APPENDIX B TO CONSENT DECREE -
STATEMENT OF WORK (SOW)

IN THE MATTER OF UNITED STATES V. MIDAMERICAN ENERGY COMPANY AND IOWA-ILLINOIS MANOR, L.L.C.
RELATING TO THE IOWA CITY FORMER MANUFACTURED GAS PLANT SUPERFUND SITE

APPENDIX B

STATEMENT OF WORK

FOR

THE REMEDIAL DESIGN/REMEDIAL ACTION CONSENT DECREE

AT THE IOWA CITY FORMER MANUFACTURED GAS PLANT SITE IOWA CITY, JOHNSON COUNTY, IOWA

STATEMENT OF WORK FOR
THE REMEDIAL DESIGN AND REMEDIAL ACTION
AT THE IOWA CITY FORMER MANUFACTURE GAS PLANT SITE
IOWA CITY, JOHNSON COUNTY, IOWA

I. INTRODUCTION AND PURPOSE

This Statement of Work (SOW) sets forth the requirements for implementation of the remedy set forth in the Record of Decision (ROD), signed by the Superfund Division Director for the U.S. Environmental Protection Agency (EPA) Region VII on September 26, 2006, for the Iowa City Former Manufactured Gas Plant (FMGP) Site (Site). This SOW is incorporated into and made a part of the Consent Decree (CD) entered into by the Settling Defendants and the United States of America for the Remedial Design and Remedial Action to be conducted at the Site. The Settling Defendants, MidAmerican Energy Company (MidAmerican) and the Iowa-Illinois Manor LLC (Iowa-Illinois Manor), shall comply with the requirements of the ROD (as modified by the Memorandum of Record dated June 17, 2008), the CD, the approved Remedial Design, and pertinent reference documents listed in Section VI of the SOW and subsequent revisions thereto, upon notification by the EPA to Settling Defendants of such revision, in submitting deliverables for and implementing the remedy for the Site.

II. DESCRIPTION OF THE REMEDY

The major components of the remedy set forth in the ROD to address the Site are:

- Implementation of institutional controls in the form of environmental easements, ordinances, laws, or other limitations to restrict uses of the Site property; prohibit the installation of water wells; and maintain conditions in Ralston Creek and within the Iowa-Illinois Manor apartment building that limit exposure to Site contamination.
- Groundwater monitoring, sediment monitoring in Ralston Creek, and indoor air monitoring in the Iowa-Illinois Manor apartment building.
- Recovery of light nonaqueous phase liquid from the unconsolidated aquifer.
- Implementation of a technical impracticability (TI) waiver of applicable or relevant and appropriate requirements (ARARs) or health-based levels within an area identified as the "technical impracticability zone" (TI zone.)

III. DESCRIPTION OF REMEDIAL ACTION PERFORMANCE STANDARDS

A. Background

EPA expects to return usable groundwater to its beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site. When restoration of groundwater to beneficial uses is not practicable, EPA expects to prevent further

migration of the plume, prevent exposure to the contaminated groundwater, and evaluate further risk reduction. When contaminated groundwater is currently or potentially used as a drinking water source, the EPA typically selects a remedy that will restore the groundwater to Maximum Contaminant Levels (MCLs) or non-zero MCL Goals established under the Safe Drinking Water Act. However, when there are site-specific conditions that may inhibit groundwater restoration, the EPA has established guidance and a mechanism to evaluate the technical impracticability of restoring groundwater to meet ARARs.

In accordance with EPA guidance, Settling Defendants prepared a TI Evaluation Report for the Site, which was Appendix A of the Feasibility Study Report. The TI Evaluation Report provides the basis for EPA's determination that portions of the aquifer at the Site cannot be restored to MCLs or non-zero MCL Goals within a reasonable time frame due to hydrogeologic and contaminant-related factors, and therefore, the TI ARAR waiver is appropriate for the groundwater contaminants of concern (COC) at the Site listed in Table 1 of the ROD. Table 1 has been included as Attachment 1 to this SOW. The site-related chemical-specific ARARs that have been waived by EPA as part of the TI evaluation process include the National Primary Drinking Water Standards of the Safe Drinking Water Act and specifically the MCLs listed in Attachment 1 of this SOW. It is also technically impracticable to achieve the health-based action levels for the compounds that do not have chemical-specific ARARs, which are also listed in Attachment 1.

EPA refers to the portion of the aquifer where groundwater cannot be restored to drinking water standards within a reasonable timeframe as the TI zone, which is the spatial extent over which the TI waiver will apply. The horizontal extent of the TI zone is depicted in Figure 5 of the ROD. Figure 5 has been included as Attachment 2 to this SOW. The vertical extent of the TI Zone extends from the water table to the base of the Silurian aquifer. The TI Waiver applies only to groundwater within the TI zone.

B. Statement of Remedial Action Objectives and Performance Standards

The Settling Defendants shall design and implement the Remedial Action to meet the remedial action objectives (RAOs) and Performance Standards set forth in the ROD and this SOW. The ROD contains RAOs for groundwater, soil, indoor air, and sediment. The RAOs for the Site are to:

- Prevent and/or reduce human exposure to groundwater containing COCs that exceed ARARs or health-based levels.
- Prevent and/or reduce future soil exposure risks to acceptable levels by maintaining the existing land use. The future soil RAO may be reevaluated if the building is removed or its use changed.
- Prevent and/or reduce future human exposure to indoor air containing COCs that exceed health-based levels.
- Maintain the existing ecological steady state and prevent and/or reduce future unacceptable risks to human health and the environment in Ralston Creek.

The RAO pertaining to groundwater will be achieved through light nonaqueous phase liquid (LNAPL) recovery, implementation of an environmental covenant in addition to existing local, county, and state institutional controls, and periodic groundwater monitoring The performance standards for the COCs in groundwater outside the TI zone were determined based upon the following hierarchy:

- The maximum contaminant level (MCL) pursuant to the Safe Drinking Water Act for the contaminant when an MCL is available.
- For contaminants without an MCL, the performance standard was calculated based on an excess lifetime cancer risk of 1×10^{-6} and/or a target hazard quotient of 1 for noncancer risk.
- When the calculated risk-based performance standard is below the laboratory practical quantitation limit (PQL), the PQL is used as the performance standard, provided it falls within the acceptable risk range.

The RAO for groundwater will be achieved through periodic groundwater monitoring, reliance on existing city and county ordinances, and implementation of environmental covenants restricting installation of groundwater wells on the Iowa-Illinois Manor apartment building property or within Ralston Creek. The performance standards for COCs in groundwater outside the TI zone at the Site and the rationale for their selection are listed in Attachment 1.

The RAO for soil will be achieved through the implementation of an environmental covenant restricting any excavation or other subsurface work at a depth greater than 6 feet on the Iowa-Illinois Manor apartment building property.

The RAO for indoor air will be achieved through periodic air monitoring and implementation of maintenance and monitoring of the existing venting system and subsurface liner under the Iowa-Illinois Manor apartment building. Benchmark concentrations for indoor air monitoring were calculated for benzene and naphthalene based on an excess cancer risk of 1×10^{-6}. The performance standards for indoor air are 0.8 microgram per cubic meter ($\mu g/m^3$) for benzene and 0.056 $\mu g/m^3$ for naphthalene. These performance standards shall not be exceeded in indoor air in the living spaces of the Iowa-Illinois Manor Apartment building. If air samples collected from the crawlspace beneath the building do not exceed 80 $\mu g/m^3$ for benzene or 5.6 $\mu g/m^3$ for naphthalene, it is assumed that the indoor air performance standards have been achieved.

The RAO for Ralston Creek adjacent to the Site will be achieved through periodic sediment monitoring and the implementation of an environmental covenant restricting activities that would disturb the tile lining or subsurface of Ralston Creek adjacent to the Iowa-Illinois Manor apartment building property. Sediment samples from Ralston Creek will be compared against consensus-based probable effects concentrations (PECs) of polynuclear aromatic hydrocarbons (PAHs) for freshwater ecosystems (nonhuman

receptors) as indicators of possible new contribution of contaminants from the Site into the creek. The PECs, which are listed in Attachment 3 of this SOW, are the performance standards for sediment in Ralston Creek.

IV. SCOPE OF REMEDY AND IMPLEMENTATION

The RD phase, the RA phase, and Operation and Maintenance (O&M) phase shall include the tasks listed below. All plans, with the exception of the Health and Safety Plans (HASP) are subject to EPA review and approval. The HASP is subject to EPA review.

A. Summary of Tasks

Task 1: Institutional Controls

Task 2: Remedial Design

1. Overall Management Strategy
2. Delineation of Extent of Groundwater Contamination
3. Groundwater Monitoring Plan
4. Air Monitoring Plan
5. Sediment Monitoring Plan
6. LNAPL Recovery Plan
7. Draft O&M Plan
8. Quality Assurance Project Plan
9. Health and Safety Plan
10. Overall Project Schedule

Task 3: Remedial Action

1. Construction Activities
2. Pre-final Inspection
3. Operational and Functional Activities
4. Interim Remedial Action Report

Task 4: Operation and Maintenance Implementation

Task 5: Final Remedial Action Report

Task 6: Completion of Work

Task 7: Progress Reports

Task 1: Institutional Controls

Within 30 days of entry of the CD, the Settling Defendants shall prepare for EPA review and approval Environmental Covenants, in a form substantially similar to Appendices D and E of the CD, to be filed with the Johnson County, Iowa, Recorder of Deeds. The Settling Defendants shall record and certify the recording as set forth in

Section IX of the CD.

Task 2: Remedial Design

The Settling Defendants shall prepare the Remedial Design (RD) to implement the remedy at the Site as described in the ROD and this SOW. Plans and specifications shall be submitted in accordance with the schedule set forth in Section V of this SOW. All plans and specifications shall be developed in accordance with the EPA Superfund Remedial Design and Remedial Action Guidance (OSWER Directive No-9355.0-4A) and shall demonstrate that the Remedial Action meets all objectives of the ROD, the CD, and this SOW. The Settling Defendants shall communicate with the EPA as necessary to discuss design issues.

The RD submittal shall include, at a minimum, the following:

1. Overall Management Strategy. A statement of the overall management strategy for performing the design, construction, operation, maintenance, and monitoring of the remedy for the Site shall be part of the RD. The RD objectives, assumptions, limitations, and approaches shall also be defined. As part of the RD, the Settling Defendants shall describe the other institutional controls associated with the institutional controls component of the remedy that, when combined with the Environmental Covenants described in Task 1 above, shall provide for an effective layering of institutional controls at the Site. The RD shall include a description of the responsibility and authority of all organizations and key personnel directing the RD and implementing the Remedial Action, including contractor personnel.

2. Delineation of Extent of Groundwater Contamination. As stated in the ROD, the location of the TI zone may be modified to the southwest in the future as more information about the plume is developed during implementation of the remedy. As part of the RD, the Settling Defendants shall design a plan to complete the delineation of the extent of groundwater contamination southwest of the Site in the most downgradient direction. This plan shall include a justification for the location of any additional monitoring well, specifications for well design and construction, details of groundwater sampling and analysis, and details of any groundwater modeling to predict contaminant migration.

3. Groundwater Monitoring Plan (GMP). As part of the RD, the Settling Defendants shall design a groundwater monitoring program for the Site to measure whether groundwater contaminants have migrated beyond the boundary of the TI zone and to evaluate remedial progress over time. The Settling Defendants shall construct, operate, and maintain the groundwater monitoring program during the subsequent Remedial Action and O&M phases. The GMP shall provide for monitoring of groundwater COCs and natural attenuation parameters to track the movement of groundwater contaminants, monitor changes in chemical constituents and chemical concentrations in the groundwater over time, and evaluate the effectiveness of natural attenuation as a mechanism for plume stability. The GMP shall include a description of the expected long-term monitoring requirements and how the GMP for the Site shall be implemented for the duration of the Remedial Action (i.e., until the O&M phase begins). Information contained in the GMP shall include details regarding the monitoring well network, parameters to be analyzed for in the groundwater, frequency of sampling and monitoring events, tasks to be performed, a schedule for implementation, analytical methods, and reporting requirements. At a minimum, groundwater shall be monitored for the COCs listed in Attachment 1 of this SOW and the natural attenuation parameters listed in Attachment 4 of this SOW. The analytical results of each groundwater sampling event shall be provided to the EPA and the Iowa Department of Natural Resources (IDNR) within 60 days of each sampling event. Included shall be the raw analytical data (electronic format acceptable), the data validation package (electronic format acceptable), and a synopsis of the validated data, including summary tables. Copies of the raw analytical data and the data validation packages are not required to be submitted to the IDNR. The GMP shall include the following elements:

a. Description of the monitoring well network and construction activities, if any, associated with the monitoring well network, including the number of new monitoring wells, if any, to be installed during the Remedial Action phase.

b. Description of maintenance activities, if any, associated with the monitoring well network, including provisions to repair or replace monitoring wells that are destroyed or in any way become unusable.

c. Description of groundwater sampling and monitoring activities, including the rationale for the selection of the groundwater sampling parameters and groundwater monitoring locations. Plans for low-flow collection for groundwater samples that are to be analyzed for metals must be included until a determination is made by the EPA as to whether metals exist in groundwater at levels that may pose an unacceptable level of risk to humans.

d. Requirements and procedure for verifying the attainment of Performance

Standards in Attachment 1 of this SOW.

e. A requirement that Settling Defendants shall notify EPA and IDNR, within 30 days and in writing, if groundwater monitoring results indicate the presence of site-related groundwater contaminants in groundwater outside the TI zone in concentrations exceeding Performance Standards in Attachment 1 of this SOW. In the case of such an event, Settling Defendants shall take all steps necessary to comply with the RAOs and Performance Standards for groundwater as set forth in Section III of this SOW.

f. Requirements and procedures for modifying groundwater sampling and monitoring activities.

4. Air Monitoring Plan. The Settling Defendants shall design an air monitoring program (AMP) for indoor air in the Iowa-Illinois Manor Apartment building to measure whether contaminants have migrated from the subsurface into the indoor air. The Settling Defendants shall operate, and maintain the air monitoring program during the subsequent Remedial Action and O&M phases. The AMP shall provide for monitoring of air COCs, benzene and napthalene, to determine whether air in the building exceeds the performance standards for air of 0.8 microgram per cubic meter ($\mu g/m^3$) for benzene and 0.056 $\mu g/m^3$ for naphthalene. Air monitoring of the crawlspace beneath the building shall be conducted to determine whether the living space indoor air performance standards are being met. If air samples collected from the crawlspace beneath the building do not exceed 80 $\mu g/m^3$ for benzene or 5.6 $\mu g/m^3$ for naphthalene, it is assumed that the indoor air performance standards have been achieved. The AMP shall include a description of the expected long-term monitoring requirements and how the AMP for the Site shall be implemented for the duration of the Remedial Action (i.e., until the O&M phase begins). Information contained in the AMP shall include details regarding the type of monitoring air monitoring equipment to be used, the number of monitoring locations, methods of sampling and analysis to be used, frequency of sampling and monitoring events, tasks to be performed, a schedule for implementation, and reporting requirements. The AMP must also include plans and schedules for inspections of the crawlspace ventilation system and subsurface liner as well as plans to remedy any deficiencies found in either system. At a minimum, air shall be monitored for benzene and naphthalene. The analytical results of each air sampling event and inspection shall be provided to the EPA and the IDNR within 60 days of each sampling event. Included shall be the raw analytical data (electronic format acceptable), the data validation package (electronic format acceptable), and a synopsis of the validated data, including summary tables. Copies of the raw analytical data and the data validation packages are not required to be submitted to the IDNR. The AMP shall include the following elements:

a. Description of the air monitoring and sampling locations and the rationale for the selection of each of the locations as well as the contaminants analyzed and the method of analysis used.

b. Requirements and procedure for verifying the attainment of Performance Standards for benzene and naphthalene in air.

c. Description of the inspection procedures for the crawlspace ventilation system and the building liner and maintenance activities that may be needed to ensure the continued effectiveness of these systems.

d. A requirement that Settling Defendants shall notify EPA and IDNR, within 30 days and in writing, if air monitoring results indicate concentrations exceeding Performance Standards for benzene and naphthalene in indoor air. In the case of such an event, Settling Defendants shall take all steps necessary to comply with the RAOs and Performance Standards for indoor air as set forth in Section III of this SOW.

e. A requirement that Settling Defendants shall notify EPA and IDNR, within seven days and in writing if the result of an inspection identifies deficiencies and/or the need for maintenance in the crawlspace ventilation or building liner systems. The notification shall include recommendations for addressing the deficiency and a schedule for implementation.

f. Requirements and procedures for modifying air sampling and monitoring activities.

5. Sediment Monitoring Plan. The Settling Defendants shall design a sediment monitoring program (SMP) for sediment in Ralston Creek to measure whether site-related contaminants are migrating from the subsurface into creek sediment adjacent to the Site at increased concentrations from the Site. The Settling Defendants shall operate, and maintain the sediment monitoring program during the subsequent Remedial Action and O&M phases. The SMP shall provide for monitoring of sediment COCs to determine whether creek sediment exceeds the performance standards for sediment listed in Attachment 3 of this SOW due to releases from the Site. The SMP shall include a description of the expected long-term monitoring requirements and how the SMP for the Site shall be implemented for the duration of the Remedial Action (i.e., until the O&M phase begins). Information contained in the SMP shall include details regarding the number of monitoring locations, methods of sampling and analysis to be used, frequency of sampling and monitoring events, tasks to be performed, a schedule for implementation, and reporting

requirements. The SMP must also include plans and schedules for inspections of the effectiveness of the liner in Ralston Creek in the area adjacent to the Site as well as plans to remedy any deficiencies found in the liner since the previous inspection. At a minimum, sediment shall be monitored for the COCs in Attachment 3 of this SOW. The analytical results of each sediment sampling event and inspection shall be provided to the EPA and the IDNR within 60 days of each sampling event. Included shall be the raw analytical data (electronic format acceptable), the data validation package (electronic format acceptable), and a synopsis of the validated data, including summary tables. Copies of the raw analytical data and the data validation packages are not required to be submitted to the IDNR. The SMP shall include the following elements:

a. Description of the sediment monitoring and sampling locations and the rationale for the selection of each of the locations as well as the contaminants analyzed and the method of analysis used.

b. Requirements and procedure for verifying the attainment of Performance Standards for the COCs listed in Attachment 3 of this SOW.

c. Description of the inspection procedures for the creek liner and maintenance activities that may be needed to ensure the continued effectiveness of the liner.

d. A requirement that Settling Defendants shall notify EPA and IDNR, within 30 days and in writing, if sediment monitoring results indicate concentrations exceeding Performance Standards for sediment due to releases from the Site. In the case of such an event, Settling Defendants shall take all steps necessary to comply with the RAOs and Performance Standards for sediment as set forth in Section III of this SOW.

e. A requirement that Settling Defendants shall notify EPA and IDNR, within seven days and in writing if the result of an inspection identifies deficiencies and/or the need for maintenance in the creek liner. The notification shall include recommendations for addressing the deficiency and a schedule for implementation.

f. Requirements and procedures for modifying sediment sampling and monitoring activities.

6. LNAPL Recovery Plan. The Settling Defendants shall design an LNAPL recovery plan (LPR) which includes a system to recover free product from the unconsolidated aquifer in the vicinity of monitoring well MW-8. Based upon the

results of a Treatability Study conducted at the Site it is expected that free product recovery will be conducted primarily by passive recovery using sorbent socks placed in wells. The Settling Defendants shall operate, and maintain the LNAPL recovery program during the subsequent Remedial Action and O&M phases. The LRP shall provide for monitoring of LNAPL in groundwater to determine when the recovery system can no longer effectively remove additional LNAPL. The LRP shall include a description of the expected long-term operation and monitoring requirements and how the LRP for the Site shall be implemented for the duration of the Remedial Action (i.e., until the O&M phase begins). Information contained in the LRP shall include details regarding the number of recovery locations, details of the methods of recovery, details for disposal of recovered LNAPL, methods of sampling and analysis to be used, frequency of sampling and monitoring events, tasks to be performed, a schedule for implementation, and reporting requirements. The analytical results of each sampling event shall be provided to the EPA and the IDNR within 60 days of each sampling event. Included shall be the raw analytical data (electronic format acceptable), the data validation package (electronic format acceptable), and a synopsis of the validated data, including summary tables. Copies of the raw analytical data and the data validation packages are not required to be submitted to the IDNR. The LRP shall include the following elements:

a. Description of the LNAPL recovery locations and the rationale for their selection. This includes the locations of any additional recovery wells that may be required and the details of the construction of the wells.

b. Description of the method of recovery to be employed, frequency of LNAPL recovery, and the disposition of the recovered material.

c. Description of monitoring and sampling locations and the rationale for the selection of each of the locations as well as the contaminants analyzed and the method of analysis used.

d. Requirements and procedure for determining the endpoint when LNAPL recovery will no longer be necessary and/or productive and seeking EPA approval for conclusion.

e. Requirements and procedures for modifying LNAPL recovery and monitoring activities.

7. Draft O&M Plan(s). The Settling Defendants shall develop a draft O&M Plan(s). The O&M Plan(s) shall be designed and implemented to demonstrate that the Remedial Action at the Site remains protective of human health and the environment and to confirm that the Performance Standards are maintained over the

long-term (i.e., until the Work is complete). The O&M Plan(s) shall include the schedule and requirements for the implementation of any pertinent activities described in the RD. The O&M Plan(s) shall require the continued implementation of institutional controls and the continued implementation of the groundwater, air, and sediment monitoring programs.

8. Quality Assurance Project Plan(s). The Settling Defendants shall develop site-specific Quality Assurance Project Plan(s) (QAPP) for implementation at the Site, which shall address sample analysis and data handling for samples collected in all phases of the Work, based upon the CD and guidance identified by the EPA. The QAPP(s) shall be consistent with the requirements of standard EPA methodology for laboratories. The QAPP(s) shall at a minimum include the following elements:

a. Project Description
- Project Scope
- Sample Network Design
- Parameters to be Tested and Frequency
- Project Schedule

b. Project Organization and Responsibility

c. Quality Assurance Objective for Measurement Data
- Level of Quality Control Effort
- Accuracy, Precision and Sensitivity of Analysis
- Completeness, Representativeness
- Comparability

d. Sampling Procedures

e. Sample Custody
- Field-Specific Custody Procedures
- Laboratory Chain-of-Custody Procedures

f. Calibration Procedures and Frequency
- Field Instruments/Equipment
- Laboratory Instruments

g. Analytical Procedures
- Analytical Methods
- Field Screening and Analytical Protocol
- Laboratory Procedures

h. Internal Quality Control Checks
- Field Measurements
- Laboratory Analysis

i. Data Reduction, Validation and Reporting
- Data Reduction
- Data Validation
- Data Reporting

j. Performance and System Audits
- Internal Audits of Field Activity
- Internal Laboratory Audit
- External Field Audit
- External Laboratory Audit

k. Preventive Maintenance
- Routine Preventative Maintenance Procedures and Schedules
- Field Instruments/Equipment
- Laboratory Instruments

l. Specific Routine Procedures to Assess Data Precision, Accuracy, and Completeness

- Field Measurement Data
- Laboratory Data

m. Corrective Action
- Sample Collection/Field Measurement
- Laboratory Analysis

9. Health and Safety Plan(s)The Settling Defendants shall develop a Health and Safety Plan(s) (HASP) for the Site designed to protect on-site personnel and area residents from physical, chemical and all other hazards posed by implementation and maintenance of this Remedial Design/Remedial Action. The safety plans shall develop the performance levels and criteria necessary to address the following areas.

Personnel
Levels of protection
Safe work practices and safety 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

The HASP(s) shall follow U.S. EPA guidance and all OSHA requirements as outlined in 29 C.F.R. Sections 1910 and 1926, as well as the National Oil and

Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. Section 300.150.

As part of the HASP, the Settling Defendants shall include a Contingency Plan describing procedures to be used in the event of an accident or emergency. The Contingency Plan shall include, at a minimum, the following elements.

a. Name of the person or entity responsible for responding in the event of an emergency incident.

b. Plan and date(s) for meeting(s), if necessary, with the local community, including local, State and Federal agencies involved in the cleanup, as well as local emergency squads and hospitals.

c. First aid medical information.

d. Air Monitoring Plan (if applicable).

e. Spill Prevention, Control, and Countermeasures ("SPCC") Plan (if applicable), as specified in 40 C.F.R. Part 109, describing measures to prevent and contingency plans for potential spills and discharges from materials handling and transportation associated with implementation of the remedial action.

10. Overall Project Schedule. Project schedule for the implementation of the remedy for the Site which identifies timing for initiation and completion of all critical path tasks, including major milestones.

Task 3: Remedial Action

The Settling Defendants shall implement the remedy for the Site as detailed and in accordance with the schedule provided in the approved Remedial Design and implementation of the institutional controls. The following activities shall be completed and/or performed to implement the Remedial Action.

During the Remedial Action phase, the Settling Defendants shall conduct the activities and implement the Remedial Design as set forth below.

1. Construction Activities During the Remedial Action phase, the Settling Defendants shall implement construction activities at the Site as identified and in accordance with the schedule in the Remedial Design.

2. Pre-final Inspection The Settling Defendants shall provide a Notice of Construction Completion to EPA when they believe that construction activities are complete, and in accordance with the schedule provided in Section V of this SOW. The Pre-Final Inspection shall consist of a walk-through inspection of all construction components of the remedy. The inspection shall include the Settling Defendants' representative(s) and the EPA. The IDNR may also participate in the inspection. The purpose of the inspection is to determine whether the construction activities have been completed in accordance with the Remedial Design. Any remaining construction items discovered during the inspection shall be identified and noted in a punch list. Following the inspection, the Settling Defendants shall prepare a Pre-Final Inspection Report (PFI Report) and shall submit the report to EPA for review and approval. The PFI Report shall include a punch list of outstanding construction items to be completed and a proposed schedule for their completion. Inspections shall be repeated as necessary until there are no outstanding construction items to be completed.

3. Operational and Functional Activities Following completion of all construction activities the Settling Defendants shall proceed with implementation of the Operational and Functional (O&F) phase of the Remedial Action. The O&F activities will be conducted to ensure that the remedy for the Site is functioning properly and operating as designed. The O&F activities for the Site will consist of groundwater, air, and sediment monitoring and LNAPL recovery for a period of up to one year, to be conducted in accordance with the requirements of the Remedial Design. Following the O&F period, EPA will make an O&F Determination to document that the remedy is performing as designed.

4. Interim Remedial Action Report In accordance with the schedule set forth in Section V of this SOW, the Settling Defendants shall submit an Interim Remedial Action Report. This report shall be prepared consistent with the EPA guidance entitled Close Out Procedures for National Priority List Sites, OSWER 9320.2-09A-P, January 2000, or as superseded by subsequent guidance. In the Report, the Settling Defendants' Project Coordinator shall certify that construction activities have been completed in full satisfaction of the requirements of the CD, this SOW, and the Remedial Design. The Site Interim RA Report shall fully summarize the information and analytical data obtained during the construction phase and O&F phase, to include an assessment of the effectiveness of the remedy as related to the groundwater, air, and sediment monitoring programs and the LNAPL recovery. The Interim RA Report shall include as-built drawings for constructed components of the implemented remedy. The Site Interim RA Report shall also include the following certification, signed by a responsible corporate official of the Settling Defendants or the Settling Defendants' Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate

and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Task 4: Final Remedial Action Report

Within 60 days after Settling Defendants concludes that the Remedial Action has been fully performed and that the Performance Standards for the Site have been achieved, the Settling Defendants shall submit a Final Remedial Action Report for EPA review and approval.

The Final Remedial Action Report shall be prepared consistent with the EPA guidance entitled Close Out Procedures for National Priority List Sites, OSWER 9320.2-09A-P, January 2000 or as superseded by subsequent guidance. In the report, the Settling Defendants' Project Coordinator shall state that the Remedial Action phase has been completed in full satisfaction of the requirements of this CD and this SOW. The written report shall contain the following statement, signed by a responsible corporate official of the Settling Defendants or the Settling Defendants's Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Task 5: Operation and Maintenance (O&M)

Settling Defendants shall submit the Final O&M Plan(s) with the Final Remedial Action Report. The Final O&M Plan(s) submittal shall include modifications that were required by the EPA of the Draft O&M Plan(s) as well as any modifications that reflect the experience gained during implementation of the remedy during the Remedial Action phase. The O&M activities for the Site shall include groundwater monitoring and sampling, air monitoring and sampling, sediment monitoring and sampling , and assessing that institutional controls remain effective until it has been determined by EPA that: (1) concentrations of site-related COCs in groundwater are below the levels set forth in Attachment 1 of this SOW both outside and throughout the TI Zone; (2) the potential sources of site-related contaminants have been removed pursuant to EPA approval for excavation under the institutional controls and/or the Consent Decree; and (3) EPA has approved the Completion of Work Report.

If, at any point during O&M, groundwater monitoring outside the TI zone indicates the presence of any COC in Attachment 1 above the concentration set forth therein, Settling Defendants shall so notify EPA in writing within 30 days. Settling Defendants

shall also, in the case of such an event, take all additional steps necessary to reduce concentrations of contaminants outside the TI zone to below Performance Standards. Settling Defendants shall also notify EPA, within 30 days of reported exceedance, of the additional steps it intends to take to achieve Performance Standards, and shall provide a schedule for such actions. If EPA determines that, in addition to those actions identified by Settling Defendants, more actions are required to reduce concentrations of contaminants outside the TI zone to achieve Performance Standards, EPA shall specify such additional actions to Settling Defendants, and Settling Defendants shall be required to implement them.

If, at any point during O&M, air monitoring in the Iowa-Illinois Manor apartment building living space exceeds the performance standards for air of 0.8 $\mu g/m^3$ for benzene or 0.056 $\mu g/m^3$ for naphthalene, or air in the crawlspace beneath the apartment building exceeds 80 $\mu g/m^3$ for benzene or 5.6 $\mu g/m^3$ for naphthalene, Settling Defendants shall so notify EPA in writing within 30 days. Settling Defendants shall also, in the case of such an event, take all additional steps necessary to reduce concentrations of air contaminants below Performance Standards. Settling Defendants shall also notify EPA, within 30 days of reported exceedance, of the additional steps it intends to take to achieve Performance Standards, and shall provide a schedule for such actions. If EPA determines that, in addition to those actions identified by Settling Defendants, more actions are required to reduce concentrations of contaminants in air to achieve Performance Standards, EPA shall specify such additional actions to Settling Defendants, and Settling Defendants shall be required to implement them.

If, at any point during O&M, sediment monitoring in Ralston Creek indicates the presence of any sediment COC listed in Attachment 3 of this SOW above the concentration set forth therein due to releases from the Site, Settling Defendants shall so notify EPA in writing within 30 days. Settling Defendants shall also, in the case of such an event, take all additional steps necessary to reduce concentrations of sediment contaminants below Performance Standards. Settling Defendants shall also notify EPA, within 30 days of reported exceedance, of the additional steps it intends to take to achieve Performance Standards, and shall provide a schedule for such actions. If EPA determines that, in addition to those actions identified by Settling Defendants, more actions are required to reduce concentrations of contaminants in sediment to achieve Performance Standards, EPA shall specify such additional actions to Settling Defendants, and Settling Defendants shall be required to implement them.

Task 6: Completion of the Work

Within 30 days after Settling Defendants concludes that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA and the State.

Completion of Work for the Site shall occur when it has been demonstrated, and EPA has certified, that concentrations of site-related groundwater contaminants in areas outside the TI zone and throughout the TI zone are below the chemical-specific Performance Standards listed in Attachment 1 of this SOW and the potential sources of site-related contaminants have been removed pursuant to EPA approval for excavation under the institutional controls and/or the Consent Decree.

If, after the pre-certification inspection, the Settling Defendants still believe that the Work has been fully performed, Settling Defendants shall submit a Completion of Work Report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendants or the Settling Defendants' Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after review of the Completion of Work Report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance with this SOW and the CD, Settling Defendants will be notified in writing of the activities that must be undertaken by Settling Defendants pursuant to this SOW and the CD to complete the Work. The EPA will set forth in the notice a schedule for performance of such activities consistent with the CD and the SOW or require the Settling Defendants submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions) of the CD. Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein. If EPA concludes, based on the initial or any subsequent request for Certification of Completion by Settling Defendants, and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Statement of Work or the Consent Decree, EPA will so notify the Settling Defendants in writing.

Task 7: Progress Reports

In addition to any other requirement of this Consent Decree, Settling Defendants shall submit to EPA and the State written progress reports that: (a) describe the actions performed during the reporting period; (b) unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (c) include a summary of all results of sampling and tests and all other data received or generated by Settling Defendants or their contractors or agents in the previous reporting period, including but not limited to groundwater, air, and sediment

monitoring events and LNAPL recovery; (d) include documentation of institutional controls; (e) include an evaluation regarding the protectiveness of the remedy pursuant to the Remedial Design and/or the O&M Plan(s); (f) include an evaluation as to whether the remedy continues to be protective based on the results of the previous year's monitoring data and trends observed with respect to data from prior years; (g) identify all deliverables submitted during the previous reporting period; (h) describe all actions, including, but not limited to, data collection and implementation of work, scheduled for the next reporting period; (i) include any modifications to the plans or schedules that Settling Defendants have proposed to EPA or that have been approved by EPA; and (j) describe all activities undertaken in support of the Community Relations Plan during the previous reporting period and those to be undertaken in the next reporting period. Settling Defendants shall submit these progress reports annually to EPA and the State, with the first report being due 12 months following the date of EPA's approval of the Remedial Design and thereafter 30 days following the end of each subsequent 12-month reporting period, until EPA notifies the Settling Defendants pursuant to Paragraph 50.b of Section XIV (Certification of Completion). If requested by the EPA, Settling Defendants shall also provide briefings for EPA to discuss the progress of the Work.

V. SCHEDULE OF MAJOR DELIVERABLES

A summary of the project schedule and reporting requirements contained in this SOW is presented as follows:

Submission or Activity	Due Date
Environmental Covenant	Draft 30 days after entry of CD
Remedial Design	60 days after receipt of EPA's written authorization to proceed or 30 days after entry of CD, whichever occurs later
Initiation of Remedial Action phase	After receipt of EPA's written approval of the RD per approved schedules
Inspection of Construction Activities	Within 30 days of Settling Defendants' notification to EPA that construction activities are complete
Monitoring Results	60 days after sampling event
Notify EPA of exceedance of Performance Standards	Within 30 days of Settling Defendants' receipt of analytical data identifying exceedance(s)
First Annual Progress Report	12 months after EPA's written approval of

	the Remedial Design
Subsequent Progress Reports	30th day of the next 12- month reporting period and each subsequent 12-month reporting period.
Plan to Replace or Repair Damaged Monitoring Well	30 days after discovery of damage or destruction
Replacement or Repair of Damaged Monitoring Well	30 days after receipt of EPA's written approval of plans to repair or replace well
Interim Remedial Action Report	60 days after receipt of EPA's O&F Determination
Final Remedial Action Report	60 days after Performance Standards for the Site are achieved
Final O&M Plan(s)	Submitted with Final Remedial Action Report
Initiation of O&M phase	30 days after receipt of EPA's approval of the Final Remedial Action Report or 30 days after EPA approval of Final O&M Plan, whichever occurs later
Notification of deficiencies during O&M	60 days after discovery of exceedance of Performance Standard for groundwater, air, or sediment. Within 30 days of discovery provide plans and schedule to address exceedance
Pre-certification Inspection	30 days after completion of all Work
Completion of Work Report	30 days following Pre-certification Inspection

VI. REFERENCE DOCUMENTS

The National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300.

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," US EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9355.3-01,

EPA/540/G-89/004, October 1988.

"EPA Superfund Remedial Design and Remedial Action Guidance," Interim Final, US EPA, Office of Solid Waste and Emergency Response, OSWER Directive 9355.0-4A, June 1986.

"Guidance for the Data Quality Objectives Process, EPA QA/G-4," US EPA, Office of Environmental Information, EPA/600/R-96/055, August 2000.

"Guidance for Quality Assurance Project Plans, EPA QA/G-5," US EPA, Office of Research and Development, EPA/240/R-02/009, December 2002.

"EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5," Interim Final, US EPA, Quality Assurance Division, November 1999.

"A Compendium of Superfund Field Operations Methods," Two Volumes, US EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9355.0-14, EPA/540/P-87/001, August 1987.

"Test Methods for Evaluating Solid Wastes," US EPA, Office of Solid Waste and Emergency Response, SW-846, Third Edition, Volumes IA, IB, IC and II, November 1986 (including Final Update I, July 1992; Final Update II, September 1994).

National Primary Drinking Water Regulations, Final Rule, Part II, 40 CFR Parts 141, 142, 143.

"User's Guide to the Contract Laboratory Program," US EPA, Office of Emergency and Remedial Response, EPA/540/P-91/002, 1991.

"Sampler's Guide to the Contract Laboratory Program," US EPA, Office of Emergency and Remedial Response, EPA/540/P-90/006, 1991.

"CERCLA Compliance with Other Laws Manual," Draft Guidance, US EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9234.1-01, EPA/540/G-89/006, August 1988.

"CERCLA Compliance with Other Laws Manual, Part II," Interim Final, US EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9234.1-02, EPA/540/G-89/009, August 1989.

"Overview of the Off-Site Rule for OSCs and RPMs," US EPA, Office of Solid Waste and Emergency Response, EPA Publication No. 9834.11FS, September 1993.

"Health and Safety Roles and Responsibilities at Remedial Sites," US EPA, Office of Solid Waste and Emergency Response, EPA Publication No. 9285.1-02, July 1991.

OSHA Regulations in 29 C.F.R. Sections 1910.120 (Federal Register 45654, December 19, 1986).

"Contract Laboratory Program (CLP) Users Guide," EPA, 1988.