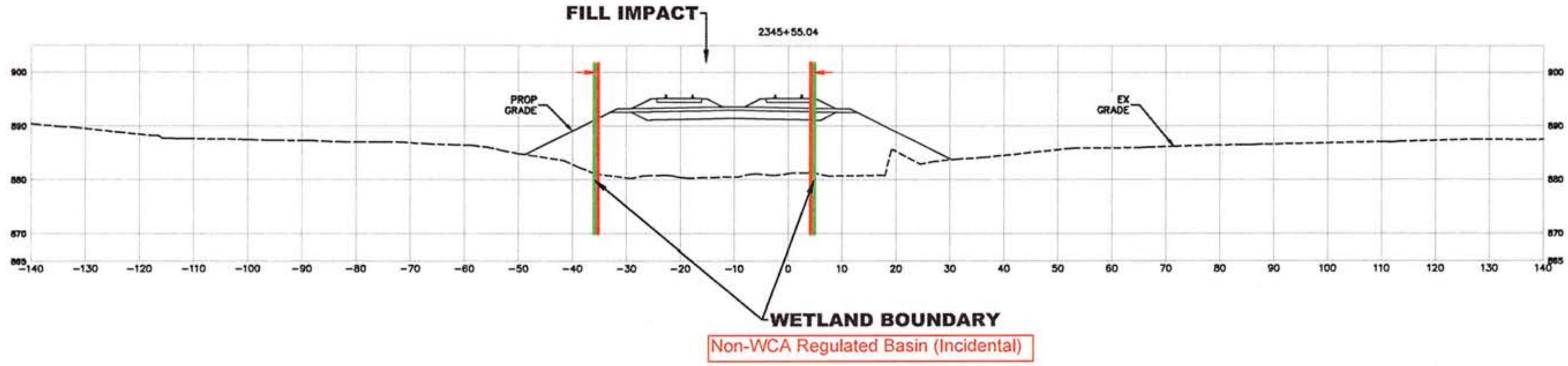

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SOUTHWEST Green Line LRT Extension

MTA-MTA-06

WETLAND IMPACTS

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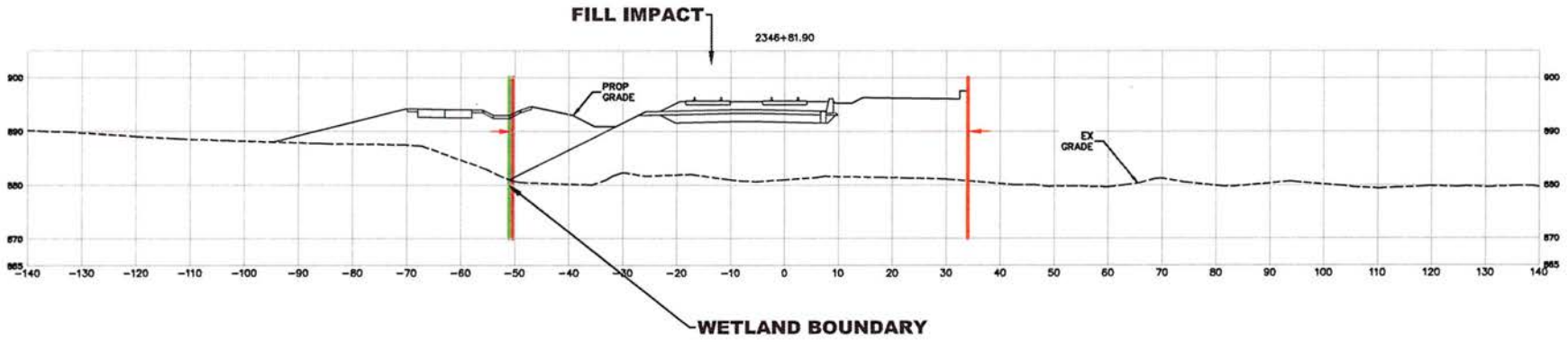

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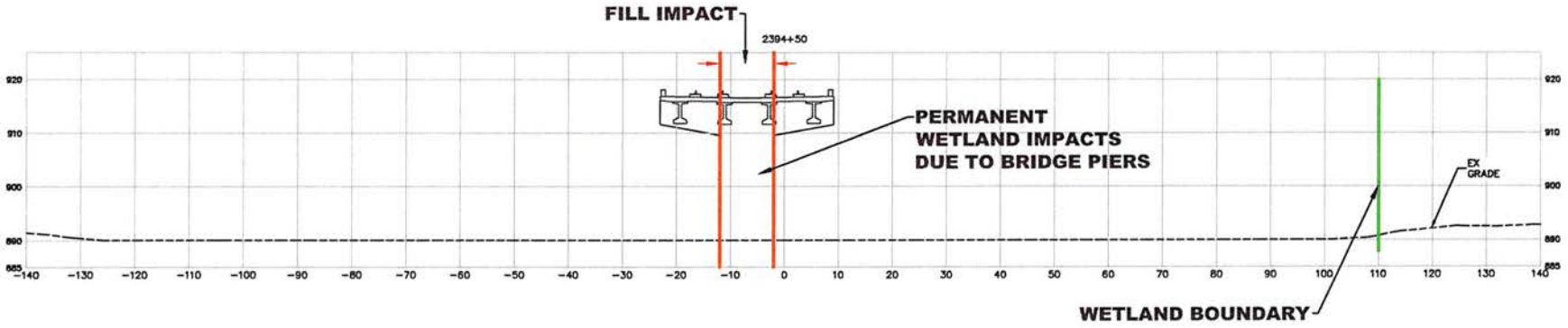

SOUTHWEST Green Line LRT Extension

MTA-MTA-11
WETLAND IMPACTS
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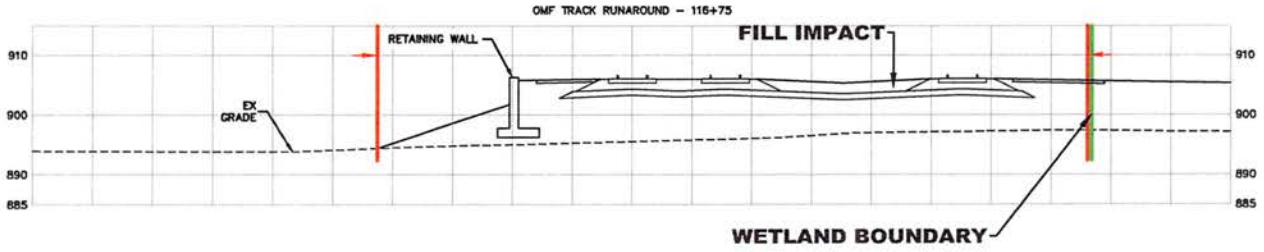

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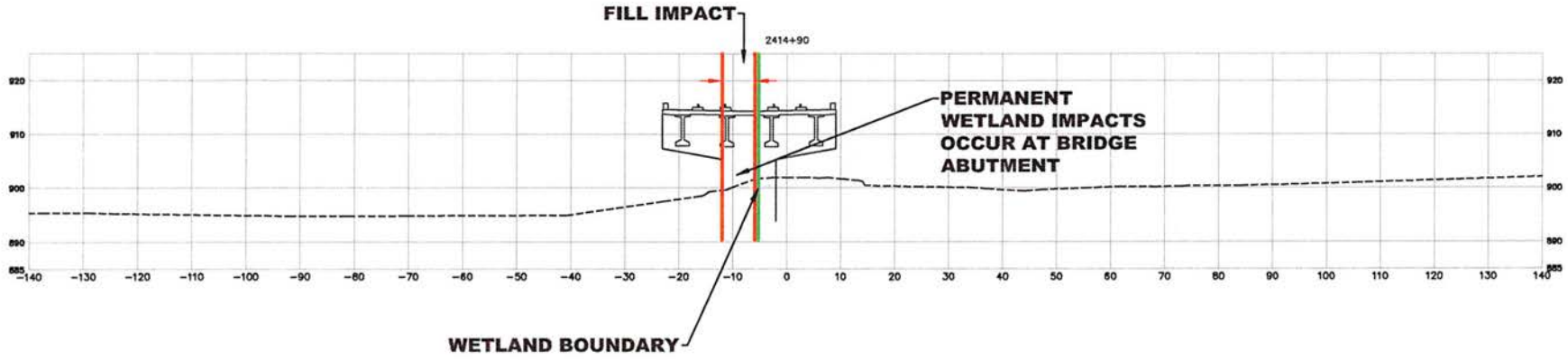

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SOUTHWEST Green Line LRT Extension

MTA-MTA-12
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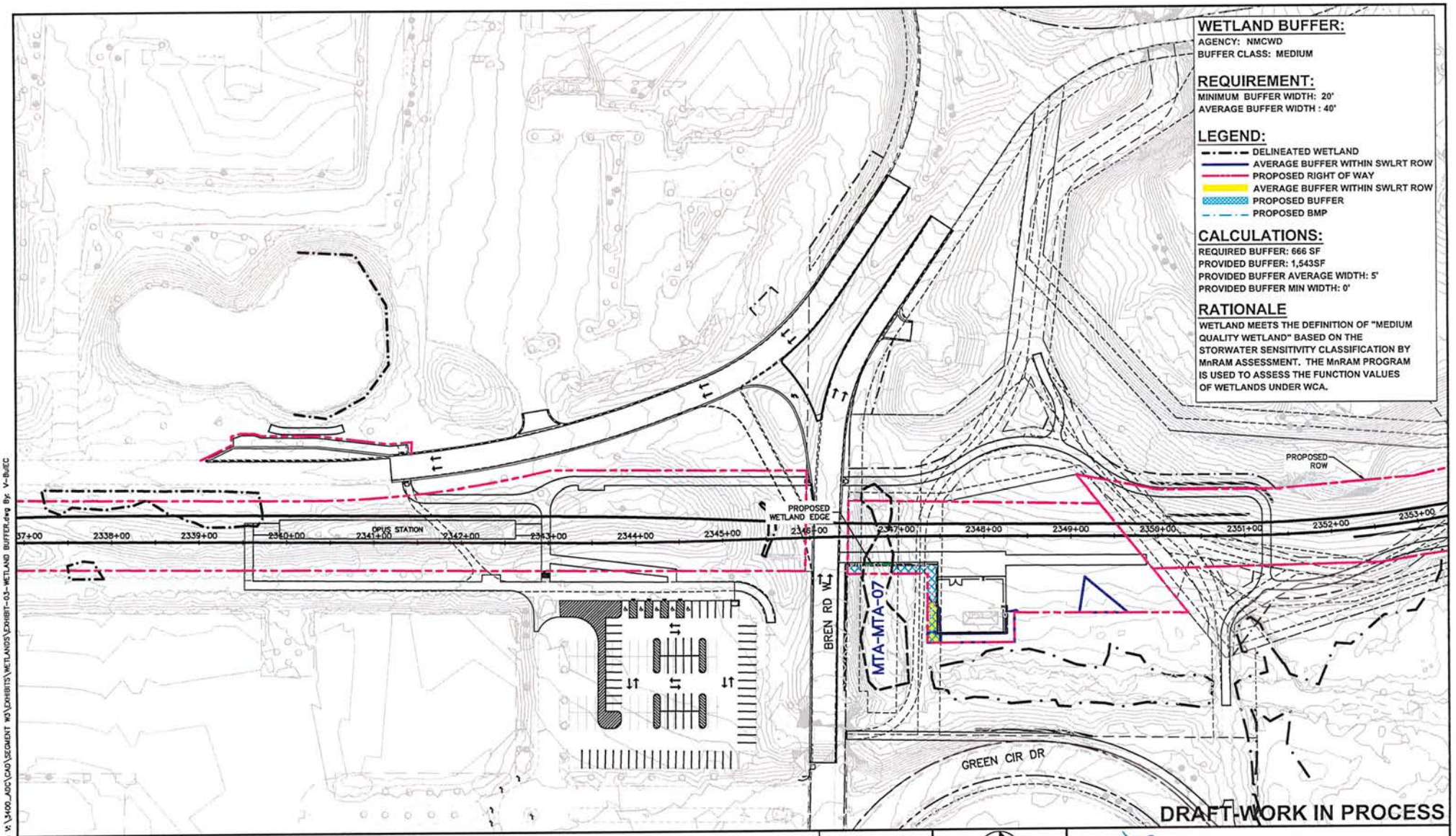
WETLAND BUFFER INFORMATION



SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

WETLAND BUFFER
MTA-MTA-07

A32

REV: 0

DATE : 06/22/2015

NORTH
0 25 50 100

METROPOLITAN COUNCIL

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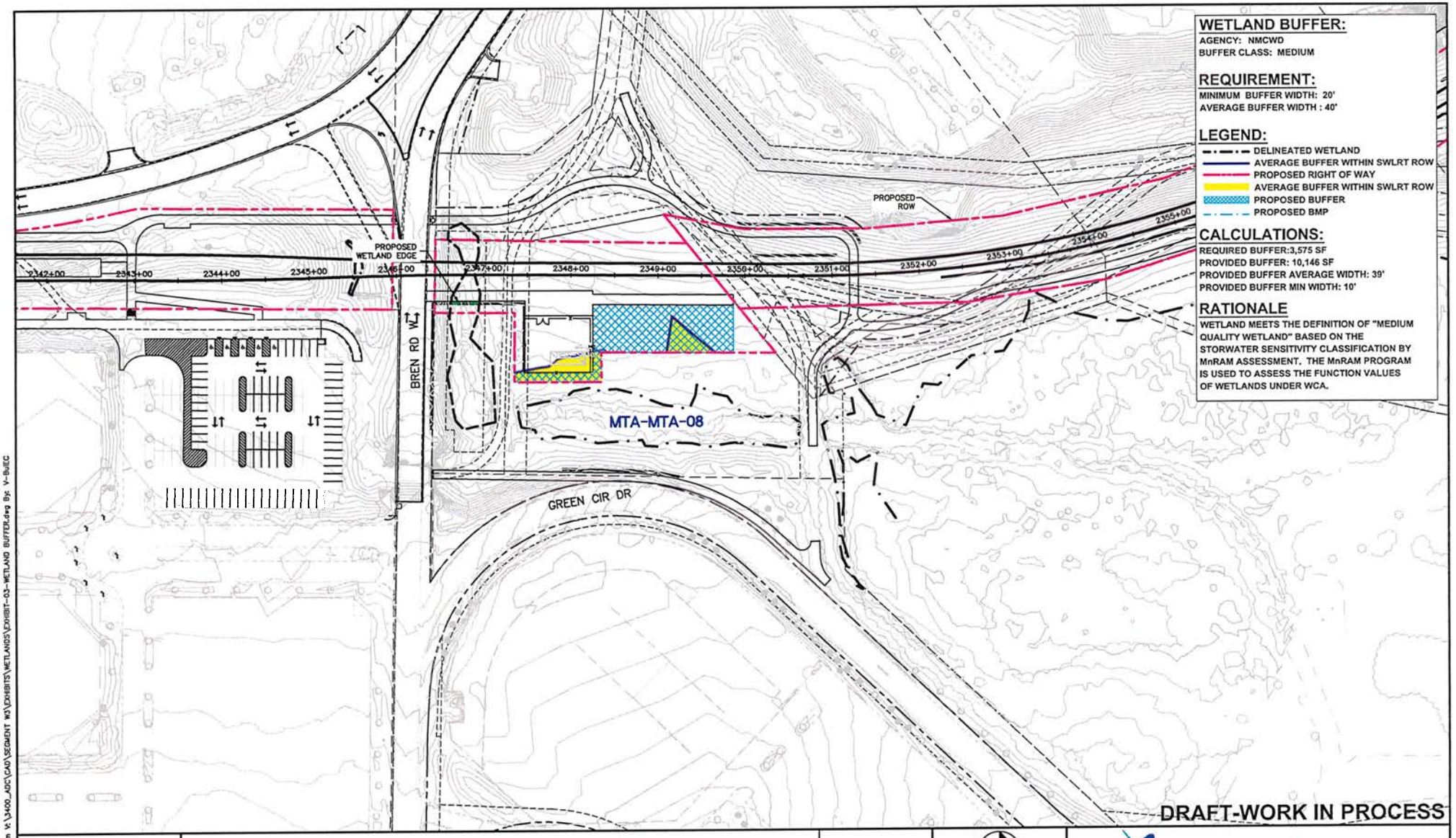
SRF Consulting Group

SWLRT

Natural Resource Items



SOUTHWEST LIGHT RAIL
WETLAND BUFFER
MTA-MTA-08

A33

REV: 0
DATE : 06/22/2015

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METROPOLITAN COUNCIL

WSB

SRF

Natural Resource Items

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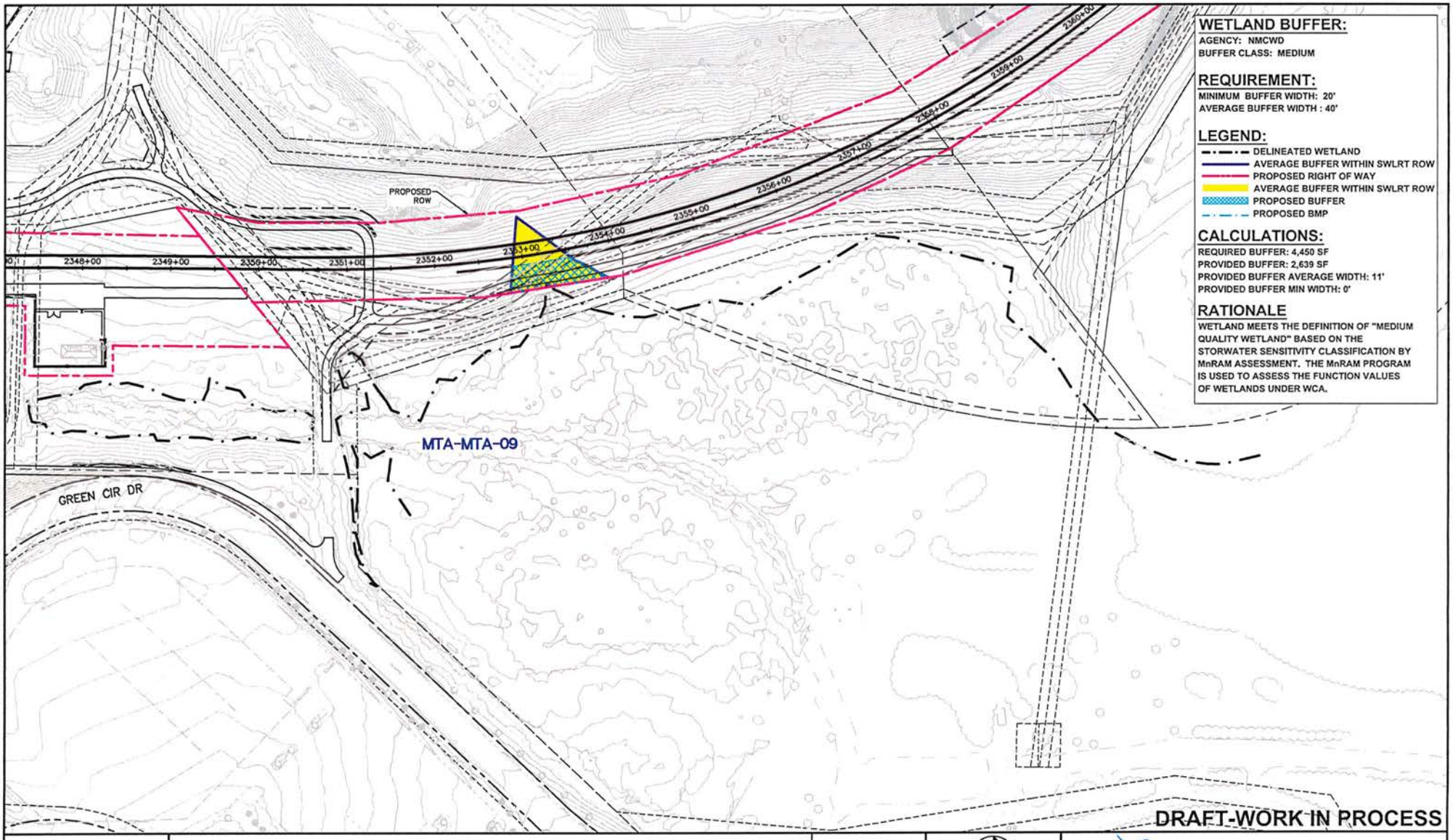

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SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

WETLAND BUFFER
MTA-MTA-09

A34

REV: 0

DATE : 06/22/2015

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METROPOLITAN COUNCIL

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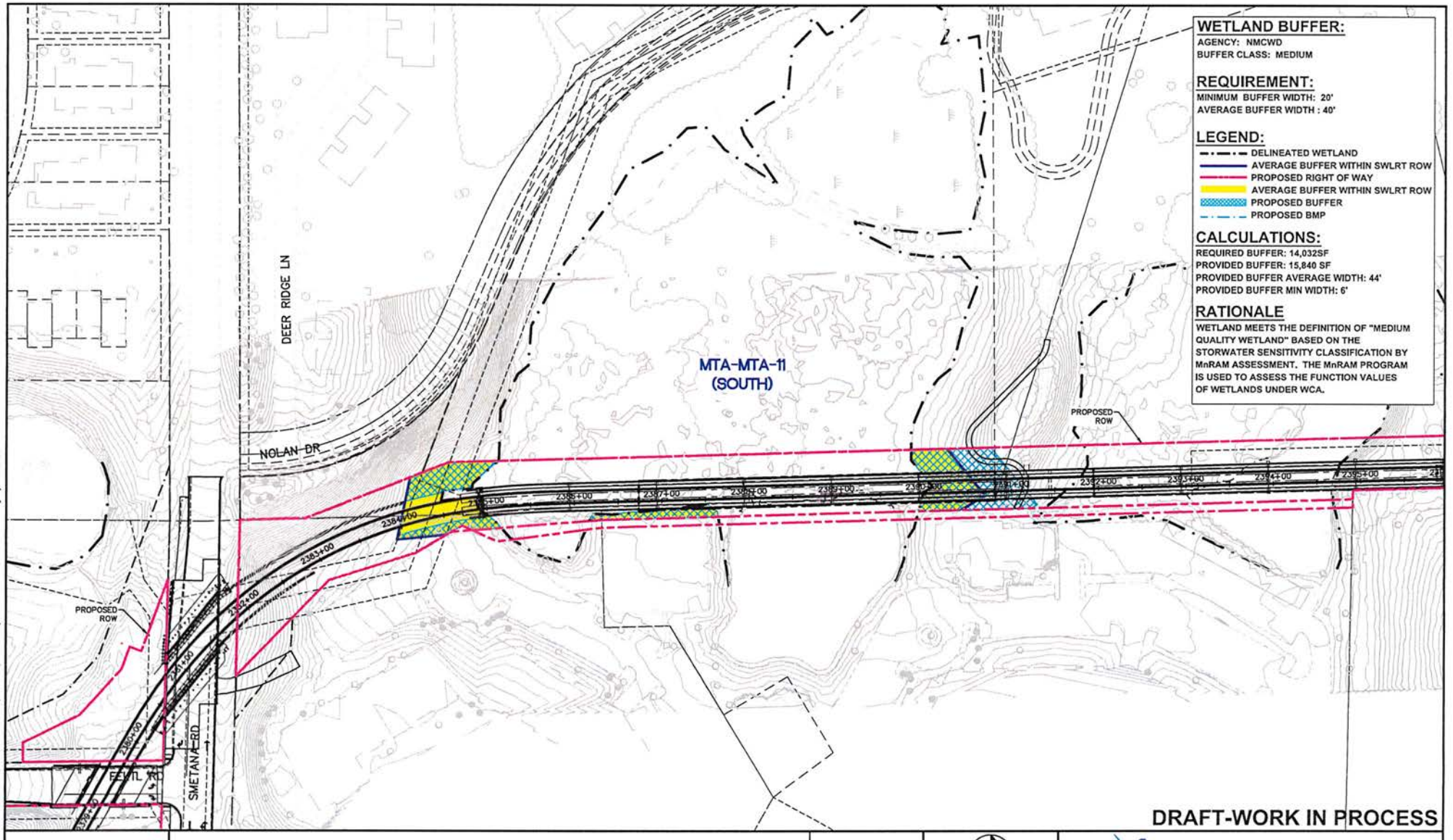
SRF Consulting Group, Inc.

Natural Resource Items



SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

WETLAND BUFFER
MTA-MTA-11 (1 OF 2)

A35

REV: 0

DATE : 06/22/2015

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METROPOLITAN COUNCIL

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Natural Resource Items

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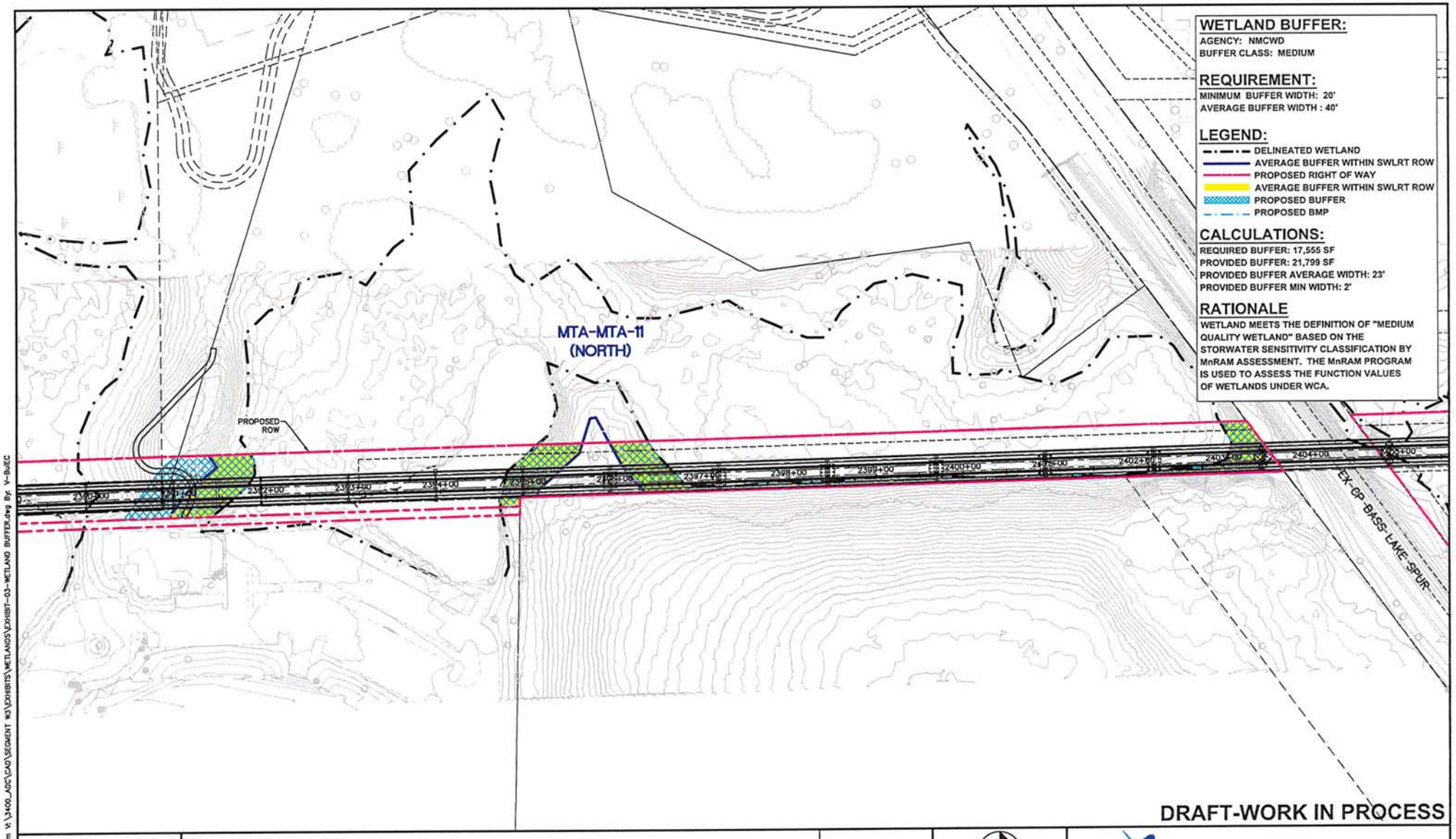

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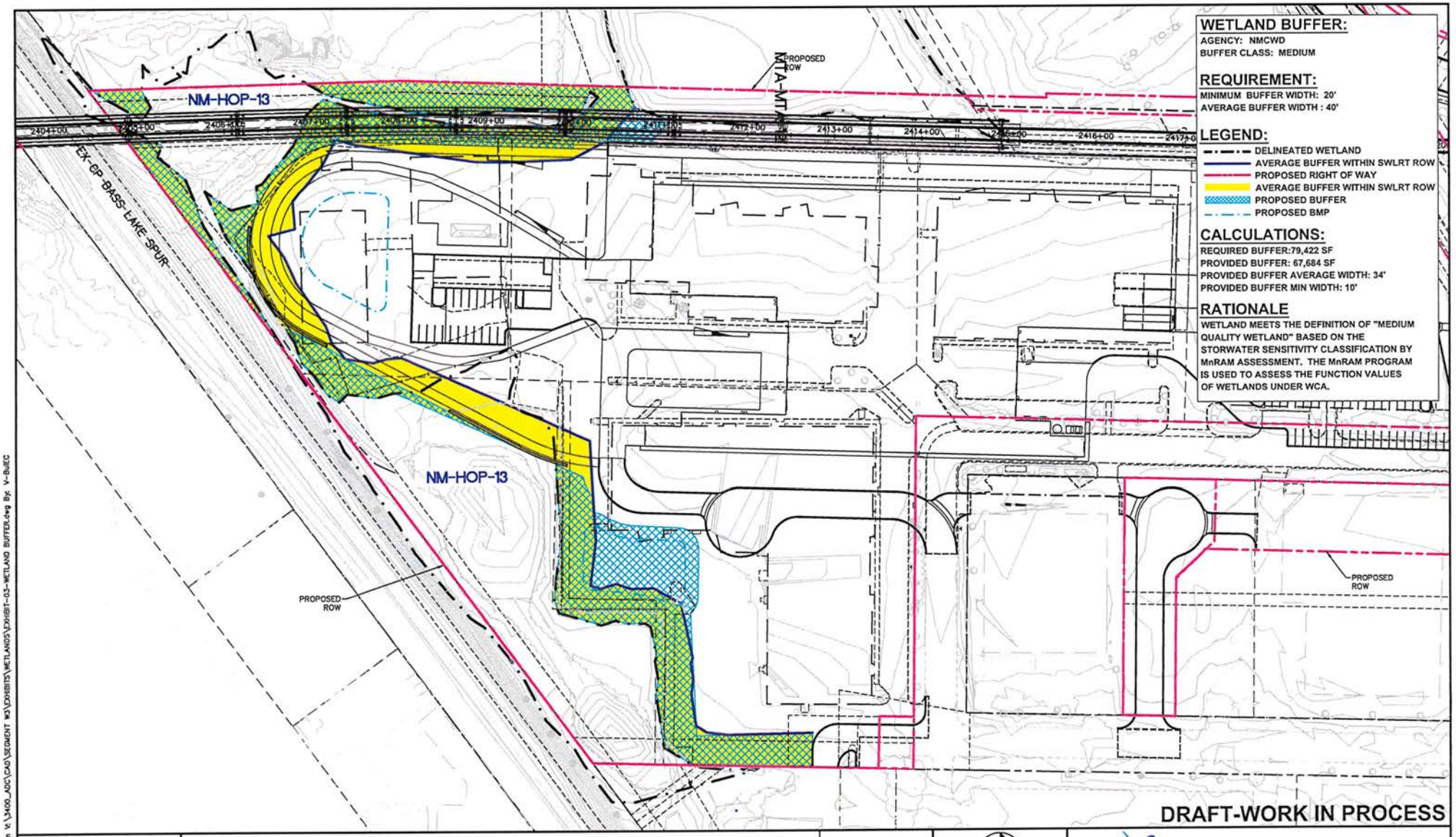

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SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

WETLAND BUFFER
NM-HOP-13

A37

REV: 0

DATE : 06/22/2015

NORTH
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METROPOLITAN COUNCIL

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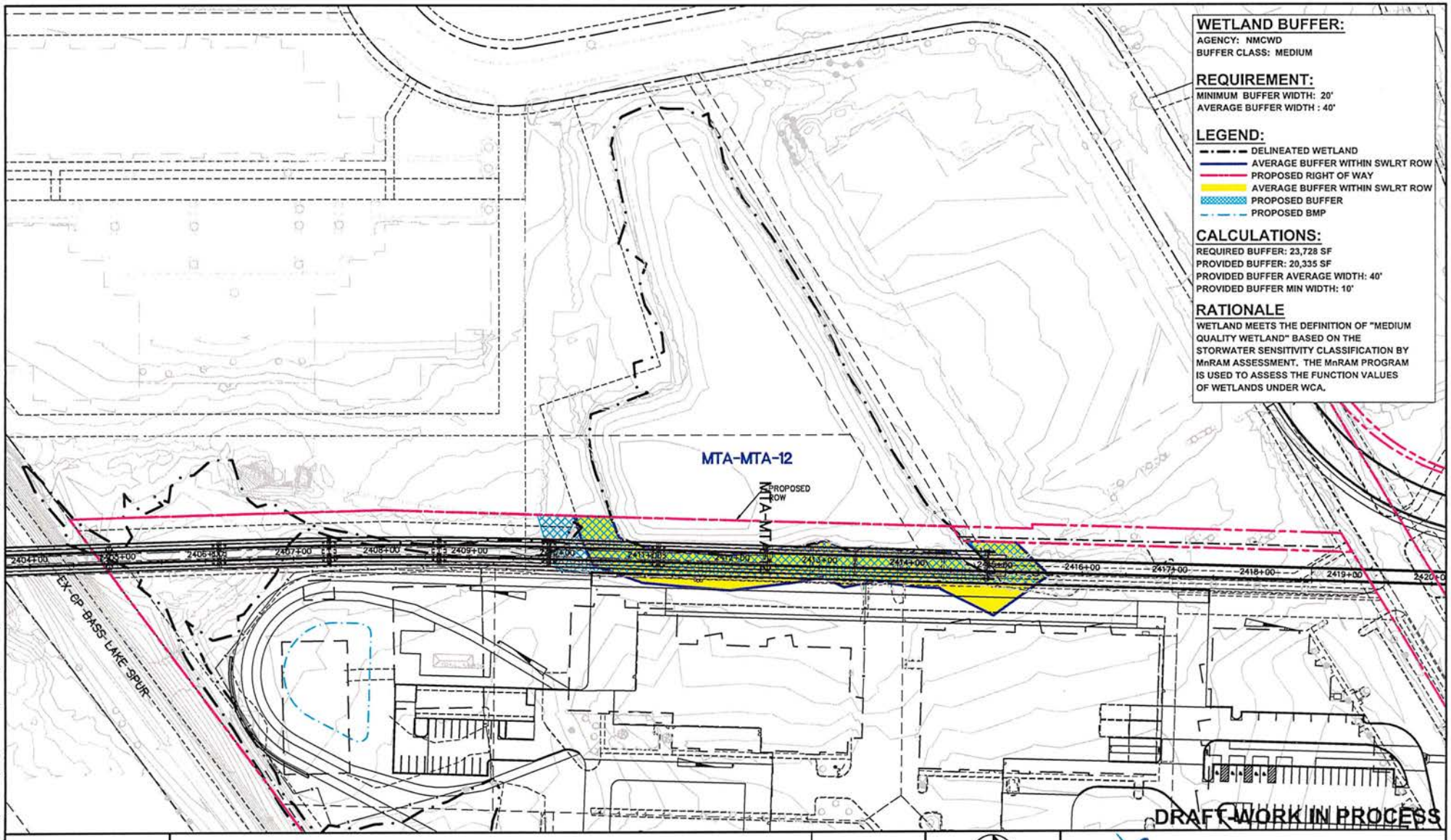
SRF Consulting Group, Inc.

SWLRT

Natural Resource Items



SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

WETLAND BUFFER
MTA-MTA-12

A38

REV: 0

DATE : 06/22/2015

NORTH
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SRF Consulting Group, Inc.

SWLRT

Natural Resource Items

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Minnetonka Permit Submittal

Southwest LRT Project Technical Support

May 6, 2016

Prepared by the Metropolitan Council

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SWLRT

Natural Resource Items

AECOM

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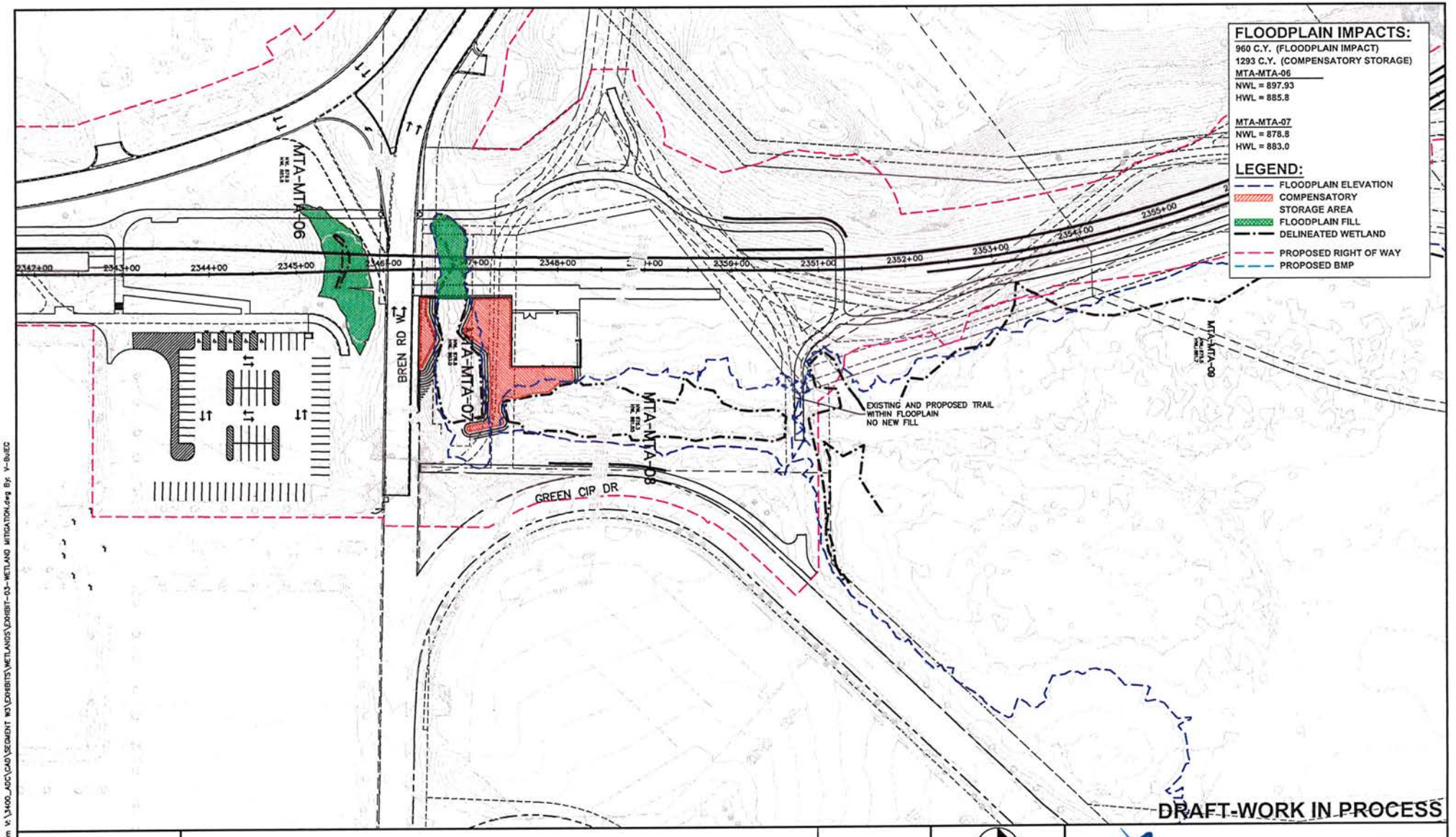
FLOODPLAIN INFORMATION



SOUTHWEST LIGHT RAIL

FLOOD MITIGATION AREA

MTA-MTA-06 & MTA-MTA-07

A41

REV: 1

DATE : 01/11/2016

ID #: 25

NORTH

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Natural Resource Items

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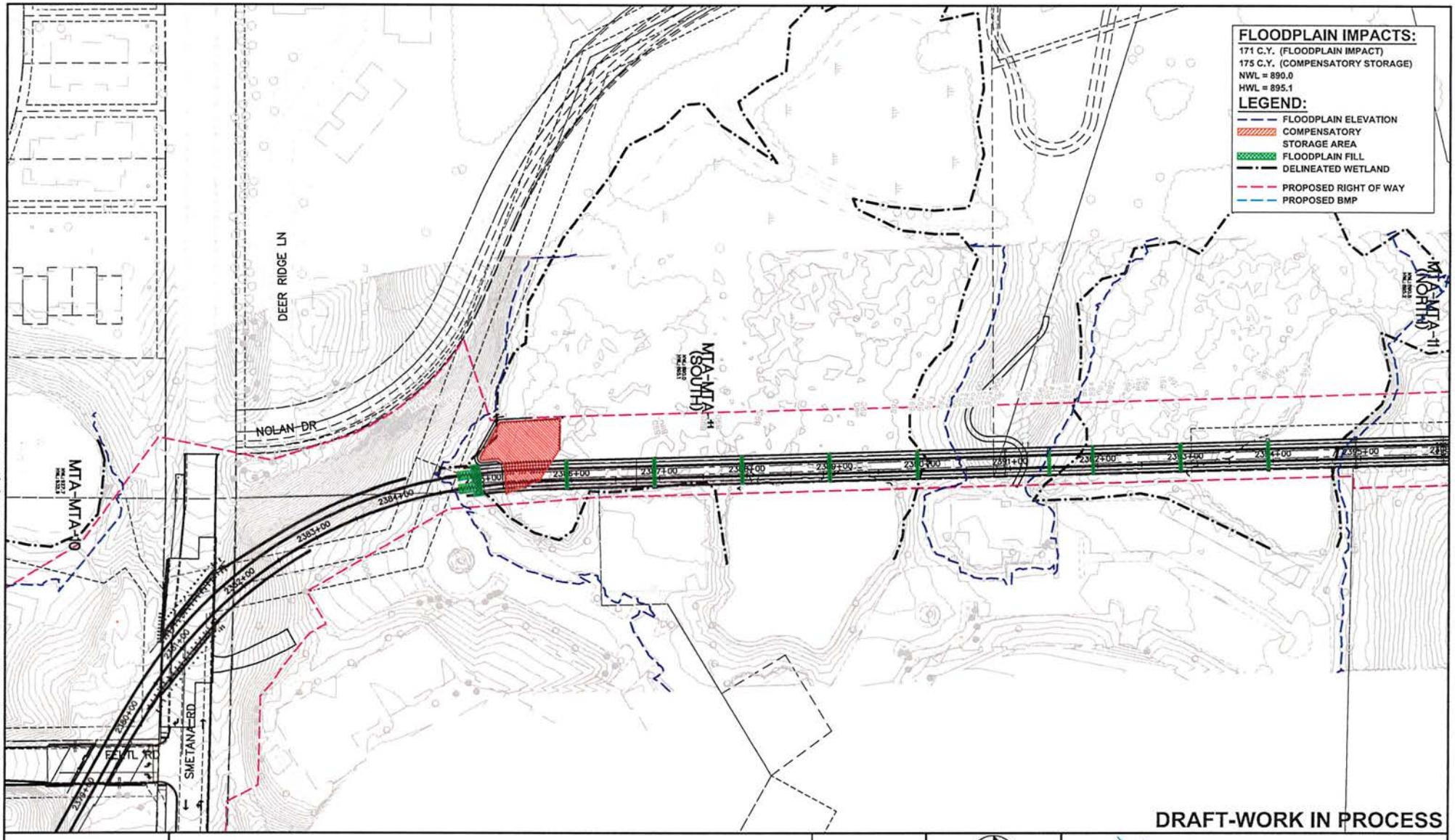

SOUTHWEST LIGHT RAIL

WETLAND MITIGATION

MTA-MTA-11 (1 OF 2)

A42

REV: 0
DATE : 01/11/2016
ID #: 27

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METROPOLITAN COUNCIL

AECOM

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Natural Resource Items

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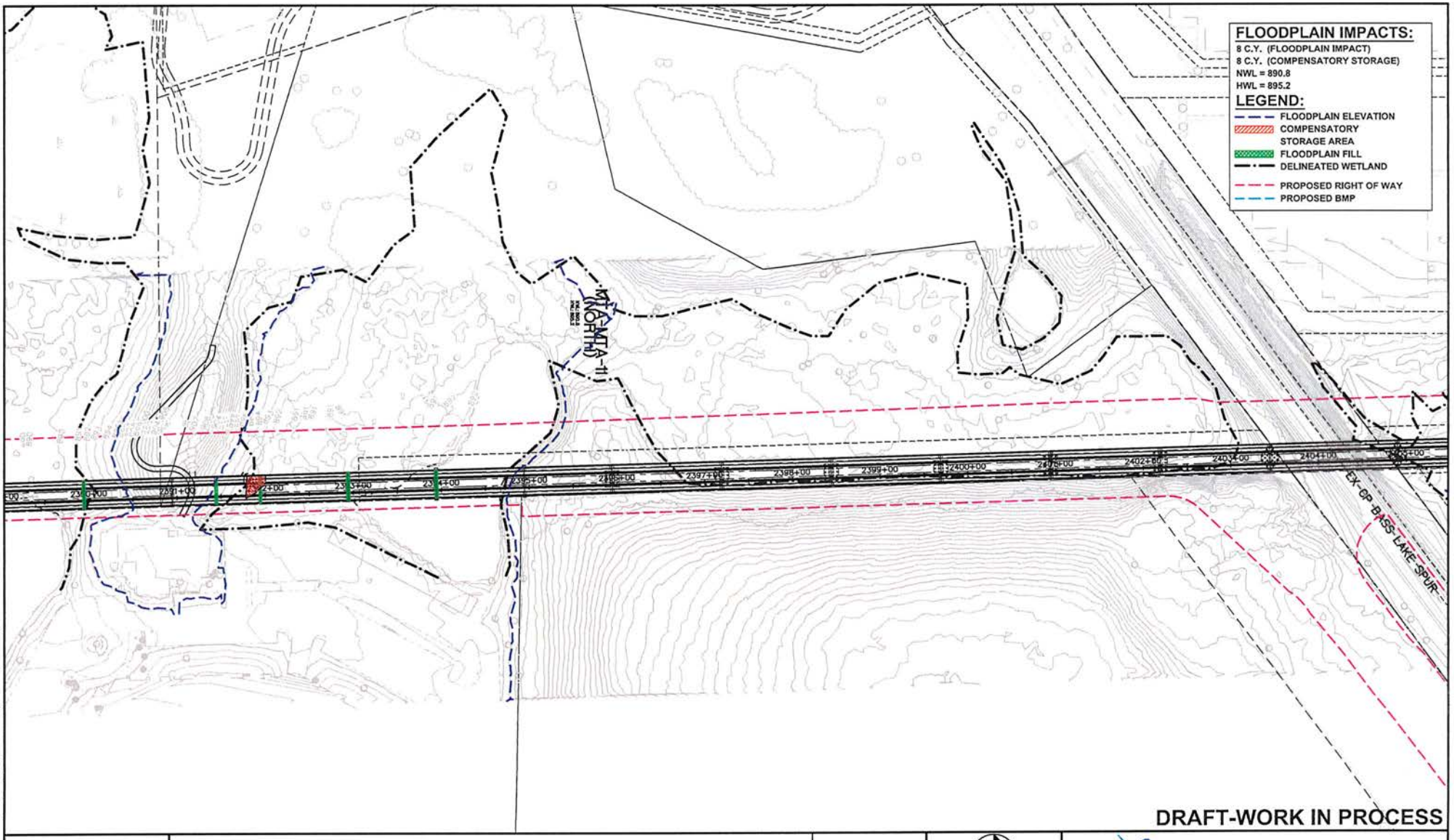

SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

WETLAND IMPACT
MTA-MTA-11 (2 OF 2)

A43

REV: 3
DATE : 01/11/2016
ID #: 28

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METROPOLITAN COUNCIL
AECOM
WSB & ASSOCIATES
SWLRT

Natural Resource Items

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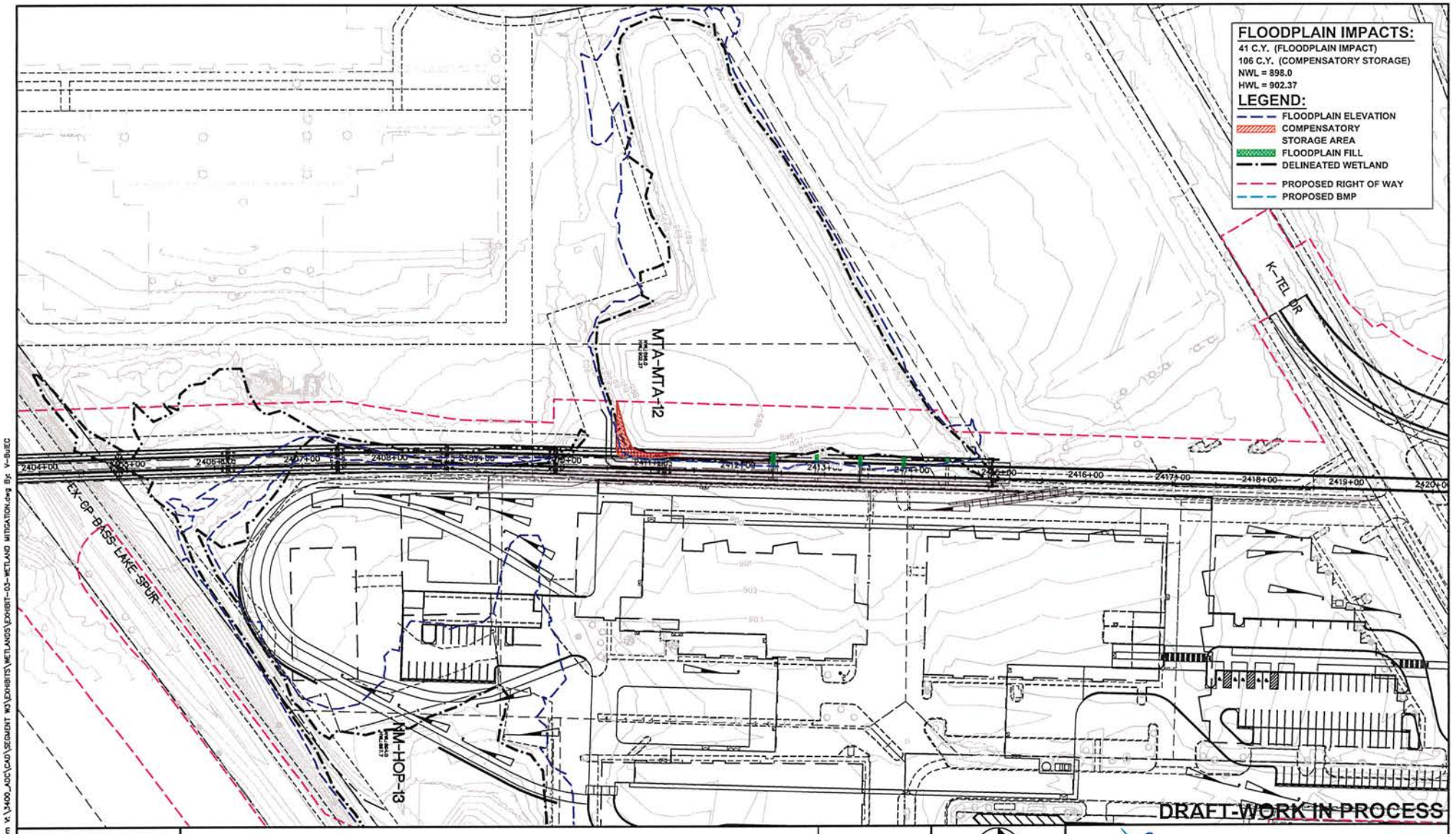

SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

FLOOD MITIGATION AREA
MTA-MTA-12

A44

REV: 1
DATE : 04/12/2016
ID #: 29

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METROPOLITAN COUNCIL
AECOM
WSB
SWLRT

Natural Resource Items

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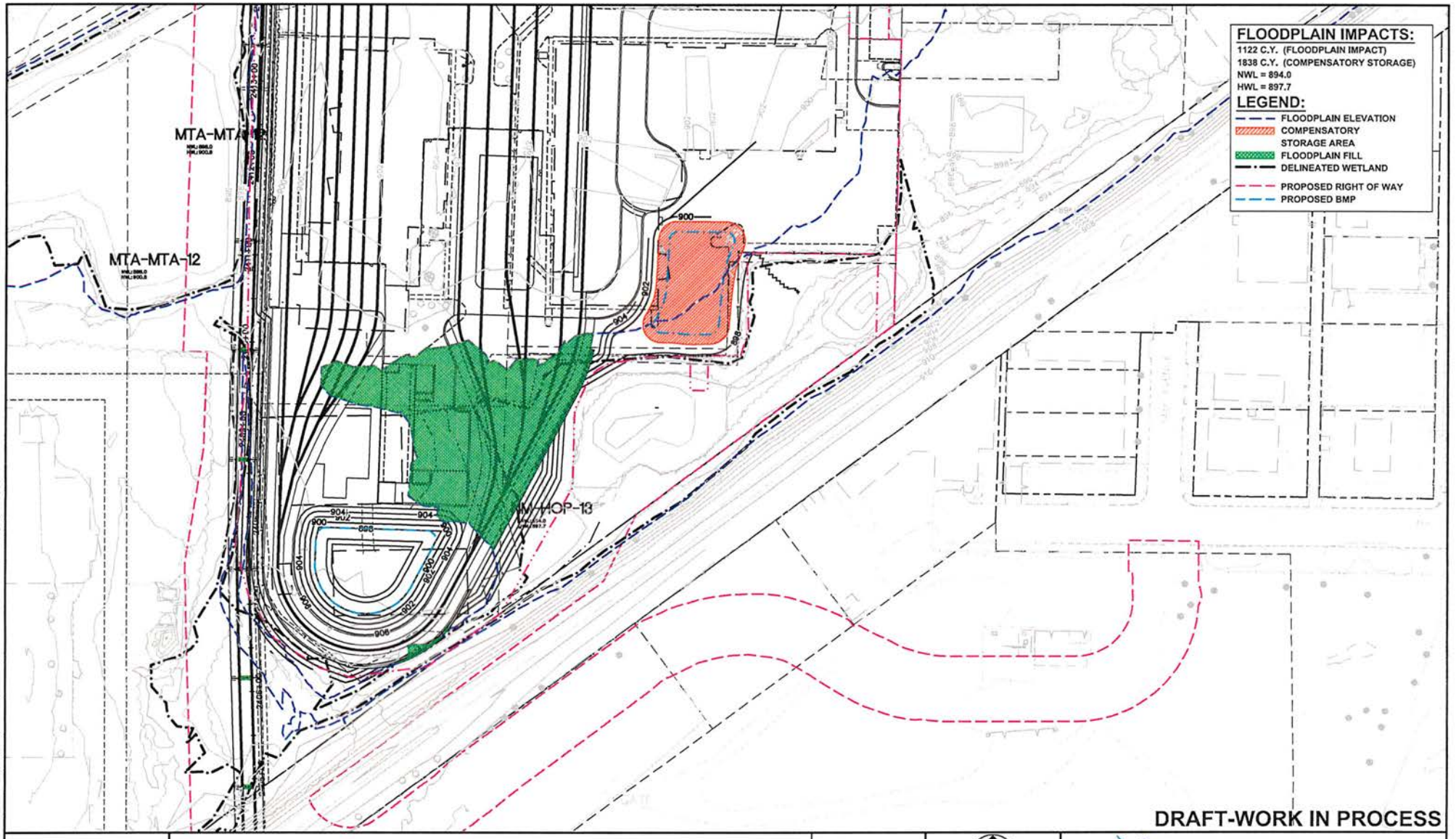

SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

FLOOD MITIGATION AREA
NM-HOP-13

A45

REV: 0
DATE : 01/11/2016
ID #:

NORTH
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METROPOLITAN COUNCIL
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SWLRT

Natural Resource Items

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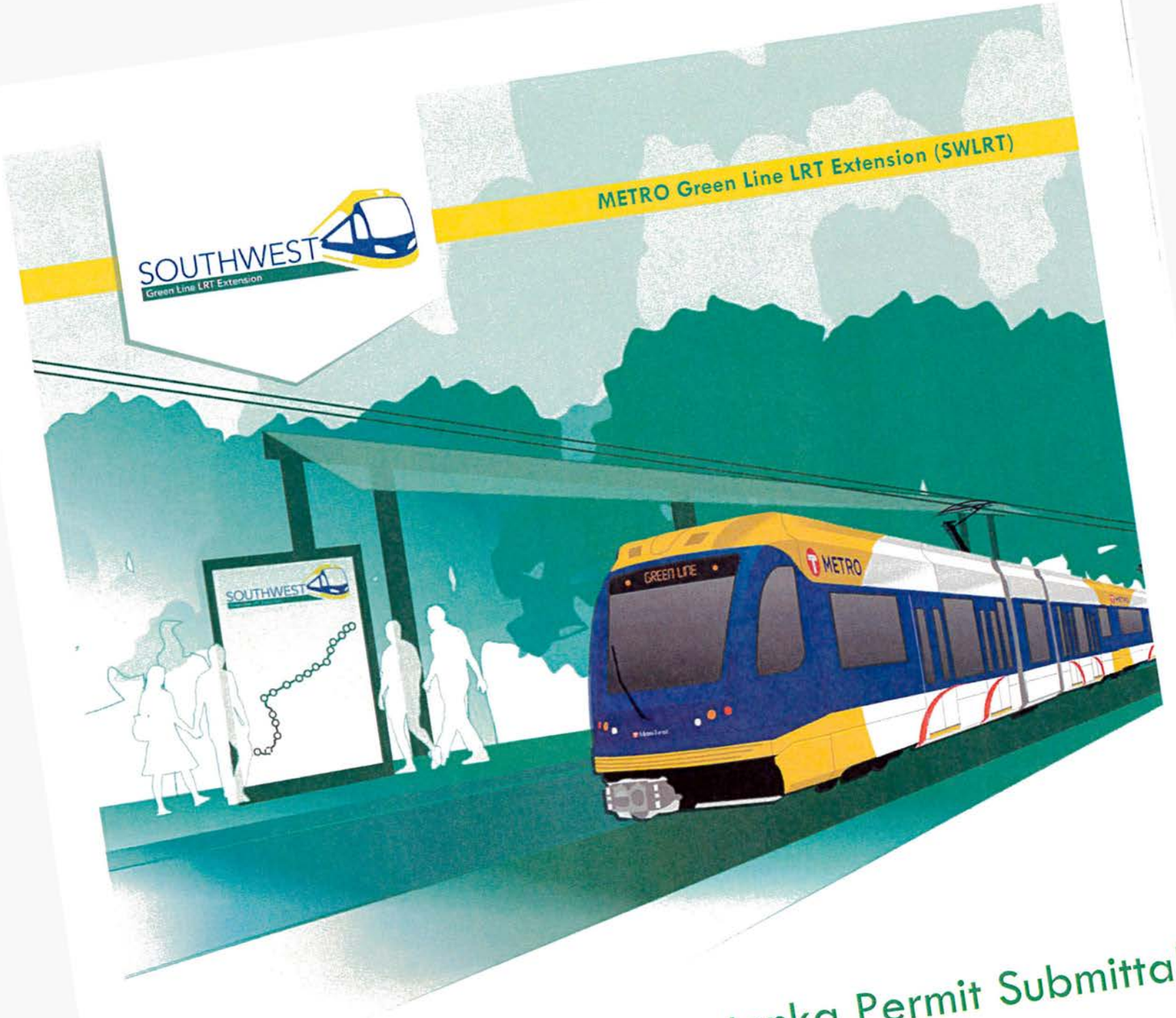

Minnetonka Permit Submittal

Southwest LRT Project Technical Support

May 6, 2016

Prepared by the
Metropolitan Council

METROPOLITAN COUNCIL

SWLRT
Natural Resource Items

AECOM

WSB

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Disclaimer: Nothing in this Permit Submittal shall require the Council to take any action or make any decision that will prejudice or compromise any processes required under state or federal environmental or other laws, regulations or rules and the Council does not waive the provisions of Minnesota Statutes section 473.449. The planning and construction of the SWLRT Project will require numerous federal, state, and local processes, approvals and funding commitments. The SWLRT Project is currently in the Project Development phase of the federal New Starts program and a substantial amount of design, engineering, environmental review, and funding commitments must occur before construction can begin. The SWLRT Project is anticipated to be advanced into Engineering, the next federal New Starts phase, by the Federal Transit Administration ("FTA") shortly after the FTA issues the Record of Decision ("ROD"). The SWLRT Project cannot proceed without the issuance of the ROD and funding of the SWLRT Project, including the Full Funding Grant Agreement ("FFGA") from the FTA. Further, this Permit Submittal does not limit the alternatives or mitigative measures that the Council may undertake in the development and construction of the SWLRT Project.

Executive Summary

This draft report provides calculations, analysis and documentation of the Southwest Light Rail Transit (SWLRT) compliance with the City of Minnetonka Grading, Filling, and Excavation permit requirements. There are approximately 3.8 miles of track and Opus station within the City. Shady Oak Station is on the border with Minnetonka and Hopkins.

The enclosed report outlines compliance with Minnetonka Water Resources Management Plan requirements. The SWLRT project triggers the following City of Minnetonka requirements:

- Floodplain Management
- Wetlands Management
- Stormwater Management
- Erosion and Sediment Control
- Temporary Water Removal
- Landscape Plan
- Variances and Exceptions

Proposed stormwater management design criteria are stated and proposed best management practices (BMPs) are presented, along with supporting modeling demonstrating the effectiveness of the proposed design in satisfying applicable regulations.

Contents

Appendices

Appendix N – Feltl / Smetana Wetland Supporting Documentation

Appendix O – MTA-MTA-12 Hydraulic Analysis

Appendix P – Response Action Plan

Appendix Q – Rainfall Distributions

Appendix R – Operation and Maintenance

Appendix S - ROW

1 Project Location and Scope

The proposed SWLRT project entails construction of approximately 14.5 miles of new track starting from the existing Target Field Station in downtown Minneapolis and ending at the Southwest Station in Eden Prairie. The project extends through five cities: Minneapolis, St Louis Park, Hopkins, Minnetonka and Eden Prairie; and four Watershed Districts: Bassett Creek Watershed Management Commission, Minnehaha Creek Watershed District, Nine Mile Creek Watershed District, and Riley Purgatory Bluff Creek Watershed District.

Approximately 3.8 miles of track are proposed within the City of Minnetonka. There is one station, Opus Station near Bren Road West. The Shady Oak Park and Ride and Station are located on the border between the Cities of Minnetonka and Hopkins. The net new impervious within the City of Minnetonka is 11.7 acres. The project corridor is characterized by primarily commercial/industrial development and dense impervious coverage. Although extensive road reconstruction is required, the new impervious is limited to primarily the new track. The new impervious will be treated by numerous BMPs including track ditches, regional ponds, and filtration and infiltration basins. The project is also required to comply with Nine Mile Creek Watershed District (NMCWD) rules within the City of Minnetonka.

1.1 Property Access Schedule

Private property right-of-way acquisition approach follows Minnesota Statutes and is in compliance with the Federal Transit Authority (FTA) rules and regulations. **Appendix S** outlines the right-of-way acquisition approach and provides the exhibits of the private parcels to be acquired for the construction of the Project.

The acquisition of public properties will be utilized through a property transfer agreements (see **Appendix S** for a draft agreement).

In addition, project construction documents require that no contractor is permitted to work on the property that the Metropolitan Council has not acquired or been granted rights to construct upon. Project specifications, temporary erosion and sediment control plans, and Stormwater Pollution Prevention Plan (SWPPP) will include requirements for temporary erosion control to address potential concerns with timing of property acquisition.

2 Minnetonka Compliance Summary

The following provides a brief summary of the proposed green infrastructure practices along the project corridor to address compliance with Minnetonka Rules starting from the Trunk Highway (TH) 62 Tunnel through Opus to the Shady Oak Park and Ride at the municipal boundary with the City of Hopkins. This permit submittal includes the required design documentation for the base project as well as all the Local Work pieces of the project. Local Work projects are additional project components that have been requested to be incorporated by the project partners (Eden Prairie, Minnetonka, St. Louis Park, Hopkins, Minneapolis, and Hennepin County). Additional detail regarding compliance with each Minnetonka Rule follows in subsequent sections.

2.1 Traction Power Substations

- Each site approximately 0.1 acres
- Traction Power Substation (TPSS) sites will be constructed as porous asphalt, considered a pervious surface
- Proposed building runoff will discharge to the porous pavement and be infiltrated

2.2 Opus South Area

- BMP retrofits will be used for existing impervious with low flow diversion
- Net impervious reduction
- Additional rate control provided as feasible for existing under-capacity storm sewer system
- Maintains existing rural road section which provides water quality treatment from impervious disconnection, extended time of concentration, and pollutant removal from existing vegetation
- Maximizes BMP footprint in tightly constrained urban corridor

2.3 Opus North/Opus Station/Opus Hill

- Wide ditch is provided adjacent to Bren Road from track station 1319+00 to 1339+00 for rate control, water quality, abstraction, and longer time of concentration
- Small quantity of net new impervious surfaces
- Mill and overlay/striping proposed for existing parking lot planned to be leased for the park and ride at Opus Station does not trigger NMCWD rules
- Maintains existing rural road section which provides water quality treatment from impervious disconnection, extended time of concentration, and pollutant removal from existing vegetation
- Proposed compensatory floodplain mitigation area exceeds requirement
- Tree impacts minimized when feasible with wall design and track profile
- Existing wetland MTA-MTA-05, located west of the proposed Opus Station overtops for the 100-year Atlas 14 rainfall event. Even though the wetland is outside the project limits, the overtopping impacts the proposed LRT infrastructure. Therefore, the project will be raising the overflow elevation to contain the 100-year event high water level within the wetland footprint and prevent impacts to Bren Road and to the LRT due to overtopping during large storm events.

2.4 Smetana Feltl BMP

- Additional flood storage provided in MTA-MTA-10 to contain 100-year Atlas 14 rainfall event
- Retrofits water quality treatment for a 19.6 acre subwatershed
- Net reduction in impervious surfaces from removal of existing building and large parking lot
- Geotechnical analysis included for potential seepage from MTA-MTA-10 perched wetland
- Proposed BMP provides regional benefit that exceeds project new impervious
- Project only accounting for credit for 0.3 acre feet (ac-ft) of infiltration volume in comparison to 1.2 ac-ft infiltration volume provided

- BMP located in well-draining soils, minimum of three feet above seasonal groundwater elevation based on eight soil boring results taken over two year period

2.5 Wetland MTA-MTA-11

- Proposed Minnetonka/Hopkins bridge greatly reduces wetland impacts from typical at-grade design
- Minimal floodplain impacts due to proposed bridge piers, compensatory storage meets requirements
- Floodplain mitigation proposed in areas where existing trees will be removed for bridge construction to minimize additional tree impacts

2.6 Shady Oak Park and Ride

- The majority of the Shady Oak Park and Ride is located within the City of Hopkins, discussion is included as the Park and Ride is on the municipal boundary between Hopkins and Minnetonka
- Retrofitting stormwater treatment for highly impervious areas that currently have no water quality treatment or rate control
- Results in a net reduction in impervious within their subwatershed due to the demolition of the existing buildings and parking lots
- Infiltration volume provided in project corridor to address contamination in the soils and groundwater found at the Shady Oak Park and Ride
- Using regional approach for a large scale project to retrofit and provide abstraction that exceeds requirements within the project corridor, even given constraints of soil and groundwater contamination at Shady Oak Park and Ride. The SWLRT project provides a regional approach for addressing the existing contamination within the project limits

3 Floodplain Management and Drainage Alterations

3.1 Summary of Floodplain Management and Drainage Alterations

NMCWD requires two feet of freeboard from the 100-year, 24-hour Atlas 14 high water level to building low floor elevations and compensatory storage for floodplain impacts with a 1:1 ratio within the same waterbody and within +/- one foot of elevation of the impacts. The City of Minnetonka Floodplain Ordinance Section 300.24, Subdivision 8 requires all roads, bridges and tracks to be located a minimum of one foot above the 100-year flood elevation. The SWLRT Design Criteria, Executive Order 13690 and 11988 were used to determine the appropriate freeboard to the top of rail from the 100-year high water level.

3.2 Impacts

Table 3.1 shows the proposed floodplain impacts and mitigation volumes.

Table 3.1 – Minnetonka Floodplain Impact Summary

Wetland ID	Pond ID[1] [-]	Floodplain Impacts [CY]	Compensatory Storage Provided [CY]	NWL	Atlas 14 HWL	Track Elevation	Cause of Impact
Minnetonka							
MTA-MTA-06	582C_H	680	1293	879.93	885.8	896.0	Track embankment
MTA-MTA-07	582C_I	280		878.8	883	896.0	Track embankment and TPSS access road
MTA-MTA-11 (South)	520B_2A	171	175	890	895.1	902.7[2]	Bridge piers 1-4, total of 24-16" diameter piles
MTA-MTA-11 (North & Middle)	520B_3	8	8	890.8	895.2	934.2	Bridge piers 9-10 (18 - 16" diameter piles)
MTA-MTA-12	520A_2	41	106	898	900.84	906.8[3]	Portion of two bridge piers and part of abutment

1) Pond ID within NMCWD corresponds with watershed hydraulic/hydrologic model ID.
2) At the south abutment of Minnetonka/Hopkins bridge
3) At north abutment of Minnetonka/Hopkins bridge

3.3 Compliance

Appendix A provides exhibits of the proposed floodplain impacts and compensatory storage. The plans also show the proposed locations of the floodplain mitigation. Nine Mile Creek Watershed District (NMCWD) hydrologic/hydraulic models were used to define:

- Basins to include in the floodplain impacts;
- Normal water level;
- High water level (100-year, 24-hour, 7.5-inch); and
- Pond identification number.

Floodplain impacts were quantified by calculating the fill between the normal and the high water level. As shown in **Table 3.1** and the exhibits in **Appendix A**, compensatory storage is provided in compliance with NMCWD and City of Minnetonka rules.

Compensatory storage for MTA-MTA-06 and MTA-MTA-07 is being provided adjacent to MTA-MTA-07 and MTA-MTA-08 as this system of wetlands is hydraulically connected.

Adequate freeboard is provided to meet City of Minnetonka requirements as indicated in **Table 3.1**. There is one location where a proposed building footprint, for the Traction Power Substation (TPSS) north of Bren Road West is in proximity to a wetland and floodplain district and would trigger compliance with the City's freeboard and setback requirements. The TPSS site pad is approximately 896.5 elevation, which is 13.5-feet above the high water level of wetland MTA-MTA-08. The TPSS structure is located a minimum of 25-feet from the floodplain elevation of MTA-MTA-08.

3.3.1 Atlas 14 Impacts

There are several existing waterbodies outside the project construction limits that impact the design of the proposed LRT infrastructure. NMCWD recently updated their hydraulic/hydrologic model to account for the higher precipitation frequencies from Atlas 14 (the 100-year event rainfall depth increases from 6.0-inch to 7.5-inch). As a result, the 100-year high water level of many of the waterbodies in the corridor increases. The increase in high water level increases the floodplain impacts and required mitigation volume and it also results in the high water level of several of the waterbodies overtopping their banks. When the overtopping poses risks to the proposed LRT infrastructure, it is necessary to make modifications to these waterbodies to contain the 100-year high water level or reroute the emergency overflow (EOF).

3.3.2 MTA-MTA-10 Analysis

The water level in the perched wetland MTA-MTA-10 in the southwest quadrant of the intersection of Feltl Road and Smetana Road currently overtops during the 100-year event, based on the NMCWD hydrologic/hydraulic model. The existing high water level is 932.7, compared the EOF elevation of 932.0. The overflow travels northeast to the intersection of Smetana Road and Feltl Road.

For proposed conditions, the overflow (approximately 60 cfs) would impact the track guideway. The existing overflow elevation will be raised from approximately 932.0 to 934.5 in order to contain the 100-year high water level within the wetland. There is no change in the bounce and inundation for smaller storm events and therefore no change to the wetland type. The impact results in additional flood storage in the wetland for the 100-year rainfall event which protects the downstream infrastructure. The proposed high water level is 934.4. The proposed plan sheets show the grading that will be completed. There will be tree impacts associated with the grading of the berm for MTA-MTA-10.

The adjacent properties are significantly above the wetland and adequate freeboard is provided to the proposed high water level. **Appendix N** includes the low floor elevations of the existing structures. **Appendix L** includes the geotechnical report that addresses seepage potential from the wetland.

3.3.3 MTA-MTA-05 Analysis

The water level in MTA-MTA-05, west of proposed Opus Station and Bren Road East also overtops for the 100-year event. The existing high water level is 893.7 compared to the EOF elevation of approximately 893.5. It should be noted that the NMCWD hydrologic/hydraulic model includes an EOF elevation that is at 894.0. Based on the survey completed for the project, the EOF is actually

slightly lower at 893.5. The EOF route is east over Bren Road East and eventually onto the proposed LRT tracks.

For proposed conditions, minor grading is proposed to raise the overflow elevation to 894.5 and provide 0.7-feet of separation from the top of the overflow to the high water level. The wetland type will not change as no modifications are proposed to the delineated wetland or to the bounce inundation. Additionally, a ditch is proposed on the west side of the LRT and the proposed inlets will be constructed with stool grates to allow for an emergency outlet in the event the wetland overtops.

3.3.4 MTA-MTA-07 and MTA-MTA-12

The compensatory floodplain mitigation for MTA-MTA-07 is proposed in the area of the existing trail and adjacent to the proposed wall by Bren Road West. These areas were selected because they do not result in any additional wetland impacts and avoid additional tree loss because they are located in areas where work is already proposed (or in the case of the trail, where the existing tree growth is very limited). Floodplain mitigation for MTA-MTA-12 is located on the south edge of the wetland. The area will already be disturbed with the bridge construction and OMF grading. Therefore no new tree impacts will be incurred and there is not additional wetland disturbance due to the floodplain mitigation grading.

3.3.5 MTA-MTA-12 and OMF Analysis

The Operations and Maintenance Facility (OMF) is located in Hopkins, on the border with the City of Minnetonka. Since the overflow route for MTA-MTA-12 impacts Minnetonka infrastructure, the analysis is included in this report, even though the majority of the drainage impacts are within Hopkins.

Existing Conditions Summary

Under existing conditions the following conditions occur:

- Significant overflow from MTA-MTA-12 southeast through the existing parking lots to NM-HOP-13
- High water level in NM-HOP-13 results in inundation of the existing property located on the east side of the wetland
- Significant overflow from NM-HOP-13 that follows the existing parking lots north to the North Fork of Nine Mile Creek

Proposed Conditions Summary

For proposed conditions, the OMF blocks the existing overflow point for MTA-MTA-12 and the south track loop for the OMF impacts the flood storage for NM-HOP-13. To address this, the following infrastructure is proposed:

- 48-inch equivalent arch pipe and weir overflow structure (see OMF Plans) are proposed to convey the overflow from the wetland under the OMF to NM-HOP-13.
- Additional flood storage for NM-HOP-13 is proposed in the pond located on the east side of the OMF. This pond is hydraulically connected to the wetland and at the same elevations.

- The proposed modifications will not impact the functions and values or wetland type of either of these wetlands.

Existing Conditions Model

The NMCWD hydrologic/hydraulic model was used to design the proposed infrastructure and to evaluate the high water levels and overflow rates of the two wetlands. The existing conditions model was updated to include the narrow channel NM-HOP-13 forms (labeled "pinch point" on the exhibit in **Appendix O**). The cross section of the existing pinch point shown on the exhibit was incorporated into the model. There is an approximately two-foot-wide channel at the bottom of the pinch point for existing conditions.

Proposed Conditions Model

The existing conditions model was updated to include the proposed wall for the OMF loop track at the pinch point and the proposed east OMF pond. The east OMF pond is proposed both for water quality treatment and to mitigate flood storage. Conservatively, the other BMPs internal to the OMF were not included in the model.

As shown on the proposed conditions exhibit in **Appendix O**, there is no change in the proposed high water level for MTA-MTA-12 and there is a slight reduction in the high water level of the east side of NM-HOP-13. Additionally, the peak discharge out of NM-HOP-13 is reduced to less than existing conditions.

It should be clearly noted that the property on the east side of NM-HOP-13 is inundated for existing conditions. It is not feasible to eliminate the flooding without construction of a berm or significantly upsizing the existing outlet from the wetland. The proposed OMF design does not increase the flooding risk to this property from the existing condition and in fact reduces the peak discharge in the emergency overflow route.

4 Rule 3 – Wetlands Management

4.1 City of Minnetonka Wetland Permitting Requirements

This Section provides a high-level summary of the Southwest LRT Project's proposed wetland impacts that are regulated by the City of Minnetonka. Minnetonka's City Code requires that this project obtain a Wetland/Floodplain Alteration permit for temporary wetland impacts, and a Rezoning permit for permanent wetland impacts. The supporting application materials related to wetland impacts can be found in **Appendix C**, which contains a copy of the signed comprehensive WCA Wetland Replacement Plan application that includes maps, plan sheets, cross-section profiles, and avoidance and minimization details for all proposed Southwest LRT wetland impacts that are regulated by the WCA and other Local Government Units.

For the purpose of the City of Minnetonka's Wetland Overlay District inventory, it is anticipated that the Wetland/Floodplain Alteration permit will include approvals for wetland impacts that will be restored upon completion of construction, and that the Rezoning permit will include approvals for wetland impacts that will remain after construction is complete. Note that the remainder of this

Section categorizes permanent and temporary wetland impacts according to the definitions specified by the WCA, which may differ from those specified by the City of Minnetonka.

4.2 Wetland Impact Summary

The proposed SWLRT Project affects portions of eight wetlands that are located within the jurisdictional boundaries of the City of Minnetonka, resulting in 130,076 square feet (SF) (2.99 acres) of unavoidable permanent impact and 53,814 SF (1.24 acres) of temporary impact that will be restored within approximately six months of construction commencement (as specified in Section 7.1 of the draft WCA Wetland Replacement Plan application located in **Appendix C**). **Table 4.1** contains a summary of the WCA regulated wetland impacts that occur within the jurisdictional boundaries of the City of Minnetonka.

Table 4.1 – City of Minnetonka Wetland Impact Summary

Wetland ID	Impact Quantity (Square Feet)		Summary of Minimization Efforts
	Permanent	Temporary	
MTA-MTA-03	644	None	Wetland impact minimization not feasible
MTA-MTA-04	6,832	None	Wetland impact minimization not feasible
MTA-MTA-07	2,086	5,595	Restoration of temporary impact areas
MTA-MTA-08	None	3,145	Restoration of temporary impact areas
MTA-MTA-09	63	1,470	Adjusted trail re-alignment design to avoid permanent impact; Using TRM instead of riprap (where needed); Restoration of temporary impact areas
MTA-MTA-11[a]	120,194[b]	None	Elevated track alignment to minimize permanent impacts; Restoration of construction workspace
NM-HOP-13[a]	116	20,538	OMF design modification
MTA-MTA-12	141	23,066	Sheet pile installation to reduce drawdown area (if needed); Restoration of temporary impact areas
Total (SF)	**130,076**	**53,814**	
	2.99 (Ac)	**1.24 (Ac)**	

[a] Wetland is split by the municipal border between the Cities of Minnetonka and Hopkins.
[b] Only a portion of this impact (1,864 SF) is the result of permanent fill. The remaining quantity (118,330 SF) will be considered "permanent" impact under WCA because area will be affected by construction for approximately 13 to 18 months.

As indicated in **Table 4.1**, the approved boundaries of wetlands MTA-MTA-11 and NM-HOP-13 are split by the municipal border between the Cities of Minnetonka and Hopkins. The impact quantities specified in **Table 4.1** are located within the municipal boundary of Minnetonka and will therefore require permitting by the City of Minnetonka. Nine Mile Creek Watershed District will be responsible for permitting the portions of the wetlands located within Hopkins's municipal boundary.

Table 4.1 also indicates that 118,330 SF of the "permanent" impact being proposed to wetland MTA-MTA-11 is related to construction staging and access during the multiple phase construction of a bridge that will cross over wetland MTA-MTA-11 and the existing Canadian Pacific freight rail line located between Minnetonka and Hopkins. Although the activities required for construction

staging and access are temporary in nature, impacts will last for approximately 13 to 18 months, which is longer than the duration allowed under the temporary impact "no-loss" criteria specified in Section 7.1 of the draft WCA Wetland Replacement Plan application included in **Appendix C**. As a result, the entire construction workspace area will be considered permanent under WCA and will require full mitigation at a ratio of 2:1. This area will also be restored to pre-project conditions following construction, as required by the U.S. Army Corps of Engineers under Section 404(b) of the Clean Water Act.

4.3 Wetland Impact Compliance

As summarized in **Table 4.2**, the SWLRT Project will need to provide 260,152 SF (5.9723 acres) of mitigation credits to compensate for permanent impacts to portions of seven WCA regulated wetlands located within Minnetonka's jurisdictional boundaries. Impacts are located within major watershed 33/Bank Service Area 9, within the seven-county metro area.

Table 4.2 – City of Minnetonka Wetland Mitigation Summary

Wetland ID	Impact Quantity Requiring Mitigation (Square Feet)	Replacement Ratio	Mitigation Credits Required for Impact (Square Feet)
MTA-MTA-03	644	2:1	1,288
MTA-MTA-04	6,832	2:1	13,664
MTA-MTA-07	2,086	2:1	4,172
MTA-MTA-09	63	2:1	126
MTA-MTA-11	120,194	2:1	240,388
NM-HOP-13	116	2:1	232
MTA-MTA-21	141	2:1	282
Total (SF)	**130,076**	2:1	**260,152**
	(2.9861 Ac)		**(5.9723 Ac)**

Section 300.23 (subdivision 9. [b]) of Minnetonka's City Code states that "wetlands within an overlay district may only be removed according to WCA rules and if at least an equal area of new wetland is created to compensate for the wetland being filled. Unless otherwise approved by the city council, compensatory wetland area must be provided within the same subwatershed district as the wetland being altered, it must be located outside of any public easement and it must not result in the loss of regulated trees. The city may require cash escrow or letter of credit equal to 150 percent of the cost to mitigate for the wetland."

The SWLRT Project's proposed wetland impacts will be mitigated according to WCA rules at a minimum replacement ratio of 2:1, which is above and beyond the ratio required by the City's Code. Regarding Minnetonka's compensatory mitigation requirements, the project attempted but was unable to identify feasible project-specific mitigation opportunities nor available wetland bank credits within the specified subwatershed districts (as discussed in Section 9.3.1 of the Wetland Replacement Plan located in **Appendix C**). Instead, the project has proposed to mitigate for wetland impacts by purchasing WCA and CWA approved wetland bank credits that are located within major watershed 33/BSA 9 of the seven-county metro area, which will not affect public easements nor result in the loss of trees that are regulated by the City of Minnetonka.

4.4 Summary of Wetland Buffer Requirements

Wetland buffers are required only on proposed Metro Transit property subject to the City of Minnetonka permit. Wetland buffer requirements are based on the MnRAM wetland value. Generally, NMCWD buffer requirements exceed the City of Minnetonka requirements.

4.5 Wetland Buffer Compliance

Wetland buffers exhibits are shown in **Appendix B**. Five wetlands exist within the project corridor that are under the jurisdiction of the City of Minnetonka. **Table 4.3** below summarizes the wetlands, their required buffers, and the buffers proposed as a part of this project. No buffers are provided for wetlands that are fully impacted.

Table 4.3 – Wetland Buffers Summary

Wetland ID	Minnetonka Value	Required Buffer (ft)	Provided Buffer (ft) (avg/min)
MTA-MTA-07	Manage I	25	5
MTA-MTA-08	Manage I	25	39
MTA-MTA-09	Manage I	25	11
MTA-MTA-11 (South)	Manage I	25	44
MTA-MTA-11 (North)	Manage I	25	23
MTA-MTA-12	Manage I	25	40

All wetlands are Manage I based on Minnetonka criteria and require a 25-foot buffer.

As indicated in **Table 4.3**, the proposed wetland buffers highlighted in green do not meet the areas required by the City. A variance request is included in **Section 11.1** for all the wetlands included in the table above that do not meet the required buffer widths and references the evaluation criteria set forth in NMCWD Rule 10.1.

A variance is also required for any structures that do not meet a 35-foot setback from the delineated wetland edge. Abutments are considered a structure by the City. A 25-foot setback is required for any roadway from the delineated wetland edge. **Section 11.2** includes a variance request for the locations that do not meet the setback requirement.

- MTA-MTA-11 (Minnetonka/Hopkins Bridge south abutment, no setback provided)
- MTA-MTA-12 (Minnetonka/Hopkins Bridge north abutment, no setback provided)
- MTA-MTA-08 (TPSS within wetland setback ranging between 15-55 feet).

Bren Road West is in close proximity to wetland MTA-MTA-07 however the 25-foot setback requirement is met. Additionally, the project is proposing to change the profile of Bren Road West, but not the alignment.

5 Stormwater Management

5.1 Summary of Stormwater Management Requirements

The NMCWD requirements are more stringent than the City of Minnetonka requirements for stormwater. Therefore the following section is based on compliance with NMCWD rules. For linear projects, NMCWD requires:

- **Volume Control**: Abstract 1.0" off net new impervious if creating more than one acre of impervious;
- **Rate Control**: Limit peak runoff rates for the 2-, 10-, and 100-year events to less than or equal to existing for all points of discharge that leave the site for rate control, and;
- **Water Quality**: Detention of runoff from the 2.5" storm event or treatment of runoff to at least 60% annual total phosphorus removal and 90% total suspended solids removal for water quality.

Redevelopment requirements for water quality and rate control are the same as the linear requirements above. The volume requirement is to abstract 1" off all new impervious is required.

5.2 Impacts

The trails, roads, and track must comply with linear requirements. The redevelopment requirements must be applied to the proposed Shady Oak Park and Ride.

Stations are also considered part of the linear corridor as they are located within the track and only result in a small increase in impervious surfaces (approximately 0.1 acre per station). There are two stations in Minnetonka –Opus Station and Shady Oak Station.

5.3 Compliance

Existing impervious surface acreage was generated from Color Infrared aerial photography and Normalized Difference Vegetation Index (NDVI) and digitized as necessary within the project limits of disturbance. Proposed impervious surfaces were digitized from proposed project linework. Exhibits displaying pervious and impervious surfaces for both existing and proposed conditions can be found in **Appendix I.** The limits of disturbance shown on the exhibits in **Appendix I** are a conservative boundary used for the Environmental Impact Statement (EIS) analysis. The actual construction limit lines are represented on the Plan sheets.

Compliance with the volume control, rate control, and water quality requirements of the City of Minnetonka for both the redevelopment and linear portions of the project are described in the following subsections.

5.3.1 Volume Control

BMP Design Summary

Infiltration BMPs have been sized using the following design criteria and documents:

- Soil borings (see **Appendix J**, boring logs labeled by BMP location and ID) to estimate an infiltration rate based on the USDA soil classifications from the Minnesota Stormwater Manual guidance
- Maximum depth of BMP set to achieve 48 hour drawdown using the estimated infiltration rate
- For BMPs with a large tributary area, the Hennepin County Soil Survey was used to determine the applicable curve number based on hydrologic soil group (Soil Survey Maps in **Appendix J**)

Additional BMP design information to meet NMCWD/Minnetonka requirements:

- Plan sheets show the proposed BMP contours, outlet control structures and cross sections
- The Urban Design Volume 9 indicates the proposed vegetation
- Pretreatment upstream is provided in sump manhole structures
- Scarify 12" of existing soils below the proposed infiltration BMPs
- The bottom of all infiltration BMPs are at a minimum 3-feet above the seasonal groundwater elevation based on the soil borings (see **Table E1** in **Appendix E**)

The following supporting documentation is provided related to compliance with Rule J:

- **Appendix E** includes specific sizing for each BMP based on the criteria listed above as well as allowable volume credits and ditch BMP calculations.
- **Appendix D** includes the drainage area maps for each of the BMPs and track ditch locations.
- **Appendix J** includes soil borings specific to BMP locations and soil survey data.
- **Appendix P** includes the Response Action Plan (RAP) exhibits. Phase 1 ESA, Phase II ESA, and Rapid Action Plan (RAP) are available for reference on the project's website.
- **Appendix R** includes a sample of the Metro Transit maintenance document.

Soils within the project corridor are predominantly hydrologic soil group (HSG) D based on the soil borings, with a corresponding infiltration rate of 0.06 in/hr. Large footprint, shallow infiltration basins are proposed to meet the volume requirement and drawdown in the required 48 hour time period.

Additional discussion regarding the results of the Phase I and II ESA and RAP is provided later in this document.

Linear Project

Table 5.1 lists the existing, proposed, and net new impervious for the linear portion of the project.

Table 5.1 – Minnetonka Linear Corridor Impervious Summary

Linear Areas	Existing Impervious (ac)	Proposed Impervious (ac)	Net (ac)
LRT from Station 2206+00 to 2320+56 (Minnetonka W2)[1]	-	8.4	8.4
LRT from Station 2335+00 to 2422+00 (Minnetonka W3)[1]	-	6.4	6.4
Existing Impervious along track (Minnetonka only)	1.1	-	-1.1

Additional Width at Opus Station	0.0	0.1	0.1
Opus South	3.4	3.0	-0.4
Opus North Station Roads	3.2	3.2	0.0
Smetana Rd	2.7	1.1	-1.6
17th Ave Extension (LW 12)[2]	0.7	0.5	-0.2
Total	**10.4**	**22.3**	**11.7**

1) Based on average track width of 32-feet
2) Local Work (LW) is tentative and subject to change

The TH62 Tunnel is not included in the project as a net new impervious because it will not generate new runoff volume.

The required volume is one inch off net new impervious = 11.7 ac * 1 inch * 1/12 = **1.0 ac-ft**

For the linear project, provided infiltration volume is listed in **Table 5.2.**

Table 5.2 – Proposed BMP Volume

BMP ID	Location	Infiltration Volume (ac-ft)
116	Opus South	0.05
117	Yellow Circle Drive W	0.01
117A	Yellow Circle Drive E	0.01
119	Smetana Feltl	0.3
121	17th Ave Extension (LW 12)[2]	0[3]
	Minnetonka Track Ditches[1]	1.0
	Provided Volume	**1.37**

1) See **Table E2** and **Check Dam Formula** in **Appendix E** for ditch volume calculations and track ditch BMP exhibits in **Appendix D**
2) Local Work (LW) is tentative and subject to change
3) BMP 121 provides bioretention and not infiltration due to existing soil and groundwater contamination

The 1.37 ac-ft of provided volume exceeds the 1.0 ac-ft required.

Linear BMPs have been located strategically to take advantage of well-draining soils and, as feasible, upstream of high quality waterbodies. It is not feasible with a linear project in a highly impervious linear corridor to locate infiltration BMPs at all storm sewer outfalls.

The City of Minnetonka allows for oversizing of BMPs for linear projects where it isn't feasible to meet the abstraction requirement at every outfall. A maximum of 1-inch of impervious can be credited towards the infiltration requirement. **Table E3** in **Appendix E** lists the maximum allowable infiltration volume credit for each of the proposed BMPs.

Linear Corridor Contamination

It was assumed that no infiltration can be provided in the ditch in the following locations due to Phase I and II ESA and RAP results that indicate soil and groundwater contamination:

- Track Station 2415+00 to 2441+50

Track ditches in the contaminated areas are proposed to be filtration to provide water quality treatment and rate control.

Smetana Feltl BMP 119

BMP 119, located in the southeast corner of Smetana Road and Feltl Road, will be constructed on an existing parcel where the building and parking lot will be removed. This location is ideal for a stormwater BMP as it is upstream of a large wetland complex and it is feasible to retrofit stormwater treatment for a large upstream tributary area (19.6 acres total, 10.0 acres impervious). Additionally, soil borings indicate sandy soils and good infiltration capacity.

As indicated in **Table 5.2**, the project is taking credit for 0.3 ac-ft of volume in the Smetana/Feltl BMP. The calculated credit is only for the portion of the SWLRT project and City right-of-way that is tributary to the BMP. NMCWD staff have indicated that agreements with private property owners are required if the project takes credit to meet its abstraction requirement for private property runoff. However, the actual infiltration volume provided in BMP 119 is 1.2 ac-ft. The BMP provides significant regional abstraction volume, rate control, and water quality treatment as retrofit for existing impervious surfaces.

Local Work 12

Local Work 12 includes the extension of 17th Avenue between the Shady Oak Park and Ride and K-Tel Drive. The new impervious for the 17th Avenue extension has been included in the stormwater calculations for providing rate control, water quality, and abstraction.

Redevelopment

The only redevelopment area within the City of Minnetonka is the Shady Oak Park and Ride, which straddles the municipal boundary with the City of Hopkins. As noted in **Section 2.1**, the TPSS sites will be constructed of a permeable surface and any proposed building runoff will discharge to the porous pavement and be infiltrated. Therefore, there is no increase in impervious at these sites. BMPs for the redevelopment area are provided within the redeveloped areas. However, it isn't feasible to provide infiltration for the Shady Oak Park and Ride (a portion of which is in the City of Minnetonka) due to Phase I and II ESA results and the RAP indicate groundwater and soil contamination that preclude infiltration in these areas. The Phase I and II ESA and RAP are available on the project's website.

> http://metrocouncil.org/Transportation/Projects/Current-Projects/Southwest-LRT/Environmental/SDEIS/Supporting.aspx?source=child

Table 5.3 lists the proposed impervious, required volume and provided volume for each redevelopment area.

Table 5.3 – Redevelopment Area Impervious Summary

Redevelop-ment Areas	Existing Impervious (ac)	Proposed Impervious (ac)	Net (ac)	1" Volume Required (ac-ft)	Provided Infiltration Volume (ac-ft)	Redevelopment area (ac)
Opus Station Parking Lots[1]	0.9	0.9	0.0	-	-	N/A
Shady Oak Park and Ride (East and West Parking Lots)	11.4	6.0	-5.4	0.5	0.00	11.9
TPSS *Pervious pavers used	0.0	0.7	0.0	-	-	0.7
Total	**12.3**	**7.7**	**-5.4**	**0.5**	**0**	**12.6**

1) No BMPs required – mill and overlay and restriping of parking lot do not trigger City rules.

No infiltration volume is provided for the Shady Oak Park and Ride or Local Work 12 based on the RAP guidance. However, as indicated previously, additional infiltration volume is provided in the linear corridor. The proposed Shady Oak Park and Ride pond provides water quality treatment and rate control for the new impervious associated with 17th Avenue and Shady Oak Park and Ride in compliance with the City of Minnetonka requirements.

The TPSS sites are porous pavement. A small building (15'x40') is proposed on each site. Annual maintenance is limited for the porous pavement at the TPSS sites. Access of the TPSS pads is infrequent. So the typical road salt and sand that would collect in the surface is limited and therefore scheduled maintenance can be less frequent.

5.3.2 Rate Control

Event based hydrologic models were generated to represent the existing and proposed conditions based on the delineated drainage areas (**Appendix D**), which were created using available soil and land cover data, surveyed and LiDAR topography and existing storm sewer infrastructure. MnDOT Technical Memorandum No. 15-10-B-02 provides the criteria for determining precipitation depth and rainfall distribution (**Appendix P**). Based on this guidance, the following design parameters were used:

- NRCS Midwest Southeast (MSE) 3 rainfall distribution
- Minnesota NRCS Atlas 14 Hennepin County average rainfall depths (Table MN A2-1 from the National Engineering Handbook)

HydroCAD models were generated for each of the proposed BMPs and results are included in **Appendix G.**

The City of Minnetonka allows flexibility to meet the rate control requirement by waterbody for linear projects since it isn't always feasible to construct BMPs at every outfall. Net new impervious area was calculated by NMCWD modeled subwatershed to address compliance with the waterbody scale rate control evaluation. Due to the size of the project and linear nature, a detailed evaluation of rate control was only completed for the subwatersheds with an increase in impervious surfaces within the project limits of disturbance. **Table F** in **Appendix F** lists the net new impervious by subwatershed; subwatersheds with an increase are highlighted red. The subwatersheds correspond with NMCWD hydrologic/hydraulic (H/H) model. The increase in impervious percentage is typically less than 0.1% per subwatershed. **Appendix F** includes exhibits of all the subwatersheds with an increase in impervious surfaces.

- Yellow highlights depict subwatersheds with an increase in impervious
- Green hatching depicts existing impervious converted to pervious
- Orange hatching depicts existing pervious surfaces converted to impervious

In general, the project limits of disturbance (LOD) represent a small percentage of the NMCWD and RPBCWD modeled subwatersheds.

The proposed track results in the majority of the net new impervious surfaces. A curve number of 98 was used for ballasted track based on the gradation of the gravel subballast. The last column in **Table F** describes the method for addressing the proposed increase in impervious for each subwatershed. Existing and proposed discharge comparison is provided in **Table E1** in **Appendix E.**

HydroCAD model printouts for each of the proposed BMPs are included in **Appendix G.**

5.3.3 Water Quality

The water quality requirement is met through the BMPs described in **Section 5.2.1** and listed in the table in **Appendix E. Table 5.4** lists the water quality treatment of each BMP. P8 modeling was used to estimate TP/TSS removal efficiencies where required (see **Appendix H** for P8 model results).

Table 5.4 – Water Quality Summary

BMP ID #	Location	TP Removal Efficiency (%)	TSS Removal Efficiency (%)
116	Opus South	54.8	78.5
117	Yellow Circle Dr W	67.1	85.6
117A	Yellow Circle Dr E	86.2	94.1
119	Feltl Smetana	93.2	98.3
120	Shady Oak P&R	60.2	90.2
121	17th Ave Extension (LW 12)	62.8	91.7

1) Water quality sizing calculations for the OMF are included in Appendix H. However, since the BMPs collectively treat the entire runoff from a 2.5" rainfall event, individual TP/TSS removal efficiencies were not directly computed.
2) Local Work (LW) is tentative and subject to change

As indicated in **Table 5.4**, the project meets the City requirement for 60% total phosphorus removal and 90% total suspended solids removal.

It is important to note that the proposed track has very different pollutant runoff characteristics in comparison to a typical road. The track does not require chlorides during the winter and therefore will not increase chloride loads to downstream waterbodies. Additionally, the TP and TSS loads generated by the track are negligible. Both the Draft Environmental Impact Statement (DEIS) and the Supplemental Draft Environmental Impact Statement (SDEIS) indicate the track related pollutants are minimal since the trains are electric.

Opus South BMP 116

Each of the BMPs meets or exceeds NMCWD water quality requirements, except BMP 116 at Opus South. This BMP receives runoff from the existing trunk storm sewer through a splitter structure. The BMP footprint is the maximum feasible within the space available. However, due to site constraints and poorly draining soils, it isn't feasible to fully retrofit water quality treatment for this area. The BMP provides significant benefit in comparison to existing conditions which discharge directly to the downstream wetland with no water quality treatment.

6 Erosion and Sediment Control

6.1 Summary of Erosion and Sediment Control Requirements

An erosion and sediment control plan is required to minimize disturbance intensity and protect stormwater facilities with erosion and sediment control practices. Site stabilization, inspection and maintenance are required until vegetative cover is established.

6.2 Compliance

Temporary erosion and sediment control plans are included in Volume 8. Permanent stabilization is shown in Urban Design Volume 9. Division S of the specification includes additional erosion and sediment control requirements. The SWPPP narrative is included in **Appendix K.**

7 Waterbody Crossings and Structures

7.1 Summary of Waterbody Crossings and Structures

NMCWD requires compliance with Rule 6 for replacement, removal or construction of any structure within a waterbody.

7.2 Impacts

There is one bridge with either abutments or piers within waterbodies, Minnetonka/Hopkins Bridge.

7.3 Compliance

This section lists compliance with the criteria outlined in Section 6.3 of NMCWD Rule 6.

- At both abutments the existing flood storage of the waterbodies is maintained or increased by proposed project improvements. Therefore, there is no impact to the hydraulic capacity or high water level due to the bridge abutments or piers within the waterbodies.
- The bridge abutments are located within existing wetlands that do not have navigational capacity and therefore this item does not apply.
- Erosion and sediment control measures are indicated on the plan sheets.
- The proposed design of a bridge structure over the wetlands significantly reduces wetland and floodplain impacts from a traditional fill construction for the proposed track.

8 Appropriation of Public Surface Waters

8.1 Summary of Appropriation of Public Surface Waters

A permit is required to appropriate more than 10,000 gallons per day and up to 1,000,000 gallons per year of water for nonessential use from a public water basin or wetland or watercourse within the NMCWD. An appropriation permitted under this rule must not materially alter the hydrologic regime in a basin or watercourse.

8.2 Impacts and Compliance

No permanent water appropriations are expected as a part of the project. Temporary water controls during construction are the responsibility of the contractor as outlined on the temporary erosion and sediment control plans, SWPPP, and specification. Temporary water control may be needed at MTA-MTA-11, and MTA-MTA-12 to construct the proposed LRT bridges. Temporary water control may also be required at NM-HOP-13 for construction of the OMF. As noted on the temporary erosion and sediment control plans, the contractor must submit a temporary water removal plan for review and approval prior to starting construction.

9 Landscape Plan

The Urban Design Volume 9 indicates the proposed landscaping plan for the project.

10 Hydraulics

Proposed storm sewer was sized for the 10-year, 24-hour rainfall event using Atlas 14 Intensity Duration Frequency (IDF) curves from MnDOT for Hennepin County (**Appendix Q**). The proposed storm sewer was also sized for capacity for the 100-year ponded outflow from Hydrocad models

and the NMCWD hydrologic/hydraulic model output as needed. See **Appendix M** for pipe capacity calculations.

Our storm sewer calculations indicate that the existing 36" storm sewer in the south part of Opus from structure 5126-ST to 5155-ST is under capacity. The plans indicate replacing a segment of this pipe with 42" storm sewer; however, the calculations still indicate that the pipe will be surcharged for the 10-year event. The project is connecting to the existing 42" storm sewer at structure 5155-ST and the capacity of the storm sewer is controlled by the capacity of the existing system. It is not within the project scope to address the existing under capacity system. However, proposed BMP 116 will provide some rate restriction and there is a net reduction in impervious surfaces in this area. The NMCWD hydrologic/hydraulic model indicates that the surcharge elevation in the existing storm sewer is approximately 909.1 for the 100-year event. Existing ground elevation ranges from 906 to 910. If the pipe is surcharged, the existing overflow routes through the pedestrian underpasses are provided and there is no risk to properties.

11 Variance Requests

Three variance requests are required for the SWLRT project:

- Wetland buffer area and width
- Bridge abutments in the wetland buffer
- Floodplain setback requirement

The following subsections provide justification for the variance requests using NMCWD evaluation criteria set forth in Rule 10.1. A separate variance application will be submitted to NMCWD.

11.1 Wetland Buffer Area and Width Requirement

Justification 10.1.1

All wetlands are located within fully-developed areas of Eden Prairie, Minnetonka, and Hopkins. The nature of the project (federally funded linear transportation project) only allows for modifications to land within the existing and proposed right-of-way and permanent easements of the project. The SWLRT right-of-way and permanent easements have been maximized to the extent available. In order to provide the required buffer areas, Metro Transit would have to purchase additional right-of-way from surrounding private properties, which:

- Does not satisfy the Purpose and Need of a Federal Transit Authority funded project;
- Results in undue hardship on the surrounding private properties and businesses; and
- Results in additional fill into the wetlands.

Justification 10.1.2

As indicated in **Table 4.3**, the buffers are not able to meet the required areas due to a lack of available right-of-way. Many of the wetlands lie partially within private property and have no existing buffers. Acquiring this right-of-way would result in the acquisition of additional private property and, in some areas, may require relocation of businesses, parking lots and roadways. This

would create an undue hardship on those property owners, and therefore the Metro Transit requests that the proposed buffer widths be approved as proposed in the plans.

Justification 10.1.3

The buffers that are provided will be seeded with native vegetation and will be maintained according to the requirements of Rule 3.4. Much of the runoff throughout the project area will be directed to the storm sewer and treated to meet NMCWD water quality treatment standards prior to being discharged into the wetlands. Under existing conditions, no water quality treatment is provided for the existing impervious prior to discharging to these wetlands. As a result, the lesser buffer areas proposed will not adversely affect the water quality of the wetlands which they surround. These buffers also will not negatively affect flood elevations, drainage, or the general welfare of the district.

Justification 10.1.4

In order to meet the buffer requirements, Metro Transit would have to either:

- Acquire additional right-of-way or permanent easements on adjacent private properties. This could potentially result in the relocation of properties in some areas, and would overall result in undue hardship to the property owners involved.
- Create additional area to provide buffers by filling into the wetlands. This alternative would require additional mitigation for wetland impacts, and would reduce the overall quality of the water resources in the area. It is also anticipated that this could result in increases in the flood elevations of these basins.
- Create additional area to provide buffers by removing the existing roadways adjacent to the wetlands. This alternative is not considered feasible due to the existing development and transportation needs of the area.

11.2 Bridge Abutments in Wetland Buffers

Justification 10.1.1

The Minnetonka/Hopkins Bridge was designed in part to reduce wetland and floodplain impacts. Bridge abutment locations were set based on the required track alignment, profile, and geometry along with structural requirements and to minimize wetland impacts. Shifting the abutments outside the buffer is not possible given the many track geometric constraints.

Justification 10.1.2

The project would need to raise the rail profile to shift the abutment out of the wetland buffer which would increase the disturbance limits and potentially increase temporary and permanent construction easements; which would impact adjacent properties.

Justification 10.1.3

Placing the abutments in the buffer does not result in an increase in the high water level of the wetlands. The compensatory storage to be constructed with the SWLRT project increases the flood storage of the wetlands where the abutments are located. There is no adverse impact to the high water level, flood levels, or drainage patterns. Additionally, the project proposes to maximize the

buffer for these wetlands in the proposed right-of-way. Under existing conditions, there is no buffer for these wetlands.

Justification 10.1.4

Extending the bridges past the wetland buffer would require the project to incur significant additional cost for the bridge extension, additional right-of-way and permanent easements, and to raise the proposed walls at the end of the bridges. The abutment footprint represents a small impact in relation to the proposed wetland buffers. Therefore, it isn't warranted to incur significant additional cost and potential for additional land disturbance and easement acquisition to extend the bridge abutment past the wetland buffers.

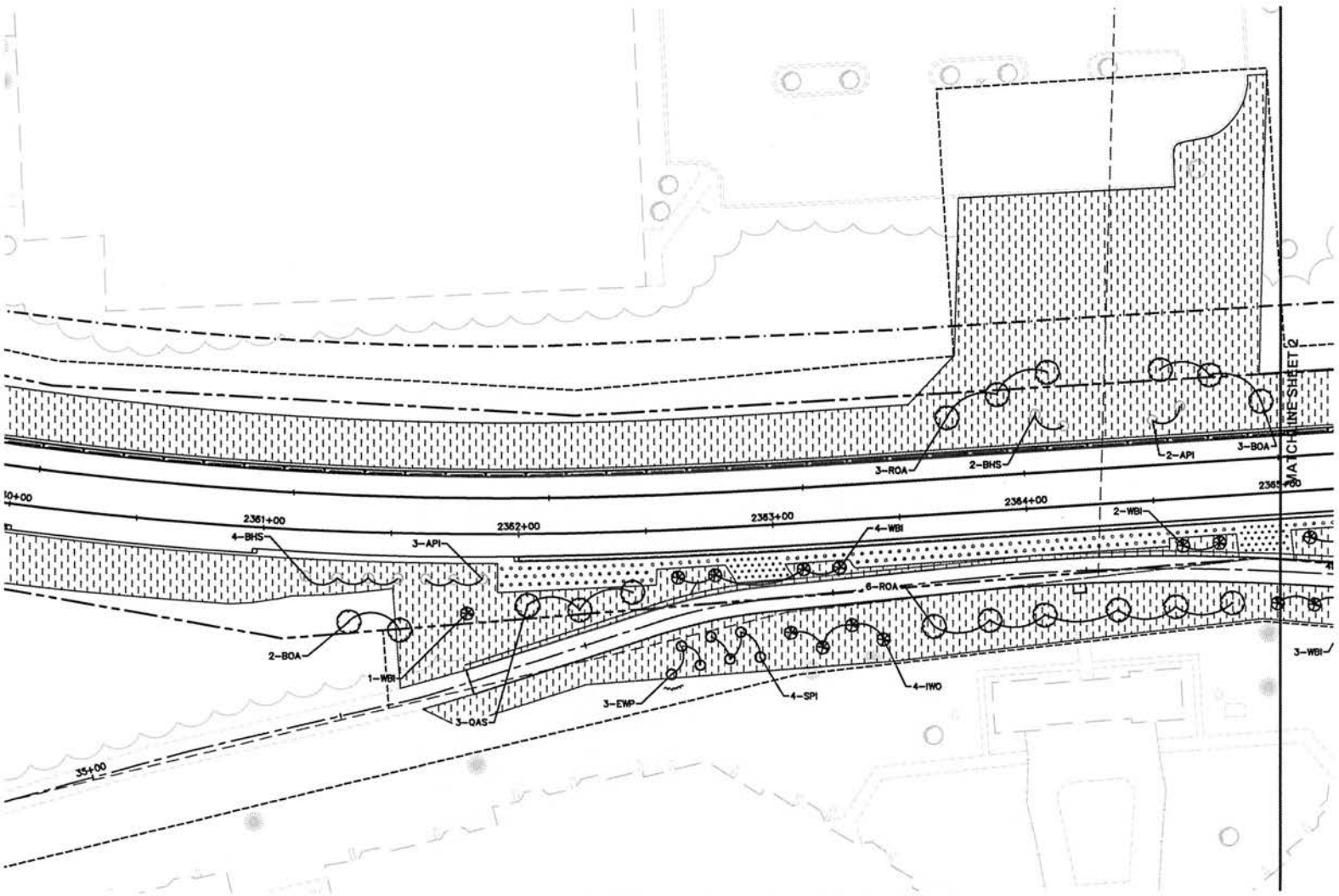
11.3 Bridge Abutments within Floodplain Setback

Justification

The abutments of the Minnetonka/Hopkins bridge do not comply with the 10-foot setback to the floodplain requirement described in City of Minnetonka Floodplain Ordinance 300.24. The Minnetonka/Hopkins Bridge was designed in part to reduce wetland and floodplain impacts. Bridge abutment locations were set based on the required track alignment, profile, and geometry along with structural requirements and to minimize wetland impacts. Shifting the abutments outside the floodplain elevation is not possible given the many track geometric constraints.

- Bridges are an acceptable conditional use per Minnetonka Floodplain Ordinance if there is low damage potential and they do not obstruct flows. The abutments have been designed to withstand any hydrostatic pressure that might occur during high water levels. The top of rail elevation is significantly above the floodplain elevation and complies with the Minnetonka freeboard requirement. The abutments are not located in an area that would disrupt the flow path of the waterbody. The existing outlets will be maintained and floodplain mitigation is provided in a ratio of 1:1.
- Erosion and sediment control measures have been provided at each abutment location. The abutments are also located in wetland buffers and appropriate native vegetation will be used at the locations to restore the area.
- Floodplain impacts for the abutments are proposed to be mitigated as shown in **Appendix A**. The floodplain mitigation is proposed in areas that are already disturbed by the project and therefore will result in no new tree or wetland impacts.
- The project would need to raise the rail profile to shift the abutment out of the floodplain which would increase the disturbance limits and potentially increase temporary and permanent construction easements; which would impact adjacent properties.
- Extending the bridges past the floodplain elevation would require the project to incur significant additional cost for the bridge extension, additional right-of-way and permanent easements, and to raise the proposed walls at the end of the bridges. The abutment footprint represents a small impact in relation to the proposed floodplain. Therefore, it isn't warranted to incur significant additional cost and potential for additional land disturbance and easement acquisition to extend the bridge abutment past the floodplain.

LANDSCAPING INFORMATION



NO.	DATE	DRAWN	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

EXHIBIT - 04/25/16

METROPOLITAN COUNCIL SOUTHWEST

CIVIL - VOLUME 9
OPUS HILL - OPENING DAY
LANDSCAPE PLAN
STA. 2360+00 TO STA. 2365+00

SHEET 1 OF 5

DISCIPLINE: LANDSCAPE ARCH

SHEET NAME: W3-LAN-PLN-OPUS-HILL - 001

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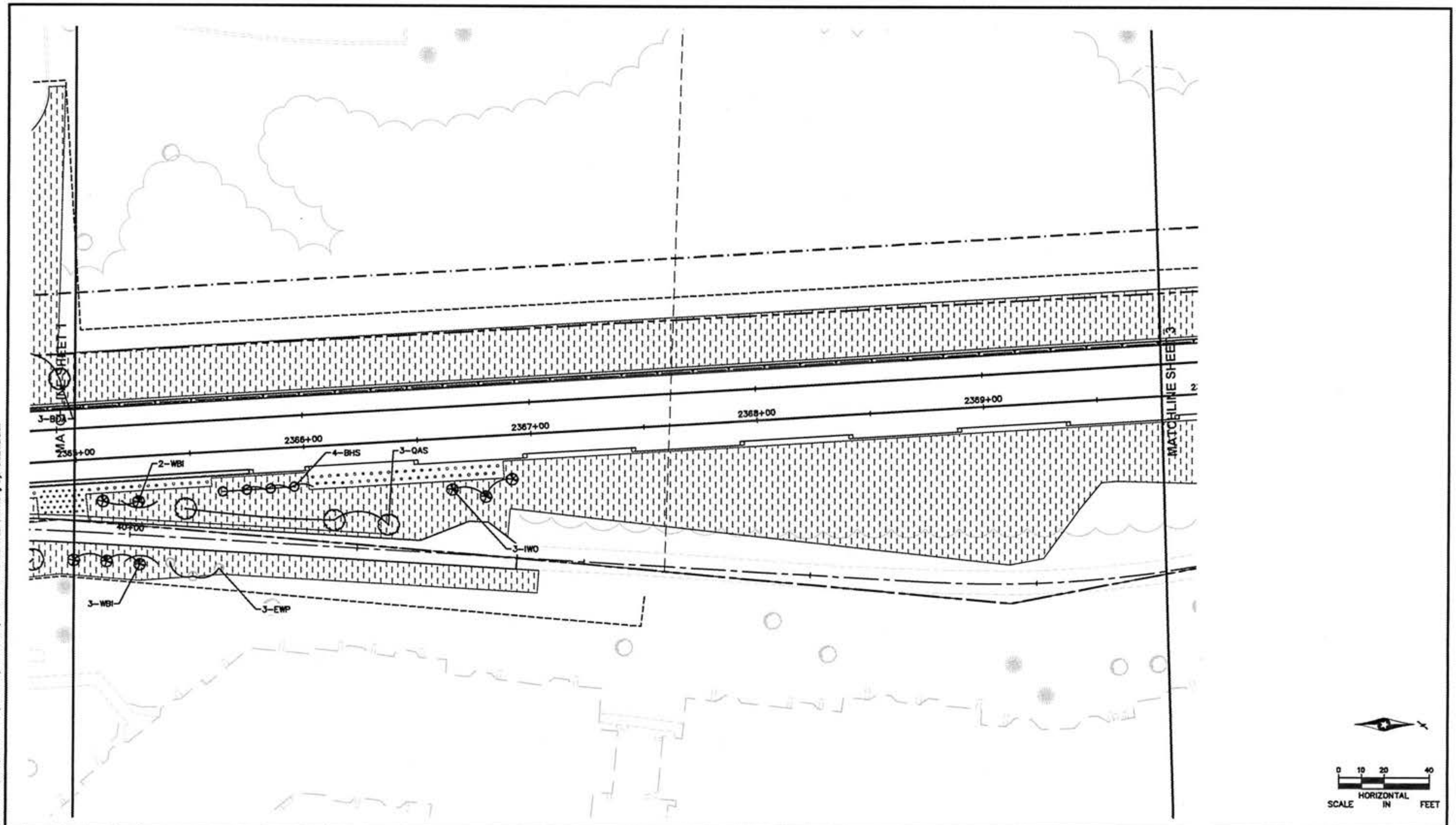

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NO.	DATE	DRAWN	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM | SRF Consulting Group, Inc.

EXHIBIT - 04/25/16

METROPOLITAN COUNCIL | SOUTHWEST Green Line LRT Extension

CIVIL - VOLUME 9
OPUS HILL - OPENING DAY
LANDSCAPE PLAN
STA. 2365+00 TO STA. 2369+75

DISCIPLINE: LANDSCAPE ARCH

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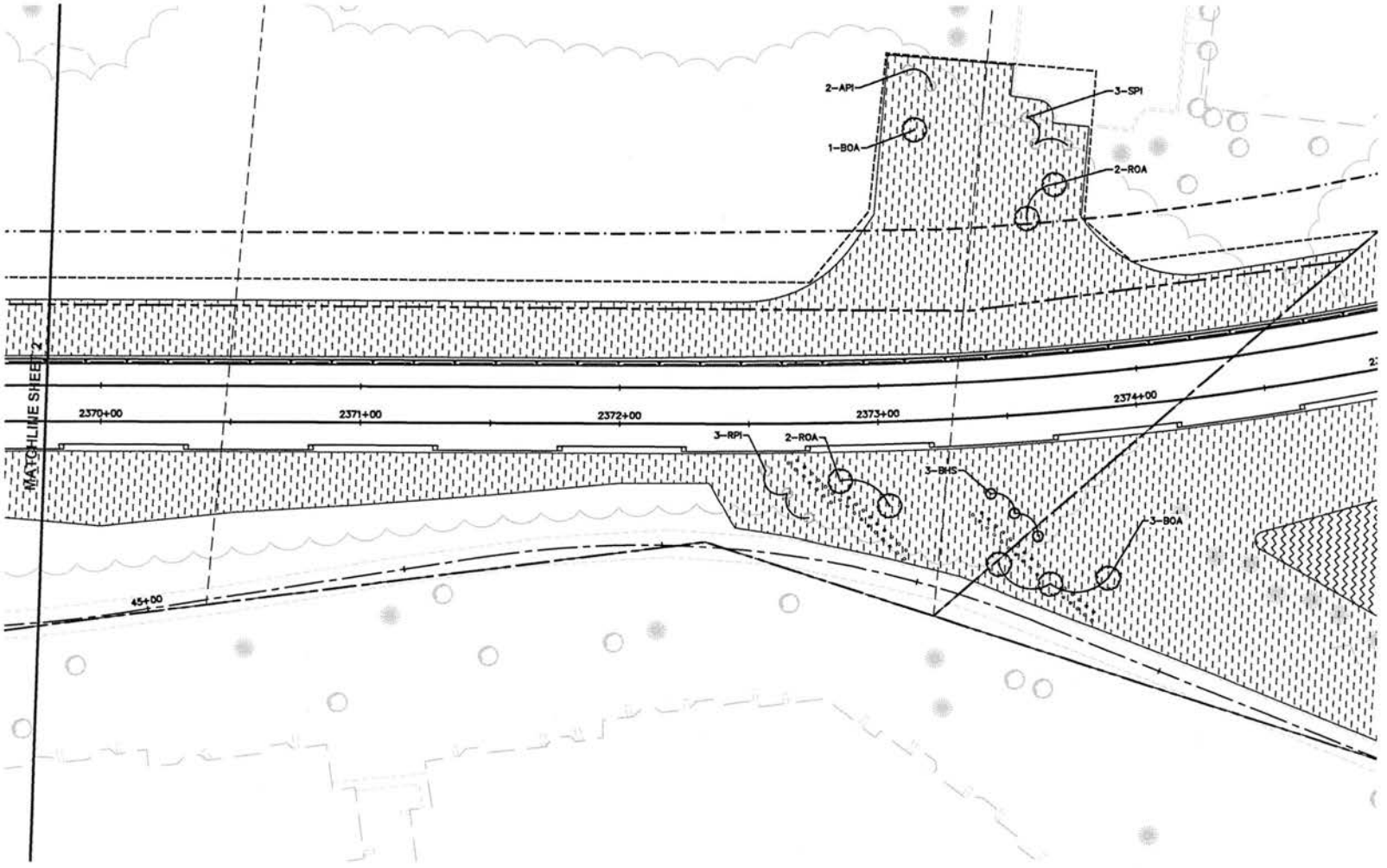

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NO.	DATE	DRAWN	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

EXHIBIT - 04/25/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL - VOLUME 9
OPUS HILL - OPENING DAY
LANDSCAPE PLAN
STA. 2369+75 TO STA. 2375+00

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SHEET NAME: W3-LAN-PLN-OPUS-HILL - 003

SHEET 3 OF 5

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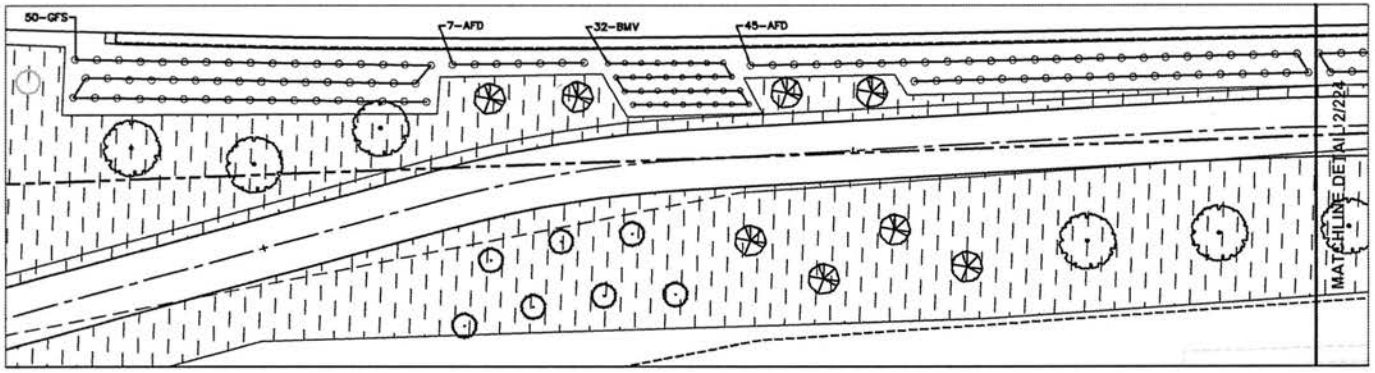

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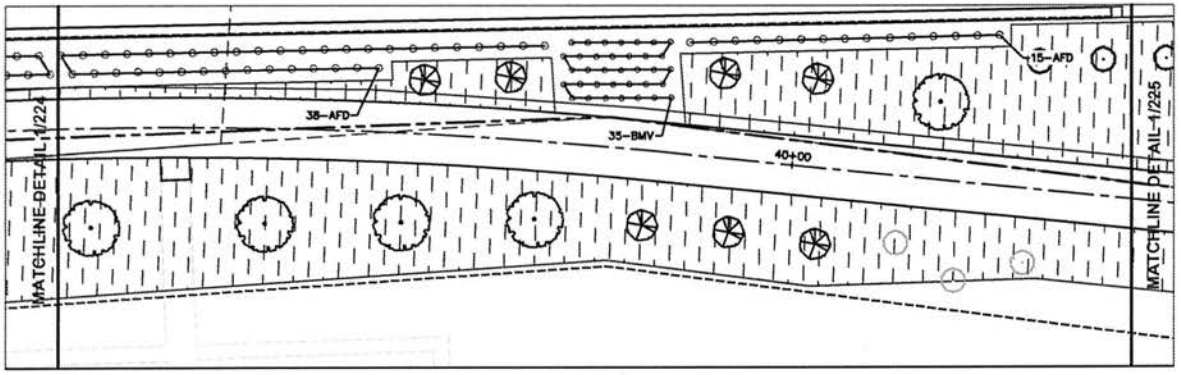

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NO.	DATE	DRAWN	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

EXHIBIT - 04/25/16

METROPOLITAN COUNCIL SOUTHWEST

CIVIL - VOUME 9
OPUS HILL - OPENING DAY
LANDSCAPE ENLARGEMENT PLAN

DISCIPLINE: LANDSCAPE ARCH
SHEET NAME: W3-LAN-PLN-ENLRG-OPUSHILL-001

SHEET 4 OF 5

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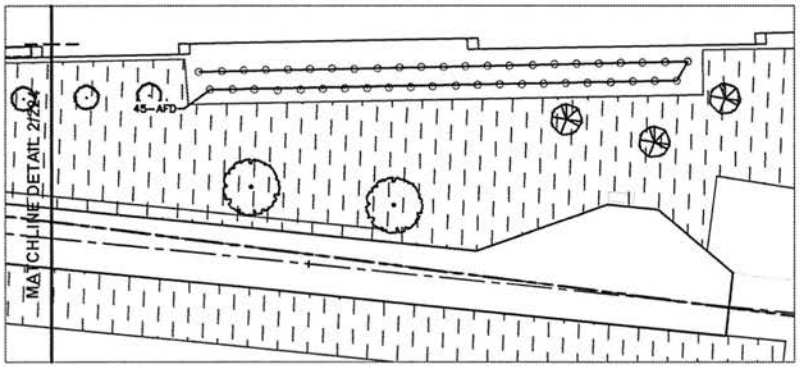

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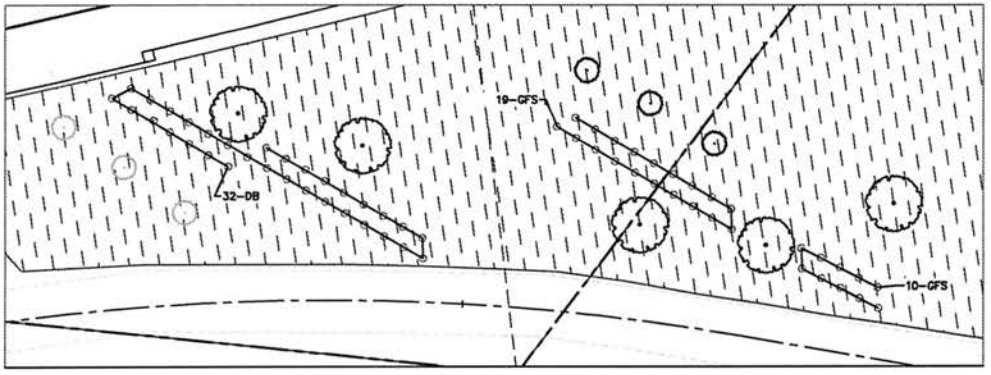

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NO.	DATE	DRAWN	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

EXHIBIT - 04/25/16

METROPOLITAN COUNCIL SOUTHWEST

CIVIL - VOUME 9
OPUS HILL - OPENING DAY
LANDSCAPE ENLARGEMENT PLAN

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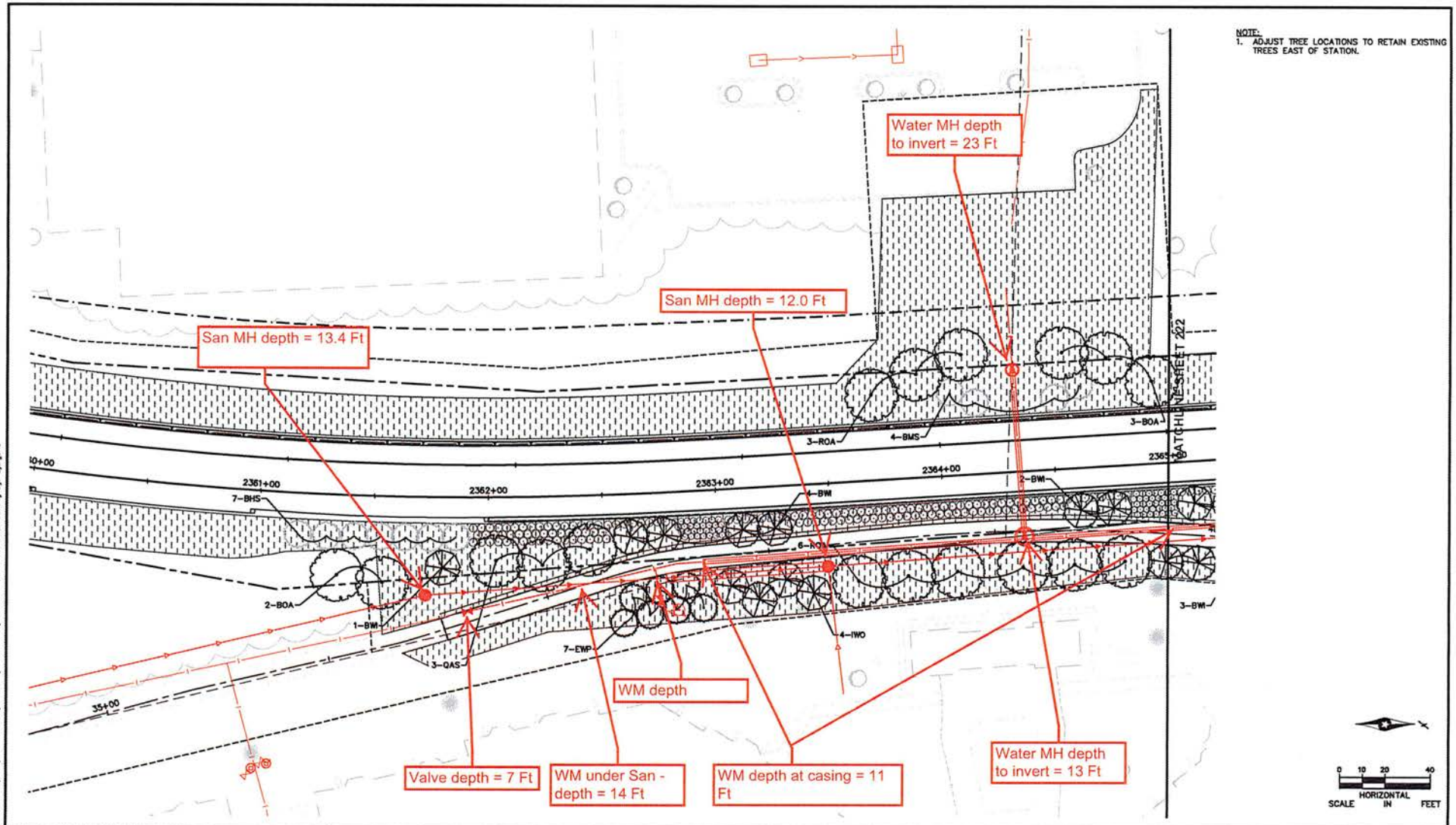

NO.	DATE	DRAWN	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM SRF Consulting Group, Inc.

100% IDR SUBMISSION - 03/29/16

METROPOLITAN COUNCIL SOUTHWEST Green Line Light Rail Extension

CIVIL - VOLUME 9
OPUS HILL
LANDSCAPE PLAN
STA. XXXX+XX TO STA. XXXX+XX

DISCIPLINE: LANDSCAPE ARCH

SHEET NAME: W3-LAN-PLN - 003

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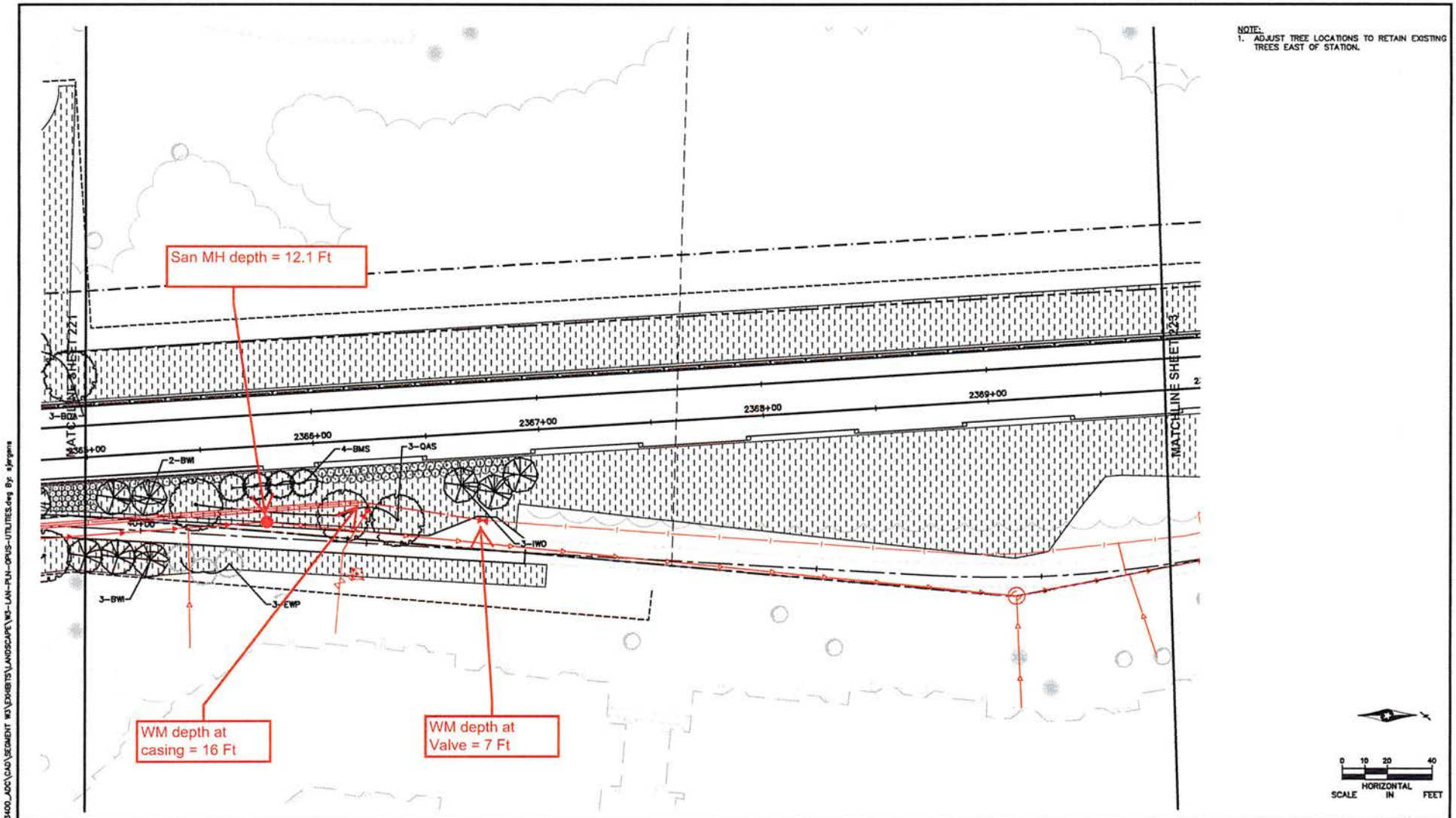

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AECOM SRF Consulting Group, Inc.

100% IDR SUBMISSION - 03/29/16

METROPOLITAN COUNCIL SOUTHWEST

CIVIL - VOLUME 9
OPUS HILL
LANDSCAPE PLAN
STA. XXXX+XX TO STA. XXXX+XX

DISCIPLINE: LANDSCAPE ARCH

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SHEET 222 OF 324

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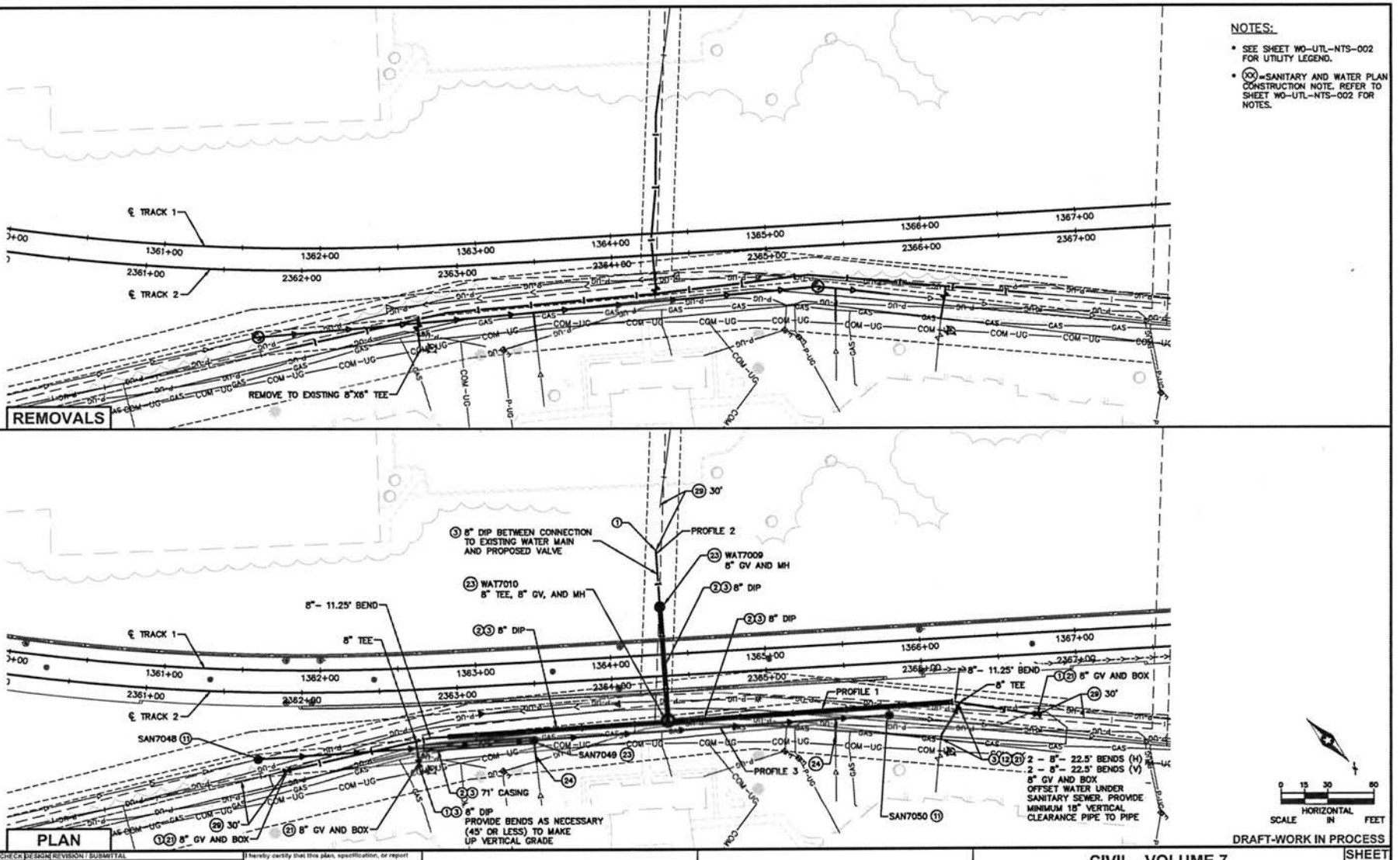

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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.

(PRINT NAME)
DATE: XX/XX/XX LIC. NO.: XXXXX
DESIGNED BY: CHECKED BY:
DRAWN BY: DATE:

AECOM pce

100% IDR SUBMISSION - 03/29/16

METROPOLITAN COUNCIL SOUTHWEST

CIVIL - VOLUME 7
UTILITIES
OPUS HILL 1 OF 2
REMOVALS AND PLAN

DISCIPLINE: UTILITIES
SHEET NAME: W3-UTL-PLN - 008

SHEET 55 OF 214

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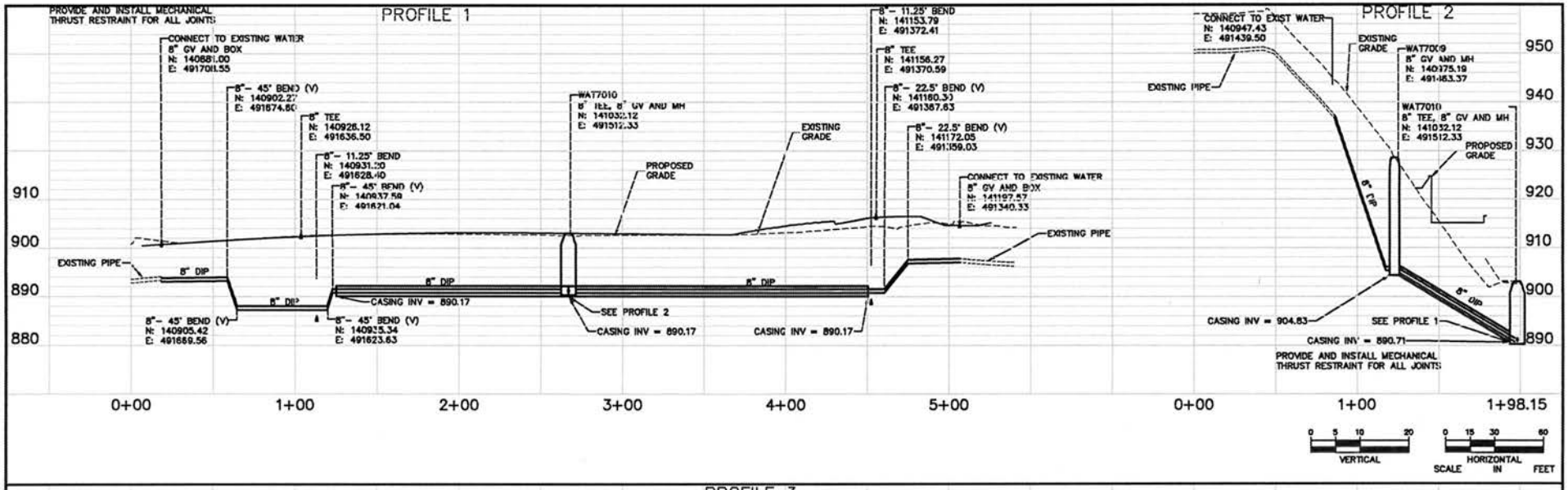

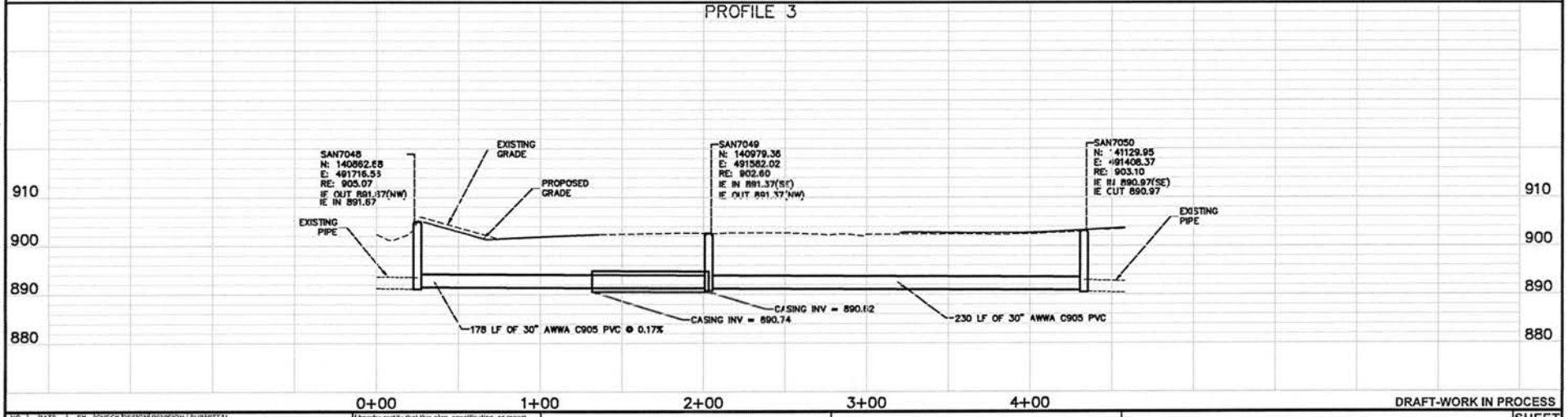

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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.

(PRINT NAME)

DATE: XX/XX/XX LIC. NO.: XXXXX

DESIGNED BY: CHECKED BY:

DRAWN BY: DATE:

AECOM pce

100% IDR SUBMISSION - 03/29/16

METROPOLITAN COUNCIL SOUTHWEST Green Line LRT Extension

CIVIL - VOLUME 7
UTILITIES
OPUS HILL 2 OF 2
PROFILES

DISCIPLINE: UTILITIES

SHEET NAME: W3-UTL-PLN - 009

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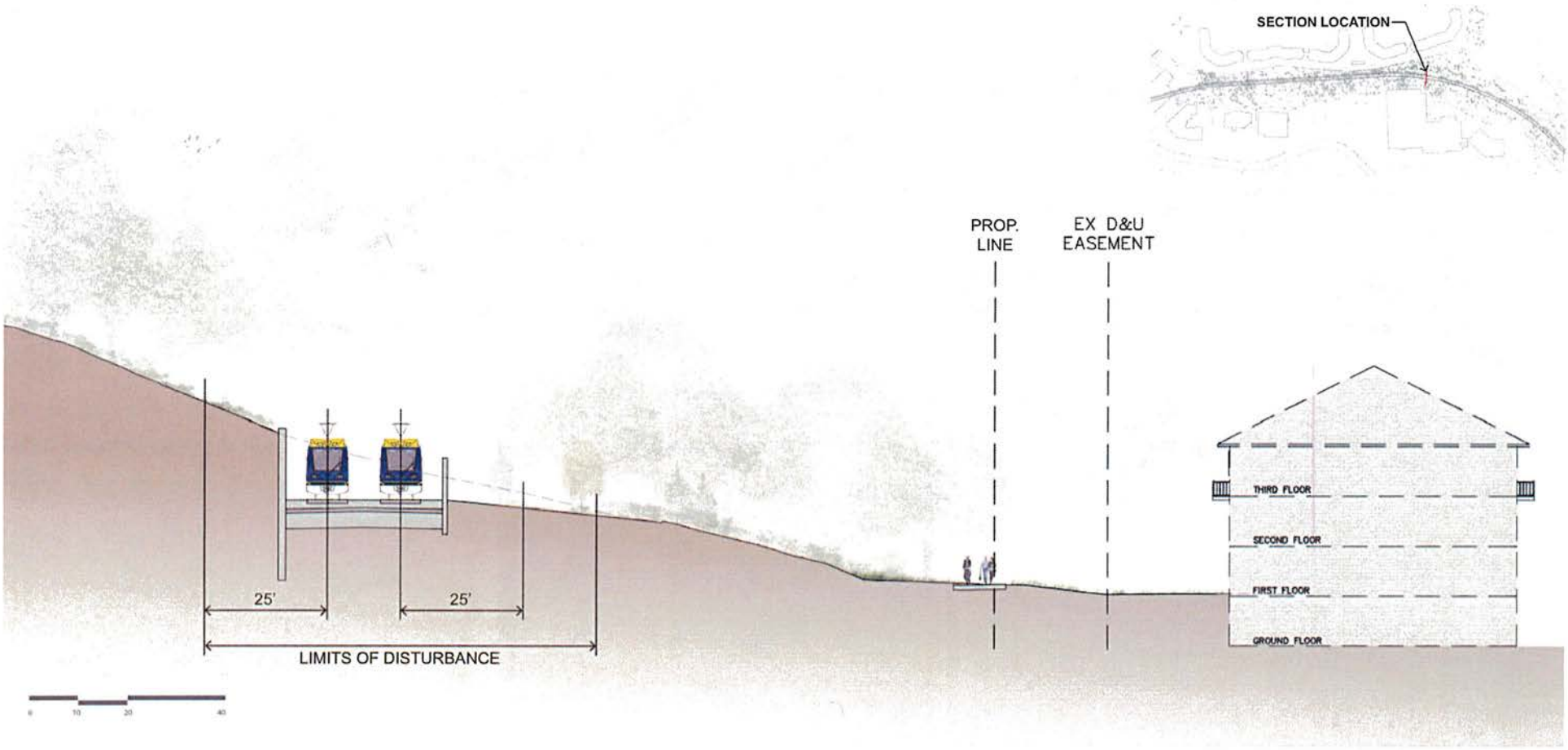
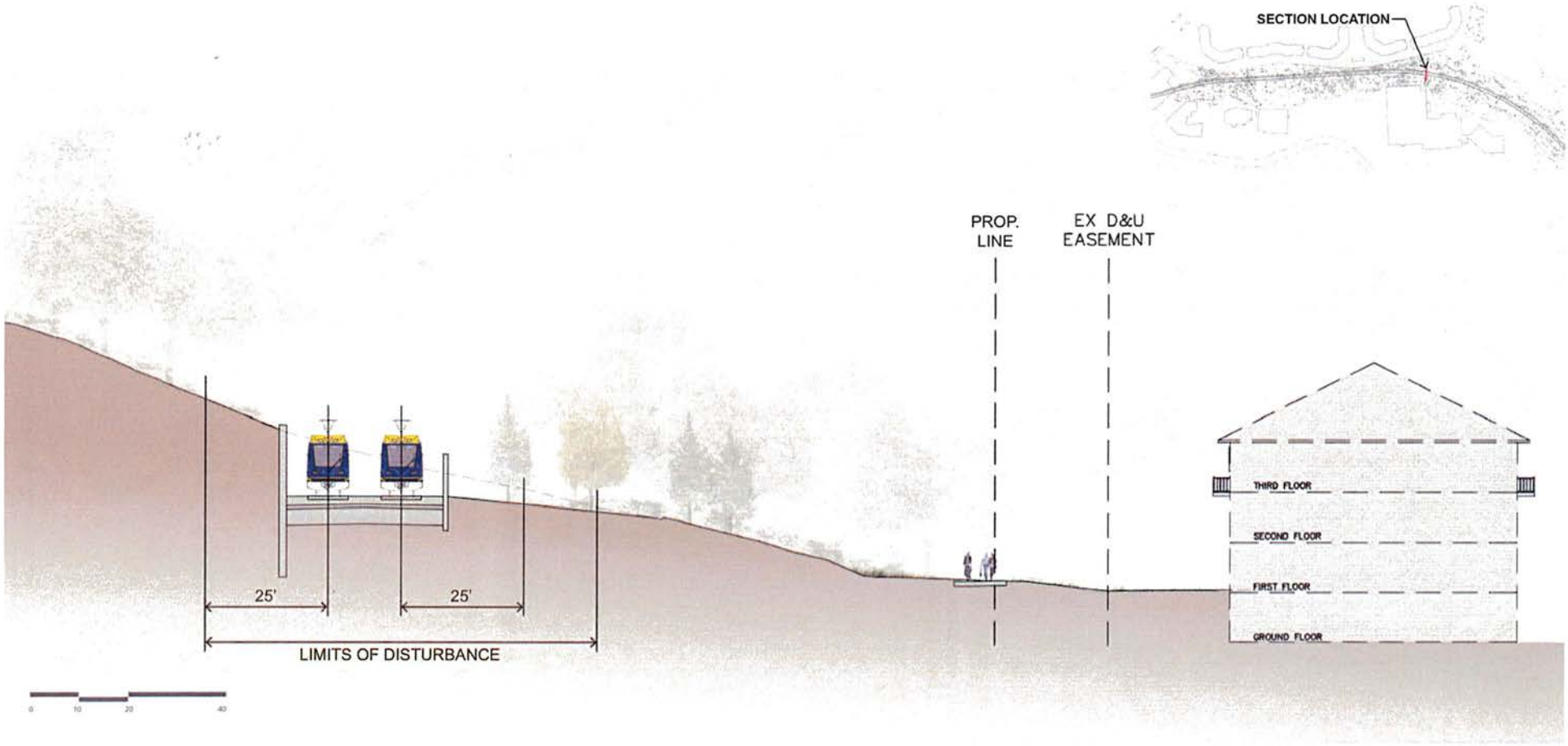


VIEW LOOKING NORTHWEST AT STATION # 2360+00 - AT OPENING DAY

DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016



VIEW LOOKING NORTHWEST AT STATION # 2360+00 - AT YEAR # 10

DRAFT - WORK IN PROCESS

OPUS HILL

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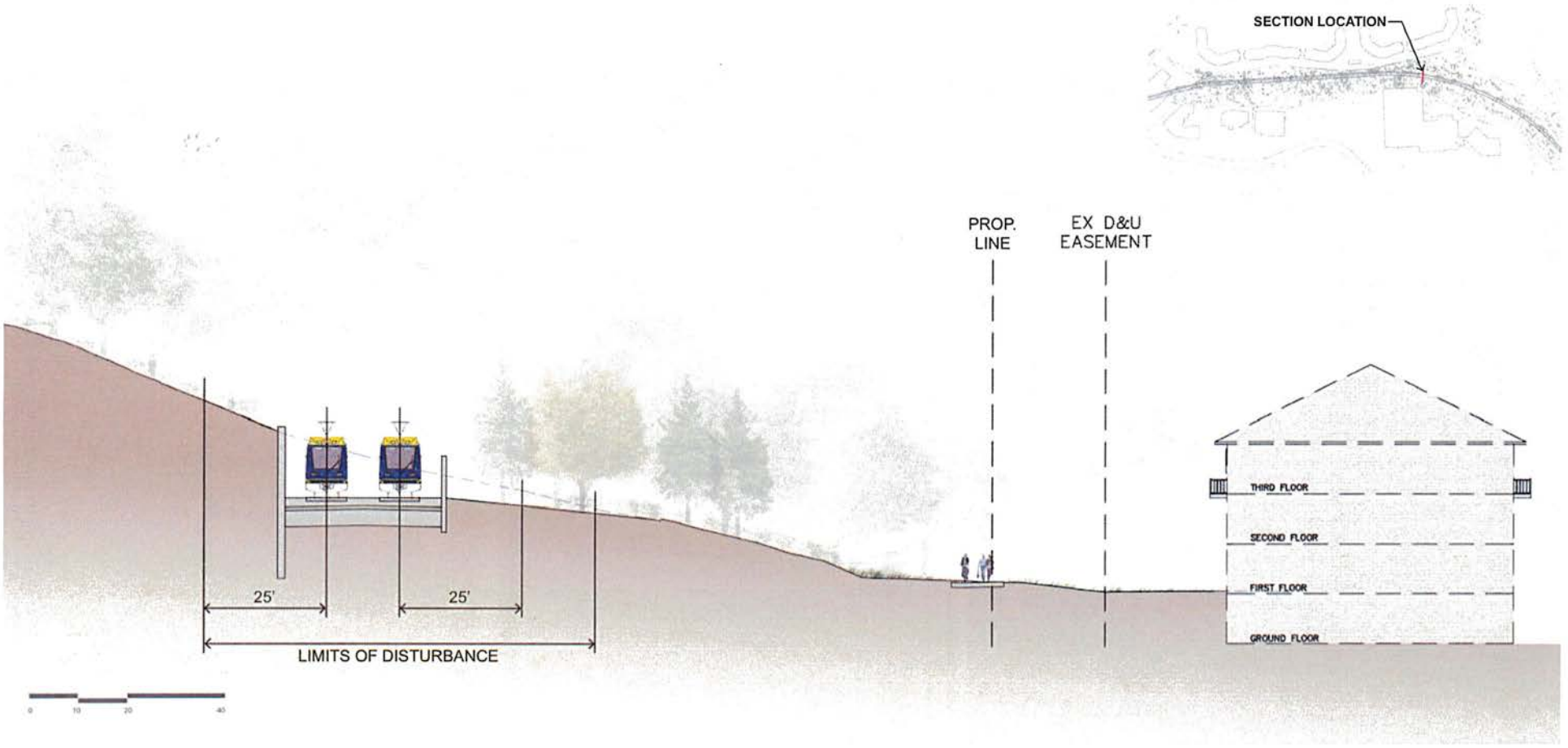

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DRAFT - WORK IN PROCESS

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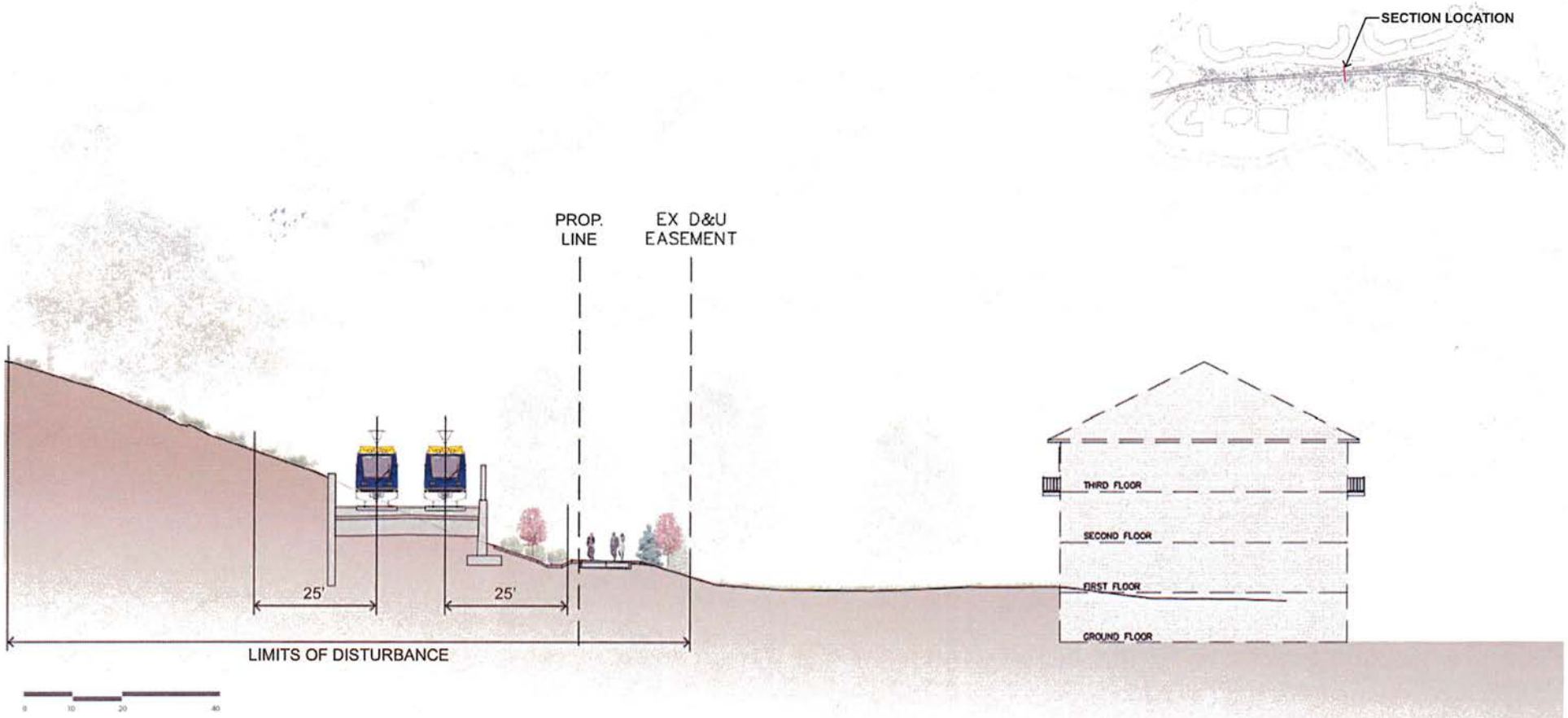
May 6th, 2016



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DRAFT - WORK IN PROCESS

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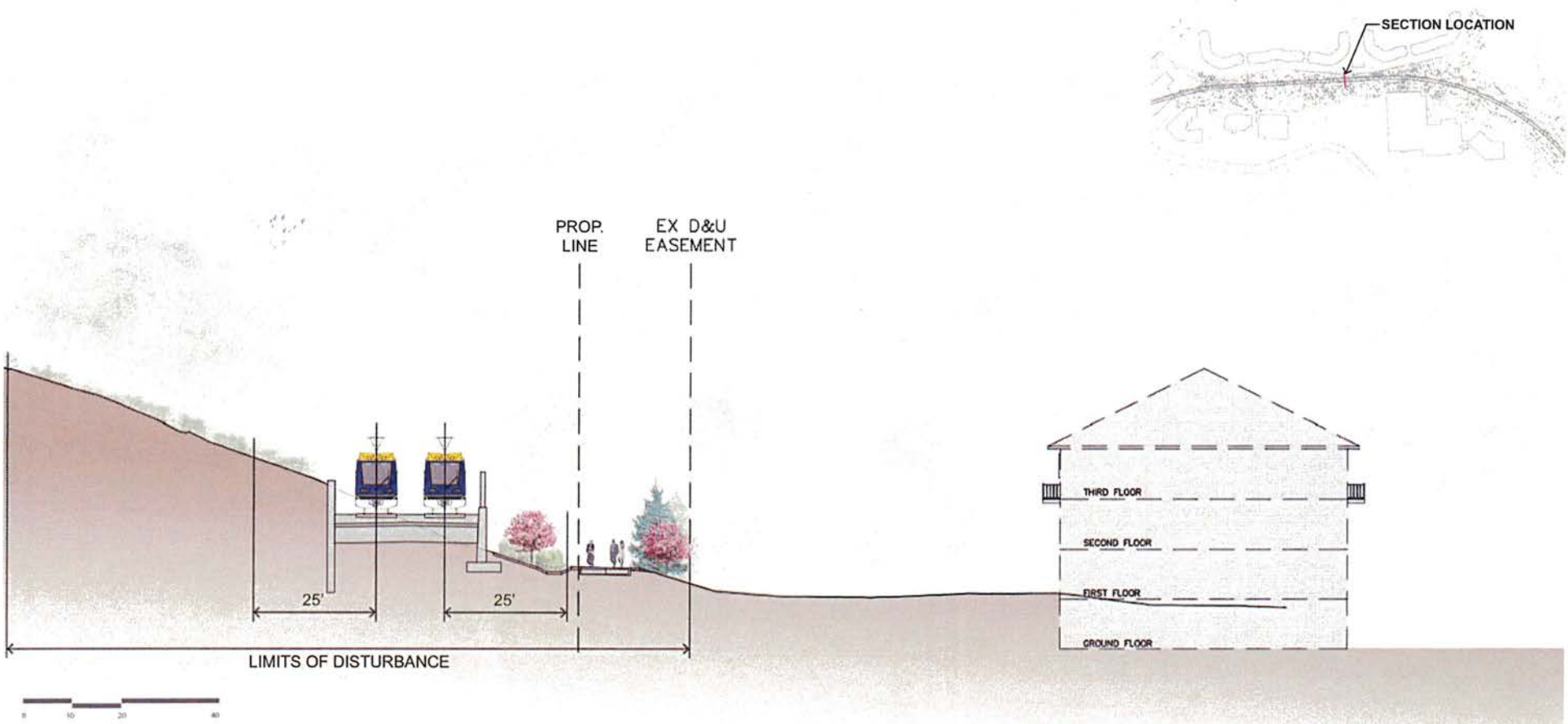
May 6th, 2016



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DRAFT - WORK IN PROCESS

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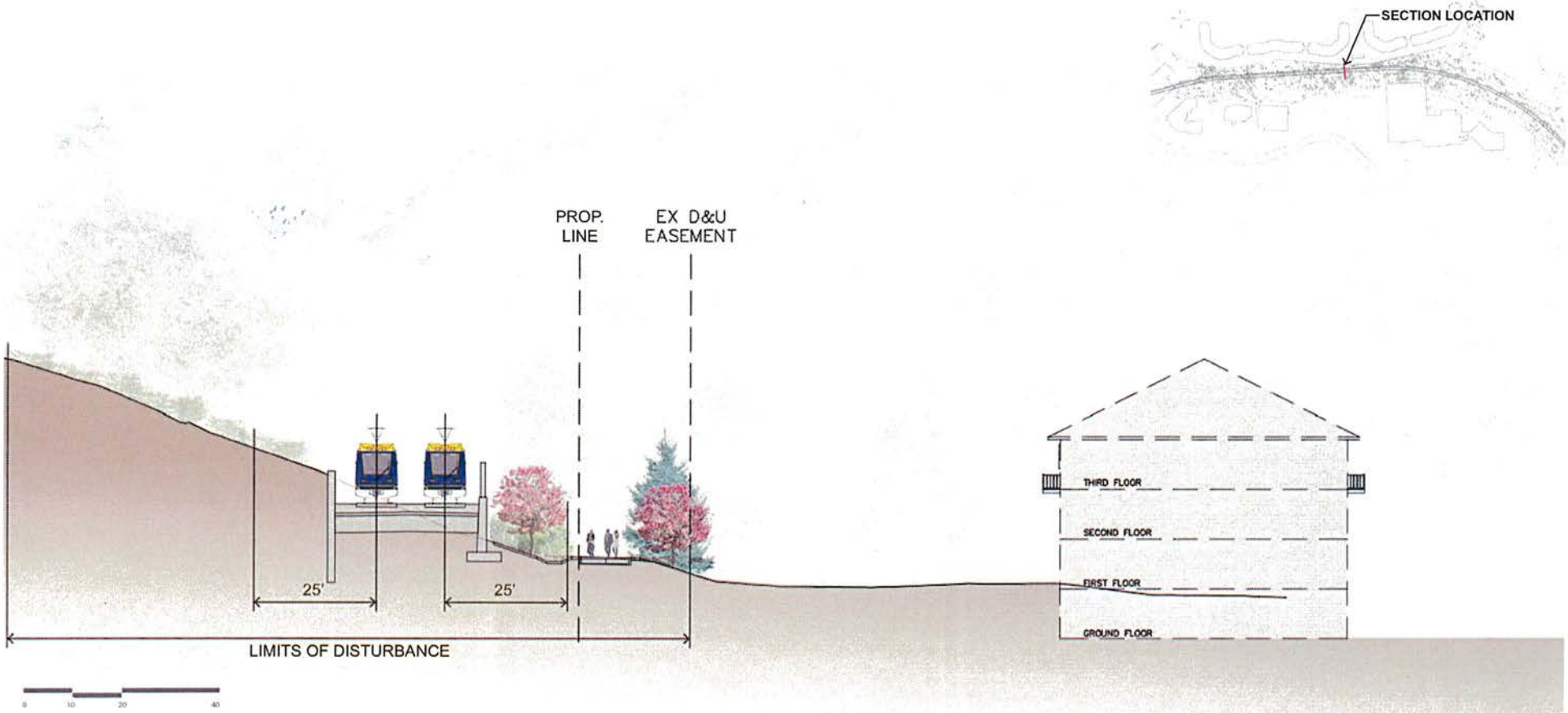
May 6th, 2016



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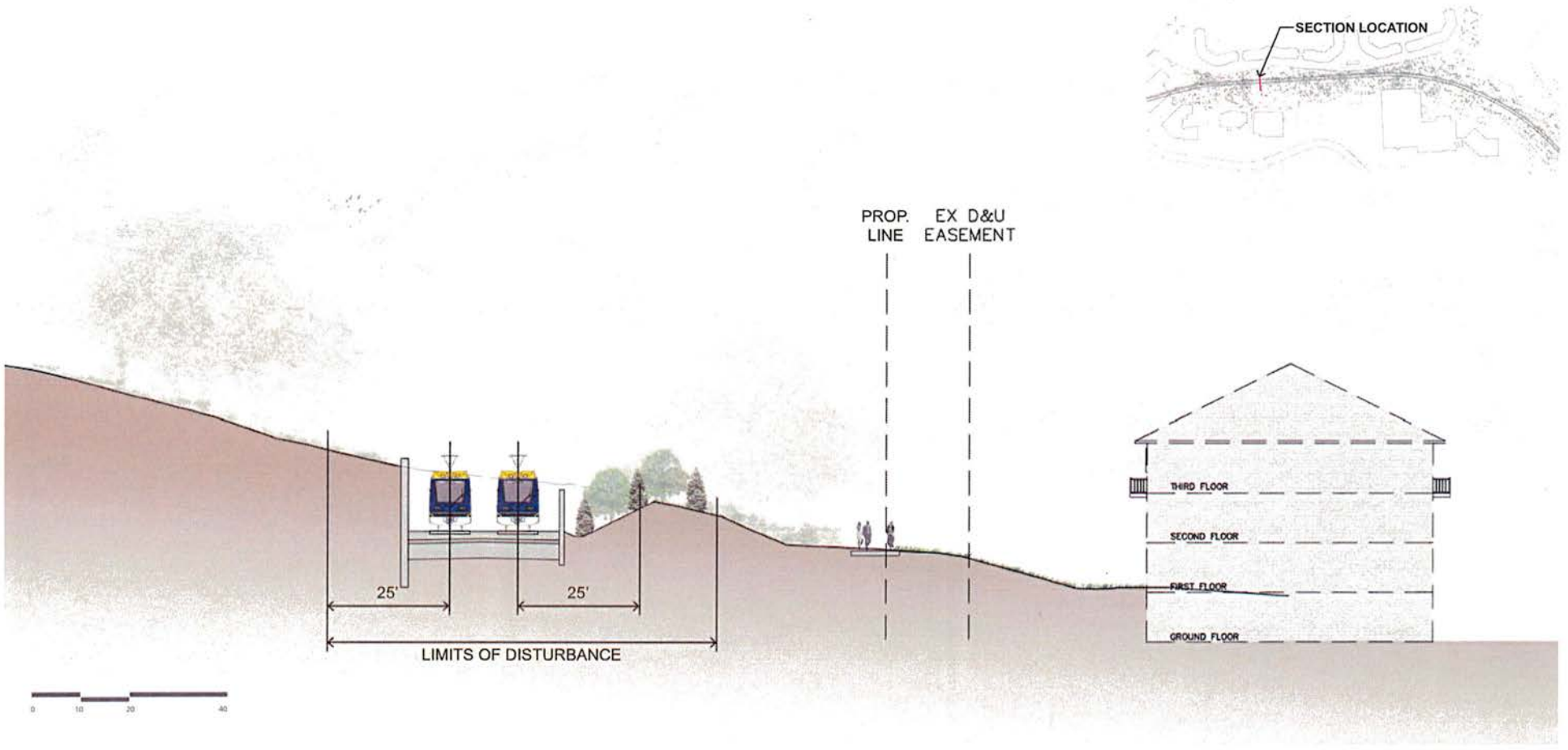
DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016

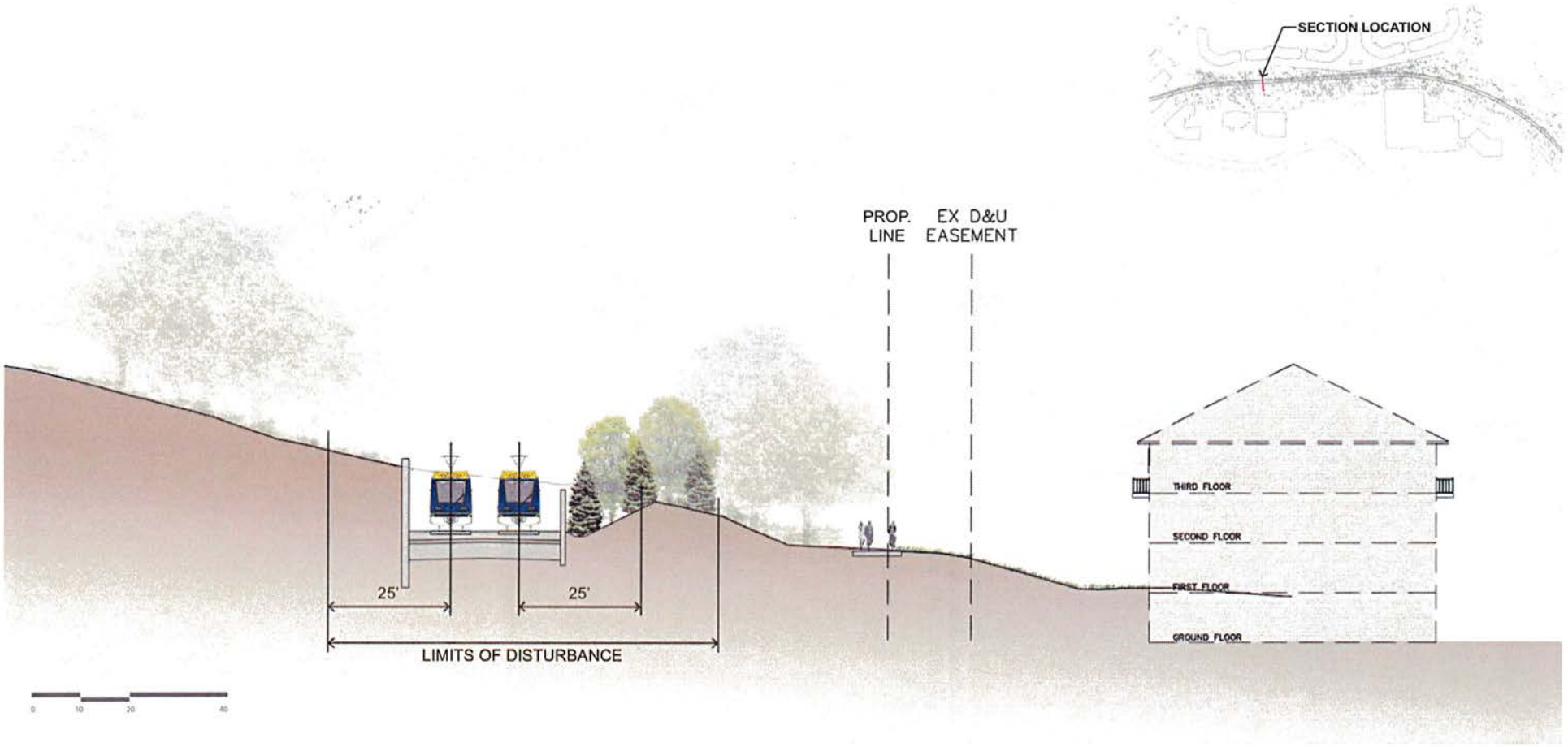


VIEW LOOKING NORTHWEST AT STATION # 2370+00 - AT OPENING DAY

DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016



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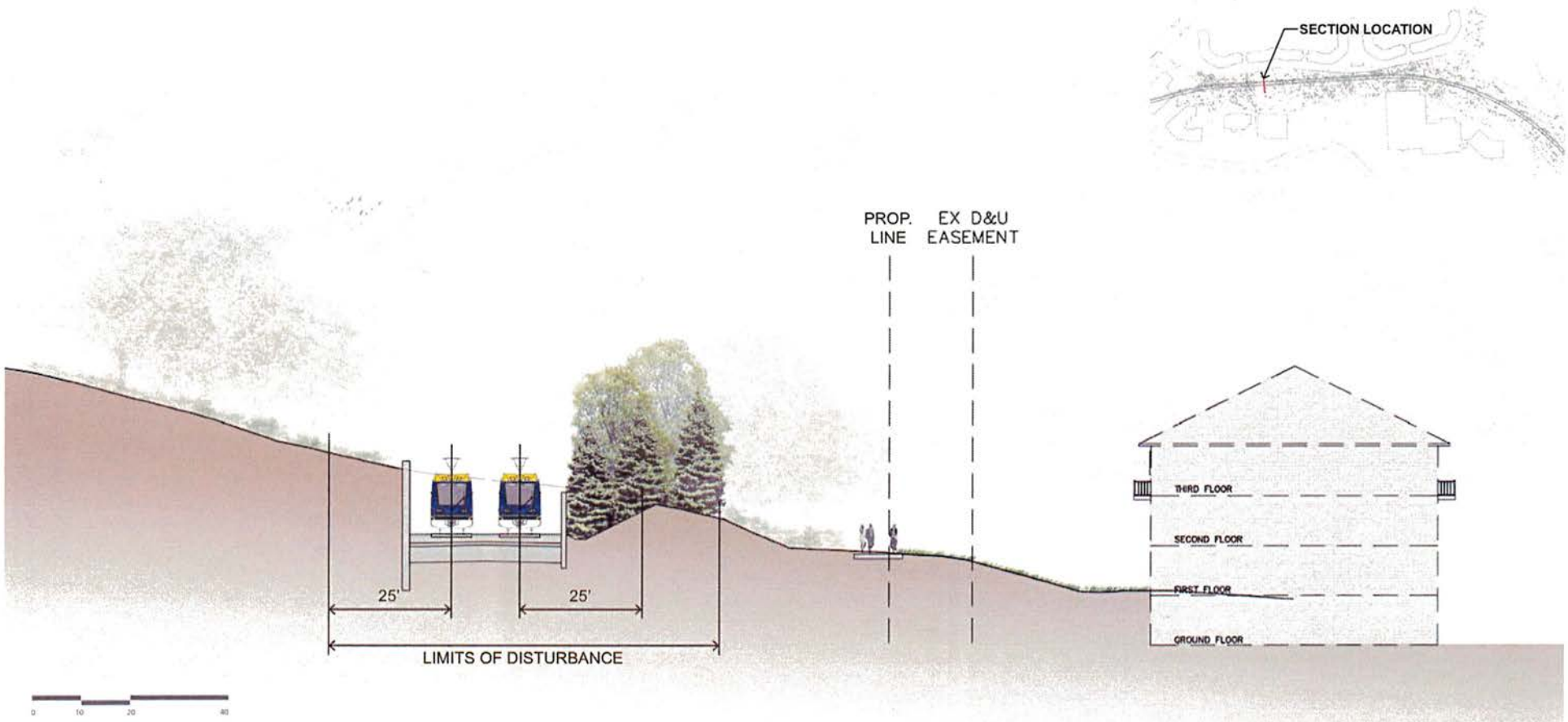
DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016



VIEW LOOKING NORTHWEST AT STATION # 2370+00 - AT MATURITY (YEAR 25)

DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016

ELEVATION LOOKING SOUTH AT STATION # 2365+00 - AT OPENING DAY

DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016

ELEVATION LOOKING SOUTH AT STATION # 2365+00 - AT YEAR #10

DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016

ELEVATION LOOKING SOUTH AT STATION # 2365+00 - AT MATURITY (YEAR 25)

DRAFT - WORK IN PROCESS

OPUS HILL

May 6th, 2016

Ordinance
and
Resolutions

Ordinance No. 2016-

An ordinance removing area from the wetland overlay district to accommodate construction of the Southwest Light Rail Transit line

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The City Of Minnetonka Ordains:

Section 1.

1.01 2.99 acres of wetland are hereby removed from the wetland overlay zoning district. This action is based on the following findings:

1. The removal of the area from the overlay district is required to accommodate construction of that part of the Southwest Light Rail Transit (SWLRT) line located within the City of Minnetonka.

2. The removal of the area would not compromise the public health, safety, and welfare.

3. The removal of area would be consistent with the intent of the code and the comprehensive plan.

    a) The SWLRT line will provide a transportation alternative to residents, employees, and visitors to the region and, as such, contribute toward the greater public good.

    b) The area removed from the overlay district will be mitigated through purchase of a compensatory amount and value of wetland banking credits.

Section 2.

2.01 The areas to be removed from the overlay district are depicted on Exhibit A of this resolution.

Section 3.

3.01 This ordinance is effective immediately.

Adopted by the city council of the City of Minnetonka, Minnesota, on August 22, 2016.

_____
Terry Schneider, Mayor

ATTEST:

_____
David E. Maeda, City Clerk

ACTION ON THIS ORDINANCE:

Date of introduction: August 8, 2016
Date of adoption: August 22, 2016
Motion for adoption:
Seconded by:
Voted in favor of:
Voted against:
Abstained:
Absent:
Ordinance adopted.

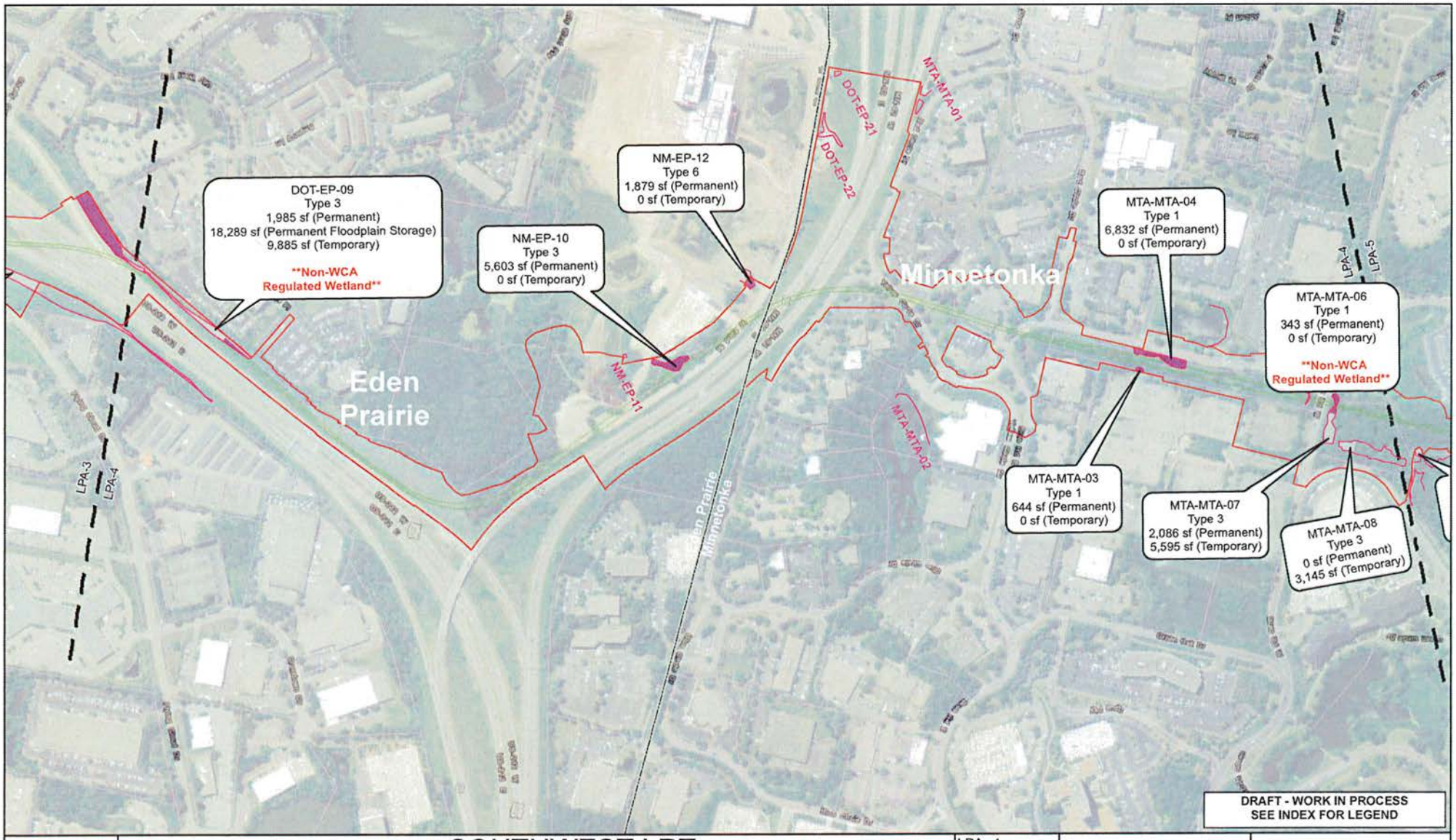
Date of publication:

I certify that the foregoing is a correct copy of an ordinance adopted by the city council of the City of Minnetonka, Minnesota at a regular meeting held on August 22, 2016.

_____
David E. Maeda, City Clerk

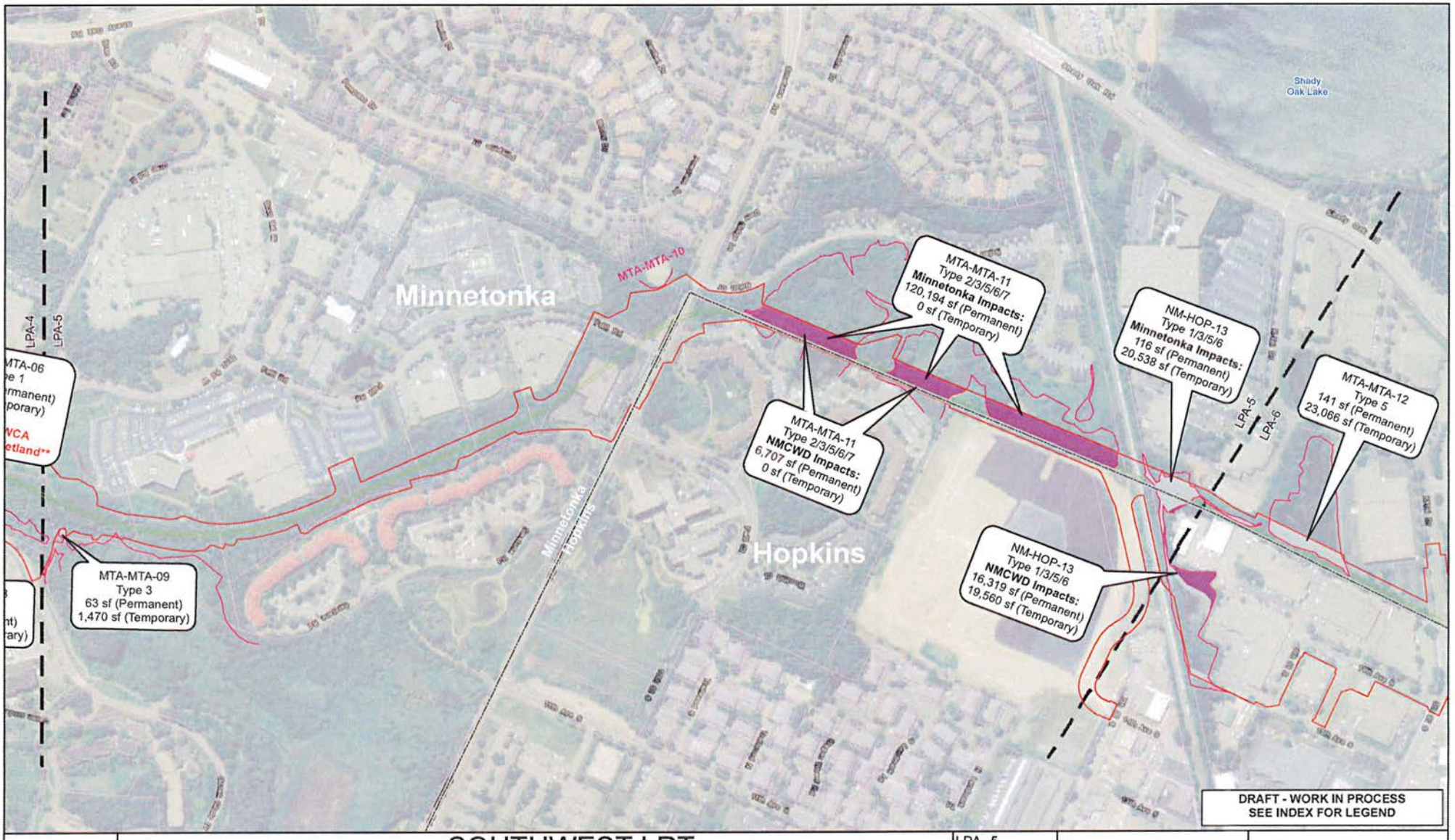
Date:

Exhibit A



SOUTHWEST	SOUTHWEST LRT WCA Regulated Aquatic Resource Impacts MapBook	LPA- 4 Rev 00.00 4/6/2016 Sheet 4 of 15	0 100 200 400 Scale	METROPOLITAN COUNCIL

Exhibit A



SOUTHWEST	SOUTHWEST LRT WCA Regulated Aquatic Resource Impacts MapBook	LPA- 5 Rev 00.00 4/6/2016 Sheet 5 of 15	0 100 200 400 Scale	METROPOLITAN COUNCIL

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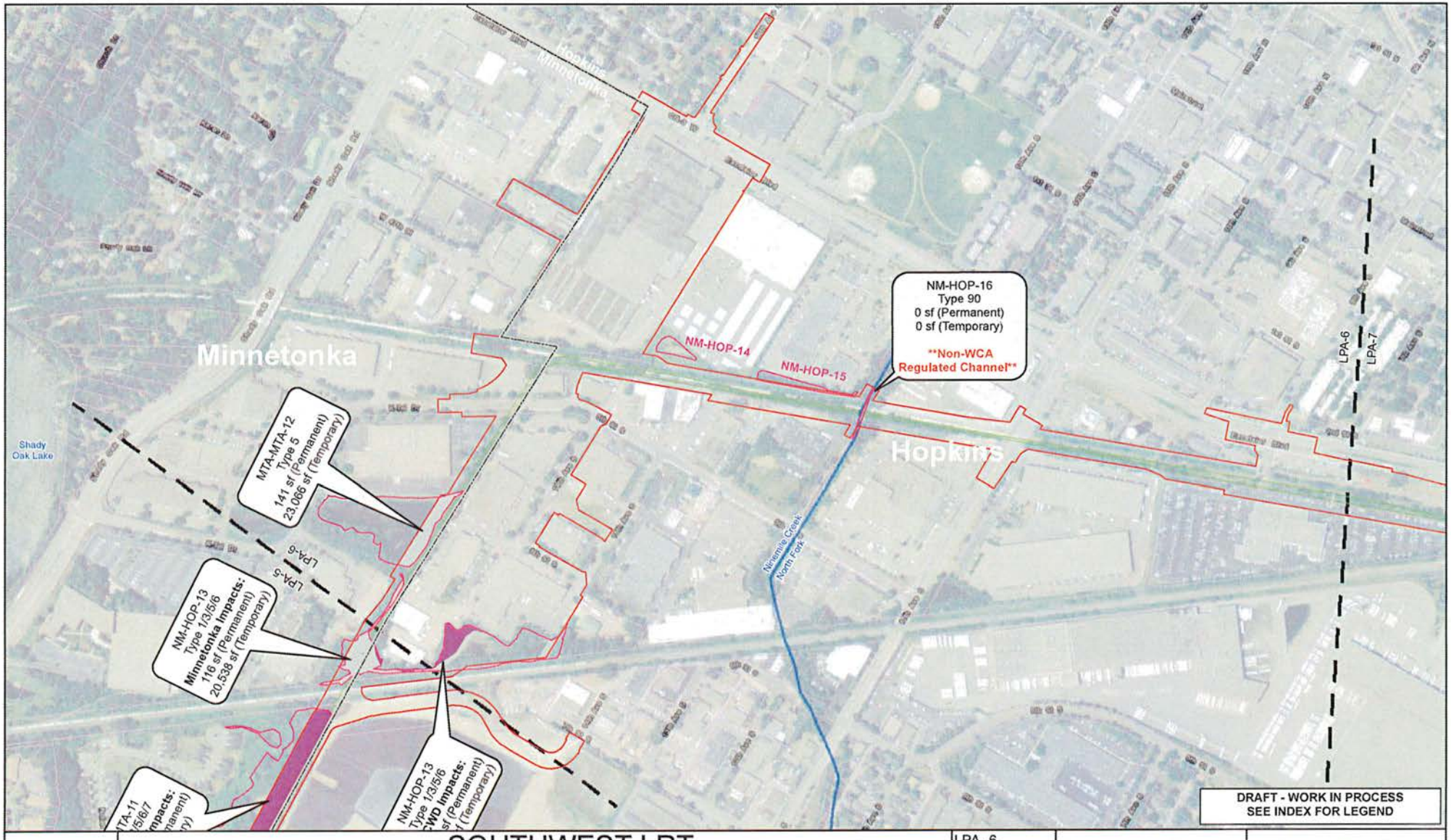

SOUTHWEST	SOUTHWEST LRT WCA Regulated Aquatic Resource Impacts MapBook	LPA- 6 Rev 00.00 4/6/2016 Sheet 6 of 15	0 100 200 400 Scale	METROPOLITAN COUNCIL

Resolution No. 2016-

Resolution approving a wetland and floodplain alteration permit to accommodate construction of the Southwest Light Rail Transit line

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Be it resolved by the City Council of the City of Minnetonka, Minnesota, as follows:

Section 1. Background.

1.01 To accommodate construction of that part of the Southwest Light Rail Transit (SWLRT) line located within the City of Minnetonka, the following alteration will occur:

- Temporary alteration of 1.24 acres of wetland;
- 1,180 cubic yards of 100-year floodplain fill; and
- 1,582 cubic yards of 100-year floodplain excavation/creation.

1.02 The areas to be altered are depicted on Exhibit A of this resolution.

1.03 On August 4, 2016, the planning commission held a hearing on the proposed alteration. The commission considered all of the comments received and the staff report, which are incorporated by reference into this resolution. The commission recommended the city council approve the permit and wetland replacement plan.

Section 2. General Standards.

2.01 By City Code §300.23 Subd.10(c), alteration of land within a wetland overlay district will only be allowed if the wetland and its buffer are provided in an amount compensatory to that being altered and that, unless otherwise approved by the city council, compensatory wetland area and its buffer is provided within the same subwatershed district as the wetland being altered.

2.02 City Code §300.23 Subd.10(d), states that in determining the appropriateness of wetland alteration, the city will consider certain factors

including but not limited to the size of the total watershed district, the magnitude of the area proposed for alteration, the impact on the overall function and value of the wetland and such other factors that provide the maximum feasible protection to wetlands. These factors are incorporated by reference into this resolution.

2.03 City Code §300.24 Subd. 9(c), states that in reviewing floodplain alteration permits, the city will consider whether certain general standards are met. These standards are incorporated by reference into this resolution.

2.04 City Code §300.24 Subd. 9(d), states that an alteration permit will not be granted unless certain specific standards are met. These standards are incorporated by reference into this resolution.

Section 3. Findings.

3.01 The proposed wetland alteration would meet the intent of City Code §300.23 Subd.10. Approximately 1.24 acres of wetland will be altered, and per the Minnesota Interagency Water Resource Application dated May 6, 2016, a detailed restoration and monitoring plan for each temporary impact location will be submitted for review and approval of the city prior to construction. This restoration and monitoring plan will ensure that the functions and values of the wetlands will be restored to the pre-project conditions.

3.02 The proposed floodplain alteration would meet the general standards outlined in City Code §300.24 Subd. 9(c):

1. The alteration area would be relatively small given the large floodplain area within the transit corridor.

2. The alteration would not increase buildable area of properties.

3. The alteration would not negatively impact the hydrology of the floodplain, given the small area of fill relative to the larger area.

4. The floodplain mitigation area would not negatively impact adjacent properties.

5. The alteration would meet the intent of the city's water resources management plan and the zoning ordinances.

6. The alteration would not adversely impact governmental facilities, utilities, services or existing or proposed public improvements.

7. The alteration would not have an undue adverse impact on the public health, safety or welfare.

3.03 The proposed floodplain alteration would meet the specific standards outlined in City Code §300.24 Subd. 9(d):

1. Adequate water storage would be maintained and provided in an amount at least equal to that filled.

2. No floodplain would be filled for the purpose of creating buildable area.

3.04 A Technical Evaluation Panel (TEP) has evaluated the proposed wetland alterations and the TEP found the temporary impacts and proposed restoration to be acceptable.

3.05 The Federal Transit Authority has issued a Record of Decision finding that as designed the SWLRT line complies with all relevant federal environmental requirements.

Section 4. City Council Action.

4.01 The above described wetland and floodplain alteration permit is hereby approved based on the findings outlined in section 3 of this resolution.

4.02 Approval is subject to the following conditions:

1. Subject to staff approval, the alteration must occur in substantial conformance with Exhibit A of this resolution and as described in the Minnesota Interagency Water Resource Application dated May 6, 2016.

2. Metro Transit must provide wetland monitoring reports, annually, for a period of five years or until the city accepts the restored wetlands as complying with the functions and values of pre-project conditions.

3. A construction permit is required. The permit will encompass right-of-way work, utility work, grading and erosion control, and physical construction of the rail line and appurtenance. No site work is allowed prior to issuance of this permit.

4. Prior to issuance of a construction permit:

a) The SWLRT project must receive funding approval.

b) Negotiated application fees must be paid.

c) Acceptable ownership information and maintenance and operations agreements for all SWLRT property and infrastructure with Minnetonka must be submitted for staff review.

5. This approval will expire on December 31, 2017 unless a construction permit has been issued or the city has received and approved a request for extension of this approval.

Adopted by the City Council of the City of Minnetonka, Minnesota, on August 22, 2016.

_____

Terry Schneider, Mayor

Attest:

_____

David E. Maeda, City Clerk

Action on this resolution:

Motion for adoption:
Seconded by:
Voted in favor of:
Voted against:
Abstained:
Absent:
Resolution adopted.

I hereby certify that the foregoing is a true and correct copy of a resolution adopted by the City Council of the City of Minnetonka, Minnesota, at a duly authorized meeting held on August 22, 2016.

_____

David E. Maeda, City Clerk

Exhibit A

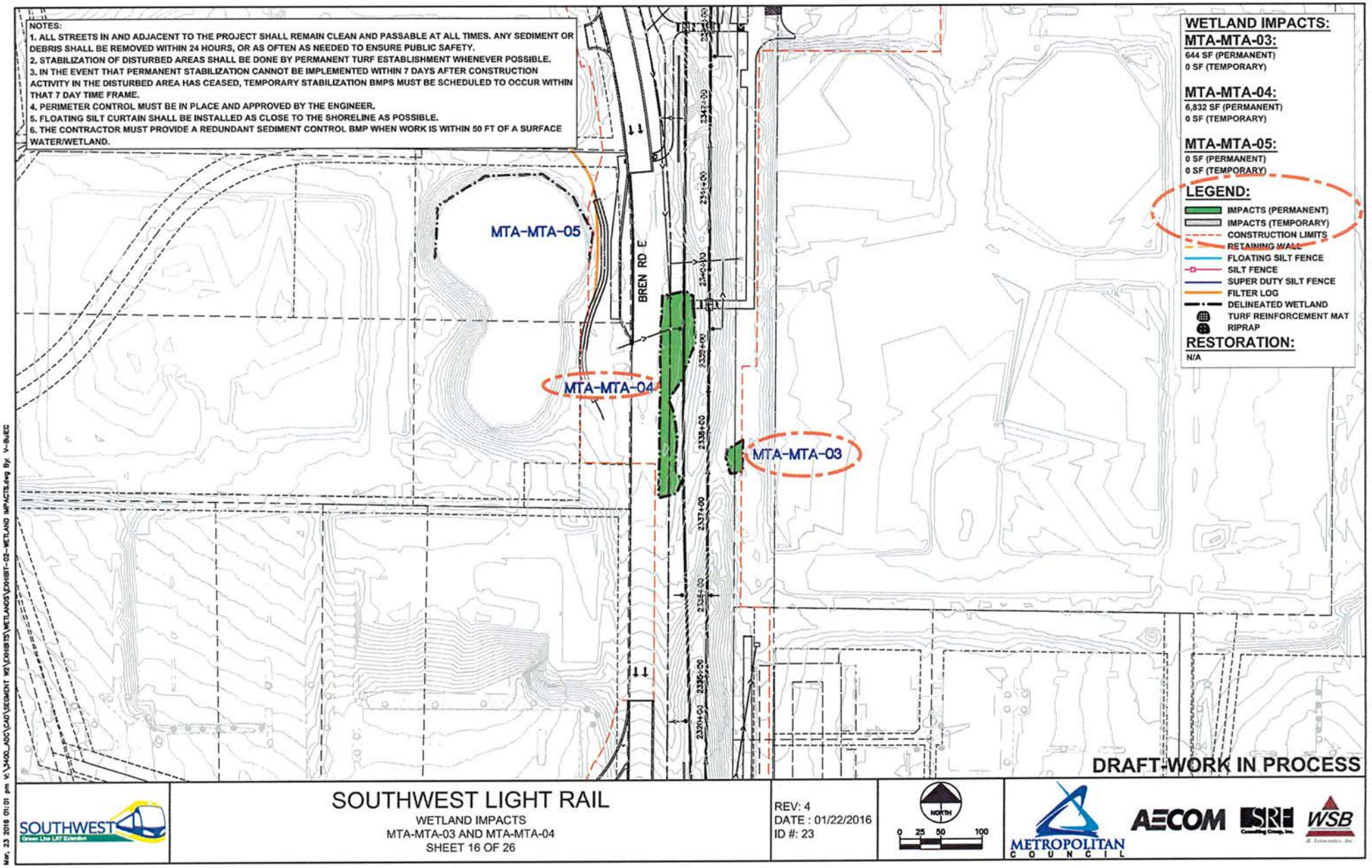
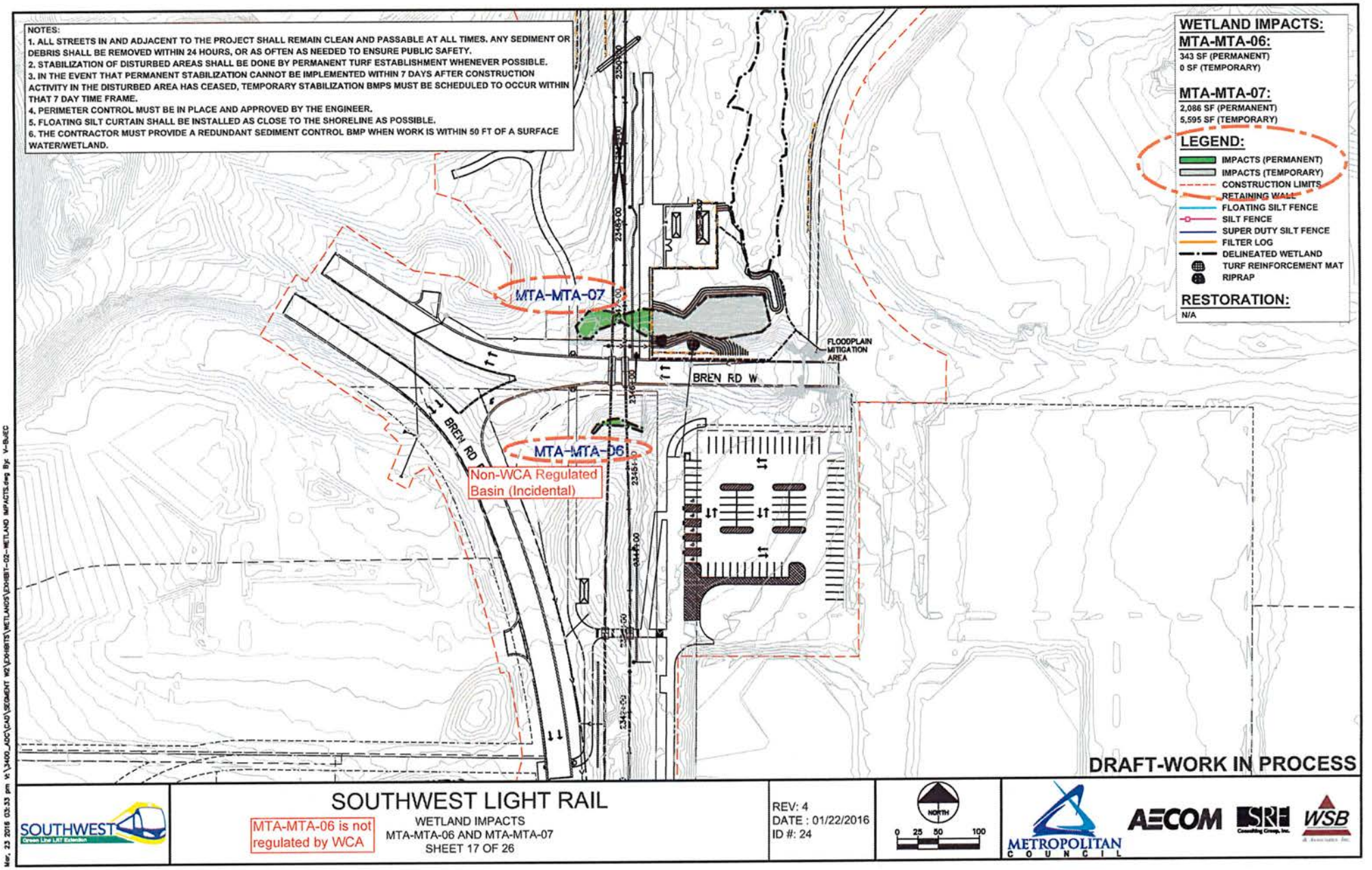

NOTES:
1. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ANY SEDIMENT OR DEBRIS SHALL BE REMOVED WITHIN 24 HOURS, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
2. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
3. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME.
4. PERIMETER CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER.
5. FLOATING SILT CURTAIN SHALL BE INSTALLED AS CLOSE TO THE SHORELINE AS POSSIBLE.
6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
MTA-MTA-03:
644 SF (PERMANENT)
0 SF (TEMPORARY)
MTA-MTA-04:
6,832 SF (PERMANENT)
0 SF (TEMPORARY)
MTA-MTA-05:
0 SF (PERMANENT)
0 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
SUPER DUTY SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
N/A
MTA-MTA-05
MTA-MTA-04
MTA-MTA-03
BREN RD E
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACTS
MTA-MTA-03 AND MTA-MTA-04
SHEET 16 OF 26
REV: 4
DATE : 01/22/2016
ID #: 23
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF
WSB

Exhibit A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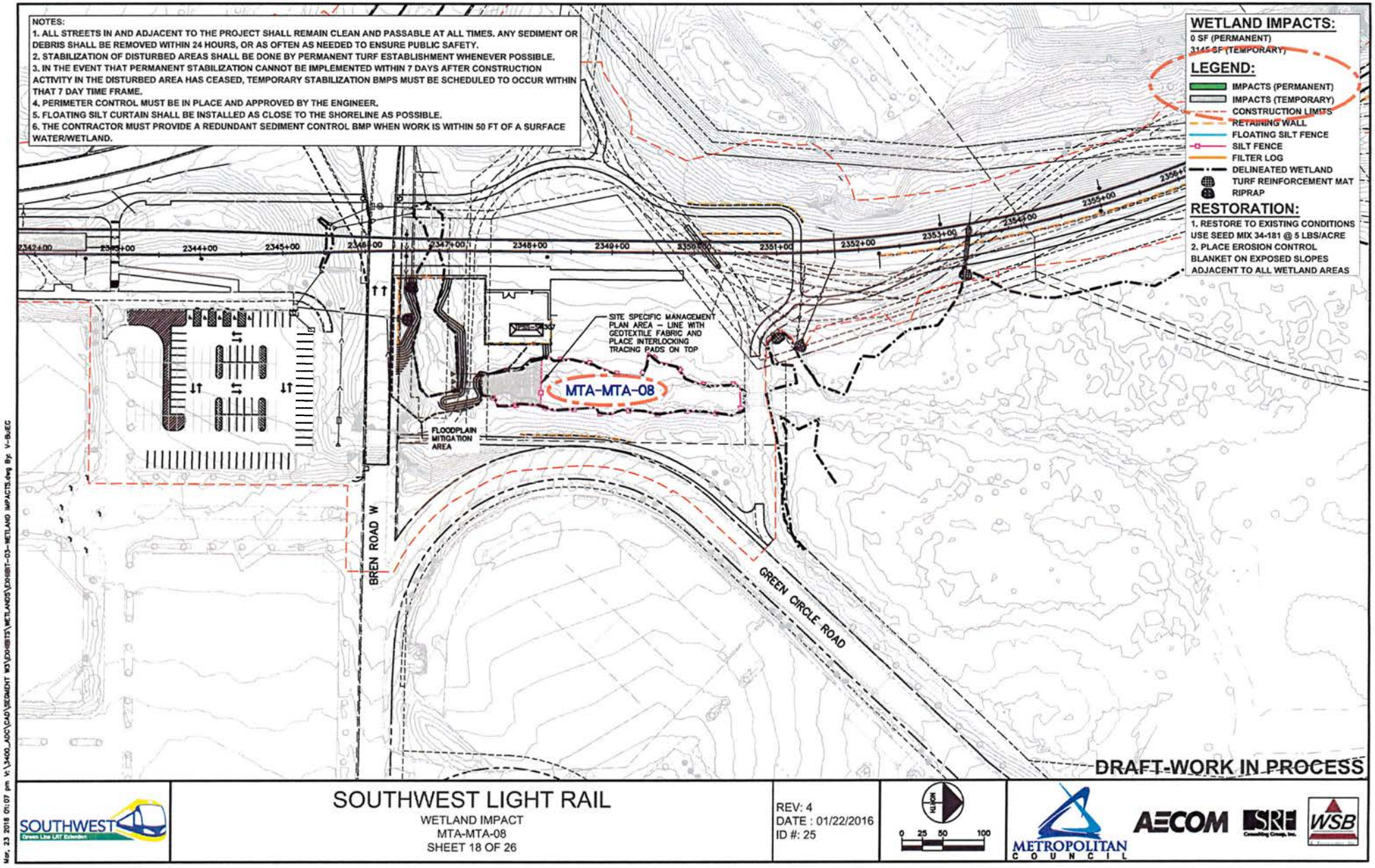
WETLAND IMPACTS:
MTA-MTA-06:
343 SF (PERMANENT)
0 SF (TEMPORARY)
MTA-MTA-07:
2,086 SF (PERMANENT)
5,595 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
SUPER DUTY SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
N/A
MTA-MTA-07
MTA-MTA-06
Non-WCA Regulated Basin (Incidental)
FLOODPLAIN MITIGATION AREA
BREN RD W
BREN RD
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
MTA-MTA-06 is not regulated by WCA
WETLAND IMPACTS
MTA-MTA-06 AND MTA-MTA-07
SHEET 17 OF 26
REV: 4
DATE : 01/22/2016
ID #: 24
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF Consulting Group, Inc.
WSB

Exhibit A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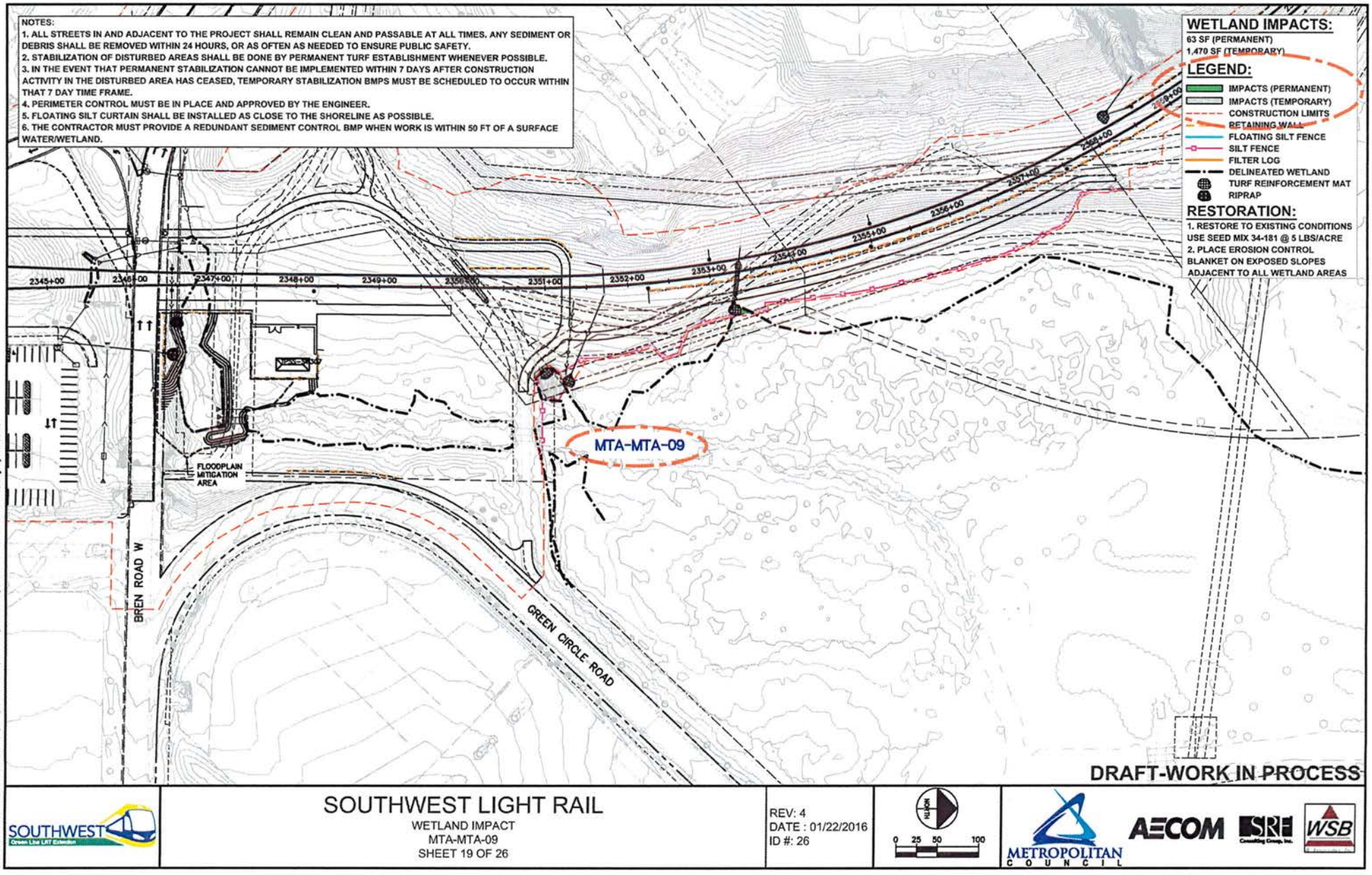
WETLAND IMPACTS:
0 SF (PERMANENT)
3145 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
2342+00
2343+00
2344+00
2345+00
2346+00
2347+00
2348+00
2349+00
2350+00
2351+00
2352+00
2353+00
2354+00
2355+00
SITE SPECIFIC MANAGEMENT PLAN AREA – LINE WITH GEOTEXTILE FABRIC AND PLACE INTERLOCKING TRACING PADS ON TOP
MTA-MTA-08
FLOODPLAIN MITIGATION AREA
BREN ROAD W
GREEN CIRCLE ROAD
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-08
SHEET 18 OF 26
REV: 4
DATE : 01/22/2016
ID #: 25
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF Consulting Group, Inc.
WSB
Mar, 23 2016 01:07 pm V:\3400_ADC\CAD\SEDIMENT WS\EXHIBITS\WETLANDS\EXHIBIT-03-WETLAND IMPACTS.dwg By: V-BuEC

Exhibit A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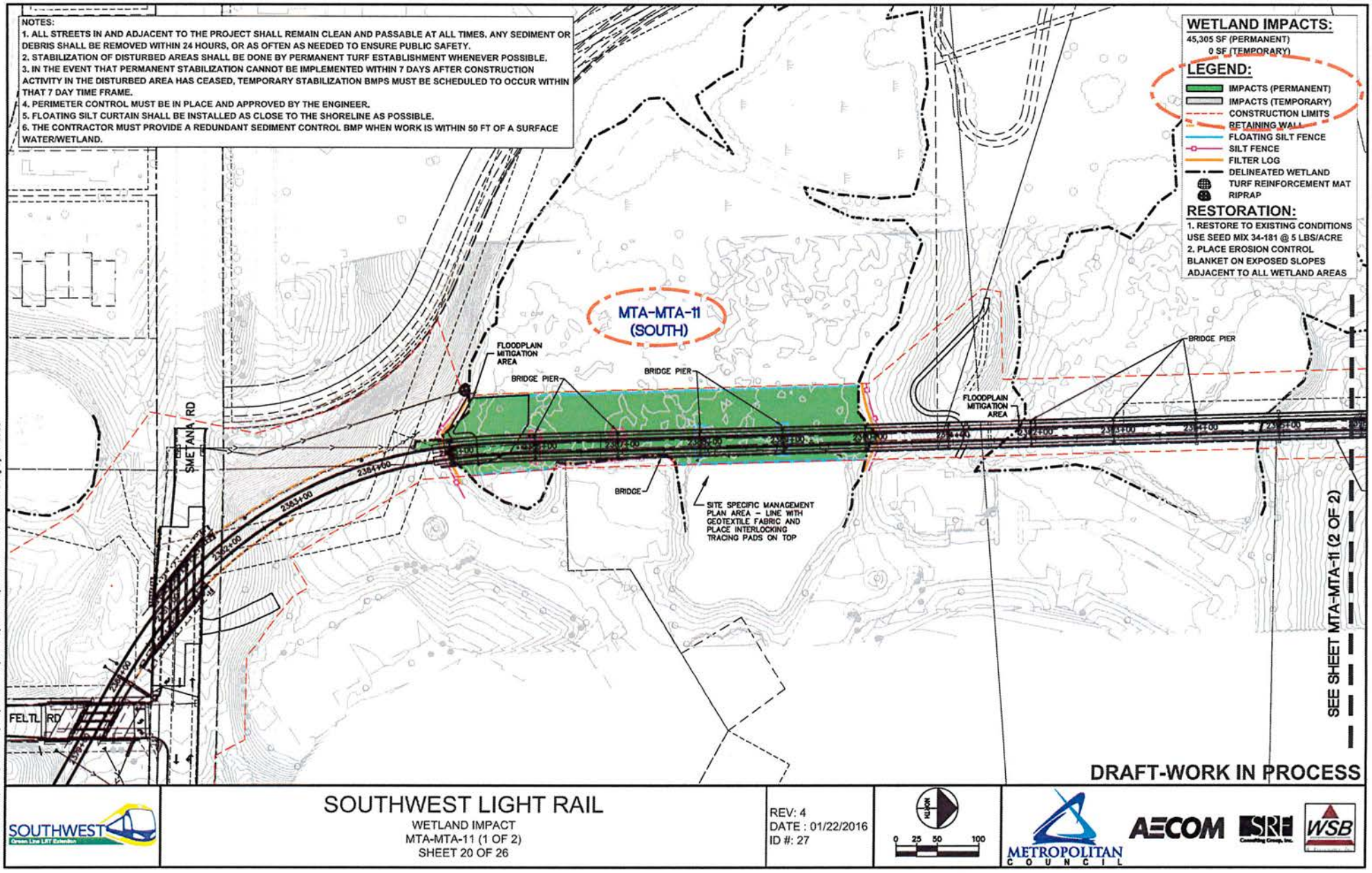
6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
63 SF (PERMANENT)
1,470 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
2345+00
2346+00
2347+00
2348+00
2349+00
2350+00
2351+00
2352+00
2353+00
2354+00
2355+00
2356+00
2357+00
2358+00
MTA-MTA-09
FLOODPLAIN MITIGATION AREA
BREN ROAD W
GREEN CIRCLE ROAD
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-09
SHEET 19 OF 26
REV: 4
DATE : 01/22/2016
ID #: 26
NILSON
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF Consulting Group, Inc.
WSB
Mar, 23 2016 01:08 pm V:\3400_ADC\CAD\SEGMENT #3\EXHIBITS\WETLANDS\EXHIBIT-03-WETLAND IMPACTS.dwg By: V-BuEC

Exhibit A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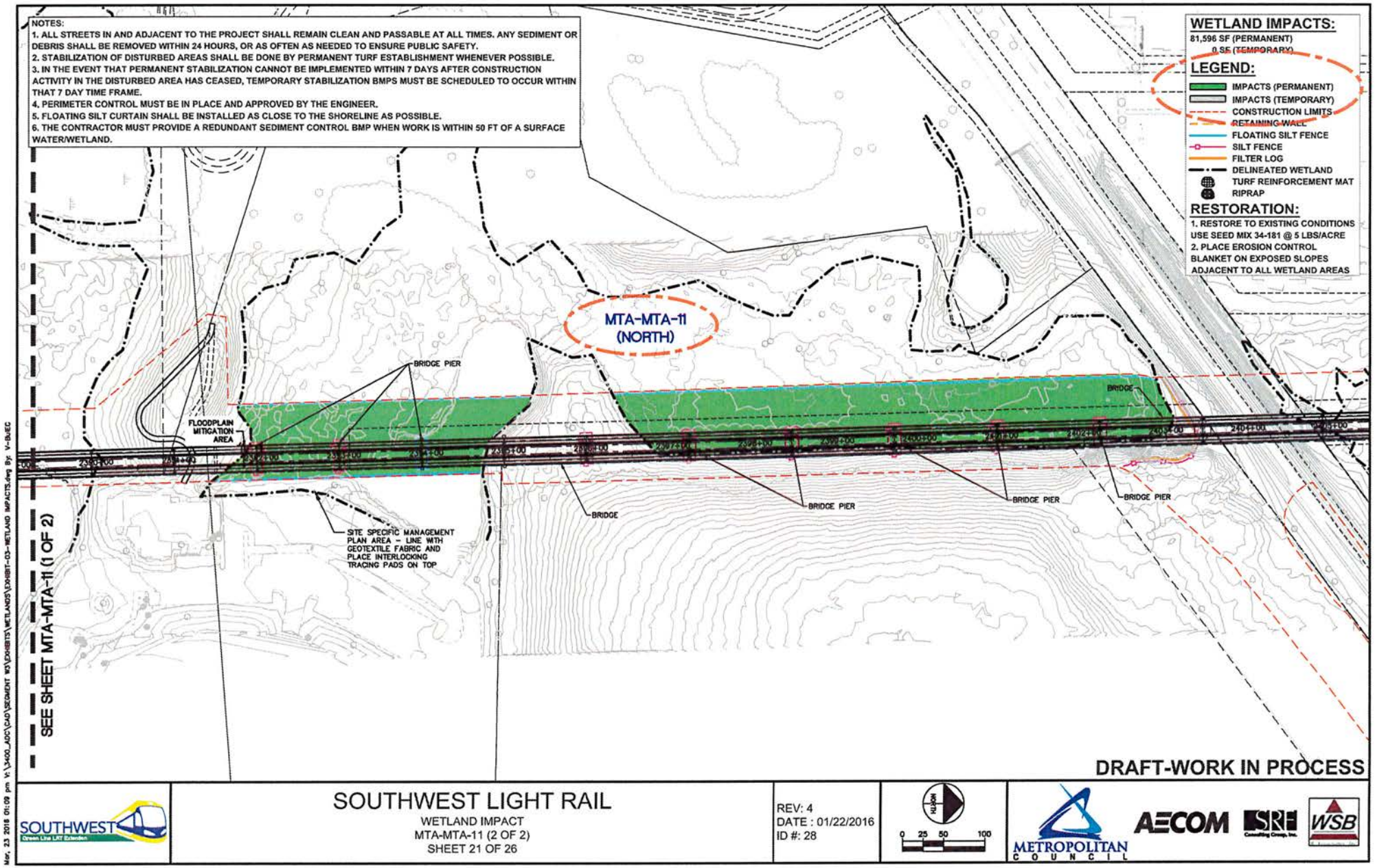
WETLAND IMPACTS:
45,305 SF (PERMANENT)
0 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
MTA-MTA-11 (SOUTH)
FLOODPLAIN MITIGATION AREA
BRIDGE PIER
BRIDGE PIER
BRIDGE PIER
FLOODPLAIN MITIGATION AREA
BRIDGE
SITE SPECIFIC MANAGEMENT PLAN AREA – LINE WITH GEOTEXTILE FABRIC AND PLACE INTERLOCKING TRACING PADS ON TOP
SMETANA RD
FELTL RD
SEE SHEET MTA-MTA-11 (2 OF 2)
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-11 (1 OF 2)
SHEET 20 OF 26
REV: 4
DATE : 01/22/2016
ID #: 27
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF Consulting Group, Inc.
WSB

Exhibit A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WETLAND IMPACTS:
81,596 SF (PERMANENT)
0 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
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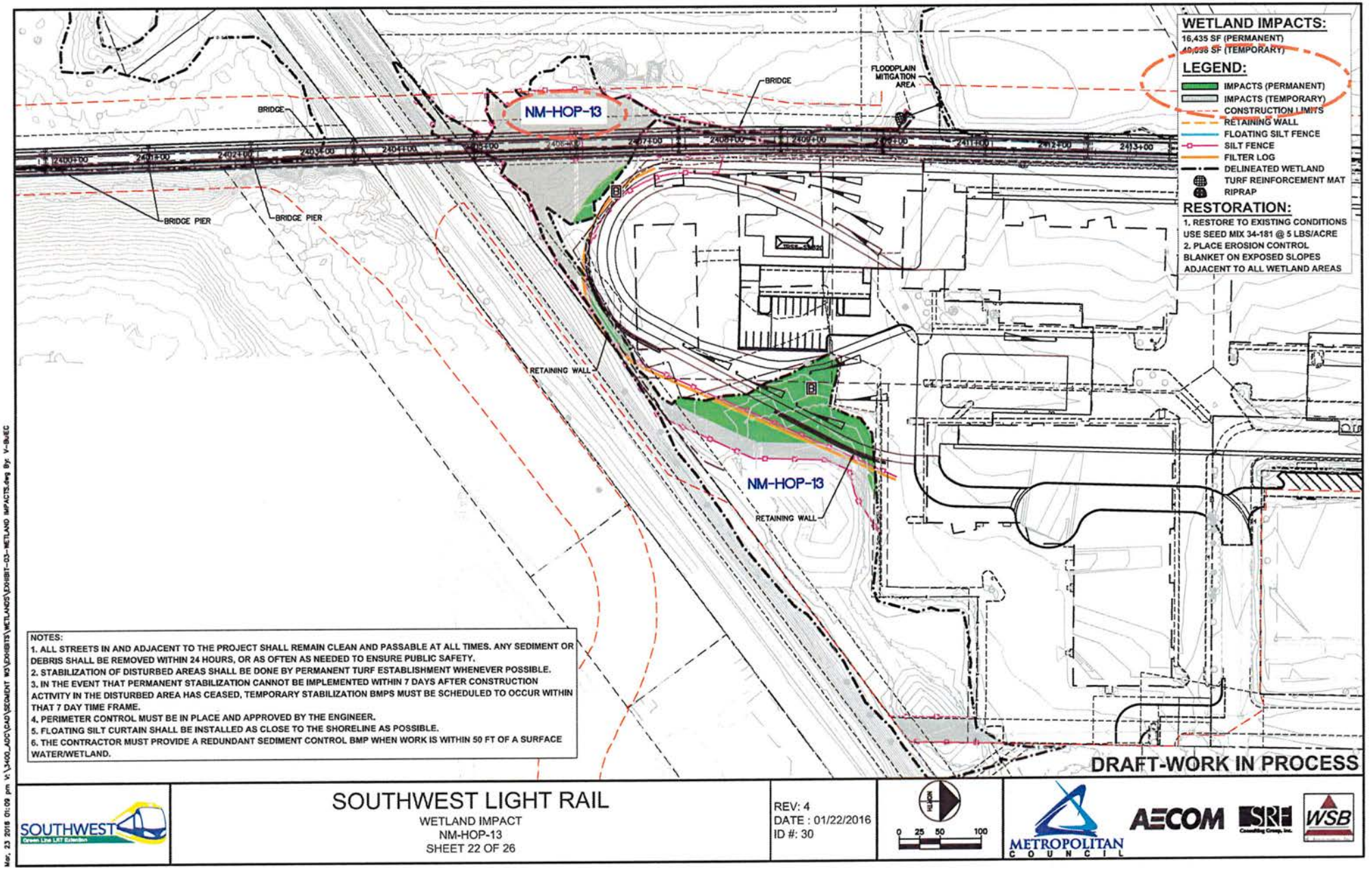
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
MTA-MTA-11 (NORTH)
BRIDGE PIER
FLOODPLAIN MITIGATION AREA
BRIDGE
BRIDGE PIER
BRIDGE PIER
BRIDGE PIER
BRIDGE
SITE SPECIFIC MANAGEMENT PLAN AREA - LINE WITH GEOTEXTILE FABRIC AND PLACE INTERLOCKING TRACING PADS ON TOP
SEE SHEET MTA-MTA-11 (1 OF 2)
DRAFT-WORK IN PROCESS
SOUTHWEST
Green Line LRT Extension
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-11 (2 OF 2)
SHEET 21 OF 26
REV: 4
DATE : 01/22/2016
ID #: 28
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF
WSB

Exhibit A


WETLAND IMPACTS:
16,435 SF (PERMANENT)
40,036 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
NM-HOP-13
NM-HOP-13
BRIDGE
BRIDGE
BRIDGE PIER
BRIDGE PIER
FLOODPLAIN MITIGATION AREA
RETAINING WALL
RETAINING WALL
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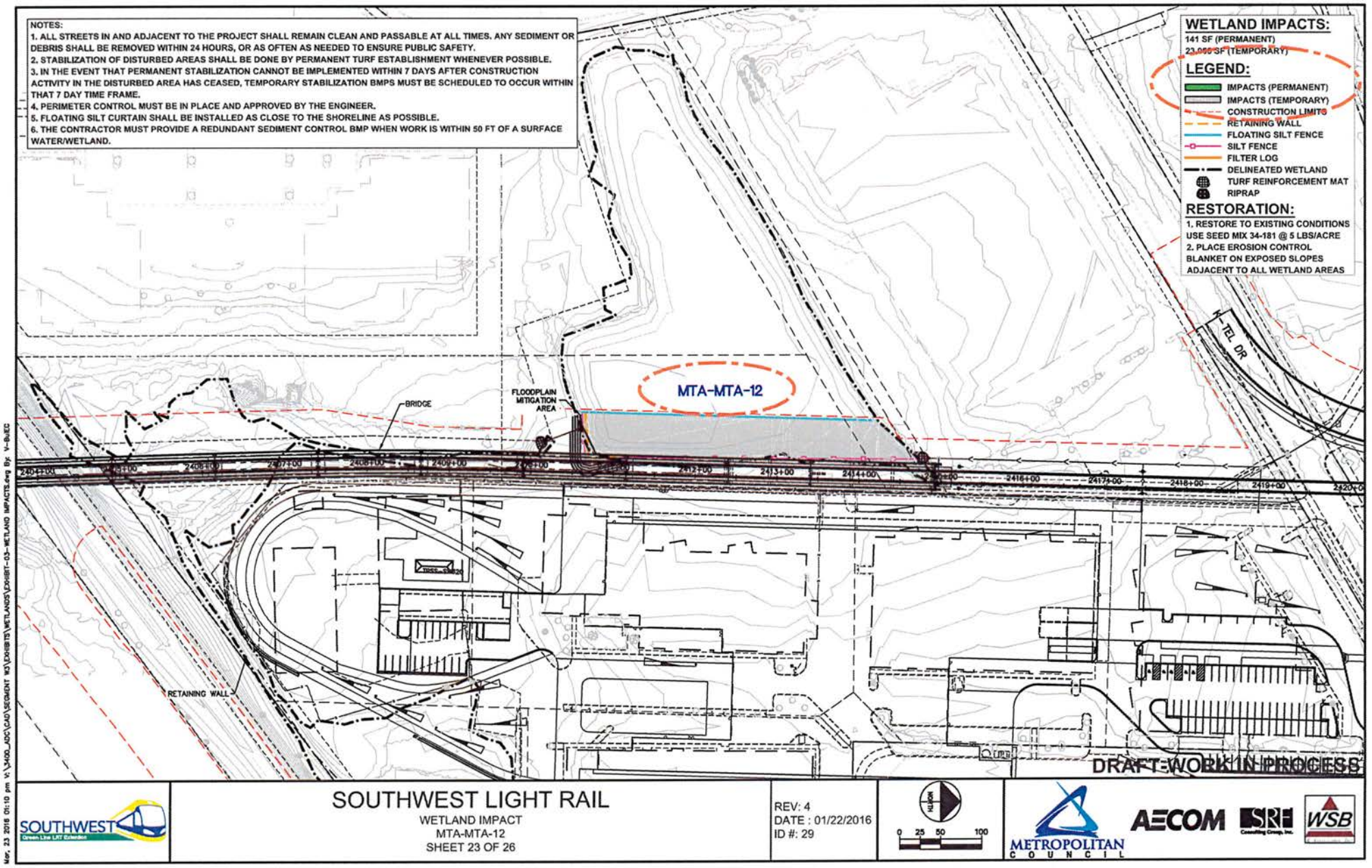
DRAFT-WORK IN PROCESS
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
NM-HOP-13
SHEET 22 OF 26
REV: 4
DATE : 01/22/2016
ID #: 30
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF
WSB

Exhibit A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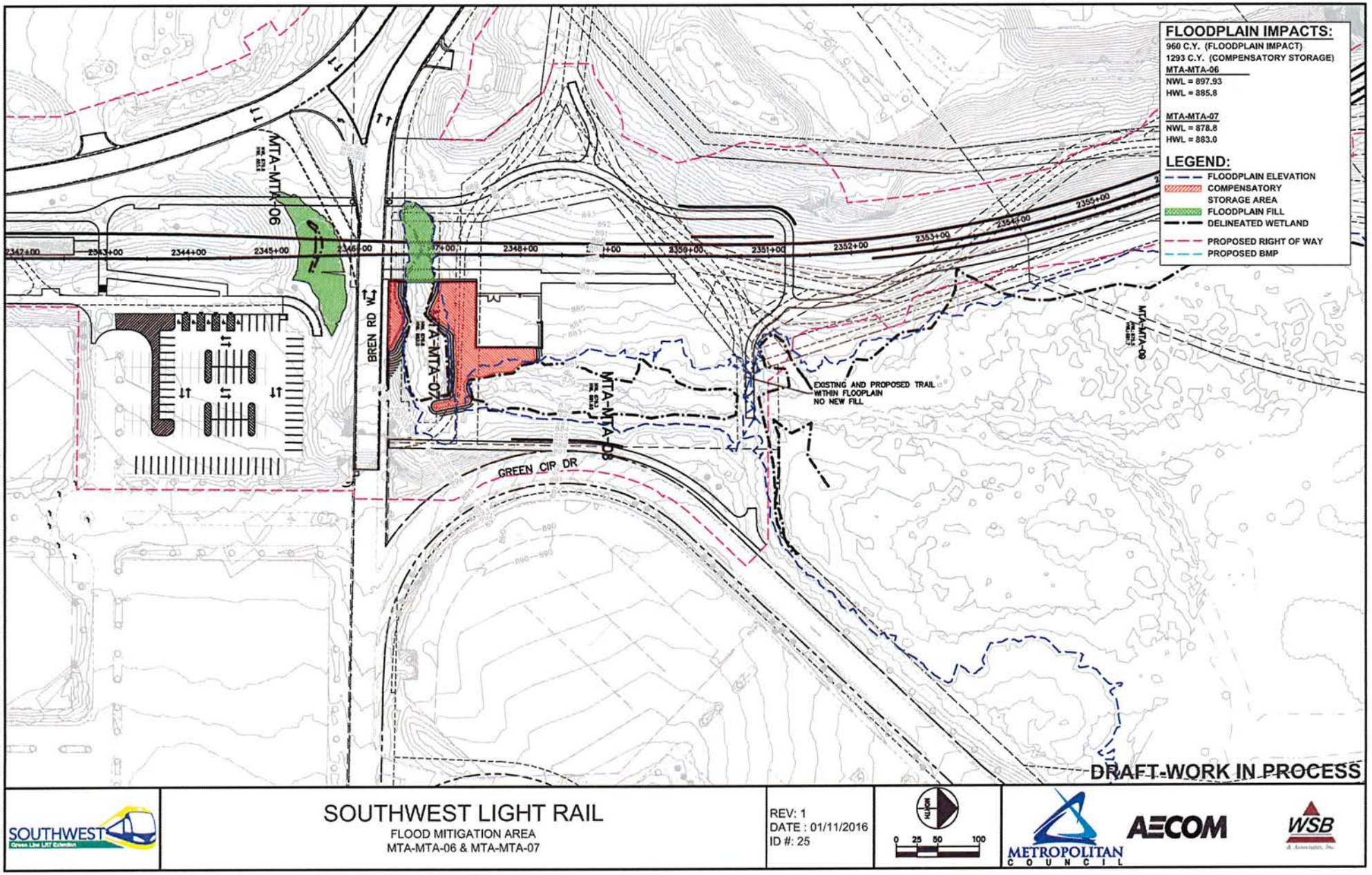
1. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ANY SEDIMENT OR DEBRIS SHALL BE REMOVED WITHIN 24 HOURS, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
2. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
3. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME.
4. PERIMETER CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER.
5. FLOATING SILT CURTAIN SHALL BE INSTALLED AS CLOSE TO THE SHORELINE AS POSSIBLE.
6. THE CONTRACTOR MUST PROVIDE A REDUNDANT SEDIMENT CONTROL BMP WHEN WORK IS WITHIN 50 FT OF A SURFACE WATER/WETLAND.
WETLAND IMPACTS:
141 SF (PERMANENT)
23,050 SF (TEMPORARY)
LEGEND:
IMPACTS (PERMANENT)
IMPACTS (TEMPORARY)
CONSTRUCTION LIMITS
RETAINING WALL
FLOATING SILT FENCE
SILT FENCE
FILTER LOG
DELINEATED WETLAND
TURF REINFORCEMENT MAT
RIPRAP
RESTORATION:
1. RESTORE TO EXISTING CONDITIONS USE SEED MIX 34-181 @ 5 LBS/ACRE
2. PLACE EROSION CONTROL BLANKET ON EXPOSED SLOPES ADJACENT TO ALL WETLAND AREAS
MTA-MTA-12
FLOODPLAIN MITIGATION AREA
BRIDGE
RETAINING WALL
TEL DR
DRAFT: WORK IN PROGRESS
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-12
SHEET 23 OF 26
REV: 4
DATE : 01/22/2016
ID #: 29
0 25 50 100
METROPOLITAN COUNCIL
AECOM
SRF
WSB

Exhibit A



SOUTHWEST
Green Line LRT Extension

SOUTHWEST LIGHT RAIL

FLOOD MITIGATION AREA
MTA-MTA-06 & MTA-MTA-07

REV: 1
DATE : 01/11/2016
ID #: 25

0 25 50 100

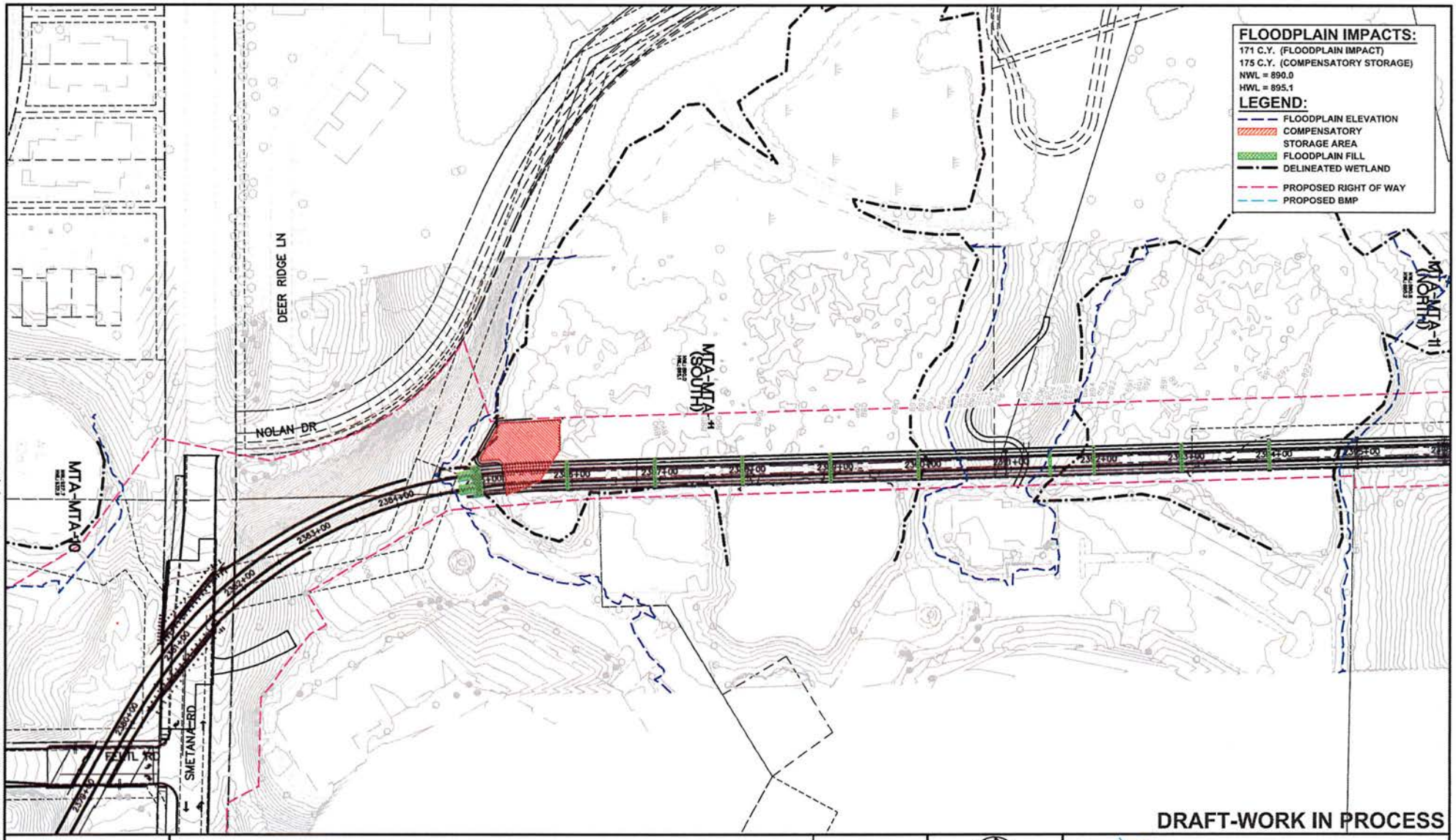
METROPOLITAN COUNCIL

AECOM

WSB

Feb. 08 2016 08:53 pm V:\3400_ADS\CAD\SEDIMENT WS\EXHIBITS\WETLANDS\EXHIBIT-03-WETLAND MITIGATION.dwg By: V-BAEC

Exhibit A



SOUTHWEST LIGHT RAIL
WETLAND MITIGATION
MTA-MTA-11 (1 OF 2)

REV: 0
DATE : 01/11/2016
ID #: 27

0 25 50 100

METROPOLITAN COUNCIL | AECOM | WSB

Feb, 08 2016 05:54 pm V:\3400_ADC\CAD\SEGMENT W3\EXHIBITS\WETLANDS\EXHIBIT-03- WETLAND MITIGATION.dwg By: V-BuEC

Exhibit A

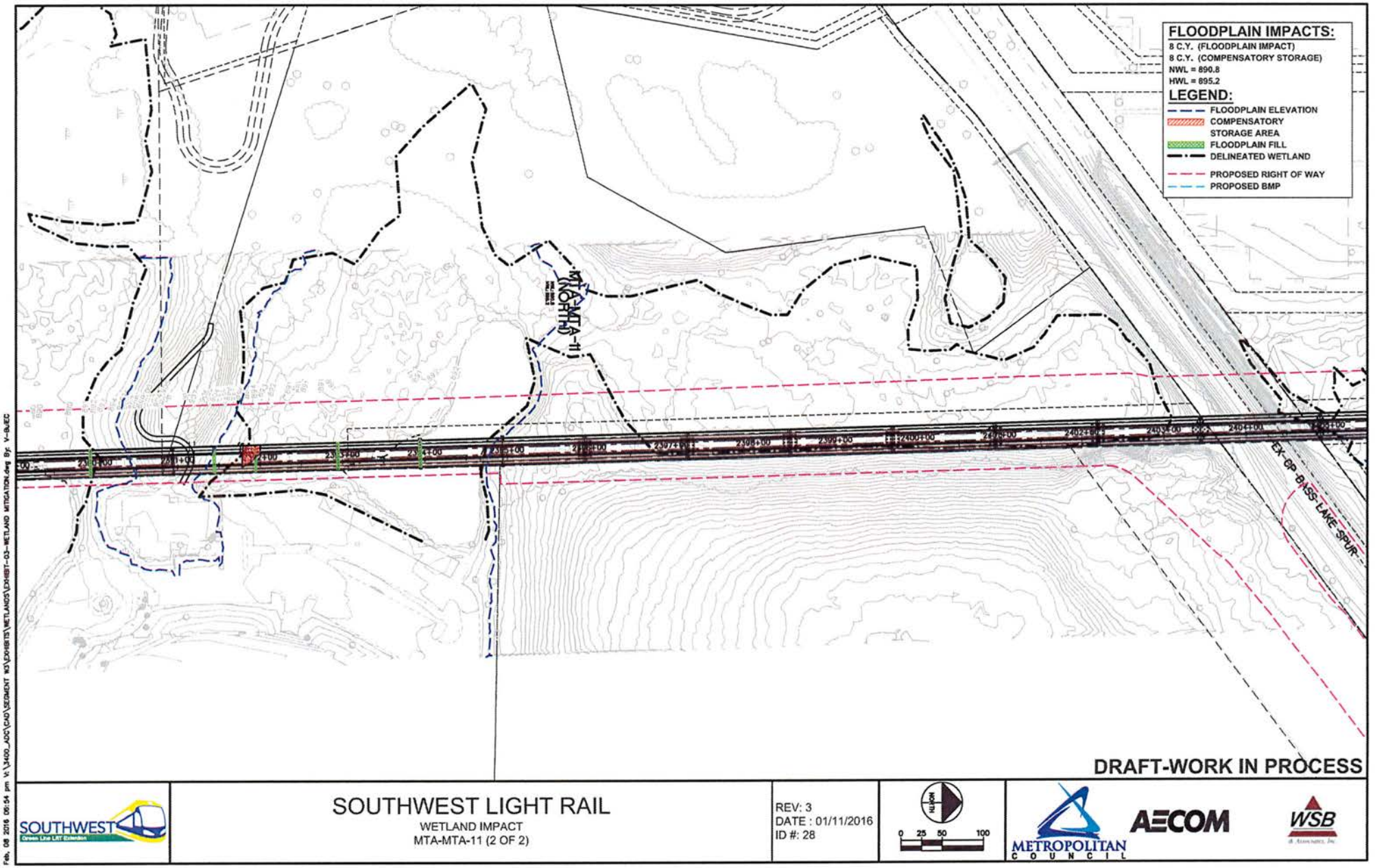
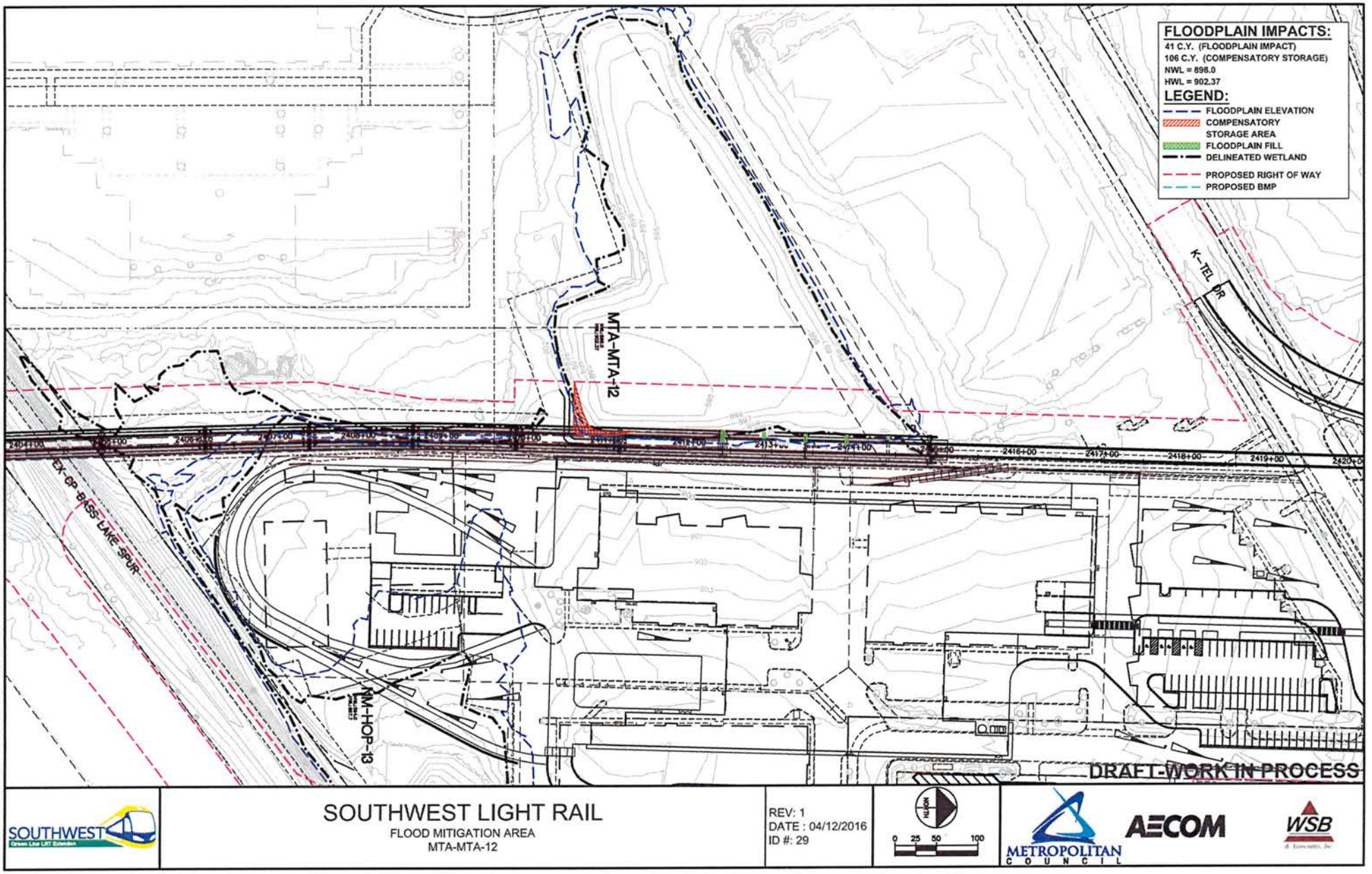

FLOODPLAIN IMPACTS:
8 C.Y. (FLOODPLAIN IMPACT)
8 C.Y. (COMPENSATORY STORAGE)
NWL = 890.8
HWL = 895.2
LEGEND:
FLOODPLAIN ELEVATION
COMPENSATORY STORAGE AREA
FLOODPLAIN FILL
DELINEATED WETLAND
PROPOSED RIGHT OF WAY
PROPOSED BMP
MTA-MTA-11 (NORTH)
EX. CP BASS LAKE SPUR
DRAFT-WORK IN PROCESS
SOUTHWEST LIGHT RAIL
WETLAND IMPACT
MTA-MTA-11 (2 OF 2)
REV: 3
DATE : 01/11/2016
ID #: 28
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
WSB

Exhibit A


FLOODPLAIN IMPACTS:
41 C.Y. (FLOODPLAIN IMPACT)
106 C.Y. (COMPENSATORY STORAGE)
NWL = 898.0
HWL = 902.37
LEGEND:
FLOODPLAIN ELEVATION
COMPENSATORY STORAGE AREA
FLOODPLAIN FILL
DELINEATED WETLAND
PROPOSED RIGHT OF WAY
PROPOSED BMP
MTA-MTA-12
MM-HOP-13
K-TEL DR
EX-BP-BASS LAKE SPUR
DRAFT-WORK IN PROCESS
SOUTHWEST LIGHT RAIL
FLOOD MITIGATION AREA
MTA-MTA-12
REV: 1
DATE : 04/12/2016
ID #: 29
NORTH
0 25 50 100
METROPOLITAN COUNCIL
AECOM
WSB

Resolution No. 2016-

Resolution approving wetland, wetland buffer, and floodplain variances to accommodate construction of the Southwest Light Rail Transit line

---

Be it resolved by the City Council of the City of Minnetonka, Minnesota, as follows:

Section 1. Background.

1.01 To accommodate construction of that part of the Southwest Light Rail Transit (SWLRT) line located within the City of Minnetonka, the following variances are required:

	Item Requiring a Variance	Required	Proposed**
Wetland	Rail Line	25 foot setback	1 foot
	Bridge Abutments	35 foot setback	1 foot
	Transit Power Substation	35 foot setback	15 feet
	Trails	25 foot setback	2 feet
Wetland Buffer	Rail Line	25 foot buffer	5 feet
	Bridge Abutments	25 foot buffer	1 foot
	Transit Power Substation	25 foot buffer	15 feet
	Trails	25 foot buffer	11 feet
Floodplain	Rail Line	10 foot horizontal setback 1 foot vertical separation	0 feet
	Bridge Abutments	10 foot setback	0 feet

** Varies within the corridor. Proposed numbers are minimums

1.02 Minnesota Statute §462.357 Subd. 6, and City Code §300.07 authorizes the city to grant variances.

1.03 On August 4, 2016, the planning commission held a hearing on the proposal. The commission considered all of the comments received and the staff report, which are incorporated by reference into this resolution. The commission recommended that the city council approve the variances.

Section 2. Standards.

2.01 By City Code §300.07 Subd. 1, a variance may be granted from the requirements of the zoning ordinance when: (1) the variance is in harmony with the general purposes and intent of this ordinance; (2) when the variance is consistent with the comprehensive plan; and (3) when the applicant establishes that there are practical difficulties in complying with the ordinance. Practical difficulties means: (1) The proposed use is reasonable; (2) the need for a variance is caused by circumstances unique to the property, not created by the property owner, and not solely based on economic considerations; and (3) the proposed use would not alter the essential character of the surrounding area.

Section 3. Findings

3.01 The variances associated with construction of the SWLRT line would meet the variance standard as outlined in City Code §300.07 Subd. 1:

1. Purpose and Intent of the Ordinance. The intent of wetland, wetland buffer, and floodplain standards is to recognize, preserve and protect the city's water resources to the maximum extent possible while allowing reasonable use of property. The proposed variances meet this intent. The area of variances would be relatively small given the large areas of water resources within the transit corridor and the variances would not negatively impact the hydrology of the resources.

2. Consistency with the Comprehensive Plan. One of the primary transportation goals of the comprehensive plans to provide and promote convenient and accessible transportation systems to residents and employees of Minnetonka business. The proposed variances are consistent with this goal, as they would allow for construction of a regional transit line.

3. Practical Difficulties: There are practical difficulties in complying with the ordinance:

    a) Reasonableness and Unique Circumstances: The proposed variances are required to accommodate a regional transit line.

Given the amount and location of wetlands and floodplain areas in Minnetonka, it is unlikely that a transit line could be constructed that both meets the community's locational preferences and all wetland and floodplain standards. Given this unique circumstance, the requested variances are reasonable.

b) Character of Locality: While construction and operation of the SWLRT line will have some impact on areas surrounding the transit corridor, the requested variances themselves will not.

Section 4. City Council Action.

4.01 The above-described variances are hereby approved, subject to the following conditions:

1. A construction permit is required. The permit will encompass right-of-way work, utility work, grading and erosion control, and physical construction of the rail line and appurtenance. No site work is allowed prior to issuance of this permit.

2. Prior to issuance of a construction permit:

   a) The SWLRT project must receive funding approval.

   b) Negotiated application fees must be paid.

   c) Acceptable ownership information and maintenance and operations agreements for all SWLRT property and infrastructure with Minnetonka must be submitted for staff review.

3. This approval will expire on December 31, 2017 unless a construction permit has been issued or the city has received and approved a request for extension of this approval.

Adopted by the City Council of the City of Minnetonka, Minnesota, on August 22, 2016.

_____

Terry Schneider, Mayor

Attest:

David E. Maeda, City Clerk

Action on this resolution:

Motion for adoption:
Seconded by:
Voted in favor of:
Voted against:
Abstained:
Absent:
Resolution adopted.

I hereby certify that the foregoing is a true and correct copy of a resolution adopted by the City Council of the City of Minnetonka, Minnesota, at a meeting held on August 22, 2016.

David E. Maeda, City Clerk

Resolution No. 2016-

Resolution approving a conditional use permit for impervious trails within wetland buffers in and around the Southwest Light Rail Transit line

---

Be it resolved by the City Council of the City of Minnetonka, Minnesota, as follows:

Section 1. BACKGROUND.

1.01 To accommodate construction of that portion of the Southwest Light Rail Transit (SWLRT) line located within the City of Minnetonka, several impervious trails would be relocated. Small sections of some of these relocated trails would be situated within wetland buffer areas.

1.02 By City Code §300.23 Subd.7 impervious trails are allowed in wetland buffers only by conditional use permit.

1.03 On August 4, 2016, the planning commission held a hearing on the application. The commission considered all of the comments and the staff report, which are incorporated by reference into this resolution. The commission recommended that the city council approve the permit.

Section 2. Standards.

2.01 City Code §300.26 Subd.2 and Subd.3 outline general and specific standards that must be met for granting of conditional permits within the wetland overlay district. These standards are incorporated by reference into this resolution.

Section 3. Findings.

3.01 The proposed trails would meet all minimum conditional use permit standards outlined in City Code §300.26.

1. The impervious trails would:

a) Be consistent with the goals, policies and objectives of the comprehensive plan and city ordinances. The uses would allow for public enjoyment of the city's natural resources.

b) Have a low flood damage potential and only minimal interference with wetland buffer vegetation.

2. The proposed trails would not:

a) Have an undue adverse impact on governmental facilities, utilities, services or existing or proposed improvements.

b) Be inconsistent with the city's water resources management plan.

c) Have an undue adverse impact on the public health, safety or welfare.

d) Adversely impact the water quality of bodies receiving runoff entering wetlands, floodplain or shoreland areas.

e) Adversely affect the minimum required water storage capacity as defined in the water resources management plan.

f) Be designed for human habitation or be serviced with public utilities.

g) Include any electrical or heating equipment or the storage of materials which are flammable, explosive or otherwise dangerous to human, animal or plant life;

Section 4. City Council Action.

4.01 The above-described conditional use permit is approved, subject to the following conditions:

1. A construction permit is required. The permit will encompass right-of-way work, utility work, grading and erosion control, and physical construction of the rail line and appurtenance. No site work is allowed prior to issuance of this permit.

2. Prior to issuance of a construction permit:

a) The SWLRT project must receive funding approval.

b) Negotiated application fees must be paid.

c) Acceptable ownership information and maintenance and operations agreements for all SWLRT property and infrastructure with Minnetonka must be submitted for staff review.

3. This approval will expire on December 31, 2017 unless a construction permit has been issued or the city has received and approved a request for extension of this approval.

Adopted by the City Council of the City of Minnetonka, Minnesota, on August 22, 2016.

_____
Terry Schneider, Mayor

ATTEST:

_____
David E. Maeda, City Clerk

ACTION ON THIS RESOLUTION:

Motion for adoption:
Seconded by:
Voted in favor of:
Voted against:
Abstained:
Absent:
Resolution adopted.

I hereby certify that the foregoing is a true and correct copy of a resolution adopted by the City Council of the City of Minnetonka, Minnesota, at a duly authorized meeting held on August 22, 2016.

_____
David E. Maeda, City Clerk
SEAL

Resolution No. 2016-

Resolution approving construction on a steep slope and tree removal required to accommodate construction of the Southwest Light Rail Transit Line

---

Be it resolved by the City Council of the City of Minnetonka, Minnesota, as follows:

Section 1. Background.

1.01 Roughly two miles of the Southwest Light Rail Transit (SWLRT) line will be located within the City of Minnetonka.

1.02 Portions of the line will be constructed within steep slopes, as defined by city code, and will result in removal trees located within woodland preservation areas and high priority and significant trees.

Section 2. Standards.

2.01 By City Code §300.28 Subd.20(b)(3), the city will approve construction/development within a steep slope only if certain standards are met. Those standards are incorporated by reference into this resolution.

2.02 By City Code §300.28 Subd.19(e)(5), the city council may approve the removal of trees located within woodland preservation areas and high priority and significant trees if it determines there is a greater public good.

Section 3. Findings

3.01 Construction of the SWLRT line would meet the standards as outlined in City Code §300.28 Subd.20(b)(3):

1. The transit line has been appropriately designed and sited with reference to steep slopes.

2. Construction of the transit line would not result in soil erosion, flooding, severe scarring, reduced water quality, inadequate

drainage control, or other problems.

3. Adequate measures to protect public safety would be employed during construction of the transit line.

3.02 While valuing trees as an important natural resource and component of the community, the city recognizes that trees must be removed to accommodate construction of the SWLRT line. The line will promote the public good by providing a transportation alternative to residents, employees, and visitors to the region.

Section 4. City Council Action.

4.01 Construction within steep slopes is hereby approved based on the findings outlined in section 3 of this resolution.

4.02 Removal within woodland preservation areas and high priority and significant trees is hereby approved based on the findings outlined in section 3 of this resolution.

4.03 These approvals are subject to the following conditions:

1. A construction permit is required. The permit will encompass right-of-way work, utility work, grading and erosion control, and physical construction of the rail line and appurtenance. No site work is allowed prior to issuance of this permit.

2. Prior to issuance of a construction permit:

   a) The SWLRT project must receive funding approval.

   b) Negotiated application fees must be paid.

   c) Acceptable ownership information and maintenance and operations agreements for all SWLRT property and infrastructure within Minnetonka must be submitted for staff review.

3. This approval will expire on December 31, 2017 unless a construction permit has been issued or the city has received and approved a request for extension of this approval.

Adopted by the City Council of the City of Minnetonka, Minnesota, on August 22, 2016.

Terry Schneider, Mayor

Attest:

David E. Maeda, City Clerk

Action on this resolution:

Motion for adoption:
Seconded by:
Voted in favor of:
Voted against:
Abstained:
Absent:
Resolution adopted.

I hereby certify that the foregoing is a true and correct copy of a resolution adopted by the City Council of the City of Minnetonka, Minnesota, at a meeting held on August 22, 2016.

David E. Maeda, City Clerk