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Ms. Leslie Patterson  
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Chicago, Illinois 60604-3590

May 27, 2011  
(1177)

RE: Remedial Investigation Report–Revision 1  
Stevens Point Former MGP, Stevens Point, Wisconsin  
Wisconsin Public Service Corporation

**CERCLA Docket No. V-W-06-C-847**  
**Site Spill ID – B5CJ**  
**CERCLIS ID – WIN000509983**

Dear Ms. Patterson:

On behalf of Integrys Business Support, LLC (IBS), which manages the former Stevens Point Manufactured Gas Plant (MGP) site on behalf of Wisconsin Public Service Corporation (WPSC), Natural Resource Technology, Inc. (NRT) is submitting the Remedial Investigation (RI) Report - Revision 1 for Stevens Point Former MGP in Stevens Point, Wisconsin.

The RI Report - Revision 1 incorporates responses to USEPA's comments on RI Report - Revision 0. In addition, RI Report - Revision 1 includes supplemental RI field activities performed through March 2011 to define the groundwater plume and evaluate potential vapor intrusion.

Please contact either of us at 262.523.9000 if you have any questions.

Sincerely,

NATURAL RESOURCE TECHNOLOGY, INC.

A handwritten signature in black ink, appearing to read "Eric P. Kovatch".

Eric P. Kovatch, PG, PH  
Senior Hydrogeologist

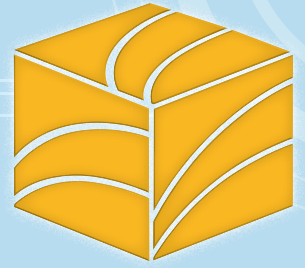
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## **REMEDIAL INVESTIGATION REPORT**

**Wisconsin Public Service Corporation  
Stevens Point Former Manufactured Gas Plant Site  
Stevens Point, Wisconsin**

**Project No: 1177**

**Revision 1  
May 27, 2011**



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## REMEDIAL INVESTIGATION REPORT

**WISCONSIN PUBLIC SERVICE CORPORATION  
STEVENS POINT FORMER MANUFACTURED GAS PLANT SITE  
STEVENS POINT, WISCONSIN  
WIN000509983**

**Project No. 1177**

**Prepared For:**

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**Revision 1  
May 27, 2011**

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# ACRONYMS

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µg/L	Micrograms Per Liter
bgs	Below Ground Surface
B(a)P	Benzo(a)pyrene
BLRA	Baseline Risk Assessment
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CERCLA ("Superfund")	Comprehensive Environmental Response, Compensation, and Liability Act
cfs	Cubic feet per second
cm/sec	Centimeters per second
COPCs	Contaminants of Potential Concern
CSM	Generalized Conceptual Site Model
CWG	Carburetted Water Gas
CWPC	Consolidated Water Power Company
DGPS	Differential Global Position System
DLs	Detection Limits
DO	Dissolved Oxygen
DQOs	Data Quality Objectives
EDI	Edi Engineering & Science, Inc
ES	NR 140 Enforcement Standard
ESB	Equilibrium Sediment Partitioning Benchmark
FS	Feasibility Study
FSP	Multi Site Field Sampling Plan
Ft/sec	Feet per second
HASP	Multi Site Health and Safety Plan
IBS	Integrays Business Support, LLC
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/kg	Milligrams Per Kilogram
MGP	Manufactured Gas Plant
MNA	Monitored Natural Attenuation
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NCP	National Contingency Plan
NGVD	National Geodetic Vertical Datum
NRT	Natural Resource Technology, Inc
ORP	Oxidation-Reduction Potential
Pace	Pace Analytical Services
PAHs	Polynuclear Aromatic Hydrocarbons
PEC	Probable Effect Concentration
POTW	Publicly Owned Treatment Works
PQLs	Project Quantitation Limits

PVOCs	Petroleum Volatile Organic Compounds
QA/QC	Quality Assurance/Quality Control
QAPP	Multi Site Quality Assurance Project Plan
RAF	Multi Site Risk Assessment Framework
RAO	Remedial Action Objective
RBC	Risk-based concentration
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation and Feasibility Study
RLs	Reporting Limits
Settlement Agreement	Settlement Agreement and Administrative Order on Consent
SHS	Simon Hydro Search, Inc
SOW	Statement of Work
SSB	Soil and/or sediment screening benchmarks
SSWP	Site-specific Work Plan
SWT	Surface Water Sampling Transects
TEC	Threshold Effects Concentration
TOC	Total Organic Carbon
USEPA	United States Environmental Protection Agency
USFWS	US Fish and Wildlife Service
UTM	Universal Transverse Mercator
Veolia	Veolia ES Special Services, Inc.
VOCs	Volatile Organic Compounds
WCCS-PC	Wisconsin County Coordinate System datum for Portage County
WDNR	Wisconsin Department of Natural Resources
WPSC	Wisconsin Public Service Corporation

# 1 INTRODUCTION

---

## 1.1 Background

This report presents the Remedial Investigation and Feasibility Study (RI/FS) site investigation work completed at the Wisconsin Public Service Corporation (WPSC), a subsidiary of Integrys Energy Group, former manufactured gas plant (MGP) site located in Stevens Point, Wisconsin (Figure 1). Activities described herein were performed in accordance with the April 26, 2007 RI/FS Site Specific Work Plan Revision 1 (SSWP) submitted on behalf of Integrys Business Support, LLC (IBS), managing the site for WPSC, prepared by Natural Resource Technology, Inc. (NRT). The United States Environmental Protection Agency (USEPA) conditionally approved the SSWP on July 11, 2007.

The SSWP and RI work were performed in accordance with the Statement of Work (SOW) attached to the Settlement Agreement and Administrative Order on (Settlement Agreement) between the USEPA and WPSC, CERCLA Docket No. V-W-06-C-847, effective May 5, 2006. The Stevens Point site is one of six WPSC former MGP sites addressed by the Settlement Agreement and SOW. Under the AOC/SOW, a generic approach to addressing the sites has been developed (the Multi-Site approach), which may be modified to account for site-specific differences that may exist at a particular MGP site.

As discussed in the SSWP (NRT, April 2007) and the Completion Report (NRT, June 2006), substantial RI and response actions were performed prior to WPSC's transferring this site from the state program of Wisconsin Department of Natural Resources (WDNR) to USEPA. The SSWP included an approach to assessing media and/or areas of the site that may pose a potential risk human health and/or the environment, based on the conclusions of the Completion Report (NRT, June 2006). The RI work built upon previous data and information, as well as reports prepared by WPSC, and was completed in accordance applicable federal regulations, including Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund") as amended by SARA and the National Contingency Plan (NCP).

This report presents soil, soil vapor, groundwater, sediment, surface and storm water data collected as part of the RI/FS investigation activities between June 2007 and March 2011.

## 1.2 Work Objective

The overall objective of the RI/FS activities was to evaluate the nature and extent of MGP residuals in soil, groundwater, sediment, and surface water and to support human health and ecological risk assessments and feasibility studies. The results of the RI will be used to evaluate whether further evaluation or remedial actions are warranted at the site. Evaluation of remedial actions, if necessary, will be presented in the FS.

As described in the SSWP (NRT, April 2007) and Completion Report (NRT, June 2006), the media that required further assessment and/or were not fully addressed by previous work with respect to public health, welfare or the environment included the following:

- Off-property surface soil sampling in Pfiffner Pioneer Park (adjacent to remedial action excavation areas) and off-property subsurface soil sampling in the parking lot to assess conditions in these areas and provide additional data for assessment of alternatives and pathways;
- Evaluate concentration trends and the extent of MGP residuals in groundwater, and interaction with the storm sewer system;
- Assess potential ongoing sources in the vicinity of the Pioneer Park pond and the Wisconsin River, near the discharge of the former slough, that may be affecting the pond and river sediments;
- Evaluate the distribution of Contaminants of Potential Concern (COPCs) in river and pond sediments to assess the COPC distribution and potential risk to human health and the benthic community;
- Evaluate the COPC distribution in surface water to assess potential risk to human health; and
- Evaluate vapor concentrations from soil and groundwater data to assess the potential for vapor migration to occur if future buildings are to be constructed at the Site.

## 1.3 Site Background

This section summarized background information presented in the SSWP. Refer to the SSWP for additional detail.

Owner/Operator: Wisconsin Public Service Corporation, a subsidiary of Integrys Energy Group, managed by IBS  
Contact: Mr. Naren Prasad (312.240.4569)  
130 E. Randolph Dr.  
Chicago, IL 60601

Site Location: T24N, R8E, Section 32  
1111 Crosby Avenue  
Stevens Point, Wisconsin  
Portage County (Figure 1)

USEPA ID WIN000509983  
(WDNR BRRTS #) (02-50-000079)

As presented in the SSWP, the following definitions are used herein:

- Facility – Refers to the former WPSC MGP structures and related areas;
- Property – Refers to the land currently owned by WPSC (Figure 2); and
- Site – Refers to areas where contamination related to the former MGP has been discovered through site investigation activities completed to-date. These areas include the facility and property as well as portions of Pfiffner Pioneer Park, the City, and privately owned land south and west of the property, and near shore sediments within the Wisconsin River.

### 1.3.1 Site Description

The former Stevens Point MGP is located on WPSC property in Stevens Point, Wisconsin (Figure 1) and encompasses approximately 3 acres (Figure 2). The property is currently a grass covered lot with a mild slope towards the Wisconsin River. It is bounded by Crosby Avenue to the west; a City of Stevens Point parking lot to the south and east; and residential properties, West Street, and an apartment building to the north. Pfiffner Pioneer Park, owned by the city, lies west of the property across Crosby Avenue and is bordered on the west by the Wisconsin River. The western WPSC property boundary is located approximately 300 feet east of the Wisconsin River (Figure 2). The majority of the former MGP structures were located between 300 and 500 feet east of the river, predominantly on the western side of the WPSC property, situated on slightly more than 1.5 acres (Figure 3).

The site currently consists of an open field (WPSC property), a portion of the adjacent City park (Pfiffner Pioneer Park which is a total of approximately 6 acres), a City asphalt parking lot (the parking lot is a total of approximately 1.5 acres), the northwest corner of the shopping mall parking lot, and adjacent streets. There are no buildings or structures on the WPSC property. An open-air band shell and the Riverfront Art Center are located within the City park adjacent to the Wisconsin River and the pond (Figure 2).

Thirty-four (34) monitoring wells are located in the vicinity of the site, covering approximately 40 acres (Figure 2); however, well OW-7 has not been sampled since 1998 when it was replaced by OW-7A, so only 33 well are considered active at the site. Wells are located on the WPSC property as well as on

public and private property to the east, west, and south. Including the areas where MGP-affected soils and groundwater are located, the overall site size is less than seven acres.

There are no surface water bodies on the WPSC property. The site includes areas adjacent to the Wisconsin River and a small decorative pond located off property, adjacent to the Riverfront Art Center. The pond is hydraulically connected to the Wisconsin River by a narrow channel located under the former railroad tracks that has been converted into a walking and bike path and parallels the Wisconsin River (Figure 2). The pond is a remnant of the former slough. The former slough was filled in as part of the City's storm sewer reconstruction project between 1981 and 1985, with the exception of the western end of the slough which was partially filled to create the pond. The pond was created by separating the former slough into two portions with a sheet pile wall. The bottom of the pond is at an elevation of approximately 1082 feet while the bottom of the former slough is at an elevation of approximately 1072 to 1075 feet. There is no obvious entry point for the pond and the area surrounding it is maintained as park land with benches; the grass is mowed up to the edge of the pond and there is no aquatic vegetation along the pond banks.

The Wisconsin River is approximately 900 feet across with a strong current, and water depths exceeding four feet occurring just off-shore in the vicinity of the former MGP facility and slough. Lawn is maintained up to the bank of the Wisconsin River, and there is no beach area or obvious location to easily access the Wisconsin River. Based on the results of the 2007 investigation (Section 4), the site includes approximately 0.6 acre in the Wisconsin River, extending a distance of approximately 200 along the river bank and 120 feet into the river.

### **1.3.2 Site Utilities**

The most significant utility identified to-date is a storm sewer line located just south of the WPSC property boundary (Figure 4), which runs north-south and then angles to the northeast. The storm sewer lines were installed by the City in the 1980s. The City perforated three sections of sewer to facilitate placement of the pipe in the trench at the planned elevation. A video scan of the storm sewers in May 2000 confirmed the perforations. The diameter and lengths of perforated storm sewer are listed below and the locations are shown on Figure 4. The influence of this perforated sewer line on site conditions is discussed in Section 4.2.3.

Pipe Diameter (inches)	Approximate Length (feet)	Sewer Segment (Manholes)
18	117	Upstream of MH-4A
24	190	MH-4A to MH-4
27	154	MH-4 to MH-3

A natural gas line that crosses the property (Figure 4) was installed just prior to soil remediation activities in 1998. This line crossed through Excavation Area #3 (Figure 2 in Appendix A), so soils excavated for the installation of the gas line were disposed off-site, and the line was left undisturbed during the 1998 soil excavation and remediation activities. An underground water line services two hydrants (one near OW-3R/PZ-3B) at the north end of the property (Figure 4).

Within the river, a fiber-optic communications line crosses approximately 80 feet upstream of the US Highway 10 (Hwy 10) bridge. A safe-guard area approximately 40 feet wide extends across the river to protect this line. The approximate line location, as well as the safe-guard area, is shown on the appropriate drawings.

### 1.3.3 Site History

The Stevens Point MGP operated from approximately the 1890s to the late 1940s or early 1950s, using the carburetted water/gas (CWG) method to produce gas primarily from oil (SHS, April 1993). The plant ceased production in the late 1940s to early 1950s when piped natural gas became readily available to the Stevens Point area (EDI, 1986). The former MGP process structures were located on the west side of the facility. The east side of the facility was generally used as storage and disposal areas for MGP process wastes and other materials.

MGP related structures at the facility present on Sanborn maps from 1898, 1912, 1922, 1934, 1945, and 1960 (provided in the Completion Report (NRT, June 2006)) included the following:

- Materials storage building and garage;
- A purifier;
- Two tar wells of unknown size; and,
- Eight gas holders (capacities of 4,500 ft<sup>3</sup>, 10,000 ft<sup>3</sup>, two at 19,500 ft<sup>3</sup>, 40,000 ft<sup>3</sup>, 200,000 ft<sup>3</sup>, and two of unknown volumes).

A slough was also formerly located along the south property boundary (Figure 2), and this historically served as a storm water outfall to the Wisconsin River. However, between 1981 and 1985 the City of Stevens Point filled the slough as part of a storm sewer reconstruction project.

### 1.3.4 Previous Investigations

The Completion Report (NRT, June 2006) contains detailed information regarding historical site investigation and remedial data as well as a full bibliography of the reports and summaries issued for the Site. Sample locations are provided on Figure 2 in Appendix A.

Site investigation and remediation activities began in the mid-1980s and continue through the present. Investigations completed prior to the soil remediation activities in 1998 focused on determining the presence of former MGP structures, identifying source areas, and an initial groundwater assessment. The WDNR was the regulating agency that oversaw the 1998 remediation activities. Investigation work completed from 1999 to 2002 evaluated the former slough, Wisconsin River and pond sediments (Appendix A), groundwater infiltration into the perforated the storm sewer, and the overall effect of soil remediation activities on groundwater quality (through March 2011).

### 1.3.5 Previous Response Actions

The Remedial Action Documentation Report (NRT, September 1998) and the Completion Report (NRT, June 2006) contains detailed information regarding previously performed response actions. Excavation areas are provided on Figure 2 in Appendix A. These response actions included:

- Surface Soil Removal. WPSC property-wide scrape of the top four inches of surface material which was used as backfill.
- Source Area Excavation and Management. Excavation, treatment and/or off-site disposal of over 16,000 tons of contaminated soil and debris from the Site between February and June 1998. Areas remediated included the former MGP operations area and vicinity where coal tar and/or other MGP residuals were identified by previous investigation work. Former Underground Structure Removal. Removal of former underground structures or remnants of structures that had visible evidence of MGP residuals in soil/debris surrounding or within the former structures.
- Excavation Dewatering and Treatment. Temporary groundwater extraction during source area excavation work to maximize excavation depths and control MGP contaminated groundwater. Water was treated on-site and discharged to the local publicly owned treatment works (POTW).
- Backfilling, Cover, and Surface Restoration. Restoration activities included:



- Backfilling with clean and/or thermally-treated soil within in the excavation areas;
- Placement of 2 feet of clean imported fill over the backfilled excavation areas, including both WPSC owned property and disturbed portions of Pfiffner Pioneer Park;
- Reconstruction and paving of excavated sections of Crosby Avenue; and
- Placement of 4 inches of imported fine grained topsoil cover, seeding and mulching of the entire property owned by WPSC and placement of sod over imported clean backfilled portions of Pfiffner Pioneer Park.

MGP residuals were observed to have been left in place along the southern boundary of Excavation Area, where the excavation area abuts the parking lot. However, these observed residuals were not deemed significant compared with the volume of soil excavated and treated as part of the response action.

## 1.4 Report Organization

The RI Report is organized as follows:

- Section 2: Site Characteristics
- Section 3: Site Characterization Activities
- Section 4: Investigation Observations and Results
- Section 5: Fate and Transport
- Section 6: Summary and Conclusions
- Section 7: References

## 2 SITE CHARACTERISTICS

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### 2.1 Site Geology and Hydrogeology

The following summary of the regional and local geology and hydrogeology includes information obtained from previous investigations as well as the additional information collected during the RI. RI boring and sampling locations are shown on Figures 5 and 6.

#### 2.1.1 Regional Setting

The near surface geology of the Stevens Point area is characterized by glacial outwash deposits of sand, gravel, and clay that range up to 50 feet thick. Stratified sand and gravel alluvial deposits also occur along the Wisconsin River.

Precambrian granite (bedrock) underlies the glacially-deposited soils around Stevens Point, and is present at depths of 5 to 30 feet or more below ground surface (bgs). Regionally, the bedrock surface slopes to the east/southeast, along the flank of the Wisconsin Arch (SHS, December 1993). Cambrian sandstones are present at depth (and overlie the Precambrian granite) further south and east of the City of Stevens Point.

Stevens Point is located in the northeastern portion of the Central Wisconsin Sand Plain. The Sand Plain contains two main aquifers, including the highly productive unconsolidated sand and gravel aquifer and the less productive Cambrian sandstone aquifer; the Precambrian rock is generally non-productive wherever it is encountered (SHS, December 1993).

The sand and gravel aquifer is comprised of glacial outwash deposits and alluvial sands and gravels within the Wisconsin River valley. These deposits are highly permeable and wells in this aquifer are capable of yields of 500 to 1,000 gallons per minute. Based on these characteristics, the underlying sandstone aquifer is rarely used as a water source. However, when needed, the Cambrian aquifer is capable of providing adequate water for domestic purposes when fractures within the bedrock are encountered.

Groundwater recharge occurs from precipitation and surface water. Regional groundwater flow is towards the Wisconsin River, unless diverted by human activities such as wells or dams. Local groundwater flow is typically toward smaller surface water discharge points.

### 2.1.2 Local Setting

Soil stratigraphy at the site consists of 1 to 15 feet of miscellaneous fill material overlying high permeability alluvial sand (see boring logs in Appendix B, C, and D). The fill consists of silty sand and gravel with coal fragments, fly ash, broken glass, cinders, bricks, sawdust, and wood chips. Underlying the fill layer is a predominantly fine to medium grained uniform sand or silty sand with trace gravel.

The upland portions of the site where the former slough was located contain between 12 and 18 feet of fill material underlain by a silty layer that varies in thickness from 0 to 4 feet. Alluvial deposits underlie the silty layer. The fill consists of a mixture of foundry sand, alluvial sand, and organic debris.

The sediments of the Wisconsin River, where present, consist of a thin layer of organic debris underlain by up to 10 feet of alluvial sand and gravel or bedrock, depending upon the location (see river logs in Appendix E). The alluvial material consists of well graded, uniform sand with varying amounts of fine gravel, similar to the upland alluvial deposits.

Precambrian bedrock underlies the highly permeable alluvial sands and river sediments. During the July 2007 investigation activities, Precambrian bedrock was encountered in upland and river borings (Figures 5 and 6). In most borings, the bedrock encountered was extremely hard, but in other locations it was weathered and easy to drill and sample. Bedrock samples recovered at the site consisted of felsic to mafic igneous and metamorphic rock, locally referred to as “black granite”. Obtaining samples of this rock over 6-inches in length with roto-sonic drilling methods was not feasible because it damaged the drilling equipment and the required excessive sampling time. In other borings, the weathered bedrock varied in texture from brittle rock fragments to decomposed masses of minerals loosely bound with clay, the latter commonly occurring in the river borings. Subsurface conditions are illustrated in cross sections A-A’, B-B’, and C-C’ (Sheet 1) and bedrock elevations are contoured on Figure 7.

The surface elevation of Precambrian bedrock beneath the Wisconsin River sloped from west to east (cross section A-A’) toward the upland area of the site. The July 2007 river borings (Figure 6) were completed using roto-sonic drilling methods to a depth of 10 feet below the river bottom or to refusal; most borings encountered refusal prior to 10 feet given the shallow depth to rock beneath the river. The river borings encountered Precambrian bedrock at the river bottom elevation near the center of the channel, but it was not encountered in some borings near shore where the drilling was terminated 10 feet below the river bottom elevation. Borings into the weathered bedrock ranged up to 11.5 feet (T1-C1a).

The west to east sloping bedrock elevations beneath the Wisconsin River continued beneath the western portions of the property toward SB-210 (cross section A-A') and along a bedrock valley/trough trending to the southeast. An approximation of this bedrock valley is shown on Sheet 1.

Groundwater flow at the site is generally southeast, away from the Wisconsin River due to the ponded water behind the dam, which is located approximately 0.5 mile downstream of the site. However, historical groundwater flow at the facility, prior to the installation of the dam in 1918 was likely west, toward the river, possibly with a highly localized component to the south toward the former slough. Depth to groundwater varies seasonally from approximately 3 feet bgs in Pfiffner Pioneer Park to 13 feet bgs on the eastern part of the monitoring well network. Groundwater elevations are summarized in Table 1 and on contour maps for many of the 2007 through 2011 groundwater sampling events, which are discussed in more detail in Section 4.2.1. Horizontal groundwater flow velocities across the Site were calculated to range from approximately 35 ft/year (NRT, October 1996) to 130 ft/year (SHS, December 1993). Based on the consistency of the groundwater flow maps through March 2011, it is reasonable to assume these velocity estimates are representative of current site conditions.

## 2.2 Site Topography and Drainage

The Site is generally flat or gently sloping towards the Wisconsin River. Ground surface elevation ranges from approximately 1,090 feet near Water Street (east of the property) to about 1,087 feet in the vicinity of the pond (south of the property). Surface water flow is to the river and/or the local storm sewer system. Only precipitation that falls directly into the park near the river flows to the river. The remaining runoff from the paved surfaces, roads, and grass areas is intercepted by storm sewers located around the Site.

Storm water within the sewers from the northeast, south, and southeast flows to a primary 84-inch line that discharges to the east, and joins with drainage from the north part of City of Stevens Point. Storm water eventually discharges to the river below the dam, in the vicinity of the railroad bridge. No wetlands are present in the vicinity of the Site.

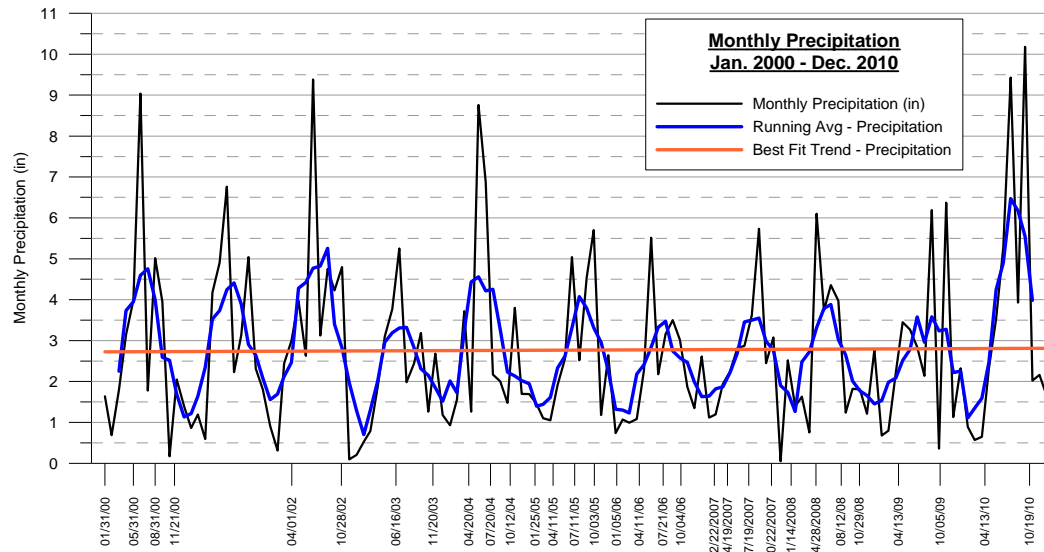
## 2.3 Climate

The climate of the Stevens Point area was described in the SSWP. In summary, the average monthly temperature ranges from about 13°F in January to about 70°F in July and almost 70 percent of the total annual rainfall generally occurs between May and October. Overall, the mean average temperature for the area is approximately 44°F and the average precipitation for Stevens Point is over 32 inches per year, as indicated on the table below.

**Average Monthly Precipitation (1971 – 2000)<sup>1</sup>**

Jan	1.11	May	3.63	Sep	3.78
Feb	0.98	Jun	3.66	Oct	2.31
Mar	1.95	Jul	4.12	Nov	2.27
Apr	2.87	Aug	4.11	Dec	1.34

Monthly precipitation from January 1, 2000 through December 31, 2010, which generally correlates with site activities completed after soil remediation in 1998, is plotted below<sup>2</sup>

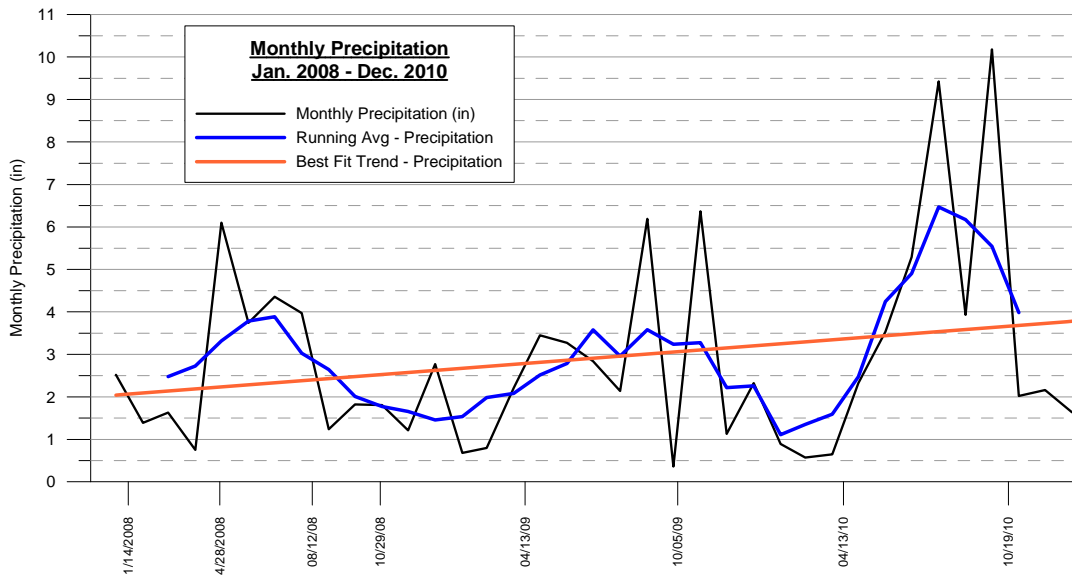
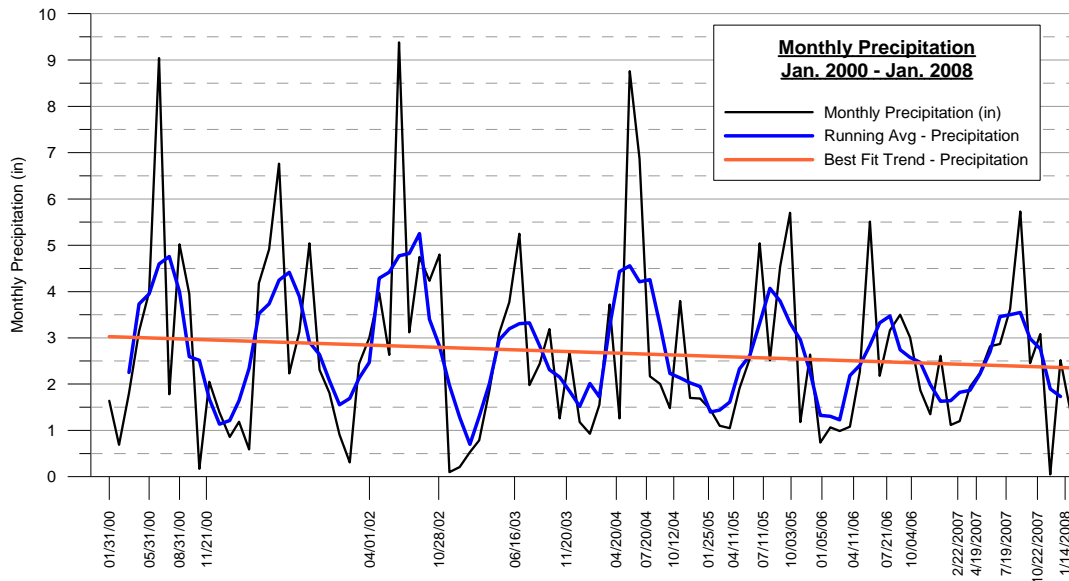


Both a running average and a regression (best fit) plot have been added to help show how precipitation totals have decreased over this period. The running average was calculated using a five-month window. This means the values from the two month prior to and the two months following the current month were used to calculate the “average” precipitation for a point in time. This removed much of the volatility from the plot due to excessively wet or dry months during any single period. The best fit plot provides an indicator of whether the overall precipitation trend is increasing or decreasing.

The RI originally evaluated data through January 2008, and the monthly precipitation from January 1, 2000 through January 31, 2008 was plotted (below). To evaluate overall precipitation changes between 2008 and 2010, the long term and short term plots for 2000 to 2008 and 2008 to 2010 are shown.

<sup>1</sup> Midwest Regional Climate Center. Stevens Point, Wisconsin. Station 478171. Historical Climate Data 1971-2000. website - [http://mcc.sws.uiuc.edu/climate\\_midwest/historical/precip/wi/478171\\_psum.html](http://mcc.sws.uiuc.edu/climate_midwest/historical/precip/wi/478171_psum.html)

<sup>2</sup> National Climatic Data Center. Station Coopid 478171. National Oceanic and Atmospheric Administration. Washington D.C. website - <http://hurricane.ncdc.noaa.gov/dly/DLY?randomnum=73415805W62257>.

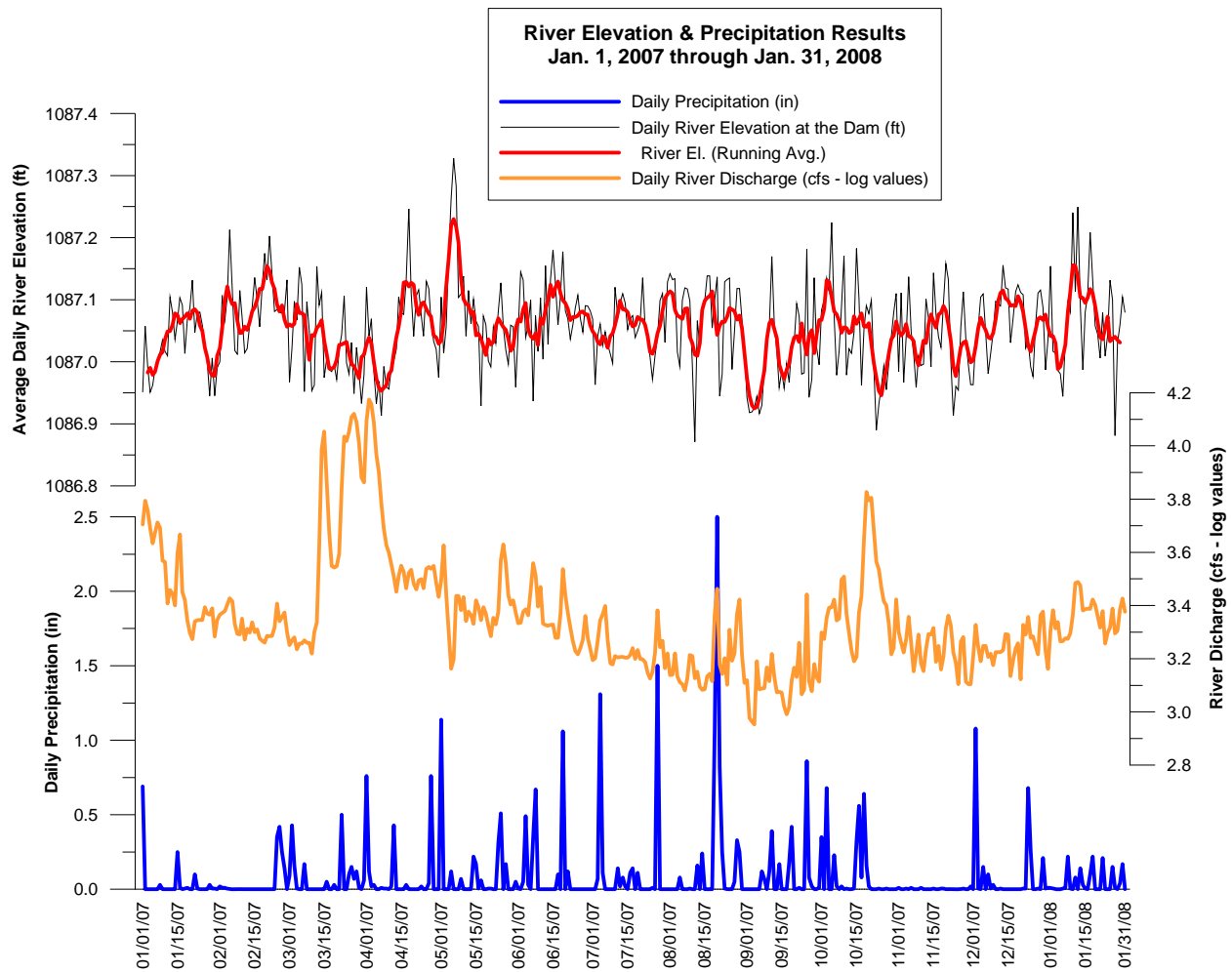


The significance of the 2000 to 2008 and 2008 to 2010 plots is represented by the best fit trend line. Between 2000 and 2008, overall precipitation changes from approximately 3 inches per month to an estimated 2.5 inches per month. However, between 2008 and 2010, the overall monthly precipitation value represented by the best-fit trend line changed almost two inches (from slightly more than 2 inches to just less than 4 inches) per month. These plots show the precipitation variability much better than the single plot for the period January 2000 through December 2010.

## 2.4 Surface Water Flow

River discharge and elevation data at the dam during the RI in 2006 and 2007 was obtained from the Consolidated Water Power Company (CWPC), which operates the dam located just downstream of the site (Appendix F). Daily discharge values for 2006/2007 ranged from 897 cubic feet per second (cfs) to over 19,700 cfs. CWPC also provided hourly elevation data from January 1, 2007 through January 31, 2008 which showed the river elevation varying within a narrow range of 1086.72 and 1087.52 feet.

Daily precipitation, daily discharge, and daily average river elevation are plotted below. There appears to be little correlation between rainfall, river discharge, and pool elevation.



The only data CWPC was able to provide since 2008 include the daily discharge readings at the Stevens Point Dam. The monthly averages for January 2007 through December 2010 are summarized on tables

in Appendix F. The average monthly results indicate discharge is generally greatest during March or April of the year while the lowest discharge values are generally observed in September or later in the year (results for 2010 were skewed due to a large storm event that occurred on September 23 and 24, 2010).

<b>Year</b>	<b>Annual Average Discharge (cfs)</b>	<b>Annual Minimum Discharge (cfs)</b>	<b>Annual Maximum Discharge (cfs)</b>
2007	2,689	897 (Sept. 4)	14,970 (Apr. 2)
2008	3,526	562 (Jan. 23)	39,250 (Apr. 20)
2009	2,387	710 (Jan. 5)	18,630 (Apr. 28)
2010	4,303	690 (May 29)	59,863 (Sept. 24)

## 2.5 Population and Land Use

The population of the City of Stevens Point is approximately 26,700, based on the 2010 U.S. census. The City of Stevens Point Zoning Department indicates land use around the Site includes single and multi-family housing, commercial, and recreational areas (Figure 2). The former MGP facility and WPSC property are zoned “Commercial”. Areas that border Water Street and Crosby Avenue to the east and south are zoned “Central Business”, while Pfiffner Park is zoned “Conservancy”. Additional information regarding land use, zoning, ordinances, etc. is included in the Current and Future Land Use and Reuse Assessment (Appendix G).

The City of Stevens Point municipal wells are located more than 2.5 miles east of the site. Private well logs were reviewed and it was concluded that these wells were no longer in use (SHS, December 1993).

## 2.6 Cultural and Natural Resource Features

An inquiry made to the US Fish and Wildlife Service (USFWS) indicated that there are no known federally-listed endangered or threatened species or any critical habitat in the area. A review of the state database was also completed and found that there were no state-listed endangered or threatened species in the area. A review of the state Historic Preservation database did not identify any known archeological sites in the area.

Additional information regarding cultural and natural resources are included in the Current and Future Land Use and Reuse Assessment (Appendix G).