Gladding Cordage Site
CHENANGO COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: 7-09-009

Prepared for:
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Division of Environmental Remediation
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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

DECEMBER 2013

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1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at the Gladding Cordage site (hereinafter referred to as the "Site") under the New York State Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal Site Remedial Program (New York State Superfund Program).A Remedial Investigation/Feasibility Study (RI/FS) was conducted between 1988 and 1989 under the New York State Superfund Program. At the time that this Site was under investigation, the facility management was under Chapter 11 Bankruptcy proceedings and ownership/management changes; requiring the remedial work to be conducted under the New York State Superfund Program. The site was remediated in accordance with a Record of Decision (ROD), Site # 7-09-009, which was executed on March 31, 1993 as well as in conjunction with the details associated with the property ownership following the Chapter 11 Bankruptcy litigation. The complexity of the ownership bankruptcy and subsequent sale of the property during the bankruptcy, complicated the remedial process at this Site; particularly during the early investigations and remediation planning.

1.1.1 General

Under the New York State Superfund Program and ROD, the NYSDEC required action to remediate a 7.5 acre property located in South Otselic, Chenango County, New York. This ROD required an investigation and remediation of contaminated media at the Site. The site location and boundaries of this 7.5-acre Site is provided in Figures 1 and 2.

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this Site, which is hereafter referred to as 'remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the Site following the remedial activities performed at the Site. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by ARCADIS of New York, Inc., on behalf of the NYSDEC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May, 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the ROD for the Site.

1.1.2 Purpose

The Site contains contamination left after completion of the remedial action. Engineering Controls have been incorporated into the Site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. There have not been any Environmental Easements or Deed Restrictions granted to the NYSDEC at this Site. However, the current owner was required to meet various terms before the property could be purchased in the early 1990s, which included limited environmental remediation (described in more detail in later sections).

The combination of the purchase agreement terms and the NYSDEC groundwater remedy comprise the ICs and ECs at the Site. This SMP specifies the methods necessary ensure compliance with all ECs and ICs required by the ROD for contamination that remains at the Site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification

of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that failure to comply with this SMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the ROD (Site #7-09-009) for the Site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Site is located in the South Otselic County of Chenango, New York and is identified as Parcel Number 65.11-1-2 on the Chenango County Tax Map. The site is an approximately 7.5-acre area bounded by residential properties/Valley View Road to the north, State Route 13 to the south, Otselic River to the east, and residential properties/Maple Avenue to the west (see Figure 2). The treatment system layout is shown on Figure 3.

1.2.2 Site History

The Site, while operating under the Gladding Cordage Company, manufactured braided line and rope using a variety of chemical solvents in the process. In May 1984, NYSDEC determined that Gladding Cordage Company was unlawfully storing and

discharging hazardous wastes at the Site. Between 1984 and 1987, Gladding Cordage Company conducted a field investigation and identified that groundwater at the site was contaminated with 1,1,1-trichloroethane (TCA); however, did not agree to a state-approved remedial program and did not adequately define the nature and extent of the contamination. The contamination was also detected in the nearby municipal wells. In 1987, Gladding Cordage Company installed a six-inch diameter extraction well with an air stripper to treat the water. These actions were taken without NYSDEC approval and were not effective. In April 1987, Gladding Cordage Company filed Chapter 11 petitions in the United States Bankruptcy Court and in July 1987, curtailed operations at the facility.

Due to the bankruptcy, a responsible party cleanup option became complex. While Gladding Cordage Company (previous owner/responsible party) was under Chapter 11 Bankruptcy litigation, Continental Cordage Company (Continental) was interested in purchasing the property but did not want to assume the liability for Gladding Cordage Company's environmental practices. The agreement for this purchase included the following:

- Continental would purchase the property for $160,000, and approximately $80,000 would be payable to the State of New York when the title was transferred.
- Continental would apply for a SPDES permit to discharge sanitary waste only from the new disposal system. No process wastewater would be generated.
- Continental would excavate and properly dispose of the existing septic tanks and leach fields (suspected sources of contamination).
- All existing floor drains and discharge piping would be permanently plugged.
- Future resale terms included New York State receiving a percentage of all proceeds after Continental receives its original $160,000.

These initial conditions represent the ICs that were initially placed on Site prior to use under the new ownership. Under Superfund (State Superfund Standby Program Work Assignment No. D002520-20.0), NYSDEC implemented an interim remedial measure (IRM) to remove and dispose of 115 drums of waste; then implemented a remedial action under the ROD for the groundwater contamination which included:

- Recovery of contaminated groundwater from a groundwater recovery well system.
- On-site treatment of contaminated groundwater using an air stripper.
- Discharge of the treatment system effluent to the Otselic River.
- Long-term monitoring to determine the effectiveness of the remedy.

Through all of this, the environmental "responsible party" remained as Gladding Cordage Company, even though the company fell into economic collapse. The remediation work conducted by NYSDEC fell under the New York State Superfund Program and the monitoring and Operation and Maintenance has been continued.

1.2.3 Geologic Conditions

The geologic conditions that were reported for the Site in previous investigations indicate that the geology is comprised mostly of glacial features with several drumlins in the area around the Site.

The soils in the area range from silts/clays to boulders which do not have any stratigraphic continuity. This type of glacial deposit typically has pockets of aquifers and aquicludes and required well-defined geologic conditions to apply percolation rates and water levels since the conditions for soil/groundwater change within this type of glacial deposit.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the following reports:

- GHR Engineering Associates, Inc. 1990. Draft Work Plan for Second Phase Remedial Investigation: Gladding Cordage Company, South Otselic, New York. Prepared for NYSDEC. March.
- TAMS Consultants, Inc. 1996. Construction Certification Report: Gladding Cordage Site. Work Assignment No. D002520-25.0. Prepared for NYSDEC. October 7.

Generally, the RI determined that TCA had been mis-handled at the Gladding Cordage facility and the storage and disposal practices at the facility had led to the release of the chemical into the environment. The contamination extended from the Site soils into the groundwater. The migration of the contamination had reached nearby municipal wells to the south of the facility, forcing new water sources to be utilized by the town.

Below is a summary of site conditions when the RI was performed in 1995 and 1996:

Soil

- The TCA contamination in soils at the Site was attributed to the discharge of waste chemicals into floor drains, spilled outside in the parking area, and around the loading dock area. The distribution of these waste chemicals caused an accumulation in the Site septic tanks and leach fields; which then became point sources for groundwater contamination.
- The septic tanks and leach field soils were removed as part of the final purchase agreement between Continental, NYSDEC, and the Bankruptcy trustees. The remediation of these areas occurred between 1993 and 1995.

Site-Related Groundwater

- As a result of the soil contamination, a plume was generated that migrated into the groundwater near the Site. The plume was approximately 2,000 feet downriver from the Site and approximately 500 feet wide.
- Groundwater contamination at the site was measured with TCA concentrations exceeding 400 parts per billion (ppb).
- Concentration of TCA at one of the Municipal wells (Municipal Well #2) was measured at 52 ppb.

1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated in accordance with the NYSDEC-approved Interim remedial measure (IRM) in 1990,the ROD dated March, 1993, and the terms that were developed for Continental to purchase the property during the early 1990s.

The following is a summary of the Remedial Actions performed at the Site:

1. The IRM was completed in 1990, consisting of the removal and disposal of 115 drums of waste that had been abandoned at the Site.
2. Excavation/removal of soil/fill associated with the septic tanks and leach field at the Site were removed;
3. Installation of a groundwater collection system and air stripper treatment to collect and treat the contaminated groundwater on-site and discharge the treated water into the Otselic River;
4. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;

Remedial activities were completed at the Site approximately during 1995.

1.4.1 Removal of Contaminated Materials from the Site

The soil cleanup objectives (SCOs) for the primary contaminants of concern (COCs) and applicable land use for this Site was to remove the contaminant source soils associated with the septic tanks and leach field, and treating recovered groundwater.

1.4.2 Site-Related Treatment Systems

The ROD presented the selected remedy with the following components

- Installation of a recovery well system to recover contaminated groundwater.
- On-site treatment of the recovered contaminated groundwater using an air stripper.
- Discharge of the treatment system effluent to the Otselic River.
- Long-term monitoring to determine the effectiveness of the remedy.

The ROD was issued in 1993 and the system was installed between 1993 and 1995. The system was plagued by mechanical issues at various components and was not run consistently during the initial startup. The system has since been repaired and has been treating the groundwater.

The groundwater treatment system is presented on Figure 3 and Appendix D.

1.4.3 Remaining Contamination

In order to treat groundwater contamination, a groundwater monitoring and treatment program, of some form, has been in place since 1987 with varying degrees of effectiveness, until the mid-1990s when the NYSDEC installed system took over the treatment of groundwater. A network of 29 wells is in place to support monitoring of the contamination. The results of past sampling indicate a decreasing contaminant concentration trend over time. Concentrations of TCA have decreased to less than 100 ppb at many locations, but still exceed New York State water quality and drinking standards.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated groundwater exists beneath the Site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Soils

Exposure to remaining contamination in soil has been minimized by excavation of contaminated soils associated with discharge areas and the former septic/leach field system. However, known contamination exists in the subsurface and any excavation work on the property (including any work beneath the buildings) must be conducted with caution. The Excavation Work Plan that appears in Appendix A outlines the procedures required to be implemented in the event that any such work must be conducted on the property

2.2.1.2 Groundwater Treatment System

The groundwater treatment system involves two recovery wells that are connected to the treatment building. The original construction work was conducted by TAMS Consultants, Inc. in 1995. Appendix D presents the As-Built Site Plan from the Construction Certification Report. The piping from the recovery wells is comprised of a 2-inch polyvinyl chloride (PVC). These pipes meet inside the treatment building at an influent sampling manifold where the groundwater is pumped into the air stripper through a 3-inch PVC pipe. Treatment occurs in the air stripper and treated water is gravity-discharged through a 6-inch PVC pipe.

In summary, the groundwater is recovered from the two recovery wells and pumped to the treatment building, where treatment by air stripper takes place. Once treated, the water is then discharged into the Otselic River. The objective of the groundwater treatment system is to recover the contaminants from the source areas in an effort to control further migration of the contamination and decrease the concentrations at the source areas over time.

Procedures for operating and maintaining the groundwater treatment system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Groundwater Treatment System

The Groundwater Treatment System will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the Groundwater Treatment System is no longer required, a proposal to discontinue the system will be submitted by the property owner. Conditions that warrant discontinuing the Groundwater Treatment System include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards, (2) have become asymptotic to a low level over an extended period of time as accepted by the NYSDEC, or (3) the NYSDEC has determined that the Groundwater Treatment System has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

2.2.2.2 Monitored Natural Attenuation

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC, until residual groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. As described in the ROD, one of the goals of the groundwater

treatment system is to support natural attenuation by treating the most contaminated area of the groundwater contamination plume. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

2.3 INSTITUTIONAL CONTROLS

Institutional Controls were required by the ROD and include the groundwater monitoring program and maintaining the groundwater treatment system. No deed restrictions have been implemented. Adherence to these Institutional Controls on the Site is required by the ROD and will be implemented under this Site Management Plan. These Institutional Controls are:

- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

Institutional Controls identified in the ROD may not be discontinued without approval from NYSDEC.

2.3.1 Excavation Work Plan

The Site has been remediated and is currently in use for manufacturing. Any future intrusive work that will penetrate the soil or disturb the remaining contamination, including any modifications or repairs to the existing groundwater treatment system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as

Appendix A to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site, and must be in compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structures at the Site must assess the potential for soil vapor intrusion (SVI) . An SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York”. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and

maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If Site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of Environmental Conservation Law.
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the ROD, and all approved work plans and reports, including this SMP
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions. The Site owner is responsible for maintaining plans for any workers that are on Site that include evacuation and personnel accounting procedures. These plans must be available for visitors and temporary personnel in addition to everyday staff.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to ARCADIS of New York, Inc. These emergency contact lists must be maintained in an easily accessible location at the site.

Table 1: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 2: Other Contact Numbers

ARCADIS of New York, Inc. (Bruce Nelson or Jeremy Wyckoff)	518-250-7300

* Note: Contact numbers subject to change and should be updated as necessary

2.5.2 Map and Directions to Nearest Health Facility

Site Location:

Gladding Braided Products, LLC

1 Gladding St

South Otselic, NY 13155

Nearest Hospital Name: Cortland Regional Medical Center

Hospital Location:

134 Homer Ave

Cortland, NY 13045

Hospital Telephone: 607-756-3500

Directions to the Hospital:

1. Head south on County Rd. 13A toward County Rd 13

2. Turn left on County Rd 13

3. Turn right onto NY-26 S

4. Turn left to stay on NY-26 S

5. Turn right onto NY-41 N

6. Turn right onto Church St

7. Turn left onto Grant St

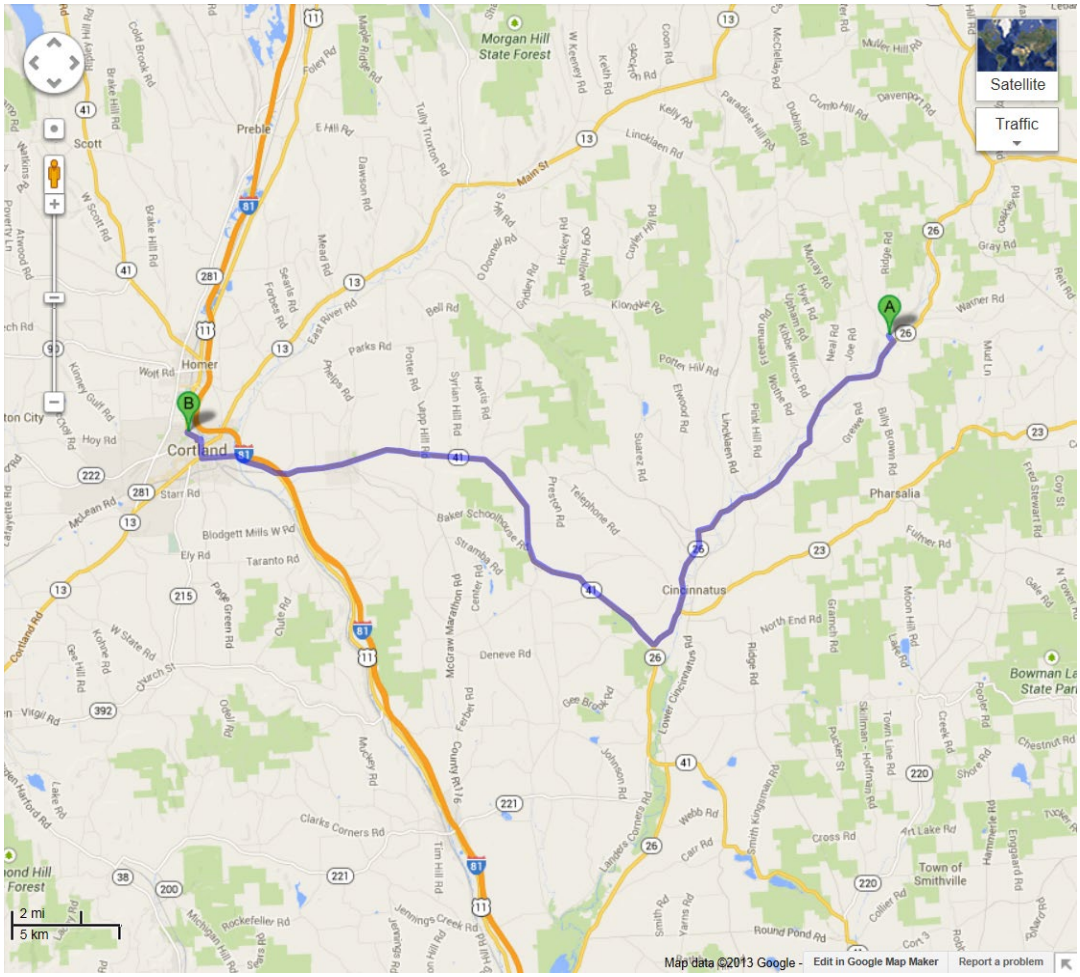
8. Turn right onto N Main St

9 Turn right onto Homer Ave (destination will be on left)

Total Distance: approximately 30 miles

Total Estimated Time: approximately 39 minutes

Map Showing Route from the site to the Hospital (from Google Maps):



2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 1). The list will also posted prominently at the site and made readily available to all personnel at all times.

If any chemical spills occur, the Site Owner is responsible for having procedures in place for containment and worker safety, including an evacuation plan, based on the chemicals utilized at the Site and the Site operations. Any amendments to this contingency plan must be provided to NYSDEC to include as amendments to this SMP.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the soil cover system, and all affected site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, treatment system influent and effluent);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards;
- Assessing achievement of the remedial performance.
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and

- Annual inspection and periodic certification.

Annual monitoring of the performance of the remedy and overall reduction in contamination on-site and off-site will be conducted at a frequency determined by NYSDEC. Trends in contaminant levels in treatment system influent/effluent and groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 3 and outlined in detail in Sections 3.2 and 3.3 below.

Table 3: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Treatment System Influent/Effluent	Monthly	Recovered groundwater entering and leaving the treatment system	VOCs
Groundwater Monitoring	Every 5 Quarters	Groundwater from monitoring wells	VOCs

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

3.2 COVER SYSTEM MONITORING

Although a cap/cover system is not in place, the remaining contamination is still present in subsurface soils. It is the Owner's responsibility to follow proper notification and planning (including waste disposal plans), described in this SMP, if any excavation work or new building construction is performed on site.

During the groundwater monitoring and treatment system maintenance, NYSDEC and/or the representatives of NYSDEC will observe the Site and verify that any new excavation or construction has been accompanied by proper notifications and work plans. Additionally, any such work at the Site will require addendums to this SMP to include appropriate monitoring or maintenance of the new Site features.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy.

The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. The network of on-site and off-site wells has been designed to monitor Site contamination as well as monitor areas beyond the Site to assess migration of the contamination and the effectiveness of the treatment system that is in place. The monitoring well locations are presented on Figure 2.

The monitoring wells included as part of the monitoring program include:

- TW-3S
- TW-3I
- TW-3D
- TW-4I
- TW-5S
- TW-5I
- TW-5D
- TW-6S
- TW-6I
- TW-6D
- TW-7S
- TW-7I
- TW-7D
- TW-9I
- TW-9D
- TW-12I
- TW-12D
- TW-14S
- TW-14I
- TW-14D
- TW-15

Shallow, intermediate and deep potentiometric surface contour maps showing the groundwater flow pattern on October 15, 2013 are provided as Figures 4, 5, and 6, respectively. As shown on Figure 4, shallow groundwater flows to the south toward the Otselic River. Intermediate groundwater flows toward Recovery Well RW-1 (Figure 5) and deep groundwater flows toward Recovery Well RW-2 (Figure 6).Based on the results from the 2013 monitoring event, groundwater concentrations of 1,1,1-trichloroethane are presented on Figure 7.

A summary of well construction details are presented in Appendix C.

The sampling frequency is currently a five quarter event, but may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix E. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

The monitoring program for groundwater will involve the following components:

- Well inspection
- Water level survey
- Groundwater sampling
- Results reporting

The groundwater wells will be evaluated for integrity and suitability for groundwater monitoring and water levels. If any repair or maintenance is required, it will be noted in the inspection forms and the wells will be scheduled for repair or maintenance with NYSDEC.

Prior to the collection of groundwater samples, water levels will be measured to the nearest hundredth of a foot and recorded on a groundwater level data form.

Groundwater samples will be collected using passive diffusion bags (PDBs) from each well location. The PDBs will be utilized following Generally Accepted Procedures for PDB Samplers and samples will be analyzed for VOCs.

3.3.1.2 Monitoring Well Repairs, Replacement And Decommissioning

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements established and approved by NYSDEC. The basic requirements for the monitoring program include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits;

- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site and/or at a location approved by NYSDEC. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared, subsequent to each sampling event. The report (or letter) will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., groundwater, system influent/effluent, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 4 below.

Table 4: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Groundwater Monitoring	Annual
Groundwater Treatment System Operation and Maintenance	Quarterly
Periodic Review Report	Every 5-years

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance Plan is based on the Operation and Maintenance Manual developed by TAMS Consultants, Inc. (1996) and describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the groundwater treatment systems;
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically to reflect changes in Site conditions or the manner in which the groundwater treatment systems are operated and maintained.

Information on non-mechanical Engineering Controls (i.e. soil cover system) is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

4.2.1 Groundwater Treatment System

A selection of As-Built drawings for the overall system is presented in Appendix C. For more detailed specifications on specific components of the system, including the treatment building, see the TAMS Consultants, Inc. Operation and Maintenance Manual. Note that there are portions of this manual that are obsolete due to upgraded components since the system was constructed.

The groundwater treatment system was started in late 1995, but was often interrupted by various malfunctioning components of the system. There was a period of

time between 1998 and 2001 when the system was completely offline. Per the ROD, "An effectiveness monitoring program will determine if operation of this system is warranted after five years." Since the malfunctioning equipment did not yield uninterrupted treatment, the requirements of the ROD were not met. In 2001, there were decisions made to repair the system and resume treatment.

Despite the malfunctions, the overall goal of the treatment system is to reduce contaminant mass within the aquifer and reduce further migration. The following subsections present a brief overview of the system operations; more details can be found in the TAMS Consulting, Inc. Operations and Maintenance Manual. Any maintenance/service or changes to the groundwater treatment system must be performed under NYSDEC approval.

4.2.1.1 Scope

The groundwater treatment system has since had an upgraded control panel which has an alarm system and dial-in components allowing for remote system checks.

Despite the automated system capabilities for monitoring the equipment, routine "in-person" checks should be performed to note equipment wear, excessive vibrations, improper heating, etc. These checks are recommended to be weekly according to the TAMS Consulting, Inc. manual, but with the capability to monitor remotely, this monitoring can be performed in accordance with NYSDEC approval/request.

In addition, annual influent/effluent sampling should be conducted to evaluate the effectiveness of the system treatment.

4.2.1.2 System Start-Up and Testing

As part of the original system startup, TAMS Consultants, Inc. operated the system for a one month period. In addition, a 60-hour test was performed to verify that the system could operate over an extended period of time. The test was performed and the equipment successfully completed the initial evaluations.

In addition, a startup monitoring program was conducted to confirm the effectiveness of the air stripper and that effluent discharge criteria were achieved. The startup monitoring involved sampling both the influent and effluent from the air stripper as well as a sample from both recovery wells and the combined stream for VOC analysis. The results indicated that the treatment system efficiency for VOC removal was approximately 99.7%.

The system testing described above will be conducted if, in the course of the groundwater treatment system lifetime, significant changes are made to the system, and the system must be restarted.

4.2.1.3 System Operation: Routine Operation Procedures

To start up the system, make sure that the control panel has power and that readings are visible. Then check the following:

- None of the influent valves are closed (some may be partially closed to regulate the flow rate.
- The effluent valve to the river is fully opened and that the effluent valve adjacent to the building sump is closed.
- All selector switches are in the “OFF” position
- Turn both well pump selector switches to the “AUTOMATIC” position. Note that the well pumps will not start as the blower is not operating.
- Turn the blower selector switch to the “AUTOMATIC” position. This will start the blower. The green light indicating that the blower is running will illuminate. After two minutes, the pumps will start and the green light will illuminate.
- Check the flow rate for RW-1 and RW-2. The flow rate from RW-1 should be less than 40 gpm and the flow rate for RW-2 should be less than 30 gpm. The flow rate can be adjusted by closing or opening the 2” PVC ball valve adjacent to the flowmeter.

The normal shutdown procedure should be used to completely shut down the system or should be followed when restarting the system after the system has been shut down due to an alarm condition:

- Turn both well pump selector switches to the “OFF” position. The green light will go off if the pumps were operating.
- Turn the sump pump selector switch to the “OFF” position.
- The blower will continue to perate for another five minutes after the well pumps have been turned off. When the blower stops automatically, turn the blower selector switch to the “OFF” position.
- To restart the system, follow the startup procedures above.

4.2.1.4 System Operation: Routine Equipment Maintenance

The system includes various pumps in addition to the air stripper that may require servicing. When performing any routine maintenance or servicing, make certain that the system has been shut down and safety precautions have been taken, including (but not limited to):

- Make sure that the equipment has been disconnected from the electricity source either by unplugging or by tagging out the circuit breaker.
- Make sure that the working area is clear of tripping hazards to limit falls while moving equipment around.

When removing submersible or sump pumps, be cautious of all connections and wiring. Lift the equipment straight up and centered in the well-head in effort to not pinch connection wires.

The air stripper will require cleaning between every 6 months to one year following manufacturer instructions and in accordance with the TAMS Consulting, Inc. Operations and Maintenance Manual. The unit is a Remedial Systems Air Stripper with a Cincinnati Fan PB Series Cast Aluminum Pressure Blower. These devices can be

disassembled easily and cleaned. Only perform the maintenance under NYSDEC approval.

For a complete procedure for maintenance on the system components, reference the TAMS Consulting Manual.

4.2.1.4 System Operation: Non-Routine Equipment Maintenance

In the event that a system alarm goes off, the autodialer will call through a pre-set list of phone numbers until the alarm is acknowledged by touch tone command or by calling the dialer back. The device is a Verbatim Gateway Autodialer. The TAMS Consulting, Inc. Operations and Maintenance Manual has a table that presents the programmed autodialer alarm notifications and probable causes/troubleshooting list of procedures to perform to reset the alarm.

4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING

The performance monitoring for the water treatment system involves annual monitoring of the influent and effluent to evaluate the performance of the system. The system was originally started in late 1995/early 1996 with intermittent functionality until approximately 2001 when upgrades and replacements were made to get the system back to functioning condition.

The system has been incorporated at the Site to decrease the contaminant concentrations that are present in the groundwater as well as limiting further migration of these contaminants. The impacted groundwater is pumped up from two wells and treated by an air stripper. The treated groundwater is then pumped into the Otselic River. Monitoring the efficiency of the system and overall performance is an important aspect of the remediation at this Site.

As part of the monitoring for the Site, the treatment system itself will be sampled at (influent and effluent) to assess the efficiency of the treatment process and monitor the treated water being released into the Otselic River. In addition to the treatment system itself, a network of monitoring wells have been installed across the Site (and beyond) to monitor the groundwater conditions to assess the migration of the contaminants and assess improvement since installation of the treatment system.

4.3.1 Monitoring Schedule

The Site monitoring for groundwater will be conducted every five quarters and the Site monitoring for the treatment system will be conducted monthly, or at a frequency required by NYSDEC. Historically, groundwater concentrations were observed at concentrations greater than 100 ppb TCA. The concentrations have declined since the remedial activities at the Site. Annual monitoring will provide analytical data to continue assessing the remaining contamination.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the groundwater treatment system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the groundwater treatment system are specified later in this Plan.

4.3.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. Groundwater treatment system components to be monitored include, but are not limited to, the following:

- Recovery well submersible pumps
- Air stripper and blower
- Sump pump
- Overall condition of the treatment building

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix E. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the groundwater treatment system restarted.

4.3.3 System Monitoring Devices and Alarms

As described previously, the groundwater treatment system has an autodialer to remotely alert personnel of any issues with the system. For the groundwater treatment system, there are 16 alarms that have been programmed for issues such as:

- Well 1 and Well 2 issues
    - Low level
    - High discharge pressure
    - Low flow
    - Reverse flow
    - Motor failure
- Air Stripper issues
    - Low air flow
    - High sump level
- Sump pump issues
    - Motor failure
    - Sump pit high level
- Filter high differential pressure
- Blower motor failure

Any alarms are listed in the TAMS Consulting, Inc. Operation and Maintenance Manual with a troubleshooting procedure on how to correct the issue and reset the alarm.

The groundwater treatment system has a warning device to indicate that the system is not operating properly. In the event that the warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan. Operational problems will be noted in the subsequent Periodic Review Report.

4.3.4 Sampling Event Protocol

Groundwater sampling is conducted to provide information on groundwater quality, monitor potential contaminant migration in the groundwater at the site, and assess hydrogeologic site conditions, including groundwater flow direction. Groundwater monitoring well locations are shown on Figure 3.

The recovery wells (influent to the treatment plant) and post-treatment effluent are sampled monthly and analyzed for VOCs via USEPA Method 624. Groundwater sampling is completed on a five-quarter basis. During the Site visit, the integrity of each well is inspected to evaluate the integrity and suitability for groundwater monitoring and water levels. Water levels are measured to the nearest hundredth of a foot.

Groundwater samples are collected from 21 groundwater monitoring wells using passive diffusion bags (PDBs) and submitted to Con-test Analytical Laboratory in East Longmeadow, Massachusetts by chain-of-custody procedures and analyzed for Volatile Organic Compounds (VOCs) by USEPA Method 624.

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the Site will be kept on-file on-site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Routine Maintenance Reports

Checklists or forms (see Appendix E) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date;
- Name, company, and position of person(s) conducting maintenance activities;

- Maintenance activities conducted;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5. INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted monthly. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events, including any general site-wide observations, will be recorded on the appropriate forms for their respective system which are contained in Appendix E. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional will prepare the following certification:

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the ROD;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [INSERT NAME],

of [INSERT BUSINESS AND ADDRESS], am certifying as NYSDEC'S REPRESENTATIVE for the Site.

The signed certification will be included in the Periodic Review Report described below.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to NYSDEC every fifth year, as requested by the NYSDEC. . The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the required annual Site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:

- The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
- The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
- Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

- A performance summary for all treatment systems at the Site during the calendar year, including information such as:
  - The number of days the system was run for the reporting period;
  - The average, high, and low flows per day;
  - The contaminant mass removed;
  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
  - A description of the resolution of performance problems;
  - A summary of the performance, effluent and/or effectiveness monitoring; and
  - Comments, conclusions, and recommendations based on data evaluation.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the Site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

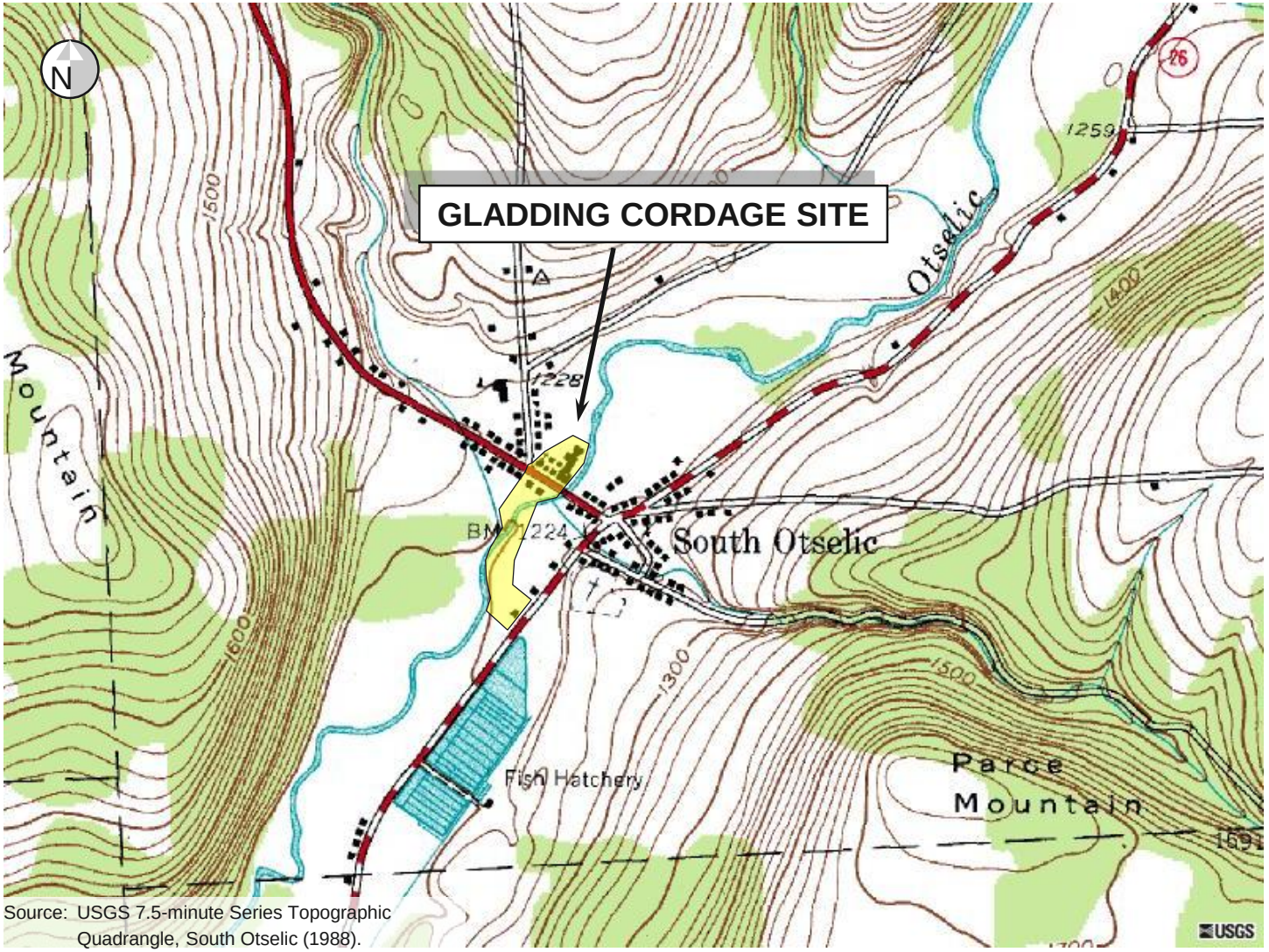
If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering

control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

FIGURES

Figure 1
Site Location

Gladding Cordage Site
South Otselic, New York
NYSDEC Site 7-09-009



Source: USGS 7.5-minute Series Topographic Quadrangle, South Otselic (1988).

0 2,000 ft

0 150 300 600 900 1,200 Feet

N

Legend

- Monitoring Well
- Recovery Well
- Approximate Site Boundary

G:\GIS\MOD\0266365\SMP2013\Wells.mxd

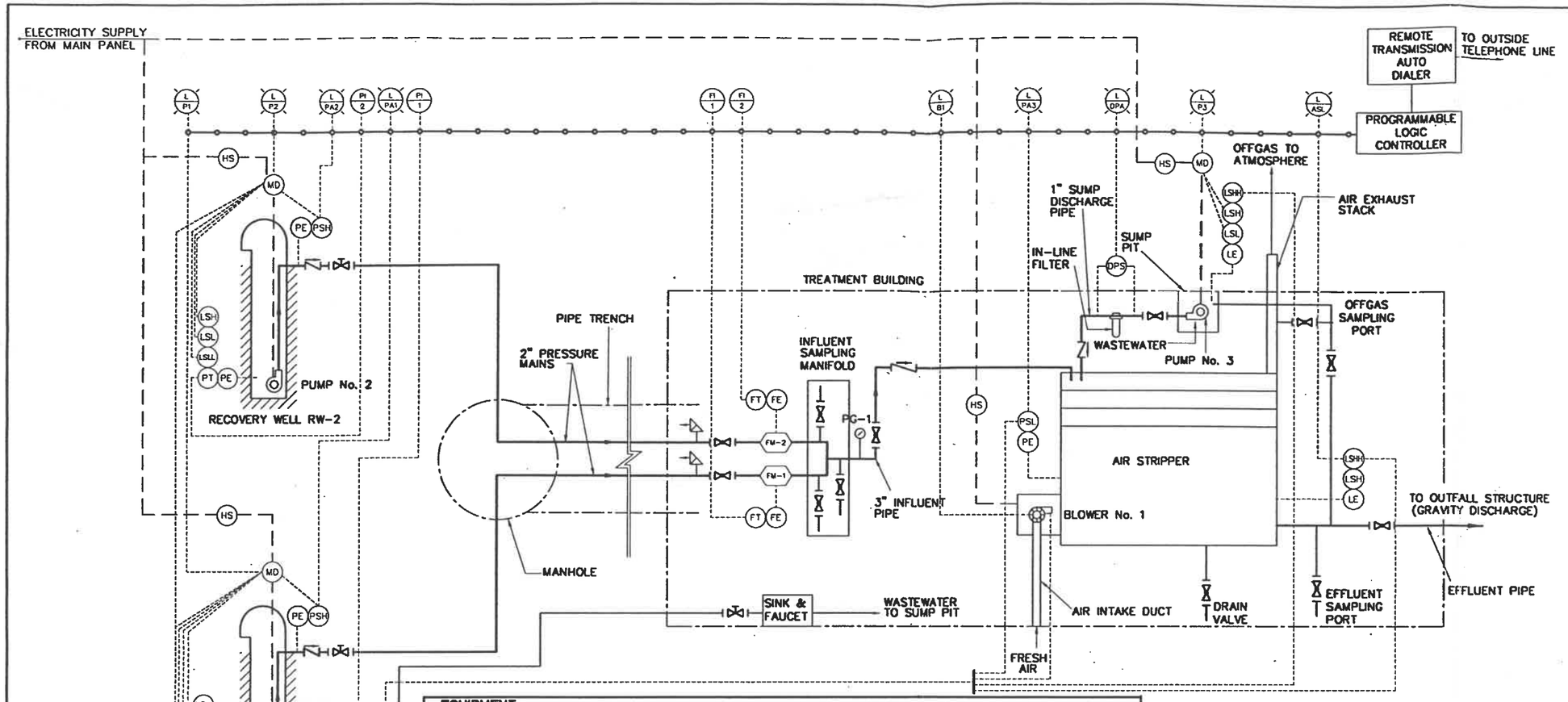
NYSDEC STANDBY CONTRACT NO. D004443-5
GLADDING CORDAGE SITE 7-09-009
SOUTH OTSELIC, NEW YORK

SITE MANAGEMENT PLAN

SITE MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2



LEGEND:

- BALL VALVE (NORMALLY CLOSED)
- GATE VALVE (NORMALLY OPEN)
- CHECK VALVE
- BACKFLOW PREVENTOR
- FM-2 – FLOW METER

AS-BUILT

LEGEND:

- PG-1 – PRESSURE GAUGE
- PUMP
- BLOWER
- PRESSURE RELIEF VALVE
- PROCESS FLOW LINE
- ELECTRICITY SUPPLY LINE
- PROGRAMMABLE LOGIC CONTROLLER DATA LINE
- PROCESS CONTROL LINE
- LSL – LEVEL SWITCH LOW
- LSH – LEVEL SWITCH HIGH
- LSLL – LEVEL SWITCH LOW-LOW
- LSHH – LEVEL SWITCH HIGH-HIGH
- LE – LEVEL ELEMENT
- PE – PRESSURE ELEMENT
- PT – PRESSURE TRANSMITTER
- PI – PRESSURE INDICATOR
- PSH – PRESSURE SWITCH HIGH
- PSL – PRESSURE SWITCH LOW
- FE – FLOW ELEMENT
- FT – FLOW TRANSMITTER
- FI – FLOW INDICATOR
- DPS – DIFFERENTIAL PRESSURE SWITCH
- L – PANEL LIGHT
- P1 – PUMP No. 1
- PA1 – PRESSURE ALARM 1
- DPA – DIFFERENTIAL PRESSURE ALARM
- ASL – AIR STRIPPER LEVEL
- MD – MOTOR DRIVE
- HS – HAND SWITCH

EQUIPMENT AND PIPING	DESCRIPTION
PUMP No. 1	GRUNDFOS SUBMERSIBLE PUMP MODEL 40S15-5 (1.5 HP)
PUMP No. 2	GRUNDFOS SUBMERSIBLE PUMP MODEL 40S15-5 (1.5 HP)
PUMP No. 3	HYDROMATIC SUMP PUMP SHEF50
FM-1	2" SPARLING ELECTROMAGNETIC FLOWMETER MODEL 625 TIGERMAG
FM-2	2" SPARLING ELECTROMAGNETIC FLOWMETER MODEL 625 TIGERMAG
PRESSURE TRANSMITTER	OMEGA ENGINEERING INC., MODEL NO. PX410-100SI
LEVEL SENSORS (SUMP)	WARRICK CONTROLS, MODEL NO. 3W2 ELECTRODE WITH SUSPENSION WIRE (MODEL NO. 3Z1A)
IN-LINE FILTER	HAYWARD INDUSTRIAL PRODUCTS, 1"ø PVC SIMPLEX BASKET STRAINER WITH SS MESH 200 BASKET
PG-1 & BLOWER No. 1	TO BE FURNISHED WITH AIR STRIPPER (BLOWER = 5 HP, 900 CFM @ 14WC, 3 PHASE, 230V, TEFC)
AIR STRIPPER	REMEDIAL SYSTEMS INC., MODEL RTS-50-5
PRESSURE MAINS	2"ø POLYVINYL CHLORIDE (PVC), SCHEDULE 40
INFLUENT PIPE	3"ø PVC, SCHEDULE 40
EFFLUENT PIPE	6"ø PVC, SCHEDULE 40
SUMP DISCHARGE PIPE	1"ø PVC, SCHEDULE 40
SINK DISCHARGE PIPE	1.5"ø PVC, SCHEDULE 40
FAUCET	WATTS INDUSTRIES, 3/4" FAUCET MODEL SCB-2
BACKFLOW PREVENTOR	WATTS INDUSTRIES, 3/4"
WATER MAIN	3/4"ø COPPER
AIR INTAKE DUCT	10"ø PVC, SCHEDULE 40, WITH SCREEN AND LOUVERS
AIR EXHAUST STACK	10"ø PVC, SCHEDULE 40, WITH HOSE CLAMPS
PRESSURE RELIEF VALVE	WATTS INDUSTRIES, 1/2"ø SERIES BP30
BALL VALVES	CHEMTROL PVC 2", 3" & 4" SERIES
GATE/WEDGE VALVE	KENNEDY CAST IRON WEDGE VALVE
CHECK VALVES	CHEMTROL PVC 2" & 3" SERIES
PLC	ALLEN-BRADLEY, SLC 500
AUTODIALER	RACO, VERBATIM GATEWAY
XXX	XXX
XXX	XXX

LICENSED PROFESSIONAL ENGINEER TAMS CONSULTANTS NO 118 STATE OF NEW YORK

THIS DRAWING HAS BEEN REDUCED BY 50%
CHECK ORIGINAL SCALE BAR BELOW

40 30 20 10 0 20 40

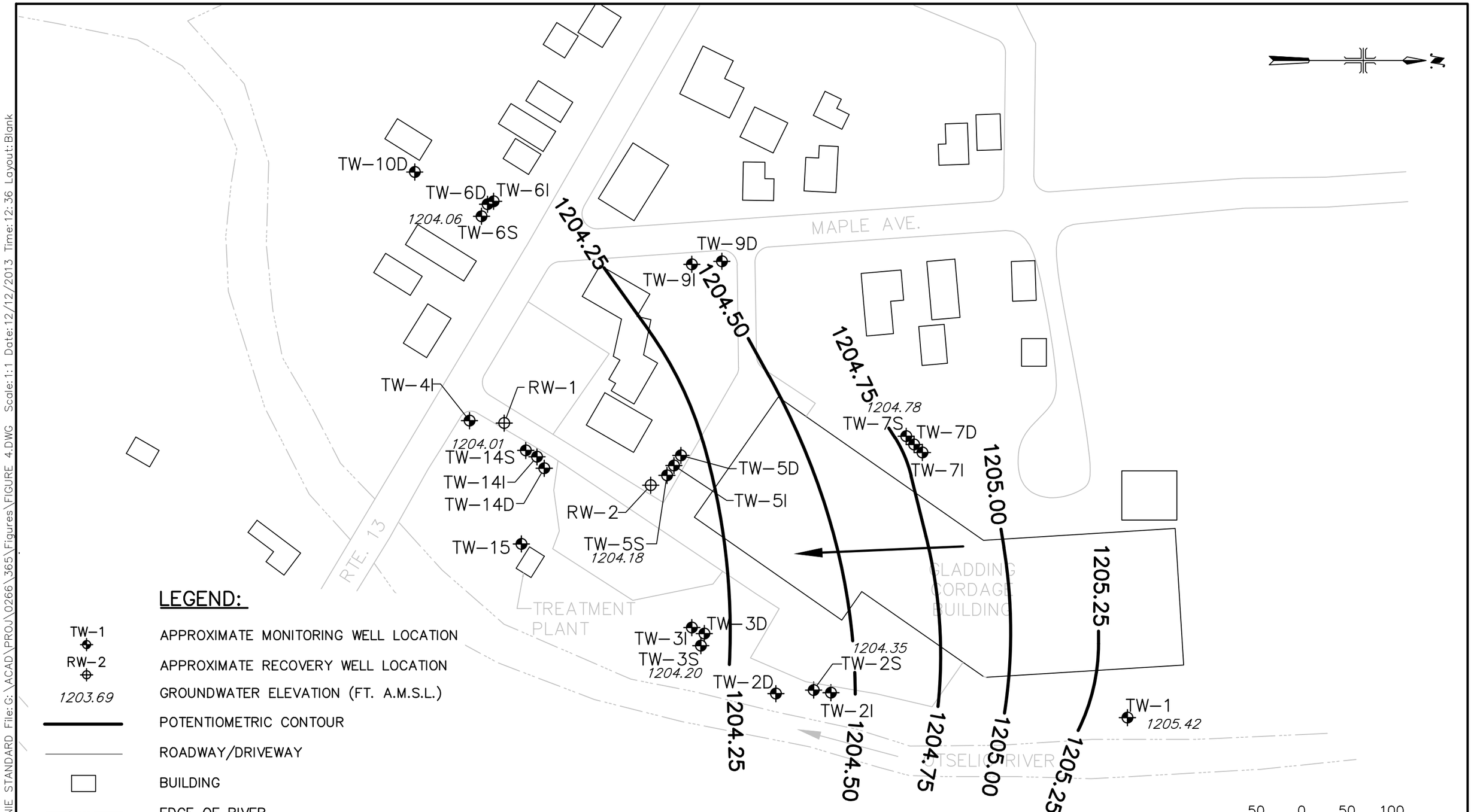
WARNING: IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THR DIRECTION OF A LICENSED PROFESIONAL ENGINEER, TO ALTER AN ITEM OF THESE PLANS IN ANY WAY. IF ALTERATIONS TO THESE PLANS ARE REQUIRED, THE ALTERATIONS SHALL BE MADE IN ACCORDANCE WITH ARTICLE 145 - SUBSECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVED

Prepared by:
TAMS CONSULTANTS, Inc.
300 Broadacres Drive, Bloomfield, New Jersey 07003

Prepared for:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233

DESIGNED BY: JE	**Gladding Cordage Site**		
DRAWN BY: JE	Town of Otselic		
CHECKED BY: CC	Chenango County, New York		
	PROCESS AND INSTRUMENTATION DIAGRAM		
SUBMITTED BY: MT	DATE: OCTOBER, 1996	SCALE: NTS	DRAWING NO.: 04

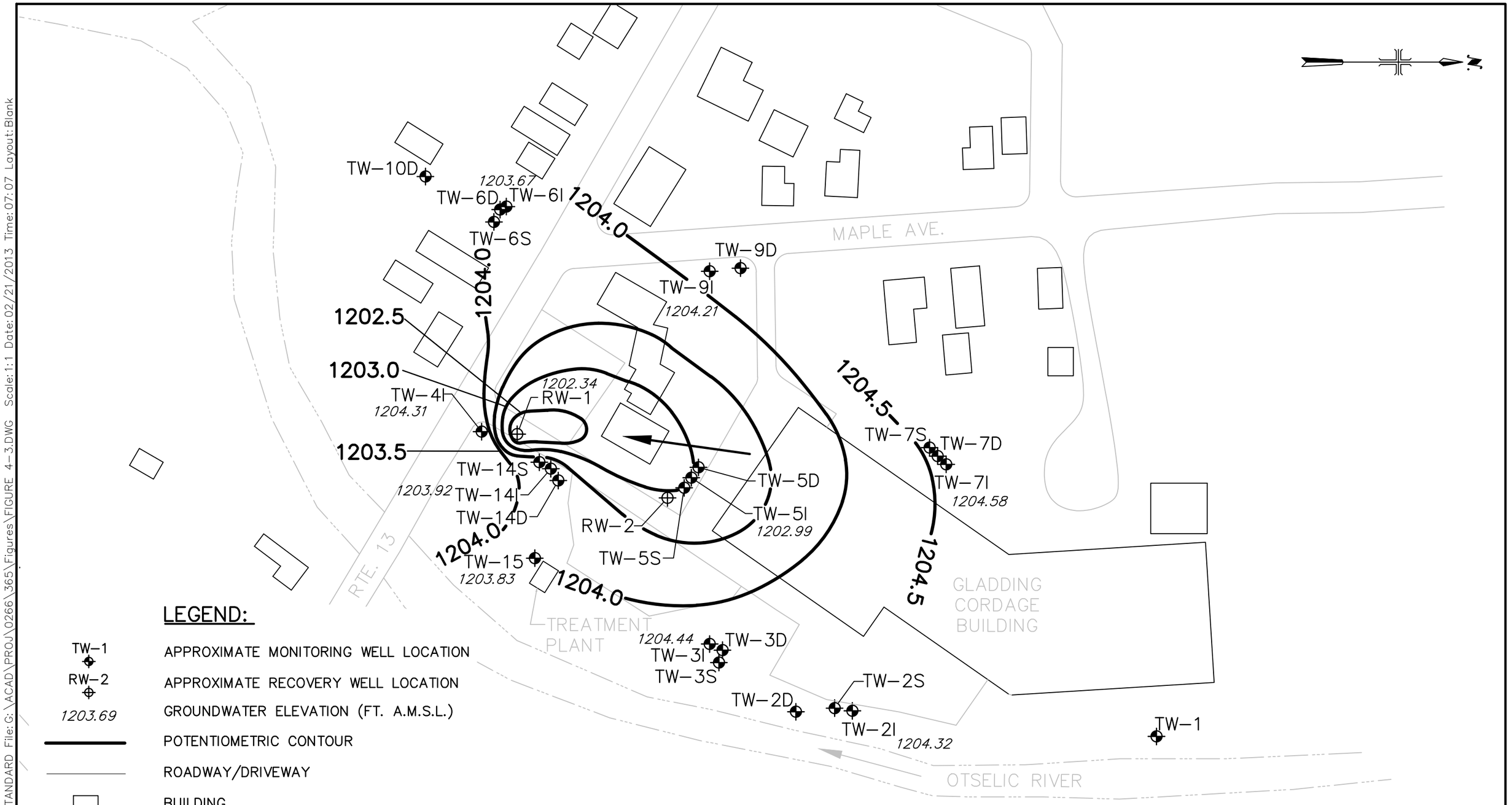


ARCADIS Infrastructure · Water · Environment · Buildings

NYSDEC STANDBY CONTRACT NO. D007618-9
NYSDEC SITE NO. 7-09-009
GLADDING CORDAGE SITE
SOUTH OTSELIC, NEW YORK

SHALLOW POTENTIOMETRIC CONTOUR SURFACE MAP (10/15/13)
SCALE: AS SHOWN

APRIL 2014
FIGURE 4-2



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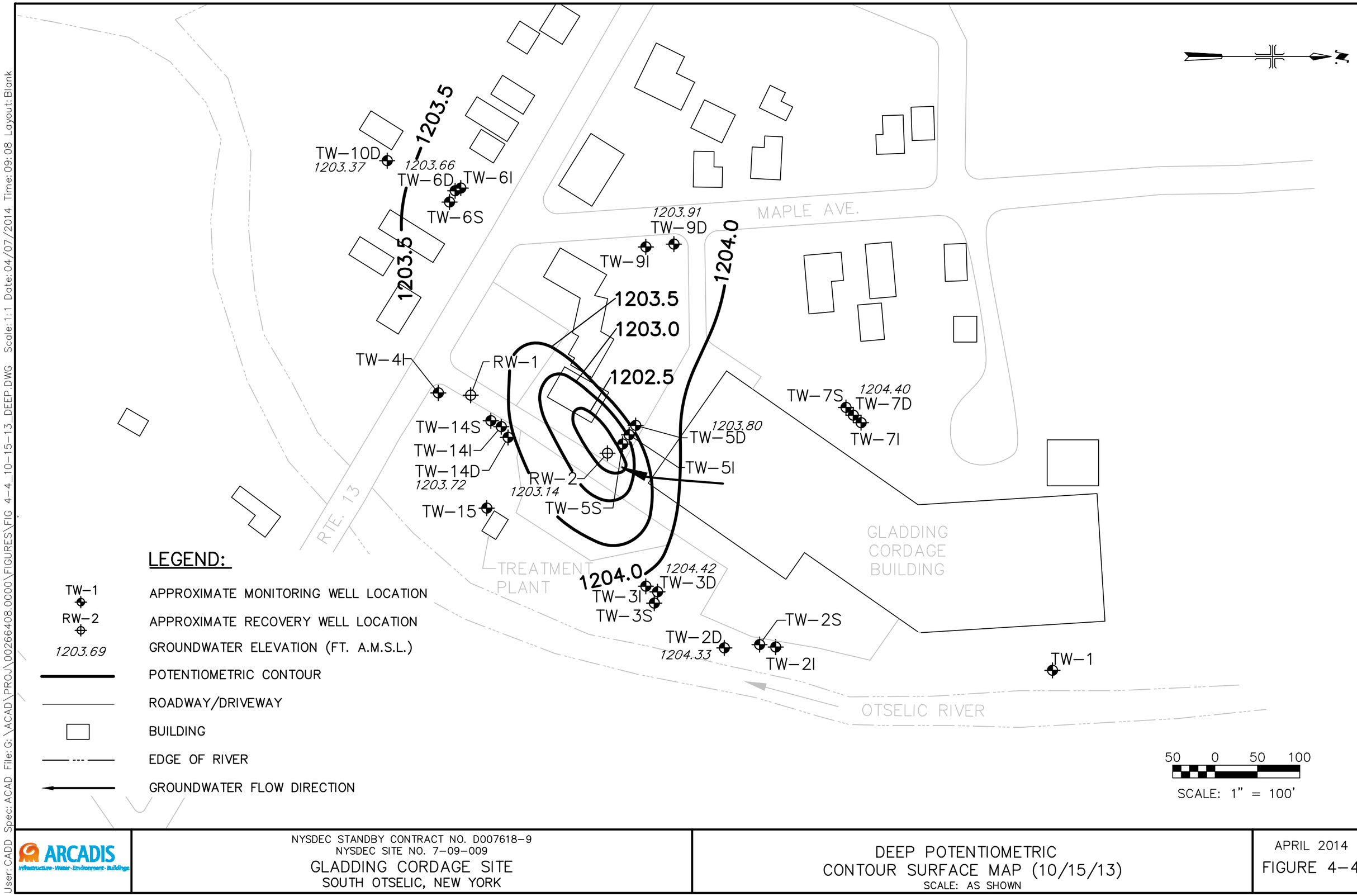
Infrastructure · Water · Environment · Buildings

NYSDEC STANDBY CONTRACT NO. D007618-9
NYSDEC SITE NO. 7-09-009
GLADDING CORDAGE SITE
SOUTH OTSELIC, NEW YORK

INTERMEDIATE POTENTIOMETRIC CONTOUR SURFACE MAP (10/15/13)
SCALE: AS SHOWN

APRIL 2014
FIGURE 4-3



ARCADIS
Infrastructure · Water · Environment · Buildings

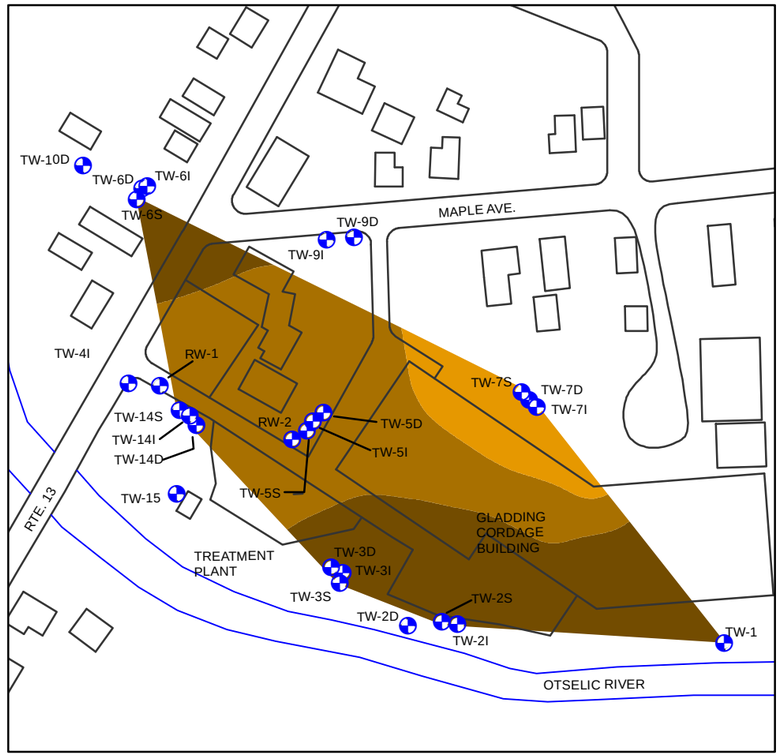
NYSDEC STANDBY CONTRACT NO. D007618-9
NYSDEC SITE NO. 7-09-009
GLADDING CORDAGE SITE
SOUTH OTSELIC, NEW YORK

DEEP POTENTIOMETRIC
CONTOUR SURFACE MAP (10/15/13)
SCALE: AS SHOWN

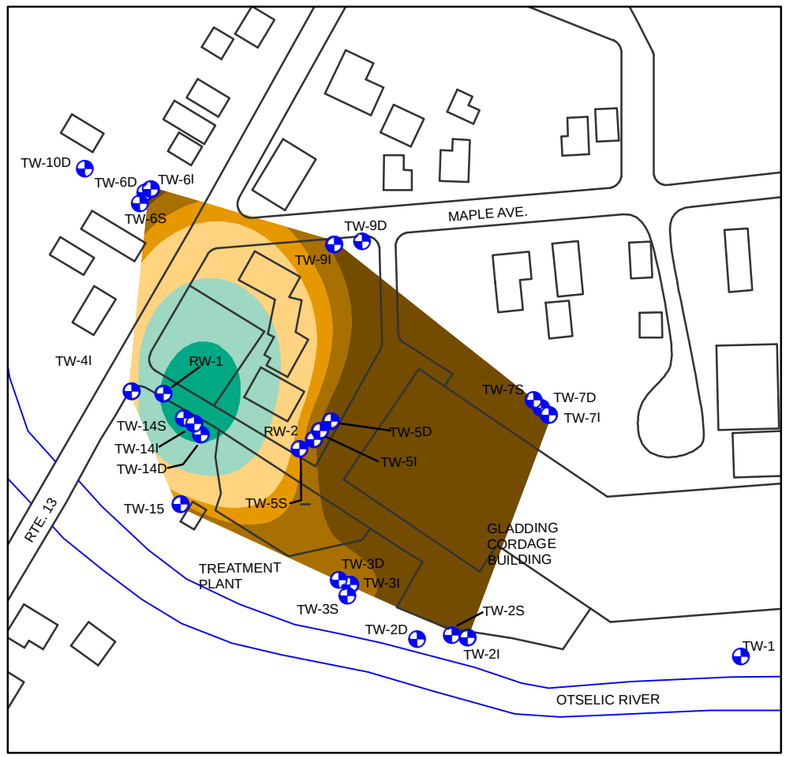
APRIL 2014
FIGURE 4-4

N

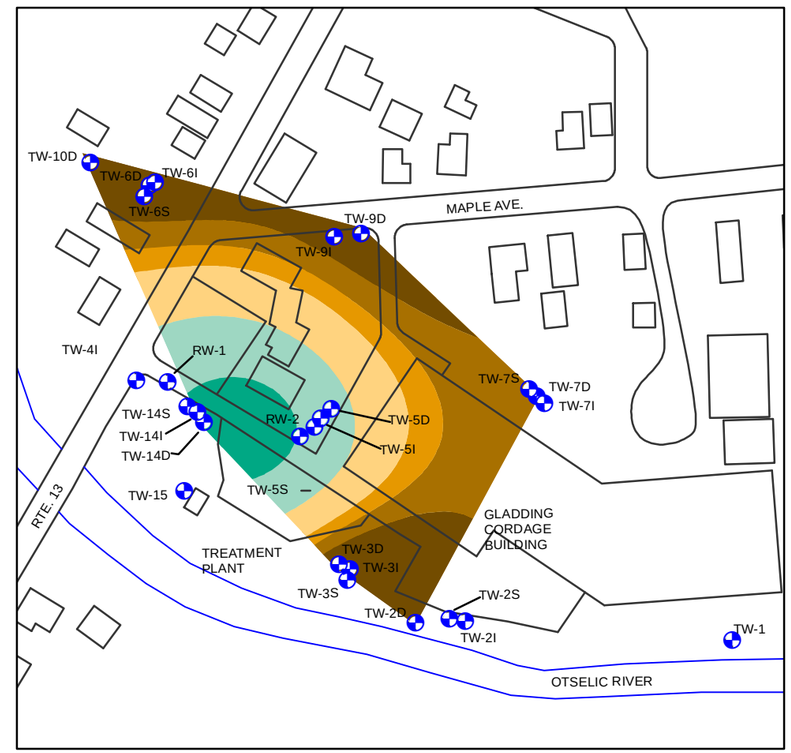
SHALLOW



INTERMEDIATE



DEEP



0 100 200 400 600 800 Feet

Legend

1,1,1-Trichloroethane Concentrations (ug/L)

- 0 - 5
- 5 - 10
- 10 - 15
- 15 - 30
- 30 - 50
- 50 - 59

GLADDING CORDAGE SITE NUMBER 7-09-009
SOUTH OTSELIC, NEW YORK

REMEDIAL INVESTIGATION

GROUNDWATER 1,1,1-TRICHLOROETHANE CONCENTRATIONS

OCTOBER 29, 2013

ARCADIS

FIGURE **4-5**

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APPENDICES

APPENDIX A – EXCAVATION WORK PLAN

A-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the Department. Currently, this notification will be made to:

Mr. Payson Long

New York State Department of Environmental Conservation

625 Broadway

Albany, NY 12233-0001

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this EWP,

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor's health and safety plan, in electronic format,
- Identification of disposal facilities for potential waste streams,

- Identification of sources of any anticipated backfill, along with all required chemical testing results.

A-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

A-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

A-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

A-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

All trucks loaded with Site materials will exit the vicinity of the Site using only approved truck routes which are required in the detailed planning documentation by the contractor. The most appropriate route takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; (g) community input.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

A-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this Site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

A-7 MATERIALS REUSE ON-SITE

'Reuse on-site' means reuse on-site of material that originates at the Site and which does not leave the Site during the excavation. The detailed work plans for the specific activities taking place should include the following topics for approval from NYSDEC:

- Procedure for determining if reuse is appropriate:
    - Sampling (methods and analytical)
    - Chemical limits for on-site reuse
        - Table of chemical limits for reuse
    - Stockpile segregation scheme for on-site reuse
        - Size of stockpiles, location (include figure)

Chemical criteria for on-site reuse of material, as presented in the detailed work plans, must be approved by NYSDEC. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

A-8 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

A-9 COVER SYSTEM RESTORATION

The Site does not have a designed cover system in place, but after the completion of soil removal and any other invasive activities the surface will be restored in agreement with NYSDEC. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

A-10 BACKFILL FROM OFF-SITE SOURCES

The detailed work plans for the excavation activities must include the procedures planned for the import, handling and placement of backfill material from off-site. At minimum, the following topics should be covered:

- Source area approval process
    - Sources of backfill material
        - Past use of site
        - Source area background check
        - DOT Certification
    - Chemical sampling
        - Analytes
        - Frequency
    - Imported Soil Chemical Quality Standards
        - Applicability of protection of groundwater SCOs
        - Applicability of protection of ecological resources SCOs
- Procedure for determining if reuse is appropriate
    - Sampling (methods and analytical)
- Stockpile procedures for imported backfill material

- Size of stockpiles, cover, etc.

All materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the Site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the Site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

A-11 STORMWATER POLLUTION PREVENTION

For larger excavations (work area exceeding 1 acre), procedures for stormwater pollution prevention are required to be specified. A summary of the Stormwater Pollution Prevention Plan that conforms to the requirements of NYSDEC Division of Water guidelines and NYS regulations should be included in the detailed work plans.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

A-12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

A-13 COMMUNITY AIR MONITORING PLAN

As part of the detailed planning documents, a Community Air Monitoring Plan (CAMP) must also be included. Guidance can be obtained in Appendix 1A of DER-10, Generic Community Air Monitoring Plan. At a minimum, this CAMP will include:

- Details of the perimeter air monitoring program;
- Action levels to be used;
- Methods for air monitoring ;
- Analytes measured and instrumentation to be used;
- A figure of the location(s) of all air monitoring instrumentation. A figure showing specific locations must be presented for monitoring stations based on generally prevailing wind conditions, with a note that the exact locations to be monitored on a given day will be established based on the daily wind direction.

These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations. If a sensitive receptor, such as a school, day care or residential area is adjacent to the site, a fixed monitoring station should be located at that site perimeter, regardless of wind direction, and discussed in the CAMP.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

A-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will defined in the planning documentation for the specific excavation activity taking place. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner’s

Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

A-15 DUST CONTROL PLAN

A dust suppression plan will be included in the detailed planning documentation that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved though the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

A-16 OTHER NUISANCES

Planning for other nuuisances, such as rodent control and noise will also be incorporated into the planning documentation.

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX B

RESPONSIBILITIES of

OWNER and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Gladding Cordage Site site (the "Site"), number 7-09-009, are divided between the site owner(s) and a Remedial Party, as defined below. The owner(s) is/are currently listed as:
Gladding Braided Products (the "owner").

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is:
ARCADIS of New York, Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the Site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in a(n) Record of Decision (ROD) remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the Site's Periodic Review Report (PRR) certification to the NYSDEC.

3) In the event the Site is delisted, the owner remains bound by the ROD and shall submit, upon request by the NYSDEC, a written certification that the ROD-defined remedies are still in place and has been complied with.

4) The owner shall grant access to the Site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owner shall notify the Site's RP and NYSDEC in accordance with the timeframes indicated in Section 2.4.2-Notifications.

6) In the event some action or inaction by the owner adversely impacts the Site, the owner must notify the Site's RP and the NYSDEC in accordance with the time frame indicated in Section 2.4.2- Notifications and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the Site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the Site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) The RP remains ultimately responsible for maintaining the engineering controls.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the Site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the Site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the Site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the Site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section [2.4.2]- Notifications] of the SMP.

7) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

8) Any change in use, change in ownership, change in Site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the Site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents.

Change in RP ownership and/or control and/or Site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future Site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX C – Monitoring Well Construction Specifications

3.41 Test Borings/Monitoring Well Installation

The final locations of the test borings, and monitoring wells will be confirmed following the completion and interpretation of the initial GHR project activities. Monitoring wells will be placed in locations so as t maximize the hydrogeologic data obtained, including vertical and aerial hydraulic head distributions. Based on existing information, it is anticipated that 21 monitoring wells will be installed at 12 locations as shown on Figure 2. Monitoring wells will be constructed as single wells and well pairs. The conceptual distribution of wells is expected to be approximately as follows:

1. One well pair will be situated just north of Plant #5, upgradien of any suspected on-Site contaminant source;

2. Three well pairs will be installed next to existing shallow wells. One of the well pairs will be placed next to the off-Sit monitoring well located next to the Gladding Town Hall on Deruyter Street. The other two well pairs will be placed on-Sit along the north bank of the Otselic River next to existing monitoring wells TW-2 and TW-3. The purpose of these wells is t determine the vertical extent of the contamination within the unconsolidated aquifer. Additionally, documentation of the discharge/recharge relationship between the Otselic River and th aquifer will be provided by well clusters TW-2 and TW-3;

3. One well pair will be installed downgradient of septic system #3 to monitor for contamination associated with the septic tank/leach field as discovered during a previous investigation;

4. One well pair will be installed west of the Site to intercept uncontaminated groundwater and determine the western edge of the plume;

5. Three well pairs will be located off-Site on the southeastern side of the Otselic River. Two of the well pairs, one across the river from Plant #1 and another northwest of the NYSDEC Fish Hatchery well, will be installed to determine the aquifer/river hydraulic relationships on that side of the river and reveal the presence of any contamination. The third well pair will be located north of the NYSDEC Fish Hatchery well and south of Otselic River. The location of this well pair will be useful to confirm that the contamination observed at the NYSDEC well is associated with the contamination detected at the Gladding Corporation; and

6. Three single wells will also be drilled. One of the wells will be placed between, and screened at the same elevation as municipal wells #1 and #2 to verify the presence of a "low permeability barrier" between the two municipal wells and to provide a monitoring point for the proposed pumping test. Two other single wells will be deep (approximately 100 feet) as contamination was detected in each of the intermediate (70 feet) wells (TW-4D and TW-5D).

For estimating purposes, the deep wells at the Site are anticipated to be approximately 100 feet deep, the intermediate wells approximately 70 feet deep, and the shallow wells approximately 25 feet deep.

3.42 Drilling Methods

Borings in the overburden will be drilled using a rotary drill rig. Borings will be advanced by a 4.5" ID hollow stem auger or steel casing. Standard penetration tests yielding split-spoon samples will be conducted at the surface and either continuously or at 5-foot intervals within fill and unconsolidated glacial deposits down to the desired well depth. At well pairs, no sampling will be done during shallow well installations.

Potable quality water obtained from the local water supply will be used during drilling. The approximate volume of water used during drilling will be monitored and recorded, and a quantity of water equal to or greater than this volume will be purged from the monitoring well during well development. No oil, grease or any other petroleum based products will be used to lubricate casings, augers, or rods in such a manner as to contaminate the boreholes. However, vegetable based materials (i.e., Crisco shortening, vegetable oil, etc.) can be used. Care will be taken that no oil, grease, or other lubricants leak from the drill rig and enter the borehole.

Soil samples collected via split-spoon procedures will be visually classified and logged by the GHR field geologist and the drilling foreman. The log will contain, at a minimum, the information outlined below:

a. Results of all boring details of each hole. These shall be arranged in tabular form, giving full information on the vertical arrangement, thickness, and classification of the materials penetrated.

b. Depth of bottom, type, and number of each sample taken. All samples shall be numbered consecutively.

c. Height of drop and weight of drop hammer for taking drive samples and driving the casing.

d. Number of blows per foot required to drive the casing.

e. Number of blows required for each 6 inch penetration of split-barrel sampler.

f. Size, length, and depth of bottom of casing used in each borehole.

g. Depth of groundwater table at each hole and time of observation.

h. Description of samples visually and by the Unified Soil Classification System.

i. Depth of split-spoon penetration and amount of soil sample recovery.

j. General stratigraphic description.

k. Notes pertaining to drilling difficulty, chemical odors noted, or other pertinent information.

Representative portions of each split-spoon sample will be preserved in screw top, airtight, clear-glass jars with polyethylene liners. Size of jars shall be 8-ounce or larger for 2 inch diameter samples. The specimens will be placed in the jars as soon as they are taken in order to preserve the original moisture content. The jars will be tightly capped and suitable boxed, marked, and identified with legible labels or by inscriptions on the jar cap. The well location number, sample number, depth at which the sample was taken, record of number of blows for each 6 inch drive increment, and length of sample recovery will be recorded on each jar.

A portion of each split-spoon sample will be stored in a sealed container and field tested by GHR for the presence of volatile organic compounds using an HNU Model 101 organic vapor analyzer.

The split-spoon sampler will be cleaned by the drillers before each sample is taken. The cleaning process will consist of initially rinsing the split-spoon sampler with clean wash water, then with methanol or acetone, and finally with water. The driller will have more than one split-spoon sampler so that time will not be lost during the cleaning process. The rinsate from the split-spoon cleaning will be collected and disposed of at the termination of each boring at the boring location.

The GHR field geologist may select to perform permeability tests in various strata during the drilling procedures. If not performed during the drilling, well recovery permeability tests will be performed in selected locations after the monitoring wells are installed and allowed to stabilize. Rising-head permeability tests will be performed in accordance with the methods outlined by Hvorslev (1949). This method requires that the water inside the casing be bailed to its lowest practical depth, and this depth is recorded. The subsequent rate of the water level in the casing will be determined at 1, 2, and 5 minutes after the start of the test and at 5-minute intervals thereafter. The test shall continue until the rate of rinse of the water level is less than 1 foot per 5-minute interval or until 30 minutes have elapsed since the start of the test. GHR personnel will conduct permeability testing.

The depth to the water level shall be measured by GHR personnel in feet and tenths of feet. If the soil runs into the casing when performed this type of test (determined by sounding with drill rods after the test has been performed), the test shall not be considered as being valid, and either the falling water level method or constant water level method may be required to be performed. Prior to performing a different type of test, the casing shall again be cleaned and flushed with clean water.

3.43 Monitoring Well Construction

Wells in overburden material will be constructed as outlined below and depicted on Figure 3. Wells will be installed in the overburden if a minimum of 2 feet of groundwater is in the borehole.

1. Advance the hollow stem auger or steel casing to desired depth.

2. Set a 2-inch I.D., 304 stainless steel threaded flush-joint, riser pipe to a 10 to 15-foot long, 0.010 inch 304 stainless steel well screen. No glue, tape, or other solvent containing materials will be used to join pipe together.

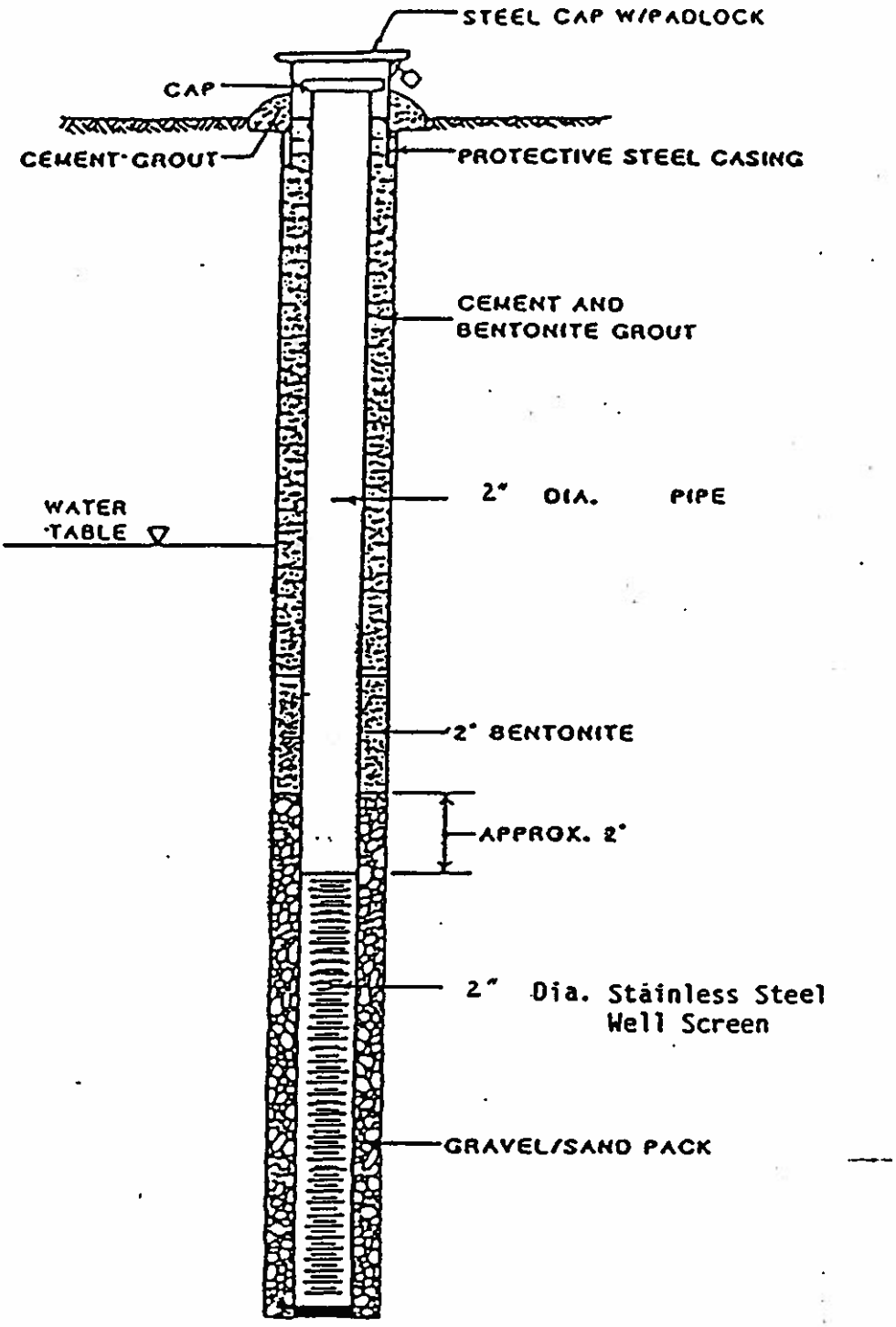


FIGURE 3

PROPOSED OVERBURDEN MONITORING WELL CONSTRUCTION

GLADDING CORDAGE COMPANY SITE, NEW YORK

NOT TO SCALE

3. Install an Ottawa Sand pack to 2 feet above the top of screen while retracting the auger or casing in a manner to prevent bridging of the sand or gravel between the casing and the well pipe. If water is added to the hole to wash down the sand or gravel-pack, the volume of water will be recorded.

4. Install a 2 foot layer of bentonite pellets onto the top of the sand or gravel pack while retracting the casing 2 feet to prevent bridging.

5. Grout the remaining boreholes from the bottom up via a tremie pipe system with a lean mixture of cement and bentonite (powder) at a ratio of 20:1 until grout flows at the surface.

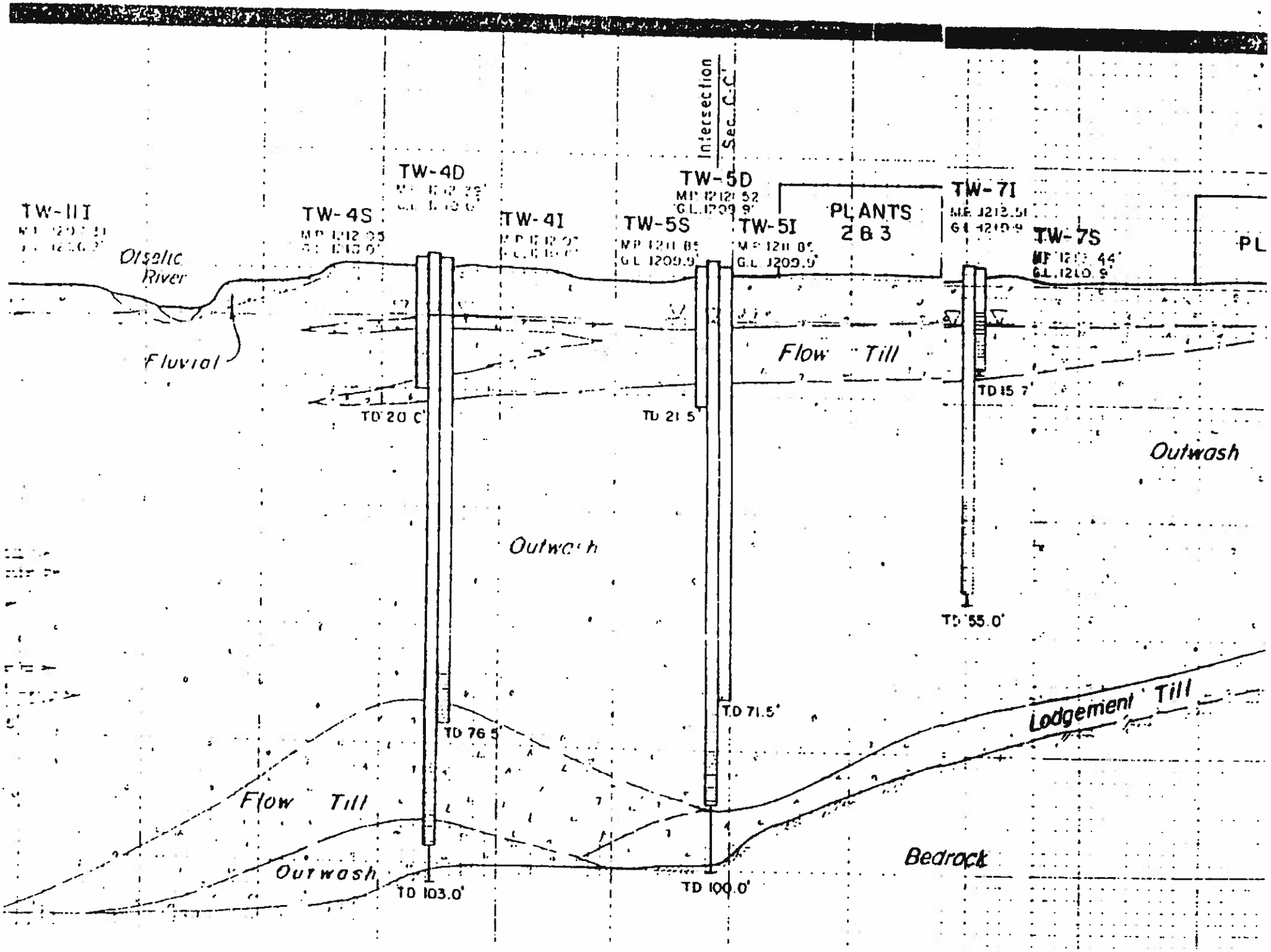
6. Retract the remaining casing.

7. Install a 4-inch protective steel casing with a locking cap. The protective steel casing should be steam cleaned before placing over the well pipe to remove cutting oils or grease. The sleeve will be painted a highly-visible color and labeled with a well number. The sleeve shall have at least 2 feet of stickup and shall penetrate at least 3 feet below the surface. Locks on all wells will be identical and capable of being opened by one set of keys.

3.44 Decontamination Procedures

Geotechnical Apparatus. All technical geotechnical apparatus, such as augers, rods, drill bits, casings, etc., will undergo the following decontamination prior to use on-Site, between each use on-Site, and prior to removal from the Site to remove all visible contamination and soils:

1. Thorough detergent/water rise.
2. Tap water rinse.
3. Solvent wash/rinse with methanol.
4. Clean water rinse.


Intersection Sec. C-C'
TW-1I
TW-4D
TW-4S
TW-4I
TW-5D
TW-5S
TW-5I
TW-7I
TW-7S
PLANTS 2 & 3
Illinois River
Fluvial
Flow Till
Outwash
Outwash
Outwash
Lodgement Till
Flow Till
Outwash
Bedrock
TD 20.0'
TD 21.5'
TD 15.7'
TD 55.0'
TD 76.5'
TD 71.5'
TD 103.0'
TD 100.0'

SELECTED BORING LOGS
FROM PHASE I

GLADDING CORDAGE CO.

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d

PROJECT	Gladding Cordage; South Otselic, N.Y.					SHEET 1 OF 9
CLIENT	GHR					JOB No. 2006-10-673
DRILLING CONTRACTOR	American Auger & Ditching Co., Inc.					MEAS. PT. ELEV.
PURPOSE	Monitoring well installation - Phase I					GROUND ELEV.
DRILLING METHOD	spin in casing		SAMPLE	CORE	CASING	DATUM land surface
DRILL RIG TYPE	Mobile B-57	TYPE	SS-2'	NA	spin in	DATE STARTED 9/1/88
GROUNDWATER DEPTH	11.47' bMP	DIA.	2"		4¼" ID	DATE FINISHED 9/6/88
MEASURING POINT	top of riser	WEIGHT	140#			DRILLER Rocky Baye
DATE OF MEASUREMENT	9/13/88	FALL	30"			INSPECTOR Mau Lawler

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG *	GEOLOGIC DESCRIPTION	HNU: sample/background (ppm) REMARKS
	TS-3-1	7 7 5 5	SM-GM GC-GM GM		0.0-0.2' Br cmf S, s $ & C, a c(+)m(-)f G; ts, rts, veg 0.2-0.5' Dk br-bk c(+)mf G s(+), cmf S, l C & $; misc fill 0.5-0.9' Or, br, & yw mf G a(+), cmf S l(+) $; brks, concrete, misc fill	R=0.9' Dry HNU: 0.8/0.4
	TS-3-2	5 4 1 2	GP-GM		Or, br & gr cmf(-) G s(-), c(+)mf S, t(+) Cy$; brks, concrete, misc fill Orange, brown & gray coarse to fine (-) GRAVEL some (-), coarse (+) to fine Sand, trace (+) Clayey Silt; bricks, concrete, miscellaneous fill	R=1.3' Moist to Dry HNU: 0.8/0.7 (Moisture content of samples from deeper than 4' may not be representative; water was used for drilling.)
	TS-3-3	7 4 3 2				R=0.0' Attempted to re-sample but spoon dropped to 6'.
5	TS-3-4	7 7 5 6	GP-GM		Br, bk, rd, & gr c(+)mf G l, c(+)mf S, t(+) $ & C; brk, pavement, misc fill (bottom of fill) (~8')	R=0.4' WET HNU: 0.8/0.7
	TS-3-5	7 4 4 4	GM		Br cm(+)f G s, cmf S, l $ & C; G subrounded & angular WT @ 9.07'	R=0.6' WET HNU: 1.3/0.6
10						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 2 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
10	TS 3-6	13 6 4 7	GP-GM		Br c(+)mf G 1, c(+)mf S, t(+) $ & C	R=0.6' WET HNU: 0.8/0.6
	TS 3-7	10 6 7 9	GP		Br & gr c(-)mf G 1(+), c(+)mf S, t Cy$; f G rounded, cm G angular Brown & gray coarse (-) to fine GRAVEL little (+), coarse (+) to fine Sand, trace Clayey Silt	R=0.9' WET HNU: 0.9/0.6
	TS 3-8	19 9 15 29	GP-GC		Br cmf(-) G s, c(+)mf S, 1(-) C & $; cm G angular, f G rounded	R=1.3' WET HNU: 0.6/0.4
	TS 3-9	20 22 20 18	GC SM-GM GC		0.0-0.7': Gr br cmf G a, c(+)mf S, C & $; G angular & subrounded $S, SS, Sh; till 0.7-0.9': Dk rd br cmf S, 1(-) Cy$, a f G; brachiopods 0.9-1.0': Gr br mf G s(+), cmf S, 1(+) C & $	R=1.0' WET HNU: A:0.6/0.4 B:0.6/0.4
	TS 3-10	20 37 29 15	GC		Br & gr cmf(-) G s(+), c(+)mf S, 1(+) C & S; till	R=0.9' WET HNU: 0.7/0.4
	TS 3-11	18 14 14 20	GC		Br & dk gr cmf G a, c(+)mf S, 1(+) C & $; till; G angular & rounded Brown & dark gray coarse to fine GRAVEL and, coarse (+) to fine Sand, little Clay & Silt; till	R=0.7' Moist HNU: 0.5/0.4
	TS 3-12	20			(See next page for TS 3-12)	

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 3 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
22.5	TS 3-12 cont'd	13 9 7	GM		Br cmf G s(+), c(+)mf S, l $ & C; G gr br & gr $S & f SS, angular & subrounded	R=0.8' Moist & WET HNU: 0.5/0.4
25	TS 3-13	12 15 15 15	GC-GP		Br & gr c(+)mf(-) G l(+), c(+)mf S, t(+) C & $; G fSS & $S; crinoid stems	R=0.8' Moist & WET HNU: 0.5/0.4
					- - - -?- - -?- - - -?- - - - -	
	TS 3-14	4 3 2 2	CL-CH ML-MH		0.0-0.3' Gr $yC 0.3-0.9' Gr $ & C; frgt lyrs Cy$ & C & $	R=0.9' Moist w/WET $y lyrs HNU:0.4/0.4
30					Gray SILT & CLAY; frequent layers of Clayey Silt and Clay & Silt	
	TS 3-15	4 4 4 5	CL-CH ML-MH		0.0-0.3' Gr $yC 0.3-1.2' Gr Cy$ a(+), f S; f G w/c S prt between 2 soil types	R=1.2' Moist 0-0.3' WET 0.3-1.2'
35						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Giadding Cordage; South Otselic, N.Y.		SHEET 4 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
35						
	TS 3-16	2 3 4 4	CL-CH		Gr C & $ t, f S; alt lyrs & prts C & $, Cy$, Cy$ & f S, $yC	R=1.9' WET HNU:0.4/0.4
40						Driller notes change @ 42'
	TS 3-17	26 12 2 11	GP-GM ML-MH		0.0-0.2' Gr mf(+) G 1(-), c(+)mf S, t $ & C; G Sh, $S, & SS; WET 0.2-0.7' Gr $ & C t(-), cmf S; frgt $ & f S prts; moist w/WET prts & lyrs	R=0.7' WET to Moist HNU: 0.4/0.4
45					Gray SILT & CLAY trace (-), coarse to fine Sand, frequent Silt and fine Sand partings Dark gray & brown coarse to fine (-) GRAVEL little, coarse to fine Sand, trace (+) Silt & Clay	Driller notes change @ 45'

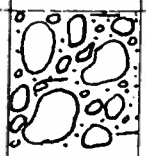
Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 5 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
47.5						
	TS 3-18	18 12 12 12	GM-GP		Dk gr & br cmf(-) G 1, cmf S, t(+) $ & C; G angular & subrounded, some Fe stain	R=0.9' WET HNU: 0.5/0.4
50						slower drilling
	TS 3-19	20 11 11 15	GM		Lt br & gr mf G a(-), c(+)mf S, 1(+) $ & C	R=0.1' WET HNU: 0.4/0.4
55						
	TS 3-20	19 11 13 11	GP		Gr & br c(+)mf G 1(-), c(+)mf S, t(-) Cy$	R=0.4' WET HNU: 0.4/0.4
60						

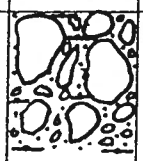
Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 6 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
60						
	TS 3-21	27 15 12 12	GP		Gr & br cmf G 1(-), c(+)mf S, t(-) $ & C; G: dk gr $S & fSS, quartzite, rounded & angular	R=0.3' WET HNU:0.4/0.4
65						
	TS 3-22	43 14 14 15	GM-GP		Br & gr cmf G a, c(+)mf S, 1(-) Cy$; G rounded $S, SS, some Fe stain	R=1.1' WET top 0.2' Dry to Moist btm 0.9' w/ WET lyrs HNU: 0.5/0.4
70						Very hard drilling, 69-73'

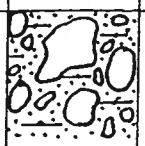
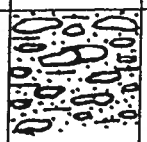
Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. MW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 7 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
72.5						
	TS 3-23	19 14 13 17	GM-GP		Br & dk gr c(+)mf G 1(+), c(+)mf S, t(+) Cy$; G rounded	R=1.1' WET HNU: 0.5/0.4
75						hard drilling (30 minutes for 5')
	TS 3-24	22 14 14 13	GP		Dk gr-bk c G t(-), c(+)mf S, t(-)(-) Cy$; G angular $S	R 0.1' WET HNU: 0.5/0.5 No GC sample
80						faster drilling (12 minutes for 5')
	TS 3-25	15 14 11 10	GP		Gr & rd br c(+)mf G t(+), c(+)mf S, t(-) $ & C; G rounded and angular rd br SS, dk gr $S, fSS; fossils	R=0.7' WET HNU:0.8/0.5
85						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 8 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
85					(9/2/88)	
	TS 3-26	25 16 15 16	GM-GP		Gr br cmf(-) G s, c(+)mf S, t(+) $ & C; G angular & rounded	R=0.6' WET HNU: 0.6/0.5
90					Gray brown coarse to fine (-) GRAVEL some, coarse (+) to fine Sand, trace (+) Silt & Clay	driller notes change @ 92.5
	TS 3-27	47 36 28 22	GC		Br c(+)mf G s, c(+)mf S, l C & $; G sub-rounded & subangular; till	R=0.8' WET to Moist HNU:0.5/0.4
95					Brown coarse (+) to fine GRAVEL some, coarse (+) to fine Sand, little Clay & Silt; till	

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-3d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 9 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
97.5						
	TS 3-28	23 27 24 17	GC		Gr cmf G a(+), c(+)mf S, s C & $; G rounded & subangular $S, SS; till	R=0.9' Moist w/WET lyrs HNU: 0.4/0.4
100						
	TS 3-29		SM-GM		Gr c(+)mf S, s $ & C, a(+) mf G; G Sh fgmts; till; weathered bedrock (Sh)	R=0.9' Moist HNU: 0.5/0.4
					(Top of bedrock: Sh) (~104')	
					EOB: 101.3' (sampled to 103.3')	
					Locked steel protective casing	-2.58 to 2.42
					Cement apron	-0.30 to 8.0'
					Cement/bentonite grout	8.0 to 73.1'
					Bentonite seal (slurry & pellets)	73.1 to 80.5
					Sand pack (#2 Q-ROK)	80.5 to 98.7
					Bentonite seal, lower (chunk)	98.7 to 99.3
					Formational collapse	99.3 to 103.3'
					Riser (type 304 s. steel, 2" ID, flush-threaded)	-2.40 to 82.6'
					Screen (type 304 s. steel, 2" ID, flush-threaded, 0.010"-slot)	82.6 to 98.5'
					Bentonite pellets within grout @ 10, 43, & 48' where annulus was accepting a lot of grout.	
					*Graphic log is not to scale; gravel is coarser than shown.	

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-4d

PROJECT Gladding Cordage; South Otselic, N.Y.						SHEET 1 OF 5
CLIENT GHR						JOB No. 2006-10-673
DRILLING CONTRACTOR American Auger & Ditching Co., Inc.						MEAS. PT. ELEV.
PURPOSE Monitoring well installation - Phase I						GROUND ELEV.
DRILLING METHOD spin in casing		SAMPLE	CORE	CASING		DATUM land surface
DRILL RIG TYPE Mobile B-57	TYPE	SS-2'	NA	spin in		DATE STARTED 9/13/88
GROUNDWATER DEPTH 10.15' bMP	DIA.	3"		4¼" ID		DATE FINISHED 9/14/88
MEASURING POINT top of riser	WEIGHT	140#				DRILLER Rocky Baye
DATE OF MEASUREMENT 9/28/88	FALL	30"				INSPECTOR Mau Lawler

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG *	GEOLOGIC DESCRIPTION	HNU: sample/back-ground (ppm) REMARKS
	TS 4-1 9:10	4, 6, 12, 8	CL-CH		Br C & $ a(-), cmf S, s(-) cmf G; ts, rts, veg; 0.1' lyr concrete @ btm of spoon	R=1.1' Moist HNU: 0.4/0.4
	TS 4-2 9:50	12, 8, 12, 13	GP-GM		Br c(+)mf(-) G 1, c(+)mf S, t(+) $ & C; G rounded & angular	R=0.6' Moist HNU: 0.4/0.3
5					TS-4-2 and all samples following were taken after drilling w/water, so moistures may not be representative. - - - - - - WT @ 7.69' - - - - - - - -	
	TS 4-3 10:01	34, 18, 16, 20	GP		Br & gr c(+)mf G t(+), c(+)mf S, t(-) $ & C; moist till lyrs, Cy around c G	R=0.7' WET w/Moist lyrs HNU: 0.4/0.3
10					Brown & gray coarse (+) to fine GRAVEL trace (+), coarse (+) to fine Sand, trace (-) Silt & Clay; till layers	
	TS 4-4 10:23	18, 20, 19, 32	GP-GM		Br & gr c(+)mf G 1(-), c(+)mf S, t $ & C; G rounded & angular	R=1.1' Moist w/WET lyrs HNU: 0.4/0.3 Washed out 6" of
15						cuttings before sampling. Lost water return @ 15'
	TS 4-5 10:40	33, 34, 34, 26	GP GC		0.0-0.3' Gr & br c(+)mf G t(+), c(+)mf S, t(-) Cy$; G angular 0.3-0.6' Br & gr mf G a(-), cmf S, s C & $; till	R=0.6' WET 0.0-0.3 Dry to Moist 0.3-0.6 HNU: 0.4/0.3
20						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-4d
PROJECT Gladding Cordage, South Otselic, N.Y.		SHEET 2 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
20					Brown and gray medium to fine GRAVEL and (-), coarse to fine Sand, some Clay and Silt; till	Driller notes change @ 22'
	TS 4-6 11:01	25 14 10 9				R=0.0'
25	TS 4-7 11:10	7 9 6 7	GP		Br, gr & rd br c(+)mf G t, cmf S, t(-)(-) $ & C; rd br weathered c G	R=0.4' WET HNU:0.3/0.3
	TS 4-8 12:28	8 9 10 27	GP		Br & gr cmf G t(+), c(+)mf S, t(-) Cy$; Most G rounded	R=0.2' WET HNU:0.4/0.3
30					Brown & gray coarse to fine GRAVEL trace (+), coarse (+) to fine Sand, trace (-) Clayey Silt	
	TS 4-9 13:19	30 13 10 13	SM-GM		Br c(+)mf S, 1(-) Cy$, a(+) c(-)mf(+) G; G rounded	R=0.7' Moist to WET HNU:0.3/0.3
35					Brown coarse (+) to fine Sand, little (-) Clayey Silt, and (+) coarse (-) to fine (+) Gravel	
	TS 4-10 13:35	27 26 20 22				R=0.0 two attempts
40					- - - - -?- - - - -?- - - - - -?- - - - - -	
	TS 4-11 14:07	20 11 7	SM		Br gr mf(+) S, a(+) Cy$ Brown gray medium to fine (+) SAND, and (+) Clayey Silt	R=0.7' WET HNU:0.4/0.4

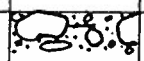
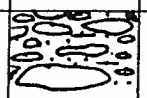
Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-4d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 3 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
45						
48	TS 4-12 14:20	8 19 13 11	SM		Br cmf(+) S, a(+) $ & C, t f G	R=0.5' Moist HNU:0.4/0.4
50						
	TS 4-13 14:30	18 15 14 18	SM-SP		Gr br c(+)mf S, t Cy$, 1 mf G; G rounded	R=1.0' WET HNU:0.4/0.3
55						
	TS 4-14 14:50	12 28 33 26	SM-SP		Br gr c(+)mf S, t Cy$, a c(-)mf G; 0.0-0.5' no cm G, mostly S, less C 0.5-0.8' cbl to c G sized gr v f SS 0.8-1.3' more C & cm G than top 0.5'	R=0.0 1st attempt R=1.3' WET HNU:0.4/0.3
60		18 18				(overdriven)
	TS 4-15 15:00	8 12 14 14	GP-GM		Br gr to gr br cmf G a(+), c(+)mf S, t(+) $ & C; 0.0-0.5' grayer w/more fines	R=1.0' WET HNU:0.3/0.3
65						
	TS 4-16 15:10	22 22 30 22	GP		Gr & br c(+)mf G t, c(+)mf S, t(-) C & $; much of sample washed; G mostly rounded, dk gr f SS & $S, br f SS	R=0.4' Moist HNU:0.5/0.4

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-4d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 4 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
70						
	TS 4-17 15:24	40 20 21 20	GM-GP		Br & gr cmf G 1(+), c(+)mf S, 1(-) $ & C; till, dk gr clbl $S or f SS	R=0.5' Moist HNU: 0.5/0.4
75					Brown & gray coarse to fine GRAVEL little (+), coarse (+) to fine Sand, little (-) Silt & Clay; till	
	TS 4-18 16:07	42 37 27 48	GP GP-GM		0.0-0.6' Gr cmf G 1(+), c(+)mf S, t(-) Cy$ 0.6-1.1' Br gr c(+)mf G 1(-), c(+)mf S, t $ & C; loose till; or tn SS cbl, G gr f SS & $S	R=0.0, 1st attempt R=1.1', WET HNU: 0.5/0.4
80		49 40 32				(overdriven) @82' bit dropped ~0.7' through void in formation
	TS 4-19 16:32	30 23 24 30	GM-GP		Br gr cmf G 1(+), cmf S, 1(-) $ & C; alt lyrs moist till & wet G; 0.1' lyr weathered Sh	R=1.1' Moist HNU: 0.3/0.2
85						slow drilling
	TS 4-20 16:59	35 23 15 14	GM-GP		Dk br c(+)mf G s(-), c(+)mf S, t(+) $ & C; loose till; G rounded	R=0.8' Moist HNU: 0.3/0.3
90						
	TS 4-21 17:18	19 12 14 15	GC-GP		Br gr mf G 1(+), cmf S, t(+) C & $; dk gr $S cbl	R=0.1' WET HNU: 0.3/0.3 cbl blocked

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-4d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 5 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
95						~95.7' drilling much faster ~97.5' drilling very slowly
	TS 4-22 17:42	19 22 22 20	GC-GP		Dk gr c(+)mf G 1, cmf S, t(+) C & $; G gr f SS & $S Dark gray coarse (+) to fine GRAVEL little, coarse to fine Sand, trace (+) Clay & Silt	R=0.5' Moist dk gr f SS cbl in spoon shoe
100						
	TS 4-23 18:29	95 54 26 87	GP-GM		Dk gr-bk cmf G 1(-), c(+)mf S, t $ & C bedrock: weathered Sh	R=1.3' WET HNU:1.1/0.8
					Top of bedrock (Sh) between 100.5 & 101.0' EOB 101.0' (sampled to 103.0')	
					Locked steel protective casing	-2.71 to 2.29'
					Cement apron	-0.36 to 1.5'
					Bentonite plug (losing grout to formation) (pellets & chunk)	~8 to 13', ~50' & ~60'
					Cement/bentonite grout	1.5 to 75.5'
					Bentonite seal (slurry & pellets)	75.5 to 78.6'
					Sand pack (#2 Q-ROK)	78.6 to 97.3'
					Bentonite seal, lower (pellets)	97.3 to 97.5'
					Formational collapse	97.5 to 103.0'
					Riser (type 304 s. steel, 2" ID, flush-threaded)	-2.46 -81.13'
					Screen (type 304, s steel, 2" ID, flush-threaded, 0.010"-slot)	81.13-97.03'
					*Graphic log is not to scale; gravel is coarser than shown.	

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d

PROJECT	Gladding Cordage, South Otselic, N.Y.					SHEET 1 OF 9
CLIENT	GHR					JOB No. 2006-10-673
DRILLING CONTRACTOR	American Auger & Ditching Co., Inc.					MEAS. PT. ELEV.
PURPOSE	Monitoring well installation - Phase I					GROUND ELEV.
DRILLING METHOD	spin in casing		SAMPLE	CORE	CASING	DATUM land surface
DRILL RIG TYPE	Mobile B-57	TYPE	SS-2'	NA	spin in	DATE STARTED 9/9/88
GROUNDWATER DEPTH	10.32' bMP	DIA.	3"		4¼" ID	DATE FINISHED 9/12/88
MEASURING POINT	top of riser	WEIGHT	140#			DRILLER Rocky Baye
DATE OF MEASUREMENT	9/13/88	FALL	30"			INSPECTOR Mau Lawler

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG *	GEOLOGIC DESCRIPTION	HNU: sample/back-ground (ppm) REMARKS
	TS 5-1	6 6 8 8	ML-MH		Br $ & C s, cmf S, l mf G; rts, veg, ts	R=0.8' Dry to Moist HNU: 4.4/0.4
	TS 5-2	5 18 18 17	SC-GC		Br & gr cmf S, a C & $, a(+) c(+)mf(-) G; 0.2' lyr SS fgmts @ btm cbl to c G size	R=1.1' Moist HNU: 0.6/0.4 All samples following TS 5-2 were taken after drilling w/water, so moisture may not be representative
5	TS 5-3	15 14 15 15	GC-GP		Br & gr c(+)mf G l(+), c(+)mf S, l(-) C & $; 0.1' lyr weathered $S	R=1.0' Moist HNU:1.3/0.4
	TS 5-4	14 15 17 20	GC-GP		Br & gr c(+)mf G s(-), c(+)mf S, l(-) C & $; G angular Brown & gray coarse (+) to fine GRAVEL some (-), coarse (+) to fine Sand, little (-) Clay & Silt - - - - - - WT @ 7.65' - - - - - - - -	R=1.1' WET HNU: 1.4/0.4 formation taking water
	TS 5-5 A&B	27 28 24 25	GP GC-GP		0.0-0.5' Gr & br cmf G t(+), c(+)mf S, t(-) $ & C 0.5-0.8' cbls w/C & $; transition wet to dry 0.8-1.0' Br & gr c(+)mf G l, cmf S, l(-) C & $; till, G rounded	R=1.0' WET; btm Moist to Dry HNU: A:0.6/0.4 B:0.5/0.4
10						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 2 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
10	TS 5-6 11:09 A&B	17 38 45 44	GP-GC		Gr & br c(+)mf G 1, c(+)mf S, t(+) C & $; some rd br weathering; horizontally fractured weathered SS, $ S lyrs 0.2' to 0.4'; till lyrs 0.1' to 0.4' thick	R=1.4' alt. WET rk lyrs w/moist to dry till lyrs HNU: A: 0.6/0.4 B: 0.8/0.4
	TS 5-7 11:22	32 31 45 30	GC		Gr & br cmf G s(-), c(+)mf S, 1 $yC; G angular & rounded; till; some rd br weathering Gray & brown coarse to fine GRAVEL some (-), coarse (+) to fine Sand, little Silty Clay; till	R=1.0' Dry to Moist w/2 WET rk lyrs HNU: 0.5/0.4
15	TS 5-8 11:37	33 20 22 28	GC		Br & gr c(+)mf G s(-), c(+)mf S, 1 C & $; f G more rounded; btm 0.2' sandier & Cy	R=1.3' Dry to Moist w/0.2' lyr WET rk HNU: 0.6/0.4
	TS 5-9 11:49 A&B	30 32 64 58	GP GP-GC		0.0-0.4' Gr & br c(+)mf G 1(-), c(+)mf S, t(-) Cy$ 0.4-1.1' Br & gr cmf G s(-), c(+)mf S, 1 (-) C & $; sandier than shallower tills; rd br weathered lyr around f SS cbl	R=1.1' WET 0.0-0.4' 1.0-1.1' Moist 0.4-1.0' HNU: A: 0.5/0.4 B: 0.5/0.4
	TS 5-10 13:03	30 25 24 15	GP-GC		Gr br c(+)mf G 1(+), c(+)mf S, t C & $; most G rounded	R=1.3' Moist & WET HNU: 0.4/0.4
20	TS 5-11 13:35	14 15 28 27	GC GP GC		0.0-0.2' Br & gr c(+)mf G s, c(+)mf S, 1 C&$ 0.2-0.6' Gr & br cmf G 1(-), c(+)mf S, t(-) Cy$; WET 0.6-1.0' Br & gr c(+)mf G s, c(+)mf S, 1 C&$	R=1.0' Moist to Dry; middle 0.4' WET HNU: 0.4/0.4

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 3 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
	TS 5-12 14:01	43 19 18 18	GP		Gr & br c(+)mf(-) G t(-), c(+)mf S, t(-)(-) C & $; 0.3' dk gr f SS stuck in spoon shoe	R=0.5' Moist & Dry HNU: 1.6/0.7
25	TS 5-13 14:20 14:26	18 10 14 18				R=0.0 (2 attempts)
	TS 5-14 14:36	13 18 13 12	GP		Gr & br c(+)mf(-) G t(+), c(+)mf S, t(-) $ & C; G rounded & angular f SS & $S	R=0.3' WET HNU: 0.5/0.4
30	TS 5-15 14:45	19 16 11 8	GP-GM		Br & gr c(+)mf G l, c(+)mf S, t $ & C; most G rounded Brown & gray coarse (+) to fine GRAVEL little, coarse (+) to fine Sand, trace Silt and Clay	R=0.6' WET HNU: 0.5/0.4 Driller notes change @ 30'
	TS 5-16 14:54	5 8	SM		Br c(-)mf S, s(-) Cy$; fining downward	R=1.7' WET HNU: 0.5/0.4

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 4 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
	TS 5-16	9			See previous page	
35					Brown coarse (-) to fine SAND, some (-) Clayey Silt	
	TS 5-17 15:03	7	SP-SM		0.0-0.7' Br c(+)mf(-) S, t Cy$, t(+) f G	R=1.3' WET HNU: 0.6/0.4
		11	SP-SM		0.7-1.3' Br c(-)mf S, t Cy$	
		11				
		11				
40					- - - ? - - - - ? - - - - ? - - - - ? - - -	
	TS 5-18 15:16	9	GP-GM		Dk gr br c(-)mf G l, c(+)mf S, t $ & C; most G rounded	R=0.8' WET HNU: 0.5/0.4
		12				
		12				
		14				
45					Dark gray brown coarse (-) to fine GRAVEL little, coarse (+) to fine Sand, trace Silt and Clay	slower drilling

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 5 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
	TS 5-19 15:32	31 / 20 / 18 / 20	GP-GM		Dk gr br cmf(+) G s(-), c(+)mf S, t Cy$; most G rounded	R=1.0' WET HNU: 0.5/0.4
50					? ? ?	
	TS 5-20 16:28 A&B	14 / 14 / 16 / 18	ML-MH / SP-SM		0.0-0.2' Br $ & C s(-), c(-)mf(+) S 0.2-1.2' Dk gr br c(+)mf(-) S, t Cy$, 1(-) f G	R=1.2' WET; Moist 0.0-0.2' HNU: A: 0.4/0.3 B: 0.4/0.3
55						
	TS 5-21 16:34	10 / 13 / 15	SP-SM		Dk br cmf(-) S, t Cy$	R=1.3' WET HNU: 0.4/0.3

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 6 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
	TS 5-21	14			See previous page	
60					Dark brown coarse to fine (-) SAND, trace Clayey Silt	driller notes softer sediments @ 62'; faster drilling
	TS 5-22 16:51	8	SM		Br mf(+) S, 1 Cy$	R=1.3' WET
		10				
		15				
		20				
65						
	TS 5-23 17:04	11	SP-SM		0.0-1.2' Dk gr br c(+)mf S, t Cy$, t(+) f G	R=1.5' WET
		15				
		19	GP-GM		1.2-1.5' Br & gr cmf(-) G 1(-), c(+)mf S, t Cy$; most G rounded (9/12/88)	
		28				
70						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 7 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
72						
	TS 5-24 8:14	31 42 35 28	GP		Gr & br c(+)mf(-) G t, c(+)mf S, t(-)(-) Cy$; G angular & rounded, rd, br & gr SS & $S	R=0.3' WET HNU: 0.5/0.4 cG stuck in spoon shoe
75						
	TS 5-25 8:56	16 16 17 14	GP-GM		Gr br cmf G s, c(+)mf S, t(+) Cy$	R=1.0' WET HNU: 0.4/0.4
80					Gray brown coarse to fine GRAVEL some, coarse (+) to fine Sand, trace (+) Clayey Silt - - - - - - - -?- - - - - -?- - - - - ?- - - -	
	TS 5-26 9:18	12 16 16	SM-SP		Br c(-)mf(+) S, l(-) $ & C; fines increasing downward	R=1.4' WET HNU: 0.4/0.4

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 8 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
	TS 5-26	19			See previous page	
					Brown coarse (-) to fine (+) SAND, little (-) Silt & Clay (transition to sand w/gravel then to gravel w/sand)	
	TS 5-27 9:34 A&B	50	GP		0.0-0.6' Gr br c(+)mf(-) G t, c(+)mf S, t(-)(-) Cy$; washed?	R=1.7' Moist HNU: A: 0.4/0.4 B: 0.4/0.4
		35	SC-GC		0.6-1.7' Gr c(+)mf S, 1(-) C & $, a(+) cmf G; G rounded; like till but not tight	
		58				
		60				
90						
1.6	TS 5-28 10:19	39	GP		Drove sample spoon through 8" of cuttings (91.6-92.3') before obtaining representative sample: Dk gr c(+)mf(-) G 1(-), c(+)mf S, t(-)(-) $ & C; G fSS, angular (broken)	R=0.7' WET HNU: 0.6/0.4 Sample in jar not representative; coarse G too large
		76				
		91				
		61				
3.6	TS 5-29 10:40	48	GP-GC		Gn gr br c(+)mf(-) G 1(-), c(+)mf S, t(+) $yC; cbl gr v f SS; till	R=0.6' Moist HNU: 0.5/0.4
		81				
4.7		37 27				Samples TS 5-29 & 5-30 overlap here
		35 27				
5.6	TS 5-30 11:19	36	GC		Br gr c(+)mf G s, c(+)mf S, 1 C & $; till f G & most cm G rounded; most G f SS, t Sh	R=0.9' Moist HNU: 0.4/0.3
		29				
6.7						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-5d
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 9 OF 9
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
97						
	TS 5-31 11:50	70 88 103 150/4"	GP-GC		Dk gr c(+)mf G 1, cmf S, t(+) C & $; till; Sh (Top of bedrock: Sh) (~99.5')	R=0.7' Moist to Dry HNU: 0.4/0.3
					EOB 98.0' (sampled to 100.0') Locked steel protective casing Cement apron Cement/bentonite grout Bentonite seal (slurry) Sand pack (#2 Q-ROK) Formational collapse Riser (type 304 s. steel, 2" ID, flush-threaded) Screen (type 304 s. steel, 2" ID, flush-threaded, 0.010"-slot) *Graphic log is not to scale; gravel is coarser than shown.	 -2.72 - 2.28 -0.27 - 5.5' 5.5 - 66.0' 66.0 - 71.0' 71.0 - 89.5' 89.5 - 100.0 -2.67 - 72.87 72.87 - 88.77

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-6s

PROJECT Gladding Cordage; South Otselic, N.Y.						SHEET 1 OF 1
CLIENT GHR						JOB No. 2006-10-673
DRILLING CONTRACTOR American Auger & Ditching Co., Inc.						MEAS. PT. ELEV.
PURPOSE Monitoring well installation - Phase I						GROUND ELEV.
DRILLING METHOD spin in casing		SAMPLE	CORE	CASING		DATUM land surface
DRILL RIG TYPE Mobile B-57	TYPE	none	NA	spin in		DATE STARTED 8/25/88
GROUNDWATER DEPTH 10.84' bMP	DIA.			4¼" ID		DATE FINISHED 8/26/88
MEASURING POINT top of riser	WEIGHT					DRILLER Rocky Baye
DATE OF MEASUREMENT 9/13/88	FALL					INSPECTOR Ralph Morse

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
					WT @ 8.84'	
20					EOB 23.6'	
					Locked steel protective casing	-2.3 to 2.9'
					Cement apron	-0.3 to 2.75'
					Bentonite seal (slurry & pellets)	2.75 to 6.0'
					Sand pack (#2 Q-ROK)	6.0 to 23.6'
					Riser (type 304 s. steel, 2" I.D., flush-threaded)	-2.0 to 7.0'
					Screen (type 304 s. steel, 2" I.D., flush-threaded, 0.010"-slot)	7.0 to 22.9'

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-7i

PROJECT	Gladding Cordage; South Otselic, N.Y.					SHEET 1 OF 5
CLIENT	GHR					JOB No. 2006-10-673
DRILLING CONTRACTOR	American Auger & Ditching Co., Inc.					MEAS. PT. ELEV.
PURPOSE	Monitoring well installation - Phase I					GROUND ELEV.
DRILLING METHOD	spin in casing		SAMPLE	CORE	CASING	DATUM land surface
DRILL RIG TYPE	Mobile B-5 7	TYPE	SS-2'	NA	spin in	DATE STARTED 9/7/88
GROUNDWATER DEPTH	10.50' bMP	DIA.	2" & 3"		4¼" ID	DATE FINISHED 9/8/88
MEASURING POINT	top of riser	WEIGHT	140#			DRILLER Rocky Baye
DATE OF MEASUREMENT	9/13/88	FALL	30"			INSPECTOR Mau Lawler

DEPTH FT.	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG *	GEOLOGIC DESCRIPTION	HNU: sample/ background (ppm) REMARKS
	TS 7-1	2 4 4 5	GM		Br c(+)mf G s(-), cmf S, l $ & C; ts, rts, veg, G subrounded	R=0.6' Dry HNU: 0.5/0.5
	TS 7-2	2 1 4 6	GP-GM		Gr & br c(+)mf G l(-), cmf S, t $ & C; G angular	R=0.1' Dry HNU: 0.5/0.5 No GC sample All samples following TS7-2 were taken after drilling w/water, so moistures may not be representative.
5	TS 7-3	12 11 11 12	GC-GP		Br & gr c(+)mf G s(-), c(+)mf S, l(-) C & $; G angular Brown and gray coarse (+) to fine GRAVEL some (-), coarse (+) to fine Sand, little (-) Clay & Silt	R=0.9' WET 0.0-0.5' Moist 0.5-0.9' HNU: 0.6/0.4
	TS 7-4	18 17 13 10	GC		Br & gr c(+)mf G s(-), c(+)mf S, l C & $; G angular & rounded $S & SS — — — — — WT @ 7.92' — — — — —	R=1.6' WET HNU: 0.5/0.4
	TS 7-5 A&B	16 19	GC-GP		0.0-1.0' Br & gr c(+)mf G s(-), c(+) mf S, l(-) C & $; G angular & rounded; loose till; cbl	R=1.3' WET; btm 0.3' moist to Dry
		27 55	GC		1.0-1.3' Br & gr c(-)mf G a(-), c(+) mf S, l(+) C & $; G rounded; hard till	HNU: A: 0.6/0.4 B: 0.6/0.4

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-7i
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 2 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSI-FICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
10	TS 7-6	31 28 52 45	GC		Br cmf G s(+), c(+)mf S, 1(+) $yC; G rounded & angular; dense till Brown coarse to fine GRAVEL some (+), coarse (+) to fine Sand, little (+) Silty Clay; dense till	R=1.1' Moist HNU: 0.9/0.5
12	TS 7-7	19 15 13 14	GC		Br & gr c(+)mf G s, c(+)mf S, 1 C & $; G angular & rounded	R=0.7' Moist & WET HNU: 0.8/0.5
14	TS 7-8	16 16 19 22	GM-GP		Br & gr c(+)mf G s(-), c(+)mf S, t(+) $ & C; G angular; till lyrs	R=0.8' WET w/Moist till lyrs 0.2' thick HNU: 0.7/0.5
16	TS 7-9	20 19 17 13	GM		Br c(+)mf G a, c(+)mf S, 1(+) $ & C; G rounded & angular; till Brown coarse (+) to fine GRAVEL and, coarse (+) to fine Sand, little (+) Silt & Clay	R=0.9' Moist w/0.2' WET lyr HNU: 0.6/0.5
18	TS 7-10 A&B	10 9 7 7	GM-GP SM-SP		0.0-0.4' Br cmf G s, c(+)mf S, t(+) Cy$ 0.4-0.8' Dk br c(+)mf S, t(+) Cy$, t(+) f G	R=0.8' WET HNU: A: 0.6/0.5 B: 0.6/0.5
20	TS 7-11 A&B	9 10 11 12	SP-SM GP-GM		0.0-0.6' Dk br c(+)mf S, t Cy$, a(+) c(+)mf (-) G; G rounded 0.6-1.0' Dk br & gr mf G s(-), c(+)mf(-) S, t Cy$; G rounded; loose	R=1.0' WET HNU: A: 0.6/0.5 B: 0.5/0.5
22	TS 7-12	11			See next page	

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-7i
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 3 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
	TS 7-12 (cont'd)	14	GP		0.0-0.6' Br & gr cmf G l(-), c(+)mf S, t(-) Cy$; G rounded & subangular	R=0.8' WET; btm 0.2' moist HNU: 0.6/0.5
		15	GC		0.6-0.8' Dk br mf G s, c(+)mf S, l C & $; dense moist till	
		13				
	TS 7-13	23	GP-GM		Dk br cmf G a(-), c(+)mf S, t Cy$; c G rounded $S	R=0.9' WET HNU: 0.5/0.5
25		15			Dark brown coarse to fine GRAVEL and(-), coarse (+) to fine Sand, trace Clayey Silt	
		15				
		10				
	TS 7-14	10	SP-SC		Dk br c(+)mf S, t $yC, t(+) f G	R=1.2' WET HNU: 0.4/0.4
		10				
		10				
		7				
	TS 7-15	6	SP-SM		Dk br cmf S, t Cy$, t f G 0.0-0.8' coarsens downward 0.8-1.4' no f G, more Cy$	R=1.4' WET HNU: 0.5/0.4
		6				
		7				
		8				
30					Dark brown coarse to fine SAND, trace Clayey Silt, trace fine Gravel	
	TS 7-16 A&B	7	SM-SW		0.0-0.6' Dk br c(-)mf S, l(-) Cy$; fines downward	R=1.5' WET HNU: A: 0.4/0.4 B: 0.5/0.4
		12	GP		0.6-1.5' Br & gr mf(+) G a, c(+)mf(-) S, t(-) Cy$; G rounded	
		11			Brown & gray medium to fine (+) GRAVEL and, coarse (+) to fine (-) Sand, trace (-) Clayey Silt	
35		11				

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-7i
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 4 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
35					- - - ? - - - ? - - - ? - - - ? - - - ? - - -	faster drilling
	TS 7-17	10 10 12 11	SP		Br c(+)mf(-) S, t(-) Cy$, s(+) mf(+) G; G rounded	R=1.3' WET HNU: 0.4/0.4
40					Brown coarse (+) to fine (-) SAND, trace (-) Clayey Silt, some (+) medium to fine (+) Gravel	WL in casing is above ground level
	TS 7-18	5 12 12 16	SP-SM GM-GP		0.0-0.8' Br cmf S, t Cy$, t f G 0.8-1.3' Br & gr c(-)mf G s, c(+)mf S, t(+) Cy$; G rounded	R=1.3' WET HNU: A: 0.4/0.4 B: 0.4/0.4
45						

Dunn Geoscience Corp. Albany, NY 12205 (518)458-1313	TEST BORING LOG	BORING No. TW-7i
PROJECT Gladding Cordage; South Otselic, N.Y.		SHEET 5 OF 5
CLIENT GHR		JOB No. 2006-10-673

DEPTH FT	SAMPLE NUMBER	BLOWS ON SAMPLE SPOON PER 6"	UNIFIED CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION	REMARKS
					@ 48' WL dropped down again	
	TS 7-19	30 30 33 26	GP		Gr & br c(+)mf G t, c(+)mf S, t(-)(-) Cy$; G angular & rounded $S, f SS, SS	R=0.2' WET HNU: 0.5/0.4 fSS blocking spoon shoe
50					Gray & brown coarse (+) to fine GRAVEL trace, coarse (+) to fine Sand, trace (-)(-) Clayey Silt	
	TS 7-20 A&B	22 21 19 15	GP-SM SP		0.0-0.7' Gr & br c(+)mf G 1, c(+)mf S, t Cy$ 0.7-1.3' Br c(+)mf S, t(-) Cy$, 1 f G; rounded	R=1.3' WET HNU: A:0.5/0.5 B:0.5/0.5
55					EOB 53.38' (sampled to 55.0')	
					Locked steel protective casing Cement apron Cement/benotonite grout Bentonite seal (slurry) Sand pack (#2 Q-ROK) Formational collapse	-2.71 - 2.29' -0.2 - 0.5' 0.5 - 32.1' 32.1 - 35.5' 35.5 - 53.38' 53.38 - 55.0'
					Riser (type 304 s.steel, 2" ID, flush-threaded) Screen (type 304 s.steel, 2" ID, flush-threaded, 0.010"-slot)	-2.58 - 37.42' 37.42-53.32'
					*Graphic log is not to scale; gravel is coarser than shown.	

ATTACHMENT B

PREVAILING WAGES

APPENDIX D – As-Built Groundwater Treatment System Specifications

INSTRUMENT IDENTIFICATION LEGEND

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE,	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME		NOT USED	NOT USED	NOT USED
C	CONDUCTIVITY (ELECTRICAL)			CONTROL	CLOSED
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	INTRUSION		GLASS GAGE (UNCALIBRATED)		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOISTURE OR HUMIDITY				MIDDLE OR INTER-MEDIATE
N	SEQUENCE, STRATEGY		NOT USED	NOT USED	NOT USED
O	NOT USED		ORIFICE (RESTRICTION)		OPEN
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)	PULSE	
Q	QUANTITY	INTEGRATE OR TOTALIZE			
R	RADIOACTIVITY		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT STATUS	Y AXIS		RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

BASE INSTRUMENTATION SYMBOLS

- (FIT #) INSTRUMENT FIELD MOUNTED. SEE THIS SHEET FOR DETAILS OF INSTRUMENT TAGGING SYSTEM. FULL TAG NUMBER SHOULD BE INCLUDED ON INSTRUMENT INDEX. POWER SUPPLY REQUIRED LOCALLY WHERE SHOWN.
- (FIR #) INSTRUMENT PANEL FACE MOUNTED
- (FY # X/Y) INSTRUMENT RELAY MOUNTED IN REAR OF PANEL (BROKEN LINE). ACTIVATES AND DEACTIVATES CONTROL AND/OR ALARM SWITCHES AT PRESET VALUE. EQUIPMENT NUMBER (Y) ONLY WHEN NECESSARY. SEE BELOW FOR FUNCTIONS (X).
- △ DIFFERENCE
- > HIGH SELECTOR
- < LOW SELECTOR
- P/I PNEUMATIC/CURRENT CONVERTER
- I/I CURRENT/CURRENT CONVERTER (REPEATER)
- Σ SUMMATION
- AV AVERAGE
- % RATIO
- (FR # AR # DO) FR & AR ARE TWO FUNCTIONS AS PART OF ONE UNIT. (CIRCLES TOUCH)

SYMBOLS FOR ANALYTICAL DEVICES:
- CH_4–METHANE
- Cl_2–CHLORINE
- DO–DISSOLVED OXYGEN
- H_2S–HYDROGEN SULFIDE
- H_3PO_4 –PHOSPHORIC ACID
- H_2SO_4 –SULFURIC ACID
- MeOH–METHANOL
- NaHOCL–SODIUM HYPOCHLORITE
- $Na_2S_2O_5$ –SODIUM METHA–BISULFITE
- O_2–OXYGEN
- ORP –OXYDATION REDUCTION POTENTIAL
- pH–HYDROGEN ION CONCENTRATION

- △▽ DISCRETE INPUT/OUTPUT
- ▲▼ ANALOG INPUT/OUTPUT
- ▲▼ DIGITAL COMMUNICATION INPUT/OUTPUT–ETHERNET (E), MODBUS (M), HART (H) OR DEVICENET (D)
- IAS INSTRUMENT AIR SUPPLY
- 120V 120V AC POWER SUPPLY
- 480V 480V AC POWER SUPPLY
- 24V 24V DC POWER SUPPLY

- PROGRAMMABLE LOGIC CONTROLLER (PLC) CONTROL BLOCK
- (## ##) POINT FOR SHARED VIDEO DISPLAY (FUNCTIONS IN PLC)
- (##/#) AS ABOVE WITH LIMITED ACCESS
- (#) INTERLOCK # – INTERLOCK CONTROL STRATEGY
- (FIT #) THERMAL MASS METER
- (FE #) MAGMETER
- (FIT #) VENTURI
- (FE #) ORIFICE PLATE
- (FE #) ROTAMETER
- (FE #) ANNUBAR FLOW METER
- FLUME
- (LE #) ULTRASONIC OR RADAR ELEMENT
- (HSS #) SAFETY PULL CORD
- (ZS #) BELT ALIGNMENT SWITCH

INSTRUMENT TAGGING SYSTEM

HF–IPS–FIT– 0234

- FACILITY CODE
- BUILDING CODE
- INSTRUMENT IDENTIFICATION
- LOOP NUMBER

(SEE DRAWING SET G FOR LIST OF FACILITY CODES)

VALVE SYMBOLS

- GATE VALVE
- GLOBE VALVE
- PLUG VALVE
- DIAPHRAGM VALVE
- BALL VALVE
- PINCH VALVE
- NEEDLE VALVE
- CHECK VALVE
- 3–WAY VALVE
- RELIEF VALVE
- PRESSURE SELF REGULATING VALVE
- BACK PRESSURE SELF REGULATING VALVE

PIPING SYMBOLS

- Y STRAINER
- VENT
- DIAPHRAGM SEAL WITH ISOLATION VALVE
- INLINE SEAL WITH ISOLATION VALVE
- PULSATION DAMPENER
- FLEXIBLE HOSE
- QUICK–CONNECT
- CALIBRATION COLUMN
- EYE WASH/EMERGENCY SHOWER
- UNION
- BACKFLOW PREVENTOR
- SINGLE BASKET STRAINER
- (SW) SEAL WATER
- DRAIN
- REDUCER

EQUIPMENT SYMBOLS

- CENTRIFUGAL PUMP
- METERING PUMP
- SUBMERSIBLE PUMP
- VERTICAL TURBINE PUMP
- PROGRESSIVE CAVITY PUMP
- PERISTALTIC PUMP
- POSITIVE DISPLACEMENT PUMP
- DIAPHRAGM PUMP
- GRINDER/MACERATOR
- BLOWER, CENTRIFUGAL
- BLOWER POSITIVE DISPLACEMENT
- CENTRIFUGAL FAN
- AXIAL/MIXED FLOW PUMP
- CHLORINE INJECTOR/JET PUMP
- WEIR
- (M) MOTOR
- GRIT SCREW
- MANUAL SCREEN
- (VFD) VARIABLE FREQUENCY DRIVE
- (MCC) MOTOR CONTROL CENTER

PANEL DEVICE SYMBOLS

- (HS L/O/R) HAND SWITCH (MANUAL SELECTOR)
  - FUNCTION SUBSCRIPT (LOCATION MAY VARY)
- (PB ESTOP) PUSHBUTTON
  - FUNCTION SUBSCRIPT (LOCATION MAY VARY)

FUNCTION SUBSCRIPTS FOR HAND SWITCH AND PUSHBUTTON CONTROLS:

ESTOP	E–STOP
F/O/R	FORWARD–OFF–REVERSE
F/O/JR	FORWARD–OFF–JOG REVERSE
H/O/A	HAND–OFF–AUTO
H/O/R	HAND–OFF–REMOTE
H/O/SBY	HAND–OFF–STANDBY
L/O/R	LOCAL–OFF–REMOTE
M/A	MANUAL–AUTO
M/O/A	MANUAL–OFF–AUTO
O/C	OPEN–CLOSE
O/O	ON–OFF
O/S/C	OPEN–STOP–CLOSE
RS	RESET
R/L	REMOTE–LOCAL
R/O	RUN–OFF
SC	SPEED CONTROL POTENTIOMETER
SCR	SILICON CRYSTAL RECTIFIER
S/S	START–STOP
S/SLO	START–STOP WITH LOCKOUT

- (IL G) INDICATING LIGHT UNIT
  - G–GREEN (OFF,STOP,CLOSED)
  - R–RED (RUN,START,OPEN)
  - W–WHITE (POWER ON)
  - A–AMBER (ALARM CONDITION)
  - F–FLASHES ON ELECTRIC OR MECHANICAL MALFUNCTION
- (1) INTERLOCK 1 = NOTE NUMBER
- ELECTRONIC HORN
- (W) STROBE LIGHT
  - A – AMBER
  - W – WHITE
  - R – RED
  - B – BLUE
- INTERCONNECTING LINES WITH DOT INDICATE ROUTING OF THE SAME SIGNAL.
- INTERCONNECTING LINES WITHOUT DOT INDICATE ROUTING OF MORE THAN ONE SIGNAL

GENERAL NOTES

1. COORDINATE WORK WITH OTHER DRAWINGS AND DISCIPLINES.
2. THE SYMBOLS SHOWN ON THIS SHEET ARE STANDARD DESIGNATIONS. NOT ALL SYMBOLS ARE APPLICABLE TO THE INCLUDED DIAGRAMS AND INSTRUMENT TAGGING SYSTEM.
3. NOT ALL PIPING, FITTINGS, AND TANK DETAILS ARE SHOWN. REFER TO PROCESS DRAWINGS FOR ACTUAL DETAILS.
4. INSTRUMENT IDENTIFICATION AND LOOP NUMBERS APPEAR WITH INSTRUMENT SYMBOL.
5. TAG NUMBER DOES NOT CHANGE IF SIGNAL IS BROUGHT TO ANOTHER CONTRACT AREA.
6. FINAL ALPHA CHARACTER IN TAG (E.G. FI–101A) INDICATES DUPLICATE DEVICE EXISTS. FI–101B MAY BE IN A A PANEL.

LINE TYPES

- SOFTWARE LINK, SYSTEM FUNCTION CONNECTION OR COMMUNICATION LINK
- MODBUS COMMUNICATION
- ETHERNET COMMUNICATION
- DEVICENET COMMUNICATION
- MAIN PROCESS LINE
- AUXILIARY SYSTEMS
- EQUIPMENT PACKAGE LIMIT
- ELECTRIC (ELECTRONIC) SIGNAL
- PNEUMATIC SIGNAL
- CAPILLARY LINE
- HYDRAULIC SIGNAL
- SONIC SIGNAL
- HEAT TRACED AND INSULATED
- TELEPHONE LINK
- FUTURE
- EXISTING

DRAWING CONTINUATION LEGEND

PROCESS LINES (ON/OFF PAGE):

PROCESS MEDIUM — CONN | AREA OR EQUIPMENT DRAWING I–XXX

UTILITY LINES (ON/OFF PAGE):

REMARKS 1 — CONN | UTILITY DRAWING NUMBER — REMARKS 2

INSTRUMENT SIGNAL LINES (ON/OFF PAGE):

SIGNAL NAME — CONN | DRAWING NUMBER

PROCESS LINE NOT WITHIN THE BOUNDARY OF THIS SET OF DRAWINGS

PROCESS MEDIUM — PROCESS EQUIPMENT

INSTRUMENT SIGNAL LINE NOT WITHIN THE BOUNDARY OF THIS SET OF DRAWINGS

SIGNAL NAME

CONN: CONNECTION NUMBER

ARCADIS

LEGAL ENTITY:
ARCADIS U.S., INC.

CONSULTANTS

SEALS

TOWN OF OTSELIC
NYSDEC

GLADDING CORDAGE SITE

ARCADIS PROJ. NO. 00266406.0000

NO.	DATE	ISSUED FOR	BY

DATE:	MAY 2019
PROJECT NO.:	00266406.000
FILE NAME:	00266406–I01
DESIGNED BY:	J. WYCKOFF
DRAWN BY:	S. HAUSMANN
CHECKED BY:	J. WYCKOFF

SHEET TITLE

PROCESS AND INSTRUMENTATION DIAGRAM LEGEND

SCALE: NOT TO SCALE

SHEET 1 OF 2

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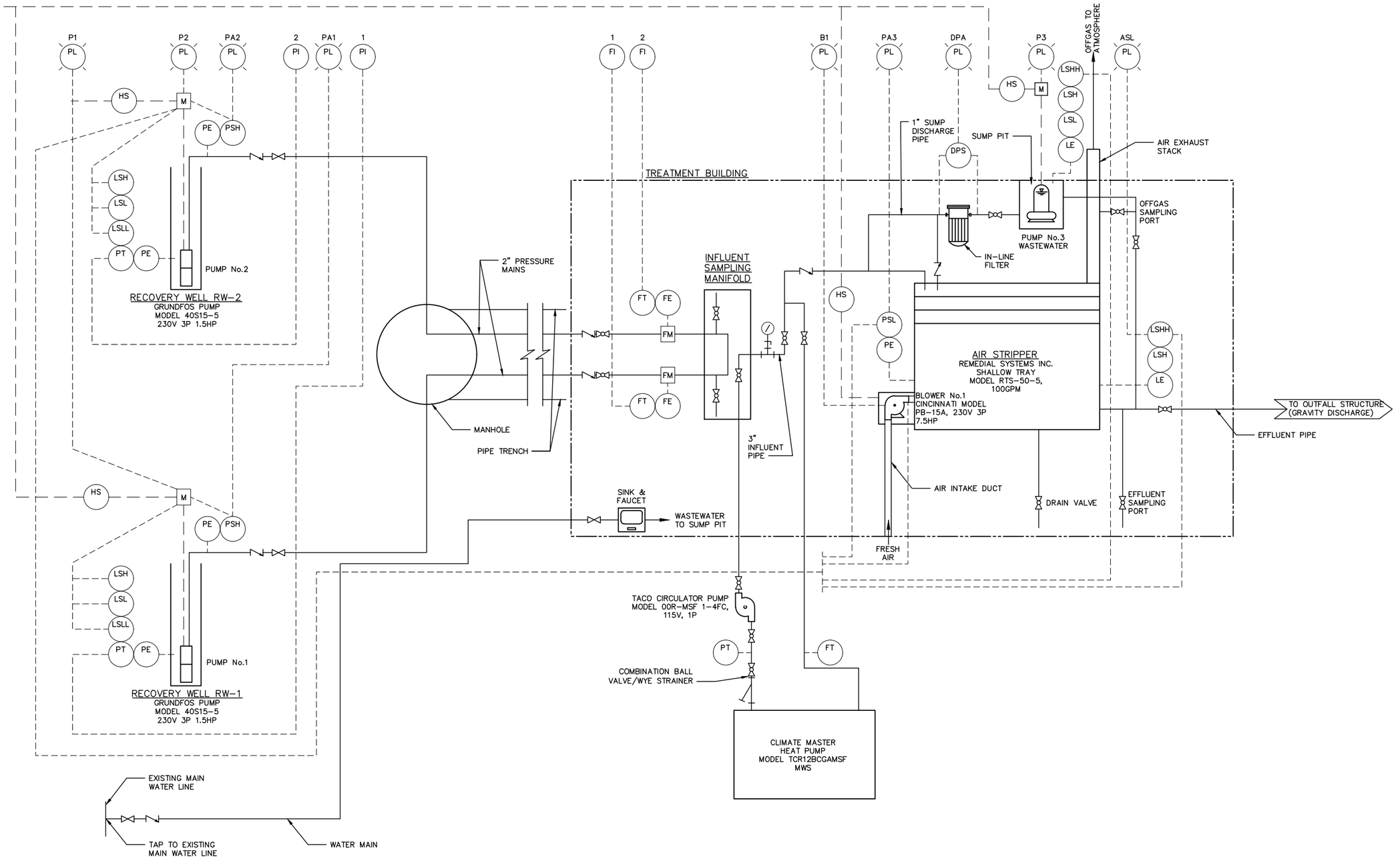

ARCADIS

LEGAL ENTITY:
ARCADIS U.S., INC.

CONSULTANTS

SEALS

TOWN OF OTSELIC
NYSDEC

GLADDING CORDAGE SITE

ARCADIS PROJ. NO. 00266406.0000

NO.	DATE	ISSUED FOR	BY

DATE:	MAY 2019
PROJECT NO.:	00266406.000
FILE NAME:	00266406-I02
DESIGNED BY:	J. WYCKOFF
DRAWN BY:	S. HAUSMANN
CHECKED BY:	J. WYCKOFF

SHEET TITLE

PROCESS AND INSTRUMENTATION DIAGRAM

SCALE: NOT TO SCALE

SHEET 2 OF 2

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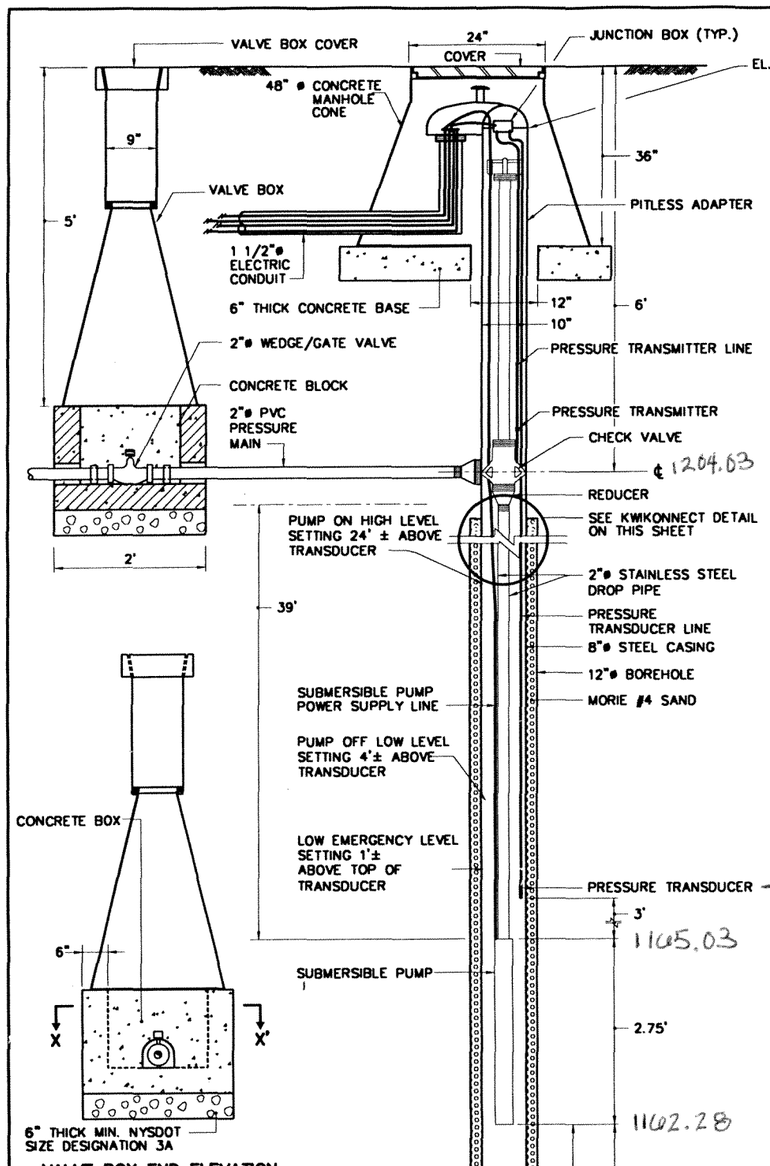
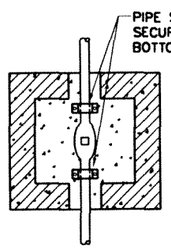


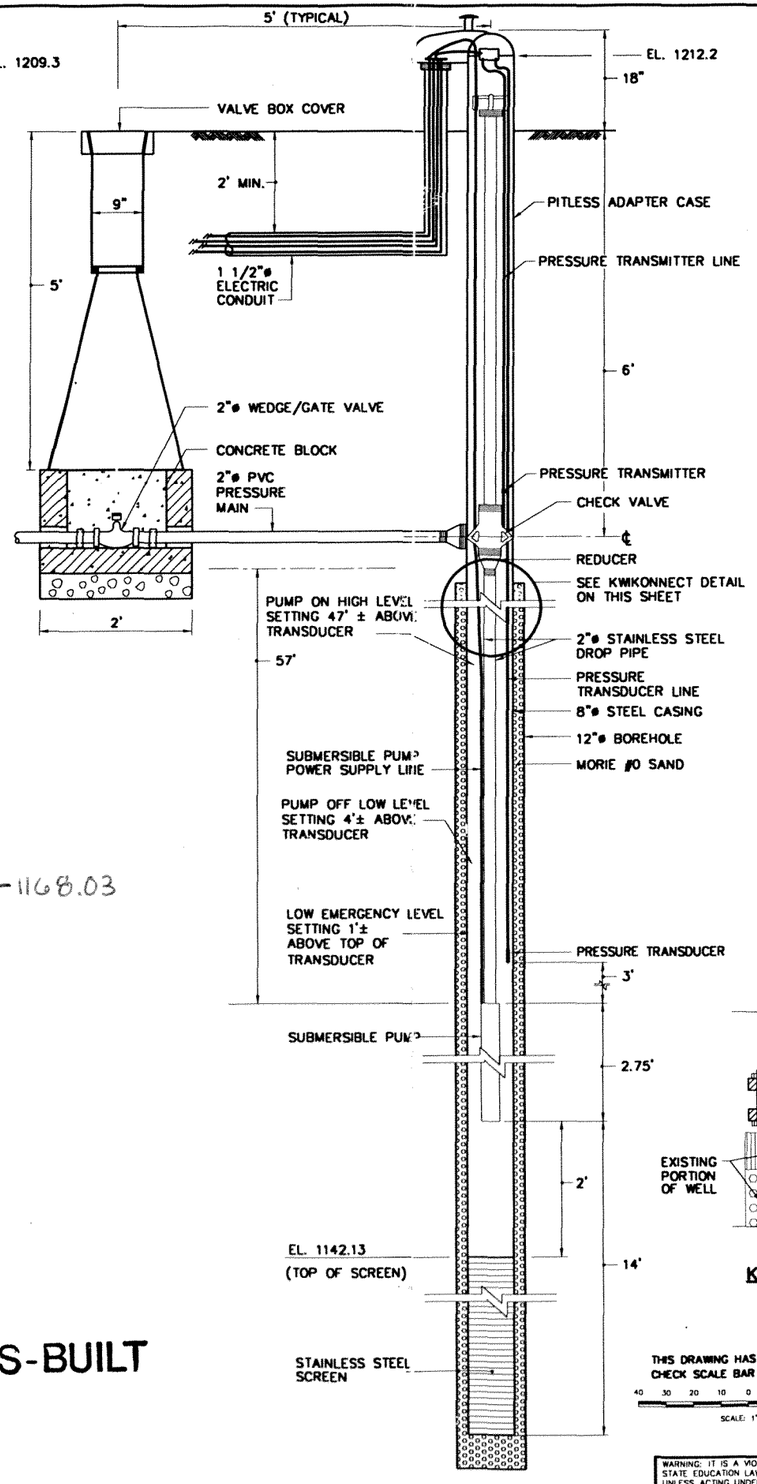
VALVE BOX END ELEVATION



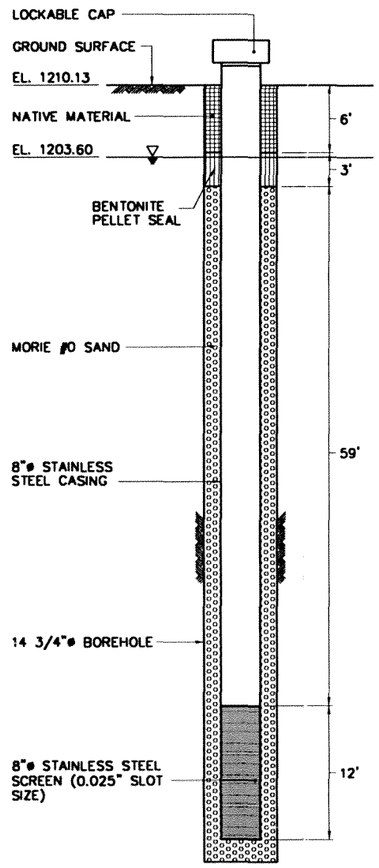
SECTION X-X'
VALVE BOX (RW-1 & RW-2)
N.T.S.

RECOVERY WELL RW-1 MODIFICATION DETAIL
N.T.S.

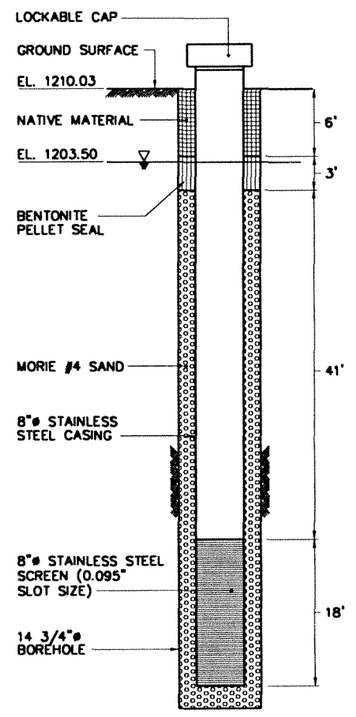
AS-BUILT



RECOVERY WELL RW-2 MODIFICATION DETAIL
N.T.S.



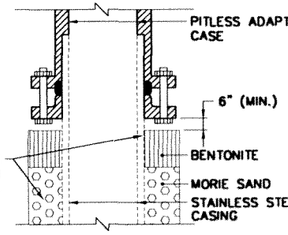
EXISTING RECOVERY WELL
(NO. RW-2)
N.T.S.



EXISTING RECOVERY WELL
(NO. RW-1)
N.T.S.

NOTES:

1. THE PITLESS ADAPTER IS THE MONITOR PS STANDARD INDUSTRIAL PITLESS UNIT FOR SUBMERSIBLE PUMPS, MANUFACTURED BY BAKER MONITOR DIVISION.
2. THE VALVE BOXES ARE MANUFACTURED BY THE CAMPBELL FOUNDRY COMPANY PATTERN NUMBERS 4425.
3. THE GROUNDWATER LEVELS INDICATED IN THE DRAWING WERE MEASURED ON AUGUST 25, 1994 BY DUNN ENGINEERING COMPANY.



KWIKONNECT DETAIL (TYP.)
N.T.S.

THIS DRAWING HAS BEEN REDUCED
CHECK SCALE BAR BELOW

40 30 20 10 0 20 40

SCALE: 1"=20'

LICENSED PROFESSIONAL ENGINEER
TAMS CONSULTANTS, Inc.
NO 118
STATE OF NEW YORK

SYMBOL	DESCRIPTIONS / REVISIONS	DATE	APPROVED

Prepared by:
TAMS CONSULTANTS, Inc.
300 Broadacres Drive, Bloomfield, New Jersey 07003

Prepared for:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233

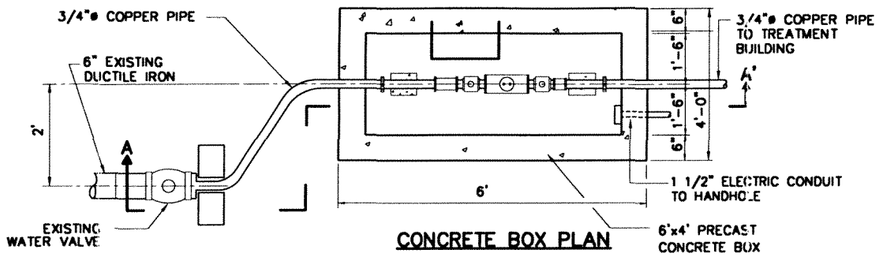
DESIGNED BY:	JE
DRAWN BY:	MC
CHECKED BY:	JB
SUBMITTED BY:	JE

Gladding Cordage Site

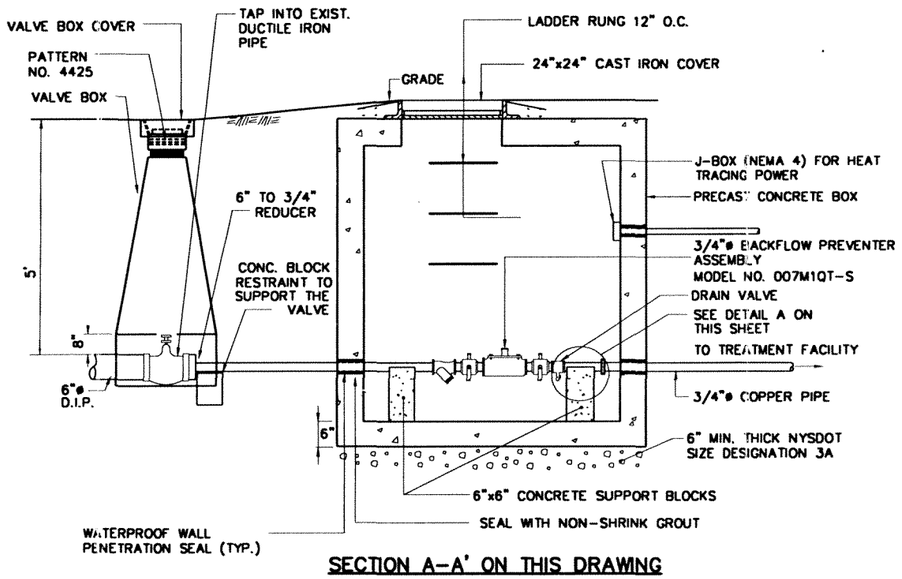
Town of Otselic
Chenango County, New York

RECOVERY WELL DETAILS

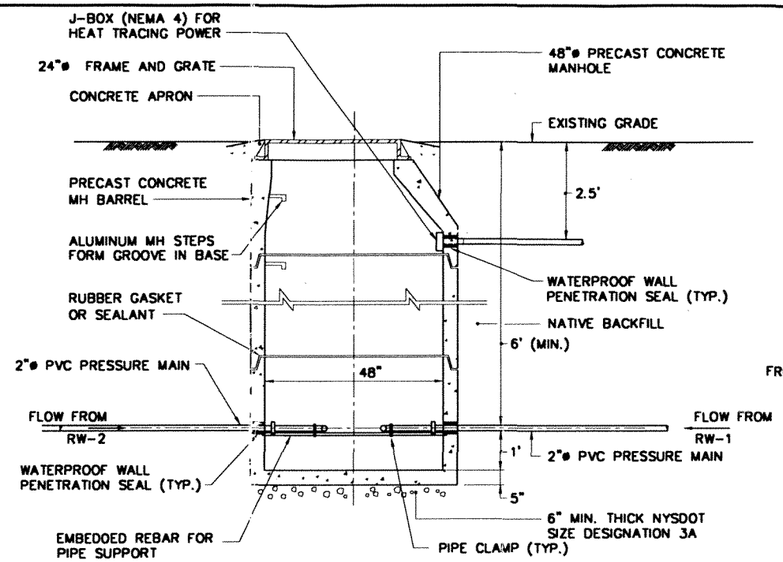
DATE:	SCALE:	DRAWING NO.:
OCTOBER, 1996	AS SHOWN	05



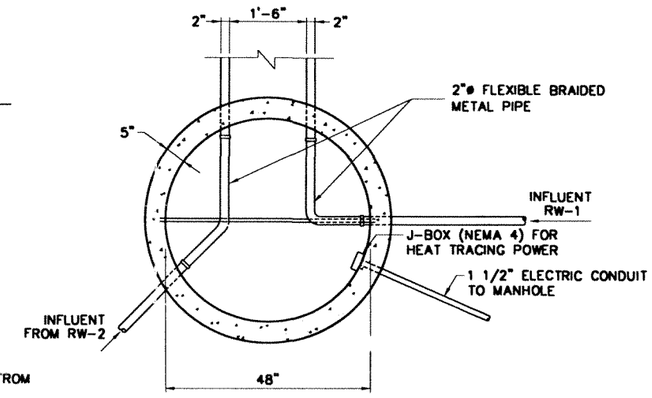
CONCRETE BOX PLAN



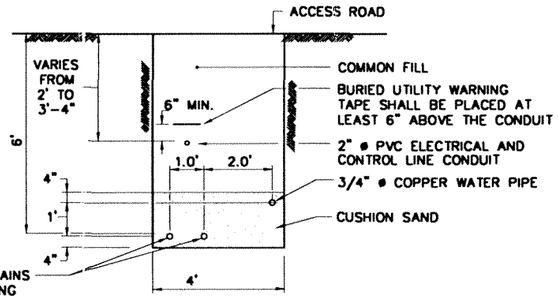
SECTION A-A' ON THIS DRAWING
CONCRETE BOX WITH BACKFLOW PREVENTER
N.T.S.



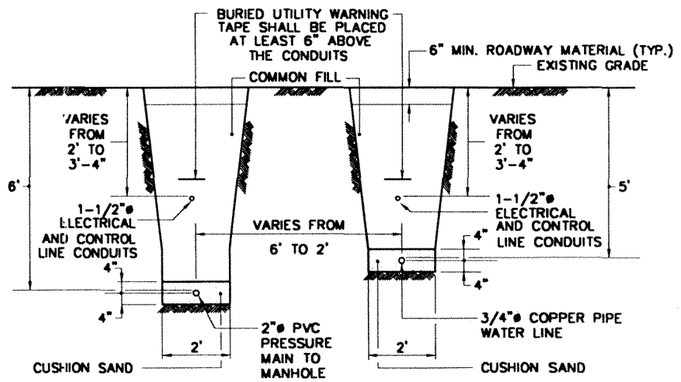
MANHOLE DETAIL
N.T.S.



MANHOLE PLAN
N.T.S.

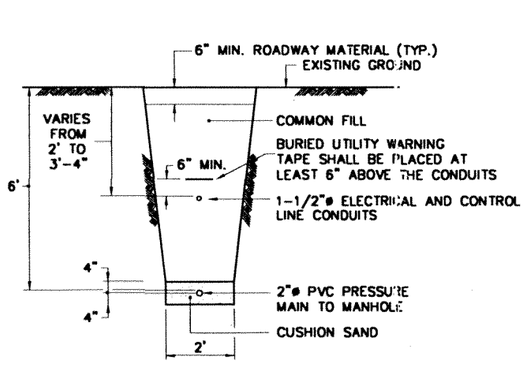


SECTION D-D' ON DRAWING NO. 03
TRENCH DETAIL
1"=2'

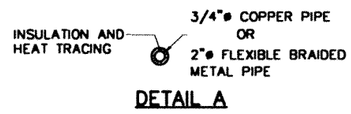


SECTION B-B' ON DRAWING NO. 03
TRENCH DETAIL
1"=2'

AS-BUILT



SECTION C-C' ON DRAWING NO. 03
TRENCH DETAIL
1"=2'



DETAIL A
N.T.S.

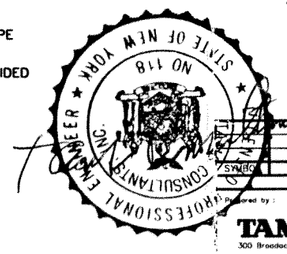
THIS DRAWING HAS BEEN REDUCED
CHECK SCALE BAR BELOW

40 30 20 10 0 20 40

SCALE: 1"=20'

NOTES:

1. BACKFLOW PREVENTER IS A WATTS REGULATOR, DOUBLE CHECK VALVE ASSEMBLY, SERIES 007M1QT-S WITH BRONZE "Y" TYPE STRAINER SERIES NO. 777S, AS MANUFACTURED BY WATTS INDUSTRIES, INC.
2. INSULATION AND HEAT TRACING IS PROVIDED FOR THE BACKFLOW PREVENTER AND THE PIPES INSIDE THE CONCRETE BOX AND MANHOLE. THE HEAT TRACING TAPE IS WINTERGARD AS MANUFACTURED BY RAYCHEM



NO.	DESCRIPTIONS	DATE	APPROVED
	REVISIONS		

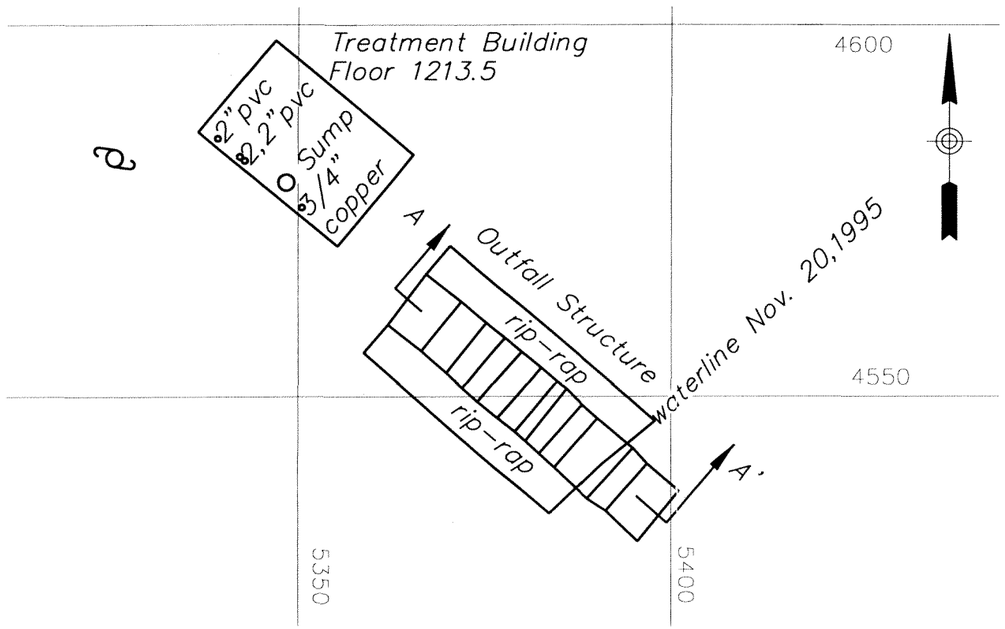
Prepared by:
TAMS CONSULTANTS, Inc.
300 Broadacres Drive, Bloomfield, New Jersey 07003

Prepared for:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUBMITTED BY:	DATE:	SCALE:	DRAWING NO.:
JB	MC	MT	JE	OCTOBER, 1996	AS SHOWN	06

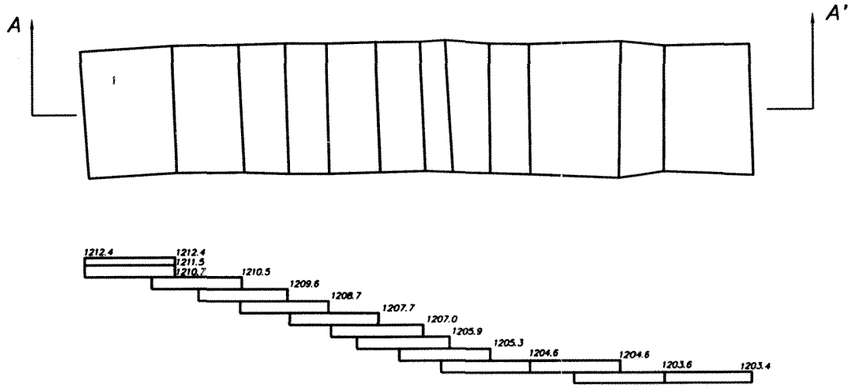
Gladding Cordage Site
Town of Otselic
Chenango County, New York
WATER SUPPLY AND RECOVERY TRENCH DETAILS

Drawing name: U:\PROJECT.33\JOB#5683\DRAWINGS\AS-BUILT\ASBU4, Date: 09/23/96, 16:04:53Username: John Egan VIEW NAME: PLOT SCALE Fit



PLAN
SCALE: 1"=30'

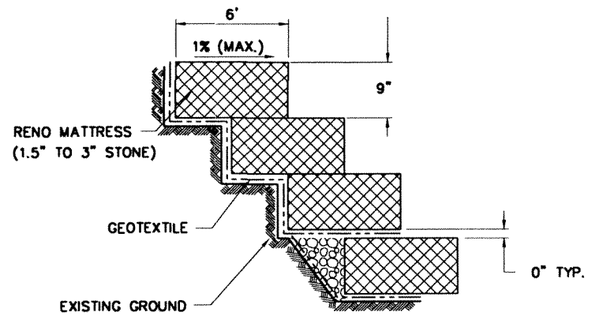
Outfall Structure Detail



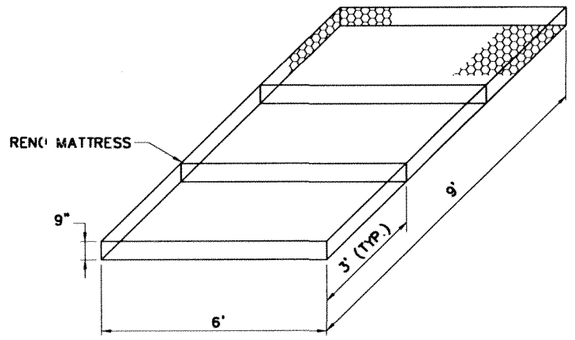
SECTION A–A'
SCALE: 1" = 5'

OUTFALL PLAN & SECTION
SCALE: AS SHOWN

AS-BUILT



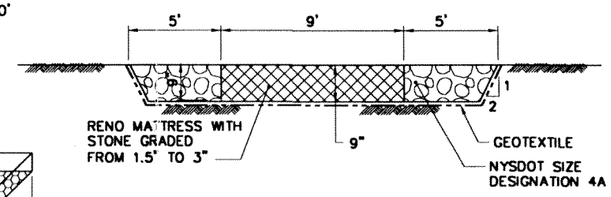
DETAIL A
SCALE: HORIZ: 1"=4'
VERT: 1"=10'



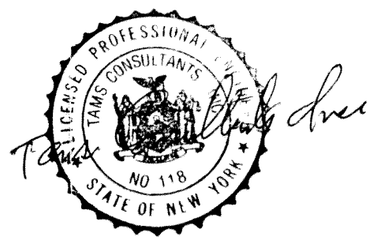
TYPICAL RENO MATTRESS
SCALE: 1"=2'

NOTES:

1. HIGH WATER ELEVATION IS THE ELEVATION (EL. 1210.24) OF THE BASE OF THE CONCRETE BRIDGE BEAM ON GLADDING STREET OVER THE OTSELIC RIVER.
2. THE CONTRACTOR SECURED THE 6"ø PVC EFFLUENT DISCHARGE PIPE AND DIFFUSER TO THE RENO MATTRESSES.
3. RENO MATTRESSES IS MANUFACTURED BY MACCAFERRI GABIONS, INC., OR APPROVED EQUIVALENT.



SECTION B–B' ON THIS DRAWING
SCALE: HORIZ: 1"=4'
VERT: 1"=1'



THIS DRAWING HAS BEEN REDUCED BY 50%
CHECK ORIGINAL SCALE BAR BELOW

40 30 20 10 0 20 40
SCALE: 1"=20'

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVED

Prepared by :
TAMS CONSULTANTS, Inc.
300 Broadacres Drive, Bloomfield, New Jersey 07003

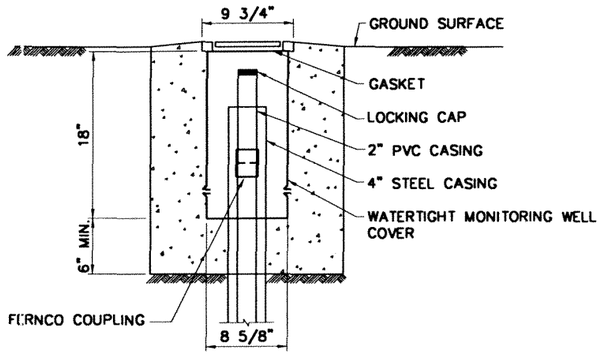
Prepared for :
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233

DESIGNED BY :	JE/JB
DRAWN BY :	MI
CHECKED BY :	CC
SUBMITTED BY :	JE

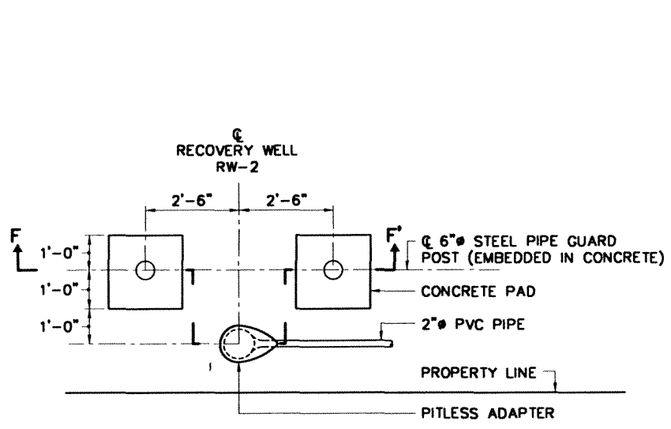
Gladding Cordage Site
Town of Otselic
Chenango County, New York

OUTFALL STRUCTURE DETAILS

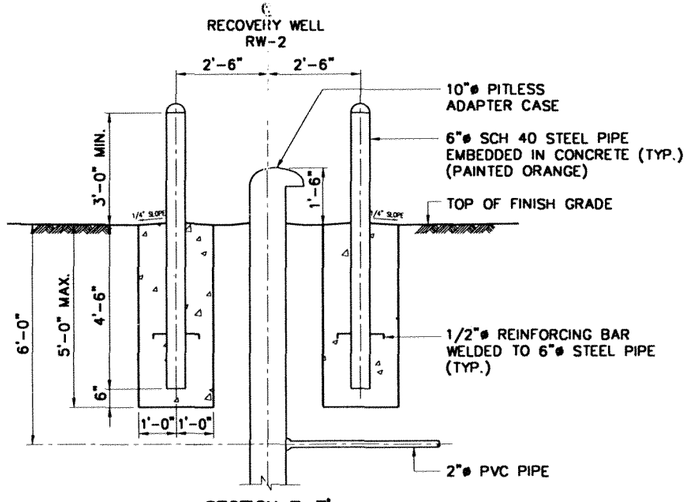
DATE :	SCALE :	DRAWING NO. :
OCTOBER, 1996	AS SHOWN	07



MONITORING WELL MODIFICATION DETAIL
N.T.S.

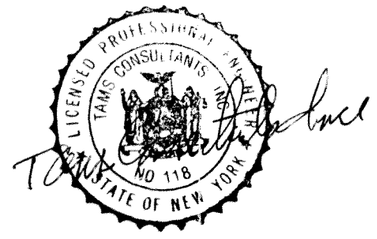


PLAN



SECTION F-F'

GUARD POST DETAIL FOR RW-2
1"=2'



THIS DRAWING HAS BEEN REDUCED BY 50%
CHECK ORIGINAL SCALE BAR BELOW

40 30 20 10 0 20 40
SCALE: 1"=20'

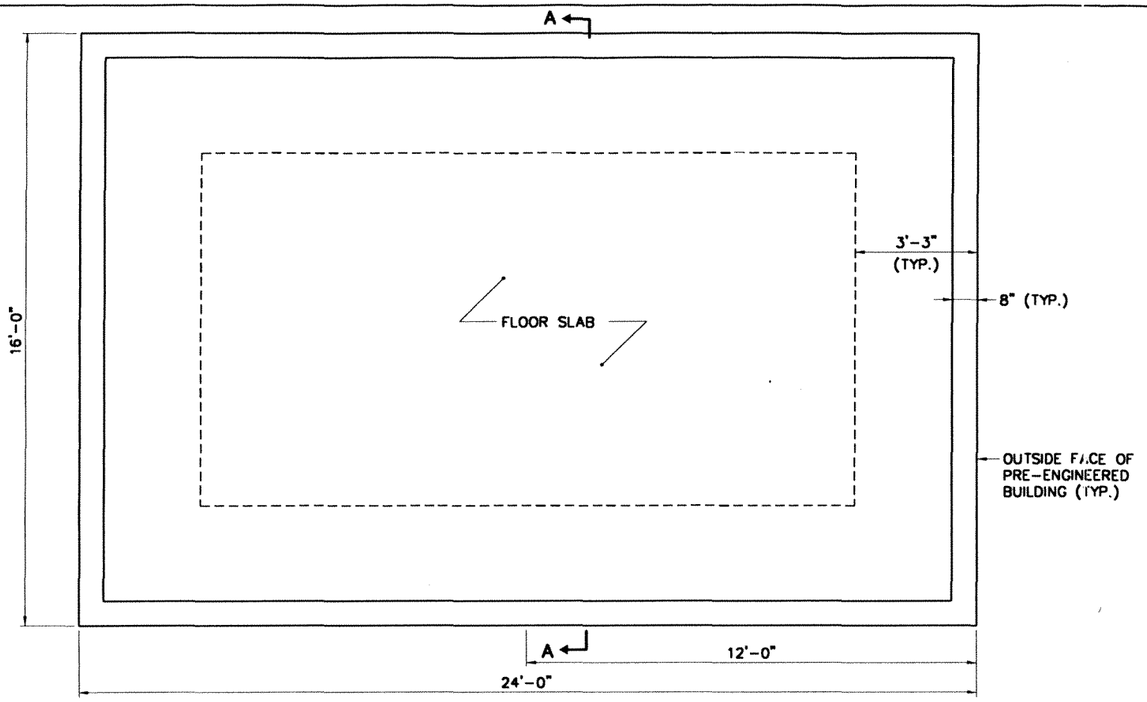
AS-BUILT

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVED

Prepared by :
TAMS CONSULTANTS, Inc.
300 Broadacres Drive, Bloomfield, New Jersey 07003

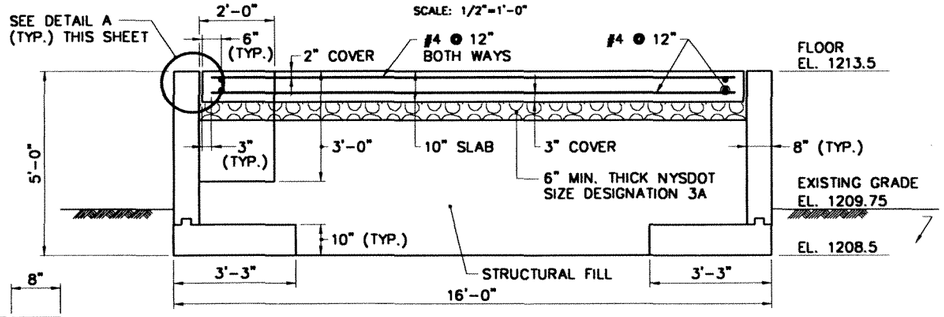
Prepared for :
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233

DESIGNED BY : JE/JB	Gladding Cordage Site		
DRAWN BY : MI	Town of Otselic		
CHECKED BY : CC	Chenango County, New York		
	MISCELLANEOUS DETAILS		
SUBMITTED BY : JE	DATE : OCTOBER, 1996	SCALE : AS SHOWN	DRAWING NO. : 09



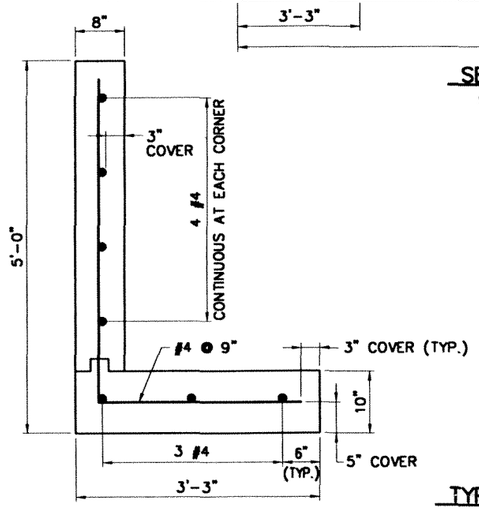
PLAN

SCALE: 1/2"=1'-0"



SECTION A-A

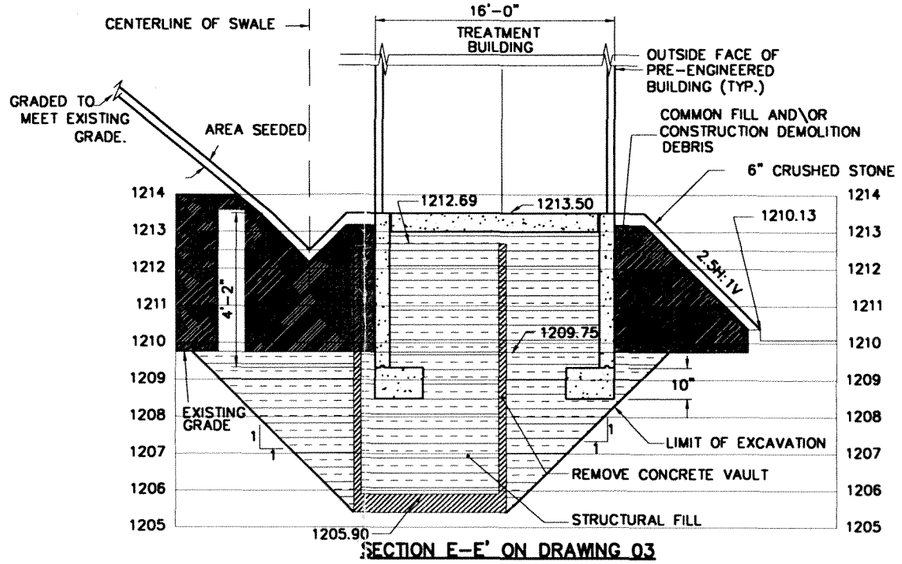
SCALE: 1/2"=1'-0"



TYPICAL SECTION

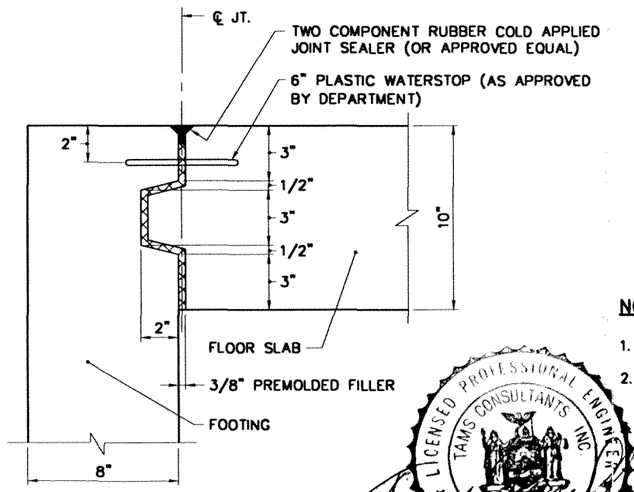
SCALE: 1"=1'-0"

AS-BUILT



SECTION E-E' ON DRAWING 03

HORIZONTAL SCALE 1"=5'
VERTICAL SCALE 1"=2'



DETAIL A

SCALE: 3"=1'-0"

NOTES:

1. THE DESIGN SPECIFICATIONS CONFORMS TO ACI318-89.
2. SPECIFIED COMPRESSURE STRENGTH (f'c) OF CONCRETE SHALL BE 3000 PSI.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (GRADE 60).

LICENSED PROFESSIONAL ENGINEER
TAMS CONSULTANTS INC.
NO 118
STATE OF NEW YORK

THIS DRAWING HAS BEEN REDUCED BY 50%
CHECK ORIGINAL SCALE BAR BELOW

40 30 20 10 0 20 40

SCALE: 1"=20'

SYMBOL	DESCRIPTIONS REVISIONS	DATE	APPROVED

Prepared by :
TAMS CONSULTANTS, Inc.
300 Broadacres Drive, Bloomfield, New Jersey 07003

Prepared for :
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233

DESIGNED BY : JE/JB	Gladding Cordage Site		
DRAWN BY : MI	Town of Otselic Chenango County, New York		
CHECKED BY : CC	TREATMENT BUILDING FOUNDATION DETAILS		
SUBMITTED BY : JE	DATE : OCTOBER, 1996	SCALE : AS SHOWN	DRAWING NO. : 10

19 Oct 1995

PARKLINE INC.

ORDER NUMBER : 50828

"5136" 11/3

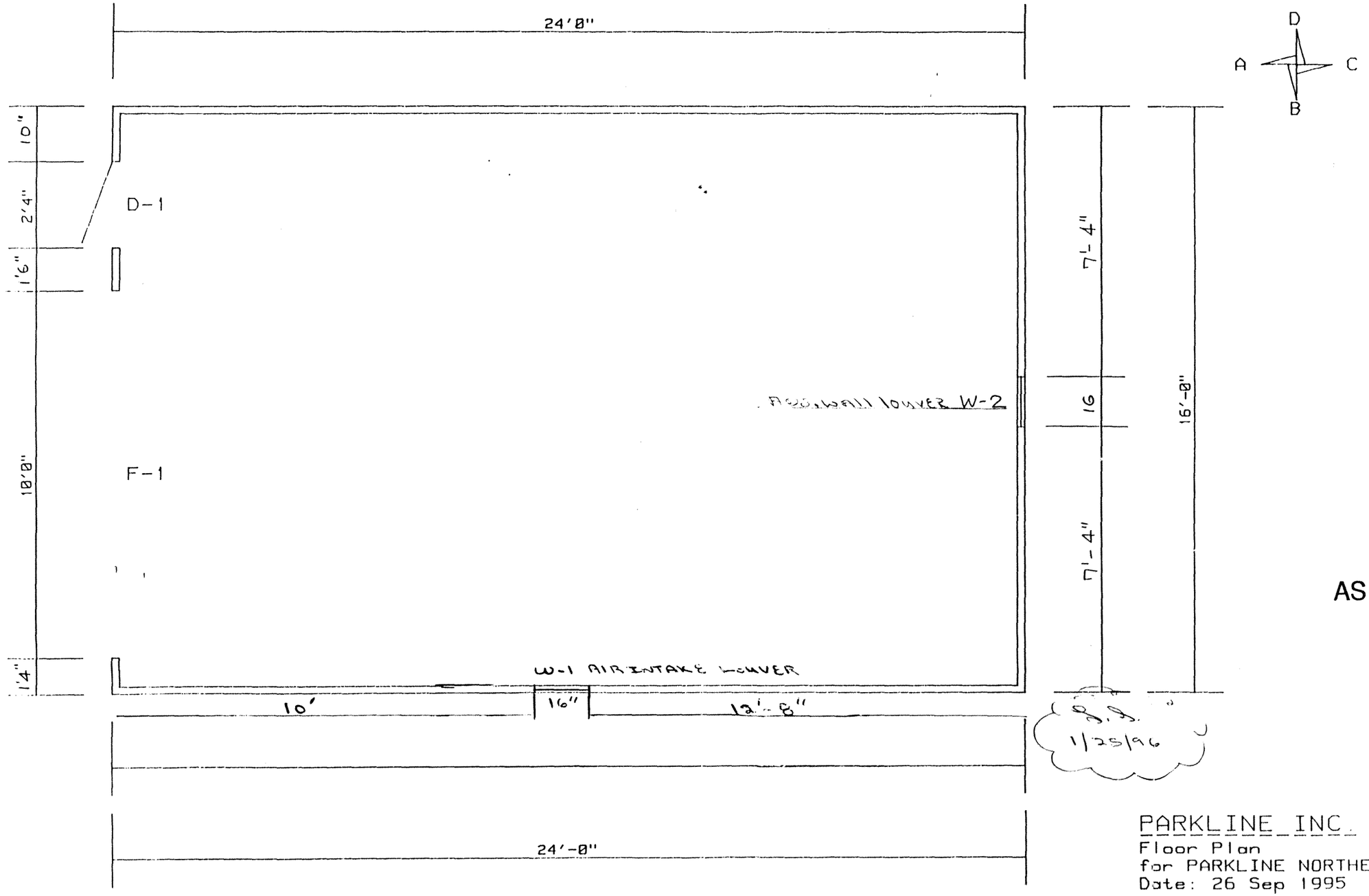
BILL OF MATERIAL

QTY	PANEL NUMBER	DESCRIPTION	PKR	BDL.NO.	LINE KEY
4	P14KT08 126.00	CORNER PANEL 10'-6"			1
34	P14KT01 126.00	WALL PANEL 10'-6"			2
1	P14KT04 132.38 L8	WALL PANEL 11'-0 3/8"			3
2	P14KT03 127.13	ENDWALL PANEL 10'-7 1/8"			4
2	P14KT03 129.75	ENDWALL PANEL 10'-9 3/4"			5
2	P14KT03 132.38	ENDWALL PANEL 11'-0 3/8"			6
2	P14KT03 135.13	ENDWALL PANEL 11'-3 1/8"			7
2	P14KT03 137.75	ENDWALL PANEL 11'-5 3/4"			8
1	P14KT03 140.38	ENDWALL PANEL 11'-8 3/8"			9
1	P14KT00 41.13	HEAD PANEL 3'-5 1/8"			10
1	P14KT00 43.75	HEAD PANEL 3'-7 3/4"			11
1	P14KT00 20.38	HEAD PANEL 1'-8 3/8"			12
1	P14KT00 23.13	HEAD PANEL 1'-11 1/8"			13
1	P14KT00 25.75	HEAD PANEL 2'-1 3/4"			14
2	P14KT00 28.38	HEAD PANEL 2'-4 3/8"			15
2	P14KT00 31.13	HEAD PANEL 2'-7 1/8"			16
1	P14KT04 27.13 L8	HEAD PANEL 2'-3 1/8"			17
19	P38GL31 101.19 R	ROOF PANEL 8'-5 3/16"			18
19	P38GL31 101.19 L	ROOF PANEL 8'-5 3/16"			19
17	P35AW00 185.38 U	CEILING PANEL 15'-5 3/8"			20
1	P35AW26 185.38 RU	CEILING PANEL 15'-5 3/8"			21
1	P35AW26 185.38 LU	CEILING PANEL 15'-5 3/8"			22
46	P69AWMX 120.25	LOCK-IN PLUS 10'-0 1/4"			24
2	P69AWMX 34.25	LOCK-IN PLUS 2'-10 1/4"			25

AS-BUILT

Wall Code: (__red) (√ blue) (__yellow) (__green) Roof Code: (__red) (__blue) (__yellow) (√ green)

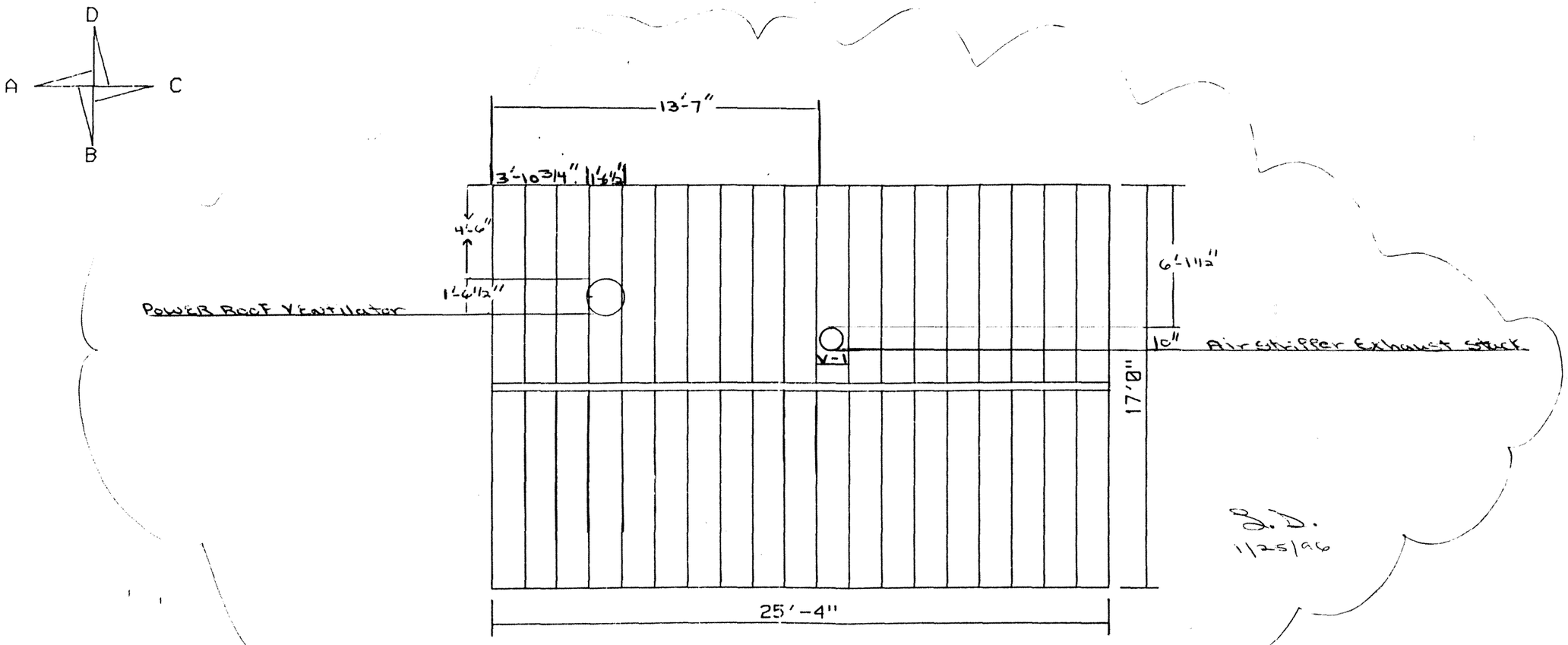
MARK KEY ON PANELS !!!!



AS-BUILT

PARKLINE INC.
Floor Plan
for PARKLINE NORTHEAST
Date: 26 Sep 1995

DRAWING NO. 950828-1

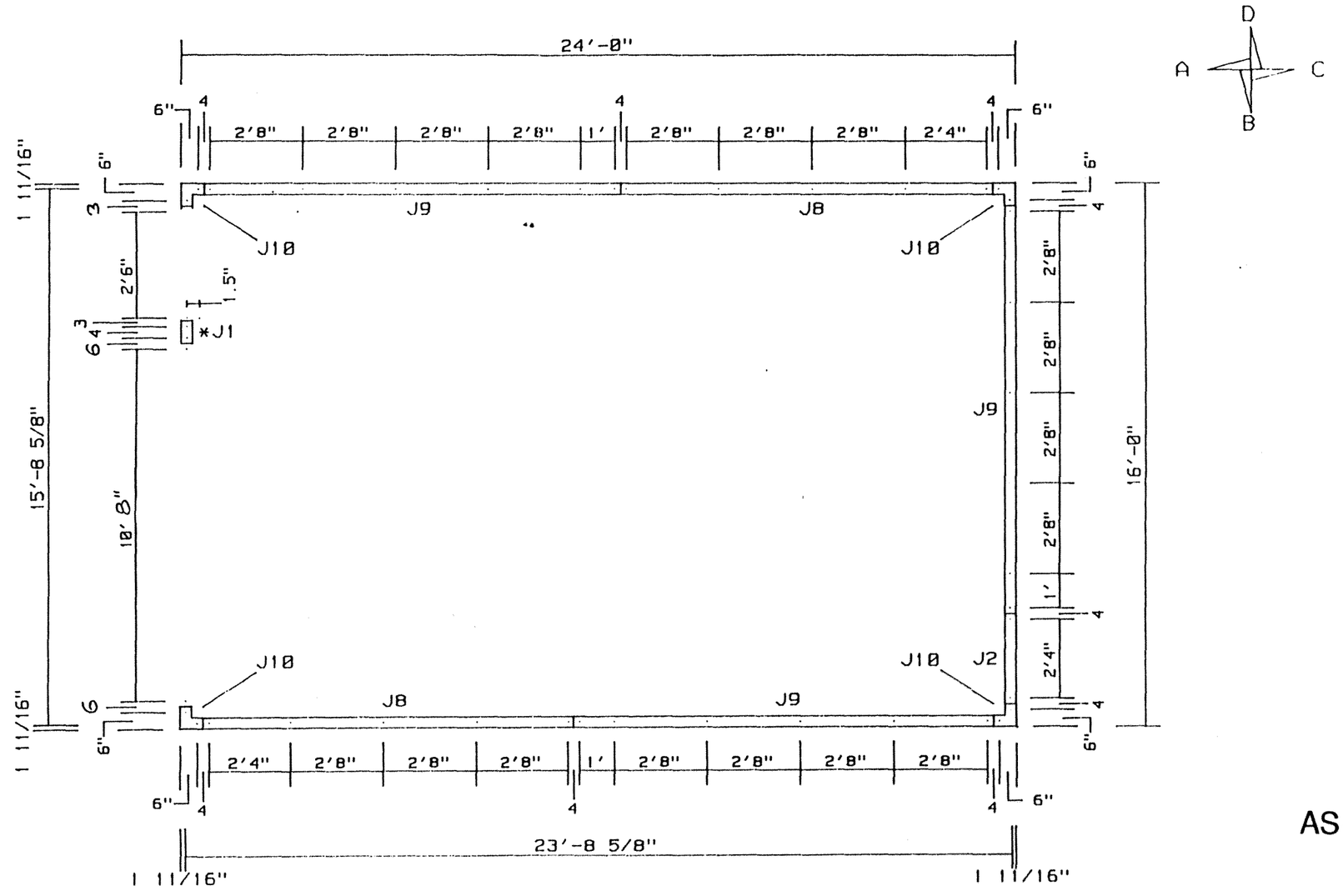


D.D.
1/25/96

AS-BUILT

PARKLINE INC.
Roof Plan
for PARKLINE NORTHEAST
Date: 26 Sep 1995

DRAWING NO. 950828-2

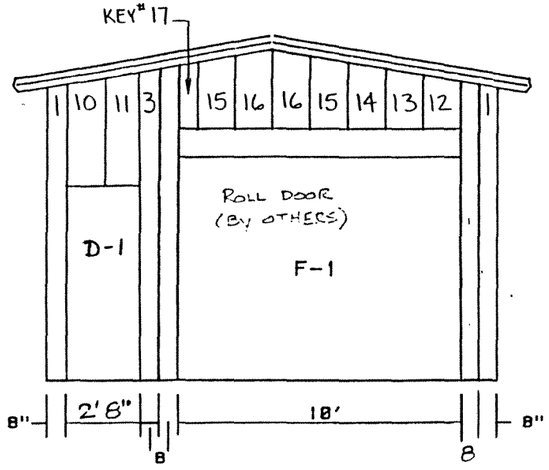


AS-BUILT

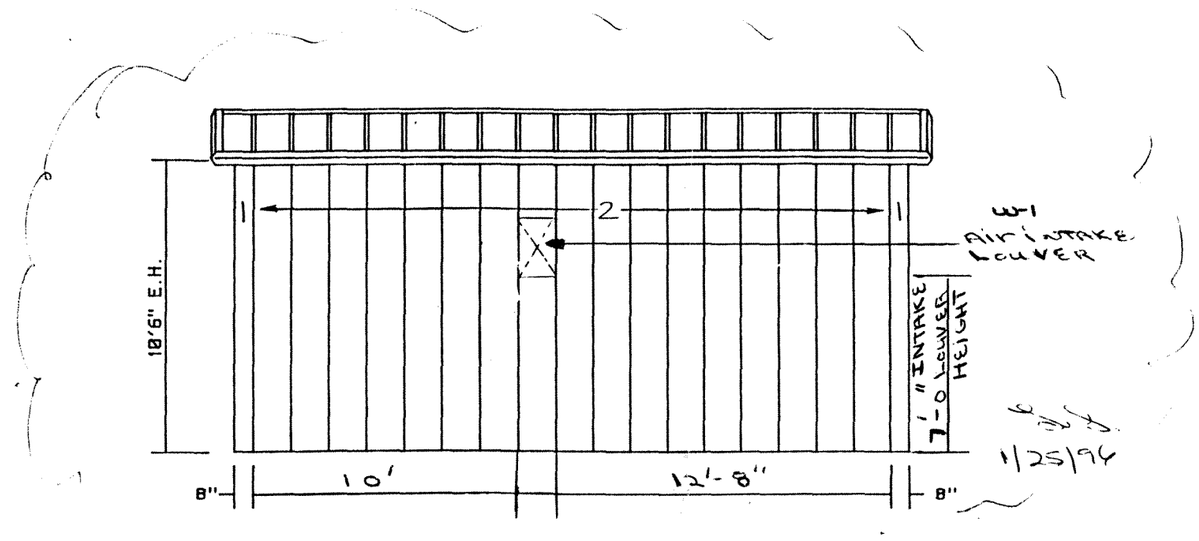
* - INDICATES FIELD CUTTING.

PARKLINE INC.
Base channel & Anchor Layout
for PARKLINE NORTHEAST
Date: 26 Sep 1995

DRAWING NO. 950828-3



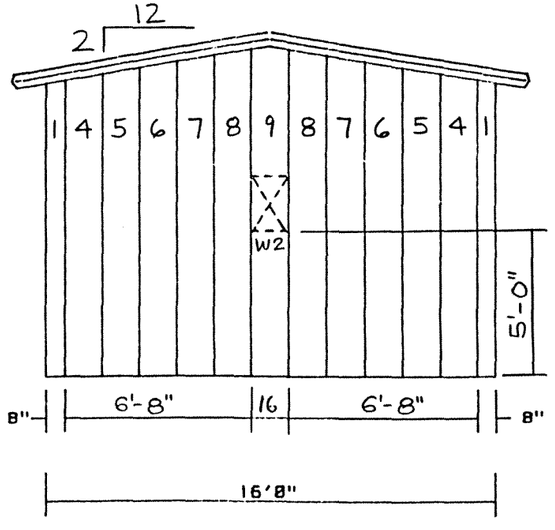
ELEVATION 'A'



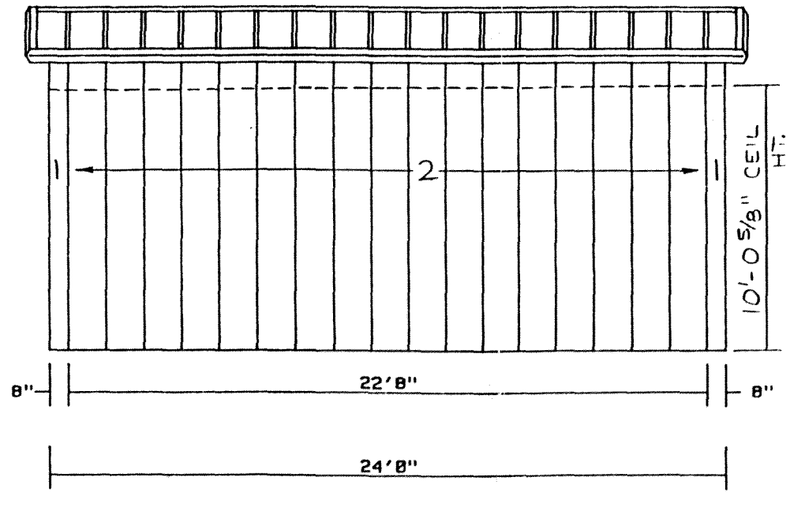
ELEVATION 'B'

F-1 - 10'0" X 8' FRAMED OPENING w/ROLL DOOR
D-1 - 2'4" X 7' DOOR
W-1 - 1'4" WALL OPEN KIT
W-2 - 16" ADJ. LOUVER
V-1 - 12" Dia. POWER VENT

[FIELD LOCATE AND CUT]



ELEVATION 'C'



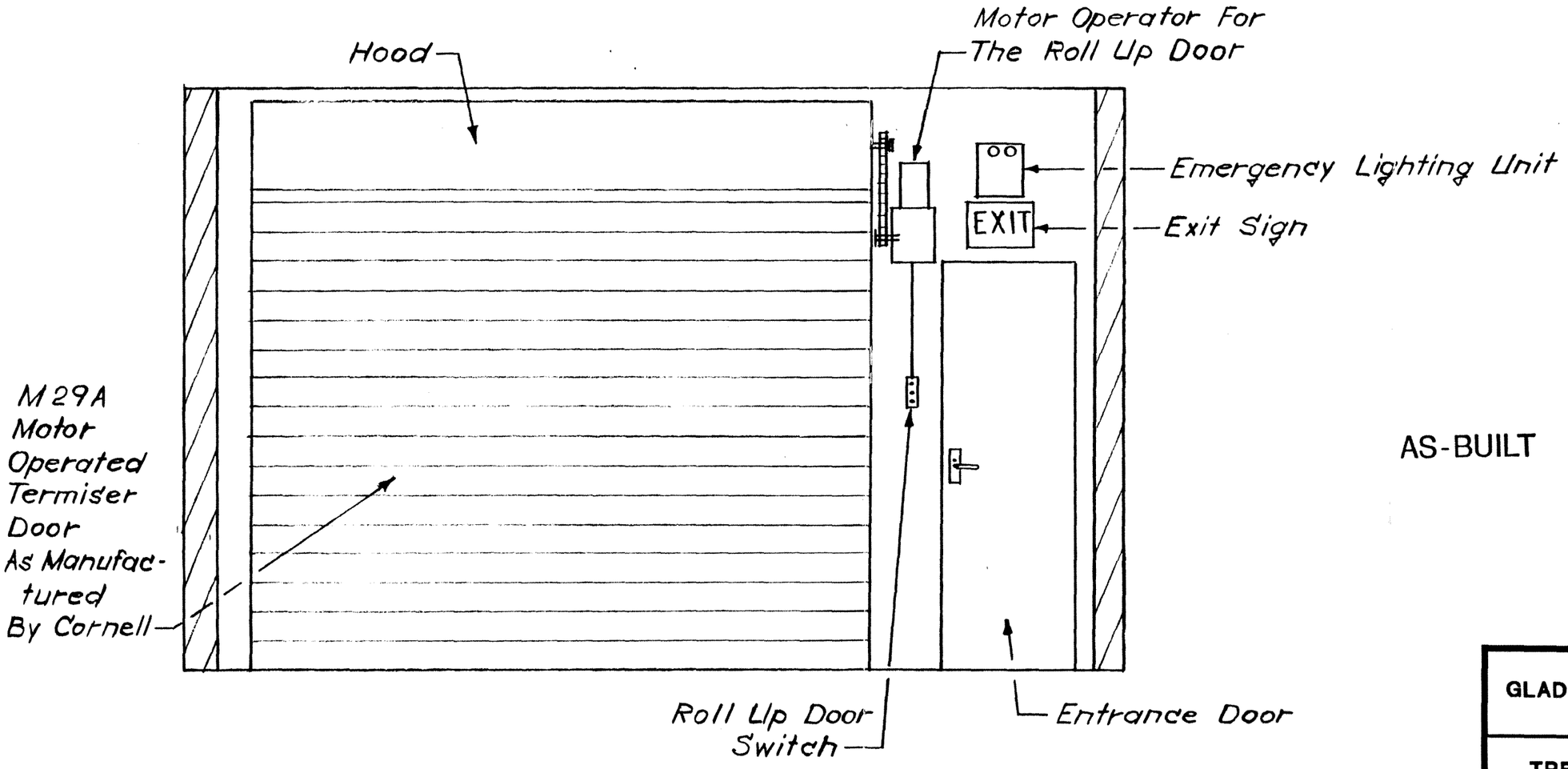
ELEVATION 'D'

AS-BUILT

NOTE: INSTALL (1) RIB STIFFENER @ EVERY RIB PER DRAWING # EPI-13.

PARKLINE INC.
Wall Elevations
for PARKLINE NORTHEAST
Date: 26 Sep 1995

DRAWING NO. 950828-4



2' 1' 0 2'

SCALE: 1"=2'

AS-BUILT

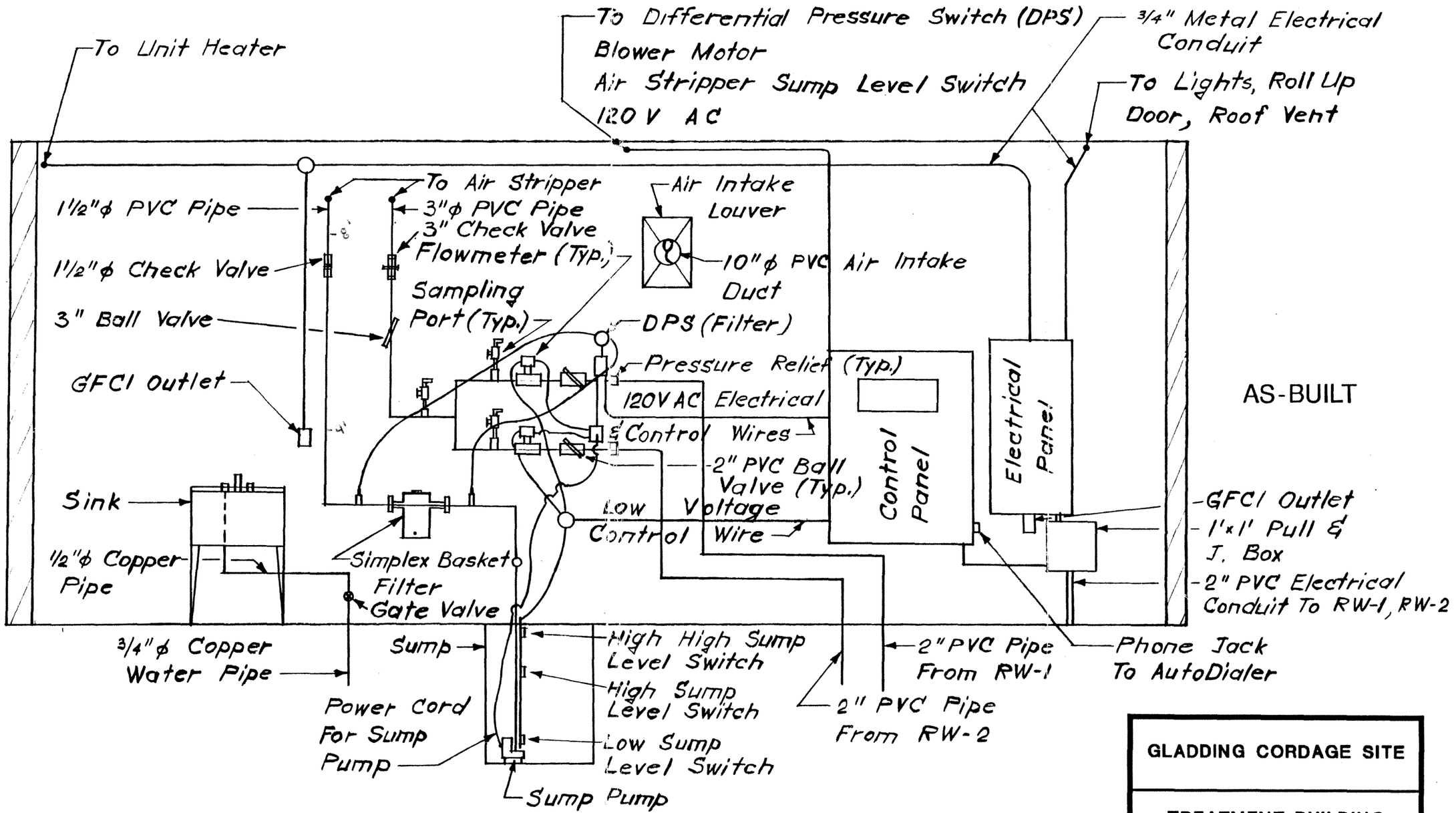
GLADDING CORDAGE SITE

TREATMENT BUILDING

WEST ELEVATION

VIEW A

PREPARED BY:	SCALE:	DRAWING NO.:
LS/JE	1"=2'	



AS-BUILT

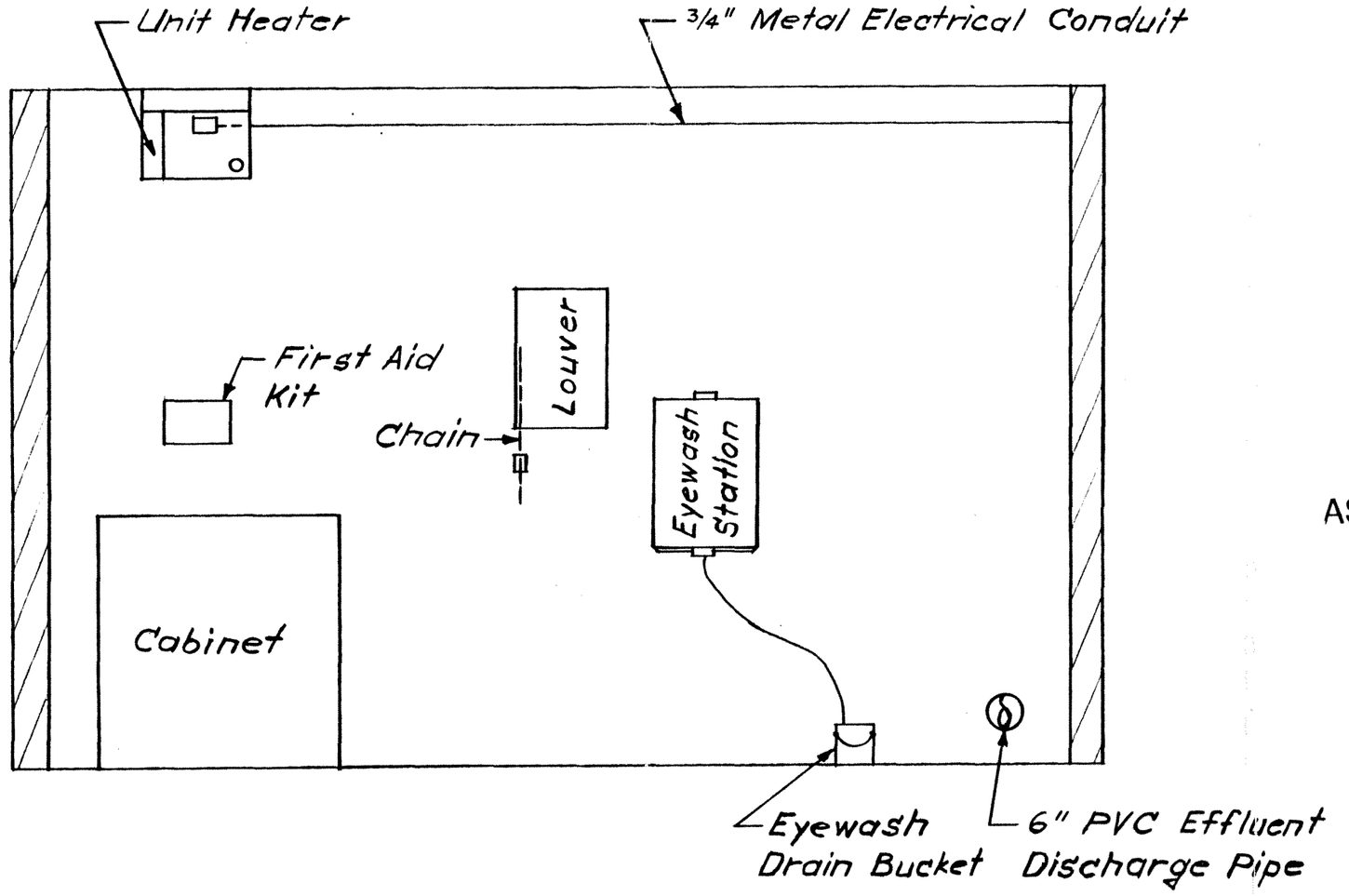
GLADDING CORDAGE SITE

TREATMENT BUILDING

SOUTH ELEVATION

VIEW B

PREPARED BY:	SCALE:	DRAWING NO.:
LS/JE	1"=2'	



AS-BUILT

2' 1' 0 2'

SCALE: 1"=2'

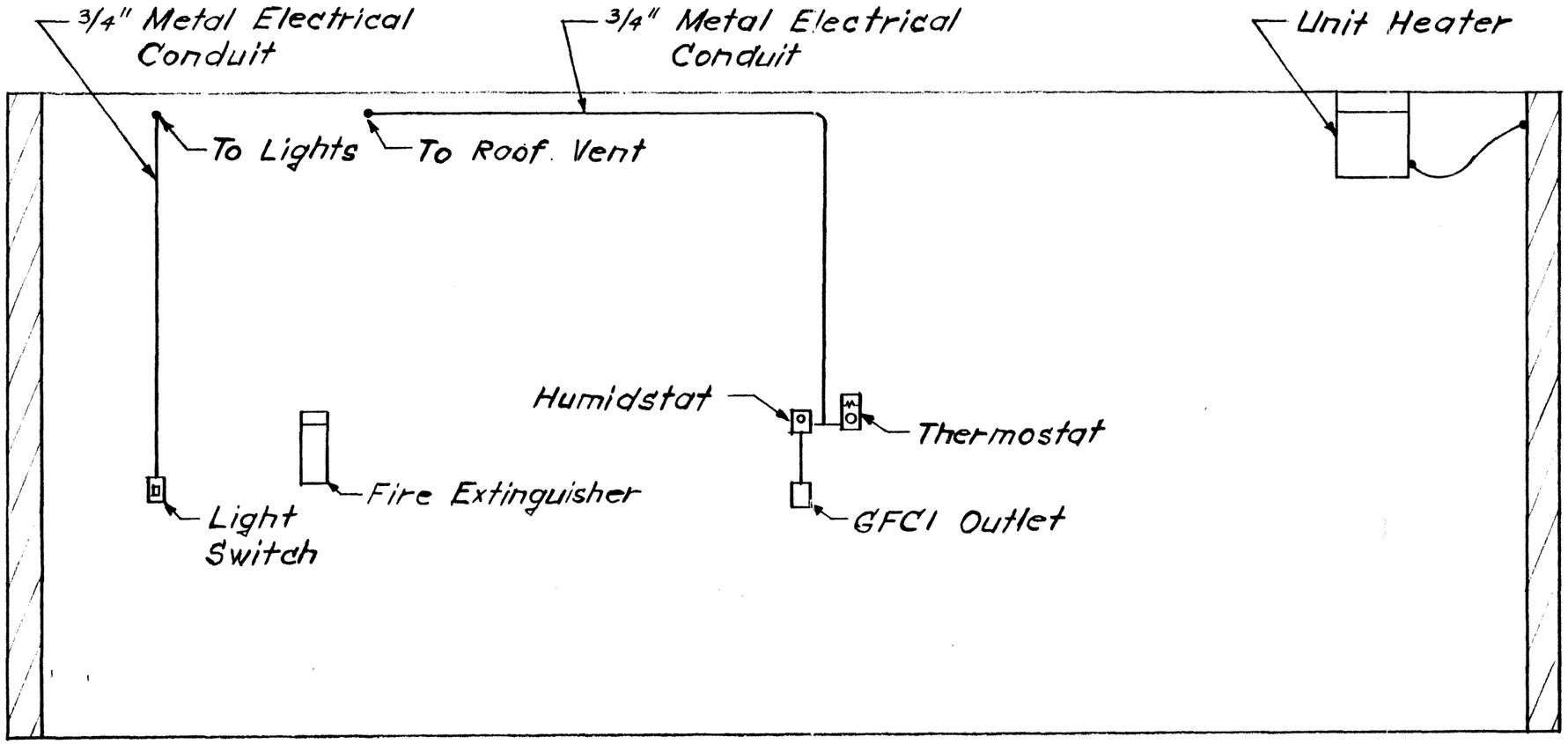
GLADDING CORDAGE SITE

TREATMENT BUILDING

EAST ELEVATION

VIEW C

PREPARED BY:	SCALE:	DRAWING NO.:
LS/JE	1"=2'	



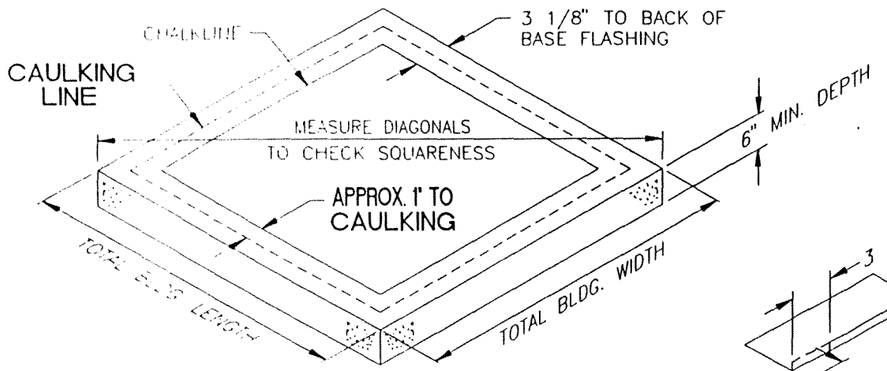
AS-BUILT

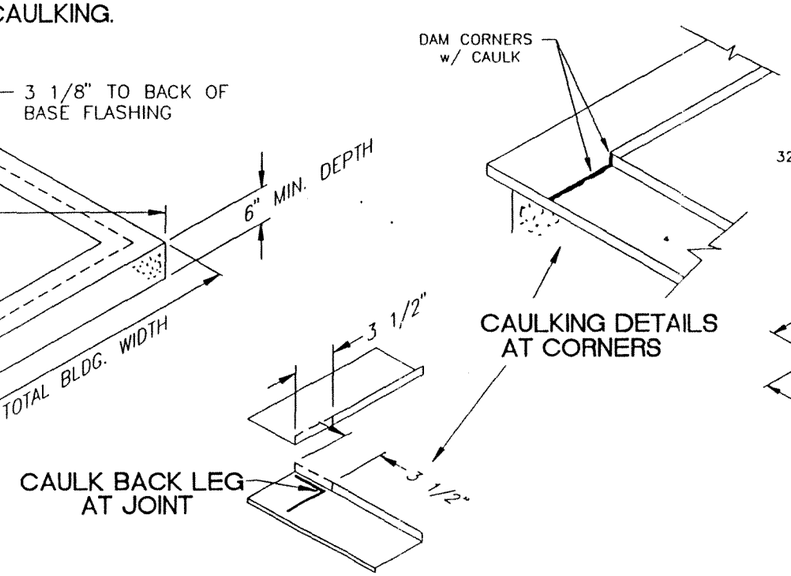
2' 1' 0 2'

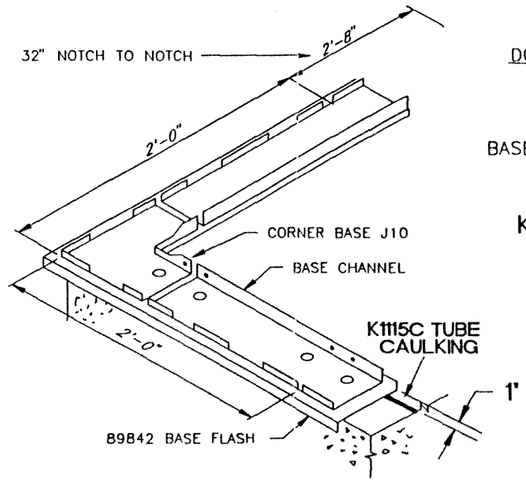
SCALE: 1"=2'

GLADDING CORDAGE SITE		
TREATMENT BUILDING		
NORTH ELEVATION		
VIEW D		
PREPARED BY: LS/JE	SCALE: 1"=2'	DRAWING NO.:

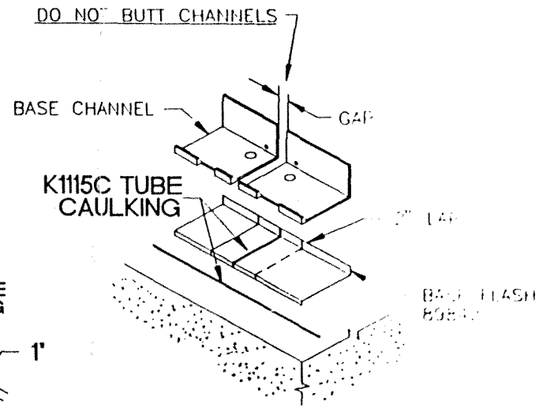
NOTE:
CONCRETE MUST BE CLEAN AND DRY BEFORE APPLYING K1115C TUBE CAULKING.







NOTE: MEASURE 32" C.C. OF PANEL. NOTCH IN BASE CHANNEL. THROUGH BASE CHANNEL JOINT. GAP SHOULD OCCUR AT JOINT.



AS-BUILT

ERECTION PROCEDURE

STEP 1 CHECK FOUNDATION SQUARENESS. (SEE ALLOWABLE TOLERANCES BELOW RIGHT)

STEP 2 SNAP CHALKLINE AS SHOWN. CAULK WITH K1115C TUBE CAULKING AS SHOWN ABOVE, OMITTING CAULK AT ANY OVERHEAD DOOR OPENINGS.

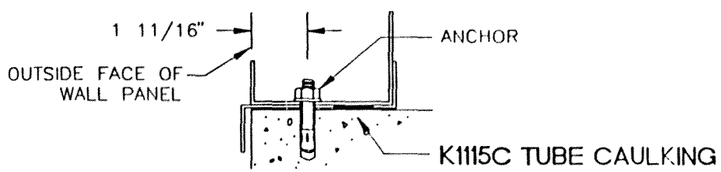
STEP 3 NOTCH FLASHING CORNER AS SHOWN ABOVE.

STEP 4 POSITION BASE FLASH WITH BACK EDGE AT CHALKLINE. OMIT FLASHING AT ANY OVERHEAD DOOR OPENINGS. CAULK LAPS AS SHOWN. CAULK FLASHING CORNERS AS SHOWN ABOVE.

STEP 5 ANCHOR CORNER BASE USING HOLE AS TEMPLATE AND DRILLING THROUGH FLASHING. SEE ABOVE DETAIL FOR POSITIONING.

STEP 6 CONTINUE AROUND PERIMETER OF SLAB. BASE CHANNEL REQUIRES AN ANCHOR AT EACH END. SEE CHART "A" FOR MAXIMUM SPACE BETWEEN ANCHORS.

STEP 7 PLACE SHIMS UNDER BASE FLASHING WHERE NECESSARY TO KEEP BASE CHANNEL LEVEL.



BASE CHANNELS	
PART NO.	LENGTH
J1	1'-3 7/8"
J2	2'-3 7/8"
J3	3'-11 7/8"
J4	5'-3 7/8"
J5	6'-7 7/8"
J6	7'-11 7/8"
J7	9'-3 7/8"
J8	10'-7 7/8"
J9	11'-11 7/8"

CHART A'
4'-0" MAX. ANCHOR SPACING
2'-8" MAX. ANCHOR SPACING
1'-4" MAX. ANCHOR SPACING

ALLOWABLE FOUNDATION TOLERANCES:

WIDTH AND LENGTH	± 1/8" in 12' ± 1/4" OVERALL
OUT OF SQUARE DIAGONALLY	± 1/2"
OUT OF LEVEL	± 1/8" in 20' ± 1/4" OVERALL

NOTE: USE HAMMER DRILL FOR DRILLING OF ANCHOR HOLES. DRILL HOLE SUFFICIENT DEPTH WITH SAME DRILL BIT DIAMETER AS ANCHOR DIAMETER.

REVISION NO. 1	REVISION NO. 2	REVISION NO. 3	REDRAWN :
BY:	BY:	DATE	SCALE :
CHKD. BY:	DRAWN BY:	DRAWN BY :	

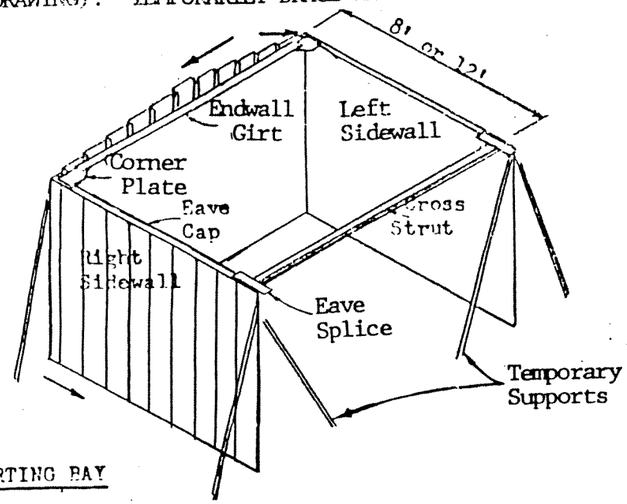
PARKLINE, INC.
Winfield, WV (304)586-2113

DRAWING TITLE :
BASE CHANNEL INSTALLATION

DRAWN BY: KH	AG FILE NO. :
GROUP :	DATE : 1-15
DRAWING NUMBER : BASE	

STEP 1

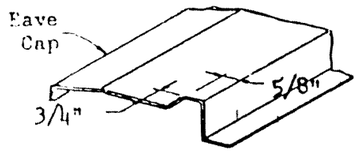
STARTING WITH LEFT HAND CORNER PANEL, ERECT THE ENDWALL AND A BAY LENGTH OF THE RIGHT SIDEWALL (SEE WINDBRACING LAYOUT DRAWING). TEMPORARILY BRACE WALLS.

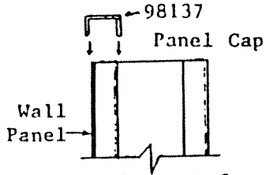


STARTING BAY

STEP 2

NOTCH EAVE CAP TO CLEAR CORNER PANEL FLUTE AND INSTALL.





Install Wall Cap Before Eave Cap.

STEP 3

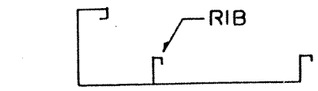
ERECT LEFT SIDEWALL BY STARTING FROM CORNER PANEL AND WORKING RIGHT TO LEFT TILTING PANELS OUT FROM INSIDE OF THE BUILDING.

NOTE A

ON SHORT BUILDINGS, SOME ERECTORS PREFER TO CONTINUE ERECTION TO THE RIGHT ALL THE WAY AROUND THE BUILDING BEFORE INSTALLING CROSS STRUTS.

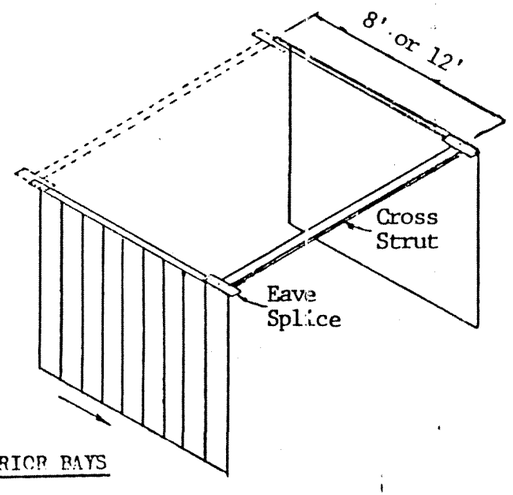
NOTE B

IF PREFERRED, ERECTION OF THE LEFT SIDEWALL CAN BEGIN AT THE CROSS STRUT LOCATION AND WORK TOWARD STARTING CORNER. LAST PANEL MUST THEN BE TWISTED SLIGHTLY SO RIB CAN BE SEATED PROPERLY AT CORNER PANEL.



NOTE

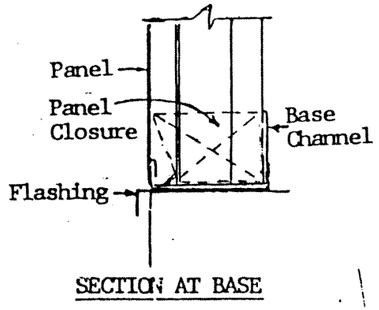
INSTALL WALL PANELS WITH RIBS HOOKING TO THE RIGHT AS SHOWN ABOVE.



INTERIOR BAYS

CAUTION

MAKE SURE PANEL FLUTE SEATS BEHIND TAB IN BASE CHANNEL



SECTION AT BASE

STEP 4

REPEAT STEP 2.

STEP 5

INSTALL CORNER PLATES, CORNER ANGLES, ENDWALL GIRT AND CROSS STRUT WITH SPLICES. PLACE TEMPORARY BRACE AT CENTER LINE OF BUILDING APPROXIMATELY 2" LONGER THAN EAVE HEIGHT OF BUILDING

STEP 6

ERECT RIGHT SIDEWALL PANELS TO CROSS STRUT LOCATION OF INTERIOR BAY(S).

STEP 7

REPEAT STEP 3 FOR LEFT SIDEWALL BY STARTING AT CROSS STRUT. INSTALL EAVE CAPS, PLUMB AND TEMPORARILY BRACE WALLS.

STEP 8

INSTALL CROSS STRUTS AND BRACE.

STEP 9

REPEAT STEPS 6 THROUGH 8 UNTIL LAST CROSS STRUT IS INSTALLED

STEP 10

ERECT LAST BAY OF RIGHT HAND SIDEWALL, ENDWALL AND LEFT HAND SIDEWALL.

STEP 11

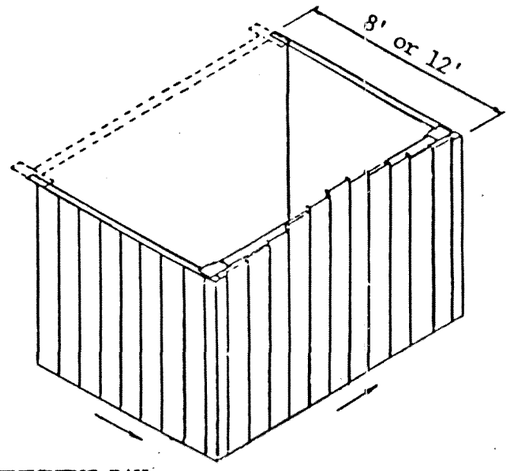
REPEAT STEP 5.

STEP 12

INSTALL DIAGONAL BRACES, CROSS STRAPS AND RIDGE STRUTS. SEE WINDBRACING LAYOUT DRAWING FOR LOCATIONS AND CONNECTION DETAILS.

NOTE: SOME BUILDINGS REQUIRE CROSS STRUTS IN LIEU OF CROSS STRAPS.

AS-BUILT



FINISHING BAY

DO NOT TIGHTEN BRACING BOLTS UNTIL ROOF PANELS ARE IN PLACE.

NOTE:

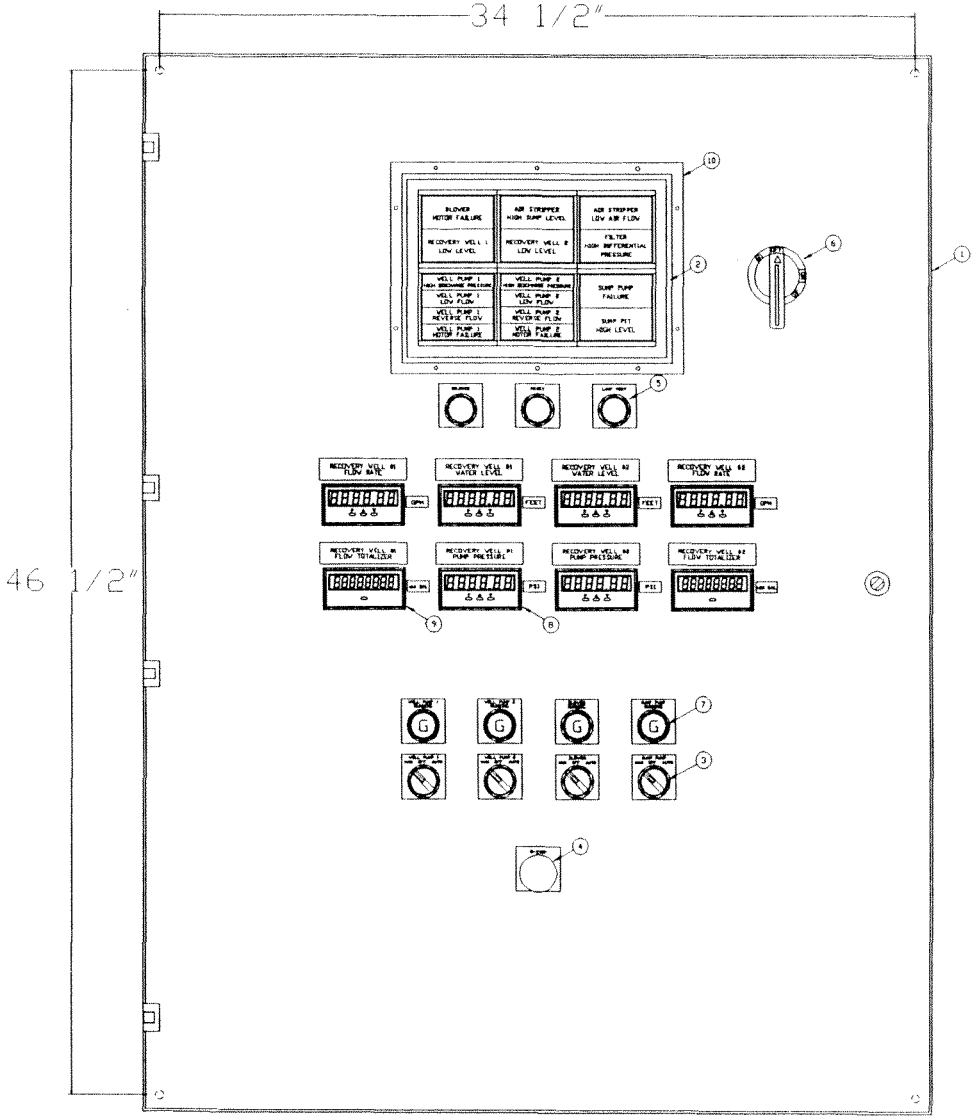
WINDBRACING LAYOUT AND DETAILS DRAWING 20016 MAY BE USED IN CONJUNCTION WITH THIS DRAWING TO COMPLETE BRACING SYSTEM WHILE ERECTING WALLS.

SEE ACCESSORY DRAWINGS FOR PROPER PANEL DEDUCT AND CORRECT INSTALLATION PROCEDURE.

		WALL ERECTION DETAIL
	10-85	12' & 16' Wide Bldgs
		200071

REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DFT	APP
A	FIRST RELEASE			

AS-BUILT



ENCLOSURE SIZE: 48" x 36" x 12"

ITEM	QTY.	PART NO.	DESCRIPTION
10	1		NEMA 4 COVER
9	2	APLT0800	RED LION TOTALIZER
8	4	IMP20102	RED LION PROCESS METER
7	4	800T-Q10G	AB, INDICATOR, GREEN
6	1	DETL-ZX102	ABB, DISCONNECT HANDLE
5	3	800T-A1D2	AB, PUSHBUTTON, BLACK
4	1	800T-FXT6D4	AB, PUSHBUTTON E-STOP
3	4	800T-J2A	AB, SELECTOR SWITCH 3 POSITION
2	1		PANALARM LIGHT BOX
1	1	C-SD483612	HOFFMAN ENCLOSURE 48 X 36

SHT. 1 OF 2

TOLERANCE
FRACTION NA
ANGLE NA

DO NOT SCALE DRAWING

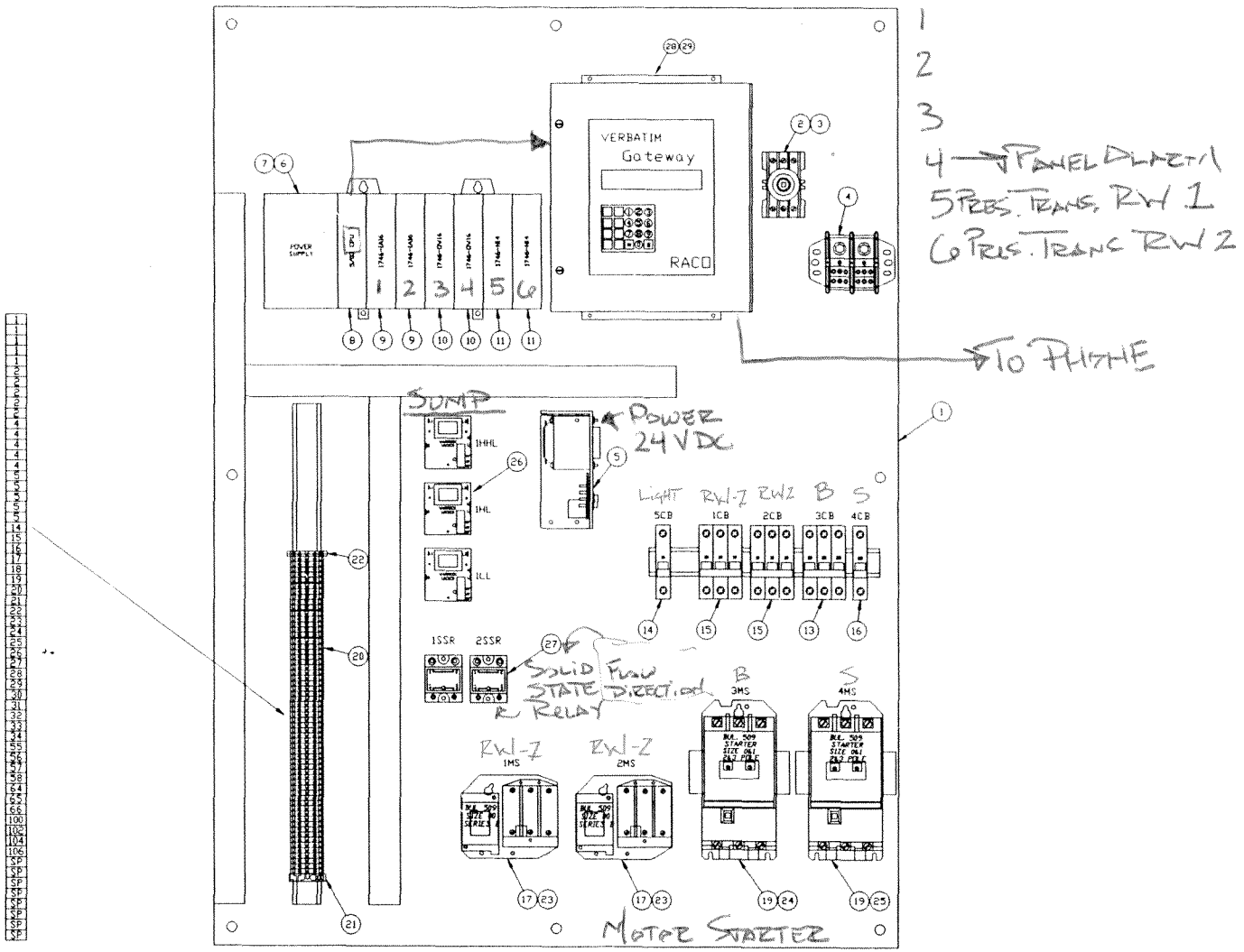
RSR Industries, Inc
Ivyland, Penna 18974

TITLE: GLADDING CORDAGE SUITE
AIR STRIPPER CONTROL
PANEL ASSEMBLY - EXTERNAL

DRAWN FOR: ALLSTATE POWER VAC
SCALE: NONE
DATE: 10/20/95
DRAWN BY: RSR
APP. BY:
DRAWING NO.

REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DFT	APP
A	FIRST RELEASE			

AS-BUILT



ITEM	QTY.	PART NO.	DESCRIPTION
29	1	VAB500	RACO, INTERFACE CABLE
28	1	VPLC-4C-32	RACO, AUTODIALER
27	2	3505-05J630-000	CONTINENTAL INDUSTRIES, SOLID STATE RELAY
26	3	16C1C10	WARRICK, LEVEL CONTROLLERS
25	3	W53	AB, OVERLOAD HEATER, 10.7A
24	3	W39	AB, OVERLOAD HEATER, 17.5A
23	6	W46	AB, OVERLOAD HEATER, 5.95A
22	1	EK4/35	WEIDMULLER, GROUND BLOCK
21	1	EKW35	WEIDMULLER, DIN TRACK END BLOCK
20	60	SAK/35	WEIDMULLER, TERMINAL BLOCK
19	2	509-BOD	AB, MOTOR STARTER SIZE 1
18			
17	2	509-TOD	AB, MOTOR STARTER SIZE 00
16	1	5271-K25	ABB, CIRCUIT BREAKER, 25A, 1-POLE
15	2	5273-K10	ABB, CIRCUIT BREAKER, 10A, 3-POLE
14	1	5271-K16	ABB, CIRCUIT BREAKER, 16A, 1-POLE
13	1	5273-K25	ABB, CIRCUIT BREAKER, 25A, 3-POLE
12			
11	2	1746-NI4	AB, ANALOG INPUT MODULE
10	2	1746-OW16	AB, OUTPUT MODULE, 16PT, RELAY
9	2	1746-IA16	AB, INPUT MODULE, 16PT, 120VAC
8	1	1747-532	AB, SLC-500 CPU, 5/03
7	1	1746-A7	AB, SLC-500 RACK, 7-SLOT
6	1	1746-P2	AB, SLC-500 POWER SUPPLY
5	1	HC24-2.4A	POWER ONE POWER SUPPLY, 24VDC, 2.4A
4	1	1402401	MARATHON DISTRIBUTION BLOCK
3	1	DETL-ZS49	ABB, DISCONNECT SHAFT
2	1	DETL-NF60	ABB, DISCONNECT
1	1	A-48P36	HOFFMAN, BACK PANEL

SHT 2 OF 2

TOLERANCE
FRACTION NA ANGLE NA

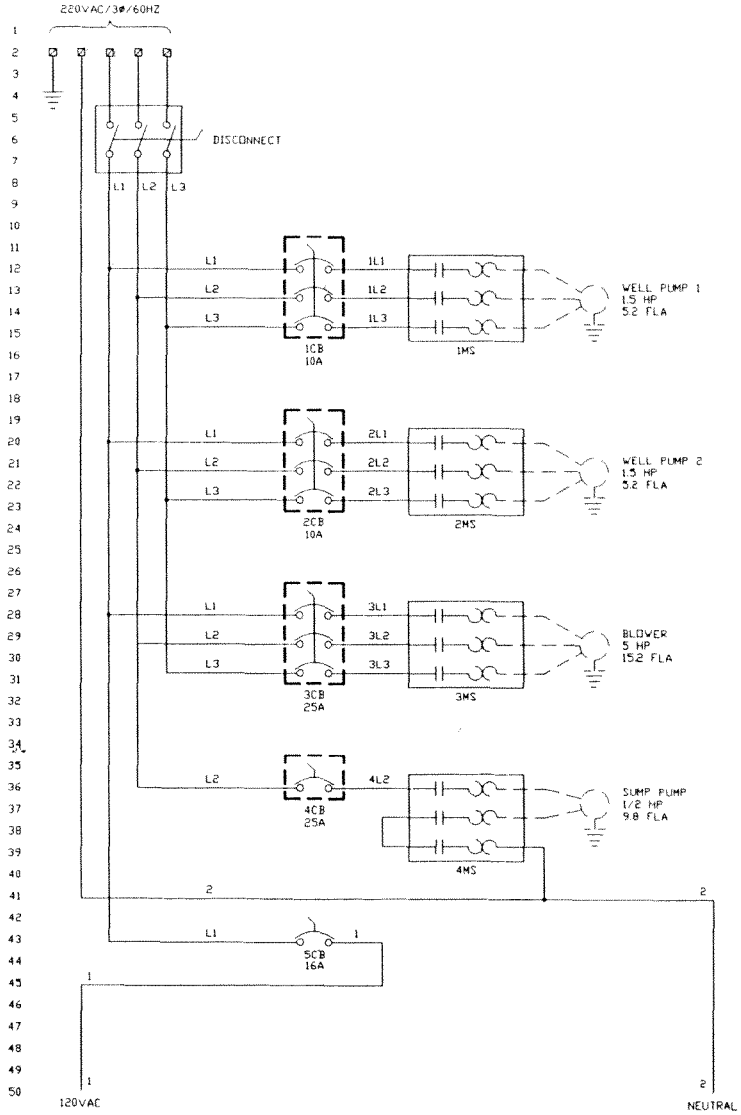
DO NOT SCALE DRAWING

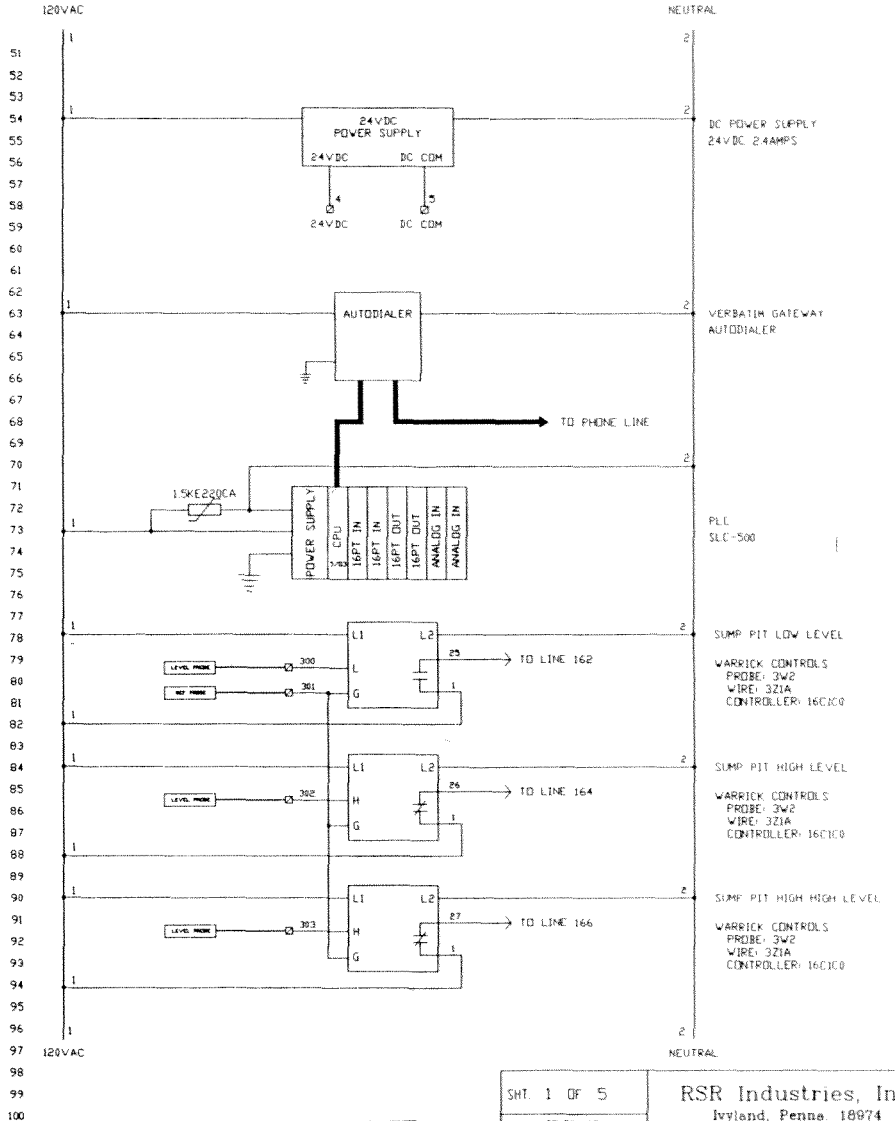
RSR Industries, Inc
Ivyland, Penna 18974

TITLE: GLADDING CORDAGE SUITE
AIR STRIPPER CONTROL
PANEL ASSEMBLY - INTERNAL

DRAWN FOR: ALLSTATE POWER VAC
SCALE: NONE
DATE: 10/20/95
DRAWN BY: RSR
APP BY:
DRAWING NO

REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DFT	APP
A	FIRST RELEASE			

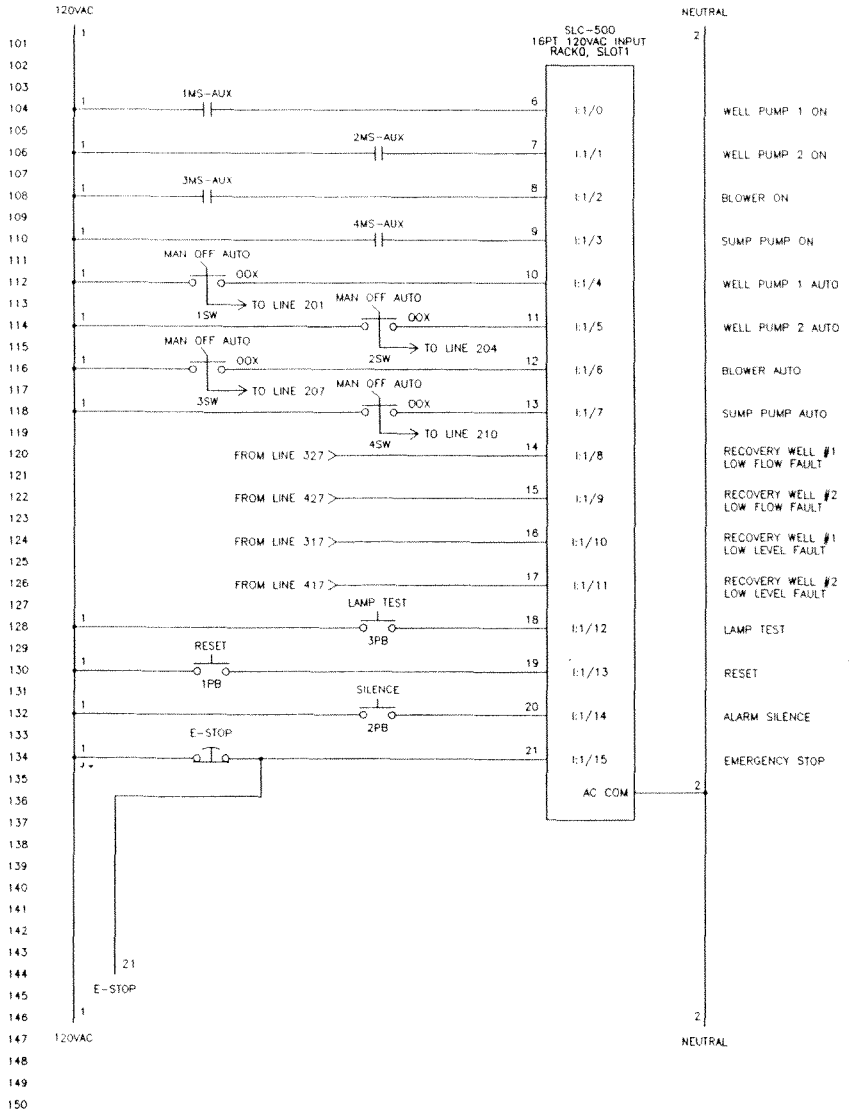


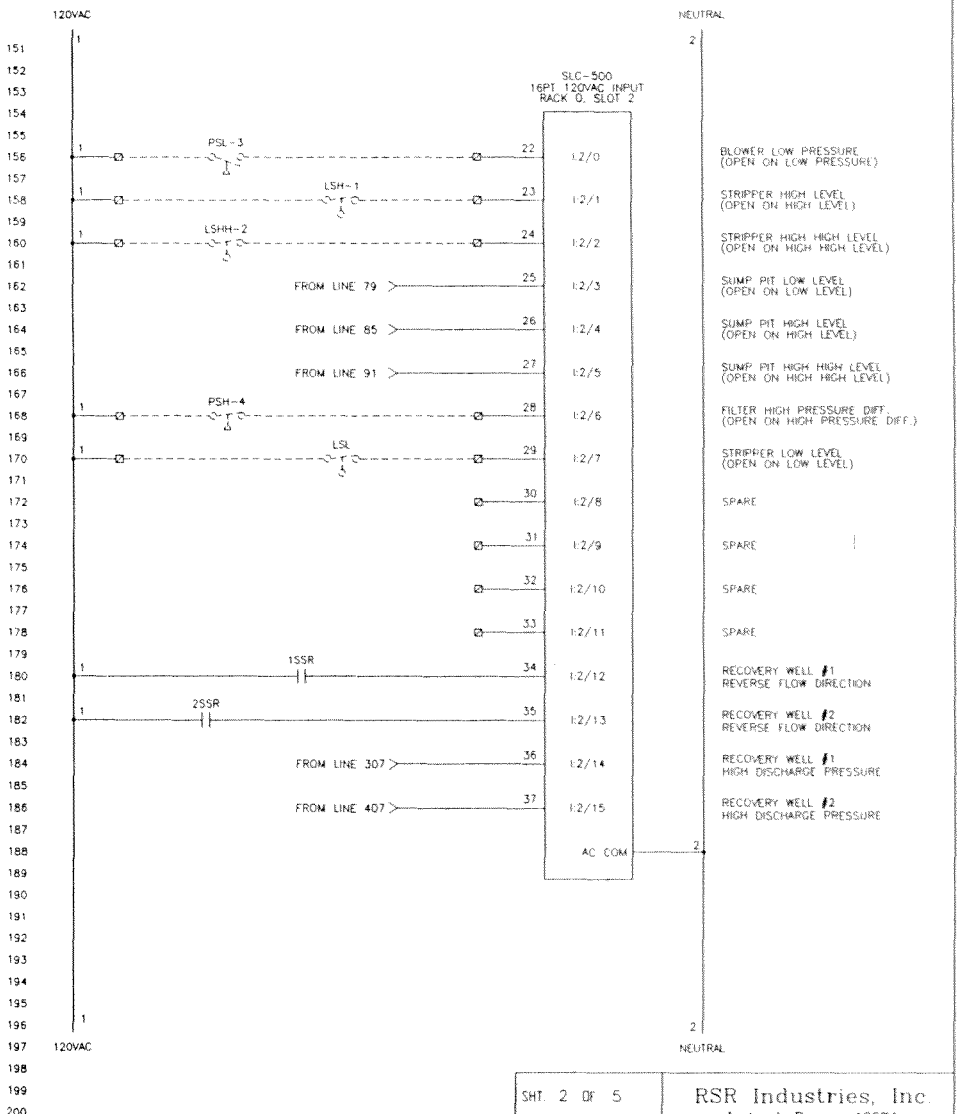


AS-BUILT

SHT. 1 OF 5	RSR Industries, Inc. Ivyland, Penna. 18974
TOLERANCE FRACTION NA ANGLE NA	TITLE: GLADDING CORDAGE SUITE AIR STRIPPER CONTROL ELECTRICAL SCHEMATIC
DO NOT SCALE DRAWING	DRAWN FOR: ALLSTATE POWER VAC; SCALE: NONE; DATE: 10/20/95
	DRAWN BY: RSR; APP. BY: ; DRAWING NO:

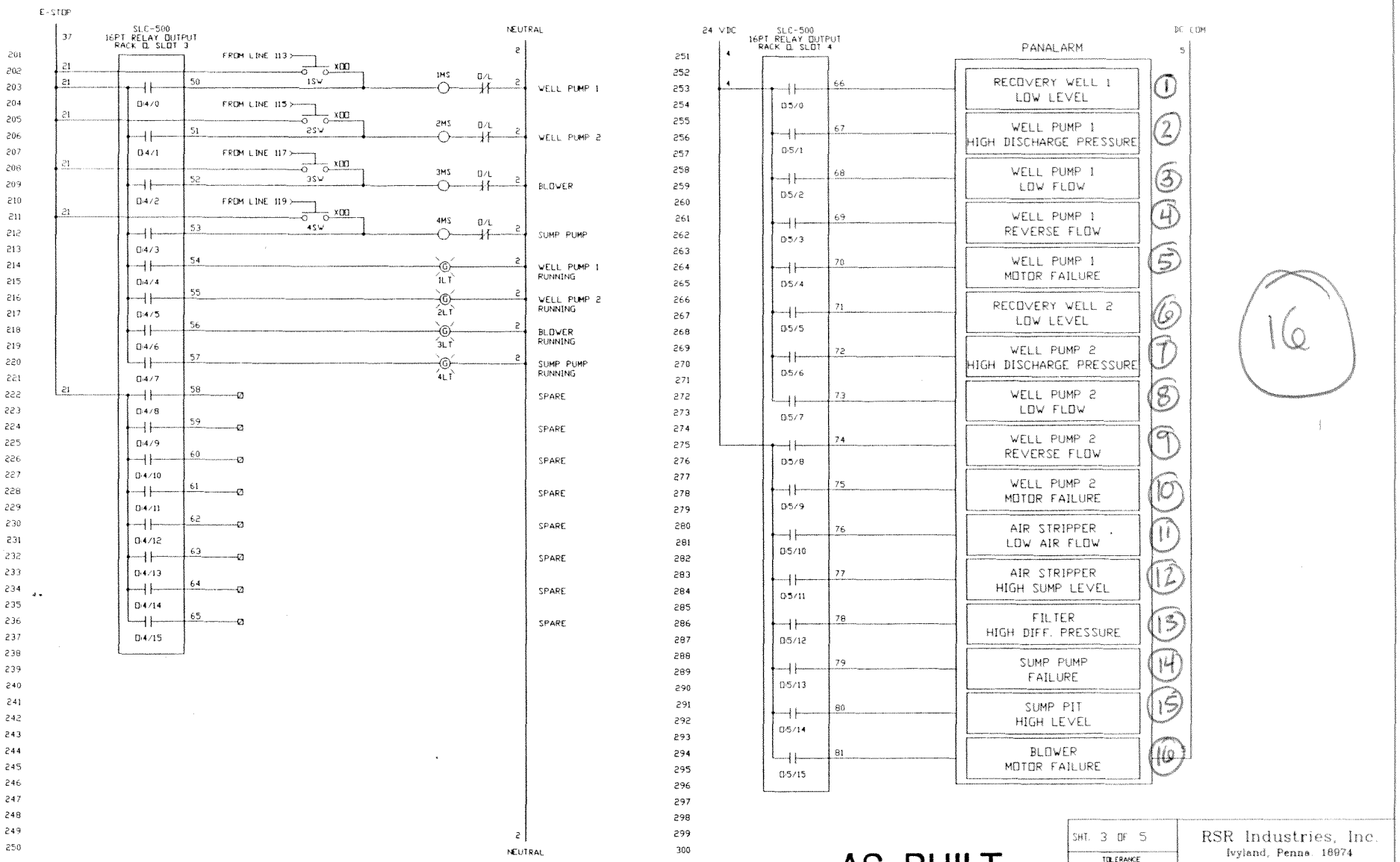
REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DFT.	APP.
A	FIRST RELEASE			





AS-BUILT

SHT. 2 OF 5	RSR Industries, Inc. Ivyland, Penna. 18974
TOLERANCE FRACTION NA ANGLE NA	TITLE: GLADDING CORDAGE SUITE AIR STRIPPER CONTROL ELECTRICAL SCHEMATIC
DO NOT SCALE DRAWING	DRAWN FOR: ALLSTATE POWER VAC; SCALE: NONE; DATE: 10/20/95
	DRAWN BY: RSR; APP. BY: ; DRAWING NO.

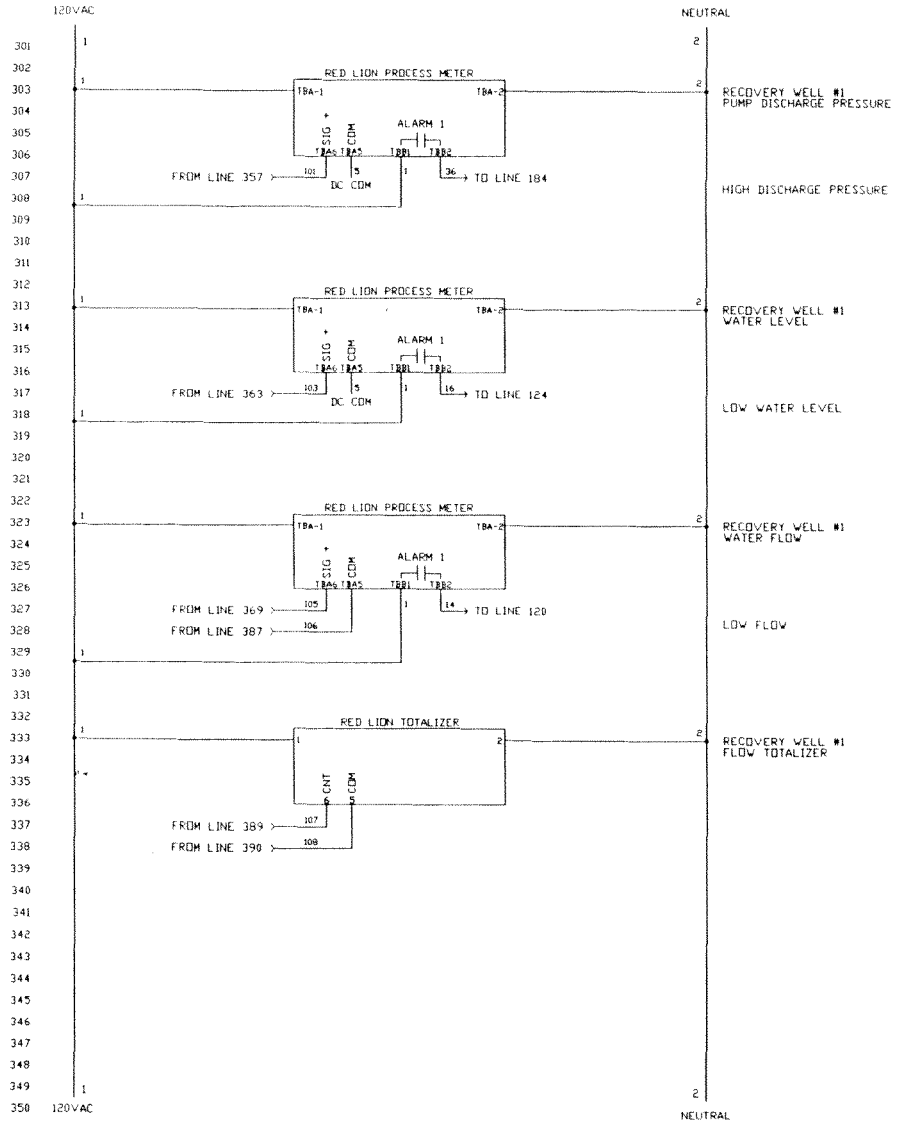


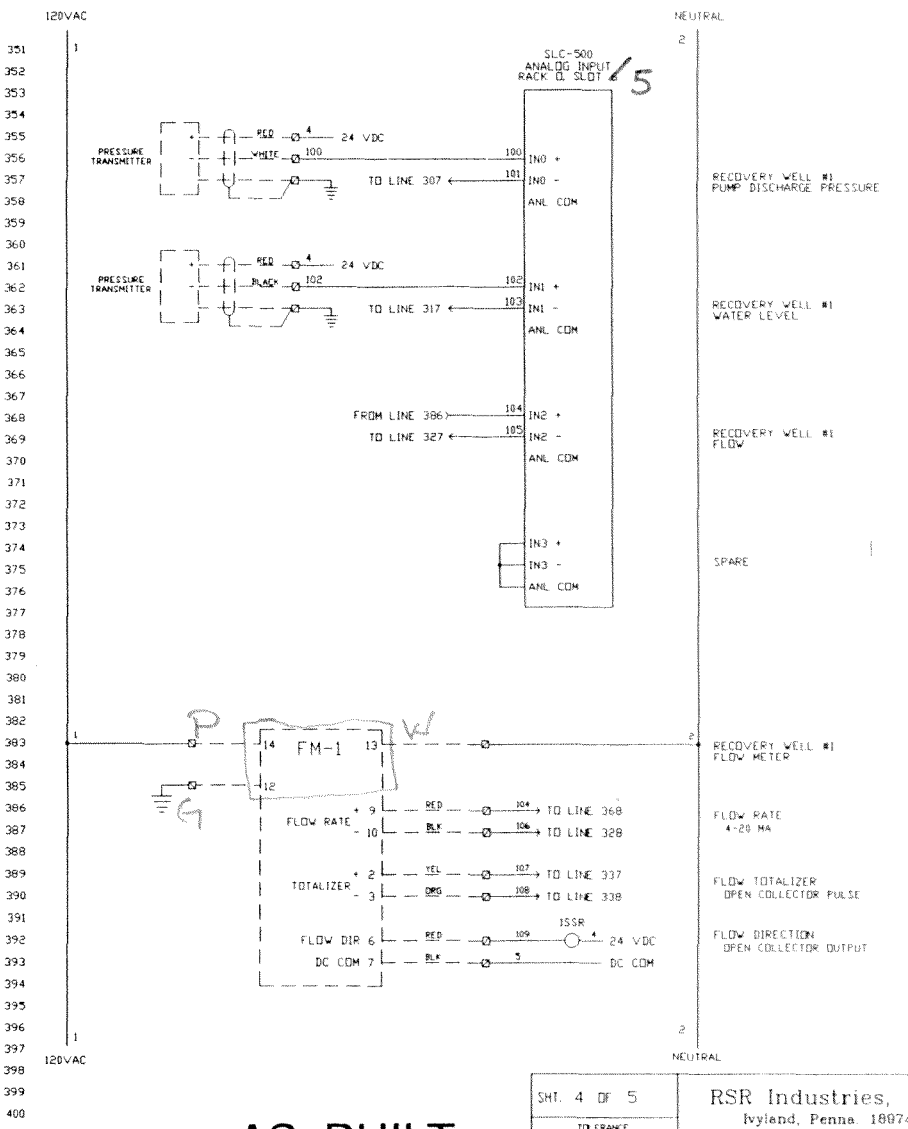
REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DET	APP
A	FIRST RELEASE			

AS-BUILT

SHT. 3 OF 5	RSR Industries, Inc. Ivyland, Penna. 18974
TOLERANCE FRACTION NA ANGLE NA	TITLE: GALDDING CORDAGE SUITE AIR STRIPPER CONTROL ELECTRICAL SCHEMATIC
DO NOT SCALE DRAWING	DRAWN FOR: ALLSTATE POWER VAC; SCALE: NONE; DATE: 11/16/95
	DRAWN BY: RSR; APP BY: ; DRAWING NO:

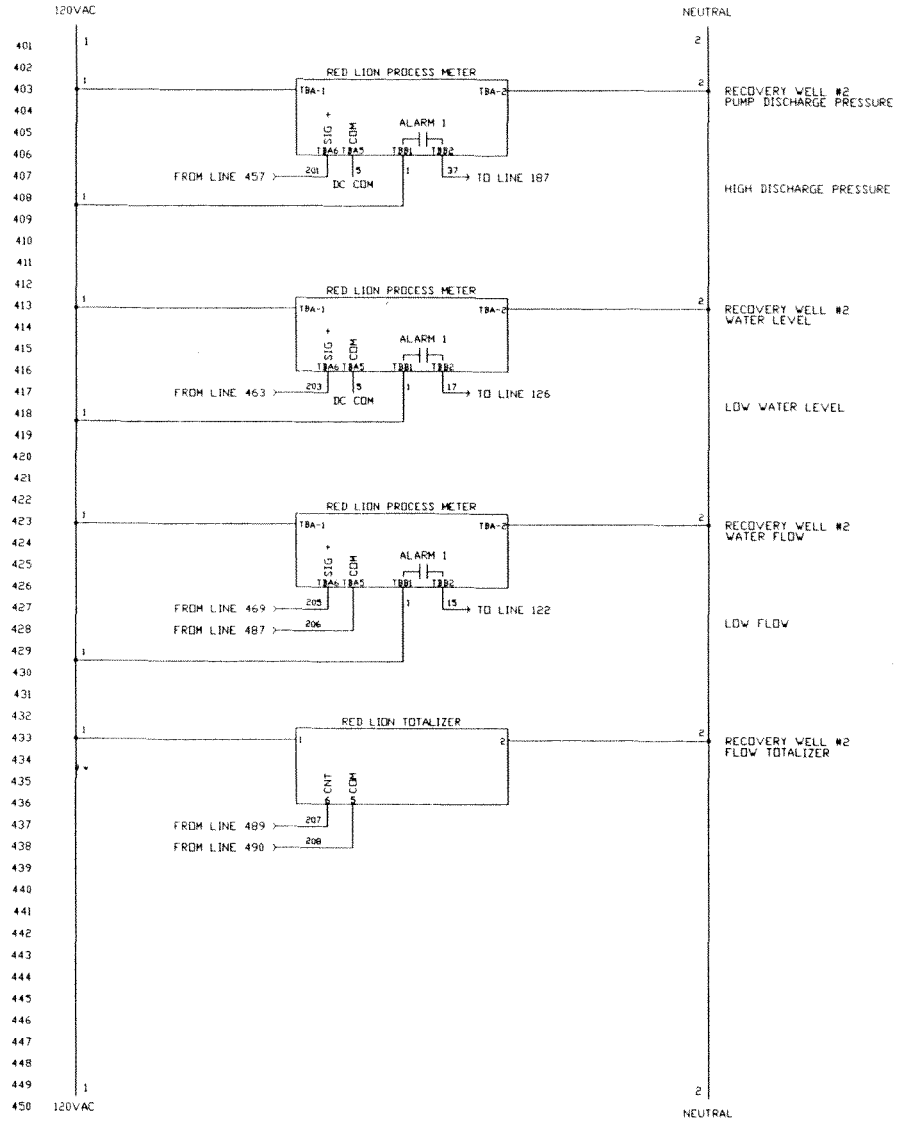
REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DFT	APP
A	FIRST RELEASE			

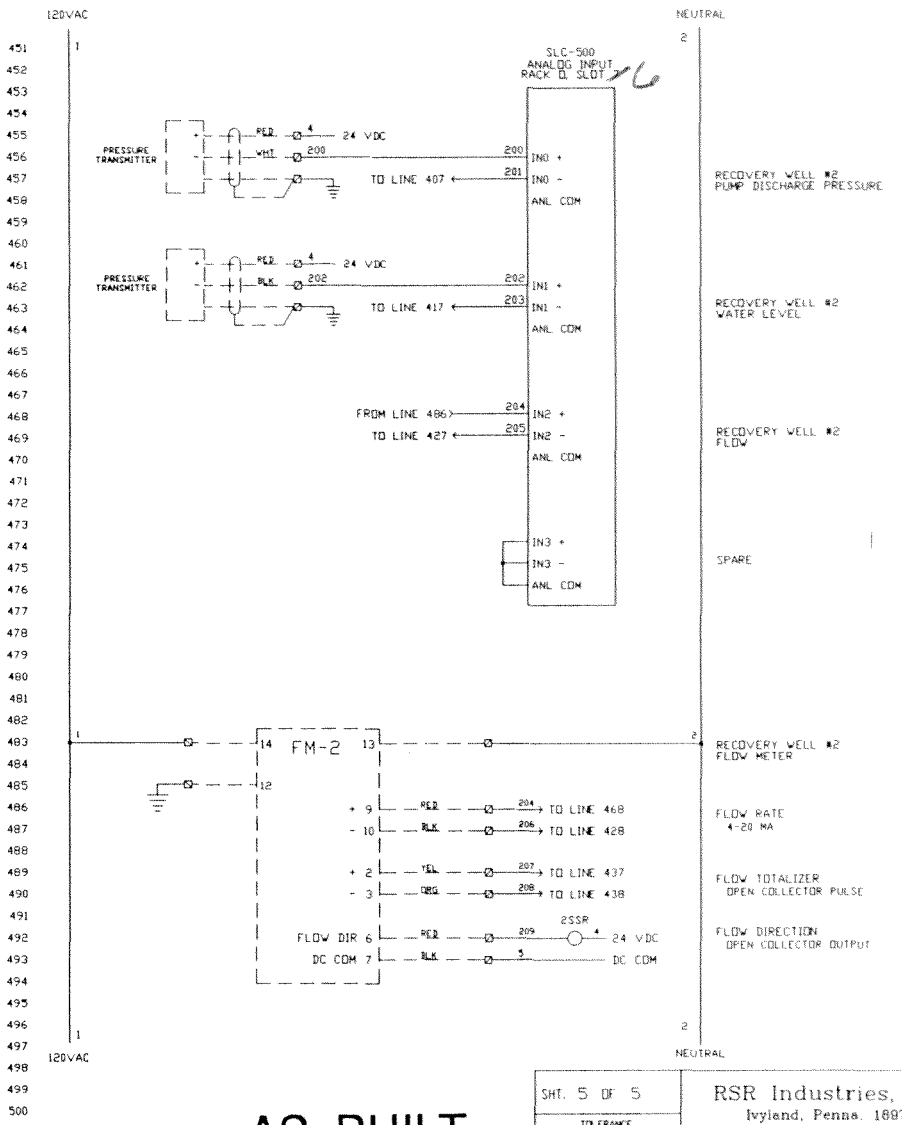




AS-BUILT

SHT. 4 OF 5	RSR Industries, Inc. Ivyland, Penna. 18974
TOLERANCE FRACTION NA ANGLE NA	TITLE: GLADDING CORBAGE SUITE AIR STRIPPER CONTROL ELECTRICAL SCHEMATIC
DO NOT SCALE DRAWING	DRAWN FOR: ALLSTATE POWER VAC; SCALE: NONE; DATE: 11/16/95
	DRAWN BY: RSR; APP BY: ; DRAWING NO:





REVISION SCHEDULE				
REV.	DESCRIPTION	DATE	DFT	APP
A	FIRST RELEASE			

AS-BUILT

SHT. 5 OF 5

TOLERANCE
FRACTION NA ANGLE NA
DO NOT SCALE DRAWING

RSR Industries, Inc.
Ivyland, Penna. 18974

TITLE: GLADDING CORBAGE SUITE
AIR STRIPPER CONTROL
ELECTRICAL SCHEMATIC

DRAWN FOR: ALLSTATE POWER VAC
SCALE: NONE
DATE: 11/16/95
DRAWN BY: RSR
APP BY:
DRAWING NO

APPENDIX E – Inspection/Monitoring Forms

Groundwater Monitoring Well Inspection

Site/Project Name: Gladding Cordage Project Number: 00266406.0000

Date of Inspection: _____ Inspector: _____

Well Designation: _____

Well Location: _____

Outward Appearance

Flushmount Diameter	_____ inches	N/A [ ]	
Approximate Stickup Height	_____ feet	N/A [ ]	
Integrity of Protective Casing	Describe: _____		
Protective Casing Material	Steel [ ]	Stainless Steel [ ]	Other _____
Protective Casing Width or Dia.	_____ inches		
Weep Hole in Protective Casing	Yes [ ]	No [ ]	
Surface Seal/Apron Material	Cement [ ]	Bentonite [ ]	Not apparent [ ] Other _____
Integrity of Surface Seal/Apron	Describe: _____		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [ ] Describe: _____	
Well ID. Visible?	Yes [ ]	No [ ] Describe: _____	
Lock Present and Functional?	Yes [ ]	No [ ] Describe: _____	
Photograph Taken? Photo #	Yes [ ]	No [ ] Describe: _____	

Inner Appearance

Integrity of Well Casing	Describe: _____		
Integrity of Cap Seal	Describe: _____		
Surface Water in Casing?	Yes [ ]	No [ ] Describe: _____	
Well Casing Diameter	_____ inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [ ] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [ ]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [ ] Describe: _____	

Downhole

Odor	Yes [ ]	No [ ] Describe: _____	
PID Reading	_____ ppm		
Depth to Water (to top of casing)	_____ feet (nearest 0.01)	Depth to LNAPL	_____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	_____ feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: _____		

Additional Comments:

_____

_____

_____

_____

_____

_____

Groundwater Sampling Log

Page ____ of ____

Project No. 00266406.0000 Well ID _____ Date _____

Project Name/Location Gladding Cordage Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) _____ Casing Diameter (in.) _____ Well Material: PVC ____ SS ____

Total Depth (ft-bmp) _____ Static Water Level (ft-bmp) _____ Water Column in Well (ft.) _____ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-bmp) _____ Volumes Purged _____ Gallons Purged _____

Sample Method _____ Pump On/Off _____ Sample Time Label _____ Start _____ End _____ Purge Method _____ Centrifugal _____ Submersible _____ Disp. Bailer _____ Other _____

Replicate/Code No. _____ Sampled By _____

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor

Constituents Sampled	Container	Number	Preservative

Well Information

Well Location: _____ Well Locked at Arrival: _____

Condition of Well: _____ Well Locked at Departure: _____

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

NOTES: _____

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Gladding Cordage
South Otselic, New York
NYSDEC Site #709009

Date _____
Inspector _____
Time _____

Treatment System Operation		**Alarms**	
System On (Y/N)		A/C Fail (Y/N)	
RW-1 On (Y/N)		RW-1 (Y/N)	
RW-2 On (Y/N)		RW-2 (Y/N)	
Blower On (Y/N)		Blower Pressure (Y/N)	
Sump Pump On (Y/N)		Sump Level (Y/N)	

Recovery Wells	**RW-1**	**RW-2**
Flow Rate (GPM)		
Total Flow (Gallons)		
Water Level (Feet Above Probe)		
Probe Depth (Feet BTOC)		

Air Stripper			
Blower VFD Setting (Hertz)		Intake/Exhaust Piping OK? (Y/N)	
System Pressure (inches water)		Water Leaks (Y/N)	
Influent/Effluent Piping OK? (Y/N)		Water Temperature (°F)	

Heat Exchanger			
Heat (On/Off)		Building Temperature (°F)	
Heat Exchanger Flow (GPM)		Heat Exchanger Pressure (PSI)	

General Building/Site			
Building Condition OK? (Y/N)		Circuit Breakers Checked (Y/N)	
Grass Mowed (Y/N)		Outfall Condition OK? (Y/N)	
Monitoring Wells OK? (Y/N)		Samples Collected (Y/N)	

Notes:

Sampled: RW-1 -
RW-1-MS -
RW-1-MSD -

RW-2 -
EFF 46 HZ -

Site walk and well inspection:
System inspection:

PDB Deployment Form

Project Name: Gladding Cordage Date: _____

Project Number: 00266406.0000 Weather: _____

Field Personnel: _____

Well ID	Depth from Bottom of PDB (Ft.)	Depth to Bottom (Ft.)	Depth to Water (Ft.)	PID (ppm)	Notes
TW-1	-	14.65			Not Sampled
TW-2S	-	13.23			Not Sampled
TW-2I	-	55.33			Not Sampled
TW-2D	-	93.82			Not Sampled
TW-3S	4.0	17.60			
TW-3I	4.0	58.02			
TW-3D	4.0	100.72			
TW-4I	4.0	67.20			
TW-5S	4.0	22.28			
TW-5I	4.0	70.83			
TW-5D	4.0	90.41			
TW-6S	4.0	22.30			
TW-6I	4.0	68.65			
TW-6D	4.0	98.65			
TW-7S	4.0	18.11			
TW-7I	4.0	55.75			
TW-7D	4.0	79.95			
TW-9I	4.0	63.51			
TW-9D	4.0	85.05			
TW-10	-	91.71			Not Sampled
TW-12I	4.0	70.02			
TW-12D	4.0	99.21			
TW-14S	4.0	20.03			
TW-14I	4.0	75.21			
TW-14D	4.0	89.93			
TW-15	1.5	73.27			TW-X-DUP