UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ADMINISTRATIVE ORDER ON CONSENT RE:
REMEDIAL INVESTIGATION, FEASIBILITY STUDY AND REMEDIAL DESIGN
FOR THE MADISON METROPOLITAN SEWERAGE DISTRICT LAGOONS SITE
BLOOMING GROVE, WISCONSIN

U.S. EPA DOCKET NO. V-W-92-C-166

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

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to the Administrative Order on Consent
for the
MADISON METROPOLITAN SEWERAGE DISTRICT LAGOONS SITE


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**ATTACHMENTS**

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ATTACHMENT II.....STATEMENT OF WORK FOR CONDUCTING REMEDIAL DESIGN AT THE MADISON METROPOLITAN SEWERAGE DISTRICT LAGOONS SITE, BLOOMING GROVE, WISCONSIN ("RD SOW")

ATTACHMENT III.....ACCESS AGREEMENTS (reserved)

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ATTACHMENT VI.....RD WORK PLAN (reserved)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

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| IN THE MATTER OF: | ) | |
| | ) | |
| | ) | |
| MADISON METROPOLITAN | ) | |
| SEWERAGE DISTRICT LAGOONS SITE | ) | |
| BLOOMING GROVE, WISCONSIN | ) | |
| | ) | |
| **Madison Metropolitan** | ) | U.S. EPA DOCKET NO. |
| **Sewerage District** | ) | |
| | ) | |
| Respondent, | ) | |
| | ) | |
| Proceeding under Sections 104, | ) | |
| 122 (a), and 122(d) (3) of the | ) | |
| Comprehensive Environmental | ) | |
| Response, Compensation, and | ) | |
| Liability Act of 1980, as amended. | ) | |

**ADMINISTRATIVE ORDER ON CONSENT RE:**
**REMEDIAL INVESTIGATION, FEASIBILITY STUDY AND REMEDIAL DESIGN**

The United States Environmental Protection Agency ("U.S. EPA") and the Respondent have agreed to the making and entry of this Administrative Order on Consent ("Consent Order").

## I. JURISDICTION

A. This Consent Order is issued pursuant to the authority vested in the President of the United States by Section 104, 122(a) and 122(d) (3) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601 et seq., and delegated to the Administrator of the U.S. EPA on January 23, 1987, by Executive Order 12580, 52 Federal Register 2926 (January 29, 1987), further delegated to the Regional Administrators by U.S. EPA Interim delegation No. 14-14-C on February 26, 1987, and further delegated to the Director of the

Waste Management Division by Region V Delegation No. 14-14-C on September 14, 1987.

B. The Respondent to this Consent Order agrees to undertake all actions required by the terms and conditions hereunder, and consents to and will not contest or legally challenge the validity of this Consent Order or its terms, or the U.S. EPA's authority or jurisdiction to issue or enforce this Consent Order.

## II. NOTICE OF ACTION

A. The U.S. EPA has previously notified all persons whom it considers to be potentially responsible parties ("PRPs") as of the date of entry of this Consent Order.

B. The U.S. EPA has notified the Federal Natural Resource trustee of the Negotiations in this action pursuant to the requirements of Section 122(j) of CERCLA.

C. U.S. EPA has notified the State of Wisconsin's Department of Natural Resources (WDNR) of this action and has afforded the WDNR an opportunity to participate in the negotiations resulting in this Consent Order pursuant to Section 121(f) of CERCLA.

## III. PARTIES BOUND

A. This Consent Order applies to and binds the following persons as defined in Section 101(21) of CERCLA:

(1) The U.S. EPA, through the Director of the Waste Management Division, Region V;

(2) The following persons as defined in Section 101(21) of CERCLA, herein referred to as the Respondent: Madison Metropolitan Sewerage District;

(3) the successors and assignees of the Respondent; and,

(4) the agents of the Respondent responsible for carrying out the Respondent's obligations under this Consent Order.

B. The undersigned representatives of the U.S. EPA and Respondent each certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Order and to execute and legally bind the party he or she represents to this document. The Respondent shall be solely responsible for carrying out the terms and conditions of this Consent Order.

C. No change in ownership, corporate, or partnership status shall in any way alter the status or responsibility of the Respondent under this Consent Order. The Respondent shall provide copies of this Consent Order to any and all subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred. The Respondent shall be responsible for ensuring that all officers, directors, principals, contractors, consultants, firms and other persons or entities acting under or for the Respondent with respect to all matters herein comply with the terms of this Consent Order. The Respondent shall provide copies of this Consent Order to all contractors retained to conduct any work under this Consent Order within fourteen (14) days after the effective date of this Consent Order or the date of retaining their services, whichever is later.

Subcontractors, laboratories, consultants, firms and other entities that will provide $20,000 or more of work under this Consent Order shall also be provided copies of this Consent Order. MMSD shall inform all other subcontractors, laboratories, consultants, firms and other entities that provide less than $20,000 of work under this Consent Order that the work they are conducting must be in full compliance with this Consent Order and that this Consent Order is available to them upon request. U.S. EPA's Project Coordinator will make a determination, if requested by Respondent, whether any particular work conducted by a contractor is within the scope of this Consent Order.

## IV. STATEMENT OF PURPOSE

A. The objectives of this Consent Order, and the mutual objectives of the U.S. EPA and the Respondent in entering this Consent Order, are: for the Respondent to (1) fully determine the nature and extent of the potential threat to the public health, welfare or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants from or at the Facility by conducting a Remedial Investigation ("RI"); for the Respondent to (2) determine and evaluate alternatives for remedial action to prevent, mitigate or otherwise remedy any release or threatened release of hazardous substances, pollutants or contaminants from or at the Facility by conducting a feasibility Study ("FS"); (3) to provide for development by Respondent of the Remedial Design for the Facility which will be selected by U.S.

EPA, in a Record of Decision (ROD) which will be issued at some future date. Subsequent to U.S. EPA's issuance of the ROD, Respondent will notify U.S. EPA within seven (7) calendar days regarding its willingness or unwillingness to conduct the Remedial Design for the Site under this Consent Order. Subsequent to its issuance of the ROD, and if Respondents notify U.S. EPA that it is willing to conduct the Remedial Design for the Site under this Consent Order, and if U.S. EPA approves Respondent's conducting the RD under this Order, U.S. EPA may also issue a RD SOW Supplement which will more fully delineate design elements presented in the ROD. Upon their issuance, the ROD and RD SOW Supplement will become fully incorporated into this Consent Order (Attachments IV and V, respectively). The parties also intend, with this Consent Order, for the U.S. EPA to recover from Respondent response oversight costs incurred by U.S. EPA.

B. The activities conducted pursuant to this Consent Order are subject to approval by the U.S. EPA. The Respondent, as provided herein, shall employ sound scientific, engineering and construction practices and shall conduct all activities pursuant to this Consent Order consistently with CERCLA, the National Contingency Plan ("NCP"), 40 CFR Part 300, as amended, and all other applicable laws.

## V. FINDINGS OF FACT

Based upon information available on the effective date of this Consent Order, the Director of the Waste Management Division, Region V makes the following findings;

A. The Madison Metropolitan Sewerage District (MMSD) is a public, non-profit governmental agency that was created in 1930 by judgment of the county court for Dane County, proceeding under Section 66.20 of the Wisconsin state Statutes. The basic function of the MMSD is to "...plan, construct, and maintain...interceptor and other main sewers for the collection and transmission of sewage. The commission shall also cause the sewage to be treated, disposed or recycled and may plan, project, construct, and maintain works and facilities for this purpose." (Wis. Stats. 66.24(2)).

B. The MMSD operates a publicly-owned wastewater treatment facility under the authority of the National Pollutant Discharge Elimination System (33 USC 1342), as delegated by the Administrator of the U.S. EPA to the State of Wisconsin Department of Natural Resources. Pursuant to s. NR 200 of the Wisconsin Administrative Code, and U.S. EPA oversight of the State's overall implementation of the Clean Water Program, the MMSD has been granted discharge permit WI-0024597-4. Part II(B) of this permit contains requirements for the monitoring and land application of sewage sludge.

C. The Madison Metropolitan Sewerage District Lagoons Site (the "Facility") is an approximately 135-acre facility consisting of two lagoons. Lagoon 1 is 52 acres and has been segmented into

two distinct cells; Lagoon 2 is 86 acres. Sludge depth in the lagoons is zero to seven feet. Based on recent sample analysis by the Respondent, PCB's up to levels of 170 ppm (dry weight) have been found in the sludge in Lagoon 2.

D. The Facility is located on Moorland Road, three miles southeast of Madison, Wisconsin. The Nine Springs Creek borders the lagoons on the south and east, and a drainage channel defines the northern perimeter. The confluence of the drainage channel and the Nine Springs Creek occurs near the northeast corner of Lagoon 2. The Nine Springs Creek flows northeast approximately 2500 feet, and discharges to the Yahara River, which flows to the southeast, and discharges to Upper Mud Lake. Upper Mud Lake connects to Lake Waubesa to the south. An extensive wetlands complex of nearly 1,000-acres is located to the north and east. Lake Waubesa is located approximately 2500-feet east of the Facility.

E. An estimated 94,000 people obtain drinking water from municipal wells within three miles of the Facility. The City of Madison Well #5 is 1,200 feet west of the Facility and the City of Monona Well #3 is 4,700 feet north. Approximately 20 rural residences are within a mile south of the lagoons and obtain drinking water from the sandstone bedrock aquifer about 200 to 300 feet below the ground surface.

F. Directly west of the Facility is the Nine Springs Treatment facility and a mobile home park of about 250 units is located 1000 feet southwest of the Facility.

G. The Respondent (Madison Metropolitan Sewerage District (MMSD) is an owner and operator of the Facility. Respondent has been depositing sludge from its Nine Springs Wastewater Treatment Plant in lagoons at the Facility since 1942. Currently fifteen percent (15% or 5.55 million gallons per day) of the 37 million gallons per day influent to the Nine Springs Wastewater Treatment Plant is from industrial dischargers. The Madison Metropolitan Sewerage District is a public, non-profit governmental agency created by State statute to provide for the collection of wastewater that services the following communities: Town of Blooming Grove, Town of Burke, Village of Cottage Grove, Village of DeForest, Town of Dunn, City of Fitchburg, City of Madison, Town of Madison, Village of Maple Bluff, Village of McFarland, City of Middleton, City of Monona, Village of Shorewood Hills, Town of Verona, Town of Vienna, Village of Waunakee, Town of Westport, and Town of Windsor.

H. The Respondent has conducted its sludge recycling program (Metrogro) since 1974, which consists of the land application of sewage sludges produced by MMSD's treatment plant to agricultural lands in the area. This program is overseen by WDNR, and U.S. EPA and believed to be consistent with existing state and federal regulations regarding acceptable concentrations of PCB's (less than 50 parts per million) for land application of sewage sludge. MMSD has received the 1988 National Operating Project Award from the U.S. EPA for an outstanding project involving and enhancing

beneficial use of municipal wastewater sludge (the Metrogro program).

I. In April 1970, a 150-foot portion of the north dike of Lagoon 2 failed. Eighty-five million gallons of sludge and supernatant flowed northeastward into Nine Springs Creek and on into the Yahara River. This spill caused a major fish kill in the Yahara River and in Lake Waubesa. Actions were undertaken to promptly repair and stabilize the north dike. In November 1973, a 1300-foot portion of the south dike of Lagoon 2 began to subside causing upheaval of bottom sediments resulting in mud waves. The dike system of Lagoon 2 was reconstructed after the 1973 incident; no further dike failures have been reported since that time. Geotechnical investigations were subsequently made at the direction of WDNR to evaluate dike stability. These studies concluded that the dikes' stability was sufficient, excessive subsidence was not anticipated, and additional construction to improve dike stability was not required at that time. A long-term monitoring program has been instituted to ensure sufficient dike strength and the safety of the dikes. EPA has not evaluated either these studies or the sufficiency of the long-term monitoring program.

J. In December 1982, the Madison Metropolitan Sewerage District detected PCBs significantly above 50 mg/kg dry-weight in a lagoon sludge sample at the Facility. Subsequent analysis of additional sludge samples showed PCB dry weight concentrations as high as 202 ppm.

K. Based on results of U.S. EPA and Respondent's investigations, and taking into account the Hazardous Ranking System, factors such as the populations at risk, the presence of PCB's and other hazardous substances, the potential for contamination of drinking water supplies and the destruction of sensitive ecosystems, U.S. EPA placed the Facility on the National Priorities List (NPL) on February 21, 1990).

L. MMSD has completed Facilities Plans, as outlined in Section 201 of the CWA, for a sludge management and reuse program (1976), and for closure of the sludge storage lagoons as they are eliminated from service (1991). Upon designation of the lagoons as a NPL site, the Respondent has also been voluntarily conducting a Site investigation intended to be consistent with U.S. EPA RI/FS guidance. Because oversight mechanisms have not previously been available, neither U.S. EPA nor the WDNR has provided oversight of the RI/FS activities or approved of any of the RI/FS activities or approved any reports to date. U.S. EPA will provide Respondent with comments on this draft RI consistent with Section IX of this Order, and the RI/FS SOW (Attachment I), after this Order has been signed by the Respondent. This Consent Order provides the mechanism for U.S. EPA oversight and review activities.

## VI. CONCLUSIONS OF LAW

Based upon information available on the effective date of this Consent Order, the Director of the Waste Management Division, Region V makes the following conclusions of law:

A. The MADISON METROPOLITAN SEWERAGE DISTRICT LAGOONS SITE is a "Facility' as defined in Section 101(9) of CERCLA;

B. "Hazardous substances', as defined in section 101(14) of CERCLA, have been deposited, stored, disposed of, placed, or otherwise located at the Facility;

C. Respondent is a "person" as defined in Section 101(21) of CERCLA;

D. The presence of hazardous substances at the Facility or the past, present or potential migration of hazardous substances currently located at or emanating from the Facility constitutes a "release" or substantial threat of "release", as defined in Section 101(22) of CERCLA, into the environment of a hazardous substance from or at the Facility; and,

E. Respondent is a person potentially liable under the provisions of Section 107 of CERCLA and is a potentially responsible party for the purposes of section 122 of CERCLA.

Unless otherwise defined herein, terms used in this Consent Order shall have the meaning defined in CERCLA, the NCP or applicable U.S. EPA guidance. Unless otherwise specified, "days" shall mean calendar days.

## VII. DETERMINATIONS

The Director of the Waste Management Division, Region V has determined that:

A. The Respondent will promptly and properly take appropriate response action at the Facility by conducting a Remedial Investigation and Feasibility Study ("RI/FS") and Remedial Design ("RD") and is qualified to perform the RI/FS and RD; and

B. The actions required by this Consent Order are in the public interest and are consistent with CERCLA and the NCP.

## VIII. WORK TO BE PERFORMED

A. All work to be performed by the Respondent pursuant to this Consent Order shall be under the direction and supervision of a qualified professional engineer or certified geologist. Prior to the initiation of work at the Facility, the Respondent shall notify the U.S. EPA, in writing, of the name, title and qualifications of the proposed engineer or geologist, and of the names of principal contractors and/or subcontractors proposed to be used in carrying out the work to be performed pursuant to this Consent Order. Selection of any such engineer, geologist, contractor and/or subcontractor shall be subject to approval by the U.S. EPA. The Respondent reserves the right to replace the engineer, geologist, contractor and/or subcontractor for cause, except that any such replacement shall be subject to the notice and approval requirements of this paragraph and shall not be cause for delay of performance of work required by this Consent Order.

B. Attachment I and Attachment II to this Consent Order provide Statements of Work for Conducting a Remedial Investigation and Feasibility Study and Remedial Design, respectively, at the

Madison Metropolitan Sludge Lagoons Site, Blooming Grove, Wisconsin ("RI/FS SOW" AND "RD SOW"), which are incorporated into and made a part of the Consent Order. The ROD issued for the site will present U.S. EPA's determination regarding the necessity, or lack thereof, for remedial action at the site. If the ROD indicates that a remedial action is not required, MMSD will not conduct the RD. If U.S. EPA determines that remedial action is required, the RD SOW may be amended by U.S. EPA subsequent to ROD signature to reflect any changes necessitated by the ROD. If Respondent will conduct the RD under this Consent Order these amendments to the SOW will be set forth in an RD Supplement which shall be incorporated into this Order as Attachment V and shall be deemed an enforceable part thereof.

1. The Respondent has previously submitted to the U.S. EPA and the Wisconsin Department of Natural Resources ("WDNR") a Work Plan for a complete RI/FS and a draft RI Report for the Facility (hereinafter, "RI/FS Work Plan" and "RI"). If the U.S. EPA determines additional remedial investigation to be necessary, based on its review of the draft RI, it will provide Respondent with a request for modifications of the RI/FS Work Plan. The Respondent shall have the opportunity to meet with the EPA, upon Respondent's receipt of U.S. EPA's comments on these documents. After this meeting, the Respondent shall incorporate into the RI/FS Work Plan all of the U.S. EPA's requests for modifications and submit the revised RI/FS Work Plan to U.S. EPA within forty-five (45) days of its receipt of such request from U.S. EPA. Any modifications to

the RI/FS Work Plan shall be developed in conformance with the attached RI/FS SOW, the standards set forth in Section 121 of CERCLA, U.S. EPA guidance on Remedial Investigations and Feasibility Studies, and any additional guidance documents provided by the U.S. EPA.

2. The RI/FS Work Plan submittal included, but was not limited to, the following project plans; (1) a sampling plan; (2) a plan for satisfaction of permitting requirements; (3) a quality assurance project plan; (4) provisions for the preparation of an endangerment assessment plan; (5) a data management plan; and (6) a schedule for implementation of RI/FS tasks and submission of RI/FS deliverables. Based upon its review of the draft RI, U.S. EPA may request modifications to any or all of these submittals, and the Respondent shall incorporate the requested modifications.

3. After U.S EPA's issuance of the ROD, Respondent will notify U.S. EPA in writing within seven (7) calendar days stating its willingness or unwillingness to conduct the RD for the Site under this Consent Order. Respondent's unwillingness to perform RD under this Consent Order shall not preclude Respondent from the performance of RD or RA in a subsequent Consent Decree or Administrative Order if so agreed by U.S. EPA. If Respondent notifies U.S. EPA that it is willing to conduct the RD for the Site, U.S. EPA will approve or disapprove the Respondent's conducting the RD under this Consent Order. If Respondent notifies U.S. EPA that it is not willing to conduct the RD, or if U.S. EPA disapproves the Respondent's conducting the RD under this Consent

Order, Respondent will be under no obligation to conduct a Remedial Design for the Site under this Consent Order. If Respondent will not conduct the RD under this Consent Order, Attachments (II, V, and VI) and Sections of the Consent Order related to conducting the RD will be considered automatically deleted from this Consent Order, and will be null and void ab initio.

4. If an RD will be conducted by the Respondent, Respondent shall submit to U.S. EPA an RD Work Plan within forty-five (45) days of its receipt of the RD SOW Supplement. The project plans listed below may be submitted as revisions or supplements to existing plans prepared for RI/FS activities, as U.S. EPA deems appropriate. The RD Work Plan submittal shall include, but not be limited to, a schedule for submittal of the following project plans: (1) a sampling and analysis plan which includes quality assurance project plan(s) and field sampling plan(s); (2) a health and safety/contingency plan; (3) a plan for satisfaction of permitting requirements; (4) a groundwater monitoring plan; and (5) an operations and maintenance plan. The RD Work Plan shall also include a schedule for implementation of the RD tasks and submittal of RD reports. The RD Work Plan shall be developed in conformance to the ROD (Attachment IV), the RD SOW (Attachment II), the RD SOW Supplement (Attachment V), U.S. EPA Superfund Remedial Design guidance documents, and any additional guidance documents provided by U.S. EPA.

5. The Revised RI/FS Work Plan (if modifications are required pursuant to Paragraph B.1 of this Section) and the RD Work Plan

shall be subject to U.S. EPA approval, modification, or disapproval.

6. The U.S. EPA Project Coordinator shall notify the Respondent, in writing, of approval or disapproval of the RI/FS or RD Work Plans, or any part thereof. In the event of disapproval of the RI/FS or RD Work Plans, or any part thereof, the U.S. EPA shall specify, in writing, any deficiencies and required modifications to the RI/FS or RD Work Plans. U.S EPA will provide Respondent with an opportunity to meet with U.S. EPA upon Respondent's receipt of U.S. EPA's comments on the RI/FS Work Plan, draft RI, the draft FS, draft RD Work Plans, and Preliminary and Pre-Final RD.

7. Within thirty (30) days of receipt of U.S. EPA's disapproval, Respondent shall submit a revised RD Work Plan or RI/FS Work Plan to the U.S. EPA and the WDNR, which incorporates the U.S. EPA comments and specified modifications.

8. In the event of subsequent U.S. EPA disapproval of the revised RI/FS or RD Work Plan, or any part thereof, Respondent may be deemed in violation of this Order. In such event, U.S. EPA retains the right to terminate this Consent Order, conduct a complete RI/FS and/or RD and seek reimbursement from the Respondent. The U.S. EPA also retains the right to enforce the terms of this Consent Order in the appropriate judicial or administrative forum.

9. The Respondent shall implement the work detailed in the Revised RI/FS and RD Work Plans, upon approval by U.S. EPA according to the schedules contained therein. If, and when, RI/FS

and RD Work Plans are approved and/or modified and approved by the U.S. EPA, the Respondent shall also implement any supplemental work which U.S. EPA determines to be necessary. U.S. EPA will make its determination of whether supplemental work to the RI is required based upon its review of the RI. Unless otherwise directed by the U.S. EPA, the Respondent shall not commence additional RI/FS field or RD activities until approval, in writing, by the U.S. EPA of the respective RI/FS or RD Work Plan. Upon approval of U.S. EPA, the revised RI/FS Work Plan (if required pursuant to Paragraph B.1 of this Section) and RD Work Plans shall be attached hereto and shall be deemed incorporated into and made an enforceable part of this Consent Order. Any Work Plans developed by the Respondent previous to this Consent Order are not considered final until U.S. EPA has approved and/or modified these documents. U.S. EPA's approval of the RI Report or any other documents does not constitute or imply approval or disapproval of any previously submitted documents, including Work Plans, which are not specifically reviewed by U.S. EPA. All work shall be conducted in accordance with the National Contingency Plan, applicable RI, FS, and RD guidance and the requirements of this Consent Order, including the standards, specifications and schedule contained in applicable approved RI/FS or RD Work Plan(s).

## IX. PLANS AND REPORTS

A. The Respondent shall provide draft and final Remedial Investigation Reports, draft and final Feasibility Study Reports,

Preliminary Design, Intermediate Design, and Pre-Final Design, as well as any other plans or reports required by the RI/FS or RD Work Plans, to the U.S. EPA and the WDNR according to schedules approved by the U.S. EPA. The Feasibility Study Report shall incorporate the Risk Assessment, which will be developed by U.S. EPA. Respondent shall submit a schedule for completion of RI/FS documents within fifteen (15) days subsequent to the Respondent's receipt of the U.S. EPA's comments on the existing draft RI.

B. The U.S. EPA shall review, and after consultation with WDNR, shall approve, modify and approve, or disapprove, the Draft and Final Remedial Investigation Reports, the Draft and Final Feasibility Study Reports, Pre-Design Reports (if required), Preliminary Design, and any other preliminary or final plans or reports specified in the RI/FS or RD Work Plans as requiring U.S. EPA approval.

C. If the U.S. EPA disapproves any preliminary, draft, or final plan or report, the U.S. EPA shall specify, in writing, any deficiencies in and required modifications to such plan or report. Within the time frames specified in Section VIII, Respondent shall submit a revised plan or report, which incorporates all U.S. EPA comments and modifications, to the U.S. EPA and the WDNR. Subsequent revisions of any plan or report may be requested and approved by the U.S. EPA, in consultation with the WDNR, without modification to this Consent Order under Article XXIX.

D. In the event of subsequent U.S. EPA disapproval of any revised plan or report, Respondent may be deemed in violation of

this Order. In such event, U.S. EPA retains the right to terminate this Consent Order and perform additional studies, to write supplements to the plan or report(s), and/or to conduct a complete or partial RI/FS and/or RD. The U.S. EPA retains the right to enforce the terms of this Consent Order in the appropriate judicial or administrative forum.

E. The Respondent shall provide monthly written progress reports to the U.S. EPA and the WDNR according to the schedule contained in the RI/FS and RD Work Plans. At a minimum, these monthly written progress reports shall include the following;

1. A description of the action which has been taken toward achieving compliance with this Consent Order;

2. All results of sampling and tests and all other data produced during the month relating to the Facility. For any available data which has not been reviewed for compliance with QAPP requirements (raw data), the raw data only shall be submitted. For any available data which has been reviewed for QAPP compliance, the reviewed data, along with supporting QA/QC documentation, shall be submitted.

3. Target and actual completion dates for each element or activity, including the project completion, an explanation of any deviation or anticipated deviation from the RI/FS or RD Work Plans schedule, and proposed method of mitigating such deviation;

4. A description of difficulties encountered during the reporting period and the actions taken to rectify the problems; and,

5. Changes in key personnel.

F. The monthly written progress reports shall be submitted to the U.S. EPA by the tenth (10th) calendar day of each month

following the date of commencement of the work detailed in the RI/FS schedule or RD Work Plan.

G. Neither failure of the U.S. EPA to expressly approve or disapprove of a submission by the Respondent within the specified time period nor the absence of comments shall be construed as approval of such submission by the U.S. EPA

## X. ADDRESSES FOR ALL CORRESPONDENCE

Documents, including reports, approvals, disapprovals and other correspondence to be submitted pursuant to this Consent Order shall be sent by certified mail, overnight courier or personal delivery to the following addresses, or to such other addresses or addressees as the Respondent, the WDNR or the U.S. EPA may hereafter designate in writing;

A. The number of copies (as designated by the U.S. EPA Project Coordinator) of all documents which are to be submitted to the U.S. EPA should be sent to:

Michigan/Wisconsin Remedial Response Branch (HSRW-6J)
U.S. Environmental Protection Agency, Region V
77 W. Jackson Boulevard
Chicago, IL 60604
Attn: James Hahnenberg, Remedial Project Manager
Office of Superfund
MADISON METROPOLITAN SEWERAGE
DISTRICT LAGOONS SITE

In addition, two copies of all documents to be submitted to the U.S. EPA should be sent to an oversight contractor identified by the U.S. EPA Project Coordinator within fourteen (14) days after the effective date of this Consent Order.

B. Documents to be submitted to the WDNR should be sent to:

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
P.O. Box 7921
Madison, WI 53707-7921
Attn: Project Manager
MADISON METROPOLITAN SEWERAGE
DISTRICT LAGOONS SITE

C. Documents to be submitted to the Respondent should be sent to a name and address to be designated by the Respondent within ten (10) days of the effective date of this Consent Order.

## XI. ADDITIONAL WORK

A. In the event that the U.S. EPA or the Respondent determine that additional work, including remedial investigatory work and/or engineering evaluation, is necessary to accomplish the objectives of the RI/FS or RD, notification of such additional work shall be provided to the other party.

B. Any additional work determined to be necessary by the Respondent shall be subject to written approval by the U.S. EPA, in consultation with the WDNR.

C. Any additional work determined to be necessary by the Respondent and approved in writing by the U.S. EPA, or determined to be necessary by the U.S. EPA, in consultation with the WDNR and requested of the Respondent by U.S. EPA in writing, shall be completed by the Respondent in accordance with the standards, specifications and schedule determined or approved in writing by the U.S. EPA in consultation with the WDNR.

## XII. COMPLIANCE WITH APPLICABLE LAWS

All work undertaken by the Respondent pursuant to this Consent Order shall be performed in compliance with all applicable Federal, state and local laws, ordinances and regulations, including all Occupational Health and Safety Administration and Department of Transportation regulations. In the event of an inconsistency in the application of Federal, State or local laws, ordinances and regulations, the Respondent shall comply with the more/most stringent such law, ordinance or regulation, unless provided otherwise in writing by the U.S. EPA. The Respondent shall be responsible for obtaining all State or local permits which are necessary for the performance of any work hereunder, except as exempted under CERCLA.

## XIII. ACCESS AND HEALTH AND SAFETY PLAN

A. If U.S. EPA determines that supplemental field activities are necessary to complete the RI/FS, the Respondent shall submit to the U.S. EPA and the WDNR within thirty (30) days after notification by U.S. EPA, a draft Health and Safety Plan designed to protect the health of all persons involved in response activities at the Facility and of the area surrounding the Facility, consistent with applicable U.S. EPA, State and Occupational Health and Safety Administration regulations and guidance.

B. Within forty-five (45) days after U.S. EPA issues the Record of Decision, the Respondent shall submit to the U.S. EPA and

the WDNR, a draft Health and Safety Plan designed to protect the health of all persons involved in RD activities at the Facility and of the community surrounding the Facility, consistent with applicable U.S. EPA, state and Occupational Health and Safety Administration regulations and guidance.

C. To the extent that the Facility or other areas where work is to be performed hereunder is presently owned by parties other than the Respondent, the Respondent shall obtain, or shall use its best efforts to obtain, access agreements from the present owners within thirty (30) days of the determination, as set forth in approved Work Plans or U.S. EPA direction for additional work, that access to that property is required to conduct work under the requirements of this Consent Order. Respondent shall diligently ascertain whether and to what extent access agreements are necessary in order to carry out the activities required by approved Work Plans. The Respondent's best efforts shall include, when necessary, the offer of reasonable compensation to such other parties. Such agreements shall provide access for the U.S. EPA, the WDNR, and all authorized representatives of the U.S. EPA and the WDNR, as specified below, and shall be attached to this Consent Order as Attachment III. In the event that such access agreements are not obtained within the time periods referenced above, the Respondent shall so notify the U.S. EPA in writing. The U.S. EPA reserves the right to terminate this Consent Order, perform a complete or partial RI/FS and/or RD and seek reimbursement from the Respondent should the Respondent's inability to gain access to the

Facility or other areas materially affect the Respondent's ability to perform all the work required herein.

D. Authorized representatives of the U.S. EPA and the WDNR shall be allowed access to the Facility, and to other areas where work is to be performed hereunder, by the Respondent, and as part of any agreement obtained under paragraph A above, for purposes including, but not limited to: inspecting records, operating logs and contracts related to the Facility; reviewing the progress of the Respondent in carrying out the terms of this Consent Order; conducting such tests, inspections, and sampling as the U.S. EPA, in consultation with WDNR, may deem necessary; using a camera, sound or video recording, or other documentary type equipment; and verifying the data submitted to the U.S. EPA and the WDNR by the Respondent pursuant to this Consent Order. The Respondent shall permit such authorized representatives to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, which pertain to this Consent Order, subject to Paragraph C of Article XV of this Consent Order (Sampling and Data/Document Availability) regarding confidentiality. All persons with access to the Facility pursuant to this Consent Order shall comply with the revised health and safety plan prepared by the Respondent.

E. Nothing herein shall be construed as restricting the inspection or access authority of the U.S. EPA or the WDNR under any applicable law, permit or regulation.

## XIV. PROJECT COORDINATORS

A. On or before the effective date of this Consent Order, the Respondent shall designate a Project Coordinator, who shall have primary responsibility for implementation of all the work at the Facility, and the U.S. EPA shall designate a Project Coordinator responsible for overseeing the implementation of the work. The Project Coordinators will serve as the designated representatives at the Facility for their respective parties. To the maximum extent possible, communications between the Respondent and the U.S. EPA, and all documents, reports, approvals and other correspondence concerning the activities performed pursuant to the terms and conditions of this Consent Order, shall be directed through the Project Coordinators.

B. The U.S. EPA and the Respondent shall have the right to change their respective Project Coordinators. Such a change shall be accomplished by notifying the other party in writing. To the maximum extent possible, such notification shall occur at least ten (10) days prior to the change.

C. The U.S. EPA Project Coordinator shall have all the authorities vested in an On-Scene Coordinator and a Remedial Project Manager ("OSC", "RPM") by the NCP, including the authority to halt, conduct, or direct any work required by this Consent Order or any response action taken by the U.S. EPA when conditions at the Facility may present an imminent and substantial endangerment to human health or welfare of the environment. The Respondent shall notify the U.S. EPA Project Coordinator immediately of any

conditions at the Facility which may present an imminent and substantial endangerment to human health or welfare or to the environment. This reporting requirement is in addition to any reporting which might be required by CERCLA § 103 or the Emergency Planning and Community Right to Know Act (EPCRA), 42 U.S.C. § 11001 et seq. If the U.S. EPA Project Coordinator halts work pursuant to this paragraph, the Respondent may request a modification of the schedule described in the RI/FS Work Plan and this Consent Order.

D. The U.S. EPA Project Coordinator shall also have the authority to extend deadlines as required by schedules or requirements described in this Order or attachments thereto, or in schedules submitted by the Respondent and approved by U.S. EPA.

E. The absence of the U.S. EPA Project Coordinator from the Facility shall not be cause for stoppage of work.

F. The Project Coordinator of the Respondent or his designee shall be on call or on-Site during all hours of work at the Facility, and during regular business hours throughout the pendency of this Consent Order. Supervisory on-Site personnel shall be designated by the Respondent during the absence of the Project Coordinator.

## XV. SAMPLING AND DATA/DOCUMENT AVAILABILITY

A. The Respondent shall make the results of all sampling, tests and other data generated by or on behalf of the Respondent pursuant to implementation of this Consent Order available to the U.S. EPA and the WDNR, and shall submit these results in written

monthly progress reports, as required by Article IX of this Consent Order (Plans and Reports).

B. At the request of the U.S. EPA or the WDNR, the Respondent shall provide the Requestor with split or duplicate samples of any samples collected by the Respondent pursuant to the implementation of this Consent Order. The Respondent shall notify the U.S. EPA and the WDNR at least ten (10) business days in advance of any sample collection activity to be conducted under this Order, in accordance with the Sampling Analysis Plan unless otherwise provided in the Sampling Analysis Plan.

C. Pursuant to applicable Federal laws and regulations, (Section 104(e) of CERCLA and 40 CFR Part 2), the Respondent may assert a confidentiality claim with respect to any or all of the information requested pursuant to the terms of this Consent Order. Such as assertion must be adequately substantiated when the assertion is made. Analytical data and other information described in Section 104(e) (7)(F) of CERCLA shall not be claimed as confidential by the Respondent. Information determined to be confidential by the U.S. EPA in accordance with applicable Federal laws and regulations will be afforded the full protection provided by such laws and regulations. Information determined to be confidential by the WDNR pursuant to applicable State laws and regulations will be afforded the full protection provided by such laws and regulations. If no confidentiality claim accompanies information when it is submitted to the U.S. EPA and the WDNR, or if information claimed as confidential is determined by the

U.S. EPA or the WDNR not to be confidential, the information may be made available to the public by the recipient.

## XVI. QUALITY ASSURANCE

A. The Respondent has previously submitted a Quality Assurance Project Plan (QAPP) for the RI/FS. If the RI/FS QAPP for the RI/FS is required to be revised by the U.S. EPA, based upon U.S. EPA's review of the RI, the Respondent shall participate in a pre-QAPP meeting with the U.S. EPA prior to resubmission of the RI/FS QAPP to discuss the contents of the RI/FS QAPP.

B. The Respondent shall prepare preliminary and final RD QAPPs for submittal to the U.S. EPA and the WDNR according to the schedule established by the RD SOW or as required by the U.S. EPA. The Respondent shall participate in a pre-QAPP meeting for the RD with the U.S. EPA prior to submission of the preliminary RD QAPP to discuss the contents of the RD QAPP.

C. The RI/FS and RD QAPPs shall be subject to review, approval, modification and approval, or disapproval by the U.S. EPA, in consultation with the WDNR, in accordance with Article IX (Plans and Reports).

D. The Respondent shall use quality assurance, quality control and chain of custody procedures in accordance with the "EPA NEIC Policies and Procedures Manual" (May 1978, revised 1984, EPA-330/9-78-001-R), the U.S. EPA "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans" (December, 1980, QAMS-005/80), the "Final Standard Quality

Assurance Project Plan Content Document" June 1989, and other applicable documents throughout all data collection activities.

E. The Respondent shall consult with the U.S. EPA Project Coordinator in planning for all sampling and analysis detailed in any revised RI/FS and the RD Work Plans. In order to provide quality assurance and maintain quality control with respect to all samples collected pursuant to this Consent Order, the Respondent shall:

1. Ensure that the U.S. EPA and WDNR personnel and/or authorized representatives are allowed access to any laboratories and personnel utilized by the Respondent for analyses;

2. Ensure that all sampling and analyses are performed according to the U.S. EPA methods or other methods deemed satisfactory by the U.S. EPA and include all protocols to be used for analyses in the Quality Assurance Project Plan; and,

3. Ensure that any laboratories utilized by the Respondent for analyses participate in a documented U.S. EPA Quality Assurance/Quality Control program equivalent to that followed by the U.S. EPA and consistent with U.S. EPA guidance (including document QAMS-005/80). As part of such a program, and upon request by the U.S. EPA, such laboratories shall perform analyses of samples provided by the U.S. EPA to demonstrate the quality of analytical data for each such laboratory.

F. The Respondent waives any objection to the validity of data generated during the performance or oversight of the work required by this Consent Order provided that such data have been

verified according to the Quality Assurance/Quality Control procedures contained in the approved QAPP. The Respondent reserves the right to split any samples taken by the U.S. EPA or its contractors and will be provided the right to present to U.S. EPA contrary or supplemental data, if the data has been verified according to the Quality Assurance/Quality Control procedures contained in the approved QAPP..

## XVII. TIMELINESS OF PERFORMANCE

A. The Respondent shall cause all work required under this Consent Order and Attachments, including Additional Work required pursuant to Article XI and any work required pursuant to a modification to this Consent Order under Article XXIX, to be performed within the time limits set forth in this Consent Order and Attachments or modifications or in a written approval or determination of Additional Work pursuant to Article XI. C, unless performance is delayed by a force majeure. For purposes of this Consent Order, a "force majeure" is an event entirely beyond the control of the Respondent. Neither increase in costs, Respondent's inability to pay costs, nor failure of a contractor to perform constitutes a force majeure.

B. The Respondent shall notify the U.S. EPA in writing no later that than forty-eight (48) hours after any event which may cause an exceedance of a deadline set forth in approved schedules pursuant to this Consent Order, whether or not the Respondent contends such event constitutes a force majeure. Such notification

shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken and to be taken by the Respondent to minimize the delay, and the timetable by which these measures will be implemented. If the Respondent contends that a force majeure caused the delay, the Respondent shall set forth the reasons for such contention in the notification. In any administrative or judicial proceeding concerning this Consent Order, the Respondent shall have the burden of demonstrating that a force majeure caused any delay in performance.

C. If the U.S. EPA determines that a delay in performance is attributable to a force majeure, U.S. EPA may, in writing, extend the time period for performance under this Consent Order for a time period not to exceed that attributable to the force majeure.

## XVIII. STIPULATED PENALTIES

A. The Respondent shall be liable for payment into the Hazardous Substances Superfund administered by the U.S. EPA of the sums set forth below as stipulated penalties for each week or part thereof that the Respondent fails to comply with the requirements contained in this Consent Order, and Attachments or modifications, unless U.S. EPA determines that such delay is attributable to a force majeure as defined in Article XVII (Timeliness of Performance) or otherwise waives the penalties. The deliverables, and the respective Stipulated Penalties which are due for failures to timely submit these deliverables, are set forth as below. For purposes of this paragraph, "timely submit" shall mean to submit

pursuant to the schedule set forth in this Consent Order and any attachments, unless an extension to the schedule has been granted in writing, by the U.S. EPA Project Coordinator; in such case, the deliverable shall be submitted on or before the written extension deadline.

| Deliverable | Penalty Per Week |
|---|---|
| Failure to submit a draft FS, draft Alternatives Array, draft FS documents, or any draft Work Plans for above-referenced documents by the deadlines specified in this Order and Attachments. | $2500/first week; $5000/second week, or partial week thereafter |
| Failure to submit approvable versions of any or all of the following documents by the deadlines specified in this Order and Attachments:<br>• final RI,<br>• final Alternatives Array,<br>• final FS,<br>• Pre-Design Report<br>• Preliminary Design<br>• Pre-Final Design<br>• Final Design<br>• final Work Plans for final RI, Alternatives Array, final FS or RD. | $2500/first week; $5000/second week, or partial week thereafter |
| Late submittal of Progress Reports, Proposed RI schedule, or RI/FS/RD-related submittals required under this Consent Order by U.S. EPA. | $1000/first week $2000/second week, or partial week thereafter |

Stipulated penalties shall begin to accrue on the day after performance is due or on the day that a violation occurs and extend through the period of correction. Such sums shall be due and payable within fifteen (15) days of receipt of notification from the U.S. EPA assessing the penalties. Payment shall be made in the manner described in Article XXIV below (Reimbursement of Costs).

B. The stipulated penalties set forth in paragraph A of this section shall not preclude the U.S. EPA from electing to pursue any other remedy or sanction because of the Respondent's failure to comply with any of the terms of this Consent Order, including a suit to enforce the terms of this Consent Order. Said stipulated penalties shall not preclude the U.S. EPA from seeking statutory penalties up to the amount authorized by law if Respondent fails to comply with any requirements of the Consent Order.

## XIX. DISPUTE RESOLUTION

A. The parties shall use their best efforts to resolve all disputes or difference of opinion arising with regard to this Consent Order informally and in good faith. The resolution of any dispute regarding this Consent Order must be in writing and signed by the U.S. EPA.

B. If a dispute arises concerning this Consent Order, which the parties are unable to resolve informally, the parties shall implement the following procedures:

1. If, after ten (10) days or some other time period agreed to in writing by the parties, informal negotiations have not resolved the dispute, U.S. EPA will notify Respondent that the informal negotiation period has ended and this Dispute Resolution process is invoked. Unless the Respondent submits its position setting forth the specific points of dispute, the position of the Respondent and the technical basis therefor, and any

actions which the Respondent considers necessary to resolve the dispute, within ten (10) of U.S. EPA's notification of the end of the period of informal negotiations, U.S. EPA's position will be binding on the Respondent;

2. Within ten (10) days of receipt of such a written notice, the U.S. EPA shall provide a written response to the Respondent setting forth its respective positions and the basis therefor. During the five (5) business days following receipt of the U.S. EPA response, the parties shall attempt to negotiate, in good faith, a resolution of their differences; and,

3. Following the expiration of the time periods described in Subparagraph 2 above, if the U.S. EPA concurs with the position of the Respondent, the U.S. EPA shall so notify the Respondent in writing and the parties shall modify this Consent Order pursuant to Article XXIX to include any necessary extensions of time or variances of work. If the U.S. EPA does not concur with the position of the Respondent, the Director of the Waste Management Division, U.S. EPA, Region 5 shall resolve the dispute, based upon and consistent with the terms and objectives of the Consent Order, and shall provide written notification of such resolution to the Respondent.

F. The pendency of dispute resolution set forth in this Article shall not affect the time period for completion of work and/or obligations to be performed under this Consent Order except that upon mutual agreement of the U.S. EPA and the Respondent, any time period may be extended not to exceed the actual time taken to resolve the dispute. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the RI/FS Work Plan.

G. Upon written resolution of any dispute, whether informally or using the procedures in this Article, any additions or modifications required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure and into this Consent Order. The Respondent shall proceed with all remaining work according to the modified plan or procedure and this Consent Order.

H. In any administrative or judicial proceeding concerning this Consent Order, the party disputing U.S. EPA's position shall have the burden of proving that U.S. EPA's position is arbitrary and capricious or inconsistent with this Consent Order. The provisions regarding dispute resolution contained in this Consent Order shall supersede any other dispute resolution provisions which are potentially applicable to either party, including any dispute resolution provisions contained in a Superfund Memorandum of Agreement between the State and the U.S. EPA.

## XX. COMMUNITY RELATIONS

The Respondent shall cooperate with the U.S. EPA in providing RI/FS and RD information to the public. To the extent requested by the U.S. EPA, the Respondent shall participate in the preparation of all appropriate information disseminated to the public and in public meetings which may be held or sponsored by the U.S. EPA to explain activities at or concerning the Facility, including the results of the RI/FS and the RD.

## XXI. RECORD PRESERVATION

The Respondent shall preserve, during the pendency of this Consent Order, and for a minimum of ten (10) years after termination of this Consent Order, all records and documents in the possession of the Respondent, or in the possession of any division, employees, agents, accountants, contractors, or attorneys of the Respondent, which relate to the selection of remedial action at the Facility, whether or not prepared pursuant to the Consent Order and despite any document retention policy to the contrary. After this ten year period, the Respondent shall notify the U.S. EPA and the WDNR in writing within sixty (60) days prior to destruction or disposal of any such documents. Upon request of the U.S. EPA or the WDNR, the Respondent shall make available to the Requestor all or any such records, or copies of all or any such records, subject to Paragraph C of Article XV of the Consent Order (Sampling and Data/Document Availability).

## XXII. WAIVER OF CLAIMS

A. The Respondent hereby waives any claims or demands for compensation or payment under existing Sections 106, 111 and 112 of CERCLA against the United States or the Hazardous Substances Superfund established by Section 9507 of Title 26 of the United States Code for or arising out of any activity performed or expenses incurred in performing the activities required by this Consent Order. The Respondent reserves the right to apply for compensation, as appropriate, under any future changes or amendments to the above-stated statutes.

B. This Consent Order does not constitute, and shall not be construed to constitute, approval or certification of response costs for purposes of Section 111(a) (2) of CERCLA.

## XXIII. RESERVATION OF RIGHTS

A. The U.S. EPA reserves all rights and defenses that it may have individually or collectively pursuant to any available legal authority, except as expressly waived herein.

B. Nothing herein shall waive the right of the U.S. EPA to enforce this Consent Order, or the right of U.S. EPA to take action pursuant to Sections 104, 106(a) and 107 of CERCLA or any other available legal authority. The U.S. EPA also reserves the right to take any enforcement action pursuant to CERCLA and/or any other available legal authority, including the right to seek injunctive relief, monetary penalties, and punitive damages. In addition, the U.S. EPA reserves the right to undertake any RI/FS work, and/or any

removal, remedial and/or response actions relating to the Facility, and to seek recovery from the Respondent for any and all costs incurred in undertaking such actions.

C. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of action or demands in law or equity which the parties may have against any person, firm, partnership or corporation not a party to this Consent Order for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release or disposal of any materials, hazardous substances, hazardous wastes, contaminants, or pollutants at, to, or from the Facility. The parties to this Consent Order expressly reserve all rights, claims, demands, and causes of action they may have against any and all other persons and entities who are not parties to this Consent Order, and as to each other for matters not covered hereby.

D. The U.S. EPA recognizes that the Respondent may have the right to seek contribution, indemnity and/or any other available remedy against any person not a party to this Consent Order found to be responsible or liable for contributions, indemnity or otherwise for any amounts which have been or will be expended by the Respondent in connection with the Facility.

E. Nothing herein shall be construed to release the Respondent from any liability for failure of the Respondent to perform the RI/FS and RD in accordance with this Consent Order and Attachments hereto and incorporated herein. The parties further expressly recognize that this Consent Order and the successful

completion and approval of the RI/FS and RD do not represent satisfaction, waiver, release, or covenant not to sue, of any claim of the United States against the Respondent relating to the Facility, including, but not limited to, claims to require Respondent to undertake further response actions, claims to seek reimbursement of response costs pursuant to Section 107 of CERCLA and claims for damages to natural resources under Section 107 of CERCLA, except that, upon receipt of written notice of satisfaction as provided in Article XXX (Termination and Satisfaction) of this Consent Order, Respondent shall have no further obligations under this Consent Order other than record preservation under Article XXI.

F. Nothing herein is intended to be a release or settlement of any claim for personal injury or property damage by any person not a party to this Consent Order against the Respondent.

G. Nothing herein shall waive the rights, if any, of the Respondent to apply for any and all applicable waivers under CERCLA Section 121 (d)(4), or any future waivers or limitations on liability that may be established by the U.S. Congress in statute, or the U.S. EPA in federal regulation.

## XXIV. REIMBURSEMENT OF COSTS

A. The U.S. EPA will provide the Respondent with a bill requiring payment of all Past Response Costs which includes a regionally computer-generated report known as an Itemized Cost Summary. Past Response Costs shall mean all costs, including, but

not limited to, all direct and indirect costs, incurred and paid by U.S. EPA with respect to the Facility prior to the effective date of this Consent Order. Within thirty (30) days of receipt of any such bill and Itemized Cost Summary, the Respondent shall pay to U.S. EPA the total sum of the Past Response Cost Summary billed.

B. At the end of each twelve (12) month period beginning with the effective date of the Consent Order, the U.S. EPA will provide the Respondent with a bill and Itemized Cost Summary for all Oversight Costs incurred and paid by U.S. EPA during such 12-month period. Upon a request from Respondent, U.S. EPA will provide copies of contractor progress reports for the billing period, provided that those reports are available and provided that U.S. EPA may determine that part or all of such reports are not releasable under 40 C.F.R. Part 2. Oversight Costs shall include all Response Costs incurred by U.S. EPA prior to the effective date of this Order, but paid after the effective date of this Order with regard to this site; and all costs including, but not limited to, direct and indirect costs, that U.S. EPA incurs in reviewing or developing plans, reports or other items pursuant to this Order, in having a qualified person oversee the conduct of this RI/FS and RD pursuant to Section 104(a) of CERCLA, and all other costs incurred by U.S. EPA in implementing, overseeing or enforcing this Order. Within sixty (60) days of receipt of any such bill and Itemized Cost Summary, the Respondent shall pay the total sum of Oversight Costs billed for such twelve month period. Failure of the U.S. EPA to submit any such bill for Payment of Costs within the period

specified shall not waive the Respondent's liability for any such oversight costs.

C. Payment to the U.S. EPA for response and oversight costs incurred by the U.S. EPA shall be made by check or money order payable to the order of the Hazardous Substances Superfund and shall reference the Facility name, as well as the following identification number; **TGB05F6AW**. Such payment shall be remitted to:

U.S. Environmental Protection Agency, Region V
Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

Copies of the transmittal letter and check for each payment to the U.S. EPA shall be provided at the time of such payment to the U.S. EPA Project Coordinator and to: U.S. EPA, Region V, Office of Regional Counsel, CS-3T, 77 W. Jackson Blvd., Chicago, IL 60604, attn: SWERB Branch Secretary.

D. Nothing in this Consent Order waives, or shall be construed to waive, the right of the United States to bring an action against the Respondent for recovery of any future costs incurred by the United States in connection with any response activities conducted or to be conducted at the Facility, other than those response activities completed pursuant to this Consent Order to the satisfaction and approval of the U.S. EPA, in consultation with the WDNR.

F. The Respondent agree to limit any disputes concerning costs to accounting errors and the inclusion of costs outside the scope of this Consent Order. The U.S. EPA agrees to substantially

comply with applicable federal government cost accounting and procurement requirements relevant to oversight work under CERCLA. The Respondent shall pay a sum equivalent to that of the disputed costs into an escrow account pending the resolution of the dispute. In any judicial or administrative proceedings concerning disputed costs, the Respondent shall bear the burden of establishing that costs assessed by the United States are attributable to an accounting error or include costs outside the scope of this Consent Order. Interest shall begin to accrue on the unpaid balance of disputed costs found to be payable on the day following the date the payment was originally due. Pursuant to 31 U.S.C. § 3717, interest shall accrue on any amounts overdue at a rate established by the Department of Treasury for any period after the date of billing.

## XXV. INDEMNIFICATION OF THE UNITED STATES

A. The Respondent agree to indemnify and save and hold the United States Government and its officers, agencies, departments, agents, and employees, harmless from any and all claims or causes of action arising from, or on account of, acts or omissions of the Respondent, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Consent Order.

B. The U.S. EPA is not a party to any contract involving the Respondent at the Facility.

## XXVI. NOTIFICATION OF OUT-OF-STATE SHIPMENTS

As soon as possible after the identification of any location outside the State in which the Facility is located and to which a shipment of hazardous substances of greater than ten (10) cubic yards from the Facility is expected to be made and, in all cases, prior to any such shipment, the Respondent shall provide written notification of such shipment to the appropriate environmental official of the State receiving the substances and to the U.S. EPA Project Coordinator. The notification shall include, at a minimum: 1) the name and location of the facility to which the hazardous substances are being shipped; 2) the type and quantity of the hazardous substances being shipped, including the Department of Transportation shipping code, if any; 3) the schedule for shipment of the hazardous substances; 4) the method of transportation; and 5) any other relevant information, including any special procedures necessary to respond to an accidental release of the substances during transportation. The Respondent shall promptly notify the official of the receiving State and the U.S. EPA and the WDNR in writing of any changes to the shipment plan.

## XXVII. FINANCIAL ASSURANCE AND LIABILITY INSURANCE

A. The Respondent shall establish and maintain a financial instrument or trust account or other financial mechanism acceptable to the U.S. EPA and funded sufficiently to perform the work and any other obligations required under this Consent Order, including a margin for cost overruns.

B. Within thirty (30) days after the effective date of this Consent Order, the Respondent shall fund the financial instrument, trust account, or Municipal account (e.g., Construction Account) sufficiently to perform the work and other obligations required under this Consent Order and other activities to be funded by the Respondents from the financial instrument, or trust account, or Construction Account projected for the period ending on the last day of the calendar-year quarter in which falls the date six months after the effective date of this Consent Order. Within thirty days after the effective date of this Consent Order, Respondent shall furnish U.S. EPA a schedule of all expected disbursements, receipts, and the fund balance from the financial instrument, trust account, or Construction Account for the six-month period following the Order's effective date. Within forty-five (45) days after the end of this six month period, Respondent shall provide U.S. EPA an accounting of all actual disbursements, receipts, and the resulting fund balance from the financial instrument, trust account, or Construction Account during the six months subsequent to the effective date of this Consent Order.

C. On or before the fifteenth (15th) day of each calendar-year quarter beginning with and including the calendar-year quarter in which falls the date six months after the effective date of this Consent Order, the Respondent shall fund the financial instrument, Construction Account, or trust account sufficiently to perform the work and other obligations required under this Consent Order and other activities to be funded by the Respondent from the financial

instrument, trust account, or Construction Account projected for the succeeding calendar-year quarter. At the same time as Respondent funds the financial instrument, trust account, or Construction Account each quarter, Respondent shall furnish to U.S. EPA a schedule of all expected disbursements from the financial instrument, trust account, or Construction Account for the quarter for which the payment is made. Within forty-five (45) days after the end of each quarter, Respondent shall provide U.S. EPA an accounting of all actual disbursements, receipts, and the resulting fund balance from the financial instrument, trust account, or Construction Account during the prior quarter.

D. If at any time the net worth of the financial instrument, trust account or Construction Account is insufficient to cover the costs of performing the work and other obligations under this Consent Order and other activities to be funded by the Respondent from this account for the succeeding quarter, the Respondent shall provide written notice to the U.S. EPA within seven (7) days after such time, explaining why the funding is insufficient and how the Respondent will restore adequate funding.

E. Prior to the commencement of any work under this Consent Order, the Respondent shall ensure that to its best abilities the contractor or subcontractor performing such work maintains Comprehensive General Liability insurance in the amount of at least $1 million dollars per occurrence with an annual aggregate of at least $4 million or Respondent shall provide equivalent coverage for its contractors or subcontractors. At least seven (7) days

prior to the commencement of any work under this Consent Order, the Respondent shall certify to the U.S. EPA that the required insurance has been obtained by the contractor or subcontractor performing that work. The Respondent shall provide the U.S. EPA with current copies of each insurance policy throughout the duration of the work performed under this Consent Order.

## XXVIII. EFFECTIVE DATE OF CONSENT ORDER

This Consent Order shall become effective upon the date of signature by the Director of the Waste Management Division, U.S. EPA, Region V.

## XXIX. MODIFICATION OF CONSENT ORDER

In addition to the procedures set forth in Articles XI (Additional Work), XIV (Project Coordinators), XVII (Timeliness of Performance), and XIX (Dispute Resolution) of this Consent Order, this Consent Order may be modified by mutual agreement of the U.S. EPA and the Respondent. Any modification of this Consent Order shall be in writing, signed by the U.S. EPA, and shall have as the effective date that date on which such amendment is signed by the U.S. EPA.

## XXX. TERMINATION AND SATISFACTION

A. The provisions of this Consent Order shall be deemed satisfied upon receipt by the Respondent of written notice from the U.S. EPA that the Respondent has demonstrated that all of the terms

of this Consent Order, including any additional work, modifications or amendments but excluding record preservation pursuant to Article XXI, have been completed in accordance with the terms hereof to the satisfaction of the U.S. EPA.

## XXXI. PRECEDENCE OF CONSENT ORDER

A. In the event that a conflict arises among the terms and conditions of this Consent Order and those of the Statement of Work, the Approved RI Work Plan and/or the approved FS Work Plan, this Consent Order shall govern and the terms and conditions hereunder shall determine the parties' rights and responsibilities.

B. In any proceedings other than those to enforce the terms of this Consent Order, nothing contained herein shall be construed as an admission of liability, either of law or of fact.

IT IS SO AGREED:

BY: Lawrence B Polkowski — 9-10-92
Madison Metropolitan Sewerage District — Date
Lawrence B. Polkowski
President, MMSD Commission

ATTEST: Thomas D. Hull — 9-10-92
Date

BY: Wm E Muno — 9/24/92
William Muno, Acting Director — Date
U.S. EPA, Region V

Waste Management Division

# ATTACHMENT I

## Statement of Work

## for

## Remedial Investigation
## and
## Feasibility Study

## at the

## Madison Metropolitan Sewer District Lagoons Site

MADISON METROPOLITAN
SEWERAGE DISTRICT LAGOONS SITE

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# STATEMENT OF WORK FOR CONDUCTING A REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AT THE MADISON METROPOLITAN SEWER DISTRICT LAGOONS SITE Blooming Grove, Wisconsin

## I.

## INTRODUCTION

### A. Purpose of this Statement of Work

This document is the Statement of Work (SOW) for the Respondent of the Consent Order [the Madison Metropolitan Sewerage District (MMSD)], at the Madison Metropolitan Sewer District Lagoons NPL Site (Site) located in Dane County, Wisconsin. This SOW obligates MMSD to continue to conduct the Remedial Investigation (RI) and Feasibility Study (FS) for the Site. MMSD has been conducting the Remedial Investigation (RI) and Feasibility Study (FS) independently, and in this connection, has developed Work Plans and a draft RI and is currently developing the FS. These documents are currently being reviewed by U.S. EPA. The purpose of this SOW is to provide the framework upon which U.S. EPA will review and provide comments and approve or disapprove MMSD's RI and FS and other related documents.

The documents which MMSD has developed to date and submitted to U.S. EPA are as follows:

1. Work Plan, Remedial Investigation/Feasibility Study Lagoons Site, Madison Metropolitan Sewerage District, Madison, Wisconsin, December 1990.

2. Sampling and Analysis Plan, Volume I, Quality Assurance Project Plan, Remedial Investigation/Feasibility Study, Sludge Lagoons Site, Madison Metropolitan Sewerage District, Madison, Wisconsin, December 1990.

3. Sampling and Analysis Plan, Volume II, Field Sampling Plan Remedial Investigation/Feasibility Study, Sludge Lagoons Site, Madison Metropolitan Sewerage District, Madison, Wisconsin, December 1990.

4. Health and Safety Plan, Remedial Investigation/ Feasibility Study, Sludge Lagoons Site, Madison Metropolitan Sewerage District, Madison, Wisconsin, December 1990.

5. Addendum to the Work Plan, Remedial Investigation/ Feasibility Study, Sludge Lagoons Site, Madison

Metropolitan Sewerage District, Madison, Wisconsin, April 1991.

6. Draft Remedial Investigation Report and Appendices, Sludge Lagoons Site, Madison Metropolitan Sewerage District, Madison, Wisconsin, January 1992.

7. Draft Baseline Risk Assessment, Human Health Evaluation and Ecological Assessment, Sludge Lagoons Site, Madison Metropolitan Sewerage District, Madison, Wisconsin, February 1992.

8. Lagoon-Wetlands Assessment and Evaluation of Wildlife Support Functions as Part of the Madison Metropolitan Sewerage District 201 Facilities Plan Update, Zimmerman and Kailing, March 1991.

9. The MMSD Sludge Lagoons as Bird Habitat with Special Emphasis on Shorebirds, Waterfowl, and Marchs Birds, E. Hollister, April 1991.

10. Community Relations Program: Madison Metropolitan Sewerage District Storage Lagoons, Madison Metropolitan Sewerage District, April 1992.

NOTE: The correct name for this Site is the Madison Metropolitan Sewerage District Lagoons Site, instead of the "Sludge Lagoons Site" in the titles of the above documents.

B. Purpose of the RI and FS

The purpose of the RI is to investigate the Site's physical characteristics, identify the sources of contamination, and determine the nature and extent of contamination, characterize migration pathways, and identify Site specific data requirements associated with applicable remedial technology at the Site. The purpose of the FS is to develop and evaluate remedial action alternatives based on the RI data and report. All personnel, materials, and services required to perform the RI/FS will be provided by the MMSD.

C. Task Grouping

The tasks described herein are grouped into the following three categories:

1. Plans and Management,
2. Remedial Investigation (RI), and
3. Feasibility Study (FS).

D. U.S. EPA's Review and Approval of Documents

The RI, previously submitted by MMSD (item A.6 in Section I above), will be reviewed and commented on by U.S. EPA consistent with Sections VIII and IX of this Consent Order. To the extent that U.S. EPA requires revisions and/or supplemental work for the RI, U.S. EPA may review and require revisions to Work Plans previously submitted by MMSD, as listed in Section I.A of this SOW. U.S. EPA's approval of the RI does not constitute or imply approval or disapproval of any previously submitted documents, as listed in Section I.A, including all Work Plans. After U.S. EPA has fully reviewed the RI (item A.6 of Section I above), U.S. EPA will notify MMSD of U.S. EPA's required revisions, or approval or disapproval of the RI. If U.S. EPA provides comments to MMSD, MMSD will revise documents consistent with Sections VIII and IX of this Consent Order. U.S. EPA retains the authority to modify all documents submitted pursuant to the Sections VIII and IX of the this Consent Order and the corresponding Sections of this SOW.

U.S. EPA will modify, supplement or replace MMSD's Risk Assessment (item A.7 of Section I above). Upon U.S. EPA's completion of its Risk Assessment, U.S. EPA will provide this document to MMSD for MMSD's consideration in its developing the FS.

Work Plans (items A.1, A.2, A.3,, A.4, A.5 listed in Section I above) will not be approved or disapproved by U.S. EPA if the RI provides sufficient data for Site characterization, for U.S. EPA's development of the Risk Assessment, and for developing and evaluating remedial action alternatives during the FS. If additional field activities and/or sampling and analysis are required, however, U.S. EPA will provide MMSD comments on Work Plans. MMSD will revise Work Plans, or portions thereof, as required by U.S. EPA comments consistent with Sections VIII and IX of this Consent Order. MMSD shall not begin additional field or laboratory activities related to the RI/FS under this Consent Order until U.S. EPA has approved Work Plans which correspond to additional RI/FS activities. This prohibition does not apply to field or laboratory activities that are undertaken for the MMSD Metrogro sludge management program or such activities as consistent with approved Facilities Plans for the Nine Springs Wastewater Treatment Plant.

Brief discussions of the major RI/FS tasks are presented, by major topical categories, in the following sections. U.S. EPA comments and approval or disapproval of MMSD's preexisting and future documents will be based, in part, on the criteria described below.

# II.

# PLANS AND MANAGEMENT

## TASK 1 - PROJECT PLANNING

### SUBTASK 1A - INVESTIGATIVE SUPPORT AND DESCRIPTION OF PREVIOUS AND CURRENT SITUATION

#### 1. Information and Data Gathering

a. Site Mapping

The Respondents should prepare an accurate topographic map of appropriate working scale. A base map of the Site with a scale of 1 inch to 200 feet (1" = 200') and 10-foot contour intervals should be prepared from this topographic map. The base map should illustrate the locations of wetland areas, floodplains, water features, drainage patterns, tanks, buildings, utilities, paved areas, easements, right-of-ways, known or suspected sites of environmental contamination that exist in the geographical area, and other pertinent features. Larger scale maps should be produced from the base map as necessary.

In addition to the topographic map, a monitoring well, soil sampling, sediment and surface water sampling, and any other required maps should be prepared using the base map and reference system established by MMSD. This grid plan should show sampling locations and the locations of water supply wells. Existing monitoring wells on-Site should be tied to the base map and reference system. These maps require surveying to establish horizontal and vertical controls for sites of the work relative to the National Geodetic Vertical Datum of 1929.

The Respondents should review and verify in the field the legal description of the property. Bench marks around the periphery of the site should be set in place and maintained.

b. Metes and Bounds

The Respondents should assemble a metes and bounds description of the Site from records and results of the Site survey. If U.S. EPA subsequently determines a legal description of the Site from existing county and township records is required, MMSD will assemble and submit this information to the U.S. EPA.

c. Access Arrangements

The Respondents should make the necessary arrangements to guarantee access to the Site and surrounding parcels. These arrangements should include MMSD's use of "best efforts" to obtain access, as described in Section XIII of the Consent Order. MMSD shall also negotiate access agreements with landowners and obtaining demarcation clearance for all buried utilities and construction of access roads. If MMSD is unable to obtain access despite its use of "best efforts", it should immediately notify U.S. EPA's Project Coordinator.

d. Preparation of Support Facilities

If required by U.S. EPA, the Respondent should initiate and implement the necessary arrangements to construct support facilities and/or procure the equipment necessary to performing a hazardous site investigation. This includes preparation of decontamination facilities, utility hook-ups, and Site access control stations.

e. Description of Current Situation

U.S. EPA may require MMSD's gathering of additional background information pertinent to the Site and its environmental concerns, if after U.S. EPA's review of documents already developed by MMSD, U.S. EPA determines that these documents do not provide sufficient information necessary for U.S. EPA approval.

Regional information should be obtained from available USGS and State of Wisconsin reports. The existing Site information to be reviewed should include but not necessarily be limited to:

- State of Wisconsin Geological or other relevant files, surveys or reports.
- Dane County Soil Conservation Service reports.
- Dane County Health Department files.
- Aerial photographs.
- Historical water quality data.
- U.S. Geological Survey files.
- Disposal records (if available).

f. Proposed Regulations

The Respondent should review proposed rules published in the February 6, 1989 Federal Register ((54 FR 5746) intended to establish comprehensive standards for the disposal of sewage sludge. These regulations have not, as of yet, been published in final form. These final rules are expected to substantially modify the proposed rules. These rules identify toxic pollutants in sewage sludge that may adversely affect public health or the environment and specify management practices and numerical limits for each of the pollutants.

**2. Preliminary Site Evaluation**

Information and data additional to that presented in MMSD's RI may be required. Additional data requirements will be determined by U.S. EPA after its review of existing MMSD Work Plans, draft RI and other reports. U.S. EPA's review will include consideration of whether the RI addresses the following information requirements:

a. A complete history of waste disposal activities and ownership transfer at the Site.

b. A description of pertinent Site features and boundary conditions, general Site physiography, hydrology, and geology.

c. A summary of known or potential on-Site and off-Site health and environmental effects based on existing information. Threats or potential threats to public health and the environment should be emphasized.

d. The history of response actions that includes a summary of response actions conducted by local, state, or private parties.

e. A definition of Site boundary conditions to identify the areas of investigation. The boundaries should be set so that the on-Site activities cover the contaminated media in sufficient detail to support the FS. Boundaries for Site access control and Site security should also be identified. The boundaries of the study area may or may not correspond to the property boundaries.

f. Identification of potential receptors, both human and environmental. For a potentially exposed population, information should be collected on population size and location. Census and other survey data may be used to identify and describe the population potentially exposed,

in addition to information from USGS maps, land use plans, zoning maps and regional planning authorities. Also included should be the identification of private and public water supply wells within a two mile radius of the Site. If possible, obtain the well construction details for these wells and other private water supply wells that may have been previously sampled and prepare a table summarizing the known construction details to submit with the original drilling logs.

g. Development of a Site conceptual model using information on the waste sources, pathways and receptors at the Site. The conceptual Site model should include all known and suspected sources of contamination, types of contaminants and affected media, known and potential routes of migrations, and known or potential human and environmental receptors. If data are unavailable for components of the model, the likely variability in the component should be identified so that the model identifies the possible range of contaminant migration and the potential effects on receptors. The Site conceptual model, in addition to assisting in identifying where samples need to be taken, should also assist in identifying appropriate remedial technologies. All subsequent Site investigation activities should refine and validate this model.

The preliminary Site evaluation should be used as a basis for and also be included in the Work Plan.

**SUBTASK 1B - RI/FS WORK PLAN PREPARATION**

The RI/FS Work Plan will be reviewed by U.S. EPA to determine if it conforms with all provisions of the Consent Order, this SOW, and the standards set forth in the following statutes, regulations, and guidance:

- CERCLA, as amended by SARA, especially Section 121,
- U.S. EPA "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," Interim Final, dated October 1988,
- The National Contingency Plan, 40 CFR Part 300, as amended,
- U.S. EPA "CERCLA Compliance with Other Laws Manual," Parts I and II, August 1988 and 1989, and,

- Any additional guidance documents provided by the U.S. EPA.

If U.S. EPA reviews RI Work Plans and associated documents, listed in Section I.A, it will consider the following Work Plan criteria:

**1. Field Sampling Plan**

A Sampling Plan should address all data acquisition activities. The plan should contain a statement of sampling objectives and equipment specifications, required analyses, sample types, and sample locations and frequency. The plans should address specific hydrologic, hydrogeologic, and air transport characterization methods including, but not limited to, geologic mapping, geophysics, field screening, drilling and well installation, flow determination, and sampling.

In addition, the plan should identify the data requirements of specific remedial technologies that may be necessary to evaluate remedial alternatives in the FS. It should include an evaluation explaining what additional data are required to adequately characterize the Site, evaluate the no-action alternative, and support the feasibility study. It should provide a schedule stating when events will take place and when deliverables will be ready.

**2. Quality Assurance Project Plan**

A Quality Assurance Project Plan (QAPP), prepared in accordance with current U.S. EPA guidance, should describe the project and project personnel organization and responsibilities. It should include quality assurance objectives for data (precision, accuracy, completeness, representativeness, comparability, and intended use) and specify sampling procedures, locations, parameters, number of samples, and sample custody.

The QAPP should specify the type and frequency of calibration procedures for field and laboratory instruments; the analytical procedures used; the procedures for data reduction, validation and reporting; the type and frequency of internal quality control checks; the type and frequency of quality assurance performance audits and system audits; the preventive maintenance procedures and schedule; specific procedures to assess data precision, representativeness, comparability, accuracy, and completeness of specific measurement parameters, and corrective action procedures for field and laboratory instruments.

The QAPP should also describe how the data are documented and tracked, including documentation materials and procedures, and

financial reporting procedures. If the QAPP is required by U.S. EPA to be revised, a pre-QAPP meeting will be held to review and discuss the details needed in the revised QAPP.

**3. Health and Safety Plan**

A Health and Safety Plan to protect the health of personnel involved in Site activities and the surrounding community, should be based on Site conditions and be consistent with the following regulations and guidance:

- 20 CFR 1910.120 (i) (2) - Occupational Health and Safety Administration: Hazardous Waste Operations and Emergency Response, Interim Rule, December 19, 1986.
- U.S. EPA Order 1440.2 - Health and Safety Requirements for Employees Engaged in Field Activities.
- U.S. EPA O 1440.3 - Respiratory Protection.
- U.S. EPA Occupational Health and Safety Manual.
- U.S. EPA Interim Standard Operating Procedures (September, 1982).

The Health and Safety Plan should provide information on provisions to protect Site visitors, personnel responsibilities, protective equipment, procedures, protocols, decontamination methods, and medical surveillance, routes and maps to local hospitals and phone numbers of emergency personnel.

**4. Data Management Plan**

A Data Management Plan should be developed to document and track investigative data and results. The plan should identify and establish laboratory and data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents.

**5.. Baseline Risk Assessment**

The Baseline Risk Assessment, which includes an evaluation of the risks to human health and the risks to the environment, has been performed by MMSD and submitted to U.S. EPA (Item 7 of Section I.A of this SOW). However, U.S. EPA will conduct its own Risk Assessment to more fully evaluate human health and environmental risks. The RI should provide adequate information to support this assessment. U.S. EPA will develop

the Baseline Risk Assessment in accordance with U.S. EPA's "Interim Final Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual" (Part A) and U.S. EPA's "Interim Final Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual," as well as the NCP, RI/FS Guidance, and any other appropriate guidance and data bases.

# III.

## SCOPE AND OBJECTIVES OF THE REMEDIAL INVESTIGATION

The objectives of the RI are to:

- Characterize contamination present at the Site;
- Characterize the source(s) of potential contamination;
- Characterize the hydrogeologic and physical setting, and evaluate the most likely contaminant migration pathways and physical features that could affect potential remedial actions;
- Determine the migration rates, extent, and characteristics of any contamination that may be present at the Site;
- Gather data and information to the extent necessary and sufficient to quantify the risk to public health and the environment; and
- Support the development and evaluation of viable remedial alternatives in the FS.

The scope of the Remedial investigation consists of six tasks:

Task 2: Field Investigations

Task 3: Sample Analysis/Validation

Task 4: Data Evaluation

Task 5: Bench/Pilot Testing Studies

Task 6: Reports

Task 7: Community Relations Support

Each of these tasks is described Section IV.

# IV.

## REMEDIAL INVESTIGATION AND FEASIBILITY STUDY TASKS

### TASK 2 - FIELD INVESTIGATIONS

U.S. EPA will review the RI submitted by MMSD, based on the RI's ability to characterize the Site and its actual or potential hazard to public health and the environment. The investigations already undertaken by MMSD or additional investigations required by U.S. EPA must result in data of adequate technical content to support the development and evaluation of remedial alternatives during the FS. Investigation activities should focus on problem definition and data to support the screening of remedial technologies, alternative development and screening, and detailed evaluation of alternatives.

The field investigation activities should follow the Plans set forth in Task 1. All sample analyses should be conducted at laboratories following U.S. EPA protocols or their equivalents. Strict chain of custody procedures should be followed, and all samples should be located on the Site map (and grid system) established under Task 1. A description of the types of investigations that should be conducted is presented below.

#### SUBTASK 2A - WASTE CHARACTERIZATION

Determine the location, type and quantities as well as the physical or chemical characteristics of any waste remaining at the Site. If hazardous substances are held in containment vessels, the integrity of the containment structure and the characteristics of the contents should be determined.

#### SUBTASK 2B - HYDROGEOLOGIC INVESTIGATION

Evaluate the subsurface geology and characteristics of the water bearing formations, as well as determine the presence and potential extent of groundwater contamination. Efforts should begin with a survey of previous hydrogeologic studies and other existing data. The survey should address the soil's retention capacity/mechanisms, discharge/recharge areas, regional flow directions and quality, and the likely effects of any alternatives that are developed involving the pumping and disruption of groundwater flow. Results from the sampling program should estimate the horizontal and vertical distribution of contaminants, the contaminants' mobility and predict the long-term disposition of contaminants.

#### SUBTASK 2C - SOILS AND SEDIMENTS INVESTIGATION

Determine the vertical and horizontal extent of contamination of surface and subsurface soils and sediments and identify any

uncertainties with this analysis. Information on local background levels, degree of hazard, location of samples, techniques used, and methods of analysis should be included. If initial efforts indicate that buried waste may be present, the probable locations and quantities of these subsurface wastes should be identified through the use of appropriate geophysical methods.

**SUBTASK 2D - SURFACE WATER INVESTIGATION**

Estimate the extent and effect of any contamination in nearby surface waters and wetlands areas. This effort should include an evaluation of the point of discharge to these surface waters, possible future discharges and the degree of contaminant dilution expected. Drainage patterns and runoff characteristics should also be evaluated for potential erosional transport, and any floodplains and wetlands areas should be defined.

**SUBTASK 2E - AIR INVESTIGATION**

Investigate the extent of atmospheric contamination from those contaminants found to be present at the Site. This effort should assess the potential of the contaminants to enter the atmosphere, local wind patterns, and the anticipated fate of airborne contaminants.

**SUBTASK 2F - ECOLOGICAL INVESTIGATION**

Biological and ecological information should be collected for use in the Baseline Risk Assessment. The information should include a general identification of flora and fauna in and around the Site (including endangered and threatened species and those consumed by humans or found in human food chains) and identification of critical habitats. It is anticipated that this information should be derived from a combination of existing information and data resulting from the field investigations.

Provisions should be made for conducting additional Site investigation activities as necessary. These supplemental investigations are intended to further characterize the sources, pathways, and/or contaminants and to satisfy the specific data requirements of the Baseline Risk Assessment and the applicable remedial actions. The Work Plans and supplemental plans will be modified and revised during the RI/FS process to incorporate new information and refined project objectives.

**TASK 3 - SAMPLE ANALYSIS/VALIDATION**

An analysis of all data collected during this investigation should be made to assure that the quality (e.g., QA/QC procedures have been followed) and quantity of data adequately support the Baseline Risk Assessment, FS, and provide sufficient information for the

U.S. EPA to conduct the Baseline Risk Assessment. Collected data should be validated at the appropriate field or laboratory QC level to determine whether it is appropriate for its intended use.

**TASK 4 - DATA EVALUATION**

All Site investigation data should be evaluated and presented in an organized and logical manner so that the relationships between Site investigation results for each medium are apparent. A summary should be prepared that describes (1) the quantities and concentrations of specific chemicals at the Site and the naturally occurring levels of these chemicals surrounding the Site; (2) the number, locations, and types of nearby populations and activities; and (3) the potential transport mechanism and the expected distribution, accumulation and effects of the contaminant to the environment and ecosystem. This summary should be utilized in the Baseline Risk Assessment.

**TASK 5 - BENCH/PILOT STUDIES**

Bench and pilot scale studies should be performed as necessary to determine the applicability of selected remedial technologies to Site specific conditions. These may include treatability and cover studies, aquifer testing, and/or material compatibility testing. These studies should be conducted in the later stages of the RI after the initial screening of remedial technologies and actions.

**TASK 6 - REPORTS**

**SUBTASK 6A - PROGRESS REPORTS**

Monthly progress reports shall be prepared to describe the technical progress of the RI/FS. These reports shall be submitted to the U.S. EPA by the tenth business day of each month. The monthly progress reports will include the following information:

- All sampling and testing results, raw data and QA/QC information (if available) produced during the month pursuant to the implementation of the Consent Order;
- Copies of all daily field notes taken during the reporting period;
- A description of activities completed during the past month pursuant to the Consent Order, as well as such actions and plans that are scheduled for the next month pursuant to the Consent Order;
- A description of difficulties encountered during the reporting period and the actions taken to rectify the problems;

- Target and actual completion dates for each element of activity, including the project completion; percentage of work completed, and an explanation of any deviation from the schedules provided in the RI/FS Work Plan;

- Changes in key personnel which have occurred during the reporting period; and

- Summaries of conferences calls and meetings held during the reporting period between the MMSD and U.S. EPA, in order to ensure that mutual agreement and understanding has been reached on all issues discussed concerning the project.

**SUBTASK 6B - REMEDIAL INVESTIGATION REPORT**

The RI report should characterize the Site and summarize the data collected and the conclusions drawn from investigative Tasks 2 through 4. Prior to the effective date of this Consent Order and SOW, a draft RI had been prepared and submitted to the U.S. EPA and Wisconsin Department of Natural Resources (WDNR) for review and comment. Upon MMSD's receipt of comments, a revised RI shall be prepared and submitted to U.S. EPA and WDNR, incorporating U.S. EPA's comments.

**TASK 7 - COMMUNITY RELATIONS SUPPORT**

A community relations program will be implemented by the U.S. EPA. The responsible parties will cooperate with the U.S. EPA in providing preexisting information on MMSD's extensive current and previous Community Relations efforts to the U.S. EPA. It will also cooperate with the U.S. EPA in providing RI/FS information to the public. MMSD will, at the request of the U.S. EPA, participate in the preparation of information distributed to the public, such as fact sheets, and in public meetings that may be held or sponsored by the U.S. EPA to describe activities at, or concerning, the Site, including the findings of the RI/FS.

Community relations support will be consistent with Superfund community relations policy as stated in the "Guidance for Implementing the Superfund Program" and Community Relations in Superfund - A Handbook.

V.

## SCOPE, OBJECTIVES AND TASKS OF THE FEASIBILITY STUDY

The purpose of the FS for the Site is to develop alternative remedial actions, based upon the results of the RI, that will mitigate impacts to public health and welfare and the environment.

The FS will conform to CERCLA as amended, the NCP as amended, the RI/FS Guidance as amended, and U.S. EPA policy. The FS is primarily comprised of the four tasks:

Task 8: Remedial Alternatives Development and Screening
Task 9: Detailed Analysis of Alternatives
Task 10: Feasibility Study Report
Task 11: Additional Requirements

The intent and purpose of each of these tasks is outlined in the following sections; the technical approach and schedule is detailed in the RI/FS Work Plan (Task 1). Tasks 1 to 5, described in Section IV above, may also be conducted during the FS if data supplemental to the RI is required by U.S. EPA. Tasks 6.A., 6.B., and Task 7 will also continue through completion of the FS and Record of Decision.

### TASK 8 - REMEDIAL ALTERNATIVES DEVELOPMENT AND SCREENING

This task constitutes the first stage of the FS and is comprised of five interrelated subtasks. The goal is to develop and evaluate remedial alternatives for additional screening and evaluation. The Baseline Risk Assessment results will be considered throughout the evaluation process.

#### SUBTASK 8A - PRELIMINARY REMEDIAL TECHNOLOGIES

MMSD shall develop a master list of potentially feasible technologies that includes both on-Site and off-Site remedies. The master list will be screened according to Site conditions, waste characteristics, and technical requirements, in order to eliminate or modify those technologies that may prove extremely difficult to implement, require unreasonable time periods, or rely on insufficiently developed technology. MMSD will also consider emerging technologies being evaluated through the U.S. EPA's SITE Program if that information is available. The results of this task will be summarized in a Technical Memorandum that will be submitted to the U.S. EPA and the WDNR.

## SUBTASK 8B - DEVELOPMENT OF ALTERNATIVES

### 1. Developing Remedial Response Objectives

Develop Site-specific objectives based on public health and environmental concerns for the Site, the description of the current situation, information gathered during the RI, Section 300.430(e) of the National Contingency Plan (NCP), U.S. EPA's interim guidance, and the requirements of any other applicable U.S. EPA, Federal, and State environmental standards, guidance and advisories as defined under Section 121 of CERCLA. Preliminary cleanup objectives will be developed under formal consultation with the U.S. EPA and the WDNR.

### 2. Assembling Alternatives for Remedial Actions

Develop a comprehensive, Site-specific approach for Remedial Action by assembling combinations of identified technologies that include the following:

a. Treatment alternatives for source control that eliminate the need for long-term management (including monitoring).

b. Alternatives involving treatment as a principal element to reduce the toxicity, mobility, or volume of waste.

c. An innovative technology(ies) if that technology offers the potential for comparable or superior performance or implementability, fewer or lesser adverse impacts than other available approaches, or lower costs for similar levels of performance than demonstrated treatment technologies.

Develop at least two additional alternatives that include the following:

d. An alternative that involves containment of waste with little or no treatment that may protect human health and the environment primarily by preventing exposure to, or reducing the mobility of, the waste.

e. A no action alternative.

For all response actions, a limited number of remedial alternatives shall be developed that attain Site-specific remediation levels utilizing one or more different technologies. The targeted remediation level is the risk from $10^{-4}$ to $10^{-6}$ for excess upper bound lifetime cancer risk and for

the non-carcinogenic risk range represented by a hazard quotient of 1. If feasible, one alternative that would restore groundwater quality to a $10^{-6}$ risk for maximum lifetime risk level within five years will be configured.

The remedial action alternatives developed for the Site may involve both source control and groundwater response actions. In these instances, the two elements may be formulated together so that the comprehensive remedial action is effective and the elements complimentary. Because each element has different requirements, each will be detailed separately in the development and analyses of alternatives.

**SUBTASK 8C - INITIAL SCREENING OF ALTERNATIVES**

**1. Initial Screening Considerations**

The alternatives developed under Subtask 8B will be subjected to an initial screening to narrow the list of potential remedial actions for detailed analyses; the rationale for eliminating alternatives will be included. Initial screening considerations include:

a. Effectiveness

The degree to which the alternative protects human health and the environment; attains Federal and State ARARs or other applicable criteria, advisories, or guidance; significantly and permanently reduces the toxicity, mobility, or volume of the hazardous constituents and is technically reliable and effective in other respects. Reliability considerations include the potential for failure and the need to replace the remedy.

b. Implementability

The degree to which the alternatives is technically feasible and employs available technologies; the technical and institutional ability to monitor, maintain, and replace the technology over time, and the administrative feasibility of implementing the alternative.

c. Cost

An evaluation of construction and long-term costs to operate and maintain the alternative based on conceptual costing information. At this stage of the FS, cost will be used as a factor when comparing alternatives that provide similar results, but not when comparing treatment

and non-treatment alternatives. Cost will, however, be a factor in the final remedial selection process, however as described in Task 9.

**2. Intent of Alternatives Screening**

The initial screening of alternatives incorporating treatment will be conducted with the intent of preserving the most promising alternatives as determined by their likely effectiveness and implementability. The screening will result in a range of alternatives remaining for further analyses as described previously in Subtask 8B(2).

Innovative alternative technologies will be carried through the screening if there is a reasonable belief they offer either the potential for better treatment performance or implementability, fewer or less adverse impacts than other available approaches, or lower costs for similar performance than the demonstrated technologies.

The containment and no-action alternatives will be carried through the screening process to the detailed analyses.

**SUBTASK 8D - REMEDIAL ALTERNATIVES ARRAY DOCUMENT**

To obtain ARARs from the U.S. EPA and WDNR, a detailed description of alternatives (including the extent of remediation, contaminant levels to be addressed, and method of treatment) will be prepared. This document will also include a brief Site history and background, a Site characterization that indicates the contaminants of concern, migration pathways, receptors, and other pertinent Site information. A copy of this Alternatives Array Document will be submitted to the U.S. EPA and the WDNR as soon as it is developed along with a request for notification of the standards.

**SUBTASK 8E - DATA REQUIREMENTS**

Data requirements specific to the relevant and applicable technologies shall be identified. These requirements will focus on providing data needed for the detailed evaluation and development of a preferred alternative.

**TASK 9 - DETAILED ANALYSIS OF ALTERNATIVES**

MMSD will conduct a detailed analysis of alternatives which will consist of an individual analysis of each alternative against a set of evaluation criteria and a comparative analysis of all options against the evaluation criteria with respect to one another.

The evaluation criteria are as follows:

Overall Protection of Human Health and the Environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with ARARs addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes and/or provide grounds for invoking a waiver.

Long-Term Effectiveness and Permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals have been met.

Reduction of Toxicity, Mobility, or Volume Through Treatment is the anticipated performance of the treatment technologies a remedy may employ.

Short-Term Effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

Cost includes estimated capital and operation and maintenance costs, and net present worth costs.

State Acceptance (Support Agency) addresses the technical or administrative issues and concerns the support agency may have regarding each alternative.

Community Acceptance addresses the issues and concerns the public may have with respect to each of the alternatives.

The individual analysis will include: (1) a technical description of each alternative that outlines the waste management strategy involved and identifies the key ARARs associated with each alternative; and (2) a discussion that profiles the performance of that alternative with respect to each of the evaluation criteria. A table summarizing the results of this analysis will be prepared. Once the individual analysis is complete, the alternatives will be compared and contrasted to one another with respect to each of the evaluation criteria.

The evaluation of alternatives, in order to enable the selection of the appropriate remedy, will satisfy the statutory mandates established in Section 121 of CERCLA, as well as Sections 300.430(a)(i-iii) and 300.430(e) of the NCP. U.S. EPA will select the alternative that represents the best balance across all evaluation criteria.

**TASK 10 - FINAL FS REPORT**

The FS shall be prepared in a draft report and submitted for review and comment. Upon receipt of comments, a revised FS report shall be prepared and submitted incorporating U.S. EPA's comments. Deliverables and technical memoranda prepared previously shall be summarized and referenced in order to limit the size of the report.

## VI.

## SUMMARY OF SUBMISSIONS AND DUE DATES

U.S. EPA's comments and MMSD's revision of the documents described below will be made consistent with Sections VIII and IX of the Consent Order. U.S. EPA retains the authority to modify all documents if MMSD's revisions in response to U.S. EPA comments are not fully and accurately incorporated into the documents. MMSD shall not revise documents except for revisions required by U.S. EPA's comments, unless specifically approved by U.S. EPA. Submission of deliverables to the U.S. EPA will occur within the time frames specified below, unless an extension is granted in advance, in writing, by the U.S. EPA Project coordinator.

### A. Work Plans

If U.S. EPA requires revisions to RI and FS Work Plans, modified Plans shall be due for submission to U.S. EPA thirty (30) days after MMSD receipt of U.S. EPA comments on the Work Plan(s). Subsequent revisions of these documents, if required, will be due for submission to U.S. EPA fifteen (15) days after MMSD's receipt of U.S. EPA's comments.

### B. Schedule

A proposed schedule for completion of all major RI and FS documents will be due for submission to U.S. EPA within thirty (30) days after MMSD's effective date of the Consent Order. If U.S. EPA requires revision of the proposed schedule or subsequent schedules, the revised schedule will be due for submission to U.S. EPA fifteen (15) days after MMSD's receipt of U.S. EPA's comments.

### C. Remedial Investigation

A revised RI is due for submission to U.S. EPA forty-five (45) days after MMSD's receipt of U.S. EPA comments. Subsequent revisions of the RI, if required, will be due for submission to U.S. EPA thirty (30) days after MMSD's receipt of U.S. EPA's comments.

### D. Alternatives Array Document and Feasibility Study

Due dates for the Draft and Final Alternatives Array, Draft and Final Feasibility Study and related documents will be established by the approved schedule (Section VI.B of this SOW). A revised FS or revised Alternative Array Document will be due for submission to U.S. EPA forty-five (45) days after MMSD's receipt of U.S. EPA's comments. Subsequent revisions of these documents, if required, will be due for submission to U.S. EPA fifteen (15) days after MMSD's receipt of U.S. EPA's comments.

E. Additional Reports

Due dates for additional reports required by the U.S. EPA will be established, as appropriate during the RI/FS.

F. Monthly Progress Reports for Tasks 1 through 10

A Monthly Progress Report shall be submitted the 10th business day of each month, and shall describe activities occurring during the preceding month.

# ATTACHMENT II

## Statement of Work

## for

## Remedial Design

## at the

## Madison Metropolitan Sewer District Lagoons Site

MADISON METROPOLITAN
SEWER DISTRICT LAGOONS SITE

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# STATEMENT OF WORK FOR THE REMEDIAL DESIGN PLAN AT MADISON METROPOLITAN SEWER DISTRICT LAGOONS SITE Blooming Grove, Wisconsin

## I.

## INTRODUCTION

### A. Purpose of this Statement of Work

The purpose of this Statement of Work (SOW) at the Madison Metropolitan Sewer District Lagoons NPL Site (Site) is to provide, in part, the requirements of the Remedial Design (RD). The RD will be conducted by the Madison Metropolitan Sewerage District (MMSD) based on a Record of Decision (ROD) issued by the U.S. Environmental Protection Agency (U.S. EPA). The ROD will be issued subsequent to U.S. EPA approval of the Remedial Investigation (RI) and Feasibility Study (FS). The RD will be developed by MMSD consistent with the ROD's selected remedy. If there are any inconsistencies between the RI, FS, or other studies/ investigations and the ROD, the ROD will prevail. If necessary, U.S. EPA will also issue a RD SOW Supplement, whose provisions to the extent they conflict with this document, shall prevail over the provisions of this document. The RD will subsequently provide the basis for Remedial Actions.

The Remedial Action is not addressed by this Consent Order or SOW.

The U.S. EPA Superfund Remedial Design (and Remedial Action) Guidance, the Final ROD, and any additional guidance provided by U.S. EPA, and this Scope of Work (SOW) shall be followed in developing the Remedial Design for the Site

### B. Purpose of the RD

The purpose of the RD is to provide a detailed set of engineering plans and specifications addressing the technical, administrative, regulatory, and legal requirements of the Remedial Action described in the ROD.

### C. Activities during the RD

This SOW does not require MMSD to implement the Remedial Action (RA) described in the ROD. However, the following activities shall be conducted during the design. These actions will be further delineated in the ROD.

1. Fence Installation

MMSD shall install a fence along Raywood and Moorland Roads in order to prevent access to the Site and vandalism to the Site remedy components. Fencing shall consist of a minimum six-foot high chain link with a minimum three-strand barbed wire. The fence shall, in combination with wetlands and drainage features, restrict access to the two lagoons at the Site. The fence should include a double, 12-foot wide, swing gate at the entrance to the access road. Warning signs shall be posted at 200-foot intervals along the Site perimeter, and at the gate. The warning signs shall advise that the area is hazardous due to chemicals in the sludges in the lagoons which may pose a risk to public health through direct contact. The signs shall also provide a telephone number to call for further information. Any members of the public (e.g., birdwatchers) who are admitted to the site property shall be informed that this is a Superfund Site, and that PCB contamination in elevated concentrations has been detected in the lagoons. They should also be advised about potential health effects from exposure to PCB contaminants.

2. Institutional Controls

MMSD shall determine and describe how the Institutional Controls called for in the ROD will be implemented.

3. Groundwater Monitoring

MMSD shall design and implement a groundwater monitoring program as identified in the ROD and described in the RD Work Plan, or as required by U.S. EPA. The groundwater monitoring program shall be designed to detect changes in the chemical concentration of the groundwater at, and adjacent to, the Site. Groundwater monitoring shall include collection and field/laboratory analysis of samples from monitoring wells located at the Site or in areas adjacent to the Site.

4. Other Monitoring

MMSD shall design and implement any other monitoring requirements identified in the ROD. These will be further delineated in the RD Work Plan.

## III.

## CLEAN-UP STANDARDS

The cleanup standards for the remedial alternative(s) chosen in the ROD will be delineated in the ROD. During the RD phase, these standards may be further refined by U.S. EPA.

## IV.

## SCOPE OF REMEDIAL DESIGN

The Remedial Design shall consist of three tasks:

Task 1: RD Work Plan

The RD Work Plan shall include the following:

- Subtask 1A - Site Access
- Subtask 1B - Quality Assurance and Quality Control
- Subtask 1C - Site Safety Plan
- Subtask 1D - Sampling Plan
- Subtask 1E - Additional Studies/Pre-Design (as required by U.S. EPA)

Task 2: Remedial Design

The RD shall be conducted in the following phases:

1. Preliminary Design
2. Pre-Final Design
3. Final Design
4. Additional Studies

Pre-Final Design and Final Design shall include:

1. Operation and Maintenance Plan
2. Cost Estimate
3. Project Schedule
4. Construction Quality Assurance Plan
5. Health and Safety Plan

Task 3: Monthly Progress Reports and Technical Memorandum

V.

## DESCRIPTION OF REMEDIAL DESIGN TASKS

### TASK 1: REMEDIAL DESIGN WORK PLANS

MMSD shall submit a Work Plan for U.S. EPA review and approval which shall document the overall management strategy for performing the RD. The plan shall document the responsibility, authority and qualifications of all organizations and key personnel, including contractor personnel, involved with implementation of the RD. MMSD shall submit a draft Remedial Design Work Plan according to the schedule identified in the Submission Summary. MMSD shall submit a Final Remedial Design Work Plan incorporating U.S. EPA's comments on the Draft Work Plan according to the schedule identified in the Submission Summary.

If limited Pre-Design activities are required, the Work Plan for Pre-Design may be included in the RD Work Plan. However, if U.S. EPA determines that Pre-Design activities may be extensive, a Pre-Design Work Plan shall be submitted by MMSD as a separate document.

#### SUBTASK 1A - SITE ACCESS PLAN

Site access agreements required to conduct the RD shall be obtained by the MMSD as required under Section XIII of the Consent Order, prior to the initiation of RD or additional studies. Site access shall extend for the duration of the RD; for any areas for which access in required to conduct the ground water monitoring program, site access shall extend for 30 years.

#### SUBTASK 1B - QUALITY ASSURANCE AND QUALITY CONTROL

MMSD shall develop a Site specific Quality Assurance Project Plan (QAPP), covering all phases of Remedial Design work, based upon the Consent Order and guidance provided by U.S. EPA. The QAPP shall at a minimum include:

- Project description
- Project organization
- Project responsibilities
- Sampling and custody procedures
- Calibration procedures
- Quality assurance objectives
- Analytical procedures
- Data analysis and reporting
- Internal QC checks
- Performance and system audits

- Preventative maintenance
- Method specific procedures for assessing data precision, accuracy and completeness
- Corrective actions
- QA reports

**SUBTASK 1C - SITE SAFETY WORK PLAN**

If RD activities require field or laboratory activities, MMSD shall develop a Site safety plan which is designed to protect on-Site or laboratory personnel and area residents from physical, chemical and all other hazards posed during RD. The safety plan shall develop the performance levels and criteria necessary to address the following areas.

- General requirements
- Personnel
- Levels of protection
- Safe work practices and safe guards
- Medical surveillance
- Personal and environmental air monitoring
- Personal protective equipment
- Personal hygiene
- Decontamination - personal and equipment
- Site work zones
- Contaminant control
- Contingency and emergency planning
- Logs, reports and record keeping

**SUBTASK 1D - SAMPLING PLAN**

MMSD shall develop a sampling and analysis plan for RD field activities consistent with "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," dated October 1988, if required.

**SUBTASK 1E - ADDITIONAL STUDIES/PRE-DESIGN**

If the RD requires additional studies to supplement the available technical data, MMSD shall carry out all such Additional Studies as directed by the Agency. Any pilot testing necessary for U.S. EPA to determine whether a particular alternative is capable of complying with cleanup standards will also be performed during RD.

**TASK 2: REMEDIAL DESIGN**

A. Major Components of the Remedial Design

MMSD shall develop clear and comprehensive design plans and specifications for any and all Remedial Action selected in the ROD which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basis, including;

    a. Compliance with all applicable or relevant and appropriate requirements; and

    b. Minimization of environmental and public impacts.

2. Discussion of the technical factors of importance including:

    a. Use of accepted (as of the date of the submittal of the design plan) environmental control measures and technology;

    b. The constructability of the design; and

    c. Use of acceptable (as of the date of the submittal of the design plan) construction practices and techniques.

3. Description of assumptions made and detailed justification of these assumptions;

4. Discussion of the possible sources of error and references to possible operation and maintenance problems;

5. Detailed drawings of the proposed design including;

    a. Qualitative flow sheets; and

    b. Quantitative flow sheets.

6. Tables listing equipment and specifications;

7. Tables giving material and energy balances;

8. Appendices including;

   a. Sample calculations (one example presented and explained clearly for significant or unique design calculations);

   b. Derivation of equations essential to understanding the RD report; and

   c. Results of laboratory or field tests.

B. Design Phases

MMSD shall meet regularly with U.S. EPA to discuss design issues. The design of the Remedial Action(s) shall include the phases outlined below.

1. Preliminary Design

MMSD shall submit the Preliminary Design when the design effort is approximately 30% complete according to the schedule in the Submission Summary. At this stage, the MMSD shall have field verified the existing conditions of the facility. The Preliminary Design shall reflect a level of effort such that the technical requirements of the project have been addressed and outlined so that they may be reviewed to determine if the Final Design will provide an operable and usable Remedial Action. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. The preliminary construction drawings by the MMSD shall reflect organization and clarity. The scope of the technical specifications shall be outlined in a manner reflecting the final specifications. MMSD shall include with its preliminary submission, design calculations reflecting the same percentage of completion as the designs they support.

Note: Pre-Design work, if any, should be reported at this time.

2. Intermediate Design

At the discretion of the Agency, a design review may be required at 60% completion of the project. The Intermediate Design submittal should include the same elements as the Pre-Final Design.

3. Pre-Final Design

MMSD shall submit the Pre-Final Design according to the schedule in the Submission Summary. The submission shall be at 95% completion of design (i.e., Pre-Final). After approval of the pre-final submission, the MMSD shall execute the required revisions and submit the Final Design (100% completion) with reproducible drawings and specifications.

The Pre-Final Design submittal shall consist of the Design Plans and Specifications, Operation and Maintenance Plan, Capital and Operating and Maintenance Cost Estimate, Project Schedule, Construction Quality Assurance Plan and Specifications for the Health and Safety Plan.

General correlation between drawings and technical specifications is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, the MMSD shall:

a. Coordinate and cross-check the specifications and drawings; and

b. Complete the proofing of the edited specifications and required cross-checking of all drawings and specifications.

These activities shall be completed prior to the 95% Pre-Final submittal to the Agency.

MMSD shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: 1) appropriate service visits by experienced personnel to supervise the installation, adjustment, start up and operation of the treatment systems; and 2) training covering appropriate operational procedures once the startup has been successfully accomplished.

4. Final Design

MMSD shall submit a Final Design according to the schedule in the Submission Summary. The Final Design submittal consists of the Final Design Plans and Specifications (100% complete), MMSD's Final Construction Cost Estimate, the Final Operation and Maintenance Plan, Construction Quality Assurance Plan, Final Project Schedule and Final Health and Safety Plan specifications. The quality of the design documents should be such that

they could be the basis for soliciting bids for the construction project.

5. Additional studies

U.S. EPA may require additional studies to supplement the available technical data. At the direction of the Agency for any such studies required, the MMSD shall furnish all services, including field work as required, materials, supplies, plant, labor, equipment, investigations, studies and superintendence.

C. Other Required Reports and Plans

The following studies and plans should be included in the Pre-Final and Final RD.

1. Operation and Maintenance Plan

MMSD shall prepare an Operation and Maintenance Plan to cover both implementation and long term maintenance of the Remedial Actions. An initial Draft Operation and Maintenance Plan shall be submitted simultaneously with the Pre-Final Design Document submission and the Final Operation and Maintenance Plan with the Final Design Documents. The plan shall be composed of the following elements:

a. Description of normal operation and maintenance (O&M);
   i. Description of tasks for operation;
   ii. Description of tasks for maintenance;
   iii. Description of prescribed treatment or operation conditions; and
   iv. Schedule showing frequency of each O&M task.

b. Description of potential operating problems;
   i. Description and analysis of potential operating problems;
   ii. Sources of information regarding problems; and
   iii. Common and/or anticipated remedies.

c. Description of routine monitoring and laboratory testing;
   i. Description of monitoring tasks;
   ii. Description of required laboratory tests and their interpretation;
   iii. Required Data Collection, Quality Assurance Project Plan (QAPP);
   iv. Schedule of monitoring frequency and date, and if appropriate, when monitoring may cease; and

v. Description of triggering mechanisms for groundwater/surface water monitoring results.

d. Description of alternate O&M;
   i. Should systems fail, alternate procedures to prevent release or threatened releases of hazardous substances, pollutants or contaminants which may endanger public health and/or the environment or exceed cleanup standards; and
   ii. Analysis of the extent to which the system is vulnerable to failure and the additional resource requirement, should a failure occur.

e. Corrective Action;
   i. Description of corrective action to be implemented in the event that cleanup or performance standards are exceeded; and
   ii. Schedule for implementing these corrective actions.

f. Safety plan;
   i. Description of precautions, of necessary equipment, etc., for Site personnel; and
   ii. Safety tasks required in event of systems failure.

g. Description of equipment; and
   i. Equipment identification;
   ii. Installation of monitoring components;
   iii. Maintenance of Site equipment; and
   iv. Replacement schedule for equipment and installed components.

h. Records and reporting mechanisms required.
   i. Daily operating logs;
   ii. Laboratory records;
   iii. Records for operating costs;
   iv. Mechanism for reporting emergencies;
   v. Personnel and maintenance records; and
   vi. Monthly/annual reports to State agencies.

2. Cost Estimate

MMSD shall refine the cost estimate developed in the FS to reflect the more detailed/accurate design plans and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs. An Initial Cost Estimate shall be submitted simultaneously with the Pre-Final Design submission and the Final Cost Estimate with the Final Design Document.

3. Project Schedule

MMSD shall develop a Project Schedule for construction and implementation of the Remedial Actions which identifies timing for initiation and completion of all critical path tasks. MMSD shall specifically identify dates for completion of the project and major interim milestones. An Initial Project Schedule shall be submitted simultaneously with the Pre-Final Design Document submission and the Final Project Schedule with the Final Design Document.

4. Construction Quality Assurance Plan

MMSD shall submit as part of the Pre-Final design document a draft Construction Quality Assurance Plan (CQA). MMSD shall finalize the CQA Plan incorporating comments received on the draft Construction Quality Assurance Plan and submit a Final CQA Plan with the Final Design. The CQA plan is a facility specific document which will be implemented, after U.S. EPA approval, during the Remedial Action. At a minimum, the CQA plan should include the elements, which are summarized below.

a. Responsibility and Authority

MMSD shall describe fully in the CQA Plan the responsibility and authority of all organizations (i.e. technical consultants, construction firms, etc.) and key personnel involved in the construction of the corrective measure. MMSD shall also identify a CQA officer and the necessary supporting inspection staff.

b. Construction Quality Assurance Personnel Qualifications

MMSD shall set forth the qualifications of the CQA officer and supporting inspection personnel shall be presented in the CQA plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities.

c. Inspection Activities

MMSD shall summarize in the CQA plan the observations and tests that will be used to monitor the construction and/or installation of the components of the Remedial Actions. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall

verify compliance with the environmental requirements and include, but not be limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection shall also ensure compliance with all health and safety procedures.

d. Sampling Requirements

MMSD shall present in the CQA plan the sampling activities, sample size, sample locations, frequency of testing, criteria for acceptance and rejection, and plans for correcting problems as addressed in the project specifications.

e. Documentation

MMSD shall describe in detail in the CQA plan the reporting requirements for CQA activities. This shall include such items as daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. Provisions for the final storage of all records shall be presented in the CQA plan.

5. Health and Safety Plan

MMSD shall submit a Health and Safety Plan to address the activities to be performed at the facility to implement the Remedial Action(s).

TASK 3: Other Reports and Submissions

MMSD shall prepare plans, specifications, and reports as set forth in Tasks 1 through Task 4 to document the design, construction, operation, maintenance, and monitoring of the Remedial Action. Other documentation shall include, but not be limited to, the following:

A. Progress Reports

MMSD shall at a minimum provide the U.S. EPA with signed, monthly progress reports during Remedial Design:

1. A description and estimate of the percentage of the RD completed;

2. Summaries of all findings;

3. Summaries of all changes made in the RD during the reporting period;

4. Summaries of all contacts with representative of the local community, public interest groups or State government during the reporting period;

5. Summaries of all problems or potential problems encountered during the reporting period;

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

B. Technical Memoranda

The results of specific RD activities should be submitted in draft form to the U.S. EPA and the Wisconsin Department of Natural Resources (WDNR) throughout the RD process. The specific technical memoranda and their associated schedule of submittal should be identified in project Work Plans (Task 1). All responses to U.S. EPA and the WDNR comments concerning memorandum issues should be addressed in letters from the Respondent Project Coordinator to the U.S. EPA Remedial Project Manager and should be incorporated into subsequent RD reports.

## VI.

## SUMMARY OF SUBMISSIONS AND DUE DATES

Submission of deliverables to the U.S. EPA will occur within the timeframes specified below, unless an extension is granted, in writing, in advance by the U.S. EPA Project Coordinator.

A. Work Plans

Draft RD Work Plans will be due 45 days after U.S. EPA's issuance of the RD SOW Supplement. If required, a Pre-Design Report will also be submitted subsequent to development of the RD Work Plan.

B. Design Phases

Due dates for the Design documents listed below will be established in the Remedial Design Work Plan.

-Preliminary Design (30% completion)

-Pre-Final Design (95% completion) - should include the following additional studies and Plans:

A. Draft Operation & Maintenance
B. Draft Cost Estimate
C. Draft RA Project Schedule
D. Draft Construction Quality Assurance Plan
E. Draft RA Health & Safety Plan
F. Draft O & M QAPP
G. Draft RA Work Plan (Optional)

-Final Design (100% completion) - should include the following additional studies and Plans:

A. Final Operation & Maintenance
B. Final Cost Estimate
C. Final RA Project Schedule
D. Final Construction Quality Assurance Plan
E. Final Health & Safety Plan
F. Final O & M QAPP

C. Monthly Progress Reports for Tasks 1 through 3

A Monthly Progress Report shall be submitted the 10th business day of each month, and shall describe activities occurring during the preceding month.