SIERRA CLUB
FOUNDED 1892

February 1, 2013

Sierra Club Questions and Comments to USEPA on the Lower Mill Creek Partial Remedy, dated December 18, 2012, and submitted to USEPA.

The Lower Mill Creek Partial Remedy, dated December 18, 2012 and submitted to USEPA is a very general description of the proposed Partial Remedy. Lacking fuller details it is difficult to insure comments and questions are both complete and useful. Sierra Club has received many documents from MSD. However, there are significant and important gaps in the information provided to Sierra Club by MSD; what is worse, there are inconsistencies between the various reports performed by MSD's consultants and the final proposal. Clarification of this information is essential to knowing the precise features and contours of the plan, along with the plan's, risks, expectations, and enforceability, connection to the Final Remedy, etc. Numerous conditions need to be added to the Lower Mill Creek Partial Remedy.

In its current form, the plan should not be approved.

The following comments highlight areas of concern.

Failure to Address US EPA Guidance
The Sierra Club found USEPA's "Guidance Pertaining to Consideration of Any Proposed Revised Original Lower Mill Creek Partial Remedy Defendants May Choose to Submit in Accordance With Paragraph A.2 of the Wet Weather Improvement Program" to be very good, but we did not find full responses to the Guidance in the Lower Mill Creek Partial Remedy submitted by MSD.

Any approval should be conditioned upon MSD submitting a full, acceptable response to the USEPA Guidance.

Water Quality
MSD's Partial Remedy documents from April through December 2012's, sections on water quality, ignore the fact that MSD, through its adoption of the Long Term Control Plan (WWIP) has undertaken the "presumptive approach." That is, by reducing volume, it is presumed that water quality goals will be achieved. [1] Sierra Club raised this issue with MSD on August 20, 2012 and in public meetings on the

[1] USEPA 1994 CSO Policy, Federal Register April 19, 1994
[2] Sierra Club memo to Parrott, August 20, 2012 (attached)

proposed LMCPR.[2] Sierra Club has received no response to this August 20 memo. MSD has not modified its approach or shown that this plan, even coupled with Phase II, will meet water quality standards. USEPA's 1994 CSO[3] policy states "…**A program that meets any of the criteria listed below would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas**". MSD's own documentation shows such a presumption is not reasonable. MSD continues to assert that meeting water quality standards is not a requirement.

As a condition of any approval, MSD must submit a plan that shows MSD will not cause or contribute to violations of water quality standards with the implementation of both the LMCPR and the LMCFR.

Given the volume of remaining discharges from the CSOs which are partially addressed by the LMCPR, and WWIP's requirement to remove 2 billion gallons **or more**[4], the plan should be amended to achieve the full 2 billion gallons, not a lower percentage based on the revised, questionable model. MSD's documentation shows that there are still high enough overflow volumes, even with the new model to achieve a 2 billion gallon reduction. There is no reason to believe that the remaining discharge at CSO 5 alone will not need further remediation. There is insufficient documentation and model certainty to determine the actual volumetric reduction.

In short, any approval of this LMCPR must be conditioned upon specific water quality performance criteria and verifiable volumetric control (Level of Control) for both the LMCPR and the Final Remedy. MSD must improve water quality, not just reduce volume. Any approval must be conditioned on MSD's compliance with the 2 billion gallon described in the WWIP Phase I Section A.2.a.

Some of MSD's documentation states the tunnel would provide better water quality, using bacteria as the criteria. However this submission (December 18, 2012) is different from the earlier project descriptions and all the "sustainable" projects address a different set of overflows than the tunnel. What is USEPA's assessment of the differences in these plans and their ability to do the best job, for the money, of insuring Mill Creek meets water quality standards, in the final analysis? What does USEPA think are the future costs to accomplish water quality compliance in Mill Creek?

Modeling

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[2] Sierra Club memo to Parrott, August 20, 2012 (attached)
[3] 1994 CSO policy is a requirement of the 2004 global consent decree
[4] 2009 amended WWIP Section A. 2.a. "provided the proposed remedy provides equal or greater control of CSO annual volume as the Original LMCPR"

MSD's consultant documentation shows MSD's modeling for the 2006 LTCP has significant flaws; in fact, the model could not be validated for CSO 5 (Lick Run sewershed). MSD also stated (September 2012) to Sierra Club that the updated model has not been run for the rest of the service area. MSD's consultants also noted that additional work was needed in the upper sewershed (including area served and affected by SSO 700). Neither the 2006 LTCP modeling nor the 2004 Capacity Assessment reports describes the issues with lack of capacity and backflow in the Mill Creek Interceptors. MSD was aware of issues with the modeling in 2006. The revised modeling has not been conducted system wide. Needed revisions had not been conducted in the Upper Mill Creek sewershed, at least as of June of 2012 and were not incorporated into the Lower Mill Creek Plan. Coupled with the lack of model validation in the Lick Run sewershed, there are significant concerns about the accuracy of the current data and the validity of the performance of the LMCPR in reaching the volumetric goals identified and the functioning of the LMCPR projects.

MSD states, in the December submittal, "Therefore, to properly document the benefit of the West Fork Phase 1 projects, post construction monitoring needs to evaluate the partial remedy on a watershed basis so the model results could provide a representative comparison at the three CSOs, CSO 126, and the grates". Here, MSD indicates an issue with the existing model and possibly the benefit achieved from the West Fork plan.

Any approval of the LMCPR should be conditioned on further refinement and analysis of the model, validation of the model and requirements to disclose any issues discovered with the model in the past and in the future. Conditions should include verifying volumetric controls. Numeric performance goals for water quality and overflow quantities must be established and reductions in overflows verified. Conditional plans must be developed and triggered for implementation if the performance goals are not met (regardless of what the model may have claimed.)

Any approval of the LMCPR should include increased water monitoring (bacteria, total phosphorus, total nitrogen, total suspended solids and common stormwater pollutants). MSD's monitoring needs to be tied to rain fall and flow and identify the extent of "first flush" characteristics of the overflow, duration of overflows, volume of overflow, extent of downstream impact, and change in water quality over the duration of the overflow.

Future utilization - RTC

The CSO 5 RTC facility "was designed to store flows for smaller events throughout the year for a cumulative reduction in annual overflow volume."[5] The LMCPR as described in various MSD documents addresses flow from smaller storms, higher volume flow and flow from the upper sewershed will flow into the Combined Sewer System (CSS). MSD expects to continue to have millions of gallons of combined sewer overflows at CSO 5.

[5] Lick Run Ultimate Conditions Model Update Memo 06/09/2011, XCG

Regardless of attachment 1C of the 2009 Revised WWIP "credit" for the CSO 5 RTC reduction, the RTC will be activated under different conditions if the LMCPR is implemented. Exactly what are the expected benefits (i.e., reduction in CSO volume) that can be expected in the future from the combined use of the RTC at CSO 5 and the proposed LMCPR?

Any approval of the LMCPR needs to be conditioned upon MSD demonstrating specific performance criteria for the operation of the RTC at Lick Run, after the LMCPR is complete.

Public Participation

USEPA policy requires public participation in the development of the LTCP, which is incorporated into the WWIP. As the WWIP is changed, so is the LTCP and public participation remains a crucial element. While MSD has attended many meetings and conducted visual preference surveys, members of the public who wish to be engaged in the evaluation of alternatives and implementing solutions find themselves shut out. Success in utilizing green infrastructure requires far more collaboration, information sharing, transparency and inclusion of the communities and partners advising in the solutions.

Any approval of the LMCPR needs to be conditioned upon MSD increasing the level of public participation toward both collaboration and empowerment, including involving the public in the development of Green Alternatives, and including the public's recommendations to the maximum extent possible.

Lick Run Stream Restoration requirements and expertise

MSD's description of the Lick Run Valley Conveyance system is vague. The MSD's presentation to the community differs from the limited descriptions in various consultant reports. USEPA provided Sierra Club with a description of how the system would work, which differs from the descriptions in consulting reports and MSD presentations. Director Parrott[6] has described the Valley Conveyance as intended to be "as naturalized as possible." The "naturalized as much as possible" approach is contradicted by the use of the box conduit, CSS and possibly the open conveyance itself, especially if it is concrete. What has been portrayed to the public is a relatively natural stream. What appears to be designed is a very unnatural system with the vast majority of the flow in the box conduit and much remains in the combined sewer system.

If MSD is not daylighting the stream, including natural ecosystem functions, MSD needs to clarify to the public, including national audiences[7] that have been told this

[6] phone call January 10, 2013 Tony Parrott

[7] EPA Deputy Administrator Bob Perciasepe says, "It was gratifying for me to be able to see on the ground the work that is going on at Lick Run and the Mill Creek. I think that's going to pay equal generational dividends as we do that project and we learn how to do a more cost effective approach to improving water quality."

is a green infrastructure solution, that this is little more than a ditch, actually almost all piped stormwater and will achieve virtually no water quality benefits beyond a simple storm sewer separation.

As described in MSD documents, the conveyance system does not get flow from the upper sewershed. That flow goes into the CSS. The water quality benefit of doing so, would seem to be effective, only in delaying entry to the CSS and maybe minor reduction in overflows, but the flow would still need to be treated and any above ground, basin system benefit negated by entry into the CSS. Water from the upper sewershed hillsides (and then, unfortunately, going into the CSS) would likely be much cleaner than stormwater coming from Queen City Avenue, and Westwood, and entering the open conveyance/box conduit. Why not maximize the flow from the upper watershed from the park areas along Guerley Road, etc.? Why not repurpose the CSS as a stormwater overflow pipe, if needed, and build a smaller sanitary sewer pipe?

The system of an open channel conveyance and a box conduit coupled with a combined sewer pipe still carrying stormwater is anything but natural.

A condition of any approval must be the submittal of a far better description of what this system is intended to accomplish, its water quality, stream functioning and biological goals and why alternatives were selected.

Any conditional approval of this system should require a detailed description of the system's ability to become a ecologically functioning stream.

401 water quality certification, NWP

It is our understanding that the project will require a 401 water quality certification and/or Army Corps of Engineers permits. What does MSD have, in writing, from the Corps on its jurisdictional review? Permits are required for any relocation of a stream, including one that is currently in a sewer pipe. Additionally, the Ohio Department of Natural Resources must be consulted in any permitting process.

Also USEPA, Science in Action, September 2011 "The Metropolitan Sewer District plans to reconstruct parts of the pipe and otherwise seal off the inlets that allow stormwater to enter the pipe. The stormwater will instead be sent to a restored stream reach where stormwater runoff will once again flow in a natural channel. The reconstruction is intended to reduce stormwater flows within the sewer pipe, improve habitat for aquatic biota in the channel, and enhance the aesthetics of the area."

Also, from MSD "The urban waterway should contain natural stone, vegetation, and in-stream features (e.g., pools and riffles) to improve water quality."

A natural-looking waterway that fits in with an urban neighborhood and encourages community interaction.
Water quality features such as rain gardens and ponds to be integrated with the urban waterway to improve water quality.
Mini-waterfalls, pools and riffles in the waterway.
MSD's Master Plan including "Why Daylight Lick Run?"

The daylighted stream or "open Valley Conveyance" is a water of the state as defined in Section 40 CFR 230.3, which states in part "The term waters of the United States means: All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.'

In order for this project to be a water quality success **and comply with the Clean Water Act**, (and justify the expenditure for the "park-like" greenway) and be compliant with the Section IV Objectives of the consent decree, rigorous standards for stream restoration must be followed and the goal of achieving a functioning stream, including biota and habitat, is paramount. This includes insuring the "channel" doesn't cause "downcutting" or building up, that the floodplain be as extensive as possible, interacting with the main flow and able to re-establish a functioning system. Proper gravel, sediment, not concrete, must be used to insure the system is stable. Options other than damming headwaters and allowing for more retention/detention higher in the watershed, detaining large storm events, detention outside the main flow in the lower stretch, etc. need to be evaluated.

Habitat, chemical and biological, macroinvertebrate, and salamanders monitoring needs to be part of the post construction monitoring as well as planning the conveyance to maximize the functioning aspects of a natural stream. Ultimately this system must meet water quality standards.

In other words, an artificial ditch is not acceptable under the Clean Water Act.

Finally, stream restoration is not a usual MSD function and MSD lacks staff with expertise in this area.

Any conditional approval of this system should require a detailed description of how it will be designed and become a natural functioning stream, how it will meet water quality standards, future monitoring (water quality, biota, etc) of Lick Run and its tributaries.

Any conditional approval of this project should include prior consultation with Ohio EPA's 401 certification staff, Ohio Department of Natural Resources, Hamilton County Soil and Water and the Army Corps of Engineers.

As a condition of any approval, MSD must submit, for approval, Statements of Qualifications for all personnel and consultants working on this project.

Stormwater permit and gaps in compliance with the stormwater MS4 permit and ability to use Best Practices in implementation & Stormwater pollution

The Valley Conveyance Systme will be a new stormwater discharge to waters of the state. It needs to be permitted. Will this stormwater pipe (aka Valley Conveyance

System) cause or contribute to water quality violations, when constructed or in the future? what are the limits for TSS, and all other stormwater pollutants?

Cincinnati has further work to do to comply with the stormwater MS4 permit and allowing and encouraging the use of green infrastructure in the private sector. MSD has left almost all efforts toward Green Infrastructure in tier 2 or future projects. There is no funding in these plans for such projects and without funding, the projects are no more than a wish list. Further Green Infrastructure projects must be identified, shown to be cost effective and implemented. A number of consultant reports have identified removal of downspout connections as one of the mechanisms for reducing stormwater going into the CSS. Yet, there is no identified program for removing downspouts or even making it legal in some parts of the city. If the projected reduction in overflow is predicated on downspout removal, etc., the project needs to clearly show what overflow reduction is coming from particular parts of the project.

Cincinnati is not in compliance with the needed regulations for MS4 permits.

Volume and velocity of water are an issue and seem to be driving the use of the box culvert instead of slowing down and holding back flow to allow proper sediment control, erosion prevention, etc. Additional detention ponds may be necessary.

The Vortech systems in the plan do litter removal and little else. MSD is limiting the compliance with MS4 permits to the 6 minimum controls, rather than the full intent of the MS4 permit: "The conditions in the permit are established pursuant to Clean Water Act (CWA) § 402(p)(3)(B)(iii) to ensure that pollutant discharges from small municipal separate storm sewer systems (MS4s) are reduced to the maximum extent practicable (MEP), protect water quality, and satisfy the appropriate water quality requirements of the CWA." The LimnoTech study referred to by MSD did not address the full scope of pollutants one expects to find in stormwater (herbicides, auto fluids, etc., not just total phosphorus, total nitrogen, total suspended solids and bacteria). The effectiveness of a functioning riparian corridor adjacent to a restored stream should also be evaluated as a means of reducing stormwater pollution.

As a condition of any approval, the gaps in compliance with the stormwater permit, and establishing best management practices including establish riparian buffers, detention to manage velocity, downspout removal, and water reuse must be addressed, ordinances passed, incentives established, etc.

As a condition of any approval, the expected overflow reductions from different parts of the project need to be identified.

Any conditional approval of the LMCPR needs a stormwater plan that assures that the stormwater pollutants are reduced to the maximum extent practicable and protect water quality, etc.

Any conditional approval must include water quality monitoring at various points the stormwater system (whether VCS or discharge pipe, forebay, pond or basin.) so that MSD can demonstrate that the discharges and system will not cause or contribute to water quality violations.

Any conditional approval must include the full extent of stormwater pollution requirements and how they will be addressed (what limits in the permits, etc).

Lack of Green Infrastructure

MSD has had 3 years to come up with its data and plans for Green Infrastructure. MSD refers to Enabled Impact and other terms for Green Infrastructure, but the Lick Run Project being proposed lacks specific plans and funding for Green Infrastructure besides a detention basin and the conveyance system.

As a condition of any approval, a green infrastructure plan needs to be identified along with its funding schedule and timeline. Incentives and mechanisms for addressing the long term viability of the green infrastructure projects such as Chicago's 110% cushion, plan, zoning, ordinances, deed restrictions etc. should be included.

Kings Run

The Kings Run plan has changed throughout the past 3 years. Like Lick Run, there needs to be a more complete description of the plan. As described in the 4 pages devoted to it in the submittal, it is unclear how this project will actually work. The map is too small to read, so one cannot tell what type of work (proposed sewer, which number pond) is proposed where. It is impossible to tell how a detention basin on top of the closed Gray Road Landfill would be effective (or why the public should pay for the stormwater runoff from this site.) It is unclear whether the "restored stream," called "proposed" and "phased on the map," is actually part of this project. No costs or performance expectations are provided for it.

We are likely to be supportive of the change from a High Rate Treatment System to a storage tank. Costs have increased dramatically on the Werk and Westbourne EHRT, and we suspect that EHRTs may be far less cost effective than previously believed. They certainly don't meet secondary treatment standards. However, MSD has declined to provide information on Werk and Westbourne. We again request that MSD provide information on EHRT system performance and costs so this situation can be evaluated. Modifications of the WWIP may be appropriate to help protect ratepayers from excessive costs of the EHRT and the lack of resultant water quality of the discharge.

After spending $34,000,000, there will still be raw sewage running through people's private property. This is unacceptable. An alternatives analysis, including Green Infrastructure (not just detention ponds and dams) needs to be done to find ways to prevent this unhealthy, unsafe condition. Residents in the area want to be part of the solution; MSD needs to work with them to make it possible.

As a condition of any approval, a comprehensive plan needs to be submitted, the issue of dam safety/classification resolved. The plan should include stream restoration and green infrastructure, beyond just detention basins.

West Fork
The West Fork project included elements originally that would be highly beneficial to improving water quality and stream habitat. Removal of the entire concrete bed and channel would have been highly valuable to helping to insure that MSD is not causing or contributing to the degraded water quality in Mill Creek. These parts of this project have been delayed due to costs. We would like to see these projects move forward because of their high benefit.

Cost Control
Using ratepayer money wisely should be an imperative for this and the rest of the costly MSD projects. We note a lot of re-work, without the creation of a truly comprehensive plan. We note the lack of cost effective green infrastructure measures including allowing water re-use, and citizen initiatives to reduce stormwater runoff. We see MSD hiring consultants to review other MSD-hired consultant work, indicating a lack of expertise in-house to verify the effectiveness of the plans. While there has probably been a record-setting number of public meetings, incorporating community concerns early and engaging the public in reducing stormwater entering the system has been lacking. Many citizens would be willing to undertake projects on their own property but there are prohibitions in doing so in some areas.

Costs of creating a fully functioning stream system are not clear. It appears there is a lot of cost for things like the box conduit that could be avoided, if the system was designed to be "as natural as possible." The project costs don't appear to include the ultimate replacement of the box conduit and the aging CSS that are the backbone of the "unnatural aspects."

We don't see any reason why the concerns raised in this document cannot be addressed within the cost estimate MSD currently has. MSD needs to document any decisions made to eliminate or modify a project that results in less overflow reduction due to costs. Some aspects of the Lick Run project are more aesthetic than required to improve water quality.

As a condition of any approval, any decisions made by MSD to reduce the performance (including how "natural" the conveyance is) of any aspect of the plan, due to cost, need to be documented, subject to public review and approved by USEPA.

Conditional approval compliance deadlines and verification that conditions are met; reporting requirements
The schedule for completion goes beyond 2018.

As a condition of any approval, the schedule for completion must not go beyond 2018.

As a condition of any approval, intermediate and final deadlines need to be set. Verification that conditions have been met needs to be signed off on by USEPA.

As a condition of any approval, deadlines must be set submission of detail design plans as they move thru planning, 30% design, 60% design, etc.

Additional reporting requirements include biannual budget and actual costs and monitoring data.

Production of comprehensive plan

MSD needs to respond to comments, including those made during local public comment periods, and produce a comprehensive plan; further MSD response must not be limited to the concerns raised in Sierra Club's comments but also those raised by other parties.

As a condition of any approval, an approvable comprehensive plan needs to be submitted within 30 days. Any gaps, uncertainties and risks that MSD is aware of should be documented.

Sierra Club supports the use of Green Infrastructure as a cost-effective means of eliminating overflows and improving water quality. We believe that MSD can produce a plan that does more to implement more Green Infrastructure, maximizes the creation of a naturally functioning stream, actually daylighting the stream, (rather than what appears to be proposed), and eliminates raw sewage flowing onto people's property. MSD's December submittal will continue to have significant overflows from CSO 5 and has eliminated important work in West Fork that would have improved water quality. Further work in both sewersheds will be needed, as well as eliminating sewage going onto private property. How a subsequent, final remedy will work, cost-effectively with the LMCPR, is not discussed in the MSD plans. The Final Remedy must be integrated into the Lower Mill Creek Partial Remedy as well as the rest of Phase II plans. Both the Watershed Action Plan for Mill Creek and the SSO 700 Final Remedy are disturbingly incomplete and indicative of future possibilities of costly changes. MSD makes much of its support for Integrated Watershed Planning[8] yet MSD is not utilizing this approach for the Mill Creek Watershed.

Submitted by Marilyn Wall, Sierra Club 816 Van Nes Drive, Cincinnati, Ohio 45246, 513-226-9235

Attachments:
August 20, 2012 email to Tony Parrott
Sierra Club preliminary comments September 26, 2012

[8] MSD letter to USEPA 2012.02.29, Water Docket ID no. EPA-HQ-OW-2011-0986

From: Marilyn Wall <marilyn.wall@env-comm.org>
Subject: msd goals and objectives
Date: August 20, 2012 3:16:16 PM EDT
To: Parrott Tony <Tony.Parrott@cincinnati-oh.gov>, loder mary lynn <MaryLynn.Lodor@cincinnati-oh.gov>

Tony & Mary Lynn,

The Consent Decree state the following:

"IV. OBJECTIVES

It is the express purpose of the Parties entering into this Partial Consent Decree to further the objectives set forth in Section 101 of the Act, 33 U.S.C. § 1251, and to resolve the claims of the Plaintiffs for injunctive relief and civil penalties for the violations alleged in Plaintiffs' Joint Amended Complaint in the manner set forth in Section XXVI. In light of these objectives, Defendants agree, inter alia: to use sound engineering practices, consistent with industry standards, to perform investigations, evaluations and analyses and to design and construct any remedial measures required by this Decree; to use sound management, operational, and maintenance practices, consistent with industry standards, to implement all the requirements of this Consent Decree; and to achieve expeditious implementation of the provisions of this Decree with the goals of eliminating all Sanitary Sewer Overflows and Unpermitted Overflows and coming into and remaining in full compliance with the requirements of the Clean Water Act, U.S. EPA's 1994 Combined Sewer Overflow (CSO) Policy, Chapter 6111 of the Ohio Revised Code and the rules promulgated thereunder, the Compact and the pollution control standards promulgated thereunder, and Defendants' Current Permits."

and the 1994 CSO Policy (referenced in the in the Consent Decree) states:
"The main purposes of the CSO Control Policy are to elaborate on the Environmental Protection Agency's (EPA's) National CSO Control Strategy published on September 8, 1989, at 54 FR 37370, and to expedite compliance with the requirements of the Clean Water Act (CWA)." ...
"This Policy provides guidance to permittees with CSOs, NPDES authorities and State water quality standards authorities on coordinating the planning, selection, and implementation of CSO controls that meet the requirements of the CWA and allow for public involvement during the decision-making process." ...
"...the Policy lays out two alternative approaches--the "demonstration" and the "presumption" approaches--that provide communities with targets for CSO controls that achieve compliance with the Act, particularly protection of water quality and designated uses." ...
"The presumptive approach (which MSD has been using) allows for a program which *"would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above. These criteria are provided because data and modeling of wet weather events often do not give a clear picture of the level of CSO controls necessary to protect WQS."*

These criteria include the use of volumetric controls as MSD has been doing.

Would you explain to us
1.Why MSD thinks MSD is not required to meet the requirements of the Clean Water Act and the rules, which include water quality standards, which were promulgated under the Act?

2.Why MSD thinks that volumetric controls are all that is required by the consent decree, rather than compliance with water quality standards?

3.As MSD has stated that MSD's projects cannot meet water quality standards, how can USEPA approve this submission for the LMCPR when their policy clearly states they cannot approve a plan that does not work? Why does MSD think this is an approvable approach?

4.The consent decree most certainly does say "water quality", contrary to MSD's assertions. And while there are legal provisions that allow for changes to water quality standards, the consent decree explicitly states that MSD's submitted (and now approved by USEPA) Long Term Control Plan, cannot submit a plans that *"assume or rely on water quality standards that have not been revised or approved by Ohio EPA, U. S. EPA and ORSANCO."* Why is MSD stating that the consent decree doesn't mention "water quality"? Not only is "water quality" mentioned 70 times in the decree, it is at the heart of cleanup. Why is MSD submitting a plan that will not meet water quality standards?

MSD, of course, is not responsible for water quality violations which it does not cause or contribute to. The issue is not Butler County or the Army Corps of Engineers. The issue is MSD must keep the sewage in the pipes, convey it to treatment plants and treat it and must set forth a plan that will not continue to fail to comply with the Clean Water Act. It is not the case that MSD must only remove 2 billion gallons of combined sewage or merely meet volumetric controls.

Please give us your response to these questions and let us know exactly what rules, laws or regulations you are relying on to make these statements.

Sincerely,
Marilyn Wall

Preliminary Comments of Sierra Club on the LMCPR (Lower Mill Creek Partial Remedy) September 26, 2012

Sierra Club has reviewed MSD's Lower Mill Creek Partial Remedy *Alternatives Evaluation Preliminary Findings Report* refined and updated June 25, 2012. Additionally Sierra Club has sought further explanations on the Evaluation, asked MSD for further information and reviewed several additional documents.

Yet information gaps remain and public participation lacks the "public participation" part

At this point we can only make preliminary comments on the Evaluation because the information we have is incomplete and we lack detail information.

Commenters at the Town Hall and in other forums have commented on MSD not sharing information or included affected parties in decision making. MSD's format is largely MSD talks, you get partial information and get to select a picture. Possibly one of the most telling examples is MSD's statement that they will hold community design meetings after

Detailed cost data is unknown

The information gap includes detail about costs and therefore cost-effectiveness. It is impossible to reach any kind of recommendation or conclusion without cost data. Part of the reason MSD sought and was given 3 years to study Green Infrastructure was to come up with cost and effectiveness data.

Total cost numbers exceed cost estimates in 2009

MSD's tunnel costs have exceeded not only the $244Million (or $300 Million with at time extension) that MSD assured everyone was feasible, but the Green Infrastructure approach has exceed the $244 Million as well. One has to ask what is going on when cost estimates more than double in three years. Studying Green Infrastructure for 3 years was supposed to lead to lower costs, not higher. The impact on rater payers of such an increase is high and will lead to more delay. There is no discussion of alternatives and why they were chosen or not based on cost, what costs could be accommodated by other partners in the Green Infrastructure solutions or how else these costs could be reduced or paid for in other ways.

Model uncertainties

The new model changed estimates of overflows in Mill Creek from 8.286 billion gallons to 5.142 billion gallons. This is a drastic decrease in the amount of overflow. MSD's version 4.0.10 completed in December 2010, included this reduction and other changes, yet this information was not made available to the public until June 2012. The model for the Lick Run area, possibly the most important sewer shed in Lower Mill Creek, could not be validated.

MSD's consultants have also stated "XCG understands that MSDGC is currently updating models for areas upstream of SSO 700 in the East Branch Mill Creek study area. … MSDGC has come to the decision to not incorporate these updated models into Version 3.2 due to the changes being outside the scope of the current project. …These calibrations do not imply that the system conditions within the East and West Branch Mill Creek are correct, and SCG recognizes that the solutions for the flow from SSO 700 may be incorrect. … These artificially high values could result in oversized and excessive solutions for SSO 700." [1]

While we are glad MSD is sharing information in this case, this gap in the modeling and data analysis is very disturbing. The Final Remedy for SSO 700 is also due to be submitted to USEPA on December 31, 2012. The information the Evaluation Report on the Final Remedy is extraordinarily sketchy. We are told there will be a draft report on SSO 700 in Sept 2012. Yet the data is not in the model! SSO 700 is heavily influenced by backflow from the Mill Creek Interceptor. The volume in the interceptor influences overflows downstream from SSO 700 (reading) and may be causing other overflow points to overflow. All of this affects the sizing and the effectiveness of any tunnel solution. It is also the lack of capacity in the interceptor sewers that contribute to overflows in the lowest end of Lower Mill Creek, where the Green Infrastructure is planned.
The unreliable data for CSO 5 that led to the inability to validate the model for Lick Run, the lack of model updates have led to unreliable data for SSO 700 and its sewershed. This uncertainty about the model lead to great uncertainty as to the appropriate sizing of the solutions MSD has outlined, their ultimate effectiveness, as well as their costs. We recognize models always have a level of uncertainty and are based on assumptions. These uncertainties and assumptions should not only be disclosed but also addressed in defining the solutions.

In preparing the 2006 Long Term Control Plan, MSD spent millions studying their system and based the future costs and projects on a model that MSD knew had problems. MSD is now expecting to spend hundreds of millions on a model that is still flawed and MSD is providing less detailed data about the alternatives that MSD has analyzed than in 2006.

<u>Where is the Green?</u>

The green solution has a lot of grey. LID (Low Impact Development-porous pavement, vegetated roofs, rain gardens, etc) is non-existant or cast into some vague future.

Lick Run
Lick Run, with a 'constructed waterway' called a "stream" appears to have most of the storm water in a box under the stream. Why? Fears of too much water and

[1] LMC-SA System Wide Model Restructuring Version 3.2, Version 4.0.10 and Version 4.2 XCG File No.: 6-575-82, June 1, 2012 Page 17

someone might drown has been the only answer we've heard. There are much bigger streams around, including where Lick Run would flow into the Mill Creek. Safety is an important issue, but this can be addressed with public education or whatever park entity ends up managing the creek. Other considerations such as water quality need to be addressed by MSD. Water flowing through pipes will not gain any water quality benefit. Flowing above ground in as natural as possible a stream will achieve much needed water quality benefits.

It also appears that MSD intends, after spending over $100 Million to continue to have overflows at Lick Run. They'll continue through what should be a much oversized combined sewer pipe and be somewhat controlled (but still overflowing) by the Real Time Control at the overflow. (The Real Time Control (RTC) consists of closing some of the gates at the overflow.)

MSD has not made a case to continue to have nearly 300 million gallons overflowing at Lick Run. What costs does this save? What is the impact to water quality? How frequently will water quality be impacted? Will another project or more be needed to meet water quality standards later?

The rationale for continuing to use this pipe for combined sewage seems to be 1) MSD is afraid they cannot find all the sewage connections that go into it. 2) The Stormwater Management Utility (run by MSD) does not want to use it as a storm sewer, 3) there isn't enough space for another pipe (which would be much smaller). To those points 1) MSD has a major investment in mapping pipes, TVing pipes, and must be able to identify all illicit connections to storm pipes, has records for taps, which all get billed, so we don't understand why they cannot find all sewage inlets. 2) The county, as we understand it, has agreed to take care of the pipe if converted to a storm pipe and 3) There seems to be space for a lot of other things including a box culvert for stormwater. Possibly MSD also wants to keep running the RTC.

Other options like redirecting the stormwater currently forced into the combined system on Guerley Road would seem to be very cost effective. What options, such as this, were evaluated, excluded and why?

Kings Run
Kings Run has become a grey solution, not a green solution. The EHRT does not meet secondary treatment standards. And it leaves sewage running through people's property. It is hard to understand how this is a solution.

Bloody Run
Bloody Run is mostly a pipe solution with some water detention and some unknown number of curb bump outs (costs and benefits undocumented). It isn't clear how the detention basin is intended to work, what sort of water quality control is imagined and what its performance will be. If it is simply stored and released back into the sewer system it doesn't reduce treatment costs at the WWTP (Waste Water

Treatment Plant) plant and its water quality benefit is limited to preventing overflows.

Ludlow Run

Ludlow is primarily grey, thousands of feet of storm pipe, with 3.135 acres of wetlands, some step pools and bump outs.

Denham

Denham's is almost exclusively storm sewers and real time control.

West Fork

Given the enormous amount of wooded habitat (Mt. Airy Forest), proximity of Mill Creek, MSD's recommendation to remove the concrete from the West Fork Channel and 're-naturalize' it, it is hard to figure out why there is so much CSO storage and interceptors and grey infrastructure in this alternative.

Removal of concrete and re-naturalizing the West Fork are very likely efforts we'd support although we'd like more specifics. We'd like to also see what other options were considered, why the costs were and rationales for selection.

Overall, we are baffled by the absence of all the green infrastructure MSD has been touting… the Kings and Queens of Green… The delay in implementing some unspecified "innovations" could hardly be recommendation of 3 years of work. This was MSD's chance to showcase cost-effective green infrastructure.

<u>SSO 700 Final Remedy</u>

We understand that MSD will not have a draft of the Final Remedy for SSO 700 until late September or October. This plan, also due December 31, 2012, needs to be publicly released, explained and comments taken into consideration.

<u>Water Quality and Consent Decree Compliance</u>

Water quality is at the heart of this matter. MSD's focus on achieving 85% volumetric control, as the only requirement, ignores the long-term requirement of the consent decree and the Clean Water Act, compliance with water quality standards. While volumetric control is a *minimum* requirement of the Amended WWIP, the ultimate question is *will the approved project for the CSOs specified in Attachment 1C of the WWIP, help MSD achieve water quality goals and not "cause or contribute" to violations of the Clean Water Act. Or will the community be forced to revisit these CSOs for expensive retrofits and increased costs?* It appears CSO 5, in all

alternatives, will continue to have nearly 300 million (new model estimates) of overflow even after the project is finished. This represents a sizeable volume of overflow and an unknown (to the public, at this time) number of overflow instances. Not all the overflows itemized in Attachment 1C are addressed by the alternatives.

Equally important, USEPA cannot approve a "presumptive[2]" plan if USEPA has reason to believe it will not achieve water quality standards. MSD's "Alternative Analysis" indicates it will not and the strategy may be lowering water quality standards. MSD, however, ahs already, in the approved WWIP, embarked on the "presumptive" approach and plans are required to comply with approved water quality standards.

MSD has not provided an alternative analysis that shows detailed costs and benefits of each alternative, and the water quality analysis, that shows that MSD's approach will achieve water quality standards in the most cost-effective manner. Ratepayers deserve no less.

Preliminary Recommendations, Questions

We request that MSD, the city and the county make available, to all rate payers, complete, transparent information about MSD projects and proposed projects. MSD needs to move from supplying some information on their time schedule to being transparent, providing balanced, factual, objective information, as it is available and allow all ratepayers the opportunity to review and understand the information.

Secondly, MSD needs to not just collect some feedback from the public, but to also respond to the feedback and show how the information has changed decision making or factually, why it cannot.

Third, MSD needs to include the affected public from the beginning of the analysis and development of alternatives.

Fourth, MSD needs to start its process from the perspective of achieving water quality standards and eliminating violations. Quality, not just quantity,

Fifth, financial transparency is needed to assure the public that the most cost-effective remedies are being pursued.

Sixth, there is too much uncertainty in MSD's new model and the large changes in overflow volume. The lack of validation on CSO 5, the limited number of flow meters, interceptor capacity and backflow, the lack of data and modeling on the upper sewer shed's and SSO 700 and no modeling done on the Ohio River, Little Miami, Muddy Creek, and the impact of future projects such as the Final Remedy on SSO 700 make it difficult to trust MSD's numbers or be certain that projects are being properly sized to avoid destruction from storms bigger than typical year flow

[2] 1994 CSO Policy and Sierra Club email to Parrott, August 20, 2012

and that the solutions will capture the needed 2 billion gallons. MSD needs to explain how they are addressing this situation.

Seventh, MSD relies for much of its work and recommendations on external consultants; some have been consulting for MSD on the same work for years. Others come and go. How does MSD insure that the information consultants gather is available to MSD employees, especially as consultants leave, the expertise and experience gained is captured in-house, results are verifiable and the public isn't left paying for another round of analysis for another model version on the same overflow problems (we paid for the 2006 version, now we have new, incomplete and flawed versions). Accountability mechanisms for accurate, complete, objective analysis and project implementation need to be provided to MSD rate payers. In other words, ratepayers should not be responsible for paying for re-work by consultant after consultant. Rate payers appear to be paying for re-work and that is not cost-effective.

Eighth, green it up or show why all the pipes and concrete is more cost effective. MSD is leaving most of the green work until 'tier 2'. MSD's earlier analysis (2007) showed it was not cost-effective to add green after doing grey. What changed? What data does MSD have from the demos and pilots that have changed this? What are the lessons learned from the green projects to date, particularly as they affect ecological design and aquatic habitat? What ecological, biological, stream science expertise does MSD have on staff?