July 2013 version

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:
http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.
Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.
Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title:** Minnesota Valley State Trail, Bloomington Segment

2. **Proposer:** MN Dept. of Natural Resources, Parks and Trails Division
   Contact person: Brandon Helm
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3. **RGU:** MN Dept. of Natural Resources
   Contact person: Lisa Fay
   Title: EAW Project Manager
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4. **Reason for EAW Preparation:** (check one)

Required:	Discretionary:
☐ EIS Scoping	☐ Citizen petition
☑ **Mandatory EAW**	☐ RGU discretion
	☐ Proposer initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):
   MN Rules 4410.4300, Subp. 37.C. Recreational Trails.

5. **Project Location:**
   County: Hennepin
   City/Township: Bloomington
   PLS Location (¼, ¼, Section, Township, Range):

¼, ¼	Section	Township	Range
(blank)	5, 6, 7, 8, 18	27	23
NESW; SESW; Blank; Meandering Water Body	13	27	24
NESE; NESW; NWSE; NWSW	22	27	24
NWSW; SENE; Meandering Water Body	23	27	24
NWNW	24	27	24
NWNW	27	27	24
NENE; NESW; SENW; SWNE; Meandering Water Body	28	27	24
Meandering Water Body; NESE; SWSW	29	27	24
Meandering Water Body; SESE; SESW; SWSW	30	27	24
Meandering Water Body; NENW; NWNE	31	27	24
(blank)	31, 32	28	23
SWSW	4	115	21
SESE; SWSE	5	115	21
NESE; SENE; SESE; SWNE	6	115	21
NENE	7	115	21
NENE; NENW; NWNW	8	115	21
NWNW	9	115	21

Watershed (81 major watershed scale): **Lower Minnesota River**
GPS Coordinates: [Decimal Degrees: Western terminus, 44.38613, -92.69848; Eastern terminus, 44.859957, -93.215782]
Tax Parcel Number: *multiple; City of Bloomington, State of Minnesota, and Federal - USFWS*

At a minimum attach each of the following to the EAW:

- County map showing the general location of the project;
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

Figure 1. Minnesota Valley State Trail - Bloomington Segment: Project Location including Minnesota Valley State Recreation Area; County Location
Figure 2.1. Minnesota Valley State Trail, Bloomington Segment, Bloomington Ferry Bridge to Nine Mile Creek, USGS Map 1:24,000.
Figure 2.2. Minnesota Valley State Trail, Bloomington Segment, Nine Mile Creek to Highway 77/Cedar Ave., USGS Map 1:24,000.
Figure 2.3. Minnesota Valley State Trail, Bloomington Segment, Highway 77/Cedar Ave. to Minnesota Valley National Wildlife Refuge, USGS Map 1:24,000.
Figure 3. Minnesota Valley State Trail, Bloomington Segment: Project Area with General Land Ownership.
Figure 4.1. Minnesota Valley State Trail, Bloomington Segment – Typical Trail Section.
Figure 4.2. Minnesota Valley State Trail, Bloomington Segment – Typical Infiltration Basin.
Figure 5.1. Minnesota Valley State Trail, Bloomington Segment: Bloomington Ferry Bridge to Nine Mile Creek, Land Cover.
Figure 5.2. Minnesota Valley State Trail, Bloomington Segment: Nine Mile Creek to Highway 77/Cedar Ave., Land Cover.
Figure 5.3. Minnesota Valley State Trail, Bloomington Segment: Highway 77/Cedar Ave. to Minnesota Valley National Wildlife Refuge, Land Cover.
Figure 6.1. Minnesota Valley State Trail, Bloomington Segment, Bloomington Ferry Bridge to Nine Mile Creek, NRCS Soil Units.

6. Project Description:

a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

The Minnesota Department of Natural Resources proposes to develop 13.5 miles of the Minnesota Valley State Trail, from the Bloomington Ferry Bridge to the Minnesota Valley National Wildlife Refuge Visitor Center in Bloomington, Minnesota. The multiple-use, non-motorized recreational state trail will consist of a 10-foot wide paved surface with 2-foot vegetated shoulders.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

The Minnesota Department of Natural Resources (MN DNR) proposes to develop 13.5 miles of the Minnesota Valley State Trail, from the Bloomington Ferry Bridge to the Minnesota Valley National Wildlife Refuge Visitor Center in Bloomington, Minnesota.

The Minnesota Valley State Trail is a primarily non-motorized (with the exception of certain segments that are open to snowmobile use in winter), multiple-use recreational trail authorized to run along the Minnesota River from Fort Snelling State Park in Minneapolis to the City of Le Sueur. The Minnesota Valley State Trail is a recreational facility managed as part of the Minnesota Valley State Recreation Area (see Figure 1). Proposed trail uses include walking/hiking, bicycling, and in-line skating. The development status of the different segments of trail can be characterized as the following:

- Fort Snelling State Park: Paved, Multiuse Trail
- Fort Snelling State Park to Interstate 494 (I-494): Undeveloped

- **I-494 to Bloomington Ferry Bridge: Segment covered by this EAW**
- Bloomington Ferry Bridge to Chaska: Paved, Multiuse Trail
- Chaska to Belle Plaine: Natural Surface Trail
- Belle Plaine to Le Sueur: Undeveloped

The Minnesota Valley State Recreation Area (MVSRA) is an unusual unit among Minnesota's state parks and state recreation areas. It consists of a series of units, connected by the river corridor, some of it currently developed as a multiuse recreational trail. The length of the authorized trail system is 72 miles from the base of Fort Snelling in the Minneapolis-St. Paul metropolitan area, where the trail originates, to the City of Le Sueur. The MVSRA encompasses 5,490 acres of state land, in a mosaic of other ownerships including the Minnesota Valley National Wildlife Refuge (more than 14,000 acres), and other state holdings (MnDOT, wildlife management areas and a scientific and natural area). In addition, adjacent cities, counties and other local authorities own much of the property along the river. The Minnesota Valley National Wildlife Refuge manages some lands owned by other entities, via cooperative agreement, as though they are part of the refuge. A significant portion of the land along the river is in private ownership. See Figure 1 for a map of the Minnesota Valley State Recreation Area.

The Minnesota Department of Natural Resources (MN DNR) proposes to develop a paved, multiuse trail as part of the Minnesota Valley State Trail, from the Bloomington Ferry Bridge to the Minnesota Valley National Wildlife Refuge Visitor Center, a distance of approximately 13.5 miles. (See **Figure 1** and **Figures 2.1, 2.2, 2.3.**) The proposed state trail corridor will be located on land that is owned and managed by the City of Bloomington, the United States Fish and Wildlife Service (USFWS), Minnesota Department of Transportation (MnDOT) and three private landowners. USFWS land is managed as the Minnesota Valley National Wildlife Refuge. City of Bloomington Land is managed for conservation and recreation. The City of Bloomington and USFWS government units acknowledge the extension of Minnesota Valley State Trail within their respective management plans. MN DNR (project proposer) is in the process of developing a Joint Powers Agreement (JPA) in cooperation with the City of Bloomington, and has applied for a Right of Way (ROW) Permit from USFWS. MN DNR (project proposer) is coordinating with MnDOT on the permissions required to construct on their property. MN DNR does not currently own any land within the project area. See Figure 3, project area with general land ownership.

The proposed project area is liberally defined beyond the expected trail right of way and construction zone to allow for flexibility during final trail design and allows for avoidance of various resource concerns or issues that may be discovered along the corridor. Currently, user-generated natural surface trails traverse nearly the entire length of the proposed project area. This informal, user-developed trail system includes a myriad of braided single track trails. The alignment of the existing natural surface trails has largely been determined by routes favored by mountain bikers and hikers as well as, in certain areas, existing service/utility roads and planned recreational trails. After flood events, these trails are often reestablished by users in locations that vary from pre-flood conditions.

The proposed paved treadway will be a non-motorized, multiple-use trail, constructed to be 14 feet wide, consisting of a 10-foot bituminous (asphalt) surface with 2-foot vegetated shoulders. Trail shoulders will be seeded with an appropriate native plant seed mix characteristic of the area. See **Figures 4.1 and 4.2** for Typical Trail and Ditch Sections, respectively. Construction will begin with the MN DNR (project proposer) establishing and staking out the construction boundaries. The contractor will install stabilized construction entrances prior to moving staging equipment and

materials onsite. Equipment staging will likely take place at existing parking lots near the intersection of the trail and Lyndale Avenue, Old Cedar Avenue, and at Bloomington Ferry Bridge.

Next, the contractor will clear the trail construction limits which are anticipated to be between 20 and 50 feet wide depending on location. The majority of the cleared trail corridor will be 20 feet wide. In order to provide sufficient space for heavy equipment to turn around, 50 feet of clearing will be necessary at certain locations. It is anticipated that the contractor will use logging equipment to safely perform the clearing operation. Woody biomass will either be removed from the construction site or chipped and left on site. After removal of the trees, the contractor will install silt fence, filter logs and other perimeter erosion control measures. The process and timing of tree clearing will be planned to avoid impacts to state-protected species.

Once the perimeter erosion control is installed, the contractor will begin excavating the trail subgrade. It is anticipated the contractor will be using dozers, scrapers and excavators to perform the mass grading for the trail. All unsuitable materials including stumps will be hauled off site and legally disposed of. Initial grading of the trail will follow including the installation of water crossings and drainage structures and the import of granular material to construct the subgrade. Placement of aggregate trail base material will follow along with shaping of side slopes. Any areas that are not being actively worked on will be temporarily seeded and erosion blanket applied as appropriate. Finally, the bituminous trail surface will be installed and all disturbed areas will be stabilized and seeded with natural vegetation characteristic of the area. Wildlife-friendly erosion control blanket with rectangular-shaped natural fiber netting will be specified. All temporary erosion control measures will be removed in accordance with the NPDES Construction Stormwater Permit after permanent vegetation is established.

The majority of the proposed trail corridor is level, traversing the floodplain of the Minnesota River. Construction will require cut and fill slopes throughout the trail corridor in order to achieve the desired trail alignment and to create a consistent minimum trail surface elevation to prevent short segments from being flooded under minor flood events. Trail segments through woodlands will be aligned to avoid mature floodplain forest and quality wildlife habitat. The horizontal and vertical trail alignment and grade will comply with American Association of State Highway and Transportation Official (AASHTO) Guide for Development of Bicycle Facilities and the Americans with Disabilities Act (ADA) accessibility guidelines.

In order to maintain ADA compatible grades, larger cut and fill sections as well as vegetation clearing will be required as the trail drops into the river valley at Bloomington Ferry Bridge and exits the river valley at the Minnesota Valley National Wildlife Refuge Visitor Center.

Construction of the paved multiuse trail will displace existing natural surface trails in some locations. Where appropriate and as requested by City of Bloomington and USFWS, MN DNR (project proposer) will re-establish impacted segments of natural surface trails adjacent to the paved trail corridor in order to reduce impacts to existing, authorized natural surface trail uses.

The trail will require a bridge across Nine Mile Creek approximately four miles east of the Bloomington Ferry Bridge. The structure will be capable of supporting construction equipment, emergency vehicles, and maintenance equipment. Clearing of a span up to 100 feet wide will be required in the area directly adjacent to the creek to facilitate bridge installation.

The trail will require installation of culverts as it crosses a number of small tributaries to the Minnesota River. A variety of culvert designs, including three-sided open bottom structures, will be used as appropriate and feasible. Current engineering designs propose larger water crossings to be accomplished with an open bottom culvert unless the physical characteristics of a specific crossing require a closed bottom culvert or bridge.

MN DNR (project proposer) estimates that 15-20 culverts with a diameter of 36 inches or more will be required across the entire project. These structures will be specified according to the size of the tributary that they are crossing. The largest of these structures, located in defined drainage channels, are proposed to have a span up to 60 feet. A hydrologic analysis will be performed for each trail segment in order to ensure that culvert structures do not cause a net loss of channel cross sectional area, thereby minimizing impacts to pre-construction hydrology, including water levels and hydroperiod. Hydrologic analysis of larger channels has been completed for the trail segment between Lyndale Avenue (which lies directly east of Interstate 35W (I-35W)) and Highway 77/Cedar Avenue. This segment will require three large, open bottom culverts, each with a span between 30 feet and 60 feet. Culvert apertures will be sized appropriately to ensure no net loss of the channel flow cross sectional area of each tributary.

The remaining smaller drainage structures that are not located in a defined drainage channel will be used to equalize flow and to provide hydrologic connectivity between the two sides of the trail. Smaller culverts (corrugated metal pipes with diameters less than 36 inches) will be sited and specified to provide hydrologic connectivity between wetlands, and generally so that effects on the pre-construction hydrology, including water levels and hydroperiod, are minimized to the extent possible. The number of smaller culverts that will be employed has not yet been determined, though hydrologic and resource analyses are underway to determine the size and location of smaller culverts for the trail segment between Lyndale Avenue and Cedar Avenue. Currently, the only proposed bridge will span Nine Mile Creek. A MN DNR Work in Public Waters permit will be required for construction of the bridge across Nine Mile Creek.

There are a number of existing disturbed corridors in the project area used for vehicle access in the floodplain. These corridors, which are two-track roads of varying width generally less than 10 feet, are used for a number of purposes including access for emergency response vehicles; access for transmission line, gas pipeline and other utility infrastructure maintenance; access for recreation management and law enforcement activities by the City of Bloomington and USFWS; and access for natural resource management activities by the City of Bloomington and USFWS (among others). Most of these corridors in some form existed in the project area prior to these lands being managed for outdoor recreation. Specifically: 1) the area between I-35W/Lyndale Avenue and approximately one mile westward; 2) the area between Highway 77/Cedar Avenue and approximately 1.5 miles westward; and 3) the area between Highway 77/Cedar Avenue and the Minnesota Valley National Wildlife Refuge Visitor Center. Where possible, the trail is proposed to be constructed on top of these existing roads in order to reduce natural resource impacts. The proposed multiuse paved trail will be designed to accommodate the access needs of the landowners, MnDOT, USFWS and City of Bloomington. The trail will be in compliance with the state of Minnesota buffer law, which requires a vegetated buffer between the constructed impervious trail and 30 feet from the top of the river bank or an overall average buffer of 50 feet from the top of the river bank.

MN DNR (project proposer) anticipates that the first segment of the 13.5 mile trail to be constructed will be between I-35W and Highway 77/Cedar Avenue on City of Bloomington property (a distance of approximately 1.75 miles) followed shortly thereafter by continuing the trail on USFWS property

(a distance of approximately 1.5 miles) upon issuance of the federal Right of Way permit (see Figure 3). The timing of the construction of other remaining trail segments within the project area is dependent on funding and is yet to be determined.

The primary construction window for each trail segment is expected to be August through October and may take place over multiple years. In practice, duration and timing of construction phases will depend on a number of factors including (but not limited to): 1) accessibility to the project area due to flooding; 2) avoidance of threatened and endangered species during time periods when they may be vulnerable; and 3) logistical considerations such as availability of construction equipment and materials. The following is a summary of the time periods in which certain construction activities are anticipated to take place:

- Tree clearing will take place within the time period of August 15 to March 31 in order to prevent impacts to the northern long eared bat and bird nesting.
- Installation of perimeter and erosion control measures will take place in early August.
- Grading of the trail corridor and subgrade excavation will take place between August 1 and October 31.
- The remaining construction activities, including installation of drainage structures, installation of aggregate base, shoulder and side slope grading and paving will take place from August to October, if possible. However, some of this construction activity may take place outside of this date range after the trail corridor has been cleared and graded, consistent with threatened and endangered species avoidance plans.

The proposed trail alignment will continue to be refined by MN DNR (project proposer) through a pre-project consultation process with USFWS and the City of Bloomington.

The Minnesota Valley State Trail project is being designed in accordance with MnDOT State Aid Geometric Design Standards, Minnesota Manual of Uniform Traffic Control Devices (MnMUTCD), MnDOT Bikeway Facility Design Manual, American Association of State Highway and Transportation Officials (AASHTO) Guide for Planning, Design and Operation of Pedestrian Facilities, Trail Planning, Design and Development Guidelines (MN DNR, 2007), and Americans with Disabilities Act (ADA) Guidelines. The project will be constructed in accordance with the current edition of the Minnesota Department of Transportation's "Standard Specifications for Construction."

c. Project magnitude:

Total Project Acreage	471 Acres
Linear project length	Approximately 13.5 Miles
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

This project proposes to construct a segment of the legislatively authorized Minnesota Valley State Trail that is accessible by a variety of users. The trail is to provide opportunities for recreation, and through signage and interpretive programs, interpretation of the variety of natural and cultural resources in the Lower Minnesota River Valley.

State Trails are constructed and managed by either MN DNR or a local partner under authorization provided by the Minnesota Legislature. Authorization means the expenditure of state resources to develop and maintain the trail along the general corridor described in statute as approved by the legislature and signed by the Governor. Authorization for the Minnesota Valley State Trail is provided in Minnesota Statutes 85.015, subpart 6 which reads, in part:

(a) The trail shall originate at Fort Snelling State Park and thence extend generally southwesterly along the Minnesota River Valley through Hennepin, Dakota, Scott, Carver, Sibley, and Le Sueur Counties to the city of Le Sueur, and there terminate. The trail shall include the following state waysides: (a) Rice Lake Wayside, in Scott County; (b) Carver Rapids Wayside, in Scott County; (c) Lawrence wayside, in Scott County; (d) Belle Plaine Wayside, in Carver, Scott, and Sibley Counties; (e) Blakeley Wayside, in Scott County; and (f) Rush River Wayside, in Sibley County.

(b) The trail shall be developed primarily for riding and hiking. Motorized vehicles are prohibited from that portion of the trail on the north side of the Minnesota River, lying between Fort Snelling State Park and Rice Lake Wayside. That portion of the trail on the north side of the Minnesota River, lying between the Bloomington Ferry Bridge pedestrian crossing and the Cedar Avenue Bridge, must be a paved trail developed primarily for hiking and bicycling.

As identified in part b above, the Minnesota Valley State Trail authorizing language requires that the trail be paved between Bloomington Ferry Bridge and Cedar Avenue.

Beneficiaries include pedestrians and bicyclists living or visiting in the area, particularly those closest in proximity to the Minneapolis-St. Paul metropolitan area, including Bloomington, Eden Prairie, Richfield, Savage, Burnsville, Eagan, and others. Visitors to the Minnesota Valley State Recreation Area and Minnesota Valley National Wildlife Refuge will also have improved and extended access to recreational experiences.

This project is administered by MN DNR, which operates the Minnesota Valley State Trail, Minnesota Valley State Recreation Area, and Fort Snelling State Park. Funding for this project was provided by the Minnesota Legislature through a Fiscal Year (FY) 2014 Capital Bonding appropriation.

e. Are future stages of this development including development on any other property planned or likely to happen? ☒ Yes ☐ No
If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

Future development may include extending the state trail from the Minnesota Valley National Wildlife Refuge to Fort Snelling State Park, as described in the Minnesota Valley State Recreation Area Management Plan (2006), the Fort Snelling State Park Management Plan (1997) and as authorized in Minnesota Statutes 85.015, subpart 6. At this time, a specific trail alignment for this section has not been determined, and no funding is currently available for future design, land acquisition and development.

As development projects are planned, additional environmental review requirements under the Minnesota Environmental Policy Act will be determined, pursuant to Environmental Quality Board rules, *Minnesota Rules,* chapter 4410.

f. Is this project a subsequent stage of an earlier project? ☒ Yes ☐ No
If yes, briefly describe the past development, timeline and any past environmental review.

The Minnesota Valley State Trail is a multiple-use recreational trail that was authorized by the Minnesota Legislature in 1969 to run from the confluence of the Minnesota and Mississippi Rivers upstream to the City of Le Sueur (Le Sueur County), for an approximate length of 72 miles.

At present, 11.5 miles of paved trail has been developed between Bloomington Ferry Bridge and the City of Chaska. Current uses include hiking, mountain biking, cross-country skiing, snowshoeing, and on certain segments snowmobiling and horseback riding.

- The two miles of trail between Bloomington Ferry Bridge and the US Fish and Wildlife Service parking lot adjacent to Highway 101 was developed and/or identified as State Trail in 1999.
- The four miles of trail between USFWS Parking Lot on Highway 101 and Memorial Park in Shakopee was developed as paved, multiuse trail in 2014 by Scott County.
- The 5.5 miles of trail between Memorial Park in Shakopee and Highway 41 in Chaska was developed as paved, multiuse trail during the period 1986-1992 by MN DNR.

There are also 17.6 miles of natural surface trail managed by MN DNR between Highway 41 in Chaska and the City of Belle Plaine, primarily on lands owned by MN DNR. This trail existed prior to MN DNR's purchase of the property that makes up the Minnesota Valley State Recreation Area, therefore the trail was not developed by MN DNR but rather is maintained and re-routed in order to ensure access by trail users.

These earlier development projects did not require formal environmental review pursuant to Environmental Quality Board rules.

7. **Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

	Before	**After**		**Before**	**After**
Wetlands	58	54.7	Lawn/landscaping	0	0
Deep water/streams	6	6	Impervious surface*	20	39
Wooded/forest	340	329.3	Stormwater Pond	0	0
Brush/Grassland	47	42	Other (describe)	0	0
Cropland	0	0			
			TOTAL	**471**	**471**

*Impervious surfaces includes semi-impervious surfaces such as existing aggregate service/access roads, parking lots (before), and the developed paved trail (after).

Wetland delineations have been completed for the entire project area, identifying a total of 58 acres of wetland. The proposed trail project is anticipated to potentially impact approximately 2.3 acres in total. Specific locations of potential wetland impacts are included in **Figures 8.1-8.4**.

In summary, the proposed developed trail will include a net increase of approximately 19 acres of impervious surface type to the project area, converting approximately 2.3 acres of wetland, 11.7 acres of forest/wooded area, and five acres of grassland. Land cover types can be seen in **Figures 5.1, 5.2 and 5.3.**

8. **Permits and approvals required:** List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Unit of Government	Type of Application	Status
United States Fish and Wildlife Service (USFWS)	Right of Way Permit Special Use Permits	To Be Obtained To be Obtained as Needed
United States Army Corps of Engineers (USACE)	Section 404 Permit	To Be Obtained
Minnesota Department of Natural Resources (MN DNR)	Work in Public Waters (Nine Mile Creek Bridge)	To Be Obtained
City of Bloomington	Wetland Conservation Act Permit Joint Powers Agreement	To Be Obtained To Be Obtained
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit Section 401 Water Quality Certification	To Be Obtained To Be Obtained
USFWS/US Army Corps of Engineers/SHPO/MHS/MN Indian Affairs Council	Cultural Resources Review	Ongoing
Lower Minnesota River Watershed District	Flood Plain Fill/No Rise Certification	Obtained
Minnesota Department of Transportation (MnDOT)	Limited Use Permit	To Be Obtained
State of Minnesota, State Legislature	Funding: FY 2014 Bonding	$2.165 Capital Bonding Appropriation, FY 2014

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. **Land use:**
   a. Describe:
      i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The project is proposed to be constructed on public recreation lands owned and managed almost entirely by the USFWS and the City of Bloomington. As recent as the early 1970s, the Minnesota River valley within the project area was dominated by agricultural uses. During the 1970s, the Minnesota Valley National Wildlife Refuge was established and the City of Bloomington began acquiring land in the project area for conservation and recreation purposes, which remain the primary land uses in the project area today. Existing recreational uses include, but are not limited to: hiking/walking; bicycling; mountain biking; snowshoeing; cross-country skiing; environmental education; hunting; fishing; and wildlife viewing.

Lands adjacent to the project area in the City of Bloomington are comprised of primarily single family residential homes. There is a small pocket of industrial use approximately one mile to the northeast of Bloomington Ferry Bridge and an area dominated by commercial use surrounding the Mall of America approximately 1.5 miles west of the USFWS Minnesota Valley National Wildlife Refuge Visitor Center. Lands across the Minnesota River in the cities of Burnsville and Savage are dominated by single family residential homes and industrial uses. The Xcel Energy Black Dog Power Plant is situated on the South Side of the Minnesota River between I-35W and Highway 77/Cedar Avenue.

Hyland-Bush-Anderson Lakes Regional Park Reserve (City of Bloomington, Three Rivers Park District), Central Park (City of Bloomington), Mounds Spring Park (City of Bloomington), Fort Snelling State Park (State of Minnesota), Cliff Fen Park (City of Burnsville) and Savage Fen Scientific and Natural Area (SNA) (State of Minnesota) are all within a two-mile radius of the project area. The proposed Minnesota Valley State Trail, Bloomington Segment, will connect with the existing Nine Mile Creek Trail, a pedestrian only trail.

Soils data show areas of "prime farmland if drained"; "prime farmland if drained and either protected from flooding or not frequently flooded during the growing season"; and "prime farmland if protected from flooding or not frequently flooded during the growing season." There is currently no agricultural use within or adjacent to the project area.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

Local/City: The City of Bloomington 2008 Comprehensive Plan designates the project area as "Conservation" lands. The plan describes lands under this designation as those that "are preserved in their natural condition for the protection of habitat, wildlife, and surface water drainage." The trail is identified as an important public facility in the City of Bloomington Alternative Transportation Plan and the Parks and Recreation Master Plan. The City of Bloomington's 2016 Minnesota River Valley Strategic Plan, acknowledges the state trail as an important means to improve public access to the Minnesota River Valley, thereby raising public awareness about the need for stewardship of its natural resources. The 2018 City of Bloomington Minnesota River Valley Natural and Cultural Systems Plan lists City-owned lands in the project area as medium to high priority resource management areas. The trail may provide increased access to the river valley in order to carry out some of the active resource management activities identified in the document. These plans are also consistent with the Metropolitan Council's long range regional policy plans, including *Thrive MSP 2040*.

County: In 2015, Hennepin County completed the "2040 Bicycle Transportation Plan: Making bicycling safe and comfortable" to guide how, where and when the county and Three Rivers Park District will build bikeways and support facilities. While this plan encompasses the county, it includes anticipation for an off road trail to be developed along the Minnesota River Valley. The proposed project is compatible and consistent with the vision and guidance provided in the county's transportation plan.

State: In November 2006, the MN DNR approved the Minnesota Valley State Recreation Area Management Plan. This management plan provides guidelines for the management of the Minnesota Valley State Trail (MVST), including recommendations that it be developed as a multiple-use corridor meant to connect already established state and federal recreational units. The plan also describes recommendations for the Bloomington segment (current proposed project area) of the state trail, including maintaining river crossings and securing easements to solve trespass issues. The connection to Fort Snelling State Park is consistent with the Fort Snelling State Park Management Plan (1997).

MN DNR, Parks and Trails System Plan (2015): The Minnesota Valley State Trail, from Fort Snelling to Le Sueur, is identified as a Destination Trail which will offer a destination-quality experience, with considerable amenities at trailheads and in nearby communities. Trails in this group will have high use and attract users from across the state and Midwest region. Destination Trails will have greater investment in amenities and maintenance, and will be a high priority for acquisition and rehabilitation needs.

Federal: The USFWS completed the *Minnesota Valley National Wildlife Refuge and Wetland Management District - Comprehensive Conservation Plan and Environmental Assessment* in September 2004. This plan includes an inventory of wildlife and natural resources in and around the project area. The plan calls for the completion of the trail so that recreational users have the opportunity to "develop an enhanced appreciation for the cultural and natural resource values of the Refuge as well as the Greater Minnesota River Valley".

Water Management Organization: The Lower Minnesota River Watershed District Watershed Management Plan describes how the District will address water resources management over a 10 year period, as required by Minnesota law. District goals enumerated in the plan include floodplain and flood management; wetland management; unique resources management; and public education and outreach. The District will require that water resources in the floodplain category be managed mainly to enhance the natural plant and animal communities, and to preserve existing uses (such as fishing, hiking, biking, swimming, etc.). The plan calls for regulation of floodplain fill, specifically that which causes a rise in the 100-year flood elevation.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

City of Bloomington

The trail project area is entirely within the area identified 1) conservation zone and 2) flood hazard zone in the City of Bloomington's comprehensive plan. The project will cross the City's Bluff Protection Overlay District, which lies between the 722-foot elevation and the 800-foot elevation, at two locations (see Figures 9.1 and 9.4).

Lower Minnesota River Watershed District

Nearly the entire project area lies in the 100-year floodplain, which is subject to specific Lower Minnesota River Watershed District policies and management goals. Applicable management goals include improving and protecting water quality in the Lower Minnesota River Watershed and minimizing the negative effects of floods and droughts on the Minnesota River and all water bodies in the watershed. Watershed District policy requires that "No filling is allowed within the 100-year floodplain which causes a rise in the 100-year flood elevation without providing compensatory floodplain storage equal to or greater than the volume of fill."

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The proposed project is compatible and consistent with the applicable land uses, zoning and management plans applicable to the defined project area. The trail was designed to minimize fill and excavation in part to reduce impacts to floodplain hydrology. Floodplain modeling by MN DNR suggests that, although fill in the floodplain will be required to complete the project, it will not cause a rise in the 100-year flood elevation. If that condition changes for any reason, MN DNR (project proposer) will work with Lower Minnesota River Watershed District on a compensatory mitigation plan.

The trail is proposed to be constructed in the Minnesota River floodplain thereby minimizing impacts to bluffs protected by City of Bloomington ordinance. The project will cross the City's Bluff Protection Overlay District, which lies between the 722-foot elevation and the 800-foot elevation, once as it enters the Valley near the Bloomington Ferry Bridge and again as it approaches the USFWS Minnesota Valley National Wildlife Refuge Visitor Center and exits the Valley. At this location, the trail is proposed to follow the I-494 road grade rather than being built over the bluff itself.

The MN DNR (project proposer) will continue to coordinate, communicate and consult with the City of Bloomington and USFWS throughout the design, development and operation of the trail. MN DNR is committed to being a partner with these entities to ensure that sustainable and safe recreational opportunities are provided.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

No incompatibilities are identified so mitigation to address specifically is not needed. Should any incompatibilities arise, MN DNR (project proposer) will coordinate with appropriate agencies regarding mitigation requirements. Mitigation for potential environmental effects are discussed in appropriate items below.

10. Geology, soils and topography/land forms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

The western portion of the proposed trail corridor, from the Bloomington Ferry Bridge eastbound three miles to the large wetland complex, lies within the Big Woods Subsection. The

bedrock varies from 100 to 400 feet below ground surface. Underlying bedrock includes Ordovician and Cambrian sandstone, shale and dolomite along the south portion (where the Minnesota River Valley is located).

The very eastern end of the project area lies within the St. Paul – Baldwin Plains and Moraines Subsection. Within this subsection, Ordovician and Devonian dolomite (some limestone, sandstone, and shale) is locally exposed, especially in the dissected stream valleys at the eastern edge of the subsection (outside the project area).

The proposed project area does not contain any sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

The soils within the project area (both subsections) are primarily classified as Alfisols (soils developed under forests). Soils within the Big Woods Subsection are dominantly loamy, with textures ranging from loam to clay loam. Parent material is calcareous glacial till of Des Moines Lobe origin. Soils within the St. Paul – Baldwin Plains and Moraines Subsection include mixed parent materials on the moraines, including a mixture of clay loams, loams, sandy loams and loamy sands. The outwash plains have sandy parent materials.

Soil data was obtained from the NRCS Web Soil Survey tools and are displayed in **Figures 6.1, 6.2, 6.3.** Soil units occurring within the project area are identified in **Table 1,** below.

Unsuitable soils that are classified as 'very limited' or 'somewhat limited' by the NRCS Soil Survey or found to be 'very limited' or 'somewhat limited' during construction will be excavated a minimum of one foot below the existing grade and removed. A layer of geogrid or geotextile fabric will be placed in the excavation to bridge over the poor soils, and imported granular material will be used to reconstruct the subgrade. The granular material will extend the full depth of the excavation to just below the bottom of the base material. Suitable excavated material will be reused as topsoil or as fill on the slope along the length of the trail. Any unsuitable material will become the property of the contractor and hauled off-site for disposal in accordance with applicable regulations. Proposed areas of soil disturbance and estimated volumes for soil excavation and fill are provided in Table 2, below.

Steeply sloped areas are present at both ends of the trail. In order to maintain ADA compatible grades, larger cut and fill sections as well as vegetation clearing will be required as the trail drops into the river valley at Bloomington Ferry Bridge and exits the river valley at the Minnesota Valley National Wildlife Refuge Visitor Center.

Table 1. Minnesota Valley State Trail, Bloomington Segment - Proposed Project Area Soils List.
***Note with Table 1:** Map Units D4B, D33B, U4A and W (Water) do not intersect with the proposed trail alignment, but are located within the overall project area boundary.

Map Unit	Soil Name	Description	Slope	Drainage Class	Notes	Paths and Trails Limitations
D4B*	Dorset	Droughty, Dusty	2 to 6%	Well drained	Parent material: outwash	Somewhat limited
D33B*	Urban land-Dorset complex	Dusty	0 to 8%	Well drained	Parent material: outwash Depth to restrictive feature: > 60 inches	Not Rated
L6A	Biscay	Clay loam	0 to 2%	Poorly drained	Parent material: fine-loamy glaciofluvial deposits, sandy and gravel outwash Depth to restrictive feature: > 60 inches Natural drainage class: Poorly drained	Very limited; Hydric soil
L12A	Muskego, Blue Earth, and Houghton soils	Marsh	0 to 1%	Frequently flooded; very poorly drained	Depth to restrictive feature: > 60 inches Natural drainage class: Very poorly drained Depth to water table: About 0 inches	Very limited; Hydric soil
L32F	Hawick	Loamy sand	18 to 40%	Excessively drained	Depth to restrictive feature: > 60 inches Natural drainage class: Excessively drained	Very limited
L38A	Rushriver	Very fine sandy loam	0 to 2%	Occasionally flooded; poorly drained	Depth to restrictive feature: > 60 inches Natural drainage class: Poorly drained	Very limited
L39A	Minneiska	Fine sandy loam	0 to 2%	Occasionally flooded; moderately well drained	Depth to restrictive feature: > 60 inches Natural drainage class: Moderately well drained	Somewhat limited
L43A	Brouillett	Loam	0 to 2%	Frequently or occasionally flooded; Somewhat poorly drained	Depth to restrictive feature: > 60 inches Natural drainage class: Somewhat poorly drained	Somewhat limited
U4A*	Urban land-Udipsamments complex,	Cut and fill land	0 to 2%	Somewhat excessively drained	Stream terraces, outwash plains Depth to restrictive feature: > 60 inches	Not Rated
W*	Water	Water	--	--	--	Not Rated

Table 2. Minnesota Valley State Trail, Bloomington Segment - estimated soil excavation and fill for construction activity.

Location	Proposed Construction/ Disturbed Areas (AC)	Estimated Excavation (CY)	Estimated Fill (CY)
Trail - Bloomington Ferry Bridge to I-35W	20.04	23,100	54,000
Trail – I-35W to Cedar Avenue	11.13	8,848	30,580
Trail - Cedar Avenue to I-494	10.38	14,000	11,500
USFWS Visitor Center Connection	2.65	3,900	15,500
Totals	**44.21 Acres**	**49,848 Cubic Yards**	**111,580 Cubic Yards**

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. Water resources:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

See **Figures 7.1, 7.2, and 7.3** for location of hydrology features of the proposed project area.

Rivers/Streams:

Minnesota River: Public Waters Watercourse (M-055)

- The Minnesota River is a 332-mile-long tributary to the Mississippi River with an approximately 17,000-square-mile watershed spanning southwest Minnesota, eastern South Dakota and a small area in northern Iowa.
- Proximity to Project: The proposed trail runs along the Minnesota River for its entire 13.5-mile length. In accordance with the Minnesota Buffer Law, there will be a minimum 30-foot vegetated buffer between the paved trail and the river.
- MPCA Status: Impaired-Dissolved Oxygen and turbidity (approved TMDL Plans for Mercury in Fish, Mercury in Water column, Dissolved Oxygen and turbidity); additional impairments: PCB in fish tissue; caution for overall condition and Biology due to excessive salt/chloride in water.

Nine Mile Creek: Public Waters Watercourse (M-055-005)

- Nine Mile Creek is an approximately 15-mile-long tributary to the Minnesota River in Hennepin County with an approximately 50-square-mile watershed in the southwest Minneapolis St. Paul Metro Area.

- Proximity to Project: The trail is proposed to cross Nine Mile Creek approximately 1.5 miles west of I-35W.
- MPCA Status: TMDL plan for chloride, fish bioassessments.

Credit River (M-055-007)

- The Credit River is an approximately 22-mile-long tributary to the Minnesota River in Scott County with an approximately 46-square-mile watershed.
- Proximity to Project: The trail is proposed to pass within 500 feet of the Credit River. This tributary does not pass through the project area, rather it intersects the Minnesota River on the opposite bank of the trail project.
- MPCA Status: No longer impaired, biology "Good" (delisted for turbidity).

Eagle Creek (M-055-009-003)

- Eagle Creek is an approximately 1.5-mile-long tributary to the Minnesota River in Scott County. It is a designated trout stream.
- Proximity to Project: The trail is proposed to pass within 500 feet of Eagle Creek. This tributary does not pass through the project area, rather it intersects the Minnesota River on the opposite bank of the trail project.
- MPCA Status: No MPCA analysis.

Black Dog Creek (M-055-004)

- Black Dog Creek is a small tributary to the Minnesota River in Dakota County.
- Proximity to Project: The trail is proposed to pass within 1,500 feet of Black Dog Creek. This tributary does not pass through the project area, rather it intersects Black Dog Lake on the opposite bank of the trail project.
- MPCA Status: No MPCA analysis.

Lakes:

Rice Lake (PWI 70002500)

- Rice Lake is a 122-acre Public Water Basin in Scott County.
- Proximity to Project: Approximately 1,800 feet south of the proposed trail's western terminus at Bloomington Ferry Bridge.
- MPCA Status: No MPCA analysis.

Mike's Marsh (PWI 27103600)

- Mike's Marsh (locally known as Opus Marsh) is a 97-acre Public Water Basin in Hennepin County.
- Proximity to Project: Approximately 50 feet north of the proposed trail's western terminus at Bloomington Ferry Bridge.
- MPCA Status: No MPCA analysis.

Nine Mile Lake (PWI 27001300)

- Nine Mile Lake (locally known as Coleman Lake) is a 231-acre Public Water Basin in Hennepin County.
- Proximity to Project: The trail is proposed to cross Nine Mile Creek approximately 900 feet south of Nine Mile Lake.
- MPCA Status: No MPCA analysis.

Sylvia Mae Marsh (PWI 27107400)

- Sylvia Mae Marsh is a 25-acre Public Water Basin in Hennepin County.
- Proximity to Project: The trail is proposed to pass within 300 feet of Sylvia Mae Marsh, which lies directly west of I-35W.
- MPCA Status: No MPCA analysis.

Long Meadow Lake (PWI 27000200)

- Long Meadow Lake is a 1,322-acre Public Water Basin in Hennepin County.
- Proximity to Project: The trail is proposed to pass within 900 feet of Long Meadow Lake near Cedar Avenue.
- MPCA Status: No MPCA analysis.

Gun Club Lake (PWI 19007800)

- Gun Club Lake is a 533-acre Public Water Basin in Dakota County.
- Proximity to Project: The trail is proposed to pass within 1,200 feet of Gun Club Lake, which is situated on the opposite side of the Minnesota River from the trail project.
- MPCA Status: No MPCA analysis.

Black Dog Lake (PWI 19008300)

- Black Dog Lake is a 488-acre Public Water Basin in Dakota County.
- Proximity to Project: Black Dog Lake is situated on the opposite bank of the Minnesota River as the project. It spans the distance between I-35W and Highway 77/Cedar Avenue.
- MPCA Status: No MPCA analysis.

Wetlands:

The proposed project area includes approximately 58 acres of wetlands. The 471-acre project area was delineated by a MN DNR (project proposer) contractor during the 2017 and 2018 field seasons. The available wetland data from this process is more precise than National Wetland Inventory (NWI) data. In the fall of 2017, a Wetland Delineation Report was approved by a Minnesota Wetlands Conservation Act (WCA) Technical Evaluation Panel (also discussed in 11.b.iv. below). In 2018, the remaining areas of the project area were delineated and determined to include an additional four acres of wetlands. A total of 58 acres of wetlands were identified through the 2017 and 2018 delineation processes within the proposed project area. In total, the proposed 13.5 miles of trail development is estimated to result in approximately 2.3 acres of wetland impacts (see **Figures 7.1-7.3** and **Figures 8.1-8.4**).

The delineated 58 acres of wetlands are dominated by wetland types 1 (seasonally flooded basin) and 2 (sedge/fresh meadow). Wetland types 3 (shallow marsh), 4 (deep marsh) and 7 (wooded swamp) are also present.

- Type 1 (Seasonally Flooded Basin): 16.83 Acres
- Type 2 (Sedge/Fresh Wet Meadow): 14.87 Acres
- Type 3 (Shallow Marsh): 4.26 Acres
- Type 4 (Deep Marsh): 1.48 Acres
- Type 7 (Wooded Swamp): 5.28 Acres
- Type 1/2/7 (Sedge Meadow): 2.31 Acres
- Type 1/3 (Seasonally Flooded Basin/Shallow Marsh): 4.81 Acres

- Type 1/3/4 (Seasonally Flooded): 2.8 Acres
- Type 1/3/5 (Seasonally Flooded Basin/Shallow Marsh/Open Water): 4.89 Acres
- Type 1/4 (Seasonally Flooded): 0.11 Acres

Delineated wetlands are distributed fairly evenly across the project area. Some are part of larger wetland complexes that lie between the proposed trail corridor and the Minnesota River bluff.

Intermittent Channels:

The trail is proposed to cross various intermittent channels which are not designated as public waters. The Wetland Delineation Report identified 11 of these intermittent channels as Other Aquatic Resources (OAR), defined as "…lakes, rivers and streams that are regulated waterbodies, but do not meet the definition of a wetland per the [US Army Corps of Engineers 1987 Wetland Delineation Manual] and regional supplements." The majority of these channels connect floodplain wetlands and convey groundwater discharge to the Minnesota River, though some receive stormwater runoff during rain events. Several of these OARs contain stormwater structures installed and maintained by the City of Bloomington and USFWS, which suggests the presence of some runoff from the upland areas surrounding the project area.

These channels, all of which are tributaries to the Minnesota River, vary in width from several feet across to 60 feet across, and have bank heights ranging from several feet to 10 feet. MN DNR (project proposer) wetland delineation contractors reported the presence of water in all OARs during site visits in late June and early July of 2017. Channel bottoms are composed of soils with hydric ratings that vary from 25% to 100% and are covered with small to medium sized rocks in some locations.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Aquifer

The project area is in the Metro Groundwater Province which is characterized as having sand aquifers in thick glacial drift overlying Precambrian sandstone and Paleozoic sandstone, limestone, and dolostone aquifers. Minnesota Geological Survey County Geologic Atlas data indicates that depth to the water table is 0-10 feet across the entire project area.

Springs/Seeps

MN DNR's spring/seep inventory shows various springs and seeps near the project area. They emerge from the base of the bluff or the Minnesota River bank and drain into the Minnesota River outside of the area that would be disturbed by trail construction. There are three verified inventoried springs/seeps within the 471-acre project area; all are near the Bloomington Ferry Bridge. Culverts will be placed and sized appropriately to prevent impacts to groundwater flowing from base of the bluff to the Minnesota River. As part of ongoing coordination, updated engineering plans with proposed culvert locations and specifications will be provided to the DNR EWR nongame specialist to ensure that impacts to state-protected species are avoided.

There are two flowing, uncapped wells in the project area which are presumably remnants from dwellings or farm infrastructure once present in the valley. One well drains into a wetland approximately 600 feet to the southwest of the intersection of Highway 77/Cedar Avenue and the Minnesota River. The other drains into a small wetland approximately one mile to the

southwest of the intersection of Highway 77/Cedar Avenue and the Minnesota River. These wells are not in the area that will be disturbed by trail construction. Neither appears in the Minnesota Well Index. Both are on USFWS property, and therefore capping would be left to the discretion of that agency.

Wellhead Protection Area

The proposed trail corridor at Bloomington Ferry Bridge and 1.5 miles eastward is located within the Bloomington Wellhead Protection Area.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.
2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.
3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

N/A

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

The new trail facility will increase stormwater runoff compared to current conditions. Though the addition of impervious surface will reduce the floodplain's capacity to absorb precipitation, the overall effect will be minimal. The impervious surface area will be dispersed over a long distance. The proposed trail project will result in a net increase of 19 acres of impervious surface.

A near-continuous border of vegetation adjacent the trail will slow runoff and improve infiltration of runoff originating from the paved surface. Trail side slopes and minor ditching in some areas will also help to drain runoff away from the trail towards both natural and, where appropriate, designed infiltration areas in accordance with MPCA stormwater permitting requirements. See **Figure 4.2** for a ditch cross section. Infiltration areas will be constructed to treat storm water runoff in areas that do not require the removal of existing mature trees and the disturbance of well-established vegetated wildlife areas. Best management practices (BMPs) for post construction will be used as feasible to maximize the amount of water that can

be treated prior to discharge to surface waters. BMPs include vegetation management, maintenance of infiltration areas, and addressing erosion.

During construction, silt fences will be in place and maintained to limit erosion and runoff from the newly graded surfaces that drain directly to the Minnesota River and its tributaries. Silt fences along with other wildlife-friendly perimeter control practices will remain in place until vegetation has been established along the shoulders and all disturbed areas. Wildlife-friendly bio-logs will also be used for additional perimeter control and will be removed after the site is stabilized as required by permitting agencies.

Mild side slopes and relatively flat areas will be mulched and disk-anchored. Side slopes steeper than ratio of 1:3 will be blanketed with natural netted erosion control blanket. Wildlife-friendly erosion control and sediment control BMPs shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site, and will meet MPCA's NPDES General Construction Storm Water Permit requirements. Invasive species prevention and concrete washout and fuel or chemical tank best management practices are also included in the storm water pollution prevention plans (SWPPP). A SWPPP is a document that identifies all potential sources of pollution which may affect the quality of storm water discharges from a construction site.

Additional best management practices will be needed during construction due to the proximity of the project to impaired waters (Minnesota River and Nine Mile Creek). Stabilization of all exposed soils areas will be initiated immediately to limit soil erosion. All necessary erosion control measures to stabilize the site will be fully installed within seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased. A minimum of 30 feet and an average of 50 feet of undisturbed buffer zone will be maintained during construction except where the proposed trail will utilize the existing gravel service roads under the I-35W Bridge, Cedar Avenue Bridge and along Long Meadow Lake. Silt fences will be installed to delineate and maintain the buffer zone. Temporary sediment basins will not be utilized to treat construction runoff because no portion of the project with a disturbed area of five or more acres will serve a common drainage area.

Using river level forecasts, work will be adjusted in order to minimize environmental impacts to the construction area. In the event of river flooding during construction, all equipment and materials will be removed from the site. Disturbed soils and extra construction materials, such as uninstalled culverts and aggregate material, will be secured.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Temporary, short term dewatering may be required for the construction of the bridge abutments for Nine Mile Creek and for the installation of drainage structures located within defined drainage channels. Pumped or trenched turbid or sediment-laden waters related to dewatering will be treated with the appropriate BMPs such that the discharge does not

adversely affect the receiving water, including wetlands. BMP options include pumping water through a filter sock in order to remove sediment. Discharge water resulting from dewatering activities may also be pumped into temporary sediment basins to allow sediment to settle out. The discharge points will be adequately protected from erosion and scour and will be dispersed over riprap or other accepted energy dissipation measures. Any temporary, short term dewatering needed for construction of bridge abutments or the installation of other drainage structures will either take place during non-winter months, or will be conducted in accordance with approved threatened and endangered species avoidance plans and guidance provided by MN DNR Nongame Wildlife staff, USFWS and City of Bloomington.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

Anticipated Impacts

The trail project will require filling of wetlands at various locations in order to provide a stable base for the trail, as well as to ensure that the trail grade does not exceed 5% and complies with the Americans with Disabilities Act. Wetland fill is currently estimated to be approximately 2.3 acres for the proposed 13.5 mile trail corridor.

Wetland Avoidance; Minimization; Mitigation

In 2016 and 2017, through a pre-project consultation process with City of Bloomington and USFWS staff, MN DNR (project proposer) drafted conceptual plans for the trail. The trail alignment shown on these plans was designed to avoid known high value natural resources as well as to keep the trail on high ground. Upon completion of the wetland delineation, the proposed trail alignment was adjusted to avoid and minimize wetland impacts. Unavoidable wetland losses will be mitigated as required by the Wetland Conservation Act (WCA). On-site mitigation is not expected to be undertaken, though options will be explored. Wetland credits are planned to be purchased from a wetland bank approved by the Board of Water and Soil Resources (BWSR) and US Army Corps of Engineers. MN DNR (project proposer) will continue coordination with wetland regulatory agencies. A Technical Evaluation Panel is anticipated to meet in fall of 2018 or early 2019 to coordinate WCA requirements. Members are likely to include the City of Bloomington, BWSR, USACE, USFWS, MN DNR, and others as identified.

WCA Special Considerations

WCA contains special considerations for species that are listed as endangered or threatened, and for plant communities that are identified as rare natural communities. The considerations are provided below. Also see Item 13 for additional discussion.

MN Rules 8420.0515 SPECIAL CONSIDERATIONS.

Subp. 2. **Endangered and threatened species.** A replacement plan for activities that involve taking species listed as endangered or threatened in parts 6134.0200 to 6134.0400 must be denied unless the commissioner issues a permit under part 6212.1800 or Minnesota Statutes, section 84.0895, subdivision 7. Applicants may identify if there are

known locations of listed species at a particular site by contacting the Department of Natural Resources' natural heritage and nongame research program.
Subp. 3. **Rare natural communities.** A replacement plan for activities that involve the modification of a rare natural community as determined by the Department of Natural Resources' natural heritage program must be denied if the local government unit determines that the proposed activities will permanently adversely affect the natural community.

Wetland Effects

Wetlands provide numerous beneficial services for people, fish and wildlife including protecting and improving water quality, providing wildlife habitat, storing floodwaters and maintaining surface water flow during dry periods. Effects of proposed wetland fill within delineated wetland boundaries include loss of wildlife habitat and wetland function. Broader effects include floodplain storage loss, surface water runoff, some loss of recharge area, and changes to local drainage patterns. Wetland effects have the potential to impact threatened and endangered species such as Blanding's Turtle and Blanchard's Cricket Frog. Some wetlands may require a Rare Natural Community determination pursuant to WCA. See Item 13 for more detail on these potential effects and how they will be avoided.

Rare Natural Communities

BWSR, in consultation with MN DNR, has adopted rules (above) governing the evaluation of wetland replacement plans covering impacts to rare natural communities. Bulrush Marsh (Northern), Silver Maple – (Virginia Creeper) Floodplain Forest, and Southern Terrace Forest native plant communities, along with other wetlands within the MBS Sites of High Biodiversity Significance, may qualify as "Rare Natural Communities" under WCA. This project proposes to impact wetlands that may meet these criteria (see **Figures 8.1-8.4**). Each wetland that is proposed to be impacted by the project that may qualify as a Rare Natural Community will be checked by a MN DNR plant ecologist and a positive or negative determination will be made in coordination with the appropriate MN DNR staff. If a positive determination is made, MN DNR (project proposer) will consult and coordinate with the City of Bloomington (the Local Governmental Unit (LGU) for WCA) to determine whether trail construction will have a permanent adverse effect on those rare natural communities and any additional mitigation measures that would be required.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

Proposed Water Crossings

The trail is proposed to cross a number of intermittent channels, many of which are identified as Other Aquatic Resources (OAR) in the wetland delineation report, as well as Nine Mile Creek (Public Waters Watercourse M-055-005).

Current engineering designs propose larger water crossings be accomplished with an open bottom culvert unless the physical characteristics of a specific crossing require a closed bottom culvert or bridge.

MN DNR (project proposer) estimates that 15-20 culverts with a diameter of 36 inches or more will be required across the entire project. These structures will be specified according to the size of the tributary that they are crossing. The largest of these structures, located in defined drainage channels, are proposed to have a span up to 60 feet. A hydrologic analysis will be performed for each trail segment in order to ensure that culvert structures do not cause a net loss of channel cross sectional area, thereby minimizing impacts to pre-construction hydrology, including water levels and hydroperiod. Hydrologic analysis of larger channels has been completed for the trail segment between Lyndale Avenue and Cedar Avenue. This segment will require three large, open bottom culverts, each with a span between 30 feet and 60 feet. Culvert apertures will be sized appropriately to ensure no net loss of the channel flow cross sectional area of each tributary.

The remaining smaller drainage structures that are not located in a defined drainage channel will be used to equalize flow and to provide hydrologic connectivity between the two sides of the trail. Smaller culverts (rust resistant corrugated metal pipes with diameters less than 36 inches) will be sited and specified to provide hydrologic connectivity between wetlands, and generally so that effects on the pre-construction hydrology, including water levels and hydroperiod, are minimized to the extent possible. The number of smaller culverts that will be employed has not yet been determined, though hydrologic and resource analyses are underway to determine the size and location of smaller culverts for the trail segment between Lyndale Avenue and Cedar Avenue. Currently, the only proposed bridge will span Nine Mile Creek. A MN DNR Work in Public Waters permit will be required for construction of the bridge across Nine Mile Creek.

Anticipated Impacts

Installation of culverts will require temporary re-routing of intermittent channels. If channels are flowing, MN DNR (project proposer) contractors will temporarily bypass the location where the culvert will be installed in order to install infrastructure. The site will then be excavated and the bed on which the culvert will rest will be filled with granular material. Finally, the culvert will be installed and the site will be back filled with excavated material. Erosion control measures will be taken to minimize sedimentation throughout the installation process. Culverts will be sized appropriately and open bottom culverts will be utilized where possible in order to minimize impacts to channel hydrology, as well as to minimize impediments to amphibian and other wildlife movements.

All construction work proposed beneath the Ordinary High Water (OHW) level in public waterways will be subject to regulation under the Work in Public Waters Permit, issued by the MN DNR (Minnesota Statutes, section 103G.245 and Minnesota Rules, part 6115.0150). A MN DNR report, "Best Practices for Meeting MN DNR General Public Waters Work Permit GP 2004-0001" provides substantial guidance to engineers for designing and implementing projects that affect public waters.

Other water-related permits applicable to the project include the Clean Water Act (CWA) Section 404 permit, issued by the US Army Corps of Engineers and the National Pollution Discharge Elimination System (NPDES) permit (CWA Section 401 Water Quality Certification) issued by the Minnesota Pollution Control Agency.

12. Contamination/Hazardous Materials/Wastes:

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

One potential environmental hazard site has been identified within the proposed project area, as reported in MPCA's "What's in My Neighborhood" data base (WIMN). According to MPCA records, there were several old dump sites located under and near Highway 77/Cedar Avenue near the Minnesota River reported in 1987. The site was closed in 1999 and has had no further reports of potential contamination or leaking. The site location is approximately 400 feet north of the proposed trail route. No impacts are anticipated to the trail project from the site during construction or operation of the trail, nor is the trail anticipated to impact the site or interact in any way.

Dredge spoil material placement sites are present in the project area. Dredge spoil sites are inactive, permanent sites. Minor disturbance of dredge spoil may be required for construction of the trail. The project proposer will work with MPCA regarding potential disturbance of these sites.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

The proposed project is not expected to generate significant amounts of solid waste. Solid waste generated during construction would be limited and would consist primarily of items like construction material packaging. The contractor will be responsible for removing any construction-generated wastes to appropriate off-site facilities for disposal.

c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

The construction, monitoring, and maintenance of the proposed project have limited potential for releases of toxic or hazardous substances. Fluid from typical construction and operational machinery and concrete form oil are potential sources of toxic or hazardous materials. Refueling spills and equipment breakdowns, such as a broken hydraulic line, could introduce contaminants into the soil during construction. Equipment operators are instructed to take precautions when refueling equipment and on what to do in the event of an equipment breakdown. Refueling would be conducted away from surface waters and equipment would be regularly inspected by the contractor with appropriate oversight from the lead engineer, and repaired to prevent inadvertent loss of fuels, oils, or other hazardous fluids. Any spills will be reported to MPCA by the contractor or lead engineer.

d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

No hazardous wastes will be generated by the proposed project.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

Minnesota lies at the center of North America where the prairie, boreal forest, and eastern deciduous forest meet. There are four major ecological provinces in Minnesota: the Eastern Broadleaf Forest, the Laurentian Mixed Forest, the Prairie Parkland and the Tallgrass Aspen Parklands. These ecological provinces are divided into subsections – distinct landscapes of Minnesota, defined by vegetation, geology, and other resource criteria.

The proposed Minnesota Valley State Trail is located within the Big Woods and St. Paul-Baldwin Plains and Moraines of the Eastern Broadleaf Forest province. The Big Woods subsection was adjacent to tall grass prairie to the west, savanna and tall grass prairie to the east, and the Mississippi River and an extensive outwash plain to the north. This subsection derives its name from the dominant vegetation type, commonly referred to as *The Big Woods*, which consisted primarily of red oak *(Quercas rubra)*, sugar maple *(Acer saccarum)*, basswood *(Tilia americana)*, and American elm *(Ulmus americanus)*. The primary landform is a loamy-mantled end moraine associated with the Des Moines lobe of Late Wisconsin glaciation. This is demonstrated by circular, level topped hills bounded by smooth side slopes and above a broad lower level. The lower level is interspersed with closed depressions containing lakes and wetlands. The St. Paul-Baldwin Plains and Moraines subsection includes much of the eastern half of the Twin Cities metropolitan area, including St. Paul and surrounding suburbs where urban land uses dominate. The Mississippi and St. Croix rivers have vital roles for wildlife in this subsection.

The project area consists of a range of habitats and vegetation types. The majority of the site is a combination of former agricultural fields and floodplain forest. Some of the former agricultural fields consist of early successional forest while others are dominated by herbaceous vegetation. Some of the current floodplain forests were previously impacted by row crop agriculture and some were not. Other portions of the project area consist of wet meadows, bulrush marshes and terrace forests. Short-term inundation due to stormwater runoff and river flooding is common in the project area and strongly influences vegetation and soils. There is also evidence of access roads, dredge spoil material placement areas and impounded wetland basins. Dredge spoil sites are inactive, permanent sites. Minor disturbance of dredge spoil may be required for construction of the trail.

Fisheries. Fish commonly sought by anglers in the Minnesota River include channel catfish, flathead catfish, walleyes, northern pike, and panfish. Fish populations are dominated, however, by fish such as sheepshead, buffalo, quillback, suckers, redhorse and carp (Waters (1977).

Wildlife. Resident wildlife species in the project area include raccoons, mink, muskrat, wood duck, deer, wild turkeys, rabbits, squirrels, fox, beaver, eagles and other raptors, and a variety of amphibians and reptiles. Tens of thousands of song birds and waterfowl are attracted to the extensive wetlands in the valley as they make their annual migrations through the valley flyway and take advantage of extensive available habitat for breeding and year-round use.

Species in Greatest Conservation Need (SGCN) are species identified as rare, declining, or vulnerable in Minnesota and their available habitats are declining in quality or extent. The Big Woods subsection contains at least 121 known or predicted SGCN. The St. Paul-Baldwin Plains and Moraines subsection contains 149 SGCN, including 74 species that are federal or state endangered, threatened, or of special concern. Important areas for SGCN include the Minnesota River, Minnesota Valley National Wildlife Refuge, Three Rivers Park District regional parks, and numerous wildlife management areas. SGCN species in the Minnesota River Valley include a wide variety of birds, fish, mussels, and mammals, as well as the listed species discussed below.

Invasive species. Multiple strategies (planting, seeding, bio-medium, natural recruitment) are expected to be used at the site. Partners will initiate invasive plant control and other BMPs to reduce the risk of further exotic plant population invasion or expansion. Final planting and seeding will be completed immediately following construction activities to further reduce likelihood for undesirable plant colonization and recruitment. Initial on the ground invasive plant control activities are included in this proposal.

Project-related construction and ongoing visitor use (once operational) can provide opportunities for the introduction and/or spread of invasive plant species. Invasive species can adversely affect wildlife habitat and lessen biodiversity, the latter due to invasive species outcompeting native plants. Soil disturbance due to construction, or unmanaged trail development or use, can provide conditions suitable for establishment of invasive plant species introduced to the site by animals, birds and wind, operator clothing, or on equipment, trucks, or bicycles originating from offsite infested areas. Materials such as gravel could provide seedstock for the introduction of invasive plant species to the project site. The site has not been surveyed for the presence of invasive species.

The MN DNR Operational Order 113 provides guidance and directives applicable to agency staff and contractors for implementing site-level management to prevent or limit the introduction, establishment, spread, and treatment of invasive species. The MN DNR Division of Parks and Trails staff have guidelines prepared specifically for administering their lands and programs. Operational Order 59 provides guidance and governance for applying herbicides to all MN DNR staff and contractors. All herbicide applications would need to comply with labeling, safety protocols, and precautions as prescribed. Pesticide applications must and will be preceded by a Natural Heritage Information System (NHIS) database review to prevent endangered or threatened species or significant native plant communities from being harmed. Herbicide application will be in accordance with all applicable regulations and will be coordinated with land owners/managers.

The MN DNR Operational Order 113 provides guidelines to prevent or limit the introduction, establishment and spread of invasive species and contains procedures applicable to the proposed project. Invasive plant species in the project area include (but are not limited to) leafy spurge, garlic mustard and European buckthorn. Prevention measures include: assessing the project area for the presence of invasive species prior to initiating work; treatment of invasive species on the Minnesota Department of Agriculture's Eradicate and Control Lists before work begins; locating sources of weed-free materials; cleaning equipment before it arrives and departs; and re-vegetating disturbed areas as soon as possible. In accordance with the operational order guidelines, equipment will be inspected by the contractor with appropriate oversight from the lead engineer or other MN DNR staff before entering and leaving project sites, and equipment will be cleaned of any mud, dirt, aggregate material, mulch, plant parts (including seeds), and other invasive organisms. For equipment entering and leaving a water body, water must be drained from equipment, tanks, or water retaining components of boats, motors,

live wells and bilge. After leaving the water body, transom wells need to be drained on dry land away from surface waters.

After construction, the trail right-of-way will be monitored for invasive species. Suitable control measures will be employed when invasive plants are encountered. Intrusive species, i.e., those growing through bituminous trail surfaces, will be controlled to prevent pavement breakup and maintain safe trail conditions.

MN DNR guidance documents indicate a low to moderate risk level for the spread of invasive species along a paved trail. To minimize the potential of spreading invasive species, the newly constructed trail segments will be monitored during the first year after construction, and periodically thereafter, consistent with the management of other trail segments. A prescribed fescue mix, also known as a "low mow mix," will be used, where appropriate, on the trail shoulders to reduce the opportunity for invasive species to become established. A reduction in mowing helps to reduce the risk of spreading seeds and viable plant fragments.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB #20170037) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

The Minnesota Natural Heritage Information System (NHIS) database was queried by Natural Heritage Review staff to determine what rare, threatened, or endangered plant or animal species or other significant natural features are known to occur within or near the project area. This query identified multiple rare features near the project area, including federal and state listed species, as identified below and discussed in Item 13c. The Natural Heritage letter, dated Aug 9, 2017 is attached. An additional query was completed during production of the EAW and text below may include additional species not identified explicitly in the Aug 9, 2017 Natural Heritage letter. Because information in the NHIS database is continuously updated, the NHIS database will be queried again prior to each construction phase.

Ecologically Significant Areas

The proposed project area is located within a Central Region Regionally Significant Ecological Area (RSEA) that is ranked Outstanding. The MN DNR, in partnership with the Metropolitan Council, identified these ecologically significant terrestrial and wetland areas by conducting a landscape-scale assessment based on the size and shape of the ecological area, land cover within the ecological area, adjacent land cover/use, and connectivity to other ecological area. The purpose of this data is intended to inform regional scale land use decisions, especially as related to balancing development and natural resource protection.

The proposed project area is also located within areas identified by the Minnesota Biological Survey (MBS) as Sites of High Biodiversity Significance and Sites of Moderate Biodiversity Significance (see **Figures 8.1-8.4**). Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as High contain very good quality occurrences of the rarest species, high quality examples of the rare native plant communities, and/or important functional landscapes. Sites ranked as Moderate contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery.

The western-most portion of the project area is located within the Izaak Walton Nature Center Site of Biodiversity Significance, assigned a rank of Moderate Biodiversity. This site is characterized as bottom lands and valley sides along the Minnesota River and is managed as part of the Minnesota Valley National Wildlife Refuge. This is a varied site, with groundwater-fed marshes, young silver maple floodplain forest and contains natural surface recreational trails, including mountain bike trails.

The central portion of the project area is within the Nine Mile Creek Site of Biodiversity Significance, assigned a rank of High Biodiversity. This site is characterized as bottom lands and valley sides along the Minnesota River and Nine Mile Creek. This is a varied site, with oak woodland, oak forest, small dry prairies located in the upper slopes, some black ash seeps at the foot of the river bluffs, and open marsh wetlands near the end of Nine Mile Creek.

The eastern portion of the project area is within the Long Meadow Lake Site of Biodiversity Significance, assigned a rank of Moderate Biodiversity Significance. This site is characterized as bottom lands and valley sides along the Minnesota River and is managed as part of the Minnesota Valley National Wildlife Refuge. This is a varied site, with oak woodland and oak forest on the steep slopes, groundwater-fed marshes, and young silver maple floodplain forest and contains natural surface recreational trails, including mountain bike trails.

The proposed project area is also within the Lower Minnesota River Valley Important Bird Area (IBA). Important Birds Areas, identified by Audubon Minnesota in partnership with the MN DNR, are part of an international conservation effort aimed at conserving critical bird habitats. This particular IBA incorporates the riparian corridor and adjacent river valley and upland communities along the Minnesota River and it supports an exceptional diversity of birds. The woodland and grassland areas within the IBA are important breeding habitat for the more than 100 bird species that nest in the area. A Forster's tern (*Sterna forsteri*) colonial nesting site is noted at the western end of the project area in Rice Lake. The Forster's tern is a state special concern species.

Federally listed species

In accordance with the Endangered Species Act (ESA) of 1973, the project will need to undergo a Section 7 review by the USFWS. The ESA requires any federal agency that funds, authorizes or carries out an action to ensure that their action is not likely to jeopardize the continued existence of any endangered or threatened species (including plant species) or result in the destruction or adverse modification of designated critical habitats. The list of species that may occur within Hennepin County was constructed by consulting the USFWS list of County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species. The project area was evaluated for the potential occurrences of federally listed threatened and endangered species.

State listed species

Minnesota's Endangered Species Statute (Minnesota Statutes, Section 84.0895) requires the MN DNR to adopt rules designating species meeting the statutory definitions of endangered, threatened, or species of special concern. The resulting List of Endangered, Threatened, and Special Concern Species is codified as Minnesota Rules, Chapter 6134. The Endangered Species Statute also authorizes the MN DNR to adopt rules that regulate treatment of species designated as endangered and threatened. These regulations are codified as Minnesota Rules, Parts 6212.1800 to 6212.2300.

Minnesota's Endangered Species Statute and the associated Rules impose a variety of restrictions, a permit program, and several exemptions pertaining to species designated as endangered or

threatened. A person may not take, import, transport, or sell any portion of an endangered or threatened species. However, these acts may be allowed by permit issued by the MN DNR; plants on certain agricultural lands and plants destroyed in consequence of certain agricultural practices are exempt; and the accidental, unknowing destruction of designated plants is exempt. Species of special concern are not protected by Minnesota's Endangered Species Statute or the associated Rules; however, the measures incorporated to protect listed species and generally minimize impacts to wildlife and wildlife habitat will also benefit non-listed species.

MN DNR maintains The Rare Species Guide, the state's authoritative reference for Minnesota's endangered, threatened, and special concern species. Minnesota's Rare Species Guide was also used to identify rare features within Hennepin County and within the proposed project area.

The following state or federally listed or otherwise protected species may occur within the project area:

- **Northern Long-Eared Bat** *(Myotis septentrionalis)*, Federal Status: Endangered, Minnesota Status: Special Concern.
- **Bald eagle** (*Haliaeetus leucocephalus*) Federal Status: protected under Migratory Bird Act and The Bald and Golden Eagle Protection Act, Minnesota Status: Not Listed.
- **Rusty patched bumble bee** (*Bombus affinis*), Federal Status: Endangered, Minnesota Status: Not Listed.
- **Regal Fritillary** *(Speyeria idalia)*, Federal Status: Under Review - Not Listed, Minnesota Status: Special Concern.
- **Blanchard's Cricket Frog** *(Acris crepitans blanchardi)*, Federal Status: Not Listed, Minnesota Status: Endangered.
- **Blanding's Turtle** *(Emydoidea blandinii)*, Federal Status: Not Listed, Minnesota Status: Threatened.
- **Kitten-tails** *(Besseya bullii),* Federal Status: Not Listed, Minnesota Status: Threatened.
- **Snow trillium** *(Trillium nivale)*, Federal Status: Not Listed, Minnesota Status: Special Concern.
- **Gopher snake** (*Pituophis catenifer*), Federal Status: Not Listed, Minnesota Status: Special Concern.
- **Milk snake** (*Lampropeltis triangulum*), Federal Status: Not Listed, Minnesota Status: Not listed, but noted as a Species in Greatest Conservation Need.
- **Trumpeter swans** (*Cygnus buccinator*), Federal Status: Not Listed, Minnesota Status: Special Concern.
- **Little brown bat** (*Myotis lucifugus*) and **Tricolored bat** (*Perimyotis subflavus*), Federal Status: Not Listed, Minnesota Status: Special Concern.
- **Various state and federally listed mussel species** (not individually noted in NHIS letter).
- **Multiple state-listed fish and amphibian species** (not individually noted in NHIS letter).
    - **Mudpuppy** (*Necturus maculsus*), Federal Status: Not Listed, Minnesota Status: Special Concern.
- **Multiple state-listed song bird species** (not individually noted in NHIS letter).

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Plant Community & Ecosystem Impacts

The specific native plant community (NPC) types that are identified in the project and may be impacted by the trail development are included in the table below. The estimated acreages reported below are the total NPC areas within the proposed project area and do not represent the actual acres that may be impacted by the proposed trail development. Actual impacts are expected to be much less based on the actual construction footprint. Efforts will be made to minimize impacts to NPC through assessments prior to each construction phase. For example, trail alignments may be adjusted to avoid rare species and mature trees, as necessary. Vegetation clearing and the constructed trail itself will cause some habitat fragmentation, particularly in areas where continuous blocks of habitat exist.

Native Plant Communities within the Project Area

NPC Code	Native Plant Community	Conservation Status Rank*	Estimated Acres within Project Area
FDs37b	Pin Oak – Bur Oak Woodland	S3 - vulnerable to extirpation	0.2
FFs59**	Southern Terrace Forest	S1 or S2 or S3 – critically imperiled or imperiled or vulnerable to extirpation	9.0
FFs68a	Silver Maple - (Virginia Creeper) Floodplain Forest	S3 – vulnerable to extirpation	129.3
MHs37b	Red Oak - White Oak - (Sugar Maple) Forest	S4 – apparently secure; uncommon but not rare	1.6
MHs49a	Elm - Basswood - Black Ash - (Hackberry) Forest	S3 – vulnerable to extirpation	13.8
MRn93a	Bulrush Marsh (Northern)	S3 – vulnerable to extirpation	2.8
UPs23a	Mesic Prairie (Southern)	S2 - imperiled	2.9
WMn82b***	Sedge Meadow	S4 or S5 – apparently secure or secure	4.0
		Total	163.5

*Native plant communities with a conservation status rank of S1, S2, or S3 are considered rare in Minnesota.

**This native plant community is classified only to Class. Conservation status ranks are given to Types and Subtypes, and within this Class the ranks range from S1 to S3.

***This native plant community has four Subtypes which have conservation status ranks of either S4 or S5.

Impacts to Silver Maple - (Virginia Creeper) Floodplain Forest and Southern Terrace Forest, both rare native plant communities in Minnesota, include clearing of an anticipated 20- to 50-foot trail corridor in order to allow for construction access, placement of fill, creating the trail surface, shoulders and the associated side slopes. Some additional clearing, up to 100 feet, will be necessary for bridge construction across Nine Mile Creek and near larger fill sections at either end of the project area (near the Bloomington Ferry trail access and near the I-494 Bridge).

Impacts to wetlands within the project area include an estimated 2.3 acres of direct wetland impact, based on WCA delineation data for the project area. These impacts will be due to the placement of fill to allow for the trail to be constructed on stable soils. Additionally, there may be some impacts to closed wetland basins due to hydrologic modification of the larger wetland complex. Under the current trail plan in accordance with WCA sequencing requirements, bisecting wetlands was avoided where possible

and impacts were minimized where unavoidable. Some portions of the proposed trail have the potential to interrupt water flow at higher water levels, both as the Minnesota River rises and as it recedes. The permitting process will address additional mitigation strategies as necessary for wetland impacts. Specific mitigation strategies will be determined during the WCA process as well as through coordination with appropriate federal agencies.

Wetlands with a conservation status rank of S1, S2, or S3 or wetlands within MBS Sites of High Biodiversity Significance may qualify as rare natural communities under the Wetland Conservation Act. Wetlands that have the potential to be identified as a rare natural community will be further evaluated and addressed as described in Item 11.b.iv.a of this document.

Species Impacts

Federally protected species

Bald eagles (Haliaeetus leucocephalus)

Although trail development is planned in the vicinity of known active and alternate bald eagle nest trees, no removal of active or alternate bald eagle nest trees will occur as part of this project.

Rusty-patched bumble bee *(Bombus affinis)*

The rusty-patched bumble bee may be negatively impacted by the project through habitat loss, such as conversion of grassland habitat (see cover types table in EAW Item 7). A small portion (~15-20%) of the project area is within a high potential zone for rusty-patched bumblebee as of August 15, 2018. This high potential zone is identified in an area between the Bloomington Ferry Bridge and I-35W. The remainder of the project area is within a low potential zone as of that date. The status of high and low potential zones with respect to the proposed trail will be re-checked prior to final design and each construction phase to ensure that any changes in zone designations are properly addressed in planning prior to construction.

There will be additional consultation with the USFWS regarding this federally endangered species. Based on this consultation, additional surveys to determine suitable habitat and species presence or absence may be warranted. Depending on the outcomes of the consultation and/or surveys, additional avoidance or minimization measures will be implemented. Additionally, conservation measures may be incorporated into the project to make incidental take unlikely.

Northern long-eared bat *(Myotis septentrionalis)*

There is a known northern long eared bat hibernacula located within the same township as a portion of the project (Hennepin Co, T28N R23W). The 2017 Natural Heritage Review noted that the NHIS did not contain any known occurrences of northern long-eared bat roosts or hibernacula within one mile of the proposed project. Subsequent to that review, MnDOT staff documented a maternity colony on the Highway 77 Bridge. Tree removal associated with this project has the potential to impact northern long-eared bats through direct fatalities if the bats are present or through habitat removal. Disturbance near the Highway 77 Bridge during the pupping season may also negatively impact this species. See Item 13d of this document for information on measures that will be taken to avoid impacts to this species. There will be additional consultation with the USFWS regarding this federally threatened species.

State threatened and endangered species

Kitten-tails *(Besseya bullii)*

The Kitten-tail is primarily a species of oak savanna communities, though it also occurs in dry prairies and oak woodlands (including dry-mesic oak (maple) woodlands, dry-mesic oak-hickory woodlands,

and dry-mesic pine-oak woodlands). The Minnesota populations are largely restricted to the bluffs and terraces of the St. Croix, Mississippi, and Minnesota River valleys, with many populations occurring in the greater Twin Cities area. The project scope is not expected to impact any suitable kitten-tail habitat and, as a result, the project is not expected to negatively impact this species. To confirm, a survey for kitten-tails/kitten-tail habitat will be completed by the DNR Regional Plant Ecologist or other qualified surveyor prior to final design and each construction phase of the trail. See Item 13d of this document for information on measures that will be taken to avoid impacts to this species.

Blanding's turtles *(Emydoidea blandingii)*
Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing. There is the potential for limited direct mortality of Blanding's turtles during project construction, since some of the project is taking place within upland habitat adjacent to wetlands where Blanding's turtles are known to occur. There may also be some Blanding's turtle habitat impacts due to wetland fill areas and development within adjacent upland areas. See Item 13d of this document for information on measures that will be taken to avoid impacts to this species.

Blanchard's cricket frog *(Acris blanchardi)*
Blanchard's cricket frogs inhabit permanent water bodies including ponds and backwaters of streams and rivers. During dry spells, they travel overland to find new habitat. During winter, they may burrow up to a foot deep in soils near water bodies; they are thought to hibernate in crayfish burrows and cracks in pond banks. This species is extremely rare and only known from a few isolated locations in the state. Their limited geographic distribution, along with their short lifespan (about four months), makes populations of this species very vulnerable to disturbance. The MN DNR nongame program has been monitoring the Bloomington area cricket frog population for decades, and in the past five years the species has begun expanding its range in the area. There is the potential for limited direct mortality of Blanchard's cricket frogs during project construction, since some of the project is taking place near wetlands and suitable aquatic habitat, as well as overwintering habitat. There may potentially be some changes to wetland hydrology and minor increases in water runoff from storm events. See Item 13d of this document for information on measures that will be taken to avoid impacts to this species.

Rare mussel species in the Minnesota River and Nine Mile Creek
No work is anticipated in the Minnesota River. The Nine Mile Creek crossing will be accomplished using a bridge. While bridge designs have not yet been completed, it is likely that there will be some disturbance within the creek when constructing the bridge abutments. Additionally, it is likely that there will be a need to place riprap adjacent to the bridge abutments. As a result, there may be some impacts to mussel species due to work in the channel. Additionally, there may be some incidental sedimentation and erosion as a result of the project construction and the additional impervious surface. See Item 13d of this document for information on measures that will be taken to avoid impacts to these species.

Rare fish and amphibian species in the Minnesota River and surrounding water bodies
No work is anticipated in the Minnesota River. There may be a small amount of increased sedimentation and erosion as a result of the additional impervious surface.

- Mudpuppy (*Necturus maculsus*)
  There are records of the mudpuppy along the Minnesota River within the project footprint. This salamander species is entirely aquatic. In Minnesota, it prefers large and medium rivers, though north of the Minnesota River, it inhabits large lakes. Typically, rocky structures and substrates are utilized by the mudpuppy in all aquatic environments, but some are found in muddy substrates, with occasional rocks or logs for refuge or nesting. Threats to mudpuppy populations include habitat loss and alteration, siltation, degradation of water quality, pollution, and exploitation by humans.

Other rare features
Snow trillium *(Trillium nivale)*
The majority of the project area does not contain suitable forest habitat, although snow trillium can be found in floodplain forests in addition to mesic hardwood forests. The eastern end of the project area (near the I-494 Bridge) could impact some suitable Red-Oak-White Oak (Sugar Maple) Forest. Prior to construction, the project corridor will be surveyed to evaluate what type of impacts could occur.

Regal fritillary *(Speyeria idalia)*
The regal fritillary's range in Minnesota coincides with the historical extent of prairie and savanna. It breeds only in native prairie habitats, which are now scattered in remnants that amount to less than one percent of the historical extent. This species is not likely to be impacted due to the absence of native prairie within the project area.

Gopher snake *(Pituophis catenifer)*
The gopher snake prefers areas of well-drained, loose sandy and gravel soils. Dry sand prairies and bluff prairies are prime habitat. Hibernation sites include rodent burrows and rock fissures in bluffs and outcrops. Females will nest in old mammal burrows or excavate a nest chamber in sandy soils. There is minor potential for direct mortality of gopher snakes during the construction and use of the trail.

Milk Snake *(Lampropeltis triangulum)*
Milk snakes are found near forests in open land. They often hide around barns and other buildings where mice and other prey are found. They are very elusive. In the spring and fall they are active in the day but in the summer, they do most of their traveling at night. There is minor potential for direct mortality of milk snakes during the construction and use of the trail.

State-listed songbirds
Songbirds are found in almost every habitat in the United States. They live mainly in terrestrial habitats but also in vegetated wetlands and on shores. A small amount of forest, wetland and grassland habitat loss and fragmentation will occur as a result of the trail project work. Direct impacts to actively nesting birds is not anticipated.

Trumpeter swans *(Cygnus buccinators)*
The trumpeter swan inhabits a variety of freshwater habitats, particularly ponds, marshes and lakes, and occasionally rivers. They begin nesting in late April. The project footprint is not likely to directly impact nesting habitat. Some disruption of nesting pairs could occur as result of the trail project work.

Forster's tern (*Sterna forsteri*) colonial nesting site

In 1990, a survey of Forster's terns was conducted in the Minnesota Valley Wildlife Refuge. Although Forster's terns were seen on a variety of lakes within the refuge, only seven nests in two wetland areas were found, and no young successfully fledged. Since that time, a Forster's tern colonial nesting site has been identified at the western end of the project in Rice Lake. Construction in this area should avoid the critical nesting season.

Little brown bat (*Myotis lucifugus*) and Tricolored bat (*Perimyotis subflavus*)

The little brown bat is Minnesota's most common bat species. The tricolored bat is Minnesota's smallest bat species; it is uncommon, and almost solitary. Both of these bat species hibernate in caves and mines, with the tricolored bat hibernating in deeper areas of the mines or caves. In summer, bats roost in caves, mines, hollow trees, and buildings, including under bridges. Known roosts are identified on the I-35W Bridge in the project area. Tree removal associated with this project has the potential to impact bats through direct fatalities if the bats are present or through habitat removal. Disturbance near the I-35W Bridge during the pupping season may also negatively impact this species. Seasonal avoidance of the roost may be required.

Invasive species impacts

There is a risk that project construction, operation and maintenance could lead to the introduction and spread of invasive species. This risk during the construction phase is primarily due to bringing equipment to the project area, bringing fill materials to the project area, movement of seeds and plant fragments within the site and through the disturbance of soil, which can provide an opportunity for invasive plants to take hold. Additional risks of invasive species spread include the spread of oak wilt due to tree injury and transport of infected emerald ash borer plant material.

The risk of introduction and spread of invasive species during the operations and maintenance phase is primarily tied to invasive plant seeds and plant material being transported to the site by trail users and maintenance equipment and the movement of seeds and plant fragments from one portion of the site to another by way of boots, bike tires and maintenance equipment.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Plant Community & Ecosystem Impacts

Trail development will be carried out in a manner that emphasizes the avoidance of habitat of threatened and special concern species and other high quality habitat. Where possible, the trail will be developed in areas that have been influenced by human activity. Post construction, the trail will improve access to the project area for resource management activities such as invasive species control.

Efforts to reduce the impacts to forested habitat include developing individual segments in locations that have previously been cleared for row crop agriculture as much as possible, thereby reducing impacts to more mature stands of floodplain forest. The trail is proposed to be constructed along existing disturbed corridors as much as possible in order to minimize habitat fragmentation. However, vegetation clearing and the constructed trail itself will cause some habitat fragmentation, particularly in areas where continuous blocks of habitat exist. Additionally, the proposer intends to limit the tree clearing footprint to the narrowest corridor needed for construction of the trail and creek crossings. The use of retaining walls near larger fill sections at either end of the project area (near the Bloomington Ferry trail head and near the I-494 Bridge) will be explored as a way to minimize the clearing footprint.

Efforts to reduce the impacts to wetlands include avoiding as many delineated wetlands as possible, thereby reducing impacts to these important areas. Additionally, the proposer intends to limit the fill sections to the narrowest corridor needed for construction of the trail. In instances where wetland hydrology will be bisected by the placement of fill, culverts will be placed to accommodate this flow and maintain hydrologic connectivity.

In addition, the following guidelines will be adhered to where possible in order to minimize disturbance:

- Bridge all stream crossings;
- Minimize vehicular disturbance by, to the extent possible, limiting vehicular activity to the disturbed trail corridor;
- Utilize wildlife-friendly erosion prevention and sediment control measures;
- Follow MN DNR guidelines to prevent the spread of invasive species;
- Revegetate disturbed soil with appropriate native species as soon as possible after construction;
- Revegetate trail shoulders with an appropriate erosion control seed mix, such as a low-mow fescue mix.

Species Impacts

Federally protected species:

Bald eagles (Haliaeetus leucocephalus)

Due to the presence of active and alternate nests near the proposed trail corridor, there will be specific consultation with the USFWS regarding this protected species. Measures to avoid disturbance at specific nest sites will be identified and implemented. Measures may include altering the timing of construction or maintaining landscape buffers.

Rusty-patched bumble bee *(Bombus affinis)*

Because a small portion of the project area is within a high potential zone for rusty-patched bumblebee, there will be specific consultation with the USFWS regarding this protected species. Depending on the outcomes of the consultation and/or surveys, additional avoidance or minimization measures will be implemented. Additionally, conservation measures may be incorporated into the project to make incidental take unlikely.

Northern long-eared bat *(Myotis septentrionalis)*

There will be additional consultation with the USFWS regarding this federally threatened species. There are no known hibernacula within 0.25 mile of the proposed trail project. However, there is a recently documented maternity colony on the Highway 77 Bridge. Due to the presence of this maternity colony, all tree clearing work will be conducted prior to May 15 and after August 15 to avoid potential impacts to this species during the pup rearing period. Additional consultation with the USFWS may identify additional strategies and practices.

State Threatened and Endangered Species

Kitten-tails *(Besseya bullii)*

The proposed trail alignment is intended to avoid known kitten-tail habitat. A survey for kitten-tails / kitten-tail habitat will be completed by the DNR Regional Plant Ecologist or other qualified surveyor prior to final design and each construction phase of the trail. For a given trail segment, if suitable habitat is present and a botanical survey finds kitten-tails, an avoidance plan will be prepared in coordination with the MN DNR Regional Plant Ecologist. In the event that the trail alignment would impact individual kitten-tails, the construction footprint of the trail will be adjusted to avoid the individuals. If the alignment cannot be adjusted to avoid the individuals, the project proposer will

apply for a takings permit. Permit issuance is discretionary and based on the MN DNR's assessment of all relevant information.

Blanding's turtles *(Emydoidea blandingii)*
Suitable Blanding's turtle habitat is known to exist in the project area. Prior to development of each trail segment, a habitat assessment and survey will be carried out by a qualified surveyor. To reduce the potential for direct mortality of Blanding's turtles as a result of the project, an avoidance plan will be prepared in coordination with the MN DNR Regional nongame wildlife specialist.

Measures to avoid impacts to Blanding's Turtle include:

- Use of wildlife-friendly erosion control methods,
- Avoidance of wetland fill placement during the winter months when turtles are hibernating,
- Avoidance of dewatering during the winter months when turtles are hibernating,
- Implementation of stringent sediment and erosion control methods,
- Monitoring for turtles during construction and report any sightings to the MN DNR nongame wildlife staff,
- Providing the Blanding's turtle flyer to all contractors working in the area,
- Relocating turtles by hand out of harm's way if they are in imminent danger, otherwise leaving them undisturbed,
- Avoidance of hydrologic modifications that may result in the taking of Blanding's Turtles post construction.

Blanchard's cricket frog *(Acris blanchardi)*
Suitable Blanchard's cricket frog habitat is known to exist in the project area. Prior to development of each trail segment, a habitat assessment and survey will be carried out by a qualified surveyor. To reduce the potential for direct mortality of Blanchard's cricket frogs as a result of the project, an avoidance plan will be prepared in coordination with the MN DNR Regional nongame wildlife specialist.

Measures to avoid impacts to cricket frogs include:

- Use of wildlife-friendly erosion control methods,
- Avoidance of wetland fill placement during the winter months when frogs are hibernating,
- Avoidance of dewatering during the winter months when frogs are hibernating,
- Implementation of stringent sediment and wildlife-friendly erosion control methods,
- Monitoring for frogs during construction and report any sightings to the MN DNR nongame wildlife staff,
- Avoidance of hydrologic modification that may result in the taking of cricket frogs post construction.

Rare mussel species in the Minnesota River and Nine Mile Creek
The project intends to avoid any work in the Minnesota River. Nine Mile Creek will be crossed using a bridge. While bridge designs have not yet been completed, the design will minimize impacts to the stream channel and allow for uninterrupted flow under a wide range of conditions. There will be some disturbance within the creek bed when constructing the bridge abutments and placing riprap adjacent to the abutments. As a result, there may be some impacts to mussel species as a result of this work in the channel. The MN DNR (project proposer) will confer with the appropriate MN DNR staff to evaluate the need for a survey, select qualified surveyors, develop survey methods, etc. Depending on the needs assessment and any survey results, mussel relocation may be necessary. Prior to work in Nine Mile Creek, potential impacts to mussels will be resolved to the satisfaction of the MN DNR's Endangered Species Coordinator. In order to prevent sedimentation from adjacent construction work, extensive erosion control practices (wildlife-friendly) will be employed adjacent to Nine Mile Creek.

Rare fish and amphibian species in the Minnesota River and surrounding water bodies
The project intends to avoid any work in the Minnesota River. As a result, there are no expected impacts to rare fish and amphibian species as a result of project work. Various wildlife-friendly erosion control practices will be employed to minimize contributing sediment to these water bodies.

- Mudpuppy (*Necturus maculsus*)
  As work is not proposed in the Minnesota River, impacts are expected to be avoided. The incorporation of erosion control measures (wildlife-friendly), managing dewatering activities as described in EAW Item 11.b.iii, and restoration of disturbed areas will help minimize potential impacts.

Other rare features
Snow trillium *(Trillium nivale)*
This species is not expected to be impacted by the project area. If surveys indicate the presence of snow trillium and avoidance cannot be achieved, minimizing the trail construction footprint will be used to reduce impacts to this species.

Regal fritillary *(Speyeria idalia)*
This species is not likely to be impacted due to the absence of native prairie within the project area, therefore, no specific minimization or mitigation measures are necessary.

Gopher snake *(Pituophis catenifer)*
Wildlife-friendly erosion control materials will be used exclusively to prevent entrapment and mortality of this and other species.

Milk Snake *(Lampropeltis triangulum)*
Wildlife-friendly erosion control materials will be used exclusively to prevent entrapment and mortality of this and other species.

State-listed songbirds
To avoid impacts to breeding birds, tree and shrub removal will take place outside of the primary nesting season. Limiting tree clearing to the minimum extent possible and restricting clearing from May 15 to August 15 will limit impacts to songbirds and other breeding birds.

Trumpeter swans *(Cygnus buccinators)*
The project footprint is not likely to directly impact nesting habitat. Some disruption of nesting pairs could occur as result of the trail project work, but efforts will be taken to minimize these impacts during the breeding season.

Forster's tern (*Sterna forsteri*) colonial nesting site
A Forster's tern colonial nesting site has been identified at the western end of the project in Rice Lake. Construction in this area should avoid the critical nesting season.

Little brown bat (*Myotis lucifugus*) and Tricolored bat (*Perimyotis subflavus*)
All tree clearing work will be conducted prior to May 15 and after August 15 to minimize potential impacts to this species. Seasonal avoidance of the known I-35W Bridge roost may also be required.

Invasive species prevention measures:

To reduce the risk of invasive species spread during each construction phase, contract language and oversight will ensure that all equipment will be cleaned prior to arriving at the project area. Additionally, all fill materials brought to the site will be clear of invasive species. Soil disturbance will be minimized and disturbed areas will be revegetated as quickly as possible to avoid the establishment of invasive species. To avoid the spread of oak wilt, clearing and potential injury of oak trees will take place during the low risk time of year, from mid-July through March. Transport of all ash tree plant material will follow county ash tree quarantine area restrictions.

Best management practices and trail user education will be used to prevent invasive species spread during the operations and maintenance phase by trail users and maintenance equipment. Some trail access points will have boot brush kiosks with "Play, Clean, Go" informational signs as a way to educate trail users and provide them with the equipment necessary to remove invasive species from their footwear. Best management practices for trail maintenance include cleaning equipment prior to arriving and leaving the site, and also cleaning the equipment periodically along the trail to prevent spread within the trail corridor.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The State Historic Preservation Office (SHPO) conducted a database search of the Minnesota Archaeological Inventory and Historic and Architectural Inventory of the project area and immediate vicinity (outside of the defined project area). The letter and database results from SHPO is attached for reference. The project has been reviewed with respect to state requirements and will be further reviewed under the Section 106 process.

In 2016 and 2018, the MN DNR Parks and Trails Cultural Resources Program completed a cultural resource field investigation of the project area. Project investigators recovered several fragments of prehistoric ceramics and a number of historic period artifacts including a late 19th century tobacco pipe, from a single location. Because all of the recovered artifacts have been re-deposited from their original contexts by flood waters, the site is not eligible for listing on the National Register of Historic Places. A summary of the cultural resources work performed is provided below. In addition, Cultural Resources Program staff reviewed previous studies/reports for the Minnesota River Valley provided by City of Bloomington as relevant to the project area.

Cultural Resource Management / Field Investigation Summary

The archaeological area of potential effect (APE) for the proposed development is considered to be equivalent to project construction limits. Horizontal construction limits are approximately 30 to 50 feet wide. The architectural and historical APE consisted of a roughly 200-foot buffer from the proposed centerline.

During the 2016 and 2018 archaeological field seasons, a total of 647 shovel tests were excavated along the proposed Minnesota Valley State Trail, with 577 1-inch soil core probes placed between the shovel tests. In addition, a 1-inch soil probe was placed at the bottom of every third or fourth shovel test to determine the extent of the soil deposits. No buried A-Horizon was identified through shovel

testing or soil probing anywhere along the proposed trail corridor. Additionally, geomorphic observation suggests that, based on valley wide aggrading averages, the maximum depth reached during archaeological investigations represented less than 100 years of deposition. Based on the results of the archaeological and geomorphic investigations, the likelihood of trail development adversely affecting significant intact cultural deposits or features is extremely low. If any archaeological resources are encountered during the survey or construction, appropriate measures will be implemented to evaluate and, if necessary, protect the resources.

Three properties were evaluated for National Register of Historic Places (NRHP) eligibility for architectural history. Two previously inventoried properties- the William Chambers House (HE-BLC-053) and Savage Swing Bridge (HE-BLC-057)- had no previous NRHP eligibility recommendation and were, therefore, evaluated along with one newly inventoried property - the Minneapolis, St. Paul, Rochester & Dubuque Traction Co. (MStPR&D) "Dan Patch Electric Line" / Minneapolis, Northfield & Southern Railway (MN&S) / Soo Line / Canadian Pacific Railroad (CP) / Twin Cities & Western Railway (TC&W) (HE-BLC-184). All three properties are recommended eligible for listing in the NRHP. Additional consultation will occur with SHPO to evaluate potential affects to these properties.

15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

Trail users may experience intermittent scenic views of the Minnesota River along the trail corridor. During leaf-on conditions, most of the trail corridor is expected to remain under the existing tree canopy therefore impacts to the view of the project area from the river and from the bluff will be limited during construction and operation. The proposed, paved trail will be further inland than some of the existing user-developed routes, but may be in view from the river in some locations. Any views from the river when the trail is operational would be expected to remain similar to those currently experienced due to the existing recreational use of the corridor and floodplain area. See **Figures 9.1-9.4**, proposed trail concept plans shown with existing trails. The trail may be more visible during leaf-off conditions.

No lighting is proposed for the trail corridor or parking lots. No project related vapor plumes or glare from intense lights will occur with the proposed project.

16. Air:

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

No stationary source air emissions would be created by the proposed project.

b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

Construction-related vehicle emissions will be minor and temporary in nature, arising from the use of equipment for trail and bridge construction and installation of culverts. Diesel fuel exhaust emissions contain pollutants including carbon monoxide, nitrogen oxides, reactive organic gases, sulfur dioxide, and suspended particulate matter, all of which carry some associated health risks.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The proposed project will create some temporary odors and dust during construction activities. Minor odors will be generated during trail construction. Some fugitive dust will be generated during construction when top soils are dry. Measures, such as watering, will be implemented during grade preparations to limit the generation of fugitive dust.

Nearest sensitive receptors are within residential neighborhoods located above the river bluffs in Bloomington. The nearest residence is approximately 250 feet from the trailhead location and parking lot near the Bloomington Ferry Bridge, with other homes along the street further away from the trailhead and trail location. These residences may experience temporary dust and odors from construction activity. Most other residential areas or neighborhoods are 1,300 feet (0.25 mile) or greater distance from the trail corridor and are not expected to notice dust or odor from trail construction activities.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Noise is currently present along the corridor as a function of the existing use and surrounding suburban community. However, operation of the new trail is not expected to change or increase the existing noise levels. Dense vegetation within the trail corridor will help limit the amount of sound traveling from the trail corridor. Nearest receptors include the residences along the access road to the trailhead near the Bloomington Ferry Bridge (as noted in Item 16c) and recreational users in the area.

The proposed project will create some temporary noise during construction activities. Recreational users in the area may experience these temporary effects. Noise from construction activities will occur during grade/treadway preparations, fill placement, bridge construction, culvert installation, subgrade preparation along the new corridor, paving operations, and associated trucking of materials and equipment. Construction activities will occur during normal daylight hours. Operation of diesel tractors and medium sized trucks would be the main source of construction noise. Noise would be controlled by ensuring standard noise arrestors (mufflers) are properly installed on construction vehicles. Operation of construction equipment will be limited to several weeks at any given location and will occur only during daylight hours. Operation of construction equipment and machinery will adhere to the City of Bloomington's noise ordinance (City Code Sections 10.29 and 10.30).

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

There are four existing parking lots expected to be utilized by trail users:

- Bloomington Ferry Bridge: 30 parking spaces
- Lyndale Avenue Public Water Access: Approximately 40 parking spaces
- Old Cedar Avenue Bridge: Approximately 50 parking spaces
- Minnesota Valley National Wildlife Refuge Visitor Center: Approximately 80 parking spaces

No additional parking facilities are planned to be developed as part of this project. MN DNR (project proposer) does not expect an increase in traffic to result on the project large enough to require additional parking lots. Various bus routes serve major thoroughfares in the vicinity of the project area. The Blue Line light rail stops approximately ½ mile from the Refuge Visitor Center.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 *(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)* or a similar local guidance,

Traffic within and near the project area is not expected to change substantially as a result of the proposed project. Increased congestion is not anticipated due to the project, nor are traffic improvements expected to be needed.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

Project related transportation effects are not anticipated. Any increase in traffic that potentially may occur is expected to be minor.

19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

The Minnesota Valley State Trail is a primarily non-motorized (with the exception of certain segments that are open to snowmobile use in winter), multiple-use recreational trail authorized to run along the Minnesota River from Fort Snelling State Park in Minneapolis to the City of Le Sueur. The Minnesota Valley State Trail is located partially within the Minnesota Valley State Recreation Area. The proposed project would construct the Bloomington Segment of the trail, approximately 13.5 miles, extending from the Bloomington Ferry Bridge to the Minnesota Valley National Wildlife Refuge Visitor Center. The Bloomington Segment would be constructed in phases with the portion between I-35W and Highway 77/Cedar Avenue on City of Bloomington property (a distance of approximately 1.75 miles) constructed first, followed soon after by a contiguous segment of the trail

on USFWS property (a distance of approximately 1.5 miles). The primary construction window for each trail segment is expected to be August through October and may take place over multiple years, although an August to March timeframe could be used for tree clearing in the project area. In practice, duration and timing of construction phases will depend on a number of factors including (but not limited to): 1) accessibility to the project area due to flooding; 2) avoidance of threatened and endangered species during periods when they may be vulnerable; and 3) logistical considerations such as availability of construction equipment and materials. The following is a summary of the periods in which certain construction activities are anticipated to take place:

- Tree clearing will take place within the time period of August 15 to March 31 in order to prevent impacts to the long eared bat and bird nesting.
- Installation of perimeter and erosion control measures will take place in early August.
- Grading of the trail corridor and subgrade excavation will take place between August 1 and October 31.
- The remaining construction activities, including installation of drainage structures, installation of aggregate base, shoulder and side slope grading and paving will take place from August to October, if possible. However, some of this construction activity may take place outside of this date range after the trail corridor has been cleared and graded, consistent with threatened and endangered species avoidance plans.

The potential environmental effects related to this project could combine with environmental effects from other past, present, or reasonably foreseeable future projects for which a basis of expectation has been laid. The environmental effects of actions occurring within the project area are considered with other actions identified below.

The environmental effects on ecosystems and plant communities, invasive species, rare species/features, the shoreland, effects of terrestrial erosion and sedimentation, and physical impacts to wetlands due to the proposed project might result in cumulative potential effects. Other environmental effects of the proposed project, such as traffic, air emissions, and noise have limited potential to accumulate to a level of significance.

Ecosystems and Plant Communities

During construction of the project, impacts to floodplain forest and terrace forests include clearing of an anticipated 20- to 50-foot trail corridor in order to allow for construction access, placement of fill, creating the trail surface, shoulders and the associated side slopes. Some additional clearing will be necessary for bridge construction across Nine Mile Creek and near larger fill sections at either end of the project area (near the Bloomington Ferry trail access and near the I-494 Bridge. These impacts are expected to be limited to the timeframe of the construction phase. Ongoing impacts to ecosystems and plant communities within the geographic area after the construction phase is completed are expected to be reduced, as the final trail corridor is proposed to be a 14-foot wide corridor. The remaining area of the corridor is planned to be reseeded with an approved vegetation mix.

Invasive species impacts

There is a risk that project construction, operation and maintenance could lead to the introduction and spread of invasive species. The geographic area at greatest risk for invasive species introduction and spread include the construction corridor (20- to 50-foot) during the construction phase and primarily the shoulders of the developed corridor during operation and maintenance of the trail. The risk during the construction phase is primarily due to bringing

equipment to the project area, bringing fill materials to the project area, movement of seeds and plant fragments within the site and through the disturbance of soil, which can provide an opportunity for invasive plants to take hold.

Additional risks of invasive species spread include the spread of oak wilt due to tree injury and transport of infected emerald ash borer plant material. The risk of introduction and spread of invasive species during the operations and maintenance phase is primarily tied to invasive plant seeds and plant material being transported to the site by trail users and maintenance equipment and the movement of seeds and plant fragments from one portion of the site to another by way of boots, bike tires and maintenance equipment.

Rare Species/Features

A number of rare features and species were identified as being located within the project area. The geographic area that encompasses this potential effect includes the immediate project area and surrounding contiguous areas that contain similar habitat for these rare species. The relevant timeframes for impacts to these features are primarily during the construction phase of the project, although there is some possibility of ongoing impacts to rare species due to the development of additional impervious surface and related impacts such as increases in stormwater runoff.

There is the potential for limited direct mortality of Blanding's turtles during project construction, since some of the project is taking place within upland habitat adjacent to wetlands where Blanding's turtles are known to occur. There may also be some Blanding's turtle habitat impacts due to wetland fill areas and development within adjacent upland areas. There is the potential for limited direct mortality of Blanchard's cricket frogs during project construction, since some of the project is taking place near wetlands and suitable aquatic habitat. There may potentially be some changes to wetland hydrology and minor increases in water runoff from storm events.

There may be some impacts to mussel species as a result of the proposed work in the channel. Additionally, there may be some incidental sedimentation and erosion as a result of the project construction and the additional impervious surface that could affect rare aquatic species, including mussels, fish and amphibians.

Terrestrial Erosion and Sedimentation

Impacts of terrestrial erosion and sedimentation are expected to be limited to the geographic area of the proposed final trail corridor. The new trail facility will increase stormwater runoff compared to current conditions. Though the addition of impervious surface will reduce the floodplain's capacity to absorb precipitation, the overall effect will be minimal. The impervious surface area will be dispersed over a long distance. The proposed trail project will result in a total of approximately 24.4 acres of impervious surface. This includes a portion of the trail that will be developed along existing impervious surface, resulting in a net increase of 19 acres of impervious surface.

Wetlands

Impacts to wetlands due to the construction phase and ongoing use of the trail within the project area include an estimated 2.3 acres of direct wetland impact, based on WCA wetland delineation data. These impacts would be due to the placement of fill to allow for the trail to be constructed on stable soils. Additionally, there may be some impacts to wetland hydrology due

to them being bisected by the placement of fill and the elevated paved trail surface. The proposer intends to limit the fill sections to the narrowest corridor needed for construction of the trail. In instances where wetland hydrology will be bisected by the placement of fill, culverts will be placed to accommodate this flow and maintain hydrologic connectivity.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The City of Bloomington, USFWS, and the Lower Minnesota River Watershed District were contacted to identify reasonably foreseeable projects for which a basis of expectation has been laid. Staff who responded identified the following projects that DNR determined met the meaning of "reasonably foreseeable future projects for which a basis of expectation has been laid":

Old Cedar Avenue Area Project

This project by the City of Bloomington began in Fall 2017 and construction is expected to be complete by November 2018, with final site restoration and remaining activities to be completed in Spring of 2019. This project includes the following elements:

- Road reconstruction of approximately 0.5 miles of Old Cedar Avenue between Old Shakopee Road (CSAH 1) and the Minnesota Valley National Wildlife Refuge parking lot
- Minnesota Valley National Wildlife Refuge parking lot reconstruction,
- Construction of a new off-road trail from Old Shakopee Road (CSAH 1) to the Old Cedar Avenue Bridge,
- Conversion of the deteriorated road to a trail from the bridge to the existing trail along Minnesota River, including a connection to the Old Cedar Avenue pedestrian bridge, and,
- Trailhead development by the City of Bloomington and USFWS to include a boardwalk, a restroom facility, benches, interpretation and wayfinding signage.

MnDOT – I-35W Bridge reconstruction project (July 2018 – Nov 2021)

MnDOT, in partnership with Dakota County, Hennepin County, City of Bloomington and the City of Burnsville is developing a project to replace the bridge and pavement on I-35W between Cliff Road and 106th St, raise I-35W out of the floodplain and improve pedestrian access across the river. A trail will extend from the I-35W Bridge to the proposed Minnesota Valley State Trail, Bloomington Segment.

Construction: Aug. 20, 2018 to Nov. 2021

Summary of work

- Reconstruct I-35W Bridge spanning the Minnesota River
- Reconstruct I-35W Bridge spanning 106th Street
- Replace pavement from Cliff Road to 106th Street
- Construct NB auxiliary/truck lane between Cliff Road and 106th Street
- Construct Trail between Black Dog Road and Lyndale Avenue
- Improve signing, lighting and drainage

Xcel Energy – Maintenance ROW clearing

Xcel Energy is planning ROW clearing within the proposed project area, on USFWS lands, to provide equipment access for a line relocation. Some of this clearing may intersect with the

proposed trail right of way. USFWS will be working with Xcel Energy on where clearing will occur through their permitting process.

CenterPoint Energy Beltline Project

Starting in 2013, CenterPoint Energy began a multi-year construction project to replace and rehabilitate approximately 80 miles of 20" and 24" steel pipe that supplies natural gas to thousands of homes and businesses in the metro area, as part of CenterPoint Energy's standard maintenance and upkeep of the system. As part of this project a transmission gas line replacement from approximately 107th Street Circle down the bluff and across the river is scheduled to occur in 2023. Another stage of this project will include the abandoning of the Portland Avenue line that extends down the bluff and across the river, but this will not include any impacts to the area. This will occur after the 107th Street Circle work is complete (2023-2024).

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Environmental effects during the construction phase of this project would interact with the Old Cedar Avenue project restoration, components of the CenterPoint Energy Beltline Project, Xcel Energy maintenance of transmission line rights-of-way, and the I-35W Bridge reconstruction project. These overlapping effects would include those to ecosystems and plant communities, rare species and features, terrestrial erosion and sedimentation and potential introduction of invasive species. Cumulative potential impacts are expected to be limited to the construction phase of each trail segment, the timing of which will be determined by a number of project planning factors.

Ecosystems and Plant Communities

Cumulative effects could occur during construction of this and other reasonably foreseeable projects to floodplain forest and terrace forests due to clearing of vegetation associated with land preparation activities (tree removal, grading, corridor construction, etc.) for construction. Overall impacts to ecosystems and plant communities within the project geographic area during trail use are expected to be limited to a narrower trail corridor, which will have fewer overlapping areas with other reasonably foreseeable projects. Potential for cumulative effects is further reduced due to the expected use of an approved vegetation mix within the greater trail construction corridor. Revegetation is expected to occur as part of reasonably foreseeable projects also, which is expected to further minimize any cumulative effects.

Invasive species impacts

The risk of introduction and spread of invasive species exists primarily during the construction period of the proposed project, occurring primarily between August and October, in combination with the identified reasonably foreseeable projects. The risk will occur primarily when equipment or fill materials are brought to the project area, or via the movement of seeds and plant fragments within the site or to neighboring project sites through the disturbance of soil, which can provide an opportunity for invasive plants to take hold. Revegetation, restoration activities, and ongoing maintenance or vegetation management activities that are components of the reasonably foreseeable projects would potentially reduce the overall potential risk of invasive species introduction and spreading, reducing the potential for cumulative potential effects.

Rare Species/Features

Cumulative potential effects are possible to rare resources that have been identified within the overlapping project areas. Construction timeframes for this project have been limited to reduce potential project-related impacts to rare species, in addition to the development of avoidance plans for individual rare species identified in the area. Reasonably foreseeable projects in the area are subject to the same regulatory protections as this project and are expected to utilize similar avoidance strategies to minimize any potential individual or cumulative effect. Although there is some possibility of ongoing impacts to rare species due to the development of additional impervious surface and related impacts such as increases in stormwater runoff, it is expected to be similar to existing conditions.

Terrestrial Erosion and Sedimentation

Multiple overlapping construction footprints occurring simultaneously or consecutively could result in increased stormwater runoff, possibly resulting in increased erosion and sedimentation. The total increase in impervious surface area from this trail project will be dispersed over a long distance, and cumulative potential effects are likely to be limited to the construction phase of this and reasonably foreseeable projects. Best management practices can be used to further reduce individual projects' contributions to overall potential for cumulative effects.

Wetlands

Wetland impacts from the proposed project associated with the placement of fill are estimated to be 2.3 acres. Additionally, there may be some impacts to wetland hydrology due to them being bisected by the placement of fill and the elevated paved trail surface. While these impacts will be regulated under WCA, none of the reasonably foreseeable projects identified have overlapping construction footprints that would contribute to cumulative potential effects to wetlands.

20. Other potential environmental effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

Additional environmental effects not addressed in EAW Items 1 to 19 are not identified.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature Lisa Fay Date 10/08/2018

Title EAW Project Manager