STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Decision on the Need for an Environmental Impact Statement for the Proposed Dassel Wastewater Treatment Facility Expansion and Upgrade Dassel, Minnesota

FINDINGS OF FACT CONCLUSIONS OF LAW AND ORDER

The city of Dassel (the City) is proposing to construct an effluent filter and chemical addition system for phosphorus removal, and a force main to enable a discharge to surface waters as a means to supplement an overloaded stabilization pond/spray irrigation system. Pursuant to Minn. R. 4410.1000 - 4410.1600, the Minnesota Pollution Control Agency (MPCA) prepared an Environmental Assessment Worksheet (EAW) for the project. The EAW, comments received on the EAW, and information received during the EAW comment period have been reviewed in accordance with Minn. R. 4410.1700 to determine whether the proposed project has the potential for significant environmental effects. Based on this record, the MPCA hereby makes the following Findings of Fact, Conclusions of Law, and Order.

FINDINGS OF FACT

PROJECT DESCRIPTION

1. Existing Condition. The city of Dassel is a small city located in the southeast portion of Meeker County. The City has a wastewater treatment facility (WWTF) consisting of three seven-acre stabilization ponds and eight effluent irrigation sites (138.6 acres). The WWTF was completed in 1985 and is currently permitted at a design flow of 163,000 gallons per day. Since its first year of operation, the system has been plagued with excessive amounts of surface and/or ground water entering the sewer system through defective sewers, defective service connections, and foundation drains. During periods of wet weather, heavy runoff or when ground water levels are high, this infiltration/inflow (I/I) has resulted in the overloading of the City's irrigation sites. Since 1986, the City's attempts to address its I/I problem have not been fully successful; consequently, the MPCA in February 1999, imposed a moratorium on new sewer extensions and service connections until such time as the I/I problems were corrected and/or the WWTF capacity was increased.

2. Project Purpose. Increased treatment capacity and I/I corrections are needed to treat current and future wastewater flows as required by the City's existing and proposed permit. The City has responded with the proposed project and has recently adopted a program to identify and correct I/I sources. In addition to addressing the I/I problem, the project will also provide additional capacity to serve a combination of future residents and businesses in the City and some adjacent areas in Dassel Township.

3. Proposed Facilities. The City is proposing additional treatment units to allow it to discharge wastewater received in excess of the capacity of the stabilization pond/spray irrigation system. The existing ponds and irrigation sites would remain in use at their existing design capacities. The new facilities to be constructed would include a rapid sand filter, chemical storage and handling equipment for phosphorus removal, a building to house the sand filter and chemical addition equipment, and an effluent force main to Washington Creek, the proposed receiving water.

4. Project Site. The proposed building to house the sand filter, chemical storage tank, and chemical addition equipment will occupy approximately 0.5 acres of the site at the existing WWTF. This site is bordered by undeveloped land, low density residential development, and some commercial use. The effluent force main will be constructed along existing highway and county road rights-of-way. The new discharge will occur to a wetland adjacent to Washington Creek at a point approximately five miles above Lake Arvilla.

JURISDICTION AND PROCESS

5. The project involves the expansion of a municipal wastewater treatment facility which results in an increase by 50 percent or more and by at least 50,000 gallons per day of its average wet weather design flow capacity. The MPCA was the responsible governmental unit for the preparation of a mandatory EAW pursuant to Minn. R. 4410.4300, subp. 18B.

6. An EAW was prepared on the proposed project and distributed to the Environmental Quality Board mailing list and other interested parties on October 13, 2000. The EAW is hereby incorporated by reference.

7. A press release containing the notice of availability of the EAW for public review was provided to media serving the project area on October 13, 2000.

8. The public comment period for the EAW began on October 16, 2000, and ended on November 15, 2000. Comment letters were received from the Meeker County Board, the city of Dassel, the Minnesota Historical Society, the Minnesota Department of Natural Resources, and from a number of area residents. Copies of the comment letters are attached to these findings. Responses to comments have been prepared by MPCA staff and are also attached to these findings.

CRITERIA FOR DETERMINING THE POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL EFFECTS

9. In deciding whether a project has the potential for significant environmental effects, the MPCA must consider the four factors set out in Minn. R. 4410.1700, subp. 7. These criteria are:

   A) the type, extent, and reversibility of environmental effects;
   B) cumulative potential effects of related or anticipated future projects;
   C) the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority; and

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 Environmental Impact Statements (EISs).

The MPCA findings with respect to each of these factors are set forth below.

TYPE, EXTENT, AND REVERSIBILITY OF ENVIRONMENTAL EFFECTS

10. Wastewater Generation. The Dassel wastewater treatment system receives flow from commercial and residential sources and only minor flows from industrial sources. In 2000, the estimated population of the City was 1,201. While the EAW process was underway, the estimated 20-year design population and flow were revised downward. This revision reduced the estimated 2020 sewer service population from 2,400 to 1,800 and changed the design basis for wastewater flow for discharge from a 30-day average wet weather flow of 0.345 million gallons per day (MGD) during the non-irrigation period, to a maximum allowable discharge volume of 17 million gallons per year (MGY).

11. Discharge Scenario for Proposed Wastewater Treatment Facilities. The proposed project includes continued full operation of the existing stabilization pond/spray irrigation system. This system is presently permitted to apply up to 59.5 MGY of treated wastewater. During years when wastewater is received in amounts that exceed the capacity of the irrigation system, the excess wastewater will be discharged. This proposed discharge will be limited to a maximum volume of 17 MG and will occur between September 15 and December 15. After December 15, the wastewater will be stored until irrigation can begin in the spring. The permit may allow for an emergency spring discharge, between April 15 and May 15, should the ponds not have enough capacity to store all the wastewater received between December 15 and the beginning of the next irrigation season. This emergency discharge would be subject to MPCA approval.

12. Water Quality - Wetland/Washington Creek. The proposed discharge will be to a portion of a large wetland complex adjacent to Washington Creek. The wetland in this area is heavily vegetated and has no open water, although it may be seasonally flooded. Washington Creek is located approximately 100 yards west of the proposed outfall. Washington Creek is the outlet stream for Washington Lake, located about 1.5 miles upstream. Below the proposed outfall, Washington Creek flows for a distance of about five miles until it enters Lake Arvilla. The location of the proposed outfall has changed during the EAW process. The new outfall will be about one-half mile further downstream from the original location at a point along the township road just north of the line between sections 20 and 29 in Dassel Township. Washington Creek is designated Class 2B (fisheries and recreation), 3B (industrial consumption), 4A (irrigation uses), 4B (livestock consumption), 5 and 6 pursuant to Minn. R. 7050.0430. The assigned effluent limits for fecal coliform (200 organisms/100 ml), carbonaceous biochemical oxygen demand (25 mg/L), suspended solids (30 mg/L) and pH (6.0 – 9.0) are required for the protection of both the wetland area and Washington Creek. The MPCA finds that the proposed project does not have the potential for significant environmental effects on the quality or uses of Washington Creek or its adjacent wetlands.

13. Water Quality - Lake Arvilla. Lake Arvilla is a shallow (10-12 feet), recreational development lake. The lake is used for fishing and other aquatic recreation; however, the lake is susceptible to occasional winterkill. The lake is also somewhat enriched with phosphorus from nonpoint sources and experiences significant algae blooms in the summer. In comments on the EAW, some area residents expressed concern about the effects of the additional phosphorus loading to the lake from the proposed discharge and the possible adverse effects on the water quality of the lake and it recreational or wildlife uses. The proposed treatment units (sand filter and chemical addition) will treat the secondary pond effluent by removing additional phosphorus and suspended solids. The facility will have a monthly average phosphorus effluent limit of one (1) mg/L to reduce the total effluent phosphorus loading to less than 64 kg/year. The proposed fall discharge period, which is also the usual discharge window for stabilization ponds, will be used to minimize the potential for effluent phosphorus to affect Lake Arvilla by taking advantage of high spring stream flows to dilute and flush the small amount of residual wastewater phosphorus through the system. An emergency spring discharge would require MPCA approval and would also be subject to the one (1) mg/L phosphorus limit. See also comment 2S and the staff response. The MPCA finds that the project does not have the potential for significant environmental effects on the water quality of Lake Arvilla.

14. Construction Erosion and Sedimentation. The effluent force main will be constructed along the right-of-way of Highway 15 and the township road in Dassel Township. Silt fences, bale checks, and the prompt seeding and mulching of disturbed area will be required to mitigate impacts from this disturbance. The total area affected is believed to be more than five acres in size, and a general stormwater permit will be required. The MPCA finds that the project does not have the potential for significant environmental effects from erosion and sedimentation.

15. MPCA Findings. The MPCA finds that the proposed project does not have the potential for significant environmental effects with respect to the type, extent, and reversibility of environmental effects.

CUMULATIVE POTENTIAL EFFECTS OF RELATED OR ANTICIPATED FUTURE PROJECTS

16. The project involves the expansion of wastewater infrastructure facilities. The City is currently subject to a moratorium on connections to the sanitary sewer system. The expanded WWTF will allow new development and some existing buildings currently served by individual septic systems to connect to the sanitary sewer. As development in the area continues, other utilities and infrastructure will also be needed in the service area. Projections for growth in the sewer service area are based on a 20 year period; consequently, rapid growth that might entail significant cumulative environmental effects is not anticipated.

17. The existing wastewater treatment ponds and effluent irrigation systems were constructed in 1985. An EAW process was conducted for purposes of environmental review at that time. The proposed project has a projected design life of 20 years. A further expansion of the proposed facility is not expected to be needed until 2020.

18. The MPCA finds that there are no related or anticipated future projects which could result in significant cumulative, adverse environmental effects.

THE EXTENT TO WHICH THE ENVIRONMENTAL EFFECTS ARE SUBJECT TO MITIGATION BY ONGOING PUBLIC REGULATORY AUTHORITY

19. The following permits or approvals will be required for the project:

	Unit of Government	Permit or Approval Required
a.	MPCA	National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit
b.	MPCA	Facility Plan; Plans and Specifications
c.	MPCA	General NPDES Permit (discharge of storm water from construction site)
d.	MPCA	Section 401 certification of Corps of Engineers permit
e.	U.S. Army Corps of Engineers	Section 404 Permit
f.	Minnesota Public Facilities Authority (MPFA)	State Revolving Fund Loan
g.	Minnesota Department of Natural Resources (DNR)	Permit for work in public waters or public waters wetlands (installation of outfall)
h.	Minnesota Department of Transportation (MnDOT)	Permit for installation of force main in right-of-way.
i.	Meeker County	Permit for installation of force main in right-of-way.
j.	County	Conditional Use Permit

20. Description of the Scope of Key Permits/Approvals:

    a. A new NPDES/SDS permit will be prepared and considered for issuance after a 30-day public comment period. The proposed permit will contain terms and conditions necessary to ensure that wastewater received by the facility will be given the required level of treatment. The permit will contain conditions to ensure proper operation and performance and compliance with appropriate requirements. Regular monitoring and reporting will be required to demonstrate compliance with permit requirements, and periodic facility inspections will be performed. The permit will also be reviewed and reissued every five years. Special provisions of the permit will address the program that the City will carry out during the term of the permit to identify and correct specific I/I sources. Detailed reporting to be required by the permit will allow the MPCA to evaluate the effectiveness of the I/I reduction program and to determine if additional requirements should be added when the permit is considered for reissuance. Therefore, the MPCA finds that the potential environmental effects related to I/I will be addressed through ongoing regulatory authority.

    b. Plans and specifications for the expanded WWTF will be reviewed and approved by the MPCA engineering staff to ensure the adequacy of the proposed design and compliance with prevailing engineering standards and criteria.

c. In total, the construction of the new treatment unit and the installation of the effluent force main will disturb more than five acres, prompting the need for a general NPDES permit for storm-water runoff during construction. The erosion control plan for the project to be implemented by the project contractor must conform to guidelines and requirements of the general permit.

d. The MPCA will issue a Section 401 Certification of the Corps of Engineers Section 404 Dredge and Fill permit. This certifies that the project activities to be carried out under the proposed 404 permit will be in compliance with water quality standards.

e. The Corps of Engineers permit will regulate the excavation in wetlands for the construction of the outfall and placement of excavated materials.

f. Loan funding will be made available to the City to help reduce the financial impact of the project on the local community. The MPCA and MPFA will review the project to determine if the eligibility and planning requirements for funding are being met.

g. The construction of the outfall will also require a DNR permit for work in the bed of a public water. The permit will deal primarily with erosion control and restoration of pre-existing conditions in the wetland.

h. The installation of the force main along State Highway 15 will require a construction easement from the MnDOT to ensure that the construction and operation of the project can be accommodated within the existing right-of-way.

i. Meeker County will also have to approve the installation of the force main along the township road between the Highway 15 intersection and the proposed outfall.

j. The county will issue a conditional use permit to identify special requirements that may be necessary to ensure that the construction and operation will not conflict with neighboring land uses.

21. The MPCA finds that the potential environmental effects of the project are subject to mitigation by ongoing public regulatory authority.

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.

22. The City conducted a wastewater facilities planning process to develop and evaluate wastewater treatment alternatives and to provide preliminary design information for a selected alternative. The proposed project has been reviewed by MPCA staff. The potential environmental effects of the project can be mitigated by proper facility design and by adhering to the proposed permit requirements.

23. The MPCA finds that the environmental effects of the project can be anticipated and controlled as a result of previous environmental review, previous environmental studies, and permitting processes undertaken by the MPCA and other public agencies or the project proposer, including other EISs.

CONCLUSIONS OF LAW AND ORDER

1. The EAW, the permit development process, the facility planning process, and responses prepared by MPCA staff in response to comments on the Dassel Wastewater Treatment Facility Expansion and Upgrade EAW, have generated information adequate to determine whether the project has the potential for significant environmental effects.

2. Areas where the potential for significant environmental effects may have existed have been identified and appropriate mitigative measures have been incorporated into the project design and proposed permits. The project is expected to comply with all MPCA standards.

3. Based on the criteria established in Minn. R. 4410.1700, the MPCA concludes that the Dassel Wastewater Treatment Facility Expansion and Upgrade project does not have the potential for significant environmental effects.

4. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.

5. A negative declaration is hereby ordered for the Dassel Wastewater Treatment Facility Expansion and Upgrade project, and an Environmental Impact Statement is not required.

_____
Karen A. Studders, Commissioner
Minnesota Pollution Control Agency

_____
Date

Minnesota Pollution Control Agency

Dassel Wastewater Treatment Facility Expansion and Upgrade

RESPONSES TO COMMENTS ON THE EAW

1. Comments by Amy Wilde, Vice Chair, Meeker County Board of Commissioners.

1A. Meeker County Comprehensive Plan. The Meeker County Board approved a revised comprehensive plan in August 2000, and is in the process of rewriting county planning and zoning ordinances to fit the new plan. The proposed project is in conformance with the revised plan in that it will allow for a greater concentration of residential housing and business in or near existing urban areas rather than promote "sprawl" into the countryside and growth in the number of private sewer systems and/or other costly infrastructure extensions.

Response: This comment is consistent with information provided in the EAW regarding the adoption of a revised County Comprehensive Plan.

1B. Cost of Project Alternatives. The city of Dassel has the second highest tax rate among units of government in Meeker County. Its citizens cannot afford to finance the other, much more costly alternatives noted in Item 31 of the EAW.

Response: Comment noted. The city of Dassel (City) also provided the following information concerning monthly sewer and water charges:

Year	Sanitary Sewer	Water
2000	Basic fee (1st 1,000 gallons): $13.30 Plus $2.80/1,000 gallons	Surcharge/unit: $3.75 Plus $3.90/1,000 gallons
2001	Basic fee (1st 1,000 gallons): $13.30 Plus $3.05/1,000 gallons	Surcharge/unit: $3.75 Plus $4.20/1,000 gallons
2002	Basic fee (1st 1,000 gallons): $13.30 Plus $3.30/1,000 gallons	Surcharge/unit: $3.75 Plus $4.35/1,000 gallons
2003	Basic fee (1st 1,000 gallons): $13.30 Plus $3.55/1,000 gallons	Surcharge/unit: $3.75 Plus $4.60/1,000 gallons

1C. Moratorium on Sewer Extensions. If the Dassel City Council decides to move ahead on the treatment facility expansion, the moratorium on sewer construction in place on the city should be lifted next spring. The moratorium is spurring residential growth outside of the city limits which is in conflict with the county's comprehensive plan.

Response: Significant inflow and infiltration (I/I) of clean water into the sewer system have caused the facility to exceed the flow parameters for which it was designed. In February 1999, a sewer extension moratorium was imposed until sufficient I/I reductions could be made or until the treatment and disposal

system was expanded. At this time, the system has not been expanded and efforts by the city to correct the problem have met with limited success as evidenced by the fact that since 1993, the application of treated wastewater to the irrigation fields exceeded the current 59.5 million gallon annual limit in four out of eight years. The City completed some sewer repair work between 1998 and 2000 and also began reclaiming the backwash water within the water treatment plant. The removal of backwash water resulted in the removal of approximately 307,000 gallons per year from the sewer system. Additional plans are being made by the City's public works department to do a sanitary sewer joint repair project.

Historically, Dassel Township has experienced fairly moderate annual growth of 2.1 percent. The City's comprehensive plan has reported three levels of population projections for Dassel Township ranging from a low of one percent growth to a high of three percent. The comprehensive plan also reported that the City's future growth is influenced by the strong rate of growth that Dassel Township has experienced in the past 40 years. For example, in recent years, two new developments comprising 70 and 30 lots, respectively, were initiated in Dassel Township. Existing development on the east side of Spring Lake, just east of Dassel, has continued to grow.

The Minnesota Pollution Control Agency (MPCA) understands the need for sewer hook-ups, and has approved a limited number of connections while the moratorium has been in effect. The MPCA is also encouraged by the recent adoption by the City of a plan to aggressively remove I/I from the system. Upon acceptance and approval of the plan by the City, the MPCA will consider additional connections based on I/I corrections to be made. The actual number of connections will be determined after MPCA review of the I/I plan and upon further discussion with the City. In order for the moratorium to be lifted, the City must have removed a majority of the I/I overloading the system and completed the expansion of the treatment and disposal system as now proposed.

2. <u>Comment by Kyle & Cathy Hed, Dassel Township residents.</u>

2A. County Water Plan. The proposed discharge of wastewater effluent above Lake Arvilla is contrary to the June 1995 Meeker County Comprehensive Water Management Plan.

Response: The Meeker County Water Management Plan (revised November 1995) discussed the policies and management strategies of the county to maintain or improve the water quality of county lakes and streams; however, the plan does not specifically address existing or future discharges of treated wastewater within the county. It does refer to the protection of lakes and wetlands from phosphorus contributions from agricultural runoff and failing septic tanks.

2B. Project Alternatives. Have all alternatives for wastewater treatment been clearly looked at and thoroughly reviewed by both the MPCA and the city of Dassel? Several area farmers, in conversation, advise that they would allow the city to utilize their land as additional irrigation sites. Couldn't the proposed building site or other undeveloped land, such as the former driving range, be used in some way to provide more capacity?

Response: The 1999 Wastewater Facilities Plan evaluated the following alternatives to the proposed project.

- The expansion of the existing ponds and spray irrigation system. This alternative would allow an increase in capacity without creating a new discharge to surface water. Its implementation would require additional acreage for effluent irrigation plus additional stabilization pond capacity. In analyzing this alternative, county soil survey maps and USGS maps were reviewed to identify areas suitable for irrigation. Two small fields totaling less than 40 acres located near the existing spray fields were identified, as well as a 200-acre area two miles to the northeast and a 200-acre area one and one-half miles to the south. All landowners in these areas were surveyed to determine their willingness to sell or lease their land to the City for spray irrigation. The City submitted copies of the survey responses to the MPCA. Some landowners indicated that they would consider a lease agreement for irrigation of city wastewater. None of the owners were willing to sell land for this purpose. The capital and operating costs developed in the Facilities Plan were based on using the field to the south for expanded spray irrigation. While this alternative was determined to be technically feasible, it did not compare favorably with the selected alternative due to expense of constructing additional storage ponds and purchasing land for irrigation. The former driving range is currently being used for spray irrigation.

- Chemical treatment, sand filtration, and surface water discharge of excess wastewater. This is the selected alternative. This alternative offers the advantage of using the existing irrigation system to its fullest capacity. Wastewater in excess of the capacity of the spray irrigation sites would be treated to reduce phosphorus concentrations prior to discharge to the wetlands adjacent to Washington Creek, about five miles above Lake Arvilla. In years when the City generates less wastewater than the 59.5 million gallons the spray irrigation sites are permitted to receive, no discharge will occur. Such was the case in 1999 and 2000. In years when more wastewater is generated than can be applied to the spray fields, the excess wastewater would be discharged between September 15 and December 15, and, if necessary, between April 15 and May 15.

- Activated sludge and surface water discharge. This alternative would require abandoning the existing pond system. The advantage of the process is that the chemical used for phosphorus removal would be decreased in comparison to the pond/sand filtration system. Water in excess of the capacity of the spray irrigation fields would be discharged as discussed in the pond/sand filtration alternative. Because the existing system would have to be partially abandoned, this alternative would have a high capital cost. In addition, the overall operating costs are higher for this alternative.

- Constructed wetlands and surface water discharge. This alternative would require a continuous discharge to surface water. During the growing season, part of the wastewater could be discharged to the spray fields; however, unlike the pond/sand filter option, the wetlands require a continuous stream of wastewater to maintain their health. Because wetlands are not a reliable method for removing phosphorus, chemical treatment would be required.

- Snowfluent™ process. This system is designed to treat wastewater during warm winters such as that which occurred in 1998 and 2000; this alternative has not been used in Minnesota in the past. The frozen effluent could not be discharged to the same fields on which Dassel spray irrigates; therefore, additional land would have to be purchased. The capital costs for this alternative were found to be prohibitive.

The MPCA staff has reviewed the alternatives considered in the Facilities Plan and suggested an alternate discharge scenario for the recommended alternative. The City has modified the plan to incorporate

suggestions by the MPCA, including limiting the surface water discharge to the fall discharge window for stabilization ponds.

2C. Flow Bypass Around Lake Arvilla. Could a ditch be constructed to allow the effluent to bypass Lake Arvilla to avoid potential degradation of the lake?

Response: The Washington Creek inlet and outlet at Lake Arvilla are located in fairly close proximity to each other. From an engineering stand point, it might be possible to divert Washington Creek around Lake Arvilla; however, such a diversion could be detrimental to Lake Arvilla because it could significantly reduce a source of water needed to maintain the lake level. Permits from the Department of Natural Resources (DNR) and the U.S. Army Corps of Engineers would also have to be obtained. This alternative was not evaluated in the City's facility plan and the MPCA has not recommended that it be evaluated. As proposed, the treated effluent from the proposed Dassel Wastewater Treatment Facility would be discharged to a wetland and travel through approximately 300 feet of wetland vegetation before entering Washington Creek. The discharge point would be approximately five miles upstream from Lake Arvilla. Potential impacts to the lake are discussed in later responses.

The option of constructing a force main from the spray irrigation site to a point downstream from Lake Arvilla was also evaluated. This option would require a number of easements, casing pipes, and approximately 26,000 linear feet of additional force main at an added cost of over one million dollars. Therefore, this option was not considered economically viable.

2D. Discharge During Low Flow. Concern was expressed that during times when the flow in Washington Creek is very low or when there is no flow in the creek, the effluent would be discharged to the ground water.

Response: Prior to discharge, the treated wastewater would be expected to exhibit low concentrations of nitrate, a principal ground water contaminant. An effluent of this quality would be considered acceptable for disposal by infiltration into ground water as well as discharge to surface waters. In addition, the existing spray irrigation fields will be utilized to their maximum extent and will continue to be the principal means of wastewater disposal. Thus, when weather conditions are dry enough to result in little or no flow in Washington Creek, it is likely that all or nearly all the treated effluent would be applied to the spray irrigation site. The discharge scenario has also been revised to restrict discharge to the wetland to the fall.

2E. Maintaining Proper Irrigation Levels. For a number of years, the city has been known to use spray irrigation levels in excess of mandated levels. What assurances exist that the city will maintain the required irrigation levels and will this be properly monitored? What information can be provided that would show how the permitted annual application rates, which have been exceeded in previous years, will be reduced.

Response: The volume of effluent applied over the irrigation sites is reported to the MPCA on monthly discharge monitoring reports and through the spray irrigation reports submitted annually. The facility is currently permitted to dispose of 59.5 million gallons per year (MGY) of treated effluent via spray irrigation. This volume is based on an average wet weather design flow of 0.163 million gallons per day (MGD), and it corresponds to an application rate of just under 16 inches per year on 138.9 acres of land available for spray irrigation. This application rate is considered to be acceptable and not likely to result in runoff from the spray irrigation sites.

The State Disposal System (SDS) permit reissued in 1994 granted an interim limit of 67.9 MGY to be irrigated and required the submittal of annual reports on progress made in addressing the continuing inflow/infiltration problem. In 1999, the SDS permit was reissued with the previous irrigation limit of 59.5 MGY, and a moratorium on new sewer connections was imposed. In the 14 years since 1986, the system's first full year of operation, the 59.5 MGY level was exceeded in seven years.

The proposed National Pollutant Discharge Elimination System (NPDES)/SDS permit now being developed for the expanded facility will contain several provisions relating to the amounts of wastewater which may be land-applied and discharged. In order to operate in compliance with the new permit, the following conditions must be met:

- The total volume of wastewater applied on-land each calendar year must not exceed 59.5 MG.

- The fall discharge period may begin on September 15 and will end on December 15. The total volume of wastewater that is discharged is not to exceed 17 MG.

- If, between April 15 and May 15, the water depth in the ponds reaches a level that could jeopardize the integrity of the pond lining, the City may request MPCA approval for an emergency discharge to prevent water depths from exceeding the intended design elevations. This emergency condition will be defined in the permit.

- An infiltration/inflow reduction report will be required to be submitted to the MPCA on an annual basis. This report will discuss the I/I work completed during the previous year and how much I/I reduction was achieved.

The reissued NPDES/SDS permit will also require an updated and approved spray irrigation management plan to ensure that ponding and runoff do not occur from the spray irrigation sites and that ground water quality is protected.

The intent of these requirements will be to ensure that the existing spray irrigation system is utilized to the fullest extent possible, consistent with the original design of the system. The 59.5 MG annual irrigation volume corresponds to the intended design flow of the existing system (0.163 MGD) which includes a nominal amount of infiltration/inflow. The proposed average wet weather design flow after the removal of approximately 69 percent of I/I from the system is approximately 188,000 gallons per day. The volume of water which would be allowed to be discharged (17 MG) is equal to this wastewater flow over a period of 90 days. The moratorium will remain in effect until the City is able to demonstrate the I/I removal goal has been accomplished. On a case by case basis, the MPCA may allow additional sewer hook-ups to the system based on the amount of I/I removed. If the City is unable to operate the system in compliance with permit conditions, the City will be required to look at other alternatives.

2F. Types of Wastewater. Additional information was requested on the types of industrial and other wastewater that may be produced as the city continues to grow.

Response: The City currently does not have any significant industrial users. Any future industry would be required to pretreat their wastewater to equivalent residential strength.

2G. Infiltration and Inflow to Sewer System. Concern was expressed about the age of the Dassel sewer system and the status of ongoing repairs, such as the proper sealing of joints, and necessary pipe replacement.

Response: Actions taken by the City to control I/I in the public sewers have met with marginal success due to the apparent migration of I/I into private sewer services. In order to further reduce I/I, the City must adopt a plan which addresses I/I in the private sector as well as continue repairs to portions of the city system. The first step of any I/I reduction program targeted to remove I/I in the private sector will be to televise service laterals in a target area. The City has approximately 450 residential connections, and the city anticipates that it will be able to televise approximately 50 laterals in a year; however, this number could be increased as economics allow.

Generally, the laterals would be televised in the spring of the year when I/I is at its highest level. The information gathered from each inspection will be used to determine the appropriate construction alternative. Services which are found to have excessive infiltration from small holes, cracks or joints which are not miss-aligned can be remedied by chemical grout sealing or slip lining. Services which are found to have excessive infiltration from severely miss-aligned joints or structural damage may have to be excavated and replaced. Service lines which are found to have excessive infiltration from damaged pipes beneath surface obstacles that cannot be removed, mildly deteriorated pipes, severe corrosion, or severe root problems can be corrected by slip-lining.

Foundation drains and roof leaders discovered to be connected to the sewer service laterals will be disconnected. In some cases, sump pumps will have to be provided to transport drainage from foundation drains to the storm sewer system. Existing basement sump pumps which are cross-connected to the sanitary sewer system will have to be disconnected and hard piped to the exterior of the building or to the City storm sewer system. It may be necessary to install a control system to collect, transport and discharge ground water to the storm sewer system rather than the sanitary sewer. The improvements necessary at each home to transport and dispose of ground water will be completed prior to initiating improvements to prevent infiltration from entering the service lines.

Sections of town that are not directly served by storm sewer will have this service extended by conventional methods, where practical, or by installation of a smaller diameter pipe in the right-of-way behind the curb. The pipe located behind the curb could be sized to transport ground water from residential sump pumps to the main storm sewer collection system.

I/I removal will be performed with construction contracts separate from construction of the wastewater treatment facility. To implement I/I removal recommendations as presented above, it may be necessary to accomplish the work over a five-year period. This period will correspond to the five-year term of a reissued NPDES/SDS Permit. The proposed permit will have a compliance schedule for the submittal of an I/I reduction plan and annual progress reports throughout the five-year term of the permit. At the end of each year, I/I should be reevaluated to determine whether or not removal goals are being met.

2H. Lead Levels in Wastewater. Concern was expressed about the levels of lead that might be present in the city drinking water and wastewater, and that lead could infiltrate into drinking water sources.

Response: The City is required to meet the standard for lead established by the federal Safe Drinking Water Act. Triennial tap water monitoring is also required. Results submitted to the Minnesota Department of Health did not exceed action levels for lead or copper.

2I. Funding of Sewer System Rehabilitation. Questions were raised regarding the ability of the city to obtain funding for sewer system rehabilitation, such as the reconstruction of the 5th Street Lift Station, and the advisability of addressing inflow/infiltration issues prior to the construction of the new facility.

Response: The work to be performed on the 5th Street Lift Station will be to change the flow measuring equipment only; the lift station will not be reconstructed. See also the response to comment 9G.

There are a number of options which the city is considering to obtain funding. The City could sell general obligation bonds, apply for a loan from the U.S. Department of Agriculture Rural Development or from the State Revolving Loan Program. The proposed permit will include limitations related to the total annual wastewater flow. These limitations assume that the City will achieve some success in completing its I/I program. Failure to do so could jeopardize the City's long-term potential for growth by allowing I/I flow volumes to use up capacity which would otherwise be available for future population growth.

2J. Dassel Township Service. Additional information was requested regarding the area of Dassel Township that is interested in hooking up to the city's treatment facility.

Response: The estimated population and flows attributable to providing sewer service to portions of Dassel Township have been revised downward. The City now anticipates that smaller amount of growth will occur in the township and request future hook up to the Dassel sewer system. Two areas of the township have been identified as needing sewer service in the future. These include one area (about four lots) on the south side of Spring Lake, and an another area (40 acres) on the south side of the City that may be developed with up to 80 units or lots.

2K. Future Development. Clarification was requested with respect to references to future development made in the EAW. Does future mean at completion of the project or when a certain number of homes and industries develop?

Response: The evaluation of the existing wastewater facility and planning to meet future needs are based on 20-year projections of population and growth in the intended sewer service area. This includes the entire incorporated area of the city plus the addition of 84 residential units or their equivalent in Dassel Township.

2L. Lake Arvilla Water Quality. The amount of data available are few. Questions were raised about sources of water quality data and the possibility that additional monitoring could be done.

Response: The paucity of water quality data on Lake Arvilla makes definitive evaluations of lake trophic conditions difficult. However, water quality evaluations have been made based on the available data and published export coefficients and are discussed in the response to comment 2S, below. Options are available for citizen participation programs for monitoring of lakes by volunteers with MPCA assistance. Monitoring and data collection by the City will be spelled out in the new NPDES/SDS Permit. This monitoring will be limited to evaluating performance of the facility and its compliance with effluent limitations. Some consideration will be given to additional environmental monitoring in the immediate

vicinity of the ponds and/or sprayfields. However, it is believed most important that the City concentrate on effective operation of the wastewater facility and the I/I reduction program.

2M. Adding Additional Phosphorus. The phosphorus from a large watershed already impacts Washington Creek and Lake Arvilla. Since Lake Arvilla is already deemed hypereutrophic with respect to phosphorus levels, isn't it important to reduce the possibilities of further addition of phosphorus from a discharge? The MPCA should discourage new discharges to recreational waters to preserve water quality to the maximum extent. The MPCA should act to prevent additional stress to recreational lakes and to seek other alternatives to expand and upgrade the treatment facility.

Response: The MPCA continues to encourage municipalities to manage wastewater in ways that do not create discharges to lakes and other sensitive surface waters. However, in some situations discharges are unavoidable and allowed under state law provided they meet discharge requirements. It is expected that meeting the goals of the Clean Water Act will require management of both point and nonpoint sources of pollution. As discussed in response 2S, below, it is estimated that the largest phosphorus load is from nonpoint sources. Changes in the trophic condition of Lake Arvilla will be largely dependent on management of these nonpoint sources of pollution.

2N. Effect on the Crow River. The overload of wastewater effluent and its effect on the Crow River is a major concern. The MPCA has indicated the need to discourage additional effluent loads to the river.

Response: The proposal is to discharge only a portion of the Dassel wastewater and to apply a phosphorus effluent limit with effluent filtration. The volume, quality and location of the discharge will combine to reduce the potential effects on the Crow River to a negligible level.

2O. Odor from Algal Blooms. Lake Arvilla has not experienced odors from algae blooms that some lakes experience in the spring. Can the city assure the residents on Lake Arvilla that they will not be exposed to this possibility?

Response: As stated in response 2S, below, no discernable change in trophic state of the lake is anticipated with the proposed discharge. Algal abundance and any associated odors that may be present are expected to remain unchanged.

2P. County Comprehensive Water Management Plan. Any discharge is clearly in contrast to the Meeker County Comprehensive Water Management Plan (Page V-1, Runoff, Drainage and Wetlands) which states, "… support will also be provided to Meeker County for the reduction of surface water flows into Meeker County through the Crow River Watershed."

Response: The portion of the Meeker County Comprehensive Water Management Plan (revised, November 1995) referenced in the comment deals with the management of surface water drainage relative to floodplain management and erosion and sedimentation control. General strategies are described as to how state and local units of government will work together to reduce surface water flow in the county ditch system. The proposed Dassel discharge will occur to a point within and adjacent to a large wetland complex that extend along much of Washington Creek above Lake Arvilla. This, combined with the relatively small volume to be discharged, justifies the conclusion that the proposed discharge would have a negligible impact on flooding or erosion and sedimentation in this watershed.

2Q. Expansion After 2020. It is indicated (EAW, p. 15) that the project does not anticipate further expansion of the wastewater treatment capacity prior to 2020. What will happen after that?

Response: A 20-year planning period is commonly used for municipal wastewater projects. As a practical matter, the design of facilities that involve major capital and operation expenditures must be based on a time period for which reasonable projections of population and need can be made. Permits expire and are reissued on five-year cycles. Future facility improvements would be based on needs that arise in response to future growth and development.

2R. Accidental Discharge. Not mentioned in the EAW is the possibility of an industrial mishap, an accidental overload, bypasses, breakdowns, etc. wherein coliform or lead or other chemicals may infiltrate the ground water and affect the drinking water supplies of residents.

Response: The City currently does not have any significant industrial users connected to the sewer system. Any future industry that wishes to locate in Dassel would be required to commit to an agreement with the City designed to prevent adverse effects on the sewer system due to either the short or long-term release of high strength wastewater. The prevention of adverse impacts related to any future spills or other accidental releases of wastes or hazardous materials is first provided by spill prevention, containment and control requirements applicable to specific industrial sites. In addition, any liquid released due to accidental overloading, bypasses, or breakdowns would be contained and treated in the wastewater ponds. Such a situation would not relieve the City of the burden of staying in compliance with effluent limitations or other permit requirements.

2S. Protection of Lake Arvilla Uses. There are many uses of Lake Arvilla and many potential impacts from the proposed expansion. The common goal of governmental agencies and area residents is to protect the water quality of the lakes and rivers in the area. Will the water quality of Lake Arvilla and the many uses of these waters be protected?

Response: An evaluation of the potential water quality impacts on Lake Arvilla has been prepared. Water quality data from a 1992 Lake Assessment Program study of Lake Washington were used to calculate phosphorus loads from the Lake Washington subwatershed. Land use percentages from the same study and associated export coefficients were used to calculate watershed loads from the subwatershed below Lake Washington. Loads from the proposed discharge were calculated using a flow volume of 20.8 million gallons and the phosphorus effluent limit. It should be noted that the proposed permit will limit the total discharge volume to 17 million gallons per year. These calculations show that phosphorus loading from the Lake Arvilla watershed is much greater than that of the proposed discharge (see table below). Lake modeling of current conditions and those anticipated with the proposed discharge predict no discernable change in lake trophic conditions due to the proposed discharge. From this an effluent limit less than one (1) mg/l total phosphorus cannot be justified.

Estimated Total Phosphorus Load and Trophic Response for Lake Arvilla					
	Total Phosphorus Load (kg/yr)		Lake Trophic Conditions		
	Watershed	Discharge	TP (µg/L)	Chl a (µg/L)	Secchi (m)
No discharge	1675	0	85	43	0.8
Discharge at 1 mg/l	1675	79	88	46	0.8
Discharge at 0.3 mg/l	1675	24	85	44	0.8
TP = Total Phosphorus in micrograms per liter. Chl a = Chlorophyll a in micrograms per liter. Secchi = Secchi disc water transparency in meters.					

3. Additional comment by Kyle & Cathy Hed, Dassel Township residents.

3A. EIS Requested. An EIS is mandated to further disclose the potential stress and negative impacts that the Dassel project may inflict upon Washington Creek, Lake Arvilla, and the North Fork Crow River. Additional information should be gathered to determine that protected Minnesota waters will not be negatively impacted by the discharge from the proposed Dassel wastewater treatment facility expansion and upgrade.

Response: Available information is believed to be sufficient to make a finding of no potential for significant environmental effects from the project. See also the responses to comments 2L and 2S, above.

3B. Lack of Data. There is very little statistical data available to even attempt at a guess of what effect any level of effluent may have on Lake Arvilla. There is, however, much data available to protest any level of effluent into any body of water.

Response: Trophic conditions and changes from the proposed discharge have been evaluated using existing data and published export coefficients as discussed in response 2S above.

4. Comment by Sherilyn Bjork, Dassel resident.

4A. Project is Needed. It is essential that the wastewater plant be improved so that the city may move ahead. By keeping it the way it now is, the city will die a slow death. A lot of citizens would like to have more apartments and duplexes and the housing is just not there.

Response: The MPCA recognizes the need for the project to bring the existing facility into compliance and to address the city's legitimate interest in providing wastewater improvements and allowing future growth and development.

5. Comment by David Scepaniak, Public Works Director, City of Dassel.

5A. Development in Dassel Township. The city of Dassel is planning for the future by including a portion of Dassel Township into its wastewater treatment system. Development has taken place and is planned in the township. Upgrade of the Dassel wastewater treatment facility will protect water resources by addressing urban sprawl and protecting ground water.

Response: See the responses to comments 1C and 2J.

6. Comment by Bev and Dale Salmen, Dassel Township residents.

6A. Conditions in Lake Arvilla. Lake Arvilla is very shallow, already hypereutrophic, and has a history of winterkills. Concern was expressed that treated effluent will contribute further to the breakdown of the lake and endanger the recreational and wildlife uses of the lake.

Response: Discernable trophic changes are not expected as discussed in response 2S above; consequently, no changes in the winter oxygen condition of the lake are anticipated.

7. Comment by Todd and Kim Hempel, Dassel Township residents.

7A. Efforts to Improve Lake Arvilla. More in-depth study of the environmental effects is warranted. The Lake Association, residents and DNR have worked closely to improve the lake. A dam was installed to maintain water levels and fish populations are growing. The decision to discharge into the Creek is the least costly; but in the long term, the cleanup of polluted lakes is also costly.

Response: As discussed in response 2L and 2S, above, the opportunity is available to conduct citizen-based lake monitoring and possibly monitoring of inflow conditions to better evaluate the trophic conditions of the lake. Based on the results of this monitoring a more detailed evaluation could be made.

8. Comment by John Haffley, Dassel township resident.

8A. Over-abundance of Phosphorus in Lake Arvilla. Lake Arvilla turns green in the summer months due to already over-abundant levels of phosphorus. Dumping treated wastewater into Washington Creek will only worsen this problem. The people in the community, the city, and the EPA should strive to clean up our streams, lakes, not add to the high levels of chemicals and pollutants already present in the water.

Response: As discussed in response 2S, a large amount of the phosphorus loading to Lake Arvilla is from the watershed and nonpoint sources. Lake water quality improvements would be best derived from reducing loads from those sources.

8B. Moving the Problem. The city of Dassel is taking measures to try to clean up Spring Lake because of the wastewater discharge that went on in that lake for years. Concern was expressed about moving the problem from Spring Lake to Washington Creek and Lake Arvilla.

Response: See response to comment 2S, above.

9. Comment by Thomas W. Balcom, Supervisor, Environmental Planning and Review Section, Office of Management and Budget Services, Minnesota Department of Natural Resources.

9A. Progressive Engineering Design. The DNR commented that the project demonstrates a progressive engineering design for reducing phosphorus in the proposed effluent [chemical addition with filtration]. This is important because the project is a new discharge strictly regulated under MPCA rules and especially relevant because of the potential to affect downstream wetlands, a lake, and the North Fork Crow River, an outstanding resource value water (ORVW).

Response: No response necessary.

9B. Crow River. Data from 1984 indicated that Lake Arvilla had a higher phosphorus concentration than upstream Lake Washington. Given the existing hypereutrophic condition of Lake Arvilla and the ORVW designation and status of the Crow River, concern was expressed about all sources of phosphorus loading to the system.

Response: Modeling indicates Lake Arvilla has a higher phosphorus concentration than Lake Washington due to its smaller lake volume, its shallowness (approximate mean and maximum depths of four feet and 11 feet, respectively), and larger watershed. The North Fork Crow River is a designated ORVW from the Lake Koronis outlet to the Meeker County/Wright County line. However, as discussed in response 2S, the proposed discharge will have a monthly average phosphorus limit and, in addition, phosphorus loads to surface waters in the Lake Arvilla watershed are overwhelmingly nonpoint source related. Therefore, no discernable change in trophic status of Lake Arvilla or the Crow River is anticipated.

9C. Non-degradation Review. The EAW does not reference any nondegradation review with the project. What has the non-degradation analysis revealed in terms of the potential nutrient loading to sensitive downstream waters?

Response: Revised population estimates have reduced the projected flows. As a result, the proposed permitted flow rates will be less than the 200,000 GPD threshold for nondegradation review.

9D. Phosphorus Strategy. How is the proposed project consistent with the MPCA's adopted phosphorus strategy?

Response: The strategy calls for a phosphorus limit and recommends a Phosphorus Management Plan. A one (1) mg/L phosphorus monthly average effluent limit has been assigned to the proposed discharge and a Phosphorus Management Plan will be considered as a permit requirement.

9E. Wetland Nutrient Dynamics. Because the proposed outfall would operate only after the growing season has ended, the wetland complex will not provide much nutrient uptake. In fact, because wetlands release phosphorus in the fall and winter as vegetation dies back, the introduction of new flows to the system at this time of year could serve as another avenue of nutrient transfer to Lake Arvilla.

Response: The lake modeling that was undertaken to evaluate the proposed discharge assumed the entire amount discharged reached the lake. This is a conservative approach as opposed to expecting that some of the phosphorus is retained in the wetland.

9F. Use of Existing System. Spray irrigation and storage capacity should be utilized to the greatest extent possible.

Response: All parts of the existing spray irrigation system are to remain in service during the 20-year design life of the proposed project.

9G. Infiltration and Inflow. Efforts to address infiltration and inflow problems with the system should be pursued simultaneously with the proposed project.

Response: The Dassel City Council has adopted a comprehensive program to locate and correct additional sources of I/I, particularly sources located on private property. An outline of this program is presented in a February 7, 2001, memo from the City Engineer to the Dassel Mayor and City Council. Portions of this program will be incorporated into the proposed NPDES/SDS permit. Briefly, the program will contain flow monitoring within the collection system, flow event recording at lift stations, monitoring of ground water elevations, house inspection of roof and foundation drainage, and inspection and correction of problems identified at service laterals. See also the responses to comments 2G and 2I.

9H. Watershed Nutrient Loading. The potential for the project to affect sensitive receiving waters could be lessened through consideration of measures to reduce other sources of loading in the watershed. As noted in Item 18 of the EAW, nutrient sources include residential and agricultural runoff, and individual sewage treatment systems. Assistance could be provided to residents in the Lake Arvilla watershed to develop best management practices (BMPs) to reduce nutrient inputs. Compensatory actions could possibly reduce other watershed sources to mitigate for the proposed action or improve the condition of water resources.

Response: As discussed in response 2S above, the largest phosphorus loading is expected to be from nonpoint sources of pollution. Managing these sources would have a large impact on reducing phosphorus loads to downstream surface waters.

9I. New Force Main. Further detail should be provided on the installation of a new force main for the project. If it requires the crossing of a state-protected watercourse, then a DNR crossing license will be required. The installation of force main should also avoid steep slopes and use BMPs for construction erosion controls.

Response: The proposed routing for the proposed force main would not cross any state-protected watercourse. An NPDES general permit for stormwater discharged during construction activities will be required. Erosion control measures, including the use of BMPs, to be used during the construction of the force main must be consistent with the requirements of the general permit.

9J. Outlet Structure. It is unclear whether the installation of an outfall structure to direct flows to the wetland will require a DNR protected water permit. If a permit is needed for this activity (as noted in the EAW), the proposer should contact Rob Collet, DNR Area Hydrologist.

Response: The City is aware of the permit requirements for construction in a wetland. The City engineer has contacted Mr. Collet and he indicated that once the City is sufficiently advanced he would

meet with the engineer and City staff at the proposed site to determine all the necessary permit requirements to construct the outfall structure. All necessary permits will be obtained before the construction.

10. Comment by Britta L. Bloomberg, Deputy State Historic Preservation Officer, State Historic Preservation Office, Minnesota Historical Society.

10A. Historic and Archaeological Resources. There are no properties listed on the National or State Registers of Historic Places and no known or suspected archaeological properties in the area that will be affected by this project. If the project is considered for federal assistance or requires a federal permit or license, it should be submitted to our office with reference to the assisting federal agency.

Response: The City is aware of this requirement and will submit the necessary information to the Historic Preservation Office. A copy will be sent to the MPCA.

11. Comment by Lee and Adeline Heutmaker, Edina, Minnesota.

11A. Request for EIS. Concern was expressed about the proposed discharge above Lake Arvilla. An EIS is needed to determine what effects this program would have on the future of Lake Arvilla.

Response: It is believe that proposed permit requirements and the phosphorus effluent limit to be applied to the discharge will prevent adverse effects on Lake Arvilla due to this discharge. See responses to comments 2S and 3A.