NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Remedial Program for an Inactive Hazardous Waste Disposal Site, Under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by Ingersoll-Rand Company Respondent.	**ORDER ON CONSENT** Index #B9-0446-94-01A Site# 907019

WHEREAS,

1. A. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL") entitled "Inactive Hazardous Waste Disposal Sites." The Department asserts that any person under order pursuant to ECL 27-1313.3.a has a duty imposed by ECL Article 27, Title 13 to carry out the Inactive Hazardous Waste Disposal Site Remedial Program committed to under order. The Department asserts that ECL 71-2705 provides that any person who fails to perform any duty imposed by ECL Article 27, Title 13 shall be liable for civil, administrative, and/or criminal sanctions.

B. The Department also asserts that it has the authority, *inter alia*, to provide for the prevention and abatement of all water, land, and air pollution. *See, e.g.*, ECL 3-0301.1.i.

C. This Order is issued pursuant to the Department's authority under, *inter alia,* ECL Article 27, Title 13, ECL Article 71, Title 27, and ECL 3-0301.

2. Ingersoll-Rand Company ("Respondent") is a New Jersey corporation authorized to do business in the State of New York. Respondent is a former operator and owner of the Site. The Site is located at 583 Allen Street in the City of Jamestown, County of Chautauqua, State of New York (hereinafter referred to as "the Site"). The Site consists of a 2.4 acre parcel having Tax Map Identifier Number 307-13-2.2. Exhibit "A" of this Order is a map of the Site showing its general location. Jamestown Allenco, Inc. is the Site owner.

3. The Site is currently listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 907019 with a Classification "2" pursuant to ECL 27-1305.

4. Respondent consents to the Department's issuance of this Order without (i) an admission or finding of liability, fault, wrongdoing, or violation of any law, regulation, permit, order, requirement, or standard of care of any kind whatsoever, or (ii) an acknowledgment that there has been a release or threatened release of hazardous waste or that the release or threatened release of hazardous waste at or from the Site constitutes a significant threat to public health or the environment.

5. The parties recognize that implementation of this Order will expedite the cleanup of the Site and may avoid prolonged and complicated litigation between the parties, and that this Order is mutually acceptable, fair, reasonable, and in the public interest.

6. Solely with regard to the matters set forth below, Respondent hereby waives its right to a hearing herein as provided by law, consents to the issuance and entry of this Order, and agrees to be bound by its terms. Respondent consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agrees not to contest the validity of this Order or its terms, or the validity of the data generated by Respondent pursuant to this Order.

NOW, having considered this matter and being duly advised, **IT IS ORDERED THAT**:

I. Initial Submittal

Within thirty (30) Days after the effective date of this Order, Respondent shall submit to the Department a Records Search Report in accordance with the requirements of Exhibit "E" attached hereto. The Records Search Report can be limited if the Department notifies Respondent that prior submissions satisfy specific items required for the Records Search Report. Such Records Search Report shall be submitted in a format acceptable to the Department.

II. Development, Performance, and Reporting of Work Plans

A. Work Plans

All activities at the Site that comprise any element of an Inactive Hazardous Waste Disposal Site Remedial Program shall be conducted pursuant to one or more Department-approved work plans ("Work Plan" or "Work Plans") and this Order. The Work Plan(s) under this Order shall be developed and implemented in accordance with CERCLA, the NCP, and all applicable statutes, regulations, and guidance documents then in effect. All Department-approved Work Plans shall be incorporated into and become an enforceable part of this Order and shall be attached as Exhibit "B." Upon approval of a Work Plan by the Department, Respondent shall implement such Work Plan in accordance with the schedule contained in such Work Plan. Nothing in this Subparagraph shall mandate that any particular Work Plan be submitted. Further, each Work Plan submitted shall use one of the following captions on the cover page:

1. "Site Characterization Work Plan" ("SC Work Plan"): a Work Plan the objective of which is to identify the presence of any hazardous waste disposed of at the Site. Such Work Plan shall be developed in accordance with Exhibit "F";

2. "Remedial Investigation/Feasibility Study Work Plan" ("RI/FS Work Plan"): a Work Plan the objective of which is to perform a Remedial Investigation and a Feasibility Study. Such Work Plan shall be developed and implemented in accordance with the requirements set forth in Exhibit "G";

3. "IRM Work Plan": a Work Plan the objective of which is to provide for an Interim Remedial Measure. Such Work Plan shall be developed in accordance with Exhibit "H";

4. "Remedial Design/Remedial Action Work Plan" ("RD/RA Work Plan"): a Work Plan the objective of which is to provide for the development and implementation of the final plans and specifications for implementing the remedial alternative set forth in the ROD. Such Work Plan shall be developed in accordance with Exhibit "I"; or

5. "OM&M Work Plan": a Work Plan the objective of which is to provide for all activities required to maintain and monitor the effectiveness of the Remedial Action or an IRM. Such Work Plan shall be developed in accordance with Exhibit "J."

B. Submission/Implementation of Work Plans

1. (a) The RD/RA Work Plan shall be submitted to the Department within sixty (60) Days after the effective date of this Order.

(b) The Department may request that Respondent submit such other, additional, or supplemental Work Plans as are appropriate to advance the Remedial Program at the Site. Within thirty (30) Days after the Department's written request, Respondent shall advise the Department in writing whether it will submit and implement the requested additional Work Plan (or Supplemental Work Plan) or whether it elects to terminate this Order pursuant to Paragraph XIII. If Respondent elects to submit and implement such Work Plan, Respondent shall submit a Work Plan providing for implementation of the activities requested within sixty (60) Days after such election. If Respondent elects to terminate this Order or fails to make a timely election, this Order shall terminate pursuant to Paragraph XIII.

(c) Respondent may, at Respondent's option, propose one or more additional or supplemental Work Plans (including one or more IRM Work Plans) at any time, which Work Plan(s) shall be reviewed for appropriateness and technical sufficiency.

(d) Any request made by the Department under Subparagraph II.B.1.(b) shall be subject to dispute resolution pursuant to Paragraph XII.

2. A Professional Engineer must prepare, sign, and seal all Work Plans other than a Work Plan for an RI/FS or an SC.

3. During all field activities, Respondent shall have on-Site a representative who is qualified to supervise the activities undertaken. Such representative may be an employee or a consultant retained by Respondent to perform such supervision.

C. Revisions to Work Plans

The Department shall notify Respondent in writing if the Department determines that any element of a Department-approved Work Plan needs to be modified in order to achieve the objectives of the Work Plan as set forth in Subparagraph II.A or to ensure that the Remedial Program otherwise protects human health and the environment. Upon receipt of such notification, Respondent shall, subject to Respondent's right to invoke dispute resolution pursuant to Paragraph XII, submit a Work Plan for such requested work to the Department within sixty (60) Days after the date of the Department's written notice pursuant to this Subparagraph.

D. Submission of Final Reports and Annual Reports

1. In accordance with the schedule contained in a Work Plan, Respondent shall submit a final report which includes the caption of that Work Plan on the cover page and a certification that all requirements of the Work Plan have been complied with and all activities have been performed in full accordance with such Work Plan. Such certification shall be by the person with primary responsibility for the day to day performance of the activities under this Order and, except for RI and SC final reports, shall be by a Professional Engineer.

2. In the event a final report sets forth construction activities performed during the implementation of a Work Plan, such final report shall include "as built" drawings showing all changes made to the remedial design or the IRM.

3. In the event that the ROD for the Site, if any, or any Work Plan for the Site requires operation, maintenance, and monitoring (OM&M), including reliance upon institutional or engineering controls, Respondent shall submit an annual report by the 1st Day of the month following the anniversary of the start of the OM&M. Respondent shall file such annual report until the Department determines that the Site can be closed out and so notifies Respondent in writing. Such annual report shall be signed by a Professional Engineer and shall contain a certification that any institutional and engineering controls put in place pursuant to this Order are still in place, have not been materially altered, and are still effective in achieving their objectives. Respondent shall notify the Department within twenty-four (24) hours of discovery of any upset, interruption, or termination of such controls without the prior approval of the Department. Further, Respondent shall take all actions required by the Department to maintain conditions at the Site that achieve the objectives of the Remedial Program and are protective of public health and the environment. An explanation of such upset, interruption, or termination of one or more controls and the steps taken in response shall be included in the foregoing notice and in the annual report required by this

Subparagraph, as well as in any progress reports required by Paragraph III. Respondent can petition the Department for a determination that the institutional and/or engineering controls may be terminated. Such petition must be supported by a Professional Engineer stating that such controls are no longer necessary for the protection of public health and the environment. The Department shall not unreasonably withhold its approval of such petition.

E. Review of Submittals other than Progress Reports and Health and Safety Plans

1. The Department shall make a good faith effort to review and respond to each of the submittals Respondent makes pursuant to this Order within sixty (60) Days. The Department's response shall include an approval or disapproval of the submittal, in whole or in part, and notification to Respondent of the Department's determination. All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

2. If the Department disapproves a submittal, it shall specify the reasons for its disapproval. Within thirty (30) Days after the date of the Department's written notice that Respondent's submittal has been disapproved or rejected, Respondent shall elect, in writing and subject to Subparagraph II.E.3, to either (i) modify the submittal to address the Department's comments, or (ii) invoke dispute resolution pursuant to Paragraph XII. If Respondent elects to modify the submittal, Respondent shall, within sixty (60) Days after such election, make a revised submittal to the Department that addresses all of the Department's stated reasons for disapproving the first submittal. In the event that Respondent's revised submittal is disapproved, Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XII and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

3. In the event the rejected submittal is a Work Plan submitted prior to the Department's approval of the RD/RA Work Plan, Respondent shall have the additional option to terminate this Order pursuant to Paragraph XIII.

4. Within thirty (30) Days after the Department's approval of a final report, Respondent shall submit such final report to the Department, as well as all data gathered and drawings and submittals made pursuant to such Work Plan, in an electronic format acceptable to the Department. If any document cannot be converted into electronic format, Respondent shall so advise the Department and, if the Department concurs, submit such document in an alternative format acceptable to the Department.

F. Department's Issuance of a ROD

Respondent shall cooperate with the Department and provide reasonable assistance, consistent with the Citizen Participation Plan, in soliciting public comment on the proposed remedial action plan ("PRAP"), if any. After the close of the public comment period, the Department shall select a final remedial alternative for the Site in a ROD. Nothing in this Order

shall be construed to abridge the rights of Respondent, as provided by law, to judicially challenge the Department's ROD.

G. Release and Covenant Not to Sue

Upon the Department's approval of either the RD/RA Work Plan final report or an IRM Work Plan final report evidencing that no further remedial action (other than OM&M activities) is required to meet the goals of the Remedial Program, then, except for the provisions of Paragraphs VI and VIII, and except for the future OM&M of the Site and any Natural Resource Damage claims, such acceptance shall constitute a release and covenant not to sue for each and every claim, demand, remedy, or action whatsoever against Respondent, its directors, officers, employees, agents, servants, successors, and assigns (except successors and assigns who were responsible under law for the development and implementation of a Remedial Program at the Site prior to the effective date of this Order), and their respective secured creditors, which the Department has or may have pursuant to Article 27, Title 13 of the ECL or pursuant to any other provision of statutory or common law involving or relating to investigative or remedial activities relative to or arising from the disposal of hazardous wastes (or other contaminants remediated by Respondent to the Department's satisfaction pursuant to the ROD or Work Plans) at the Site; provided, however, that the Department specifically reserves all of its rights concerning, and any such release and covenant not to sue shall not extend to any further investigation or remediation the Department deems necessary due to environmental conditions on-Site or off-Site which are related to the disposal of hazardous wastes at the Site and which indicate that the Remedial Program is not protective of public health and/or the environment. The Department shall notify Respondent of such environmental conditions or information and its basis for determining that the Remedial Program is not protective of public health and/or the environment.

This release and covenant not to sue shall be null and void, *ab initio*, in the event of fraud relating to the execution or implementation of this Order or in the event of Respondent's failure to materially comply with any provision of this Order. The Department's determination that Respondent has committed fraud or has materially failed to comply with this Order shall be subject to dispute resolution.

Nothing herein shall be construed as barring, diminishing, adjudicating, or in any way affecting any legal or equitable rights or claims, actions, suits, causes of action, or demands whatsoever that (i) Respondent may have against anyone other than the Department, and (ii) the Department may have against anyone other than Respondent, its directors, officers, employees, agents, and servants, and those successors and assigns of Respondent that were not responsible under law for the development and implementation of a Remedial Program at the Site prior to the effective date of this Order, and their respective secured creditors.

III. Progress Reports

Respondent shall submit written progress reports to the parties identified in Subparagraph XI.A.1 by the 10th Day of each month commencing with the month subsequent to the approval of

the first Work Plan and ending with the Termination Date, unless a different frequency is set forth in a Work Plan. Such reports shall, at a minimum, include: all actions taken pursuant to this Order during the previous reporting period and those anticipated for the next reporting period; all approved activity modifications (changes of work scope and/or schedule); all results of sampling and tests and all other data received or generated by or on behalf of Respondent in connection with the Site, whether under this Order or otherwise, in the previous reporting period, including quality assurance/quality control information; and information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule, efforts made to mitigate such delays, and information regarding activities undertaken in support of the Citizen Participation Plan during the previous reporting period and those anticipated for the next reporting period.

IV. Penalties

A. 1. Respondent's failure to comply with any term of this Order constitutes a violation of this Order, the ECL, and 6 NYCRR Section 375-1.2(d). Nothing herein abridges Respondent's right to contest, defend against, dispute, or disprove any such claim, assertion, or allegation that it has violated this Order.

2. Within thirty (30) Days after the effective date of this Order, Respondent may elect, in writing, addressed to the Department's project attorney with a copy to the Department's project manager, to opt out of the application of statutory penalties and, in lieu thereof, to have the following stipulated penalties apply in the event of Respondent's failure to comply with this Order:

Period of Non-Compliance	Penalty Per Day
1st through 15th day	$ 500.00
16th through 30th day	$ 1,000.00
31st day and thereafter	$ 1,500.00

3. Payment of the penalties shall not in any way alter Respondent's obligation to complete performance under the terms of this Order.

B. 1. Respondent shall not suffer any penalty or be subject to any proceeding or action in the event it cannot comply with any requirement of this Order as a result of any event arising from causes beyond the reasonable control of Respondent, of any entity controlled by Respondent, and of Respondent's contractors, that delays or prevents the performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation ("Force Majeure Event"). The requirement that Respondent exercise best efforts to fulfill the obligation includes using best efforts to anticipate the potential Force Majeure Event, best efforts to address the effects of any such event as it is occurring, and best efforts following the Force Majeure Event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include Respondent's economic inability to comply with any obligation, the failure of Respondent to make

complete and timely application for any required approval or permit, and non-attainment of the goals, standards, and requirements of this Order.

2. Respondent shall notify the Department in writing within seven (7) Days after it obtains knowledge of any Force Majeure Event. Respondent shall include in such notice the measures taken and to be taken to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such seven (7) Day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondent shall be deemed to know of any circumstance which it, any entity controlled by it, or its contractors knew or should have known.

3. Respondent shall have the burden of proving by a preponderance of the evidence that (i) the delay or anticipated delay has been or will be caused by a Force Majeure Event; (ii) the duration of the delay or the extension sought was or will be warranted under the circumstances; (iii) best efforts were exercised to avoid and mitigate the effects of the delay; and (iv) Respondent complied with the requirements of Subparagraph IV.B.2 regarding timely notification.

4. If the Department agrees that the delay or anticipated delay is attributable to a Force Majeure Event, the time for performance of the obligations under this Order that are affected by the Force Majeure Event shall be extended by the Department for such time as is reasonably necessary to complete those obligations.

5. If Respondent asserts that an event provides a defense to non-compliance with this Order pursuant to Subparagraph IV.B and the Department rejects such assertion, Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XII and Respondent's position prevails.

V. Entry upon Site

A. Respondent hereby consents, upon reasonable notice under the circumstances presented, to entry upon the Site (or areas in the vicinity of the Site which may be under the control of Respondent) by any duly designated officer or employee of the Department or any State agency having jurisdiction with respect to matters addressed pursuant to this Order, and by any agent, consultant, contractor, or other person so authorized by the Commissioner, all of whom shall abide by the health and safety rules in effect for the Site, for (i) inspecting, sampling, and copying records related to the contamination at the Site; (ii) implementing this Order; and (iii) testing and any other activities necessary to ensure Respondent's compliance with this Order. Upon request, Respondent shall (i) provide the Department with suitable office space at the Site, including access to a telephone, to the extent available; and (ii) permit the Department full access to all non-privileged records relating to matters addressed by this Order. Raw data is not considered privileged and that portion of any privileged document containing raw data must be provided to the Department.

B. The Department shall have the right to take its own samples and scientific measurements and the Department and Respondent shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled. The Department shall make the results of all sampling and scientific measurements taken under this Subparagraph available to Respondent.

VI. Payment of State Costs

A. Within forty-five (45) Days after the effective date of this Order, Respondent shall pay to the Department the sum of $75,000 which shall represent reimbursement and full settlement for State Costs incurred prior to the effective date of this Order at the Site as currently defined which includes only the parcel having Tax Map Identification Number 307-13-2.2 and as originally defined which also included the parcel having Tax Map Identification Number 307-13-3.2.

B. Within forty-five (45) Days after receipt of an itemized invoice from the Department, Respondent shall pay to the Department a sum of money which shall represent reimbursement for State Costs, other than those identified in Subparagraph VI.A, for work performed at or in connection with the Site through and including the Termination Date.

C. Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (*e.g.*, supplies, materials, travel, contractual) and shall be documented by expenditure reports. The Department shall not be required to provide any other documentation of costs, provided however, that the Department's records shall be available consistent with, and in accordance with, Article 6 of the Public Officers Law.

D. Such invoice shall be sent to Respondent at the following address:

Aaron Kleinbaum, Esq.
Asst. General Counsel
Ingersoll-Rand Company
200 Chestnut Ridge Road
Woodcliff Lake, New Jersey 07677

David Sordi
Environmental Manager
Ingersoll-Rand Company
59 Field Street
Torrington, CT 06790

E. Each such payment shall be made payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7010.

F. Each party shall provide written notification to the other within ninety (90) Days of any change in the foregoing addresses.

G. Respondent may contest, in writing, invoiced costs under Subparagraph VI.B if it believes that (i) the cost documentation contains clerical, mathematical, or accounting errors; (ii) the costs are not related to the State's activities with respect to the Remedial Program for the Site; or (iii) the Department is not otherwise legally entitled to such costs. If Respondent objects to an invoiced cost, Respondent shall pay all costs not objected to within the time frame set forth in Subparagraph VI.B and shall, within thirty (30) Days after its receipt of an invoice, identify, in writing, all costs objected to and the basis of the objection. This objection shall be filed with the BPM Director. The BPM Director or the BPM Director's designee shall have the authority to relieve Respondent of the obligation to pay invalid costs. Within forty-five (45) Days after the date of the Department's determination of the objection, Respondent shall either pay to the Department the amount which the BPM Director or the BPM Director's designee determines Respondent is obligated to pay or commence an action or proceeding seeking appropriate judicial relief.

H. In the event any instrument for the payment of any money due under this Order fails of collection, such failure of collection shall constitute a violation of this Order, provided that (i) the Department gives Respondent written notice of such failure of collection, and (ii) the Department does not receive from Respondent a certified check or bank check in the amount of the uncollected funds within fourteen (14) Days after the date of the Department's written notification.

VII. Reservation of Rights

A. Except as provided in Subparagraph II.G, nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights or authorities, including, but not limited to, the right to require performance of further investigations and/or response action(s), to recover natural resource damages, and/or to exercise any summary abatement powers with respect to any person, including Respondent.

B. Except as otherwise provided in this Order, Respondent specifically reserves all rights and defenses under applicable law respecting any Departmental assertion of remedial liability against Respondent, and further reserves all rights respecting the enforcement of this Order, including the rights to notice, to be heard, to appeal, and to any other due process. The existence of this Order or Respondent's compliance with it shall not be construed as an admission of liability, fault, wrongdoing, or breach of standard of care by Respondent, and shall not give rise to any presumption of law or finding of fact, or create any rights, or grant any cause of action,

which shall inure to the benefit of any third party. Further, Respondent reserves such rights as it may have to seek and obtain contribution, indemnification, and/or any other form of recovery from its insurers and from other potentially responsible parties or their insurers for past or future response and/or cleanup costs or such other costs or damages arising from the contamination at the Site as may be provided by law.

VIII. Indemnification

Respondent shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondent and/or any of Respondent's directors, officers, employees, servants, agents, successors, and assigns except for liability arising from (i) vehicular accidents occurring during travel to or from the Site; or (ii) willful, wanton, or malicious acts or omissions, and acts or omissions constituting gross negligence or criminal behavior by the Department, the State of New York, and/or their representatives and employees during the course of any activities conducted pursuant to this Order. The Department shall provide Respondent with written notice no less than thirty (30) Days prior to commencing a lawsuit seeking indemnification pursuant to this Paragraph.

IX. Public Notice

A. Within thirty (30) Days after the effective date of this Order, Respondent shall cause to be filed a Department-approved Notice of Order, which Notice shall be substantially similar to the Notice of Order attached to this Order as Exhibit "C," with the Clerk of the County wherein the Site is located to give all parties who may acquire any interest in the Site notice of this Order. Within thirty (30) Days of such filing (or such longer period of time as may be required to obtain a certified copy, provided Respondent advises the Department of the status of its efforts to obtain same within such thirty (30) Days), Respondent shall also provide the Department with a copy of such instrument certified by such County Clerk to be a true and faithful copy.

B. If Respondent proposes to convey the whole or any part of Respondent's ownership interest in the Site, or becomes aware of such conveyance, Respondent shall, not fewer than forty-five (45) Days before the date of conveyance, or within forty-five (45) Days after becoming aware of such conveyance, notify the Department in writing of the identity of the transferee and of the nature and proposed or actual date of the conveyance, and shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order. However, such obligation shall not extend to a conveyance by means of a corporate reorganization or merger or the granting of any rights under any mortgage, deed, trust, assignment, judgment, lien, pledge, security agreement, lease, or any other right accruing to a person not affiliated with Respondent to secure the repayment of money or the performance of a duty or obligation.

X. Declaration of Covenants and Restrictions

A. 1. If the Department determines that institutional controls are to be implemented as part of the Remedial Action, Respondent shall within thirty (30) Days after such determination submit to the Department for approval a Declaration of Covenants and Restrictions to run with the land which provides for such controls. This submittal shall be substantially similar to Exhibit "D." Respondent shall cause such instrument to be recorded with the Clerk of the County wherein the Site is located within thirty (30) Days of the Department's approval of such instrument. Respondent shall provide the Department with a copy of such instrument certified by such County Clerk to be a true and faithful copy within thirty (30) Days after such recording (or such longer period of time as may be required to obtain a certified copy, provided Respondent advises the Department of the status of its efforts to obtain same within such thirty (30) Day period).

2. Respondent may petition the Department to modify or terminate the Declaration of Covenants and Restrictions filed pursuant to Subparagraph X.A.1 at such time as it can certify that reliance upon such covenants and restrictions is no longer required to meet the goals of the Remedial Program. Such certification shall be made by a Professional Engineer. The Department shall not unreasonably withhold its consent to such petition.

B. If the ROD provides for "no action" other than implementation of one or more institutional controls, the Department shall request Respondent to cause same to be recorded under the provisions of Subparagraph X.A.1. If Respondent does not cause such institutional control(s) to be recorded, Respondent cannot obtain a release and covenant not to sue pursuant to Subparagraph II.G.

XI. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

1. Communication from Respondent shall be sent to:

Martin Doster, P.E.
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Note: four copies (one unbound) of work plans are required to be sent.

with copies to:

Gary Litwin
Bureau of Environmental Exposure Investigation
New York State Department of Health
Flanigan Square
547 River Street
Troy, New York 12180-2216
Note: two copies of work plans are required to be sent, and

Ed Belmore
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

James Charles, Esq.
Division of Environmental Enforcement
New York State Department of Environmental
Conservation
270 Michigan Ave.
Buffalo, New York 14203-2999

2. Communication to be made from the Department to Respondent shall be sent to:

Morgan G. Graham, Esq.
Phillips, Lytle, Hitchcock, Blaine & Huber, LLP
3400 HSBC Center
Buffalo, New York 14203

B. The Department and Respondent reserve the right to designate additional or different addressees for communication upon written notice to the other.

C. Each party shall notify the other within ninety (90) Days after any change in the addresses in this Paragraph XI or in Paragraph VI.

XII. Dispute Resolution

A. If Respondent disagrees with the Department's notice under (i) Subparagraph II.B requesting other, additional, or supplemental Work Plans; (ii) Subparagraph II.C requesting modification of a Department-approved Work Plan; (iii) Subparagraph II.E disapproving a submittal, a proposed Work Plan, or a final report; (iv) Subparagraph II.G finding that Respondent materially failed to comply with the Order; (v) Subparagraph IV.B rejecting Respondent's assertion of a Force Majeure Event; or (vi) Subparagraph XIV.H.2.iii requesting modification of a time frame, Respondent may, within thirty (30) Days of its receipt of such notice, request, in writing, informal negotiations with the Department in an effort to resolve the dispute. A copy of such request shall be sent by Respondent to the appropriate Remedial Bureau Chief in the Department's

Central Office. The Department and Respondent shall consult together in good faith and exercise best efforts to resolve any differences or disputes without resort to the procedures described in Subparagraph XII.B. The period for informal negotiations shall not exceed thirty (30) Days from Respondent's request for informal negotiations. If the parties cannot resolve a dispute by informal negotiations during this period, the Department's position shall be considered binding unless Respondent notifies the Department in writing within thirty (30) Days after the conclusion of the thirty (30) Day period for informal negotiations that it invokes the dispute resolution provisions provided under Subparagraph XII.B.

B. 1. Respondent shall file with the OH&M a request for formal dispute resolution and a written statement of the issues in dispute, the relevant facts upon which the dispute is based, factual data, analysis, or opinion supporting its position, and all supporting documentation upon which Respondent relies (hereinafter called the "Statement of Position"). A copy of such request and written statement shall be provided contemporaneously to the Director and to the parties listed under Subparagraph XI.A.1.

2. The Department shall serve its Statement of Position no later than twenty (20) Days after receipt of Respondent's Statement of Position.

3. Respondent shall have the burden of proving by substantial evidence that the Department's position does not have a rational basis and should not prevail. The OH&M can conduct meetings, in person or via telephone conferences, and request additional information from either party if such activities will facilitate a resolution of the issues.

4. The OH&M shall prepare and submit a report and recommendation to the Director. The Director shall issue a final decision resolving the dispute in a timely manner. The final decision shall constitute a final agency action and Respondent shall have the right to seek judicial review of the decision pursuant to Article 78 of the CPLR provided that Respondent notifies the Department within thirty (30) Days after receipt of a copy of the final decision of its intent to commence an Article 78 proceeding and commences such proceeding within sixty (60) Days after receipt of a copy of the Director's final decision. Respondent shall be in violation of this Order if it fails to comply with the final decision resolving this dispute within forty-five (45) Days after the date of such final decision, or such other time period as may be provided in the final decision, unless it seeks judicial review of such decision within the sixty (60) Day period provided. In the event that Respondent seeks judicial review, Respondent shall be in violation of this Order if it fails to comply with the final Court Order or settlement within thirty (30) Days after the effective date of such Order or settlement, unless otherwise directed by the Court. For purposes of this Subparagraph, a Court Order or settlement shall not be final until the time to perfect an appeal of same has expired.

5. The invocation of dispute resolution shall not extend, postpone, or modify Respondent's obligations under this Order with respect to any item not in dispute unless or until the Department agrees or a Court determines otherwise. The invocation of the procedures set forth in this Paragraph XII shall constitute an election of remedies and such election shall constitute a

waiver of any and all other administrative remedies which may otherwise be available to Respondent regarding the issue in dispute.

6. The Department shall keep an administrative record of any proceedings under this Paragraph XII which shall be available consistent with Article 6 of the Public Officers Law.

7. Nothing in this Paragraph XII shall be construed as an agreement by the parties to resolve disputes through administrative proceedings pursuant to the State Administrative Procedure Act, the ECL, or 6 NYCRR Part 622 or Section 375-2.1.

8. Nothing contained in this Order shall be construed to authorize Respondent to invoke dispute resolution with respect to the remedy selected by the Department in the ROD or any element of such remedy, nor to impair any right of Respondent to seek judicial review of the Department's selection of any remedy.

XIII. Termination of Order

A. This Order will terminate upon the earlier of the following events:

1. Respondent's election to terminate pursuant to Subparagraphs II.B.1.b or II.E.3 so long as such election is made prior to the Department's approval of Respondent's proposed RD/RA Work Plan. In the event of termination in accordance with this Subparagraph XIII.A.1, this Order shall terminate effective the 5th Day after the Department's receipt of the written notification terminating this Order or the 5 th Day after the time for Respondent to make its election has expired, whichever is earlier, provided, however, that if there are one or more Work Plan(s) for which a final report has not been approved at the time of Respondent's notification of its election to terminate this Order pursuant to Subparagraphs II.B.1.b or II.E.3 or its failure to timely make such an election pursuant to Subparagraphs II.B.1.b or II.E.3, Respondent shall promptly complete the activities required by such previously approved Work Plan(s)consistent with the schedules contained therein. Thereafter, this Order shall terminate effective the 5 th Day after the Department's approval of the final report for all previously approved Work Plans; or

2. the Department's written determination that Respondent has completed all phases of the Remedial Program (including OM&M), in which event the termination shall be effective on the 5 th Day after the Department issues its approval of the final report relating to the final phase of the Remedial Program.

B. Notwithstanding the foregoing, the provisions contained in Paragraphs VI and VIII shall survive the termination of this Order and any violation of such surviving Paragraphs shall be a violation of this Order, the ECL, and 6 NYCRR Section 375-1.2(d), subjecting Respondent to penalties as provided under Paragraph IV so long as such obligations accrued on or prior to the Termination Date.

C. If the Order is terminated pursuant to Subparagraph XIII.A.1, neither this Order nor its termination shall affect any liability of Respondent for remediation of the Site and/or for payment of State Costs, including implementation of removal and remedial actions, interest, enforcement, and any and all other response costs as defined under CERCLA. Respondent shall also ensure that it does not leave the Site in a condition, from the perspective of human health and environmental protection, worse than that which prevailed before any activities under this Order were commenced. Further, the Department's efforts in obtaining this Order and requesting additional Work Plan(s) shall constitute "reasonable efforts" under law to obtain a voluntary commitment from Respondent for any further activities to be undertaken as part of an Inactive Hazardous Waste Disposal Site Remedial Program for the Site.

XIV. Miscellaneous

A. The activities and submittals under this Order shall address both on-Site and off-Site contamination resulting from the disposal of hazardous wastes at the Site.

B. Respondent shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and third party data validators ("Respondent's Contractors") acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. To the extent that the Department has not previously approved Respondent's Contractors for the work contemplated by this Order, Respondent shall submit the experience, capabilities, and qualifications of Respondent's Contractors to the Department within ten (10) Days after the effective date of this Order or at least thirty (30) Days before the start of any activities for which Respondent and such firms or individuals will be responsible. The Department's approval of these firms or individuals shall be obtained prior to the start of any activities for which such firms or individuals will be responsible. The responsibility for the performance of the professionals retained by Respondent shall rest solely with Respondent. Subject to the requirements of this Subparagraph, Respondent retains the right to select or change firms or individuals in its sole discretion.

C. Respondent shall allow the Department to attend and shall notify the Department at least seven (7) Days in advance of any field activities as well as any pre-bid meetings, job progress meetings, the substantial completion meeting and inspection, and the final inspection and meeting; nothing in this Order shall be construed to require Respondent to allow the Department to attend portions of meetings where privileged matters are discussed.

D. Respondent shall use "best efforts" to obtain all Site access, permits, easements, rights-of-way, rights-of-entry, approvals, institutional controls, or authorizations necessary to perform Respondent's obligations under this Order, except that the Department may exempt Respondent from the requirement to obtain any permit issued by the Department for any activity that is conducted on the Site and that the Department determines satisfies all substantive technical requirements applicable to like activity conducted pursuant to a permit. If, despite Respondent's best efforts, any necessary Site access, permits, easements, rights-of-way, rights-of-entry, approvals, institutional controls, or authorizations required to perform this Order are not obtained

within forty-five (45) Days after the effective date of this Order, or within forty-five (45) Days after the date the Department notifies Respondent in writing that additional access beyond that previously secured is necessary, Respondent shall promptly notify the Department, and shall include in that notification a summary of the steps Respondent has taken to obtain access. The Department may, as it deems appropriate and within its authority, assist Respondent in obtaining access. If any interest in property is needed to implement an institutional control required by a Work Plan and such interest cannot be obtained, the Department may require Respondent to modify the Work Plan pursuant to Subparagraph II.C of this Order to reflect changes necessitated by the lack of access and/or approvals.

E. Respondent and Respondent's successors and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Respondent's responsibilities under this Order.

F. Respondent shall provide a copy of this Order to each contractor hired to perform work required by this Order and shall condition all contracts entered into pursuant to this Order upon performance in conformity with the terms of this Order. Respondent or its contractor(s) shall provide written notice of this Order to all subcontractors hired to perform any portion of the work required by this Order. Respondent shall nonetheless be responsible for ensuring that Respondent's contractors and subcontractors perform the work in satisfaction of the requirements of this Order.

G. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any provisions of this Order.

H. 1. The terms of this Order shall constitute the complete and entire agreement between the Department and Respondent concerning implementation of the activities required by this Order. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department shall be construed as relieving Respondent of Respondent's obligation to obtain such formal approvals as may be required by this Order. In the event of a conflict between the terms of this Order and any Work Plan submitted pursuant to this Order, the terms of this Order shall control over the terms of the Work Plan(s) attached as Exhibit "B."

2. i. Except as set forth herein, if Respondent desires that any provision of this Order be changed, other than a provision of a Work Plan or a time frame, Respondent shall make timely written application to the Commissioner with copies to the parties listed in Subparagraph XI.A.1. The Commissioner or the Commissioner's designee shall timely respond.

ii. Changes to a Work Plan shall be accomplished as set forth in Subparagraph II.C of this Order.

iii. Changes to a time frame set forth in this Order shall be accomplished by a written request to the Department's project attorney and project manager, which request shall be timely responded to in writing. The Department's decision relative to the request for a time frame change shall be subject to dispute resolution pursuant to Paragraph XII.

I. 1. If there are multiple parties signing this Order, the term "Respondent" shall be read in the plural where required to give meaning to this Order. Further, the obligations of Respondents under this Order are joint and several and the insolvency of or failure by any Respondent to implement any obligations under this Order shall not affect the obligations of the remaining Respondent(s) to carry out the obligations under this Order.

2. If Respondent is a partnership, the obligations of all general partners, including limited partners who act as general partners, to finance and perform obligations under this Order and to pay amounts owed to the Department under this Order are joint and several. In the event of the insolvency of or the failure of any of the general partners to implement the requirements of this Order, the remaining general partners shall complete all such requirements.

3. Notwithstanding the foregoing Subparagraphs XIV.I.1 and 2, if multiple parties sign this Order as Respondents but not all of the signing parties elect, pursuant to Subparagraph II.B, to implement a Work Plan, then all Respondents are jointly and severally liable for each and every obligation under this Order through the completion of the activities in such Work Plan that all such parties consented to; thereafter, only those Respondents electing to perform additional work shall be jointly and severally liable under this Order for the obligations and activities under such additional Work Plan(s). The parties electing not to implement the additional Work Plan(s) shall have no obligations under this Order relative to the activities set forth in such Work Plan(s). Further, only those Respondents electing to implement such additional Work Plan(s) shall be eligible to receive the release and covenant not to sue provided under Subparagraph II.G.

J. To the extent authorized under 42 U.S.C. Section 9613, New York General Obligations Law § 15-108, and any other applicable law, Respondent shall be deemed to have resolved its liability to the State for purposes of contribution protection provided by CERCLA Section 113(f)(2) for "matters addressed" pursuant to and in accordance with this Order. "Matters addressed" in this Order shall mean all response actions taken by Respondent to implement this Order for the Site and all response costs incurred and to be incurred by any person or party in connection with the work performed under this Order, which costs have been paid by Respondent, including reimbursement of State Costs pursuant to this Order.

K. All activities undertaken by Respondent pursuant to this Order shall be performed in accordance with the requirements of all applicable Federal and State laws, regulations, and guidance documents.

L. Unless otherwise expressly provided herein, terms used in this Order which are defined in ECL Article 27, Title 13 or in regulations promulgated under such statute shall have the

meaning assigned to them under said statute or regulations. Whenever terms listed in the Glossary attached hereto are used in this Order or in the attached Exhibits, the definitions set forth in the Glossary shall apply. In the event of a conflict, the definition set forth in the Glossary shall control.

M. Respondent's obligations under this Order represent payment for or reimbursement of response costs, and shall not be deemed to constitute any type of fine or penalty.

N. This Order may be executed for the convenience of the parties hereto, individually or in combination, in one or more counterparts, each of which for all purposes shall be deemed to have the status of an executed original and all of which shall together constitute one and the same.

O. The effective date of this Order is the 10th Day after the date the Commissioner or the Commissioner's designee signs this Order.

DATED: OCT 24 2005

Acting

DENISE M. SHEEHAN
Commissioner
New York State Department
of Environmental Conservation

By: _____

Dale A. Desnoyers
Director
Division of Environmental Remediation

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

Ingersoll-Rand Company

By: _____
PATRICIA NACHTIGAL

Title: SENIOR VICE PRESIDENT & GENERAL COUNSEL

Date: SEPTEMBER 21, 2004

STATE OF NEW JERSEY)
) s.s.:
COUNTY OF Bergen)

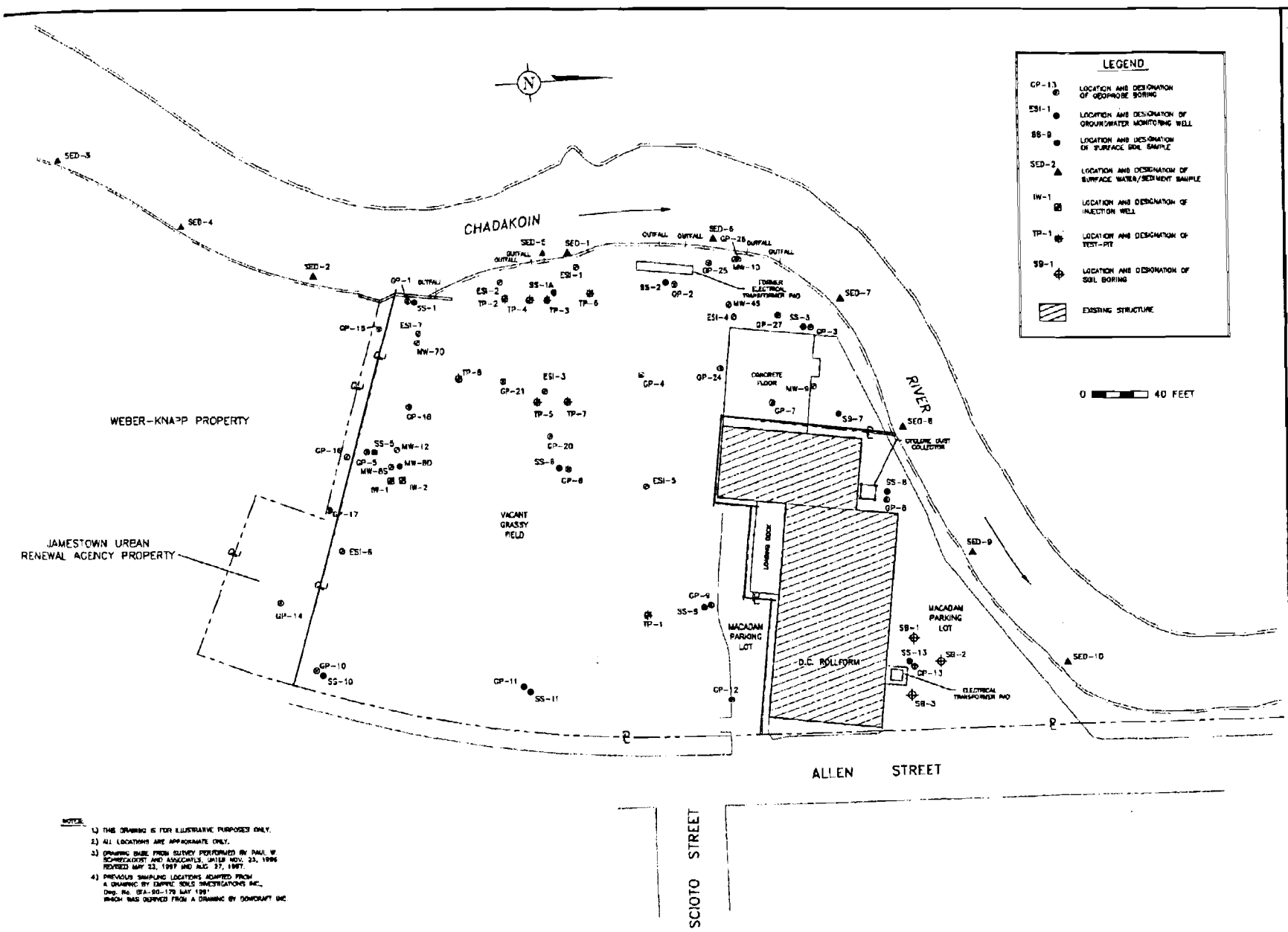
On the 21st day of September, in the year 2004, before me, the undersigned, personally appeared Patricia Nachtigal personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Signature and Office of individual
taking acknowledgment

MERYL J. MILLER
Notary Public of New Jersey
My Commission Expires Jan. 19, 2006

EXHIBIT "A"

Map of Site



NOTES:

1) THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY.
2) ALL LOCATIONS ARE APPROXIMATE ONLY.
3) DRAWING BASE FROM SURVEY PERFORMED BY PAUL W. SCHMIDKOFST AND ASSOCIATES, DATED NOV. 23, 1996 REVISED MAY 23, 1997 AND AUG 27, 1997.
4) PREVIOUS SAMPLING LOCATIONS ADAPTED FROM A DRAWING BY EMPIRE SOILS INVESTIGATIONS INC., Dwg. No. ESA-90-179 MAY 1991 WHICH WAS DERIVED FROM A DRAWING BY DOWCRAFT INC

NO	DATE	REVISION DESCRIPTION	BY	CKD

ARCADIS

SITE MAP

D.C. ROLLFORMS/INGERSOLL-RAND
JAMESTOWN, NEW YORK

PROJECT MANAGER M. SANFORD	DRAWING NUMBER G3196
LEAD DESIGN PROF. E. ROBERTS	PROJECT NUMBER AY0002190004
CHECKED BY E. ROBERTS	FIGURE NUMBER 1
DATE DRAWN 07-11-03	

EXHIBIT "B"

Department-Approved Work Plan(s)

Preliminary Draft Remedial Design/Remedial Action Work Plan

D.C. Rollforms/Ingersoll-Rand Site,
Jamestown, New York
Site Code 907019

Edward W. Roberts
Senior Engineer

Marc W. Sanford
Associate Vice President/Principal Scientist

ARCADIS Engineers & Architects of New York, P.C.

J. Lawrence Hosmer, P.E.
President

Preliminary Draft Remedial Design/Remedial Action Wor4k Plan

D.C. Rollforms/Ingersoll-Rand Site,
Jamestown, New York
Site Code 907019

Prepared for:
Ingersoll-Rand Company

Prepared by:
ARCADIS G&M, Inc.
441 New Karner Road
Suite 4
Albany
New York 12205
Tel 518 452 7826

Fax 518 452 4398

Our Ref.:
AY000219.0006

Date:
August 27, 2003

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DISCLOSURE STATEMENT

THE LAWS OF NEW YORK STATE REQUIRE CORPORATIONS THAT RENDER ENGINEERING SERVICES IN NEW YORK BE OWNED BY INDIVIDUALS LICENSED TO PRACTICE ENGINEERING IN THE STATE. ARCADIS G&M, INC. CANNOT MEET THAT REQUIREMENT. THEREFORE, ALL ENGINEERING SERVICES RENDERED TO INGERSOLL-RAND COMPANY IN NEW YORK ARE BEING PERFORMED BY ARCADIS ENGINEERS & ARCHITECTS OF NEW YORK, P.C., A NEW YORK PROFESSIONAL CORPORATION QUALIFED TO RENDER PROFESSIONAL ENGINEERING SERVICES IN NEW YORK. THERE IS NO SURCHARGE OR EXTRA EXPENSE ASSOCIATED WITH THE RENDERING OF PROFESSIONAL SERVICES BY ARCADIS ENGINEERS & ARCHITECTS OF NEW YORK, P.C.

ARCADIS G&M, INC. IS PERFORMING ALL THOSE SERVICES THAT DO NOT CONSTITUTE PROFESSIONAL ENGINEERING AND IS PROVIDING ADMINISTRATIVE AND PERSONNEL SUPPORT TO ARCADIS ENGINEERS & ARCHITECTS OF NEW YORK, P.C. ALL MATTERS RELATING TO THE ADMINISTRATION OF THE CONTRACT WITH INGERSOLL-RAND COMPANY ARE BEING PERFORMED BY ARCADIS G&M, INC. PURSUANT TO ITS AMENDED AND RESTATED SERVICES AGREEMENT WITH ARCADIS ENGINEERS & ARCHITECTS OF NEW YORK, P.C. ALL

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COMMUNICATIONS SHOULD BE REFERRED TO THE DESIGNATED PROJECT MANAGER AT ARCADIS G&M, INC.

1. Introduction

ARCADIS and ARCADIS Engineers & Architects of New York, P.C. (collectively herein referred to as "ARCADIS"), on behalf of the Ingersoll-Rand Company, have prepared this Remedial Design / Remedial Action (RD/RA) Work Plan in accordance with the Administrative Order on Consent (AOC) No. B9-0446-94-01 dated March 13, 1997, and the Record of Decision (ROD, March 2003) for the D.C. Rollforms Inactive Hazardous Waste Site in Jamestown, Chautauqua County, New York. The purpose of this RD/RA work plan is to provide the basis of design for the selected remedy for the site as specified in the Record of Decision (ROD) and described herein.

2. Site Background

2.1 Site Location and Description

The site is approximately 3.2 acres in size, consisting of two parcels - a southern parcel (currently vacant) and a northern parcel containing a building and parking lot (see Figure 1). The site is located at 583 Allen Street in Jamestown, Chautauqua County, New York. The site is bounded by Allen Street on the east, the Chadakoin River on the north and northwest, and the Webber Knapp and Jamestown Urban Renewal Agency properties on the south. The site is located in a mixed residential and commercial area, which is served by a public water supply. The municipal well-fields supplying water to the area are located 2.5 miles to the northeast of the site.

2.2 Site Operational History

Manufacturing operations conducted by the J.P. Daniel Company began at the site in approximately 1910. In 1948, Pendleton Tool Industries acquired this property; in 1950, Pendleton Tool Industries also acquired the northern parcel. In 1964, Ingersoll-Rand purchased Pendleton Tool Industries, renaming the facility Proto Tool. In 1985, Ingersoll-Rand donated this property to Jamestown Urban Renewal Agency (JURA). JURA sold this property to the current owner - Dowcraft Corporation - in 1987. At present, the American Locker Group leases the northern parcel of the site. The Proto Tool Company manufactured hand tools. The tool making operations involved processes such as forging, machining, heat-treat oil quench, sandblasting, polishing, punch-press operations, plastisol dipping of handles, painting, paint stripping, vapor degreasing, electroplating, and wastewater treatment in the southern portion of the site (as indicated on Figure 2). The facility was permitted as a RCRA

treatment and storage facility (TSF) since hazardous wastes generated from the manufacturing processes were stored. These hazardous wastes were classified as F006 - sludges from the treatment of electroplating wastes; F001- waste trichloroethylene from vapor degreasing; F005- waste toluene; F003 and F005 - waste paint containing solvents. The on-site treatment plant effluent and process water from the facility buildings was discharged directly to the Chadakoin River through seven outfalls.

In 1984, Ingersoll-Rand Company initiated closure activities for the Proto Tool Facility under the RCRA program. These activities included the identification of wastes for subsequent off-site disposal, closure of hazardous waste management units including the wastewater treatment facility; electroplating baths; vapor degreaser tanks; pumping the liquid from machine pits, tanks, and sumps for disposal; decontamination of tanks; and removal of an underground storage tank. The underground storage tanks were abandoned in place by filling with sand. Most of the buildings were demolished in 1986. The TSF permit was terminated in December 1988.

In 1990 and 1991 a series of environmental investigations commissioned by Dowcraft determined that groundwater was contaminated with solvents and oil.

2.3 Site Classification

This site was listed in the registry of Inactive Hazardous Waste Disposal Sites in New York State in 1994. The site is classified as Class 2 because hazardous wastes as defined in 6NYCRR Part 371, were discovered at the site. A Class 2 means that the site poses a significant threat to the public health and environment and action is required.

3. Site Conditions

3.1 Summary of the Site Investigations

3.1.1 Environmental Site Assessments 1990-1991

Previous investigations at the site include Phase I and Phase II Environmental Site Assessments (ESAs) and a supplemental environmental investigation. Empire Soils Investigations performed these investigations for Dowcraft Corporation in 1990 and 1991 (Empire Soils Investigations, 1990a, 1990b, 1991b). An environmental

investigation report was prepared in 1991 (Empire Soils Investigations 1991a) which summarized the results of the Phase I and Phase II ESAs and the supplemental environmental investigation, and further included information obtained from employee interviews and public records regarding site use and manufacturing operations at the former Proto Tool Company.

During the performance of the Phase I ESA at the site, an orange-brown staining and oil sheen were observed in a seep alongside the bank of the Chadakoin River. These observations prompted a Phase II ESA at the site.

The Phase II ESA consisted of a sub-surface soil and groundwater investigation. Eight test pits were excavated and subsurface soil samples were collected from several of these test pits for analysis. Seven monitoring wells were installed and groundwater samples were analyzed from these wells.

3.1.2 Remedial Investigation 1998 - 1999

In order to determine the nature and extent of contamination, a Remedial Investigation (RI) was conducted. The RI was completed in two phases; the first phase was completed in April 1998 and the second in February 1999. The RI results are summarized in the following sections.

3.2 Summary of Site Geology and Hydrogeology

The subsurface geologic conditions at the site consist mainly of two overburden units - a surficial layer of fill material and an underlying dense till. Along the western side of the site and adjacent to the Chadakoin River, an approximate 2 to 4-foot thick layer of native deposits consisting of sand, silt, and gravel, occurs between the fill and till layers. The fill layer consists of sand, gravel, cinders, bricks, concrete, and slag and varies in thickness from 7 to 15 feet. The thickness of till varies from less than one foot to over 15 feet in depth. The till is underlain by shale bedrock. On-site surface water and groundwater flow in a westerly direction towards the Chadakoin River. A representative cross-section of the site geology is presented on Figure 3.

The horizontal hydraulic conductivity of the surficial fill material, based on slug tests in monitoring wells, is in the range of 10^{-3} to 10^{-4} centimeters per second (cm/s). The underlying till is generally dense silt and clay-rich soil with a horizontal hydraulic conductivity, based on slug tests, on the order of 10^{-6} cm/s.

3.3 Nature and Extent of Contamination

The sampling of soil, groundwater, sediment and surface water was conducted during the RI. The locations of these samples, as well as those during previous investigations are presented on Figure 4. A brief summary of chemical constituents detected in each medium is provided below.

3.3.1 Surface Soil

Surface soil samples were collected during the RI at fifteen locations throughout the site. VOCs were not detected in any of the surface soil samples. Analysis of SVOCs indicated total SVOC concentrations ranging from 2,768 ug/kg in SS-2 to 88,961 ppb in SS-13.

PCBs were detected in each sample (mainly Arochlor-1260 and Arochlor-1254) ranging in concentration from 13 ug/kg (estimated) to 10,700 ug/kg (highest found in SS-1A).

Concentrations of metals in the surface soil samples varied considerably. The concentrations ranged for copper from 19.4 ppm in SS-9 to 3,090 ppm in SS-1; lead from 26.6 ppm in SS-9 to 210 ppm in SS-7; nickel from 14.2 ppm in SS-9 to 347 ppm in SS-1A; and, zinc from 58 ppm in SS-9 to 1840 ppm in SS-7. Cyanide and cadmium were not detected in any of the surface soil samples.

3.3.2 Subsurface Soil

During the 1991 investigation, 8 test pits were excavated and subsurface soil samples were collected from 6 locations where visual contamination was present. Analytical results indicated contamination of metals above the TAGM-4046 levels for arsenic, cadmium, chromium, copper, mercury, nickel, and zinc over a widely dispersed area. No volatile organic compounds were detected in unsaturated sub-surface soil samples. Oil and grease varied from 0.21% to 7.1% while cyanide ranged from non-detect (ND) to 15.4 ppm.

During the first phase of the remedial investigation, a sub-surface soil sample collected from location GP-13 in the northern parcel indicated metal contamination, primarily due to lead (86,900 ppm). In February 2000, 19 additional test pits were excavated to determine the extent of lead contamination in the northern parcel. Samples collected from the test pits indicate total lead levels ranged from 20 to

33,100 ppm. The results of TCLP lead analysis determined that soils were not a hazardous waste as the TCLP levels for lead were below the regulatory limit of 5 mg/l.

In order to determine the source of the oily seep into the Chadakoin River, 18 test pits were excavated in 2000. Total VOCs ranged from 0.024 to 66 ppm as compared to the TAGM value of 10 ppm. Total VOCs in excess of 10 ppm were identified in TP-11, TP-12, and TP-15. SVOCs concentrations ranged from ND to 79 ppm.

3.3.3 Groundwater

Fifteen groundwater monitoring wells and 27 geoprobes were installed and sampled during the investigation. VOCs including trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC) were reported in several groundwater samples. The highest level of chlorinated solvents was reported in wells GP-5 and MW-8 S/D located in the former TCE, paint and thinner storage area. At GP-5, concentrations of TCE and DCE were 830,000 ppb and 34,000 ppb, respectively. At MW-8S/D, levels of TCE, DCE, and VC varied from 96 to 920,000ppb, 7,100to 18,000 ppb, and ND to 1,600 ppb respectively. Tetrachloroethene was also found in MW-8D at a concentration of 1,100 ppb. Locations of geoprobes and monitoring wells, and the distribution of VOCs throughout the site are depicted in Figure 5.

Total SVOCs, consisting primarily of PAHs, were present in most of the groundwater samples. Due to high detection limits, the comparison of individual SVOC contaminant levels to groundwater standards is not, however, feasible. The highest concentrations of PAHs were in GP-5 (60,646 ppb) and in GP-6 (248,600 ppb). The concentrations of SVOCs in the remaining wells varied from ND to 3,649 ppb.

Groundwater standards were exceeded for dissolved metals, including arsenic, cadmium, chromium, copper, mercury, iron, lead, nickel, and zinc. The highest levels of each of these metals were in GP-2. Total metals also exceeded groundwater standards in several monitoring wells.

Non-Aqueous Phase Liquid (NAPL) consisting primarily of total petroleum hydrocarbons (TPHs) was observed in ESI-3, ESI-4, and MW-8. The highest concentrations of TPHs were recorded in GP-6 (2,405,930 ppb or 0.24%), ESI-3 (420,671 ppb), and GP-5 (332,600 ppb). The extent of NAPL in the subsurface has been delineated and depicted in Figure 6.

3.3.4 Surface Water

Surface water samples collected from the Chadakoin River upstream and downstream of the site did not detect any VOCs, SVOCs, or PCBs. Further, surface water samples collected adjacent to the site indicated non-detectable concentrations to low concentrations of metals typical of the ambient surface-water quality of the Chadakoin River based on the generally higher concentrations of metals in upstream samples.

3.3.5 Sediment

Sediment samples were collected on two separate occasions during the RI and supplemental RI. A total of ten samples were collected at locations upstream, adjacent and downstream of the site. Analytical results of samples indicated that metals were the primary COPC in sediments upstream, downstream and adjacent to the site. The resulting primary areas of concern are those associated with samples SED 1/5 and 6 (see Figure 4).

3.3.6 Air

Air monitoring was performed during all intrusive field activities conducted during the RI. A photoionization detector (PID) and a MINIRAM particulate monitor were used to monitor air in the immediate vicinity of the boreholes and breathing zones during the drilling activities. No exceedences in action levels specified in the HASP were recorded during any of the field activities.

3.4 Summary of Environmental Assessment and Exposure Pathways

The types of environmental exposures which may be presented by the Site have been identified in the RI, which contains a more detailed discussion of the potential impacts from the site to fish and wildlife resources. The following pathways for environmental exposure have been identified:

- Waterfowl feeding in the river may be hunted for human consumption.
- Benthic invertebrates in the river are in direct contact with sediments in the river.
- Common varieties of mammals (e.g. squirrels, muskrats) may contact the

contaminated surface soils and sediments.

- Plants growing at the site may uptake contamination and incorporate it into the plant material. Higher fauna may then be exposed to contamination through the ingestion of plant matter.

3.5 Summary of Human Health Risk Assessment and Exposure Pathways

A Human Health Risk Assessment identifying potential exposure pathways has been conducted in the RI. This section contains a summary of the types of human exposures that may present added health risks to persons at or around the site.

An exposure pathway is defined as "how an individual may come into contact with a contaminant". The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental medial and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Pathways that are known to or may exist at the site include:

- Direct contact with seeps discharging into the river.
- Incidental ingestion of contaminated soil or sediments by local residents or workers who may visit the site or the river.
- Inhalation of volatile compounds and contaminated particulates by visitors or workers at the site.

Currently, exposure to site-related contaminants in drinking water is unlikely since the residents and businesses in the area are connected to public water. Institutional controls, which will preclude future residential development of the site and use of groundwater for potable purposes, will further reduce the potential for exposure to site-related contaminants in the groundwater.

4. Summary of Interim Remedial Measures / Pilot Testing

4.1 Enhanced Reductive Dechlorination (ERD)

The area impacted by VOCs (predominantly TCE and "daughter" products) around

wells MW-8S and MW-8D was selected for the implementation of a pilot enhanced reductive dechlorination (ERD) technology system as the IRM for groundwater. ERD is founded on the concept of enhancing the natural reducing conditions in the subsurface system in order to expedite reductive dechlorination of VOCs present at the site. The presence of levels of DCE and VC, which are "daughter" products produced via biological degradation, as well as the reducing biogeochemical conditions observed during sampling, indicated that natural reductive dechlorination of TCE was ongoing in the MW-8S/8D vicinity. These natural conditions were enhanced by injecting an easily degradable carbon source (molasses) into the source area. The addition of this carbon source provided a substrate for additional bacteria growth, which led to the generation of even more strongly reducing conditions in the subsurface. These two factors greatly enhanced the existing reductive dechlorination, resulting in greater mass reduction of the VOCs in the source area.

As part of the IRM, two reagent injection wells and one additional monitoring well were installed in the vicinity of wells MW-8S and MW-8D. The ERD IRM was initiated in December 1998 via weekly reagent injections. The initial IRM monitoring results were favorable, indicating both the establishment of an in-situ reactive zone and the reduction of VOC concentrations. The system was subsequently expanded in 2000 to include three additional injection wells (see Figure 2). The effectiveness of the ERD technology has been demonstrated through the monthly groundwater monitoring of VOC concentrations, natural attenuation parameters and field parameters including oxidation-reduction potential, sulfide, ferrous iron and dissolved oxygen.

4.2 Recovery of Non-Aqueous Phase Liquid (NAPL)

Manual free product recovery activities were initiated in September 1998 to collect LNAPL and/or DNAPL in wells ESI-3, and ESI-4. In addition, manual bailing of periodic DNAPL (less than 0.10 feet) in well MW-8D was initiated in February 1999. NAPL thickness measurements have indicated that the NAPL thicknesses have declined since initiation of the IRM; however, recovery rates have been low due to the limited thickness of floating product in the areas.

4.3 Lead Impacted Soil Removal

A soil sample collected from the geoprobe GP-13 location during the RI indicated an anomalously high concentration of lead. The approach for the remedial action at the lead "hot-spot" in the area of GP-13 included a pre-remedial delineation in the area

to define the size of the excavation and to limit post-excavation sampling. This work was completed on October 21, 1999 and consisted of the installation of nine Geoprobe borings around the GP-13 area on a 3-foot by 3-foot grid for the collection of 9 soil samples from a depth of 4- to 6-feet below ground surface (bgs) for lead analysis.

A concentration of 1000 parts per million (ppm) lead was the cleanup objective established by NYSDEC for the soil excavation. In December 1999, an area encompassing the GP-13 and the GP-13-8 areas was excavated. Approximately 12 cubic yards of soil were excavated and stockpiled on polyethylene sheeting for off-site disposal. Post-excavation samples were collected from the base and sidewall of the excavation as well as an additional sample from a black soil/ash layer located approximately 2 feet below grade (approximately one foot thick). The NYSDEC collected a split sample of the black ash layer for the analysis of total lead. Lead concentrations for the base and sidewall samples were 317 ppm and 1,250 ppm, respectively. The lead concentration for the sample collected from the black ash layer was 7,250 ppm; the lead concentration of the NYSDEC split sample was 68,200 ppm.

In January 2000, ARCADIS G&M conducted a test pit investigation to further delineate the extent of soils exceeding 1,000-ppm lead. The results of this investigation were summarized in a letter report (ARCADIS G&M, 2000) provided to the NYSDEC. Based on concurrence with the NYSDEC, a work plan was prepared and approved for the removal of soils exceeding 1,000-ppm lead from the northern parcel on the property. The removal of soils, approximately 929 tons, was performed (May 2000) using conventional excavation and soil handling equipment. The soil was directly transported by Riccelli Enterprises to the Chautauqua County Landfill for disposal.

After the excavation was completed, visually inspected and approved by NYSDEC, three additional grab samples were collected by the NYSDEC from the bottom of the excavation. The results for each of the bottom samples were reported by the NYSDEC to be below the cleanup objective. Therefore, it is expected that the NYSDEC will delist this site based on the petition to delist this parcel of the property from the New York State Inactive Hazardous Waste site registry that was submitted to the NYSDEC as part of a completion report (ARCADIS, February 2001).

4.4 PCB Impacted Soil Removal

In August 2000, surface soil sample collection and analysis from two areas on-site indicated PCB concentrations above the NYSDEC Technical Administrative Guidance Memorandum (TAGM) HWR-94-4046 recommended soil cleanup levels. The soil analytical results defined an area of surface soil above TAGM levels; approximately 49 tons of soil were excavated and stockpiled for later disposal at the Chautauqua County Landfill.

4.5 VEP Pumping Test

A pilot test was performed on January 10, 2000 to evaluate the feasibility of using vacuum-enhanced pumping (VEP) as a remedial technique for impacts to the shallow water-bearing zone (i.e., the surficial "fill" zone). The goals for successful application of VEP included the removal of VOC-impacted groundwater from the fill zone, the removal of separate phase (free) product present in the fill zone, the control and containment of both the impacted groundwater and free product, and removal and/or enhanced degradation of adsorbed phase petroleum hydrocarbons from the vadose zone and dewatered soils. The pilot test was conducted to provide the design data necessary to implement a full-scale system. The pilot test layout is shown on Figure 7. The test duration consisted of approximately 8 hours, of which both conventional pumping and VEP were performed. Details on the VEP pumping test can be found in the Feasibility Study (ARCADIS G&M, May 2002). Data generated from the VEP pumping test is included in Appendix A.

The VEP pumping test indicated that a hydraulic influence of approximately 35 to 40 feet was achieved during the pumping of PW-1. A pumping rate of 4 gpm was produced during the test, but this rate could be increased during higher streamflow conditions. The volume of product recovery was relatively limited based on the short duration of the pumping test. Sheens were observed on the water surface in the recovery tank. Dewatering of the saturated soils during the VEP test resulted in an approximate 1.5-feet of drawdown as observed in VEP well OW-2, located 9 feet from PW-1.

5. Summary of Remedial Action Goals

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10.

The overall remedial objective is to meet the site-specific clean-up goals and be protective of human health and the environment. At a minimum, the remedy

selected should eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The specific remedial goals selected for this site are the following:

- Eliminate, to the extent practicable, the potential for ingestion of groundwater that does not attain the NYSDOH Drinking Water Standards.
- Eliminate, to the extent practicable, the off-site migration of groundwater that does not attain NHSDEC Class GA Ambient Water Quality Criteria.
- Eliminate, to the extent practicable, the migration of NAPL (LNAPL and DNAPL).
- Eliminate, to the extent practicable, exposures to contaminated soils at levels that present a health concern.
- Eliminate, to the extent practicable, the migration of site contaminants in soils into the surface water, groundwater, and sediments.
- Eliminate, to the extent practicable, exceedances of applicable environmental quality standards related to releases of contaminants to the waters of the state.
- Eliminate, to the extent practicable, the exposure of fish and wildlife to levels of river sediment contaminants above standards/guidance values.

6. Summary of Feasibility Study and Selected Remedy

A Feasibility Study (FS) was conducted to identify, screen, and evaluate potential remedial alternatives for the site (ARCADIS , May 2002). Based upon the results of the RI/FS, collectively an alternative was selected as the remedy for the Site. The elements of the selected remedy are as follows:

- Installation of a physical barrier wall (e.g., sheet-pile or Gundwall) along the riverbank;
- Enhanced Reductive Dechlorination to address elevated chlorinated VOCs along the southern side of the site in the area of MW-8S/D;

- Vacuum-Enhanced Pumping and Vacuum-Enhanced Recovery (VEP/VER) to address NAPL and elevated groundwater concentrations along the west side of the site;
- Excavation of the contaminated soil between the barrier wall and the river to native soil or bedrock and backfilling with clean material;
- Dewatering and treatment of impacted groundwater during soil excavation;
- River-bank stabilization and restoration;

Covering surface soils in any disturbed area along the riverbank with certified clean soil;

The removal of approximately 10 cubic yards of contaminated sediment from the Chadakoin River;

Fish habitat construction in the river;

Operation, maintenance, and monitoring plan development; and

Imposition of a deed restriction, if warranted, for residual soil or groundwater contamination remaining on-site after remedy implementation.

7. Remedial System Design

7.1 General Process Description & Design Parameters

The selected remedy includes the installation of a vertical barrier wall [e.g., interlocking steel sheet-pile (Z-pile) or high density polyethylene (HDPE) Gundwall] within the riverbank toward the top portion of the slope to prevent the migration of free product into the Chadakoin River. The barrier wall will be approximately 300-feet in length, installed within the top portion of the slope, and will be keyed into the till layer an adequate toe-in length to structurally secure the wall. A conceptual layout in plan view of the remediation areas and proposed systems is Figure 8.

After the installation of the vertical barrier wall, a temporary dam type structure (e.g., "Port-A-Dam" or water-filled bladder dam) will be installed along the 300-foot section of the riverbank. The area between the temporary dam and the riverbank

will be dewatered through the use of a sump and "trash" pump. The inlet to the trash pump will be placed in a gravel sump installed in the riverbed. Water will first be pumped into a fractionalization (frac) tank for primary treatment (i.e., primary settling of solids). After allowing for settling in the frac tank, the water will be decanted from the tank and pumped through an on-site temporary mobile treatment system consisting of an oil/water separator, filtration (e.g., bag filters) and liquid-phase granular activated carbon (GAC) vessels. The treated water will likely be discharged to the river under a temporary State Pollutant Discharge Elimination System (SPDES) permit. An additional option would be to discharge to the local publicly owned treatment works (POTW).

With the temporary dam in place along the river edge, petroleum impacted soils and the eight outfalls located between the barrier wall and the temporary dam would be excavated. In addition, metal impacted sediment from the riverbed would also be excavated. Both the excavated soils and sediments would be temporarily stockpiled on site, placed on and covered by polyethylene sheeting, characterized through laboratory analysis, and transported off-site for disposal at a permitted facility based upon analytical results.

The riverbank and riverbed will subsequently be backfilled with clean fill and graded to reflect pre-existing conditions. The reconstructed riverbank will include stabilization and erosion controls using geofabric and plantings on the upper slope as well as riprap on the lower slope (see Figure 9). Surficial soils along the disturbed area of riverbank will be covered with certified clean fill and a wing deflector will be constructed along the riverbank to improve fish habitat. The temporary dam will be removed at the completion of construction.

A VER/VEP system will be installed in order to capture and treat contaminated groundwater as well as to prevent excessive hydraulic head build-up behind the barrier wall. Extraction wells will be installed along the upgradient side of the barrier wall to create an inward hydraulic gradient and extract free product. Extraction wells will be spaced using a conservative radius of influence of 20 feet along the entire length of the barrier wall to ensure full coverage of the impacted area. The radius of influence was based on the results of the VEP pumping test conducted on January 10, 2000. The wells will be screened through the bottom five feet of the fill material. A submersible pump will be placed in each extraction well and used to dewater the overburden, while a blower applies a vacuum to each extraction well. An alternative approach to this extraction system is to use a liquid-ring pump (LRP) that achieves total-phase (i.e., liquid, product, and vapor phases)

removal through a high-vacuum enhanced pumping system. Recovered groundwater will be treated through an oil/water separator, filtration (bag filters), and liquid-phase GAC vessels or a low-profile (shallow-tray) air stripper. The vapor stream will be treated through the use of a knockout tank and vapor-phase GAC. The treated groundwater will be discharged to the local POTW or to the Chadakoin River under a SPDES permit. The process flow diagram for the VER/VEP system is provided in Figure 10.

Based upon the success of the ERD pilot test, the existing ERD system will continue to operate on site in the area around wells MW-8S and MW-8D. Currently, a dilute solution of molasses is injected into five injection wells screened in the fill zone on a bi-weekly basis. Based upon the performance monitoring of the ERD system, it will be modified and/or expanded as required.

7.2 Vertical Barrier Wall Installation

A vertical barrier (e.g., interlocking steel Z-pile or HDPE Gundwall) will be installed along the riverbank of the property from the southern property line to approximately 300-feet upstream. The steel Z-pile wall will be constructed with liquid tight interlocking joints (e.g., grouted joints or gasket sealed joints). If HDPE sheets are use, they will also employ liquid tight interlocking joints (elastomer sealed joints). The barrier wall will be aligned approximately with the top of slope and keyed into the till layer at a depth of approximately 10 feet bgs. The barrier wall will penetrate to the depth necessary to resist rotation and toe kick-out, as well as global slope instability during riverbank excavation activities. Based upon field conditions, it may be necessary to presort the surficial fill material to remove large cobbles or brick and building material.

7.3 Installation of the Temporary Dam and Dewatering

A temporary dam (i.e., Port-A-Dam or bladder dam) will be utilized as a construction expedient to facilitate the excavation of petroleum-impacted soil on the riverbank and the metal-impacted sediment in the riverbed. The temporary dam will be installed over a length of approximately 300-feet from the southern property line to approximately 20-feet upstream of TP-9. The temporary dam will be keyed into the riverbank at these locations to allow for the effective dewatering of the riverbank and riverbed without flow circumventing the ends of the dam. The temporary dam will be placed a sufficient distance from the riverbank toe in order to expose the impacted sediment and enable the excavation of this material.

A sump will be constructed through the excavation of a pit in the riverbed, which will be backfilled with gravel around a segment of perforated pipe to allow for dewatering of the area between the temporary dam and the riverbank. The intake from a trash pump will be placed into the gravel sump. The depth of suction will be adjusted based on the progress of the dewatering operation (i.e., progressively lowered as the water level recedes) . . Water will be pumped to an equalization storage tank (e.g., frac or Baker tank) to allow for the settling of solids re-suspended in the water column during the excavation operations. A transfer pump will be used to pump water from the storage tank into an on-site temporary mobile treatment system. The treatment system will consist of an oil/water separator, filtration (e.g., bag filters) for additional solids and metals removal, and liquid-phase GAC vessels. The treated water will be discharged to the river under a temporary SPDES permit or to the local POTW. The treatment system performance will be monitored through system sampling as required by a temporary SPDES or POTW permit.

Stream flow within the Chadakoin River is controlled by a dam located upstream of the site at Washington Street. Flow during the period from May 1997 to February 1998 ranged from 43 cfs to 1,100 cfs, with a fluctuation in river stage of approximately 4 feet. The dewatering and excavation of the sediments operations will be scheduled during low flow conditions and coordinated with the Washington Street dam operator to minimize uncontrolled stream flow releases. However, the temporary dam will be designed to accommodate the maximum stream flow. Similarly, the dewatering pump and treatment system will be sized to allow for continuous operation under maximum stream flow conditions.

7.4 Riverbank and Sediment Removal

This portion of the remedy will include the excavation of all petroleum-impacted soils along the riverbank between the barrier wall and the temporary dam, the excavation of all metal-impacted sediment, and the removal of the eight former outfalls located at the site.

All petroleum-impacted soils between the barrier wall and the temporary dam will be removed via mechanical excavation following the effective dewatering of the area. Subsequent to the completion of the excavation activities, the riverbank and riverbed will be backfilled with imported, certified-clean fill, compacted, and graded as part of the riverbank stabilization. All excavated soils will be stockpiled on-site at a designated soil handling/staging area. The staging area will be designated based on its accessibility to the river; potential areas under consideration include the concrete

pad on the west side of the building or the west side of the property. . The excavated soils will be stockpiled in piles of approximately 100 cubic yards for characterization purposes. The staged soil will be placed on and covered with polyethylene sheeting throughout the stockpiling process. The stockpile area(s) will be constructed with a perimeter berm (e.g., straw bales or earthen) , covered with a layer of sheeting, and a base that will be sloped to a temporary sump (gravel packed perforated pipe) to contain water resulting from gravity drainage through the soil and to provide an extraction point to remove any accumulated water. Each stockpile will be physically separated from other stockpiles by approximately 5-feet, or by temporary "jersey" barriers, straw bales, or other appropriate physical separation barriers. Each stockpile will be placed on and covered with 6-mil (minimum) polyethylene sheeting. Samples will be collected from the stockpiled soils in accordance with the analytical requirements of the designated off-site permitted disposal facility.

In addition to the petroleum-impacted soils, two areas of the riverbed along the riverbank that contain metals concentrations above the baseline will be excavated. The two subject areas of concern are the sample SED-1/5 area and the sample SED-6 area (Figure 8). The sediment removal action is focused on two reaches extending to either side of these areas in parallel with the riverbank. Each reach extends 40-feet and encompasses the sediment approximately extending four feet from the riverbank. Assuming a sediment depth of 6-inches, a total of approximately 10 cubic yards of sediment will be excavated. The excavated sediments will be stockpiled in a designated staging area constructed as outlined previously. Excavated sediments may require stabilization with cement kiln dust (CKD) or lime to lower the moisture content, if the initial gravity dewatering efforts at the staging area are not sufficiently effective in achieving the desired moisture content stipulated by the off-site disposal facility. The dewatered and stabilized sediment will be characterized through sampling and disposed at an off-site permitted disposal facility.

The remedial contractor will determine the specific location and configuration of the soil and sediment staging area. The contractor will also be responsible for the installation and maintenance of the soil staging area for the duration of site remedial operations.

7.5 Outfall Removal

There are currently eight former outfalls present at the site; these will be removed as part of the site remedy. Removal of each outfall will include excavation of the

overlying soils, removal of the outfall piping and associated pipe bedding material to a landward location that would be considered upgradient of the barrier wall.

All excavated soil and pipe bedding material will be stockpiled on-site as outlined in Section 7.4. Pipe material will be segregated, crushed, and stockpiled separately as construction debris for subsequent load-out, transport, and disposal at an off-site permitted facility. Following the completion of the excavation operation, the exposed pipe and remaining bedding material will be plugged or blocked with a minimum 1-foot thick concrete or grout plug to seal the ends of the former outfalls and mitigate any possible groundwater flow through the remaining pipe and bedding material towards the river.

Riverbank Stabilization and Restoration

Stabilization and erosion control measures will be constructed along the riverbank to prevent the possible erosion of fill material into the Chadakoin River. These measures will be implemented along an approximately 300-foot reach of riverbank. The portion of the bank to be stabilized extends from the concrete bulkhead at the upstream extent of the property to approximately 50-feet downstream of the furthest downstream outfall, located near Well MW-10.

The bank will be graded at a nominal two horizontal to one vertical (2:1) slope over the area to be addressed by the stabilization and erosion controls. A reinforced silt fence will be installed along the disturbed area immediately following the initial excavation to control potential soil erosion into the river. A geotextile will then be placed over the backfilled and graded area, and anchored into a trench excavated along the bank edges (i.e., key into the bottom and top of slope) as depicted on Figure 9. Following placement of the geotextile, a 1-foot wide course of 6 to 8-inch nominal size riprap will be placed both in front of and behind the silt fence. The upper portion of the bank disturbed during construction activities will be backfilled with certified clean fill, graded, and seeded to provide addition erosion control in the form of a vegetative cover. The vegetative cover will include plantings of a variety of woody species (e.g. shrubs, trees) to assist in stabilizing the upper portion of the bank. A landscape plan for the design of the vegetative cover will be submitted as part of the final design. The lower portion of the slope will be stabilized through armoring with riprap greater than 6-inch nominal size.

7.6 Fish Habitat Enhancement (Wing-wall Structure)

As part of the riverbank stabilization, the NYSDEC Division of Fish and Wildlife has requested additional stream enhancements to be incorporated into the design of the bank cover. These stream enhancements will consist of a fish habitat improvement structure constructed as a single-winged deflector in the riverbed at the base of the upstream bank. The purpose of the single-winged deflector is to enhance fish habitat along the shore of the site and assist in the propagation of warm water fish. A conceptual design of the deflector consists of a physical barrier (e.g., single wing-wall structure constructed of concrete, wood, or steel) extending at an angle from the upstream shoreline armored with riprap.

7.7 VEP/VER and On-Site Treatment System

A VEP/VER treatment system will be installed at the site. The treatment shed will be heated, insulated and equipped with a ventilation fan and will house the treatment equipment and system controls. A preliminary system design has been established based upon the results of the VEP/ VER pumping test conducted on January 10, 2000. The pumping test established an average pumping rate of 4 gpm, and a vapor flow rate of between 22.90 and 26.17 standard cubic feet per minute (scfm) for a single extraction well. The hydraulic radius of influence was observed at 35 to 40 feet during the test. A vacuum was measured at a distance of 24 feet from the extraction well. The VEP/VER treatment system will be designed using a conservative radius of influence of 20- to 25-feet.

The VER system will be comprised of eight to ten extraction wells installed immediately upgradient of, and aligned with the full length of the barrier wall. The well separation will be 40-feet (+/-) on center based on the design radius of influence of 20- to 25-feet. The extraction wells will be constructed of 4-inch diameter PVC and installed to a total depth of approximately 12 feet below land surface (bls). The wells will be completed with a 2-foot sump at the base of the well and screened from approximately 5 to 10 feet bls through the fill and the sand/gravel layer directly above the till layer. Pneumatic or electric submersible pumps will be installed in each extraction well to recover groundwater and NAPL, while a blower provides a vacuum on the well. However, a liquid ring pump (total phase, high-vacuum) will be evaluated during the final design of the system.

Extraction wells will pump at a rate of approximately 4 gpm resulting in a total collectively flow rate for the extraction system ranging between 32 and 40 gpm. Extracted groundwater will be treated via an oil/water separator to remove any recovered NAPL. In addition, groundwater will be treated through particulate

filtration (bag filters) followed by either an air stripper (low-profile) or liquid-phase GAC. A more detailed evaluation will be conducted during the final design to determine the effectiveness of an air stripper versus granular activated carbon adsorption for liquid treatment. The treated effluent from the system will discharge to either the local POTW or to the Chadakoin River under a SPDES permit.

A blower will be used to provide a vacuum of 60 inches of water column at each extraction well resulting in a total extracted vapor flow rate of between 208 and 226 scfm. Vapor-phase GAC will be used to treat off-gas from the VER system and/or the air stripper to meet Air Guide 1 effluent standards.

Individual vacuum and liquid lines from each recovery well will be trenched to the treatment area. If pneumatic submersible pumps are used, compressed air lines to each extraction well will be provided. The liquid and vacuum lines will be manifolded together inside the treatment building, valved to control the flow, and equipped with pressure gauges dedicated to monitoring the flow from each extraction well. A compressed air line manifold will be installed if pneumatic pumps are used, along with the appropriate valves to adjust the compressed air delivered to each pump.

The system will be designed to monitor the operational status of critical systems on a continual basis during operation. The system will be interlocked with appropriate sensors, which can temporarily shutdown the system in the event the system malfunctions. A system component failure would result in a system shutdown to assure that the discharge of untreated groundwater or soil vapor is prevented.

7.8 ERD (IRZ) System

ERD technology is currently being implemented at the site as an IRM to address the "hot spot" area of chlorinated VOCs in the vicinity of wells MW-8S/8D. Based upon favorable results, the existing ERD system will continue to operate on site in this area (see Figure 8).

The continued application of ERD will employ the addition of a food-grade carbohydrate reagent to the subsurface in five injection wells, as currently being performed under the IRM, to increase the reducing conditions and provide excess organic carbon for the indigenous anaerobic microbial population to utilize. These factors should result in a more expeditious insitu degradation of the chlorinated VOCs by the bacteria via the reductive dechlorination process. Performance data

collected during the IRM indicates that the reducing conditions have already been enhanced by the reagent injection and a decrease in VOC concentrations has occurred within the established reactive zone.

The existing performance monitoring will also be continued as part of the future ERD program to treat the on-site groundwater; therefore, monitoring the biogeochemical parameters and evaluating the effectiveness of this technology in treating the groundwater. Based upon the performance monitoring results, the ERD system will be adjusted and modified as required.

8. Permitting Requirements

Implementation of the selected remedy will require permits or permit equivalencies in accordance with applicable regulations. The need for these permits or permit equivalencies is also dependant on the activity being pursued. A brief discussion of the potential permits is provided herein.

To construct the remedial system, the following permits may be required.

- Building Permits (local authority)
- Electrical Permit (local authority)

The above listed permits or permit equivalencies will be coordinated and obtained prior to system installation by the remedial contractor.

A United States Army Corps of Engineers (USACOE) Nationwide permit will be required for work related to the construction in and along the Chadakoin River. The nationwide permit application will be submitted separately to the NYSDEC and USACOE for review and approval. This permit represents a long-lead /critical schedule activity.

Technical approval to construct and a certificate to operate a process, exhaust, or ventilation system will be obtained from the NYSDEC through an Air Discharge Permit or equivalency. The permit will stipulate air discharge rates and the maximum concentrations of chemical constituents. It will also specify air sampling frequency and sample type.

If the treated effluent from the VER/VEP system is discharged to the local POTW,

all required permits and approvals will be obtained from the City of Jamestown to discharge the water, as well as to make the connection to the sanitary sewer line. If the treated effluent is discharged to the Chadakoin River, a SPDES permit will be obtained.

9. Construction Schedule

A critical path method (CPM) construction schedule will be provided during the 90 percent design stage of the project. However, from a conceptual standpoint the majority of the construction and installation activities (i.e., civil, mechanical, and electrical) would likely require one full construction season for full completion pending reasonable weather conditions that do not prohibit implementation. These activities would include the installation of the barrier wall, riverbank and riverbed removal and restoration, fish habitat construction, and installation of the VER/VEP system (i.e., extraction wells, piping, and treatment system). The startup and shakedown of the treatment system would be implemented as a subsequent phase of the remedial project. The final phase of the remedial project would be the operation of the VER/VEP system and the continued operation of the ERD system along with an operation and maintenance program.

10. Construction Drawings and Technical Specifications

Final engineering design, construction drawings and technical specifications will be prepared for the selected remedy for the 90 percent design submittal. Appendix C presents a preliminary list of the construction drawings that will be prepared. Appendix D presents a preliminary list of the technical specifications.

11. System Operation and Monitoring Plan

A detailed operation and maintenance plan will be provided at the 90 percent design stage of the project. The schedule of O&M tasks for the remedial system will be outlined in this submittal. Conceptually, during the first three months of remedial system operation, weekly monitoring will be conducted; thereafter, routine O&M will be conducted at least once per month. All field O&M measurements will be recorded on standard forms in a logbook and used to prepare a report summarizing the remedial system performance on a semi-annual basis.

12. Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) will be prepared and presented in Appendix E as part of the 90 percent design submittal.

13. Field Sampling Plan

A Field Sampling Plan (FSP) will be prepared and presented in Appendix F as part of the 90 percent design submittal.

14. Health and Safety Plan

A Health and Safety Plan (HASP) will be prepared and presented in Appendix G as part of the 90 percent design submittal.

15. Post Remedial Action Plan

The remedial action goals and objectives for the site are specified in the ROD and provided in Section 5 of this report. Contaminant removal resulting from the operation of the VER system is expected to start at a relatively high rate, then decline rapidly and approach asymptotic concentrations. Shutdown of the VER system will involve a review and evaluation of the compiled vapor and groundwater quality data. Contaminant concentrations of treatment system influent vapor and water, along with the results from the groundwater monitoring program, will be plotted versus time to evaluate decreasing trends. The treatment system influent vapor and water-quality analytical results from the extraction wells combined with the data from surrounding monitoring wells will allow the evaluation of system effectiveness in specific areas of the site. The VER system would be shutdown when the monitoring data demonstrates that either of the following criteria is met:

a) Concentrations of site-specific groundwater parameters at all locations sampled quarterly during the water-quality monitoring program are less than the cleanup goals for three consecutive sampling events.

b) If following four consecutive groundwater sampling events, the concentrations have reached asymptotic levels and remain above clean up goals, the clean-up goals will be requested to be modified based on the achieved levels representing the minimum concentrations that can reasonably be achieved in a technically practicable manner.

Upon attaining either of the above criteria, shutdown the VER system would be

requested. Termination of site remediation and system shutdown will require the approval by NYSDEC. It is understood that the NYSDEC will not consider remediation of the site complete unless the clean-up goals for both soil and groundwater have been met or a reasonable effort has been made to achieve the clean-up goals. NYSDEC will allow the cleanup goals to be modified only if the following conditions are met.

- Any future residual groundwater and/or soil contamination will not pose an unacceptable risk to human health and environment.
- The residual groundwater and/or soil contamination will be compatible with the anticipated future use of the site.
- A "zero slope" has been reached with regard to groundwater and soil quality improvement (i.e. continued treatment will not result in any noticeable decrease in the concentration of chemicals in the groundwater or soil).

Prior to system shutdown based on NYSDEC approval, a summary status report will be prepared and submitted to the NYSDEC. Confirmatory soil sampling will be performed as part of these closure activities.

16. Certification

This is to certify that the Preliminary Draft Remedial Design/Remedial Action Work Plan for the D.C. Rollforms/Ingersoll-Rand Site, Jamestown, New York, Site Code #907019 was prepared in accordance with the Order on Consent, Index # B9-0446-94-01, as entered into by Ingersoll-Rand and the NYSDEC.

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17. References

Aldridge, D.W., B.S. Payne, and A.C. Miller. 1987. The effects of intermittent exposure to suspended solids and turbulence on three species of freshwater mussels. *Environ. Pollut.* 45: 17-28.

Allen, K.O. and J.W. Hardy. 1980. *Impacts of Navigational Dredging on Fish and Wildlife: A Literature Review.* U.S. Department of the Interior, U.S. Fish and Wildlife Service, Slidell, Louisiana.

Anderson, H.R., W.G. Stetz, J.L. Belli and R.V. Allen. 1982. Geohydrology of the Valley-fill Aquifer in the Jamestown Area, Chautauqua County, New York: U.S. Geological Survey Open-File Report 82-113.

ARCADIS G&M. 1998. Interim Remedial Measures Work Plan, D.C. Rollforms/Ingersoll-Rand Site. November 1998.

ARCADIS G&M. 1998. Scope of Work Letter for Focused Feasibility Study, D.C. Rollforms/Ingersoll-Rand Site. October 30, 1998.

ARCADIS G&M, 1999. Phase I Interim Remedial Measure Report, D.C. Rollforms/Ingersoll-Rand Site, Jamestown, New York, Site Code 907019. June 21, 1999.

ARCADIS G&M, 2000. Interim Remedial Work Plan for Sediment Removal, Bank Stabilization and VER Removal Program, D.C. Rollforms/Ingersoll-Rand Site, Jamestown, New York, Site Code 907019. January 7, 2000.

ARCADIS G&M, 2000. Test Pit Investigation, Lead Soil IRM, D.C. Rollforms/Ingersoll-Rand Site, Jamestown, New York, Site No. 907019. January 7, 2000.

ARCADIS G&M, 2001. Lead Soil Removal, D.C. Rollforms/Ingersoll-Rand Site, Jamestown, New York, Site Code 907019. February 26, 2001.

Brown, C.L. and R. Clark. 1968. Observations on dredging and dissolved oxygen in a tidal waterway. *Wat. Res. Res.* 4(6): 1381-1384.

Cadwell, D.H. 1988. Surficial Geologic Map of New York - Niagara Sheet. New

York State Geological Survey Map and Chart Series No. 40.

Claflin, T.O. 1973. *Environmental Assessment-Navigation Pool 8.* University of Wisconsin-Lacrosse, River Studies Center. Performed for U.S. Army Corps of Engineers, St. Paul, MN. As cited in: Allen, K.O. and J.W. Hardy. 1980. *Impacts of Navigational Dredging on Fish and Wildlife: A Literature Review.* U.S. Fish and Wildlife Service, Biological Services Program, National Coastal Ecosystems Team, Slidell, LA. FWS/OBS-80/07. September.

Crain, L.J. 1966. Ground-water Resources of the Jamestown Area, New York. United States Geological Survey Bulletin 58.

De Groot, S.J. 1979. An assessment of the potential environmental impact of large-scale sand-dredging for the building of artificial islands in the North Sea. *Ocean Managt.* 5:211-232.

Empire Soils Investigations. 1990a. Phase I Environmental Site Assessment. D.C. Rollforms Corporation. Jamestown, New York.

Empire Soils Investigations. 1990b. Phase II Environmental Site Assessment. D.C. Rollforms Corporation, 583 Allen Street, Jamestown, New York.

Empire Soils Investigations, Inc. 1991a. Environmental Investigation. D.C. Rollforms Corporation, Jamestown, New York.

Empire Soils Investigations. 1991b. February 27, 1991 letter report to Mr. Harry B. Nicholson, Jr. regarding environmental investigation of D.C. Rollforms property.

Gabry, J.C. 1984. *Long-Term Effects of Dredging and Overboard Disposal on the Benthic Invertebrates within Absecon Bay, New Jersey.* Ph.D. Thesis, Rutgers University, New Brunswick, NJ. May.

Goossens, H. 1992. *Dredging Operations and the Environment; An Evaluation Scheme Developed from an Ecological Point of View.* XIIIth World Dredging Congress, Dredging for Development, Bombay, India.

Hall, D.N. 1988. Effects of eductor dredging of gold tailings on aquatic

environments in Victoria. *Proc. R. Soc. Vict.* 100: 53-59.

Hayes, D.F. 1986. *Environmental Effect of Dredging Technical Notes: Guide to Selecting a Dredge for Minimizing Resuspension of Sediment.* U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS. December.

Held, J.W. 1978. *The Environmental Impact of Upland Disposal of Dredged Material at Island 117, Crosby Slough Pool 8, Upper Mississippi River.* University of Wisconsin-Lacrosse. Performed for U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS. As cited in: Allen, K.O. and J.W. Hardy. 1980. *Impacts of Navigational Dredging on Fish and Wildlife: A Literature Review.* U.S. Fish and Wildlife Service, Biological Services Program, National Coastal Ecosystems Team, Slidell, LA. FWS/OBS-80/07. September.

Hirsch, N.D., L.H. DiSalvo, and R. Peddicord. 1978. *Effects of Dredging and Disposal on Aquatic Organisms*, U.S. Army Engineer Waterways Experiment Station, Environmental Laboratory, Vicksburg, MS.

Kauss, P.B., 1991. Biota of the St. Mary's River: Habitat evaluation and environmental assessment. *Hydrobiologia* 219: 1-35.

Long, E.R., L.J. Field and D.D. MacDonald. 1998. Predicting toxicity in marine sediments with numerical sediment quality guidelines. *Environmental Toxicology and Chemistry* 17(4):714-727.

Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. *Environmental Management* 19(1):81-97.

Long, E.R. and L.G. Morgan. 1990. *The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program.* National Oceanic and Atmospheric Administration (NOAA) Technical Memorandum No. 5, OMA52, NOAA National Ocean Service, Seattle, Washington.

Lopez-Jamar, E. and J. Mejuto. 1988. Infaunal benthic recolonization after dredging operations in La Coruna Bay, NW Spain. *Cah. Biol. Mar.* 29: 37-

49.

McCauley, J.E., R.A. Parr, and D.R. Hancock. 1976. Benthic infauna and maintenance dredging: A case study. *Wat. Res.* 11:233-242.

McLellan, T.N., R.N. Havis, D.F. Hayes, and G.L. Raymond. 1989. *Field Studies of Sediment Resuspension Characteristics of Selected Dredges: Final Report.* U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS. Tech. Report HL-89-9. April.

Miller, T.S. 1988. Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York - Niagara Sheet. United States Geological Survey Water-Resources Investigations Report 88-4076.

New York State Department of Environmental Conservation. 1993. *Technical Guidance for Screening Contaminated Sediments.* New York State Department of Environmental Conservation, Division of Fish and Wildlife and Division of Marine Resources. November.

New York State Department of Environmental Conservation. 1994. Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites, Division of Fish and Wildlife.

New York State Department of Environmental Conservation. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998.

New York State Department of Health. 1982. New York State Atlas of Community Water System Sources.

Niemi, G. J., P. DeVore, et al. 1990. Overview of case studies on recovery of aquatic systems from disturbance. *Environ. Manage.* 14(5): 571-587.

O'Connor, T.P., K.D. Daskalakis, J.L. Hyland, J.F. Paul and J.K. Summers. 1998. Comparisons of sediment toxicity with predictions based on chemical guidelines. *Environmental Toxicology and Chemistry* 17(3):468-471.

Persaud, D., R. Jaagumagi and A. Hayton. 1992. *Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario.* Ontario Ministry of

Environment. Queen's Printer for Ontario.

Persaud, D., R. Jaagumagi and A. Hayton. 1993. *Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario.* Environmental Monitoring and Reporting Branch, Ontario Ministry of the Environment. Ottawa. 24 p.

Rickard, L.V. and D.W. Fisher. 1970. Geologic Map of New York-Niagara Sheet. New York State Museum and Science Service Map and Chart Series No. 15.

Smith, J.M., J.D. Phipps, E.D. Shermer, and D.F. Samuelson. 1976. Impact of Dredging on Water Quality in Grays Harbor, Washington. In: *Proceedings of the Specialty Conference on Dredging and Environmental Effects.* Krenkey, P.A., J. Harrison, and J.C. Burdick (eds.), American Society of Civil Engineers, New York, NY. 512-528. As cited in : Houston, L., M.W. LaSalle, and J.D. Lunz. 1989. *Environmental Effects of Dredging. Technical Notes: Predicting and Monitoring Dredging Induced Dissolved Oxygen Reduction.* Report No. EEDP-06-9. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS. November.

Solomon, R.C., C.R. Bingham, et al. 1974. Physical, Biological, and Chemical Inventory and Analysis of Selected Dredged and Disposal Sites, Middle Mississippi River; Final Report, U.S. Army Engineer Waterways Experiment Station, Environmental Effects Laboratory, Vicksburg, MS.

Stickney, R.R. and D. Perlmutter. 1975. Impact of intracoastal waterway maintenance dredging on a mud bottom benthos community. *Biol. Conserv.* 7: 211-226.

Suter, G.W., II. 1993. *Ecological Risk Assessment.* Ann Arbor: Lewis Publishers.

USACOE. 1975. *Maintenance Dredging, Existing Navigation Projects, San Francisco Bay Region, California. Volume 1.* U.S. Army Corps of Engineers, San Francisco Region.

US Environmental Protection Agency. 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. Interim Final EPA/540/G-89/004.

US Environmental Protection Agency. 1990. The National Contingency Plan. U.S. Environmental Protection Agency, Washington, DC.

US Environmental Protection Agency. 1998. Guidelines for Ecological Risk Assessment. Final. Risk Assessment Forum. EPA/630/R-95/002F.

Van Dolah, R.F., D.R. Calder, and D.M. Knott. 1984. Effects of dredging and open water disposal on benthic macroinvertebrates in a South Carolina estuary. *Estuaries* 7(1): 28-37.

Waller, M.W. and A.J. Fisher. 1982. Atlas of Eleven Selected Aquifers in New York. United States Geological Survey Water Resources Investigations Open File Report 82-553.

Wildish, D.J. and M.L.H. Thomas. 1985. Effects of dredging and dumping on benthos of Saint John.

Appendix 40

VEP Pumping Test Data

Appendix 41

Permit Applications

Appendix 42

List of Construction Drawings

Appendix 43

List of Technical Specifications

Appendix 44

Quality Assurance Project Plan

Appendix 45

Field Sampling Plan

Appendix 46

Site Health and Safety Plan

EXHIBIT "C"

NOTICE OF ORDER

Ingersoll-Rand Company ("Respondent") has entered into an Order on Consent (Index #B9-0446-94-01A) (the "Order") with the New York State Department of Environmental Conservation (the "Department") relative to an Inactive Hazardous Waste Disposal Site under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York ("ECL") for D.C. (Dow Craft) Rollforms located at 583 Allen Street in the City of Jamestown, New York (the "Site").

The Site has been designated by the Department as an inactive hazardous waste disposal site, as that term is defined at ECL Section 27-1301.2, and has been listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site # 907019. The Department has classified the Site as a Class "2" site pursuant to ECL Section 27-1305.4.b. This classification means that the Department has determined that the Site presents a significant threat to the public health or environment. The Site is more particularly described in the legal description that is attached hereto as Schedule "A."

The purpose of the Order is to address the environmental conditions at or migrating from the Site. The effective date of the Order was _____. A copy of the Order, as well as any and all Department-approved Work Plans under this Order can be reviewed at the Department's Region 9 offices located at 270 Michigan Avenue, Buffalo, New York 14203 by contacting Jaspal S. Walia, P.E.

This Notice of Order is being filed with the Chautauqua County Clerk in accordance with Paragraph IX of the Order to give all parties who may acquire any interest in the Site notice of this Order.

WHEREFORE, the undersigned has signed this Notice of Order in compliance with the terms of the Order.

_____
Respondent

By:_____

Title:_____

Date:_____

STATE OF NEW JERSEY

) ss.:

COUNTY OF_____

On the _____ day of _____ in the year 2005 before me, the undersigned, a notary public in and for said State, personally appeared _____ _____ personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individuals) or the person upon behalf of which the individual(s) acted, executed this instrument.

_____
Notary Public

Appendix "A"

(to Exhibit "C")

Map of the Property

APPENDIX A

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Jamestown, County of Chautauqua and State of New York, being part of Lot 26, Township 2, Range 11 of the Holland Land Company's Survey, and further bounded and described as follows:

COMMENCING at a point at the intersection of the northeasterly line of Chandler Street and the northwesterly line of Allen Street; thence North 23° 48' 47" East along the northwesterly line of Allen Street, 350.72 feet to a point of curvature; thence northeasterly along the new northwesterly line of Allen Street as formed by a conveyance from Jamestown Urban Renewal Agency to the City of Jamestown, along a curve to the left having a radius of 951.47 feet, an arc length of 71.11 feet, and a chord of North 21° 40' 20" East, 71.09 feet to an iron stake at the principal point or place of beginning of the parcel of land hereinafter described; thence North 71° 06' 05" West, 284.44 feet to a chisel mark cut into the top of a concrete wall; thence continuing along the same line North 71° 06' 05" West, 4 feet more or less to the shore of the Chadakoin River; thence northerly and northeasterly along the shore of the Chadakoin River, 415 feet more or less to a point, said point being on the extension northerly of a line that is 5 feet westerly and parallel to the westerly wall of a one (1) story concrete block and metal sided building; thence South 08° 43' 15" West parallel to said westerly wall, and 5 feet measured at right angles thereto, 125 feet to a point; thence South 81° 16' 45" East, 60.4 feet to a point; thence North 08° 43' 15" East, 28.00 feet to a point; thence South 81° 16' 45" East, 64.00 feet to a point; thence North 08° 43' 15" East, 20.10 feet to a point; thence South 81° 16' 45" East, 93.31 feet to a point in the westerly line of Allen Street; thence South 01° 37' 00" West, 39.46 feet to an iron stake at a point of tangent; thence southwesterly along the westerly line of Allen Street along a curve to the right, having a radius of 951.47 feet, an arc length of 297.49 feet, and a chord of South 10° 34' 26" West, 296.28 feet to the iron stake at the point or place of beginning, containing 2.38 acres.

According to a survey and plat prepared for Dowcraft Corporation by Jerome E. Erickson, P.E. and L.L.S., plat dated June 24, 1988, as revised June 10, 1991, and designated as Job No. 10-88-6A.

EXHIBIT "D"

DECLARATION OF COVENANTS AND RESTRICTIONS

THIS COVENANT is made the 19th day of July, 2005 by **JAMESTOWN ALLENCO, INC.** a corporation organized and existing under the laws of the State of New York and having an office for the transaction of business at 125 West Main Street, Falconer, New York 14733.

WHEREAS, Jamestown Allenco, Inc., is the owner of an inactive hazardous waste disposal site that is listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 907019, located at 583 Allen Street in the City of Jamestown, County of Chautauqua, State of New York, which is part of lands conveyed by Dowcraft Corporation to Jamestown Allenco, Inc. by deed dated January 31, 2001, and recorded in the Chautauqua County Clerk's office on February 1, 2001, in Book 2460 of Deeds at page 0524, and being more particularly described in Appendix A, attached to this Declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Property is the subject of a Consent Order to be issued by the New York State Department of Environmental Conservation to Ingersoll-Rand Company;

WHEREAS, the New York State Department of Environmental Conservation set forth a remedy to eliminate or mitigate all significant threats to the environment presented by hazardous waste disposal at the Site in a Record of Decision ("ROD") dated March 31, 2003, and such ROD or the Work Plan for the implementation of the ROD required that the Property be subject to restrictive covenants.

NOW, THEREFORE, Jamestown Allenco, Inc., for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this Declaration as Appendix B and made a part hereof and consists of approximately 2.38 acres of land, more or less.

Second, unless prior written approval by the New York State Department of Environmental Conservation or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the state and the health of the state's citizens, hereinafter referred to as "the Relevant Agency", is first obtained, no person shall engage in any activity that will, or that reasonably is anticipated to, prevent or interfere significantly with any proposed, ongoing, or completed program at the Property or that will, or is reasonably foreseeable to, expose the public health or the environment to a significantly increased threat of harm or damage.

Third, the owner of the Property shall prohibit the Property from ever being used for purposes other than for commercial or industrial without the express written waiver of such prohibition by the Relevant Agency.

Fourth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial / commercial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Fifth, the owner of the Property shall continue and not interfere with any institutional and engineering controls the Department required Respondent to put into place and maintain without first obtaining the Relevant Agency's permission.

Sixth, the Declaration is and shall be deemed a covenant that shall run with the land, shall be binding upon all future owners of the Property, and shall provide that the owner, and its successors and assigns, consents to the enforcement by the Relevant Agency to the prohibitions and restrictions that Paragraph X of the Order requires to be recorded and covenants not to contest the authority of the Department to seek enforcement.

Seventh, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the date first above written.

JAMESTOWN ALLENCO, INC.

By Harry B. Nicholson

Its President

STATE OF NEW YORK }
} ss
COUNTY OF CHAUTAUQUA}

On the 19th day of July, in the year 2005, before me, the undersigned, a Notary Public in and for said state, personally appeared Harry B. Nicholson, Jr., personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is(are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies) and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

DANA A. LUNDBERG #02LU6057427
NOTARY PUBLIC, State of New York
Qualified in Chautauqua County
My Commission Expires April 16, 2008

Notary Public

APPENDIX A

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Jamestown, County of Chautauqua and State of New York, being part of Lot 26, Township 2, Range 11 of the Holland Land Company's Survey, and further bounded and described as follows:

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According to a survey and plat prepared for Dowcraft Corporation by Jerome E. Erickson, P.E. and L.L.S., plat dated June 24, 1988, as revised June 10, 1991, and designated as Job No. 10-88-6A.

APPENDIX "B"

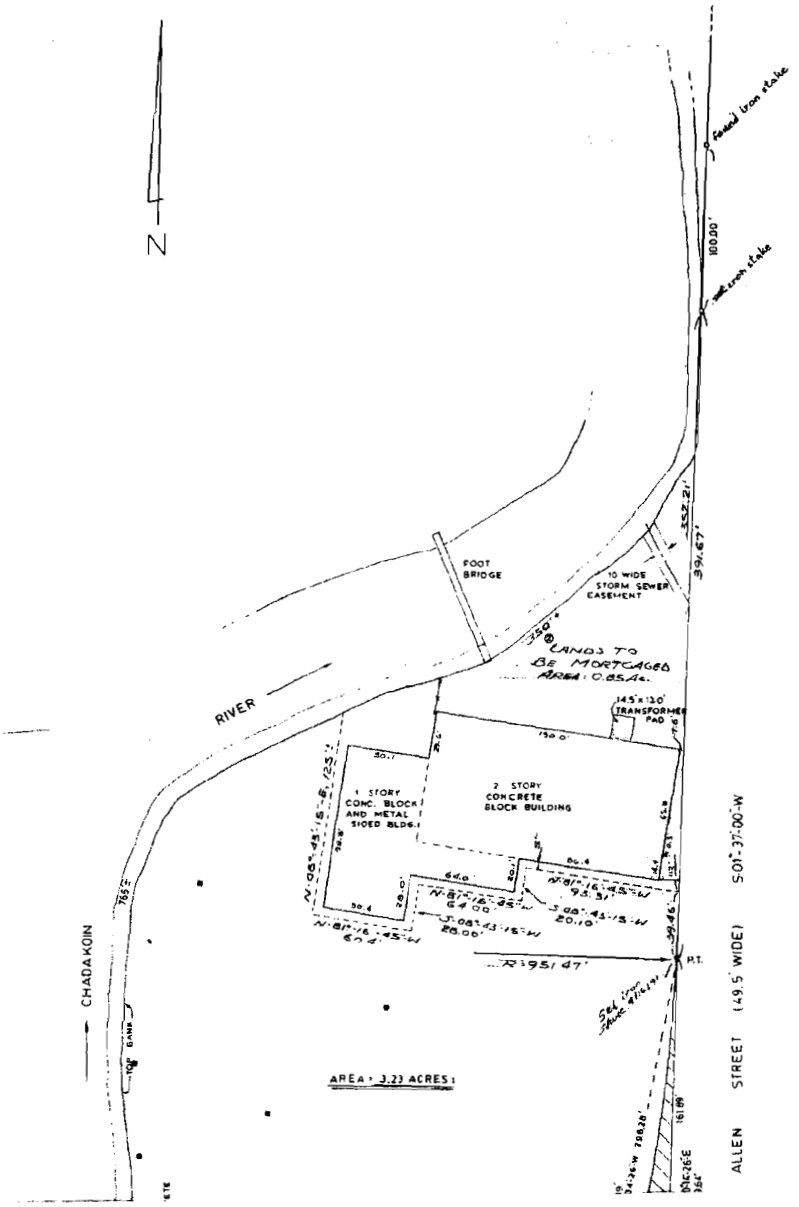
N
Found iron stake
100.00'
Set iron stake
FOOT BRIDGE
10 WIDE STORM SEWER EASEMENT
LANDS TO BE MORTGAGED
AREA : 0.65Ac.
RIVER
145'x130' TRANSFORMER PAD
1 STORY CONC. BLOCK AND METAL SIDED BLDG.
2 STORY CONCRETE BLOCK BUILDING
CHADAKOIN
AREA : 3.23 ACRES
R 395.47'
P.T.
ALLEN STREET (49.5' WIDE) S01°-37'-00"-W

Exhibit "E"
Records Search Report

1. Detail all environmental data and information within Respondent's or Respondent's agents' or consultants' possession or control regarding environmental conditions at or emanating from the Site.

2. A comprehensive list of all existing relevant reports with titles, authors, and subject matter, as well as a description of the results of all previous investigations of the Site and of areas immediately surrounding the Site which are or might be affected by contamination at the Site, including all available topographic and property surveys, engineering studies, and aerial photographs.

Exhibit "F"
SC Work Plan Requirements

The SC Work Plan shall include but not be limited to:

1. A chronological description of the anticipated SC activities together with a schedule for the performance of these activities.

2. A Sampling and Analysis Plan that shall include:

(i) A quality assurance project plan that describes the quality assurance and quality control protocols necessary to achieve the initial data quality objectives. This plan shall designate a data validation expert and must describe such individual's qualifications and experience;

(ii) A field sampling plan that defines sampling and data gathering methods in a manner consistent with the "Field Methods Compendium," OSWER Directive 9285.2-11 (draft June 1993), as supplemented by the Department; and

(iii) A health and safety plan to protect persons at and in the vicinity of the Site during the performance of the SC which shall be prepared in accordance with 29 CFR 1910 and all other applicable standards by a certified health and safety professional. Respondent shall add supplemental items to this plan necessary to ensure the health and safety of all persons at or in the vicinity of the Site during the performance of any work pursuant to this Order.

3. The Work Plan shall incorporate all elements of an SC as set forth in Department technical and administrative guidance documents including, but not limited to, investigations of surface and subsurface soils, surface waters, ground water, and air.

4. The SC must be sufficiently comprehensive to allow the Department to determine whether a consequential amount of hazardous waste has been disposed at the Site and, if so, whether the contamination presents a significant threat to public health and/or the environment.

Exhibit "G"
RI/FS Work Plan Requirements

The Investigation Work Plan shall include but not be limited to:

1. A chronological description of the anticipated RI/FS activities together with a schedule for the performance of these activities.

2. A Sampling and Analysis Plan that shall include:

(i) A quality assurance project plan that describes the quality assurance and quality control protocols necessary to achieve the initial data quality objectives. This plan shall designate a data validation expert and must describe such individual's qualifications and experience;

(ii) A field sampling plan that defines sampling and data gathering methods in a manner consistent with the "Field Methods Compendium," OSWER Directive 9285.2-11 (draft June 1993), as supplemented by the Department;

(iii) A health and safety plan to protect persons at and in the vicinity of the Site during the performance of the RI/FS which shall be prepared in accordance with 29 CFR 1910 and all other applicable standards by a certified health and safety professional. Respondent shall add supplemental items to this plan necessary to ensure the health and safety of all persons at or in the vicinity of the Site during the performance of any work pursuant to this Order; and

(iv) A citizen participation plan that is, at a minimum, consistent with the Department's publication "Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook," dated June 1998, any subsequent revisions thereto, and 6 NYCRR Part 375.

3. The Work Plan shall incorporate all elements of an RI/FS as set forth in CERCLA, as amended, the NCP, the USEPA guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," dated October 1988, and any subsequent revisions thereto in effect at the time the RI/FS Work Plan is submitted, and appropriate USEPA and Department technical and administrative guidance documents.

4. The Work Plan shall provide for an FS evaluating on-Site and off-Site remedial actions to restore the Site to pre-disposal conditions, to the extent feasible and authorized by law. At a minimum, alternatives shall evaluate the elimination or mitigation of all significant threats to the public health and to the environment presented by hazardous waste disposed at the Site through the proper application of scientific and engineering principals.

EXHIBIT "H"

IRM Work Plan Requirements

The IRM Work Plan shall include, at a minimum, the following:

1. a summary of the data supporting the extent of the proposed IRM;

2. a chronological description of the anticipated IRM activities;

3. a schedule for performance of the IRM activities;

4. detailed documents and/or specifications prepared, signed, and sealed by a Professional Engineer providing sufficient detail to implement the Department-approved IRM, including, as appropriate, a description of soil and sediment erosion control, storm water management and monitoring, and dust, odor, and organic vapor control and monitoring procedures to be implemented during remedial activities, and a detailed description of confirmation sampling and site restoration plans;

5. a health and safety plan, including a community air monitoring plan;

6. a contingency plan, including a description of procedures for dismantling and removing remedial structures and equipment from the Site, if applicable;

7. a citizen participation plan, if required, that incorporates appropriate activities outlined in the Department's publication "Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook," dated June 1998, any subsequent revisions thereto, and 6 NYCRR Part 375;

8. an OM&M Plan, if the performance of the Department-approved IRM results in a treatment system which is expected to operate for greater than 18 months. If the system will not operate for greater than 18 months, or if only monitoring is required, only a monitoring plan will be needed; and

9. a description of institutional controls to be implemented as well as written approval from the owner of the affected property if the remedy selected requires implementation of an institutional control at an off-Site location or if the person responsible for the remedy is not the Site owner.

EXHIBIT “I”

New York State Department of Environmental Conservation
Division of Environmental Enforcement
Western Field Unit
270 Michigan Avenue, Buffalo, New York 14203-2999
Phone: (716) 851-7050 • **FAX:** (716) 851-7067
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

August 23, 2004

Morgan G. Graham, Esq.
Phillips Lytle, LLP
3400 HSBC Center
Buffalo, New York 14203

Re: D.C. Rollforms
Site# 907019
Index# B9-0446-94-01A

Dear Mr. Graham:

Enclosed for your client's signature are duplicate original Orders on Consent requiring the implementation of the remedy selected in the above Site's Record of Decision ("ROD") dated March 31, 2003. The Department acknowledges that for the purposes of the Order this ROD may be incorporated by reference in lieu of being attached as Exhibit "K." The Department also acknowledges that the "Preliminary Draft Remedial Design/Remedial Action Work Plan (30% design submittal) prepared for the D.C. Rollforms Inactive Hazardous Waste Site in Jamestown, Chautauqua County, New York" prepared by Arcadis G&M, Inc. satisfies the Work Plan submission requirements of the Order's Subparagraph II.B.1(a) and Exhibit "I."

The Department agrees that the following items may be addressed in the 90% RD/RA Work Plan:

1. Figure 8 does not show the entire remedial excavation area;

2. Section 4.3 - The NYSDEC has de-listed the parcel. This parcel is no longer listed in the NYSDEC Inactive Hazardous Waste Site Registry as updated in the April 2004 Registry. This parcel is identified by tax identification number 307-13-3.2;

3. Section 8 - An air discharge permit will not be required for the remedial treatment system since the site work is being performed under the state superfund program; Although no air discharge permit would be required, air monitoring and air pollution reduction units such as carbon units would be required;

4. Section 15 - The NYSDEC will consider the cleanup goals and criteria stipulated in this section.

Finally, the Department will approve per the Order's Subparagraph XIV.B, Arcadis G&M, Inc. as a contractor for the work to be performed per the Order and that for the purposes of the Order's Paragraph I, Arcadis G&M, Inc. will submit on behalf of Respondent to the Department a listing of all the data and reports noted in the Order's Exhibit "E" that are in Respondent's or its consultant's possession. The Respondent will provide to the Department within thirty days of its request such data and reports indicated on the listing that the Department may request.

Please have your client sign both duplicates and return them to my attention by no later than September 20, 2004. If you have any questions in the interim, please contact me.

Very truly yours,

James Charles
Senior Attorney

JC:c:k
A:C1096
Enc.

cc: J. Walia
M. Doster

Exhibit "I"

Remediation Work Plan Requirements

The Remediation ("RD/RA") Work Plan shall include the following:

1. A detailed description of the remedial objectives and the means by which each element of the selected remedial alternative will be implemented to achieve those objectives, including, but not limited to:

(i) the construction and operation of any structures;

(ii) the collection, destruction, treatment, and/or disposal of hazardous wastes and substances and their constituents and degradation products, and of any soil or other materials contaminated thereby;

(iii) the collection, destruction, treatment, and/or disposal of contaminated groundwater, leachate, and air;

(iv) physical security and posting of the Site;

(v) quality control and quality assurance procedures and protocols to be applied during implementation of the Remedial Construction; and

(vi) monitoring which integrates needs which are present on-Site and off-Site during implementation of the Department-selected remedial alternative.

2. "Biddable Quality" documents for the Remedial Design including, but not limited to, documents and specifications prepared, signed, and sealed by a Professional Engineer. These plans shall satisfy all applicable local, state, and federal laws, rules, and regulations;

3. A time schedule to implement the Remedial Design;

4. The parameters, conditions, procedures, and protocols to determine the effectiveness of the Remedial Design, including a schedule for periodic sampling of all media of concern, including groundwater monitoring wells on-Site and off-Site;

5. A description of operation, maintenance, and monitoring activities to be undertaken after the Department has approved construction of the Remedial Design, including the number of years during which such activities will be performed (where appropriate) and a specific description of the criteria to be used to decide when operation of such activities may be discontinued.

6. A contingency plan to be implemented if any element of the Remedial Design fails to achieve any of its objectives or otherwise fails to protect human health or the environment;

7. A health and safety plan for the protection of persons at and in the vicinity of the Site during and after construction. This plan shall be prepared in accordance with 29 CFR 1910 by a certified health and safety professional; and

8. A citizen participation plan which incorporates appropriate activities outlined in the Department's publication "Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook," dated June 1998, any subsequent revisions thereto, and 6 NYCRR Part 375.

Exhibit "J"

OM&M Work Plan Requirements

The OM&M Work Plan shall provide for:

1. Operation and maintenance of engineering controls and/or treatment systems;

2. Maintenance of institutional controls, where applicable;

3. Yearly certification by a Professional Engineer of the continued effectiveness of any institutional and/or engineering controls, where applicable. The certification must identify the required controls and evaluate whether the controls should remain in place and effective for the protection of public health and/or the environment;

4. A monitoring plan which describes the measures for monitoring the performance and effectiveness of the remedy at the Site;

5. A contingency plan which describes procedures which may be required to protect and/or maintain the operation of the remedy in the event of an emergency, such as a fire, spill, tank or drum overflow or rupture, severe weather, or vandalism;

6. A health and safety plan and a list of records and references;

7. Monitoring and reporting of the performance and effectiveness of the remedy, both short and long-term, by:

(i) Assessing compliance with actual or equivalent discharge permit limits;

(ii) Assessing achievement of the remedial performance criteria; and,

(iii) Sampling and analysis of appropriate media.

8. A determination that the remedy is complete by demonstrating that the remedial action objectives have been achieved.

Exhibit "K"

Record of Decision

Glossary of Terms

The following terms shall have the following meanings:

"BPM Director": the Director of the Bureau of Program Management within the Division of Environmental Remediation.

"CERCLA": the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq.

"Day": a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday or State holiday, the period shall run until the close of business of the next working day.

"Department": the New York State Department of Environmental Conservation.

"Director": the Division Director, Division of Environmental Remediation.

"ECL": the Environmental Conservation Law, Chapter 43-B of the Consolidated Laws of New York, as amended.

"Feasibility study": a study undertaken to develop and evaluate options for remedial action. The feasibility study emphasizes data analysis and is generally performed concurrently and in an interactive fashion with the remedial investigation, using data gathered during the remedial investigation. The term also refers to a report that describes the results of the study. (See 6 NYCRR 375-1.3(j))

"Force Majeure Event": an event which is brought on as a result of fire, lightning, earthquake, flood, adverse weather conditions, strike, shortages of labor and materials, war, riot, obstruction or interference by adjoining landowners, or any other fact or circumstance beyond Respondent's reasonable control.

"Inactive Hazardous Waste Disposal Site Remedial Program" or "Remedial Program": activities undertaken to eliminate, remove, abate, control, or monitor existing health hazards, existing environmental hazards, potential health hazards, and/or potential environmental hazards in connection with the Site and all activities to manage wastes and contaminated materials at or removed from the Site. (See ECL 27-1301(3) and 6 NYCRR 375-1.3(m))

"Interim Remedial Measure" or "IRM": a discrete set of activities, including removal activities, to address both emergency and non-emergency Site conditions, which can be undertaken without extensive investigation or evaluation, to prevent, mitigate, or remedy environmental damage or the consequences of environmental damage attributable to the Site. (See 6 NYCRR Part 375-1.3(n))

"National Contingency Plan" or "NCP": the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. 9605, and codified at 40 C.F.R. Part 300, and any amendments thereto.

"NL": the Navigation Law, Chapter 37 of the Consolidated Laws of New York, as amended.

"OH&M": the Office of Hearings and Mediation Services.

"OM&M": post-construction operation, maintenance, and monitoring; the last phase of a remedial program, which continues until the remedial action objectives for the Site are met.

"Order": this Order and all exhibits attached hereto.

"Professional Engineer": an individual registered as a professional engineer in accordance with Article 145 of the New York State Education Law. If such individual is a member of a firm, that firm must be authorized to offer professional engineering services in the State of New York in accordance with Article 145 of the New York State Education Law.

"Record of Decision" or "ROD": the document reflecting the Department's selection of a remedy relative to the Site or any Operable Unit thereof. The ROD shall be attached to and made enforceable under this Order as Exhibit "K."

"Remedial Action": those activities, except for OM&M, to be undertaken under this Order to implement the ROD.

"Remedial Investigation" or "RI": a process undertaken to determine the nature and extent of contamination. The remedial investigation emphasizes data collection and site characterization and generally is performed concurrently with the feasibility study. It includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for and the proposed extent of the program and to support the evaluation of proposed alternatives. (See 6 NYCRR 375-1.3(t))

"Site Characterization"or "SC": a process undertaken to allow the Department to determine whether a consequential amount of hazardous waste has been disposed at a Site and, if so, whether the contamination presents a significant threat to public health and/or the environment.

"Spill Fund": the New York State Environmental Protection and Spill Compensation Fund as established by Article 12, Part Three of the NL.

"State Costs": all the State's response expenses related to this Site, including, but not limited to, direct labor, fringe benefits, indirect costs, travel, analytical costs, and contractor costs incurred by the State of New York for negotiating, implementing, overseeing, administering, or enforcing this Order, and any other response costs as defined under CERCLA. Approved agency fringe benefit and indirect cost rates will be applied.

"Termination Date": the date that this Order is terminated pursuant to Paragraph XIII.

"USEPA": the United States Environmental Protection Agency.