

**SEMI-ANNUAL REPORT ON
PROJECT XL
JEFFERSONTOWN SEWERSHED/CHENOWETH RUN
WATERSHED
PRETREATMENT REINVENTION PROJECT
(Reporting Period: January 1 – June 30, 2004)**

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October 2004

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1.0 INTRODUCTION

MSD completed an EPA Grant project for the Development of Pretreatment Performance Measures. The objective of this project was to develop, implement, and assess specific Performance Measures designed to measure the environmental impact of the Pretreatment Program in the Jeffersontown Sewershed/Chenoweth Run Watershed area. MSD was also selected to participate in the Project XL (eXcellence in Leadership) program.

With information gained from the Performance Measures, and with the regulatory flexibility provided by the XL Pilot Project, resources can ultimately be shifted to address the greatest environmental concerns in the watershed. MSD's strategy is to take better information and reallocate resources with this XL program to create environmental benefits according to a stakeholder-endorsed prioritization strategy.

The Final Project Agreement (FPA) for MSD's XL project was signed by MSD, USEPA, and Kentucky Department of Environmental Protection (KYDEP) on September 28, 2000. The FPA documents the enforceable commitments, voluntary commitments, and aspirations for the project. The FPA calls for a five year effort and requires annual and semi-annual reporting.

MSD received a reissued KPDES permit for the Jeffersontown treatment plant with an effective date of June 1, 2002. In the reissued permit, MSD was given part of the regulatory authority to begin implementing the XL study from the KYDEP. KYDEP also obtained code changes in December 2002 to enable MSD to implement the pilot study.

As part of Project XL, MSD has committed to produce a semi-annual Report for EPA, KYDEP and project stakeholders. The semi-annual report is due each October 1. This semi-annual report is in addition to annual reports MSD must furnish on April 1 of each year.

2.0 ACTIVITIES AND ACCOMPLISHMENTS

MSD has been very active in implementing the XL Pilot program in 2004. In this semi-annual report, MSD will present an update on many of the project activities.

2.1 Stakeholder Involvement

MSD held a general stakeholder meeting on April 22, 2004. Topics discussed included a Project XL status report, MSD's Annual XL report for 2003, updated lists of pollutants of concern and Significant Industrial Users, pollutant sampling schedule changes, supplemental environmental projects, Pollutant of Concern (POC) reduction strategies, and open discussion. A summary of the meeting is included in **Appendix A**. Minutes from this and of other stakeholder and work group meetings are also included on MSD's webpage at http://www.msdlouky.org/insidemsd/pretreat_projectxl.htm.

MSD has assembled a Stakeholder Work Group to assist in making decisions on this project. The Stakeholder Work Group includes MSD staff, a consultant, a representative from Kentucky Pollution Prevention Center, a state regulator, an environmentalist, and two industrial representatives. The work group met on February 19, 2004 to review the project and discuss future project initiatives. A summary of the meeting is included in **Appendix B**.

2.2 Pollutants of Concern

"Pollutants of concern" (POC) is a phrase coined for this project for parameters in the wastewater for which the utility should exercise heightened concern due to the data evaluation from the performance measures review. The following criteria for the determination of POCs were established with stakeholder involvement.

A parameter would be considered a POC:

- If there have been multiple exceedances of any of the Performance Measures.
- If the data shows an increasing trend for that parameter toward any of the Performance Measures.
- If concentrations of that parameter in the receiving stream are near water quality criteria (even though the pollutant source may not be pretreatment related).
- If that parameter is listed as a reason for the stream to be on the State's 303d list.
- If the parameter has a numeric limit on the Wastewater Treatment Plant's NPDES permit.

Table 2.2-1 identifies the current J-Town Pollutants of Concern as determined by the work group based on these criteria and the data collected over the past two years.

2.3 “Clean Sampling and Clean Analytical”

MSD undertook an experiment to compare the effect of using “clean” sampling techniques as compared to MSD’s “conventional” sampling technique. This study was conducted in June 2001. The study generally showed MSD’s “conventional” sampling technique was not introducing contamination into the collected samples.

Also in June 2001, MSD compared the two sets of samples collected by using MSD’s “conventional” analytical techniques against more rigorous “clean” analytical techniques performed by an outside laboratory. The “clean” analytical techniques were able to achieve substantially lower detection limits. The data collected in June 2001 generally showed “conventional” analytical techniques were not able to demonstrate the absence of a pollutant while “clean” techniques were.

A follow-up study was performed in June 2002 where seven consecutive days of samples were split between the “clean” and “conventional” analytical techniques. The results obtained were consistent with the earlier study. The “clean” analytical techniques were better able to demonstrate the absence or presence at a very low level for several pollutants.

MSD conducted a third round of clean analytical work in May 2003. In this study, pre-cleaned sample bottles were used to collect samples of J-Town WTP effluent. The study included analyses for mercury, copper and lead.

- The daily mercury samples were analyzed by three labs (two using standard analytical techniques and the third using ‘clean’ analytical techniques). The labs employing standard techniques routinely quantified mercury in the effluent while the split sample analyzed by clean techniques quantified mercury at one-tenth to one-hundredth the levels quantified by conventional techniques.
- The daily copper samples were analyzed by three labs (using standard analytical techniques, but one lab offered a significantly lower detection limit). Two of the three labs reported similar results for copper, while the third lab’s results were inconsistent. More credence is placed in the results that were consistent between two labs.
- The daily lead samples were analyzed by three labs (all using standard analytical techniques, but one lab offered a significantly lower detection limit). The lead results using the more sensitive technique were quantified at a lower value than by the conventional techniques.

MSD has prepared a summary report that documents the three clean sampling/clean analytical efforts. A copy of this report is available upon request and will be included in our next Annual Report.

2.4 Pollution Prevention / Public Education

Several Pollution Prevention activities have been accomplished (or are in the process of being done). These activities each have the purpose of either directly reducing pollution or educating the public how to help reduce pollution to the stream. The efforts underway in 2004 include:

- Pollutant of Concern “Fact Sheets” were prepared. The fact sheets are intended to be informational and raise the public awareness of local citizens. The fact sheets were distributed at the Gaslight Festival, posted on MSD’s webpage, and will be distributed at the upcoming Backyard Habitat Workshop. The fact sheets are included in **Appendix C**.
- Sinkhole brochures. Brochures were prepared by the Kentucky Geological Survey (SGS). The brochure includes information on How to Protect Karst Aquifers as well as a map of sinkhole locations in the Chenoweth Run area. A copy of the brochure is included in **Appendix D**.
- Audit. MSD requested the Kentucky Pollution Prevention Center (KPPC) to conduct an audit of the MSD’s Jeffersontown Wastewater Treatment Plant. The audit was conducted in June 2004. KPPC recommendations for this facility include: upgrade plant #1 aeration system to fine bubble diffusers and broaden the Project XL training and awareness program. A copy of the Audit Executive Summary is included in **Appendix E**.
- BMPs. MSD is working on preparing Best Management Practices (BMPs) for dentists in the county. This effort is targeting silver and mercury waste reductions. The Kentucky Dental Association prepare a draft BMP. When finalized, the XL Team will review the document and plan to distribute it to dentists in the project area.
- Logo. A logo for Project XL in Chenoweth Run was created. A copy of the logo is included on the front cover of this report. The logo will be used on all project related materials to help gain public awareness for the project.
- Press Releases. Newspaper press releases were issued to numerous newspapers with the intent of generating public educational articles on the project. Articles were published in the Louisville Courier-Journal, the NewsLeader and the Jeffersontown Chamber of Commerce paper. The articles also offered a means of free publicity for project sponsored events. Copies of the Courier Journal article and the Newsleader article are included in **Appendix F**.

- Project XL set up a booth at the Jeffersontown Gaslight Festival on September 17, 18, and 19, 2004. The booth offered several educational and pollution prevention activities:
 - Mercury. Digital thermometers were offered to anyone wishing to replace their old mercury thermometers. This allowed over 50 mercury thermometers to be removed from households, eliminating the possibility that the mercury will end up down the drain. (The mercury thermometers were taken to Hazbin (Jefferson County Household Hazardous Waste collection site) for recycling.
 - Trees. A thousand tree saplings (along with planting instructions) were distributed to the public.
 - Brochures/flyers/information were also distributed for the upcoming Backyard Habitat Workshop, Project XL, the Sinkholes in Chenoweth Run, and the upcoming Chenoweth Run Cleanup.

2.5 Reevaluation of SIUs

The criteria MSD has selected to determine if an industrial user is a SIU includes any of the following:

- If the user discharges greater than 5% of flow or loading of a pollutant of concern to the WTP.
- If the user has been in significant noncompliance (SNC) at any time during the preceding two years.
- If the user has a reasonable potential to adversely impact the WTP.
- If the user has the potential to discharge uncontrolled slug loads.

MSD, with the assistance of the Stakeholder Work Group, categorized industrial users into the following:

Significant Industrial Users (SIU): White Castle Foods, Lantech, Russtech, Jones Plastic

Non-Significant Categorical Industrial Users (NCIU): Winston Products, HL Lyons

Industrial Users (IU): Papa Johns Foods, Beechmont Press, Bramco Brandeis, Cummins Cumberland, Dispensers Optical, Southern Standard Carton, Clark Detroit Diesel, Ryder Truck, Innovative Electric Design, and Print-Tex.

MSD has issued signed Industrial User agreements for IUs and NCIUs. MSD has also issued revised SIU permits. The effective date for these permits and agreements was January 1, 2003.

The list of pollutants of concern was reviewed and the status of industries were compared to the criteria for SIUs at the April Stakeholder meeting. Based on this information, it was determined that no changes to the status of industries were needed for 2004.

2.6 Industrial User (IU) Agreements

MSD worked with the Stakeholder Workgroup in the development of agreements for Industrial users and agreements for Non-Significant Categorical Industrial Users. These IU agreements have been prepared and executed. The effective date of the agreements was January 1, 2003. The IU and NCIU agreements require Industries to complete a pollution prevention audit and submit a summary of the findings to MSD (within 6 months), contribute half of their annual savings toward a supplemental environmental project (by end of each calendar year), and submit an annual certification to MSD (by end of each calendar year). The IU and NCIU agreements also contain other general requirements. Copies of these agreements were included in our 2002 Annual Report.

MSD reported on the results of the pollution prevention audits, the contributions to supplemental environmental projects and annual certifications in our 2003 Annual Report. The industries with agreements are in their second full year of participation. They have committed to funding supplemental environmental projects in 2004 as called for in their agreements.

2.7 Reallocation of Resources

MSD has developed a plan for reallocation of freed industrial resources with the involvement of stakeholders. Industries with less annual costs resulting from a change in their regulatory arrangement are required to contribute at least half of their annual savings to stakeholder-approved supplemental environmental projects.

The following table lists the contributions that Industries with IU agreements have made toward these projects in 2004:

Company	Address	City	State	Zip	Amount to Bill
Beechmont Press	9951 Bunsen Way	Louisville	KY	40299	\$1,052.00
Bramco Brandeis	1801 Watterson Trail	Louisville	KY	40232	\$400.00
Clarke Detroit Diesel Allison	2697 Grassland Drive	Louisville	KY	40299	\$802.00
Cummins Cumberland Inc	9820 Bluegrass Parkway	Louisville	KY	40299	\$247.00
Dispensers Optical	1815 Plantside Drive	Louisville	KY	40232	\$181.00
H.L. Lyons Co.	11401 Electron Drive	Louisville	KY	40299	\$1,200.00
Innovative Electronic Design	9701 Taylorsville Road	Louisville	KY	40299	\$275.00
P.J. Food Service	2002 Papa Johns Blvd	Louisville	KY	40269	\$253.00
Print-Tex USA	11198 Ampere Court	Louisville	KY	40299	\$325.00
Ryder Truck Rental Inc	10800 Plantside Drive	Louisville	KY	40299	\$332.00
Southern Standard Carton Inc	P. O. Box 99037	Louisville	KY	40269	\$400.00
Winston Products Co	2345 Carton Drive	Louisville	KY	40299	\$1,120.00
					\$6,587.00

MSD revised 2003's sampling plan for the treatment plant, collection system and industries for 2004. The plan includes more emphasis on the SIUs and no sampling from the industries with Industrial Agreements. There are no projected savings for MSD as a result of this revised sampling approach. However, MSD believes the revised sampling plan is more specifically targeting the pollutants of concern. A more detailed evaluation of sampling and administration costs will be discussed in the Annual Report.

2.8 Pollutant of Concern Initiatives

MSD continues to investigate initiatives to reduce pollutants of concern.

The following table identifies the current thinking on potential initiatives to develop during this project:

Pollutant of Concern	Potential Initiatives	Status
Copper	KPPC Industrial Audits Additional “clean” analytical work Watershed-based pollution prevention Monitor trunk sewer and WTP influent loading Work with Louisville Water Company to reduce corrosion Educate public re: root control chemicals (copper sulfate) Establish BMPs for closed loop cooling towers, circulating hot water and closed loop refrigerant systems Educate plumbers and designers about copper piping	Complete Complete On-going On-going On-going On-going On-going Future
Lead	KPPC Industrial Audits Additional “clean” analytical work Monitor trunk sewer and WTP influent loadings Work with Louisville Water Company to reduce corrosion Review radiator shops in the area, work to establish BMPs.	Complete Complete On-going On-going On-going
Mercury	KPPC Industrial Audits Additional “clean” analytical work Watershed-based pollution prevention Monitor trunk sewer and WTP influent loading Mercury thermometer exchange Check with analytical laboratories in the area on their practice to capture mercury-laden wastes Investigate medical laboratories in the sewershed Implement BMPs for Dentist offices within the sewershed	Complete Complete On-going On-going On-going On-going On-going On-going
Cyanide – Amenable	KPPC Industrial Audits Additional “clean” analytical work Use of a more sensitive analytical technique Monitor trunk sewer and WTP influent loadings	Complete Complete Complete On-going
BOD TSS NH3-N Phosphorus	Monitor trunk sewer and WTP influent loadings Restore tree canopy along Chenoweth Run No specific additional measures are required at this time since MSD’s treatment facilities can reliably achieve compliance with effluent limits	On-going On-going
General	Perform a pollution prevention audit on MSD facilities within the watershed Educate the Public about POCs at the Gaslight festival and on MSD webpage	Complete Complete

MSD is making efforts to quantify the success of these initiatives. MSD anticipates the quantified change in pollutant concentrations to be very small over the five year period. Success for some of these measures may take decades to be realized.

2.9 Supplemental Environmental Projects

MSD has identified six options for industries to contribute to in 2004. A summary of the projects and their status as of June 30, 2004 is listed below:

1. Chenoweth Run Creek Clean-up – is scheduled for October 23, 2004. MSD will assist the City of Jeffersontown in the activities.
2. Backyard Habitat Workshop/Booth at Gaslight Festival – There was a booth at the Gaslight Festival (as mentioned earlier in the report). The Workshop is scheduled for October 9, 2004 at Memorial park in Jeffersontown. The workshop will be held to educate and inform the public through seminars offered by experts from eight local agencies. (Note: This project has been scaled back from it's original scope because MSD did not receive a grant that was pursued.)
3. Streamside Habitat Restoration – Clem Property - This project was funded partially in 2003, however environmental conditions have delayed the project from starting in 2003. These efforts will be completed in 2004 with funding from 2003.
4. Mapping Locations of Sinkholes and Springs in Chenoweth Run Watershed – The Kentucky Geologic Survey produced a tri-fold brochure for public distribution. (Copy included in APPENDIX D.) The brochure was prepared in 2003 but funds from this years project were used to print the document. Copies were provided to the public at the Gaslight Festival and will be available at other project XL sponsored events.
5. J-Town Area Drinking Water Investigation – This effort does not require funding through project XL but will be undertaken by MSD to better understand the amount of copper and lead being discharged from various ages of construction in the J-Town sewershed.
6. Industries' Option - The industries were afforded an option of completing a water quality project in their own backyard in lieu of supporting one of the above projects. In 2004, none of the industries elected to complete their own supplemental environmental project.

3.0 DATA COLLECTION AND TREND CHARTS

3.1 Monitoring

Data has been collected during the first half of 2004 as per the sampling schedule in **Appendix G**.

Stream monitoring is being conducted routinely by MSD staff for other purposes. Currently samples are collected twice a month and analyzed for TSS, metals and nutrients. Data collected from this effort will be summarized in our Annual Report.

MSD has further streamlined the monitoring efforts in this project with the endorsement of the stakeholder work group.

3.2 Trend Charts

The following trend charts have been developed for this report:

- 3.2-1 BOD for J-Town WTP Effluent (Monthly Average vs. Permit)
- 3.2-2 TSS for J-Town WTP Effluent (Monthly Average vs. Permit)
- 3.2-3 Ammonia-Nitrogen for J-Town WTP Effluent (Monthly Average vs. Permit)
- 3.2-4 Total Phosphorus for J-Town WTP Effluent (Monthly Average vs. Permit)
- 3.2-5 BOD for J-Town WTP Effluent (Weekly Average vs. Permit)
- 3.2-6 TSS for J-Town WTP Effluent (Weekly Average vs. Permit)
- 3.2-7 Ammonia-Nitrogen for J-Town WTP Effluent (Weekly Average vs. Permit)
- 3.2-8 Total Phosphorus for J-Town WTP Effluent (Weekly Average vs. Permit)
- 3.2-9 J-Town WTP Effluent non-Pollutants of Concern
- 3.2-10 J-Town WTP Effluent Copper
- 3.2-11 J-Town WTP Effluent Lead
- 3.2-12 J-Town WTP Effluent Mercury
- 3.2-13 J-Town WTP Effluent Amenable Cyanide
- 3.2-14 J-Town WTP Biosolids (all metals)
- 3.2-15 J-Town WTP Influent BOD
- 3.2-16 J-Town WTP Influent TSS
- 3.2-17 J-Town WTP Influent Ammonia-Nitrogen
- 3.2-18 J-Town WTP Influent Total Phosphorus
- 3.2-19 J-Town WTP Influent Copper
- 3.2-20 J-Town WTP Influent Lead
- 3.2-21 J-Town WTP Influent Mercury
- 3.2-22 J-Town WTP Influent Amenable Cyanide

All data presented in the trend charts was analyzed using MSD's "conventional" analytical techniques.

3.3 Narrative on Trends

A. Effluent Measures- Conventional Pollutants vs. NPDES Limits

The performance of the J-Town WTP with respect to conventional permit limits is shown on Figures 3.2-1 through 3.2-8. The figures depict the plant performance against the monthly average limits and against weekly average limits. The monthly average limits are compared to a 30-day moving average and the weekly average limits are compared to the seven-day moving average. BOD, TSS, and NH₃-N limits have been in effect for the entire period. The effluent limit for total phosphorus has only been in effect since November 2000.

From January 1, 2004 through June 30, 2004, the facility was in compliance with all limits for BOD, TSS, NH₃-N, and Phosphorus.

B. Biomonitoring vs. NPDES limit

MSD conducts quarterly biomonitoring for the J-Town WTP. Quarterly testing was completed in March and June 2004. The biomonitoring results from the first two quarters of 2004 did not show any effluent toxicity.

C. Metals and Organics vs. Water Quality Criteria

Quarterly monitoring of the effluent has been conducted twice between January and June 2004 for all metals and cyanide. The results have been compiled into a database and several trend charts. Priority pollutant organics (VOCs, semi-volatiles, pesticides, and base neutral compounds) were also analyzed during the June event.

The facility effluent was sampled for seven consecutive days during the first quarter and has four consecutive days during the second quarter. Composite samples were collected and analyzed for metals and Cyanide (amenable to chlorination). The data has been assembled into a database and trend charts have been created to display the concentration of specific metals against the lowest water quality criteria. The facility discharges into Chenoweth Run, a zero flow stream during dry weather. The consequence of this is dilution of the effluent cannot be included when computing typical water quality thresholds for toxic compounds. The lowest water quality criteria were presented in the J-Town Background Report and were based on an average WTP effluent hardness of 211 mg/L.

Figures 3.2-9 through 3.2-13 display the updated metals and cyanide data collected since 1999. The data has been normalized by dividing the concentration in the effluent by the lowest water quality criteria. The figures demonstrate Arsenic, Cadmium, Chromium, Nickel, Selenium, Silver, and Zinc were not present in the effluent above water quality criteria. The following parameters had multiple exceedances above the threshold set in this project for concern (which is 70% of the water quality criteria):

- 1 Copper was regularly above the threshold and occasionally above the water quality criteria. However, data from 2003 and 2004 suggest copper concentrations in the effluent are consistently lower than the criteria.
- 2 Lead was above the water quality criteria and threshold on several occasions. A recent change in analytical method has resulted in a less sensitive analysis and higher detection limit.
- 3 Mercury was occasionally above the water quality criteria and very often not detected in the effluent (Note: the lowest limit of detection for mercury is above the water quality criteria and the data point represented on the graph is half the level of detection). MSD has reduced the frequency of mercury analysis due to the expense of using the most sensitive analytical technique (EPA 1631). Rather than running 7 samples a quarter, MSD is now running one sample a year.
- 4 Cyanide (Amenable) has not been detected in the effluent in 2004 using a very sensitive analytical method with a detection limit below the water quality criteria.

D. Aesthetic Quality

The operators of the J-Town WTP note any aesthetic concerns over the effluent quality in their daily log book.

MSD has not encountered significant problems with the effluent aesthetic quality (as evidenced by solids, floatables, foam, or color) during the period from January 1, 2004 through June 30, 2004.

3.5.1 Biosolids Measures

A. Metals vs. 503 Regulations

Samples of the biosolids generated at the J-Town facility were taken (from the new plant biosolids storage tank) daily for four days during each quarterly sampling event. The samples were analyzed for metals and total solids. The results were converted into mg/KG concentrations for direct comparison to exceptional quality criteria in the EPA

503 regulations. MSD selected the 503 regulation concentrations in lieu of the state regulations since they offer a more national perspective in this study and MSD is currently not required to meet any standards. The data collected since 1999 have been entered into a database and trend charts were prepared.

Figure 3.2-14 displays the normalized concentration of all metals in the J-Town biosolids since 1999. The threshold selected for biosolids was 90% of the exceptional quality sludge criteria from the 40 CFR 503 regulations. With the exception of four data points for copper, all concentrations were below the 90% threshold criteria. This data indicates there are no metals of concern in the J-Town biosolids. In reviewing the biosolids data, there are no increasing trends in metals concentrations that cause concern.

3.5.2 Other Measures

A. Chronic Maintenance Concerns in Collection System

MSD utilizes Hansen, a specialized computer program, to track maintenance problems in the collection system. Data are recorded in Hansen for any complaints or maintenance concerns for the collection system. MSD has not recorded any chronic maintenance problems in the collection system that were attributed to suspected industrial discharges from January 1, 2004 to June 30, 2004.

B. Chronic Maintenance Concerns at WTP

MSD utilizes System Accounting Process (S.A.P.), a computer program to track maintenance problems at their treatment facilities. Data are recorded in S.A.P. for any non-routine maintenance performed at the J-Town WTP. MSD has not recorded any chronic maintenance problems at the WWTP that were attributed to suspected industrial discharges from January 1, 2004 to June 30, 2004.

3.6 Future Efforts

MSD will continue implementing this project during the next six-month period. Substantial efforts over the next six months include:

- Participate in the Backyard Habitat workshop, a supplemental environmental project to be held in J-Town and sponsored by Project XL.
- Participate in the Chenoweth Run Clean-up, a supplemental environmental project sponsored through Project XL.
- Develop a tap water sampling effort to obtain representative local data.

- Quantify the results from the mercury thermometer exchange and public informational booth at the 2004 Jeffersontown Gaslight Festival (Supplemental Environmental Project).
- Hold a stakeholder work group meeting in early 2005 to review 2004 data, confirm SIUs and POCs. Work with the project stakeholders to identify and plan future supplemental projects.
- Continue project XL sampling at SIUs, collection system manholes, treatment plant influent/effluent/biosolids and Chenoweth Run.
- Summarize the results from the ‘clean sampling/clean analytical’ efforts conducted in 2003. Future ‘clean sampling/clean analytical’ efforts will be recommended.
- Begin preparation of the next Annual Report.
- Continue looking for avenues to publicize this project and commend the project partners.
- Make additional progress on POC reduction strategies including BMP development.

APPENDIX A –
APRIL 2004 STAKEHOLDER MEETING MINUTES



MSD



Jeffersontown/Chenoweth Run – XL Pilot Project Stakeholder Meeting Summary
Date: April 22, 2004 (4:00 pm @ Jeffersontown Public Library)
Attendees: Attached Summary Notes prepared by: Sharon Worley

A. Introduction of Attendees

List of attendees is attached.

B. Project Status

MSD will check with Jones Plastic if they want to continue to be classified as an SIU. MSD will send an annual letter to all SIUs to explain the basis for the SIU designation. (Kandyce Groves)

C. Updated list of Pollutants of Concern

Table 3.6-1 was reviewed.

D. Updated list of Significant Industrial Users

Table 3.7-1 was reviewed.

	Flow (mgd)	BOD (lbs/d)	TSS (lbs/d)	NH3- N (lbs/d)	Total P (lbs/d)	Cu (lbs/d)	Pb (lbs/d)	Hg (lbs/d)	CN-A (lbs/d)
<i>Company</i>		<i>Conventional Pollutants</i>		<i>Nutrie nts</i>					
Tributary to MH 1									
Jones Plastic & Engineering	0.53%	0.45%	1.10%	0.28%		0.60%	0.72%	0.34%	1.25%
Lantech	0.05%		0.03%	0.12%	8.37%	0.18%	0.04%		
Russtech	0.14%	0.04%	0.00%	0.14%	0.00%	0.41%	0.24%	0.04%	4.53%
Tributary to MH 2									
White Castle Distributing	0.59%	31.89%	10.86%			2.45%	0.12%	0.93%	
Tributary to MH 3									
Tributary to MH 4									
JCK Enterprises	0.27%	0.33%	0.05%			0.07%	0.12%		
Above 5%									

E. Proposed Modifications To 2004 Sampling Schedule

Data was reviewed and recommendations on the sampling schedule were made.

F. Environmental Projects

The attached Summary of 2003 Projects and Summary of Proposed 2004 Projects were reviewed.

Melissa suggested adding a top 10 list of ideas for Environmental project No 6.

John Cosby asked for assistance on helping him select sites for the next Chenoweth Run clean up.

John also offered that he could provide a list of the neighborhood associations in the Jtown area. This could be used to try to solicit for volunteers with project no. 5 to obtain tap water samples.

Melissa is going to check if EPA has additional brochures on sinkholes and other topics of interest - for distribution at Gaslight.

G. Pollutant of Concern Reduction Strategy

The attached reduction initiatives were reviewed.

POC	Reduction Initiatives Under Consideration
Copper	Work with the water company to make the drinking water less corrosive. Educate plumbers and designers about copper piping. Educate the public on the use of copper sulfate root killers. Minimize copper discharge from cooling towers, circulating hot water and closed loop refrigerant systems.
Lead	Work with the water company to make the drinking water less corrosive.
Mercury	Implement BMPs for Dentist offices with in the sewershed. Educate the public about mercury at the Gaslight festival. Check with analytical laboratories on their practices to capture mercury-laden wastes. Investigate medical laboratories in the sewershed.
Cyanide	
BOD, TSS, NH3, P	No specific measures are required at this time since MSD’s treatment facilities can reliably achieve compliance with effluent limits.
General	Perform a pollution prevention audit on MSD facilities within the sewershed.

Measurable Success is very important to EPA. We need to make sure that we find a way to measure success in everything. (It was good that we counted the number of thermometers but we did not estimate the amount of trash removed at the clean up.) Should include stamped card with seedlings so people will confirm plantings.

H. Open Discussion.

Several ideas were shared regarding publicity and community involvement for Project XL:

- Jtown issues a newsletter every other month (www.jtownchamber.com/site_images/newsletter.pdf). The newsletter is sent to 15,000 addresses. Project XL could contribute an article or series of articles as a good way to publicize P2 efforts and to promote/thank IU partners. Information should be very basic, simple and relatable.
- There are activities (golf scramble, 5k run, etc.) all week of the Gaslight Festival (September 13-19, 2004) (www.jtownchamber.com/index.php3?pageid=21). Information could be handed out at these events as another forum for sharing information.
- Similarly, "Jtown Spruce up" is one Saturday in May.
- It was suggested that we get a project logo or mascot. Richard Meisenhelder offered to have someone in his office attempt to draft a logo.
- Seedlings (and possibly Louisville Green) could be given away at the Gaslight Festival or at the workshop. Or coupons for seedlings could be given out at the Gaslight Festival. Richard Meisenhelder will check with local nurseries to find out if they would be willing to participate in some way. When seedlings are given out, they will need to be packaged and should include instructions plus promotional/environmental information. Teena Halbig suggested providing a bookmark with the tree saplings with simple planting instructions.
- Sue suggested that we ask nurseries to donate larger trees as "give-aways". Should consider other "pot sweeteners".
- Talked about having picnic at Clem Farm, but not really sure when. Tony McGraw offered White Castle food donation.
- MSD needs to identify IU/SIU properties on the stream which do not have appropriate backyard habitat.
- All property owners along Chenoweth Run are to be targeted in mailings (including easy to understand information on tree planting, buffer zone, riparian restoration) prior to the festival and the workshop. Jeff suggested having Kurt Mason and Brian Clark help us with a "Did You Know?" publication that educates regarding opportunities and even revenue.
- MSD will pursue the Walmart/Sam's Club money. (Sharon Worley)
- John Cosby ok'd doing P2 audits at City facilities. Debbie Newton tentatively agreed to an audit at the Jtown WWTP. KPPC will provide her with information from the last audit.
- Collect data at Southeast Parking lot, once data is collected - approach the church to encourage them to do more to protect the creek.
- Sue is going to send BMP newsletter to Jtown area dentists.

**Jeffersontown/Chenoweth Run – XL Pilot Project Stakeholder Meeting
List of Attendees – April 22, 2004**

1. Melissa Heath, EPA
2. Jeff Frank, Future Fund
3. John Cosby, Jeffersontown
4. Teena Halbig, Floyds Fork Environmental Association (FFEA)
5. Richard Meisenhelder, KPPC
6. Tony McGraw, White Castle Distributing, Inc.
7. Greg Ratliff, MSD
8. Sharon Worley, MSD
9. Debbie Newton, MSD
10. Vicki Coombs, MSD
11. Kandyce Groves, MSD
12. Sue Green, MSD
13. Mark Sneve, Strand Associates

Cc: Lisa Gaus, Angela Akridge, Derek Guthrie

**APPENDIX B –
FEBRUARY 2004 WORKGROUP MEETING MINUTES**

Project XL
Meeting with Project Stakeholders
To Provide Input on Environmental Projects and 2004 Initiatives
February 19, 2004
MINUTES

1. Introduction of those present

Attendees:

Patti Grace Jarrett, Greg Ratliff, Sue Green, Kandyce Groves, Sarah Lynn Cunningham and Sharon Worley of MSD; Mark Sneve of Strand Associates; Dan Knowles of KY Division of Water; John Cosby of City of Jeffersontown; Kurt Mason of Natural Resources Conservation Services; Jeff Frank of Future Fund; Teena Halbig of Floyds Fork Environmental Association; and Chris Brady, local citizen.

2. Overview of Project XL

The 5 year pilot project was officially initiated in June 2002. This is the second calendar year of Environmental Projects.

3. Pollutants of Concern & SIUs for 2004

Pollutants of Concern were determined to be the same as last year:

- Biochemical Oxygen Demand, Total Suspended Solids, Ammonia Nitrogen, and Total Phosphorous (due to KPDES Permit).
- Copper, Lead, Mercury, and Amenable Cyanide (due to Water Quality concerns).

4. Stream Concerns

Patti explained that high nutrient loadings in a stream and a lack of canopy cover tend to result in overheating of the stream. This leads to reduced oxygen and higher levels of algae. As a result, a Total Maximum Daily Load (TMDL) was established for Chenoweth Run a few years ago. The TMDL required that the following be done:

- Phosphorous removal. (Phosphorous removal system was installed at the Jtown Wastewater Treatment Plant.)
- Riparian restoration. (This is needed.)
- Stormwater Management. (This is also needed, but it is the responsibility of Jtown.)

5. Review of 2003 Environmental Projects

The following is a list of projects from 2003:

- Chenoweth Run Creek Clean-Up (in Jeffersontown) - completed
- Gaslight Festival Booth to Educate Public - completed
- Streamside Corridor Habitat Restoration Project – to be completed
- Stormwater Best Management Practices for Chenoweth Run – not funded
- Mapping Locations of Sinkholes and Springs in the Chenoweth Run Watershed – partially funded; a portion to be completed

6. Additional Grant Funding

There are some various opportunities available for grant funding:

- 5-star Grant (due March 1). Possible grant of \$5,000 to \$20,000.
- National Fish & Wildlife Foundation (due April 1). Possible grant of \$10,000 to \$40,000.

7. Potential Environmental Projects for 2004

- A. Jtown Clean Up (John Cosby - lead)
- B. Clem Farm restoration (Jeff Frank - lead)
- C. Gaslight Festival/handout seedlings to targeted homeowners.
- D. Sinkhole mapping (Jim Dinger - lead?)
- E. Veteran's Park riparian restoration (partnership; MSD as lead?)
- F. Industrial site work (MSD to encourage industries to work in their own backyards)

Note: projects C, E, and F may be interlinked.

8. Lessons Learned in 2003

Industries need “invoices” requiring payment by date certain.

It would be better if MSD would require the industries to send the checks through MSD so that we can verify when received. (MSD has the hammer.)

9. Confirm Action Items

Potential environmental project participants need to send a summary to Sharon Worley.

10. Other – need Jtown resident volunteers

If anyone lives in Jtown area (or has family/friends) that would be willing to participate, MSD would like to get the names/address/phone number. We want to provide bottles to collect water samples to check levels of copper and lead in drinking water.

**APPENDIX C -
POLLUTANT OF CONCERN FACT SHEETS**

MSD, JTown & Chenoweth Run

Lead

FACT SHEET

Approximately 80% of the Lead in Chenoweth Run has been determined to come from JTown Homes, Businesses, and Non-Regulated Industries.

Potential Residential Sources:

Paint Chips
Batteries
Electronic Equipment
Plumbing Corrosion
Used Car Fluids
Ceramics & Stained-Glass
Brake Pads

Potential Commercial Sources:

Painting Services
Metal Finishing
Auto Service Facilities
Car Washes

How YOU can Help...

Lead pollution in Chenoweth Run can be avoided in many ways by JTown residents and businesses. Although the lead is not currently at dangerous levels to humans, both people and Chenoweth Run will benefit by a reduction in lead pollution.

- Most homes built prior to 1978 contain **Lead-based Paint**. Seek professional help for removal. To prevent lead paint from getting into our water, it should be disposed of at the free HAZ BIN drop-off center at 7501 Grade Lane (just north of Outer Loop). 574-7336
- Recycle used **Batteries & Electronic Equipment** at their designated locations (HAZ BIN & Parts Stores).
- Corrosion** of metal water pipes, connections, solder, and brass fittings/faucets can release lead into the water. Do not ground electrical systems to metal plumbing because it may cause more corrosion.
- Used Car Fluids** (oil, antifreeze, etc.) should never be poured down the drain. Recycle them at an Auto Service Facility or HAZ BIN.
- Ceramic** glaze and **Stained-Glass** material may contain lead. Choose lead-free alternatives whenever possible, and never pour excess material down the drain.

How Businesses can Help:

- Painting Service** employees must know the proper safety and disposal procedures for all materials and wastes. Always treat lead-containing paint chips as hazardous.
- Find ways to reuse water in **Metal Finishing** and try to recover metals from baths and rinses.

- **Auto Service Facilities** should follow proper handling and disposal procedures for all parts and fluids. Minimize water pollution by plugging shop sewer drains & by sweeping the floors instead of hosing them down.

- Install a grit trap or detention tank at your **Car Wash** to filter lead out of the wastewater.

Local Resources

For details on how your business can save money and improve Chenoweth Run, call the [Kentucky Pollution Prevention Center](#) at 502-852-0965 to schedule a free, non-regulatory audit.

Metro Louisville HAZ BIN: Weds & Sat 9am-3pm at 7501 Grade Lane 502-574-7336
<http://www.loukymetro.org/Department/WasteManagement/Hazardous.asp>



MSD, JTown & Chenoweth Run

Cyanide FACT SHEET

More than 90% of the Cyanide pollution in Chenoweth Run has been determined to come from JTown Homes, Businesses, and Non-Regulated Industries.

Potential Residential Sources:

Herbicides

Potential Commercial Sources:

Metal Finishing & Plating
Plastics Manufacturing
Newspaper Printing
Road Salts

How YOU can Help...

The Cyanide in Chenoweth Run is not a health risk to JTown residents at current levels. However, it does negatively affect fish and the overall health of the stream. Residential and Commercial sources of Cyanide are limited, so doing just a few things can go a long way in reducing Cyanide pollution in our water:

- Don't use Cyanide-containing **Herbicides**. It is good practice to limit the use of lawn chemicals, but if used, be careful and follow the directions. Do not apply if rain is in the forecast. It won't do your yard or the creek any good if the chemicals are immediately washed away by the rain.
- Another approach to **weed control** is the **organic** way. Use natural fertilizer in the fall/early spring to grow thick grass. This in turn, will control the weeds by not giving them any room to grow.
- Excess/unwanted **Herbicides** should be disposed of at the free **HAZ BIN** drop off center. Open Weds & Sat, 9am-3pm at 7501 Grade Lane.
<http://www.loukymetro.org/Department/WasteManagement/Hazardous.asp>

How Businesses can Help:

- There are many opportunities in **Metal Finishing & Plating** processes to replace Cyanide-containing substances with equally effective alternatives. Sulfuric acid/Hydrogen peroxide dips can replace Cyanide & Chromatic dips. Cyanide baths for circuit boards and zinc plating can be replaced with Alkaline pyrophosphate and Sodium hydroxide respectively. Finally, recycling/reusing solvents will decrease material costs & pollution.
- Plastics Manufacturing** requires a lot of materials that may contain Cyanide. Keeping chemicals well marked and inventoried minimizes unnecessary wastes. Switch to less toxic cleaning materials and solvents whenever possible. Recycle and recover solvents and raw materials, and choose raw materials that are less water soluble over materials that are more likely to pollute the water.
- Be efficient with materials and cleanup in **Newspaper Printing**. Fill ink fountains only enough for one

run, and run small jobs simultaneously to make one cleanup instead of two. Consider replacing solvent-based inks with water-based alternatives.

- Do not use Sodium Ferrocyanide as an anti-caking agent for **Road Salt**.

Local Resources

For details on how your business can save money and improve Chenoweth Run, call the [Kentucky Pollution Prevention Center](#) at 502-852-0965 to schedule a free, non-regulatory audit.



MSD, JTown & Chenoweth Run

Copper

FACT SHEET

Less than 10% of the Copper in Chenoweth Run has been determined to come from the Regulated Industries in JTown. That means that over 90% of the copper in our local stream comes from our Homes, Businesses, and Non-Regulated Industries.

Potential Residential Sources:

Copper Sulfate Root Killer
Algicides
Fungicides
Copper Piping
Brake Pads
Wood Preservatives

Potential Commercial Sources:

Metal Finishing
Auto Service Facilities
Car Washes
Laundry Services
Printing Operations
Pigment & Dye Manufacturing

How YOU can Help...

At current levels, the copper in Chenoweth Run does not pose any threat to the health of JTown residents; however, it can affect the health of fish and other aquatic life in the stream. There are many simple ways homes and businesses can help prevent copper pollution in our water and support a healthier Chenoweth Run:

- Don't use **Copper Sulfate Root Killer**. The only way to definitely remove roots in your sewer lines is to cut them out. If you must use a chemical root killer, use one that does not contain copper.
- Use alternatives to Copper- containing **Algicides & Fungicides** for your swimming pool, garden, & roof.
- Ask your plumber to use plastic or PVC pipe instead of **Copper Pipe**.
- Return used **Brake Pads** to stores and garages for recycling. Some will even give refunds.
- Dispose of household hazardous wastes (pesticides, drain cleaner, and **Wood Preservatives**) at the free HAZ BIN drop-off center at 7501 Grade Lane (just north of Outer Loop). Weds/Sat 9a-3p. 574-7336
- Wash your car** in the yard, not the driveway or street. Your grass will thank you for the water, and the oil, metals, and soap won't go directly into the stream.

How Businesses can Help:

- Streamline the cleaning, rinsing, and overall process of **Metal Finishing**. Improving efficiency will help both the creek and your profit!
- Be mindful of what you put down the drain at the **Auto Shop**.
- Reduced water usage at the **Car Wash** may save you money.
- Choose a less corrosive detergent for your **Laundromat** and your plumbing may last longer.
- Efficient use of water and chemicals, metal recovery, and plate recycling is good for your **Printing Business**.

Local Resources

For details on how your business can save money and improve Chenoweth Run, call the [Kentucky Pollution Prevention Center](#) at 502-852-0965 to schedule a free, non-regulatory audit.



MSD, JTown & Chenoweth Run

Mercury

FACT SHEET

More than 90% of the Mercury in Chenoweth Run has been determined to come from the Residences, Businesses, and Non-Regulated Industries of JTown.

Potential Residential Sources:

Thermometers & Barometers
Thermostats
Fluorescent Light Bulbs
Blood Pressure Gages
Batteries & Switches
Old Pesticides & Paint
Old Microwaves

Potential Commercial Sources:

Dentist Offices
Medical Services
Auto Services
Photo Processing

How YOU can Help...

Current mercury levels in Chenoweth Run do not threaten the health of JTown residents, but they can affect the health of fish and other aquatic life in the stream. There are many simple ways residents and businesses can help reduce the mercury in the environment and our water.

- Replace **Thermometers, Barometers & Thermostats** that contain mercury with mercury-free alternatives.
- Fluorescent Light Bulbs**, High Intensity Discharge (HID) Lamps, and Neon Lamps all contain mercury. Alternatives are labeled as low mercury & often have green endcaps.
- Dispose** of Mercury-containing items at the free **HAZ BIN** drop-off center at 7501 Grade Lane (just north of Outer Loop). 574-7336
- Mercury-containing **Blood Pressure Gages** can also be replaced with mercury-free units.
- Button-shaped **Batteries** used in watches, hearing aids, and other small devices contain mercury.
- Many household **Switches** that have automatic shut-off functions may contain mercury. Examples include **Thermostats**, clothing irons, and washing machines. Replace these switches with mercury-free mechanical & electrical switches.
- Pre-1994 **Pesticides**, pre-1992 **Latex Paint**, and old **Microwaves** contained mercury. Most pesticides and all paint and microwaves are now made without mercury.

How Businesses can Help:

- **Dental Offices** can be a large source of mercury pollution. Dentists should properly dispose of scrap dental amalgam and removed fillings. Gold, porcelain, ceramic, & plastic are alternatives to amalgam fillings. Special traps can be effective in capturing amalgam and filling scraps.
- **Hospitals** and other **Medical Services** should phase out the use of all mercury-containing products.
- **Auto Services** should switch to mercury-free solvents, and recycle their solvents after use.
- **Photo Processing** businesses should keep good inventories to avoid material expiration. Also, install a rinse water recycling system and the fish of Chenoweth Run will thank you.

Special Mercury Note:

The easiest way to reduce mercury pollution is by using less electricity. Burning fossil fuels to generate electricity is the largest source of mercury emissions. Just by turning out the light you can reduce mercury pollution.

Conserve Electricity & Lower Mercury Pollution!

Local Resources

For details on how your business can save money and improve Chenoweth Run, call the [Kentucky Pollution Prevention Center](#) at 502-852-0965 to schedule a free, non-regulatory audit.



APPENDIX D –
KENTUCKY GEOLOGICAL SURVEY (KGS) SINKHOLE
BROCHURE

INSERT BROCHURE

APPENDIX E –

JEFFERSONTOWN WASTEWATER TREATMENT PLANT
AUDIT REPORT – EXECUTIVE SUMMARY

KPPC Jtown Wastewater Treatment Plant P2 Audit - EXECUTIVE SUMMARY

KPPC representatives Richard Meisenhelder and Ken O'Hara conducted a Pollution Prevention (P2) Assessment at the Jeffersontown Wastewater Treatment Plant (JWTP) facility in Louisville, Kentucky on June 8, 2004. The plant operates under the Louisville/Jefferson County Metropolitan Sewer Department (MSD). The purpose of this assessment was to find pollution prevention opportunities to minimize release of pollutants of concern (POCs) in the Chenoweth Run Watershed including biological oxygen demand (BOD), total suspended solids (TSS), ammonia (NH₃), total phosphorus (P), mercury (Hg), copper (Cu), lead (Pb) and other pollutants pertinent to wastewater discharge. This assessment was performed as part of MSD's involvement with the Project XL watershed improvement plan for the Chenoweth Run Watershed.

KPPC recommendations for this facility include: upgrade plant #1 aeration system to fine bubble diffusers and broaden the Project XL training and awareness program.

APPENDIX F –
COURIER JOURNAL AND NEWSLEADER ARTICLES

INSERT COPIES OF ARTICLES

APPENDIX G –
SUMMARY OF DATA COLLECTION EFFORTS FOR
JANUARY 1 THROUGH JUNE 30, 2004

Summary of Data Collection Efforts for January 1 through June 30, 2004

Location	Parameter	Data Collection Efforts
J-Town WTP Effluent	Flow Conventionals Nutrients Metals & CN Organics Others (O&G) Biomonitoring	Daily and continuously Three days per week per KPDES Permit plus daily samples during weekly events below Three days per week per KPDES Permit plus daily samples during weekly events below 7 Days during week of February 9-15, 4 Days May 10-13 June 2004 None Tested March and June 2004
J-Town WTP Biosolids	Flow Nutrients Metals & CN	Daily volumes One day during weeks of February 9-15, May 10-13 One day during weeks of February 9-15, May 10-13
J-Town WTP Influent	Flow Conventionals Nutrients Metals & CN Organics Others (O&G)	Daily and continuously Three days per week per KPDES Permit plus daily samples during weekly events below Three days per week per KPDES Permit plus daily samples during weekly events below 7 Days during week of February 9-15, 4 Days May 10-13 June 2004 None
Collection System MH1, MH2, MH3, MH4, MH5	Flow Conventionals Nutrients Metals & CN Organics Others (O&G)	Daily and continuously since approximately July 2000 for MH 1-4, weekly during sampling events for MH5. 7 Days during week of February 9-15, 4 Days May 10-13 7 Days during week of February 9-15, 4 Days May 10-13 7 Days during week of February 9-15, 4 Days May 10-13 None None
Collection System MH6	Flow Conventionals Nutrients Metals & CN Organics Others (O&G)	Daily during sampling events for MH6. One sample during weeks of February 9-15, May 10-13 One sample during weeks of February 9-15, May 10-13 One sample during weeks of February 9-15, May 10-13 None None
Significant Industries tributary to MH1 (Russtech, Jones Plastic, Lantech)	Flow Conventionals Nutrients Metals & CN Organics Others (O&G)	7 Days during week of February 9-15, 4 Days May 10-13 7 Days during week of February 9-15, 4 Days May 10-13 7 Days during week of February 9-15, 4 Days May 10-13 7 Days during week of February 9-15, 4 Days May 10-13 None None

Summary of Data Collection Efforts for January 1 through June 30, 2003 (Continued)

Location	Parameter	Data Collection Efforts
Significant Industries tributary to MH2 (White Castle)	Flow	7 Days during week of February 9-15, 4 Days May 10-13
	Conventionals	7 Days during week of February 9-15, 4 Days May 10-13
	Nutrients	7 Days during week of February 9-15, 4 Days May 10-13
	Metals & CN	7 Days during week of February 9-15, 4 Days May 10-13
	Organics	None
	Others (O&G)	None
Significant Industries tributary to MH3 (None)	N/A	N/A
Significant Industries tributary to MH4 (None)	N/A	N/A
Industries tributary to MH5 (NONE)	N/A	N/A
Industries tributary to MH6 (NONE)	N/A	N/A
Chenoweth Run upstream and downstream	Conventionals	One during weeks of February 9-15, May 10-13
	Nutrients	One during weeks of February 9-15, May 10-13
	Metals & CN	One during weeks of February 9-15, May 10-13
	Organics	None
	Others (O&G)	None