

**FINAL
MINNESOTA DECISION DOCUMENT**

**Valentine-Clark State Superfund Site
Bridal Veil Pond Open Space Operable Unit
City of Minneapolis, Hennepin County, Minnesota**

SITE DESCRIPTION

The Bridal Veil Pond Open Space Operable Unit encompasses approximately 6.6 acres of open space land owned by the City of Minneapolis. This open space is surrounded by industrialized areas, which makes the area unique to the local residents. This area has sometimes been referred to as Bridal Veil Park, however, this area is not an official city owned or maintained park. Industrial properties, Automotive Cooling Products and a Home Depot lumber distribution center to the west, and Amport Foods to the east border the site. Several other light industrial and commercial properties are located to the west and east along Kasota Avenue. Kasota Avenue bounds the site to the south while the Burlington Northern railroad tracks border the area to the north. The location of this open space is outlined in blue in Figure 1. Bridal Veil Creek flows through the open space into Bridal Veil Pond.

Bridal Veil Pond was created in 1970 by the City of Minneapolis in a former wetland area to serve as a storm water detention pond. The pond currently captures runoff from north of the railroad tracks including the storm water sewer and from the former Bridal Veil Creek channel that drains the Valentine Clark Site, a Minnesota Permanent List of Priorities (PLP) Site. The Valentine Clark PLP Site is outlined in yellow in Figure 1. Storm water issues are a significant concern for the Bridal Veil open space area. Bridal Veil Pond is currently the only water detention structure along Bridal Veil Creek and its storage capacity must be maintained.

STATEMENT OF PURPOSE

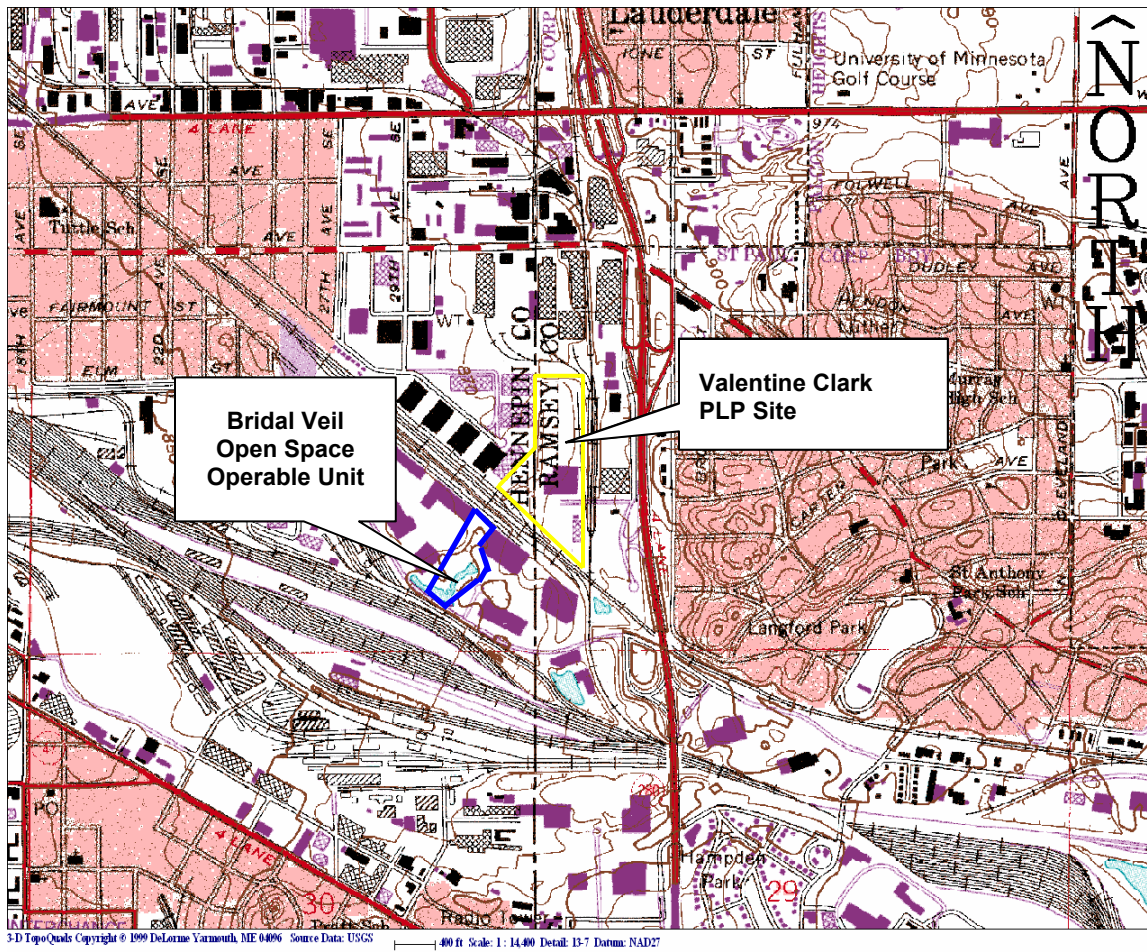
This Minnesota Decision Document (MDD) presents the selected response actions for the release and threatened release of hazardous substances, pollutants or contaminants at Bridal Veil Open Space Operable Unit of the Valentine Clark PLP Site (Site) and summarizes the facts and determinations made by the MPCA staff in approving the recommended response action alternatives.

The selected response actions are intended to prevent human receptors and the surrounding environment from being exposed to contaminated environmental media that is currently on-site.

Soil, sediment and surface water in this area is impacted with polynuclear aromatic hydrocarbons (PAHs), particularly pentachlorophenol (PCP), some metals and dioxins/furans (collectively the “contaminants of concern”). The volume of contaminated soil and sediment will be reduced and materials covered to minimize human exposure. The availability of surface water for human contact will be decreased and its quality will be improved with the response action.

The Commissioner or his delegate has determined that the response actions set forth in this MDD are reasonable and necessary to protect the public health and welfare and the environment from the release and threatened release of hazardous substances, pollutants or contaminants from the site.

Figure 1: Bridal Veil Open Space Operable Unit Location Map



DESCRIPTION OF PROBLEM

Soil, sediment and surface water in this open space are impacted with PAHs, particularly PCP, some metals and dioxins/furans. The Valentine Clark PLP Site is believed to be the originating source for the contaminants of concern identified in this open space. The Valentine Clark PLP Site encompasses approximately 23 acres of property located northeast of this open space and the Burlington Northern railroad line.

From 1908 to 1962, the Valentine Clark site was used to treat wooden telephone poles with creosote and PCP. Contamination of soils in both the former wood-treating process area and the storage area were suspected to have occurred from chemical spillage and dripping of excess preservative from the treated wood product.

Aerial photographs from 1940 and 1947 suggest that waste product was discharged from the treatment area of the Valentine Clark site into a channel connecting to Bridal Veil Creek. The product apparently flowed from the channel into Bridal Veil Creek and southward beneath the railroad tracks to the wetland area presently occupied by the Bridal Veil open space. It is assumed that waste product accumulated in the wetlands north of the tracks as well as the wetlands of this open space where it was later mixed with fill material associated with the Elm Street Ash Dump.

Surface soil (0 to 0.5 feet), accessible soil (0 to 4 feet) and subsurface soil (below 4 feet) samples collected within this area exceeded Tier 2 Recreational Soil Reference Values (SRVs) for PAHs, particularly PCP, some metals and dioxin/furans.

Tier 2 Recreational SRVs are listed in the table below:

Analyte	Tier 2 Recreational SRV (mg/kg)
Naphthalene	24
Pentachlorophenol (PCP)	6
B(a)P Equivalent	2
Copper	11
Lead	300
Thallium	3
2,3,7,8-TCDD (dioxins/furans) Equivalence	0.000025

Sediment samples collected from Bridal Veil Pond exceeded Level II Sediment Quality Targets (SQTs) primarily for PAHs and lead.

Surface water samples collected from Bridal Veil Creek, Bridal Veil Pond and the storm sewer entering this open space exceed the Class 2B Surface Water Quality Standard (SWQS) for PCP of 3.5 to 5.5 ug/L. This standard is provided as a range because it is dependent on the pH of the surface water.

DOCUMENTS REVIEWED

The MPCA staff has based its decision primarily on the following documents describing the Site as well as the effectiveness and cost analysis of response action alternatives for the Site.

- STS Consultants, Ltd. 2006, *Bridal Veil Park Focused Feasibility Study Addendum*, December.
- STS Consultants, Ltd. 2006, *Bridal Veil Park Focused Feasibility Study*, March.
- STS Consultants, Ltd. 2006, *Phase II Investigation Report for the Valentine Clark Site*, February.
- STS Consultants, Ltd. 2005, *Remedial Investigation Report for the Valentine Clark Site*, September.
- STS Consultants, Ltd. 2004, *Data Gap Analysis Report for Valentine Clark Site*, July.
- Ecology and Environment, Inc. (E&E) 1998, *Engineering Evaluation/Cost Analysis for Valentine Clark Site Draft Report*.

DESCRIPTION OF RESPONSE ACTIONS ALREADY COMPLETED

No response actions have been completed for this open space. Response actions were completed on the Valentine Clark site, including removal of some soils. Bridal Veil Creek was redirected to a newly constructed storm sewer located along the western boundary of the Site. Future response actions will likely be needed at the Valentine Clark site to address remaining soil and ground water contamination.

ESTABLISHMENT OF RESPONSE ACTION OBJECTIVES AND SOURCE AREA CLEAN-UP CONCENTRATIONS

Response action objectives have been developed by the MPCA to minimize human exposure risk while maintaining the property use as open space available to the public. Soil and sediment exposures will be addressed by removal as well as covering the contaminated material with clean soil. Site design will minimize human exposure to surface water and reduce the contaminant concentration in the water. Response action objectives have been developed using Applicable or Relevant and Appropriate Requirements (ARARs) and are based on soil and ground water contamination data present in the MPCA Site files. The ARAR and To-Be-Considered Criteria for the Site are listed below:

ARAR

- Minn. R. pts. 7050.013 to 7050.0220 and 40 CFR (Code of Federal Regulations) Parts 303 and 304. Establishes a ambient standard of 3.5 to 5.5 ug/L (depending on water pH) for PCP in a class 2B water.
- 29 CFR 1926. OSHA regulations for persons engaged in site-related activities.
- 33 CFR 401 and 404. Permit requirements for construction activities in and adjacent to navigable waters.
- 40 CFR 264. Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities.

- 40 CFR 265. Interim Status Standards for Owners of Hazardous Waste Treatment, Storage and Disposal Facilities.
- 40 CFR 268. Land Disposal Restrictions.
- Minn. Stat. 103A. Provides State jurisdiction over surface water features, including wetlands such as lakes and ponds, and other wetland types.
- MPCA Soil Reference Values (SRVs).

A. Response Action Objectives

The objectives for response actions at the Site are:

1. Provide the response action necessary to eliminate unacceptable human risk exposure to soil contamination.
2. Provide a response action to reduce unacceptable human risk exposure to PCP contaminated surface water.
3. Provide a response action to reduce PCP concentration in the surface water through bioremediation activities.
4. Allow for appropriate use of the open space by the community.

B. Surface Water Clean-Up Objectives

Response actions for this operable unit are based on minimizing the potential human exposure to the surface water contamination, providing an environment for reduction of PCP concentration by bioremediation while maintaining a natural setting that will be attractive to wildlife.

Human access to the surface water will be restricted by underground piping of the stream into the wetland, and reconfiguration of vegetation and topography. A wetland will be created along the fringe of open surface water. The organic soil, wet conditions and vegetation will limit direct access to open water areas. The open water area will be constructed to promote photolysis and biodegradation of PCP. The wetland with open water conditions will be attractive to wildlife in this urban setting.

DESCRIPTION OF RESPONSE ACTIONS

The MPCA has not identified viable responsible parties for the release of hazardous substances at the Valentine Clark Site which is believed to be the originating source for the contaminants of concern identified in Bridal Veil open space operable unit.

Response actions will be implemented to prevent unacceptable exposure to human receptors and the surrounding environment with respect to each contaminated environmental media, i.e., soil, sediment, and surface water. Ground Water issues will not be addressed because no ground water drinking water receptors were identified. Institutional controls will be implemented to prevent ground water use in this area.

Four feet of clean soil will be placed throughout the site. Bridal Veil Creek will be piped from the outlet of the storm sewer located beneath the railroad tracks to the creek outflow to Bridal Veil Pond. Bridal Veil Pond will be filled with clean soil and converted to a wetland. A shallow, rocky, meandering stream within the wetland will promote photolysis and bioremediation of PCP, while providing passive barriers to surface water exposure. Sediment collection systems will be installed to decrease the potential of contaminated sediments migrating into this open space and prevent damage to the wetland.

These response actions reflect the wishes of the community for a natural area while providing protection of the public from exposure to contaminants.

Soil Exposure

Direct contact with contaminated soils must be mitigated. Site grading itself will remove some of the contaminated soil. Separation between the surface and contamination appears to be the most appropriate risk-based approach. According to the MPCA Risk Based Guidance Document (Section 3.2.2.2), accessible soil is defined as soil ranging from 0 to 4 feet. Soils located in this horizon, which contain contaminants of concern, pose the greatest potential risk to the public due to direct exposure. As a result, a minimum of 4 feet of clean soil will be placed over the contaminated soil throughout the entire Site. This amount of soil cover helps to minimize public exposure to the contaminated soil. It will also limit surface exposure and mobility of the contaminated soils due to erosional forces.

The community has explicitly stated that they wish to maintain this area as a natural asset. Four feet of clean soil cover will not create a barrier for the redevelopment of trees and other deep rooted species. This area will be reconstructed as a conservation area to create a natural setting in an urbanized area.

A management plan will be required to evaluate the site for erosional conditions that may result in contaminated soil exposure. An environmental covenant on the property will also be required to notify any future property owners of the existence of the response actions. Future subsurface site work, such as utility installation, may encounter contaminated soil. The site must be managed in accordance with a Contingency Plan implemented by the property owner, the City of Minneapolis.

Sediment Exposure

Bridal Veil Creek will be piped from the outlet of the storm sewer located beneath the railroad tracks to the creek outflow to Bridal Veil Pond. During pipe installation and to maintain the required gradient, sediment in the creek bed will be removed and the pipe will be covered with fill. Direct exposure to sediments along the creek will be eliminated.

A limited amount of sediment will be removed from the Bridal Veil Pond (mainly at the delta of Bridal Veil Creek) in order to provide site configuration for wetland construction. Filter fabric will be placed over the existing sediments in the pond to separate contaminated sediments from clean fill placed within the wetland.

Site management will need to recognize the existence of this barrier layer and associated cover materials and take measures to protect them during maintenance activities.

A sediment collection system constructed on Capp Industries property (north of Bridal Veil open space area and west of the Valentine Clark site) will decrease the potential for contaminated sediments to migrate from the Valentine Clark site to this open space.

A second sediment collection system located where the piped creek outlets to the wetland will prevent excessive sediment from limiting bioremediation or photolysis and damaging the wetland. Regular maintenance of these structures including removal and disposal of accumulated sediments will be required to continue their effectiveness.

Surface Water Exposure

Piping the creek from the storm sewer outfall to where the creek enters the wetland will eliminate surface water exposure along the length of Bridal Veil Creek in its current configuration. It will also minimize potentially contaminated groundwater infiltration occurring along the creek, consequently improving surface water quality. Piping the creek, rather than maintaining it in its current configuration, is an advantage from the human health standpoint.

The Bridal Veil Pond basin will be filled to the approximate elevation of the existing ordinary water level to develop a wetland within the basin. The wetland basin will maintain the storm water storage capacity of the pond and will be aesthetically pleasing. Direct contact with surface waters will be minimized by passive barriers incorporated into wetland site design. This will include dense vegetation and wetland conditions that will discourage access to the exposed surface water. The wetland will be less likely to be used by residents for site activities than the pond that is currently on-site. Water quality during storms will likely meet standards due to the inflow of precipitation.

Natural microbial degradation will be promoted by designing a shallow gravelly stream bed with rocky surfaces for microbial attachment within the wetland. This will allow photolysis and biodegradation of PCP to occur, improving surface water quality. Constructing a stream within the wetland would maintain some flowing surface water, as the community group (Southeast Como Improvement Association) had requested, but limit access with the presence of the surrounding wetlands.

Both the wetland and the stream bed that flows through it will have surface water present at times. Surface water standards may be exceeded on-site; however surface water quality will be improved by designing the stream and wetland to promote photolysis and biodegradation. The water quality is expected to meet standards downstream from Bridal Veil Pond outfall if the creek and wetland configuration are maintained. Sampling done by the MPCA at Bridal Veil Falls did not detect PCP.

A long-term maintenance agreement will need to be signed between the MPCA and City of Minneapolis. This agreement will outline responsibilities for long-term maintenance and care of the Bridal Veil Open Space Operable Unit. The MPCA will be responsible to monitor the

effectiveness of the selected remedy for a period of up to five years after completion of construction activities.

However, the City of Minneapolis will be responsible for long term care and maintenance to ensure the selected remedy remains protective of public health and the environment.

RESPONSIVENESS SUMMARY

Pursuant to Minn. Stat. § 115B.17, subd. 2b (2006), the MPCA issued a public notice describing the recommended response actions in The Minneapolis Star Tribune for the purpose of soliciting comments from the community. MPCA staff have met with city officials and representatives from the Southeast Como Improvement Association (SECIA) during the development of the proposed response actions alternative. Community meetings were held before and during the public comment period to also answer questions regarding the proposed actions. The City of Minneapolis did not submit comments regarding the proposed response action. SECIA continues to support the proposed actions, with a request for the development of a restoration landscape plan for the upland areas of the open space area. The MPCA will develop such a plan and obtain input from SECIA and other community or neighborhood interests in that development. A copy of the Final Minnesota Decision Document will be sent to the City of Minneapolis, the Minnesota Department of Health, the U.S. Environmental Protection Agency, the Southeast Como Improvement Association and the St. Anthony Park Community Council.

STATUTORY DETERMINATIONS

The selected response actions are consistent with the Minnesota Environmental Response and Liability Act, Minn. Stat. §§ 115B.01-115B.20, and are not inconsistent with the Federal Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq. and the National Contingency Plan, 40 CFR pt. 300. The selected response actions are protective of public health and welfare and the environment.

Kathryn J. Sather
Director
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Date

KJS:csa