

Stormwater Pollution Prevention Plan

***Hartley Park Phase 1 Improvements,
Duluth Traverse Phase 6***

***Prepared for
City of Duluth***

May 2016

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325 South Lake Avenue,
Suite 700.

Duluth, MN 55802

**“Hartley Park Phase 1 Improvements,
Duluth Traverse Phase 6”
Construction Stormwater Pollution Prevention Plan**

May 2016

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Hartley Park Phase 1 Improvements, Duluth Traverse Phase 6: Project Construction SWPPP

This SWPPP is based on the Minnesota Pollution Control Agency's SWPPP Template. The General Stormwater Permit for Construction Activity is included as Appendix C to this SWPPP.

A NPDES Construction Stormwater Permit has been applied for Hartley Phase 1 Improvements and the Duluth Traverse Phase 6 Projects. This SWPPP document is designed for these two projects. This SWPPP has been design to be in compliance with the Minnesota Stormwater General Permit for Construction Activity (MNR100001). The main SWPPP outlines general construction information and best management practices (BMPs).

Construction Activity Information

Project name: Hartley Park Phase 1 Improvements, Duluth Traverse Phase 6:

Project location: (Briefly describe where construction activity occurs. Include address if available.)

Address or describe area: Construction will take place start in Hartley Park and Chester Park in Duluth, MN.

City or Township: Duluth **State:** MN **Zip code:** 55812

Latitude/longitude of approximate centroid of project: 46° 50' 18.54" -92° 4' 55.47"

Method of collection of latitude/longitude:

GPS Online tool USGS Topographic map

Scale used: _____

All cities where construction will occur: Duluth

All counties where construction will occur: St. Louis

All townships where construction will occur:

Project size (number of acres to be disturbed): 5 acres

Project type:

Residential Commercial/Industrial Road construction

Residential and road construction Other (describe): Construction trails and parking areas

Cumulative impervious surface:

Existing area of impervious surface: 0.8 (to the nearest quarter acre)

Post construction area of impervious surface: 1.3 (to the nearest quarter acre)

Receiving waters

Water body ID*	Name of water body	Type (ditch, pond, wetland, lake, stream, river)	Special water? (See Stormwater Permit Appendix A)	Impaired Water?*** (See Stormwater Permit Appendix A)
	Tischer Creek	Stream	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	West Branch of Tischer Creek	Stream	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Chester Creek	Stream	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Associated wetlands	wetlands	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

* Water Body identification (ID) might not be available for all water bodies. Use the Special and Impaired Waters Search Tool at: www.pca.state.mn.us/water/stormwater/stormwater-c.html.

** Impaired water for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen, or biotic impairment.

Dates of construction (Briefly describe where construction activity occurs. Include address if available.)

Construction start date: June 2016
Estimated completion date: November 2016

Contact Information

Owner of the site

Business or firm name: City of Duluth, Parks and Recreation Division

Corporate Authority

(Owner): Lindsay Dean **Title:** Division Manager

Mailing address: 411 West 1st Street Ground Floor

City: Duluth **State:** MN **Zip code:** 55802

E-mail address: ldean@duluthmn.gov **Telephone** (218) 730-4300

Contact name: Jim Shoberg **Title:** Project Coordinator

Mailing address: City Engineer, 411 West 1st Street Ground Floor

City: Duluth **State:** MN **Zip code:** 55802

E-mail address: jshoberg@duluthmn.gov **Telephone** (218) 730-4316

Contractor (Person who will oversee implementation of the SWPPP)

Business or firm name:

Party responsible for long-term operation and maintenance of the permanent Stormwater Management System

Business or firm name: N/A _____

Corporate Authority (Owner): _____ **Title:** _____

Mailing address: _____

City: _____ **State:** _____ **Zip code:** _____

E-mail address: _____ **Telephone:** _____

Contact name: _____ **Title:** _____

Mailing address: _____

City: _____ **State:** _____ **Zip code:** _____

E-mail address: _____ **Telephone:** _____

General Construction Project Information

Describe the construction activity (what will be built, general timeline, etc.):

The City of Duluth proposes to construct the Phase 1 improvements to Hartley Park (Hartley) and the Phase 6 of Duluth Traverse Multi-Use Trail System (Traverse) in Hartley Park and Chester Park following environmental review processes for each project respectively (Hartley EAW – August 2015; Traverse EAW – March 2013). This SWPPP will address the proposed improvements:

- Additional parking at the four entrances to Hartley Park (approximately 1.2 acres)
- New trail construction in Hartley and Chester Parks (approximately 7 miles / 2.5 acres)
- Close trails and provide site restoration in Hartley Park (approximately -3.7 miles/ 1.3 acres)
- Replacement and Construction of elevated boardwalks to facilitate crossing of wetlands
- Construction of temporary timber bridges to cross ravines, and streams where existing bridge crossings are not available
- Re-alignment of ski trail segments (0.8 miles/ 1 acre removed; 0.6 miles/ 0.7 acres constructed).

The trail improvements will include

1. A bike treadway approximately 18-36" wide within a trail corridor approximately 60" wide
2. Replacement and Construction of elevated boardwalks to facilitate crossing of wetlands
3. Timber bridges to cross ravines, swales and streams.
4. Grade reversals and turns to slow storm water and provide sheet flow to filtered buffer areas

The proposed parking improvements at the four Hartley Park entrances include:

1: The main Hartley Nature Center parking lot at the northeast side of Hartley Park will be regraded to provide approximately 60 parking spaces. This lot will include a new curb and gutter urban design. The proposed improvement will not impact wetlands.

2. At the east side of Hartley Park, approximately three off street spaces will be created and additional redefined on-street parking with a new curb and gutter urban design on the end of Fairmont Road and will not impact wetlands.

3. At the southeast side of the park, approximately three off street spaces will be created and additional redefined on-street parking with a new curb and gutter urban design on Hartley Road, from Woodhaven Lane to the park trail on old Hartley Road and will not impact wetlands.

4. At the northwest side of the park, approximately three off street spaces will be created and additional redefined on-street parking with a new curb and gutter urban design on the end of North Road.

Describe soil types found at the project:

The proposed trail will cross soils that are primarily composed of Duluth glacial till soils that vary from silty to sandy loams with clay and shallow bedrock. Occasional rock outcrops can be viewed along various proposed trail routes. Trail excavation will be avoided, and will be crossed with boardwalks in unavoidable encounters with peat and mucky soils. Proposed parking areas will be excavated and backfilled with granular and aggregate materials. Unsuitable excavated materials will be hauled away to an approved disposal area. Table 1-1 lists the soils found in the area of the proposed improvements.

Table 1-1 Soils in Proposed Improvement Areas

Soil Series	Texture	Drainage	Slope	Hydric Status
E11E—Miskoaki-Rock outcrop complex	Silt loam / gravelly sandy loam	Well Drained	18-45%	Non-Hydric
E13E —Udifluents, occasionally flooded-Rollins complex	Gravelly loam	Moderately Well Drained	0-30%	Non-Hydric
F111B—Augustana-Hegberg complex	Silt loam / sandy loam / gravelly sandy loam	Somewhat Poorly Drained	3-8%	Partially Hydric
F33A—Cathro muck	Muck / Mucky silt loam	Very Poorly Drained	0-1%	Hydric
F120D—Grayling-Cromwell complex	Loamy sand	Excessively Drained	8-18%	Non-Hydric
F134A—Giese Muck	Silt loam / gravelly sandy loam	Very Poorly Drained	0-1%	Hydric
F135A—Hermantown-Canosia-Giese complex	Silt loam / gravelly sandy loam	Somewhat Poorly Drained	0-3%	Partially Hydric
F137B—Normanna-Canosia-Hermantown complex	Loam / Gravelly sandy loam	Moderately Well Drained	3-8%	Non-Hydric
F138D—Ahmeek-Normanna-Canosia complex	Silt loam / gravelly sandy loam	Well Drained	8-18%	Non-Hydric
F139F— Ahmeek-Canosia complex	Silt loam / gravelly sandy loam	Well Drained	18-45%	Non-Hydric
F147D—Ahmeek-Canosia-Rock outcrop complex	Gravelly sandy loam	Well Drained	0-25%	Non-Hydric
F148F —Ahmeek-Rock outcrop	Silt loam / gravelly sandy loam	Well Drained	18-50%	Non-Hydric
F156D— Ahmeek-Rock outcrop	Gravelly sandy loam	Somewhat Poorly Drained	4-18%	Partially Hydric
F158B—Normanna-Canosia complex	Gravelly sandy loam	Somewhat Poorly Drained	0-8%	Partially Hydric
F160F—Rock outcrop-Mesaba-Barto complex	Gravelly sandy loam / bedrock	Well Drained	18-60%	Non-Hydric

General Site Information (III.A)

1. Describe the location and type of all temporary and permanent erosion prevention and sediment control Best Management Practices (BMPs). Include the timing for installation and procedures used to establish additional temporary BMPs as necessary. (General Permit Part III.A.4.a)

BMPs that will be implemented project-wide where applicable include:

Pre-Construction Protocol

- Soil disturbance will be minimized wherever possible, primarily through a multi-phased construction approach. This will minimize the amount of disturbed areas that are not stabilized at any one time. (General Permit Part IV.B.2)
- All BMPs within 200 feet of site surface water shall be stabilized within 24 hours. Appendixes B2 and B3 show shoreland and floodplains of streams to be crossed. Temporary (or permanent) sediment basins are not needed in this project because of the minimal footprint and sheet flow construction design. (Part IV.B.3).
- Contractor will be required to limit soil disturbance area in advance of actively working it, and must have the ability to stabilize and restore prior to forecasted rain events and weekends if not working on weekends.

Pre-Construction Steps

- Before land disturbing work activities begin, the limits of the area to be disturbed will be delineated with flagging, stakes, signs, or other equivalent means. Area(s) not to be disturbed will be clearly labeled (from Part IV.B.1).
- Prior to soil disturbance temporary BMPs will be used downgradient and/or in areas that are anticipated to have concentrated flow. These BMPs may include:
 - Sediment control (such as sediment logs) for filtering flow
 - Vegetated buffer strips (retain existing vegetation where possible)
 - Native material barriers (e.g., topsoil stockpile/berm)

During Construction Protocol

Erosion Prevention

- Existing vegetation will be preserved where possible to limit exposed soil.
- Boardwalks and bridges will be used to cross wetlands and streams respectively minimizing soil disturbance and impact to water resources.
- Trail treadways will be constructed and shaped to shed water to provide sheet flow to vegetated areas for filtration and infiltration.
- Berms will be constructed to facilitate turns on the trail treadways to slow erosion potential.
- Diversion berms with downgradient slopes within 200 feet of streams will be stabilized within 24 hours.
- Stabilization of exposed soil on the back side of the berms will include seed, mulch,

- or blankets or similar measures.
- Grade reversals are to be installed concurrent with wattles (biologs, staked in place) to help with erosion.
- Rock hardening (armoring) in concentrated flow areas of the trail tread (not installed in wetland areas)
- Other disturbed slopes around the parking improvements within 200 feet of streams will be stabilized within 24 hours.

Sediment Control

- Vehicle tracking of sediment from the site onto nearby streets is not expected, but will be minimized by the use of smaller equipment direct loading to and unloading from trailers.
- If sediment tracking occurs, then regular street sweeping will be utilized and installation of rock entrance/exit pad(s) will be considered.
- Stabilization of soils during construction within 7 days of soil being worked.
- The trail tread will be constructed to shed water to provide sheet flow to natural vegetation.
- Grade Reversals are to be installed concurrent with wattles (sediment logs, staked in place) to help with erosion.
- Ditches are not planned as part of this project, however in the event that they are encountered and disturbed, the normal wetted perimeter of drainage ditches or swales must be stabilized within 24 hours after connecting to surface water (at least the 200 lineal feet closest to the surface water).
- Uninterrupted earthen slopes for grades 3:1 or steeper will be kept to no more than 75 feet in length through the utilization of bio rolls, rock checks, tread drains/grade dips or through other acceptable practices (Part IV.C.1.c.).
- Parking areas will include redundant BMPs to protect water resources.
- Parking areas will also include rock check dams, grassy swales or sediment traps where appropriate to trap and filter sediment.

Good housekeeping

- Good housekeeping procedures will be implemented to ensure minimization for potential spills and other hazards through:
- Appropriate material handling procedures, labeling of materials, and storage of materials inside when possible or within adequate storage containers
- Any generated solid waste will be properly disposed.

Stormwater Inspections

- Stormwater inspections will be conducted by a trained inspectors within the following time intervals:
 - Once every 7 days during active construction AND
 - Within 24 hours after a rainfall event greater than 0.5 inches in 24 hours, and again within 7 days after such rainfall events. (Part IV.E.1)
 - A stormwater inspection form is available in Appendix E to this SWPPP
- During stormwater inspections the site will be monitored for areas where erosion or sedimentation is occurring and, if necessary, the appropriate actions will be taken and/or additional BMPs will be installed. These actions may include:
 - BMPs will be maintained and repaired.

- BMPs will be replaced and or cleaned when sediment accumulates up to 1/2 of the device's height no later than 72 hours after discovery (Part IV.E.4.b.).
- All non-functioning BMPs will be repaired or replaced no later than 24 hours of discovery (Part IV. E.4.a.).
- The goal is to keep sediment out of surface waters. Should this happen, sediment and deltas will be removed that are deposited in surface waters within 7 days of discovery (Part IV.E.4.d.).
- Sediment will be removed if tracked onto paved roads within 24 hours of discovery (Part IV. E.4.d.).
- Sediment that has escaped off site will be removed in a manner and at a frequency sufficient to minimize offsite impacts (Part IV.E.4.f.).

Post-Construction Protocol

- Temporary and Final stabilization must occur after construction on a portion of the site has temporarily or permanently ceased as a means to prevent erosion.
 - All disturbed soils (except for the trail treadway) will be stabilized with seed and/or mulch or if necessary by other means. This will be accomplished as soon as possible to limit soil erosion, but in no case later than 7 days after the construction activity has temporarily or permanently ceased.
 - All exposed soil will be stabilized with permanent cover (uniform perennial vegetative cover to a density of 70% or constructed to shed water in a manner that minimizes soil erosion.
 - Mulch will be used as part of establishment of permanent vegetative cover.
 - All sediment will be removed from ditches and BMPs.
 - All temporary non-biodegradable BMPs will be removed and appropriately disposed/recycled.
- Stabilization will in no case shall the stabilization occur later than:
 - Within 24 hours for BMPs located within 200 feet of surface water (Part IV.B.3.).
 - Or within 7 days for other construction areas (Part IV.B.3.).
 - After final stabilization is achieved (uniform perennial vegetative cover to a density of 70% or greater over the entire pervious surface) of all originally proposed construction activity has been completed and permanent cover established on those areas a Notice of Termination must be completed and returned to the MPCA (Part IV.G.6.).
- Notice of Termination form is available as Appendix G to this document.

2. Attach to this SWPPP a table with the anticipated quantities for the life of the project for all erosion prevention and sediment control BMPs (III. A. 4.b).

A table with the anticipated quantities of BMPs is included in Appendix C.

3. Site maps that include the following features (General Permit III.A.3.b – f) are located in Figures 1-8:

- Due to the length of trail and the steep terrain, existing and final grades were not determined within the project limits.

- Locations of soil types.
- Location of areas of construction
- Shoreland areas
- Floodplain areas

Figures 1-8 show the Hartley Park, Chester Park and the Duluth Traverse (Phase 6) in relation to all surface waters and existing wetlands within one mile from the project boundaries that will receive stormwater runoff from the site (identifiable on maps such as USGS 7.5 minute quadrangle maps or equivalent).

4. Were stormwater mitigation measures required as the result of an environmental, archaeological, or other required local, state, or federal review of the project?

Yes No

If yes, describe how these measures were addressed in the SWPPP. (III.A.6.)

Not applicable

5. Is the project located in a karst area such that additional measures would be necessary to protect drinking water supply management areas as described in Minn. R. chapters 7050 and 7060? Yes No

If yes, describe the additional measures to be used. (III.A.7.)

Not applicable

6. Does the site discharge to a calcareous fen listed in Minn. R. 7050.0180, subp. 6. b.?

Yes No

If yes, a letter of approval from the Minnesota Department of Natural Resources must be obtained prior to application for this permit. (Part I B.6 and Part III.A.8)

7. Does the site discharge to water that is listed as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen or biotic impairment? Use the Special and Impaired Waters Search Tool at:

www.pca.state.mn.us/water/stormwater/stormwater-c.html. Yes No

Does the impaired water have an approved Total Maximum Daily Loads (TMDL) with an Approved Waste Load Allocation for construction activity? Yes No

If yes:

List the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL. List the BMPs and any other specific construction stormwater related implementation activities identified in the TMDL.

If the site has a discharge point within one mile of the impaired water and the water flows to the impaired water but no specific BMPs for construction are identified in the TMDL, the additional BMPs in Appendix A (C.1 and C.2) must be added to the SWPPP and implemented. (III.A.7). The additional BMPs only apply to those portions of the project that drain to one of the identified discharge point.

Additional Appendix BMPs from A (C.1 and C.2) include:

- Stabilization immediately but within 7 days after construction has ceased in that portion of the site
- Treatment of discharge through sheet flow to grass swales and natural buffers
- Minimizing new impervious to the extent practicable
- Keeping the forested overstory adjacent to streams for shading

Training (III.A)

- In accordance with R10001 Part III.A.2, individuals involved with preparing, reviewing, revising, and amending this SWPPP have been properly trained in erosion prevention, sediment control, and stormwater management. At least one Contractor representative must be trained.
- Appendix D contains certificates of personnel involved with this SWPPP, and includes:
 - the names of the personnel trained that prepared this SWPPP;
 - the dates of the training;
 - name of instructor(s) and entity providing training;
 - and content of training course or workshop (including number of hours of training).

Selection of a Permanent Stormwater Management System (III.C)

1. Will the project create a new cumulative impervious surface greater than or equal to one acre? Yes No

The issue of impervious surface and permit requirements for the Duluth Traverse was reviewed with the MPCA. There will be 4.2 miles of new trail associated with Phase 6 of the Duluth Traverse Mountain Bike Trail and Hartley Phase 1 improvements. Assuming the driving width will be approximately 18" wide, there will be 0.75 acres of new bike trail driving lane constructed. The soils in the driving lane will get compacted with use, creating a surface that retards infiltration and will result in an increase in rate and volume of stormwater runoff. The trail cross section is designed to shed water. For these reasons, the driving lane portion of the trail cross section is considered impervious. The alignment of the trail has been carefully selected to avoid wet areas and will be constructed with considerable emphasis on sustainability. The compacted trail surface will resist erosion and not be a significant source of sediment. Because of the careful design considerations, minimal sediment load and the lack of opportunity to provide permanent stormwater treatment associated with the trail, the MPCA has decided that it will not, generally, require permanent stormwater treatment for the trail portions of the project.

2. Describe which method will be used to treat runoff from the new impervious surfaces created by the project (III.C):

- Infiltration/Filtration

Include all calculations and design information for the method selected. See Part III.C of the permit for specific requirements associated with each method.

Due to the designed limited impact and the limited space available for basins and ponds, the

project has been designed for infiltration and filtration using natural vegetation buffers, and has implemented BMPs to produce sheet flow rather than areas that promote concentrated flows.

The City of Duluth is a Municipal S MS-4 and has reviewed the project for proposed BMPs.

3. If it is not feasible to meet the treatment requirement for the water quality volume, describe why. This can include proximity to bedrock or road projects where the lack of right of way precludes the installation of any permanent stormwater management practices. Describe what other treatment, such as grasses swales, smaller ponds, or grit chambers, will be implemented to treat runoff prior to discharge to surface waters. (III.C)

See item 1 discussion.

4. If proposing an alternative method to treat runoff from the new impervious surfaces, describe how this alternative will achieve approximately 80 percent removal of total suspended solids on an annual average basis (III.C.5).

Note: If proposing an alternative method, you must submit your SWPPP to MPCA at least 90 days prior to the starting date of the construction activity.

Not applicable

Erosion Prevention Practices (IV.B)

1. Describe construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices to minimize erosion. Delineate areas not to be disturbed (e.g., with flags, stakes, signs, silt fence, etc.) before work begins.

- The Duluth Traverse Phase 6 construction activities will be phased, beginning in May 2016 (pending all authorizations). Use of a multi-phased approach will limit the area of soil exposed at one time and allow for greater attention to implementing erosion prevention practices within each defined sub-project area.
- Duluth Traverse Phase 6 construction activities will be staged to the maximum extent practicable: a) to minimize the amount of disturbed area exposed at any one time; b) to stabilize disturbed areas as soon as possible; c) provide additional BMPs to protect portions of the work that have reached final stabilization.
- Prior to the start of land disturbing activities, site preparation BMPs shall be implemented along the downgradient perimeter of the sub-project.
- Erosion prevention practices will commence prior to the start of construction. Areas not to be disturbed will be delineated with flagging, stakes, and/or fencing. To prevent erosion and to control sediment from entering these areas, sediment logs, berms of topsoil or another adequate BMP will be put in place downgradient.
- During construction native vegetative buffers will be retained wherever possible.
- However, during the course of construction in some areas it may not be possible to retain native vegetation. Where vegetation interferes with construction activities it may be graded. The non-trail tread area will be stabilized with seed and erosion blanket /or mulch to minimize erosion. The trail tread will be designed to shed water to vegetated areas.
 - All non-trail tread exposed areas will be stabilized as soon as possible to limit soil erosion, but in no case later than 7 days after construction activity in that

portion of the site has temporarily or permanently ceased.

2. Describe temporary erosion protection or permanent cover used for exposed soil. All exposed soil areas must be stabilized as soon as possible but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased (part IV.B.2).

- Temporary erosion protection may include, but is not limited to: straw, mulch, erosion blanket, plastic sheeting, geotextiles, rock, spanning erodible soils with boardwalks or bridges, and similar methods.
- Permanent erosion protection may include, but is not limited to: packed trail surface, rock hardening or armoring, permanent vegetation, and other landscaped material that will permanently arrest soil erosion.

3. For drainage or diversion ditches, describe practices to stabilize the normal wetted perimeter within 200 lineal feet of the property edge or point of discharge to surface water. The remaining portions of the temporary or permanent ditch or swale must be stabilized within 14 days after connecting to surface waters and construction in that portion of the ditch has temporarily or permanently ceased.

- In general, excavation in drainage or diversion ditches will be avoided but if construction in ditches is required, it will be stabilized with rip rap, anchored mats, geotextiles, and/or other permanent stabilization methods designed to withstand concentrated flow.
- Application of mulch, hydromulch, tackifier, polyacrylamide, or similar erosion prevention practices are not acceptable temporary or permanent stabilization methods in drainage ditches or areas where concentrated flow occurs.

4. Describe other erosion prevention practices (list and describe).

- See Appendix A for project quantity estimates.

Sediment Control Practices (IV.C)

Describe sediment control practices used to minimize sediments from entering surface waters, including curb and gutter systems and storm drain inlets. Sediment control practices must include:

The sediment control practices utilized to minimize sediment from entering surface waters, curb and gutter systems, and storm drain inlets are described here. The following list comprises the minimum sediment control practices that will be implemented throughout Project Duluth Traverse. Site-specific, detailed sediment control practices are available in Appendix A.

- Unbroken earthen slopes for grades of 3:1 or steeper will be kept to no more than 75 feet in length (Part IV.C1.c.).
- Sediment control practices at all down gradient perimeters will be established before land disturbing activities begin (Part IV.C.1.b). These practices may include:
 - Grade reversals
 - Turns
 - Filter logs (biorolls)
 - Rock checks
- Storm drain inlets will be adequately protected if located nearby and potentially affected by the proposed project (Part IV.C.4).
- Vehicle tracking of sediment from the site and onto paved roads (through the use of mulch, course rock or equivalent systems) will be minimized to the extent practicable, through loading and unloading equipment directly to and from trailers at the edge of parking areas or trail heads (Part IV.C.6.).
 - If tracking occurs, street sweeping will be utilized within 24 hours of discovery and installation of a rock entrance/exit pad will be considered.
- Temporary stockpiles will be protected with sediment logs, plastic sheeting, erosion control blanket or equivalent and appropriate sediment controls (Part IV.C.5.).
- Sediment control practices will be utilized. These practices may include:
 - Vegetative buffer/filter strips or native vegetation
 - Slash barriers
 - Other native material barriers
 - Bio rolls (sediment logs)
 - Grade reversals
 - Turns
 - Check dams
 - Rock dams

Dewatering and Basin Draining (IV.D)

1. Will the project include dewatering or basin draining? Yes No

Dewatering is not expected.

2. If yes, describe BMPs used so the discharge does not adversely affect the receiving water or downstream landowners. n/a

Additional BMPs for Special Waters and Discharges to Wetlands (Appendix A, Parts C and D)

1. Special Waters. Does your project discharge to special waters? Yes No

2. If proximity to bedrock or road projects where the lack of right of way precludes the installation of any of the permanent stormwater management practices, then other treatment such as grassed swales, smaller ponds, or grit chambers is required prior to discharge to surface waters. Describe what other treatment will be provided.

The proposed trail will be constructed to shed water to existing vegetated buffer/filter strips. Tread drains and grade dips will be constructed to direct water to the buffer strips filtered with sediment logs, erosion blanket or other BMPs. The project will incorporate redundant BMPs.

3. Describe erosion and sediment controls for exposed soil areas with a continuous positive slope to a special waters, and temporary sediment basins for areas that drain five or more acres disturbed at one time.

The project proposes no ditches and is not expected keep disturbed areas open to 5 or more acres at one time. The project was reviewed in consultation with the Duluth office of the MPCA, and as designed, the Agency has not required the construction of temporary sediment basins.

4. Describe the undisturbed buffer zone to be used (not less than 100 linear feet from the special water).

The project will attempt to preserve the undisturbed buffer zones within 100 feet of the special waters wherever possible. It will be necessary to cross special waters with bridges and therefore encroach within the 100 foot buffer. Existing crossings will be used wherever possible. However, portions of the trail are proposed to be constructed within this buffer.

This trail project has been laid out in accordance with the sustainable trail development recommendations as described in the *Minnesota Department of Natural Resources' Trail Planning, Design, and Development Guidelines*. These guidelines recommend that trails are constructed as rolling contour trails, or a trail that gently rises and falls and is level or parallel to the contour. In Duluth from east to west there are over 45 streams that cascade down the ridgeline. The Duluth Traverse Trail traverses the entire city from east to west and will inevitably cross many of these stream courses and follow the side slopes of the valley they occupy. Because of this it will be necessary to encroach within the 100 foot buffer. Another significant reason for encroachment is much of the project limits are within publically owned lands, parks and green spaces. These public spaces inherently have creeks running through them making avoidance difficult or near impossible. In the Duluth urban environment social trails have developed over time because people are drawn to the edges of creeks. There is no way to manage or restrict that use other than provide a sustainable trail option in lieu of the existing socially developed trails.

Additional reasons may include the safe negotiation of steep terrain, avoid rock outcrops and sensitive and or endangered species or other factors which may require other trail development BMPs to prevent erosion and provide for a safe, sustainable trail. Within this zone, removal of woody and native vegetation will be avoided as much as possible. In addition, boardwalks and bridges may be used to maintain the natural buffer and avoid soil disturbance in these areas.

5. Describe how the permanent stormwater management system will ensure that the pre and post project runoff rate and volume from the 1, and 2-year 24-hour precipitation events remains the same.

Not applicable

6. Describe how the permanent stormwater management system will minimize any increase in the temperature of trout stream receiving waters resulting in the 1, and 2-year 24-hour precipitation events.

The project will be designed to minimize the removal of natural vegetation adjacent to trout streams and cross perpendicular to streams to maximize natural shading. Trails will be constructed under existing forest canopy where possible. Trees larger than 6" in diameter will not be removed. Existing bridges will be used wherever possible to minimize new crossings of these resource waters.

7. Wetlands. Does your project discharge stormwater with the potential for significant adverse impacts to a wetland (e.g., conversion of a natural wetland to a stormwater pond)? Yes No

If Yes, describe the wetland mitigation sequence.

Inspections and Maintenance (IV.E)

Describe procedures to routinely inspect the construction site:

- Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas.
- Stormwater Inspections will be conducted by City Engineering staff, a COGGS member and/or the contractor trained in inspection and installation in accordance with General Permit No. MNR100001. Inspections will be conducted:
 - once every 7 days during active construction, and
 - within 24 hours after a rainfall event greater than 0.5 inches in 24 hours, and within 7 days after such rainfall.
 - Inspections will include monitoring for areas where erosion or sedimentation is occurring. Installation of additional BMPs will be considered to correct erosion and sedimentation.
- BMPs will be maintained and repaired as follows:
 - All non-functioning BMPs will be repaired or replaced within 24 hours of discovery.
 - Sediment deposited in surface waters will be removed within 7 days of discovery.
 - Sediment tracked onto paved roads will be removed within 24 hours of discovery.

Pollution Prevention Management Measures (IV.F)

1. Describe practices to properly manage and dispose of solid waste, including trash (IV.F.1):

Care will be taken to prevent wastes from contacting stormwater. Collected sediment, floating debris, paper, plastic, fabric, construction debris, and other wastes will be properly disposed of in appropriate covered waste containers in order to minimize stormwater contact with waste products.

All solid wastes will be collected by the contractor and removed from the site.

2. Described practices to properly manage hazardous materials (IV.F.2):

Care will be taken to prevent hazardous materials from contacting stormwater. Appropriate materials handling procedures will be implemented on-site. Oil, gasoline, and any other hazardous substances will be properly stored to prevent spills or leaks. The containers will be properly labeled and secured (via padlock when off-site) in appropriate secondary containment whenever possible.

3. Describe practices for external washing of trucks and other construction vehicles (IV.F.3):

If vehicle tracking is found to be contributing to the stormwater sediment load, then a vehicle washing station will be set up before the vehicle site exit to facilitate the removal of excess dirt prior to exiting the site. If necessary during muddy conditions, physical cleaning or pressure washing of the undercarriage may be employed. Runoff from the wash area will be contained to settle sediment prior to it leaving the immediate wash area.

4. Describe how are you going to provide a safe, leak proof, concrete washout on site (IV.F.4):

Concrete will be used on this project. The project will either provide signed, designated concrete washout area for each of the four parking improvements or the truck will return it back to the supplier.

5. Describe your spill prevention plan:

Care will be taken to prevent spills, including implementation of good housekeeping measures and minimization of the amount of chemicals, waste-generating products, and hazardous materials brought on site.

6. Describe measures to address sanitary and septic waste:

Portable sanitary facilities may be brought on site. Sanitary waste from the portable facilities will be disposed of, as necessary by a licensed sanitary waste provider in accordance with applicable regulations. Facilities will be secured to prevent spilling waste/chemicals from portable toilets caused by vandalism.

Final Stabilization (IV.G)

Describe how you will achieve final stabilization of the site (IV.G).

All exposed non-trail tread soil will be stabilized with permanent cover (uniform perennial vegetative cover with a density of 70% over the entire pervious surface). The native trail tread designed to shed water will be stabilized through compaction during construction and use.

Records Retention (III.D)

Describe your record retention procedures (must be kept at the site) (III.D). Records must include:

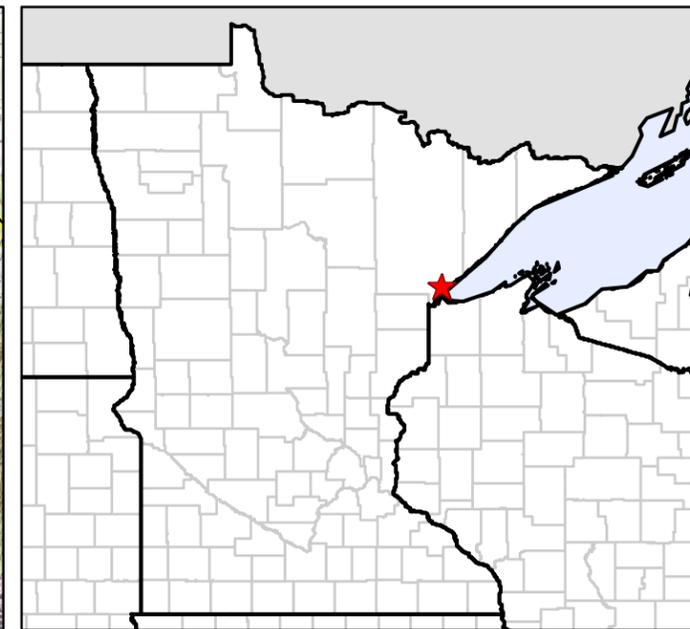
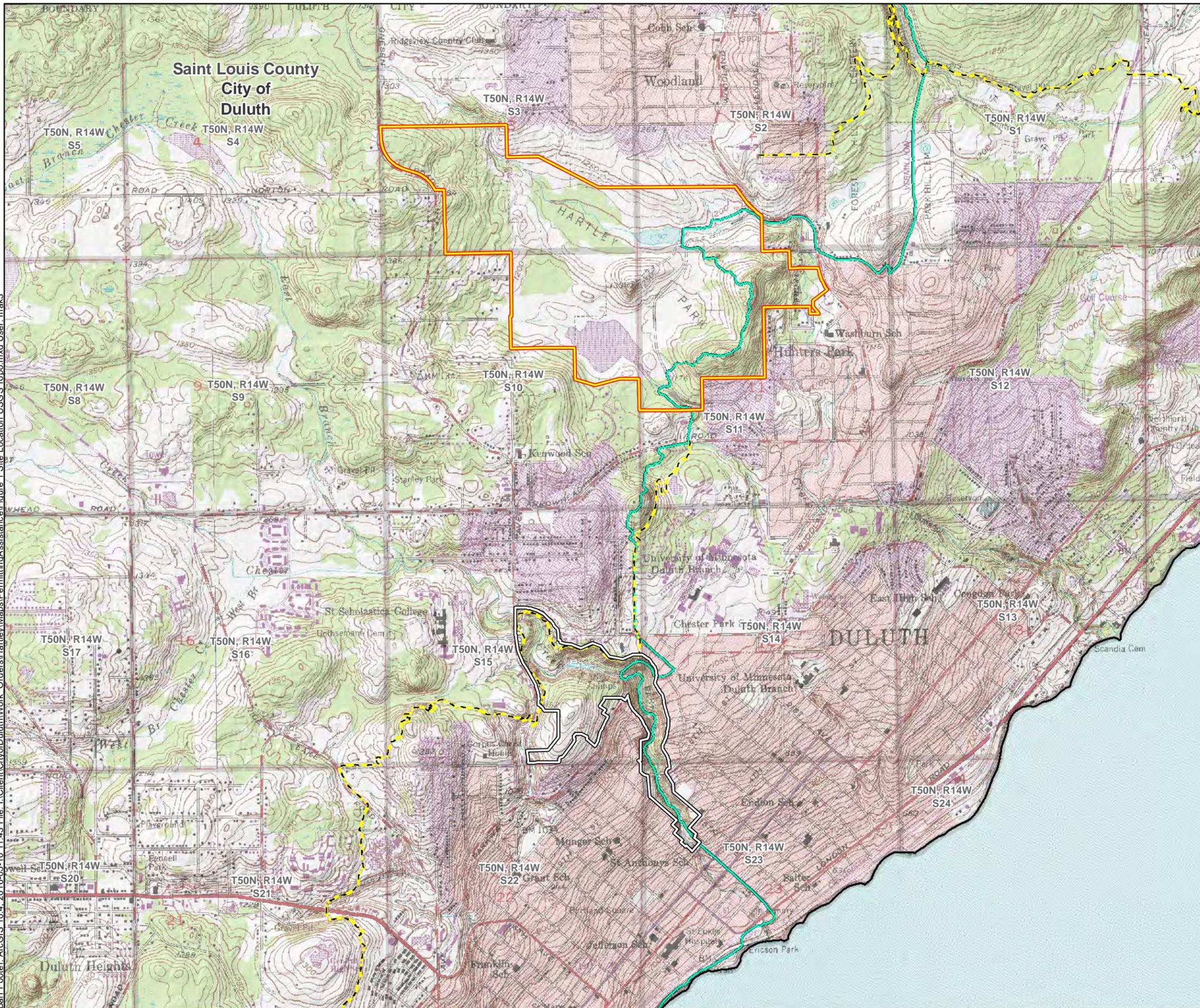
- Copy of SWPPP and any changes
- Training documentation (III.A.2.)
- Inspection and maintenance records
- Permanent operation and maintenance agreements
- Calculations for the design of temporary and permanent stormwater management systems

This SWPPP is a template for the entire Duluth Traverse Mountain Bike Trail System. Specifications are primarily designed for Phase 1 construction of trails in the Lester Park and Mission Creek areas. Future phases of the Traverse are dependent on funding and permitting approvals. This SWPPP will need to be amended as needed by the contractor and City of Duluth for this project and future phases of construction. The following records will be retained on-site along with this SWPPP:

- Training documentation (Appendix D).
- Inspection and maintenance records (Appendix E).
- SWPPP Amendments (Appendix F), which will include updates as they apply to any future phase work.

Figures

Barr Footer: ArcGIS 10.4, 2016-05-10 11:43 File: I:\Client\CityofDuluth\Work Orders\Hartley\Maps\PermittingAssistance\Figure 1 Site Location USGS Topo.mxd User: mark3



-  Site Location
-  Hartley Park Boundary
-  Chester Park Recreation Area
-  Superior Hiking Trail
-  Duluth Traverse Trail



0 2,000 4,000

Feet

1 Inch = 2,000 Feet

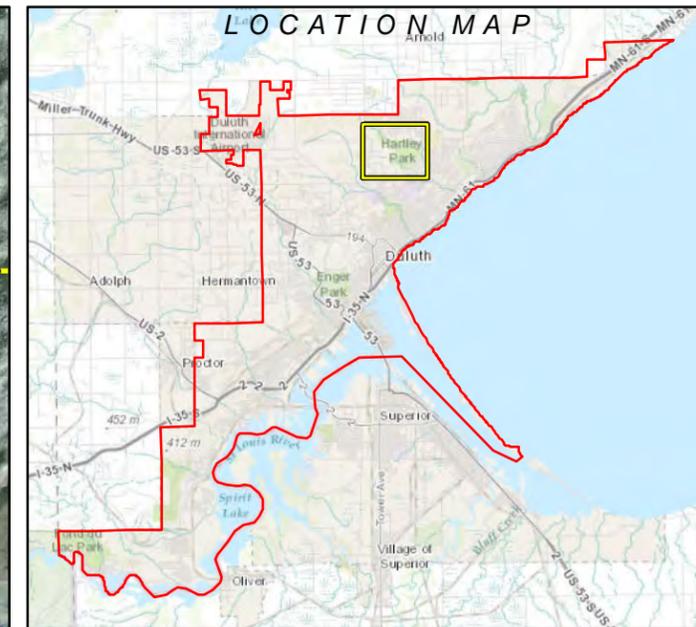
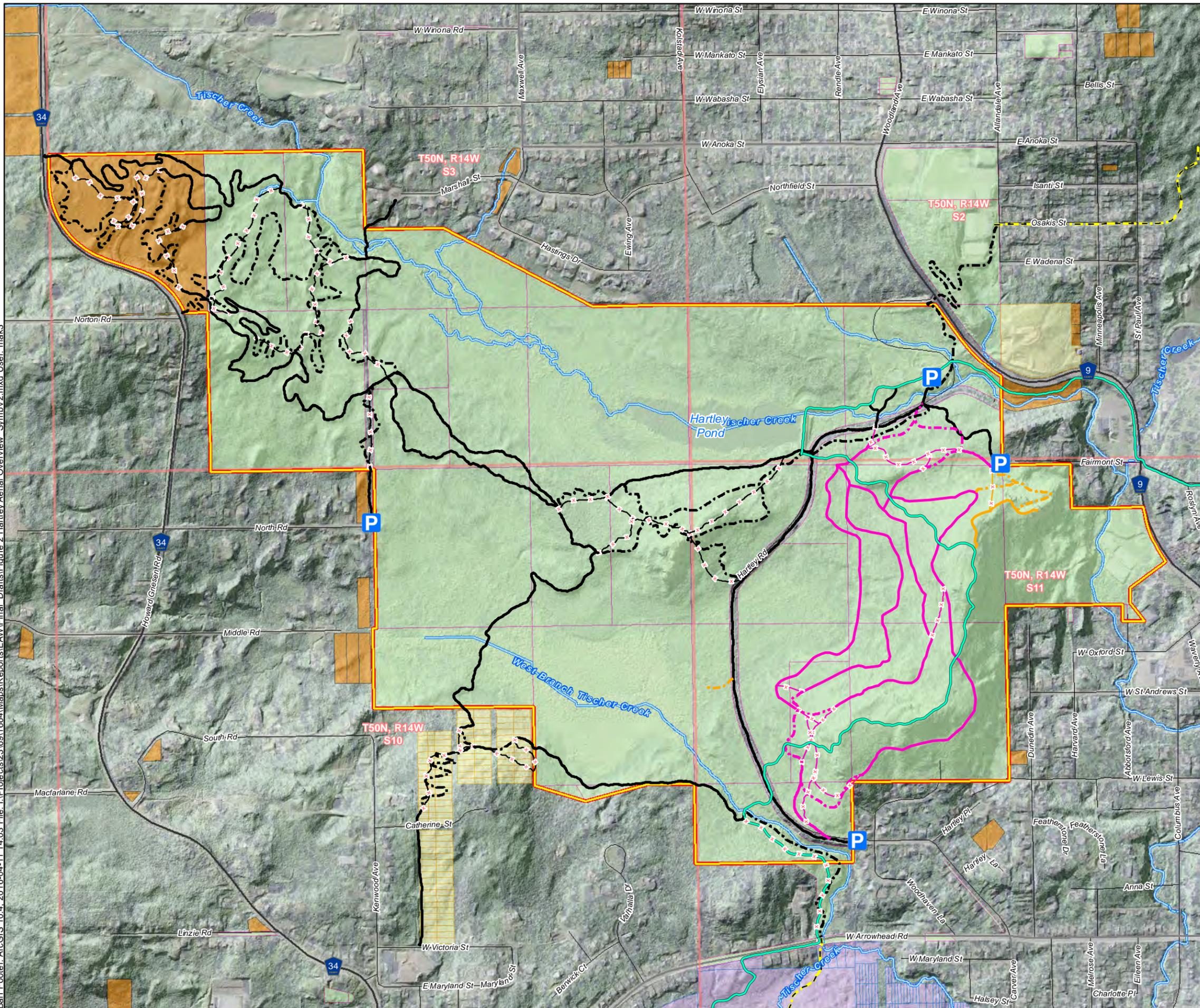
Figure 1

SITE LOCATION

Hartley Park and Chester Park Recreation Area
SWPPP
City of Duluth, Minnesota



Barr Footer: ArcGIS 10.4, 2016-04-11 14:03 File: I:\Projects\23,691\664\Maps\Reports\EA\Final Drafts\Figure 2 Hartley Aerial Overview_SymbV2.mxd User: mak3



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo,

- | | |
|--|--|
| P Proposed Parking Improvements | Rivers and Streams |
| Existing, Hiking | Surface Waters |
| Existing, Multi-Use | Underground (Culvert) |
| Existing, Ski | Hartley Park Boundary |
| Proposed, Hiking | City of Duluth Boundary |
| Proposed, Multi-Use | Sections |
| Proposed, Ski | Hartley Nature Center (HNC) owned Parcel |
| Remove, Hiking | St. Louis County Parcel Ownership |
| Remove, Multi-Use | Tax Forfeit |
| Remove, Ski | State of Minnesota |
| Remove, Superior Hiking Trail | City of Duluth |
| Superior Hiking Trail | |
| Duluth Traverse Trail | |



0 800 1,600

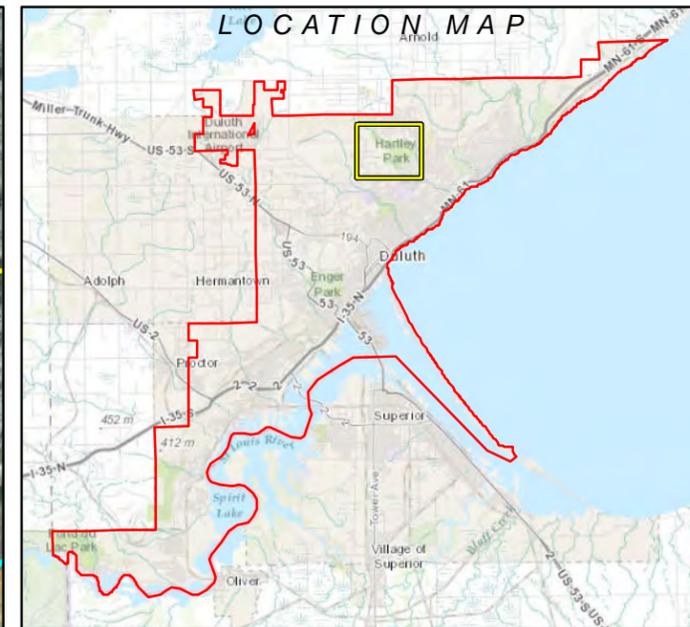
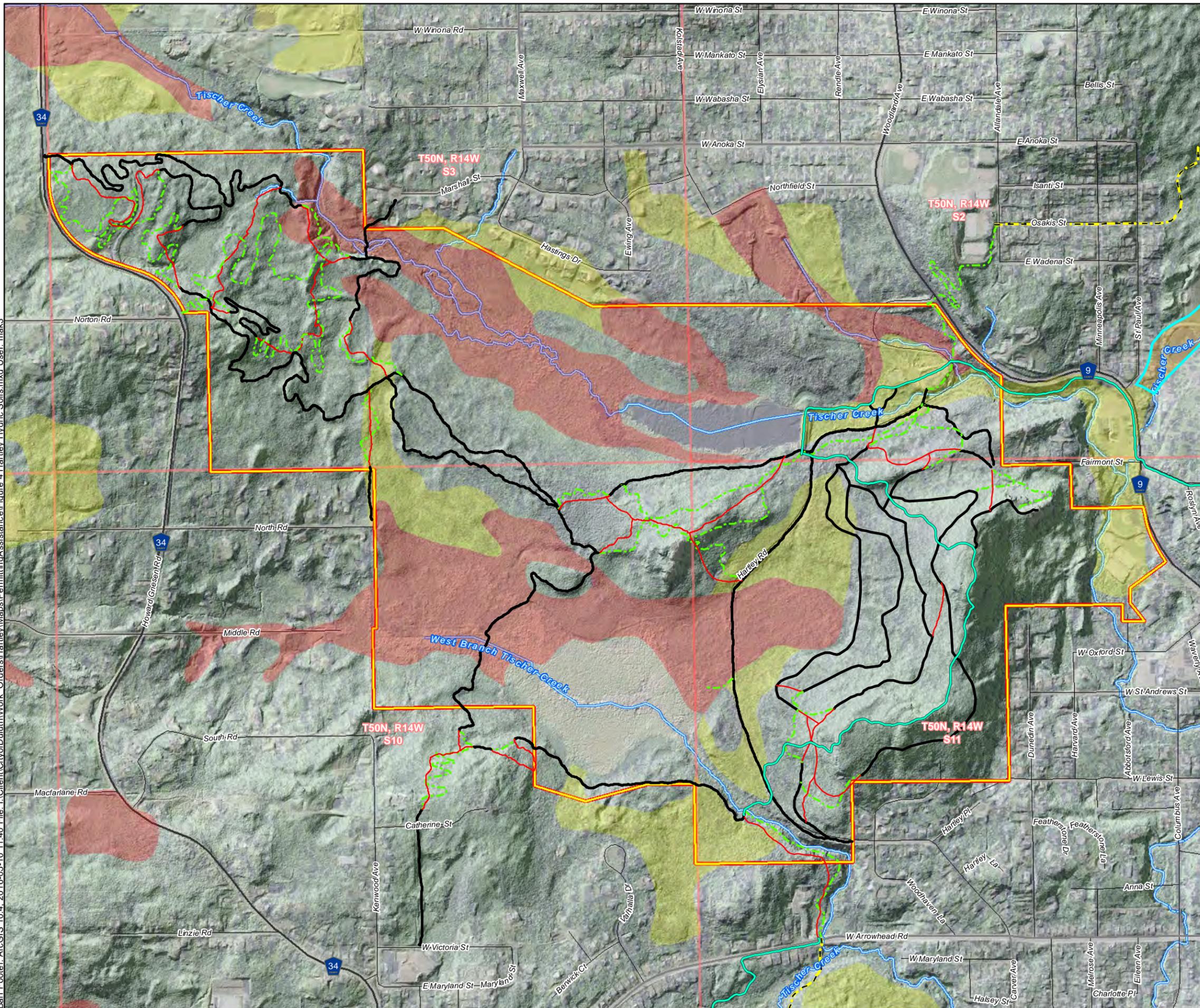
Feet
1 Inch = 800 Feet
2013 FSA Via MnGeo WMS

Figure 2

HARTLEY PARK OVERVIEW
Hartley Park SWPPP
City of Duluth, Minnesota



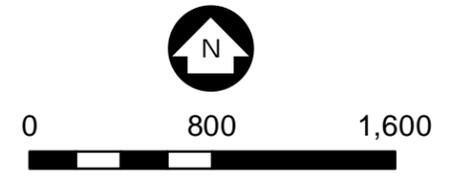
Barr Footer: ArcGIS 10.4, 2016-05-10 11:40 File: I:\Client\CitiesofDuluth\Work_Orders\Hartley\Maps\PermittingAssistance\Figure 4 Hartley Hydric Soils.mxd User: mak3



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo,

- Hartley Trails**
 - Existing
 - - - Proposed
 - Remove
 - Superior Hiking Trail
 - Duluth Traverse Trail
- Hydric Soils**
 - Hydric (100%)
 - Predominatly hydric (66 to 99%)
 - Partially hydric (33 to 65%)
- Hartley Park Boundary**
 - Hartley Park Boundary
 - City of Duluth Boundary
 - Sections
- Rivers and Streams**
 - Surface Waters
 - Underground (Culvert)

Soils data obtained from NRCS (SSURGO) July 2015, Hydric Soils processed/created using NRCS Soils Data Viewer.



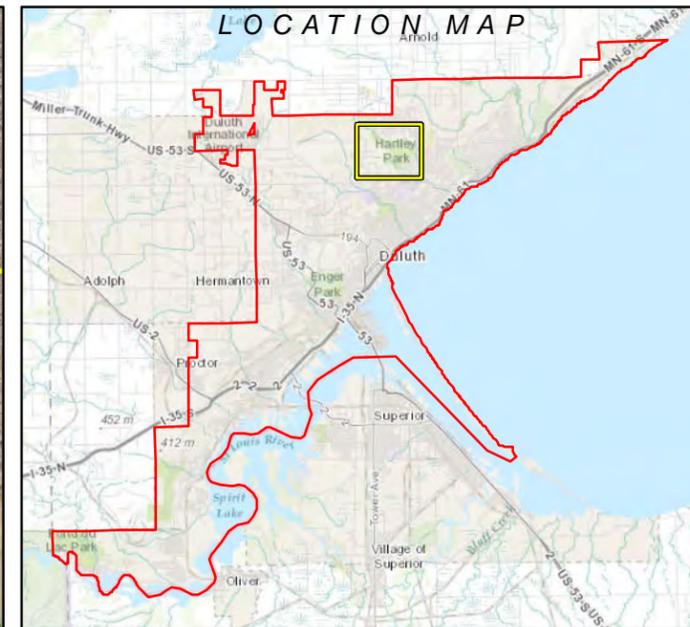
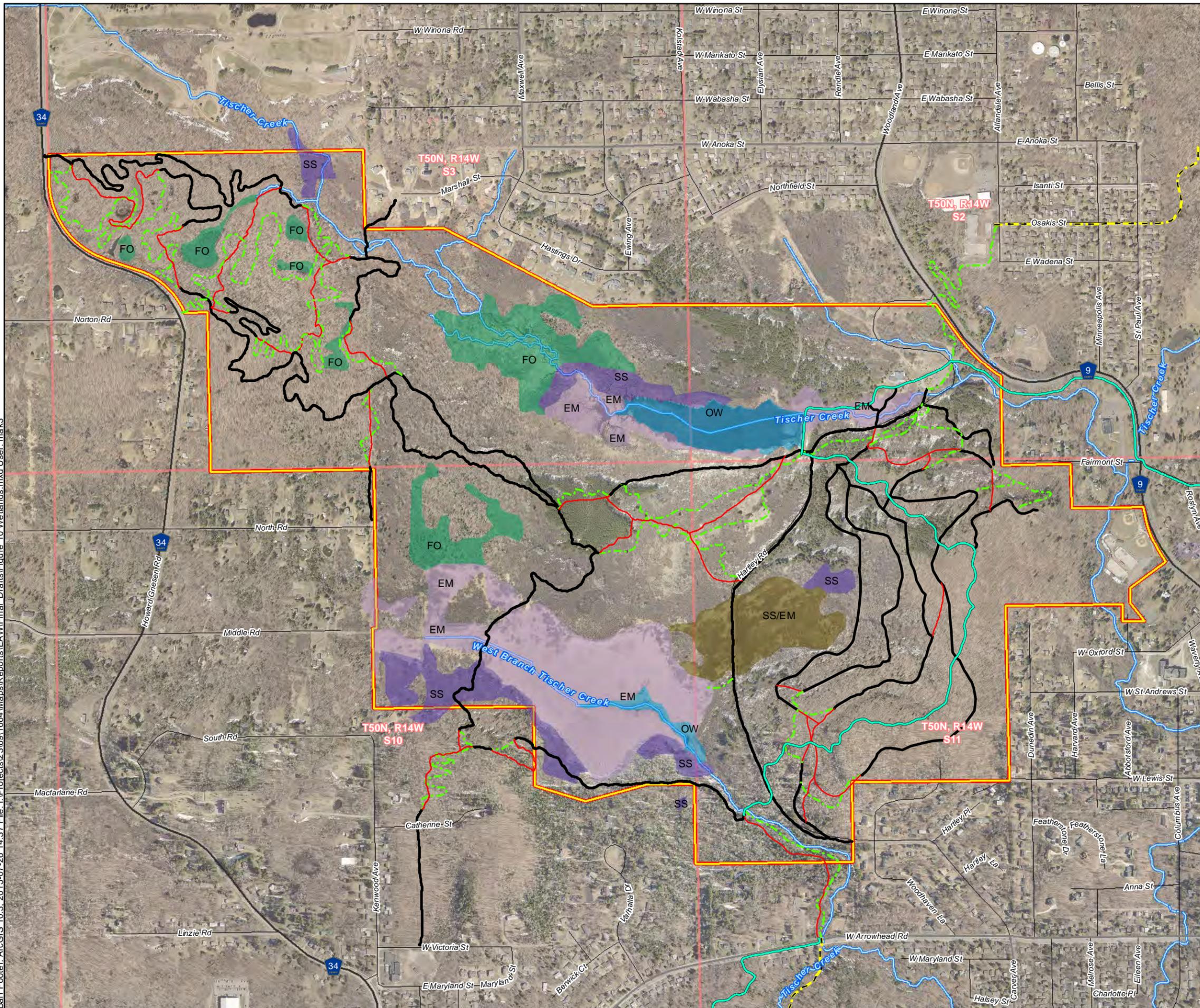
Feet
1 Inch = 800 Feet
2013 FSA Via MnGeo WMS

Figure 4

HYDRIC SOILS
Hartley Park SWPPP
City of Duluth, Minnesota



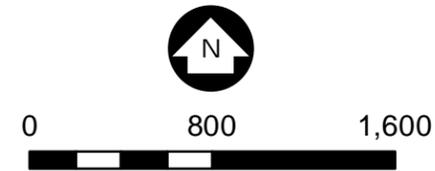
Barr Footer: ArcGIS 10.3, 2015-07-26 14:37 File: I:\Projects\23\691664\Maps\Reports\EA\W\Final_Drafts\Figure 10 Wetlands.mxd User: mak3



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo.

- | | |
|-----------------------------|----------------------------------|
| Hartley Trails | Wetlands (City of Duluth) |
| — Existing | Emergent (EM) |
| - - - Proposed | Forested (FO) |
| — Remove | Open Water (OW) |
| — Superior Hiking Trail | Scrub-Shrub (SS) |
| - - - Duluth Traverse Trail | Scrub-Shrub/Emergent (SS/EM) |
| ▭ Hartley Park Boundary | Rivers and Streams |
| ▭ City of Duluth Boundary | — Surface Waters |
| ▭ Sections | - - - Underground (Culvert) |

Wetlands obtained from City of Duluth July 2015



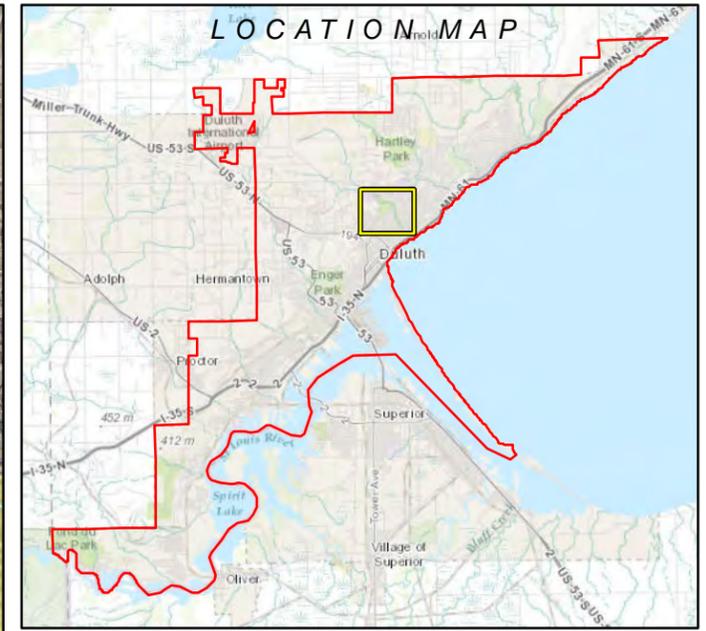
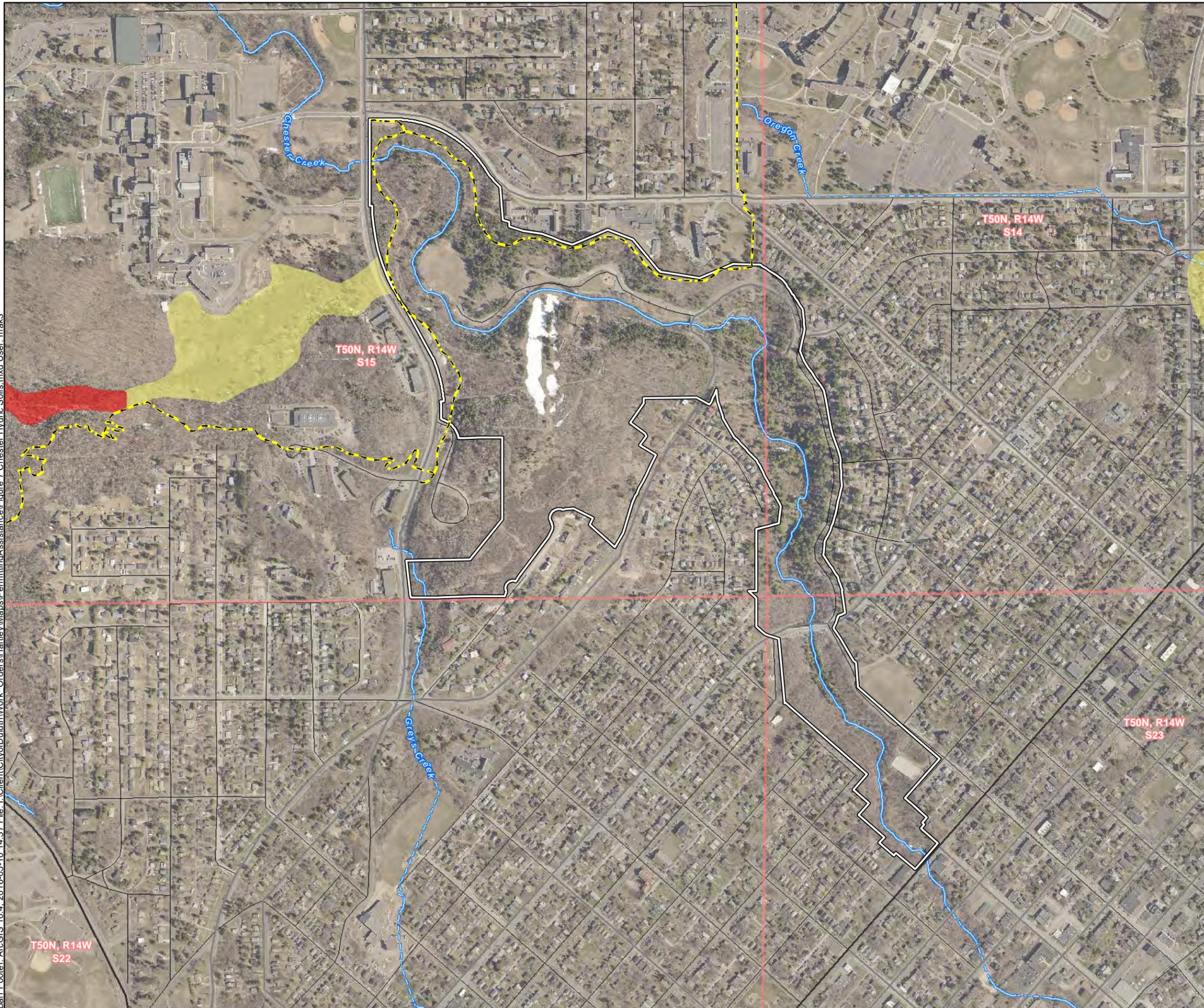
Feet
1 Inch = 800 Feet
St. Louis County Imagery Circa May, 2013

Figure 5

WETLANDS (City of Duluth)
Hartley Park SWPPP
City of Duluth, Minnesota



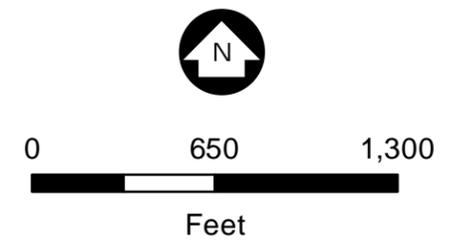
Barr Footer: ArcGIS 10.4, 2016-05-10 14:57 File: I:\Client\CityofDuluth\Work_Orders\Hartley\Maps\PermittingAssistance\Figure 7 Chester Hydric Soils.mxd User: mak3



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo,

- Chester Park Recreation Area
- Superior Hiking Trail
- Duluth Traverse Trail
- City of Duluth Boundary
- Sections
- Rivers and Streams
- Surface Waters
- Underground (Culvert)
- Partially hydric (33 to 65%)
- Hydric (100%)

Soils data obtained from NRCS (SSURGO) May 2016, Hydric Soils processed/created using NRCS Soils Data Viewer.



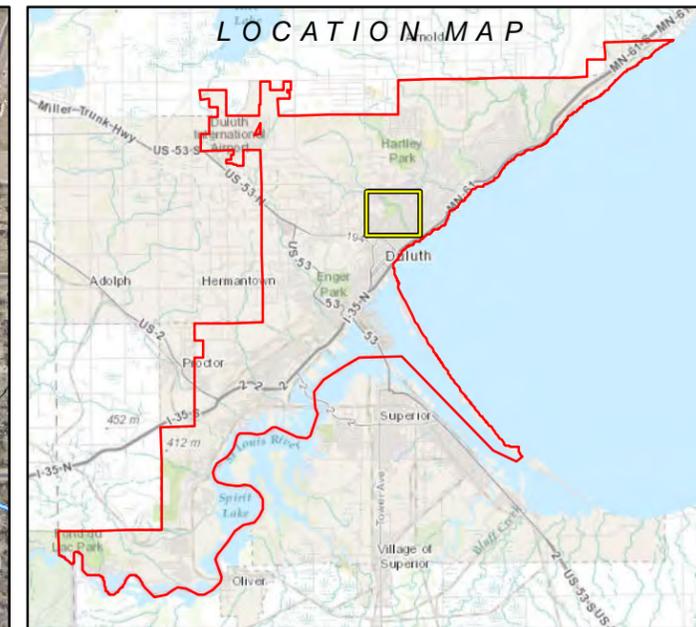
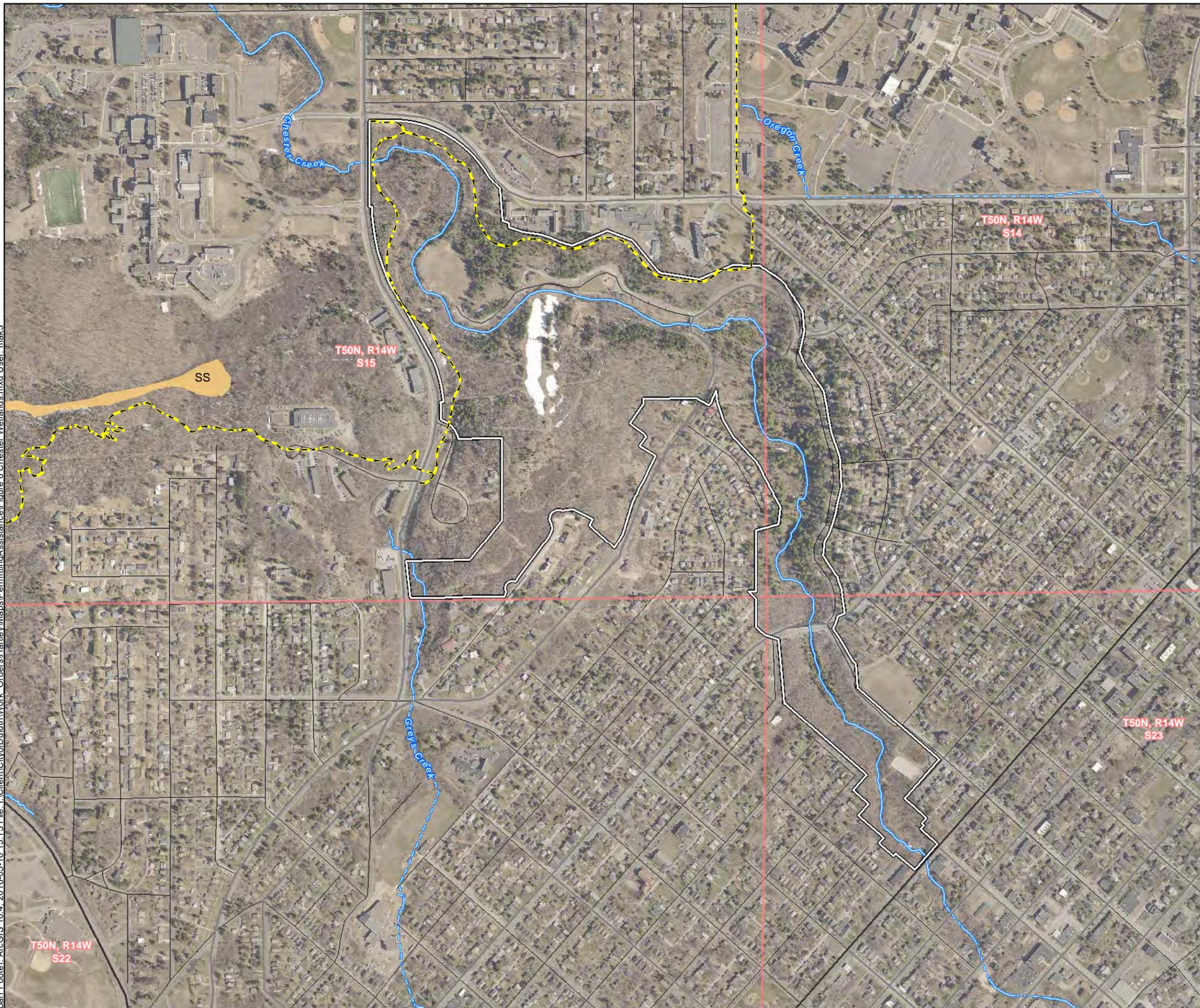
1 Inch = 650 Feet
St. Louis County Imagery Circa May, 2013

Figure 7

HYDRIC SOILS
Chester Park Recreation Area SWPPP
City of Duluth, Minnesota



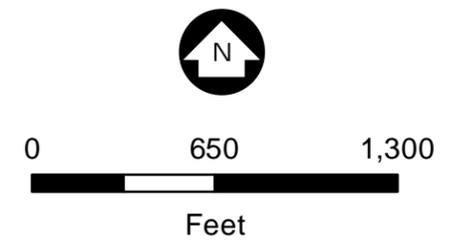
Barr Footer: ArcGIS 10.4, 2016-05-10 15:13 File: I:\Client\CityofDuluth\Work_Orders\Hartley\Maps\PermittingAssistance\Figure 8 Chester Wetlands.mxd User: mak3



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo,

- Chester Park Recreation Area
- Duluth Traverse Trail
- Sections
- Rivers and Streams
- Surface Waters
- Underground (Culvert)
- Wetlands (NRR)
- Scrub-Shrub (SS)

Wetland boundaries created by Natural Resources Research Institute (NRR)



St. Louis County Imagery Circa May, 2013

Figure 8

WETLANDS (NRR)
 Chester Park Recreation Area SWPPP
 City of Duluth, Minnesota



Appendices

Appendix A

***MPCA NPDES Permit Application and
Construction Stormwater General Permit***

**GENERAL PERMIT
AUTHORIZATION TO DISCHARGE
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/
STATE DISPOSAL SYSTEM PROGRAM**

ISSUANCE DATE: August 1, 2013

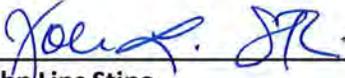
EXPIRATION DATE: August 1, 2018

This permit is issued in compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq.), 40 Code of Federal Regulations (CFR) 122, 123, 124, and 450 as amended; Minnesota Statute chapters 115 and 116, as amended, and Minn. R. chs. 7001, 7050, 7060 and 7090.

This permit regulates discharges associated with **stormwater** affected by **construction activity** to **waters of the state** of Minnesota. This permit covers the **stormwater** discharges identified in Part I.A. of this permit. The limitations on permit coverage are identified in Part I.B. of this permit.

Minn. R. 7090.2040 requires **owner(s)** of a **construction activity** to complete a **Stormwater Pollution Prevention Plan (SWPPP)** prior to submitting an application for this permit and prior to conducting any **construction activity**. No person shall commence **construction activity** covered by Part I.A. until permit coverage under this permit is effective or, if applicable, until the Minnesota Pollution Control Agency (MPCA) has issued an individual **National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater (CSW) Permit** for the **project**.

Unless notified by the MPCA to the contrary, applicants who submit a complete and accurate application (including permit fee) in accordance with the requirements of this permit are authorized to discharge **stormwater** associated with construction activity under the terms and conditions of this permit as described in Part II.B.

Signature: 

John Linc Stine
Commissioner

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact the appropriate MPCA offices. Note that **bolded** words throughout the permit are defined in Appendix B.

**Minnesota Pollution Control Agency
Municipal Division
Construction Stormwater Program
520 Lafayette Road North
St. Paul, MN 55155-4194
Telephone: 651-296-6300
Toll free in MN: 800-657-3864**

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PART I. PERMIT COVERAGE AND LIMITATIONS

I.A. PERMIT COVERAGE

1. This permit is required for **construction activity** that results in land disturbance of equal to or greater than one acre or a **common plan of development or sale** that disturbs greater than one acre, and authorizes, subject to the terms and conditions of this permit, the discharge of **stormwater** associated with **construction activity**.

Construction activity does not include a disturbance to the land of less than five (5) acres for the purpose of routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. Pavement rehabilitation that does not disturb the underlying soils (e.g., mill and overlay **projects**) is not considered construction activity.

2. This permit covers all areas of the State of Minnesota.
3. Coverage under this permit is not required when all stormwater from **construction activity** is routed directly to and treated by a "treatment works", as defined in Minn. Stat. § 115.01, subd. 21, that is operated under an individual **NPDES/SDS** permit with a Total Suspended Solids effluent limit for all treated runoff.
4. Previously Permitted Ongoing **Projects: Permittee(s)** of ongoing **projects** covered initially under the previous MPCA-issued **NPDES/SDS** Construction Stormwater General Permit (issuance date August 1, 2008) are granted coverage under this reissued permit.
 - a. The **Permittee(s)** of those ongoing **projects** shall amend the **SWPPP** for the **project** to meet the requirements of this reissued permit no later than 18 months after the issuance date of this reissued permit if the termination-of-coverage requirements in Part II.C. will not be met within 18 months of the issuance date of this reissued permit and shall thereafter comply with this permit. However, additional permanent treatment required in this reissued permit is not required for previously permitted **projects**.
 - b. If the previously permitted ongoing **project** will meet the termination-of-coverage requirements in Part II.C. within 18 months of the issuance date of this reissued permit, the **Permittee(s)** shall comply with the 2008 construction general permit until the **project** is complete and a **Notice of Termination (NOT)** consistent with Part II.C. of this reissued permit is submitted.
 - c. If a previously permitted ongoing **project** will not be able to meet the terms and conditions of this reissued permit (other than the additional permanent treatment requirement) and will continue longer than 18 months after the issuance date of this permit, the **Permittee(s)** shall apply for an individual permit in accordance with Minn. R. ch. 7001.

I.B. LIMITATIONS OF COVERAGE

This permit does not authorize discharges related to the following activities:

1. Discharges or releases that are not **stormwater** (except those non-**stormwater** discharges

authorized under Part IV.D.).

2. The placement of fill into **waters of the state** requiring local, state or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits, Minnesota Department of Natural Resources Public Waters Work Permits or Local Governmental Unit Wetland Conservation Act replacement plans or determinations).
3. Discharges associated with industrial activity except for **construction activity**. Discharges associated with industrial activity may need to obtain coverage under a separate NPDES/SDS permit once day-to-day operational activities commence even if construction is ongoing.
4. Discharges from non-point source agricultural and silvicultural activities excluded from **NPDES** permit requirements under 40 CFR pt. 122.3(e).
5. Discharges to the waters identified below unless the requirements of Appendix A are complied with:
 - a. Discharges into outstanding resource value waters as listed in Minn. R. 7050.0180, subp. 3, 4, 5, 6, 6a and 6b.
 - b. Discharges into trout waters as listed in Minn. R. 6264.0050, subp. 2 and 4.
 - c. Discharges into **wetlands** as defined in Minn. R. 7050.0186 subd.1a.B.
 - d. Discharges from **projects** that have not completed applicable Environmental Review requirements under state or federal laws.
 - e. Discharges that adversely impact or contribute to adverse impacts on a state or federally listed endangered or threatened species or adversely modify a designated critical habitat.
 - f. Discharges that adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites.
6. Discharges to waters identified as impaired pursuant to section 303(d) of the federal Clean Water Act (33 U.S.C. § 303(d)) where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment), and with or without a U.S. Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) for any of these identified pollutant(s) or stressor(s), unless the applicable requirements of Part III.A.8. are met.

PART II. SUBMITTING THE APPLICATION

II.A. PREREQUISITE FOR SUBMITTING A PERMIT APPLICATION

The **owner** must develop an accurate and complete **SWPPP** in accordance with Part III. (Stormwater Discharge Design Requirements) of this permit prior to submitting the application for coverage. The **SWPPP** is not required to be submitted to the MPCA (unless the **project** size is 50 acres or more and will discharge to certain waters as described in Part II.B.1.b.) but is to be retained by the **owner** in

accordance with Part III.E. (Record Retention). The **owner's** failure to prepare an accurate and complete **SWPPP** prior to submitting the application is grounds for MPCA to revoke the permit.

II.B. APPLICATION AND DURATION OF COVERAGE

1. Application Required.

- a. The **owner** and **operator** shall submit a complete and accurate on-line application form with the appropriate fee to the MPCA for each **project** that disturbs one (1) or more acres of land or for a **common plan of development or sale** that will ultimately disturb one (1) or more acres. If the applicant is not able to apply on-line, contact the MPCA for technical assistance or a waiver.
 - b. For certain **projects** or **common plans of development or sale** disturbing 50 acres or more, the application must be submitted at least 30 days before the start of **construction activity**. This requirement pertains to **projects** that have a discharge point on the **project** that is within one mile (**aerial radius measurement**) of, and flows to, a special water listed in Appendix A, Part B. or waters listed as impaired under section 303(d) of the federal Clean Water Act (see the MPCA's website) where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). Applicants of **projects** listed in this part must submit a complete and accurate application form and **SWPPP** including all calculations for the Permanent **Stormwater** Management System (see Parts III.A.-D.).
2. All persons meeting the definition of **owner** and **operator** are **Permittees** and must be listed on the application. The **owner** is responsible for compliance with all terms and conditions of this permit. The **operator** is responsible for compliance with Parts II.B, II.C, III.B-F, IV, V, and applicable **construction activity** requirements found in Appendix A, Part C. of this permit and is jointly responsible with the **owner** for compliance with those portions of the permit.
 3. Permit Coverage Effective Date: The commencement of any **construction activity** (e.g., land disturbing activities) covered under Part I.A. of this permit is prohibited until permit coverage under this permit is effective.
 - a. For **projects** listed in Part II.B.1.a. permit coverage will become effective seven (7) calendar days after the electronic submittal date or the postmarked date of a complete application form.
 - b. For **projects** listed in Part II.B.1.b. permit coverage will become effective 30 calendar days after the electronic submittal date, the postmarked date or MPCA date stamp (whichever is first) of the complete application. For incomplete applications (e.g., lack of fees or signature) or incomplete **SWPPPs** (e.g., missing calculations, **Best Management Practice (BMP)** specifications, estimated quantities of the **BMPs**, or timing of **BMP** installation narrative), the permit becomes effective 30 calendar days after all required information is submitted.
 4. Coverage Notification: **Permittee(s)** will be notified of coverage in a manner as determined by the **Commissioner** (e.g., e-mail, online notification or letter).

5. Change of Coverage: For construction **projects** where the **owner** or **operator** changes, (e.g., an original developer sells portions of the property to various homebuilders or sells the entire site to a new **owner**) the current **owner** and the new **owner** or **operator** shall submit a complete permit modification on a form provided by the **Commissioner**. The form must be submitted prior to the new **owner** or **operator** commencing **construction activity** on site or in no case later than 30 days after taking ownership of the property. The **owner** shall provide a **SWPPP** to the new **owner** and **operator** that specifically addresses the remaining **construction activity**.

II.C. TERMINATION OF COVERAGE

1. Termination of coverage when construction is complete: All **Permittee(s)** must submit a **Notice of Termination (NOT)** to the MPCA on a form provided by the **Commissioner** within 30 days after all activities required for **Final Stabilization** (see Part IV.G.) are complete. The **Permittee(s)**' coverage under this permit terminates at midnight on the submission date of the **NOT**.
2. Termination of coverage when transfer of ownership occurs: All **Permittee(s)** must submit a **NOT** on a form provided by the **Commissioner** within 30 days after selling or otherwise legally transferring the entire site, including permit responsibility for roads (e.g., street sweeping) and **stormwater** infrastructure final clean out, or transferring portions of a site to another party. The **Permittee(s)**' coverage under this permit terminates at midnight on the submission date of the **NOT**.
3. **Permittee(s)** may terminate permit coverage prior to completion of all **construction activity** if all of the following conditions are met. After the permit is terminated under this Part, if there is any subsequent development on the remaining portions of the site where **construction activity** was not complete, new permit coverage must be obtained if the subsequent development itself or as part of the remaining **common plan of development or sale** will result in land disturbing activities of one (1) or more acres in size.
 - a. **Construction activity** has ceased for at least 90 days.
 - b. At least 90 percent (by area) of all originally proposed **construction activity** has been completed and **permanent cover** established on those areas.
 - c. On areas where **construction activity** is not complete, **permanent cover** has been established.
 - d. The site is in compliance with Part IV.G.2. and Part IV.G.3. and where applicable, Part IV.G.4. or Part IV.G.5.
4. **Permittee(s)** may terminate coverage upon approval by the MPCA if information is submitted to the MPCA documenting that termination is appropriate because the project is cancelled.

PART III. **STORMWATER DISCHARGE DESIGN REQUIREMENTS**

III.A. STORMWATER POLLUTION PREVENTION PLAN CONTENT

The **owner** must develop a **Stormwater Pollution Prevention Plan (SWPPP)**. The **SWPPP** shall be

completed prior to submitting any permit application and prior to conducting any **construction activity** by any required **Permittee(s)**. For **stormwater** discharges from **construction activity** where the **owner** or **operator** changes, the new **owner** or **operator** can implement the original **SWPPP** created for the **project**, modify the original **SWPPP**, or develop and implement their own **SWPPP**. **Permittee(s)** shall ensure either directly or through coordination with other **Permittee(s)** that their **SWPPP** meets all terms and conditions of this permit and that their activities do not render another party's **erosion prevention** and **sediment control BMPs** ineffective. The **SWPPP** must include the following:

1. A description of the **construction activity**: The description must be a combination of narrative, plan sheets, and (if appropriate) standard detail sheets that address the foreseeable conditions, at any stage in the construction or post construction activities. The **SWPPP** must identify the potential for discharge of sediment and/or other potential pollutants from the site. The **SWPPP** must propose **erosion prevention and sediment control BMPs** to control the discharge of sediment and/or other potential pollutants from the site.
2. Knowledgeable person/chain of responsibility: As part of the **SWPPP**, the **owner** must identify a person knowledgeable and experienced in the application of **erosion prevention and sediment control BMPs** who will oversee the implementation of the **SWPPP**, and the installation, inspection and maintenance of the **erosion prevention and sediment control BMPs** (see Part III.F.1.) before and during construction. The **owner** must identify in the **SWPPP** who will have the responsibility for long-term operation and maintenance of the Permanent **Stormwater Management System** (see Part III.D.). The **owner** shall include in the **SWPPP** a chain of responsibility with all **operators** on the site, or if not known, the title or position of the responsible party, to ensure that the **SWPPP** will be implemented and stay in effect until the construction **project** is complete, the entire site has undergone **Final Stabilization**, and an **NOT** has been submitted to the MPCA. Once the identity of the responsible party is known, the **SWPPP** must be amended to include this information.
3. Training documentation: The **Permittee(s)** shall ensure the individuals identified in Part III.F. have been trained in accordance with this Permit's training requirements. The **Permittee(s)** shall ensure the training is recorded in or with the **SWPPP** before the start of construction or as soon as the personnel for the **project** have been determined. Documentation shall include:
 - a. Names of the personnel associated with this **project** that are required to be trained per Part III.F.1. of this permit.
 - b. Dates of training and name of instructor(s) and entity providing training.
 - c. Content of training course or workshop including the number of hours of training.
4. Designs, calculations, and narrative: The **SWPPP** must incorporate the requirements of Part III (**Stormwater Discharge Design Requirements**) including calculations, Part IV (**Construction Activity Requirements**) and Appendix A for the **project**. A narrative describing the timing for installation of all **erosion prevention and sediment control BMPs** and permanent **stormwater management systems** required in Part III, Part IV and Appendix A must also be included in the **SWPPP**.
5. **SWPPP** components: The **SWPPP** requirements must be incorporated into the **project's** final

plans and specifications and/or **project** documentation, as appropriate, and must include:

- a. Location and type of all temporary and permanent **erosion prevention** and **sediment control BMPs** along with procedures to be used to establish additional temporary **BMPs** as necessary for the site conditions during construction. **Standard details** and/or specifications for the **BMPs** used on the **project** must be included in the final plans and specifications for the **project**.
- b. Quantities: Estimated preliminary quantities tabulation anticipated at the start of the **project** for the life of the **project** must be included for all **erosion prevention** and **sediment control BMPs** in the **SWPPP** (e.g., linear feet of silt fence or ft² of erosion control blanket).
- c. Impervious surface: The number of acres of **impervious surface** for both pre- and post-construction must be specified.
- d. Site map: A site map with existing and final grades, including dividing lines and direction of flow for all pre-and post-construction **stormwater** runoff drainage areas located within the **project** limits must be included. The site map must indicate the areas of **steep slopes**. The site map must also include **impervious surfaces**, soil types and locations of potential pollutant-generating activities as identified in Part IV.F.
- e. Locations of areas not to be disturbed: Buffer zones, as required for temporary **BMPs** during construction in Part IV.C.9., or if required as permanent **BMPs** in Appendix A, Part C.3., must be described and identified on plan sheets or **project** maps in the **SWPPP**.
- f. Construction phasing: Location of areas where construction will be phased to minimize duration of exposed soil areas must be described.
- g. Maps of surface waters and wetlands: The **SWPPP** must include a map of all **surface waters**, existing **wetlands**, and **stormwater** ponds or basins which can be identified on maps such as United States Geological Survey 7.5 minute quadrangle maps, the National Wetland Inventory map or equivalent maps within one mile (**aerial radius measurement**) from the **project** boundaries that will receive **stormwater** from the construction site, during or after construction. Where **surface waters** receiving **stormwater** associated with **construction activity** will not fit on the plan sheet, they must be identified with an arrow, indicating both direction and distance to the **surface water**. The **SWPPP** must identify if the **surface water** is a special or impaired water. The site map must also show **construction activity** areas that are adjacent to and drain to **Public Waters** for which the Department of Natural Resources has promulgated “work in water restrictions” during specified fish spawning time frames.
- h. **Final stabilization**: Methods to be used for **Final Stabilization** of all exposed soil areas must be described.
- i. **BMP design factors**: The **SWPPP** must account for the following factors in designing the temporary **erosion prevention** and **sediment control BMPs**:
 - i. The expected amount, frequency, intensity, and duration of precipitation.
 - ii. The nature of **stormwater** runoff and run-on at the site, including factors such as

- expected flow from **impervious surfaces**, slopes, and site drainage features.
- iii. If any **stormwater** flow will be channelized at the site, the **Permittee(s)** must design **BMPs** to control both peak flowrates and total **stormwater** volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion.
 - iv. The range of soil particle sizes expected to be present on the site.
- j. Soil Management: Methods used to minimize soil compaction and preserve topsoil must be described. Minimizing soil compaction is not required where the function of a specific area of the site dictates that it be compacted.
 - k. Maintenance plan: For **projects** that include permanent **stormwater** treatment systems, the **SWPPP** must include a maintenance plan identifying who will be performing future maintenance of the system.
 - l. Chemical treatments: Any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the requirements in Part IV.C.10., must be described.
 - m. Documentation of **infeasibility**: If the **Permittee(s)** determine(s) that compliance with the requirement for temporary sediment basins (Part III.C.) is **infeasible** on the **project** site; the **Permittee(s)** must document that determination and the substitute **BMPs** in the **SWPPP**. If **Permittee(s)** cannot obtain right-of-way for the permanent stormwater management system; the **Permittee(s)** must document the infeasibility of obtaining right-of-way (Part III.D.)
6. Stormwater pollution mitigation measures identified in environmental review or other required review: The **SWPPP** must include any **stormwater** mitigation measures approved as part of a final environmental review document, endangered species review, archeological or other required local, state or federal review conducted for the **project**. For the purposes of this permit provision, mitigation measures means actions necessary to avoid, minimize, or rectify (e.g., repairing, rehabilitating, restoring), reducing, eliminating or compensating for impacts related to: (1) **stormwater** discharges associated with the **project's construction activity**; and (2) **erosion prevention, sediment control** and the Permanent **Stormwater** Management System for the **project**.
 7. Karst areas: The **SWPPP** must identify additional or different measures necessary (e.g. impervious liner in pond bottom) to assure compliance with **surface and groundwater** standards in Minn. R. chs. 7050 and 7060 in karst areas and to ensure protection of drinking water supply management areas (see Minn. R. 4720.5100, subp. 13).
 8. Impaired Waters and Total Maximum Daily Loads (TMDLs): The **SWPPP** must address the following:
 - a. For **projects** that have a discharge point on the **project** that is within one mile (**aerial radius measurement**) of and which flows to an impaired water, the **Permittee(s)** must identify the impaired water(s) in the **SWPPP**, and whether or not there is a USEPA-approved TMDL for the pollutant(s) or stressor(s) identified in Appendix A, Part B.10. Unless otherwise notified by the MPCA in writing, the **Permittee(s)**' identification of impaired waters must be based

on the most recent USEPA approved section 303(d) Clean Water Act list of impaired waters and USEPA approved TMDLs at the time a complete permit application is submitted. The **Permittee(s)**' identification must include those TMDLs, applicable to the **project's stormwater** discharge, that were approved at any time prior to permit application submittal and are still in effect.

- b. If the TMDL identifies specific implementation activities regarding construction **stormwater** that would apply to the site discharges, the **Permittee(s)** must include the **BMPs** identified in the TMDL and any other specific construction **stormwater** related implementation activities identified in the TMDL.

III.B. SWPPP AMENDMENTS

The **Permittee(s)** must amend the **SWPPP** as necessary to include additional requirements, such as additional or modified **BMPs** that are designed to correct problems identified or address situations whenever:

1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to **surface waters** or **underground waters**.
2. Inspections or investigations by site **owner** or **operators**, USEPA or MPCA officials indicate the **SWPPP** is not effective in eliminating or significantly minimizing the discharge of pollutants to **surface waters** or **underground waters** or that the discharges are causing water quality standard exceedances (e.g., nuisance conditions as defined in Minn. R. 7050.0210, subp. 2).
3. The **SWPPP** is not achieving the general objectives of minimizing pollutants in **stormwater** discharges associated with **construction activity**, or the **SWPPP** is not consistent with the terms and conditions of this permit.
4. At any time after permit coverage is effective, the MPCA may determine that the **project's stormwater** discharges may cause, have reasonable potential to cause, or contribute to non-attainment of any applicable water quality standard, or that the **SWPPP** does not incorporate the applicable requirements in Part III.A.8., (Impaired Waters and TMDLs). If a water quality standard changes during the term of this permit, the MPCA will make a determination as to whether a modification of the SWPPP is necessary to address the new standard. If the MPCA makes such determination(s) or any of the determinations in Parts III.B.1.-3., the MPCA will notify the **Permittee(s)** in writing. In response, the **Permittee(s)** must amend the **SWPPP** to address the identified concerns and submit information requested by the MPCA, which may include an individual permit application. If the MPCA's written notification requires a response, failure to respond within the specified timeframe constitutes a permit violation.

III.C. TEMPORARY SEDIMENT BASINS

Where ten (10) or more acres of disturbed soil drain to a common location, the **Permittee(s)** must provide a temporary sediment basin to provide treatment to the runoff before it leaves the construction site or enters **surface waters**. A temporary sediment basin may be converted to a permanent basin after construction is complete. The temporary basin is no longer required when

permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location. The **Permittee(s)** is/are encouraged, but not required, to install temporary sediment basins where appropriate in areas with **steep slopes** or highly erodible soils even if less than ten (10) acres drains to one area. The basins must be designed and constructed according to the following requirements:

1. The basins must provide live storage for a calculated volume of runoff from a two (2)-year, 24-hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1,800 cubic feet of live storage from each acre drained to the basin.
2. Where the calculation in Part III.C.1. has not been performed, a temporary sediment basin providing 3,600 cubic feet of live storage per acre drained to the basin shall be provided for the entire drainage area of the temporary basin.
3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown for maintenance activities, and must include a **stabilized** emergency overflow to prevent failure of pond integrity. The outlet structure must be designed to withdraw water from the surface in order to minimize the discharge of pollutants, except that the use of a surface withdrawal mechanism for discharge of the basin may be temporarily suspended during frozen conditions. **Energy dissipation** must be provided for the basin outlet (see Part IV.B.5.).
4. Sediment Basins must be situated outside of surface waters and any buffer zone required under Appendix A.C.3, and must be designed to avoid draining water from **wetlands** unless the impact to the **wetland** is in compliance with the requirements of Appendix A, Part D.
5. The temporary basins must be constructed and made operational prior to 10 or more acres of disturbed soil draining to a common location.
6. Where a temporary sediment basin meeting the requirements of this part is **infeasible**, equivalent **sediment controls** such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down-slope boundaries of the construction area and for side-slope boundaries as dictated by individual site conditions. In determining whether installing a sediment basin is **infeasible**, the **Permittee(s)** must consider public safety and may consider factors such as site soils, slope, and available area on site. This determination of **infeasibility** must be documented in the **SWPPP** per Part III.A.5.m.

III.D. PERMANENT STORMWATER MANAGEMENT SYSTEM

The **Permittee(s)** shall design the **project** so that all **stormwater** discharged from the **project** during and after **construction activities** does not cause a violation of state water quality standards, including nuisance conditions, erosion in receiving channels or on downslope properties, or a significant adverse impact to **wetlands** caused by inundation or decrease of flow.

The **Permittee(s)** shall construct a permanent stormwater management system meeting the requirements of this Part, or if the **project** is located in a jurisdiction subject to a **NPDES/SDS** Municipal Separate Storm Sewer System (MS4) permit and that permit has established permanent treatment requirements that include volume reduction, the **Permittee(s)** can comply with the

permanent treatment requirements established under the MS4 permit in lieu of the permanent treatment requirements of this permit.

Where a **project's** ultimate development replaces vegetation and/or other pervious surfaces with one (1) or more acres of cumulative **impervious surface**, the **Permittee(s)** must design the **project** so that the **water quality volume** of one (1) inch of runoff from the new **impervious surfaces** created by the **project** is retained on site (i.e. infiltration or other volume reduction practices) and not discharged to a **surface water**. For purposes of this part, **surface waters** does not include man-made drainage systems that convey **stormwater** to a compliant permanent **stormwater** management system.

For those **projects** where infiltration is prohibited (see Part III.D.1.j.), the **Permittee(s)** shall consider other methods of volume reduction and the **water quality volume** (or remainder of the **water quality volume** if some volume reduction is achieved) must be treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to the discharge of **stormwater** to **surface waters**.

Where the proximity to bedrock precludes the installation of any of the permanent **stormwater** management practices outlined in Part III.D., other treatment, such as grassed swales, filtration systems, smaller ponds, or grit chambers, is required prior to the discharge of **stormwater** to **surface waters**.

For work on linear **projects** with lack of right-of-way where the **Permittee(s)** cannot obtain an easement or other permission for property needed to install treatment systems capable of treating the entire **water quality volume** on site, the **Permittee(s)** must maximize the **water quality volume** that can be treated prior to discharge to **surface waters**. Treatment can be provided through other methods or combination of methods such as grassed swales, filtration systems, smaller ponds, or grit chambers, prior to discharge to **surface waters**. A reasonable attempt must be made to obtain right-of-way during the **project** planning process. Documentation of these attempts must be in the **SWPPP** per Part III.A.5.m. in the section addressing **infeasibility**.

When constructing any of the permanent **stormwater** management systems in this part, the **Permittee(s)** must incorporate the following design parameters:

1. Infiltration/Filtration

- a. Infiltration/Filtration options include but are not limited to: infiltration basins, infiltration trenches, rainwater gardens, sand filters, organic filters, bioretention areas, natural or enhanced swales, dry storage ponds with underdrain discharge, off-line retention areas, and natural depressions. Infiltration must be used only as appropriate to the site and land uses. The method selected by the **Permittee(s)** must remove settleable solids, floating materials, and oils and grease from the runoff to the maximum extent practicable before runoff enters the infiltration/filtration system. Filtration systems must be designed to remove at least 80 percent of total suspended solids. When designing the system the **Permittee(s)** must evaluate the impact of constructing an infiltration practice on existing hydrologic features (e.g., existing **wetlands**) and the system must be designed to maintain pre-existing conditions (e.g., do not breach a perched water table that is supporting a **wetland**). For a discussion of potential **stormwater** hotspots, groundwater warnings, design measures, maintenance considerations or other retention, detention, and treatment devices, see the

Minnesota Stormwater Manual found on the MPCA's website.

- b. Infiltration systems must not be excavated to final grade until the contributing drainage area has been constructed and fully **stabilized** unless rigorous erosion prevention and sediment controls are provided (Part III.D.1.c.).
- c. When an infiltration system is excavated to final grade (or within three (3) feet of final grade), the **Permittee(s)** must employ rigorous **erosion prevention** and **sediment controls** (e.g., diversion berms) to keep sediment and runoff completely away from the infiltration area. The area must be staked off and marked so that heavy construction vehicles or equipment will not compact the soil in the proposed infiltration area.
- d. To prevent clogging of the infiltration or filtration system, the **Permittee(s)** must use a pretreatment device such as a vegetated filter strip, small sedimentation basin, or water quality inlet (e.g., grit chamber) to settle particulates before the **stormwater** discharges into the infiltration or filtration system.
- e. The **Permittee(s)** must design infiltration or filtration systems that provide a **water quality volume** (calculated as an instantaneous volume) of one (1) inch of runoff (or one (1) inch minus the volume of **stormwater** treated by another system on the site) from the new impervious surfaces created by the **project**.
- f. The **Permittee(s)** must design the infiltration/filtration system to discharge the **water quality volume** routed to the system through the soil surface or filter media within 48 hours or less. Additional flows that cannot be infiltrated or filtered within 48 hours must be routed to bypass the system through a **stabilized** discharge point. The **Permittee(s)** must design the infiltration system to provide a means to visually verify that the system is discharging through the soil surface or filter media within 48 hours or less.
- g. The **Permittee(s)** shall employ appropriate on-site testing consistent with the recommendations found in the **Minnesota Stormwater Manual** to verify soil type and to ensure a minimum of three (3) feet of separation from the seasonally **saturated soils** (or from bedrock) and the bottom of the proposed infiltration/filtration system.
- h. The **Permittee(s)** must ensure filtration systems with less than three (3) feet of separation from seasonally **saturated soils** or from bedrock are constructed with an impermeable liner.
- i. The **Permittee(s)** must design adequate maintenance access (typically eight (8) feet wide).
- j. Infiltration is prohibited when the infiltration system will be constructed in:
 - i. Areas that receive discharges from vehicle fueling and maintenance.
 - ii. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally **saturated soils** or the top of bedrock.

- iii. Areas that receive discharges from industrial facilities which are not authorized to infiltrate industrial **stormwater** under an **NPDES/SDS** Industrial Stormwater Permit issued by the MPCA.
 - iv. Areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating **stormwater**.
 - v. Areas of predominately Hydrologic Soil Group D (clay) soils unless allowed by a local unit of government with a current MS4 permit.
 - vi. Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.
 - vii. Areas within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13., unless allowed by a local unit of government with a current MS4 permit.
 - viii. Areas where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour or as allowed by a local unit of government with a current MS4 permit.
2. Wet Sedimentation Basin
- a. The **Permitte(s)** must design the basin to have a permanent volume of 1,800 cubic feet of storage below the outlet pipe for each acre that drains to the basin. The basin's permanent volume must reach a minimum depth of at least three (3) feet and must have no depth greater than 10 feet. The basin must be configured such that scour or resuspension of solids is minimized.
 - b. The **Permittee(s)** must design basins to provide live storage for a **water quality volume** (calculated as an instantaneous volume) of one (1) inch of runoff (or one (1) inch minus the volume of **stormwater** treated by another system on the site) from the new impervious surfaces created by the **project**.
 - c. The **Permittee(s)** must design basin outlets such that the **water quality volume** is discharged at no more than 5.66 cubic feet per second (cfs) per acre of surface area of the pond.
 - d. The **Permittee(s)** must design basin outlets to prevent short-circuiting and the discharge of floating debris. Basin outlets must have **energy dissipation**.
 - e. The **Permittee(s)** must design the basin to include a **stabilized** emergency overflow to accommodate storm events in excess of the basin's hydraulic design.
 - f. The **Permittee(s)** must design adequate maintenance access (typically eight (8) feet wide).
 - g. The **Permittee(s)** must design sediment Basins to be situated outside of **surface waters** and any buffer zone required under Appendix A, Part C.3. and they must be designed to avoid draining water from **wetlands** unless the impact to the **wetland** is in compliance with the requirements of Appendix A, Part D.

3. Regional Ponds

When the entire **water quality volume** cannot be retained onsite, the **Permittee(s)** can use or create regional ponds provided that they are constructed ponds, not a natural **wetland** or water body, (**wetlands** used as regional ponds must be mitigated for, see Appendix A, Part D) and designed in accordance with this permit's design requirements (Part III.D.2.) for all water from **impervious surfaces** that reach the pond. **Permittee(s)** shall not construct regional ponds in **wetlands**, regardless of their condition, quality or designation by local plans, unless the mitigative sequence in Appendix A, Part D. of this permit has been completed. There must be no significant degradation of the waterways between the **project** and the regional pond. The **owner** must obtain written authorization from the applicable local governmental unit (LGU) or private entity that owns and maintains the regional pond. The LGU's or private entity's written authorization must identify that the regional pond will discharge the **water quality volume** (one (1) inch of runoff from the impervious watershed area) at no more than 5.66 cfs per acre of surface area of the pond. The **owner** must include the LGU's or private entities' written authorization in the **SWPPP**. The LGU's or private entity's written authorization must be obtained before the **owner** finalizes the **SWPPP** and before any application for this permit is made to the MPCA.

III.E RECORD RETENTION

The **SWPPP** (original or copies) including, all changes to it, and inspections and maintenance records must be kept at the site during construction by the **Permittee(s)** who has/have operational control of that portion of the site. The **SWPPP** can be kept in either the field office or in an on-site vehicle during normal working hours.

All **owner(s)** must keep the following records on file for three (3) years after submittal of the **NOT** as outlined in Part II.C. This does not include any records after submittal of the **NOT**.

1. The final SWPPP
2. Any other **stormwater** related permits required for the **project**
3. Records of all inspection and maintenance conducted during construction (Part IV.E. Inspections and Maintenance)
4. All permanent operation and maintenance agreements that have been implemented, including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance and
5. All required calculations for design of the temporary and permanent **Stormwater** Management Systems.

III.F. TRAINING REQUIREMENTS

The **Permittee(s)** shall ensure the following individuals identified in this part have been trained in accordance with this Permit's training requirements.

1. Who must be trained:
 - a. Individual(s) preparing the **SWPPP** for the **project**
 - b. Individual(s) overseeing implementation of, revising, and amending the **SWPPP** and individual(s) performing inspections as required in Part IV.E. One of these individual(s) must be available for an onsite inspection within 72 hours upon request by the MPCA.
 - c. Individual(s) performing or supervising the installation, maintenance and repair of **BMPs**. At least one individual on a **project** must be trained in these job duties.
2. Training content: The content and extent of training must be commensurate with the individual's job duties and responsibilities with regard to activities covered under this permit for the **project**. At least one individual present on the permitted **project** site (or available to the **project** site in 72 hours) must be trained in the job duties described in Part III.F.1.b. and Part III.F.1.c.
3. The **Permittee(s)** shall ensure that the individuals are trained by local, state, federal agencies, professional organizations, or other entities with expertise in **erosion prevention, sediment control**, permanent **stormwater** management and the Minnesota **NPDES/SDS** Construction Stormwater Permit. An update refresher-training must be attended every three (3) years starting three (3) years from the issuance date of this permit.

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

IV.A. STORMWATER POLLUTION PREVENTION PLAN

The **Permittee(s)** must implement the **SWPPP** and the requirements of this part. The **BMPs** identified in the **SWPPP** and in this permit must be selected, installed, and maintained in an appropriate and functional manner that is in accordance with relevant manufacturer specifications and accepted engineering practices.

IV.B. EROSION PREVENTION PRACTICES

1. The **Permittee(s)** must plan for and implement appropriate **BMPs** such as construction phasing, vegetative buffer strips, horizontal slope grading, inspection and maintenance of Part IV.E. and other construction practices that minimize erosion as necessary to comply with this permit and protect **waters of the state**. The location of areas not to be disturbed must be delineated (e.g., with flags, stakes, signs, silt fence etc.) on the **project** site before work begins. The **Permittee(s)** must minimize the need for disturbance of portions of the **project** that have **steep slopes**. For those sloped areas which must be disturbed, the **Permittee(s)** must use techniques such as phasing and **stabilization** practices designed for **steep slopes** (e.g., slope draining and terracing).
2. The **Permittee(s)** must **stabilize** all exposed soil areas (including stockpiles). **Stabilization** must be **initiated immediately** to limit soil erosion whenever any **construction activity** has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. **Stabilization** must be completed no later than 14 calendar days after the **construction activity** in that portion of the site has temporarily or permanently ceased. For **Public Waters** that the Minnesota Department of Natural Resources has promulgated "work

in water restrictions” during specified fish spawning time frames, all exposed soil areas that are within 200 feet of the water’s edge, and drain to these waters must complete the **stabilization** activities within 24 hours during the restriction period. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement but must be in compliance with Part IV.C.5.

3. If using **stormwater** conveyance channels ,the **Permittee(s)** must design the channels to route water around unstabilized areas on the site and to reduce erosion, unless **infeasible**. The **Permittee(s)** must use erosion controls and velocity dissipation devices such as check dams, sediment traps, riprap, or grouted riprap at outlets within and along the length of any constructed **stormwater** conveyance channel, and at any outlet, to provide a non-erosive flow velocity, to minimize erosion of channels and their embankments, outlets, adjacent stream banks, slopes, and downstream waters during discharge conditions.
4. The **Permittee(s)** must **stabilize** the **normal wetted perimeter** of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, within 200 lineal feet from the property edge, or from the point of discharge into any **surface water**. **Stabilization** of the last 200 lineal feet must be completed within 24 hours after connecting to a **surface water** or property edge.

The **Permittee(s)** shall complete **stabilization** of the remaining portions of any temporary or permanent ditches or swales within 14 calendar days after connecting to a **surface water** or property edge and construction in that portion of the ditch has temporarily or permanently ceased.

Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock-ditch checks, bio rolls, silt dikes, etc.) do not need to be **stabilized** during the temporary period of its use as a sediment containment system. These areas must be **stabilized** within 24 hours after no longer being used as a sediment containment system.

Applying mulch, hydromulch, tackifier, polyacrylamide or similar **erosion prevention** practices is not acceptable **stabilization** in any part of a temporary or permanent drainage ditch or swale.

5. Pipe outlets must be provided with temporary or permanent **energy dissipation** within 24 hours after connection to a **surface water**.
6. Unless **infeasible** due to lack of pervious or vegetated areas, the **Permittee(s)** must direct discharges from **BMPs** to vegetated areas of the site (including any **natural buffers**) in order to increase sediment removal and maximize **stormwater** infiltration. The **Permittee(s)** must use velocity dissipation devices if necessary to prevent erosion when directing **stormwater** to vegetated areas.

IV.C. SEDIMENT CONTROL PRACTICES

1. The **Permittee(s)** must employ **Sediment control** practices as necessary to minimize sediment from entering **surface waters**, including curb and gutter systems and storm sewer inlets.

- a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a sediment containment system (e.g., ditches with rock-check dams) require **sediment control** practices only as appropriate for site conditions.
 - b. If the down gradient **sediment controls** are overloaded (based on frequent failure or excessive maintenance requirement), the **Permittee(s)** must install additional upgradient **sediment control** practices or redundant **BMPs** to eliminate the overloading, and the **SWPPP** must be amended to identify these additional practices as required in Part III.B 1.-3.
2. **Sediment control** practices must be established on all down gradient perimeters and be located upgradient of any buffer zones. The perimeter **sediment control** practice must be in place before any upgradient land-disturbing activities begin. These practices shall remain in place until **Final Stabilization** has been established in accordance with Part IV.G. A floating silt curtain placed in the water is not a **sediment control BMP** to satisfy perimeter control requirements in this part except when working on a shoreline and below the waterline. In those cases, a floating silt curtain can be used as a perimeter control practice if the floating silt curtain is installed as close to shore as possible. Immediately after the short term construction activity (e.g. installation of rip rap along the shoreline) in that area is complete, an upland perimeter control practice must be installed if exposed soils still drain to the surface water..
 3. The **Permittee(s)** shall re-install all **sediment control** practices that have been adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, immediately after the short-term activity has been completed. The **Permittee(s)** shall complete any short-term activity that requires removal of **sediment control** practices as quickly as possible. The **Permittee(s)** must re-install **sediment control** practices before the next precipitation event even if the short-term activity is not complete.
 4. All storm drain inlets must be protected by appropriate **BMPs** during construction until all sources with potential for discharging to the inlet have been **stabilized**. Inlet protection may be removed for a particular inlet if a specific safety concern (street flooding/freezing) has been identified by the **Permittee(s)** or the jurisdictional authority (e.g., city/county/township/MnDOT engineer).The **Permittee(s)** must document the need for removal in the **SWPPP**.
 5. Temporary soil stockpiles must have silt fence or other effective **sediment controls**, and cannot be placed in any **natural buffers** or **surface waters**, including **stormwater** conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the **stormwater**.
 6. Where vehicle traffic leaves any part of the site (or onto paved roads within the site):
 - a. The **Permittee(s)** must install a vehicle tracking **BMP** to minimize the track out of sediment from the construction site. Examples of vehicle tracking **BMPs** include (but are not limited to) rock pads, mud mats, slash mulch, concrete or steel wash racks, or equivalent systems.
 - b. The **Permittee(s)** must use street sweeping if such vehicle tracking **BMPs** are not adequate to prevent sediment from being tracked onto the street (see Part IV.E.5.d.).
 7. The **Permittee(s)** must install temporary sedimentation basins as required in Part III.C. of this permit.

8. The **Permittee(s)** must minimize soil compaction and, unless **infeasible**, preserve topsoil. Minimizing soil compaction is not required where the function of a specific area of the site dictates that it be compacted.
9. The **Permittee(s)** must preserve a 50 foot **natural buffer** or (if a buffer is **infeasible** on the site) provide redundant **sediment controls** when a **surface water** is located within 50 feet of the **project's** earth disturbances and stormwater flows to the **surface water**. **Natural buffers** are not required adjacent to road ditches, judicial ditches, county ditches, **stormwater** conveyance channels, storm drain inlets, and sediment basins. The **Permittee(s)** is/are not required to enhance the quality of the vegetation that already exists in the buffer or provide vegetation if none exist. However, **Permittee(s)** can improve the natural buffer with vegetation.
10. If the **Permittee(s)** intend to use polymers, flocculants, or other sedimentation treatment chemicals on the **project** site, the **Permittee(s)** must comply with the following minimum requirements:
 - a. The **Permittee(s)** must use conventional erosion and **sediment controls** prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated **stormwater** is directed to a **sediment control** system which allows for filtration or settlement of the floc prior to discharge.
 - b. Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction, and to the expected turbidity, pH, and flow rate of **stormwater** flowing into the chemical treatment system or area.
 - c. Chemicals must be used in accordance with accepted engineering practices, and with dosing specifications and sediment removal design specifications provided by the manufacturer or provider/supplier of the applicable chemicals.

IV.D. DEWATERING AND BASIN DRAINING

1. The **Permittee(s)** must discharge turbid or sediment-laden waters related to **dewatering** or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) to a temporary or permanent sedimentation basin on the **project** site unless **infeasible**. The **Permittee(s)** may discharge from the temporary or permanent sedimentation basins to **surface waters** if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. If the water cannot be discharged to a sedimentation basin prior to entering the **surface water**, it must be treated with the appropriate **BMPs**, such that the discharge does not adversely affect the receiving water or downstream properties. If the **Permittee(s)** must discharge water that contains oil or grease, the **Permittee(s)** must use an oil-water separator or suitable filtration device (e.g. cartridge filters, absorbents pads) prior to discharging the water. The **Permittee(s)** must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting, or other accepted **energy dissipation** measures.

2. All water from **dewatering** or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetlands** causing significant adverse impact to the **wetland**.
3. If the **Permittee(s)** is/are using filters with backwash water, the **Permittee(s)** must haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion. The Permittee(s) may discharge backwash water to the sanitary sewer if permission is granted by the sanitary sewer authority. The **Permittee(s)** must replace and clean the filter media used in **dewatering** devices when required to retain adequate function.

IV.E. INSPECTIONS AND MAINTENANCE

1. The **Permittee(s)** must ensure that a trained person (as identified in Part III.A.3.a.) will routinely inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within seven (7) days after the rainfall event.
2. All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and these records must be retained with the **SWPPP** in accordance with Part III.E. Records of each inspection and maintenance activity shall include:
 - a. Date and time of inspections
 - b. Name of person(s) conducting inspections
 - c. Findings of inspections, including the specific location where corrective actions are needed
 - d. Corrective actions taken (including dates, times, and party completing maintenance activities)
 - e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of your location or a weather reporting system that provides site specific rainfall data from radar summaries.
 - f. If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed.
 - g. Any amendments to the **SWPPP** proposed as a result of the inspection must be documented as required in Part III.B. within seven (7) calendar days.
3. Inspection frequency adjustment
 - a. Where parts of the **project** site have **permanent cover**, but work remains on other parts of the site, the **Permittee(s)** may reduce inspections of the areas with **permanent cover** to

once per month.

- b. Where construction sites have **permanent cover** on all exposed soil areas and no **construction activity** is occurring anywhere on the site, the site must be inspected during non-frozen ground conditions at least once per month for a period of twelve (12) months. Following the twelfth month of **permanent cover** and no **construction activity**, inspections may be terminated until **construction activity** is once again initiated unless the **Permittee(s)** is/are notified in writing by the MPCA that erosion issues have been detected at the site and inspections need to resume.
 - c. Where work has been suspended due to frozen ground conditions, the inspections may be suspended. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.
4. The **Permittee(s)** is/are responsible for the inspection and maintenance of temporary and permanent water quality management **BMPs**, as well as all **erosion prevention** and **sediment control BMPs**, until another **Permittee** has obtained coverage under this Permit according to Part II.B.5. or the **project** has undergone **Final Stabilization**, and an **NOT** has been submitted to the MPCA.
 5. The **Permittee(s)** must inspect all **erosion prevention** and **sediment control BMPs** and Pollution Prevention Management Measures to ensure integrity and effectiveness during all routine and post-rainfall event inspections. All nonfunctional **BMPs** must be repaired, replaced, or supplemented with functional **BMPs** by the end of the next business day after discovery, or as soon as field conditions allow access unless another time frame is specified below. The **Permittee(s)** must investigate and comply with the following inspection and maintenance requirements:
 - a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or thereafter as soon as field conditions allow access.
 - b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access (see Part IV.D.).
 - c. **Surface waters**, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition during each inspection. The **Permittee(s)** must remove all deltas and sediment deposited in **surface waters**, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and **stabilization** must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The **Permittee(s)** shall use all reasonable efforts to obtain access. If precluded, removal and **stabilization** must take place within seven (7) calendar days of obtaining access. The **Permittee(s)** is/are responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work in surface waters.

- d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24 hours of discovery, or if applicable, within a shorter time to comply with Part IV.C.6.
 - e. Streets and other areas adjacent to the **project** must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).
6. All infiltration areas must be inspected to ensure that no sediment from ongoing **construction activity** is reaching the infiltration area. All infiltration areas must be inspected to ensure that equipment is not being driven across the infiltration area.

IV.F. POLLUTION PREVENTION MANAGEMENT MEASURES

The **Permittee(s)** shall implement the following pollution prevention management measures on the site:

1. Storage, Handling, and Disposal of Construction Products, Materials, and Wastes: The **Permittee(s)** shall comply with the following to minimize the exposure to **stormwater** of any of the products, materials, or wastes. Products or wastes which are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement:
 - a. Building products that have the potential to leach pollutants must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with **stormwater**.
 - b. Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with **stormwater**.
 - c. Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
 - d. Solid waste must be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.
 - e. Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.

2. Fueling and Maintenance of Equipment or Vehicles; Spill Prevention and Response: The **Permittee(s)** shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible. The **Permittee(s)** must conduct fueling in a contained area unless infeasible. The **Permittee(s)** must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The **Permittee(s)** must report and clean up spills immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.
3. Vehicle and equipment washing: If the **Permittee(s)** wash the exterior of vehicles or equipment on the **project** site, washing must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. The **Permittee(s)** must properly use and store soaps, detergents, or solvents. No engine degreasing is allowed on site.
4. Concrete and other washouts waste: The **Permittee(s)** must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the **construction activity**. The liquid and solid washout wastes must not contact the ground, and the containment must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

IV.G. FINAL STABILIZATION

The **Permittee(s)** must ensure **Final Stabilization** of the site. **Final Stabilization** is not complete until all requirements of Parts IV.G.1-5. are complete:

1. All soil disturbing activities at the site have been completed and all soils are **stabilized** by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. The permanent **stormwater** management system is constructed, meets all requirements in Part III.D. and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are **stabilized** with **permanent cover**.
3. All temporary synthetic and structural **erosion prevention** and **sediment control BMPs** (such as silt fence) have been removed on the portions of the site for which the **Permittee(s)** is/are responsible. **BMPs** designed to decompose on site (such as some compost logs) may be left in place.
4. For residential construction only, individual lots are considered finally **stabilized** if the structure(s) are finished and **temporary erosion protection** and downgradient perimeter control has been completed and the residence has been sold to the homeowner. Additionally, the **Permittee** has distributed the MPCA's "**Homeowner Fact Sheet**" to the homeowner to inform

the homeowner of the need for, and benefits of, **permanent cover**.

5. For construction **projects** on agricultural land (e.g., pipelines across crop, field pasture or range land) the disturbed land has been returned to its preconstruction agricultural use.

PART V. GENERAL PROVISIONS

V.A. APPLICABILITY CRITERIA

1. If the **Commissioner** determines that pollution in **stormwater** discharges associated with a **construction activity** are contributing to a violation of a water quality standard or due to specific site considerations rendering a substantial portion of the requirements of this permit impossible to comply with, and the **Commissioner** determines that the **construction activity** would be more appropriately regulated by an individual permit, the **Commissioner** may terminate coverage under this general permit and require the **owner and operator** to continue the **construction activity** subject to an individual **stormwater** discharge permit. Upon issuance of an individual permit, this general permit would no longer apply. Prior to termination of coverage under this general permit, the **Commissioner** will provide notice and an opportunity to request a contested case hearing.
2. If the terms and conditions of this general permit cannot be met, an **owner** may request an individual permit, in accordance with Minn. R. 7001.0210 subp. 6.
3. Any interested person may petition the MPCA to require an individual **NPDES/SDS** permit in accordance with 40 CFR 122.28(b)(3).

V.B. RECORD AVAILABILITY

1. The **Permittee(s)** must make the **SWPPP**, including all certificates, reports, records, or other information required by this permit, available to federal, state, and local officials within 72 hours upon request for the duration of the permit and for three (3) years following the **NOT**. This does not include any records after submittal of the **NOT**.
2. When requested by the MPCA, the **Permittee(s)** must make the responsible person trained as required in Part III.F.1.b. or Part III.F.1.c. available to be onsite during an MPCA inspection within 72 hours of a request.

V.C. PROHIBITIONS

This permit prohibits discharges of any material other than **stormwater** treated in compliance with this permit and discharges from **dewatering** or basin draining activities in accordance with Part IV.D.1.-2. Prohibited discharges include (but are not limited to) wastewater from washout of concrete, stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance, soaps or solvents used in vehicle and equipment washing and maintenance, and other hazardous substances or wastes.

V.D. TRANSFER OF OWNERSHIP OR CONTROL

This permit may not be assigned or transferred by the **Permittee(s)** except when transfer occurs in accordance with the applicable requirements of Part II.B.5.

V.E. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit must be construed to relieve the **Permittee(s)** from civil or criminal penalties for noncompliance with the terms and conditions provided herein. Nothing in this permit must be construed to preclude the initiation of any legal action or relieve the **Permittee(s)** from any responsibilities, liabilities, or penalties to which the **Permittee(s)** is/are or may be subject to under Section 311 of the Clean Water Act and Minn. Stat. § 115 and 116, as amended. The **Permittee(s)** is/are not liable for permit requirements for activities occurring on those portions of a site where the permit has been transferred to another party as required in Part II.B.5. or the **Permittee(s)** **has/have** submitted the **NOT** as required in Part II.C.

V.F. SEVERABILITY

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit must not be affected thereby.

V.G. NPDES/SDS RULE STANDARD GENERAL CONDITIONS

The **Permittee(s)** must comply with the provisions of Minn. R. 7001.0150, subp. 3 and Minn. R. 7001.1090, subp. 1(A), 1(B), 1(C), 1(H), 1(I), 1(J), 1(K), and 1(L).

V.H. INSPECTION AND ENTRY

The **Permittee(s)** must allow access as provided in 40 CFR 122.41(i) and Minn. Stat. § 115.04. The **Permittee(s)** shall allow representatives of the MPCA or any member, employee or agent thereof, when authorized by it, upon presentation of credentials, to enter upon any property, public or private, for the purpose of obtaining information or examination of records or conducting surveys or investigations.

APPENDIX A

A. GENERAL REQUIREMENTS

All requirements in this Appendix are in addition to **BMPs** already specified in the permit. Where provisions of Appendix A, conflict with requirements elsewhere in the permit, the provisions in Appendix A take precedence. All **BMPs** used to comply with this Appendix must be documented in the **SWPPP** for the **project**. If the terms and conditions of this Appendix cannot be met, an individual permit will be required in accordance with Minn. R. ch. 7001.

B. REQUIREMENTS FOR DISCHARGES TO SPECIAL WATERS AND IMPAIRED WATERS

Additional **BMPs** and enhanced runoff controls identified in this Part are required for discharges to the following special waters (Part B.1 through B.9 of Appendix A) and impaired waters (Part B.10 of Appendix A). The **BMPs** identified for each special or impaired water are required for those areas of

the **project** draining to a discharge point on the **project** that is within one mile (**aerial radius measurement**) of special or impaired water and flows to that special or impaired water.

1. Wilderness areas: Boundary Waters Canoe Area Wilderness; Voyageurs National Park; Kettle River from the site of the former dam at Sandstone to its confluence with the Saint Croix River; Rum River from Ogechie Lake spillway to the northernmost confluence with Lake Onamia. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3. of this Appendix.
2. Mississippi River: Those portions from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2. and C.3. of this Appendix.
3. Scenic or recreational river segments: Saint Croix River, entire length; Cannon River from northern city limits of Faribault to its confluence with the Mississippi River; North Fork of the Crow River from Lake Koronis outlet to the Meeker-Wright county line; Kettle River from north Pine County line to the site of the former dam at Sandstone; Minnesota River from Lac qui Parle dam to Redwood County State Aid Highway 11; Mississippi River from County State Aid Highway 7 bridge in Saint Cloud to northwestern city limits of Anoka; and Rum River from State Highway 27 bridge in Onamia to Madison and Rice streets in Anoka. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2. and C.3. of this Appendix.
4. Lake Superior: (Prohibited and restricted) Discharges to Lake Superior must incorporate the **BMPs** outlined in C.1., C.2. and C.3. of this Appendix.
5. Lake Trout Lakes: Identified in Minn. R. 7050.0470, including those inside the boundaries of the Boundary Waters Canoe Area Wilderness and Voyageurs National Park. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3. of this Appendix.
6. Trout Lakes: Identified in Minn. R. 6264.0050, subp. 2. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3., of this Appendix.
7. Scientific and natural areas: Boot Lake, Anoka County; Kettle River in sections 15, 22, 23, T 41 N, R 20, Pine County; Pennington Bog, Beltrami County; Purvis Lake-Ober Foundation, Saint Louis County; waters within the borders of Itasca Wilderness Sanctuary, Clearwater County; Iron Springs Bog, Clearwater County; Wolsfeld Woods, Hennepin County; Green Water Lake, Becker County; Blackdog Preserve, Dakota County; Prairie Bush Clover, Jackson County; Black Lake Bog, Pine County; Pembina Trail Preserve, Polk County; and Falls Creek, Washington County. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3. of this Appendix.
8. Trout Streams: Listed in Minn. R. 6264.0050, subp. 4. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., C.3., and C.4. of this Appendix.
9. Calcareous Fens: Listed in Minn. R 7050.0180 subp.6b. Discharges to these Calcareous Fens must incorporate the **BMPs** outlined in C.1. and C.2. of this Appendix.
10. Impaired Waters: Waters identified as impaired under section 303 (d) of the federal Clean Water

Act for phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen or aquatic biota (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment).

- a. Impaired Water Without an Approved TMDL or With an Approved TMDL and No Waste Load Allocation:

If runoff from the site discharges to an impaired water, and a TMDL has not been approved by USEPA or there is a USEPA approved TMDL that does not establish a Waste Load Allocation (WLA) for construction **stormwater**, discharges to these waters must incorporate the **BMPs** outlined in C.1. and C.2. of this Appendix.

- b. Impaired Water With an Approved TMDL and WLA:

If runoff from the site discharges to an impaired water for which there is a USEPA approved TMDL that establishes a WLA for construction **stormwater**, and the TMDL does not identify any specific implementation activities that would apply to the site discharges, discharges to these waters must incorporate the **BMPs** outlined in C.1. and C.2. of this Appendix.

If the TMDL identifies specific implementation activities regarding construction **stormwater** that would apply to the site discharges, the **Permittee(s)** must include the following in the **SWPPP**:

- i. Identify the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL and
- ii. **BMPs** identified in the TMDL and any other specific construction **stormwater** related implementation activities identified in the TMDL.

Note on impaired waters listing terminology: The terms in parenthesis in Appendix A, Part B.10. above are the most current terminology used to list waters as impaired at the time of permit issuance. These terms are subject to change. For example, at one time waters were listed as impaired for phosphorus and now those same waters are listed as impaired for nutrient eutrophication biological indicators. If the terminology changes for one of the pollutant(s) or stressor(s) identified in the permit, the MPCA will keep a list of the new terms on its construction **stormwater** website.

C. ADDITIONAL **BMPs** FOR SPECIAL WATERS AND IMPAIRED WATERS

For the **BMPs** described in C.2., and C.4. of this Appendix:

Where the proximity to bedrock precludes the installation of any of the permanent **stormwater** management practices outlined in Appendix A, other treatment (such as grassed swales, smaller ponds, or grit chambers) is required prior to discharge to **surface waters**.

For work on linear **projects** with lack of right-of-way where the **Permittee(s)** cannot obtain an easement or other permission for property needed to install treatment systems capable of treating the entire **water quality volume** on site, the **Permittee(s)** must maximize the **water quality volume** that can be treated prior to discharge to **surface waters**. Treatment can be provided through other

methods or combination of methods such as grassed swales, filtration systems, smaller ponds or grit chambers prior to discharge to **surface waters**. A reasonable attempt must be made to obtain right-of-way during the **project** planning process. Documentation of these attempts must be in the **SWPPP** per Part III.A.5.m. in the section addressing **infeasibility**.

1. During construction:
 - a. **Stabilization** of all exposed soil areas must be **initiated immediately** to limit soil erosion but in no case completed later than seven (7) days after the **construction activity** in that portion of the site has temporarily or permanently ceased.
 - b. Temporary sediment basin requirements described in Part III.C. must be used for common drainage locations that serve an area with five (5) or more acres disturbed at one time.
2. Post construction: The **water quality volume** that must be retained on site by the **project's** permanent **stormwater** management system described in Part III.D. shall be one (1) inch of runoff from the new **impervious surfaces** created by the **project**. See Part III.D.1. for more information on infiltration design, prohibitions and appropriate site conditions.
3. Buffer zone: The **Permittee(s)** shall include an undisturbed buffer zone of not less than 100 linear feet from the special water (not including tributaries) and this buffer zone shall be maintained at all times, both during construction and as a permanent feature post construction, except where a water crossing or other encroachment is necessary to complete the **project**. The **Permittee(s)** must fully document the circumstance and reasons that the buffer encroachment is necessary in the **SWPPP** and include restoration activities. Replacement of existing **impervious surface** within the buffer is allowed under this permit. All potential water quality, scenic and other environmental impacts of these exceptions must be minimized by the use of additional or redundant **BMPs** and documented in the **SWPPP** for the **project**.
4. Temperature Controls: The **Permittee(s)** must design the Permanent **Stormwater** Management System such that the discharge from the **project** will minimize any increase in the temperature of trout stream receiving waters resulting from the one (1)-and two (2)-year 24-hour precipitation events. This includes all tributaries of designated trout streams within the Public Land Survey System (PLSS) Section that the trout stream is located. **Projects** that discharge to trout streams must minimize the impact using one or more of the following measures, in order of preference:
 - a. Minimize new **impervious surfaces**.
 - b. Minimize the discharge from connected **impervious surfaces** by discharging to vegetated areas, or grass swales, and through the use of other non-structural controls.
 - c. Infiltration or other volume reduction practices to reduce runoff in excess of pre-**project** conditions (up to the two (2)-year 24-hour precipitation event).
 - d. If ponding is used, the design must include an appropriate combination of measures such as shading, filtered bottom withdrawal, vegetated swale discharges or constructed wetland treatment cells that will limit temperature increases. The pond should be designed to draw down in 24 hours or less.

- e. Other methods that will minimize any increase in the temperature of the trout stream.

D. REQUIREMENTS FOR DISCHARGING TO WETLANDS

If the **project** has any discharges with the potential for significant adverse impacts to a **wetland**, (e.g., conversion of a natural **wetland** to a **stormwater** pond) the **Permittee(s)** must demonstrate that the **wetland** mitigative sequence has been followed in accordance with D.1 or D.2 of this Appendix.

1. If the potential adverse impacts to a **wetland** on a specific **project** site have been addressed by permits or other approvals from an official statewide program (U.S. Army Corps of Engineers 404 program, Minnesota DNR, or the State of Minnesota Wetland Conservation Act) that are issued specifically for the **project** and **project** site, the **Permittee(s)** may use the permit or other determination issued by these agencies to show that the potential adverse impacts have been addressed. For the purposes of this permit, de minimus actions are determinations by the permitting agency that address the **project** impacts, whereas a non-jurisdictional determination does not address **project** impacts.
2. If there are impacts from the **project** that are not addressed in one of the permits or other determinations discussed in Appendix A, Part D.1. (e.g., permanent inundation or flooding of the **wetland**, significant degradation of water quality, excavation, filling, draining), the **Permittee(s)** must minimize all adverse impacts to **wetlands** by utilizing appropriate measures. Measures used must be based on the nature of the **wetland**, its vegetative community types and the established hydrology. These measures include in order of preference:
 - a. Avoid all significant adverse impacts to **wetlands** from the **project** and post-**project** discharge.
 - b. Minimize any unavoidable impacts from the **project** and post-**project** discharge.
 - c. Provide compensatory mitigation when the **Permittee(s)** determine(s) that there is no reasonable and practicable alternative to having a significant adverse impact on a **wetland**. For compensatory mitigation, **wetland** restoration or creation shall be of the same type, size and whenever reasonable and practicable in the same watershed as the impacted **wetland**.

E. DISCHARGES REQUIRING ENVIRONMENTAL REVIEW

This permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act or the National Environmental Policy Act. The **owner** must verify that any environmental review required by law, including any required Environmental Assessment Work sheets or Environmental Impact Statements, Federal environmental review, or other required review is complete before making application for coverage under this permit, and the **owner** must incorporate any **stormwater** mitigation measures required as the result of any environmental review into the **SWPPP** for the **project**. If any part of your **common plan of development or sale** requires environmental review, coverage under this permit cannot be obtained until such environmental review is complete.

F. DISCHARGES AFFECTING ENDANGERED OR THREATENED SPECIES

This permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species, or adversely modify a designated critical habitat. The **owner** must conduct any required review and coordinate with appropriate agencies for any **project** with the potential of affecting threatened or endangered species, or their critical habitat.

G. DISCHARGES AFFECTING HISTORIC PLACES OR ARCHEOLOGICAL SITES

This permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges that adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites. The **owner** must be in compliance with National Historic Preservation Act and conduct all required review and coordination related to historic preservation, including significant anthropological sites and any burial sites, with the Minnesota Historic Preservation Officer.

APPENDIX B. – DEFINITIONS

1. **“Aerial radius measurement”** means the shortest straight line distance measurement between the point of **stormwater** discharge from a **project** construction site to the nearest edge of the water body the **stormwater** will flow to. This measurement does not follow the meander flow path.
2. **“Best Management Practices (BMPs)”** means the most effective and practicable means of **erosion prevention** and **sediment control**, and water quality management practices that are the most effective and practicable means of to control, prevent, and minimize degradation of **surface water**, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, pollution prevention through good housekeeping, and other management practices published by state or designated area-wide planning agencies.

Individual **BMPs** found in this permit are described in the current versions of Protecting Water Quality in Urban Areas, MPCA and The Minnesota Stormwater Manual, MPCA. **BMPs** must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as MPCA’s **BMPs**. (Other sources include manufacturers specifications, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, U.S. Environmental Protection Agency 1992, and Erosion Control Design Manual, Minnesota Department of Transportation, et al, 1993).

3. **“Commissioner”** means the **Commissioner** of the MPCA or the **Commissioner's** designee.
4. **“Common Plan of Development or Sale”** means a contiguous area where multiple separate and distinct land-disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.
5. **“Construction Activity”** includes **construction activity** as defined in 40 C.F.R. pt. 122.26(b)(14)(x) and small construction activity as defined in 40 C.F.R. pt. 122.26(b)(15) and **construction activity** as defined by Minn. R. 7090.0080, subp. 4. This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated **stormwater** runoff, leading to soil erosion and

movement of sediment into **surface waters** or drainage systems. Examples of **construction activity** may include clearing, grading, filling, and excavating. **Construction activity** includes the disturbance of less than one acre of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb one (1) acre or more. **Construction activity** does not include a disturbance to the land of less than five (5) acres for the purpose of routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

6. **“Dewatering”** means the removal of surface or ground water to dry and/or solidify a construction site to enable **construction activity**. Dewatering may require a Minnesota Department of Natural Resources water appropriation permit and, if dewatering water is contaminated, discharge of such water may require an individual MPCA **NPDES/SDS** permit.
7. **“Energy Dissipation”** means methods employed at pipe outlets to prevent erosion caused by the rapid discharge of water scouring soils. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.
8. **“Erosion Prevention”** means measures employed to prevent erosion. Examples include but not limited to: soil **stabilization** practices, limited grading, mulch, **temporary erosion protection or permanent cover**, and construction phasing.
9. **“Final Stabilization”** means required actions in Part IV.G. taken after the completion of **construction activities** and prior to submitting the **NOT** that are intended to prevent discharge of pollutants associated with stormwater discharges from the **project**.
10. **“Homeowner Fact Sheet”** means a fact sheet developed by the MPCA and available on the MPCA Construction **Stormwater** website to be given to homeowners at the time of sale by a builder to inform the homeowner of the need for, and benefits of, **Final Stabilization**.
11. **“Infeasible”** means not technologically possible or not economically practicable and achievable in light of the best industry practices.
12. **“Initiated immediately”** means taking an action to commence **stabilization** as soon as practicable, but no later than the end of the work day, following the day when the earth-disturbing activities have temporarily or permanently ceased, if the **Permittee(s)** know that construction work on that portion of the site will be temporarily ceased for 14 or more additional calendar days or 7 calendar days where Appendix A.C.1.a applies. The following activities can be taken to initiate **stabilization**:
 1. prepping the soil for vegetative or non-vegetative **stabilization**
 2. applying mulch or other non-vegetative product to the exposed soil area
 3. seeding or planting the exposed area
 4. starting any of the activities in # 1 – 3 on a portion of the area to be **stabilized**, but not on the entire area and
 5. finalizing arrangements to have **stabilization** product fully installed in compliance with the applicable deadline for completing **stabilization**

13. **“Impervious Surface”** means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.
14. **“National Pollutant Discharge Elimination System (NPDES)”** means the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345.
15. **“Natural Buffer”** means an area of undisturbed cover surrounding surface waters within which construction activities are restricted. **Natural buffer** includes the vegetation, exposed rock, or barren ground that exists prior to commencement of earth-disturbing activities.
16. **“Normal Wetted Perimeter”** means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur from a two-year 24-hour storm event.
17. **“Notice of Termination (NOT)”** means notice to terminate coverage under this permit after construction is complete, the site has undergone **Final Stabilization**, and maintenance agreements for all permanent facilities have been established, in accordance with all applicable conditions of this permit.
18. **“Operator”** means the person designated by the **owner**, who has day to day operational control and/or the ability to modify **project** plans and specifications related to the **SWPPP**. The operator must be named on the permit as a **Permittee**.
19. **“Owner”** means the person or party possessing the title of the land on which the construction activities will occur; or if the **construction activity** is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the **construction activity**.
20. **“Permanent Cover”** means surface types that will prevent soil failure under erosive conditions. Examples include: gravel, asphalt, concrete, rip rap, roof tops, perennial cover, or other landscaped material that will permanently arrest soil erosion. A uniform perennial vegetative cover (i.e. evenly distributed, without large bare areas) with a density of 70 percent of the native background vegetative cover for the area must be established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures. **Permanent cover** does not include the practices listed under **temporary erosion protection**.
21. **“Permittee(s)”** means the person or persons, firm, or governmental agency or other entity that signs the application submitted to the MPCA and is responsible for compliance with the terms and conditions of this permit.
22. **“Project(s)”** means all **construction activity** that is planned and/or conducted under a particular permit. The **project** will occur on the site or sites described in the permit application, the **SWPPP** and in the associated plans, specifications and contract documents.

23. **“Public Waters”** means all water basins and watercourses that are described in Minn. Stat. § 103G.005 subd. 15.
24. **“Saturated Soil”** means the highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water **Saturated soil** is evidenced by the presence of redoximorphic features or other information.
25. **“Sediment Control”** means methods employed to prevent sediment from leaving the site. **Sediment control** practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, bio rolls, rock logs, compost logs, storm drain inlet protection, and temporary or permanent sedimentation basins. A floating silt curtain placed in the water is not a **sediment control BMP** to satisfy perimeter control requirements, except as provided for in Part IV.C.2.
26. **“Stabilize, Stabilized, Stabilization”** means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, mats or other material that prevents erosion from occurring. Grass, agricultural crop or other seeding alone is not **stabilization**. Mulch materials must achieve approximately 90 percent ground coverage (typically 2 ton/acre).
27. **“Standard details”** means generic drawings showing a common or repeated **construction activity** or practice.
28. **“Stormwater”** is defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, **stormwater** runoff, snowmelt runoff, and any other surface runoff and drainage.
29. **“Steep Slopes”** means slopes that are 1:3 (V:H) (33.3 percent) or steeper in grade.
30. **“Storm Water Pollution Prevention Plan (SWPPP)”** means a plan for **stormwater** discharge that includes all required content under Part III of this Permit and which describes the **erosion prevention BMPs, sediment control BMPs** and Permanent **Stormwater** Management Systems that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.
31. **“Surface Water or Waters”** means all streams, lakes, ponds, marshes, **wetlands**, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private, except that **surface waters** do not include treatment basins or ponds that were constructed from upland. Treatment basins or ponds that were constructed in **wetlands** and mitigated in accordance with Appendix A.D are also not considered surface waters for purposes of this permit.
32. **“Temporary Erosion Protection”** means methods employed to prevent erosion during construction activities. Examples of **temporary erosion protection** include, but are not limited to: straw, wood fiber blanket, wood chips, vegetation, mulch, and rolled erosion control products.
33. **“Underground Waters”** means water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground. The term ground water shall be synonymous with underground water.

34. **“Waters of the State”** (as defined in Minn. Stat. § 115.01, subd. 22) means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.
35. **“Water Quality Volume”** means one (1) inch of runoff from the new **impervious surfaces** created by this **project** (calculated as an instantaneous volume) and is the volume of water to be treated in the Permanent **Stormwater** Management System, as required by this permit.
36. **“Wetland” or “Wetlands”** is defined in Minn. R. 7050.0186, subp. 1a.B. and includes those areas that are inundated or saturated by **surface water** or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in **saturated soil** conditions. **Wetlands** generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not **waters of the state**. **Wetlands** must have the following attributes:
- a. A predominance of hydric soils
 - b. Inundated or saturated by **surface water** or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a **saturated soil** condition and
 - c. Under normal circumstances support a prevalence of such vegetation.

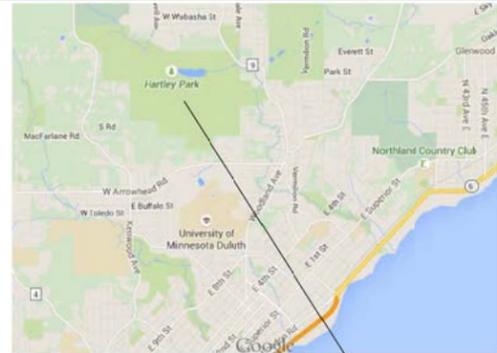
Appendix B

Phase 6 Site Plans, Maps and Typicals

HARTLEY PARK PARKING IMPROVEMENTS

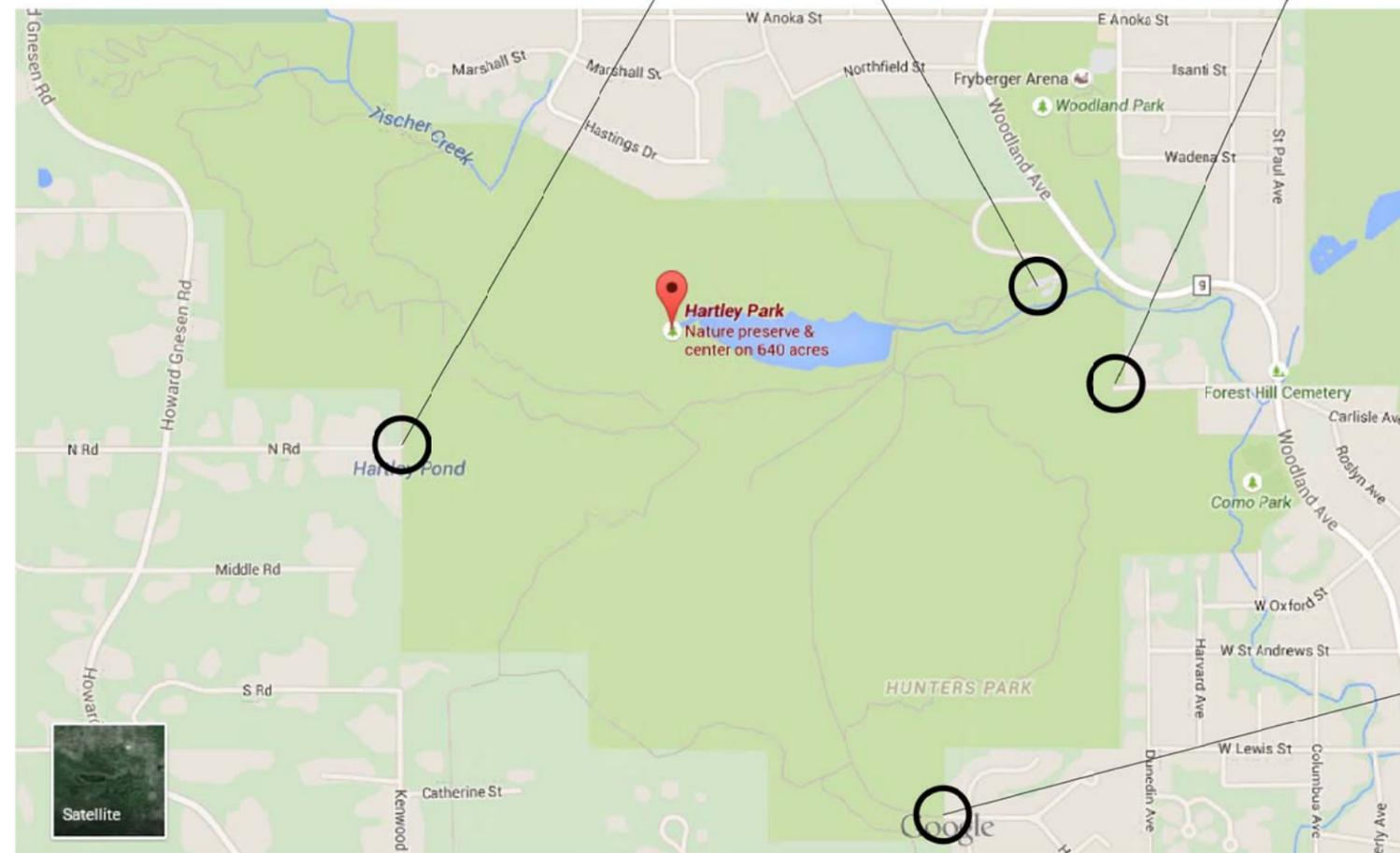
DULUTH, MN

VICINITY MAP



SITE LOCATION

SITE DETAIL



WARNING:
LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR. CALL BEFORE DIGGING. GOPHER STATE ONE CALL 1-800-252-1166 REQUIRED BY LAW

CONTACT LIST

OWNER
CITY OF DULUTH
411 WEST FIRST STREET
DULUTH, MN 55802
COUNTY CONTACT
TEL. (218)730-4303
EMAIL DSELLNER@DULUTHMN.GOV
CONTACT: DALE SELNER
BUILDING AND GROUNDS SUPERVISOR:

LANDSCAPE ARCHITECT
SAS+ASSOCIATES
219 WEST FIRST STREET, SUITE 350
DULUTH, MN 55802
TEL. (218)391-1335
FAX (218)722-6697
EMAIL MAIL@SASLANDARCH.COM
CONTACT: LUKE SYDOW, PLA

SHEET INDEX

S0.1 COVER SHEET
S1.0 STANDARD NOTES

THESE PLANS S0.1 - S5.3, IN THIS SWPPP ARE FOR SWPPP PURPOSES ONLY. REFERENCE FULL CONSTRUCTION DOCUMENTS FOR BIDDING AND CONSTRUCTION PURPOSES.

S5.1 DETAILS
S5.2 DETAILS
S5.3 DETAILS

STORAGE

THIS PLAN CONTAINS 12 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

Luke W. Sydow

LANDSCAPE ARCHITECT (TYPED OR PRINTED NAME)

4/7/16

LANDSCAPE ARCHITECT DATE REG.

CITY APPROVAL

APPROVED PARKS MANAGER DATE

COVER SHEET

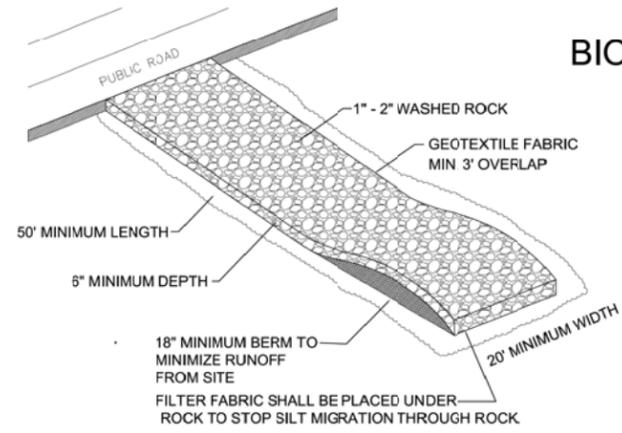
SHEET NUMBER
S 0.1

5/10/2016

SAS PROJECT NUMBER: 15205

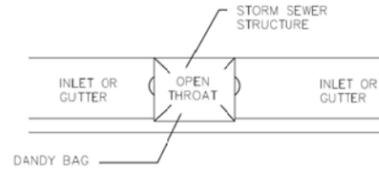
SEQUENCE OF CONSTRUCTION

1. CONTRACTOR TO VERIFY THAT ALL PERMITS HAVE BEEN OBTAINED.
2. CONTRACTOR TO SCHEDULE FIELD MEETING WITH OWNER.
3. CONTRACTOR TO INSTALL ALL PERIMETER SEDIMENT CONTROL DEVICES, CONSTRUCTION ENTRANCES AND PROTECTIVE FENCING FOR TREES, DITCHES, EXISTING WATER BODIES AND AREAS TO REMAIN UNDISTURBED.
4. CONTRACTOR TO CONSTRUCT STORMWATER AND/OR TEMPORARY SEDIMENTATION BASINS.
5. CONTRACTOR TO CONTACT OWNER FOR APPROVAL OF SEDIMENT CONTROL DEVICES.
6. CONTRACTOR TO ROUGH GRADE SITE AND INSTALL UTILITIES.
7. CONTRACTOR TO INSTALL TEMPORARY EROSION CONTROL DEVICES AS NECESSARY. CONTRACTOR TO FILL TEMPORARY SEDIMENTATION BASINS, COMPACTING TO SPECIFIED DENSITIES. REMOVE ALL UNSUITABLE SEDIMENT PER RECOMMENDATION OF GEOTECHNICAL ENGINEER.
8. CONTRACTOR TO INSTALL SUBBASE AND BASE FOR PAVEMENT.
9. CONTRACTOR TO INSTALL BITUMINOUS SURFACE.
10. CONTRACTOR TO INSTALL EROSION CONTROL BLANKETS WITH PERMANENT SEED MIX.
11. CONTRACTOR TO REMOVE SEDIMENT CONTROL DEVICES WITHIN ONE WEEK OF FINAL ACCEPTANCE.
12. SUBMIT NOTICE OF TERMINATION WITHIN 30 DAYS OF FINAL STABILIZATION.

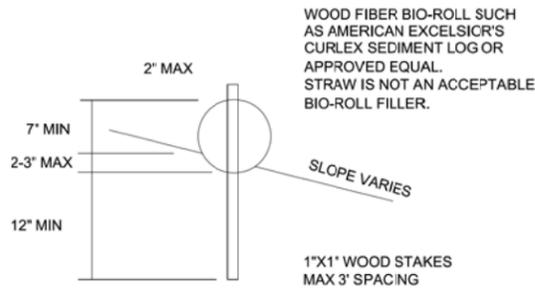


1. BACK-OF-CURB DOWN GRADIENT EROSION CONTROL SHALL BE INSTALLED PRIOR TO BASEMENT/FOUNDATION EXCAVATION. (BACK-OF-CURB DOWN GRADIENT EROSION CONTROL MAY BE REMOVED FOR A TIME PERIOD NO LONGER THAN 48 HOURS FOR BUILDING EXCAVATION AND FOR FINAL GRADE PRIOR TO SOD)
2. ROCK ENTRANCES SHALL BE INSTALLED PRIOR TO BASEMENT/FOUNDATION EXCAVATION
3. ALL STORM DRAIN INLETS THAT RECEIVE DISCHARGE FROM THE CONSTRUCTION SITE SHALL BE PROTECTED PRIOR TO SITE DISTURBANCE.
4. PERIMETER EROSION CONTROL SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
5. A TRUCK MOUNTED CONCRETE WASHOUT IS REQUIRED AND SHALL MEET THE PROPER BMP EROSION CONTROL PROVISIONS.
6. STREETS SHALL BE SWEEPED ONCE WEEKLY, EXCEPT DURING FROZEN GROUND CONDITIONS.
7. ROCK ENTRANCES SHALL BE INSTALLED FOR OFF STREET ACCESS TO SITE FOR PURPOSES OF STORING MATERIALS, SETTING DUMPSTERS OR PARKING.
8. ALL BMPs SHALL BE MAINTAINED UNTIL FINAL STABILIZATION.
9. BMPs MAY NOT BE IN PLACE DUE TO FROZEN GROUND CONDITIONS, BUT SHALL BE INSTALLED AFTER SPRING THAW.

DANDY BAG PROTECTION



TEMPORARY BARRIER USING DANDY BAGS TO PREVENT SEDIMENT-LADEN WATER FROM ENTERING THE STORM SEWER SYSTEM DURING CONSTRUCTION.

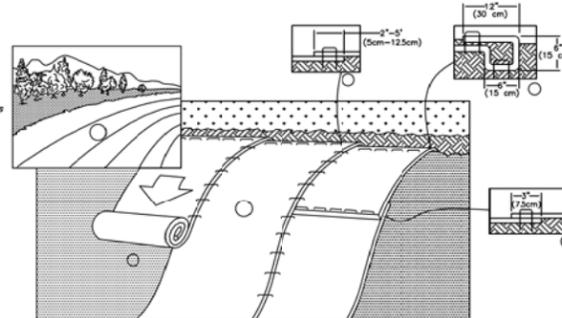


BIO-ROLL INSTALLATION

SLOPE PROTECTION

SLOPE INSTALLATION

NORTH AMERICAN GREEN
EROSION CONTROL Products
Guaranteed SOLUTIONS
14649 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800-772-2040
www.nagreen.com



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-TO-SEED DO NOT SEED PREPARED AREA. CELL-C-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2' - 5' (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
5. CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 4" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

NOTICE OF TERMINATION

PERMITTEE MUST ENSURE FINAL STABILIZATION OF THE SITE AND SUBMIT THE N.O.T. WITHIN 30 DAYS OF FINAL STABILIZATION.

FINAL STABILIZATION CAN BE ACHIEVED IN THE FOLLOWING WAY:

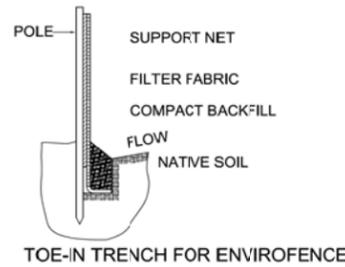
1. ALL SOIL DISTURBING ACTIVITIES ARE COMPLETE AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ACHIEVED INCLUDING:
 - STABILIZATION OF DITCHES AND SWALES.
 - REMOVAL OF ALL TEMPORARY SYNTHETIC & STRUCTURAL BMP'S.
 - REMOVAL OF SEDIMENTS FROM STORM WATER CONVEYANCES AND PERMANENT WATER QUALITY BASINS.

REDUNDANT BMPs REQUIRED ON ALL SITES

SILT FENCE

METHOD #1 (PREFERRED)

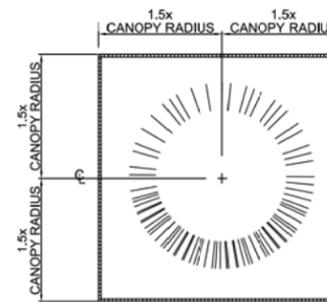
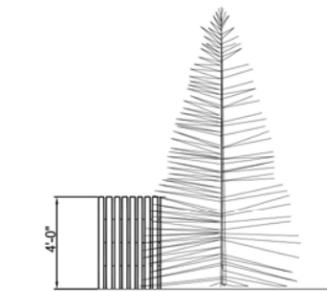
1. PLACE THE SEDIMENTATION CONTROL FABRIC SIDE OF THE FENCE IN THE DIRECTION OF THE ANTICIPATED SEDIMENT FLOW (NET SIDE OF THE SYSTEM AWAY FROM THE FLOW), AND POSITION THE POLES AGAINST THE BACK OF THE TRENCH.
2. USE A #5 SLEDGE HAMMER OR SIMILAR DEVICE TO DRIVE THE POLES INTO THE GROUND UNTIL THE BOTTOM OF THE INDUSTRIAL NETTING IS APPROXIMATELY 2" BELOW GROUND LEVEL (SEE DIAGRAM).
3. LAY THE BOTTOM 6" OF SEDIMENTATION CONTROL FABRIC IN THE TRENCH.
4. BACKFILL THE TRENCH WITH NATIVE SOIL AND COMPACT.



METHOD #2

1. LAY THE BOTTOM 6" OF SEDIMENTATION CONTROL FABRIC NETTING ON THE NATIVE SOIL, ONE TO TWO FEET BEHIND THE TRENCH.
2. PLACE BACKFILL ON THE FABRIC AS SHOWN (SEE FIGURE), AND TAMP FIRM WITH FOOT TO PREVENT LEAKAGE UNDER THE ENVIROFENCE UNIT.

TREE PROTECTION



NOTES

1) CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES, SUCH AS EXISTING GRADES AT THE PROPOSED THE PARKING LOT, PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OR OWNER'S REPRESENTATIVE, AND THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR VARIATIONS FROM PLANS.

2) CONTRACTOR SHALL CONTACT MINNESOTA ONE CALL CENTER 811 FOR UTILITY LOCATIONS 72 HOURS PRIOR TO EXCAVATION/CONSTRUCTION.

3) ALL EROSION CONTROL MEASURES AND TREE PROTECTION MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING OPERATIONS AND MAINTAINED UNTIL ALL AREAS ALTERED ON THE SITE HAVE BEEN REPAIRED. ONCE DISTURBED AREAS HAVE BEEN STABILIZED, INSPECTED AND ACCEPTED IN WRITING BY THE OWNER OR OWNER'S REPRESENTATIVE, ALL MEASURES OF EROSION CONTROL MUST BE PROMPTLY REMOVED FROM THE SITE. NO SILT FENCING, BIOROLLS, CHECK DAMS, ETC., MAY BE LEFT ON SITE UNLESS SPECIFICALLY DIRECTED.

4) REFER TO LAYOUT PLANS FOR EACH PROJECT FOR HORIZONTAL SITE DIMENSIONS AND LAYOUT.

5) CONTRACTOR TO PROVIDE MIN. 4" OF TOPSOIL, SETTLED DEPTH, ON ALL DISTURBED AREAS WHICH ARE TO BE SODDED OR SEEDED.

6) EXISTING TOPOGRAPHY PROVIDED BY CITY OF DULUTH

7) GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR IS RESPONSIBLE FOR CALCULATING, ESTABLISHING AND MAINTAINING GRADES AND CONTROL POINTS ON SITE THROUGHOUT THE ENTIRE PROJECT.

8) STOCKPILE TOPSOIL AND GRANULAR FILL AT LOCATIONS DIRECTED BY THE OWNER OR OWNERS REPRESENTATIVE. ALL STOCKPILED MATERIAL SHALL BE COVERED, STABILIZED OR OTHERWISE PROTECTED FROM EROSION. SILT FENCING SHALL BE INSTALLED AROUND ALL STOCKPILED MATERIAL.

8) ALL EXCESS OR EXCAVATED MATERIAL NOT DESIGNATED FOR PLACEMENT ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY, AND PROMPTLY REMOVED FROM THE SITE AND DISPOSED OF OFF THE CONSTRUCTION SITE IN A LAWFUL MANNER.

9) WHEN PLACING NEW SURFACE NEXT TO EXISTING PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF THE EXISTING PAVEMENT. ALL NEW SURFACES SHALL MEET EXISTING SURFACES WITH NO ABRUPT CHANGE IN SURFACE ELEVATION.

10) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL ONCE THE ALIGNMENT HAS BEEN ESTABLISHED IN THE FIELD.

11) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CLEARING AND GRUBBING AS MAY BE REQUIRED FOR FINAL CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL VEGETATIVE MATERIAL REMOVED AS PART OF THIS PROJECT.

12) CONTRACTOR SHALL STAKE THE LIMITS OF SITE DISTURBANCE, PROPOSED GRADING, LOCATION AND THE ALIGNMENT OF ALL NEW WALKS AND SURFACES, FOR INSPECTION AND APPROVAL BY OWNER OR OWNERS REPRESENTATIVE PRIOR TO ANY CONSTRUCTION ACTIVITY. REQUEST FOR INSPECTION MUST BE MADE A MINIMUM OF 24 HOURS IN ADVANCE.

13) REPAIR AND STABILIZE ALL DISTURBED AREAS PROMPTLY.

14) FENCE ALL PORTIONS OF THE PROJECT FOR SAFETY WITH A 4'-0" HIGH ORANGE FENCE. SIGN THE CONSTRUCTION ENTRY POINTS DURING CONSTRUCTION.

15) IDENTIFY STAGING AREA FOR APPROVAL BY OWNERS REPRESENTATIVE.

16) PROTECT ALL TREES TO REMAIN PRIOR TO SITE DISTURBANCE.

17) FIELD-STAKE LAYOUT FOR APPROVAL PRIOR TO SITE DISTURBANCE. BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY VARIATION IN THE SITE WHICH WOULD PROHIBIT, AS CURRENTLY SHOWN ON THE PLANS, THE CONSTRUCTION OF THE PROJECT AS SHOWN.

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+ ASSOCIATES

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ISSUE RECORD/REVISION

PURPOSE	DATE

HARTLEY PARK
PARKING IMPROVEMENTS
CITY OF DULUTH, MINNESOTA

SHEET KEY

SHEET TITLE
GENERAL NOTES

DATE 5/10/16

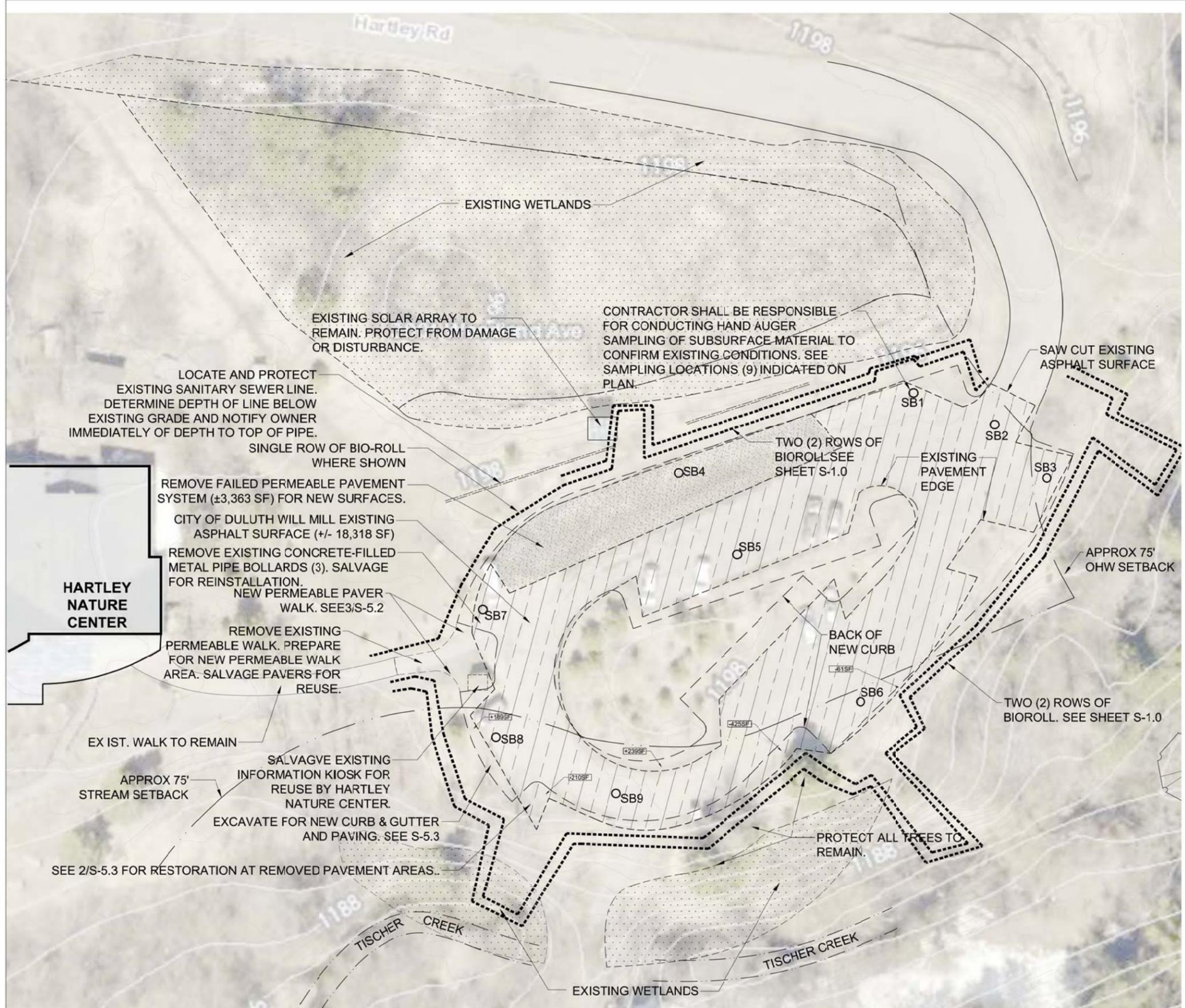
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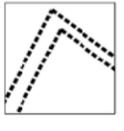
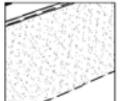
PROJECT NUMBER 15205

SHEET NUMBER

S I O



LEGEND:
 QUANTITIES ARE FOR ESTIMATION PURPOSES ONLY

-  WOOD FIBER BIOROLLS - +/- 1,934 LF. INSTALL TWO (2) ROWS OF WOOD FIBER BIO-ROLLS FOR REDUNDANT BMP WHERE SHOWN.
-  PAVEMENT REMOVAL (BY CITY OF DULUTH) ±18,318 SF
-  FAILED PERMEABLE PAVEMENT PARKING AREA REMOVE. ±3,363 SF
-  LINE OF EXISTING PAVEMENT - REMOVE
-  BACK OF NEW CURB.



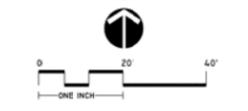
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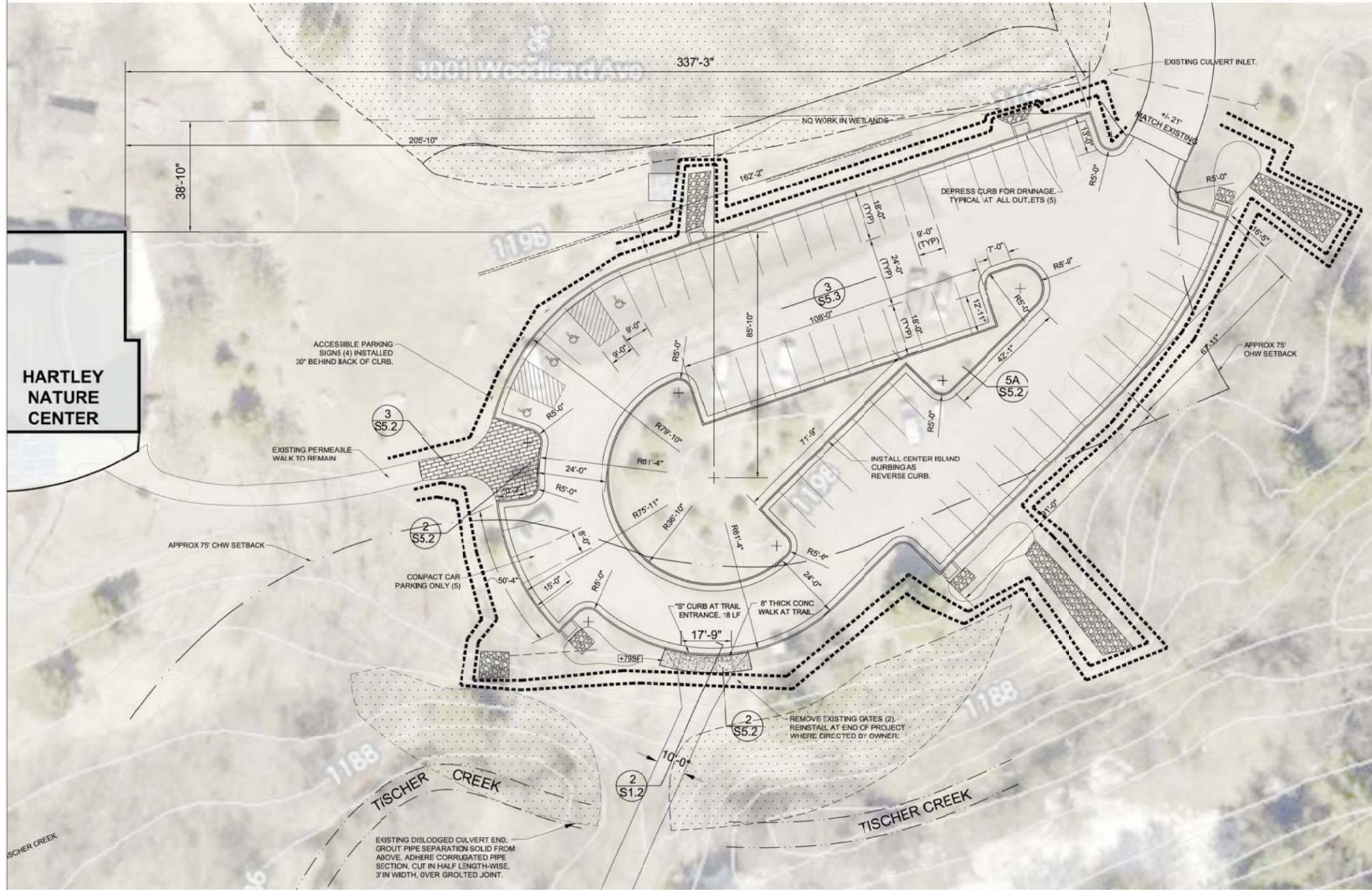
ISSUE RECORD/REVISION	
PURPOSE	DATE

**HARTLEY PARK
 PARKING IMPROVEMENTS
 HARTLEY NATURE CENTER**
 CITY OF DULUTH, MINNESOTA



SHEET KEY

SHEET TITLE	
REMOVALS	
DATE	5/10/16
DRAWN BY:	LWS
CHECKED BY:	LWS
PROJECT NUMBER	15205
SHEET NUMBER	S 1.1



PARKING:
 ACCESSIBLE PARKING SPACES - 4
 PARKING SPACES - 61
TOTAL PARKING SPACES - 65

TOTAL LOT AREAS

EXISTING IMPERVIOUS AREA -	21,681 SF
NEW IMPERVIOUS AREA -	24,590 SF
CHANGE -	+2,909 SF

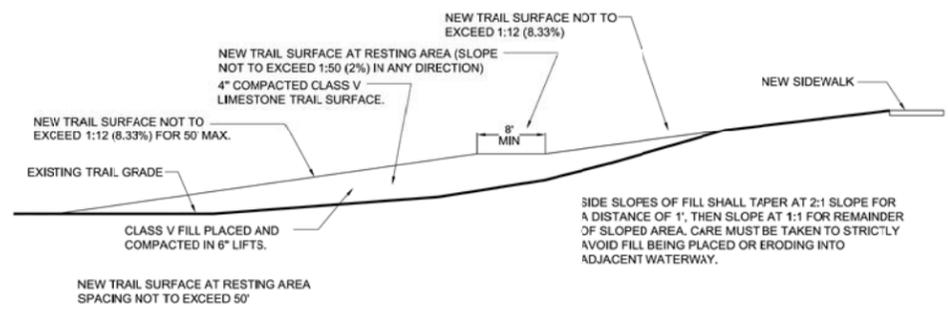
ASPHALT PAVEMENT -	21,621 SF
B624 CURB & GUTTER -	1,187 LF
8" CONCRETE SIDEWALK -	185 SF
PERMEABLE PAVER WALK -	
ADDITIONAL PERMEABLE PAVER WALK -	421 SF

TRUCK WASHOUT:
 NO CEMENT TRUCK WASHOUT SHALL OCCUR ON SITE. ALL WASHOUTS SHALL OCCUR OFF-SITE IN A LEGAL MANNER, OR BE CONDUCTED WITH A TRUCK-MOUNTED CLEAN-OUT SYSTEM.

1
S1.2 **PARKING LOT LAYOUT**
 1" = 20'

NEW IMPERVIOUS WITHIN 75' STREAM SETBACK:
 IMPERVIOUS AREA REMOVED - 696 SF
 IMPERVIOUS AREA ADDED - 607 SF

REMOVAL OF 89 SF OF IMPERVIOUS AREA WITHIN 75' STREAM SETBACK.



2
S1.2 **HARTLEY ROAD TRAIL APPROACH LOGITUDINAL SECTION**
 NTS

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PURPOSE	DATE

HARTLEY PARK
PARKING IMPROVEMENTS
HARTLEY NATURE CENTER
 CITY OF DULUTH, MINNESOTA

0 20' 40'
 ONE INCH

SHEET KEY

SHEET TITLE
PARKING LOT LAYOUT

DATE: 5/10/16
 DRAWN BY: LWS
 CHECKED BY: LWS

PROJECT NUMBER: 15205

SHEET NUMBER: **S 1.2**

May 11, 2016 - 1:30pm
 P:\15205 - Hartley Park Parking Improvements\2-Hartley Park Parking Improvements.dwg



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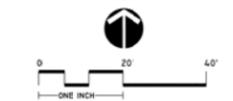
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ISSUE RECORD/REVISION

PURPOSE	DATE

HARTLEY PARK
PARKING IMPROVEMENTS
HARTLEY NATURE CENTER
 CITY OF DULUTH, MINNESOTA



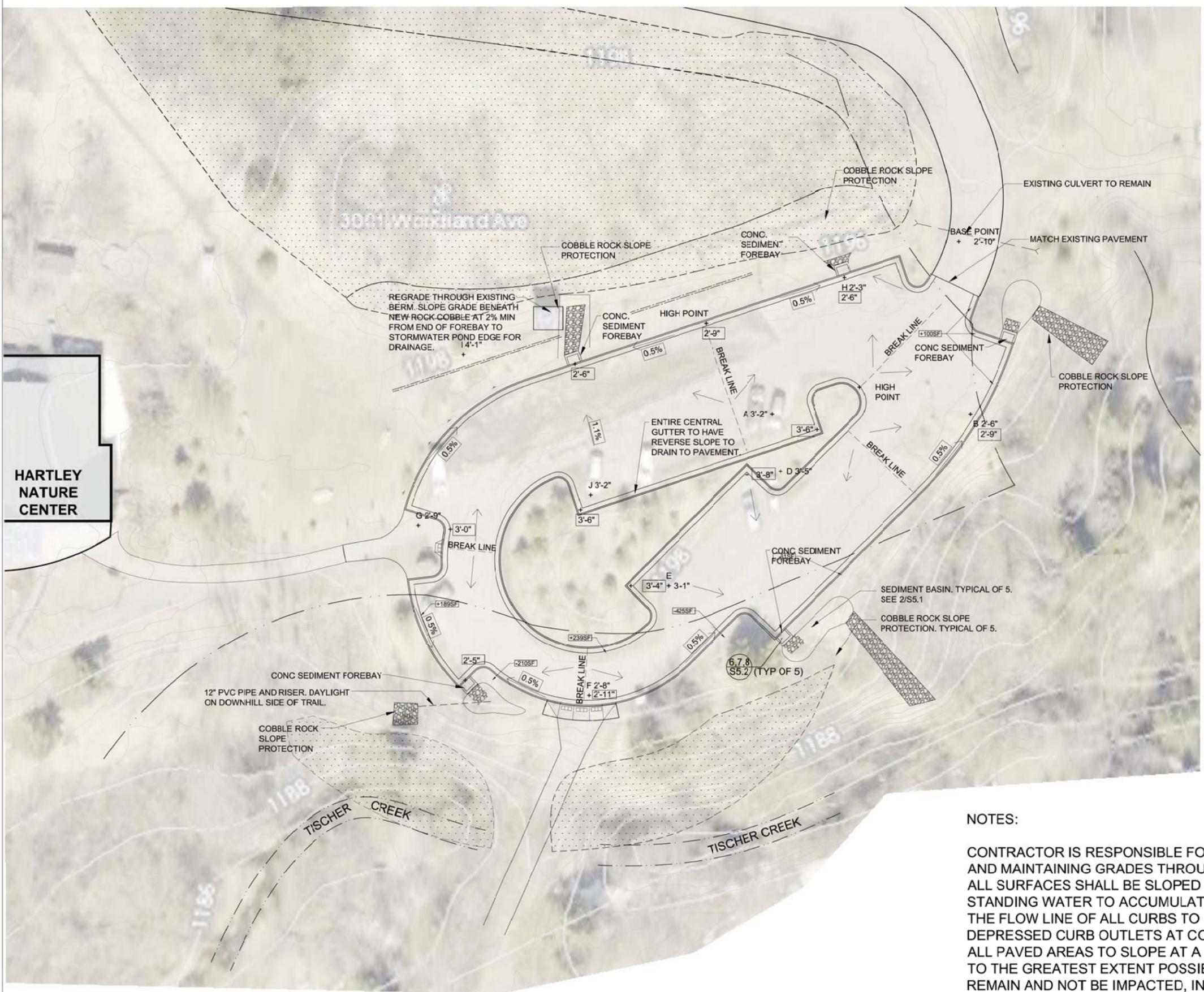
SHEET KEY

SHEET TITLE
GRADING PLAN

DATE: 5/10/16
 DRAWN BY: LWS
 CHECKED BY: LWS

PROJECT NUMBER: 15205

SHEET NUMBER: **S 1.3**



+ 2'-6" - +/- ELEVATION OF EXISTING GRADE ABOVE EXISTING CULVERT INVERT. VIF

+ 2'-6" +/- ELEVATION OF EXISTING GRADE ABOVE EXISTING CULVERT INVERT. VIF

ALL PAVEMENT SHALL SLOPE TO DRAIN IN DIRECTIONS INDICATED ON PLAN. PAVEMENT TO SLOPE AT 1% MINIMUM. CURB GUTTER LINES TO SLOPE AT 0.5% MINIMUM.

NOTES:

CONTRACTOR IS RESPONSIBLE FOR CALCULATING, ESTABLISHING, AND MAINTAINING GRADES THROUGHOUT THIS PROJECT. ALL SURFACES SHALL BE SLOPED TO DRAIN WITH NO AREAS FOR STANDING WATER TO ACCUMULATE. THE FLOW LINE OF ALL CURBS TO SLOPE AT MINIMUM OF 0.5% TO DEPRESSED CURB OUTLETS AT CONCRETE SEDIMENT FOREBAY. ALL PAVED AREAS TO SLOPE AT A MINIMUM OF 1.0%. TO THE GREATEST EXTENT POSSIBLE, ALL EXISTING TREES SHALL REMAIN AND NOT BE IMPACTED, INCLUDING THE TREE'S ROOT ZONES, BY THIS WORK.

May 11, 2016 - 1:30pm
 P15205 - Hartley Park Parking Improvements & Hartley Park Parking Improvements.dwg



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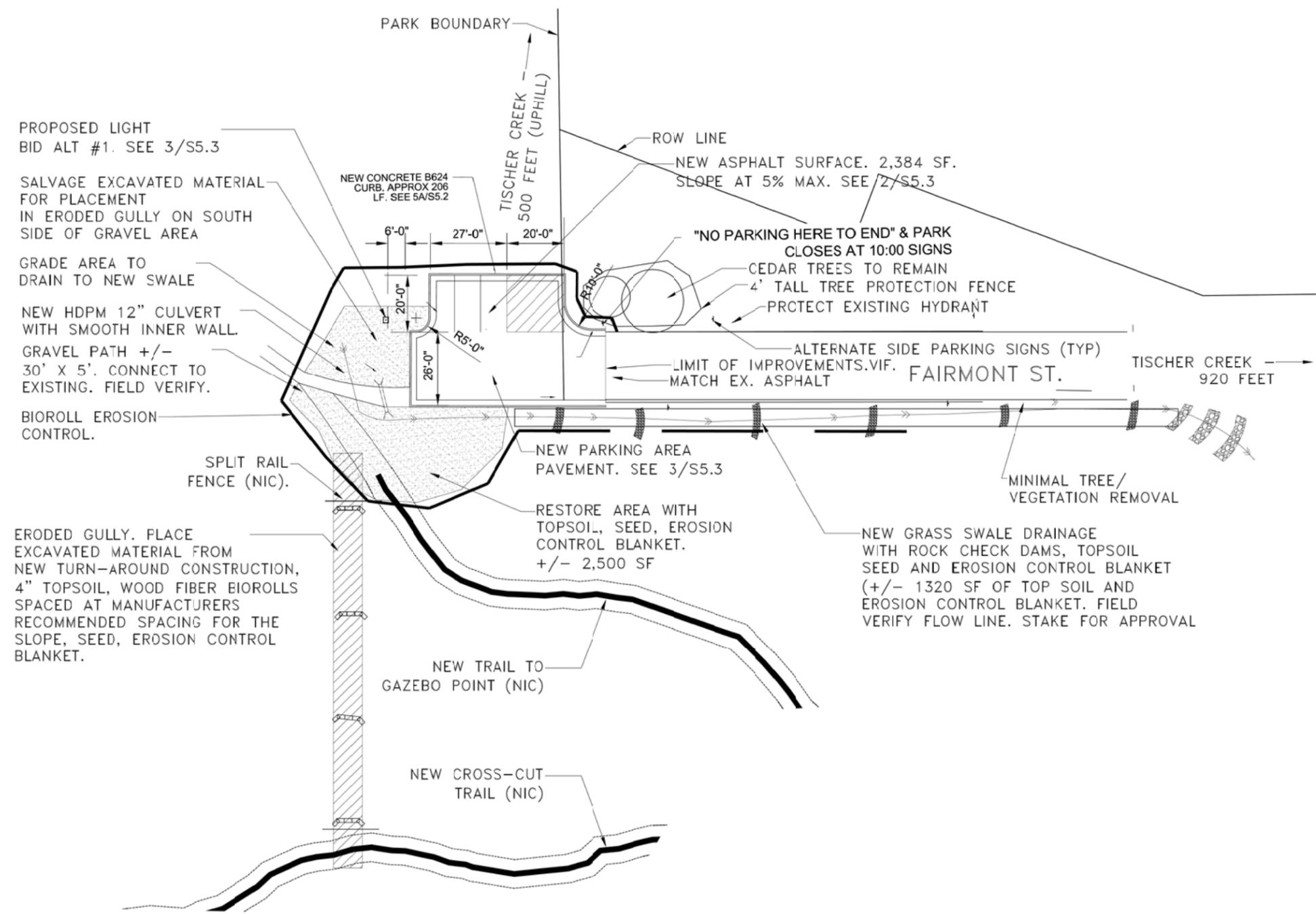
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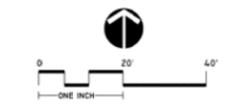
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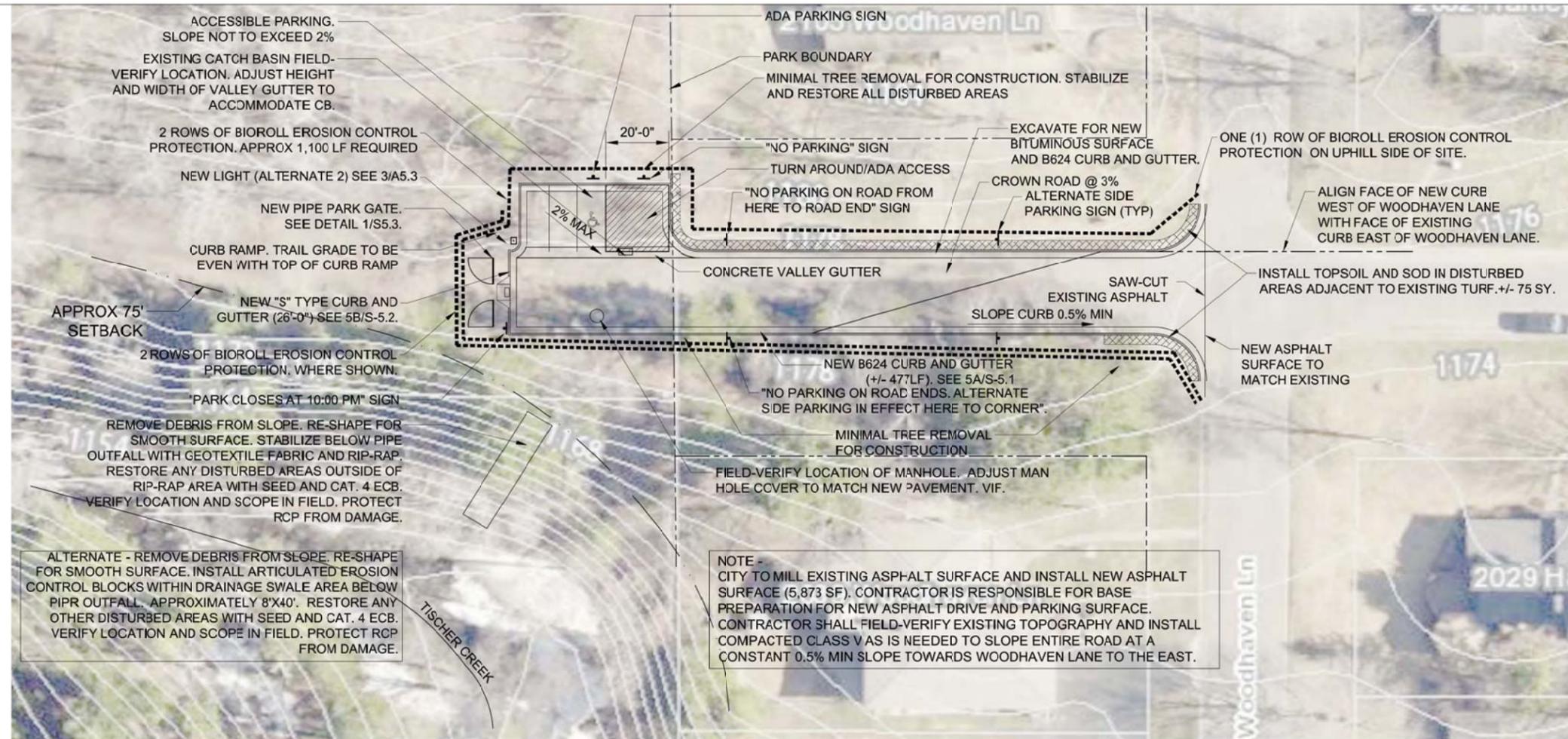


**HARTLEY PARK
PARKING IMPROVEMENTS
FAIRMONT STREET
CITY OF DULUTH, MINNESOTA**

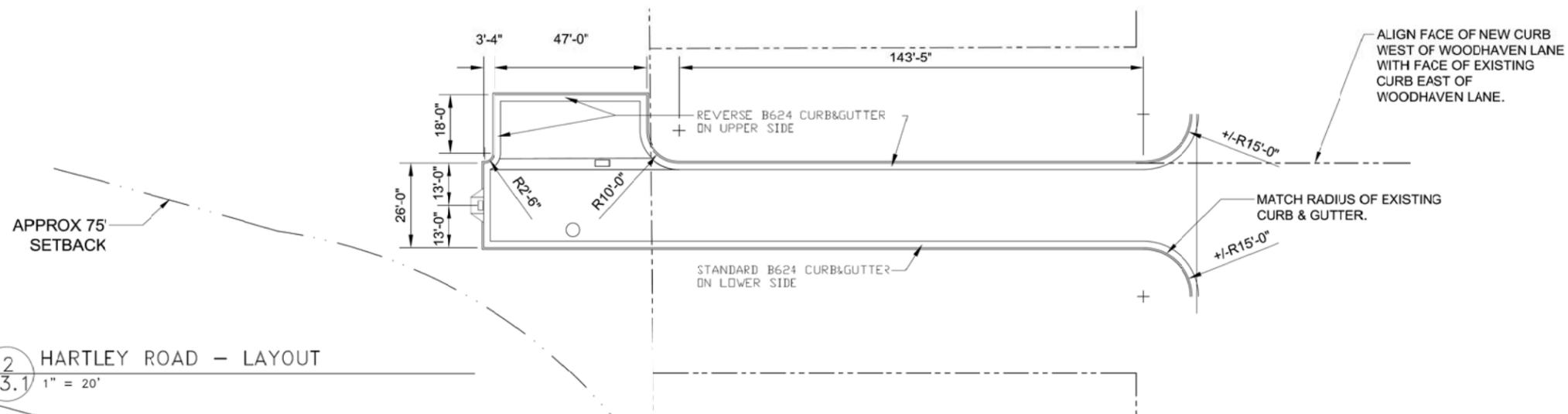


SHEET KEY

SHEET TITLE	FAIRMONT ST SITE PLAN
DATE	5/10/16
DRAWN BY:	LWS
CHECKED BY:	LWS
PROJECT NUMBER	15205
SHEET NUMBER	S 2.1



1 HARTLEY ROAD - SITE PLAN
S3.1 1" = 20'



2 HARTLEY ROAD - LAYOUT
S3.1 1" = 20'

NOTES:

- 1) FENCE ALL PORTIONS OF THE PROJECT FOR SAFETY, WITH A 4'-0" ORANGE SNOW FENCE. SIGN THE CONSTRUCTION ENTRY POINTS DURING CONSTRUCTION.
- 2) IDENTIFY STAGING AREA FOR APPROVAL BY OWNERS REPRESENTATIVE.
- 3) PROTECT ALL TREES TO REMAIN.
- 4) FIELD LAYOUT FOR APPROVAL.
- 5) ALL DISTURBED SURFACES MUST BE STABILIZED AND PREVENTED FROM ERODING AS SOON AS POSSIBLE. NO SEDIMENT SHOULD ENTER CREEK, STORM SEWER, OR STREET.
- 6) BACKFILL BEHIND CURB WITH COMMON FILL. TOP WITH 4" SETTLED TOPSOIL. NEW SURFACE SHALL BLEND SMOOTHLY INTO EXISTING ADJACENT SURFACES. INSTALL SOD WHERE INDICATED. ALL OTHER DISTURBED AREAS STABILIZE WITH SEED & CLASS 3 ECB.



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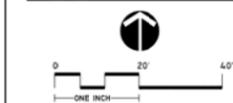
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PURPOSE	DATE

HARTLEY PARK
PARKING IMPROVEMENTS
HARTLEY ROAD
CITY OF DULUTH, MINNESOTA



SHEET KEY

SHEET TITLE
HARTLEY RD
SITE PLAN

DATE 5/10/16

DRAWN BY: LWS

CHECKED BY: LWS

PROJECT NUMBER 15205

SHEET NUMBER

S 3.1

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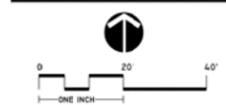
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PURPOSE	DATE

HARTLEY PARK PARKING IMPROVEMENTS NORTH ROAD CITY OF DULUTH, MINNESOTA



SHEET KEY

SHEET TITLE
**NORTH ROAD
SITE PLAN**

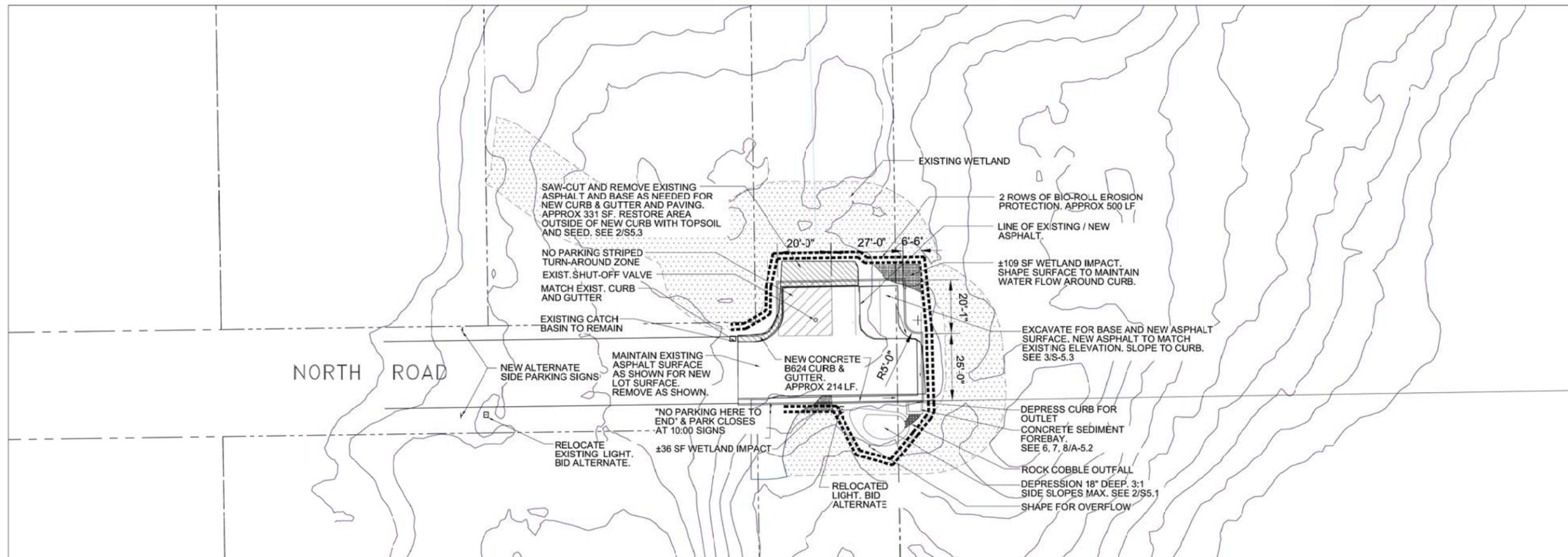
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CHECKED BY: LWS

PROJECT NUMBER
15205

SHEET NUMBER
S 4.1



PARKING:

TOTAL PARKING SPACES - 3

AREAS

(QUANTITIES ARE APPROXIMATE PROVIDED FOR BUDGETING PURPOSES ONLY. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS. ANY CHANGES WILL BE BASED ON UNIT COSTS.)

EXISTING IMPERVIOUS AREA -	2,380 SF
NEW IMPERVIOUS AREA -	2,790 SF
CHANGE -	410 SF

NEW ASPHALT PAVEMENT -	364 SF
------------------------	--------

NEW CURB & GUTTER -	197 LF
---------------------	--------

WETLAND IMPACT -	+/-145 SF
------------------	-----------

NOTES-

- EXISTING ASPHALT SURFACE TO REMAIN EXCEPT WHERE SHOWN. PROTECT ASPHALT TO REMAIN FROM DAMAGE.
- SAW CUT ASPHALT FOR NEW CURB AND GUTTER. EXCAVATE FOR CURB AND GUTTER CONSTRUCTION. SEE 3/S-5.3
- SLOPE NEW ASPHALT TO DRAIN TO CURBS, 1% MIN, 5% MAX. SLOPE CURBS TO DRAIN TO OUTLETS, 0.5% MIN., 5% MAX.
- ALL MATERIALS AND WORK TO CONFORM TO CITY OF DULUTH ENGINEERING STANDARDS.
- STABILIZE AND RESTORE ALL DISTURBED SURFACES WITH 4" SETTLED TOPSOIL, SEED AND CLASS 3 ECB.



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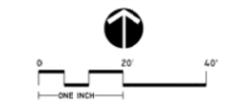
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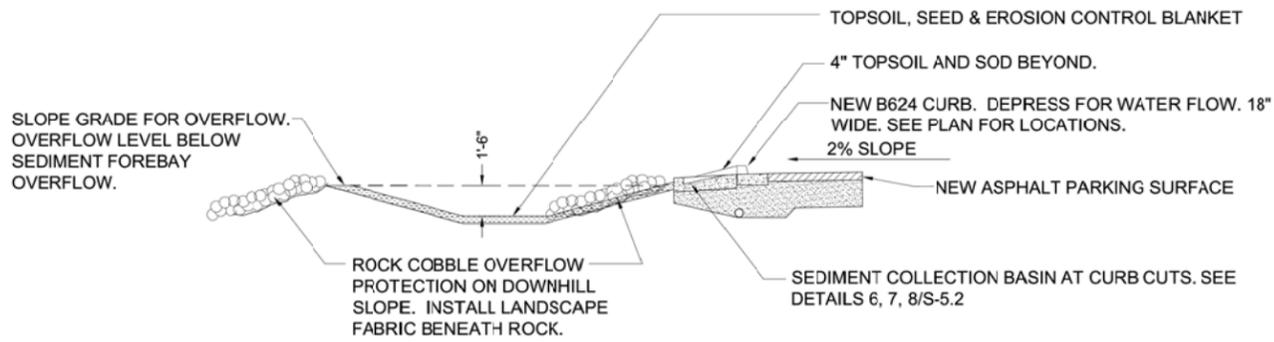
**HARTLEY PARK
PARKING IMPROVEMENTS**
CITY OF DULUTH, MINNESOTA



SHEET KEY

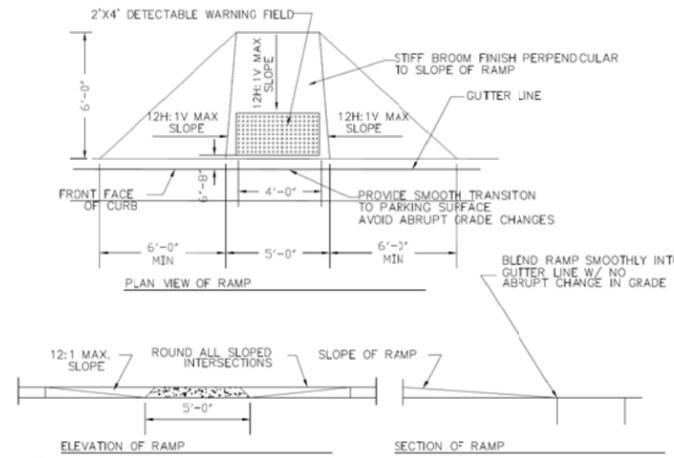
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DETAILS

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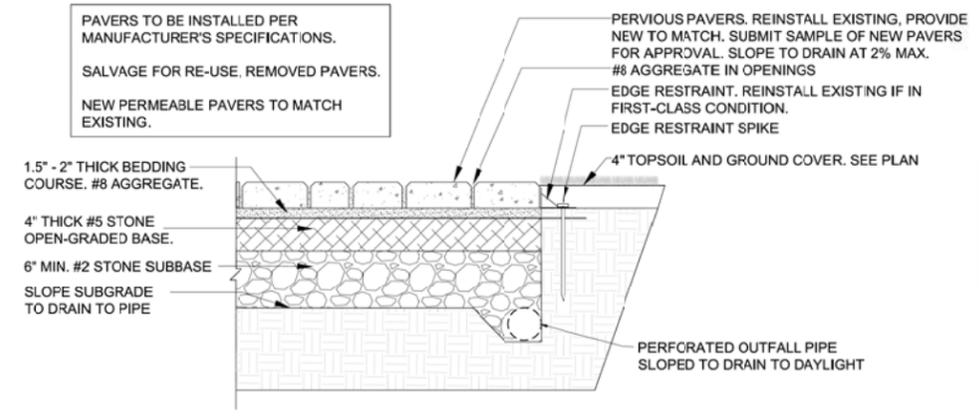


1 NOT USED
S5.1

2 RUNOFF SEDIMENT CONTROL DEPRESSION
S5.1 NTS

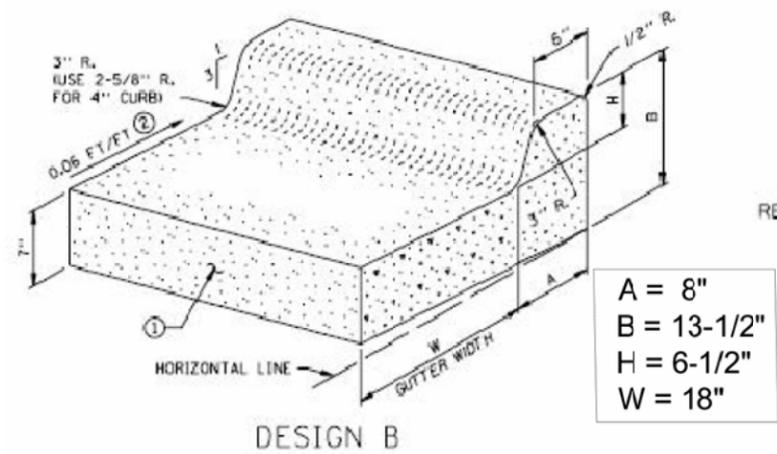


2 CURB RAMP
S5.2 NTS

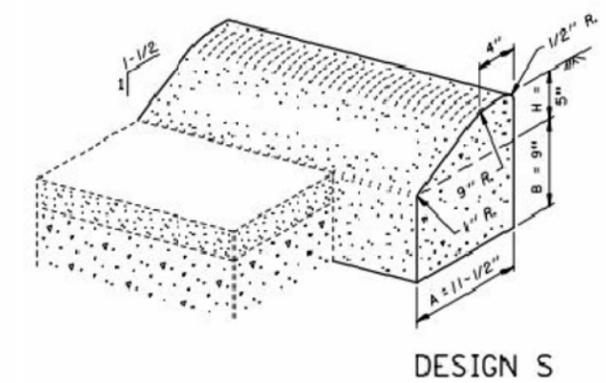
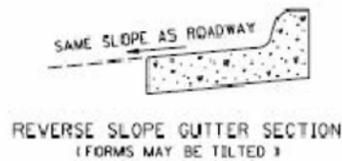


3 PERMEABLE PAVER WALK - NEW & RECONSTRUCTED
S5.2 NTS

1 NOT USED
S5.2 NTS

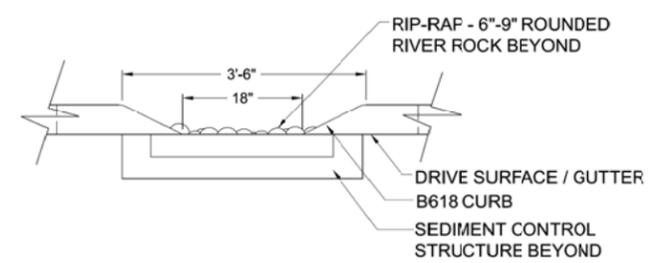


5A "B" CURB DETAILS
S5.2 NTS

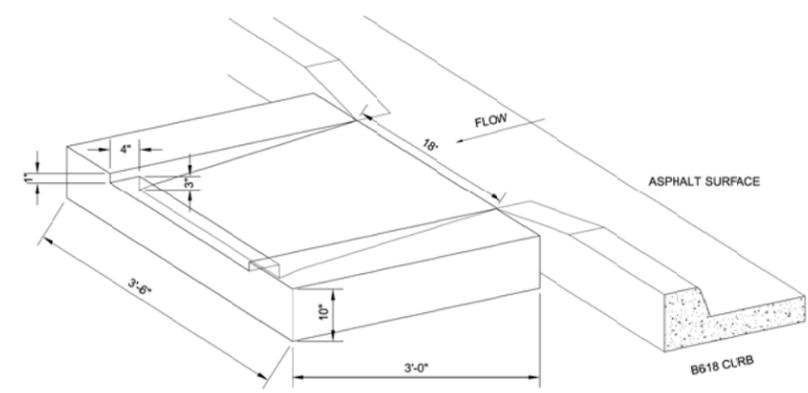


5B "S" CURB DETAILS
S5.2 NTS

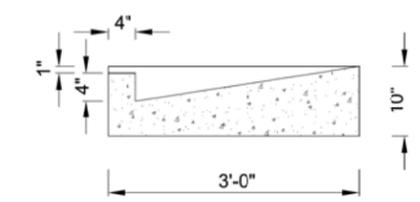
4 NOT USED
S5.2 NTS



6 CURB DEPRESSION
S5.2 NTS



7 SEDIMENT COLLECTION STRUCTURE
S5.2 NTS



8 SEDIMENT COLLECTION STRUCTURE SECTION
S5.2 NTS

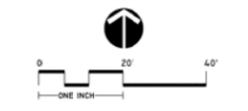
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HARTLEY PARK
PARKING IMPROVEMENTS
HARTLEY NATURE CENTER
CITY OF DULUTH, MINNESOTA

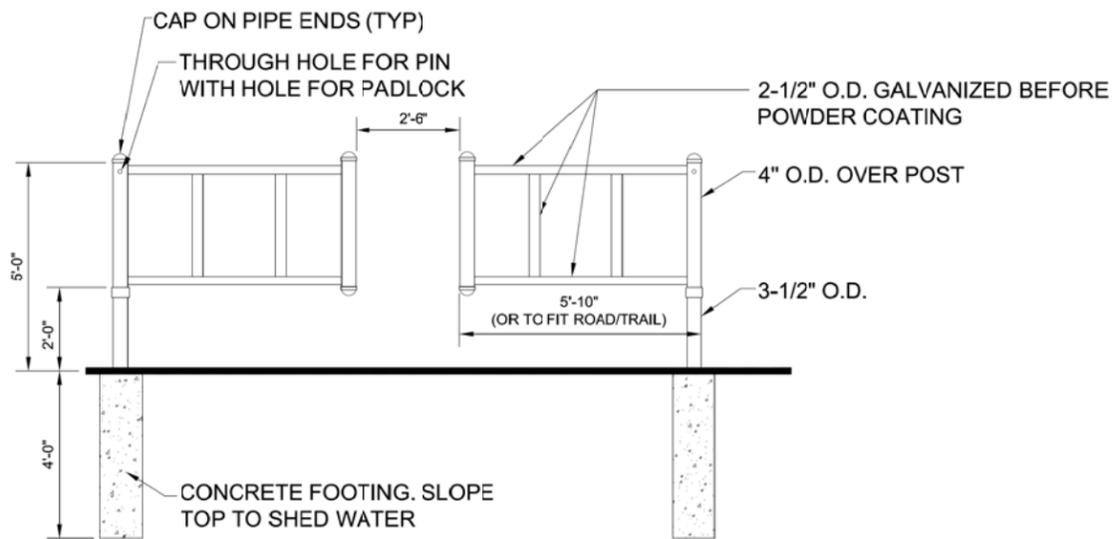


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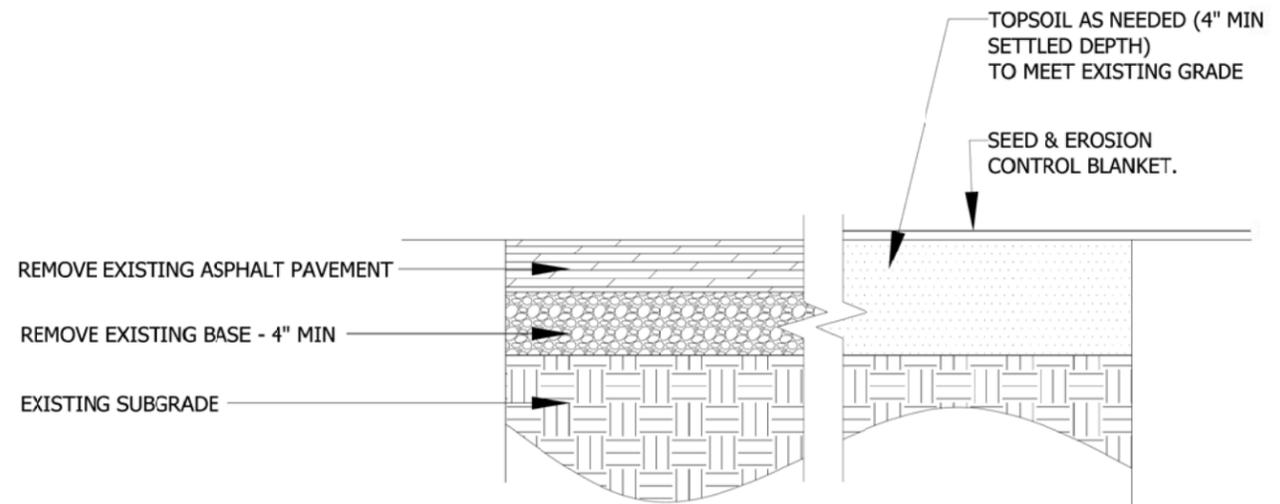
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DATE: 5/10/16
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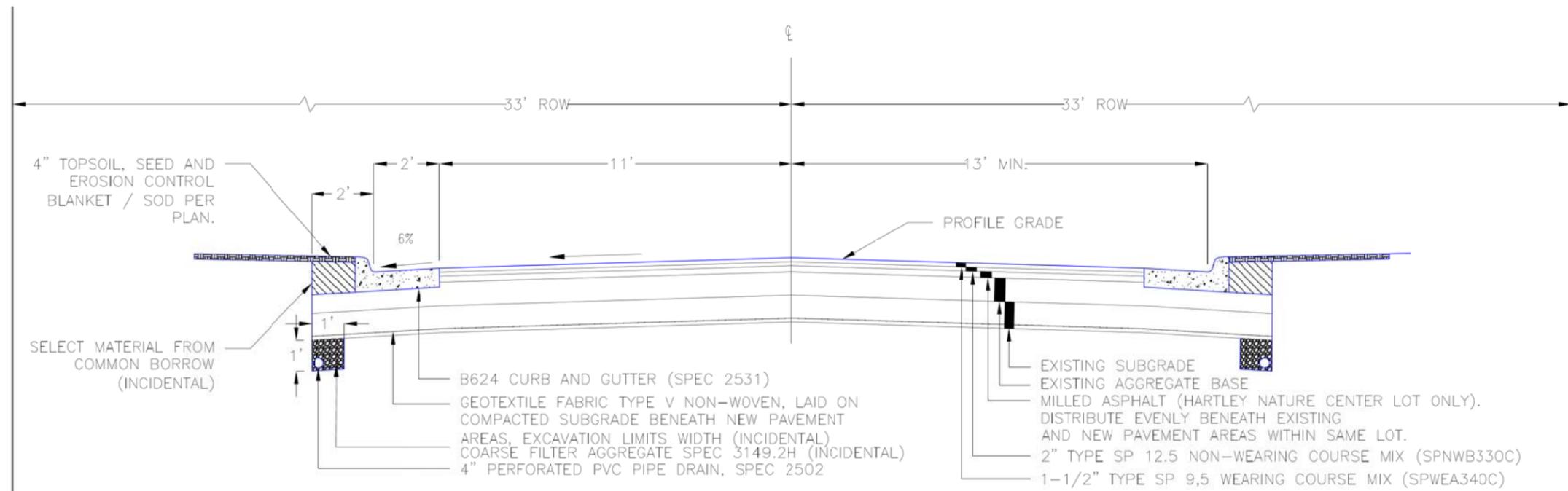
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P:\15205 - Hartley Park Parking Improvements\3-Hartley Park Parking Improvements.dwg



1 GATE DETAIL
S5.3 NTS



2 RESTORATION AT REMOVED PAVEMENT AREAS
S5.3 NTS



2 RESTORATION AT REMOVED PAVEMENT AREAS
S5.3 NTS

LIGHTING - ALTERNATES

FIXTURES MUST BE THE FOLLOWING:				Filename: I:\SAS\CENTRAL HILLSIDE\ALDLTG.AGI				
Symbol	Label	Description	Date: 5/29/2015	Arrangement	LLF	Lum. Watts	Lum. Lumens	BUG Rating
■	G	LEOTEK AR13-6M-MV-NW-5-DB-700		SINGLE	0.808	52	5529	B3-U0-G1
■	E	LEOTEK AR13-6M-MV-NW-3-DB-700		SINGLE	0.855	52	5451	B1-U0-G1

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	
SIDEWALK	Illuminance	Fc	0.59	3.2	0.0	N.A.	N.A.	

ALD, Inc.
ARCHITECTURAL LIGHTING DESIGNS, INC.
2920 ANTHONY LANE
ST. ANTHONY, MN 55418
612-252-4100, 612-252-4141 fax
USING LEOTEK LED FIXTURES (4000k LED COLOR TEMP)
MOUNTED ON 15' TALL POLES.
6" CONCRETE BASE



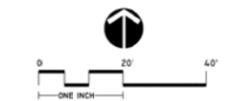
LANDSCAPE ARCHITECTURE
+ ASSOCIATES

WWW.SASLANDARCH.COM
219 WEST FIRST STREET, SUITE 350
DULUTH, MN 55802
(P) 218.391.1335
(F) 218.722.6697

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ISSUE RECORD/REVISION	
PURPOSE	DATE

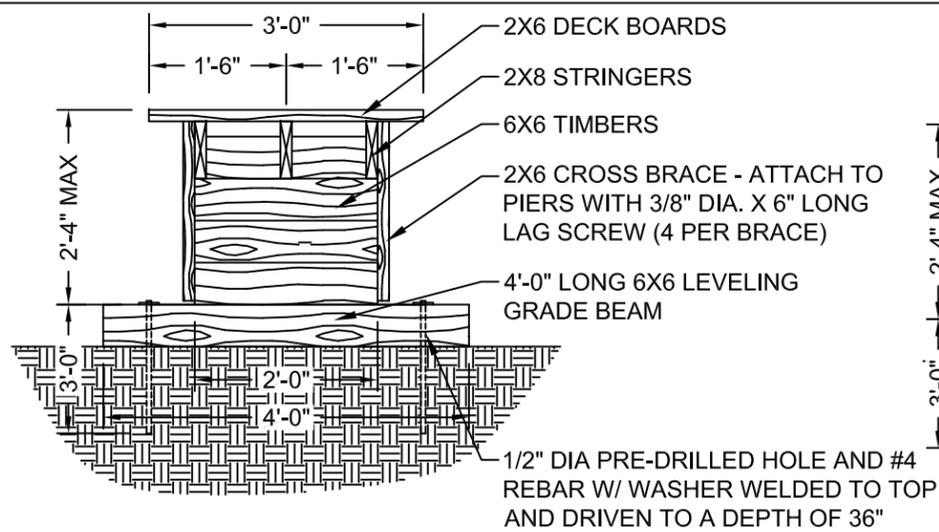
HARTLEY PARK
PARKING IMPROVEMENTS
HARTLEY NATURE CENTER
CITY OF DULUTH, MINNESOTA



SHEET KEY

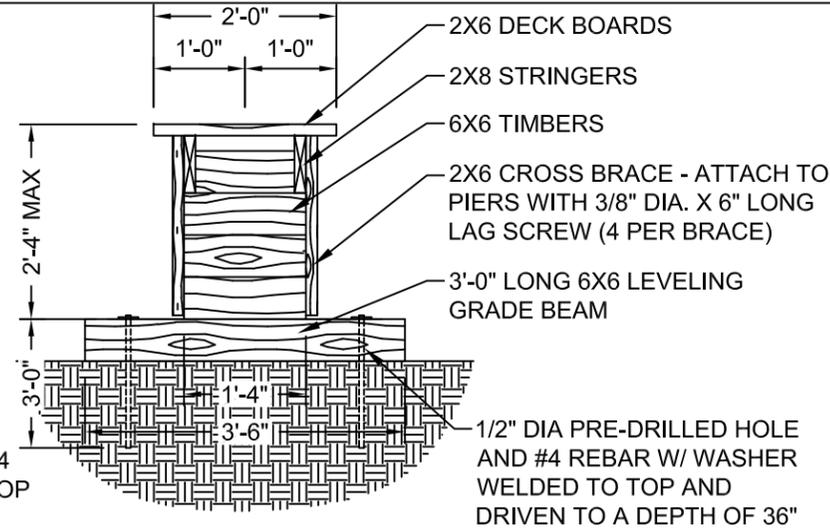
SHEET TITLE
DETAILS

DATE	5/10/16
DRAWN BY:	LWS
CHECKED BY:	LWS
PROJECT NUMBER	I5205
SHEET NUMBER	S 5.3



36" WIDE BOARDWALK
NOT TO SCALE

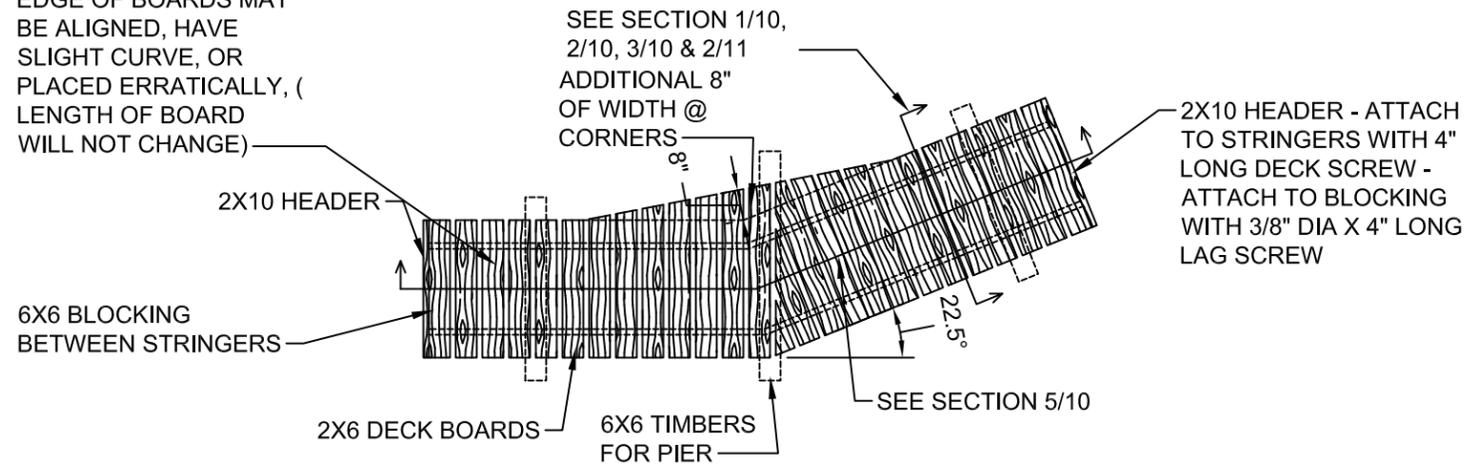
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2



24" WIDE BOARDWALK
NOT TO SCALE

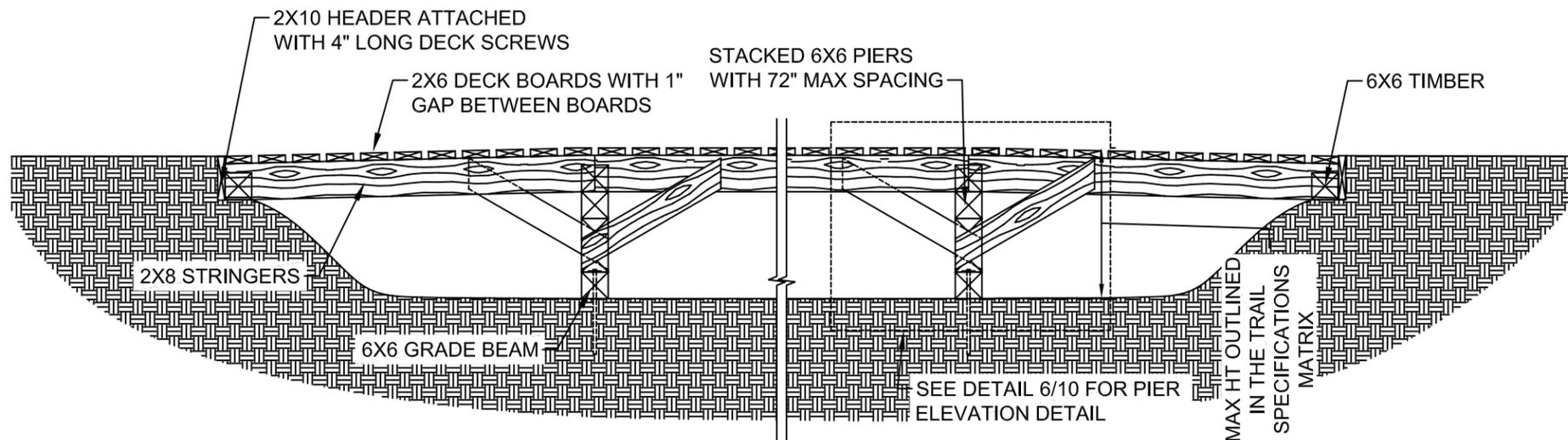
2
2

EDGE OF BOARDS MAY BE ALIGNED, HAVE SLIGHT CURVE, OR PLACED ERRATICALLY, (LENGTH OF BOARD WILL NOT CHANGE)



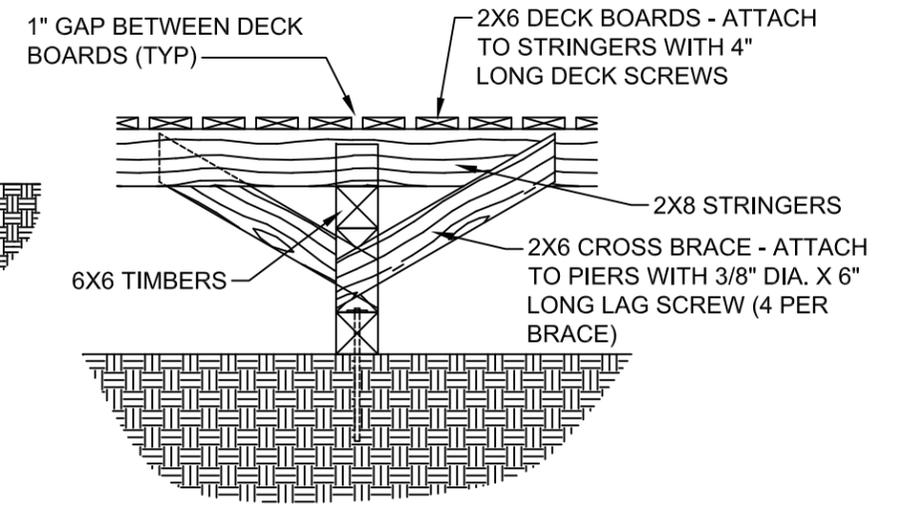
TYPICAL PLAN DETAIL OF BRIDGE (36" WIDE SHOWN)
NOT TO SCALE

3
2



TYPICAL ELEVATION DETAIL FOR BOARDWALK (WET AREA CROSSINGS)
NOT TO SCALE

4
2



TYPICAL ELEVATION @ PIER LOCATION
NOT TO SCALE

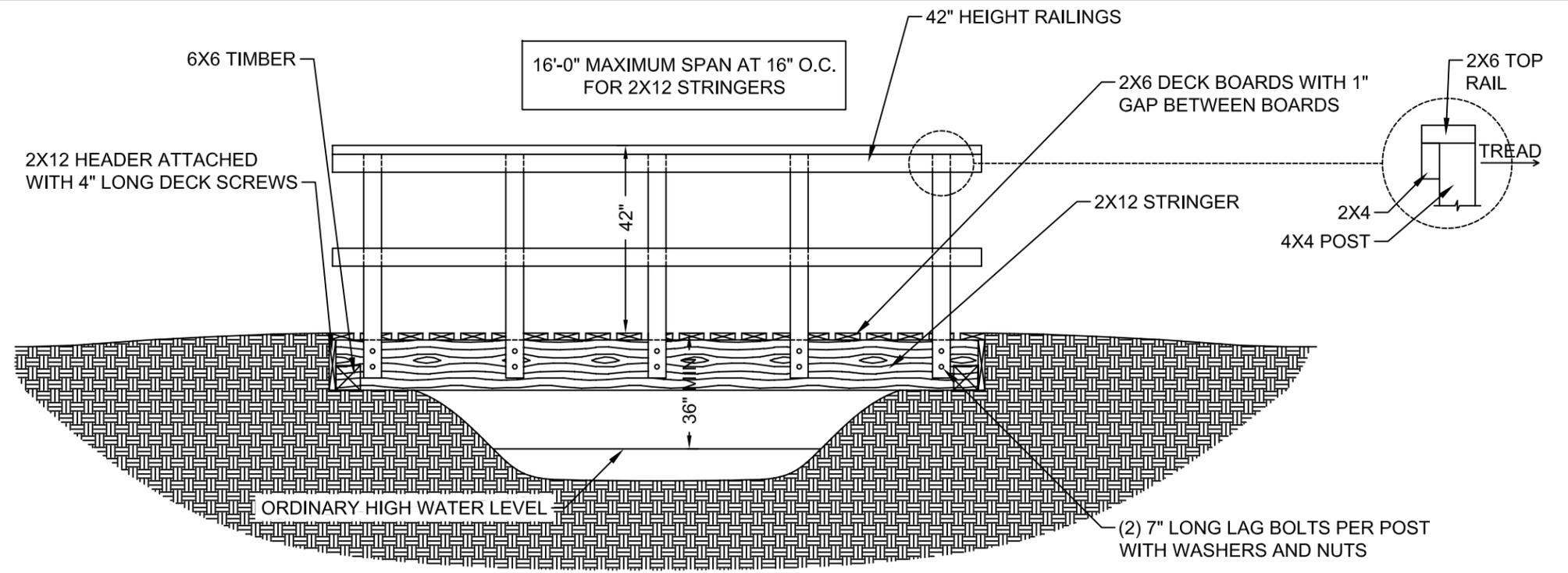
5
2

DETAIL NOTES:

1. FINAL BOARDWALK FIELD DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE BASED ON THE ENGINEERED CONSTRUCTION DOCUMENTS HEREIN AND IN THE SPECIFICATIONS.
2. CONTRACTOR IS TO PROVIDE A TYPICAL BOARDWALK AND BRIDGE SHOP DRAWING THAT IS PLANNED TO BE CONSTRUCTED IN THE FIELD FOR APPROVAL BY THE LANDSCAPE ARCHITECT.
3. LUMBER SHALL BE SIZED TO THE FULL DIMENSIONS SHOWN ON THE PLANS UNLESS NOTED OTHERWISE. ALL LUMBER SHALL BE A ROT-RESISTANT SPECIES OR TREATED ACCORDING TO THE OPTIONS INDICATED IN THE SPECIFICATIONS.
4. ACCEPTABLE MATERIALS FOR THE DECK RIDING SURFACE MUST BE ROUGH CUT LUMBER AND INCLUDES: CEDAR, TAMARACK AND TREATED PINE. ALL OTHER LUMBER USED IN THE CONSTRUCTION CAN BE EITHER ROUGH CUT OR DIMENSIONAL TREATED PINE LUMBER.
5. ROT-RESISTANT TREATMENTS OTHER THAN THOSE LISTED MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO BIDDING.
6. LEVELING GRADE BEAMS SHALL BE SHIMMED AS NECESSARY TO MEET DESIRED PITCH OF STRUCTURE AND ANCHORED TO THE GROUND WITH A MINIMUM OF 36" LONG #5 REBAR DRIVEN THROUGH A PRE DRILLED HOLE IN THE TIMBER.
7. SELECT FASTENERS AND HARDWARE IN ACCORDANCE WITH THE SPECIFICATIONS
8. SIZES, LENGTHS AND EXTENT OF ALL BOARDWALKS, ROCK HARDENED TREAD, BRIDGES AND BERMS TO BE FIELD FIT AT TIME OF CONSTRUCTION.
9. BOARDWALK & BRIDGE CONSTRUCTION LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR APPROVAL.
10. CUT BRUSH AND SLASH MUST BE DISPOSED IN AN UPLAND LOCATION AND MUST BE KEPT OUT OF STREAMS, GULLIES, SWALES, WET AREAS, AND LOW AREAS. SEE SPECIFICATIONS FOR DETAILS.
10. NO EXCAVATION OR FILL PERMITTED IN WET AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSULT WITH THE OWNER PRIOR TO DOING ANY WORK WITHIN SUSPECTED WET AREAS.
11. WOOD RAMPS OR STONE PITCHING MAY BE REQUIRED BEFORE AND AFTER BRIDGES AND BOARDWALKS. APPLICATION WILL BE DETERMINED IN THE FIELD, BY THE CONTRACTOR AND MUST BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. PAYMENT FOR RAMPS WILL BE ADDED TO THE TOTAL LENGTH OF THE BOARDWALK AND PAYMENT FOR STONE PITCHING WILL BE PER THE UNIT BID PRICE OF ROCK ARMORING.

DETAIL NOTES:

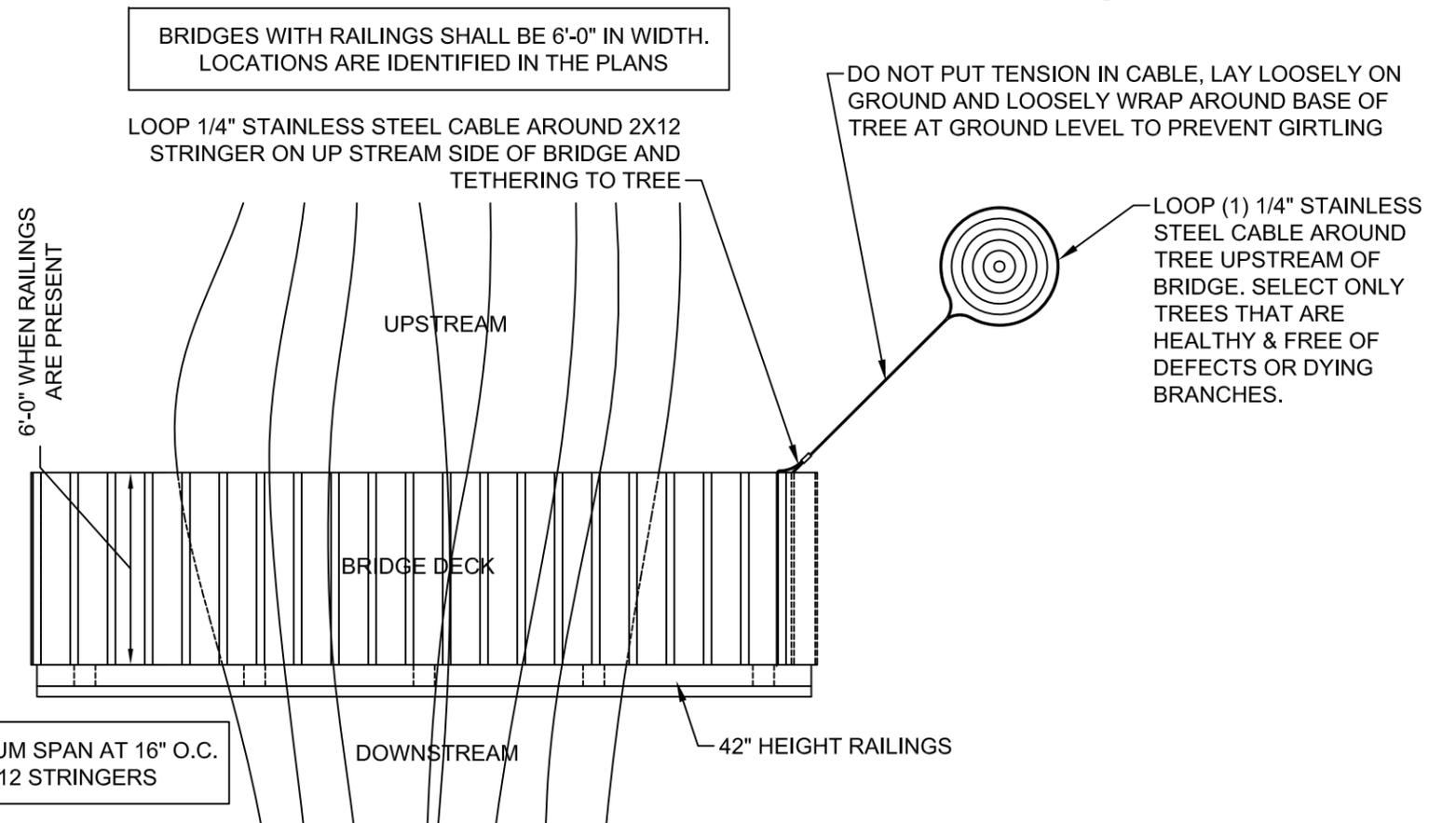
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TYPICAL ELEVATION DETAIL FOR BRIDGE (CREEK CROSSINGS)

NOT TO SCALE

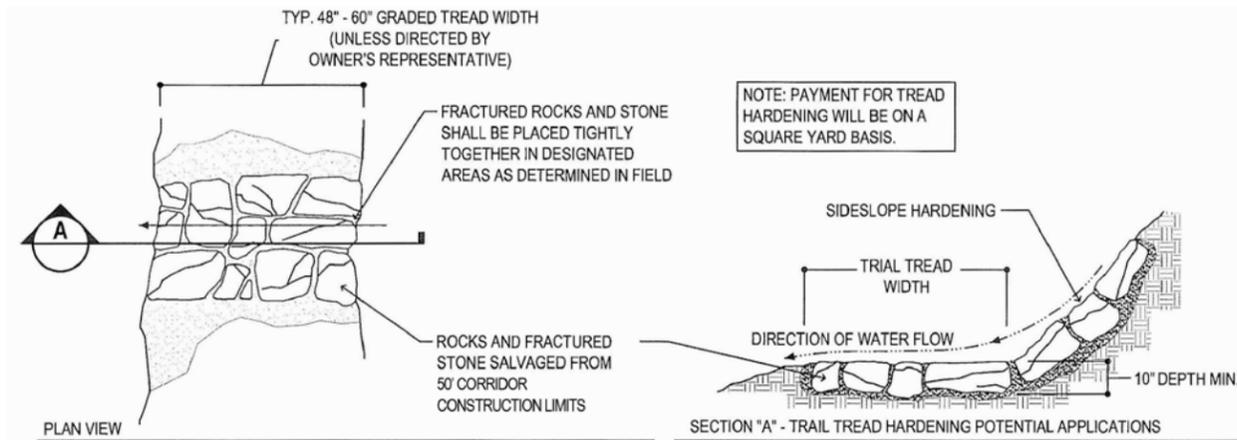
2/2



TYPICAL PLAN DETAIL FOR BRIDGE (CREEK CROSSINGS)

NOT TO SCALE

2/2



CONSTRUCTION NOTE:

BACKFILL BEDDING MATERIAL SHALL BE 3"- 6" OF 3/4" - CRUSHED ROCK. THE SAME CRUSHED ROCK CAN BE UTILIZED FOR FILL BETWEEN THE SET ROCK/STONE.

10" MINIMUM ROCK/STONE SET DEPTH.

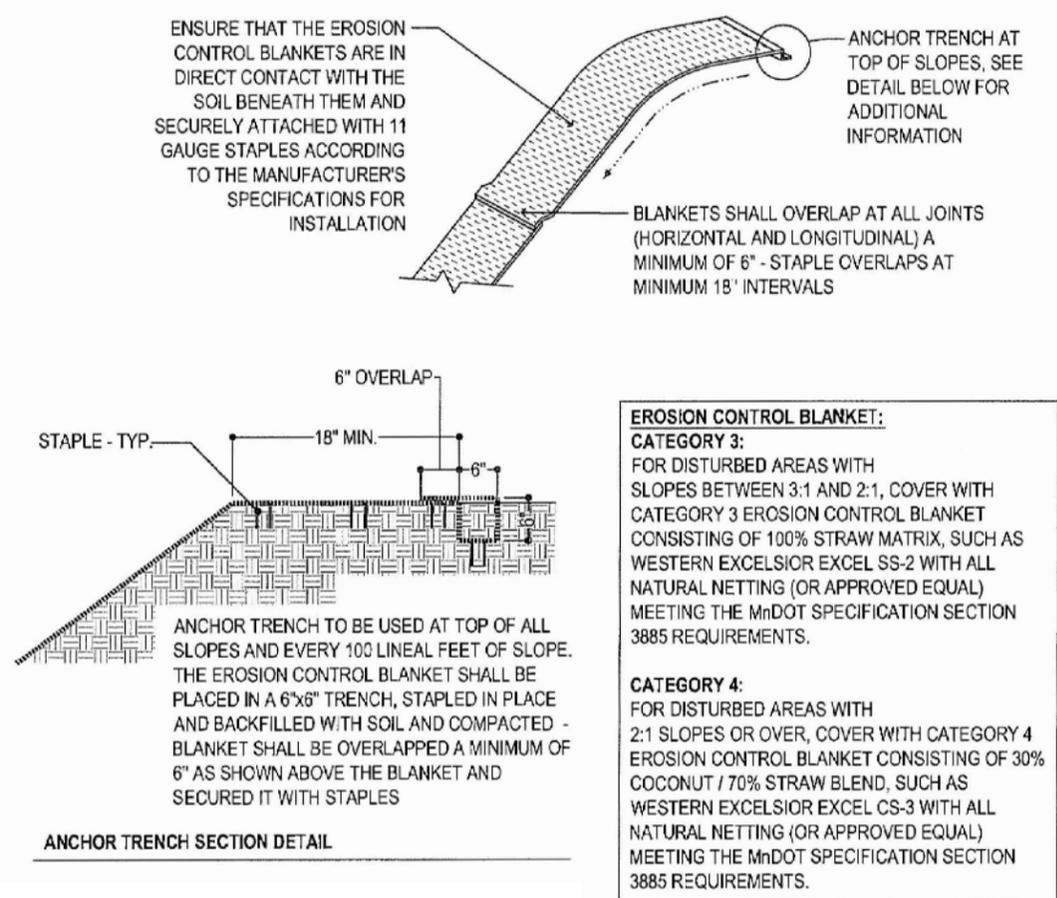
SEAMS RUNNING IN THE DIRECTION OF TRAVEL SHALL BE MINIMIZED IN BOTH LENGTH AND WIDTH. SEAM WIDTH SHALL BE MINIMIZED AND SEAM STAGGERING SHALL BE USED WHERE POSSIBLE.

- SWPPP NOTES:**
1. ALL DISTURBED AREAS NOT PART OF ACTIVE TREAD TO BE STABILIZED WITHIN 7 DAYS OF NOT BEING WORKED. SEE (SWPPP) STORM WATER POLLUTION PREVENTION PLAN FOR DETAILS.
 2. WHENEVER POSSIBLE USE NATIVE DUFF MATERIALS FOUND IN THE TRAIL CORRIDOR AS A MULCH FOR COVERING SOIL EXPOSED BY BACKSLOPE AND DOWNSLOPE CUTS. WOOD CHIPS MADE FROM WOODY MATERIAL CLEARED AS A RESULT OF THE CORRIDOR CLEARING ARE AN ACCEPTABLE ALTERNATIVE TO NATIVE DUFF MULCH.
 3. FOR SLOPE ANGLES UNDER 3:1 USE TEMPORARY EROSION CONTROL SEED MIX AND FOR DISTURBED AREAS THAT ARE LACKING ADEQUATE NATIVE DUFF MATERIAL.
 4. FOR SLOPE ANGLES 3:1 AND OVER USE PERMANENT EROSION CONTROL SEED MIX AND EROSION CONTROL BLANKET FOR LAND SLIDE AREAS AND AREAS OF HEAVY DISTURBANCE. THESE AREAS MUST BE APPROVED BY THE OWNER.
 5. SEE SWPPP FOR SEED MIX DETAILS.
 6. AFTER COMPLETION OF ALL GRADING, THE TRAIL TREAD SHALL BE MECHANICALLY COMPACTED TO ITS SPECIFIED WIDTH USING A VIBRATORY PLATE, SHEEP'S FOOT, OR OTHER APPROVED EQUAL COMPACTOR.
 7. CUT BRUSH AND SLASH MUST BE DISPOSED IN AN UPLAND LOCATION AND MUST BE KEPT OUT OF STREAMS, GULLIES, SWALES, WETLANDS, AND LOW AREAS. SEE SPECIFICATIONS FOR DETAILS.
 8. NO EXCAVATION OR FILL PERMITTED IN WET & LOWLAND AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSULT WITH THE OWNER PRIOR TO DOING ANY WORK WITHIN SUSPECTED WET & LOWLAND AREAS.

TRAIL TREAD ROCK ARMORING AND SIDESLOPE ARMORING DETAIL

NOT TO SCALE

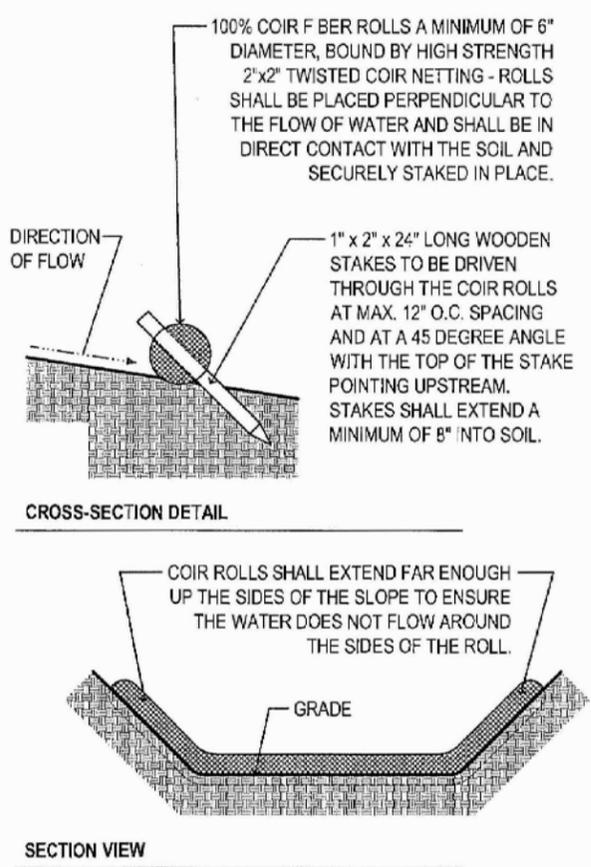
1/3



WOOD FIBER BLANKET DETAIL

NOT TO SCALE

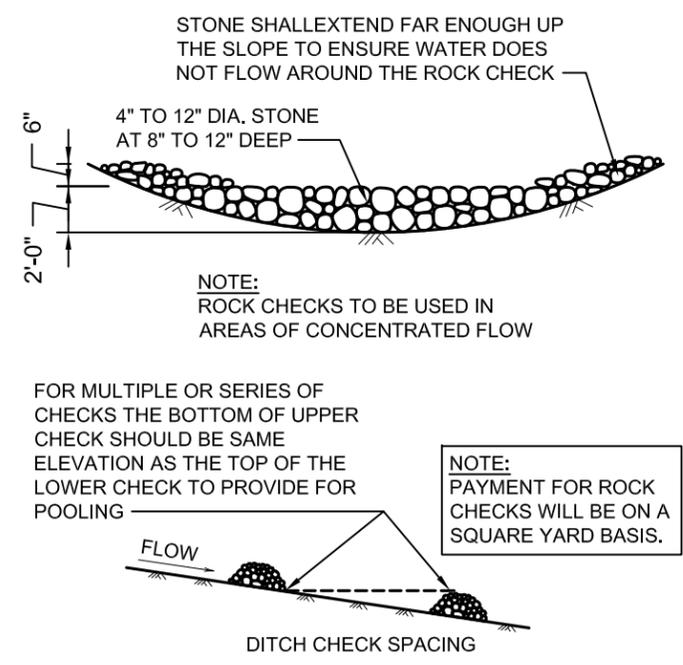
2/3



COIR ROLL DETAIL

NOT TO SCALE

3/3



ROCK CHECK DETAIL

NOT TO SCALE

4/3

5.22 Tables And Figures

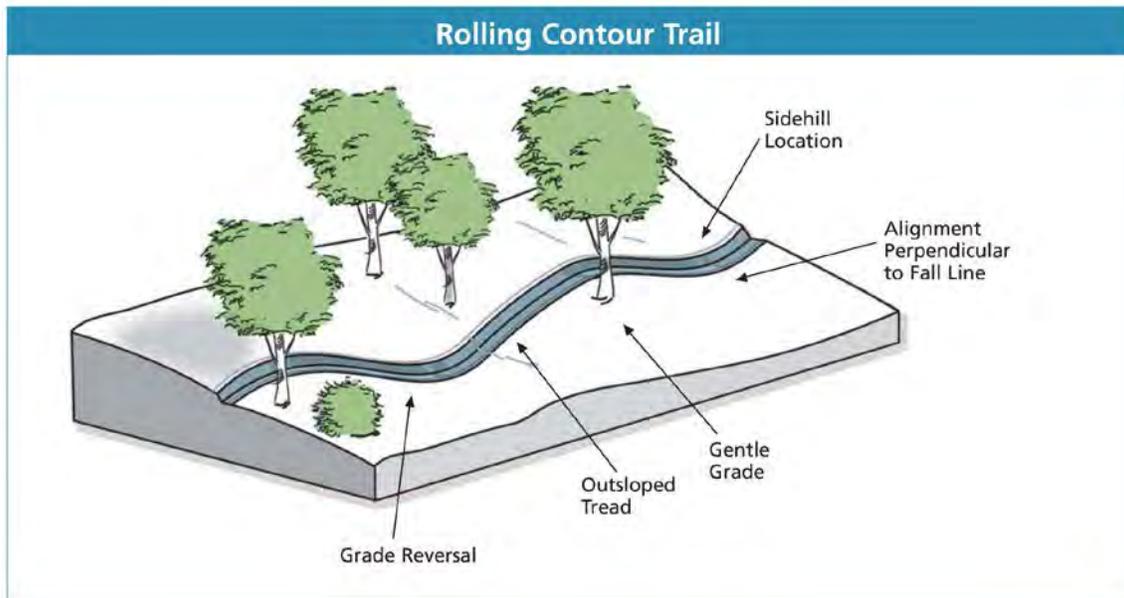


Figure 1: Rolling Contour Trail

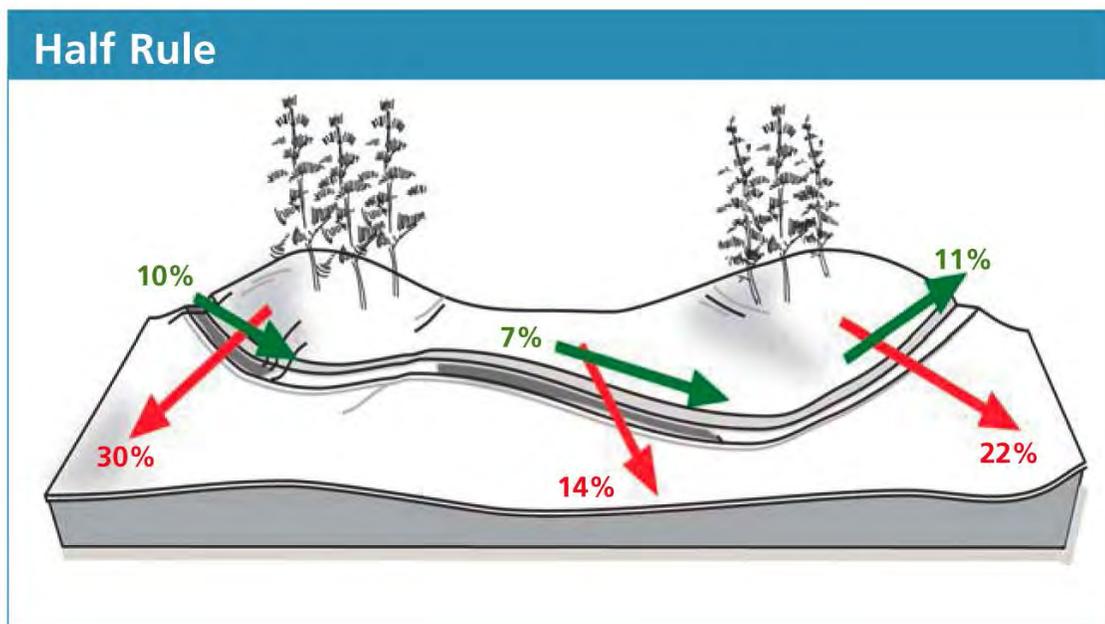
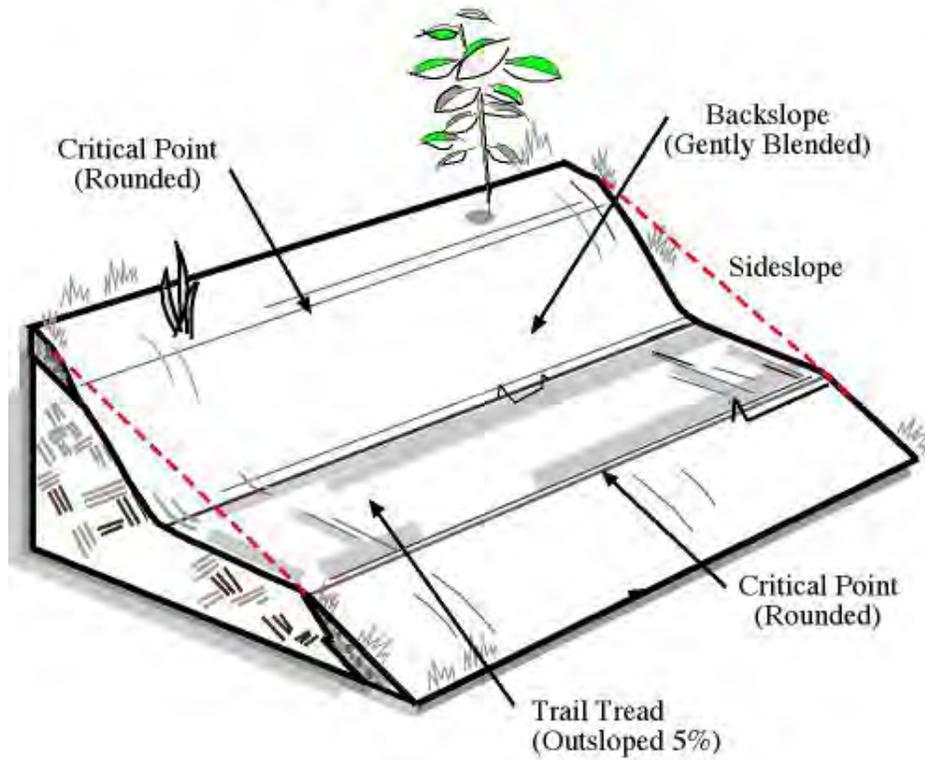


Figure 2: Illustration of The Half Rule

Full Bench Trail



Trail Profile

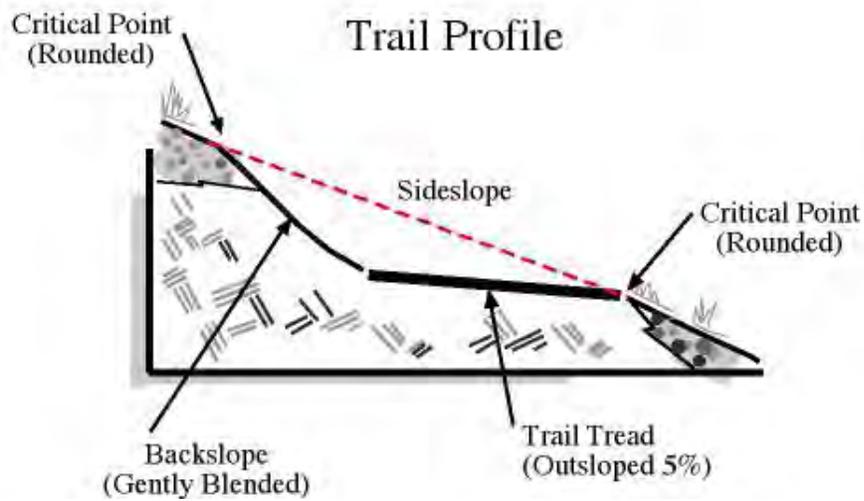


Figure 3: Full Bench Trail

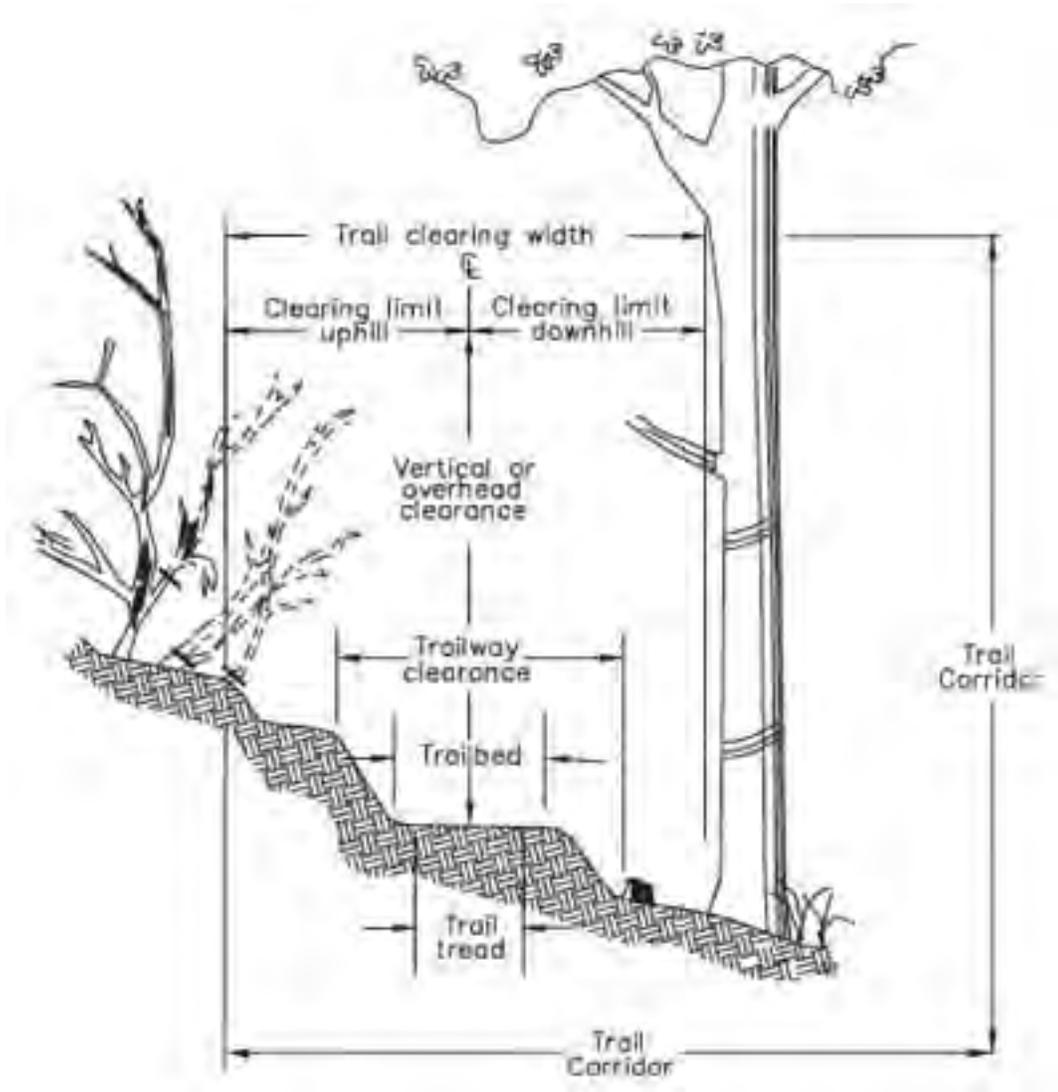
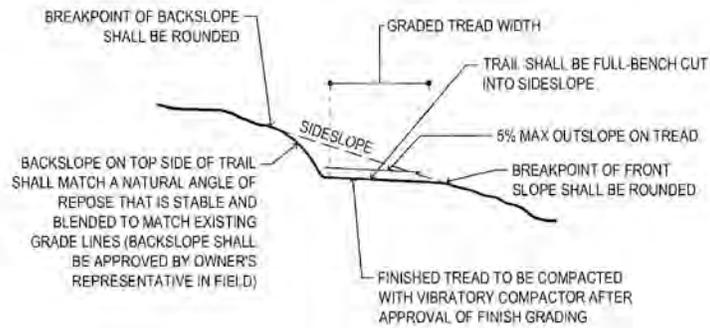
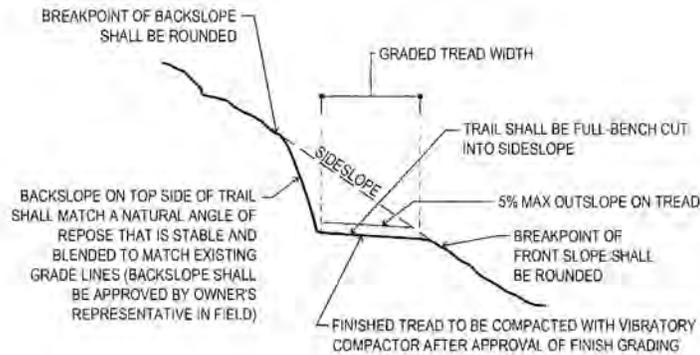


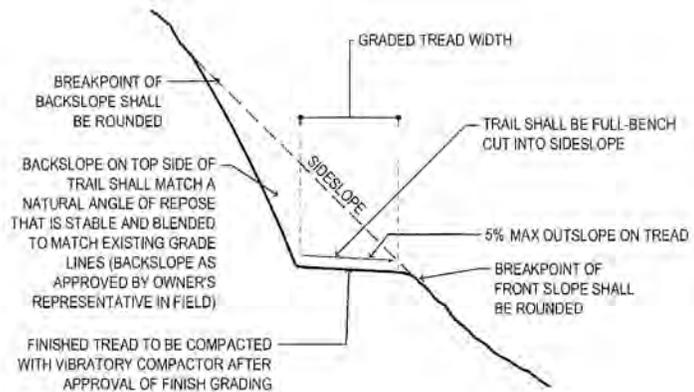
Figure 4: Clearing limits



Type A Type "A" (Low Sideslope Trail) 3%-15% Sideslope



Type "B" (Medium Sideslope Trail) 16%-60% Sideslope



Type "C" (High Sideslope Trail Trail) 61%+ Sideslope

Figure 4.1: Trail Types

Stone Pitching

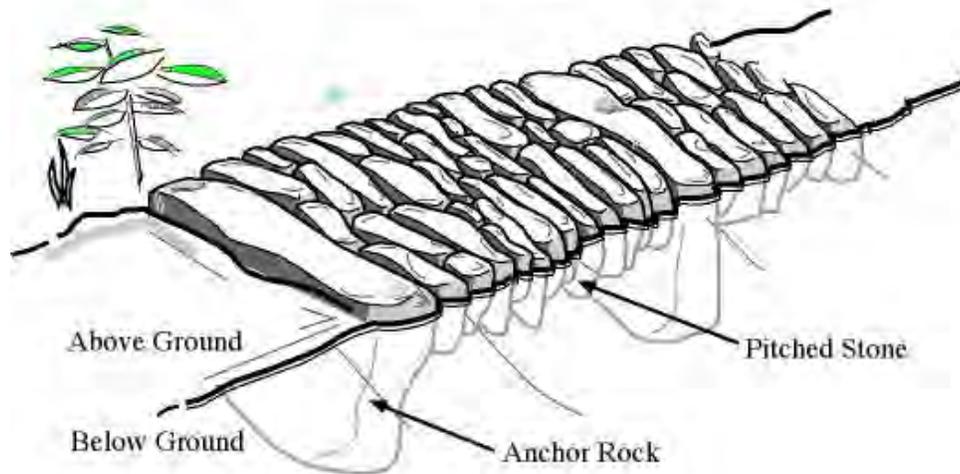


Figure 5: Tread Rock Armoring

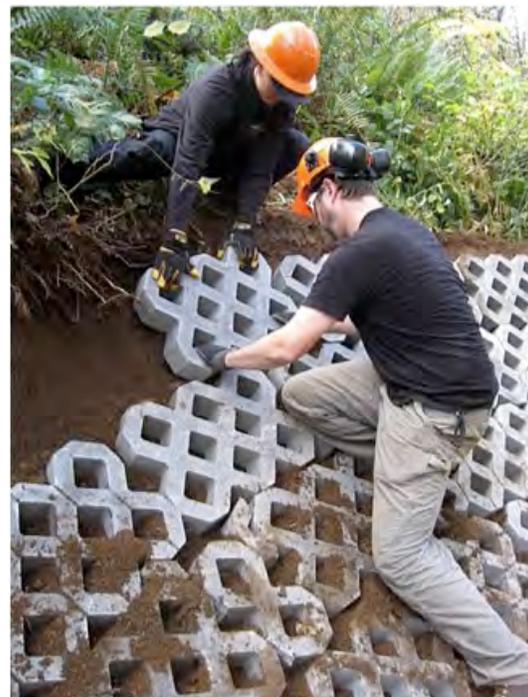


Figure 6: Turf Block Pavers

Rolling Grade Dip

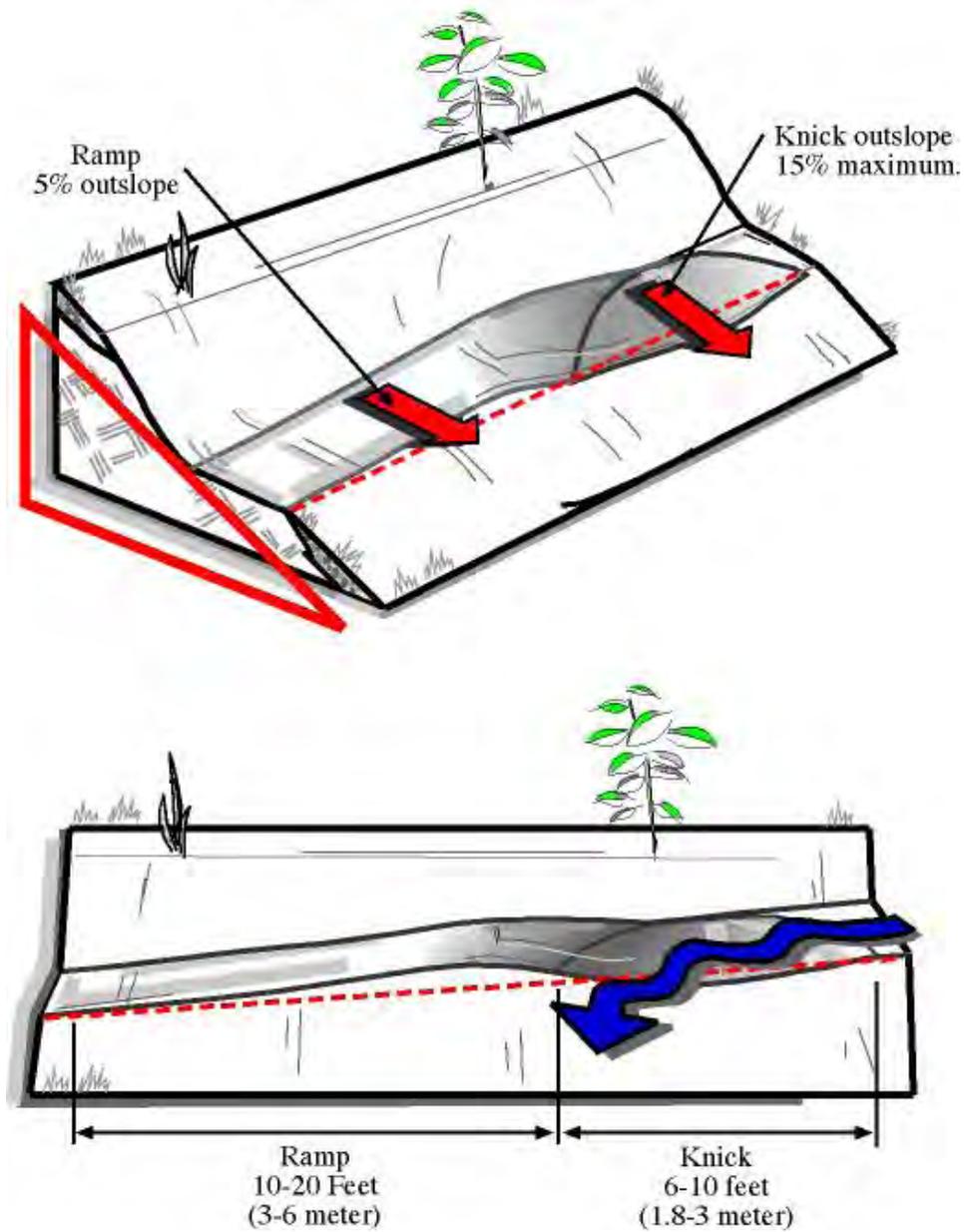


Figure 7: Rolling Grade Dip

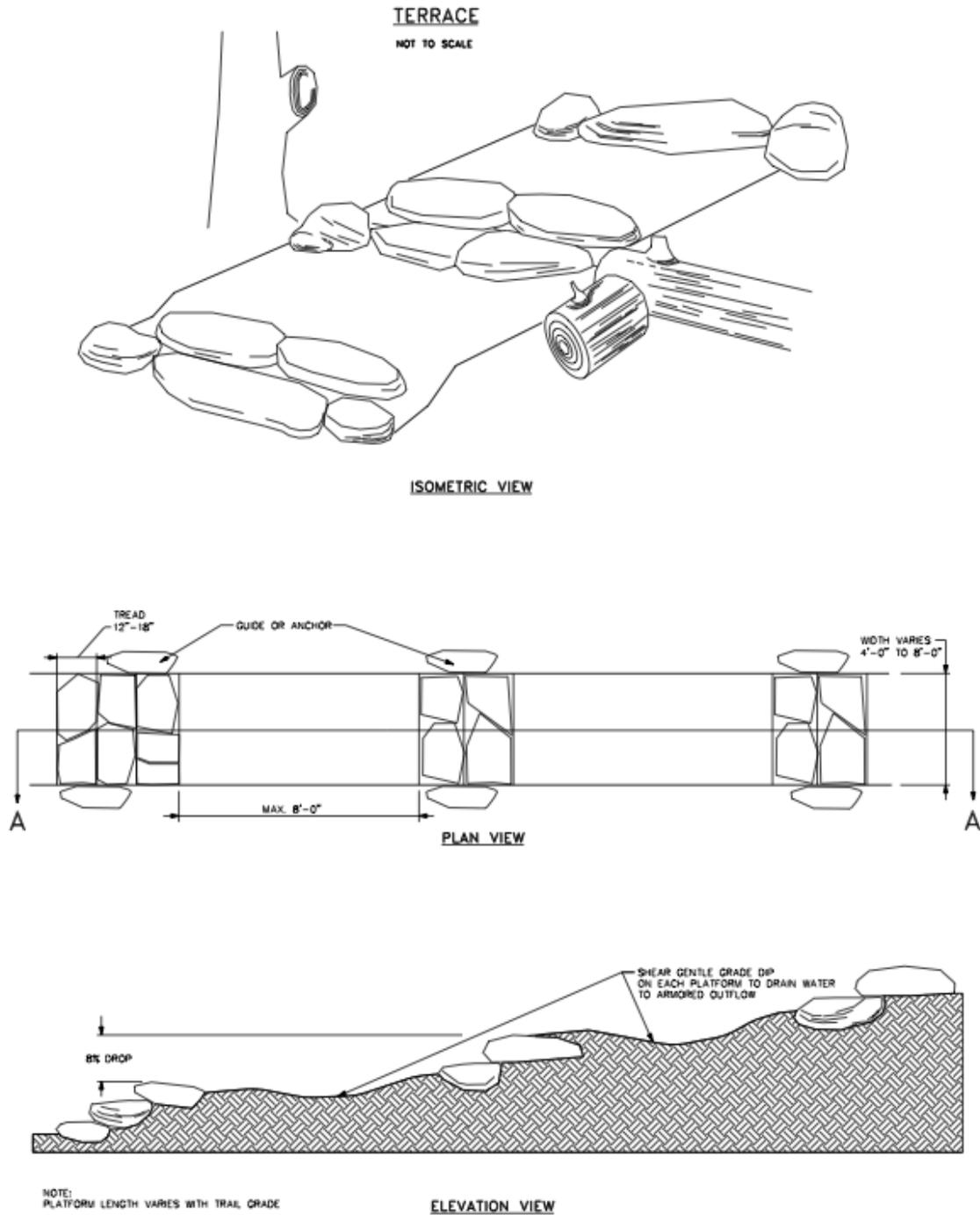


Figure 8: Terrace

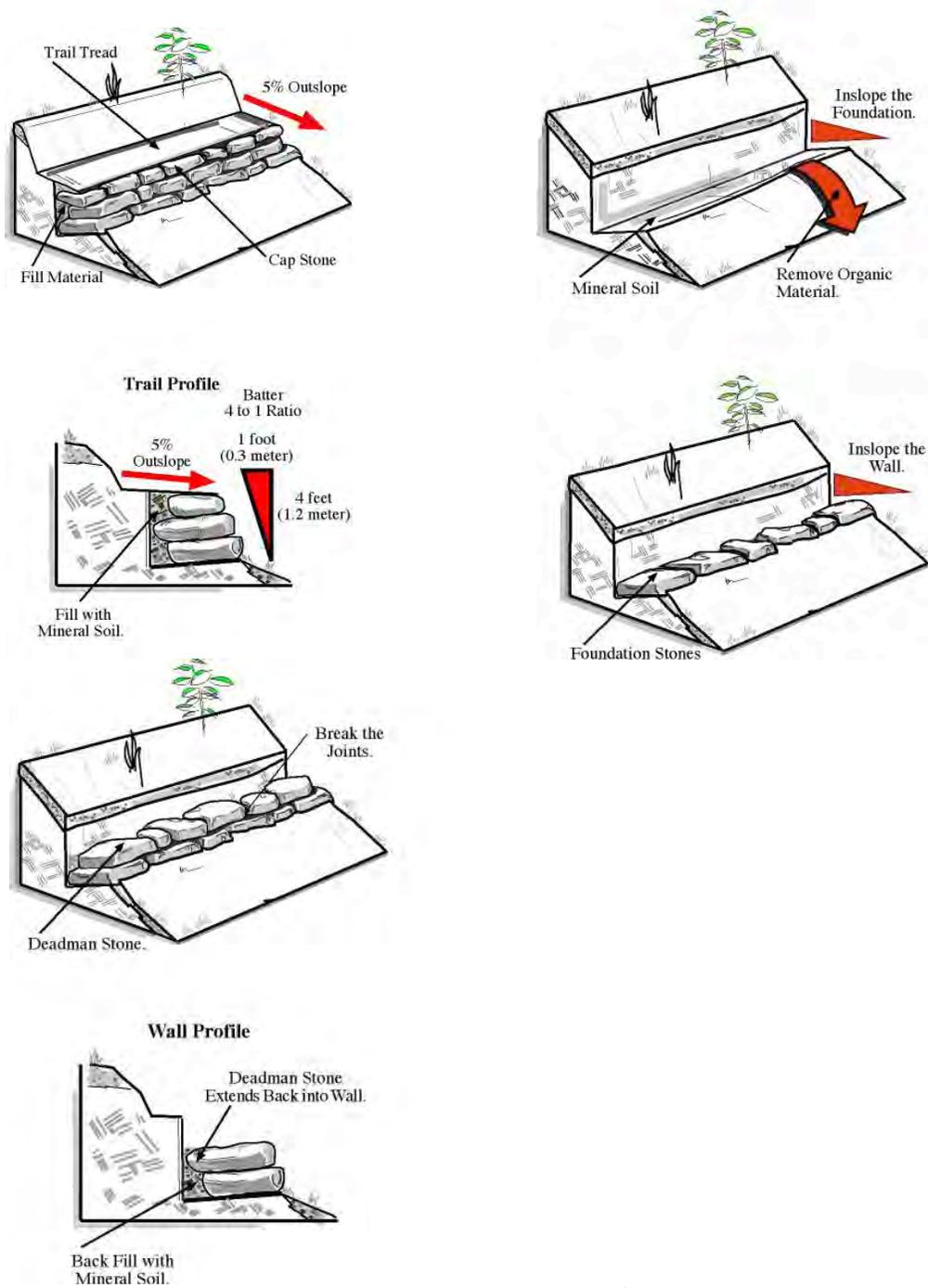


Figure 9: Rock Crib Wall

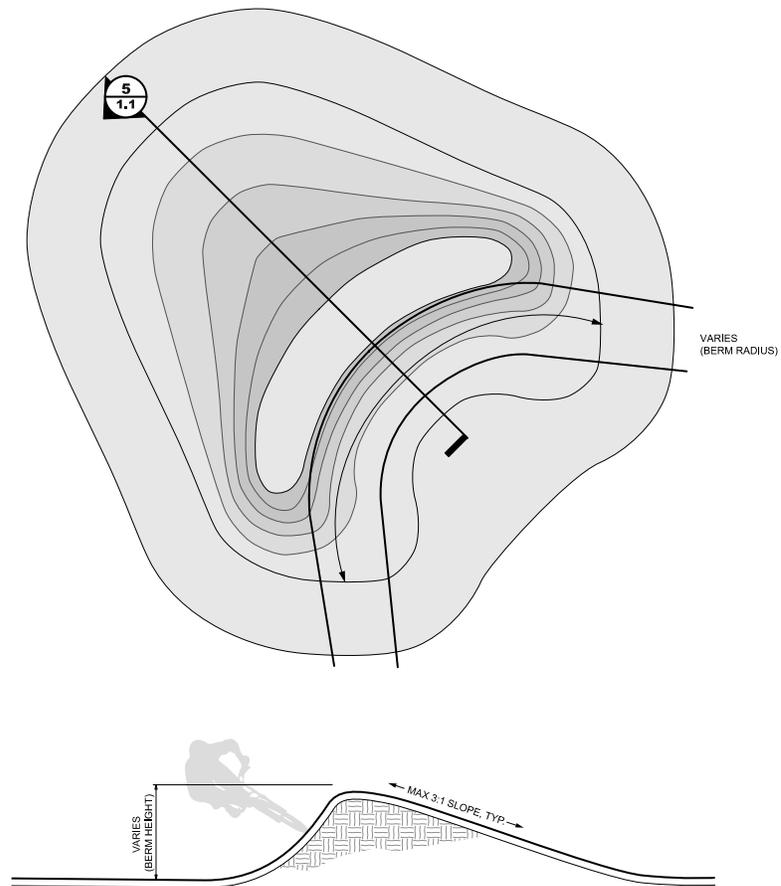


Figure 10: Berm

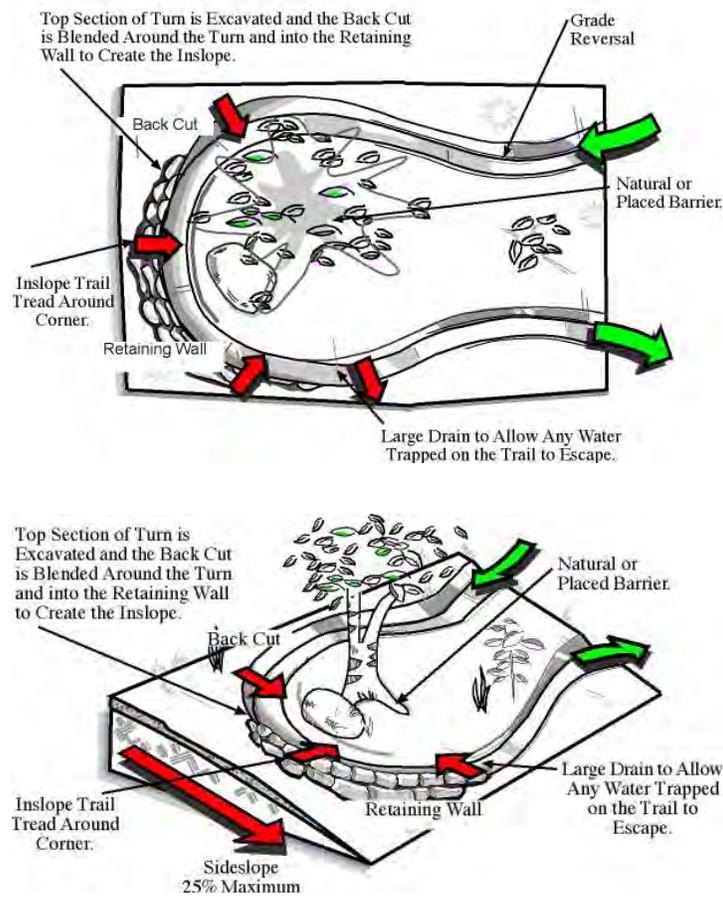


Figure 11: Insloped Switchback (Switchberm)



Figure 12: Technical Trail Feature Boardwalk (TTF)

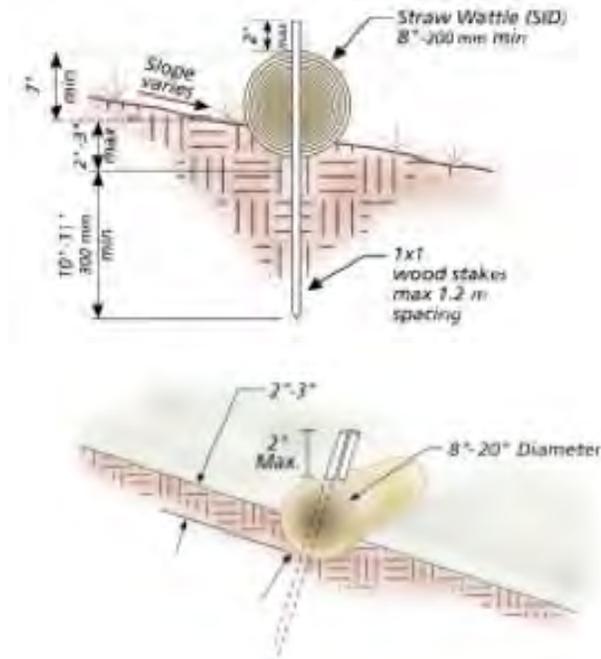


Figure 13: Coir Roll (Bio Log) Installation



Figure 14: Causeway or Turnpike Trail Construction

Trail Closure and Reclamation

Ensure smooth transition
from existing trail to new trail.

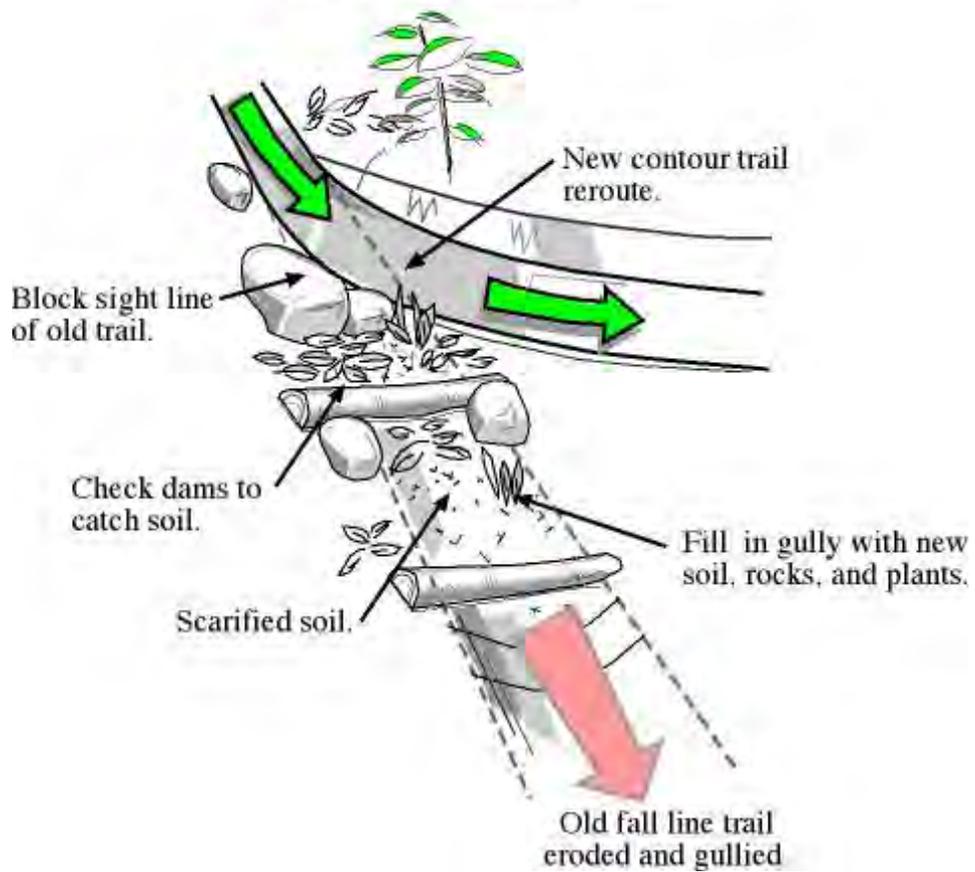


Figure 15: Trail Closure

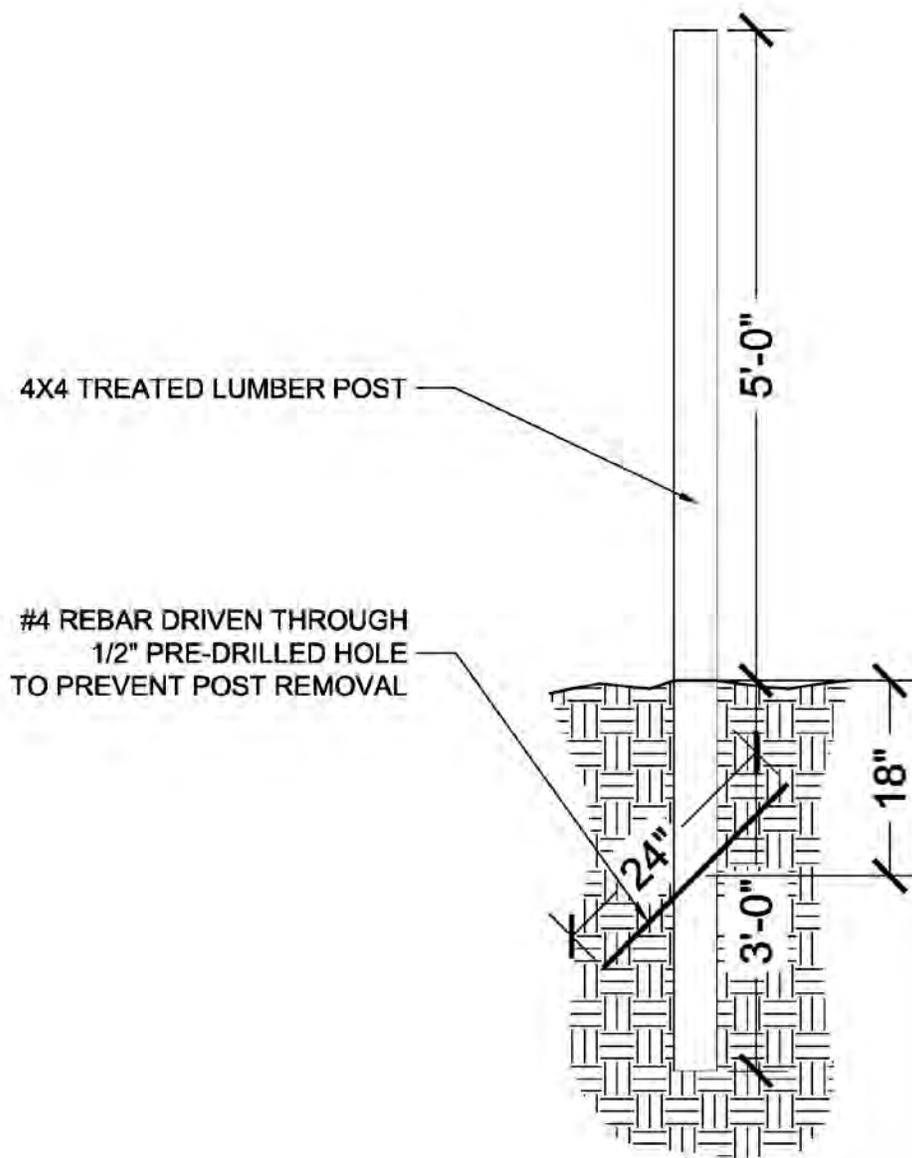


Figure 16: Map Post Installation

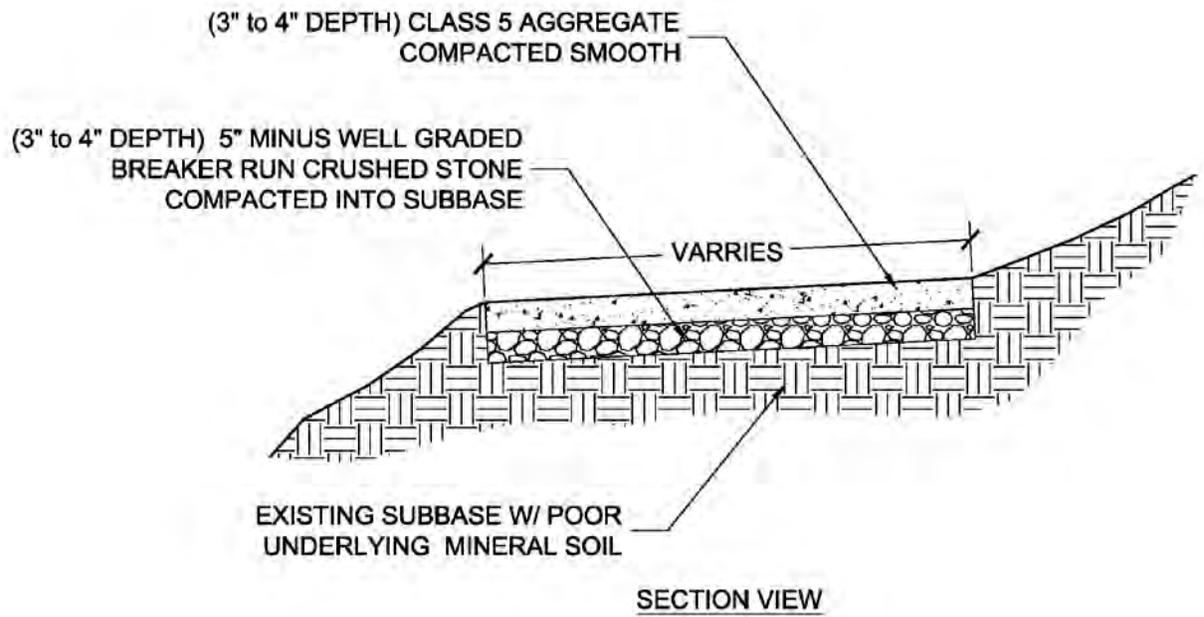


Figure 17: Trail Capping

Appendix C
Duluth Traverse Estimated Quantities and
Design Computations

Duluth Traverse, Hartley Park Segment
Trail length including features: 3.04 miles

Estimate of Structures

- Boardwalks: 1,625 ft (crossing flat areas)
- Rock Armoring: 54 ft (concentrated flow areas)
- Bridges w/ Railing: 48 ft (crossings over 3' in height above grade)

Points with no Attributed Lengths

- Switchberms: 6

Duluth Traverse, Chester Park Segment
Trail length including features: 1.2 miles

Estimate of Structures

- Boardwalks: 208 ft (crossing flat areas)
- Rock Armoring: 60 ft (concentrated flow areas)
- Bridge w/ Railing: 24 ft (crossings over 3' in height above grade)

Points with no Attributed Lengths

- Switchberms: 2

Assumptions: 2 rolling grade dips/drains per turn (bermed turn or switchberm)
Install one (1) 6" 4-6' long bio roll per trail rolling grade dip/. Install 1 stake per 2' length of bio roll.

Assume a disturbed area 2' wide adjacent to trail of side cast topsoil to be reseeded based on length of trail less boardwalk and bridge lengths for temporary seeding. Assumptions native seed regenerating in duff layer, and 15-20 % of disturbed area will need permanent seed mix.

Rock hardenings shall be installed in concentrated flow sections of trail tread where needed but not in wetland areas.

Boardwalks / bridges will cross wetlands, swales and ditches / streams respectively.

Temporary Erosion Control Seed Mix			
		Seeding Rate lb/ac	% of Mix Component
Common Name	Scientific Name		
Canada/Nodding Wild Rye	<i>Elymus canadensis</i>	4	10
Winter Wheat	<i>Triticum spp.</i>	16	40
Oats	<i>Avena sativa</i>	16	40
Virginia Wild Rye	<i>Elymus virginicus</i>	4	10
Cover Crop Totals:		40	100

Temporary Seeding Assumptions: Project will disturb an estimated 2' wide path for removal of topsoil and berm construction across project length less boardwalks and bridges areas. The estimated quantity is for the temporary seeding of 6.0 acres @ 40 lbs. /ac. is 240 lbs.

Mulch – Use certified weed-free straw mulch or approved weed free equivalent @ 2 tons per acre. Temporary seeding estimated @ 6 acres * 2 tons per acre or 12 tons.

Permanent Erosion Control Seed Mix			
		Seeding Rate lb/ac	% of Mix Component
Common Name	Scientific Name		
Fringed Brome Grass	<i>Bromus ciliatus</i>	2	6
Bluejoint	<i>Calamagrostis canadensis</i>	0.13	0.4
Poverty Grass	<i>Danthonia spicata</i>	0.5	1.5
Canada Wild Rye	<i>Elymus canadensis</i>	1.25	4
Slender Wheatgrass	<i>Elymus trachycaulus</i>	2	6
Fowl Bluegrass	<i>Poa palustris</i>	1	3
False Melic	<i>Schizachne purpurascens</i>	0.25	1
Total Grasses:		7.13	21.9
Oats	<i>Avena sativa</i>	25.0	78.1
Cover Crop Totals:		32.13	100

Permanent Seeding Assumptions: Project will require have natural seed in duff layer in topsoil with an estimated 20% will need to be permanently seeded. Twenty % of the estimated temporary seed quantity 6.0 acres is 1.2 acres @ 32.13 lbs. /ac. or 38 lbs. for the permanent seed mixture.

Mulch – Use certified weed-free straw mulch or approved weed free equivalent @ 2 tons per acre. Permanent seeding estimated @ 1.2 acres * 2 tons per acre or 2.4 tons

Appendix D

***Construction Stormwater Training
Documentation***

UNIVERSITY OF MINNESOTA

Certificate of Attendance

2004-2005 Erosion/Sediment Control Certification

Professional Development Hours

Tom Tri

Participant

Design of Stormwater Pollution Prevention Plans

Educational Activity

Leo Holm, Dwayne Stenlund, John Chapman

Instructor/Leader

University of Minnesota

Activity Sponsor

January 24-25 2005

Activity Date

12

Professional Development Hours

Please retain any or all of the following for your records: Registration Receipts, Agenda/syllabus, course plan, seminar brochure, and any narrative of the content or expected outcome of the education activity

UNIVERSITY OF MINNESOTA
Erosion and Stormwater Management Certification Program
 Department of Bioproducts and Biosystems Engineering
 1390 Eckles Avenue
 St. Paul, MN 55108
 612-625-9733 or 800-646-2282
<http://www.erosion.umn.edu>

TOM P. TRI
 340 EAST GILEAD
 DULUTH MN 55811

4/22/2015

Your test score(s) for all Erosion and Stormwater Management Certification Program workshops that you have attended to date are listed below. A score of 70% or above is required for certification.

If your score is lower, you have not received certification, However, you have the option of re-taking the exam at one of the remaining scheduled courses. Please contact our office at the address or phone above for instructions.

You will receive a wallet-sized certification card in June. Until then, this letter is your proof of certification for all courses.

If you have questions about this program, or if you have received this notice in error, please contact us at the above address or phone number.

UNIVERSITY OF MINNESOTA
Erosion and Stormwater Management Certification Program

4/22/2015

TRI, TOM
 340 EAST GILEAD
 DULUTH MN 55811

This letter expires June 30, 2015.

	Event	Score	Date	Location	Certification Expires
Certified	Constr. Site Mgmt. Recert	92%	2/4/2009	Baxter	Expired
Certified	Design of Construction SWPPP	90%	5/18/2011	Arden Hills	Expired
Certified	Construction Site Management	100%	3/1/2012	Arden Hills	2015*
Certified	Design of SWPPP Recertificat	95%	5/7/2014	Arden Hills	2017
Certified	Construction Site Management	100%	4/20/2015	Arden Hills	2018

An asterisk (*) indicates this certification is about to expire - attend a class this year to continue the certification

Note: Events have been renamed and classes taken before 2009 are now listed with the new name.

**Erosion and Stormwater Management
 Construction Installer**

For those who install or inspect the installation of erosion/sediment control devices and the establishment of vegetation.

**Erosion and Stormwater Management
 Construction Site Management**

For those who supervise, run, direct or inspect construction work and are responsible for stormwater permits.

**Design of Construction Stormwater
 Pollution Prevention Plans**

For those who are involved with the design of stormwater pollution prevention plans.

UNIVERSITY OF MINNESOTA
Erosion and Stormwater Management Certification Program
 Department of Bioproducts and Biosystems Engineering
 1390 Eckles Avenue
 St. Paul, MN 55108
 612-625-9733 or 800-646-2282
<http://www.erosion.umn.edu>

JAMES SHOBERG
 226 WEST REDWING STREET
 DULUTH MN 55803

4/29/2016

Your test score(s) for all Erosion and Stormwater Management Certification Program workshops that you have attended to date are listed below. A score of 70% or above is required for certification.

If your score is lower, you have not received certification, However, you have the option of re-taking the exam at one of the remaining scheduled courses. Please contact our office at the address or phone above for instructions.

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UNIVERSITY OF MINNESOTA
Erosion and Stormwater Management Certification Program

4/29/2016

SHOBERG, JAMES
 226 WEST REDWING STREET
 DULUTH MN 55803

This letter expires June 30, 2016

	Event	Score	Date	Location	Certification Expires
Certified	Design of Constr. SWPPP	90%	10/6/2008	Arden Hills	Expired
Certified	Design of Construction SWPPP	84%	2/26/2013	Duluth	2016*
Certified	Design of Construction SWPPP	90%	4/27/2016	Bemidji	2019

An asterisk (*) indicates this certification is about to expire - attend a class this year to continue the certification

Note: Events have been renamed and classes taken before 2009 are now listed with the new name.

Erosion and Stormwater Management
 Construction Installer

For those who install or inspect the installation of erosion/sediment control devices and the establishment of vegetation.

Erosion and Stormwater Management
 Construction Site Management

For those who supervise, run, direct or inspect construction work and are responsible for stormwater permits.

Design of Construction Stormwater
 Pollution Prevention Plans

For those who are involved with the design of stormwater pollution prevention plans.

Appendix E

SWPPP Inspection Forms

Please circle on map all areas needing corrective actions as well as filling in this form. Notify the Parks Division when corrective actions are needed.

Construction Stormwater Inspection Form

Facility Information

Site name: Hartley Park Phase 1 improvements and Duluth Traverse Phase 6
 Facility address: 411 West 1st Street, Ground Floor – City Hall Permit number: _____
 City: Duluth State: MN Zip code: 55802

Inspection Information

Inspector name: _____ Phone number: _____
 Date (mm/dd/yyyy): _____ Time: _____ am pm
 Rainfall amount (if applicable): _____

Erosion Control Requirement (Part IV.B)

	Yes	No	NA
1. Soil stabilization where no construction activity for 7 days?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the need to disturb steep slopes been minimized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. All ditches stabilized 200' back from point of discharge within 24 hours? (Not mulch)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are there erosion BMP's for onsite stockpiles?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are appropriate BMP's installed protecting inlets/outlets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Do pipe outlets have energy dissipation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Sediment Control Requirement (Part IV.C.)

	Yes	No	NA
1. Perimeter control installed on all down gradient perimeters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Have redundant sediment controls been installed around all surface waters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Inlet protection on all catch basins and culvert inlets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Vehicle tracking Best Management Practices (BMPs) at all site exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. All tracked sediment removed within 24 hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Do all stockpiles have perimeter control?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Maintenance-Erosion and Sediment Control BMPs (Part IV.E.)

	Yes	No	NA
1. Are all previously stabilized areas maintaining 90% ground cover?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Any ditch erosion observed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Perimeter Control – Has sediment reached one half the height of the device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are inlet protection devices maintained and functioning properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Other

	Yes	No	NA
1. Are all materials that can leach pollutants under cover?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has access been restricted to onsite hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Does on-site fueling only occur in a contained area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are all solid wastes being properly disposed of?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the concrete washout area completely contained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is the concrete washout area marked with a sign?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

7. Were any discharges seen during this inspection, sediment, water, or otherwise? Yes No

Describe (please take photo as well):

8. Is any dewatering occurring on site? Yes No

If yes, where? What BMP is being used? How much water is being dewatered? Is the water clear? Where is the water being discharged to?

9. Is a copy of the SWPPP located on the construction site? Yes No

10. Is a sedimentation basin required for this project as specified in the permit? Yes No

If yes, are they maintained as specified in the permit? Yes No

15. Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

16. Proposed amendments to the SWPPP:

Appendix F
SWPPP Update Form

Appendix G

Notice of Termination/Transfer Forms



Minnesota Pollution Control Agency
 520 Lafayette Road North
 St. Paul, MN 55155-4194

CSW Notice of Termination/ Permit Modification Form

NPDES Construction Stormwater (CSW) Permit Program

Doc Type: Notice of Termination/Permit Modification

Purpose: Transfer or terminate your National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit. Allowable changes are permit termination and permit transfer for all or a portion of the site.

Questions: If you have questions about the administrative details of the permit process go to: <http://www.pca.state.mn.us/publications/wq-strm2-60i.pdf> or call the Stormwater Hotline at **651-757-2119** or **800-657-3804** (non-metro only).

Form will be invalid and returned to sender unless the checkbox associated with the applicable actions is checked and the corresponding signature is provided in section A-1, A-2, A-3, and/or A-4.

Submittals: You may either e-mail a signed and scanned PDF copy to csw.pca@state.mn.us, or you may mail a hard copy to:

Construction Stormwater Permit Program
 Minnesota Pollution Control Agency
 520 Lafayette Road North
 St. Paul, Minnesota 55155-4194

Existing Permit Identification

a. Current permit ID: C000 _ _ _ _ _ or SUB00 _ _ _ _ _

b. Project name: _____

Project location: _____

Briefly describe where the construction activity occurs (for example: Intersection of 45th St. and Irving Ave.). Include address if available.

Select Option 1, 2, or 3

1. Notice of Termination (NOT) for entire site by existing owner

Select this option when a project has achieved Final Stabilization (according to Part IV.G of the Permit) with the existing owner/contractor and no part of the site is being transferred to a new owner and all construction activity is complete.

Owner and contractor currently authorized under the permit must sign under the "Current" Owner (A-1) and "Current" Contractor (A-2) sections respectively.

2. Transfer of entire site to new owner or contractor (Transfer/Modification)

Select this option if the **entire** site (represented by the ID above) has either a new owner and/or new general contractor. "Current" Owner must authorize and sign for any and all changes. The "Current" Contractor needs to sign only if there is a "New" Contractor for the site. After the "Current" parties have signed their sections respectively, proceed to fill out the "New" Parties information in Section A-3 and/or A-4.

3. Transfer of a portion of a site to a new owner or contractor (Subdivision)

Select this option if a **portion** of a site (permitted under the ID above) has either a new owner and/or new general contractor. "Current" Owner must authorize and sign for any and all changes. The "Current" Contractor needs to sign only if there is a "New" Contractor for the site. After the "Current" parties have signed their sections respectively, proceed to fill out the "New" Parties information in Section A-3 and/or A-4.

Describe the portion of the site being transferred: Lot: _____ Block: _____

Project location/address: _____

City, State, and Zip: _____

Example: SW quadrant of 45th Street and Irving Avenue or Lots 1-17 of block 20. Include list of addresses if available or include a map

New Owner/Contractor Information

“New” Owner (A-3)

Business/Firm name: _____
Last name: _____ First name: _____ Title: _____
E-mail address: _____ Telephone: (____) _____ Ext. _____
Mailing address: _____
City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____
E-mail address: _____ Telephone: (____) _____ Ext. _____

“New” Contractor (A-4)

Business/Firm name: _____
Last name: _____ First name: _____ Title: _____
E-mail address: _____ Telephone: (____) _____ Ext. _____
Mailing address: _____
City: _____ State: _____ Zip code: _____

Alternate contact:

Last name: _____ First name: _____ Title: _____
E-mail address: _____ Telephone: (____) _____ Ext. _____

Certification - All Parties Involved

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

*This Application must be signed by: **Corporation:** a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application. **Partnership or Sole Proprietorship:** a general partner or the proprietor. **Municipality, State, Federal or Other Public Agency:** principal executive officer or ranking elected official.*

Current Owner Authorized Representative (A-1)

By signing here, I certify the above statements to be true.

Print name: _____
Company: _____
Signature: _____
Date (mm/dd/yyyy): _____

Current Contractor Authorized Representative (A-2)

By signing here, I certify the above statements to be true.

Print name: _____
Company: _____
Signature: _____
Date (mm/dd/yyyy): _____

New Owner Authorized Representative (A-3)

By signing here, I certify the above statements to be true.

Print name: _____
Company: _____
Signature: _____
Date (mm/dd/yyyy): _____

New Contractor Authorized Representative (A-4)

By signing here, I certify the above statements to be true.

Print name: _____
Company: _____
Signature: _____
Date (mm/dd/yyyy): _____

Appendix H

***MPCA, DNR, and Wetland Permits/Approvals
Documentation***

Tom Tri

From: MNDNR MPARS <NOREPLY.MPARS.dnr@state.mn.us>
Sent: Wednesday, March 23, 2016 2:45 PM
To: Tom Tri
Cc: jshoberg@DuluthMN.gov
Subject: [MPARS] Application 2016-0548 - No Permit Needed

Based on review of the information provided in DNR permit application 2016-0548, we have determined that no Public Waters Work permit is necessary. If you have any questions about this decision, or if your project plans change, please contact Patricia Fowler at patricia.fowler@state.mn.us, (218) 834-1442.

The proposed new trail crossing(s) are designed consistent with the no permit required criteria for temporary bridges.

Please be advised that you are not released from any rules, regulations, requirements, or standards of any applicable federal, state, or local agencies; including, but not limited to, the U.S. Army Corps of Engineers, Board of Water and Soil Resources, MN Pollution Control Agency, watershed districts, water management organizations, county, city and township zoning.

*** DO NOT REPLY TO THIS EMAIL ***

Tom Tri

From: R.C. Boheim <R.Boheim@southstlouisswcd.org>
Sent: Thursday, January 10, 2013 9:46 AM
To: Tom Tri
Cc: 'Grayson, Kit (MPCA)'; 'Jim Shoberg'; Steve Klein
Subject: RE: plan details

All:

Thanks for contacting me about this. WCA Rule states: 8420.0111 DEFINITIONS Subp. 26. Fill means any solid material added to or redeposited in a wetland that would alter the wetland's cross-section or hydrological characteristics, obstruct flow patterns, change the wetland boundary, or convert the wetland to a nonwetland. Fill does not include posts and pilings for linear projects such as bridges, elevated walkways, or powerline structures, or structures traditionally built on pilings such as docks and boathouses. Fill includes posts and pilings that result in bringing the wetland into a nonaquatic use or significantly altering the wetland's function and value, such as the construction of office and industrial developments, parking structures, restaurants, stores, hotels, housing projects, and similar structures. Fill does not include slash or woody vegetation, if the slash or woody vegetation originated from vegetation growing in the wetland and does not impair the flow or circulation of water or the reach of the wetland.

As described, your project is not considered "Fill" so you are not impacting wetland per WCA rules. No replacement plan is required and no exemption application is required.

Good luck with you project.

R.C. Boheim
South St. Louis
Soil & Water Conservation District
(218) 723-4629
www.southstlouisswcd.org
www.facebook.com/southstlouisswcd

From: Tom Tri [mailto:TTri@barr.com]
Sent: Tuesday, January 08, 2013 9:06 AM
To: 'R.Boheim@southstlouisswcd.org'
Cc: Grayson, Kit (MPCA) (Kit.Grayson@state.mn.us); Jim Shoberg (jim.shoberg@arimn.com); Steve Klein
Subject: FW: plan details

Good morning RC

The Duluth Traverse Mountain Bike Trail system has been designed to avoid wetlands where possible and to minimize impacts to wetlands, is proposing to cross wetland areas with an elevated boardwalk on piers. There are two areas in Duluth where the proposed Phase 1 construction will take place: Lester Park and Mission Creek. It is not known when other phases of the trail system will be built. Permitting for other phases will take place when additional funding is available. COGGS, mountain bike organization in Duluth has generously donated time to prepare a sustainable trail that provides minimal impact to wetlands, streams and other natural resources. The trail has been designed to prevent and minimize erosion and sedimentation in wetlands by including sloped trails to naturally vegetated areas and switchbacks with water bars to slow the flow of water downhill.

Attached are examples of the proposed plans for elevated boardwalks that will cross wetlands as we discussed yesterday. The piers will be set on top of the ground and the height of the boardwalk is slightly more than 2' above the wetland areas. No excavation will be required to place the piers. So, hydrology and growth of vegetation should not be adversely affected. Each pier will have a 6" by 4' long leveling beam for every 8' length of boardwalk. The total estimated footprint for Phase 1 pier leveling beams is 594 square feet for the Mission Creek trail section, and 134 square feet for the Lester Park trail section for a total of 728 square feet.

This is slightly more than my estimate of 400 square feet. However, we believe that the proposed elevated boardwalk crossings may meet the definition of exemptions that you read on the phone yesterday. Can you please advise if you agree or if a replacement plan is required?

Tom Tri

Senior Environmental Scientist
Duluth office: 218.529.8226
cell: 218.464.2326
ttri@barr.com
www.barr.com



From: Jim Shoberg [<mailto:jim.shoberg@arimn.com>]
Sent: Tuesday, January 08, 2013 8:17 AM
To: Tom Tri
Cc: Kit.Grayson@state.mn.us
Subject: plan details

Do you need signed plans? They are not ready for signature just yet.

Thank You,
Jim-

James Shoberg, RLA, LEED AP
Landscape Architect
Architectural Resources, Inc.
jim.shoberg@arimn.com

www.arimn.com
126 East Superior Street
Duluth, MN 55802
tel: 218.727.8481
cell: 218.208.9632
fax: 218.727.8483

*******Confidentiality Notice*******

The information contained in this message (including any attachments) may be privileged and confidential and protected from disclosure. If the reader of this message is not the intended recipient, or an employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that it is strictly prohibited (a) to disseminate, distribute or copy this communication or any of the information contained in it, or (b) to take any action based on the information in it. If you have received this communication in error, please notify us immediately by replying to the message and deleting it from your computer.

Tom Tri

From: Wierzbinski, Daryl W MVP <Daryl.W.Wierzbinski@usace.army.mil>
Sent: Tuesday, April 05, 2016 4:06 PM
To: Tom Tri
Subject: RE: Duluth Traverse bike trails

I'm going to change Josh's response.

It would be a no permit required. There would be no discharge of dredged and fill materials in waters of the U.S. for the proposed elevated boardwalk/trail system across wetlands. Driven pilings and piers for elevated boardwalks would not be considered a discharge. The key words are DRIVEN into the wetlands and ELEVATED boardwalk/trail system. The wetland would not be converted to an upland. No application would be required.

Good day.

Daryl W. Wierzbinski
U.S. Army Corps of Engineers, St. Paul District Regulatory Project Manager Duluth office
600 South Lake Avenue, Suite 211
Duluth, Minnesota 55802
Phone: 218 720-5291 Ext. 35401
Email: daryl.w.wierzbinski@usace.army.mil

-----Original Message-----

From: Tom Tri [<mailto:TTri@barr.com>]
Sent: Tuesday, April 05, 2016 3:48 PM
To: Wierzbinski, Daryl W MVP <Daryl.W.Wierzbinski@usace.army.mil>
Subject: [EXTERNAL] Duluth Traverse bike trails

Good afternoon, Daryl

The City of Duluth is planning on constructing additional trail segments for the Duluth Traverse bike trail system. Under previous consultation with you and Josh Fitzpatrick, it has been our understanding that wetland crossings constructed with structures on piers or piling with no excavation and backfill, that provide for hydraulic flow underneath and minimize impacts to wetlands meets the description of non-reporting activities authorized under the RGP-03 permit (that no permit application is required).

Has this interpretation changed since the attached consultation with Josh and yourself in 2013? If so, please advise.

Tom Tri

Senior Environmental Scientist

Duluth, MN office: 218.529.8226

fax: 218.529.8202

cell: 218.464.2326

ttri@barr.com

Blockedwww.barr.com

Service Information

Service ID: 26350
Service Type: Construction Stormwater General Permit Application
Created On: 05/03/2016

Location

Address Line 1: Room 38 City Hall
Address Line 2: 411 West 1st Street
Address Line 3:
State: Minnesota
County: St. Louis
City: Duluth
Zip/Postal Code: 55802
Coordinate System: Lat Long - degrees minutes seconds
Latitude: 46 50' 18.54"
Longitude: -92 4' 55.47"
Collection Method: GPS - Other

Location Description: Hartley Park and Chester Park

Contacts

Name: Jim Shoberg
Title: Project Manager \ Coordinator
Contact Type: Owner
Organization Name: City of Duluth Parks Department
E-Mail: jshoberg@DuluthMN.gov
Phone: (218) 730-4316 x304316 (Office Phone Number)
Contact Address: 411 West 1st Street
Duluth, Minnesota 55802

Name: Jim Shoberg
Title: Project Manager \ Coordinator
Contact Type: Contractor
Organization Name: City of Duluth Parks Department
E-Mail: jshoberg@DuluthMN.gov
Phone: (218) 730-4316 x304316 (Office Phone Number)
Contact Address: Room 38 City Hall
411 West 1st Street
Duluth, Minnesota 55802

SUBMITTAL DISPLAY

Application Readiness

I have read the permit and my project is eligible according to the permit	Yes
I understand that incomplete applications cannot be processed	Yes
I am ready to make payment	Yes
My project is not taking place within the boundary of an Indian reservation	Yes

Prevention Opportunities

Have you implemented any prevention activities in the past year?	No
How did you do it?	Other
Would you like to be contacted to discuss prevention opportunities?	No

Environmental Review

Was an environmental review required for this project or any part of a common plan of development or sale that includes this project?	Yes
If Yes to #1, is the environmental review process complete?	Yes
If Yes to #2, please provide the following information:	
Responsible governmental unit (e.g., city, township, county, state or federal agency)	City of Duluth
Type of environmental review document	EAW
Completion date for environmental review	10/27/2015
If Yes to #2, has mitigation identified in the environmental review been incorporated into a stormwater pollution prevention plan (SWPPP)?	Yes

Stormwater Pollution Prevention Plan

Has a SWPPP been developed for this project and incorporated into the project's plans and specifications as required in the General Stormwater Permit Part III.A?	Yes
Does your project have a discharge point within one mile (aerial radius measurement) of a special water or a water that is impaired for sediment or a sediment related parameter (see Appendix A, Part B.10)?	Yes
If your project has a discharge point within one mile (aerial radius measurement) of a special water or a water that is impaired for sediment or a sediment related parameter (see Appendix A, Part B.10), does the SWPPP contain the additional requirements found in Appendix A, Parts A-C?	Yes

Project Information

Project Name

Hartley Park Phase 1 and Duluth Traverse Phase 6

Stormwater Project Type

Other

Other Project Description**Construction Start Date**

06/01/2016

Estimated Completion Date

11/30/2016

Disturbed area of project in acres

5

Existing area of impervious surface in acres within the disturbed area of the project

0.8

Post-construction area of impervious surface in acres within the disturbed area of the project

1.3

Permanent Stormwater Management

Infiltration**Filtration****Wet sedimentation basin****Regional Ponding****Stormwater harvest and reuse****Other**

Waterbodies

Are there surface waters within one mile of the project boundary that will receive stormwater from the site or discharge from a permanent stormwater management system? Yes

Waterbody Name	Type	Special Water	Impaired Water
Tischer creek	Stream	YES	NO
west branch Tischer creek	Stream	YES	NO
Chester Creek	Stream	YES	NO
wetlands	Wetland	NO	NO

Electronic Signature

Signator: Thomas Tri
Signator ID: THOMASPTRI2016
Challenge/Response Question: What is the middle name of your oldest sibling?
Challenge/Response Answer: *****
eSignature PIN: *****
Date/Time of eSignature: 05/03/2016 09:08

I certify under penalty of law that

- I am the Owner or Contractor as defined on the application form and hold one of the following positions as applicable for my business organization:
 - Corporation: a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.
 - Partnership or Sole Proprietorship: a general partner or the proprietor.
 - Municipality, State, Federal or Other Public Agency: principal executive officer or ranking elected official.
- This document and all supporting documents, including those required to be maintained on-site, were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.
- Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
- I have read, understood, and accepted all terms and conditions of the NPDES/SDS General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

When I have named a person other than myself as the Owner or Contractor as a compliment to my role, he or she has full knowledge of his or her inclusion on this application and the associated liabilities and responsibilities.

Certifier: Thomas Tri
Date: 05/03/2016

Submission

Date/Time of Submission:



Minnesota Pollution Control Agency

[Exit](#)

Confirmation

Thank you for your payment. Please print a copy of this page for your records.
Please keep a record of your Confirmation Number, or [print this page](#) for your records.

Confirmation Number **MNPPCA000024868**

Payment Details

Description MN Pollution Control Agency
Online Applications
<http://www.pca.state.mn.us/>

Payment Amount \$400.00

Payment Date 05/03/2016

Status PROCESSED

Payment Method

Payer Name Thomas Tri

Card Number *0659

Card Type Visa

Approval Code 098427

Confirmation Email ttri@barr.com

Billing Address

Address 1 325 Lake Avenue South Suite 700

City/Town Duluth

State/Province/Region MN

Zip/Postal Code 55802

Country United States