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Documents Incorporated by Reference

1. Norlite Operations Plan (June 2014)

2. Norlite Integrated Contingency Plan (June 2014)

3. Norlite Personnel Training Plan (June 2014)

4. Norlite Waste Analysis Plan (June 2014)

5. Norlite Security and Inspection Plan (June 2014)

6. Order on Consent, DEC Case No. R4-2009-0610-101, between New York State and Norlite Corporation. (May 11, 2010)[1]

7. Norlite Corporation, Cohoes, New York, NYSDEC Part 373 Hazardous Waste Permit Application (January 2012, Revised June 2014).

8. Human Health & Ecological Risk Assessment Reports. April 2002.

9. ATSDR Public Health Assessment for Norlite Corporation, December 2, 2005

10. Environmental Assessment Form (EAF) (November 1993, Revised June 2014).

11. Facility Noise Survey (April 20, 2009)

12. Norlite Best Management Practices Plan Revision 1(April 30, 1992, Revised October 2014)

13. Norlite Statement of Basis (April 2014)

Footnotes:

1. Each document referenced by this footnote includes the above dated original submission and any subsequent Department approved document revisions.

ACRONYMS

Acronyms for Part 373 Permit

A

AOC - Areas of Concern
ACFM - Actual Cubic Feet per Minute
APCE - Air Pollution Control Equipment
APS - Acid Polar Solvents
AWFCO - Automatic Waste Feed Cutoff

B

BTU - British Thermal Unit

C

CAS - Chemical Abstract Services Registry
CCS - Counter Current Scrubber
CE - Calibration Error
CEMS - Continuous Emissions Monitoring System
CFM - Cubic Feet per Minute
CFS - Cross Flow Scrubber
CMI - Corrective Measures Implementation
CMS - Continuous Monitoring System
CO - Carbon Monoxide
CSA - Container Storage Area
CSM - Conceptual Site Model

D

DEC - Department of Environmental Conservation
DUSR - Data Usability Summary Report

E

EC - Emergency Coordinator
ECL - Environmental Conservation Law
EDS - Electronic Document Standards
ELAP - Environmental Laboratory Approval Program

F

FBI - Fixed Box Incinerator
FER - Final Engineering Report

G

GPM - Gallons per Minute

H

HCl - Hydrogen Chloride
HMDZ - Hexamethyldisilazane
HRA - Hourly Rolling Average
HWC-MACT - Hazardous Waste Combustors Maximum Achievable Control Technology

I

I & C - Instrumentation and Control
ICM - Interim Corrective Measures
INST - Instantaneous
IWS - Ionizing Wet Scrubber

K

kW - Kilowatts

L

LDR - Land Disposal Restrictions
LVM - Low Volatile Metal

M

MACT - Maximum Achievable Control Technology
MCL - .Maximum Contaminant Level
MM BTU - Million British Thermal Units

N

NESHAPS - National Emissions Standards for Hazardous Air Pollutants
NFPA - National Fire Protection Association
NIC - Notification of Intent to Comply
NOC - Notification of Compliance
NPS - Non Polar Solvents
NYCRR - New York State Codes, Rules & Regulations
NYSDEC - New York State Department of Environmental Conservation
NYSDOH - New York State Department of Health

O

OMA – One Minute Average
O&M - Operation & Maintenance
OSHA - Occupation Safety & Health Administration

P

PCBs - Polychlorinated Biphenyls
PDF - Portable Data Format
P&ID - Process and Instrumentation Drawing/Diagram
PIC - Product of Incomplete Combustion
POHC - Principal Organic Hazardous Constituent
PRR - Periodic Review Report
PPM - Parts per Million
PPMV - Parts per Million by Volume
PR - Preliminary Review
PSIG - Pounds per Square Inch Gauge

Q

QA/QC - Quality Assurance/Quality Control

R

RATA - Relative Accuracy Test Audit
RCRA - Resource Conservation & Recovery Act
RD/RA - Remedial Design/Remedial Action
RFI - RCRA Facility Investigation
RKI - Rotary Kiln Incinerator
RSO - Remedial System Optimization

S

SAPA - State Administrative Procedures Act
SCC - Secondary Combustion Chamber
SEQR - State Environmental Quality Review
SiO_2 - Silica
SMP - Site Management Plan
SOB - Statement of Basis
SSMP - Startup, Shutdown and Malfunction Plan
SPDES - State Pollutant Discharge Elimination System
SWMU - Solid Waste Management Unit
SV - Sampling Visit
SVM - Semi-Volatile Metal

T

TSDF - Treatment, Storage & Disposal Facility

U

UL - Underwriters Laboratories
USDOT - United States Department of Transportation
USEPA - United States Environmental Protection Agency
UV - Ultraviolet

V

VSI - Visual Site Inspection

W

WAP - Waste Analysis Plan

MODULE I

General Conditions

PART 373 PERMIT

MODULE I – GENERAL CONDITIONS

The Permittee is hereby authorized to operate only the hazardous waste units identified in Schedule 1 of Module I of this Permit. This Permit does not authorize the use of any other units to operate other than those identified in Schedule 1 of Module I.

A. EFFECT OF PART 373 PERMIT

1. This Permit consists of the general and special conditions contained in this and the attached Modules, including **Schedule 1 of Module I**; including the Attachments and documents incorporated by reference; and the applicable requirements of the New York State Environmental Conservation Law (ECL) Article 27, Title 9, Section 27-0900 et seq., and the following regulations:

   – 6 NYCRR 370 - Hazardous Waste Management System-General;

   – 6 NYCRR 371 - Identification and Listing of Hazardous Wastes;

   – 6 NYCRR 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities;

   – 6 NYCRR 373 - Hazardous Waste Management Facilities;

   – 6 NYCRR 374 - Management of Specific Hazardous Waste;

   – 6 NYCRR 376 - Land Disposal Restrictions;

   – 6 NYCRR 621 - Uniform Procedures; and,

   – 6 NYCRR 624 - Permit Hearing Procedures.

   The applicable regulations or requirements would be those which are in effect prior to final issuance of this Permit.

2. The following Remediation Guidance and Policy Documents are potentially relevant to this Permit. The Permittee shall consider applicable Department guidance when conducting activities required by this Permit.

   CP-51 Soil Cleanup Guidance Policy

   DER-10 Technical Guidance for Site Investigation and Remediation

   DER-23 Citizen Participation Handbook for Remedial Programs

   DER-31 Green Remediation

   DER-33 Institutional Controls: A Guide to Drafting and Recording Institutional Controls

3. The following Commissioner Policies are potentially relevant to this Permit. The Permittee shall consider applicable Department policies when conducting activities required by this Permit.

   CP-29 Environmental Justice and Permitting

   CP-43 Groundwater Monitoring Well Decommissioning

   CP-44 Natural Resource Damages

   CP-45 Procedure to Demonstrate Compliance with Financial Test Requirements (for financial assurance)

   CP-51 Soil Cleanup Guidance

4. Compliance with this Permit during its term constitutes compliance, for purposes of enforcement, with 6 NYCRR Parts 370 through 374 and 376 except for the following requirements not included in the Permit:

   a. requirements which become effective by statute, including amendments thereto;

   b. requirements which are promulgated under 6 NYCRR 376 restricting the placement of hazardous wastes in or on the land.;

   c. requirements which are promulgated under 6 NYCRR 373-2 regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units. The leak detections system requirements include double liners, CQA programs, monitoring, action leakage rates, and response action plans, and will be implemented through the procedures of 6 NYCRR 373-1.7 for major modifications; or

   d. requirements which are promulgated under 6 NYCRR 373-3.27, 373-3.28, and 373-3.29, limiting air emissions.

5. The Permittee is authorized to manage hazardous waste in the permitted units identified in **Schedule 1 of Module I** in accordance with the conditions of this Permit. Any storage, treatment or disposal of hazardous waste not authorized by this Permit is prohibited unless exempt under 6 NYCRR Part 373-1.1(d). Issuance of this Permit does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of federal, State or local laws or regulations.

6. All plans, reports, specifications and schedules required by the terms of this Permit and all subsequent amendments to those documents are incorporated by reference into this Permit when specifically noted in any written approval issued by the Department pursuant to 6 NYCRR 621.13 or 6 NYCRR 621.11. Upon incorporation, the provisions

of each such document will be binding upon the Permittee and have the same legal force and effect as the requirements of this Permit.

7. The Permittee must submit plans, reports, specifications, implementation schedules and any subsequent amendments to those documents required by this Permit to the Department for review and comment. Following its review of a document, if the document requires formal Department approval (as determined by the Department), the Department may either approve the document as submitted or issue comments on the submittal. If the Department issues comments on the document, subsequent activities for the document must proceed in accordance with the following schedule:

   a. Meeting between the Permittee and the Department to discuss the document comments, if requested by the Permittee or deemed necessary by the Department; and,

   b. Submission of a revised document to the Department for approval within thirty (30) calendar days of the above-described meeting. (If the above referenced meeting is determined not to be necessary, the Permittee must submit a revised document for Department approval, according to a schedule specified by the Department, not to exceed forty-five (45) calendar days of the Permittee's receipt of comments from the Department).

   c. If the submission is not revised to the Department's satisfaction, the Department may revise the document and send the Permittee a notice of intent to modify the Permit to incorporate the revised document into the Permit, pursuant to 6 NYCRR 621.13.

8. The documents listed in **Condition B of Schedule 1 of Module I** are made part of this Permit, are binding upon the Permittee and have the same legal force and effect as the requirements of this Permit.

9. Informal advice, guidance, suggestion, or comment by the Department must not be construed as relieving the Permittee of the Permittee's obligation to obtain such formal approvals as may be required by this Permit. The Permittee consents to and agrees not to contest the authority and jurisdiction of the Department to enter into or enforce this Permit.

10. The Permittee must also comply with the following:

    – 6 NYCRR 373-1.1(f) – Uniform Procedures
    – 6 NYCRR 373-1.1(g) – Enforcement
    – 6 NYCRR 373-1.1(h) – Severability

11. The Permittee must maintain a current and complete paper copy or electronic copy on Compact Disc (or equivalent device) of this Permit, including all Modules, Attachments and documents incorporated by reference, in at least one location at the Facility for review by the Department upon request.

12. For any Environmental Monitor(s) assigned to the Facility, the Permittee must maintain a complete set of paper copies of all submittals required by this Permit in the office of the Environmental Monitor or as otherwise directed by the Environmental Monitor(s).

B. DEFINITIONS

1. For the purposes of this Permit, the terms used herein shall have the same meanings as those provided in 6 NYCRR 370 through 376, and the terms defined in **Condition B.2** of this Module, unless this Permit specifically states otherwise. Where the terms are not otherwise defined, the meanings associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industry meaning of the term.

2. The following additional terms used in this Permit are defined as such:

   a. Action Levels. For the purposes of this Permit, "action levels" are hazardous constituent concentrations for a specific environmental medium which if exceeded indicate a potential threat to human health or the environment. The exceedence of action levels may trigger further investigations, studies and corrective measures. Where available, action levels are based on appropriate promulgated standards established for a specific environmental medium. When promulgated standards are not available, action levels can be media-specific hazardous constituent concentrations derived from non-promulgated human health risk data or environmental risk data with the latter levels being protective of aquatic life or wildlife. An action level may be set at the background level for a hazardous constituent for which data are inadequate to set a human health or environmental health-based level. The action levels for groundwater are the more stringent of the following for each compound or constituent: 6 NYCRR 703.5, New York State Department of Health's Drinking Water Standards and the United States Environmental Protection Agency's Maximum Contaminant Levels (MCLs).

   b. Areas of Concern (AOC). Pursuant to the authority granted by 6 NYCRR 373-1.6(c)(2), an "area of concern" has been defined for purposes of this Permit to mean an area at the facility, or an off-site area, which is not at this time known to be a solid waste management unit (SWMU), where hazardous waste and/or hazardous constituents are present, or are suspected to be present, as a result of a release from the facility. The term shall include areas of potential or suspected contamination as well as actual contamination. Such area(s) may require study and a determination of what, if any, corrective action may be necessary. All Permit references to and conditions for SWMUs shall apply to areas of concern.

   c. Corrective Action. For the purposes of this Permit, "corrective action" is a process that includes all activities related to the investigation, characterization and cleanup of a release of hazardous/mixed wastes or hazardous constituents from a solid waste management unit (SWMU) at a permitted or interim status treatment, storage and disposal facility (TSDF) to any environmental medium, including groundwater.

Module II of this Permit contains a more detailed discussion of the corrective action process.

d. Environment. Pursuant to ECL Article 27, Title 9, Section 27-0901, "environment" means any water; water vapor; land, including land surface or subsurface; air; and, fish, wildlife, biota and all other natural resources.

e. Hazardous Constituents. For the purposes of this Permit, "hazardous constituents" are those constituents listed in Appendix 23 of 6 NYCRR 371 or any constituent listed in Appendix 33 of 6 NYCRR 373-2.

f. Permittee. For the purposes of this Permit, "Permittee" herein refers to the party(ies) subject to this Permit. In addition, refer to **Conditions R.2 and R.3** of this Module.

g. Priority Pollutant. Pursuant to 6 NYCRR 750-1.2(a)(67), "priority pollutant" means those pollutants listed in 40 CFR 122, Appendix D (see 6 NYCRR 750-1.24) as Organic Toxic Pollutants (volatiles, acid compounds, base/neutral compounds and pesticides), Metals, Cyanide and Total Phenols.

h. Release. For purposes of this Permit, "release" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment of any hazardous waste, including hazardous constituents, unless expressly authorized under the terms of this Permit or otherwise permitted under law (e.g., SPDES permitted discharges).

i. Solid Waste Management Unit (SWMU). For purposes of this Permit, a "solid waste management unit" includes any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of hazardous or solid wastes. Such units include any area at the facility at which solid wastes have been routinely and systematically released. These units include certain areas associated with production processes that have become contaminated as a result of routine and systematic releases.

C. GENERAL PERMIT CONDITIONS [6 NYCRR 373-1.6]

1. 6 NYCRR 373-1.6 provides conditions applicable to all Part 373 Permits which are therefore incorporated into this Permit. The provisions are incorporated into, and made enforceable under this Permit.

2. Oral Reports: The Permittee must orally report any noncompliance that may endanger health or the environment immediately from the time the Permittee becomes aware of the circumstances. The oral reports must be made to the Department using the New York State 24-hour oil and hazardous material spill notification number (800) 457-7362 and the National Response Center using its 24-hour number (800) 424-8802, or

any designated telephone numbers which may subsequently replace those listed above. The Permittee must also provide such oral reports to Department staff that are on-site at the time of, or subsequent to, a reportable incident. The information reported must include that listed at 6 NYCRR 373-2.4(g)(4)(ii).

3. Entry Upon Facility:

   a. The Permittee must allow, pursuant to 6 NYCRR 373-1.6(a)(9), entry upon the Facility (or areas in the vicinity of the Facility which may be under the control of the Permittee) at reasonable times by any duly designated officer or employee of the United States Environmental Protection Agency (USEPA), the Department or any State agency having jurisdiction with respect to matters addressed pursuant to this Permit, and by any agent, consultant, contractor or other person so authorized by the Department, upon presenting identification, for inspecting, sampling, copying records that must be maintained by this Permit, testing, and any other activities necessary to evaluate the Permittee's compliance with this Permit.

   b. Upon request, the Permittee must: (i) provide the Department with suitable work space at the Facility, including access to a telephone, to the extent available; and, (ii) allow the Department full access to all records relating to matters addressed by this Permit. Raw data must be provided to the Department upon request.

   c. In the event the Permittee is not the owner of the Facility property and is unable to obtain any authorization from third-party property owners necessary to provide access, the Permittee must immediately notify the Department and provide any requested assistance in obtaining such authorizations.

   d. The Department shall have the right to take its own photographs, samples and scientific measurements and to obtain split samples, duplicate samples or both, as necessary to evaluate the Permittee's compliance with this Permit. The Department shall make the results available to the Permittee in accordance with Department policy.

D. PERMIT MODIFICATION AND PERMIT TRANSFER [6 NYCRR 373-1.7 and 621]

1. Proposed modifications to this Permit, including modifications to the Attachments and documents incorporated by reference into this Permit, must be addressed in accordance with 6 NYCRR 373-1.7 and 621.

2. The Permittee must contact the Department (or its representative) with respect to any and all proposed permit modifications requested by the Permittee. The Department shall make the determination as to whether a proposed permit modification is a minor or major modification in accordance with 6 NYCRR 373-1.7. For the purposes of this Permit, as described in **Condition D.2.a** of this Module, the Department will entertain proposed administrative modifications to this Permit that would not otherwise be required to follow the requirements of **Conditions D.2.b and/or D.2.c** of this Module. Administrative changes generally include in-kind replacements or minor updates to plans attached to this Permit or incorporated by reference. **However, the Department**

must determine whether any and all changes are administrative modifications to this Permit.

a. For modifications determined by the Department to be administrative, the Permittee shall make the change in the Permittee's copy of all affected Attachment(s) and/or document(s) incorporated by reference. Submittal to the Department of a change that the Department has determined is administrative in nature is not necessary. However, at the time of Permit renewal, the Permittee must incorporate all administrative changes into this Permit. The Permittee must record all administrative changes in the Permit Modification Log provided as Attachment D of this Permit in accordance with **Condition D.3** of this Module. Note: The Department reserves the right to have its project manager, environmental monitor and/or permit writer request proposed administrative changes in writing by the Permittee's submission of a cover letter, written description of the proposed administrative modification and a clean copy of the modified affected pages for the Department's review and approval.

b. For modifications determined by the Department to be minor pursuant to 6 NYCRR 373-1.7(c) and 40 CFR 270.42(a), the Permittee must receive written approval from the Department before implementing the modification into this Permit, and subsequently follow the requirements of 6 NYCRR 373-1.7(e) and Department guidance for minor modifications.

c. For modifications determined by the Department to be major, the Permittee must treat the modification as a new application in accordance with 6 NYCRR 621.11 and follow the applicable requirements of 6 NYCRR 621.

3. The Permittee must maintain a log of all modifications requested and made to this Permit, including modifications made to the Attachments and documents incorporated by reference into this Permit. The log must conform to the Department-approved format presented in Attachment D of this Permit and must be submitted with each modification request. The log must be filled out in its entirety, except for the issuance date. Upon issuance of each Permit modification, the Permittee must place the updated log in Attachment D of this Permit along with a copy of the Department's approval letters, when applicable, and replace all affected pages in the Modules, Attachments and/or documents incorporated by reference with the modified pages.

4. The Department may at any time, at its discretion, modify this Permit under the terms of 6 NYCRR 621.13 in accordance with the requirements contained therein.

5. Permit Transfer: The Permittee must process all changes in Facility ownership and/or operational control in accordance with the requirements of 6 NYCRR 373-1.7(a), including the timeframes specified therein. Prior to undertaking a change in Facility ownership and/or operational control, the Permittee must provide written notification to the Department and receive written approval from the Department to allow transfer of this Permit. The Permittee must demonstrate to the Department's satisfaction that the prospective transferee will be able to comply with all applicable laws and

regulations, Permit conditions, financial assurance and other requirements to which the Permittee is subject. The written notification must include the identity of the transferee and of the nature and proposed date of the conveyance, and must notify the transferee in writing, with a copy to the Department, of the applicability of this Permit including the corrective action program, as appropriate. The Department will determine whether transfer of this Permit is acceptable and will require either a minor or major modification.

E. EXPIRATION AND CONTINUATION OF PERMITS [6 NYCRR 373-1.8]

1. Requests for continuation of this Permit must be submitted in accordance with 6 NYCRR 373-1.8 and 621.11.

2. No sooner than one (1) year and no later than 180 days before the expiration of this Permit, the Permittee must provide the Department with a report regarding the matters identified in ECL 27-0913(3) occurring within two years of the date of the report. The report must include any such matters involving the permitted Facility, all other facilities owned or operated by the Permittee and any duly incorporated parent or subsidiary managing hazardous wastes within the United States. The Permittee must supply such documents and pertinent details regarding the matters in the report as may be requested by the Department.

3. The Permittee must schedule a "Pre-Application" meeting with the Department at least 270 days prior to the expiration date of this Permit. Renewal applications with a significant change (as defined at 6 NYCRR 373-1.10(a)(1)) are subject to the requirements of 6 NYCRR 373-1.10.

4. Complete applications for permit renewal must be submitted at least 180 days before the expiration date of this Permit pursuant to 6 NYCRR 373-1.8(b).

5. At any time during the review of the renewal application, the Department may request that the Permittee submit any additional information in writing which is necessary for determining the completeness of the application. Failure to provide such information by the date specified in the request may be grounds for denial of the application and the extension allowed pursuant to Section 401(2) of the State Administrative Procedures Act.

F. TERMINATION OF PERMIT ACTIVITIES

1. Should the Permittee cease the hazardous waste management activities allowed by this Permit prior to the expiration of this Permit, then, pursuant to 6 NYCRR 373-1.6(d), the Permittee must continue to comply with the applicable closure, post-closure and corrective action conditions and requirements stipulated in this Permit.

2. If the Permittee certifies closure of all hazardous waste management units at the Facility, and the Department accepts these closure certifications during the term of this Permit, and post-closure care or corrective action is determined to be necessary by the Department, the Department will make a determination whether a permit or other

enforceable commitment document is appropriate, pursuant to Environmental Conservation Law (ECL) Section 71-2727(3). Based on that determination, the Permittee must enter into the appropriate enforceable commitment prior to the expiration of this Permit.

G. FACILITY OPERATION

1. In accordance with 6 NYCRR 373-2.3(b), the facility must be designed, constructed, maintained and operated to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste(s) or hazardous waste constituents to air, soil, surface water or groundwater that could threaten human health or the environment.

2. The Permittee must at all times construct, operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee as designed in accordance with this Permit including **Schedule 1 of Module I**.

3. The Permittee must inspect the Facility to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of hazardous waste(s) or hazardous waste constituents to the environment, or a threat to human health pursuant to 6 NYCRR 373-2.2(g).

H. COMPLIANCE SCHEDULE

1. The Permittee must complete any activities referenced in **Condition C of Schedule 1 of Module I** within the timeframes set forth therein and in accordance with 6 NYCRR 373-1.6(d).

2. The Permittee must submit reports in a Department-approved format no later than 14 days following each interim and the final compliance date that summarize the status of each of the activities listed in **Condition C of Schedule 1 of Module I**.

I. WASTE ANALYSIS [6 NYCRR 373-2.2(e)]

1. The Permittee must perform general waste analysis in accordance with the requirements of 6 NYCRR 373-2.2(e) and this Permit.

2. All laboratories utilized for the analysis of any closure, post-closure and/or corrective action samples must be certified under the New York State Department of Health's Environmental Laboratory Approval Program (ELAP). Any laboratory tests or sample analyses for which the commissioner of the New York State Department of Health (NYSDOH) issues certificates of approval must be performed by a laboratory certified to perform such tests or analyses pursuant to the NYSDOH Environmental Laboratory Approval Program.

J. PERSONNEL TRAINING PROGRAM [6 NYCRR 373-2.2(h)]

1. The Permittee must conduct personnel training in accordance with 6 NYCRR 373-2.2(h)(1), (2) and (3), and this Permit.

2. The Permittee must maintain training documents in accordance with 6 NYCRR 373-2.2(h)(4) and (5), and this Permit.

K. PREPAREDNESS AND PREVENTION, CONTINGENCY PLAN AND EMERGENCY PROCEDURES [6 NYCRR 373-2.3 and 2.4]

1. The Permittee must comply with the preparedness and prevention requirements in accordance with 6 NYCRR 373-2.3 and this Permit.

2. The Permittee must comply with contingency plan and emergency procedure requirements in accordance with 6 NYCRR 373-2.4 and this Permit.

L. WASTE REDUCTION REQUIREMENTS

1. The Permittee must comply with the requirements of Article 27, Title 9, Section 27-0908 of the ECL and 6 NYCRR 373-2.5(c)(2)(ix) relative to waste reduction requirements.

M. REQUIREMENTS FOR RECORDING AND REPORTING OF MONITORING RESULTS [6 NYCRR 373-1.6(b)]

1. The Permittee must comply with the recording, reporting and monitoring requirements listed in this Permit.

2. The Permittee must install, use and maintain monitoring equipment, utilize the approved methods, and report monitoring results as specified in this Permit, including **Schedule 1 of Module I** and 6 NYCRR 373-2.

N. DATA AND DOCUMENT STANDARDS

1. All analytical data required by this Permit, as well as all analytical data requested by the Department, must be submitted to the Department in the standardized format in accordance with the Department's Electronic Data Deliverable guidance within 30 days of receipt from the laboratory (see http://www.dec.ny.gov/chemical/62440.html). The Permittee must have all closure, post-closure and corrective action data validated by a third party prior to submission to the Department. The individual performing the third-party validation must prepare a Data Usability Summary Report (DUSR) consistent with the guidelines of the Department's DER-10. The DUSR must be submitted with the report containing the data in accordance with **Condition N.2** of this Module. The data deliverable submitted to the Department must include the results of the data validation.

2. The Permittee must deliver to the Department preliminary or final reports, specifications or drawings prepared pursuant to this Permit in an electronic format that complies with the Department's Electronic Document Standards (EDS) or as otherwise directed by the Department. All final documents are to be submitted in an electronic format that complies with the most recent DER EDS. Until such time as the Department establishes an EDS, final documents are to be submitted as a PDF document (see http://www.dec.ny.gov/regulations/2586.html). Also, the Permittee must, at the request of the Department, provide electronic versions of technical documents in MS Word and/or MS Excel, and plan drawings and/or other site drawings in AutoCAD, or other format suitable to the Department.

3. In addition to electronic copies, the Permittee must provide paper copies of any document (e.g., reports, plans, data, specifications, drawings, etc.) requested by the Department in paper format or as may be specified in paper format in **Schedule 1 of Module I**.

O. FINANCIAL ASSURANCE

1. The Permittee must comply with all of the applicable requirements of 6 NYCRR 373-2.8 and this Permit. The definitions contained in 6 NYCRR 373-2.8(b) are applicable to the financial requirements within this Permit.

2. The Permittee must comply with this Permit and 6 NYCRR 373-2.6(l) for meeting the financial assurance requirements for corrective action for releases from any solid waste management unit located at the Facility, regardless of the time the waste was placed in the unit.

3. The Permittee must adjust for inflation all cost estimates required by 6 NYCRR 373-2.6(l), 373-2.8 and this Permit annually, and provide additional financial assurance for this adjustment in accordance with 6 NYCRR 373-2.8. These adjustments must be independent of any requests to decrease cost estimates, unless the Department has previously approved such a decrease (i.e., the inflationary adjustment must be made separately from any unapproved request for a decrease in the cost estimate). In addition, the total amount of any post-closure cost estimate must be established and maintained throughout the life of this Permit in at least the amount derived by multiplying the annual post-closure cost estimate by a minimum of 30 years unless the Department has approved a decrease in the post-closure care period for a unit or the Facility in accordance with 6 NYCRR 373-2.7(g)(1)(ii).

4. The Department-approved closure, post-closure and corrective action cost estimates are incorporated by reference into this Permit by **Condition B of Schedule 1 of Module I** of this Permit. These cost estimates must be adjusted annually for inflation in accordance with **Condition O.3** of this Module.

5. The Permittee must obtain approval in writing from the Department prior to any reduction in the approved cost estimates and for any changes to the instrument(s) and/or

mechanism(s) (e.g., type of instrument(s) and/or mechanism(s), the issuing company(ies)/institution(s) and/or a reduction in the dollar amount(s)).

6. Corrective Action Cost Estimates: For any and all corrective actions required under the authority of this Permit for any newly identified Solid Waste Management Units, both final and interim, the Permittee must submit for the Department's approval, written estimates, in current dollars, which reflect all costs involved in implementing corrective action through Department-approved completion. Such estimates must reflect the cost of hiring a third party to perform the corrective action in accordance with 6 NYCRR 373-2.8(e)(1)(i). For the final corrective measure(s), the Permittee must provide such estimates with the submission of the Corrective Measures Implementation (CMI) work plan. For Interim Corrective Measures (ICM) requiring work plans, the Permittee must provide such estimates with the submission of each ICM work plan required by this Permit.

7. Short-Term Corrective Measures: For financial assurance of final or interim corrective measures for any newly identified Solid Waste Management Units required by Department-approved work plans where the implementation schedule in the approved work plan(s) indicates anticipated completion of said action(s) within one (1) year, the Permittee must provide the Department with a letter certifying that the Permittee has sufficient liquid financial resources to perform and complete the approved corrective measure(s) based on the Department-approved cost estimate(s) required by **Condition O.6** of this Module. This letter must include a certification in accordance with 6 NYCRR 373-1.4(a)(5) and must be provided for the Department's acceptance with the Permittee's submission of a final or interim corrective measures work plan(s). If the Department notifies the Permittee that the certification is not acceptable, the Permittee must establish financial assurance for corrective measures in accordance with the requirements of financial assurance for Long-Term Corrective Measures as specified in **Condition O.8** of this Module within sixty (60) days of said notification. If the corrective action(s) are not completed within one year of the initial certification, the Permittee may request and the Department, at its discretion, may approve up to a one (1) year extension of the certification. If the corrective action(s) has not been completed to the Department's satisfaction at the end of the first year or a Department-approved extension, the Permittee must, within sixty (60) days, provide financial assurance in accordance with the requirements of financial assurance for Long-Term Corrective Measures as specified in **Condition O.8** of this Module.

8. Long-Term Corrective Measures: For final or interim corrective measures required for any newly identified Solid Waste Management Units by a Department-approved work plan(s) where the implementation schedule in the approved work plan(s) indicates that the anticipated completion of the final or interim corrective action(s) will take longer than one (1) year, the Permittee must establish and maintain a Department-approved financial assurance instrument(s) in accordance with 6 NYCRR 373-2.8(f). This financial assurance must be equal to the current dollar amount of the most recent Department-approved final or interim corrective measures cost estimate(s) required by **Condition O.6** of this Module. The Department-approved financial assurance must be one, or an allowable combination, of the financial assurance instruments, specified in

6 NYCRR 373-2.8(f)(1) through (4) and these instruments must be issued by an entity, or entities, that are legally and fiscally separate and distinct from the Permittee and any parent or subsidiary thereof. If the Permittee chooses to use either 6 NYCRR 373-2.8(f)(2) or (3) (or a combination thereof), the Permittee must revise or establish a Standby Trust Fund in accordance with said regulations. The Permittee must submit the instrument(s), for the Department's approval, no later than sixty (60) days after the Department's approval of corrective measures work plan(s), or as required by the requirements of financial assurance for Short-Term Corrective Measures as specified in **Condition O.7** of this Module.

9. For any Permit modification request pertaining to the Closure Plan or Post-Closure Plan provided as Attachment C of this Permit involving an increase in cost, the Permittee must also submit a revised cost estimate, in current dollars, which includes the increase in these costs with appropriate third party justification. For any new or modified corrective measure required by this Permit and submitted by the Permittee subsequent to the issuance of this Permit which involves an increase in the cost of corrective action, the Permittee must also submit for Department approval, a revised cost estimate, in current dollars, which includes the cost increase associated with implementing the corrective measure with appropriate third party justification.

10. Within sixty (60) days of a modification of this Permit or Department approval of a new or modified corrective measure involving an increase in a cost estimate, the Permittee must establish additional financial assurance to cover the amount of the increase in the cost estimate in accordance with the requirements of 6 NYCRR 373-2.8.

11. The Permittee must maintain the Department-approved financial assurance instruments. Changes in existing financial assurance instruments or replacement of existing financial assurance instruments must be approved by the Department. The Permittee must provide annual evidence to the Department within thirty (30) days prior to the anniversary on which the initial approved financial assurance instrument was established, that all required instruments have been maintained and not allowed to lapse.

12. Within sixty (60) days after any increase in the approved cost estimate, the Permittee must, in accordance with 6 NYCRR 373-2.8, either:

    a. Revise one or more of the Department approved financial assurance instrument(s) to increase the instrument(s) amount by at least the amount of the increase in the approved cost estimate and submit the revised instrument(s) for Department approval; or

    b. Submit an additional financial assurance instrument, or instruments from the allowable instrument types specified in 6 NYCRR 373-2.8 with an amount equal to at least the amount of the increase in the approved cost estimate and submit the additional instrument(s) for Department approval.

13. If the Permittee elects to replace any instrument with new financial assurance instrument(s) as specified by 6 NYCRR 373-2.8, the new instruments must be issued by an entity, or entities, that are legally and fiscally separate and distinct from the Permittee and any parent or subsidiary thereof. Also, if applicable, any replacement instruments pertaining to post-closure and corrective action must be worded in accordance with 6 NYCRR 373-2.8(j) except that the words "post-closure and corrective action" must be substituted for the words "post-closure" in any such replacement instrument.

P. COMMUNICATIONS

1. The Permittee must transmit all communications pursuant to this Permit to the Department via electronic delivery to the recipients specified in **Schedule 1 of Module I** of this Permit. All deliverables must be transmitted in a Department-approved format as specified in **Condition N** of this Module.

2. If requested by the Department in lieu of or in addition to an electronic deliverable, the Permittee must transmit the requested written communications pursuant to this Permit to the Department by United States Postal Service, by private courier service or by hand delivery to the following address:

   Chief, RCRA Permitting Section
   Division of Environmental Remediation
   New York State Department of Environmental Conservation
   625 Broadway, Albany, NY 12233-7017

3. The Permittee must submit additional copies of the specific deliverables identified in **Schedule 1 of Module I** to the addresses and agencies listed therein.

Q. PENALTIES

1. Permittee's Obligations

   a. The Permittee's failure to comply with any term of this Permit constitutes a violation of this Permit and the ECL. Nothing herein abridges the Permittee's right to contest any allegation that it has failed to comply with this Permit.

   b. Payment of any penalties must not in any way alter the Permittee's obligations under this Permit.

R. MISCELLANEOUS

1. The paragraph headings set forth in this Permit are included for convenience of reference only and must be disregarded in the construction and interpretation of any provisions of this Permit.

2. If there are multiple parties subject to this Permit, except where stated otherwise, the term "Permittee" must be read in the plural, the obligations of each such party under

this Permit are joint and several, and the insolvency of or failure by any Permittee to implement any obligations under this Permit must not affect the obligations of the remaining Permittee(s) under this Permit.

3. If the Permittee is a partnership, the obligations of all general partners (including limited partners who act as general partners) under this Permit are joint and several and the insolvency or failure of any general partner to implement any obligations under this Permit must not affect the obligations of the remaining partner(s) under this Permit.

4. In any administrative or judicial action to enforce a condition of this Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Permit.

5. Whenever materials or equipment are specified or described in this Permit using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, quality, performance and design criteria required. In all cases, unless the name is followed by words indicating that "no 'or equal' or substitution is allowed" or similar language, materials or equipment of other suppliers may be accepted by the Department if sufficient information is submitted by the Permittee to allow the Department to determine that the material or equipment proposed is equivalent or equal to that named. Requests for review of "or equal" or substitute items of material and equipment will not be accepted by the Department from anyone other than the Permittee. If the Permittee wishes to furnish or use an "or equal" or substitute item of material or equipment, the Permittee must make written application to the Department for acceptance thereof, certifying that the proposed "or equal" or substitute will perform the same functions and achieve the same results called for by the general design, be similar and of equal substance and quality to that specified, and be suited to the same use as that specified.

6. The Permittee may submit a written request to the Department for a clarification on compliance with any condition in this Permit. Any such request must be submitted at least 30 days prior to the date on which the Permittee must comply with the condition identified in the clarification request. In response, the Department will provide the Permittee with a written clarification, detailing what constitutes compliance with the identified Permit condition. This clarification process shall in no way relieve the Permittee from the obligation to comply with all the terms and conditions of this Permit.

PART 373 PERMIT

SCHEDULE 1 OF MODULE I
FACILITY-SPECIFIC CONDITIONS

DEC Facility Name: Norlite Corporation
DER Facility No.: 401041
EPA RCRA ID No.: NYD 080 469 935

Facility Address: 628 South Saratoga Street
Cohoes, NY 12047

Hereinafter referred to as "Facility" or "Site"

A. PERMITTED ACTIVITIES

Table I-1: Waste Handling Activities

Unit[1]	Activity Type	Waste Type and Codes[2,3]	Quantity and Rate[4]
Drum Processing Building	1 - Storage in 5, 15, 30, 55 and 85 gallon drums and 275 gallon totes 2- Emptying drums to Tank 200A. 3- Operating SP100 dispersion tank.	Liquid Waste	Specified Containers - Total 9,900 gallons or 180 Drums SP100 tank - 527 gallons
Truck Unloading Area #1 (North Unloading Area)	1 – Storage in 5, 15, 30, 55 and 85 gallon drums 2-Staged Trucks	Liquid Waste	Specified Containers - 4,785 gallons.
Low Grade Fuel Building	1 – Storage and blending in tanks 100A, 100B, 100C, 200A, 200B, and 200C	Liquid Waste	Tanks – Total 52,336 gallons

Above Ground Covered Tanks	1- Storage and blending in tanks 300, 400, 500, and 600	Liquid Waste	Tanks – Total 98,020 gallons
Equalization Tanks	1- Storage and blending in tanks 101A, 101B, 102A and 102B	Liquid Waste	Tanks – Total 4,696 gallons
Light Weight Aggregate Kilns (LWAKs)	1 – Incinerating hazardous waste in Kiln #1 and Kiln #2 to manufacture light weight aggregate in Kiln #1 and Kiln #2.	Liquid Waste	10.5 gallons/minute/kiln of hazardous waste (LLGF) feed rate to kiln and 22.8 tons/hour/kiln of raw shale feed rate to the kiln.

1. *Refer to Drawing No. NY003-3731 Site Plan Attachment B.*
2. *Waste codes are as described in the Part A Application.*
3. *Specific waste types and waste codes are presented in, Exhibit C (containers), and Exhibit D (tanks) of this Schedule and The WAP incorporated by reference into this Permit.*
4. *This represents the maximum permitted storage quantity. The Permittee must comply with additional requirements limiting storage capacity in accordance with* ***Condition D.3 of Module III*** *and* ***Exhibits C and D*** *of this Schedule.*

PERMIT DOCUMENTS

The following Modules, Attachments and documents incorporated by reference are considered part of this Permit:

Modules

I	General Conditions
	Schedule 1 of Module I
II	Corrective Action Requirements
III	Use and Management of Containers
IV	Tank Systems
V	RESERVED
VI	RESERVED
VII	Incinerators, Boilers or Industrial Furnaces
VIII	RESERVED
IX	RESERVED

Attachments

A. RESERVED

B. Engineering Drawings – "Norlite, LLC, Cohoes, New York; NYSDEC Part 373 Hazardous Waste Permit Application, (January 2012, Revised June 2014))

C. Closure Plan, Post-Closure Plan and Financial Assurance - "Norlite, LLC, Cohoes, New York; NYSDEC Part 373 Hazardous Waste Permit Application, Including Trust Agreement (January 2012, Revised June 2014)

D. Permit Modification Log

E. Executive Summary (June 2014)

Documents Incorporated by Reference

1. Norlite Operations Plan (June 2014)

2. Norlite Integrated Contingency Plan (June 2014)

3. Norlite Personnel Training Plan (June 2014)

4. Norlite Waste Analysis Plan (June 2014)

5. Norlite Security and Inspection Plan (June 2014)

6. Order on Consent, DEC Case No. R4-2009-0610-101, between New York State and Norlite Corporation. (May 11, 2010)[1]

7. Norlite Corporation, Cohoes, New York, NYSDEC Part 373 Hazardous Waste Permit Application, (January 2012, Revised June 2014).

8. Human Health & Ecological Risk Assessment Reports. April 2002.

9. ATSDR Public Health Assessment for Norlite Corporation, December 2, 2005

10. Environmental Assessment Form (EAF) (November 1993, Revised June 2014)).

11. Facility Noise Survey (April 20, 2009)

12. Norlite Best Management Practices Plan Revision 1(April 30, 1992, Revised October, 2014)

13. Norlite Statement of Basis (April 2014)

Footnotes:

1. Each document referenced by this footnote includes the above dated original submission and any subsequent Department approved document revisions.

B. COMPLIANCE SCHEDULE

The Permittee must complete the following compliance activities within the timeframes indicated on the following table:

Item No.	Title	Description	Compliance Date
1	Security and Inspection Plan: RCRA Weekly and Fuel Farm Daily Inspection reports	Revise RCRA Weekly and Fuel Farm Daily Inspection Report procedures and inspection forms to include information regarding the date of any maintenance issue first reported, the date that the issues is assessed and/or addressed with date(s) of repairs, any subsequent testing, and any other actions taken to remedy the maintenance issue(s). The daily and weekly inspection records shall include certifications that all information contained therein is based on true and accurate information, and secondary certification (i.e. sign-offs) should be made by personnel not involved with either the daily or weekly physical inspections.	Submit draft proposal within 30 days of the effective date of this Permit, Submit final procedures and forms within 30 days of NYSDEC approval of draft proposal, Implement within 30 days of NYSDEC approval of final procedures and forms.

Item No.	Title	Description	Compliance Date
2	Permittee's Website	Update Website to include the following: a. Sanitary Sewer lateral re-location(s) and the current status until this work is completed, where it also will then remain; b. Process water discharge re-location current status until this work is completed. Also include a narrative which details the history of this issue; all of which will remain after completion; c. Discussion of status of Environmental Benefit project from the last Permit including the status of both the Saratoga Sites Storm Door replacements (and other upgrades) and the City of Cohoes Recycling program. A complete copy of the current permit, including attachments and documents incorporated by reference.	Within 60 days of the effective date of this Permit

Item No.	Title	Description	Compliance Date
3	Tanker Staging Area	Submit a Tanker Staging Area Report, providing the volume of the staging area, a way to continuously measure standing water volume, and procedures to maintain sufficient free capacity to contain any release. The report shall include a drawing as a base plan, with topographic grade information and an identification of the lowest spot in the Containment Area by call-out or label. The report must include calculations for the total containment volume remaining after a 24-hour/25-year storm event. This Report is to be certified correct and accurate by a N.Y.S. licensed Professional Engineer. Upon approval of this report, Permittee will include weekly volume totals of containerized wastes and liquids on the ground in the Tanker Staging Area, individually and as a sum total, in their RCRA Weekly Inspection Report and in the Monthly RCRA Compliance and Operations Report	Submit draft report within 30 days of the effective date of this Permit, Submit final report within 30 days of NYSDEC approval of draft report, Implement in weekly and monthly reporting within 30 days of NYSDEC approval of final report.

Item No.	Title	Description	Compliance Date
4	Best Management Practices Plan	Submit a revised Best Management Practices Plan for DEC review and approval to include: a) Narratives and best management practices for all new areas of work and operations, including those related to the storm water management facilities, structures and equipment and related operations, and flood control measures and emergency actions; b) The procedures for measuring and reporting standing water and waste volumes developed pursuant to paragraph 8 above, and c) Procedures to maintain in good working order the windsock at the Fuel Farm Area.	Submit revised plan within 90 days after the effective date of this Permit, Submit final plan within 30 days of NYSDEC approval of draft plan, Implement within 30 days of NYSDEC approval of final plan.

Item No.	Title	Description	Compliance Date
5	Tank Blending - Audit Tank Blending Verification	Conduct an audit of the tank blending calculations and feeds with respect to actual blended tank sampling vs. compliance with permit limits related to the light weight aggregate kilns. Submit Audit Report to the NYSDEC for review and approval, providing recommendations for improvements. Submit a Proposal to implement improvements, including implementation schedule, to NYSDEC for review and approval. Implement Proposal in accordance with approved schedule.	Within 6 months of the effective date of this Permit Submit Proposal within 45 days of Department approval of Audit Report Implement within 120 days of NYSDEC approval of Proposal, unless an extension is granted by the Department

C. SCHEDULE OF DELIVERABLES

The Permittee must complete the following compliance activities within the time frames indicated on the following table:

Item #	Title	Description	Compliance Date
1.	Site Management Plan (SMP)	Prepare a SMP for the Norlite facility and submit to the NYSDEC for review and approval in accordance with the following schedule: • Draft SMP • Final SMP	 Within 120 days of issuance of permit Within 60 days of receipt of NYSDEC comments on the Draft SMP

D. REQUIREMENTS FOR AN ON-SITE ENVIRONMENTAL MONITOR

Number of Environmental Monitors assigned to Facility: One (1)

a. The Permittee shall fund environmental monitoring services to be performed by or on behalf of the Department. These monitoring services will include, but not be limited to, the scope of work in an annual environmental monitoring work plan which is incorporated by reference and enforceable under this permit.

b. The Permittee shall provide to the Department on an annual basis the funds necessary to support the activities set forth in the annual environmental monitoring work plan. The sum to be provided will be based on the annual budgeted amount and is subject to annual revision. Subsequent annual payments shall be made for the duration of this Permit or until the environmental monitoring services are no longer necessary, whichever comes first.

c. The Permittee shall be billed annually, prior to the start of each State Fiscal Year (SFY) (April 1). If this Permit is to first become effective subsequent to April 1, the initial bill will be for an amount sufficient to meet the anticipated cost of the environmental monitoring services through the end of the current SFY.

d. The Department may revise the required annual bill on an annual basis to include all of the Department's estimated costs associated with the environmental monitoring services. The annual revision may take into account such factors as inflation, salary increases, changes in the fringe benefits rate, changes in operating hours and procedures, changes in non-personal service costs (including travel, training, sampling and analytical, and equipment costs, etc.), an increase or decrease in the level of environmental monitoring services necessary, and an increase or decrease in the number of environmental monitors. Upon written request by the Permittee, the Department shall provide the Permittee with a written explanation of the basis for any revisions.

e. Prior to making its annual payment, the Permittee will receive, and have an opportunity to review, an annual environmental monitoring work plan that the Department will undertake during the year.

f. Payments are to be made in advance of the period in which they will be expended and shall be made in full within 30 days of receiving a bill from the Department. The bill from the Department to the Permittee will provide information regarding to whom payments should be made payable and the address to which payments should be sent.

g. Failure to make the required payments shall be a violation of this Permit. The Department reserves all rights to take appropriate action to enforce the above payment provisions.

h. The environmental monitor shall, when present at any of the Permittee facilities, abide by all of the Permittee health and safety and operational requirements and

policies, if such requirements and policies exist and provided they are not inconsistent with Department policies and labor management contracts, and further provided, however, that this shall not be construed as limiting the environmental monitor's powers as otherwise provided for by law and shall not result in the environmental monitor being afforded less protection than otherwise provided to the environmental monitor by State and Federal health and safety requirements.

i. The environmental monitor shall receive from the Permittee all general and site-specific safety training which is normally given to new facility/site employees for all areas of the facility or site. Upon selection of the environmental monitor, the Permittee shall immediately furnish to the environmental monitor any facility/site health and safety and operational requirements and policies. Within five (5) days of any revision to the facility/site health and safety and operational requirements and policies, the Permittee shall furnish to the environmental monitor the health and safety and operational requirements and policies.

j. The environmental monitor shall be permitted to use environmental monitoring and data collection devices (e.g., photo ionization detectors, cameras, video recording devices, computers, cell phones, etc.) deemed necessary by the Department to evaluate and document observed conditions. Copies of the data or images collected from areas where confidentiality is a concern shall be provided to the Permittee upon their request. The Permittee may request the data and images be considered confidential information if appropriate.

k. It will remain the responsibility of the Permittee to contact the Spill Hotline or any Division within the Department regarding any required notification of any spill, release, exceedances etc. Notification to the environmental monitor will not be considered sufficient to replace any required notifications.

l. Monitor’s trailer is to be kept in good operating condition, including watertightness, exterior night lighting, proper anchoring/foundation, appropriate heating and cooling, and prompt snow removal to include access paths to Facility’s offices.

E. <u>REQUIREMENTS FOR ENVIRONMENTAL SAMPLING</u>

a. The costs set forth in D.1.a above shall include laboratory sampling and analytical costs and fees. These costs and fees will be fixed at an annual maximum cost of $40,540 per year, for 3 years. Payment of these fees shall be included in the annual bill issued pursuant to D.1.a above. After the initial 3-year period, the amount of sampling and analytical costs and fees to be paid per year, for each subsequent three-year period thereafter, shall be set forth in a separate Memorandum of Understanding ("MOU"). If Norlite and the Department cannot agree on the amount for this MOU by the date that Norlite must pay the next annual payment, the cost for that year will be equal to the amount paid in the previous year plus an inflation adjustment and the dispute shall be resolved pursuant to a permit modification hearing. This adjustment shall be calculated by

multiplying the amount paid during the previous year and quotient obtained by dividing of the most recent Implicit Price Deflator for Gross National Product established by the U.S. Department of Commerce in its Survey of Current Business by the deflator for the previous year.

b. These funds required under subparagraph (a) shall not be used to pay for any off-site sampling costs or for analyzing sampling taken off-site.

F. ROUTINE REPORTING

The Permittee must submit the following routine reports to the Department by the indicated due date in accordance with the requirements of this Permit (Note: the list presented below does not include non-routine reporting to the Department.):

Report	Frequency	Due Date	Requirement
Local Fire Company Inspection	Semiannually	Within 7 days of inspection	Condition A.1 of Exhibit A
Copies of Hazardous Waste Manifests to NYSDEC	Ongoing	Within 10 days of signature	6 NYCRR 372.2(b)(3)(iii)
Annual Report	Annually	March 1st	6 NYCRR 373-2.5(e)
Hazardous Waste Export Report	Annually	March 1st	6 NYCRR 372.5(f)
Hazardous Waste Reduction Report - Annual Status Reports and Biennial Updates	Annually	July 1st	ECL 27-0908 and Module I, Condition L
Summary of Green Remediation Metrics[1]	Annually	March 31st	Exhibit B – Condition C
Containers Secondary Containment Assessment Report	Annually	Complete assessments by August 31st; submit report by November 30th	Module III, Condition K.1; Condition B.2 of Exhibit C

Report	Frequency	Due Date	Requirement
Tank System Assessment Report	Every 2 years	Within 60 days of inspection	Exhibit D, Condition C.3
Tank Secondary Containment Assessment Report	Annually	Complete assessments by August 31st; submit report by December 31st	Module IV, Condition K.4
Closure Cost Estimate Adjusted For Inflation	Annually	60 days prior to anniversary date of establishment of financial instrument	6 NYCRR 373-2.8(c)(2) and Module I, Condition O
Financial Assurance	Annually	April 1st	6 NYCRR 373-2.8
Evidence that Financial Assurance Instruments have been Maintained and not Lapsed	Annual	30 days prior to anniversary of initial approval	Module I, Condition O.11
Complaint Log	Monthly	Submit by 21st of each month. (Submit with RCRA Compliance and Operations report)	Exhibit A – Condition C.4
Noise Control Measures Plan or Notice of No Change	Annual	March 31st	Exhibit A – Condition C.5
Best Management Plan or Notice of No Change	Annual	March 31st	Exhibit A – Condition C.5
RCRA Inspection Report	Available upon request	To be completed close of business the following Wednesday	Security and Inspection Plan

Report	Frequency	Due Date	Requirement
RCRA Fuel Farm Inspection Report	Available upon request	By noon the following regular business day	Security and Inspection Plan

1- Summary must be recorded on most recent form provided by the Department.

G. FACILITY-SPECIFIC REQUIREMENTS THAT SUPPLEMENT THE STANDARD MODULES

Exhibit A Supplement to Module I – General Provisions

- A General Conditions
- B Plans, Reports, Specifications, Implementation Schedules and Other Submittals
- C Special Conditions

Exhibit B Supplement to Module II – Corrective Action

- A Applicability
- B Corrective Action Program

Exhibit C Supplement to Module III- Use and Management of Containers

- A Authorized Storage Area, Waste Types and Storage Volume
- B Special Conditions for Containers (General)
- C Special Conditions for Containers (Specific)

Exhibit D Supplement to Module IV – Tank Systems

- A Authorized Storage Tank, Waste Types and Storage Volume
- B Special Conditions for Tank Systems (General)
- C Special Conditions for Tank Systems (Specific)

EXHIBIT A

SUPPLEMENT TO MODULE I – GENERAL PROVISIONS

EXHIBIT A
SUPPLEMENT TO
MODULE I - GENERAL PROVISIONS

The following conditions supplement those conditions contained within Module I of this Permit:

A. General Conditions

1. The Permittee must request in writing annual inspections of the Facility by local fire companies or departments and submit a copy to the Department. During such inspection the Permittee shall solicit recommendations from the fire company or department concerning minimum suggested inventories for firefighting and safety equipment to be maintained at the facility. A report of any inspection, including any and all recommendations made by fire company or department inspectors and the Permittee's plans for addressing these recommendations, must be submitted to the Department by the Permittee within seven (7) days of receiving each inspection report.

2. The Permittee must provide a copy of the Integrated Contingency Plan containing an inventory sheet listing the amount and location of all emergency equipment available on-site, to all employees involved in emergency response.

3. Upon notification by the Permittee of any partial closure of a unit or portion thereof, or of final closure of the Facility, the Department will determine at the time of said closures whether additional samples, sampling points, sampling techniques/methods and/or sample analysis (i.e., in addition to Closure Plan requirements in Attachment C of this Permit) will be necessary to verify the effectiveness of decontamination or removal of components, equipment, structures and contaminated soils. These determinations will be based upon the past history of operating practices and types of wastes handled at the unit/Facility and on the closure regulations and other requirements in effect at the time of closure of the unit/Facility. The operating record, the record of spills, the types of waste released, location of spills and the condition of any secondary containment systems will also provide data to be used in these determinations. Also, at the time of said closures, the Department will determine whether more restrictive and/or additional criteria (i.e., more restrictive than, or in addition to Closure Plan criteria in Attachment C of this Permit) will be necessary to verify the effectiveness of decontamination or removal of components, equipment, structures and contaminated soils, based on the Department's regulatory cleanup standards in effect at the time of said closures.

4. If the Department determines that additional sampling and analysis or more restrictive and/or additional criteria are necessary at the time of unit/Facility closure, the Department shall send the Permittee a notice of intent to modify this Permit in accordance with 6 NYCRR 621 to incorporate these requirements into the Permit. In the event the Department issues such a notice of intent, the Permittee will be restricted from issuing a certification of closure for the unit/facility in accordance with 6 NYCRR 373-2.7(f), until the associated 6 NYCRR 621 Permit modification process is completed and any associated closure requirement(s) that might result from this modification process are satisfied.

B. Plans, Reports, Specifications, Implementation Schedules and Other Submittals

1. Submittals required by the Permit must be provided to the Department and other identified Agencies as listed below. The list below identifies the Department/Agencies staff by title that must receive submissions and indicates the types of submissions each must receive. At anytime during the life of this Permit, the Department may designate alternate titles or addresses to receive submissions (different than those indicated below), and direct the Permittee to make submissions to the alternate title or address. The list below also indicates whether the submission must be a paper or electronic copy. Where electronic copies are indicated, the submission must be in a form as required by Condition N of Module I of this Permit. Submissions of electronic copies may be made by e-mail or other methods acceptable to the Department.

   a. One (1) electronic copy of all submittals to:

      Regional Remediation Engineer
      jaquinn@gw.dec.state.ny.us
      New York State Department of Environmental Conservation
      Region 4 Office
      1130 North Westcott Rd.
      Schenectady, NY 12306

   b. One (1) electronic copy of all submittals except for those specific only to waste reduction to:

      Director, Remedial Bureau E
      mjcruden@gw.dec.state.ny.us
      Division of Environmental Remediation
      New York State Department of Environmental Conservation
      625 Broadway
      Albany, NY 12233-7017

c. One (1) paper and one (1) electronic copy of all financial assurance instruments to:

RCRA C Financial Assurance Coordinator
amchieco@gw.dec.state.ny.us
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7251

d. One (1) electronic copy of all waste reduction documents to:

Chief, Bureau of Waste Reduction & Recycling
mmmorouk@gw.dec.state.ny.us
Division of Materials Management
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7253

e. One (1) paper and one (1) electronic copy of all modification requests pertaining to this Permit to:

Regional Permit Administrator
wjclarke@gw.dec.state.ny.us
Division of Environmental Permits
New York State Department of Environmental Conservation
Region 4 Office
1130 North Westcott Rd.
Schenectady, NY 12306

An electronic copy of all reports, plans, schedules, correspondence or other documents sent to the Department in accordance with this Permit, must be simultaneously sent to the Albany County Health Department (ACHD) at its request.

2. SOPs related to Part 373 Permit operations are subject to Department review and approval.

SOP Revisions (release without Department review and approval)

When submitting changes to existing SOPs, the Permittee shall submit a new SOP revision for Department review and approval (in redline/strikeout form). The Permittee may also implement the release of the SOP at the same time. If the

Permittee chooses to release the SOP at the same time as submitting the SOP for Department review, then one of the following conditions applies:

a) If the Department fails to respond within sixty (60) days of its receipt, the SOP changes shall automatically be approved, and remain effective.

b) If the changes are not approved by the Department, the Department will notify the Permittee and request changes be made to the SOP. The Permittee has seven (7) days to submit a new SOP revision (in redline/strikeout form) with all of the changes requested by the Department.

c) If the Permittee does not agree with the changes requested by the Department then the most recent SOP approved by the Department must be submitted, with a new revision number, and that will be the SOP the Permittee is approved to use.

New SOPs and SOP Revisions (release upon Department approval)

The Permittee shall submit new SOPs or revisions to existing SOPs prior to implementing the same in draft form for Department review and approval. If the Department fails to respond within thirty (30) days of its receipt, the SOP will automatically become effective. If the Department provides comments, the Permittee has seven (7) days to submit a revised SOP (in redline/strikeout form) for review and approval.

In lieu of Permit modifications, the Permittee will submit an update to the list of the Department-approved SOPs (with revision number) with each new SOP or SOP revision which will become effective upon the Department's approval.

C. Special Conditions

1. The Permittee shall inform the Department within 24 hours of receipt of analytical results that indicate a total PCB (defined as the sum of Aroclors) concentration of

greater than 10 PPM in any individual load. The Permittee shall identify in this report the supplier or generator of the waste load.

2. The Permittee will not accept or incinerate wastes containing over 25 ppm of total PCBs. The Permittee shall report the Department within 24 hours of a rejection of a load with greater than 25 ppm total PCBs. The Permittee shall identify in this report the supplier or generator of the waste load.

3. Norlite will not accept waste containing PCBs that are regulated under 40 CFR Part 761 or are defined as PCB waste under 6 NYCRR 371, greater than 25 ppm.

4. The Permittee is to log all complaints from the public including actions taken to address these concerns and submit them to the Department on a monthly basis as part of the Monthly RCRA Compliance and Operations Report.

5. The Permittee is to report all leaking trucks (excluding trucks containing potable water) to the Department's on-site monitor and in their absence to the NYSDEC Region 4 office immediately on arrival, impound them, take all necessary measures to stop the leak, and clean up any spilled material on site.

6. The Permittee shall adhere to the truck traffic routing and maximum truck trip numbers identified in the Environmental Assessment Form (EAF) dated 11/93 and most recently revised 11/95. If complaints regarding truck traffic operating during off hours are received which are of a continuing nature and are substantiated by the Department then the Department at its discretion may impose additional restrictions on the hours which the Permittee may allow trucks to enter or exit the facility. Such operating hour restrictions shall be no more stringent than:

    (a) No trucking or unloading operations on Sundays or the following holidays: New Years, Labor Day, Independence Day, Memorial Day, Thanksgiving Day and Christmas Day.*

    (b) Monday through Friday trucking operations limited to 6:30 AM to 6 PM. Saturday trucking operations limited to 8 AM to 4 PM.*

        * These restrictions shall not apply to emergency fuel/LGF deliveries. Late truck arrivals due to circumstances beyond the operator's control (e.g. weather, traffic and breakdowns) shall be permitted to enter and park in the authorized truck staging or unloading areas, however, the prohibition remains for subsequent routine operations for/on such vehicle exceptions.

7. Permittee shall revise & implement Traffic control provisions of EAF annually and submit it to the Department by March 31 of each year.

8. The Permittee shall comply with the recommended control measures found in the most recently approved Noise Impact Analysis, Technical Report AA-1790. In

addition, the Permittee is also responsible for maintaining compliance with the Norlite Best Management Practices Plan (Revision 1 dated 4.30/92 and as revised 10/26/95). The Permittee shall evaluate the need to revise the Noise Control Measures and Best Management Plan annually after the effective date of this permit; revise these plans if appropriate; submit the revisions or a notice of no change to the Department by March 31st of each year and implement the plans including any revisions.

In addition, the Permittee shall comply with 6 NYCRR 360-1.14(p)

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D. SPECIAL FINANCIAL ASSURANCE CONDITION

The financial assurance agreed to by the DEC in the amount of $1,852,904 for corrective action, closure and post closure care costs is conditional on the Permittee's completion of the items included in B. Compliance Schedule and C. Schedule of Deliverables within the timeframes included therein unless an appropriate time extension is approved by the DEC. In the event that the Permittee fails to timely complete any item(s) included in B. Compliance Schedule and C. Schedule of Deliverables, the DEC will evaluate the cost of corrective action, closure and/or post closure care.

If the DEC determines that an adjustment in the cost of corrective action, closure and/or post closure care is warranted, the DEC will notify the Permittee in writing and require the Permittee to revise the cost estimates to cover the increase. The Permittee must submit, for Department approval, the revised cost estimates within thirty (30) days of the Permittee's receipt of the above indicated written notification by the DEC that an increase in the cost estimate is necessary. Subsequent to Department approval of the revised cost estimate, the Permittee must establish additional financial assurance to cover the amount of the increase in the cost estimates in accordance with **Condition O of Module I**.

EXHIBIT B

SUPPLEMENT TO MODULE II – CORRECTIVE ACTION

EXHIBIT B
SUPPLEMENT TO
MODULE II - CORRECTIVE ACTION

The following conditions supplement those conditions contained within Module II of this Permit:

A. Applicability

1. The conditions of this Exhibit and Module II apply to:

    a. the Solid Waste Management Units (SWMUs) and Areas of Concerns (AOCs) listed below; and

Number	*SWMU(s) or AOC(s)*	*Status*[1]
1	Tank Storage (LLGF, SLGF processing building, Covered Above-Ground Storage and Equalization Tanks)	SM
2	Kiln Supply Pump House	NFA
3	Incinerator/Energy Recovery Units	NFA
4	Surface Impoundments (Settling Pond and Adjacent De-Watering Area), including discharge area to the Salt Kill (south end)	NFA
5	Waste Piles Areas 1, 3, 4 and 5	NFA
6	Filter/Tank Sludge Storage Areas	NFA
7	Tanker/Truck Roll Off Staging Area	NFA
8	Employee Parking Lot, Discharge Area and Floor Drain	NFA

Number	*SWMU(s) or AOC(s)*	*Status*[1]
9	Shale Fine Land Fill	NFA
10	Shale Fine Leachate Pond	NFA
11	Interim Waste Water Treatment/Sludge Container Staging Area	NFA
12(a)	Scrap Yard (aka Bone Yard) Area Soils	NFA
12(b)	Transformer Pad Vicinity	SM
13	Salt Kill Creek	NFA
14	North and East Site Perimeter Fence Area	NFA
15	Maintenance Garage	NFA
16	Quarry Pond	NFA
17	Industrial Sewers/Hazardous Waste Feed Pipelines	NFA

1. *The Statement of Basis 2014 discusses these requirements in greater detail and is a document incorporated by reference.*
2. *SM- Site Management*
3. *NFA – No Further Action*

b. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits or by other means.

B. Green Remediation

1. The Permittee must make best efforts to implement green remediation practices in the performance of the requirements of the Work, including but not limited to

performance of a RCRA Facility Investigation, Corrective Measures Study, Interim Corrective Measure, Corrective Measures Implementation and Post-Closure/Effectiveness Evaluations to maximize to the extent practicable, sustainability, reduce energy and water usage, promote carbon neutrality, promote materials reuse and recycling, and protect and preserve land resources.

2. The Permittee must make best efforts to utilize concepts and techniques presented in the New York State Department of Environmental Conservation – DEC Program Policy DER-31/Green Remediation, most recent edition.

3. The Permittee must report Green Remediation metrics as required by **Condition F of Schedule 1 of Module I**.

EXHIBIT C

SUPPLEMENT TO MODULE III - USE AND MANAGEMENT OF CONTAINERS

EXHIBIT C
SUPPLEMENT TO
MODULE III - USE AND MANAGEMENT OF CONTAINERS

The following conditions supplement those conditions contained within Module III of this Permit:

A. Authorized Storage Areas, Waste Types and Storage Volumes:

1. The Permittee is authorized to operate the following container storage areas (CSAs) at the Facility and store wastes (as listed) in containers in these areas up to the maximum quantities authorized by this permit.

STORAGE AREA /DRAWING NO.	WASTE TYPE	WASTE CODES	CONTAINER SPECIFICATIONS[1,2]	QUANTITY
Truck Unloading Area #1/NY003-3308 and NY003-2475-1 (Attachment B) (North Truck Unloading Area)	Solid and Liquid Waste	Listed in the WAP Section 1.2	5, 15, 30 or 55 gallon plastic or fiber containers or 275 gallon totes meeting U.S. Department of Transportation Specifications.	Total Capacity – 4,785 gallons. Maximum 87 55-gallon drum equivalents
Solids Processing Bldg./ NY003-3308 and NY003-2475-1 (Attachment B)	Solid and Liquid Waste	Listed in the WAP Section 1.2	5, 15, 30 or 55 gallon plastic or fiber containers or 275 gallon totes meeting U.S. Department of Transportation Specifications.	Total Capacity – 9,900 gallons. Maximum 180 55-gallon drum equivalents

1. *Up to 85 gallon over packs may be used to secure leaking/damaged drums.*

2. *Only dry solid hazardous waste will be stored in fiber drums.*

B. Special Conditions For Containers (General)

1. The special conditions for containers presented below are applicable to all CSAs listed in **Condition A** of this Exhibit, unless otherwise specified.

2. Secondary Containment Concrete Sealant Maintenance

a. For CSAs where a coating has been applied and damage to the coating (e.g., gouges, chips, obvious wear, etc.) is identified through routine inspections of the applicable CSAs, the Permittee must, at a minimum, re-apply the coating to repair the damaged area in accordance with the inspection procedures included in the

approved Operations and Closure Plans and **Condition E of Module III** of this Permit.

4. Waste containers that must be opened for waste sampling, waste addition, volume reduction, and/or repackaging must be staged within a CSA secondary containment system for sampling, addition, reduction and/or repackaging.

5. The Permittee must use containers conforming to USDOT packaging specifications.

6. The Permittee may use containers that are smaller than 55-gallons in size but these containers must not be stacked more than two containers high on a pallet. Small containers (10 gallons or less) may be shrink wrapped and counted as one container.

7. The Permittee may not stack a pallet on top of another pallet holding containers smaller than 55-gallons in size.

8. Permittee may only stack 55 gallon drums two-high, and only on full pallets of four drums, refer to drum stacking plan.

C. Special Conditions For Containers (Specific)

1. All trucks containing waste or empty but not cleaned are limited to a 48 hour stay at the Tanker Staging area (as shown in Drawing NY003-3732 Attachment B) of the facility not including holidays, Saturdays, and Sundays. The Permittee shall park no more than 13 trucks, tankers or roll offs or combinations thereof in the Tanker Staging Area. No hazardous waste transfer of either bulk or drummed waste is permitted in the Tanker Staging Area. Any/all such operations shall be performed in one of the Truck Unloading Areas.

2. The Permittee may empty drums only in the Solids Processing Building and only when the vapor collection system is in full operation.

3. The Permittee may only open drums in the Truck Unloading Areas for sampling and then must be resealed.

4. Truck Unloading Area #1 (North Truck Unloading Area) is permitted when only one (1) truck is parked in the area. These containers shall be stored at the storage location shown in Drawing NY003-2475-1 Revision 11.

5. Loading and/or unloading of hazardous waste drums shall be performed only in the Truck Unloading Areas or the Solids Processing Building. Emptying of hazardous waste drums into permitted tanks shall be done only in the Solids Processing building.

6. All wastes and raw materials stored in an area designated for hazardous waste are subject to all terms and conditions of this permit.

EXHIBIT D

SUPPLEMENT TO MODULE IV – TANK SYSTEMS

EXHIBIT D
SUPPLEMENT TO
MODULE IV – TANK SYSTEMS

The following conditions supplement those conditions contained within Module IV of this Permit:

A. Authorized Storage Tank and Storage Volumes

The Permittee is authorized to use tank systems as detailed in the approved Operations and Waste Analysis Plans for the storage and/or treatment of the following wastes subject to the terms of this Permit. All tanks used for the storage of hazardous waste (LLGF) are listed in the table below. Each tank is authorized to store all hazardous waste (LLGF) identified as acceptable in the facility's waste analysis plan. The following table provides the permitted working and total capacity of the tank systems.

Location/Identification Number	Working Capacity (gallons)	Total Capacity (gallons)
300	26,682	27,903
400	26,682	27,903
500	26,682	27,903
600	17,974	18,940
100A	8,613	9,491
100B	8,613	9,491
100C	8,613	9,491
200A	9,271	10,663
200B	8,613	9,491
200C	8,613	9,491
101A	1,174	1,266
101B	1,174	1,266
102A	1,174	1,266
102B	1,174	1,266

B. SPECIAL CONDITIONS FOR TANK SYSTEMS (GENERAL)

1. The special conditions for tank systems presented below are applicable to all Tank Systems listed in **Condition A** of this Exhibit, unless otherwise specified.

2. The Permittee must operate and maintain the Tank Systems in accordance with Operations and Maintenance Plan incorporated by reference into of this Permit and **Module IV** of this Permit.

3. The Permittee must perform a pressure test or alternate test approved by the Department on all newly installed conveyance lines between secondary containment systems prior to placing into service. The Permittee must also test existing secondary containment conveyance lines or conveyance line sections upon repair, replacement or alteration, prior to placing back in service. The Permittee must test both the inner carrier pipe and outer containment pipe of double-walled transfer lines. The Permittee must perform this testing in strict accordance with the procedures developed in accordance with practices acceptable to the Deparment. The Permittee must record the results of this testing in the operating record required by 6 NYCRR 373-2.5(c). Any underground hazardous waste transfer line, or portion thereof, that fails its specified test, must be repaired or replaced in accordance with **Module IV Condition E** of this Permit and re-tested prior to its use.

C. SPECIAL CONDITIONS FOR TANK SYSTEMS (SPECIFIC) –

1. High level automatic feed cutoffs system in each of the tanks (except dispersion tank) must correspond to a volume equal to or less than the maximum permitted storage capacities shown in Table D-1 in **Condition A** of this Exhibit.

2. When loading and offloading hazardous waste tanker trucks or trailers in the Truck/Unloading Area # 1 and 2, the Permittee shall operate the vent collection system.

A least on a biennial basis, the Permittee shall empty, clean and inspect all permitted tanks in **Condition A** of this Exhibit for leaks, bulges, buckles, pitting & corrosion and measure shell thickness (only for the above ground tanks) to determine the remaining service life of the tank system. The assessment shall be

performed by an independent professional engineer registered in New York State and experienced in this type of work. The assessment report shall be submitted to the Department with 30 days of its date. The Permittee shall commence implementing the remedies/recommendations in the engineer's report within 30 days of the assessment.

MODULE II

Corrective Action Requirements

PART 373 PERMIT

MODULE II – CORRECTIVE ACTION REQUIREMENTS

A. APPLICABILITY

1. Statute and Regulations: Article 27, Title 9, Section 27-0913, and 6 NYCRR 373-2.6(l) requires corrective action, including corrective action beyond the Facility boundary where necessary to protect human health and the environment, for all releases of hazardous wastes, including hazardous constituents, from any solid waste management unit (SWMU) regardless of the time at which waste was placed in such unit. Pursuant to 6 NYCRR 373-1.6(c)(2), the Department may impose Permit conditions as the Department determines necessary to protect human health and the environment (such as areas of concern (AOCs) as defined in **Module I** of this Permit).

2. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs): The Permittee must initiate and complete the corrective action process for all SWMUs and AOCs at the Facility. The conditions of this Module apply to:

   a. All known SWMUs and AOCs as identified in **Schedule 1 of Module I** that have not completed the corrective action process; and

   b. Any newly-identified SWMUs and AOCs identified during the course of groundwater monitoring, field investigations, environmental audits or other means including, but not necessarily limited to, those identified pursuant to **Condition C** of this Module.

B. STANDARD CONDITIONS FOR CORRECTIVE ACTION

1. The Permittee must perform any and all corrective action specified by **Condition A.2** of this Module.

2. The Permittee must follow the requirements for Groundwater Protection as specified in **Schedule 1 of Module 1** his Permit, including any groundwater sampling and analysis plan which may be required therein.

3. The Permittee and its consultants/contractors performing corrective action activities must demonstrate completion of appropriate training in accordance with the Department-approved Personnel Training Program Plan incorporated by reference into this Permit and follow all applicable health and safety plans.

4. Compliance with Governmental Requirements: During investigative activities, interim corrective measures and final corrective measures (including, but not limited to, equipment decommissioning, excavation and unit demolition) required by this Module, the Permittee must ensure that the transportation, treatment, storage, discharge, and disposal of all contaminated materials generated as a result of such

activities (including, but not limited to, soil, sediments, liquids, tanks, pipes, pumps, rubble, debris and structural materials) are performed in an environmentally sound manner pursuant to all applicable federal, State and local requirements, and in a way that is protective of human health and the environment. Nothing in this Module shall be construed to require the Permittee to proceed in a manner which is in violation of any such requirements.

5. Notifications:

   a. Groundwater Contamination: If at any time the Permittee discovers that hazardous constituents in groundwater released from the Facility have migrated beyond the Facility boundary in concentrations that exceed an action level, the Permittee must, within fifteen (15) calendar days of discovery, provide written notice to the Department.

   b. Air Contamination: If at any time the Permittee discovers that hazardous constituents in air have been released from a SWMU or AOC at the Facility, and have or are migrating to areas beyond the Facility boundary in concentrations that exceed action levels in the Department's DAR-1 ("Guidelines for the Control of Toxic Ambient Air Contaminants"), and that residences or other places at which continuous, long-term human exposure to such constituents might occur are located within such areas, the Permittee must immediately initiate all appropriate actions necessary to mitigate the release to concentrations below the action levels or cease operation immediately. In addition, the Permittee must:

      i. Provide written notification to the Department within fifteen (15) calendar days of such discovery; and

      ii. Immediately initiate any actions that might be necessary to provide notice to all individuals who have been or may become exposed to the released constituents.

   c. Residual Contamination: If hazardous wastes or hazardous constituents are located within or have been released from SWMUs or AOCs and will remain in or on the land, including groundwater, after the term of this Permit has expired, the Permittee must record, in accordance with State law, a notation in the deed to the Facility property or in some other instrument acceptable to the Department which is normally examined during title search that will, in perpetuity, notify any potential purchaser of the property, of the types, concentrations and locations of such hazardous wastes or hazardous constituents.

   d. Newly Discovered SWMUs and AOCs: The Permittee must notify the Department, in writing, of any additional SWMUs and AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits or other means within fifteen (15) days of discovery. Thereafter, the Permittee must proceed with the assessment, investigation, evaluation and remediation of the SWMU and/or AOC as set forth in **Condition C** of this Module.

e. Newly Discovered Releases: The Permittee must notify the Department, in writing, of any release(s) of hazardous wastes, including hazardous constituents, discovered during the course of groundwater monitoring, field investigations, environmental audits, or other activities no later than fifteen (15) calendar days of discovery. Such newly-discovered release(s) may be from newly-identified unit(s)/area(s), from unit(s)/area(s) for which, based on the findings of the RCRA Facility Assessment (RFA), the Department had previously determined that no further investigation was necessary, or from unit(s)/area(s) investigated as part of a RCRA Facility Investigation (RFI). Based on the information provided in the notification, the Department shall determine the need for further investigation of the release(s). If the Department determines that such investigations are needed, the Department shall, by written notification, require the Permittee to prepare an RFI Work Plan in accordance with **Condition D** of this Module. The Department may, at its discretion, also require the Permittee to prepare an Interim Corrective Measures (ICM) Work Plan.

6. Determination of No Further Action

a. Based on the results of a RFA or a RFI for a particular SWMU or AOC, or combination of SWMUs and/or AOCs, and any other relevant information, the Permittee may submit an application to the Department for a permit modification under 6 NYCRR 373-1.7(b) and 621.13 to terminate the subsequent corrective action requirements of this Module and **Schedule 1 of Module I** for the subject SWMU(s) or AOC(s). The permit modification application must contain information demonstrating that no release(s) of hazardous wastes, including hazardous constituents, have occurred from the subject SWMU(s) and/or AOC(s), or that such releases do not and will not pose a threat to human health or the environment. The permit modification application must also include the information required in 6 NYCRR 373-1, 373-2 and 621.4(n).

b. If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the forty-five (45) calendar day public comment period required for major permit modifications, the Department determines that the release(s) or the suspected release(s) investigated are either non-existent or do not pose a threat to human health or the environment, the Department may grant the requested modification.

c. A determination of no further action shall not preclude the Department from modifying this Permit in accordance with 6 NYCRR 621.13 in order to implement the following actions:

i. Require the Permittee to perform such investigations as necessary to comply with the requirements of this Module and **Schedule 1 of Module I** if new information or subsequent analysis indicates that there are, or are likely to be, releases from SWMUs/AOCs that may pose a threat to human health or the environment; and/or,

ii. Require continual or periodic monitoring of air, soil, groundwater, surface water, sediment or subsurface gas, if necessary, to protect human health and the environment, when site-specific circumstances indicate the release(s) of hazardous waste(s), including hazardous constituents, are likely to occur from any SWMU(s) and/or AOC(s).

C. SCHEDULE FOR ASSESSMENT OF NEWLY IDENTIFIED SWMUs AND AOCs

1. Notification of Assessment: The Permittee must notify the Department, in writing, of any additional SWMU(s) and/or AOC(s) not listed in **Schedule 1 of Module I**, which are identified during the course of groundwater monitoring, field investigations, environmental audits, or other means within fifteen (15) calendar days of discovery.

2. SWMU/AOC Assessment Report: Within thirty (30) calendar days of notifying the Department, the Permittee must submit a SWMU/AOC Assessment Report. This report must provide, at a minimum, the following information for each newly identified SWMU/AOC:

   a. Type of unit/area;

   b. Location of each unit/area on a topographic map of appropriate scale;

   c. Dimensions, capacities, and structural descriptions of the unit/area (supply available engineering drawings);

   d. Function of unit/area;

   e. Dates that the unit/area was operated;

   f. Description of the wastes that were placed or spilled at the unit/area;

   g. Description of any known releases from the unit/area (to include groundwater data, soil analyses, air monitoring data, and/or surface water/sediment data);

   h. The results of any sampling and analysis required for the purpose of determining whether releases of hazardous wastes, including hazardous constituents, have occurred, are occurring, or are likely to occur from the unit/area; and

   i. Whether this unit/area, individually or in combination with other units/areas described in **Schedule 1 of Module I**, is a significant source of contaminant release.

3. SWMU/AOC Sampling and Analysis Plan: If prior to or after submission of the SWMU/AOC Assessment Report required in **Condition C.2** of this Module the Department determines and notifies the Permittee that sampling and analysis is required, the Permittee must, within thirty (30) calendar days of such notification, submit to the Department for approval a plan prepared in accordance with **Condition D** of this Module, for sampling and analysis of specific environmental

media including, but not limited to, groundwater, land surface and subsurface strata, surface water/sediment or air, as necessary to determine whether a release of hazardous waste, including hazardous constituents, from such unit(s) and/or area(s) has occurred, is likely to have occurred, or is likely to occur. The SWMU/AOC Sampling and Analysis Plan must demonstrate that the sampling and analyses program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste, including hazardous constituents, from the newly-discovered SWMU(s) and/or AOC(s) to the environment.

4. Subsequent Assessment Actions: Following submission of the SWMU/AOC Assessment Sampling and Analysis Plan set forth in **Condition C.3** of this Module, the Department may either approve the Plan as submitted or issue comments on the Plan. If approved, the Permittee must implement sampling in accordance with the Plan within thirty (30) calendar days of receipt of the Department's approval. If the Department issues comments on the Plan, subsequent activities for the Plan must proceed in accordance with **Condition A.7 of Module I** of this Permit.

5. SWMU/AOC Sampling and Analysis Report: Within thirty (30) calendar days of receipt by the Permittee of validated analytical data generated under the approved SWMU/AOC Sampling and Analysis Plan, the Permittee must follow reporting requirements in the approved Plan and submit a SWMU/AOC Sampling and Analysis Report to the Department. The Report must describe all results obtained from the implementation of the approved Plan.

6. Assessment Conclusions: Based on the results of the SWMU/AOC Sampling and Analysis Report, the Department shall determine the need for further investigations at the specific unit(s) covered in the SWMU/AOC Assessment Report. If the Department determines that such investigations are needed, the Department shall, by written notification, require the Permittee to prepare and submit for approval a RFI Work Plan. In addition, the Department may, at its discretion, require the Permittee to submit an Interim Corrective Measures (ICM) Work Plan if an ICM is deemed necessary by the Department to safeguard human health and the environment. Any additional activities required by the Department must be undertaken in accordance with **Condition D** of this Module.

D. DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION PROGRAM

For the purposes of this Permit, the technical and administrative requirements of "DER-10 – Technical Guidance for Site Investigation and Remediation" are applicable where corrective action has been determined by the Department to be necessary. Since DER-10 uses State Superfund nomenclature, the following table provides a cross-reference between Resource Conservation and Recovery Act (RCRA) and State Superfund nomenclature when using "DER-10 – Technical Guidance for Site Investigation and Remediation":

RCRA Program Element	***Equivalent Superfund Program Element***
RCRA Facility Assessment (RFA) (including Preliminary Review [PR], Visual Site Inspection [VSI] and Sampling Visit [SV])	Site Characterization (SC)
RCRA Facility Investigation (RFI)	Remedial Investigation (RI)
Corrective Measures Study (CMS)	Feasibility Study (FS)
Interim Corrective Measure (ICM)	Interim Remedial Measure (IRM)
Statement of Basis (SOB)	Record of Decision (ROD)
Corrective Measures Implementation (CMI) (design)	Remedial Design (RD)
CMI (construction)	Remedial Action (RA)
Post-Closure / Effectiveness Evaluations	Site Management (SM)

Accordingly, when the Department, as part of this Permit, requires the Permittee to prepare any component (e.g., work plan, report, study, design, remedy, etc.) of a specific RCRA Program element identified in the above table, the Permittee must utilize DER-10 - Technical Guidance for Site Investigation and Remediation for the preparation of the appropriate analog RCRA Program element component. The required component shall be captioned with the appropriate RCRA program element title. This is the required approach unless specific alternative direction is otherwise provided by the Department in writing.

1. Work Plan Development

    a. The Permittee must submit a corrective action work plan to the Department within thirty (30) days of notification by the Department that such work plan is necessary.

    b. All corrective action activities at the Facility must be conducted pursuant to one or more Department-approved work plans. The work plan(s) prepared pursuant to this Permit must address both on-site and off-site contamination consistent with the provisions of Department guidance entitled "DER-10 - Technical Guidance for Site Investigation and Remediation."

    c. All work plans must be developed consistent with Department guidance entitled "DER-10 - Technical Guidance for Site Investigation and Remediation." Work plans prepared to address corrective action at active units or units under post-closure care must also incorporate the applicable requirements of 6 NYCRR 373-2.6 and 373-2.7.

d. All Department-approved work plans will be incorporated into this Permit when specifically noted in such approvals, pursuant to 6 NYCRR 621.13, and become enforceable under this Permit.

e. The Department may, at its discretion, direct the Permittee to prepare "supplemental" work plans, studies and/or designs as it determines necessary to ensure protection of human health and the environment.

f. The Permittee may opt to propose one or more supplemental work plans (including one or more IRM Work Plans) at any time, which the Department shall review for appropriateness and technical sufficiency.

g. Any proposed work plan must be submitted for the Department's review and approval, and must include, at a minimum, a chronological description of the anticipated activities, a schedule for performance of those activities, and sufficient detail to allow the Department to evaluate that work plan. The requirements for submittal review are specified in **Condition D.4** of this Module.

h. Within twenty (20) days of the Department's request for a work plan, the Permittee must submit for review and approval a written citizen participation plan prepared in accordance with applicable Department guidance. Upon approval, the citizen participation plan shall be incorporated by reference into this Permit.

i. All work plans prepared pursuant to this Module must be certified in accordance with 6 NYCRR 373-1.4(a)(5), and by a Professional Engineer or other qualified environmental professional as the Department may find acceptable using the language provided in DER-10.

2. Work Plan Implementation

a. Upon approval of a work plan by the Department, the Permittee must implement such work plan in accordance with the schedule contained therein.

b. The Department must be notified at least 7 days in advance of, and be allowed to attend, any field activities to be conducted under a Department-approved work plan, as well as any pre-bid meetings, job progress meetings, substantial completion meeting and inspection, and final inspection and meeting.

c. During all field activities conducted under a Department-approved work plan, the Permittee must have, on-site, a representative who is qualified to supervise the activities undertaken. Such representative may be an employee or a consultant retained to perform such supervision.

d. The Permittee must follow the notification requirements of **Condition B.5** of this Module during work plan implementation.

e. All corrective action activities must be conducted in accordance with **Condition B.4** of this Module.

f. In accordance with the schedule contained in a Department-approved work plan, the Permittee must submit a final report (e.g., RFI report, etc.) that meets the requirements set forth in "DER-10 - Technical Guidance for Site Investigation and Remediation", summarizes all data generated during implementation of the work plan, and includes a complete description of all assessments and evaluations required by the work plan.

g. Any final report or final engineering report that includes construction activities must include "as built" drawings showing any changes made to the remedial design or the IRM.

h. All final reports and final engineering reports must be submitted for the Department's review and approval. The requirements for submittal review are specified in **Condition D.4** of this Module.

i. All final reports and final engineering reports must be certified in accordance with 6 NYCRR 373-1.4(a)(5), and by a Professional Engineer or other qualified environmental professional as the Department may find acceptable using the language provided in DER-10.

3. Remedy Selection

a. The Department shall select a proposed remedy in accordance with DER-10 following receipt of the Corrective Measures Study (CMS) or Feasibility Study (FS). The proposed remedy shall be set forth in a draft Statement of Basis (SOB) prepared by the Department for the Facility. The selected remedy in the final SOB shall be incorporated by reference into this Permit by modification pursuant to 6 NYCRR 621.13.

b. Once the SOB has been incorporated into this Permit, the Permittee must submit a Corrective Measures Implementation (CMI) Work Plan or Remedial Design/Remedial Action (RD/RA) Work Plan that provides for the development and implementation of final plans and specifications for implementing the remedial alternative set forth in this Permit (i.e., in the SOB). This work plan must, unless otherwise provided in writing by the Department, be submitted within one hundred twenty (120) days of the effective date of the Permit modification. The Permittee must commence implementation of the CMI Work Plan or RD/RA Work Plan within thirty (30) days of the Department's approval of such work plan.

c. The Permittee must submit a Site Management Plan (SMP) or an update to an existing SMP, as necessary, in accordance with the schedule set forth in the approved CMI Work Plan or RD/RA Work Plan or in accordance with a request from the Department. The Permittee must commence implementation of the Site Management Plan within thirty (30) days of the Department's approval of such plan.

d. The Permittee must submit an initial periodic review report (PRR) in accordance with the schedule in the SMP and thereafter annually, unless the Department approves an alternate frequency in writing. The periodic review report must include the information specified in DER-10 and other applicable NYSDEC guidance, and must also include, but not be limited to, documentation of the performance of any required groundwater compliance inspections, operation and maintenance inspections, groundwater comprehensive monitoring evaluations, and any required corrective measures effectiveness evaluations related to the remedy(ies) in place at the Facility, as well as a description and results summary for any investigation or corrective action activity that occurred at the Facility during the period. The PRR must be certified in accordance with 6 NYCRR 373-1.4(a)(5), and by a Professional Engineer or other qualified environmental professional as the Department may find acceptable using the language provided in DER-10.

e. As part of the periodic review report submission, the Permittee must provide an annual certification of institutional and engineering controls until such time that the Department notifies the Permittee in writing that this certification is no longer needed. Therefore, the PRR must: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and, (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the SMP unless otherwise approved by the Department. The Permittee must submit a written certification in accordance with 6 NYCRR 373-1.4(a)(5) and DER-10 - Technical Guidance for Site Investigation and Remediation.

f. The Permittee must continue operation of the selected remedy until such time that the remedial objectives have been achieved and the Department determines that continued operation is technically impracticable or not feasible.

4. Review of Submittals

a. The Department shall review and respond in writing to each submittal (e.g., plans, studies, reports, schedules, written submittals, etc.) the Permittee makes pursuant to this Permit, unless the Department determines that a response is not necessary. The Department's response shall include an approval, modification request, or disapproval of the submittal, in whole or in part. Failure of the Permittee to act in accordance with the requirements of this Condition is a violation of this Permit.

b. Following its review of a submittal, the Department may either approve the submittal or issue comments. If approved, the Permittee must implement the submittal or initiate the next step in the program in accordance with the schedule contained in the submittal or the Department's approval letter. If the Department issues comments on the submittal, subsequent activities for the submittal must proceed in accordance with **Condition A.7 of Module I** of this Permit.

c. In the event the Department provides conditional approval of a submittal, within thirty (30) days of the Department's conditional approval the Permittee must modify the submittal in accordance with any Department comments and resubmit the document, including all required supporting data and documents in an electronic format acceptable to the Department in accordance with the requirements of **Condition N of Module I**. All resubmissions must be certified in accordance with 6 NYCRR 373-1.4(a)(5), and by a Professional Engineer or other qualified environmental professional as the Department may find acceptable using the language provided in DER-10.

d. Upon approval, the submittal will be incorporated into this Permit when specifically noted by the Department in such approval, pursuant to 6 NYCRR 621.13. If directed by the Department, the Permittee must place the submittal within the Facility's document repository within fifteen (15) days of receipt of the Department's approval.

e. In the event that the Permittee and the Department cannot resolve the Department's comments, the Department shall, pursuant to 6 NYCRR 621.13 and within 45 days of notice of disapproval or required modifications, send to the Permittee a notice of intent to modify this Permit with regard to all unresolved issues in order to safeguard human health and the environment.

E. OTHER REQUIREMENTS

1. Reservation of Rights

a. Nothing contained in this Permit shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights or authorities, including, but not limited to, the right to require performance of further investigations and/or response action(s), and/or to exercise any summary abatement powers with respect to any person, including the Permittee.

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

2. Environmental Easement

a. If a Statement of Basis (SOB), or other approved work plan, for the Facility relies upon one or more institutional and/or engineering controls, the Permittee (or the owner of the Facility) must submit to the Department for approval an environmental easement and/or restrictive covenant to run with the land in favor of the State which must be:

i. created and recorded pursuant to ECL Article 71, Title 36;

ii. in a form and manner as prescribed by the Department;

iii. in compliance with General Obligations Law (GOL) 5-703(1) and ECL 71-3605(2); and,

iv. recordable pursuant to Real Property Law (RPL) 291.

b. Upon acceptance of the environmental easement and/or restrictive covenant by the State, the Permittee must comply with the requirements of **Condition E.2** of this Module.

c. Agents, employees or other representatives of the State may enter and inspect the property burdened by an environmental easement with reasonable prior notice to the property owner, to assure compliance with the restrictions identified by the environmental easement.

d. If the SOB provides for no action other than implementation of one or more institutional controls, the Permittee must cause an environmental easement to be recorded under the provisions of **Condition E.2.a** of this Module.

e. If the Permittee does not cause such environmental easement to be recorded in accordance with **Condition E.2.a** of this Module, the Department may file an Environmental Notice on the Facility.

3. Progress Reports

a. The Permittee must submit a written progress report of its actions under this Permit to the parties identified in **Schedule 1 of Module I** by the 10th day of each month commencing with the month subsequent to the approval of the first work plan and ending with the completion of a work item requiring reporting as specified in this Permit or a Department-approved work plan.

4. Dispute Resolution

a. The Permittee must submit any dispute related to the Department's comments to the designated individual in writing no more than 15 days after it knew or should have known of the facts which are the basis of the dispute. The designated individual shall render a written decision and furnish a copy thereof to the Permittee, which shall be the final Department determination, unless the Permittee files a written appeal of that decision with the designated appeal individual within 20 days of receipt of that decision.

i. Upon receipt of the written appeal pursuant to **Condition E.4.a** of this Module, the designated appeal individual, will review the record and decision. The designated appeal individual will take one of the following actions, with written notice to the Permittee:

'a') remand the matter to the program staff for further negotiation or information if it is determined that the matter is not ripe for review;

'b') determine that there is no need for further action, and that the determination of the designated individual is confirmed; or,

'c') make a determination on the record as it exists.

ii. The decision of the designated appeal individual shall be the final Department decision unless, within 20 days of receipt of the decision, the Permittee requests that the Department proceed in accordance with **Condition E.4.b** of this Module.

iii. The designated individual to:

'a') hear disputes is a bureau director in the Department's Division of Environmental Remediation; and,

'b') to review dispute decisions is the assistant director of the Department's Division of Environmental Remediation.

b. In the event that the Department issues comments that cannot be resolved with the Permittee, the Department shall, pursuant to 6 NYCRR 621.13, send to the Permittee a notice of intent to modify this Permit with regard to all unresolved issues in order to safeguard human health and the environment.

c. Upon receipt of a notice of intent from the Department, the Permittee must act in accordance with 6 NYCRR 621.13(d) or the Department's action will become effective on the date specified in the notice of intent. In the event that the Permittee acts in accordance with 6 NYCRR 621.13(d) within the specified timeframe, the procedure for dispute resolution will continue in accordance with 6 NYCRR 621.13.

F. MISCELLANEOUS

1. Required Authorizations

a. The Permittee must use best efforts to obtain all Facility access, permits, easements, approvals, institutional controls, and/or authorizations necessary to perform the Permittee's obligations under this Permit, including all Department-approved work plans and the schedules contained therein. If, despite the Permittee's best efforts, any access, permits, easements, approvals, institutional controls, or authorizations cannot be obtained, the Permittee must promptly notify the Department and include a summary of the steps taken. The Department may, as it deems appropriate and within its authority, assist the Permittee in obtaining same.

b. If an interest in property is needed to implement an institutional control required by a work plan and such interest cannot be obtained, the Department may require the Permittee to modify the work plan to reflect changes necessitated by the Permittee's inability to obtain such interest. Within 15 days of receipt of such notice, the Permittee must elect in writing to either: a) modify the work plan as requested by the Department, or accept a Department modified work plan, within 30 days of receipt of the written notice; or, b) invoke dispute resolution in accordance with **Condition E.4** of this Module.

MODULE III

Use and Management of Containers

PART 373 PERMIT

MODULE III – USE AND MANAGEMENT OF CONTAINERS

A. AUTHORIZED STORAGE AREA, WASTE TYPES AND STORAGE VOLUME

1. The Permittee is authorized to manage and/or store hazardous wastes subject to the terms of this Permit as described in **Schedule 1 of Module I**. **Schedule 1 of Module I** provides information regarding the number, location, configuration and type of hazardous wastes in containers that may be stored in each permitted container storage area. The Permittee must not manage and/or store any hazardous wastes in excess of the maximum capacities for each individual area identified in **Schedule 1 of Module I** of this Permit. This Permit is applicable to containerized hazardous wastes in accordance with 6 NYCRR 373-2.9(a), with exceptions noted in, and in compliance with, 6 NYCRR 371.1(h), 371.4 (d)(3), 373-1.1(d)(1)(iii), 373-1.1(d)(1)(xiv) and 373-2.1(a).

B. CONDITION OF CONTAINERS [6 NYCRR 373-2.9(b)]

1. The Permittee must manage and maintain any and all containers holding hazardous wastes authorized by this Permit in accordance with the requirements of 6 NYCRR 373-2.9(b) and this Permit.

C. COMPATIBILITY OF WASTE WITH CONTAINERS [6 NYCRR 373-2.9(c)]

1. The Permittee must use a container made of, or lined with, materials which will not react with, and is otherwise compatible with, the hazardous wastes authorized by this Permit to be stored, so that the ability of the container to contain the waste is not impaired in accordance with 6 NYCRR 373-2.9(c) and this Permit.

D. MANAGEMENT OF CONTAINERS [6 NYCRR 373-2.9(d)]

1. The Permittee must manage containers holding hazardous waste authorized by this Permit in accordance with 6 NYCRR 373-2.9(d) and this Permit including **Schedule 1 of Module I**.

2. Any containers with nonhazardous wastes and other materials stored in an area designated for hazardous waste containers will be subject to all the terms and conditions of this Permit and by 6 NYCRR 360-1.1(b). Any other materials stored in these designated areas must be compatible with the waste in accordance with **Condition H** of this Module.

3. The Permittee must maintain aisle space in accordance with 6 NYCRR 373-2.3(f) and this Permit including **Schedule 1 of Module I**. Drums must be stored in rows no greater than 2 drums wide. The aisle space between the rows must be a minimum of 2 feet wide or wider as required by **Schedule 1 of Module I** of this Permit. Drums must not be stacked greater than 2 high or as required by **Schedule 1 of Module I** of

this Permit. For aisle space and stacking requirements for other container types, refer to **Schedule 1 of Module I** of this Permit. All container storage areas must comply with the applicable sections of the New York State Fire Code and the National Fire Protection Association (NFPA) 30 - "Flammable and Combustible Liquids Code." The Permittee must demonstrate compliance with the applicable portions of the New York State Fire Code and the NFPA 30 to the satisfaction of the Department.

E. INSPECTIONS [6 NYCRR 373-2.9(e)] AND REPAIR/REMEDIAL ACTION [6 NYCRR 373-2.2(g)(3)]

1. The Permittee must inspect areas where containers are stored as authorized by this Permit in accordance with 6 NYCRR 373-2.2(g), 373-2.9(e) and this Permit including the Department-approved Security and Facility Inspection Plan incorporated by reference into this Permit.

2. Loading and unloading areas must be inspected daily when in use in accordance with 6 NYCRR 373-2.2(g)(2)(iv) and this Permit.

3. For each occurrence where hazardous wastes are stored in a container that is not in good condition or that is leaking, or if defects are identified in the secondary containment for containers, the Permittee must record the occurrence in the inspection log and maintain the log as part of the operating record required by 6 NYCRR 373-2.5(c). The Permittee must indicate in the facility's operating record the date the defect was identified, the date repairs were completed and a brief description of said repairs.

4. If any leaking container threatens human health or the environment the Permittee must immediately report the situation as specified in **Condition C.2 of Module I** (i.e., Oral Reports) and as necessary implement the Department-approved Contingency Plan provided as incorporated by reference into this Permit as necessary.

5. For any container of hazardous wastes that is found to be not in good condition (e.g., severe rust, apparent structural deformity, etc.) or leaking, the Permittee must take immediate action to stop or prevent the leak, take steps in accordance with 6 NYCRR 373-2.9(b) and clean up any leaked or spilled material as required by 6 NYCRR 373-2.9(f)(1)(v) in accordance with the procedures contained in the Department-approved Contingency Plan provided as incorporated by reference into this Permit.

6. The Permittee must repair all defects or other deficiencies identified with the secondary containment system for containers during the Permittee's regular inspections or as a result of independent assessments in accordance with 6 NYCRR 373-2.2(g)(3) and **Condition E.8** of this Module. The Permittee must maintain the secondary containment system for containers free of cracks or gaps and sufficiently impervious to contain leaks, spills and accumulated precipitation.

7. If the secondary containment system for containers is found to be breached or in such a deteriorated condition that it is obviously incapable of containing a release, the Permittee must: a) take immediate action to stop or prevent any release from the area;

b) take steps in accordance with 6 NYCRR 373-2.9(f)(1)(v) and the Department-approved Contingency Plan provided as incorporated by reference into this Permit to clean up any leaked or spilled material; and, c) immediately cease operation of the area and relocate any containers located therein until the defect is repaired to the satisfaction of the Department.

8. For any identified deterioration or malfunction of equipment or structures associated with a hazardous waste management unit which does not result in a release or create the potential for a release of hazardous wastes from the unit's primary containment (i.e., defects other than those described in **Condition E.5** of this Module), except for specific defects where other Permit conditions or the regulations require repairs within other specified time periods, the Permittee must either:

   a. Schedule and complete repairs to the defect within thirty (30) days from the date the defect was first identified;

   b. Submit a proposed schedule for Department approval within seven (7) days from the date the defect was first identified, if it is anticipated that it will take longer than 30 days to complete repairs. The proposed schedule must include the date for completing the repairs which must be within six (6) months from the date when the defect was identified; or

   c. The Permittee may request, and the Department may approve, extensions to the schedule provided the Permittee has adequately demonstrated that the extension is needed due to unforeseen circumstances or circumstances beyond the Permittee's control and that the delay will not lead to an environmental or human health hazard.

F. CONTAINMENT [6 NYCRR 373-2.9(f)]

1. Container storage areas authorized by this Permit for the storage of containerized liquids must have a containment system that is designed and operated in accordance with 6 NYCRR 373-2.9(f)(1) and this Permit including **Schedule 1 of Module I**. Container storage areas authorized by this Permit for only the storage of containerized solids with no free liquids must, at a minimum, meet the requirements of 6 NYCRR 373-2.9(f)(2) and this Permit including **Schedule 1 of Module I**.

G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE [6 NYCRR 373-2.9(g)]

1. The Permittee must manage all ignitable or reactive waste placed in containers and authorized by this Permit in accordance with 6 NYCRR 373-2.9(g) and this Permit.

H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE [6 NYCRR 373-2.9(h)]

1. The Permittee must adhere to the special requirements for the management of incompatible wastes in containers authorized by this Permit in accordance with 6 NYCRR 373-2.9(h) and this Permit.

2. The Permittee must demonstrate the compatibility of all hazardous wastes authorized by this Permit with other wastes and materials, and with the containers utilized to store the waste in accordance with this Permit including **Schedule 1 of Module I** and the Department-approved Waste Analysis Plan as incorporated by reference into this Permit.

I. CLOSURE [6 NYCRR 373-2.9(i)]

1. At closure, the Permittee must comply with the closure requirements in accordance with 6 NYCRR 373-2.9(i), 6 NYCRR 373-2.7 and this Permit, including the Department-approved Closure Plan provided as Attachment C of this Permit.

J. AIR EMISSION STANDARDS [6 NYCRR 373-2.9(j)]

1. The Permittee must manage all hazardous wastes in containers authorized by this Permit in accordance with 6 NYCRR 373-2.27, 373-2.28 and 373-2.29 as applicable and **Schedule 1 of Module I** of this Permit.

K. OTHER REQUIREMENTS

1. Independent Secondary Containment Assessment of Container Storage Areas: For container storage areas that require secondary containment pursuant to this Permit, the Permittee must conduct an independent assessment of each secondary containment area. The independent secondary containment assessment must be conducted triennially for indoor areas not exposed to the weather and annually for all other areas, unless otherwise specified in **Schedule 1 of Module I**. The assessment must identify any deficiencies in each containment area including, but not limited to, cracks, gaps, sealant/coating defects or other defects that would inhibit the ability of the containment system to contain leaks or spills of containerized liquids, in accordance with the requirements of 6 NYCRR 373-2.9(f)(1). The assessment must be performed by an independent, qualified Professional Engineer licensed in New York State or a qualified inspector working under the Professional Engineer. All containers, equipment and miscellaneous debris must be removed so that all surfaces of the containment system are completely exposed for inspection. Any defects identified during the assessment must be documented in an assessment report. Once any defects have been repaired, the secondary containment area(s) must be re-inspected by the engineer/inspector to evaluate the adequacy of the repairs and to confirm that the secondary containment area(s) meets the requirements of 6 NYCRR 373-2.9(f)(1)(i) and **Condition F** of this Module. The assessment report must document the results of such re-inspections and confirm that the secondary containment area(s) meets the cited requirements. Copies of each assessment report must be retained by the Permittee in accordance with 6 NYCRR 373-1.6(a)(10) and made available for review upon Department request. The Permittee may also be required to submit the assessment report to the Department if so specified in **Schedule 1 of Module I**.

2. Precautions in Flammable & Oxidizer Waste Storage Areas: Machinery and equipment must not be permitted in flammable and oxidizer waste storage areas or any process area where a flammable atmosphere may exist unless it has been fitted with appropriate safeguard devices approved by Underwriters Laboratories (UL) to render the machinery/equipment intrinsically safe. Only non-sparking tools shall be used in these storage areas.

3. The Permittee must remove all liquid precipitation and other accumulated liquids from any hazardous waste secondary containment structure within 24 hours.

MODULE IV

Tank Systems

PART 373 PERMIT

MODULE IV - TANK SYSTEMS

A. AUTHORIZED TANK SYSTEMS AND WASTES

a. The Permittee is authorized to use the tank systems for the storage and/or treatment of hazardous wastes subject to the terms of this Permit as described in **Schedule 1 of Module I**. **Schedule 1 of Module I** provides information regarding the location, capacity and type of waste stored for each permitted tank system. This Permit is applicable to wastes stored or treated in accordance with 6 NYCRR 373-2.10(a), with exceptions noted in, and in compliance with, 6 NYCRR 373-1.1(d)(1)(iii) and 373-2.1(a).

b. The Permittee must operate and maintain the tank systems in accordance with this Permit and with 6 NYCRR 373-2.10.

c. For tank systems used to store or treat materials that are newly defined as hazardous waste in the future, the Permittee must comply with 6 NYCRR 373-2.10 and 373-1.7(g).

B. DESIGN AND INSTALLATION OF NEW TANK SYSTEMS OR COMPONENTS [6 NYCRR 373-2.10(c)]

a. For new hazardous waste tank systems or components (such as the secondary containment system) not authorized by this Permit, which the Permittee proposes to construct in the future, the Permittee must, prior to construction for a new or replacement tank system and prior to operation of a repurposed or modified tank system, submit to the Department an application to modify this Permit including design plans, specifications and a written assessment of the tank systems' structural integrity, as required by 6 NYCRR 373-2.10(c) and obtain a permit modification.

b. The term "new hazardous waste tank system(s)" includes new tank system(s), replacement tank system(s), repurposed tank system(s) and modified tank system(s).

c. Upon completion of construction and prior to commencing operation, the Permittee must obtain and keep on file certifications of construction in accordance with 6 NYCRR 373-2.10(c)(7).

d. The Permittee may not use any tank until:

    a. The Permittee has submitted to the Department by Certified Mail or hand delivery a letter signed by the Permittee and a New York registered Professional Engineer stating that the tank has been constructed or modified in compliance with this Permit;

b. A Department representative has inspected the newly constructed or modified tank and has found it is in compliance with the conditions of this Permit; or

c. If, within 15 days of the date of submission of the letter specified in **Condition B.4.a** of this Module the Permittee has not received notice from the Department of its intent to inspect, the inspection requirement specified in **Condition B.4.b** of this Module is waived and the Permittee may use the tank, per 6 NYCRR 373-1.6(a)(12)(ii)('b')('2').

C. CONTAINMENT AND DETECTION OF RELEASES [6 NYCRR 373-2.10(d)]

a. In order to prevent the release of hazardous waste or hazardous constituents to the environment, tank system(s) secondary containment must be provided and operated in a manner that meets the requirements of 6 NYCRR 373-2.10(d) and this Permit, including **Schedule 1 of Module I**, except for ancillary equipment meeting the requirements of 6 NYCRR 373-2.10(d)(6).

D. GENERAL OPERATING REQUIREMENTS [6 NYCRR 373-2.10(e)]

a. The Permittee must operate hazardous waste tank systems and components authorized by this Permit in accordance with 6 NYCRR 373-2.10(e) and this Permit including **Schedule 1 of Module I**.

E. INSPECTIONS [6 NYCRR 373-2.10(f)] AND REPAIR/REMEDIAL ACTION [6 NYCRR 373-2.2(g)(3)]

a. The Permittee must inspect tank systems and components authorized by this Permit in accordance with 6 NYCRR 373-2.2(g), 373-2.10(f) and this Permit, including the Department-approved Security and Facility Inspection Plan incorporated by reference into this Permit and **Schedule 1 of Module I**.

b. Loading and unloading areas must be inspected daily when in use in accordance with 6 NYCRR 373-2.2(g)(2)(iv) and this Permit.

c. For any leak, overflow, defect, deterioration, malfunction or other problem found as a result of the inspection or assessment of any tank system, including secondary containment and ancillary equipment, the Permittee must record the occurrence in the inspection log and maintain the log as part of the operating record required by 6 NYCRR 373-2.5(c). The Permittee must indicate in the facility's operating record the date the defect was identified, the date repairs were completed and a brief description of said repairs.

d. If leaks (except minor drips) or overflows are discovered associated with any hazardous waste tank system (including ancillary equipment), the Permittee must immediately report the situation as specified in **Condition C.2 of Module I** (i.e., Oral Reports) and implement the Department-approved Contingency Plan incorporated by reference into this Permit as necessary.

e. For any identified leak (including minor drips) or defect which creates the potential for leakage from a tank or from a tank's ancillary equipment (e.g., piping, pump, valve, etc.) containing hazardous waste, the Permittee must take immediate action to stop or prevent the leak, take steps in accordance with 6 NYCRR 373-2.10(g) and clean up any leaked or spilled material as required by 6 NYCRR 373-2.10(g)(2) in accordance with the procedures contained in the Department-approved Contingency Plan incorporated by reference into this Permit.

f. The Permittee must take action in response to any of the aforementioned tank system deficiencies in accordance with 6 NYCRR 373-2.2(g)(3), **Condition E.8** of this Module and, if applicable, **Condition F** of this Module. The Permittee must maintain the secondary containment system for tanks free of cracks or gaps and sufficiently impervious to contain leaks, spills and accumulated precipitation. The Permittee must remove all liquid precipitation and other accumulated liquids from any hazardous waste secondary containment structure within 24 hours.

g. If a tank system secondary containment is found to be breached or in such a deteriorated condition that it is obviously incapable of containing a release, the Permittee must: a) take immediate action to stop or prevent any release from the system; b) take steps in accordance with the Department-approved Contingency Plan incorporated by reference into this Permit to clean up any leaked or spilled material; and, c) immediately cease operation of the system and relocate any material stored within the system until the defect is repaired to the satisfaction of the Department.

h. For any identified deterioration or malfunction of equipment or structures associated with a hazardous waste management unit which do not result in a release or create the potential for a release of hazardous waste from the unit's primary containment (i.e., defects other than those described in **Condition E.5** of this Module) or for situations where the waste has been removed from the primary containment unit in accordance with **Conditions E.7 or F** of this Module, except for specific defects where other Permit conditions or the regulations require repairs within other specified time periods, the Permittee must unless otherwise addressed in an alternate schedule approved by the Department, either:

    a. Schedule and complete repairs to the defect within thirty (30) days from the date the defect was first identified;

    b. Submit a proposed schedule for Department approval within seven (7) days from the date the defect was first identified, if it is anticipated that it will take longer than 30 days to complete repairs. The proposed schedule must include the date for completing the repairs which must be within six (6) months from the date when the defect was identified; or

    c. The Permittee may request, and the Department may approve, extensions to the schedule provided the Permittee has adequately demonstrated that the extension is needed due to unforeseen circumstances or circumstances beyond the Permittee's control and that the delay will not lead to an environmental or human health hazard.

F. RESPONSE TO LEAKS OR SPILLS AND DISPOSITION OF LEAKING OR UNFIT-FOR-USE HAZARDOUS WASTE TANK SYSTEMS [6 NYCRR 373-2.10(g)]

a. A tank system or secondary containment system authorized by this Permit from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately and the Permittee must take all action required in accordance with 6 NYCRR 373-2.10(g) and this Permit.

b. With respect to notifications of releases to the environment, reporting must be in accordance with 6 NYCRR 373-2.10(g)(4) and **Module I** of this Permit.

G. CLOSURE AND POST-CLOSURE CARE [6 NYCRR 373-2.10(h)]

a. At closure of a tank system authorized by this Permit, the Permittee must comply with the closure requirements in accordance with 6 NYCRR 373-2.10(h), 6 NYCRR 373-2.7 and this Permit, including the Department-approved Closure Plan provided as Attachment I of this Permit. For tank systems where the Department accepts the Permittee's demonstration in accordance with 6 NYCRR 373-2.10(h)(2), the Permittee must meet the closure and post-closure requirements of 6 NYCRR 373-2.14(g), 6 NYCRR 373-2.7(g) through (j), and this Permit, including a Department-approved modified Closure Plan and new or modified Post-Closure Plan provided as Attachment I of this Permit.

H. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES [6 NYCRR 373-2.10(i)]

a. The Permittee must manage all ignitable or reactive waste placed in tank systems authorized by this Permit in accordance with 6 NYCRR 373-2.10(i) and this Permit.

I. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES [6 NYCRR 373-2.10(j)]

a. The Permittee must adhere to the special requirements for the management of incompatible waste in tank systems authorized by this Permit in accordance with 6 NYCRR 373-2.10(j) and this Permit.

J. AIR EMISSION STANDARDS [6 NYCRR 373-2.10(k)]

a. The Permittee must manage all hazardous wastes placed in tank systems authorized by this Permit in accordance with 6 NYCRR 373-2.27, 373-2.28 and 373-2.29 as applicable and this Permit.

K. OTHER REQUIREMENTS

1. Tank System Process and Instrumentation Diagrams: The Permittee must operate and maintain all tank systems in accordance with the Department-approved Process & Instrumentation Diagrams (PIDs) provided in Attachment D2 of this Permit. The Permittee may replace tank system ancillary equipment (e.g., pipes, pumps, valves, etc.) without modification of this Permit or the above referenced PIDs, provided that

the materials/components used are identical to the materials/components depicted on the referenced PIDs (e.g., 4-inch HDPE pipe to be replaced with 4-inch HDPE pipe, etc.). To replace tank system ancillary equipment with materials/components that are not identical to the materials/components depicted on the referenced PIDs (e.g., 4-inch HDPE pipe to be replaced with 4-inch steel pipe, etc.), the Permittee must submit the revised PID(s) along with information to support the equivalency of the replacement materials/components, and obtain Department approval of the revisions prior to implementing the replacement. At its discretion, the Department may review the revised PID(s) and grant verbal approval for such proposed replacements to allow implementation, which will be followed by a written approval. Revisions to PIDs that only involve replacement of existing tank system ancillary equipment, do not require modification of this Permit, unless the Department determines that a Permit modification is needed due to the nature and/or extent of the revisions. For revisions to PIDs that involve new, modified or replacement tanks or new additional ancillary equipment not depicted on the referenced PIDs, the Permittee must comply with all requirements specified by **Condition B** of this Module.

2. Electronically Operated Ancillary Equipment: The Permittee must perform annual testing of any electronically operated tank system interconnection and overfill prevention controls, and leak detection equipment, including but not limited to the following:

   - tank high level sensors and alarms;
   - interconnected tank valves and alarms;
   - pump disabling switches tied to tank high level sensors;
   - pump disabling switches tied to interconnected tank valves; and
   - leak detection sensors and alarms.

   The testing must be conducted by manually simulating the condition each device is designed to detect, and observing to see if the designed reaction occurs. The Permittee must record the results of this testing in the operating record required by 6 NYCRR 373-2.5(c). If any device or its associated electronic system fails to function as designed, the Permittee must make all necessary repairs in accordance with 6 NYCRR 373-2.2(g)(3) and **Condition E** of this Module, and re-test the repaired system.

3. Independent Assessment of Tank Systems

   a. In addition to the inspections required by **Condition E** of this Module, the Permittee must have each tank system assessed by an independent, qualified, Professional Engineer registered in New York, or alternatively, by an independent, qualified inspector working under a registered New York State Professional Engineer. Each tank system must be independently assessed at a minimum of once every five (5) years as measured from the end of the calendar year of the tank system's most recent assessment, or as otherwise specified in **Schedule 1 of Module I** of this Permit. Each time a tank system is assessed, its next assessment

shall be required to occur within five (5) calendar years of its most recent assessment.

b. Each tank system assessment must entail an inspection of all visible tank system components including but not necessarily limited to the tank exterior, tank supports, piping, pumps, valves and any overfill prevention controls (tank system secondary containment must be inspected in accordance with **Condition E and K.4** of this Module). The tank system assessment also requires a visual inspection of the tank's interior for any tank(s) identified in **Schedule 1 of Module I** as requiring such additional assessment. Any tank(s) requiring an internal inspection must be completely emptied and cleaned to expose all internal tank surfaces for examination by the engineer/inspector. The engineer/inspector must identify and record all observed cracks, leaks, corrosion, interior coating defects (where applicable) and any other areas of deterioration that could affect the integrity of the tank system. For steel tanks, the engineer/inspector must also obtain ultrasonic thickness measurements of all accessible tank surfaces to determine the integrity of the tank shell.

c. After each assessment, the engineer/inspector must report to the Permittee as specified in the schedule provided in **Schedule 1 of Module I** of this Permit any and all tank system defects identified during the assessment along with repair recommendations. The Permittee must repair all identified defects in accordance with the engineer's/inspector's recommendations and have the engineer/inspector verify the adequacy of the repairs. Any tank system that is found to be leaking or unfit for use by the engineer/inspector must be immediately removed from service and must not be returned to service until the Permittee obtains a certification of major repairs in accordance with 6 NYCRR 373-2.10(g) and this Permit.

d. The engineer/inspector must prepare a detailed report for all tank systems that are assessed. For each tank system, the report must include a description of observations made during the visual inspection, the result of any ultrasonic thickness measurements taken of the tank shell and the engineer's/inspector's evaluation of these measurements, a description of any defects identified, and an evaluation of all repairs made by the Permittee. The annual report must also include a statement from the engineer/inspector which certifies that all repairs were made in accordance with the engineer's/inspector's recommendations and that all in-service tank systems assessed are capable of handling hazardous wastes without release for the intended life of the system. This report must be submitted to the Department within 90 days of the assessment, unless the Department approves an extension of no greater than 30 days or as otherwise specified in **Schedule 1 of Module I**.

4. Independent Assessment of Tank Systems Secondary Containment

a. For the tank systems authorized by this Permit with secondary containment designed in accordance with 6 NYCRR 373-2.10(d)(4)(iii), assessments must be conducted in accordance with the schedule and conditions specified in

Condition B of Exhibit D in Schedule 1 of Module I.

5. Precautions in Flammable & Oxidizer Waste Storage Areas: Machinery and equipment must not be permitted in flammable and oxidizer waste storage areas or any process area where a flammable atmosphere may exist unless it has been fitted with appropriate safeguard devices approved by Underwriters Laboratories (UL) to render the machinery/equipment intrinsically safe. Only non-sparking tools shall be used in these storage areas.

MODULE V

RESERVED

MODULE VI

RESERVED

MODULE VII

Incinerators, Boilers or Industrial Furnaces

PART 373 PERMIT

MODULE VII – INCINERATORS, BOILERS OR INDUSTRIAL FURNACES

A. GENERAL

1. The Permittee is authorized to operate the unit(s) included in **Schedule 1 of Module I** of this Permit for the treatment and destruction of hazardous wastes in accordance with the Hazardous Waste Combustors Maximum Achievable Control Technology (HWC-MACT) found at 40 CFR Part 63 Subpart EEE and incorporated by reference into the state regulations in accordance with 6 NYCRR Part 200.10.

2. In the event that the Facility has multiple units, the provisions of this Permit apply individually to each unit.

3. The Department may, based on a site-specific Risk Assessment, add terms and conditions to this Permit if it is determined that the standards found at 6 NYCRR 373-2.15 or 374-1.8 are not sufficient to protect human health or the environment. These site-specific conditions, if applicable, will be included in **Schedule 1 of Module I** of this Permit.

B. WASTE ANALYSIS [6 NYCRR 373-2.15(b) and 374-1.8(c)(2)]

1. The wastes fed to the unit(s) authorized under this Permit must conform to that approved by the Department as presented in the facility's Waste Analysis Plan (WAP), which is incorporated by reference into this Permit by **Condition B of Schedule 1 of Module I**. No other materials may be fed into the industrial furnace unit(s) authorized by this Permit, except as noted at 6 NYCRR 373-2.15(e)(1).

2. The waste streams (including fuel) fed to the industrial furnace unit(s) authorized by this Permit must be sampled and analyzed per the facility's WAP, which is incorporated by reference into this Permit by **Condition B of Schedule 1 of Module I**.

3. The Permittee must ensure that each waste stream that is fed to the industrial furnace unit(s) authorized by this Permit meets the requirements of 6 NYCRR 376.1(c)(3) at the point of generation.

C. TRIAL BURN/COMPREHENSIVE PERFORMANCE TEST (CPT) AND RISK ASSESSMENT (RA)

1. If determined necessary by the Department, a RA protocol is to be prepared in accordance with relevant State and federal guidance and standards. The RA protocol is to be based on the most recent EPA methodology, using the most recent meteorological dispersion modeling program (currently AERMOD), and is due to the Department for review and approval within 30 days of the Trial Burn/CPT Plan submission.

2. Once the Department approves the RA protocol, the Permittee shall conduct the Trial Burn/CPT and prepare the RA (using emission rates derived from the Trial Burn/CPT). The Permittee must prepare the RA according to the timeframes presented in the Department-approved CPT Plan.

3. The RA report must demonstrate that the proposed operating limits will comply with applicable performance and health risk standards.

4. The RA protocol and RA reports must include sufficient supporting information as determined by the Department. Failure to provide any requested information in a timely manner which is reasonably necessary for the Department to make required findings or determinations may be grounds for denial or revocation of this Permit.

5. All updates to the Department-approved RA Protocol must be performed in accordance with all applicable State or federal regulations, guidance and standards.

6. All analytical work must be performed by a New York State Department of Health Environmental Laboratory Accreditation Program (ELAP) certified laboratory.

7. All test protocols (e.g., air modeling) must utilize current State or federal methods, unless alternative protocols are approved by the Department.

D. CLOSURE [6 NYCRR 373-2.15(h), 374-1.8(c)(5)(xi) and 6 NYCRR 373-2.7]

1. The Permittee must close the incineration unit(s) authorized by this Permit and all associated equipment in accordance with 6 NYCRR 373-2.15(h) or 374-1.8(c)(5)(xi), 6 NYCRR 373-2.7, and this Permit, including the Department-approved Closure/Post-closure Plan provided as Attachment C of this Permit.

2. The Permittee must notify the commissioner at least 45 days prior to the date the Permittee expects to begin closure or partial closure of the unit(s) authorized by this Permit, as required by 6 NYCRR 373-2.7(c)(4)(i) and this Permit.

3. Within 90 days after receiving the final volume of hazardous wastes, the Permittee must treat and dispose of all hazardous wastes and waste residues generated by the unit(s) authorized by this Permit, including but not limited to, ash, scrubber water and scrubber sludge and complete the closure activities in accordance with 6 NYCRR 373-2.7(d) and this Permit, including **Schedule 1 of Module I.**

4. Unless the Permittee can demonstrate, in accordance with 6 NYCRR 371.1(d)(4) that the residue removed from the unit(s) and ancillary equipment is not a hazardous waste, the Permittee becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of 6 NYCRR Parts 372-374 and 376.

ATTACHMENT A

RESERVED

ATTACHMENT B

DRAWINGS

INDEX FOR RCRA PERMIT RELATED DRAWINGS

EPA ID# NYD080469935
NYSDEC Part 373 Permit #4-0103-16/16-0

DRAWING NO.	DRAWING TITLE
NY003-373-1	SITE PLAN
NY003-1132	KILN #2 - FOUNDATION PLAN & DETAILS; AIR POLLUTION CONTROL SCRUBBER PROCESS WATER SECONDARY CONTAINMENT
NY 003-1311	PIPING & INSTRUMENTATION DIAGRAM; FUEL UNLOADING & OFF-SPECIFICATION USED OIL STORAGE
NY003-1312	PIPING & INSTRUMENTATION DIAGRAM; LGF STORAGE & TRANSFER
NY003-1314	PIPING & INSTRUMENTATION DIAGRAM; LGF EQUALIZATION & FEED (TANKS TP-101A, TP-101B)
NY003-1315	PIPING & INSTRUMENTATION DIAGRAM; LGF EQUALIZATION & FEED (TANKS 102A, 102B)
NY003-1317-HI	PIPING & INSTRUMENTATION DIAGRAM; EXTERIOR LGF TANK SYSTEM
NY003-1903	PIPING & INSTRUMENTATION DIAGRAM; KILN BURNERS
NY003-2301	GENERAL ARRANGEMENT; LGF BUILDING
NY003-2306	GENERAL ARRANGEMENT; EQUALIZATION BUILDING
NY003-2475-1	MATERIAL TRANSFER FACILITY
NY003-2475-2	MATERIAL TRANSFER FACILITY; PIER & FOOTING DETAILS
NY003-2475-3	MATERIAL TRANSFER FACILITY; DESIGN SPECIFICATIONS
NY003-3008	GENERAL ARRANGEMENT; FOUNDATION PLAN & SECTIONS DRUM PROCESSING BUILDING
NY003-3018	PIPE RACK & TUNNEL FROM LGF STORAGE TANKS TO KILN
HMK-003-3319	PLOT PLAN & CROSS SECTION; LGF TANKER/ROLL-OFF STAGING AREA
NY003-3440	KILN #1 - FOUNDATION PLAN; AIR POLLUTION CONTROL SCRUBBER PROCESS WATER SECONDARY CONTAINMENT
NY003-3441	KILN #1 - FOUNDATION DETAILS; AIR POLLUTION CONTROL SCRUBBER PROCESS WATER SECONDARY CONTAINMENT
NY003-4312	TANK VESSEL 200-A
NY003-5001	KILN #2 WASTE FEED CUT OFFS
NY003-5006	KILN #1 WASTE FEED CUT OFFS
NY003-5010	PIPING & INSTRUMENTATION DIAGRAM; DISPERSION/MIXING TANK (SP-100)

DRAWING NO.	DRAWING TITLE
NY003-5011	DISPERSION/MIXING TANK (SP-100)
NY003-5317	PIPING & INSTRUMENTATION DIAGRAM; TRUCK FUGITIVE EMISSIONS SYSTEM
NY003-5430	LFG TANKS SECONDARY CONTAINMENT DESIGN DETAILS
NY003-5431	LGF TANKS PUMP CONTAINMENT SLAB & STRUCTURAL DETAILS
NY003-5432-J	SCHEMATIC PLAN VIEW; P & I DIAGRAM FOR EXTERIOR LGF TANKS 300, 400, 500, 600
NY003-5433-J	LGF TANKS 300, 400, 500
NY003-5434-J	LGF TANK 600
NY003-6301	SECTIONS & DETAILS; LGF PIPE TUNNEL
NY003-7006	DETAILS & SECTIONS FUEL SYSTEM STRUCTURES
NY003-92023-1	132" O.D. HOLDING TANK; ROBEN MFG. CO., INC. (TANKS 200B, 200C)
NY003-92023-2	132" O.D. HOLDING TANK; ROBEN MFG. CO., INC. (TANKS 100A, 100C)
NY003-92024-1	60" O.D. EQUALIZATION TANK; ROBEN MFG. CO., INC. (TANKS 101A, 101B)
NY003-92024-2	60" O.D. EQUALIZATION TANK; ROBEN MFG. CO., INC. (TANKS 102A, 102B)
NY022-D1001	P & I DIAGRAM; ZERO DISCHARGE SYSTEM
NY003-D1403	PLANT PERMIT IMPLEMENTATION; PIPING & INSTRUMENTATION DIAGRAM; APC: MULTICLONE/HEAT EXCHANGER/BAGHOUSE KILN #1
NY003-E1404	PLANT PERMIT IMPLEMENTATION; PIPING & INSTRUMENTATION DIAGRAM; APC: FAN/SCRUBBER/SCTACK KILN #1
NY003-D1405	PLANT PERMIT IMPLEMENTATION; PIPING & INSTRUMENTATION DIAGRAM; LIME STORAGE SILO
NY003-E1406	PLANT PERMIT IMPLEMENTATION; PIPING & INSTRUMENTATION DIAGRAM; CARBONATE SILO
NY003-D1420	PLANT PERMIT IMPLEMENTATION; SIMPLIFIED BLOCK DIAGRAM; AIR POLLUTION CONTROL
NY003-E1502	PLANT PERMIT IMPLEMENTATION; PIPING & INSTRUMENTATION DIAGRAM; COOLER OPERATION - KILN #1
J-8000-NORLITE-Model_rev1	132" O.D. HOLDING TANK, AMERICAN BOILER (TANK 100B)

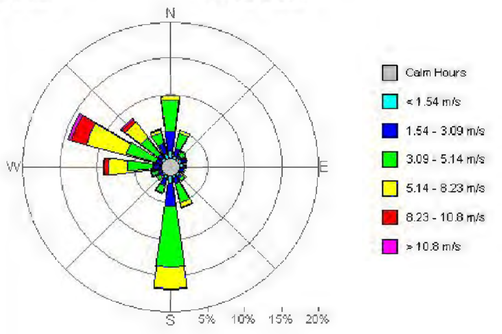
NORLITE LLC
628 SOUTH SARATOGA STREET
COHOES, NEW YORK 12047

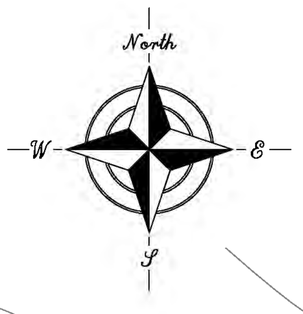
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
36 FALCON CHASE, CITY OF RENSSELAER, NY 12144

EPA ID# NYD080469935
NYSDEC Part 373 Permit #4-0103-16/16-0
INDEX FOR
RCRA PERMIT RELATED DRAWINGS

FILE NAME: RCRA INDEX B.DWG | DATE: DECEMBER 8, 2015

WIND ROSE, ALBANY AIRPORT DATA (1997)





PERMITS:

1. SPDES Permit No. 4-103-16/01
2. HBS Permit No. 4-000198
3. Mining Permit No. 4-103-16/19-0
4. Hazardous Waste Part 373 Permit No. 4-0103-16/16-0
5. Title V Air Permit No. 4-0103-00016/00048
6. EPA ID: NYDO80469935

MAP REFERENCES:

1. Map "NY003-E3363" Sheets 1 & 2, Golden Aerial Surveys, Inc. Newton CT, Date of Photography 4/28/92.
2. Map "Mining Plan" Prepared by Dunn Geoscience Corp., Latham, NY, Last Revised 6/12/89.
3. Map "Mining Map, Norlite Corporation, Cohoes Quarry" Prepared by Greenbush Resources, Inc., 78 Troy Road, East Greenbush, Dated 11/09/01.
4. Taken from documentation resulting from a Flood Insurance Study for the City of Cohoes performed during a period between the initial identification in 1973 and the June 1976 revisions that were published final in June 1979 as FIRM Community Panel 36006 0005 B.
5. Troy North 7.5 Minute USGS Quadrangle.

NOTE:

ALL PHYSICAL FEATURES, PROPERTY BOUNDARIES AND MINING AREAS ARE DRAWN APPROXIMATELY TO SCALE. MAP FOR PERMITTING PURPOSES ONLY.

Building/Process Area Location Legend

ID #	Building/Process
1	Used Oil Management Tanks & Containment
2	Utilities Building (fire suppression, electrical control & vacuum pump)
3	LGF Tank Storage Building
4	Container Storage Building
5	Waste Transfer Building
6	Exterior LGF Tank Pump Building
7	Offices, Lab, Training Rooms
8	Exterior LGF Tank Location
9	Maintenance Buildings
10	Water Treatment & Related Chemical Storage
11	Personnel Quarters/Parts/Storage

Approximate Property Boundary

100 year Flood Plain

Harvey M. King, P.E. 100 Year Flood Plain Designation Based On Map Reference #4

REVISIONS		
BY:	COMMENTS	DATE
JTL	Updated Permit Term Area	5/02
JMS/JPL	Add Detail for 373 Permit	7/02
HMK	Building Id'S Added	08/2012

NORLITE CORPORATION
COHOES QUARRY
TOWN OF COLONIE, ALBANY COUNTY, NY

SITE PLAN MAP
FOR
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NOT TO SCALE — DRAWN BY JTL
CONTOUR INTERVAL: 5' — DATE: 5/02

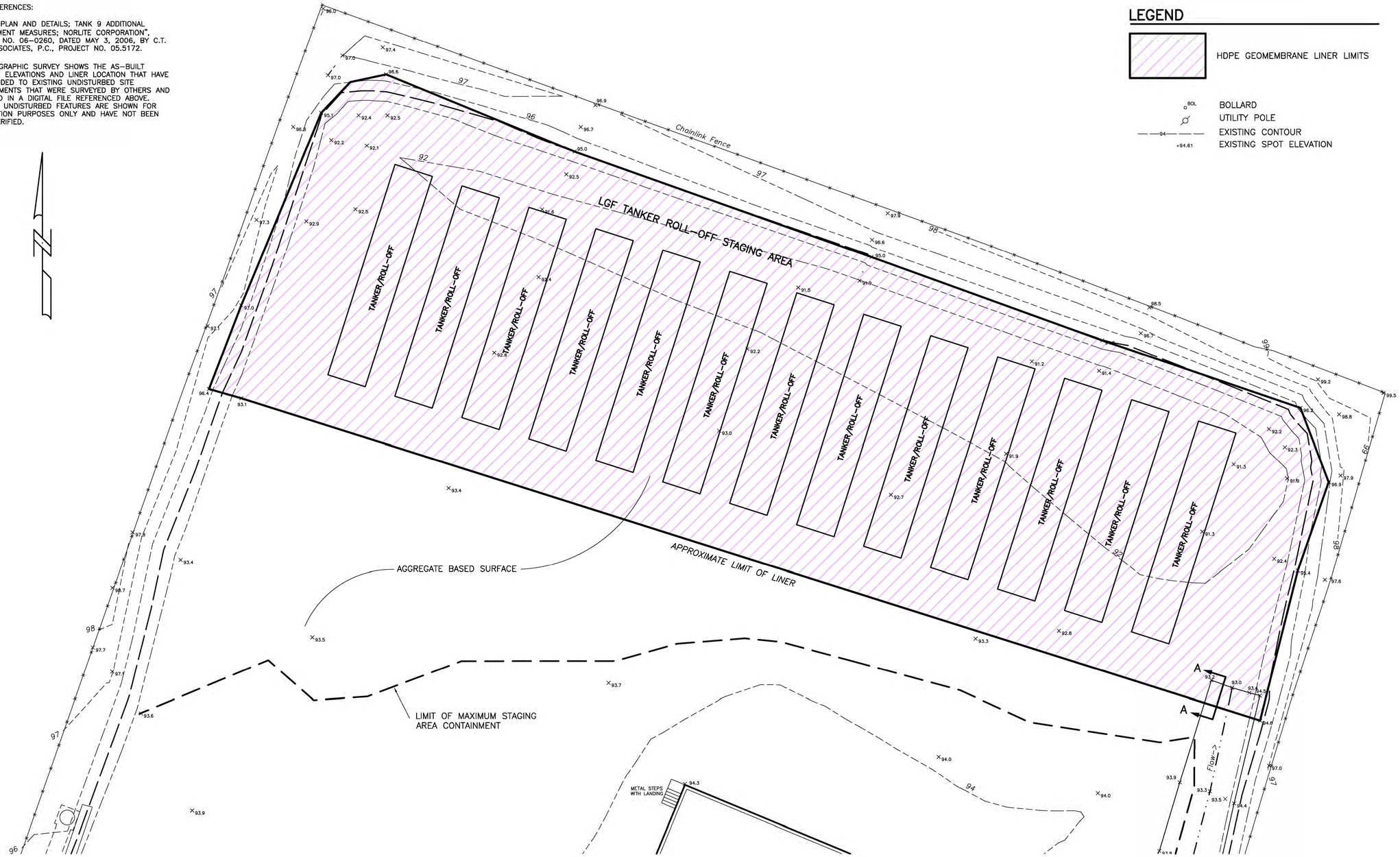
DRAWING NO. NY003-3731

Base Maps
Mining Plan Map, Rust Environment & Infrastructure, 1993
Mining Plan Map, Greenbush Resources, 1998
Topographic and Boundary Surveys by Danskin Surveyors

MAP REFERENCES:

1. "SITE PLAN AND DETAILS; TANK 9 ADDITIONAL CONTAINMENT MEASURES; NORLITE CORPORATION", DRAWING NO. 06-0260, DATED MAY 3, 2006, BY C.T. MALE ASSOCIATES, P.C., PROJECT NO. 05.5172.

2. TOPOGRAPHIC SURVEY SHOWS THE AS-BUILT SURFACE ELEVATIONS AND LINER LOCATION THAT HAVE BEEN ADDED TO EXISTING UNDISTURBED SITE IMPROVEMENTS THAT WERE SURVEYED BY OTHERS AND PROVIDED IN A DIGITAL FILE REFERENCED ABOVE. EXISTING UNDISTURBED FEATURES ARE SHOWN FOR ORIENTATION PURPOSES ONLY AND HAVE NOT BEEN FIELD VERIFIED.



SITE PLAN

BAR SCALE
10 0 5 10 20
1 inch = 10 ft.

NOTE:
POTENTIAL STORAGE (13 TANKERS): 13 X 5500 GAL. (TYPICAL SIZE) = 71,500 GAL.
REQUIRED CONTAINMENT = 100% OF LARGEST TANKER OR 6000 GAL. (MAXIMUM TANKER SIZE)
DESIGN CONTAINMENT CAPACITY: 60'W X 1.8'D. X 200'L. = 21,600 C.F. X 7.48 GAL. = 161,568 GAL.
ACTUAL CONTAINMENT WILL VARY BASED ON TOPOGRAPHY OF COVER MATERIAL PROTECTING THE HDPE LINER.

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

CLIENT APPROVAL: _____ DATE: _____

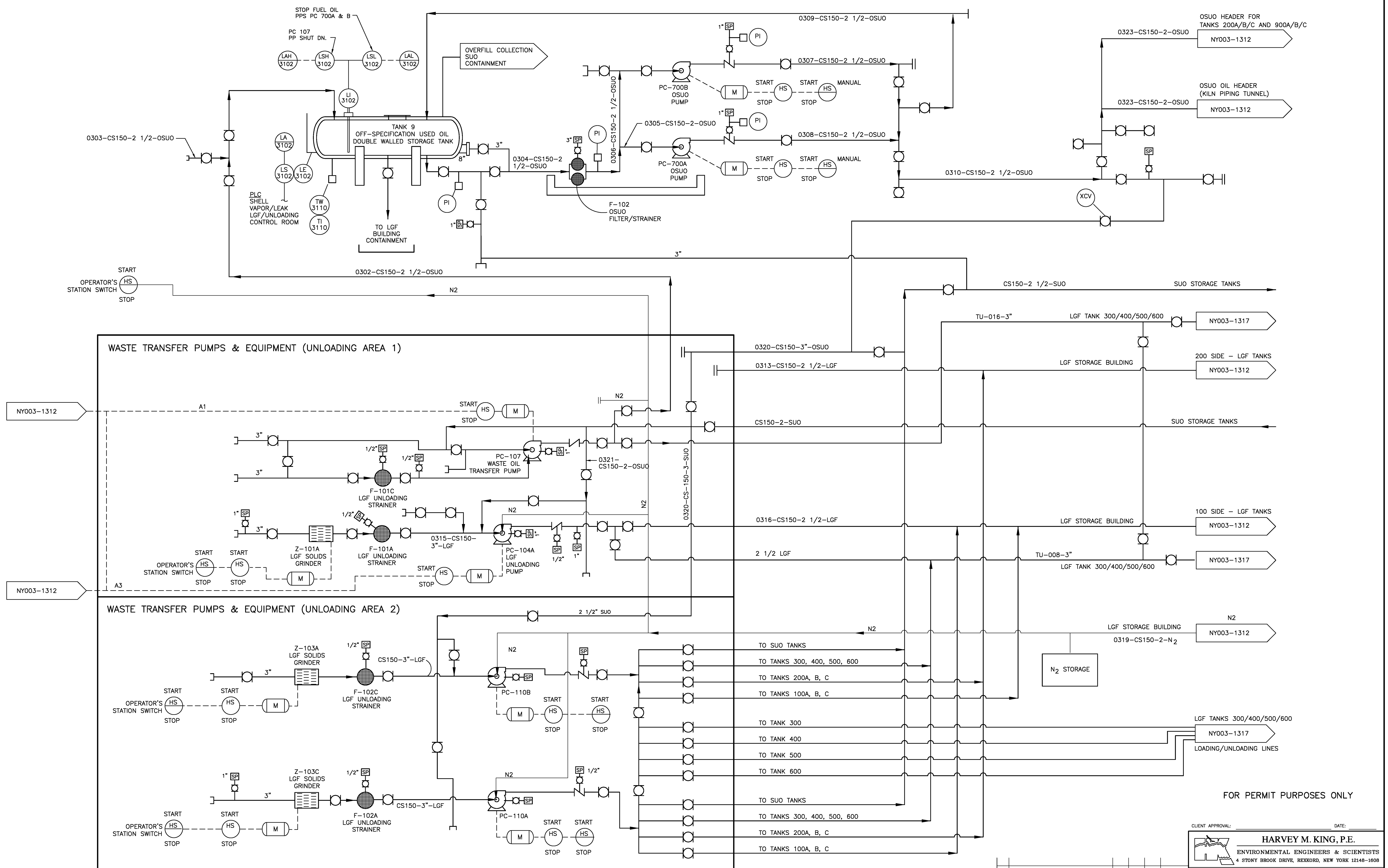
REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
1	STAGING AREA UPDATED	TVB			02/20/14

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
PO BOX 4389, CLIFTON PARK, NY 12065

NORLITE CORPORATION – COHOES, NY

LGF TANKER/ROLL-OFF STAGING AREA
– RECORD DRAWING –

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	02/08/2014	
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	HMK-003-3319	HMK-003-3319



STOP FUEL OIL
PPS PC 700A & B
PC 107
PP SHUT DN.
LAH 3102
LSH 3102
LSL 3102
LAL 3102
OVERFILL COLLECTION
SUO
CONTAINMENT
LI 3102
TANK 9
OFF-SPECIFICATION USED OIL
DOUBLE WALLED STORAGE TANK
0303-CS150-2 1/2-OSUO
LA 3102
LS 3102
LE 3102
PLC
SHELL
VAPOR/LEAK
LGF/UNLOADING
CONTROL ROOM
TW 3110
TI 3110
TO LGF
BUILDING
CONTAINMENT
PI
3"
8"
0304-CS150-2
1/2-OSUO
F-102
OSUO
FILTER/STRAINER
0306-CS150-2 1/2-OSUO
0305-CS150-2-OSUO
0309-CS150-2 1/2-OSUO
0307-CS150-2 1/2-OSUO
0308-CS150-2 1/2-OSUO
PC-700B
OSUO
PUMP
PC-700A
OSUO
PUMP
START
STOP
MANUAL
0310-CS150-2 1/2-OSUO
OSUO HEADER FOR
TANKS 200A/B/C AND 900A/B/C
0323-CS150-2-OSUO
NY003-1312
OSUO OIL HEADER
(KILN PIPING TUNNEL)
XCV
0302-CS150-2 1/2-OSUO
OPERATOR'S
STATION SWITCH
N2
CS150-2 1/2-SUO
SUO STORAGE TANKS
TU-016-3"
LGF TANK 300/400/500/600
NY003-1317
WASTE TRANSFER PUMPS & EQUIPMENT (UNLOADING AREA 1)
0320-CS150-3"-OSUO
0313-CS150-2 1/2-LGF
LGF STORAGE BUILDING
200 SIDE - LGF TANKS
A1
CS150-2-SUO
PC-107
WASTE OIL
TRANSFER PUMP
0321-
CS150-2-OSUO
F-101C
LGF UNLOADING
STRAINER
0320-CS-150-3-SUO
0316-CS150-2 1/2-LGF
100 SIDE - LGF TANKS
Z-101A
LGF SOLIDS
GRINDER
F-101A
LGF UNLOADING
STRAINER
0315-CS150-
3"-LGF
PC-104A
LGF
UNLOADING
PUMP
2 1/2 LGF
TU-008-3"
A3
WASTE TRANSFER PUMPS & EQUIPMENT (UNLOADING AREA 2)
2 1/2" SUO
0319-CS150-2-N_2
N_2 STORAGE
Z-103A
LGF SOLIDS
GRINDER
F-102C
LGF UNLOADING
STRAINER
CS150-3"-LGF
PC-110B
TO SUO TANKS
TO TANKS 300, 400, 500, 600
TO TANKS 200A, B, C
TO TANKS 100A, B, C
TO TANK 300
TO TANK 400
TO TANK 500
TO TANK 600
LGF TANKS 300/400/500/600
LOADING/UNLOADING LINES
Z-103C
LGF SOLIDS
GRINDER
F-102A
LGF UNLOADING
STRAINER
PC-110A

FOR PERMIT PURPOSES ONLY

OSUO = OFF-SPECIFICATION USED OIL
SUO = SPECIFICATION USED OIL

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
5	UPDATED CONFIGURATION	T.V.B.			02/08/14
4	UPDATED CONFIGURATION	T.V.B.			06/25/04
3	UPDATED CONFIGURATION	T.V.B.			06/08/04
2	UPDATED CONFIGURATION	T.V.B.			7/17/02
1	ADDED LGF SOLIDS GRINDER	A.P.	A.P.		1/15/96
0	RELEASE KOR NYSDEC SUBMITTAL	M.L.			1/15/92

CLIENT APPROVAL: DATE:

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXKORD, NEW YORK 12148-1608

NORLITE CORPORATION – COHOES, NY

PIPING & INSTRUMENTATION DIAGRAM FUEL UNLOADING AND OFF-SPECIFICATION USED OIL STORAGE

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF: NY003-E1311
ENGINEER: H.M.K.	FILE NAME NY003-1311	DRAWING NO. NY003-1311

NOTES:

1. VALVES "XCV" SHALL BE AUTOMATICALLY OPERATED COMPLETE WITH ACTUATOR, PILOT OPERATOR AND FULLY OPEN/CLOSED LIMIT SWITCHES–TYPICAL PER THE FOLLOWING DIAGRAM. ALL SUCH VALVES (UNLESS INDICATED OTHERWISE) SHALL BE NORMALLY CLOSED, AIR TO OPEN. (SEE DIAGRAM)
2. VALVES "YCV" SHALL BE AUTOMATICALLY OPERATED COMPLETE WITH ACTUATOR, PILOT OPERATOR – TYPICAL PER THE FOLLOWING DIAGRAM. ALL SUCH VALVES (UNLESS INDICATED OTHERWISE) SHALL BE NORMALLY CLOSED, AIR TO OPEN. (SEE DIAGRAM)

3. VALVES DESIGNATED "XV" SHALL BE MANUALLY OPERATED WITH FULLY CLOSED LIMIT SWITCHES ONLY.
4. VALVE WITH NEITHER DESIGNATION AND DENOTED WITH TAG PREFIX "V" SHALL BE MANUALLY OPERATED WITHOUT ANY AUTOMATION HARDWARE OR LIMIT SWITCHES.

LOC. LEGEND:
1A: LOCATED ON PANEL IN LGF BUILDING.
1B: LOCATED ON PANEL IN EQUALIZATION BUILDING.
2 ; LOCATED IN MCC ROOM.

100 SIDE – LGF TANKS
NY003–1311
TANK TRUCK UNLOADING

N2
NY003–1311

VALVE ACTUATION

OFF–SPEC USED OIL HEADER
NY003–1311

200 SIDE – LGF TANKS
NY003–1311
TANK TRUCK UNLOADING

VACUUM RELIEF
VR1 VR2

VACUUM SOURCE IN UTILITY BUILDING OR VACUUM TRUCK

VACUUM TRANSFER LINE FROM DRUM PROCESSING BUILDING NY003–5010

LINE 2 RECIRCULATION
NY003–1317 3–LGF

NY003–1317 3–LGF

SPECIFICATION USED OIL LINE 3–SUO

SPECIFICATION USED OIL RETURN LINE 1–1/2–SUO

NY003–1311
OFF–SPECIFICATION USED OIL LINE

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

TP–100A LGF TANK
TP–100B LGF TANK
TP–100C LGF TANK
TP–200A LGF TANK
TP–200B LGF TANK
TP–200C LGF TANK
AB–100A AGITATOR
AB–100B AGITATOR
AB–100C AGITATOR
AB–200A AGITATOR
AB–200B AGITATOR
AB–200C AGITATOR
PC–100A LGF TRANSFER PUMP
PC–100B LGF TRANSFER PUMP
PC–100C LGF DELIVERY PUMP
PC–200A LGF TRANSFER PUMP
PC–200B LGF TRANSFER PUMP
PC–200C LGF DELIVERY PUMP
X–101 CARBON ADSORPTION UNIT

TANKS 300/400/500/600
NY003–1317
VENT LINE

TANKS 300/400/500/600
NY003–1317
LGF LINE

VENT TO TANK 102B
NY003–1315

1240–150CS1–4–VX
NY003–1314

1119–150CS1–2–N2
NY003–1314

1234–250CSX1–3–LGF
NY003–1314
RECIRCULATION FROM KILN BURNERS

LINE 1 1234–250CSX1–3–LGF
TO KILN BURNERS
NY003–1314

SPECIFICATION USED 2–SUO LINE
TO KILN BURNERS
NY003–1314

SPECIFICATION USED OIL 1–1/2 RETURN LINE
FROM KILN BURNERS
NY003–1314

LINE 2 RECIRCULATION FROM KILN BURNERS 3–LGF
NY003–1314

LINE 2
TO KILN BURNERS
1232–250CSX1–3–LGF
NY003–1314

OSUO HEADER
1110–150CS1–2–OSUO
NY003–1314

3–OSUO
NY003–1314
OSUO LINE

90'ø LINED PIPING CONTAINMENT DUCT

FLOOR HEADER – 200 SERIES TANKS
250CS–4"–LGF/KO

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
11	UPDATED CONFIGURATION	T.B.	HMK		02/08/14
10	UPDATED CONFIGURATION	T.B.	HMK		02/22/11
9	UPDATED CONFIGURATION	T.B.	HMK		07/15/05
8	UPDATED CONFIGURATION	T.B.	HMK		03/28/05
7	UPDATED CONFIGURATION	T.B.	HMK		06/08/04
6	UPDATED CONFIGURATION	T.B.	HMK		07/17/02
5	VR1, VR2 (VACUUM RELIEF) ADDED	T.B.	HMK		10/06/98
4	VACUUM LINES ADDED	T.B.	HMK		06/23/98
3	REVISED PER ENG'R REVIEW	D.	J.E.	J.R.	12/4/92
2	REVISED PER ENG'R REVIEW	D.	J.E.	J.R.	10/17/92
1	REVISED AS INDICATED	E.B.	JE	JE	8/17/92
0	FOR CONSTRUCTION	MAC	JE	JE	7/24/92

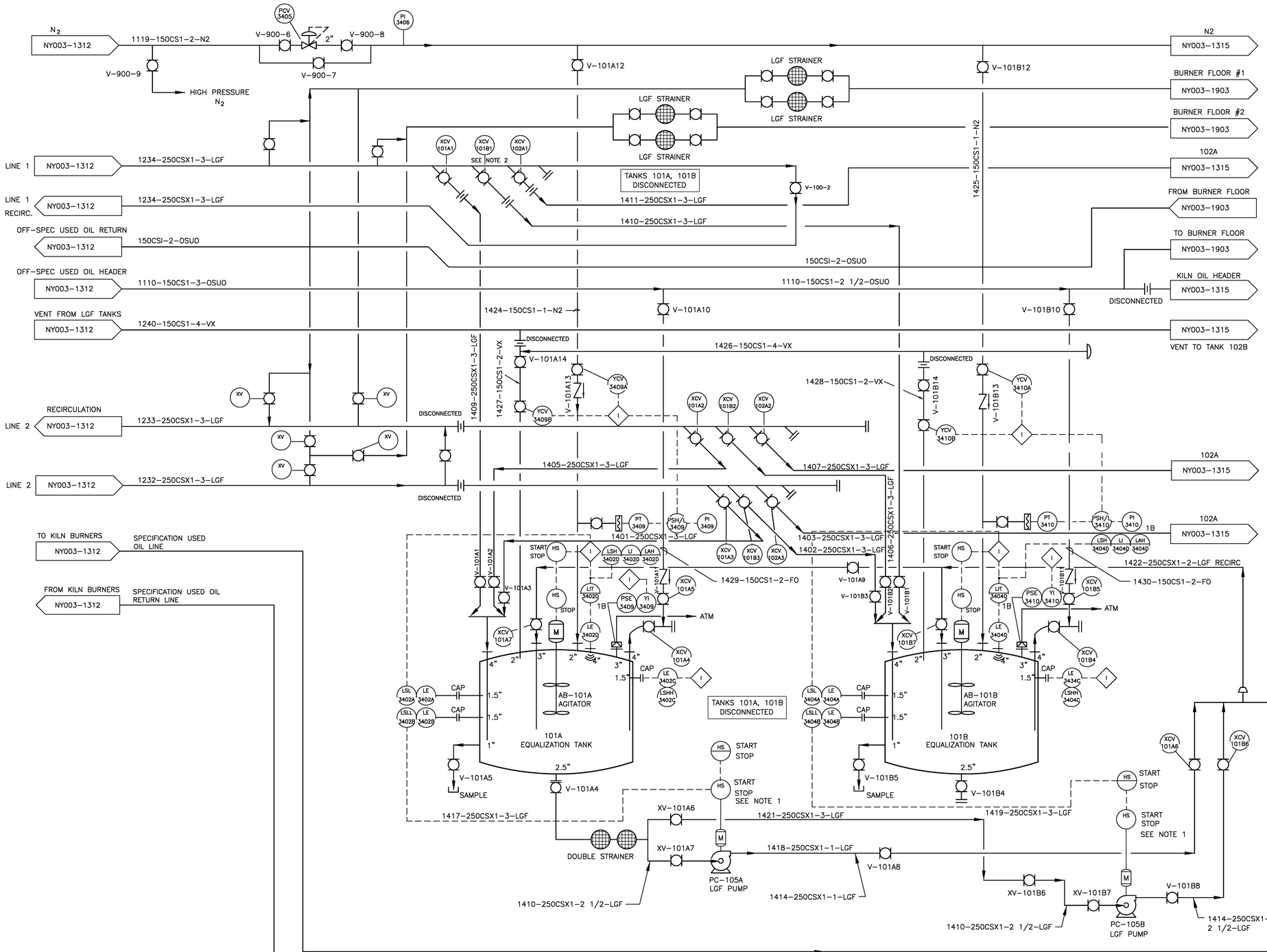
INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, RENFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

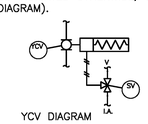
PIPING & INSTRUMENTATION DIAGRAM LGF STORAGE AND TRANSFER

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF: NY003–E1312
ENGINEER: H.M.K.	FILE NAME NY003–1312	DRAWING NO. NY003–1312

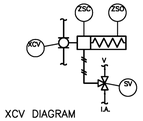


NOTES:

1. VALVES "XCV" SHALL BE AUTOMATICALLY OPERATED COMPLETE WITH ACTUATOR, PILOT OPERATOR AND FULLY OPEN/CLOSED LIMIT SWITCHES–TYPICAL PER THE FOLLOWING DIAGRAM. ALL SUCH VALVES (UNLESS INDICATED OTHERWISE) SHALL BE NORMALLY CLOSED, AIR TO OPEN. (SEE DIAGRAM).
2. VALVES "YCV" SHALL BE AUTOMATICALLY OPERATED COMPLETE WITH ACTUATOR, PILOT OPERATOR – TYPICAL PER THE FOLLOWING DIAGRAM. ALL SUCH VALVES (UNLESS INDICATED OTHERWISE) SHALL BE NORMALLY CLOSED, AIR TO OPEN. (SEE DIAGRAM).



YCV DIAGRAM



XCV DIAGRAM

3. VALVES DESIGNATED "XV" SHALL BE MANUALLY OPERATED WITH FULLY CLOSED LIMIT SWITCHES ONLY.
4. VALVE WITH NEITHER DESIGNATION AND DENOTED WITH TAG PREFIX "V" SHALL BE MANUALLY OPERATED WITHOUT ANY AUTOMATION HARDWARE OR LIMIT SWITCHES.

NOTE:
1 – START / STOP OF PUMPS PC–105A/B ARE INTERLOCKED TO THE SUCTION AND DISCHARGE VALVE POSITIONS.
2 – LATERALS TO BE LOCATED AS CLOSE TOGETHER AS POSSIBLE.

LOCATION LEGEND

1A = PANEL IN LGF BUILDING
1B = PANEL IN EQUALIZATION BUILDING

FOR PERMIT PURPOSES ONLY

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
8	UPDATED CONFIGURATION	T.V.B.	HMK		02/20/14
7	UPDATED CONFIGURATION	T.V.B.	HMK		07/15/05
6	UPDATED CONFIGURATION	T.V.B.	HMK		06/08/04
5	UPDATED CONFIGURATION	T.V.B.	HMK		7/17/02
4	DELETED LINES 1404, 1408, 1412	PMW	J.E.	J.E.	8/11/93
3	REVISED PER ENG'R REVIEW	TC	J.E.	J.R.	12/04/92
2	REVISED PER ENG'R REVIEW	TC	J.E.	J.R.	10/17/92
1	REV AS INDICATED	EB	JE	JE	8/17/92
0	FOR CONSTRUCTION	MAC	JE	JE	7/27/92

CLIENT APPROVAL: _____ DATE: _____

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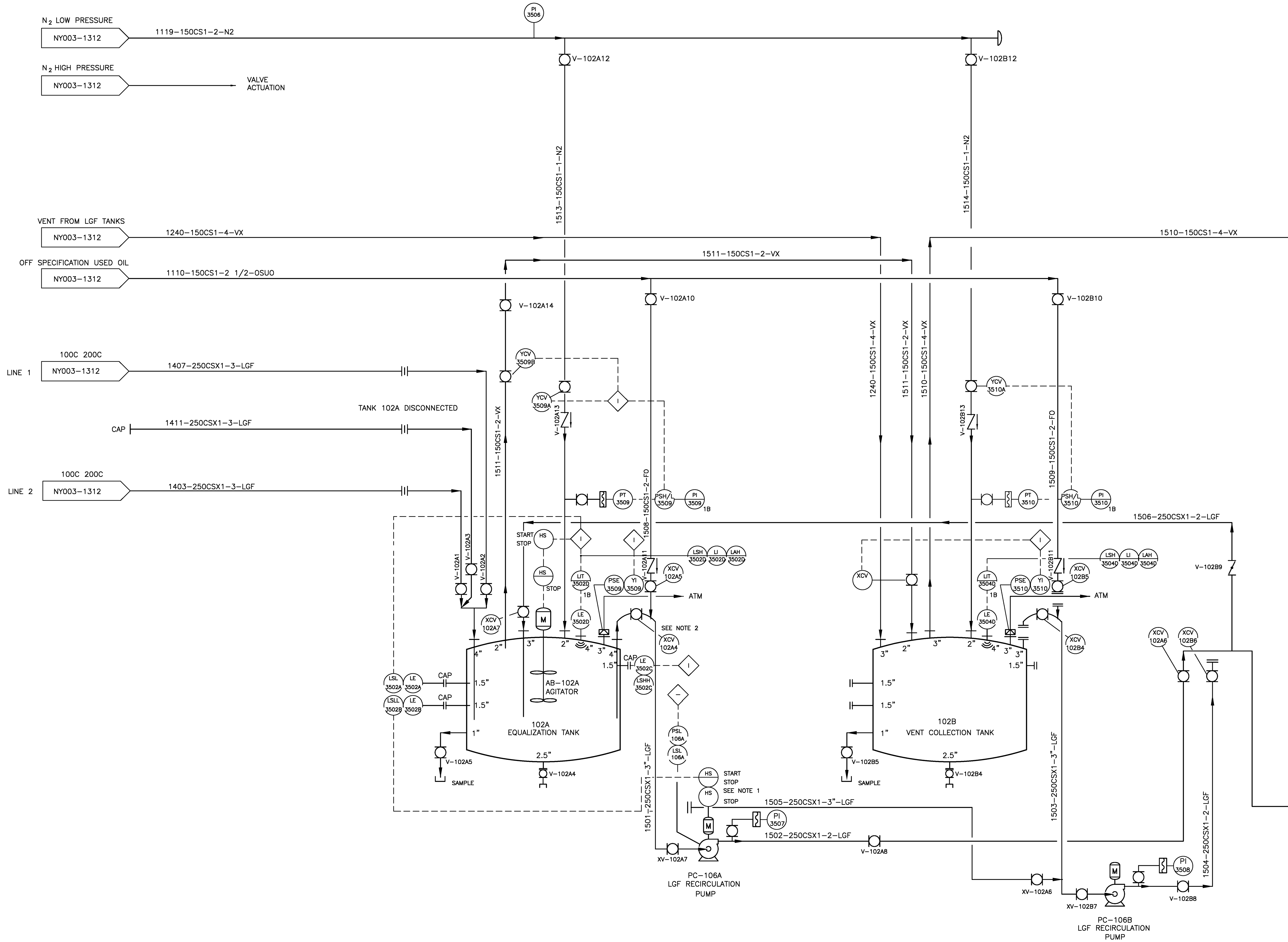
NORLITE CORPORATION – COHOES, NY

PIPING & INSTRUMENTATION DIAGRAM LGF EQUALIZATION AND FEED (TANKS TP–101A, TP–101B)

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	NY003-E1314
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003-1314	NY003-1314

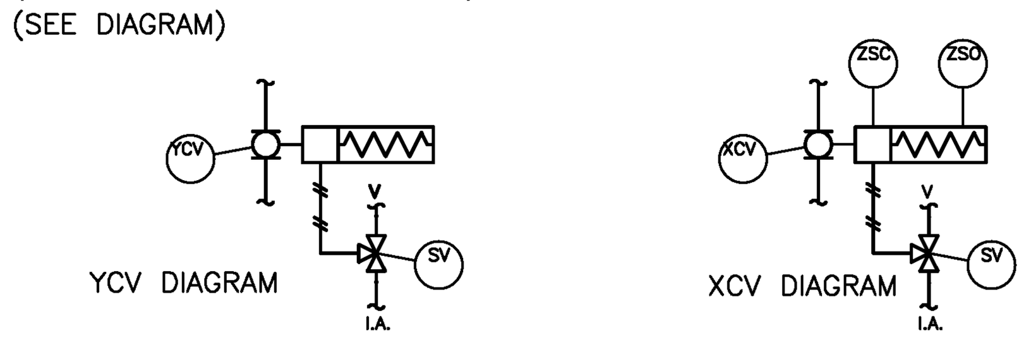
A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE



NOTES:

1. VALVES "XCV" SHALL BE AUTOMATICALLY OPERATED COMPLETE WITH ACTUATOR, PILOT OPERATOR AND FULLY OPEN/CLOSED LIMIT SWITCHES–TYPICAL PER THE FOLLOWING DIAGRAM. ALL SUCH VALVES (UNLESS INDICATED OTHERWISE) SHALL BE NORMALLY CLOSED, AIR TO OPEN. (SEE DIAGRAM)

2. VALVES "YCV" SHALL BE AUTOMATICALLY OPERATED COMPLETE WITH ACTUATOR, PILOT OPERATOR – TYPICAL PER THE FOLLOWING DIAGRAM. ALL SUCH VALVES (UNLESS INDICATED OTHERWISE) SHALL BE NORMALLY CLOSED, AIR TO OPEN. (SEE DIAGRAM)



3. VALVES DESIGNATED "XV" SHALL BE MANUALLY OPERATED WITH FULLY CLOSED LIMIT SWITCHES ONLY.

4. VALVE WITH NEITHER DESIGNATION AND DENOTED WITH TAG PREFIX "V" SHALL BE MANUALLY OPERATED WITHOUT ANY AUTOMATION HARDWARE OR LIMIT SWITCHES.

NOTE:

1 – START / STOP OF PUMPS PC-105A/B ARE INTERLOCKED TO THE SUCTION AND DISCHARGE VALVE POSITIONS.

2 – VALVE TO BE LOCATED AT HIGH POINT. F.O. INLET TO BE AS CLOSE TO VALVE OUTLET AS POSSIBLE.

LOCATION LEGEND

1A = PANEL IN LGF BUILDING
1B = PANEL IN EQUALIZATION BUILDING

FOR PERMIT PURPOSES ONLY

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
8	UPDATED CONFIGURATION	T.V.B.			02/20/14
7	UPDATED CONFIGURATION	T.V.B.			06/25/04
6	UPDATED CONFIGURATION	T.V.B.			06/08/04
5	UPDATED CONFIGURATION	T.V.B.			7/17/02
4	REV AS INDICATED (9514-023)	PMW	JE	JE	8-11-93
3	REV AS INDICATED	RJS	JE	JE	12-4-92
2	REVISED PER ENG'R REVIEW	DC	J.E.	J.R.	10/17/92
1	REV AS INDICATED	EB	JE	JE	8/17/92
0	FOR CONSTRUCTION	MAC	JE	JE	7/27/92

CLIENT APPROVAL: ____________ DATE: ______

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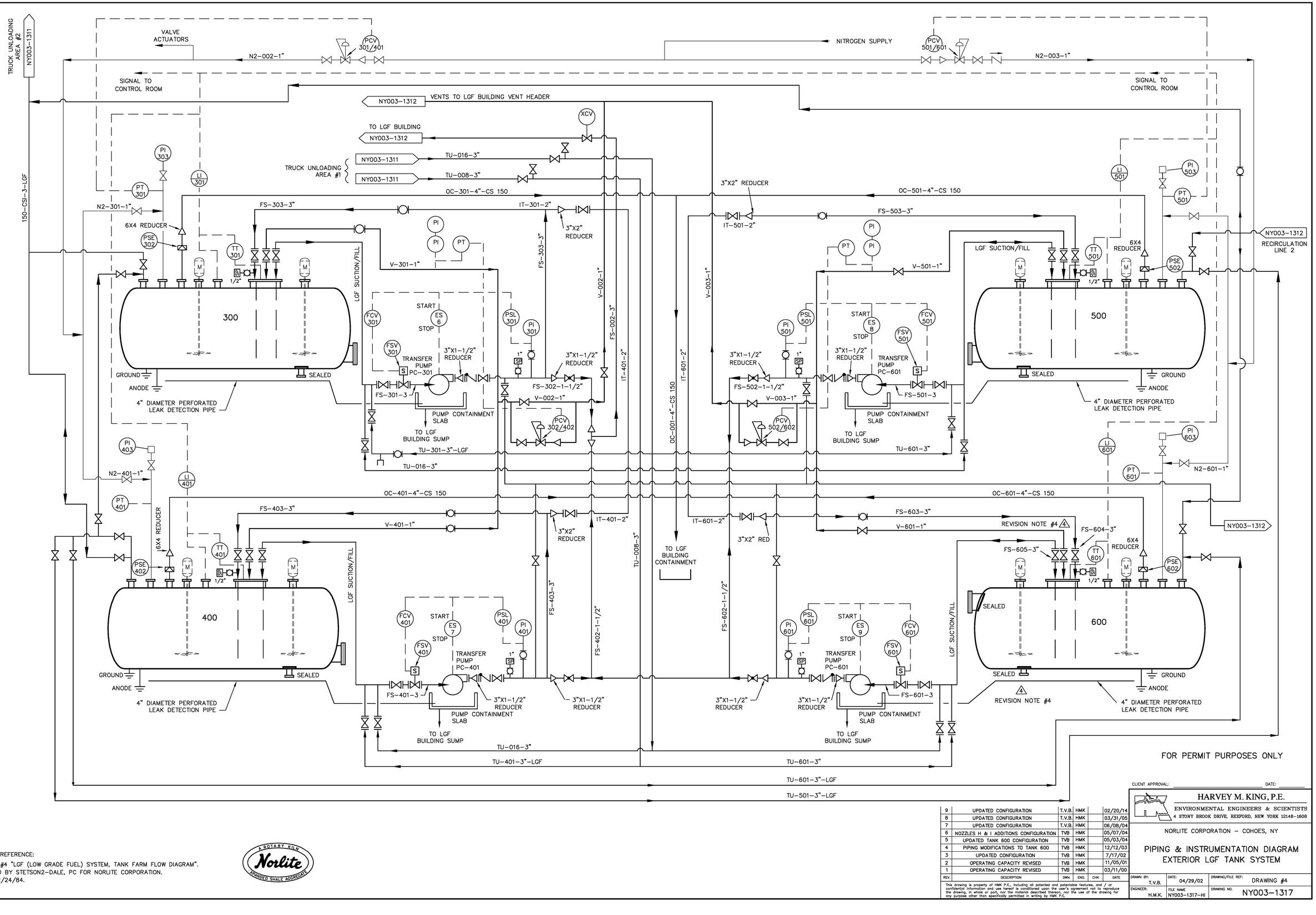
NORLITE CORPORATION – COHOES, NY

PIPING & INSTRUMENTATION DIAGRAM LGF EQUALIZATION AND FEED (TANKS 102A, 102B)

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF: NY003-E1315
ENGINEER: H.M.K.	FILE NAME NY003-1315	DRAWING NO. NY003-1315



FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

DRAWING REFERENCE:

DRAWING #4 "LGF (LOW GRADE FUEL) SYSTEM, TANK FARM FLOW DIAGRAM". PREPARED BY STETSON-DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84.

A ROTARY KILN Norlite BRANDED SHALE AGGREGATE

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
9	UPDATED CONFIGURATION	T.V.B.	HMK		02/20/14
8	UPDATED CONFIGURATION	T.V.B.	HMK		03/31/05
7	UPDATED CONFIGURATION	T.V.B.	HMK		06/08/04
6	NOZZLES H & I ADDITIONS CONFIGURATION	TVB	HMK		05/07/04
5	UPDATED TANK 600 CONFIGURATION	TVB	HMK		05/03/04
4	PIPING MODIFICATIONS TO TANK 600	TVB	HMK		12/12/03
3	UPDATED CONFIGURATION	TVB	HMK		7/17/02
2	OPERATING CAPACITY REVISED	TVB	HMK		11/05/01
1	OPERATING CAPACITY REVISED	TVB	HMK		03/11/00

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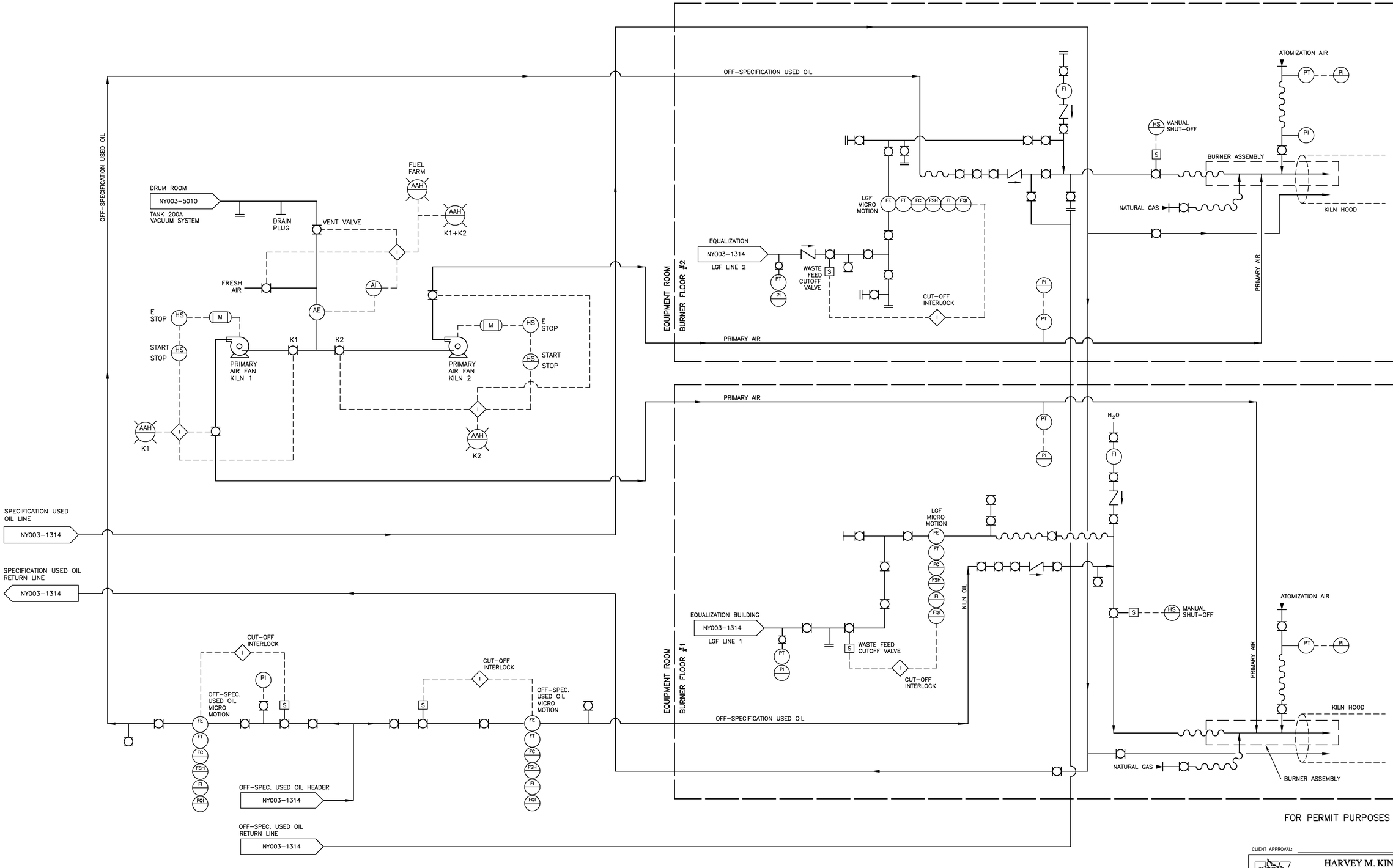
NORLITE CORPORATION – COHOES, NY

PIPING & INSTRUMENTATION DIAGRAM EXTERIOR LGF TANK SYSTEM

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	DRAWING #4
ENGINEER: H.M.K.	FILE NAME: NY003-1317-HI	DRAWING NO.	NY003-1317



FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
1	UPDATED CONFIGURATION	TVB	HMK		02/20/14
0	UPDATED CONFIGURATION	TVB	HMK		07/15/05

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

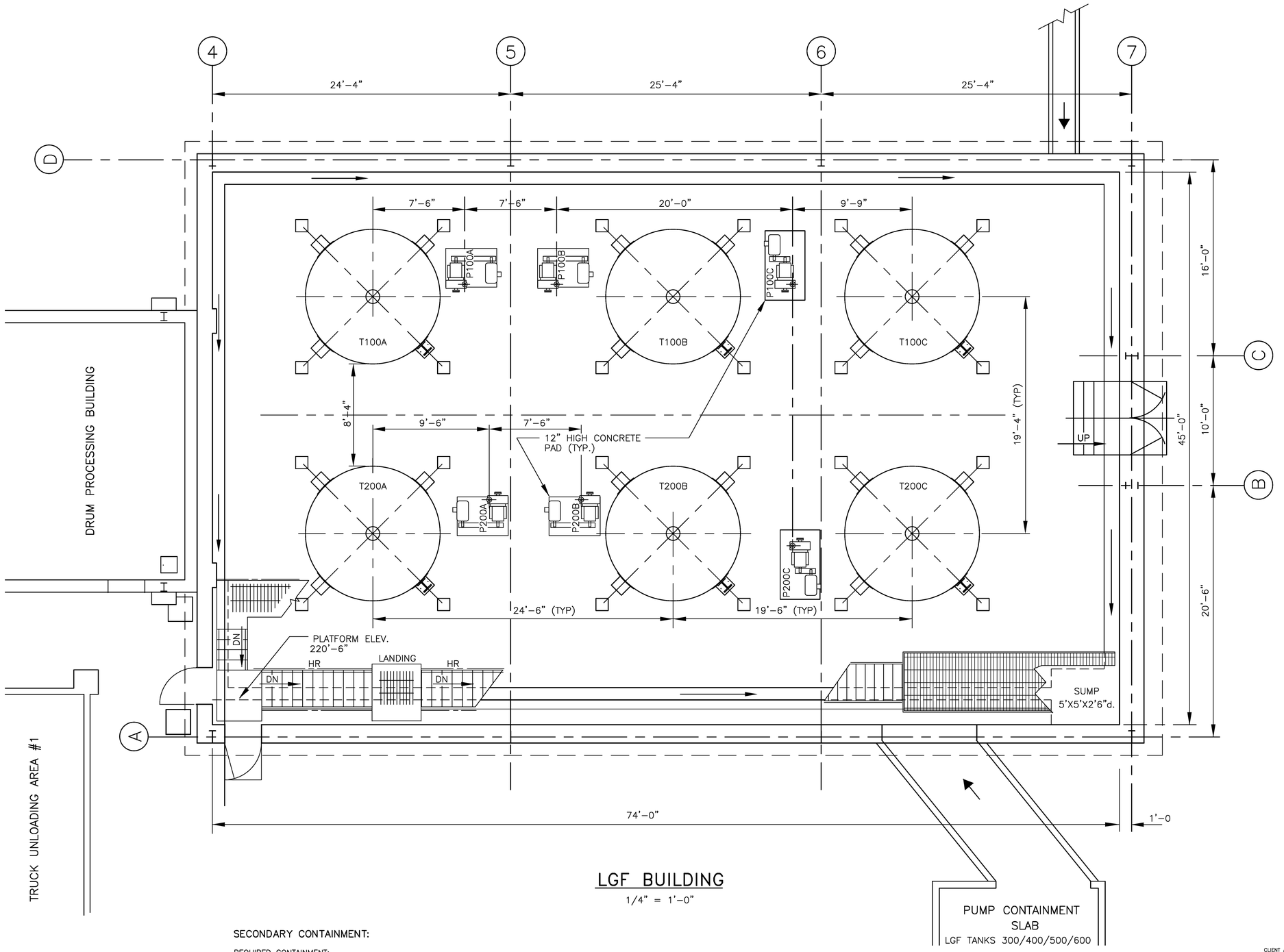
NORLITE CORPORATION – COHOES, NY

PIPING & INSTRUMENTATION DIAGRAM KILN BURNERS

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003-1903	NY003-1903

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN PROVIDED BY NORLITE CORPORATION.



LGF BUILDING

1/4" = 1'–0"

SECONDARY CONTAINMENT:

REQUIRED CONTAINMENT:

TANK VOLUME: 9,271 GALS. X 100% = 9,271 GALS.

PROVIDED CONTAINMENT:

74.0' X 45.0' X 2.3' = 7,659 X 7.48 = 57,289 GAL.

*DOES NOT ACCOUNT FOR ADDITIONAL CAPACITY OF TRENCH AND SUMP.

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
E	UPDATED CONFIGURATION	T.V.B.			02/20/14
D	UPDATED CONFIGURATION	T.V.B.			7/17/02
C	GEN. REV.'S	RJS	KP		8–24–92
B	GEN. REV.'S	JO	KP		3/30/92
A	ISSUED FOR COMMENTS	JEG	KP		2/13/92

HARVEY M. KING, P.E.
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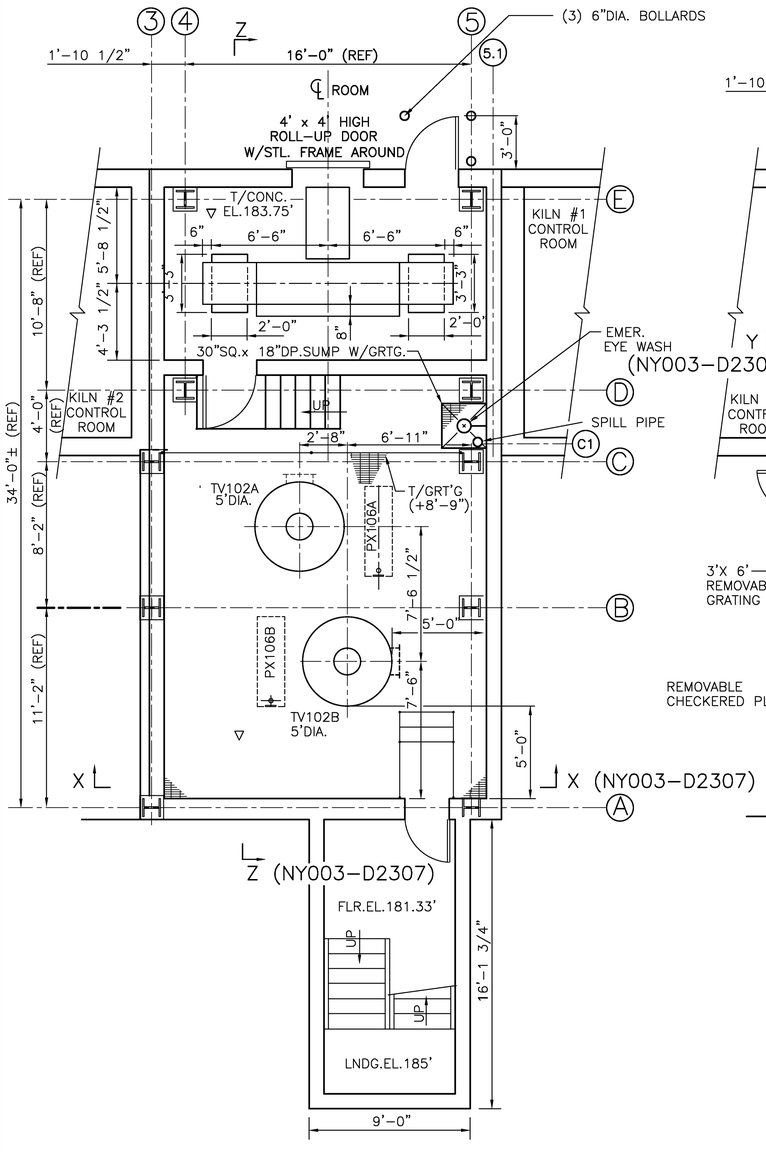
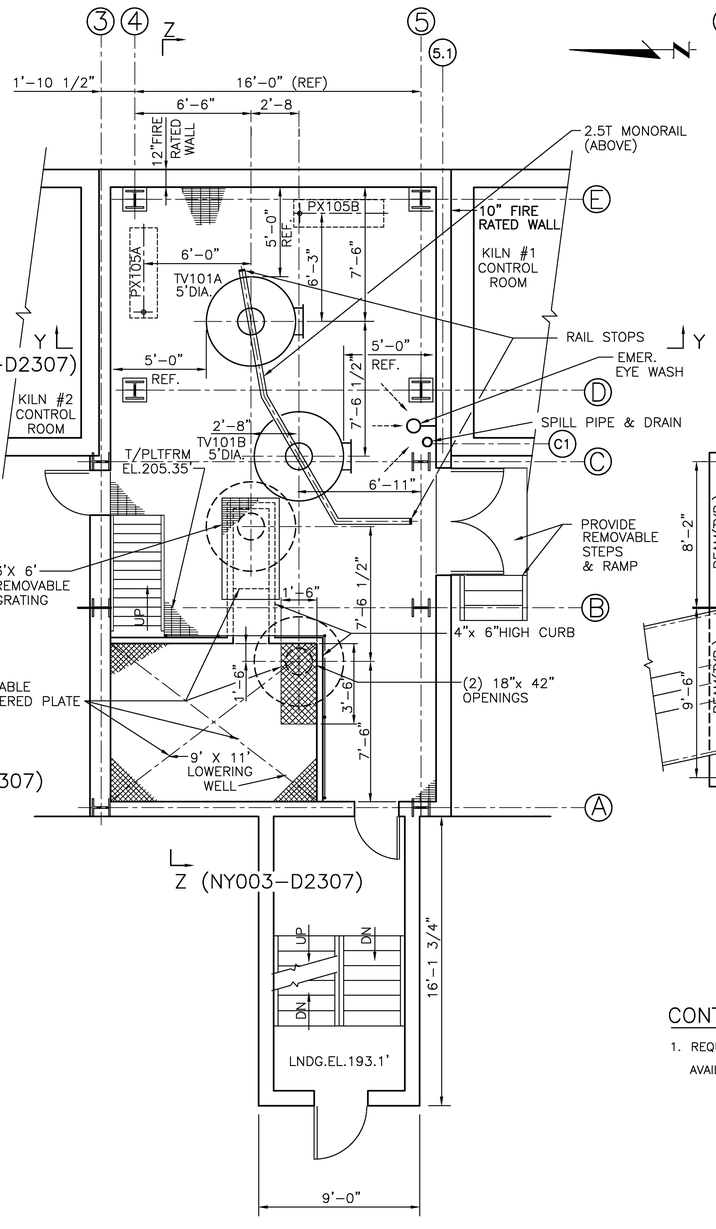
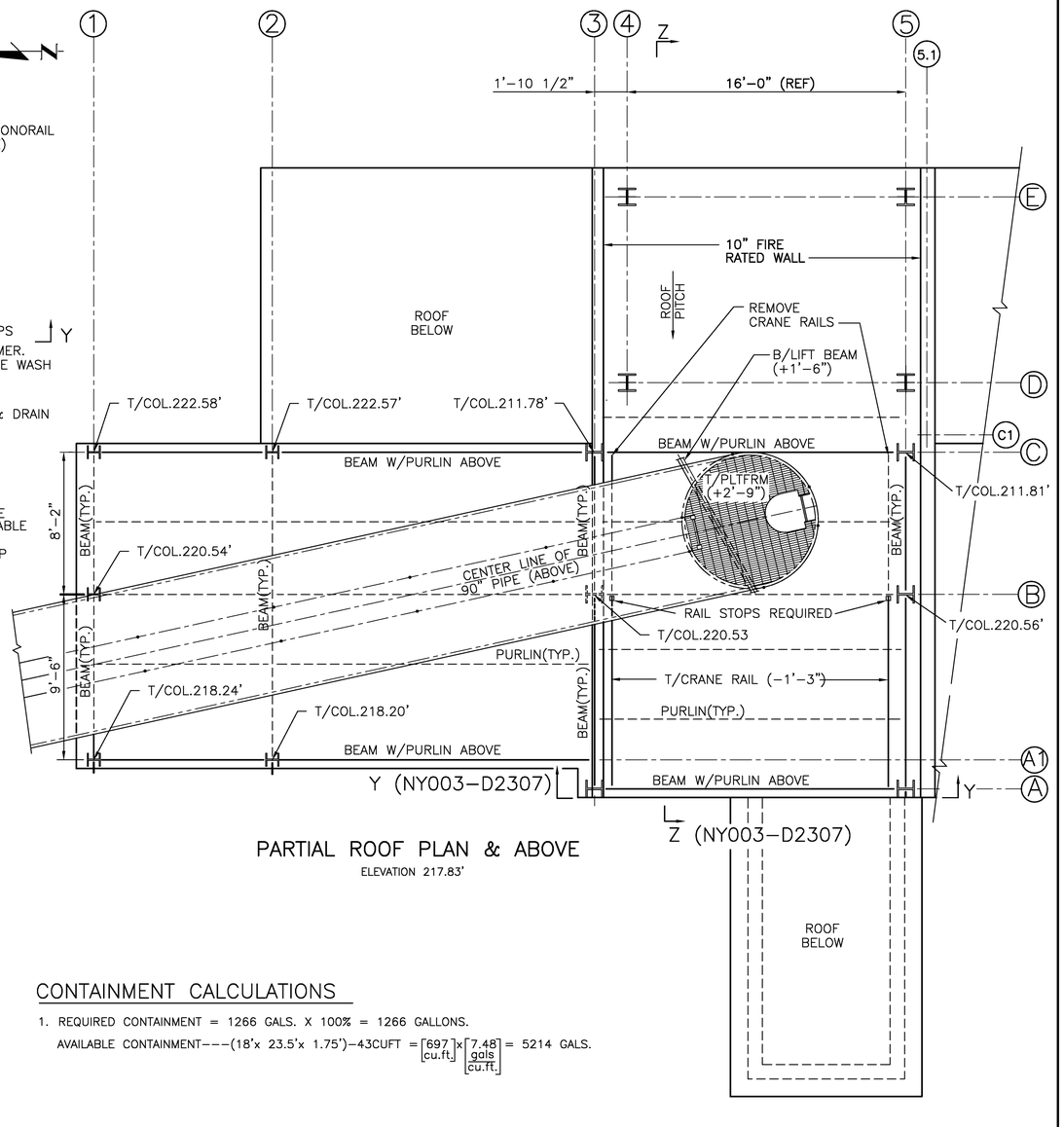
NORLITE CORPORATION – COHOES, NY

GENERAL ARRANGEMENT LGF BUILDING

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	NY003–D2301
ENGINEER: H.M.K.	FILE NAME: NY003–2301	DRAWING NO.	NY003–2301







GROUND FLOOR – AREA PLAN

ELEVATION 179.58' T/C FIN.FLR.

OPERATING FLOOR – AREA PLAN

ELEVATION 197.2' T/C FIN.FLR.

PARTIAL ROOF PLAN & ABOVE

ELEVATION 217.83'

CONTAINMENT CALCULATIONS

1. REQUIRED CONTAINMENT = 1266 GALS. X 100% = 1266 GALLONS.
   AVAILABLE CONTAINMENT---(18'x 23.5'x 1.75')-43CUFT = [697 cu.ft.] x [7.48 gals/cu.ft.] = 5214 GALS.

LEGEND

- HYDROCARBON DETECTORS
- FLAME DETECTORS

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

FOR PERMIT PURPOSES ONLY

SCALE: 1/4" = 1'-0"

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK.	DATE
6	UPDATED CONFIGURATION	T.V.B.			7/17/02
5	GENERAL UPDATE REVISIONS	RJS	KP		4-23-92
4	DWG # CHANGED WITH REVISIONS	RJS	KP		3-25-92
3	GENERAL REVISION	RJS	KP		3-20-92
2	REVISED FLOOR OPENINGS	RJS	KP		3-13-92
1	GENERAL REVISIONS	RJS	JE		3-4-92
0	ISSUED FOR NYSDEC PERMIT	JEG	KP		2/19/92

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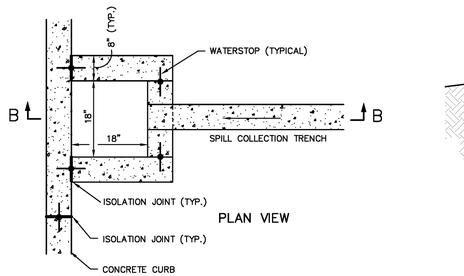
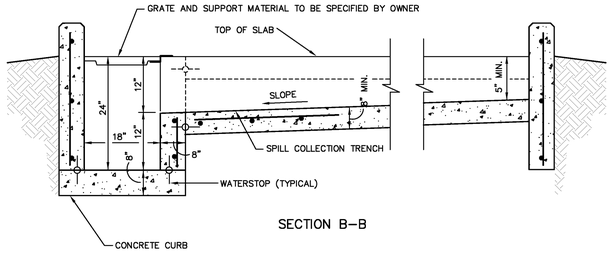
NORLITE CORPORATION – COHOES, NY

GENERAL ARRANGEMENT EQUALIZATION BUILDING

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	NY003-D2306
ENGINEER: H.M.K.	FILE NAME: NY003-2306	DRAWING NO.	NY003-2306



PLAN VIEW

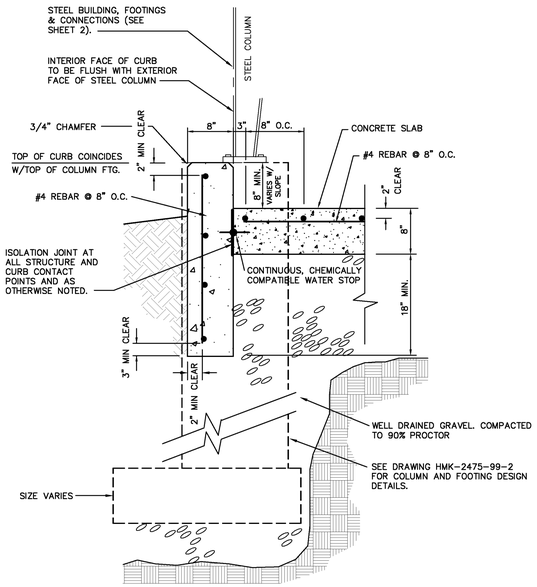


SECTION B–B

CHEMICALLY COMPATIBLE WATER STOPS AT ALL CONSTRUCTION JOINTS & SLAB/CURB/PIER INTERSECTIONS.

COLLECTION SUMP DETAIL

SCALE: NONE



CONCRETE CURB & SLAB DETAIL

SCALE: NONE

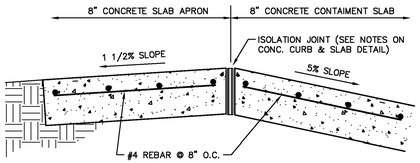
NOTES:

1. DURAFLEX ELAST–O–COAT HIGH BUILD EPOXY SLURRY MIX (OR EQUAL) SHALL BE USED AS FILLER IN ALL CONTROL/CONTRACTION/ISOLATION JOINTS AND AT INSIDE AND OUTSIDE CORNER LOCATIONS WITH INITIAL CONTAINMENT COATING.
2. CONCRETE CURB W/CONTRACTION JOINT A MAX. OF EVERY 15 FEET.
3. WHERE CURB RESTS ON COLUMN FOOTING A CONTROL JOINT SHALL BE PLACES IN THE CURB IN LINE WITH THE EDGE OF THE FOOTING.
4. CONTAINMENT COATING

   The concrete containment shall receive a chemically compatible coating after installation of the new foundation slab. Surface preparation for the installation of the coating materials shall be void filling, removal of sharp corners and application of Dur–A–Flex elast–o–coat epoxy primer at 50 mils thickness. Transition between floor and wall at joint and at outside corners shall be constructed using a slurry mix of DUR–A–FLEX elast–o–coat resin.

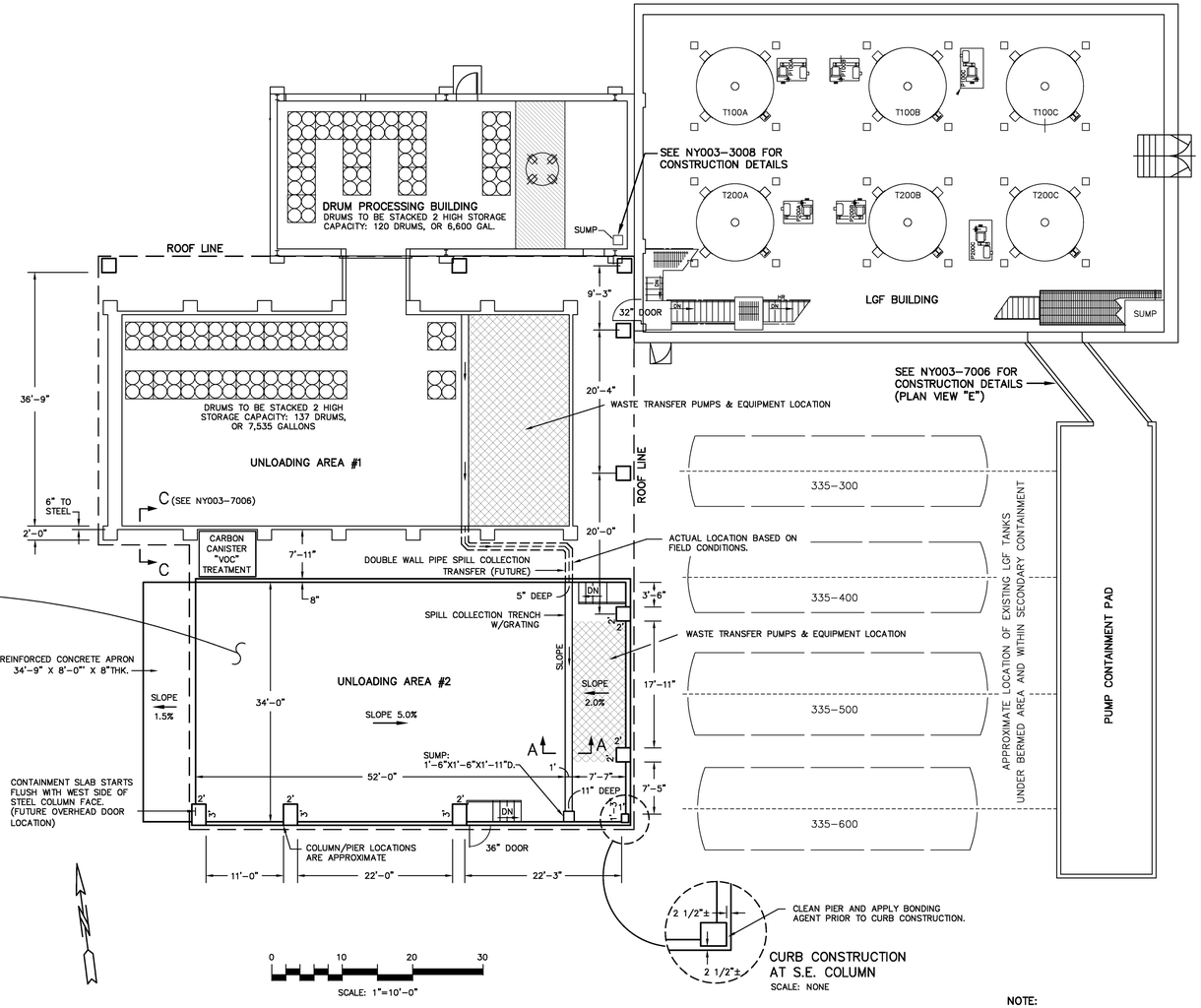
   Final coating shall be a minimum of 32 mils of Dur–A–Glaze Novolac epoxy protective coating with broadcast aggregate and final Novolac coating. Color(s) as specified by Owner.

   Final coating shall cover all concrete surfaces including extending over the top of the curb and down the exterior surface at least 3 inches.
5. UNLOADING AREA #2 HAS BEEN CONSTRUCTED TO THE REQUIREMENTS OF 373–2.9(f).



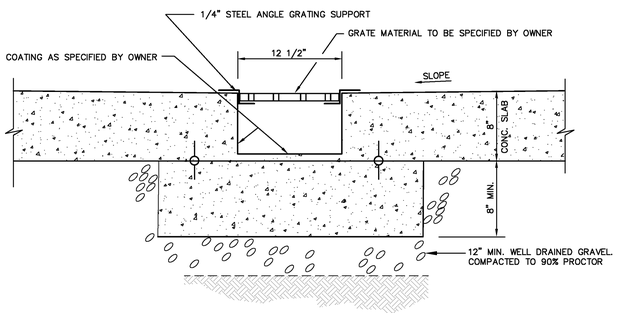
CONC. APRON SECTION

SCALE: NONE



PLAN VIEW

NOTE:
1) UNLOADING AREA 2 COMPLETE 2002.



NOTE: REINFORCING AS SHOWN ELSEWHERE.

SPILL COLLECTION TRENCH CROSS SECTION A–A

SCALE: NONE

CONTAINMENT CALCULATIONS

UNLOADING AREA #1

THE EXISTING MATERIAL TRANSFER AREA SERVES AS A TRANSFER FACILITY FOR DRUMS AND/OR BULK TANKERS.

ONE TANKER = 5500 GALLONS
87 DRUMS = 55 X 87 = 4785 GALLONS
TOTAL CAPACITY = 10,285 GALLONS

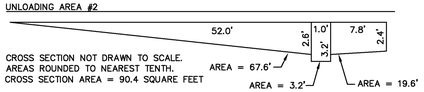
REQUIRED CONTAINMENT CAPACITY: 100% OF 5500 GALLONS.

AVERAGE CONTAINMENT DEPTH = $\frac{(0.48' + 1.20')}{2} = 0.84$

AVAILABLE CONTAINMENT CAPACITY: 0.84' X 30' X 48' X 7.48 GAL./C.F. = 9,048 GAL.

*DOES NOT ACCOUNT FOR ADDITIONAL CAPACITY WITHIN PUMP/EQUIPMENT AREA.
**DOES NOT ACCOUNT FOR DISPLACEMENT OF STORED DRUMS.

UNLOADING AREA #2



CROSS SECTION NOT DRAWN TO SCALE.
AREAS ROUNDED TO NEAREST TENTH.
CROSS SECTION AREA = 90.4 SQUARE FEET

CONTAINMENT CAPACITY = 90.4' X 34.0' WIDE = 3,074 X 7.48 GAL = 22,991 GALLONS

THIS MATERIAL TRANSFER AREA WILL SERVE AS A TRANSFER FACILITY FOR BULK TANKERS OF 5500 GALLON MAXIMUM CAPACITY.

REQUIRED CONTAINMENT CAPACITY: 100% OF 5500 GALLONS.

COMBINED CONTAINMENT CAPACITY FOR AREAS #1 AND #2
9,048 GAL. + 22,991 GAL. = 32,039 GAL.

MAP REFERENCE:

MAP TITLED "SITE PLAN AND SECTIONS, TRUCK UNLOADING FACILITY EXPANSION: PERMIT MODIFICATION APPLICATION, NORLITE CORPORATION, COHOES N.Y. (2475–50)" DATED NOVEMBER 1995 AND PREPARED BY MALCOLM PIRNIE, INC.

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN.	ENG.	CHK	DATE
11	UPDATED CONFIGURATION	TVB	HMK	HMK	03/05/14
10	UPDATED CONFIGURATION	TVB	HMK	HMK	7/17/02
9	NOTES #4 & #5 ADDED	TVB	HMK	HMK	05/15/02
8	RECORD INFORMATION ADDED	TVB	HMK	HMK	04/05/02
7	RECORD INFORMATION ADDED	TVB	HMK	HMK	12/04/00
6	MISC. REVISIONS	TVB	HMK	HMK	08/22/00
5	MISC. REVISIONS	TVB	HMK	HMK	08/18/00
4	MISC. REVISIONS	TVB	HMK	HMK	07/25/00

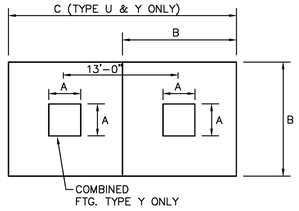
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, RENSFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

MATERIAL TRANSFER FACILITY

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	HMK–2475–99–1
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003–2475–1	NY003–2475–1

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE



PLAN VIEW
TYPICAL FOOTING & PIER
(N.T.S.)

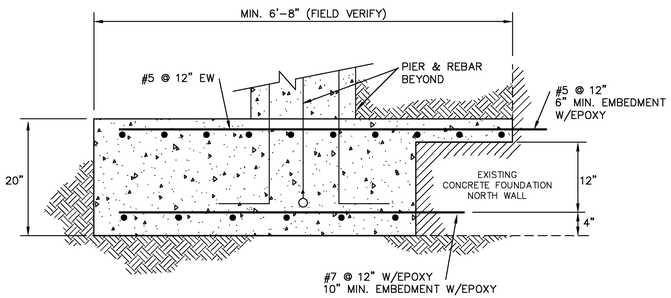
FOOTING SCHEDULE

TYPE	LOCATIONS**	A (")	B (")	C (")	D (")	FTG. REBAR	DOWELS	STIRRUPS
U	2A	24	80	138	20	13 #7 SHORT* 8 #7 LONG	8 #9	4 #4
V	5A & 5B	18	48	--	12	5 #5 EW	4 #6	4 #4
W	1A & 1C	18	24	--	12	3 35 EW	4 #6	4 #4
X	1 @ A.1 & A.7 1 @ B.1 & B.7	18	54	--	12	5 #5 EW	4 #6	4 #4
Y	3 & 4 @ A	24	80	216	20	25 #7 SHORT* 8 #7 LONG	8 #9	4 #4
Z	2, 3 & 4 @ C	24	102	--	20	9 #7 EW	8 #9	4 #4

*PROVIDE TOP MAT OF REBAR #5 @ 12" EW.

**LOCATIONS REFER TO COLUMN LINES ON ANCHOR BOLT LAYOUT PLAN

NOTE: COORDINATE ANCHOR BOLT LOCATIONS WITH BUILDING MANUFACTURERS PLANS. LOCATE PIERS & FOOTINGS SO THAT ANCHOR BOLTS ARE AS CLOSE AS POSSIBLE TO CENTER LINES OF PIER & FOOTINGS. PROVIDE MINIMUM 2" SETBACK FROM BASE PLATE TO EDGE OF CONCRETE PIER.



PROVIDE 3" COVER TYPICAL

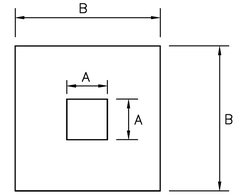
CROSS SECTION AA–AA

TYPE U & Y FOUNDATIONS
(ALONG NORTH WALL)
(N.T.S.)

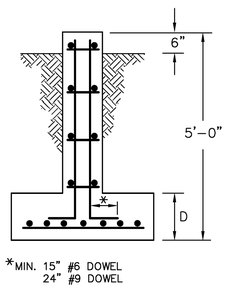
CONSTRUCTION NOTES:

EARTHWORK: EXCAVATIONS SHALL BE FREE OF WATER. ALL EXCAVATIONS IN EXCESS OF 4 FOOT DEEP SHALL BE BRACED OR LAID BACK AS REQUIRED BY OSHA AND NEW YORK STATE DEPT. OF LABOR. SUBGRADE SHALL BE PROOF ROLLED WITH A MECHANICAL COMPACTOR APPROVED BY THE ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED OF ANY SOFT SPOTS. SUB–BASE AND BACKFILL MATERIAL TO BE COMPACTED IN LIFTS OF MAXIMUM 8" LOOSE THICKNESS. MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY DENSITY PER ASTM D 1557 MODIFIED PROCTOR AND WITH 2% OF OPTIMUM MOISTURE. EACH LIFT SHALL BE TESTED AT A MINIMUM OF 3 LOCATIONS OR EVERY 500 SF, WHICHEVER IS GREATER. ALL TEST RESULTS SHALL BE FORWARDED TO THE ENGINEER WITHIN 48 HOURS. BACKFILL FOOTINGS AND FILL WITHIN 1 FOOT OF BOTTOM OF SLAB WITH MATERIAL WHICH IS FREELY DRAINING, CLEAN (LESS THAN 10% PASSING NO. 200 SIEVE). COHESIONLESS, AND FREE OF ORGANICS AND DELETERIOUS MATERIALS. THE MAXIMUM PARTICLE SIZE SHALL BE NO MORE THAN HALF THE LIFT THICKNESS. GRADE GROUND SURFACE AWAY FROM IMPROVEMENTS.

CONCRETE: ALL CAST–IN–PLACE CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 301 AND ACI 318 (LATEST EDITIONS), UNLESS SPECIFICALLY NOTED OTHERWISE. WATER SHALL BE POTABLE AND SUITABLE FOR MIXING CONCRETE. CONCRETE EXPOSED TO WEATHER SHALL HAVE AIR ENTRAINING AGENT PER "SPECIFICATIONS FOR AIR ENTRAINING ADMIXTURES FOR CONCRETE", ASTM C260. TOTAL ENTRAPPED PLUS ENTRAINED AIR SHALL BE 4.0% TO 6.0% OF VOLUME OF CONCRETE PER ASTM C231, WITH REQUIRED STRENGTHS MAINTAINED. CALCIUM CHLORIDE SHALL NOT BE ALLOWED. MIXING AND DELIVERY OF CONCRETE SHALL BE PER THE REQUIREMENTS OF A "STANDARD SPECIFICATION FOR READY–MIXED CONCRETE", ASTM C94. CONCRETE SHALL NOT REMAIN IN TRUCK FOR MORE THAT 3/4 HOURS. MAXIMUM AGGREGATE SIZE 3/4" FOR SLABS AND 1 1/2" FOR FOOTINGS, GRADE BEAMS, AND WALLS. CONCRETE SHALL HAVE A SLUMP BETWEEN 2 AND 4 INCHES AND VIBRATED TO CONSOLIDATE COMPLETELY. STRENGTH OF CONCRETE SHALL BE A MINIMUM OF 4000 PSI AT 28 DAYS. CONCRETE SHALL BE KEPT CONTINUOUSLY WARM (40 DEGREES F MIN.) FOR 7 DAYS. CURING SHALL BE DONE BY MOIST CURING TECHNIQUES AND SHALL BE KEPT MOIST FOR A MINIMUM OF 7 DAYS. MEMBRANE CURING TECHNIQUES MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. CONCRETE COVER SHALL BE 3 INCHES WHEN IN CONTACT WITH SOIL AND 2 INCHES ELSEWHERE. SLAB REINFORCEMENT SHALL BE 3 INCHES FROM THE BOTTOM. INSPECTION AND TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY LICENSED IN THE STATE OF NEW YORK. THE TECHNICIAN SHALL MAKE THREE TEST CYLINDERS AND PERFORM A MINIMUM OF ONE AIR CONTENT TEST AND SLUMP TEST FOR EVERY 10 C.Y. AND EACH PLACEMENT. ONE SAMPLE SHALL BE TESTED AT 7 DAYS AND 2 AT 28 DAYS IN ACCORDANCE WITH ASTM C31 AND C192. SLAB TO BE LEVEL WITHIN +/–1/8". ALL TEST RESULTS TO BE FORWARDED TO ENGINEER WITHIN 48 HOURS. COORDINATE BLOCK–OUTS AS NECESSARY WITH OTHER TRADES. REINFORCING STEEL TO BE ANCHORED INTO EXISTING CONCRETE AND SHALL BE FIXED WITH EPOXY IN A HOLE WHICH IS APPROXIMATELY 1/4" LARGER THAN THE STEEL, MINIMUM EMBEDMENT SHALL BE THE GREATER THAN 12 TIMES THE DIAMETER ON THE BAR OR 6 INCHES.



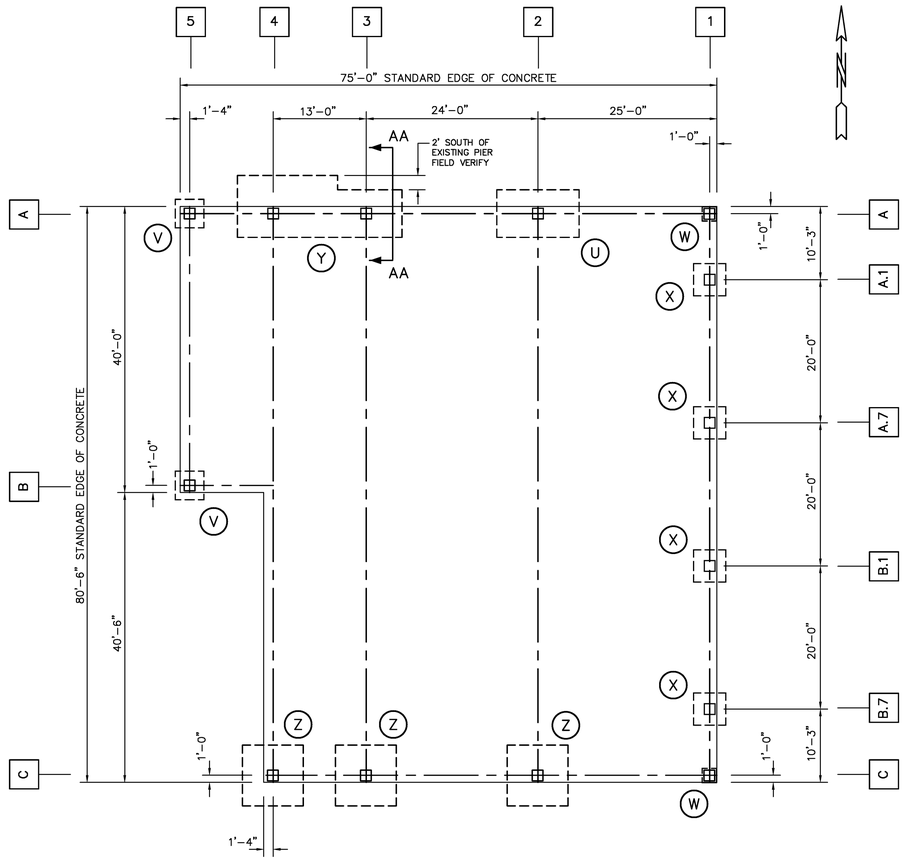
PLAN VIEW (TYPE V, W, X & Z)



*MIN. 15" #6 DOWEL
24" #9 DOWEL

SECTION VIEW

TYPICAL FOOTING AND PIER
(N.T.S.)



FOUNDATION PIER LOCATIONS
SCALE: 1"=10'

FOR PERMIT PURPOSES ONLY

MAP REFERENCE:

MAP TITLED "SITE PLAN AND SECTIONS, TRUCK UNLOADING FACILITY EXPANSION: PERMIT MODIFICATION APPLICATION, NORLITE CORPORATION, COHOES N.Y. (2475–50)" DATED NOVEMBER 1995 AND PREPARED BY MALCOLM PIRNIE, INC.

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

MATERIAL TRANSFER FACILITY
PIER & FOOTING DETAILS

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	HMK–2475–99–2
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003–2475–2	NY003–2475–2

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

PROJECT TECHNICAL SPECIFICATIONS

SELECTIVE DEMOLITION

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions provided by the Owner apply to this section.

DEFINITIONS:

Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.

Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

MATERIALS OWNERSHIP:

Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

SUBMITTALS:

General: Submit each item in this article according to the Conditions of the Contract or Owner's requirements for information purposes only.

- Schedule of selective demolition activities indicating the following:
- Detailed sequence of selective demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
- Interruption of utility services.
- Coordination for shutoff, capping and continuation of utility services.

Regulatory Requirements: Comply with governing local regulations and site work permits before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

PROJECT CONDITIONS:

Asbestos: It is not expected that asbestos will be encountered in the Work. If any materials suspected of containing asbestos are encountered, do not disturb the materials. Immediately notify the Owner.

SCHEDULING:

Arrange selective demolition schedule so as not to interfere with Owner's on-site operations. The schedule shall be as approved by the Owner.

PRODUCTS:

REPAIR MATERIALS

Use repair materials identical to existing materials unless otherwise agreed to by the Owner or specified.

EXECUTION:

EXAMINATION

Verify that utilities have been disconnected and capped.

When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Owner and Engineer.

UTILITY SERVICES

Utility Requirements: Locate, identify, disconnect and seal or cap off any utility service necessary during selective demolition as instructed by Owner.

PREPARATION

Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain and to ensure minimum interference with roads, streets and walks. Ensure safe passage of people around selective demolition area. Protect existing site improvements, appurtenances, and landscaping to remain.

Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of adjacent structures, walks, and streets during progress of selective demolition.

CAST-IN-PLACE CONCRETE

GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions supplied by the Owner, apply to this Section.

SUMMARY:

This Section specifies cast-in-place concrete, including formwork, reinforcing, mix design, placement procedures and finishes.

Cast-in-place concrete includes the following:

- Slabs-on-grade.
- Curbing
- Sump

SUBMITTALS:

General: Submit the following according to Conditions of the Contract and specification Sections as required by the Owner.

Product data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, finish materials and others if requested by Engineer or Owner.

- Laboratory test reports for concrete materials and mix design test.
- Material certificates in lieu of material laboratory test reports when permitted by Engineer. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with or exceeds specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

QUALITY ASSURANCE:

Codes and Standards: Comply with provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified:

- ACI 318, Building Code Requirements for Reinforced Concrete".
- Concrete Reinforcing Steel Institute (CRSI) -Manual of Standard Practice.

PRODUCTS:

REINFORCING MATERIALS

Reinforcing Bars: ASTM A 615, Grade 60, deformed.

- Supports for Reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar-type supports complying with CRSI specifications.
- For exposed-to-view concrete surfaces where legs of supports are in contact with forms, provide supports with legs that are protected by plastic (CRSI, Class 1) or stainless steel (CRSI, Class 2).

CONCRETE MATERIALS

Portland Cement ASTM C 150, Type IV [HIGH-EARLY]

- Use one brand of cement throughout Project unless otherwise acceptable to Engineer.

Normal-Weight Aggregates: ASTM C 33 and as specified. Provide aggregates from a single source for exposed concrete.

- For exposed exterior surfaces, do not use fine or coarse aggregates that contain substances that cause spalling.

Water: Potable.

Admixtures, General: Provide concrete admixtures that contain not more than 0.1 percent chloride ions.

RELATED MATERIALS:

CONTAINMENT COATING

The concrete containment shall receive a chemically compatible coating after installation of the new foundation slab. Surface preparation for the installation of the coating materials shall be void filling, removal of sharp corners and application of Dur-A-Flex elast-o-coat (or equal) epoxy primer at 50 mils thickness. Transition between floor and wall at joint and at outside corners shall be constructed using a slurry mix of DUR-A-FLEX elast-o-coat (or equal) resin.

Final coating shall be a minimum of 32 mils of Dur-A-Glaze Novolac (or equal) epoxy protective coating with broadcast aggregate and final Novolac coating. Color(s) as specified by Owner.

Final coating shall cover all concrete surfaces including extending over the top of the curb and down the exterior surface at least 3 inches.

Chemically compatible waterstops

Waterstops shall be installed as shown on the drawings and as specified by the owner.

Moisture-Retaining Cover & Underlayment: One of the following, complying with ASTM C 171.

- Waterproof paper.
- Polyethylene film.

PROPORTIONING AND DESIGNING MIXES:

Limit use of fly ash to not exceed 25 percent of cement content by weight.

Design mixes to provide normal weight concrete with the following properties as indicated on drawings and schedules:

- 4000-psi, 28-day compressive strength; water-cement ratio, 0.44 maximum (non-air-entrained), 0.35 maximum (air-entrained).

Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:

- Subjected to freezing and thawing: W/C 0.45.
- Subjected to deicers/watertight: W/C 0.40.

Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

- Reinforced foundation systems: Not less than 1 inch and not more than 3 inches.

CONCRETE MIXING:

Ready-Mixed Concrete: Comply with requirements of ASTM C 94, and as specified.

EXECUTION:

GENERAL

Coordinate the installation of joint materials, vapor retarder/barrier and other related materials with placement of forms and reinforcing steel.

Construct forms to sizes, shapes, lines, and dimension shown and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, settling, keyways, recesses, moldings, rustication, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in the Work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent cement paste from leaking.

Provisions for Other Trades: Provide openings in concrete form work to accommodate work of other trades. Determine size and location of openings recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.

PLACING REINFORCEMENT:

General: Comply with Concrete Reinforcing Steel Institutes recommended practice for Placing Reinforcing Bars, for details and methods of reinforcement placement and supports and as specified.

Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.

Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as approved by Engineer.

Place reinforcement to maintain minimum coverages as indicated for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

JOINTS:

Construction Joints: Locate and install construction joints so they do not impair strength or appearance of the structure, as acceptable to Engineer.

Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints except as indicated otherwise. Do not continue reinforcement through sides of strip placements.

Isolation Joints in Slabs-on-Grade: Construct isolation joints in slabs-on-grade at points of contact between slabs-on-grade and vertical surfaces, such as column pedestals, curbs, foundation walls, grade beams, and other locations, as indicated.

- Joint fillers and sealants shall be as specified herein or by the Owner.

Contraction (Control) Joints in Slabs-on-Grade & Curbing: Construct contraction joints in slabs-on-grade to form panels or patterns as shown. Use saw cuts 1/8 inch wide by one-fourth of slab depth or inserts 1/4 inch wide by one-fourth of slab depth, unless otherwise indicated.

- Form contraction joints by inserting pre-molded plastic or hardboard strip into fresh concrete until top surface of strip is flush with slab surface. Tool slab edges round on each side of insert. After concrete has cured, remove inserts and clean groove of loose debris.
- Contraction joints in floor slabs may be formed by saw cuts as soon as possible after slab finishing as may be safely done without dislodging aggregate.
- If joint pattern is not shown, provide joints not exceeding 12 feet in either direction and located to conform to bay spacing wherever possible (at column center lines, half bays, third bays).
- Joint fillers and sealants are as specified by owner.

INSTALLING EMBEDDED ITEMS:

General: Set and build into formwork anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.

Forms for Slabs: Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

CONCRETE PLACEMENT:

Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.

General: Comply with ACI 304, Guide for Measuring, Mixing, Transporting, and Placing Concrete, and as specified.

Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened sufficiently to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation at its final location.

Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until completing placement of a panel or section.

FINISHING FORMED SURFACES:

Smooth-Formed Finish: Provide a smooth-formed finish of formed concrete surfaces exposed to view or to be covered with a coating material applied directly to concrete, such as waterproofing, damp-proofing, veneer plaster, painting, or another similar system. Repair and patch defective areas with fins and other projections completely removed and smoothed.

CONCRETE CURING AND PROTECTION:

General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material. During cold weather protect from freezing with appropriate measures. If these measures include heating protect concrete from rapid moisture loss as stated herein. Apply evaporation control material according to manufacturer's instructions after screeding and bull floating, but before power floating and troweling.

Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

Curing Methods: Cure concrete by moist curing, by moisture-retaining cover curing, or by combining these methods, as required by site conditions.

CONCRETE SURFACE REPAIRS:

Repairing Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface tolerances specified for each surface and finish. Correct low and high areas as specified. Test unformed surfaces sloped to drain for trueness of slope and smoothness by using a template having the required slope.

- Repair finished unformed surfaces containing defects that affect the concretes durability. Surface defects include crazing and cracks in excess of 0.01 inch wide or that penetrate to the reinforcement or completely through non-reinforced sections regardless of width, spalling, popouts, honeycombs, rock pockets, and other objectionable conditions.
- Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.

Repair methods not specified above may be used, subject to acceptance of Engineer

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN.	ENG.	CHK	DATE
1	RECORD INFORMATION ADDED	TVB	HMK	HMK	12/04/00

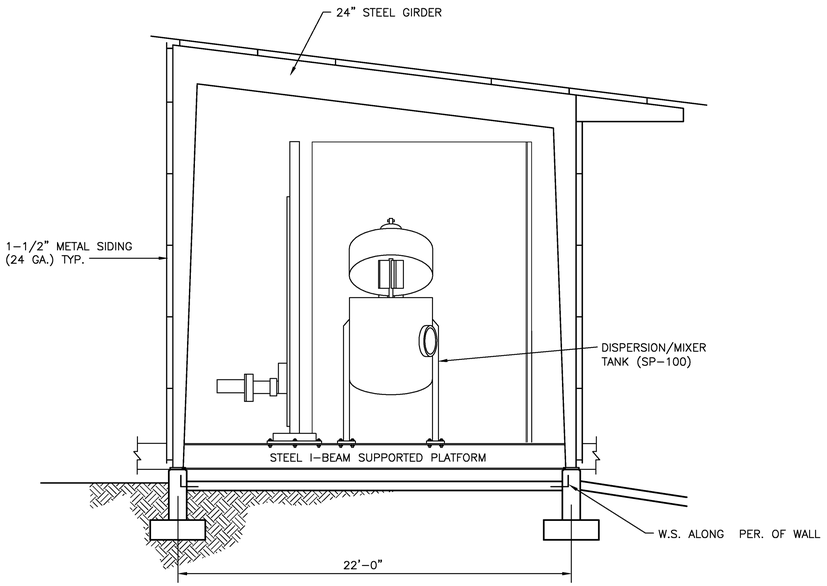
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, RKEFORD, NEW YORK 12148-1608

NORLITE CORPORATION - COHOES, NY

MATERIAL TRANSFER FACILITY
DESIGN SPECIFICATIONS

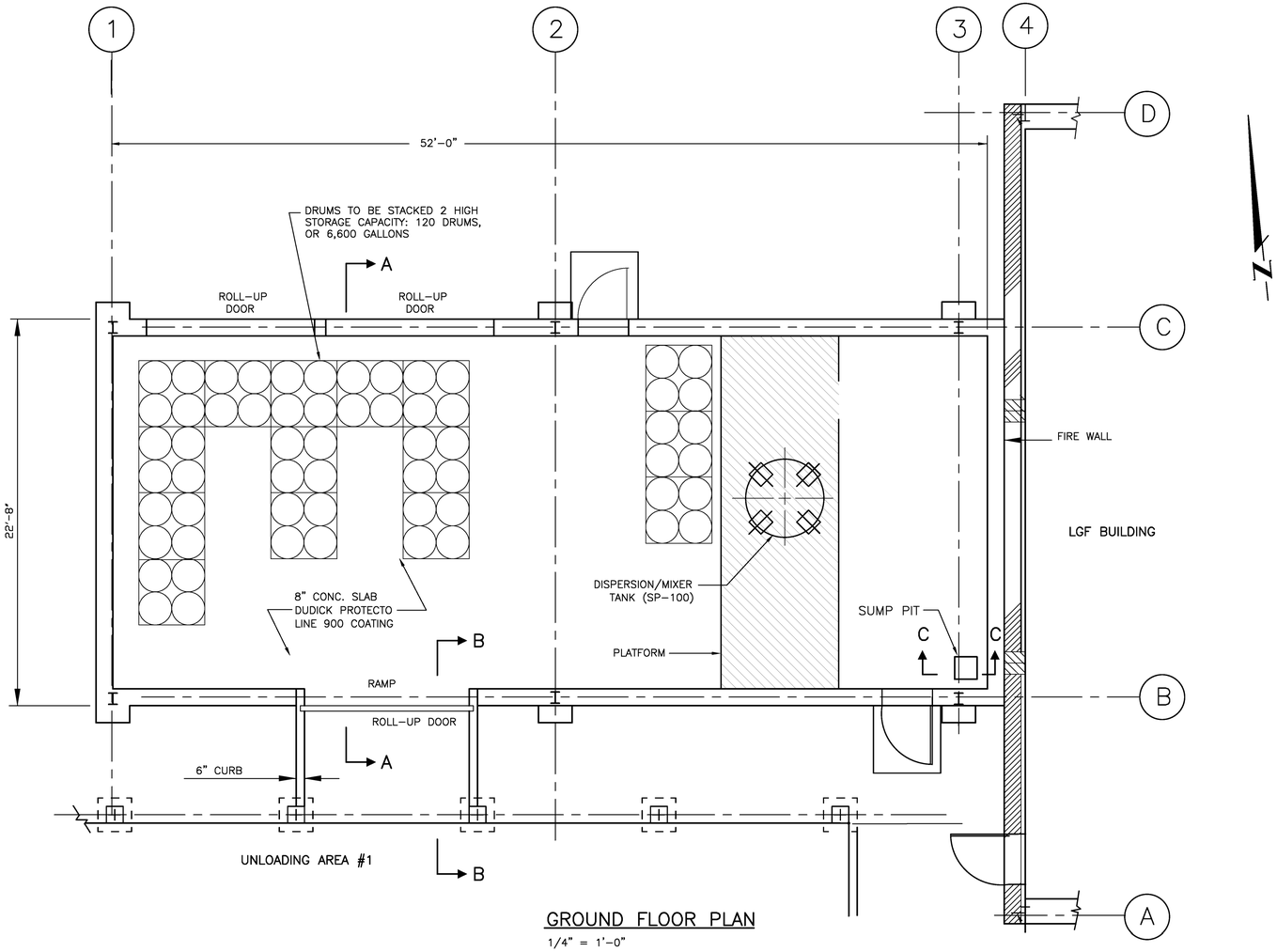
DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	HMK-2475-99-S
ENGINEER: H.M.K.	FILE NAME: NY003-2475-3	DRAWING NO.	NY003-2475-3

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE



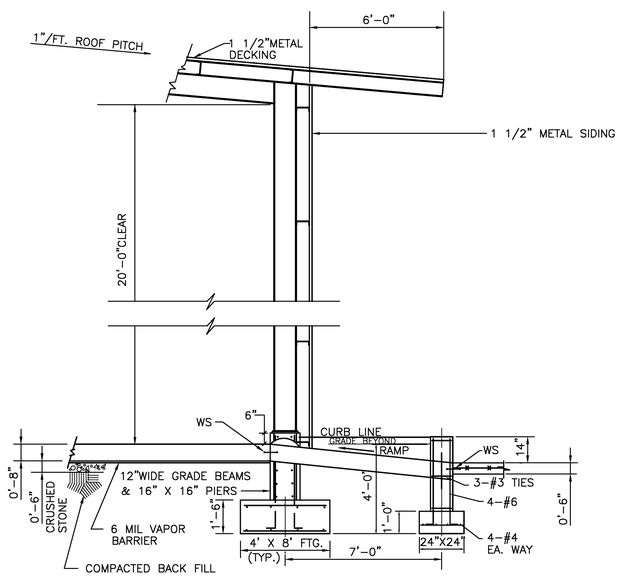
CROSS SECTION A–A

1/4" = 1'–0"



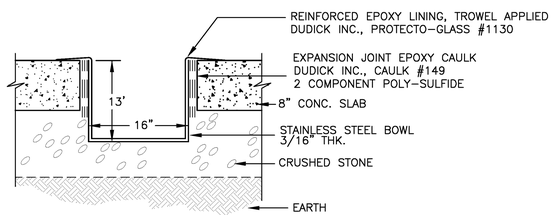
GROUND FLOOR PLAN

1/4" = 1'–0"



COLUMN PILASTER & FOOTING DETAIL
SECTION B–B

3/8"=1'–0"



SUMP PIT SECTION C–C

SECONDARY CONTAINMENT REQUIREMENTS:

(180) 55 GALLONS DRUMS = 9,900 GALLONS +
TANK SP–100 = 623 GALLONS
TOTAL VOLUME = 10,523 GALLONS

TOTAL CONTAINMENT REQUIRED = 10,523 X 0.1 = 1,052 GAL.

AVAILABLE CONTAINMENT: (52' X 21' X 0.25') X 7.48 GAL./C.F. = 2,042 GAL.
PROVIDED CONTAINMENT IS GREATER THAN IS REQUIRED.

FOR PERMIT PURPOSES ONLY

A ROTARY KILN
Norlite
BOARDED SHALE AGGREGATE

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

FOUNDATION PLAN INFORMATION TAKEN FROM:
ENSR DRAWING NY003–D4305

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
4	UPDATED CONFIGURATION	T.V.B.			7/17/02
3	MISC. NOTES ADDED	JJN	JBM		11/2/95
2	RENERAL REV.	JF	DR		9/10/95
1	DEC COMMECT REV. SUBMITTAL	MP	RCB		1/20/92
0	NYSDEC SUBMITTAL	RPF	KP		5/5/92

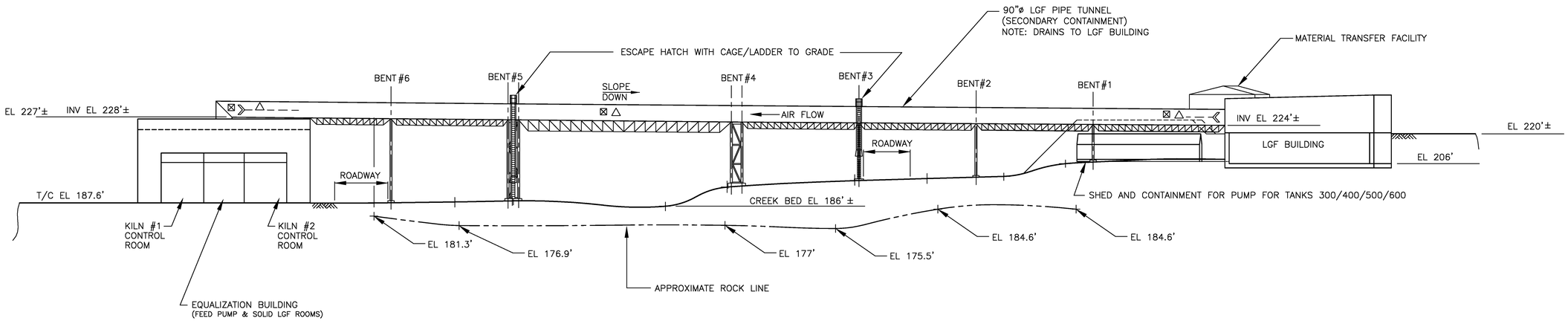
CLIENT APPROVAL: _____ DATE: _____

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

GENERAL ARRANGEMENT
FOUNDATION PLAN AND SECTIONS
DRUM PROCESSING BUILDING

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	NY–D–C–3008
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003–3008	NY003–3008



ELEVATION LOOKING WEST

SCALE: 1" = 300'

LEGEND:
- ⊠ HYDROCARBON DETECTORS
- △ SMOKE DETECTORS
- ⩓ FLAME DETECTORS

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

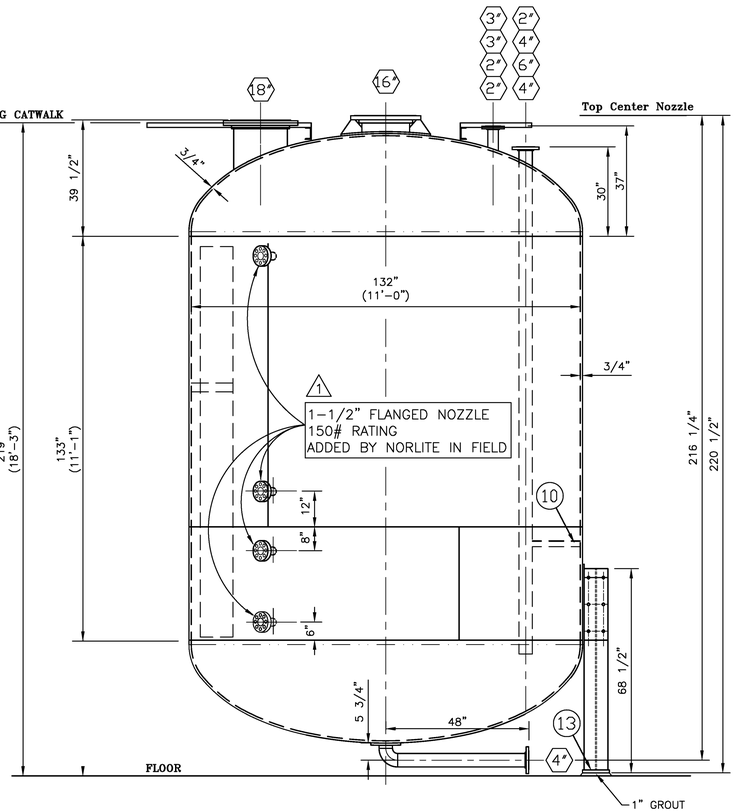
REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
E	UPDATED CONFIGURATION	T.V.B.			7/17/02
D	RELEASED FOR NYSDEC SUBMITTAL	RJS	JE		1/10/92
C	CHANGED KILN BLDG.	RJS			12-20-91
B	GENERAL REVISIONS	RJS			12-17-91
A	ISSUED FOR COMMENTS	M.L.			11/14/91

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

NORLITE CORPORATION – COHOES, NY

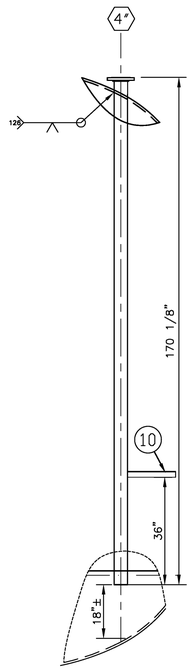
PIPE RACK AND TUNNEL
FROM LGF STORAGE TANKS TO KILN

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	NY-D-C-3018
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003-3018	NY003-3018

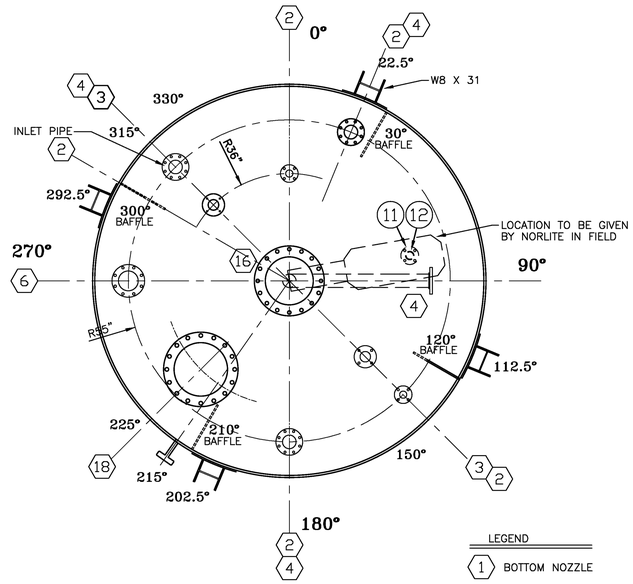


ELEVATION VIEW

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



INLET PIPE



PLAN VIEW

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

LEGEND

1 BOTTOM NOZZLE

1 TOP NOZZLE

NOZZLE SCHEDULE

MARK	QTY	SERVICE	SIZE	RATING	TYPE	NECK	REMARKS	PART No
16	1	AGITATOR	16	150#	RFSO	40		1,2,3,4
4	1	DRAIN	4	150#	RFSO	80		7,8,9

GENERAL NOTES

1. * DESIGN INFORMATION *
DESIGN AND FABRICATED IN ACCORDANCE WITH A.S.M.E. SECTION VIII, DIV. 1

SHELL

	DESIGN PRESSURE	200 PSIG
2	WORKING PRESSURE	50 PSI
	MAX DESIGN TEMPERATURE	200 °F
	MIN. DESIGN TEMPERATURE	−20 °F
	HYDRO TEST PRESSURE	300 PSIG
2	CORROSION ALLOWANCE	0.23 IN.
	CAPACITY FULL	10,785 GAL.

VESSEL WEIGHT EMPTY 22,285 LBS. FULL OF WATER 111,130 LBS.

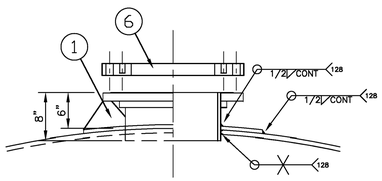
2. ALL FLANGES WILL HAVE BOLT HOLES STRADDLE THE 0°−180° & 90°−270° CENTER LINES, UNLESS OTHERWISE NOTED. PROTECT ALL FLANGE FACES SHIPMENT SHIPMENT.
3. ALL DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE NOTED.
4. ALL REPADS TO HAVE (1) 1/8"NPT TEST HOLE.
5. REPLACE 8" TOP NOZZLE WITH 16" 150# C.S. NOZZLE, W/REPAD AND GUSSETS.
6. SUPPLY 2 1/2" THICK AGITATOR ADAPTER
7. INSTALL AGITATOR BRACKET SUPPORT
8. INSTALL 4" C.S. INTERNAL FEED PIPE FROM AN EXISTING NOZZLE
9. SHORTEN LEGS AND INSTALL A BASE.
10. INSTALL 4" PIPE OUTLET ON BOTTOM OF TANK.
11. HYDRO TANK AT 300PSI
2 12. USING 50 PSI WORKING PRESSURE
2 13. TANK IS ACCEPTABLE FOR VACUUM OPERATION PURSUANT TO ASME UG-99.

PART	QTY	DESCRIPTION	MATERIAL	REMARKS
13	4	1" X 12" X 12" (BASE PLT.)	SA 36	
12	1	2 1/2" 150# RFSO FLANGE	SA 105	
11	1	2 1/2" SCH 40 PIPE X 24"±	SA 53B	
10	1	L2 X 2 X 1/4" X AR (PIPE SUPPORT)	SA 36	
9	1	4" 150# RFSO FLANGE	SA 105	
8	1	4" SCH 80 90° SHORT RAD. ELBOW	SA 105	
7	1	4" SCH 80 PIPE X 48"	SA 53B	
6	1	2 1/2" X 23 3/4" O.D. (AGITATOR SPACER)	SA 516-70	
5	1	4" SCH 40 PIPE X AR (DIP PIPE)	SA 516-70	
4	1	5/8" X 16 1/4" I.D. X 30" O.D.(REPAD)	SA 106B	
3	1	16" 150# RFSO FLANGE	SA 105	
2	1	16" SCH 40 PIPE X AR	SA 106B	
1	4	1/2" X AR (GUSSETS)	SA 36	

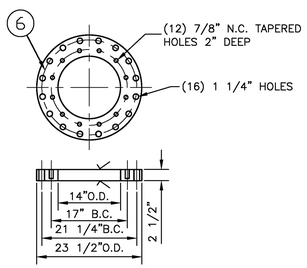
MATERIAL LIST

ORIGINAL NAMEPLATE DATA FOR REFERENCE ONLY.

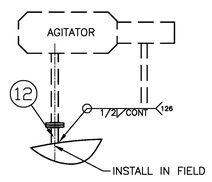
MAXIMUM STORAGE VOLUME: 9,271 GAL.
MAXIMUM VOLUME: 10,663 GAL.



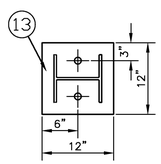
AGITATOR DETAIL



AGITATOR SPACER



AGITATOR SUPPORT



BASE PLATE

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
4	UPDATED CONFIGURATION				02/08/14
3	VOLUME NOTES ADDED				7/17/02
2	SUBMIT				10/6/98
1	SUBMIT				6/11/98
0	SUBMIT				2/21/98

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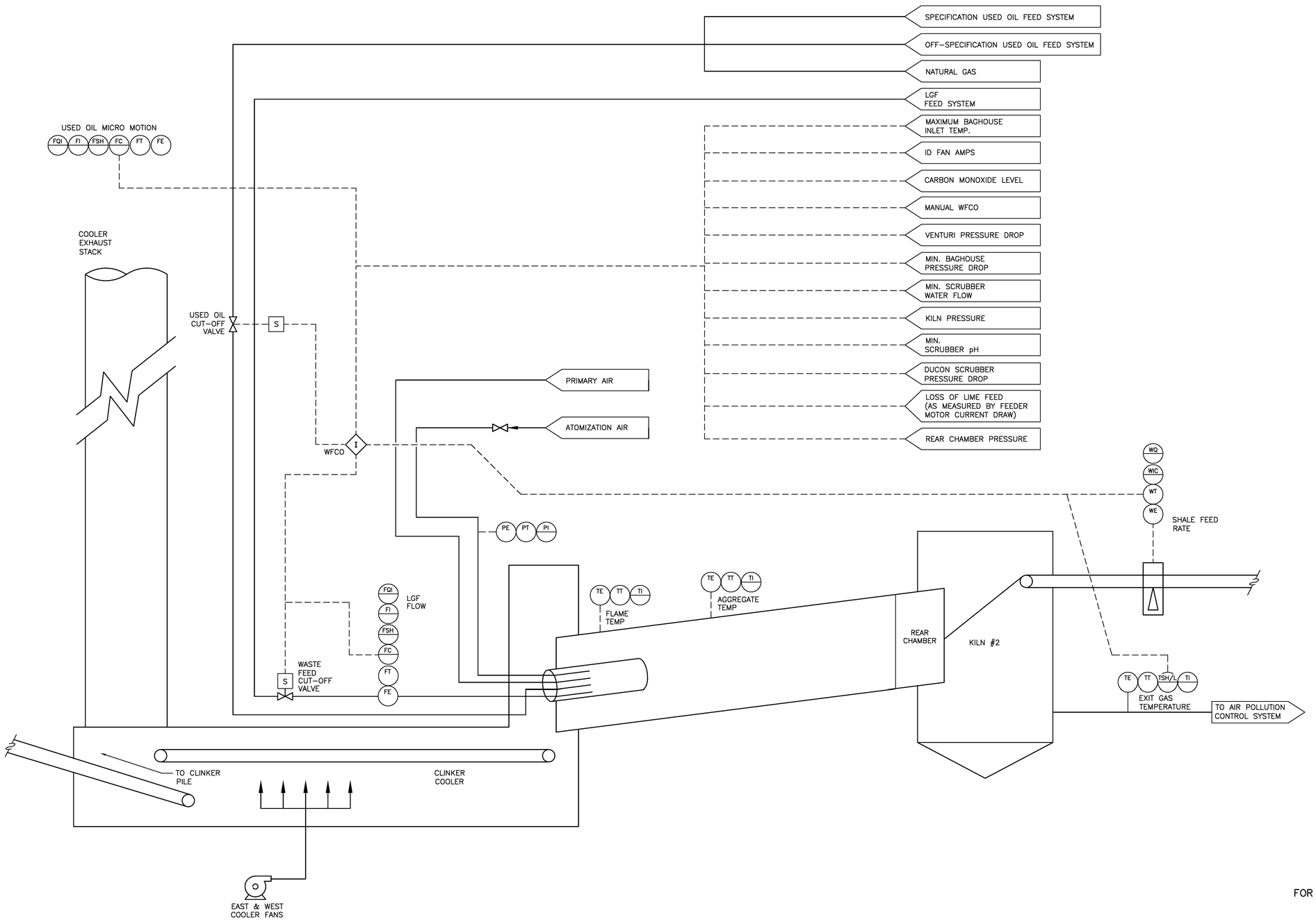
NORLITE CORPORATION – COHOES, NY

TANK VESSEL 200-A

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	J-4312-1
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003-4312	NY003-4312

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

THIS DRAWING IS A RE-DRAW OF "AMERICAN BOILER, TANK & WELDING CO. DRAWING 1, JOB NO. J-4312"



FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
E	UPDATED CONFIGURATION	T.V.B.			02/20/14
D	UPDATED CONFIGURATION	T.V.B.			7/17/02
C	MANUAL WFCO REVISION	TVB			03/11/00
B	ADDED LOSS OF LIME FEED WFCO	SB			9/20/93
A	ISSUED FOR COMMENTS	JEG			12/11/91

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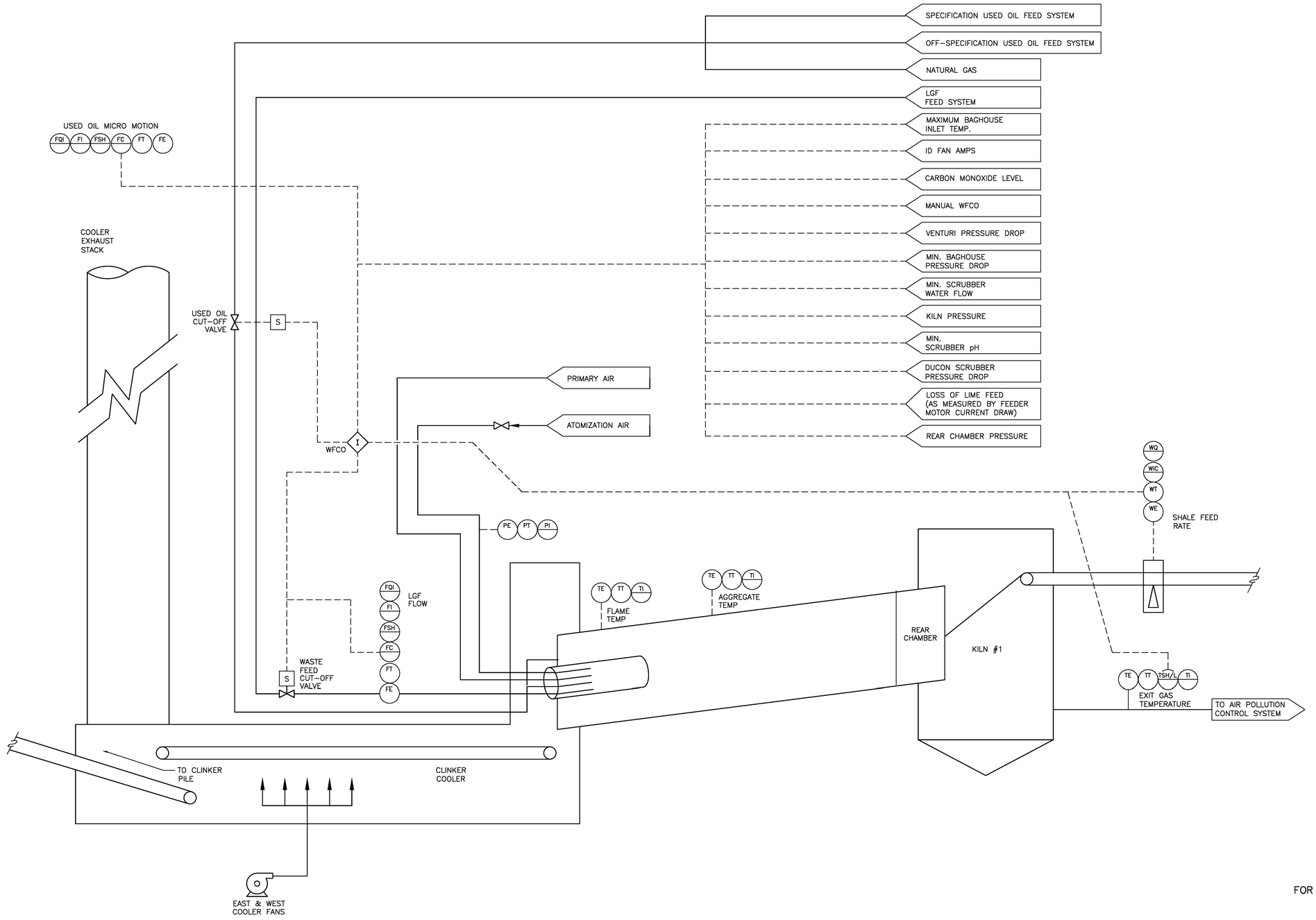
NORLITE CORPORATION – COHOES, NY

KILN #2
WASTE FEED CUT OFFS

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	NY-D-D-5001
ENGINEER: H.M.K.	FILE NAME: NY003-5001	DRAWING NO.	NY003-5001

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE



FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
E	UPDATED CONFIGURATION	T.V.B.			02/20/14
D	UPDATED CONFIGURATION	T.V.B.			7/17/02
C	MANUAL WFCO REVISION	TVB			03/11/00
B	ADDED LOSS OF LIME FEED WFCO	SB			9/20/93
A	ISSUED FOR COMMENTS	JEG			12/11/91

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

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ENVIRONMENTAL ENGINEERS & SCIENTISTS
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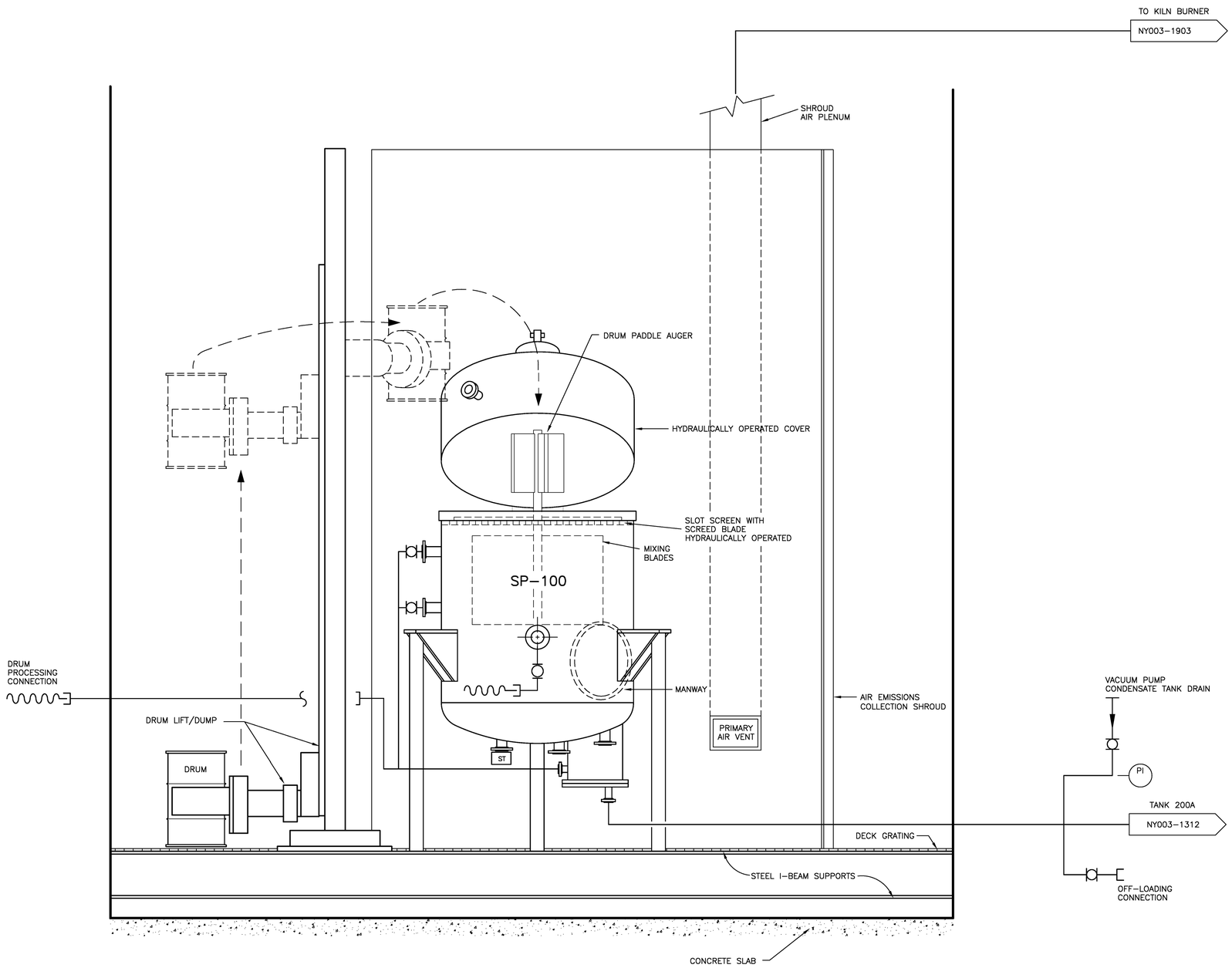
NORLITE CORPORATION – COHOES, NY

KILN #1
WASTE FEED CUT OFFS

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	NY–D–D–5006
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003–5006	NY003–5006

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE



ELEVATION VIEW
(LOOKING EAST)
SCALE: NONE

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
1	UPDATED CONFIGURATION	TVB			02/08/14
0	RELEASED FOR NYSDEC SUBMITTAL	RJS			1/15/92

HARVEY M. KING, P.E.
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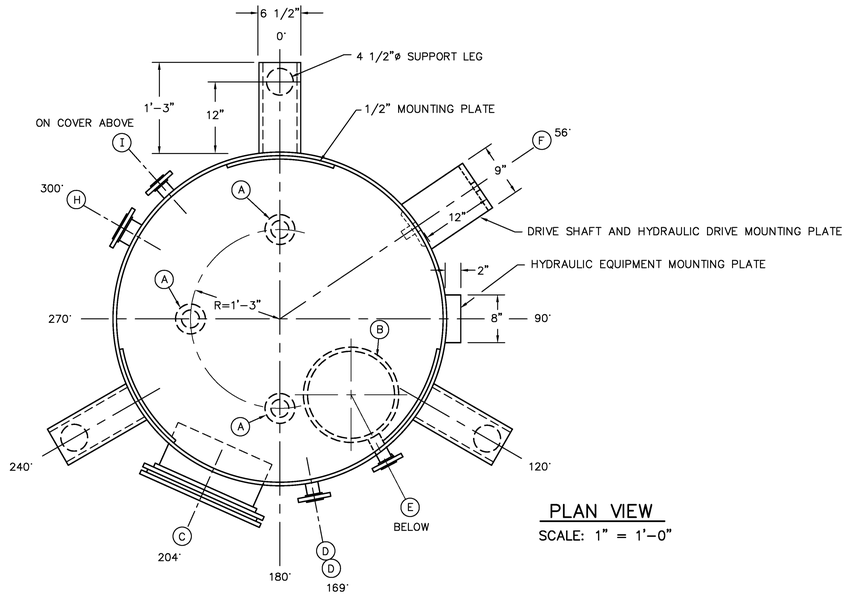
NORLITE CORPORATION – COHOES, NY

PIPING & INSTRUMENTATION DIAGRAM
DISPERSION/MIXING TANK
(SP–100)

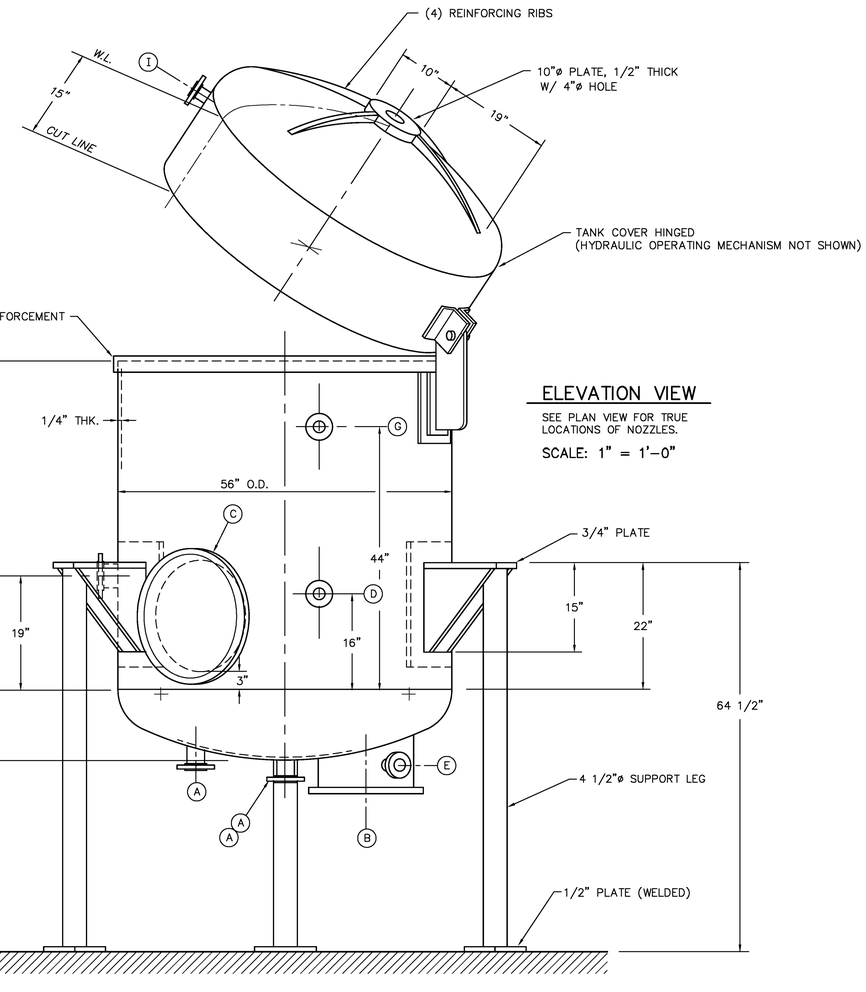
DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	NY–D–D–5010
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003–5010	NY003–5010

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE



PLAN VIEW

SCALE: 1" = 1'-0"



ELEVATION VIEW

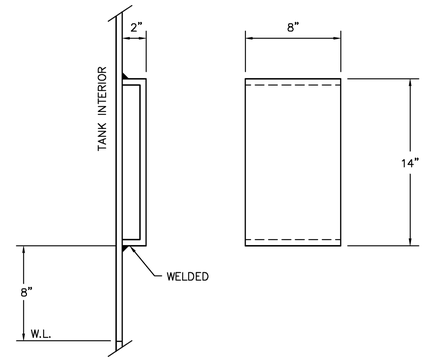
SEE PLAN VIEW FOR TRUE LOCATIONS OF NOZZLES.

SCALE: 1" = 1'-0"

NOZZLE SCHEDULE

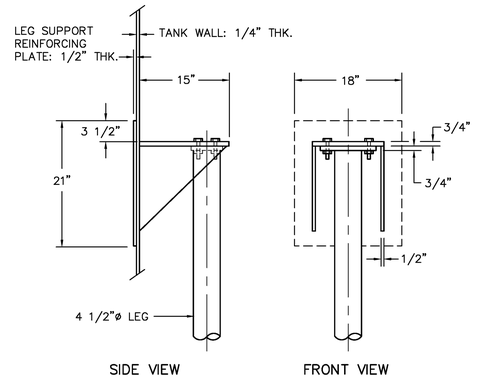
MARK	QUANTITY	SIZE	ASA RATING	SCH.	SERVICE
A	3	3"	150 P.S.I.	40	NONE
B	1	16"	150 P.S.I.	40	GRINDER, VACUUM OUT
C	1	22"	150 P.S.I.	40	MANWAY
D	2	2"	150 P.S.I.	40	VACUUM OUT
E	1	2"	150 P.S.I.	40	VACUUM OUT
F	1	1 1/2"	150 P.S.I.	40	DRIVE SHAFT
G	1	2"	150 P.S.I.	40	VACUUM OUT
H	1	4"	150 P.S.I.	40	VACUUM IN
I	1	1"	150 P.S.I.	40	NONE

MAXIMUM STORAGE VOLUME: 527 GAL.
MAXIMUM VOLUME: 623 GAL.



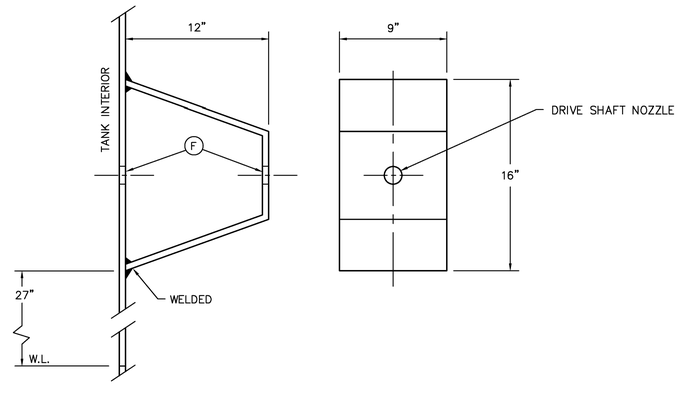
HYDRAULIC PUMP MOUNTING PLATE DETAIL

SCALE: 1" = 6"



LEG SUPPORT DETAIL

SCALE: 1" = 1'-0"



DRIVE SHAFT AND HYDRAULIC DRIVE MOUNTING PLATE DETAIL

SCALE: 1" = 6"

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE

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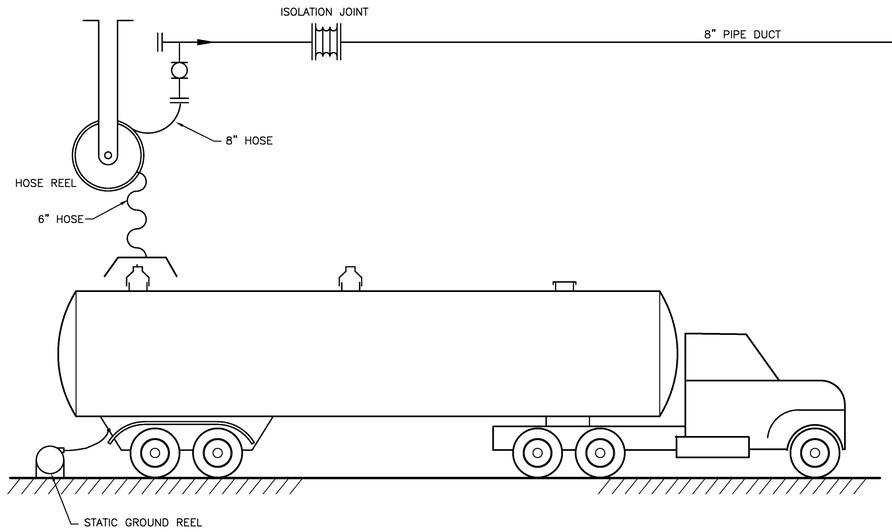
NORLITE CORPORATION – COHOES, NY

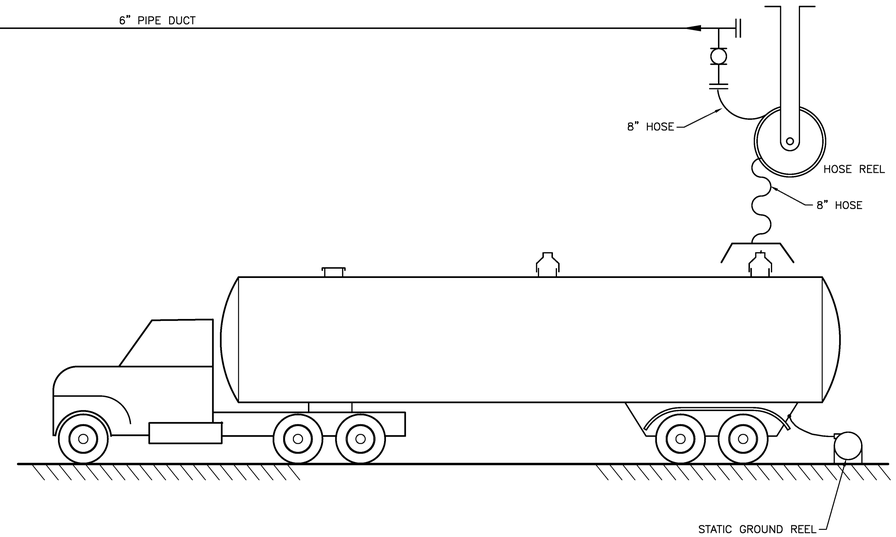
DISPERSION/MIXING TANK (SP-100)

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003-5011	NY003-5011

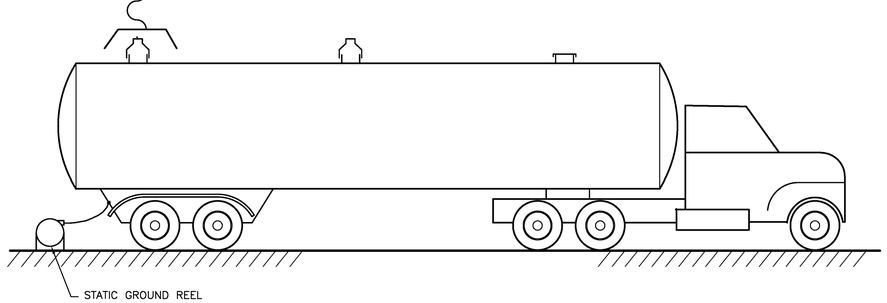
A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

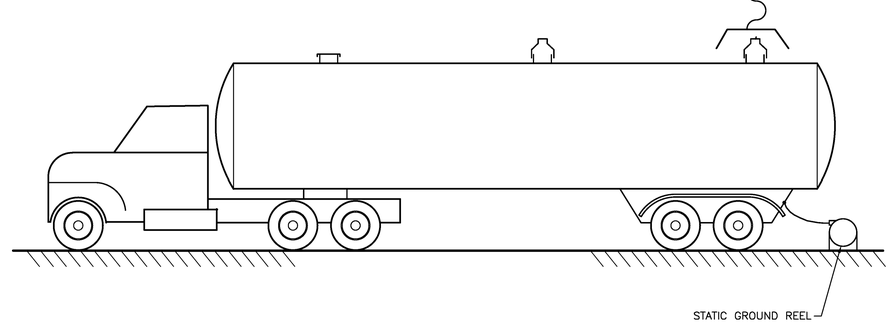


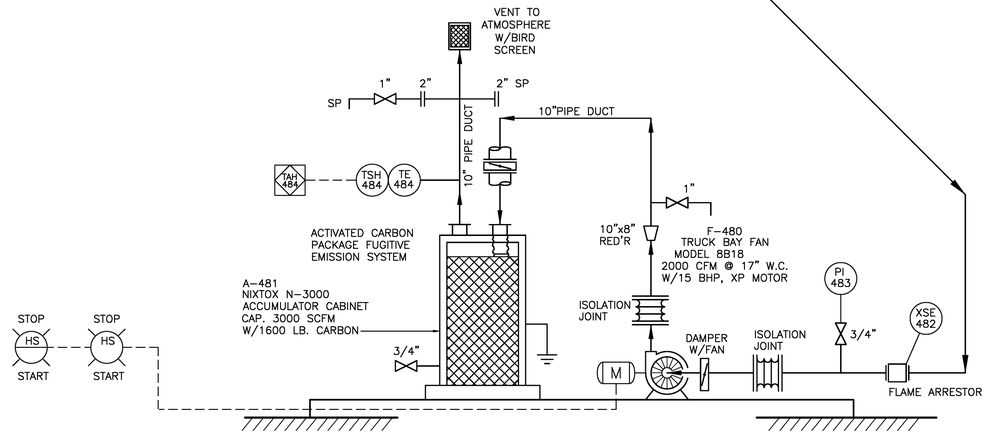
TRUCK UNLOADING AREA 1



TRUCK UNLOADING AREA 2







FOR PERMIT PURPOSES ONLY

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
D	UPDATED CONFIGURATION	T.V.B.			02/08/14
C	UPDATED CONFIGURATION	T.V.B.			7/17/02
B	GENERAL REVISION	RJS	A.L.	A.L.	12-11-92
A	ISSUED FOR PERMIT	DC	A.L.	J.R.	10/28/92

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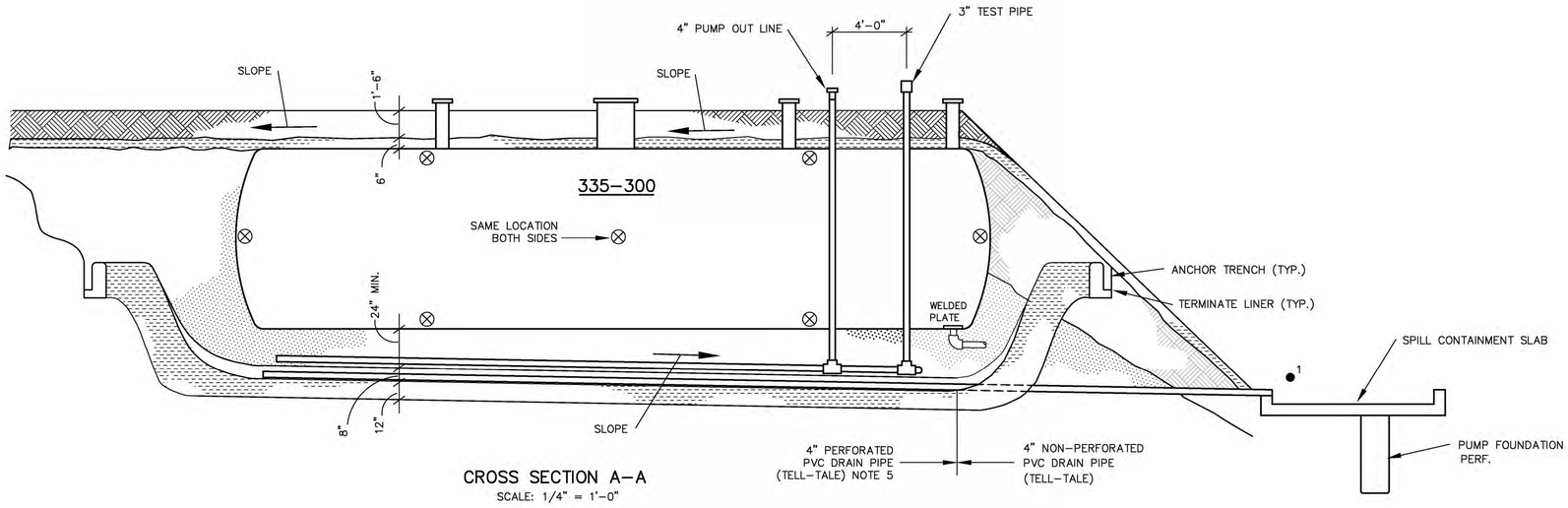
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

NORLITE CORPORATION – COHOES, NY

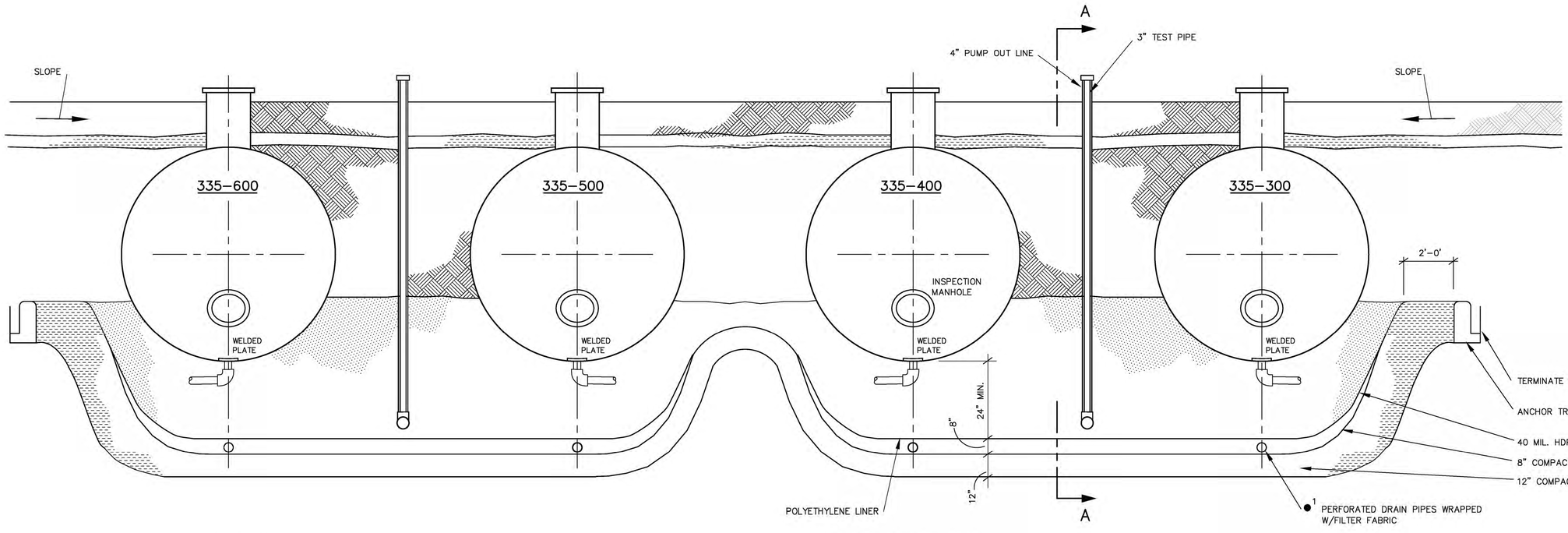
PIPING & INSTRUMENTATION DIAGRAM TRUCK FUGITIVE EMISSIONS SYSTEM

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	NY003-D5317
ENGINEER: H.M.K.	FILE NAME: NY003 5317	DRAWING NO.	NY003-5317

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE



CROSS SECTION A-A
SCALE: 1/4" = 1'-0"



ELEVATION LOOKING WEST
SCALE: 3/8" = 1'-0"

• REVISION TO LINER SYSTEM (7/24/85)

THE CONSTRUCTION SEQUENCE IS AS FOLLOWS.

1. SCALP MOST OF THE SAND NOW RESTING ON THE GEOMEMBRANE, AND ALL OF THE CLAY ALONG THE SIDE SLOPES. STOCKPILE AS MUCH OF THE SAND AS POSSIBLE FOR LATER USE. A THIN LAYER OF SAND SHOULD REMAIN OVER THE CLAY TO PROVIDE A CLEAN FIRM WORKING SURFACE.

2. LOWER THE GRADE OF THE EXISTING COLLECTION PIPE BY HAND TRENCHING.

3. MOISTEN AND COMPACT THE SOILS INTO A SMOOTH, UNIFORMLY THICK LAYER. SAND MAY BE ADDED TO THE SURFACE TO SUPPLEMENT THAT WHICH IS LOST IN THE CLAY VOIDS.

4. INSTALL THE UPPER 40 MIL. GEOMEMBRANE, AND ANCHOR BOTH THE MEMBRANES INTO THE DIKES IN ACCORDANCE WITH PERMIT SPECIFICATIONS.

5. LAY A COLLECTION PIPE ON TOP OF THE GEOMEMBRANE. THE PIPE WILL BE WRAPPED IN GEOTEXTILE FILTER FABRIC.

6. TRENCH BOTH PIPES THROUGH THE IMPOUNDMENT SIDE SLOPES, AND INSTALL A SEEPAGE COLLAR AT THE MEMBRANE PENETRATIONS IN ACCORDANCE WITH GEOMEMBRANE MANUFACTURER RECOMMENDATIONS. RECOMPACT DIKE MATERIALS TO SPECIFIED DENSITY.

7. COVER THE UPPER MEMBRANE WITH TAMPED SAND UP TO FINAL DESIGN GRADE.

NOTES:

1. EXCAVATION, CLAY LINER AND POLYETHYLENE LINER TO BE SLOPED 1/4" PER FT. IN DIRECTION AS SHOWN.

2. ⊗ THICKNESS TEST LOCATIONS (8).

3. POLYETHYLENE LINER CONTINUOUS UNDER FOUR TANKS 335-300, 335-400, 335-500 & 335-600.

4. THE SECONDARY CONTAINMENT WITHIN THE POLYETHYLENE LINER IS 30,415 GAL.

REQUIRED CONTAINMENT:
100% LARGEST TANK VOLUME = 27,903 GALS.

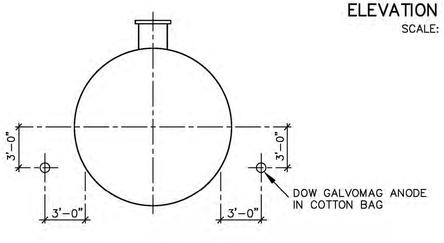
5. PERFORATED DRAIN PIPE TO BE INSTALLED WITH HOLES FACING DOWN. PERFORATED SECTIONS OF PIPE TO HAVE GEOTEXTILE WRAP. FILTER FABRIC SHALL BE ONE OF THE FOLLOWING FABRICS:
   A) TREVIA SPUNBOND S1115
   (HOECHST FIBERS INDUSTRIES)
   B) BIDEM C22 (MONSANTO TEXTILE CO.)

6. PROVIDE ANCHOR TRENCHES AROUND EDGES OF POLYETHYLENE LINER. TRENCHES TO BE PROPERLY FORMED AND COMPACTED TO PREVENT SLIPPAGE OF POLYETHYLENE LINER.

7. CLAY COVER TO BE SLOPED 1/4" PER FT. IN DIRECTION AS SHOWN.

LEGEND

SHALE SAND CLAY



ANODE LOCATION DETAIL
(TYPICAL)

DRAWING REFERENCE:

DRAWING #9 "LGF (LOW GRADE FUEL) SYSTEM, TANK FOUNDATION". PREPARED BY STETSON-DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84, LAST REVISED 10/10/85.

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

DRAWING REFERENCE:

THIS DRAWING IS TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND ILLUSTRATES THE SECONDARY CONTAINMENT DESIGN DETAILS. THE DEPICTION OF TANKS 335-300 THROUGH 335-600 REPRESENT TYPICAL PLACEMENT BUT DO NOT PRESENT ACCURATE FINAL PIPING OR TANK MODIFICATION DETAILS. REFER TO APPROPRIATE DRAWINGS AND PIPING AND INSTRUMENTATION DRAWINGS FOR CURRENT DETAILS

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
10	UPDATED CONFIGURATION	T.V.B.			02/08/14
9	REFERENCE NOTE ADDED	T.V.B.			4/28/04
8	UPDATED CONFIGURATION	T.V.B.			7/17/02
7	MISC. NOTES MODIFIED	TVB			03/08/00
6	LINER MODIFICATION	JEE			10/10/85
5	REVISED LINER	DMB			07/30/85
4	REVISED LINER	JEE			07/24/85
3	LINER MODIFICATION	MJB			10/16/84
2	LINER MODIFICATION	MJB			10/12/84
1	LINER MODIFICATION	DMB			06/29/84

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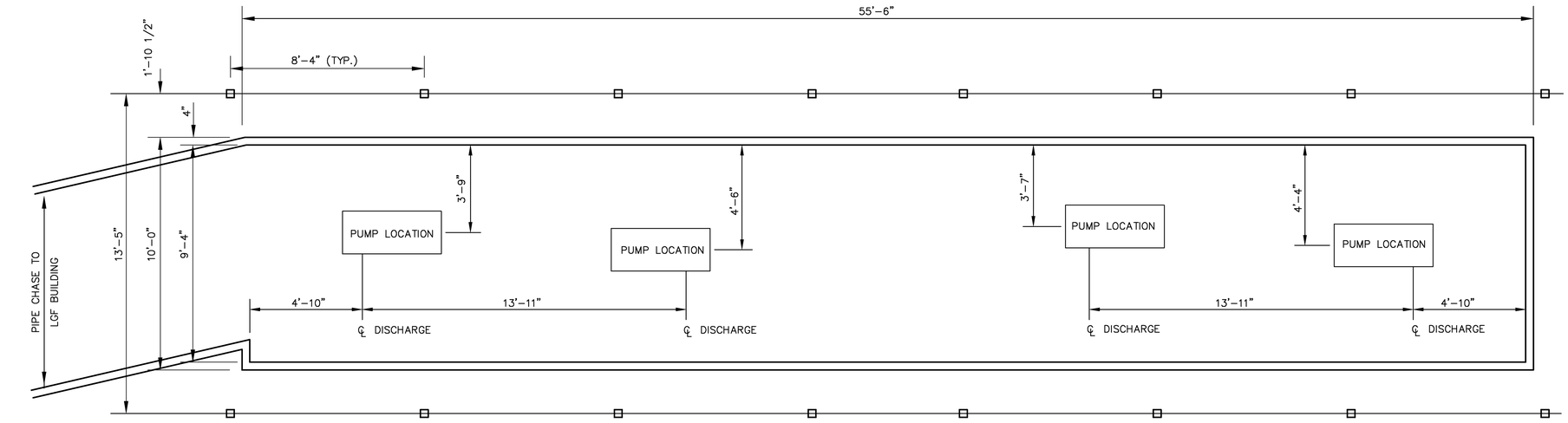
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

NORLITE CORPORATION – COHOES, NY

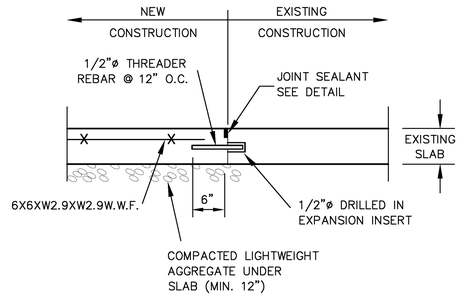
LGF TANKS
SECONDARY CONTAINMENT
DESIGN DETAILS

DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	HMK-09-99-09
ENGINEER: H.M.K.	FILE NAME: NY003-5430	DRAWING NO.	NY003-5430



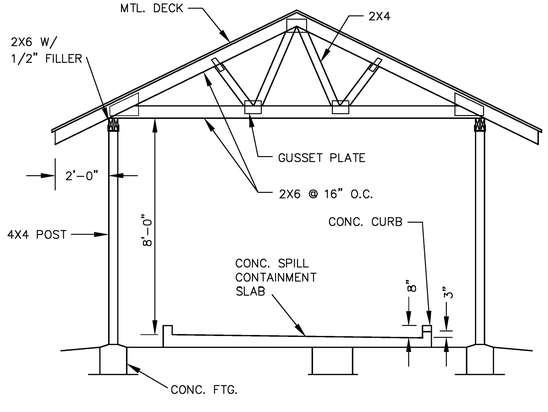
PLAN VIEW – PUMP CONTAINMENT SLAB

SCALE: 3/8" = 1'–0"



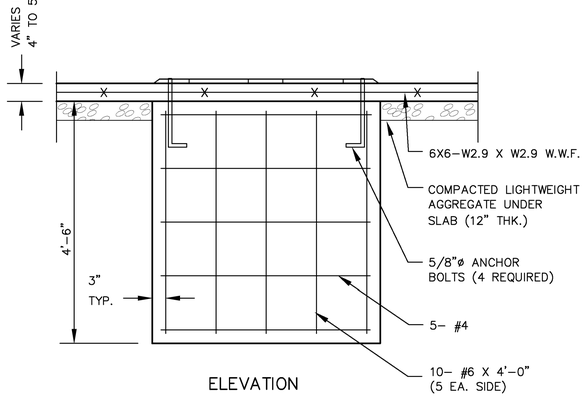
SLAB JOINT DETAIL

SCALE: 1" = 1'–0"



END ELEVATION (LOOKING NORTH)

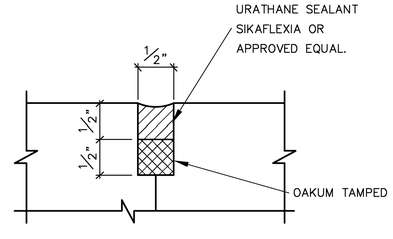
SCALE: 3/8" = 1'–0"



ELEVATION

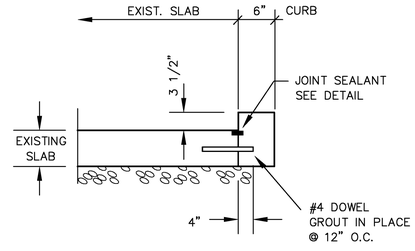
PUMP FOUNDATION DETAIL

SCALE: 3/4" = 1'–0"



TYPICAL JOINT SEALANT DETAIL

SCALE: FULL



EXISTING SLAB & CURB DETAIL

SCALE: 1" = 1'–0"

FOR PERMIT PURPOSES ONLY

DRAWING REFERENCE:
DRAWING #10 "SPILL CONTAINMENT SLAB & STRUCTURAL DETAILS".
PREPARED BY STETSON–DALE, PC FOR NORLITE CORPORATION.
DATED 02/24/84, LAST REVISED 06/29/84.

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

CLIENT APPROVAL: _____ DATE: _____

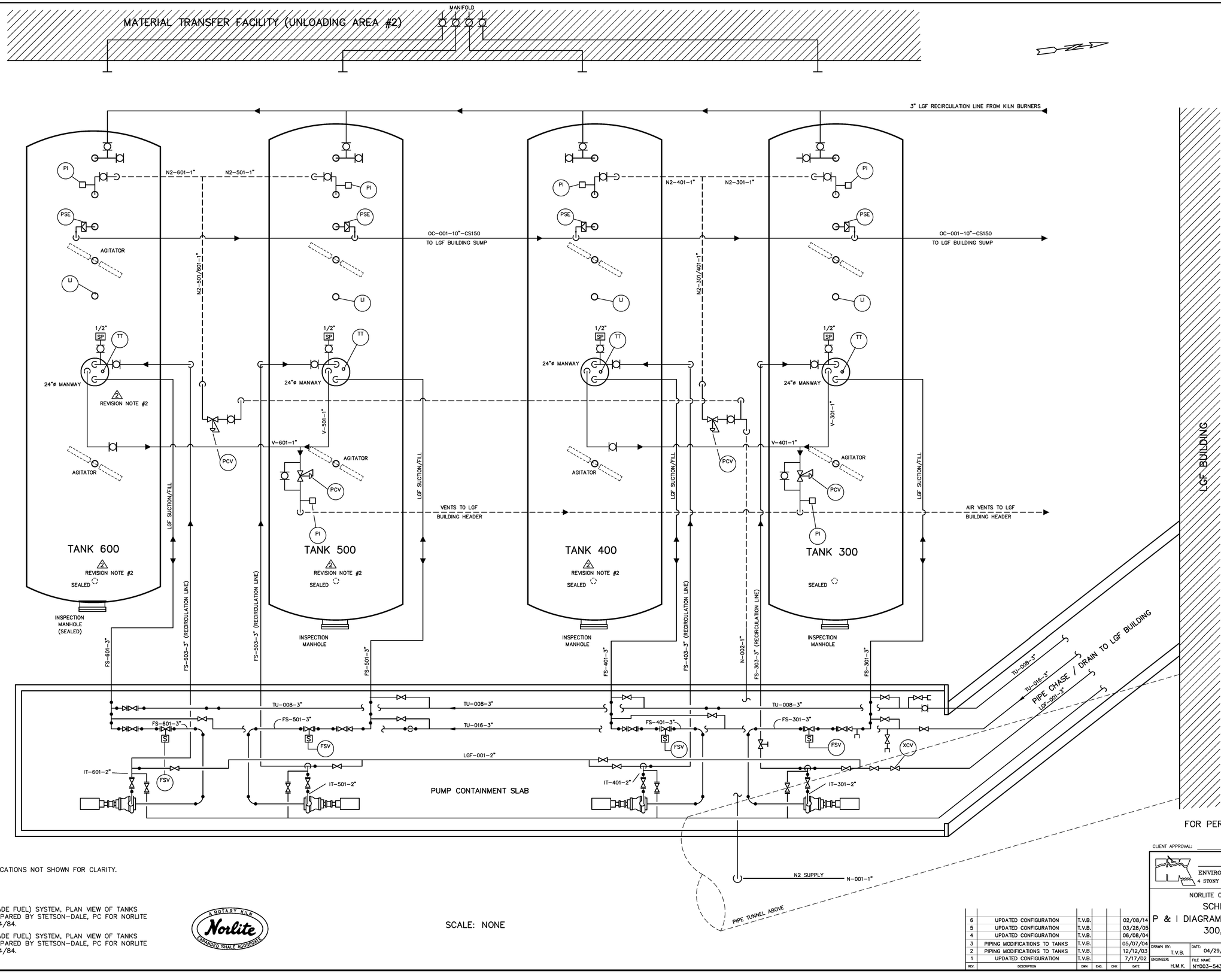
REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
2	UPDATED CONFIGURATION	T.V.B.			7/17/02
1	CONTAINMENT SLAB REVISED	TVB	HMK		3/11/00

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

LGF TANKS
PUMP CONTAINMENT SLAB & STRUCTURAL DETAILS

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	HMK–10–99–10
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003–5431	NY003–5431



FOR PERMIT PURPOSES ONLY

NOTE:
PROPOSED AGITATOR MODIFICATIONS NOT SHOWN FOR CLARITY.

DRAWING REFERENCE:
DRAWING #6 "LGF (LOW GRADE FUEL) SYSTEM, PLAN VIEW OF TANKS 335-300 & 335-400". PREPARED BY STETSON-DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84.

DRAWING #7 "LGF (LOW GRADE FUEL) SYSTEM, PLAN VIEW OF TANKS 335-500 & 335-600". PREPARED BY STETSON-DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84.

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

SCALE: NONE

CLIENT APPROVAL: _____ DATE: _____

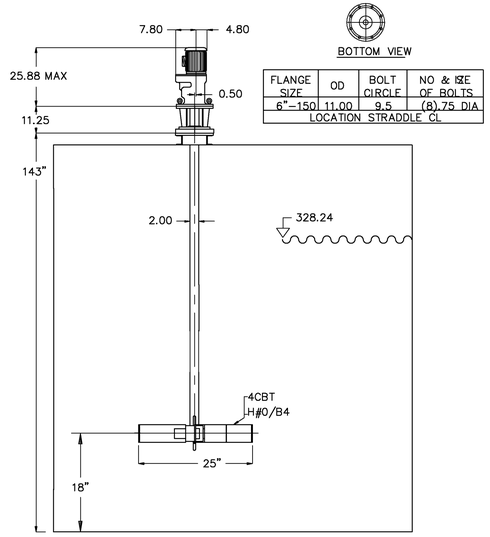
REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
6	UPDATED CONFIGURATION	T.V.B.			02/08/14
5	UPDATED CONFIGURATION	T.V.B.			03/28/05
4	UPDATED CONFIGURATION	T.V.B.			06/08/04
3	PIPING MODIFICATIONS TO TANKS	T.V.B.			05/07/04
2	PIPING MODIFICATIONS TO TANKS	T.V.B.			12/12/03
1	UPDATED CONFIGURATION	T.V.B.			7/17/02

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

NORLITE CORPORATION – COHOES, NY

SCHEMATIC PLAN VIEW
P & I DIAGRAM FOR EXTERIOR LGF TANKS 300, 400, 500, 600

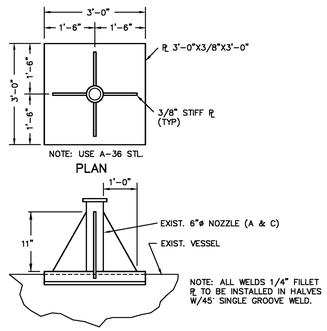
DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	DRAWING #6 & #7
ENGINEER: H.M.K.	FILE NAME: NY003-5432-J	DRAWING NO.	NY003-5432



AGITATOR DETAIL
SCALE: NONE

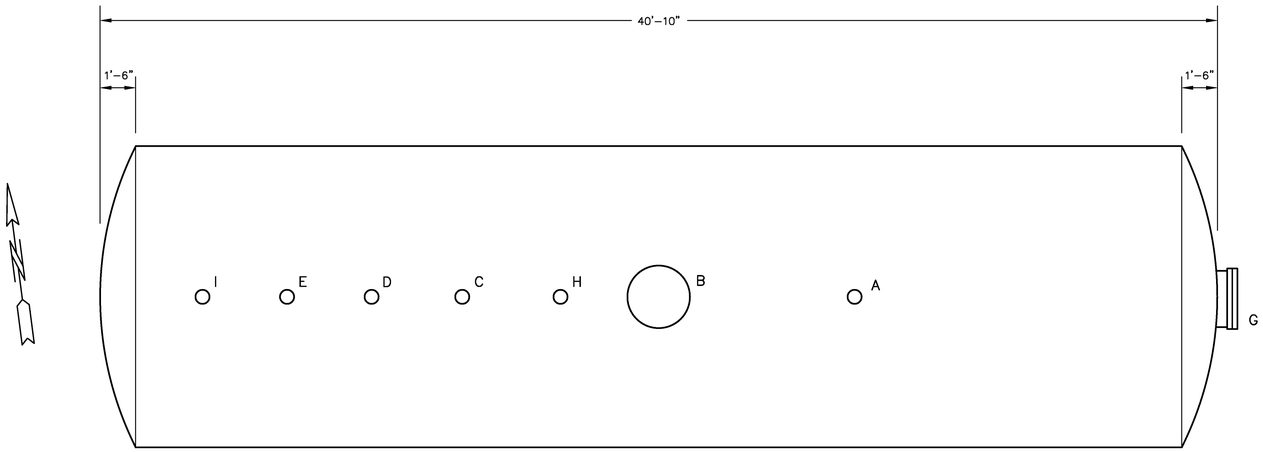
BOTTOM VIEW

FLANGE SIZE	OD	BOLT CIRCLE	NO & SIZE OF BOLTS
6"–150	11.00	9.5	(8).75 DIA
LOCATION STRADDLE CL			



PART REFERENCE: DWG: WA–94152–C–03
BY WESTFALL ASSOC., CONSULTING ENGINEERS
225 NORTH GRENBUSH RD, TROY, NY 12180

NOZZLE UPGRADE DETAIL
SCALE: NONE



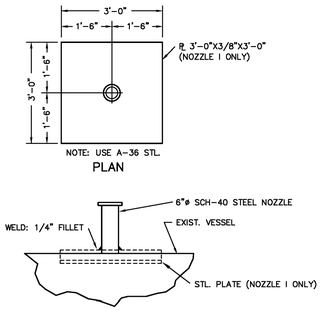
PLAN VIEW

NOZZLE INSTALLATION MODIFICATIONS

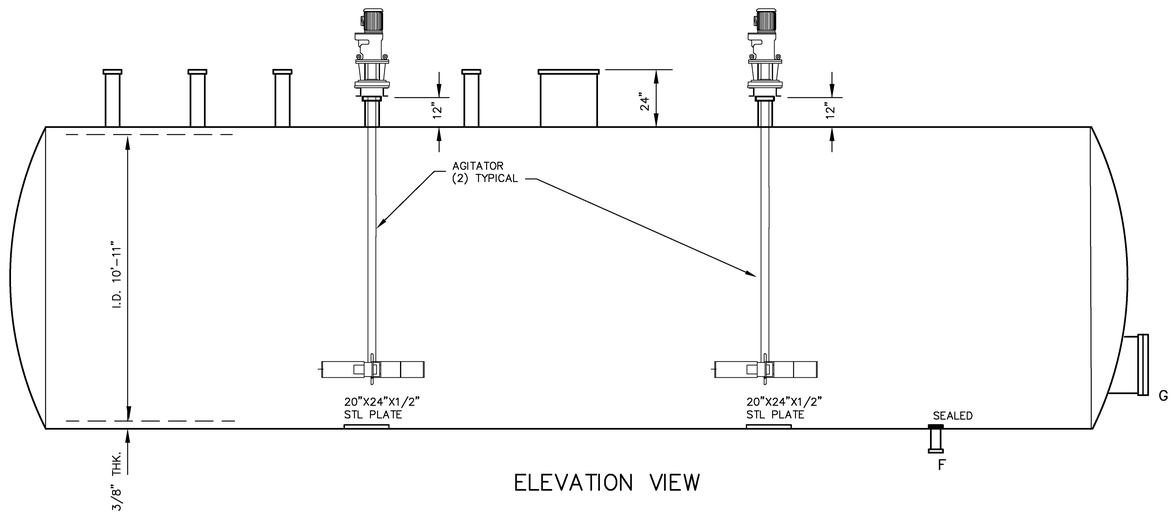
ID.	DIAMETER	PROJECTION	FUNCTION
A	6"	12"	AGITATOR
B	24"	24"	LGF SUCTION/FILL LINE TEMPERATURE TRANSMITTER RECIRCULATION LINE TANK VENT
C	6"	12"	AGITATOR
D	6"	24"	RUPTURE DISK/OVERFLOW
E	6"	24"	N_2 INLET / PRESSURE INDICATOR
F	4"	UNKNOWN	SEALED
G	UNKNOWN	UNKNOWN	INSPECTION MANHOLE (SEALED)
H	6"	24"	LEVEL TRANSMITTER
I	6"	24"	UNLOADING AREA FILL LINE / RECIRCULATION FROM KILN BURNERS

TOP VIEW

FLANGE SIZE	OD	BOLT CIRCLE	NO & SIZE OF BOLTS
6"–150#	11.00	9.5	(8).75 DIA
LOCATION STRADDLE CL			



NEW 6"ø NOZZLES (H & I)
SCALE: NONE



ELEVATION VIEW

NOZZLE SCHEDULE (ORIGINAL)

ID.	DIAMETER	PROJECTION	FUNCTION
A	6"	24"	TANK VENT
B	24"	24"	RECIRCULATION / TEMPERATURE TRANSMITTER
C	6"	24"	LEVEL TRANSMITTER
D	6"	24"	RUPTURE DISK / OVERFLOW
E	6"	24"	N_2 INLET / PRESSURE INDICATOR
F	4"	UNKNOWN	LGF SUCTION / FILL
G	UNKNOWN	UNKNOWN	INSPECTION MANHOLE

MAXIMUM STORAGE VOLUME: 26,682 GAL.
MAXIMUM VOLUME: 27,903 GAL.

DRAWING REFERENCE:

DRAWING #6 "LGF (LOW GRADE FUEL) SYSTEM, PLAN VIEW OF TANKS 335–300 & 335–400", PREPARED BY STETSON–DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84.

DRAWING #7 "LGF (LOW GRADE FUEL) SYSTEM, PLAN VIEW OF TANKS 335–500 & 335–600", PREPARED BY STETSON–DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84.

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

SCALE: NONE

ALL DIMENSIONS SHOWN ON THIS DRAWING WERE SUPPLIED BY NORLITE CORPORATION AND REFERENCE DRAWINGS.

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
6	UPDATED CONFIGURATION	T.V.B.			02/08/14
5	UPDATED CONFIGURATION	T.V.B.			06/25/05
4	UPDATED CONFIGURATION	T.V.B.			06/08/04
3	TANK PIPING MODIFICATIONS	T.V.B.			05/07/04
2	AGGITATOR SYSTEM REVISED	T.V.B.			02/05/04
1	UPDATED CONFIGURATION	T.V.B.			7/17/02

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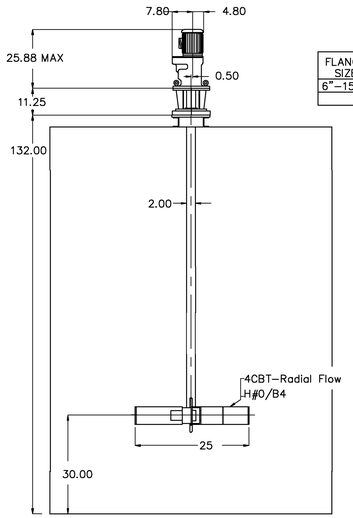
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

LGF TANKS
300, 400, 500

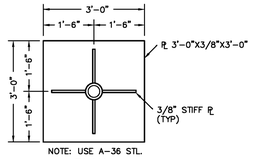
DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	HMK–335–300–04 HMK–335–400–05 HMK–335–500–06
ENGINEER: H.M.K.	FILE NAME NY003–5433–J	DRAWING NO.	NY003–5433



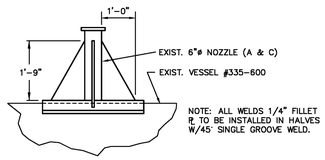
AGITATOR DETAIL
SCALE: NONE

BOTTOM VIEW

FLANGE SIZE	OD	BOLT CIRCLE	NO & SIZE OF BOLTS
6"–150#	11.00	9.5	(8).75 DIA
LOCATION STRADDLE CL			



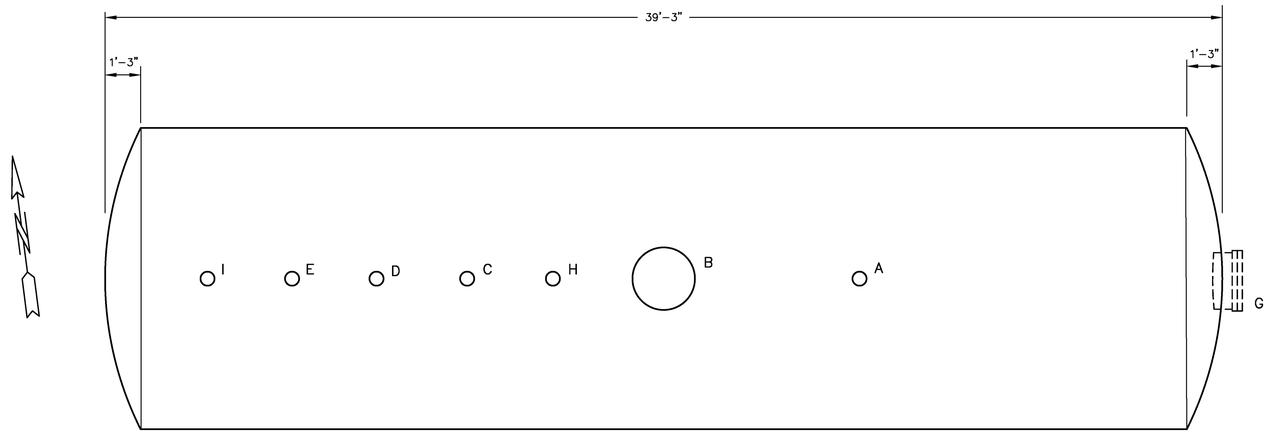
NOTE: USE A–36 STL.
PLAN



ELEVATION

PART REFERENCE: DWG: WA–94152–C–03
BY WESTFALL ASSOC., CONSULTING ENGINEERS
225 NORTH GRENBUSH RD, TROY, NY 12180

NOZZLE UPGRADE DETAIL
SCALE: NONE

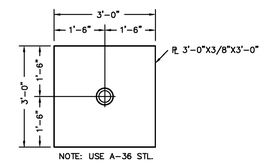


PLAN VIEW

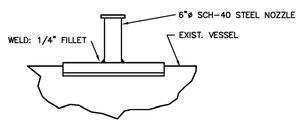
NOZZLE INSTALLATION MODIFICATIONS			
ID.	DIAMETER	PROJECTION	FUNCTION
A	6"	24"	AGITATOR
B	24"	24"	LGF SUCTION/FILL LINE TEMPERATURE TRANSMITTER RECIRCULATION LINE TANK VENT
C	6"	24"	AGITATOR
D	6"	24"	RUPTURE DISK/OVERFLOW
E	6"	24"	N_2 INLET / PRESSURE INDICATOR
F	4"	UNKNOWN	SEALED
G	UNKNOWN	UNKNOWN	INSPECTION MANHOLE (SEALED)
H	6"	24"	LEVEL TRANSMITTER
I	6"	24"	UNLOADING AREA FILL LINE / RECIRCULATION FROM KILN BURNERS

TOP VIEW

FLANGE SIZE	OD	BOLT CIRCLE	NO & SIZE OF BOLTS
6"–150#	11.00	9.5	(8).75 DIA
LOCATION STRADDLE CL			

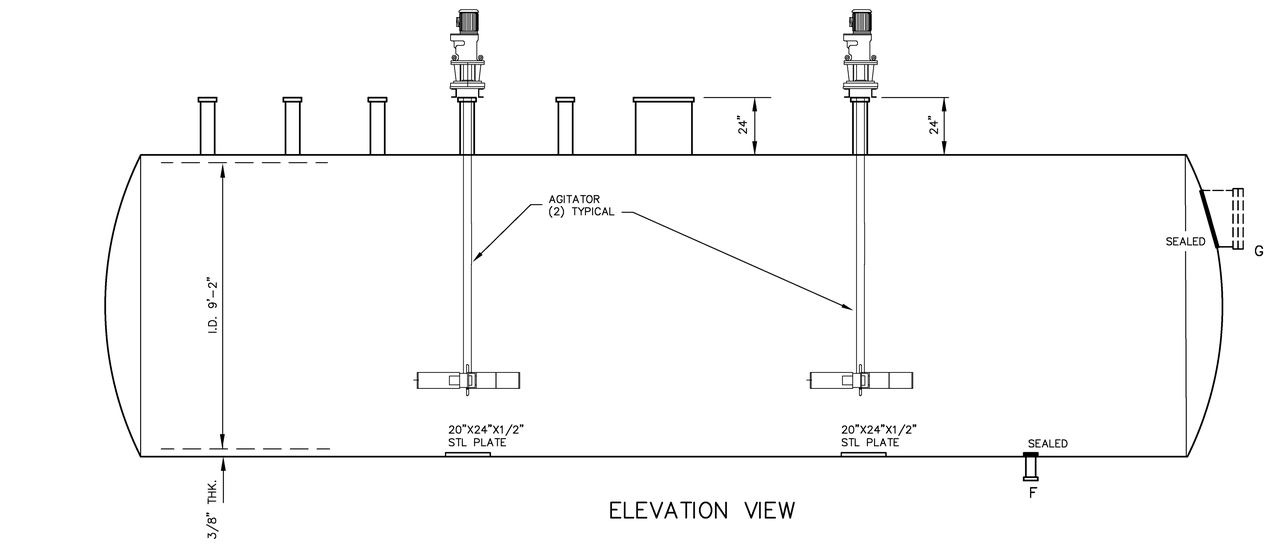


NOTE: USE A–36 STL.
PLAN



ELEVATION

NEW 6"ø NOZZLE I
SCALE: NONE



ELEVATION VIEW

NOZZLE SCHEDULE (ORIGINAL)			
ID.	DIAMETER	PROJECTION	FUNCTION
A	6"	24"	TANK VENT
B	24"	24"	RECIRCULATION / TEMPERATURE TRANSMITTER
C	6"	24"	LEVEL TRANSMITTER
D	6"	24"	RUPTURE DISK / OVERFLOW
E	6"	24"	N_2 INLET / PRESSURE INDICATOR
F	4"	UNKNOWN	LGF SUCTION/FILL
G	UNKNOWN	UNKNOWN	INSPECTION MANHOLE

MAXIMUM STORAGE VOLUME: 17,974 GAL.
MAXIMUM VOLUME: 18,940 GAL.

DRAWING REFERENCE:
DRAWING #7 "LGF (LOW GRADE FUEL) SYSTEM, PLAN VIEW OF TANKS 335–500 & 335–600". PREPARED BY STETSON–DALE, PC FOR NORLITE CORPORATION. DATED 02/24/84.

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

ALL DIMENSIONS SHOWN ON THIS DRAWING WERE SUPPLIED BY NORLITE CORPORATION AND REFERENCE DRAWINGS.

FOR PERMIT PURPOSES ONLY

SCALE: NONE

CLIENT APPROVAL: _____ DATE: _____

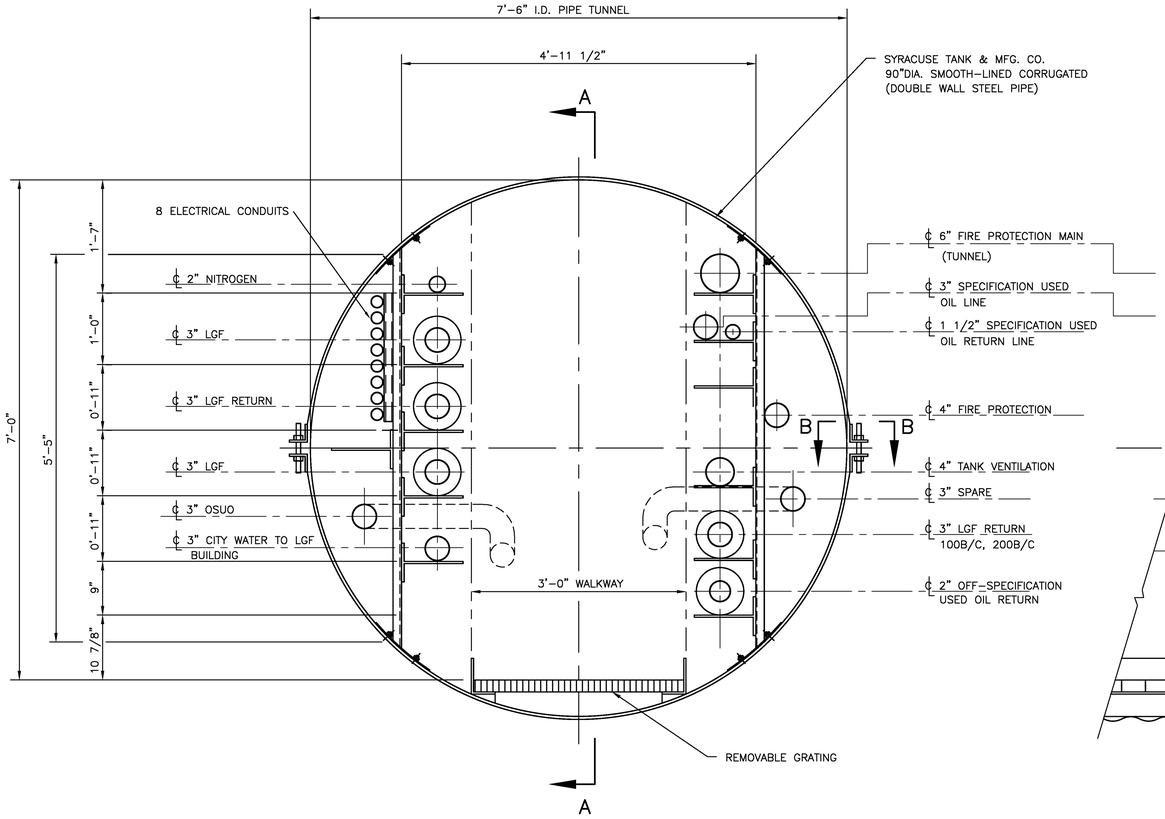
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

LGF TANK
600

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
7	UPDATED CONFIGURATION	T.V.B.			02/08/14
6	UPDATED CONFIGURATION	T.V.B.			06/25/05
5	NOZZLE I ADDED	T.V.B.			05/07/04
4	NOZZLE H ADDED	T.V.B.			05/03/04
3	AGGITATOR SYSTEM REVISED	T.V.B.			02/05/04
2	PIPING MODIFICATIONS TO TANK 600	T.V.B.			12/12/03
1	UPDATED CONFIGURATION	T.V.B.			7/17/02

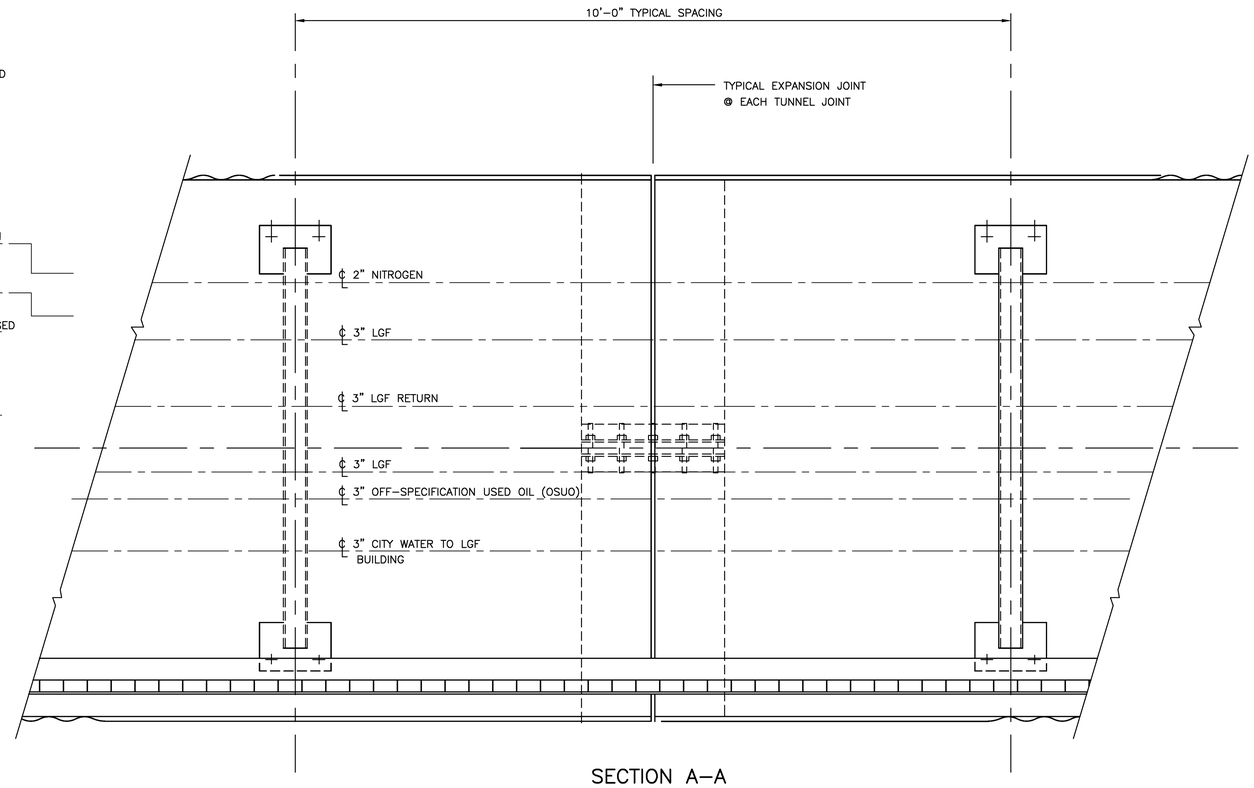
DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	HMK–335–600–07
ENGINEER:	FILE NAME:	DRAWING NO.
H.M.K.	NY003–5434–J	NY003–5434



TYPICAL ELEVATION

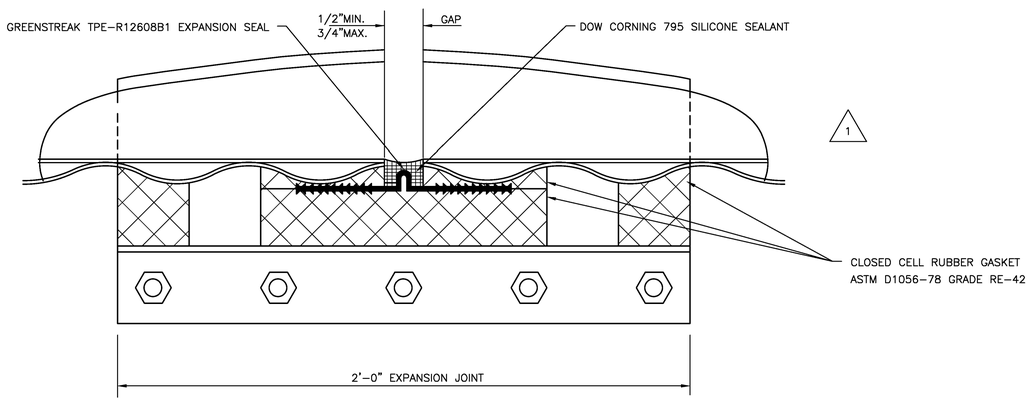
(LOOKING SOUTH TOWARD KILN)

SCALE: 1" = 1'–0"



SECTION A–A

SCALE: 1" = 1'–0"



SECTION B–B

SHOWN NOT TO SCALE
FOR CLARITY

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

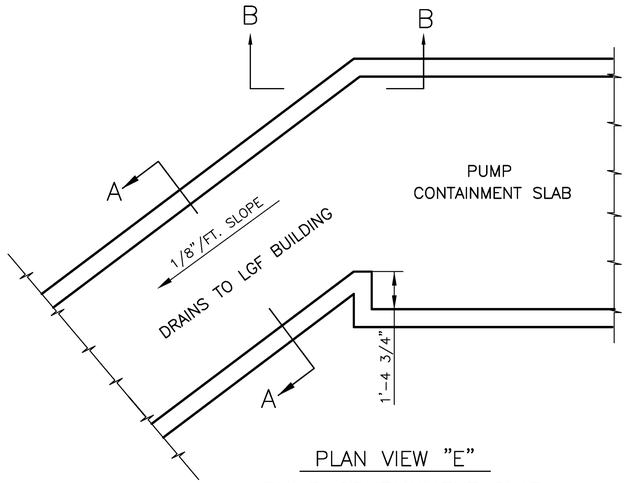
REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
3	UPDATED CONFIGURATION	TVB	HMK		2–8–14
3	UPDATED CONFIGURATION	TVB	HMK		7–15–05
2	UPDATED CONFIGURATION	TVB	HMK		7–17–02
1	SECTION B–B REVISED	MP	JE		1–11–93
0	ISSUED FOR NYSDEC PERMIT	RJS	JE		5–6–92

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY

SECTIONS & DETAILS LGF PIPE TUNNEL

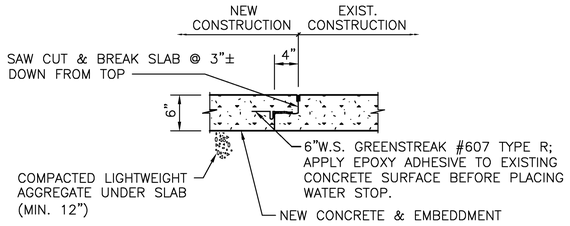
DRAWN BY: T.V.B.	DATE: 04/29/02	DRAWING/FILE REF:	NY003–D6301
ENGINEER: H.M.K.	FILE NAME: NY003–6301	DRAWING NO.	NY003–6301



PLAN VIEW "E"

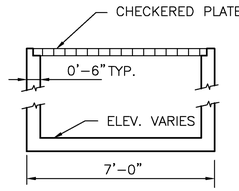
PUMP CONTAINMENT SLAB

SCALE 3/8"= 1'-0"



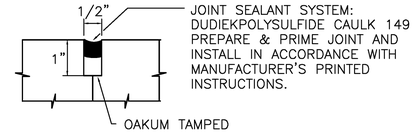
VIEW B-B

SCALE 1"=1'-0"



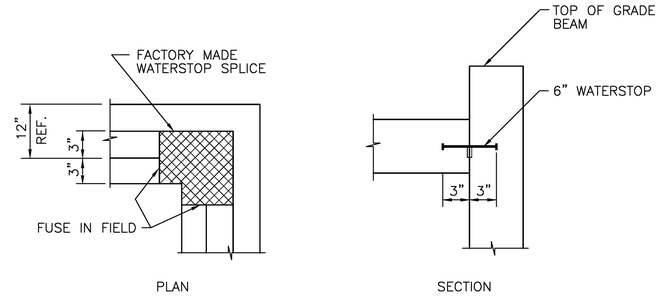
SECTION A-A

SCALE 3/8"=1'-0"



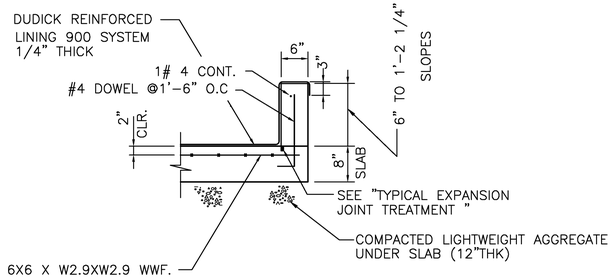
TYPICAL JOINT SEALANT DETAIL

FULL SCALE



TYPICAL CORNER JOINT DETAIL

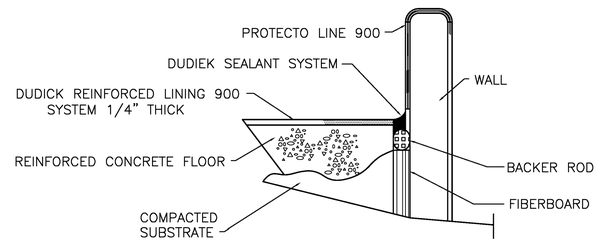
SCALE 1"=1'-0"



SECTION C-C

UNLOADING AREA #1 SLAB & CURB DETAIL

SCALE 1"=1'-0"



TYPICAL EXPANSION JOINT TREATMENT

CONSTRUCTION DETAILS (NY003-2475-1)

TYPICAL CONSTRUCTION DETAILS

FOR PERMIT PURPOSES ONLY

CLIENT APPROVAL: _____ DATE: _____

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
3	UPDATED CONFIGURATION	T.V.B.			7/17/02
2	DEC COMMENT REV. SUBMITTAL	RL	KP		6/30/92
1	DEC COMMENT REV. SUBMITTAL	KRG	KP		3/26/92
0	RELEASED FOR NYSDEC SUBMITTAL	RJS	JE		1-17-92

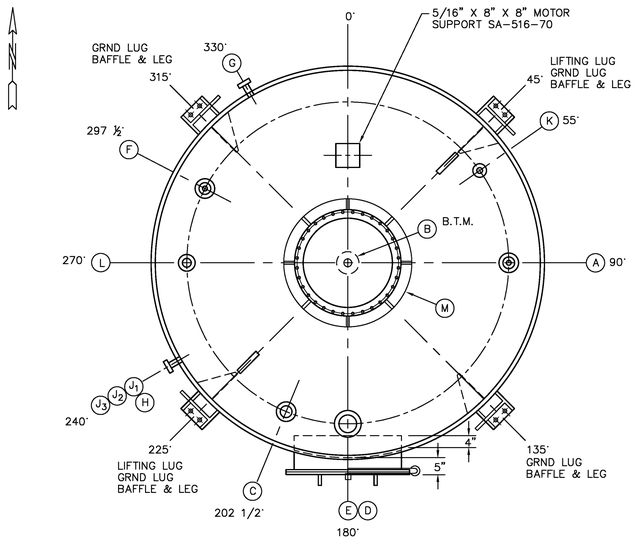
INFORMATION PRESENTED ON THIS DRAWING HAS BEEN COMPILED FROM CURRENT FIELD DATA AND ORIGINAL DESIGN DRAWINGS PREPARED BY ENSR CONSULTING & ENGINEERING.

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

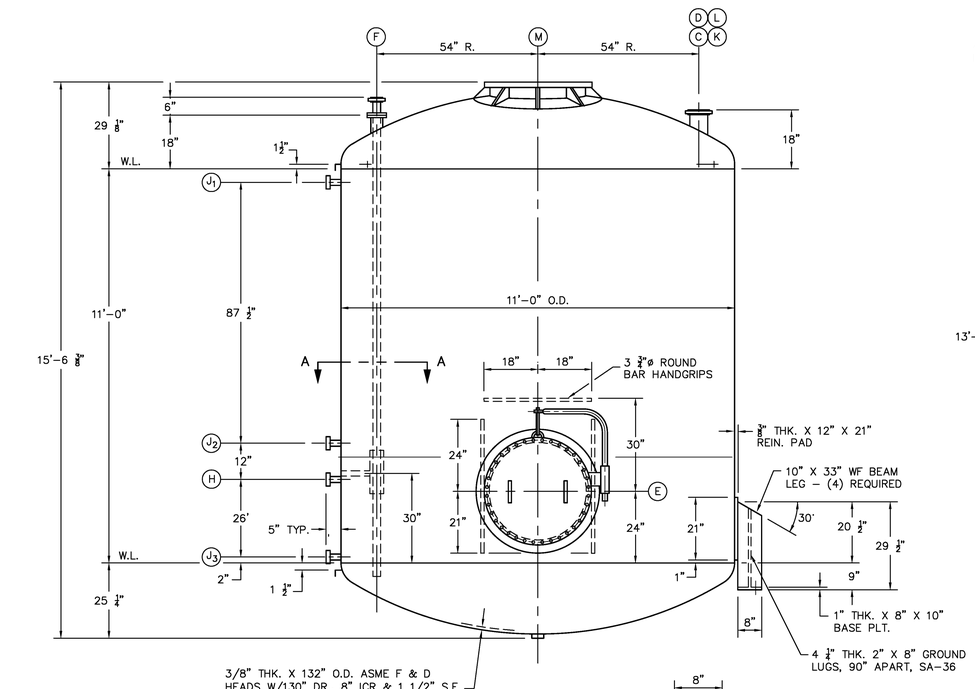
NORLITE CORPORATION – COHOES, NY

DETAILS & SECTIONS
FUEL SYSTEM STRUCTURES

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	NY-D-L-7006 R1
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003-7006	NY003-7006

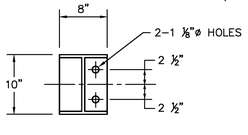


PLAN VIEW

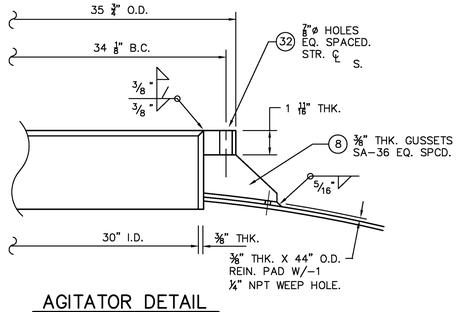


ELEVATION VIEW

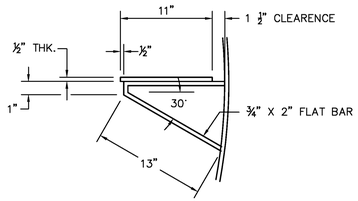
SEE PLAN VIEW FOR TRUE LOCATIONS OF NOZZLES.



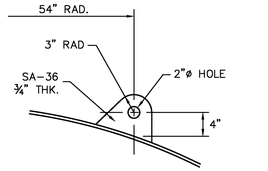
BASE PLT DETAIL



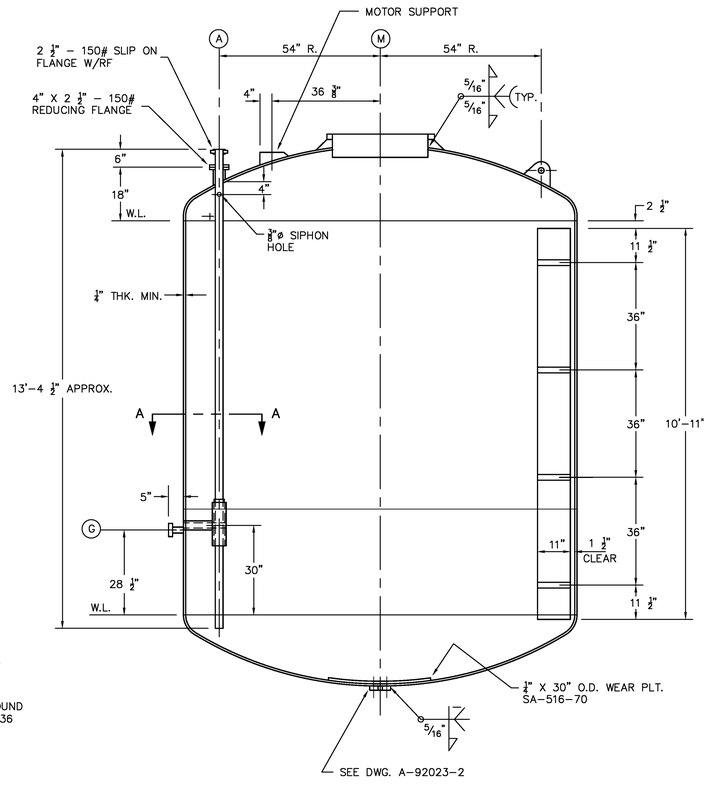
AGITATOR DETAIL



BAFFLE DETAIL



LIFTING LUG DETAIL (2) REQ'D



NOZZLE SCHEDULE					
MARK	QUANTITY	SIZE	ASA RATING	SCH.	SERVICE
A	1	4"	150# SLIP ON W/RF	40	INLET W/2 1/2" DIP PIPE
B	1	2 1/2"	150# PAD W/FF	1 5/8"	DRAIN DWG A-92023-2
C	1	4"	150# SLIP ON W/RF	40	CON'T. LEVEL
D	1	6"	150# SLIP ON W/FF	40	RUPTURE DISC
E	1	36"	DWG A-92023-1	3/8"	MANWAY W/DAVIT
F	1	4"	150# SLIP ON W/RF	40	PUMP SUCTION 2 1/2" DIP PIPE
G	1	1"			SAMPLE
H	1	1 1/2"			TEMPERATURE
J1, J2, J3	3	1 1/2"			LEVEL
K	1	2"			N2 IN/EMISSION OUT
L	1	3"			N2 SPARE
M	1	30" I.D.	150# SLIP ON W/FF	3/8"	MIXER SUPPORT

ORIGINAL NAMEPLATE DATA FOR REFERENCE ONLY.

MAXIMUM STORAGE VOLUME: 8,613 GAL.
MAXIMUM VOLUME: 9,491 GAL.
(FOR VOLUME OF REPLACEMENT TANK 200A SEE DRAWING NY003-4312)

NOTES:

1) CONSTRUCTION TO COMPLY WITH ASME CODE SECTION VIII ED. INCLUDING CERT. & STAMP FOR INSTALLATION IN STATE OF N.Y.

2) NAME PLATE STAMPING:

U
W
RT-3

NATL. BD. _____

CERTIFIED BY
ROBEN MFG. CO. INC.,
LAKEWOOD N.J. 08701

VESSEL MAWP 20 PSI AT 100° F
MIN DESIGN METAL TEMP –5° F AT 20 PSI
JACKET MAWP ___ PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT ___ PSI
TUBE MAWP ___ PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT ___ PSI
SERIAL NO.: 92023–1 THRU 3, YEAR: 1992

EQUIPMENT TAG NO'S. TP200A,B,C
OWNER'S NAME: NORLITE CORP. INC.
OWNER'S PO NO. AN–00048
CAPACITY: 7300 GAL. OPER.
SHOP ORDER NO.: ––

3) SHELL SIDE
TEST PRESSURE: 30 PSI
CORROSION ALLOW: 1/16"

4) WEIGHTS:
EMPTY: _____ 20,347 LBS.
FULL OF OILY WASTE: FLOODED 158,225 LBS.

5) PAINT: REFER TO NOTE NO. 4
SANDBLAST: YES SP10 NEAR–WHITE BLAST CLEANING ON EXTERNAL SURFACES.

6) ----

7) STRESS RELIEVE: NO.

8) RADIOGRAPHY: YES SPOT X–RAY REQ'D.

9) SPECIAL TESTS: YES HYDROTEST 1 ½" WP.

10) CUSTOMER INSPECTION: YES.

11) SUPPORT DESIGN PER SEISMIC ZONE 2A.

GENERAL NOTES:

1. ALL BOLT HOLES TO STRADDLE NORTH SOUTH ℄ S

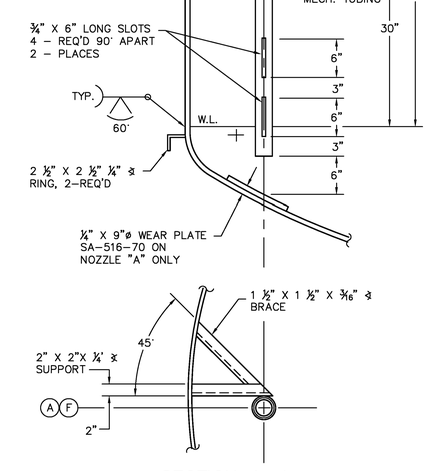
2. VESEL TO BE FREE OF ALL WELD SPLATTER, DIRT, OIL, AND GREASE.

3. COVER AND PLUG ALL OPENINGS FOR SHIPMENT.

4. PAINT EXTERNAL C/S SURFACES W/ 1 COAT OF INORGANIC ZINK PRIMER, 3 MIL DRY FILM THK. MINIMUM W/EPOXY PAINT FINISH COAT OF 5 MIL DRY FILM THK. MINIMUM.
COLOR – MOBIL D–10 SAND BEIGE

5. SEE CUST. SPEC'S. NO.: 15176

CUSTOMER: AMERICAN NUKEM
P.O. NO. AN–00048
UNITS REQ'D. (3) THREE.



SECTION A–A
DIP PIPE SLEEVE DETAIL

FOR PERMIT PURPOSES ONLY

ASME MATERIAL SPECIFICATIONS												
SHELLS			FACINGS			BONNETS/JACKETS			FACINGS			
PIPE			EXPANSION JOINT			WELD CAPS			FITTINGS			
ROLLED PLATE	ST'L	SA–516–70	INSUL. RING	ST'L	SA–36	FORMED HEADS			COVERS ☐FACED			
BAFFLES	ST'L	SA–516–70	WELD CAPS			PIPE			TUBE SHEETS			
TIE RODS			FORMED HEADS	ST'L	SA–516–70	ROLLED PLATE			TUBES ☐SEAMLESS ☐WELDED			
SPACERS			UNIT FLANGES			UNIT FLANGES			B.U. RINGS			
NOZZLE FLG'S	ST'L	SA–105	FITTINGS			NOZZLE FLG'S.			REINF. PADS	ST'L	SA–516–70	
NOZZLE NECKS	ST'L	SA–106–13	SUPPORTS	ST'L	SA–36	NOZZLE NECKS			WEAR PLT	ST'L	SA–516–70	

BOLTING
☑SA–193 GR B7
☐ SA–325
☐ SA–320
NUTS
☑SA–194 GR 2M
☐ SA–325
☐ SA–320

GASKETS: 1/16" THK.
☐ COMPRESSED ASBESTOS
☑TEFLON
☑RUBBER
☐ VITON

O–RINGS
☐

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

SCALE: 1/2" = 12"

THIS DRAWING IS A RE–DRAW OF ROBEN MFG. CO., INC. DRAWING D–92023–1 DATED 02/05/92, FOR RECORD PURPOSES.

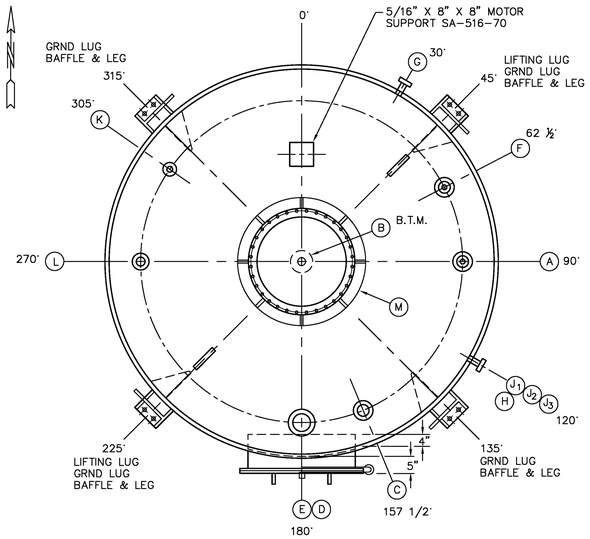
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
F	VOLUME INFORMATION ADDED	TVB			7/17/02
E	PER PHONE 4/10/92	ALH			4/13/92
D	PER CUST. DWG 3/19/92	ALH			3/25/92
C	PER CUST. DWG 3/6/92	ALH			3/12/92
B	PER CUST. DWG 2/28/92	ALH			3/4/92
A	PER CUST. DWG 2/14/92	ALH			2/21/92

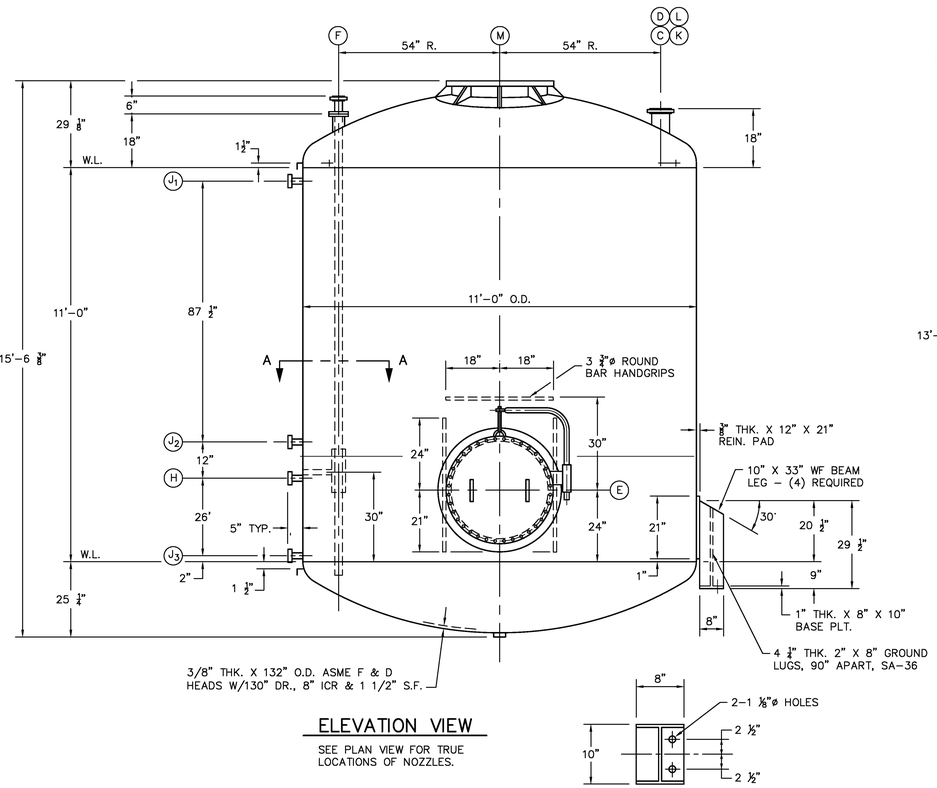
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, RENFORD, NEW YORK 12148–1608

NORLITE CORPORATION – COHOES, NY
132" O.D. HOLDING TANK
ROBEN MFG. CO., INC.
(TANKS 200B, 200C)

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	D–92023–1
ENGINEER: H.M.K.	FILE NAME: NY003–92023–1	DRAWING NO.: NY003–92023–1



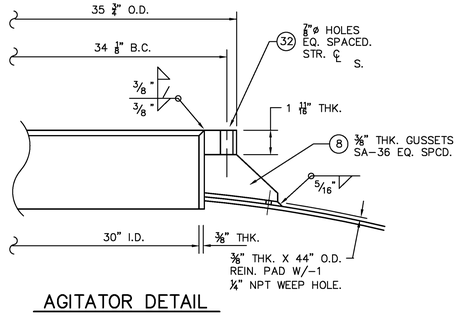
PLAN VIEW



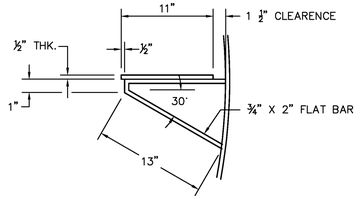
ELEVATION VIEW

SEE PLAN VIEW FOR TRUE LOCATIONS OF NOZZLES.

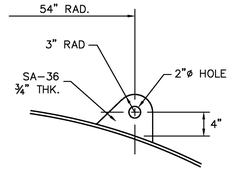
BASE PLT DETAIL



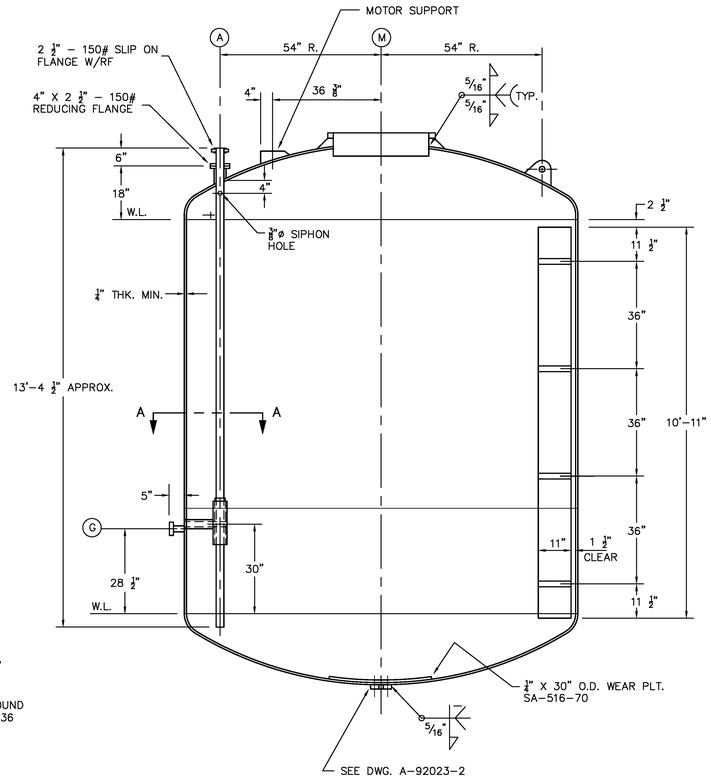
AGITATOR DETAIL

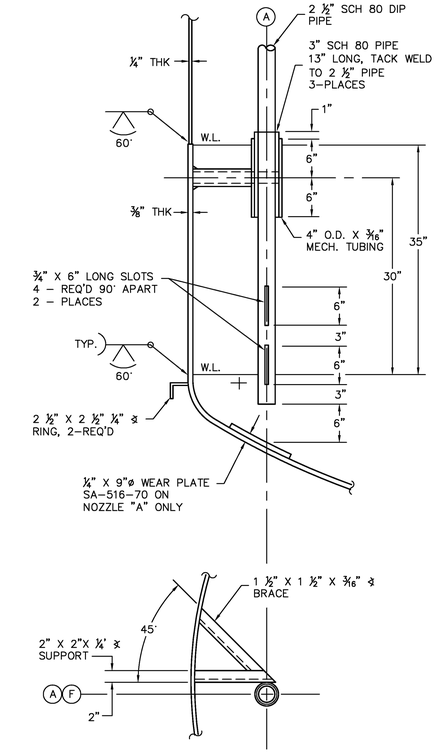


BAFFLE DETAIL



LIFTING LUG DETAIL (2) REQ'D





SECTION A-A
DIP PIPE SLEEVE DETAIL

NOZZLE SCHEDULE

MARK	QUANTITY	SIZE	ASA RATING	SCH.	SERVICE
A	1	4"	150# SLIP ON W/RF	40	INLET W/2 1/2" DIP PIPE
B	1	2 1/2"	150# PAD W/FF	1 5/8"	DRAIN DWG A-92023-2
C	1	4"	150# SLIP ON W/RF	40	CON'T. LEVEL
D	1	6"	150# SLIP ON W/FF	40	RUPTURE DISC
E	1	36"	DWG A-92023-1	3/8"	MANWAY W/DAVIT
F	1	4"	150# SLIP ON W/RF	40	PUMP SUCTION 2 1/2" DIP PIPE
G	1	1"	〃	〃	SAMPLE
H	1	1 1/2"	〃	〃	TEMPERATURE
J1, J2, J3	3	1 1/2"	〃	〃	LEVEL
K	1	2"	〃	〃	N2 IN/EMISSION OUT
L	1	3"	〃	〃	N2 SPARE
M	1	30" I.D.	150# SLIP ON W/FF	3/8"	MIXER SUPPORT

ORIGINAL NAMEPLATE DATA FOR REFERENCE ONLY.

MAXIMUM STORAGE VOLUME: 8,613 GAL.
MAXIMUM VOLUME: 9,491 GAL.

NOTES:

1) CONSTRUCTION TO COMPLY WITH ASME CODE SECTION VIII ED. INCLUDING CERT. & STAMP FOR INSTALLATION IN STATE OF N.Y.

2) NAME PLATE STAMPING:

U
W
RT-3

NATL. BD. _____

CERTIFIED BY

ROBEN MFG. CO. INC.,
LAKEWOOD N.J. 08701

VESSEL MAWP 20 PSI AT 100° F
MIN DESIGN METAL TEMP -5° F AT 20 PSI
JACKET MAWP __PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT __ PSI
TUBE MAWP ___ PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT __ PSI
SERIAL NO.: 92023-4 THRU 6, YEAR: 1992

EQUIPMENT TAG NO'S. TP100A,B,C
OWNER'S NAME: NORLITE CORP. INC.
OWNER'S PO NO. AN-00048
CAPACITY: 7300 GAL. OPER.
SHOP ORDER NO.: --

3) SHELL SIDE
TEST PRESSURE: 30 PSI
CORROSION ALLOW: 1⁄16"

4) WEIGHTS:
EMPTY: _____ 20,347 LBS.
FULL OF OILY WASTE: FLOODED 158,225 LBS.

5) PAINT: REFER TO NOTE NO. 4
SANDBLAST: YES SP10 NEAR-WHITE BLAST CLEANING ON EXTERNAL SURFACES.

6) ----

7) STRESS RELIEVE: NO.

8) RADIOGRAPHY: YES SPOT X-RAY REQ'D.

9) SPECIAL TESTS: YES HYDROTEST 1 ½" WP.

10) CUSTOMER INSPECTION: YES.

11) SUPPORT DESIGN PER SEISMIC ZONE 2A.

GENERAL NOTES:

1. ALL BOLT HOLES TO STRADDLE NORTH SOUTH ℄ S

2. VESEL TO BE FREE OF ALL WELD SPLATTER, DIRT, OIL, AND GREASE.

3. COVER AND PLUG ALL OPENINGS FOR SHIPMENT.

4. PAINT EXTERNAL C/S SURFACES W/ 1 COAT OF INORGANIC ZINK PRIMER, 3 MIL DRY FILM THK. MINIMUM W/EPOXY PAINT FINISH COAT OF 5 MIL DRY FILM THK. MINIMUM.
COLOR - MOBIL D-10 SAND BEIGE

5. SEE CUST. SPEC'S. NO.: 15176

CUSTOMER: AMERICAN NUKEM
P.O. NO. AN-00048
UNITS REQ'D. (3) THREE.

FOR PERMIT PURPOSES ONLY

ASME MATERIAL SPECIFICATIONS

SHELLS			FACINGS			BONNETS/JACKETS			FACINGS			BOLTING	GASKETS: 1/16" THK.
PIPE			EXPANSION JOINT			WELD CAPS			FITTINGS			☒ SA-193 GR B7	☐ COMPRESSED ASBESTOS
ROLLED PLATE	ST'L	SA-516-70	INSUL. RING	ST'L	SA-36	FORMED HEADS			COVERS ☐ FACED			☐ SA-325	☒ TEFLON
BAFFLES	ST'L	SA-516-70	WELD CAPS			PIPE			TUBE SHEETS			☐ SA-320	☒ RUBBER
TIE RODS			FORMED HEADS	ST'L	SA-516-70	ROLLED PLATE			TUBES ☐ SEAMLESS ☐ WELDED			NUTS	☐ VITON
SPACERS			UNIT FLANGES			UNIT FLANGES			B.U. RINGS			☒ SA-194 GR 2M	O-RINGS
NOZZLE FLG'S	ST'L	SA-105	FITTINGS			NOZZLE FLG'S.			REINF. PADS	ST'L	SA-516-70	☐ SA-325	☐
NOZZLE NECKS	ST'L	SA-106-13	SUPPORTS	ST'L	SA-36	NOZZLE NECKS			WEAR PLT	ST'L	SA-516-70	☐ SA-320	

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

SCALE: 1/2" = 12"

THIS DRAWING IS A RE-DRAW OF ROBEN MFG. CO., INC. DRAWING D-92023-2 DATED 02/05/92, FOR RECORD PURPOSES.

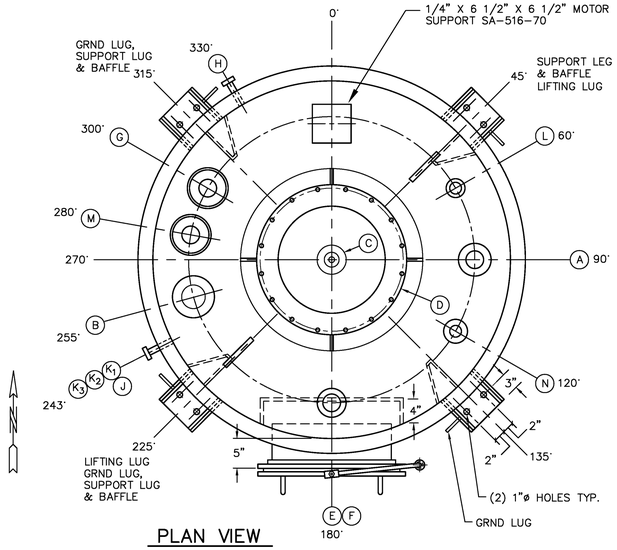
REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
F	VOLUME INFORMATION ADDED	TVB			7/17/02
E	PER PHONE 4/10/92	ALH			4/13/92
D	PER CUST. DWG 3/19/92	ALH			3/25/92
C	PER CUST. DWG 3/6/92	ALH			3/12/92
B	PER CUST. DWG 2/28/92	ALH			3/4/92
A	PER CUST. DWG 2/14/92	ALH			2/21/92

CLIENT APPROVAL: _____ DATE: _____

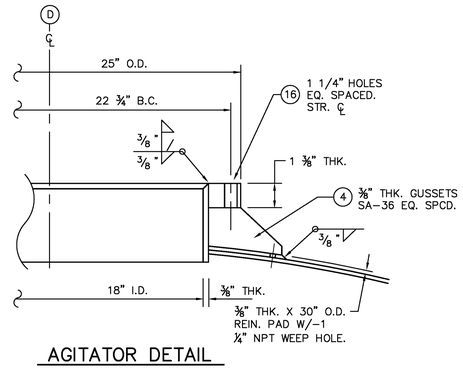
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

NORLITE CORPORATION - COHOES, NY
132" O.D. HOLDING TANK
ROBEN MFG. CO., INC.
(TANKS 100A, 100B, 100C)

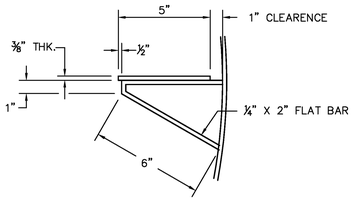
DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	D-92023-2
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003-92023-2	NY003-92023-2



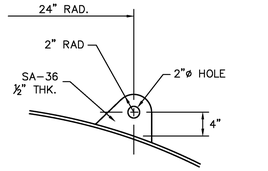
PLAN VIEW



AGITATOR DETAIL



BAFFLE DETAIL



LIFTING LUG DETAIL (2) REQ'D

NOZZLE SCHEDULE					
MARK	QUANTITY	SIZE	ASA RATING	SCH.	SERVICE
A	1	3"	150# SLIP ON W/RF	40	INLET W/2 1/2" DIP PIPE
B	1	4"	150# SLIP ON W/RF	40	CON'T. LEVEL
C	1	2 1/2"	150# PAD W/FF	1 5/8"	DRAIN DWG A-92023-2
D	1	18" I.D.	150# SLIP ON W/FF	3/8"	MIXER SUPORT
E	1	20"	DWG A-92024-1	1/4"	MANWAY W/DAVIT
F	1	3"	150# SLIP ON W/RF	40	RUPTURE DISC
G	1	3"			PUMP SUCTION 2 1/2" DIP PIPE
H	1	1"			SAMPLE
J	1	1 1/2"			TEMPERATURE
K1, K2, K3	3	1 1/2"			LEVEL
L	1	2"			N2 IN
M	1	3"			RECIRC W/2 1/2" DIP PIPE
N	1	2"			N2 OUT

ORIGINAL NAMEPLATE DATA FOR REFERENCE ONLY.

MAXIMUM STORAGE VOLUME: 1,174 GAL.
MAXIMUM VOLUME: 1,266 GAL.

NOTES:

1) CONSTRUCTION TO COMPLY WITH ASME CODE SECTION VIII ED. INCLUDING CERT. & STAMP FOR INSTALLATION IN STATE OF N.Y.

2) NAME PLATE STAMPING:

U
W
RT-3

NATL. BD. _____

CERTIFIED BY

ROBEN MFG. CO. INC.,
LAKEWOOD N.J. 08701

VESSEL MAWP 20 PSI AT 100° F
MIN DESIGN METAL TEMP -5° F AT 20 PSI
JACKET MAWP ___ PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT ___ PSI
TUBE MAWP ___ PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT ___ PSI
SERIAL NO.: 92024-1 TO 2, YEAR: 1992

EQUIPMENT TAG NO'S. TP101A, TP101B
OWNER'S NAME: NORLITE CORP. INC.
OWNER'S PO NO. AN-00048
CAPACITY: 1000 GAL. OPER.
SHOP ORDER NO.: --

3) SHELL SIDE
TEST PRESSURE: 30 PSI
CORROSION ALLOW: 1/16"

4) WEIGHTS:
EMPTY: _____ 5,710 LBS.
FULL OF OILY WASTE: FLOODED 25,318 LBS.

5) PAINT: REFER TO NOTE NO. 4
SANDBLAST: YES SP10 NEAR-WHITE BLAST CLEANING ON EXTERNAL SURFACES.

6) ----

7) STRESS RELIEVE: NO.

8) RADIOGRAPHY: YES SPOT X-RAY REQ'D.

9) SPECIAL TESTS: YES HYDROTEST 1 1/2" WP.

10) CUSTOMER INSPECTION: YES.

11) SUPPORT DESIGN PER SEISMIC ZONE 2A.

GENERAL NOTES:

1. ALL BOLT HOLES TO STRADDLE NORTH SOUTH ℄'S

2. VESEL TO BE FREE OF ALL WELD SPLATTER, DIRT, OIL, AND GREASE.

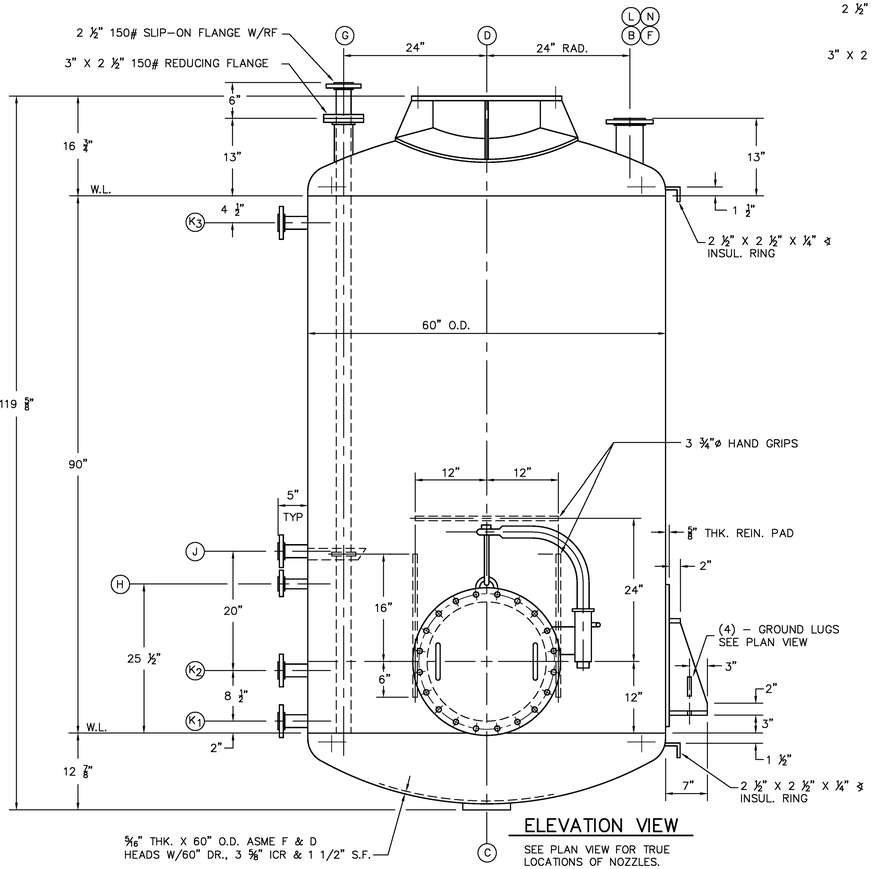
3. COVER AND PLUG ALL OPENINGS FOR SHIPMENT.

4. PAINT EXTERNAL C/S SURFACES W/ 1 COAT OF INORGANIC ZINK PRIMER, 3 MIL DRY FILM THK. MINIMUM W/EPOXY PAINT FINISH COAT OF 5 MIL DRY FILM THK. MINIMUM.
COLOR - MOBIL D-10 SAND BEIGE

5. SEE CUST. SPEC'S. NO.: 15176

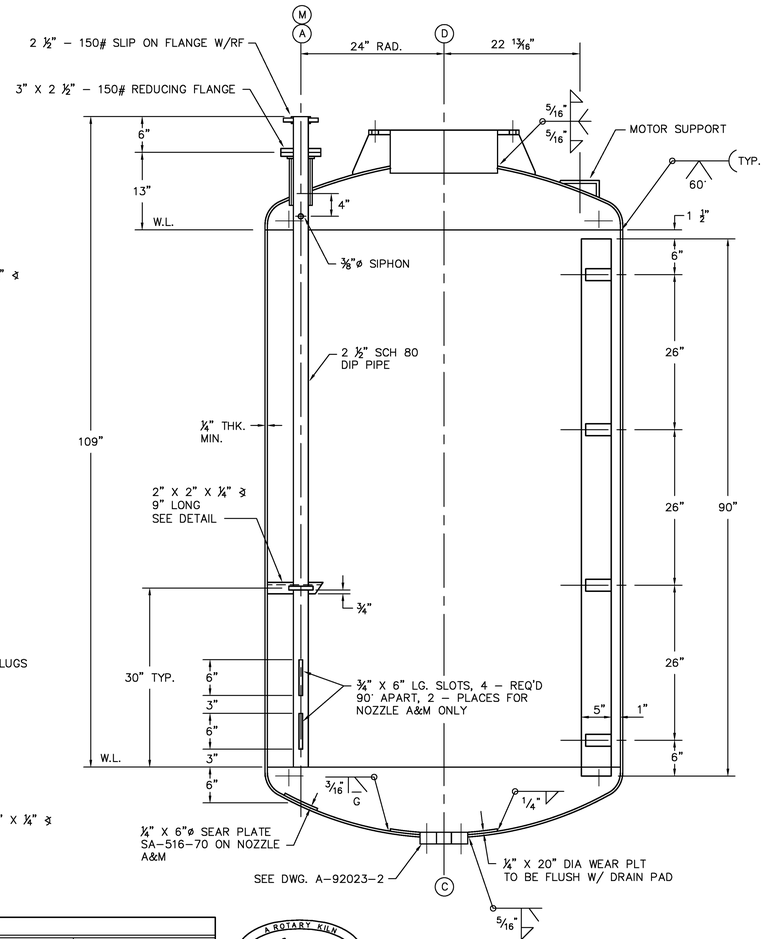
CUSTOMER: AMERICAN NUKEM
P.O. NO. AN-00048
UNITS REQ'D. (2) TWO.

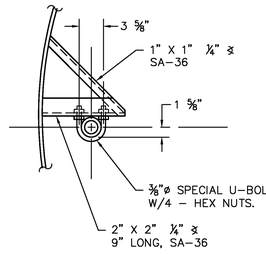
FOR PERMIT PURPOSES ONLY



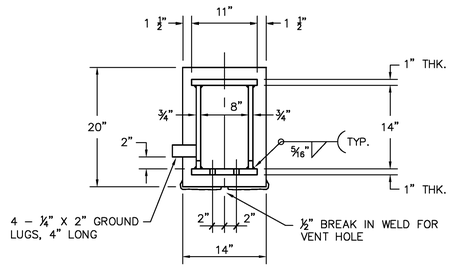
ELEVATION VIEW

SEE PLAN VIEW FOR TRUE LOCATIONS OF NOZZLES.





DIP PIPE SUPPORT DETAIL
3 - REQ'D.



LUG SUPPORT DETAIL
4 - REQ'D.

ASME MATERIAL SPECIFICATIONS												
SHELLS			FACINGS			BONNETS/JACKETS			FACINGS			
PIPE			EXPANSION JOINT			WELD CAPS			FITTINGS			
ROLLED PLATE	ST'L	SA-516-70	INSUL. RING	ST'L	SA-36	FORMED HEADS			COVERS ☐FACED			
BAFFLES	ST'L	SA-516-70	WELD CAPS			PIPE			TUBE SHEETS			
TIE RODS			FORMED HEADS	ST'L	SA-516-70	ROLLED PLATE			TUBES ☐SEAMLESS ☐WELDED			
SPACERS			UNIT FLANGES			UNIT FLANGES			B.U. RINGS			
NOZZLE FLG'S	ST'L	SA-105	FITTINGS			NOZZLE FLG'S.			REINF. PADS	ST'L	SA-36	
NOZZLE NECKS	ST'L	SA-106-1.3	SUPPORTS	ST'L	SA-36	NOZZLE NECKS			WEAR PLT	ST'L	SA-516-70	

BOLTING
☐ SA-193 GR B7
☐ SA-325
☐ SA-320

NUTS
☐ SA-194 GR 2M
☐ SA-325
☐ SA-320

GASKETS: 1/16" THK.
☐ COMPRESSED ASBESTOS
☐ TEFLON
☐ RUBBER
☐ VITON

O-RINGS
☐

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

SCALE: 1" = 12"

THIS DRAWING IS A RE-DRAW OF ROBEN MFG. CO., INC. DRAWING D-92024-1 DATED 02/10/92, FOR RECORD PURPOSES.

CLIENT APPROVAL: _____ DATE: _____

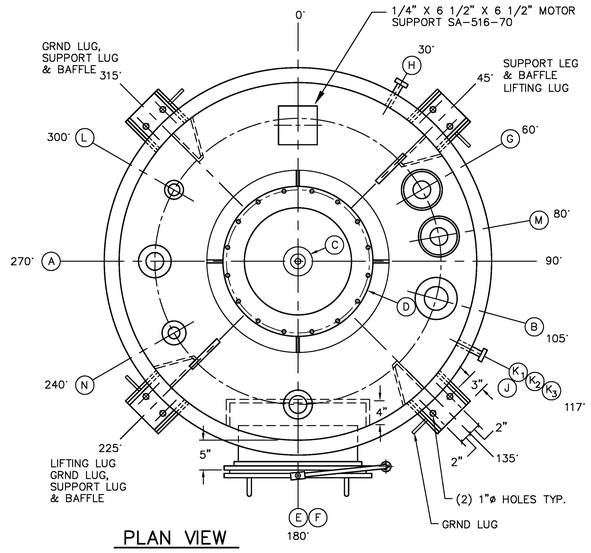
HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, REXFORD, NEW YORK 12148-1608

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
E	VOLUME INFORMATION ADDED	TVB			7/17/02
D	WEEP HOLE DELETED 4/29/92	ALH			4/29/92
C	PER CUST. DWG 3/19/92	ALH			3/23/92
B	PER CUST. DWG 3/4/92	ALH			3/9/92
A	PER CUST. DWG 2/21/92	ALH			2/27/92

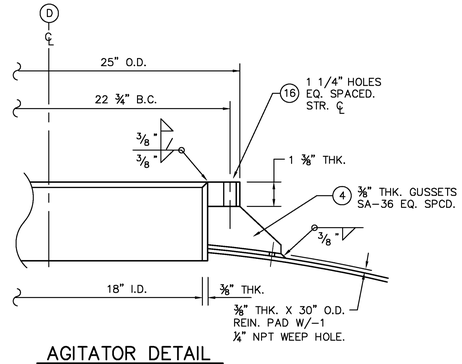
NORLITE CORPORATION - COHOES, NY

60" O.D. EQUALIZATION TANK
ROBEN MFG. CO., INC.
(TANKS 101A, 101B)

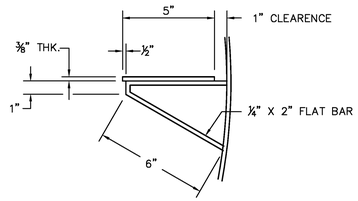
DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	D-92024-1
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003-92024-1	NY003-92024-1



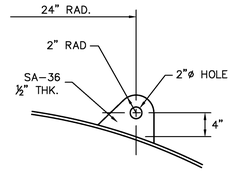
PLAN VIEW



AGITATOR DETAIL



BAFFLE DETAIL

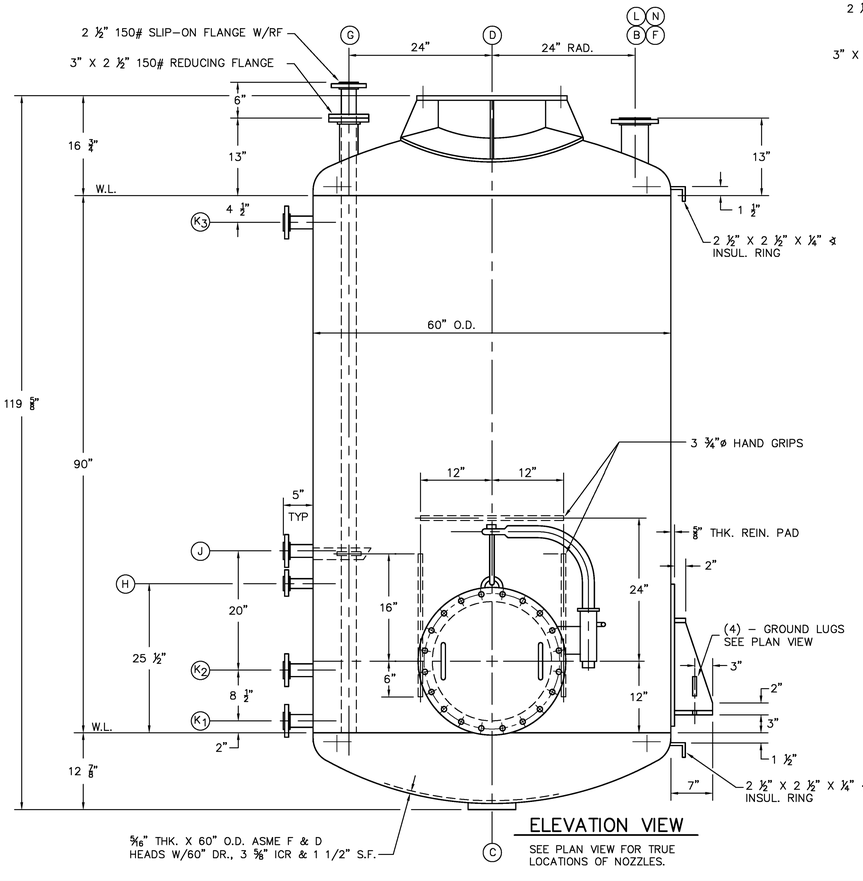


LIFTING LUG DETAIL (2) REQ'D

NOZZLE SCHEDULE					
MARK	QUANTITY	SIZE	ASA RATING	SCH.	SERVICE
A	1	3"	150# SLIP ON W/RF	40	INLET W/2 1/2" DIP PIPE
B	1	4"	150# SLIP ON W/RF	40	CON'T. LEVEL
C	1	2 1/2"	150# PAD W/FF	1 5/8"	DRAIN DWG A-92023-2
D	1	18" I.D.	150# SLIP ON W/FF	3/8"	MIXER SUPORT
E	1	20"	DWG A-92024-1	1/4"	MANWAY W/DAVIT
F	1	3"	150# SLIP ON W/RF	40	RUPTURE DISC
G	1	3"			PUMP SUCTION 2 1/2" DIP PIPE
H	1	1"			SAMPLE
J	1	1 1/2"			TEMPERATURE
K1, K2, K3	3	1 1/2"			LEVEL
L	1	2"			N2 IN
M	1	3"			RECIRC W/2 1/2" DIP PIPE
N	1	2"			N2 OUT

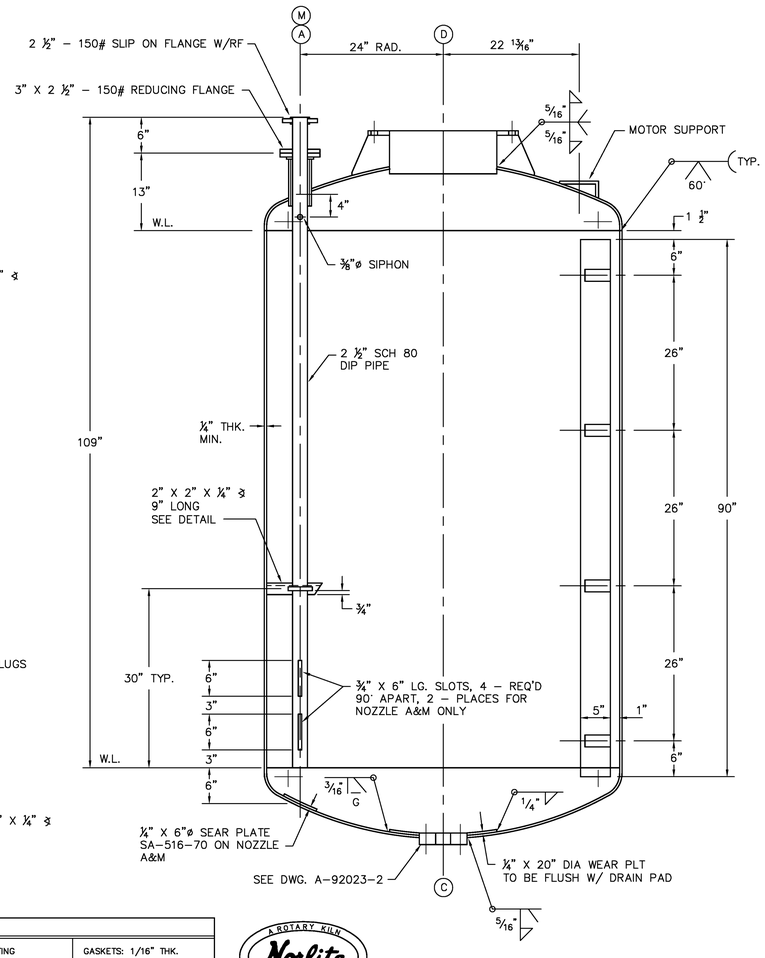
ORIGINAL NAMEPLATE DATA FOR REFERENCE ONLY.

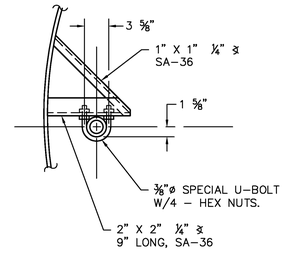
MAXIMUM STORAGE VOLUME: 1,174 GAL.
MAXIMUM VOLUME: 1,266 GAL.



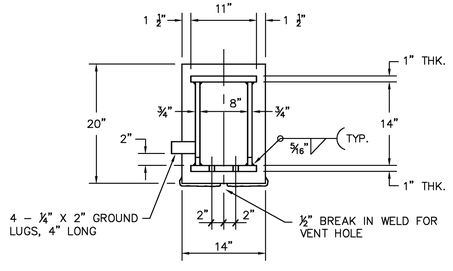
ELEVATION VIEW

SEE PLAN VIEW FOR TRUE LOCATIONS OF NOZZLES.





DIP PIPE SUPPORT DETAIL
3 – REQ'D.



LUG SUPPORT DETAIL
4 – REQ'D.

NOTES:

1) CONSTRUCTION TO COMPLY WITH ASME CODE SECTION VIII ED. INCLUDING CERT. & STAMP FOR INSTALLATION IN STATE OF N.Y.

2) NAME PLATE STAMPING:

U
W
RT-3

NATL. BD._____

CERTIFIED BY

ROBEN MFG. CO. INC.,
LAKEWOOD N.J. 08701

VESSEL MAWP 20 PSI AT 100° F
MIN DESIGN METAL TEMP –5° F AT 20 PSI
JACKET MAWP ___ PSI AT __° F
MIN DESIGN METAL TEMP __° F AT __ PSI
TUBE MAWP ___ PSI AT __° F
MIN DESIGN METAL TEMP __° F AT __ PSI
SERIAL NO.: 92024-3 TO 4, YEAR: 1992

EQUIPMENT TAG NO'S. TP102A, TP102B
OWNER'S NAME: NORLITE CORP. INC.
OWNER'S PO NO. AN-00048
CAPACITY: 1000 GAL. OPER.
SHOP ORDER NO.: --

3) SHELL SIDE
TEST PRESSURE: 30 PSI
CORROSION ALLOW: 1/16"

4) WEIGHTS:
EMPTY: _____ 5,710 LBS.
FULL OF OILY WASTE: FLOODED 25,318 LBS.

5) PAINT: REFER TO NOTE NO. 4
SANDBLAST: YES SP10 NEAR-WHITE BLAST CLEANING ON EXTERNAL SURFACES.

6) ----

7) STRESS RELIEVE: NO.

8) RADIOGRAPHY: YES SPOT X-RAY REQ'D.

9) SPECIAL TESTS: YES HYDROTEST 1 ½" WP.

10) CUSTOMER INSPECTION: YES.

11) SUPPORT DESIGN PER SEISMIC ZONE 2A.

GENERAL NOTES:

1. ALL BOLT HOLES TO STRADDLE NORTH SOUTH ℄'S

2. VESEL TO BE FREE OF ALL WELD SPLATTER, DIRT, OIL, AND GREASE.

3. COVER AND PLUG ALL OPENINGS FOR SHIPMENT.

4. PAINT EXTERNAL C/S SURFACES W/ 1 COAT OF INORGANIC ZINK PRIMER, 3 MIL DRY FILM THK. MINIMUM W/EPOXY PAINT FINISH COAT OF 5 MIL DRY FILM THK. MINIMUM.
COLOR – MOBIL D-10 SAND BEIGE

5. SEE CUST. SPEC'S. NO.: 15176

CUSTOMER: AMERICAN NUKEM
P.O. NO. AN-00048
UNITS REQ'D. (2) TWO.

FOR PERMIT PURPOSES ONLY

ASME MATERIAL SPECIFICATIONS												
SHELLS			FACINGS			BONNETS/JACKETS			FACINGS			
PIPE			EXPANSION JOINT			WELD CAPS			FITTINGS			
ROLLED PLATE	ST'L	SA-516-70	INSUL. RING	ST'L	SA-36	FORMED HEADS			COVERS ☐ FACED			
BAFFLES	ST'L	SA-516-70	WELD CAPS			PIPE			TUBE SHEETS			
TIE RODS			FORMED HEADS	ST'L	SA-516-70	ROLLED PLATE			TUBES ☐ SEAMLESS ☐ WELDED			
SPACERS			UNIT FLANGES			UNIT FLANGES			B.U. RINGS			
NOZZLE FLG'S	ST'L	SA-105	FITTINGS			NOZZLE FLG'S.			REINF. PADS	ST'L	SA-36	
NOZZLE NECKS	ST'L	SA-106-13	SUPPORTS	ST'L	SA-36	NOZZLE NECKS			WEAR PLT	ST'L	SA-516-70	

BOLTING
☒ SA-193 GR B7
☐ SA-325
☐ SA-320

NUTS
☒ SA-194 GR 2M
☐ SA-325
☐ SA-320

GASKETS: 1/16" THK.
☐ COMPRESSED ASBESTOS
☒ TEFLON
☒ RUBBER
☐ VITON

O-RINGS
☐

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

SCALE: 1" = 12"

THIS DRAWING IS A RE-DRAW OF ROBEN MFG. CO., INC. DRAWING D-92024-2 DATED 02/10/92, FOR RECORD PURPOSES.

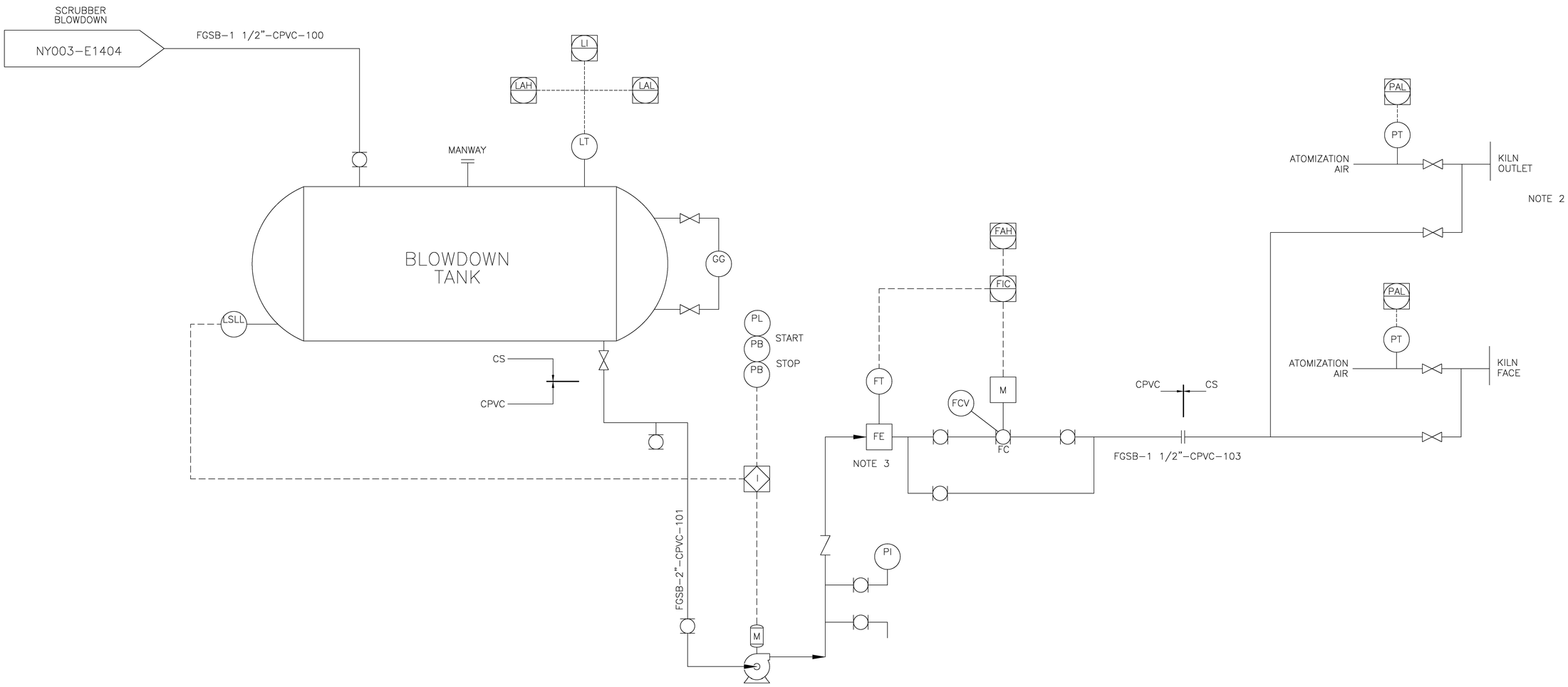
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
E	VOLUME INFORMATION ADDED	TVB			7/17/02
D	WEEP HOLE DELETED 4/29/92	ALH			4/29/92
C	PER CUST. DWG 3/19/92	ALH			3/23/92
B	PER CUST. DWG 3/4/92	ALH			3/9/92
A	PER CUST. DWG 2/21/92	ALH			2/27/92

HARVEY M. KING, P.E.
ENVIRONMENTAL ENGINEERS & SCIENTISTS
4 STONY BROOK DRIVE, RENFORD, NEW YORK 12148-1608

NORLITE CORPORATION – COHOES, NY
60" O.D. EQUALIZATION TANK
ROBEN MFG. CO., INC.
(TANKS 102A, 102B)

DRAWN BY:	DATE:	DRAWING/FILE REF:
T.V.B.	04/29/02	D-92024-2
ENGINEER:	FILE NAME	DRAWING NO.
H.M.K.	NY003-92024-2	NY003-92024-2



BLOWDOWN FEED PUMP

INSTRUMENT DESIGNATIONS

LAH	LEVEL ALARM HIGH
LAL	LEVEL ALARM LOW
LSLL	LEVEL SWITCH LOW LOW
LT	LEVEL TRANSMITTER
GG	GUAGE GLASS
PI	PRESSURE INDICATOR
FE	FLOW ELEMENT
FT	FLOW TRANSMITTER
FIC	FLOW INDICATOR CONTROLLER
FAH	FLOW ALARM HIGH
FCV	FLOW CONTROL VALVE
PT	PRESSURE TRANSMITTER
PAL	PRESSURE ALARM LOW

NOTE:

1. P&ID REPRESENTS KILN #1 CONFIGURATION. KILN #2 CONFIGURATION IS IDENTICAL EXCEPT FOR LINE NUMBERING
2. BLOWDOWN FEED TO KILN OUTLET TO BE LOCATED DOWNSTREAM OF THE KILN BACK END THERMOCOUPLE AND PRIOR TO THE BAGHOUSE
3. BLOWDOWN FEED FLOW RATE TO BE MEASURED USING A "F/P MAGMETER"

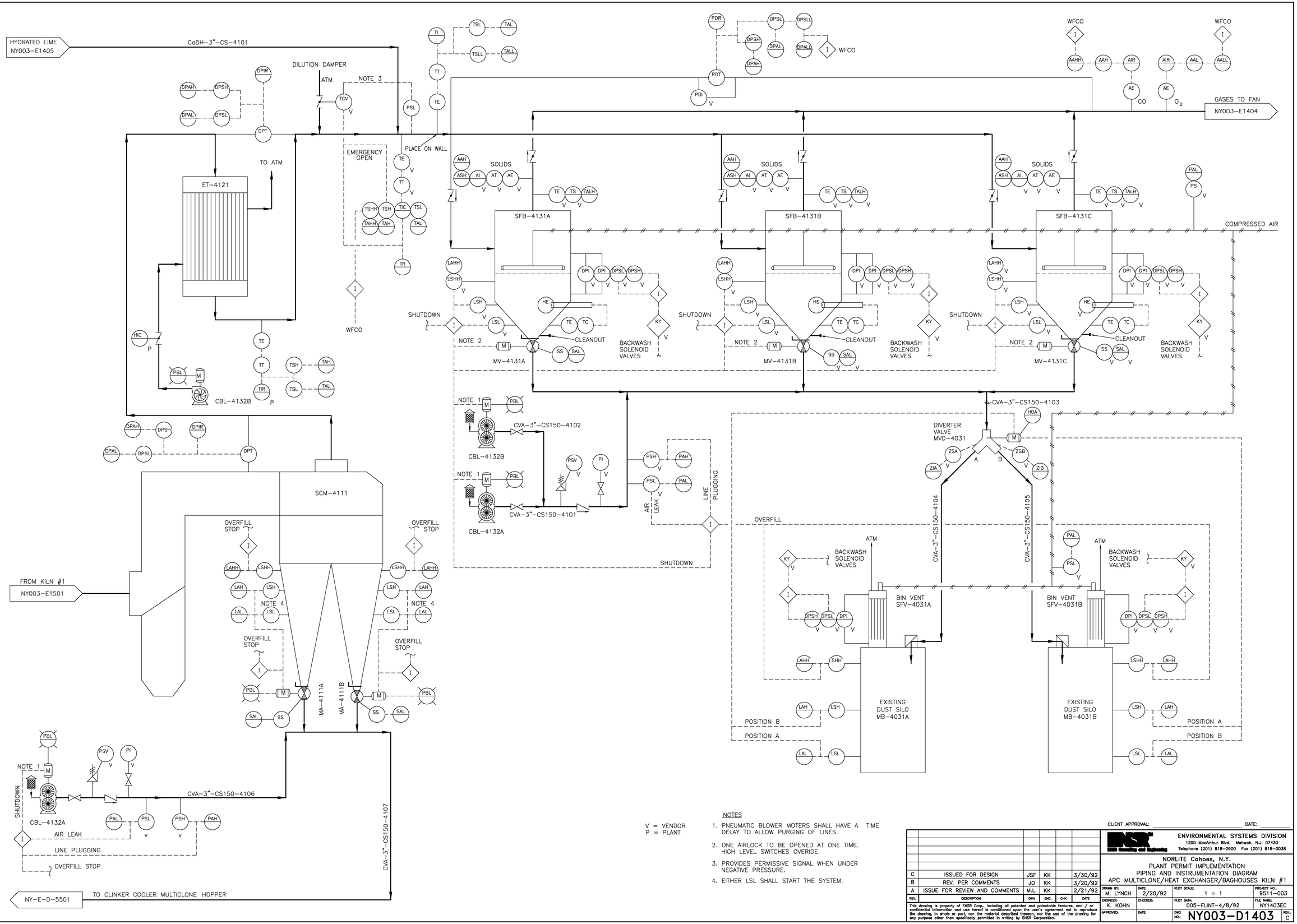
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
A	ISSUED FOR COMMENTS	SE	A.L.		07/22/93

ENVIRONMENTAL SYSTEMS & ENGINEERING
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE CORPORATION
P & I D
ZERO DISCHARGE SYSTEM

DRAWN BY: EGGLESTON	DATE: 07/22/93	SCALE: 1 = 1 (FULL)	PROJECT NO.: 9514-022
ENGINEER: LUKSIC	CHECKED:	PLOT DATA: 003-EGGLESTON-07/27/93	FILE NAME: NY1001DA
APPROVED:	DATE:	DWG NO.: NY022-D1001	REV.: A



V = VENDOR
P = PLANT

NOTES

1. PNEUMATIC BLOWER MOTERS SHALL HAVE A TIME DELAY TO ALLOW PURGING OF LINES.
2. ONE AIRLOCK TO BE OPENED AT ONE TIME. HIGH LEVEL SWITCHES OVERIDE.
3. PROVIDES PERMISSIVE SIGNAL WHEN UNDER NEGATIVE PRESSURE.
4. EITHER LSL SHALL START THE SYSTEM.

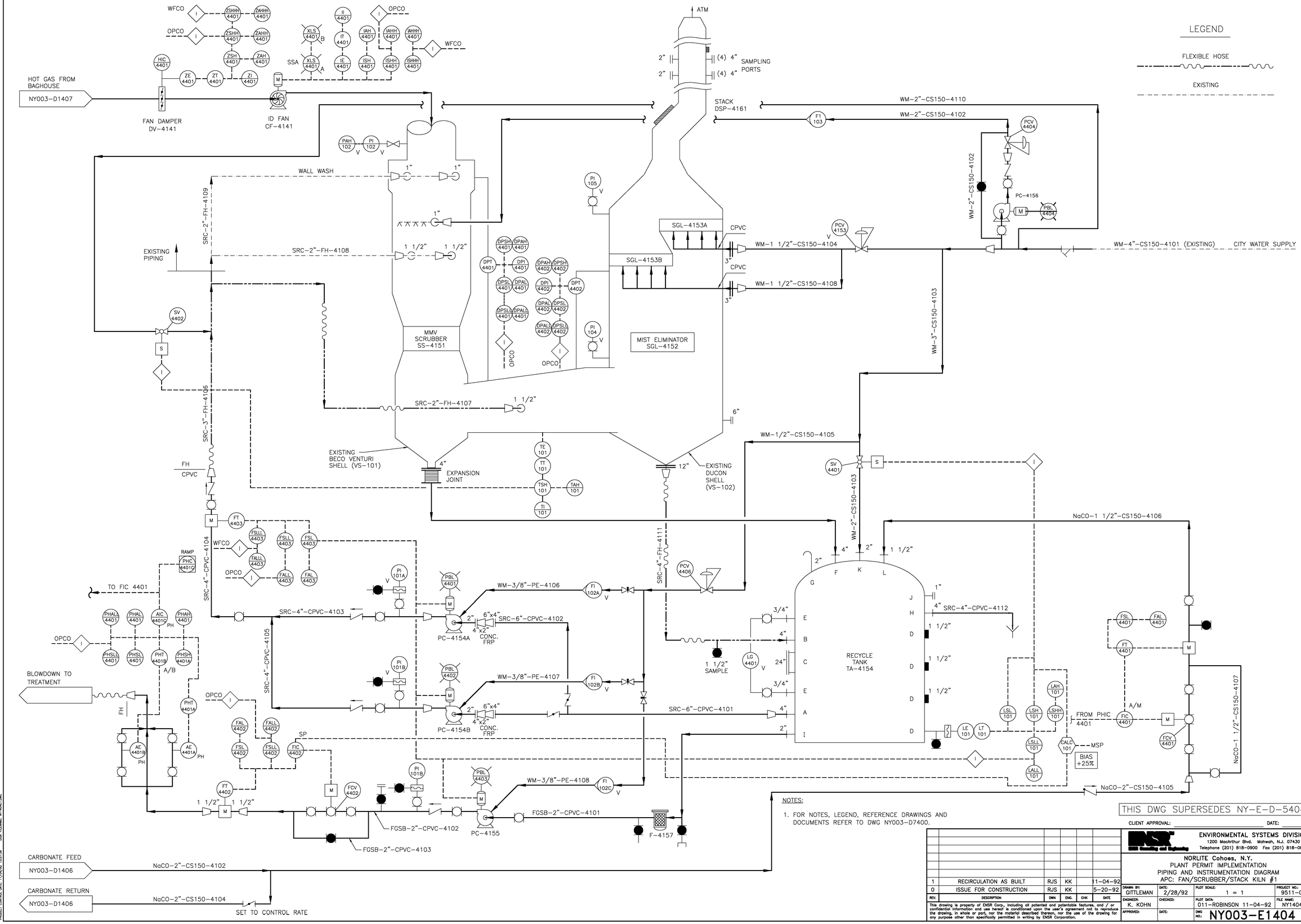
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
C	ISSUED FOR DESIGN	JSF	KK		3/30/92
B	REV. PER COMMENTS	JO	KK		3/20/92
A	ISSUE FOR REVIEW AND COMMENTS	M.L.	KK		2/21/92

ENVIRONMENTAL SYSTEMS DIVISION
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE Cohoes, N.Y.
PLANT PERMIT IMPLEMENTATION
PIPING AND INSTRUMENTATION DIAGRAM
APC MULTICLONE/HEAT EXCHANGER/BAGHOUSES KILN #1

DRAWN BY: M. LYNCH	DATE: 2/20/92	PLOT SCALE: 1 = 1	PROJECT NO.: 9511-003
ENGINEER: K. KOHN	CHECKED:	PLOT DATA: 005-FLINT-4/8/92	FILE NAME: NY1403EC
APPROVED:	DATE:	DWG NO.: NY003-D1403	REV.: C



NOTES:

1. FOR NOTES, LEGEND, REFERENCE DRAWINGS AND DOCUMENTS REFER TO DWG NY003-D7400.

THIS DWG SUPERSEDES NY-E-D-5404

CLIENT APPROVAL: _____ DATE: _____

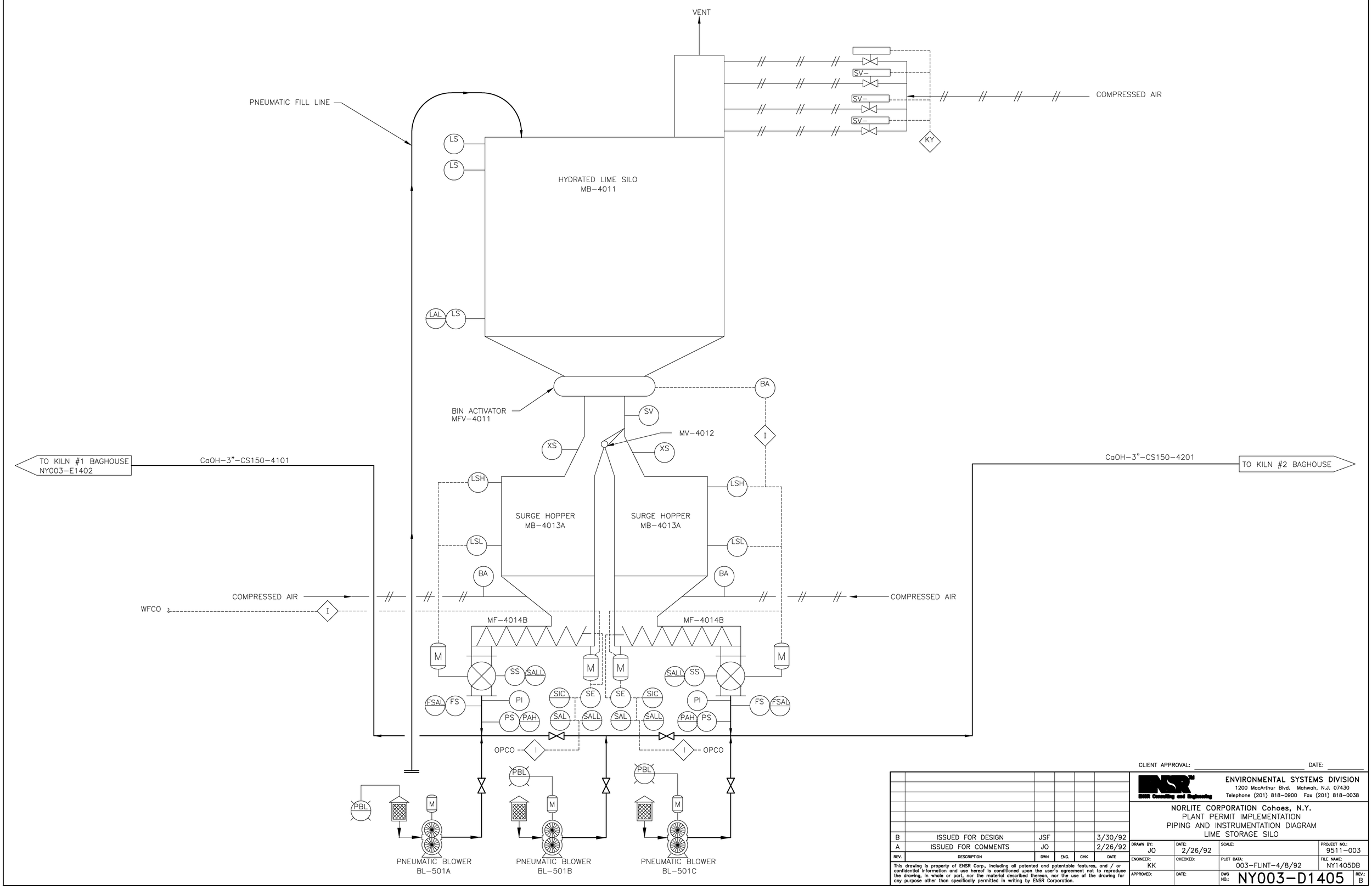
REV.	DESCRIPTION	DRN	ENG.	CHK	DATE
1	RECIRCULATION AS BUILT	RJS	KK		11-04-92
0	ISSUE FOR CONSTRUCTION	RJS	KK		5-20-92

ENSR Consulting and Engineering
ENVIRONMENTAL SYSTEMS DIVISION
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE Cohoes, N.Y.
PLANT PERMIT IMPLEMENTATION
PIPING AND INSTRUMENTATION DIAGRAM
APC: FAN/SCRUBBER/STACK KILN #1

DRAWN BY: GITTLEMAN	DATE: 2/28/92	PLOT SCALE: 1 = 1	PROJECT NO.: 9511-003
ENGINEER: K. KOHN	CHECKED:	PLOT DATA: 011-ROBINSON 11-04-92	FILE NAME: NY1404E1
APPROVED:	DATE:	DWG NO.: NY003-E1404	REV.: 1

PROJECT CONTROL DATE: 11/24/92 13:37:39 DGN FILENAME: NY1404E1.DWG



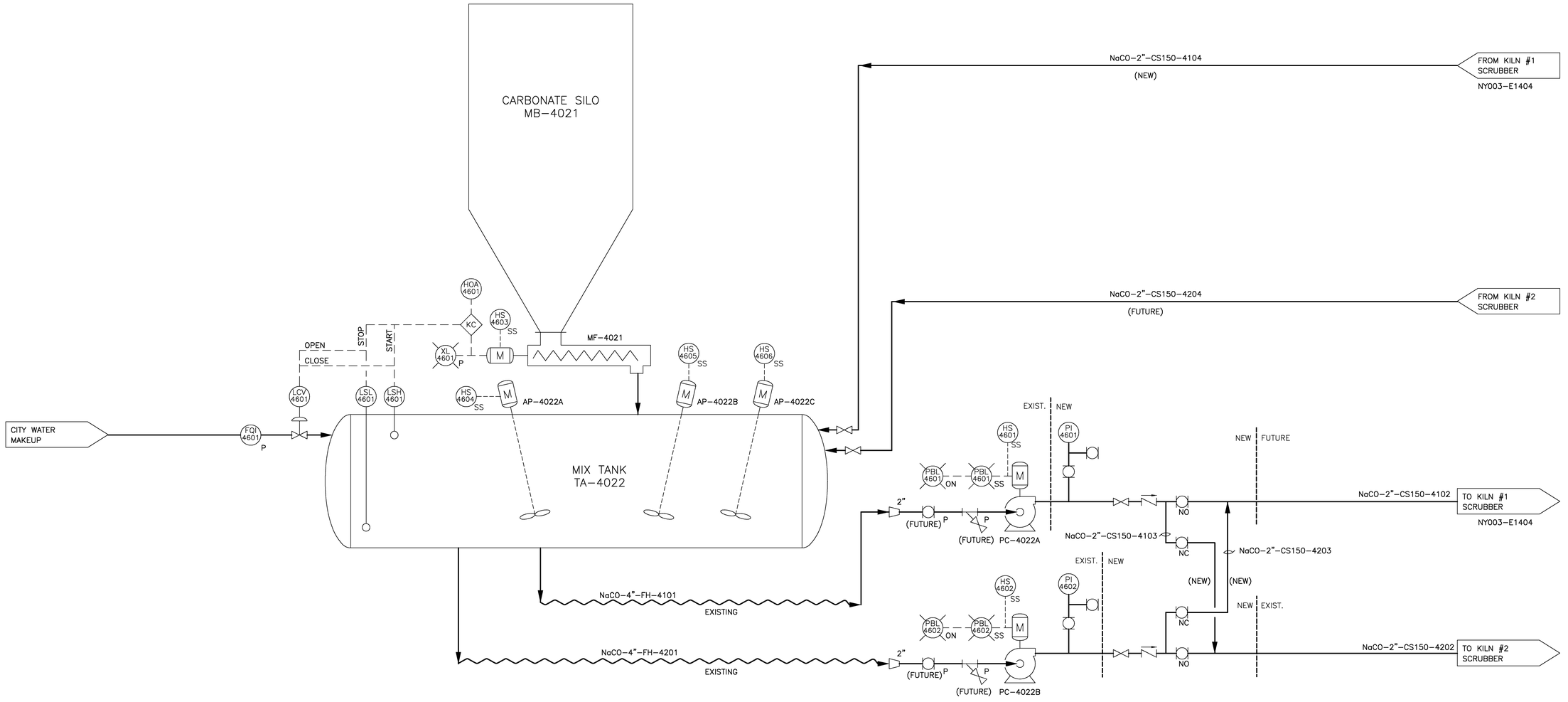
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
B	ISSUED FOR DESIGN	JSF			3/30/92
A	ISSUED FOR COMMENTS	JO			2/26/92

ENSR Consulting and Engineering
ENVIRONMENTAL SYSTEMS DIVISION
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE CORPORATION Cohoes, N.Y.
PLANT PERMIT IMPLEMENTATION
PIPING AND INSTRUMENTATION DIAGRAM
LIME STORAGE SILO

DRAWN BY: JO	DATE: 2/26/92	SCALE:	PROJECT NO.: 9511-003
ENGINEER: KK	CHECKED:	PLOT DATA: 003-FLINT-4/8/92	FILE NAME: NY1405DB
APPROVED:	DATE:	DWG NO.: NY003-D1405	REV.: B



LEGEND:
P-PLANT SUPPLIED

NOTE:
1 - FOR NOTES, LEGEND, REFERENCE DRAWINGS, AND DOCUMENTS REFER TO DWG NY003-D7400.

THIS DWG. SUPERSEDES NY-D-D-5406

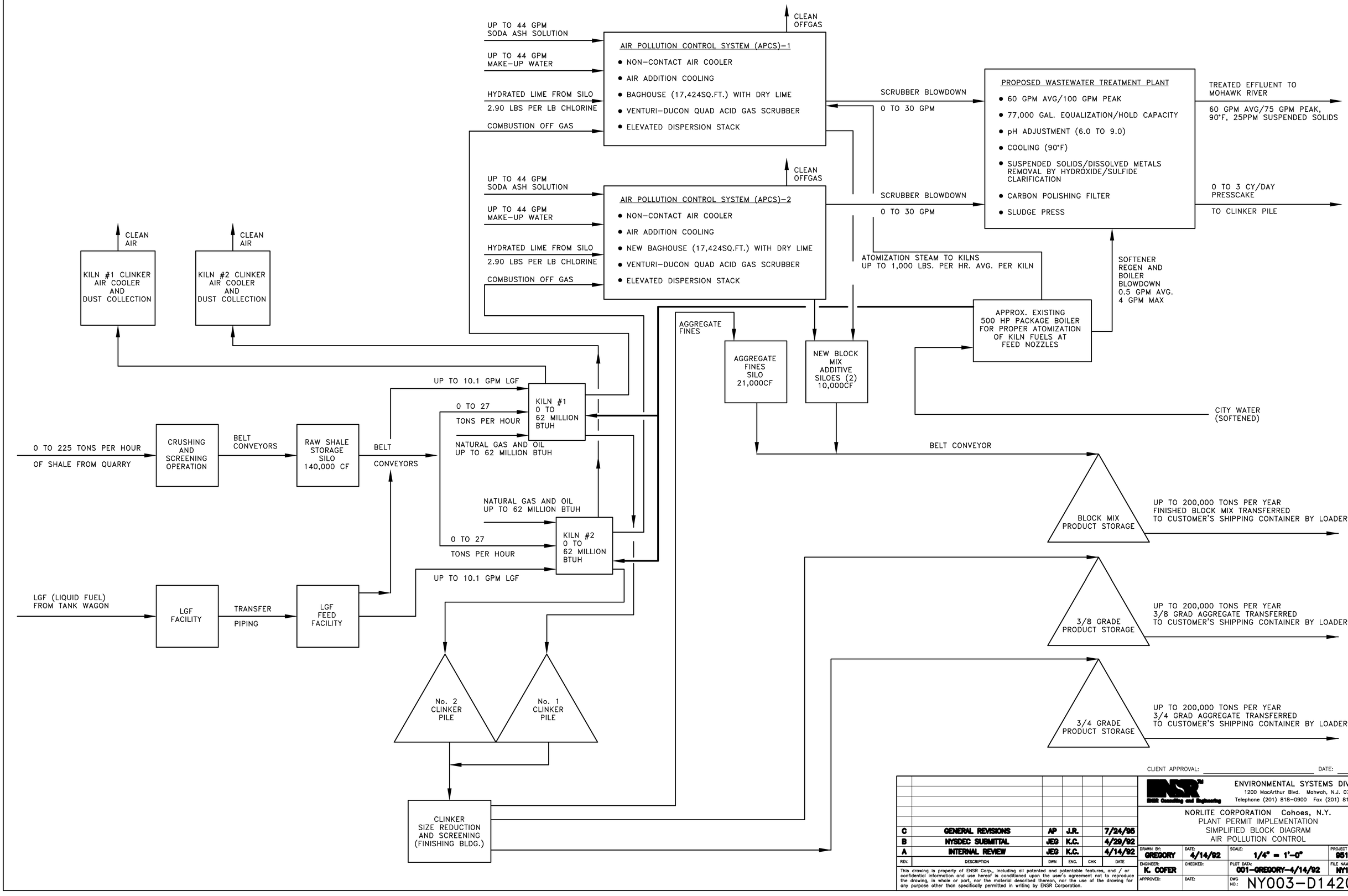
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
0	ISSUE FOR CONSTRUCTION	RJS	KK		5-20-92

ENVIRONMENTAL SYSTEMS DIVISION
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE CORPORATION Cohoes, N.Y.
PLANT PERMIT IMPLEMENTATION
PIPING AND INSTRUMENTATION DIAGRAM
CARBONATE SILO

DRAWN BY: JO	DATE: 2/28/92	SCALE: 1=1		PROJECT NO.: 9511-003
ENGINEER: KK	CHECKED:	PLOT DATA: 002-SERCHAK 5-20-92		FILE NAME: NY1406E0
APPROVED:	DATE:	DWG NO.: NY003-E1406		REV.: 0



CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
C	GENERAL REVISIONS	AP	J.R.		7/24/95
B	NYSDEC SUBMITTAL	JEG	K.C.		4/29/92
A	INTERNAL REVIEW	JEG	K.C.		4/14/92

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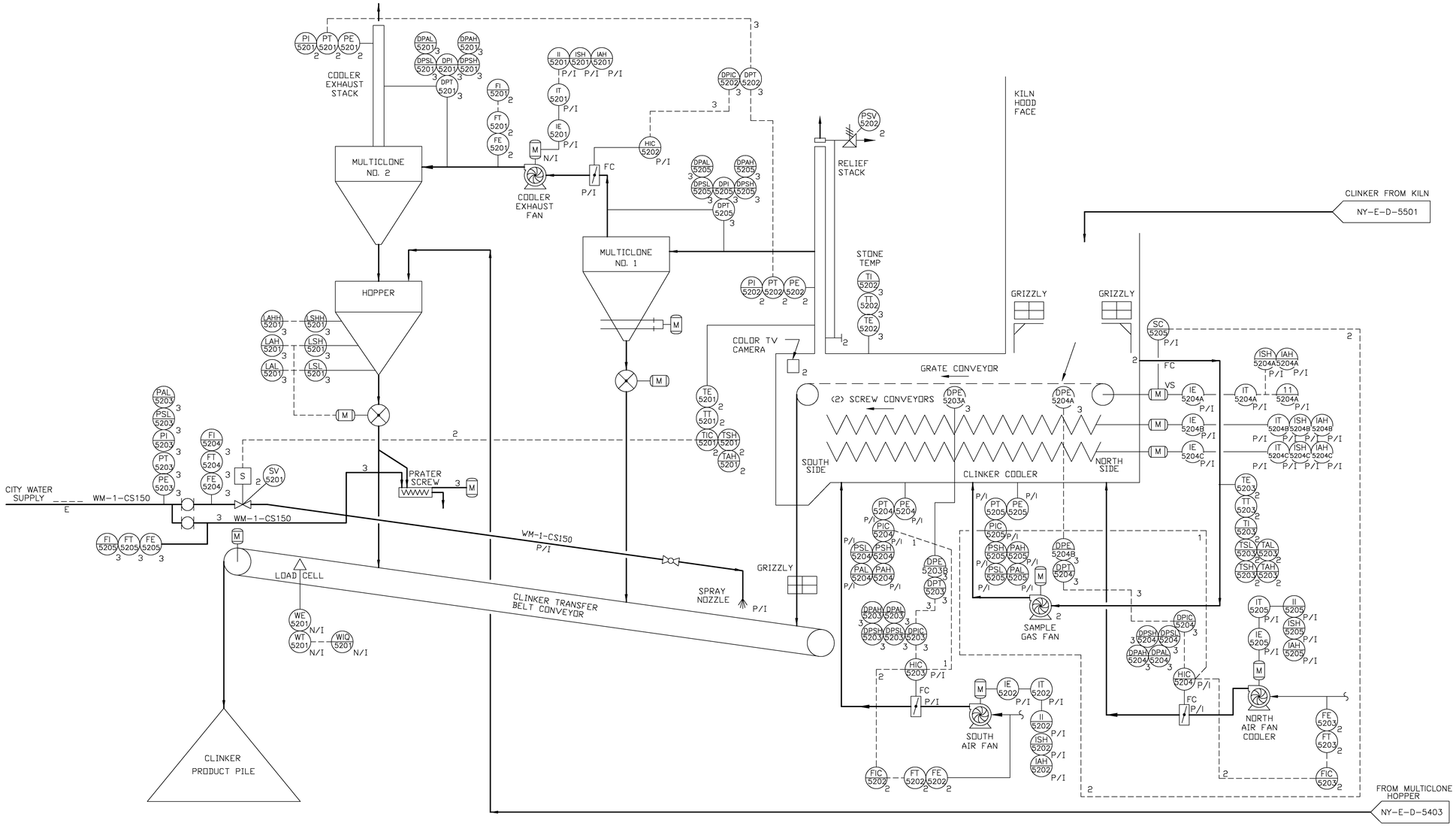
ENVIRONMENTAL SYSTEMS DIVISION
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE CORPORATION Cohoes, N.Y.
PLANT PERMIT IMPLEMENTATION
SIMPLIFIED BLOCK DIAGRAM
AIR POLLUTION CONTROL

DRAWN BY: GREGORY	DATE: 4/14/92	SCALE: 1/4" = 1'-0"		PROJECT NO.: 9514-004
ENGINEER: K. COFER	CHECKED:	PLOT DATA: 001-GREGORY-4/14/92		FILE NAME: NY1420DC
APPROVED:	DATE:	DWG NO.: NY003-D1420	REV.: C	



LEGEND
1 = FOR TRIAL BURN
2 = AFTER TRIAL BURN
3 = FUTURE
4 = PROJECT TEAM
5 = NORLITE TEAM

THIS DWG. SUPERSEDES NY-D-D-5502

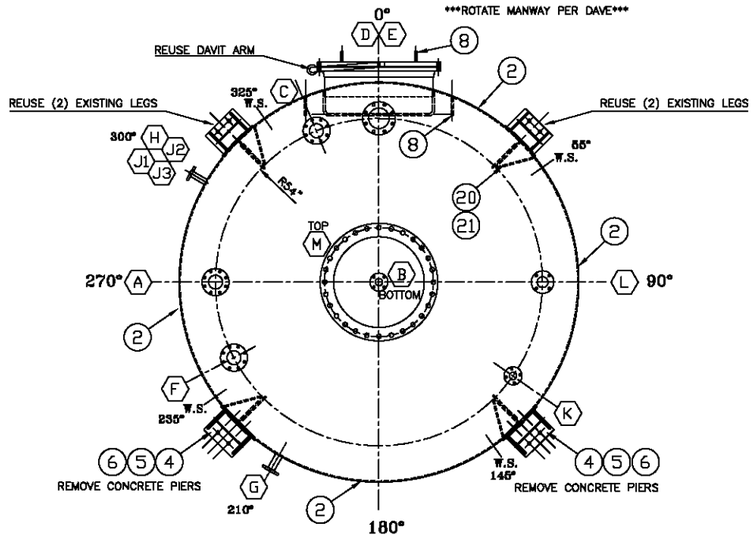
CLIENT APPROVAL: _____ DATE: _____

REV.	DESCRIPTION	DWN	ENG.	CHK	DATE
A	INTERNAL REVIEW	RJS	SK		2/25/92

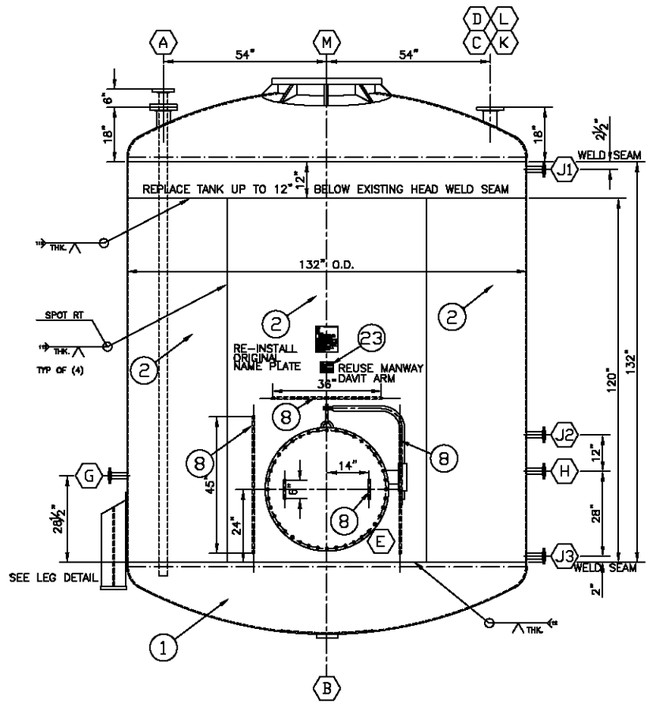
ENVIRONMENTAL SYSTEMS DIVISION
1200 MacArthur Blvd. Mahwah, N.J. 07430
Telephone (201) 818-0900 Fax (201) 818-0038

NORLITE CORPORATION Cohoes, N.Y.
PLANT PERMIT IMPLEMENTATION
PIPING & INSTRUMENTATION DIAGRAM
COOLER OPERATION – KILN #1 (SHT. 1 OF 14)

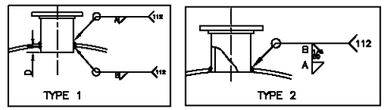
DRAWN BY: SERCHAK	DATE: 2/25/92	SCALE: 1 = 1 (FULL)		PROJECT NO.: 9511-003
ENGINEER: KADDEN	CHECKED:	PLOT DATA: 005-GITTLEMAN-5/26/92		FILE NAME: NY1502EB
APPROVED:	DATE:	DWG NO.: NY003-E1502		REV.: B



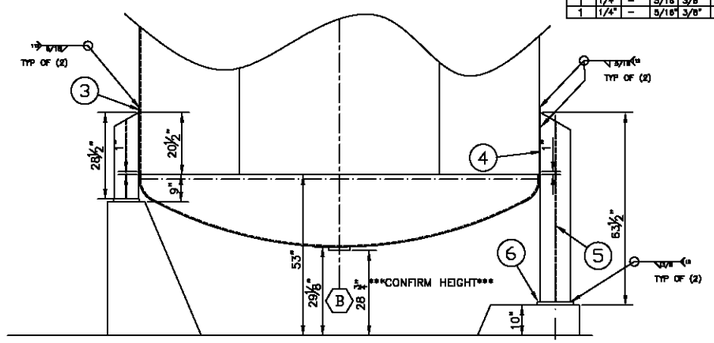
PLAN VIEW



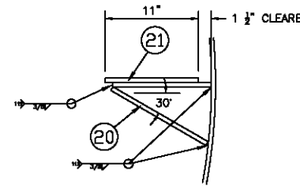
ELEVATION VIEW



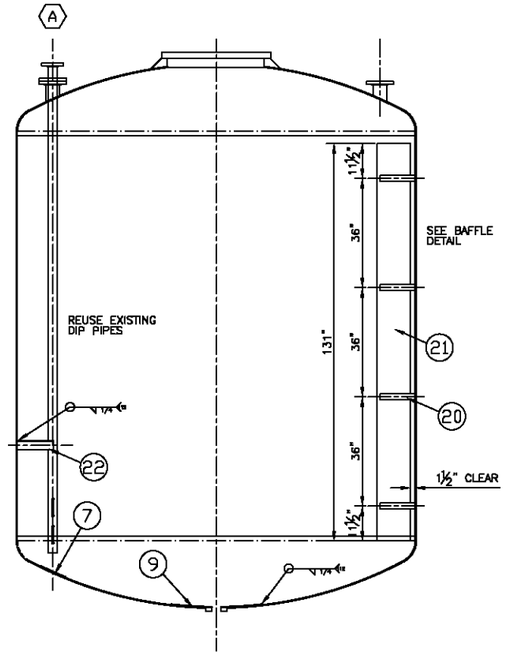
WELD DETAILS				
TYPE	A	B	C	D
2	5/16"	THK.	–	–
1	3/8"	–	7/16"	1"
1	1/4"	–	5/16"	3/8"
1	1/4"	–	5/16"	3/8"
1	1/4"	–	5/16"	3/8"



LEG DETAILS



BAFFLE DETAIL



BAFFLE DETAILS

NOZZLE SCHEDULE							
MARK	QTY	SERVICE	SIZE	RATING	TYPE	NECK	REMARKS	PART No
A	1	INLET NOZZLE	4	150#	RFSO	EXISTING	
B	1	DRAIN	2 1/2		STUD	80		19
C	1	CONT. LEVEL	4		RFSO	EXISTING	
D	1	RUPTURE DISK	6			EXISTING	
E	1	MANHOLE	36	75#		3/8		10–14
F	1	PUMP SUCTION	4	150#		EXISTING	
G	1	SAMPLE	1			80		15,16
H	1	TEMPERATURE	1 1/2			80		17,18
J	3	LEVEL	1 1/2			80		17,18
K	1	N2 IN/EMISSION OUT	2			EXISTING	
L	1	N2 SPARE	3			EXISTING	
M	1	MIXER SPARE	30			EXISTING	

GENERAL NOTES

1. * DESIGN INFORMATION *
   DESIGN, REPAIR, AND STAMP IN ACCORDANCE WITH NBIC AND A.S.M.E. SECTION VIII, DIVISION 1, 2013 EDITION.

	SHELL
DESIGN PRESSURE	20 PSIG
MAX DESIGN TEMPERATURE	100 °F
MIN. DESIGN TEMPERATURE	–5 °F
HYDRO TEST PRESSURE	10 PSIG
CORROSION ALLOWANCE	1/16 IN.
CAPACITY FULL	9,600 GAL.

   VESSEL WEIGHT EMPTY 9,500 LBS. FULL OF WATER 91,000 LBS.
2. ALL FLANGES WILL HAVE BOLT HOLES STRADDLE THE 0°–180° & 90°–270° CENTER LINES, UNLESS OTHERWISE NOTED. PROTECT ALL FLANGE FACES BEFORE SHIPMENT.
3. ALL DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE NOTED.
4. ALL REPADS TO HAVE (1) 1/8"NPT TEST HOLE.
5. Assure the liquid waste falls below the mixer maximum design conditions of a mix density of 1.7 specific gravity.

NATL. BD. 5828
U
W
RT-3
CERTIFIED BY
ROBEN MFG. CO. INC.,
LAKEWOOD N.J. 08701
VESSEL MAWP 20 PSI AT 100° F
MIN DESIGN METAL TEMP –5° F AT 20 PSI
JACKET MAWP ___PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT ___ PSI
TUBE MAWP ___ PSI AT ___° F
MIN DESIGN METAL TEMP ___° F AT ___ PSI
SERIAL NO.: 92023–1 YEAR: 1992

EQUIPMENT TAG NO'S. TP100B
OWNER'S NAME: NORLITE CORP. INC.
CAPACITY: 7300 GAL. OPER.
SHOP ORDER NO.: ––

ORIGINAL NAMEPLATE DATA

PART	QTY	DESCRIPTION	MATERIAL	REMARKS
22	2	L2" X 2" X 3/8" X AR (DIP PIPE SUPP.)	SA–36	
21	4	1/2" X 11" X 131" (BAFFLE)	SA–36	
20	12	3/4" X 2" X 30"± (BAFFLE SUPPORT)	A–36	
19	1	2 1/2" 150# RF STUDDING OUTLET	SA–105	
18	1	1 1/2" SCH 80 PIPE X 36"	SA–106B	
17	3	1 1/2" 150# RFSO FLANGE	SA–105	
16	1	1" SCH 80 PIPE X 12"	SA–106B	
15	1	1" 150# RFSO FLANGE	SA–105	
14	1	36" 75# FLEXATALIC GASKET	304 S/S	
13	1	36" 75# BOLT & NUT SET SA193/SA194	B7/2H	
12	1	3/8" X 8" X 120" MW. NECK	SA–516 70	
11	1	36" 75# RF BLIND FLANGE	SA–105	
10	1	36" 75# RFWN FLANGE SCH STD. BORE	SA–105	
9	1	30"O.D. DISH ONLY HEAD X 1/4" THK 130"DR. (WEAR PLATE)	SA–516 70	
8	3	3/4"ø ROUND BAR X 60"± (HANDLES)	A–36	
7	1	1/4" THK X 12'O.D. WEAR PLATE	SA–516 70	
6	2	1" X 10" X 13" BASE	SA–36	
5	2	W12 X 40 X 62 1/2" (2–LEGS)	SA–992	
4	2	3/8" THK X 14" X 21" (REPADS)	SA–516 70	
3	2	3/8" THK X 12" X 21" (REPAD)	SA–516 70	
2	4	3/8" THK 103 9/16" X 120" (SHELL)	SA–516 70	DL= 414.25"
1	1	132"O.D. ASME F&D HEAD 3/8" NOM. 130"DR 8" IKR WITH A 2" S.F.	SA–516 70	BEVEL DETAIL REQUIRED

MATERIAL LIST

R REPAIRED BY
AMERICAN BOILER TANK & WELDING CO.,INC.
NO. 1225
JOB# J–8000 DATE REPAIRED 8/ /15
JOB# DATE REPAIRED
JOB# DATE REPAIRED

SCALE

AMERICAN BOILER, TANK & WELDING CO., INC.
53 PLEASANT STREET ALBANY, N.Y. 12207

NORLITE CORP.
P.O.#

JOB NO. J–8000

REPLACE 10' OF SHELL & LOWER HEAD ON TANK 100B

1

REVISIONS | DATE 7/6/2015 | DWG BY WAN | APV'D BY | OF 1

ATTACHMENT C

CLOSURE PLAN

CLOSURE PLAN

NORLITE LLC
COHOES, NEW YORK
NYD080469935

PREPARED FOR:

NORLITE LLC
628 SOUTH SARATOGA STREET
COHOES, NEW YORK 12047

PREPARED BY:

NORLITE LLC
628 SOUTH SARATOGA STREET
COHOES, NEW YORK 12047

June 2014

Closure Plan

Table of Contents

CLOSURE PLAN

1.0 INTRODUCTION

This Closure Plan was developed by Norlite LLC for the closure of the Norlite LLC Facility hereafter referred to as the "Facility." This plan provides a blueprint for the closure of the hazardous waste units subject to closure requirements and ensures the proper disposal of hazardous waste, which could be harmful to human health or the environment if not properly disposed of as a result of facility closure. The procedures presented in this plan will provide the means for implementing proper facility closure while minimizing the risk of possible release(s) of hazardous waste or hazardous waste constituents to the environment during and after facility closure. This Closure Plan is applicable to the closure of the entire facility as well as the closure of one or more hazardous waste management units (partial closure).

This Closure Plan is Attachment C of the Norlite LLC Part 373 Permit. In the event that changes are made to the facility that affect the content of this Plan, this Plan will be updated in accordance with the requirements of Condition D of Module 1 of the facility's Part 373 Permit.

As described in the Operations Plan, the Facility consists of the two (2) lightweight aggregate kilns (LWAKs) and associated air pollution control equipment, tank farm for the storage of liquid low grade fuel (LLGF) and container storage area.

The standard operating procedures utilized at the Facility are designed to minimize the possibility of a spill resulting from the storage and management of hazardous waste. Personnel involved in the operation of these areas have received appropriate training to familiarize themselves with the dangers inherent in improper handling of the materials being stored and to instruct them in the proper procedures for containment and cleanup in the unlikely event that a spill should occur.

In the event of facility closure, Norlite LLC personnel trained in hazardous waste management operations at this facility will undertake the following specific procedures. While

this assumption is made for discussion purposes, third party contractors could also implement this Closure Plan in the unlikely event Norlite LLC personnel are not available. The closure cost estimate assumes that the Closure Plan is implemented by utilizing third party contractors.

2.0 CLOSURE PERFORMANCE STANDARD

Norlite LLC generates and temporarily stores hazardous waste. This Closure Plan, developed for the Facility, includes:

- Cessation of associated hazardous waste flow.
- Disposal of remaining hazardous waste.
- Decontamination of facility equipment.

These procedures meet the Closure Performance Standard which requires that closure:

- minimizes the need for further maintenance;
- controls, minimizes or eliminates releases, to the extent necessary to protect human health and the environment, post-closure escape of hazardous wastes, hazardous waste constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the groundwater, surface water, or to the atmosphere; and
- complies with the closure requirements of 6 NYCRR Subpart 372-2, including but not limited to the requirements of 373-2.9(i), 373-2.10(h), 373-2.11(f), 373-2.12(h), 373-2.13(h), 373-2.14(g), 373-2.15(h), 373-2.24(b), (c) and (d), and 373-2.30(c).

3.0 CONTENT OF PLAN

Currently, there are no definite plans to close the facility (or any portion thereof) in the near future. Since the facility is a commercial hazardous waste treatment facility, hazardous wastes are constantly brought to the site for treatment as fuel.

Upon closure, if any changes to the Closure Plan are necessary, Norlite LLC will submit a written request for a permit modification to authorize a change in the approved Closure Plan in accordance with 6 NYCRR Part 373-2.7(c)(3).

3.1 – Waste Inventory at Closure

The potential maximum inventory of waste contained in Table A is assumed to be the amount in storage at the time of closure. Assumed maximum waste inventory at the time of closure is based strictly on the permitted capacity of the hazardous waste storage units.

TABLE A

STORAGE UNIT NAME	MAXIMUM INVENTORY
SLGF Processing Building	9,900 gallons in 180 55-gallon drum equivalents
Truck Unloading Area #1	4,785 gallons in 87 55-gallon drum equivalents
LLGF Tank Farm	155,579 gallons in 15 Tanks
Tanker Truck & Onsite Rolloff Staging Area	104,000 gallons in 13 8,000-gallon tanker trucks
Kiln 1 and Kiln 2	none

3.2 – Notification of Closure

Norlite LLC shall notify the Commissioner of the NYSDEC at least 45 days prior to the date that closure of any permitted hazardous waste storage unit is anticipated to initiate.

3.3 – Verification of Decontamination

Upon completion of the decontamination activities, the effectiveness of the decontamination procedure will be determined by collecting rinse water, wipe, soil and/or core samples from each of the hazardous waste management units. End point soil samples will verify the complete removal of all impacted soil located within LLGF Fuel Farm, Container Storage Areas and Tanker Truck & Onsite Rolloff Staging Areas. The samples will be analyzed for the constituents of all wastes previously stored within the respective unit during the unit's entire

operational history, and/or in accordance with the Waste Analysis Plan and Quality Assurance/Quality Control Plan which are incorporated by reference to the Permit Application as separate, stand-alone documents.

3.4 – Amendment of Closure Plan

Norlite LLC will amend this Closure Plan whenever significant changes occur in the operations conducted at the Facility or modifications to the design of the facility affect the implementation of the Closure Plan. Also, as required pursuant to 6 NYCRR Part 373-2.7(c)(3), the Closure Plan will be amended when there is a change in the anticipated year of closure.

4.0 TIME ALLOWED FOR CLOSURE

Currently, there are no plans to close the facility (or any portion thereof) in the near future. However, when the decision to close the facility is made, the following schedule will be utilized for the closure of the Facility or any individual waste storage unit specified in this Closure Plan:

- Within 90 days of receipt of the final volume of waste, all hazardous waste will be removed from any hazardous waste storage unit designated for closure and transported off-site for proper disposal in accordance with all applicable federal, state and local regulations.
- Within 180 days of receiving the final volume of hazardous waste or following approval of the Closure Plan, if that date is later, all closure activities will be completed.

4.1 – Extensions for Closure Time

At the time of closure, if an extension is necessary, all applicable procedures will be followed in requesting such an extension within the specified time frames.

5.0 GENERAL CLOSURE ACTIVITIES

Many tasks that will be performed during closure of the facility are common to different waste management units on-site. This section of the plan will summarize general activities and requirements.

5.1 – Inventory

Prior to any closure activities, an inventory of all waste at the facility will be conducted. The inventory will be performed in order to:

1. Verify that the actual inventory is consistent with the records of reported waste identity and quantities;
2. Confirm the integrity of all containers in preparation for inventory removal; and
3. Identify, by visual observation, any potentially contaminated areas.

Any potentially contaminated areas will be noted so that additional sampling can be performed in those areas, if warranted.

5.2 – Health and Safety

Appropriate precautions will be taken to ensure that closure activities are performed safely and using good industrial hygiene practices. As a result, personnel performing closure are required to have the appropriate OSHA 1910.120 training.

Task appropriate personal protective equipment (PPE) will be provided. If closure activities are performed by Norlite LLC personnel, the level of PPE required will be determined by the Site Safety Manager. Contractors are required to determine activity-specific PPE requirements.

Appropriate personnel decontamination procedures will be followed. PPE cleaning solutions associated with closure activities related to specific waste management units will be disposed of appropriately with the decontamination fluids generated from the decontamination of the same unit.

5.3 – Decontamination Procedures

Decontamination procedures for the Facility will consist of the following:

General

- All employees are required to wear appropriate personal protective equipment while performing the decontamination of the Facility.
- Inspect slab area, tanks ancillary process equipment, liquid transfer lines, sump structures and secondary containment areas for spills or evidence of spills, leaks, cracks, or other evidence of potential release of contaminants to the environment and document the findings.
- Waste cleaning solutions/solvent, decontamination and rinse water generated during any of the closure activities identified above will be collected and pumped into tank trucks or drums characterized for proper management in accordance with the Facility's Waste Analysis Plan.

5.3.1 – Containers

- All hazardous waste will be removed from the Facility for proper disposal by a licensed waste hauler in accordance with all applicable federal, state and local regulations or, if the kilns are still burning LLGF, will be managed onsite through the fuel delivery system.
- Any container storage equipment e.g. forklifts or drum trucks will be thoroughly cleaned utilizing an appropriate cleaning agent to remove residual solvent. Subsequently, the equipment will be thoroughly washed utilizing a steam cleaner or pressure spray equipment.
- Following removal of the containers/units from the SLGF Processing Building and Truck Unloading Area #1, these areas will be thoroughly cleaned utilizing an appropriate cleaning agent to remove residual solvent. Temporary berms will be installed to prevent wash water from discharging from each area. The concrete pad in each area will be thoroughly washed utilizing a steam cleaner or pressure spray equipment.

5.3.2 – Tanks

- All hazardous waste will be removed from the Facility for proper disposal by a licensed waste hauler in accordance with all applicable federal, state and local regulations or, if the kilns are still burning LLGF, will be managed onsite through the fuel delivery system.

- The integrity of secondary containment areas will be evaluated by inspecting the area for any cracks. Since the Tank Farm is equipped with competent secondary containment, there will be no runoff of hazardous waste or rinse water contaminated with hazardous waste or hazardous waste constituents contaminating the surrounding soils.

- Decontamination of the tanks will consist of pressure washing the tank interior and piping system with caustic detergent. Approximately 20,000 gallons of contaminated washwater is expected to be generated during the cleaning of all tanks and ancillary equipment.

- The tank containment dikes and loading/unloading area will be decontaminated by removing any liquid or solvent with squeegees and vacuum truck equipment. Contaminated areas will be cleaned using a solvent and stiff brushes.

- The tank containment dikes and loading/unloading areas will be thoroughly cleaned by utilizing an appropriate cleaning agent to remove residual hazardous wastes. The tank containment dikes and loading/unloading area will be thoroughly washed utilizing a steam cleaner or pressure spray equipment. Contaminated washwater will be collected with squeeges and vacuum truck equipment and shipped offsite for treatment and disposal.

5.3.3 – Rotary Kilns

Norlite's two lightweight aggregate kilns are cylindrical, horizontally-mounted rotary kilns. The kilns are constructed of steel shells, with a six-inch refractory lining. The system involves piping and intermediate pumping station for feeding waste from the LGF storage tanks to the kilns, the kilns, a mechanical collector, a heat exchanger, baghouse, a venturi and Ducon scrubber for air emissions from the kilns and an exhaust stack.

Since the LGF is filtered prior to burning and due to the very high destruction efficiency of the kilns, there is no remaining hazardous waste residues within the kilns. Therefore, closure procedures associated with closure of the kiln operations will involve the decontamination and dismantling of waste feed lines to the kilns; disposal of contaminated washwaters generated from decontamination procedures; and, excavation

and disposal of any contaminated surface soils.

If closure of the hazardous waste energy recovery operations at the kiln occur in accordance with the procedures outlined, the operation of the kiln may continue following closure with the use of non-waste fuel. Thus, dismantling or demolition of the aggregate kilns and their ancillary equipment (i.e., air pollution control equipment, etc.) is not included in the final closure procedures. To indicate successful decontamination of the kiln upon cessation of the use of LGF, the kiln will be operated in a "burnout" mode with only auxiliary fuel fired for an appropriate time period, but not less than four hours, maintaining at least the minimum temperature specified in the permit. This will allow for the combustion of any remaining organic constituents within the kiln system. As soon as practical, allowing for the kiln to properly cool prior to entry, a set of wipe samples (minimum of ten locations scattered throughout the kiln) will be taken. Wipe sampling will involve sampling kiln surfaces exposed to the LGF and/or exhaust gases. Each wipe sample collected will be a 100 sq. cm. sample. Decontamination will be deemed successful if the resulting analytical results for the specified parameters, using appropriate GC methods of analysis in accordance with SW-846, do not exceed regulatory standards in effect at the time of closure.

5.4 – Certification of Closure

Within 60 days of completion of final or partial closure of the facility or any hazardous waste management unit, Norlite LLC will submit to the NYSDEC, via registered mail, a certification of closure stipulating that the unit/facility was closed in accordance with the approved Closure Plan, as required under 6 NYCRR Part 373-2.7(f). The certification will be signed by Norlite LLC and an independent Professional Engineer registered in New York State.

6.0 CLOSURE COST ESTIMATE

The closure cost estimate calculation for the facility is included in Attachment 1.

7.0 FINANCIAL ASSURANCE FOR CLOSURE

7.1 – Closure Trust Fund

The Standby Trust Agreement is included in Attachment 2.

7.2 – Surety Bond

The Surety Bond for Closure is included in Attachment 2.

8.0 LIABILITY REQUIREMENTS

A current copy of the facility's insurance certificate demonstrating satisfactory liability limits is provided in Attachment 3.

8.1 Variance Procedures and Adjustments by Commissioner

No variance to the liability requirements is requested

8.2 Coverage Levels for Sudden and Non-Sudden Accidental Occurrences

Norlite LLC carries insurance for sudden and non-sudden accidental occurences in the amount of $10,000,000 per occurrence and $30,000,000 annual aggregate as shown on the facility's insurance certificate in Attachment 3.

9.0 GLOSSARY

Term	Definition
6 NYCRR	Title 6 of the New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment

ATTACHMENT 1

CLOSURE COST ESTIMATE

NORLITE CORPORATION CLOSURE COST ESTIMATE - 2014

A. CLOSURE OF TANKS, PIPING NETWORK AND KILNS

1 Removal and Disposal of Inventory

Volume of Waste - 155,579

Volume of Liquid - 116,687

Volume of Sludge - 38,892 gallons

a. Pumping $4.70 per 1000 gallons - 24 trucks	$731.18
b. Protective Clothing 11 man-days @ $25/day	$275.00
c. Transportation $5.64/mile for 300 miles - 20 trucks	$33,840.00
d. Disposal Costfor HW fuels @ $1.67/gallon	$259,817.00
e. Disposal Cost for Scrubber Water (68,000 gallons at $1.00/gallon)	$68,000.00
f. Disposal Baghouse Residues - 355 cu yds @ $100/cu yd	$35,500.00
g. Disposal of Laboratory Wastes - 100 drums @ $300/drum	$30,000.00
h. Transportation of Baghouse Residues - 20 trips @ 300 miles @ $5.64/mile	$33,840.00
i. Supervision - 40 hours @ $100/hour	$4,000.00
Subtotal	$466,003.18

2 Removal and Disposal of Tanks

a. Tank Cleaning - Tanks 300, 400, 500 and 600	
Labor $1000 x 36 man days	36000
Equipment $830/day x 12 days	9960
Wipe sampling 32 samples @ $550/sample	17600
PPE Level C $75/man day x 12 man days	900
PPE Level B $155/man day x 12 man days	1860
Monitoring Equipement @ $135/day x 12 days	1620
b. Soil Sampling around covered tanks - 8 samples @ $439/sample	$3,512.00
c. PPE and Miscellaneous Disposal - 8 drums@ $75/drum	$600.00
d. Assume 100 cu yds contaminated soil removal -	
Transportation 4 trips @ 300 miles @ $5.64/mile	$6,768.00
Disposal @ $150/cu yd	$15,000.00
Subtotal for covered tanks	$93,820.00
e. Tank Cleaning - Tanks 100A,B,C and Tanks 200A,B C	
Labor 1000 x 24 man days	24000
Equipment $830/day x 8 days	6640
Wipe sampling 48 samples @ $550/sample	26,400
PPE Level C $75/man day x 12 man days	900
PPE Level B $155/man day x 6 man days	932
Monitoring Equipement @ $135/day x 8 days	1080
Subtotal	59952

f. Tank Cleaning - Tanks 101A,B and Tanks 102A,B	
Labor 1000 x 9 man days	9000
Equipment $830/day x 3 days	2490
Wipe sampling 16 samples @ $550/sample	8,800
PPE Level C $75/man day x 6 man days	450
PPE Level B $155/man day x 3 man days	465
Monitoring Equipement @ $135/day x 3 days	405
Subtotal	21610
g. Secondary Containment Decontamination for LLGF Building and EQ Room	
5232 square feet of concrete	
Cleaning rate is 105 sq ft/hr for a total of 50 hours	
Labor - 50 hours @ $100/hour	$5,000.00
Supervision - 50 hours @ $100/hour	$5,000.00
Pressure Washer - $0.58/sqft	$3,035.00
Concrete chip sampling 10 samples, 5 hours@ $93.76	$468.80
Sample analysis, standard turnaround $1,005/sample	$10,050.00
Disposal of Washwater 4.8 gpm x 60 min x 50 hrs x $0.46/gallon	$6,624.00
Subtotal	$30,177.80
h.Tank Removal	
Covered Tanks - 4 tanks @ 890.77/tank	$3,563.08
LLGF Inside Tank - 6 tanks @ 890.77/tank	$5,344.62
EQ Tanks - 4 tanks @ 890.77/tank	$3,563.08
Subtotal	$12,470.78
i. Decontamination and Dismantle Piping and Ancillary Equipment	
Labor - 80 man hours @ $100/hour	$8,000.00
Supervision -80 man hours @ 100/hour	$8,000.00
Backhoe, 2 days @ $1050/day	$2,100.00
Front End Loader - 2 days @ $825	$1,650.00
Steam Cleaning Equipment - 5 days @ $110/day	$550.00
Pumping Equipment - 5 days @ $70/day	$350.00
Crane - 10 day @ $2500/day	$25,000.00
Subtotal	$45,650.00
j. Disposal of Waste Water	
Transportation - 5 trips @ 300 miles @ $5.64/mile	$8,460.00
Disposal - 25000/gallons @ $1.00/gallon	$25,000.00
Subtotal	$33,460.00

3 KILN CLOSURE	
a. Fossil Fuel Burnout	
Fuel 8 gpm x 60 min x 4 hr x 2 kilns x $4.00/gal	$15,360.00
Labor 4 hr x 2 kilns x $100/hr	$800.00
Supervisor 4 hr x 2 kilns x $100/hr	$800.00
subtotal	$16,960.00
b. Cleaning Rotary Kilns	
Labor - 100hours @ $100/hr	$10,000.00
Supervisor - 100 hours @ $100/hr	$10,000.00
Waste Disposal 40 Drums @ $150/drum	$6,000.00
Waste Transportation 1 trip x 300 miles x $5.64/mile	$1,692.00
10 wipe samples @ 1005/sample	$10,050.00
Dust Handling System	
Labor - 80 hours @ $100/hr	$8,000.00
Supervisor - 80 hours @ $100/hr	$8,000.00
Waste Disposal 5 drums @ $150/drum	$750.00
10 wipe samples @ 1005/sample	$10,050.00
Scrubbing System	
Labor 100 hours @ 100/hour	$10,000.00
Supervisor - 100 hours @ $100/hr	$10,000.00
Solids Disposal 10 drums @ $150/drum	$1,500.00
Washwater Disposal 550 gallons @ $0.30/gal	$165.00
10 wipe samples @ 1005/sample	$10,050.00
ID Fans and Stacks	
Labor - 40 hours @ $100/hr	$4,000.00
Supervisor - 40 hours @ $100/hr	$4,000.00
10 wipe samples @ 1005/sample	$10,050.00
Caustic Supply System	
Labor - 40 hours @ $100/hr	$4,000.00
Supervisor - 40 hours @ $100/hr	$4,000.00
10 wipe samples @ 1005/sample	$10,050.00
Neutralization Chemicals	$100.00
Dioxin Samples	
12 dioxin samples @ $1000/sample	$12,000.00
subtotal	$144,457.00
Subtotal For Section A.	$924,560.76

B. CLOSURE OF CONTAINER AREAS

1. Removal and Disposal of Final Inventory

a. Disposal of 267 Drums of Liquid Waste and 50 Drums of Solids

Liquids Disposal 267 x 55 gal x $1.67/gal	$24,524.00
Solids Disposal 50 x $150/drum	$7,500.00
Container Loading 80 pallets x $4.66/pallet	$370.00
Transportation - 4 trips x 300 miles x $5.64/mile	$6,768.00
Supervision 8 man hours x $100/hr	$800.00
Subtotal	$39,962.00

2. Containment Areas Decontamination

9200 square feet of concrete	
Cleaning rate is 105 sq ft/hr for a total of 50 hours	
Labor - 90 hours @ $100/hour	$9,000.00
Supervision - 90 hours @ $100/hour	$9,000.00
Pressure Washer - $0.58/sqft	$3,150.00
Concrete chip sampling 20 samples, 10 hours@ $93.76	$937.60
Sample analysis, standard turnaround $1,005/sample	$20,100.00
Disposal of Washwater 4.8 gpm x 60 min x 68 hrs x $1.00/gallon	$19,584.00
Subtotal	$61,771.60

3. Tanker Staging Area Decontamination

Assume 444 cu yds removal	
Transportation 20 trips @ 300 miles @ $5.64/mile	$33,840.00
Disposal @ $150/cu yd	$66,600.00
Subtotal	$100,440.00
Subtotal for Section B	$202,173.60

C.CONTAMINATED SOIL

1. Sample Collection and Analysis

Sample Collection	$1,100.00
Sample Analysis 70 Samples by GC @ 188.83/sample	$13,218.00
Sample Analysis 7 Samples by GC/MS @ $525.00	$3,675.00

2. Stockpile Shale

Supervision 24 man hours @ $35/hr	$840.00
Front End Loader, 2 days @ $825	$1,650.00
Backhoe, 2 Days @ $1050	$2,100.00

3. Excavated Soil and Shale Stockpile	
Supervision 24 man hours @ 35/hr	$840.00
Front End Loader, 3 days @ $825	$2,475.00
Backhoe, 3 Days @ $1050	$3,150.00
4. Disposal	
Transportation 35 trips x 300 miles x $5.64/mile	$59,220.00
Disposal of 700 cu yds @ $150/yd	$105,000.00
5. Regrade Site	
Supervision, 16 man hours @ $35/hr	$560.00
Front End Loader, 1 day @ $825	$825.00
Backhoe, 1 Day @ $1050	$1,050.00
Bulldozer, 2 days @ $925	$1,850.00
Subtotal for Section C	$197,553.00

D. HEALTH AND SAFETY

1. Disposal PPE	
150 man hours @ $9.00/hour	$1,350.00
Temporary snow fencing, disposal tarps	$1,675.00
Disposal Cost 15 drums @ $55/drum	$825.00
Subtotal for Section D	$3,850.00

E. CLOSURE CERTIFICATION

1. Professional Engineer 8 systems @ $4,423 per system	$35,384.00
2. Marine Chemist 12 days @ $750/day	$9,000.00
Subtotal for Section E	$44,384.00

F. OVERHEAD AND CONTINGENCY

1. Subtotal for Sections A, B, C, D and E	$1,372,521.36
2. Engineering 10% of total	$137,252.14
3.Contingency 25% of total	$343,130.34
Total Closure Cost	$1,852,903.84

ATTACHMENT 2

STANDBY TRUST AGREEMENT & SURETY BOND

STANDBY TRUST AGREEMENT

This TRUST AGREEMENT, the "Agreement," is entered into as of June 6, 2013, 2013 by and between Norlite, LLC, a Delaware limited liability company, the "Settlor," and RBS Citizens Bank, N.A., a national bank, the "Trustee.".

WHEREAS, the New York State Department of Environmental Conservation (hereinafter referred to as "NYSDEC") has established certain regulations applicable to the Settlor, requiring that an owner or operator of a hazardous waste management facility shall provide financial assurance that funds will be available when needed for facility closure, and post-closure facility monitoring and maintenance (hereinafter referred to as "Closure and Post-Closure"), and

WHEREAS, the Settlor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein, and

WHEREAS, the Settlor acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Settlor and the Trustee agree as follows:

Section 1. *Definitions.* As used in this Agreement:

(a) The term "Settlor" means the owner or operator who enters into this Agreement and any successors or assigns of the Settlor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

(c) The term "Commissioner" means the Commissioner of the New York State Department of Environmental Conservation, or the commissioner's duly appointed designee.

Section 2. *Identification of Facilities and Cost Estimates.* This Agreement pertains to the facilities and cost estimates identified on attached Schedule A.

Section 3. *Establishment of Fund.* The Settlor and the Trustee hereby establish a trust fund (hereinafter referred to as the "Fund") for the benefit of NYSDEC. The Settlor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B annexed hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible, nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Settlor, any payments necessary to discharge any liabilities of the Settlor established by NYSDEC.

Section 4. *Payment for Closure, Post-Closure.* The Trustee shall make payment from the Fund as the Commissioner shall direct, in writing, to provide for the payment of the costs of Closure and Post-Closure of the facilities covered by this Agreement. The Trustee shall reimburse the Settlor or other persons as specified by the Commissioner from the Fund for the expenditures of such covered activities in such amounts as the Commissioner shall direct in writing. In addition, the Trustee shall refund to the Settlors such amounts as the Commissioner specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. *Payments Comprising the Fund.* Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. *Trustee Management.* The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Settlor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee shall discharge his or her duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) Securities or other obligations of the Settlor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940,15 USCA 80a-2(a) (see section 370.1[e]), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. *Commingling and Investment.* The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 USCA 80a-1*etseq.* (see 6 NYCRR 370.1[e]), including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. *Express Powers of Trustee.* Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government;

(e) To accept additions to the Fund from sources other than the Settlor of the Trust; and

(f) To contest, compromise, or otherwise settle any claim in favor of the Fund or Trustee, or in favor of third persons and against the Fund or Trustee.

Section 9. *Taxes and Expenses.* All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Settlor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. *Annual Valuation.* The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish, to the Settlor and to the Commissioner, a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of the establishment of the Fund. The failure of the Settlor to object in writing to the Trustee within 90 days after the statement has been furnished to the Settlor and to the Commissioner shall constitute a conclusively binding assent by the Settlor, barring the Settlor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. *Advice of Counsel.* The Trustee may from time to time consult with counsel, who may be counsel to the Settlor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. *Trustee Compensation.* The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Settlor.

Section 13. *Successor Trustee.* The Trustee may resign or the Settlor may replace the Trustee, but such resignation or replacement shall not be effective until the Settlor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Settlor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instruction. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Settlor, the Commissioner, and the present Trustee by certified mail, return receipt requested, 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. *Instructions to the Trustee.* All orders, requests and instructions by the Settlor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Settlor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Settlor's orders, requests and instructions. All orders, requests and instructions by the Commissioner to the Trustee shall be in writing, signed by the Commissioner, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Settlor or NYSDEC hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests and instructions from the Settlor and/or NYSDEC except as provided for herein.

Section 15. *Notice of Nonpayment.* The Trustee shall notify the Settlor and the Commissioner, by certified mail, return receipt requested, within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Settlor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. *Amendment of Agreement.* This Agreement may be amended by an instrument in writing executed by the Settlor, the Trustee and the Commissioner, or by the Trustee and the Commissioner if the Settlor ceases to exist.

Section 17. *Irrevocability and Termination.* Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Settlor, the Trustee and the Commissioner, or by the Trustee and the Commissioner if the Settlor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Settlor.

Section 18. *Immunity and Indemnification.* The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in the carrying out of any directions by the Settlor or the Commissioner issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Settlor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Settlor fails to provide such defense.

Section 19. *Choice of Law.* This Agreement shall be administered, construed and enforced according to the laws of the State of New York.

Section 20. *Interpretation.* As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 6 NYCRR 373-2.8(j)(1) as such regulations were constituted on the date first above written.

NORLITE, LLC.
Settlor

By: _____

Title: Secretary/Treasurer

RBS CITIZENS BANK, N.A.
Trustee

By: _____

Title: Vice President

STATE OF RI. :

: SS. :

COUNTY OF PROVIDENCE:

On this 6TH day of JUNE, 2013, before me personally came JEAN A. PARRILLO, to me known, who, by me duly sworn, did depose and say that (s)he resides at JOHNSTON, RI; that (s)he is the VICE PRESIDENT of RBS Citizens Bank, N.A., a national bank, the banking institution described in and which executed the within Trust Fund Agreement; and that (s)he signed his/her name thereto by authority of such banking institution.

Richard A. Falvo

Notary Public
My commission expires: 10/4/15

STATE OF CONNECTICUT:

: SS: MERIDEN

COUNTY OF NEW HAVEN:

On this 29th day of MAY, 2013, before me personally came Michael Ferraro to me known, who being by me duly sworn, did depose and say that he resides at Park Ridge, Illinois, that he is Secretary/Treasurer of Norlite, LLC, the limited liability company described in and which executed the within Trust Fund Agreement; and that he signed his name thereto by authority of such limited liability company.

Edward G. Lang

Edward G. Lang
Commissioner of the Superior Court
State of Connecticut
Juris Number 033182

SCHEDULE A
TO TRUST AGREEMENT

The Trust Agreement pertains to the following facility and cost estimate:

Facility I.D. No.	Name of Facility	Closure Estimate
NYD080469935	Norlite, LLC 628 Saratoga Street Cohoes, NY 12047	$1,580,000.00

SCHEDULE B
TO TRUST AGREEMENT

The Trust Agreement to which this Schedule B is appended, by and between Norlite, LLC and RBS Citizens Bank, N.A., is to be funded by funds on deposit with RBS Citizens Bank, in an account entitled Citizens Bank, as Trustee for Norlite, LLC, only in the event the Commissioner of the New York State Department of Environmental Conservation properly so certifies.

EXHIBIT A
TO TRUST AGREEMENT

Pursuant to Section 14 of the Trust Agreement, all orders, requests, and instructions by the Grantor, Norlite, LLC., to the Trustee shall be in writing and signed by one of the following designated persons or such other designees as the Grantor may designate by amendment to EXHIBIT A:

1. Mr. Alberto Diez Quintanilla
   Manager
   Norlite, LLC
   1301 West 22nd Street, Suite 500
   Oakbrook, IL 60523
   219-354-2353

2. Mr. Sergio Nusimovich Kolodny
   Manager
   Norlite, LLC
   1301 West 22nd Street, Suite 500
   Oakbrook, IL 60523
   219-354-2402

3. Mr. Bob O'Brien
   President
   Norlite, LLC
   1301 West 22nd Street, Suite 500
   Oakbrook, IL 60523
   203-238-8128

4. Mr. Michael Ferraro
   Secretary/Treasurer
   Norlite, LLC
   1301 West 22nd Street, Suite 500
   Oakbrook, IL 60523
   219-354-2452

SURETY BOND

Date Bond Executed: April 5, 2013
Effective Date: April 5, 2013

Bond Number: K08538335
Bond Premium: $31,600.00 Per Annum

PRINCIPAL

Legal name and business address of owner or operator:	NORLITE, LLC 1301 West 22nd Street, Suite 500 Oak Brook, IL 60523
Type of organization:	**Limited Liability Company**
State of Incorporation:	Delaware

SURETY

Name and business address	Westchester Fire Insurance Company 436 Walnut Street, P.O. Box 1000, Philadelphia, PA 19106

FACILITY

EPA Identification Number:	EPA ID # NYD080469935
Name:	NORLITE, LLC
Address:	628 Saratoga Street, Cohoes, NY 12047
Closure Amount:	$1,580,000
Total penal sum of bond:	ONE MILLION, FIVE HUNDRED EIGHTY THOUSAND DOLLARS ($1,580,000.00)
Surety's Bond Number:	K08538335
Amount for Closure	ONE MILLION, FIVE HUNDRED EIGHTY THOUSAND DOLLARS ($1,580,000.00)
Amount for Postclosure	ZERO DOLLARS ($0.00)
Obligee	New York State Department of Environmental Conservation (NYSDEC)

NOW, THEREFORE, know All Persons By These Presents, that we, the Principal and Surety(ies) hereto are held and firmly bound to NYSDEC in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS said Principal is required, under ECL Article. 27, to have a permit or interim status in order to own or operate each hazardous waste management facility identified above; and

WHEREAS said principal is required to provide financial assurance for closure, or closure and post-closure care, as referred to above, as a condition of the permit(s) or interim status; and

WHEREAS said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility.

OR, if the Principal shall fund the standby trust fund in such amounts(s) within 15 days after an order to begin closure is issued by the Commissioner or a United States district court or other court of competent jurisdiction.

OR, if the Principal shall provide alternate financial assurance, as specified in ECL section 27-0917 or 6 NYCRR section 373-2.8 or 373-3.8, as applicable, and obtain the Commissioner's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Commissioner from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions set forth above. Upon notification by the Commissioner that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Commissioner.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail, return receipt requested, to the Principal and the Commissioner, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Commissioner, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies) provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Commissioner.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of this bond by the Division Director.

IN WITNESS WHEREOF, the Principal and Surety(ies) have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 6 NYCRR 373-2.8(j)(2), as such regulations were constituted on the date this bond was executed.

NORLITE, LLC

Affix Corporate Seal

Principal

By: _____ Date April 5, 2013
Name Michael Ferraro Title SECRETARY / TREASURER

Westchester Fire Insurance Company
436 Walnut Street, P.O..Box 1000, Philadelphia, PA 19106
Surety

State of Incorporation Pennsylvania
Liability Limit $1,580,000.00
Affix Corporate Seal

By: _____ Date: April 5, 2013
William R. Lambert, Attorney - In - Fact

Bond Premium $31,600.00 Per Annum

STATE OF CONNECTICUT)
) ss. Meriden April 5, 2013
COUNTY OF NEW HAVEN)

On this 4th day of April, 2013, before me personally came Michael Ferraro to me known, who being by me duly sworn, did depose and say that he has a place of business 1301 West 22nd Street, Suite 500 Oak Brook, Illinois 60523, that he is the Secretary/Treasurer of Norlite, LLC, the limited liability company described in and which executed the above instrument; that he acknowledged to me that he executed the same in his capacity; and that by his signature, the entity upon behalf of which the individual acted, executed the instrument.

Edward G. Lang
Commissioner of the Superior Court
Juris No. 033182

Power of Attorney

WESTCHESTER FIRE INSURANCE COMPANY

Know all men by these presents: That WESTCHESTER FIRE INSURANCE COMPANY, a corporation of the Commonwealth of Pennsylvania pursuant to the following Resolution, adopted by the Board of Directors of the said Company on December 11, 2006, to wit:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into the ordinary course of business (each a "Written Commitment"):

(1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.

(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such persons written appointment as such attorney-in-fact.

(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.

(4) Each of the Chairman, the President and Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.

(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

Does hereby nominate, constitute and appoint Alexandra Lambert, William R Lambert, all of the City of SANTA CLARITA, California, each individually if there be more than one named, its true and lawful attorney-in-fact, to make, execute, seal and deliver on its behalf, and as its act and deed any and all bonds, undertakings, recognizances, contracts and other writings in the nature thereof in penalties not exceeding Five million dollars & zero cents ($5,000,000.00) and the execution of such writings in pursuance of these presents shall be as binding upon said Company, as fully and amply as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office.

IN WITNESS WHEREOF, the said Stephen M. Haney, Vice-President, has hereunto subscribed his name and affixed the Corporate seal of the said WESTCHESTER FIRE INSURANCE COMPANY this 28 day of March 2013.

WESTCHESTER FIRE INSURANCE COMPANY

Stephen M. Haney, Vice President

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF PHILADELPHIA ss.

On this 28 day of March, A.D. 2013 before me, a Notary Public of the Commonwealth of Pennsylvania in and for the County of Philadelphia came Stephen M. Haney, Vice-President of the WESTCHESTER FIRE INSURANCE COMPANY to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged that he executed the same, and that the seal affixed to the preceding instrument is the corporate seal of said Company; that the said corporate seal and his signature were duly affixed by the authority and direction of the said corporation, and that Resolution, adopted by the Board of Directors of said Company, referred to in the preceding instrument, is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Philadelphia the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
KAREN E. BRANDT, Notary Public
City of Philadelphia, Phila. County
My Commission Expires September 28, 2014

Notary Public

I, the undersigned Assistant Secretary of the WESTCHESTER FIRE INSURANCE COMPANY, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a substantially true and correct copy, is in full force and effect.

In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Corporation, this 5th day of April 2013

William L. Kelly, Assistant Secretary

THIS POWER OF ATTORNEY MAY NOT BE USED TO EXECUTE ANY BOND WITH AN INCEPTION DATE AFTER March 28, 2015.

THE BACK OF THIS DOCUMENT LISTS VARIOUS SECURITY FEATURES THAT WILL PROTECT AGAINST COPY COUNTERFEIT AND ALTERATION.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Los Angeles

On April 5, 2013 (Date) before me, Alexandra Lambert, Notary Public (Here Insert Name and Title of the Officer),

personally appeared William R. Lambert (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/her/their authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Alexandra Lambert (Signature of Notary Public)

ALEXANDRA LAMBERT
Commission # 1985823
Notary Public - California
Los Angeles County
My Comm. Expires Aug 18, 2016

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Bond # K08538335; Power of Attorney 6890519

Document Date: April 5, 2013 Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: William R. Lambert
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☒ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing: Westchester Fire Insurance Company

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Signer's Name: _____
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☐ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

ATTACHMENT 3

INSURANCE CERTIFICATE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 12/30/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies)must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

Willis of Illinois, Inc.
c/o 26 Century Blvd.
P. O. Box 305191
Nashville, TN 37230-5191

CONTACT NAME:
PHONE (A/C, NO, EXT): 877-945-7378 FAX (A/C, NO): 888-467-2378
E-MAIL ADDRESS: certificates@willis.com

INSURER(S)AFFORDING COVERAGE	NAIC #
INSURER A: XL Insurance America	24554-002
INSURER B: Zurich American Insurance Company	16535-007
INSURER C: American Zurich Insurance Company	40142-001
INSURER D:	
INSURER E:	
INSURER F:	

INSURED

Tradebe Environmental Service, LLC
1301 West 22nd Street, Suite 500
Oak Brook, IL 60523

COVERAGES **CERTIFICATE NUMBER: 20952225** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADD'L INSRD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			US00066349LI13A	12/31/2013	12/31/2014	EACH OCCURRENCE	$ 2,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurence)	$ 10,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$ 5,000
	X Blanket Contractual						PERSONAL & ADV INJURY	$ 2,000,000
	X Liability						GENERAL AGGREGATE	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
	POLICY X PRO-JECT LOC							$
B	AUTOMOBILE LIABILITY			BAP544799200	12/31/2013	12/31/2014	COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
	X ANY AUTO						BODILY INJURY(Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY(Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
	X MCS-90 End t							$
A	X UMBRELLA LIAB X OCCUR			US00066348LI14A	12/31/2013	12/31/2014	EACH OCCURRENCE	$ 14,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 14,000,000
	DED RETENTION $							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N	N/A		WC544799100	12/31/2013	12/31/2014	X WC STATU-TORY LIMITS OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
A	Site Pollution Liabi Claims Made			US00066349LI13A	12/31/2013	12/31/2014	Aggregate $30,000,000 Each Loss $10,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach Acord 101, Additonal Remarks Schedule, if more space is required)

See Attached:

CERTIFICATE HOLDER

Evidence Only
.
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CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Andrea Paino

Coll:4298222 Tpl:1757241 Cert:20952225

AGENCY CUSTOMER ID: 33005437

LOC#:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Willis of Illinois, Inc.	Tradebe Environmental Service, LLC 1301 West 22nd Street, Suite 500 Oak Brook, IL 60523
POLICY NUMBER See First Page	
CARRIER: See First Page / NAIC CODE	EFFECTIVE DATE: See First Page

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

Additional Named Insureds:

Tradebe GP
Tradebe Capital Corporation
Tradebe Environmental Services, LLC
Tradebe Treatment and Recycling of Tennessee LLC
Tradebe Industrial Services, LLC
Tradebe Onsite Services, LLC
Thunderbird Trucking LLC
Tradebe Treatment and Recycling, LLC
Tradebe Treatment and Recycling Northeast, LLC
Tradebe Treatment and Recycling of Bridgeport, LLC
Tradebe Treatment and Recycling of Stoughton, LLC
Tradebe Treatment and Recycling of Northborough, LLC
Norlite, LLC
Bridgeport Analytical Laboratory, LLC
F.O.G. Services, LLC
Tradebe Transportation, LLC
United Industrial Services, Inc.
Compliance Associates, LLC'

Coverage : Contractor's Poll Liability & Professional Liability
Policy : PEC000096404
Policy Period : 04/01/2012 - 04/01/2015
Carrier : Indian Harbor Insurance Company
Limits : $15,000,000 Each Loss
: $15,000,000 Aggregate

ATTACHMENT D

Permit Modification Log

ATTACHMENT D – MAJOR/MINOR MODIFICATION

The permit may be modified for causes as allowed under 6 NYCRR 373-1.7 and 621.14. Modification shall be requested in writing as required by 6 NYCRR 621.13 and 621.14. Requests for modifications shall be submitted to the Regional Permit Administrator for approval and modification of the permit.

An application for permit modification is processed pursuant to 6 NYCRR Part 621 and 373-1.7. Applications for minor modifications listed under 373-1.7(c) may be processed without being treated as a new application. For any other modification not explicitly listed as major under 373-1.7(d) or minor modification, the permittee may submit a request for permit modification and request that it be classified and administered as a modification under Part 373-1.7(c)(15). This request must include information supporting the requested classification. The Department shall determine whether the request qualifies to be administered as a modification or an application for a new permit in accordance with Part 621 – Uniform Procedures. In making this determination, the Department shall consider the degree to which the proposed changes are similar to those listed as minor modification under 373-1.7(c), the Federal Regulations under 40 CFR 270.42 and the following criteria:

Minor modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment.

PERMIT MODIFICATION LOG

The name of the specific document being modified (sections, and/or attachments)	Modified page numbers		Date of Revised pages	The nature of modifications
	Old	New		

ATTACHMENT E

EXECUTIVE SUMMARY

RCRA PART 373 PERMIT
EXECUTIVE SUMMARY/FACILITY BRIEFING DOCUMENT

NORLITE, LLC
COHOES, NEW YORK

June 2014

RCRA PART 373 PERMIT

EXECUTIVE SUMMARY/FACILITY BRIEFING DOCUMENT

NORLITE, LLC

COHOES, NEW YORK

TABLE OF CONTENTS

1.0 FACILITY DESCRIPTION

1.1 Facility Permit Information

Permittee Name:	Norlite, LLC
Facility Name:	Norlite, LLC
Facility Location:	628 So. Saratoga Street, Cohoes, NY
EPA ID No.:	NYD080469935
DEC Permit No.:	04-0103-16/16
DEC DER No.:	401041
Commercial/Non-Commercial TSDF:	Commercial TSDF
Facility Contact:	Tita LaGrimas, Executive VP of Environmental Affairs
DEC Contact/Responsible Permit Writer:	Thomas VanVranken, Environmental Manager
Initial/Renewal Permit:	Renewal Permit
Permit Term/Expiration Date:	
Estimated Closure Cost:	
Estimated Post-Closure Care Cost:	
Estimated Corrective Action Cost:	
On-site Environmental Monitor(s):	Joseph Hadersback
Annual Monitor Payment/Reimbursable State Costs:	

1.2 General Description

The Norlite LLC facility is a manufacturer of lightweight aggregate. The lightweight aggregate raw material is shale that is mined on the property. To produce the lightweight

aggregate, the shale is introduced to two rotary kilns where it is heated and expanded. The aggregate material is crushed and sized to meet the customers' specifications and is the necessary ingredient needed to produce lightweight concrete.

The kilns are fueled by natural gas, fuel oils, used oils, comparable fuels and hazardous waste fuels. The primary heat source is the hazardous waste fuels. The kilns are considered industrial furnaces and are equipped with air pollution control systems to comply with emission standards for industrial furnaces burning hazardous waste under the Resource Conservation and Recovery Act (RCRA) and the Clean Air Act – Maximum Achievable Control Technology (MACT).

Hazardous wastes received from off-site are a mixture of industry related solvents and oils from an assortment of chemical and pharmaceutical manufacturers, petroleum refinement and storage facilities, and other hazardous waste treatment companies.

1.3 Background Information

Norlite LLC is located on the southern boundary of the City of Cohoes, New York. Norlite LLC is a wholly owned subsidiary of Tradebe Environmental Services LLC. Norlite's aggregate plant has been in existence since 1956. The facility consists of a production operation and the shale quarry. Norlite's processing facility occupies about 12 acres of a 221 acres plot owned by Norlite. Norlite's primary activity has always been the production of expanded shale aggregate. The facility began using alternative fuels in the late 1960s, prior to this time the primary fuel had been coal. The facility obtained interim status as a hazardous waste treatment facility in the early 1980s and has maintained compliance with the new regulations. The early 1990s saw a significant upgrade in the facility's fuel storage and delivery system. The facility was the second hazardous waste burner in the country to demonstrate compliance with the hazardous waste combustors MACT.

1.4 Site Map

Please see permit drawing labeled as 373-Map REVISED which details the facility's permitted units, boundaries, wind rows, north directional, facility topography. For reference a copy of the site map has been attached to this document.

1.5 Other Facility Permits

The facility holds the following permits to support activities at the site.

- Wastewater Discharge (SPDES): Permit #4-0103-16/20
- Mining Permit: Permit #4-0103-16/19
- Title V Permit: Permit #4-0103-16/48
- Chemical Bulk Storage Registration: Reg. #4-000198
- Petroleum Bulk Storage Registration: Reg. #4-052574

2.0 RCRA PERMITTED UNITS

The following table summarizes the specific permitted units and activities at the facility:

Unit Type[1]	No. of Areas/Units	Activity Type	Waste Type	Quantity
Containers (S01)[2]	2 areas 267 units	Storage	Hazardous Waste Fuels	14,685 gallons
Tanks (S02)	3 areas 15 units	Storage	Hazardous Waste Fuels	155,579 gallons
Industrial Furnaces (T03)	1 areas 2 units	Treatment	Hazardous Waste Fuels	62 million BTU/hour/kiln

Footnotes:

1. Unit codes are as described in the Part A Application.
2. Does not include 13 parking spaces in the Tanker Truck & Onsite Rolloff Staging Area

3.0 CORRECTIVE ACTION SUMMARY

The following table summarizes the ongoing corrective action activities occurring at the facility:

At this time there are no corrective actions which planned or are underway at the facility.

Location Name / Designation	Activity Description	Estimated Completion Date

4.0 POST-CLOSURE CARE/SITE MANAGEMENT

The facility has an NYSDEC-approved:

Yes	No	
☒	☐	Post-Closure Plan
☒	☐	Site Management Plan

The following table provides a summary of the post-closure care and site management activities currently occurring at the facility:

At this time there are actives occurring with the facility related to the post-closure and site management plans.

Area/Regulated Unit	Activity Description

4.1 Institutional Controls

There are no institutional controls in place for the facility at the time of this application.

4.2 Engineering Controls

The facility prevents the release of hazardous materials from the site by using safety and air pollution controls.

All hazardous waste, petroleum bulk storage and chemical bulk storage areas have been constructed with secondary containment systems made of materials that will prevent a release from the containment area into the environment. Hazardous waste secondary containment areas are inspected daily and others are inspected at a minimum of once a month for cracks or other damage which could allow the escape of released materials.

To prevent releases to the atmosphere, the hazardous waste storage are blanketed with inert nitrogen gas and the tanks are vented to the kilns via a sealed system to control emissions.

The kilns themselves are operated under negative pressure and vented through air pollution control systems including multi-cyclone particulate control, heat exchangers, fabric filter baghouses and wet scrubbers.

To reduce aggregate dust and particulate releases, the facility has implemented a Fugitive Dust Control Plan. These procedures ensure that aggregate dust and other potential airborne particulates are not released from the site.

5.0 ISSUES AND CONCERNS

The following sections describe any potential issues or concerns for the facility related to its hazardous waste permit.

5.1 Human Health and Ecological Risk Assessment

Norlite LLC collected emissions data from 1999 to 2002 and demonstrated that carcinogenic and non-carcinogenic risks associated with the operation of the kilns are below the required USEPA benchmarks of 1E-5 and 0.25, respectively. Norlite's emissions have not increased since this data was collected and risk calculations were performed.

5.2 Regulatory Compliance History

Norlite received Order on Consent R4-2009-0610-101 in 2010. Norlite has completed all items in the Schedule of Compliance except for items related to Paragraph 12 of the Schedule of Compliance. Paragraph 12 specifically deals with fuel blending and fuel delivery to the kilns from the Fuel Farm area. Norlite has been working with the Department to complete the requirement of this schedule item.

Norlite received Order on Consent R4-2014-0017-6 on January 24, 2014. Items related to this permit include storing a vacuum truck in a non-permitted area, a missing sign on a storage tank, Best Management and Fugitive Dust Plan updates, and failure to provide a public outreach website.

Finding from past inspections were captured in the January 24, 2014 Order on Consent.

5.3 Unresolved Issues and Concerns

At this time there are no unresolved issues or concerns which are not already being addressed or are in the process of being completed.

5.4 Compliance Schedule Items

To comply with Paragraph 12 of the Order on Consent R4-2009-0610-101, Norlite intends to incorporate an automated fuel delivery system at the kilns into the new permit. Norlite received approval of the concept of the new system on January 13, 2104. Once overall approval has been granted the new automated system will need to be identified in the permit.

5.5 Public Participation

The company is well engaged with the Towns of Cohoes and Green Island and maintains an open-door policy for the community to visit the site and view the operations.

5.6 Upcoming Significant Permit Modifications

The facility has proposed to make minor feedrate changes to the operation based on the data from the latest Comprehensive Performance Test, conducted in October 2010 and January 2011.

5.7 Upcoming Construction/Closure Activities

The facility is not proposing any construction activities at this time. The facility will be proposing the closure of the SP-100 Tank located in the the Fuel Farm. Once the tank has been closed and removed, the facility will be proposing a new drum stacking pattern for inclusion with the permit.