



Minnesota Pollution Control Agency

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CITY OF AFTON

June 24, 2015

TO: INTERESTED PARTIES

RE: City of Afton Wastewater Collection and Treatment Facility

On June 23, 2015, the Minnesota Pollution Control Agency (MPCA) Citizens' Board voted to approve the Findings of Fact, Conclusions of Law, and Order for a Negative Declaration on the need for an Environmental Impact Statement for the proposed Afton Wastewater Collection and Treatment Project, located in Washington County, Minnesota. The Findings of Fact, Conclusions of Law, and Order document concludes that the project does not have the potential for significant environmental effects. This decision for a Negative Declaration completes the state environmental review process under the Minnesota Environmental Quality Board Rules, Minn. R. ch. 4410.

We appreciate the time and effort of those who submitted comments on the Environmental Assessment Worksheet for the Afton Wastewater Collection and Treatment Project.

Sincerely,

A handwritten signature in black ink that reads "John L. Stine".

John Linc Stine
Commissioner

JLS:bt

STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY

IN THE MATTER OF THE DECISION
ON THE NEED FOR AN ENVIRONMENTAL
IMPACT STATEMENT FOR THE PROPOSED
CITY OF AFTON WASTEWATER COLLECTION
AND TREATMENT PROJECT
AFTON, MINNESOTA

FINDINGS OF FACT
CONCLUSIONS OF LAW
AND ORDER

INTRODUCTION

This matter came before the Minnesota Pollution Control Agency ("MPCA") Citizens' Board ("Board") at a regular meeting held in St. Paul, Minnesota on June 23, 2015. Based on the information gathered during the Environmental Assessment Worksheet ("EAW") process, the comments received on the EAW, input from MPCA staff, and other information in the record, the MPCA hereby makes the following Findings of Fact, Conclusions of Law, and Order.

DEFINITIONS

These definitions apply to the following Findings of Fact and Conclusions of Law:

CBOD - Carbonaceous Biochemical Oxygen Demand

City – The city of Afton, Minnesota, the Project proposer.

Collection System ("CS") – All collection (gravity) and force main (pressure) piping and pump/lift stations of the proposed Facility that collect and convey sewage to the LSTS.

Drainfields – soil dispersal system where sewage effluent is dispersed into the soil for treatment by absorption and filtration.

ISTS - An individual subsurface sewage treatment system.

Large Subsurface/Sewage Treatment System ("LSTS") – the treatment components of the proposed Facility including communal septic tanks, recirculation tank, recirculating gravel filter, anoxic denitrification component, and eight drainfields located on the 25 acre site.

Permit - the draft Wastewater Treatment Facility State Disposal System ("SDS") Permit No. MN0070599 that the MPCA has prepared for this Project.

Project – includes the planning, design, and construction of the proposed city of Afton Wastewater Treatment Facility.

VBWD - Valley Branch Watershed District

Wastewater Treatment Facility or Facility – includes both the LSTS and CS.

FINDINGS OF FACT

Project Description and Purpose

1. The city of Afton ("City") proposes to construct a collection system, forcemain, and lift station ("Collection System or CS") and large subsurface wastewater treatment system ("LSTS") with an average wet weather design flow of 50,550 gallons per day ("gpd"). The LSTS is located in the NW ¼ of Section 14, Township 28 North, Range 20 West, Afton, Washington County, Minnesota. The Collection System and LSTS collectively are hereinafter referred to as Facility.
2. The Project is designed to collect and treat wastewater from the residential and commercial areas of the City's Village Historic District ("District") and some additional rural residents located south and outside the District (a total of 77 residential dwellings and 25 commercial establishments).
3. The City decided to construct the Project for several reasons, including:
 - a. To address long term wastewater needs by eliminating several failing Individual Sewage Treatment Systems ("ISTS"),
 - b. The City's flood levee does not meet current Federal Emergency Management Agency ("FEMA") requirements and is to undergo repair; several ISTS are currently located in the existing flood levee and must be relocated
 - c. To eliminate other ISTS currently located in a flood zone, and
 - d. To have one wastewater treatment system for the District.
4. This is a new project with no previous environmental review.

Collection System (CS)

5. The CS component of this Project consists of: a force main, gravity pipes, lift stations, and constructed individual residential and commercial sewer service lines, primarily within the District and a few rural residents located outside the District. The individual sewer service lines connect to sewer branch lines. The sewer branch lines connect to an 8-inch diameter sewer trunk line running parallel and adjacent to St. Croix Trail. The sewer trunk line connects to a main lift station located at the intersection of St. Croix Trail and Upper 34th Street. The lift station pumps wastewater from the trunk line to a 4-inch force main. The force main carries the collected wastewater to the constructed LSTS for treatment.

Large Subsurface Wastewater Treatment System (LSTS)

6. The proposed LSTS consists of primary, secondary and tertiary treatment of the effluent prior to final treated effluent dispersal to a drainfield. The LSTS consists of three 38,300 gallon septic tanks for primary treatment. The proposed LSTS includes a 38,000 gallon septic aeration recirculation tank, a 10-cell recirculating gravel filter system, with a total treatment area of 15,120 cubic feet, and a 38-gallon tank for secondary treatment. The proposed LSTS includes tertiary treatment, including two 9,000 gallon attached growth specialty clarifiers (ABC®-N), a supplemental carbon additive of

acetic acid, and a 9,000 gallon MicroFAST® aerobic treatment unit to provide final polishing of effluent prior to dispersal at the drainfield. The effluent is dosed, by means of a 12,000 gallon dosing tank, to the 8-zone pressurized drainfield that has a total infiltrative area of 31,680 cubic feet.

7. The MPCA requires the City to obtain a permit to construct and operate the LSTS. The MPCA has drafted and public noticed State Disposal System ("SDS") Permit MN0070599 (Permit) for the Facility which includes tertiary treatment limits of 10 milligrams per Liter (mg/L) Total nitrogen limit, and the 30 mg/L 5-day Carbonaceous Biochemical Oxygen Demand ("CBOD₅")
8. The Facility is designed in accordance with applicable state requirements and MPCA's *Guidance for Large Subsurface Wastewater Treatment Systems*. There are no designed bypass/overflow points in the Facility.

ENVIRONMENTAL REVIEW OF THE PROJECT

9. The City voluntarily prepared a Discretionary EAW pursuant to Minn. R. 4410.1000, subp. 3.D. This rule provides that a Project proposer may initiate environmental review to determine if a project has the potential for significant environmental effects.
10. An EAW is a brief document designed to set out the basic facts necessary to determine whether an Environmental Impact Statement ("EIS") is required for a proposed project or to initiate the scoping process for an EIS. (Minn. R. 4410.0200, subp. 24). The MPCA is the Responsible Governmental Unit for preparing the environmental review for this Project.
11. The MPCA provided public notice of the Project as follows:
 - a. Notice of the availability of the EAW for public comment was published in the *EQB Monitor* on March 2, 2015, as required by Minn. R. 4410.1500.
 - b. The EAW has been available for review on the MPCA website since March 2, 2015, at <http://www.pca.state.mn.us/news/eaw/index.html>
 - c. The MPCA provided a news release to media, Twin Cities metro counties, and other interested parties on March 2, 2015.
 - d. The EAW was mailed out to the Environmental Quality Board and MPCA mailing lists and interested parties on Friday, February 27, 2015.
12. During the 30-day public comment period ending on April 1, 2015, the MPCA received comment letters and emails from the Minnesota Department of Natural Resources, the Minnesota Department of Transportation, the Minnesota Historical Society, the Metropolitan Council, the Bureau of Indian Affairs, the Minnesota Indian Affairs Council, the Belwin Conservancy, Friends of Washington County, the Valley Branch Watershed District ("VBWD"), the city of Afton, the Afton Area Business Association, several comments from a member of the Citizens for Valley Creek, Inc., a law firm on behalf of the cities of Lake St. Croix Beach and St. Mary's Point, an environmental consulting firm on behalf of Lake St. Croix Beach, a historical research firm, and 12 citizens. Two comment letters were received after the close of the public comment period. Eleven commenters requested an EIS. A list of the comment letters received are included as Appendix A to these Findings.

13. Comment letters included questions or concerns about:

- Potential impacts to groundwater
 - The LSTS may affect groundwater flow direction
 - The LSTS may affect groundwater elevation
 - LSTS may be affected by Karst features
- Potential impacts to domestic water supply wells
- Potential impacts to surface water
 - Valley Creek
 - An unnamed tributary of Valley Creek and adjacent wetland
 - Kelle's Creek
- Potential impacts from stormwater runoff
- Potential impacts during flood events
- Potential impacts on archaeological sites
- Potential impacts to wildlife, plant communities, and sensitive ecological resources
- Potential impacts to shoreland areas and habitat
- Concerns that the Project is not capable of withstanding flood events
- Potential Impacts from air emissions, noise, dust, odors, and traffic

14. The MPCA prepared written responses to the comments received during the public comment period and the two comments received after the comment period closed. The responses are included as Appendix B to these findings and are incorporated herein.

Standard for Decision on the Need for an EIS

15. The MPCA shall base its decision on the need for an EIS on the information gathered during the EAW process and the comments received on the EAW. (Minn. R. 4410.1700, subp. 3). The agency must order an EIS for projects that have the potential for significant environmental effects (Minn. R. 4410.1700, subp. 1). In deciding whether a project has the potential for significant environmental effects, the MPCA must compare the impacts that may be reasonably expected to occur from the Project with the criteria set forth in Minn. R. 4410.1700, subp. 7. These criteria are:

- A. Type, extent and reversibility of environmental effects.
- B. Cumulative potential effects. The RGU shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the Project compliance with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the Project.
- C. The extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. The RGU may rely only on mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of Project.
- D. The extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies of the Project proposer, including other EISs.

Type, Extent, and Reversibility of Environmental Effects

16. The MPCA finds that the types of impacts that may reasonably be expected to occur from the Project include:
- a. Groundwater impacts related to treatment and discharge of treated wastewater
 - b. Surface water impacts related to construction
 - c. Written comments received during the comment period also identified issues
(See Finding 13 above)
17. With respect to the extent and reversibility of impacts that are reasonably expected to occur from the Project, the MPCA makes the following findings.

Impacts to Groundwater

Water Supply Wells

18. The LSTS complies with the Minnesota Department of Health ("MDH") rules intended to protect water supply wells from potential sources of contamination.
19. Minnesota Groundwater Protection Act of 1989 and rules adopted by the MDH in Minn. R. ch. 4725 regulate the placement of potential sources of contamination near existing water-supply wells. The standard well isolation distance (setback distance) for deep wells is 300 feet from LSTS drainfields with a design flow greater than 10,000 gpd. If the water-supply well has less than 50 feet of watertight casing (shallow well), it is considered a sensitive well and requires a more stringent setback distance of 600 feet.
20. Information provided in the EAW, in combination with Department of Health well records, show that all nearby wells meet or exceed MDH well set back requirements. The MPCA finds that the proposed LSTS design meets the water-supply well setback distances for both standard wells and sensitive wells from a contamination source (the drainfield) established by the MDH in Minn. R. 4725.
21. Wastewater will undergo significant pretreatment in the LSTS before it is released to the soil drainfields. The Facility operator will sample and analyze pretreated wastewater to assure compliance with specific discharge limits as identified in the Permit.
22. The proposed LSTS will meet MPCA's permitting requirement to be protective of drinking water supplies by reducing nitrogen to 10 mg/L total nitrogen before treated water is discharged to the soil drainfields. The Permit also requires the discharge to meet a CBOD limit of 30 mg/L. The CBOD limit is site specific and more restrictive than MPCA's current LSTS guidelines require. The MPCA included the CBOD limit in the Permit for this Facility to provide added assurance of the effectiveness and long term treatment capability of the soil drainfields.
23. As with typical soil based wastewater treatment facilities, the drainfields are designed to provide further treatment of pathogens. The *Engineering Design Report* (Wenck Associates, Inc., March 26, 2014) calculated that 37 inches of unsaturated soil is needed for effective pathogen treatment. The LSTS site has a minimum of 42 inches of unsaturated soil below the proposed drainfields.

24. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to the Project's potential impacts to domestic water supply wells. The MPCA considered impacts on domestic water supply wells that are reasonably expected to occur from the proposed Project during the review process and finds the Project design and Permit requirements contain appropriate methods to prevent significant adverse impacts.
25. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts on domestic drinking water wells that are reasonably expected to occur as a result of the Project.

Groundwater Flow Direction and Elevation

26. The Project does not have the potential to significantly impact groundwater flow direction or elevation. The groundwater elevation data collected from the onsite groundwater monitoring wells in October and November 2013 (*Detailed Hydrogeologic Characterization and Evaluation* (Wenck, January 2014)) indicate groundwater flow direction, specific to the LSTS site, is toward the northeast. Additional groundwater elevation data, collected in March 2015 and April 2015, support the conclusion that groundwater flows to the northeast at the LSTS site. The *Geologic Atlas of Washington County, Minnesota* (University of Minnesota & Minnesota Geological Survey, County Atlas Series, Atlas C-5, Plate 5 of 7, 1990) also confirms general groundwater flow direction in this area is to the east in both the glacial terracing aquifer and east within the underlying Mount Simon bedrock aquifer system, towards the St. Croix River.
27. The Minnesota Geological Survey is currently updating these reference documents. The updated documents are not available at this time. Based on consistency of the current site groundwater monitoring data, the MPCA does not believe that postponing this Project until completion of the updated geological survey work is warranted.
28. The Permit requires monitoring and reporting for groundwater elevations in April, July, and October of each calendar year after issuance. Should the groundwater flow direction change in the future, the MPCA may require additional limits and monitoring.
29. The City assessed and MPCA reviewed the potential for groundwater mounding at the LSTS. Drainfields have the potential to impact local groundwater elevations. Excessive impacts to groundwater elevations would present a concern for potential human contact and exposure to pathogens. Mounding may occur when the loading rate exceeds the soil's acceptance rate or capacity to infiltrate. Site specific factors that can affect the magnitude of mounding include: depth to groundwater, restrictive soil layers, soil hydraulic conductivity, and hydraulic gradient.
30. The City's *Engineering Design Report* (Wenck Associates, Inc., March 26, 2014) utilized the Hantush, 1976 equation to calculate a maximum groundwater table mound of 0.761. Appendix F to this document, Afton GW Mounding Elevation, illustrates the predicted mound elevation. The MPCA considers this mound height estimate conservative because it is based on assuming that maximum design flow occurs 100% of the time. The system is not expected to operate at the maximum design flow on a consistent basis.

31. MPCA staff reviewed the information provided and concurs with the model results which indicate:
(1) any groundwater mounding that may occur will not significantly change the groundwater elevation beyond the treatment site location; and (2) the maximum groundwater elevation will not exceed the ground surface elevation or be a potential human contact concern. The draft Permit requires ongoing groundwater elevation monitoring to ensure the LSTS and precipitation at the LSTS site do not cause a negative impact to groundwater elevation.
32. The draft Permit effluent limits meet all state requirements for protection of potential groundwater drinking water sources independent of flow direction. The MPCA has the ability to determine groundwater flow direction and elevation based on groundwater monitoring wells on the site. Although not expected, should the groundwater flow direction change in the future, the MPCA has the authority to re-open the Permit and require additional limits and monitoring.
33. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to impacts on groundwater flow direction and elevation. The MPCA considered impacts on groundwater flow direction and elevation that are reasonably expected to occur from the proposed Project during the review process and finds the Project design and Permit requirements contain appropriate measures to prevent significant adverse impacts.
34. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts to groundwater flow direction and elevation that are reasonably expected to occur as a result of the Project.

Karst Features

35. There are no known geologic site hazards (i.e., sinkholes, shallow limestone formations or karst conditions) in the proposed LSTS area. (See Figure 12 of the EAW) According to the *Geologic Atlas, Washington County, Minnesota* (Swanson & Meyer, Minnesota Geological Survey, 1990), the LSTS site lies on lower terracing deposits of fine to coarse grain sands and gravels overlying bedrock of the Eau Claire Formation and Mount Simon Sandstone. The Eau Claire Formation consists of a silt stone and fine to coarse-grained quartzose sandstone and is considered a confining layer/unit. Directly beneath the Eau Claire Formation is the Mount Simon Sandstone, consisting of fine to coarse grained quartzose. The Mount Simon Sandstone is considered an aquifer within the study area.
36. The City evaluated actual site geologic conditions through an investigation in October 2013. The results of the investigation were documented in the *Detailed Hydrogeologic Characterization and Evaluation - Proposed Wastewater Treatment Site City of Afton* (Wenck Associates, January 2014). The investigation confirmed the geologic conditions suggested by 1990 Washington County information.
37. Based on the most current information available, the MPCA has determined that while caves and sinkhole features (karst features) may be common in the carbonate bedrock formations within Washington County, such karst features are very unlikely to exist or develop in the immediate vicinity of the proposed LSTS due to the absence of carbonate bedrock (limestone and dolostone).
38. Based on information about the geological conditions of the surface and subsurface areas of the LSTS site, the MPCA does not expect the treated wastewater going through the LSTS drainfields to cause geologic site hazards beneath the LSTS.

39. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to the potential impact of karst formations on the Project. The MPCA considered whether impacts from karst formations were reasonably expected to occur at the proposed Project site during the review process and finds no evidence that the site contains karst formations and therefore no potential for significant adverse effects. .
40. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects from karst formations based on the absence of karst formations at the project site.

Impacts to Surface Waters

Stream Crossing at Valley Creek, its Unnamed Tributary and adjacent Wetland

41. The Project is designed to protect surface water resources in stream crossing areas.
42. The Project includes the installation and ultimate use of a sanitary sewer collection (gravity flow pipe) and conveyance system (force main pressure pipe) which is installed at a depth sufficient to prevent freezing. The pipe will cross under three water bodies including Valley Creek, the unnamed tributary to Valley Creek and its adjacent wetland, and Kelle's Creek.
43. The City proposes to construct a 4-inch diameter force main from the lift station near the intersection of Upper 34th Street and St. Croix Trail to the LSTS site at 2318 St. Croix Trail. The force main portion of the collection system will cross under Valley Creek and also underneath the unnamed tributary and wetland.
44. The Project includes measures to protect Valley Creek and the unnamed tributary during installation of the pipe and continuing throughout the long term operation of the Facility. For example, the force main pipe from the lift station to the LSTS will be constructed of durable high density polyethylene (HDPE). The force main will cross under Valley Creek in a similar manner to an existing gas main which currently crosses under Valley Creek close to the planned force main crossing.
45. The City will install the pipe using a construction practice known as horizontal directional drilling ("HDD"). Current engineering/construction standards are required. As described in Section 6 of the EAW, HDD greatly limits excavation required along the pipe route. Some excavation is required for pipe connections because directional drilling pits are required for the contractor's equipment. Two temporary directional drilling pits are required near Valley Creek during pipe installation. A temporary pit is required approximately 200 feet south of the creek bank to install a cleanout manhole. Another temporary pit is required approximately 100 feet north of the creek bank to install an air release manhole. These excavation areas are typically open and closed within one working day.
46. The City design plans provide for the force main to be drilled at least 10 feet under the bottom of the Valley Creek bed and a depth to prevent freezing beneath the unnamed tributary and wetland area. The design does not include secondary casing of the pipe at these locations because this is not common practice for HDD piping and it could result in more ground surface impacts than the planned design due to the need for larger excavations to install secondary casing. The HDD

technology eliminates temporary or permanent physical or hydrologic alteration or disturbances of the creek.

47. The City will connect pieces of the force main pipe with fused joints during installation. The process creates one continuous pipe with no susceptibility to leakage. The pipe is designed to withstand internal pressure necessary to force sewage to the LSTS as well as the external pressure of the creek bed and soil above it. The City will pressure test the pipe during construction to verify it does not leak.
48. The City is responsible for operation and maintenance of the Facility. This will include inspection of collection pipes, routine maintenance, and repairs.
49. Valley Creek and an unnamed tributary to Valley Creek are both identified as designated trout streams by the Minnesota Department of Natural Resources ("MDNR"). The City will obtain a MDNR License to Cross Public Lands and Waters. This License includes measures to protect surface water resources.
50. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to water quality impacts from the stream crossings at Valley Creek and the unnamed tributary and wetland. During the review process, the MPCA considered impacts on water quality from the stream crossings that are reasonably expected to occur from the proposed Project and finds that Permit conditions and construction methods are sufficient to prevent significant adverse impacts.
51. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of surface water impacts that are reasonably expected to occur as a result of stream crossings at Valley Creek and the unnamed tributary and wetland.

Stream Crossing at Kelle's Creek

52. The Project design plans require the CS gravity pipe to cross underneath Kelle's Creek. The City will install the pipe under Kelle's Creek crossing by jacking/boring a steel casing pipe underneath the 12-foot box culvert which conveys Kelle's Creek under the County Road. The City will then install an 8-inch PVC gravity sanitary sewer pipe in the steel casing pipe. The Project plans do not include physical alteration or disturbance of Kelle's Creek during the installation of the steel case or PVC piping. The City will obtain the necessary permits for this crossing from the MDNR and the VBWD. Other utilities that already cross Kelle's Creek in this area include buried gas mains, buried telephone cables, and overhead electric/cable.
53. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to water quality impacts from the stream crossing at Kelle's Creek. During the review process, the MPCA considered impacts on water quality from the stream crossing at Kelle's Creek that are reasonably expected to occur from the proposed Project and finds the Project design and MPCA, MDNR and VBWD permit requirements contain appropriate methods to prevent significant adverse impacts.

54. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of construction impacts that are reasonably expected to occur as a result of the stream crossing at Kelle's Creek.

Stormwater

55. Local and state agencies regulate stormwater impacts from construction or operation of the Facility through a multitude of permits and requirements as identified below.
56. The City will obtain a National Pollutant Discharge Elimination System/State Disposal System ("NPDES/SDS") Construction Stormwater ("CSW") Permit from the MPCA and a VBWD Permit for the Project. These construction stormwater requirements coincide with provisions of Article IV of the City's ordinance for the work completed in the Lower St. Croix River Bluffland and Shoreland Management overlay zoning districts.
57. As part of the CSW Permit, the City will develop a Stormwater Pollution Prevention Plan ("SWPPP"). The City's SWPPP will include erosion prevention and sediment control Best Management Practices ("BMPs") to control sediment runoff and erosion at all work sites during construction. The erosion prevention and sediment control BMPs include bio-rolls/silt fence, installed prior to any surface disturbance; stabilization of all exposed soil areas as soon as possible to limit soil erosion; and coordinating work so excavations are opened to coincide with the timing of pipe connections and lift station construction. Restoration in a timely manner includes backfilling to existing grade, seeding, mulching, paving, and performing follow-up inspection. The SWPPP will also contain an inspection schedule to ensure erosion prevention and sediment control BMPs are functioning properly during construction.
58. The City will obtain a VBWD Permit for the proposed Project. The VBWD rules address new impervious surfaces. Under current VBWD rules, the excavation and reconstruction of the City streets are considered new impervious surface, and therefore are required to meet VBWD stormwater volume control standards.
59. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to stormwater impacts from the Project. The MPCA considered stormwater impacts that are reasonably expected to occur from the proposed Project during the review process and finds the Project design, and MDNR and VBWD Permit requirements contain appropriate methods to prevent significant adverse impacts.
60. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts that are reasonably expected to occur as a result of stormwater from the Project.

Shoreland

61. The CS portion of the proposed Project is located within overlay zoning for shoreland management (i.e., the area within 1,000 feet of public waters). The CS is also within the 100-year floodplain and St. Croix River Bluffland (i.e., Lower St. Croix Wild and Scenic Riverway).
62. The LSTS site is not located in a shoreland management area. All construction areas at the LSTS are

greater than 300 feet from the unnamed tributary to Valley Branch. Portions of the reserve drainfield area at the LSTS site are within 300 feet of the wetland.

63. The City's planning and zoning ordinances require specific enforceable development regulations. The City does not have a separate set of MDNR shoreland ordinances. Rather, it has adopted the State Wild and Scenic Rivers Management Program which includes special shoreland and bluffland management provisions for the area identified as the St. Croix River corridor.
64. The MPCA determined the Project is compatible with the current overlay zoning requirements and does not require special City permits or zoning requirements or variances. The Project meets all shoreland setback requirements.
65. Several permits will contain conditions to prevent adverse impacts to shorelands. The CSW Permit requires erosion prevention and sediment control BMP measures and a surface water runoff plan. This coincides with provisions of Article IV of the City's ordinance for the work completed in the Lower St. Croix River Bluffland and Shoreland Management overlay zoning districts. The VBWD Permit will also include additional stormwater runoff requirements at the LSTS.
66. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to shoreland protection from Project impacts. The MPCA considered impacts on shoreland resources that are reasonably expected to occur from the proposed Project during the review process and finds the Project design, City ordinances, and MDNR and VBWD permit requirements contain appropriate methods to prevent significant adverse impacts.
67. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects to shoreland resources based on the type, extent, and reversibility of impacts that are reasonably expected to occur to those resources.

Flooding

68. Unusually wet weather or flood events can cause issues for any infrastructure including wastewater treatment facilities, roadways, and flood protection structures. The Facility design includes best engineering practices to minimize impacts during flood or high groundwater events. The MPCA requires the Facility design to include the ability to operate during a 25 year flood and to be protected from damage during a 100 year flood.
69. The CS and LSTS allow the City to collect, transport and treat wastewater in areas no longer subject to flooding. The CS is constructed of water tight materials. The CS pipes are pressure-tested during construction. The manholes will use flood tight castings. These measures will minimize the potential that flood waters or other surface water runoff would enter the CS during wet weather events.
70. The MPCA requires the Facility to be designed to operate during a 25 year flood and protected from damage from a 100 year flood. The average wet weather design flow was calculated at 50,550 gpd. This value represents the average daily flow for the wettest seven-consecutive-day period and includes additional capacity for infiltration and inflow of 4,800 gpd.

71. The draft Permit prohibits unauthorized discharge to the ground surface or surface water from any portion of the Facility. The draft Permit requires compliance with the effluent limits at all times. The site specific conditions and design of the LSTS minimize the potential for surfacing of effluent in the drainfield during flooding events.
72. The City will conduct ongoing maintenance and repairs to avoid impacting the environment and service disruption to users.
73. The City will continually monitor for parameters including influent flow. If the flow changes dramatically, it is a cue to the operator that something is wrong. The pumps at the lift station are monitored routinely. The amount of flow being pumped at the lift station is compared to the influent flow. Any significant differences between these flow values are another cue to the operator that something is wrong.
74. The pumps at the lift station can be turned off so water is not pumped through the forcemain in the event of a significant leak in the forcemain. The wastewater can be pumped from the lift station and transported via truck to a treatment facility.
75. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to flooding. The MPCA considered impacts from flooding that are reasonably expected to occur during the review process and finds the Project design and Permit requirements contain appropriate mitigative measures to prevent adverse environmental impacts from the Project during flood events.
76. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects during flooding conditions.

Archaeological Sites

77. The Minnesota State Historic Preservation Office ("SHPO") database identifies the historical properties and archaeological sites near or on the Project site. (Item 14 and Appendix A of the EAW) as being either The Facility is not expected to impact any of the identified sites described.
78. The City contracted with Merjent, a consultant firm in Minneapolis, to complete a Phase 1 Archeological Survey (Phase 1 Survey) which is attached as Appendix C.
79. The Phase 1 Survey assessed the Project site for possible burial sites, historical artifacts, and other archaeologically significant resources. The Phase 1 Survey consisted of a visual inspection and file reviews for the archeological site 21 WA 0010, also known as the Rattlesnake Mound Group, consisting of six circular mounds and one linear, potential effigy mound. This is located within the City Old Town District – east of St. Croix Trail South, and south of 33rd Street South, and shown in Figure 2B of the Phase 1 Survey. The visual inspection did not find evidence of intact mounds within the Project area.
80. The Phase 1 Survey also indicates the site was visited in 1971 to assess location and integrity and that the mapped location recorded and reported was valid, but that the site was "...probably all destroyed by private homes." The Phase 1 survey also mentions a report by State Archeologist Christy A.H. Cain to the St. Paul District of the Corps of Engineers stating that the site is impacted and buried by levee construction activities undertaken in 1971, and that Rothaus (2008) suggests a

“...majority of these mounds have been destroyed by modern development.” The Phase 1 Survey indicates despite repeated visits to this site, no systematic assessment of site integrity had been conducted previously.

81. The Phase 1 Survey included a visual inspection and shovel testing of the LSTS site, identified as Valley Branch Creek Site and shown in Figure 2a of the Phase 1 Survey. This was done to determine if archaeological resources were present within the LSTS area, including all surface and subsurface locations that will have direct physical disturbance as a result of construction. No archeological items were found in either the visual inspection or shovel testing of the LSTS area.
82. The Phase 1 Survey identified an additional archaeological site (21WA0106) on the west side of St. Croix Trail, northeast of Stagecoach Trail South, and south of Valley Branch Creek. This site is also identified in Figure 2a of the Phase 1 Survey. This site has “cultural material scatter” containing artifacts of both historic and prehistoric periods (ceramic fragments, lithic debitage, one fragmented stone tool, four glass fragments, four metal fragments, and six fragments of calcined bone. Rothaus (2008) recommended the site has limited integrity, was not eligible for listing on the National Register of Historic Places, and did not require additional review. The Phase 1 Survey determined that the proposed construction of the CS is not close to this site and therefore would not impact the site.
83. The City will require in the Project plans and specifications that if excavation uncovers artifacts, its contractor will stop construction, notify SHPO, and the City will take appropriate measures required by state and federal agencies to ensure potentially significant historical or archaeological resources are not impacted. (Item 14 of the EAW)
84. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to archaeological sites. The MPCA considered impacts on archaeological sites that are reasonably expected to occur from the proposed Project during the review process. Although no Project impacts are expected, the City has appropriate mitigation measures in place that will prevent significant adverse impacts if archaeological resources are discovered.
85. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of construction and operation impacts on archaeological sites that are reasonably expected to occur.

Fish, Wildlife, Plant Communities, and Sensitive Ecologically Resources

86. The results of the MDNR Natural Heritage Review Minnesota Query (results known as NHIS Index Report) identify the plant and animal species of concern within the Project area. (Item 13 of EAW). The MDNR has provided comments and recommendations for avoidance, protection and project mitigation, a summary of site features, two handouts (one specifically for Blanding’s turtles, one for alternative products for erosion control) and the NHIS Index Report that lists plants and animals observed at or in proximity to both the LSTS and CS areas of the Facility. The NHIS Index Report also provides an explanation of the Report’s information fields, including the species’ federal and state designation status (Appendix B of EAW).
87. Project boundaries overlap with a few areas identified as Sites of Biodiversity Significance by the

Minnesota Biological Survey (“MBS”), and as areas considered Regionally Significant Ecological Areas (“RSEA”) in the MDNR’s Central Region. The MDNR rates Sites of Biodiversity Significance based on a combination of landscape context/ecological function, quality/rarity of native plant communities, and the quality/ rarity of different plant and animal species.

88. The MDNR recommended the Project be designed to avoid impacts to ecologically significant sites, and to consider, during both design and implementation, indirect impacts from surface runoff or the spread of invasive species. The MPCA forwarded to the City MDNR’s comment suggesting BMPs for vehicle cleaning in order to prevent the spread of invasive species along with the MPCA’s recommendation this information be given to all Project contractors.
89. The MDNR Central Region works in partnership with Metropolitan Council within the seven county metropolitan area to identify RSEAs - ecologically significant terrestrial and wetland areas. The purpose of the data is to inform regional-scale land use decisions.
90. Several vertebrate animals, invertebrate animals, vascular plants, fungi, and native plant communities were previously observed within an approximate one-mile radius of both the proposed LSTS and CS areas. These are listed in the NHIS Index Report according to their designation status under the U.S. Endangered Species Act, Minnesota Endangered Species Law and Minnesota’s State Wildlife Action Plan. Many of these records are within MBS sites of Biodiversity Significance or within the St. Croix River. The Project does not involve any disturbance within these Sites or the St. Croix River.
91. Blanding’s turtles (*Emydoidea blandingii*), a state-listed threatened species, rare snakes, and several species of rare plants are documented within or near the proposed Project area, as well as rare fish and mussels in the St. Croix River. The NHIS Index Report provides additional listings of plants and animals, including wood turtles and fishers.
92. Rare snakes in the area (listed on page 1 of 6 in the MDNR Query) include the North American racer (a state-listed species of special concern), eastern hognose snake, and western fox snake (neither species is stated-listed but both are in greatest conservation need as identified by Minnesota State’s Wildlife Action Plan).
93. The City will provide all contractors on the Project with the MDNR fact sheet on wildlife friendly erosion prevention and sediment control measures as well as the MDNR fact sheet on Blanding’s turtles. If snakes or turtles are encountered, the contractor must notify the MDNR. If any turtles or snakes are in imminent danger, the contractor must move them by hand out of harm’s way; otherwise they must be left alone and undisturbed.
94. Rare fish and mussels are documented in the St. Croix River in the vicinity of the Project. The specific species are listed within the NHIS Report. The MDNR recommends that the City implement and maintain effective erosion prevention and sediment control practices near the St. Croix River. The City will use effective measures selected specifically for the Project site conditions in order to fully protect the sensitive ecological resources near the St. Croix River.
95. Several rare plants are found in the vicinity of the Project. However, there are no known occurrences of state-listed species in the immediate vicinity of the Project, including the white wild indigo, a state listed species of special concern. As the proposed Project site consists of previously

disturbed land, it is unlikely to contain suitable habitat for any of the state-listed plants found in the vicinity of the Project.

96. Henslow's sparrows breed in nearby Afton State Park. Henslow's sparrows are considered a state endangered species. Minnesota's endangered species law (Minn. S § 84.0895), and associated rules (Minn. R. pts. 6212.1800 to 6212.2300 and 6134) prohibit the taking of threatened or endangered species without a permit. The MPCA notes there are records indicating the LSTS site was used as agricultural farmland, possibly as early as 1938, indicating the LSTS site has already been cleared and plowed in the past. The MPCA does not believe Henslow's sparrows are currently attracted to the Project site. Although construction is temporary and this land appears to have been previously disturbed, the City will need to work with MDNR in order to ensure its contractors have appropriate information in order to identify potential breeding areas and to determine if any permits are necessary. The City will reseed disturbed areas of the LSTS site with natural prairie grasses.
97. Although state-listed species of special concern and Species in Greatest Conservation Need are not protected under Minnesota's state endangered species law, the MPCA supports the protection of all species. The MPCA recommends that the City take protective measures to minimize disturbance to any species/habitat. In addition, the MPCA encourages the public to review the MDNR Rare Species Guide to gain more information about the species identified in the NHIS Index Report and suitable habitat and conservation measures.
98. The Project includes a number of protective measures during construction to either avoid certain areas or minimize potential impacts to rare plants and animals in both the proposed LSTS and CS areas. Some of these measures include constructing in existing road right of way, HDD (as opposed to open-cut construction) 10 feet below Valley Creek and at a depth to prevent freezing beneath the unnamed tributary and wetland area. These measures include established construction methods and practices required by specific permits and approvals. The City is required by rule to use appropriate erosion prevention and sediment control measures. The City also proposes to seed disturbed areas with native plants to establish vegetative cover after completion of construction.
99. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to fish, wildlife, plant communities, and sensitive ecologically resources. The MPCA considered impacts on these resources that are reasonably expected to occur from the proposed Project and finds that these resources will be adequately protected through the Project design and Permit conditions, MDNR recommendations and comments, and construction and mitigation measures the City will take to prevent significant adverse impacts.
100. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of construction and operation impacts on fish, wildlife, plant communities, and sensitive ecological resources that are reasonably expected to occur.

Air Emissions, Noise, Dust and Odors

101. Project construction activities will temporarily generate noise and dust. Any noise impacts will be short-term and cease upon Project completion. Construction activities may also temporarily generate dust. The MPCA has recommended that the City take measures during construction to minimize noise and dust impacts, such as the application of water for dust suppression, and prompt revegetation of exposed ground.
102. The MPCA expects emissions from emergency generators and ancillary heating equipment to be short-term and temporary in nature.
103. Project operations would, with minor exceptions, not cause any odor impacts. Although the LSTS and CS are mostly located below ground, there may be occasional odors during Project construction and normal operation. For example, odors may occur briefly during construction when existing septic tanks are uncovered, pumped clean, and removed from current locations to complete connection to the proposed CS.
104. During normal LSTS operation, treatment components at the proposed LSTS site, including septic tanks, are kept sealed except when monitoring and when removing septage for proper disposal. In these situations, odors are typically short-term and limited to the immediate area. The Permit prohibits nuisance conditions from the Facility, if strong odors do occur or excessive dust is generated, this may indicate a problem with a portion of the Facility, and the City must investigate and make any necessary corrections or repairs. In addition, the city must meet state noise standards for both day time and night time operations.
105. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address air emissions, noise, dust, and odor impacts from construction and operation of the Facility. During the review process, the MPCA considered the air emission, noise, dust, and odor impacts from that are reasonably expected to occur from construction and operation of the proposed Project and finds the Project design contains appropriate methods to prevent significant adverse impacts.
106. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to air emissions, noise, dust, and odor that are reasonably expected to occur from the Project.

Traffic at the LSTS

107. The MPCA anticipates minimal traffic and road impacts from the Project, both during construction and normal operation. During construction, additional construction vehicle traffic in the area is expected; however, this traffic is temporary in nature and does not require road improvements. The City will require all contractors to comply with seasonal and weight road restrictions. Construction work on the CS (approximately 0.6 mile to the LSTS site) within the road right of way will cause temporary construction impacts to St. Croix Trail.
108. Access to the LSTS site is from the county-owned road, St. Croix Trail South, off the existing private gravel drive of 2318 St. Croix Trail South. The City plans to extend the existing private gravel drive to access the LSTS property. There is no other road access on the LSTS property.

109. The City plans for only a few vehicle visits to the LSTS site during operations, including vehicles used for routine weekly operation and maintenance services. A vacuum truck will visit the site annually to remove septage from LSTS septic tanks after Facility operation begins. The LSTS will not accept any wastewater delivery via truck, nor is it designed or permitted to have this capability.
110. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to traffic. The MPCA considered impacts related to traffic that are reasonably expected to occur from the proposed Project during the review process and finds the Project design contains appropriate methods to prevent significant adverse impacts.
111. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to traffic that are reasonably expected to occur from the Project.

B. Cumulative Potential Effects

112. The second criterion that the MPCA must consider when determining if a project has the potential for significant environmental effects is the “cumulative potential effects.” In making this determination, the MPCA must consider “whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effects; and the efforts of the proposer to minimize the contributions from the project.” Minn. R. 4410.1700 subp.7.b.
113. The MPCA determines that the Project does not have the potential for significant cumulative potential effects. The EAW, public comments, and MPCA follow-up evaluation did not disclose any related or anticipated future projects that may interact with this Project in such a way as to result in significant cumulative potential environmental effects.

C. The Extent to Which the Environmental Effects Are Subject to Mitigation by Ongoing Public Regulatory Authority

114. The third criterion that the MPCA must consider when determining if a project has the potential for significant environmental effects is the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. Only mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of the project can be considered. (Minn. R. 4410.1700, subp. 7.C)
115. The following permits or approvals will be required for the Project:

Unit of Government	Permit or Approval Required
MPCA	NPDES/SDS Construction Stormwater Permit
MPCA	SDS Permit
Metropolitan Council	Review and Approval of amended Afton Comprehensive Land Plan (CLP), including Comprehensive Sewer Plan (CSP)
DNR	License to Cross Public Lands and Waters

Valley Branch Watershed District	VBWD Permit
Washington County	Septic Tank Abandonment Form
Washington County	Utility Crossing Permits

116. MPCA NPDES/SDS Construction Stormwater General Permit. The City will obtain an NPDES/SDS Construction Stormwater General Permit for the Project. A General NPDES/SDS Construction Stormwater Permit is required when a project disturbs one or more acres. It requires the use of BMPs such as silt fences, bale checks, and prompt re-vegetation to prevent eroded sediment from leaving the construction site. The City must have a SWPPP that will provide more detail as to the BMPs to be implemented and will also address: phased construction; vehicle tracking of sediment; inspection of erosion control measures that will be implemented under SWPPP; and timeframes in which erosion control measures will be implemented. The NPDES/SDS Construction Stormwater General Permit also requires the permittee to provide adequate stormwater treatment capacity to assure that water quality will not be impacted by runoff once the project is constructed.
117. MPCA SDS Permit. The City will obtain an SDS permit No. MN0070599 for the construction and operation of wastewater treatment facilities that discharge treated effluent to the ground surface or subsurface. The draft Permit sets terms and conditions, including effluent limits, monitoring, operation and maintenance for the Facility.
118. Metropolitan Council Plan Review. The City's CLP contains a wastewater plan element, with future wastewater goals, as well as a CSP, which described the community's wastewater service needs from the Metropolitan Council Environmental Services ("MCES") as well as the municipal facilities that serve the community. The City will submit an amended CLP that the Metropolitan Council will review and approve if it's consistent with MCES' Wastewater Treatment System Plan.
119. MDNR License to Cross Public Lands and Waters. The City will obtain a license for the passage of CS piping over, under or across any state land or public waters. Standards and criteria of the MDNR include route design, structure design, construction methods, safety considerations, and right-of-way maintenance to provide maximum protection and preservation of the natural environment and to minimize any adverse effects that may result from utility crossings.
120. VBWD Permit. The City will obtain a VBWD Permit for the Project because it includes land alteration of more than one acre and creates impervious surfaces of more than 6,000 square feet through the excavation and reconstruction of city streets. The permit application requires grading plans to illustrate the property boundaries, water elevations, site contours, on-site sub-watersheds, runoff flow directions, flood plain boundaries, building elevations, downstream water bodies, and other project features. The VBWD application also requires the hydraulic/hydrocomputations that establish stormwater volumes; erosion control, and sedimentation prevention exhibits to identify project sequencing, temporary and permanent erosion controls, and sediment control measures; a CSW SWPPP that conforms to MPCA CSW Permit requirements; maintenance agreement; and a wetland delineation report. After completion of construction of the Project, the City must submit to the VBWD as-built drawings with surveyed elevations of structures, stormwater controls and septic systems as well as documentation of the removal of temporary erosion control devices.
121. Washington County Septic Tank Abandonment Form. The County requires the City to comply with Minn. R. 7080.2500 when it abandons any subsurface sewage treatment systems (including ISTS) as

part of the Project. The City must comply with the following requirements: Septic tank liquids must be removed by a licensed septage hauler and disposed of at an appropriately licensed wastewater treatment facility. All tanks are to be crushed in place and filled with approved backfill. Any electrical devices present with the system must be properly disconnected and removed. After completion of the work, the City must complete a form that provides all information related to the property and abandonment procedures. The form must be certified by an appropriate licensed contractor and submitted to the County. The County then completes an inspection is then completed to ensure proper abandoned procedures were followed.

122. Washington County Utility Crossing Permit. The City will obtain from Washington County a right-of-way permit for utility installations, grading in County right-of-way, and work which obstructs a County right-of-way. The County requires final design plans and permit application from the City that details the traffic impacts, road closures, and potential detours as a result of the Project. A traffic control plan is also required with the application and that includes the type of utility, size, conduit and casing type, depth, voltage where applicable, and pressure for underground utilities.

123. The above-listed permits, plan approvals, and inspections include general and specific requirements for mitigation of environmental effects of the Project. The MPCA finds that the potential environmental effects of the Project are subject to mitigation by ongoing public regulatory authority.

D. The Extent to Which Environmental Effects can be Anticipated and Controlled as a Result of Other Available Environmental Studies Undertaken by Public Agencies or the Project Proposer, Including Other EISs.

124. The fourth criterion that the MPCA must consider is "the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs," Minn. R. 4410.1700, subp. 7. D.

125. The MPCA reviewed the following documents as part of the environmental review for the proposed Project.

- data presented in the EAW
- permit application(s)
- archaeological survey (Appendix C)
- other reports and analysis as appropriate

126. This list is not intended to be exhaustive. The MPCA also relies on information provided by the Project proposer, persons commenting on the EAW, staff experience, and other available information obtained by staff.

127. There are no elements of the Project that pose the potential for significant environmental effects that have not been addressed by the Project design and permit development processes which ensure conformance with regional and local plans.

128. Based on the environmental review, previous environmental studies by public agencies or the Project proposer, and staff expertise and experience on similar projects, the MPCA finds that the

environmental effects of the Project that are reasonably expected to occur can be anticipated and controlled.

129. The MPCA adopts the rationale stated in the attached Responses to Comments (Appendix B) as the basis for response to any issues not specifically addressed in these Findings.

CONCLUSIONS OF LAW

130. The MPCA is the governmental unit responsible for determining the need for an EIS for this Project.
131. The EAW, the permit development process, and the evidence in the record are adequate to support a reasoned decision regarding the potential significant environmental effects that are reasonably expected to occur from this Project.
132. Areas where the potential for significant environmental effects may have existed have been identified and appropriate mitigation measures have been incorporated into the Project design and permits. The Project is expected to comply with all federal, state and local requirements, and MPCA standards.
133. Based on a comparison of the impacts that are reasonably expected to occur from the Project with the criteria established in Minn. R. 4410.1700 subp. 7, the Project does not have the potential for significant environmental effects.
134. Based on the record, the MPCA makes a negative declaration on the need for an EIS for the Project.
135. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.

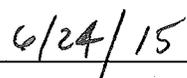
ORDER

136. The MPCA issues a Negative Declaration on the need for an Environmental Impact Statement for the city of Afton Wastewater Collection and Treatment System Project, based on the information gathered during the Environmental Assessment Worksheet process and the comments received on the Environmental Assessment Worksheet indicating that there are no potential significant environmental effects reasonably expected to occur.

IT IS SO ORDERED



Commissioner John Linc Stine
Chair, Citizens' Board
Minnesota Pollution Control Agency



Date