



## **Superfund Record of Decision:**

Reilly Tar & Chemical  
(St. Louis Park), MN

<b>REPORT DOCUMENTATION PAGE</b>		1. REPORT NO. EPA/ROD/R05-90/147	2.	3. Recipient's Accession No.
4. Title and Subtitle SUPERFUND RECORD OF DECISION Reilly Tar & Chemical (St. Louis Park), MN Third Remedial Action			5. Report Date 09/28/90	
			6.	
7. Author(s)			8. Performing Organization Rept. No.	
9. Performing Organization Name and Address			10. Project/Task/Work Unit No.	
			11. Contract(C) or Grant(G) No. (C) (G)	
			12. Sponsoring Organization Name and Address U.S. Environmental Protection Agency 401 M Street, S.W. Washington, D.C. 20460	
			13. Type of Report & Period Covered 800/000	
			14.	
15. Supplementary Notes				
16. Abstract (Limit: 200 words)  The 80-acre Reilly Tar & Chemical (St. Louis Park) site is a former coal tar distillation and wood preserving plant in St. Louis Park, Minnesota. The site overlies a complex system of aquifers, including the St. Peter aquifer that provide drinking water to area residences. The St. Peter Aquifer contains one municipal well, which is used during periods of peak demand, however, the majority of the drinking water in St. Louis Park is obtained from deeper aquifers. Surrounding land use is primarily residential. From 1917 to 1972, wastewater containing creosote and coal tar was discharged to onsite surface water, and as a result, small wastewater spills occurred into onsite soil. In 1972, the site was purchased by the city in response to complaints about wastewater contamination, and the plant was dismantled. State investigations from 1978 to 1981, identified site-related ground water contamination. Two previous Records of Decision (RODs) in 1984 and 1986, addressed remediation of specific aquifers, the filling of a small onsite wetland, and offsite soil contamination. This ROD addresses Operable Unit 4 (OU4), remediation of the St. Peter aquifer. A subsequent ROD will address any remaining site problems as OU3. The primary contaminants of concern affecting the ground water are organics including PAHs and phenols.  (See Attached Page)				
17. Document Analysis a. Descriptors Record of Decision - Reilly Tar & Chemical (St. Louis Park), MN Third Remedial Action Contaminated Medium: gw Key Contaminants: organics (PAHs, phenols)  b. Identifiers/Open-Ended Terms   c. COSATI Field/Group				
18. Availability Statement		19. Security Class (This Report) None		21. No. of Pages 55
		20. Security Class (This Page) None		22. Price

EPA/ROD/R05-90/147

Reilly Tar & Chemical (St. Louis Park), MN

Third Remedial Action

Abstract (Continued)

The selected remedial action for this site includes pumping an existing well screened within the St. Peter aquifer and initially discharging the extracted water offsite to a publicly owned treatment works (POTW); and ground water monitoring. Within 3 to 5 years, direct onsite discharge to surface water will be conducted if NPDES permit requirements can be met. If requirements are not met, onsite treatment, possibly using granular activated carbon, will be conducted prior to onsite discharge. The estimated capital cost for this remedial action is \$225,000 to \$250,000, depending on the need for onsite treatment. Annual O&M costs are estimated at \$60,000.

PERFORMANCE STANDARDS OR GOALS: Extracted ground water must meet NPDES discharge requirements for both discharge to a POTW and to surface water. Chemical-specific levels include carcinogenic PAHs 70 ug/l, other PAHs 17 ug/l, and phenols 10 ug/l.

## I. DECLARATION

### SITE NAME AND LOCATION

Reilly Tar and Chemical Corporation Site  
St. Peter Aquifer  
St. Louis Park, Minnesota

### STATEMENT OF BASIS AND PURPOSE

This decision document represents the selected response actions for the St. Peter Aquifer Reilly Tar and Chemical Corporation Site, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

This decision is based upon the contents of the administrative record for the Reilly Tar and Chemical Corporation Site.

The United States Environmental Protection Agency and the State of Minnesota agree on the selected remedy.

### ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the St. Peter Aquifer at this Site, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present a current or potential threat to public health, welfare, or the environment.

### DESCRIPTION OF REMEDY

The objectives of the response actions approved for the Site are to protect public health, welfare and the environment and to comply with applicable Federal and State laws.

The St. Peter Aquifer represents one operable unit within the overall Site strategy. This remedy addresses only the St. Peter Aquifer, and will contain the spread of contaminated ground water of Polynuclear Aromatic Hydrocarbon (PAH) Contamination in this aquifer.

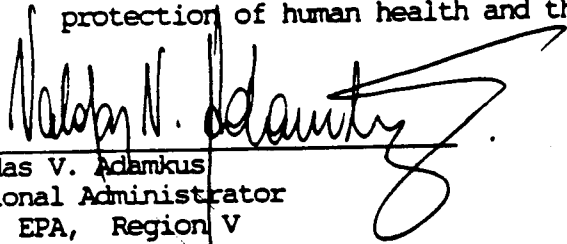
The major components of the selected remedy include:

- The interception and containment of contaminants by pumping well number W410 at a rate of 65 to 100 gallons per minute.
- The discharge from the well will initially be routed to the sanitary sewer for treatment at the Metropolitan Waste Control Commission (MWCC) wastewater treatment plant to remove contaminants from the collected ground water.

- Continued water level and water quality monitoring of the ground water contaminant plume during pumping remediation activities. This is not only to document the effectiveness of the remedy but also to determine the need for on-site treatment.
- Within three to five years, MPCA anticipates that the water quality of ground water pumped from W410 will be improved sufficiently to meet National Pollutant Discharge Elimination System (NPDES) limits. This would allow MPCA to route the ground water pumped from W410 to a storm sewer for eventual discharge to Minnehaha Creek. If necessary, an on-site treatment facility will be built to ensure that the ground water meets National Pollutant Discharge Elimination System (NPDES) limits.

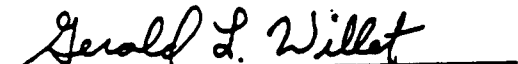
#### STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment (or resources recovery) technologies to the maximum extent practicable and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principle element. As this remedy will initially result in hazardous substances remaining on-site above health-based levels, a review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

  
Valdas V. Adamkus  
Regional Administrator  
U.S. EPA, Region V

Date

9/28/90.

  
Gerald L. Willet  
Commissioner

Date

9-26-90

## RECORD OF DECISION

1. Declaration
2. Site Description, Site History, Community Relations
3. Scope and Role of Operable Unit
4. Summary of Site Characteristics
5. Summary of Site Risks
6. Description of Alternatives
7. Comparative Analysis
8. Selected Remedy
9. Statutory Determinations
10. Responsiveness Summary

## IIa. SITE DESCRIPTION

The Site is defined in Part C.1 of the Consent Decree and in Section 1.21 of the Remedial Action Plan as the 80 acre property where Reilly Industries (Reilly) operated a coal tar refinery and wood preserving plant. The Reilly Tar Site (Site) is located in the western part of the Twin Cities metropolitan area, in St. Louis Park, Minnesota (Figure 1). The approximate location of this Site is west of Gorham, Republic and Louisiana Avenues, south of 32nd Street, east of Pennsylvania Avenue and north of Walker Street.

This Record of Decision (ROD) addresses the contamination in the St. Peter Aquifer underlying the Site. At the former Reilly Site, approximately 65 feet of Drift and 30 feet of Platteville Limestone and Glenwood Shale overlie the St. Peter Aquifer. About one-half mile southeast of the former Reilly Site, the Platteville and Glenwood bedrock units have been removed by erosion, and the Drift directly overlies the St. Peter Aquifer. The St. Peter Aquifer is a layer of water bearing sandstone, approximately 100 feet thick. In the St. Louis Park area, it is used mostly as a source of industrial process water and secondarily as a source of drinking water during times of peak demand.

## IIb. SITE HISTORY

The Site history information summarized in this section is excerpted from the Proposed Plan for the St. Peter Aquifer Report dated May 1990.

Between 1917 and 1972, Reilly Industries (Reilly) operated a coal tar distillation and wood preserving plant, known as the Republic Creosote Company. Wastewater containing creosote and coal tar from plant operations was discharged to ditches which drained to a swamp south of the Site. Additional releases of creosote and coal tar resulted from drippings and spills onto the soil. The major constituents of coal tar are phenolic compounds and polynuclear aromatic hydrocarbons (PAH). Some PAH compounds are carcinogenic and are of concern when they contaminate a source of drinking water. In this document, the terms "contaminants," "contaminated" or "contamination" refers to that PAH or phenolics present in the soil or ground water at the Site.

Because of extensive residential development in the area around the Site in the 1940's and into the 1950's, complaints about shallow well contamination and odor problems became common. As a result of the continuing problems with air emissions, soil and surface water contamination, the City of St. Louis Park (City) and the MPCA, filed suit against Reilly in 1970. In 1972, the City purchased the Site from Reilly, and the plant was dismantled and removed. The City dropped its lawsuit against Reilly as a condition of the sale.

In the mid 1970's, Louisiana Avenue was constructed through the Site and some multi-family housing units were constructed on the northern half of the Site. The Minnesota Pollution Control Agency (MPCA), Reilly and the City have observed soil and ground water contamination by a variety of coal-tar-related chemicals on and in the immediate vicinity of the former plant site. In 1978, the Minnesota Department of Health (MDH)

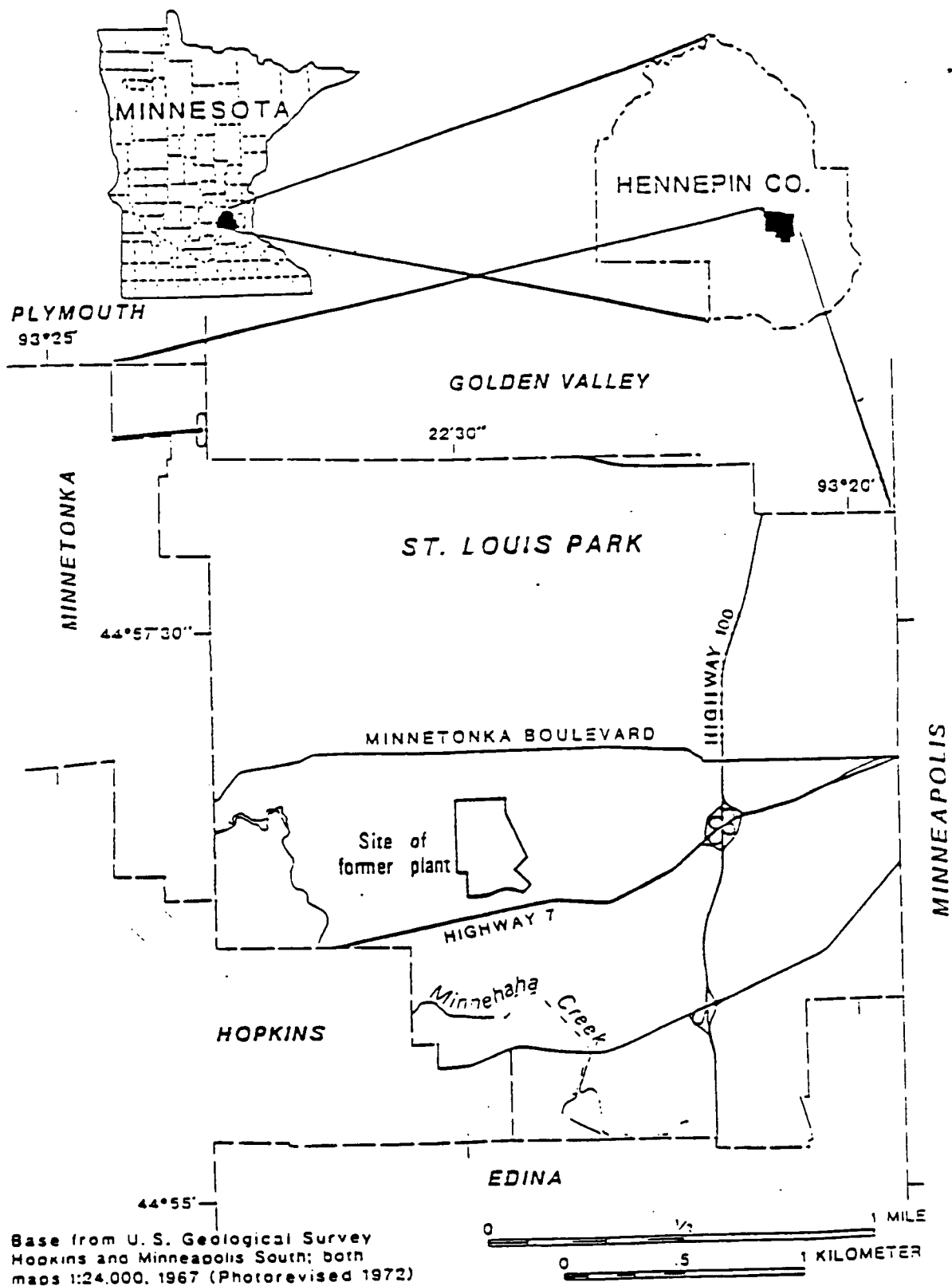


Figure 1 Location Map



began to analyze water from municipal wells in St. Louis Park and nearby communities for trace concentrations of PAHs. Over the time period from 1978 to 1981, the MDH discovered unexpectedly high concentrations of PAH in six City wells and one well in neighboring Hopkins. As these wells were found to be contaminated above acceptable drinking water levels, they were closed.

After it was determined that ground water contamination had occurred, the MPCA amended in 1978 its complaint in the lawsuit with Reilly to include claims for ground water contamination. Subsequent legal actions were taken by the federal and state governmental agencies against Reilly under the Resource Conservation and Recovery Act (RCRA), CERCLA, and the Minnesota Environmental Response and Liability Act (MERLA). Both the U.S. EPA and the MPCA agencies instituted administrative actions against Reilly, pursuant to the applicable federal and state Superfund acts. In these actions the U.S. EPA and MPCA agencies sought to compel Reilly to undertake necessary remedial actions. Following the administrative actions, negotiations which had previously broken down, resumed between the agencies, City, and Reilly. A general agreement for the remediation of the Site was reached in the summer of 1985. However, because of the complex nature of the agreement and the number of parties involved, final agreement was delayed until September 1986. This agreement is embodied in the Consent Decree-Remedial Action Plan (CD-RAP) entered by the U.S. District Court for the District of Minnesota in the U.S. vs. Reilly Tar (Case No. 4-80-469).

This remedial action is the latest in a series of remedial actions at the site to be completed in accordance with the prescriptions of the CA-RAP. Under a Record of Decision that was issued June 6, 1984, a Granulated Activated Carbon (GAC) treatment system was constructed to treat contaminated Prairie du Chien Aquifer water from St. Louis Park municipal wells SLP10 and SLP15. The GAC system has been in operation since July of 1986. Additional actions were taken under an Enforcement Decision Document (EDD) dated May 30, 1986. The EDD also implemented actions proposed in the CD-RAP. Remedial actions completed to date under the EDD include investigation, monitoring, pumping, and treatment in the Ironston - Galesville, Prairie du Chien - Jordan, and the Drift - Platteville Aquifers. Other actions in the near surface soils include filling of a small wetland to prevent waterfowl nesting in a heavily contaminated area, and a soils investigation between the Site and Minnetonka Creek to determine the extent of soil contamination off-site. Monitoring of the Mt. Simon - Hinkley Aquifer is ongoing. Municipal wells in the Mt. Simon Hinkley Aquifer will be treated if monitoring shows that drinking water criteria (defined on page 7) are exceeded. There are no domestic wells in that deep aquifer. Both the 1984 ROD and 1986 EDD are available for review as a part of the administrative record.

#### IIC. COMMUNITY RELATIONS

Various community relations activities were conducted to solicit public comment on the proposed plan for the St. Peter Aquifer. A fact sheet on

the proposed plan was mailed out in April 1990 (Attachment #1). MPCA issued a news release on the proposed plan on May 2, 1990 (Attachment #2). A notice of availability of the proposed plan and announcement of the public comment period were published in the Star Tribune newspaper on May 4, 1990 (Attachment #3). The public comment period extended from May 7, 1990, through June 8, 1990.

The Agencies also held a public meeting on May 16, 1990, at the City of St. Louis Park council chambers to present the Remedial Investigation, Feasibility Study and the Proposed Plan for containing the spread of contaminated ground water. All of these documents were made available at the St. Louis Park Public Library which is the repository for the Site. Comments received during the public comment period were considered in the Agencies final decision in selecting a remedial alternative. All comments which were received prior to the end of the public comment period, including those expressed verbally at the public meeting, are addressed in the Responsiveness Summary in Section X of this ROD.

### III. SCOPE AND ROLE OF OPERABLE UNITS

This Record of Decision (ROD) summarizes the alternatives considered for the St. Peter Aquifer and, in particular, formally evaluates the preferred alternative specified in the Consent Decree - Remedial Action Plan (CD-RAP) against the 9 criteria identified in Section VII of the ROD. The preferred remedy consists of using well W410 as a St. Peter Aquifer gradient control well.

In accordance with the remedial objective stated in the CD-RAP, of maintaining drinking water quality in the St. Peter Aquifer, this alternative addresses water quality in the St. Peter Aquifer. Section 8 of the CD-RAP dealt with the St. Peter Aquifer. Section 8.3, Remedial Actions, specified that: "The Regional Administrator and The Director may, for the purpose of preventing the further spread of ground water exceeding any of the Drinking Water Criteria defined in Section 2.2, require Reilly to install and operate a gradient control well system consisting of one or two gradient control wells". The St. Peter Aquifer gradient control well will operate independently of other remedial actions required by the CD-RAP for the purpose of preventing the further spread of contamination. Remedial Actions taken at other areas of the Reilly Site may, however, influence the duration of this alternative. For example, reconstructing well W23, sealing multi-aquifer wells, operating source and gradient control wells in other aquifers, providing treated drinking water, and continuing to monitor ground water quality will affect the operation of well W410 to varying degrees.

The activities described in this ROD are intended to remediate the contamination in the St. Peter Aquifer, which is one of the five aquifers underlying the Site. The full range of Site related activities that address other remaining contamination issues are specified in the CD-RAP. One or more future RODs will address the remaining problems presented by the Site. The Remedial Action for the St. Peter Aquifer described in this document addresses the principle threats to health and the environment posed by the aquifer at the Site.

#### IV. SUMMARY OF SITE CHARACTERISTICS

Contamination in the St. Peter Aquifer exists in the form of dissolved concentrations of PAHs in the ground water. PAH may have arrived in the St. Peter Aquifer through a combination of three likely pathways from the Reilly Site.

1. Dissolved PAHs following ground water flow patterns from the Drift-Platteville Aquifer through buried bedrock valleys or fractures in the Glenwood Shale confining layer.
2. Dissolved PAHs following ground water flow patterns via multi-aquifer wells that serve as conduits for rapid downward migration.
3. Direct introduction of coal tar materials into well W23.

Migration of PAHs through these three pathways has created the current plume of dissolved contaminants in the St. Peter Aquifer. Based on these conditions, the primary potential effects of contamination are on drinking water supplies and on the natural resource value of uncontaminated portions of the aquifer.

The Remedial Investigation (RI), completed September 13, 1989, consisted of the installation and monitoring of five wells, as required by the CD-RAP, in addition to the monitoring of existing wells in the St. Peter Aquifer. The locations of these wells are illustrated on Figure 2. The goal of the RI was to define the area of ground water contaminated with PAHs above the drinking water criteria. (See section VII of the ROD entitled "Compliance with ARARs" for criteria.)

The results of two rounds of ground water sampling during the remedial investigation are shown in Table 1. Only municipal well SLP-3 and monitoring well W408 contain PAH concentrations below drinking water criteria for both sampling rounds. For the most part, the criterion of 280 parts per trillion for "Other PAH" is the only criterion exceeded by the other wells. However, wells W14 and W409, in the first round only, exceeded the criteria of 28 parts per trillion for carcinogenic PAH. Based on this ground water sampling, the current interpretation of the extent of contamination in the St. Peter Aquifer is shown in Figure 3.

The results of an additional study that was needed to complete the Feasibility Study (FS) was submitted to the Agencies on November 15, 1989. This study was entitled "Report on the Pumping of the St. Peter Aquifer at Well Location W410 in St. Louis Park, Minnesota" (W410 Report). The W410 Report documented the reconstruction of well W410 from a monitoring well to a pumping well, and its ability to control the area of contaminated ground water. The W410 Report consisted of a pumping test conducted in September 1989 to study the aquifer's response to pumping of the well. Data obtained from the test was used to calculate pumping rates necessary to contain contamination in the St. Peter Aquifer. It was determined that a pumping rate of 65 to 100 gpm for well W410 would capture the contaminant plume shown in Figure 3. A

▲ W 33 LOCATION AND PROJECT WELL NUMBER

▲ OBSERVATION WELL COMPLETED IN ST. PETER AQUIFER

■ OBSERVATION WELL COMPLETED IN BASAL ST. PETER CONFINING BED

○ ST. PETER MONITORING WELLS CONSTRUCTED IN 1987

⊙ WELL IN WHICH WATER LEVELS WERE MONITORED WITH A DIGITAL RECORDER DURING PART OF 1978-81

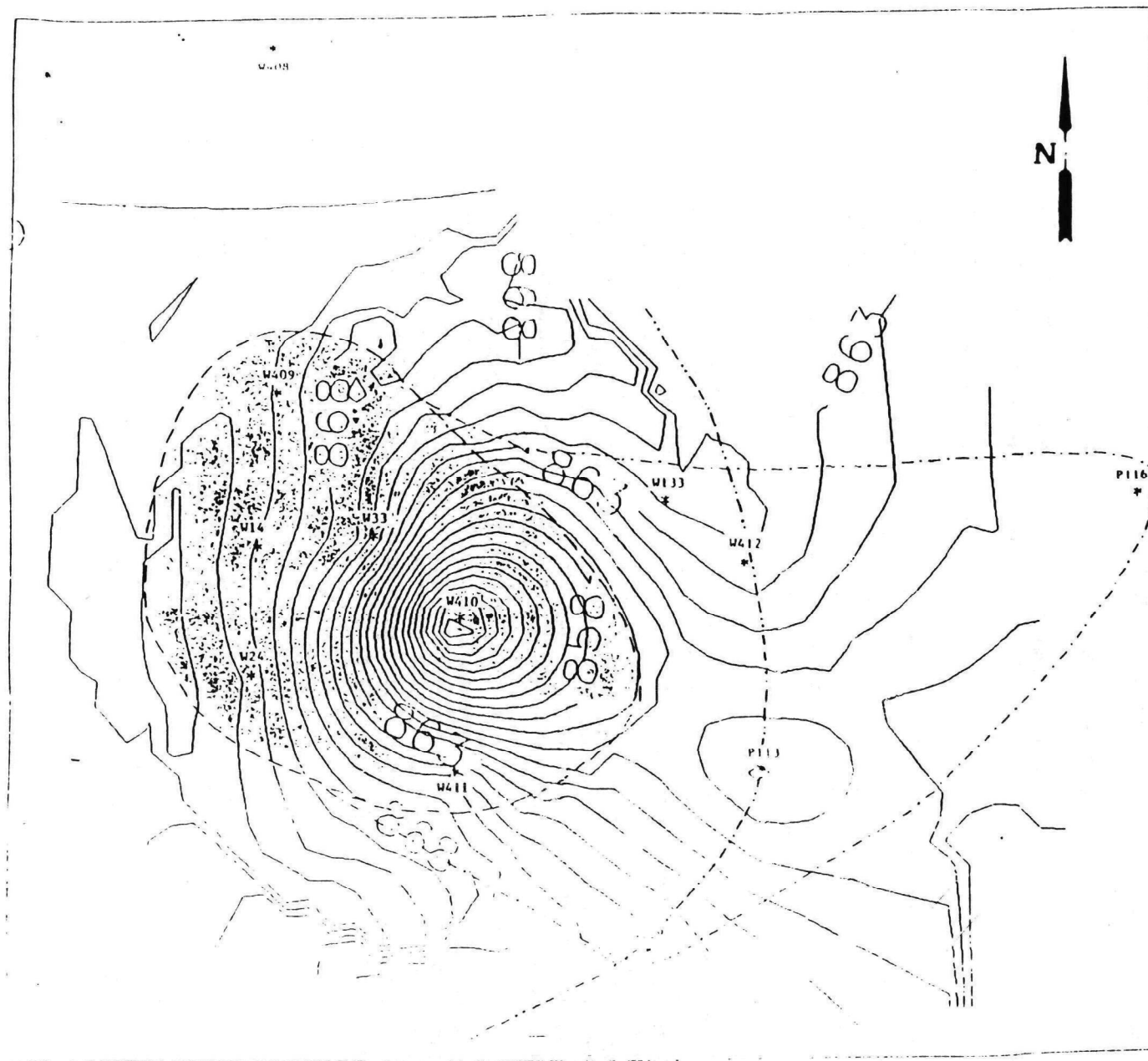
▨ BEDROCK VALLEY/CONTACT WHERE UNCONSOLIDATED DRIFT DEPOSITS OVERLIE ST. PETER SANDSTONE

Figure 2 St. Peter Aquifer  
Monitoring Well  
Locations

TABLE 1  
SUMMARY OF ANALYTICAL RESULTS

<u>Well</u>	<u>Total PAH Concentrations, ng/l</u>			
	<u>First Round (7/88)</u>		<u>Second Round (10/88)</u>	
	<u>Other PAH</u>	<u>Carcinogenic PAH</u>	<u>Other PAH</u>	<u>Carcinogenic PAH</u>
SLP	8	0	10	0
W14	95	57	438	0
W24	3,309	0	3,622	0
W33	16,430	0	12,455	0
W122	142	21	2,246	0
W129	88	0	290	0
W133	52,370	0	29,830	0
W408	151	2	34	0
W409	2,192	159	890	0
W410	1,288	0	1,435	0
W411	1,274	0	1,161	0
W412	1,309	8	209	0
P116	196	8	3,770	0

FIGURE 3



EXPLANATION

- Extent of contamination  
1988 Remedial Investigation Report
- Area requiring further monitoring  
based on inconclusive water quality data
- Capture zone of well W410 based  
on a 100 gpm pumping rate

SCALE



Figure 4-1 Ground Water  
Contours in the  
St. Peter Aquifer  
September 17, 1999

pumping rate of 100 gpm would extend the capture zone about 1/2 mile downgradient of Well W410 (See Figure 3). Well W410 will be pumped at a rate of 65 to 100 gpm, depending on the extent of contamination in the aquifer as determined by continuous ground water monitoring of wells to the east and southeast of the currently defined contaminant plume. The FS Report was subsequently completed on April 26, 1990, based on the results of the well W410 Report.

## V. SUMMARY OF SITE RISKS

The ground water, soil and surface waters on and near the Reilly Tar Site have been impacted by site-related contaminants. This document represents the objectives of response actions for one operable unit, the St. Peter Aquifer, within the overall site strategy. The purpose of this section is to discuss the risks posed by the contaminated ground water at the Site to human health and the environment.

The exposure pathway of greatest concern for human health is the ingestion of contaminated ground water used for drinking or cooking. Although there is one municipal well in the St. Peter Aquifer which is used during periods of peak demand, the majority of drinking water in St. Louis Park is obtained from the other deeper aquifers. The St. Peter Aquifer municipal well is located upgradient of the movement of the contaminant plume and has consistently produced water of good quality. Because of the infrequent use of this ground water for drinking and the historical record of good quality, exposure through ingestion of water from the St. Peter Aquifer is not a primary concern.

The remedy will contain the spread of contaminated ground water of PAH's in the aquifer by the interception and containment by pumping well number W410. By containing the spread of contamination in the St. Peter Aquifer, the remedy will preserve the quality of ground water in the rest of the aquifer and will also reduce the potential of cross contamination of deeper aquifers used for drinking water. Therefore, the increase in environmental risk is negated.

## VI. DESCRIPTION OF ALTERNATIVES

The objective of the remedial action is to prevent, reduce, and control the spread of contaminant in the St. Peter Aquifer.

### ALTERNATIVE 1 - NO ACTION WITH MONITORING

The alternative of taking no action to limit the spread of contaminated ground water has not been considered in the FS and Proposed Plan because this alternative is not allowed under the CD-RAP. Moreover, by taking no action, the first two evaluation criteria (overall protection of human health and the environment and compliance with Applicable or Relevant and Appropriate Requirements (ARARs)) would not be met. Water quality data presented in the RI Report indicate total PAH concentrations 10 to 100 times higher than that allowed in drinking water. The no action alternative does not address the risks presented by this contamination and, therefore, is not considered, in this ROD.

## ALTERNATIVE 2 - USE OF GRADIENT CONTROL WELL(S)

The W410 Report described the use of well W410 for gradient control and showed that pumping well W410 at a rate of 65 to 100 gallons per minute will intercept and control the spread of contaminated ground water. The discharge from the well is contaminated with PAH and will initially be routed to the sanitary sewer for treatment at the Metropolitan Waste Control Commission (MWCC) wastewater treatment plant. Within three to five years after the start of pumping, this will be changed to a storm sewer discharge that will eventually go to Minnehaha Creek. Before the change from sanitary to storm sewer discharge will be allowed, a determination must be made whether on-site treatment will be necessary under a National Pollutant Discharge Elimination System (NPDES) permit. One of the requirements of implementing this remedy's continued water level and water quality monitoring is not only to document the effectiveness of the remedy but also to determine the need for on-site treatment.

## VII. COMPARATIVE ANALYSIS

The remedial alternatives the City developed in the RI/FS were evaluated by the U.S. Environmental Protection Agency and Minnesota Pollution Control Agency using EPA's nine criteria. Since the no action alternative is not protective of human health nor does it meet ARARs, only the preferred alternative (Alternative 2) will be evaluated against the nine criteria which are as follows:

1. Overall Protection of Human Health and the Environment; addressing whether an alternative provides adequate protection and describes how risks are eliminated, reduced or controlled through treatment and engineering controls.
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs); addressing whether an alternative will meet all of the applicable or relevant and appropriate requirements or provide grounds for invoking a waiver.
3. Long-term Effectiveness and Permanence; referring to the ability of an alternative to maintain reliable protection of human health and the environment, over time, once cleanup objectives have been met.
4. Reduction of Toxicity, Mobility, or Volume; referring to the anticipated performance of the treatment technologies an alternative may employ.
5. Short-term Effectiveness; involving the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup objective are achieved.
6. Implementability; addresses the technical and administrative feasibility of an alternative, including the availability of goods and services needed to implement the remedy.



7. Cost; including capital costs, as well as operation and maintenance costs.
8. Agency Acceptance; indicating whether, based on their review of the RI, FS and Proposed Plan, the Agencies agree on the preferred alternative.
9. Community Acceptance; indicating the public acceptability of a given alternative. This criteria is discussed in the Responsiveness Summary.

The following is a detailed analysis of each of the evaluation criteria for the preferred alternative:

A. Overall Protection of Human Health and the Environment

Using well W410 for gradient control provides overall protection of human health and the environment by limiting the further spread of contamination within the aquifer. No human health risks have historically been associated with contamination in the St. Peter Aquifer. Well SLP3 is the only drinking water well that draws water from the St. Peter Aquifer within St. Louis Park. This well is located northeast of the Site, Figure 2, and in the past has consistently produced ground water of good quality. Continued monitoring, as required in the CD-RAP, of wells SLP3 and W408 will eliminate and/or control the potential human health risk.

The primary function of operating well W410 as a gradient control well is to provide overall protection to uncontaminated portions of the St. Peter Aquifer. By preventing the further spread of contamination, overall protection of the environment will be achieved.

B. ARARs Compliance

ARARs for this alternative are defined in the CD-RAP, Sections 2.2 and 2.5:

Drinking Water Criteria

	Advisory Level	Drinking Water Parameter Criterion
The sum of benzo(a)pyrene and dibenz(a,h)anthracene	3.0 ng/l*	5.6 ng/l
Carcinogenic PAH	15 ng/l	28 ng/l
Other PAH	175 ng/l	280 ng/l

\* Or the lowest concentration that can be quantified, whichever is greater.

The Safe Drinking Water Act specifies Maximum Contaminant Levels (MCLs) for drinking water at public water supplies. Since MCLs for PAH compounds were not developed through the Safe Drinking Water Act regulations, it was necessary to derive Drinking Water Criteria for the Site. This was accomplished through consultations with experts and the Minnesota Department of Health along with MPCA and EPA representatives. These Drinking Water Criteria are not considered to be an ARAR since they are not MCLs. However, the Drinking Water Criteria are defined as a TBC (To Be Considered.) TBCs are advisories, criteria, or guidance that were developed by EPA, other federal agencies or states that may be useful in developing CERCLA remedies.

The Drinking Water Criteria were first set out in the USEPA EDD in 1986, and they represent an excess lifetime cancer risk of  $1 \times 10^{-6}$ . This risk indicates that, as a plausible upper bound, an individual has a one in one million chance of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at a site. This TBC will be met by the preferred alternative by preventing the spread of ground water exceeding these Drinking Water Criteria.

#### Surface Water Criteria

	Daily Maximum Parameter Concentration	30-day average Concentration
Carcinogenic PAH	--	70 ng/l*
Other PAH	34 ug/l	17 ug/l
Phenanthrene	2 ug/l	1 ug/l
Phenols	--	10 ug/l

\* The CD-RAP specifies 311 ng/l, however, 70 ng/l is the current discharge Limit for carcinogenic PAH.

The Clean Water Act (CWA) and the regulations under it apply to contaminated water (surface or extracted ground water) from the Site that is either discharged to surface waters or routed through the sanitary sewer system for treatment and eventual discharge. The CWA and its regulations set forth permitting requirements and treatment standards for discharge of extracted ground water to protect the quality of the receiving waters. The CWA requires that a discharge to surface water be controlled by a NPDES permit. Discharge from the Site will meet the NPDES permit limits shown above.

Initially, pumped ground water will be discharged to the sanitary sewer and then be treated at the MWCC wastewater treatment plant. The MWCC had issued a permit to the City of St. Louis Park for this planned discharge (Attachment #4). Publicly owned treatment works such as the MWCC treatment plant are required by the Clean Water Act pretreatment regulations to limit the introduction of toxic or hazardous substances which may interfere with the treatment process or pass through untreated to surface waters. The MWCC permit contains pretreatment limits for various contaminants including PAHs. The discharge from the Site will meet the MWCC permit pretreatment limits. The MWCC wastewater treatment plant also has an NPDES permit which is included as Attachment 5.

The operation of the St. Peter Aquifer gradient control well will be governed by the use of these ARARs or other, more stringent, limits established by the Agencies over time. An example of this is the change in the surface water criteria from 311 ng/l to 70 ng/l from the time of the writing of the CD-RAP to the present time. Drinking water criteria will be used to assess the need for ground water control measures throughout the aquifer, while discharge options for ground water that is removed will be evaluated against the surface water discharge criteria.

RCRA may be an ARAR for the Site. If on-site treatment is required for the discharge from W410, the process will probably generate "spent carbon". This term refers to granulated activated carbon contaminated with PAHs. "Spent carbon" will be returned to the manufacturer for regeneration and reuse. If the testing of the spent carbon determines it to be a hazardous waste as defined by RCRA, and if regulated quantities are generated, then the requirements of RCRA would be ARARs for the Site. The Land Ban requirements of RCRA do not apply to the disposal of spent carbon since the carbon will be regenerated and reused and no land disposal is contemplated.

### C. Long-term Effectiveness and Permanence

Once the response objective is met, and the further spread of contamination has been prevented, residual levels of PAH will remain in the aquifer. Based on the relatively large volume, low concentration, and low mobility of the contaminants, this residual PAH is expected to remain in the aquifer for at least the 30-year life of the CD-RAP. Pumping will continue as long as necessary to prevent the further spread of contamination. The potential risks posed by residual contamination in the aquifer after plume management activities are concluded are very small because of the lack of a human exposure pathway

(municipal well SLP3, which draws from the St. Peter Aquifer is upgradient of the contamination plume for drinking water), and because the low mobility of the PAH compounds reduces their ability to migrate.

On-site treatment of the discharge from W410, if needed, will likely generate granulated activated carbon contaminated with PAH, which is called "spent carbon." Any spent carbon that is generated will be evaluated for acute toxicity. If the acute toxicity levels are similar to the Prairie du Chien Aquifer GAC levels, the spent carbon will be sent back to the manufacturer to be regenerated and then re used. The carbon is regenerated by burning off the PAHs under controlled conditions; the carbon generated from other plants treating gradient control water is expected to be similar. Therefore, no significant additional risk from spent carbon is anticipated.

The pumping technology for this alternative is a standard, reliable, and proven technology for meeting project objectives. System components may require replacement during the life of this remedial action, but replacement should be an easy procedure. The City of St. Louis Park has been operating and maintaining ground water pumping systems for over 40 years, thus no problems with the adequacy or reliability of controls is anticipated.

D. Reduction of toxicity, mobility, or volume through treatment

The most important feature of this alternative is the control exerted by the pumping well on the volume and mobility of contaminants within the aquifer. During the course of pumping, the more mobile PAHs will be removed first, leaving less mobile PAHs in the aquifer that will be released slowly over time. As previously indicated, this alternative is primarily intended to control the spread of contamination. Accordingly, on-site treatment of pumped water is not a principal element of this alternative, but will be implemented if so required by the NPDES permit.

E. Short-Term Effectiveness

The construction and implementation phase of this alternative does not present worker or community exposure, and will not cause adverse environmental impacts. During the short construction project a well pump will be installed in the existing well house. Based on the previous aquifer test, the further spread of contamination in the greatest part of the aquifer will be halted within approximately two days after the start of pumping. Therefore, there will be a relatively short time period in which short-term effectiveness can be assessed.

The need for additional response actions in portions of the St. Peter Aquifer that are outside the influence of the

pumping well will be addressed based on future ground water monitoring results. Monitoring of wells installed in the St. Peter Aquifer is ongoing.

F. Implementability

There are no outstanding issues relative to the technical feasibility of implementing this alternative. The technology for pumping ground water is reliable, and easy to maintain. There should be little potential for schedule delays, or conflicts with other remedial actions taken at the site. Repair work on system components will be similarly straightforward. Ground water monitoring, and monitoring the discharge from the pumping wells will provide an adequate means of assessing exposure pathways. Obtaining the necessary permits is not expected to be difficult. The same remedial actions are currently being practiced elsewhere at the Reilly Site. Permitting authorities such as the Metropolitan Waste Control Commission, Minnesota Department of Natural Resources, and Minnehaha Creek Watershed District have a precedent to follow in dealing with this activity.

Services and materials for this work are all available at competitive bid prices, and will not limit the implementability of this alternative.

G. Costs

Project costs are minimal at this point based on the amount of work that has already been done to construct and test the well, and build the well house. Capital costs for equipment, installation, engineering, permits, startup, and contingencies are estimated at \$225,000 (\$200,000 of this cost is for the Metropolitan Waste Control Commission service availability charge). If a treatment facility is required for a surface water disposal option, the capital cost of the treatment facility is estimated at \$250,000. Annual operation and maintenance (O & M) costs are also minimal for this alternative because of the many other gradient control wells that are currently cared for by the City of St. Louis Park. O & M, materials, energy, disposal of residues, purchased services, administrative costs, and other post-construction costs that may be required to ensure the effectiveness of this remedial action are estimated at no more than \$60,000 per year. Major components of the annual O & M costs include:

sewer charge	\$35,000
electricity	\$ 2,100
labor	\$20,000

If major equipment problems occur, and replacement is required at some time during the first 30 years of operation, two to four weeks should be sufficient for installation and start-up of equipment. This time span is short enough that, given the

relatively slow velocity of ground water travel in the aquifer and the large capture area of well W410, contaminants are not expected to escape the area controlled by the well.

No cost sensitivity analysis was performed due to the relatively high certainty of project costs.

#### H. Agency Acceptance

Both U.S. EPA and MPCA are in agreement with the remedy because it is protective of public health and the environment and satisfies the nine required evaluation criteria. The remedy is also consistent with the remedial action specified in the CD-RAP.

#### I. Community Acceptance

Community acceptance is assessed in the attached Responsiveness Summary. The Responsiveness Summary provides a thorough review of the public comments received on the RI, FS and Proposed Plan, and the U.S. EPA's responses to the comments received.

### VIII. SELECTED REMEDY

The preferred alternative of using well W410 as a gradient control to contain contamination in the aquifer has been found to satisfy the 9 evaluation criteria and thus, is the selected alternative. The well will be pumped at a rate of 65 to 100 gpm, depending on the extent of contamination in the aquifer as determined by ground water monitoring. For the first five years following the effective date of this ROD, ground water samples will be collected on a semiannual basis from the following wells: SLP3, W24, W33, W122, W129, W133, W408, W409, W410, W411, W412, and P116. These samples will be analyzed for the Carcinogenic PAH and Other PAH listed in Appendix A of the CD-RAP. The wells to be sampled and the frequency of sampling will be re-evaluated after the five year period. Water level measurements will be taken at all the above wells, as well as at W14, on a quarterly basis for the first year, and semiannually thereafter. If the proposed range of pumping rates is not sufficient to control the spread of contamination, additional wells may be required for gradient control.

Well W410 will initially discharge to the MWCC wastewater treatment plant for treatment of the contaminated ground water. Within three to five years, MPCA anticipates that the water quality of ground water pumped from W410 will be improved sufficiently to meet National Pollutant Discharge Elimination System (NPDES) limits. This would allow MPCA to route the ground water pumped from W410 to a storm sewer for eventual discharge to Minnehaha Creek. If necessary, an on-site treatment facility will be built to ensure that the ground water meets National Pollutant Discharge Elimination System (NPDES) limits.

The selected remedy is consistent with the CD-RAP, 8.3 which specifies the installation and operation of one or two gradient control wells to

prevent the further spread of ground water exceeding any of the drinking water criteria defined in CD-RAP Section 2.2. Because the CD-RAP requires that the Potentially Responsible Parties control the gradient in the St. Peter Aquifer and specifies this particular remedial action, the analysis of this alternative builds on various earlier studies, referenced in the CD-RAP, that developed and screened alternatives.

#### IX. STATUTORY DETERMINATIONS

The selected remedy must satisfy the requirements of Section 121 of CERCLA, which are:

- . Protect human health and the environment
- . Comply with ARARs or justify a waiver
- . Be cost effective
- . Utilize permanent solutions and alternative technologies or resource recovery technologies to the maximum extent practical
- . Satisfy the preference for treatment as a principal element or explain why preference was not satisfied.

1. Protection of Human Health and the Environment

The selected remedy provides overall protection of human health and the environment by limiting the spread of contamination within the aquifer. No human health risks have historically been associated with PAH contamination in the St. Peter Aquifer. Municipal well SLP3 is the only drinking water well that draws water from the St. Peter Aquifer. This well is only used in periods of peak water demand and is located upgradient of the contaminant plume. Well SLP3 has consistently produced ground water of good quality. The most important effect of this remedy is to provide protection to uncontaminated portions of the St. Peter Aquifer and thus achieving overall protection of the environment.

2. Compliance with ARARs

The selected alternative will meet all applicable, relevant and appropriate requirements (ARARs) of federal law or more stringent state laws. The following discussion provides details of the ARARs that will be met by this remedial action.

a. Safe Drinking Water Act (SDWA)

As previously discussed in Section VII B of this ROD, the Drinking Water Criteria developed for this Site are considered to be a TEC. The remedial action is required by the CD-RAP to prevent the spread of contaminated ground water in the aquifer that exceeds these Drinking Water Criteria.

b. Clean Water Act (CWA)

Surface water discharge criteria for the Site are set forth in the NPDES permit issued under the CWA and are shown in Section VII B of this ROD. Treatment of the discharge from well W410 will initially occur at the MWCC wastewater treatment plant.

The discharge from the Site will comply with the pretreatment requirements of the Clean Water Act (40 CFR Part 403). In three to five years, the ground water from well W410 may be discharged to a storm sewer. The discharge to the storm sewer must meet the NPDES permit discharge limits. An on-site treatment facility may be necessary so that the discharge from well W410 will meet NPDES permit limits.

c. Resource, Conservation and Recovery Act (RCRA)

RCRA may be an ARAR for the Site. If on-site treatment is required for the discharge from W410, the process will probably generate "spent carbon". This term refers to granulated activated carbon contaminated with PAHs. "Spent carbon" will be returned to the manufacturer for regeneration and reuse. If the testing of the spent carbon determines it to be a hazardous waste as defined by RCRA, and if regulated quantities are generated, then the requirements of RCRA would be ARARs for the Site. The Land Ban requirements of RCRA do not apply to the disposal of spent carbon since the carbon is to be regenerated and reused and no land disposal is contemplated.

3. Cost Effectiveness

Remedial costs for the selected remedy are minimal at approximately \$250,000 in capital costs. Since the only other alternative that was considered was the no action alternative, a rigorous cost effective comparison cannot be made. It is unlikely however, that any other proposed alternative could be more cost effective. Annual operation and maintenance costs will be approximately \$60,000, which is lower than at other sites because of the many other wells currently maintained by the city of St. Louis Park.

4. Utilize Permanent Solutions and Alternative Technologies or Resource Recovery Technologies to the Maximum Extent Possible

The selected alternative of containment by pumping well W410 represents a permanent solution. The PAH's are expected to remain in the aquifer for at least the 30 year life of the CD-RAP. Pumping will continue as long as necessary to contain the spread of contamination in the aquifer above Drinking Water Criteria levels. Pumping is a standard, reliable and proven technology for meeting remedial objectives. In three to five years, the discharge from well W410 will be routed to the storm sewer at which time on-site treatment may be necessary to meet NPDES discharge limits.

Satisfy the Preference for Treatment as a Principal Element

The most important feature of this alternative is the control exerted by the pumping well on the volume and mobility of contaminants within the aquifer. During the course of pumping, the more mobile PAH will be removed first, leaving less mobile PAH



in the aquifer that will be released slowly over time. As previously indicated, this alternative is primarily intended to control the spread of contamination. Accordingly, on-site treatment of pumped water is not a principal element of this alternative, but may be implemented if so required by the NPDES permit.

X. RESPONSIVENESS SUMMARY

The Agencies held a public comment period from May 7, 1990 through June 8, 1990, for interested parties to comment on the Proposed Plan.

The Agencies also held a public meeting at 7:30 p.m. on May 16, 1990 at the City Council Chambers in St. Louis Park, Minnesota to present the RI.

Several questions were asked during the public meeting. The questions are summarized below, along with the MPCA's responses.

Question: Will the cost of this project fall on the taxpayers? Who pays for it?

MPCA Response: The City will pay the costs of the project using funds received from the Reilly Chemical Corporation. The company has set aside a \$1 million contingency fund for expenses that were not foreseen during negotiations on the settlement, and this project does qualify as a contingency item eligible for reimbursement from the fund. No expenditures have been made from the fund.

Question: Is there a possibility that the water pumped from this well could be discharged to Minnehaha Creek?

MPCA Response: The water will be discharged to the sanitary sewer system for at least the next three to five years. The water will be analyzed periodically and the MPCA anticipates eventually being able to take it off the sewer connection for potential discharge to surface waters after on-site treatment. This will not happen until the water's quality is proven and an opportunity for public review and comment has been provided.

Question: Is the soil on the Site still contaminated and is it still polluting the aquifers under it?

MPCA Response: About one million cubic yards of contaminated earth still reside at the Site, and are affecting mainly the upper aquifers. That amount of earth would be prohibitively expensive to remove or treat using present technologies. Because it is presently impossible to remove the source of the contamination, the focus of

cleanup is to limit its spread and treat the affected ground water. Developing technologies such as bioremediation may allow treatment of the soil in the future.

Question: Who is doing the sampling of the water? Are they testing for all the chemicals found at the Site?

MPCA Response: Rocky Mountain Laboratories of Arvada, Colorado. The method being used is gas chromatography/mass spectrometry, yielding results in the parts per trillion. Currently there are no local labs that can provide this level of analysis. The lab meets the U.S. EPA's contract lab standards, which provide for periodic review of laboratory methodologies. The Consent Decree identified approximately three dozen chemicals to be tested, which include all the PAHs found at the Site.

Question: There were several multi-aquifer wells in the area that might allow migration of contaminants from one aquifer to another. Is the MPCA sure they've found and sealed them all?

MPCA Response: The Health Department investigated and abandoned many such wells in the area in the 1970's and 80's. There is one well whose existence is known, but it has not yet been found. Its general location is known; however, it was drilled in the last century and there's no one living who can pinpoint it. Evidence suggests it was a deep well extending into the Mt. Simon-Hinkley aquifer, so the MPCA is doing its best to find this well.

Question: There was a proposal in the past to discharge contaminated water from one of the wells in these aquifers into Lake Calhoun that was rejected. What is the status of that well? Is it being used?

MPCA Response: The City of St. Louis Park has hired a consultant to design a granular activated carbon treatment plant to treat the water from that well. The well is currently closed and will not be used until the treatment plant is ready. When it is, the water will be treated and made a part of the City's municipal supply, the same as is currently done with the two wells in Bronx Park at 29th and Jersey.

Community Relations Activities Conducted for  
the Reilly Tar and Chemical Site, St. Peter Aquifer

Attachment #1	April, 1990	Fact sheet mailed out, re: Proposed Plan, St. Peter aquifer.
Attachment #2	May 2, 1990	News release mailed out, re: Public comment on Proposed Plan
Attachment #3	May 4, 1990	Advertisement in Star Tribune newspaper announcing availability of Proposed Plan and date of public meeting and comment period.
	May 16, 1990	Public meeting held at St. Louis Park City Offices.



*Superfund Proposed Plan/Fact Sheet for*

# Reilly Tar and Chemical Site

April, 1990

This fact sheet summarizes the U.S. Environmental Protection Agency's (EPA) and Minnesota Pollution Control Agency's (MPCA) joint proposed cleanup plan for part of the Reilly Tar and Chemical site. This recommendation follows a complete investigation of ground water contamination and a study of feasible cleanup options.

## What is the history of the site?

Between 1918 and 1972, Republic Creosote, a subsidiary of Reilly Tar and Chemical Corp., operated a coal-tar distillation and wood-preserving plant on an 80-acre site in St. Louis Park. The former site is north of Highway 7 and west of Louisiana Avenue. Oak Park Village condominiums are located on the northern portion of the site.

During those years, wastewater from the distillation process was disposed of in a series of ditches emptying into what had been a swampy area south of the site. Spills and leaks also contami-

nated the surface soils, and tar-like materials were found deep in a water well on-site.

These activities caused significant contamination of the ground water in the area of the Reilly site with creosote and other chemicals affecting human health. The problems at this site have been well publicized throughout the late 1970s and '80s, and it has been the object of a high-priority Superfund investigation and cleanup since the early '80s. The site has not been in use since 1972, and contaminated municipal water wells are no longer used.

While the immediate drinking-water emergency has been taken care of, the ground water in the area is still contaminated and poses potential problems.

Cleaning up the ground water is the focus of most of the current efforts at the Reilly site.

In 1986, the former owners of the Reilly site, along with the City of St. Louis Park, signed a cleanup agreement, called a Consent Decree, with the EPA and MPCA. Under this agreement, the parties responsible for the site were to continue investigating the extent of the problem and conduct necessary cleanup

## The MPCA wants your comments.

The public is invited to comment on this proposed plan at a public meeting, to be held May 16, 7:30 p.m., in the first-floor community room of the St. Louis Park City Offices, 5005 Minnetonka Blvd. Those who cannot attend the meeting may send comments by mail through June 1, 1990, to: Ralph Pribble

Minn. Pollution Control Agency  
Public Information Office  
520 Lafayette Road  
St. Paul, MN 55155

actions. Because of its complexity, the overall Reilly cleanup investigation has been divided into a number of phases called "operable units," each of which has, or will have, its own action plan. The plan for one of these units, the St. Peter Aquifer, is now ready for public comment. (The other operable units are in various stages of cleanup.)

#### Why is the MPCA dividing the site into operable units?

The contamination at the Reilly site occurred over many years and through many avenues. As a result, chemicals went deep into the ground. The site is underlain by five separate aquifers, or layers of earth and porous rock containing ground water. These aquifers are stacked on top of one another, separated by various confining layers, going down hundreds of feet below the surface. Communities in the Twin Cities western suburban area get their drinking water from these aquifers.

The Reilly site has contaminated most of these aquifers to varying degrees in the area of the site.

The ground water in each aquifer "behaves" differently, moving in somewhat different directions. Because cleanup will be different for each aquifer, they are being investigated separately. The St.

Peter is the second layer down, lying between about 100 and 200 feet below the surface. The contamination in this aquifer needs to be removed, because it has the potential to spread to other drinking water supplies and/or aquifers.

#### So what's the cleanup plan for the St. Peter aquifer?

EPA and MPCA propose to pump out the contaminated water from the aquifer and treat it so that it no longer poses a health risk. The investigation showed that a well in this aquifer pumping an average of 65 to 100 gallons a minute would induce ground water in the area to move toward the well and be drawn out of the ground.

Eventually this would carry all the contamination in the aquifer to the well, effectively preventing it from spreading from the Reilly site. The water will be sent through the sanitary sewer system to the Metropolitan Waste Control Commission's (MWCC) main treatment facility, where the contaminants will be removed.

The well has been constructed and tested, and is ready to begin pumping as soon as the public has had a chance to comment on this remedy.

#### How can you send chemically contaminated water to a sewer plant?

The water from the pump-out is fairly clean. While not pure enough to be used for drinking water, it is, for example, cleaner than storm runoff. The contaminants it contains, primarily polynuclear aromatic hydrocarbons (PAHs), are biodegradable and can be treated by MWCC. This is only an interim solution, and it's likely that this water may be treated on-site in the future.

#### Why was this plan chosen?

Remedies in Superfund cleanups are evaluated against a number of criteria. As stated, this remedy is only part of the overall remedy or cleanup for the Reilly site; it's not the solution to the whole problem. The plan was carefully considered in light of the following criteria:

1. This remedy provides overall protection of human health and the environment by limiting the further spread of contamination within the aquifer.
2. Applicable local requirements are complied with in that the water will meet state surface-water criteria when discharged from the MWCC's treatment plant.

3. The remedy will provide for long-term effectiveness and permanence by ensuring that the pump-out will continue as long as necessary to prevent the further spread of contamination in the aquifer.

4. The toxicity, volume, and mobility of the contaminants present in the aquifer will be effectively reduced over time by the pump-out.

5. The construction and implementation of this remedy presents no worker or community exposure, nor any adverse environmental impacts.

6. The technology for this remedy is proven, cost-effective, reliable, and easy to maintain.

7. The final criteria are state and community acceptance. The MPCA has agreed to this remedy, and now the community has an opportunity to review and comment on the proposed remedy before it becomes final.

In view of the health hazards posed by the ground water contamination from this site, pumping and treating the water is really the only practical alternative.

How long will the pump-out need to continue?

Water coming from the well will be tested periodically, and the pump-out will continue until the well produces water that's within state guidelines for drinking water. This may take as long as 30 years, and possibly longer.

What about the rest of the cleanup (the other operable units)?

The other parts of the overall Reilly investigation relate to the other aquifers involved, and have their own investigations and action plans. They are all in various stages of completion, but basically, the same type of pump-and-treat will be performed, with minor variations, for each aquifer.

These aquifers are critical water supplies for a sizable portion of the Twin Cities metro area, and there's no question that they must be cleaned up and protected from the further spread of contamination related to the Reilly site. Ground water moves very slowly, and the cleanup is keeping ahead of the problem. When all the operable units in this project are complete and pumping, the ground water contamination in each aquifer resulting from the Reilly site should be well under control.

What happens next?

With the release of this fact sheet, the MPCA announces a 30-day public comment period on this alternative, to end June 1. A public meeting is scheduled for May 16th (see the box on the first page of this fact sheet). Following the public comment period, the EPA and MPCA will begin the pump-out of the St. Peter aquifer, with any additional modifications resulting from the public's comments.

The response of the two agencies to comments received will be available for review in a responsiveness summary at the St. Louis Park Community Library, along with the agency's Record of Decision, which documents the reasons for the EPA's and MPCA's choice of remedy.

Any more questions?

Persons with questions are invited to call Ralph Pribble at the MPCA's Public Information Office, 296-7792, or toll-free 1-800-652-9747 (be sure to ask for the MPCA).

# **News Release**

Minnesota Pollution Control Agency  
520 Lafayette Road, St. Paul, Minnesota 55155



Printed on Recycled Paper

For immediate release: May 2, 1990

Contact: Ralph Pribble, (612) 296-7792

## **MPCA SEEKS PUBLIC COMMENT ON REILLY TAR PLAN**

A proposed plan for cleaning up one of the aquifers contaminated by the Reilly Tar and Chemical site will be presented by Minnesota Pollution Control Agency (MPCA) staff during a public meeting at 7:30 p.m. on May 16th at the St. Louis Park City Hall, the MPCA said today.

The MPCA is seeking public comment on the proposed plan during a 30-day public comment period from May 1 through June 1. The proposed plan was developed based on an investigation of the site and an evaluation of various cleanup methods that were completed by ENSR Consultants of St. Louis Park, with review and approval by MPCA and the U.S. Environmental Protection Agency (EPA).

The proposed plan is for only one phase of the overall Reilly cleanup, and relates specifically to the St. Peter aquifer, one of five aquifers underlying the site that have been contaminated by operations at the former Reilly Tar and Chemical Company. (An aquifer is an underground geological formation containing ground water.) The site has been the target of extensive investigation by the MPCA and EPA under the Superfund program since the early 1980s.

The proposed plan would remove contamination from the ground water in the St. Peter aquifer by pumping the contaminated water above ground and sending it through the sanitary sewer system to the main Twin Cities treatment plant operated by the Metropolitan Waste Control Commission (MWCC). The MWCC has issued a permit for the discharge. The St. Peter aquifer lies between 100 and 200 feet below the surface of the ground, and is a source of drinking water for many western suburban-area communities.

- more -

The aquifers under the Reilly site are stacked atop one another, extending several hundred feet below ground. Past operations at the Reilly site have contaminated all five aquifers to varying degrees with creosote and other chemicals affecting human health. Because of the variations in the aquifers, they are being investigated and cleaned up as separate parts of the overall cleanup.

The proposed cleanup plan was evaluated for its ability to protect human health; comply with environmental regulations; prevent the spread of the contamination; and reduce the toxicity, mobility, and volume of the contaminants. The EPA and MPCA also considered the plan's long-term effectiveness, its cost effectiveness, and its technical feasibility. The agencies will also consider the public's comments on the proposed plan before finalizing it.

Copies of the investigation report and the feasibility study of this remedy are available at the St. Louis Park Community Library, 3240 Library Lane, St. Louis Park, for review by area residents during the comment period. Interested residents are also invited to comment on the proposed cleanup plan during the public meeting or during the public comment period, ending June 1. Comments may be addressed to:

Ralph Pribble  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, MN 55155  
(612) 296-7792

###



**The Minnesota Pollution  
Control Agency (MPCA)  
and the  
U.S. Environmental  
Protection Agency (EPA)  
invite public comment  
on a proposed remedy  
for the Reilly Tar and Chemical site,  
St. Louis Park, Minn.**

The MPCA and EPA are seeking public comment during the period from May 1 through June 1, 1990, on a proposed remedy (cleanup plan) for one of the operable units of the Superfund cleanup at the site of operations of the former Reilly Tar and Chemical Company in St. Louis Park, Minn. The proposed plan deals with contamination in the St. Peter aquifer resulting from those operations. The cleanup of this aquifer comprises one of the operable units in the overall cleanup of this site. Other operable units are in various stages of investigation and cleanup.

The MPCA and EPA propose to pump out the contaminated ground water in the St. Peter aquifer beneath the Reilly site and discharge it through the sanitary sewer system to the Metropolitan Waste Control Commission's (MWCC) main treatment facility for treatment. A copy of this proposed remedy, along with other documents relating to the site, is available for public review at the St. Louis Park Community Library, 3240 Library Lane, St. Louis Park.

This proposal has been evaluated for its ability to protect human health; comply with environmental regulations; prevent the spread of the contamination; and reduce the toxicity, mobility, and volume of the contaminants. The MPCA has also considered the effectiveness, cost effectiveness, and technical feasibility. After the public comment period, the MPCA will also consider the plan's acceptability to the public.

Interested parties are invited to comment on this proposal either at a public meeting to be held May 16th, 7:30 p.m. in the first-floor community room of the St. Louis Park City Offices, 5005 Minnetonka Blvd., St. Louis Park, or in writing to:

Ralph Pribble  
MPCA Public Information Office  
520 Lafayette Road  
St. Paul, MN 55155  
(612) 296-7792

The proposed remedy is open for public comment through June 1, 1990.

Stan Tribune 5/14/90



## Metropolitan Waste Control Commission

Mears Park Centre, 230 East Fifth Street, St. Paul, Minnesota 55101

612 222-8423

December 8, 1989

RECEIVED

JUL 30 90

RECEIVED

DEC 13 1989

City of St. Louis Park  
5005 Minnetonka Boulevard  
St. Louis Park, MN 55416

MPCA, Ground Water  
& Solid Waste Div. CITY OF ST. LOUIS PARK

RE: Industrial Discharge Permit (Special Discharges) Number 2045

For Site located at Oxford Street (east of Edgewood Avenue)  
St. Louis Park, MN 55416

Attn: James Grube

TRANSMITTED HERewith is the Industrial Discharge Permit (Special Discharges) for the above referenced site. This Permit has been issued by the Metropolitan Waste Control Commission for the period specified, and it supersedes any temporary or draft permit or approval which may exist. The discharge of landfill leachate, contaminated groundwater or special industrial waste into the Metropolitan Disposal System is hereby allowed, subject to any and all provisions of the Waste Discharge Rules for the Metropolitan Disposal System, and this Permit.

THE PERMIT contains Discharge Limitations, Monitoring and Reporting Requirements, Special Conditions regarding connected and nonconnected sites, General Permit Conditions, and Specific Permit Conditions. Any failure to submit the required Special Discharge Reports is a violation of this Permit. The Permit Number shall be included on all correspondence regarding this Permit. The Spill Location Code shall be included when reporting a spill or a slug discharge.

THE PERMITTEE is reminded that renewal of this Permit is not automatic. The Permittee must apply for renewal at least 90 days prior to the Permit expiration date. If questions arise, contact Lynn Holly at 772-7286.

Sincerely,

Leo H. Hermes, P.E.  
Industrial Waste Manager  
MWCC Industrial Waste Division

LHH:pf

2045final

METROPOLITAN WASTE CONTROL COMMISSION  
(MWCC)INDUSTRIAL DISCHARGE PERMIT  
SPECIAL DISCHARGES

Pursuant to the provisions of Minnesota Statutes Chapter 473 as amended, the Waste Discharge Rules for the Metropolitan Disposal System (Minnesota Rules §§ 5900.1600 - 5900.7500), and the MWCC Leachate and Contaminated Groundwater Program, permission is hereby granted to

City of St. Louis Park5005 Minnetonka BoulevardSt. Louis Park, MN 55416

for the discharge of contaminated groundwater: W410, W422  
into the Metropolitan Disposal System (MDS) at Oxford Street  
east of Edgewood Avenue, St. Louis Park

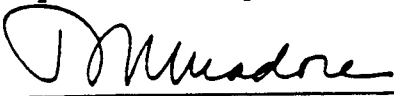
This Industrial Discharge Permit is granted in accordance with the application filed on August 31, 1989, and Permit fees of \$ 180.00 received.

Discharge Limitations; Monitoring and Reporting Requirements; Special Conditions regarding connected and nonconnected sites; and Permit Conditions are contained in following sections of this Permit.

Effective Date: December 8, 1989.

Expiration Date: W410-December 31, 1992. W422-January 31, 1991.

Issued by the Metropolitan Waste Control Commission

  
\_\_\_\_\_  
Chief Administrator  
or duly authorized representative

Donald R. Madore  
Director of Quality Control

12/12/89  
Date

A. Discharge Limitations

## 1. Local Limitations:

<u>Parameter</u>	<u>MWCC Local Limitation</u>
Cadmium (Cd)	2.0 mg/l
Chromium - total (Cr)	3.0 mg/l
Copper (Cu)	6.0 mg/l
Cyanide - total (CN)-	4.0 mg/l
Lead (Pb)	1.0 mg/l
Mercury (Hg)	0.1 mg/l
Nickel (Ni)	6.0 mg/l
Zinc (Zn)	8.0 mg/l
pH - maximum	10.0 pH units
pH - minimum	5.0 pH units

MWCC local limitations for metals and CN are the maximum for any operating day. pH limitations are instantaneous values.

## 2. Additional Limitations:

The following maximum daily limits apply to leachate and contaminated groundwater discharges:

Concentration of any one toxic organic parameter	3 mg/l
Combined total toxic organics parameter concentrations	10 mg/l
Total Hydrocarbons (for petroleum-related discharges)	100 mg/l
Additional Special Limits: Parameter <u>Individual PAH</u>	<u>3</u> mg/l
Total PAH	10 mg/l

## METROPOLITAN WASTE CONTROL COMMISSION

## 3. Prohibited Waste Discharges:

Prohibited Waste Discharges are described in Section 5900.4500 of the Waste Discharge Rules for the MDS. Included are substances that are flammable, explosive, obstructive to flow in a sewer, corrosive, toxic, poisonous, radioactive or hazardous. In addition, substances that are noxious or malodorous which create a public nuisance or hazard are prohibited, as well as industrial pretreatment system sludge, wastewater with a temperature greater than 150°F, cooling water and other unpolluted water, and wastewater containing fat, wax, grease or oil that has the potential to obstruct the flow in a sewer. Specifically prohibited is any waste generated outside of the seven county Metropolitan Area unless a variance is granted by the Metropolitan Waste Control Commission.

B. Monitoring and Reporting Requirements

## 1. Sample Collection

Representative wastewater sample(s) shall be collected once per month at the point of discharge to the sanitary sewer, unless specified differently in Section F. of this permit.

## 2. Parameters

Chemical analysis of the samples representing the waste discharge at the specified site shall be performed for the

## METROPOLITAN WASTE CONTROL COMMISSION

following parameters:

pH, TSS, COD, PAH, Phenols

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3. Reporting Requirements

a) Schedule:

The Permittee is required to submit Special Discharge Reports to the MWCC four times per year according to the following schedule:

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 - March 31	April 30
April 1 - June 30	July 30
July 1 - September 30	October 30
October 1 - December 31	January 30

Reports shall be submitted each quarter until this permit has been terminated, whether or not a discharge has occurred during a given quarter.

b) Report Contents:

A completed report consists of an MWCC Special Discharge Report form and a copy of the laboratory data sheets for all samples collected for this discharge during the reporting period. The total discharge volume for the reporting period shall be reported, as well as the

## METROPOLITAN WASTE CONTROL COMMISSION

cumulative total volume discharged under this permit.

Other pertinent information shall also be included, such as operational problems and changes, etc. The signature of the responsible party or a designated authorized representative shall appear at the bottom of the form.

C. Special Conditions for Discharge Sites Not Connected to the Sanitary Sewer

1. Discharge Location

Permitted discharges for sites not connected to the sanitary sewer must be transported by an MWCC Permitted Liquid Waste Hauler to the Third and Commercial Disposal Site in St. Paul.

2. Load Charge

Transported discharges will be subject to a Load Charge which includes a volume charge and a strength charge (based on analytical results). The volume component is based on the volume rate that the MWCC charges each community served. The strength component is derived from the same equation used to calculate Strength Charges for industrial users that are connected to the MDS, and is based on volume, a Chemical Oxygen Demand concentration in excess of 500 milligrams per liter (mg/l) and a Total Suspended Solids concentration in excess of 250 mg/l.

## METROPOLITAN WASTE CONTROL COMMISSION

D. Special Conditions for Discharge Sites Connected to the Sanitary Sewer

## 1. Connection Approval

Connections made to local sewers or Commission interceptors shall require approval from the appropriate authority prior to connection. Billing for sewer use shall also be arranged with the community.

## 2. Volume Measurement

The Permittee shall install and maintain an appropriate discharge metering device.

## 3. Service Availability Charge (SAC)

Permitted sites that are connected to the sanitary sewer will be subject to SAC if the discharge exceeds three years duration, effective February, 1988. Therefore, SAC payment for this site will be required on or before W422 January 31, 1991  
W410 December 31, 1992.

E. General Permit Conditions

1. All discharges into the MDS shall be in accordance with applicable provisions of the Waste Discharge Rules for the MDS, the MWCC Leachate and Contaminated Groundwater Program, and this Permit.

2. The Permittee shall not knowingly make any false statement, representation or certification in any record or report required to be submitted to the MWCC.



## METROPOLITAN WASTE CONTROL COMMISSION

3. This Permit shall not release the Permittee from any liability, duty or penalty imposed by Minnesota or Federal statutes or regulations, or any local ordinances or regulations.
4. The Permittee shall take all reasonable precautions to minimize all accidental discharges including slugs, spills and bypasses. In the event of any accidental discharges, spills or bypasses whose quantity and nature might reasonably be judged to constitute a hazard to the Commission's personnel and treatment facilities or the environment, the Permittee shall IMMEDIATELY notify the Industrial Waste Division of the MWCC at 772-7109 (office hours) or 681-4511 (non-office hours) and report the site location, the spill location code, and other pertinent information.
5. The Permittee shall report any change in the proposed discharge plan, including changes in pretreatment system design or rate of discharge. The Permittee shall also notify the MWCC within 48 hours if the system is temporarily or permanently discontinued.
6. The Permittee shall pay applicable Strength Charges or Load Charges assessed by the Commission.
7. The Permittee shall allow MWCC personnel to enter upon the Permittee's premises to inspect the system and discharge point

METROPOLITAN WASTE CONTROL COMMISSION

or sample the discharge in order to verify the reports received and determine compliance with the Waste Discharge Rules for the MDS and this Permit in accordance with MR 5 5900.3100.

## METROPOLITAN WASTE CONTROL COMMISSION

F. Specific Permit Conditions

1. Representative samples may be collected once per reporting period during a normal discharge day in lieu of monthly sampling.
2. PAH Limitations are applicable at individual well discharges.
3. Service Availability Charge requirements must be satisfied if the Permittee intends to discharge beyond the expiration date of this Permit.
4. One sample per quarter shall be analyzed for pH, Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS). A Permittee may reduce their reporting frequency of COD and TSS to once per year if the following conditions are met:
  - After an Industrial Discharge Permit issuance, four consecutive routine self-monitoring reports must exhibit a TSS of 125 mg/l or less and a COD of 250 mg/l or less (50% of the Strength Charge limits).
  - The Permittee must have no history of Strength Charge m this system.
  - The Permittee must formally apply for this reduced reporting requirement through a letter illustrating the above points.

The Industrial Waste Division reserves the right to revoke this authorization for reduced reporting requirements.

5. The laboratory reports for all wastewater monitoring conducted during each reporting period (at the point of discharge to the sanitary sewer) shall be submitted with the Special Discharge Report for that period. Reports must be submitted each quarter until the permit is terminated.

Sample collection and analytical methods shall meet EPA protocol (Code of Federal Regulations, Part 136).

6. This permit supersedes any MWCC approvals previously issued for this site.
7. This discharge approval is not exclusive. The approval does not release the Permittee from conditions set by the Minnesota Pollution Control Agency, Minnesota Department of Health, Minnesota Department of Natural Resources, and the City of St. Louis Park.

Page 1 of 31  
Permit No: MN 0029815

AUTHORIZATION TO DISCHARGE AND TO CONSTRUCT WASTEWATER TREATMENT FACILITIES  
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
AND STATE DISPOSAL SYSTEM PERMIT PROGRAM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq; hereinafter the "Act"), Minnesota Statutes Chapters 115 and 116, as amended, and Minnesota Rules Chapter 7001

THE METROPOLITAN WASTE CONTROL COMMISSION AND THE  
METROPOLITAN COUNCIL (HEREINAFTER "JOINT PERMITTEE")

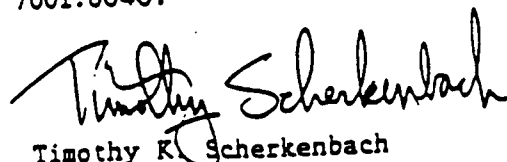
are authorized by the Minnesota Pollution Control Agency (MPCA), to construct wastewater treatment facilities and/or to discharge from the Metropolitan Wastewater Treatment Facility (Metro Plant), located in the E½ of the SE¼ of Section 9, T 28 N, R 22 W, Ramsey County and from the bypass points listed herein to receiving water named the Mississippi River, in accordance with effluent limitations, monitoring requirements and other conditions set forth in PARTS I, II and III hereof.

The Metropolitan Waste Control Commission (hereinafter "Commission") and the Metropolitan Council (hereinafter "Council") shall be jointly and severally liable for compliance with the terms and conditions of this permit except the Metropolitan council shall be liable only to the extent of its statutory or regulatory authority over the activities necessary for compliance with this permit.

This permit is a reissuance of an existing permit which has an expiration date of midnight, June 30, 1987. This reissued permit shall become effective on the date of issuance by the Agency Commissioner and will supersede the existing permit upon issuance.

This permit and the authorization to discharge shall expire at midnight, May 31, 1995. The Joint Permittee is not authorized to discharge after the above date of expiration. In order to receive authorization to discharge beyond the above date of expiration, the Joint Permittee shall submit such information and forms as are required by the Agency no later than 180 days prior to the above date of expiration pursuant to Minnesota Rules Part 7001.0040.

Date: August 17, 1990



Timothy K. Scherkenbach  
Director  
Division of Water Quality

For: Gerald L. Willet  
Commissioner  
Minnesota Pollution Control Agency

### B. EFFLUENT LIMITATIONS

During the period beginning on the effective date of this Permit and lasting until May 31, 1995, the Joint Permittee is authorized to discharge from outfall number 010.

Such discharge shall be limited by the Joint Permittee as specified below. (Note: A discharge flow of 314 mgd was used for calculating mass limitations as a monthly average. If the Mississippi River flow is less than 5,000 cubic feet per second (cfs) as a monthly average at Robert Street, mass limitations were calculated using a discharge flow of 251 mgd.)

<u>Effluent Characteristics</u>	<u>Continuous Discharge Limitations</u> <u>Calendar Month Average</u>	<u>Notes</u>
5-Day Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )	14 mg/l (16,617 kg/day)	Applicable during the month of June if monthly average river flow is >5,000 cfs.
	14 mg/l (13,293 kg/day)	Applicable during the month of June if monthly average river flow is ≤5,000 cfs.
	10 mg/l (11,869 kg/day)	Applicable from July through September if monthly average river flow is >5,000 cfs.
	10 mg/l (9,488 kg/day)	Applicable from July through September if monthly average river flow is ≤5,000 cfs.
	24 mg/l (28,486 kg/day) 85% Removal	Applicable from October through May
Total Suspended Solids (TSS)	30 mg/l (35,608 kg/day) 85% removal	
Fecal Coliform Group Organisms	200 organisms/100 ml (geometric mean)	Applicable from March 1 - October 31
Ammonia-Nitrogen	13 mg/l (15,430 kg/day)	Applicable during the month of May if monthly average river flow is >5,000 cfs.
	13 mg/l (12,334 kg/day)	Applicable during the month of May if monthly average river flow is ≤5,000 cfs.
	8.0 mg/l (9,495 kg/day)	Applicable during the month of June if monthly average river flow is >5,000 cfs.
	8.0 mg/l (7,590 kg/day)	Applicable during the month of June if monthly average river flow is ≤5,000 cfs.
	5.0 mg/l (5,935 kg/day)	Applicable from July through September if monthly average river flow is >5,000 cfs.

<u>Effluent Characteristics</u>	<u>Calendar Week Average</u>	<u>Notes</u>
Such discharge shall be limited by the Joint Permittee as specified below. (Note: A discharge flow of no greater than 339 mgd was used for calculating mass limitations as a weekly average. If the Mississippi River flow is less than 5,000 cubic feet per second (cfs) as a monthly average (or weekly average as appropriate), at Robert Street, mass limitations were calculated using a discharge flow of no greater than 251 mgd.)		
5-Day Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )	21 mg/l (26,909 kg/day)	Applicable during the month of June.
	21 mg/l (19,924 kg/day)	Applicable if weekly average river flow in June is ≤5,000 cfs.
	15 mg/l (19,221 kg/day)	Applicable from July through September.
	15 mg/l (14,232 kg/day)	Applicable July through September if monthly average river flow is ≤5,000 cfs.
	40 mg/l (51,257 kg/day)	Applicable from October through May.
Total Suspended Solids	45 mg/l (57,564 kg/day)	
Dissolved Oxygen	7.0 mg/l	Weekly average concentration. ** Applicable from June 1 - September 30 when required under PART I, C.3
Ammonia Nitrogen	13 mg/l (15,430 kg/day)	Applicable during the month of May.
	13 mg/l (12,334 kg/day)	Applicable if monthly average river flow in May is ≤5,000 cfs.
	12 mg/l (11,500 kg/day)	Applicable during the month of June.
	12 mg/l (9,495 kg/day)	Applicable if monthly average river flow in June is ≤5,000 cfs.
	7.5 mg/l (9,611 kg/day)	Applicable from July through September.
	7.5 mg/l (4,744 kg/day)	Applicable July through September if monthly average river flow is ≤5,000 cfs.
	13.5 mg/l (17,299 kg/day)	Applicable during the month of October.
	9.0 mg/l (8,539 kg/day)	Applicable if monthly average river flow in Oct. is ≤5,000 cfs.
	31.5 mg/l (40,365 kg/day)	Applicable during the month of November.
	21 mg/l (19,924 kg/day)	Applicable if monthly average river flow in Nov. is ≤5,000 cfs.

\*\* For averaging periods of less than seven days, the weekly average shall be the available daily values.

C. SPECIAL REQUIREMENTS

1. Bypass/Overflow Authorization

As approved by the Commissioner, in conformance with applicable Agency guidelines for system reliability, and in accordance with PART II, A.2. of this permit, the Commission is authorized to discharge from emergency bypass points, outfall serial numbers 020, 030, 040, 060, 070 and 080.

The Commission shall, in accordance with PART II, A.1. of this permit, report in the remarks section of the Monthly Operation Report, each emergency bypass event, the corresponding outfall number, its duration, the estimated volume, and estimated concentrations for CBOD<sub>5</sub>, TSS, total phosphorus and ammonia based on sampling of locations which are representative of the bypass.

2. Total Residual Chlorine

If the daily total residual chlorine sample exceeds 0.1 mg/l, the Commission shall immediately investigate the cause, take appropriate remedial action and report the action and results on the monthly discharge monitoring report. If the Mississippi River elevation at Robert Street exceeds 697.5 feet, to protect the integrity of the facility, the dechlorination facilities may be removed from service. During these periods, the total residual chlorine effluent limitation in PART I, B. and the first sentence in PART I, C.2. shall not apply. The occurrence of such an event shall be reported to the Agency Commissioner as required by PART II, A.1. and described in the monthly discharge monitoring report.

3. Dissolved Oxygen

The effluent shall comply with the effluent limitation for dissolved oxygen identified in PART I, B.1 when daily average dissolved oxygen concentrations below discharge 010 are less than 5.5 mg/l for two consecutive sample-days or when daily average dissolved oxygen concentrations above discharge 010 are less than 6.0 mg/l for two consecutive sample-days. Dissolved oxygen measurements in the river shall be evaluated within 12 hours after each day's monitoring to determine when aeration of the effluent will be required. When continuous river monitors are used to determine compliance with this condition, measurements at UM 826.6 and UM 831 shall be used to evaluate downstream dissolved oxygen concentrations and measurements at UM 836.8 shall be used to evaluate upstream dissolved oxygen concentrations. This requirement shall only apply when daily average river flows of 7,000 cubic feet per second or less occur for two consecutive days as measured by the U.S.G.S. Gauging Station at St. Paul.

is inadequate and specifies the basis for the inadequacy in writing. If the Agency Commissioner finds that the plan is inadequate, the Commission shall, within 15 days of receiving written notification of the plan's inadequacy, submit to the Agency Commissioner a plan that has been revised to correct the inadequacies. Within 30 days of receiving written approval from the Agency Commissioner, the Commission shall commence testing.

Procedural requirements for toxicity testing shall be in conformance with the following manuals and listed exceptions:

- i. Tests shall be conducted in accordance with procedures outlined in EPA-600/4-85-013 "Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms" (Acute Manual) and EPA-600/4-85-014 "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (Chronic Manual) and any revisions to the manuals.
  - ii. Test organisms shall include the fathead minnow (Pimephales promelas), and Ceriodaphnia dubia for chronic testing. Acute tests shall employ the fathead minnow, Ceriodaphnia dubia, and Daphnia magna. Fathead minnows used in acute testing shall be a minimum 15 days of age post-hatch.
  - iii. Acute serial dilution testing of the effluent shall consist of a control (dilution water) and four treatment levels (100, 50, 25, and 12 percent effluent). An abbreviated chronic test shall consist of a control, 100 percent effluent, and effluent diluted to the Instream Waste Concentration (IWC) of 24 percent. Winter acute tests may be conducted at temperatures as low as 10°C (See b. below) provided statistically significant test results can be obtained.
  - iv. All sample collection of the effluent shall be by flow proportioned 24 hour composites with test solutions renewed daily from each fresh composite. Testing of the effluent shall begin within 36 hours of the completion of sample collection.
  - v. Any other circumstances not covered by these Manuals, and listed exceptions or that require deviation from that which is specified in the Manuals and listed exceptions shall first be approved by the Commissioner.
- b. Toxicity Test Frequencies and Report Submittals

Abbreviated chronic tests shall be conducted 3 times per year for 3 years during the months of May, July, and October. Thereafter, annual chronic tests (August only)



The Commission shall make reasonable progress toward compliance with the LTWQBEL during the term of this permit by completing Part I,C.7 and Note (7) to Part I,D.4. of this permit.

7. Mercury, PCB and Pesticide Investigation Plan

- a. The Commission shall investigate potential sources of mercury, PCBs and the pesticides Chlordane, Heptachlor, Endrin, Dieldrin and Alpha-BHC within the sewage collection system in accordance with the following schedule:
  - i. Submit a report which includes the results of a seven-day dry weather mercury, PCBs/pesticides survey; a one to two day wet weather mercury, PCBs/pesticides survey; and monitoring program of three Minneapolis interceptors. The wet weather survey shall attempt to assess the effects of first flush. May 31, 1991
  - ii. Submit a report which includes the conclusions obtained from monitoring nine additional interceptors for mercury, PCBs/pesticides. December 31, 1991
  - iii. Submit a report identifying point sources (if found) and the monitoring required of industrial users. December 31, 1992
  - iv. Submit a complete evaluation and Remedial Action Plan if applicable. September 30, 1993
  - v. Implement Remedial Action Plan as approved by the Agency Commissioner. December 31, 1993
- b. The Commission shall collect samples of suspended sediment from traps in the effluent channel and analyze the samples for mercury, PCB's and pesticides (Chlordane, Heptachlor, Endrin, Dieldrin and Alpha-BHC). Four consecutive 3-month samples shall be taken in the first two years of the permit. The results shall be reported to the Agency Commissioner within 90 days of the completion of testing.
- c. The Commission shall conduct one 30-day in-situ bioaccumulation test of carp and fatheads with Metro effluent for mercury, PCBs and pesticides (Chlordane, Heptachlor, Endrin, Dieldrin and Alpha - BHC). The test shall be conducted within the first 2 years of the permit. The results shall be reported to the Agency Commissioner within 90 days of the completion of testing.

for the 2nd quarter of 1990) are required for phosphorus removal or in the event the river study indicates to the Agency that a phosphorus limit other than 1 mg/l (monthly average on a year-round basis) is needed to meet applicable water quality standards, the Agency, during the period January 1, 1993, to May 31, 1993, shall place on public notice a draft permit modification or reissuance to consider the phosphorus limitation and/or the final compliance deadline set forth below and, in response to a timely hearing request by the joint permittees or the State of Wisconsin, the Commissioner shall recommend that the Agency Board order a contested case hearing to consider the phosphorus limit, the capital expenditures necessary for compliance with the phosphorus limit, and the final compliance deadline. An interim phosphorus limitation may also be established pursuant to this paragraph.

- ii. In conjunction with Part I.C.8.c.i., the joint permittees may apply for a variance from the provisions of Minn. Rules. Part 7050.0211, Subpart 1 relating to phosphorus removal. The request for a variance shall be made in accordance with Minn. Rules, Part 7000.0700 and other applicable rules of the agency.
- iii. Unless a different phosphorus limitation or a schedule of compliance is established according to the paragraphs above, a phosphorus limitation of 1 milligram per liter as a monthly average on a year round basis shall be applicable for the discharge from outfall-010 in accordance with paragraphs iv. or v. below. If during the public notice process conducted pursuant to Part I.C.8.c.i., above, a contested case hearing is requested and granted, the phosphorus limitation and the final compliance deadline shall not become effective until the conclusion of the hearing process and a final decision is made by the agency. The agency and the U.S. Environmental Protection Agency acknowledge that the anti-backsliding provisions of Section 402(o) of the Federal Clean Water Act and the regulations promulgated thereunder will not be applied to a revision of the phosphorus limitation made in accordance with the provisions of this paragraph.
- iv. In the event the treatment plant study indicates capital expenditures less than \$10 million (adjusted to an ENR index for the second quarter of 1990) are required for phosphorus removal, design contracts to achieve the limitation established above shall be awarded by October 31, 1993, and a notice to proceed with construction shall be issued by December 31, 1994 so that compliance with the limitation can be achieved by December 31, 1995 unless a different final compliance date is established during reissuance or modification of this permit.
- v. In the event the treatment plant study indicates capital expenditures greater than \$10 million (adjusted to an ENR index for the second quarter of 1990) are required for phosphorus removal, design contracts to achieve the limitation established above shall be awarded by December 31, 1993 and construction contracts shall be awarded by May 31, 1995, so that compliance with the limitation can be achieved according to a schedule established during reissuance or modification of this permit.
- vi. By December 31, 1994, submit progress report on achieving compliance with the final effluent limit for phosphorus.

- 1) The exact place, date, and time of sampling;
- 2) the dates the analyses were performed;
- 3) the person who performed the analyses;
- 4) the analytical techniques, procedures or methods used;  
and
- 5) the results of such analyses.

e. Additional Monitoring by Commission

If the Commission monitors any designated pollutant or parameter more frequently than is required herein, the results of such monitoring shall be included in the calculation and reporting of values submitted on the Discharge Monitoring Report.

If the Commission performs any special monitoring or studies or routine monitoring not designated herein on the influent, effluent, sludge, or on the receiving water, the results of such monitoring or studies shall be provided to the Agency Commissioner upon request.

f. Recording and Records Retention

All sampling and analytical records required by this permit shall be retained by the Commission for a minimum of three (3) years. The Commission shall also retain all original recordings from any continuous monitoring instrumentation, and any calibration and maintenance records, for a minimum of three (3) years. These retention periods shall be automatically extended during the course of any legal or administrative proceedings or when so requested by the Regional Administrator, the Agency, or the Agency Commissioner.

2. Monitoring Plan

The Commission shall submit a monitoring plan or monitoring plan amendments to the Agency Commissioner for approval within ninety (90) days after the date of issuance of this permit. The monitoring plan shall deal with all phases of the Commission's effluent and receiving water monitoring activities required herein. New monitoring plans or amendments to previous monitoring plans shall be submitted if changes are to be made or if additional or different monitoring is required by this permit. The monitoring plan shall include the items described in Minnesota Rules 7001.1090 Subp. 1.

Upon review of the monitoring plan the Agency Commissioner may require changes or additions to that portion of the Commission's monitoring program, including the quality assurance program, required by the permit.

4. Monitoring Requirements - Class A Wastewater Treatment Facility -  
Major Discharger

<u>Determination</u>	<u>Frequency</u>	<u>Sample Type</u>	<u>Notes</u>
Influent flow	Daily	Continuous	
Effluent fecal coliform	Daily	Grab	(2)
Effluent dissolved oxygen	Daily	Grab	(1)
Receiving stream dissolved oxygen			(6)
Chlorine residual	Daily	Grab	(3)
Chlorine used	Daily		(3)
Influent pH	Daily	Continuous	
Effluent pH	Daily	Grab	
Influent CBOD <sub>5</sub>	Daily	24 hour composite	
Effluent CBOD <sub>5</sub>	Daily	24 hour composite	
% CBOD <sub>5</sub> removal	Daily		
Influent total suspended solids	Daily	24 hour composite	
Effluent total suspended solids	Daily	24 hour composite	
% Total suspended solids removal	Daily		
Sulfur dioxide used	Daily		(4)
Influent ammonia-nitrogen	Daily	24 hour composite	
Effluent ammonia-nitrogen	Daily	24 hour composite	
Influent total cadmium	3 X Weekly	24 hour composite	
Effluent total cadmium	3 X Weekly	24 hour composite	
Influent total copper	3 X Weekly	24 hour composite	
Effluent total copper	3 X Weekly	24 hour composite	
Influent total cyanide	3 X Weekly	24 hour composite	
Effluent total cyanide	3 X Weekly	24 hour composite	
Influent total mercury	3 X Weekly	24 hour composite	(7)
Effluent total mercury	3 X Weekly	24 hour composite	(7)
Influent total chromium	Weekly	24 hour composite	
Effluent total chromium	Weekly	24 hour composite	
Influent total lead	Weekly	24 hour composite	
Effluent total lead	Weekly	24 hour composite	
Influent total nickel	Weekly	24 hour composite	
Effluent total nickel	Weekly	24 hour composite	
Influent total zinc	Weekly	24 hour composite	
Effluent total zinc	Weekly	24 hour composite	
Influent PCBs aroclors	Monthly	24 hour composite	(7)
Effluent PCBs aroclors	Monthly	24 hour composite	(7)
Influent total phenols	Monthly	Grab	
Effluent total phenols	Monthly	Grab	
Influent total arsenic	Quarterly	Grab	(5)
Effluent total arsenic	Quarterly	Grab	(5)
Influent total iron	Quarterly	24 hour composite	
Effluent total iron	Quarterly	24 hour composite	
Influent total phosphorus	Daily	24 hour composite	
Effluent total phosphorus	Daily	24 hour composite	
Influent dissolved phosphorus	Daily	24 hour composite	
Effluent dissolved phosphorus	Daily	24 hour composite	
Effluent Kjeldahl nitrogen	Weekly	24 hour composite	
Effluent nitrite-nitrogen	Weekly	24 hour composite	
Effluent nitrate-nitrogen	Weekly	24 hour composite	

E. DEFINITIONS

1. "Agency" means the Minnesota Pollution Control Agency, as constituted pursuant to Minnesota Statutes, Section 116.02, Subd. 1.
2. "Agency Commissioner" means the Commissioner of the Minnesota Pollution Control Agency as described in Minnesota Statutes, Section 116.03, as amended.
3. "Regional Administrator" means the U.S. Environmental Protection Agency (EPA) Regional Administrator for the region in which Minnesota is located (now Region V).
4. "Act" means the Clean Water Act, as amended, 33 U.S.C. 1251, et seq.
5. "Composite" sample, for monitoring requirements, is defined as (a) a series of grab samples collected at least once per hour at equally spaced time intervals and proportioned according to flow; or (b) grab samples of equal volume collected at equally spaced intervals of wastewater volume and collected not less than once per hour.
6. "Calendar Month Average" other than for fecal coliform group organisms, is defined as the arithmetic mean of the samples collected in a period of one calendar month. The calendar month average for fecal coliform group organisms, is defined as the geometric mean of samples collected in a period of one calendar month.
7. "Calendar Week Average" continuous discharge limitations, other than for fecal coliform group organisms, is defined as the arithmetic mean of the samples collected in a period of one calendar week.
8. "85 Percent Removal." For the calendar month average, the effluent concentrations shall not exceed the stated value or 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same time during the same period (most restrictive values).
9. "Acute Toxicity Serial Dilution Test" is a static renewal test conducted on an exponentially diluted series of effluent (a control and 100, 50, 25 and 12 percent effluents). Its purpose is to calculate the percent of effluent that causes 50 percent mortality of the aquatic organisms tested in 96 hours for vertebrates and 48 hours for invertebrates. Mortality greater than or equal to 50 percent in 100 percent effluent constitutes a positive test for acute toxicity.

PART II

A. MANAGEMENT REQUIREMENTS

1. Non-Compliance and Bypass Notification

If, for any reason, the Commission exceeds any effluent limitation specified in the permit, bypasses, or causes a diversion of wastewater or unauthorized discharge in violation of this permit, the Commission shall notify the Agency Commissioner as follows:

a. Telephone Communication

Report immediately to the Regulatory Compliance Section, Division of Water Quality (612) 296-8100 any bypass which may cause a nuisance or health hazard and all unauthorized discharges, accidental or otherwise, of oil, toxic pollutants, or other hazardous wastes. The Commission shall immediately recover as rapidly and thoroughly as possible such discharged substance(s) and take such other action as may be reasonable to minimize or abate pollution of the waters of the State. This must be followed by a written explanation on the discharge monitoring report.

b. Prior Approval

Bypassing which would result in the discharge of raw or inadequately treated effluent is prohibited during routine maintenance procedures. If, for any reason, a major treatment unit must be bypassed for routine maintenance, and this bypass will result in a degradation of the effluent, the Agency Commissioner (Attn: Operations/Training Unit, (612) 296-7296) must be notified and grant approval prior to removing this unit from service. In the case of emergency maintenance, the Agency Commissioner shall be informed of the circumstances surrounding the need for emergency maintenance and the action taken.

c. Written Report

Report on the Discharge Monitoring Report, any violation of daily minimum, maximum, calendar week average, or calendar month average effluent limitation and any bypass that did not present a nuisance or health hazard.

d. Required Information

Written notification required above shall contain the following information:

- (1) A description of the discharge, approximate volume, and cause of non-compliance or bypass.

shall be reported to the Agency Commissioner, (Attn: Regulatory Compliance Section, Division of Water Quality). Modification to the permit may then be made to reflect any necessary change in permit conditions, including any necessary effluent limitations for any pollutant not identified and limited herein.

- d. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

5. Sewer Extensions

In accordance with Minnesota Statutes Section 115.07 Subd. 3, application must be made, plans and specifications submitted, and a permit obtained for any addition to or extension of a sanitary sewer prior to the commencement of construction.

6. Facilities Operation and Quality Control

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following:

- a. Maintenance of the treatment facility that results in degradation of effluent quality and/or wastewater sludge shall be scheduled as much as possible during non-critical water quality periods and shall be carried out in a manner approved by the Agency Commissioner.
- b. The Agency Commissioner may require the Commission to submit a maintenance plan to eliminate degradation of the effluent and/or wastewater sludge. The Commission shall operate the disposal system in accordance with this plan as approved by the Agency Commissioner.
- c. The Commission shall provide an adequate operating staff which is duly qualified under MN Rules Chapter 9400 and if applicable as determined by the Agency Commissioner pursuant to 7001.0150, subp. 3.F., to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.
- d. The Commission shall at all times maintain in good working order and operate as efficiently as possible all facilities or systems of control installed or used to achieve compliance with the terms and conditions of this permit.
- e. Necessary in-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

B. RESPONSIBILITIES

1. Prohibited Wastes

Under no circumstances shall the Commission allow the introduction of wastes prohibited by regulations promulgated pursuant to Section 307 of the Act or regulations adopted by the Agency into the sewer collection system including, but not limited to the following:

- a. Those which create a fire or explosion hazard in the disposal system,
- b. Which will cause corrosive structural damage to the disposal system,
- c. Solids or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment works,
- d. Wastewaters at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so as to cause a loss of treatment efficiency,
- e. New wastes or increased volumes or quantities of wastes from contributing industries in such volumes or quantities as to overload the treatment facility or cause a loss of treatment efficiency.

2. Cooling Water

- a. Recirculation of non-contact cooling water, by contributors to the collection system, shall be encouraged in order to conserve surface and ground water supplies and to reduce the hydraulic load on the collection and treatment system of municipal wastewater treatment facilities receiving these discharges.
- b. Consistent with Federal construction grant regulations and the intent of the Act, existing discharges of non-contact cooling waters to municipal sanitary sewer systems shall be eliminated, where such elimination is cost effective, where such discharges adversely impact the municipal treatment facilities, or where an infiltration/inflow analysis and sewer system evaluation survey indicates the need for such removal, provided such discharges are in compliance with all applicable Agency effluent quality standards, or which, through reasonable measures, can be brought into such compliance.



- a. To enter upon the Commission's premises where a disposal system or other point source or portion thereof is located for the purpose of obtaining information, examination of records, conducting surveys or investigations;
- b. To examine and copy any books, papers, records, or memorandum pertaining to the installation, maintenance or operation of the discharge, including but not limited to, monitoring data of the disposal system or point source or records required to be kept under the terms and conditions of this permit.
- c. To inspect any monitoring equipment or monitoring procedures required in this permit; and
- d. To sample any discharge of pollutants.

7. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the Joint Permittee from civil or criminal penalties, or preclude the institution of any legal proceedings for noncompliance with applicable State or Federal pollution control laws or for noncompliance with the terms and conditions of this permit except that the Council shall be liable for noncompliance with the terms and conditions of this permit only to the extent of the Council's statutory authority over the activities necessary for compliance with this Permit.

8. Oil and Hazardous Substance Liability

This permit shall not preclude the institution of any legal action or relieve the Joint Permittee from any responsibilities, liabilities, or penalties to which the Joint Permittee is or may be subject to under Section 311 of the Act and Minnesota Statutes, Chapters 115 and 116 as amended. Each Joint Permittee shall be liable only to the extent of its statutory and (in the case of the Commission) regulatory authority.

9. Liability Exemption

This permit authorizes the Joint Permittee to perform the activities described herein under the conditions set forth. In issuing this permit, the state/agency assumes no responsibility for any damage to persons, property or the environment caused by the activities of the Joint Permittee in the conduct of its actions, including those activities authorized, directed or undertaken pursuant to the permit. To the extent the state/agency may have any liability for the activities of its employees, that liability is explicitly limited to that provided in the Torts Claims Act, Minnesota Statute § 3.736.

### PART III

#### PRETREATMENT REQUIREMENTS

the authority of Section 307(b) and (c) and 402(b)(6) of the Clean Water Act and implementing regulations (40 CFR Part 403), the Commission's pretreatment program was approved on December 22, 1982. The Commission shall implement and operate the pretreatment program according to the legal priorities and procedures contained therein, the General Pretreatment Regulations (40 CFR Part 403), and any subsequent federal or state laws or regulations which may apply. The Pretreatment Requirements contained in this permit shall apply to the Commission's systemwide pretreatment program, until such time as they are replaced partially or totally by Pretreatment Requirements contained in any future permit issued by the Agency to the Commission.

#### APPROVED PRETREATMENT PROGRAM CONDITIONS

The Commission is hereby required to:

1. Apply and enforce against violations of Prohibited Discharge Standards specified in 40 CFR 403.5(a) and (b), local limitations established pursuant to 40 CFR 403.5(c) and (d), Categorical Pretreatment Standards promulgated as described in 40 CFR 403.6, and the Commission's Waste Discharge Rules. In the case of numerical discharge standards, the Commission shall require compliance with the most stringent standard, either federal or local. In all cases, appropriate remedies for non-compliance with pretreatment standards and requirements shall be obtained.
2. Issue and administer Industrial Discharge Permits to all affected industrial users in accordance with criteria and procedures contained in the approved pretreatment program. The permits shall contain compliance schedules, as necessary, to require the industrial user to achieve compliance with applicable pretreatment standards and requirements and any provisions of the Commission's Waste Discharge Rules. In addition, permitted industrial users shall be required to submit any reports specified by the Waste Discharge Rules or applicable federal pretreatment regulations.
3. Carry out inspection, surveillance and monitoring procedures which will determine, independent of information supplied by the industrial user, the compliance status of the industrial user with respect to pretreatment standards and requirements.
4. Locate, identify and maintain records on all industrial users of the Metropolitan Disposal System. Such records shall indicate the nature and/or volume of wastewater discharged and shall be updated as necessary.
5. Provide adequate funds and resources for pretreatment program activities. Any decrease in funding or activity levels shall be reported to the Agency.